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

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Addendum I

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

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

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

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

The following example illustrates the changes :-

September 2002

*NEIC **01** 18:45:41.7±1.7,21°.70S×179°.55W,h600km,mb4.6/6,*
Error ellipse: s-maj=75.5km s-min=25.7km az=151.0
*IDC **01** 18:45:46.3±2.6,21°.76S×179°.70W,h627km±37km,mb3.5/4,*
mb1 3.7/4,mb1mx3.2/14,Error ellipse: s-maj=83.2km
s-min=20.6km az=159.0
ISC 01 18:45:43.1±2.7,22°.3S±0°.2×179°.6W±0°.3,h613km±42km,
n22,σ1°.15/21,mb4.4/9,1C,South of Fiji Islands

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

Epicentral Estimates

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

Observational Data

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

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

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

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

Addendum II

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

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

Addendum III

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

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

*IDC **01** 00:16:02.8±0.5, 37°.60N×96°.00E, h0km, mb4.4/22, mb1 4.5/27, mb1mx4.4/35, mbtmp4.4/27, ML4.4/5, MS3.5/15, Ms1 3.6/15, ms1mx3.4/30, Error ellipse: s-maj=17.3km s-min=10.5km az=31.0*

*ISCJB **01** 00:16:03.4±0.1, 37°.64N±0°.02×95°.80E±0°.02, h10km, mb4.7/109, MS3.8/23, Error ellipse: s-maj=3.3km s-min=2.6km az=11.2*

*BJI **01** 00:16:03.8, 37°.70N×95°.97E, h7km, mB4.7/22, mb4.7/33, ML4.6/8, Ms4.5/43, Ms7 4.4/38*

*MOS **01** 00:16:04.1±0.9, 37°.63N×95°.90E, h19km, mb4.9/59, Error ellipse: s-maj=7.5km s-min=4.1km az=125.7*

*NEIC **01** 00:16:05.0±0.2, 37°.68N×95°.88E, h10km, mb5.0/44, Error ellipse: s-maj=5.8km s-min=4.1km az=206.0*

*NNC **01** 00:16:05.0±2.7, 38°.11N×96°.00E, h0km, mb4.7, Error ellipse: s-maj=91.0km s-min=24.7km az=48.0*

*BKK **01** 00:16:12.7±1.7, 37°N±11°×9°7E±3°9, h10km, M4.2/11, mB5.6/2, mb4.2/11, Mw(mB)5.1/2*

*SZGRF **01** 00:16:20.3, 38°.63N×94°.50E, h33km, mb4.8, MS3.9, Qinghai, China*

ISC 01 00:16:05.4±0.5, 37°.65N±0°.04×95°.86E±0°.03, h10km±2km, n409, σ1°44/427, mb4.8/112, MS3.9/23, 25C-19D, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
GTA	**Gaotai**	**3.56**	**59**	Pn	**Pn**	**00 17 01.9**		**+1.0**
GTA				Pg	**Pb**	**00 17 08.5**		**-0.1**
GTA				Sn	**Sn**	**00 17 43.8**		**+0.7**
GTA				Sg	**Sb**	**00 17 54.5**		**+2.6**
GTA				smax	smax			
	comp=N,480nm,1.1s							
GTA				smax	smax			
	comp=E,400nm,0.8s							
GTA				LR	LR			
	comp=N,3μm,7.1s							
GTA				LR	LR			
	comp=E,6μm,6.2s							
GTA				LR	LR			
	comp=Z,5μm,7.6s							
LZH	**Lanzhou**	**6.59**	**101**	Pn	**Pn**	**00 17 43.4**		**+0.9**
LZH				Sn	**Sn**	**00 19 01.0**		**+3.3**
LZH				Sg	**Sg**	**00 19 32.5**		**-4.4**
LZH				smax	smax			
	comp=N,420nm,1.1s							
LZH				smax	smax			
	comp=E,630nm,1.1s							
LZH				LR	LR			
	comp=N,4μm,6.2s							
LZH				LR	LR			
	comp=E,2μm,7.5s							
LZH				LR	LR			
	comp=Z,2μm,8.6s							
WMQ	**Urumqi**	**8.73**	**317**	P	**Pn**	**00 18 11.3**		**-0.5**
WMQ				pP	pP	00 18 14.5		
WMQ				sP		00 18 17.3		
WMQ				S	**Sn**	**00 19 47.1**		**-3.2**
WMQ				PcP	**PcP**	**00 24 42.2**		**+3.3**
WMQ				pmax	pmax			
	comp=Z,100nm,0.6s							
WMQ				pmax	pmax			
	comp=Z,140nm,5.8s							
WMQ				LR	LR			
	comp=N,3μm,8.8s							
WMQ				LR	LR			
	comp=E,3μm,8.8s							
WMQ				LR	LR			
	comp=Z,3μm,10.3s							
LSA	**Lhasa**	**8.85**	**208**	*e*P	**Pn**	**00 18 16.1**		**+2.3**
LSA				*e*		00 20 01.5		
LSA				pmax	pmax			
	comp=Z,16nm,0.8s							
LSA	**Lhasa**	**8.85**	**208**	*e*Pn	**Pn**	**00 18 16.1**		**+2.3**
	comp=Z,16nm,0.8s							
LSA				*e*Sn	Sn	00 20 01.5		+7.7
CD2	**Chengdu**	**9.38**	**134**	P	Pn	00 18 23.7		+3.1
CD2				sP		00 18 29.7		
CD2				PP	**PnPn**	**00 18 31.6**		**+3.4**
CD2				S	**Sn**	**00 20 07.3**		**+1.2**
CD2				pmax	pmax			
	comp=Z,20nm,0.5s							
CD2				pmax	pmax			
	comp=Z,130nm,6.7s							
CD2				LR	LR			
	comp=N,2μm,7.1s							
CD2				LR	LR			
	comp=Z,2μm,8.3s							
XAN	**Xi'an**	**11.20**	**105**	P	Pn	00 18 40.8		-4.7
XAN				LR	LR			
	comp=N,700nm,13.9s							
XAN				LR	LR			
	comp=E,180nm,13.6s							
XAN				LR	LR			
	comp=Z,180nm,12.8s							
SHL	**Shillong**	**12.52**	**197**	*e*P	Pn	00 19 00.4		-3.3
SHL				AMB	AMB	00 19 03.0		
	comp=Z,5.0nm,0.5s							
HHC	**Hu-ho-hao-te**	**12.59**	**70**	*e*P	**Pn**	**00 19 06.3**		**+1.8**
HHC				pP	P	00 19 09.6		-6.6
HHC				sP		00 19 12.8		
HHC				S	**Sn**	**00 21 26.5**		**+1.7**
HHC				sS		00 21 31.3		
HHC				SS	**SnSn**	**00 21 41.1**		**+4.4**
HHC				pmax	pmax			
	comp=Z,45nm,0.7s							
HHC				pmax	pmax			
	comp=Z,200nm,5.0s							
HHC				LR	LR			
	comp=N,1μm,10.5s							
HHC				LR	LR			
	comp=E,960nm,10.3s							
HHC				LR	LR			
	comp=Z,770nm,10.3s							
SONM	**Songino Array**	**12.77**	**34**	Pn	**Pn**	**00 19 07.7**		**+0.6**
SONM				Lg	Lg	00 22 43.2		
SONM	**Songino Array**	**12.77**	**34**	Pn	**Pn**	**00 19 07.7**		**+0.6**
	comp=Z,2.1nm,0.3s,baz=218,slow=15,SNR=142							
SONM				Lg	Lg	00 22 43.2		
	comp=Z,0.1nm,0.3s,baz=215,slow=25,SNR=3.8							
SONM				LR	LR	00 24 16.0		
	comp=Z,795nm,18.5s,baz=212,slow=39							
GUN	**Gumba**	**12.83**	**224**	*e*P	**Pn**	**00 19 07.2**		**-1.0**
	comp=Z,38nm,0.8s							
JIRN	**Jiri**	**12.86**	**222**	*e*P	**Pn**	**00 19 07.5**		**-1.1**
	comp=Z,35nm,0.9s							
ODAN	**Odare**	**12.92**	**216**	*e*P	**Pn**	**00 19 07.8**		**-1.5**
	comp=Z,7.6nm,0.2s							
ULN	**Ulaanbaatar**	**13.09**	**35**	*e*Pn	**Pn**	**00 19 12.3**		**+0.8**
ULN				*e*Sn	**Sn**	**00 21 33.0**		**-4.2**
RAMN	**Ramite**	**13.23**	**219**	*e*P	**Pn**	**00 19 11.4**		**-2.1**
	comp=Z,28nm,0.9s							
KKN	**Kakani**	**13.26**	**225**	*e*P	**Pn**	**00 19 11.7**		**-2.2**
	comp=Z,25nm,0.8s							
PKI	**Pulchoki**	**13.36**	**224**	*e*P	**Pn**	**00 19 13.6**		**-1.7**
	comp=Z,45nm,0.9s							
PKIN	**Phulchoki**	**13.36**	**224**	*e*P	**Pn**	**00 19 13.6**		**-1.7**
	comp=Z,36nm,0.9s							
ENH	**Enshi**	**13.49**	**119**	*e*Pn	**Pn**	**00 19 13.6**		**-3.2**
	comp=Z,46nm,0.9s							
DMN	**Daman**	**13.49**	**225**	*e*P	**Pn**	**00 19 15.4**		**-1.7**
MK31	**Makanchi Array**	**13.57**	**317**	Pn	**Pn**	**00 19 15.5**		**-2.3**
	comp=Z,9.2nm,0.7s,baz=122,slow=14,SNR=88							
MK31				⇓Sn	**Sn**	**00 21 50.8**		**+2.3**
	comp=Z,14nm,0.8s,baz=124,slow=26,SNR=3.4							
MK31	**Makanchi Array**	**13.57**	**317**	P	**Pn**	**00 19 15.5**		**-2.3**
MK31						00 21 51.5		
MK31				pmax	pmax			
	comp=Z,4.0nm,0.4s							
MK31				smax	smax			
	comp=N,19nm,0.8s							
MK31	**Makanchi Array**	**13.57**	**317**	*e*Pn	**Pn**	**00 19 15.7**		**-2.2**
MK31				*e*Sn	**Sn**	**00 21 44.5**		**-4.1**
MKAR	**Makanchi Array**	**13.57**	**317**	*e*P	**Pn**	**00 19 15.8**		**-2.0**
MKAR						00 21 45.2		
MKAR	**Makanchi Array**	**13.57**	**317**	*e*Pn	**Pn**	**00 19 15.8**		**-2.0**
MKAR				*e*Sn	**Sn**	**00 21 43.4**		**-5.2**
MKAR				Sn	**Sn**	**00 21 45.2**		**-3.4**
MKAR				Lg	Lg	00 23 09.6		
MKAR	**Makanchi Array**	**13.57**	**317**	Pn	**Pn**	**00 19 14.8**		**-3.1**
	comp=N,2.0nm,0.3s,baz=126,slow=13,SNR=56							
MKAR				Sn	**Sn**	**00 21 45.2**		**-3.4**
	comp=N,0.4nm,0.3s,baz=116,slow=22,SNR=2.5							
MKAR				Lg	Lg	00 23 09.6		
	baz=192,slow=28,SNR=3.7							
DANN	**Dangsing**	**13.74**	**231**	*e*P	**Pn**	**00 19 18.2**		**-2.3**
	comp=N,24nm,0.7s							
ZAK	**Zakamensk**	**13.79**	**20**	*e*P	**Pn**	**00 19 23.1**		**+2.2**
ZAK				pmax	pmax			
	comp=Z,21nm,1.8s							
KMI	**Kunming**	**13.80**	**153**	P	**P**	**00 19 27.4**		**-2.4**
KMI				pP	pP	00 19 31.1		
KMI				sP		00 19 32.7		
KMI				pmax	pmax			
	comp=Z,12nm,0.7s							
KMI				pmax	pmax			
	comp=Z,62nm,3.6s							
KMI				LR	LR			
	comp=N,780nm,8.8s							
KMI				LR	LR			
	comp=E,520nm,10.4s							
KMI				LR	LR			
	comp=Z,990nm,10.2s							
KOLN	**Koldanda**	**14.26**	**230**	*e*P	Pn	00 19 23.0		-4.5
GYA	**Guiyang**	**14.43**	**138**	⇑*i*P	**P**	**00 19 37.5**		**+0.8**
GYA				PP	PnPn	00 19 48.0		+10
GYA				S	S	00 22 22.0		-7.9
GYA				SS	SnSn	00 22 39.3		+17
GYA				PcP	**PcP**	**00 24 49.5**		**+4.0**
GYA				pmax	pmax			
	comp=Z,10.0nm,0.8s							
GYA				pmax	pmax			
	comp=Z,120nm,4.3s							
GYA				LR	LR			
	comp=N,1μm,12.0s							
GYA				LR	LR			
	comp=E,930nm,13.2s							
GYA				LR	LR			
	comp=Z,1μm,12.4s							
MOY	**Mondy**	**14.47**	**13**	*e*P	**P**	**00 19 39.6**		**+2.5**
MOY				pmax	pmax			
	comp=Z,27nm,1.5s							
TLY	**Talaya**	**15.06**	**19**	*e*P	**P**	**00 19 45.6**		**+2.0**
TLY				pmax	pmax			
	comp=Z,26nm,1.7s							
TLY				MLR	MLR			
	comp=Z,861nm,9.0s							
KSH	**Kashi**	**15.66**	**283**	P	**Pn**	**00 19 46.7**		**+0.5**
KSH				sP	**sP**	**00 19 54.2**		**-0.4**
KSH				PP	**PnPn**	**00 19 59.9**		**+5.4**
KSH				S	**Sn**	**00 22 40.4**		**+0.5**
KSH				SS	**S**	**00 22 58.7**		**+3.6**
KSH				pmax	pmax			
	comp=Z,4.0nm,0.9s							
KSH				pmax	pmax			
	comp=Z,43nm,2.5s							
KSH				LR	LR			
	comp=N,150nm,7.6s							
KSH				LR	LR			
	comp=E,490nm,7.0s							
KSH				LR	LR			
	comp=Z,270nm,7.6s							
ULHL	**Ulahol**	**15.72**	**293**	*i*P	**Pn**	**00 19 45.1**		**-2.0**
ULHL	**Ulahol**	**15.72**	**293**	P	**Pn**	**00 19 45.1**		**-2.0**
	SNR=6.1							
IRK	**Irkutsk**	**15.74**	**19**	*e*P	**Pn**	**00 19 48.2**		**+1.2**
IRK				pmax	pmax			
	comp=Z,133nm,1.9s							
BJT	**Baijiatuau**	**16.00**	**75**	*e*Pn	**P**	**00 19 52.8**		**-1.1**
	comp=Z,50nm,0.9s							
BJI	**Beijing**	**16.01**	**75**	P	**P**	**00 19 54.4**		**+0.4**
BJI				pmax	pmax			
	comp=Z,35nm,1.3s							
BJI				pmax	pmax			
	comp=Z,170nm,4.5s							
BJI				LR	LR			
	comp=N,910nm,12.7s							
BJI				LR	LR			
	comp=E,280nm,11.4s							
BOK	**Bokaro**	**16.24**	**215**	*e*P	**Pn**	**00 19 51.9**		**-1.8**
BOK				AMB	AMB	00 19 57.6		
	comp=Z,14nm,1.1s							
TKM2	**Tokmak 2**	**16.32**	**295**	⇑Pn	**Pn**	**00 19 51.8**		**-3.0**
	comp=Z,39nm,0.8s							
TKM2				Sn	**Sn**	**00 22 56.5**		**+0.6**
TKM2	**Tokmak 2**	**16.32**	**295**	*e*P	**Pn**	**00 19 53.6**		**-1.2**
TKM2				*e*		00 22 53.6		
TKM2				pmax	pmax			
	comp=Z,37nm,0.7s							
TKM2	**Tokmak 2**	**16.32**	**295**	P	**Pn**	**00 19 52.4**		**-2.3**
	SNR=51							
TKM2	**Tokmak 2**	**16.32**	**295**	*e*Pn	**Pn**	**00 19 53.6**		**-1.2**
	comp=Z,37nm,0.7s							
TKM2				*e*Sn	**Sn**	**00 22 53.6**		**-2.3**
SMLA	**Simla**	**16.73**	**253**	*e*P	**Pn**	**00 20 00.1**		**+0.2**
SMLA				AMB	AMB	00 20 05.1		
	comp=Z,28nm,0.7s							
KBK	**Karagaybulak**	**16.74**	**294**	*i*P	**Pn**	**00 19 59.0**		**-1.0**
KBK	**Karagaybulak**	**16.74**	**294**	P	**Pn**	**00 19 59.0**		**-1.0**
	SNR=18							
WHN	**Wuhan**	**16.86**	**109**	⇑P	**P**	**00 20 02.9**		**-0.7**
WHN				sP	**sP**	**00 20 08.1**		**+0.4**
WHN				S	**S**	**00 23 16.6**		**-2.9**
WHN				LR	LR			
	comp=N,2μm,8.5s							
WHN				LR	LR			
	comp=E,1μm,10.9s							
WHN				LR	LR			
	comp=Z,2μm,9.7s							
DHRM	**DHARAMSHALA**	**16.91**	**257**	*e*P	**Pn**	**00 20 02.9**		**+0.6**
DHRM				AMB	AMB	00 20 09.5		
	comp=Z,35nm,1.2s							
FRU	**Bishkek**	**17.01**	**294**	*e*P	**Pn**	**00 20 00.0**		**-3.3**
FRU				pmax	pmax			
	comp=Z,60nm,1.7s							
AAK	**Ala-Archa**	**17.06**	**294**	*e*P	**Pn**	**00 20 03.3**		**-0.9**
AAK				S	Sn	00 23 06.2		-7.7
AAK	**Ala-Archa**	**17.06**	**294**	*e*Pn	**Pn**	**00 20 03.3**		**-0.9**
AAK				S	Sn	00 23 06.2		-7.7
AAK				Lg	Lg	00 25 05.5		
AAK	**Ala-Archa**	**17.06**	**294**	P	**Pn**	**00 20 03.1**		**-1.0**
	comp=Z,1.2nm,0.3s,baz=75,slow=5.6,SNR=19							
AAK				S	Sn	00 23 06.2		-7.7
	comp=Z,0.4nm,0.3s,baz=243,slow=15,SNR=1.4							
AAK				Lg	Lg	00 25 05.5		
	comp=Z,0.2nm,0.3s,baz=183,slow=22,SNR=1.1							
AAK				LR	LR	00 27 17.7		
	comp=Z,131nm,20.9s,baz=85,slow=39							
USP	**Ospenovka**	**17.18**	**296**	*i*P	**Pn**	**00 20 03.8**		**-1.7**
USP	**Ospenovka**	**17.18**	**296**	P	**Pn**	**00 20 03.8**		**-1.7**
	SNR=12							
AML	**Almayashu**	**17.57**	**292**	P	**P**	**00 20 14.0**		**+2.2**
	SNR=9.3							
EKS2	**Erkin-Say**	**17.59**	**293**	*e*P	**Pn**	**00 20 09.4**		**-1.3**
EKS2				pmax	pmax			
	comp=Z,31nm,1.6s							
EKS2	**Erkin-Say**	**17.59**	**293**	P	**Pn**	**00 20 10.8**		**+0.2**
	SNR=9.1							
EKS2	**Erkin-Say**	**17.59**	**293**	*e*Pn	**Pn**	**00 20 09.4**		**-1.3**
	comp=Z,31nm,1.6s							
KURBB	**Kurchatov Arra**	**17.91**	**322**	P	**Pn**	**00 20 12.3**		**-2.0**
	comp=Z,0.5nm,0.3s,baz=135,slow=11,SNR=34							
KURK	**Kurchatov**	**17.92**	**322**	P	**Pn**	**00 20 12.4**		**-2.2**
KURK				pmax	pmax			
	comp=Z,1.0nm,0.3s							
KURK	**Kurchatov**	**17.92**	**322**	P	**Pn**	**00 20 12.3**		**-2.2**
ZAA0	**Zalesovo Array**	**17.98**	**338**	*e*Pn	**Pn**	**00 20 13.4**		**-1.9**
ZALV	**Zalesovo Beam**	**17.98**	**338**	*i*P	**Pn**	**00 20 14.5**		**-0.8**
ZALV				pmax	pmax			
	comp=Z,4.0nm,0.6s							
ZALV	**Zalesovo Beam**	**17.98**	**338**	P	**Pn**	**00 20 14.1**		**-1.2**
ZALV				Lg	Lg	00 25 25.0		
ZALV	**Zalesovo Beam**	**17.98**	**338**	P	**Pn**	**00 20 14.1**		**-1.2**
	comp=Z,0.8nm,0.3s,baz=150,slow=12,SNR=15							
ZALV				Lg	Lg	00 25 25.0		
	comp=Z,0.2nm,0.3s,baz=139,slow=24,SNR=5.6							
CHTO	**Chiang Mai**	**18.96**	**171**	*e*P	**P**	**00 20 26.9**		**+0.1**
CHTO				pmax	pmax			
	comp=Z,4.0nm,0.7s							
CHTO	**Chiang Mai**	**18.96**	**171**	*e*P	**P**	**00 20 26.9**		**+0.1**
	comp=Z,4.5nm,0.7s							
CHTO	**Chiang Mai**	**18.96**	**171**	P	**Pn**	**00 20 29.3**		**+1.8**
	comp=Z,11nm,1.6s							
CIT	**Chita**	**19.00**	**35**	*e*P	**P**	**00 20 27.4**		**+0.3**
NVS	**Novosibirsk**	**19.23**	**337**	*e*P	**P**	**00 20 29.0**		**-0.4**
NVS				*e*S	**S**	**00 24 09.9**		**+2.8**
NVS				pmax	pmax			
	comp=Z,28nm,0.8s							
NVS				pmax	pmax			
	comp=N,49nm,1.5s							
NVS				pmax	pmax			
	comp=E,13nm,0.7s							
NVS				smax	smax			
	comp=N,2.0nm,0.6s							
NVS				smax	smax			
	comp=E,12nm,1.3s							
CM31	**Chiang Mai Arr**	**19.32**	**171**	*e*P	**Pn**	**00 20 31.2**		**-0.5**
CMAR	**Chiang Mai Arr**	**19.32**	**171**	P	**P**	**00 20 30.2**		**-0.4**
CMAR	**Chiang Mai Arr**	**19.32**	**171**	P	**P**	**00 20 30.2**		**-0.4**
	comp=E,0.6nm,0.3s,baz=341,slow=9.9,SNR=26							
CMAR				LR	LR	00 29 12.1		
	comp=E,44nm,21.4s,baz=337,slow=41							
NJ2	**Nanjing**	**19.66**	**100**	*e*P	**Pn**	**00 20 35.8**		**0.0**
NJ2				pmax	pmax			
	comp=Z,10.0nm,0.7s							
KK31	**Karatay Array**	**20.03**	**294**	⇑P	**P**	**00 20 38.6**		**+0.2**
	comp=Z,17nm,1.0s,baz=92,slow=10,SNR=72							
KK31	**Karatay Array**	**20.03**	**294**	*i*P	**P**	**00 20 38.6**		**+0.2**
KK31				pmax	pmax			
	comp=Z,10.0nm,0.7s							
KKAR	**Karatay Array**	**20.03**	**294**	*e*P	**P**	**00 20 38.1**		**-0.3**
KKAR				*e*S	**S**	**00 24 20.8**		**-2.6**
KKAR	**Karatay Array**	**20.03**	**294**	*e*P	**P**	**00 20 38.1**		**-0.3**
KKAR				*e*S	**S**	**00 24 20.8**		**-2.6**
DL2	**Dalian**	**20.25**	**78**	P	Pn	00 20 43.2		+0.5
DL2				S	Sn	00 24 29.4		-1.3
DL2				pmax	pmax			
	comp=Z,50nm,0.8s							
DL2				LR	LR			
	comp=N,280nm,13.9s							
DL2				LR	LR			
	comp=E,220nm,12.1s							
DL2				LR	LR			
	comp=Z,220nm,14.2s							
SUKH	**Sukhothai**	**20.37**	**170**	P	Pn	00 20 44.2		0.0
	comp=Z,3.6nm,0.8s							
LOEI	**Loei**	**20.62**	**165**	P	Pn	00 20 47.3		+0.1
	comp=Z,35nm,0.9s							
BHPL	**Bhopal**	**21.37**	**233**	*e*P	**P**	**00 20 51.8**		**-1.2**
BHPL				AMB	AMB	00 20 56.9		
	comp=Z,35nm,0.2s							
SNY	**Shenyang**	**21.68**	**70**	⇑P	**P**	**00 20 54.9**		**-1.2**
SNY				S	**S**	**00 24 59.1**		**+3.1**
SNY				pmax	pmax			
	comp=Z,30nm,0.8s							
SNY				LR	LR			
	comp=N,330nm,7.6s							
SNY				LR	LR			
	comp=E,550nm,7.8s							
SNY				LR	LR			
	comp=Z,640nm,9.3s							
SKNT	**Sakolnakorn**	**21.81**	**159**	P	**P**	**00 20 57.2**		**-0.5**
	comp=Z,32nm,0.8s							
PANO	**Nakornpanom**	**21.83**	**157**	P	**P**	**00 20 58.8**		**+0.9**
	comp=Z,42nm,0.6s							
KBL	**Kabul**	**21.86**	**270**	*e*P	**P**	**00 20 58.8**		**+0.3**
KBL				pmax	pmax			
	comp=Z,21nm,0.9s							
KBL	**Kabul**	**21.86**	**270**	*e*P	**P**	**00 20 58.8**		**+0.3**
	comp=Z,21nm,0.9s							
QIZ	**Qiongzhong**	**22.22**	**143**	P	P	00 21 07.4		+5.3
QIZ				LR	LR			
	comp=N,270nm,7.0s							
QIZ				LR	LR			
	comp=E,150nm,7.0s							
QIZ				LR	LR			
	comp=Z,250nm,10.2s							
UTHA	**Uthaitani**	**22.24**	**171**	P	**P**	**00 21 04.5**		**+2.2**
	comp=Z,6.0nm,1.1s							
CHAI	**Chaiyaphum**	**22.33**	**164**	P	**P**	**00 21 04.3**		**+1.0**
	comp=Z,4.7nm,0.9s							
VOSK	**Vostochnaya**	**22.96**	**319**	⇓P	**P**	**00 21 08.7**		**-1.0**
	comp=Z,34nm,1.4s							
VOSK	**Vostochnaya**	**22.96**	**319**	P	**P**	**00 21 08.0**		**-1.7**
VOSK				pmax	pmax			
	comp=Z,15nm,0.7s							
CN2	**Changchun**	**23.17**	**65**	*e*P	**P**	**00 21 11.7**		**-0.3**
CN2				*e*S	**S**	**00 25 19.3**		**-4.3**
CN2				pmax	pmax			
	comp=Z,10.0nm,0.7s							
CN2				pmax	pmax			
	comp=Z,200nm,4.0s							
CN2				LR	LR			
	comp=N,500nm,10.0s							
CN2				LR	LR			
	comp=E,500nm,10.0s							
CN2				LR	LR			
	comp=Z,500nm,10.0s							
BVA0	**Borovoye Array**	**23.42**	**319**	⇓P	**P**	**00 21 13.6**		**-0.8**
	comp=Z,11nm,0.8s,baz=97,slow=12,SNR=78							
BVA0	**Borovoye Array**	**23.42**	**319**	*i*P	**P**	**00 21 13.6**		**-0.8**
BVA0				pmax	pmax			
	comp=Z,11nm,0.8s							
BVAR	**Borovoye Array**	**23.42**	**319**	P	**P**	**00 21 14.1**		**-0.3**
BVAR				pmax	pmax			
	comp=Z,12nm,0.8s							
BVAR				MLR	MLR			
	comp=Z,345nm,19.0s							
BVAR	**Borovoye Array**	**23.42**	**319**	P	**P**	**00 21 14.1**		**-0.3**
BVAR	**Borovoye Array**	**23.42**	**319**	P	**P**	**00 21 14.1**		**-0.3**
	comp=Z,12nm,0.8s,baz=116,slow=10,SNR=31							
BVAR				LR	LR	00 31 06.3		
	comp=Z,345nm,19.0s,baz=341,slow=38							
BRVK	**Borovoye**	**23.49**	**319**	*e*P	**P**	**00 21 14.9**		**-0.2**
BRVK				pmax	pmax			
	comp=Z,19nm,0.7s							
BRVK	**Borovoye**	**23.49**	**319**	*e*P	**P**	**00 21 14.9**		**-0.2**
	comp=Z,19nm,0.7s							
AKL	**Akola**	**23.50**	**229**	*e*P	**P**	**00 21 14.8**		**-0.7**
AKL				AMB	AMB	00 21 17.4		
	comp=Z,29nm,1.0s							
UBPT	**Khong Chiam**	**23.86**	**157**	P	**P**	**00 21 18.0**		**-0.9**
	comp=Z,27nm,0.9s,comp=Z,2μm							
TJN	**Taejon**	**25.13**	**83**	*e*P	**P**	**00 21 29.8**		**-0.7**
YHNB	**Yeheng**	**25.29**	**113**	*e*P	**P**	**00 21 34.0**		**+1.9**
KSAR	**Wonju Array Be**	**25.33**	**81**	P	**P**	**00 21 30.6**		**-1.7**
KSRS	**Korea Array**	**25.36**	**81**	P	**P**	**00 21 30.6**		**-2.0**
	comp=Z,16nm,0.6s,baz=277,slow=9.5,SNR=48							
LATR	**Latur**	**25.55**	**227**	*e*P	**P**	**00 21 32.4**		**-1.9**
LATR				AMB	AMB	00 21 37.6		
	comp=Z,23nm,2.0s							
MDJ	**Mudanjiang**	**26.21**	**64**	P	**P**	**00 21 40.6**		**+0.4**
MDJ				pP	**pP**	**00 21 43.6**		**+0.3**
MDJ				sP	**sP**	**00 21 45.0**		**+0.5**
MDJ				PcP	**PcP**	**00 25 09.2**		**+2.4**
MDJ				S	**S**	**00 26 11.8**		**-0.4**
MDJ				PcS	**PcS**	**00 28 50.0**		**+2.4**
MDJ				ScS	**ScS**	**00 32 38.4**		**+2.1**
MDJ				pmax	pmax			
	comp=Z,5.0nm,0.5s							
MDJ				pmax	pmax			
	comp=Z,21nm,5.3s							
MDJ				LR	LR			
	comp=N,250nm,8.8s							
MDJ				LR	LR			
	comp=E,180nm,13.3s							
MDJ				LR	LR			
	comp=Z,240nm,10.1s							
POO	**Poona**	**27.09**	**231**	*e*P	**P**	**00 21 49.1**		**+0.8**
POO				AMB	AMB	00 21 52.7		
	comp=Z,31nm,0.2s							
USRK	**Ussuriysk Arra**	**27.91**	**65**	P	**P**	**00 21 54.0**		**-1.5**
	comp=Z,1.0nm,0.6s,baz=258,slow=5.6,SNR=5.2							
USRK				LR	LR	00 33 43.9		
	comp=Z,22nm,18.0s,baz=101,slow=38							
AB31	**Akbulak array**	**28.27**	**306**	⇓P	**P**	**00 21 59.1**		**+0.4**
	comp=Z,9.2nm,1.1s,baz=98,slow=11,SNR=46							
AB31	**Akbulak array**	**28.27**	**306**	*i*P	**P**	**00 22 00.4**		**+1.7**
AB31				pmax	pmax		

CMBY CAMPBELL BAY 30.55 184 *eP* **P 00 22 19.7 +0.6**
CMBY AMB AMB 00 23 00.7
comp=Z,154nm,2.2s
ARU Arti 31.07 319 *d iP* **P 00 22 23.6 +0.3**
ARU 00 23 25.2
ARU S **S 00 27 32.4 +4.1**
ARU SS **SnSn 00 29 11.7 +2.6**
ARU pmax pmax
comp=Z,25nm,1.0s
ARU MLR MLR
comp=Z,255nm,18.0s
ARU Arti 31.07 319 P **P 00 22 23.7 +0.4**
comp=Z,144nm,0.7s,SNR=10
YSS Yuzh-Sakhalins 35.44 60 *i* P **P 00 23 03.7 +2.1**
YSS pmax pmax
comp=Z,17nm,1.4s
ASAJ Asahikawa 35.53 64 P **P 00 23 01.2 -1.2**
ASAJ Asahikawa 35.53 64 P **P 00 23 01.2 -1.2**
comp=Z,8.6nm,0.8s,baz=282,slow=30,SNR=4.7
TIXI Tiksi 38.02 16 ⇓ *iP* **P 00 23 22.3 -0.9**
TIXI pmax pmax
comp=Z,7.0nm,1.0s
DGRG David-gareji 38.67 292 P **P 00 23 30.7 +1.6**
DUS Dusheti 39.03 293 P **P 00 23 34.3 +2.0**
TBLG Delisi 39.08 292 *eP* **P 00 23 33.5 +0.9**
TBLG Delisi 39.08 292 P **P 00 23 33.5 +0.9**
ONI Oni 39.85 294 P **P 00 23 37.4 -1.6**
KBZ Khabaz 40.04 296 P **P 00 23 40.7 +0.2**
KBZ pmax pmax
comp=Z,3.0nm,0.8s
KBZ Khabaz 40.04 296 P **P 00 23 40.7 +0.2**
KBZ Khabaz 40.04 296 P **P 00 23 40.7 +0.2**
comp=Z,3.0nm,0.8s,baz=84,slow=8.0,SNR=10.0
AKH Akhalkalaki 40.06 292 P P 00 23 31.2 -10
VRHR Novokhopersk 40.12 307 *eP* **P 00 23 40.2 -0.9**
VRHR pmax pmax
comp=Z,20nm,0.8s
VRHR pmax pmax
comp=N,10.0nm,1.2s
VRHR pmax pmax
comp=E,20nm,1.0s
NAY Al-Naaiem 41.04 273 *eP* **P 00 23 49.2 +0.3**
NAY AMb AMB 00 23 50.1
comp=Z,1.4nm,1.0s
RST Umm Al-Ruwaisa 41.13 273 *eP* **P 00 23 49.7 0.0**
VORD Divnogorie 41.60 307 *eP* **P 00 23 51.5 -1.8**
VORD pmax pmax
comp=Z,10.0nm,0.9s
VORD pmax pmax
comp=N,20nm,0.4s
VORD pmax pmax
comp=E,20nm,0.5s
VSR Storozhevoye 41.66 308 *eP* **P 00 23 52.3 -1.5**
VSR pmax pmax
comp=Z,20nm,0.9s
VSR pmax pmax
comp=N,10.0nm,1.0s
VSR pmax pmax
comp=E,20nm,0.7s
KLMR Klimovskoe 41.77 322 *eP* **P 00 23 53.7 -0.8**
KLMR pmax pmax
comp=Z,17nm,0.9s
MOS Moscow 42.44 315 *eP* **P 00 23 59.1 -0.9**
MOS pmax pmax
comp=Z,53nm,0.9s
OBN Obninsk 43.05 314 ⇓ *iP* **P 00 24 03.9 -1.1**
OBN *e* 00 25 44.7
OBN *i* 00 26 00.3
OBN *i* SS SS 00 33 56.4 +14
OBN pmax pmax
comp=Z,20nm,1.2s
OBN MLR MLR
comp=Z,100nm,16.0s
PETK Petropavlovsk- 44.67 49 P **P 00 24 17.0 -1.1**
PETK pmax pmax
comp=Z,2.0nm,0.5s
PETK MLR MLR
comp=Z,21nm,21.5s
PETK Petropavlovsk- 44.67 49 P **P 00 24 17.0 -1.1**
PETK Petropavlovsk- 44.67 49 P **P 00 24 17.0 -1.1**
comp=Z,2.0nm,0.5s,baz=232,slow=6.4,SNR=2.6
PETK LR LR 00 43 16.6
comp=Z,21nm,21.4s,baz=266,slow=37
JOF Joensuu 45.81 325 *eP* **P 00 24 26.6 -0.4**
JOF pmax pmax
comp=Z,6.0nm,0.5s
JOF Joensuu 45.81 325 *ep* **P 00 24 26.6 -0.4**
comp=Z,6.3nm,0.5s
BR131 Keskin Array S 47.74 293 *eP* **P 00 24 42.5 -0.2**
comp=Z,5.0nm,0.6s
BRTR Keskin Array B 47.74 293 P **P 00 24 42.8 +0.2**
BRTR Keskin Array B 47.74 293 P **P 00 24 42.8 +0.2**
comp=Z,7.0nm,0.7s,baz=97,slow=7.6,SNR=33
AKASG Malin Array Be 47.96 308 P **P 00 24 43.3 -0.6**
AKASG pmax pmax
comp=Z,10.0nm,1.0s
AKASG Malin Array Be 47.96 308 P **P 00 24 43.4 -0.6**
AKASG Malin Array Be 47.96 308 P **P 00 24 43.3 -0.6**
comp=Z,4.9nm,0.9s,baz=67,slow=7.9,SNR=8.4
KIEV Kiev 47.97 308 *eP* **P 00 24 44.2 +0.1**
KIEV Kiev 47.97 308 *eP* **P 00 24 44.2 +0.1**
ASF Jabal al Asfar 47.98 282 P **P 00 24 44.8 +0.3**
ASF Jabal al Asfar 47.98 282 P **P 00 24 44.8 +0.3**
comp=Z,3.0nm,0.7s,baz=358,slow=4.2,SNR=8.7
KAF Kangasniemi 48.15 324 *eP* **P 00 24 44.9 -0.3**
KAF pmax pmax
comp=Z,4.0nm,0.4s
KAF Kangasniemi 48.15 324 *ep* **P 00 24 44.9 -0.3**
comp=Z,3.7nm,0.4s
FINES FINESS Array B 48.30 323 P **P 00 24 45.9 -0.5**
FINES FINESS Array B 48.30 323 P **P 00 24 45.9 -0.5**
comp=Z,7.0nm,0.7s,baz=99,slow=8.7,SNR=13
FINES LR LR 00 46 06.1
comp=Z,87nm,18.4s,baz=161,slow=37
ARCES ARCESS Array B 48.45 334 P **P 00 24 47.5 -0.1**
ARCES PcP **PcP 00 26 14.2 +0.6**
ARCES ARCESS Array B 48.45 334 P **P 00 24 47.5 -0.1**
comp=Z,2.8nm,0.8s,baz=88,slow=8.0,SNR=12
ARCES PcP **PcP 00 26 14.1 +0.6**
comp=Z,0.8nm,0.5s,baz=95,slow=4.5,SNR=7.3
ARCES LR LR 00 47 18.9
comp=Z,100nm,18.3s,baz=231,slow=39
KIS Kishinev 49.05 303 *eP* **P 00 24 51.0 -1.4**
KIS Kishinev 49.05 303 *eP* **P 00 24 51.0 -1.4**
KIS *e* 00 24 56.0
TLCR 49.53 301 ⇑ *iP* P 00 24 47.6 -8.5
GHRR 50.24 303 ⇑ *iP* P 00 24 51.7 -10
TESR Tescani 50.62 303 ⇑ *iP* P 00 24 56.8 -7.6
VRI Vrincioaia 50.75 303 ⇑ *iP* P 00 25 01.2 -4.2
PLOR Plostina 50.80 303 ⇑⇑ P P 00 25 02.3 -3.6
PLOR Plostina 50.80 303 ⇑ *iP* P 00 25 02.3 -3.6
BURAR Bucovina Array 51.25 305 ⇓⇓ P **P 00 25 06.4 -2.8**
BURAR Bucovina Array 51.25 305 ⇓ *iP* **P 00 25 06.4 -2.8**
BUR08 Bucovina Ar. S 51.25 305 *eP* **P 00 25 09.1 -0.2**
MLR Muntele Rosu 51.38 302 ⇑ *iP* P 00 25 06.0 -4.3
ARCR ARCALIA 51.96 305 ⇑ *iP* P 00 25 07.8 -6.7
VOIR 52.00 302 ⇑⇑ P P 00 25 07.9 -7.0
VOIR 52.00 302 ⇑ *iP* P 00 25 07.9 -7.0
KWP Kalwaria Pacla 52.28 308 *eP* **P 00 25 15.4 -1.4**
KWP pmax pmax
comp=Z,27nm,0.9s
KWP Kalwaria Pacla 52.28 308 *eP* **P 00 25 15.4 -1.4**
comp=Z,27nm,0.9s
KWP Kalwaria Pacla 52.28 308 ⇓ *iP* **P 00 25 15.2 -1.6**
KWP Kalwaria Pacla 52.28 308 *eP* **P 00 25 19.9 +3.1**
ARR Arges 52.30 302 ⇑ *iP* **P 00 25 15.5 -1.6**
KOLS Kolonicke sedl 52.76 307 *eP* **P 00 25 23.0 +2.6**
KOLS pmax pmax
comp=Z,3.0nm,1.1s
KOLS Kolonicke sedl 52.76 307 *eP* **P 00 25 22.9 +2.6**
LOT Lotru 52.85 303 ⇑ *iP* **P 00 25 20.1 -1.1**
DRGR 53.12 305 ⇓⇓ P P 00 25 19.5 -3.7
DRGR 53.12 305 ⇓ *iP* P 00 25 19.5 -3.7
STHS Stebnicka Huta 53.26 308 *eP* **P 00 25 26.8 +2.7**
STHS pmax pmax
comp=Z,3.0nm,1.0s
STHS Stebnicka Huta 53.26 308 *eP* **P 00 25 26.8 +2.7**
CRVS Cervenica-Dubn 53.28 308 *eP* **P 00 25 26.9 +2.7**
CRVS pmax pmax
comp=Z,37nm,2.9s
CRVS Cervenica-Dubn 53.28 308 *eP* **P 00 25 26.9 +2.7**
GZR Gura Zlata 53.53 303 ⇑ *iP* **P 00 25 24.2 -2.0**
FX1 Attu Island--F 53.87 47 *eP* **P 00 25 26.9 -1.5**
OJC Ojcow 53.91 310 *eP* **P 00 25 29.1 +0.3**
OJC Ojcow 53.91 310 *eP* **P 00 25 29.1 +0.3**
KECS Kecovo 54.02 307 *eP* **P 00 25 31.3 +1.7**
KECS Kecovo 54.02 307 *eP* **P 00 25 31.3 +1.7**
VTS Vitosha 54.20 300 ⇓⇓ P **P 00 25 31.7 +0.5**
VTS Vitosha 54.20 300 ⇓ *iP* **P 00 25 31.7 +0.5**
BZS Buzias 54.23 304 ⇓⇓ P **P 00 25 31.3 +0.1**
BZS Buzias 54.23 304 ⇓ *iP* **P 00 25 31.3 +0.1**
OKC Ostrava-Krasne 55.04 309 *eP* **P 00 25 37.3 +0.3**
OKC *e* 00 25 40.1
OKC MLR MLR
comp=Z,200nm,10.6s
OKC Ostrava-Krasne 55.04 309 *eP* **P 00 25 37.3 +0.3**
OKC *ep*P **pP 00 25 40.1 -0.1**
OKC AMS AMS 00 49 50.0
comp=Z,200nm,10.6s
NB2 NORSAR Subarra 55.43 324 P **P 00 25 38.3 -1.4**
comp=Z,4.6nm,0.6s,baz=71,slow=7.4
NOA NORSAR Array B 55.43 324 P **P 00 25 38.9 -0.8**
NOA NORSAR Array B 55.43 324 P **P 00 25 38.9 -0.8**
comp=Z,4.9nm,0.7s,baz=73,slow=7.2,SNR=13
NOA LR LR 00 50 45.9
comp=Z,75nm,19.4s,baz=90,slow=38
MORC Moravsky Berou 55.43 310 *eP* **P 00 25 40.4 +0.5**
MORC pmax pmax
comp=Z,5.0nm,0.9s
MORC Moravsky Berou 55.43 310 *eP* **P 00 25 40.4 +0.5**
comp=Z,5.2nm,0.9s
PKSM Moragy 55.97 305 ⇑⇑ P **P 00 25 43.7 0.0**
PKSM Moragy 55.97 305 ⇑ *iP* **P 00 25 43.7 0.0**
DPC Dobruska-Polom 55.98 311 *eP* **P 00 25 44.7 +0.9**
DPC *e* 00 25 47.1
DPC Dobruska-Polom 55.98 311 *eP* **P 00 25 44.7 +0.9**
DPC *ep*P **pP 00 25 47.1 0.0**
DPC AMS AMS 00 50 50.0
DPC Dobruska-Polom 55.98 311 *eP* **P 00 25 44.8 +0.9**
comp=Z,30nm,0.7s
UPC Upice 56.12 311 *eP* P 00 25 48.0 +3.2
UPC *e* 00 25 52.5
UPC Upice 56.12 311 *eP* P 00 25 48.0 +3.2
UPC *ex* x 00 25 52.5
TREC Trest 56.86 310 AMS AMS 00 51 10.0
comp=Z,200nm,12.7s
PVCC Panska Ves 56.98 311 *eP* **P 00 25 54.0 +3.2**
PVCC Panska Ves 56.98 311 *eP* **P 00 25 54.0 +3.2**
PRU Pruhonice 57.18 311 *eP* **P 00 25 52.9 +0.6**
PRU *e* 00 25 55.5
PRU MLR MLR
comp=Z,200nm,17.2s
PRU Pruhonice 57.18 311 *eP* **P 00 25 52.9 +0.6**
PRU *ep*P **pP 00 25 55.5 -0.1**
PRU AMS AMS 00 51 30.0
comp=Z,200nm,17.2s
BRG Berggiesshubel 57.23 312 *i* P **P 00 25 52.5 -0.1**
comp=Z,6.0nm,0.9s
BRG Berggiesshubel 57.23 312 *eP* **P 00 25 52.6 0.0**
comp=Z,11nm,1.4s
BRG Berggiesshubel 57.23 312 *i* P **P 00 25 52.5 -0.1**
BRG pmax pmax
comp=Z,6.0nm,0.9s
CLL Collm 57.62 312 *eP* **P 00 25 55.2 -0.2**
comp=Z,14nm,1.4s
CLL Collm 57.62 312 *i* P **P 00 25 57.6 +2.2**
CLL pmax pmax
comp=Z,5.0nm,0.7s
CLL Collm 57.62 312 ⇓ *iP* **P 00 25 55.0 -0.4**
comp=Z,29nm,1.9s
GROS Grobnik 57.90 306 *i* P **P 00 25 57.0 -0.5**
PERS Pernice 58.07 307 *i* P **P 00 25 58.6 -0.2**
KHC Kasperske Hory 58.08 310 *eP* **P 00 26 01.4 +2.7**
KHC *e* 00 26 04.4
KHC MLR MLR
comp=Z,200nm,13.2s
KHC Kasperske Hory 58.08 310 *eP* **P 00 26 01.4 +2.7**
KHC *ep*P **pP 00 26 04.4 +2.4**
KHC AMS AMS 00 52 00.0
comp=Z,200nm,13.2s
SOKA Soboth 58.11 307 ⇑ *ipP* **P 00 25 58.9 -0.1**
comp=Z,8.8nm,1.3s,SNR=4.5
GEC2 GERESS Array S 58.11 310 *eP* **P 00 25 58.1 -0.9**
GEC2 pmax pmax
comp=Z,134nm,3.5s
GEC2 GERESS Array S 58.11 310 *eP* **P 00 25 59.4 +0.4**
GERES GERESS Array B 58.11 310 P **P 00 25 59.5 +0.4**
GERES GERESS Array B 58.11 310 P **P 00 25 59.5 +0.4**
comp=Z,1.8nm,0.9s,baz=64,slow=6.5,SNR=9.3
GERES LR LR 00 51 48.8
comp=Z,51nm,21.6s,baz=308,slow=37
TANN Tannenbergstha 58.27 312 *eP* **P 00 25 59.7 -0.3**
comp=Z,5.0nm,1.1s
NKC Novy Kostel 58.35 311 *eP* **P 00 26 00.9 +0.4**
NKC *e* 00 26 04.3
NKC Novy Kostel 58.35 311 *eP* **P 00 26 00.9 +0.4**
NKC *ep*P **pP 00 26 04.3 +0.5**
BOJS Bojanci 58.43 305 *eP* **P 00 26 01.0 -0.1**
WET Wettzell 58.50 310 *eP* **P 00 26 01.7 +0.1**
comp=Z,11nm,1.7s
WET Wettzell 58.50 310 *eP* **P 00 26 01.7 +0.1**
WET pmax pmax
comp=Z,11nm,1.7s
VISS Visnje 58.58 306 *i* P **P 00 26 02.1 -0.1**
ROTZ Rotzenmuhle 58.67 311 *eP* **P 00 26 03.0 +0.2**
comp=Z,8.0nm,1.0s
MOX Moxa 58.68 312 *eP* **P 00 26 03.3 +0.4**
comp=Z,9.0nm,1.3s
MOX Moxa 58.68 312 *eP* **P 00 26 03.3 +0.4**
MOX pmax pmax
comp=Z,9.0nm,1.3s
NRDL Niedersach Rie 58.85 315 *eP* **P 00 26 04.8 +1.0**
comp=Z,14nm,1.0s
CLZ Clausthal 58.95 314 *eP* **P 00 26 04.6 -0.1**
comp=Z,14nm,0.8s
CLZ Clausthal 58.95 314 *eP* **P 00 26 04.6 -0.1**
CLZ pmax pmax
comp=Z,14nm,0.8s
JAVS Javornik 59.04 306 *i* P **P 00 26 07.0 +1.5**
RJOB Joebberg 59.10 309 *eP* **P 00 26 06.8 +0.9**
comp=Z,9.0nm,1.2s
GRF Grafenberg Arr 59.29 311 *eP* **P 00 26 07.6 +0.5**
comp=Z,48nm,1.9s
GRF *eL* L 00 52 23.9
comp=Z,86nm,19.1s
GRF Grafenberg Arr 59.29 311 *eP* **P 00 26 07.6 +0.5**
GRF pmax pmax
comp=Z,48nm,1.9s
GRF MLR MLR
comp=Z,100nm,19.1s
GRFO Grafenberg 59.29 311 *eP* **P 00 26 09.2 +2.2**
GRFO pmax pmax
comp=Z,10.0nm,0.8s
GRFO Grafenberg 59.29 311 *eP* **P 00 26 09.2 +2.2**
comp=Z,10.0nm,0.8s
FUR Furstenfeldbru 59.87 310 *eP* **P 00 26 12.1 +1.0**
comp=Z,22nm,0.8s
FUR Furstenfeldbru 59.87 310 *eP* **P 00 26 12.0 +1.0**
FUR pmax pmax
comp=Z,22nm,0.8s
WTTA Wattenberg 60.01 309 ⇑ *ipP* **P 00 26 12.3 0.0**
comp=Z,7.4nm,0.9s
MOTA Moosalm 60.31 309 ⇓ *iP* **P 00 26 13.8 -0.5**
comp=Z,22nm,1.3s
CUC Castrocucco 60.34 299 *eP* **P 00 26 15.1 +0.6**
comp=Z,10nm,1.0s
RETA Reutte 60.46 309 ⇑ *iP* **P 00 26 15.0 -0.3**
comp=Z,5.5nm,0.7s
FETA Feichten 60.68 309 ⇑ *iP* **P 00 26 16.5 -0.3**
comp=Z,6.4nm,1.0s,SNR=4.2
BUG Bochum--Univer 60.88 314 *eP* **P 00 26 18.1 +0.2**
comp=Z,9.0nm,1.0s
CEL Celeste 61.05 298 *eP* **P 00 26 19.1 -0.3**
FUORN Ofenpass-Fuorn 61.13 308 *eP* **P 00 26 19.3 -0.8**
BFO Black Forest 61.58 311 *eP* **P 00 26 22.9 +0.1**
comp=Z,10.0nm,1.1s
BFO Black Forest 61.58 311 *eP* **P 00 26 22.9 +0.1**
BFO pmax pmax
comp=Z,10.0nm,1.1s
BFO Black Forest 61.58 311 *eP* **P 00 26 22.3 -0.5**
comp=Z,129nm,2.9s
TUE Stuetta 61.77 308 *eP* **P 00 26 23.9 -0.4**
comp=Z,5.2nm,0.8s
CDF Champ du Feu 62.18 311 *eP* **P 00 26 26.4 -0.5**
comp=Z,20nm,1.2s
CDF Champ du Feu 62.18 311 *eP* **P 00 26 26.4 -0.5**
CDF pmax pmax
comp=Z,20nm,1.2s
CDF Champ du Feu 62.18 311 *eP* **P 00 26 26.4 -0.5**
comp=Z,20nm,1.2s
WLF Walferdange 62.29 313 *eP* **P 00 26 28.2 +0.7**
comp=Z,25nm,1.3s
HINF Hinteralfeld 62.70 311 *eP* **P 00 26 29.7 -0.6**
comp=Z,8.7nm,0.8s
HINF Hinteralfeld 62.70 311 *eP* **P 00 26 29.7 -0.6**
HINF pmax pmax
comp=Z,9.0nm,0.8s
HINF Hinteralfeld 62.70 311 *eP* **P 00 26 29.7 -0.6**
comp=Z,8.7nm,0.8s
GIVF Givet 62.86 314 *eP* **P 00 26 31.3 0.0**
GIVF Givet 62.86 314 *eP* **P 00 26 31.3 0.0**
GIVF Givet 62.86 314 *eP* **P 00 26 31.3 0.0**
HAU Haudompre 62.92 311 *eP* **P 00 26 31.2 -0.5**
HAU *eR*
comp=Z,50nm,20.1s
HAU Haudompre 62.92 311 *eP* **P 00 26 31.2 -0.5**
HAU Haudompre 62.92 311 *eP* **P 00 26 31.2 -0.5**
PAGF Fort de Pagny 63.04 312 *eP* **P 00 26 32.7 +0.2**
PAGF Fort de Pagny 63.04 312 *eP* **P 00 26 32.7 +0.2**
SENIN Lac Senin/Sane 63.09 309 *eP* **P 00 26 34.2 +1.1**
BAIF Baives 63.23 314 *eP* **P 00 26 33.7 0.0**
comp=Z,9.1nm,0.8s
BAIF Baives 63.23 314 *eP* **P 00 26 33.7 0.0**
BAIF pmax pmax
comp=Z,9.0nm,0.8s
BAIF Baives 63.23 314 *eP* **P 00 26 33.7 0.0**
comp=Z,9.1nm,0.8s
PGF Pioggiola 63.77 305 *eP* **P 00 26 37.6 0.0**
comp=Z,16nm,0.9s
PGF Pioggiola 63.77 305 *eP* **P 00 26 37.6 0.0**
PGF pmax pmax
comp=Z,16nm,0.9s
PGF Pioggiola 63.77 305 *eP* **P 00 26 37.6 0.0**
comp=Z,16nm,0.9s
LPG La Plagne 63.83 308 *eP* **P 00 26 38.3 +0.2**
comp=Z,21nm,0.8s
LPG La Plagne 63.83 308 *eP* **P 00 26 38.3 +0.2**
LPG pmax pmax
comp=Z,21nm,0.8s
LPG La Plagne 63.83 308 *eP* **P 00 26 38.3 +0.2**
comp=Z,21nm,0.8s
LPL La Plagne 63.83 308 *eP* **P 00 26 38.2 +0.1**
comp=Z,16nm,0.8s
LPL La Plagne 63.83 308 *eP* **P 00 26 38.2 +0.1**
LPL pmax pmax
comp=Z,16nm,0.8s
LPL La Plagne 63.83 308 *eP* **P 00 26 38.2 +0.1**
comp=Z,16nm,0.8s
SBF Sospel 64.16 307 *eP* **P 00 26 39.7 -0.4**
comp=Z,24nm,0.8s
SBF Sospel 64.16 307 *eP* **P 00 26 39.7 -0.4**
SBF pmax pmax
comp=Z,25nm,0.8s
SBF Sospel 64.16 307 *eP* **P 00 26 39.7 -0.4**
comp=Z,24nm,0.8s
MBDF Montbardon 64.17 308 *eP* **P 00 26 39.2 -1.1**
comp=Z,4.9nm,0.6s
MBDF Montbardon 64.17 308 *eP* **P 00 26 39.2 -1.1**
MBDF pmax pmax
comp=Z,5.0nm,0.6s
MBDF Montbardon 64.17 308 *eP* **P 00 26 39.2 -1.1**
comp=Z,4.9nm,0.6s
COLD Coldfoot 64.22 23 *eP* **P 00 26 40.1 +0.1**
ORIF Oris-en-Rattie 64.64 308 *eP* **P 00 26 42.9 -0.3**
comp=Z,15nm,0.7s
ORIF *eR*
comp=Z,140nm,17.2s
ORIF Oris-en-Rattie 64.64 308 *eP* **P 00 26 42.9 -0.3**
ORIF pmax pmax
comp=Z,15nm,0.7s
ORIF Oris-en-Rattie 64.64 308 *eP* **P 00 26 42.9 -0.3**
comp=Z,15nm,0.7s
FRF La Foret Royal 64.81 307 *eP* **P 00 26 44.1 -0.1**
FRF La Foret Royal 64.81 307 *eP* **P 00 26 44.1 -0.1**
FRF La Foret Royal 64.81 307 *eP* **P 00 26 44.1 -0.1**
LMR La Mourre 65.00 306 *eP* **P 00 26 45.1 -0.4**
LMR La Mourre 65.00 306 *eP* **P 00 26 45.1 -0.4**
LMR La Mourre 65.00 306 *eP* **P 00 26 45.1 -0.4**
SSF Saint Saulge 65.06 311 *eP* **P 00 26 44.9 -0.9**
SSF Saint Saulge 65.06 311 *eP* **P 00 26 44.9 -0.9**
SSF Saint Saulge 65.06 311 *eP* **P 00 26 44.9 -0.9**
SMF Signal de Mont 65.06 311 *eP* **P 00 26 45.2 -0.7**
comp=Z,21nm,0.9s
SMF Signal de Mont 65.06 311 *eP* **P 00 26 45.2 -0.7**
SMF pmax pmax
comp=Z,21nm,0.9s
SMF Signal de Mont 65.06 311 *eP* **P 00 26 45.2 -0.7**
comp=Z,21nm,0.9s
AVF Avril sur Loir 65.28 311 *eP* **P 00 26 46.7 -0.6**
comp=Z,12nm,1.0s
AVF Avril sur Loir 65.28 311 *eP* **P 00 26 46.7 -0.6**
AVF pmax pmax
comp=Z,13nm,1.0s
AVF Avril sur Loir 65.28 311 *eP* **P 00 26 46.7 -0.6**
comp=Z,12nm,1.0s
SMRF Simiane la Rot 65.29 307 *eP* **P 00 26 47.2 -0.2**
SMRF Simiane la Rot 65.29 307 *eP* **P 00 26 47.2 -0.2**
VIVF Saint-Julien-l 65.42 309 *eP* **P 00 26 47.9 -0.4**
VIVF Saint-Julien-l 65.42 309 *eP* **P 00 26 47.9 -0.4**
VIVF Saint-Julien-l 65.42 309 *eP* **P 00 26 47.9 -0.4**
SUMG Summit 65.61 346 *eP* **P 00 26 47.6 -1.8**
SUMG pmax pmax
comp=Z,216nm,3.0s
SUMG Summit 65.61 346 *eP* **P 00 26 47.6 -1.8**
comp=Z,216nm,3.0s
BGF Bois d'Agland 65.70 311 *eP* **P 00 26 49.3 -0.7**
BGF Bois d'Agland 65.70 311 *eP* **P 00 26 49.3 -0.7**
BGF Bois d'Agland 65.70 311 *eP* **P 00 26 49.3 -0.7**
BPAW Bear Paw Mtn. 65.83 26 *eP* **P 00 26 50.3 -0.3**
comp=Z,126nm,2.6s
TCF Toulx Ste Croi 66.22 311 *eP* **P 00 26 53.0 -0.4**
comp=Z,34nm,1.3s
TCF Toulx Ste Croi 66.22 311 *eP* **P 00 26 53.0 -0.4**
TCF pmax pmax
comp=Z,34nm,1.3s
TCF Toulx Ste Croi 66.22 311 *eP* **P 00 26 53.0 -0.4**
comp=Z,34nm,1.3s
LASF Ste Croix 66.32 308 *eP* **P 00 26 54.0 0.0**
comp=Z,12nm,0.8s
LASF Ste Croix 66.32 308 *eP* **P 00 26 54.0 0.0**
comp=Z,12nm,0.8s
LDF La Druitiere 66.42 314 *eP* **P 00 26 53.8 -0.8**
comp=Z,21nm,1.0s
LDF La Druitiere 66.42 314 *eP* **P 00 26 53.8 -0.8**
LDF pmax pmax
comp=Z,21nm,1.0s
LDF La Druitiere 66.42 314 *eP* **P 00 26 53.8 -0.8**
comp=Z,21nm,1.0s
FLN La Foliniere 66.54 314 *eP* **P 00 26 54.6 -0.7**
FLN *eR*
comp=Z,152nm,19.0s
FLN La Foliniere 66.54 314 *eP* **P 00 26 54.6 -0.7**
FLN La Foliniere 66.54 314 *eP* **P 00 26 54.6 -0.7**
ILAR Eielson Array 66.81 24 P **P 00 26 55.2 -1.5**
ILAR Eielson Array 66.81 24 P **P 00 26 55.2 -1.5**
comp=Z,3.2nm,0.9s,baz=290,slow=5.2,SNR=18
KEST Kesra 66.86 298 P **P 00 26 58.5 +0.8**
KEST Kesra 66.86 298 P **P 00 26 58.5 +0.8**
comp=Z,1.5nm,0.8s,baz=12,slow=3.2,SNR=6.0
GRR Gorron 66.95 314 *eP* **P 00 26 57.4 -0.5**
comp=Z,61nm,1.2s
GRR Gorron 66.95 314 *eP* **P 00 26 57.4 -0.5**
GRR pmax pmax
comp=Z,61nm,1.2s
GRR Gorron 66.95 314 *eP* **P 00 26 57.4 -0.5**
comp=Z,61nm,1.2s
CAF Calviac 66.99 310 *eP* **P 00 26 58.2 -0.1**
CAF Calviac 66.99 310 *eP* **P 00 26 58.2 -0.1**
CAF Calviac 66.99 310 *eP* **P 00 26 58.2 -0.1**
RJF Les Rejaudoux 67.14 310 *eP* **P 00 26 59.1 -0.1**
comp=Z,7.5nm,0.7s
RJF *eR*
comp=Z,64nm,20.7s
RJF Les Rejaudoux 67.14 310 *eP* **P 00 26 59.1 -0.1**
RJF pmax pmax
comp=Z,8.0nm,0.7s
RJF Les Rejaudoux 67.14 310 *eP* **P 00 26 59.1 -0.1**
comp=Z,7.5nm,0.7s
MFF Saint Martin d 67.46 312 *eP* **P 00 27 00.7 -0.5**
comp=Z,21nm,1.1s
MFF Saint Martin d 67.46 312 *eP* **P 00 27 00.7 -0.5**
MFF pmax pmax
comp=Z,21nm,1.1s
MFF Saint Martin d 67.46 312 *eP* **P 00 27 00.7 -0.5**
comp=Z,21nm,1.1s

MTLF	Montolieu	67.71 308	eP		P	00 27 02.7	-0.2
MTLF	Montolieu	67.71 308	eP		P	00 27 02.7	-0.2
MTLF	Montolieu	67.71 308	eP		P	00 27 02.7	-0.2
WRA	Warramunga Arr	67.77 141	P		P	00 27 00.5	-2.9
WRA	Warramunga Arr	67.77 141	P		P	00 27 00.5	-2.9
	comp=Z,2.5nm,0.9s,baz=336,slow=6.2,SNR=6.0						
SGMF	Saint Gilles	67.98 315	eP		P	00 27 04.3	-0.2
SGMF	Saint Gilles	67.98 315	eP		P	00 27 04.3	-0.2
SGMF	Saint Gilles	67.98 315	eP		P	00 27 04.3	-0.2
INK	Inuvik	68.12 18	eP		P	00 27 04.4	-0.6
	comp=Z,9.1nm,0.9s						
SML	Sawmill	68.21 27	eP		P	00 27 05.3	-0.4
SML			pmax	pmax			
	comp=Z,5.0nm,0.8s						
SML	Sawmill	68.21 27	eP		P	00 27 05.3	-0.4
	comp=Z,5.2nm,0.8s						
ROSF	Rostrenen	68.34 315	eP		P	00 27 06.8	+0.1
ROSF	Rostrenen	68.34 315	eP		P	00 27 06.8	+0.1
ROSF	Rostrenen	68.34 315	eP		P	00 27 06.8	+0.1
QUIF	Quistinic	68.51 314	eP		P	00 27 07.3	-0.5
QUIF	Quistinic	68.51 314	eP		P	00 27 07.3	-0.5
QUIF	Quistinic	68.51 314	eP		P	00 27 07.3	-0.5
EGAK	Eagle	68.62 23	eP		P	00 27 07.8	-0.4
	comp=Z,9.1nm,0.9s						
EPF	Esparros	69.05 309	eP		P	00 27 10.8	-0.5
	comp=Z,5.0nm,0.7s						
EPF	Esparros	69.05 309	eP		P	00 27 10.8	-0.5
EPF			pmax	pmax			
	comp=Z,5.0nm,0.7s						
EPF	Esparros	69.05 309	eP		P	00 27 10.8	-0.5
	comp=Z,5.0nm,0.7s						
MENT	Mentasta	69.08 25	eP		P	00 27 09.7	-1.4
BMRM	Bremner River	70.11 27	eP		P	00 27 20.2	+2.6
	comp=Z,9.6nm,0.9s						
ASAR	Alice Springs	70.71 143	P		P	00 27 19.9	-1.8
ASAR	Alice Springs	70.71 143	P		P	00 27 19.8	-1.8
	comp=Z,2.1nm,0.7s,baz=333,slow=6.0,SNR=10						
HYT	Haines Junctio	72.65 24	eP		P	00 27 32.9	-0.1
ESDC	Sonseca Array	73.60 308	P		P	00 27 38.5	-0.4
ESDC	Sonseca Array	73.60 308	P		P	00 27 38.5	-0.4
	comp=Z,2.7nm,0.7s,baz=44,slow=5.9,SNR=13						
CTA	Charters Tower	74.46 131	P		P	00 27 42.6	-1.3
CTA	Charters Tower	74.46 131	P		P	00 27 42.6	-1.3
	comp=Z,2.5nm,0.8s,baz=17,slow=11,SNR=3.0						
YKA	Yellowknife Ar	77.22 14	P		P	00 27 57.8	-1.4
YKA	Yellowknife Ar	77.22 14	P		P	00 27 57.7	-1.4
	comp=Z,3.2nm,0.9s,baz=341,slow=5.2,SNR=3.3						
STKA	Stephens Creek	81.28 142	P		P	00 28 19.2	-2.5
STKA	Stephens Creek	81.28 142	P		P	00 28 19.2	-2.5
	comp=Z,2.8nm,0.6s,baz=328,slow=7.0,SNR=9.9						
SCHQ	Schefferville	86.69 350	LR		LR	01 13 23.5	
	comp=Z,47nm,19.9s,baz=32,slow=40						
NEW	Newport	89.56 21	eP		P	00 29 03.2	+0.3
	comp=Z,4.7nm,1.0s						
BLMT	Blacktail Moun	90.56 20	eP		P	00 29 08.2	+0.4
	comp=Z,1.1nm,0.9s						
BSMT	Bassoo Peak	90.59 20	eP		P	00 29 08.2	+0.1
	comp=Z,5.2nm,1.1s						
YBMT	Yellow Bay	90.79 20	eP		P	00 29 09.1	+0.3
	comp=Z,3.7nm,0.8s						
JTMT	Jette	90.82 20	eP		P	00 29 08.9	-0.1
	comp=Z,11nm,1.3s						
SWMT	Swartz Lake	91.12 20	eP		P	00 29 10.2	-0.2
	comp=Z,3.3nm,0.9s						
SLMT	Seeley Lake	91.50 20	eP		P	00 29 11.8	-0.4
	comp=Z,5.0nm,1.0s						
ULM	Lac du Bonnet	91.86 8	LR		LR	01 10 39.9	
	comp=Z,46nm,20.3s,baz=41,slow=36						
BOSA	Boshof	93.33 236	LR		LR	01 11 19.3	
	comp=Z,34nm,19.1s,baz=169,slow=36						
PDAR	Pinedale Array	96.68 19	LR		LR	01 14 03.4	
	comp=Z,36nm,18.5s,baz=264,slow=36						
QSPA	South Pole Qui	127.42 180	PKP		PKPdf	00 35 09.2	-0.3
QSPA	South Pole Qui	127.42 180	PKP		PKPdf	00 35 09.2	-0.3
	comp=Z,1.6nm,0.8s,baz=336,slow=0.8,SNR=5.4						

*IDC **01** 00:18:03.5±1.0, 36°.65S×176°.98E, h251km±7km, mb3.9/12, mb1 4.0/12, mb1mx4.0/20, mbtmp3.9/12, Error ellipse: s-maj=20.5km s-min=10.7km az=39.0*

*WEL **01** 00:18:04.8±0.3, 36°.94S×176°.99E, h280km±2km, ML6.1/20, Error ellipse: s-maj=3.4km s-min=3.1km az=0.0*

WEL Felt from Gisborne to Nelson, maximum reported intensity MM 4.

*BJI **01** 00:18:05.9, 37°.00S×176°.90E, h275km, mB5.0/6, mb4.6/8*

*ISCJB **01** 00:18:06.1±0.3, 37°.16S±0°.03×176°.68E±0°.06, h281km±2km, mb4.3/24, Error ellipse: s-maj=8.2km s-min=5.5km az=1.8*

*NEIC **01** 00:18:06.3±0.3, 37°.16S×176°.71E, h281km±2km, mb4.2/12, Error ellipse: s-maj=6.7km s-min=4.5km az=97.0*

NEIC Felt [IV] at Hastings, Havelock North, Karori, Levin, Lower Hutt, Mahora, Miramar, Mount Victoria, Napier, Nelson, Palmerston North, Paraparaumu, Raumati South, Wainuiomata, Wellington and Whitby; [III] at Blenheim, Kelburn and Wanganui.

ISC 01 00:18:06.5±0.4, 37°.11S±0°.06×176°.79E±0°.06, h280km±3km, h279km:pP-P, n262, σ1°.42/288, mb4.3/24, 7C-2D, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MYRZ	Mayor Island	0.47 248		PN	Pn	00 18 41.6	-1.1
TGRZ	Tauranga	0.75 214		PN	Pn	00 18 43.0	-0.5
TGRZ				SN	S	00 19 13.1	+0.2
TGRZ	Tauranga	0.75 214		Pn	Pn	00 18 42.8	-0.8
OPRZ	Ohinepanea	0.76 194		PN	Pn	00 18 42.8	-0.8
OPRZ				SN	S	00 19 13.0	0.0
OPRZ	Ohinepanea	0.76 194		Pn	Pn	00 18 42.6	-1.0
MARZ	Manawahe	0.88 186		PN	Pn	00 18 43.6	-0.5
MARZ	Manawahe	0.88 186		Pn	Pn	00 18 43.6	-0.5
KUZ	Kuaotunu	0.93 293		PN	Pn	00 18 42.8	-1.5
KUZ				eSN	S	00 19 11.9	-2.5
KUZ	Kuaotunu	0.93 293		Pn	Pn	00 18 42.5	-1.9
EDRZ	Edgecumbe	0.99 182		ePN	Pn	00 18 44.2	-0.6
EDRZ				eSN	S	00 19 13.7	-0.8
EDRZ	Edgecumbe	0.99 182		ePn	Pn	00 18 44.0	-0.8
KARZ	Kaharoa	1.01 205		⇑PN	Pn	00 18 44.4	-0.3
KARZ	Kaharoa	1.01 205		Pn	Pn	00 18 44.4	-0.3
OMRZ	Omania	1.05 198		PN	Pn	00 18 44.6	-0.4
OMRZ	Omania	1.05 198		Pn	Pn	00 18 44.6	-0.4
TARZ	Mount Tarawera	1.14 191		PN	Pn	00 18 45.4	-0.2
TARZ	Mount Tarawera	1.14 191		Pn	Pn	00 18 45.4	-0.2
UTU	Utuhina	1.16 204		PN	Pn	00 18 45.7	+0.1
URZ	Urewera	1.18 167		PN	Pn	00 18 44.3	-1.2
URZ				AML	AML	00 19 16.0	
URZ				AML	AML	00 19 17.0	
URZ	Urewera	1.18 167		ePn	Pn	00 18 44.4	-1.2
URZ				eS	S	00 19 11.8	-4.8
URZ	Urewera	1.18 167		P	Pn	00 18 44.3	-1.2
	217nm,0.3s,baz=328,slow=2.2,SNR=625						
URZ				S	S	00 19 12.9	-3.7
	596nm,0.3s,baz=18,slow=22,SNR=8.4						
HLRZ	Highlands Stat	1.19 197		PN	Pn	00 18 45.9	+0.1
TOZ	Tahuroa Road	1.20 238		PN	Pn	00 18 45.5	-0.2
RRRZ	Republican Roa	1.25 190		PN	Pn	00 18 45.4	-0.7
RRRZ	Republican Roa	1.25 190		Pn	Pn	00 18 45.9	-0.2
MXZ	Matakaoa Point	1.29 111		⇑PN	Pn	00 18 44.8	-1.5
MXZ				SN	S	00 19 14.6	-3.2
MXZ				AML	AML	00 19 16.6	
MXZ				AML	AML	00 19 16.6	
MXZ				AML	AML	00 19 16.6	
MXZ	Matakaoa Point	1.29 111		Pn	Pn	00 18 44.8	-1.5
MKAZ	Moumakai	1.29 270		PN	Pn	00 18 45.6	-0.8
MKAZ	Moumakai	1.29 270		Pn	Pn	00 18 45.3	-1.1
HRRZ	Handcock Road	1.34 197		PN	Pn	00 18 46.4	-0.2
HRRZ	Handcock Road	1.34 197		Pn	Pn	00 18 46.7	+0.1
MWZ	Matawai	1.36 155		PN	Pn	00 18 45.6	-1.1
MWZ				AML	AML	00 19 17.5	
MWZ				AML	AML	00 19 17.5	
MWZ				AML	AML	00 19 19.2	
MWZ				AML	AML	00 19 19.2	
MWZ	Matawai	1.36 155		Pn	Pn	00 18 45.7	-1.1
PRRZ	Plateau Road	1.42 193		ePN	Pn	00 18 47.0	-0.1
PRRZ	Plateau Road	1.42 193		ePn	Pn	00 18 46.8	-0.3
ALRZ	Allen Road	1.49 193		PN	Pn	00 18 47.5	-0.1
ALRZ	Allen Road	1.49 193		Pn	Pn	00 18 47.5	-0.1
PUZ	Puketiti	1.51 130		PN	Pn	00 18 46.8	-1.0
PUZ				AML	AML	00 19 18.2	
PUZ				AML	AML	00 19 24.7	
TLZ	Tolley Road	1.57 219		PN	Pn	00 18 48.7	+0.5
KAAZ	Kauri Point	1.69 279		PN	Pn	00 18 48.6	-0.4
KAAZ	Kauri Point	1.69 279		Pn	Pn	00 18 48.0	-1.0
CNGZ	Carnagh Statio	1.77 141		PN	Pn	00 18 49.6	0.0
WATZ	Wairara	1.80 207		PN	Pn	00 18 50.3	+0.4
WATZ	Wairara	1.80 207		Pn	Pn	00 18 50.4	+0.4
RAHZ	Arahi	1.82 173		PN	Pn	00 18 50.0	0.0
RAHZ	Arahi	1.82 173		Pn	Pn	00 18 50.2	+0.2
HATZ	Hinemaiaia	1.86 197		PN	Pn	00 18 50.4	+0.1
HATZ	Hinemaiaia	1.86 197		Pn	Pn	00 18 50.4	+0.1
RATZ	Rangitukua	1.93 204		PN	Pn	00 18 51.1	+0.2
RATZ	Rangitukua	1.93 204		Pn	Pn	00 18 51.1	+0.2
NMHZ	Naumai	1.98 180		PN	Pn	00 18 51.7	+0.3
NMHZ	Naumai	1.98 180		Pn	Pn	00 18 51.7	+0.3
RITZ	Rihia Road	2.00 201		PN	Pn	00 18 51.9	+0.4
RITZ	Rihia Road	2.00 201		Pn	Pn	00 18 51.9	+0.4
PRGZ	Paritu Road	2.01 155		PN	Pn	00 18 51.1	-0.4
PRGZ	Paritu Road	2.01 155		Pn	Pn	00 18 51.5	0.0
KNZ	Kokohu	2.03 160		⇑PN	Pn	00 18 51.2	-0.4
KNZ	Kokohu	2.03 160		Pn	Pn	00 18 51.2	-0.4
KATZ	Kakaramea	2.05 204		PN	Pn	00 18 52.6	+0.6
KATZ	Kakaramea	2.05 204		Pn	Pn	00 18 52.6	+0.6
BKZ	Black Stump Fm	2.07 186		PN	Pn	00 18 51.3	-0.7
BKZ				AML	AML	00 19 28.2	
BKZ				AML	AML	00 19 28.3	
HIZ	Hauiti	2.07 227		PN	Pn	00 18 52.9	+0.8
HIZ	Hauiti	2.07 227		Pn	Pn	00 18 52.6	+0.5
KRVZ	Karewarewa	2.18 204		PN	Pn	00 18 53.1	0.0
KRVZ	Karewarewa	2.18 204		Pn	Pn	00 18 53.2	+0.1
WTVZ	West Tongariro	2.21 205		⇓PN	Pn	00 18 53.6	+0.2
WTVZ	West Tongariro	2.21 205		Pn	Pn	00 18 53.6	+0.2
MHGZ	Mahia Peninsul	2.22 157		PN	Pn	00 18 53.1	-0.2
MHGZ	Mahia Peninsul	2.22 157		Pn	Pn	00 18 53.3	-0.1
TWVZ	Taurewa	2.23 208		PN	Pn	00 18 53.6	+0.1
TWVZ	Taurewa	2.23 208		Pn	Pn	00 18 53.5	0.0
OTVZ	Oturere	2.23 203		PN	Pn	00 18 54.0	+0.4
OTVZ	Oturere	2.23 203		Pn	Pn	00 18 54.0	+0.4
NGZ	Ngauruhoe	2.26 204		PN	Pn	00 18 54.3	+0.4
NGZ	Ngauruhoe	2.26 204		Pn	Pn	00 18 54.3	+0.4
WCZ	Waipu Caves	2.29 300		PN	Pn	00 18 52.8	-1.2
WCZ	Waipu Caves	2.29 300		Pn	Pn	00 18 52.9	-1.2
WPVZ	Whakapapa	2.31 205		PN	Pn	00 18 54.6	+0.4
WPVZ	Whakapapa	2.31 205		Pn	Pn	00 18 54.6	+0.4
MCHZ	McNeill Hill	2.33 182		PN	Pn	00 18 54.5	+0.2
MCHZ	McNeill Hill	2.33 182		Pn	Pn	00 18 54.5	+0.2
TUVZ	Tukino	2.33 202		PN	Pn	00 18 54.8	+0.3
TUVZ	Tukino	2.33 202		Pn	Pn	00 18 54.8	+0.3
FWVZ	Far West T-bar	2.35 204		PN	Pn	00 18 54.7	-0.1
FWVZ	Far West T-bar	2.35 204		Pn	Pn	00 18 54.9	+0.1
WHVZ	Whangaehu Hut	2.36 203		PN	Pn	00 18 54.9	0.0
DRZ	Dome Shelter	2.37 204		⇑PN	Pn	00 18 55.3	+0.3
DRZ	Dome Shelter	2.37 204		Pn	Pn	00 18 55.3	+0.3
TRVZ	Turoa	2.39 204		PN	Pn	00 18 55.4	+0.2
TRVZ	Turoa	2.39 204		Pn	Pn	00 18 55.5	+0.3
WNVZ	Wahianoa	2.40 203		PN	Pn	00 18 55.4	+0.2
WNVZ	Wahianoa	2.40 203		Pn	Pn	00 18 55.2	0.0
MOVZ	Moawhango	2.43 199		⇑PN	Pn	00 18 54.9	-0.5
MOVZ	Moawhango	2.43 199		Pn	Pn	00 18 54.9	-0.5
BHHZ	Black Hill Sta	2.44 193		PN	Pn	00 18 54.9	-0.6
PKVZ	Pokaka	2.45 207		PN	Pn	00 18 55.7	+0.2
MTVZ	Mangateitei	2.50 204		PN	Pn	00 18 56.1	+0.1
MTVZ	Mangateitei	2.50 204		Pn	Pn	00 18 56.1	+0.1
CKHZ	Cape Kidnapper	2.56 175		PN	Pn	00 18 56.2	-0.2
CKHZ	Cape Kidnapper	2.56 175		Pn	Pn	00 18 56.3	-0.1
VRZ	Vera Road	2.57 218		PN	Pn	00 18 57.4	+0.9
VRZ	Vera Road	2.57 218		Pn	Pn	00 18 57.5	+0.9
KAHZ	Kahuranaki	2.68 179		PN	Pn	00 18 57.7	+0.1
KAHZ	Kahuranaki	2.68 179		Pn	Pn	00 18 57.7	+0.1
MHEZ	Mangahewa	2.76 224		Pn	Pn	00 19 00.6	+2.2
PNHZ	Pukenui	2.84 189		PN	Pn	00 18 58.5	-0.6
PNHZ	Pukenui	2.84 189		Pn	Pn	00 18 58.5	-0.6
PXZ	Pawanui	2.92 179		⇓PN	Pn	00 18 59.6	-0.3
PXZ				AML	AML	00 19 41.6	
PXZ				AML	AML	00 19 41.8	
PXZ				AML	AML	00 19 42.8	
PXZ				AML	AML	00 19 43.1	
PXZ	Pawanui	2.92 179		Pn	Pn	00 18 59.6	-0.3
WPHZ	Waipukurau	2.96 185		PN	Pn	00 18 59.7	-0.7
WPHZ	Waipukurau	2.96 185		Pn	Pn	00 19 00.0	-0.4
WAZ	Wanganui	3.00 208		PN	Pn	00 19 00.9	+0.1
WAZ	Wanganui	3.00 208		Pn	Pn	00 19 00.9	+0.1
PKE	Pukeiti	3.03 226		Pn	Pn	00 19 02.7	+1.5
KHEZ	Kahui Hut	3.08 224		PN	Pn	00 19 03.4	+1.6
PRHZ	Porangahau	3.15 182		PN	Pn	00 19 02.0	-0.4
OUZ	Omahuta	3.20 305		PN	Pn	00 19 01.8	-1.2
OUZ	Omahuta	3.20 305		ePn	Pn	00 19 01.6	-1.4
OUZ				eS	S	00 19 38.1	-10
DVHZ	Dannevirke	3.22 188		PN	Pn	00 19 02.4	-0.7
DVHZ	Dannevirke	3.22 188		Pn	Pn	00 19 02.4	-0.7
NMEZ	Namu Road	3.24 224		PN	Pn	00 19 04.8	+1.5
ANWZ	Angora Road	3.35 184		⇑PN	Pn	00 19 04.2	-0.3
POWZ	Post Office Ro	3.37 193		PN	Pn	00 19 04.0	-0.7
PRWZ	Pori Road	3.50 190		PN	Pn	00 19 05.7	-0.3
BFZ	Birch Farm	3.59 187		PN	Pn	00 19 06.3	-0.8
BFZ	Birch Farm	3.59 187		Pn	Pn	00 19 06.3	-0.8
MRZ	Mangatainoka R	3.67 194		PN	Pn	00 19 06.7	-1.2
MRZ				AML	AML	00 19 56.7	
MRZ				AML	AML	00 19 57.5	
MRZ	Mangatainoka R	3.67 194		Pn	Pn	00 19 06.8	-1.2
TIWZ	Tintock	3.73 191		PN	Pn	00 19 08.0	-0.6
TIWZ	Tintock	3.73 191		Pn	Pn	00 19 08.0	-0.6
CPWZ	Castlepoint	3.82 187		PN	Pn	00 19 09.5	-0.1
OGWZ	Otaki Gorge	3.91 198		PN	Pn	00 19 09.2	-1.4
OGWZ	Otaki Gorge	3.91 198		Pn	Pn	00 19 09.4	-1.2
KIW	Kapiti Island	4.02 201		PN	Pn	00 19 10.6	-1.2
KIW				AML	AML	00 20 02.7	
KIW				AML	AML	00 20 04.7	
KIW	Kapiti Island	4.02 201		Pn	Pn	00 19 10.7	-1.2
TMWZ	Te Maipa	4.05 190		PN	Pn	00 19 11.2	-1.0
TMWZ	Te Maipa	4.05 190		Pn	Pn	00 19 11.1	-1.0
MTW	Mount Morrison	4.16 193		PN	Pn	00 19 11.7	-1.7
MTW				AML	AML	00 20 06.1	
MTW				AML	AML	00 20 07.1	
MTW	Mount Morrison	4.16 193		Pn	Pn	00 19 11.7	-1.7
CAW	Cannon Point	4.21 198		PN	Pn	00 19 12.8	-1.2
CAW				AML	AML	00 20 07.1	
CAW				AML	AML	00 20 07.6	
CAW	Cannon Point	4.21 198		Pn	Pn	00 19 12.8	-1.2
DUWZ	D'Urville Isla	4.31 210		PN	Pn	00 19 13.6	-1.6
DUWZ	D'Urville Isla	4.31 210		Pn	Pn	00 19 13.7	-1.6
TRWZ	Traveller	4.37 191		PN	Pn	00 19 14.7	-1.1
TRWZ				AML	AML	00 20 11.5	
TRWZ				AML	AML	00 20 12.8	
TRWZ	Traveller	4.37 191		Pn	Pn	00 19 14.7	-1.1
PAWZ	Paruwai Farm	4.39 193		PN	Pn	00 19 14.7	-1.4
PAWZ				AML	AML	00 20 10.8	
PAWZ				AML	AML	00 20 11.8	
PAWZ	Paruwai Farm	4.39 193		Pn	Pn	00 19 15.0	-1.1
WEL	Wellington	4.45 200		PN	Pn	00 19 15.4	-1.4
WEL	Wellington	4.45 200		Pn	Pn	00 19 15.8	-1.0
MSWZ	Moikau Station	4.46 195		PN	Pn	00 19 15.3	-1.6
MSWZ				AML	AML	00 20 12.1	
MSWZ				AML	AML	00 20 14.4	
MSWZ	Moikau Station	4.46 195		Pn	Pn	00 19 15.3	-1.6
SNZO	South Karori	4.49 200		PN	Pn	00 19 15.7	-1.5
SNZO				AML	AML	00 20 12.7	
SNZO				AML	AML	00 20 12.7	
SNZO				AML	AML	00 20 13.6	
SNZO				AML	AML	00 20 13.6	
SNZO	South Karori	4.49 200		ePn	Pn	00 19 15.3	-1.9
SNZO				eS	S	00 19 59.2	-15
TCW	Tory Channel	4.54 205		PN	Pn	00 19 16.3	-1.4
TCW				AML	AML	00 20 15.3	
TCW				AML	AML	00 20 16.3	
TCW	Tory Channel	4.54 205		Pn	Pn	00 19 16.3	-1.4
BHW	Baring Head	4.54 199		PN	Pn	00 19 16.4	-1.3
BHW				AML	AML	00 20 11.7	
BHW				AML	AML	00 20 15.2	
BHW	Baring Head	4.54 199		Pn	Pn	00 19 16.3	-1.5
PLWZ	Palliser	4.61 194		PN	Pn	00 19 17.1	-1.5
PLWZ	Palliser	4.61 194		Pn	Pn	00 19 17.1	-1.5
TUWZ	Tuamarina	4.84 206		PN	Pn	00 19 19.7	-1.6
TUWZ				AML	AML	00 20 19.8	
TUWZ				AML	AML	00 20 21.5	
TUWZ	Tuamarina	4.84 206		Pn	Pn	00 19 19.7	-1.6
NNZ	Nelson	4.88 212		PN	Pn	00 19 19.8	-1.9
NNZ	Nelson	4.88 212		Pn	Pn	00 19 19.9	-1.9
QRZ	Quartz Range	4.98 220		PN	Pn	00 19 20.8	-2.1
QRZ	Quartz Range	4.98 220		Pn	Pn	00 19 20.8	-2.1
CMWZ	Cape Campbell	5.04 202		PN	Pn	00 19 23.1	-0.5
CMWZ				AML	AML	00 20 27.2	
CMWZ				AML	AML	00 20 27.2	
BSWZ	Blackbirch Sta	5.12 205		PN	Pn	00 19 23.3	-1.3
BSWZ				AML	AML	00 20 26.8	
BSWZ				AML	AML	00 20 27.7	
BSWZ	Blackbirch Sta	5.12 205		Pn	Pn	00 19 23.3	-1.3
THZ	Tophouse	5.53 212		PN	Pn	00 19 27.1	-2.5
THZ	Tophouse	5.53 212		Pn	Pn	00 19 27.5	-2.1
KHZ	Kahutara	5.86 204		⇑PN	Pn	00 19 32.3	-1.2
KHZ				AML	AML	00 20 40.4	
KHZ				AML	AML	00 20 41.3	
KHZ	Kahutara	5.86 204		ePn	Pn	00 19 32.3	-1.2
	1um,0.6s						
DSZ	Denniston Nort	6.03 218		PN	Pn	00 19 32.9	-2.6
DSZ	Denniston Nort	6.03 218		Pn	Pn	00 19 33.1	-2.5
LTZ	Lake Taylor	6.64 210		PN	Pn	00 19 41.4	-1.6
LTZ	Lake Taylor	6.64 210		Pn	Pn	00 19 41.3	-1.8
OXZ	Oxford	7.19 209		PN	Pn	00 19 47.0	-2.8
MQZ	McQueen's Vall	7.30 204		PN	Pn	00 19 48.5	-2.6
MQZ	McQueen's Vall	7.30 204		Pn	Pn	00 19 48.5	-2.6
WVZ	Waitaha Valley	7.55 216		PN	Pn	00 19 51.8	-2.4
WVZ	Waitaha Valley	7.55 216		Pn	Pn	00 19 52.1	-2.1
RPZ	Rata Peaks	7.91 212		PN	Pn	00 19 56.4	-2.4
RPZ	Rata Peaks	7.91 212		Pn	Pn	00 19 56.4	-2.4
RPZ				S	S	00 21 21.5	-8.0
RPZ	Rata Peaks	7.91 212		P	Pn	00 19 56.6	-2.2
	22nm,0.3s,baz=30,slow=2.2,SNR=52						
RPZ				S	S	00 21 21.5	-8.0
	96nm,0.3s,baz=139,slow=22,SNR=24						
FOZ	Fox Glacier	8.42 218		PN	Pn	00 20 01.5	-3.5
FOZ	Fox Glacier	8.42 218		Pn	Pn	00 20 01.6	-3.4
LBZ	Lake Benmore	8.82 213		PN	Pn	00 20 07.8	-2.3
LBZ	Lake Benmore	8.82 213		Pn	Pn	00 20 07.8	-2.3
ODZ	Otahua Downs	9.18 208		PN	Pn	00 20 13.2	-1.3
ODZ	Otahua Downs	9.18 208		ePn	Pn	00 20 13.1	-1.3
	39nm,0.5s						
JCZ	Jackson Bay	9.25 219		Pn	Pn	00 20 13.2	-2.2
WKZ	Wanaka	9.69 215		Pn	Pn	00 20 18.4	-2.4
EAZ	Earnscleugh	9.88 212		Pn	Pn	00 20 21.4	-1.7
TUZ	Tuapeka	10.33 209		Pn	Pn	00 20 28.6	-0.1
MLZ	Mavora Lakes	10.47 216		Pn	Pn	00 20 30.4	-0.1
SYZ	Scrubby Hill	11.01 209		Pn	Pn	00 20 37.3	+0.3
DZM	Mont Dzumac	17.46 326		P	P	00 21 51.3	-0.3
DZM	Mont Dzumac	17.46 326		P	P	00 21 51.3	-0.3
	0.6nm,0.3s,baz=136,slow=14,SNR=8.9						
MSVF	Nonsavu	19.34 4	eP		P	00 22 11.5	-0.3
	12nm,0.9s						
TAU	Tasmania Unive	23.23 246	eP		P	00 22 48.7	-0.4
AFI	Afiamalu	25.26 27	eP		P	00 23 07.9	+0.1
	23nm,0.3s						
STKA	Stephens Creek	29.36 270	eP		P	00 23 43.3	-0.7
	1.1nm,1.0s						
STKA	Stephens Creek	29.36 270	P		P	00 23 46.8	+2.8
	1.9nm,0.8s,baz=75,slow=12,SNR=2.7						
CTA	Charters Tower	31.54 294	P		P	00 24 03.7	+0.6
CTA	Charters Tower	31.54 294	P		P	00 24 03.7	+0.6
	3.8nm,0.8s,baz=143,slow=8.2,SNR=3.7						
CTAO	Charters Tower	31.54 294	eP		P	00 24 03.0	-0.1
	4.1nm,0.8s						
AS31	Alice Springs	39.02 278	eP		P	00 25 07.5	+0.9
ASAR	Alice Springs	39.02 278	P		P	00 25 07.2	+0.5
ASAR			S		S	00 30 46.0	+1.5
ASAR	Alice Springs	39.02 278	P		P	00 25 07.2	+0.5
	5.3nm,0.6s,baz=121,slow=8.2,SNR=85						
ASAR			S		S	00 30 46.0	+1.5
	0.8nm,0.8s,baz=126,slow=15,SNR=6.7						
WRAB	Tennant Creek	40.65 283	eP		P	00 25 20.1	+0.1
	5.6nm,0.5s						
WRA	Warramunga Arr	40.66 283	P		P	00 25 20.2	+0.1
WRA	Warramunga Arr	40.66 283	P		P	00 25 20.2	+0.1
	4.5nm,0.6s,baz=122,slow=7.4,SNR=23						
VNDA	Vanda	41.02 185	eP		P	00 25 21.8	-0.5
	1.7nm,0.7s						
VNDA	Vanda	41.02 185	P		P	00 25 26.4	+4.1
	1.8nm,0.7s,baz=6.1,slow=5.4,SNR=9.7						
SBA

KSH			SKKS	**SKKSac**	**00 44 15.6**	**-6.1**
KSH			AMB	AMB		
	comp=Z,68nm,4.7s					
KSH			LR	LR		
	comp=N,53nm,6.4s					
KSH			LR	LR		
	comp=E,82nm,5.0s					
KSH			LR	LR		
	comp=Z,80nm,6.8s					
KURK	**Kurchatov**	**122.41 312**	PKP	**PKPdf**	**00 36 26.1**	**-1.7**
KURBB	**Kurchatov Arra**	**122.43 312**	PKP	**PKPdf**	**00 36 26.1**	**-1.8**
	comp=Z,0.8nm,0.5s,baz=110,slow=1.9,SNR=12					
BVAR	**Borovoye Array**	**127.96 313**	PKP	**PKPdf**	**00 36 36.9**	**-1.4**
BVAR	**Borovoye Array**	**127.96 313**	PKP	**PKPdf**	**00 36 36.9**	**-1.4**
	comp=Z,0.7nm,0.7s,baz=101,slow=3.0,SNR=6.2					
ARCES	**ARCESS Array B**	**144.00 343**	PKP	**PKPab**	**00 37 05.1**	**-0.7**
ARCES	**ARCESS Array B**	**144.00 343**	PKP	**PKPab**	**00 37 05.1**	**-0.7**
	comp=Z,15nm,1.0s,baz=43,slow=2.8,SNR=43					
ARE0	**ARCESS Array S**	**144.00 343**	*e*PKPdf	**PKPab**	**00 37 03.6**	**-2.2**
KBZ	**Khabaz**	**144.65 295**	PKP	PKPbc	00 37 08.4	-0.6
KBZ	**Khabaz**	**144.65 295**	PKP	PKPbc	00 37 08.4	-0.6
	comp=Z,7.8nm,1.0s,baz=154,slow=1.6,SNR=19					
JOF	**Joensuu**	**146.68 332**	*ep*	**PKPdf**	**00 37 12.7**	**+0.4**
	comp=Z,7.2nm,0.5s					
KAF	**Kangasniemi**	**149.02 333**	*ep*	**PKPdf**	**00 37 18.6**	**+2.5**
FINES	**FINESS Array B**	**149.53 332**	PKPbc	**PKPbc**	**00 37 20.7**	**-1.1**
FINES			PKPab	**PKPab**	**00 37 26.3**	**-1.5**
FINES	**FINESS Array B**	**149.53 332**	PKPbc	**PKPbc**	**00 37 20.7**	**-1.1**
	comp=Z,7.8nm,0.9s,baz=52,slow=7.5,SNR=11					
FINES			PKPab	**PKPab**	**00 37 26.3**	**-1.5**
	comp=Z,2.1nm,0.4s,baz=60,slow=4.1,SNR=20					
DBIC	**Dimbokro**	**149.66 177**	PKPbc	**PKPbc**	**00 37 23.6**	**0.0**
DBIC			PKPab	**PKPab**	**00 37 29.8**	**+0.2**
DBIC	**Dimbokro**	**149.66 177**	PKPbc	**PKPbc**	**00 37 23.6**	**0.0**
	comp=Z,3.2nm,0.7s,baz=137,slow=3.5,SNR=6.2					
DBIC			PKPab	**PKPab**	**00 37 29.8**	**+0.2**
	comp=Z,2.0nm,0.7s,baz=168,slow=4.1,SNR=7.2					
BR131	**Keskin Array S**	**151.14 287**	*e*PKPbc	**PKPbc**	**00 37 25.8**	**-0.8**
BRTR	**Keskin Array B**	**151.14 287**	PKPbc	**PKPbc**	**00 37 25.3**	**-1.2**
BRTR			PKPab	**PKPab**	**00 37 35.1**	**-0.4**
BRTR			pPKPbc	**pPKPbc**	**00 38 33.0**	**-3.8**
BRTR	**Keskin Array B**	**151.14 287**	PKPbc	**PKPbc**	**00 37 25.3**	**-1.2**
	comp=Z,3.3nm,0.9s,baz=128,slow=3.5,SNR=16					
BRTR			PKPab	**PKPab**	**00 37 35.1**	**-0.4**
	comp=Z,0.7nm,0.6s,baz=125,slow=3.6,SNR=3.9					
BRTR			pPKPbc	**pPKPbc**	**00 38 33.0**	**-3.8**
	comp=Z,1.0nm,0.9s,baz=123,slow=4.6,SNR=3.9					
CLL	**Collm**	**161.72 326**	*i* PKPab	**PKPab**	**00 38 19.6**	**-0.8**

WEL 01 00:26:36.6±0.5, 44°48S×166°93E, h5km, ML4.0/11, 2C, Error ellipse: s-maj=4.2km s-min=2.8km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.74**	**105**	⇑P*		Pg	00 26 51.2	+0.4
MSZ					AML	AML	00 27 00.4	
MSZ					AML	AML	00 27 00.5	
MSZ				S*		Sg	00 27 00.6	+0.1
MSZ					AML	AML	00 27 01.4	
DCZ	**Deep Cove**	**1.01**	**171**	P*		Pg	00 26 55.3	-0.7
DCZ				S*		Sg	00 27 08.2	-0.9
DCZ					AML	AML	00 27 12.8	
DCZ					AML	AML	00 27 13.4	
DCZ					AML	AML	00 27 13.5	
MLZ	**Mavora Lakes**	**1.24**	**135**	P*		Pg	00 26 59.9	-0.6
MLZ				*e*S*		Sb	00 27 17.0	+0.1
MLZ					AML	AML	00 27 18.4	
JCZ	**Jackson Bay**	**1.38**	**73**	PN		Pn	00 27 01.7	-1.0
JCZ					AML	AML	00 27 24.2	
JCZ					AML	AML	00 27 24.5	
WKZ	**Wanaka**	**1.53**	**104**	PN		Pn	00 27 04.7	-0.1
WKZ				SN		Sn	00 27 24.8	-0.3
WKZ					AML	AML	00 27 25.8	
WKZ					AML	AML	00 27 25.9	
WKZ					AML	AML	00 27 26.9	
WHZ	**Wether Hill Ro**	**1.59**	**153**	PN		Pn	00 27 05.1	-0.4
WHZ				SN		Sn	00 27 26.1	-0.2
WHZ					AML	AML	00 27 27.3	
EAZ	**Earnscleugh**	**1.85**	**115**	PN		Pn	00 27 09.5	+0.4
EAZ					AML	AML	00 27 35.7	
EAZ					AML	AML	00 27 35.8	
EAZ					AML	AML	00 27 37.3	
EAZ					AML	AML	00 27 37.3	
FOZ	**Fox Glacier**	**2.19**	**66**	⇑PN		Pn	00 27 11.9	-1.8
FOZ					AML	AML	00 27 54.1	
FOZ					AML	AML	00 28 00.4	
LBZ	**Lake Benmore**	**2.34**	**89**		AML	AML	00 27 55.2	
LBZ					AML	AML	00 27 56.5	
TUZ	**Tuapeka**	**2.41**	**129**	PN		Pn	00 27 16.8	0.0
TUZ					AML	AML	00 27 51.2	
TUZ					AML	AML	00 27 60.0	
SYZ	**Scrubby Hill**	**2.58**	**144**	PN		Pn	00 27 19.0	0.0
ODZ	**Otahua Downs**	**2.71**	**103**	PN		Pn	00 27 20.3	-0.6
WVZ	**Waitaha Valley**	**3.10**	**64**	PN		Pn	00 27 22.8	-3.3
WVZ					AML	AML	00 28 24.5	
WVZ					AML	AML	00 28 25.9	
THZ	**Tophouse**	**5.15**	**60**	PN		Pn	00 27 52.1	-2.4

MEX 01 00:32:37.3±0.9, 17°36N×94°91W, h169km±15km, MD3.9, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
VHO	**Vista Hermosa**	**1.77**	**261**	*i* P		Pn	00 33 10.5	-0.9
VHO				*i* S		Sn	00 33 35.5	-2.2
TGIG		**1.80**	**108**	*i* P		Pn	00 33 10.8	-0.8
TGIG				*i* S		Sn	00 33 35.1	-2.9
HUIG	**Huatulco**	**1.96**	**216**	*e*P		Pn	00 33 11.6	-1.6
HUIG				*e*S		Sn	00 33 39.2	-1.7
PCIG		**2.31**	**135**	*e*P		Pn	00 33 16.0	-1.1
PCIG				*e*S		Sn	00 33 46.2	-1.8
UTMO	**Huajuapan**	**2.80**	**280**	*e*P		Pn	00 33 21.9	-1.4
UTMO				*i* S		Sn	00 33 57.5	-1.5
PNIG	**Pinotepa**	**3.23**	**253**	*i* P		Pn	00 33 26.4	-2.0
PNIG				*i* S		Sn	00 34 05.4	-2.6

*IDC **01** 00:50:01.3±0.8, 37°55N×95°92E, h0km, mb3.9/10, mb1 4.0/15, mb1mx3.9/32, mbtmp3.9/15, ML4.0/5, MS2.7/2, Ms1 2.7/2, ms1mx2.3/46, Error ellipse: s-maj=28.6km s-min=15.1km az=36.0*

*ISCJB **01** 00:50:02.3±0.7, 37°67N±0°08×95°77E±0°06, h12km, mb3.9/13, Error ellipse: s-maj=12.2km s-min=6.3km az=10.2*

*BJI **01** 00:50:03.6, 37°61N×95°84E, h9km, mb4.4/3, ML3.8/7, Ms3.6/5, Ms7 3.5/4*

*NNC **01** 00:50:07.8±2.3, 37°99N×95°26E, h0km, mb4.0, Error ellipse: s-maj=91.0km s-min=21.5km az=49.0*

ISC 01 00:50:03.5±0.9, 37°6N±0°1×95°76E±0°05, h12km, n24, σ1°38/30, mb4.0/13, 1C-5D, Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**3.66**	**59**	Pn		**Pn**	**00 51 01.8**	**+1.7**
GTA				Pg		**Pb**	**00 51 07.2**	**-1.0**
GTA				Sn		**Sn**	**00 51 42.4**	**-0.8**
GTA				Sg		**Sb**	**00 51 53.0**	**+0.4**
GTA				smax		smax		
	comp=N,62nm,0.9s							
GTA				smax		smax		
	comp=E,59nm,0.7s							
GTA				LR		LR		
	comp=N,420nm,7.7s							
GTA				LR		LR		
	comp=E,630nm,6.0s							
GTA				LR		LR		
	comp=Z,490nm,7.1s							
WMQ	**Urumqi**	**8.72**	**318**	P		**Pn**	**00 52 11.1**	**+1.6**
WMQ				S		**Sn**	**00 53 43.1**	**-4.7**
WMQ				smax		smax		
	comp=N,53nm,0.7s							
WMQ				smax		smax		
	comp=E,59nm,0.8s							
SONM	**Songino Array**	**12.87**	**34**	Pn		**Pn**	**00 53 06.6**	**+0.4**
	comp=E,0.5nm,0.3s,baz=218,slow=15,SNR=21							
SONM				LR		LR	00 58 45.8	
	comp=E,28nm,19.9s,baz=216,slow=41							
MK31	**Makanchi Array**	**13.55**	**317**	⇓Pn		**Pn**	**00 53 14.6**	**-0.9**
	comp=E,2.4nm,0.5s,baz=126,slow=14,SNR=67							
MK31				⇓Sn		**Sn**	**00 55 45.6**	**-0.4**
	comp=E,2.5nm,0.7s,baz=130,slow=27,SNR=7.0							
MKAR	**Makanchi Array**	**13.55**	**317**	Pn		**Pn**	**00 53 14.1**	**-1.4**
	comp=E,1.2nm,0.3s,baz=126,slow=13,SNR=44							
MKAR				Sn		**Sn**	**00 55 46.3**	**+0.3**
	comp=E,0.2nm,0.3s,baz=129,slow=25,SNR=5.6							
TKM2	**Tokmak 2**	**16.27**	**295**	⇓Pn		**Pn**	**00 53 51.4**	**-0.6**
	comp=E,3.5nm,0.5s							
AAK	**Ala-Archa**	**17.01**	**294**	P		**P**	**00 54 03.1**	**-0.1**
	comp=E,0.4nm,0.3s,baz=99,slow=9.7,SNR=5.8							
AAK				LR		LR	01 02 09.9	
	comp=E,28nm,18.4s,baz=140,slow=42							
KURBB	**Kurchatov Arra**	**17.90**	**322**	P		**Pn**	**00 54 11.4**	**-0.7**
	comp=E,0.3nm,0.3s,baz=135,slow=11,SNR=16							
ZALV	**Zalesovo Beam**	**18.01**	**339**	P		**Pn**	**00 54 13.2**	**-0.3**
	comp=E,0.2nm,0.3s,baz=143,slow=13,SNR=6.5							
KK31	**Karatay Array**	**19.98**	**294**	P		**Pn**	**00 54 36.7**	**-0.6**
	comp=E,1.0nm,0.6s,baz=92,slow=11,SNR=17							
VOSK	**Vostochnaya**	**22.95**	**319**	⇑P		**P**	**00 55 08.6**	**+1.1**
	comp=E,3.9nm,0.8s							
BVA0	**Borovoye Array**	**23.41**	**319**	P		**P**	**00 55 13.2**	**+1.1**
	comp=E,2.9nm,1.0s,baz=94,slow=11,SNR=11							
BVAR	**Borovoye Array**	**23.41**	**319**	P		**P**	**00 55 13.6**	**+1.4**
	comp=E,1.5nm,0.7s,baz=110,slow=9.8,SNR=10							
BRVK	**Borovoye**	**23.48**	**319**	⇓P		**P**	**00 55 13.9**	**+1.1**
	comp=E,7.9nm,1.0s							
KSRS	**Korea Array**	**25.45**	**80**	P		**P**	**00 55 30.9**	**-0.2**
	comp=E,4.7nm,0.7s,baz=272,slow=9.8,SNR=13							
AKTO	**Aktyubinsk**	**29.69**	**308**	⇓P		**P**	**00 56 10.1**	**+1.1**
	comp=E,4.9nm,1.3s							
AKTO	**Aktyubinsk**	**29.69**	**308**	P		**P**	**00 56 10.2**	**+1.1**
	comp=E,1.2nm,0.5s,baz=91,slow=6.3,SNR=4.7							
BRTR	**Keskin Array B**	**47.69**	**293**	P		**P**	**00 58 41.2**	**+1.2**
	comp=E,1.2nm,0.7s,baz=97,slow=7.8,SNR=9.0							
FINES	**FINESS Array B**	**48.29**	**323**	P		**P**	**00 58 44.2**	**0.0**
	comp=E,3.4nm,0.9s,baz=82,slow=10.0,SNR=3.6							
NOA	**NORSAR Array B**	**55.43**	**324**	P		**P**	**00 59 38.4**	**+1.0**
	comp=E,0.8nm,0.7s,baz=73,slow=7.3,SNR=2.6							
ILAR	**Eielson Array**	**66.89**	**24**	P		**P**	**01 00 53.2**	**-1.8**
	comp=E,0.5nm,0.3s,baz=294,slow=4.2,SNR=8.0							
WRA	**Warramunga Arr**	**67.78**	**141**	P		**P**	**01 00 59.5**	**-1.7**
	comp=E,0.9nm,0.9s,baz=338,slow=6.3,SNR=3.2							
ASAR	**Alice Springs**	**70.71**	**143**	P		**P**	**01 01 18.8**	**-0.6**
	comp=E,1.0nm,0.9s,baz=326,slow=5.7,SNR=6.2							
ESDC	**Sonseca Array**	**73.57**	**308**	P		**P**	**01 01 36.7**	**+0.2**
	comp=E,0.4nm,0.6s,baz=54,slow=6.8,SNR=3.9							

GUC 01 00:50:54.1±0.5, 23°64S×69°29W, h91km±6km, MD3.6, ML3.3, 2C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CEN1	**Los Morros**	**0.87**	**286**	⇑*i*P		Pn	00 51 13.8	+1.2
CEN1				*i* S		Sn	00 51 28.8	+2.4
CEN1					AML	AML	00 51 31.7	
	comp=E,571nm,0.6s							
ANCH	**Antofagasta**	**1.02**	**267**	⇑*i*P		Pn	00 51 14.4	+0.2
ANCH				*i* S		Sn	00 51 29.5	+0.3
SPCH	**San Pedro de A**	**1.24**	**54**	*e*P		Pn	00 51 17.7	+0.5
SPCH				*i* S		Sn	00 51 35.6	+1.2
SPCH					AML	AML	00 51 39.5	
	comp=N,777nm,0.2s							
PB07	**Plate Boundary**	**1.98**	**344**	⇓*i*P		Pn	00 51 27.1	+0.7
PB07				*i* S		Sn	00 51 52.1	+1.2
PB07					AML	AML	00 52 01.6	
	comp=E,290nm,0.4s							
PB01	**Plate Boundary**	**2.59**	**356**	⇓*i*P		Pn	00 51 35.2	+0.8
PB01				*i* S		Sn	00 52 07.0	+1.8
PB01					AML	AML	00 52 16.1	
	comp=E,246nm,0.2s							

IDC 01 01:14:32.2±3.6, 7°57S×126°69E, h181km±39km, mb3.5/8, mb1 3.8/11, mb1mx3.7/20, mbtmp3.7/11, Error ellipse: s-maj=33.1km s-min=12.9km az=62.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.52**	**185**	P		Pn	01 16 56.5	-2.0
	2.4nm,0.3s,baz=17,slow=9.1,SNR=93							
FITZ				S		Sn	01 18 44.9	-11
	1.7nm,0.3s,baz=328,slow=18,SNR=2.6							
WRA	**Warramunga Arr**	**14.36**	**150**	P		Pn	01 17 45.8	-1.7
	2.3nm,0.3s,baz=327,slow=11,SNR=17							
WRA				S		Sn	01 20 19.9	-7.9
	3.0nm,0.3s,baz=328,slow=22,SNR=7.8							
ASAR	**Alice Springs**	**17.44**	**157**	P		Pn	01 18 24.8	0.0
	5.8nm,0.3s,baz=330,slow=10.0,SNR=231							
ASAR				S		S	01 21 33.1	-2.4
	1.0nm,0.3s,baz=330,slow=17,SNR=8.6							
CTA	**Charters Tower**	**22.68**	**125**	P		P	01 19 19.8	+1.3
	1.9nm,0.4s,baz=311,slow=12,SNR=4.5							
STKA	**Stephens Creek**	**27.89**	**152**	P		P	01 20 06.3	+1.0
	4.3nm,0.4s,baz=325,slow=9.2,SNR=8.7							
CMAR	**Chiang Mai Arr**	**37.66**	**314**	P		P	01 21 31.3	+1.2
	0.8nm,0.4s,baz=140,slow=7.6,SNR=3.2							
KSRS	**Korea Array**	**44.80**	**1**	P		P	01 22 28.8	+0.8
	1.0nm,0.4s,baz=170,slow=11,SNR=5.2							
MJAR	**Matsushiro Arr**	**45.19**	**13**	P		P	01 22 29.4	-1.8
	1.6nm,0.5s,baz=191,slow=8.9,SNR=6.0							
SONM	**Songino Array**	**58.01**	**344**	P		P	01 24 06.0	-0.2
	0.2nm,0.4s,baz=159,slow=6.2,SNR=3.5							
MKAR	**Manchi Array**	**66.95**	**329**	P		P	01 25 05.0	-0.3
	0.7nm,0.6s,baz=122,slow=7.9,SNR=6.5							
ZALV	**Zalesovo Beam**	**70.68**	**335**	P		P	01 25 27.3	-0.8
	0.4nm,0.4s,baz=151,slow=5.3,SNR=2.7							

GUC 01 01:21:46.2±0.6, 33°62S×70°12W, h13km±1km, MD3.6, ML2.3, 6C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PCH	**Pirque**	**0.33**	**269**	⇑*i*P		Pg	01 21 53.5	+0.5
PCH				*i* S		Sb	01 21 58.7	-0.6
FSR	**Penalolen**	**0.36**	**292**	*e*P		Pb	01 21 55.0	+0.3
FSR				*i* S		Sb	01 22 00.8	+0.4
CLCH	**Cerro Calan**	**0.41**	**302**	⇑*i*P		Pg	01 21 54.8	+0.3
CLCH				*i* S		Sb	01 22 01.4	-0.3
CLCH					AML	AML	01 22 02.3	
	comp=E,755nm,0.6s							
ANTU	**Antumapu**	**0.43**	**276**	*e*P		Pg	01 21 54.8	0.0
ANTU				*i* S		Sb	01 22 02.0	-0.2
ANTU					AML	AML	01 22 03.2	
	comp=E,681nm,0.4s							
SAN	**Santiago**	**0.48**	**290**	*i* S		Sb	01 22 03.3	-0.3
SAN					AML	AML	01 22 03.6	
	comp=N,228nm,0.4s							
CHCH	**Chadas Angostu**	**0.54**	**234**	*e*P		Pg	01 21 57.1	+0.2
CHCH				*i* S		Sb	01 22 05.3	-0.2
CACH	**El Canelo**	**0.64**	**218**	⇑*i*P		Pg	01 21 58.8	0.0
CACH				*i* S		Sb	01 22 08.3	-0.2
PEL	**Peldehue**	**0.67**	**315**	⇑*i*P		Pg	01 21 59.0	-0.2
PEL				*i* S		Sg	01 22 08.5	+0.3
ROCH	**El Roble**	**0.98**	**311**	⇑*i*P		Pb	01 22 04.5	-0.9
ROCH				*i* S		Sg	01 22 18.4	-0.2
ROCH					AML	AML	01 22 19.8	
	comp=N,134nm,0.2s							
LNV	**Longovilo**	**1.12**	**252**	⇑*i*P		Pb	01 22 07.0	-0.5
LNV				*i* S		Sg	01 22 22.7	+0.2

IDC 01 01:35:33.8±4.9, 14°92S×167°32E, h101km±43km, mb3.7/7, mb1 3.9/8, mb1mx3.7/20, mbtmp3.7/8, Error ellipse: s-maj=29.9km s-min=28.6km az=121.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.16**	**187**	P		Pn	01 37 17.5	+1.5
	2.3nm,0.3s,baz=269,slow=24,SNR=20							
DZM				S		Sn	01 38 34.0	-2.0
	1.1nm,0.3s,baz=91,slow=23,SNR=1.7							
STKA	**Stephens Creek**	**28.91**	**230**	P		P	01 41 24.6	+1.2
	4.6nm,0.4s,baz=49,slow=8.4,SNR=26							
WRA	**Warramunga Arr**	**31.82**	**256**	P		P	01 41 48.0	-1.3
	0.8nm,0.7s,baz=85,slow=9.1,SNR=2.3							
ASAR	**Alice Springs**	**32.65**	**249**	P		P	01 41 56.0	-0.5
	1.3nm,0.6s,baz=82,slow=8.8,SNR=15							
VNDA	**Vanda**	**62.68**	**181**	P		P	01 45 47.6	+0.3
	0.5nm,0.5s,baz=3.2,slow=7.2,SNR=6.6							
SONM	**Songino Array**	**82.67**	**324**	P		P	01 47 47.3	+1.0
	0.3nm,0.3s,baz=132,slow=5.0,SNR=3.6							
ILAR	**Eielson Array**	**86.69**	**18**	P		P	01 48 05.0	-0.9
	0.5nm,0.9s,baz=236,slow=6.1,SNR=6.2							
MKAR	**Makanchi Array**	**97.37**	**316**	P		Pdif	01 48 56.0	+0.1
	0.1nm,0.4s,baz=94,slow=7.2,SNR=4.2							
ARCES	**ARCESS Array B**	**120.44**	**345**	PKP		PKPdf	01 54 12.0	-0.9
	0.8nm,0.6s,baz=59,slow=2.4,SNR=8.2							

*ISCJB **01** 02:23:53.0±0.7, 1°17N±0°07×126°94E±0°06, h72km, mb4.0/4, Error ellipse: s-maj=11.7km s-min=6.7km az=41.7*

*DJA **01** 02:23:53.9±0.5, 1°N±5°×12°7E±°, h23km±9km, M4.3/6, MLv4.3/6*

*IDC **01** 02:23:58.4±4.0, 0°81N×126°29E, h100km±36km, mb3.7/4, mb1 3.9/4, mb1mx3.4/21, mbtmp3.7/4, Error ellipse: s-maj=173.9km s-min=13.4km az=66.0*

ISC 01 02:23:54.1±1.0, 1°13N±0°07×126°99E±0°07, h72km, n10, σ1°38/15, mb4.0/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.52**	**133**	P		**Pn**	**02 24 06.5**	**-0.8**
TNTI				S		**Sn**	**02 24 15.2**	**-1.8**
LBMI	**Labuha**	**1.83**	**164**	P		**Pn**	**02 24 24.4**	**+0.8**
LBMI				S		**Sn**	**02 24 47.3**	**+1.4**
SGSI	**Sangihe**	**2.93**	**330**	P		**Pn**	**02 24 38.5**	**+0.1**
KMSI	**Cibinong**	**3.06**	**260**	P		**Pn**	**02 24 39.0**	**-1.2**
KMSI				S		**Sn**	**02 25 13.4**	**-2.3**
GTOI	**Gorontalo**	**4.01**	**263**	P		**Pn**	**02 24 55.2**	**+2.1**
NLAI	**Namlea**	**4.34**	**179**	P		**Pn**	**02 24 57.0**	**-0.7**
WRA	**Warramunga Arr**	**22.15**	**161**	P		**P**	**02 28 44.4**	**+0.2**
	1.1nm,0.3s,baz=337,slow=11,SNR=6.9							
WRA				S		**S**	**02 32 42.7**	**-1.4**
	0.8nm,0.3s,baz=205,slow=40,SNR=5.0							
ASAR	**Alice Springs**	**25.55**	**165**	P		**P**	**02 29 18.1**	**+1.6**
	2.4nm,0.4s,baz=345,slow=12,SNR=31							
ASAR				S		**S**	**02 33 38.9**	**-0.2**
	0.1nm,0.3s,baz=231,slow=39,SNR=1.7							
MKAR	**Makanchi Array**	**59.83**	**326**	P		**P**	**02 33 52.7**	**+0.5**
	1.1nm,0.4s,baz=122,slow=7.3,SNR=21							
KURBB	**Kurchatov Arra**	**64.06**	**328**	P		**P**	**02 34 20.6**	**+0.2**
	0.7nm,0.4s,baz=128,slow=6.2,SNR=11							

GUC 01 02:31:02.0±0.6, 23°61S×68°13W, h166km±25km, ML3.5, 5C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PB04	**Plate Boundary**	**1.83**	**317**	⇑*i*P		Pn	02 31 42.4	+6.1
PB04				*i* S		Sn	02 32 12.9	+10
PB04					AML	AML	02 32 14.5	
	comp=N,308nm,0.2s							
CEN1	**Los Morros**	**1.91**	**276**	⇑*i*P		Pn	02 31 39.1	+1.8
CEN1				*i* S		Sn	02 32 07.6	+3.1
CEN1					AML	AML	02 32 09.6	
	comp=E,55nm,0.3s							
MACH	**Maria Elena**	**2.06**	**313**	⇑*i*P		Pn	02 31 40.1	+1.0
MACH				*i* S		Sn	02 32 09.3	+1.6
PB09	**Plate Boundary**	**2.08**	**330**	⇑*i*P		Pn	02 31 40.5	+1.3
PB09				*i* S		Sn	02 32 09.4	+1.4
PB09					AML	AML	02 32 11.7	
	comp=E,562nm,0.6s							
ANCH	**Antofagasta**	**2.09**	**268**	⇓*i*P		Pn	02 31 40.3	+1.2
ANCH				*i* S		Sn	02 32 08.8	+1.0
PB10	**Plate Boundary**	**2.23**	**272**	⇑*i*P		Pn	02 31 41.6	+0.9
PB10				*i* S		Sn	02 32 12.3	+1.7
PB10					AML	AML	02 32 21.3	
	comp=E,192nm,0.3s							

IDC 01 02:45:57.5±27.0, 21°69S×172°45W, h0km, mb4.1/4, mb1 4.3/4, mb1mx3.8/21, mbtmp4.1/4, Error ellipse: s-maj=498.1km s-min=161.5km az=76.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**38.54**	**265**	P		P	02 53 22.0	-0.2
	1.9nm,0.5s,baz=87,slow=12,SNR=4.6							
STKA	**Stephens Creek**	**42.00**	**246**	P		P	02 53 50.8	+0.1
	1.4nm,0.5s,baz=97,slow=8.1,SNR=4.9							
ASAR	**Alice Springs**	**49.30**	**257**	P		P	02 54 48.5	-0.1
	2.2nm,0.7s,baz=100,slow=6.9,SNR=22							
WRA	**Warramunga Arr**	**49.57**	**262**	P		P	02 54 50.5	-0.2
	2.1nm,0.6s,baz=101,slow=8.1,SNR=12							

*IDC **01** 03:10:53.9±0.7, 39°29N×73°71E, h0km, mb4.1/19, mb1 4.3/25, mb1mx4.1/36, mbtmp4.1/25, ML3.9/6, MS3.3/24, Ms1 3.3/24, ms1mx3.2/45, Error ellipse: s-maj=12.8km s-min=10.0km az=156.0*

*LDG **01** 03:10:53.1±0.2, 39°26N×73°62E, h10km, Mb4.4/8, Ms3.2/8, Error ellipse: s-maj=7.5km s-min=5.9km az=32.0*

*BJI **01** 03:10:55.2, 39°30N×73°50E, h26km, mB4.3/2, mb4.2/5, ML4.1/5, Ms4.0/4, Ms7 3.6/2*

*NNC **01** 03:10:57.5±2.8, 39°54N×73°39E, h0km, mb4.6, mpv4.2, Error ellipse: s-maj=26.6km s-min=11.9km az=15.0*

*MOS **01** 03:10:58.3±1.2, 39°35N×73°57E, h33km, mb4.4/20, Error ellipse: s-maj=7.6km s-min=4.6km az=92.3*

*NEIC **01** 03:10:59.8±1.0, 39°42N×73°61E, h37km±8km, mb4.0/1, Error ellipse: s-maj=10.8km s-min=7.4km az=162.0*

ISC 01 03:10:55.8±1.5, 39°35N±0°03×73°67E±0°04, h8km±9km, n217, σ1°77/216, mb4.1/33, MS3.4/21, 23C-15D, Tajikistan-Xinjiang border region

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

USP	**Ospenovka**	3.96	9	P	Pn	03 11 58.7	+1.9
	SNR=33						
KK31	**Karatay Array**	4.44	329	⇑Pn	Pn	03 12 04.9	+1.4
	comp=E,7.4nm,0.3s,baz=127,slow=12,SNR=663						
KK31				⇑Pg	Pb	03 12 14.5	+0.5
	comp=E,32nm,0.4s,baz=156,slow=15,SNR=27						
KK31				⇑Sn	Sn	03 12 58.9	+3.6
	comp=E,20nm,0.3s						
KK31				⇑Lg	Lg	03 13 12.3	
	comp=E,76nm,0.5s,baz=152,slow=26,SNR=4.6						
KK31	**Karatay Array**	4.44	329	PN	Pn	03 12 04.8	+1.4
KK31						03 12 58.9	
KK31				*e*		03 13 12.6	
KK31				pmax	pmax		
	comp=Z,29nm,0.3s						
KK31				pmax	pmax		
	comp=Z,55nm,0.4s						
KK31				smax	smax		
	comp=N,52nm,0.3s						
KK31				pmax	pmax		
	comp=N,88nm,0.4s						
KKAR	**Karatay Array**	4.44	329	*e*PN	Pn	03 12 04.8	+1.4
KKAR				*e*S	Sn	03 12 59.4	+4.1
KKAR	**Karatay Array**	4.44	329	*e*Pn	Pn	03 12 04.8	+1.4
KKAR				*e*S	Sn	03 12 59.4	+4.1
KNDC	**Almaty**	4.59	32	⇑Pn	Pb	03 12 11.4	-5.2
KNDC				⇓Pg	Pg	03 12 21.8	-1.8
KNDC				⇓Lg	Lg	03 13 18.5	
AAA	**Alma-Ata**	4.62	31	*i* PN	Pb	03 12 16.5	-0.7
AAA				*i* S	Sb	03 13 15.8	+2.8
AAA				pmax	pmax		
	comp=Z,86nm,0.7s						
CHCP	**Chirah Chowk**	5.69	183	P	Pn	03 12 27.8	+7.1
CEP	**Cherat**	5.70	195	P	Pn	03 12 27.2	+6.4
KBL	**Kabul**	6.07	219	*e*PN	Pn	03 12 27.2	+1.2
KBL				*e*S	Sb	03 13 53.8	-0.9
KBL				pmax	pmax		
	comp=Z,45nm,0.9s						
KBL	**Kabul**	6.07	219	*e*Pn	Pn	03 12 27.2	+1.2
	comp=Z,45nm,0.9s						
KBL				*e*S	Sb	03 13 53.8	-0.9
THW	**Thamme Wali**	6.73	194	P	Pn	03 12 40.5	+5.6
DLH	**Dalhousie**	7.05	164	*e*P	Pn	03 12 45.0	+5.6
DLH				*e*4	Sn	03 14 07.0	+7.2
BHK	**Bhakra**	8.23	163	*e*4	Sn	03 14 36.8	+8.2
SDNR	**Sundarnagar**	8.29	160	*e*P	Pn	03 12 59.0	+2.8
SDNR				*e*4	Sn	03 14 32.0	+2.0
SMLA	**Simla**	8.69	160	*i* P	Pn	03 13 04.5	+2.8
SMLA				*i* 4	Sn	03 14 40.2	+0.3
DDI	**Dehra Dun**	9.70	157	*e*4	Sn	03 15 03.0	-1.9
MK31	**Makanchi Array**	9.74	37	⇑Pn	Pn	03 13 20.1	+3.9
	comp=Z,2.4nm,0.7s,baz=224,slow=16,SNR=11						
MK31				⇓Lg	Lg	03 16 00.2	
	comp=Z,17nm,1.1s,baz=225,slow=32,SNR=3.6						
MK31	**Makanchi Array**	9.74	37	*e*P	Pn	03 13 18.4	+2.2
MK31	**Makanchi Array**	9.74	37	*e*Pn	Pn	03 13 18.4	+2.2
MK31				*e*S	Sn	03 15 26.6	+21
MKAR	**Makanchi Array**	9.74	37	P	Pn	03 13 18.6	+2.4
MKAR				MLR	MLR		
	comp=Z,62nm,19.4s						
MKAR	**Makanchi Array**	9.74	37	Pn	Pn	03 13 18.6	+2.4
MKAR	**Makanchi Array**	9.74	37	Pn	Pn	03 13 18.6	+2.4
	comp=Z,0.1nm,0.3s,baz=226,slow=13,SNR=11						
MKAR				Lg	Lg	03 16 02.4	
	comp=Z,0.2nm,0.3s,baz=227,slow=29,SNR=5.2						
MKAR				LR	LR	03 16 43.7	
	comp=Z,62nm,19.4s,baz=225,slow=36						
RTK	**Rohtak**	10.54	167	*e*S	Sn	03 15 15.6	-10
AYAN	**Aya Nagar**	11.22	164	*e*P	Pn	03 13 36.7	+0.4
AYAN				*e*4	Sn	03 15 38.8	-3.1
AYAN				AML	AML	03 15 48.0	
	comp=Z,28nm,0.1s						
KHET	**Khetri**	11.39	170	*e*P	Pn	03 13 39.1	+0.4
KHET				*e*4	Sn	03 15 42.8	-3.4
SONA	**Sohna**	11.43	165	*e*P	Pn	03 13 39.4	+0.1
SONA				*e*S	Sn	03 15 39.5	-7.7
SONA				AML	AML	03 15 54.6	
	comp=N,24nm,0.6s						
SONA				AML	AML	03 15 55.5	
	comp=E,65nm,0.6s						
KURBB	**Kurchatov Arra**	11.78	15	Pn	Pn	03 13 43.6	-0.3
	comp=E,0.3nm,0.3s,baz=208,slow=11,SNR=9.7						
KURBB				Lg	Lg	03 17 00.4	
	comp=E,0.3nm,0.3s,baz=210,slow=29,SNR=7.8						
KURK	**Kurchatov**	11.88	15	P	Pn	03 13 43.6	-1.8
KURK	**Kurchatov**	11.88	15	Pn	Pn	03 13 43.6	-1.8
AGRA	**Agra**	12.61	162	*e*P	Pn	03 13 55.8	+0.5
AGRA				*e*4	Sn	03 16 14.3	-1.6
AGRA				AML	AML	03 16 35.0	
	comp=N,62nm,0.5s						
AGRA				AML	AML	03 16 35.3	
	comp=E,59nm,0.3s						
VOSK	**Vostochnaya**	13.50	353	⇓Pn	Pn	03 14 04.7	-2.8
	comp=E,9.3nm,1.1s						
VOSK				⇑Lg	Lg	03 18 00.6	
	comp=E,29nm,1.2s						
VOSK	**Vostochnaya**	13.50	353	P	Pn	03 14 04.7	-2.8
VOSK				pmax	pmax		
	comp=Z,9.0nm,1.1s						
VOSK				pmax	pmax		
	comp=N,36nm,1.5s						
BVA0	**Borovoye Array**	13.86	352	Pn	Pn	03 14 10.2	-2.2
	comp=N,10nm,0.6s,baz=160,slow=13,SNR=31						
BVA0				⇑Lg	Lg	03 18 05.2	
	comp=N,66nm,1.4s						
BVA0	**Borovoye Array**	13.86	352	*i* P	Pn	03 14 10.2	-2.2
BVA0				pmax	pmax		
	comp=Z,10.0nm,0.6s						
BVA0				pmax	pmax		
	comp=Z,200nm,3.0s						
BVAR	**Borovoye Array**	13.86	352	P	Pn	03 14 10.3	-2.1
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BVAR				MLR	MLR		
	comp=Z,63nm,19.1s						
BVAR	**Borovoye Array**	13.86	352	Pn	Pn	03 14 10.3	-2.1
BVAR	**Borovoye Array**	13.86	352	Pn	Pn	03 14 10.3	-2.1
	comp=Z,0.6nm,0.3s,baz=161,slow=14,SNR=22						
BVAR				Lg	Lg	03 17 55.0	
	comp=Z,0.2nm,0.3s,baz=151,slow=22,SNR=3.6						
BVAR				LR	LR	03 20 08.0	
	comp=Z,63nm,19.1s,baz=299,slow=40						
BRVK	**Borovoye**	13.90	351	⇓Pn	Pn	03 14 10.8	-2.2
	comp=Z,16nm,0.6s						
BRVK				⇑Lg	Lg	03 18 13.5	
	comp=Z,111nm,2.0s						
BRVK	**Borovoye**	13.90	351	P	Pn	03 14 10.8	-2.2
BRVK				pmax	pmax		
	comp=Z,16nm,0.6s						
BRVK				pmax	pmax		
	comp=N,111nm,2.0s						
BRVK	**Borovoye**	13.90	351	*e*Pn	Pn	03 14 10.9	-2.0
	comp=N,12nm,0.6s						
AB31	**Akbulak array**	13.93	320	⇑Pn	Pn	03 14 10.9	-2.5
	comp=N,1.6nm,0.5s,baz=130,slow=13,SNR=61						
AB31				Sn	Sn	03 16 40.0	-8.1
	comp=N,8.0nm,0.9s,baz=134,slow=23,SNR=5.4						
AB31	**Akbulak array**	13.93	320	*i* P	Pn	03 14 10.4	-2.9
AB31				*i*		03 16 39.9	
AB31				pmax	pmax		
	comp=Z,3.0nm,0.4s						
AB31				smax	smax		
	comp=N,1.0nm,0.2s						
ABKAR	**Akbulak array**	13.93	320	*e*Pn	Pn	03 14 10.8	-2.6
	comp=N,3.5nm,0.4s						
ABKAR				*e*S	Sn	03 16 40.7	-7.4
AKTO	**Aktyubinsk**	15.64	320	⇓Pn	Pn	03 14 34.2	-2.3
	comp=N,23nm,1.3s						
AKTO				⇑Sn	Sn	03 17 24.8	-5.0
	comp=N,11nm,1.1s						
AKTO				⇓Lg	Lg	03 19 07.1	
	comp=N,29nm,1.7s						
AKTO	**Aktyubinsk**	15.64	320	P	Pn	03 14 34.6	-1.8
AKTO						03 17 24.8	
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKTO				MLR	MLR		
	comp=Z,65nm,21.3s						
AKTO	**Aktyubinsk**	15.64	320	Pn	Pn	03 14 34.6	-1.8
AKTO				Sn	Sn	03 17 24.8	-5.0
AKTO	**Aktyubinsk**	15.64	320	Pn	Pn	03 14 34.6	-1.8
	comp=Z,0.6nm,0.3s,baz=127,slow=14,SNR=16						
AKTO				Sn	Sn	03 17 24.8	-5.0
	comp=Z,0.2nm,0.3s,baz=227,slow=19,SNR=2.4						
AKTO				LR	LR	03 21 35.3	
	comp=Z,65nm,21.3s,baz=137,slow=41						
ZAA0	**Zalesovo Array**	16.45	24	*e*Pn	Pn	03 14 46.9	+0.2
ZALV	**Zalesovo Beam**	16.45	24	P	Pn	03 14 46.5	-0.3
ZALV						03 17 50.5	
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZALV				MLR	MLR		
	comp=Z,88nm,18.6s						
ZALV	**Zalesovo Beam**	16.45	24	Pn	Pn	03 14 46.5	-0.3
ZALV				Sn	Sn	03 17 50.5	+1.1
ZALV	**Zalesovo Beam**	16.45	24	Pn	Pn	03 14 46.5	-0.3
	comp=Z,0.8nm,0.3s,baz=209,slow=12,SNR=19						
ZALV				Sn	Sn	03 17 50.5	+1.1
	comp=Z,0.3nm,0.3s,baz=297,slow=40,SNR=1.8						
ZALV				Lg	Lg	03 19 34.9	
	comp=Z,0.1nm,0.3s,baz=216,slow=21,SNR=2.6						
ZALV				LR	LR	03 21 35.7	
	comp=Z,88nm,18.6s,baz=247,slow=39						
NVS	**Novosibirsk**	16.78	19	*e*P	Pn	03 14 50.5	-0.4
NVS				*e*S	S	03 18 06.4	-1.8
NVS				pmax	pmax		
	comp=N,9.0nm,0.6s						
NVS				pmax	pmax		
	comp=E,5.0nm,0.6s						
NVS				pmax	pmax		
	comp=Z,9.0nm,0.6s						
NVS				smax	smax		
	comp=N,1.0nm,0.3s						
NVS				smax	smax		
	comp=E,5.0nm,0.6s						
HVS	**Khovu-Aksy**	18.31	43	*e*P	P	03 15 12.6	+2.4
HVS				pmax	pmax		
	comp=Z,22nm,1.0s						
SVE	**Sverdlovsk**	19.47	338	*e*P	Pn	03 15 24.7	+0.7
SVE				pmax	pmax		
	comp=Z,16nm,0.9s						
ARU	**Arti**	19.79	335	*d i* P	P	03 15 26.6	+0.4
ARU				S	S	03 19 06.1	-3.0
ARU				pmax	pmax		
	comp=Z,7.0nm,0.8s						
GTA	**Gaotai**	20.19	81	*e*P	Pn	03 15 33.5	+0.7
GTA				pP	pP	03 15 36.9	+3.6
GTA				sP	sP	03 15 40.3	+6.0
GTA				S	Sn	03 19 23.2	+2.9
GTA				sS	sS	03 19 29.4	+8.0
GTA				pmax	pmax		
	comp=Z,9.0nm,0.7s						
GTA				pmax	pmax		
	comp=Z,99nm,4.0s						
GTA				LR	LR		
	comp=N,99nm,11.4s						
GTA				LR	LR		
	comp=E,170nm,13.3s						
GTA				LR	LR		
	comp=Z,170nm,12.4s						
SHL	**Shillong**	20.56	127	*e*P	Pn	03 15 36.5	-0.9
DGRG	**David-gareji**	21.62	285	P	P	03 15 58.3	+12
TBLG	**Delisi**	22.07	286	*e*P	P	03 16 00.2	+9.1
TBLG	**Delisi**	22.07	286	P	P	03 16 00.2	+9.1
DUS	**Dusheti**	22.08	286	P	P	03 15 58.3	+7.0
GNI	**Garni**	22.22	281	*e*P	P	03 15 53.3	+0.5
	comp=Z,3.5nm,0.6s						
GNI	**Garni**	22.22	281	P	P	03 15 54.2	+1.3
	comp=Z,7.5nm,0.5s,baz=315,slow=13,SNR=3.8						
GNI				LR	LR	03 25 57.4	
	comp=Z,38nm,19.3s,baz=278,slow=41						
ZEI	**Tsey**	22.65	288	*e*P	P	03 15 59.6	+2.1
ZEI				pmax	pmax		
	comp=Z,8.0nm,0.7s						
SOKR	**Solikamsk**	22.91	338	*e*P	P	03 16 03.8	+4.1
SOKR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ONI	**Oni**	22.99	288	P	P	03 16 02.5	+1.6
AKH	**Akhalkalaki**	23.03	285	P	P	03 16 04.7	+3.3
KBZ	**Khabaz**	23.37	291	P	P	03 16 04.0	-0.6
KBZ				S	S	03 20 19.0	+1.3
KBZ				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KBZ				smax	smax		
	comp=N,1.0nm,0.4s						
KBZ				MLR	MLR		
	comp=Z,94nm,19.3s						
KBZ	**Khabaz**	23.37	291	P	P	03 16 04.0	-0.6
KBZ				S	S	03 20 18.9	+1.3
KBZ	**Khabaz**	23.37	291	P	P	03 16 04.0	-0.6
	comp=Z,1.3nm,0.5s,baz=139,slow=5.1,SNR=6.4						
KBZ				S	S	03 20 18.9	+1.3
	comp=Z,0.5nm,0.4s,baz=141,slow=16,SNR=1.7						
KBZ				LR	LR	03 27 09.4	
	comp=Z,94nm,19.3s,baz=243,slow=42						
ZAK	**Zakamensk**	23.55	52	*e*P	P	03 16 05.7	-0.8
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.2s						
TLY	**Talaya**	24.16	49	*e*P	P	03 16 19.0	+6.7
TLY				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TLY				MLR	MLR		
	comp=Z,98nm,17.0s						
SONM	**Songino Array**	25.02	59	P	P	03 16 20.8	+0.6
SONM	**Songino Array**	25.02	59	P	P	03 16 20.8	+0.6
	comp=Z,2.9nm,0.8s,baz=261,slow=9.0,SNR=11						
SONM				LR	LR	03 26 59.0	
	comp=Z,197nm,18.8s,baz=175,slow=39						
BRTR	**Keskin Array B**	30.70	284	P	P	03 17 11.7	+0.5
BRTR	**Keskin Array B**	30.70	284	P	P	03 17 11.7	+0.5
	comp=Z,3.2nm,0.7s,baz=86,slow=7.6,SNR=13						
EIL	**Elat**	33.12	265	LR	LR	03 33 46.4	
	comp=Z,90nm,18.6s,baz=84,slow=41						
TESR	**Tescani**	34.74	298	⇓*i*P	P	03 17 47.3	+1.1
VRI	**Vrincioaia**	34.75	296	⇑P	P	03 17 48.2	+1.8
VRI	**Vrincioaia**	34.75	296	⇑*i*P	P	03 17 48.2	+1.8
PLOR	**Plostina**	34.80	296	⇑P	P	03 17 48.7	+1.8
PLOR	**Plostina**	34.80	296	⇑*i*P	P	03 17 48.7	+1.8
ISR	**Istrita**	34.97	295	⇑P	P	03 17 52.1	+3.8
ISR	**Istrita**	34.97	295	⇑*i*P	P	03 17 52.1	+3.8
MLR	**Muntele Rosu**	35.34	296	P	P	03 17 53.1	+1.5
MLR	**Muntele Rosu**	35.34	296	⇓*i*P	P	03 17 54.3	+2.7
MLR	**Muntele Rosu**	35.34	296	P	P	03 17 53.1	+1.5
	comp=Z,1.4nm,0.9s,baz=99,slow=7.4						
MLR				LR	LR	03 32 31.0	
	comp=Z,10nm,19.9s,baz=266,slow=37						
BURAR	**Bucovina Array**	35.62	300	⇑P	P	03 17 54.9	+1.0
BURAR	**Bucovina Array**	35.62	300	⇑*i*P	P	03 17 54.9	+1.0
VOIR		35.97	296	⇓P	P	03 17 58.6	+1.6
VOIR		35.97	296	⇓*i*P	P	03 17 58.5	+1.6
FINES	**FINESS Array B**	36.38	323	P	P	03 17 59.6	-0.5
FINES	**FINESS Array B**	36.38	323	P	P	03 17 59.6	-0.5
	comp=Z,1.6nm,0.4s,baz=117,slow=9.4,SNR=15						
FINES				LR	LR	03 33 20.9	
	comp=Z,82nm,21.6s,baz=4.4,slow=37						
VTS	**Vitosha**	37.78	292	⇓P	P	03 18 14.7	+2.2
VTS	**Vitosha**	37.78	292	⇓*i*P	P	03 18 14.7	+2.2
IDI	**Anoyia**	38.63	280	P	P	03 18 19.4	-0.3
IDI	**Anoyia**	38.63	280	P	P	03 18 19.4	-0.3
	comp=Z,8.0nm,0.7s,baz=30,slow=8.1,SNR=4.1						
ARCES	**ARCESS Array B**	39.37	336	P	P	03 18 25.2	-0.1
ARCES	**ARCESS Array B**	39.37	336	P	P	03 18 25.2	-0.1
	comp=Z,1.7nm,0.4s,baz=112,slow=8.2,SNR=17						
ARCES				LR	LR	03 36 14.2	
	comp=Z,23nm,19.3s,baz=196,slow=38						
VRAC	**Vranov**	41.12	303	LR	LR	03 36 50.3	
	comp=Z,47nm,18.8s,baz=237,slow=38						
DPC	**Dobruska-Polom**	41.16	305	*e*P	P	03 18 41.5	+1.1
DPC	**Dobruska-Polom**	41.16	305	*e*P	P	03 18 41.5	+1.1
CONA	**Conrad Observa**	41.83	301	⇑*i*P	P	03 18 47.1	+1.1
	comp=Z,6.0nm,1.4s						
KSRS	**Korea Array**	42.02	75	LR	LR	03 38 52.5	
	comp=Z,46nm,18.4s,baz=296,slow=40						
HFS	**Hagfors**	42.19	320	LR	LR	03 39 53.5	
	comp=Z,57nm,19.5s,baz=129,slow=41						
TIXI	**Tiksi**	42.33	23	*e*P	P	03 18 51.6	+1.9
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.0s						
PRU	**Pruhonice**	42.34	305	AMS	AMS	03 39 50.0	
	comp=Z,100nm,9.6s						
BRG	**Berggiesshubel**	42.59	306	*e*P	P	03 18 51.2	-0.8
	comp=Z,3.1nm,0.8s						
BRG	**Berggiesshubel**	42.59	306	*e*P	P	03 18 51.2	-0.8
BRG				pmax	pmax		
	comp=Z,3.0nm,0.9s						
SOKA	**Soboth**	42.62	300	⇑*i*P	P	03 18 53.4	+0.9
	comp=Z,5.4nm,1.3s						
USRK	**Ussurivsk Arra**	42.97	64	LR	LR	03 38 45.8	
	comp=Z,116nm,19.7s,baz=140,slow=39						
GERES	**GERESS Array B**	43.08	303	P	P	03 18 56.3	+0.2
	comp=Z,65nm,21.3s,baz=137,slow=41						
GERES	**GERESS Array B**	43.08	303	P	P	03 18 56.3	+0.2
	comp=Z,1.4nm,0.8s,baz=61,slow=6.3,SNR=14						
GERES				LR	LR	03 38 48.3	
	comp=Z,37nm,19.6s,baz=301,slow=39						
KHC	**Kasperske Hory**	43.10	304	*e*P	P	03 18 56.0	-0.3
KHC	**Kasperske Hory**	43.10	304	*e*P	P	03 18 56.0	-0.3
CLL	**Collm**	43.11	307	*e*P	P	03 18 56.0	-0.3
CLL	**Collm**	43.11	307	*e*P	P	03 18 56.0	-0.3
CLL				*e*PP	PP	03 20 41.0	+4.8
CLL				LmV		03 38 00.0	
	comp=Z,100nm,19.8s						
NB2	**NORSAR Subarra**	43.43	321	P	P	03 18 58.2	-0.6
	comp=Z,1.8nm,0.8s,baz=89,slow=7.9						
NOA	**NORSAR Array B**	43.43	321	P	P	03 18 58.1	-0.6
NOA	**NORSAR Array B**	43.43	321	P	P	03 18 58.1	-0.6
	comp=Z,2.2nm,0.7s,baz=91,slow=7.9,SNR=6.1						
NOA				LR	LR	03 37 38.6	
	comp=Z,52nm,21.9s,baz=90,slow=37						
SPITS	**Spitsbergen Ar**	45.22	346	LR	LR	03 40 32.9	
	comp=Z,32nm,19.6s,baz=40,slow=39						
JNU	**Nakatsue**	45.50	79	LR	LR	03 39 50.4	
	comp=Z,56nm,18.2s,baz=22,slow=38						
DAVA	**Damuels**	45.92	302	⇑*i*P	P	03 19 18.5	-0.4
	comp=Z,10nm,1.3s						
DAVOX	**Davos/Dischmat**	46.05	301	P	P	03 19 19.5	-0.6
DAVOX	**Davos/Dischmat**	46.05	301	P	P	03 19 19.5	-0.6
	comp=Z,2.1nm,0.5s,baz=238,slow=2.2,SNR=6.4						
DAVOX				LR	LR	03 41 17.4	
	comp=Z,50nm,19.1s,baz=75,slow=40						
LPG	**La Plagne**	48.49	300	*e*P	P	03 19 38.9	-0.3
LPG	**La Plagne**	48.49	300	*e*P	P	03 19 38.9	-0.3
LPG	**La Plagne**	48.49	300	*e*P	P	03 19 38.9	-0.3
LPL	**La Plagne**	48.50	300	*e*P	P	03 19 38.9	-0.3
	comp=Z,3.9nm,0.5s						
LPL	**La Plagne**	48.50	300	*e*P	P	03 19 38.9	-0.3
LPL				pmax	pmax		
	comp=Z,4.0nm,0.5s						
LPL	**La Plagne**	48.50	300	*e*P	P	03 19 38.9	-0.3
	comp=Z,3.9nm,0.5s						
SBF	**Sospel**	48.54	298	*e*P	P	03 19 37.8	-1.6
SBF	**Sospel**	48.54	298	*e*P	P	03 19 37.8	-1.6
SBF	**Sospel**	48.54	298	*e*P	P	03 19 37.8	-1.6
MBDF	**Montbardon**	48.72	299	*e*P	P	03 19 39.6	-1.2
MBDF	**Montbardon**	48.72	299	*e*P	P	03 19 39.6	-1.2
MBDF	**Montbardon**	48.72	299	*e*P	P	03 19 39.6	-1.2
FRF	**La Foret Royal**	49.18	298	*e*P	P	03 19 43.5	-0.7
	comp=Z,16nm,1.1s						
FRF	**La Foret Royal**	49.18	298	*e*P	P	03 19 43.5	-0.7
FRF				pmax	pmax		
	comp=Z,16nm,1.1s						
FRF	**La Foret Royal**	49.18	298	*e*P	P	03 19 43.5	-0.7
	comp=Z,16nm,1.1s						
MJAR	**Matsushiro Arr**	49.99	72	P	P	03 19 48.3	-2.2
MJAR	**Matsushiro Arr**	49.99	72	P	P	03 19 48.3	-2.2
	comp=Z,1.9nm,0.7s,baz=290,slow=7.1,SNR=5.5						
MJA0	**Matsu Arr-Jizo**	50.02	72	*e*P	P	03 19 53.3	+2.6
MJA0				pmax	pmax		
	comp=Z,2.0nm,0.9s						
SMF	**Signal de Mont**	50.06	302	*e*P	P	03 19 50.1	-0.8
SMF	**Signal de Mont**	50.06	302	*e*P	P	03 19 50.1	-0.8
SMF	**Signal de Mont**	50.06	302	*e*P	P	03 19 50.1	-0.8
VIVF	**Saint-Julien-l**	50.09	300	*e*P	P	03 19 50.4	-0.7
	comp=Z,4.0nm,0.7s						
VIVF	**Saint-Julien-l**	50.09	300	*e*P	P	03 19 50.4	-0.7
	comp=Z,4.0nm,0.7s						
KEST	**Kesra**	50.17	287	P	P	03 19 51.9	0.0
KEST	**Kesra**	50.17	287	P	P	03 19 51.9	0.0
	comp=Z,1.4nm,0.9s,baz=302,slow=5.5,SNR=5.0						
ASAJ	**Asahikawa**	50.29	61	LR	LR	03 42 53.5	
	comp=Z,104nm,18.2s,baz=297,slow=38						
AVF	**Avril sur Loir**	50.34	303	*e*P	P	03 19 51.9	-1.0
	comp=Z,10nm,0.9s						
AVF	**Avril sur Loir**	50.34	303	*e*P	P	03 19 51.9	-1.0
AVF				pmax	pmax		
	comp=Z,10.0nm,0.9s						
AVF	**Avril sur Loir**	50.34	303	*e*P	P	03 19 51.9	-1.0
	comp=Z,10nm,0.9s						
LASF	**Ste Croix**	50.91	299	*e*P	P	03 19 57.1	-0.2
LASF	**Ste Croix**	50.91	299	*e*P	P	03 19 57.1	-0.2
LDF	**La Druitiere**	51.98	306	*e*P	P	03 20 04.0	-1.2
	comp=Z,8.1nm,0.5s						
LDF	**La Druitiere**	51.98	306	*e*P	P	03 20 04.0	-1.2
LDF				pmax	pmax		
	comp=Z,8.0nm,0.5s						
LDF	**La Druitiere**	51.98	306	*e*P	P	03 20 04.0	-1.2
	comp=Z,8.1nm,0.5s						
RJF	**Les Rejaudoux**	52.04	302	*e*P	P	03 20 05.6	-0.2
RJF				*e*R			
	comp=Z,22nm,18.8s						
RJF	**Les Rejaudoux**	52.04	302	*e*P	P	03 20 05.6	-0.2
RJF	**Les Rejaudoux**	52.04	302	*e*P	P	03 20 05.6	-0.2
MTLF	**Montolieu**	52.28	299	*e*P	P	03 20 06.9	-0.7
MTLF	**Montolieu**	52.28	299	*e*P	P	03 20 06.9	-0.7
MTLF	**Montolieu**	52.28	299	*e*P	P	03 20 06.9	-0.7
LFF	**La Frestale**	52.68	301	*e*P	P	03 20 10.4	-0.1
LFF	**La Frestale**	52.68	301	*e*P	P	03 20 10.4	-0.1
LFF	**La Frestale**	52.68	301	*e*P	P	03 20 10.4	-0.1
EPF	**Esparros**	53.67	299	*e*P	P	03 20 17.7	-0.2
EPF	**Esparros**	53.67	299	*e*P	P	03 20 17.7	-0.2
EPF	**Esparros**	53.67	299	*e*P	P	03 20 17.7	-0.2
ETSF	**Etsaut**	54.33	299	*e*P	P	03 20 22.2	-0.5
ETSF	**Etsaut**	54.33	299	*e*P	P	03 20 22.2	-0.5
ETSF	**Etsaut**	54.33	299	*e*P	P	03 20 22.2	-0.5
PETK	**Petropavlovsk

7.1nm,0.3s,baz=170,slow=27,SNR=3.8
BVAR **Borovoye Array 13.56 352** Pn P 03 19 44.1 +3.4
0.5nm,0.3s,baz=155,slow=12,SNR=6.4
ZALV **Zalesovo Beam 16.27 25** Pn **P 03 20 09.8 -0.9**
0.2nm,0.3s,baz=216,slow=12,SNR=3.6
BRTR **Keskin Array B 30.46 283** P **P 03 22 33.8 +1.7**
0.6nm,0.6s,baz=87,slow=7.7,SNR=4.4
FINES **FINESS Array B 36.05 323** P **P 03 23 22.4 +2.2**
2.3nm,0.8s,baz=104,slow=8.0,SNR=4.2
ARCES **ARCESS Array B 39.04 336** P **P 03 23 45.1 -0.3**
1.0nm,0.7s,baz=108,slow=7.8,SNR=5.3
HFS **Hagfors 41.87 320** P **P 03 24 10.8 +1.9**
2.7nm,0.9s,baz=105,slow=15,SNR=3.9
TORD **Torodi Ar. Bea 67.72 269** P **P 03 27 16.6 -0.1**
0.4nm,0.6s,baz=50,slow=5.8,SNR=10
WRA **Warramunga Arr 82.07 124** P **P 03 28 38.0 -1.4**
0.3nm,0.6s,baz=325,slow=5.0,SNR=4.6

WEL 01 03:24:41.7±0.7, 37°.57S×179°.18W, h33km, ML3.6/3, Error ellipse: s-maj=10.2km s-min=5.7km az=0.0, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**2.09**	**255**	PN	Pn	03 25 13.2	-1.3
PUZ				eSN	Sn	03 25 37.6	-1.7
CNGZ	**Carnagh Statio**	**2.25**	**245**	PN	Pn	03 25 16.8	+0.1
MWZ	**Matawai**	**2.71**	**253**	PN	Pn	03 25 21.5	-1.6
MWZ				SN	Sn	03 25 52.7	-2.1
KNZ	**Kokohu**	**2.87**	**239**	PN	Pn	03 25 24.3	-0.7
URZ	**Urewera**	**3.01**	**256**	PN	Pn	03 25 26.5	-0.7
URZ				SN	Sn	03 26 00.3	-1.8

WEL 01 03:59:53.8±0.3, 45°.50S×166°.56E, h20km±1km, ML3.6/14, 2D, Error ellipse: s-maj=2.8km s-min=1.3km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.42**	**87**	P*	Pb	04 00 02.1	-0.3
DCZ				S*	Sb	04 00 07.8	-0.6
DCZ				AML	AML	04 00 08.3	
DCZ				AML	AML	04 00 08.7	
DCZ				AML	AML	04 00 08.7	
WHZ	**Wether Hill Ro**	**1.05**	**112**	PN	Pb	04 00 13.1	-0.2
WHZ				AML	AML	04 00 35.0	
WHZ				AML	AML	04 00 40.9	
MLZ	**Mavora Lakes**	**1.15**	**83**	↓PN	Pn	04 00 13.7	-1.1
MLZ				SN	Sb	04 00 28.8	-0.7
MLZ				AML	AML	04 00 38.3	
MSZ	**Milford Sound**	**1.28**	**50**	PN	Pn	04 00 16.5	+0.1
MSZ				AML	AML	04 00 37.8	
MSZ				AML	AML	04 00 38.1	
MSZ				AML	AML	04 00 38.3	
MSZ				AML	AML	04 00 38.3	
APZ	**The Paps**	**1.66**	**144**	PN	Pn	04 00 22.7	+0.9
WKZ	**Wanaka**	**1.87**	**70**	PN	Pb	04 00 26.5	-0.7
WKZ				AML	AML	04 00 55.4	
WKZ				AML	AML	04 00 55.4	
WKZ				AML	AML	04 00 56.5	
WKZ				AML	AML	04 01 00.7	
EAZ	**Earnscleugh**	**1.96**	**83**	↓PN	Pb	04 00 27.4	-1.3
EAZ				SN	Sb	04 00 51.9	-0.9
EAZ				AML	AML	04 00 58.1	
EAZ				AML	AML	04 00 58.6	
EAZ				AML	AML	04 00 58.6	
SYZ	**Scrubby Hill**	**2.07**	**121**	PN	Pb	04 00 29.8	-0.9
JCZ	**Jackson Bay**	**2.12**	**48**	AML	AML	04 01 04.1	
JCZ				AML	AML	04 01 08.9	
TUZ	**Tuapeka**	**2.20**	**103**	PN	Pb	04 00 31.6	-1.3
LBZ	**Lake Benmore**	**2.81**	**68**	PN	Pn	04 00 40.0	+2.5
LBZ				AML	AML	04 01 21.6	
LBZ				AML	AML	04 02 04.0	
ODZ	**Otahua Downs**	**2.92**	**82**	PN	Pn	04 00 39.5	+0.4

IDC 01 04:52:06.0±2.0, 14°.86S×172°.56W, h0km, mb3.8/5, mb1 4.2/5, mb1mx3.9/21, mbtmp3.8/5, MS3.7/3, Ms1 3.7/3, ms1mx3.2/29, Error ellipse: s-maj=115.1km s-min=29.1km az=151.0, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.21**	**39**	Pn	Pg	04 52 24.6	-4.6
	116nm,0.3s,baz=34,slow=1.3,SNR=65						
AFI				Sn	Sg	04 52 35.5	-10
	235nm,0.3s,baz=30,slow=20,SNR=25						
ASAR	**Alice Springs 51.05 251** P P 05 01 10.0 -0.5
1.5nm,0.9s,baz=87,slow=8.0,SNR=7.3
YBH **Yreka Blue Hor 72.68 37** LR LR 05 28 11.8
comp=Z,60nm,18.3s,baz=98,slow=30
NVAR **Mina Array Bea 73.38 42** P P 05 03 40.9 +0.7
1.2nm,0.8s,baz=229,slow=12,SNR=7.2
TXAR **Lajitas Array 79.63 56** P P 05 04 15.7 -0.1
0.5nm,0.9s,baz=210,slow=8.3,SNR=4.5
PDAR **Pinedale Array 81.32 42** P P 05 04 24.0 -0.7
0.6nm,0.7s,baz=197,slow=2.8,SNR=6.4
PDAR LR LR 05 33 16.6
comp=Z,34nm,18.8s,baz=82,slow=30
ILAR **Eielson Array 81.76 11** P P 05 04 25.4 -0.9
0.5nm,0.7s,baz=227,slow=6.4,SNR=6.0
ULM **Lac du Bonnet 93.00 39** LR LR 05 42 36.0
comp=Z,34nm,18.4s,baz=314,slow=33
GERES **GERESS Array B 145.72 353** PKPbc PKPbc 05 11 46.9 -0.1
0.3nm,0.3s,baz=336,slow=5.9,SNR=6.0
BRTR **Keskin Array B 146.24 322** PKPbc PKPbc 05 11 49.1 +0.2
0.9nm,0.7s,baz=148,slow=3.7,SNR=4.5

*IDC **01** 04:52:41.2±1.1, 2°.83S×130°.05E, h0km, mb4.0/6, mb1 4.2/9, mb1mx4.0/22, mbtmp4.1/9, ML4.0/3, Error ellipse: s-maj=46.8km s-min=17.8km az=70.0*
*ISCJB **01** 04:52:43.5±0.7, 2°.94S±0°.07×129°.94E±0°.09, h25km, mb4.0/5, Error ellipse: s-maj=12.3km s-min=10.5km az=6.7*
*JDA **01** 04:52:47.1±0.5, 3°.5S±7°.×13°.0E±°, h30km, M4.1/4, MLv4.1/4*
ISC 01 04:52:44.9±0.8, 2°.79S±0°.06×130°.02E±0°.08, h25km, n14, σ1§12/14, mb4.1/6, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.72**	**184**	P	**Pb**	**04 53 16.2**	**+0.4**
AAI	**Ambon**	**2.02**	**244**	P	**Pn**	**04 53 17.1**	**-0.3**
FAKI	**Fak Fak**	**2.23**	**93**	P	**Pb**	**04 53 25.2**	**+0.6**
SWI	**Sorong**	**2.28**	**33**	P	**Pb**	**04 53 24.5**	**-0.9**
NLAI	**Namlea**	**2.94**	**261**	P	**Pn**	**04 53 28.9**	**-1.2**
KAPI	**Kappang**	**10.47**	**258**	Pn	**Pn**	**04 55 13.4**	**-0.1**
	0.7nm,0.3s,baz=81,slow=8.9,SNR=4.5						
FITZ	**Fitzroy Crossi**	**15.81**	**195**	Pn	**Pn**	**04 56 25.2**	**-0.7**
	0.4nm,0.3s,baz=31,slow=14,SNR=13						
WRA	**Warramunga Arr**	**17.56**	**166**	P	**Pn**	**04 56 45.7**	**-2.4**
	0.7nm,0.3s,baz=346,slow=11,SNR=25						
ASAR	**Alice Springs**	**21.09**	**170**	P	**P**	**04 57 27.3**	**-0.3**
	6.9nm,0.6s,baz=348,slow=11,SNR=67						
STKA	**Stephens Creek**	**30.92**	**161**	P	**P**	**04 58 59.8**	**0.0**
	1.8nm,0.7s,baz=0.9,slow=16,SNR=4.3						
CMAR	**Chiang Mai Arr**	**37.17**	**306**	P	**P**	**04 59 54.8**	**+0.6**
	1.0nm,0.4s,baz=136,slow=6.3,SNR=6.0						
SONM	**Songino Array**	**54.49**	**341**	P	**P**	**05 02 12.6**	**+2.0**
	0.2nm,0.3s,baz=164,slow=5.9,SNR=4.9						
MKAR	**Makanchi Array**	**64.76**	**326**	P	**P**	**05 03 21.6**	**+0.3**
	1.6nm,0.7s,baz=124,slow=8.0,SNR=14						
ZALV	**Zalesovo Beam**	**67.85**	**333**	P	**P**	**05 03 40.7**	**-0.2**
	1.4nm,0.6s,baz=112,slow=6.4,SNR=7.4						

IDC 01 05:00:31.5±2.5, 6°.28S×146°.08E, h112km±27km, mb3.5/8, mb1 3.6/11, mb1mx3.4/21, mbtmp3.4/11, Error ellipse: s-maj=29.7km s-min=12.2km az=113.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.29**	**161**	P	Pn	05 01 23.1	+1.8
	12nm,0.3s,baz=49,slow=5.1,SNR=18						
PMG				S	Sn	05 01 59.4	-0.5
	16nm,0.3s,baz=319,slow=17,SNR=4.2						
CTA	**Charters Tower**	**13.73**	**179**	P	Pn	05 03 41.9	+0.3
	0.2nm,0.3s,baz=0.0,slow=1.0,SNR=3.2						
WRA	**Warramunga Arr**	**17.74**	**219**	P	P	05 04 30.4	-0.4
	0.1nm,0.3s,baz=42,slow=12,SNR=5.2						
WRA				S	S	05 07 48.6	-0.9
	0.0nm,0.3s,baz=48,slow=26,SNR=2.7						
ASAR	**Alice Springs 20.88 213** P P 05 05 05.8 +0.8
1.0nm,0.8s,baz=33,slow=13,SNR=7.8
ASAR S S 05 08 52.3 +0.4
1.2nm,0.9s,baz=30,slow=21,SNR=5.8
FITZ **Fitzroy Crossi 23.15 238** P P 05 05 28.8 +0.5
3.9nm,0.7s,baz=85,slow=7.4,SNR=12
STKA **Stephens Creek 25.81 189** P P 05 05 53.3 +0.9
0.9nm,0.6s,baz=9.7,slow=11,SNR=3.9
CMAR **Chiang Mai Arr 52.58 299** P P 05 09 34.0 -0.2
2.4nm,0.4s,baz=125,slow=6.8,SNR=9.5
MKAR **Makanchi Array 77.13 321** P P 05 12 13.1 +0.2
0.2nm,0.4s,baz=108,slow=7.7,SNR=4.7
ZALV **Zalesovo Beam 78.76 328** P P 05 12 21.1 -0.6
0.4nm,0.4s,baz=126,slow=7.3,SNR=3.2
KURBB **Kurchatov Arra 80.91 323** P P 05 12 33.2 -0.2
0.2nm,0.5s,baz=116,slow=4.8,SNR=3.6
ILAR **Eielson Array 86.09 23** P P 05 12 58.8 -0.8
0.4nm,0.6s,baz=260,slow=5.0,SNR=5.7
TORD **Torodi Ar. Bea 144.27 284** PKP PKPdf 05 19 55.0 -0.5
1.0nm,0.8s,baz=72,slow=3.7,SNR=7.7
DBIC **Dimbokro 151.12 272** PKPbc PKPbc 05 20 13.8 +1.1
2.6nm,0.8s,baz=126,slow=8.7,SNR=3.7

*ISCJB **01** 05:04:36.9±0.9, 38°.78N±0°.04×141°.67E±0°.09, h75km±5km, mb3.5/3, Error ellipse: s-maj=11.7km s-min=6.7km az=12.5*
*JMA **01** 05:04:37.9, 38°.79N×141°.63E, h70km±1km, M3.3 Broadband fault plane solution: P waves. NP1: φs=164.00000°, δs82.00000°, λ63.00000°. NP2: φs59.00000°, δ28.00000°, λ163.00000°. Principal axes: T Plg46.0000°, Azm46.0000°; N Plg27.0000°, Azm168.0000°; P Plg32.0000°, Azm276.0000°;*
JMA Felt I J1.
*IDC **01** 05:04:41.3±3.3, 39°.44N×139°.81E, h0km, mb3.6/3, mb1 3.6/4, mb1mx3.3/26, mbtmp3.5/4, ML2.9/1 Error ellipse: s-maj=92.5km s-min=27.6km az=70.0*
ISC 01 05:04:37.5±1.4, 38°.78N±0°.05×141°.69E±0°.09, h70km±8km, n15, σ0§44/25, mb3.7/3, 6C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.30**	**357**	↓P	**Pn**	**05 04 49.1**	**+0.4**
OFUJ				S	**Sn**	**05 04 57.1**	**+0.2**
JMK	**Ichinoseki**	**0.40**	**295**	↑P	**Pn**	**05 04 49.4**	**0.0**
JMK				S	**Sn**	**05 04 57.8**	**-0.4**
JIO	**Ouri**	**0.42**	**219**	↑P	**Pn**	**05 04 49.9**	**+0.3**
JIO				S	**Sn**	**05 04 58.3**	**-0.1**
JOM	**Ohasama**	**0.76**	**336**	↑P	**Pn**	**05 04 53.3**	**+0.3**
JOM				eS	**Sn**	**05 05 04.6**	**+0.1**
JOU	**Okura**	**0.90**	**243**	↑P	**Pn**	**05 04 54.9**	**+0.1**
JOU				eS	**Sn**	**05 05 07.7**	**+0.1**
JRG	**Rokugo**	**1.02**	**307**	P	**Pn**	**05 04 56.3**	**0.0**
JRG				eS	**Sn**	**05 05 10.3**	**+0.1**
JYK	**Kaneyama**	**1.04**	**278**	P	**Pn**	**05 04 56.6**	**+0.1**
JYK				eS	**Sn**	**05 05 10.7**	**0.0**
JMM	**Marumori**	**1.15**	**218**	↑P	**Pn**	**05 04 57.7**	**-0.2**
JMM				eS	**Sn**	**05 05 12.3**	**-0.8**
JYS	**Shiratake**	**1.39**	**247**	P	**Pn**	**05 05 01.3**	**+0.3**
JYS				eS	**Sn**	**05 05 18.5**	**-0.1**
JFK	**Kawauchi**	**1.55**	**205**	↑P	**Pn**	**05 05 03.4**	**+0.3**
JFK				eS	**Sn**	**05 05 22.4**	**-0.1**
JYA	**Atsumi**	**1.56**	**264**	P	**Pn**	**05 05 03.3**	**+0.2**
JYA				eS	**Sn**	**05 05 22.7**	**+0.2**
MJAR	**Matsushiro Arr**	**3.55**	**232**	Pn	**Pn**	**05 05 31.7**	**+1.5**
	1.5nm,0.3s,baz=24,slow=15,SNR=10						
MKAR	**Makanchi Array**	**43.40**	**301**	P	**P**	**05 12 32.5**	**-0.5**
	0.6nm,0.9s,baz=74,slow=10,SNR=4.3						
KURBB	**Kurchatov Arra**	**45.12**	**307**	P	**P**	**05 12 46.3**	**-0.3**
	0.6nm,0.4s,baz=79,slow=8.1,SNR=8.2						
WRA	**Warramunga Arr**	**58.82**	**188**	P	P	05 14 45.0	+16
	0.3nm,0.5s,baz=6.3,slow=6.9,SNR=5.1						

IDC 01 05:09:50.5±10.0, 3°.27S×130°.23E, h251km±108km, mb2.6/2, mb1 2.6/3, mb1mx2.5/20, mbtmp2.5/3, Error ellipse: s-maj=202.7km s-min=44.2km az=70.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.05**	**167**	P	P	05 13 32.5	-0.3
	0.0nm,0.3s,baz=349,slow=12,SNR=4.3						
ASAR	**Alice Springs**	**20.59**	**170**	P	P	05 14 11.2	+0.3
	0.9nm,0.9s,baz=360,slow=12,SNR=4.4						
MKAR	**Makanchi Array**	**65.27**	**326**	P	P	05 20 05.6	+0.1
	0.2nm,0.3s,baz=142,slow=6.8,SNR=4.1						
TORD	**Torodi Ar. Bea**	**128.22**	**284**	PKP	PKPdf	05 28 27.5	-0.5
	0.3nm,1.0s,baz=60,slow=2.8,SNR=2.5						

MEX 01 05:39:15.6±1.2, 17°.04N×94°.46W, h83km±14km, MD3.7, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.41**	**278**	*i* P	Pn	05 39 26.9	-2.0
CMIG				*i* S	Sn	05 39 37.7	-1.1
TGIG		**1.31**	**101**	*i* P	Pn	05 39 37.8	-0.9
TGIG				eS	Sn	05 39 53.6	-2.4
PCIG		**1.78**	**138**	eP	Pn	05 39 44.3	-0.4
PCIG				*i* S	Sn	05 40 05.4	-1.4
HUIG	**Huatulco**	**2.02**	**232**	*i* P	Pn	05 39 46.6	-1.3
HUIG				eS	Sn	05 40 11.5	-1.0
VHO	**Vista Hermosa**	**2.17**	**271**	*i* P	Pn	05 39 49.5	-0.7
VHO				eS	Sn	05 40 15.5	-1.1
PNIG	**Pinotepa**	**3.57**	**260**	*i* P	Pn	05 40 07.2	-1.6
PNIG				eS	Sn	05 40 48.9	-1.0

DJA 01 05:39:32.1±1.0, 10°S±6°.×11°.4E±°, h26km±10km, M3.9/7, MLv3.9/7, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGBI	**Denpasar**	**0.97**	**43**	P	Pn	05 39 49.2	-0.9
IGBI				S	Sb	05 40 00.8	-2.0
JAGI	**Jajag, Banyuwa**	**1.11**	**343**	P	Pn	05 39 51.2	-0.8
JAGI				S	Sn	05 40 05.4	-1.1
DNP	**Denpasar**	**1.12**	**40**	P	Pn	05 39 51.6	-0.5
DNP				S	Sn	05 40 06.7	0.0
SRBI	**Singaraja**	**1.62**	**27**	P	Pb	05 40 03.5	+2.2
MTNI	**Mataram**	**1.90**	**62**	P	Pn	05 40 01.4	-1.4
BLJI	**Banyuglugur**	**1.99**	**334**	P	Pn	05 40 05.1	+1.1
KRKI	**Karangkates**	**2.43**	**304**	P	Pn	05 40 08.9	-1.2
PWJI	**Pagerwojo**	**3.04**	**299**	P	Pn	05 40 18.8	+0.2

*IDC **01** 06:01:38.4±1.2, 60°.41N×153°.35W, h98km±12km, mb3.4/7, mb1 3.7/13, mb1mx3.5/32, mbtmp3.6/13, MS3.2/1, Ms1 3.2/1, ms1mx2.3/24, Error ellipse: s-maj=14.1km s-min=9.8km az=98.0*
*ISCJB **01** 06:01:39.7±0.2, 60°.35N±0°.02×153°.05W±0°.05, h135km±2km, mb3.7/10, Error ellipse: s-maj=4.4km s-min=3.0km az=31.8*
*NEIC **01** 06:01:41.7, 60°.32N×152°.99W, h130km, mb3.9/3, After AEIC.*
ISC 01 06:01:41.3±0.6, 60°.34N±0°.03×153°.05W±0°.03, h132km±5km, n125, σ1§23/145, mb3.7/10, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RED	**Redoubt Volcan**	**0.16**	**60**	P	**Pn**	**06 01 58.7**	**-0.8**
RDWB	**Redoubt West**	**0.18**	**34**	P	**Pn**	**06 01 58.8**	**-0.8**
RDWB				S	**Sn**	**06 02 12.3**	**-1.1**
NCT	**North Crescent**	**0.23**	**14**	P	**Pn**	**06 01 59.1**	**-0.5**
ILIM	**Iliamna**	**0.26**	**170**	P	**Pn**	**06 01 59.1**	**-0.6**
ILIM				S	**Sn**	**06 02 12.8**	**-0.7**
ILW	**Iliamna West**	**0.28**	**189**	P	**Pn**	**06 01 59.2**	**-0.7**
DFR	**Drift River**	**0.31**	**35**	P	**Pn**	**06 01 59.1**	**-0.7**
RDT	**Redoubt**	**0.40**	**53**	P	**Pn**	**06 01 59.6**	**-0.6**
OPT	**Oil Point**	**0.69**	**188**	P	**Pn**	**06 02 01.6**	**-0.4**
PDB	**Pedro Bay**	**0.80**	**227**	P	**Pn**	**06 02 01.9**	**-0.7**
CKL	**Chakachamna La**	**0.93**	**22**	P	**Pn**	**06 02 03.8**	**-0.1**
SPU	**Mount Spurr**	**0.97**	**30**	P	**Pn**	**06 02 03.8**	**-0.4**
AUL	**Augustine Lava**	**0.98**	**192**	P	**Pn**	**06 02 03.9**	**-0.3**
BGL	**Barrier Glacie**	**0.98**	**19**	P	**Pn**	**06 02 04.4**	**+0.1**
SPBG	**Spurr Blockage**	**0.98**	**19**	P	**Pn**	**06 02 04.4**	**+0.1**
SPBG				S	**Sn**	**06 02 22.2**	**+0.3**
HOM	**Homer**	**0.98**	**134**	P	**Pn**	**06 02 04.0**	**-0.2**
HOM				S	**Sn**	**06 02 21.8**	**+0.2**
AUW	**Augustine West**	**1.00**	**193**	P	**Pn**	**06 02 04.1**	**-0.3**
AUE	**Augustine Isla**	**1.00**	**190**	P	**Pn**	**06 02 03.8**	**-0.6**
AUP	**Augustine Pinn**	**1.00**	**191**	P	**Pn**	**06 02 04.2**	**-0.3**
AUI	**Augustine Isla**	**1.03**	**191**	P	**Pn**	**06 02 04.1**	**-0.6**
AUI				S	**Sn**	**06 02 21.7**	**-0.6**
BRLK	**Bradley Lake**	**1.23**	**117**	P	**Pn**	**06 02 07.0**	**+0.3**
BRLK				S	**Sn**	**06 02 24.7**	**-1.2**
STLK	**Strandline Lak**	**1.30**	**26**	P	**Pn**	**06 02 07.3**	**-0.1**
MCNL	**McNeil River**	**1.33**	**210**	P	**Pn**	**06 02 07.0**	**-0.7**
SLKM	**Skilak Lake**	**1.41**	**82**	P	**Pn**	**06 02 07.8**	**-0.7**
SVW2	**Sparrevohn**	**1.46**	**302**	P	**Pn**	**06 02 08.1**	**-1.0**
SVW2				S	**Sn**	**06 02 28.6**	**-1.7**
SUA	**Susitna One**	**1.59**	**44**	P	**Pn**	**06 02 10.7**	**0.0**
SUA				S	**Sn**	**06 02 33.2**	**+0.1**
SKT	**Skwentna**	**1.80**	**23**	P	**Pn**	**06 02 13.1**	**+0.1**
KAPH	**Katmai Pasha**	**1.87**	**201**	P	**Pn**	**06 02 13.4**	**-0.5**
PTE	**Portage**	**2.05**	**73**	P	**Pn**	**06 02 14.6**	**-1.3**
PMR	**Palmer**	**2.29**	**55**	P	**Pn**	**06 02 17.2**	**-1.6**
PMR				S	**Sn**	**06 02 45.5**	**-2.2**
KAKN	**Katmai Knife C**	**2.29**	**208**	P	**Pn**	**06 02 18.4**	**-0.7**
KAKN				S	**Sn**	**06 02 46.8**	**-1.2**
KELA	**Mount Kelaz**	**2.35**	**217**	P	**Pn**	**06 02 19.0**	**-0.8**
TRAP	**Trapper Creek**	**2.42**	**33**	P	**Pn**	**06 02 20.6**	**+0.2**
KABR	**Katmai Barrier**	**2.43**	**205**	P	**Pn**	**06 02 19.9**	**-0.8**
CAHL	**Cahill**	**2.57**	**208**	P	**Pn**	**06 02 22.3**	**-0.2**
KDAK	**Kodiak Island**	**2.58**	**174**	P	**Pn**	**06 02 20.4**	**-2.0**
KDAK				S	**Sn**	**06 02 51.8**	**-2.3**
KDAK	**Kodiak Island**	**2.58**	**174**	P	**Pn**	**06 02 20.5**	**-2.0**
	63nm,0.3s,baz=19,slow=7.9,SNR=936						
KDAK				S	**Sn**	**06 02 51.3**	**-2.8**
	40nm,0.3s,baz=172,slow=20,SNR=16						
PPLA	**Purkeypile**	**2.60**	**9**	P	**Pn**	**06 02 23.4**	**+0.5**
PPLA				S	**Sn**	**06 02 54.9**	**-0.1**
KJL	**Kejulik**	**2.64**	**211**	P	**Pn**	**06 02 23.2**	**-0.2**
SML	**Sawmill**	**2.72**	**55**	P	**Pn**	**06 02 22.9**	**-1.5**
TT01	**Tatalina**	**2.94**	**332**	P	**Pn**	**06 02 26.4**	**-0.8**
GLI	**Glacier Island**	**2.98**	**77**	P	**Pn**	**06 02 25.0**	**-2.8**
PLK2	**Peulik 2**	**3.09**	**215**	P	**Pn**	**06 02 29.1**	**0.0**
HUR	**Hurricane**	**3.11**	**30**	P	**Pn**	**06 02 28.9**	**-0.4**
CAST	**Castle Rocks**	**3.12**	**8**	P	**Pn**	**06 02 29.4**	**-0.1**
CAST				S	**Sn**	**06 03 06.3**	**-0.5**
OHAK	**Old Harbor**	**3.13**	**182**	P	**Pn**	**06 02 27.1**	**-2.5**
PLK1	**Peulik 1**	**3.14**	**217**	P	**Pn**	**06 02 29.1**	**-0.6**
SCM	**Sheep Creek Mo**	**3.16**	**59**	P	**Pn**	**06 02 28.6**	**-1.5**
JPK	**Jack Peak**	**3.25**	**74**	P	**Pn**	**06 02 29.2**	**-2.0**
FID	**Port Fidalgo**	**3.27**	**80**	P	**Pn**	**06 02 28.6**	**-2.9**
KTH	**Kantishna Hill**	**3.38**	**16**	P	**Pn**	**06 02 32.6**	**-0.3**
TRF	**Thorofare Moun**	**3.38**	**21**	P	**Pn**	**06 02 32.1**	**-1.0**
VLZ	**Valdez**	**3.39**	**74**	P	**Pn**	**06 02 31.1**	**-1.8**
MID	**Middleton Isla**	**3.50**	**102**	P	**Pn**	**06 02 33.7**	**-0.7**
EYAK	**Cordova Ski Ar**	**3.62**	**84**	P	**Pn**	**06 02 35.5**	**-0.5**
DIV	**Divide**	**3.66**	**74**	P	**Pn**	**06 02 36.5**	**-0.1**
RND	**Reindeer**	**3.66**	**31**	P	**Pn**	**06 02 36.0**	**-0.6**
KLU	**Klutina**	**3.67**	**69**	P	**Pn**	**06 02 34.9**	**-1.8**
DHY	**Denali Highway**	**3.85**	**42**	P	**Pn**	**06 02 38.4**	**-0.8**
BPAW	**Bear Paw Mtn.**	**3.90**	**13**	P	**Pn**	**06 02 38.7**	**-1.0**
MCK	**McKinley**	**3.92**	**28**	P	**Pn**	**06 02 39.8**	**-0.2**
GOAT	**Goat Mountain**	**4.13**	**83**	P	**Pn**	**06 02 42.0**	**-0.7**
RAGM	**Ragged Mountai**	**4.16**	**86**	P	**Pn**	**06 02 42.2**	**-0.9**
BWN	**Browne**	**4.19**	**22**	P	**Pn**	**06 02 43.3**	**-0.3**
BMRM	**Bremner River**	**4.20**	**78**	P	**Pn**	**06 02 42.4**	**-1.4**
HARP	**HAARP**	**4.33**	**58**	P	**Pn**	**06 02 44.3**	**-1.1**
ANNW	**Aniakchak Nort**	**4.33**	**221**	P	**Pn**	**06 02 44.4**	**-1.1**
ANPK	**Aniakchak Peak**	**4.40**	**219**	P	**Pn**	**06 02 46.1**	**-0.3**
NICHA	**Nichawak Mount**	**4.52**	**87**	P	**Pn**	**06 02 47.4**	**-0.6**
WASW	**Wrangell South**	**4.59**	**66**	P	**Pn**	**06 02 49.1**	**+0.1**
NEA	**Nenana**	**4.63**	**22**	P	**Pn**	**06 02 49.0**	**-0.5**
GLB	**Gilahina Butte**	**4.64**	**72**	P	**Pn**	**06 02 48.2**	**-1.5**
WRH	**Wood River Hil**	**4.74**	**27**	P	**Pn**	**06 02 49.6**	**-1.3**
VRDI	**Verde Repeater**	**4.79**	**75**	P	**Pn**	**06 02 51.5**	**-0.1**
CHGN	**Chignik**	**4.94**	**217**	*e*Pn	**Pn**	**06 02 52.4**	**-1.1**
CCB	**Clear Creek Bu**	**4.96**	**27**	P	**Pn**	**06 02 52.6**	**-1.1**
HDA	**Harding Lake**	**4.97**	**32**	P	**Pn**	**06 02 53.2**	**-0.7**
MCARA	**McCarthy VSAT**	**5.01**	**74**	P	**Pn**	**06 02 54.5**	**0.0**
MDM	**Murphy Dome**	**5.14**	**24**	P	**Pn**	**06 02 55.5**	**-0.7**
COLA	**College**	**5.14**	**26**	P	**Pn**	**06 02 55.2**	**-1.0**
MENT	**Mentasta**	**5.15**	**56**	*e*Pn	**Pn**	**06 02 55.3**	**-1.1**
BARK	**Barkley Ridge**	**5.24**	**85**	P	**Pn**	**06 02 57.4**	**-0.2**
VNHG	**Veniaminof 1**	**5.24**	**221**	P	**Pn**	**06 02 57.4**	**-0.3**
PTPK	**Patty Peak**	**5.26**	**76**	P	**Pn**	**06 02 57.9**	**0.0**
ILAR	**Eielson Array**	**5.28**	**30**	P	**Pn**	**06 02 56.9**	**-1.1**
ILAR				S	**Sn**	**06 03 53.9**	**-3.9**
ILAR	**Eielson Array**	**5.28**	**30**	P	**Pn**	**06 02 56.9**	**-1.1**
	11nm,0.3s,baz=212,slow=13,SNR=688						
ILAR				S	**Sn**	**06 03 53.9**	**-3.9**
	16nm,0.3s,baz=218,slow=23,SNR=15						
IL1	**Eielson Array**	**5.28**	**30**	P	**Pn**	**06 02 57.0**	**-1.0**
KIAG	**Kiagna River**	**5.29**	**79**	P	**Pn**	**06 02 57.5**	**-0.9**
ISLE	**Juniper Island**	**5.30**	**83**	P	**Pn**	**06 02 58.1**	**-0.5**
BALM	**Baldy**	**5.31**	**78**	P	**Pn**	**06 02 58.0**	**-0.5**
BAGL	**Bagley Icefiel**	**5.43**	**84**	P	**Pn**	**06 03 00.2**	**+0.1**
GRNC	**Granite Creek**	**5.59**	**81**	P	**Pn**	**06 03 02.2**	**-0.2**
BARN	**Barnard Glacie**	**5.64**	**78**	P	**Pn**	**06

h122km±10km, n18, σ1§59/24, mb4.0/3, 4C-2D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**Plate Boundary**	**1.37**	**244**	⇑*iP*	**Pn**	**06 17 49.5**	**+2.5**
PB09				*i* S	**Sn**	**06 18 09.6**	**+2.6**
PB09				AML	AML	06 18 10.2	
	comp=N,7μm,0.3s						
PB07	**Plate Boundary**	**1.91**	**254**	⇑*iP*	**Pn**	**06 17 54.0**	**+0.6**
PB07				*i* S	**Sn**	**06 18 17.5**	**-0.8**
PB07				AML	AML	06 18 18.7	
	comp=E,3μm,0.2s						
HMBC	**Humberstone**	**2.07**	**296**	⇑*iP*	**Pn**	**06 17 55.0**	**-0.3**
HMBC				*i* S	**Sn**	**06 18 19.7**	**-2.0**
HMBC				AML	AML	06 18 21.4	
	comp=N,1μm,0.4s						
MNMC	**Minimini**	**2.60**	**322**	⇑*iP*	**Pn**	**06 18 03.1**	**+0.9**
MNMC				*i* S	**Sn**	**06 18 33.3**	**-0.8**
MNMC				AML	AML	06 18 35.0	
	comp=E,3μm,0.6s						
CEN1	**Los Morros**	**3.04**	**224**	⇓*iP*	Pn	06 18 11.2	+3.5
CEN1				AML	AML	06 18 50.3	
	comp=N,235nm,0.3s						
ANCH	**Antofagasta**	**3.38**	**223**	⇓*iP*	**Pn**	**06 18 13.2**	**+1.1**
ANCH				*i* S	**Sn**	**06 18 49.8**	**-1.9**
ANCH				AML	AML	06 18 55.5	
	comp=E,505nm,0.1s						
LPAZ	**La Paz**	**4.90**	**358**	P	**Pn**	**06 18 34.4**	**+1.5**
	comp=E,13nm,0.3s,baz=169,slow=7.0,SNR=377						
SIV	**San Ignacio**	**8.30**	**52**	P	**Pn**	**06 19 18.7**	**+0.3**
	comp=E,7.1nm,0.3s,baz=255,slow=14,SNR=135						
SIV				S	**Sn**	**06 20 48.9**	**-1.6**
	comp=E,0.5nm,0.3s,baz=331,slow=19,SNR=4.5						
CFAA	**Coronel Fontan**	**10.36**	**182**	P	**Pn**	**06 19 45.6**	**-0.4**
	comp=E,0.2nm,0.3s,baz=2.9,slow=14,SNR=21						
CFAA				S	**Sn**	**06 21 36.2**	**-4.1**
	comp=E,0.1nm,0.3s,baz=160,slow=15,SNR=3.6						
PLCA	**Paso Flores**	**19.59**	**186**	P	**Pn**	**06 21 41.8**	**-0.1**
	comp=E,0.2nm,0.3s,baz=21,slow=12,SNR=8.2						
BDFB	**Brasilia**	**19.66**	**77**	P	**Pn**	**06 21 42.5**	**-0.5**
	comp=E,1.2nm,0.3s,baz=243,slow=8.6,SNR=14						
TXAR	**Lajitas Array**	**60.93**	**324**	P	**P**	**06 27 20.3**	**-0.7**
	comp=E,0.3nm,0.7s,baz=151,slow=8.8,SNR=3.8						
DBIC	**Dimbokro**	**67.76**	**73**	P	**P**	**06 28 06.7**	**+1.0**
	comp=E,3.1nm,0.8s,baz=258,slow=1.5,SNR=3.0						
TORD	**Torodi Ar. Bea**	**76.38**	**70**	P	**P**	**06 28 58.0**	**+0.9**
	comp=E,2.3nm,0.7s,baz=254,slow=5.4,SNR=14						
ASAR	**Alice Springs**	**130.60**	**207**	PKP	**PKPdf**	**06 36 18.8**	**+0.8**
	comp=E,0.5nm,0.5s,baz=127,slow=1.6,SNR=6.3						
WRA	**Warramunga Arr**	**133.67**	**210**	PKP	**PKPdf**	**06 36 24.5**	**+0.7**
	comp=E,0.5nm,0.5s,baz=155,slow=1.9,SNR=11						
ZALV	**Zalesovo Beam**	**141.29**	**26**	PKP	**PKPdf**	**06 36 36.4**	**-0.3**
	comp=E,0.7nm,0.6s,baz=299,slow=1.5,SNR=2.6						
MKAR	**Makanchi Array**	**144.85**	**36**	PKP	**PKPdf**	**06 36 44.0**	**+0.8**
	comp=E,1.5nm,0.7s,baz=316,slow=3.3,SNR=7.8						

*NEIC **01** 06:19:11.6, 19°.60N×67°.78W, h33km, MD3.5(RSPR), After RSPR.*

RSPR 01 06:19:11.6, 19°.60N×67°.78W, h33km±15km, MD3.5/11, 19C-10D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDE	**Isla Desecheo**	**1.24**	**166**	⇑*eP*	Pn	06 19 28.9	-3.8
IDE	**Isla Desecheo**	**1.24**	**166**	⇑*eP*	Pn	06 19 28.9	-3.8
AGPR	**Aguadilla, PR**	**1.29**	**151**	⇑*eP*	Pn	06 19 31.1	-2.3
AGPR	**Aguadilla, PR**	**1.29**	**151**	⇑*eP*	Pn	06 19 31.1	-2.3
AGPR				*e*S	Sn	06 19 47.8	-1.8
IMO	**Isla Mona**	**1.49**	**185**	⇑*eP*	Pn	06 19 32.1	-3.9
IMO	**Isla Mona**	**1.49**	**185**	⇑*eP*	Pn	06 19 32.1	-3.9
LSP	**Las Mesas**	**1.56**	**155**	⇓*eP*	Pn	06 19 35.2	-1.9
LSP	**Las Mesas**	**1.56**	**155**	⇓*eP*	Pn	06 19 35.2	-1.9
LRS	**Lares**	**1.58**	**146**	⇓*eP*	Pn	06 19 35.5	-1.8
LRS				*e*S	Sn	06 19 54.4	-2.2
LRS	**Lares**	**1.58**	**146**	⇓*eP*	Pn	06 19 35.5	-1.8
LRS				*e*S	Sn	06 19 54.4	-2.2
AOPR	**Arecibo Observ**	**1.58**	**142**	⇑*eP*	Pn	06 19 36.1	-1.3
AOPR	**Arecibo Observ**	**1.58**	**142**	⇑*eP*	Pn	06 19 36.1	-1.3
AOPR				*e*S	Sn	06 19 55.2	-1.6
CRPR	**Cabo Rojo, PR**	**1.71**	**158**	⇓*eP*	Pn	06 19 37.9	-1.2
CRPR	**Cabo Rojo, PR**	**1.71**	**158**	⇓*eP*	Pn	06 19 37.9	-1.2
CRPR				*e*S	Sn	06 19 58.1	-1.7
DR12	**Loma Pena Alta**	**1.72**	**242**	⇑*eP*	Pn	06 19 37.7	-1.5
DR12				*e*S	Sn	06 19 58.6	-1.5
DR12	**Loma Pena Alta**	**1.72**	**242**	⇑*eP*	Pn	06 19 37.7	-1.5
DR12				*e*S	Sn	06 19 58.6	-1.5
GBPR	**Guanica, Bosqu**	**1.83**	**152**	⇑*eP*	Pn	06 19 39.5	-1.2
GBPR	**Guanica, Bosqu**	**1.83**	**152**	⇑*eP*	Pn	06 19 39.5	-1.2
GBPR				*e*S	Sn	06 20 01.5	-1.3
CELP	**Cerrillos**	**1.90**	**143**	⇑*eP*	Pn	06 19 40.5	-1.2
CELP				*e*S	Sn	06 20 02.8	-1.7
CELP	**Cerrillos**	**1.90**	**143**	⇑*eP*	Pn	06 19 40.5	-1.2
CELP				*e*S	Sn	06 20 02.8	-1.7
OBIP	**Obispado Ponce**	**1.91**	**144**	⇑*eP*	Pn	06 19 40.5	-1.3
OBIP	**Obispado Ponce**	**1.91**	**144**	⇑*eP*	Pn	06 19 40.5	-1.3
OBIP				*e*S	Sn	06 20 03.1	-1.6
SJG	**San Juan**	**2.14**	**134**	⇓*eP*	Pn	06 19 44.0	-1.0
SJG	**San Juan**	**2.14**	**134**	⇓*eP*	Pn	06 19 44.0	-1.0
SJG				*e*S	Sn	06 20 09.2	-1.3
SJG	**San Juan**	**2.14**	**134**	⇓*eP*	Pn	06 19 44.0	-1.0
SJG				*e*S	Sn	06 20 09.2	-1.3
SJG				*e*S	Sb	06 20 09.4	-6.4
HUMP	**Col San Antoni**	**2.33**	**128**	⇑*eP*	Pn	06 19 46.4	-1.2
HUMP	**Col San Antoni**	**2.33**	**128**	⇑*eP*	Pn	06 19 46.4	-1.2
MTP	**Monte Pirata**	**2.59**	**125**	⇓*eP*	Pn	06 19 50.1	-1.1
MTP	**Monte Pirata**	**2.59**	**125**	⇓*eP*	Pn	06 19 50.1	-1.1
MTP				*e*S	Sn	06 20 20.2	-1.3

GUC 01 06:27:18.2±0.6, 32°.61S×71°.56W, h32km±2km, MD4.0, ML3.5, 4C-8D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.12**	**56**	⇓*iP*	Pn	06 27 24.3	+0.2
PACH				*i* S	Sb	06 27 28.2	+0.3
ROCH	**El Roble**	**0.59**	**129**	⇓*iP*	Pb	06 27 30.0	-0.5
ROCH				*i* S	Sb	06 27 38.9	+0.1
ROCH				AML	AML	06 27 40.4	
	comp=E,2μm,0.2s						
JACH	**Jahuel**	**0.82**	**96**	⇑*iP*	Pn	06 27 33.5	-0.2
JACH				*i* S	Sb	06 27 45.1	+0.1
PEL	**Peldehue**	**0.91**	**126**	⇑*iP*	Pn	06 27 35.1	+0.2
PEL				*e*S	Sb	06 27 47.5	0.0
PEL				AML	AML	06 27 48.9	
	comp=E,4μm,0.3s						
SAN	**Santiago**	**1.13**	**139**	⇑*iP*	Pn	06 27 38.3	+0.3
SAN				*i* S	Sb	06 27 53.5	-0.2
SAN				AML	AML	06 27 54.2	
	comp=N,1μm,0.2s						
CLCH	**Cerro Calan**	**1.17**	**133**	⇓*iP*	Pn	06 27 38.8	+0.3
CLCH				*i* S	Sb	06 27 54.4	-0.4
CLCH				AML	AML	06 27 57.4	
	comp=E,1μm,0.7s						
TACH	**Talagante**	**1.17**	**154**	⇓*iP*	Pn	06 27 38.7	+0.3
TACH				*i* S	Sb	06 27 54.1	-0.7
FSR	**Penalolen**	**1.23**	**135**	⇓*iP*	Pb	06 27 40.8	-0.2
FSR				*i* S	Sb	06 27 57.2	+0.7
ANTU	**Antumapu**	**1.24**	**141**	⇓*iP*	Pn	06 27 39.8	+0.5
ANTU				*i* S	Sb	06 27 56.5	-0.3
ANTU				AML	AML	06 28 00.9	
	comp=E,1μm,0.7s						
PCH	**Pirque**	**1.34**	**139**	*eP*	Pn	06 27 41.2	+0.4
PCH				*i* S	Sb	06 27 59.5	-0.3
CMCH	**Combarbala**	**1.50**	**19**	⇓*iP*	Pn	06 27 43.7	+0.6
CMCH				*i* S	Sb	06 28 03.9	-0.5
CMCH				AML	AML	06 28 05.8	
	comp=E,3μm,0.7s						
CHCH	**Chadas Angostu**	**1.53**	**150**	⇓*iP*	Pn	06 27 44.7	+1.3
CACH	**El Canelo**	**1.71**	**152**	⇑*iP*	Pb	06 27 47.9	-1.3
CACH				*i* S	Sb	06 28 10.8	+0.4
TLL	**Tololo Astrono**	**2.51**	**15**	*eP*	Pn	06 27 59.0	+1.7
TLL				AML	AML	06 28 39.6	
	comp=N,308nm,0.7s						

IDC 01 06:34:30.1±1.8, 1°.47S×99°.38E, h0km, mb3.8/5, mb1 3.8/6, mb1mx3.7/23, mbtmp3.7/6, ML2.8/1, MS3.2/2, Ms1 3.2/2, ms1mx2.6/37, Error ellipse: s-maj=80.7km s-min=19.8km az=59.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.26**	**354**	Pn	Pn	06 35 36.1	-0.4
	0.6nm,0.3s,baz=176,slow=16,SNR=2.6						
PSI				LR	LR	06 37 33.8	
	comp=Z,136nm,20.4s,baz=170,slow=44						
WRA	**Warramunga Arr**	**38.79**	**121**	P	P	06 41 56.5	-0.4
	0.8nm,0.6s,baz=299,slow=9.0,SNR=13						
ASAR	**Alice Springs**	**40.06**	**126**	P	P	06 42 07.8	+0.3
	0.7nm,0.7s,baz=299,slow=8.3,SNR=8.9						
SONM	**Songino Array**	**49.48**	**6**	P	P	06 43 22.1	-0.2
	0.3nm,0.4s,baz=187,slow=11,SNR=3.5						
MKAR	**Makanchi Array**	**50.35**	**345**	P	P	06 43 29.0	+0.1
	1.0nm,0.6s,baz=157,slow=7.6,SNR=8.8						
ZALV	**Zalesovo Beam**	**56.53**	**350**	P	P	06 44 13.7	-0.5
	1.4nm,0.6s,baz=164,slow=5.9,SNR=7.5						
FINES	**FINESS Array B**	**83.36**	**332**	LR	LR	07 30 37.4	
	comp=Z,31nm,20.3s,baz=186,slow=40						
TXAR	**Lajitas Array**	**144.65**	**36**	PKP	PKPab	06 54 08.3	+0.1
	0.4nm,0.6s,baz=277,slow=1.2,SNR=9.0						
CFAA	**Coronel Fontan**	**145.07**	**199**	PKP	PKPdf	06 54 10.1	-0.2
	0.3nm,0.7s,baz=168,slow=3.2,SNR=9.2						

*CSEM **01** 06:38:21.2, 37°.30N×24°.69W, h10km, ML3.2, After PDA*

PDA 01 06:38:21.2±1.1, 37°.30N×24°.69W, h10km, MD3.7, ML3.2, Error ellipse: s-maj=6.7km s-min=3.1km az=82.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.42**	**225**	*eP*	Pg	06 38 28.0	-1.5
PSMN				*e*S	Sg	06 38 33.9	-1.3
PSMN				A	A	06 38 37.0	
	337nm,0.3s						
PSMN	**Pico do Norte,**	**0.42**	**225**	*eP*	Pg	06 38 28.0	-1.5
PSMN				*e*S	Sg	06 38 33.9	-1.3
BART	**Pico Bartolome**	**0.61**	**321**	*eP*	Pg	06 38 30.6	-2.5
BART				*e*S	Sg	06 38 38.3	-2.9
BART				A	A	06 38 40.5	
	651nm,0.2s						
BART	**Pico Bartolome**	**0.61**	**321**	*eP*	Pg	06 38 30.6	-2.5
BART				*e*S	Sg	06 38 38.3	-2.9
CMLA	**Cha da Macela**	**0.81**	**305**	*eP*	Pg	06 38 33.7	-3.1
CMLA				*e*S	Sg	06 38 43.2	-4.1
CMLA				A	A	06 38 45.0	
	896nm,0.3s						
CMLA	**Cha da Macela**	**0.81**	**305**	*eP*	Pg	06 38 33.7	-3.1
CMLA				*e*S	Sg	06 38 43.2	-4.1
GRON	**Grota Negra**	**0.81**	**305**	*eP*	Pg	06 38 32.8	-4.2
GRON				*e*S	Sg	06 38 41.3	-6.4
GRON				A	A	06 38 42.5	
	186nm,0.2s						
PDA	**Ponta Delgada**	**0.89**	**300**	*eP*	Pg	06 38 34.9	-3.4
PDA				*e*S	Sg	06 38 45.4	-4.5
PDA				A	A	06 38 46.9	
	247nm,0.2s						
PDA	**Ponta Delgada**	**0.89**	**300**	*eP*	Pg	06 38 34.9	-3.4
PDA				*e*S	Sg	06 38 45.4	-4.5
PSET	**Sete Cidades**	**0.97**	**303**	*eP*	Pg	06 38 36.2	-3.7
PSET				*e*S	Sg	06 38 47.4	-5.2
PSET				A	A	06 38 51.2	
	339nm,0.2s						
PSET	**Sete Cidades**	**0.97**	**303**	*eP*	Pg	06 38 36.2	-3.7
PSET				*e*S	Sg	06 38 47.4	-5.2
ADH	**Angra Heroismo**	**2.42**	**305**	*eP*	Pn	06 38 57.0	-3.8
ADH				*e*S	Sn	06 39 22.7	-7.8
ADH				A	A	06 39 26.8	
	61nm,0.3s						
ADH	**Angra Heroismo**	**2.42**	**305**	*eP*	Pn	06 38 57.0	-3.8
ADH				*e*S	Sn	06 39 22.7	-7.8
PMAN	**Manadas**	**2.99**	**297**	*eP*	Pn	06 39 04.7	-4.0
PMAN				*e*S	Sn	06 39 36.3	-8.4
PMAN				A	A	06 39 40.5	
	26nm,0.2s						
PMAN	**Manadas**	**2.99**	**297**	*eP*	Pn	06 39 04.7	-4.0
PMAN				*e*S	Sn	06 39 36.3	-8.4
PGRA	**Graciosa**	**3.11**	**305**	*eP*	Pn	06 39 06.8	-3.6
PGRA				*e*S	Sn	06 39 38.7	-8.9
PGRA				A	A	06 39 43.8	
	23nm,0.4s						
PGRA	**Graciosa**	**3.11**	**305**	*eP*	Pn	06 39 06.8	-3.6
PGRA				*e*S	Sn	06 39 38.7	-8.9
ROSA	**Rosais**	**3.14**	**298**	*eP*	Pn	06 39 06.7	-4.0
ROSA				*e*S	Sn	06 39 40.3	-8.0
ROSA				A	A	06 39 44.0	
	15nm,0.1s						
ROSA	**Rosais**	**3.14**	**298**	*eP*	Pn	06 39 06.7	-4.0
ROSA				*e*S	Sn	06 39 40.3	-8.0
PICO	**Pico**	**3.19**	**293**	*eP*	Pn	06 39 07.1	-4.4
PICO				*e*S	Sn	06 39 41.5	-8.1
PICO	**Pico**	**3.19**	**293**	*eP*	Pn	06 39 07.1	-4.4
PICO				*e*S	Sn	06 39 41.5	-8.1
PCAN	**Candelaria**	**3.22**	**292**	*eP*	Pn	06 39 07.4	-4.4
PCAN				*e*S	Sn	06 39 42.1	-8.1
PCAN				A	A	06 39 48.0	
	23nm,0.2s						
PCAN	**Candelaria**	**3.22**	**292**	*eP*	Pn	06 39 07.4	-4.4
PCAN				*e*S	Sn	06 39 42.1	-8.1
CALA	**Caldeira**	**3.42**	**293**	*eP*	Pn	06 39 10.3	-4.4
CALA				*e*S	Sn	06 39 46.9	-8.4
CALA	**Caldeira**	**3.42**	**293**	*eP*	Pn	06 39 10.3	-4.4
CALA				*e*S	Sn	06 39 46.9	-8.4

*NIED **01** 06:49:00, 37°.20N×141°.40E, h44km, Mw4.0 Best double couple: M0 1.05000×10^15 NP1:φ0=28.00000°, δ74.00000°, λ99.00000°. NP2:φ0=179.00000°, δ19.00000°, λ62.00000°.*
*ISCJB **01** 06:49:43.0±0.8, 37°.14N±0°.04×141°.41E±0°.08, h47km±6km, mb3.9/14, Error ellipse: s-maj=11.4km s-min=5.7km az=23.1*
*JMA **01** 06:49:44.0±0.1, 37°.16N×141°.34E, h48km±1km, M3.9*
JMA Felt II J1.
*IDC **01** 06:49:45.1±0.5, 37°.15N×141°.49E, h52km±4km, mb3.6/14, mb1 3.8/17, mb1mx3.8/29, mbtmp3.7/17, MS2.9/4, Ms1 2.9/4, ms1mx2.6/35, Error ellipse: s-maj=13.2km s-min=8.6km az=156.0*

ISC 01 06:49:44.6±0.6, 37°.15N±0°.05×141°.36E±0°.06, h46km±5km, n31, σ0§95/46, mb3.9/14, 8D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.44**	**299**	⇓P	**Pn**	**06 49 54.0**	**-0.9**
JFK				S	**Sn**	**06 50 01.1**	**-1.2**
ONAJ	**Iwakimizuishiy**	**0.45**	**264**	⇓P	**Pn**	**06 49 54.4**	**-0.6**
ONAJ				S	**Sn**	**06 50 01.6**	**-0.8**
JHO	**Hitachi**	**0.83**	**230**	⇓P	**Pn**	**06 49 58.8**	**-1.1**
JHO				S	**Sn**	**06 50 09.5**	**-1.6**
JMM	**Marumori**	**0.84**	**328**	⇓P	**Pn**	**06 49 59.2**	**-0.9**
JMM				S	**Sn**	**06 50 10.2**	**-1.2**
JFT	**Otama**	**0.89**	**295**	⇓P	**Pn**	**06 50 00.8**	**+0.1**
JFT				S	**Sn**	**06 50 12.9**	**+0.3**
JIO	**Ouri**	**1.30**	**360**	⇓P	**Pn**	**06 50 05.3**	**-1.0**
JIO				S	**Sn**	**06 50 20.3**	**-2.2**
JOU	**Okura**	**1.33**	**336**	P	**Pn**	**06 50 06.3**	**-0.4**
JOU				*e*S	**Sn**	**06 50 22.6**	**-0.7**
JFY	**Yanaizu**	**1.34**	**281**	⇓P	**Pn**	**06 50 06.9**	**0.0**
JYS	**Shiratake**	**1.48**	**317**	⇓P	**Pn**	**06 50 08.8**	**0.0**
JYS				*e*S	**Sn**	**06 50 27.4**	**+0.5**
MJAR	**Matsushiro Arr**	**2.60**	**257**	P	**Pn**	**06 50 24.8**	**+0.7**
	15nm,0.3s,baz=79,slow=16,SNR=45						
MJAR				S	Sn	06 50 59.4	+5.0
	12nm,0.3s,baz=82,slow=28,SNR=4.6						
MJAR				LR	LR	06 51 43.3	
	comp=Z,321nm,19.9s,baz=95,slow=44						
MAT	**Matsushiro**	**2.60**	**257**	P	**Pn**	**06 50 25.0**	**+0.9**
MAT				S	**Sn**	**06 50 53.9**	**-0.5**
ASAJ	**Asahikawa**	**7.02**	**7**	P	**Pn**	**06 51 23.6**	**-1.1**
	1.9nm,0.3s,baz=240,slow=11,SNR=4.2						
ASAJ				S	**Sn**	**06 52 45.5**	**+2.3**
	1.2nm,0.3s,baz=95,slow=20,SNR=3.6						
USRK	**Ussuriysk Arra**	**10.00**	**318**	P	Pn	06 52 10.3	+4.8
	0.3nm,0.3s,baz=136,slow=13,SNR=17						
USRK				LR	LR	06 55 44.1	
	comp=Z,61nm,20.2s,baz=30,slow=36						
KSRS	**Korea Array**	**10.71**	**276**	P	Pn	06 52 18.9	+3.6
	0.2nm,0.3s,baz=92,slow=14,SNR=5.2						
KSRS				LR	LR	06 55 57.4	
	comp=Z,61nm,20.6s,baz=169,slow=34						
PETK	**Petropavlovsk-**	**19.61**	**30**	LR	LR	07 00 45.3	
	comp=Z,22nm,20.4s,baz=98,slow=34						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**27.68**	**304**	P	**P**	**06 55 28.2**	**0.0**
	1.8nm,0.6s,baz=104,slow=9.0,SNR=15						
SONM				pP	**pP**	**06 55 42.3**	**+1.9**
	0.8nm,0.6s,baz=105,slow=10.0,SNR=3.5						
CMAR	**Chiang Mai Arr**	**41.48**	**255**	P	**P**	**06 57 27.3**	**+0.1**
	1.1nm,0.3s,baz=46,slow=6.4,SNR=3.1						
ZALV	**Zalesovo Beam**	**41.80**	**312**	P	**P**	**06 57 29.3**	**-0.1**
	1.7nm,0.5s,baz=89,slow=6.2,SNR=4.6						
MKAR	**Makanchi Array**	**44.02**	**302**	P	**P**	**06 57 47.4**	**-0.2**
	0.9nm,0.5s,baz=85,slow=10,SNR=11						
KURBB	**Kurchatov Arra**	**45.89**	**308**	P	**P**	**06 58 01.6**	**-0.7**
	2.9nm,0.6s,baz=85,slow=8.1,SNR=13						
KURBB				pP	**pP**	**06 58 13.6**	**-1.3**
	2.4nm,0.7s,baz=80,slow=8.7,SNR=3.4						
ILAR	**Eielson Array**	**49.42**	**32**	P	**P**	**06 58 29.6**	**+0.2**
	1.0nm,0.7s,baz=268,slow=5.9,SNR=19						
ILAR				pP	**pP**	**06 58 42.6**	**+0.5**
	0.9nm,0.8s,baz=267,slow=6.2,SNR=7.2						
BVAR	**Borovoye Array**	**50.46**	**312**	P	**P**	**06 58 37.1**	**-0.4**
	1.0nm,0.5s,baz=69,slow=8.1,SNR=5.8						
WRA	**Warramunga Arr**	**57.17**	**188**	P	**P**	**06 59 25.8**	**-1.1**
	0.5nm,0.5s,baz=6.7,slow=7.4,SNR=8.4						
WRA				pP	**pP**	**06 59 40.1**	**+0.3**
	1.2nm,0.6s,baz=5.0,slow=7.4,SNR=6.8						
ASAR	**Alice Springs**	**60.90**	**188**	P	**P**	**06 59 52.8**	**+0.2**
	0.5nm,0.9s,baz=16,slow=7.1,SNR=3.4						
ASAR				pP	**pP**	**07 00 06.4**	**+0.7**
	0.8nm,0.7s,baz=8.7,slow=8.3,SNR=5.5						
NOA	**NORSAR Array B**	**74.06**	**337**	P	**P**	**07 01 15.0**	**-0.3**
	1.3nm,0.8s,baz=36,slow=5.7,SNR=2.8						
AKASG	**Malin Array Be**	**74.17**	**322**	P	**P**	**07 01 15.6**	**-0.5**
	1.5nm,0.4s,baz=46,slow=5.9,SNR=5.5						
NVAR	**Mina Array Bea**	**74.95**	**53**	P	**P**	**07 01 22.4**	**+1.2**
	0.3nm,0.8s,baz=272,slow=6.0,SNR=2.9						
NVAR				pP	**PcP**	**07 01 35.7**	**+0.8**
	0.9nm,0.9s,baz=270,slow=4.4,SNR=4.8						
PDAR	**Pinedale Array**	**77.62**	**45**	P	**P**	**07 01 36.4**	**+0.2**
	0.3nm,0.6s,baz=258,slow=1.8,SNR=4.0						
PDAR				pP	**pP**	**07 01 50.5**	**+0.8**
	0.5nm,0.6s,baz=251,slow=3.8,SNR=3.7						
TXAR	**Lajitas Array**	**90.09**	**52**	P	**P**	**07 02 40.5**	**+0.6**
	0.2nm,0.6s,baz=315,slow=2.0,SNR=3.8						
TXAR				pP	**pP**	**07 02 54.2**	**+0.6**
	0.2nm,0.5s,baz=286,slow=3.1,SNR=4.5						
TORD	**Torodi Ar. Bea**	**117.21**	**315**	PKP	**PKPdf**	**07 08 24.0**	**-1.2**
	0.1nm,0.5s,baz=40,slow=2.8,SNR=2.9						
LPAZ	**La Paz**	**146.67**	**59**	PKPbc	**PKPbc**	**07 09 22.1**	**-0.3**
	0.9nm,0.6s,baz=326,slow=3.6,SNR=11						
LPAZ				pPKPbc	pPKPbc	07 09 36.2	-0.3
	1.0nm,0.5s,baz=344,slow=4.1,SNR=4.1						

WEL 01 06:54:07.5±0.2, 45°.07S×167°.47E, h118km±1km, ML3.5/11, 3C-5D, Error ellipse: s-maj=1.5km s-min=1.3km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.47**	**208**	PN	Pn	06 54 24.7	-0.3
DCZ				*e*SN	Sn	06 54 37.7	-0.6
DCZ				AML	AML	06 54 38.2	
DCZ				AML	AML	06 54 38.6	
DCZ				AML	AML	06 54 38.7	
MSZ	**Milford Sound**	**0.51**	**40**	⇑PN	Pn	06 54 25.6	+0.3
MSZ				SN	Sn	06 54 38.7	-0.1
MSZ				AML	AML	06 54 40.0	
MSZ				AML	AML	06 54 41.4	
MSZ				AML	AML	06 54 41.4	
MLZ	**Mavora Lakes**	**0.57**	**120**	⇓PN	Pn	06 54 25.6	-0.2
MLZ				SN	Sn	06 54 39.3	-0.4
MLZ				AML	AML	06 54 40.4	
WHZ	**Wether Hill Ro**	**0.90**	**158**	⇓PN	Pn	06 54 28.3	-0.1
WHZ				SN	Sn	06 54 43.8	-0.5
WHZ				AML	AML	06 54 44.1	
WKZ	**Wanaka**	**1.13**	**78**	⇑PN	Pn	06 54 30.7	0.0
WKZ				SN	Sn	06 54 47.2	-1.1
WKZ				AML	AML	06 54 48.7	
WKZ				AML	AML	06 54 49.5	
WKZ				AML	AML	06 54 49.5	
EAZ	**Earnscleugh**	**1.31**	**98**	PN	Pn	06 54 32.4	-0.3
EAZ				AML	AML	06 54 50.7	
EAZ				AML	AML	06 54 50.7	
EAZ				AML	AML	06 54 51.0	
EAZ				AML	AML	06 54 51.0	
JCZ	**Jackson Bay**	**1.35**	**43**	⇑PN	Pn	06 54 32.9	-0.4
JCZ				AML	AML	06 54 52.2	
JCZ				AML	AML	06 54 52.3	
TUZ	**Tuapeka**	**1.77**	**121**	⇓PN	Pn	06 54 37.7	-0.3
TUZ				AML

CMAR				Sn	**Sn**	**07 24 34.9**	**-2.1**
	0.9nm,0.3s,baz=239,slow=26,SNR=5.0						
VIS	**Vishakhapatnam**	**10.10**	**292**	⇓*i*P	**Pn**	**07 23 56.3**	**-2.1**
VIS				*i* S	Sn	07 25 41.4	-9.3
VIS				*ex*	x	07 25 42.7	
	comp=E,15nm,0.4s						
VIS				*ex*	x	07 25 44.3	
	comp=N,28nm,0.3s						
MKAR	**Makanchi Array**	**33.88**	**347**	P	**P**	**07 28 15.9**	**+0.6**
	comp=N,0.7nm,0.8s,baz=164,slow=9.4,SNR=5.5						
SONM	**Songino Array**	**35.44**	**15**	P	**P**	**07 28 29.3**	**+0.4**
	comp=N,0.7nm,0.8s,baz=200,slow=9.0,SNR=4.9						
KURBB	**Kurchatov Arra**	**38.35**	**345**	P	**P**	**07 28 54.4**	**+1.0**
	comp=N,1.1nm,0.7s,baz=161,slow=7.9,SNR=6.9						
ZALV	**Zalesovo Beam**	**40.34**	**352**	P	**P**	**07 29 10.2**	**+0.3**
	comp=N,0.5nm,0.3s,baz=176,slow=4.0,SNR=4.3						
BVAR	**Borovoye Array**	**42.86**	**340**	P	**P**	**07 29 31.2**	**+0.5**
	comp=N,0.4nm,0.5s,baz=140,slow=9.2,SNR=2.6						
AKTO	**Aktyubinsk**	**46.11**	**329**	PcP	**PcP**	**07 31 31.7**	**-0.8**
	comp=N,1.2nm,0.5s,baz=127,slow=3.4,SNR=4.9						
WRA	**Warramunga Arr**	**52.78**	**129**	P	**P**	**07 30 47.5**	**-0.5**
	comp=N,0.8nm,0.8s,baz=313,slow=7.3,SNR=4.6						
WRA				PcP	**PcP**	**07 31 57.1**	**-0.2**
	comp=N,0.7nm,0.7s,baz=311,slow=3.6,SNR=6.7						
ASAR	**Alice Springs**	**54.73**	**133**	P	**P**	**07 31 01.9**	**-0.4**
	comp=N,0.7nm,0.8s,baz=313,slow=6.8,SNR=5.8						
ASAR				PcP	**PcP**	**07 32 04.9**	**+0.2**
	comp=N,0.4nm,0.6s,baz=305,slow=3.3,SNR=4.4						
BRTR	**Keskin Array B**	**57.74**	**308**	P	**P**	**07 31 24.3**	**+0.5**
	comp=N,0.3nm,0.4s,baz=121,slow=6.9,SNR=2.5						
GERES	**GERESS Array B**	**72.61**	**317**	P	**P**	**07 33 01.2**	**+1.2**
	comp=N,0.4nm,0.2s,baz=64,slow=3.1,SNR=3.9						
TORD	**Torodi Ar. Bea**	**88.22**	**283**	P	**P**	**07 34 24.5**	**+0.2**
	comp=N,0.8nm,0.9s,baz=64,slow=4.2,SNR=4.7						

IDC 01 07:42:08.6±4.2, 19°.92S×168°.09E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.7/19, mbtmp3.7/5, ML2.6/1, MS3.4/2, Ms1 3.4/2, ms1mx2.8/26, Error ellipse: s-maj=94.5km s-min=30.9km az=114.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**2.64**	**216**	Pn	Pn	07 42 51.5	-1.1
	1.2nm,0.3s,baz=66,slow=19,SNR=60						
DZM				Sn	Sn	07 43 24.8	-0.6
	24nm,0.3s,baz=0.0,slow=20,SNR=12						
DZM				LR	LR	07 43 51.5	
	comp=Z,220nm,19.4s,baz=210,slow=39						
WRA	**Warramunga Arr**	**31.70**	**264**	P	P	07 48 34.1	-0.3
	0.5nm,0.9s,baz=89,slow=8.5,SNR=4.5						
ASAR	**Alice Springs**	**31.92**	**257**	P	P	07 48 36.5	+0.3
	0.9nm,0.8s,baz=85,slow=8.7,SNR=8.1						
FITZ	**Fitzroy Crossi**	**40.10**	**265**	P	P	07 49 46.9	+0.6
	2.4nm,0.8s,baz=129,slow=7.1,SNR=5.4						
PMSA	**Palmer Station**	**86.64**	**160**	LR	LR	08 25 53.6	
	comp=Z,81nm,21.5s,baz=239,slow=30						
SONM	**Songino Array**	**87.12**	**324**	P	P	07 54 56.4	-0.2
	0.4nm,0.6s,baz=134,slow=4.2,SNR=2.7						

IDC 01 07:47:51.0±1.4, 30°.69S×179°.03W, h329km±15km, mb2.6/2, mb1 3.0/4, mb1mx2.9/19, mbtmp2.8/4, Error ellipse: s-maj=37.2km s-min=20.0km az=120.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.73**	**34**	P	Pn	07 48 39.0	+0.4
	44nm,0.3s,baz=78,slow=18,SNR=3.2						
URZ	**Urewera**	**8.19**	**202**	P	Pn	07 49 46.4	-0.6
	0.2nm,0.3s,baz=316,slow=17,SNR=6.8						
URZ				S	S	07 51 21.4	-0.1
	2.3nm,0.3s,baz=161,slow=20,SNR=14						
DZM	**Mont Dzumac**	**15.58**	**300**	P	P	07 51 11.1	-2.1
	0.2nm,0.3s,baz=90,slow=20,SNR=13						
ASAR	**Alice Springs**	**42.20**	**268**	P	P	07 55 13.4	+0.6
	0.2nm,0.6s,baz=108,slow=7.0,SNR=3.3						
WRA	**Warramunga Arr**	**43.22**	**273**	P	P	07 55 20.9	0.0
	0.3nm,0.5s,baz=109,slow=8.1,SNR=7.7						
FINES	**FINESS Array B**	**145.11**	**339**	PKPbc	PKPdf	08 06 47.8	-0.8
	2.8nm,0.4s,baz=54,slow=4.3,SNR=30						

IDC 01 08:00:36.2±1.7, 10°.21S×124°.32E, h0km, mb3.5/1, mb1 3.5/4, mb1mx3.3/20, mbtmp3.3/4, ML3.2/1, Error ellipse: s-maj=110.8km s-min=26.7km az=63.0, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**7.95**	**171**	Pn	Pn	08 02 34.0	+0.8
	0.2nm,0.3s,baz=0.0,slow=12,SNR=12						
FITZ				Sn	Sn	08 04 00.2	-3.7
	0.8nm,0.3s,baz=161,slow=8.1,SNR=12						
WRA	**Warramunga Arr**	**13.68**	**136**	Pn	Pn	08 03 50.5	-1.1
	0.1nm,0.3s,baz=308,slow=15,SNR=6.4						
WRA				Sn	Sn	08 06 18.4	-6.1
	0.1nm,0.3s,baz=322,slow=24,SNR=5.5						
ASAR	**Alice Springs**	**16.21**	**147**	Pn	Pn	08 04 25.4	-0.1
	0.1nm,0.3s,baz=321,slow=12,SNR=10						
ASAR				Sn	Sn	08 07 21.3	-4.9
	0.1nm,0.3s,baz=319,slow=20,SNR=3.2						
MKAR	**Makanchi Array**	**68.01**	**330**	P	P	08 11 37.4	0.0
	0.3nm,0.7s,baz=152,slow=6.5,SNR=3.5						

IDC 01 08:18:07.9±1.0, 7°.03S×123°.38E, h634km±16km, mb2.9/4, mb1 2.9/8, mb1mx2.7/24, mbtmp2.8/8, Error ellipse: s-maj=43.0km s-min=11.1km az=61.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**4.13**	**299**	P	P	08 19 37.0	+0.2
	2.7nm,0.3s,baz=197,slow=4.4,SNR=12						
KAPI				S	S	08 20 49.1	-0.2
	0.3nm,0.3s,baz=151,slow=22,SNR=2.5						
FITZ	**Fitzroy Crossi**	**11.22**	**169**	P	P	08 20 39.0	-0.3
	0.7nm,0.3s,baz=360,slow=7.8,SNR=46						
WRA	**Warramunga Arr**	**16.66**	**141**	P	P	08 21 30.8	+0.8
	0.2nm,0.3s,baz=334,slow=19,SNR=25						
WRA				S	S	08 24 12.9	-1.2
	0.1nm,0.3s,baz=286,slow=13,SNR=5.1						
ASAR	**Alice Springs**	**19.38**	**150**	P	P	08 21 55.4	+0.7
	0.1nm,0.3s,baz=326,slow=8.9,SNR=7.5						
ASAR				S	S	08 24 58.4	+0.7
	0.2nm,0.3s,baz=335,slow=21,SNR=5.0						
SONM	**Songino Array**	**56.66**	**346**	P	P	08 26 53.5	+0.5
	0.8nm,0.6s,baz=155,slow=7.8,SNR=4.3						
MKAR	**Makanchi Array**	**64.81**	**330**	P	P	08 27 46.7	+0.5
	0.7nm,0.5s,baz=133,slow=8.2,SNR=9.1						
PETK	**Petropavlovsk-**	**66.60**	**22**	P	P	08 27 57.0	0.0
	1.6nm,0.4s,baz=158,slow=12,SNR=7.4						
ZALV	**Zalesovo Beam**	**68.86**	**337**	P	P	08 28 09.9	-0.8
	0.5nm,0.3s,baz=134,slow=4.3,SNR=4.1						
TORD	**Torodi Ar. Bea**	**122.37**	**281**	PKP	PKPdf	08 35 53.3	-0.2
	0.4nm,0.9s,baz=282,slow=1.3,SNR=3.4						
LPAZ	**La Paz**	**154.18**	**154**	PKPbc	PKPbc	08 36 55.1	-4.2
	3.6nm,0.4s,baz=260,slow=6.2,SNR=39						

NNC 01 08:54:58.8±7.7, 36°.97N×70°.67E, h239km±98km, mb2.4, mpv3.8, 2C-3D, Error ellipse: s-maj=76.4km s-min=49.2km az=28.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.13**	**359**	⇓P	Pn	08 56 27.9	-0.3
	4.0nm,0.4s,baz=184,slow=14,SNR=55						
KK31				⇑S	S	08 57 40.3	+0.7
	19nm,0.8s,baz=197,slow=25,SNR=21						
TKM2	**Tokmak 2**	**7.05**	**31**	⇑P	Pn	08 56 39.0	-1.1
	2.8nm,0.6s						
TKM2				⇓S	S	08 58 02.0	+0.8
	2.3nm,0.7s						
AB31	**Akbulak array**	**14.54**	**331**	P	P	08 58 16.9	+2.9
	0.1nm,0.2s,baz=154,slow=13,SNR=11						
AB31				⇓S	S	09 00 52.2	-2.2
	0.3nm,0.5s,baz=168,slow=22,SNR=2.7						

IDC 01 08:55:41.9±7.0, 6°.56S×155°.14E, h66km±56km, mb3.3/4, mb1 3.7/5, mb1mx3.3/19, mbtmp3.4/5, ML3.4/1, MS2.9/1, Ms1 2.9/1, ms1mx2.5/9, Error ellipse: s-maj=70.3km s-min=33.6km az=123.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**8.39**	**250**	P	Pn	08 57 41.2	+0.3
	2.2nm,0.3s,baz=56,slow=7.3,SNR=5.1						
WRA	**Warramunga Arr**	**24.18**	**235**	P	P	09 00 52.3	0.0
	0.9nm,0.7s,baz=57,slow=9.8,SNR=14						
ASAR	**Alice Springs**	**26.57**	**228**	P	P	09 01 13.8	-0.2
	0.1nm,0.4s,baz=58,slow=8.5,SNR=4.1						
JNU	**Nakatsue**	**45.70**	**331**	LR	LR	09 20 26.3	
	comp=Z,15nm,21.9s,baz=83,slow=32						
CMAR	**Chiang Mai Arr**	**60.72**	**295**	P	P	09 05 47.6	+0.5
	0.9nm,0.3s,baz=128,slow=4.8,SNR=4.1						
ILAR	**Eielson Array**	**82.92**	**21**	P	P	09 07 59.5	+0.2
	0.1nm,0.4s,baz=231,slow=5.7,SNR=2.5						
TORD	**Torodi Ar. Bea**	**153.04**	**286**	PKPbc	PKPbc	09 15 32.2	-0.8
	0.2nm,0.4s,baz=70,slow=1.9,SNR=5.2						

KRSC 01 08:57:40.7±0.2, 49°.85N×153°.40E, h122km±121km, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.93**	**63**	*e*P	Pn	08 58 15.6	+2.3
SKR				*i* S	Sn	08 58 41.7	+3.4
PAU	**Pauzhetka**	**2.71**	**52**	*e*P	Pn	08 58 27.3	+4.1
PAU				*i* S	Sn	08 59 00.0	+4.1
MIPR	**Malaya Ipel'ka**	**3.22**	**40**	*e*P	Pn	08 58 33.8	+3.9
MTVR	**Mutnovka**	**4.00**	**47**	*e*P	Pn	08 58 43.6	+3.2
MTVR				*i* S	Sn	08 59 29.6	+2.9
RUS	**Russkaya**	**4.13**	**49**	*e*P	Pn	08 58 45.3	+3.4
RUS				*i* S	Sn	08 59 31.9	+2.5
GNL	**Ganaly**	**4.77**	**34**	*e*P	Pn	08 58 53.4	+2.7
UGLR	**Uglovaya**	**4.77**	**43**	P	Pn	08 58 54.1	+3.4
SDLR	**Sedlovina**	**4.85**	**43**	P	Pn	08 58 54.5	+2.8
SPN	**Mys Shipunski**	**5.26**	**49**	*e*P	Pn	08 58 59.2	+2.1
SPN				*i* S	Sn	08 59 58.7	+2.1
MKZ	**Mys Kozlova**	**6.96**	**44**	*e*P	Pn	08 59 23.1	+3.2
MKZ				*i* S	Sn	09 00 38.6	+1.2

GUC 01 08:59:34.9±0.7, 30°.71S×71°.42W, h46km±2km, MD4.1, ML3.7, 6C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMCH	**Combarbala**	**0.58**	**142**	⇑*i*P	Pn	08 59 47.4	+0.2
CMCH				*i* S	Sn	08 59 56.9	+1.0
CMCH				AML	AML	08 59 57.3	
	comp=N,24μm,0.1s						
TLL	**Tololo Astrono**	**0.76**	**44**	⇑*i*P	Pn	08 59 50.5	+0.8
TLL				*i* S	Sn	09 00 02.0	+1.6
LCO	**Las Campanas**	**1.81**	**20**	⇓*i*P	Pn	09 00 04.6	+0.6
LCO				*i* S	Sn	09 00 27.2	+1.2
LCO				AML	AML	09 00 28.1	
	comp=E,808nm,0.3s						
JACH	**Jahuel**	**2.08**	**160**	*e*P	Pn	09 00 08.0	+0.5
JACH				*e*S	Sn	09 00 34.1	+1.6
VACH	**Vallenar**	**2.21**	**15**	⇑*i*P	Pn	09 00 09.9	+0.7
VACH				*i* S	Sn	09 00 36.1	+0.9
VACH				AML	AML	09 00 39.5	
	comp=E,2μm,0.1s						
ROCH	**El Roble**	**2.28**	**171**	⇑*i*P	Pn	09 00 10.6	+0.2
ROCH				*i* S	Sn	09 00 38.0	+0.5
ROCH				AML	AML	09 00 45.4	
	comp=N,266nm,0.3s						
PEL	**Peldehue**	**2.50**	**166**	⇑*i*P	Pn	09 00 13.9	+0.7
PEL				*i* S	Sn	09 00 43.2	+0.6
PEL				AML	AML	09 00 58.9	
	comp=N,367nm,0.3s						
CLCH	**Cerro Calan**	**2.78**	**165**	⇑*i*P	Pn	09 00 17.7	+0.7
CLCH				*i* S	Sn	09 00 50.5	+1.1
CLCH				AML	AML	09 01 07.3	
	comp=N,235nm,0.5s						
ANTU	**Antumapu**	**2.92**	**167**	*e*P	Pn	09 00 19.5	+0.5
ANTU				*i* S	Sn	09 00 53.3	+0.4
ANTU				AML	AML	09 00 55.7	
	comp=E,161nm,0.4s						
TACH	**Talagante**	**2.96**	**172**	*e*P	Pn	09 00 19.9	+0.5
TACH				*i* S	Sn	09 00 54.0	+0.3
CPCH	**Copiapo**	**3.47**	**16**	*e*P	Pn	09 00 25.9	-0.6
CPCH				*i* S	Sn	09 01 06.8	+0.4

GUC 01 09:26:54.0±0.9, 36°.71S×71°.22W, h150km±10km, ML3.7, 7C-3D, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCHI	**Chillan**	**0.70**	**279**	⇑*i*P	Pn	09 27 16.6	+0.2
CCHI				*i* S	Sn	09 27 33.4	-0.2
CCHI				AML	AML	09 27 34.4	
	comp=N,844nm,0.6s						
TALC	**Talca**	**1.36**	**345**	⇑*i*P	Pn	09 27 16.7	-5.4
TALC				*i* S	Sn	09 27 38.7	-4.9
TALC				AML	AML	09 27 41.4	
	comp=E,1μm,0.1s						
CCSP	**San Pedro de C**	**1.53**	**265**	*e*P	Pn	09 27 24.1	+0.3
CCSP				*i* S	Sn	09 27 46.8	+0.2
NICH	**Los Niches**	**1.71**	**360**	⇓*i*P	Pn	09 27 26.4	+0.5
NICH				*i* S	Sn	09 27 50.6	+0.4
NICH				AML	AML	09 27 56.8	
	comp=N,368nm,0.3s						
CACH	**El Canelo**	**2.64**	**11**	⇑*i*P	Pn	09 27 37.3	+0.2
CACH				*i* S	Sn	09 28 10.9	+0.7
LNV	**Longovilo**	**2.76**	**357**	⇑*i*P	Pn	09 27 38.5	+0.2
LNV				*i* S	Sn	09 28 11.2	-1.3
CHCH	**Chadas Angostu**	**2.81**	**10**	⇓*i*P	Pn	09 27 39.6	+0.5
LMEL	**Las Melosas**	**2.98**	**16**	⇑*i*P	Pn	09 27 41.8	+0.4
LMEL				*i* S	Sn	09 28 18.4	+0.6
LMEL				AML	AML	09 28 23.1	
	comp=N,163nm,0.6s						
CLCH	**Cerro Calan**	**3.36**	**10**	⇑*i*P	Pn	09 27 45.7	-0.3
CLCH				*i* S	Sn	09 28 25.6	-0.7
PEL	**Peldehue**	**3.59**	**7**	⇓*i*P	Pn	09 27 48.5	-0.5
PEL				*i* S	Sn	09 28 30.8	-0.9
PEL				AML	AML	09 28 33.1	
	comp=N,201nm,0.7s						
ROCH	**El Roble**	**3.74**	**3**	⇑*i*P	Pn	09 27 50.4	-0.8
ROCH				*i* S	Sn	09 28 33.9	-1.6

*IDC **01** 09:34:31.4±0.7, 58°.64S×25°.25W, h0km, mb4.0/8, mb1 4.1/9, mb1mx3.9/20, mbtmp3.9/9, ML4.7/1, MS3.4/1, Ms1 3.3/1, ms1mx2.8/24, Error ellipse: s-maj=23.8km s-min=19.6km az=130.0*

*ISCJB **01** 09:34:34.9±0.7, 58°.74S±0°.09×25°.3W±0°.2, h38km, mb3.9/8, MS3.4/1, Error ellipse: s-maj=15.4km s-min=12.0km az=155.4*

ISC 01 09:34:36.8±0.7, 58°.7S±0°.1×25°.2W±0°.1, h38km, n14, σ0°.86/14, mb3.9/8, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**13.93**	**156**	*e*Pn	**Pn**	**09 37 50.5**	**-0.7**
VNA2	**Neumayer--Watz**	**14.33**	**156**	*e*Pn	**Pn**	**09 37 56.0**	**-0.6**
	baz=319,slow=15						
SNAA	**Sanae**	**15.88**	**154**	*e*Pn	**Pn**	**09 38 15.7**	**-1.4**
PMSA	**Palmer Station**	**19.10**	**235**	P	**P**	**09 38 55.5**	**-0.3**
	0.3nm,0.3s,baz=0.3,slow=23,SNR=4.3						
QSPA	**South Pole Qui**	**31.54**	**180**	P	**P**	**09 40 55.9**	**+0.9**
	1.5nm,0.7s,baz=207,slow=3.6,SNR=12						
PLCA	**Paso Flores**	**33.56**	**282**	P	**P**	**09 41 12.2**	**-0.6**
	1.5nm,0.8s,baz=39,slow=23,SNR=3.2						
VNDA	**Vanda**	**43.96**	**182**	P	**P**	**09 42 40.6**	**+1.3**
	0.8nm,0.8s,baz=181,slow=6.6,SNR=7.4						
BOSA	**Boshof**	**45.70**	**71**	P	**P**	**09 42 53.2**	**-0.6**
	2.1nm,0.7s,baz=180,slow=7.1,SNR=3.4						
BOSA				LR	LR	09 59 03.3	
	comp=Z,37nm,18.0s,baz=348,slow=32						
TSUM	**Tsumeb**	**50.15**	**57**	P	**P**	**09 43 28.6**	**+0.3**
	2.9nm,1.0s,baz=187,slow=8.1,SNR=3.4						
LPAZ	**La Paz**	**52.78**	**305**	P	**P**	**09 43 48.2**	**-0.3**
	0.7nm,0.8s,baz=101,slow=10,SNR=2.3						
TORD	**Torodi Ar. Bea**	**74.89**	**27**	P	**P**	**09 46 14.2**	**+0.9**
	0.6nm,0.4s,baz=198,slow=6.4,SNR=14						
ASAR	**Alice Springs**	**96.13**	**161**	P	**P**	**09 48 00.0**	**-0.4**
	0.6nm,0.9s,baz=191,slow=5.9,SNR=4.7						
SONM	**Songino Array**	**149.75**	**90**	PKPbc	**PKPbc**	**09 54 20.8**	**-0.7**
	0.9nm,1.0s,baz=196,slow=4.3,SNR=5.9						
ILAR	**Eielson Array**	**152.63**	**307**	PKPbc	**PKPbc**	**09 54 28.0**	**+0.5**
	0.4nm,0.6s,baz=244,slow=0.2,SNR=10.0						

KRSC 01 09:36:36.0±0.1, 49°.39N×153°.71E, h78km±77km, ML3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.02**	**49**	*e*P	Pn	09 37 09.3	+1.3
SKR				*i* S	Sn	09 37 34.5	+2.0
PAU	**Pauzhetka**	**2.87**	**42**	P	Pn	09 37 22.7	+3.2
PAU				*i* S	Sn	09 37 55.4	+2.4
MIPR	**Malaya Ipel'ka**	**3.48**	**33**	*e*P	Pn	09 37 29.9	+2.2
APC	**Apacha**	**4.15**	**30**	*e*P	Pn	09 37 39.6	+2.7
APC				*i* S	Sn	09 38 26.9	+2.8
RUS	**Russkaya**	**4.30**	**43**	*e*P	Pn	09 37 41.5	+2.6
RUS				*i* S	Sn	09 38 29.0	+1.2
AVH	**Avacha**	**5.00**	**37**	*e*P	Pn	09 37 50.8	+2.3
GNL	**Ganaly**	**5.05**	**30**	*e*P	Pn	09 37 52.3	+2.9
GNL				*i* S	Sn	09 38 47.8	+1.3
SPN	**Mys Shipunski**	**5.43**	**44**	*e*P	Pn	09 37 58.2	+3.9
SPN				*i* S	Sn	09 38 57.1	+1.7
MKZ	**Mys Kozlova**	**7.16**	**41**	*e*P	Pn	09 38 20.5	+2.6
MKZ				*i* S	Sn	09 39 38.7	+1.1

*NIED **01** 09:43:00, 33°.90N×135°.40E, h53km, Mw3.7 Best double couple: M0=4.14000×10^14 NP1:φs=143.00000°, δ88.00000°, λ77.00000°. NP2:φs=46.00000°, δ13.00000°, λ172.00000°.*

*IDC **01** 09:43:44.5±1.0, 33°.94N×135°.66E, h0km, mb3.5/5, mb1 3.7/7, mb1mx3.5/28, mbtmp3.5/7, ML3.4/2, Error ellipse: s-maj=23.3km s-min=18.9km az=110.0*

*ISCJB **01** 09:43:50.6±0.5, 33°.87N±0°.04×135°.35E±0°.04, h59km±4km, mb3.5/5, Error ellipse: s-maj=6.9km s-min=5.4km az=157.2*

*JMA **01** 09:43:51.9, 33°.89N×135°.37E, h52km±1km, M3.5 Broadband fault plane solution: P waves. NP1: φs=343.00000°, δ87.00000°, λ-82.00000°. NP2:φs=92.00000°, δ8.00000°, λ-161.00000°. Principal axes: T Plg42.0000°, Azm66.0000°; N Plg8.0000°, Azm163.0000°; P Plg47.0000°, Azm261.0000°;*

JMA Felt II J1.

ISC 01 09:43:51.7±0.9, 33°.87N±0°.04×135°.35E±0°.04, h52km±6km, n19, σ0°.72/30, mb3.5/5, 2C-7D, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JWM	**Minabe**	**0.02**	**178**	⇓P	**Pn**	**09 43 59.7**	**+0.1**
JWM				S	**Sn**	**09 44 05.2**	**0.0**
JWY	**Kouya**	**0.40**	**30**	⇓P	**Pn**	**09 44 02.2**	**+0.1**
JWY				S	**Sn**	**09 44 09.3**	**-0.2**
JWZ	**Kozaga**	**0.45**	**138**	⇓P	**Pn**	**09 44 02.6**	**0.0**
JWZ				S	**Sn**	**09 44 10.5**	**+0.1**
JAJ2	**Tsuna**	**0.67**	**325**	⇑P	**Pn**	**09 44 05.3**	**+0.1**
JAJ2				S	**Sn**	**09 44 15.1**	**+0.1**
JAI	**Aioi**	**0.76**	**264**	⇑P	**Pn**	**09 44 06.2**	**-0.1**
JAI				S	**Sn**	**09 44 16.6**	**-0.3**
JHE	**Heguri**	**0.83**	**19**	⇓P	**Pn**	**09 44 07.0**	**-0.2**
JHE				S	**Sn**	**09 44 17.9**	**-0.7**
JKN2	**Miekihoku**	**0.85**	**64**	⇓P	**Pn**	**09 44 07.1**	**-0.4**
JKN2				S	**Sn**	**09 44 18.6**	**-0.4**
JKS	**Kasai**	**1.19**	**339**	P	**Pn**	**09 44 11.9**	**-0.1**
JKS				S	**Sn**	**09 44 26.6**	**-0.5**
TSUJ	**Tsu 2**	**1.22**	**46**	⇓P	**Pn**	**09 44 11.8**	**-0.6**
TSUJ				S	**Sn**	**09 44 26.8**	**-1.0**
TTO1	**TONANKAI O.B.S**	**1.22**	**101**	⇓P	**Pn**	**09 44 12.2**	**0.0**
MAT	**Matsushiro**	**3.54**	**40**	P	**Pn**	**09 44 44.2**	**-0.1**
MAT				S	**Sn**	**09 45 26.5**	**+1.6**
MJAR	**Matsushiro Arr**	**3.54**	**40**	Pg	**Pn**	**09 44 44.6**	**+0.4**
	1.6nm,0.3s,baz=229,slow=14,SNR=16						
MJAR				Sn	Sn	09 45 18.7	-6.3
	3.6nm,0.3s,baz=220,slow=17,SNR=8.1						
MJAR				Lg	Lg	09 45 40.0	
	3.9nm,0.3s,baz=227,slow=26,SNR=12						
JNU	**Nakatsue**	**3.81**	**260**	Pn	**Pn**	**09 44 48.3**	**+0.3**
	3.6nm,0.3s,baz=34,slow=5.2,SNR=40						
JNU				Sn	**Sn**	**09 45 29.3**	**-2.3**
	1.9nm,0.3s,baz=166,slow=19,SNR=9.3						
KSRS	**Korea Array**	**7.03**	**303**	Pn	**Pn**	**09 45 32.9**	**+0.9**
	0.3nm,0.3s,baz=121,slow=14,SNR=5.2						
SONM	**Songino Array**	**25.79**	**311**	P	**P**	**09 49 18.1**	**+0.3**
	0.6nm,0.7s,baz=122,slow=9.6,SNR=3.9						
MKAR	**Makanchi Array**	**41.70**	**304**	P	**P**	**09 51 35.9**	**+0.5**
	0.7nm,0.7s,baz=90,slow=10.0,SNR=5.2						
WRA	**Warramunga Arr**	**53.52**	**181**	P	**P**	**09 53 06.7**	**-0.4**
	0.7nm,0.5s,baz=357,slow=7.6,SNR=11						
ILAR	**Eielson Array**	**54.77**	**31**	P	**P**	**09 53 15.0**	**-0.8**
	0.3nm,0.5s,baz=248,slow=5.7,SNR=8.1						
ASAR	**Alice Springs**	**57.23**	**182**	P	**P**	**09 53 34.9**	**+1.0**
	0.2nm,0.6s,baz=11,slow=14,SNR=7.0						

IDC 01 09:57:56.8±1.3, 14°.21N×147°.60E, h0km, mb3.5/6, mb1 3.6/6, mb1mx3.5/26, mbtmp3.5/6, Error ellipse: s-maj=47.2km s-min=21.5km az=94.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**36.36**	**201**	P	P	10 05 02.5	-0.3
	0.9nm,0.8s,baz=24,slow=9.4,SNR=12						
ASAR	**Alice Springs**	**39.96**	**200**	P	P	10 05 33.3	+0.1
	0.2nm,0.5s,baz=21,slow=7

comp=N,2μm,6.8s
LZH LR LR
comp=E,1μm,7.6s
LZH LR LR
comp=Z,2μm,7.5s
WMQ Urumqi 8.51 318 P Pn 10 08 58.7 +2.2
WMQ pP pP 10 09 01.9
WMQ sP 10 09 04.7
WMQ S **Sn 10 10 35.5 +3.0**
WMQ PcP **PcP 10 15 29.6 +3.2**
WMQ pmax pmax
comp=Z,130nm,0.6s
WMQ pmax pmax
comp=Z,630nm,6.4s
WMQ LR LR
comp=N,1μm,8.2s
WMQ LR LR
comp=E,1μm,8.1s
WMQ LR LR
comp=Z,1μm,12.6s
LSA Lhasa 8.81 206 P Pn 10 09 05.4 +4.5
LSA pmax pmax
comp=Z,20nm,0.6s
LSA Lhasa 8.81 206 *e*P **Pn 10 09 00.0 -1.0**
LSA pmax pmax
comp=Z,16nm,0.8s
LSA Lhasa 8.81 206 *e*Pn **Pn 10 08 60.0 -1.0**
comp=Z,16nm,0.8s
XAN Xi'an 11.45 105 P Pn 10 09 32.2 -4.6
XAN LR LR
comp=N,350nm,8.3s
XAN LR LR
comp=E,130nm,8.8s
XAN LR LR
comp=Z,130nm,8.1s
GUN Gumba 12.72 222 *e*P **Pn 10 09 54.9 +0.5**
comp=Z,74nm,1.1s
JIRN Jiri 12.76 221 *e*P **Pn 10 09 54.7 -0.3**
comp=Z,62nm,0.7s
HHC Hu-ho-hao-te 12.79 71 *e*P **Pn 10 09 56.3 +1.2**
HHC pP P 10 09 59.6 -6.5
HHC PP **PnPn 10 10 06.7 +3.9**
HHC S **Sn 10 12 19.7 +2.3**
HHC SS **SnSn 10 12 29.6 +0.2**
HHC pmax pmax
comp=Z,44nm,0.7s
HHC pmax pmax
comp=Z,94nm,6.0s
HHC LR LR
comp=N,760nm,9.3s
HHC LR LR
comp=E,290nm,9.3s
HHC LR LR
comp=Z,390nm,9.3s
SONM Songino Array 12.85 35 Pn **Pn 10 09 56.7 +0.9**
SONM Lg Lg 10 13 39.3
SONM Songino Array 12.85 35 Pn **Pn 10 09 56.7 +0.9**
comp=Z,3.0nm,0.3s,baz=218,slow=15,SNR=68
SONM Lg Lg 10 13 39.3
comp=Z,0.2nm,0.3s,baz=225,slow=26,SNR=3.2
RAMN Ramite 13.14 218 *e*P **Pn 10 09 58.1 -1.9**
comp=Z,21nm,0.8s
KKN Kakani 13.14 224 *e*P **Pn 10 09 58.9 -1.2**
comp=Z,18nm,0.6s
ULN Ulaanbaatar 13.17 36 *e*Pn **Pn 10 10 01.8 +1.5**
ULN *e*Sn **Sn 10 12 28.6 +1.9**
ULN Ulaanbaatar 13.17 36 P **Pn 10 10 01.6 +1.3**
comp=Z,15nm,0.8s
PKI Pulchoki 13.24 223 *e*P **Pn 10 09 59.5 -2.0**
comp=Z,55nm,1.1s
PKIN Phulchoki 13.25 223 *e*P **Pn 10 09 58.8 -2.7**
comp=Z,20nm,0.7s
MK31 Makanchi Array 13.34 317 ⇓Pn **Pn 10 10 01.4 -1.2**
comp=Z,17nm,0.5s,baz=125,slow=12,SNR=410
MK31 ⇑Sn **Sn 10 12 27.5 -3.2**
comp=Z,34nm,0.9s,baz=124,slow=22,SNR=14
MK31 Makanchi Array 13.34 317 P **Pn 10 10 01.3 -1.2**
MK31 10 12 28.8
MK31 pmax pmax
comp=Z,24nm,0.4s
MK31 smax smax
comp=N,38nm,0.9s
MK31 Makanchi Array 13.34 317 *e*Pn **Pn 10 10 01.2 -1.3**
MK31 *e*Sn **Sn 10 12 28.1 -2.6**
MKAR Makanchi Array 13.34 317 *e*P **Pn 10 10 01.4 -1.1**
MKAR Makanchi Array 13.34 317 *e*Pn **Pn 10 10 01.4 -1.1**
MKAR Sn Sn 10 12 23.6 -7.1
MKAR Lg Lg 10 14 01.7
MKAR Makanchi Array 13.34 317 Pn **Pn 10 10 00.8 -1.7**
comp=N,12nm,0.3s,baz=126,slow=14,SNR=308
MKAR Sn Sn 10 12 23.6 -7.1
comp=N,0.3nm,0.3s,baz=114,slow=25,SNR=2.8
MKAR Lg Lg 10 14 01.7
comp=N,0.1nm,0.3s,baz=117,slow=34,SNR=2.0
DMN Daman 13.38 224 *e*P **Pn 10 10 01.1 -2.2**
comp=N,22nm,0.7s
ENH Enshi 13.74 119 *e*Pn **Pn 10 10 05.4 -2.6**
comp=N,34nm,1.0s
ZAK Zakamensk 13.80 21 *e*P **Pn 10 10 11.2 +2.4**
ZAK *e* 10 12 48.7
ZAK pmax pmax
comp=Z,27nm,1.2s
KMI Kunming 13.98 152 P **Pn 10 10 09.2 -2.3**
KMI pP P 10 10 15.4 -4.2
KMI sP 10 10 17.2
KMI PP **PnPn 10 10 23.2 +3.7**
KMI S **Sn 10 12 49.7 +2.9**
KMI sS sS 10 12 53.4
KMI SS **S 10 13 06.2 -2.3**
KMI pmax pmax
comp=Z,9.0nm,0.6s
KMI pmax pmax
comp=Z,64nm,3.5s
KMI LR LR
comp=N,490nm,9.1s
KMI LR LR
comp=E,250nm,12.5s
KMI LR LR
comp=Z,550nm,9.7s
MOY Mondy 14.45 14 *e*P **P 10 10 25.3 +0.7**
MOY pmax pmax
comp=Z,45nm,2.7s
GYA Guiyang 14.65 137⇑*i*P **Pn 10 10 18.9 -1.7**
GYA PP **PnPn 10 10 31.2 +2.7**
GYA S **Sn 10 13 04.6 +1.7**
GYA SS **S 10 13 22.8 +0.8**
GYA PcP **PcP 10 15 35.0 +1.5**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,4.5s
GYA LR LR
comp=N,1μm,12.4s
GYA LR LR
comp=E,830nm,13.0s
GYA LR LR
comp=Z,1μm,12.6s
TLY Talaya 15.07 20 *e*P **P 10 10 29.7 -1.6**
TLY *e*S **S 10 13 23.2 -7.0**
TLY pmax pmax
comp=Z,7.0nm,0.7s
TLY MLR MLR
comp=Z,400nm,9.0s
KSH Kashi 15.41 283 P **P 10 10 33.2 -2.1**
KSH sP **sP 10 10 40.7 +0.5**
KSH PP PnPn 10 10 46.5 +7.7
KSH S **Sn 10 13 27.4 +6.1**
KSH pmax pmax
comp=Z,4.0nm,0.7s
KSH pmax pmax
comp=Z,100nm,3.5s
KSH LR LR
comp=N,310nm,12.0s
KSH LR LR
comp=E,240nm,6.1s
KSH LR LR
comp=Z,380nm,13.5s
IRK Irkutsk 15.75 20 *e*P **Pn 10 10 36.2 +1.3**
IRK pmax pmax
comp=Z,126nm,1.3s
TKM2 Tokmak 2 16.07 295 ⇓Pn **Pn 10 10 38.4 -0.9**
comp=Z,22nm,0.6s
TKM2 ⇑Sn **Sn 10 13 32.2 -5.2**
comp=Z,4.3nm,0.7s
TKM2 Tokmak 2 16.07 295 *e*P **Pn 10 10 38.3 -0.9**
TKM2 pmax pmax
comp=Z,29nm,0.6s
TKM2 Tokmak 2 16.07 295 *e*Pn **Pn 10 10 38.3 -0.9**
comp=Z,29nm,0.6s
BJI Beijing 16.22 75 P **P 10 10 44.6 +0.5**
BJI S **Sn 10 13 42.3 +1.5**
BJI pmax pmax
comp=Z,21nm,1.6s
BJI pmax pmax
comp=Z,110nm,4.5s
BJI LR LR
comp=N,560nm,12.9s
BJI LR LR
comp=E,200nm,19.5s
FRU Bishkek 16.75 294 *e*P **P 10 10 49.0 -1.1**
AAK Ala-Archa 16.81 294⇓*e*P **Pn 10 10 49.2 +0.5**
AAK pmax pmax
comp=Z,52nm,1.2s
AAK Ala-Archa 16.81 294 *e*Pn **Pn 10 10 48.9 +0.2**
AAK Ala-Archa 16.81 294 Pn **Pn 10 10 48.5 -0.2**
comp=Z,0.7nm,0.3s,baz=97,slow=7.6,SNR=12
AAK LR LR 10 17 59.2
comp=Z,130nm,20.9s,baz=88,slow=39
WHN Wuhan 17.12 109 *e*P **Pn 10 10 53.2 +0.8**
WHN LR LR
comp=N,1μm,7.5s
WHN LR LR
comp=E,1μm,10.0s
WHN LR LR
comp=Z,2μm,9.5s
EKS2 Erkin-Say 17.33 293 *e*P **P 10 10 56.5 -0.1**
EKS2 Erkin-Say 17.33 293 *e*Pn **P 10 10 56.5 -0.1**
comp=Z,5.7nm,0.8s
ZAA0 Zalesovo Array 17.82 339 *e*Pn **Pn 10 11 00.2 -0.8**
ZALV Zalesovo Beam 17.82 339 *i*P **P 10 11 03.4 +1.7**
ZALV pmax pmax
comp=Z,15nm,0.9s
ZALV Zalesovo Beam 17.82 339 P **Pn 10 11 00.4 -0.7**
ZALV Zalesovo Beam 17.82 339 P **Pn 10 11 00.4 -0.7**
comp=Z,0.7nm,0.3s,baz=153,slow=11,SNR=34
ZALV LR LR 10 18 04.1
comp=Z,111nm,18.6s,baz=266,slow=38
PAYA Payao 18.69 167 P **Pn 10 11 13.8 +1.9**
comp=Z,5.9nm,0.9s,comp=Z,122nm
NVS Novosibirsk 19.06 338⇓*i*P **P 10 11 14.4 -0.9**
NVS pmax pmax
comp=N,12nm,0.7s
NVS pmax pmax
comp=E,9.0nm,0.7s
NVS pmax pmax
comp=Z,15nm,0.7s
CHTO Chiang Mai 19.08 170 *e*P **P 10 11 15.8 0.0**
CHTO pmax pmax
comp=Z,6.0nm,0.8s
CHTO Chiang Mai 19.08 170 *e*P **P 10 11 15.8 0.0**
comp=Z,6.1nm,0.8s
CHTO Chiang Mai 19.08 170 P **P 10 11 15.5 -0.3**
comp=Z,13nm,1.0s
CHTO Chiang Mai 19.08 170 P **Pn 10 11 18.7 +2.1**
comp=Z,13nm,1.0s
CM31 Chiang Mai Arr 19.43 170 *e*P **P 10 11 19.8 +0.1**
comp=Z,6.2nm,0.6s
CMAR Chiang Mai Arr 19.43 170 P **P 10 11 18.9 -0.8**
CMAR PcP **PcP 10 15 40.2 -0.8**
CMAR Chiang Mai Arr 19.43 170 P **P 10 11 18.9 -0.8**
comp=Z,1.4nm,0.3s,baz=342,slow=9.9,SNR=21
CMAR PcP **PcP 10 15 40.2 -0.8**
comp=Z,0.8nm,0.3s,baz=302,slow=2.3,SNR=4.8
CMAR LR LR 10 20 06.3
comp=Z,35nm,21.8s,baz=317,slow=41
KK31 Karatay Array 19.77 294 P **P 10 11 23.9 +0.5**
comp=Z,3.5nm,0.7s,baz=92,slow=13,SNR=32
KK31 Karatay Array 19.77 294 *i*P **P 10 11 23.8 +0.5**
KK31 pmax pmax
comp=Z,3.0nm,0.5s
KKAR Karatay Array 19.77 294 *e*P **Pn 10 11 24.4 -0.4**
KKAR Karatay Array 19.77 294 *e*P **Pn 10 11 24.4 -0.4**
NJ2 Nanjing 19.92 100 *e*P **P 10 11 24.5 -0.4**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
NONG Nongkai 20.70 159 P Pn 10 11 35.2 -0.6
comp=Z,26nm,1.0s
LOEI Loei 20.76 164 P Pn 10 11 37.1 +0.5
comp=Z,23nm,1.1s,comp=Z,799nm
KBL Kabul 21.62 270 *e*P **P 10 11 43.0 -0.5**
KBL pmax pmax
comp=Z,15nm,0.6s
KBL Kabul 21.62 270 *e*P **P 10 11 43.0 -0.5**
comp=Z,15nm,0.6s
SNY Shenyang 21.88 70 ⇓P **P 10 11 44.9 -1.1**
SNY pmax pmax
comp=Z,24nm,0.7s
SNY LR LR
comp=N,160nm,5.6s
SNY LR LR
comp=E,130nm,5.7s
SNY LR LR
comp=Z,180nm,8.6s
SKNT Sakolnakorn 21.97 158 P **P 10 11 48.5 +1.3**
comp=Z,60nm,1.0s
PANO Nakornpanom 22.00 156 P **P 10 11 49.2 +1.7**
comp=Z,57nm,1.1s,comp=Z,834nm
UTHA Uthaitani 22.35 170 P **P 10 11 53.7 +2.4**
comp=Z,8.4nm,1.0s,comp=Z,96nm
QIZ Qiongzhong 22.43 142 P **P 10 11 52.1 0.0**
QIZ S **S 10 15 58.8 +0.6**
QIZ pmax pmax
comp=Z,17nm,0.9s
QIZ LR LR
comp=N,170nm,10.8s
QIZ LR LR
comp=E,110nm,14.8s
QIZ LR LR
comp=Z,190nm,7.8s
VOSK Vostochnaya 22.74 319 ⇓P **P 10 11 55.2 +0.1**
comp=Z,24nm,1.1s
VOSK Vostochnaya 22.74 319 P **P 10 11 54.7 -0.4**
VOSK pmax pmax
comp=Z,45nm,1.4s
BVA0 Borovoye Array 23.20 319 ⇑P **P 10 12 00.1 +0.1**
comp=Z,3.5nm,0.7s
BVA0 Borovoye Array 23.20 319 P **P 10 12 00.0 +0.1**
BVA0 pmax pmax
comp=Z,18nm,0.8s
BVAR Borovoye Array 23.20 319 P **P 10 12 00.2 +0.3**
BVAR pmax pmax
comp=Z,4.0nm,0.6s
BVAR MLR MLR
comp=Z,181nm,18.6s
BVAR Borovoye Array 23.20 319 P **P 10 12 00.2 +0.3**
BVAR Borovoye Array 23.20 319 P **P 10 12 00.2 +0.3**
comp=Z,4.4nm,0.6s,baz=117,slow=11,SNR=21
BVAR LR LR 10 21 38.5
comp=Z,181nm,18.6s,baz=293,slow=38
BRVK Borovoye 23.27 319 ⇑P **P 10 12 00.3 -0.3**
comp=Z,13nm,0.6s
BRVK Borovoye 23.27 319 *e*P **P 10 12 01.1 +0.5**
BRVK pmax pmax
comp=Z,11nm,0.8s
BRVK Borovoye 23.27 319 *e*P **P 10 12 01.1 +0.5**
comp=Z,12nm,0.8s
CN2 Changchun 23.36 66 *e*P **P 10 12 01.4 -0.2**
CN2 *e*S **S 10 16 10.8 -3.4**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,300nm,10.0s
CN2 LR LR
comp=E,200nm,10.0s
CN2 LR LR
comp=Z,300nm,10.0s
UBPT Khong Chiam 24.03 156 P **P 10 12 08.6 +0.4**
comp=Z,49nm,1.1s
UBPT Khong Chiam 24.03 156 P **P 10 12 08.6 +0.4**
comp=Z,49nm,1.1s
KSAR Wonju Array Be 25.56 81 P **P 10 12 20.1 -1.9**
KSRS Korea Array 25.59 81 P **P 10 12 20.1 -2.1**
comp=Z,4.5nm,0.6s,baz=277,slow=9.5,SNR=16
MDJ Mudanjiang 26.39 64 P **P 10 12 28.9 -0.6**
MDJ pP **pP 10 12 31.5 -1.7**
MDJ sP **sP 10 12 33.4 -1.3**
MDJ PcP **PcP 10 15 54.6 -0.3**
MDJ S **S 10 17 01.1 -1.5**
MDJ ScP **ScP 10 19 34.2 -0.3**
MDJ PcS **PcS 10 19 35.7 -0.1**
MDJ ScS **ScS 10 23 23.9 -0.6**
MDJ pmax pmax
comp=Z,7.0nm,1.5s
MDJ pmax pmax
comp=Z,53nm,4.5s
MDJ LR LR
comp=N,130nm,9.5s
MDJ LR LR
comp=E,140nm,9.8s
MDJ LR LR
comp=Z,180nm,7.7s
POO Poona 26.95 231 *e*x **P 10 12 36.0 +1.2**
AB31 Akbulak array 28.03 306⇑P **P 10 12 45.0 +0.8**
comp=Z,2.5nm,0.8s
AKTO Aktyubinsk 29.48 308⇑P **P 10 12 57.5 +0.5**
comp=Z,6.1nm,0.6s
AKTO Aktyubinsk 29.48 308 P **P 10 12 57.4 +0.4**
AKTO pmax pmax
comp=Z,8.0nm,0.8s
AKTO MLR MLR
comp=Z,33nm,19.7s
AKTO Aktyubinsk 29.48 308 P **P 10 12 57.4 +0.4**
AKTO Aktyubinsk 29.48 308 P **P 10 12 57.4 +0.4**
comp=Z,7.9nm,0.8s,baz=92,slow=8.4,SNR=22
AKTO LR LR 10 25 52.9
comp=Z,33nm,19.7s,baz=96,slow=38
ARU Arti 30.85 319*c i*P **P 10 13 09.5 +0.4**
ARU 10 14 06.4
ARU S **S 10 18 17.1 +4.7**
ARU pmax pmax
comp=Z,20nm,1.0s
MJAR Matsushiro Arr 33.81 79 P **P 10 13 33.3 -2.1**
MJAR PcP **PcP 10 16 12.6 -1.6**
MJAR Matsushiro Arr 33.81 79 P **P 10 13 33.3 -2.1**
comp=Z,0.5nm,0.5s,baz=276,slow=12,SNR=2.8
MJAR PcP **PcP 10 16 12.6 -1.6**
comp=Z,1.1nm,0.8s,baz=281,slow=2.1,SNR=3.0
ASAJ Asahikawa 35.72 65 P **P 10 13 50.0 -1.7**
ASAJ Asahikawa 35.72 65 P **P 10 13 50.0 -1.7**
comp=Z,6.9nm,0.6s,baz=297,slow=2.3,SNR=7.7
ASAJ LR LR 10 27 16.4
comp=Z,46nm,18.9s,baz=197,slow=34
MYLDM Lahad Datu 38.57 141 P **P 10 14 16.7 +0.5**
comp=Z,64nm,1.0s
KBZ Khabaz 39.79 296 P **P 10 14 27.2 +1.1**
KBZ pmax pmax
comp=Z,1.0nm,0.6s
KBZ Khabaz 39.79 296 P **P 10 14 27.1 +1.1**
KBZ Khabaz 39.79 296 P **P 10 14 27.1 +1.1**
comp=Z,1.4nm,0.6s,baz=72,slow=8.4,SNR=3.7
VRHR Novokhopersk 39.88 307 *e*P P 10 14 20.2 -6.6
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=Z,10.0nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.7s
VORD Divnogorie 41.36 307 *e*P **P 10 14 38.3 -0.7**
VORD pmax pmax
comp=Z,6.0nm,0.8s
VORD pmax pmax
comp=N,10.0nm,0.7s
VORD pmax pmax
comp=E,30nm,0.8s
VSR Storozhevoye 41.42 308 *e*P **P 10 14 38.8 -0.7**
VSR pmax pmax
comp=Z,10.0nm,0.9s
VSR pmax pmax
comp=N,10.0nm,1.0s
VSR pmax pmax
comp=E,7.0nm,0.8s
KLMR Klimovskoe 41.56 322 *e*P **P 10 14 39.8 -0.7**
KLMR pmax pmax
comp=Z,15nm,0.8s
OBN Obninsk 42.82 314 *e*P **P 10 14 51.0 +0.2**
OBN pmax pmax
comp=Z,8.0nm,1.0s
OBN MLR MLR
comp=Z,100nm,15.0s
PETK Petropavlovsk- 44.80 49 P **P 10 15 06.0 -0.9**
PETK pmax pmax
comp=Z,2.0nm,0.8s
PETK Petropavlovsk- 44.80 49 P **P 10 15 06.0 -0.9**
PETK Petropavlovsk- 44.80 49 P **P 10 15 06.0 -0.9**
comp=Z,2.6nm,0.8s,baz=289,slow=4.5,SNR=4.6
JOF Joensuu 45.61 325 *e*P **P 10 15 13.2 +0.1**
JOF pmax pmax
comp=Z,7.0nm,0.6s
JOF Joensuu 45.61 325 *e*p **P 10 15 13.2 +0.1**
comp=Z,6.9nm,0.6s
BR131 Keskin Array S 47.48 293 *e*P **P 10 15 29.1 +0.8**
comp=Z,4.6nm,0.5s
BRTR Keskin Array B 47.48 293 P **P 10 15 28.9 +0.6**
BRTR Keskin Array B 47.48 293 P **P 10 15 28.9 +0.6**
comp=Z,5.3nm,0.6s,baz=98,slow=7.4,SNR=32
AKASG Malin Array Be 47.72 308 P **P 10 15 29.9 +0.1**
AKASG pmax pmax
comp=Z,4.0nm,0.6s
AKASG Malin Array Be 47.72 308 P **P 10 15 29.9 +0.1**
AKASG Malin Array Be 47.72 308 P **P 10 15 29.9 +0.1**
comp=Z,3.9nm,0.6s,baz=71,slow=6.4,SNR=7.2
KIEV Kiev 47.73 308 *e*P **P 10 15 29.3 -0.6**
KIEV pmax pmax
comp=Z,5.0nm,0.8s
KIEV Kiev 47.73 308 *e*P **P 10 15 29.3 -0.6**
comp=Z,4.6nm,0.8s
VSU Vasula 48.01 319⇑*i*P **P 10 15 31.2 -0.7**
VSU pmax pmax
comp=Z,89nm,1.7s
FINES FINESS Array B 48.09 323 P **P 10 15 32.6 +0.2**
FINES FINESS Array B 48.09 323 P **P 10 15 32.6 +0.2**
comp=Z,3.8nm,0.6s,baz=90,slow=9.1,SNR=11
FINES LR LR 10 37 07.5
comp=Z,60nm,18.1s,baz=19,slow=38
ARCES ARCESS Array B 48.27 334 P **P 10 15 33.5 -0.4**
ARCES PcP **PcP 10 17 00.0 -0.5**
ARCES ARCESS Array B 48.27 334 P **P 10 15 33.5 -0.4**
comp=Z,2.3nm,0.6s,baz=80,slow=8.0,SNR=16
ARCES PcP **PcP 10 17 00.0 -0.5**
comp=Z,2.4nm,0.6s,baz=86,slow=3.8,SNR=10
ARCES LR LR 10 38 00.4
comp=Z,32nm,18.1s,baz=270,slow=39
BUR08 Bucovina Ar. S 51.01 305 *e*P **P 10 15 56.0 +0.9**
KWP Kalwaria Pacla 52.04 308 *e*P **P 10 16 03.9 +1.2**
KWP pmax pmax
comp=Z,12nm,0.4s
KWP Kalwaria Pacla 52.04 308 *e*P **P 10 16 03.9 +1.2**
comp=Z,12nm,0.4s
KWP Kalwaria Pacla 52.04 308 *e*P **P 10 16 03.9 +1.2**
KOLS Kolonicke sedl 52.52 307 *e*P **P 10 16 09.2 +3.0**
KOLS Kolonicke sedl 52.52 307 *e*P **P 10 16 09.2 +3.0**
OJC Ojcow 53.67 309 *e*P **P 10 16 15.8 +1.1**
OJC pmax pmax
comp=Z,9.0nm,0.6s
OJC Ojcow 53.67 309 *e*P **P 10 16 15.8 +1.1**
comp=Z,9.4nm,0.6s
OKC Ostrava-Krasne 54.80 309 *e*P P 10 16 27.5 +4.5
OKC Ostrava-Krasne 54.80 309 *e*P P 10 16 27.5 +4.5
NB2 NORSAR Subarra 55.22 324 P **P 10 16 25.2 -0.6**
comp=Z,4.8nm,0.7s,baz=72,slow=7.4
NOA NORSAR Array B 55.22 324 P **P 10 16 25.6 -0.3**
NOA NORSAR Array B 55.22 324 P **P 10 16 25.6 -0.3**
comp=Z,3.7nm,0.6s,baz=72,slow=7.2,SNR=11
NOA LR LR 10 41 09.5
comp=Z,45nm,19.2s,baz=0.0,slow=37
DPC Dobruska-Polom 55.75 310 *i*P **P 10 16 31.2 +1.4**
DPC *e* 10 16 39.4
DPC Dobruska-Polom 55.75 310 *i*P **P 10 16 31.2 +1.4**
DPC *e*pP **pP 10 16 34.1 +0.5**
DPC *e*sP **sP 10 16 36.0 +0.9**
DPC *e*x x 10 16 39.4
DPC Dobruska-Polom 55.75 310 *e*P **P 10 16 31.3 +1.4**
comp=Z,36nm,0.6s
UPC Upice 55.88 311 *e*P **P 10 16 31.5 +0.8**
UPC *e* 10 16 35.1
UPC Upice 55.88 311 *e*P **P 10 16 31.5 +0.8**
UPC *e*pP **pP 10 16 35.1 +0.5**
PRU Pruhonice 56.95 310 *e*P **P 10 16 38.9 +0.6**
PRU *e* 10 16 42.2
PRU MLR MLR
comp=Z,100nm,12.9s
PRU Pruhonice 56.95 310 *e*P **P 10 16 38.9 +0.6**
PRU *e*pP **pP 10 16 42.2 +0.1**
PRU AMS AMS 10 42 10.0
comp=Z,100nm,12.9s

BRG Berggiesshubel 56.99 312 *eP* **P 10 16 39.3 +0.7**
comp=Z,4.7nm,0.9s
BRG Berggiesshubel 56.99 312 *eP* **P 10 16 39.4 +0.8**
comp=Z,5.0nm,0.9s
BRG Berggiesshubel 56.99 312 *eP* **P 10 16 39.3 +0.7**
BRG pmax pmax
comp=Z,5.0nm,0.9s
CLL Collm 57.39 312 *eP* **P 10 16 42.0 +0.6**
comp=Z,4.0nm,0.7s
CLL Collm 57.39 312 *i P* **P 10 16 42.0 +0.6**
CLL pmax pmax
comp=Z,4.0nm,0.7s
CLL Collm 57.39 312 *i* P **P 10 16 42.0 +0.6**
comp=Z,4.0nm,0.7s
CLL *i* pP **pP 10 16 44.3 -0.9**
PERS Pernice 57.83 307 *eP* **P 10 16 45.3 +0.6**
KHC Kasperske Hory 57.84 310 *eP* **P 10 16 45.3 +0.6**
KHC *e* 10 16 48.3
KHC MLR MLR
comp=Z,100nm,15.8s
KHC Kasperske Hory 57.84 310 *eP* **P 10 16 45.3 +0.6**
KHC *e*pP **pP 10 16 48.3 -0.3**
KHC AMS AMS 10 42 30.0
comp=Z,100nm,15.8s
GEC2 GERESS Array S 57.88 309 *e* P 10 16 48.9 +3.9
GEC2 GERESS Array S 57.88 309 *eP* P 10 16 48.9 +3.9
GEC2 GERESS Array S 57.88 309 *eP* **P 10 16 46.3 +1.3**
GERES GERESS Array B 57.88 309 P **P 10 16 45.7 +0.7**
GERES GERESS Array B 57.88 309 P **P 10 16 45.7 +0.7**
comp=Z,1.5nm,0.8s,baz=66,slow=7.5,SNR=9.1
GERES LR LR 10 43 33.0
comp=Z,38nm,18.8s,baz=242,slow=38
BOJS Bojanci 58.18 305 *i P* **P 10 16 48.0 +1.0**
VNDS Vrh nad Dolski 58.30 306 *i P* **P 10 16 48.6 +0.6**
VISS Visnje 58.33 306 *i P* **P 10 16 48.8 +0.7**
ROTZ Rotzenmuhle 58.43 311 *eP* **P 10 16 49.8 +1.0**
comp=Z,5.0nm,0.8s
ROTZ *e* 10 16 52.9
MOX Moxa 58.45 312 *eP* **P 10 16 49.7 +0.8**
MOX *eL* L 10 42 45.0
comp=Z,42nm,19.5s
MOX Moxa 58.45 312 *eP* **P 10 16 49.7 +0.8**
NRDL Niedersach Rie 58.62 314 *eP* **P 10 16 51.1 +1.2**
comp=Z,9.0nm,1.0s
NRDL *e* 10 16 54.4
CLZ Clausthal 58.72 314 *eP* **P 10 16 51.8 +1.0**
comp=Z,7.0nm,0.8s
CLZ Clausthal 58.72 314 *eP* **P 10 16 51.8 +1.0**
CLZ pmax pmax
comp=Z,7.0nm,0.8s
JAVS Javornik 58.79 306 *i P* P 10 16 48.2 -3.3
SKDS Skadanscina 58.97 306 *eP* **P 10 16 52.5 -0.1**
GRF Grafenberg Arr 59.05 311 *eP* **P 10 16 54.3 +1.2**
comp=Z,8.0nm,0.6s
GRF *e* 10 16 57.6
GRF *eL* L 10 43 04.6
comp=Z,47nm,20.1s
GRF Grafenberg Arr 59.05 311 *eP* **P 10 16 54.3 +1.2**
GRF *e* 10 16 57.6
GRF pmax pmax
comp=Z,8.0nm,0.6s
ABTA Abfaltersbach 59.44 308⇑*iP* **P 10 16 54.9 -1.0**
comp=Z,3.9nm,0.8s
WTTA Wattenberg 59.77 308⇓*iP* **P 10 16 58.9 +0.5**
comp=Z,8.9nm,0.7s
MOTA Moosalm 60.07 309⇑*iP* **P 10 17 00.7 +0.4**
comp=Z,4.6nm,0.5s
FETA Feichten 60.44 308⇑*iP* **P 10 17 03.2 +0.3**
comp=Z,2.9nm,0.6s
FUORN Ofenpass-Fuorn 60.90 308 *eP* **P 10 17 06.8 +0.7**
comp=Z,6.1nm,0.8s
BFO Black Forest 61.35 311 *eP* **P 10 17 09.3 +0.4**
BFO Black Forest 61.35 311 *eP* **P 10 17 09.3 +0.4**
TUE Stuetta 61.53 308 *eP* **P 10 17 10.2 -0.2**
comp=Z,5.0nm,0.7s
CDF Champ du Feu 61.94 311⇑*iP* **P 10 17 13.2 +0.2**
comp=Z,8.2nm,0.8s
CDF Champ du Feu 61.94 311⇑*iP* **P 10 17 13.2 +0.2**
CDF Champ du Feu 61.94 311⇑*iP* **P 10 17 13.2 +0.2**
FITZ Fitzroy Crossi 62.34 147 *eP* **P 10 17 14.6 -1.1**
FITZ Fitzroy Crossi 62.34 147 P **P 10 17 14.3 -1.4**
comp=Z,4.3nm,0.9s,baz=357,slow=5.4,SNR=8.7
HINF Hinterlafeld 62.46 311 *eP* **P 10 17 16.5 +0.1**
HINF Hinterlafeld 62.46 311 *eP* **P 10 17 16.5 +0.1**
HINF Hinterlafeld 62.46 311 *eP* **P 10 17 16.5 +0.1**
HAU Haudompre 62.68 311 *eP* **P 10 17 18.0 +0.2**
HAU *eR*
comp=Z,70nm,17.5s
HAU Haudompre 62.68 311 *eP* **P 10 17 18.0 +0.2**
HAU Haudompre 62.68 311 *eP* **P 10 17 18.0 +0.2**
PAGF Fort de Pagny 62.80 312⇑*iP* **P 10 17 19.6 +1.0**
comp=Z,3.5nm,0.7s
PAGF Fort de Pagny 62.80 312⇑*iP* **P 10 17 19.6 +1.0**
MBWA Marble Bar 62.84 155 *eP* **P 10 17 19.8 +0.8**
BAIF Baives 63.00 314 *eP* **P 10 17 20.7 +0.8**
BAIF Baives 63.00 314 *eP* **P 10 17 20.7 +0.8**
BAIF Baives 63.00 314 *eP* **P 10 17 20.7 +0.8**
SFTF Sexfontaines 63.37 312 *eP* **P 10 17 22.6 +0.2**
SFTF Sexfontaines 63.37 312 *eP* **P 10 17 22.6 +0.2**
CABF La Chapelle 63.48 310⇑*iP* **P 10 17 23.3 +0.1**
CABF La Chapelle 63.48 310⇑*iP* **P 10 17 23.3 +0.1**
CABF La Chapelle 63.48 310⇑*iP* **P 10 17 23.3 +0.1**
PGF Pioggiola 63.52 305 *eP* **P 10 17 24.3 +0.7**
PGF Pioggiola 63.52 305 *eP* **P 10 17 24.3 +0.7**
PGF Pioggiola 63.52 305 *eP* **P 10 17 24.3 +0.7**
LPG La Plagne 63.58 308⇑*iP* **P 10 17 25.1 +0.9**
comp=Z,20nm,0.9s
LPG La Plagne 63.58 308⇑*iP* **P 10 17 25.1 +0.9**
LPG La Plagne 63.58 308⇑*iP* **P 10 17 25.1 +0.9**
LPL La Plagne 63.59 308⇑*iP* **P 10 17 25.0 +0.9**
comp=Z,8.7nm,0.5s
LPL La Plagne 63.59 308⇑*iP* **P 10 17 25.0 +0.9**
LPL La Plagne 63.59 308⇑*iP* **P 10 17 25.0 +0.9**
SBF Sospel 63.92 306⇑*iP* **P 10 17 26.6 +0.4**
comp=Z,21nm,0.6s
SBF Sospel 63.92 306⇑*iP* **P 10 17 26.6 +0.4**
SBF Sospel 63.92 306⇑*iP* **P 10 17 26.6 +0.4**
MBDF Montbardon 63.93 307⇑*iP* **P 10 17 26.0 -0.3**
comp=Z,8.6nm,0.8s
MBDF Montbardon 63.93 307⇑*iP* **P 10 17 26.0 -0.3**
MBDF Montbardon 63.93 307⇑*iP* **P 10 17 26.0 -0.3**
COLD Coldfoot 64.24 23 *eP* **P 10 17 28.3 +0.5**
comp=Z,11nm,0.8s
ORIF Oris-en-Rattie 64.40 308⇑*iP* **P 10 17 29.6 +0.3**
comp=Z,12nm,0.8s
ORIF *eR*
comp=Z,64nm,18.2s
ORIF Oris-en-Rattie 64.40 308⇑*iP* **P 10 17 29.6 +0.3**
EKA Eskdalemuir Ar 64.44 321 P **P 10 17 29.3 0.0**
EKA Eskdalemuir Ar 64.44 321 P **P 10 17 29.3 0.0**
comp=Z,1.2nm,0.6s,baz=66,slow=5.8,SNR=3.5
LOR Lormes 64.51 311 *eP* **P 10 17 29.9 0.0**
LOR *eR*
comp=Z,27nm,17.0s
LOR Lormes 64.51 311 *eP* **P 10 17 29.9 0.0**
FRF La Foret Royal 64.56 306 *eP* **P 10 17 30.4 +0.1**
FRF La Foret Royal 64.56 306 *eP* **P 10 17 30.4 +0.1**
FRF La Foret Royal 64.56 306 *eP* **P 10 17 30.4 +0.1**
LMR La Mourre 64.76 306 *eP* **P 10 17 31.8 +0.2**
LMR La Mourre 64.76 306 *eP* **P 10 17 31.8 +0.2**
LMR La Mourre 64.76 306 *eP* **P 10 17 31.8 +0.2**
SMF Signal de Mont 64.82 310⇑*iP* **P 10 17 32.1 +0.1**
comp=Z,13nm,0.6s
SMF Signal de Mont 64.82 310⇑*iP* **P 10 17 32.1 +0.1**
SMF Signal de Mont 64.82 310⇑*iP* **P 10 17 32.1 +0.1**
SSF Saint Saulge 64.83 311 *eP* **P 10 17 31.8 -0.2**
SSF Saint Saulge 64.83 311 *eP* **P 10 17 31.8 -0.2**
SSF Saint Saulge 64.83 311 *eP* **P 10 17 31.8 -0.2**
AVF Avril sur Loir 65.05 311 *eP* **P 10 17 33.5 +0.1**
AVF Avril sur Loir 65.05 311 *eP* **P 10 17 33.5 +0.1**
AVF Avril sur Loir 65.05 311 *eP* **P 10 17 33.5 +0.1**
VIVF Saint-Julien-l 65.18 308 *eP* **P 10 17 34.9 +0.5**
VIVF Saint-Julien-l 65.18 308 *eP* **P 10 17 34.9 +0.5**
VIVF Saint-Julien-l 65.18 308 *eP* **P 10 17 34.9 +0.5**
SUMG Summit 65.47 346 *eP* **P 10 17 35.6 -0.6**
SUMG pmax pmax
comp=Z,5.0nm,0.8s
SUMG Summit 65.47 346 *eP* **P 10 17 35.6 -0.6**
comp=Z,4.8nm,0.8s
BPAW Bear Paw Mtn. 65.87 26 *eP* **P 10 17 38.7 +0.3**
comp=Z,27nm,1.5s
TCF Toulx Ste Croi 65.98 311⇑*iP* **P 10 17 40.0 +0.5**
comp=Z,12nm,0.8s
TCF Toulx Ste Croi 65.98 311⇑*iP* **P 10 17 40.0 +0.5**
TCF Toulx Ste Croi 65.98 311⇑*iP* **P 10 17 40.0 +0.5**
LASF Ste Croix 66.08 308⇑*iP* **P 10 17 40.8 +0.7**
comp=Z,10nm,0.9s
LASF Ste Croix 66.08 308⇑*iP* **P 10 17 40.8 +0.7**
PPLA Purkeypile 66.16 28 *eP* **P 10 17 40.9 +0.4**
comp=Z,16nm,0.8s
LDF La Druitiere 66.19 314 *eP* **P 10 17 40.8 0.0**
LDF La Druitiere 66.19 314 *eP* **P 10 17 40.8 0.0**
LDF La Druitiere 66.19 314 *eP* **P 10 17 40.8 0.0**
COLA College 66.45 25 *eP* **P 10 17 42.2 +0.1**
COLA pmax pmax
comp=Z,23nm,0.6s
COLA College 66.45 25 *eP* **P 10 17 42.1 +0.1**
comp=Z,23nm,0.6s
ILAR Eielson Array 66.83 24 P **P 10 17 43.8 -0.9**
ILAR PP **PP 10 20 15.8 +4.5**
ILAR Eielson Array 66.83 24 P **P 10 17 43.8 -0.9**
comp=Z,3.6nm,0.7s,baz=294,slow=5.3,SNR=54
ILAR PP **PP 10 20 15.8 +4.5**
comp=Z,0.9nm,1.0s,baz=306,slow=8.4,SNR=4.5
RJF Les Rejaudoux 66.90 310⇑*iP* **P 10 17 46.1 +0.8**
RJF *eR*
comp=Z,46nm,17.8s
RJF Les Rejaudoux 66.90 310⇑*iP* **P 10 17 46.1 +0.8**
RJF Les Rejaudoux 66.90 310⇑*iP* **P 10 17 46.1 +0.8**
MTLF Montolieu 67.47 308 *eP* **P 10 17 49.6 +0.6**
MTLF Montolieu 67.47 308 *eP* **P 10 17 49.6 +0.6**
MTLF Montolieu 67.47 308 *eP* **P 10 17 49.6 +0.6**
LFF La Frestale 67.56 310⇑*iP* **P 10 17 50.4 +0.9**
comp=Z,12nm,0.6s
LFF La Frestale 67.56 310⇑*iP* **P 10 17 50.4 +0.9**
LFF La Frestale 67.56 310⇑*iP* **P 10 17 50.4 +0.9**
WRAB Tennant Creek 67.99 141 *eP* **P 10 17 51.0 -1.4**
WRAB pmax pmax
comp=Z,7.0nm,0.8s
WRAB Tennant Creek 67.99 141 *eP* **P 10 17 51.0 -1.4**
comp=Z,6.6nm,0.8s
WRA Warramunga Arr 67.99 141 P **P 10 17 50.2 -2.2**
WRA Warramunga Arr 67.99 141 P **P 10 17 50.2 -2.2**
comp=Z,5.2nm,0.9s,baz=338,slow=8.2,SNR=30
PMR Palmer 68.09 28 *eP* **P 10 17 52.2 -0.4**
PMR pmax pmax
comp=Z,7.0nm,0.8s
PMR Palmer 68.09 28 *eP* **P 10 17 52.2 -0.4**
comp=Z,7.4nm,0.8s
ROSF Rostrenen 68.11 315⇑*iP* **P 10 17 53.6 +0.6**
comp=Z,12nm,0.7s
ROSF Rostrenen 68.11 315⇑*iP* **P 10 17 53.6 +0.6**
ROSF Rostrenen 68.11 315⇑*iP* **P 10 17 53.6 +0.6**
INK Inuvik 68.12 18 *eP* **P 10 17 52.5 -0.1**
comp=Z,7.3nm,0.9s
SML Sawmill 68.25 27 *eP* **P 10 17 53.2 -0.4**
SML pmax pmax
comp=Z,6.0nm,0.8s
SML Sawmill 68.25 27 *eP* **P 10 17 53.2 -0.4**
comp=Z,6.2nm,0.8s
EGAK Eagle 68.64 23 *eP* **P 10 17 55.9 -0.1**
comp=Z,6.3nm,0.8s
EPF Esparros 68.81 308⇑*iP* **P 10 17 57.2 -0.3**
EPF Esparros 68.81 308⇑*iP* **P 10 17 57.2 -0.3**
EPF Esparros 68.81 308⇑*iP* **P 10 17 57.2 -0.3**
KDAK Kodiak Island 69.12 32 P **P 10 17 57.6 -1.4**
KDAK Kodiak Island 69.12 32 P **P 10 17 57.6 -1.4**
comp=Z,8.0nm,0.7s,baz=294,slow=7.1,SNR=7.8
ETSF Etsaut 69.43 309⇑*iP* **P 10 18 02.2 +0.8**
ETSF Etsaut 69.43 309⇑*iP* **P 10 18 02.2 +0.8**
ETSF Etsaut 69.43 309⇑*iP* **P 10 18 02.2 +0.8**
DAWY Dawson 69.69 23 *eP* **P 10 18 02.4 -0.2**
BMRM Bremner River 70.15 27 *eP* **P 10 18 05.6 +0.2**
comp=Z,12nm,0.9s
AS31 Alice Springs 70.92 143 *eP* **P 10 18 08.9 -1.7**
ASAR Alice Springs 70.92 143 P **P 10 18 08.9 -1.6**
ASAR Alice Springs 70.92 143 P **P 10 18 08.9 -1.6**
comp=Z,3.2nm,0.7s,baz=332,slow=6.3,SNR=56
HYT Haines Junctio 72.68 24 *eP* **P 10 18 21.2 +0.3**
ESDC Sonseca Array 73.36 307 P **P 10 18 25.3 +0.2**
ESDC Sonseca Array 73.36 307 P **P 10 18 25.3 +0.2**
comp=Z,2.6nm,0.6s,baz=45,slow=5.9,SNR=18
YKA Yellowknife Ar 77.21 14 P **P 10 18 45.9 -0.9**
YKA Yellowknife Ar 77.21 14 P **P 10 18 45.9 -0.9**
comp=Z,1.6nm,0.7s,baz=334,slow=5.2,SNR=5.3
STKA Stephens Creek 81.49 142 P **P 10 19 08.7 -1.7**
STKA Stephens Creek 81.49 142 P **P 10 19 08.7 -1.7**
comp=Z,8.6nm,0.8s,baz=323,slow=5.0,SNR=13
TORD Torodi Ar. Bea 85.08 283 P **P 10 19 29.3 -0.2**
TORD Torodi Ar. Bea 85.08 283 P **P 10 19 29.3 -0.2**
comp=Z,1.1nm,0.6s,baz=36,slow=4.9,SNR=12
EDM Edmonton 86.01 17 *eP* **P 10 19 33.2 -0.3**
EDM Edmonton 86.01 17 *eP* **P 10 19 33.2 -0.3**
SCHQ Schefferville 86.57 350 P **P 10 19 35.2 -1.0**
SCHQ Schefferville 86.57 350 P **P 10 19 35.2 -1.0**
comp=Z,2.9nm,0.7s,baz=356,slow=5.4,SNR=4.7
BLMT Blacktail Moun 90.56 20 *eP* **P 10 19 56.2 +0.7**
comp=Z,8.1nm,0.8s
YBMT Yellow Bay 90.79 19 *eP* **P 10 19 56.9 +0.4**
comp=Z,2.4nm,0.7s
JTMT Jette 90.83 20 *eP* **P 10 19 57.2 +0.5**
comp=Z,4.6nm,1.0s
SWMT Swartz Lake 91.12 20 *eP* **P 10 19 58.0 0.0**
comp=Z,2.4nm,0.8s
SLMT Seeley Lake 91.50 19 *eP* **P 10 19 60.0 +0.1**
comp=Z,2.5nm,0.9s
HRY Holter Researc 92.42 18 *eP* **P 10 20 04.0 -0.1**
DBIC Dimbokro 94.13 282 P **P 10 20 11.8 -0.5**
DBIC Dimbokro 94.13 282 P **P 10 20 11.8 -0.5**
comp=Z,1.1nm,0.5s,baz=6.3,slow=3.9,SNR=3.6
SAML Samuel 145.50 321 *e*PKPdf **PKPdf 10 26 31.7 -0.3**
LPAZ La Paz 154.24 322 PKPbc **PKPbc 10 26 53.0 -1.5**
LPAZ La Paz 154.24 322 PKPbc **PKPbc 10 26 53.0 -1.5**
comp=Z,0.5nm,0.6s,baz=45,slow=1.4,SNR=3.6
CPUP Villa Florida 154.44 289 PKPbc **PKPbc 10 26 52.8 -1.1**
CPUP Villa Florida 154.44 289 PKPbc **PKPbc 10 26 52.8 -1.1**
comp=Z,1.2nm,0.5s,baz=348,slow=5.3,SNR=4.4

IDC 01 10:13:16.6±1.3, 2°.43N×127°.19E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.5/22, mbtmp3.6/5, Error ellipse: s-maj=81.2km s-min=20.3km az=78.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	20.46	184	P	P	10 17 55.5	-0.5
2.3nm,0.7s,baz=2.4,slow=12,SNR=4.4							
WRA	Warramunga Arr	23.32	163	P	P	10 18 25.9	-0.6
0.7nm,0.5s,baz=340,slow=11,SNR=20							
ASAR	Alice Springs	26.75	166	P	P	10 18 59.4	+1.1
0.5nm,0.7s,baz=344,slow=6.7,SNR=4.8							
KSRS	Korea Array	34.86	1	P	P	10 20 08.4	-1.1
0.4nm,0.4s,baz=179,slow=9.9,SNR=4.6							
MKAR	Makanchi Array	58.88	325	P	P	10 23 17.9	+0.6
0.2nm,0.4s,baz=118,slow=8.0,SNR=4.0							

IDC 01 10:21:57.6±3.5, 11°.93N×126°.08E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/24, mbtmp3.4/3, 1C, Error ellipse: s-maj=270.7km s-min=26.5km az=65.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	Palo	1.32	235	⇑ *i P*	Pg	10 22 21.3	-1.7
WRA	Warramunga Arr	32.70	166	P	P	10 28 31.4	-0.5
0.3nm,0.7s,baz=346,slow=9.5,SNR=3.4							
ASAR	Alice Springs	36.19	168	P	P	10 29 02.6	+0.4
0.2nm,0.5s,baz=353,slow=7.6,SNR=7.0							
MKAR	Makanchi Array	50.61	322	P	P	10 30 58.2	-0.1
0.6nm,0.6s,baz=106,slow=8.9,SNR=7.3							

BJI ***01*** *10:40:53.8, 36°.55N×70°.71E, h195km, mB4.2/1, mb4.2/3*
IDC ***01*** *10:40:53.1±3.7, 36°.32N×70°.95E, h169km±32km, mb3.7/10, mb1 3.8/15, mb1mx3.5/32, mbtmp3.7/15, MS2.8/1, Ms1 2.8/1, ms1mx2.2/44, Error ellipse: s-maj=24.3km s-min=15.2km az=24.0*
ISCJB ***01*** *10:40:55.8±0.4, 36°.61N±0°.03×70°.95E±0°.07, h188km, mb4.0/13, Error ellipse: s-maj=7.9km s-min=3.7km az=163.7*
MOS ***01*** *10:40:55.1±0.8, 36°.47N×70°.99E, h199km, mb4.2/12, Error ellipse: s-maj=17.1km s-min=5.9km az=76.7*
NNC ***01*** *10:41:02.5±3.2, 37°.05N×70°.87E, h189km±29km, mb3.4, mpv4.3, Error ellipse: s-maj=28.4km s-min=16.7km az=26.0*

ISC 01 10:40:57.0±0.6, 36°.63N±0°.05×71°.15E±0°.07, h188km, n72, σ1§66/76, mb4.0/13, 5C-9D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	Cherat	2.87	167	⇓P	Pn	10 41 46.2	+1.5
CEP				S	Sn	10 42 22.0	+0.1
CHCP	Chirah Chowk	3.44	149	P	Pn	10 41 53.6	+2.2
THW	Thamme Wali	3.86	173	⇓P	Pn	10 41 57.4	+0.7
KSH	Kashi	4.77	51	P	Pn	10 42 06.2	-2.1
KSH				S	Sn	10 42 57.2	-7.2
KSH				smax	smax		
comp=N,200nm,0.5s							
KSH				smax	smax		
comp=E,160nm,0.5s							
THN	Thein Dam	5.63	137	*e*4	Pn	10 42 16.3	-3.1
THN				*e*S	Sn	10 43 17.4	-6.8
DLH	Dalhousie	5.69	134	*e*P	Pn	10 42 22.0	+1.6
DLH				*e*4	Sn	10 43 27.0	+1.0
AML	Almayashu	5.83	19	*i* PN	Pn	10 42 23.9	+1.6
AML	Almayashu	5.83	19	P	Pn	10 42 23.9	+1.6
SNR=91							
UCH	Uchtor	6.16	24	*i* PN	Pn	10 42 28.5	+1.9
UCH	Uchtor	6.16	24	P	Pn	10 42 28.5	+1.9
SNR=7.1							
KZA	Kyzart	6.30	29	*i* PN	Pn	10 42 29.5	+1.2
KZA	Kyzart	6.30	29	P	Pn	10 42 29.5	+1.2
SNR=9.9							
EKS2	Erkin-Say	6.35	18	*i* PN	Pn	10 42 30.4	+1.6
EKS2	Erkin-Say	6.35	18	P	Pn	10 42 30.4	+1.6
SNR=20							
KK31	Karatay Array	6.48	356	⇑P	Pn	10 42 31.0	+0.6
comp=E,4.2nm,0.3s,baz=177,slow=11,SNR=90							
KK31				⇓S	Sn	10 43 40.5	-3.7
comp=E,30nm,0.6s,baz=180,slow=22,SNR=18							
AAK	Ala-Archa	6.53	22	PN	Pn	10 42 33.1	+2.0
AAK				pmax	pmax		
comp=Z,9.0nm,0.3s							
AAK	Ala-Archa	6.53	22	P	Pn	10 42 33.3	+2.2
SNR=22							
AAK	Ala-Archa	6.53	22	P	Pn	10 42 33.1	+2.0
comp=Z,9.2nm,0.3s,baz=164,slow=4.8,SNR=43							
AAK				S	Sn	10 43 46.4	+1.0
comp=Z,5.1nm,0.3s,baz=169,slow=23,SNR=18							
KBK	Karagaybulak	6.69	25	*i* PN	Pn	10 42 36.1	+2.8
KBK	Karagaybulak	6.69	25	P	Pn	10 42 36.1	+2.8
SNR=14							
ULHL	Ulahol	6.85	34	*i* PN	Pn	10 42 32.9	-2.5
ULHL	Ulahol	6.85	34	P	Pn	10 42 32.9	-2.5
SNR=7.8							
CHMS	Chumysh	6.94	22	*i* PN	Pn	10 42 38.3	+2.0
CHMS	Chumysh	6.94	22	P	Pn	10 42 38.3	+2.0
SNR=6.8							
SDNR	Sundarnagar	7.04	135	*e*P	Pn	10 42 38.0	+0.3
SDNR				*e*S	Sn	10 43 53.0	-4.4
USP	Ospenovka	7.11	20	*i* PN	Pn	10 42 40.3	+1.7
USP	Ospenovka	7.11	20	P	Pn	10 42 40.3	+1.7
SNR=13							
TKM2	Tokmak 2	7.15	27	⇓P	Pn	10 42 41.1	+1.8
comp=Z,40nm,0.7s							
TKM2				⇓S	Sn	10 43 59.9	-0.4
comp=Z,24nm,1.0s							
TKM2	Tokmak 2	7.15	27	*i* PN	Pn	10 42 41.1	+1.8
TKM2	Tokmak 2	7.15	27	P	Pn	10 42 41.2	+1.8
SNR=39							
KHET	Khetri	9.40	154	*e*P	Pn	10 43 12.2	+3.6
KHET				*e*S	Sn	10 44 44.6	-9.0
KHET				AML	AML	10 44 51.2	
comp=E,84nm,0.1s							
KHET				AML	AML	10 44 51.3	
comp=N,133nm,0.1s							
SONA	Sohna	9.74	147	*e*S	Sn	10 44 52.6	-9.3
SONA				AML	AML	10 44 57.5	
comp=E,29nm,0.3s							
SONA				AML	AML	10 44 59.0	
comp=N,16nm,0.5s							
AGRA	Agra	11.00	147	*e*S	Sn	10 45 21.4	-11
AGRA				AML	AML	10 45 44.9	
comp=E,79nm,0.4s							
AGRA				AML	AML	10 45 46.7	
comp=N,58nm,0.2s							
MK31	Makanchi Array	13.11	36	P	P	10 44 00.2	+0.6
comp=N,5.1nm,0.8s,baz=215,slow=8.4,SNR=16							
MKAR	Makanchi Array	13.11	36	P	Pn	10 43 57.6	+1.4
MKAR				pmax	pmax		
comp=Z,1.0nm,0.3s							
MKAR	Makanchi Array	13.11	36	P	Pn	10 43 57.6	+1.4
comp=Z,0.5nm,0.3s,baz=218,slow=9.4,SNR=15							
MKAR				S	S	10 46 29.9	+5.2
baz=214,slow=27,SNR=2.6							
DMN	Daman	14.84	123	*e*P	P	10 44 19.2	-0.1
comp=Z,20nm,0.4s							
KKN	Kakani	14.85	122	*e*P	P	10 44 18.6	-0.6
comp=Z,45nm,0.6s							
KURBB	Kurchatov Arra	14.96	18	P	P	10 44 20.3	+0.3
comp=Z,0.7nm,0.3s,baz=207,slow=10,SNR=17							
AB31	Akbulak array	15.03	331	P	Pn	10 44 18.3	-1.6
comp=Z,3.2nm,0.8s,baz=146,slow=12,SNR=20							
AB31				⇑S	Sn	10 46 58.6	-9.2
comp=Z,0.6nm,0.5s,baz=149,slow=23,SNR=4.5							
PKIN	Phulchoki	15.06	123	*e*P	P	10 44 21.9	+0.2
comp=Z,23nm,0.4s							
KURK	Kurchatov	15.07	19	P	Pn	10 44 20.3	-0.1
KURK				pmax	pmax		
comp=Z,1.0nm,0.3s							
PKI	Pulchoki	15.07	123	*e*P	P	10 44 22.1	+0.2
comp=Z,15nm,0.3s							
GUN	Gumba	15.18	121	*e*P	Pn	10 44 21.9	-0.4
comp=Z,18nm,0.4s							
JIRN	Jiri	15.55	121	*e*P	P	10 44 26.7	-0.5
comp=Z,50nm,0.4s							
VOSK	Vostochnaya	16.09	360	⇓P	P	10 44 32.6	0.0
comp=Z,2.5nm,0.4s							
RAMN	Ramite	16.28	122	*e*P	Pn	10 44 36.0	+0.4
comp=Z,18nm,0.4s							
BVA0	Borovoye Array	16.40	358	⇑P	Pn	10 44 36.4	-0.1
comp=Z,4.2nm,0.6s,baz=348,slow=26,SNR=11							
BVAR	Borovoye Array	16.40	358	P	Pn	10 44 36.9	+0.4
BVAR				pmax	pmax		
comp=Z,2.0nm,0.3s							
BVAR	Borovoye Array	16.40	358	P	Pn	10 44 36.9	+0.4
comp=Z,1.7nm,0.3s,baz=158,slow=9.5,SNR=12							
AKTO	Aktyubinsk	16.73	330	⇓P	P	10 44 39.8	+0.3
comp=Z,12nm,0.9s							
AKTO				⇓S	S	10 47 43.2	-1.1
comp=Z,3.1nm,1.4s							
AKTO	Aktyubinsk	16.73	330	P	P	10 44 39.9	+0.3
comp=Z,1.7nm,0.3s,baz=138,slow=9.1,SNR=19							
ODAN	Odare	16.88	121	*e*P	Pn	10 44 43.0	+0.2
comp=Z,15nm,0.4s							
ZALV	Zalesovo Beam	19.75	24	P	P	10 45 13.0	+0.8
ZALV				pmax	pmax		
comp=Z,10.0nm,0.6s							
ZALV	Zalesovo Beam	19.75	24	P	P	10 45 13.0	+0.8
comp=Z,8.0nm,0.5s,baz=220,slow=11,SNR=36							
NVS	Novosibirsk	20.02	21	⇓*iP*	P	10 45 15.0	-0.1
NVS				*e*		10 48 47.2	
NVS				pmax	pmax		
comp=N,4.0nm,0.6s							
NVS				pmax	pmax		
comp=E,2.0nm,0.6s							
NVS				pmax	pmax		
comp=Z,6.0nm,0.6s							
ARU	Arti	21.55	341	*e*P	P	10 45 33.0	+1.6
ARU				pmax	pmax		
comp=Z,10.0nm,2.5s							
HVS	Khovu-Aksy	21.66	41	⇑*e*P	P	10 45 33.1	+0.4
HVS				*i* *PP	pP	10 46 02.7	-2.3
HVS				pmax	pmax		
comp=Z,15nm,1.2s							
SONM	Songino Array	28.16	55	P	P	10 46 32.6	+0.8
comp=Z,1.3nm,0.6s,baz=275,slow=10,SNR=7.5							
JOF	Joensuu	35.81	330	*e*P	P	10 47 38.6	+0.5
JOF				pmax	pmax		
comp=Z,5.0nm,0.3s							
JOF	Joensuu	35.81	330	*e*p	P	10 47 38.6	+0.5
comp=Z,4.5nm,0.3s							
FINES	FINESS Array B	37.44	326	P	P	10 47 51.4	-0.4
comp=Z,1.5nm,0.3s,baz=120,slow=9.1,SNR=12							
ARCES	ARCESS Array B	41.07	337	P	P

comp=Z,11nm,18.2s,baz=305,slow=36
KBS Kingsbay 48.51 347 *ce*P **P 10 49 19.8 -0.5**
KBS pmax pmax
comp=Z,42nm,2.0s
TORD Torodi Ar. Bea 65.84 269 P P 10 51 18.8 -3.8
comp=Z,0.4nm,0.4s,baz=48,slow=5.7,SNR=12
ILAR Eielson Array 74.62 16 P **P 10 52 14.4 -0.7**
comp=Z,0.7nm,0.7s,baz=315,slow=5.0,SNR=5.3
YKA Yellowknife Ar 81.11 3 P **P 10 52 50.5 -0.3**
comp=Z,0.9nm,0.3s,baz=351,slow=5.2,SNR=11
WRA Warramunga Arr 81.96 122 P **P 10 52 54.1 -1.8**
comp=Z,1.5nm,0.4s,baz=323,slow=4.8,SNR=61
ASAR Alice Springs 84.23 125 P **P 10 53 05.8 -1.8**
comp=Z,1.7nm,0.5s,baz=310,slow=4.8,SNR=51

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*IDC **01** 10:53:13.8±1.3,5°.43N×126°.71E,h0km,mb3.7/6, mb1 3.9/6,mb1mx3.6/24,mbtmp3.7/6,Error ellipse: s-maj=120.0km s-min=18.5km az=71.0*
ISC 01 10:53:24.0±0.9,5°.5N±0°.1×126°.9E±0°.2,h84km,n11, σ1§41/12,mb3.6/6,2C,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**1.60**	**338**	*e*P	**Pn**	**10 53 51.7**	**+0.9**
MATI				*e*S	**Sn**	**10 54 10.9**	**-0.2**
GSPH	**General Santos**	**2.00**	**289⇑**	*e*P	Pn	10 53 50.8	-5.3
BUKP	**Musuan**	**3.00**	**324**	*e*P	**Pn**	**10 54 10.5**	**+1.0**
BUKP				*e*S	**Sn**	**10 54 42.4**	**-2.1**
CTBH	**Cotabato--PC H**	**3.13**	**304⇑**	*i*P	**Pn**	**10 54 12.6**	**+1.4**
FITZ	**Fitzroy Crossi**	**23.43**	**183**	P	**P**	**10 58 23.7**	**-2.2**
2.0nm,0.9s,baz=49,slow=9.4,SNR=4.1
WRA Warramunga Arr 26.28 164 P **P 10 58 50.8 -1.0**
2.4nm,0.7s,baz=343,slow=10,SNR=28
ASAR Alice Springs 29.74 167 P **P 10 59 22.7 +0.1**
0.3nm,0.5s,baz=352,slow=7.6,SNR=6.0
STKA Stephens Creek 39.69 160 P **P 11 00 48.8 +0.7**
1.7nm,0.9s,baz=334,slow=10,SNR=3.5
SONM Songino Array 45.72 341 P **P 11 01 35.7 -1.2**
0.3nm,0.4s,baz=134,slow=6.2,SNR=2.6
MKAR Makanchi Array 56.23 325 P **P 11 02 56.3 +0.8**
0.3nm,0.4s,baz=115,slow=8.4,SNR=5.0
TORD Torodi Ar. Bea 122.49 289 PKP **PKPdf 11 12 11.7 +1.0**
0.2nm,0.5s,baz=71,slow=1.8,SNR=2.8

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*IDC **01** 10:55:39.7±1.2,34°.95N×140°.46E,h0km,mb3.5/4, mb1 3.7/5,mb1mx3.5/26,mbtmp3.5/5,ML3.7/1,Error ellipse: s-maj=40.0km s-min=23.4km az=75.0*
*ISCJB **01** 10:55:46.3±0.6,34°.99N±0°.04×140°.06E±0°.05,h66km±4km, mb3.5/4,Error ellipse: s-maj=7.6km s-min=5.7km az=40.8*
*JMA **01** 10:55:46.5±0.2,35°.02N×140°.09E,h63km±2km,M3.1*
ISC 01 10:55:47.5±0.9,35°.00N±0°.05×140°.04E±0°.05,h60km±7km, n18,σ0§66/31,mb3.5/4,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO4	**Boso 4**	**0.25**	**93**	P	**Pn**	**10 55 56.7**	**-0.4**
BSO4				S	**Sn**	**10 56 04.7**	**+0.7**
JYO	**Yokosk**	**0.38**	**306**	P	**Pn**	**10 55 58.4**	**+0.2**
JYO				*e*S	**Sn**	**10 56 07.2**	**+1.2**
JCN	**Nagara**	**0.44**	**18**	P	**Pn**	**10 55 58.5**	**-0.3**
JCN				S	**Sn**	**10 56 06.8**	**-0.2**
BSO3	**Boso 3**	**0.44**	**117**	P	**Pn**	**10 55 57.8**	**-0.7**
BSO3				S	**Sn**	**10 56 06.9**	**+0.4**
JIM2	**Oshima 3**	**0.57**	**240**	P	**Pn**	**10 55 59.6**	**-0.7**
JIM2				S	**Sn**	**10 56 09.0**	**-0.6**
TOK	**Tokyo**	**0.72**	**342**	S	**Sn**	**10 56 12.7**	**+0.2**
JOD2	**Odawara 2**	**0.82**	**289**	P	**Pn**	**10 56 02.6**	**-0.7**
JOD2				S	**Sn**	**10 56 14.0**	**-0.8**
JIZS	**Izushimoda**	**0.99**	**254**	P	**Pn**	**10 56 05.4**	**-0.1**
JIZS				S	**Sn**	**10 56 18.7**	**-0.1**
JHU	**Hanno**	**1.05**	**324**	P	**Pn**	**10 56 05.6**	**-0.6**
JHU				S	**Sn**	**10 56 19.2**	**-0.8**
JYN	**Shimob**	**1.32**	**292**	P	**Pn**	**10 56 09.6**	**-0.2**
JYN				S	**Sn**	**10 56 26.7**	**+0.2**
JRY	**Ryogami san**	**1.37**	**318**	P	**Pn**	**10 56 10.2**	**-0.3**
JRY				*e*S	**Sn**	**10 56 27.7**	**0.0**
JAG	**Ashikaga**	**1.50**	**342**	P	**Pn**	**10 56 11.2**	**-1.0**
JAG				S	**Sn**	**10 56 29.7**	**-1.0**
MJAR	**Matsushiro Arr**	**2.14**	**316**	Pn	**Pn**	**10 56 20.6**	**-0.3**
18nm,0.3s,baz=144,slow=31,SNR=195
MJAR Sn **Sn 10 56 46.7 +0.4**
16nm,0.3s,baz=22,slow=19,SNR=14
MAT Matsushiro 2.14 316 P **Pn 10 56 21.3 +0.4**
MAT S **Sn 10 56 47.3 +1.0**
MKAR Makanchi Array 44.28 304 P **P 11 03 51.6 +0.4**
0.8nm,0.6s,baz=86,slow=9.5,SNR=4.6
ILAR Eielson Array 51.80 31 P **P 11 04 49.0 +0.1**
0.4nm,0.9s,baz=294,slow=8.8,SNR=4.6
WRA Warramunga Arr 54.91 187 P **P 11 05 11.2 -1.0**
0.7nm,0.8s,baz=23,slow=7.3,SNR=8.4
ASAR Alice Springs 58.64 187 P **P 11 05 39.6 +1.1**
0.2nm,0.8s,baz=25,slow=11,SNR=2.7

IDC 01 11:24:48.1±16.0,18°.94S×174°.07W,h0km,mb4.0/5, mb1 4.2/5,mb1mx3.8/22,mbtmp4.0/5,Error ellipse: s-maj=317.0km s-min=148.8km az=80.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**37.35**	**261**	P	P	11 32 03.8	+1.1
1.2nm,0.3s,baz=73,slow=11,SNR=3.3
STKA Stephens Creek 41.79 243 P P 11 32 39.5 -0.1
3.1nm,1.1s,baz=79,slow=8.1,SNR=4.2
ASAR Alice Springs 48.48 255 P P 11 33 32.7 -0.3
1.8nm,0.6s,baz=89,slow=7.9,SNR=31
WRA Warramunga Arr 48.50 260 P P 11 33 32.4 -0.7
0.8nm,0.5s,baz=98,slow=8.0,SNR=23
FITZ Fitzroy Crossi 56.92 260 P P 11 34 35.2 -0.2
0.7nm,0.4s,baz=124,slow=7.3,SNR=5.7

IDC 01 11:38:18.1±47.0,15°.61S×173°.21W,h0km,mb3.8/3, mb1 4.0/3,mb1mx3.6/21,mbtmp3.8/3,Error ellipse: s-maj=909.8km s-min=177.0km az=79.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**44.09**	**240**	P	P	11 46 28.3	0.0
0.4nm,0.3s,baz=115,slow=14,SNR=2.9
WRA Warramunga Arr 49.98 257 P P 11 47 14.3 -0.1
0.3nm,0.5s,baz=92,slow=7.2,SNR=8.0
ASAR Alice Springs 50.22 252 P P 11 47 16.1 -0.2
2.8nm,0.5s,baz=89,slow=8.2,SNR=79

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*ISCJB **01** 11:42:19.4±0.3,24°.14N±0°.02×121°.62E±0°.02,h63km±4km, Error ellipse: s-maj=3.6km s-min=2.3km az=44.7*
*TAP **01** 11:42:19.6,24°.14N×121°.56E,h59km,ML4.0,B*
*JMA **01** 11:42:19.8±0.2,24°.35N×121°.66E,h84km,M3.1*
ISC 01 11:42:20.2±1.2,24°.14N±0°.02×121°.61E±0°.02,h57km±5km, n66,σ0§82/114,13C-10D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWD	**Chiawan**	**0.06**	**195⇓**	*i*P	**Pn**	**11 42 28.3**	**-0.3**
baz=153
TWD *i* S **Sn 11 42 34.5 -0.3**
baz=153
HWA Hwalien 0.16 183 *i* P **Pn 11 42 29.0 0.0**
baz=161
HWA *e*S **Sn 11 42 35.7 +0.3**
baz=161
ENA Nanau 0.31 22 ⇓P **Pn 11 42 30.0 -0.1**
baz=36
ENA *e*S **Sn 11 42 37.6 +0.4**
baz=36
WHF Hehuan Shan 0.32 272 ⇓*i*P **Pn 11 42 30.5 -0.1**
baz=271
WHF S **Sn 11 42 37.8 -0.3**
baz=271
ESL Shilin 0.36 207 ⇑*i*P **Pn 11 42 29.5 -1.0**
baz=193
ESL *e*S **Sn 11 42 36.5 -1.4**
baz=193
NNS Nan Shan 0.37 324 ⇓*i*P **Pn 11 42 30.7 -0.1**
baz=332
NNS S **Sn 11 42 38.3 -0.1**
baz=332
TWT Tachien 0.42 286 ⇓*i*P **Pn 11 42 31.5 +0.3**
baz=287
TWT *i* S **Sn 11 42 39.6 +0.5**
baz=287
TEGC Jichi Village 0.43 189 *e*P **Pn 11 42 31.0 -0.1**
baz=172
ENTT Nioudou 0.50 355 ⇓*i*P **Pn 11 42 32.0 +0.1**
baz=8.0
ENTT S **Sn 11 42 40.5 0.0**
baz=8.0
TWC Suao 0.52 25 *e*P **Pn 11 42 32.1 +0.1**
baz=31
TWC *e*S **Sn 11 42 42.1 +1.5**
baz=31
TWE Neicheng 0.58 5 ⇓*i*P **Pn 11 42 32.9 +0.1**
baz=16
TWE S **Sn 11 42 42.5 +0.5**
baz=16
NSK Sanguang 0.58 337 ⇓*i*P **Pn 11 42 32.8 -0.2**
baz=349
NSK S **Sn 11 42 42.0 -0.2**
baz=349
ILA Ilan 0.64 11 *e*P **Pn 11 42 34.0 +0.5**
baz=17
ILA *e*S **Sn 11 42 44.6 +1.4**
baz=17
EHY Hungye 0.68 203 ⇑P **Pn 11 42 32.2 -1.9**
baz=190
SMLT Sun Moon Lake 0.70 249 ⇑*i*P **Pn 11 42 34.6 +0.2**
baz=243
SMLT *e*S **Sn 11 42 45.1 +0.4**
baz=243
TYC Yuchr 0.73 252 ⇑*i*P **Pn 11 42 34.9 +0.3**
baz=247
TYC S **Sn 11 42 45.6 +0.5**
baz=247
NSTT Nanjuang 0.74 312 ⇓*i*P **Pn 11 42 34.6 -0.1**
baz=314
NSTT S **Sn 11 42 45.2 -0.3**
baz=314
TWQ1 Liyutan 0.80 286 ⇓*i*P **Pn 11 42 35.0 -0.5**
baz=286
TWQ1 *e*S **Sn 11 42 46.0 -0.6**
baz=286
NSY Sanyi 0.83 290 P **Pn 11 42 35.4 -0.4**
baz=291
NSY *e*S **Sn 11 42 47.5 +0.1**
baz=291
TWF1 Yuli 0.83 200 ⇑P **Pn 11 42 34.1 -1.9**
baz=196
TWA Mucha 0.84 358 ⇑*i*P **Pn 11 42 35.9 -0.2**
baz=354
TWA *e*S **Sn 11 42 47.6 -0.1**
baz=354
TCU Taichung 0.86 271 *e*P **Pn 11 42 35.8 -0.3**
baz=270
TCU *e*S **Sn 11 42 48.1 +0.1**
baz=270
YUS Yu-Shan 0.88 223 ⇑*i*P **Pn 11 42 37.2 +0.1**
baz=213
YUS *e*S **Sn 11 42 50.1 +0.7**
baz=213
HSN Hsinchu 0.89 319 *e*P **Pn 11 42 36.0 -0.5**
baz=336
HSN *e*S **Sn 11 42 48.4 -0.3**
baz=336
WNT Mingjian 0.89 253 *e*P **Pn 11 42 36.7 +0.1**
baz=262
WNT *e*S **Sn 11 42 49.9 +1.2**
baz=262
TAP1 Taipei 0.90 355 *e*P **Pn 11 42 36.2 -0.6**
baz=358
TAP1 *e*S **Sn 11 42 48.2 -0.8**
baz=358
TAP Taipei 0.90 354 *e*P **Pn 11 42 36.7 -0.2**
baz=358
TAP *e*S **Sn 11 42 48.3 -0.8**
baz=358
NCU National Centr 0.92 335 *e*P **Pn 11 42 36.7 -0.3**
baz=339
NCU S **Sn 11 42 49.3 -0.1**
baz=339
TWB1 Santiao Chiao 0.93 21 *i* P **Pn 11 42 37.6 +0.4**
baz=16
TWB1 S **Sn 11 42 50.7 +1.0**
baz=16
NWF Wu-fen Shan 0.94 9 ⇑*i*P **Pn 11 42 37.4 0.0**
baz=2.0
NWF S **Sn 11 42 50.2 +0.1**
baz=2.0
ALS Alishan 0.97 230 ⇑*i*P **Pn 11 42 38.3 +0.4**
baz=220
ALS S **Sn 11 42 52.2 +1.2**
baz=220
TWS1 Kuangyinshan 0.98 350 P **Pn 11 42 37.5 -0.3**
baz=4.0
TWS1 *e*S **Sn 11 42 50.4 -0.3**
baz=4.0
CHN5 Tsauling 1.01 238 P **Pn 11 42 38.4 +0.1**
baz=245
CHN5 S **Sn 11 42 52.9 +1.1**
baz=245
CHKT Chengkung 1.06 192 *e*P **Pn 11 42 37.7 -1.2**
baz=188
CHKT *e*S **Sn 11 42 52.5 -0.1**
baz=188
WGK Gukeng 1.06 245 *e*P **Pn 11 42 39.5 +0.6**
baz=242
WGK *e*S **Sn 11 42 54.1 +1.4**
baz=242
ELDTW Lidau 1.09 210 ⇑*e*P **Pn 11 42 38.1 -1.2**
baz=201
TWY Chenhua 1.13 359 P **Pn 11 42 39.4 -0.4**
baz=355
TWY *e*S **Sn 11 42 54.0 -0.5**
baz=355
CHN4 Tsaushan 1.22 230 ⇑*i*P **Pn 11 42 41.3 +0.3**
baz=227
CHN4 *i* S **Sn 11 42 58.2 +1.6**
baz=227
WTCT Ta-ch'eng 1.25 258 *e*P **Pn 11 42 41.1 -0.2**
baz=255
WTCT *e*S **Sn 11 42 56.5 -0.7**
baz=255
CHY Chiayi 1.26 240 *e*P **Pn 11 42 41.6 +0.1**
baz=248
CHY *e*S **Sn 11 42 59.1 +1.6**
baz=248
YOJ Yonaguni jima 1.32 75 *e*P **Pn 11 42 41.3 -1.0**
baz=77
YOJ *e*S **Sn 11 42 59.4 +0.6**
baz=77
YOJ Yonaguni jima 1.32 75 P **Pn 11 42 42.2 -0.1**
YOJ S **Sn 11 42 59.1 +0.3**
WSF Szhu 1.37 249 *e*P **Pn 11 42 42.6 -0.3**
baz=257
WSF *e*S **Sn 11 43 00.1 +0.1**
baz=257
CHN1 Nanshi 1.37 227 ⇑*i*P **Pn 11 42 43.1 0.0**
baz=224
CHN1 *e*S **Sn 11 43 01.7 +1.4**
baz=224
TWG Pinlang 1.40 201 *e*P **Pn 11 42 41.2 -2.3**
baz=187
SGST Jiashian 1.41 222 ⇑P **Pn 11 42 44.2 +0.5**
baz=219
SGST *e*S **Sn 11 43 03.4 +2.2**
baz=219
TTN Taitung 1.44 197 *e*P **Pn 11 42 42.8 -1.2**
baz=185
PCYT Pengchaiyu 1.54 16 *e*P **Pn 11 42 45.1 -0.3**
baz=10.0
PCYT *e*S **Sn 11 43 04.1 -0.3**
baz=10.0
CHN3 Shinhua 1.56 228 *e*P **Pn 11 42 46.1 +0.5**
baz=225
SCLT Jiali 1.62 234 *e*P **Pn 11 42 46.6 +0.2**
baz=232
TWM1 Shoushan 1.70 220 *e*P **Pn 11 42 48.8 +1.3**
baz=217
SGLT Jiouru 1.74 216 *e*P **Pn 11 42 50.0 +1.9**
baz=213
TAW Tawu 1.89 201 *e*P **Pn 11 42 51.0 +0.9**
baz=189
IRIF Iriomote-Funau 1.94 84 P **Pn 11 42 50.7 -0.1**
IRIF S **Sn 11 43 14.2 +0.1**
PNG Penghu 1.97 254 *e*P **Pn 11 42 49.7 -1.4**
baz=251
PNG *e*S **Sn 11 43 12.2 -2.5**
baz=251
SCZT Fangliau 1.98 208 *e*P **Pn 11 42 51.1 -0.2**
baz=217
WDGT Dungji 1.99 244 *e*P **Pn 11 42 50.1 -1.4**
baz=243
HATJ Hateruma jima 2.00 92 P **Pn 11 42 52.1 +0.5**
HATJ *e*S **Sn 11 43 16.2 +0.6**
LAY Lan-yu 2.09 182 *e*P **Pn 11 42 51.5 -1.4**
baz=184
JKRS Kuro-shima 2.19 87 P **Pn 11 42 54.6 +0.4**
JKRS S **Sn 11 43 20.3 +0.2**
HEN Hengchun 2.27 201 *e*P **Pn 11 42 56.2 +1.0**
baz=209
TWK1 Hengchun 2.31 199 *e*P **Pn 11 42 55.0 -0.7**
baz=186
JIJ Ishigaki jima 2.32 84 P **Pn 11 42 55.5 -0.4**
JIJ S **Sn 11 43 22.4 -0.9**
JTJ Tarama 2.86 79 P **Pn 11 43 03.5 +0.2**
JTJ S **Sn 11 43 36.2 -0.4**
KNM Kinmen 2.92 276 *e*P **Pn 11 43 04.0 -0.1**
baz=275
JKE Kume jima 2 5.17 64 P **Pn 11 43 35.2 +0.3**

IDC 01 11:46:45.3±51.0,16°.25S×176°.63W,h0km,mb3.9/3, mb1 4.1/3,mb1mx3.6/19,mbtmp3.9/3,Error ellipse: s-maj=960.3km s-min=169.5km az=78.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**40.92**	**240**	P	P	11 54 29.7	0.0
0.8nm,0.5s,baz=112,slow=11,SNR=3.6
WRA Warramunga Arr 46.63 258 P P 11 55 15.6 -0.2
0.2nm,0.3s,baz=91,slow=8.2,SNR=17
ASAR Alice Springs 46.89 253 P P 11 55 17.8 -0.1
2.9nm,0.6s,baz=88,slow=8.4,SNR=68

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*IDC **01** 11:56:48.2±5.4,24°.33N×123°.52E,h0km,mb3.9/2, mb1 4.1/3,mb1mx3.5/26,mbtmp3.9/3,ML3.5/1,Error ellipse: s-maj=292.5km s-min=39.2km az=95.0*
*ISCJB **01** 11:57:01.9±0.4,25°.20N±0°.04×122°.20E±0°.03, h208km±3km,mb3.4/2,Error ellipse: s-maj=7.2km s-min=3.5km az=156.6*
*TAP **01** 11:57:02.4,25°.17N×122°.20E,h213km,ML4.3,C*
*JMA **01** 11:57:03.5±0.3,25°.26N×122°.19E,h195km,M4.3*
ISC 01 11:57:01.0±0.9,25°.28N±0°.06×122°.18E±0°.04,h216km±6km, n68,σ1§35/111,15C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.32**	**212**	*i* P	**Pn**	**11 57 30.2**	**+0.7**
baz=233
TWB1 S **S 11 57 50.7 -1.1**
baz=233
PCYT Pengchaiyu 0.36 345 P **Pn 11 57 31.2 +1.6**
baz=352
PCYT *e*S **S 11 57 51.9 -0.2**
baz=352
NWF Wu-fen Shan 0.41 240 ⇑*i*P **Pn 11 57 30.3 +0.4**
baz=251
NWF *e*S **S 11 57 51.6 -0.8**
baz=251
TWY Chenhua 0.52 270 ⇑*i*P **Pn 11 57 30.9 +0.8**
baz=280
TWY *e*S **S 11 57 52.0 -0.6**
baz=280
TWA Mucha 0.62 241 P **Pn 11 57 30.5 0.0**
baz=253
TWA S **S 11 57 52.8 -0.6**
baz=253
ILA Ilan 0.64 217 *e*P **Pn 11 57 32.1 +1.5**
baz=232
ILA *e*S **S 11 57 53.3 -0.4**
baz=232
TWS1 Kuangyinshan 0.71 256 ⇑*i*P **Pn 11 57 31.5 +0.6**
baz=271
TWS1 S **S 11 57 53.6 -0.4**
baz=271
TWE Neicheng 0.72 220 P **Pn 11 57 31.3 +0.3**
baz=229
TWE S **S 11 57 53.5 -0.7**
baz=229
TWC Suao 0.73 204 P **Pn 11 57 31.3 +0.2**
baz=208
TWC S **S 11 57 52.0 -2.3**
baz=208
ENTT Nioudou 0.85 221 ⇑*i*P **Pn 11 57 32.1 +0.4**
baz=239
ENTT *e*S **S 11 57 54.3 -1.1**
baz=239
ENA Nanau 0.94 205 *i* P **Pn 11 57 32.8 +0.7**
baz=202
ENA *e*S **S 11 57 55.2 -1.1**
baz=202
NCU National Centr 0.95 251 P **Pn 11 57 32.7 +0.5**
baz=265
NCU *e*S **S 11 57 55.3 -1.1**
baz=265
NSK Sanguang 0.96 231 ⇑*i*P **Pn 11 57 32.4 0.0**
baz=247
NSK S **S 11 57 54.4 -2.2**
baz=247
NNS Nan Shan 1.11 221 ⇑*i*P **Pn 11 57 33.8 +0.4**
baz=228
NNS *e*S **S 11 57 57.3 -1.2**
baz=228
YOJ Yonaguni jima 1.11 137 P **Pn 11 57 33.5 +0.2**
YOJ S **S 11 57 57.0 -1.2**
HSN Hsinchu 1.20 247 *e*P **Pn 11 57 33.5 -0.3**
baz=261
NSTT Nanjuang 1.25 239 ⇑*i*P **Pn 11 57 34.5 +0.3**
baz=247
NSTT S **S 11 57 58.3 -1.6**
baz=247
TWD Chiawan 1.31 204 P **Pn 11 57 34.5 -0.2**
baz=216
TWD S **S 11 57 58.0 -2.8**
baz=216
TWT Tachien 1.37 222 P **Pn 11 57 35.9 +0.5**
baz=232
TWT *e*S **S 11 58 01.1 -0.9**
baz=232
HWA Hwalien 1.40 202 P **Pn 11 57 35.5 +0.1**
baz=201
HWA *e*S **S 11 58 01.4 -0.7**
baz=201
WHF Hehuan Shan 1.40 216 ⇑*i*P **Pn 11 57 36.6 +0.7**
baz=227
WHF *e*S **S 11 58 02.3 -0.6**
baz=227
NSY Sanyi 1.55 236 P **Pn 11 57 37.4 +0.7**
baz=238
NSY *e*S **S 11 58 03.5 -0.7**
baz=238
TWQ1 Liyutan 1.58 234 ⇑*i*P **Pn 11 57 37.4 +0.4**
baz=239
TWQ1 *e*S **S 11 58 02.9 -1.7**
baz=239
ESL Shilin 1.61 205 ⇑*i*P **Pn 11 57 36.5 -0.7**
baz=201
ESL *e*S **S 11 58 01.5 -3.7**
baz=201
IRIF Iriomote-Funau 1.70 123 P **Pn 11 57 38.2 +0.3**
IRIF S **S 11 58 05.7 -0.7**
TCU Taichung 1.77 231 P **Pn 11 57 39.1 +0.5**
baz=243
SMLT Sun Moon Lake 1.81 220 *i* P **Pn 11 57 39.5 +0.3**
baz=232
SMLT S **S 11 58 08.2 -0.4**
baz=232
TYC Yuchr 1.82 222 P **Pn 11 57 39.5 +0.4**
baz=233
TYC *e*S **S 11 58 07.6 -1.0**
baz=233
HATJ Hateruma jima 1.92 129 P **Pn 11 57 41.0 +1.0**
HATJ S **S 11 58 09.5 -0.6**
EHY Hungye 1.93 204 P **Pn 11 57 39.7 -0.5**
baz=203
WNT Mingjian 1.95 225 *e*P **Pn 11 57 40.9 +0.6**
baz=233
JKRS Kuro-shima 1.96 122 P **Pn 11 57 41.3 +0.9**
JKRS S **S 11 58 10.4 -0.5**
JIJ Ishigaki jima 2.01 117 P **Pn 11 57 41.4 +0.5**
JIJ S **S 11 58 10.1 -1.5**
TWF1 Yuli 2.08 203 P **Pn 11 57 40.9 -0.8**
baz=206

YUS	**Yu-Shan**	**2.10 212**	⇑*i*P		**Pn**	**11 57 43.2**	**+0.7**
	baz=212						
YUS			*e*S		**S**	**11 58 13.6**	**-0.8**
	baz=212						
ALS	**Alishan**	**2.16 216**	⇑*i*P		**Pn**	**11 57 43.2**	**+0.5**
	baz=226						
ALS			*e*S		**S**	**11 58 14.2**	**-0.9**
	baz=226						
CHN5	**Tsauling**	**2.16 219**	P		**Pn**	**11 57 42.9**	**+0.3**
	baz=231						
CHN5			*e*S		**S**	**11 58 13.2**	**-1.5**
	baz=231						
WGK	**Gukeng**	**2.17 223**	*e*P		**Pn**	**11 57 42.8**	**+0.3**
	baz=233						
WTCT	**Ta-ch'eng**	**2.23 231**	*e*P		**Pn**	**11 57 43.6**	**+0.4**
	baz=239						
CHKT	**Chengkung**	**2.29 199**	*e*P		**Pn**	**11 57 43.9**	**+0.1**
	baz=207						
ELDTW	**Lidau**	**2.34 207**	P		**Pn**	**11 57 44.7**	**+0.3**
	baz=208						
JTJ	**Tarama**	**2.38 105**	P		**Pn**	**11 57 46.0**	**+1.3**
JTJ			S		**S**	**11 58 18.2**	**-0.2**
CHY	**Chiayi**	**2.39 222**	*e*P		**Pn**	**11 57 45.0**	**+0.2**
	baz=231						
CHN4	**Tsaushan**	**2.40 217**	⇑*i*P		**Pn**	**11 57 45.4**	**+0.4**
	baz=215						
CHN4			*e*S		**S**	**11 58 18.4**	**-0.7**
	baz=215						
WSF	**Szhu**	**2.42 228**	*e*P		**Pn**	**11 57 45.5**	**+0.4**
	baz=231						
CHN1	**Nanshi**	**2.57 216**	⇑*i*P		**Pn**	**11 57 47.0**	**+0.2**
	baz=215						
CHN1			S		**S**	**11 58 21.0**	**-1.3**
	baz=215						
SGST	**Jiashian**	**2.63 214**	⇑*i*P		**Pn**	**11 57 48.1**	**+0.7**
	baz=217						
SGST			*e*S		**S**	**11 58 23.0**	**-0.4**
	baz=217						
TWG	**Pinlang**	**2.65 203**	*e*P		**Pn**	**11 57 47.0**	**-0.7**
	baz=205						
CHN3	**Shinhua**	**2.75 217**	*e*P		**Pn**	**11 57 49.6**	**+0.8**
	baz=226						
JMJ	**Miyako jima 2**	**2.86 99**	P		**Pn**	**11 57 51.6**	**+1.6**
JMJ			S		**S**	**11 58 28.4**	**+0.4**
TWM1	**Shoushan**	**2.93 214**	P		**Pn**	**11 57 52.1**	**+1.4**
	baz=211						
PNG	**Penghu**	**2.94 235**	*e*P		**Pn**	**11 57 51.1**	**+0.3**
	baz=235						
JOGS	**Gusukube**	**2.98 99**	P		**Pn**	**11 57 53.1**	**+1.9**
SGLT	**Jiouru**	**2.98 212**	*e*P		**Pn**	**11 57 51.8**	**+0.5**
	baz=210						
WDGT	**Dungji**	**3.05 229**	*e*P		**Pn**	**11 57 52.2**	**0.0**
	baz=229						
SCZT	**Fangliau**	**3.23 207**	P		**Pn**	**11 57 54.8**	**+0.6**
	baz=204						
SCZT			*e*S		**S**	**11 58 33.1**	**-2.6**
	baz=204						
LAY	**Lan-yu**	**3.28 190**	*e*P		**Pn**	**11 57 55.4**	**+0.5**
	baz=194						
TWK1	**Hengchun**	**3.55 201**	*e*P		**Pn**	**11 57 58.6**	**+0.5**
	baz=208						
JKE	**Kume jima 2**	**4.28 75**	P		**Pn**	**11 58 08.1**	**+1.2**
JKE			S		**S**	**11 58 59.6**	**+1.1**
JJT2	**Tamagusuku 2**	**5.10 79**	P		**Pn**	**11 58 18.0**	**+0.9**
JJT2			S		**S**	**11 59 16.0**	**-1.0**
JIH	**Iheya**	**5.49 70**	P		**Pn**	**11 58 22.6**	**+0.6**
JIH			S		**S**	**11 59 23.5**	**-2.5**
JOW	**Kunigami**	**5.70 73**	P		**Pn**	**11 58 24.6**	**-0.1**
JOW			S		**S**	**11 59 26.4**	**-4.4**
JTK	**Tokunoshima**	**6.56 66**	*e*S		**S**	**11 59 47.0**	**-3.9**
JAMN	**Amaminishikomi**	**6.92 63**	P		**Pn**	**11 58 39.3**	**-1.0**
JAMN			S		**S**	**11 59 54.3**	**-4.9**
JAM	**Amami Oshima**	**7.33 63**	*e*S		**S**	**12 00 03.7**	**-5.3**
KSRS	**Korea Array**	**13.09 21**	Pn		**P**	**12 00 02.1**	**+0.6**
	0.3nm,0.3s,baz=200,slow=11,SNR=9.3						
WRA	**Warramunga Arr**	**46.48 164**	P		**P**	**12 05 07.5**	**+0.7**
	1.3nm,0.4s,baz=347,slow=8.7,SNR=22						
ASAR	**Alice Springs**	**49.97 166**	P		**P**	**12 05 34.9**	**+1.6**
	0.8nm,0.7s,baz=349,slow=7.0,SNR=12						

NIED ***01*** *12:02:00,35°.60N×141°.20E,h32km,Mw4.7 Best double couple: M0=1.43000×10^16 NP1:φs=150.00000°,δ73.00000°, λ-68.00000°. NP2:φs=276.00000°,δ28.00000°, λ-141.00000°.*

BJI ***01*** *12:02:11.6,35°.39N×141°.39E,h6km,mB4.8/37,mb4.7/54, Ms4.3/52,Ms7 4.2/49*

NEIC ***01*** *12:02:17.9±0.1,35°.51N×140°.94E,h10km,mb4.9/102, MW4.7(NIED),Error ellipse: s-maj=4.1km s-min=2.8km az=155.0*

NEIC Felt [II] at Yokohama. Also felt at Tokyo, Yokosuka and Zama. Recorded [2 JMA] in Chiba and Ibaraki and [1 JMA] in Kanagawa, Saitama, Tochigi and Tokyo.

SZGRF ***01*** *12:02:18.8,35°.52N×141°.13E,h10km,mb5.1,MS4.1,Near east coast of eastern Honshu, Japan*

ISCJB ***01*** *12:02:19.8±0.6,35°.45N±0°.03×140°.90E±0°.02,h33km±3km, mb4.8/199,MS4.2/37,Error ellipse: s-maj=4.6km s-min=2.9km az=169.0*

JMA ***01*** *12:02:20.5±0.2,35°.61N×141°.09E,h36km±1km,M4.9 Broadband fault plane solution: P waves. NP1: φs=40.00000°,δ68.00000°,λ82.00000°. NP2:φs=240.00000°, δ23.00000°,λ109.00000°. Principal axes: T Plg66.0000°, Azm296.0000°; N Plg7.0000°, Azm43.0000°; P Plg23.0000°, Azm136.0000°;*

JMA Felt II J1.

MOS ***01*** *12:02:21.3±0.8,35°.93N×140°.94E,h31km,mb5.0/83 Error ellipse: s-maj=7.2km s-min=4.7km az=106.9*

IDC ***01*** *12:02:24.1±1.8,35°.47N×141°.00E,h62km±14km,mb4.4/34, mb1 4.5/38,mb1mx4.5/41,mbtmp4.4/38,MS4.1/20, Ms1 4.1/20,ms1mx3.9/36,Error ellipse: s-maj=11.9km s-min=11.0km az=139.0*

DJA ***01*** *12:03:11.9±2.1,33°N±20°×13°9E±2°0,h374km±20km, M4.8/15,mB6.2/1,mb4.8/15,Mw(mB)5.8/1*

ISC 01 12:02:18.1±0.4,35°.52N±0°.03×141°.06E±0°.03,h14km±1km, h14km:pP-P,n793,σ1$20/853,mb4.9/200,MS4.2/39, 171C-176D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.24**	**318**	⇓P		**Pb**		**12 02 27.4**	**+3.1**
CHOJ				S		**Sb**		**12 02 32.2**	**+3.7**
JCN	**Nagara**	**0.71**	**262**	⇓P		**Pn**		**12 02 35.9**	**+2.2**
KTR	**Katsuura**	**0.71**	**239**	P		**Pn**		**12 02 35.4**	**+1.7**
BSO4	**Boso 4**	**0.79**	**228**	⇑P		**Pn**		**12 02 36.6**	**+1.9**
BSO3	**Boso 3**	**0.84**	**212**	⇓P		**Pn**		**12 02 36.9**	**+1.6**
BSO1	**Boso 1**	**0.87**	**184**	P		**Pn**		**12 02 36.8**	**+1.4**
JYT	**Yasato**	**1.00**	**315**	⇓P		**Pg**		**12 02 37.5**	**+0.1**
JIM2	**Oshima 3**	**1.56**	**240**	P		**Pn**		**12 02 45.8**	**+0.4**
JAG	**Ashikaga**	**1.58**	**305**	⇓P		**Pn**		**12 02 46.0**	**+0.2**
JOD2	**Odawara 2**	**1.63**	**262**	⇑P		**Pb**		**12 02 48.2**	**+0.2**
MJAR	**Matsushiro Arr**	**2.52**	**295**	P		**Pn**		**12 03 00.6**	**+1.8**
MJAR				S		**Sb**		**12 03 32.7**	**-1.5**
MJAR	**Matsushiro Arr**	**2.52**	**295**	P		**Pn**		**12 03 00.6**	**+1.8**
	45nm,0.3s,baz=98,slow=14,SNR=194								
MJAR				S		**Sb**		**12 03 32.7**	**-1.5**
	47nm,0.3s,baz=141,slow=20,SNR=8.3								
MJAR				LR		LR		12 03 59.6	
	comp=Z,3μm,18.1s,baz=100,slow=39								
MAT	**Matsushiro**	**2.53**	**295**	P		**Pn**		**12 03 00.7**	**+2.0**
MAT				*e*S		**Sn**		**12 03 29.1**	**-0.2**
ERM	**Erimo**	**6.69**	**14**	*e*P		**Pn**		**12 03 54.3**	**-1.6**
ERM				*e*				12 05 08.1	
ERM	**Erimo**	**6.69**	**14**	*e*Pn		**Pn**		**12 03 54.3**	**-1.6**
ERM				*e*Sn		**Sn**		**12 05 08.1**	**-3.7**
CBIJ	**Chichi jima**	**8.45**	**173**	P		**Pn**		**12 04 19.3**	**-0.9**
CBIJ				S		Sn		12 05 47.0	-8.4
CBIJ	**Chichi jima**	**8.45**	**173**	P		**Pn**		**12 04 19.3**	**-0.9**
	72nm,0.3s,baz=309,slow=7.1,SNR=33								
CBIJ				S		Sn		12 05 47.0	-8.4
	baz=56,slow=18								
ASAJ	**Asahikawa**	**8.67**	**7**	*e*Pn		**Pn**		**12 04 20.9**	**-2.2**
ASAJ				S		**Sn**		**12 05 56.8**	**-3.7**
ASAJ				*e*Sn		**Sn**		**12 05 58.9**	**-1.7**
ASAJ	**Asahikawa**	**8.67**	**7**	P		**Pn**		**12 04 20.9**	**-2.2**
	6.6nm,0.3s,baz=216,slow=9.8,SNR=67								
ASAJ				S		**Sn**		**12 05 56.8**	**-3.7**
	1.0nm,0.3s,baz=139,slow=18,SNR=2.7								
JNU	**Nakatsue**	**8.75**	**257**	*e*Pn		**Pn**		**12 04 22.8**	**-1.5**
JNU	**Nakatsue**	**8.75**	**257**	P		Pn		12 04 28.1	+3.8
	1.3nm,0.3s,baz=52,slow=8.1,SNR=12								
YUK	**Yuzh-Kuril'sk**	**9.27**	**22**	*i* P		Pn		12 04 23.9	-7.4
YUK				*e*S		Sn		12 06 06.9	-8.4
YUK				pmax		pmax			
	comp=E,37nm,0.3s								
YUK				pmax		pmax			
	comp=N,35nm,0.4s								
YUK				pmax		pmax			
	comp=Z,63nm,0.4s								
YUK				MLR		MLR			
	comp=Z,1μm,22.0s								
VLA	**Vladivostok**	**10.39**	**320**	⇓*i*P		Pn		12 04 51.3	+4.7
VLA				S		**Sn**		**12 06 48.4**	**+5.6**
KSRS	**Korea Array**	**10.75**	**284**	P		Pn		12 04 56.1	+4.5
	comp=Z,0.8nm,0.3s,baz=99,slow=14,SNR=26								
KSRS				LR		LR		12 09 07.7	
	comp=Z,2μm,21.7s,baz=99,slow=38								
KSAR	**Wonju Array Be**	**10.78**	**284**	P		Pn		12 04 56.1	+4.1
KUR	**Kuril'sk**	**11.00**	**26**	*e*P		**Pn**		**12 04 53.6**	**-1.3**
KUR				*i* S		Sn		12 06 47.8	-10
KUR				MLR		MLR			
	comp=N,2μm,23.0s								
KUR				MLR		MLR			
	comp=Z,1μm,23.0s								
KUR				MLR		MLR			
	comp=E,1μm,20.0s								
USRK	**Ussuriysk Arra**	**11.12**	**324**	P		**Pn**		**12 04 58.8**	**+2.2**
	comp=E,0.4nm,0.3s,baz=136,slow=12,SNR=28								
USRK				LR		LR		12 08 59.4	
	comp=E,550nm,19.7s,baz=126,slow=36								
TJN	**Taejon**	**11.14**	**278**	*e*P		Pn		12 05 00.3	+3.4
YSS	**Yuzh-Sakhalins**	**11.49**	**6**	⇓*i*P		**Pn**		**12 05 00.0**	**-1.7**
YSS				*e*S		**Sn**		**12 07 04.0**	**-5.8**
YSS				pmax		pmax			
	comp=Z,70nm,0.9s								
YSS				MLR		MLR			
	comp=N,1μm,18.0s								
YSS				MLR		MLR			
	comp=E,1μm,18.0s								
YSS				MLR		MLR			
	comp=Z,1μm,18.0s								
MDJ	**Mudanjiang**	**12.62**	**319**	P		**Pn**		**12 05 18.2**	**+1.0**
MDJ				S		**Sn**		**12 07 36.5**	**-1.0**
MDJ				PcP		**PcP**		**12 10 54.8**	**0.0**
MDJ				ScP		**ScP**		**12 14 26.6**	**-0.8**
MDJ				PcS		**PcS**		**12 14 29.7**	**+0.7**
MDJ				ScS		**ScS**		**12 18 04.6**	**+1.1**
MDJ				pmax		pmax			
	comp=Z,4.0nm,0.4s								
MDJ				pmax		pmax			
	comp=Z,79nm,5.3s								
MDJ				LR		LR			
	comp=N,450nm,27.9s								
MDJ				LR		LR			
	comp=E,330nm,25.4s								
MDJ				LR		LR			
	comp=Z,560nm,20.3s								
MDJ	**Mudanjiang**	**12.62**	**319**	*e*Pn		**Pn**		**12 05 14.6**	**-2.6**
	comp=Z,37nm,1.1s								
UGL	**Uglegorsk**	**13.57**	**3**	P		**P**		**12 05 39.5**	**+0.4**
UGL				pmax		pmax			
	comp=Z,36nm,0.6s								
HABR	**Khabarovsk**	**13.69**	**343**	*e*P		**Pn**		**12 05 29.9**	**-1.7**
HABR				*e*S		**Sn**		**12 08 00.1**	**-3.3**
HABR				pmax		pmax			
	comp=E,8.0nm,1.4s								
HABR				pmax		pmax			
	comp=Z,4.0nm,1.0s								
HABR				pmax		pmax			
	comp=N,8.0nm,1.4s								
HABR				MLR		MLR			
	comp=Z,318nm,14.0s								
CN2	**Changchun**	**14.58**	**309**	*e*P		**P**		**12 05 49.3**	**-1.0**
CN2				*es*P				12 05 56.1	
CN2				*e*S		**Sn**		**12 08 29.9**	**+4.7**
CN2				pmax		pmax			
	comp=Z,20nm,0.6s								
CN2				pmax		pmax			
	comp=Z,200nm,4.0s								
CN2				LR		LR			
	comp=N,300nm,13.0s								
CN2				LR		LR			
	comp=E,300nm,13.0s								
CN2				LR		LR			
	comp=Z,400nm,15.0s								
SNY	**Shenyang**	**15.03**	**300**	⇓P		**Pn**		**12 05 51.0**	**+1.1**
SNY				pmax		pmax			
	comp=Z,10.0nm,0.6s								
SNY				LR		LR			
	comp=N,450nm,11.8s								
SNY				LR		LR			
	comp=E,370nm,19.8s								
SNY				LR		LR			
	comp=Z,470nm,24.6s								
DL2	**Dalian**	**15.84**	**288**	P		**Pn**		**12 06 00.0**	**-0.7**
DL2				S		**Sn**		**12 08 58.9**	**+2.9**
DL2				pmax		pmax			
	comp=Z,38nm,0.9s								
DL2				pmax		pmax			
	comp=Z,310nm,6.7s								
DL2				LR		LR			
	comp=N,260nm,10.2s								
DL2				LR		LR			
	comp=Z,390nm,16.9s								
SSE	**Sheshan**	**17.18**	**261**	P		**Pn**		**12 06 17.2**	**-0.5**
SSE				S		**Sn**		**12 09 28.7**	**+0.1**
SSE				sS		**sS**		**12 09 41.5**	**-2.7**
SSE				pmax		pmax			
	comp=Z,52nm,0.7s								
SSE				pmax		pmax			
	comp=Z,170nm,6.1s								
SSE				LR		LR			
	comp=N,650nm,22.5s								
SSE				LR		LR			
	comp=E,540nm,22.5s								
SSE				LR		LR			
	comp=Z,1μm,16.7s								
NJ2	**Nanjing**	**18.77**	**266**	*e*P		**P**		**12 06 36.4**	**-0.4**
NJ2				pP		**Pn**		**12 06 38.7**	**+1.4**
NJ2				sP		**sP**		**12 06 40.8**	**-1.9**
NJ2				S		**Sn**		**12 10 07.0**	**-0.1**
NJ2				sS		**sS**		**12 10 16.0**	**-0.5**
NJ2				pmax		pmax			
	comp=Z,10.0nm,0.7s								
NJ2				pmax		pmax			
	comp=Z,150nm,3.5s								
NJ2				LR		LR			
	comp=N,810nm,16.3s								
NJ2				LR		LR			
	comp=E,1μm,14.6s								
NJ2				LR		LR			
	comp=Z,1μm,16.2s								
BJI	**Beijing**	**20.16**	**290**	P		**P**		**12 06 50.5**	**-1.4**
BJI				S		**S**		**12 10 33.6**	**-4.1**
BJI				pmax		pmax			
	comp=Z,18nm,0.8s								
BJI				LR		LR			
	comp=N,340nm,18.6s								
BJI				LR		LR			
	comp=E,340nm,24.6s								
BJI				LR		LR			
	comp=Z,470nm,30.6s								
BJT	**Baijiatuau**	**20.16**	**290**	*e*P		**P**		**12 06 51.6**	**-0.3**
	comp=Z,32nm,0.7s								
YULB	**Yu-li**	**20.98**	**240**	*e*P		**P**		**12 07 00.5**	**-0.5**
PEA0B	**Petropavlovsk-**	**21.14**	**29**	*e*P		**P**		**12 07 03.9**	**+1.4**
PETK	**Petropavlovsk-**	**21.14**	**29**	P		**P**		**12 07 03.8**	**+1.3**
PETK				pmax		pmax			
	comp=Z,42nm,0.9s								
PETK				MLR		MLR			
	comp=Z,270nm,21.9s								
PETK	**Petropavlovsk-**	**21.14**	**29**	P		**P**		**12 07 03.8**	**+1.3**
PETK	**Petropavlovsk-**	**21.14**	**29**	P		**P**		**12 07 03.8**	**+1.3**
	comp=Z,42nm,0.9s,baz=210,slow=8.6,SNR=41								
PETK				LR		LR		12 15 11.3	
	comp=Z,270nm,21.9s,baz=222,slow=36								
PET	**Petropavlovsk**	**21.46**	**30**	*e*P		P		12 07 10.9	+5.0
PET				*e*S		**S**		**12 11 02.2**	**-1.2**
PET				pmax		pmax			
	comp=Z,48nm,1.2s								
PET				pmax		pmax			
	comp=Z,200nm,13.9s								
PET				MLR		MLR			
	comp=Z,400nm,18.0s								
GUMO	**Guam**	**22.10**	**170**	*e*P		P		12 07 19.5	+6.5
	comp=Z,302nm,1.4s								
WHN	**Wuhan**	**22.90**	**265**	⇑P		**P**		**12 07 20.1**	**-1.4**
WHN				S		**S**		**12 11 27.2**	**-3.7**
WHN				pmax		pmax			
	comp=Z,58nm,1.0s								
WHN				LR		LR			
	comp=N,840nm,14.2s								
WHN				LR		LR			
	comp=E,2μm,15.9s								
WHN				LR		LR			
	comp=Z,2μm,16.6s								
HHC	**Hu-ho-hao-te**	**23.73**	**292**	*e*P		**P**		**12 07 28.2**	**-1.6**
HHC				pP		**pP**		**12 07 32.4**	**-1.7**
HHC				PP		**PnPn**		**12 08 00.7**	**+3.5**
HHC				PcP		**PcP**		**12 11 14.7**	**+1.1**
HHC				S		**S**		**12 11 38.4**	**-6.2**
HHC				PcS		**PcS**		**12 14 52.7**	**-0.4**
HHC				pmax		pmax			
	comp=Z,28nm,1.0s								
HHC				pmax		pmax			
	comp=Z,170nm,5.7s								
HHC				LR		LR			
	comp=N,310nm,12.8s								
HHC				LR		LR			
	comp=E,270nm,12.2s								
HHC				LR		LR			
	comp=Z,280nm,12.7s								
CLNS	**Chul'man**	**23.96**	**338**	*e*P		**P**		**12 07 31.8**	**0.0**
CLNS				*e**PP		**pP**		**12 07 40.1**	**+3.9**
CLNS				*e*				12 08 00.5	
CLNS				*e*PPP		PPP		12 08 09.3	
CLNS				*e*				12 11 11.9	
CLNS				*e*S		**S**		**12 11 47.7**	**-0.2**
CLNS				*e*SS		**SnSn**		**12 12 35.5**	**+7.6**
CLNS				pmax		pmax			
	comp=Z,24nm,0.8s								
CLNS				pmax		pmax			
	comp=E,6.0nm,0.8s								
CLNS				pmax		pmax			
	comp=N,13nm,0.9s								
CLNS				pmax		pmax			
	comp=E,11nm,0.8s								
CLNS				pmax		pmax			
	comp=N,7.0nm,0.6s								
CLNS				pmax		pmax			
	comp=Z,14nm,0.9s								
CLNS				smax		smax			
	comp=E,150nm,10.5s								
CLNS				smax		smax			
	comp=N,135nm,11.5s								
CLNS				MLR		MLR			
	comp=E,165nm,11.0s								
CLNS				MLR		MLR			
	comp=N,113nm,13.0s								
CLNS				MLR		MLR			
	comp=Z,134nm,11.0s								
XAN	**Xi'an**	**26.38**	**276**	P		**P**		**12 07 52.4**	**-1.6**
XAN				LR		LR			
	comp=N,490nm,18.2s								
XAN				LR		LR			
	comp=E,230nm,21.5s								
XAN				LR		LR			
	comp=Z,200nm,21.3s								
ENH	**Enshi**	**26.95**	**268**	*e*P		**P**		**12 07 57.4**	**-1.8**
	comp=Z,22nm,0.7s								
YAK	**Yakutsk**	**27.49**	**348**	*e*P		**P**		**12 08 02.7**	**-0.9**
YAK				*e**PP		**pP**		**12 08 12.2**	**+4.2**
YAK				*e*				12 08 47.7	
YAK				*e*PPP		PPP		12 08 58.1	
YAK				*e*				12 11 20.5	
YAK				*e*S		**S**		**12 12 41.8**	**-1.9**
YAK				*e*SS		**SnSn**		**12 13 54.2**	**+0.4**
YAK				*e*SSS		SSS		12 14 09.6	
YAK				pmax		pmax			
	comp=Z,27nm,0.9s								
YAK				pmax		pmax			
	comp=N,7.0nm,1.0s								
YAK				pmax		pmax			
	comp=Z,17nm,1.0s								
YAK				pmax		pmax			
	comp=N,17nm,0.8s								
YAK				pmax		pmax			
	comp=E,12nm,1.1s								
YAK				smax		smax			
	comp=N,31nm,1.6s								
YAK				smax		smax			
	comp=E,42nm,2.2s								
YAK				MLR		MLR			
	comp=Z,214nm,16.0s								
YAK				MLR		MLR			
	comp=N,158nm,14.0s								
YAK				MLR		MLR			
	comp=E,101nm,14.0s								
ULN	**Ulaanbaatar**	**28.00**	**307**	*e*P		**P**		**12 08 08.8**	**+0.2**
	comp=E,9.9nm,0.9s								
SONM	**Songino Array**	**28.42**	**306**	P		**P**		**12 08 12.7**	**+0.4**
SONM				ScP		**ScP**		**12 15 00.3**	**-4.7**
SONM	**Songino Array**	**28.42**	**306**	P		**P**		**12 08 12.7**	**+0.4**
	comp=E,5.9nm,0.7s,baz=104,slow=8.9,SNR=24								
SONM				ScP		**ScP**		**12 15 00.3**	**-4.7**
	comp=E,0.3nm,0.3s,baz=101,slow=4.6,SNR=4.1								
SONM				LR		LR		12 20 00.2	
	comp=E,163nm,18.3s,baz=102,slow=37								
FX1	**Attu Island--F**	**28.50**	**42**	*e*P		**P**		**12 08 14.3**	**+1.6**
FX1	**Attu Island--F**	**28.50**	**42**	P		**P**		**12 08 14.4**	**+1.6**
	comp=E,15nm,0.6s,baz=3.7,slow=1.4,SNR=17								
FX1				LR		LR		12 17 58.2	
	comp=E,320nm,20.1s,baz=269,slow=33								
LZH	**Lanzhou**	**30.07**	**282**	*e*P		**P**		**12 08 25.8**	**-1.3**
LZH				pP		**pP**		**12 08 27.5**	**-4.0**
LZH				*e*PP		**PnPn**		**12 09 22.5**	**-1.5**
LZH				pmax		pmax			
	comp=Z,21nm,1.3s								
LZH				pmax		pmax			
	comp=Z,53nm,5.6s								
LZH				LR		LR			
	comp=N,240nm,12.6s								
LZH				LR		LR			
	comp=E,290nm,13.2s								
LZH				LR		LR			
	comp=Z,430nm,15.5s								
GYA	**Guiyang**	**30.71**	**263**	⇑*i*P		**P**		**12 08 31.5**	**-1.3**
GYA				PP		**PnPn**		**12 09 33.6**	**+1.1**
GYA				PcP		**PcP**		**12 11 31.2**	**+0.7**
GYA				S		**S**		**12 13 40.0**	**+4.7**
GYA				ScP		**ScP**		**12 15 13.4**	**+0.7**
GYA				SS		**SnSn**		**12 15 14.8**	**+1.5**
GYA				pmax		pmax			
	comp=Z,10.0nm,0.8s								
GYA				pmax		pmax			
	comp=Z,90nm,4.9s								
GYA				LR		LR			
	comp=N,590nm,17.4s								
GYA				LR		LR			
	comp=E,430nm,18.0s								
GYA				LR		LR			
	comp=Z,540nm,17.6s								
ZAK	**Zakamensk**	**31.01**	**310**	*e*P		**P**		**12 08 34.3**	**-0.9**
ZAK				pmax		pmax			
	comp=Z,4.0nm,1.1s								
TLY	**Talaya**	**31.13**	**313**	*e*P		**P**		**12 08 37.5**	**+1.4**
TLY				MLR		MLR			
	comp=Z,172nm,13.0s								
CD2	**Chengdu**	**31.42**	**272**	P		**P**		**12 08 40.2**	**+1.3**
CD2				pP		**pP**		**12 08 44.6**	**+1.3**
CD2				sP		**sP**		**12 08 47.2**	**+2.1**
CD2				PP		**PnPn**		**12 09 43.2**	**+1.5**
CD2				S		**S**		**12 13 46.3**	**+0.1**
CD2				sS		**sS**		**12 13 52.5**	**-1.0**
CD2				SS		**SnSn**		**12 15 31.5**	**+1.2**
CD2				pmax		pmax			
	comp=Z,20nm,0.6s								
CD2				pmax		pmax			
	comp=Z,70nm,4.7s								
CD2				LR		LR			
	comp=N,1μm,20.2s								
CD2				LR		LR			
	comp=Z,2μm,19.0s								
QIZ	**Qiongzhong**	**32.06**	**247**	P		**P**		**12 08 44.1**	**-0.5**
QIZ				S		**S**		**12 13 56.1**	**-0.2**
QIZ				LR		LR			
	comp=N,260nm,17.2s								
QIZ				LR		LR			
	comp=E,140nm,15.2s		

GTA sP **sP** 12 08 56.4 -0.6
GTA PcP **PcP** 12 11 36.6 +0.7
GTA S **S** 12 14 06.4 -0.8
GTA sS **sS** 12 14 14.4 0.0
GTA SS **SnSn** 12 16 06.5 +3.6
GTA pmax pmax
comp=Z,4.0nm,0.8s
GTA pmax pmax
comp=Z,61nm,3.8s
GTA LR LR
comp=E,320nm,19.5s
GTA LR LR
comp=Z,330nm,21.8s
KMI Kunming 34.47 263 P **P** 12 09 05.0 -0.9
KMI pP **pP** 12 09 09.7 -0.6
KMI sP **sP** 12 09 11.6 -0.5
KMI PP **PP** 12 10 23.3 -0.7
KMI S **S** 12 14 33.2 -0.9
KMI sS **sS** 12 14 38.7 -2.7
KMI SS **SnSn** 12 16 42.8 -2.1
KMI pmax pmax
comp=Z,13nm,1.2s
KMI pmax pmax
comp=Z,100nm,5.9s
KMI LR LR
comp=N,510nm,20.6s
KMI LR LR
comp=E,200nm,25.2s
KMI LR LR
comp=Z,490nm,22.4s
TIXI Tiksi 36.76 354⇓ *e*P **P** 12 09 23.9 -0.8
TIXI pmax pmax
comp=Z,15nm,0.8s
TIXI MLR MLR
comp=Z,327nm,21.0s
HVS Khovu-Aksy 37.12 310 *de*P **P** 12 09 28.8 +0.6
HVS pmax pmax
comp=Z,92nm,1.0s
FAKI Fak Fak 39.12 194 P **P** 12 09 45.2 0.0
comp=Z,52nm,0.9s
MRSI Marisa 39.15 211 P **P** 12 09 45.1 -0.3
comp=Z,17nm,1.1s
CMAR Chiang Mai Arr 40.85 257 P **P** 12 09 59.7 +0.1
CMAR Chiang Mai Arr 40.85 257 P **P** 12 09 59.7 +0.1
comp=Z,1.6nm,0.7s,baz=43,slow=6.6,SNR=9.2
CMAR LR LR 12 28 45.6
comp=Z,553nm,18.6s,baz=79,slow=39
WMQ Urumqi 41.28 298 P **P** 12 10 03.8 +0.8
WMQ pP **pP** 12 10 08.3 +0.8
WMQ sP **sP** 12 10 10.8 +1.5
WMQ PP **PnPn** 12 11 42.3 -0.5
WMQ PcP **PcP** 12 12 03.4 +1.9
WMQ S **S** 12 16 16.7 0.0
WMQ sS **sS** 12 16 23.8 -0.2
WMQ SS **SS** 12 19 14.9 -5.1
WMQ ScS **ScS** 12 20 05.6 -1.2
WMQ pmax pmax
comp=Z,74nm,0.8s
WMQ pmax pmax
comp=Z,150nm,5.2s
WMQ LR LR
comp=N,170nm,19.5s
WMQ LR LR
comp=E,170nm,26.6s
WMQ LR LR
comp=Z,200nm,25.3s
LSA Lhasa 42.08 277 P **P** 12 10 11.2 +1.0
LSA pmax pmax
comp=Z,20nm,0.8s
LSA Lhasa 42.08 277 *e*P **P** 12 10 10.7 +0.5
LSA pmax pmax
comp=Z,15nm,0.8s
LSA Lhasa 42.08 277 *e*P **P** 12 10 10.7 +0.5
comp=Z,15nm,0.8s
ZAA0 Zalesovo Array 42.74 314 *e*P **P** 12 10 14.7 +0.1
ZALV Zalesovo Beam 42.74 314 P **P** 12 10 14.7 0.0
ZALV pmax pmax
comp=Z,13nm,0.8s
ZALV Zalesovo Beam 42.74 314 P **P** 12 10 14.7 0.0
ZALV Zalesovo Beam 42.74 314 P **P** 12 10 14.7 0.0
comp=Z,13nm,0.8s,baz=91,slow=6.8,SNR=47
NVS Novosibirsk 43.69 315⇑ *i*P **P** 12 10 21.0 -1.3
NVS *e*S **S** 12 16 48.2 -3.4
NVS pmax pmax
comp=N,5.0nm,1.0s
NVS pmax pmax
comp=E,14nm,1.0s
NVS pmax pmax
comp=Z,18nm,1.0s
NVS smax smax
comp=N,4.0nm,1.2s
NVS smax smax
comp=E,5.0nm,1.2s
SPSI Sidrap Palu 44.06 211 P **P** 12 10 24.6 -1.1
comp=E,20nm,0.9s
KSM Kuching 44.31 227 *e*P **P** 12 10 28.6 +0.9
comp=E,7.8nm,0.7s
MK31 Makanchi Array 44.70 303 *i*P **P** 12 10 30.1 -0.5
MK31 pmax pmax
comp=Z,24nm,0.9s
MK31 Makanchi Array 44.70 303 *e*P **P** 12 10 30.5 0.0
MKAR Makanchi Array 44.70 303 P **P** 12 10 30.4 -0.1
MKAR pmax pmax
comp=Z,16nm,0.9s
MKAR MLR MLR
comp=Z,133nm,20.3s
MKAR Makanchi Array 44.70 303 P **P** 12 10 30.4 -0.1
MKAR Makanchi Array 44.70 303 P **P** 12 10 30.4 -0.1
comp=Z,16nm,0.9s,baz=87,slow=8.9,SNR=68
MKAR LR LR 12 29 47.0
comp=Z,133nm,20.3s,baz=92,slow=37
KAPI Kappang 45.02 211 *e*P **P** 12 10 32.1 -1.1
comp=Z,21nm,0.7s
KAPI Kappang 45.02 211 P **P** 12 10 32.2 -1.1
comp=Z,28nm,1.4s
KAPI Kappang 45.02 211 P **P** 12 10 32.2 -1.1
comp=Z,9.6nm,0.5s,baz=332,slow=16,SNR=6.3
BKSI Bulukumba 45.14 210 P **P** 12 10 33.1 -1.2
comp=Z,24nm,0.9s
TAPN Taplejung 45.78 275 *e*P **P** 12 10 38.5 -1.2
comp=Z,25nm,0.8s
BBKI Banjar Baru 45.91 218 P **P** 12 10 39.5 -0.9
comp=Z,38nm,0.8s
ODAN Odare 46.24 275 *e*P **P** 12 10 41.3 -2.0
KURK Kurchatov 46.65 309 P **P** 12 10 46.1 +0.2
KURK pmax pmax
comp=Z,14nm,0.9s
KURK Kurchatov 46.65 309 P **P** 12 10 46.0 +0.2
KURBB Kurchatov Arra 46.72 309 P **P** 12 10 46.0 -0.4
comp=Z,14nm,0.9s,baz=85,slow=8.0,SNR=84
RAMN Ramite 46.84 275 *e*P **P** 12 10 47.2 -0.8
comp=Z,99nm,1.0s
JIRN Jiri 46.88 276 *e*P **P** 12 10 48.3 -0.2
comp=Z,65nm,0.7s
SVW2 Sparrevohn 46.90 36 *e*P **P** 12 10 49.4 +1.7
comp=Z,23nm,1.0s
GUN Gumba 47.03 277 *e*P **P** 12 10 50.0 +0.4
comp=Z,69nm,1.0s
PKI Pulchoki 47.55 277 *e*P **P** 12 10 52.9 -0.8
comp=Z,34nm,0.8s
PKIN Phulchoki 47.56 277 *e*P **P** 12 10 52.4 -1.3
comp=Z,22nm,0.7s
KKN Kakani 47.57 277 *e*P **P** 12 10 53.2 -0.5
comp=Z,38nm,0.8s
DMN Daman 47.78 277 *e*P **P** 12 10 55.1 -0.3
comp=Z,37nm,1.0s
OHAK Old Harbor 48.07 42 *e*P **P** 12 10 57.0 +0.2
comp=Z,19nm,0.8s
LBFI Labuhan Bajo, 48.10 209 P **P** 12 10 55.7 -1.8
comp=Z,52nm,0.7s
IPM Ipoh 48.12 239 *e*P **P** 12 10 58.2 +0.4
comp=Z,7.6nm,0.8s
RSO Redoubt South 48.27 37 *e*P **P** 12 10 59.6 +1.0
KDAK Kodiak Island 48.42 41 *e*P **P** 12 10 59.9 +0.4
comp=Z,34nm,0.8s
DANN Dangsing 48.57 278 *e*P **P** 12 11 01.2 -0.3
comp=Z,143nm,0.8s
PPLA Purkeypile 48.58 34 *e*P **P** 12 11 02.7 +1.8
comp=Z,22nm,1.1s
SPU Mount Spurr 48.62 36 *e*P **P** 12 11 02.6 +1.5
CAST Castle Rocks 48.64 33 *e*P **P** 12 11 03.1 +1.9
comp=Z,14nm,0.9s
KOLN Koldanda 48.94 278 *e*P **P** 12 11 04.0 -0.2
comp=Z,34nm,0.8s
BPAW Bear Paw Mtn. 49.15 33 *e*P **P** 12 11 06.4 +1.3
comp=Z,6.5nm,0.9s

COEN Coen 49.25 177 *e*P **P** 12 11 06.9 +0.6
comp=Z,95nm,0.9s
TRF Thorofare Moun 49.45 33 *e*P **P** 12 11 07.9 +0.3
comp=Z,11nm,1.0s
SRBI Singaraja 49.75 214 P **P** 12 11 08.8 -1.3
comp=Z,48nm,0.8s
MTNI Mataram 49.80 213 P **P** 12 11 09.0 -1.6
comp=Z,65nm,1.0s
PMR Palmer 50.01 36 *e*P **P** 12 11 12.0 +0.3
PMR pmax pmax
comp=Z,17nm,1.0s
PMR Palmer 50.01 36 *e*P **P** 12 11 12.0 +0.3
comp=Z,17nm,1.0s
MCK McKinley 50.05 33 *e*P **P** 12 11 12.8 +0.8
MCK pmax pmax
comp=Z,11nm,0.9s
MCK McKinley 50.05 33 *e*P **P** 12 11 12.8 +0.8
comp=Z,11nm,0.9s
TKM2 Tokmak 2 50.11 299 *e*P **P** 12 11 13.8 +0.8
TKM2 pmax pmax
comp=Z,19nm,0.7s
TKM2 Tokmak 2 50.11 299 *e*P **P** 12 11 13.8 +0.8
comp=Z,19nm,0.7s
SML Sawmill 50.38 36 *e*P **P** 12 11 15.5 +0.9
SML pmax pmax
comp=Z,6.0nm,0.8s
SML Sawmill 50.38 36 *e*P **P** 12 11 15.5 +0.9
comp=Z,5.9nm,0.8s
COLA College 50.51 32 *e*P **P** 12 11 16.7 +1.3
comp=Z,62nm,0.7s
KSH Kashi 50.77 295 *e*P P 12 11 21.8 +3.9
KSH sP sP 12 11 28.5 +4.2
KSH PP **PP** 12 13 18.4 +4.5
KSH PcS **PcS** 12 16 33.7 +1.4
KSH S **S** 12 18 37.0 +3.7
KSH SS **SS** 12 22 09.3 +1.8
KSH pmax pmax
comp=Z,68nm,4.7s
KSH LR LR
comp=N,810nm,14.7s
KSH LR LR
comp=E,470nm,14.7s
KSH LR LR
comp=Z,180nm,5.8s
PSI Prapat 50.78 240 P **P** 12 11 16.5 -1.7
PSI Prapat 50.78 240 P **P** 12 11 16.5 -1.7
comp=Z,4.0nm,0.7s,baz=8.7,slow=13,SNR=3.3
ILAR Eielson Array 50.93 32 P **P** 12 11 18.6 +0.1
ILAR Eielson Array 50.93 32 P **P** 12 11 18.6 +0.1
comp=Z,20nm,0.8s,baz=268,slow=6.2,SNR=232
AAK Ala-Archa 50.97 299 *de*P **P** 12 11 19.4 0.0
AAK Ala-Archa 50.97 299 *e*P **P** 12 11 19.7 +0.3
AAK Ala-Archa 50.97 299 P **P** 12 11 19.0 -0.4
comp=Z,4.4nm,0.6s,baz=111,slow=3.8,SNR=9.0
AAK LR LR 12 33 56.3
comp=Z,259nm,21.4s,baz=62,slow=37
VOSK Vostochnaya 51.09 313 P **P** 12 11 19.4 -0.5
VOSK pmax pmax
comp=Z,25nm,1.1s
SJI Sawahan 51.12 219 P **P** 12 11 19.5 -1.1
comp=Z,50nm,1.0s
PWJI Pagerwojo 51.34 218 P **P** 12 11 20.6 -1.6
comp=Z,93nm,0.8s,comp=Z,8μm
BVA0 Borovoye Array 51.39 313 *i*P **P** 12 11 22.1 -0.1
BVA0 pmax pmax
comp=Z,16nm,1.1s
BVAR Borovoye Array 51.39 313 P **P** 12 11 22.2 0.0
BVAR pmax pmax
comp=Z,4.0nm,0.6s
BVAR MLR MLR
comp=Z,133nm,18.3s
BVAR Borovoye Array 51.39 313 P **P** 12 11 22.2 0.0
BVAR Borovoye Array 51.39 313 P **P** 12 11 22.2 0.0
comp=Z,4.2nm,0.6s,baz=87,slow=7.6,SNR=20
BVAR LR LR 12 34 38.1
comp=Z,133nm,18.3s,baz=233,slow=38
BRVK Borovoye 51.45 313 P **P** 12 11 22.0 -0.6
BRVK pmax pmax
comp=Z,23nm,1.1s
BRVK Borovoye 51.45 313 *e*P **P** 12 11 23.1 +0.5
comp=Z,17nm,1.1s
EKS2 Erkin-Say 51.47 300 *e*P **P** 12 11 23.8 +0.6
EKS2 pmax pmax
comp=Z,9.0nm,1.1s
EKS2 Erkin-Say 51.47 300 *e*P **P** 12 11 23.8 +0.6
comp=Z,8.8nm,1.1s
DIV Divide 51.66 36 *e*P **P** 12 11 24.8 +0.6
comp=Z,29nm,1.0s
BMRM Bremner River 52.24 36 *e*P **P** 12 11 29.5 +1.0
comp=Z,24nm,0.8s
RAGM Ragged Mountai 52.27 37 *e*P **P** 12 11 30.4 +1.7
comp=Z,21nm,1.0s
MENT Mentasta 52.45 34 *e*P **P** 12 11 31.8 +1.8
LEM Lembang 52.58 224 P **P** 12 11 30.6 -1.0
comp=Z,72nm,1.0s
EGAK Eagle 53.38 31 *e*P **P** 12 11 37.1 +0.3
comp=Z,9.0nm,0.7s
KK31 Karatay Array 53.65 301 *i*P **P** 12 11 39.1 0.0
KK31 pmax pmax
comp=Z,19nm,1.0s
KKAR Karatay Array 53.65 301 *e*P **P** 12 11 39.4 +0.3
KKAR Karatay Array 53.65 301 *e*P **P** 12 11 39.4 +0.3
DAWY Dawson 54.23 32 *e*P **P** 12 11 44.2 +1.1
FITZ Fitzroy Crossi 55.30 198 *e*P **P** 12 11 51.5 +0.4
WRAB Tennant Creek 55.51 188 *e*P **P** 12 11 52.7 0.0
WRAB pmax pmax
comp=Z,21nm,0.8s
WRAB Tennant Creek 55.51 188 *e*P **P** 12 11 52.7 0.0
comp=Z,21nm,0.8s
WRA Warramunga Arr 55.52 188 P **P** 12 11 52.4 -0.4
WRA Warramunga Arr 55.52 188 P **P** 12 11 52.4 -0.4
comp=Z,23nm,0.8s,baz=5.6,slow=7.5,SNR=109
HYT Haines Junctio 55.69 36 *e*P **P** 12 11 55.6 +1.8
INK Inuvik 55.87 27 *e*P **P** 12 11 55.2 +0.5
comp=Z,13nm,0.9s
SVE Sverdlovsk 56.10 319 *e*P **P** 12 11 57.2 +0.6
SVE pmax pmax
comp=Z,26nm,0.9s
ARU Arti 57.31 319 *d i*P **P** 12 12 04.6 -0.6
ARU 12 12 57.4
ARU 12 14 07.4
ARU S **S** 12 19 59.5 -1.3
ARU SS **SS** 12 23 44.2 -5.4
ARU pmax pmax
comp=Z,22nm,1.0s
SOKR Solikamsk 57.36 323 *e*P **P** 12 12 08.6 +3.2
SOKR pmax pmax
comp=Z,10.0nm,0.8s
KBL Kabul 57.70 292 *e*P **P** 12 12 07.5 -1.1
KBL pmax pmax
comp=Z,6.0nm,0.8s
KBL Kabul 57.70 292 *e*P **P** 12 12 07.5 -1.1
comp=Z,6.0nm,0.8s
HYB Hyderabad 57.88 269 *i*P **P** 12 12 09.0 -0.9
AB31 Akbulak array 58.70 311 *i*P **P** 12 12 14.5 -0.6
AB31 pmax pmax
comp=Z,6.0nm,0.5s
ABKAR Akbulak array 58.70 311 *e*P **P** 12 12 14.8 -0.3
comp=Z,5.2nm,0.6s
AS31 Alice Springs 59.25 188 *e*P **P** 12 12 19.1 +0.1
ASAR Alice Springs 59.25 188 P **P** 12 12 18.9 -0.2
ASAR Alice Springs 59.25 188 P **P** 12 12 18.9 -0.2
comp=Z,1.4nm,0.9s,baz=1.3,slow=5.5,SNR=4.7
AKTO Aktyubinsk 59.48 313 P **P** 12 12 20.1 -0.4
AKTO Aktyubinsk 59.48 313 P **P** 12 12 20.1 -0.4
AKTO Aktyubinsk 59.48 313 P **P** 12 12 20.1 -0.4
comp=Z,5.1nm,0.7s,baz=71,slow=13,SNR=17
MBWA Marble Bar 59.89 203 *e*P **P** 12 12 23.4 0.0
comp=Z,32nm,0.8s
DLBC Dease Lake 60.00 37 *e*P **P** 12 12 25.3 +1.3
KBS Kingsbay 62.10 350 *d i*P **P** 12 12 38.3 +0.5
KBS pmax pmax
comp=Z,14nm,0.8s
APA Apatity 63.95 336⇓ *e*P **P** 12 12 49.6 -0.7
APA MLR MLR
comp=Z,300nm,22.0s
KLMR Klimovskoe 64.88 328 *e*P **P** 12 12 54.6 -1.9
KLMR *e* 12 15 21.3
KLMR pmax pmax
comp=Z,18nm,1.4s
KLMR MLR MLR
comp=Z,258nm,20.0s
YKA Yellowknife Ar 65.26 30 P **P** 12 12 58.9 -0.1
YKA Yellowknife Ar 65.26 30 P **P** 12 12 58.8 -0.1
comp=Z,8.2nm,0.8s,baz=300,slow=6.5,SNR=25
ARCES ARCESS Array B 65.31 340 P **P** 12 12 58.7 -0.5

ARCES ARCESS Array B 65.31 340 P **P** 12 12 58.7 -0.5
comp=Z,4.3nm,0.7s,baz=50,slow=10,SNR=9.8
ARCES LR LR 12 47 43.0
comp=Z,100nm,18.5s,baz=281,slow=42
STKA Stephens Creek 67.04 180 P **P** 12 13 10.6 0.0
STKA Stephens Creek 67.04 180 P **P** 12 13 10.6 0.0
comp=Z,3.7nm,0.5s,baz=335,slow=7.2,SNR=7.3
FORT Forrest 67.07 192 *e*P **P** 12 13 11.2 +0.4
comp=Z,32nm,0.6s
JOF Joensuu 67.16 332 *e*P **P** 12 13 11.2 +0.1
JOF pmax pmax
comp=Z,4.0nm,0.4s
JOF Joensuu 67.16 332 *e*p **P** 12 13 11.2 +0.1
comp=Z,3.7nm,0.4s
NLWA Neilton Lookou 67.95 47 *e*P **P** 12 13 18.1 +1.6
comp=Z,14nm,0.8s
HDW Hoodsport 68.31 46 P **P** 12 13 20.2 +1.4
CMW Cultus Mountai 68.48 45 P **P** 12 13 20.9 +1.1
VRHR Novokhopersk 68.62 318 *e*P **P** 12 13 20.1 -0.4
VRHR pmax pmax
comp=N,20nm,0.6s
VRHR pmax pmax
comp=Z,9.0nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.7s
JCW Jim Creek 68.70 45 P **P** 12 13 22.3 +1.2
OBN Obninsk 69.14 323 *e*P **P** 12 13 24.0 +0.4
OBN *i* 12 13 47.2
OBN pmax pmax
comp=Z,28nm,2.5s
OBN MLR MLR
comp=Z,100nm,16.0s
TDL Tradedollar La 69.45 47 P **P** 12 13 27.4 +1.4
KAF Kangasniemi 69.52 333 *e*P **P** 12 13 25.4 -0.5
KAF pmax pmax
comp=Z,3.0nm,0.4s
KAF Kangasniemi 69.52 333 *e*p **P** 12 13 25.4 -0.5
comp=Z,3.2nm,0.4s
VSR Storozhevoye 69.88 319 *e*P **P** 12 13 29.9 +1.6
VSR pmax pmax
comp=Z,6.0nm,0.9s
VSR pmax pmax
comp=N,10.0nm,0.4s
VSR pmax pmax
comp=E,8.0nm,0.5s
LTY Liberty 69.91 46 *e*P **P** 12 13 29.2 +0.5
comp=E,5.2nm,0.6s
ETW Entiat 69.93 45 P **P** 12 13 29.6 +0.7
VORD Divnogorie 69.95 319 *e*P **P** 12 13 29.4 +0.7
VORD pmax pmax
comp=N,10.0nm,0.5s
VORD pmax pmax
comp=Z,7.0nm,0.5s
VORD pmax pmax
comp=E,20nm,1.5s
FINES FINESS Array B 70.02 332 P **P** 12 13 28.6 -0.4
FINES FINESS Array B 70.02 332 P **P** 12 13 28.6 -0.4
comp=E,9.9nm,0.8s,baz=49,slow=6.7,SNR=16
B08A Colville Reser 70.11 44 *e*P **P** 12 13 30.4 +0.5
comp=E,9.9nm,1.0s
EDM Edmonton 70.71 38 *e*P **P** 12 13 33.8 +0.4
EDM Edmonton 70.71 38 *e*P **P** 12 13 33.8 +0.4
C09A Chrisman Ranch 71.01 44 *e*P **P** 12 13 36.1 +0.8
comp=E,10nm,0.8s
NEW Newport 71.42 44 *e*P **P** 12 13 38.7 +0.9
comp=E,6.7nm,0.8s
NEW Newport 71.42 44 ⇓P **P** 12 13 38.0 +0.2
baz=71,SNR=8.1
YBH Yreka Blue Hor 71.50 52 *e*P **P** 12 13 40.0 +1.5
comp=E,12nm,1.1s
ZEI Tsey 71.54 310 *e*P **P** 12 13 37.4 -1.5
ZEI pmax pmax
comp=Z,7.0nm,0.5s
PINOR Pine Mountain 71.57 49 *e*P **P** 12 13 40.8 +2.1
KBZ Khabaz 71.67 311 P **P** 12 13 39.5 +0.1
KBZ pmax pmax
comp=Z,9.0nm,0.9s
KBZ Khabaz 71.67 311 P **P** 12 13 39.5 +0.1
KBZ Khabaz 71.67 311 P **P** 12 13 39.5 +0.1
comp=Z,8.7nm,0.9s,baz=53,slow=2.9,SNR=14
KIV Kislovodsk 71.68 311 *e*P **P** 12 13 41.0 +1.4
KIV pmax pmax
comp=Z,21nm,0.9s
E09A Wood Farm, Sta 71.77 46 *e*P **P** 12 13 40.7 +0.8
comp=Z,13nm,0.9s
K05A Summer Lake 72.13 50 *e*P **P** 12 13 43.9 +1.5
comp=Z,20nm,0.9s
SUMG Summit 72.20 360 *i*P **P** 12 13 43.7 +1.2
SUMG pmax pmax
comp=Z,21nm,1.0s
SUMG Summit 72.20 360 *i*P **P** 12 13 43.7 +1.2
comp=Z,21nm,1.0s
SUMG Summit 72.20 360 *e*P **P** 12 13 43.7 +1.2
comp=Z,25nm,0.9s
WDC Whiskeytown Da 72.21 53 *e*P **P** 12 13 43.9 +1.2
WDC pmax pmax
comp=Z,7.0nm,1.0s
WDC Whiskeytown Da 72.21 53 *e*P **P** 12 13 43.9 +1.2
comp=Z,6.9nm,1.0s
I07A Izee 72.27 48 *e*P **P** 12 13 44.3 +1.2
comp=Z,4.2nm,1.1s
LTIM Timbered Crate 72.57 52 P **P** 12 13 46.3 +1.3
F10A Beach Ranch, E 72.60 46 *e*P **P** 12 13 46.0 +0.9
comp=Z,55nm,2.6s
WALA Waterton Lakes 72.75 42 *e*P **P** 12 13 46.8 +0.8
comp=Z,0.2nm,0.9s
LBCM Butte Creek Ri 72.84 52 P **P** 12 13 47.7 +1.0
BMO Blue Mountains 73.17 47 *e*P **P** 12 13 49.0 +0.6
comp=Z,3.9nm,0.8s
J08A Circle Bar Ran 73.29 48 *e*P **P** 12 13 50.6 +1.5
comp=Z,11nm,1.1s
JTMT Jette 73.29 43 *e*P **P** 12 13 49.9 +0.7
SWMT Swartz Lake 73.58 43 *e*P **P** 12 13 51.5 +0.7
WVOR Wild Horse Val 73.69 49 *e*P **P** 12 13 52.7 +1.1
WVOR pmax pmax
comp=Z,6.0nm,1.0s
WVOR Wild Horse Val 73.69 49 *e*P **P** 12 13 52.7 +1.1
comp=Z,6.1nm,1.0s
BEKR Beckworth 74.00 52 *e*P **P** 12 13 54.2 +0.7
comp=Z,7.5nm,0.9s
MSO Missoula 74.01 44 *e*P **P** 12 13 53.4 +0.1
comp=Z,6.4nm,1.0s
MSO Missoula 74.01 44 ⇓P **P** 12 13 53.4 +0.1
baz=74,SNR=5.8
SLMT Seeley Lake 74.02 43 *e*P **P** 12 13 53.9 +0.4
CHMT Chamberlain Mo 74.34 43 *e*P **P** 12 13 55.6 +0.2
PAHR Pah Rah Range 74.72 52 *e*P **P** 12 13 58.8 +1.2
comp=Z,11nm,0.9s
MFID Camas Ranch 74.86 47 ⇑P **P** 12 13 58.8 +0.5
baz=75,SNR=8.9
B17A L&G Farms, Che 74.88 41 ⇑P **P** 12 13 58.7 +0.4
baz=75,SNR=21
CMB Columbia Colle 74.99 54 *e*P **P** 12 13 59.9 +0.8
CMB pmax pmax
comp=Z,9.0nm,0.8s
CMB Columbia Colle 74.99 54 *e*P **P** 12 13 59.9 +0.8
comp=Z,8.6nm,0.8s
A18A Metzger Ranch, 75.01 40 ⇓P **P** 12 13 59.0 0.0
baz=75,SNR=13
FFC Flin Flon 75.13 32 *e*P **P** 12 13 59.8 +0.2
FFC pmax pmax
comp=Z,44nm,1.0s
FFC Flin Flon 75.13 32 *e*P **P** 12 13 59.8 +0.2
comp=Z,44nm,1.0s
HRY Holter Researc 75.25 43 *e*P **P** 12 14 01.3 +0.7
C17A Wharram Farm, 75.29 42 ⇑P **P** 12 14 00.4 -0.3
baz=75,SNR=10
AKASG Malin Array Be 75.32 322 P **P** 12 14 00.0 -0.7
AKASG pmax pmax
comp=Z,4.0nm,0.5s
AKASG MLR MLR
comp=Z,176nm,18.9s
AKASG Malin Array Be 75.32 322 P **P** 12 14 00.0 -0.7
AKASG Malin Array Be 75.32 322 P **P** 12 14 00.0 -0.7
comp=Z,3.5nm,0.5s,baz=46,slow=6.1,SNR=12
AKASG LR LR 12 50 16.3
comp=Z,176nm,18.9s,baz=45,slow=38
KIEV Kiev 75.33 322 *e*P **P** 12 14 00.1 -0.7
KIEV pmax pmax
comp=Z,14nm,1.0s
KIEV Kiev 75.33 322 *e*P **P** 12 14 00.1 -0.7
comp=Z,14nm,1.0s
HFS Hagfors 75.35 336 P **P** 12 14 00.1 -0.6
HFS Hagfors 75.35 336 P **P** 12 14 00.1 -0.6
comp=Z,3.4nm,0.4s,baz=75,slow=2.3,SNR=8.8
WAKR Walker 75.35 53 *e*P **P** 12 14 02.9 +1.5

B18A **Beardsley Farm** 75.36 41 ⇑P P 12 14 01.3 +0.2
baz=75,SNR=9.7
LRM **Limekiln Ridge** 75.43 44 eP P 12 14 01.7 -0.1
NB2 **NORSAR Subarra** 75.47 337 P P 12 14 00.8 -0.6
comp=Z,9.1nm,0.8s,baz=38,slow=5.9
NOA **NORSAR Array B** 75.47 337 P P 12 14 01.4 -0.1
NOA **NORSAR Array B** 75.47 337 P P 12 14 01.4 -0.1
comp=Z,8.8nm,0.8s,baz=39,slow=5.7,SNR=16
A19A **Klindworth Far** 75.58 40 ⇑P P 12 14 02.5 +0.2
baz=75,SNR=14
EGMT **Eagleton** 75.60 41 eP P 12 14 03.2 +0.7
comp=Z,28nm,1.2s
EGMT **Eagleton** 75.60 41 ⇑P P 12 14 02.7 +0.2
baz=75,SNR=7.2
HLID **Hailey** 75.61 47 eP P 12 14 03.8 +1.0
comp=Z,3.4nm,0.9s
HLID **Hailey** 75.61 47 ⇑P P 12 14 03.3 +0.5
baz=76,SNR=8.7
DLMT **Dillon** 75.62 44 eP P 12 14 03.9 +1.1
comp=Z,7.2nm,0.6s
D17A **Six Diamond Ra** 75.62 42 ⇓P P 12 14 03.0 +0.3
baz=75,SNR=12
B19A **Brinkman Farms** 75.77 40 ⇑P P 12 14 03.9 +0.5
baz=76,SNR=12
E17A **Martinsdale** 75.94 43 ⇑P P 12 14 05.3 +0.7
baz=76,SNR=11
BOZ **Bozeman (W)** 76.00 44 eP P 12 14 05.5 +0.6
BOZ pmax pmax
comp=Z,7.0nm,0.8s
BOZ **Bozeman (W)** 76.00 44 eP P 12 14 05.5 +0.6
comp=Z,6.7nm,0.8s
A20A **Cobblestone Ra** 76.03 39 ⇑P P 12 14 05.1 +0.2
baz=76,SNR=6.3
D18A **Linhart Farms,** 76.08 42 ⇓P P 12 14 05.8 +0.6
baz=76,SNR=6.0
MIB **Mutribah** 76.11 297 eP P 12 14 04.6 -1.0
MIB AMb AMB 12 14 06.0
comp=Z,28nm,0.8s
NVAR **Mina Array Bea** 76.13 53 P P 12 14 06.9 +1.0
NVAR **Mina Array Bea** 76.13 53 P P 12 14 06.9 +1.0
comp=Z,9.0nm,0.8s,baz=283,slow=5.8,SNR=74
NVAR LR LR 12 41 34.3
comp=Z,136nm,20.6s,baz=89,slow=31
C19A **Slack Wire Ran** 76.15 41 ⇓P P 12 14 06.3 +0.7
baz=76,SNR=25
NV11 **Mina Array Sit** 76.22 53 eP P 12 14 07.2 +0.8
B20A **Solberg Farm,** 76.26 40 ⇓P P 12 14 06.6 +0.3
baz=76
QRN **Al-Qurain** 76.26 295 eP P 12 14 06.0 -0.5
QRN AMb AMB 12 14 07.0
comp=Z,72nm,0.8s
F17A **Fitzpatrick Pl** 76.39 43 ⇓P P 12 14 07.7 +0.6
baz=76,SNR=11
E18A **Harlowton** 76.40 42 ⇑P P 12 14 07.9 +0.8
baz=76,SNR=11
PTRM **Twissleman Ran** 76.42 56 eP P 12 14 08.8 +1.4
RDF **Al-Radifah** 76.44 296 eP P 12 14 07.0 -0.5
RDF AMb AMB 12 14 09.4
comp=Z,51nm,0.9s
A21A **Bergtoll Ranch** 76.48 39 ⇓P P 12 14 07.9 +0.5
baz=76,SNR=6.3
NAY **Al-Naaiem** 76.48 296 eP P 12 14 07.0 -0.8
NAY AMb AMB 12 14 07.7
comp=Z,1.1nm,0.9s
MTUM **Tungsten Hills** 76.56 54 eP P 12 14 09.5 +1.2
D19A **Cripps Ranch,** 76.59 41 ⇑P P 12 14 08.6 +0.4
baz=76,SNR=17
QLMT **Earthquake Lak** 76.60 44 eP P 12 14 09.6 +1.2
G17A **Pierce Place,** 76.70 44 ⇑P P 12 14 09.6 +0.8
baz=76,SNR=8.5
C20A **Veseth Ranch,** 76.72 40 ⇓P P 12 14 09.4 +0.6
baz=76,SNR=13
ELK **Elko** 76.75 49 eP P 12 14 10.6 +1.3
comp=Z,5.9nm,0.9s
H16A **Russell Place,** 76.78 44 ⇓P P 12 14 10.5 +1.1
baz=77,SNR=11
B21A **Ellsworth Farm** 76.79 39 ⇓P P 12 14 09.4 +0.2
baz=77,SNR=7.2
F18A **Big Timber** 76.91 43 ⇓P P 12 14 10.6 +0.5
baz=77,SNR=12
A22A **Carney Farms,** 77.00 38 ⇑P P 12 14 10.3 -0.1
baz=77,SNR=12
GCMT **Greycliff** 77.01 43 eP P 12 14 11.6 +1.0
comp=Z,9.6nm,1.3s
D20A **Manuel Ranch,** 77.04 41 ⇑P P 12 14 11.5 +0.8
baz=77,SNR=21
VES **Vestal, Richgr** 77.07 55 ⇓P P 12 14 11.9 +0.9
baz=77
E19A **Rath Farm, Rou** 77.08 42 ⇑P P 12 14 11.6 +0.7
baz=77,SNR=24
PKM **Peak Mountain** 77.11 56 ⇑P P 12 14 12.6 +1.2
baz=77
C21A **Desert Coulee** 77.13 40 ⇓P P 12 14 11.6 +0.5
baz=77,SNR=6.4
I16A **Newdale** 77.14 45 ⇓P P 12 14 12.7 +1.2
baz=77,SNR=24
H17A **Grant Village** 77.35 44 eP P 12 14 15.5 +2.8
H17A **Grant Village** 77.35 44 ⇓P P 12 14 14.6 +1.9
baz=77,SNR=17
G18A **Lazy EL Ranch,** 77.36 43 ⇓P P 12 14 13.0 +0.4
baz=77
F19A **Roth Farm, Mol** 77.37 42 ⇓P P 12 14 13.2 +0.7
baz=77,SNR=6.9
B22A **Reddig Ranch S** 77.40 39 ⇑P P 12 14 12.8 +0.2
baz=77
E20A **Meyer Farm, Mu** 77.41 41 ⇓P P 12 14 13.4 +0.7
baz=77,SNR=16
IMW **Indian Meadow** 77.44 45 eP P 12 14 14.8 +1.5
comp=Z,7.3nm,0.8s
FLWY **Flagg Ranch** 77.47 45 eP P 12 14 14.9 +1.6
comp=Z,12nm,0.4s
GRAC **Grapevine Rang** 77.55 53 ⇑P P 12 14 14.5 +0.8
baz=77
RRI2 **Red Ridge** 77.56 45 eP P 12 14 15.0 +1.1
comp=Z,8.7nm,1.1s
ISA **Isabella** 77.58 55 ⇑P P 12 14 14.2 +0.3
baz=78
I17A **Pilgrim Ck.** 77.64 45 ⇑P P 12 14 16.0 +1.7
baz=78,SNR=5.5
HVU **Hansel Valley** 77.64 47 eP P 12 14 15.8 +1.5
HVU pmax pmax
comp=Z,11nm,0.7s
HVU **Hansel Valley** 77.64 47 eP P 12 14 15.8 +1.5
comp=Z,11nm,0.7s
RLMT **Red Lodge** 77.64 43 eP P 12 14 15.2 +0.9
comp=Z,8.1nm,1.0s
MOOW **Moose Ponds** 77.65 45 eP P 12 14 15.7 +1.4
comp=Z,3.3nm,0.8s
TPAW **Teton Pass** 77.69 45 eP P 12 14 15.9 +1.3
comp=Z,7.1nm,0.7s
H18A **Shoshone NF, C** 77.69 44 ⇑P P 12 14 15.5 +0.9
baz=78,SNR=6.3
B23A **Brockton** 77.80 38 ⇓P P 12 14 15.1 +0.2
baz=78,SNR=14
C22A **Vida** 77.81 39 ⇓P P 12 14 15.1 +0.2
baz=78
LOHW **Long Hollow** 77.81 45 eP P 12 14 16.7 +1.4
comp=Z,3.9nm,1.0s
SNOW **Snow King Moun** 77.81 45 eP P 12 14 17.0 +1.7
comp=Z,5.8nm,0.7s
REDW **Red Top Meadow** 77.82 45 eP P 12 14 16.7 +1.4
comp=Z,6.4nm,1.1s
R11A **Troy Canyon, C** 77.92 51 eP P 12 14 16.8 +0.8
R11A **Troy Canyon, C** 77.92 51 ⇓P P 12 14 16.6 +0.7
baz=78,SNR=17
BGU **Big Grassy Mou** 78.00 48 eP P 12 14 17.3 +1.1
comp=Z,3.4nm,0.7s
A24A **Westby** 78.00 38 ⇑P P 12 14 16.4 +0.5
baz=78
MPMC **Manual Prospec** 78.01 54 ⇓P P 12 14 16.8 +0.4
baz=78,SNR=5.6
D22A **Cohagen** 78.04 40 ⇓P P 12 14 16.7 +0.5
baz=78,SNR=13
AHID **Auburn Hatcher** 78.04 46 eP P 12 14 17.5 +1.0
comp=Z,4.1nm,0.6s
H19A **Powell** 78.08 43 ⇑P P 12 14 17.1 +0.5
baz=78
C23A **Lambert** 78.13 39 ⇓P P 12 14 16.8 +0.1
baz=78,SNR=6.2
G20A **Bridger** 78.16 42 ⇓P P 12 14 17.3 +0.3
baz=78
FURC **Furnace Creek,** 78.19 54 ⇓P P 12 14 17.7 +0.5
baz=78,SNR=7.1
DGMT **Dagmar** 78.20 38 eP P 12 14 17.5 +0.4
DGMT **Dagmar** 78.20 38 ⇓P P 12 14 17.8 +0.7
baz=78
LRMC **Laurel Mountai** 78.21 55 ⇑P P 12 14 18.2 +0.7
baz=78

LAO **LASA Array** 78.31 40 eP P 12 14 18.7 +1.0
comp=Z,5.6nm,0.3s
EDW2 **Edwards Air Fo** 78.36 56 ⇓P P 12 14 18.8 +0.5
baz=78
F21A **Absaloka Mine,** 78.38 42 ⇑P P 12 14 18.7 +0.6
baz=78
A25A **Svangstu Ranch** 78.43 37 ⇑P P 12 14 18.8 +0.5
baz=78
I19A **Meeteetse** 78.47 44 ⇓P P 12 14 19.2 +0.3
baz=78
HWUT **Hardware Ranch** 78.47 47 eP P 12 14 19.8 +0.9
comp=Z,10nm,1.0s
D23A **Lindsay** 78.53 40 ⇑P P 12 14 19.5 +0.6
baz=78,SNR=11
DUG **Dugway** 78.57 49 eP P 12 14 20.5 +1.1
DUG **Dugway** 78.57 49 eP P 12 14 20.5 +1.1
DUG **Dugway** 78.57 49 ⇓P P 12 14 20.3 +1.0
baz=78,SNR=13
C24A **Savage** 78.70 39 ⇑P P 12 14 20.6 +0.7
baz=78
G21A **Lodge Grass** 78.71 42 ⇑P P 12 14 20.7 +0.7
baz=78
H20A **Greybull** 78.74 43 ⇑P P 12 14 20.8 +0.5
baz=79
FMP **Fort Macarthur** 78.82 57 ⇓P P 12 14 21.6 +0.9
baz=79
F22A **Rosebud** 78.87 41 ⇓P P 12 14 21.1 +0.2
baz=79,SNR=5.6
GSC **Goldstone** 78.90 55 eP P 12 14 25.1 +3.8
GSC pmax pmax
comp=Z,78nm,2.8s
GSC **Goldstone** 78.90 55 eP P 12 14 25.1 +3.8
comp=Z,78nm,2.8s
GSC **Goldstone** 78.90 55 ⇓P P 12 14 22.5 +1.2
baz=79
J19A **Crowheart** 78.91 44 ⇑P P 12 14 22.0 +0.7
baz=79,SNR=17
E23A **Ismay** 78.92 40 ⇑P P 12 14 21.7 +0.6
baz=79,SNR=6.2
CIS **Catalina Islan** 78.92 57 ⇑P P 12 14 22.9 +1.6
baz=79
BW06 **Boulder Array** 78.93 45 eP P 12 14 21.6 +0.1
comp=Z,4.9nm,0.6s
PDAR **Pinedale Array** 78.93 45 P P 12 14 21.6 +0.1
PDAR **Pinedale Array** 78.93 45 P P 12 14 21.6 +0.1
comp=Z,6.6nm,0.6s,baz=268,slow=1.9,SNR=75
BFSC **Mount Baldy Ra** 78.95 56 ⇑P P 12 14 22.4 +0.8
baz=79
I20A **Worland** 79.01 43 ⇓P P 12 14 22.5 +0.8
baz=79,SNR=6.3
D24A **Glendive** 79.02 39 ⇓P P 12 14 22.3 +0.7
baz=79,SNR=5.7
M17A **Scullys Gap (B** 79.08 47 ⇓P P 12 14 23.1 +0.8
baz=79
BORG **Borgarnes** 79.11 352 P P 12 14 23.0 +1.3
BORG **Borgarnes** 79.11 352 P P 12 14 23.0 +1.3
comp=Z,11nm,0.7s,baz=98,slow=2.1,SNR=4.3
JLU **Jordanelle** 79.15 48 eP P 12 14 24.0 +1.3
comp=Z,7.7nm,1.2s
NLU **North Lily Min** 79.16 49 eP P 12 14 23.5 +0.8
comp=Z,7.0nm,0.8s
C25A **Freed Ranch, W** 79.18 38 ⇑P P 12 14 23.4 +0.9
baz=79
L18A **Fontenelle, Gr** 79.18 46 ⇓P P 12 14 23.5 +0.7
baz=79
H21A **Big Horn, Sher** 79.18 42 ⇑P P 12 14 23.4 +0.7
baz=79,SNR=6.6
KWP **Kalwaria Pacla** 79.19 324 eP P 12 14 23.1 +0.6
KWP **Kalwaria Pacla** 79.19 324 eP P 12 14 23.1 +0.6
G22A **Birney** 79.21 42 ⇑P P 12 14 23.3 +0.5
baz=79
SHPR **Sheep Range** 79.28 53 eP P 12 14 24.4 +1.0
comp=Z,3.0nm,0.8s
K19A **Absolon Red Bu** 79.31 45 ⇓P P 12 14 23.3 -0.2
baz=79,SNR=5.3
BUR08 **Bucovina Ar. S** 79.31 322 eP P 12 14 23.6 +0.4
F23A **Volborg** 79.37 41 ⇑P P 12 14 23.9 +0.3
baz=79,SNR=14
DAU **Daniels Canyon** 79.38 48 eP P 12 14 25.5 +1.4
DAU **Daniels Canyon** 79.38 48 eP P 12 14 25.5 +1.4
MPU **Maple Canyon** 79.39 48 eP P 12 14 25.3 +1.3
comp=Z,10nm,0.8s
E24A **Baker** 79.40 40 ⇑P P 12 14 24.3 +0.5
baz=79
TUQ **Turquoise Moun** 79.41 54 ⇓P P 12 14 24.9 +0.8
baz=79,SNR=7.3
J20A **Shoshoni** 79.41 44 ⇓P P 12 14 24.6 +0.6
baz=79,SNR=12
BBRC **Big Bear Solar** 79.43 55 ⇓P P 12 14 24.9 +0.6
baz=79
L19A **Farson** 79.46 45 ⇓P P 12 14 24.9 +0.6
baz=79,SNR=5.7
HEC **Hector,Ludlow** 79.50 55 ⇑P P 12 14 25.5 +1.0
baz=79,SNR=6.1
D25A **Fairfield** 79.52 39 ⇓P P 12 14 24.9 +0.5
baz=79
I21A **Big Trails, Te** 79.56 43 ⇓P P 12 14 25.4 +0.6
baz=79,SNR=6.5
H22A **Clearmont** 79.58 42 ⇑P P 12 14 25.1 +0.3
baz=79
ARUT **Antelope Range** 79.62 51 eP P 12 14 26.1 +0.9
comp=Z,87nm,1.1s
MURC **Murrieta** 79.63 56 ⇑P P 12 14 26.1 +0.9
baz=80
BR131 **Keskin Array S** 79.64 312 eP P 12 14 25.1 -0.2
comp=Z,4.2nm,0.9s
BRTR **Keskin Array B** 79.64 312 P P 12 14 25.1 -0.2
BRTR **Keskin Array B** 79.64 312 P P 12 14 25.1 -0.2
comp=Z,3.0nm,0.8s,baz=102,slow=3.6,SNR=10
BRTR LR LR 12 54 56.6
comp=Z,44nm,20.3s,baz=264,slow=40
C26A **Wahner Farm, P** 79.68 38 ⇓P P 12 14 25.7 +0.4
baz=80
K20A **Yellowstone Ra** 79.70 45 ⇑P P 12 14 26.1 +0.5
baz=80
G23A **Biddle** 79.71 41 ⇑P P 12 14 25.9 +0.4
baz=80,SNR=5.2
J21A **Lysite** 79.77 44 ⇑P P 12 14 26.1 +0.1
baz=80
CCUT **Cedar City** 79.81 51 eP P 12 14 27.5 +1.2
comp=Z,3.3nm,0.9s
A28A **Rude Farm, Bot** 79.84 36 ⇓P P 12 14 26.7 +0.7
baz=80
KOLS **Kolonicke sedl** 79.88 324 eP P 12 14 26.4 +0.2
KOLS pmax pmax
comp=Z,7.0nm,1.5s
KOLS **Kolonicke sedl** 79.88 324 eP P 12 14 26.4 +0.2
E25A **Miller Ranch,** 79.91 39 ⇓P P 12 14 27.2 +0.7
baz=80
M19A **Rock Springs** 79.95 46 ⇑P P 12 14 27.7 +0.7
baz=80
MVU **Marysvale** 79.96 50 eP P 12 14 28.8 +1.6
I22A **9 Mile Ranch,** 79.96 43 ⇓P P 12 14 27.4 +0.5
baz=80,SNR=5.8
GMRC **Granite Mounta** 79.97 54 ⇑P P 12 14 27.8 +0.7
baz=80
STHS **Stebnicka Huta** 80.03 325 eP P 12 14 30.1 +3.0
STHS pmax pmax
comp=Z,4.0nm,1.0s
STHS **Stebnicka Huta** 80.03 325 eP P 12 14 30.1 +3.0
D26A **Manning** 80.05 38 ⇓P P 12 14 27.8 +0.6
baz=80
C27A **Sayler Ranch,** 80.05 37 ⇑P P 12 14 27.9 +0.7
baz=80
109C **Camp Elliot, M** 80.11 57 ⇑P P 12 14 28.4 +0.7
baz=80
B28A **Dugan Ranch, T** 80.11 36 ⇑P P 12 14 27.8 +0.3
baz=80,SNR=5.8
L20A **Wamsutter** 80.11 45 ⇓P P 12 14 28.4 +0.5
baz=80
H23A **Clabaugh Cattl** 80.12 42 ⇑P P 12 14 28.3 +0.5
baz=80
PFO **Pinyon Flat Ob** 80.13 56 eP P 12 14 28.9 +0.9
comp=Z,11nm,0.9s
PFO **Pinyon Flat Ob** 80.13 56 ⇓P P 12 14 29.1 +1.1
baz=80,SNR=11
OJC **Ojcow** 80.14 326 eP P 12 14 30.1 +2.5
OJC pmax pmax
comp=Z,32nm,1.6s
OJC **Ojcow** 80.14 326 eP P 12 14 30.1 +2.5
comp=Z,32nm,1.6s
LDFC **Landfair** 80.16 54 eP P 12 14 29.1 +1.0
comp=Z,7.3nm,1.0s
BELC **Belle Mtn. Jos** 80.20 55 ⇑P P 12 14 29.1 +0.7
baz=80,SNR=5.4
F25A **Bowman** 80.26 40 ⇑P P 12 14 29.0 +0.5
baz=80

CRVS **Cervenica-Dubn** 80.28 324 eP P 12 14 27.9 -0.5
CRVS **Cervenica-Dubn** 80.28 324 eP P 12 14 27.9 -0.5
A29A **Manning Farm,** 80.32 36 ⇑P P 12 14 28.7 +0.1
baz=80,SNR=9.5
K21A **Alcova** 80.34 44 ⇑P P 12 14 29.5 +0.4
baz=80,SNR=9.9
Q16A **Castle Valley** 80.35 49 ⇑P P 12 14 30.0 +0.7
baz=80
D27A **Center** 80.45 38 ⇓P P 12 14 30.1 +0.7
baz=80
BAR **Barrett** 80.53 57 eP P 12 14 30.9 +0.9
comp=Z,13nm,0.9s
M20A **Sweetwater, Wa** 80.53 45 ⇓P P 12 14 30.7 +0.5
baz=80
MONP **Monument Peak** 80.57 56 ⇑P P 12 14 31.1 +0.6
baz=80,SNR=7.3
B29A **Wagenman Farm,** 80.58 36 ⇑P P 12 14 30.4 +0.3
baz=80
SRU **San Rafael** 80.63 48 eP P 12 14 31.5 +0.8
SRU pmax pmax
comp=Z,15nm,0.7s
SRU **San Rafael** 80.63 48 eP P 12 14 31.5 +0.8
comp=Z,15nm,0.7s
IRM **Iron Mountain** 80.68 55 ⇑P P 12 14 31.8 +1.0
baz=81,SNR=5.5
L21A **Rawlins** 80.70 45 ⇑P P 12 14 31.3 +0.3
baz=80,SNR=8.2
F26A **Lodgepole** 80.72 39 ⇓P P 12 14 31.0 +0.2
baz=80,SNR=7.0
O19A **Miners Draw (B** 80.73 47 ⇑P P 12 14 31.7 +0.5
baz=81
K22A **Casper** 80.74 44 ⇓P P 12 14 31.6 +0.5
baz=81
G25A **Newell** 80.77 40 ⇓P P 12 14 31.8 +0.7
baz=81
BC3 **Big Chuckawall** 80.77 55 ⇓P P 12 14 32.1 +0.6
baz=81,SNR=5.2
D28A **Regan** 80.87 37 ⇓P P 12 14 32.2 +0.6
baz=81
MDND **Maddock** 80.89 36 ⇑P P 12 14 32.5 +0.8
baz=81
E27A **Carson** 80.89 38 ⇓P P 12 14 32.2 +0.4
baz=81
G27A **Dupree** 80.90 40 ⇑P P 12 14 34.9 +3.1
baz=81
N20A **Spence Gulch,** 80.90 46 ⇑P P 12 14 32.9 +0.8
baz=81,SNR=12
ULM **Lac du Bonnet** 80.92 33 P P 12 14 30.7 -1.1
ULM **Lac du Bonnet** 80.92 33 P P 12 14 30.7 -1.1
comp=Z,6.0nm,0.7s,baz=327,slow=5.7,SNR=6.0
ULM LR LR 12 50 57.6
comp=Z,67nm,20.1s,baz=21,slow=36
DVTC **Desert V Tower** 80.93 56 ⇓P P 12 14 32.9 +0.7
baz=81
M21A **Separation Pea** 80.93 45 ⇑P P 12 14 32.8 +0.5
baz=81,SNR=6.0
RWWY **Rawlins** 80.97 45 eP P 12 14 33.0 +0.5
SWSC **Sam W. Stewart** 80.97 56 ⇑P P 12 14 33.1 +0.8
baz=81
H25A **Fruitdale** 81.05 41 ⇓P P 12 14 33.0 +0.3
baz=81
B30A **Myrvik Farm, E** 81.08 35 ⇑P P 12 14 33.1 +0.4
baz=81
G26A **Maurine** 81.13 40 ⇑P P 12 14 33.3 +0.2
baz=81,SNR=7.8
OKC **Ostrava-Krasne** 81.15 327 AMS AMS 12 54 10.0
comp=Z,200nm,17.9s
U15A **North Rim** 81.17 51 ⇓P P 12 14 34.6 +0.8
baz=81,SNR=7.4
L22A **Ellis Ranch, M** 81.19 44 ⇑P P 12 14 33.9 +0.3
baz=81
P19A **Cripple Cowboy** 81.23 47 ⇓P P 12 14 34.6 +0.7
baz=81,SNR=9.4
E28A **Huff** 81.23 38 ⇓P P 12 14 33.9 +0.3
baz=81
PDMCI **Parker Dam,Lak** 81.26 54 ⇑P P 12 14 34.6 +0.7
baz=81
J24A **Dixon Ranch, L** 81.33 42 ⇓P P 12 14 34.3 0.0
baz=81
Y12C **Blythe** 81.34 55 ⇓P P 12 14 35.2 +0.9
baz=81,SNR=7.3
O20A **White River Ci** 81.36 47 eP P 12 14 35.1 +0.5
O20A **White River Ci** 81.36 47 ⇓P P 12 14 35.0 +0.5
baz=81,SNR=8.5
I25A **Rochford** 81.38 41 ⇑P P 12 14 35.0 +0.4
baz=81
N21A **Black Mountain** 81.38 46 ⇓P P 12 14 35.1 +0.4
baz=81,SNR=8.1
M22A **Cedar Creek Ra** 81.50 45 ⇓P P 12 14 36.0 +0.6
baz=81
C30A **Mose, Pekin** 81.54 36 ⇓P P 12 14 35.4 +0.3
baz=81
L23A **Garrett** 81.55 44 ⇓P P 12 14 35.3 -0.3
baz=81,SNR=6.4
DPC **Dobruska-Polom** 81.59 328 eP P 12 14 35.8 +0.4
DPC e 12 14 46.0
DPC e 12 14 48.5
DPC **Dobruska-Polom** 81.59 328 eP P 12 14 35.8 +0.4
DPC ex x 12 14 46.0
DPC AMS AMS 12 58 00.0
UPC **Upice** 81.60 328 eP P 12 14 30.0 -5.4
UPC **Upice** 81.60 328 eP P 12 14 30.0 -5.4
P20A **De Beque** 81.67 47 ⇑P P 12 14 36.8 +0.6
baz=82
F28A **McLaughlin** 81.68 39 ⇓P P 12 14 36.6 +0.7
baz=82
PSZ **Piszkesteto** 81.72 324 eP P 12 14 38.6 +2.4
PSZ **Piszkesteto** 81.72 324 eP P 12 14 38.6 +2.4
O21A **Pagoda** 81.76 46 ⇑P P 12 14 37.4 +0.6
baz=82
J25A **Sunshine Ranch** 81.76 42 ⇓P P 12 14 36.8 +0.2
baz=82
D30A **Buchanan** 81.82 37 ⇑P P 12 14 36.7 +0.1
baz=82,SNR=5.9
I26A **New Underwood** 81.84 41 ⇓P P 12 14 37.5 +0.6
baz=82
H27A **Howes** 81.85 40 ⇓P P 12 14 37.6 +0.7
baz=82
PV09 **Paradox Valley** 81.86 48 eP P 12 14 38.7 +1.3
M23A **Laramie** 81.96 44 ⇑P P 12 14 37.9 +0.1
baz=82,SNR=5.2
N22A **Wattenberg Ran** 81.97 45 ⇑P P 12 14 38.4 +0.5
baz=82
PV04 **Paradox Valley** 82.06 48 eP P 12 14 39.5 +1.2
Q20A **Ridgley Place,** 82.08 47 ⇓P P 12 14 38.8 +0.5
baz=82
ASF **Jabal al Asfar** 82.11 304 P P 12 14 38.2 -0.4
ASF **Jabal al Asfar** 82.11 304 P P 12 14 38.2 -0.4
comp=Z,0.8nm,0.3s,baz=50,slow=7.9,SNR=2.8
PV05 **Paradox Valley** 82.14 49 eP P 12 14 39.8 +1.0
G28A **Parade** 82.15 39 ⇓P P 12 14 39.3 +0.8
baz=82
E30A **Jud** 82.17 37 ⇑P P 12 14 39.2 +0.7
baz=82
F29A **Eureka** 82.18 38 ⇑P P 12 14 38.9 +0.3
baz=82
BRG **Berggiesshubel** 82.21 329 eP P 12 14 41.5 +2.9
comp=Z,5.7nm,0.8s
BRG e 12 14 49.0
comp=Z,5.5nm,0.8s
BRG **Berggiesshubel** 82.21 329 eP P 12 14 41.5 +2.9
BRG e 12 14 49.0
BRG pmax pmax
comp=Z,6.0nm,0.8s
BRG pmax pmax
comp=Z,6.0nm,0.8s
N23A **Red Feather La** 82.21 45 ⇓P P 12 14 39.7 +0.6
baz=82,SNR=8.5
J26A **Sides Ranch, S** 82.21 42 ⇓P P 12 14 39.5 +0.7
baz=82
P21A **Newcastle** 82.22 47 ⇑P P 12 14 40.1 +0.9
baz=82,SNR=5.0
PHWY **Pilot Hill** 82.22 44 eP P 12 14 39.8 +0.6
Y14A **Wickenburg** 82.23 54 ⇓P P 12 14 40.0 +0.9
baz=82
I27A **Quinn** 82.25 40 ⇑P P 12 14 39.5 +0.5
baz=82
CLL **Collm** 82.26 330 eP P 12 14 38.0 -0.8
CLL pmax pmax
comp=Z,9.0nm,0.9s
CLL **Collm** 82.26 330 eP P 12 14 38.0 -0.8
comp=Z,9.0nm,0.9s
CLL epP pP 12 14 42.0 -1.6
WUAZ **Wupatki** 82.32 52 eP P 12 14 40.8 +1.2
comp=Z,4.9nm,0.8s
WUAZ **Wupatki** 82.32 52 ⇓P P 12 14 40.6 +0.9
baz=82,SNR=6.9

O22A	Kremmling	82.33	46	⇓P	P	12 14 40.2	+0.3
	baz=82,SNR=10						
AGMN	Agassiz Nation	82.34	34	eP	P	12 14 39.0	-0.4
	comp=Z,13nm,1.4s						
PV01	Paradox Valley	82.43	48	eP	P	12 14 41.1	+0.8
	comp=Z,578nm,0.8s						
113A	Mohawk Valley,	82.44	55	⇓P	P	12 14 40.8	+0.8
	baz=82						
M24A	Cheyenne	82.47	44	⇓P	P	12 14 41.0	+0.7
	baz=82						
R20A	Redvale	82.51	48	⇑P	P	12 14 41.6	+0.9
	baz=82,SNR=8.2						
K26A	Motz Farm, Whi	82.56	42	⇑P	P	12 14 41.0	+0.3
	baz=82						
P22A	Eagle	82.58	46	⇑P	P	12 14 41.9	+0.9
	baz=82,SNR=12						
PRU	Pruhonice	82.62	328	eP	P	12 14 43.2	+2.5
PRU				e		12 14 50.8	
PRU				MLR	MLR		
	comp=Z,200nm,19.3s						
PRU	Pruhonice	82.62	328	eP	P	12 14 43.2	+2.5
PRU				ex	x	12 14 50.8	
PRU				AMS	AMS	12 56 00.0	
	comp=Z,200nm,19.3s						
O23A	Lake Granby, G	82.67	45	⇓P	P	12 14 42.5	+0.9
	baz=82,SNR=7.3						
SMCO	Snowmass	82.72	47	eP	P	12 14 43.0	+1.0
	comp=Z,76nm,1.1s						
TREC	Trest	82.73	328	AMS	AMS	12 56 30.0	
	comp=Z,200nm,15.9s						
S20A	Disappointment	82.75	48	⇓P	P	12 14 42.7	+0.6
	baz=83						
I28A	Midland	82.76	40	⇑P	P	12 14 42.2	+0.6
	baz=83						
J27A	Elkhorn Farm,	82.82	41	⇓P	P	12 14 42.9	+0.9
	baz=83						
N24A	Carr	82.86	44	⇓P	P	12 14 43.3	+0.9
	baz=83						
R21A	Cimarron	82.90	48	⇑P	P	12 14 44.0	+1.3
	baz=83						
X16A	Lo Mia Camp, P	82.96	53	⇓P	P	12 14 44.0	+0.9
	baz=83,SNR=9.1						
Q22A	Crested Butte,	82.96	47	⇑P	P	12 14 44.1	+0.9
	baz=83,SNR=14						
MVCO	Mesa Verde	83.06	49	eP	P	12 14 44.7	+1.1
	comp=Z,16nm,1.4s						
MVCO	Mesa Verde	83.06	49	⇓P	P	12 14 44.3	+0.7
	baz=83						
ISCO	Idaho Springs	83.11	45	eP	P	12 14 45.1	+1.2
ISCO				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ISCO	Idaho Springs	83.11	45	eP	P	12 14 45.1	+1.2
	comp=Z,2.2nm,0.8s						
ISCO	Idaho Springs	83.11	45	⇑P	P	12 14 44.5	+0.5
	baz=83,SNR=5.1						
J28A	Allard Ranch,	83.12	41	⇑P	P	12 14 44.1	+0.5
	baz=83						
S21A	Coal Bank Pass	83.20	48	⇑P	P	12 14 45.5	+1.1
	baz=83,SNR=6.4						
O24A	Longmont	83.22	45	⇓P	P	12 14 45.3	+1.1
	baz=83						
P23A	Jefferson	83.26	46	⇑P	P	12 14 45.8	+1.1
	baz=83						
MOX	Moxa	83.34	330	eL	L	13 00 00.4	
	comp=Z,83nm,19.3s						
MOX	Moxa	83.34	330	eL	L	13 00 00.4	
	comp=Z,83nm,19.3s						
R22A	Saguache, Gunn	83.46	47	⇑P	P	12 14 47.1	+1.3
	baz=83						
K28A	Ten Mile Ranch	83.53	41	⇓P	P	12 14 45.9	+0.1
	baz=83						
214A	Organ Pipe Nat	83.57	55	⇓P	P	12 14 47.1	+1.1
	baz=83						
Q23A	Hartsel	83.57	46	⇓P	P	12 14 47.0	+0.7
	baz=83						
U20A	Newcomb	83.58	50	⇓P	P	12 14 47.1	+0.9
	baz=83						
CONA	Conrad Observa	83.58	326	⇑ipP	P	12 14 46.6	+0.8
	comp=Z,8.2nm,1.7s						
W18A	Petrified Fore	83.61	51	⇑P	P	12 14 47.3	+0.9
	baz=84						
KHC	Kasperske Hory	83.68	328	eP	P	12 14 46.4	+0.1
KHC				e		12 14 55.4	
KHC				MLR	MLR		
	comp=Z,200nm,20.0s						
KHC	Kasperske Hory	83.68	328	eP	P	12 14 46.4	+0.1
KHC				ex	x	12 14 55.4	
KHC				AMS	AMS	12 56 40.0	
	comp=Z,200nm,20.0s						
KHC	Kasperske Hory	83.68	328	eP	P	12 14 46.6	+0.3
S22A	4UR Ranch, Cre	83.73	48	⇓P	P	12 14 48.0	+0.8
	baz=84,SNR=6.4						
O25A	Wiggins	83.77	44	⇑P	P	12 14 48.2	+1.1
	baz=84						
T21A	Navajo Lake	83.79	49	⇑P	P	12 14 48.3	+0.9
	baz=84						
GERES	GERESS Array B	83.84	328	P	P	12 14 46.9	-0.3
GERES	GERESS Array B	83.84	328	P	P	12 14 46.9	-0.3
	comp=Z,1.9nm,0.7s,baz=46,slow=5.8,SNR=9.7						
GERES				LR	LR	12 57 12.3	
	comp=Z,124nm,18.7s,baz=246,slow=39						
X18A	Snowflake	83.85	52	⇑P	P	12 14 48.8	+1.2
	baz=84						
Q24A	Divide	83.93	46	⇓P	P	12 14 49.1	+0.9
	baz=84						
V20A	Brimhall	83.98	50	⇓P	P	12 14 49.3	+1.0
	baz=84,SNR=6.5						
R23A	Moffat	84.04	47	⇑P	P	12 14 49.6	+0.9
	baz=84						
U21A	Nageezi	84.08	49	⇑P	P	12 14 50.0	+1.2
	baz=84						
O26A	Horse Wrangler	84.14	44	⇓P	P	12 14 49.7	+0.7
	baz=84						
T22A	Edith	84.16	48	⇓P	P	12 14 50.2	+0.9
	baz=84,SNR=7.3						
PPT	Papeete	84.22	116	LR	LR	12 49 26.2	
	comp=Z,191nm,18.3s,baz=352,slow=34						
GRF	Grafenberg Arr	84.23	330	eP	P	12 14 49.6	+0.5
	comp=Z,11nm,0.9s						
GRF				eL	L	12 58 19.9	
	comp=Z,65nm,19.6s						
GRF	Grafenberg Arr	84.23	330	eP	P	12 14 49.6	+0.5
GRF				pmax	pmax		
	comp=Z,11nm,0.9s						
GRB3	Grafenberg Arr	84.26	329	eP	P	12 14 49.5	+0.2
	comp=Z,13nm,1.0s						
W20A	Ramah	84.39	51	⇓P	P	12 14 51.0	+0.6
	baz=84						
R24A	Sanders Place,	84.44	46	⇓P	P	12 14 51.7	+1.0
	baz=84,SNR=8.1						
EKA	Eskdalemuir Ar	84.46	340	P	P	12 14 50.0	-0.1
EKA	Eskdalemuir Ar	84.46	340	P	P	12 14 50.0	-0.1
	comp=Z,1.4nm,0.6s,baz=79,slow=13,SNR=4.2						
Q25A	Bedland, Calha	84.49	45	⇑P	P	12 14 51.5	+0.6
	baz=84						
V21A	Milan	84.49	50	⇑P	P	12 14 51.9	+0.9
	baz=84						
SDCO	Great Sand Dun	84.53	47	eP	P	12 14 52.3	+1.1
	comp=Z,4.9nm,1.0s						
EYMN	Ely	84.57	32	eP	P	12 14 50.7	-0.1
	comp=Z,7.9nm,0.9s						
U22A	Llaves	84.61	49	⇓P	P	12 14 52.4	+0.9
	baz=84						
O27A	Beecher Island	84.64	44	⇑P	P	12 14 52.1	+0.6
	baz=84						
T23A	Casias Ranch,	84.67	48	⇑P	P	12 14 52.9	+1.0
	baz=84,SNR=7.5						
TUC	Tucson	84.70	54	eP	P	12 14 52.7	+0.8
TUC				pmax	pmax		
	comp=Z,7.0nm,0.8s						
TUC	Tucson	84.70	54	eP	P	12 14 52.6	+0.8
	comp=Z,6.5nm,0.8s						
X20A	Quemado	84.76	51	⇑P	P	12 14 53.4	+1.1
	baz=85,SNR=11						
S24A	Houchin Ranch,	84.77	47	⇓P	P	12 14 53.2	+0.8
	baz=85,SNR=7.2						
N28A	Pribbeno Ranch	84.83	43	⇓P	P	12 14 52.6	+0.3
	baz=85						
V22A	San Miguel Ran	84.87	49	⇑P	P	12 14 53.8	+0.9
	baz=85,SNR=7.6						
PERS	Pernice	84.88	326	iP	P	12 14 52.3	-0.2
SOKA	Soboth	84.89	326	⇑iP	P	12 14 52.5	0.0
	comp=Z,10nm,1.3s						
Q26A	Hugo	84.91	45	⇑P	P	12 14 53.8	+0.9
	baz=85						
EIL	Elat	84.96	303	P	P	12 14 53.3	+0.2
EIL	Elat	84.96	303	P	P	12 14 53.3	+0.2
	comp=Z,4.5nm,0.7s,baz=29,slow=10,SNR=3.2						
R25A	Fountain Ranch	84.98	46	⇑P	P	12 14 54.0	+0.7
	baz=85						
U23A	El Rito	85.04	48	⇑P	P	12 14 55.0	+1.3
	baz=85,SNR=36						
T24B	San Luis	85.05	47	⇑P	P	12 14 55.3	+1.4
	baz=85,SNR=10						
O28A	Krutsinger Ran	85.08	43	⇑P	P	12 14 54.3	+0.6
	baz=85						
S25A	Robets Cordova	85.22	46	⇓P	P	12 14 55.1	+0.5
	baz=85						
Y20A	Horse Springs,	85.25	51	⇑P	P	12 14 56.0	+1.2
	baz=85,SNR=14						
X21A	Alamocita Cree	85.28	51	⇓P	P	12 14 55.9	+0.9
	baz=85,SNR=9.8						
ECSD	EROS Data Cent	85.28	38	eP	P	12 14 53.7	-0.8
	comp=Z,11nm,0.8s						
LEGS	Legarje	85.30	325	iP	P	12 14 53.8	-0.7
KSCO	Kaye Shedlock'	85.36	44	eP	P	12 14 55.8	+0.6
KSCO	Kaye Shedlock'	85.36	44	⇓P	P	12 14 56.1	+1.0
	baz=85						
PDKS	Podkum	85.37	326	eP	P	12 14 54.3	-0.6
R26A	Arlington	85.37	45	⇓P	P	12 14 55.5	+0.4
	baz=85,SNR=23						
V23A	Ortiz Mt. (NFS	85.43	49	⇓P	P	12 14 57.2	+1.5
	baz=85,SNR=5.2						
P28A	Saint Francis	85.47	44	⇓P	P	12 14 56.4	+0.7
	baz=85						
U24A	Moreno Valley	85.54	48	⇓P	P	12 14 57.5	+1.2
	baz=85,SNR=6.9						
T25A	Trinidad	85.58	47	⇓P	P	12 14 57.5	+1.1
	baz=85,SNR=10						
Z20A	Nine Sixteen R	85.62	52	⇓P	P	12 14 57.7	+1.2
	baz=86,SNR=18						
Y21A	Point of Rocks	85.63	51	⇑P	P	12 14 57.5	+0.8
	baz=86						
LAZ	Ladron	85.71	50	eP	P	12 14 58.1	+1.1
	comp=Z,1.0nm,0.7s						
X22A	Beardo	85.72	50	⇑P	P	12 14 57.8	+0.8
	baz=86						
R27A	Eads	85.75	45	⇑P	P	12 14 57.3	+0.3
	baz=86,SNR=8.8						
Q28A	Sharon Springs	85.78	44	⇑P	P	12 14 57.8	+0.6
	baz=86						
ANMO	Albuquerque	85.78	50	eP	P	12 14 58.2	+0.8
S26A	Kim	85.81	46	⇓P	P	12 14 58.1	+0.7
	baz=86						
W23A	Werner Place,	85.83	49	⇓P	P	12 14 58.7	+1.1
	baz=86						
120A	U Bar Ranch, L	85.95	53	⇑P	P	12 14 59.2	+0.9
	baz=86,SNR=8.2						
V24A	Rampart Ranch,	86.00	48	⇓P	P	12 14 59.6	+1.1
	baz=86,SNR=12						
SPMN	St. Paul	86.03	35	⇓P	P	12 14 58.0	-0.1
	baz=86						
T26A	Comanche Natio	86.04	46	⇓P	P	12 14 59.2	+0.5
	baz=86,SNR=9.4						
U25A	Circle Dot Ran	86.08	47	⇑P	P	12 14 59.7	+0.9
	baz=86,SNR=15						
Z21A	St. Cloud Mine	86.08	51	⇑P	P	12 15 00.0	+1.1
	baz=86,SNR=8.4						
LPM	Los Pinos Moun	86.09	50	eP	P	12 14 59.9	+1.0
Y22A	Socorro	86.12	51	⇑P	P	12 15 00.1	+1.0
	baz=86,SNR=6.7						
X23A	Hourglass Bar	86.19	50	⇓P	P	12 14 59.9	+0.4
	baz=86						
BNM	Barren Site	86.20	50	eP	P	12 15 00.1	+0.6
	comp=Z,1.9nm,0.6s						
W24A	Lazy 6 Ranch,	86.26	49	⇓P	P	12 15 00.8	+1.1
	baz=86,SNR=15						
319A	Douglas	86.28	54	⇓P	P	12 15 00.4	+0.6
	baz=86						
R28A	Tribune	86.28	45	⇓P	P	12 14 59.9	+0.3
	baz=86						
V25A	Rancho No Teng	86.32	48	⇓P	P	12 15 01.0	+0.9
	baz=86,SNR=13						
P30A	Selden	86.34	43	⇓P	P	12 15 00.1	+0.3
	baz=86						
220A	Playas Peak, P	86.44	53	⇑P	P	12 15 01.1	+0.5
	baz=86						
U26A	Atchley Ranch,	86.48	47	⇑P	P	12 15 01.3	+0.5
	baz=86,SNR=10						
BFO	Black Forest	86.48	331	eP	P	12 15 00.4	0.0
BFO				pmax	pmax		
	comp=Z,8.0nm,0.9s						
BFO	Black Forest	86.48	331	eP	P	12 15 00.4	0.0
	comp=Z,7.7nm,0.9s						
121A	Cookes Peak, D	86.51	52	⇓P	P	12 15 01.7	+0.7
	baz=86						
Z22A	Elephant Butte	86.57	51	⇑P	P	12 15 01.9	+0.7
	baz=86						
BAIF	Baives	86.64	334	eP	P	12 15 00.9	-0.1
BAIF	Baives	86.64	334	eP	P	12 15 00.9	-0.1
BAIF	Baives	86.64	334	eP	P	12 15 00.9	-0.1
X24A	Lazy VL Ranch,	86.67	49	⇑P	P	12 15 02.6	+0.8
	baz=86,SNR=8.2						
Y23A	Lovelace Mesa,	86.70	50	⇑P	P	12 15 02.5	+0.6
	baz=86,SNR=8.8						
S28A	Manter	86.75	45	⇑P	P	12 15 02.1	+0.1
	baz=87,SNR=7.2						
320A	Kipp Ranch, An	86.80	53	⇓P	P	12 15 03.1	+0.7
	baz=87						
P31A	Stockton	86.83	42	⇑P	P	12 15 02.2	-0.1
	baz=87,SNR=6.7						
W25A	X Bar L Ranch,	86.83	48	⇑P	P	12 15 03.4	+0.9
	baz=87,SNR=8.1						
CDF	Champ du Feu	86.83	331	eP	P	12 15 02.0	-0.2
	comp=Z,13nm,0.8s						
CDF	Champ du Feu	86.83	331	eP	P	12 15 02.0	-0.2
CDF	Champ du Feu	86.83	331	eP	P	12 15 02.0	-0.2
V26A	Tequesquite Ra	86.85	47	⇑P	P	12 15 02.8	+0.3
	baz=87,SNR=7.6						
SCHQ	Schefferville	86.87	16	eP	P	12 15 02.6	+0.5
SCHQ	Schefferville	86.87	16	P	P	12 15 02.1	0.0
	comp=Z,15nm,0.8s,baz=351,slow=5.1,SNR=16						
SCHQ				LR	LR	12 53 38.1	
	comp=Z,135nm,21.1s,baz=103,slow=35						
U27A	Thompson Grove	87.00	46	⇑P	P	12 15 03.5	+0.2
	baz=87,SNR=5.4						
Z23A	Rita Site, Whi	87.03	51	⇓P	P	12 15 04.4	+0.9
	baz=87						
Y24A	Capitan	87.09	50	⇑P	P	12 15 04.4	+0.6
	baz=87						
X25A	Clemmons Ranch	87.17	49	⇑P	P	12 15 04.9	+0.8
	baz=87,SNR=6.2						
R30A	Dighton	87.20	44	⇓P	P	12 15 04.3	+0.2
	baz=87,SNR=6.6						
V27A	Dan Oppiter Fa	87.45	47	⇑P	P	12 15 06.1	+0.6
	baz=87,SNR=5.0						
HAU	Haudompre	87.53	331	eP	P	12 15 05.5	+0.1
HAU				eR			
	comp=Z,126nm,18.0s						
HAU	Haudompre	87.53	331	eP	P	12 15 05.5	+0.1
HAU	Haudompre	87.53	331	eP	P	12 15 05.5	+0.1
S30A	Montezuma	87.54	44	⇓P	P	12 15 05.9	+0.2
	baz=87						
Y25A	Mesa, Roswell	87.55	49	⇑P	P	12 15 06.4	+0.4
	baz=87						
R31A	Burdett	87.61	43	⇓P	P	12 15 06.1	+0.1
	baz=87						
X26A	CR and CF Fran	87.67	48	⇓P	P	12 15 07.1	+0.5
	baz=88						
W27A	Bowe Ranch, En	87.78	48	⇑P	P	12 15 07.6	+0.5
	baz=88,SNR=10.0						
SFTF	Sexfontaines	87.87	332	eP	P	12 15 07.2	+0.2
SFTF	Sexfontaines	87.87	332	eP	P	12 15 07.2	+0.2
124A	Stringfield Ra	87.89	51	⇑P	P	12 15 07.8	+0.1
	baz=88						
Z25A	Roswell	87.97	50	⇓P	P	12 15 08.5	+0.6
	baz=88,SNR=5.8						
X27A	F and S Farms,	88.04	48	⇓P	P	12 15 08.8	+0.5
	baz=88						
S31A	Mullinville	88.11	44	⇑P	P	12 15 08.6	+0.2
	baz=88						
224A	Cornudas Mount	88.26	51	⇑P	P	12 15 10.1	+0.7
	baz=88						
T31A	Randall Ranch,	88.36	44	⇑P	P	12 15 10.5	+0.8
	baz=88						
125A	Gardner Draw,	88.42	50	⇑P	P	12 15 10.4	+0.3
	baz=88						
Z26A	Caprock	88.43	49	⇓P	P	12 15 10.5	+0.3
	baz=88						
Y27A	Causey	88.52	49	⇑P	P	12 15 10.7	+0.1
	baz=88						
KSU1	Kansas State U	88.64	41	eP	P	12 15 11.0	+0.2
MSTX	Muleshoe	88.70	48	⇑P	P	12 15 11.6	+0.2
	baz=88						
324A	Moseley Ranch,	88.70	52	⇑P	P	12 15 11.8	+0.3
	baz=89						
Z27A	Tatum	88.87	49	⇑P	P	12 15 12.7	+0.4
	baz=89,SNR=7.6						
X29A	Tulia	89.02	47	⇑P	P	12 15 13.6	+0.7
	baz=89						
325A	Bean Ranch, Si	89.08	51	⇑P	P	12 15 13.4	+0.1
	baz=89						
226B	Tecolote Peak,	89.11	50	⇓P	P	12 15 13.7	+0.3
	baz=89						
V31A	Spring Creek L	89.20	45	⇓P	P	12 15 13.9	+0.3
	baz=89						
SSF	Saint Saulge	89.39	333	eP	P	12 15 14.4	+0.1
SSF	Saint Saulge	89.39	333	eP	P	12 15 14.4	+0.1
SSF	Saint Saulge	89.39	333	eP	P	12 15 14.4	+0.1
Y29A	Porterfield Fa	89.44	48	⇓P	P	12 15 15.3	+0.4
	baz=89						
425A	Indio Mountain	89.45	52	⇑P	P	12 15 15.6	+0.6
	baz=89						
W31A	Holland Ranch,	89.55	46	⇑P	P	12 15 16.1	+0.8
	baz=89						
SMF	Signal de Mont	89.61	332	eP	P	12 15 15.2	-0.1
SMF	Signal de Mont	89.61	332	eP	P	12 15 15.2	-0.1
SMF	Signal de Mont	89.61	332	eP	P	12 15 15.2	-0.1
AVF	Avril sur Loir	89.68	332	eP	P	12 15 15.8	+0.2
	comp=Z,16nm,0.9s						
AVF	Avril sur Loir	89.68	332	eP	P	12 15 15.8	+0.2
AVF	Avril sur Loir	89.68	332	eP	P	12 15 15.8	+0.2
326A	Caldwell Ranch	89.74	51	⇓P	P	12 15 16.4	+0.1
	baz=90						
Z29A	Hungry Hill Ra	89.83	48	⇑P	P	12 15 17.5	+0.8
	baz=90						
X31A	McDonald Ranch	89.92	46	⇑P	P	12 15 17.2	+0.2
	baz=90						
426A	McDonald Obser	90.14	51	⇑P	P	12 15 18.7	+0.3
	baz=90						
Z30A	Sanderson Ranc	90.17	48	⇓P	P	12 15 18.5	+0.3
	baz=90						
427A	Hayter Ranch,	90.42	51	⇓P	P	12 15 19.7	+0.2
	baz=90						
328A	Wristen Ranch,	90.43	50	⇑P	P	12 15 19.9	+0.4
	baz=90						
526A	Mary Lane Ranc	90.51	52	⇑P	P	12 15 20.7	+0.7
	baz=90,SNR=7.6						
TCF	Toulx Ste Croi	90.53	333	eP	P	12 15 19.8	+0.2
	comp=Z,19nm,1.1s						
TCF	Toulx Ste Croi	90.53	333	eP	P	12 15 19.8	+0.2
TCF	Toulx Ste Croi	90.53	333	eP	P	12 15 19.8	+0.2
229A	Bryant Ranch,	90.66	49	⇑P	P	12 15 20.9	+0.3
	baz=90						
Y32A	R-V Farms, Ver	90.67	46	⇓P	P	12 15 20.6	+0.1
	baz=90						
Z31A	Sharp Cattle R	90.73	47	⇓P	P	12 15 21.3	+0.5
	baz=91,SNR=5.7						
527A	Woodward Ranch	90.76	52	⇓P	P	12 15 21.4	+0.3
	baz=91						
VIVF	Saint-Julien-l	90.77	331	eP	P	12 15 20.7	-0.1
VIVF	Saint-Julien-l	90.77	331	eP	P	12 15 20.7	-0.1
VIVF	Saint-Julien-l	90.77	331	eP	P	12 15 20.7	-0.1
626A	Big Bend Ranch	90.83	52	⇓P	P	12 15 21.8	+0.4
	baz=91						
329A	Wagon Wheel Ra	90.88	50	⇓P	P	12 15 21.9	+0.3
	baz=91						
428A	Kincaid Ranch,	90.96	51	⇓P	P	12 15 22.3	+0.3
	baz=91						
MFF	Saint Martin d	91.11	334	eP	P	12 15 21.8	-0.5
	comp=Z,56nm,1.4s						
MFF	Saint Martin d	91.11	334	eP	P	12 15 21.8	-0.5
MFF	Saint Martin d	91.11	334	eP	P	12 15 21.8	-0.5
SMRF	Simiane la Rot	91.13	330	eP	P	12 15 22.4	-0.1
SMRF	Simiane la Rot	91.13	330	eP	P	12 15 22.4	-0.1
Z32A	Haskell	91.14	47	⇓P	P	12 15 23.2	+0.5
	baz=91,SNR=12						
TXAR	Lajitas Array	91.27	52	P	P	12 15 24.2	+0.7
TXAR	Lajitas Array	91.27	52	P	P	12 15 24.2	+0.7
	comp=Z,2.3nm,0.6s,baz=307,slow=3.0,SNR=27						
TXAR				LR	LR	12 51 56.8	
	comp=Z,124nm,19.8s,baz=10.0,slow=32						
528A	Cox Ranch, San	91.28	51	⇑P	P	12 15 23.9	+0.4
	baz=91						
627A	Terlingua Ranc	91.37	52	⇓P	P	12 15 24.2	+0.2
	baz=91						
TUL1	Tulsa	91.40	43	eP	P	12 15 24.3	+0.5
TUL1	Tulsa	91.40	43	⇑P	P	12 15 24.1	+0.3
	baz=91						
330A	Mertzon	91.43	49	⇓P	P	12 15 24.5	+0.3
	baz=91						
ABTX	Abilene, Hawle	91.52	47	⇑P	P	12 15 25.2	+0.7
	baz=91						
429A	Davenport Ranc	91.52	50	⇓P	P	12 15 24.7	+0.1
	baz=91						
RJF	Les Rejaudoux	91.62	333	eP	P	12 15 24.2	-0.5
RJF				eR			
	comp=Z,149nm,19.8s						
RJF	Les Rejaudoux	91.62	333	eP	P	12 15 24.2	-0.5
RJF	Les Rejaudoux	91.62	333	eP	P	12 15 24.2	-0.5
529A	Stev Forest Ra	91.66	51	⇑P	P	12 15 25.7	+0.5
	baz=92						
628A	Black Gap, Mar	91.67	52	⇓P	P	12 15 25.7	+0.4
	baz=92						
CAF	Calviac	91.73	332	eP	P	12 15 25.2	0.0
	comp=Z,17nm,1.1s						
CAF	Calviac	91.73	332	eP	P	12 15 25.2	0.0
CAF	Calviac	91.73	332	eP	P	12 15 25.2	0.0
LASF	Ste Croix	91.75	331	eP	P	12 15 25.5	+0.2
	comp=Z,20nm,1.1s						
LASF	Ste Croix	91.75	331	eP	P	12 15 25.5	+0.2
430A	Baggett Ranch,	91.82	50	⇓P	P	12 15 26.4	+0.5
	baz=92						
331A	San Angelo	91.96	49	⇑P	P	12 15 26.8	+0.2
	baz=92						
232A	Coleman	92.03	48	⇓P	P	12 15 27.2	+0.3
	baz=92						
530A	J-C Ranch, Com	92.20	50	⇑P	P	12 15 27.9	+0.2
	baz=92						
LFF	La Frestale	92.22	333	eP	P	12 15 27.2	-0.2
LFF	La Frestale	92.22	333	eP	P	12 15 27.2	-0.2
LFF	La Frestale	92.22	333	eP	P	12 15 27.2	-0.2
431A	Sonora	92.28	49	⇑P	P	12 15 28.4	+0.3
	baz=92						
332A	Millersview	92.33	48	⇑P	P	12 15 28.5	+0.2
	baz=92,SNR=8.9						
SFIN	Scholer Farm	92.44	35	⇓P	P	12 15 28.6	+0.1
	baz=92						
432A	Menard	92.65	49	⇑P	P	12 15 30.1	+0.3
	baz=92						
531A	Rocksprings	92.68	50	⇓P	P	12 15 30.3	+0.3
	baz=92						
JCT	Junction City	92.92	49	⇑P	P	12 15 31.6	+0.6
	baz=93						
MTLF	Montolieu	93.01	331	eP	P	12 15 31.5	+0.4

VNA3	**Neumayer Olymp**	**141.03**	**195**	*e*PKiKP	**PKiKP**	**12 21 48.3**	**-1.2**
VNA3	**Neumayer Olymp**	**141.03**	**195**	*e*pPKPdf	pPKPdf	12 21 54.4	+2.7
VNA3	**Neumayer Olymp**	**141.03**	**195**	*e*sPKPdf	sPKPdf	12 22 00.5	+7.1
SAML	**Samuel**	**145.51**	**46**	*e*PKPbc	**PKPdf**	**12 21 56.0**	**-0.4**
LPAZ	**La Paz**	**147.69**	**61**	*e*PKPdf	**PKPdf**	**12 22 01.7**	**+0.9**
LPAZ				PKPbc	**PKPbc**	**12 22 03.8**	**+0.3**
LPAZ				*e*PKPab	**PKPab**	**12 22 06.9**	**+1.1**
LPAZ	**La Paz**	**147.69**	**61**	PKPbc	**PKPbc**	**12 22 03.8**	**+0.3**
	comp=Z,11nm,0.7s,baz=337,slow=2.6,SNR=51						

*IDC **01** 12:02:42.3±1.7, 14°.00N×93°.83E, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.5/28, mbtmp3.6/4, ML4.0/1, MS4.0/1, Ms1 4.0/1, ms1mx2.6/38, Error ellipse: s-maj=43.3km s-min=25.7km az=66.0*

ISC 01 12:02:36.2±1.0, 14°.56N±0°.10×92°.74E±0°.08, h10km, n15, σ2°47/15, mb3.8/3, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.10**	**56**	Pn	**Pn**	**12 04 21.1**	**+0.8**
	0.9nm,0.3s,baz=244,slow=15,SNR=11						
CMAR				Sn	**Sn**	**12 05 37.7**	**-3.4**
	1.0nm,0.3s,baz=244,slow=26,SNR=6.5						
VIS	**Vishakhapatnam**	**9.57**	**290**	*i* P	Pn	12 04 59.6	+5.4
VIS				*i* S	**Sn**	**12 06 38.8**	**-3.1**
VIS				*i* S	**Sn**	**12 06 40.0**	**-1.9**
VIS				*ex*	x	12 06 43.0	
	comp=E,39nm,0.3s						
VIS				*ex*	x	12 06 43.0	
	comp=N,58nm,0.2s						
PSI	**Prapat**	**13.18**	**152**	Pn	**Pn**	**12 05 44.4**	**+0.7**
	comp=N,0.5nm,0.3s,baz=317,slow=9.4,SNR=4.3						
ODAN	**Odare**	**13.22**	**339**	*e*P	**Pn**	**12 05 46.8**	**+2.5**
	comp=N,40nm,0.3s						
TAPN	**Taplejung**	**13.56**	**341**	*e*P	**Pn**	**12 05 51.2**	**+2.2**
	comp=N,24nm,0.2s						
RAMN	**Ramite**	**13.59**	**336**	*e*P	**Pn**	**12 05 52.4**	**+3.0**
	comp=N,48nm,0.3s						
JIRN	**Jiri**	**14.39**	**336**	*e*P	**Pn**	**12 06 03.5**	**+3.1**
	comp=N,33nm,0.3s						
PKIN	**Phulchoki**	**14.65**	**333**	*e*P	**Pn**	**12 06 06.3**	**+2.5**
	comp=N,73nm,0.4s						
DMN	**Daman**	**14.80**	**333**	*e*P	**Pn**	**12 06 08.2**	**+2.3**
	comp=N,22nm,0.2s						
KKN	**Kakani**	**14.88**	**333**	*e*P	**P**	**12 06 10.5**	**-2.3**
	comp=N,16nm,0.3s						
KOLN	**Koldanda**	**15.65**	**329**	*e*P	**P**	**12 06 21.4**	**0.0**
	comp=N,34nm,0.3s						
DANN	**Dangsing**	**16.05**	**330**	*e*P	**P**	**12 06 26.7**	**+0.8**
	comp=N,17nm,0.2s						
MKAR	**Makanchi Array**	**33.30**	**347**	P	P	12 09 28.7	+15
	comp=N,1.0nm,0.8s,baz=171,slow=8.2,SNR=6.2						
KURBB	**Kurchatov Arra**	**37.77**	**345**	P	P	12 10 06.6	+14
	comp=N,0.5nm,0.4s,baz=155,slow=8.2,SNR=4.5						
ASAR	**Alice Springs**	**55.34**	**133**	P	**P**	**12 12 09.8**	**-0.8**
	comp=N,0.6nm,0.5s,baz=309,slow=6.8,SNR=24						
ASAR				LR	LR	12 37 37.4	
	comp=N,156nm,20.9s,baz=352,slow=39						

WEL 01 12:03:04.6±0.4, 38°.35S×175°.93E, h170km±3km, ML3.5/12, 4C-3D, Error ellipse: s-maj=2.7km s-min=2.5km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WPVZ	**Whakapapa**	**0.91**	**199**	PN	Pn	12 03 30.7	+0.1
BKZ	**Black Stump Fm**	**0.93**	**152**	⇑PN	Pn	12 03 30.7	-0.1
BKZ				AML	AML	12 03 50.6	
BKZ				AML	AML	12 03 50.9	
URZ	**Urewera**	**0.93**	**85**	⇓PN	Pn	12 03 30.2	-0.5
TUVZ	**Tukino**	**0.95**	**193**	PN	Pn	12 03 31.1	+0.1
FWVZ	**Far West T-bar**	**0.95**	**198**	PN	Pn	12 03 31.1	-0.1
WHVZ	**Whangaehu Hut**	**0.97**	**196**	PN	Pn	12 03 31.2	-0.1
WNVZ	**Wahianoa**	**1.01**	**195**	PN	Pn	12 03 31.6	0.0
NMHZ	**Naumai**	**1.02**	**138**	PN	Pn	12 03 32.3	+0.9
NMHZ				*e*SN	Sn	12 03 51.8	-0.4
MOVZ	**Moawhango**	**1.07**	**187**	⇑PN	Pn	12 03 31.5	-0.3
RAHZ	**Arahi**	**1.07**	**123**	PN	Pn	12 03 32.4	+0.7
RAHZ				*e*SN	Sn	12 03 51.9	-0.9
MCHZ	**McNeill Hill**	**1.25**	**152**	PN	Pn	12 03 34.0	+0.7
MCHZ				SN	Sn	12 03 55.1	-0.4
MWZ	**Matawai**	**1.25**	**90**	⇓PN	Pn	12 03 33.2	-0.2
MWZ				SN	Sn	12 03 53.7	-1.9
KNZ	**Kokohu**	**1.52**	**117**	⇓PN	Pn	12 03 35.8	+0.1
PNHZ	**Pukenui**	**1.58**	**172**	PN	Pn	12 03 36.1	-0.4
CKHZ	**Cape Kidnapper**	**1.59**	**146**	*e*SN	Sn	12 03 59.4	-1.8
WAZ	**Wanganui**	**1.59**	**207**	PN	Pn	12 03 36.4	-0.2
KAHZ	**Kahuranaki**	**1.62**	**153**	PN	Pn	12 03 37.3	+0.4
KAHZ				*e*SN	Sn	12 04 00.2	-1.9
PRGZ	**Paritu Road**	**1.63**	**111**	PN	Pn	12 03 37.1	+0.1
MHGZ	**Mahia Peninsul**	**1.74**	**118**	PN	Pn	12 03 38.4	+0.3
WPHZ	**Waipukurau**	**1.76**	**167**	PN	Pn	12 03 38.0	-0.3
CNGZ	**Carnagh Statio**	**1.79**	**95**	⇑PN	Pn	12 03 39.3	+0.6
PXZ	**Pawanui**	**1.83**	**157**	PN	Pn	12 03 38.9	-0.1
PUZ	**Puketiti**	**1.85**	**82**	PN	Pn	12 03 39.0	-0.3
PRHZ	**Porangahau**	**1.99**	**164**	PN	Pn	12 03 40.5	-0.4
MXZ	**Matakaoa Point**	**2.03**	**68**	PN	Pn	12 03 41.4	+0.1
POWZ	**Post Office Ro**	**2.05**	**183**	PN	Pn	12 03 40.5	-0.9
PRWZ	**Pori Road**	**2.21**	**179**	PN	Pn	12 03 42.5	-0.7
MRZ	**Mangatainoka R**	**2.33**	**187**	⇑PN	Pn	12 03 43.3	-1.3
MRZ				AML	AML	12 04 14.2	
OGWZ	**Otaki Gorge**	**2.54**	**193**	PN	Pn	12 03 45.7	-1.3
KIW	**Kapiti Island**	**2.63**	**197**	PN	Pn	12 03 46.5	-1.7
TMWZ	**Te Maipa**	**2.76**	**181**	PN	Pn	12 03 48.1	-1.7
CAW	**Cannon Point**	**2.84**	**193**	PN	Pn	12 03 48.9	-1.8
TRWZ	**Traveller**	**3.05**	**183**	PN	Pn	12 03 51.5	-1.8
WEL	**Wellington**	**3.07**	**197**	PN	Pn	12 03 51.3	-2.2
SNZO	**South Karori**	**3.11**	**197**	PN	Pn	12 03 51.6	-2.4
TCW	**Tory Channel**	**3.13**	**203**	PN	Pn	12 03 52.2	-2.1
PLWZ	**Palliser**	**3.26**	**189**	PN	Pn	12 03 53.4	-2.6
NNZ	**Nelson**	**3.48**	**214**	PN	Pn	12 03 56.2	-2.4
QRZ	**Quartz Range**	**3.61**	**226**	PN	Pn	12 03 57.7	-2.7
KHZ	**Kahutara**	**4.46**	**203**	PN	Pn	12 04 08.5	-2.6
OXZ	**Oxford**	**5.78**	**209**	PN	Pn	12 04 24.3	-4.3
MQZ	**McQueen's Vall**	**5.90**	**204**	PN	Pn	12 04 25.4	-4.6

*CSEM **01** 12:15:28.6±0.7, 50°.54N×13°.70E, h2km, ML2.5/4, Error ellipse: s-maj=14.4km s-min=7.1km az=123.0, Suspected Mining explosion.*
*VIE **01** 12:15:28.3±0.2, 50°.54N×13°.74E, h0km, mb2.0/2, ML2.5/4, Error ellipse: s-maj=1.5km s-min=1.1km az=13.0 57 km S of Dresden Suspected Mining explosion.*

ISC 01 12:15:27.6±2.3, 50°.58N±0°.07×13°.6E±0°.1, h0km, n9, σ0°70/19, 2C-5D, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**1.72**	**80**	*e*Pn	**Pb**	**12 16 00.0**	**-0.1**
KSP				*e*Sg	**Sg**	**12 16 23.5**	**+0.6**
KSP	**Ksiaz**	**1.72**	**80**	*e*Pg	**Pg**	**12 16 00.7**	**+0.1**
KSP				*e*Sg	**Sg**	**12 16 22.8**	**-0.1**
VRAC	**Vranov**	**2.31**	**122**	*e*Pn	**Pn**	**12 16 07.3**	**+0.5**
VRAC				*e*Sg	**Sb**	**12 16 38.5**	**-0.5**
MORC	**Moravsky Berou**	**2.65**	**106**	*e*Pn	**Pn**	**12 16 12.1**	**+0.6**
MOA	**Molln**	**2.76**	**171**	⇓*i*Pn	**Pn**	**12 16 13.1**	**0.0**
MOA				⇓*i*Pg	**Pg**	**12 16 20.4**	**-0.1**
MOA				⇑*i*Sg	**Sg**	**12 16 58.0**	**+1.7**
	3.7nm,0.2s						
MOA	**Molln**	**2.76**	**171**	Pn	**Pn**	**12 16 13.1**	**0.0**
CONA	**Conrad Observa**	**3.03**	**150**	⇓*i*Pn	**Pn**	**12 16 16.6**	**-0.2**
CONA				⇓*i*Pg	**Pg**	**12 16 25.0**	**-0.6**
CONA				⇓*i*Sn	**Sn**	**12 16 53.2**	**-0.7**
CONA				⇑*i*Sg	**Sg**	**12 17 05.8**	**+0.9**
	8.2nm,0.3s						
CONA	**Conrad Observa**	**3.03**	**150**	Pn	**Pn**	**12 16 16.6**	**-0.2**
CONA	**Conrad Observa**	**3.03**	**150**	Pg	**Pg**	**12 16 25.0**	**-0.6**
CONA				Sn	**Sn**	**12 16 53.2**	**-0.7**
CONA				Sg	**Sg**	**12 17 05.8**	**+0.9**
	8.2nm,0.3s						

*KRSC **01** 12:23:35.4±0.1, 48°.47N×155°.88E, h13km±14km, ML4.2*
*IDC **01** 12:23:37.8±0.8, 49°.44N×153°.98E, h0km, mb3.7/8, mb1 4.0/11, mb1mx3.7/29, mbtmp3.7/11, ML3.8/2, Error ellipse: s-maj=26.8km s-min=14.8km az=149.0*
*MOS **01** 12:23:39.2±1.2, 49°.39N×154°.16E, h21km, mb3.9/5, Error ellipse: s-maj=33.3km s-min=9.1km az=62.4*

ISC 01 12:23:38.1±2.3, 49°.3N±0°.1×154°.2E±0°.1, h2km±14km, n44, σ1°51/41, mb3.9/10, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.84**	**42**	P	**Pn**	**12 24 10.3**	**-0.4**
SKR				*i* S	**Sn**	**12 24 34.8**	**+0.3**
PAU	**Pauzhetka**	**2.72**	**37**	PN	**Pn**	**12 24 23.9**	**+1.1**
PAU				S	**Sb**	**12 24 59.2**	**-1.9**
PAU	**Pauzhetka**	**2.72**	**37**	P	**Pn**	**12 24 23.9**	**+1.1**
PAU				*i* S	**Sb**	**12 24 59.2**	**-1.9**
ASAK	**Asacha**	**3.85**	**36**	P	**Pn**	**12 24 40.2**	**+1.7**
MTVR	**Mutnovka**	**4.04**	**37**	P	**Pn**	**12 24 41.6**	**+0.5**
MTVR				*i* S	**Sn**	**12 25 31.2**	**+2.1**
RUS	**Russkaya**	**4.14**	**40**	PN	**Pn**	**12 24 42.4**	**+0.1**
RUS				S	**Sn**	**12 25 32.6**	**+1.4**
RUS	**Russkaya**	**4.14**	**40**	P	**Pn**	**12 24 42.4**	**+0.1**
RUS				*i* S	**Sn**	**12 25 32.6**	**+1.4**
PETK	**Petropavlovsk-**	**4.38**	**29**	PN	**Pn**	**12 24 46.1**	**+0.5**
PETK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PETK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PETK	**Petropavlovsk-**	**4.38**	**29**	Pn	**Pn**	**12 24 46.0**	**+0.5**
	comp=Z,2.3nm,0.3s,baz=204,slow=13,SNR=45						
PETK				Pg	**Pg**	**12 25 02.1**	**+0.1**
	comp=Z,2.1nm,0.3s,baz=187,slow=14,SNR=9.4						
PETK				Lg	Lg	12 26 01.3	
	baz=215,slow=40,SNR=3.1						
PET	**Petropavlovsk**	**4.64**	**35**	P	**Pn**	**12 24 50.2**	**+1.0**
PET				*i* S	**Sn**	**12 25 47.0**	**+3.4**
KOK	**Koryaka**	**4.85**	**33**	P	Pn	12 24 55.8	+3.7
UGLR	**Uglovaya**	**4.85**	**35**	P	**Pn**	**12 24 54.9**	**+2.7**
AVH	**Avacha**	**4.86**	**34**	P	Pn	12 24 55.8	+3.5
SMAR	**Somma**	**4.88**	**34**	P	**Pn**	**12 24 54.1**	**+1.3**
KRER	**Koryakskii**	**4.90**	**34**	P	**Pn**	**12 24 55.6**	**+2.7**
KRX	**Arik**	**4.91**	**33**	P	Pn	12 24 56.6	+3.6
SDLR	**Sedlovina**	**4.93**	**35**	P	**Pn**	**12 24 54.9**	**+1.6**
SPN	**Mys Shipunski**	**5.26**	**42**	PN	**Pn**	**12 24 57.3**	**-0.4**
SPN	**Mys Shipunski**	**5.26**	**42**	P	**Pn**	**12 24 57.3**	**-0.4**
SPN				*i* S	**Sn**	**12 25 56.8**	**-2.0**
TUMR	**Tumrok**	**6.99**	**29**	P	Pn	12 25 25.9	+4.4
MKZ	**Mys Kozlova**	**7.00**	**39**	PN	**Pn**	**12 25 19.7**	**-1.9**
MKZ	**Mys Kozlova**	**7.00**	**39**	P	**Pn**	**12 25 19.7**	**-1.9**
KPT	**Kopyto**	**7.59**	**27**	P	Pn	12 25 34.9	+5.2
KIRR	**Kirishev**	**7.61**	**27**	P	Pn	12 25 34.6	+4.5
BZMR	**Bezymyannaya**	**7.64**	**28**	P	Pn	12 25 35.3	+4.8
BZWR	**Bezymyannyi-We**	**7.67**	**28**	P	Pn	12 25 35.4	+4.5
SRDR	**Sredinnyy**	**7.75**	**23**	P	Pn	12 25 38.8	+6.8
KBTR	**Krutoberegovo**	**8.64**	**34**	PN	**Pn**	**12 25 45.6**	**+1.5**
KBTR	**Krutoberegovo**	**8.64**	**34**	P	**Pn**	**12 25 45.6**	**+1.5**
ERM	**Erimo**	**10.63**	**231**	⇑*e*PN	Pn	12 26 28.1	+17
FX1	**Attu Island--F**	**12.43**	**66**	Pn	**Pn**	**12 26 36.4**	**+0.4**
	comp=Z,2.9nm,0.3s,baz=1.5,slow=4.1,SNR=20						
MJA0	**Matsu Arr-Jizo**	**17.27**	**228**	*e*P	P	12 27 48.6	+6.7
MJAR	**Matsushiro Arr**	**17.29**	**228**	P	**Pn**	**12 27 41.6**	**+1.0**
	baz=40,slow=17,SNR=3.3						
ILAR	**Eielson Array**	**34.10**	**41**	P	**P**	**12 30 23.2**	**-0.5**
	comp=Z,0.8nm,1.0s,baz=267,slow=10,SNR=7.1						
ZALV	**Zalesovo Beam**	**41.74**	**304**	P	**P**	**12 31 26.2**	**-2.1**
ZALV	**Zalesovo Beam**	**41.74**	**304**	P	**P**	**12 31 26.2**	**-2.1**
	comp=Z,0.2nm,0.3s,baz=79,slow=7.6,SNR=1.9						
KMI	**Kunming**	**46.46**	**258**	P	P	12 32 11.5	+4.7
KMI				pmax	pmax		
	comp=Z,13nm,1.1s						
KURK	**Kurchatov**	**46.58**	**302**	P	**P**	**12 32 06.5**	**-0.6**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KURBB	**Kurchatov Arra**	**46.67**	**302**	P	**P**	**12 32 06.5**	**-1.4**
	comp=Z,1.3nm,0.6s,baz=70,slow=8.8,SNR=5.4						
NVAR	**Mina Array Bea**	**60.62**	**64**	P	**P**	**12 33 51.2**	**+0.6**
	comp=Z,0.3nm,0.7s,baz=278,slow=6.9,SNR=3.3						
PDAR	**Pinedale Array**	**62.66**	**55**	P	**P**	**12 34 04.8**	**+0.5**
	comp=Z,0.9nm,0.9s,baz=333,slow=1.7,SNR=6.3						
WRA	**Warramunga Arr**	**71.19**	**200**	P	**P**	**12 34 58.0**	**-0.4**
	comp=Z,0.9nm,1.0s,baz=16,slow=6.6,SNR=4.1						
ASAR	**Alice Springs**	**74.89**	**199**	P	**P**	**12 35 21.0**	**+0.8**
	comp=Z,0.4nm,0.7s,baz=16,slow=5.5,SNR=7.2						
TXAR	**Lajitas Array**	**75.61**	**62**	P	**P**	**12 35 25.4**	**+0.8**
	comp=Z,0.7nm,0.6s,baz=299,slow=4.3,SNR=9.9						

*ISCJB **01** 12:28:25.6±0.5, 37°.74N±0°.06×95°.72E±0°.05, h12km, mb3.7/7, MS3.2/1, Error ellipse: s-maj=9.6km s-min=4.9km az=21.6*
*BJI **01** 12:28:25.8, 37°.63N×95°.92E, h9km, mb4.3/4, ML4.1/8, Ms3.8/6, Ms7 3.8/5*
*IDC **01** 12:28:25.5±0.9, 37°.66N×95°.90E, h0km, mb3.8/6, mb1 3.9/12, mb1mx3.7/34, mbtmp3.8/12, ML3.6/5, MS3.3/2, Ms1 3.3/2, ms1mx2.6/42, Error ellipse: s-maj=25.4km s-min=15.4km az=45.0*
*NNC **01** 12:28:31.3±3.5, 38°.01N×95°.19E, h0km, mb4.0, Error ellipse: s-maj=112.6km s-min=27.7km az=51.0*

ISC 01 12:28:27.2±0.7, 37°.68N±0°.08×95°.78E±0°.05, h12km, n19, σ1°77/26, mb3.9/7, 2C-3D, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**3.60**	**60**	Pn	**Pn**	**12 29 23.8**	**+0.8**
GTA				Pg	**Pb**	**12 29 29.8**	**-1.2**
GTA				Sn	**Sn**	**12 30 05.2**	**-0.4**
GTA				Sg	**Sb**	**12 30 17.4**	**+2.7**
GTA				smax	smax		
	comp=N,48nm,0.8s						
GTA				smax	smax		
	comp=E,66nm,0.8s						
GTA				LR	LR		
	comp=N,670nm,9.3s						
GTA				LR	LR		
	comp=E,470nm,7.6s						
GTA				LR	LR		
	comp=Z,530nm,7.1s						
LZH	**Lanzhou**	**6.66**	**101**	*e*Pn	**Pn**	**12 30 06.8**	**+1.8**
LZH				Pg	Pb	12 30 26.5	+3.5
LZH				Sn	**Sn**	**12 31 25.0**	**+4.1**
LZH				Sg	**Sg**	**12 31 56.7**	**-4.2**
LZH				smax	smax		
	comp=N,350nm,1.2s						
LZH				smax	smax		
	comp=E,140nm,1.1s						
LZH				LR	LR		
	comp=N,1μm,5.0s						
LZH				LR	LR		
	comp=E,1μm,6.0s						
LZH				LR	LR		
	comp=Z,2μm,7.2s						
WMQ	**Urumqi**	**8.67**	**318**	P	**Pn**	**12 30 34.2**	**+1.6**
WMQ				S	**Sn**	**12 32 11.1**	**+0.8**
WMQ				smax	smax		
	comp=N,92nm,1.3s						
WMQ				smax	smax		
	comp=E,69nm,0.9s						
SONM	**Songino Array**	**12.79**	**34**	Pn	**Pn**	**12 31 28.9**	**0.0**
	comp=E,0.2nm,0.3s,baz=218,slow=14,SNR=10						
SONM				Lg	Lg	12 35 12.8	
	comp=E,0.2nm,0.3s,baz=217,slow=28,SNR=2.9						
SONM				LR	LR	12 36 42.7	
	comp=E,126nm,20.4s,baz=174,slow=39						
MK31	**Makanchi Array**	**13.50**	**317**	⇑Pn	**Pn**	**12 31 38.0**	**-0.6**
	comp=E,3.5nm,0.7s,baz=126,slow=12,SNR=33						
MK31				⇓Sn	**Sn**	**12 34 07.5**	**-1.0**
	comp=E,3.6nm,0.8s,baz=124,slow=24,SNR=3.8						
MKAR	**Makanchi Array**	**13.50**	**317**	Pn	**Pn**	**12 31 37.2**	**-1.4**
	comp=E,0.8nm,0.3s,baz=125,slow=14,SNR=36						
MKAR				Sn	Sn	12 34 01.6	-6.9
	comp=E,0.1nm,0.3s,baz=123,slow=22,SNR=2.5						
MKAR				Lg	Lg	12 35 29.0	
	baz=138,slow=17,SNR=2.6						
TKM2	**Tokmak 2**	**16.25**	**295**	⇓Pn	**Pn**	**12 32 14.0**	**-1.5**
	comp=E,9.5nm,0.8s						
AAK	**Ala-Archa**	**16.99**	**294**	P	**Pn**	**12 32 24.9**	**0.0**
	comp=E,0.2nm,0.3s,baz=59,slow=4.2,SNR=6.3						
KURBB	**Kurchatov Arra**	**17.85**	**322**	P	**Pn**	**12 32 34.0**	**-1.2**
	comp=E,0.1nm,0.3s,baz=133,slow=12,SNR=12						
ZALV	**Zalesovo Beam**	**17.94**	**339**	P	**Pn**	**12 32 36.1**	**-0.2**
	comp=E,0.1nm,0.3s,baz=147,slow=12,SNR=6.2						
CMAR	**Chiang Mai Arr**	**19.35**	**171**	P	**Pn**	**12 32 54.2**	**+0.4**
	baz=344,slow=11,SNR=5.5						
KK31	**Karatay Array**	**19.96**	**294**	⇑P	**P**	**12 32 59.0**	**-0.2**
	comp=E,2.2nm,0.8s,baz=100,slow=12,SNR=12						
VOSK	**Vostochnaya**	**22.89**	**319**	⇓P	**P**	**12 33 31.7**	**+1.0**
	comp=E,1.6nm,0.7s						
BVAR	**Borovoye Array**	**23.36**	**319**	P	**P**	**12 33 37.4**	**+2.1**
	comp=E,2.3nm,0.7s,baz=112,slow=10,SNR=6.1						
KSRS	**Korea Array**	**25.42**	**81**	P	**P**	**12 33 53.2**	**-1.4**
	comp=E,2.2nm,0.5s,baz=273,slow=9.5,SNR=11						
KSRS				LR	LR	12 44 42.3	
	comp=E,60nm,18.1s,baz=250,slow=39						
AKTO	**Aktyubinsk**	**29.65**	**308**	P	**P**	**12 34 33.7**	**+1.2**
	comp=E,0.7nm,0.3s,baz=118,slow=10,SNR=3.6						
BRTR	**Keskin Array B**	**47.67**	**293**	P	**P**	**12 37 03.1**	**-0.5**
	comp=E,1.0nm,0.9s,baz=68,slow=11,SNR=3.9						
WRA	**Warramunga Arr**	**67.83**	**141**	P	**P**	**12 39 23.2**	**-2.1**
	comp=E,0.8nm,0.9s,baz=344,slow=6.7,SNR=4.5						
ASAR	**Alice Springs**	**70.77**	**143**	P	**P**	**12 39 44.4**	**+0.9**
	comp=E,0.3nm,0.8s,baz=332,slow=6.7,SNR=4.0						

*SKHL **01** 12:29:43.8±0.3, 44°.74N×148°.69E, h70km, mb4.1/2*
*JMA **01** 12:29:45.7±0.5, 44°.23N×148°.13E, h0km, M3.8*

ISC 01 12:29:41.4±3.6, 44°.49N±0°.08×148°.8E±0°.2, h42km, n13, σ2°21/23, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.99**	**319**	*i* P	**Pn**	**12 29 58.8**	**0.0**
KUR				AMB	AMB	12 29 59.0	
	23nm,0.3s						
KUR				AMB	AMB	12 29 59.0	
	197nm,0.3s						
KUR				AMB	AMB	12 29 59.0	
	18nm,0.3s						
KUR				*i* S	**Sn**	**12 30 09.8**	**-1.8**
KUR				A	A	12 30 10.4	
	422nm,0.3s						
KUR				A	A	12 30 10.4	
	112nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**2.15**	**259**	*i* P	**Pn**	**12 30 16.8**	**+2.1**
YUK				AMB	AMB	12 30 19.2	
	24nm,0.2s						
YUK				AMB	AMB	12 30 19.2	
	56nm,0.2s						
YUK				AMB	AMB	12 30 19.2	
	97nm,0.2s						
YUK				*i* S	**Sn**	**12 30 41.8**	**+1.6**
YUK				A	A	12 30 44.0	
	90nm,0.5s						
YUK				A	A	12 30 44.0	
	156nm,0.5s						
NEM2	**Nemuro 2**	**2.47**	**244**	P	**Pn**	**12 30 20.1**	**+1.0**
NEM2				*e*S	**Sn**	**12 30 45.6**	**-2.4**
JRA	**Rausu**	**2.69**	**259**	P	**Pn**	**12 30 23.8**	**+1.6**
JNK	**Nakash**	**3.07**	**254**	P	**Pn**	**12 30 29.2**	**+1.8**
JNK				*e*S	**Sn**	**12 31 01.3**	**-1.6**
JAK	**Akkeshi**	**3.32**	**245**	P	**Pn**	**12 30 32.2**	**+1.4**
JAK				*e*S	**Sn**	**12 31 07.0**	**-2.0**
JTKR	**Abashiri--Toko**	**3.55**	**263**	P	**Pn**	**12 30 36.9**	**+3.0**
JAR	**Ashorobuto**	**3.82**	**254**	*e*S	**Sn**	**12 31 20.5**	**-0.8**
JCH	**Churui**	**4.37**	**246**	P	**Pn**	**12 30 47.1**	**+1.9**
JCH				*e*S	**Sn**	**12 31 33.2**	**-1.6**
JNBK	**Urakawa-nobuka**	**4.92**	**245**	P	**Pn**	**12 30 54.8**	**+2.0**
JNBK				*e*S	**Sn**	**12 31 46.8**	**-1.6**
JKB	**Kayabe**	**6.24**	**248**	P	**Pn**	**12 31 12.8**	**+2.0**
JKB				*e*S	**Sn**	**12 32 19.3**	**-1.5**
JOT	**Ohata**	**6.47**	**244**	P	**Pn**	**12 31 15.7**	**+1.6**
JOT				*e*S	**Sn**	**12 32 23.6**	**-3.0**
JANG	**Nango**	**6.77**	**235**	P	**Pn**	**12 31 19.7**	**+1.5**
JANG				*e*S	**Sn**	**12 32 29.2**	**-4.8**

IDC 01 12:40:09.8±3.2, 2°.36S×141°.01E, h0km, mb3.3/3, mb1 3.6/4, mb1mx3.4/19, mbtmp3.4/4, ML3.5/1, MS3.1/1, Ms1 3.1/1, ms1mx2.3/22, Error ellipse: s-maj=93.9km s-min=29.5km az=92.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.65**	**200**	P	Pn	12 44 29.6	0.0
	0.1nm,0.3s,baz=22,slow=12,SNR=12						
FITZ	**Fitzroy Crossi**	**21.73**	**223**	P	P	12 45 01.2	-1.6
	0.9nm,0.8s,baz=18,slow=16,SNR=2.3						
ASAR	**Alice Springs**	**22.27**	**197**	P	P	12 45 09.2	+0.5
	0.7nm,0.6s,baz=30,slow=10,SNR=19						
ASAJ	**Asahikawa**	**46.29**	**2**	LR	LR	13 07 06.9	
	comp=Z,21nm,21.8s,baz=175,slow=35						
MKAR	**Makanchi Array**	**70.93**	**322**	P	P	12 51 29.5	+0.5
	0.3nm,0.4s,baz=126,slow=7.3,SNR=4.0						

IDC 01 12:41:40.2±49.0, 16°.13S×176°.78W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.7/19, mbtmp4.1/3, Error ellipse: s-maj=910.5km s-min=155.9km az=77.0, Fiji Islands region

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

TRG				*e*		13 19 10.7	
TRG				pmax	pmax		
	comp=Z,102nm,0.1s						
TRG				smax	smax		
	comp=N,1μm,0.1s						
SYVR	**Suvo**	**1.23**	**68**	*e*Pg	Pn	13 18 56.2	-1.4
SYVR				*e*Sg	Sb	13 19 13.1	-0.5
SYVR				Pmax			
	comp=N,97nm,0.4s						
SYVR				Smax			
	comp=N,289nm,0.3s						
UUDB	**Ulan-Yde**	**1.38**	**191**	*e*Pg	Pn	13 18 59.3	-0.4
UUDB				*e*Sg	Sb	13 19 17.8	-0.2
UUDB				Pmax			
	comp=N,63nm,0.1s						
UUDB				Smax			
	comp=N,791nm,0.4s						
KAB	**Kabansk**	**1.46**	**217**	*e*Sg	Sg	13 19 21.0	-0.2
KAB				Smax			
	comp=N,532nm,0.5s						
LSTR	**Listvyanka**	**2.40**	**237**	*e*Pn	Pn	13 19 13.8	+0.1
LSTR				*e*Pg	Pb	13 19 17.3	-0.3
LSTR				*e*Sn	Sn	13 19 43.8	+0.6
LSTR				*e*Sg	Sb	13 19 48.6	+1.3
LSTR				Pmax			
	comp=N,8.0nm,0.1s						
LSTR				Smax			
	comp=N,142nm,1.2s						
LSTR	**Listvyanka**	**2.40**	**237**	*e*PN	Pb	13 19 16.9	-0.7
LSTR				*e*		13 19 48.5	
LSTR				pmax	pmax		
	comp=Z,8.0nm,0.2s						
LSTR				smax	smax		
	comp=N,101nm,0.6s						
YLYR	**Ulyunkhan**	**2.46**	**46**	⇓*i*Pn	Pn	13 19 14.3	-0.2
YLYR				*e*		13 19 16.9	
YLYR				*e*Pg	Pb	13 19 18.5	-0.1
YLYR				*e*		13 19 23.5	
YLYR				*e*Sg	Sb	13 19 50.3	+1.2
YLYR				Pmax			
	comp=N,30nm,0.5s						
YLYR				Smax			
	comp=N,193nm,0.4s						
YLYR	**Ulyunkhan**	**2.46**	**46**	*e*PN	Pn	13 19 14.3	-0.2
YLYR				*e*		13 19 17.3	
YLYR				*e*S	Sn	13 19 45.2	+0.5
YLYR				*e*		13 19 49.9	
YLYR				pmax	pmax		
	comp=Z,30nm,0.4s						
YLYR				smax	smax		
	comp=N,192nm,0.5s						
IRK	**Irkutsk**	**2.51**	**249**	*e*Pg	Pb	13 19 19.1	-0.4
IRK				*e*Sn	Sn	13 19 45.3	-0.7
IRK				*e*Sg	Sb	13 19 51.8	+1.2
IRK				Pmax			
	comp=N,138nm,0.1s						
IRK				Smax			
	comp=N,607nm,0.5s						
IRK	**Irkutsk**	**2.51**	**249**	*e*PN	Pb	13 19 19.1	-0.4
IRK				*e*		13 19 51.2	
IRK				pmax	pmax		
	comp=Z,139nm,0.1s						
IRK				smax	smax		
	comp=N,601nm,0.5s						
NIZ	**Nizh Angarsk**	**2.70**	**18**	*e*Pg	Pb	13 19 21.4	-1.3
NIZ				*e*Sn	Sn	13 19 51.0	+0.4
NIZ				*e*Sg	Sb	13 19 56.7	+0.8
NIZ				Pmax			
	comp=N,13nm,0.1s						
NIZ				Smax			
	comp=N,181nm,0.6s						
NIZ	**Nizh Angarsk**	**2.70**	**18**	*e*PN	Pn	13 19 18.1	+0.3
NIZ				*e*		13 19 21.4	
TLY	**Talaya**	**3.12**	**242**	*e*Pn	Pn	13 19 23.6	0.0
TLY				*e*Pg	Pb	13 19 30.4	+0.5
TLY				*e*Sg	Sb	13 20 10.3	+2.2
TLY				Pmax			
	comp=N,5.0nm,0.1s						
TLY				Smax			
	comp=N,60nm,0.2s						
KMO	**Kumora**	**3.23**	**33**	*e*Pn	Pn	13 19 25.1	0.0
KMO				*e*Pg	Pb	13 19 31.2	-0.6
KMO				*e*Sg	Sb	13 20 13.2	+2.0
KMO				Pmax			
	comp=N,36nm,0.4s						
KMO				Smax			
	comp=N,139nm,0.6s						
KMO	**Kumora**	**3.23**	**33**	*e*PN	Pn	13 19 24.5	-0.6
KMO				*e*		13 19 31.1	
KMO				*e*S	Sn	13 20 02.4	-1.3
KMO				*e*		13 20 12.2	
KMO				pmax	pmax		
	comp=Z,22nm,0.4s						
KMO				smax	smax		
	comp=E,167nm,1.1s						
CIT	**Chita**	**3.54**	**108**	*e*Pg	Pb	13 19 37.5	+0.4
CIT				*e*Sg	Sg	13 20 24.9	-3.3
CIT				Pmax			
	comp=E,61nm,0.6s						
CIT				Smax			
	comp=E,410nm,0.5s						
CIT	**Chita**	**3.54**	**108**	*e*PN	Pb	13 19 37.2	+0.1
CIT				*e*		13 20 24.9	
CIT				pmax	pmax		
	comp=Z,34nm,0.9s						
CIT				smax	smax		
	comp=E,325nm,0.8s						
YOA	**Uoyan**	**3.60**	**34**	*e*PN	Pb	13 19 39.0	+0.9
YOA				*e*		13 20 26.8	
YOA				pmax	pmax		
	comp=Z,65nm,0.2s						
YOA				smax	smax		
	comp=E,194nm,0.3s						
ARS	**Arshan**	**3.69**	**252**	*e*Pn	Pn	13 19 32.0	+0.5
ARS				*e*Pg	Pb	13 19 41.3	+1.7
ARS				*e*Sn	Sn	13 20 14.7	-0.4
ARS				*e*		13 20 26.5	
ARS				*e*Sg	Sg	13 20 29.5	-3.3
ARS				Pmax			
	comp=E,28nm,0.3s						
ARS				Smax			
	comp=E,341nm,0.4s						
ARS	**Arshan**	**3.69**	**252**	*e*PN	Pb	13 19 42.2	+2.6
ARS				*e*		13 20 26.6	
ARS				pmax	pmax		
	comp=Z,28nm,0.3s						
ARS				smax	smax		
	comp=E,343nm,0.4s						
ZAK	**Zakamensk**	**4.12**	**228**	*e*Pn	Pn	13 19 38.1	+0.7
ZAK				*e*		13 19 52.2	
ZAK				*e*Sg	Sg	13 20 42.9	-3.7
ZAK				Smax			
	comp=E,19nm,0.6s						
SVKR	**Severomuysk**	**4.31**	**45**	*e*Sg	Sg	13 20 47.6	-5.0
SVKR				Smax			
	comp=E,176nm,0.5s						
KPC	**Khapcheranga**	**4.43**	**141**	*e*Pn	Pn	13 19 41.0	-0.6
KPC				*e*Pg	Pb	13 19 54.0	+1.8
KPC				*e*Sn	Sn	13 20 31.4	-2.0
KPC				*e*Sg	Sg	13 20 51.8	-4.8
KPC				Pmax			
	comp=E,16nm,0.5s						
KPC				Smax			
	comp=E,40nm,0.8s						
MOY	**Mondy**	**4.61**	**253**	*e*Pn	Pn	13 19 45.9	+1.8
MOY				*e*		13 20 40.3	
MOY				*e*Sg	Sb	13 20 55.9	+4.9
MOY				Smax			
	comp=E,72nm,1.1s						
ORL	**Orlik**	**5.06**	**266**	⇑*i*Pn	Pn	13 19 52.5	+2.2
ORL				*e*Pg	Pb	13 20 05.3	+2.3
ORL				*e*		13 20 49.4	
ORL				*e*Sg	Sb	13 21 10.2	+6.3
ORL				Pmax			
	comp=E,13nm,0.8s						
ORL				Smax			
	comp=E,60nm,1.3s						
ULN	**Ulaanbaatar**	**5.40**	**187**	*e*Pg	Pb	13 20 11.7	+2.8
ULN				*e*Sg	Sg	13 21 22.9	-5.1
BOD	**Bodaibo**	**5.71**	**34**	*e*Pn	Pn	13 19 58.9	-0.1
BOD				*e*		13 20 17.7	
BOD				*e*Sg	Sg	13 21 30.5	-6.8
BOD				Smax			
	comp=E,27nm,1.1s						
CRS	**Chara**	**6.92**	**54**	*e*PG	Pb	13 20 40.4	+5.9
CRS				*e*		13 22 10.1	
CRS				pmax	pmax		
	comp=Z,2.0nm,1.5s						
CRS				smax	smax		
	comp=N,16nm,2.0s						
TUP	**Tupik**	**7.13**	**76**	*e*Pn	Pn	13 20 20.3	+1.6
TUP				*e*Pg	Pb	13 20 42.5	+4.3
TUP				*e*Sg	Sg	13 22 14.1	-9.0
TUP				Pmax			
	comp=N,1.0nm,0.1s						
TUP				Smax			
	comp=N,104nm,1.0s						
TUP	**Tupik**	**7.13**	**76**	*e*PN	Pn	13 20 21.2	+2.5
TUP				*e*		13 20 42.7	
TUP				*e*S	Sn	13 21 38.2	-1.6
TUP				*e*		13 22 13.5	
TUP				pmax	pmax		
	comp=Z,1.0nm,0.3s						
TUP				smax	smax		
	comp=N,104nm,1.0s						

*IDC **01** 13:23:16.8±1.6, 17°.61S×176°.66W, h0km, mb4.5/3, mb1 4.6/5, mb1mx3.9/21, mbtmp4.6/5, Error ellipse: s-maj=76.5km s-min=26.3km az=161.0*
*ISCJB **01** 13:23:18.3±0.8, 17°.9S±0°.2×176°.4W±0°.2, h33km, mb4.5/4, Error ellipse: s-maj=33.7km s-min=10.8km az=143.1*
*NEIC **01** 13:23:19.5±0.8, 17°.68S×176°.63W, h20km, mb4.5/1, Error ellipse: s-maj=24.9km s-min=12.6km az=162.0*
ISC 01 13:23:20.8±1.0, 17°.8S±0°.2×176°.5W±0°.1, h35km, n13, σ0s61/13, mb4.5/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.93**	**51**	*e*P	**Pn**	**13 24 45.8**	**-0.5**
AFI				Sn	Sn	13 25 41.9	-11
AFI	**Afiamalu**	**5.93**	**51**	Pn	**Pn**	**13 24 46.0**	**-0.4**
	7.0nm,0.3s,baz=267,slow=23,SNR=14						
AFI				Sn	Sn	13 25 41.9	-11
	11nm,0.3s,baz=20,slow=21,SNR=8.6						
RAR	**Rarotonga**	**16.14**	**105**	Pn	**P**	**13 27 08.8**	**+0.8**
RAR	**Rarotonga**	**16.14**	**105**	Pn	**P**	**13 27 08.8**	**+0.8**
	3.6nm,0.3s,baz=270,slow=13,SNR=4.7						
URZ	**Urewera**	**21.19**	**194**	*e*P	**P**	**13 28 02.1**	**-1.1**
STKA	**Stephens Creek**	**40.30**	**241**	P	**P**	**13 30 55.3**	**+0.3**
STKA	**Stephens Creek**	**40.30**	**241**	P	**P**	**13 30 55.3**	**+0.3**
	2.8nm,0.9s,baz=71,slow=8.2,SNR=4.9						
WRAB	**Tennant Creek**	**46.44**	**259**	*e*P	**P**	**13 31 44.9**	**+0.2**
	2.1nm,0.4s						
WRA	**Warramunga Arr**	**46.45**	**259**	P	**P**	**13 31 45.1**	**+0.4**
WRA	**Warramunga Arr**	**46.45**	**259**	P	**P**	**13 31 45.1**	**+0.4**
	2.0nm,0.4s,baz=98,slow=6.3,SNR=76						
AS31	**Alice Springs**	**46.58**	**254**	*e*P	**P**	**13 31 45.7**	**-0.1**
ASAR	**Alice Springs**	**46.59**	**254**	P	**P**	**13 31 45.6**	**-0.2**
ASAR	**Alice Springs**	**46.59**	**254**	P	**P**	**13 31 45.6**	**-0.2**
	13nm,0.6s,baz=92,slow=7.6,SNR=249						

*IDC **01** 13:42:44.5±4.8, 33°.22N×143°.85E, h0km, mb3.6/6, mb1 3.7/7, mb1mx3.5/26, mbtmp3.5/7, ML3.4/1, Error ellipse: s-maj=175.3km s-min=21.0km az=67.0*
*ISCJB **01** 13:42:54.5±0.9, 32°.63N±0°.06×141°.96E±0°.10, h39km, mb3.6/6, Error ellipse: s-maj=12.6km s-min=7.1km az=159.0*
*JMA **01** 13:42:54.6±0.3, 32°.71N×141°.82E, h16km, M3.4*
ISC 01 13:42:56.7±1.3, 32°.59N±0°.08×141°.9E±0°.1, h39km, n15, σ1s05/21, mb3.7/6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.82**	**287**	P	**Pn**	**13 43 24.8**	**-0.7**
JHCJ	**Hachijojimakas**	**1.83**	**286**	P	**Pn**	**13 43 24.6**	**-1.0**
JHCJ				*e*S	**Sn**	**13 43 46.2**	**-1.3**
BSO1	**Boso 1**	**2.19**	**340**	P	**Pn**	**13 43 29.4**	**-0.7**
BSO3	**Boso 3**	**2.49**	**333**	P	**Pn**	**13 43 34.2**	**-0.2**
JOD2	**Odawara 2**	**3.54**	**320**	P	**Pn**	**13 43 49.0**	**-0.2**
JOD2				*e*S	**Sn**	**13 44 29.7**	**-0.1**
JRY	**Ryogami san**	**4.22**	**325**	P	**Pn**	**13 43 58.5**	**0.0**
JRY				*e*S	**Sn**	**13 44 47.0**	**+0.5**
JAG	**Ashikaga**	**4.32**	**333**	P	**Pn**	**13 43 59.6**	**-0.3**
JAG				*e*S	**Sn**	**13 44 48.6**	**-0.4**
MJAR	**Matsushiro Arr**	**4.98**	**323**	Pn	**Pn**	**13 44 08.8**	**0.0**
	1.1nm,0.3s,baz=146,slow=11,SNR=8.8						
MJAR				Sn	**Sn**	**13 45 06.0**	**+0.9**
	0.9nm,0.3s,baz=164,slow=14,SNR=4.1						
JFT	**Otama**	**5.08**	**346**	P	**Pn**	**13 44 09.6**	**-0.7**
JFT				*e*S	**Sn**	**13 45 05.6**	**-2.1**
SONM	**Songino Array**	**30.77**	**310**	P	**P**	**13 49 10.7**	**+2.2**
	1.4nm,1.0s,baz=124,slow=7.9,SNR=6.1						
ZALV	**Zalesovo Beam**	**45.28**	**316**	P	**P**	**13 51 08.5**	**-1.8**
	0.3nm,0.4s,baz=79,slow=7.5,SNR=3.4						
MKAR	**Makanchi Array**	**46.92**	**306**	P	**P**	**13 51 24.4**	**+1.0**
	1.0nm,0.7s,baz=93,slow=9.2,SNR=10						
KURBB	**Kurchatov Arra**	**49.13**	**311**	P	**P**	**13 51 39.7**	**-0.6**
	0.4nm,0.6s,baz=84,slow=7.6,SNR=4.9						
WRA	**Warramunga Arr**	**52.73**	**189**	P	**P**	**13 52 06.9**	**-0.7**
	0.5nm,0.5s,baz=6.2,slow=7.6,SNR=8.1						
ASAR	**Alice Springs**	**56.46**	**189**	P	**P**	**13 52 35.1**	**+0.5**
	0.1nm,0.6s,baz=13,slow=9.0,SNR=6.0						

IDC 01 13:45:13.1±1.6, 1°.79N×124°.88E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.2/23, mbtmp3.3/3, Error ellipse: s-maj=200.6km s-min=24.5km az=71.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.51**	**157**	P	P	13 50 24.8	-0.2
	0.5nm,0.7s,baz=336,slow=10.0,SNR=6.8						
ASAR	**Alice Springs**	**26.78**	**161**	P	P	13 50 55.0	0.0
	0.2nm,0.3s,baz=341,slow=7.7,SNR=15						
SONM	**Songino Array**	**48.58**	**343**	P	P	13 53 58.4	0.0
	0.2nm,0.5s,baz=165,slow=6.0,SNR=3.8						

*KRSC **01** 14:15:33.5±0.3, 55°.41N×166°.31E, h22km±21km, ML3.9*
*IDC **01** 14:15:33.1±1.1, 55°.42N×166°.42E, h0km, mb3.6/3, mb1 3.9/5, mb1mx3.5/29, mbtmp3.6/5, ML3.3/2, Error ellipse: s-maj=28.2km s-min=13.8km az=22.0*
*ISCJB **01** 14:15:35.1±0.7, 55°.36N±0°.04×166°.32E±0°.06, h31km±5km, mb3.6/3, Error ellipse: s-maj=6.9km s-min=5.7km az=155.6*
*MOS **01** 14:15:36.8±1.2, 55°.05N×166°.52E, h52km, mb4.1/1, Error ellipse: s-maj=46.2km s-min=31.3km az=157.1*
ISC 01 14:15:34.4±1.5, 55°.44N±0°.06×166°.44E±0°.06, h17km±9km, n39, σ1s49/65, mb3.5/3, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.36**	**228**	P	**Pg**	**14 15 41.5**	**-0.3**
BKI				S	**Sg**	**14 15 46.8**	**0.0**
KBTR	**Krutoberegovo**	**2.18**	**292**	P	**Pn**	**14 16 06.9**	**-3.0**
KBTR				S	**Sn**	**14 16 31.5**	**-5.0**
MKZ	**Mys Kozlova**	**2.85**	**254**	P	**Pn**	**14 16 17.6**	**-1.5**
MKZ				S	**Sn**	**14 16 50.8**	**-2.2**
SMKR	**Semkarok**	**3.02**	**294**	P	**Pn**	**14 16 20.4**	**-1.0**
SMKR				S	**Sn**	**14 16 55.6**	**-1.6**
SRKR	**Sorokina**	**3.19**	**294**	P	**Pn**	**14 16 23.4**	**-0.5**
ZLN	**Zelenaya**	**3.24**	**283**	S	**Sn**	**14 17 03.9**	**+1.2**
BZGR	**Bezymyannyi-Gr**	**3.29**	**281**	P	**Pn**	**14 16 24.8**	**-0.4**
BZGR				S	**Sn**	**14 17 02.4**	**-1.6**
KLY	**Klyuchi**	**3.37**	**287**	P	**Pn**	**14 16 24.6**	**-1.6**
KLY				S	**Sn**	**14 17 02.8**	**-3.1**
KRSR	**Krestovskiy**	**3.40**	**286**	P	**Pn**	**14 16 26.0**	**-0.8**
KRSR				S	**Sn**	**14 17 04.7**	**-2.1**
BZMR	**Bezymyannaya**	**3.40**	**281**	P	**Pn**	**14 16 26.7**	**-0.1**
BZMR				S	**Sn**	**14 17 06.2**	**-0.6**
BZWR	**Bezymyannyi-We**	**3.40**	**281**	P	**Pn**	**14 16 27.1**	**+0.3**
BZWR				S	**Sn**	**14 17 06.6**	**-0.3**
KIRR	**Kirishev**	**3.49**	**281**	P	**Pn**	**14 16 28.0**	**0.0**
KIRR				S	**Sn**	**14 17 08.7**	**-0.2**
KMNR	**Kamenistaya**	**3.53**	**278**	P	**Pn**	**14 16 29.2**	**+0.7**
KMNR				S	**Sn**	**14 17 10.1**	**+0.1**
KPT	**Kopyto**	**3.56**	**281**	P	**Pn**	**14 16 29.2**	**+0.3**
KPT				S	**Sn**	**14 17 10.6**	**+0.1**
TUMR	**Tumrok**	**3.59**	**270**	P	**Pn**	**14 16 30.0**	**+0.6**
KOZ	**Kozyrevsk**	**3.76**	**282**	P	**Pn**	**14 16 32.4**	**+0.8**
KOZ				S	**Sn**	**14 17 15.8**	**+0.3**
SRDR	**Sredinnyy**	**3.89**	**286**	P	**Pn**	**14 16 33.8**	**+0.4**
ESO	**Esso**	**4.41**	**279**	P	**Pn**	**14 16 41.1**	**+0.6**
SPN	**Mys Shipunski**	**4.43**	**241**	P	**Pn**	**14 16 40.3**	**-0.5**
SPN				S	**Sn**	**14 17 28.9**	**-3.1**
FX1	**Attu Island--F**	**4.71**	**120**	Pn	**Pn**	**14 16 43.5**	**-1.2**
	3.0nm,0.3s,baz=355,slow=4.4,SNR=37						
FX1				Sn	**Sn**	**14 17 35.8**	**-3.1**
	4.8nm,0.3s,baz=68,slow=21,SNR=11						
SDLR	**Sedlovina**	**4.92**	**247**	P	**Pn**	**14 16 48.2**	**+0.6**
SDLR				S	**Sn**	**14 17 42.6**	**-1.6**
SMAR	**Somma**	**4.97**	**247**	P	**Pn**	**14 16 49.1**	**+0.7**
SMAR				S	**Sn**	**14 17 44.1**	**-1.5**
KRER	**Koryakskii**	**4.98**	**248**	P	**Pn**	**14 16 49.4**	**+0.9**
KRER				S	**Sn**	**14 17 45.1**	**-0.7**
UGLR	**Uglovaya**	**4.99**	**246**	P	**Pn**	**14 16 49.7**	**+1.2**
UGLR				S	**Sn**	**14 17 45.5**	**-0.3**
AVH	**Avacha**	**5.00**	**247**	P	**Pn**	**14 16 49.6**	**+0.9**
AVH				S	**Sn**	**14 17 45.0**	**-1.2**
KRX	**Arik**	**5.01**	**249**	P	**Pn**	**14 16 49.5**	**+0.7**
KRX				S	**Sn**	**14 17 45.4**	**-0.9**
KOK	**Koryaka**	**5.04**	**248**	P	**Pn**	**14 16 50.0**	**+0.7**
KOK				S	**Sn**	**14 17 46.7**	**-0.5**
PET	**Petropavlovsk**	**5.17**	**245**	*e*PN	**Pn**	**14 16 52.3**	**+1.4**
PET				*e*S	**Sn**	**14 17 48.3**	**-1.8**
PET				smax	smax		
	comp=N,27nm,0.5s						
PET	**Petropavlovsk**	**5.17**	**245**	P	**Pn**	**14 16 51.3**	**+0.4**
PET				S	**Sn**	**14 17 48.5**	**-1.6**
GNL	**Ganaly**	**5.24**	**254**	P	**Pn**	**14 16 53.3**	**+1.2**
RUS	**Russkaya**	**5.57**	**240**	P	**Pn**	**14 16 56.3**	**-0.1**
RUS				S	**Sn**	**14 17 56.8**	**-3.1**
PETK	**Petropavlovsk-**	**5.63**	**249**	PN	**Pn**	**14 16 58.6**	**+1.3**
PETK						14 18 01.7	
PETK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PETK				smax	smax		
	comp=N,1.0nm,0.3s						
PETK	**Petropavlovsk-**	**5.63**	**249**	Pn	**Pn**	**14 16 58.5**	**+1.3**
	comp=N,2.1nm,0.3s,baz=75,slow=16,SNR=38						
PETK				Sn	**Sn**	**14 18 01.7**	**+0.2**
	comp=N,0.5nm,0.3s,baz=64,slow=34,SNR=3.2						
MTVR	**Mutnovka**	**5.70**	**242**	P	**Pn**	**14 16 58.6**	**+0.2**
MTVR				S	**Sn**	**14 18 01.2**	**-2.3**
ASAK	**Asacha**	**5.90**	**242**	P	Pn	14 17 04.3	+3.2
APC	**Apacha**	**6.00**	**249**	P	**Pn**	**14 17 03.3**	**+0.9**
ILAR	**Eielson Array**	**24.49**	**49**	P	**P**	**14 20 53.1**	**+0.8**
	comp=N,0.9nm,0.7s,baz=250,slow=8.0,SNR=13						
SONM	**Songino Array**	**36.97**	**284**	P	**P**	**14 22 43.3**	**+0.7**
	comp=N,0.4nm,0.6s,baz=40,slow=9.8,SNR=3.9						
TXAR	**Lajitas Array**	**66.33**	**72**	P	**P**	**14 26 24.1**	**+2.0**
	comp=N,0.6nm,0.5s,baz=304,slow=5.1,SNR=12						

IDC 01 14:20:35.0±1.7, 2°.43N×95°.92E, h0km, mb3.9/7, mb1 3.9/9, mb1mx3.7/29, mbtmp3.8/9, ML3.8/2, MS3.2/1, Ms1 3.2/1, ms1mx2.5/47, Error ellipse: s-maj=54.9km s-min=18.8km az=52.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.02**	**83**	Pn	Pn	14 21 23.8	-0.5
	6.5nm,0.3s,baz=284,slow=6.6,SNR=15						
CMAR	**Chiang Mai Arr**	**16.20**	**10**	Pn	Pn	14 24 25.6	+1.4
	0.2nm,0.3s,baz=197,slow=11,SNR=8.0						
WRA	**Warramunga Arr**	**43.76**	**122**	P	P	14 28 42.5	-0.3
	0.3nm,0.4s,baz=300,slow=9.1,SNR=5.6						
ASAR	**Alice Springs**	**45.15**	**127**	P	P	14 28 54.0	+0.2
	0.2nm,0.5s,baz=293,slow=7.5,SNR=6.8						
KSRS	**Korea Array**	**45.59**	**36**	LR	LR	14 48 09.1	
	comp=Z,26nm,18.2s,baz=170,slow=36						
MKAR	**Makanchi Array**	**45.76**	**347**	P	P	14 28 58.7	+0.4
	2.0nm,0.4s,baz=155,slow=8.9,SNR=36						
SONM	**Songino Array**	**46.13**	**10**	P	P	14 29 00.8	-0.5
	1.2nm,0.4s,baz=187,slow=10,SNR=9.9						
KURBB	**Kurchatov Arra**	**50.23**	**346**	P	P	14 29 32.7	0.0
	0.6nm,0.2s,baz=173,slow=6.5,SNR=9.6						
ZALV	**Zalesovo Beam**	**52.16**	**352**	P	P	14 29 47.1	-0.1
	2.4nm,0.4s,baz=176,slow=6.2,SNR=17						
BVAR	**Borovoye Array**	**54.68**	**341**	P	P	14 30 04.8	-1.0
	0.3nm,0.4s,baz=139,slow=12,SNR=3.6						

NNC 01 14:26:26.1±9.8, 36°.73N×69°.43E, h237km±133km, mb2.4, mpv3.6, 3C-2D, Error ellipse: s-maj=94.3km s-min=64.7km az=33.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.42**	**7**	⇓P	Pn	14 27 59.2	+0.1
	2.8nm,0.5s,baz=203,slow=16,SNR=47						
KK31				⇑S	S	14 29 14.0	+0.5
	7.2nm,0.7s,baz=198,slow=29,SNR=12						
TKM2	**Tokmak 2**	**7.79**	**36**	⇑P	Pn	14 28 14.9	-2.0
	3.6nm,1.1s						
TKM2				⇑S	S	14 29 47.2	+1.4
	3.7nm,0.7s						
AB31	**Akbulak array**	**14.30**	**334**	P	P	14 29 41.8	+3.1
	0.2nm,0.2s,baz=157,slow=13,SNR=22						
AB31				⇓S	S	14 32 13.9	-2.3
	0.4nm,0.5s,baz=158,slow=23,SNR=2.5						

*ISCJB **01** 14:35:04.1±0.7, 20°.16S±0°.05×68°.96W±0°.10, h105km±12km, mb3.8/1, Error ellipse: s-maj=15.2km s-min=7.3km az=7.0*
*GUC **01** 14:35:05.4±0.5, 20°.21S×69°.28W, h108km±5km, ML4.2*
*IDC **01** 14:35:08.1±4.2, 20°.26S×68°.76W, h121km±30km, mb3.6/2, mb1 3.6/5, mb1mx3.4/20, mbtmp3.5/5, Error ellipse: s-maj=41.4km s-min=22.1km az=48.0*
ISC 01 14:35:04.9±0.8, 20°.21S±0°.05×69°.04W±0°.08, h101km±9km, n13, σ1s70/19, 2C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HMBC	**Humberstone**	**0.80**	**265**	⇑*i*P	**Pn**	**14 35 22.8**	**-0.6**
HMBC				*i*S	**Sn**	**14 35 36.4**	**-1.0**
HMBC				AML	AML	14 35 38.6	
	comp=N,8μm,0.3s						
MNMC	**Minimini**	**1.20**	**334**	⇑*i*P	**Pn**	**14 35 28.5**	**+0.6**
MNMC				*i*S	**Sn**	**14 35 46.1**	**+0.9**
MNMC				AML	AML	14 35 48.0	
	comp=E,15μm,0.3s						
PB09	**Plate Boundary**	**1.58**	**187**	⇓*i*P	**Pn**	**14 35 33.7**	**+1.2**
PB09				*i*S	**Sn**	**14 35 55.8**	**+2.5**
PB09				AML	AML	14 35 57.8	
	comp=N,6μm,0.8s						
PB07	**Plate Boundary**	**1.70**	**207**	⇓*i*P	**Pn**	**14 35 34.2**	**+0.4**
PB07				*i*S	**Sn**	**14 35 56.4**	**+0.5**
PB07				AML	AML	14 36 00.4	
	comp=E,2μm,0.4s						
MACH	**Maria Elena**	**2.08**	**199**	*e*P	**Pn**	**14 35 40.2**	**+1.4**
MACH				*i*S	**Sn**	**14 36 05.9**	**+1.2**
PB04	**Plate Boundary**	**2.08**	**191**	*e*P	Pn	14 35 43.0	+4.5
PB04				*i*S	Sn	14 36 11.4	+7.1
PB04				AML	AML	14 36 21.0	
	comp=E,1μm,0.7s						
LPAZ	**La Paz**	**4.00**	**13**	P	Pn	14 36 08.4	+3.7
	comp=E,4.2nm,0.3s,baz=190,slow=7.1,SNR=106						
LPAZ				S	**Sn**	**14 36 55.5**	**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.79**	**72**	Pn	Pn	14 42 31.1	-0.8
	5.6nm,0.3s,baz=259,slow=7.8,SNR=11						
CMAR	**Chiang Mai Arr**	**16.62**	**9**	Pn	Pn	14 45 41.0	+0.6
	0.1nm,0.3s,baz=200,slow=12,SNR=6.2						
WRA	**Warramunga Arr**	**43.22**	**122**	P	P	14 49 48.6	-0.6
	0.2nm,0.6s,baz=302,slow=9.0,SNR=7.1						
ASAR	**Alice Springs**	**44.59**	**127**	P	P	14 50 00.8	+0.6
	0.3nm,0.7s,baz=301,slow=8.0,SNR=7.5						
MKAR	**Makanchi Array**	**46.30**	**347**	P	P	14 50 13.7	+0.3
	1.0nm,0.4s,baz=161,slow=8.8,SNR=21						
SONM	**Songino Array**	**46.54**	**9**	P	P	14 50 15.1	-0.3
	0.4nm,0.5s,baz=185,slow=7.4,SNR=4.0						
KURBB	**Kurchatov Arra**	**50.78**	**345**	P	P	14 50 47.8	+0.1
	0.7nm,0.7s,baz=166,slow=6.7,SNR=9.3						
ZALV	**Zalesovo Beam**	**52.68**	**352**	P	P	14 51 02.0	+0.1
	2.8nm,0.5s,baz=181,slow=6.4,SNR=19						
BVAR	**Borovoye Array**	**55.25**	**341**	P	P	14 51 19.9	-0.9
	0.4nm,0.5s,baz=141,slow=9.6,SNR=4.0						
TXAR	**Lajitas Array**	**143.51**	**30**	PKP	PKPbc	15 01 21.2	+0.6
	0.1nm,0.3s,baz=14,slow=1.1,SNR=2.7						

IDC 01 14:48:06.4±0.7, 3.79N×126.74E, h0km, mb3.7/10, mb1 3.8/10, mb1mx3.7/26, mbtmp3.7/10, MS3.3/1, Ms1 3.3/1, ms1mx2.3/42, 1D, Error ellipse: s-maj=42.7km s-min=14.4km az=77.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**4.21**	**324**	↓*iP*	Pn	14 49 16.6	+4.7
FITZ	**Fitzroy Crossi**	**21.79**	**183**	P	P	14 53 01.0	+0.9
	1.1nm,0.6s,baz=96,slow=7.8,SNR=6.7						
FITZ				LR	LR	15 00 58.3	
	comp=Z,84nm,20.9s,baz=90,slow=35						
WRA	**Warramunga Arr**	**24.74**	**163**	P	P	14 53 29.0	-0.8
	1.4nm,0.4s,baz=334,slow=11,SNR=27						
ASAR	**Alice Springs**	**28.17**	**166**	P	P	14 54 00.9	+0.1
	0.1nm,0.3s,baz=341,slow=7.5,SNR=11						
KSRS	**Korea Array**	**33.52**	**2**	P	P	14 54 47.9	+0.2
	0.6nm,0.6s,baz=170,slow=9.7,SNR=3.3						
STKA	**Stephens Creek**	**38.19**	**159**	P	P	14 55 27.8	-0.1
	2.1nm,0.6s,baz=338,slow=10,SNR=8.7						
PETK	**Petropavlovsk-**	**55.37**	**22**	P	P	14 57 42.0	-0.2
	1.0nm,0.7s,baz=191,slow=6.8,SNR=6.1						
MKAR	**Makanchi Array**	**57.51**	**325**	P	P	14 57 56.7	-0.9
	0.3nm,0.4s,baz=120,slow=7.2,SNR=11						
KURBB	**Kurchatov Arra**	**61.69**	**327**	P	P	14 58 26.4	0.0
	0.2nm,0.4s,baz=130,slow=6.6,SNR=8.8						
BVAR	**Borovoye Array**	**67.27**	**327**	P	P	14 59 03.3	+0.5
	0.3nm,0.4s,baz=138,slow=8.9,SNR=3.6						
ILAR	**Eielson Array**	**85.04**	**25**	P	P	15 00 43.9	+0.1
	0.3nm,0.8s,baz=262,slow=6.3,SNR=3.3						

*IDC **01** 15:06:09.8±0.5, 10.86N×126.33E, h0km, mb4.1/20, mb1 4.2/21, mb1mx4.2/29, mbtmp4.1/21, ML4.7/1, MS3.6/3, Ms1 3.6/3, ms1mx2.9/49, Error ellipse: s-maj=24.2km s-min=11.8km az=75.0*

*MAN **01** 15:06:12, 11.08N×126.51E, h20km, mb5.1, ML4.1, MS4.2*

*ISCJB **01** 15:06:13.9±0.5, 11.03N±0.04×126.45E±0.06, h37km, mb4.1/20, MS3.7/3, Error ellipse: s-maj=8.5km s-min=6.3km az=4.6*

ISC 01 15:06:15.6±0.6, 11.05N±0.05×126.46E±0.08, h37km, n34, σ1§56/35, mb4.3/20, MS3.7/3, 2C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**1.46**	**275**	↑*eP*	**Pn**	**15 06 37.2**	**-2.2**
CNP	**Cataman**	**2.28**	**310**	*eP*	**Pn**	**15 06 50.0**	**-0.7**
CNP				*eS*	**Sn**	**15 07 14.7**	**-2.8**
LLP	**Lapu-Lapu**	**2.56**	**254**	*eP*	**Pn**	**15 06 55.6**	**+1.1**
LLP				*eS*	**Sn**	**15 07 27.9**	**+3.4**
CGP	**Cagayan de Oro**	**3.12**	**214**	↑*iP*	**Pn**	**15 07 00.8**	**-1.4**
CGP				*i S*	**Sn**	**15 07 38.9**	**+0.8**
PVCP	**Virac**	**3.39**	**318**	*eP*	**Pn**	**15 07 05.3**	**-0.6**
SNPH	**Sibulan**	**3.60**	**242**	*eP*	Pn	15 06 59.5	-9.4
RCP	**Roxas**	**3.68**	**278**	↓*eP*	**Pn**	**15 07 10.3**	**+0.4**
AUQP	**San Andres**	**4.34**	**302**	*eP*	**Pn**	**15 07 20.5**	**+1.5**
CTBH	**Cotabato--PC H**	**4.39**	**210**	↓*iP*	**Pn**	**15 07 21.0**	**+1.3**
TGY	**Tagaytay City**	**6.19**	**300**	Pn	**Pn**	**15 07 42.2**	**-2.2**
	17nm,0.3s,baz=231,slow=13,SNR=2.5						
KSRS	**Korea Array**	**26.32**	**3**	P	**P**	**15 11 48.8**	**+0.9**
	1.6nm,0.9s,baz=185,slow=9.7,SNR=5.1						
MJAR	**Matsushiro Arr**	**27.51**	**21**	P	**P**	**15 12 00.2**	**+1.6**
	1.6nm,0.8s,baz=193,slow=8.8,SNR=5.6						
CMAR	**Chiang Mai Arr**	**27.59**	**289**	P	**P**	**15 11 57.6**	**-1.9**
	0.5nm,0.6s,baz=98,slow=8.1,SNR=3.8						
FITZ	**Fitzroy Crossi**	**28.98**	**182**	P	**P**	**15 12 10.4**	**-1.5**
	1.6nm,0.7s,baz=45,slow=7.8,SNR=10						
WRA	**Warramunga Arr**	**31.76**	**166**	P	**P**	**15 12 33.6**	**-2.9**
	1.0nm,0.6s,baz=347,slow=9.2,SNR=12						
USRK	**Ussuriysk Arra**	**33.37**	**7**	P	**P**	**15 12 50.0**	**-0.2**
	5.0nm,0.9s,baz=187,slow=9.0,SNR=9.5						
ASAR	**Alice Springs**	**35.27**	**168**	P	**P**	**15 13 04.6**	**-2.4**
	1.0nm,0.6s,baz=344,slow=7.3,SNR=24						
ASAR				PcP	**PcP**	**15 15 36.5**	**-0.7**
	0.5nm,0.5s,baz=354,slow=2.7,SNR=5.0						
HNR	**Honiara**	**39.03**	**120**	LR	LR	15 28 15.5	
	comp=Z,86nm,20.1s,baz=233,slow=34						
SONM	**Songino Array**	**40.36**	**339**	P	**P**	**15 13 51.2**	**+1.4**
	0.9nm,0.6s,baz=156,slow=10.0,SNR=7.5						
STKA	**Stephens Creek**	**45.08**	**162**	P	**P**	**15 14 26.9**	**-1.2**
	5.1nm,0.9s,baz=336,slow=9.1,SNR=7.9						
PETK	**Petropavlovsk-**	**48.85**	**25**	P	**P**	**15 14 59.9**	**+2.6**
	2.7nm,0.9s,baz=188,slow=2.9,SNR=8.0						
MKAR	**Makanchi Array**	**51.52**	**322**	P	**P**	**15 15 18.8**	**+1.0**
	3.1nm,0.8s,baz=116,slow=8.0,SNR=24						
MKAR				PcP	**PcP**	**15 16 31.7**	**+0.1**
	2.1nm,0.8s,baz=96,slow=9.6,SNR=4.3						
ZALV	**Zalesovo Beam**	**54.04**	**331**	P	**P**	**15 15 36.4**	**+0.2**
	2.3nm,0.6s,baz=116,slow=6.4,SNR=11						
AAK	**Ala-Archa**	**54.91**	**315**	LR	LR	15 43 30.7	
	comp=Z,62nm,18.3s,baz=262,slow=41						
KURBB	**Kurchatov Arra**	**55.54**	**325**	P	**P**	**15 15 47.8**	**+0.7**
	4.8nm,0.8s,baz=126,slow=6.7,SNR=35						
BVAR	**Borovoye Array**	**61.13**	**325**	P	**P**	**15 16 27.0**	**+0.9**
	5.5nm,0.8s,baz=108,slow=9.5,SNR=21						
AKTO	**Aktyubinsk**	**67.85**	**320**	P	**P**	**15 17 10.3**	**+0.3**
	1.6nm,0.6s,baz=139,slow=10,SNR=4.4						
ILAR	**Eielson Array**	**78.66**	**26**	P	**P**	**15 18 14.2**	**+0.7**
	0.4nm,1.0s,baz=278,slow=6.9,SNR=4.2						
SPITS	**Spitsbergen Ar**	**83.29**	**349**	LR	LR	16 00 48.5	
	comp=Z,29nm,18.2s,baz=265,slow=39						
ARCES	**ARCESS Array B**	**83.53**	**340**	P	**P**	**15 18 40.6**	**+1.2**
	2.7nm,0.8s,baz=63,slow=3.0,SNR=5.2						
BRTR	**Keskin Array B**	**85.18**	**309**	P	**P**	**15 18 48.0**	**-0.6**
	0.5nm,0.6s,baz=321,slow=50,SNR=3.3						
FINES	**FINESS Array B**	**85.30**	**332**	P	**P**	**15 18 48.5**	**+0.1**
	1.9nm,0.6s,baz=59,slow=5.1,SNR=12						
VNDA	**Vanda**	**90.68**	**173**	P	**P**	**15 19 14.0**	**+0.2**
	1.8nm,0.9s,baz=323,slow=4.6,SNR=7.7						
TORD	**Torodi Ar. Bea**	**120.15**	**292**	PKP	**PKPdf**	**15 25 02.5**	**-1.1**
	0.4nm,0.8s,baz=84,slow=2.0,SNR=3.0						

GUC 01 15:08:54.4±0.6, 22.95S×67.43W, h264km±16km, ML4.3, 9C-2D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB04	**Plate Boundary**	**2.02**	**289**	↑*iP*	Pn	15 09 46.1	+7.8
PB04				*i S*	S	15 10 25.3	+12
PB04				AML	AML	15 10 30.3	
	comp=N,304nm,0.2s						
PB09	**Plate Boundary**	**2.03**	**304**	↑*iP*	Pn	15 09 40.4	+1.7
PB09				*i S*	S	15 10 15.6	+2.0
PB09				AML	AML	15 10 17.7	
	comp=E,984nm,0.7s						
MACH	**Maria Elena**	**2.28**	**289**	↓*iP*	Pn	15 09 42.8	+1.9
MACH				*i S*	S	15 10 19.6	+1.9
PB07	**Plate Boundary**	**2.58**	**298**	↑*iP*	Pn	15 09 45.9	+2.2
PB07				*i S*	S	15 10 24.9	+2.1
CEN1	**Los Morros**	**2.59**	**260**	↓*iP*	Pn	15 09 46.5	+2.8
CEN1				*i S*	S	15 10 26.2	+3.4
CEN1				AML	AML	15 10 28.4	
	comp=N,158nm,0.5s						
PB01	**Plate Boundary**	**2.69**	**314**	↑*iP*	Pn	15 09 46.5	+1.7
PB01				*i S*	S	15 10 26.7	+2.0
PB01				AML	AML	15 10 28.7	
	comp=N,518nm,0.2s						
ANCH	**Antofagasta**	**2.83**	**254**	↑*iP*	Pn	15 09 48.5	+2.4
ANCH				*i S*	S	15 10 29.0	+1.9
ANCH				AML	AML	15 10 31.6	
	comp=N,400nm,0.4s						
PB10	**Plate Boundary**	**2.93**	**258**	↑*iP*	Pn	15 09 49.4	+2.3
PB10				*i S*	S	15 10 31.1	+2.3
PB10				AML	AML	15 10 33.2	
	comp=N,569nm,0.7s						
HMBC	**Humberstone**	**3.50**	**319**	↑*iP*	Pn	15 09 54.8	+1.3
HMBC				*i S*	S	15 10 42.1	+1.7
PSGC	**Pisagua**	**4.17**	**323**	↑*iP*	Pn	15 10 02.3	+1.2
PSGC				*i S*	S	15 10 55.1	+0.9
MNMC	**Minimini**	**4.30**	**332**	↑*iP*	Pn	15 10 04.7	+1.9
MNMC				*i S*	S	15 10 59.1	+1.8

IDC 01 15:17:49.3±61.0, 18.55S×179.96W, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/18, mbtmp3.6/3, Error ellipse: s-maj=1108.0km s-min=148.4km az=79.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.03**	**241**	P	P	15 25 01.3	+0.2
	0.6nm,0.4s,baz=76,slow=8.3,SNR=2.5						
WRA	**Warramunga Arr**	**43.07**	**260**	P	P	15 25 51.0	-0.4
	0.2nm,0.4s,baz=95,slow=8.5,SNR=13						
ASAR	**Alice Springs**	**43.20**	**255**	P	P	15 25 52.3	-0.1
	0.4nm,0.4s,baz=93,slow=7.5,SNR=26						

*NIED **01** 15:26:00, 29.80N×130.40E, h8km, Mw4.5 Best double couple: M0=6.01000×10^15 NP1:φs=345.00000°, δ=56.00000°, λ=-75.00000°. NP2:φs=140.00000°, δ=36.00000°, λ=-111.00000°.*

*ISCJB **01** 15:26:00.7±0.3, 29.77N±0.03×130.27E±0.06, h10km, mb4.2/31, MS3.5/7, Error ellipse: s-maj=7.7km s-min=3.9km az=16.9*

*JMA **01** 15:26:03.1±0.2, 29.80N×130.36E, h19km±3km, M4.5*

JMA Felt I J1.

*MOS **01** 15:26:03.9±0.9, 29.81N×130.23E, h38km, mb4.4/15, Error ellipse: s-maj=16.0km s-min=9.5km az=97.8*

*NEIC **01** 15:26:06.9±0.8, 29.84N×130.21E, h46km±7km, mb4.7/9, MW4.5(NIED), Error ellipse: s-maj=8.5km s-min=6.2km az=109.0*

NEIC Recorded [1 JMA] on Kuchino-shima and Nakano-shima.

*IDC **01** 15:26:09.0±2.2, 29.90N×130.24E, h66km±19km, mb3.8/20, mb1 4.0/24, mb1mx3.9/34, mbtmp3.8/24, MS3.5/10, Ms1 3.5/10, ms1mx3.2/42, Error ellipse: s-maj=18.8km s-min=11.3km az=73.0*

ISC 01 15:26:02.2±0.5, 29.79N±0.04×130.34E±0.06, h10km, n93, σ1§12/88, mb4.3/31, MS3.3/7, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.41**	**277**	P	**Pg**	**15 26 11.6**	**+1.4**
JKC	**Kuchinoerabu**	**0.68**	**350**	P	**Pg**	**15 26 16.4**	**+1.1**
JKC				*eS*	**Sg**	**15 26 25.2**	**+1.0**
JTN	**Tanegashima 3**	**1.02**	**33**	P	**Pg**	**15 26 21.7**	**-0.2**
JTN				*eS*	**Sg**	**15 26 35.0**	**-0.2**
JZK	**Kikaishima**	**1.51**	**192**	P	**Pb**	**15 26 31.1**	**+0.9**
JAM	**Amami Oshima**	**1.52**	**205**	P	**Pn**	**15 26 29.0**	**-0.4**
JSU	**Suzuyama**	**1.71**	**3**	P	**Pn**	**15 26 31.6**	**-0.5**
JSU				*eS*	**Sn**	**15 26 52.3**	**-1.8**
JAMN	**Amaminishikomi**	**1.85**	**214**	P	**Pn**	**15 26 33.7**	**-0.2**
JSJ	**Shimokoshiki**	**1.96**	**344**	P	**Pn**	**15 26 34.5**	**-0.9**
JZO	**Okuchi**	**2.35**	**5**	P	**Pn**	**15 26 41.6**	**+0.7**
JNU	**Nakatsue**	**3.35**	**8**	*eP*	**Pn**	**15 26 56.9**	**+2.2**
JNU				S	**Sn**	**15 27 36.5**	**+1.9**
JNU	**Nakatsue**	**3.35**	**8**	P	**Pn**	**15 26 56.7**	**+2.1**
	7.7nm,0.3s,baz=230,slow=3.6,SNR=83						
JNU				S	**Sn**	**15 27 36.5**	**+1.9**
	baz=344,slow=18,SNR=2.3						
JOW	**Kunigami**	**3.46**	**212**	*eP*	**Pn**	**15 26 57.2**	**+1.1**
KSRS	**Korea Array**	**7.90**	**346**	LR	LR	15 31 05.6	
	comp=Z,237nm,20.9s,baz=164,slow=38						
MAT	**Matsushiro**	**9.42**	**42**	P	**Pn**	**15 28 20.9**	**+2.9**
MJAR	**Matsushiro Arr**	**9.42**	**42**	P	**Pn**	**15 28 20.3**	**+2.3**
MJAR	**Matsushiro Arr**	**9.42**	**42**	P	**Pn**	**15 28 20.3**	**+2.3**
	0.6nm,0.3s,baz=237,slow=14,SNR=17						
YULB	**Yu-li**	**10.29**	**234**	*eP*	**Pn**	**15 28 30.1**	**+0.1**
USRK	**Ussuriysk Arra**	**14.44**	**5**	P	**Pn**	**15 29 27.8**	**+1.2**
	0.1nm,0.3s,baz=170,slow=9.6,SNR=3.0						
USRK				LR	LR	15 35 00.6	
	comp=Z,151nm,18.8s,baz=344,slow=37						
ASAJ	**Asahikawa**	**17.30**	**31**	P	**Pn**	**15 30 05.0**	**+1.2**
ASAJ	**Asahikawa**	**17.30**	**31**	P	**Pn**	**15 30 05.0**	**+1.2**
	0.8nm,0.3s,baz=238,slow=22,SNR=9.3						
ASAJ				LR	LR	15 37 44.6	
	comp=Z,127nm,18.2s,baz=336,slow=40						
ENH	**Enshi**	**18.06**	**277**	*eP*	**P**	**15 30 15.6**	**+1.8**
KLR	**Kul'dur**	**19.44**	**3**	*eP*	P	15 30 22.2	-6.5
KLR				MLR	MLR		
	comp=E,500nm,12.5s						
KLR				MLR	MLR		
	comp=Z,700nm,12.5s						
YSS	**Yuzh-Sakhalins**	**19.66**	**26**	*eP*	**Pn**	**15 30 32.8**	**+0.3**
ULN	**Ulaanbaatar**	**25.43**	**322**	*eP*	**P**	**15 31 29.7**	**-0.5**
	comp=Z,6.5nm,0.9s						
SONM	**Songino Array**	**25.77**	**321**	P	**P**	**15 31 32.7**	**-0.5**
SONM	**Songino Array**	**25.77**	**321**	P	**P**	**15 31 32.7**	**-0.5**
	comp=Z,3.3nm,0.8s,baz=139,slow=10.0,SNR=21						
SONM				LR	LR	15 42 43.7	
	comp=Z,84nm,21.4s,baz=138,slow=39						
ZAK	**Zakamensk**	**28.91**	**323**	*eP*	**P**	**15 32 00.4**	**-1.0**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s						
CMAR	**Chiang Mai Arr**	**30.70**	**256**	LR	LR	15 44 20.8	
	comp=Z,45nm,19.0s,baz=210,slow=36						
PETK	**Petropavlovsk-**	**30.70**	**33**	LR	LR	15 46 32.4	
	comp=Z,46nm,18.5s,baz=45,slow=40						
ZALV	**Zalesovo Beam**	**40.65**	**320**	P	**P**	**15 33 41.4**	**-0.8**
ZALV						15 35 42.2	
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZALV				MLR	MLR		
	comp=Z,37nm,18.5s						
ZALV	**Zalesovo Beam**	**40.65**	**320**	P	**P**	**15 33 41.4**	**-0.8**
ZALV				PcP	**PcP**	**15 35 42.2**	**-1.7**
ZALV	**Zalesovo Beam**	**40.65**	**320**	P	**P**	**15 33 41.4**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=112,slow=5.5,SNR=4.0						
ZALV				PcP	**PcP**	**15 35 42.2**	**-1.7**
	comp=Z,0.5nm,0.3s,baz=114,slow=1.8,SNR=3.6						
ZALV				LR	LR	15 53 41.7	
	comp=Z,37nm,18.5s,baz=69,slow=41						
MK31	**Makanchi Array**	**40.67**	**308**	*eP*	**P**	**15 33 41.4**	**-1.2**
MK31	**Makanchi Array**	**40.67**	**308**	*eP*	**P**	**15 33 41.4**	**-1.2**
MKAR	**Makanchi Array**	**40.67**	**308**	P	**P**	**15 33 42.7**	**+0.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR	**Makanchi Array**	**40.67**	**308**	P	**P**	**15 33 42.7**	**+0.1**
MKAR	**Makanchi Array**	**40.67**	**308**	P	**P**	**15 33 42.7**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=91,slow=11,SNR=8.7						
KURK	**Kurchatov**	**43.62**	**314**	P	**P**	**15 34 06.4**	**-0.2**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KURK	**Kurchatov**	**43.62**	**314**	P	**P**	**15 34 06.4**	**-0.2**
KURBB	**Kurchatov Arra**	**43.66**	**314**	P	**P**	**15 34 06.4**	**-0.5**
	comp=Z,1.6nm,1.0s,baz=107,slow=6.0,SNR=9.7						
FITZ	**Fitzroy Crossi**	**47.83**	**186**	P	**P**	**15 34 40.6**	**+0.5**
FITZ	**Fitzroy Crossi**	**47.83**	**186**	P	**P**	**15 34 40.6**	**+0.5**
	comp=Z,1.9nm,0.7s,baz=18,slow=7.2,SNR=4.0						
BVAR	**Borovoye Array**	**48.94**	**316**	P	**P**	**15 34 47.7**	**-0.7**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BVAR	**Borovoye Array**	**48.94**	**316**	P	**P**	**15 34 47.7**	**-0.7**
BVAR	**Borovoye Array**	**48.94**	**316**	P	**P**	**15 34 47.7**	**-0.7**
	comp=Z,2.3nm,0.8s,baz=92,slow=10,SNR=10.0						
WRAB	**Tennant Creek**	**49.59**	**175**	*eP*	**P**	**15 34 53.8**	**+0.2**
WRAB				pmax	pmax		
	comp=Z,1.1nm,1.2s						
WRAB	**Tennant Creek**	**49.59**	**175**	*eP*	**P**	**15 34 53.8**	**+0.2**
	comp=Z,1.1nm,1.2s						
WRA	**Warramunga Arr**	**49.59**	**175**	P	**P**	**15 34 53.7**	**0.0**
WRA	**Warramunga Arr**	**49.59**	**175**	P	**P**	**15 34 53.7**	**0.0**
	comp=Z,4.8nm,0.9s,baz=350,slow=8.1,SNR=14						
AS31	**Alice Springs**	**53.26**	**176**	*eP*	**P**	**15 35 22.2**	**+1.0**
ASAR	**Alice Springs**	**53.26**	**176**	P	**P**	**15 35 21.7**	**+0.6**
ASAR				PcP	**PcP**	**15 36 29.8**	**+0.9**
ASAR	**Alice Springs**	**53.26**	**176**	P	**P**	**15 35 21.7**	**+0.6**
	comp=Z,2.0nm,0.9s,baz=354,slow=6.2,SNR=13						
ASAR				PcP	**PcP**	**15 36 29.8**	**+0.9**
	comp=Z,1.6nm,0.9s,baz=5.1,slow=3.0,SNR=5.8						
MCK	**McKinley**	**59.67**	**31**	*eP*	**P**	**15 36 06.5**	**+0.1**
MCK				pmax	pmax		
	comp=Z,16nm,1.1s						
MCK	**McKinley**	**59.67**	**31**	*eP*	**P**	**15 36 06.5**	**+0.1**
	comp=Z,16nm,1.1s						
ILAR	**Eielson Array**	**60.43**	**29**	P	**P**	**15 36 11.0**	**-0.6**
ILAR	**Eielson Array**	**60.43**	**29**	P	**P**	**15 36 11.0**	**-0.6**
	comp=Z,1.2nm,0.8s,baz=271,slow=4.9,SNR=15						
BMRM	**Bremner River**	**62.09**	**33**	*eP*	**P**	**15 36 23.6**	**+0.6**
	comp=Z,20nm,1.3s						
MENT	**Mentasta**	**62.11**	**31**	*eP*	**P**	**15 36 23.9**	**+0.8**
DZM	**Mont Dzumac**	**62.17**	**142**	P	**P**	**15 36 25.1**	**+1.2**
DZM	**Mont Dzumac**	**62.17**	**142**	P	**P**	**15 36 25.1**	**+1.2**
	comp=Z,3.5nm,0.8s,baz=136,slow=20,SNR=3.8						
STKA	**Stephens Creek**	**62.26**	**169**	P	**P**	**15 36 24.9**	**+0.7**
STKA	**Stephens Creek**	**62.26**	**169**	P	**P**	**15 36 24.9**	**+0.7**
	comp=Z,2.3nm,0.8s,baz=1.9,slow=8.8,SNR=6.0						
ARCES	**ARCESS Array B**	**67.39**	**338**	LR	LR	16 11 16.2	
	comp=Z,59nm,19.7s,baz=69,slow=40						
FINES	**FINESS Array B**	**70.69**	**330**	P	P	15 37 14.7	-3.2
FINES	**FINESS Array B**	**70.69**	**330**	P	P	15 37 14.7	-3.2
	comp=Z,2.2nm,0.8s,baz=79,slow=7.2,SNR=4.9						
FINES				LR	LR	16 11 23.5	
	comp=Z,59nm,18.3s,baz=205,slow=38						
YKA	**Yellowknife Ar**	**74.52**	**26**	P	**P**	**15 37 39.9**	**-0.8**
YKA	**Yellowknife Ar**	**74.52**	**26**	P	**P**	**15 37 39.8**	**-0.8**
	comp=Z,1.9nm,0.8s,baz=303,slow=5.4,SNR=4.3						
BRTR	**Keskin Array B**	**76.32**	**308**	P	**P**	**15 37 50.4**	**-1.3**
BRTR	**Keskin Array B**	**76.32**	**308**	P	**P**	**15 37 50.4**	**-1.3**
	comp=Z,0.7nm,0.9s,baz=149,slow=5.3,SNR=4.4						
HFS	**Hagfors**	**76.53**	**333**	P	P	15 37 49.6	-2.7
HFS	**Hagfors**	**76.53**	**333**	P	P	15 37 49.6	-2.7
	comp=Z,2.6nm,0.8s,baz=84,slow=14,SNR=2.4						
NOA	**NORSAR Array B**	**76.94**	**334**	P	**P**	**15 37 52.3**	**-2.3**
NOA	**NORSAR Array B**	**76.94**	**334**	P	**P**	**15 37 52.3**	**-2.3**
	comp=Z,2.1nm,1.0s,baz=46,slow=5.5,SNR=2.7						
VRAC	**Vranov**	**81.68**	**323**	P	**P**	**15 38 21.1**	**+0.4**
VRAC	**Vranov**	**81.68**	**323**	P	**P**	**15 38 21.1**	**+0.4**
	comp=Z,1.3nm,0.3s,baz=9.5,slow=5.3,SNR=3.4						
CLL	**Collm**	**82.28**	**326**	*eP*	**P**	**15 38 23.0**	**-0.8**
CLL				*i* Pmax		15 38 26.5	
BSMT	**Bassoo Peak**	**83.16**	**38**	*eP*	**P**	**15 38 29.9**	**+1.2**
	comp=Z,4.8nm,1.2s						
GERES	**GERESS Array B**	**83.47**	**324**	P	P	15 38 27.8	-2.3
GERES	**GERESS Array B**	**83.47**	**324**	P	P	15 38 27.8	-2.3
	comp=Z,0.2nm,0.5s,baz=49,slow=3.3,SNR=3.4						
BMO	**Blue Mountains**	**83.55**	**41**	*eP*	**P**	**15 38 30.6**	**0.0**
	comp=Z,5.6nm,1.1s						
BEKR	**Beckworth**	**84.58**	**47**	*eP*	**P**	**15 38 36.2**	**+0.1**
	comp=Z,2.4nm,0.9s						
DLMT	**Dillon**	**85.89**	**39**	P	**P**	**15 38 42.7**	**+0.2**
	comp=Z,9.0nm,1.1s						
NVAR	**Mina Array Bea**	**86.71**	**47**	P	**P**	**15 38 45.7**	**-1.1**
NVAR	**Mina Array Bea**	**86.71**	**47**	P	**P**	**15 38 45.7**	**-1.1**
	comp=Z,1.2nm,0.7s,baz=66,slow=3.1,SNR=5.4						
PDAR	**Pinedale Array**	**89.23**	**40**	P	**P**	**15 38 58.8**	**0.0**
PDAR	**Pinedale Array**	**89.23**	**40**	P	**P**	**15 38 58.8**	**0.0**
	comp=Z,1.1nm,0.9s,baz=63,slow=0.7,SNR=8.3						
ULM	**Lac du Bonnet**	**90.41**	**28**	*eP*	**P**	**15 39 03.2**	**-0.6**
	comp=Z,18nm,1.0s						
ULM	**Lac du Bonnet**	**90.41**	**28**	P	**P**	**15 39 03.6**	**-0.2**
	comp=Z,11nm,0.8s,baz=315,slow=4.0,SNR=8.0						
SCHQ	**Schefferville**	**94.43**	**10**	LR	LR	16 22 09.3	
	comp=Z,38nm,20.2s,baz=352,slow=36						
TORD	**Torodi Ar. Bea**	**114.65**	**303**	PKP	PKPdf	15 44 42.2	-1.3
TORD	**Torodi Ar. Bea**	**114.65**	**303**	PKP	PKPdf	15 44 42.2	-1.3
	comp=Z,0.3nm,0.7s,baz=1.7,slow=3.4,SNR=2.8						
DBIC	**Dimbokro**	**123.75**	**303**	PKP	**PKPdf**	**15 44 59.0**	**-2.0**
**

*NEIC **01** 17:27:47.3±2.9, 60°.84S×23°.10W, h62km±26km, mb4.6/9, Error ellipse: s-maj=11.8km s-min=8.0km az=52.0*

ISC 01 17:27:40.3±0.4, 60°.92S±0°.08×22°.89W±0°.07, h10km, n63, σ1§14/57, mb4.4/18, MS3.9/12, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**11.41**	**155**	*e*Pn	**Pn**	**17 30 22.3**	**-0.8**
VNA1	**Neumayer--Stat**	**11.41**	**155**	*e*Sn	Sn	17 32 19.5	-11
VNA2	**Neumayer--Watz**	**11.81**	**155**	*e*Pn	**Pn**	**17 30 26.8**	**-1.7**
VNA2	**Neumayer--Watz**	**11.81**	**155**	*e*Sn	Sn	17 32 26.3	-14
SNAA	**Sanae**	**13.36**	**152**	*e*Pn	**Pn**	**17 30 47.5**	**-2.2**
	45nm,0.5s						
SNAA				*e*Sn	Sn	17 32 57.5	-21
MAIT	**Maitri**	**16.97**	**140**	*e*P	**Pn**	**17 31 33.0**	**-4.3**
PMSA	**Palmer Station**	**18.92**	**240**	*e*P	**Pn**	**17 32 01.6**	**+0.3**
PMSA				*e*Sn	**Sn**	**17 35 31.2**	**-1.5**
PMSA				S	**Sn**	**17 35 32.3**	**-0.5**
PMSA	**Palmer Station**	**18.92**	**240**	P	**Pn**	**17 32 02.2**	**+0.9**
	0.2nm,0.3s,baz=99,slow=12,SNR=4.7						
PMSA				S	**Sn**	**17 35 32.3**	**-0.5**
	0.1nm,0.3s,baz=11,slow=19,SNR=5.5						
PMSA				LR	LR	17 37 49.3	
	comp=Z,257nm,19.2s,baz=285,slow=32						
USHA	**Ushuaia**	**24.55**	**264**	LR	LR	17 40 27.0	
	comp=Z,352nm,18.9s,baz=131,slow=31						
QSPA	**South Pole Qui**	**29.31**	**180**	P	**P**	**17 33 43.5**	**+0.8**
QSPA	**South Pole Qui**	**29.31**	**180**	P	**P**	**17 33 43.5**	**+0.8**
	4.5nm,0.9s,baz=204,slow=4.7,SNR=16						
QSPA				LR	LR	17 45 03.2	
	comp=Z,273nm,19.4s,baz=221,slow=36						
TRQA	**Tornquist**	**33.39**	**295**	*e*P	**P**	**17 34 18.0**	**-0.6**
	6.2nm,1.0s						
MAW	**Mawson**	**34.93**	**138**	P	P	17 34 35.3	+3.7
MAW	**Mawson**	**34.93**	**138**	P	P	17 34 35.3	+3.7
	5.7nm,1.0s,baz=244,slow=9.3,SNR=8.7						
MAW				LR	LR	17 47 18.1	
	comp=Z,202nm,20.1s,baz=40,slow=34						
PLCA	**Paso Flores**	**35.20**	**283**	P	**P**	**17 34 32.2**	**-2.1**
PLCA	**Paso Flores**	**35.20**	**283**	P	**P**	**17 34 32.2**	**-2.1**
	1.6nm,0.7s,baz=133,slow=8.7,SNR=3.4						
PLCA				LR	LR	17 49 27.6	
	comp=Z,158nm,18.9s,baz=134,slow=37						
SBA	**Scott Base**	**41.34**	**183**	*e*P	**P**	**17 35 27.6**	**+2.1**
	4.6nm,1.0s						
CFAA	**Coronel Fontan**	**41.59**	**294**	P	**P**	**17 35 28.2**	**+0.2**
CFAA	**Coronel Fontan**	**41.59**	**294**	P	**P**	**17 35 28.2**	**+0.2**
	0.5nm,0.5s,baz=156,slow=7.3,SNR=7.2						
CPUP	**Villa Florida**	**41.71**	**310**	*e*P	**P**	**17 35 28.7**	**-0.3**
	9.3nm,0.6s						
CPUP	**Villa Florida**	**41.71**	**310**	P	**P**	**17 35 29.2**	**+0.2**
	0.9nm,0.4s,baz=132,slow=6.3,SNR=5.5						
CPUP				LR	LR	17 52 26.8	
	comp=Z,97nm,18.8s,baz=160,slow=36						
VNDA	**Vanda**	**41.77**	**182**	P	**P**	**17 35 31.3**	**+2.3**
VNDA	**Vanda**	**41.77**	**182**	P	**P**	**17 35 31.3**	**+2.3**
	2.3nm,0.7s,baz=188,slow=7.7,SNR=14						
VNDA				LR	LR	17 51 16.3	
	comp=Z,207nm,21.5s,baz=253,slow=34						
BOSA	**Boshof**	**45.39**	**67**	*e*P	**P**	**17 35 59.1**	**+0.2**
	14nm,1.0s						
BOSA	**Boshof**	**45.39**	**67**	P	**P**	**17 35 59.2**	**+0.4**
	4.4nm,0.5s,baz=106,slow=12,SNR=20						
BOSA				LR	LR	17 51 42.5	
	comp=Z,159nm,18.6s,baz=185,slow=32						
CASY	**Casey**	**48.54**	**157**	*e*P	**P**	**17 36 24.2**	**+1.4**
	8.2nm,0.8s						
BDFB	**Brasilia**	**48.71**	**327**	P	**P**	**17 36 25.6**	**+0.8**
BDFB	**Brasilia**	**48.71**	**327**	P	**P**	**17 36 25.6**	**+0.8**
	2.0nm,0.4s,baz=116,slow=6.4,SNR=5.2						
BDFB				LR	LR	17 55 11.4	
	comp=Z,124nm,19.8s,baz=55,slow=34						
LVC	**Limon Verde**	**49.68**	**299**	*e*P	**P**	**17 36 32.8**	**+0.4**
	4.0nm,0.8s						
LPAZ	**La Paz**	**55.00**	**304**	*e*P	**P**	**17 37 12.5**	**+0.1**
	5.1nm,0.8s						
LPAZ	**La Paz**	**55.00**	**304**	P	**P**	**17 37 13.4**	**+1.0**
	1.1nm,0.4s,baz=161,slow=4.9,SNR=6.8						
LSZ	**Lusaka**	**58.35**	**62**	*e*P	**P**	**17 37 35.5**	**-0.1**
	4.9nm,0.8s						
SAML	**Samuel**	**59.80**	**312**	*e*P	**P**	**17 37 45.4**	**-0.2**
	3.2nm,0.8s						
NNA	**Nana**	**62.53**	**297**	LR	LR	18 04 23.3	
	comp=Z,76nm,19.5s,baz=151,slow=35						
DBIC	**Dimbokro**	**68.86**	**19**	P	**P**	**17 38 44.5**	**-0.2**
DBIC	**Dimbokro**	**68.86**	**19**	P	**P**	**17 38 44.5**	**-0.2**
	2.7nm,0.6s,baz=170,slow=10,SNR=4.9						
DBIC				LR	LR	18 01 55.8	
	comp=Z,106nm,19.5s,baz=101,slow=30						
TOA0	**Torodi Ar. Sit**	**76.38**	**25**	*e*P	**P**	**17 39 29.7**	**+0.2**
TORD	**Torodi Ar. Bea**	**76.38**	**25**	P	**P**	**17 39 30.1**	**+0.7**
TORD	**Torodi Ar. Bea**	**76.38**	**25**	P	**P**	**17 39 30.1**	**+0.7**
	3.8nm,0.6s,baz=194,slow=6.0,SNR=22						
TORD				LR	LR	18 05 27.8	
	comp=Z,81nm,21.6s,baz=140,slow=30						
ATD	**Arta Tunnel**	**88.66**	**63**	LR	LR	18 18 56.2	
	comp=Z,102nm,18.7s,baz=157,slow=35						
ASAR	**Alice Springs**	**93.63**	**159**	P	**P**	**17 40 56.0**	**-0.7**
ASAR	**Alice Springs**	**93.63**	**159**	P	**P**	**17 40 56.0**	**-0.7**
	0.9nm,0.7s,baz=186,slow=3.6,SNR=13						
CMAR	**Chiang Mai Arr**	**121.28**	**109**	PKP	**PKPdf**	**17 46 33.0**	**-0.2**
CMAR	**Chiang Mai Arr**	**121.28**	**109**	PKP	**PKPdf**	**17 46 33.0**	**-0.2**
	0.7nm,0.6s,baz=221,slow=3.2,SNR=4.4						
FINES	**FINESS Array B**	**127.67**	**27**	PKP	**PKPdf**	**17 46 43.0**	**-1.0**
FINES	**FINESS Array B**	**127.67**	**27**	PKP	**PKPdf**	**17 46 43.0**	**-1.0**
	6.0nm,1.1s,baz=157,slow=5.4,SNR=9.6						
ARCES	**ARCESS Array B**	**134.65**	**22**	PKP	**PKPdf**	**17 46 56.5**	**-0.5**
ARCES	**ARCESS Array B**	**134.65**	**22**	PKP	**PKPdf**	**17 46 56.5**	**-0.5**
	0.9nm,0.5s,baz=197,slow=1.3,SNR=16						
MKAR	**Makanchi Array**	**136.21**	**73**	PKP	**PKPdf**	**17 47 01.6**	**+0.9**
MKAR	**Makanchi Array**	**136.21**	**73**	PKP	**PKPdf**	**17 47 01.6**	**+0.9**
	0.5nm,0.6s,baz=207,slow=2.4,SNR=3.6						
ZALV	**Zalesovo Beam**	**142.34**	**67**	PKPpre	PKPpre	17 47 05.8	
ZALV	**Zalesovo Beam**	**142.34**	**67**	PKhKP	PKPpre	17 47 05.8	
	0.9nm,0.5s,baz=230,slow=4.5,SNR=6.6						
WRAK	**Wrangell Islan**	**144.67**	**295**	*e*PKPdf	**PKPab**	**17 47 14.7**	**+0.3**
DLBC	**Dease Lake**	**144.87**	**299**	*e*PKPdf	**PKPab**	**17 47 15.4**	**+0.2**
SONM	**Songino Array**	**148.56**	**91**	PKPbc	**PKPbc**	**17 47 26.2**	**-0.2**
SONM	**Songino Array**	**148.56**	**91**	PKPbc	**PKPbc**	**17 47 26.2**	**-0.2**
	7.2nm,0.6s,baz=220,slow=3.0,SNR=36						
KSAR	**Wonju Array Be**	**150.18**	**129**	PKPbc	**PKPbc**	**17 47 30.7**	**+0.2**
KSRS	**Korea Array**	**150.20**	**129**	PKPbc	**PKPbc**	**17 47 30.7**	**+0.2**
	2.9nm,0.7s,baz=202,slow=1.9,SNR=13						
INK	**Inuvik**	**150.93**	**314**	*e*PKPbc	**PKPbc**	**17 47 29.6**	**-1.7**
MJAR	**Matsushiro Arr**	**152.81**	**145**	PKPbc	**PKPbc**	**17 47 36.5**	**-0.2**
MJAR	**Matsushiro Arr**	**152.81**	**145**	PKPbc	**PKPbc**	**17 47 36.5**	**-0.2**
	2.4nm,0.9s,baz=188,slow=2.4,SNR=5.3						
ILAR	**Eielson Array**	**154.88**	**303**	PKP	**PKPdf**	**17 47 31.8**	**+0.3**
ILAR	**Eielson Array**	**154.88**	**303**	PKP	**PKPdf**	**17 47 31.8**	**+0.3**
	1.6nm,1.0s,baz=235,slow=6.0,SNR=5.9						

*ISCJB **01** 17:33:04.0±0.4, 41°.75N±0°.03×81°.54E±0°.05, h17km, mb4.1/13, MS4.1/1, Error ellipse: s-maj=5.8km s-min=4.0km az=11.1*

*IDC **01** 17:33:03.1±0.9, 41°.76N×81°.46E, h0km, mb4.0/8, mb1 3.9/15, mb1mx3.8/35, mbtmp3.8/15, ML3.5/7, MS3.4/3, Ms1 3.4/3, ms1mx2.7/48, Error ellipse: s-maj=16.1km s-min=12.5km az=78.0*

*BJI **01** 17:33:04.0, 41°.75N×81°.51E, h10km, mB4.4/5, mb4.2/7, ML4.0/10, Ms3.6/3, Ms7 3.2/2*

*MOS **01** 17:33:04.6±1.6, 41°.82N×81°.44E, h20km, mb4.1/7, Error ellipse: s-maj=14.8km s-min=7.3km az=103.5*

*NNC **01** 17:33:07.0±2.9, 42°.02N×81°.51E, h0km, mb4.3, mpv4.0, Error ellipse: s-maj=28.7km s-min=10.6km az=139.0*

ISC 01 17:33:05.8±0.5, 41°.73N±0°.04×81°.40E±0°.04, h17km, n66, σ1§84/69, mb4.1/13, 12C-11D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDC	**Almaty**	**3.60**	**296**	⇓Pn	Pb	17 34 04.9	-4.2
KNDC				⇓Lg	Lg	17 34 57.7	
AAA	**Alma-Ata**	**3.64**	**297**	*i* PN	**Pb**	**17 34 09.8**	**+0.2**
AAA				*i* S	**Sg**	**17 35 02.0**	**-0.6**
AAA				pmax	pmax		
	comp=Z,98nm,0.5s						
AAA				smax	smax		
	comp=N,304nm,0.7s						
ULHL	**Ulahol**	**3.88**	**279**	P	**Pn**	**17 34 07.5**	**+2.6**
	SNR=13						
TKM2	**Tokmak 2**	**4.47**	**287**	⇓Pn	**Pn**	**17 34 16.0**	**+3.1**
	comp=N,17nm,0.4s						
TKM2				⇑Pg	**Pg**	**17 34 28.5**	**-2.8**
	comp=N,62nm,0.8s						
TKM2				⇑Lg	Lg	17 35 28.8	
	comp=N,94nm,0.9s						
TKM2	**Tokmak 2**	**4.47**	**287**	P	**Pn**	**17 34 15.8**	**+2.9**
	SNR=33						
KZA	**Kyzart**	**4.61**	**276**	P	Pn	17 34 18.2	+3.2
	SNR=5.2						
KSH	**Kashi**	**4.69**	**244**	Pn	**Pb**	**17 34 25.6**	**-1.9**
KSH				Sn	Sb	17 35 29.6	+5.9
KSH				smax	smax		
	comp=N,18nm,0.7s						
KSH				smax	smax		
	comp=E,29nm,0.8s						
KBK	**Karagaybulak**	**4.88**	**283**	P	Pn	17 34 21.9	+3.3
	SNR=16						
WMQ	**Urumqi**	**5.08**	**64**	Pn	**Pn**	**17 34 24.3**	**+3.1**
WMQ				Sn	**Sn**	**17 35 21.7**	**+2.2**
WMQ				smax	smax		
	comp=N,210nm,0.6s						
WMQ				smax	smax		
	comp=E,190nm,0.8s						
CHMS	**Chumysh**	**5.09**	**287**	P	**Pg**	**17 34 41.4**	**-1.8**
	SNR=6.2						
MK31	**Makanchi Array**	**5.11**	**7**	⇑Pn	**Pn**	**17 34 22.7**	**+1.2**
	comp=E,4.2nm,0.6s,baz=184,slow=13,SNR=234						
MK31				⇑Pg	**Pb**	**17 34 35.9**	**+1.3**
	comp=E,20nm,0.7s,baz=182,slow=16,SNR=9.9						
MK31				⇓Sn	**Sn**	**17 35 23.4**	**+3.4**
	comp=E,13nm,0.5s,baz=194,slow=28,SNR=3.8						
MK31				⇑Lg	Lg	17 35 43.7	
	comp=E,43nm,0.5s,baz=187,slow=30,SNR=5.7						
MK31	**Makanchi Array**	**5.11**	**7**	*e*PN	**Pn**	**17 34 22.6**	**+1.2**
MK31						17 35 24.5	
MK31				pmax	pmax		
	comp=Z,2.0nm,0.2s						
MK31				pmax	pmax		
	comp=Z,6.0nm,0.3s						
MK31				smax	smax		
	comp=N,24nm,0.5s						
MK31				pmax	pmax		
	comp=N,54nm,0.5s						
MKAR	**Makanchi Array**	**5.11**	**7**	PN	**Pn**	**17 34 22.8**	**+1.3**
MKAR						17 35 19.9	
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MKAR				smax	smax		
	comp=N,7.0nm,0.3s						
MKAR	**Makanchi Array**	**5.11**	**7**	Pn	**Pn**	**17 34 22.8**	**+1.3**
	comp=N,2.1nm,0.3s,baz=192,slow=14,SNR=80						
MKAR				Sn	**Sn**	**17 35 19.9**	**-0.1**
	comp=N,7.4nm,0.3s,baz=184,slow=24,SNR=7.9						
MKAR				Lg	Lg	17 35 43.3	
	comp=N,12nm,0.3s,baz=188,slow=31,SNR=14						
FRU	**Bishkek**	**5.15**	**285**	⇓*i* PN	**Pg**	**17 34 42.0**	**-2.4**
FRU				*i*		17 35 57.0	
FRU				pmax	pmax		
	comp=Z,170nm,1.7s						
FRU				pmax	pmax		
	comp=E,480μm,1.8s						
AAK	**Ala-Archa**	**5.21**	**282**	PN	**Pn**	**17 34 25.1**	**+2.0**
AAK	**Ala-Archa**	**5.21**	**282**	Pn	**Pn**	**17 34 25.1**	**+2.0**
	comp=E,1.3nm,0.3s,baz=102,slow=8.9,SNR=8.4						
AAK				Lg	Lg	17 35 50.9	
	comp=E,1.3nm,0.3s,baz=254,slow=21,SNR=5.2						
USP	**Ospenovka**	**5.33**	**289**	P	**Pn**	**17 34 27.0**	**+2.4**
	SNR=8.5						
AML	**Almayashu**	**5.76**	**277**	P	Pn	17 34 21.0	-10
	SNR=28						
KK31	**Karatay Array**	**8.18**	**283**	⇓Pg	Pb	17 35 37.0	+10
	comp=E,6.3nm,0.7s,baz=92,slow=15,SNR=10						
KK31				⇑Lg	Lg	17 37 21.4	
	comp=E,19nm,0.9s,baz=95,slow=23,SNR=6.9						
KURBB	**Kurchatov Arra**	**9.12**	**348**	Pn	**Pn**	**17 35 16.2**	**-0.2**
	comp=E,0.2nm,0.3s,baz=174,slow=12,SNR=7.5						
KURBB				Sn	**Sn**	**17 37 01.1**	**+2.5**
	comp=E,0.7nm,0.3s,baz=72,slow=22,SNR=4.4						
KURBB				Lg	Lg	17 37 52.5	
	comp=E,0.8nm,0.3s,baz=327,slow=4.7,SNR=8.3						
KURK	**Kurchatov**	**9.19**	**349**	P	**Pn**	**17 35 16.2**	**-1.3**
KURK						17 37 01.1	
KURK				smax	smax		
	comp=N,1.0nm,0.3s						
CHCP	**Chirah Chowk**	**10.31**	**221**	P	**Pn**	**17 35 35.7**	**+2.8**
CEP	**Cherat**	**10.89**	**227**	P	**Pn**	**17 35 42.9**	**+2.0**
CEP				S	**Sn**	**17 37 47.0**	**+4.6**
THW	**Thamme Wali**	**11.77**	**224**	P	**Pn**	**17 35 54.4**	**+1.5**
ZALV	**Zalesovo Beam**	**12.44**	**9**	P	**Pn**	**17 36 00.0**	**-1.8**
ZALV						17 38 20.8	
ZALV				MLR	MLR		
	comp=Z,47nm,18.2s						
ZALV	**Zalesovo Beam**	**12.44**	**9**	Pn	**Pn**	**17 36 00.0**	**-1.8**
	comp=Z,0.3nm,0.3s,baz=172,slow=11,SNR=11						
ZALV				Sn	**Sn**	**17 38 20.8**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=197,slow=20,SNR=3.7						
ZALV				Lg	Lg	17 39 41.0	
	comp=Z,0.1nm,0.3s,baz=202,slow=22,SNR=4.2						
ZALV				LR	LR	17 41 02.8	
	comp=Z,47nm,18.2s,baz=70,slow=39						
VOSK	**Vostochnaya**	**13.07**	**331**	⇑Pn	**Pn**	**17 36 11.8**	**+1.3**
	comp=Z,2.2nm,0.7s						
VOSK				⇑Lg	Lg	17 39 53.6	
	comp=Z,0.2nm,0.3s						
NVS	**Novosibirsk**	**13.18**	**5**	*e*P	**Pn**	**17 36 11.2**	**-0.7**
NVS				*e*S	Sn	17 38 31.9	-6.1
NVS				pmax	pmax		
	comp=Z,5.0nm,1.5s						
NVS				pmax	pmax		
	comp=N,3.0nm,1.2s						
NVS				smax	smax		
	comp=N,6.0nm,0.8s						
NVS				smax	smax		
	comp=E,5.0nm,0.7s						
BVA0	**Borovoye Array**	**13.52**	**330**	⇓Pn	**P**	**17 36 24.7**	**-1.1**
	comp=E,2.5nm,0.7s,baz=152,slow=11,SNR=8.0						
BVA0				⇑Lg	Lg	17 40 07.2	
	comp=E,33nm,1.6s,baz=122,slow=26,SNR=6.0						
BVA0	**Borovoye Array**	**13.52**	**330**	*i* P	**Pn**	**17 36 17.8**	**+1.1**
BVA0				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BVA0				pmax	pmax		
	comp=N,33nm,1.6s						
BVAR	**Borovoye Array**	**13.52**	**330**	P	**Pn**	**17 36 15.6**	**-1.1**
BVAR				MLR	MLR		
	comp=Z,93nm,20.2s						
BVAR	**Borovoye Array**	**13.52**	**330**	Pn	**Pn**	**17 36 15.6**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=129,slow=11,SNR=2.8						
BVAR				Lg	Lg	17 40 11.0	
	comp=Z,0.1nm,0.3s,baz=150,slow=27,SNR=5.1						
BVAR				LR	LR	17 41 37.7	
	comp=Z,93nm,20.2s,baz=116,slow=38						
BRVK	**Borovoye**	**13.59**	**330**	⇑Pn	**Pn**	**17 36 18.6**	**+1.1**
	comp=Z,5.0nm,0.6s						
BRVK				⇑Lg	Lg	17 40 06.8	
	comp=Z,57nm,1.5s						
BRVK	**Borovoye**	**13.59**	**330**	P	**Pn**	**17 36 18.2**	**+0.6**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.6s						
BRVK				pmax	pmax		
	comp=N,57nm,1.5s						
GTA	**Gaotai**	**14.19**	**93**	*e*P	Pn	17 36 22.0	-4.0
GTA				S	**Sn**	**17 38 58.6**	**-4.4**
GTA				SS	**SnSn**	**17 39 14.3**	**-0.9**
GTA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
GTA				pmax	pmax		
	comp=Z,53nm,5.2s						
GTA				LR	LR		
	comp=N,100nm,14.7s						
GTA				LR	LR		
	comp=E,140nm,12.8s						
GTA				LR	LR		
	comp=Z,120nm,13.3s						
GUN	**Gumba**	**14.26**	**164**	*e*P	**P**	**17 36 34.5**	**0.0**
	comp=Z,25nm,0.6s						
KKN	**Kakani**	**14.26**	**166**	*e*P	**Pn**	**17 36 29.2**	**+2.1**
	comp=Z,7.8nm,0.6s						
PKIN	**Phulchoki**	**14.49**	**166**	*e*P	**Pn**	**17 36 29.4**	**-0.9**
	comp=Z,6.7nm,0.5s						
PKI	**Pulchoki**	**14.50**	**166**	*e*P	**Pn**	**17 36 29.7**	**-0.8**
JIRN	**Jiri**	**14.57**	**163**	*e*P	**P**	**17 36 36.2**	**-1.8**
	comp=Z,22nm,0.5s						
TAPN	**Taplejung**	**15.25**	**158**	*e*P	**P**	**17 36 45.5**	**+0.1**
	comp=Z,19nm,0.7s						
ODAN	**Odare**	**15.63**	**160**	*e*P	**Pn**	**17 36 42.9**	**-2.5**
	comp=Z,22nm,0.8s						
AB31	**Akbulak array**	**16.79**	**304**	⇓Pn	**Pn**	**17 36 59.1**	**-0.8**
	comp=Z,2.7nm,0.6s,baz=107,slow=12,SNR=41						
AB31				⇑Lg	Lg	17 42 03.8	
	comp=Z,3.1nm,1.1s,baz=100,slow=24,SNR=3.8						
AB31	**Akbulak array**	**16.79**	**304**	*i* P	**Pn**	**17 36 57.9**	**-2.0**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZAK	**Zakamensk**	**17.43**	**53**	*e*P	**Pn**	**17 37 08.6**	**+0.6**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.4s						
AKTO	**Aktyubinsk**	**18.35**	**306**	⇓Pn	**Pn**	**17 37 19.0**	**-0.2**
	comp=Z,4.6nm,1.1s						
AKTO				⇓Lg	Lg	17 42 46.2	
	comp=Z,13nm,2.1s						
AKTO	**Aktyubinsk**	**18.35**	**306**	P	**Pn**	**17 37 19.2**	**-0.1**
AKTO	**Aktyubinsk**	**18.35**	**306**	P	**Pn**	**17 37 19.1**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=114,slow=17,SNR=4.1						
SONM	**Songino Array**	**18.72**	**62**	P	**P**	**17 37 23.5**	**0.0**
	comp=Z,0.2nm,0.3s,baz=263,slow=10.0,SNR=6.8						
ARU	**Arti**	**20.84**	**323**	*d i* P	Pn	17 37 49.3	+0.5
ARU						17 38 04.2	
ARU				S	**S**	**17 41 33.8**	**-4.2**
ARU				SS	Sn	17 41 50.5	+6.9
ARU				pmax	pmax		
	comp=Z,19nm,1.7s						
CMAR	**Chiang Mai Arr**	**27.61**	**142**	P	**P**	**17 38 51.4**	**-0.9**
	comp=Z,0.7nm,0.7s,baz=318,slow=9.0,SNR=5.3						
BRTR	**Keskin Array B**	**35.89**	**283**	P	**P**	**17 40 05.7**	**+0.7**
	comp=Z,1.3nm,0.7s,baz=102,slow=9.0,SNR=5.0						
FINES	**FINESS Array B**	**38.17**	**320**	P	**P**	**17 40 24.3**	**+0.4**
	comp=Z,2.0nm,0.9s,baz=68,slow=15,SNR=2.5						
ARCES	**ARCESS Array B**	**39.80**	**333**	P	**P**	**17 40 37.3**	**-0.1**
	comp=Z,1.3nm,0.5s,baz=88,slow=9.1,SNR=25						
PSI	**Prapat**	**41.83**	**153**	P	**P**	**17 40 57.7**	**+2.8**
	comp=Z,3.2nm,0.3s,baz=289,slow=4.7,SNR=4.0						
NB2	**NORSAR Subarra**	**45.35**	**320**	P	**P**	**17 41 22.5**	**-0.2**
	comp=Z,1.6nm,0.5s,baz=80,slow=7.9						
NOA	**NORSAR Array B**	**45.35**	**320**	P	**P**	**17 41 22.5**	**-0.2**
	comp=Z,1.3nm,0.7s,baz=83,slow=7.2,SNR=6.7						
LPG	**La Plagne**	**52.36**	**301**	*e*P	**P**	**17 42 17.4**	**+0.4**
	comp=Z,9.1nm,0.9s						
LPL	**La Plagne**	**52.36**	**301**	*e*P	**P**	**17 42 16.7**	**-0.3**
	comp=Z,4.8nm,0.7s						
MBDF	**Montbardon**	**52.66**	**300**	*e*P	**P**	**17 42 19.3**	**+0.2**
	comp=Z,5.1nm,0.8s						
ORIF	**Oris-en-Rattie**	**53.16**	**301**	*e*P	**P**	**17 42 21.6**	**-1.1**
	comp=Z,6.5nm,0.8s						
INK	**Inuvik**	**67.21**	**13**	LR	LR	18 12 43.8	
	comp=Z,119nm,20.1s,baz=324,slow=35						
ILAR	**Eielson Array**	**67.31**	**20**	P	**P**	**17 43 57.8**	**-1.4**
	comp=Z,0.5nm,0.7s,baz=314,slow=4.5,SNR=4.9						
TORD	**Torodi Ar. Bea**	**73.73**	**273**	P	**P**	**17 44 38.6**	**-0.4**
	comp=Z,1.1nm,0.5s,baz=40,slow=5.1,SNR=8.1						
LIC	**Lamto**	**83.24**	**272**	*e*P	P	17 45 24.8	-6.8
	comp=Z,5.6nm,0.6s						

*BKK **01** 17:32:34.1±0.6, 19°S±11°×17°6W±1°.3, h10km, M5.6/31, mB5.9/12, mb5.7/31, Mw(mB)5.5/12*

*ISCJB **01** 17:33:37.1±1.0, 19°.74S±0°.05×177°.88W±0°.04, h547km±12km, mb4.8/85, Error ellipse: s-maj=8.6km s-min=5.1km az=161.7*

*NEIC **01** 17:33:40.0±0.7, 19°.70S×177°.80W, h577km±7km, mb5.0/38, Error ellipse: s-maj=8.1km s-min=6.5km az=127.0*

*DJA **01** 17:33:41.5±5.3, 20°S±14°×17°8W±2°7, h594km±44km, M5.0/18, mB5.3/2, mb5.0/18, Mw(mB)4.7/2*

*IDC **01** 17:33:41.0±1.1, 19°.70S×177°.90W, h580km±11km, mb4.2/27, mb1 4.3/28, mb1mx4.2/32, mbtmp4.2/28, Error ellipse: s-maj=9.7km s-min=8.7km az=128.0*

*MOS **01** 17:33:44.0±2.3, 18°.80S×178°.32W, h579km, mb4.9/9, Error ellipse: s-maj=11.9km s-min=10.4km az=15.9*

ISC 01 17:33:39.7±0.4, 19°.74S±0°.05×177°.77W±0°.06, h573km±3km, h574km: pP-P, n437, σ1§23/519, mb4.9/85, 28C-51D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.43**	**296**	P	**P**	**17 35 08.0**	**+1.5**
	3μm,0.6s						
MSVF	**Nonsavu**	**4.43**	**296**	⇑*i* P	**P**	**17 35 08.2**	**+1.7**
MSVF	**Nonsavu**	**4.43**	**296**	⇑*i* P	**P**	**17 35 08.2**	**+1.7**
AFI	**Afiamalu**	**8.16**	**46**	*e*P	**P**	**17 35 37.9**	**-1.9**
	176nm,0.8s						
AFI				*e*S	S	17 37 08.6	-10
AFI				S	S	17 37 11.2	-7.0
AFI	**Afiamalu**	**8.16**	**46**	P	**P**	**17 35 38.1**	**-1.7**
	26nm,0.3s,baz=250,slow=18,SNR=29						
AFI				S	S	17 37 11.2	-7.0
	41nm,0.3s,baz=45,slow=20,SNR=14						
DZM	**Mont Dzumac**	**14.93**	**258**	P	**P**	**17 36 49.9**	**+1.8**
DZM	**Mont Dzumac**	**14.93**	**258**	P	**P**	**17 36 49.9**	**+1.8**
	9.8nm,0.3s,baz=76,slow=18,SNR=110						
OUZ	**Omahuta**	**17.21**

WRA	Warramunga Arr	44.92	261	P	P	17 41 03.8	-0.8
WRA				S	S	17 46 58.6	-3.1
WRA	Warramunga Arr	44.92	261	P	P	17 41 03.8	-0.8
	comp=Z,30nm,0.3s,baz=98,slow=7.5,SNR=534						
WRA				S	S	17 46 58.6	-3.1
	comp=Z,2.2nm,0.7s,baz=91,slow=14,SNR=6.4						
GUMO	Guam	49.48	309	*e*P	P	17 41 38.2	-0.5
	comp=Z,101nm,0.6s						
FORT	Forrest	49.79	246	*e*P	P	17 41 40.2	-0.6
	comp=Z,94nm,0.8s						
FITZ	Fitzroy Crossi	53.34	262	⇓*i*P	P	17 42 06.2	-0.3
	comp=Z,31nm,0.6s						
FITZ	Fitzroy Crossi	53.34	262	P	P	17 42 06.6	+0.1
	comp=Z,31nm,0.5s,baz=111,slow=3.5,SNR=108						
MBWA	Marble Bar	58.23	257	⇓*i*P	P	17 42 39.7	-0.6
	comp=Z,55nm,0.6s						
SBA	Scott Base	58.64	184	*e*P	P	17 42 44.7	+2.6
SBA				pmax	pmax		
	comp=Z,25nm,0.9s						
SBA	Scott Base	58.64	184	*e*P	P	17 42 44.7	+2.6
	comp=Z,26nm,0.9s						
VNDA	Vanda	58.68	185	*e*P	P	17 42 43.9	+1.5
	comp=Z,6.4nm,0.7s						
VNDA				*e*ScP	ScP	17 46 31.8	+1.4
VNDA	Vanda	58.68	185	P	P	17 42 44.1	+1.8
	comp=Z,5.6nm,0.6s,baz=356,slow=7.4,SNR=42						
VNDA				ScP	ScP	17 46 31.8	+1.4
	comp=Z,2.5nm,0.9s,baz=324,slow=5.4,SNR=6.3						
CTBH	Cotabato--PC H	63.02	289	⇓*i*P	P	17 43 12.0	+0.1
CASY	Casey	64.74	205	*e*P	P	17 43 21.8	0.0
	comp=Z,9.6nm,0.9s						
MYLDM	Lahad Datu	67.35	285	P	P	17 43 41.4	+2.4
MYLDM	Lahad Datu	67.35	285	P	P	17 43 41.5	+2.6
MYLDM	Lahad Datu	67.35	285	P	P	17 43 41.1	+2.2
	comp=Z,57nm,1.1s						
TSM	Tawau	67.57	283	P	P	17 43 41.1	+0.8
SDKM	Sandakan	68.72	284	P	P	17 43 47.0	-0.3
MJAR	Matsushiro Arr	69.73	323	P	P	17 43 52.5	-0.4
MJAR	Matsushiro Arr	69.73	323	P	P	17 43 52.5	-0.4
	comp=Z,25nm,0.6s,baz=157,slow=6.2,SNR=85						
MAT	Matsushiro	69.73	323	P	P	17 43 52.4	-0.5
KKM	Kota Kinabalu	69.77	284	*e*P	P	17 43 53.7	0.0
	comp=Z,27nm,0.6s						
KKM	Kota Kinabalu	69.77	284	P	P	17 43 54.1	+0.4
QSPA	South Pole Qui	70.33	180	P	P	17 43 57.2	+1.1
QSPA	South Pole Qui	70.33	180	P	P	17 43 57.2	+1.1
	comp=Z,34nm,0.7s,baz=29,slow=1.6,SNR=175						
BTM	Bintulu	71.56	280	P	P	17 44 04.8	+0.6
JNU	Nakatsue	71.87	316	P	P	17 44 05.6	0.0
JNU	Nakatsue	71.87	316	P	P	17 44 05.6	0.0
	comp=Z,13nm,0.8s,baz=37,slow=6.4,SNR=7.8						
SBUM	Sibu	72.09	279	P	P	17 44 07.8	+0.6
SBUM	Sibu	72.09	279	P	P	17 44 06.8	-0.4
	comp=Z,25nm,1.1s						
TWG	Pinlang	73.15	302	⇑*i*P	P	17 44 11.3	-1.8
	comp=Z,99nm,0.6s						
ASAJ	Asahikawa	73.16	331	⇓*i*P	P	17 44 14.0	+1.3
	comp=Z,18nm,0.9s						
ASAJ	Asahikawa	73.16	331	P	P	17 44 14.2	+1.5
	comp=Z,37nm,0.7s,baz=212,slow=8.2,SNR=39						
YULB	Yu-li	73.26	303	⇑*e*P	P	17 44 12.4	-1.3
	comp=Z,14nm,0.6s						
NACB	Ninganchiao	73.43	304	*e*P	P	17 44 13.7	-0.9
	comp=Z,60nm,0.8s						
KSM	Kuching	73.52	278	*e*P	P	17 44 15.4	0.0
	comp=Z,36nm,0.8s						
KSM	Kuching	73.52	278	P	P	17 44 16.1	+0.7
KSM	Kuching	73.52	278	P	P	17 44 15.6	+0.2
	comp=Z,77nm,0.9s,comp=Z,648nm						
SSLB	Suanglung	73.73	303	*e*P	P	17 44 14.9	-1.5
	comp=Z,38nm,0.5s						
TPUB	Ta-pu	73.75	303	*e*P	P	17 44 15.0	-1.5
	comp=Z,72nm,0.7s						
YHNB	Yeheng	73.86	304	*e*P	P	17 44 16.4	-0.7
	comp=Z,45nm,1.0s						
TATO	Taipei	73.92	305	*e*P	P	17 44 16.6	-0.8
YSS	Yuzh-Sakhalins	75.31	333	⇓*e*P	P	17 44 26.2	+1.5
YSS				pmax	pmax		
	comp=Z,60nm,1.0s						
PETK	Petropavlovsk-	75.59	345	P	P	17 44 26.0	-0.1
PETK	Petropavlovsk-	75.59	345	P	P	17 44 26.0	-0.1
PETK	Petropavlovsk-	75.59	345	P	P	17 44 26.0	-0.1
	comp=Z,17nm,0.8s,baz=140,slow=8.7,SNR=33						
TJN	Taejon	76.16	317	*e*P	P	17 44 30.6	+1.0
KSRS	Korea Array	76.46	318	P	P	17 44 32.1	+0.9
	comp=Z,4.7nm,0.7s,baz=130,slow=6.4,SNR=20						
KSAR	Wonju Array Be	76.48	318	P	P	17 44 32.1	+0.8
VLA	Vladivostok	77.79	325	*d*iP	P	17 44 38.9	+0.6
VLA				pmax	pmax		
	comp=Z,19nm,0.8s						
MURC	Murrieta	78.38	48	P	P	17 44 42.8	+1.0
	baz=79						
BFSC	Mount Baldy Ra	78.42	47	P	P	17 44 42.7	+0.6
	baz=79						
USRK	Ussuriysk Arra	78.46	326	P	P	17 44 43.2	+1.4
	comp=Z,24nm,0.8s,baz=134,slow=3.5,SNR=54						
EDW2	Edwards Air Fo	78.54	46	P	P	17 44 44.0	+1.3
	baz=79						
MONP	Monument Peak	78.55	49	P	P	17 44 44.1	+1.1
	baz=79						
ISA	Isabella	78.65	46	*e*P	P	17 44 42.8	-0.5
ISA	Isabella	78.65	46	*e*P	P	17 44 42.8	-0.5
DVTC	Desert V Tower	78.65	49	P	P	17 44 44.6	+1.2
	baz=79						
CMB	Columbia Colle	78.76	43	P	P	17 44 44.7	+1.0
CMB	Columbia Colle	78.76	43	P	P	17 44 44.7	+1.0
BELC	Belle Mtn. Jos	79.44	48	P	P	17 44 48.7	+1.2
	baz=80						
MPMC	Manual Prospec	79.54	46	P	P	17 44 48.6	+0.6
	baz=80						
NJ2	Nanjing	79.56	309	*e*P	P	17 44 48.4	+0.4
NJ2				pmax	pmax		
	comp=Z,20nm,1.0s						
YBH	Yreka Blue Hor	79.56	39	P	P	17 44 49.1	+1.2
YBH	Yreka Blue Hor	79.56	39	P	P	17 44 49.2	+1.2
	comp=Z,2.3nm,0.7s,baz=260,slow=1.0,SNR=6.4						
BC3	Big Chuckawall	79.64	49	P	P	17 44 48.4	-0.1
	baz=80						
HEC	Hector,Ludlow	79.66	47	P	P	17 44 49.3	+0.7
	baz=80						
MYKOM	Kota Tinggi	79.67	276	P	P	17 44 49.4	+0.3
MYKOM	Kota Tinggi	79.67	276	P	P	17 44 47.1	-1.9
	comp=Z,34nm,1.0s						
MDJ	Mudanjiang	80.02	325	P	P	17 44 51.1	+1.0
MDJ				pP	pP	17 46 51.7	+0.4
MDJ				sP	sP	17 47 49.9	+0.3
MDJ				S	SKSac	17 54 10.6	-2.4
MDJ				ScS	ScS	17 54 24.0	+0.9
MDJ				sS	sS	17 57 43.0	-0.8
MDJ				SS	SS	17 59 34.3	-1.0
MDJ				pmax	pmax		
	comp=Z,31nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,79nm,4.8s						
MDJ	Mudanjiang	80.02	325	*e*P	P	17 44 51.3	+1.2
	comp=Z,42nm,1.0s						
KGM	Kluang	80.25	276	P	P	17 44 52.6	+0.5
NVAR	Mina Array Bea	80.33	43	P	P	17 44 53.6	+1.4
NVAR	Mina Array Bea	80.33	43	P	P	17 44 53.6	+1.4
	comp=Z,1.3nm,0.7s,baz=225,slow=8.5,SNR=9.8						
QIZ	Qiongzhong	80.74	294	P	P	17 44 54.6	+0.2
QIZ				S	S	17 54 16.7	+0.6
KTGM	Kuala Trenggan	81.58	279	P	P	17 44 57.4	-1.5
CN2	Changchun	81.83	322	*e*P	P	17 45 00.1	+0.6
CN2				*e*S	S	17 54 26.7	+0.7
CN2				pmax	pmax		
	comp=Z,20nm,0.8s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
PMSA	Palmer Station	81.90	157	*e*P	P	17 45 00.3	+0.8
	comp=Z,19nm,1.0s						
PMSA	Palmer Station	81.90	157	P	P	17 45 00.6	+1.1
	comp=Z,16nm,0.8s,baz=236,slow=4.3,SNR=19						
KLR	Kul'dur	81.98	329	*e*P	P	17 44 57.7	-2.4
R11A	Troy Canyon, C	82.06	45	P	P	17 45 01.7	+0.7
	baz=82						
FRIM	Kepong	82.26	276	P	P	17 45 02.5	+0.2
TUC	Tucson	82.34	52	*e*P	P	17 45 04.1	+1.6
TUC				pmax	pmax		
	comp=Z,3.0nm,1.0s						
TUC	Tucson	82.34	52	*e*P	P	17 45 04.1	+1.6
	comp=Z,3.0nm,1.0s						
MAW	Mawson	82.35	200	P	P	17 45 01.8	+0.1
MAW	Mawson	82.35	200	P	P	17 45 01.8	+0.1
	comp=Z,3.2nm,0.7s,baz=138,slow=9.2,SNR=7.9						
319A	Douglas	83.02	53	P	P	17 45 06.8	+0.9
	baz=83						
IPM	Ipoh	83.25	277	P	P	17 45 08.2	+0.8
IPM	Ipoh	83.25	277	P	P	17 45 07.6	+0.3
	comp=Z,76nm,0.8s						
U15A	North Rim	83.29	48	P	P	17 45 09.1	+1.7
	baz=84						
WUAZ	Wupatki	83.48	49	P	P	17 45 09.3	+1.2
	baz=84						
320A	Kipp Ranch, An	83.58	54	P	P	17 45 10.9	+2.2
	baz=84						
BBB	Bella Bella	83.63	28	P	P	17 45 08.6	+0.4
BBB	Bella Bella	83.63	28	P	P	17 45 08.6	+0.4
	comp=Z,21nm,1.2s,baz=152,slow=6.9,SNR=3.6						
220A	Playas Peak, P	83.84	53	P	P	17 45 11.4	+1.4
	baz=84						
KULM	Kulim	83.88	278	*e*P	P	17 45 10.8	+0.3
	comp=Z,19nm,0.7s						
KULM	Kulim	83.88	278	P	P	17 45 11.4	+1.0
120A	U Bar Ranch, L	84.06	53	P	P	17 45 12.3	+1.3
	baz=84						
PMR	Palmer	84.23	13	*e*P	P	17 45 10.7	-0.3
PMR	Palmer	84.23	13	*e*P	P	17 45 10.7	-0.3
Z20A	Nine Sixteen R	84.35	52	P	P	17 45 13.8	+1.3
	baz=84						
SKLT	Songkhla	84.56	280	P	P	17 45 14.0	+0.3
	comp=Z,40nm,1.0s						
SKLT	Songkhla	84.56	280	P	P	17 45 16.4	+2.7
	comp=Z,40nm,1.0s						
PANO	Nakornpanom	84.56	290	P	P	17 45 14.7	+1.1
	comp=Z,954nm,1.3s,comp=Z,16μm						
PSI	Prapat	84.64	275	P	P	17 45 13.4	-0.9
PSI	Prapat	84.64	275	P	P	17 45 13.4	-0.9
	comp=Z,13nm,0.9s,baz=186,slow=11,SNR=10						
121A	Cookes Peak, D	84.69	53	P	P	17 45 15.5	+1.3
	baz=85						
BMRM	Bremner River	84.75	16	*e*P	P	17 45 13.4	-0.2
	comp=Z,4.8nm,0.7s						
SKNT	Sakolnakorn	85.05	290	P	P	17 45 16.9	+0.8
	comp=Z,25nm,1.1s						
BJI	Beijing	85.50	315	P	P	17 45 18.2	+0.5
BJI				pmax	pmax		
	comp=Z,28nm,0.9s						
Z22A	Elephant Butte	85.63	53	P	P	17 45 19.6	+0.9
	baz=86						
TRF	Thorofare Moun	85.66	12	*e*P	P	17 45 16.3	-1.9
	comp=Z,12nm,0.8s						
SEY	Seymchan	85.69	347	*d*eP	P	17 45 17.8	-0.2
ENH	Enshi	85.79	304	*e*P	P	17 45 20.0	+0.6
	comp=Z,30nm,1.0s						
324A	Moseley Ranch,	85.95	55	P	P	17 45 21.6	+1.4
	baz=86						
SRIT	Nakonsritamara	86.00	281	P	P	17 45 22.6	+1.9
	comp=Z,377nm,0.9s,comp=Z,30μm						
425A	Indio Mountain	86.05	55	P	P	17 45 22.2	+1.5
	baz=86						
MCK	McKinley	86.19	12	*e*P	P	17 45 19.9	-0.5
MCK				pmax	pmax		
	comp=Z,15nm,0.9s						
MCK	McKinley	86.19	12	*e*P	P	17 45 19.9	-0.5
	comp=Z,15nm,0.9s						
626A	Big Bend Ranch	86.19	57	P	P	17 45 22.9	+1.5
	baz=86						
224A	Cornudas Mount	86.19	54	P	P	17 45 22.8	+1.4
	baz=86						
KRAB	Krabi	86.25	280	P	P	17 45 23.4	+1.6
	comp=Z,67nm,0.7s,comp=Z,787nm						
325A	Bean Ranch, Si	86.31	55	P	P	17 45 22.9	+0.9
	baz=86						
CHAI	Chaiyaphum	86.43	288	P	P	17 45 23.1	+0.5
	comp=Z,4.4nm,0.8s						
526A	Mary Lane Ranc	86.44	56	P	P	17 45 23.7	+1.1
	baz=87						
GYA	Guiyang	86.46	300	⇑*i*P	P	17 45 23.6	+0.9
GYA				pP	pP	17 47 28.4	+1.9
GYA				sP	sP	17 48 25.0	+0.9
GYA				PP	PP	17 48 57.2	+1.9
GYA				SKS	SKSac	17 54 54.0	-1.3
GYA				S	S	17 55 11.6	-0.3
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,5.3s						
TXAR	Lajitas Array	86.47	57	P	P	17 45 24.4	+1.7
TXAR	Lajitas Array	86.47	57	P	P	17 45 24.4	+1.7
	comp=Z,2.7nm,0.7s,baz=221,slow=7.1,SNR=27						
U21A	Nageezi	86.56	49	P	P	17 45 24.4	+1.2
	baz=87						
HYT	Haines Junctio	86.59	18	P	P	17 45 21.9	-0.6
Y23A	Lovelace Mesa,	86.61	52	P	P	17 45 24.5	+1.2
	baz=87						
NEW	Newport	86.63	36	P	P	17 45 23.7	+0.8
627A	Terlingua Ranc	86.74	57	P	P	17 45 25.5	+1.5
	baz=87						
426A	McDonald Obser	86.74	56	P	P	17 45 25.4	+1.3
	baz=87						
527A	Woodward Ranch	86.85	57	P	P	17 45 25.6	+1.1
	baz=87						
Y24A	Capitan	87.07	52	P	P	17 45 26.6	+1.1
	baz=87						
628A	Black Gap, Mar	87.15	57	P	P	17 45 26.7	+0.9
	baz=87						
226B	Tecolote Peak,	87.23	55	P	P	17 45 27.0	+0.8
	baz=87						
427A	Hayter Ranch,	87.31	56	P	P	17 45 28.0	+1.4
	baz=88						
COLA	College	87.42	12	*e*P	P	17 45 25.2	-0.9
COLA				pmax	pmax		
	comp=Z,30nm,0.6s						
COLA	College	87.42	12	*e*P	P	17 45 25.2	-0.9
	comp=Z,30nm,0.6s						
PHET	Kaeng Krachan	87.49	285	P	P	17 45 30.0	+2.4
	comp=Z,102nm,0.8s						
528A	Cox Ranch, San	87.50	57	P	P	17 45 28.3	+0.7
	baz=88						
SYO	Syowa Base	87.51	193	⇓*e*P	P	17 45 24.8	-1.9
SYO	Syowa Base	87.51	193	⇓*e*PcP	P	17 45 27.3	+0.6
ILAR	Eielson Array	87.53	13	P	P	17 45 25.9	-0.7
ILAR	Eielson Array	87.53	13	P	P	17 45 25.9	-0.7
	comp=Z,3.3nm,0.7s,baz=216,slow=5.8,SNR=38						
Y25A	Mesa, Roswell	87.62	53	P	P	17 45 28.8	+0.7
	baz=88						
W24A	Lazy 6 Ranch,	87.65	51	P	P	17 45 29.1	+0.9
	baz=88						
LOEI	Loei	87.66	289	P	P	17 45 31.5	+3.1
	comp=Z,18nm,1.0s						
S22A	4UR Ranch, Cre	87.76	49	P	P	17 45 29.9	+1.1
	baz=88						
XAN	Xi'an	87.84	307	P	P	17 45 29.7	+0.7
XAN				pmax	pmax		
	comp=Z,11nm,1.0s						
529A	Stev Forest Ra	87.94	57	P	P	17 45 30.5	+1.0
	baz=88						
328A	Wristen Ranch,	87.99	56	P	P	17 45 30.8	+1.0
	baz=88						
H16A	Russell Place,	88.15	41	P	P	17 45 31.2	+0.8
	baz=88						
N20A	Spence Gulch,	88.19	45	P	P	17 45 31.7	+1.0
	baz=88						
PDAR	Pinedale Array	88.26	43	P	P	17 45 31.4	+0.4
PDAR	Pinedale Array	88.26	43	P	P	17 45 31.4	+0.4
	comp=Z,1.1nm,0.6s,baz=200,slow=3.4,SNR=7.8						
W25A	X Bar L Ranch,	88.35	52	P	P	17 45 32.4	+1.0
	baz=88						
429A	Davenport Ranc	88.40	57	P	P	17 45 32.3	+0.6
	baz=88						
UTHA	Uthaitani	88.59	287	P	P	17 45 34.7	+2.0
	comp=Z,6.9nm,1.0s						
530A	J-C Ranch, Com	88.65	57	P	P	17 45 33.5	+0.7
	baz=89						
DAWY	Dawson	88.67	16	P	P	17 45 32.2	+0.1
128A	Castleberry Fa	88.75	55	P	P	17 45 34.1	+0.8
	baz=89						
EGAK	Eagle	88.82	15	*e*P	P	17 45 32.2	-0.4
	comp=Z,7.7nm,0.8s						
631A	Perdido Creek	88.96	58	P	P	17 45 34.8	+0.5
	baz=89						
HHC	Hu-ho-hao-te	88.98	314	*e*P	P	17 45 37.2	+3.0
HHC				pP	pP	17 47 36.6	-2.1
HHC				PP	PP	17 49 19.3	+4.4
HHC				SKS	SKSac	17 55 14.8	+5.2
HHC				S	ScS	17 55 38.4	+0.8
HHC				SS	SS	18 01 51.3	+5.5
HHC				pmax	pmax		
	comp=Z,34nm,0.8s						
HHC				pmax	pmax		
	comp=Z,210nm,5.1s						
K20A	Yellowstone Ra	89.00	44	P	P	17 45 35.2	+0.9
	baz=89						
MSTX	Muleshoe	89.09	53	P	P	17 45 35.8	+1.0
	baz=89						
SUKH	Sukhothai	89.11	289	P	P	17 45 36.7	+1.6
	comp=Z,6.6nm,0.9s,comp=Z,51nm						
M21A	Separation Pea	89.15	45	P	P	17 45 36.0	+0.8
	baz=89						
KMI	Kunming	89.19	297	P	P	17 45 36.1	+0.4
KMI				pP	pP	17 47 42.1	+1.8
KMI				sP	sP	17 48 35.3	-2.3
KMI				S	S	17 55 38.5	+1.0
KMI				sS	sS	17 59 17.5	-2.3
KMI				SS	SS	18 01 49.5	-0.2
KMI				pmax	pmax		
	comp=Z,25nm,0.8s						
KMI				pmax	pmax		
	comp=Z,90nm,4.4s						
531A	Rocksprings	89.28	58	P	P	17 45 36.4	+0.7
	baz=89						
VNA2	Neumayer--Watz	89.33	177	*e*P	P	17 45 34.1	-1.1
LAMP	Lampang	89.47	290	P	P	17 45 38.3	+1.5
	comp=Z,16nm,0.8s,comp=Z,132nm						
J20A	Shoshoni	89.49	43	P	P	17 45 37.6	+1.1
	baz=90						
VNA1	Neumayer--Stat	89.55	177	*e*P	P	17 45 36.8	+0.6
632A	Uvalde	89.63	58	P	P	17 45 37.8	+0.4
	baz=90						
PLCA	Paso Flores	89.64	133	P	P	17 45 36.9	-0.4
532A	Rocksprings	89.78	58	P	P	17 45 38.8	+0.7
	baz=90						
J21A	Lysite	89.90	43	P	P	17 45 39.7	+1.2
	baz=90						
CM31	Chiang Mai Arr	90.06	289	*e*P	P	17 45 40.8	+1.2
	comp=Z,14nm,0.9s						
CMAR	Chiang Mai Arr	90.06	289	P	P	17 45 40.9	+1.4
CMAR				PP	PP	17 49 29.5	+5.9
CMAR	Chiang Mai Arr	90.06	289	P	P	17 45 40.9	+1.4
	comp=Z,11nm,0.9s,baz=118,slow=2.8,SNR=66						
CMAR				PP	PP	17 49 29.5	+5.9
	comp=Z,0.6nm,0.7s,baz=131,slow=7.2,SNR=4.6						
432A	Menard	90.16	57	P	P	17 45 40.4	+0.6
	baz=90						
231A	Bronte	90.16	56	P	P	17 45 40.2	+0.4
	baz=90						
CHTO	Chiang Mai	90.19	290	*e*P	P	17 45 40.9	+0.8
CHTO				pmax	pmax		
	comp=Z,14nm,0.9s						
CHTO	Chiang Mai	90.19	290	*e*P	P	17 45 40.9	+0.8
	comp=Z,14nm,0.9s						
CHTO	Chiang Mai	90.19	290	P	P	17 45 40.4	+0.3
CHTO	Chiang Mai	90.19	290	P	P	17 45 41.0	+0.8
	comp=Z,27nm,0.8s						
G20A	Bridger	90.29	41	P	P	17 45 41.0	+0.9
	baz=90						
332A	Millersview	90.39	57	P	P	17 45 41.4	+0.6
	baz=90						
CD2	Chengdu	90.56	303	pP	pP	17 47 47.6	+1.1
CD2				sP	sP	17 48 43.8	+0.1
CD2				PP	PP	17 49 30.2	+2.8
CD2	Chengdu	90.56	303	SKS	SKSac	17 55 18.6	-0.3
CD2	Chengdu	90.56	303	S	S	17 55 47.7	-1.4
CD2	Chengdu	90.56	303	sS	sS	17 59 30.4	-1.9
CD2	Chengdu	90.56	303	SS	SS	18 02 11.5	+2.8
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				pmax	pmax		
	comp=Z,70nm,5.3s						
YAK	Yakutsk	91.49	338	*e*P	P	17 45 44.0	-1.1
YAK				*e**PP	pP	17 47 53.5	+3.4
YAK				*e*		17 49 31.0	
YAK				*e*PPP	PPP	17 51 36.9	
YAK				*e*S	SKSac	17 55 18.7	-3.8
YAK				*e*		17 55 52.9	
YAK				pmax	pmax		
	comp=Z,9.0nm,0.8s						
YAK				pmax	pmax		
	comp=Z,82nm,5.1s						
YAK				pmax	pmax		
	comp=N,45nm,4.1s						
YAK				pmax	pmax		
	comp=E,49nm,3.5s						
YAK				smax	smax		
	comp=N,69nm,4.4s						
YAK				smax	smax		
	comp=E,27nm,2.8s						
SONM	Songino Array	95.32	319	P	P	17 46 02.6	-0.5
SONM				PP	PP	17 50 00.3	-3.4
SONM	Songino Array	95.32	319	P	P	17 46 02.6	-0.5
	comp=E,0.7nm,0.5s,baz=132,slow=5.5,SNR=4.4						
SONM				PP	PP	17 50 00.3	-3.4
	comp=E,0.6nm,0.7s,baz=122,slow=7.2,SNR=3.7						
GTA	Gaotai	96.66	309	*e*P	P	17 46 08.5	-0.8
GTA				pP	pP	17 48 15.2	+0.4
GTA				sP	sP	17 49 10.8	-1.0
GTA				SKS	SKSac	17 55 53.2	+1.8
GTA				S	S	17 56 41.7	0.0
GTA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,79nm,5.2s						
ZAA0	Zalesovo Array	110.03	321	*e*PKPdf	PKiKP	17 51 04.7	-1.7
ZALV	Zalesovo Beam	110.03	321	PKiKP	PKiKP	17 51 05.0	-1.3
ZALV				PP	PP	17 51 46.5	-5.0
ZALV	Zalesovo Beam	110.03	321	PKiKP	PKiKP	17 51 05.0	-1.3
	comp=Z,1.8nm,0.6s,baz=152,slow=0.5,SNR=9.2						
ZALV				PP	PP	17 51 46.5	-5.0
	comp=Z,0.6nm,0.6s,baz=101,slow=4.7,SNR=3.9						
MK31	Makanchi Array	110.83	314	*e*PKPdf	PKiKP	17 51 06.9	-1.2
MKAR	Makanchi Array	110.83	314	PKiKP	PKiKP	17 51 06.9	-1.2
MKAR	Makanchi Array	110.83	314	PKiKP	PKiKP	17 51 06.9	-1.2
	comp=Z,1.4nm,0.6s,baz=153,slow=0.3,SNR=18						
KURK	Kurchatov	113.58	318	PKiKP	PKiKP	17 51 12.0	-1.2
KURK	Kurchatov	113.58	318	PKiKP	PKiKP	17 51 12.0	-1.2
KURK				PP	PP	17 52 09.1	-7.4
KURK				SKP		17 53 55.1	
KURBB	Kurchatov Arra	113.63	318	PKiKP	PKiKP	17 51 12.0	-1.3
	comp=Z,2.0nm,0.6s,baz=93,slow=1.8,SNR=28						
KURBB				PP	PP	17 52 09.1	-7.8
	comp=Z,0.8nm,0.9s,baz=102,slow=4.8,SNR=4.4						
KURBB				SKP		17 53 55.1	
	comp=Z,0.7nm,0.7s,baz=89,slow=1.8,SNR=7.0						
KSH	Kashi	114.63	305	*e*PKP	PKPdf	17 51 11.6	-4.2
KSH				PP	PP	17 52 27.2	+2.9
KSH				sPKP		17 54 28.3	
KSH				PKS	PKSd

KAF pmax pmax
comp=Z,3.0nm,0.4s
KAF Kangasniemi 134.48 344 *ep* **PKPdf 17 51 52.7 -0.1**
comp=Z,2.8nm,0.4s
FINES FINESS Array B 135.10 344 PKP **PKPdf 17 51 52.9 -1.0**
FINES FINESS Array B 135.10 344 PKP **PKPdf 17 51 52.9 -1.0**
comp=Z,2.3nm,0.5s,baz=87,slow=3.4,SNR=12
OBN Obninsk 136.19 332 *i* PKIKP **PKPdf 17 51 55.3 -0.8**
OBN pmax pmax
comp=Z,6.0nm,1.1s
VSR Storozhevoye 137.27 326 *e*PKIKP **PKPdf 17 51 57.9 -0.3**
NB2 NORSAR Subarra138.25 353 PKP PKPpre 17 51 49.3
comp=Z,1.2nm,0.6s,baz=16,slow=3.2
NOA NORSAR Array B138.25 353 PKPpre PKPpre 17 51 51.6
NOA PKP **PKiKP 17 52 01.3 -0.8**
NOA NORSAR Array B138.25 353 PKhKP PKPpre 17 51 51.6
comp=Z,1.4nm,0.6s,baz=16,slow=5.0,SNR=5.1
NOA PKP **PKiKP 17 52 01.3 -0.8**
comp=Z,1.0nm,0.5s,baz=15,slow=4.0,SNR=4.2
ANN Anapa 141.60 319 *i* PKIKP PKPdf 17 52 13.4 +7.1
ANN pmax pmax
comp=Z,41nm,1.2s
AKASG Malin Array Be 142.45 332 *i* PKIKP **PKPdf 17 52 11.0 +3.4**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG Malin Array Be 142.45 332 PKPpre PKPpre 17 52 03.6
AKASG Malin Array Be 142.45 332 PKhKP PKPpre 17 52 03.6
comp=Z,7.2nm,0.4s,baz=42,slow=4.6,SNR=24
KIEV Kiev 142.46 332 *e*PKHKP PKPpre 17 52 03.1
KIEV Kiev 142.46 332 *e*PKPdf PKPpre 17 52 03.1
MALT Malatya 143.63 308 ⇑PKIKP **PKPdf 17 52 10.2 -0.1**
MALT Malatya 143.63 308 ⇑*P* **PKPdf 17 52 10.2 -0.1**
ESK Eskdalemuir 144.24 5 *i* PKIKP **PKPab 17 52 11.3 +0.5**
KIS Kishinev 145.22 328 *e*P **PKPdf 17 52 12.0 -0.5**
KIS Kishinev 145.22 328 *e*PKHKP **PKPdf 17 52 12.0 -0.5**
BSEG Bad Segeberg 145.30 352 *e*PKPbc **PKPbc 17 52 13.8 +0.2**
BSEG Bad Segeberg 145.30 352 *e*PKIKP **PKPbc 17 52 13.8 +0.2**
LVV L'vov 145.31 335 *e*PKHKP **PKPdf 17 52 11.9 -0.7**
LEOM Leova 145.86 327 ⇓*P* **PKPbc 17 52 15.5 0.0**
KWP Kalwaria Pacla 145.98 336 *e*PKIKP **PKPbc 17 52 15.1 -0.7**
KWP Kalwaria Pacla 145.98 336 *e*PKPdf **PKPbc 17 52 15.1 -0.7**
KWP Kalwaria Pacla 145.98 336 ⇓*P* **PKPbc 17 52 15.9 +0.1**
KWP Kalwaria Pacla 145.98 336 *e*PKP **PKPbc 17 52 15.7 -0.1**
RUE Ruedersdorf 146.10 347 *e*PKPbc **PKPbc 17 52 16.0 +0.1**
TLCR 146.41 325 ⇓PKIKP **PKPbc 17 52 17.2 +0.1**
TLCR 146.41 325 ⇓*P* **PKPbc 17 52 17.2 +0.1**
BR131 Keskin Array S 146.48 313 *e*PKPbc **PKPbc 17 52 17.0 -0.7**
BRTR Keskin Array B 146.48 313 PKPbc **PKPbc 17 52 17.2 -0.5**
BRTR Keskin Array B 146.48 313 PKPbc **PKPbc 17 52 17.2 -0.5**
comp=Z,12nm,0.7s,baz=140,slow=4.9,SNR=47
BUR08 Bucovina Ar. S 146.49 331 *e*PKPbc **PKPbc 17 52 17.6 +0.3**
BURAR Bucovina Array 146.50 331 ⇑PKIKP **PKPbc 17 52 18.0 +0.6**
BURAR Bucovina Array 146.50 331 ⇑*P* **PKPbc 17 52 18.0 +0.6**
OJC Ojcow 146.53 339 *e*PKIKP **PKPbc 17 52 17.1 -0.1**
OJC Ojcow 146.53 339 *i* PKP **PKPbc 17 52 17.1 -0.1**
GHRR 146.57 327 ⇓*P* **PKPbc 17 52 18.4 +0.9**
TESR Tescani 146.63 329 ⇓*P* **PKPbc 17 52 17.6 0.0**
STHS Stebnicka Huta 146.70 337 *e*PKIKP **PKPbc 17 52 18.3 +0.5**
STHS Stebnicka Huta 146.70 337 *e*PKP **PKPbc 17 52 18.3 +0.5**
KOLS Kolonicke sedl 146.71 336 *e*PKIKP **PKPbc 17 52 18.0 +0.2**
KOLS Kolonicke sedl 146.71 336 *e*PKP **PKPbc 17 52 18.0 +0.2**
NRDL Niedersach Rie 146.74 351 *e*PKPbc **PKPbc 17 52 17.2 -0.4**
UZH Uzhgorod 146.95 335 ⇓*P*PKIKP **PKPbc 17 52 18.8 +0.4**
ANTO Ankara 146.99 314 *e*PKIKP **PKPbc 17 52 18.4 -0.5**
ANTO Ankara 146.99 314 *e*PKPbc **PKPbc 17 52 18.4 -0.5**
ANTO Ankara 146.99 314 ⇑*P* **PKPdf 17 52 18.9 0.0**
KSP Ksiaz 147.03 344 *e*PKP **PKPbc 17 52 19.0 +0.4**
NIE Niedzica 147.03 338 *e*PKP2 **PKPab 17 52 21.3 -0.8**
NIE Niedzica 147.03 338 *i* PKP **PKPab 17 52 21.3 -0.8**
VRI Vrincioaia 147.04 328 ⇑PKIKP **PKPbc 17 52 18.3 -0.5**
VRI Vrincioaia 147.04 328 ⇑*P* **PKPbc 17 52 18.3 -0.5**
CRVS Cervenica-Dubn 147.05 336 *e*PKIKP **PKPbc 17 52 18.7 0.0**
CRVS Cervenica-Dubn 147.05 336 *e*PKP **PKPbc 17 52 18.7 0.0**
PLOR Plostina 147.09 328 ⇓PKIKP **PKPbc 17 52 18.4 -0.6**
PLOR Plostina 147.09 328 ⇓*P* **PKPbc 17 52 18.4 -0.6**
HARR Harsova 147.21 325 ⇓PKIKP **PKPbc 17 52 19.5 +0.3**
HARR Harsova 147.21 325 ⇓*P* **PKPbc 17 52 19.5 +0.3**
TRPA Tarpa 147.25 335 ⇑*P* **PKPbc 17 52 19.5 +0.3**
ARCR ARCALIA 147.29 332 ⇑*P* **PKPbc 17 52 20.1 +0.7**
CLZ Clausthal 147.33 351 *e*PKPbc **PKPbc 17 52 19.2 -0.2**
CLZ Clausthal 147.33 351 *e*PKIKP **PKPbc 17 52 19.2 -0.2**
CLL Collm 147.37 347 *e*PKPbc **PKPbc 17 52 19.4 +0.1**
CLL *e*PKPab **PKPab 17 52 23.0 -0.3**
CLL Collm 147.37 347 ⇓PKIKP **PKPbc 17 52 19.5 +0.1**
CLL *i* 17 52 23.0
CLL pmax pmax
comp=Z,32nm,0.8s
CLL pmax pmax
comp=Z,18nm,1.1s
CLL Collm 147.37 347 ⇓*i*PKPbc **PKPbc 17 52 19.5 +0.1**
comp=Z,32nm,0.8s
CLL *i* PKPab **PKPab 17 52 23.0 -0.3**
comp=Z,18nm,1.1s
CLL *e* 17 54 41.0
CLL *e*SKPbc **SKiKP 17 55 05.0 +1.7**
OKC Ostrava-Krasne 147.39 341 *e*PKIKP **PKPbc 17 52 19.7 +0.2**
OKC *e* 17 52 24.0
OKC Ostrava-Krasne 147.39 341 ⇓*e*PKPBC **PKPbc 17 52 19.7 +0.2**
OKC *e*PKPAB **PKPab 17 52 24.0 +0.6**
UPC Upice 147.41 344 *e*PKIKP **PKPbc 17 52 20.0 +0.4**
UPC *i* 17 52 24.1
UPC Upice 147.41 344 ⇓*e*PKPBC **PKPbc 17 52 20.0 +0.4**
UPC *i* PKPAB **PKPab 17 52 24.1 +0.6**
MANR Mangalia 147.41 323 ⇓*i*P **PKPbc 17 52 20.3 +0.5**
DPC Dobruska-Polom 147.47 343 ⇓*i*PKIKP **PKPbc 17 52 20.4 +0.6**
DPC *i* 17 52 24.7
DPC Dobruska-Polom 147.47 343 ⇓*i*PKPBC **PKPbc 17 52 20.4 +0.6**
DPC *i* PKPAB **PKPab 17 52 24.7 +0.9**
BRG Berggiesshubel 147.58 346 *i* PKP **PKPbc 17 52 20.1 +0.1**
comp=Z,16nm,0.7s
BRG *i* 17 52 24.2
comp=Z,11nm,0.8s
BRG Berggiesshubel 147.58 346 *e*PKPbc **PKPbc 17 52 20.1 +0.1**
BRG *e*PKPab **PKPab 17 52 23.8 -0.4**
BRG Berggiesshubel 147.58 346 *i* PKIKP **PKPbc 17 52 20.1 +0.1**
BRG *i* 17 52 24.2
BRG pmax pmax
comp=Z,16nm,0.7s
BRG pmax pmax
comp=Z,11nm,0.8s
MORC Moravsky Berou 147.63 341 *e*PKIKP **PKPbc 17 52 19.8 -0.4**
MORC Moravsky Berou 147.63 341 *e*PKPbc **PKPbc 17 52 19.8 -0.4**
ISR Istrita 147.66 327 ⇑PKIKP **PKPbc 17 52 20.8 +0.4**
ISR Istrita 147.66 327 ⇑*P* **PKPbc 17 52 20.8 +0.4**
FBE Freiberg 147.66 347 *e*PKPbc **PKPbc 17 52 20.5 +0.3**
FBE *e*PKPab **PKPab 17 52 24.6 +0.1**
MLR Muntele Rosu 147.70 328 ⇑*P* **PKPbc 17 52 20.5 -0.1**
NEUB Neuenburg 147.71 349 *e*PKPbc **PKPbc 17 52 20.3 0.0**
PVCC Panska Ves 147.75 345 *e*PKIKP **PKPbc 17 52 21.1 +0.7**
PVCC *e* 17 52 25.3
PVCC Panska Ves 147.75 345 ⇓*e*PKPBC **PKPbc 17 52 21.1 +0.7**
PVCC *e*PKPAB **PKPab 17 52 25.3 +0.4**
KECS Kecovo 147.76 337 *e*PKIKP **PKPbc 17 52 20.9 +0.4**
KECS *e* 17 52 25.2
KECS Kecovo 147.76 337 *e*PKP **PKPbc 17 52 20.9 +0.4**
KECS *e* 17 52 25.2
SECR 147.96 327 ⇑*P* **PKPbc 17 52 21.3 +0.1**
BUG Bochum--Univer 148.12 354 *e*PKPbc **PKPbc 17 52 21.2 -0.1**
VOIR 148.18 329 ⇑PKIKP **PKPbc 17 52 22.0 +0.2**
VOIR 148.18 329 ⇑*P* **PKPbc 17 52 22.0 +0.2**
PRA Prague 148.21 345 ⇓PKPBC **PKPbc 17 52 23.0 +1.4**
PRU Pruhonice 148.26 345 *i* PKIKP **PKPbc 17 52 22.0 +0.3**
PRU *e* 17 52 27.0
PRU Pruhonice 148.26 345 ⇓*i*PKPBC **PKPbc 17 52 22.0 +0.3**
PRU *e*PKPAB **PKPab 17 52 27.0 0.0**
MOX Moxa 148.27 349 *e*PKPbc **PKPbc 17 52 22.1 +0.3**
MOX Moxa 148.27 349 *e*PKIKP **PKPbc 17 52 22.1 +0.3**
PLN Plauen 148.32 348 *e*PKPbc **PKPbc 17 52 21.9 0.0**
PLN *e*PKPab **PKPab 17 52 26.5 -0.7**
TANN Tannenbergstha 148.33 347 *e*PKPbc **PKPbc 17 52 22.0 0.0**
TANN *e*PKPab **PKPab 17 52 26.7 -0.6**
WERD Werda 148.33 348 *e*PKPbc **PKPbc 17 52 22.1 +0.2**
WERD *e*PKPab **PKPab 17 52 26.5 -0.8**
UBBA Unterbreizbach 148.38 351 *e*PKPbc **PKPbc 17 52 21.7 -0.2**
UBBA *e*PKPab **PKPab 17 52 26.6 -0.7**
ARR Arges 148.43 329 ⇓*i*P **PKPbc 17 52 23.3 +0.9**
PSZ Piszkesteto 148.45 337 *e*PKIKP **PKPbc 17 52 22.3 0.0**
PSZ *e* 17 52 28.1
PSZ Piszkesteto 148.45 337 *e*PKPbc **PKPbc 17 52 22.3 0.0**
PSZ *e*PKPab **PKPab 17 52 28.1 +0.2**
PSZ Piszkesteto 148.45 337 ⇓*i*P **PKPbc 17 52 22.5 +0.1**

CSS Prodhromos 148.64 305 *e*PKPbc **PKPbc 17 52 22.7 -0.5**
TREC Trest 148.65 343 *e*PKIKP **PKPbc 17 52 22.7 -0.1**
TREC *e* 17 52 28.9
TREC Trest 148.65 343 ⇓*e*PKPBC **PKPbc 17 52 22.7 -0.1**
TREC *e*PKPAB **PKPab 17 52 28.9 +0.2**
SMOL Smolenice 148.78 340 *e*PKIKP **PKPbc 17 52 24.0 +0.9**
SMOL Smolenice 148.78 340 *e*PKP **PKPbc 17 52 24.0 +0.9**
LOT Lotru 148.78 330 ⇓*i*P **PKPbc 17 52 23.0 -0.3**
MANZ Manzenberg 148.81 348 *e*PKPbc **PKPbc 17 52 23.3 +0.2**
ROTZ Rotzenmuhle 149.00 347 *e*PKPbc **PKPbc 17 52 23.8 +0.2**
MEM Membach 149.05 355 PKPbc **PKPbc 17 52 23.8 +0.2**
MEM Membach 149.05 355 PKPab **PKPab 17 52 29.8 -0.4**
TNS Taunus Mts 149.18 352 *e*PKPbc **PKPbc 17 52 24.0 -0.1**
TNS *e*PKPab **PKPab 17 52 30.7 -0.2**
GRF Grafenberg Arr 149.26 349 *e*PKPbc **PKPbc 17 52 24.0 -0.2**
GRF *e*PKPab **PKPab 17 52 31.2 +0.1**
GRF Grafenberg Arr 149.26 349 *e*PKHKP **PKPbc 17 52 24.0 -0.2**
GRFO Grafenberg 149.26 349 *e*PKHKP **PKPbc 17 52 23.7 -0.5**
GRFO Grafenberg 149.26 349 *e*PKPbc **PKPbc 17 52 23.7 -0.5**
GZR Gura Zlata 149.28 331 ⇓PKHKP **PKPbc 17 52 24.0 -0.5**
GZR Gura Zlata 149.28 331 ⇓*i*P **PKPbc 17 52 24.0 -0.5**
BCLA Clavier 149.29 356 PKPab **PKPab 17 52 30.7 -0.5**
KHC Kasperske Hory 149.29 345 *e*PKHKP **PKPbc 17 52 24.5 +0.1**
KHC *e* 17 52 31.6
KHC Kasperske Hory 149.29 345 ⇓*i*PKPBC **PKPbc 17 52 24.7 +0.4**
KHC *e*PKPAB **PKPab 17 52 31.8 +0.5**
KHC *e*SKP 17 54 54.1
KHC Kasperske Hory 149.29 345 *e*PKPbc **PKPbc 17 52 24.4 +0.1**
KHC *e*PKPab **PKPab 17 52 31.6 +0.3**
WET Wettzell 149.44 346 *e*PKPbc **PKPbc 17 52 24.5 -0.2**
WET *e*PKPab **PKPab 17 52 31.8 -0.1**
WET Wettzell 149.44 346 *e*PKHKP **PKPbc 17 52 24.5 -0.2**
GEC2 GERESS Array S 149.53 345 *e*PKPbc **PKPbc 17 52 24.9 -0.1**
GEC2 *e*PKPab **PKPab 17 52 31.8 -0.6**
GEC2 GERESS Array S 149.53 345 *e*PKHKP **PKPbc 17 52 24.9 -0.1**
GERES GERESS Array B 149.53 345 PKP **PKPdf 17 52 19.9 +0.1**
GERES PKPbc **PKPbc 17 52 24.2 -0.8**
GERES GERESS Array B 149.53 345 PKP **PKPdf 17 52 19.9 +0.1**
comp=Z,12nm,0.8s,baz=350,slow=4.1,SNR=5.1
GERES PKPbc **PKPbc 17 52 24.2 -0.8**
comp=Z,12nm,0.8s,baz=23,slow=3.2,SNR=89
BZS Buzias 149.63 333 ⇑PKHKP **PKPbc 17 52 25.0 -0.2**
BZS Buzias 149.63 333 ⇑*i*P **PKPbc 17 52 25.0 -0.2**
DOU Dourbes 149.65 357 PKPbc **PKPbc 17 52 25.3 +0.2**
DOU PKPab **PKPab 17 52 32.2 -0.5**
CONA Conrad Observa 149.78 342 *i* PKiKP **PKiKP 17 52 26.0 -0.3**
comp=Z,18nm,0.7s,SNR=12
WLF Walferdange 149.98 355 PKPbc **PKPbc 17 52 26.4 +0.5**
WLF PKPab PKPab 17 52 44.6 +11
WLF Walferdange 149.98 355 *e*PKPbc **PKPbc 17 52 26.2 +0.3**
WLF Walferdange 149.98 355 *e*PKHKP **PKPbc 17 52 26.1 +0.2**
WLF Walferdange 149.98 355 *e*PKPbc **PKPbc 17 52 26.1 +0.2**
MOA Molln 150.30 344 ⇓*i*PKPbc **PKPbc 17 52 26.4 -0.4**
comp=Z,6.4nm,0.6s
PKSM Moragy 150.35 337 ⇓PKHKP **PKPbc 17 52 26.6 -0.2**
PKSM Moragy 150.35 337 ⇓*i*P **PKPbc 17 52 26.6 -0.2**
STU Stuttgart 150.50 351 *e*PKPbc **PKPbc 17 52 27.3 +0.2**
FUR Furstenfeldbru 150.71 348 *e*PKPbc **PKPbc 17 52 27.8 +0.1**
FUR *e*PKPab **PKPab 17 52 37.0 -0.3**
FUR Furstenfeldbru 150.71 348 *e*PKHKP **PKPbc 17 52 27.8 +0.1**
RJOB Jochberg 150.78 345 *e*PKPbc **PKPbc 17 52 27.4 -0.5**
RJOB *e*PKPab **PKPab 17 52 38.0 +0.4**
BFO Black Forest 151.05 352 *e*PKPbc **PKPbc 17 52 27.9 -0.5**
BFO *e*PKPab **PKPab 17 52 38.1 -0.6**
BFO Black Forest 151.05 352 *e*PKPbc **PKPbc 17 52 27.7 -0.7**
VTS Vitosha 151.15 327 ⇓PKIKP **PKPbc 17 52 29.0 0.0**
VTS Vitosha 151.15 327 ⇓*i*P **PKPbc 17 52 29.0 0.0**
SOKA Soboth 151.15 342 ⇑*i*PKPdf **PKPdf 17 52 21.8 -0.5**
comp=Z,0.7nm,0.6s
SOKA *i* PKPbc **PKPbc 17 52 28.1 -0.6**
comp=Z,8.4nm,1.0s,SNR=7.7
PERS Pernice 151.16 341 *i* PKPbc **PKPbc 17 52 28.0 -0.8**
KBA Koelnbreinsper 151.26 344 *i* PKPbc **PKPbc 17 52 27.9 -1.2**
comp=Z,5.0nm,0.5s,SNR=6.2
WATA Walderalm 151.44 347 ⇑*i*PKPbc **PKPbc 17 52 28.9 -0.6**
comp=Z,5.7nm,0.5s
WTTA Wattenberg 151.49 347 *i* PKiKP **PKPbc 17 52 29.2 -0.4**
comp=Z,15nm,0.7s,SNR=8.2
MOTA Moosalm 151.53 347 *i* PKiKP **PKPbc 17 52 29.5 -0.2**
comp=Z,8.5nm,0.8s,SNR=5.2
MYKA Terra Mystica 151.59 343 ⇓*i*PKPbc **PKPbc 17 52 28.7 -1.0**
comp=Z,5.3nm,0.5s
ABTA Abfaltersbach 151.77 345 ⇑*i*PKPdf **PKPdf 17 52 22.6 -0.6**
comp=Z,2.8nm,0.6s
ABTA *i* PKPbc **PKPbc 17 52 29.5 -0.7**
comp=Z,11nm,0.5s,SNR=8.2
CRES Cresnjev 151.78 340 *i* PKPbc **PKPbc 17 52 29.9 -0.3**
LJU Ljubljana 151.88 342 *i* PKPbc **PKPbc 17 52 30.0 -0.3**
LJU *i* PKPab **PKPab 17 52 41.5 -0.7**
FETA Feichten 151.91 348 ⇑*i*PKPdf **PKPdf 17 52 23.4 -0.1**
comp=Z,2.4nm,0.8s
FETA *i* PKiKP **PKPbc 17 52 30.4 -0.2**
comp=Z,7.9nm,0.7s,SNR=5.7
VISS Visnje 152.00 341 *i* PKPbc **PKPbc 17 52 30.3 -0.3**
VISS *i* PKPab **PKPab 17 52 42.5 -0.2**
BOJS Bojanci 152.14 340 *i* PKPdf **PKPdf 17 52 23.9 +0.3**
BOJS *i* PKPbc **PKPbc 17 52 30.9 0.0**
BOJS *i* PKPab **PKPab 17 52 43.2 -0.1**
JAVS Javornik 152.15 342 *i* PKPbc **PKPbc 17 52 30.2 -0.8**
JAVS *i* PKPab **PKPab 17 52 42.6 -0.9**
CEY Cerknica 152.18 342 *i* PKPbc **PKPbc 17 52 30.6 -0.5**
CEY *e*PKPab **PKPab 17 52 43.0 -0.5**
ESDC Sonseca Array 159.43 14 PKPab **PKPab 17 53 15.4 +0.4**
ESDC Sonseca Array 159.43 14 PKPab **PKPab 17 53 15.4 +0.4**
comp=Z,0.4nm,0.5s,baz=337,slow=3.4,SNR=4.8
KEST Kesra 162.88 340 PKPab **PKPab 17 53 30.2 0.0**
KEST Kesra 162.88 340 PKPab **PKPab 17 53 30.2 0.0**
comp=Z,1.3nm,0.8s,baz=29,slow=4.8,SNR=4.5
DBIC Dimbokro 165.30 151 PKPab **PKPab 17 53 41.8 +0.4**
DBIC Dimbokro 165.30 151 PKPab **PKPab 17 53 41.8 +0.4**
comp=Z,3.7nm,0.8s,baz=148,slow=9.4,SNR=5.2
TORD Torodi Ar. Bea 173.43 175 PKPab **PKPab 17 54 17.7 +0.5**
TORD Torodi Ar. Bea 173.43 175 PKPab **PKPab 17 54 17.7 +0.5**
comp=Z,0.7nm,0.7s,baz=190,slow=3.3,SNR=3.8

NEIC ***01*** *17:43:23.3, 19°.92N×67°.74W, h25km, MD3.4(RSPR), After RSPR.*

RSPR 01 17:43:23.3, 19°.92N×67°.74W, h25km±51km, MD3.4/3, 8C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IDE	**Isla Desecheo**	**1.54**	**170**	*e*S	Sn	17 44 04.8	-3.8
AGPR	**Aguadilla, PR**	**1.56**	**157**	*e*Pn	Pn	17 43 44.1	-5.4
AGPR				*e*Sn	Sn	17 44 01.1	-7.8
AOPR	**Arecibo Observ**	**1.82**	**149**	⇑*e*P	Pn	17 43 50.2	-3.0
AOPR	**Arecibo Observ**	**1.82**	**149**	⇑*e*P	Pn	17 43 50.2	-2.9
AOPR	**Arecibo Observ**	**1.82**	**149**	*e*S	Sn	17 44 13.3	-2.2
AOPR	**Arecibo Observ**	**1.82**	**149**	⇑*e*P	Pn	17 43 50.2	-3.0
AOPR				*e*S	Sn	17 44 13.3	-2.2
LRS	**Lares**	**1.83**	**152**	⇑*i*P	Pn	17 43 50.0	-3.3
LRS				*e*S	Sn	17 44 12.2	-3.5
LRS	**Lares**	**1.83**	**152**	*i* Pu	Pn	17 43 50.0	-3.3
LRS				*e*S	Sn	17 44 12.2	-3.5
LSP	**Las Mesas**	**1.84**	**160**	*e*Pn	Pn	17 43 49.1	-4.3
LSP				*e*Sn	Sn	17 44 10.9	-5.1
CRPR	**Cabo Rojo, PR**	**1.99**	**162**	*e*Pn	Pn	17 43 52.8	-2.6
CRPR				*e*Sn	Sn	17 44 10.7	-8.9
GBPR	**Guanica, Bosqu**	**2.10**	**157**	*e*S	Sn	17 44 18.8	-3.4
GBPR	**Guanica, Bosqu**	**2.10**	**157**	*e*S	Sn	17 44 18.8	-3.4
CELP	**Cerrillos**	**2.14**	**149**	⇑*e*P	Pn	17 43 56.0	-1.4
CELP				*e*S	Sn	17 44 21.0	-2.3
CELP	**Cerrillos**	**2.14**	**149**	*e*S	Sn	17 44 21.0	-2.3
CELP	**Cerrillos**	**2.14**	**149**	⇑*e*P	Pn	17 43 56.0	-1.4
CELP				*e*S	Sn	17 44 21.0	-2.3
OBIP	**Obispado Ponce**	**2.15**	**150**	*e*S	Sn	17 44 21.6	-2.0
OBIP	**Obispado Ponce**	**2.15**	**150**	*e*S	Sn	17 44 21.6	-2.0
OBIP	**Obispado Ponce**	**2.15**	**150**	*e*Pn	Pn	17 43 53.7	-3.9
OBIP				*e*Sn	Sn	17 44 19.2	-4.4
CBYP	**Canovanas**	**2.42**	**132**	Pn	Pn	17 43 58.7	-2.8
MTP	**Monte Pirata**	**2.75**	**131**	⇑*e*P	Pn	17 44 04.7	-1.2
MTP	**Monte Pirata**	**2.75**	**131**	⇑*e*P	Pn	17 44 05.3	-0.6
MTP	**Monte Pirata**	**2.75**	**131**	⇑*e*P	Pn	17 44 04.7	-1.2
MTP				*e*S	Sn	17 44 35.5	-2.8
SDDR	**Presa de Saban**	**3.47**	**255**	*e*Pn	Pn	17 44 17.7	+1.9
SDDR				*e*Sn	Sn	17 45 00.6	+4.3

IDC 01 17:56:44.1±0.6, 85°.77N×22°.16E, h0km, mb3.8/15, mb1 4.1/17, mb1mx3.9/32, mbtmp3.8/17, ML4.0/2,

MS3.5/18, Ms1 3.5/18, ms1mx3.3/39, Error ellipse: s-maj=21.0km s-min=12.9km az=67.0, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPITS	**Spitsbergen Ar**	**7.68**	**189**	Pn	Pn	17 58 34.7	-2.2
SPITS	baz=33,slow=13,SNR=146			Sn	Sn	17 59 56.1	-8.4
ARCES	**ARCESS Array B**	**16.34**	**176**	Pn	Pn	18 00 31.9	-2.5
ARCES	0.5nm,0.3s,baz=356,slow=12,SNR=23			Sn	Sn	18 03 21.8	-14
ARCES	0.2nm,0.3s,baz=5.5,slow=22,SNR=5.4			LR	LR	18 07 00.8	
SFJD	**Kangerlussuaq**	**22.24**	**263**	LR	LR	18 09 42.8	
FINES	**FINESS Array B**	**24.47**	**175**	P	P	18 02 03.5	-0.7
FINES	3.2nm,1.0s,baz=8.3,slow=14,SNR=3.5			LR	LR	18 11 51.3	
NOA	**NORSAR Array B**	**24.96**	**193**	LR	LR	18 11 01.0	
INK	**Inuvik**	**25.76**	**339**	P	P	18 02 16.6	+0.8
HFS	**Hagfors**	**25.83**	**190**	LR	LR	18 11 25.0	
ILAR	**Eielson Array**	**29.57**	**351**	P	P	18 02 50.3	+0.4
ILAR	1.6nm,0.9s,baz=357,slow=7.1,SNR=14			LR	LR	18 15 56.5	
BVAR	**Borovoye Array**	**34.45**	**127**	P	P	18 03 33.2	+0.4
ZALV	**Zalesovo Beam**	**34.46**	**112**	LR	LR	18 20 30.6	
SCHQ	**Schefferville**	**35.50**	**275**	LR	LR	18 18 01.9	
AKTO	**Aktyubinsk**	**36.38**	**141**	LR	LR	18 19 32.9	
KDAK	**Kodiak Island**	**36.63**	**355**	LR	LR	18 19 29.9	
GERES	**GERESS Array B**	**37.14**	**189**	P	P	18 03 56.8	+0.8
KURBB	**Kurchatov Arra**	**37.35**	**119**	P	P	18 03 57.2	-0.4
MKAR	**Makanchi Array**	**41.41**	**116**	LR	LR	18 23 35.8	
ULM	**Lac du Bonnet**	**42.08**	**302**	LR	LR	18 21 04.5	
SONM	**Songino Array**	**42.10**	**91**	P	P	18 04 38.4	+0.9
SONM	1.2nm,0.9s,baz=348,slow=6.5,SNR=7.2			LR	LR	18 23 26.2	
KBZ	**Khabaz**	**42.50**	**158**	P	P	18 04 41.5	+1.0
KBZ	1.1nm,0.5s,baz=300,slow=8.1,SNR=3.0			LR	LR	18 23 52.3	
BRTR	**Keskin Array B**	**46.30**	**168**	P	P	18 05 10.9	-0.2
BRTR	1.4nm,0.9s,baz=340,slow=6.8,SNR=4.5			LR	LR	18 26 35.2	
ESDC	**Sonseca Array**	**46.72**	**208**	P	P	18 05 15.4	+1.1
PDAR	**Pinedale Array**	**50.33**	**314**	P	P	18 05 42.2	-0.1
PDAR	1.5nm,1.0s,baz=33,slow=3.5,SNR=7.8			LR	LR	18 27 46.2	
NVAR	**Mina Array Bea**	**55.09**	**322**	P	P	18 06 17.6	+0.1
NVAR	1.0nm,1.0s,baz=360,slow=3.5,SNR=3.6			LR	LR	18 30 50.4	
TXAR	**Lajitas Array**	**63.38**	**308**	P	P	18 07 14.1	-0.7
TXAR	0.6nm,0.7s,baz=58,slow=3.1,SNR=6.3			LR	LR	18 34 20.8	
CMAR	**Chiang Mai Arr**	**70.73**	**102**	P	P	18 08 00.1	-1.5
TORD	**Torodi Ar. Bea**	**72.95**	**201**	P	P	18 08 13.1	-1.8
	0.6nm,0.7s,baz=1.6,slow=6.2,SNR=4.4						

IDC 01 18:00:07.8±5.5, 0°.21S×101°.04E, h0km, mb3.4/2, Error ellipse: s-maj=290.0km s-min=23.2km az=55.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**38.04**	**123**	P	P	18 07 28.6	+0.3
	0.2nm,0.4s,baz=302,slow=9.0,SNR=5.4						
ASAR	**Alice Springs**	**39.50**	**129**	P	P	18 07 40.0	-0.5
	baz=300,slow=8.2						
MKAR	**Makanchi Array**	**49.62**	**343**	P	P	18 09 01.0	0.0
	0.4nm,0.6s,baz=137,slow=8.1,SNR=4.5						
ZALV	**Zalesovo Beam**	**55.63**	**348**	P	P	18 09 45.2	-0.1
	baz=164,slow=6.8						

ISCJB ***01*** *18:01:58.6±0.7, 62°.45S±0°.08×155°.4E±0°.3, h10km, mb3.8/5, MS4.4/12, Error ellipse: s-maj=20.9km s-min=10.8km az=170.6*

NEIC ***01*** *18:01:58.6±1.1, 62°.33S×156°.49E, h10km, mb4.0/3, Error ellipse: s-maj=40.4km s-min=12.0km az=76.0*

IDC ***01*** *18:01:59.0±2.3, 62°.50S×155°.02E, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.9/14, mbtmp4.0/5, ML3.8/1, MS4.4/13, Ms1 4.4/13, ms1mx4.3/18, Error ellipse: s-maj=156.8km s-min=22.4km az=75.0*

GCMT ***01*** *18:02:07.0±0.2, 62°.24S×154°.91E, h18km±1km, MW5.2, Moment Tensor Solution. s57,c81; s77,c131; Moment tensor: Scale 10^{16}Nm; M_{rr}-1.15±.22; $M_{\theta\theta}$7.22±.20; $M_{\phi\phi}$-6.08±.20; $M_{r\theta}$-1.72±.43; $M_{\theta\phi}$-5.48±.17; $M_{\phi r}$1.40±.45; Best double couple: $M_0$8.90000×10^{16} NP1:ϕ_s335.00000°, δ87.00000°, λ12.00000°. NP2:ϕ_p244.00000°, δ78.0000°, λ177.00000°. Principal axes: T 9.6000, Plg11.0000°, Azm200.0000°; N -1.4800, Plg77.0000°, Azm350.0000°; P -8.1300, Plg6.0000°, Azm109.0000°; Data Used: IU II IC G CN.*

ISC 01 18:02:00.7±0.8, 62°.50S±0°.09×155°.5E±0°.2, h10km, n27, σ1°.59/20, mb4.0/5, MS4.3/12, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**15.24**	**175**	*e*Pn	**Pn**	**18 05 32.8**	**-2.6**
	6.6nm,0.9s						
VNDA	**Vanda**	**15.24**	**175**	Pn	**Pn**	**18 05 33.4**	**-2.0**
	0.4nm,0.3s,baz=343,slow=15,SNR=14						
VNDA				LR	LR	18 10 57.6	
	comp=Z,3μm,19.7s,baz=356,slow=35						
SBA	**Scott Base**	**15.

FITZ	Fitzroy Crossi	48.96	321	P	P	18 10 46.4	-0.5
FITZ	Fitzroy Crossi	48.96	321	P	P	18 10 46.4	-0.5
	1.5nm,0.9s,baz=166,slow=9.9,SNR=3.1						
HNR	Honiara	53.07	6	LR	LR	18 28 39.5	
	comp=Z,612nm,20.6s,baz=173,slow=30						
PPT2	Papeete2	58.65	66	*e*S	S	18 20 02.6	+0.3
	215nm,24.2s						
PPT2				*e*LQ	LQ	18 26 35.4	
	977nm,26.8s						
PPT2				*e*LR	LR	18 29 10.4	
	404nm,27.2s						
PPT	Papeete	58.67	66	LR	LR	18 34 40.4	
	comp=Z,190nm,18.3s,baz=195,slow=33						
BOSA	Boshof	80.88	223	LR	LR	18 46 00.1	
	comp=Z,198nm,18.4s,baz=261,slow=33						
CMAR	Chiang Mai Arr	92.04	308	LR	LR	18 55 41.2	
	comp=Z,84nm,19.0s,baz=268,slow=35						
LPAZ	La Paz	94.36	138	LR	LR	18 52 41.4	
	comp=Z,55nm,18.4s,baz=316,slow=32						
MJAR	Matsushiro Arr	99.67	346	LR	LR	18 57 31.6	
	comp=Z,64nm,18.9s,baz=80,slow=34						

*ISCJB **01** 18:02:43.0±0.5,20°.15S±0°.05×68°.94W±0°.08,h114km±6km, mb4.0/6,Error ellipse: s-maj=13.1km s-min=7.5km az=176.6*
*GUC **01** 18:02:44.2±0.4,20°.18S×69°.16W,h111km±4km,ML4.4*
*IDC **01** 18:02:44.8±0.8,20°.15S×68°.85W,h116km±6km,mb3.7/8, mb1 3.9/11,mb1mx3.7/21,mbtmp3.8/11,Error ellipse: s-maj=19.7km s-min=18.0km az=83.0*

ISC 01 18:02:44.0±0.6,20°.15S±0°.05×69°.01W±0°.08,h111km±5km, n22,σ0°96/28,mb4.0/6,6C-1D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HMBC	Humberstone	0.84	261	⇑*i*P	Pn	18 03 03.0	-0.8
HMBC				*i* S	Sn	18 03 17.6	-1.2
HMBC				AML	AML	18 03 18.9	
	comp=N,9μm,0.3s						
PB01	Plate Boundary	1.00	207	⇑*i*P	Pn	18 03 05.2	-0.2
PB01				*i* S	Sn	18 03 20.9	-0.6
PB01				AML	AML	18 03 22.7	
	comp=E,11μm,0.2s						
MNMC	Minimini	1.15	331	⇑*i*P	Pn	18 03 07.7	+0.4
MNMC				*i* S	Sn	18 03 25.4	+0.6
MNMC				AML	AML	18 03 26.7	
	comp=N,43μm,0.3s						
PB09	Plate Boundary	1.65	188	⇑*i*P	Pn	18 03 13.5	+0.5
PB09				*i* S	Sn	18 03 35.4	+0.4
PB09				AML	AML	18 03 39.3	
	comp=E,7μm,0.7s						
PB07	Plate Boundary	1.77	207	⇑*i*P	Pn	18 03 14.1	-0.3
PB07				*i* S	Sn	18 03 37.1	-0.4
PB07				AML	AML	18 03 41.1	
	comp=N,2μm,0.5s						
PB04	Plate Boundary	2.15	192	⇓*i*P	Pn	18 03 22.6	+3.6
PB04				AML	AML	18 04 01.0	
	comp=E,2μm,0.6s						
MACH	Maria Elena	2.15	199	⇑*i*P	Pn	18 03 19.8	+0.5
LPAZ	La Paz	3.93	12	P	Pn	18 03 45.3	+2.2
	comp=E,7.8nm,0.3s,baz=202,slow=6.0,SNR=124						
SIV	San Ignacio	8.61	63	P	Pn	18 04 44.0	-1.8
	comp=E,5.6nm,0.3s,baz=259,slow=12,SNR=99						
CPUP	Villa Florida	12.37	122	P	Pn	18 05 35.2	-1.1
	comp=E,1.1nm,0.3s,baz=296,slow=14,SNR=18						
BDFB	Brasilia	20.47	81	P	P	18 07 12.3	-0.9
	comp=E,5.0nm,0.4s,baz=252,slow=11,SNR=8.3						
PLCA	Paso Flores	20.56	183	P	P	18 07 14.8	+0.9
	comp=E,2.3nm,0.7s,baz=355,slow=11,SNR=5.9						
TXAR	Lajitas Array	59.47	325	P	P	18 12 36.1	+0.4
	comp=E,0.2nm,0.5s,baz=147,slow=8.4,SNR=3.8						
DBIC	Dimbokro	68.45	74	P	P	18 13 34.1	-0.4
	comp=E,8.3nm,0.7s,baz=231,slow=7.2,SNR=12						
QSPA	South Pole Qui	70.04	180	P	P	18 13 43.9	+0.2
	comp=E,0.5nm,0.6s,baz=76,slow=4.8,SNR=7.0						
PDAR	Pinedale Array	72.90	330	P	P	18 14 02.2	+0.9
	comp=E,0.4nm,0.5s,baz=165,slow=3.7,SNR=3.0						
TORD	Torodi Ar. Bea	76.99	71	P	P	18 14 24.4	-0.8
	comp=E,2.3nm,0.4s,baz=253,slow=5.6,SNR=50						
TORD				pP	pP	18 14 54.1	+0.7
	comp=E,3.6nm,0.8s,baz=254,slow=5.6,SNR=7.6						
TORD				sP	sP	18 15 05.5	+0.3
	comp=E,1.4nm,0.8s,baz=247,slow=4.8,SNR=2.9						
YKA	Yellowknife Ar	89.89	341	P	P	18 15 30.1	+0.1
	comp=E,2.5nm,0.7s,baz=130,slow=4.7,SNR=5.9						
ASAR	Alice Springs	131.06	208	PKP	PKPdf	18 21 43.9	+0.3
	comp=E,0.3nm,0.5s,baz=137,slow=2.1,SNR=9.2						
WRA	Warramunga Arr	134.06	211	PKP	PKPdf	18 21 49.9	+0.7
	comp=E,0.4nm,0.7s,baz=155,slow=1.8,SNR=5.0						
MKAR	Makanchi Array	144.59	35	PKP	PKPbc	18 22 07.4	+0.9
	comp=E,0.3nm,0.7s,baz=300,slow=2.7,SNR=2.9						
SONM	Songino Array	152.13	7	PKPbc	PKPbc	18 22 25.1	-1.5
	comp=E,0.5nm,0.5s,baz=339,slow=3.7,SNR=3.6						
SONM				pPKPbc	pPKPbc	18 22 58.1	+1.3
	comp=E,0.8nm,0.8s,baz=244,slow=1.1,SNR=4.0						

IDC 01 18:39:18.6±2.2,14°.01S×176°.24W,h0km,mb3.8/4, mb1 4.1/4,mb1mx3.8/19,mbtmp3.8/4,MS3.3/2,Ms1 3.3/2, ms1mx2.9/26,Error ellipse: s-maj=130.8km s-min=30.4km az=151.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	4.33	89	LR	LR	18 41 20.9	
	comp=Z,196nm,21.6s,baz=326,slow=28						
ASAR	Alice Springs	47.95	251	P	P	18 47 59.1	-0.3
	1.0nm,0.7s,baz=84,slow=7.6,SNR=13						
JNU	Nakatsue	68.86	314	LR	LR	19 15 47.1	
	comp=Z,46nm,19.3s,baz=46,slow=32						
NVAR	Mina Array Bea	75.18	44	P	P	18 51 04.3	+0.9
	1.0nm,0.8s,baz=229,slow=8.2,SNR=6.1						
PDAR	Pinedale Array	83.10	43	P	P	18 51 45.0	-1.6
	0.8nm,1.0s,baz=223,slow=2.1,SNR=3.9						
SONM	Songino Array	91.99	319	P	P	18 52 29.3	-0.2
	0.1nm,0.3s,baz=108,slow=4.7,SNR=3.3						
BRTR	Keskin Array B	143.35	320	PKP	PKPdf	18 58 56.5	+0.9
	1.7nm,0.8s,baz=75,slow=1.1,SNR=7.9						
GERES	GERESS Array B	144.31	349	PKP	PKPdf	18 58 56.9	0.0
	0.4nm,0.7s,baz=316,slow=2.7,SNR=3.7						

KRSC 01 18:40:54.0±0.3,52°.81N×162°.68E,h45km±44km,ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.63	281	P	Pn	18 41 21.4	+1.2
SPN				S	Sn	18 41 41.2	+1.2
MKZ	Mys Kozlova	1.84	342	P	Pn	18 41 24.0	+1.0
MKZ				S	Sn	18 41 45.5	+0.5
NLC	Nalytchevo	2.05	281	P	Pn	18 41 27.7	+1.8
NLC				S	Sn	18 41 51.5	+1.3
KII	Karymskiy	2.29	304	P	Pn	18 41 31.2	+1.8
KII				S	Sn	18 41 57.7	+1.3
SDLR	Sedlovina	2.34	283	P	Pn	18 41 32.4	+2.3
SDLR				S	Sn	18 41 59.7	+2.0
UGLR	Uglovaya	2.36	281	P	Pn	18 41 32.7	+2.3
SMAR	Somma	2.39	283	P	Pn	18 41 32.8	+1.9
SMAR				S	Sn	18 42 00.8	+1.7
AVH	Avacha	2.42	282	P	Pn	18 41 33.8	+2.6
AVH				S	Sn	18 42 02.4	+2.7
KRER	Koryakskii	2.42	283	P	Pn	18 41 33.8	+2.4
KRER				S	Sn	18 42 02.4	+2.4
PET	Petropavlovsk	2.45	277	P	Pn	18 41 33.5	+2.1
PET				S	Sn	18 42 02.3	+2.3
KOK	Koryaka	2.49	283	P	Pn	18 41 34.4	+2.3
KRX	Arik	2.49	284	P	Pn	18 41 34.5	+2.3
KRX				S	Sn	18 42 03.5	+2.0
RUS	Russkaya	2.57	263	P	Pn	18 41 34.7	+1.7
RUS				S	Sn	18 42 03.9	+0.9
MTVR	Mutnovka	2.76	265	P	Pn	18 41 37.7	+1.8
MTVR				S	Sn	18 42 09.7	+1.6
TUMR	Tumrok	2.89	330	P	Pn	18 41 40.5	+2.8
ASAK	Asacha	2.95	264	P	Pn	18 41 40.9	+2.5
ASAK				S	Sn	18 42 15.0	+2.4
GNL	Ganaly	2.98	289	P	Pn	18 41 42.0	+3.1
GNL				S	Sn	18 42 16.8	+3.3
BKI	Bering	3.09	38	S	Sn	18 42 12.5	-3.2
KMNR	Kamenistaya	3.28	335	P	Pn	18 41 45.8	+2.8
KMNR				S	Sn	18 42 23.6	+2.8
BZGR	Bezymyannyi-Gr	3.34	340	P	Pn	18 41 45.6	+1.7
BZGR				S	Sn	18 42 23.4	+1.0
APC	Apacha	3.35	274	P	Pn	18 41 47.1	+3.3
APC				S	Sn	18 42 26.0	+3.8
BZMR	Bezymyannaya	3.38	339	P	Pn	18 41 47.3	+2.9
ZLN	Zelenaya	3.40	342	P	Pn	18 41 46.2	+1.6
ZLN				S	Sn	18 42 24.3	+0.6
KBTR	Krutoberegovo	3.41	1	P	Pn	18 41 44.6	0.0
KBTR				S	Sn	18 42 22.8	-0.9
BZWR	Bezymyannyi-We	3.41	339	P	Pn	18 41 47.8	+3.0
BZWR				S	Sn	18 42 26.7	+2.6
KIRR	Kirishev	3.43	337	P	Pn	18 41 48.6	+3.5
KIRR				S	Sn	18 42 27.8	+3.1
KPT	Kopyto	3.47	337	P	Pn	18 41 48.5	+2.9
KPT				S	Sn	18 42 27.8	+2.3
LGNR	Loginova	3.48	341	S	Sn	18 42 28.8	+2.7
CIRR	Tsirk	3.50	342	S	Sn	18 42 30.2	+3.9
KRSR	Krestovskiy	3.63	341	S	Sn	18 42 30.4	+1.0
KOZ	Kozyrevsk	3.64	334	P	Pn	18 41 51.7	+3.8
KOZ				S	Sn	18 42 33.6	+4.0
KLY	Klyuchi	3.70	342	S	Sn	18 42 32.1	+1.2
SMKR	Semkarok	3.84	350	S	Sn	18 42 37.5	+2.9
PAU	Pauzhetka	3.86	252	P	Pn	18 41 52.5	+1.8
ESO	Esso	3.89	325	P	Pn	18 41 54.0	+2.7
ESO				S	Sn	18 42 38.2	+2.5
SRDR	Sredinnyy	3.92	335	S	Sn	18 42 42.5	+6.2
SRKR	Sorokina	3.95	348	S	Sn	18 42 42.8	+5.6
SKR	Severo-Kuril's	4.60	245	P	Pn	18 42 02.1	+1.2
SKR				S	Sn	18 42 52.6	-0.4

IDC 01 18:45:01.4±10.0,7°.76S×130°.48E,h67km±78km,mb3.9/1, mb1 3.8/3,mb1mx3.2/18,mbtmp3.6/3,ML3.8/2,Error ellipse: s-maj=97.7km s-min=76.9km az=84.0,Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	12.67	163	P	Pn	18 47 58.8	-0.1
	0.6nm,0.3s,baz=346,slow=13,SNR=26						
WRA				S	Sn	18 50 19.1	+0.7
	1.2nm,0.3s,baz=340,slow=22,SNR=11						
ASAR	Alice Springs	16.15	169	P	Pn	18 48 44.3	0.0
	0.4nm,0.3s,baz=338,slow=9.9,SNR=34						
ASAR				S	Sn	18 51 43.5	+0.7
	0.3nm,0.3s,baz=354,slow=28,SNR=7.1						
STKA	Stephens Creek	26.13	158	P	P	18 50 29.2	0.0
	5.5nm,1.2s,baz=334,slow=12,SNR=4.2						

IDC 01 18:53:14.8±3.4,24°.62S×179°.93W,h466km±32km, mb3.6/9,mb1 3.7/9,mb1mx3.5/18,mbtmp3.6/9,Error ellipse: s-maj=28.0km s-min=18.5km az=71.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	Rata Peaks	20.43	199	P	P	18 57 18.5	-0.6
	6.2nm,0.4s,baz=0.0,slow=7.1,SNR=5.5						
STKA	Stephens Creek	34.52	249	P	P	18 59 23.2	+0.2
	4.9nm,0.4s,baz=92,slow=9.9,SNR=48						
ASAR	Alice Springs	41.99	261	P	P	19 00 24.0	-0.2
	2.8nm,0.3s,baz=101,slow=7.8,SNR=259						
WRA	Warramunga Arr	42.43	267	P	P	19 00 27.0	-0.7
	9.2nm,0.3s,baz=104,slow=8.2,SNR=421						
WRA				ScP	ScP	19 05 15.8	-0.6
	1.5nm,0.8s,baz=103,slow=3.7,SNR=6.5						
VNDA	Vanda	53.67	185	P	P	19 01 52.2	+1.1
	0.8nm,0.7s,baz=12,slow=5.5,SNR=4.0						
MJAR	Matsushiro Arr	72.53	326	P	P	19 03 52.8	-0.7
	1.8nm,0.9s,baz=144,slow=5.3,SNR=5.6						
MAW	Mawson	77.10	200	P	P	19 04 18.6	-0.2
	1.2nm,0.5s,baz=113,slow=8.2,SNR=5.4						
PETK	Petropavlovsk-	79.81	347	P	P	19 04 34.4	+0.9
	1.2nm,0.5s,baz=145,slow=5.3,SNR=3.3						
CMAR	Chiang Mai Arr	89.83	290	P	P	19 05 25.2	+1.7
	1.0nm,0.7s,baz=126,slow=3.5,SNR=8.1						
BVAR	Borovoye Array	121.02	318	PKP	PKPdf	19 11 12.5	-0.9
	0.7nm,0.4s,baz=117,slow=2.3						
ARCES	ARCESS Array B	132.60	348	PKP	PKPdf	19 11 33.3	-1.6
	1.5nm,0.9s,baz=49,slow=2.7,SNR=4.8						
FINES	FINESS Array B	139.15	341	PKhKP	PKPpre	19 11 37.4	
	1.7nm,0.9s,baz=83,slow=7.9,SNR=4.1						
FINES				PKP	PKiKP	19 11 48.5	-1.2
	0.9nm,0.7s,baz=48,slow=2.1,SNR=4.2						
AKASG	Malin Array Be	145.61	327	PKPbc	PKPdf	19 11 59.3	+0.3
	0.8nm,0.3s,baz=48,slow=3.9,SNR=4.7						
BRTR	Keskin Array B	148.06	306	PKPbc	PKPbc	19 12 07.1	-0.5
	1.4nm,0.7s,baz=116,slow=3.4,SNR=6.5						
TORD	Torodi Ar. Bea	168.49	188	PKP	PKPdf	19 12 26.6	-1.6
	0.5nm,0.8s,baz=219,slow=0.9,SNR=3.6						
TORD				PKPab	PKPab	19 13 39.6	-0.8
	0.7nm,0.6s,baz=184,slow=3.5,SNR=8.7						

KRSC 01 19:19:25.0±0.4,48°.75N×155°.60E,h10km±10km,ML3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.96	10	*e*P	Pn	19 19 57.4	-0.9
SKR				*i* S	Sn	19 20 21.7	-1.3
PAU	Pauzhetka	2.83	16	*e*P	Pn	19 20 11.9	+1.7
PAU				*i* S	Sn	19 20 45.8	+1.5
MIPR	Malaya Ipel'ka	3.61	11	*e*P	Pn	19 20 22.0	+1.1
ASAK	Asacha	3.92	21	*e*P	Pn	19 20 28.0	+2.6
MTVR	Mutnovka	4.08	23	*e*P	Pn	19 20 29.6	+1.9
MTVR				*i* S	Sn	19 21 15.0	-0.6
RUS	Russkaya	4.13	26	*e*P	Pn	19 20 29.2	+1.2
RUS				*i* S	Sn	19 21 15.5	-0.8
APC	Apacha	4.29	13	*e*P	Pn	19 20 32.1	+1.8
AVH	Avacha	4.94	22	*e*P	Pn	19 20 40.8	+1.5
GNL	Ganaly	5.17	16	*e*P	Pn	19 20 44.4	+1.9
SPN	Mys Shipunski	5.17	31	*e*P	Pn	19 20 44.3	+1.9
SPN				*i* S	Sn	19 21 41.8	-0.3
MKZ	Mys Kozlova	6.95	31	*e*P	Pn	19 21 08.4	+1.6
MKZ				*e*S	Sn	19 22 25.6	-0.2

*ISCJB **01** 19:20:57.6±0.6,37°.64N±0°.07×95°.80E±0°.06,h12km, mb3.6/7,MS4.0/1,Error ellipse: s-maj=10.1km s-min=6.5km az=25.3*
*IDC **01** 19:20:57.5±0.8,37°.65N×96°.04E,h0km,mb3.6/7, mb1 3.8/11,mb1mx3.6/31,mbtmp3.6/11,ML3.7/4,MS3.4/2, Ms1 3.4/2,ms1mx2.4/37,Error ellipse: s-maj=30.8km s-min=16.4km az=47.0*
*BJI **01** 19:20:59.5,37°.63N×95°.95E,h6km,mB4.3/2,mb4.1/3, ML3.6/8,Ms3.4/4,Ms7 3.3/4*
*NNC **01** 19:21:03.5±8.9,37°.87N×95°.16E,h0km,mb3.8,Error ellipse: s-maj=164.8km s-min=54.5km az=64.0*

ISC 01 19:20:58.8±0.7,37°.53N±0°.08×95°.87E±0°.05,h12km,n20, σ1°43/23,mb3.7/7,2C-1D,Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	Gaotai	3.62	58	Pn	Pn	19 21 56.5	+1.6
GTA				Pg	Pb	19 22 02.6	-0.3
GTA				Sn	Sn	19 22 38.1	+0.4
GTA				Sg	Sb	19 22 49.0	+2.1
GTA				smax	smax		
	comp=N,35nm,0.6s						
GTA				smax	smax		
	comp=E,57nm,0.7s						
GTA				LR	LR		
	comp=N,270nm,6.4s						
GTA				LR	LR		
	comp=E,350nm,5.7s						
GTA				LR	LR		
	comp=Z,310nm,9.0s						
LZH	Lanzhou	6.56	100	*e*P	Pg	19 23 02.8	-1.7
LZH				pP	pP	19 23 06.1	
LZH				sP	sP	19 23 07.5	
LZH				pmax	pmax		
	comp=Z,15nm,1.3s						
LZH	Lanzhou	6.56	100	*e*Pg	Pb	19 22 56.9	+3.9
LZH				Sg	Sg	19 24 26.7	-2.7
LZH				smax	smax		
	comp=N,45nm,1.1s						
LZH				smax	smax		
	comp=E,61nm,1.2s						
LZH				LR	LR		
	comp=N,270nm,6.5s						
LZH				LR	LR		
	comp=E,170nm,6.0s						
LZH				LR	LR		
	comp=Z,280nm,8.0s						

SONM	Songino Array	12.87	34	Pn	Pn	19 24 02.4	+0.7
	comp=Z,0.4nm,0.3s,baz=220,slow=14,SNR=8.9						
SONM				LR	LR	19 29 23.1	
	comp=Z,47nm,19.9s,baz=217,slow=40						
MK31	Makanchi Array	13.66	317	⇑Pn	Pn	19 24 11.9	-0.4
	comp=Z,1.6nm,0.8s,baz=123,slow=15,SNR=14						
MK31				⇓Sn	Sn	19 26 41.7	-2.3
	comp=Z,3.8nm,1.1s,baz=133,slow=25,SNR=4.8						
MKAR	Makanchi Array	13.66	317	Pn	Pn	19 24 11.0	-1.4
	comp=Z,0.3nm,0.3s,baz=124,slow=14,SNR=12						
MKAR				Sn	Sn	19 26 42.1	-1.9
	comp=Z,0.1nm,0.3s,baz=130,slow=24,SNR=3.9						
TKM2	Tokmak 2	16.38	296	⇑Pn	Pn	19 24 47.4	-1.4
	comp=Z,3.0nm,0.7s						
AAK	Ala-Archa	17.12	294	P	P	19 25 00.2	+0.5
	comp=Z,0.3nm,0.3s,baz=150,slow=7.1,SNR=3.6						
KURBB	Kurchatov Arra	18.01	322	P	Pn	19 25 08.4	-0.4
	comp=Z,0.1nm,0.3s,baz=135,slow=11,SNR=11						
ZALV	Zalesovo Beam	18.10	339	P	Pn	19 25 09.4	-0.6
	comp=Z,0.1nm,0.3s,baz=152,slow=11,SNR=7.0						
CMAR	Chiang Mai Arr	19.19	171	P	Pn	19 25 25.3	+1.8
	comp=Z,0.1nm,0.3s,baz=341,slow=10,SNR=7.5						
KK31	Karatay Array	20.08	294	Pn	Pn	19 25 34.3	+0.3
	comp=Z,1.7nm,0.9s,baz=88,slow=12,SNR=6.1						
BVAR	Borovoye Array	23.52	319	P	P	19 26 10.2	+1.6
	comp=Z,1.1nm,0.7s,baz=123,slow=10,SNR=6.9						
KSRS	Korea Array	25.37	80	P	P	19 26 25.2	-0.6
	comp=Z,2.4nm,0.5s,baz=278,slow=9.5,SNR=14						
BRTR	Keskin Array B	47.79	293	P	P	19 29 37.2	+1.0
	comp=Z,0.8nm,0.8s,baz=72,slow=4.7,SNR=3.9						
NOA	NORSAR Array B	55.53	324	P	P	19 30 33.2	-0.4
	comp=Z,0.9nm,0.8s,baz=75,slow=8.0,SNR=2.8						
ILAR	Eielson Array	66.92	24	P	P	19 31 50.4	-0.3
	comp=Z,0.5nm,0.8s,baz=302,slow=5.0,SNR=4.2						
WRA	Warramunga Arr	67.67	141	P	P	19 31 55.3	-0.6
	comp=Z,0.3nm,0.7s,baz=328,slow=6.3,SNR=3.5						
KDAK	Kodiak Island	69.16	32	LR	LR	20 05 08.7	
	comp=Z,91nm,18.5s,baz=352,slow=38						
ASAR	Alice Springs	70.61	143	P	P	19 32 15.4	+1.3
	comp=Z,0.5nm,0.8s,baz=326,slow=5.9,SNR=5.1						

IDC 01 19:32:39.2±2.4,1°.14N×126°.57E,h0km,mb3.2/3, mb1 3.4/3,mb1mx3.2/21,mbtmp3.2/3,Error ellipse: s-maj=224.8km s-min=26.5km az=66.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.30	160	P	P	19 37 36.6	-1.8
	0.2nm,0.4s,baz=338,slow=11,SNR=6.9						
ASAR	Alice Springs	25.67	164	P	P	19 38 12.5	+1.5
	0.3nm,0.4s,baz=345,slow=11,SNR=5.3						
MKAR	Makanchi Array	59.59	326	P	P	19 42 44.7	-0.2
	0.2nm,0.5s,baz=122,slow=7.4,SNR=5.3						

MEX 01 19:36:08.4±0.6,18°.14N×102°.40W,h19km±28km,MD3.9, Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	Aquila	0.91	280	*i* P	Pb	19 36 22.4	-3.2
MMIG				*e*S	Sb	19 36 34.0	-3.4
ZIIG	Zihuatanejo	1.03	120	*e*P	Pb	19 36 24.3	-3.5
ZIIG				*i* S	Sb	19 36 37.8	-3.1
EZ5V		1.76	320	*i* P	Pn	19 36 34.6	-3.6
EZ5V				*i* S	Sn	19 36 56.1	-4.2
R15V		1.82	305	*i* P	Pn	19 36 36.1	-2.7
R15V				*i* S	Sn	19 36 57.9	-3.6
MOIG	Morelia	1.92	37	*i* P	Pn	19 36 36.6	-3.8
MOIG				*i* S	Sn	19 36 59.3	-4.9
CAIG	El Cayaco	2.30	118	*i* P	Pn	19 36 42.6	-2.8
CAIG				*i* S	Sn	19 37 09.1	-4.1
MEIG	Mezcala	2.66	94	*i* P	Pn	19 36 48.4	-1.9
MEIG				*i* S	Sn	19 37 18.6	-3.5

*NIED **01** 19:56:00,42°.90N×145°.50E,h35km,Mw3.6 Best double couple: M0:3.23000×10^14 NP1:φ0=215.00000°,δ76.00000°, λ-71.00000°. NP2:φ0=340.00000°,δ23.00000°, λ-143.00000°.*
*MOS **01** 19:56:22.9±1.3,42°.76N×145°.60E,h51km,mb4.0/3,Error ellipse: s-maj=21.8km s-min=13.1km az=85.1*
*JMA **01** 19:56:24.4±0.1,42°.84N×145°.55E,h45km±1km,M4.1*
JMA Felt II J1.
*IDC **01** 19:56:26.4±3.2,42°.81N×145°.46E,h56km±29km,mb3.3/9, mb1 3.5/11,mb1mx3.4/27,mbtmp3.3/11,ML3.4/2,Error ellipse: s-maj=24.0km s-min=18.7km az=90.0*

ISC 01 19:56:23.3±3.3,42°.82N±0°.07×145°.53E±0°.06,h27km±23km, n22,σ0°97/32,mb3.5/9,1C-3D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	0.57	16	⇓P	Pn	19 56 35.9	+0.3
NEM2				*e*S	Sn	19 56 43.9	-0.2
JAK	Akkeshi	0.64	286	⇓P	Pn	19 56 37.4	+0.8
JAK				*e*S	Sn	19 56 47.1	+1.2
JNK	Nakash	0.97	322	⇓P	Pn	19 56 41.5	+0.3
JNK				*e*S	Sn	19 56 53.5	-0.6
JRA	Rausu	1.16	345	P	Pn	19 56 44.3	+0.6
JRA				*e*S	Sn	19 56 58.9	+0.3
YUK	Yuzh-Kuril'sk	1.24	11	*c i*PN	Pn	19 56 45.1	+0.3
YUK				*i* S	Sn	19 57 00.4	-0.2
YUK				pmax	pmax		
	comp=Z,454nm,0.3s						
YUK				pmax	pmax		
	comp=N,96nm,0.1s						
YUK				pmax	pmax		
	comp=E,36nm,0.1s						
YUK				smax	smax		
	comp=N,1μm,0.5s						
YUK				smax	smax		
	comp=E,2μm,0.5s						
JOB	Onbets	1.25	274	P	Pn	19 56 45.8	+0.8
JOB				*e*S	Sn	19 57 01.3	+0.3
JAR	Ashorobuto	1.38	291	P	Pn	19 56 47.6	+0.8
JAR				*e*S	Sn	19 57 04.3	+0.2
JCH	Churui	1.61	263	P	Pn	19 56 50.8	+0.8
JCH				*e*S	Sn	19 57 09.5	-0.4
ASAJ	Asahikawa	2.

IDC 01 20:30:22.6±1.3, 20°.37N×122°.18E, h0km, mb3.4/6, mb1 3.5/6, mb1mx3.4/25, mbtmp3.4/6, MS3.1/1, Ms1 3.1/1, ms1mx2.1/24, Error ellipse: s-maj=57.8km s-min=19.1km az=61.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**22.00**	**269**	P	P	20 35 18.4	-0.2
	0.5nm,0.8s,baz=91,slow=8.1,SNR=4.3						
SONM	**Songino Array**	**30.24**	**339**	LR	LR	20 49 53.1	
	comp=Z,35nm,18.2s,baz=186,slow=39						
MKAR	**Makanchi Array**	**41.76**	**319**	P	P	20 38 13.6	-0.1
	0.3nm,0.5s,baz=108,slow=8.2,SNR=3.6						
WRA	**Warramunga Arr**	**41.79**	**163**	P	P	20 38 12.9	-1.2
	0.8nm,0.6s,baz=344,slow=8.9,SNR=12						
ZALV	**Zalesovo Beam**	**43.96**	**329**	P	P	20 38 31.1	-0.3
	1.3nm,0.8s,baz=123,slow=7.6,SNR=5.7						
ASAR	**Alice Springs**	**45.23**	**165**	P	P	20 38 43.1	+1.3
	0.3nm,0.5s,baz=349,slow=7.8,SNR=7.2						
KURBB	**Kurchatov Arra**	**45.64**	**322**	P	P	20 38 44.8	-0.1
	0.2nm,0.5s,baz=116,slow=8.4,SNR=3.9						

*BJI **01** 20:31:44.5, 23°.84S×68°.59E, h5km, mB4.9/18, mb4.7/29, Ms4.7/12, Ms7 4.5/11*
*ISCJB **01** 20:31:49.0±0.3, 23°.74S±0°.06×69°.59E±0°.08, h10km, mb4.5/52, MS4.1/18, Error ellipse: s-maj=10.2km s-min=9.1km az=158.3*
*IDC **01** 20:31:49.2±0.5, 23°.67S×69°.56E, h0km, mb4.3/25, mb1 4.4/25, mb1mx4.3/33, mbtmp4.3/25, MS3.9/12, Ms1 3.9/12, ms1mx3.6/36, Error ellipse: s-maj=17.9km s-min=14.0km az=61.0*
*NEIC **01** 20:31:50.7±0.2, 23°.70S×69°.55E, h10km, mb4.6/13, Error ellipse: s-maj=8.0km s-min=6.2km az=68.0*
*SZGRF **01** 20:31:50.6, 23°.53S×69°.55E, h10km, mb5.1, Mid-Indian Ridge*

ISC 01 20:31:51.0±0.4, 23°.78S±0°.07×69°.44E±0°.09, h10km, n112, σ1§19/140, mb4.6/52, MS4.1/18, 8C-3D, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**21.38**	**280**	LR	LR	20 42 40.4	
	comp=Z,508nm,21.0s,baz=267,slow=30						
PSI	**Prapat**	**39.01**	**51**	LR	LR	20 51 00.9	
	comp=Z,257nm,18.4s,baz=1.7,slow=30						
LSZ	**Lusaka**	**39.67**	**275**	P	**P**	**20 39 23.4**	**-0.3**
LSZ	**Lusaka**	**39.67**	**275**	P	**P**	**20 39 23.4**	**-0.3**
	2.4nm,0.9s,baz=94,slow=9.0,SNR=6.6						
BOSA	**Boshof**	**39.77**	**253**	LR	LR	20 52 32.9	
	comp=Z,254nm,20.3s,baz=127,slow=31						
MAW	**Mawson**	**44.02**	**184**	P	**P**	**20 40 00.4**	**+2.0**
MAW	**Mawson**	**44.02**	**184**	P	**P**	**20 40 00.4**	**+2.0**
	1.6nm,0.6s,baz=344,slow=7.4,SNR=3.1						
CASY	**Casey**	**49.76**	**160**	*eP*	**P**	**20 40 43.5**	**+0.2**
	4.6nm,0.9s						
CMAR	**Chiang Mai Arr**	**50.91**	**37**	P	**P**	**20 40 52.0**	**-0.6**
CMAR	**Chiang Mai Arr**	**50.91**	**37**	P	**P**	**20 40 52.0**	**-0.6**
	2.5nm,0.7s,baz=234,slow=6.8,SNR=16						
CMAR				LR	LR	20 58 07.8	
	comp=Z,115nm,20.0s,baz=158,slow=31						
CHTO	**Chiang Mai**	**51.19**	**37**	*eP*	**P**	**20 40 53.8**	**-1.0**
	5.5nm,1.3s						
KAPI	**Kappang**	**51.86**	**77**	LR	LR	20 58 33.9	
	comp=Z,64nm,21.2s,baz=190,slow=31						
FITZ	**Fitzroy Crossi**	**52.52**	**95**	P	**P**	**20 41 03.4**	**-1.4**
FITZ	**Fitzroy Crossi**	**52.52**	**95**	P	**P**	**20 41 03.4**	**-1.4**
	5.0nm,1.0s,baz=232,slow=8.1,SNR=4.6						
FITZ				LR	LR	20 59 18.7	
	comp=Z,74nm,19.4s,baz=196,slow=32						
KOLN	**Koldanda**	**53.04**	**16**	*eP*	**P**	**20 41 08.5**	**-0.1**
	27nm,0.8s						
RAMN	**Ramite**	**53.09**	**19**	*eP*	**P**	**20 41 09.0**	**0.0**
	23nm,0.8s						
ODAN	**Odare**	**53.25**	**20**	*eP*	**P**	**20 41 09.9**	**-0.3**
DMN	**Daman**	**53.28**	**17**	*eP*	**P**	**20 41 10.1**	**-0.3**
	34nm,1.0s						
KKN	**Kakani**	**53.50**	**18**	*eP*	**P**	**20 41 11.4**	**-0.6**
	20nm,0.8s						
DANN	**Dangsing**	**53.63**	**16**	*eP*	**P**	**20 41 12.8**	**-0.3**
	37nm,0.8s						
JIRN	**Jiri**	**53.63**	**19**	*eP*	**P**	**20 41 13.1**	**-0.1**
	27nm,0.8s						
GUN	**Gumba**	**53.78**	**18**	*eP*	**P**	**20 41 14.0**	**-0.2**
	43nm,0.8s						
TAPN	**Taplejung**	**53.81**	**20**	*eP*	**P**	**20 41 14.3**	**0.0**
	30nm,0.9s						
LSA	**Lhasa**	**57.12**	**23**	*eP*	**P**	**20 41 37.7**	**-0.7**
	5.1nm,0.8s						
QIZ	**Qiongzhong**	**57.99**	**46**	P	**P**	**20 41 44.4**	**+0.2**
QIZ				S	**S**	**20 49 45.1**	**+0.2**
QIZ				pmax	pmax		
	comp=Z,17nm,1.2s						
QIZ				LR	LR		
	comp=N,150nm,15.7s						
QIZ				LR	LR		
	comp=Z,160nm,14.2s						
KBL	**Kabul**	**58.00**	**360**	*eP*	**P**	**20 41 44.2**	**0.0**
	comp=Z,7.3nm,1.3s						
KMI	**Kunming**	**58.35**	**36**	P	P	20 41 50.8	+4.0
KMI				pP	pP	20 41 53.3	+3.3
KMI				sP	sP	20 41 55.0	+3.8
KMI				PP	**PP**	**20 44 01.3**	**+5.1**
KMI				S	**S**	**20 49 51.0**	**+1.3**
KMI				sS	sS	20 49 56.9	+1.9
KMI				pmax	pmax		
	comp=Z,5.0nm,1.1s						
KMI				pmax	pmax		
	comp=Z,88nm,6.5s						
KMI				LR	LR		
	comp=N,86nm,16.7s						
KMI				LR	LR		
	comp=E,98nm,15.7s						
ASAR	**Alice Springs**	**58.52**	**104**	P	**P**	**20 41 47.0**	**-1.1**
ASAR				PcP	**PcP**	**20 42 37.6**	**-0.9**
ASAR	**Alice Springs**	**58.52**	**104**	P	**P**	**20 41 47.0**	**-1.1**
	comp=E,5.8nm,0.8s,baz=256,slow=6.2,SNR=25						
ASAR				PcP	**PcP**	**20 42 37.6**	**-0.9**
	comp=E,2.2nm,0.9s,baz=255,slow=3.7,SNR=5.8						
AS31	**Alice Springs**	**58.53**	**104**	*eP*	**P**	**20 41 46.6**	**-1.4**
WRA	**Warramunga Arr**	**59.90**	**100**	P	**P**	**20 41 56.6**	**-0.9**
WRA	**Warramunga Arr**	**59.90**	**100**	P	**P**	**20 41 56.6**	**-0.9**
	comp=E,10nm,0.9s,baz=254,slow=6.9,SNR=21						
WRAB	**Tennant Creek**	**59.91**	**100**	*eP*	**P**	**20 41 56.4**	**-1.2**
	comp=E,13nm,0.9s						
GYA	**Guiyang**	**61.56**	**38**	*eP*	**P**	**20 42 11.0**	**+2.2**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KSH	**Kashi**	**63.26**	**6**	⇑*iP*	**P**	**20 42 16.7**	**-3.2**
KSH				sP	**sP**	**20 42 24.4**	**+0.1**
KSH				PcS		20 46 57.3	
KSH				S	S	20 50 42.2	-10
KSH				sS	sS	20 50 50.4	-6.8
KSH				ScS	SKSac	20 52 05.3	-7.8
KSH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KSH				pmax	pmax		
	comp=Z,49nm,5.1s						
KSH				LR	LR		
	comp=N,110nm,6.4s						
KSH				LR	LR		
	comp=E,97nm,8.2s						
KSH				LR	LR		
	comp=Z,140nm,5.9s						
STKA	**Stephens Creek**	**63.28**	**115**	LR	LR	21 04 55.8	
	comp=Z,172nm,19.4s,baz=204,slow=31						
CD2	**Chengdu**	**63.55**	**33**	P	**P**	**20 42 20.7**	**-1.2**
CD2				pP	**pP**	**20 42 25.4**	**+0.3**
CD2				sP	**sP**	**20 42 27.7**	**+1.3**
CD2				PP	**PP**	**20 44 42.5**	**+0.5**
CD2				S	**S**	**20 50 53.6**	**-2.1**
CD2				SS	**SS**	**20 55 02.8**	**-0.7**
CD2				pmax	pmax		
	comp=Z,20nm,0.7s						
CD2				pmax	pmax		
	comp=Z,120nm,6.5s						
CD2				LR	LR		
	comp=N,180nm,4.2s						
CD2				LR	LR		
	comp=Z,110nm,8.3s						
ENH	**Enshi**	**66.07**	**38**	P	**P**	**20 42 36.9**	**-1.4**
EKS2	**Erkin-Say**	**66.23**	**3**	P	**P**	**20 42 38.2**	**-0.9**
	comp=Z,11nm,1.4s						
AAK	**Ala-Archa**	**66.25**	**4**	*eP*	**P**	**20 42 39.4**	**+0.1**
	comp=Z,7.4nm,1.3s						
QSPA	**South Pole Qui**	**66.34**	**180**	*eP*	**P**	**20 42 39.8**	**0.0**
	comp=Z,8.3nm,1.0s						
QSPA	**South Pole Qui**	**66.34**	**180**	P	**P**	**20 42 40.1**	**+0.4**
	comp=Z,2.1nm,0.8s,baz=292,slow=3.9,SNR=6.5						
KKAR	**Karatay Array**	**66.56**	**1**	*eP*	**P**	**20 42 40.9**	**-0.2**
	comp=Z,6.3nm,1.0s						
TKM2	**Tokmak 2**	**66.61**	**5**	*eP*	**P**	**20 42 41.2**	**-0.5**
	comp=Z,7.6nm,1.0s						
VNDA	**Vanda**	**67.48**	**166**	*eP*	**P**	**20 42 46.6**	**-0.1**
	comp=Z,1.8nm,0.8s						
VNDA	**Vanda**	**67.48**	**166**	P	**P**	**20 42 46.6**	**-0.1**
	comp=Z,1.4nm,0.8s,baz=274,slow=6.6,SNR=7.7						
LZH	**Lanzhou**	**67.85**	**30**	*eP*	**P**	**20 42 49.8**	**+0.1**
LZH				pP	**pP**	**20 42 53.1**	**+0.2**
LZH				sP	**sP**	**20 42 54.6**	**+0.5**
LZH				*e*PP	**PP**	**20 45 21.7**	**+2.1**
LZH				pmax	pmax		
	comp=Z,19nm,1.3s						
LZH				pmax	pmax		
	comp=Z,52nm,8.2s						
LZH				LR	LR		
	comp=N,210nm,15.0s						
LZH				LR	LR		
	comp=E,210nm,15.5s						
LZH				LR	LR		
	comp=Z,380nm,16.2s						
XAN	**Xi'an**	**68.67**	**35**	P	**P**	**20 42 53.3**	**-1.4**
XAN				pmax	pmax		
	comp=Z,2.0nm,0.7s						
GTA	**Gaotai**	**68.98**	**25**	P	**P**	**20 42 56.6**	**0.0**
GTA				pP	**pP**	**20 43 00.1**	**+0.2**
GTA				sP	**sP**	**20 43 02.9**	**+1.8**
GTA				S	**S**	**20 52 01.4**	**0.0**
GTA				sS	**sS**	**20 52 09.0**	**+2.2**
GTA				SS	**SS**	**20 56 28.4**	**+0.7**
GTA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,39nm,6.2s						
GTA				LR	LR		
	comp=N,74nm,17.6s						
GTA				LR	LR		
	comp=E,89nm,16.1s						
WMQ	**Urumqi**	**69.33**	**14**	*eP*	**P**	**20 42 58.8**	**+0.2**
WMQ				pP	**pP**	**20 43 03.5**	**+1.6**
WMQ				sP	**sP**	**20 43 05.8**	**+2.7**
WMQ				PcP	**PcP**	**20 43 22.1**	**0.0**
WMQ				PP	**PP**	**20 45 34.6**	**+2.4**
WMQ				S	**S**	**20 52 03.4**	**-1.8**
WMQ				SS	**SS**	**20 56 31.8**	**-1.0**
WMQ				pmax	pmax		
	comp=Z,9.0nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,88nm,6.7s						
WMQ				LR	LR		
	comp=N,73nm,18.0s						
WMQ				LR	LR		
	comp=E,44nm,17.0s						
WMQ				LR	LR		
	comp=Z,69nm,20.0s						
MK31	**Makanchi Array**	**71.20**	**9**	*eP*	**P**	**20 43 08.8**	**-1.1**
MKAR	**Makanchi Array**	**71.20**	**9**	P	**P**	**20 43 09.0**	**-1.0**
MKAR	**Makanchi Array**	**71.20**	**9**	P	**P**	**20 43 09.0**	**-1.0**
	comp=Z,7.8nm,0.9s,baz=194,slow=5.7,SNR=36						
KBZ	**Khabaz**	**71.46**	**340**	P	**P**	**20 43 12.2**	**+0.6**
KBZ	**Khabaz**	**71.46**	**340**	P	**P**	**20 43 12.2**	**+0.6**
	comp=Z,1.6nm,0.8s,baz=151,slow=7.8,SNR=3.1						
BRTR	**Keskin Array B**	**71.47**	**332**	P	**P**	**20 43 12.1**	**+0.2**
BRTR	**Keskin Array B**	**71.47**	**332**	P	**P**	**20 43 12.1**	**+0.2**
	comp=Z,2.6nm,1.0s,baz=152,slow=6.3,SNR=8.8						
BRTR				LR	LR	21 12 06.5	
	comp=Z,32nm,18.4s,baz=120,slow=34						
NJ2	**Nanjing**	**72.88**	**42**	*eP*	**P**	**20 43 21.3**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
ABKAR	**Akbulak array**	**73.20**	**354**	*eP*	**P**	**20 43 20.7**	**-1.1**
	comp=Z,3.1nm,0.8s						
KURBB	**Kurchatov Arra**	**74.51**	**6**	P	**P**	**20 43 28.7**	**-0.8**
	comp=Z,3.5nm,0.9s,baz=203,slow=6.4,SNR=23						
AKTO	**Aktyubinsk**	**74.58**	**352**	P	**P**	**20 43 28.6**	**-1.3**
AKTO	**Aktyubinsk**	**74.58**	**352**	P	**P**	**20 43 28.6**	**-1.3**
	comp=Z,2.8nm,0.8s,baz=177,slow=7.2,SNR=8.2						
KURK	**Kurchatov**	**74.61**	**6**	P	**P**	**20 43 28.7**	**-1.3**
HHC	**Hu-ho-hao-te**	**75.28**	**32**	*eP*	**P**	**20 43 33.8**	**-0.5**
HHC				pP	**pP**	**20 43 38.5**	**+0.9**
HHC				PP	**PP**	**20 46 24.8**	**+1.5**
HHC				S	**S**	**20 53 12.0**	**-1.7**
HHC				sS	**sS**	**20 53 19.9**	**+0.8**
HHC				ScS	**SKSac**	**20 53 43.0**	**-0.9**
HHC				SS	**SS**	**20 58 04.7**	**+0.6**
HHC				pmax	pmax		
	comp=Z,21nm,0.8s						
HHC				pmax	pmax		
	comp=Z,130nm,5.4s						
HHC				LR	LR		
	comp=N,150nm,14.8s						
HHC				LR	LR		
	comp=E,260nm,14.5s						
HHC				LR	LR		
	comp=Z,190nm,14.2s						
TORD	**Torodi Ar. Bea**	**75.68**	**291**	P	**P**	**20 43 36.9**	**-0.2**
TORD	**Torodi Ar. Bea**	**75.68**	**291**	P	**P**	**20 43 36.9**	**-0.2**
	comp=Z,1.4nm,1.1s,baz=122,slow=4.1,SNR=4.8						
TORD				LR	LR	21 16 41.8	
	comp=Z,120nm,18.9s,baz=115,slow=36						
BVAR	**Borovoye Array**	**76.48**	**1**	P	**P**	**20 43 39.6**	**-1.2**
BVAR	**Borovoye Array**	**76.48**	**1**	P	**P**	**20 43 39.6**	**-1.2**
	comp=Z,1.9nm,0.9s,baz=185,slow=8.4,SNR=6.8						
TIRR	**Tirgusor**	**77.58**	**331**	⇑*iP*	**P**	**20 43 47.7**	**+0.6**
DBIC	**Dimbokro**	**78.46**	**283**	LR	LR	21 16 21.4	
	comp=Z,135nm,18.3s,baz=110,slow=34						
ZAA0	**Zalesovo Array**	**78.54**	**9**	*eP*	**P**	**20 43 50.9**	**-1.3**
ZALV	**Zalesovo Beam**	**78.54**	**9**	P	**P**	**20 43 50.9**	**-1.4**
ZALV	**Zalesovo Beam**	**78.54**	**9**	P	**P**	**20 43 50.9**	**-1.4**
	comp=Z,8.5nm,1.0s,baz=189,slow=4.6,SNR=18						
SONM	**Songino Array**	**78.64**	**24**	P	**P**	**20 43 52.4**	**-0.7**
SONM	**Songino Array**	**78.64**	**24**	P	**P**	**20 43 52.4**	**-0.7**
	comp=Z,4.8nm,1.0s,baz=218,slow=6.3,SNR=15						
ULN	**Ulaanbaatar**	**78.92**	**25**	*eP*	**P**	**20 43 53.2**	**-1.5**
	comp=Z,5.8nm,1.0s						
VRI	**Vrincioaia**	**79.43**	**331**	‖*iP*	**P**	**20 43 57.2**	**-0.1**
PLOR	**Plostina**	**79.45**	**331**	⇑*iP*	**P**	**20 43 58.2**	**+0.7**
MLR	**Muntele Rosu**	**79.49**	**330**	P	**P**	**20 43 58.0**	**+0.2**
MLR	**Muntele Rosu**	**79.49**	**330**	⇑*iP*	**P**	**20 43 58.4**	**+0.6**
MLR	**Muntele Rosu**	**79.49**	**330**	P	**P**	**20 43 58.0**	**+0.2**
	comp=Z,1.6nm,1.0s,baz=173,slow=8.1						
VOIR		**79.85**	**330**	‖*iP*	**P**	**20 43 59.8**	**+0.1**
KSAR	**Wonju Array Be**	**82.02**	**43**	P	**P**	**20 44 10.5**	**-0.9**
KEST	**Kesra**	**82.04**	**315**	LR	LR	21 18 34.7	
	comp=Z,36nm,21.7s,baz=280,slow=34						
KSRS	**Korea Array**	**82.05**	**43**	P	**P**	**20 44 10.5**	**-1.0**
	comp=Z,3.0nm,0.7s,baz=238,slow=5.4,SNR=7.8						
AKASG	**Malin Array Be**	**82.22**	**336**	P	**P**	**20 44 11.3**	**-0.8**
AKASG	**Malin Array Be**	**82.22**	**336**	P	**P**	**20 44 11.3**	**-0.8**
	comp=Z,2.5nm,0.7s,baz=133,slow=4.3,SNR=5.8						
PKSM	**Moragy**	**83.48**	**327**	⇑*iP*	**P**	**20 44 19.1**	**+0.3**
KOLS	**Kolonicke sedl**	**83.73**	**331**	*eP*	**P**	**20 44 20.7**	**+0.7**
KWP	**Kalwaria Pacla**	**84.05**	**332**	⇑*iP*	**P**	**20 44 21.9**	**+0.3**
CN2	**Changchun**	**84.59**	**37**	*eP*	**P**	**20 44 22.2**	**-2.3**
CN2				*e*S	**S**	**20 54 47.7**	**-3.9**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
CSNA	**Conrad Observa**	**86.04**	**327**	⇑*iP*	**P**	**20 44 32.0**	**+0.2**
	comp=Z,4.6nm,1.2s						
GERES	**GERESS Array B**	**87.73**	**327**	P	**P**	**20 44 38.9**	**-1.1**
GERES	**GERESS Array B**	**87.73**	**327**	P	**P**	**20 44 38.9**	**-1.1**
	comp=Z,0.3nm,0.6s,baz=120,slow=5.9,SNR=6.2						
FETA	**Feichten**	**88.10**	**324**	⇑*iP*	**P**	**20 44 39.4**	**-2.6**
	comp=Z,5.3nm,1.1s						
MJAR	**Matsushiro Arr**	**88.31**	**49**	P	**P**	**20 44 41.6**	**-1.4**
MJAR	**Matsushiro Arr**	**88.31**	**49**	P	**P**	**20 44 41.6**	**-1.4**
	comp=Z,1.2nm,0.9s,baz=238,slow=5.2,SNR=3.0						
DAVOX	**Davos/Dischmat**	**88.41**	**324**	P	**P**	**20 44 43.8**	**+0.3**
DAVOX	**Davos/Dischmat**	**88.41**	**324**	P	**P**	**20 44 43.8**	**+0.3**
	comp=Z,3.7nm,0.7s,baz=66,slow=11,SNR=4.4						
USRK	**Ussuriysk Arra**	**88.56**	**40**	P	**P**	**20 44 42.8**	**-1.1**
	comp=Z,1.8nm,0.8s,baz=256,slow=5.8,SNR=4.8						
DAVA	**Damuels**	**88.72**	**324**	‖*iP*	**P**	**20 44 43.9**	**-0.9**
	comp=Z,9.5nm,0.8s						
GRF	**Grafenberg Arr**	**89.52**	**326**	*eP*	**P**	**20 44 48.6**	**+0.3**
	comp=Z,17nm,1.3s						
ESDC	**Sonseca Array**	**93.04**	**312**	P	**P**	**20 45 04.3**	**-0.7**
ESDC	**Sonseca Array**	**93.04**	**312**	P	**P**	**20 45 04.3**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=100,slow=4.1,SNR=3.5						
ESDC				LR	LR	21 25 08.6	
	comp=Z,48nm,18.7s,baz=115,slow=34						
ULM	**Lac du Bonnet**	**151.20**	**340**	PKPbc	**PKPbc**	**20 51 43.3**	**-1.1**
ULM	**Lac du Bonnet**	**151.20**	**340**	PKPbc	**PKPbc**	**20 51 43.3**	**-1.1**
	comp=Z,1.8nm,0.4s,baz=0.0,slow=1.0,SNR=3.6						
EYMN	**Ely**	**151.51**	**333**	*e*PKPbc	**PKPbc**	**20 51 44.4**	**-0.9**
COWI	**Conover**	**151.81**	**327**	*e*PKPbc	**PKPbc**	**20 51 44.8**	**-1.2**
PDAR	**Pinedale Array**	**161.04**	**358**	PKP	**PKPdf**	**20 51 51.5**	**-0.5**
PDAR				PKPab	**PKPab**	**20 52 34.2**	**-0.7**
PDAR	**Pinedale Array**	**161.04**	**358**	PKP	**PKPdf**	**20 51 51.5**	**-0.5**
	comp=Z,0.8nm,0.9s,baz=130,slow=1.4,SNR=5.5						
PDAR				PKPab	**PKPab**	**20 52 34.2**	**-0.7**
	comp=Z,0.9nm,1.1s,baz=72,slow=2.9,SNR=3.8						
NVAR	**Mina Array Bea**	**163.97**	**23**	PKP	**PKPdf**	**20 51 55.7**	**+0.7**
NVAR				PKPab	**PKPab**	**20 52 47.0**	**-0.8**
NVAR	**Mina Array Bea**	**163.97**	**23**	PKP	**PKPdf**	**20 51 55.7**	**+0.7**
	comp=Z,0.2nm,0.4s,baz=270,slow=1.5,SNR=3.7						
NVAR				PKPab	**PKPab**	**20 52 47.0**	**-0.8**
	comp=Z,2.1nm,0.3s,baz=306,slow=3.2,SNR=25						

*IDC **01** 20:33:12.3±0.6, 2°.39N×126°.81E, h0km, mb4.1/16, mb1 4.2/16, mb1mx4.1/25, mbtmp4.2/16, Error ellipse: s-maj=31.2km s-min=12.9km az=76.0*
*NEIC **01** 20:33:14.7±6.9, 2°.44N×126°.93E, h18km±44km, mb4.5/12, Error ellipse: s-maj=17.5km s-min=6.7km az=75.0*
*ISCJB **01** 20:33:17.4±0.3, 2°.44N±0°.03×127°.05E±0°.06, h53km, mb4.4/38, MS4.3/3, Error ellipse: s-maj=8.1km s-min=4.7km az=169.3*
*DJA **01** 20:33:19.6±0.9, 3°N±6°×12°7E±°, h66km±9km, M4.7/6, mb4.8/5, mB5.3/2, MLv4.7/6, Mw(mB)4.7/2*
*BJI **01** 20:33:21.1, 3°.34N×126°.54E, h15km, mB4.8/14, mb4.6/28, Ms4.7/13, Ms7 4.3/11*

ISC 01 20:33:19.9±0.4, 2°.48N±0°.05×127°.02E±0°.07, h53km, n76, σ1§58/88, mb4.5/38, MS4.2/4, 1C-1D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.73**	**169**	P	**Pn**	**20 33 48.3**	**+0.6**
TNTI				S	**Sn**	**20 34 11.9**	**+3.2**
SGSI	**Sangihe**	**1.91**	**309**	S	**Sn**	**20 34 12.9**	**-0.1**
LBMI	**Labuha**	**3.14**	**171**	P	**Pn**	**20 34 08.6**	**+1.7**
LBMI				S	**Sn**	**20 34 47.8**	**+4.7**
GSPH	**General Santos**	**4.13**	**330**	‖*iP*	**Pn**	**20 34 20.4**	**-0.3**
GTOI	**Gorontalo**	**4.41**	**245**	P	**Pn**	**20 34 25.3**	**+1.0**
MATI	**Mati**	**4.50**	**350**	*eP*	**Pn**	**20 34 27.6**	**+2.0**
MATI				*e*S	Sn	20 34 56.3	-20
MRSI	**Marisa**	**5.46**	**249**	P	**Pn**	**20 34 40.1**	**+1.4**
	312nm,0.7s,4μm1.3nm						
CTBH	**Cotabato--PC H**	**5.46**	**330**	⇑*iP*	**Pn**	**20 34 39.1**	**+0.4**
LUWI	**Luwuk**	**5.50**	**231**	P	**Pn**	**20 34 41.2**	**+1.8**
	143nm,0.7s,2μm0.7nm						
BUKP	**Musuan**	**5.71**	**340**	*eP*	**Pn**	**20 34 44.2**	**+2.0**
PAGZ	**Pagadian**	**6.45**	**326**	*eP*	**Pn**	**20 34 51.9**	**-0.4**
BUTP	**Butuan**	**6.59**	**348**	*eP*	**Pn**	**20 34 56.6**	**+2.2**
SKSI	**Soroako, Sulaw**	**7.55**	**229**	P	**Pn**	**20 35 05.6**	**-2.0**
	34nm,0.7s,0.1nm						
TTSI	**Tana Toraja**	**9.05**	**233**	P	**Pn**	**20 35 26.9**	**-1.2**
	18nm,1.1s						
SBUM	**Sibu**	**14.79**	**270**	P	**P**	**20 36 52.4**	**+1.6**
FITZ	**Fitzroy Crossi**	**20.50**	**184**	P	**P**	**20 37 52.1**	**-1.6**
FITZ	**Fitzroy Crossi**	**20.50**	**184**	P	**P**	**20 37 52.1**	**-1.6**
	3.7nm,0.6s,baz=8.8,slow=11,SNR=27						
TPUB	**Ta-pu**	**21.60**	**344**	*eP*	**P**	**20 38 02.2**	**-3.3**
	12nm,0.4s						
SSLB	**Suanglung**	**21.98**	**345**	*eP*	**P**	**20 38 06.9**	**-2.7**
	12nm,0.6s						
WRAB	**Tennant Creek**	**23.41**	**162**	*eP*	**P**	**20 38 22.1**	**-2.3**
	9.9nm,0.6s						
WRA	**Warramunga Arr**	**23.41**	**162**	P	**P**	**20 38 22.1**	**-2.4**
WRA	**Warramunga Arr**	**23.41**	**162**	P	**P**	**20 38 22.1**	**-2.4**
	4.3nm,0.5s,baz=341,slow=11,SNR=49						
QIZ	**Qiongzhong**	**23.52**	**316**	P	**P**	**20 38 23.8**	**-1.7**
QIZ				pmax	pmax		
	comp=Z,12nm,1.3s						
MBWA	**Marble Bar**	**24.56**	**197**	P	**P**	**20 38 33.8**	**-1.1**
AS31	**Alice Springs**	**26.84**	**166**	*eP*	**P**	**20 38 55.2**	**-0.4**
ASAR	**Alice Springs**	**26.84**	**166**	P	**P**	**20 38 54.6**	**-1.1**
ASAR	**Alice Springs**	**26.84**	**166**	P	**P**	**20 38 54.6**	**-1.1**
	comp=Z,0.7nm,0.4s,baz=346,slow=12,SNR=13						
NJ2	**Nanjing**	**30.40**	**346**	*eP*	**P**	**20 39 26.5**	**-0.7**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
GYA	**Guiyang**	**30.82**	**323**	*eP*	**P**	**20 39 31.8**	**+0.6**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**31.76**	**302**	P	**P**	**20 39 38.1**	**-1.3**
CMAR	**Chiang Mai Arr**	**31.76**	**302**	P	**P**	**20 39 38.1**	**-1.3**
	comp=Z,1.2nm,0.7s,baz=129,slow=7.9,SNR=9.0						
ENH	**Enshi**	**32.25**	**331**	*eP*	**P**	**20 39 41.8**	**-1.7**
	comp=Z,3.4nm,0.6s						
KMI	**Kunming**	**32.47**	**316**	P	**P**	**20 39

```
CN2                                     pmax    pmax
        comp=Z,10.0nm,0.6s
CN2                                     pmax    pmax
        comp=Z,200nm,3.0s
CN2                                     LR      LR
        comp=N,200nm,12.0s
CN2                                     LR      LR
        comp=E,200nm,12.0s
CN2                                     LR      LR
        comp=Z,200nm,14.0s
USRK  Ussuriysk Arra   41.78   5  P       P       20 41 05.6 +1.5
        comp=Z,1.6nm,0.8s,baz=178,slow=9.4,SNR=4.1
LSA   Lhasa            43.48 312 eP       P       20 41 17.8 -1.0
        comp=Z,2.9nm,0.6s
GTA   Gaotai           44.31 330 eP       P       20 41 24.4 -0.5
GTA                                     pP      pP      20 41 31.4 -7.5
GTA                                     sP      sP      20 41 34.6  -10
GTA                                     pmax    pmax
        comp=Z,4.0nm,0.4s
ULN   Ulaanbaatar      48.39 342 eP       P       20 41 56.2 -0.6
        comp=Z,4.5nm,1.0s
SONM  Songino Array    48.57 342  P       P       20 41 58.3 +0.2
SONM  Songino Array    48.57 342  P       P       20 41 58.3 +0.2
        comp=Z,2.1nm,0.6s,baz=158,slow=8.8,SNR=15
WMQ   Urumqi           53.91 325 eP       P       20 42 38.5 +0.3
WMQ                                     pP      pP      20 42 46.0  -6.5
WMQ                                     sP      sP      20 42 49.5  -9.1
WMQ                                     pmax    pmax
        comp=Z,89nm,1.0s
WMQ                                     pmax    pmax
        comp=Z,91nm,7.0s
WMQ                                     LR      LR
        comp=N,50nm,26.3s
WMQ                                     LR      LR
        comp=E,36nm,18.5s
PETK  Petropavlovsk-   56.47  22  P       P       20 42 56.6 +0.3
PETK  Petropavlovsk-   56.47  22  P       P       20 42 56.6 +0.3
        comp=E,1.1nm,0.7s,baz=190,slow=5.3,SNR=3.0
MKAR  Makanchi Array   58.74 326  P       P       20 43 11.5 -1.0
MKAR  Makanchi Array   58.74 326  P       P       20 43 11.5 -1.0
        comp=E,2.3nm,0.5s,baz=125,slow=7.8,SNR=38
KSH   Kashi            59.13 316 eP       P       20 43 16.3 +0.9
KSH                                     sP      sP      20 43 27.0  -9.0
KSH                                     PP      PP      20 45 29.9 +3.3
KSH                                     PcS     PcS     20 48 05.0  -0.7
KSH                                     S       S       20 51 20.7 +1.5
KSH                                     SS      SS      20 55 16.4 +2.2
KSH                                     pmax    pmax
        comp=Z,50nm,4.1s
KSH                                     LR      LR
        comp=N,110nm,6.4s
KSH                                     LR      LR
        comp=E,97nm,8.2s
KSH                                     LR      LR
        comp=Z,140nm,5.9s
RAO   Raoul Island     61.37 125  P       P       20 43 31.2 +0.5
ZALV  Zalesovo Beam    61.83 333  P       P       20 43 32.1  -1.2
ZALV  Zalesovo Beam    61.83 333  P       P       20 43 32.1  -1.2
        comp=Z,1.2nm,0.5s,baz=136,slow=7.2,SNR=7.5
KBL   Kabul            62.51 308  P       P       20 43 37.0 -1.7
KURBB Kurchatov Arra   62.94 328  P       P       20 43 40.0  -0.9
        comp=Z,2.6nm,0.5s,baz=130,slow=6.2,SNR=68
KURK  Kurchatov        62.94 328  P       P       20 43 40.0  -0.9
BVAR  Borovoye Array   68.52 327  P       P       20 44 16.4  -0.4
BVAR  Borovoye Array   68.52 327  P       P       20 44 16.4  -0.4
        comp=Z,1.7nm,0.7s,baz=131,slow=10,SNR=6.5
BRVK  Borovoye         68.59 327 eP       P       20 44 16.1  -1.1
        comp=Z,4.0nm,0.7s
UNV   Unalaska Valle   74.28  34  P       P       20 44 49.6  -1.9
        comp=Z,39nm,1.2s
AKTO  Aktyubinsk       74.81 322  P       P       20 44 54.0  -0.7
AKTO  Aktyubinsk       74.81 322  P       P       20 44 54.0  -0.7
        comp=Z,4.6nm,0.7s,baz=100,slow=6.1,SNR=13
VNDA  Vanda            82.16 173 eP       P       20 45 30.9  -3.7
        comp=Z,1.0nm,0.6s
ARCES ARCESS Array B   91.71 340  P       P       20 46 20.1  -1.2
ARCES ARCESS Array B   91.71 340  P       P       20 46 20.2  -1.2
        comp=Z,0.9nm,0.8s,baz=81,slow=6.5,SNR=3.1
TORD  Torodi Ar. Bea  123.58 287  PKP     PKPdf   20 52 12.8 +0.2
TORD  Torodi Ar. Bea  123.58 287  PKP     PKPdf   20 52 12.8 +0.2
        comp=Z,0.3nm,0.8s,baz=95,slow=2.7,SNR=3.3
```

IDC 01 20:48:29.7±1.2, 9°36'S×154°30'E, h0km, mb3.9/12, mb1 4.1/12, mb1mx4.0/18, mbtmp3.9/12, MS3.2/2, Ms1 3.2/2, ms1mx2.8/24, Error ellipse: s-maj=37.3km s-min=18.9km az=117.0, D'Entrecasteaux Islands region

```
Code  Station Name      Δ°   AZ°  Phase ID                Time     Res
                                   Op    ISC               h m s    ISC
HNR   Honiara          5.57  91  LR    LR                20 51 50.9
        comp=Z,109nm,20.0s,baz=78,slow=36
WRA   Warramunga Arr  21.97 239  P     P                 20 53 24.8  -0.6
        4.6nm,0.6s,baz=62,slow=9.9,SNR=22
WRA                                LR    LR                20 59 57.5
        comp=Z,119nm,21.3s,baz=165,slow=31
ASAR  Alice Springs   24.14 231  P     P                 20 53 47.3  -0.3
        0.4nm,0.7s,baz=57,slow=9.4,SNR=6.4
STKA  Stephens Creek  25.32 206  P     P                 20 53 58.7 +0.5
        1.6nm,0.9s,baz=15,slow=12,SNR=2.9
FITZ  Fitzroy Crossi  29.14 250  P     P                 20 54 31.4  -1.3
        2.5nm,0.7s,baz=86,slow=8.0,SNR=5.5
RPZ   Rata Peaks      37.21 160  LR    LR                21 08 05.3
        comp=Z,1um,18.9s,baz=224,slow=32
MJAR  Matsushiro Arr  48.10 343  P     P                 20 57 10.6  -0.7
        1.6nm,0.8s,baz=162,slow=6.3,SNR=7.2
KSRS  Korea Array     52.72 334  P     P                 20 57 45.9  -0.3
        2.0nm,0.9s,baz=156,slow=7.9,SNR=7.1
CMAR  Chiang Mai Arr  61.21 297  P     P                 20 58 47.3 +0.4
        0.9nm,0.6s,baz=128,slow=5.8,SNR=3.1
SONM  Songino Array   70.95 328  P     P                 20 59 48.6  -0.5
        2.3nm,0.8s,baz=134,slow=6.2,SNR=3.6
MKAR  Makanchi Array  84.72 319  P
        1.8nm,0.8s,baz=103,slow=6.2,SNR=10
ZALV  Zalesovo Beam   85.75 326  P     P                 21 01 12.0 +1.4
        1.3nm,0.6s,baz=106,slow=5.2,SNR=7.7
ILAR  Eielson Array   85.81  22  P     P                 21 01 09.9  -0.9
        0.7nm,0.9s,baz=260,slow=5.1,SNR=4.4
KURBB Kurchatov Arra  88.28 322  P     P                 21 01 23.4 +0.3
        0.2nm,0.7s,baz=101,slow=2.9,SNR=4.3
NVAR  Mina Array Bea  93.71  52  P     P                 21 01 48.1  -0.8
        0.3nm,0.5s,baz=247,slow=4.7,SNR=3.0
TORD  Torodi Ar. Bea  152.88 281  PKPbc  PKPbc           21 08 31.3 +1.4
        0.9nm,0.9s,baz=70,slow=3.2,SNR=4.7
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*IDC **01** 20:56:08.4±0.5, 48°29'N×154°70'E, h0km, mb4.2/23, mb1 4.4/25, mb1mx4.3/31, mbtmp4.2/25, ML3.6/2, MS3.6/13, Ms1 3.6/13, ms1mx3.4/44, Error ellipse: s-maj=16.0km s-min=11.0km az=153.0*

*SKHL **01** 20:56:09.9±2.2, 48°14'N×155°61'E, h65km±4km, mb5.1/5, Ms3.9/2, msh4.9/1*

*KRSC **01** 20:56:09.2±0.4, 47°97'N×155°73'E, h102km±101km, ML4.6*

*MOS **01** 20:56:10.6±1.1, 48°28'N×154°83'E, h24km, mb4.7/33, Error ellipse: s-maj=8.4km s-min=5.1km az=80.9*

*ISCJB **01** 20:56:12.4±0.6, 48°31'N±0°05'×154°85'E±0°06, h36km±4km, mb4.5/81, MS3.8/18, Error ellipse: s-maj=9.9km s-min=3.4km az=138.8*

*BJI **01** 20:56:14.9, 48°47'N×154°77'E, h64km, mB4.7/21, mb4.5/29, Ms4.2/20, Ms7 3.9/21*

*NEIC **01** 20:56:14.7±1.0, 48°30'N×154°77'E, h45km±9km, mb4.5/12, Error ellipse: s-maj=12.3km s-min=6.2km az=151.0*

ISC 01 20:56:16.9±0.5, 48°40'N±0°06'×154°77'E±0°05, h62km±2km, n311, σ1§43/358, mb4.5/81, 36C-16D, Kuril Islands

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Code  Station Name      Δ°   AZ°  Phase ID                Time     Res
                                   Op    ISC               h m s    ISC
SKR   Severo-Kuril's   2.45  20  eP    Pn                20 56 52.9  -1.5
SKR                                i S   Sn                20 57 23.8 +0.7
SKR   Severo-Kuril's   2.45  20  eP    Pn                20 56 48.2  -6.2
SKR                                AMB   AMB               20 56 51.2
        80nm,0.5s
SKR                                AMB   AMB               20 56 51.2
        180nm,0.5s
SKR                                AMB   AMB               20 56 52.0
        800nm,1.0s
SKR                                eS    Sn                20 57 18.6  -4.5
SKR                                A     A                 20 57 29.3
        620nm,0.5s
SKR                                A     A                 20 57 29.3
        310nm,0.5s
SKR                                A     A                 20 57 33.0
        600nm,2.0s
SKR                                A     A                 20 57 33.0
        2μm,2.0s
SKR                                AMS   AMS               20 57 54.0
        2μm,16.0s
SKR                                AMS   AMS               20 57 54.0
        2μm,16.0s
SKR                                AMS   AMS               20 57 54.0
        2μm,16.0s
PAU   Pauzhetka        3.34  22  PN    Pn                20 57 04.8  -1.8
PAU                                S     Sn                20 57 45.6 +0.6
PAU   Pauzhetka        3.34  22  eP    Pn                20 57 04.8  -1.8
PAU                                i S   Sn                20 57 45.6 +0.6
MIPR  Malaya Ipel'ka   4.08  17  eP    Pn                20 57 15.4  -1.4
ASAK  Asacha           4.46  25  eP    Pn                20 57 20.9  -1.1
MTVR  Mutnovka         4.63  27  eP    Pn                20 57 22.6  -1.8
MTVR                               i S   Sn                20 58 15.8  -1.1
GRL   Gorelyy          4.66  26  eP    Pn                20 57 23.8  -1.0
RUS   Russkaya         4.69  29  PN    Pn                20 57 22.4  -2.7
RUS   Russkaya         4.69  29  i P   Pn                20 57 22.4  -2.7
RUS                                i S   Sn                20 58 15.6  -2.5
APC   Apacha           4.78  18  eP    Pn                20 57 26.2   0.0
PEA0B Petropavlovsk-   5.07  20  ePn   Pn                20 57 30.0  -0.2
PETK  Petropavlovsk-   5.07  20  PN    Pn                20 57 30.2   0.0
PETK                                                     20 58 32.1
PETK                               pmax  pmax
        comp=Z,6.0nm,0.3s
PETK                               MLR   MLR
        comp=Z,479nm,18.3s
PETK  Petropavlovsk-   5.07  20  Pn    Pn                20 57 30.2   0.0
PETK                               Sn    Sn                20 58 32.1 +4.8
PETK  Petropavlovsk-   5.07  20  Pn    Pn                20 57 30.2   0.0
        comp=Z,6.3nm,0.3s,baz=186,slow=16,SNR=71
PETK                               Sn    Sn                20 58 32.1 +4.8
        baz=99,slow=35,SNR=1.5
PETK                               LR    LR                20 59 52.5
        comp=Z,479nm,18.3s,baz=333,slow=43
PET   Petropavlovsk    5.24  27  ePN   Pn                20 57 33.3 +0.7
PET                                pmax  pmax
        comp=Z,62nm,0.5s
PET                                MLR   MLR
        comp=Z,300nm,19.0s
PET                                MLR   MLR
        comp=Z,400nm,18.0s
PET   Petropavlovsk    5.24  27  eP    Pn                20 57 31.4  -1.2
PET                                i S   Sn                20 58 30.1  -1.6
PET   Petropavlovsk    5.24  27  eP    Pn                20 57 32.6   0.0
UGLR  Uglovaya         5.46  27  eP    Pn                20 57 34.0  -1.6
KOK   Koryaka          5.47  25  eP    Pn                20 57 35.0  -0.9
AVH   Avacha           5.48  26  eP    Pn                20 57 34.9  -1.0
SMAR  Somma            5.50  26  eP    Pn                20 57 34.4  -1.9
KRER  Koryakskii       5.52  26  eP    Pn                20 57 35.2  -1.4
SDLR  Sedlovina        5.53  27  eP    Pn                20 57 35.0  -1.7
SDLR                               i S   Sn                20 58 37.6  -1.4
KRX   Arik             5.54  25  eP    Pn                20 57 35.7  -1.1
NLC   Nalytchevo       5.59  30  PN    Pn                20 57 35.8  -1.5
NLC   Nalytchevo       5.59  30  eP    Pn                20 57 35.8  -1.5
GNL   Ganaly           5.67  19  eP    Pn                20 57 37.9  -0.6
KUR   Kuril'sk         5.70 239  i PN  Pn                20 57 38.3  -0.6
KUR                                i S   Sn                20 58 43.0 +0.1
KUR                                pmax  pmax
        comp=E,36nm,0.3s
KUR                                pmax  pmax
        comp=N,40nm,0.6s
KUR                                pmax  pmax
        comp=Z,149nm,0.6s
KUR                                smax  smax
        comp=N,159nm,0.9s
KUR                                smax  smax
        comp=E,105nm,0.9s
KUR   Kuril'sk         5.70 239  i P   Pn                20 57 38.3  -0.6
KUR                                AMB   AMB               20 57 40.6
        comp=E,40nm,0.3s
KUR                                AMB   AMB               20 57 40.6
        comp=E,36nm,0.3s
KUR                                AMB   AMB               20 57 40.6
        comp=E,149nm,0.3s
KUR                                i S   Sn                20 58 43.0 +0.1
KUR                                A     A                 20 58 59.6
        comp=E,156nm,0.9s
KUR                                A     A                 20 58 59.6
        comp=E,105nm,0.9s
SPN   Mys Shipunski    5.76  33  PN    Pn                20 57 36.6  -3.1
SPN   Mys Shipunski    5.76  33  i P   Pn                20 57 36.6  -3.1
SPN                                i S   Sn                20 58 41.1  -3.3
MKZ   Mys Kozlova      7.54  33  PN    Pn                20 58 00.1  -3.9
MKZ   Mys Kozlova      7.54  33  eP    Pn                20 58 00.1  -3.9
MKZ                                i S   Sn                20 59 24.0  -3.9
YUK   Yuzh-Kuril'sk    7.56 238  ePN   Pn                20 58 01.8  -2.6
YUK                                eS    Sn                20 59 32.2 +3.5
YUK                                pmax  pmax
        comp=N,47nm,0.3s
YUK                                pmax  pmax
        comp=Z,94nm,0.3s
YUK                                pmax  pmax
        comp=E,44nm,0.2s
YUK   Yuzh-Kuril'sk    7.56 238  eP    Pn                20 58 01.8  -2.6
YUK                                AMB   AMB               20 58 04.4
        comp=E,47nm,0.3s
YUK                                AMB   AMB               20 58 04.4
        comp=E,44nm,0.3s
YUK                                AMB   AMB               20 58 04.4
        comp=E,94nm,0.3s
YUK                                eS    Sn                20 59 32.2 +3.5
YSS   Yuzh-Sakhalins   8.24 264  ePN   Pn                20 58 15.0 +1.4
YSS                                pmax  pmax
        comp=Z,30nm,0.8s
YSS   Yuzh-Sakhalins   8.24 264  eP    Pn                20 58 15.0 +1.4
YSS                                AMB   AMB               20 58 16.5
        comp=Z,30nm,0.8s
YSS                                erx   rx                20 58 35.0
UGL   Uglegorsk        8.43 279  ePN   Pn                20 58 19.0 +2.8
UGL                                pmax  pmax
        comp=Z,77nm,0.5s
UGL                                MLR   MLR
        comp=N,400nm,15.0s
UGL                                MLR   MLR
        comp=Z,500nm,15.0s
UGL                                MLR   MLR
        comp=E,500nm,16.0s
UGL   Uglegorsk        8.43 279  eP    Pn                20 58 19.0 +2.8
UGL                                AMB   AMB               20 58 19.5
        comp=E,77nm,0.5s
UGL                                AMS   AMS               21 01 56.0
        comp=E,400nm,15.0s
UGL                                AMS   AMS               21 01 56.0
        comp=E,500nm,15.0s
ASAJ  Asahikawa        9.46 248  ePn   Pn                20 58 30.7 +0.4
        comp=E,22nm,0.8s
ASAJ  Asahikawa        9.46 248  Pn    Pn                20 58 30.7 +0.4
        comp=E,3.8nm,0.3s,baz=68,slow=9.8,SNR=36
ASAJ                               LR    LR                21 01 54.9
        comp=E,303nm,18.8s,baz=19,slow=37
BKI   Bering           9.71  41  PN    Pn                20 58 26.6  -7.1
BKI   Bering           9.71  41  eP    Pn                20 58 26.6  -7.1
BKI                                i S   Sn                21 00 09.5  -12
ERM   Erimo           10.38 236  ePN   Pn                20 58 39.5  -3.4
ERM   Erimo           10.38 236  eP    Pn                20 58 39.5  -3.4
FX1   Attu Island--F  12.50  62  Pn    Pn                20 59 07.6  -4.1
FX1                                Sn    Sn                21 01 14.6  -15
FX1   Attu Island--F  12.50  62  Pn    Pn                20 59 07.6  -4.1
        comp=E,0.9nm,0.3s,baz=87,slow=13,SNR=7.5
FX1                                Sn    Sn                21 01 14.6  -15
        comp=E,4.4nm,0.3s,baz=45,slow=18,SNR=8.1
SEY   Seymchan        14.63 356  eP    Pn                20 59 39.7  -0.4
SEY   Seymchan        14.63 356  eP    Pn                20 59 39.7  -0.4
KLR   Kul'dur         15.18 282  eP    Pn                20 59 45.6  -1.8
KLR                                MLR   MLR
        comp=E,500nm,14.0s
KLR                                MLR   MLR
        comp=Z,700nm,14.0s
USRK  Ussuriysk Arra  16.28 264  Pn    Pn                21 00 01.0  -0.4
        comp=Z,0.8nm,0.3s,baz=70,slow=14,SNR=14
VLA   Vladivostok     16.80 260  eP    Pn                21 00 05.5  -2.3
VLA                                pmax  pmax
        comp=Z,19nm,0.6s
VLA   Vladivostok     16.80 260  eP    Pn                21 00 05.5  -2.3
MJAR  Matsushiro Arr  16.98 232  Pn    Pn                21 00 05.0  -5.2
MJAR  Matsushiro Arr  16.98 232  Pn    Pn                21 00 05.0  -5.2
        comp=Z,0.4nm,0.3s,baz=29,slow=14,SNR=11
MDJ   Mudanjiang      17.71 267  P     Pn                21 00 17.9  -1.2
MDJ                                pP    pP                21 00 31.5  -0.8
MDJ                                sP    sP                21 00 39.3  -0.8
MDJ                                S     Sn                21 03 33.3  -2.3
MDJ                                PcP   PcP               21 04 55.2 +1.2
MDJ                                ScP   ScP               21 08 24.8 +1.2
MDJ                                PcS   PcS               21 08 31.7 +1.5
MDJ                                ScS   ScS               21 12 05.0 +1.2
MDJ                                pmax  pmax
        comp=Z,3.0nm,0.5s
MDJ                                pmax  pmax
        comp=Z,64nm,4.5s
MDJ                                LR    LR
        comp=Z,89nm,21.2s
MDJ   Mudanjiang      17.71 267  P     Pn                21 00 17.9  -1.2
YAK   Yakutsk         19.60 323  eP    P                 21 00 38.9  -0.8
YAK                                pmax  pmax
        comp=Z,13nm,0.8s
YAK   Yakutsk         19.60 323  eP    P                 21 00 38.8  -0.9
CN2   Changchun       20.78 268  eP    P                 21 00 50.2  -2.5
CN2                                eS    S                 21 04 31.5  -10
CN2                                pmax  pmax
        comp=Z,10.0nm,0.6s
CN2                                pmax  pmax
        comp=Z,200nm,4.0s
CN2                                LR    LR
        comp=N,200nm,13.0s
CN2                                LR    LR
        comp=E,200nm,13.0s
CN2                                LR    LR
        comp=Z,200nm,15.0s
KSRS  Korea Array     22.38 251  P     P                 21 01 08.8  -1.1
        comp=Z,5.7nm,0.6s,baz=51,slow=10,SNR=20
KSAR  Wonju Array Be  22.41 251  P     P                 21 01 08.8  -1.5
TJN   Taejon          23.41 249  eP    P                 21 01 19.2  -1.1
BJI   Beijing         28.64 268  P     P                 21 02 06.2  -1.3
BJI                                pmax  pmax
        comp=Z,11nm,0.8s
HHC   Hu-ho-hao-te    31.32 272  eP    P                 21 02 31.0  -0.3
HHC                                pP    pP                21 02 45.8  -0.6
HHC                                PP    PnPn              21 03 34.9  -0.7
HHC                                PcP   PcP               21 05 25.8 +1.9
HHC                                S     S                 21 07 31.0  -2.9
HHC                                sS    sS                21 07 55.8  -3.8
HHC                                PcS   PcS               21 09 08.8 +0.5
HHC                                ScS   ScS               21 12 57.7  -1.3
HHC                                pmax  pmax
        comp=Z,34nm,0.9s
HHC                                pmax  pmax
        comp=Z,190nm,5.4s
HHC                                LR    LR
        comp=N,250nm,12.9s
HHC                                LR    LR
        comp=E,210nm,12.9s
HHC                                LR    LR
        comp=Z,240nm,12.6s
ULN   Ulaanbaatar     31.45 287  eP    P                 21 02 30.7  -1.7
ULN   Ulaanbaatar     31.45 287  P     P                 21 02 31.4  -1.0
        comp=Z,1.5nm,0.8s
NJ2   Nanjing         31.56 252  eP    P                 21 02 33.6 +0.3
NJ2                                pmax  pmax
        comp=Z,10.0nm,0.5s
IMA2  Indian Mountai  31.81  37  eP    P                 21 02 35.0  -0.4
SONM  Songino Array   31.88 287  P     P                 21 02 34.8  -1.3
SONM                               PcP   PcP               21 05 24.7  -0.7
SONM  Songino Array   31.88 287  P     P                 21 02 34.8  -1.3
        comp=Z,0.9nm,0.7s,baz=68,slow=9.0,SNR=6.2
SONM                               PcP   PcP               21 05 24.7  -0.7
        comp=Z,0.3nm,0.6s,baz=121,slow=2.2,SNR=4.0
TLY   Talaya          32.45 295  eP    P                 21 02 41.4 +0.4
TLY                                pmax  pmax
        comp=Z,7.0nm,1.0s
TLY   Talaya          32.45 295  eP    P                 21 02 41.4 +0.4
SML   Sawmill         34.00  45  P     P                 21 02 53.1  -1.3
SML                                pmax  pmax
        comp=Z,1.0nm,0.7s
SML   Sawmill         34.00  45  P     P                 21 02 53.1  -1.3
        comp=Z,1.1nm,0.7s
COLA  College         34.15  40  eP    P                 21 02 55.1  -0.4
COLA                               pmax  pmax
        comp=Z,62nm,2.5s
ILAR  Eielson Array   34.56  40  P     P                 21 02 58.9  -0.3
ILAR  Eielson Array   34.56  40  P     P                 21 02 58.9  -0.3
        comp=Z,0.8nm,0.8s,baz=256,slow=8.5,SNR=8.8
ENH   Enshi           38.78 259  P     P                 21 03 32.9  -2.5
LZH   Lanzhou         38.97 271  eP    P                 21 03 38.3 +1.2
LZH                                pP    pP                21 03 54.2 +1.6
LZH                                sP    sP                21 04 01.8 +2.1
LZH                                ePP   PnPn              21 05 12.5 +2.3
LZH                                pmax  pmax
        comp=Z,20nm,1.2s
LZH                                pmax  pmax
        comp=Z,65nm,5.4s
LZH                                LR    LR
        comp=N,360nm,13.0s
LZH                                LR    LR
        comp=E,370nm,13.4s
LZH                                LR    LR
        comp=Z,440nm,17.8s
INK   Inuvik          39.65  34  P     P                 21 03 42.4 +0.2
INK   Inuvik          39.65  34  P     P                 21 03 42.4 +0.2
        comp=Z,2.6nm,0.7s,baz=270,slow=6.1,SNR=4.4
GTA   Gaotai          39.84 278  eP    P                 21 03 44.3  0.0
GTA                                pP    pP                21 03 59.3  -0.4
GTA                                sP    sP                21 04 05.6  -1.3
GTA                                PcP   PcP               21 05 49.5 +0.4
GTA                                S     S                 21 09 42.9  -1.4
GTA                                sS    sS                21 10 09.0  -1.5
GTA                                SS    SS                21 12 33.7  -8.4
GTA                                pmax  pmax
        comp=Z,3.0nm,1.0s
GTA                                pmax  pmax
        comp=Z,49nm,7.6s
GTA                                LR    LR
        comp=N,88nm,12.4s
GTA                                LR    LR
        comp=E,160nm,13.8s
GTA                                LR    LR
        comp=Z,160nm,17.1s
CD2   Chengdu         42.14 265  P     P                 21 04 03.1  -0.1
CD2                                pP    pP                21 04 19.5 +0.7
CD2                                sP    sP                21 04 27.5 +1.6
CD2                                PP    PP                21 05 44.2 +2.6
CD2                                S     S                 21 10 16.4  -2.1
CD2                                sS    sS                21 10 45.0  0.0
CD2                                SS    SS                21 13 19.4  -8.6
CD2                                pmax  pmax
        comp=Z,20nm,0.5s
CD2                                pmax  pmax
        comp=Z,90nm,4.5s
CD2                                LR    LR
        comp=N,230nm,4.1s
CD2                                LR    LR
        comp=Z,120nm,8.3s
ZALV  Zalesovo Beam   42.57 305  P     P                 21 04 05.3  -1.0
ZALV                                                     21 05 57.8
ZALV                               pmax  pmax
        comp=Z,2.0nm,0.4s
ZALV                               pmax  pmax
        comp=Z,1.0nm,0.5s
ZALV                               MLR   MLR
        comp=Z,62nm,20.8s
ZALV  Zalesovo Beam   42.57 305  P     P                 21 04 05.3  -1.0
ZALV                               PcP   PcP               21 05 57.8 +0.2
ZALV  Zalesovo Beam   42.57 305  P     P                 21 04 05.3  -1.0
        comp=Z,1.8nm,0.4s,baz=63,slow=6.9,SNR=15
ZALV                               PcP   PcP               21 05 57.8 +0.2
        comp=Z,1.3nm,0.5s,baz=70,slow=4.7,SNR=8.2
ZALV                               LR    LR                21 22 02.4
        comp=Z,62nm,20.8s,baz=69,slow=36
GYA   Guiyang         43.17 257  eP    P                 21 04 12.2 +0.5
GYA                                pP    pP                21 04 28.8 +1.5
GYA                                sP    sP                21 04 37.4 +3.0
GYA                                PP    PP                21 05 54.3 +1.5
GYA                                PcP   PcP               21 06 01.0 +0.8
GYA                                ScP   ScP               21 09 45.5  -0.4
GYA                                S     S                 21 10 32.3  -1.5
GYA                                pmax  pmax
        comp=Z,10.0nm,1.0s
DLBC  Dease Lake      43.64  47  P     P                 21 04 16.7 +1.6
DLBC  Dease Lake      43.64  47  P     P                 21 04 16.7 +1.6
        comp=Z,1.6nm,0.2s,baz=173,slow=16,SNR=4.0
WMQ   Urumqi          45.39 291  eP    P                 21 04 29.8 +0.7
WMQ                                pP    pP                21 04 45.8 +0.9
WMQ                                sP    sP                21 04 52.8 +0.9
WMQ                                pmax  pmax
        comp=Z,7.0nm,0.8s
WMQ                                pmax  pmax
        comp=Z,150nm,4.6s
WMQ                                LR    LR
```

comp=N,59nm,20.1s
WMQ LR LR
comp=E,44nm,17.0s
WMQ LR LR
comp=Z,67nm,18.3s
QIZ Qiongzhong 46.53 247 P **P** **21 04 38.9 +0.6**
QIZ S **S** **21 11 23.1 +0.8**
KMI Kunming 46.65 259 P **P** **21 04 40.1 +0.7**
KMI pP **pP** **21 04 57.8 +2.6**
KMI sP **sP** **21 05 05.8 +3.5**
KMI pmax pmax
comp=Z,7.0nm,1.1s
MK31 Makanchi Array 47.19 297 *e*P **P** **21 04 42.0 -1.1**
MK31 Makanchi Array 47.19 297 *e*P **P** **21 04 42.0 -1.1**
MKAR Makanchi Array 47.19 297 P **P** **21 04 41.9 -1.2**
MKAR pmax pmax
comp=Z,5.0nm,0.6s
MKAR MLR MLR
comp=Z,71nm,19.7s
MKAR Makanchi Array 47.19 297 *e*P **P** **21 04 42.0 -1.2**
MKAR Makanchi Array 47.19 297 P **P** **21 04 41.9 -1.2**
MKAR Makanchi Array 47.19 297 P **P** **21 04 41.9 -1.2**
comp=Z,4.6nm,0.6s,baz=66,slow=8.4,SNR=32
MKAR LR LR 21 25 51.9
comp=Z,71nm,19.7s,baz=14,slow=38
KURK Kurchatov 47.40 303 P **P** **21 04 44.7 +0.1**
KURK 21 06 14.7
KURK pmax pmax
comp=Z,8.0nm,0.6s
KURK pmax pmax
comp=Z,1.0nm,0.9s
KURK Kurchatov 47.40 303 P **P** **21 04 44.7 +0.1**
KURK PcP **PcP** **21 06 14.7 +0.4**
KURBB Kurchatov Arra 47.49 303 P **P** **21 04 44.7 -0.7**
comp=Z,7.7nm,0.6s,baz=68,slow=8.5,SNR=101
KURBB PcP **PcP** **21 06 14.7 0.0**
comp=Z,1.2nm,0.8s,baz=74,slow=3.0,SNR=5.4
YKA Yellowknife Ar 48.93 38 P **P** **21 04 56.8 +0.5**
YKA Yellowknife Ar 48.93 38 P **P** **21 04 56.8 +0.5**
comp=Z,3.2nm,0.8s,baz=296,slow=7.5,SNR=4.7
BVAR Borovoye Array 50.68 309 LR LR 21 28 24.6
comp=Z,110nm,18.5s,baz=114,slow=38
LSA Lhasa 51.31 273 *e*P **P** **21 05 16.2 +0.9**
LSA pmax pmax
comp=Z,7.0nm,0.5s
LSA Lhasa 51.31 273 *e*P **P** **21 05 16.2 +0.9**
comp=Z,6.9nm,0.5s
LON Longmire 53.57 58 P **P** **21 05 33.6 +2.2**
LON pmax pmax
comp=Z,11nm,1.1s
LON Longmire 53.57 58 P **P** **21 05 33.6 +2.2**
comp=Z,11nm,1.1s
CHTO Chiang Mai 53.59 257 *e*P **P** **21 05 31.7 0.0**
CHTO pmax pmax
comp=Z,3.0nm,0.6s
CHTO Chiang Mai 53.59 257 *e*P **P** **21 05 31.7 0.0**
comp=Z,2.8nm,0.6s
CM31 Chiang Mai Arr 53.85 257 *e*P **P** **21 05 34.4 +0.7**
comp=Z,2.5nm,0.6s
CMAR Chiang Mai Arr 53.85 257 *e*P **P** **21 05 34.5 +0.9**
CMAR Chiang Mai Arr 53.85 257 P **P** **21 05 34.0 +0.3**
CMAR Chiang Mai Arr 53.85 257 P **P** **21 05 34.0 +0.3**
comp=Z,2.6nm,0.7s,baz=33,slow=7.3,SNR=19
AAK Ala-Archa 54.11 296 *e*P **P** **21 05 34.7 -0.8**
AAK pmax pmax
comp=Z,3.0nm,0.5s
AAK Ala-Archa 54.11 296 *e*P **P** **21 05 35.3 -0.2**
AAK Ala-Archa 54.11 296 *e*P **P** **21 05 34.7 -0.8**
comp=Z,3.3nm,0.5s
EKS2 Erkin-Say 54.52 297 *e*P **P** **21 05 38.0 -0.4**
EKS2 pmax pmax
comp=Z,5.0nm,0.8s
EKS2 Erkin-Say 54.52 297 *e*P **P** **21 05 38.0 -0.4**
comp=Z,4.9nm,0.8s
ARU Arti 54.56 317 *d i*P **P** **21 05 37.5 -0.8**
ARU 21 07 38.1
ARU S **S** **21 13 12.7 0.0**
ARU pmax pmax
comp=Z,4.0nm,0.8s
ARU Arti 54.56 317 *e*P **P** **21 05 38.0 -0.3**
KSH Kashi 55.06 292 *e*P P 21 05 46.2 +3.8
KSH sP sP 21 06 09.8 +4.3
KSH PP PP 21 07 52.5 +6.7
KSH PcS **PcS** **21 10 46.2 +3.0**
KSH S **S** **21 13 24.2 +3.9**
KSH SS **SS** **21 17 09.3 +5.1**
KSH pmax pmax
comp=Z,35nm,4.0s
KSH LR LR
comp=N,160nm,7.8s
KSH LR LR
comp=E,160nm,12.7s
KSH LR LR
comp=Z,160nm,15.5s
TAPN Taplejung 55.13 273 *e*P **P** **21 05 44.3 +1.1**
comp=Z,6.4nm,0.4s
ODAN Odare 55.66 273 *e*P **P** **21 05 49.0 +2.0**
comp=Z,5.9nm,0.4s
JIRN Jiri 55.93 275 *e*P **P** **21 05 49.5 +0.4**
comp=Z,18nm,0.5s
GUN Gumba 55.97 275 *e*P **P** **21 05 49.4 +0.1**
comp=Z,18nm,0.5s
RAMN Ramite 56.13 274 *e*P **P** **21 05 50.6 +0.3**
comp=Z,19nm,0.4s
KKN Kakani 56.45 275 *e*P **P** **21 05 53.0 +0.4**
comp=Z,11nm,0.4s
PKI Pulchoki 56.51 275 *e*P **P** **21 05 53.3 +0.2**
comp=Z,12nm,0.5s
PKIN Phulchoki 56.52 275 *e*P **P** **21 05 53.6 +0.5**
comp=Z,6.5nm,0.5s
ARCES ARCESS Array B 56.66 341 P **P** **21 05 53.2 0.0**
ARCES ARCESS Array B 56.66 341 P **P** **21 05 53.2 0.0**
comp=Z,0.2nm,0.4s,baz=36,slow=7.8,SNR=5.2
ARCES LR LR 21 34 03.9
comp=Z,92nm,20.2s,baz=188,slow=40
DMN Daman 56.69 275 *e*P **P** **21 05 55.0 +0.7**
comp=Z,16nm,0.4s
DANN Dangsing 57.09 277 *e*P **P** **21 05 57.9 +0.7**
comp=Z,32nm,0.6s
KOLN Koldanda 57.58 277 *e*P **P** **21 06 01.0 +0.5**
comp=Z,16nm,0.5s
ABKAR Akbulak array 58.23 310 *e*P **P** **21 06 03.0 -1.5**
comp=Z,1.3nm,0.6s
SUMG Summit 58.97 5 *i*P **P** **21 06 10.8 +1.0**
SUMG pmax pmax
comp=Z,6.0nm,0.9s
SUMG Summit 58.97 5 *i*P **P** **21 06 10.8 +1.0**
comp=Z,5.9nm,0.9s
NVAR Mina Array Bea 60.69 64 P **P** **21 06 22.1 +0.2**
NVAR Mina Array Bea 60.69 64 P **P** **21 06 22.1 +0.2**
comp=Z,1.0nm,0.8s,baz=302,slow=8.4,SNR=4.5
KBL Kabul 62.50 292 *e*P **P** **21 06 31.9 -2.2**
KBL pmax pmax
comp=Z,3.0nm,0.6s
KBL Kabul 62.50 292 *e*P **P** **21 06 31.9 -2.2**
comp=Z,2.7nm,0.6s
PDAR Pinedale Array 62.87 55 P **P** **21 06 36.8 +0.3**
PDAR Pinedale Array 62.87 55 P **P** **21 06 36.8 +0.3**
comp=Z,1.2nm,0.8s,baz=210,slow=1.5,SNR=10
FINES FINESS Array B 63.02 335 P **P** **21 06 37.0 +0.2**
FINES FINESS Array B 63.02 335 P **P** **21 06 37.0 +0.2**
comp=Z,2.2nm,0.7s,baz=35,slow=8.5,SNR=15
FINES LR LR 21 36 32.8
comp=Z,68nm,18.4s,baz=8.1,slow=38
SFJD Kangerlussuaq 63.32 11 LR LR 21 36 49.7
comp=Z,59nm,18.3s,baz=358,slow=38
RSSD Black Hills 64.91 51 *e*P **P** **21 06 49.6 -0.2**
RSSD pmax pmax
comp=Z,3.0nm,0.5s
RSSD Black Hills 64.91 51 *e*P **P** **21 06 49.6 -0.2**
comp=Z,2.6nm,0.5s
NB2 NORSAR Subarra 67.02 342 P **P** **21 07 02.6 -0.3**
comp=Z,1.7nm,0.6s,baz=23,slow=6.5
NOA NORSAR Array B 67.02 342 P **P** **21 07 02.7 -0.2**
NOA NORSAR Array B 67.02 342 P **P** **21 07 02.7 -0.2**
comp=Z,1.0nm,0.5s,baz=24,slow=6.4,SNR=6.8
NOA LR LR 21 39 35.7
comp=Z,31nm,18.6s,baz=40,slow=39
KIV Kislovodsk 70.44 315 *e*P P 21 07 20.3 -4.2
KIV pmax pmax
comp=Z,5.0nm,1.1s
KIV MLR MLR
comp=Z,81nm,18.0s
WRA Warramunga Arr 70.45 200 P **P** **21 07 22.9 -1.7**
WRA Warramunga Arr 70.45 200 P **P** **21 07 22.9 -1.7**
comp=Z,2.4nm,0.7s,baz=15,slow=6.4,SNR=23

KBZ Khabaz 70.51 314 P **P** **21 07 26.2 +1.4**
KBZ Khabaz 70.51 314 P **P** **21 07 26.2 +1.4**
KBZ Khabaz 70.51 314 P **P** **21 07 26.2 +1.4**
comp=Z,0.4nm,0.3s,baz=46,slow=4.2,SNR=4.4
AKASG Malin Array Be 70.79 327 P **P** **21 07 26.1 -0.2**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 70.79 327 P **P** **21 07 26.1 -0.2**
AKASG Malin Array Be 70.79 327 P **P** **21 07 26.1 -0.2**
comp=Z,1.2nm,0.5s,baz=31,slow=5.8,SNR=2.7
FITZ Fitzroy Crossi 71.13 209 P **P** **21 07 27.9 -0.9**
FITZ Fitzroy Crossi 71.13 209 P **P** **21 07 27.9 -0.9**
comp=Z,3.8nm,0.8s,baz=20,slow=5.4,SNR=13
KWP Kalwaria Pacla 73.97 330 ⇓P **P** **21 07 46.1 +0.7**
KWP Kalwaria Pacla 73.97 330 ⇓*i*P **P** **21 07 46.0 +0.7**
ASAR Alice Springs 74.14 200 P **P** **21 07 45.9 -0.6**
ASAR Alice Springs 74.14 200 P **P** **21 07 45.9 -0.6**
comp=Z,1.6nm,0.5s,baz=12,slow=5.3,SNR=36
STHS Stebnicka Huta 74.64 331 *e*P **P** **21 07 50.6 +1.3**
STHS pmax pmax
comp=Z,4.0nm,0.8s
STHS Stebnicka Huta 74.64 331 *e*P **P** **21 07 50.6 +1.3**
KOLS Kolonicke sedl 74.72 330 *e*P **P** **21 07 50.3 +0.5**
KOLS pmax pmax
comp=Z,3.0nm,1.1s
KOLS Kolonicke sedl 74.72 330 *e*P **P** **21 07 50.2 +0.5**
BUR08 Bucovina Ar. S 74.80 327 *e*P **P** **21 07 50.6 +0.2**
BURAR Bucovina Array 74.82 327 ⇑P **P** **21 07 50.7 +0.3**
BURAR Bucovina Array 74.82 327 ⇑*i*P **P** **21 07 50.7 +0.3**
CRVS Cervenica-Dubn 75.01 330 *e*P **P** **21 07 52.1 +0.7**
CRVS pmax pmax
comp=Z,4.0nm,1.2s
CRVS Cervenica-Dubn 75.01 330 *e*P **P** **21 07 52.1 +0.7**
TESR Tescani 75.22 326 ⇑*i*P **P** **21 07 53.0 +0.3**
OKC Ostrava-Krasne 75.25 333 *e*P **P** **21 07 53.2 +0.4**
OKC Ostrava-Krasne 75.25 333 *e*P **P** **21 07 53.2 +0.4**
UPC Upice 75.29 334 *e*P **P** **21 07 55.9 +2.9**
UPC Upice 75.29 334 *e*P **P** **21 07 55.9 +2.9**
GHRR 75.31 325 ⇑*i*P **P** **21 07 53.5 +0.3**
TRPA Tarpa 75.32 329 ⇓*i*P **P** **21 07 54.5 +1.4**
DPC Dobruska-Polom 75.34 334 *i*P **P** **21 07 54.7 +1.3**
DPC Dobruska-Polom 75.34 334 *i*P **P** **21 07 54.7 +1.3**
CLL Collm 75.41 336 *i*P **P** **21 07 53.8 +0.1**
CLL pmax pmax
comp=Z,8.0nm,0.8s
CLL Collm 75.41 336 *i*P **P** **21 07 53.8 +0.1**
comp=Z,8.0nm,0.8s
PVCC Panska Ves 75.69 335 *e*P **P** **21 07 56.3 +1.0**
PVCC Panska Ves 75.69 335 *e*P **P** **21 07 56.3 +1.0**
KECS Kecovo 75.70 331 *e*P **P** **21 07 55.9 +0.5**
KECS pmax pmax
comp=Z,3.0nm,1.2s
KECS Kecovo 75.70 331 *e*P **P** **21 07 55.9 +0.5**
TXAR Lajitas Array 75.71 62 P **P** **21 07 55.8 -0.1**
TXAR Lajitas Array 75.71 62 P **P** **21 07 55.8 -0.1**
comp=Z,2.6nm,0.7s,baz=295,slow=4.2,SNR=21
PRU Pruhonice 76.18 335 *e*P **P** **21 07 59.1 +1.0**
PRU Pruhonice 76.18 335 *e*P **P** **21 07 59.1 +1.0**
VRAC Vranov 76.19 333 LR LR 21 44 21.4
comp=Z,76nm,18.2s,baz=167,slow=38
MLR Muntele Rosu 76.35 326 ⇓*i*P **P** **21 08 00.3 +1.0**
MLR Muntele Rosu 76.35 326 LR LR 21 45 06.5
comp=Z,19nm,19.6s,baz=334,slow=38
PSZ Piszkesteto 76.38 331 ⇑P **P** **21 08 00.3 +0.9**
PSZ Piszkesteto 76.38 331 ⇑*i*P **P** **21 08 00.3 +0.9**
DRGR 76.41 328 ⇑P **P** **21 07 59.4 -0.1**
DRGR 76.41 328 ⇑*i*P **P** **21 07 59.3 -0.2**
ISR Istrita 76.43 325 ⇓P **P** **21 07 59.9 +0.2**
ISR Istrita 76.43 325 ⇓*i*P **P** **21 07 59.9 +0.2**
TREC Trest 76.53 334 *e*P **P** **21 08 01.1 +1.0**
TREC Trest 76.53 334 *e*P **P** **21 08 01.1 +1.0**
SMOL Smolenice 76.64 332 *e*P **P** **21 08 02.1 +1.4**
SMOL Smolenice 76.64 332 *e*P **P** **21 08 02.1 +1.4**
VOIR 76.72 326 ⇓P **P** **21 08 02.6 +1.2**
VOIR 76.72 326 ⇓*i*P **P** **21 08 02.5 +1.2**
MALT Malatya 76.84 314 ⇑P **P** **21 07 59.2 -2.9**
MALT Malatya 76.84 314 ⇑*i*P **P** **21 07 59.2 -2.9**
ARR Arges 76.94 326 ⇑P **P** **21 08 02.7 +0.2**
KHC Kasperske Hory 77.23 335 *e*P **P** **21 08 04.9 +0.8**
KHC pmax pmax
comp=Z,10.0nm,1.0s
KHC Kasperske Hory 77.23 335 *e*P **P** **21 08 05.1 +1.1**
KHC Kasperske Hory 77.23 335 *e*P **P** **21 08 04.9 +0.8**
comp=Z,10nm,1.0s
GRF Grafenberg Arr 77.36 337 *e*P **P** **21 08 05.7 +1.0**
comp=Z,7.0nm,0.6s
GRF Grafenberg Arr 77.36 337 *e*P **P** **21 08 05.7 +1.0**
GRF pmax pmax
comp=Z,7.0nm,0.6s
GERES GERESS Array B 77.45 335 P **P** **21 08 05.8 +0.5**
GERES GERESS Array B 77.45 335 P **P** **21 08 05.8 +0.5**
comp=Z,2.5nm,0.5s,baz=34,slow=5.9,SNR=38
GERES LR LR 21 45 13.8
comp=Z,54nm,21.7s,baz=20,slow=38
CONA Conrad Observa 77.64 333 ⇑*i*P **P** **21 08 07.7 +1.3**
comp=Z,3.5nm,0.6s,SNR=6.6
BZS Buzias 77.81 328 ⇓P **P** **21 08 07.9 +0.6**
BZS Buzias 77.81 328 ⇓*i*P **P** **21 08 07.9 +0.6**
BRTR Keskin Array B 77.94 318 P **P** **21 08 09.2 +0.8**
BRTR Keskin Array B 77.94 318 P **P** **21 08 09.2 +0.8**
comp=Z,2.9nm,0.8s,baz=64,slow=3.4,SNR=13
BAIF Baives 78.70 341 *e*P **P** **21 08 12.8 +0.7**
BAIF Baives 78.70 341 *e*P **P** **21 08 12.8 +0.7**
BAIF Baives 78.70 341 *e*P **P** **21 08 12.8 +0.7**
MIB Mutribah 78.75 302 *e*P **P** **21 08 12.8 +0.1**
MIB AMb AMB 21 08 13.9
comp=Z,33nm,0.7s
SOKA Soboth 79.01 333 ⇑*i*P **P** **21 08 14.8 +0.8**
comp=Z,5.0nm,0.7s,SNR=7.2
PERS Pernice 79.03 333 *i*P **P** **21 08 14.8 +0.7**
GROS Grobnik 79.07 333 *i*P **P** **21 08 14.7 +0.4**
KBA Koelnbreinsper 79.15 334 *i*P **P** **21 08 16.5 +1.6**
comp=Z,9.3nm,0.5s,SNR=13
RST Umm Al-Ruwaisa 79.17 302 *e*P **P** **21 08 14.9 -0.2**
RST AMb AMB 21 08 16.0
comp=Z,191nm,0.9s
NAY Al-Naaiem 79.22 302 *e*P **P** **21 08 15.4 0.0**
NAY AMb AMB 21 08 15.8
comp=Z,0.4nm,0.7s
WATA Walderalm 79.42 336 ⇓*i*P **P** **21 08 17.4 +1.1**
comp=Z,6.5nm,0.6s
WTTA Wattenberg 79.47 335 *i*P **P** **21 08 17.9 +1.3**
comp=Z,12nm,0.6s,SNR=12
CDF Champ du Feu 79.54 339 *e*P **P** **21 08 17.5 +0.6**
comp=Z,18nm,1.1s
CDF Champ du Feu 79.54 339 *e*P **P** **21 08 17.5 +0.6**
CDF Champ du Feu 79.54 339 *e*P **P** **21 08 17.5 +0.6**
MOTA Moosalm 79.54 336 ⇑*i*P **P** **21 08 18.0 +1.0**
comp=Z,14nm,1.1s,SNR=6.6
CRES Cresnjev 79.65 332 *i*P **P** **21 08 17.7 +0.3**
PAGF Fort de Pagny 79.77 340 *e*P **P** **21 08 19.1 +1.1**
comp=Z,3.8nm,0.7s
PAGF Fort de Pagny 79.77 340 *e*P **P** **21 08 19.1 +1.1**
VTS Vitosha 79.85 326 ⇓P **P** **21 08 19.5 +0.8**
VTS Vitosha 79.85 326 ⇓*i*P **P** **21 08 19.5 +0.8**
VISS Visnje 79.86 333 *i*P **P** **21 08 18.5 0.0**
FETA Feichten 79.94 336 ⇑*i*P **P** **21 08 20.0 +0.8**
comp=Z,4.5nm,1.0s,SNR=4.8
MEZF Maizieres J'vi 79.98 340 ⇑*i*P **P** **21 08 20.0 +0.9**
comp=Z,8.8nm,0.7s
MEZF Maizieres J'vi 79.98 340 ⇑*i*P **P** **21 08 20.0 +0.9**
HAU Haudompre 80.14 339 ⇑*i*P **P** **21 08 20.6 +0.5**
comp=Z,9.7nm,0.8s
HAU *e*R
comp=Z,71nm,22.2s
HAU Haudompre 80.14 339 ⇑*i*P **P** **21 08 20.6 +0.5**
HAU Haudompre 80.14 339 ⇑*i*P **P** **21 08 20.6 +0.5**
HINF Hinteralfeld 80.20 339 *e*P **P** **21 08 20.5 +0.1**
HINF Hinteralfeld 80.20 339 *e*P **P** **21 08 20.5 +0.1**
HINF Hinteralfeld 80.20 339 *e*P **P** **21 08 20.5 +0.1**
SFTF Sexfontaines 80.26 340 *e*P **P** **21 08 21.4 +0.7**
comp=Z,27nm,0.9s
SFTF Sexfontaines 80.26 340 *e*P **P** **21 08 21.4 +0.7**
LOR Lormes 81.41 340 *e*P **P** **21 08 27.4 +0.6**
comp=Z,6.8nm,0.7s
LOR *e*R
comp=Z,104nm,17.2s
LOR Lormes 81.41 340 *e*P **P** **21 08 27.4 +0.6**
CABF La Chapelle 81.51 339 *e*P **P** **21 08 28.3 +0.8**
CABF La Chapelle 81.51 339 *e*P **P** **21 08 28.3 +0.8**
CABF La Chapelle 81.51 339 *e*P **P** **21 08 28.3 +0.8**
SSF Saint Saulge 81.68 341 *e*P **P** **21 08 28.8 +0.6**
SSF Saint Saulge 81.68 341 *e*P **P** **21 08 28.8 +0.6**

SSF Saint Saulge 81.68 341 *e*P **P** **21 08 28.8 +0.6**
AVF Avril sur Loir 81.97 341 *e*P **P** **21 08 30.5 +0.7**
comp=Z,5.8nm,0.7s
AVF Avril sur Loir 81.97 341 *e*P **P** **21 08 30.5 +0.7**
AVF Avril sur Loir 81.97 341 *e*P **P** **21 08 30.5 +0.7**
SMF Signal de Mont 82.00 340 ⇑P **P** **21 08 30.7 +0.8**
SMF Signal de Mont 82.00 340 ⇑*i*P **P** **21 08 30.7 +0.8**
SMF Signal de Mont 82.00 340 ⇑*i*P **P** **21 08 30.7 +0.8**
PPT Papeete 82.24 127 LR LR 21 42 15.7
comp=Z,4.4nm,18.5s,baz=185,slow=34
BGF Bois d'Agland 82.31 341 *e*P **P** **21 08 32.1 +0.6**
comp=Z,7.9nm,0.7s
BGF Bois d'Agland 82.31 341 *e*P **P** **21 08 32.1 +0.6**
BGF Bois d'Agland 82.31 341 *e*P **P** **21 08 32.1 +0.6**
LPL La Plagne 82.38 338 ⇑*i*P **P** **21 08 33.6 +1.4**
comp=Z,11nm,0.9s
LPL La Plagne 82.38 338 ⇑*i*P **P** **21 08 33.6 +1.4**
LPL La Plagne 82.38 338 ⇑*i*P **P** **21 08 33.6 +1.4**
LPG La Plagne 82.39 338 ⇑*i*P **P** **21 08 33.9 +1.6**
comp=Z,9.1nm,0.7s
LPG La Plagne 82.39 338 ⇑*i*P **P** **21 08 33.9 +1.6**
LPG La Plagne 82.39 338 ⇑*i*P **P** **21 08 33.9 +1.6**
TCF Toulx Ste Croi 82.70 341 *e*P **P** **21 08 34.6 +1.0**
comp=Z,13nm,1.1s
TCF Toulx Ste Croi 82.70 341 *e*P **P** **21 08 34.6 +1.0**
TCF Toulx Ste Croi 82.70 341 *e*P **P** **21 08 34.6 +1.0**
MFF Saint Martin d 82.88 343 *e*P **P** **21 08 35.5 +1.0**
comp=Z,12nm,0.8s
MFF Saint Martin d 82.88 343 *e*P **P** **21 08 35.5 +1.0**
MFF Saint Martin d 82.88 343 *e*P **P** **21 08 35.5 +1.0**
ORIF Oris-en-Rattie 83.15 338 *e*P **P** **21 08 37.4 +1.4**
ORIF *e*R
comp=Z,70nm,17.8s
ORIF Oris-en-Rattie 83.15 338 *e*P **P** **21 08 37.4 +1.4**
ORIF Oris-en-Rattie 83.15 338 *e*P **P** **21 08 37.4 +1.4**
VIVF Saint-Julien-l 83.50 339 ⇑*i*P **P** **21 08 39.0 +1.2**
comp=Z,20nm,1.2s
VIVF Saint-Julien-l 83.50 339 ⇑*i*P **P** **21 08 39.0 +1.2**
VIVF Saint-Julien-l 83.50 339 ⇑*i*P **P** **21 08 39.0 +1.2**
SBF Sospel 83.74 337 ⇑*i*P **P** **21 08 39.5 +0.4**
comp=Z,20nm,0.9s
SBF Sospel 83.74 337 ⇑*i*P **P** **21 08 39.5 +0.4**
SBF Sospel 83.74 337 ⇑*i*P **P** **21 08 39.5 +0.4**
FRF La Foret Royal 84.23 337 *e*P **P** **21 08 42.0 +0.5**
FRF La Foret Royal 84.23 337 *e*P **P** **21 08 42.0 +0.5**
FRF La Foret Royal 84.23 337 *e*P **P** **21 08 42.0 +0.5**
LMR La Mourre 84.47 337 *e*P **P** **21 08 43.4 +0.7**
comp=Z,13nm,0.9s
LMR La Mourre 84.47 337 *e*P **P** **21 08 43.4 +0.7**
LMR La Mourre 84.47 337 *e*P **P** **21 08 43.4 +0.7**
QSPA South Pole Qui 138.14 180 PKP **PKPdf** **21 15 33.4 -0.1**
QSPA South Pole Qui 138.14 180 PKP **PKPdf** **21 15 33.4 -0.1**
comp=Z,0.5nm,0.4s,baz=123,slow=1.6,SNR=7.4
CPUP Villa Florida 146.67 60 PKPbc **PKPbc** **21 15 51.0 -0.5**
CPUP Villa Florida 146.67 60 PKPbc **PKPbc** **21 15 51.0 -0.5**
comp=Z,0.9nm,0.4s,baz=315,slow=5.7,SNR=5.9
PLCA Paso Flores 147.22 94 PKPbc **PKPbc** **21 15 52.5 -0.2**
PLCA Paso Flores 147.22 94 PKPbc **PKPbc** **21 15 52.5 -0.2**
comp=Z,2.4nm,0.8s,baz=232,slow=2.9,SNR=4.5

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*ISCJB **01** 21:25:09.3±0.4, 37°.57N±0°.02×22°.08E±0°.03, h10km±3km,*
Error ellipse: s-maj=3.4km s-min=2.8km az=173.2
*CSEM **01** 21:25:09.2±0.1, 37°.58N×22°.09E, h15km, MD2.4, Error*
ellipse: s-maj=2.3km s-min=1.8km az=82.0
*THE **01** 21:25:09.6, 37°.58N×22°.08E, h2km±31km, ML1.8/6, Error*
ellipse: s-maj=31.0km s-min=0.4km az=201.0
*ATH **01** 21:25:09.0, 37°.57N×22°.06E, h24km±1km, MD2.4/6*
ISC 01 21:25:09.4±0.8, **37°.58N**±0°.02×**22°.08E**±0°.02, **h16**km±7km,
n50, σ0**45/87, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMT	**Artemida-Makis**	**0.30**	**261**	P	**Pg**	**21 25 15.8**	**0.0**
AMT				S	**Sg**	**21 25 20.0**	**-0.2**
AMT	**Artemida-Makis**	**0.30**	**261**	*e*PB	**Pg**	**21 25 15.8**	**0.0**
AMT				*e*SB	**Sg**	**21 25 20.6**	**+0.4**
AMT	**Artemida-Makis**	**0.30**	**261**	P	**Pg**	**21 25 15.8**	**0.0**
AMT				S	**Sg**	**21 25 20.0**	**-0.2**
VLX	**Vlachokerasia**	**0.32**	**131**	P	**Pg**	**21 25 16.1**	**-0.1**
VLX				S	**Sg**	**21 25 20.8**	**0.0**
VLX	**Vlachokerasia**	**0.32**	**131**	*e*PB	**Pg**	**21 25 16.2**	**0.0**
VLX				*e*SB	**Sb**	**21 25 22.0**	**+0.3**
VLX	**Vlachokerasia**	**0.32**	**131**	*e*Pb	**Pg**	**21 25 16.2**	**0.0**
VLX				S	**Sg**	**21 25 20.8**	**0.0**
VLX				*e*Sb	**Sb**	**21 25 22.0**	**+0.3**
GUR	**Goura**	**0.41**	**30**	P	**Pg**	**21 25 17.6**	**-0.2**
GUR				S	**Sg**	**21 25 23.9**	**+0.4**
GUR	**Goura**	**0.41**	**30**	*e*PB	**Pg**	**21 25 17.7**	**-0.1**
GUR	**Goura**	**0.41**	**30**	*e*Pb	**Pg**	**21 25 17.7**	**-0.1**
GUR				S	**Sg**	**21 25 23.9**	**+0.4**
ITM	**Ithomi**	**0.42**	**197**	P	**Pg**	**21 25 17.6**	**-0.3**
ITM				S	**Sg**	**21 25 24.0**	**+0.3**
ITM	**Ithomi**	**0.42**	**197**	P	**Pg**	**21 25 17.6**	**-0.3**
ITM				S	**Sg**	**21 25 24.0**	**+0.3**
KLV	**Kalavryta, Ach**	**0.47**	**7**	P	**Pg**	**21 25 18.6**	**-0.2**
KLV				S	**Sb**	**21 25 25.8**	**-0.1**
KLV	**Kalavryta, Ach**	**0.47**	**7**	*e*PB	**Pg**	**21 25 18.6**	**-0.2**
KLV				*e*SB	**Sb**	**21 25 26.3**	**+0.4**
KLV	**Kalavryta, Ach**	**0.47**	**7**	P	**Pg**	**21 25 18.6**	**-0.2**
KLV				S	**Sb**	**21 25 25.8**	**-0.1**
KLV				*e*Sb	**Sb**	**21 25 26.3**	**+0.4**
RLS	**Riolos of Patr**	**0.68**	**315**	P	**Pg**	**21 25 21.9**	**-0.9**
RLS				S	**Sb**	**21 25 32.5**	**+0.4**
RLS	**Riolos of Patr**	**0.68**	**315**	*e*PN	**Pg**	**21 25 22.1**	**-0.7**
RLS	**Riolos of Patr**	**0.68**	**315**	P	**Pg**	**21 25 21.9**	**-0.9**
RLS				S	**Sb**	**21 25 32.5**	**+0.4**
ACOR	**Acrocorinthos**	**0.70**	**63**	P	**Pg**	**21 25 22.9**	**-0.2**
ACOR				S	**Sg**	**21 25 32.5**	**+0.2**
ACOR	**Acrocorinthos**	**0.70**	**63**	P	**Pg**	**21 25 22.9**	**-0.2**
ACOR				S	**Sg**	**21 25 32.5**	**+0.2**
PYL	**PYLOS**	**0.74**	**202**	P	**Pb**	**21 25 23.4**	**-0.4**
PYL				S	**Sb**	**21 25 34.3**	**+0.7**
PYL	**PYLOS**	**0.74**	**202**	*e*PN	**Pb**	**21 25 23.4**	**-0.4**
PYL	**PYLOS**	**0.74**	**202**	P	**Pb**	**21 25 23.4**	**-0.4**
PYL				S	**Sb**	**21 25 34.3**	**+0.7**
TRIZ	**Trizonia**	**0.78**	**360**	P	**Pb**	**21 25 24.2**	**-0.4**
TRIZ				S	**Sg**	**21 25 35.8**	**+0.7**
TRIZ	**Trizonia**	**0.78**	**360**	*e*PN	**Pb**	**21 25 24.2**	**-0.4**
TRIZ	**Trizonia**	**0.78**	**360**	P	**Pb**	**21 25 24.2**	**-0.4**
TRIZ				S	**Sg**	**21 25 35.8**	**+0.7**
KALE	**Kalithea**	**0.81**	**3**	P	**Pb**	**21 25 24.8**	**-0.4**
KALE				S	**Sg**	**21 25 36.5**	**+0.6**
KALE	**Kalithea**	**0.81**	**3**	*e*PN	**Pb**	**21 25 24.8**	**-0.4**
KALE	**Kalithea**	**0.81**	**3**	P	**Pb**	**21 25 24.8**	**-0.4**
KALE				S	**Sg**	**21 25 36.5**	**+0.6**
AXS	**Araxos**	**0.83**	**318**	P	**Pb**	**21 25 25.3**	**-0.1**
AXS				S	**Sg**	**21 25 37.2**	**+0.7**
AXS	**Araxos**	**0.83**	**318**	P	**Pb**	**21 25 25.3**	**-0.1**
AXS				S	**Sg**	**21 25 37.2**	**+0.7**
LTK	**Loutraki**	**0.83**	**58**	P	**Pg**	**21 25 25.9**	**+0.3**
LTK				S	**Sg**	**21 25 37.2**	**+0.7**
LTK	**Loutraki**	**0.83**	**58**	*e*PN	**Pg**	**21 25 25.7**	**+0.1**
LTK	**Loutraki**	**0.83**	**58**	*e*Pn	**Pg**	**21 25 25.7**	**+0.1**
LTK				S	**Sg**	**21 25 37.2**	**+0.7**
DYR	**Agios Nikonas**	**0.84**	**166**	P	**Pb**	**21 25 25.1**	**-0.6**
DYR				S	**Sg**	**21 25 37.4**	**+0.5**
DYR	**Agios Nikonas**	**0.84**	**166**	*e*PN	**Pb**	**21 25 25.0**	**-0.6**
DYR	**Agios Nikonas**	**0.84**	**166**	P	**Pb**	**21 25 25.1**	**-0.6**
DYR				S	**Sg**	**21 25 37.4**	**+0.5**
EFP	**Efpalio**	**0.86**	**351**	P	**Pb**	**21 25 25.4**	**-0.5**
EFP				S	**Sn**	**21 25 38.8**	**-0.2**
EFP	**Efpalio**	**0.86**	**351**	P	**Pb**	**21 25 25.4**	**-0.5**
EFP				S	**Sn**	**21 25 38.8**	**-0.2**
DSF	**Desfina**	**0.90**	**23**	P	**Pb**	**21 25 25.8**	**-0.9**
DSF				S	**Sn**	**21 25 40.0**	**-0.2**
DSF	**Desfina**	**0.90**	**23**	P	**Pb**	**21 25 25.8**	**-0.9**
DSF				S	**Sn**	**21 25 40.0**	**-0.2**
DIDY	**Didyma**	**0.91**	**96**	P	**Pb**	**21 25 26.3**	**-0.5**
DIDY				S	**Sg**	**21 25 39.5**	**+0.6**
DIDY	**Didyma**	**0.91**	**96**	P	**Pb**	**21 25 26.3**	**-0.5**
DIDY				S	**Sg**	**21 25 39.5**	**+0.6**
DID	**Didima**	**0.92**	**94**	P	**Pb**	**21 25 26.2**	**-0.8**
DID	**Didima**	**0.92**	**94**	*e*PN	**Pb**	**21 25 27.0**	**0.0**
DID	**Didima**	**0.92**

*THR **01** 21:29:29.7±0.7, 33°.14N×45°.83E, h14km±10km, ML4.0*
*ISN **01** 21:29:30.5±0.3, 33°.21N×46°.46E, h0km, ML3.7*
*TEH **01** 21:29:34.6, 33°.15N×46°.13E, h7km, ML3.7*
*CSEM **01** 21:29:35.6±0.2, 33°.22N×46°.24E, h10km, ML3.7, Error ellipse: s-maj=6.7km s-min=3.0km az=95.0*
ISC 01 21:29:35.2±1.4, 33°.21N±0°.04×46°.21E±0°.04, h4km±12km, n42, σ0°.82/56, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.25**	**247**	*ePg*	**Pg**	**21 29 40.5**	**+0.4**
	baz=78,slow=28						
IBDR				*eSg*	**Sb**	21 29 47.6	+0.4
IGHG	**Ghaleghazi**	**1.16**	**15**	*ePg*	**Pb**	**21 29 56.6**	**-1.4**
IGHG				*e*		21 30 01.3	
	comp=Z,14μm,0.1s						
IGHG				*eSg*	**Sb**	**21 30 13.8**	**+0.4**
IGHG	**Ghaleghazi**	**1.16**	**15**	*ePg*	**Pb**	**21 29 56.6**	**-1.4**
IGHG				*eSg*	**Sb**	**21 30 13.8**	**+0.4**
IVIS	**Veis**	**1.42**	**22**	*ePn*	**Pn**	**21 30 02.1**	**+0.2**
IVIS				*eSg*	**Sn**	**21 30 20.8**	**-0.3**
IVIS				*e*		21 30 25.6	
	comp=Z,12μm,0.1s						
IVIS	**Veis**	**1.42**	**22**	*ePn*	**Pn**	**21 30 02.1**	**+0.2**
IVIS				*eSg*	**Sn**	**21 30 20.8**	**-0.3**
IKOM	**Komasi**	**1.45**	**48**	*ePn*	**Pn**	**21 30 01.6**	**-0.8**
IKOM				*eSg*	**Sb**	**21 30 23.1**	**+1.3**
IKOM	**Komasi**	**1.45**	**48**	*ePn*	**Pn**	**21 30 01.6**	**-0.8**
IKOM				*eSg*	**Sb**	**21 30 23.1**	**+1.3**
IDHR	**Dehrash**	**1.49**	**6**	*eSg*	**Sn**	**21 30 23.4**	**+0.3**
IDHR				*ePn*	**Pn**	**21 30 03.0**	**-0.1**
IDHR				*e*		21 30 27.2	
	comp=Z,37μm,0.3s						
IDHR	**Dehrash**	**1.49**	**6**	*ePn*	**Pn**	**21 30 03.0**	**-0.1**
IDHR				*eSg*	**Sn**	**21 30 23.4**	**+0.3**
ILIN	**Lien**	**1.82**	**20**	*e*		21 30 09.8	
	comp=Z,7μm,0.1s						
ILIN				*ePn*	**Pn**	**21 30 07.7**	**+0.2**
ILIN				*eSg*	**Sb**	**21 30 33.1**	**+0.7**
ILIN	**Lien**	**1.82**	**20**	*ePn*	**Pn**	**21 30 07.7**	**+0.2**
ILIN				*eSg*	**Sb**	**21 30 33.1**	**+0.7**
SNGE	**Sanandaj**	**2.10**	**26**	*ePg*	**Pn**	**21 30 11.9**	**+0.5**
SNGE				AML	AML	21 31 31.5	
	comp=Z,449nm,0.7s						
SNGE				AML	AML	21 31 31.9	
	comp=Z,434nm,1.0s						
SNGE	**Sanandaj**	**2.10**	**26**	*ePg*	**Pn**	**21 30 11.9**	**+0.5**
KHMZ	**Khomeyn**	**3.18**	**79**	*ePn*	**Pn**	**21 30 25.6**	**-0.7**
KHMZ				Sn	**Sn**	**21 31 07.4**	**+2.6**
KHMZ				AML	AML	21 32 11.7	
	comp=E,340nm,1.1s						
KHMZ				AML	AML	21 32 15.4	
	comp=N,578nm,0.6s						
KHMZ	**Khomeyn**	**3.18**	**79**	*ePn*	**Pn**	**21 30 25.6**	**-0.7**
ASAO	**Ashtian**	**3.44**	**66**	*ePn*	**Pn**	**21 30 29.6**	**-0.4**
ASAO				*eSg*	**Sg**	**21 31 26.6**	**+0.7**
ASAO				AML	AML	21 32 16.6	
	comp=N,362nm,0.4s						
ASAO				AML	AML	21 32 21.4	
	comp=E,379nm,0.5s						
ASAO	**Ashtian**	**3.44**	**66**	*ePn*	**Pn**	**21 30 29.6**	**-0.4**
ASAO				*eSg*	**Sg**	**21 31 26.6**	**+0.7**
MIB	**Mutribah**	**3.53**	**164**	*eP*	**Pn**	**21 30 30.7**	**-0.2**
MIB				AML	AML	21 31 22.1	
	comp=Z,171nm,0.5s						
MIB	**Mutribah**	**3.53**	**164**	*eP*	**Pn**	**21 30 30.7**	**-0.2**
IRAZ	**Razeghan**	**3.78**	**54**	*ePn*	**Pn**	**21 30 34.3**	**-0.2**
IRAZ	**Razeghan**	**3.78**	**54**	*ePn*	**Pn**	**21 30 34.3**	**-0.2**
UMR	**Umm Al-Rimmam**	**3.87**	**160**	*eP*	**Pn**	**21 30 34.9**	**-0.6**
UMR	**Umm Al-Rimmam**	**3.87**	**160**	*eP*	**Pn**	**21 30 34.9**	**-0.6**
IPIR	**Pirpir**	**3.97**	**96**	*ePn*	**Pn**	**21 30 36.3**	**-1.0**
IPIR	**Pirpir**	**3.97**	**96**	*ePn*	**Pn**	**21 30 36.3**	**-1.0**
NAY	**Al-Naaiem**	**4.05**	**167**	*eP*	**Pn**	**21 30 38.0**	**0.0**
NAY	**Al-Naaiem**	**4.05**	**167**	*eP*	**Pn**	**21 30 38.0**	**0.0**
IR5	**Iran Long-Peri**	**4.14**	**60**	*ePn*	**Pn**	**21 30 39.1**	**-0.3**
IR5	**Iran Long-Peri**	**4.14**	**60**	*ePn*	**Pn**	**21 30 39.1**	**-0.3**
GHVR	**GHOM**	**4.42**	**72**	*ePn*	**Pn**	**21 30 42.6**	**-0.6**
GHVR	**GHOM**	**4.42**	**72**	*ePn*	**Pn**	**21 30 42.6**	**-0.6**
IKLH	**Kolahrood**	**4.50**	**87**	*ePn*	**Pn**	**21 30 43.8**	**-0.7**
IKLH	**Kolahrood**	**4.50**	**87**	*ePn*	**Pn**	**21 30 43.8**	**-0.7**
IGZV	**Ghazvin**	**4.58**	**45**	*ePn*	**Pn**	**21 30 44.8**	**-0.7**
IGZV	**Ghazvin**	**4.58**	**45**	*ePn*	**Pn**	**21 30 44.8**	**-0.7**
IR3	**Iran Long-Peri**	**4.58**	**59**	*ePn*	**Pn**	**21 30 45.1**	**-0.3**
IR3	**Iran Long-Peri**	**4.58**	**59**	*ePn*	**Pn**	**21 30 45.1**	**-0.3**
QRN	**Al-Qurain**	**4.69**	**161**	*eP*	**Pn**	**21 30 46.4**	**-0.3**
QRN				AML	AML	21 31 36.5	
	comp=Z,163nm,0.4s						
IZEF	**Zefreh**	**5.15**	**92**	*ePn*	**Pn**	**21 30 52.5**	**-0.9**
IZEF	**Zefreh**	**5.15**	**92**	*ePn*	**Pn**	**21 30 52.5**	**-0.9**
IFIR	**Firoozkooh**	**5.93**	**64**	*ePn*	**Pn**	**21 31 02.1**	**-2.0**
IFIR	**Firoozkooh**	**5.93**	**64**	*ePn*	**Pn**	**21 31 02.1**	**-2.0**

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*ISN **01** 21:30:20.8±0.9, 33°.12N×45°.97E, h0km, ML4.2*
*KISR **01** 21:30:21.8±0.9, 33°.42N×46°.83E, h27km±999km, ML3.9*
*IDC **01** 21:30:22.0±0.8, 33°.13N×46°.46E, h0km, mb4.0/12, mb1 4.1/14, mb1mx3.9/29, mbtmp4.0/14, ML3.5/2, MS3.3/7, Ms1 3.3/7, ms1mx2.9/33, Error ellipse: s-maj=23.2km s-min=15.0km az=144.0*
*TEH **01** 21:30:23.9, 33°.06N×46°.21E, h6km, ML4.2*
*CSEM **01** 21:30:23.6±0.2, 33°.17N×46°.26E, h5km, mb4.7/5, Error ellipse: s-maj=6.0km s-min=5.2km az=93.0*
*NEIC **01** 21:30:24.1, 33°.07N×46°.21E, h6km, mb4.4/7, MN4.2(TEH), After TEH.*
ISC 01 21:30:21.8±1.5, 33°.03N±0°.03×46°.22E±0°.05, h0km±9km, n164, σ0°.93/159, mb4.2/18, MS3.3/5, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.26**	**289**	*eSg*	Sg	21 30 21.5	-8.5
IBDR				*ePG*	Pg	21 30 22.1	-4.6
	baz=78						
IGHG	**Ghaleghazi**	**1.33**	**13**	*ePg*	**Pn**	**21 30 46.8**	**-1.0**
IGHG				*eSg*	**Sg**	**21 31 04.8**	**+0.2**
IGHG				*e*		21 31 10.4	
	comp=Z,35μm,0.4s						
IGHG	**Ghaleghazi**	**1.33**	**13**	Pg	**Pn**	**21 30 46.6**	**-1.2**
IGHG				Sg	**Sg**	**21 31 04.8**	**+0.2**
IGHG	**Ghaleghazi**	**1.33**	**13**	*ePg*	**Pn**	**21 30 46.8**	**-1.0**
IGHG				*eSg*	**Sg**	**21 31 04.8**	**+0.2**
IKOM	**Komasi**	**1.57**	**43**	*ePn*	**Pn**	**21 30 51.5**	**+0.4**
IKOM				*eSg*	**Sn**	**21 31 12.0**	**-0.2**
IKOM				*e*		21 31 14.3	
	comp=Z,16μm,0.4s						
IKOM	**Komasi**	**1.57**	**43**	Pn	**Pn**	**21 30 51.4**	**+0.4**
IKOM				Sg	**Sn**	**21 31 12.0**	**-0.2**
IKOM	**Komasi**	**1.57**	**43**	*ePn*	**Pn**	**21 30 51.5**	**+0.4**
IKOM				*eSg*	**Sn**	**21 31 12.0**	**-0.2**
IVIS	**Veis**	**1.58**	**19**	*ePn*	**Pb**	**21 30 52.0**	**0.0**
IVIS				*eSg*	**Sb**	**21 31 12.7**	**+0.1**
IVIS				*e*		21 31 16.4	
	comp=Z,25μm,0.4s						
IVIS	**Veis**	**1.58**	**19**	Pn	**Pb**	**21 30 52.0**	**0.0**
IVIS				Sg	**Sb**	**21 31 12.6**	**0.0**
IVIS	**Veis**	**1.58**	**19**	*ePn*	**Pb**	**21 30 52.0**	**0.0**
IVIS				*eSg*	**Sb**	**21 31 12.7**	**+0.1**
IDHR	**Dehrash**	**1.67**	**5**	*ePn*	**Pb**	**21 30 53.4**	**-0.2**
IDHR				*eSg*	**Sb**	**21 31 15.0**	**-0.3**
IDHR				*e*		21 31 16.9	
	comp=Z,35μm,0.4s						
IDHR	**Dehrash**	**1.67**	**5**	Pn	**Pb**	**21 30 53.4**	**-0.2**
IDHR				Sg	**Sb**	**21 31 15.0**	**-0.3**
IDHR	**Dehrash**	**1.67**	**5**	*ePn*	**Pb**	**21 30 53.4**	**-0.2**
IDHR				*eSg*	**Sb**	**21 31 15.0**	**-0.3**
ILIN	**Lien**	**1.98**	**18**	*ePn*	**Pn**	**21 30 58.0**	**+1.1**
ILIN				*eSg*	**Sb**	**21 31 25.4**	**+1.1**
ILIN				*e*		21 31 29.8	
	comp=Z,17μm,0.4s						
ILIN	**Lien**	**1.98**	**18**	Pn	**Pn**	**21 30 57.9**	**+1.1**
ILIN				Sn	**Sn**	**21 31 22.4**	**-0.1**
ILIN	**Lien**	**1.98**	**18**	Pn	**Pn**	**21 30 57.9**	**+1.1**
ILIN				Sn	**Sn**	**21 31 22.4**	**-0.1**
MIB	**Mutribah**	**3.35**	**163**	*eP*	**Pb**	**21 31 20.3**	**-1.8**
MIB				*eS*	**Sb**	**21 32 03.1**	**-0.4**
MIB				AML	AML	21 32 09.5	
	comp=Z,356nm,0.6s						
MIB	**Mutribah**	**3.35**	**163**	*eP*	**Pb**	**21 31 20.3**	**-1.8**
RST	**Umm Al-Ruwaisa**	**3.58**	**169**	*eP*	Pb	21 31 23.6	-2.3
RST				AML	AML	21 32 15.1	
	comp=Z,2μm,0.7s						
RST	**Umm Al-Ruwaisa**	**3.58**	**169**	*eP*	Pb	21 31 23.6	-2.3
UMR	**Umm Al-Rimmam**	**3.69**	**159**	*eP*	Pn	21 31 24.0	+3.9
UMR				AML	AML	21 32 09.2	
	comp=Z,244nm,0.5s						
UMR	**Umm Al-Rimmam**	**3.69**	**159**	*eP*	Pn	21 31 24.0	+3.9
NAY	**Al-Naaiem**	**3.87**	**167**	*eP*	Pn	21 31 27.0	+4.5
NAY				AML	AML	21 32 15.3	
	comp=Z,4.5nm,0.6s						
NAY	**Al-Naaiem**	**3.87**	**167**	*eP*	Pn	21 31 27.0	+4.5
IRAZ	**Razeghan**	**3.88**	**51**	*ePn*	**Pn**	**21 31 23.9**	**+1.0**
IRAZ				*e*		21 32 42.4	
	comp=Z,6μm,0.6s						
IRAZ	**Razeghan**	**3.88**	**51**	Pn	**Pn**	**21 31 24.3**	**+1.4**
IRAZ	**Razeghan**	**3.88**	**51**	*ePn*	**Pn**	**21 31 23.9**	**+1.0**
KBD	**Kabd**	**4.04**	**161**	*eP*	Pn	21 31 28.8	+3.9
KBD	**Kabd**	**4.04**	**161**	*eP*	Pn	21 31 28.8	+3.9
IR5	**Iran Long-Peri**	**4.22**	**58**	*ePn*	**Pn**	**21 31 28.4**	**+0.9**
IR5	**Iran Long-Peri**	**4.22**	**58**	*ePn*	**Pn**	**21 31 28.4**	**+0.9**
IKLH	**Kolahrood**	**4.50**	**85**	*ePn*	**Pn**	**21 31 32.7**	**+1.2**
IKLH				*e*		21 32 54.7	
	comp=Z,2μm,0.2s						
IKLH	**Kolahrood**	**4.50**	**85**	Pn	**Pn**	**21 31 33.1**	**+1.6**
IKLH	**Kolahrood**	**4.50**	**85**	*ePn*	**Pn**	**21 31 32.7**	**+1.2**
QRN	**Al-Qurain**	**4.51**	**161**	*eP*	Pn	21 31 35.5	+4.1
IMHD	**Mahdasht**	**4.53**	**53**	*ePn*	**Pn**	**21 31 31.9**	**+0.1**
IMHD				*e*		21 32 56.2	
	comp=Z,1μm,0.3s						
IMHD	**Mahdasht**	**4.53**	**53**	Pn	**Pn**	**21 31 31.8**	**0.0**
IMHD	**Mahdasht**	**4.53**	**53**	*ePn*	**Pn**	**21 31 31.9**	**+0.1**
IGZV	**Ghazvin**	**4.70**	**43**	*ePn*	**Pn**	**21 31 34.5**	**+0.4**
IGZV				*e*		21 31 54.5	
	comp=Z,1μm,0.4s						
IGZV	**Ghazvin**	**4.70**	**43**	Pn	**Pn**	**21 31 34.0**	**-0.1**
IGZV	**Ghazvin**	**4.70**	**43**	*ePn*	**Pn**	**21 31 34.5**	**+0.4**
ISRB	**Sarab**	**4.93**	**13**	*e*	**Pg**	**21 31 58.9**	**+2.6**
	comp=Z,1μm,0.5s						
IGAR	**Gharneh**	**4.95**	**96**	*ePn*	**Pn**	**21 31 38.4**	**+0.8**
IGAR				*e*		21 32 36.7	
	comp=Z,3μm,0.1s						
IVRN	**Varamin**	**4.98**	**65**	*ePn*	**Pn**	**21 31 38.6**	**+0.8**
IVRN				*e*		21 33 20.2	
	comp=Z,1μm,0.4s						
IVRN	**Varamin**	**4.98**	**65**	Pn	**Pn**	**21 31 38.6**	**+0.8**
IVRN	**Varamin**	**4.98**	**65**	*ePn*	**Pn**	**21 31 38.6**	**+0.8**
IZEF	**Zefreh**	**5.14**	**90**	*ePn*	**Pn**	**21 31 40.9**	**+0.7**
IZEF				*e*		21 33 12.6	
	comp=Z,1μm,0.4s						
IZEF	**Zefreh**	**5.14**	**90**	Pn	**Pn**	**21 31 40.7**	**+0.5**
IZEF	**Zefreh**	**5.14**	**90**	*ePn*	**Pn**	**21 31 40.9**	**+0.7**
ISFB	**Sefidab**	**5.19**	**74**	*ePn*	**Pn**	**21 31 41.2**	**+0.4**
ISFB				*e*		21 33 01.0	
	comp=Z,779nm,0.4s						
ISFB	**Sefidab**	**5.19**	**74**	Pn	**Pn**	**21 31 41.2**	**+0.4**
ISFB	**Sefidab**	**5.19**	**74**	*ePn*	**Pn**	**21 31 41.2**	**+0.4**
IDMV	**Damavand**	**5.44**	**61**	*ePn*	**Pn**	**21 31 44.9**	**+0.5**
IDMV				*e*		21 33 28.8	
	comp=Z,1μm,0.5s						
IDMV	**Damavand**	**5.44**	**61**	Pn	**Pn**	**21 31 45.2**	**+0.8**
IDMV	**Damavand**	**5.44**	**61**	*ePn*	**Pn**	**21 31 44.9**	**+0.5**
IFIR	**Firoozkooh**	**6.00**	**62**	*ePn*	**Pn**	**21 31 52.0**	**-0.1**
IFIR				*e*		21 33 02.4	
	comp=Z,355nm,0.2s						
IFIR	**Firoozkooh**	**6.00**	**62**	Pn	**Pn**	**21 31 52.0**	**-0.1**
IFIR	**Firoozkooh**	**6.00**	**62**	*ePn*	**Pn**	**21 31 52.0**	**-0.1**
ILAS	**Lasjerd**	**6.06**	**65**	*ePn*	**Pn**	**21 31 53.8**	**+1.0**
ILAS	**Lasjerd**	**6.06**	**65**	Pn	**Pn**	**21 31 53.8**	**+1.0**
ILAS	**Lasjerd**	**6.06**	**65**	*ePn*	**Pn**	**21 31 53.8**	**+1.0**
IALA	**Alasht**	**6.23**	**59**	*ePn*	**Pn**	**21 31 55.8**	**+0.5**
IALA				*e*		21 34 04.2	
	comp=Z,898nm,0.5s						
IALA	**Alasht**	**6.23**	**59**	Pn	**Pn**	**21 31 56.1**	**+0.8**
IALA	**Alasht**	**6.23**	**59**	*ePn*	**Pn**	**21 31 55.8**	**+0.5**
ISAD	**Sadrabad**	**6.41**	**98**	*ePn*	**Pn**	**21 31 58.3**	**+0.6**
ISAD				*e*		21 33 20.9	
	comp=Z,888nm,0.2s						
ISAD	**Sadrabad**	**6.41**	**98**	Pn	**Pn**	**21 31 58.0**	**+0.3**
ISAD	**Sadrabad**	**6.41**	**98**	*ePn*	**Pn**	**21 31 58.3**	**+0.6**
ISHM	**Shahmirzad**	**6.47**	**63**	*ePn*	**Pn**	**21 31 58.9**	**+0.4**
ISHM				*e*		21 33 60.0	
	comp=Z,1μm,0.4s						
ISHM	**Shahmirzad**	**6.47**	**63**	Pn	**Pn**	**21 31 59.4**	**+0.9**
ISHM	**Shahmirzad**	**6.47**	**63**	*ePn*	**Pn**	**21 31 58.9**	**+0.4**
IPAR	**Pars**	**6.64**	**117**	*ePn*	**Pn**	**21 32 01.7**	**+0.7**
IPAR				*e*		21 33 24.1	
	comp=Z,1μm,0.4s						
IPAR	**Pars**	**6.64**	**117**	Pn	**Pn**	**21 32 01.6**	**+0.6**
IPAR	**Pars**	**6.64**	**117**	*ePn*	**Pn**	**21 32 01.7**	**+0.7**
ISRV	**Sarvestan**	**6.93**	**120**	*ePn*	**Pn**	**21 32 06.0**	**+1.1**
ISRV				*e*		21 33 26.8	
	comp=Z,880nm,0.2s						
ISRV	**Sarvestan**	**6.93**	**120**	Pn	**Pn**	**21 32 06.8**	**+1.9**
ISRV	**Sarvestan**	**6.93**	**120**	Pn	**Pn**	**21 32 06.8**	**+1.9**
ICHK	**Chekchek**	**6.95**	**94**	*ePn*	**Pn**	**21 32 05.3**	**+0.2**
ICHK				*e*		21 33 26.7	
	comp=Z,614nm,0.1s						
ICHK	**Chekchek**	**6.95**	**94**	Pn	**Pn**	**21 32 05.3**	**+0.2**
ICHK	**Chekchek**	**6.95**	**94**	*ePn*	**Pn**	**21 32 05.3**	**+0.2**
IGLO	**Ghaloghah**	**7.16**	**59**	*ePn*	**Pn**	**21 32 08.2**	**+0.3**
IGLO				*e*		21 34 29.4	
	comp=Z,2μm,0.8s						
IGLO	**Ghaloghah**	**7.16**	**59**	Pn	**Pn**	**21 32 08.6**	**+0.7**
IMEH	**Mehriz**	**7.30**	**101**	*ePn*	**Pn**	**21 32 09.8**	**-0.1**
IMEH				*e*		21 33 40.2	
	comp=Z,336nm,0.2s						
IMEH	**Mehriz**	**7.30**	**101**	Pn	**Pn**	**21 32 09.7**	**-0.1**
IMEH	**Mehriz**	**7.30**	**101**	*ePn*	**Pn**	**21 32 09.8**	**-0.1**
ASF	**Jabal al Asfar**	**7.91**	**266**	Pn	Pn	21 32 22.3	+4.1
ASF				Sn	Sn	21 33 59.5	+11
ASF	**Jabal al Asfar**	**7.91**	**266**	Pn	Pn	21 32 22.3	+4.1
	comp=Z,0.3nm,0.3s,baz=75,slow=11,SNR=4.0						
ASF				Sn	Sn	21 33 59.5	+11
	comp=Z,0.4nm,0.3s,baz=76,slow=20,SNR=3.6						
ASF				LR	LR	21 35 26.8	
	comp=Z,54nm,20.5s,baz=211,slow=38						
IBAF	**Bafgh**	**8.04**	**98**	*ePn*	**Pn**	**21 32 20.6**	**+0.6**
IBAF				*e*		21 32 22.3	
	comp=Z,272nm,0.3s						
IBAF	**Bafgh**	**8.04**	**98**	Pn	**Pn**	**21 32 20.6**	**+0.6**
IBAF	**Bafgh**	**8.04**	**98**	*ePn*	**Pn**	**21 32 20.6**	**+0.6**
DGRG	**David-gareji**	**8.43**	**356**	P	**Pg**	**21 33 03.0**	**-0.3**
DGRG				S	Sg	21 35 02.3	+10
AKH	**Akhalkalaki**	**8.64**	**346**	P	Pg	21 32 52.9	-15
TBLG	**Delisi**	**8.77**	**353**	P	Pg	21 33 23.2	+13
TBLG				S	Sg	21 35 12.3	+9.1
MMAI	**Mount Meron Ar**	**9.08**	**273**	Sn	Sn	21 34 30.6	+13
MMAI	**Mount Meron Ar**	**9.08**	**273**	Sn	Sn	21 34 30.6	+13
	comp=Z,0.7nm,0.3s,baz=73,slow=29,SNR=2.9						
ONI	**Oni**	**9.79**	**348**	P	Pn	21 32 49.2	+5.3
ONI				S		21 35 55.9	
EIL	**Elat**	**10.20**	**254**	LR	LR	21 37 48.7	
	comp=Z,196nm,18.2s,baz=102,slow=43						
IBND	**Bandar-abas**	**10.51**	**119**	*ePn*	**Pn**	**21 32 53.8**	**+0.1**
IBND				*e*		21 34 59.0	
	comp=Z,1μm,0.2s						
IBND	**Bandar-abas**	**10.51**	**119**	Pn	**Pn**	**21 32 54.0**	**+0.3**
IBND	**Bandar-abas**	**10.51**	**119**	Pn	**Pn**	**21 32 54.0**	**+0.3**
KBL	**Kabul**	**19.03**	**79**	*eP*	**P**	**21 34 44.8**	**-0.7**
	comp=Z,11nm,1.1s						
KBL	**Kabul**	**19.03**	**79**	*eP*	**P**	**21 34 44.8**	**-0.7**
	comp=Z,11nm,1.1s						
ABKAR	**Akbulak array**	**19.18**	**28**	*eP*	**P**	**21 34 46.0**	**-0.7**
	comp=Z,6.1nm,0.9s						
ABKAR	**Akbulak array**	**19.18**	**28**	*eP*	**P**	**21 34 46.0**	**-0.7**
	comp=Z,6.1nm,0.9s						
AKTO	**Aktyubinsk**	**19.45**	**23**	P	**P**	**21 34 48.4**	**-1.4**
AKTO	**Aktyubinsk**	**19.45**	**23**	P	**P**	**21 34 48.4**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=192,slow=13,SNR=6.9						
AKTO	**Aktyubinsk**	**19.45**	**23**	P	**P**	**21 34 48.4**	**-1.4**
KKAR	**Karatay Array**	**21.54**	**55**	*eP*	**P**	**21 35 13.4**	**+0.8**
	comp=Z,9.0nm,0.9s						
KKAR	**Karatay Array**	**21.54**	**55**	*eP*	**P**	**21 35 13.4**	**+0.8**
	comp=Z,9.0nm,0.9s						
AKASG	**Malin Array Be**	**21.64**	**330**	P	**P**	**21 35 12.7**	**-0.7**
AKASG	**Malin Array Be**	**21.64**	**330**	P	**P**	**21 35 12.7**	**-0.7**
	comp=Z,0.7nm,0.4s,baz=131,slow=11,SNR=2.9						
AKASG	**Malin Array Be**	**21.64**	**330**	P	**P**	**21 35 12.7**	**-0.7**
AAK	**Ala-Archa**	**24.21**	**58**	LR	LR	21 45 56.4	
	comp=Z,53nm,20.6s,baz=252,slow=39						
TKM2	**Tokmak 2**	**25.07**	**58**	*eP*	**P**	**21 35 48.6**	**+0.6**
	comp=Z,4.6nm,0.9s						
TKM2	**Tokmak 2**	**25.07**	**58**	*eP*	**P**	**21 35 48.6**	**+0.6**
	comp=Z,4.6nm,0.9s						
BVAR	**Borovoye Array**	**26.45**	**34**	P	**P**	**21 35 58.5**	**-1.8**
BVAR	**Borovoye Array**	**26.45**	**34**	P	**P**	**21 35 58.5**	**-1.8**
	comp=Z,2.0nm,0.8s,baz=201,slow=7.7,SNR=8.8						
BVAR	**Borovoye Array**	**26.45**	**34**	P	**P**	**21 35 58.5**	**-1.8**
KURBB	**Kurchatov Arra**	**29.49**	**44**	P	**P**	**21 36 27.0**	**-0.4**
	comp=Z,0.7nm,0.6s,baz=247,slow=9.2,SNR=7.4						
KURK	**Kurchatov**	**29.58**	**44**	P	**P**	**21 36 27.0**	**-1.2**
KURK	**Kurchatov**	**29.58**	**44**	P	**P**	**21 36 27.0**	**-1.2**
MKAR	**Makanchi Array**	**30.61**	**53**	P	**P**	**21 36 36.9**	**-0.5**
MKAR	**Makanchi Array**	**30.61**	**53**	P	**P**	**21 36 36.9**	**-0.5**
	comp=Z,2.3nm,0.7s,baz=250,slow=7.2,SNR=14						
MKAR				LR	LR	21 50 53.8	
	comp=Z,55nm,18.6s,baz=87,slow=40						
MKAR	**Makanchi Array**	**30.61**	**53**	P	**P**	**21 36 36.9**	**-0.5**
MK31	**Makanchi Array**	**30.61**	**53**	*eP*	**P**	**21 36 36.8**	**-0.6**
MK31	**Makanchi Array**	**30.61**	**53**	*eP*	**P**	**21 36 36.8**	**-0.6**
MBDF	**Montbardon**	**32.55**	**303**	*eP*	**P**	**21 36 54.3**	**-0.4**
MBDF	**Montbardon**	**32.55**	**303**	*eP*	**P**	**21 36 54.3**	**-0.4**
MBDF	**Montbardon**	**32.55**	**303**	*eP*	**P**	**21 36 54.3**	**-0.4**
LPG	**La Plagne**	**32.67**	**304**	*eP*	**P**	**21 36 55.8**	**-0.1**
	comp=Z,14nm,1.2s						
LPG	**La Plagne**	**32.67**	**304**	*eP*	**P**	**21 36 55.8**	**-0.1**
	comp=Z,14nm,1.2s						
LPG	**La Plagne**	**32.67**	**304**	*eP*	**P**	**21 36 55.8**	**-0.1**
	comp=Z,14nm,1.2s						
LPL	**La Plagne**	**32.69**	**304**	*eP*	**P**	**21 36 55.8**	**-0.2**
LPL	**La Plagne**	**32.69**	**304**	*eP*	**P**	**21 36 55.8**	**-0.2**
LPL	**La Plagne**	**32.69**	**304**	*eP*	**P**	**21 36 55.8**	**-0.2**
CABF	**La Chapelle**	**33.30**	**306**	*eP*	**P**	**21 37 00.1**	**-1.1**
	comp=Z,41nm,1.3s						
CABF	**La Chapelle**	**33.30**	**306**	*eP*	**P**	**21 37 00.1**	**-1.1**
	comp=Z,41nm,1.3s						
CABF	**La Chapelle**	**33.30**	**306**	*eP*	**P**	**21 37 00.1**	**-1.1**
	comp=Z,41nm,1.3s						
ZALV	**Zalesovo Beam**	**34.35**	**41**	P	**P**	**21 37 08.5**	**-1.5**
ZALV	**Zalesovo Beam**	**34.35**	**41**	P	**P**	**21 37 08.5**	**-1.5**
	comp=Z,1.3nm,0.8s,baz=260,slow=8.1,SNR=5.8						
ZALV				LR	LR	21 54 39.3	
	comp=Z,49nm,19.1s,baz=249,slow=43						
ZALV	**Zalesovo Beam**	**34.35**	**41**	P	**P**	**21 37 08.5**	**-1.5**
SMF	**Signal de Mont**	**34.84**	**306**	*eP*	**P**	**21 37 13.8**	**-0.6**
	comp=Z,21nm,1.1s						
SMF	**Signal de Mont**	**34.84**	**306**	*eP*	**P**	**21 37 13.8**	**-0.6**
	comp=Z,21nm,1.1s						
SMF	**Signal de Mont**	**34.84**	**306**	*eP*	**P**	**21 37 13.8**	**-0.6**
	comp=Z,21nm,1.1s						
ARCES	**ARCESS Array B**	**38.35**	**348**	P	**P**	**21 37 43.9**	**-0.2**
ARCES	**ARCESS Array B**	**38.35**	**348**	P	**P**	**21 37 43.9**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=165,slow=8.4,SNR=5.6						
ARCES	**ARCESS Array B**	**38.35**	**348**	P	**P**	**21 37 43.9**	**-0.2**
TORD	**Torodi Ar. Bea**	**45.09**	**255**	P	**P**	**21 38 42.0**	**+2.2**
TORD	**Torodi Ar. Bea**	**45.09**	**255**	P	**P**	**21 38 42.0**	**+2.2**
	comp=Z,2.1nm,0.9s,baz=49,slow=8.9,SNR=11						
TORD	**Torodi Ar. Bea**	**45.09**	**255

UWA2	Uwa jima 2	0.58	163	⇓P	Pn	21 40 38.7	+0.5
UWA2				S	Sn	21 40 47.8	+0.7
JKU	Kubokawa	0.70	131	⇑P	Pn	21 40 39.9	+0.2
JKU				S	Sn	21 40 50.5	+0.7
JHT	Toyohira	0.89	360	⇑P	Pn	21 40 42.7	+0.5
JHT				S	Sn	21 40 54.8	+0.7
JTO	Tosashimizu	0.96	161	⇓P	Pn	21 40 43.5	+0.4
JTO				S	Sn	21 40 55.6	-0.1
JMN	Monobe	1.21	92	⇑P	Pn	21 40 46.5	0.0
JMN				S	Sn	21 41 01.9	0.0
JGT	Gotsu	1.26	357	P	Pn	21 40 47.5	+0.5
JHS	Saijyo	1.35	25	⇑P	Pn	21 40 48.7	+0.3
JJS	Sakaide	1.39	64	⇑P	Pn	21 40 49.0	+0.2
JJS				S	Sn	21 41 05.7	-0.4
JNU	Nakatsue	1.45	244	ePn	Pn	21 40 50.1	+0.5
JNU				eSn	Sn	21 41 11.8	+4.4
JNU	Nakatsue	1.45	244	P	Pn	21 40 50.0	+0.3
JNU	226nm,0.3s,baz=60,slow=3.9,SNR=3080			S	Sn	21 41 08.5	+1.0
	119nm,0.3s,baz=196,slow=18,SNR=8.8						
KSRS	Korea Array	5.19	316	P	Pn	21 41 35.9	-5.0
	0.3nm,0.3s,baz=142,slow=14,SNR=7.0						
KSRS				S	Sn	21 42 38.7	-0.7
	1.9nm,0.3s,baz=131,slow=24,SNR=6.0						
KSRS				LR	LR	21 43 57.3	
	comp=Z,83nm,18.6s,baz=159,slow=41						
MAT	Matsushiro	5.49	58	P	Pn	21 41 47.0	+2.1
MJAR	Matsushiro Arr	5.49	58	P	Pn	21 41 47.8	+2.8
	14nm,0.3s,baz=242,slow=14,SNR=147						
ASAJ	Asahikawa	13.00	34	LR	LR	21 47 38.3	
	comp=Z,25nm,21.8s,baz=4.2,slow=33						
YHNB	Yeheng	13.23	230	Pn	Pn	21 43 29.7	-1.3
TWG	Pinlang	14.78	225	ePn	Pn	21 43 50.9	-0.9
ENH	Enshi	19.75	266	eP	Pn	21 44 53.7	+0.4
	4.8nm,0.6s						
ULN	Ulaanbaatar	23.67	314	eP	P	21 45 31.8	-0.9
	1.6nm,0.8s						
SONM	Songino Array	24.05	314	P	P	21 45 36.3	+0.1
	2.4nm,0.7s,baz=130,slow=9.8,SNR=18						
ZALV	Zalesovo Beam	38.90	316	P	P	21 47 45.4	-0.6
	0.3nm,0.3s,baz=92,slow=8.9,SNR=2.7						
ZALV				LR	LR	22 04 26.3	
	comp=Z,23nm,19.4s,baz=75,slow=37						
MKAR	Makanchi Array	39.75	304	P	P	21 47 51.9	-1.4
	0.4nm,0.7s,baz=80,slow=13,SNR=3.2						
KURBB	Kurchatov Arra	42.34	310	P	P	21 48 13.5	-1.0
	0.6nm,0.7s,baz=104,slow=9.9,SNR=6.4						
BVAR	Borovoye Array	47.40	314	P	P	21 48 54.5	-0.2
	2.3nm,0.6s,baz=102,slow=9.8,SNR=18						
BRVK	Borovoye	47.46	314	eP	P	21 48 54.3	-0.9
	3.5nm,1.0s						
FITZ	Fitzroy Crossi	51.99	188	P	P	21 49 30.9	+1.0
	1.8nm,1.0s,baz=8.1,slow=7.1,SNR=4.0						
WRAB	Tennant Creek	53.43	178	eP	P	21 49 40.1	-0.5
	1.4nm,0.8s						
WRA	Warramunga Arr	53.44	178	P	P	21 49 40.7	+0.1
	1.1nm,0.6s,baz=354,slow=8.1,SNR=14						
ABKAR	Akbulak array	54.39	310	eP	P	21 49 46.3	-1.0
	1.0nm,0.6s						
AKTO	Aktyubinsk	55.35	312	P	P	21 49 53.6	-0.6
	1.1nm,0.7s,baz=85,slow=12,SNR=3.9						
ILAR	Eielson Array	56.11	31	P	P	21 50 00.3	+0.9
	0.1nm,0.6s,baz=264,slow=8.1,SNR=4.4						
ASAR	Alice Springs	57.13	178	P	P	21 50 06.7	-0.5
	0.4nm,0.6s,baz=10,slow=11,SNR=6.5						
STKA	Stephens Creek	65.87	171	P	P	21 51 06.0	+0.1
	1.8nm,0.8s,baz=8.1,slow=7.1,SNR=3.7						
FINES	FINESS Array B	68.13	330	P	P	21 51 19.9	0.0
	0.8nm,0.4s,baz=62,slow=6.5,SNR=13						
AFI	Afiamalu	71.19	122	LR	LR	22 18 39.8	
	comp=Z,111nm,21.1s,baz=127,slow=32						
NOA	NORSAR Array B	74.14	334	P	P	21 51 57.3	+0.9
	0.6nm,0.7s,baz=43,slow=8.3,SNR=2.5						

*ISN **01** 21:44:05.2±0.3, 33°.22N×46°.56E, h0km, ML3.1*
*CSEM **01** 21:44:10.7±1.3, 33°.09N×46°.02E, h2km, ML2.1, Error ellipse: s-maj=35.8km s-min=8.3km az=27.0*
*KISR **01** 21:44:11.5±0.4, 32°.96N×46°.62E, h34km±35km, ML2.1*

ISC 01 21:44:12.5±4.6, 33°.2N±0°.3×46°.4E±0°.1, h13km, n9, σ0§33/15, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	Badra	0.39	263	ePg	Pg	21 44 17.0	-3.2
	baz=78						
IBDR				eSg	Sg	21 44 25.3	-0.1
MIB	Mutribah	3.44	166	eP	Pn	21 45 06.2	+0.4
MIB				eS	Sn	21 45 46.8	+0.4
MIB				AML	AML	21 45 51.4	
	comp=Z,10nm,0.4s						
MIB	Mutribah	3.44	166	eP	Pn	21 45 06.2	+0.4
MIB				eS	Sn	21 45 46.8	+0.4
	comp=Z,10nm,0.4s						
RST	Umm Al-Ruwaisa	3.68	172	eP	Pn	21 45 09.3	+0.2
RST	Umm Al-Ruwaisa	3.68	172	eP	Pn	21 45 09.3	+0.2
UMR	Umm Al-Rimmam	3.77	162	eP	Pn	21 45 10.1	-0.2
UMR				eS	Sn	21 45 54.1	-0.4
UMR				AML	AML	21 45 58.6	
	comp=Z,8.3nm,0.4s						
UMR	Umm Al-Rimmam	3.77	162	eP	Pn	21 45 10.1	-0.2
UMR				eS	Sn	21 45 54.1	-0.4
	comp=Z,8.3nm,0.4s						
NAY	Al-Naaiem	3.96	169	eP	Pn	21 45 12.9	-0.1
NAY				eS	Sn	21 45 59.1	-0.2
NAY				AML	AML	21 46 04.2	
	comp=Z,0.2nm,0.5s						
NAY	Al-Naaiem	3.96	169	eP	Pn	21 45 12.9	-0.1
NAY				eS	Sn	21 45 59.1	-0.2
	comp=Z,0.2nm,0.5s						

IDC 01 21:57:09.6±27.0, 21°.09S×172°.72W, h0km, mb4.2/4, mb1 4.4/4, mb1mx3.9/22, mbtmp4.2/4, MS3.5/2, Ms1 3.6/2, ms1mx2.9/29, Error ellipse: s-maj=507.7km s-min=164.0km az=76.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	38.35	264	P	P	22 04 33.6	+1.0
	4.0nm,0.3s,baz=77,slow=11,SNR=6.0						
PMG	Port Moresby	40.30	281	LR	LR	22 16 21.1	
	comp=Z,47nm,21.5s,baz=14,slow=29						
STKA	Stephens Creek	42.02	245	P	P	22 05 00.8	-2.1
	1.5nm,0.6s,baz=89,slow=9.9,SNR=4.1						
ASAR	Alice Springs	49.19	256	P	P	22 05 59.6	-0.3
	0.8nm,0.4s,baz=98,slow=7.2,SNR=13						
WRA	Warramunga Arr	49.41	261	P	P	22 06 02.1	+0.5
	1.3nm,0.5s,baz=90,slow=8.4,SNR=44						
NVAR	Mina Array Bea	78.14	41	LR	LR	22 36 40.9	
	comp=Z,44nm,20.3s,baz=275,slow=30						

MEX 01 21:57:33.4±0.5, 18°.26N×101°.95W, h56km±11km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	Zihuatanejo	0.79	145	iP	Pn	21 57 47.1	-1.5
ZIIG				iS	Sn	21 57 58.2	-1.6
URUA	Uruapan	1.16	354	iP	Pn	21 57 51.9	-1.9
URUA				eS	Sn	21 58 06.7	-2.2
MMIG	Aquila	1.33	271	iP	Pn	21 57 54.6	-1.1
MMIG				iS	Sn	21 58 10.0	-2.4
MOIG	Morelia	1.58	27	iP	Pn	21 57 57.8	-1.6
MOIG				iS	Sn	21 58 16.7	-2.4
EZ5V		1.98	308	eP	Pn	21 58 04.1	-0.9
EZ5V				eS	Sn	21 58 26.6	-2.4
CAIG	El Cayaco	2.00	127	eP	Pn	21 58 03.2	-1.6
CAIG				iS	Sn	21 58 26.8	-2.0
R15V		2.13	295	eP	Pn	21 58 05.1	-1.6
R15V				eS	Sn	21 58 30.1	-2.0
MEIG	Mezcala	2.24	98	iP	Pn	21 58 07.7	-0.5
MEIG				iS	Sn	21 58 32.2	-2.6
PLIG	Platanillo	2.32	86	eP	Pn	21 58 08.3	-1.1
PLIG				iS	Sn	21 58 35.6	-1.3

*IDC **01** 22:20:53.5±27.0, 26°.62N×126°.71E, h0km, mb3.7/5, mb1 3.7/5, mb1mx3.5/27, mbtmp3.7/5, Error ellipse: s-maj=512.0km s-min=171.8km az=121.0*
*ISCJB **01** 22:20:56.6±3.2, 26°.99N×0°.05×126°.61E±0°.05, h13km±22km, mb3.6/5, Error ellipse: s-maj=10.2km s-min=6.6km az=33.9*

*JMA **01** 22:20:57.0±0.3, 26°.99N×126°.64E, h10km±4km, M3.4*

ISC 01 22:20:58.9±2.0, 26°.87N±0°.09×126°.66E±0°.07, h25km±16km, n10, σ0§74/15, mb3.6/5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	Kume jima 2	0.55	168	P	Pb	22 21 09.9	-0.2
JKE				eS	Sn	22 21 18.8	-0.8
JAGN	Aguni-jima	0.59	118	P	Pb	22 21 09.9	-0.8
JAGN				eS	Sb	22 21 18.8	+0.1
JIH	Iheya	1.18	82	P	Pn	22 21 18.7	-1.1
JIH				eS	Sn	22 21 35.2	+0.1
JJT2	Tamagusuku 2	1.22	126	P	Pb	22 21 21.6	+0.3
JJT2				eS	Sb	22 21 38.3	+1.7
JOW	Kunigami	1.44	91	P	Pn	22 21 23.2	-0.3
JOW				eS	Sn	22 21 41.7	+0.1
SONM	Songino Array	26.26	328	P	P	22 26 32.8	+0.6
	1.2nm,0.9s,baz=144,slow=10.0,SNR=7.7						
MKAR	Makanchi Array	40.06	312	P	P	22 28 32.2	+0.1
	1.4nm,0.6s,baz=105,slow=11,SNR=12						
ZALV	Zalesovo Beam	40.89	323	P	P	22 28 38.6	-0.1
	0.6nm,0.5s,baz=101,slow=7.8,SNR=5.0						
KURBB	Kurchatov Arra	43.42	316	P	P	22 28 59.2	-0.3
	0.9nm,0.6s,baz=104,slow=8.5,SNR=8.6						
BVAR	Borovoye Array	48.86	318	P	P	22 29 42.5	+0.2
	0.3nm,0.5s,baz=119,slow=8.4,SNR=3.3						

*NIED **01** 22:31:00, 38°.30N×142°.50E, h23km, Mw3.5 Best double couple: M0 2.07000×10^14 NP1:φs=358.00000°, δ59.00000°, λ58.00000°. NP2:φs=229.00000°, δ43.00000°, λ132.00000°.*
*IDC **01** 22:31:37.2±1.9, 38°.11N×142°.63E, h0km, mb3.8/6, mb1 3.8/8, mb1mx3.5/28, mbtmp3.7/8, ML3.0/2, Error ellipse: s-maj=47.8km s-min=26.1km az=87.0*
*ISCJB **01** 22:31:41.3±1.8, 38°.21N±0°.05×142°.51E±0°.08, h33km±11km, mb3.8/6, Error ellipse: s-maj=11.2km s-min=7.3km az=28.1*
*JMA **01** 22:31:41.6±0.1, 38°.26N×142°.48E, h35km±2km, M3.9*

ISC 01 22:31:41.0±2.9, 38°.20N±0°.05×142°.37E±0°.09, h17km±16km, n19, σ0§80/26, mb3.7/6, 5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	Ouri	0.84	288	⇓P	Pn	22 31 58.2	+0.1
JIO				S	Sn	22 32 10.1	+0.1
OFUJ	Ofunato	1.03	328	⇓P	Pb	22 32 00.1	-0.3
OFUJ				S	Sb	22 32 13.2	-0.5
JMK	Ichinoseki	1.17	310	⇓P	Pb	22 32 02.8	0.0
JMM	Marumori	1.29	255	P	Pb	22 32 04.6	-0.2
JMM				eS	Sn	22 32 21.9	+0.8
JOU	Okura	1.35	277	P	Pb	22 32 06.4	+0.5
JOU				eS	Sg	22 32 24.5	-0.2
JFK	Kawauchi	1.45	235	P	Pn	22 32 06.4	-0.1
JFK				eS	Sn	22 32 24.4	-0.7
JOM	Ohasama	1.52	327	⇓P	Pn	22 32 07.7	+0.3
JOM				S	Sn	22 32 26.7	-0.2
JYK	Kaneyama	1.73	295	⇓P	Pb	22 32 11.5	-0.8
JFT	Otama	1.75	248	P	Pb	22 32 12.5	-0.1
JFT				eS	Sb	22 32 34.9	+0.6
JRG	Rokugo	1.81	312	P	Pb	22 32 12.7	-0.9
JYS	Shiratake	1.81	271	P	Pb	22 32 13.3	-0.5
MJAR	Matsushiro Arr	3.71	245	Pn	Pn	22 32 39.3	+1.8
	1.4nm,0.3s,baz=80,slow=14,SNR=8.8						
ASAJ	Asahikawa	5.91	2	Pn	Pn	22 33 09.5	+1.8
	0.3nm,0.3s,baz=170,slow=18,SNR=2.6						
ZALV	Zalesovo Beam	41.70	311	P	P	22 39 28.3	-0.3
	0.4nm,0.4s,baz=81,slow=8.9,SNR=3.6						
MKAR	Makanchi Array	44.15	301	P	P	22 39 48.6	-0.1
	0.4nm,0.7s,baz=80,slow=9.8,SNR=2.8						
KURBB	Kurchatov Arra	45.89	307	P	P	22 40 03.1	+0.8
	2.4nm,0.5s,baz=83,slow=8.5,SNR=20						
BVAR	Borovoye Array	50.35	312	P	P	22 40 37.5	+0.6
	0.5nm,0.5s,baz=81,slow=8.0,SNR=4.1						
WRA	Warramunga Arr	58.33	189	P	P	22 41 33.5	-1.6
	0.3nm,0.6s,baz=7.4,slow=6.9,SNR=4.7						
FINES	FINESS Array B	68.13	332	P	P	22 42 39.8	+0.1
	1.2nm,0.6s,baz=35,slow=12,SNR=4.5						

GUC 01 22:58:22.1±0.4, 22°.39S×66°.80W, h280km, ML3.8, 4C-1D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	Plate Boundary	2.34	284	⇑iP	Pn	22 59 12.9	+2.5
PB09				iS	S	22 59 53.6	+4.9
PB01	Plate Boundary	2.84	298	⇓iP	Pn	22 59 17.6	+2.5
PB01				iS	S	22 59 59.8	+2.6
PB01				AML	AML	23 00 02.7	
	comp=N,72nm,0.4s						
PB07	Plate Boundary	2.94	282	⇑iP	Pn	22 59 18.6	+2.4
PB07				iS	S	23 00 01.7	+2.5
PB07				AML	AML	23 00 02.1	
	comp=N,117nm,0.2s						
CEN1	Los Morros	3.29	252	⇑iP	Pn	22 59 24.1	+4.5
CEN1				iS	S	23 00 11.9	+6.3
CEN1				AML	AML	23 00 15.2	
	comp=N,36nm,0.5s						
HMBC	Humberstone	3.57	306	eP	Pn	22 59 25.6	+2.8
HMBC				eS	S	23 00 14.0	+2.9
HMBC				AML	AML	23 00 17.1	
	comp=N,47nm,0.5s						
MNMC	Minimini	4.17	321	⇑iP	Pn	22 59 32.8	+3.2
PSGC	Pisagua	4.17	311	eP	Pn	22 59 31.4	+1.9
PSGC				eS	S	23 00 25.2	+2.0

*IDC **01** 23:22:50.7±2.2, 37°.11N×142°.08E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.4/25, mbtmp3.5/4, Error ellipse: s-maj=44.9km s-min=31.4km az=59.0*
*JMA **01** 23:22:56.6±0.3, 36°.98N×141°.59E, h52km±3km, M3.1*

ISC 01 23:22:55.4±2.4, 37°.03N±0°.07×141°.7E±0°.1, h26km±14km, n14, σ1§14/19, mb3.5/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	0.76	276	P	Pb	23 23 09.7	-0.4
JFK	Kawauchi	0.77	296	P	Pb	23 23 10.2	-0.1
JFK				eS	Sb	23 23 20.8	+0.4
JHO	Hitachi	1.03	247	P	Pn	23 23 12.6	-1.6
JMM	Marumori	1.13	318	P	Pn	23 23 15.8	+0.3
JMM				eS	Sn	23 23 28.6	-1.6
JFT	Otama	1.22	294	P	Pb	23 23 17.7	-0.2
JIO	Ouri	1.46	348	P	Pn	23 23 20.5	+0.4
JIO				eS	Sb	23 23 40.0	0.0
JOU	Okura	1.59	328	P	Pb	23 23 23.0	-1.1
JFY	Yanaizu	1.67	284	P	Pn	23 23 23.9	+0.9
JAG	Ashikaga	1.94	253	P	Pn	23 23 26.5	-0.1
MJAR	Matsushiro Arr	2.88	261	Pn	Pn	23 23 40.9	+1.3
	5.5nm,0.3s,baz=85,slow=16,SNR=22						
MJAR				Sn	Sb	23 24 21.6	+0.7
	1.7nm,0.3s,baz=92,slow=23,SNR=4.5						
MAT	Matsushiro	2.88	261	P	Pn	23 23 42.0	+2.4
MAT				eS	Sn	23 24 11.5	-1.9
SONM	Songino Array	28.01	304	P	P	23 28 44.9	+0.7
	0.3nm,0.3s,baz=103,slow=8.8,SNR=3.6						
ZALV	Zalesovo Beam	42.11	312	P	P	23 30 45.4	+0.2
	0.3nm,0.3s,baz=77,slow=6.4,SNR=2.6						
WRA	Warramunga Arr	57.09	188	P	P	23 32 39.6	+0.1
	0.1nm,0.4s,baz=5.0,slow=7.4,SNR=4.6						

IDC 01 23:38:13.8±0.8, 26°.22S×70°.65E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.6/26, mbtmp3.7/7, MS3.8/1, Ms1 3.7/1, ms1mx2.8/39, Error ellipse: s-maj=50.3km s-min=22.6km az=89.0, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAW	Mawson	41.68	184	LR	LR	23 58 23.2	
	comp=Z,122nm,21.5s,baz=250,slow=29						
QSPA	South Pole Qui	63.92	180	P	P	23 48 49.0	+0.5
	1.5nm,1.0s,baz=281,slow=4.0,SNR=6.0						
VNDA	Vanda	64.86	166	P	P	23 48 53.9	-0.4
	1.2nm,0.8s,baz=263,slow=6.7,SNR=7.8						
MKAR	Makanchi Array	73.43	8	P	P	23 49 48.8	+1.1
	0.8nm,0.9s,baz=205,slow=5.4,SNR=4.3						
KURBB	Kurchatov Arra	76.82	5	P	P	23 50 07.0	0.0
	0.5nm,0.9s,baz=203,slow=6.9,SNR=5.7						
TORD	Torodi Ar. Bea	77.59	291	P	P	23 50 12.1	-0.1
	0.5nm,0.9s,baz=115,slow=5.3,SNR=2.7						
SONM	Songino Array	80.41	24	P	P	23 50 26.7	-0.5
	0.3nm,0.4s,baz=232,slow=3.5,SNR=3.9						
ZALV	Zalesovo Beam	80.77	8	P	P	23 50 28.4	-0.3
	0.3nm,0.3s,baz=197,slow=4.5,SNR=3.3						

IDC 01 23:42:19.2±2.2, 28°.59S×177°.03W, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/18, mbtmp3.6/3, MS3.3/1, Ms1 3.3/1, ms1mx2.7/27, Error ellipse: s-maj=46.1km s-min=32.5km az=21.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.02	229	Pn	Pn	23 42 40.2	-0.5
	429nm,0.3s,baz=88,slow=8.7,SNR=59						
RAO				Sn	Sg	23 42 50.0	-2.0
	8μm,0.3s,baz=75,slow=20,SNR=85						
DZM	Mont Dzumac	16.28	290	LR	LR	23 49 58.9	
	comp=Z,123nm,21.2s,baz=59,slow=28						
ASAR	Alice Springs	44.08	265	P	P	23 50 29.1	-0.2
	0.4nm,0.6s,baz=106,slow=8.2,SNR=7.6						
WRA	Warramunga Arr	44.91	270	P	P	23 50 35.9	0.0
	0.3nm,0.3s,baz=109,slow=6.1,SNR=12						
QSPA	South Pole Qui	61.52	180	P	P	23 52 37.8	+0.1
	1.4nm,1.0s,baz=34,slow=3.6,SNR=3.8						
TORD	Torodi Ar. Bea	164.59	175	PKPab	PKPab	00 03 20.3	-0.2
	0.5nm,1.1s,baz=175,slow=4.0,SNR=2.7						

*BJI **01** 23:47:38.8, 1°.92S×99°.56E, h20km, mB5.0/31, mb4.9/45, Ms4.9/40, Ms7 4.6/38*
*IDC **01** 23:47:41.8±0.3, 1°.34S×99°.53E, h0km, mb4.8/39, mb1 4.8/41, mb1mx4.8/42, mbtmp4.8/41, ML4.5/2, MS4.1/16, Ms1 4.1/16, ms1mx3.8/36, Error ellipse: s-maj=11.9km s-min=9.0km az=58.0*
*NEIC **01** 23:47:43.6±0.1, 1°.36S×99°.47E, h10km, mb5.2/41, Error ellipse: s-maj=5.0km s-min=3.7km az=60.0*
*ISCJB **01** 23:47:43.8±0.8, 1°.37S±0°.02×99°.37E±0°.03, h19km±5km, mb5.0/148, MS4.3/30, Error ellipse: s-maj=5.0km s-min=3.1km az=142.9*
*DJA **01** 23:47:45.8±0.8, 1°.5±2°×99°.9E±°, h28km±7km, M5.0/27, mB5.4/20, mb5.1/27, MLv5.4/17, Mw(mB)4.9/20, Mwp6.6/1*
*GCMT **01** 23:47:46.7±0.4, 1°.27S×99°.46E, h19km±1km, MW4.9, Moment Tensor Solution. s34,c41; s64,c87; Moment tensor: Scale 10^16Nm; Mrr2.56±.14; Mθθ-1.76±.09; Mφφ-0.80±.10; Mrθ-2.15±.22; Mrφ0.26±.06; Mθφ0.68±.23; Best double couple: M0 3.10000×10^16 NP1:φs=287.00000°, δ68.00000°, λ91.00000°. NP2:φs=104.00000°, δ22.00000°, λ87.00000°. Principal axes: T 3.5100, Plg67.0000°, Azm198.0000°; N -0.7400, Plg1.0000°, Azm106.0000°; P -2.7800, Plg23.0000°, Azm16.0000°; Data Used: II IU IC CN G.*
*MOS **01** 23:47:46.2±0.9, 1°.26S×99°.59E, h39km, mb5.3/63 Error ellipse: s-maj=9.6km s-min=4.7km az=115.7*
*SZGRF **01** 23:47:52.7, 1°.20S×98°.04E, h33km, mb5.1, MS4.1, Southern Sumatera, Indonesia*
*BKK **01** 23:47:54.2±0.4, 1°.5±4°×10°.0E±°, h10km, M4.7/20, mB5.0/12, mb4.9/20, MLv5.2/6, Mw(mB)4.3/12*

ISC 01 23:47:45.4±0.3, 1°.44S±0°.03×99°.32E±0°.04, h21km±4km, n518, σ1§45/566, mb5.1/149, MS4.3/30, 33C-17D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	Padang	1.26	65	P	Pn	23 48 06.7	-1.1
PDSI				S	Sn	23 48 23.1	-1.0
PPI	Padang Panjang	1.46	48	P	Pn	23 48 09.7	-0.8
BKNI	Bangkinang	2.46	44	P	Pn	23 48 26.0	+1.7
BKNI				S	Sn	23 48 55.8	+2.1
RGRI	Rengat	3.21	70	P	Pn	23 48 35.2	+0.7
RGRI				S	Sn	23 49 14.3	+2.2
MASI	Maura Aman, Be	3.37	120	P	Pn	23 48 38.0	+1.1
MASI				S	Sn	23 49 18.8	+2.5
KSI	Kapahiang	3.94	124	P	Pn	23 48 45.6	+0.9
KSI				S	Sn	23 49 29.3	-1.1
PSI	Prapat	4.23	355	Pn	Pn	23 48 47.4	-1.4
PSI	Prapat	4.23	355	Pn	Pn	23 48 47.4	-1.4
	5.4nm,0.3s,baz=166,slow=11,SNR=95						
MNAI	Manna	4.65	129	ePn	Pn	23 48 55.6	+1.2
MNAI				eSn	Sn	23 49 45.1	-2.7
SNSI	Sinabang, Aceh	4.86	322	P	Pn	23 48 58.3	+1.1
SNSI				S	Sn	23 49 53.0	+0.1
EGSI	Enggano, Bengk	4.88	143	P	Pn	23 48 58.1	+0.5
EGSI				S	Sn	23 49 53.0	-0.5
TSI	Tuntungan	4.97	351	P	Pn	23 48 58.1	-0.7
KCSI	Kotacane, Aceh	5.17	343	P	Pn	23 49 01.8	+0.2
	410nm,0.8s,7μm2.5nm						
FRIM	Kepong	5.19	26	P	Pn	23 49 02.1	+0.2
KGM	Kluang	5.27	49	P	Pn	23 49 05.7	+2.7
MYKOM	Kota Tinggi	5.55	55	P	Pn	23 49 09.6	+2.8
MYKOM	Kota Tinggi	5.55	55	P	Pn	23 49 07.0	+0.2
	118nm,0.9s,3μm2.3nm						
LWLI	Liwa	5.92	127	P	Pn	23 49 12.8	+0.8
	602nm,0.8s,11μm2.8nm						
LWLI				S	Sn	23 50 22.4	+3.1
	602nm,0.8s,11μm2.8nm						
IPM	Ipoh	6.12	16	ePn	Pn	23 49 14.8	+0.1
IPM				eSn	Sn	23 50 22.2	-2.0
IPM	Ipoh	6.12	16	P	Pn	23 49 16.7	+2.0
IPM	Ipoh	6.12	16	P	Pn	23 49 15.7	+1.0
	341nm,1.0s,3μm1.5nm						
KLI	Kotabumi	6.49	122	P	Pn	23 49 21.3	+1.6
	269nm,0.6s,1.5nm						
KULM	Kulim	6.82	11	ePn	Pn	23 49 24.2	-0.1
KULM				eSn	Sn	23 50 40.1	-1.2
KULM	Kulim	6.82	11	P	Pn	23 49 25.0	+0.8
KULM	Kulim	6.82	11	P	Pn	23 49 24.1	-0.1
	209nm,0.8s,2μm1.5nm						
PPBI	Pangkal Pinang	6.85	96	P	Pn	23 49 25.5	+0.8
	23nm,0.7s,4μm1.3nm						
KTGM	Kuala Trengganu	7.73	30	P	Pn	23 49 37.0	+0.3
BSI	Banda Aceh	7.98	330	P	Pn	23 49 39.2	-1.0
	118nm,1.0s,2μm0.6nm						
BSI				S	Sn	23 51 05.9	-4.0
	118nm,1.0s,2μm0.6nm						
TPI	Tanjungpandan	8.43	99	P	Pn	23 49 47.3	+0.9
	36nm,1.1s,419nm						
SKLT	Songkhla	8.65	9	P

MMSI	Mamuju	19.62	94	P	P	23 52 13.1	+0.4
	comp=Z,76nm,1.0s,comp=Z,962nm						
NONG	Nongkai	19.75	11	P	P	23 52 13.0	-1.0
	comp=Z,52nm,1.2s,comp=Z,7μm						
CM31	Chiang Mai Arr	19.78	359	*e*P	P	23 52 13.6	-0.8
	comp=Z,27nm,0.8s						
CMAR	Chiang Mai Arr	19.78	359	P	P	23 52 13.2	-1.1
CMAR				S	Sn	23 56 02.2	+4.5
CMAR	Chiang Mai Arr	19.78	359	P	P	23 52 13.2	-1.1
	comp=Z,1.9nm,0.3s,baz=186,slow=9.9,SNR=86						
CMAR				S	Sn	23 56 02.2	+4.5
	comp=Z,0.1nm,0.3s,baz=196,slow=19,SNR=2.4						
CMAR				LR	LR	00 00 26.2	
	comp=Z,1μm,18.1s,baz=188,slow=39						
LAMP	Lampang	19.84	1	P	Pn	23 52 16.9	+0.2
	comp=Z,38nm,0.8s,comp=Z,274nm						
CHTO	Chiang Mai	20.13	359	*e*P	P	23 52 17.0	-1.2
CHTO				pmax	pmax		
	comp=Z,27nm,0.9s						
CHTO	Chiang Mai	20.13	359	*e*P	P	23 52 17.0	-1.2
	comp=Z,27nm,0.9s						
CHTO	Chiang Mai	20.13	359	P	P	23 52 18.1	-0.1
	comp=Z,41nm,1.0s,comp=Z,434nm						
CHTO	Chiang Mai	20.13	359	P	P	23 52 18.1	-0.1
	comp=Z,41nm,1.0s,comp=Z,434nm						
MYLDM	Lahad Datu	20.26	71	P	Pn	23 52 21.8	+0.2
MYLDM	Lahad Datu	20.26	71	P	P	23 52 20.0	+0.3
	comp=Z,70nm,1.0s						
PALK	Pallekele	20.49	295	P	Pn	23 52 35.3	+11
TTSI	Tana Toraja	20.55	95	P	P	23 52 23.4	+0.6
	comp=Z,83nm,1.1s,comp=Z,9μm						
SPSI	Sidrap Palu	20.58	97	P	Pn	23 52 30.3	+4.8
KAPI	Kappang	20.70	100	*e*P	P	23 52 23.5	-1.0
KAPI	Kappang	20.70	100	P	Pn	23 52 26.1	-0.8
	comp=Z,36nm,1.1s						
KAPI	Kappang	20.70	100	P	P	23 52 21.7	-2.8
	comp=Z,24nm,0.8s,baz=0.6,slow=4.8,SNR=7.3						
BKSI	Bulukumba	21.12	101	P	P	23 52 27.5	-1.5
	comp=Z,51nm,0.7s,comp=Z,535nm						
BSSI	Bau Bau, Buton	21.63	103	P	P	23 52 36.3	+1.8
	comp=Z,100nm,1.0s,comp=Z,2μmcomp=Z,199μm						
SKSI	Soroako, Sulaw	22.03	93	P	P	23 52 47.7	+8.8
KKSI	Kolaka, Sulawe	22.47	97	P	P	23 52 52.5	+9.0
MRSI	Marisa	22.70	85	P	P	23 52 45.0	-1.0
	comp=Z,85nm,1.0s						
QIZ	Qiongzhong	22.82	26	P	P	23 52 48.0	+0.8
QIZ				S	S	23 56 57.9	+2.4
QIZ				LR	LR		
	comp=N,880nm,11.1s						
QIZ				LR	LR		
	comp=Z,1μm,12.9s						
LUWI	Luwuk	23.45	89	P	P	23 52 53.2	-0.4
	comp=Z,136nm,1.2s,comp=Z,1μm						
BBSI	Bau Bau	23.55	100	P	P	23 52 55.3	+0.7
	comp=Z,59nm,1.8s						
GTOI	Gorontalo	23.78	85	P	P	23 52 58.0	+1.2
VIS	Vishakhapatnam	24.71	321	*e*P	P	23 53 05.1	-0.2
TGY	Tagaytay City	26.41	53	P	P	23 53 18.2	-2.6
TGY	Tagaytay City	26.41	53	P	P	23 53 18.2	-2.6
	comp=Z,101nm,0.3s,baz=270,slow=11,SNR=3.1						
KMI	Kunming	26.61	7	P	P	23 53 24.1	+1.3
KMI				pP	pP	23 53 31.4	+2.2
KMI				sP	sP	23 53 33.7	+1.9
KMI				PP	PnPn	23 54 09.7	+5.9
KMI				S	S	23 57 58.3	+1.4
KMI				sS	sS	23 58 06.8	-0.6
KMI				SS	SnSn	23 59 08.8	+8.6
KMI				pmax	pmax		
	comp=Z,28nm,0.8s						
KMI				pmax	pmax		
	comp=Z,110nm,3.7s						
KMI				LR	LR		
	comp=N,340nm,10.8s						
KMI				LR	LR		
	comp=E,840nm,10.8s						
KMI				LR	LR		
	comp=Z,870nm,13.6s						
SHL	Shillong	27.80	345	*e*P	P	23 53 33.5	+0.1
SHL				*e*x	x	23 58 24.0	
BOK	Bokaro	28.28	333	*e*P	P	23 53 37.3	-0.2
BOK				AMB	AMB	23 53 42.8	
	comp=Z,65nm,1.6s						
GYA	Guiyang	28.63	14⇑	*i*P	P	23 53 38.9	-1.8
GYA				pP	pP	23 53 48.0	+0.9
GYA				PP	PnPn	23 54 35.6	+4.4
GYA				PcP	PcP	23 56 53.2	+1.6
GYA				S	S	23 58 30.0	+1.6
GYA				SS	SnSn	23 59 56.7	+7.5
GYA				ScP	ScP	00 00 32.3	+0.4
GYA				ScS	ScS	00 04 24.5	-0.9
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,120nm,4.9s						
GYA				LR	LR		
	comp=N,640nm,17.0s						
GYA				LR	LR		
	comp=E,550nm,18.2s						
GYA				LR	LR		
	comp=Z,680nm,17.8s						
LATR	Latur	29.84	312	*e*P	P	23 53 47.8	-3.6
NGP	Nagpur	29.95	320	*e*P	P	23 53 52.6	+0.2
NGP				AMB	AMB	23 54 50.6	
	comp=Z,31nm,1.3s						
JBP	Jabalpur	30.87	324	*e*P	P	23 53 59.8	-0.6
JBP				*e*x	x	23 54 01.3	
AKL	Akola	31.00	316	*e*x	x	23 55 12.2	
LSA	Lhasa	31.93	346	P	P	23 54 11.0	+0.7
LSA				pmax	pmax		
	comp=Z,60nm,0.8s						
LSA	Lhasa	31.93	346	*e*P	P	23 54 10.3	0.0
LSA				pmax	pmax		
	comp=Z,55nm,0.9s						
LSA	Lhasa	31.93	346	*e*P	P	23 54 10.3	0.0
	comp=Z,55nm,0.9s						
SWI	Sorong	31.94	89	P	P	23 54 06.3	-3.7
TPUB	Ta-pu	32.17	39	*e*P	P	23 54 11.4	-0.6
	comp=Z,70nm,1.3s						
CD2	Chengdu	32.45	7	P	P	23 54 16.3	+2.0
CD2				pP	pP	23 54 21.2	+0.5
CD2				sP	sP	23 54 24.0	+0.7
CD2				PP	PP	23 55 25.0	-2.9
CD2				PcP	PcP	23 57 02.7	+1.3
CD2				S	S	23 59 29.9	+1.9
CD2				sS	sS	23 59 38.2	-0.4
CD2				SS	SnSn	00 01 26.5	+4.5
CD2				pmax	pmax		
	comp=Z,20nm,1.0s						
CD2				pmax	pmax		
	comp=Z,140nm,3.9s						
CD2				LR	LR		
	comp=N,1μm,12.5s						
CD2				LR	LR		
	comp=Z,880nm,13.1s						
BHPL	Bhopal	32.50	320	*e*P	P	23 54 15.8	+1.0
SSLB	Suanglung	32.73	39	*e*P	P	23 54 15.5	-1.4
	comp=Z,23nm,0.9s						
FAKI	Fak Fak	32.94	93	P	P	23 54 25.4	+6.6
ENH	Enshi	32.99	16	*e*P	P	23 54 16.5	-2.5
	comp=Z,11nm,0.5s						
NWAO	Narrogin (SRO)	35.56	154	LR	LR	00 07 57.7	
	comp=Z,348nm,19.4s,baz=211,slow=34						
XAN	Xi'an	36.43	13	P	P	23 54 45.8	-3.0
XAN				pmax	pmax		
	comp=Z,7.0nm,0.9s						
XAN				LR	LR		
	comp=N,570nm,13.4s						
XAN				LR	LR		
	comp=E,240nm,12.6s						
XAN				LR	LR		
	comp=Z,380nm,13.9s						
LZH	Lanzhou	37.57	6	*e*P	P	23 54 59.7	+1.1
LZH				pP	pP	23 55 04.3	-0.8
LZH				sP	sP	23 55 06.8	-0.9
LZH				PP	PnPn	23 56 28.6	+3.1
LZH				PcP	PcP	23 57 16.5	+0.1
LZH				*e*S	S	00 00 49.0	+2.0
LZH				SS	SnSn	00 03 23.7	-2.5
LZH				pmax	pmax		
	comp=Z,29nm,1.1s						
LZH				pmax	pmax		
	comp=Z,160nm,5.0s						
LZH				LR	LR		
	comp=N,650nm,11.3s						
LZH				LR	LR		
	comp=E,590nm,12.0s						
LZH				LR	LR		
	comp=Z,960nm,13.5s						
NJ2	Nanjing	38.11	27	*e*P	P	23 55 04.6	+1.6
NJ2				pP	pP	23 55 08.5	-0.9
NJ2				sP	sP	23 55 13.4	+1.4
NJ2				S	S	00 00 59.0	+4.1
NJ2				sS	sS	00 01 08.8	+3.2
NJ2				pmax	pmax		
	comp=Z,16nm,1.4s						
NJ2				pmax	pmax		
	comp=Z,88nm,4.3s						
NJ2				LR	LR		
	comp=N,2μm,19.8s						
NJ2				LR	LR		
	comp=E,1μm,22.5s						
NJ2				LR	LR		
	comp=Z,740nm,22.5s						
SMLA	Simla	38.63	329	*e*P	P	23 55 07.5	+0.1
SMLA				AMB	AMB	23 55 26.5	
	comp=Z,50nm,2.1s						
WRA	Warramunga Arr	38.86	121	P	P	23 55 07.7	-1.8
WRA				PcP	PcP	23 57 20.0	-0.5
WRA				S	S	00 00 57.1	-10
WRA	Warramunga Arr	38.86	121	P	P	23 55 07.7	-1.8
	comp=Z,11nm,0.6s,baz=301,slow=9.0,SNR=83						
WRA				PcP	PcP	23 57 20.0	-0.5
	comp=Z,2.7nm,0.9s,baz=312,slow=2.3,SNR=3.9						
WRA				S	S	00 00 57.1	-10
	comp=Z,4.3nm,1.1s,baz=295,slow=16,SNR=5.7						
WRAB	Tennant Creek	38.87	121	P	P	23 55 07.4	-2.2
	comp=Z,179nm,0.6s,SNR=5.3						
WRAB	Tennant Creek	38.87	121	*e*P	P	23 55 08.5	-1.1
WRAB				pmax	pmax		
	comp=Z,20nm,0.7s						
WRAB	Tennant Creek	38.87	121	*e*P	P	23 55 08.5	-1.1
	comp=Z,20nm,0.7s						
DHRM	DHARAMSHALA	39.97	329	*e*P	P	23 55 17.4	-1.4
AS31	Alice Springs	40.13	126	*e*P	P	23 55 19.3	-0.9
ASAR	Alice Springs	40.13	126	P	P	23 55 19.2	-0.9
ASAR				PcP	PcP	23 57 24.6	+0.1
ASAR				S	S	00 01 22.0	-3.8
ASAR	Alice Springs	40.13	126	P	P	23 55 19.2	-0.9
	comp=Z,8.2nm,0.8s,baz=301,slow=8.0,SNR=64						
ASAR				PcP	PcP	23 57 24.6	+0.1
	comp=Z,5.4nm,0.9s,baz=297,slow=2.5,SNR=7.8						
ASAR				S	S	00 01 22.0	-3.8
	comp=Z,5.1nm,1.0s,baz=296,slow=15,SNR=14						
THN	Thein Dam	40.42	329	*e*P	P	23 55 17.3	-5.0
GTA	Gaotai	40.66	1	*e*P	P	23 55 24.0	-0.3
GTA				pP	pP	23 55 28.7	-2.1
GTA				sP	sP	23 55 31.7	-1.7
GTA				S	S	00 01 33.3	0.0
GTA				SS	SS	00 04 28.8	-5.3
GTA				pmax	pmax		
	comp=Z,14nm,1.7s						
GTA				pmax	pmax		
	comp=Z,170nm,6.2s						
GTA				LR	LR		
	comp=N,320nm,13.8s						
GTA				LR	LR		
	comp=E,290nm,19.0s						
GTA				LR	LR		
	comp=Z,360nm,13.8s						
BJT	Baijiatuau	44.05	19	*e*P	P	23 55 49.8	-2.0
	comp=Z,17nm,0.6s						
BJI	Beijing	44.07	19	P	P	23 55 50.0	-1.9
BJI				S	S	00 02 27.7	+4.4
BJI				pmax	pmax		
	comp=Z,28nm,1.2s						
BJI				LR	LR		
	comp=N,500nm,12.2s						
BJI				LR	LR		
	comp=E,380nm,14.8s						
BJI				LR	LR		
	comp=Z,250nm,17.3s						
JNU	Nakatsue	45.47	38	*e*P	P	23 56 02.1	-1.2
JNU	Nakatsue	45.47	38	P	P	23 56 01.4	-1.9
	comp=Z,29nm,0.8s,baz=196,slow=2.5,SNR=10						
JNU				LR	LR	00 17 00.4	
	comp=Z,112nm,18.6s,baz=64,slow=39						
KSH	Kashi	46.04	335	P	P	23 56 06.7	-1.1
KSH				sP	sP	23 56 13.1	-3.8
KSH				PP	PP	23 57 53.2	-2.8
KSH				PcS	PcS	00 01 37.4	-1.2
KSH				S	S	00 02 47.8	-4.4
KSH				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KSH				pmax	pmax		
	comp=Z,77nm,4.1s						
KSH				LR	LR		
	comp=N,120nm,5.6s						
KSH				LR	LR		
	comp=E,120nm,7.0s						
KSH				LR	LR		
	comp=Z,230nm,20.7s						
WMQ	Urumqi	46.25	348	P	P	23 56 11.2	+1.9
WMQ				pP	pP	23 56 15.7	-0.2
WMQ				sP	sP	23 56 18.2	-0.2
WMQ				PcP	PcP	23 57 47.3	+2.6
WMQ				PP	PP	23 57 59.7	+1.6
WMQ				S	S	00 02 56.3	+1.4
WMQ				ScS	ScS	00 06 03.7	0.0
WMQ				SS	SS	00 06 13.8	-6.9
WMQ				pmax	pmax		
	comp=Z,68nm,1.0s						
WMQ				pmax	pmax		
	comp=Z,170nm,6.0s						
WMQ				LR	LR		
	comp=N,160nm,24.1s						
WMQ				LR	LR		
	comp=E,170nm,23.3s						
WMQ				LR	LR		
	comp=Z,130nm,18.5s						
KSAR	Wonju Array Be	46.87	31	P	P	23 56 12.3	-1.8
KSRS	Korea Array	46.90	31	P	P	23 56 12.3	-2.0
	comp=Z,6.9nm,0.7s,baz=224,slow=8.4,SNR=25						
KSRS				LR	LR	00 19 03.9	
	comp=Z,117nm,19.1s,baz=356,slow=40						
TKM2	Tokmak 2	49.05	337	*e*P	P	23 56 32.3	+1.0
TKM2				pmax	pmax		
	comp=Z,33nm,1.0s						
TKM2	Tokmak 2	49.05	337	P	P	23 56 32.3	+1.0
	SNR=18						
TKM2	Tokmak 2	49.05	337	*e*P	P	23 56 32.2	+1.0
	comp=Z,34nm,1.0s						
KBK	Karagaybulak	49.09	336	P	P	23 56 32.8	+1.3
	SNR=14						
AML	Almayashu	49.17	335	P	P	23 56 33.2	+0.8
	SNR=9.7						
AAK	Ala-Archa	49.25	336⇑	*e*P	P	23 56 33.3	+0.6
AAK				pmax	pmax		
	comp=Z,37nm,1.7s						
AAK	Ala-Archa	49.25	336	*e*P	P	23 56 34.0	+1.3
AAK	Ala-Archa	49.25	336	P	P	23 56 33.4	+0.6
	comp=Z,5.7nm,0.8s,baz=134,slow=7.4,SNR=13						
AAK				LR	LR	00 21 46.7	
	comp=Z,154nm,18.9s,baz=33,slow=42						
CTA	Charters Tower	49.45	115	P	P	23 56 32.9	-1.5
CTA	Charters Tower	49.45	115	P	P	23 56 32.9	-1.5
	comp=Z,5.0nm,0.7s,baz=292,slow=10,SNR=4.6						
CTAO	Charters Tower	49.45	115	*e*P	P	23 56 34.3	-0.2
CTAO				pmax	pmax		
	comp=Z,25nm,1.3s						
CTAO	Charters Tower	49.45	115	*e*P	P	23 56 34.3	-0.2
	comp=Z,25nm,1.3s						
SONM	Songino Array	49.46	6	P	P	23 56 33.7	-0.5
SONM				ScP	ScP	00 01 50.1	-0.5
SONM	Songino Array	49.46	6	P	P	23 56 33.7	-0.5
	comp=Z,9.9nm,0.7s,baz=190,slow=9.0,SNR=65						
SONM				ScP	ScP	00 01 50.1	-0.5
	comp=Z,0.6nm,0.9s,baz=193,slow=4.4,SNR=3.8						
ULN	Ulaanbaatar	49.57	7	*e*P	P	23 56 34.5	-0.5
	comp=Z,13nm,1.0s						
EKS2	Erkin-Say	49.57	335	*e*P	P	23 56 36.0	+0.9
EKS2				pmax	pmax		
	comp=Z,35nm,1.0s						
EKS2	Erkin-Say	49.57	335	P	P	23 56 35.6	+0.5
	SNR=15						
EKS2	Erkin-Say	49.57	335	*e*P	P	23 56 36.0	+0.9
	comp=Z,35nm,1.0s						
USP	Ospenovka	49.78	336	P	P	23 56 37.2	+0.7
	SNR=17						
STKA	Stephens Creek	50.03	132	*e*P	P	23 56 38.8	+0.1
STKA	Stephens Creek	50.03	132	P	P	23 56 38.6	-0.1
	comp=Z,8.3nm,0.6s,baz=303,slow=9.0,SNR=11						
STKA				LR	LR	00 17 13.3	
	comp=Z,394nm,21.0s,baz=9.5,slow=36						
MK31	Makanchi Array	50.31	345	*ce*P	P	23 56 40.5	-0.1
MK31				pmax	pmax		
	comp=Z,42nm,0.7s						
MK31	Makanchi Array	50.31	345	*e*P	P	23 56 40.8	+0.2
MKAR	Makanchi Array	50.31	345	*e*P	P	23 56 40.7	+0.1
MKAR				S	S	00 03 52.4	+0.2
MKAR	Makanchi Array	50.31	345	*e*P	P	23 56 40.7	+0.1
MKAR				S	S	00 03 52.4	+0.2
MKAR	Makanchi Array	50.31	345	P	P	23 56 40.6	+0.1
	comp=Z,35nm,0.7s,baz=149,slow=8.0,SNR=247						
MKAR				S	S	00 03 52.4	+0.2
	comp=Z,1.3nm,1.1s,baz=151,slow=18,SNR=3.0						
MKAR				LR	LR	00 20 41.4	
	comp=Z,99nm,20.6s,baz=163,slow=39						
CN2	Changchun	50.76	24	*e*P	P	23 56 41.5	-2.4
CN2				*es*P	sP	23 56 48.5	-4.6
CN2				*e*S	S	00 03 55.5	-2.9
CN2				pmax	pmax		
	comp=Z,20nm,0.9s						
CN2				pmax	pmax		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,1μm,18.0s						
CN2				LR	LR		
	comp=E,600nm,18.0s						
CN2				LR	LR		
	comp=Z,500nm,14.0s						
KK31	Karatay Array	51.35	333	*ce*P	P	23 56 48.3	-0.1
KK31				pmax	pmax		
	comp=Z,4.0nm,0.5s						
KKAR	Karatay Array	51.35	333	*e*P	P	23 56 48.8	+0.3
KKAR	Karatay Array	51.35	333	*e*P	P	23 56 48.8	+0.3
ZAK	Zakamensk	51.74	3	*e*P	P	23 56 50.5	-0.8
ZAK				*e*		23 58 01.7	
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
MJAR	Matsushiro Arr	52.28	40	P	P	23 56 52.8	-2.7
MJAR	Matsushiro Arr	52.28	40	P	P	23 56 52.8	-2.7
	comp=Z,2.4nm,0.7s,baz=226,slow=7.3,SNR=5.3						
MJAR				LR	LR	00 21 44.6	
	comp=Z,83nm,18.5s,baz=65,slow=39						
HVS	Khovu-Aksy	52.60	356	*de*P	P	23 56 56.7	-1.0
HVS				pmax	pmax		
	comp=Z,65nm,1.2s						
MOY	Mondy	52.93	1	*e*P	P	23 57 01.8	+1.7
TLY	Talaya	53.05	3	*e*P	P	23 57 01.2	+0.3
TLY				*e*		23 58 07.2	
TLY				*e*		23 58 54.5	
TLY				*e*SS	SS	00 07 56.0	-13
TLY				pmax	pmax		
	comp=Z,11nm,1.2s						
TLY				MLR	MLR		
	comp=Z,183nm,13.0s						
OPO	Ambohidratompo	53.84	248	P	P	23 57 07.8	+0.3
OPO	Ambohidratompo	53.84	248	P	P	23 57 07.8	+0.3
	comp=Z,12nm,0.9s,baz=79,slow=6.7,SNR=7.3						
USRK	Ussuriysk Arra	53.99	29	P	P	23 57 06.8	-1.1
	comp=Z,16nm,0.8s,baz=227,slow=5.8,SNR=27						
USRK				LR	LR	00 22 47.7	
	comp=Z,227nm,18.2s,baz=348,slow=39						
KURBB	Kurchatov Arra	54.83	344	P	P	23 57 13.6	-0.3
	comp=Z,9.9nm,0.8s,baz=163,slow=7.1,SNR=110						
KURBB				S	S	00 04 55.6	+1.9
	comp=Z,0.3nm,0.3s,baz=148,slow=16,SNR=4.4						
KURK	Kurchatov	54.88	344	P	P	23 57 13.6	-0.7
KURK				S	S	00 04 55.7	+1.2
KURK	Kurchatov	54.88	344	P	P	23 57 13.6	-0.7
KURK				S	S	00 04 55.6	+1.2
ZAA0	Zalesovo Array	56.50	350	*e*P	P	23 57 25.5	-0.3
ZALV	Zalesovo Beam	56.50	350	P	P	23 57 25.6	-0.2
ZALV				S	S	00 05 15.7	-0.3
ZALV	Zalesovo Beam	56.50	350	P	P	23 57 25.6	-0.2
ZALV				S	S	00 05 15.7	-0.3
ZALV	Zalesovo Beam	56.50	350	P	P	23 57 25.6	-0.2
	comp=Z,35nm,0.7s,baz=178,slow=5.7,SNR=177						
ZALV				S	S	00 05 15.7	-0.3
	comp=Z,0.5nm,0.5s,baz=167,slow=8.8,SNR=6.3						
DAMY	Dhamar	56.64	288	*e*P	P	23 57 29.9	+2.0
ARMA	Armidale	57.28	126	*e*P	P	23 57 33.0	+1.0
	comp=Z,12nm,1.0s						
KRAR	Krasnoyarsk	57.51	356⇑	*e*P	P	23 57 35.4	+2.5
KRAR				pmax	pmax		
	comp=Z,83nm,1.2s						
NVS	Novosibirsk	57.64	349⇓	*i*P	P	23 57 31.7	-2.2
NVS				*e*S	S	00 05 28.2	-2.7
NVS				pmax	pmax		
	comp=N,17nm,1.3s						
NVS				pmax	pmax		
	comp=E,15nm,1.3s						
NVS				pmax	pmax		
	comp=Z,27nm,1.3s						
NVS				pmax	pmax		
	comp=N,3.0nm,1.1s						
NVS				pmax	pmax		
	comp=E,9.0nm,1.1s						
NVS				pmax	pmax		
	comp=Z,10.0nm,1.1s						
NVS				smax	smax		
	comp=N,32nm,2.2s						
NVS				smax	smax		
	comp=E,18nm,1.8s						
KBD	Kabd	57.95	306	*e*P	P	23 57 36.0	-0.6
KBD				AMb	AMB	23 57 38.1	
	comp=Z,39nm,1.1s						
RDF	Al-Radifah	57.97	306	*e*P	P	23 57 36.6	-0.1
RDF				AMb	AMB	23 57 38.1	
	comp=Z,76nm,1.0s						
UMR	Umm Al-Rimmam	58.08	306	*e*P	P	23 57 36.9	-0.6
UMR				AMb	AMB	23 57 38.9	
	comp=Z,59nm,1.0s						
NAY	Al-Naaiem	58.34	306	*e*P	P	23 57 38.7	-0.6
NAY				AMb	AMB	23 57 40.5	
	comp=Z,1.6nm,1.0s						
RST	Umm Al-Ruwaisa	58.64	306	*e*P	P	23 57 41.1	-0.3
RST				AMb	AMB	23 57 42.4	
	comp=Z,333nm,0.9s						
VOSK	Vostochnaya	58.98	340	*e*P	P	23 57 42.7	-0.6
VOSK				pmax	pmax		
	comp=Z,10.0nm,0.8s						
VOSK	Vostochnaya	58.98	340	*e*P	P	23 57 42.6	-0.6
	comp=Z,9.9nm,0.8s						
BVAR	Borovoye Array	59.43	340	P	P	23 57 45.7	-0.7
BVAR	Borovoye Array	59.43	340	P	P	23 57 45.7	-0.7
BVAR	Borovoye Array	59.43	340	P	P	23 57 45.7	-0.7
	comp=Z,6.5nm,0.7s,baz=140,slow=9.5,SNR=36						
BRVK	Borovoye	59.49	340	*e*P	P	23 57 46.3	-0.5
BRVK				pmax	pmax		
	comp=Z,9.0nm,0.8s						
BRVK	Borovoye	59.49	340	*e*P	P	23 57 46.3	-0.5
	comp=Z,9.3nm,0.8s						
ASAJ	Asahikawa	59.55	35	LR	LR	00 26 43.6	
	comp=Z,85nm,18.6s,baz=176,slow=40						
AB31	Akbulak array	60.83	332	*ce*P	P	23 57 55.2	-0.9
AB31				pmax	pmax		
	comp=Z,15nm,0.7s						
ABKAR	Akbulak array	60.83	332	*e*P	P	23 57 55.3	-0.8
YSS	Yuzh-Sakhalins	61.38	32	*e*P	P	23 58 00.0	+0.2
YSS				*e*		23 58 10.0	
YSS				pmax	pmax		
	comp=Z,40nm,1.0s						
KMBO	Kilima Mbogo	62.05	269	*e*P	P	23 58 07.2	+1.9
	comp=Z,22nm,1.1s						
KMBO	Kilima Mbogo	62.05	269	P	P	23 58 07.4	+2.1
	comp=Z,12nm,0.9s,baz=59,slow=9.4,SNR=34						
AKTO	Aktyubinsk	62.54	332	P	P	23 58 06.6	-1.1
AKTO	Aktyubinsk	62.54	332	P	P	23 58 06.6	-1.1
AKTO	Aktyubinsk	62.54	332	P	P	23 58 06.6	-1.1
	comp=Z,5.0nm,0.9s,baz=121,slow=8.4,SNR=14						
DGRG	David-gareji	64.80	318	P	P	23 58 23.4	+0.6
CASY	Casey	65.19	175	*e*P	P	23 58 25.8	+1.1
	comp=Z,34nm,1.4s						
TBLG	Delisi	65.35	318	*e*P	P	23 58 27.1	+0.8
TBLG	Delisi	65.35	318	P	P	23 58 27.1	+0.8
DUS	Dusheti	65.53	318	P	P	23 58 28.4	+0.8
SVE	Sverdlovsk	65.91	338⇓	*i*P	P	23 58 29.6	0.0
SVE				pmax	pmax	

ARU SS **SS** **00 11 34.1 -4.8**
ARU pmax pmax
comp=Z,21nm,1.7s
ARU Arti 66.43 337 P **P** **23 58 32.3 -0.6**
comp=Z,68nm,1.6s,SNR=5.6
ONI Oni 66.58 318 P **P** **23 58 35.5 +1.2**
YAK Yakutsk 67.38 15 *e*P **P** **23 58 36.0 -2.8**
YAK *e* 23 58 43.1
YAK pmax pmax
comp=Z,29nm,1.1s
YAK pmax pmax
comp=E,12nm,1.3s
YAK pmax pmax
comp=N,12nm,1.3s
KBZ Khabaz 67.44 319 P **P** **23 58 40.0 +0.4**
KBZ Khabaz 67.44 319 P **P** **23 58 40.0 +0.4**
KBZ Khabaz 67.44 319 P **P** **23 58 40.0 +0.4**
comp=N,9.7nm,0.8s,baz=119,slow=5.5,SNR=28
KIV Kislovodsk 67.68 319 *e*P **P** **23 58 41.1 -0.1**
KIV pmax pmax
comp=Z,25nm,1.1s
KIV MLR MLR
comp=Z,43nm,18.0s
ASF Jabal al Asfar 67.71 306 P **P** **23 58 43.0 +1.3**
ASF Jabal al Asfar 67.71 306 P **P** **23 58 43.0 +1.3**
comp=Z,7.2nm,0.9s,baz=76,slow=3.7,SNR=11
MALT Malatya 68.46 312⇑*i*P **P** **23 58 47.0 +0.7**
MBAR Mbarara 68.57 270 P **P** **23 58 48.4 +0.9**
MBAR Mbarara 68.57 270 P **P** **23 58 48.4 +0.9**
comp=Z,9.2nm,0.9s,baz=124,slow=8.7,SNR=13
EIL Elat 68.65 303 P **P** **23 58 48.3 +0.8**
EIL Elat 68.65 303 P **P** **23 58 48.3 +0.8**
comp=Z,18nm,0.9s,baz=62,slow=2.5,SNR=16
MMAI Mount Meron Ar 69.16 306 P **P** **23 58 52.0 +1.3**
MMAI Mount Meron Ar 69.16 306 P **P** **23 58 52.0 +1.3**
comp=Z,10nm,1.0s,baz=104,slow=9.5,SNR=12
SOKR Solikamsk 69.32 338 *e*P **P** **23 58 51.4 +0.4**
SOKR pmax pmax
comp=Z,10.0nm,0.8s
MAW Mawson 70.66 194 P **P** **23 58 59.0 -0.1**
MAW Mawson 70.66 194 P **P** **23 58 59.0 -0.1**
comp=Z,12nm,0.8s,baz=303,slow=13,SNR=5.7
MAW LR LR 00 25 51.0
comp=Z,269nm,18.3s,baz=28,slow=32
LSZ Lusaka 71.42 254 *e*P **P** **23 59 06.5 +1.5**
comp=Z,30nm,1.5s
ANN Anapa 71.47 319 *e*P P 23 58 55.0 -9.5
ANN pmax pmax
comp=Z,46nm,1.1s
VRHR Novokhopersk 71.49 326 *e*P **P** **23 59 03.5 -1.0**
VRHR pmax pmax
comp=Z,10.0nm,0.7s
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.5s
BR131 Keskin Array S 72.44 313 *e*P **P** **23 59 09.4 -1.2**
comp=E,1.8nm,0.6s
BRTR Keskin Array B 72.44 313 P **P** **23 59 09.8 -0.9**
BRTR Keskin Array B 72.44 313 P **P** **23 59 09.8 -0.9**
comp=E,3.3nm,0.8s,baz=131,slow=7.6,SNR=23
BRTR LR LR 00 36 30.9
comp=E,36nm,19.0s,baz=279,slow=40
VORD Divnogorie 72.75 325 *e*P **P** **23 59 10.9 -1.1**
VORD pmax pmax
comp=Z,20nm,0.9s
VORD pmax pmax
comp=N,130nm,0.7s
VORD pmax pmax
comp=E,120nm,0.6s
PETK Petropavlovsk- 72.78 33 P **P** **23 59 09.5 -2.7**
PETK Petropavlovsk- 72.78 33 P **P** **23 59 09.5 -2.7**
PETK Petropavlovsk- 72.78 33 P **P** **23 59 09.5 -2.7**
comp=E,1.7nm,0.6s,baz=316,slow=8.1,SNR=5.5
PETK LR LR 00 35 45.8
comp=E,100nm,18.0s,baz=95,slow=40
VSR Storozhevoye 72.93 325 *e*P **P** **23 59 12.1 -1.0**
VSR pmax pmax
comp=N,7.0nm,0.8s
VSR pmax pmax
comp=E,10.0nm,0.8s
VSR pmax pmax
comp=Z,10.0nm,0.8s
PET Petropavlovsk 73.26 33 P **P** **23 59 15.7 +0.7**
PET pmax pmax
comp=Z,28nm,1.3s
LBTB Lobatse 74.65 245 *e*P **P** **23 59 26.5 +2.6**
comp=Z,120nm,2.4s
BOSA Boshof 75.33 241 *e*P **P** **23 59 28.4 +0.6**
comp=Z,65nm,1.9s
BOSA Boshof 75.33 241 P **P** **23 59 28.4 +0.6**
comp=Z,8.1nm,1.0s,baz=112,slow=9.6,SNR=7.0
BOSA LR LR 00 26 16.5
comp=Z,190nm,18.6s,baz=107,slow=31
SEY Seymchan 75.37 22⇑*e*P **P** **23 59 26.5 -0.6**
TIXI Tiksi 75.42 9*c*e**P** **P** **23 59 25.7 -1.5**
TIXI pmax pmax
comp=Z,43nm,1.7s
TIXI MLR MLR
comp=Z,204nm,15.0s
MOS Moscow 75.67 329 *e*P **P** **23 59 26.0 -3.0**
MOS pmax pmax
comp=Z,52nm,1.2s
RPZ Rata Peaks 75.86 135 P **P** **23 59 29.4 -1.0**
RPZ Rata Peaks 75.86 135 P **P** **23 59 29.4 -1.0**
comp=Z,18nm,0.9s,baz=273,slow=17,SNR=4.3
OBN Obninsk 75.96 328 *e*P **P** **23 59 30.1 -0.5**
OBN *i* 23 59 37.6
OBN *i* 00 02 25.7
OBN *i* S **S** **00 09 10.2 -2.2**
OBN *e*SS **SS** **00 14 03.4 -1.8**
OBN pmax pmax
comp=Z,46nm,1.6s
KLMR Klimovskoe 77.03 334 *e*P **P** **23 59 35.4 -1.2**
KLMR pmax pmax
comp=Z,36nm,1.5s
KHZ Kahutara 77.40 133 P **P** **23 59 39.9 +0.8**
KIS Kishinev 77.87 319 *e*P **P** **23 59 43.0 +1.4**
KIS Kishinev 77.87 319 *e*P **P** **23 59 43.0 +1.4**
KIS *e* 23 59 50.0
HARR Harsova 77.87 316⇑P **P** **23 59 41.8 +0.2**
HARR Harsova 77.87 316⇑*i*P **P** **23 59 41.8 +0.2**
LEOM Leova 78.11 318⇓P **P** **23 59 41.9 -1.0**
LEOM Leova 78.11 318⇓*i*P **P** **23 59 41.9 -1.0**
IDI Anoyia 78.16 306 P **P** **23 59 44.0 +0.4**
IDI Anoyia 78.16 306 P **P** **23 59 44.0 +0.4**
comp=Z,16nm,0.9s,baz=42,slow=4.2,SNR=6.7
SYO Syowa Base 78.18 199⇑*i*P **P** **23 59 43.0 +0.2**
SYO Syowa Base 78.18 199⇑*e*PcP **PcP** **23 59 55.3 +3.0**
GHRR 78.57 318⇓*i*P **P** **23 59 46.3 +0.8**
AKASG Malin Array Be 78.63 322*c*e**P** **P** **23 59 45.0 -0.7**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 78.63 322 P **P** **23 59 45.5 -0.2**
AKASG Malin Array Be 78.63 322 P **P** **23 59 45.5 -0.2**
comp=Z,1.1nm,0.4s,baz=87,slow=5.0,SNR=6.9
VRI Vrincioaia 78.98 317⇓P **P** **23 59 48.7 +0.9**
VRI Vrincioaia 78.98 317⇓*i*P **P** **23 59 48.7 +0.9**
PLOR Plostina 79.03 317⇑P **P** **23 59 48.7 +0.6**
PLOR Plostina 79.03 317⇑*i*P **P** **23 59 48.7 +0.6**
BKZ Black Stump Fm 79.15 129 *e*P **P** **23 59 49.0 0.0**
comp=Z,33nm,0.9s
TMCR Tamitsa 79.16 337 *e*P **P** **23 59 48.9 +0.6**
TMCR *e* 23 59 57.1
TMCR pmax pmax
comp=Z,36nm,1.4s
TESR Tescani 79.19 318⇓*i*P **P** **23 59 49.4 +0.5**
MLR Muntele Rosu 79.43 317⇓*i*P **P** **23 59 51.1 +0.7**
PRAR RASCA 79.67 319⇓*i*P **P** **23 59 52.0 +0.5**
VOIR 80.03 317⇑P **P** **23 59 52.9 -0.7**
VOIR 80.03 317⇑*i*P **P** **23 59 52.9 -0.7**
ARR Arges 80.30 316⇑*i*P **P** **23 59 55.1 0.0**
BURAR Bucovina Array 80.39 319⇑P **P** **23 59 56.2 +0.7**
BURAR Bucovina Array 80.39 319⇑*i*P **P** **23 59 56.2 +0.7**
VTS Vitosha 80.77 313⇑P **P** **23 59 57.0 -0.8**
VTS Vitosha 80.77 313⇑*i*P **P** **23 59 57.0 -0.8**
ARCR ARCALIA 80.85 318⇓*i*P **P** **23 59 59.0 +1.1**
LOT Lotru 80.92 316⇑*i*P **P** **23 59 58.3 -0.1**
JOF Joensuu 81.42 335 *e*P **P** **00 00 01.6 +1.1**
JOF pmax pmax
comp=Z,4.0nm,0.8s
JOF Joensuu 81.42 335 *e*p **P** **00 00 01.6 +1.1**
comp=Z,3.8nm,0.8s
FX1 Attu Island--F 81.45 36 P **P** **23 59 60.0 -0.9**
FX1 Attu Island--F 81.45 36 P **P** **23 59 60.0 -0.9**
comp=Z,5.0nm,0.6s,baz=234,slow=19,SNR=4.7
TSUM Tsumeb 81.72 251 *e*P **P** **00 00 04.8 +1.6**
comp=Z,6.1nm,0.9s
KWP Kalwaria Pacla 82.44 320 *e*P **P** **00 00 07.1 +0.9**
KOLS Kolonicke sedl 82.59 320 *e*P **P** **00 00 08.0 +1.0**
KOLS pmax pmax
comp=Z,19nm,1.0s
VNDA Vanda 82.84 169 *e*P **P** **00 00 08.5 +0.7**
VNDA Vanda 82.84 169 P **P** **00 00 08.0 +0.2**
comp=Z,8.1nm,1.1s,baz=295,slow=5.7,SNR=16
VNDA LR LR 00 32 22.3
comp=Z,177nm,20.3s,baz=289,slow=32
SUW Suwalki 83.04 325 *e*P **P** **00 00 09.4 +0.2**
SUW pmax pmax
comp=Z,41nm,1.0s
SUW Suwalki 83.04 325 *e*P **P** **00 00 09.4 +0.2**
comp=Z,41nm,1.0s
SUW Suwalki 83.04 325 *e*P **P** **00 00 09.4 +0.2**
CRVS Cervenica-Dubn 83.11 319 *e*P **P** **00 00 10.9 +1.2**
CRVS pmax pmax
comp=Z,7.0nm,1.1s
FINES FINESS Array B 83.30 332 P **P** **00 00 10.8 +0.3**
FINES FINESS Array B 83.30 332 P **P** **00 00 10.8 +0.3**
comp=Z,5.8nm,0.8s,baz=92,slow=4.0,SNR=15
STHS Stebnicka Huta 83.34 320 *e*P **P** **00 00 12.0 +1.1**
STHS pmax pmax
comp=Z,9.0nm,0.9s
KAF Kangasniemi 83.38 333 *e*P **P** **00 00 11.3 +0.5**
KAF pmax pmax
comp=Z,10.0nm,0.8s
KAF Kangasniemi 83.38 333 *e*p **P** **00 00 11.3 +0.5**
comp=Z,10nm,0.8s
KECS Kecovo 83.67 319 *e*P **P** **00 00 12.9 +0.3**
KECS pmax pmax
comp=Z,4.0nm,0.9s
SBA Scott Base 83.93 169 *e*P **P** **00 00 15.0 +1.6**
SBA pmax pmax
comp=Z,11nm,0.9s
SBA Scott Base 83.93 169 *e*P **P** **00 00 15.0 +1.6**
comp=Z,11nm,0.9s
PSZ Piszkesteto 83.98 318 *e*P **P** **00 00 14.4 +0.1**
PSZ pmax pmax
comp=Z,7.0nm,0.9s
PSZ Piszkesteto 83.98 318 *e*P **P** **00 00 14.4 +0.1**
comp=Z,7.2nm,0.9s
PSZ Piszkesteto 83.98 318⇑*e*P **P** **00 00 14.9 +0.6**
PKS2 Kecel 84.22 317⇓*e*P **P** **00 00 16.8 +1.3**
OJC Ojcow 84.39 321 *e*P **P** **00 00 16.6 +0.3**
OJC pmax pmax
comp=Z,11nm,1.1s
OJC Ojcow 84.39 321 *e*P **P** **00 00 16.6 +0.3**
comp=Z,11nm,1.1s
PKSM Moragy 84.58 317⇑*e*P **P** **00 00 17.6 +0.3**
PKSG 84.91 318⇓*e*P **P** **00 00 19.8 +0.9**
CSKK Cs^‡kako 84.99 318⇓*e*P **P** **00 00 20.3 +1.0**
PKST T^`s 85.13 317⇑*e*P **P** **00 00 20.4 +0.3**
OKC Ostrava-Krasne 85.39 320 *i* P **P** **00 00 22.1 +0.8**
OKC Ostrava-Krasne 85.39 320 *i* P **P** **00 00 22.1 +0.8**
CEL Celeste 85.72 308 *e*P **P** **00 00 23.4 +0.2**
comp=Z,29nm,1.0s
ARCES ARCESS Array B 85.72 340 P **P** **00 00 23.2 +0.7**
ARCES ARCESS Array B 85.72 340 P **P** **00 00 23.2 +0.7**
comp=Z,4.3nm,0.8s,baz=100,slow=3.7,SNR=15
MORC Moravsky Berou 85.77 320 *e*P **P** **00 00 23.7 +0.5**
MORC pmax pmax
comp=Z,7.0nm,1.0s
MORC Moravsky Berou 85.77 320 *e*P **P** **00 00 23.7 +0.5**
comp=Z,7.0nm,1.0s
BEHE Becsehely 85.89 317⇑*e*P **P** **00 00 25.1 +1.2**
CUC Castrocucco 85.93 310 *e*P **P** **00 00 24.4 +0.1**
comp=Z,7.9nm,1.0s
SOP Sopron 86.17 318⇑*e*P **P** **00 00 24.8 -0.4**
DPC Dobruska-Polom 86.62 320 *e*P **P** **00 00 26.9 -0.5**
DPC pmax pmax
comp=Z,175nm,1.8s
DPC Dobruska-Polom 86.62 320 *i* P **P** **00 00 28.4 +1.0**
DPC Dobruska-Polom 86.62 320 *e*P **P** **00 00 26.9 -0.5**
comp=Z,175nm,1.8s
UPC Upice 86.84 321 *i* P **P** **00 00 29.5 +1.1**
UPC Upice 86.84 321 *i* P **P** **00 00 29.5 +1.1**
BOJS Bojanci 86.85 316 *i* P **P** **00 00 28.6 0.0**
SOKA Soboth 87.11 317⇑*i*P **P** **00 00 30.3 +0.4**
comp=Z,9.6nm,0.9s,SNR=8.0
LJU Ljubljana 87.40 316 *i* P **P** **00 00 31.9 +0.6**
JAVS Javornik 87.71 316 *i* P **P** **00 00 31.7 -1.2**
PRU Pruhonice 87.73 320 *i* P **P** **00 00 33.5 +0.8**
PRU Pruhonice 87.73 320 *i* P **P** **00 00 33.5 +0.8**
PVCC Panska Ves 87.76 321 *i* P P 00 00 24.8 -8.0
AQU L'Aquila 87.94 312 *e*P **P** **00 00 34.8 +0.8**
comp=Z,31nm,1.0s
BRG Berggiesshubel 88.18 321 *e*P **P** **00 00 35.6 +0.7**
comp=Z,8.0nm,1.0s
GEC2 GERESS Array S 88.18 319 *e*P **P** **00 00 35.6 +0.5**
comp=Z,15nm,1.3s
GEC2 GERESS Array S 88.18 319 *e*P **P** **00 00 35.6 +0.5**
GEC2 pmax pmax
comp=Z,15nm,1.3s
GEC2 GERESS Array S 88.18 319 *e*P **P** **00 00 35.9 +0.8**
GERES GERESS Array B 88.18 319 P **P** **00 00 35.5 +0.5**
GERES GERESS Array B 88.18 319 P **P** **00 00 35.5 +0.5**
comp=Z,3.8nm,0.9s,baz=101,slow=4.2,SNR=28
KHC Kasperske Hory 88.28 319 *i* P **P** **00 00 35.3 -0.2**
KHC Kasperske Hory 88.28 319 *i* P **P** **00 00 35.3 -0.2**
RUE Ruedersdorf 88.41 322 *e*P **P** **00 00 36.8 +1.0**
comp=Z,36nm,1.1s
QSPA South Pole Qui 88.52 180 *e*P **P** **00 00 36.9 +0.6**
comp=Z,33nm,1.4s
QSPA South Pole Qui 88.52 180 P **P** **00 00 37.2 +0.9**
comp=Z,6.4nm,0.5s,baz=294,slow=1.5,SNR=77
FBE Freiberg 88.56 321 *e*P **P** **00 00 37.7 +1.1**
comp=Z,16nm,1.1s
WET Wettzell 88.74 319 *e*P **P** **00 00 38.2 +0.6**
comp=Z,11nm,1.1s
WET Wettzell 88.74 319 *e*P **P** **00 00 38.2 +0.6**
WET pmax pmax
comp=Z,11nm,1.1s
CLL Collm 88.80 321 *e*P **P** **00 00 38.3 +0.5**
comp=Z,8.0nm,1.0s
CLL Collm 88.80 321 *i* P **P** **00 00 38.3 +0.5**
CLL *i* 00 00 46.7
CLL pmax pmax
comp=Z,8.0nm,1.0s
CLL Collm 88.80 321 *i* P **P** **00 00 38.3 +0.5**
comp=Z,8.0nm,1.0s
CLL *i* 00 00 46.7
CLL *i* 00 00 57.6
CLL *e*S S 00 11 31.0 +6.9
CLL *e*PS **PS** **00 12 32.0 +1.5**
CLL *e*SSSS 00 24 48.0
TANN Tannenbergstha 89.09 320 *e*P **P** **00 00 39.7 +0.4**
comp=Z,13nm,1.4s
ROTZ Rotzenmuhle 89.22 320 *e*P **P** **00 00 40.6 +0.8**
comp=Z,6.0nm,1.0s
PLN Plauen 89.29 320 *e*P **P** **00 00 40.9 +0.8**
MANZ Manzenberg 89.29 320 *e*P **P** **00 00 41.2 +1.0**
comp=Z,14nm,1.0s
WTTA Wattenberg 89.47 317⇑*i*P **P** **00 00 41.0 -0.3**
comp=Z,11nm,1.1s
NEUB Neuenburg 89.57 321 *e*P **P** **00 00 42.2 +0.8**
comp=Z,19nm,0.9s
MOX Moxa 89.64 320 *e*P **P** **00 00 42.8 +1.0**
comp=Z,11nm,1.4s
MOX *e*L L 00 50 27.8
comp=Z,82nm,18.1s
MOX Moxa 89.64 320 *e*P **P** **00 00 42.8 +1.0**
MOX pmax pmax
comp=Z,11nm,1.4s
MOTA Moosalm 89.84 317⇑*i*P **P** **00 00 42.6 -0.4**
comp=Z,10.0nm,1.0s
GRF Grafenberg Arr 89.85 320 *e*P **P** **00 00 43.8 +1.0**
comp=Z,14nm,1.0s
GRF *e*L L 00 48 25.5
comp=Z,51nm,21.9s
GRF Grafenberg Arr 89.85 320 *e*P **P** **00 00 43.8 +1.0**
GRF pmax pmax
comp=Z,14nm,1.0s
GRFO Grafenberg 89.85 320 *e*P **P** **00 00 44.2 +1.4**
GRFO pmax pmax
comp=Z,11nm,0.9s
GRFO Grafenberg 89.85 320 *e*P **P** **00 00 44.1 +1.4**
comp=Z,11nm,0.9s
RETA Reutte 90.07 317⇓*i*P **P** **00 00 43.9 0.0**
comp=Z,9.7nm,1.0s
CLZ Clausthal 90.47 322 *e*P **P** **00 00 46.5 +0.9**
comp=Z,12nm,1.1s
CLZ Clausthal 90.47 322 *e*P **P** **00 00 46.5 +0.9**
CLZ pmax pmax
comp=Z,12nm,1.1s
NRDL Niedersach Rie 90.65 322 *e*P **P** **00 00 47.8 +1.5**
comp=Z,18nm,1.3s
DAVOX Davos/Dischmat 90.65 317 P **P** **00 00 47.7 +0.9**
DAVOX Davos/Dischmat 90.65 317 P **P** **00 00 47.7 +0.9**
comp=Z,9.4nm,0.8s,baz=126,slow=6.6,SNR=13
DAVA Damuels 90.67 317⇑*i*PcP **P** **00 00 47.3 +0.5**
comp=Z,19nm,1.0s,SNR=6.1
KEST Kesra 90.81 306 P **P** **00 00 49.1 +1.5**
KEST Kesra 90.81 306 P **P** **00 00 49.1 +1.5**
comp=Z,6.1nm,0.9s,baz=47,slow=2.8,SNR=15
PGF Pioggiola 91.20 312 *e*P **P** **00 00 49.5 +0.2**
comp=Z,20nm,1.2s
PGF Pioggiola 91.20 312 *e*P **P** **00 00 49.5 +0.2**
PGF pmax pmax
comp=Z,20nm,1.2s
PGF Pioggiola 91.20 312 *e*P **P** **00 00 49.5 +0.2**
comp=Z,20nm,1.2s
TNS Taunus Mts 91.66 320 *e*P **P** **00 00 52.0 +0.8**
comp=Z,10.0nm,0.9s
TNS Taunus Mts 91.66 320 *e*P **P** **00 00 52.0 +0.8**
TNS pmax pmax
comp=Z,10.0nm,0.9s
BFO Black Forest 91.73 318 *e*P **P** **00 00 52.0 +0.5**
comp=Z,10.0nm,1.3s
BFO Black Forest 91.73 318 *e*P **P** **00 00 52.0 +0.5**
BFO pmax pmax
comp=Z,10.0nm,1.3s
SBF Sospel 92.35 314 *e*P **P** **00 00 54.5 -0.1**
comp=Z,30nm,1.2s
SBF Sospel 92.35 314 *e*P **P** **00 00 54.5 -0.1**
SBF pmax pmax
comp=Z,30nm,1.2s
SBF Sospel 92.35 314 *e*P **P** **00 00 54.5 -0.1**
comp=Z,30nm,1.2s
BUG Bochum--Univer 92.40 321 *e*P **P** **00 00 55.4 +0.9**
comp=Z,46nm,1.8s
CDF Champ du Feu 92.43 318 *e*P **P** **00 00 54.7 -0.2**
CDF Champ du Feu 92.43 318 *e*P **P** **00 00 54.7 -0.2**
CDF Champ du Feu 92.43 318 *e*P **P** **00 00 54.7 -0.2**
HINF Hinteralfeld 92.72 318 *e*P **P** **00 00 56.2 0.0**
HINF Hinteralfeld 92.72 318 *e*P **P** **00 00 56.2 0.0**
HINF Hinteralfeld 92.72 318 *e*P **P** **00 00 56.2 0.0**
MBDF Montbardon 92.82 315 *e*P **P** **00 00 56.1 -0.7**
MBDF Montbardon 92.82 315 *e*P **P** **00 00 56.1 -0.7**
MBDF Montbardon 92.82 315 *e*P **P** **00 00 56.1 -0.7**
LPG La Plagne 92.82 315 *e*P **P** **00 00 56.9 -0.1**
comp=Z,8.5nm,0.9s
LPG La Plagne 92.82 315 *e*P **P** **00 00 56.9 -0.1**
LPG pmax pmax
comp=Z,9.0nm,0.9s
LPG La Plagne 92.82 315 *e*P **P** **00 00 56.9 -0.1**
comp=Z,8.5nm,0.9s
LPL La Plagne 92.84 315 *e*P **P** **00 00 57.0 0.0**
comp=Z,4.5nm,0.5s
LPL La Plagne 92.84 315 *e*P **P** **00 00 57.0 0.0**
LPL pmax pmax
comp=Z,5.0nm,0.5s
LPL La Plagne 92.84 315 *e*P **P** **00 00 57.0 0.0**
comp=Z,4.5nm,0.5s
FRF La Foret Royal 92.92 313 *e*P **P** **00 00 57.2 0.0**
comp=Z,18nm,1.3s
FRF La Foret Royal 92.92 313 *e*P **P** **00 00 57.2 0.0**
FRF pmax pmax
comp=Z,19nm,1.3s
FRF La Foret Royal 92.92 313 *e*P **P** **00 00 57.2 0.0**
comp=Z,18nm,1.3s
LMR La Mourre 93.03 313 *e*P **P** **00 00 57.8 +0.2**
comp=Z,4.8nm,1.0s
LMR La Mourre 93.03 313 *e*P **P** **00 00 57.8 +0.2**
LMR pmax pmax
comp=Z,5.0nm,1.0s
LMR La Mourre 93.03 313 *e*P **P** **00 00 57.8 +0.2**
comp=Z,4.8nm,1.0s
HAU Haudompre 93.06 318 *e*P **P** **00 00 57.5 -0.2**
HAU *e*R
comp=Z,75nm,18.2s
HAU Haudompre 93.06 318 *e*P **P** **00 00 57.5 -0.2**
HAU Haudompre 93.06 318 *e*P **P** **00 00 57.5 -0.2**
CABF La Chapelle 93.26 316 *e*P **P** **00 00 58.9 +0.1**
comp=Z,26nm,1.2s
CABF La Chapelle 93.26 316 *e*P **P** **00 00 58.9 +0.1**
CABF pmax pmax
comp=Z,26nm,1.2s
CABF La Chapelle 93.26 316 *e*P **P** **00 00 58.9 +0.1**
comp=Z,26nm,1.2s
ORIF Oris-en-Rattie 93.45 315 *e*P **P** **00 00 59.7 0.0**
ORIF *e*R
comp=Z,83nm,19.0s
ORIF Oris-en-Rattie 93.45 315 *e*P **P** **00 00 59.7 0.0**
SMRF Simiane la Rot 93.69 314 *e*P **P** **00 01 01.3 +0.6**
SMRF Simiane la Rot 93.69 314 *e*P **P** **00 01 01.3 +0.6**
SMF Signal de Mont 94.81 317 *e*P **P** **00 01 05.4 -0.4**
SMF Signal de Mont 94.81 317 *e*P **P** **00 01 05.4 -0.4**
SSF Saint Saulge 95.02 317 *e*P **P** **00 01 06.7 0.0**
SSF Saint Saulge 95.02 317 *e*P **P** **00 01 06.7 0.0**
AVF Avril sur Loir 95.14 317 *e*P **P** **00 01 06.8 -0.4**
AVF Avril sur Loir 95.14 317 *e*P **P** **00 01 06.8 -0.4**
BGF Bois d'Agland 95.50 316 *e*P **P** **00 01 09.2 +0.3**
BGF Bois d'Agland 95.50 316 *e*P **P** **00 01 09.2 +0.3**
TORD Torodi Ar. Bea 97.75 283 P **P** **00 01 19.8 0.0**
TORD Torodi Ar. Bea 97.75 283 P **P** **00 01 19.8 0.0**
comp=Z,1.0nm,0.9s,baz=64,slow=3.8,SNR=6.7
TORD LR LR 00 44 59.6
comp=Z,65nm,18.2s,baz=55,slow=35
ILAR Eielson Array 101.27 24 PKKPbc PKKPbc 00 17 44.0 -2.7
ILAR Eielson Array 101.27 24 PKKPbc PKKPbc 00 17 44.0 -2.7
comp=Z,1.4nm,0.8s,baz=131,slow=1.7,SNR=10
SCHQ Schefferville 125.59 350 PKP **PKPdf** **00 06 45.6 +0.4**
SCHQ Schefferville 125.59 350 PKP **PKPdf** **00 06 45.6 +0.4**
comp=Z,4.6nm,1.1s,baz=32,slow=19,SNR=3.2
B18A Beardsley Farm 126.93 24 P **PKPdf** **00 06 47.9 -0.1**
baz=127
C17A Wharram Farm, 127.12 25 P **PKPdf** **00 06 48.6 +0.1**
baz=127
EGMT Eagleton 127.23 24 P **PKPdf** **00 06 48.8 +0.1**
baz=127
D17A Six Diamond Ra 127.53 25 P **PKPdf** **00 06 49.4 +0.1**
baz=127
A21A Bergtoll Ranch 127.55 22 P **PKPdf** **00 06 49.3 +0.1**
baz=127
C19A Slack Wire Ran 127.75 24 P **PKPdf** **00 06 49.6 0.0**
baz=128
MFID Camas Ranch 127.79 32 P **PKPdf** **00 06 49.7 -0.2**
baz=128
C20A Veseth Ranch, 128.19 23 P **PKPdf** **00 06 50.2 -0.2**
baz=128
D19A Cripps Ranch, 128.28 24 P **PKPdf** **00 06 50.4 -0.2**
baz=128
F17A Fitzpatrick Pl 128.50 26 P **PKPdf** **00 06 51.0 -0.2**
baz=128
E19A Rath Farm, Rou 128.88 25 P **PKPdf** **00 06 51.8 0.0**
baz=129
F18A Big Timber 128.92 26 P **PKPdf** **00 06 51.6 -0.4**
baz=129
NVAR Mina Array Bea 129.59 38 PKP **PKPdf** **00 06 52.9 -0.7**
NVAR SKPbc SKPab 00 10 13.6 -0.3
NVAR Mina Array Bea 129.59 38 PKP **PKPdf** **00 06 52.9 -0.7**
comp=Z,0.8nm,0.8s,baz=270,slow=1.5,SNR=5.2
NVAR SKPbc SKPab 00 10 13.6 -0.3
comp=Z,0.5nm,0.7s,baz=264,slow=3.8,SNR=3.8
R11A Troy Canyon, C 131.31 37 P **PKPdf** **00 06 57.3 +0.5**
baz=131
PDAR Pinedale Array 131.42 28 PKP **PKPdf** **00 06 57.1 +0.1**
PDAR SKPbc **SKPbc** **00 10 19.2 -1.8**
PDAR Pinedale Array 131.42 28 PKP **PKPdf** **00 06 57.1 +0.1**
comp=Z,0.4nm,0.5s,baz=306,slow=1.3,SNR=4.5
PDAR SKPbc **SKPbc** **00 10 19.2 -1.8**
comp=Z,0.8nm,1.0s,baz=59,slow=7.1,SNR=4.5
EDW2 Edwards Air Fo 131.91 42 P **PKPdf** **00 06 57.3 -0.6**
baz=132
I25A Rochford 132.92 23 P **PKPdf** **00 06 59.0 -0.7**
baz=133
L21A Rawlins 133.06 27 P **PKPdf** **00 06 58.8 -1.2**
baz=133
M21A Separation Pea 133.35 28 P **PKPdf** **00 06 59.6 -1.1**
baz=133
L23A Garrett 133.69 26 P **PKPdf** **00 06 58.9 -2.4**
baz=133
ECSD EROS Data Cent 135.56 17 *e*PKPdf **PKPdf** **00 07 03.9 -0.5**
S21A Coal Bank Pass 136.17 31 P **PKPdf** **00 07 05.2 -0.9**
baz=136
Y20A Horse Springs, 138.59 36 P **PKPdf** **00 07 09.1 -1.6**
baz=138

V24A	Rampart Ranch,	138.95	31	P	PKPdf	00 07 10.5	-0.7
	baz=139						
W24A	Lazy 6 Ranch,	139.28	32	P	PKPdf	00 07 09.4	-2.4
	baz=139						
120A	U Bar Ranch, L	139.40	37	P	PKPdf	00 07 11.8	-0.2
	baz=139						
Z21A	St. Cloud Mine	139.43	36	P	PKPdf	00 07 12.8	+0.7
	baz=139						
Z22A	Elephant Butte	139.88	35	P	PKPdf	00 07 10.1	-2.8
	baz=140						
W27A	Bowe Ranch, En	140.59	29	P	PKPdf	00 07 13.6	-0.5
	baz=140						
Y25A	Mesa, Roswell	140.64	32	P	PKPdf	00 07 12.5	-1.7
	baz=140						
124A	Stringfield Ra	141.15	34	P	PKPdf	00 07 13.8	-1.5
	baz=141						
226B	Tecolote Peak,	142.33	34	P	PKPdf	00 07 16.7	-0.5
	baz=142						
325A	Bean Ranch, Si	142.41	35	P	PKPdf	00 07 16.7	-0.8
	baz=142						
128A	Castleberry Fa	142.81	31	P	PKPdf	00 07 16.8	-1.3
	baz=142						
425A	Indio Mountain	142.83	36	P	PKPdf	00 07 16.0	-2.2
	baz=143						
Z31A	Sharp Cattle R	143.41	28	P	PKPab	00 07 13.8	-1.3
	baz=143						
BDFB	Brasilia	143.52	241	PKP	PKPdf	00 07 20.5	+0.7
BDFB	Brasilia	143.52	241	PKP	PKPdf	00 07 20.5	+0.7
	comp=Z,2.1nm,0.6s,baz=191,slow=6.6,SNR=3.9						
328A	Wristen Ranch,	143.61	33	P	PKPbc	00 07 16.8	-0.1
	baz=143						
Z32A	Haskell	143.72	27	P	PKPbc	00 07 17.0	0.0
	baz=143						
131A	Roby	143.82	29	P	PKPab	00 07 16.9	+0.2
	baz=144						
526A	Mary Lane Ranc	143.88	36	P	PKPab	00 07 16.9	-0.3
	baz=144						
329A	Wagon Wheel Ra	143.97	32	P	PKPab	00 07 17.5	+0.2
	baz=144						
527A	Woodward Ranch	144.10	35	P	PKPbc	00 07 18.9	+0.4
	baz=144						
230A	Sterling City	144.10	30	P	PKPbc	00 07 18.9	+0.6
	baz=144						
428A	Kincaid Ranch,	144.18	33	P	PKPbc	00 07 19.4	+0.8
	baz=144						
626A	Big Bend Ranch	144.23	36	P	PKPbc	00 07 19.2	+0.4
	baz=144						
CPUP	Villa Florida	144.35	218	*e*PKPdf	PKPbc	00 07 19.4	+0.3
CPUP				PKP	**PKPab**	**00 07 19.7**	**+0.9**
CPUP	Villa Florida	144.35	218	PKP	PKPbc	00 07 19.7	+0.6
	comp=Z,31nm,0.8s,baz=107,slow=2.7,SNR=70						
330A	Mertzon	144.45	31	P	**PKPab**	**00 07 19.0**	**-0.1**
	baz=144						
231A	Bronte	144.46	29	P	**PKPab**	**00 07 18.6**	**-0.5**
	baz=144						
528A	Cox Ranch, San	144.55	34	P	PKPbc	00 07 19.9	0.0
	baz=144						
TXAR	Lajitas Array	144.66	36	PKP	PKPbc	00 07 20.4	+0.2
TXAR	Lajitas Array	144.66	36	PKP	PKPbc	00 07 20.4	+0.2
	comp=Z,4.2nm,0.4s,baz=259,slow=1.2,SNR=80						
429A	Davenport Ranc	144.69	33	P	**PKPab**	**00 07 19.8**	**-0.3**
	baz=144						
627A	Terlingua Ranc	144.74	36	P	PKPbc	00 07 20.7	+0.2
	baz=144						
232A	Coleman	144.82	29	P	**PKPab**	**00 07 20.0**	**-0.5**
	baz=144						
529A	Stev Forest Ra	144.90	34	P	**PKPab**	**00 07 20.3**	**-0.5**
	baz=145						
331A	San Angelo	144.91	30	P	**PKPab**	**00 07 20.6**	**-0.2**
	baz=145						
430A	Baggett Ranch,	144.91	32	P	**PKPab**	**00 07 19.7**	**-1.2**
	baz=145						
MIAR	Mount Ida	144.94	19	*e*PKPdf	PKPbc	00 07 20.9	+0.1
TZTN	Tazewell	144.97	4	*e*PKPdf	**PKPab**	**00 07 20.1**	**-0.7**
628A	Black Gap, Mar	145.00	35	P	**PKPdf**	**00 07 21.6**	**-0.3**
	baz=145						
UALR	University of	145.10	17	*e*PKPdf	**PKPbc**	**00 07 21.0**	**-0.3**
332A	Millersview	145.19	29	P	**PKPbc**	**00 07 21.4**	**-0.3**
	baz=145						
431A	Sonora	145.32	31	P	**PKPbc**	**00 07 21.8**	**-0.4**
	baz=145						
530A	J-C Ranch, Com	145.36	33	P	**PKPdf**	**00 07 22.9**	**+0.3**
	baz=145						
432A	Menard	145.58	30	P	**PKPdf**	**00 07 22.7**	**-0.2**
	baz=145						
WHTX	Lake Whitney	145.74	26	*e*PKPdf	**PKPdf**	**00 07 23.0**	**-0.1**
WHTX	Lake Whitney	145.74	26	P	**PKPdf**	**00 07 22.8**	**-0.2**
	baz=146						
531A	Rocksprings	145.77	32	P	**PKPbc**	**00 07 23.7**	**0.0**
	baz=146						
TKL	Tuckaleechee C	145.84	4	*e*PKPdf	**PKPdf**	**00 07 22.9**	**-0.2**
JCT	Junction City	145.90	30	*e*PKPdf	**PKPdf**	**00 07 22.9**	**-0.5**
JCT	Junction City	145.90	30	P	**PKPbc**	**00 07 23.9**	**-0.1**
	baz=146						
CPCT	Cooper Cave	145.98	6	*e*PKPdf	**PKPdf**	**00 07 23.1**	**-0.3**
OXF	Oxford	146.10	13	*e*PKPdf	**PKPdf**	**00 07 23.8**	**+0.2**
532A	Rocksprings	146.13	31	P	**PKPbc**	**00 07 24.7**	**-0.1**
	baz=146						
631A	Perdido Creek	146.35	32	P	**PKPbc**	**00 07 25.0**	**-0.4**
	baz=146						
KMSC	Kings Mountain	146.47	1	*e*PKPdf	**PKPdf**	**00 07 23.9**	**-0.3**
KMSC	Kings Mountain	146.47	1	P	**PKPdf**	**00 07 24.8**	**+0.6**
	baz=146						
632A	Uvalde	146.69	31	P	**PKPdf**	**00 07 25.3**	**+0.5**
	baz=146						
HKT	Hockley	148.20	25	*e*PKPdf	**PKPdf**	**00 07 26.8**	**-0.3**
LVC	Limon Verde	153.48	205	*e*PKPdf	**PKPdf**	**00 07 36.7**	**+0.7**
LVC				*e*PKPbc	**PKiKP**	**00 07 44.2**	**+0.6**
LPAZ	La Paz	158.46	215	*e*PKPdf	**PKPdf**	**00 07 43.0**	**-0.1**
LPAZ				PKP	**PKPdf**	**00 07 43.5**	**+0.4**
LPAZ	La Paz	158.46	215	PKP	**PKPdf**	**00 07 43.5**	**+0.4**
	comp=Z,2.5nm,1.0s,baz=142,slow=12,SNR=6.3						

*IDC **01** 23:49:05.5±0.7, 14°.75N×146°.89E, h0km, mb4.3/22, mb1 4.4/22, mb1mx4.3/33, mbtmp4.3/22, Error ellipse: s-maj=19.2km s-min=15.8km az=87.0*
*BJI **01** 23:49:06.0, 14°.77N×147°.45E, h35km, mB5.1/7, mb4.9/12, Ms4.8/7, Ms7 4.8/6*
*ISCJB **01** 23:49:11.4±1.8, 15°.07N±0°.08×146°.77E±0°.07, h36km±16km, mb4.5/39, Error ellipse: s-maj=13.4km s-min=11.3km az=154.3*
*NEIC **01** 23:49:12.9±0.5, 15°.07N×146°.85E, h35km, mb4.8/16, Error ellipse: s-maj=11.6km s-min=9.9km az=165.0*

ISC 01 23:49:10.6±0.6, 14°.76N±0°.09×146°.90E±0°.10, h32km, n92, σ1§09/93, mb4.6/40, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	2.29	240	*e*Pn	Pn	23 49 46.7	+0.6
MJAR	Matsushiro Arr	23.04	342	P	P	23 54 10.3	-2.9
MJAR	Matsushiro Arr	23.04	342	P	P	23 54 10.3	-2.9
	2.1nm,0.5s,baz=165,slow=9.7,SNR=4.8						
JNU	Nakatsue	23.37	324	P	P	23 54 15.9	-0.5
JNU	Nakatsue	23.37	324	P	P	23 54 15.9	-0.5
	16nm,0.9s,baz=48,slow=13,SNR=5.4						
PMG	Port Moresby	24.01	179	P	P	23 54 31.1	+8.4
PMG	Port Moresby	24.01	179	P	P	23 54 21.3	-1.4
	6.7nm,0.5s,baz=61,slow=19,SNR=2.3						
NACB	Ninganchiao	25.59	295	P	P	23 54 37.9	+0.8
YULB	Yu-li	25.64	293	*e*P	P	23 54 38.2	+0.7
YHNB	Yeheng	25.93	296	*e*P	P	23 54 41.9	+1.6
	31nm,1.0s						
SSLB	Suanglung	26.05	294	*e*P	P	23 54 42.2	+0.9
	42nm,1.2s						
KSRS	Korea Array	28.20	327	P	P	23 55 00.1	-0.2
	4.2nm,0.7s,baz=145,slow=8.7,SNR=14						
KSAR	Wonju Array Be	28.21	327	P	P	23 55 00.1	-0.3
INCN	Inchon	28.91	325	*e*P	P	23 55 07.1	+0.3
	25nm,0.3s						
ASAJ	Asahikawa	29.49	354	*e*P	P	23 55 12.1	+0.4
ASAJ	Asahikawa	29.49	354	P	P	23 55 12.0	+0.3
	9.0nm,0.8s,baz=251,slow=11,SNR=3.9						
USRK	Ussuriysk Arra	31.98	340	P	P	23 55 33.5	-0.2
	2.6nm,0.7s,baz=124,slow=7.2,SNR=5.7						
MDJ	Mudanjiang	33.19	337	P	P	23 55 44.8	+0.5
WRAB	Tennant Creek	36.62	200	*e*P	P	23 56 20.4	+6.2
	5.4nm,0.6s						
BJT	Baijiatuau	36.80	319	*e*P	P	23 56 14.9	-0.7
	18nm,0.9s						
ENH	Enshi	37.65	301	*e*P	P	23 56 23.9	+0.9
	13nm,0.9s						
PETK	Petropavlovsk-	39.20	10	P	P	23 56 36.8	+1.2
PETK	Petropavlovsk-	39.20	10	P	P	23 56 36.8	+1.2
	0.8nm,0.7s,baz=205,slow=6.4,SNR=2.6						

HHC	Hu-ho-hao-te	40.22	317	*e*P	P	23 56 44.1	-0.3
HHC				pP	pP	23 56 54.1	+0.3
HHC				sP	sP	23 56 58.8	+1.1
HHC				PP	PnPn	23 58 20.0	-0.9
HHC				PcP	PcP	23 58 50.6	+2.5
HHC				S	S	00 02 46.0	-3.5
HHC				ScS	ScS	00 06 47.5	-1.3
HHC				pmax	pmax		
	comp=Z,19nm,1.1s						
HHC				pmax	pmax		
	comp=Z,180nm,5.4s						
HHC				LR	LR		
	comp=N,2μm,13.1s						
HHC				LR	LR		
	comp=E,880nm,14.3s						
HHC				LR	LR		
	comp=Z,2μm,13.1s						
ASAR	Alice Springs	40.25	199	P	P	23 56 43.9	-0.8
ASAR	Alice Springs	40.25	199	P	P	23 56 43.9	-0.8
	comp=Z,1.1nm,0.7s,baz=10,slow=5.7,SNR=1.9						
HIA	Hailar	40.96	333	*e*P	P	23 56 50.6	+0.3
ARMA	Armidale	45.15	174	*e*P	P	23 57 32.3	+7.9
	comp=Z,13nm,1.0s						
CHTO	Chiang Mai	45.99	282	*e*P	P	23 57 32.3	+1.0
CM31	Chiang Mai Arr	46.00	282	*e*P	P	23 57 32.3	+0.9
CMAR	Chiang Mai Arr	46.00	282	P	P	23 57 31.7	+0.3
CMAR	Chiang Mai Arr	46.00	282	P	P	23 57 31.7	+0.3
	comp=Z,7.2nm,1.0s,baz=77,slow=6.4,SNR=17						
ULN	Ulaanbaatar	46.58	324	*e*P	P	23 57 35.5	-0.2
	comp=Z,6.6nm,0.6s						
STKA	Stephens Creek	46.65	186	*e*P	P	23 57 42.0	+5.9
	comp=Z,0.6nm,0.5s						
SONM	Songino Array	46.95	323	P	P	23 57 38.3	-0.2
SONM	Songino Array	46.95	323	P	P	23 57 38.3	-0.2
	comp=Z,3.6nm,0.6s,baz=144,slow=6.1,SNR=5.3						
PSI	Prapat	48.77	261	P	P	23 57 54.0	+1.0
PSI	Prapat	48.77	261	P	P	23 57 54.0	+1.0
	comp=Z,8.0nm,0.8s,baz=9.5,slow=12,SNR=5.0						
LSA	Lhasa	53.24	296	*e*P	P	23 58 28.9	+1.9
	comp=Z,26nm,0.8s						
TAPN	Taplejung	56.19	293	*e*Pn	P	23 58 48.1	-0.1
	comp=Z,64nm,0.9s						
ODAN	Odare	56.48	293	*e*P	P	23 58 50.5	+0.3
	comp=Z,73nm,1.1s						
RAMN	Ramite	57.18	293	*e*P	P	23 58 55.5	+0.3
	comp=Z,64nm,1.0s						
JIRN	Jiri	57.54	294	*e*P	P	23 58 58.5	+0.7
	comp=Z,56nm,0.8s						
GUN	Gumba	57.81	294	*e*P	P	23 59 00.1	+0.4
	comp=Z,58nm,0.8s						
PKI	Pulchoki	58.23	293	*e*P	P	23 59 02.5	-0.2
	comp=Z,60nm,1.2s						
KKN	Kakani	58.35	294	*e*P	P	23 59 03.5	+0.2
DMN	Daman	58.50	293	*e*P	P	23 59 04.1	-0.4
	comp=Z,75nm,1.2s						
DANN	Dangsing	59.68	294	*e*P	P	23 59 12.7	0.0
	comp=Z,64nm,0.9s						
KOLN	Koldanda	59.84	294	*e*P	P	23 59 13.7	+0.1
	comp=Z,25nm,0.8s						
ZALV	Zalesovo Beam	61.84	324	P	P	23 59 26.1	-0.4
ZALV	Zalesovo Beam	61.84	324	P	P	23 59 26.1	-0.4
	comp=Z,3.6nm,0.7s,baz=108,slow=6.7,SNR=2.6						
MK31	Makanchi Array	62.03	315	*e*P	P	23 59 28.3	+0.2
MKAR	Makanchi Array	62.03	315	*e*P	P	23 59 28.8	+0.7
MKAR	Makanchi Array	62.03	315	P	P	23 59 28.6	+0.6
	comp=Z,6.1nm,0.5s,baz=93,slow=7.6,SNR=20						
CAST	Castle Rocks	64.09	26	*e*P	P	23 59 42.5	+1.1
	comp=Z,36nm,1.9s						
BPAW	Bear Paw Mtn.	64.78	25	*e*P	P	23 59 47.1	+1.3
	comp=Z,7.0nm,1.1s						
TRF	Thorofare Moun	64.86	26	*e*P	P	23 59 48.6	+2.0
	comp=Z,7.2nm,0.8s						
KURK	Kurhatov	64.98	319	P	P	23 59 47.3	0.0
KURBB	Kurchatov Arra	65.02	319	P	P	23 59 47.3	-0.3
	comp=Z,25nm,0.8s,baz=98,slow=6.9,SNR=44						
SML	Sawmill	65.25	28	*e*P	P	23 59 50.2	+1.2
	comp=Z,2.3nm,0.8s						
TKM2	Tokmak 2	66.45	311	*e*P	P	23 59 57.8	+0.5
	comp=Z,7.5nm,0.8s						
ILAR	Eielson Array	66.67	25	P	P	23 59 57.3	-0.7
ILAR	Eielson Array	66.67	25	P	P	23 59 57.3	-0.7
	comp=Z,1.4nm,0.8s,baz=253,slow=5.3,SNR=11						
KKAR	Kaar Array	70.18	311	*e*P	P	00 00 20.8	+0.4
HYT	Haines Junctio	70.21	30	*e*P	P	00 00 21.7	+1.3
BVAR	Borovoye Array	70.24	321	P	P	00 00 20.1	-0.5
BVAR	Borovoye Array	70.24	321	P	P	00 00 20.1	-0.5
	comp=Z,3.6nm,0.5s,baz=106,slow=7.7,SNR=15						
BRVK	Borovoye	70.31	321	*e*P	P	00 00 20.5	-0.5
	comp=Z,8.2nm,0.9s						
KBL	Kabul	71.89	302	*e*P	P	00 00 31.9	+0.8
	comp=Z,9.2nm,1.3s						
INK	Inuvik	72.54	23	P	P	00 00 34.5	+0.4
INK	Inuvik	72.54	23	P	P	00 00 34.5	+0.4
	comp=Z,1.6nm,0.7s,baz=202,slow=4.7,SNR=3.5						
ABKAR	Akbulak array	77.00	318	*e*P	P	00 00 59.4	-0.9
AKTO	Aktyubinsk	78.07	319	P	P	00 01 04.9	-1.4
AKTO	Aktyubinsk	78.07	319	P	P	00 01 04.9	-1.4
	comp=Z,1.8nm,0.7s,baz=82,slow=14,SNR=3.6						
YKA	Yellowknife Ar	80.92	28	P	P	00 01 21.0	-0.5
YKA	Yellowknife Ar	80.92	28	P	P	00 01 21.0	-0.5
	comp=Z,1.2nm,0.7s,baz=280,slow=5.4,SNR=4.8						
NVAR	Mina Array Bea	84.65	52	P	P	00 01 42.8	+1.1
NVAR	Mina Array Bea	84.65	52	P	P	00 01 42.8	+1.1
	comp=Z,0.6nm,0.7s,baz=262,slow=6.3,SNR=3.2						
PDAR	Pinedale Array	89.74	46	P	P	00 02 06.6	+0.3
PDAR	Pinedale Array	89.74	46	P	P	00 02 06.6	+0.3
	comp=Z,0.2nm,0.5s,baz=39,slow=3.5,SNR=2.2						
FINES	FINESS Array B	90.93	336	P	P	00 02 09.5	-1.5
FINES	FINESS Array B	90.93	336	P	P	00 02 09.5	-1.5
	comp=Z,2.7nm,0.7s,baz=61,slow=9.6,SNR=5.1						
AQU	L'Aquila	108.89	325	*e*Pdif	Pdif	00 03 30.8	-1.7
TORD	Torodi Ar. Bea	135.78	307	PKP	PKPdf	00 08 26.3	-2.7
TORD	Torodi Ar. Bea	135.78	307	PKP	PKPdf	00 08 26.3	-2.7
	comp=Z,0.4nm,0.5s,baz=38,slow=1.5,SNR=11						
DBIC	Dimbokro	144.82	305	*e*PKPdf	PKPab	00 08 44.1	-0.2
DBIC				PKP	PKPbc	00 08 44.4	0.0
DBIC	Dimbokro	144.82	305	PKP	PKPbc	00 08 44.4	0.0
	comp=Z,5.6nm,0.6s,baz=29,slow=3.3,SNR=16						
KIC	Kosan Boka	144.91	305	*e*PKP1	PKPab	00 08 44.4	-0.3
	comp=Z,69nm,1.4s						
TIC	Toumodi	144.97	305	*e*PKP1	PKPab	00 08 44.0	-0.9
	comp=Z,5.2nm,0.2s						
LIC	Lamto	145.22	305	*e*PKP1	PKPbc	00 08 45.1	-0.6
	comp=Z,42nm,0.6s						
LPAZ	La Paz	146.24	97	PKPbc	PKPbc	00 08 49.7	+0.2
LPAZ	La Paz	146.24	97	PKPbc	PKPbc	00 08 49.7	+0.2
	comp=Z,0.8nm,0.5s,baz=7.2,slow=3.5,SNR=3.9						

*IDC **01** 23:50:37.9±0.5, 1°.43S×99°.43E, h0km, mb4.5/24, mb1 4.5/25, mb1mx4.4/32, mbtmp4.4/25, ML4.2/1, MS4.0/1, Ms1 4.0/1, ms1mx3.0/40, Error ellipse: s-maj=18.7km s-min=12.3km az=38.0*
*ISCJB **01** 23:50:40.9±0.2, 1°.48S±0°.04×99°.38E±0°.03, h30km, mb4.6/47, MS4.1/1, Error ellipse: s-maj=5.8km s-min=4.4km az=168.3*
*AUST **01** 23:50:41.6, 1°.40S×99°.49E, h0km*
*NEIC **01** 23:50:42.6±3.0, 1°.43S×99°.50E, h33km±21km, mb4.7/13, Error ellipse: s-maj=8.8km s-min=4.5km az=54.0*
*DJA **01** 23:50:42.2±1.0, 1°.5±4°×9°.9E±°, h11km±9km, M5.2/8, mb5.7/1, MLv5.0/8*
*SZGRF **01** 23:50:54.7, 0°.58S×96°.74E, h33km, mb4.8, Southwest of Sumatera, Indonesia*

ISC 01 23:50:42.3±0.4, 1°.38S±0°.05×99°.50E±0°.05, h30km, n120, σ0§93/125, mb4.7/47, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	Padang	1.07	64	P	Pb	23 51 01.9	-0.4
PDSI				S	Sb	23 51 18.7	+2.8
PPI	Padang Panjang	1.28	44	P	Pn	23 51 05.1	+0.8
PPI				S	Sb	23 51 23.4	+1.3
SDSI	Sungai Dareh	1.98	77	P	Pb	23 51 17.2	-0.5
BKNI	Bangkinang	2.29	42	P	Pb	23 51 20.8	-2.2
BKNI				S	Sb	23 51 49.9	-1.1
RGRI	Rengat	3.01	70	P	Pn	23 51 31.6	+3.5
RGRI				S	Sb	23 52 09.4	-2.3
KSI	Kapahiang	3.82	126	P	Pn	23 51 43.5	+4.2
MNAI	Manna	4.54	131	P	Pn	23 51 50.9	+1.7
SNSI	Sinabang, Aceh	4.92	320	P	Pn	23 51 54.0	-0.4
LWLI	Liwa	5.81	129	P	Pn	23 52 09.5	+2.9
KSM	Kuching	11.17	75	*e*Pn	Pn	23 53 20.0	-0.2
	247nm,1.6s						

KKM	Kota Kinabalu	18.25	66	*e*P	Pn	23 54 53.8	+0.1
	51nm,1.1s						
CM31	Chiang Mai Arr	19.72	358	*e*P	P	23 55 09.9	+0.3
CMAR	Chiang Mai Arr	19.72	358	P	Pn	23 55 11.1	-0.2
CMAR	Chiang Mai Arr	19.72	358	P	Pn	23 55 11.1	-0.2
	0.3nm,0.3s,baz=184,slow=10,SNR=4.3						
KAPI	Kappang	20.54	101	*e*P	P	23 55 17.4	-1.2
KAPI	Kappang	20.54	101	P	P	23 55 17.5	-1.0
	17nm,0.9s,baz=276,slow=10,SNR=2.9						
QIZ	Qiongzhong	22.69	26	*e*P	P	23 55 42.5	+0.9
MBWA	Marble Bar	27.85	136	*e*P	P	23 56 29.5	0.0
	12nm,1.0s						
LSA	Lhasa	31.92	346	*e*P	P	23 57 05.7	-0.3
	5.0nm,0.4s						
NWAO	Narrogin (SRO)	35.53	154	*e*P	P	23 57 36.1	-0.7
WRA	Warramunga Arr	38.73	121	P	P	23 58 03.1	-1.1
WRA				PcP	PcP	00 00 16.6	+0.8
WRA	Warramunga Arr	38.73	121	P	P	23 58 03.1	-1.1
	3.1nm,0.6s,baz=301,slow=9.0,SNR=6.2						
WRA				PcP	PcP	00 00 16.6	+0.8
	0.6nm,0.5s,baz=315,slow=3.0,SNR=3.7						
WRAB	Tennant Creek	38.74	121	*e*P	P	23 58 03.2	-1.1
	7.4nm,0.5s						
ASAR	Alice Springs	40.02	126	P	P	23 58 15.2	+0.3
ASAR				PcP	PcP	00 00 20.5	+0.8
ASAR				S	S	00 04 15.5	-3.5
ASAR	Alice Springs	40.02	126	P	P	23 58 15.2	+0.3
	4.0nm,0.6s,baz=306,slow=7.9,SNR=9.2						
ASAR				PcP	PcP	00 00 20.5	+0.8
	1.1nm,0.8s,baz=314,slow=2.6,SNR=3.1						
ASAR				S	S	00 04 15.5	-3.5
	2.0nm,1.0s,baz=294,slow=14,SNR=3.4						
COEN	Coen	44.95	108	P	P	23 58 55.3	+0.2
JNU	Nakatsue	45.31	38	P	P	23 58 57.5	-0.2
JNU	Nakatsue	45.31	38	P	P	23 58 57.5	-0.2
	8.4nm,0.9s,baz=270,slow=4.0,SNR=3.0						
KSAR	Wonju Array Be	46.72	31	P	P	23 59 09.7	+1.0
KSRS	Korea Array	46.75	31	P	P	23 59 09.7	+0.8
	2.0nm,0.6s,baz=223,slow=8.1,SNR=4.6						
AAK	Ala-Archa	49.27	336	*e*P	P	23 59 27.8	-0.8
CTA	Charters Tower	49.31	115	P	P	23 59 30.2	+1.1
CTA	Charters Tower	49.31	115	P	P	23 59 30.2	+1.1
	3.9nm,0.9s,baz=249,slow=8.6,SNR=2.6						
SONM	Songino Array	49.38	6	P	P	23 59 29.4	+0.1
SONM	Songino Array	49.38	6	P	P	23 59 29.4	+0.1
	1.5nm,0.8s,baz=185,slow=9.5,SNR=2.8						
ULN	Ulaanbaatar	49.49	7	*e*P	P	23 59 29.7	-0.4
EKS2	Erkin-Say	49.60	335	*e*P	P	23 59 31.6	+0.5
	7.4nm,0.8s						
STKA	Stephens Creek	49.93	132	*e*P	P	23 59 32.9	-0.8
STKA	Stephens Creek	49.93	132	P	P	23 59 33.5	-0.2
	3.7nm,0.7s,baz=305,slow=10.0,SNR=3.4						
USRK	Ussuriysk Arra	53.85	29	P	P	00 00 04.8	+2.1
	3.7nm,0.7s,baz=232,slow=5.1,SNR=5.1						
ZALV	Zalesovo Beam	56.48	350	P	P	00 00 21.5	+0.2
ZALV	Zalesovo Beam	56.48	350	P	P	00 00 21.5	+0.2
	11nm,0.9s,baz=163,slow=5.7,SNR=4.2						
CAN	Canberra	56.99	132	*e*P	P	00 00 25.2	-0.3
ARMA	Armidale	57.16	126	*e*P	P	00 00 26.8	-0.1
	6.9nm,0.8s						
PATS	Pohnpei	59.25	81	P	P	00 00 42.6	+1.0
	baz=59,SNR=3.1						
KMBO	Kilima Mbogo	62.23	269	*e*P	P	00 01 01.5	-0.8
	4.0nm,0.8s						
KMBO	Kilima Mbogo	62.23	269	P	P	00 01 01.9	-0.4
	4.5nm,0.7s,baz=58,slow=12,SNR=11						
KBZ	Khabaz	67.52	319	P	P	00 01 35.5	-0.3
KBZ	Khabaz	67.52	319	P	P	00 01 35.5	-0.3
	7.3nm,0.8s,baz=118,slow=6.0,SNR=6.9						
ASF	Jabal al Asfar	67.83	306	P	P	00 01 38.4	+0.3
ASF	Jabal al Asfar	67.83	306	P	P	00 01 38.4	+0.3
	3.7nm,0.9s,baz=95,slow=0.9,SNR=4.4						
MBAR	Mbarara	68.75	270	P	P	00 01 44.3	-0.1
MBAR	Mbarara	68.75	270	P	P	00 01 44.3	-0.1
	3.6nm,0.9s,baz=31,slow=17,SNR=3.9						
EIL	Elat	68.77	303	P	P	00 01 43.9	-0.1
EIL	Elat	68.77	303	P	P	00 01 43.9	-0.1
	11nm,0.8s,baz=68,slow=1.5,SNR=9.5						
EIL	Elat	68.77	303	P	P	00 01 44.5	+0.5
	baz=69,SNR=7.5						
MMAI	Mount Meron Ar	69.27	306	P	P	00 01 47.9	+0.8
MMAI	Mount Meron Ar	69.27	306	P	P	00 01 47.9	+0.8
	3.6nm,0.6s,baz=99,slow=9.4,SNR=8.0						
BRTR	Keskin Array B	72.54	312	P	P	00 02 05.6	-1.3
BRTR	Keskin Array B	72.54	312	P	P	00 02 05.6	-1.3
	2.7nm,0.8s,baz=127,slow=7.5,SNR=7.2						
LBTB	Lobatse	74.84	245	*e*P	P	00 02 20.0

SMF	**Signal de Mont**	**94.89 317**		*eP*	**P**	**00 04 02.4**	**+0.6**
TORD	**Torodi Ar. Bea**	**97.91 283**		P	**P**	**00 04 15.7**	**-0.4**
TORD	**Torodi Ar. Bea**	**97.91 283**		P	**P**	**00 04 15.7**	**-0.4**
	comp=Z,0.4nm,0.8s,baz=104,slow=5.0,SNR=3.3						
CCUT	**Cedar City**	**133.00**	**36**	*e*PKPdf	**PKPdf**	**00 09 55.4**	**-0.3**
TXAR	**Lajitas Array**	**144.51**	**36**	PKP	**PKPdf**	**00 10 16.2**	**-0.5**
TXAR	**Lajitas Array**	**144.51**	**36**	PKP	**PKPdf**	**00 10 16.2**	**-0.5**
	comp=Z,2.1nm,0.7s,baz=194,slow=0.8,SNR=29						
CPUP	**Villa Florida**	**144.51 217**		PKP	PKPbc	00 10 15.5	+0.2
CPUP	**Villa Florida**	**144.51 217**		PKP	PKPbc	00 10 15.5	+0.2
	comp=Z,8.4nm,0.6s,baz=104,slow=2.9,SNR=18						
MIAR	**Mount Ida**	**144.82**	**19**	*e*PKPdf	**PKPab**	**00 10 15.7**	**-0.3**
JCT	**Junction City**	**145.75**	**30**	*e*PKPdf	**PKPdf**	**00 10 18.9**	**+0.1**
CPCT	**Cooper Cave**	**145.90**	**6**	*e*PKPdf	**PKPdf**	**00 10 18.8**	**0.0**

*ISN **02** 00:09:16.4±0.3, 33°.29N×46°.64E, h0km, ML3.3*
*CSEM **02** 00:09:24.5±1.6, 33°.08N×46°.04E, h2km, ML2.6, Error ellipse: s-maj=44.3km s-min=10.6km az=28.0*
*KISR **02** 00:09:26.1±1.1, 33°.04N×46°.07E, h44km±999km, ML2.6*

ISC 02 00:09:23.8±3.8, 33°.2N±0°.2×46°.4E±0°.1, h10km, n9, σ1§36/16, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.41**	**252**	*i* Pg	**Pg**	**00 09 30.0**	**-1.9**
	baz=73						
IBDR				*e*Sg	**Sg**	**00 09 39.6**	**+2.2**
MIB	**Mutribah**	**3.52**	**167**	*e*P	**Pn**	**00 10 19.9**	**+1.4**
MIB				*e*S	**Sn**	**00 11 00.0**	**-0.2**
MIB				AML	AML	00 11 07.3	
	comp=Z,42nm,0.6s						
MIB	**Mutribah**	**3.52**	**167**	*e*P	**Pn**	**00 10 19.9**	**+1.4**
MIB				*e*S	**Sn**	**00 11 00.0**	**-0.2**
	comp=Z,42nm,0.6s						
UMR	**Umm Al-Rimmam**	**3.84**	**163**	*e*P	**Pn**	**00 10 23.9**	**+0.9**
UMR	**Umm Al-Rimmam**	**3.84**	**163**	*e*P	**Pn**	**00 10 23.9**	**+0.9**
NAY	**Al-Naaiem**	**4.04**	**169**	*e*P	**Pn**	**00 10 27.0**	**+1.2**
NAY				*e*S	**Sn**	**00 11 11.8**	**-1.4**
NAY				AML	AML	00 11 22.8	
	comp=Z,0.8nm,0.6s						
NAY	**Al-Naaiem**	**4.04**	**169**	*e*P	**Pn**	**00 10 27.0**	**+1.2**
NAY				*e*S	**Sn**	**00 11 11.8**	**-1.4**
	comp=Z,0.8nm,0.6s						
RDF	**Al-Radifah**	**4.41**	**167**	*e*P	**Pn**	**00 10 31.9**	**+1.0**
RDF				*e*S	**Sn**	**00 11 21.5**	**-0.8**
RDF				AML	AML	00 11 22.8	
	comp=Z,18nm,0.4s						
RDF	**Al-Radifah**	**4.41**	**167**	*e*P	**Pn**	**00 10 31.9**	**+1.0**
RDF				*e*S	**Sn**	**00 11 21.5**	**-0.8**
	comp=Z,18nm,0.4s						

DJA 02 00:24:48.7±5.2, 2°.S±27°.×10°.0E±1°.7, h4km±55km, M3.9/3, MLv3.9/3, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.19**	**51**	P	Pg	00 25 10.2	-1.4
PDSI				S	Sg	00 25 26.8	-0.3
PPI	**Padang Panjang**	**1.48**	**35**	P	Pn	00 25 14.7	-1.4
PPI				S	Sn	00 25 35.2	-0.7
BKNI	**Bangkinang**	**2.49**	**37**	P	Pn	00 25 29.8	-0.2

IDC 02 00:27:55.9±5.3, 19°.39N×147°.96E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.5/24, mbtmp3.8/3, Error ellipse: s-maj=327.0km s-min=36.9km az=93.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.30**	**200**	P	P	00 35 44.0	+0.5
	0.5nm,0.5s,baz=23,slow=9.1,SNR=4.9						
ASAR	**Alice Springs**	**44.94**	**198**	P	P	00 36 12.1	-0.8
	0.4nm,0.6s,baz=19,slow=8.3,SNR=4.8						
FINES	**FINESS Array B**	**87.14**	**336**	P	P	00 40 43.6	0.0
	2.9nm,1.0s,baz=66,slow=3.5,SNR=4.4						

*IDC **02** 00:29:46.1±4.4, 1°.21S×100°.14E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.6/24, mbtmp3.8/5, Error ellipse: s-maj=238.4km s-min=21.6km az=53.0*
*DJA **02** 00:29:47.8±1.5, 2°.S±4°.×10°.0E±1°.5, h8km±22km, M4.5/5, MLv4.5/5*

ISC 02 00:29:48.9±1.1, 1°.60S±0°.08×99°.6E±0°.1, h33km, n13, σ1§31/14, mb3.9/5, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.12**	**52**	P	**Pb**	**00 30 09.5**	**-0.3**
PDSI				S	**Sb**	**00 30 25.4**	**+1.3**
PPI	**Padang Panjang**	**1.40**	**36**	P	**Pb**	**00 30 13.6**	**-1.0**
SDSI	**Sungai Dareh**	**1.97**	**70**	P	**Pb**	**00 30 21.8**	**-2.3**
SDSI				S	Sb	00 30 51.0	+2.7
BKNI	**Bangkinang**	**2.41**	**37**	P	**Pb**	**00 30 29.6**	**-2.1**
RGRI	**Rengat**	**3.02**	**66**	P	Pb	00 30 38.6	-3.5
MNAI	**Manna**	**4.35**	**129**	P	**Pn**	**00 30 54.5**	**+1.8**
MNAI				S	**Sn**	**00 31 43.0**	**+0.7**
EGSI	**Enggano, Bengk**	**4.60**	**144**	P	**Pn**	**00 30 55.0**	**-1.2**
WRA	**Warramunga Arr**	**38.56**	**121**	P	**P**	**00 37 08.4**	**-0.5**
	0.5nm,0.8s,baz=302,slow=9.2,SNR=5.1						
ASAR	**Alice Springs**	**39.83**	**126**	P	**P**	**00 37 19.8**	**+0.3**
	0.3nm,0.4s,baz=303,slow=7.1,SNR=5.8						
MKAR	**Makanchi Array**	**50.54**	**345**	P	**P**	**00 38 44.9**	**+0.8**
	1.3nm,0.7s,baz=155,slow=7.9,SNR=8.0						
ZALV	**Zalesovo Beam**	**56.70**	**350**	P	**P**	**00 39 29.8**	**+0.7**
	1.7nm,0.5s,baz=178,slow=6.0,SNR=9.1						
BVAR	**Borovoye Array**	**59.67**	**340**	P	**P**	**00 39 50.1**	**+0.1**
	0.6nm,0.6s,baz=134,slow=8.5,SNR=5.0						
TXAR	**Lajitas Array**	**144.64**	**37**	PKP	**PKPdf**	**00 49 23.0**	**-0.1**
	0.5nm,0.4s,baz=215,slow=1.6,SNR=8.5						

*IDC **02** 00:36:52.3±0.8, 9°.32S×154°.16E, h0km, mb4.5/18, mb1 4.6/19, mb1mx4.6/23, mbtmp4.5/19, ML3.6/1, MS4.1/14, Ms1 4.1/14, ms1mx3.9/23, Error ellipse: s-maj=23.6km s-min=16.2km az=107.0*
*NEIC **02** 00:36:54.6±0.3, 9°.22S×154°.08E, h10km, mb5.0/16, Error ellipse: s-maj=7.2km s-min=5.7km az=110.0*
*ISCJB **02** 00:36:56.6±0.3, 9°.24S±0°.04×154°.09E±0°.05, h33km, mb4.8/49, MS4.1/21, Error ellipse: s-maj=7.1km s-min=5.6km az=4.0*
*MOS **02** 00:36:56.9±0.8, 9°.16S×153°.98E, h33km, mb5.1/10, Error ellipse: s-maj=11.3km s-min=9.8km az=67.7*
*GCMT **02** 00:36:56.7±0.3, 9°.32S×154°.15E, h15km±1km, MW4.9, Moment Tensor Solution. s22,c26; s72,c101; Moment tensor: Scale 10^{16}Nm; M_{rr}-0.10±.10; $M_{\theta\theta}$-0.26±.10; $M_{\phi\phi}$0.36±.09; $M_{r\theta}$-0.57±.29; $M_{\theta\phi}$2.40±.08; $M_{\phi r}$-0.59±.29; Best double couple: $M_0$2.50000×10^{16} NP1:ϕ_s267.00000°, δ79.00000°, λ12.00000°. NP2:ϕ_s175.00000°, δ78.00000°, λ169.00000°. Principal axes: T 2.7100, Plg16.0000°, Azm131.0000°; N -0.3400, Plg74.0000°, Azm308.0000°; P -2.3700, Plg1.0000°, Azm41.0000°; Data Used: IC CN IU G II.*
*BJI **02** 00:37:00.1, 9°.25S×154°.36E, h71km, mB5.1/22, mb4.8/39, Ms4.8/25, Ms7 4.4/22*
*DJA **02** 00:37:06.7±2.2, 10°.S±8°.×15°.4E±1°.5, h90km±16km, M4.9/14, mB5.5/6, mb4.8/14, MLv4.9/1, Mw(mB)5.0/6*
*AUST **02** 00:37:47.3±5.6, 11°.05S×152°.76E, h448km, Error ellipse: s-maj=2.6km s-min=1.4km az=25.0*

ISC 02 00:36:58.7±0.4, 9°.26S±0°.06×154°.06E±0°.06, h35km, n137, σ1§65/140, mb4.9/49, MS4.2/24, 3C-1D, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.81**	**92**	LR	LR	00 40 10.7	
	comp=Z,912nm,18.6s,baz=82,slow=35						
PMG	**Port Moresby**	**6.81**	**268**	*e*Pn	**Pn**	**00 38 36.1**	**0.0**
PMG				*e*Sn	**Sn**	**00 39 50.5**	**-2.0**
PMG	**Port Moresby**	**6.81**	**268**	P	**Pn**	**00 38 38.7**	**+2.5**
	117nm,1.1s,1μm0.5nm						
PMG	**Port Moresby**	**6.81**	**268**	Pn	**Pn**	**00 38 38.3**	**+2.1**
	1.5nm,0.3s,baz=84,slow=11,SNR=7.3						
PMG				Sn	Sn	00 40 07.9	+15
	1.1nm,0.3s,baz=90,slow=11,SNR=2.3						
CTA	**Charters Tower**	**13.15**	**214**	Pn	Pn	00 40 06.1	+3.1
CTA	**Charters Tower**	**13.15**	**214**	Pn	Pn	00 40 06.1	+3.1
	0.4nm,0.3s,baz=41,slow=11,SNR=2.0						
CTAO	**Charters Tower**	**13.15**	**214**	*e*P	**Pn**	**00 40 03.1**	**+0.1**
CTAO	**Charters Tower**	**13.15**	**214**	*e*Pn	**Pn**	**00 40 03.1**	**+0.1**
EIDS	**Eidsvold**	**16.27**	**190**	*e*Pn	**Pn**	**00 40 44.0**	**-0.6**
	29nm,1.6s						
DZM	**Mont Dzumac**	**17.43**	**138**	*e*P	**Pn**	**00 40 58.8**	**-0.5**
	171nm,1.4s						
DZM				*e*LR	LR	00 44 55.2	
	3μm,24.4s						
DZM	**Mont Dzumac**	**17.43**	**138**	P	**Pn**	**00 40 57.5**	**-1.8**
DZM	**Mont Dzumac**	**17.43**	**138**	P	**Pn**	**00 40 57.5**	**-1.8**
	0.2nm,0.3s,baz=343,slow=8.5,SNR=11						
RMQ	**Roma**	**17.86**	**196**	P	**P**	**00 41 05.8**	**+0.9**
	baz=16,SNR=9.6						
ARMA	**Armidale**	**21.18**	**186**	*e*P	**P**	**00 41 40.8**	**-0.4**
	29nm,1.4s						
RKPI	**Ransiki, Papua**	**21.23**	**290**	P	**P**	**00 41 45.3**	**+3.6**
	129nm,2.1s,4μm						
KDU	**Kakadu**	**21.46**	**259**	P	**P**	**00 41 44.4**	**+0.2**
	baz=20,SNR=15						
TARA	**Tarawa**	**21.55**	**62**	*e*P	**P**	**00 41 44.3**	**-0.8**
WRAB	**Tennant Creek**	**21.80**	**239**	*e*P	**P**	**00 41 47.8**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,381nm,2.4s						
WRAB	**Tennant Creek**	**21.80**	**239**	*e*P	**P**	**00 41 47.8**	**-0.1**
	comp=Z,381nm,2.4s						
WRA	**Warramunga Arr**	**21.82**	**239**	P	**P**	**00 41 47.6**	**-0.4**
WRA	**Warramunga Arr**	**21.82**	**239**	P	**P**	**00 41 47.6**	**-0.4**
	comp=Z,20nm,0.7s,baz=62,slow=9.6,SNR=48						
WRA				LR	LR	00 49 42.1	
	comp=Z,874nm,19.9s,baz=55,slow=35						
FAKI	**Fak Fak**	**22.57**	**285**	P	**P**	**00 41 59.4**	**+3.2**
	comp=Z,61nm,1.3s,comp=Z,1μm						
FAKI	**Fak Fak**	**22.57**	**285**	P	P	00 42 09.4	+13
	baz=22,SNR=5.0						
LHI	**Lord Howe Isla**	**22.64**	**169**	S	S	00 45 38.7	-24
	baz=21,SNR=4.0						
MTN	**Manton Dam**	**22.78**	**259**	P	**P**	**00 41 59.6**	**+1.2**
	baz=21,SNR=4.5						
MTN				S	S	00 45 20.9	-44
	baz=21,SNR=5.7						
CMSA	**Cobar Meteorol**	**23.50**	**198**	P	**P**	**00 42 04.1**	**-1.3**
	baz=22,SNR=13						
MGCD	**Mangrove Creek**	**23.99**	**186**	P	**P**	**00 42 10.9**	**+0.9**
	baz=22,SNR=4.8						
AS31	**Alice Springs**	**24.01**	**231**	*e*P	**P**	**00 42 09.8**	**-0.7**
ASAR	**Alice Springs**	**24.01**	**231**	P	**P**	**00 42 10.2**	**-0.3**
ASAR	**Alice Springs**	**24.01**	**231**	P	**P**	**00 42 10.2**	**-0.3**
	comp=Z,3.5nm,0.9s,baz=36,slow=10,SNR=20						
ASAR				LR	LR	00 51 27.1	
	comp=Z,775nm,18.3s,baz=38,slow=36						
MSVF	**Nonsavu**	**24.78**	**112**	*e*P	**P**	**00 42 18.5**	**+1.0**
MSVF				pmax	pmax		
	comp=Z,251nm,2.3s						
MSVF	**Nonsavu**	**24.78**	**112**	*e*P	**P**	**00 42 18.5**	**+1.0**
	comp=Z,251nm,2.3s						
STKA	**Stephens Creek**	**25.31**	**205**	*e*P	**P**	**00 42 21.7**	**-0.4**
	comp=Z,14nm,1.9s						
STKA	**Stephens Creek**	**25.31**	**205**	P	**P**	**00 42 21.1**	**-1.0**
	comp=Z,2.2nm,0.6s,baz=51,slow=12,SNR=5.7						
STKA				LR	LR	00 51 54.5	
	comp=Z,868nm,21.7s,baz=25,slow=36						
KNRA	**Kununurra**	**25.50**	**253**	P	**P**	**00 42 24.1**	**+0.1**
	baz=24,SNR=6.8						
FORT	**Forrest**	**32.33**	**225**	*e*P	**P**	**00 43 23.6**	**-1.1**
	comp=Z,402nm,2.5s						
SKSI	**Soroako, Sulaw**	**33.21**	**280**	P	**P**	**00 43 33.5**	**+0.8**
	comp=Z,33nm,1.1s,comp=Z,712nm						
KAPI	**Kappang**	**34.29**	**275**	*e*P	**P**	**00 43 40.9**	**-1.1**
	comp=Z,40nm,0.9s						
KAPI	**Kappang**	**34.29**	**275**	P	**P**	**00 43 41.0**	**-1.1**
	comp=Z,48nm,1.3s,comp=Z,483nm						
KAPI	**Kappang**	**34.29**	**275**	P	**P**	**00 43 40.9**	**-1.1**
	comp=Z,31nm,0.9s,baz=128,slow=12,SNR=8.1						
RPZ	**Rata Peaks**	**37.38**	**160**	*e*P	**P**	**00 44 08.9**	**+0.7**
	comp=Z,159nm,1.7s						
KSM	**Kuching**	**44.87**	**281**	*e*P	**P**	**00 45 10.2**	**+0.1**
	comp=Z,24nm,1.0s						
KSM	**Kuching**	**44.87**	**281**	P	**P**	**00 45 10.0**	**-0.1**
	comp=Z,29nm,1.2s						
KSM	**Kuching**	**44.87**	**281**	P	P	00 45 14.8	+4.7
	baz=44,SNR=3.6						
RAR	**Rarotonga**	**45.94**	**111**	LR	LR	00 59 36.5	
	comp=Z,126nm,18.7s,baz=91,slow=30						
JNU	**Nakatsue**	**47.58**	**333**	*e*P	**P**	**00 45 32.9**	**+1.8**
JNU	**Nakatsue**	**47.58**	**333**	P	**P**	**00 45 31.0**	**-0.1**
	comp=Z,24nm,0.8s,baz=65,slow=5.0,SNR=8.0						
JNU				LR	LR	01 03 34.6	
	comp=Z,77nm,19.8s,baz=189,slow=34						
MJAR	**Matsushiro Arr**	**47.93**	**343**	P	**P**	**00 45 34.0**	**+0.2**
MJAR	**Matsushiro Arr**	**47.93**	**343**	P	**P**	**00 45 34.0**	**+0.2**
	comp=Z,7.3nm,0.8s,baz=167,slow=7.5,SNR=15						
MJAR				LR	LR	01 03 20.1	
	comp=Z,123nm,21.1s,baz=200,slow=33						
PMBI	**Palembang**	**49.37**	**274**	S	S	00 52 33.9	-16
	baz=48,SNR=5.4						
MNAI	**Manna**	**50.94**	**272**	*e*P	P	00 45 53.1	-4.1
	comp=Z,420nm,1.1s						
QIZ	**Qiongzhong**	**51.87**	**303**	P	**P**	**00 46 04.1**	**+0.1**
QIZ				pP	pP	00 46 21.9	+7.4
QIZ				sP	sP	00 46 30.5	+12
QIZ				S	**S**	**00 53 21.5**	**-3.0**
QIZ				ScS	**ScS**	**00 55 46.8**	**-5.2**
QIZ				pmax	pmax		
	comp=Z,11nm,2.2s						
QIZ				LR	LR		
	comp=N,120nm,13.0s						
QIZ				LR	LR		
	comp=Z,190nm,32.6s						
TJN	**Taejon**	**51.88**	**333**	*e*P	**P**	**00 46 03.4**	**-0.3**
KSRS	**Korea Array**	**52.52**	**334**	P	**P**	**00 46 08.2**	**-0.3**
	comp=Z,3.7nm,0.8s,baz=148,slow=8.2,SNR=12						
KSRS				LR	LR	01 07 03.3	
	comp=Z,98nm,19.3s,baz=341,slow=34						
KSAR	**Wonju Array Be**	**52.53**	**334**	P	**P**	**00 46 08.2**	**-0.4**
NJ2	**Nanjing**	**53.09**	**322**	*e*P	**P**	**00 46 14.8**	**+2.0**
NJ2				pmax	pmax		
	comp=Z,18nm,1.0s						
ASAJ	**Asahikawa**	**54.13**	**350**	*e*P	**P**	**00 46 20.7**	**+0.6**
	comp=Z,5.2nm,0.7s						
ASAJ	**Asahikawa**	**54.13**	**350**	P	**P**	**00 46 20.8**	**+0.6**
	comp=Z,9.1nm,0.5s,baz=203,slow=13,SNR=3.3						
PPT	**Papeete**	**55.28**	**105**	LR	LR	01 04 40.2	
	comp=Z,13nm,18.2s,baz=30,slow=30						
PPT2	**Papeete2**	**55.28**	**105**	*e*LR	LR	01 02 24.0	
	comp=Z,130nm,27.2s						
USRK	**Ussuriysk Arra**	**56.84**	**341**	P	**P**	**00 46 39.8**	**+0.1**
	comp=Z,8.1nm,1.0s,baz=154,slow=6.1,SNR=11						
YSS	**Yuzh-Sakhalins**	**56.86**	**351**	*e*P	**P**	**00 46 39.3**	**-0.5**
YSS				pmax	pmax		
	comp=Z,19nm,1.3s						
GYA	**Guiyang**	**58.12**	**309**	*e*P	**P**	**00 46 51.2**	**+2.0**
GYA				pP	pP	00 47 09.6	+10
GYA				sP	sP	00 47 18.2	+14
GYA				PP	**PP**	**00 49 03.0**	**+4.7**
GYA				S	**S**	**00 54 44.8**	**-3.6**
GYA				sS	sS	00 55 17.0	+11
GYA				SS	**SS**	**00 58 38.9**	**-1.6**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GYA				pmax	pmax		
	comp=Z,110nm,5.2s						
GYA				LR	LR		
	comp=N,440nm,18.3s						
GYA				LR	LR		
	comp=E,350nm,19.0s						
GYA				LR	LR		
	comp=Z,480nm,18.8s						
ENH	**Enshi**	**58.12**	**314**	*e*P	**P**	**00 46 49.0**	**-0.1**
CN2	**Changchun**	**58.85**	**336**	*e*P	P	00 46 57.2	+3.4
BJI	**Beijing**	**60.28**	**327**	P	**P**	**00 47 05.5**	**+1.7**
BJI				pmax	pmax		
	comp=Z,13nm,0.6s						
BJI				LR	LR		
	comp=N,120nm,20.1s						
BJI				LR	LR		
	comp=E,140nm,21.9s						
KMI	**Kunming**	**60.54**	**306**	P	**P**	**00 47 08.5**	**+2.4**
KMI				pP	pP	00 47 26.9	+10
KMI				sP	sP	00 47 36.0	+15
KMI				PP	PP	00 49 25.6	+5.6
KMI				S	**S**	**00 55 18.5**	**-1.6**
KMI				sS	sS	00 55 50.2	+13
KMI				pmax	pmax		
	comp=Z,9.0nm,1.1s						
KMI				pmax	pmax		
	comp=Z,170nm,5.9s						
KMI				LR	LR		
	comp=N,100nm,21.0s						
KMI				LR	LR		
	comp=E,100nm,21.9s						
KMI				LR	LR		
	comp=Z,100nm,22.1s						
XAN	**Xi'an**	**60.71**	**318**	P	**P**	**00 47 09.6**	**+2.7**
XAN				pmax	pmax		
	comp=Z,3.0nm,1.4s						
XAN				LR	LR		
	comp=N,77nm,16.9s						
CMAR	**Chiang Mai Arr**	**60.95**	**297**	P	**P**	**00 47 09.2**	**+0.5**
CMAR	**Chiang Mai Arr**	**60.95**	**297**	P	**P**	**00 47 09.2**	**+0.5**
	comp=N,2.5nm,0.6s,baz=118,slow=4.3,SNR=12						
CHTO	**Chiang Mai**	**61.08**	**297**	*e*P	**P**	**00 47 09.1**	**-0.5**
CHTO				pmax	pmax		
	comp=Z,20nm,1.4s						
CHTO	**Chiang Mai**	**61.08**	**297**	*e*P	**P**	**00 47 09.1**	**-0.5**
	comp=Z,20nm,1.4s						
CHTO	**Chiang Mai**	**61.08**	**297**	P	**P**	**00 47 10.8**	**+1.1**
	comp=Z,9.3nm,1.4s						
PEA0B	**Petropavlovsk-**	**62.20**	**2**	*e*P	**P**	**00 47 16.8**	**+0.3**
PETK	**Petropavlovsk-**	**62.20**	**2**	P	**P**	**00 47 16.5**	**0.0**
PETK	**Petropavlovsk-**	**62.20**	**2**	P	**P**	**00 47 16.5**	**0.0**
PETK	**Petropavlovsk-**	**62.20**	**2**	P	**P**	**00 47 16.5**	**0.0**
	comp=Z,13nm,0.9s,baz=150,slow=6.3,SNR=12						
CD2	**Chengdu**	**62.60**	**312**	*i*P	P	00 47 23.3	+3.6
CD2				sP	sP	00 47 51.0	+16
CD2				PP	PP	00 49 43.6	+5.8
CD2				S	**S**	**00 55 43.8**	**-1.8**
CD2				sS	sS	00 56 16.7	+13
CD2				SS	**SS**	**00 59 51.8**	**+1.2**
CD2				pmax	pmax		
	comp=Z,30nm,0.7s						
CD2				pmax	pmax		
	comp=Z,100nm,5.1s						
CD2				LR	LR		
	comp=N,240nm,11.9s						
CD2				LR	LR		
	comp=Z,300nm,21.4s						
HHC	**Hu-ho-hao-te**	**63.38**	**325**	*e*P	**P**	**00 47 25.6**	**+0.8**
HHC				pP	pP	00 47 45.2	+10
HHC				sP	sP	00 47 53.8	+14
HHC				PP	**PP**	**00 49 47.7**	**+3.1**
HHC				PcS		00 52 03.6	
HHC				S	**S**	**00 55 51.3**	**-3.9**
HHC				sS	sS	00 56 24.9	+12
HHC				ScS	SKSac	00 57 08.0	-7.5
HHC				SS	**SS**	**01 00 01.3**	**-1.3**
HHC				pmax	pmax		
	comp=Z,26nm,1.1s						
HHC				pmax	pmax		
	comp=Z,190nm,5.0s						
HHC				LR	LR		
	comp=N,190nm,18.2s						
HHC				LR	LR		
	comp=E,290nm,17.3s						
HHC				LR	LR		
	comp=Z,230nm,18.2s						
LZH	**Lanzhou**	**65.30**	**317**	*e*P	**P**	**00 47 38.0**	**+0.5**
LZH				pP	pP	00 47 57.1	+8.8
LZH				sP	sP	00 48 06.3	+14
LZH				PP	**PP**	**00 50 05.0**	**+3.4**
LZH				*e*S	**S**	**00 56 14.3**	**-4.8**
LZH				sS	sS	00 56 48.6	+12
LZH				*e*SS	**SS**	**01 00 30.8**	**-2.0**
LZH				pmax	pmax		
	comp=Z,18nm,1.5s						
LZH				pmax	pmax		
	comp=Z,93nm,8.6s						
LZH				LR	LR		
	comp=N,310nm,15.0s						
LZH				LR	LR		
	comp=E,310nm,15.2s						
LZH				LR	LR		
	comp=Z,440nm,19.0s						
VNDA	**Vanda**	**68.36**	**178**	LR	LR	01 15 27.8	
	comp=Z,144nm,20.4s,baz=349,slow=34						
GTA	**Gaotai**	**69.77**	**318**	*e*P	P	00 48 09.7	+4.0
GTA				pP	pP	00 48 29.7	+13
GTA				sP	sP	00 48 38.3	+18
GTA				PP	**PP**	**00 50 41.2**	**+0.8**
GTA				S	**S**	**00 57 16.6**	**+4.0**
GTA				pmax	pmax		
	comp=Z,11nm,0.7s						
GTA				pmax	pmax		
	comp=Z,69nm,6.1s						
GTA				LR	LR		
	comp=N,73nm,17.5s						
GTA				LR	LR		
	comp=E,110nm,16.1s						
GTA				LR	LR		
	comp=Z,140nm,17.1s						
ULN	**Ulaanbaatar**	**70.42**	**328**	*e*P	**P**	**00 48 09.6**	**+0.1**
	comp=Z,6.8nm,0.9s						
ULN	**Ulaanbaatar**	**70.42**	**328**	P	**P**	**00 48 11.0**	**+1.5**
SONM	**Songino Array**	**70.74**	**328**	P	**P**	**00 48 11.3**	**-0.1**
SONM	**Songino Array**	**70.74**	**328**	P	**P**	**00 48 11.3**	**-0.1**
	comp=Z,7.0nm,0.8s,baz=135,slow=5.9,SNR=19						
SONM				LR	LR	01 16 26.3	
	comp=Z,114nm,21.4s,baz=303,slow=34						
SEY	**Seymchan**	**71.98**	**359**	*e*P	**P**	**00 48 18.2**	**-0.2**
ZAK	**Zakamensk**	**73.93**	**329**	*e*P	**P**	**00 48 30.4**	**0.0**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.4s						
HVS	**Khovu-Aksy**	**79.43**	**326**	*e*P	**P**	**00 49 01.3**	**-0.1**
HVS				pmax	pmax		
	comp=Z,53nm,1.2s						
WMQ	**Urumqi**	**79.85**	**318**	P	**P**	**00 49 03.6**	**-0.2**
WMQ				PcP	**PcP**	**00 49 11.3**	**-0.1**
WMQ				pP	pP	00 49 23.6	+8.8
WMQ				sP	sP	00 49 32.6	+14
WMQ				PP	**PP**	**00 52 07.4**	**+1.7**
WMQ				S	**S**	**00 58 59.0**	**-5.8**
WMQ				ScS	**SKSac**	**00 59 17.9**	**-0.5**
WMQ				sS	ScS	00 59 33.6	+7.7
WMQ				SS	**SS**	**01 04 12.0**	**-2.9**
WMQ				pmax	pmax		
	comp=Z,13nm,0.6s						
WMQ				pmax	pmax		
	comp=Z,140nm,5.2s						
WMQ				LR	LR		
	comp=N,62nm,22.0s						
WMQ				LR	LR		
	comp=E,51nm,23.0s						
WMQ				LR	LR		
	comp=Z,51nm,25.4s						
QSPA	**South Pole Qui**	**80.73**	**180**	*e*P	**P**	**00 49 07.3**	**-1.0**
	comp=Z,20nm,1.5s						
MAW	**Mawson**	**81.97**	**203**	LR	LR	01 20 20.2	
	comp=Z,170nm,19.0s,baz=

NVS				pmax	pmax		
	comp=Z,13nm,1.6s						
NVS				pmax	pmax		
	comp=N,3.0nm,1.2s						
NVS				pmax	pmax		
	comp=E,7.0nm,1.6s						
HYT	**Haines Junctio**	**87.80**	**27**	*eP*	**P**	**00 49 43.2**	**-0.9**
EGAK	**Eagle**	**87.95**	**23**	*eP*	**P**	**00 49 44.7**	**+0.1**
	comp=E,9.3nm,1.0s						
KURK	**Kurchatov**	**88.03**	**322**	P	**P**	**00 49 43.5**	**-1.8**
KURK	**Kurchatov**	**88.03**	**322**	P	**P**	**00 49 43.5**	**-1.8**
KURBB	**Kurchatov Arra**	**88.06**	**322**	P	**P**	**00 49 43.5**	**-1.9**
	comp=E,0.2nm,0.3s,baz=117,slow=3.1,SNR=4.6						
BVAR	**Borovoye Array**	**93.53**	**323**	P	**P**	**00 50 10.7**	**-0.2**
BVAR	**Borovoye Array**	**93.53**	**323**	P	**P**	**00 50 10.7**	**-0.2**
BVAR	**Borovoye Array**	**93.53**	**323**	P	**P**	**00 50 10.7**	**-0.2**
	comp=E,0.4nm,0.4s,baz=111,slow=8.2,SNR=4.7						
NVAR	**Mina Array Bea**	**93.84**	**52**	P	**P**	**00 50 13.2**	**+0.2**
NVAR	**Mina Array Bea**	**93.84**	**52**	P	**P**	**00 50 13.2**	**+0.2**
	comp=E,2.9nm,1.0s,baz=246,slow=5.7,SNR=9.8						
KOLS	**Kolonicke sedl**	**123.64**	**324**	*e*PKIKP	**PKPdf**	**00 55 55.6**	**+2.9**
KOLS	**Kolonicke sedl**	**123.64**	**324**	*e*PKP	**PKPdf**	**00 55 55.6**	**+2.9**
GERES	**GERESS Array B**	**128.47**	**327**	PKP	**PKPdf**	**00 56 00.6**	**-1.5**
GERES	**GERESS Array B**	**128.47**	**327**	PKP	**PKPdf**	**00 56 00.6**	**-1.5**
	comp=E,0.7nm,0.8s,baz=336,slow=2.9,SNR=3.9						
ESDC	**Sonseca Array**	**143.91**	**331**	PKP	PKPab	00 56 27.9	-0.1
ESDC	**Sonseca Array**	**143.91**	**331**	PKP	PKPab	00 56 27.9	-0.1
	comp=E,1.4nm,0.9s,baz=33,slow=3.3,SNR=7.4						
MVO	**Moncorvo**	**144.08**	**335**	*e*PKP	**PKPdf**	**00 56 31.6**	**+0.5**
POLO	**Lamas de Olo**	**144.22**	**336**	*e*PKP	**PKPdf**	**00 56 30.7**	**-0.7**
PVRL	**Vila Real**	**144.27**	**336**	*e*PKP	**PKPdf**	**00 56 33.1**	**+1.7**
PVIS	**Viseu**	**144.81**	**336**	*e*PKP	**PKPab**	**00 56 31.1**	**-0.2**
MTE	**Manteigas**	**144.94**	**335**	*e*PKP	PKPbc	00 56 31.8	0.0
PCBR	**Castelo Branco**	**145.38**	**335**	*e*PKP	**PKPbc**	**00 56 32.9**	**-0.3**
PMRV	**Marv??o**	**145.68**	**334**	*e*PKP	**PKPab**	**00 56 36.6**	**+2.1**
PTOM	**Tomar**	**145.95**	**335**	*e*PKP	**PKPbc**	**00 56 34.9**	**-0.1**
BDFB	**Brasilia**	**146.98**	**138**	PKPbc	**PKPdf**	**00 56 36.5**	**-0.3**
BDFB	**Brasilia**	**146.98**	**138**	PKPbc	**PKPdf**	**00 56 36.5**	**-0.3**
	comp=E,3.0nm,0.7s,baz=199,slow=4.5,SNR=4.6						
PBDV	**Barranco-do-Ve**	**147.72**	**332**	*e*PKP	**PKPbc**	**00 56 39.8**	**-0.4**
PFVI	**Vila Bisbo**	**148.22**	**333**	*e*PKP	**PKPdf**	**00 56 37.4**	**-0.7**
TORD	**Torodi Ar. Bea**	**152.63**	**281**	PKPbc	**PKPbc**	**00 56 51.1**	**-1.5**
TORD	**Torodi Ar. Bea**	**152.63**	**281**	PKPbc	**PKPbc**	**00 56 51.1**	**-1.5**
	comp=E,2.3nm,0.9s,baz=58,slow=2.7,SNR=9.4						

IDC ***02*** *00:37:01.9±1.0, 10.°44N×60.°38W, h0km, mb3.7/7, mb1 4.0/7, mb1mx3.7/26, mbtmp3.7/7, Error ellipse: s-maj=32.1km s-min=23.6km az=47.0*
FUNV ***02*** *00:37:05.4, 10.°39N×60.°10W, h65km, MW3.7*
ISCJB ***02*** *00:37:06.8±0.6, 10.°33N±0.°03×60.°42W±0.°04, h58km, mb3.7/7, Error ellipse: s-maj=5.9km s-min=3.8km az=24.7*
TRN ***02*** *00:37:08.6, 10.°45N×60.°34W, h44km, MD3.8*
ISC 02 00:37:08.2±0.8, 10.°32N±0.°04×60.°34W±0.°05, h58km, n38, σ1§86/53, mb3.7/7, 3C-2D, Trinidad

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBH	**Brigand Hill**	**0.74**	**283**	*eP*	**Pn**	**00 37 23.2**	**+0.5**
TBH	**Brigand Hill**	**0.74**	**283**	‖*i*	**Pn**	**00 37 24.0**	**+1.2**
TBH				*e*S	**Sn**	**00 37 32.6**	**-0.8**
TPR	**Prospect**	**0.96**	**333**	*eP*	**Pn**	**00 37 24.7**	**-1.1**
TPR				*e*S	**Sn**	**00 37 35.5**	**-3.2**
TOSP	**Speyside**	**0.99**	**349**	*eP*	**Pn**	**00 37 24.6**	**-1.5**
TOSP				*e*S	**Sn**	**00 37 36.4**	**-2.9**
TPP	**Pointe-a-Pierr**	**1.09**	**270**	*eP*	**Pn**	**00 37 27.4**	**0.0**
TPP	**Pointe-a-Pierr**	**1.09**	**270**	*e*	**Sn**	**00 37 38.9**	**-2.8**
TRN	**Trinidad (W)**	**1.10**	**287**	*eP*	**Pn**	**00 37 26.9**	**-0.5**
TRN	**Trinidad (W)**	**1.10**	**287**	*e*	Pn	00 37 36.6	+9.1
TRN				*e*S	**Sn**	**00 37 41.1**	**-0.6**
TCE	**Chacachacare**	**1.44**	**285**	*eP*	**Pn**	**00 37 32.4**	**+0.4**
GUIV	**Guiria**	**1.88**	**280**	⇑*eP*	**Pn**	**00 37 37.3**	**-0.7**
GUIV				*e*S	**Sn**	**00 38 01.1**	**+0.4**
GRW	**Mount Saint Ca**	**2.24**	**325**	*eP*	**Pn**	**00 37 43.0**	**-0.1**
GRSS	**Sisters**	**2.33**	**328**	*eP*	**Pn**	**00 37 44.4**	**+0.3**
GRSS				*e*S	**Sn**	**00 38 09.3**	**-2.4**
GUNV	**Guanoco**	**2.57**	**267**	⇑*iP*	**Pn**	**00 37 47.9**	**+0.5**
GUNV				*e*S	**Sn**	**00 38 18.3**	**+0.8**
RIOV	**Rio Grande**	**2.67**	**213**	*eP*	**Pn**	**00 37 48.5**	**-0.3**
RIOV				*e*S	**Sn**	**00 38 19.2**	**-0.8**
CRUV	**Carupano**	**2.87**	**277**	⇑*iP*	**Pn**	**00 37 49.7**	**-1.9**
CRUV				*e*S	**Sn**	**00 38 22.8**	**-2.2**
SVB	**Belmont**	**3.07**	**343**	*eP*	**Pn**	**00 37 53.4**	**-0.9**
SVB				*e*S	**Sn**	**00 38 27.9**	**-1.9**
ORIV	**Oritupano**	**3.27**	**248**	*eP*	**Pn**	**00 37 57.3**	**+0.2**
ORIV				*e*S	**Sn**	**00 38 35.0**	**+0.3**
MCLT	**Moule a Chique**	**3.42**	**350**	*eP*	**Pn**	**00 37 52.9**	**-1.2**
MCLT				*e*S	**Sn**	**00 38 34.6**	**-3.9**
GURV	**El Guri**	**3.72**	**227**	*eP*	**Pn**	**00 38 01.7**	**-1.4**
GURV				*e*S	**Sn**	**00 38 43.6**	**-2.1**
PCRV	**Puerto La Cruz**	**4.23**	**268**	*eP*	**Pn**	**00 38 08.5**	**-1.8**
PCRV				*e*S	**Sn**	**00 38 56.2**	**-2.2**
PRGV	**PARIAGUAN**	**4.52**	**250**	‖*eP*	**Pn**	**00 38 13.3**	**-0.8**
PRGV				*e*S	**Sn**	**00 39 03.6**	**-1.9**
LUEV	**Luepa**	**4.58**	**194**	*eP*	**Pn**	**00 38 12.7**	**-2.4**
LUEV				*e*S	**Sn**	**00 39 02.5**	**-4.7**
CUPV	**Cœpira**	**5.37**	**268**	*eP*	**Pn**	**00 38 24.4**	**-1.5**
CUPV				*e*S	**Sn**	**00 39 23.9**	**-2.6**
BIRV	**Birongo**	**5.84**	**272**	*eP*	**Pn**	**00 38 31.2**	**-1.0**
MERV	**Las Mercedes**	**5.97**	**260**	*eP*	**Pn**	**00 38 32.7**	**-1.3**
MERV				*e*S	**Sn**	**00 39 37.2**	**-3.9**
TURV	**Turiamo**	**7.38**	**272**	*eP*	**Pn**	**00 38 51.7**	**-1.7**
BAUV	**El Baul**	**7.72**	**260**	*eP*	**Pn**	**00 38 55.8**	**-2.2**
BAUV				*e*S	Sn	00 40 17.9	-6.2
TEPV	**Terepaima**	**8.72**	**268**	*eP*	**Pn**	**00 39 09.7**	**-2.1**
SANV	**Sanarito**	**9.10**	**266**	*eP*	**Pn**	**00 39 14.5**	**-2.5**
SOCV	**Socops**	**10.57**	**260**	*eP*	Pn	00 39 33.5	-3.6
VIGV	**El Vigia**	**10.97**	**263**	*eP*	Pn	00 39 38.2	-4.4
SIV	**San Ignacio**	**26.15**	**182**	P	**P**	**00 42 39.1**	**+1.9**
	0.9nm,0.7s,baz=349,slow=5.2,SNR=3.2						
ULM	**Lac du Bonnet**	**49.42**	**331**	P	**P**	**00 45 52.4**	**+0.2**
	1.2nm,0.3s,baz=118,slow=4.0,SNR=3.0						
PDAR	**Pinedale Array**	**53.58**	**316**	P	**P**	**00 46 24.2**	**+0.5**
	0.8nm,0.6s,baz=117,slow=10.0,SNR=9.3						
NVAR	**Mina Array Bea**	**58.66**	**309**	P	**P**	**00 47 01.3**	**+1.3**
	0.2nm,0.6s,baz=92,slow=6.3,SNR=2.8						
TORD	**Torodi Ar. Bea**	**60.67**	**81**	P	**P**	**00 47 15.5**	**+1.5**
	0.5nm,0.7s,baz=291,slow=6.1,SNR=8.4						
YKA	**Yellowknife Ar**	**64.89**	**335**	P	**P**	**00 47 41.0**	**-0.1**
	0.5nm,0.6s,baz=106,slow=6.6,SNR=3.6						
GERES	**GERESS Array B**	**71.80**	**42**	P	**P**	**00 48 26.7**	**+1.9**
	0.4nm,0.6s,baz=268,slow=4.8,SNR=6.0						

IDC 02 01:20:36.3±3.3, 4.°27S×152.°47E, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.6/19, mbtmp3.9/3, Error ellipse: s-maj=123.4km s-min=45.3km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.33**	**226**	Sn	Sn	01 23 55.8	+7.0
	1.9nm,0.3s,baz=72,slow=20,SNR=3.2						
WRA	**Warramunga Arr**	**23.55**	**227**	P	P	01 25 49.3	+0.7
	2.3nm,0.4s,baz=52,slow=9.9,SNR=46						
ASAR	**Alice Springs**	**26.32**	**221**	P	P	01 26 13.7	-0.4
	0.5nm,0.4s,baz=54,slow=9.1,SNR=7.2						
FITZ	**Fitzroy Crossi**	**29.63**	**240**	P	P	01 26 43.9	+0.2
	1.0nm,0.6s,baz=51,slow=11,SNR=7.2						
TORD	**Torodi Ar. Bea**	**149.83**	**289**	PKPbc	PKPbc	01 40 28.7	-0.8
	0.2nm,0.6s,baz=75,slow=1.5,SNR=3.5						

IDC ***02*** *01:20:57.6±0.5, 1.°53S×99.°37E, h0km, mb4.3/21, mb1 4.4/23, mb1mx4.3/30, mbtmp4.2/23, ML4.0/2, Error ellipse: s-maj=21.4km s-min=11.8km az=49.0*
NEIC ***02*** *01:20:58.9±0.2, 1.°59S×99.°28E, h10km, mb4.5/19, Error ellipse: s-maj=9.1km s-min=4.9km az=58.0*
ISCJB ***02*** *01:21:00.6±0.3, 1.°49S±0.°05×99.°35E±0.°05, h30km, mb4.4/37, Error ellipse: s-maj=8.4km s-min=5.9km az=137.0*
DJA ***02*** *01:21:14.9±1.0, 1.°S±7.°×10.°0E±1.°2, h30km±6km, M4.3/5, mb4.4/3, mbB4.9/1, MLv4.3/5, Mw(mB)4.2/1*
ISC 02 01:21:02.3±0.4, 1.°46S±0.°07×99.°38E±0.°08, h30km, n106, σ0§84/107, mb4.5/37, 2C-3D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.21**	**63**	P	**Pn**	**01 21 22.5**	**-0.7**
PPI	**Padang Panjang**	**1.42**	**45**	P	**Pn**	**01 21 26.2**	**+0.1**
BKNI	**Bangkinang**	**2.43**	**43**	P	**Pn**	**01 21 40.1**	**+0.1**
MASI	**Maura Aman, Be**	**3.31**	**120**	P	**Pn**	**01 21 53.5**	**+1.4**
KSI	**Kapahiang**	**3.87**	**124**	P	**Pb**	**01 22 09.4**	**-0.6**
PSI	**Prapat**	**4.26**	**354**	Pn	**Pn**	**01 22 03.9**	**-1.4**
PSI	**Prapat**	**4.26**	**354**	Pn	**Pn**	**01 22 03.9**	**-1.4**
	1.9nm,0.3s,baz=182,slow=9.0,SNR=8.7						
KCSI	**Kotacane, Aceh**	**5.21**	**342**	P	Pb	01 22 28.7	-4.0
	50nm,1.1s,1μm0.4nm						
LWLI	**Liwa**	**5.85**	**127**	P	Pb	01 22 48.5	+4.7
IPM	**Ipoh**	**6.13**	**16**	*e*Pn	Pn	01 22 34.0	+3.2
	40nm,0.8s						
IPM	**Ipoh**	**6.13**	**16**	P	Pn	01 22 33.9	+3.0
	54nm,0.9s						
KULM	**Kulim**	**6.83**	**11**	*e*Pn	**Pn**	**01 22 42.1**	**+1.6**
	19nm,0.7s						
KULM	**Kulim**	**6.83**	**11**	P	**Pn**	**01 22 42.4**	**+1.9**
CMAR	**Chiang Mai Arr**	**19.80**	**359**	P	**Pn**	**01 25 31.4**	**-0.7**
CMAR	**Chiang Mai Arr**	**19.80**	**359**	P	**Pn**	**01 25 31.4**	**-0.7**
	0.6nm,0.3s,baz=186,slow=10,SNR=10						
CHTO	**Chiang Mai**	**20.15**	**359**	*eP*	Pn	01 25 35.2	-1.1
	5.7nm,0.9s						
KAPI	**Kappang**	**20.64**	**100**	*eP*	Pn	01 25 40.6	-1.5
	27nm,1.1s						
KAPI	**Kappang**	**20.64**	**100**	P	Pn	01 25 40.9	-1.2
	3.9nm,0.5s,baz=78,slow=19,SNR=3.4						
MBWA	**Marble Bar**	**27.88**	**136**	*eP*	**P**	**01 26 50.2**	**+0.6**
	30nm,1.3s						
FITZ	**Fitzroy Crossi**	**30.62**	**124**	P	**P**	**01 27 13.0**	**-1.0**
FITZ	**Fitzroy Crossi**	**30.62**	**124**	P	**P**	**01 27 13.0**	**-1.0**
	5.7nm,0.9s,baz=306,slow=3.6,SNR=9.8						
LSA	**Lhasa**	**31.97**	**346**	*eP*	**P**	**01 27 27.4**	**+1.1**
WRA	**Warramunga Arr**	**38.79**	**121**	P	**P**	**01 28 23.7**	**-1.0**
WRA				PcP	**PcP**	**01 30 35.8**	**-0.1**
WRA	**Warramunga Arr**	**38.79**	**121**	P	**P**	**01 28 23.7**	**-1.0**
	9.7nm,0.9s,baz=301,slow=9.0,SNR=37						
WRA				PcP	**PcP**	**01 30 35.8**	**-0.1**
	0.7nm,0.6s,baz=308,slow=2.6,SNR=6.3						
WRAB	**Tennant Creek**	**38.80**	**121**	*eP*	**P**	**01 28 23.6**	**-1.2**
	8.0nm,0.8s						
FORT	**Forrest**	**39.85**	**140**	*eP*	**P**	**01 28 33.9**	**+0.6**
	43nm,1.1s						
ASAR	**Alice Springs**	**40.06**	**126**	P	**P**	**01 28 34.8**	**-0.5**
ASAR				PcP	**PcP**	**01 30 39.6**	**-0.3**
ASAR	**Alice Springs**	**40.06**	**126**	P	**P**	**01 28 34.8**	**-0.5**
	2.0nm,0.7s,baz=299,slow=7.8,SNR=16						
ASAR				PcP	**PcP**	**01 30 39.6**	**-0.3**
	0.8nm,0.8s,baz=332,slow=2.3,SNR=5.0						
AS31	**Alice Springs**	**40.06**	**126**	*eP*	**P**	**01 28 34.8**	**-0.5**
KSAR	**Wonju Array Be**	**46.85**	**31**	P	**P**	**01 29 29.8**	**0.0**
KSRS	**Korea Array**	**46.88**	**31**	P	**P**	**01 29 29.8**	**-0.2**
	1.1nm,0.6s,baz=224,slow=7.2,SNR=5.6						
TKM2	**Tokmak 2**	**49.10**	**337**	*eP*	**P**	**01 29 48.1**	**+0.8**
	2.4nm,0.5s						
AAK	**Ala-Archa**	**49.30**	**336**	*eP*	**P**	**01 29 48.2**	**-0.6**
CTAO	**Charters Tower**	**49.38**	**115**	*eP*	**P**	**01 29 49.1**	**-0.5**
	9.7nm,1.2s						
SONM	**Songino Array**	**49.48**	**6**	P	**P**	**01 29 50.7**	**+0.7**
SONM				PcP	**PcP**	**01 31 12.2**	**+0.4**
SONM	**Songino Array**	**49.48**	**6**	P	**P**	**01 29 50.7**	**+0.7**
	1.0nm,0.5s,baz=191,slow=8.5,SNR=11						
SONM				PcP	**PcP**	**01 31 12.2**	**+0.4**
	1.4nm,0.6s,baz=187,slow=3.5,SNR=5.1						
ULN	**Ulaanbaatar**	**49.58**	**7**	*eP*	**P**	**01 29 51.5**	**+0.7**
	4.0nm,1.0s						
EKS2	**Erkin-Say**	**49.62**	**335**	*eP*	**P**	**01 29 51.7**	**+0.5**
	3.7nm,0.7s						
STKA	**Stephens Creek**	**49.97**	**132**	P	**P**	**01 29 54.1**	**+0.2**
STKA	**Stephens Creek**	**49.97**	**132**	P	**P**	**01 29 54.1**	**+0.2**
	6.9nm,0.7s,baz=299,slow=7.6,SNR=12						
MK31	**Makanchi Array**	**50.35**	**345**	*eP*	**P**	**01 29 57.0**	**+0.5**
MKAR	**Makanchi Array**	**50.35**	**345**	P	**P**	**01 29 57.2**	**+0.7**
MKAR	**Makanchi Array**	**50.35**	**345**	P	**P**	**01 29 57.2**	**+0.7**
	3.7nm,0.7s,baz=150,slow=7.9,SNR=27						
USRK	**Ussurysk Arra**	**53.98**	**29**	P	**P**	**01 30 23.6**	**+0.1**
	2.3nm,0.6s,baz=220,slow=5.0,SNR=6.9						
ZAA0	**Zalesovo Array**	**56.53**	**350**	*eP*	**P**	**01 30 41.7**	**0.0**
ZALV	**Zalesovo Beam**	**56.53**	**350**	P	**P**	**01 30 42.0**	**+0.3**
ZALV	**Zalesovo Beam**	**56.53**	**350**	P	**P**	**01 30 42.0**	**+0.3**
	5.0nm,0.6s,baz=179,slow=5.5,SNR=31						
NAY	**Al-Naaiem**	**58.41**	**306**	*eP*	**P**	**01 30 55.3**	**-0.2**
NAY				AMb	AMB	01 30 56.5	
	comp=Z,0.5nm,1.1s						
MIB	**Mutribah**	**58.54**	**307**	*eP*	**P**	**01 30 56.1**	**-0.2**
MIB				AMb	AMB	01 30 57.4	
	comp=Z,24nm,1.0s						
RST	**Umm Al-Ruwaisa**	**58.70**	**306**	*eP*	**P**	**01 30 57.2**	**-0.3**
RST				AMb	AMB	01 30 58.5	
	comp=Z,99nm,0.9s						
BRVK	**Borovoye**	**59.53**	**340**	*eP*	**P**	**01 31 02.5**	**-0.3**
	comp=Z,5.7nm,1.1s						
ABKAR	**Akbulak array**	**60.88**	**332**	*eP*	**P**	**01 31 11.1**	**-1.0**
	comp=Z,1.6nm,0.7s						
KMBO	**Kilima Mbogo**	**62.12**	**270**	*eP*	**P**	**01 31 22.6**	**+1.1**
	comp=Z,2.2nm,0.9s						
KMBO	**Kilima Mbogo**	**62.12**	**270**	P	**P**	**01 31 22.9**	**+1.4**
	comp=Z,2.0nm,0.6s,baz=55,slow=17,SNR=9.4						
AKTO	**Aktyubinsk**	**62.59**	**332**	P	**P**	**01 31 22.9**	**-0.7**
AKTO	**Aktyubinsk**	**62.59**	**332**	P	**P**	**01 31 22.9**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=49,slow=6.2,SNR=3.9						
GNI	**Garni**	**64.72**	**316**	*eP*	**P**	**01 31 37.0**	**-1.1**
	comp=Z,11nm,1.1s						
KBZ	**Khabaz**	**67.50**	**319**	P	**P**	**01 31 56.0**	**+0.4**
KBZ	**Khabaz**	**67.50**	**319**	P	**P**	**01 31 56.0**	**+0.4**
	comp=Z,3.2nm,0.7s,baz=126,slow=5.2,SNR=8.6						
CSS	**Prodhromos**	**71.41**	**308**	*eP*	**P**	**01 32 19.4**	**-0.6**
	comp=Z,10nm,1.1s						
BRTR	**Keskin Array B**	**72.51**	**313**	P	**P**	**01 32 25.8**	**-0.9**
BRTR	**Keskin Array B**	**72.51**	**313**	P	**P**	**01 32 25.8**	**-0.9**
	comp=Z,1.1nm,0.6s,baz=136,slow=7.1,SNR=7.8						
BR131	**Keskin Array S**	**72.51**	**313**	*eP*	**P**	**01 32 25.6**	**-1.0**
	comp=Z,0.7nm,0.6s						
VRI	**Vrincioaia**	**79.04**	**317**	⇑*iP*	**P**	**01 33 04.2**	**+0.4**
TESR	**Tescani**	**79.25**	**318**	⇑*iP*	**P**	**01 33 05.0**	**+0.1**
MLR	**Muntele Rosu**	**79.49**	**317**	P	**P**	**01 33 06.6**	**+0.3**
MLR	**Muntele Rosu**	**79.49**	**317**	‖*iP*	**P**	**01 33 06.8**	**+0.4**
MLR	**Muntele Rosu**	**79.49**	**317**	P	**P**	**01 33 06.6**	**+0.3**
	comp=Z,0.8nm,0.8s,baz=160,slow=6.5,SNR=8.1						
BURAR	**Bucovina Array**	**80.45**	**319**	‖*iP*	**P**	**01 33 12.5**	**+1.0**
BUR08	**Bucovina Ar. S**	**80.47**	**319**	*eP*	**P**	**01 33 12.3**	**+0.7**
SRE	**Strehaia**	**81.22**	**315**	‖*iP*	P	01 33 02.7	-13
VNDA	**Vanda**	**82.80**	**169**	*eP*	**P**	**01 33 23.8**	**+0.6**
	comp=Z,2.1nm,0.9s						
VNDA	**Vanda**	**82.80**	**169**	P	**P**	**01 33 24.0**	**+0.8**
	comp=Z,0.6nm,0.5s,baz=297,slow=6.9,SNR=3.6						
FINES	**FINESS Array B**	**83.35**	**332**	P	**P**	**01 33 26.6**	**+0.4**
FINES	**FINESS Array B**	**83.35**	**332**	P	**P**	**01 33 26.6**	**+0.4**
	comp=Z,2.1nm,0.5s,baz=116,slow=5.0,SNR=19						
PSZ	**Pisciesteto**	**84.04**	**318**	*eP*	**P**	**01 33 30.8**	**+0.6**
	comp=Z,3.2nm,0.9s						
ARCES	**ARCESS Array B**	**85.76**	**340**	P	**P**	**01 33 39.0**	**+0.6**
ARCES	**ARCESS Array B**	**85.76**	**340**	P	**P**	**01 33 39.0**	**+0.6**
	comp=Z,2.6nm,1.0s,baz=81,slow=5.8,SNR=4.2						
MORC	**Moravsky Berou**	**85.83**	**320**	*eP*	**P**	**01 33 38.6**	**-0.5**
	comp=Z,1.6nm,0.8s						
AQU	**L'Aquila**	**88.00**	**312**	*eP*	**P**	**01 33 50.2**	**+0.3**
	comp=Z,5.5nm,0.8s						
GERES	**GERESS Array B**	**88.24**	**319**	P	**P**	**01 33 51.2**	**+0.3**
GERES	**GERESS Array B**	**88.24**	**319**	P	**P**	**01 33 51.2**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=158,slow=1.4,SNR=6.9						
DAVOX	**Davos/Dischmat**	**90.72**	**317**	P	**P**	**01 34 03.3**	**+0.6**
DAVOX	**Davos/Dischmat**	**90.72**	**317**	P	**P**	**01 34 03.3**	**+0.6**
	comp=Z,1.9nm,0.5s,baz=104,slow=8.3,SNR=4.3						
KEST	**Kesra**	**90.88**	**306**	*eP*	**P**	**01 34 04.8**	**+1.2**
KEST	**Kesra**	**90.88**	**306**	P	**P**	**01 34 04.8**	**+1.2**
	comp=Z,1.0nm,0.7s,baz=172,slow=7.1,SNR=3.3						
STU	**Stuttgart**	**91.21**	**319**	*eP*	**P**	**01 34 04.3**	**-0.4**
HWUT	**Hardware Ranch**	**131.28**	**31**	*e*PKPdf	**PKPdf**	**01 40 12.1**	**-0.2**
PDAR	**Pinedale Array**	**131.40**	**28**	PKP	**PKPdf**	**01 40 11.7**	**-0.8**
PDAR	**Pinedale Array**	**131.40**	**28**	PKP	**PKPdf**	**01 40 11.7**	**-0.8**
	comp=Z,0.2nm,0.4s,baz=286,slow=4.4,SNR=2.8						
DUG	**Dugway**	**131.63**	**33**	*e*PKPdf	**PKPdf**	**01 40 13.2**	**+0.4**
RSSD	**Black Hills**	**132.71**	**23**	*e*PKPdf	**PKPdf**	**01 40 15.5**	**+0.6**
SDCO	**Great Sand Dun**	**137.25**	**29**	*e*PKPdf	**PKPdf**	**01 40 25.1**	**+1.4**
MNTX	**Cornudas Mount**	**141.91**	**35**	*e*PKPdf	**PKPdf**	**01 40 32.7**	**+0.7**
WMOK	**Wichita Mounta**	**142.81**	**25**	*e*PKPdf	**PKPdf**	**01 40 31.9**	**-1.6**
CPUP	**Villa Florida**	**144.38**	**218**	*e*PKPdf	**PKPdf**	**01 40 35.3**	**-1.0**
CPUP				PKP	**PKPdf**	**01 40 35.4**	**-1.0**
CPUP	**Villa Florida**	**144.38**	**218**	PKP	**PKPdf**	**01 40 35.4**	**-1.0**
	comp=Z,3.9nm,0.7s,baz=104,slow=2.9,SNR=14						
TXAR	**Lajitas Array**	**144.64**	**36**	PKP	**PKPdf**	**01 40 36.5**	**-0.5**
TXAR	**Lajitas Array**	**144.64**	**36**	PKP	**PKPdf**	**01 40 36.5**	**-0.5**
	comp=Z,5.0nm,0.6s,baz=271,slow=1.1,SNR=71						
WVT	**Waverly**	**144.86**	**10**	*e*PKPdf	**PKPab**	**01 40 35.5**	**-0.5**
MIAR	**Mount Ida**	**144.93**	**19**	*e*PKPdf	PKPbc	01 40 36.3	-0.1
JCT	**Junction City**	**145.88**	**30**	*e*PKPbc	**PKPab**	**01 40 39.6**	**-0.4**
LVC	**Limon Verde**	**153.49**	**205**	*e*PKPdf	**PKPdf**	**01 40 50.7**	**-0.8**
LVC				*e*PKPbc	**PKiKP**	**01 40 59.3**	**0.0**
LVC				*e*PKPab	**PKPab**	**01 41 11.9**	**+0.6**
SIV	**San Ignacio**	**154.05**	**227**	PKPbc	**PKPbc**	**01 40 57.9**	**-2.3**
SIV	**San Ignacio**	**154.05**	**227**	PKPbc	**PKPbc**	**01 40 57.9**	**-2.3**
	comp=Z,0.8nm,0.6s,baz=164,slow=7.4,SNR=3.2						
SAML	**Samuel**	**159.78**	**239**	*e*PKPdf	**PKPdf**	**01 40 59.0**	**-0.5**
SAML				*e*PKPab	**PKPab**	**01 41 36.3**	**-2.1**

IDC ***02*** *02:08:12.9±0.4, 1.°46S×99.°41E, h0km, mb4.6/22, mb1 4.7/24, mb1mx4.6/27, mbtmp4.6/24, ML4.5/2, MS3.7/10, Ms1 3.7/10, ms1mx3.4/44, Error ellipse: s-maj=15.7km s-min=11.7km az=61.0*
NEIC ***02*** *02:08:14.1±0.2, 1.°51S×99.°35E, h10km, mb4.8/32, Error ellipse: s-maj=7.3km s-min=5.0km az=59.0*
NEIC Felt [III] on Siberut.
ISCJB ***02*** *02:08:14.2±0.9, 1.°53S±0.°03×99.°30E±0.°03, h20km±6km, mb4.8/109, MS4.0/22, Error ellipse: s-maj=5.4km s-min=4.1km az=138.4*
DJA ***02*** *02:08:15.6±1.2, 1.°S±3.°×9.°9E±.°, h11km±10km, M4.9/22, mB5.2/9, mb4.9/22, MLv5.2/14, Mw(mB)4.7/9, Mwp6.2/1*
MOS ***02*** *02:08:16.8±1.0, 1.°39S×99.°47E, h35km, mb5.0/43, Error ellipse: s-maj=12.0km s-min=5.5km az=116.4*
BKK ***02*** *02:08:16.6±0.3, 2.°S±3.°×9.°9E±.°, h10km, M4.9/17, mB4.9/4, mb4.9/17, MLv5.2/6, Mw(mB)4.2/4*
BJI ***02*** *02:08:17.0, 1.°66S×99.°27E, h51km, mB4.9/21, mb4.8/35, Ms4.5/28, Ms7 4.2/28*
AUST ***02*** *02:08:18.8±3.5, 1.°46S×99.°50E, h34km, Error ellipse: s-maj=2.3km s-min=0.8km az=243.0*
TEH ***02*** *02:08:20.0, 1.°42S×99.°52E, h49km, ML4.8*
ISC 02 02:08:19.6±0.4, 1.°52S±0.°04×99.°35E±0.°04, h49km±2km, n362, σ1§37/414, mb4.8/109, MS4.0/22, 19C-15D, Southern Sumatera

| Code | Station Name | Δ° | AZ° | Ph

VIS	**Vishakhapatnam**	**24.80**	**321**	*e*P	**P**	**02 13 36.0**	**-1.1**
VIS				AMB	AMB	02 13 41.7	
comp=Z,16nm,2.5s							
KMI	**Kunming**	**26.69**	**7**	P	**P**	**02 13 56.3**	**+1.8**
KMI				pP	**pP**	**02 14 08.2**	**+1.1**
KMI				sP	**sP**	**02 14 14.1**	**+1.1**
KMI				PP	**PnPn**	**02 14 42.4**	**+4.9**
KMI				S	**S**	**02 18 28.0**	**+1.2**
KMI				sS	**sS**	**02 18 47.8**	**-0.3**
KMI				SS	**SnSn**	**02 19 41.6**	**+7.8**
KMI				pmax	pmax		
comp=Z,10.0nm,0.5s							
KMI				pmax	pmax		
comp=Z,85nm,3.8s							
KMI				LR	LR		
comp=N,310nm,13.4s							
KMI				LR	LR		
comp=E,140nm,15.1s							
KMI				LR	LR		
comp=Z,330nm,14.2s							
MBWA	**Marble Bar**	**27.86**	**136**	*e*P	**P**	**02 14 05.3**	**+0.5**
comp=Z,20nm,1.1s							
SHL	**Shillong**	**27.88**	**345**	*e*P	**P**	**02 14 05.0**	**-0.1**
BOK	**Bokaro**	**28.37**	**333**	*e*P	**P**	**02 14 06.8**	**-2.5**
BOK				AMB	AMB	02 14 11.5	
comp=Z,25nm,0.6s							
GYA	**Guiyang**	**28.70**	**14**	P	**P**	**02 14 13.4**	**+1.1**
GYA				pP	**pP**	**02 14 27.3**	**+2.3**
GYA				sP	**sP**	**02 14 32.7**	**+1.9**
GYA				PP	**PnPn**	**02 15 07.9**	**+3.1**
GYA				PcP	**PcP**	**02 17 23.6**	**+1.5**
GYA				S	**S**	**02 18 58.9**	**+0.7**
GYA				sS	**sS**	**02 19 21.0**	**+1.4**
GYA				SS	**SnSn**	**02 20 27.4**	**+4.8**
GYA				ScP	**SS**	**02 21 00.8**	**-0.5**
GYA				ScS	**ScS**	**02 24 51.0**	**-2.3**
GYA				pmax	pmax		
comp=Z,10.0nm,0.8s							
GYA				pmax	pmax		
comp=Z,90nm,4.8s							
GYA				LR	LR		
comp=N,460nm,15.8s							
GYA				LR	LR		
comp=E,390nm,16.0s							
GYA				LR	LR		
comp=Z,430nm,15.6s							
LSA	**Lhasa**	**32.02**	**346**	P	**P**	**02 14 42.8**	**+0.8**
LSA				pmax	pmax		
comp=Z,20nm,0.7s							
LSA	**Lhasa**	**32.02**	**346**	*e*P	**P**	**02 14 42.5**	**+0.4**
LSA				pmax	pmax		
comp=Z,17nm,0.8s							
LSA	**Lhasa**	**32.02**	**346**	*e*P	**P**	**02 14 42.5**	**+0.4**
comp=Z,17nm,0.8s							
POO	**Poona**	**32.03**	**310**	*e*P	**P**	**02 14 40.9**	**-0.9**
POO				AMB	AMB	02 14 50.2	
comp=Z,17nm,1.0s							
CD2	**Chengdu**	**32.52**	**7**	P	**P**	**02 14 47.2**	**+1.2**
CD2				pP	**pP**	**02 15 00.0**	**+1.3**
CD2				sP	**sP**	**02 15 05.7**	**+1.2**
CD2				PP	**PnPn**	**02 15 57.1**	**+2.4**
CD2				S	**S**	**02 20 02.8**	**+4.9**
CD2				sS	**sS**	**02 20 19.9**	**+0.5**
CD2				SS	**SnSn**	**02 21 57.0**	**+1.6**
CD2				pmax	pmax		
comp=Z,20nm,0.5s							
CD2				pmax	pmax		
comp=Z,80nm,4.1s							
CD2				LR	LR		
comp=N,460nm,13.7s							
CD2				LR	LR		
comp=Z,270nm,14.3s							
ENH	**Enshi**	**33.06**	**16**	*e*P	**P**	**02 14 47.7**	**-3.0**
comp=Z,10nm,0.8s							
XAN	**Xi'an**	**36.50**	**13**	P	**P**	**02 15 17.9**	**-2.4**
XAN				pmax	pmax		
comp=Z,3.0nm,0.6s							
XAN				LR	LR		
comp=N,200nm,14.0s							
XAN				LR	LR		
comp=E,52nm,12.0s							
XAN				LR	LR		
comp=Z,95nm,14.7s							
LZH	**Lanzhou**	**37.65**	**6**	*e*P	**P**	**02 15 30.7**	**+0.5**
LZH				pP	**pP**	**02 15 44.0**	**+0.9**
LZH				PP	**PnPn**	**02 17 00.6**	**+2.3**
LZH				PcP	**PcP**	**02 17 45.5**	**-1.5**
LZH				pmax	pmax		
comp=Z,23nm,1.3s							
LZH				pmax	pmax		
comp=Z,67nm,5.2s							
LZH				LR	LR		
comp=N,460nm,13.0s							
LZH				LR	LR		
comp=E,470nm,12.8s							
LZH				LR	LR		
comp=Z,640nm,17.6s							
NJ2	**Nanjing**	**38.16**	**27**	*e*P	**P**	**02 15 36.4**	**+2.1**
NJ2				pmax	pmax		
comp=Z,11nm,1.2s							
SMLA	**Simla**	**38.72**	**329**	*e*P	**P**	**02 15 38.4**	**-0.6**
SMLA				AMB	AMB	02 15 58.3	
comp=Z,16nm,0.5s							
WRA	**Warramunga Arr**	**38.79**	**121**	P	**P**	**02 15 38.7**	**-1.2**
WRA				PcP	**PcP**	**02 17 50.5**	**-0.1**
WRA	**Warramunga Arr**	**38.79**	**121**	P	**P**	**02 15 38.7**	**-1.2**
comp=Z,29nm,0.8s,baz=302,slow=9.0,SNR=119							
WRA				PcP	**PcP**	**02 17 50.5**	**-0.1**
comp=Z,1.9nm,0.6s,baz=313,slow=2.6,SNR=5.2							
WRAB	**Tennant Creek**	**38.80**	**121**	*e*P	**P**	**02 15 38.6**	**-1.3**
WRAB				pmax	pmax		
comp=Z,44nm,0.9s							
WRAB	**Tennant Creek**	**38.80**	**121**	*e*P	**P**	**02 15 38.6**	**-1.3**
comp=Z,44nm,0.9s							
FORT	**Forrest**	**39.82**	**140**	*e*P	**P**	**02 15 49.4**	**+1.1**
comp=Z,30nm,0.8s							
AS31	**Alice Springs**	**40.06**	**126**	*e*P	**P**	**02 15 49.7**	**-0.8**
ASAR	**Alice Springs**	**40.06**	**126**	P	**P**	**02 15 49.6**	**-0.8**
ASAR				PcP	**PcP**	**02 17 55.6**	**+1.0**
ASAR				S	**S**	**02 21 53.2**	**0.0**
ASAR	**Alice Springs**	**40.06**	**126**	P	**P**	**02 15 49.6**	**-0.8**
comp=Z,6.0nm,0.7s,baz=299,slow=7.8,SNR=43							
ASAR				PcP	**PcP**	**02 17 55.6**	**+1.0**
comp=Z,3.4nm,0.9s,baz=304,slow=3.5,SNR=7.6							
ASAR				S	**S**	**02 21 53.2**	**0.0**
comp=Z,0.9nm,0.7s,baz=303,slow=14,SNR=7.4							
ASAR				LR	LR	02 32 11.9	
comp=Z,44nm,19.7s,baz=84,slow=36							
DHRM	**DHARAMSHALA**	**40.06**	**329**	*e*P	**P**	**02 15 49.7**	**-0.8**
DHRM				AMB	AMB	02 16 15.8	
comp=Z,22nm,0.4s							
GTA	**Gaotai**	**40.73**	**1**	*e*P	**P**	**02 15 56.5**	**+0.6**
GTA				pP	**pP**	**02 16 08.6**	**-0.3**
GTA				sP	**sP**	**02 16 14.2**	**-0.4**
GTA				PcP	**PcP**	**02 17 57.9**	**+1.3**
GTA				S	**S**	**02 22 02.9**	**-0.1**
GTA				sS	**sS**	**02 22 23.0**	**-1.9**
GTA				SS	**SS**	**02 24 59.3**	**-6.1**
GTA				pmax	pmax		
comp=Z,3.0nm,0.6s							
GTA				pmax	pmax		
comp=Z,81nm,3.7s							
GTA				LR	LR		
comp=N,160nm,17.2s							
GTA				LR	LR		
comp=E,180nm,15.7s							
GTA				LR	LR		
comp=Z,170nm,16.9s							
HHC	**Hu-ho-hao-te**	**43.61**	**13**	*e*P	**P**	**02 16 20.3**	**+1.0**
HHC				pP	**pP**	**02 16 32.6**	**+0.2**
HHC				sP	**sP**	**02 16 38.0**	**-0.1**
HHC				PP	**PcP**	**02 18 03.9**	**-2.2**
HHC				PcS	**PcS**	**02 21 58.8**	**-0.1**
HHC				S	**S**	**02 22 46.7**	**+1.3**
HHC				sS	**sS**	**02 23 07.5**	**0.0**
HHC				SS	**SS**	**02 25 55.3**	**-6.7**
HHC				ScS	**ScS**	**02 26 13.2**	**-1.5**
HHC				pmax	pmax		
comp=Z,27nm,1.0s							
HHC				pmax	pmax		
comp=Z,150nm,5.0s							
HHC				LR	LR		
comp=N,650nm,15.1s							
HHC				LR	LR		
comp=E,280nm,15.5s							
HHC				LR	LR		
comp=Z,560nm,14.3s							
BJI	**Beijing**	**44.13**	**19**	P	**P**	**02 16 23.6**	**+0.3**
BJI				S	S	02 23 00.0	+7.2
BJI				pmax	pmax		
comp=Z,12nm,1.2s							
BJI				LR	LR		
comp=N,160nm,19.3s							
BJI				LR	LR		
comp=E,150nm,17.5s							
BJI				LR	LR		
comp=Z,62nm,18.1s							
JNU	**Nakatsue**	**45.51**	**38**	P	**P**	**02 16 33.6**	**-0.8**
JNU	**Nakatsue**	**45.51**	**38**	P	**P**	**02 16 33.6**	**-0.8**
comp=Z,8.4nm,0.7s,baz=117,slow=3.9,SNR=5.9							
KSH	**Kashi**	**46.13**	**335**	*e*P	**P**	**02 16 37.5**	**-1.8**
KSH				sP	**sP**	**02 16 59.5**	**+1.3**
KSH				PP	**PP**	**02 18 25.7**	**-2.6**
KSH				PcS	**PcS**	**02 22 07.1**	**-2.3**
KSH				S	**S**	**02 23 16.1**	**-5.8**
KSH				SS	**ScS**	**02 26 33.9**	**+3.0**
KSH				pmax	pmax		
comp=Z,5.0nm,0.9s							
KSH				pmax	pmax		
comp=Z,38nm,3.2s							
KSH				LR	LR		
comp=N,490nm,12.0s							
KSH				LR	LR		
comp=E,240nm,11.6s							
KSH				LR	LR		
comp=Z,130nm,6.8s							
WMQ	**Urumqi**	**46.33**	**348**	P	**P**	**02 16 42.1**	**+1.3**
WMQ				pP	**pP**	**02 16 54.6**	**+0.6**
WMQ				sP	**sP**	**02 16 59.8**	**+0.1**
WMQ				PcP	**PcP**	**02 18 17.1**	**+1.7**
WMQ				PP	**PP**	**02 18 31.1**	**+0.8**
WMQ				S	**S**	**02 23 25.1**	**+0.5**
WMQ				sS	**sS**	**02 23 46.1**	**-0.7**
WMQ				ScS	**ScS**	**02 26 30.6**	**-1.3**
WMQ				SS	SS	02 26 43.1	-7.8
WMQ				pmax	pmax		
comp=Z,49nm,0.9s							
WMQ				pmax	pmax		
comp=Z,140nm,4.6s							
WMQ				LR	LR		
comp=N,59nm,20.0s							
WMQ				LR	LR		
comp=E,110nm,22.0s							
WMQ				LR	LR		
comp=Z,62nm,19.5s							
BBOO	**Buckleboo**	**46.44**	**136**	P	**P**	**02 16 42.3**	**+0.6**
baz=46,SNR=9.0							
KSAR	**Wonju Array Be**	**46.91**	**31**	P	**P**	**02 16 44.6**	**-0.8**
KSRS	**Korea Array**	**46.94**	**31**	P	**P**	**02 16 44.6**	**-1.0**
comp=Z,2.9nm,0.7s,baz=224,slow=8.3,SNR=10							
KSRS				LR	LR	02 37 19.5	
comp=Z,10.0nm,19.1s,baz=23,slow=37							
MTSU	**Mount Surprise**	**47.10**	**113**	P	**P**	**02 16 45.9**	**-1.3**
baz=47,SNR=4.6							
TKM2	**Tokmak 2**	**49.14**	**337**	*e*P	**P**	**02 17 03.3**	**+0.5**
TKM2				pmax	pmax		
comp=Z,13nm,0.9s							
TKM2	**Tokmak 2**	**49.14**	**337**	*e*P	**P**	**02 17 03.2**	**+0.5**
comp=Z,13nm,0.9s							
AAK	**Ala-Archa**	**49.34**	**336**⇓	*e*P	**P**	**02 17 05.2**	**+1.0**
AAK				pmax	pmax		
comp=Z,8.0nm,0.8s							
AAK	**Ala-Archa**	**49.34**	**336**	*e*P	**P**	**02 17 04.9**	**+0.7**
comp=Z,4.7nm,0.8s							
CTAO	**Charters Tower**	**49.38**	**115**	*e*P	**P**	**02 17 03.5**	**-1.3**
CTAO				pmax	pmax		
comp=Z,14nm,0.9s							
CTAO	**Charters Tower**	**49.38**	**115**	*e*P	**P**	**02 17 03.5**	**-1.3**
comp=Z,14nm,0.9s							
SONM	**Songino Array**	**49.54**	**6**	P	**P**	**02 17 06.0**	**+0.4**
SONM				PcP	**PcP**	**02 18 27.3**	**+0.4**
SONM	**Songino Array**	**49.54**	**6**	P	**P**	**02 17 06.0**	**+0.4**
comp=Z,2.5nm,0.6s,baz=191,slow=10,SNR=18							
SONM				PcP	**PcP**	**02 18 27.3**	**+0.4**
comp=Z,3.6nm,0.6s,baz=184,slow=3.8,SNR=5.3							
ULN	**Ulaanbaatar**	**49.64**	**7**	*e*P	**P**	**02 17 06.8**	**+0.4**
comp=Z,14nm,1.0s							
EKS2	**Erkin-Say**	**49.66**	**335**	*e*P	**P**	**02 17 07.7**	**+1.1**
EKS2				pmax	pmax		
comp=Z,15nm,0.8s							
EKS2	**Erkin-Say**	**49.66**	**335**	*e*P	**P**	**02 17 07.7**	**+1.1**
comp=Z,14nm,0.8s							
STKA	**Stephens Creek**	**49.95**	**132**	*e*P	**P**	**02 17 09.0**	**+0.1**
comp=Z,5.2nm,0.8s							
STKA	**Stephens Creek**	**49.95**	**132**	P	**P**	**02 17 09.2**	**+0.3**
comp=Z,22nm,0.8s,baz=306,slow=7.1,SNR=31							
STKA				LR	LR	02 39 40.5	
comp=Z,179nm,21.1s,baz=208,slow=38							
STKA	**Stephens Creek**	**49.95**	**132**	P	**P**	**02 17 09.6**	**+0.7**
baz=50,SNR=16							
MK31	**Makanchi Array**	**50.40**	**345**	*e*P	**P**	**02 17 11.9**	**-0.1**
MK31	**Makanchi Array**	**50.40**	**345**	*e*P	**P**	**02 17 11.9**	**-0.1**
MKAR	**Makanchi Array**	**50.40**	**345**	P	**P**	**02 17 12.3**	**+0.3**
MKAR	**Makanchi Array**	**50.40**	**345**	P	**P**	**02 17 12.2**	**+0.3**
MKAR	**Makanchi Array**	**50.40**	**345**	P	**P**	**02 17 12.2**	**+0.3**
comp=Z,11nm,0.5s,baz=150,slow=7.9,SNR=70							
CN2	**Changchun**	**50.81**	**24**	*e*P	**P**	**02 17 17.9**	**+2.8**
CN2				*es*P	**sP**	**02 17 35.7**	**+1.5**
CN2				*e*S	**S**	**02 24 29.1**	**+1.5**
CN2				pmax	pmax		
comp=Z,10.0nm,0.7s							
CN2				pmax	pmax		
comp=Z,200nm,3.0s							
CN2				LR	LR		
comp=N,500nm,19.0s							
CN2				LR	LR		
comp=E,300nm,19.0s							
CN2				LR	LR		
comp=Z,200nm,16.0s							
IKOO	**Kooshah**	**50.93**	**315**	*e*P	**P**	**02 17 16.1**	**-0.5**
ITEG	**Tejag**	**51.37**	**316**	*e*P	**P**	**02 17 19.2**	**-0.6**
KKAR	**Karatay Array**	**51.44**	**333**	*e*P	**P**	**02 17 19.2**	**-0.7**
KKAR				pmax	pmax		
comp=Z,1.0nm,0.5s							
KKAR	**Karatay Array**	**51.44**	**333**	*e*P	**P**	**02 17 19.2**	**-0.7**
comp=Z,1.4nm,0.5s							
ZAK	**Zakamensk**	**51.81**	**3**	*e*P	P	02 17 11.2	-11
ZAK				pmax	pmax		
comp=Z,2.0nm,1.0s							
MJAR	**Matsushiro Arr**	**52.32**	**40**	P	P	02 17 31.2	+4.6
MJAR	**Matsushiro Arr**	**52.32**	**40**	P	P	02 17 31.2	+4.6
comp=Z,1.5nm,0.2s,baz=226,slow=7.1,SNR=4.6							
IMYA	**Miami**	**52.45**	**320**	*e*P	P	02 17 21.4	-6.3
HVS	**Khovu-Aksy**	**52.68**	**356**⇓	*e*P	**P**	**02 17 28.5**	**-0.5**
HVS				pmax	pmax		
comp=Z,9.0nm,0.6s							
CMSA	**Cobar Meteorol**	**52.91**	**129**	P	**P**	**02 17 31.6**	**+0.6**
baz=53,SNR=21							
IPAY	**Payeh**	**53.23**	**319**	*e*Pn	**P**	**02 17 33.2**	**-0.4**
MDJ	**Mudanjiang**	**53.25**	**27**	P	**P**	**02 17 34.6**	**+1.4**
MDJ				pP	**pP**	**02 17 46.0**	**-0.7**
MDJ				sP	**sP**	**02 17 51.0**	**-1.3**
MDJ				PcP	**PcP**	**02 18 39.3**	**-1.2**
MDJ				PP	**PP**	**02 19 33.6**	**-0.2**
MDJ				S	**S**	**02 24 59.0**	**-2.0**
MDJ				sS	**sS**	**02 25 22.3**	**-1.3**
MDJ				SS	**SS**	**02 28 41.2**	**-0.2**
MDJ				pmax	pmax		
comp=Z,7.0nm,0.5s							
MDJ				pmax	pmax		
comp=Z,46nm,3.6s							
MDJ				LR	LR		
comp=N,72nm,20.2s							
MDJ				LR	LR		
comp=E,20nm,17.1s							
MDJ				LR	LR		
comp=Z,84nm,19.1s							
IKRD	**Kardeh**	**53.73**	**319**	*e*P	P	02 17 28.4	-8.9
OPO	**Ambohidratompo**	**53.84**	**248**	P	**P**	**02 17 37.3**	**-1.0**
OPO	**Ambohidratompo**	**53.84**	**248**	P	**P**	**02 17 37.3**	**-1.0**
comp=Z,2.4nm,0.7s,baz=57,slow=11,SNR=3.9							
USRK	**Ussuriysk Arra**	**54.04**	**29**	P	**P**	**02 17 38.5**	**-0.6**
comp=Z,4.8nm,0.6s,baz=238,slow=5.7,SNR=12							
IZEF	**Zefreh**	**56.01**	**312**	*e*Pn	**P**	**02 17 52.2**	**-1.6**
IZEF				*e*		02 27 49.9	
comp=Z,24nm,0.1s							
YNG	**Young**	**56.13**	**131**	P	**P**	**02 17 55.6**	**+1.1**
baz=56,SNR=9.4							
ZAA0	**Zalesovo Array**	**56.58**	**350**	*e*P	**P**	**02 17 57.0**	**-0.1**
ZALV	**Zalesovo Beam**	**56.58**	**350**	P	**P**	**02 17 57.1**	**-0.1**
ZALV				S	**S**	**02 25 48.2**	**+2.8**
ZALV	**Zalesovo Beam**	**56.58**	**350**	P	**P**	**02 17 57.0**	**-0.1**
ZALV				S	**S**	**02 25 48.2**	**+2.8**
ZALV	**Zalesovo Beam**	**56.58**	**350**	P	**P**	**02 17 57.0**	**-0.1**
comp=Z,14nm,0.6s,baz=181,slow=5.6,SNR=76							
ZALV				S	**S**	**02 25 48.2**	**+2.8**
comp=Z,0.6nm,0.3s,baz=148,slow=14,SNR=4.4							
ZALV				LR	LR	02 46 27.4	
comp=Z,36nm,20.2s,baz=70,slow=41							
IKIA	**Kiasar**	**56.67**	**316**	*e*P	**P**	**02 17 57.6**	**-0.8**
IPIR	**Pirpir**	**56.98**	**311**	*e*P	**P**	**02 18 00.5**	**-0.3**
ARMA	**Armidale**	**57.20**	**126**	*e*P	**P**	**02 18 03.4**	**+1.1**
comp=Z,6.2nm,0.7s							
ARMA	**Armidale**	**57.20**	**126**	P	**P**	**02 18 03.9**	**+1.7**
baz=57,SNR=6.4							
IALA	**Alasht**	**57.21**	**316**	*e*P	**P**	**02 18 01.4**	**-1.0**
IALA				*e*		02 26 32.5	
comp=Z,707nm,0.1s							
IVRN	**Varamin**	**57.45**	**314**	*e*P	**P**	**02 18 02.6**	**-1.2**
NVS	**Novosibirsk**	**57.72**	**349**	*e*P	**P**	**02 18 03.3**	**-1.9**
NVS				*e*S	**S**	**02 26 02.4**	**+2.1**
NVS				pmax	pmax		
comp=Z,14nm,1.0s							
NVS				pmax	pmax		
comp=N,9.0nm,0.8s							
NVS				pmax	pmax		
comp=E,6.0nm,0.8s							
NVS				smax	smax		
comp=N,7.0nm,1.8s							
NVS				smax	smax		
comp=E,3.0nm,0.7s							
RDF	**Al-Radifah**	**58.05**	**306**	*e*P	**P**	**02 18 07.5**	**-0.5**
RDF				AMb	AMB	02 18 08.8	
comp=Z,48nm,1.0s							
NAY	**Al-Naaiem**	**58.42**	**306**	*e*P	**P**	**02 18 09.8**	**-0.7**
NAY				AMb	AMB	02 18 10.9	
comp=Z,1.0nm,0.7s							
IMHD	**Mahdasht**	**58.54**	**314**	*e*P	**P**	**02 18 11.4**	**0.0**
MIB	**Mutribah**	**58.55**	**307**	*e*P	**P**	**02 18 11.2**	**-0.3**
MIB				AMb	AMB	02 18 12.5	
comp=Z,58nm,0.9s							
RST	**Umm Al-Ruwaisa**	**58.71**	**306**	*e*P	**P**	**02 18 11.8**	**-0.8**
RST				AMb	AMB	02 18 13.6	
comp=Z,206nm,0.9s							
IRAZ	**Razeghan**	**58.94**	**314**	*e*P	**P**	**02 18 13.4**	**-1.0**
BRVK	**Borovoye**	**59.58**	**340**	*e*P	**P**	**02 18 17.3**	**-0.9**
BRVK				pmax	pmax		
comp=Z,8.0nm,0.8s							
BRVK	**Borovoye**	**59.58**	**340**	*e*P	**P**	**02 18 17.3**	**-0.9**
comp=Z,8.0nm,0.8s							
ABKAR	**Akbulak array**	**60.91**	**332**	*e*P	**P**	**02 18 26.2**	**-1.1**
comp=Z,4.7nm,0.6s							
YSS	**Yuzh-Sakhalins**	**61.42**	**32**	*e*P	**P**	**02 18 32.4**	**+1.6**
YSS				*e*		02 18 40.0	
ISRB	**Sarab**	**61.66**	**315**	*e*P	**P**	**02 18 31.7**	**-1.2**
KMBO	**Kilima Mbogo**	**62.08**	**270**	*e*P	**P**	**02 18 37.5**	**+1.3**
comp=Z,6.4nm,0.8s							
KMBO	**Kilima Mbogo**	**62.08**	**270**	P	**P**	**02 18 38.2**	**+2.0**
comp=Z,7.4nm,0.8s,baz=57,slow=10,SNR=21							
ITBZ	**Tabriz**	**62.92**	**315**	*e*P	P	02 18 29.9	-11
ISHB	**Shabestar**	**63.31**	**315**	*e*P	**P**	**02 18 41.8**	**-2.2**
GNI	**Garni**	**64.73**	**316**	*e*P	**P**	**02 18 52.7**	**-0.5**
comp=Z,14nm,1.1s							
SVE	**Sverdlovsk**	**66.00**	**338**⇑	*i*P	**P**	**02 19 00.8**	**0.0**
SVE				pmax	pmax		
comp=Z,12nm,1.0s							
ZEI	**Tsey**	**66.45**	**319**	*e*P	**P**	**02 19 03.6**	**-0.7**
ZEI				pmax	pmax		
comp=Z,10.0nm,0.8s							
ARU	**Arti**	**66.51**	**337**	*d i*P	**P**	**02 19 03.5**	**-0.6**
ARU						02 21 28.6	
ARU				S	**S**	**02 27 52.8**	**+1.7**
ARU				SS	**SS**	**02 32 10.4**	**+1.4**
ARU				pmax	pmax		
comp=Z,10.0nm,1.2s							
KBZ	**Khabaz**	**67.52**	**319**	P	**P**	**02 19 11.1**	**+0.4**
KBZ	**Khabaz**	**67.52**	**319**	P	**P**	**02 19 11.1**	**+0.4**
KBZ	**Khabaz**	**67.52**	**319**	P	**P**	**02 19 11.1**	**+0.4**
comp=Z,9.1nm,0.8s,baz=119,slow=6.3,SNR=20							
KIV	**Kislovodsk**	**67.76**	**319**	*e*P	**P**	**02 19 12.3**	**-0.1**
KIV				pmax	pmax		
comp=Z,14nm,1.0s							
KIV				MLR	MLR		
comp=Z,27nm,17.0s							
MALT	**Malatya**	**68.54**	**312**	⇓P	**P**	**02 19 17.6**	**+0.2**
MALT	**Malatya**	**68.54**	**312**	⇓*i*P	**P**	**02 19 17.6**	**+0.2**
EIL	**Elat**	**68.72**	**303**	P	**P**	**02 19 19.4**	**+0.8**
baz=69,SNR=3.5							
SOKR	**Solikamsk**	**69.40**	**338**	*e*P	**P**	**02 19 22.2**	**+0.1**
SOKR				pmax	pmax		
comp=Z,8.0nm,0.7s							
MAW	**Mawson**	**70.59**	**194**	LR	LR	02 44 14.8	
comp=Z,182nm,18.4s,baz=210,slow=31							
CSS	**Prodhromos**	**71.42**	**308**	*e*P	**P**	**02 19 35.0**	**0.0**
comp=Z,12nm,0.9s							
LSZ	**Lusaka**	**71.44**	**254**	*e*P	**P**	**02 19 36.2**	**+0.5**
comp=Z,5.9nm,1.1s							
ANN	**Anapa**	**71.55**	**319**	*e*P	P	02 19 30.9	-4.7
ANN				pmax	pmax		
comp=Z,70nm,1.3s							
MCQ	**Macquarie Isla**	**71.55**	**148**	P	**PcP**	**02 19 54.0**	**-0.5**
baz=72,SNR=3.3							
VRHR	**Novokhopersk**	**71.57**	**326**	*e*P	**P**	**02 19 34.4**	**-1.2**
VRHR				pmax	pmax		
comp=N,10.0nm,0.7s							
VRHR				pmax	pmax		
comp=Z,10.0nm,0.7s							
VRHR				pmax	pmax		
comp=E,10.0nm,1.1s							
BR131	**Keskin Array S**	**72.52**	**313**	*e*P	**P**	**02 19 40.8**	**-0.9**
comp=E,1.0nm,0.5s							
BRTR	**Keskin Array B**	**72.52**	**313**	P	**P**	**02 19 40.9**	**-0.9**
BRTR	**Keskin Array B**	**72.52**	**313**	P	**P**	**02 19 40.9**	**-0.9**
comp=E,2.3nm,0.6s,baz=131,slow=6.6,SNR=16							
VORD	**Divnogorie**	**72.84**	**325**	*e*P	**P**	**02 19 42.4**	**-0.7**
VORD				pmax	pmax		
comp=Z,10.0nm,0.9s							
VORD				pmax	pmax		
comp=N,20nm,0.7s							
VORD				pmax	pmax		
comp=E,10.0nm,0.7s							
VSR	**Storozhevoye**	**73.02**	**325**	*e*P	**P**	**02 19 42.9**	**-1.3**
VSR				pmax	pmax		
comp=Z,10.0nm,0.8s							
VSR				pmax	pmax		
comp=N,10.0nm,0.9s							
VSR				pmax	pmax		
comp=E,9.0nm,0.8s							
PET	**Petropavlovsk**	**73.30**	**33**	*e*P	**P**	**02 19 44.5**	**-1.3**
PET				pmax	pmax		
comp=Z,3.0nm,0.5s							
BOSA	**Boshof**	**75.32**	**241**	*e*P	**P**	**02 19 58.9**	**+0.6**
comp=Z,2.8nm,0.7s							
BOSA	**Boshof**	**75.32**	**241**	P	**P**	**02 19 58.9**	**+0.6**
comp=Z,2.8nm,0.9s,baz=120,slow=5.7,SNR=5.5							
SEY	**Seymchan**	**75.43**	**22**⇑	*e*P	**P**	**02 19 58.5**	**+0.5**
TIXI	**Tiksi**	**75.49**	**9**⇓	*e*P	**P**	**02 19 57.1**	**-1.1**
TIXI				pmax	pmax		
comp=Z,9.0nm,1.0s							
OBN	**Obninsk**	**76.05**	**328**	⇓*i*P	**P**	**02 20 01.2**	**-0.5**
OBN				pmax	pmax		
comp=Z,18nm,1.2s							
KLMR	**Klimovskoe**	**77.12**	**334**	*e*P	**P**	**02 20 04.9**	**-2.7**
KLMR		

VOIR		80.11 317	⇑iP	P	02 20 24.4	-0.2
BURAR	Bucovina Array	80.47 319	⇑P	P	02 20 27.5	+1.0
BURAR	Bucovina Array	80.47 319	⇑iP	P	02 20 27.5	+1.0
BUR08	Bucovina Ar. S	80.49 319	eP	P	02 20 27.2	+0.5
TNR	Turnu Rosu	80.69 317	⇑P	P	02 20 27.6	0.0
TNR	Turnu Rosu	80.69 317	⇑iP	P	02 20 27.6	0.0
VTS	Vitosha	80.85 313	⇑P	P	02 20 28.6	-0.1
VTS	Vitosha	80.85 313	⇑iP	P	02 20 28.6	-0.1
FX1	Attu Island--F	81.49 36	eP	P	02 20 30.1	-1.6
JOF	Joensuu	81.51 335	eP	P	02 20 32.0	+0.5
JOF		pmax	pmax			
	comp=Z,1.0nm,0.4s					
JOF	Joensuu	81.51 335	ep	P	02 20 32.0	+0.5
	comp=Z,0.5nm,0.4s					
TSUM	Tsumeb	81.73 251	eP	P	02 20 34.8	+1.0
	comp=Z,5.2nm,1.0s					
TSUM	Tsumeb	81.73 251	LR	LR	02 55 07.3	
	comp=Z,84nm,19.0s,baz=165,slow=34					
DRGR		81.98 318	⇓P	P	02 20 35.3	+0.8
DRGR		81.98 318	⇓iP	P	02 20 35.3	+0.8
KWP	Kalwaria Pacla	82.52 320	⇓P	P	02 20 37.7	+0.5
KWP	Kalwaria Pacla	82.52 320	⇓iP	P	02 20 37.7	+0.5
KWP	Kalwaria Pacla	82.52 320	eP	P	02 20 37.4	+0.2
UZH	Uzhgorod	82.60 319	eP	P	02 20 49.8	+12
KOLS	Kolonicke sedl	82.67 320	eP	P	02 20 38.9	+0.9
KOLS		pmax	pmax			
	comp=Z,13nm,0.9s					
KOLS	Kolonicke sedl	82.67 320	eP	P	02 20 38.9	+0.9
VNDA	Vanda	82.75 169	eP	P	02 20 38.6	+0.8
	comp=Z,6.1nm,1.3s					
VNDA	Vanda	82.75 169	P	P	02 20 39.2	+1.3
	comp=Z,2.2nm,0.7s,baz=298,slow=6.0,SNR=12					
SUW	Suwalki	83.12 325	eP	P	02 20 39.9	-0.3
CRVS	Cervenica-Dubn	83.19 319	eP	P	02 20 41.0	+0.3
CRVS		pmax	pmax			
	comp=Z,5.0nm,1.1s					
CRVS	Cervenica-Dubn	83.19 319	eP	P	02 20 41.0	+0.3
FINES	FINESS Array B	83.39 332	P	P	02 20 41.5	+0.2
FINES	FINESS Array B	83.39 332	P	P	02 20 41.5	+0.2
	comp=Z,5.1nm,0.6s,baz=100,slow=6.0,SNR=43					
STHS	Stebnicka Huta	83.42 320	eP	P	02 20 43.0	+1.1
STHS		pmax	pmax			
	comp=Z,6.0nm,0.8s					
STHS	Stebnicka Huta	83.42 320	eP	P	02 20 43.0	+1.1
KAF	Kangasniemi	83.47 333	eP	P	02 20 42.3	+0.5
KAF		pmax	pmax			
	comp=Z,2.0nm,0.4s					
KAF	Kangasniemi	83.47 333	ep	P	02 20 42.3	+0.5
	comp=Z,2.2nm,0.4s					
KECS	Kecovo	83.76 319	eP	P	02 20 43.9	+0.3
KECS		pmax	pmax			
	comp=Z,2.0nm,0.8s					
KECS	Kecovo	83.76 319	eP	P	02 20 43.9	+0.3
PSZ	Piszkesteto	84.06 318	eP	P	02 20 45.3	+0.1
PSZ		pmax	pmax			
	comp=Z,3.0nm,0.7s					
PSZ	Piszkesteto	84.06 318	eP	P	02 20 45.3	+0.1
	comp=Z,2.9nm,0.7s					
OKC	Ostrava-Krasne	85.48 320	eP	P	02 20 52.7	+0.5
OKC	Ostrava-Krasne	85.48 320	eP	P	02 20 52.7	+0.5
SMOL	Smolenice	85.77 319	eP	P	02 20 54.7	+1.0
SMOL	Smolenice	85.77 319	eP	P	02 20 54.7	+1.0
ARCES	ARCESS Array B	85.81 340	P	P	02 20 53.6	+0.2
ARCES	ARCESS Array B	85.81 340	P	P	02 20 53.6	+0.2
	comp=Z,3.4nm,0.8s,baz=90,slow=7.3,SNR=9.0					
ARCES		LR	LR	LR	03 02 22.1	
	comp=Z,54nm,21.1s,baz=78,slow=38					
ARE0	ARCESS Array S	85.81 340	eP	P	02 20 53.7	+0.2
MORC	Moravsky Berou	85.86 320	eP	P	02 20 54.5	+0.3
MORC		pmax	pmax			
	comp=Z,3.0nm,0.7s					
MORC	Moravsky Berou	85.86 320	eP	P	02 20 54.5	+0.3
	comp=Z,2.8nm,0.7s					
GKP	Gorka Klasztor	86.49 323	eP	P	02 20 57.3	+0.2
DPC	Dobruska-Polom	86.70 320	eP	P	02 20 59.1	+0.8
DPC	Dobruska-Polom	86.70 320	eP	P	02 20 59.1	+0.8
TREC	Trest	87.13 319	eP	P	02 21 00.6	+0.2
TREC	Trest	87.13 319	eP	P	02 21 00.6	+0.2
SOKA	Soboth	87.19 317	⇑iP	P	02 21 01.1	+0.3
	comp=Z,4.2nm,0.8s,SNR=6.0					
PRU	Pruhonice	87.81 320	eP	P	02 21 04.5	+0.9
PRU	Pruhonice	87.81 320	eP	P	02 21 04.5	+0.9
AQU	L'Aquila	88.02 312	eP	P	02 21 05.4	+0.5
	comp=Z,14nm,0.8s					
BRG	Berggiesshubel	88.26 321	eP	P	02 21 06.2	+0.5
	comp=Z,3.0nm,1.0s					
GEC2	GERESS Array S	88.26 319	eP	P	02 21 06.4	+0.5
	comp=Z,22nm,1.8s					
GEC2	GERESS Array S	88.26 319	eP	P	02 21 06.4	+0.5
GEC2		pmax	pmax			
	comp=Z,22nm,1.8s					
GERES	GERESS Array B	88.26 319	P	P	02 21 06.6	+0.7
GERES	GERESS Array B	88.26 319	P	P	02 21 06.6	+0.7
	comp=Z,1.8nm,0.7s,baz=96,slow=4.0,SNR=12					
KHC	Kasperske Hory	88.37 319	eP	P	02 21 06.5	+0.2
KHC	Kasperske Hory	88.37 319	eP	P	02 21 06.5	+0.2
RUE	Ruedersdorf	88.49 322	eP	P	02 21 07.6	+0.9
	comp=Z,27nm,1.1s					
FBE	Freiberg	88.64 321	eP	P	02 21 08.4	+0.9
	comp=Z,14nm,1.0s					
WET	Wettzell	88.83 319	eP	P	02 21 08.7	+0.2
	comp=Z,4.0nm,0.8s					
WET	Wettzell	88.83 319	eP	P	02 21 08.7	+0.2
WET		pmax	pmax			
	comp=Z,4.0nm,0.8s					
CLL	Collm	88.89 321	eP	P	02 21 09.1	+0.4
	comp=Z,6.0nm,1.1s					
CLL	Collm	88.89 321	⇓iP	P	02 21 09.3	+0.6
CLL		pmax	pmax			
	comp=Z,6.0nm,1.1s					
CLL	Collm	88.89 321	⇓iP	P	02 21 09.3	+0.6
	comp=Z,6.0nm,1.1s					
WERD	Werda	89.27 320	eP	P	02 21 11.3	+0.7
	comp=Z,23nm,2.1s					
ROTZ	Rotzenmuhle	89.30 320	eP	P	02 21 11.8	+1.1
	comp=Z,7.0nm,1.2s					
MANZ	Manzenberg	89.38 320	eP	P	02 21 12.3	+1.2
	comp=Z,7.0nm,0.9s					
WTTA	Wattenberg	89.55 317	⇑iP	P	02 21 11.6	-0.5
	comp=Z,5.7nm,0.8s,SNR=4.2					
NEUB	Neuenburg	89.65 321	eP	P	02 21 13.0	+0.8
	comp=Z,12nm,1.0s					
MOX	Moxa	89.72 320	eP	P	02 21 13.4	+0.8
	comp=Z,5.0nm,1.3s					
MOX	Moxa	89.72 320	eP	P	02 21 13.4	+0.8
MOX		pmax	pmax			
	comp=Z,5.0nm,1.3s					
GRF	Grafenberg Arr	89.94 320	eP	P	02 21 14.6	+0.9
	comp=Z,7.0nm,0.9s					
GRF	Grafenberg Arr	89.94 320	eP	P	02 21 14.6	+0.9
GRF		pmax	pmax			
	comp=Z,7.0nm,0.9s					
RETA	Reutte	90.15 317	⇓iP	P	02 21 15.0	+0.2
	comp=Z,5.5nm,0.7s					
NOA	NORSAR Array B	90.41 331	LR	LR	03 07 23.8	
	comp=Z,22nm,19.4s,baz=340,slow=39					
CLZ	Clausthal	90.55 322	eP	P	02 21 17.0	+0.5
	comp=Z,9.0nm,1.1s					
CLZ	Clausthal	90.55 322	eP	P	02 21 17.0	+0.5
CLZ		pmax	pmax			
	comp=Z,9.0nm,1.1s					
BSEG	Bad Segeberg	90.65 324	eP	P	02 21 17.5	+0.7
	comp=Z,22nm,1.7s					
BSEG	Bad Segeberg	90.65 324	eP	P	02 21 17.5	+0.7
BSEG		pmax	pmax			
	comp=Z,22nm,1.7s					
NRDL	Niedersach Rie	90.73 322	eP	P	02 21 18.4	+1.2
	comp=Z,14nm,1.5s					
DAVA	Damuels	90.75 317	⇑iPcP	P	02 21 18.2	+0.5
	comp=Z,14nm,1.1s					
KEST	Kesra	90.88 306	eP	P	02 21 20.1	+1.6
KEST	Kesra	90.88 306	P	P	02 21 20.0	+1.5
	comp=Z,2.5nm,0.8s,baz=223,slow=1.1,SNR=8.0					
TNS	Taunus Mts	91.74 320	eP	P	02 21 22.9	+0.8
	comp=Z,9.0nm,1.2s					
TNS	Taunus Mts	91.74 320	eP	P	02 21 22.9	+0.8
TNS		pmax	pmax			
	comp=Z,9.0nm,1.2s					
LPG	La Plagne	92.90 315	eP	P	02 21 28.0	+0.1
LPG	La Plagne	92.90 315	eP	P	02 21 28.0	+0.1
LPG	La Plagne	92.90 315	eP	P	02 21 28.0	+0.1
LPL	La Plagne	92.92 315	eP	P	02 21 28.1	+0.3
	comp=Z,2.5nm,0.5s					
LPL	La Plagne	92.92 315	eP	P	02 21 28.1	+0.3
LPL		pmax	pmax			
	comp=Z,3.0nm,0.5s					
LPL	La Plagne	92.92 315	eP	P	02 21 28.1	+0.3
	comp=Z,2.5nm,0.5s					
HAU	Haudompre	93.14 318	eP	P	02 21 28.5	-0.1
HAU	Haudompre	93.14 318	eP	P	02 21 28.5	-0.1
HAU	Haudompre	93.14 318	eP	P	02 21 28.5	-0.1
TORD	Torodi Ar. Bea	97.80 283	P	P	02 21 50.3	-0.2
TORD	Torodi Ar. Bea	97.80 283	P	P	02 21 50.3	-0.2
	comp=Z,0.7nm,0.9s,baz=88,slow=5.7,SNR=4.3					
BPAW	Bear Paw Mtn.	99.87 25	ePdif	Pdif	02 21 56.9	-1.8
	comp=Z,2.6nm,1.0s					
ILAR	Eielson Array	101.33 24	PKKPbc	PKKPbc	02 38 14.6	-2.4
	comp=Z,0.6nm,0.7s,baz=156,slow=2.5,SNR=6.4					
WVOR	Wild Horse Val	126.94 35	ePKIKP	PKPdf	02 27 19.2	+0.6
WVOR	Wild Horse Val	126.94 35	ePKPdf	PKPdf	02 27 19.2	+0.6
HLID	Hailey	128.47 31	ePKPdf	PKPdf	02 27 21.5	-0.1
NVAR	Mina Array Bea	129.63 39	PKP	PKPdf	02 27 25.3	+1.3
NVAR	Mina Array Bea	129.63 39	PKP	PKPdf	02 27 25.3	+1.3
	comp=Z,1.8nm,1.0s,baz=299,slow=1.9,SNR=5.9					
ELK	Elko	129.97 34	ePKPdf	PKPdf	02 27 25.8	+1.2
TPAW	Teton Pass	130.25 29	ePKPdf	PKPdf	02 27 25.3	+0.2
LOHW	Long Hollow	130.33 28	ePKPdf	PKPdf	02 27 25.8	+0.6
HWUT	Hardware Ranch	131.34 31	ePKPdf	PKPdf	02 27 26.2	-0.9
PDAR	Pinedale Array	131.47 28	PKP	PKPdf	02 27 28.1	+0.7
PDAR	Pinedale Array	131.47 28	PKP	PKPdf	02 27 28.1	+0.7
	comp=Z,0.4nm,0.6s,baz=191,slow=1.5,SNR=4.4					
DUG	Dugway	131.69 33	ePKIKP	PKPdf	02 27 27.8	0.0
DUG	Dugway	131.69 33	ePKPdf	PKPdf	02 27 27.8	0.0
RSSD	Black Hills	132.77 23	ePKIKP	PKPdf	02 27 29.7	-0.1
RSSD	Black Hills	132.77 23	ePKPdf	PKPdf	02 27 29.7	-0.1
SDCO	Great Sand Dun	137.32 29	ePKPdf	PKPdf	02 27 38.7	+0.1
ANMO	Albuquerque	138.97 33	ePKPdf	PKPdf	02 27 41.7	+0.2
MNTX	Cornudas Mount	141.97 35	ePKPdf	PKPdf	02 27 44.3	-2.6
CPUP	Villa Florida	144.31 218	ePKPdf	PKPbc	02 27 49.8	+0.4
CPUP		PKP	PKPdf	02 27 50.4	-0.6
CPUP	Villa Florida	144.31 218	PKP	PKPdf	02 27 50.4	-0.6
	comp=Z,10.0nm,0.7s,baz=109,slow=2.6,SNR=39					
TXAR	Lajitas Array	144.71 36	PKP	PKPdf	02 27 51.5	-0.3
TXAR	Lajitas Array	144.71 36	PKP	PKPdf	02 27 51.5	-0.3
	comp=Z,13nm,0.6s,baz=268,slow=1.1,SNR=183					
WVT	Waverly	144.92 10	ePKIKP	PKPab	02 27 50.5	-0.5
WVT	Waverly	144.92 10	ePKPdf	PKPab	02 27 50.5	-0.5
MIAR	Mount Ida	145.00 19	ePKIKP	PKPab	02 27 51.2	-0.2
MIAR	Mount Ida	145.00 19	ePKPdf	PKPab	02 27 51.1	-0.2
CFAA	Coronel Fontan	145.01 199	PKPbc	PKPdf	02 27 52.6	+0.3
CFAA	Coronel Fontan	145.01 199	PKPbc	PKPdf	02 27 52.6	+0.3
	comp=Z,5.1nm,0.7s,baz=170,slow=3.2,SNR=91					
TZTN	Tazewell	145.05 4	ePKPdf	PKPbc	02 27 50.8	-0.7
UALR	University of	145.16 17	ePKPdf	PKPbc	02 27 51.5	-0.4
TKL	Tuckaleechee C	145.91 5	ePKPbc	PKPdf	02 27 53.7	+0.1
JCT	Junction City	145.95 30	ePKP2	PKPbc	02 27 54.6	0.0
JCT	Junction City	145.95 30	ePKPbc	PKPbc	02 27 54.5	0.0
CPCT	Cooper Cave	146.05 6	ePKPbc	PKPdf	02 27 54.0	+0.2
SWET	Sewanee	146.12 8	ePKPbc	PKPdf	02 27 53.6	-0.4
OXF	Oxford	146.17 13	ePKP2	PKPdf	02 27 54.4	+0.4
OXF	Oxford	146.17 13	ePKPbc	PKPdf	02 27 54.4	+0.4
KMSC	Kings Mountain	146.54 1	ePKPbc	PKPbc	02 27 55.8	-0.3
HKT	Hockley	148.25 26	ePKP2	PKPbc	02 28 01.4	+0.5
HKT	Hockley	148.25 26	ePKPbc	PKPbc	02 28 01.4	+0.5
LVC	Limon Verde	153.42 205	ePKPbc	PKPbc	02 28 14.7	+0.9
SIV	San Ignacio	153.99 227	PKPbc	PKPbc	02 28 15.0	+0.1
SIV	San Ignacio	153.99 227	PKPbc	PKPbc	02 28 15.0	+0.1
	baz=126,slow=6.6					
SAML	Samuel	159.73 239	ePKPdf	PKPdf	02 28 14.3	+0.1
NNA	Nana	166.06 196	ePKPab	PKPab	02 29 21.4	+0.9

DDA 02 02:13:45.4, 40°.55N×26°.07E, h7km, MD2.7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALY	Balya	1.43	124	iP	Pb	02 14 12.6	+0.1
BALY				iS	Sg	02 14 32.6	+1.0

ISK 02 02:15:09.3, 37°.97N×30°.97E, h9km, MD2.7
CSEM 02 02:15:09.8±0.2, 37°.94N×30°.99E, h10km, MD2.7, Error ellipse: s-maj=6.4km s-min=5.0km az=142.0
DDA 02 02:15:09.8, 37°.90N×30°.99E, h7km, MD2.7
ISCJB 02 02:15:10.1±0.7, 37°.93N±0°.03×31°.00E±0°.04, h8km±7km, Error ellipse: s-maj=6.0km s-min=5.4km az=141.5

ISC 02 02:15:09.9±1.1, 37°.97N±0°.04×30°.99E±0°.03, h10km±10km, n24, σ0°89/35, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISP	Isparta	0.40	248	ePG	Pg	02 15 17.2	-0.6
ISP				eSG	Sg	02 15 23.2	+0.1
ISP	Isparta	0.40	248	ePg	Pg	02 15 17.2	-0.6
ISP				eSg	Sg	02 15 23.2	+0.1
SUTC	Sutluce-Ispart	0.50	179	ePG	Pg	02 15 19.3	-0.3
SUTC				eSG	Sb	02 15 32.6	-1.5
SUTC	Sutluce-Ispart	0.50	179	ePg	Pg	02 15 19.3	-0.3
SUTC				eSg	Sb	02 15 26.6	-1.5
BCK	Bucak	0.60	212	ePG	Pg	02 15 21.3	-0.3
BCK	Bucak	0.60	212	ePg	Pg	02 15 21.3	-0.3
BOLV	Bolvadin	0.74	358	iP	Pb	02 15 25.7	+0.6
BOLV				iS	Sn	02 15 38.0	0.0
BOLV	Bolvadin	0.74	358	iP	Pb	02 15 25.7	+0.6
BOLV				iS	Sn	02 15 38.0	0.0
KDHN	Kadinhani	1.04	58	iP	Pg	02 15 29.6	-0.4
KDHN				iS	Sn	02 15 46.3	+0.9
KDHN	Kadinhani	1.04	58	iP	Pg	02 15 29.6	-0.4
KDHN				iS	Sn	02 15 46.3	+0.9
KONT	Konya--Tatoy	1.09	91	ePN	Pg	02 15 30.7	-0.1
KONT	Konya--Tatoy	1.09	91	ePn	Pg	02 15 30.7	-0.1
LADK	Ladik-KONYA	1.11	78	ePN	Pg	02 15 31.2	-0.1
LADK	Ladik-KONYA	1.11	78	ePn	Pg	02 15 31.2	-0.1
KIZT	Kizilcal	1.15	38	ePN	Pb	02 15 31.9	0.0
KIZT	Kizilcal	1.15	38	ePn	Pb	02 15 31.9	0.0
KHL	Karahalli	1.21	287	ePN	Pn	02 15 32.5	-0.3
KHL	Karahalli	1.21	287	ePn	Pn	02 15 32.6	-0.3
KHAL	Karahalli	1.24	289	iP	Pn	02 15 32.0	-1.4
KHAL				iS	Sn	02 15 51.5	+1.2
KHAL	Karahalli	1.24	289	iP	Pn	02 15 32.0	-1.4
KHAL				iS	Sn	02 15 51.5	+1.2
GOLH	Golhisar	1.35	237	iP	Pg	02 15 35.9	0.0
GOLH				iS	Sg	02 15 56.3	+2.9
GOLH	Golhisar	1.35	237	iP	Pg	02 15 35.9	0.0
HDMB	Hadim	1.56	130	ePN	Pn	02 15 37.9	0.0
HDMB	Hadim	1.56	130	ePn	Pn	02 15 37.9	0.0

CSEM 02 02:18:06.0, 42°.65N×13°.08E, h9km, MD1.7/4, After ROM

ROM 02 02:18:06.0±0.1, 42°.65N×13°.08E, h9km, Md1.7/4, Ml0.7/1, Error ellipse: s-maj=1.2km s-min=1.1km az=170.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNSS	Leonessa	0.06	214	Pg	Pg	02 18 08.2	+0.1
LNSS				Sg	Sg	02 18 09.8	+0.2
LNSS	Leonessa	0.06	214	Pg	Pg	02 18 08.2	+0.1
LNSS				Sg	Sg	02 18 09.8	+0.2
NRCA	Norcia	0.18	7	Pg	Pg	02 18 10.5	+0.5
NRCA				Sg	Sg	02 18 13.8	+1.0
NRCA	Norcia	0.18	7	Pg	Pg	02 18 10.5	+0.5
NRCA				Sg	Sg	02 18 13.8	+1.0
CESI	CESI - Serrava	0.38	340	Pg	Pb	02 18 14.5	-0.5
CESI				Sg	Sb	02 18 20.4	-0.7
	1.0nm,0.3s						
CESI	CESI - Serrava	0.38	340	Pg	Pb	02 18 14.5	-0.5
CESI				Sg	Sb	02 18 20.4	-0.7
	1.0nm,0.3s						
FDMO	Fiordimonte	0.39	0	Pg	Pg	02 18 13.9	+0.2
FDMO				Sg	Sb	02 18 20.4	-0.9
	5.0nm,0.2s						
FDMO	Fiordimonte	0.39	0	Pg	Pg	02 18 13.9	+0.2
FDMO				Sg	Sb	02 18 20.4	-0.9
	5.0nm,0.2s						

IDC 02 02:25:45.9±1.5, 35°.97N×22°.16E, h0km, mb3.5/6, mb1 3.7/6, mb1mx3.5/28, mbtmp3.6/6, MS3.2/2, Ms1 3.2/2, ms1mx2.4/42, Error ellipse: s-maj=41.2km s-min=24.0km az=142.0
ISCJB 02 02:25:49.1±0.9, 36°.17N±0°.04×21°.53E±0°.05, h18km±5km, mb3.6/5, MS3.6/1, Error ellipse: s-maj=6.7km s-min=5.4km az=142.4
CSEM 02 02:25:49.5±0.3, 36°.20N×21°.60E, h10km, ML3.4/3, Error ellipse: s-maj=6.3km s-min=4.4km az=62.0
ATH 02 02:25:49.9, 36°.21N×21°.60E, h28km±1km, MD3.5/12, ML3.5
THE 02 02:25:51.6, 36°.26N×21°.67E, h16km, ML3.4/3, Error ellipse: s-maj=1.1km s-min=0.7km az=240.0

ISC 02 02:25:50.7±1.7, 36°.19N±0°.05×21°.60E±0°.05, h23km±12km, n110, σ0°90/131, mb3.6/5, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	PYLOS	0.71	9	P	Pb	02 26 03.4	-0.9
PYL				S	Sb	02 26 13.9	+0.2
PYL	PYLOS	0.71	9	ePN	Pb	02 26 03.6	-0.8
PYL				eSN	Sb	02 26 14.2	+0.5
PYL	PYLOS	0.71	9	P	Pb	02 26 03.5	-0.9
PYL				S	Sb	02 26 13.9	+0.2
PYL				eSn	Sb	02 26 14.2	+0.5
DYR	Agios Nikonas	0.82	46	P	Pn	02 26 05.3	-1.6
DYR				S	Sb	02 26 16.4	-0.5
DYR	Agios Nikonas	0.82	46	ePN	Pn	02 26 05.4	-1.5
DYR				eSN	Sb	02 26 17.6	+0.7
DYR	Agios Nikonas	0.82	46	P	Pn	02 26 05.3	-1.6
DYR				S	Sb	02 26 16.4	-0.5
DYR				eSn	Sb	02 26 17.6	+0.7
ITM	Ithomi	1.02	15	P	Pn	02 26 08.7	-0.9
ITM				S	Sn	02 26 22.9	-0.3
ITM	Ithomi	1.02	15	ePB	Pn	02 26 08.5	-1.1
ITM				eSN	Sn	02 26 23.4	+0.2
ITM	Ithomi	1.02	15	P	Pn	02 26 08.7	-0.9
ITM				S	Sn	02 26 22.9	-0.3
ITM				eSn	Sn	02 26 23.4	+0.2
KYTH	Kithira	1.16	85	ePN	Pn	02 26 12.0	+0.4
KYTH	Kithira	1.16	85	ePn	Pn	02 26 12.0	+0.4
VLI	Veliai	1.20	64	P	Pn	02 26 11.8	-0.2
VLI				S	Sn	02 26 27.8	+0.2
VLI	Veliai	1.20	64	ePN	Pn	02 26 12.4	+0.4
VLI				eSN	Sn	02 26 28.8	+1.2
VLI	Veliai	1.20	64	P	Pn	02 26 11.8	-0.2
VLI	Veliai	1.20	64	ePn	Pn	02 26 12.4	+0.4
VLI				S	Sn	02 26 27.8	+0.2
VLI				eSn	Sn	02 26 28.8	+1.2
AMT	Artemida-Makis	1.34	4	P	Pn	02 26 13.7	-0.3
AMT				S	Sn	02 26 31.5	+0.4
AMT	Artemida-Makis	1.34	4	ePN	Pn	02 26 14.4	+0.4
AMT				eSN	Sn	02 26 32.0	+0.9
AMT	Artemida-Makis	1.34	4	P	Pn	02 26 13.9	-0.1
AMT	Artemida-Makis	1.34	4	ePn	Pn	02 26 14.4	+0.4
AMT				S	Sn	02 26 31.5	+0.4
AMT				eSn	Sn	02 26 32.0	+0.9
ANKY	Antikythira Is	1.42	103	P	Pn	02 26 15.8	+0.8
ANKY	Antikythira Is	1.42	103	ePN	Pn	02 26 16.2	+1.2
ANKY	Antikythira Is	1.42	103	P	Pn	02 26 15.8	+0.8
ANKY	Antikythira Is	1.42	103	ePn	Pn	02 26 16.2	+1.2
DIDY	Didyma	1.82	45	P	Pn	02 26 20.5	-0.2
DIDY	Didyma	1.82	45	P	Pn	02 26 20.5	-0.2
DID	Didima	1.85	45	P	Pn	02 26 20.9	-0.1
DID	Didima	1.85	45	ePB	Pn	02 26 21.0	-0.1
DID	Didima	1.85	45	ePb	Pn	02 26 21.0	-0.1
RLS	Riolos of Patr	1.86	357	P	Pn	02 26 21.5	+0.3
RLS	Riolos of Patr	1.86	357	ePN	Pn	02 26 22.4	+1.2
RLS	Riolos of Patr	1.86	357	P	Pn	02 26 21.5	+0.3
RLS	Riolos of Patr	1.86	357	ePn	Pn	02 26 22.4	+1.2
KLV	Kalavryta, Ach	1.90	13	P	Pn	02 26 22.1	+0.4
KLV				S	Sn	02 26 45.1	+0.1
KLV	Kalavryta, Ach	1.90	13	ePB	Pn	02 26 22.6	+0.9
KLV	Kalavryta, Ach	1.90	13	P	Pn	02 26 22.1	+0.4
KLV	Kalavryta, Ach	1.90	13	ePb	Pn	02 26 22.6	+0.9
KLV				S	Sn	02 26 45.1	+0.1
ACOR	Acrocorinthos	1.97	31	P	Pn	02 26 22.6	-0.2
ACOR	Acrocorinthos	1.97	31	P	Pn	02 26 22.6	-0.2
AXS	Araxos	2.01	355	P	Pn	02 26 23.7	+0.5
AXS				S	Sn	02 26 48.3	+0.8
AXS	Araxos	2.01	355	P	Pn	02 26 23.7	+0.5
AXS				S	Sn	02 26 48.3	+0.8
KARN	Karanos	2.04	112	P	Pn	02 26 24.3	+0.6
KARN	Karanos	2.04	112	ePN	Pn	02 26 24.4	+0.7
KARN	Karanos	2.04	112	P	Pn	02 26 24.3	+0.6
LTK	Loutraki	2.13	30	P	Pn	02 26 24.7	-0.2
LTK	Loutraki	2.13	30	ePN	Pn	02 26 25.6	+0.7
LTK	Loutraki	2.13	30	P	Pn	02 26 24.7	-0.2
LTK	Loutraki	2.13	30	ePn	Pn	02 26 25.6	+0.7
VLS	Valsamata	2.14	338	P	Pn	02 26 25.6	+0.6
VLS	Valsamata	2.14	338	ePN	Pn	02 26 25.6	+0.6
VLS	Valsamata	2.14	338	P	Pn	02 26 25.6	+0.6
PSA1	Psathopyrgos	2.14	6	ePN	Pn	02 26 25.7	+0.7
NAIG	Nisos Aigina	2.17	44	ePN	Pn	02 26 26.5	+1.0
NAIG	Nisos Aigina	2.17	44	ePn	Pn	02 26 26.5	+1.0
TRIZ	Trizonia	2.20	10	P	Pn	02 26 26.3	+0.5
TRIZ	Trizonia	2.20	10	ePB	Pn	02 26 27.1	+1.3
TRIZ	Trizonia	2.20	10	P	Pn	02 26 26.3	+0.5
TRIZ	Trizonia	2.20	10	ePb	Pn	02 26 27.1	+1.3
KALE	Kalithea	2.23	11	P	Pn	02 26 26.9	+0.5
KALE				S	Sn	02 26 53.2	-0.1
KALE	Kalithea

ellipse: s-maj=59.8km s-min=23.0km az=70.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**9.53**	**218**	Pn	Pn	02 50 57.2	+0.6
	0.7nm,0.3s,baz=31,slow=7.1,SNR=7.0						
FITZ	**Fitzroy Crossi**	**20.49**	**180**	P	P	02 53 17.2	-0.5
	0.9nm,0.4s,baz=2.9,slow=7.0,SNR=12						
WRA	**Warramunga Arr**	**23.90**	**159**	P	P	02 53 53.9	+0.2
	2.6nm,0.4s,baz=335,slow=9.8,SNR=33						
ASAR	**Alice Springs**	**27.24**	**163**	P	P	02 54 23.6	-0.5
	0.7nm,0.4s,baz=340,slow=7.5,SNR=12						
MKAR	**Makanchi Array**	**57.94**	**326**	P	P	02 58 32.5	+0.3
	0.3nm,0.4s,baz=129,slow=7.7,SNR=6.5						

*DJA **02** 02:53:48.0±1.7, 1°S±7°×10°1E±1°3, h113km±17km, M3.7/3, MLv3.7/3*
*IDC **02** 02:53:49.9±6.0, 0°49S×100°58E, h0km, mb3.5/2, mb1 3.7/2, mb1mx3.3/23, mbtmp3.5/2, Error ellipse: s-maj=312.5km s-min=33.5km az=52.0*
ISC 02 02:53:50.1±2.0, 1°2S±0°1×101°6E±0°1, h35km, n7, σ1§97/8, mb3.5/3, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.15**	**283**	P	**Pn**	**02 54 09.2**	**-0.6**
PDSI				S	**Sn**	**02 54 25.9**	**+1.6**
PPI	**Padang Panjang**	**1.39**	**301**	P	**Pn**	**02 54 11.8**	**-1.2**
PPI				S	**Sn**	**02 54 30.6**	**+0.5**
BKNI	**Bangkinang**	**1.59**	**340**	P	**Pn**	**02 54 15.2**	**-0.6**
BKNI				S	**Sn**	**02 54 36.9**	**+1.7**
WRA	**Warramunga Arr**	**37.07**	**122**	P	P	03 01 12.5	+15
	0.5nm,0.7s,baz=296,slow=12,SNR=3.2						
ASAR	**Alice Springs**	**38.48**	**128**	P	P	03 01 26.2	+17
	0.6nm,0.8s,baz=304,slow=8.4,SNR=3.3						
MKAR	**Makanchi Array**	**50.69**	**343**	P	**P**	**03 02 44.3**	**-1.9**
	0.4nm,0.4s,baz=160,slow=7.9,SNR=4.1						
TXAR	**Lajitas Array**	**143.09**	**38**	PKP	**PKPdf**	**03 13 24.1**	**+2.8**
	0.2nm,0.6s,baz=264,slow=0.8,SNR=4.5						

*ISCJB **02** 02:57:02.4±1.2, 18°4S±0°3×177°7W±0°2, h550km, mb3.9/7, Error ellipse: s-maj=44.3km s-min=16.7km az=150.7*
*AUST **02** 02:57:03.8, 18°54S×178°43W, h450km*
*IDC **02** 02:57:08.3±7.9, 18°43S×177°79W, h608km±92km, mb3.3/7, mb1 3.5/7, mb1mx3.2/21, mbtmp3.3/7, Error ellipse: s-maj=83.1km s-min=33.9km az=143.0*
ISC 02 02:57:03.0±1.4, 18°5S±0°4×177°6W±0°2, h550km, n17, σ0§87/17, mb4.2/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARMA	**Armidale**	**30.33**	**241**	P	**P**	**03 02 31.8**	**+1.4**
	baz=30,SNR=7.3						
CTA	**Charters Tower**	**34.13**	**261**	P	**P**	**03 03 03.2**	**+0.5**
	5.8nm,0.6s,baz=80,slow=13,SNR=8.9						
CMSA	**Cobar Meteorol**	**35.55**	**241**	P	**P**	**03 03 15.0**	**+0.6**
	baz=35,SNR=8.5						
MTSU	**Mount Surprise**	**36.13**	**264**	P	**P**	**03 03 20.1**	**+0.7**
	baz=35,SNR=9.0						
COEN	**Coen**	**37.90**	**271**	P	**P**	**03 03 35.3**	**+1.4**
	baz=37,SNR=7.4						
STKA	**Stephens Creek**	**39.04**	**242**	P	**P**	**03 03 43.7**	**+0.8**
	5.7nm,0.8s,baz=86,slow=9.4,SNR=7.8						
STKA	**Stephens Creek**	**39.04**	**242**	P	**P**	**03 03 43.6**	**+0.8**
	baz=38,SNR=6.9						
WRA	**Warramunga Arr**	**45.30**	**260**	P	**P**	**03 04 31.9**	**-0.4**
	5.0nm,0.3s,baz=97,slow=7.8,SNR=52						
ASAR	**Alice Springs**	**45.39**	**255**	P	**P**	**03 04 32.8**	**-0.2**
	10.0nm,0.8s,baz=88,slow=7.9,SNR=86						
ASAR				PcP	**PcP**	**03 05 59.5**	**-1.1**
	0.6nm,0.5s,baz=102,slow=3.8,SNR=4.1						
KDU	**Kakadu**	**48.34**	**269**	P	**P**	**03 04 54.9**	**-0.3**
	baz=48,SNR=5.4						
MTN	**Manton Dam**	**49.57**	**269**	P	**P**	**03 05 03.9**	**-0.4**
	baz=49,SNR=3.8						
MTN				S	**S**	**03 11 31.4**	**-0.8**
	baz=49,SNR=3.7						
FITZ	**Fitzroy Crossi**	**53.71**	**261**	P	**P**	**03 05 34.0**	**-0.2**
	1.3nm,0.3s,baz=128,slow=4.9,SNR=26						
SOEI	**Soe**	**56.86**	**270**	S	S	03 13 16.6	+7.9
	baz=56,SNR=3.7						
MEEK	**Meekatharra**	**58.96**	**250**	P	**P**	**03 06 08.9**	**-1.4**
	baz=58,SNR=3.5						
CISI	**Cisompet, Garu**	**73.08**	**268**	P	P	03 07 46.8	+8.6
	baz=72,SNR=3.6						
ILAR	**Eielson Array**	**86.30**	**13**	P	**P**	**03 08 46.4**	**+0.1**
	0.2nm,0.4s,baz=235,slow=4.8,SNR=10						
PDAR	**Pinedale Array**	**87.25**	**43**	P	**P**	**03 08 51.8**	**+0.2**
	0.2nm,0.6s,baz=263,slow=6.9,SNR=2.5						

*ISCJB **02** 03:07:37.5±0.9, 36°23N±0°04×21°63E±0°06, h22km±5km, Error ellipse: s-maj=8.7km s-min=5.4km az=144.7*
*CSEM **02** 03:07:37.8±0.4, 36°27N×21°66E, h15km, MD3.5, Error ellipse: s-maj=8.8km s-min=4.3km az=58.0*
*THE **02** 03:07:38.2, 36°24N×21°69E, h12km, ML3.2/2, Error ellipse: s-maj=1.1km s-min=0.7km az=63.0*
*ATH **02** 03:07:38.1, 36°29N×21°71E, h32km±1km, MD3.5/14, ML3.0*
ISC 02 03:07:38.0±1.8, 36°27N±0°06×21°70E±0°05, h10km±10km, n75, σ0§41/94, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.63**	**3**	P	**Pg**	**03 07 50.4**	**+0.2**
PYL				S	**Sb**	**03 08 00.4**	**+0.4**
PYL	**PYLOS**	**0.63**	**3**	*e*PN	**Pg**	**03 07 50.4**	**+0.2**
PYL				*e*SN	**Sb**	**03 07 59.8**	**-0.2**
PYL	**PYLOS**	**0.63**	**3**	P	**Pg**	**03 07 50.4**	**+0.2**
PYL				*e*Sn	**Sb**	**03 07 59.8**	**-0.2**
PYL				S	**Sb**	**03 08 00.4**	**+0.4**
DYR	**Agios Nikonas**	**0.71**	**46**	P	**Pg**	**03 07 52.0**	**+0.3**
DYR				S	**Sb**	**03 08 02.9**	**+0.6**
DYR	**Agios Nikonas**	**0.71**	**46**	*e*PN	**Pb**	**03 07 52.2**	**-0.3**
DYR				*e*SN	**Sb**	**03 08 02.6**	**+0.3**
DYR	**Agios Nikonas**	**0.71**	**46**	P	**Pg**	**03 07 52.0**	**+0.3**
DYR				*e*Sn	**Sb**	**03 08 02.6**	**+0.3**
ITM	**Ithomi**	**0.93**	**11**	P	**Pg**	**03 07 55.4**	**-0.5**
ITM				S	**Sn**	**03 08 10.2**	**-0.4**
ITM	**Ithomi**	**0.93**	**11**	*e*PN	**Pg**	**03 07 55.4**	**-0.5**
ITM				*e*SN	**Sg**	**03 08 07.9**	**-0.1**
ITM	**Ithomi**	**0.93**	**11**	P	**Pg**	**03 07 55.4**	**-0.5**
ITM				*e*Sn	**Sg**	**03 08 07.9**	**-0.1**
ITM				S	**Sn**	**03 08 10.2**	**-0.4**
KYTH	**Kithira**	**1.08**	**89**	*e*PN	**Pn**	**03 07 59.2**	**0.0**
KYTH	**Kithira**	**1.08**	**89**	*e*Pn	**Pn**	**03 07 59.2**	**0.0**
VLI	**Veliai**	**1.09**	**65**	P	**Pb**	**03 07 58.9**	**-0.1**
VLI				S	**Sn**	**03 08 14.7**	**+0.2**
VLI	**Veliai**	**1.09**	**65**	*e*PN	**Pn**	**03 07 59.1**	**-0.3**
VLI				*e*SN	**Sg**	**03 08 13.4**	**+0.2**
VLI	**Veliai**	**1.09**	**65**	*e*Pn	**Pn**	**03 07 59.1**	**-0.3**
VLI				*e*Sn	**Sg**	**03 08 13.4**	**+0.2**
VLI				S	**Sn**	**03 08 14.7**	**+0.2**
AMT	**Artemida-Makis**	**1.26**	**0**	*e*PN	**Pn**	**03 08 01.2**	**-0.6**
AMT	**Artemida-Makis**	**1.26**	**0**	*e*Pn	**Pn**	**03 08 01.2**	**-0.6**
ANKY	**Antikythira Is**	**1.35**	**107**	P	**Pn**	**03 08 02.4**	**-0.6**
ANKY	**Antikythira Is**	**1.35**	**107**	*e*PN	**Pn**	**03 08 02.9**	**-0.1**
ANKY	**Antikythira Is**	**1.35**	**107**	P	**Pn**	**03 08 02.4**	**-0.6**
ANKY	**Antikythira Is**	**1.35**	**107**	*e*Pn	**Pn**	**03 08 02.9**	**-0.1**
DIDY	**Didyma**	**1.71**	**45**	P	**Pn**	**03 08 07.4**	**-0.6**
DIDY	**Didyma**	**1.71**	**45**	P	**Pn**	**03 08 07.4**	**-0.6**
DID	**Didima**	**1.75**	**44**	P	**Pn**	**03 08 08.1**	**-0.3**
DID	**Didima**	**1.75**	**44**	*e*PB	**Pn**	**03 08 08.0**	**-0.3**
DID	**Didima**	**1.75**	**44**	P	**Pn**	**03 08 08.1**	**-0.3**
RLS	**Riolos of Patr**	**1.80**	**354**	P	**Pn**	**03 08 08.8**	**-0.3**
RLS	**Riolos of Patr**	**1.80**	**354**	*e*PB	**Pn**	**03 08 09.0**	**-0.1**
RLS	**Riolos of Patr**	**1.80**	**354**	*e*Pb	**Pn**	**03 08 09.0**	**-0.1**
KLV	**Kalavryta, Ach**	**1.81**	**11**	P	**Pn**	**03 08 09.2**	**-0.1**
KLV				S	**Sn**	**03 08 32.8**	**+0.4**
KLV	**Kalavryta, Ach**	**1.81**	**11**	*e*PB	**Pn**	**03 08 09.4**	**+0.1**
KLV	**Kalavryta, Ach**	**1.81**	**11**	*e*Pb	**Pn**	**03 08 09.4**	**+0.1**
KLV				S	**Sn**	**03 08 32.8**	**+0.4**
KARN	**Karanos**	**2.00**	**115**	P	**Pn**	**03 08 11.0**	**-0.7**
KARN	**Karanos**	**2.00**	**115**	*e*PN	**Pn**	**03 08 11.1**	**-0.7**
KARN	**Karanos**	**2.00**	**115**	*e*Pn	**Pn**	**03 08 11.1**	**-0.7**
LTK	**Loutraki**	**2.02**	**30**	P	**Pn**	**03 08 11.9**	**-0.3**
LTK	**Loutraki**	**2.02**	**30**	*e*PN	**Pn**	**03 08 11.9**	**-0.3**
LTK	**Loutraki**	**2.02**	**30**	P	**Pn**	**03 08 11.9**	**-0.3**
NAIG	**Nisos Aigina**	**2.06**	**43**	*e*PN	**Pn**	**03 08 12.4**	**-0.3**
NAIG	**Nisos Aigina**	**2.06**	**43**	*e*Pn	**Pn**	**03 08 12.4**	**-0.3**
VLS	**Valsamata**	**2.10**	**335**	*e*PN	**Pn**	**03 08 13.3**	**0.0**
VLS	**Valsamata**	**2.10**	**335**	*e*Pn	**Pn**	**03 08 13.3**	**0.0**
TRIZ	**Trizonia**	**2.12**	**8**	P	**Pn**	**03 08 13.2**	**-0.2**
TRIZ				S	**Sn**	**03 08 40.4**	**+0.6**
TRIZ	**Trizonia**	**2.12**	**8**	*e*PB	**Pn**	**03 08 13.7**	**+0.3**
TRIZ	**Trizonia**	**2.12**	**8**	P	**Pn**	**03 08 13.2**	**-0.2**
TRIZ	**Trizonia**	**2.12**	**8**	*e*Pb	**Pn**	**03 08 13.7**	**+0.3**
TRIZ				S	**Sn**	**03 08 40.4**	**+0.6**
KALE	**Kalithea**	**2.15**	**9**	P	**Pn**	**03 08 13.8**	**-0.2**
KALE	**Kalithea**	**2.15**	**9**	*e*PB	**Pn**	**03 08 14.0**	**0.0**
KALE	**Kalithea**	**2.15**	**9**	*e*Pb	**Pn**	**03 08 14.0**	**0.0**
EFP	**Efpalio**	**2.16**	**4**	*e*PN	**Pn**	**03 08 13.8**	**-0.3**
EFP	**Efpalio**	**2.16**	**4**	*e*Pn	**Pn**	**03 08 13.8**	**-0.3**
VAM	**Vamos**	**2.20**	**112**	*e*PN	**Pn**	**03 08 14.9**	**+0.3**
VAM	**Vamos**	**2.20**	**112**	*e*Pn	**Pn**	**03 08 14.9**	**+0.3**
ATH	**Athens Observa**	**2.34**	**43**	*e*PN	**Pn**	**03 08 16.4**	**-0.1**
ATH	**Athens Observa**	**2.34**	**43**	*e*Pn	**Pn**	**03 08 16.4**	**-0.1**
PTL	**Penteli**	**2.48**	**44**	*e*PN	**Pn**	**03 08 17.3**	**-1.2**
PTL	**Penteli**	**2.48**	**44**	*e*Pn	**Pn**	**03 08 17.3**	**-1.2**
LKR	**Lokris**	**2.59**	**23**	*e*PN	**Pn**	**03 08 19.4**	**-0.6**
LKR	**Lokris**	**2.59**	**23**	*e*Pn	**Pn**	**03 08 19.4**	**-0.6**
AXAR	**Agios Charalam**	**2.61**	**17**	P	**Pn**	**03 08 20.1**	**-0.1**
AXAR	**Agios Charalam**	**2.61**	**17**	P	**Pn**	**03 08 20.1**	**-0.1**
EVR	**Evrytania**	**2.65**	**2**	*e*PN	**Pn**	**03 08 20.0**	**-0.8**
EVR	**Evrytania**	**2.65**	**2**	*e*Pn	**Pn**	**03 08 20.0**	**-0.8**
LKD2	**Lefkada island**	**2.65**	**342**	*e*PN	**Pn**	**03 08 21.2**	**+0.4**
LKD2	**Lefkada island**	**2.65**	**342**	*e*Pn	**Pn**	**03 08 21.2**	**+0.4**
IDI	**Anoyia**	**2.77**	**110**	*e*PN	**Pn**	**03 08 22.2**	**-0.3**
IDI	**Anoyia**	**2.77**	**110**	*e*Pn	**Pn**	**03 08 22.2**	**-0.3**
AGG	**Agios Georgios**	**2.80**	**10**	P	**Pn**	**03 08 22.4**	**-0.4**
AGG	**Agios Georgios**	**2.80**	**10**	*e*PN	**Pn**	**03 08 22.2**	**-0.6**
AGG	**Agios Georgios**	**2.80**	**10**	P	**Pn**	**03 08 22.4**	**-0.4**
APE	**Apeiranthos**	**3.18**	**74**	*e*PN	**Pn**	**03 08 28.0**	**-0.1**
APE	**Apeiranthos**	**3.18**	**74**	*e*Pn	**Pn**	**03 08 28.0**	**-0.1**
LAST	**Lasithi**	**3.26**	**109**	*e*PN	**Pn**	**03 08 28.9**	**-0.4**
LAST	**Lasithi**	**3.26**	**109**	*e*Pn	**Pn**	**03 08 28.9**	**-0.4**
THL	**Klokotos Trika**	**3.30**	**4**	*e*PN	**Pn**	**03 08 29.6**	**-0.1**
THL	**Klokotos Trika**	**3.30**	**4**	*e*Pn	**Pn**	**03 08 29.6**	**-0.1**

*IDC **02** 03:16:45.7±0.9, 9°99S×124°55E, h0km, mb4.0/5, mb1 4.2/8, mb1mx4.0/21, mbtmp4.1/8, ML4.2/3, MS3.4/2, Ms1 3.5/2, ms1mx2.7/42, Error ellipse: s-maj=54.8km s-min=20.3km az=74.0*
*ISCJB **02** 03:16:50.8±0.9, 10°33S±0°07×124°35E±0°09, h33km, mb3.9/7, MS3.4/1, Error ellipse: s-maj=13.7km s-min=8.8km az=161.1*
*AUST **02** 03:16:56.5, 10°50S×125°03E, h0km*
ISC 02 03:16:51.5±0.7, 10°19S±0°07×124°43E±0°09, h35km, n23, σ2§64/21, mb4.0/7, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNRA	**Kununurra**	**6.89**	**143**	P	**Pn**	**03 18 31.3**	**+1.2**
	baz=6.3,SNR=25						
KNRA				S	**Sn**	**03 19 47.7**	**+0.3**
	baz=6.3,SNR=14						
KAPI	**Kappang**	**6.93**	**318**	Pn	**Pn**	**03 18 31.8**	**+1.2**
	1.5nm,0.3s,baz=176,slow=7.1,SNR=4.0						
MTN	**Manton Dam**	**7.08**	**112**	P	**Pn**	**03 18 33.5**	**+0.8**
	baz=6.4,SNR=28						
FITZ	**Fitzroy Crossi**	**7.95**	**172**	Pn	**Pn**	**03 18 44.7**	**+0.1**
	2.4nm,0.3s,baz=6.5,slow=11,SNR=101						
FITZ				Sn	**Sn**	**03 20 09.0**	**-4.4**
	2.0nm,0.3s,baz=225,slow=7.9,SNR=3.2						
FITZ	**Fitzroy Crossi**	**7.95**	**172**	P	**Pn**	**03 18 45.0**	**+0.4**
	baz=7.6,SNR=94						
FITZ				S	**Sn**	**03 20 14.3**	**+0.9**
	baz=7.6,SNR=6.4						
KDU	**Kakadu**	**8.26**	**108**	P	**Pn**	**03 18 50.7**	**+1.8**
	baz=7.6,SNR=15						
LUWI	**Luwuk**	**9.24**	**350**	S	Sn	03 21 07.4	+22
	baz=9.7,SNR=4.8						
FAKI	**Fak Fak**	**10.61**	**48**	P	Pn	03 19 28.9	+7.7
	baz=10,SNR=3.2						
WRA	**Warramunga Arr**	**13.61**	**137**	Pn	**Pn**	**03 19 59.7**	**-2.6**
	1.2nm,0.3s,baz=318,slow=13,SNR=50						
WRA				Sn	Sn	03 22 24.9	-7.4
	1.6nm,0.3s,baz=308,slow=23,SNR=11						
WRA				LR	LR	03 26 08.2	
	comp=Z,155nm,19.2s,baz=310,slow=41						
ASAR	**Alice Springs**	**16.16**	**147**	Pn	**Pn**	**03 20 35.0**	**-1.1**
	0.9nm,0.3s,baz=317,slow=12,SNR=33						
ASAR				Sn	**Sn**	**03 23 27.7**	**-6.7**
	0.7nm,0.3s,baz=308,slow=20,SNR=11						
MEEK	**Meekatharra**	**17.25**	**198**	P	**P**	**03 20 54.1**	**+3.0**
	baz=17,SNR=4.5						
MTSU	**Mount Surprise**	**20.82**	**114**	P	Pn	03 21 33.7	+0.9
	baz=20,SNR=9.8						
CTA	**Charters Tower**	**23.22**	**118**	P	**P**	**03 21 57.4**	**+1.6**
	2.9nm,0.8s,baz=282,slow=16,SNR=3.8						
STKA	**Stephens Creek**	**26.80**	**146**	P	**P**	**03 22 32.8**	**+4.4**
	1.9nm,0.6s,baz=319,slow=12,SNR=4.0						
PSI	**Prapat**	**28.49**	**296**	P	P	03 23 01.9	+18
	baz=29,SNR=3.3						
CMAR	**Chiang Mai Arr**	**37.99**	**318**	LR	LR	03 43 38.2	
	comp=Z,56nm,18.1s,baz=340,slow=42						
MJAR	**Matsushiro Arr**	**48.26**	**15**	P	**P**	**03 25 26.7**	**-2.4**
	0.9nm,0.5s,baz=193,slow=9.1,SNR=4.0						
MCQ	**Macquarie Isla**	**51.98**	**155**	P	P	03 26 13.3	+16
	baz=52,SNR=3.5						
SONM	**Songino Array**	**59.95**	**346**	P	**P**	**03 26 53.6**	**-0.8**
	0.5nm,0.5s,baz=158,slow=7.2,SNR=3.0						
MKAR	**Makanchi Array**	**68.05**	**330**	P	**P**	**03 27 45.7**	**-1.8**
	1.3nm,0.6s,baz=133,slow=7.0,SNR=9.1						
QSPA	**South Pole Qui**	**79.81**	**180**	P	**P**	**03 28 57.6**	**+1.5**
	1.8nm,0.9s,baz=337,slow=0.7,SNR=4.0						
AKTO	**Aktyubinsk**	**83.30**	**324**	P	**P**	**03 29 12.9**	**-1.8**
	1.2nm,0.6s,baz=113,slow=7.7,SNR=2.9						
TORD	**Torodi Ar. Bea**	**123.94**	**279**	PKP	**PKPdf**	**03 35 47.5**	**+0.4**
	0.4nm,1.0s,baz=121,slow=2.7,SNR=2.6						

*ISCJB **02** 03:30:17.9±0.8, 5°53N±0°09×94°36E±0°08, h46km, mb3.8/6, Error ellipse: s-maj=15.4km s-min=8.0km az=35.3*
*DJA **02** 03:30:21.4±2.7, 5°N±13°×9°5E±1°9, h31km±12km, M3.9/3, mb3.7/1, MLv4.0/3*
*IDC **02** 03:30:21.4±5.6, 5°55N×94°49E, h60km±46km, mb3.5/6, mb1 3.7/7, mb1mx3.4/27, mbtmp3.6/7, ML3.9/1, Error ellipse: s-maj=68.9km s-min=18.0km az=58.0*
ISC 02 03:30:19.8±1.0, 5°54N±0°10×94°38E±0°10, h46km, n14, σ1§09/15, mb3.7/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**0.92**	**93**	P	**Pn**	**03 30 35.8**	**-0.5**
BSI				S	**Sn**	**03 30 46.8**	**-1.6**
SNSI	**Sinabang, Aceh**	**3.67**	**148**	P	**Pn**	**03 31 12.6**	**-1.4**
KCSI	**Kotacane, Aceh**	**3.93**	**121**	P	**Pn**	**03 31 18.9**	**+1.2**
PSI	**Prapat**	**5.29**	**121**	P	**Pn**	**03 31 37.9**	**+1.5**
	4.1nm,0.3s,baz=299,slow=9.8,SNR=9.3						
PSI				S	**Sn**	**03 32 37.4**	**+1.2**
	1.5nm,0.3s,baz=187,slow=20,SNR=3.6						
KULM	**Kulim**	**6.25**	**92**	P	**Pn**	**03 31 48.8**	**-0.7**
SKLT	**Songkhla**	**6.41**	**75**	P	**Pn**	**03 31 52.2**	**+0.5**
CMAR	**Chiang Mai Arr**	**13.59**	**19**	P	P	03 33 34.5	-3.3
	0.5nm,0.3s,baz=211,slow=13,SNR=7.8						
MKAR	**Makanchi Array**	**42.40**	**348**	P	**P**	**03 38 10.2**	**+0.5**
	1.6nm,0.5s,baz=167,slow=7.1,SNR=24						
SONM	**Songino Array**	**43.38**	**12**	P	**P**	**03 38 17.1**	**-0.7**
	0.3nm,0.5s,baz=177,slow=8.7,SNR=2.3						
WRA	**Warramunga Arr**	**46.75**	**124**	P	**P**	**03 38 44.4**	**-0.4**
	0.4nm,0.5s,baz=307,slow=8.4,SNR=13						
ASAR	**Alice Springs**	**48.27**	**129**	P	**P**	**03 38 56.0**	**-0.7**
	0.4nm,0.3s,baz=296,slow=7.9,SNR=8.5						
ZALV	**Zalesovo Beam**	**48.88**	**353**	P	**P**	**03 39 01.4**	**+0.6**
	0.8nm,0.2s,baz=208,slow=5.0,SNR=7.4						
GERES	**GERESS Array B**	**79.72**	**319**	P	**P**	**03 42 22.8**	**-0.1**
	0.4nm,0.6s,baz=90,slow=5.9,SNR=4.7						
TXAR	**Lajitas Array**	**141.23**	**26**	PKP	**PKPdf**	**03 49 47.7**	**+1.5**
	0.1nm,0.4s,baz=21,slow=0.5,SNR=4.5						

*ISCJB **02** 03:52:47.3±0.7, 51°39N±0°04×16°07E±0°03, h0km, Error ellipse: s-maj=5.6km s-min=3.0km az=8.5*
*WAR **02** 03:52:47.5, 51°53N×16°17E*
*IPEC **02** 03:52:47.4±0.3, 51°50N×16°18E, h0km, ML2.1/3, Error ellipse: s-maj=2.0km s-min=1.5km az=33.0*
*CSEM **02** 03:52:48.5±0.4, 51°41N×16°07E, h2km, ML3.1/7, Error ellipse: s-maj=6.9km s-min=3.8km az=174.0*
*IDC **02** 03:52:48.4±1.0, 51°47N×16°06E, h0km, mb1 3.5/4, mb1mx3.2/26, mbtmp3.3/4, ML2.8/4, Error ellipse: s-maj=19.5km s-min=9.5km az=110.0*
*PRU **02** 03:52:49.6, 51°40N×16°04E, h0km*
ISC 02 03:52:46.8±0.8, 51°53N±0°04×16°06E±0°03, h0km, n31, σ1§21/56, 1D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.70**	**168**	*e*Pg	**Pg**	**03 53 00.4**	**+0.2**
KSP				*e*Sg	**Sg**	**03 53 09.6**	**+0.3**
KSP	**Ksiaz**	**0.70**	**168**	||*i*Pg	**Pg**	**03 53 00.5**	**+0.2**
KSP				*i* Sg	**Sg**	**03 53 09.1**	**-0.2**
UPC	**Upice**	**1.02**	**182**	*e*PG	**Pg**	**03 53 06.4**	**0.0**
UPC	**Upice**	**1.02**	**182**	Pg	**Pg**	**03 53 06.4**	**0.0**
DPC	**Dobruska-Polom**	**1.19**	**172**	*e*PG	**Pg**	**03 53 09.2**	**-0.4**
DPC				*e*SG	**Sg**	**03 53 23.8**	**-1.2**
DPC	**Dobruska-Polom**	**1.19**	**172**	Pg	**Pg**	**03 53 09.2**	**-0.4**
DPC				Sg	**Sg**	**03 53 23.8**	**-1.2**
PVCC	**Panska Ves**	**1.37**	**224**	*e*PG	**Pn**	**03 53 13.6**	**+0.3**
PVCC				*e*SG	**Sg**	**03 53 31.4**	**+0.5**
	70nm,0.2s						
PVCC	**Panska Ves**	**1.37**	**224**	Pg	**Pn**	**03 53 13.6**	**+0.3**
PVCC				Sg	**Sg**	**03 53 31.4**	**+0.5**
	70nm,0.2s						
BRG	**Berggiesshubel**	**1.48**	**245**	PN	**Pn**	**03 53 14.5**	**-0.3**
BRG				PG	**Pb**	**03 53 16.0**	**+0.7**
BRG				SG	**Sn**	**03 53 36.0**	**+1.1**
	35nm,0.4s						
PRA	**Prague**	**1.79**	**216**	PG	**Pn**	**03 53 20.0**	**+1.1**
PRA				SG	**Sn**	**03 53 43.0**	**+0.7**
PRU	**Pruhonice**	**1.82**	**213**	*e*PN	**Pn**	**03 53 19.2**	**-0.1**
PRU				*e*PG	**Pb**	**03 53 21.1**	**+0.2**
PRU				*e*SG	**Sn**	**03 53 43.9**	**+0.8**
	14nm,0.4s						
PRU	**Pruhonice**	**1.82**	**213**	Pn	**Pn**	**03 53 19.2**	**-0.1**
CLL	**Collm**	**1.93**	**265**	*e*Pg	**Pb**	**03 53 24.0**	**+1.2**
CLL				*e*		03 53 26.0	
CLL				*i*		03 53 28.3	
CLL				*e*Sg	**Sb**	**03 53 50.0**	**+2.6**
	comp=Z,15nm,0.9s						
MORC	**Moravsky Berou**	**1.99**	**151**	*e*Pn	**Pn**	**03 53 21.1**	**-0.7**
	baz=334						
MORC				*e*Sg	**Sb**	**03 53 48.2**	**-1.1**
	comp=Z,11nm,0.4s,baz=334						
OKC	**Ostrava-Krasne**	**2.15**	**141**	*e*PG	**Pb**	**03 53 26.7**	**+0.1**
OKC				*e*SG	**Sb**	**03 53 53.2**	**-0.6**
	comp=Z,20nm,0.6s						
OKC	**Ostrava-Krasne**	**2.15**	**141**	Pg	**Pb**	**03 53 26.7**	**+0.1**
OKC				Sg	**Sb**	**03 53 53.2**	**-0.6**
	comp=Z,20nm,0.6s						
VRAC	**Vranov**	**2.25**	**171**	Pn	**Pn**	**03 53 25.8**	**+0.5**
	comp=Z,2.0nm,0.3s,baz=348,slow=18,SNR=8.8						
VRAC				Lg	Lg	03 53 56.3	
	comp=Z,1.3nm,0.3s,baz=86,slow=23,SNR=3.7						
VRAC	**Vranov**	**2.25**	**171**	*e*Pn	**Pn**	**03 53 25.5**	**+0.2**
	baz=353						
VRAC				*e*Sg	**Sb**	**03 53 56.6**	**0.0**
	comp=Z,9.3nm,0.3s,baz=353						
TREC	**Trest**	**2.27**	**190**	*e*PN	**Pn**	**03 53 25.9**	**+0.4**
TREC				*e*PG	**Pb**	**03 53 29.0**	**+0.4**
TREC	**Trest**	**2.27**	**190**	Pn	**Pn**	**03 53 25.9**	**+0.4**
KRUC	**Moravsky**	**2.48**	**175**	*e*Pn	**Pn**	**03 53 28.9**	**+0.5**
	baz=357						
KRUC				*e*Sg	**Sb**	**03 54 03.9**	**+0.7**
	comp=Z,13nm,0.5s,baz=357						
OJC	**Ojcow**	**2.71**	**117**	*e*Pg	**Pg**	**03 53 39.7**	**+1.0**
OJC				*e*Sg	**Sg**	**03 54 15.0**	**+1.3**
OJC	**Ojcow**	**2.71**	**117**	*e*Pg	**Pg**	**03 53 39.7**	**+1.0**
OJC				*e*Sg	**Sg**	**03 54 15.0**	**+1.3**
KHC	**Kasperske Hory**	**2.88**	**215**	*e*PN

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.64**	**103**	*e*P	Pn	04 09 51.9	+0.8
KARP				*e*S	Sn	04 10 01.0	+0.8
NPS	**Neapolis**	**0.77**	**236**	*e*PN	Pn	04 09 53.6	+0.9
NPS				*e*SN	Sn	04 10 03.4	+0.3
NPS	**Neapolis**	**0.77**	**236**	*e*P	Pn	04 09 53.6	+0.9
NPS				*e*S	Sn	04 10 03.5	+0.4
NPS	**Neapolis**	**0.77**	**236**	*e*P	Pn	04 09 53.6	+0.9
NPS				*e*S	Sn	04 10 03.5	+0.4
LAST	**Lasithi**	**0.91**	**235**	*e*PN	Pn	04 09 56.0	+1.2
LAST				*e*SN	Sn	04 10 07.7	+0.9
LAST	**Lasithi**	**0.91**	**235**	*e*P	Pn	04 09 56.0	+1.2
LAST				*e*S	Sn	04 10 07.6	+0.8
LAST	**Lasithi**	**0.91**	**235**	*e*P	Pn	04 09 56.0	+1.2
LAST				*e*S	Sn	04 10 07.6	+0.8
SANT	**Santorini**	**1.02**	**312**	*e*PN	Pn	04 09 57.0	+0.9
SANT				*e*SN	Sn	04 10 09.5	+0.2
IDI	**Anoyia**	**1.29**	**252**	*e*PN	Pn	04 10 01.1	+1.2
IDI				*e*SN	Sn	04 10 18.7	+2.7
IDI	**Anoyia**	**1.29**	**252**	*e*P	Pn	04 10 01.1	+1.2
IDI				*e*S	Sn	04 10 17.3	+1.3
IDI	**Anoyia**	**1.29**	**252**	*e*P	Pn	04 10 01.1	+1.2
IDI				*e*S	Sn	04 10 17.3	+1.3
SIVA	**Sivas**	**1.46**	**243**	*e*PN	Pn	04 10 04.4	+2.3
SIVA	**Sivas**	**1.46**	**243**	*e*P	Pn	04 10 04.4	+2.3
SIVA	**Sivas**	**1.46**	**243**	*e*P	Pn	04 10 04.4	+2.3
ARG	**Arkhangelos**	**1.50**	**69**	*e*PN	Pn	04 10 05.1	+2.3
ARG				*e*SN	Sn	04 10 23.1	+1.9
ARG	**Arkhangelos**	**1.50**	**69**	*e*P	Pn	04 10 05.2	+2.4
ARG				*e*S	Sn	04 10 23.3	+2.1
ARG	**Arkhangelos**	**1.50**	**69**	*e*P	Pn	04 10 05.2	+2.4
ARG				*e*S	Sn	04 10 23.3	+2.1
APE	**Apeiranthos**	**1.54**	**334**	*e*PN	Pn	04 10 04.8	+1.4
APE	**Apeiranthos**	**1.54**	**334**	*e*P	Pn	04 10 04.7	+1.3
APE	**Apeiranthos**	**1.54**	**334**	*e*P	Pn	04 10 04.7	+1.3
VAM	**Vamos**	**1.81**	**262**	*e*PN	Pn	04 10 08.4	+1.4
VAM	**Vamos**	**1.81**	**262**	*e*P	Pn	04 10 09.0	+2.0
VAM	**Vamos**	**1.81**	**262**	*e*P	Pn	04 10 09.0	+2.0
KARN	**Karanos**	**2.04**	**263**	*e*PN	Pn	04 10 11.3	+1.2
KARN	**Karanos**	**2.04**	**263**	*e*P	Pn	04 10 11.7	+1.6
KARN	**Karanos**	**2.04**	**263**	*e*P	Pn	04 10 11.7	+1.6

IDC ***02*** *04:13:04.1±0.6, 37°.74N×95°.76E, h0km, mb4.0/16, mb1 4.2/20, mb1mx4.0/34, mbtmp4.0/20, ML4.2/4, MS3.1/8, Ms1 3.2/8, ms1mx2.9/32, Error ellipse: s-maj=22.4km s-min=13.3km az=39.0*
ISCJB ***02*** *04:13:05.9±0.3, 37°.91N±0°.03×95°.51E±0°.03, h10km, mb4.3/37, MS3.1/5, Error ellipse: s-maj=5.2km s-min=3.0km az=25.4*
MOS ***02*** *04:13:05.2±1.2, 37°.75N×95°.67E, h17km, mb4.5/22, Error ellipse: s-maj=10.2km s-min=6.2km az=113.7*
NEIC ***02*** *04:13:06.3±0.4, 37°.73N×95°.58E, h10km, mb4.5/11, Error ellipse: s-maj=7.6km s-min=6.5km az=18.0*
BJI ***02*** *04:13:06.8, 37°.68N×95°.67E, h10km, mB4.6/18, mb4.5/29, ML4.3/8, Ms4.1/26, Ms7 3.8/24*
ISC 02 04:13:07.0±0.4, 37°.78N±0°.05×95°.54E±0°.03, h10km, n129, σ1$57/149, mb4.4/37, MS3.1/5, 4C-6D, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**3.73**	**63**	Pn	**Pn**	**04 14 06.3**	**+1.6**
GTA				Pg	**Pb**	**04 14 12.9**	**0.0**
GTA				Sn	**Sn**	**04 14 48.2**	**-0.5**
GTA				Sg	**Sb**	**04 14 59.2**	**+1.0**
GTA				smax	smax		
	comp=N,150nm,1.0s						
GTA				smax	smax		
	comp=E,160nm,0.9s						
GTA				LR	LR		
	comp=N,1μm,7.9s						
GTA				LR	LR		
	comp=E,1μm,6.9s						
GTA				LR	LR		
	comp=Z,1μm,8.4s						
LZH	**Lanzhou**	**6.86**	**102**	Pn	**Pn**	**04 14 48.0**	**+0.2**
LZH				Pg	Pb	04 15 09.6	+3.2
LZH				Sn	**Sn**	**04 16 05.6**	**-0.4**
LZH				Sg	Sg	04 16 39.5	-7.7
LZH				smax	smax		
	comp=N,360nm,1.2s						
LZH				smax	smax		
	comp=E,230nm,1.2s						
LZH				LR	LR		
	comp=N,860nm,5.6s						
LZH				LR	LR		
	comp=E,600nm,4.8s						
LZH				LR	LR		
	comp=Z,690nm,5.3s						
WMQ	**Urumqi**	**8.47**	**318**	P	**Pn**	**04 15 09.0**	**-0.8**
WMQ				pP	pP	04 15 12.2	
WMQ				sP		04 15 15.0	
WMQ				S	**Sn**	**04 16 44.8**	**-0.7**
WMQ				sS	sS	04 16 49.7	
WMQ				PcP	**PcP**	**04 21 39.9**	**-0.4**
WMQ				pmax	pmax		
	comp=Z,37nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,130nm,4.4s						
WMQ				LR	LR		
	comp=N,470nm,6.0s						
WMQ				LR	LR		
	comp=E,520nm,8.6s						
WMQ				LR	LR		
	comp=Z,520nm,8.8s						
LSA	**Lhasa**	**8.85**	**206**	*e*P	**Pn**	**04 15 16.5**	**+1.2**
LSA	**Lhasa**	**8.85**	**206**	*e*Pn	**Pn**	**04 15 16.5**	**+1.2**
CD2	**Chengdu**	**9.64**	**133**	P	Pn	04 15 30.0	+4.1
CD2				pP		04 15 33.2	
CD2				sP		04 15 36.0	
CD2				PP	**PnPn**	**04 15 38.0**	**+4.5**
CD2				S	Sn	04 17 20.2	+5.9
CD2				sS		04 17 25.2	
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,110nm,5.3s						
CD2				LR	LR		
	comp=N,670nm,7.1s						
CD2				LR	LR		
	comp=Z,450nm,6.2s						
HHC	**Hu-ho-hao-te**	**12.79**	**71**	*e*P	**Pn**	**04 16 10.3**	**+1.5**
HHC				pP		04 16 13.6	
HHC				sP		04 16 16.9	
HHC				PP	**PnPn**	**04 16 20.7**	**+4.1**
HHC				S	**Sn**	**04 18 33.7**	**+2.4**
HHC				sS		04 18 38.9	
HHC				SS	**SnSn**	**04 18 43.6**	**+0.4**
HHC				pmax	pmax		
	comp=Z,67nm,1.1s						
HHC				pmax	pmax		
	comp=Z,110nm,5.2s						
HHC				LR	LR		
	comp=N,690nm,13.5s						
HHC				LR	LR		
	comp=E,650nm,12.4s						
HHC				LR	LR		
	comp=Z,180nm,14.3s						
SONM	**Songino Array**	**12.81**	**35**	Pn	**Pn**	**04 16 10.9**	**+1.7**
SONM				Lg	Lg	04 19 50.0	
SONM	**Songino Array**	**12.81**	**35**	Pn	**Pn**	**04 16 10.9**	**+1.7**
	comp=Z,0.9nm,0.3s,baz=220,slow=15,SNR=15						
SONM				Lg	Lg	04 19 50.0	
	baz=246,slow=25,SNR=3.6						
SONM				LR	LR	04 21 24.2	
	comp=Z,260nm,20.2s,baz=31,slow=39						
SONA1	**Songino Array**	**12.83**	**35**	*e*Pn	**Pn**	**04 16 11.2**	**+1.8**
ULN	**Ulaanbaatar**	**13.14**	**36**	*e*Pn	**Pn**	**04 16 14.3**	**+0.6**
MK01	**Makanchi Array**	**13.28**	**317**	*e*Pn	**Pn**	**04 16 14.0**	**-1.5**
MK01				*e*Sn	**Sn**	**04 18 44.5**	**+1.3**
MK31	**Makanchi Array**	**13.30**	**317**	⇓Pn	**Pn**	**04 16 14.9**	**-0.8**
	comp=Z,6.3nm,0.6s,baz=117,slow=12,SNR=76						
MK31				Sn	**Sn**	**04 18 44.5**	**+0.7**
	comp=Z,11nm,0.8s,baz=125,slow=25,SNR=9.1						
MK31				⇓Lg	Lg	04 20 05.9	
	comp=Z,10nm,0.9s						
MK31	**Makanchi Array**	**13.30**	**317**	*e*P	**Pn**	**04 16 15.0**	**-0.8**
MK31				*e*S	**Sn**	**04 18 43.1**	**-0.6**
MK31	**Makanchi Array**	**13.30**	**317**	*e*Pn	**Pn**	**04 16 14.9**	**-0.8**
MK31				*e*S	**Sn**	**04 18 43.1**	**-0.6**
MKAR	**Makanchi Array**	**13.30**	**317**	*e*P	**Pn**	**04 16 15.2**	**-0.6**
MKAR				*e*		04 18 45.2	
MKAR	**Makanchi Array**	**13.30**	**317**	*e*Pn	**Pn**	**04 16 15.2**	**-0.6**
MKAR				*e*Sn	**Sn**	**04 18 45.2**	**+1.5**
MKAR	**Makanchi Array**	**13.30**	**317**	Pn	**Pn**	**04 16 14.5**	**-1.3**
	comp=Z,1.6nm,0.3s,baz=124,slow=14,SNR=69						
MKAR				Sn	**Sn**	**04 18 44.5**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=127,slow=23,SNR=7.8						
HVS	**Khovu-Aksy**	**13.42**	**355**	⇓*e*P	**Pn**	**04 16 16.0**	**-1.4**
ZAK	**Zakamensk**	**13.76**	**21**	*e*P	Pn	04 16 25.5	+3.4
ZAK				*e*		04 18 59.6	
ZAK				pmax	pmax		
	comp=Z,17nm,1.2s						
KMI	**Kunming**	**14.03**	**152**	P	P	04 16 30.2	-3.7
KMI				pP	Pn	04 16 32.6	+6.7
KMI				sP		04 16 34.1	
KMI				PP	PnPn	04 16 40.2	+6.3
KMI				S	Sn	04 19 08.0	+6.2
KMI				pmax	pmax		
	comp=Z,9.0nm,0.5s						
KMI				pmax	pmax		
	comp=Z,41nm,3.5s						
KMI				LR	LR		
	comp=N,150nm,7.9s						
KMI				LR	LR		
	comp=E,200nm,6.4s						
KMI				LR	LR		
	comp=Z,160nm,9.9s						
MOY	**Mondy**	**14.41**	**14**	*e*P	P	04 16 41.1	+3.1
MOY				pmax	pmax		
	comp=Z,31nm,1.4s						
GYA	**Guiyang**	**14.69**	**137**	*e*P	P	04 16 37.6	-3.6
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
TLY	**Talaya**	**15.03**	**20**	*e*P	**P**	**04 16 46.9**	**+2.1**
TLY				pmax	pmax		
	comp=Z,13nm,1.5s						
TLY				MLR	MLR		
	comp=Z,190nm,9.0s						
KSH	**Kashi**	**15.39**	**283**	P	**Pn**	**04 16 45.6**	**+1.4**
KSH				sP	**sP**	**04 16 53.5**	**+0.5**
KSH				PP	**PnPn**	**04 16 59.0**	**+6.7**
KSH				S	**Sn**	**04 19 37.4**	**+2.6**
KSH				sS	S	04 19 42.3	-8.8
KSH				SS	**SnSn**	**04 19 54.9**	**+7.6**
KSH				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KSH				pmax	pmax		
	comp=Z,50nm,3.7s						
KSH				LR	LR		
	comp=N,170nm,6.5s						
KSH				LR	LR		
	comp=E,150nm,5.5s						
KSH				LR	LR		
	comp=Z,140nm,5.4s						
TKM2	**Tokmak 2**	**16.04**	**295**	⇓Pn	**Pn**	**04 16 51.2**	**-1.5**
	comp=Z,30nm,1.1s						
TKM2				⇓Sn	**Sn**	**04 19 46.3**	**-4.4**
	comp=Z,1.7nm,0.5s						
TKM2	**Tokmak 2**	**16.04**	**295**	*e*P	**Pn**	**04 16 51.0**	**-1.7**
TKM2				pmax	pmax		
	comp=Z,23nm,0.9s						
TKM2	**Tokmak 2**	**16.04**	**295**	*e*Pn	**Pn**	**04 16 51.0**	**-1.7**
	comp=Z,23nm,0.9s						
BJI	**Beijing**	**16.22**	**76**	P	**Pn**	**04 16 55.2**	**+0.3**
BJI				S	**Sn**	**04 19 56.2**	**+1.4**
BJI				pmax	pmax		
	comp=Z,7.0nm,0.6s						
BJI				LR	LR		
	comp=N,420nm,18.2s						
BJI				LR	LR		
	comp=E,110nm,18.2s						
BJI				LR	LR		
	comp=Z,50nm,17.3s						
AAK	**Ala-Archa**	**16.78**	**293**	P	**P**	**04 17 03.3**	**-1.1**
AAK				MLR	MLR		
	comp=Z,29nm,18.2s						
AAK	**Ala-Archa**	**16.78**	**293**	*e*Pn	**Pn**	**04 17 02.6**	**+0.5**
	comp=Z,7.4nm,0.7s						
AAK	**Ala-Archa**	**16.78**	**293**	Pn	**P**	**04 17 03.3**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=192,slow=1.8,SNR=8.9						
AAK				LR	LR	04 24 55.3	
	comp=Z,29nm,18.2s,baz=130,slow=42						
KURBB	**Kurchatov Arra**	**17.65**	**322**	P	**Pn**	**04 17 11.2**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=194,slow=6.3,SNR=18						
KURK	**Kurchatov**	**17.67**	**322**	P	**Pn**	**04 17 11.2**	**-1.8**
KURK	**Kurchatov**	**17.67**	**322**	P	**Pn**	**04 17 11.2**	**-1.8**
ZAA0	**Zalesovo Array**	**17.78**	**339**	*e*Pn	**Pn**	**04 17 13.8**	**-0.5**
ZALV	**Zalesovo Beam**	**17.78**	**339**	P	**Pn**	**04 17 13.6**	**-0.7**
ZALV				MLR	MLR		
	comp=Z,49nm,18.8s						
ZALV	**Zalesovo Beam**	**17.78**	**339**	P	**Pn**	**04 17 13.6**	**-0.7**
ZALV	**Zalesovo Beam**	**17.78**	**339**	P	**Pn**	**04 17 13.6**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=160,slow=11,SNR=17						
ZALV				LR	LR	04 24 11.9	
	comp=Z,49nm,18.8s,baz=248,slow=37						
NVS	**Novosibirsk**	**19.02**	**338**	⇑*e*P	**P**	**04 17 27.7**	**-1.0**
NVS				pmax	pmax		
	comp=N,8.0nm,0.9s						
NVS				pmax	pmax		
	comp=E,9.0nm,0.9s						
NVS				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**19.48**	**170**	P	**P**	**04 17 32.4**	**-1.6**
CMAR	**Chiang Mai Arr**	**19.48**	**170**	P	**P**	**04 17 32.4**	**-1.6**
	comp=Z,1.1nm,0.3s,baz=340,slow=10,SNR=9.7						
CMAR				LR	LR	04 25 35.6	
	comp=Z,81nm,21.5s,baz=25,slow=39						
KKAR	**Karatay Array**	**19.75**	**293**	*e*P	**Pn**	**04 17 38.3**	**-0.1**
KKAR	**Karatay Array**	**19.75**	**293**	*e*P	**Pn**	**04 17 38.3**	**-0.1**
NJ2	**Nanjing**	**19.93**	**100**	*e*P	**Pn**	**04 17 40.2**	**-0.4**
NJ2				pmax	pmax		
	comp=Z,11nm,1.0s						
KBL	**Kabul**	**21.61**	**269**	*e*P	**P**	**04 17 58.4**	**+1.1**
KBL				pmax	pmax		
	comp=Z,14nm,0.8s						
KBL	**Kabul**	**21.61**	**269**	*e*P	**P**	**04 17 58.4**	**+1.1**
	comp=Z,14nm,0.8s						
QIZ	**Qiongzhong**	**22.47**	**142**	P	**P**	**04 18 09.0**	**+2.6**
QIZ				S	**S**	**04 22 16.0**	**+2.9**
QIZ				LR	LR		
	comp=N,140nm,11.9s						
QIZ				LR	LR		
	comp=E,86nm,12.2s						
QIZ				LR	LR		
	comp=Z,160nm,7.4s						
VOSK	**Vostochnaya**	**22.70**	**319**	*e*P	**P**	**04 18 08.8**	**+0.2**
VOSK				pmax	pmax		
	comp=Z,12nm,1.1s						
VOSK	**Vostochnaya**	**22.70**	**319**	*e*P	**P**	**04 18 08.8**	**+0.2**
	comp=Z,12nm,1.1s						
BVAR	**Borovoye Array**	**23.16**	**319**	P	**P**	**04 18 13.6**	**+0.2**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BVAR				MLR	MLR		
	comp=Z,55nm,18.8s						
BVAR	**Borovoye Array**	**23.16**	**319**	P	**P**	**04 18 13.6**	**+0.2**
BVAR	**Borovoye Array**	**23.16**	**319**	P	**P**	**04 18 13.6**	**+0.2**
	comp=Z,2.2nm,0.6s,baz=113,slow=11,SNR=7.0						
BVAR				LR	LR	04 27 43.5	
	comp=Z,55nm,18.8s,baz=260,slow=38						
BRVK	**Borovoye**	**23.23**	**319**	⇑*e*P	**P**	**04 18 14.5**	**+0.4**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BRVK	**Borovoye**	**23.23**	**319**	*e*P	**P**	**04 18 14.1**	**+0.1**
	comp=Z,3.3nm,0.7s						
CN2	**Changchun**	**23.35**	**66**	*e*P	**P**	**04 18 17.5**	**+2.1**
CN2				*es*P	sP	04 18 26.3	+6.7
CN2				*e*S	**S**	**04 22 25.8**	**-2.4**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
KSAR	**Wonju Array Be**	**25.56**	**81**	P	**P**	**04 18 32.8**	**-3.2**
KSRS	**Korea Array**	**25.59**	**81**	P	**P**	**04 18 32.8**	**-3.4**
	comp=Z,2.6nm,0.6s,baz=278,slow=9.4,SNR=9.6						
KSRS				LR	LR	04 28 14.7	
	comp=Z,16nm,21.0s,baz=280,slow=36						
MDJ	**Mudanjiang**	**26.38**	**64**	P	**P**	**04 18 43.9**	**+0.6**
MDJ				pmax	pmax		
	comp=Z,3.0nm,0.5s						
MDJ				pmax	pmax		
	comp=Z,79nm,5.0s						
AKTO	**Aktyubinsk**	**29.44**	**308**	P	**P**	**04 19 10.9**	**+0.2**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKTO	**Aktyubinsk**	**29.44**	**308**	P	**P**	**04 19 10.8**	**+0.2**
AKTO	**Aktyubinsk**	**29.44**	**308**	P	**P**	**04 19 10.8**	**+0.2**
	comp=Z,1.2nm,0.5s,baz=86,slow=9.4,SNR=7.4						
ARU	**Arti**	**30.81**	**319**	*c iP*	**P**	**04 19 22.5**	**-0.1**
ARU						04 20 17.8	
ARU				S	**S**	**04 24 26.2**	**+0.3**
ARU				pmax	pmax		
	comp=Z,8.0nm,1.2s						
MJAR	**Matsushiro Arr**	**33.82**	**79**	LR	LR	04 35 15.4	
	comp=Z,58nm,18.9s,baz=135,slow=40						
ASAJ	**Asahikawa**	**35.71**	**65**	P	**P**	**04 20 03.6**	**-1.9**
ASAJ	**Asahikawa**	**35.71**	**65**	P	**P**	**04 20 03.6**	**-1.9**
	comp=Z,2.9nm,0.3s,baz=288,slow=20,SNR=3.2						
TIXI	**Tiksi**	**37.97**	**16**	⇓*e*P	**P**	**04 20 23.8**	**-0.6**
TIXI				pmax	pmax		
	comp=Z,6.0nm,0.6s						
VSR	**Storozhevoye**	**41.39**	**308**	*e*P	**P**	**04 20 52.9**	**-0.2**
VSR				pmax	pmax		
	comp=Z,12nm,0.8s						
OBN	**Obninsk**	**42.78**	**314**	⇑*e*P	**P**	**04 21 04.9**	**+0.5**
OBN				pmax	pmax		
	comp=Z,12nm,1.1s						
PETK	**Petropavlovsk-**	**44.78**	**49**	LR	LR	04 40 34.5	
	comp=Z,22nm,19.1s,baz=223,slow=37						
BRTR	**Keskin Array B**	**47.46**	**293**	P	**P**	**04 21 42.3**	**+0.3**
BRTR	**Keskin Array B**	**47.46**	**293**	P	**P**	**04 21 42.3**	**+0.3**
	comp=Z,1.3nm,0.6s,baz=93,slow=7.4,SNR=7.0						
ARCES	**ARCESS Array B**	**48.22**	**334**	P	**P**	**04 21 46.0**	**-1.4**
ARCES				PcP	**PcP**	**04 23 13.5**	**-0.8**
ARCES	**ARCESS Array B**	**48.22**	**334**	P	**P**	**04 21 46.0**	**-1.4**
	comp=Z,2.1nm,1.0s,baz=88,slow=6.6,SNR=5.5						
ARCES				PcP	**PcP**	**04 23 13.5**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=76,slow=5.1,SNR=7.1						
KWP	**Kalwaria Pacla**	**52.01**	**308**	*e*P	**P**	**04 22 17.4**	**+1.1**
KWP				pmax	pmax		
	comp=Z,14nm,1.0s						
KWP	**Kalwaria Pacla**	**52.01**	**308**	*e*P	**P**	**04 22 17.4**	**+1.1**
	comp=Z,14nm,1.0s						
NOA	**NORSAR Array B**	**55.18**	**324**	P	**P**	**04 22 39.1**	**-0.3**
NOA	**NORSAR Array B**	**55.18**	**324**	P	**P**	**04 22 39.1**	**-0.3**
	comp=Z,1.9nm,0.9s,baz=72,slow=7.1,SNR=3.7						
GERES	**GERESS Array B**	**57.84**	**309**	P	**P**	**04 22 59.9**	**+1.2**
GERES	**GERESS Array B**	**57.84**	**309**	P	**P**	**04 22 59.9**	**+1.2**
	comp=Z,0.8nm,0.9s,baz=27,slow=1.5,SNR=5.0						
DAVOX	**Davos/Dischmat**	**61.03**	**308**	P	**P**	**04 23 20.1**	**-0.8**
DAVOX	**Davos/Dischmat**	**61.03**	**308**	P	**P**	**04 23 20.1**	**-0.8**
	comp=Z,1.8nm,0.5s,baz=72,slow=13,SNR=5.5						
BCLA	**Clavier**	**62.17**	**314**	P	**P**	**04 23 29.2**	**+1.0**
	comp=Z,14nm,2.4s						
DOU	**Dourbes**	**62.73**	**314**	P	**P**	**04 23 31.6**	**-0.4**
PGF	**Pioggiola**	**63.49**	**304**	*e*P	**P**	**04 23 37.4**	**+0.1**
PGF	**Pioggiola**	**63.49**	**304**	*e*P	**P**	**04 23 37.4**	**+0.1**
PGF	**Pioggiola**	**63.49**	**304**	*e*P	**P**	**04 23 37.4**	**+0.1**
LPG	**La Plagne**	**63.55**	**308**	*e*P	**P**	**04 23 38.0**	**+0.1**
LPG	**La Plagne**	**63.55**	**308**	*e*P	**P**	**04 23 38.0**	**+0.1**
LPG	**La Plagne**	**63.55**	**308**	*e*P	**P**	**04 23 38.0**	**+0.1**
LPL	**La Plagne**	**63.55**	**308**	*e*P	**P**	**04 23 38.0**	**+0.2**
	comp=Z,4.6nm,0.7s						
LPL	**La Plagne**	**63.55**	**308**	*e*P	**P**	**04 23 38.0**	**+0.2**
LPL				pmax	pmax		
	comp=Z,5.0nm,0.7s						
LPL	**La Plagne**	**63.55**	**308**	*e*P	**P**	**04 23 38.0**	**+0.2**
	comp=Z,4.6nm,0.7s						
SBF	**Sospel**	**63.88**	**306**	*e*P	**P**	**04 23 39.6**	**-0.2**
	comp=Z,11nm,0.9s						
SBF	**Sospel**	**63.88**	**306**	*e*P	**P**	**04 23 39.6**	**-0.2**
SBF				pmax	pmax		
	comp=Z,11nm,0.9s						
SBF	**Sospel**	**63.88**	**306**	*e*P	**P**	**04 23 39.6**	**-0.2**
	comp=Z,11nm,0.9s						
COLD	**Coldfoot**	**64.20**	**23**	*e*P	**P**	**04 23 42.0**	**+0.5**
	comp=Z,7.4nm,1.0s						
ORIF	**Oris-en-Rattie**	**64.36**	**308**	*e*P	**P**	**04 23 42.3**	**-0.7**
	comp=Z,8.7nm,0.9s						
ORIF	**Oris-en-Rattie**	**64.36**	**308**	*e*P	**P**	**04 23 42.3**	**-0.7**
ORIF				pmax	pmax		
	comp=Z,9.0nm,0.9s						
ORIF	**Oris-en-Rattie**	**64.36**	**308**	*e*P	**P**	**04 23 42.3**	**-0.7**
	comp=Z,8.7nm,0.9s						
TCF	**Toulx Ste Croi**	**65.94**	**311**	*e*P	**P**	**04 23 53.0**	**-0.2**
	comp=Z,7.6nm,0.9s						
TCF	**Toulx Ste Croi**	**65.94**	**311**	*e*P	**P**	**04 23 53.0**	**-0.2**
TCF				pmax	pmax		
	comp=Z,8.0nm,0.9s						
TCF	**Toulx Ste Croi**	**65.94**	**311**	*e*P	**P**	**04 23 53.0**	**-0.2**
	comp=Z,7.6nm,0.9s						
PPLA	**Purkeypile**	**66.13**	**28**	*e*P	**P**	**04 23 54.2**	**0.0**
	comp=Z,17nm,1.2s						
COLA	**College**	**66.42**	**25**	*e*P	**P**	**04 23 56.0**	**+0.2**
COLA				pmax	pmax		
	comp=Z,15nm,0.8s						
COLA	**College**	**66.42**	**25**	*e*P	**P**	**04 23 56.0**	**+0.2**
	comp=Z,15nm,0.8s						
ILAR	**Eielson Array**	**66.80**	**24**	P	**P**	**04 23 56.5**	**-1.8**
ILAR	**Eielson Array**	**66.80**	**24**	P	**P**	**04 23 56.5**	**-1.8**
	comp=Z,1.7nm,0.8s,baz=294,slow=5.7,SNR=22						
WRA	**Warramunga Arr**	**68.03**	**141**	P	**P**	**04 24 03.9**	**-2.7**
WRA	**Warramunga Arr**	**68.03**	**141**	P	**P**	**04 24 03.9**	**-2.7**
	comp=Z,1.2nm,0.8s,baz=328,slow=5.6,SNR=6.2						
INK	**Inuvik**	**68.08**	**18**	*e*P	**P**	**04 24 05.8**	**-0.5**
	comp=Z,2.8nm,0.8s						
SML	**Sawmill**	**68.21**	**27**	*e*P	**P**	**04 24 07.0**	**-0.3**
SML				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SML	**Sawmill**	**68.21**	**27**	*e*P	**P**	**04 24 07.0**	**-0.3**
	comp=Z,2.5nm,0.8s						
EGAK	**Eagle**	**68.61**	**23**	*e*P	**P**	**04 24 09.3**	**-0.4**
	comp=Z,6.2nm,1.0s						
DAWY	**Dawson**	**69.65**	**23**	*e*P	**P**	**04 24 16.1**	**-0.2**
ASAR	**Alice Springs**	**70.97**	**143**	P	**P**	**04 24 22.2**	**-2.5**
ASAR	**Alice Springs**	**70.97**	**143**	P	**P**	**04 24 22.2**	**-2.5**
	comp=Z,0.8nm,0.6s,baz=316,slow=5.2,SNR=7.0						
HYT	**Haines Junctio**	**72.64**	**24**	P	**P**	**04 24 35.0**	**+0.5**
ESDC	**Sonseca Array**	**73.32**	**307**	P	**P**	**04 24 38.4**	**-0.5**
ESDC	**Sonseca Array**	**73.32**	**307**	P	**P**	**04 24 38.4**	**-0.5**
	comp=Z,0.3nm,0.4s,baz=36,slow=5.8,SNR=5.3						
YKA	**Yellowknife Ar**	**77.17**	**14**	P	**P**	**04 25 00.7**	**+0.3**
YKA	**Yellowknife Ar**	**77.17**	**14**	P	**P**

AFSR	**Af˙ar-Bala (A**	**0.40**	**23**	*e*PG	**Pg**	**04 41 25.7**	**-0.7**
AFSR				*e*SG	**Sg**	**04 41 32.7**	**+1.0**
AFSR	**Af˙ar-Bala (A**	**0.40**	**23**	*e*Pg	**Pg**	**04 41 25.7**	**-0.6**
AFSR				*e*Sg	**Sg**	**04 41 32.7**	**+1.1**
BBAL	**Bala**	**0.51**	**23**	*e*P	**Pg**	**04 41 27.6**	**-0.7**
BBAL				*e*S	**Sg**	**04 41 35.2**	**+0.3**
BBAL	**Bala**	**0.51**	**23**	*e*P	**Pg**	**04 41 27.6**	**-0.7**
BBAL				*e*S	**Sg**	**04 41 35.2**	**+0.3**
KAMT	**Kaman**	**0.72**	**66**	*e*PG	**Pg**	**04 41 31.9**	**-0.5**
KAMT				*e*SG	**Sg**	**04 41 42.7**	**+1.0**
KAMT	**Kaman**	**0.72**	**66**	*e*Pg	**Pg**	**04 41 31.9**	**-0.5**
KAMT				*e*Sg	**Sg**	**04 41 42.7**	**+1.0**
ANTO	**Ankara**	**0.79**	**356**	*e*PG	**Pg**	**04 41 34.1**	**+0.3**
ANTO	**Ankara**	**0.79**	**356**	*e*Pg	**Pg**	**04 41 34.1**	**+0.3**
KIZT	**Kizilcal**	**0.79**	**256**	*e*PG	**Pb**	**04 41 34.4**	**-0.5**
KIZT	**Kizilcal**	**0.79**	**256**	*e*Pg	**Pb**	**04 41 34.4**	**-0.5**
KDHN	**Kadinhani**	**0.81**	**227**	*e*P	**Pg**	**04 41 33.2**	**-0.8**
KDHN				*e*S	**Sg**	**04 41 44.0**	**-0.4**
KDHN	**Kadinhani**	**0.81**	**227**	*e*P	**Pg**	**04 41 33.2**	**-0.8**
KDHN				*e*S	**Sg**	**04 41 44.0**	**-0.4**
LOD	**Lodumlu**	**0.81**	**355**	*e*PG	**Pg**	**04 41 34.4**	**+0.2**
LOD	**Lodumlu**	**0.81**	**355**	*e*Pg	**Pg**	**04 41 34.4**	**+0.2**
LADK	**Ladik-KONYA**	**0.96**	**204**	*e*PG	**Pb**	**04 41 37.2**	**-0.5**
LADK	**Ladik-KONYA**	**0.96**	**204**	*e*Pg	**Pb**	**04 41 37.2**	**-0.5**
SULT	**Sultanhani-AKS**	**1.01**	**150**	*e*PG	**Pg**	**04 41 38.0**	**0.0**
SULT	**Sultanhani-AKS**	**1.01**	**150**	*e*Pg	**Pg**	**04 41 38.0**	**0.0**
SVRH	**Sivrihisar-ESK**	**1.11**	**290**	*e*PN	**Pb**	**04 41 40.0**	**-0.1**
SVRH	**Sivrihisar-ESK**	**1.11**	**290**	*e*Pn	**Pb**	**04 41 40.1**	**-0.1**
KONT	**Konya--Tatoy**	**1.20**	**199**	*e*PN	**Pb**	**04 41 41.6**	**-0.1**
KONT	**Konya--Tatoy**	**1.20**	**199**	*e*Pn	**Pb**	**04 41 41.6**	**-0.1**
AVNT	**Avonos**	**1.58**	**100**	*e*P	**Pn**	**04 41 47.5**	**+0.2**
AVNT				*e*S	**Sg**	**04 42 10.4**	**+1.1**
AVNT	**Avonos**	**1.58**	**100**	*e*P	**Pn**	**04 41 47.5**	**+0.2**
AVNT				*e*S	**Sg**	**04 42 10.4**	**+1.1**
ESKT	**Eskisehir**	**1.62**	**286**	*e*PN	**Pb**	**04 41 48.7**	**-0.4**
ESKT	**Eskisehir**	**1.62**	**286**	*e*Pn	**Pb**	**04 41 48.7**	**-0.4**
SEYT	**Eskypehyr**	**1.62**	**286**	*e*P	**Pn**	**04 41 48.2**	**+0.3**
SEYT				*e*S	**Sg**	**04 42 11.4**	**+0.7**
SEYT	**Eskypehyr**	**1.62**	**286**	*e*P	**Pn**	**04 41 48.2**	**+0.3**
SEYT				*e*S	**Sg**	**04 42 11.4**	**+0.7**
NIG	**Nigde**	**1.67**	**125**	*e*PN	**Pn**	**04 41 49.2**	**+0.5**
NIG	**Nigde**	**1.67**	**125**	*e*Pn	**Pn**	**04 41 49.2**	**+0.5**
CORM	**Corum**	**1.75**	**51**	*e*PN	**Pn**	**04 41 50.1**	**+0.4**
CORM	**Corum**	**1.75**	**51**	*e*Pn	**Pn**	**04 41 50.1**	**+0.4**
MDUB	**Mudurnu**	**1.90**	**318**	*e*PN	**Pn**	**04 41 52.2**	**+0.7**
MDUB	**Mudurnu**	**1.90**	**318**	*e*Pn	**Pn**	**04 41 52.3**	**+0.7**
YOZ	**Yozgat**	**1.98**	**73**	*e*PN	**Pn**	**04 41 53.0**	**+0.1**
YOZ	**Yozgat**	**1.98**	**73**	*e*Pn	**Pn**	**04 41 53.0**	**+0.1**
ILGA	**Ilgaz**	**2.08**	**18**	*e*P	**Pb**	**04 41 55.7**	**-1.1**
ILGA				*e*S	**Sb**	**04 42 22.3**	**-0.8**
ILGA	**Ilgaz**	**2.08**	**18**	*e*P	**Pb**	**04 41 55.7**	**-1.1**
ILGA				*e*S	**Sb**	**04 42 22.3**	**-0.8**
HDMB	**Hadim**	**2.13**	**188**	*e*PN	**Pn**	**04 41 55.6**	**+0.7**
HDMB	**Hadim**	**2.13**	**188**	*e*Pn	**Pn**	**04 41 55.6**	**+0.7**
CTKT	**Corum**	**2.14**	**43**	*e*P	**Pb**	**04 41 57.2**	**-0.7**
CTKT				*e*S	**Sg**	**04 42 27.8**	**+0.5**
CTKT	**Corum**	**2.14**	**43**	*e*P	**Pb**	**04 41 57.2**	**-0.7**
SAFT	**Safranbolu**	**2.17**	**356**	*e*PN	**Pn**	**04 41 55.9**	**+0.7**
SAFT	**Safranbolu**	**2.17**	**356**	*e*Pn	**Pn**	**04 41 55.9**	**+0.7**
SUTC	**Sutluce-Ispart**	**2.17**	**223**	*e*PN	**Pn**	**04 41 56.3**	**+0.9**
SUTC	**Sutluce-Ispart**	**2.17**	**223**	*e*Pn	**Pn**	**04 41 56.3**	**+0.9**
GULT	**Gulveren**	**2.26**	**308**	*e*PN	**Pn**	**04 41 57.5**	**+0.9**
GULT	**Gulveren**	**2.26**	**308**	*e*Pn	**Pn**	**04 41 57.5**	**+0.9**
BNN	**Bunyan**	**2.33**	**95**	*e*PN	**Pn**	**04 41 58.2**	**+0.6**
BNN	**Bunyan**	**2.33**	**95**	*e*Pn	**Pn**	**04 41 58.3**	**+0.6**

IDC 02 04:55:05.1±1.5, 1°.22S×99°.75E, h0km, mb3.5/2, mb1 3.6/2, mb1mx3.3/22, mbtmp3.5/2, MS3.6/1, Ms1 3.6/1, ms1mx2.5/21, Error ellipse: s-maj=77.5km s-min=32.9km az=57.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.60**	**121**	P	P	05 02 30.4	0.0
	0.2nm,0.5s,baz=302,slow=9.1,SNR=4.6						
ASAR	**Alice Springs**	**39.91**	**127**	P	P	05 02 44.9	+3.6
	0.1nm,0.5s,baz=298,slow=7.6,SNR=2.5						
MKAR	**Makanchi Array**	**50.22**	**344**	P	P	05 04 02.9	+0.1
	0.8nm,0.9s,baz=153,slow=9.0,SNR=3.6						
MJAR	**Matsushiro Arr**	**51.83**	**40**	LR	LR	05 24 16.8	
	comp=Z,58nm,21.8s,baz=245,slow=34						
TXAR	**Lajitas Array**	**144.23**	**36**	PKP	PKPbc	05 14 43.0	+0.9
	0.2nm,0.8s,baz=318,slow=2.4,SNR=3.3						
CFAA	**Coronel Fontan**	**145.42**	**198**	PKPbc	PKPbc	05 14 44.7	-1.1
	0.2nm,0.5s,baz=184,slow=6.7,SNR=3.5						

MOS ***02*** *05:18:00.9±1.2, 43°.82N×147°.39E, h62km, mb4.2/9, Error ellipse: s-maj=14.0km s-min=9.8km az=73.8*
NIED ***02*** *05:18:00, 43°.70N×147°.20E, h50km, Mw3.9 Best double couple: M0:8.01000×10^14 NP1:φ=183.00000°, δ=64.00000°, λ=37.00000°. NP2:φ=74.00000°, δ=57.00000°, λ=149.00000°.*
ISCJB ***02*** *05:18:01.1±0.8, 43°.80N±0°.06×147°.34E±0°.08, h63km±7km, mb4.1/15, Error ellipse: s-maj=12.7km s-min=5.4km az=139.3*
JMA ***02*** *05:18:02.2±0.2, 43°.69N×147°.25E, h30km±5km, M4.6*
JMA Felt I J1.
IDC ***02*** *05:18:02.3±3.1, 43°.81N×147°.22E, h59km±28km, mb3.6/11, mb1 4.0/14, mb1mx3.8/27, mbtmp3.7/14, ML4.0/3, Error ellipse: s-maj=23.6km s-min=16.6km az=143.0*
SKHL ***02*** *05:18:03.0±0.7, 43°.92N×147°.34E, h72km±6km, mb4.8/3*
ISC 02 05:18:01.9±1.1, 43°.84N±0°.06×147°.32E±0°.06, h54km±10km, n50, σ1°.10/63, mb4.0/14, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**1.07**	**281**	*i* PN	**Pn**	**05 18 20.8**	**+0.1**
YUK				*i* S	**Sn**	**05 18 34.2**	**-0.4**
YUK				pmax	pmax		
	comp=N,194nm,0.2s						
YUK				pmax	pmax		
	comp=E,316nm,0.2s						
YUK				pmax	pmax		
	comp=Z,900nm,0.2s						
YUK				smax	smax		
	comp=E,5μm,0.2s						
YUK				smax	smax		
	comp=N,6μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.07**	**281**	*i* P	**Pn**	**05 18 20.8**	**+0.1**
YUK				AMB	AMB	05 18 22.6	
	comp=N,194nm,0.2s						
YUK				AMB	AMB	05 18 22.6	
	comp=N,316nm,0.2s						
YUK				AMB	AMB	05 18 22.6	
	comp=N,900nm,0.2s						
YUK				*i* S	**Sn**	**05 18 34.2**	**-0.4**
YUK				A	A	05 18 36.0	
	comp=N,6μm,0.2s						
YUK				A	A	05 18 36.0	
	comp=N,5μm,0.2s						
NEM2	**Nemuro 2**	**1.24**	**248**	P	**Pn**	**05 18 22.4**	**-0.6**
NEM2				*e*S	**Sn**	**05 18 37.0**	**-1.7**
KUR	**Kuril'sk**	**1.44**	**15**	*i* PN	**Pn**	**05 18 26.2**	**+0.5**
KUR				*i* S	**Sn**	**05 18 43.6**	**0.0**
KUR				pmax	pmax		
	comp=E,27nm,0.2s						
KUR				pmax	pmax		
	comp=Z,68nm,0.4s						
KUR				pmax	pmax		
	comp=N,36nm,0.4s						
KUR				smax	smax		
	comp=E,223nm,0.3s						
KUR				smax	smax		
	comp=N,508nm,0.3s						
KUR	**Kuril'sk**	**1.44**	**15**	*i* P	**Pn**	**05 18 26.2**	**+0.5**
KUR				AMB	AMB	05 18 28.6	
	comp=N,36nm,0.2s						
KUR				AMB	AMB	05 18 28.6	
	comp=N,27nm,0.2s						
KUR				AMB	AMB	05 18 28.6	
	comp=N,68nm,0.2s						
KUR				*i* S	**Sn**	**05 18 43.6**	**0.0**
KUR				A	A	05 18 48.5	
	comp=N,508nm,0.3s						
KUR				A	A	05 18 48.5	
	comp=N,224nm,0.3s						
JRA	**Rausu**	**1.59**	**274**	P	**Pn**	**05 18 28.5**	**+0.8**
JRA				*e*S	**Sn**	**05 18 48.1**	**+0.9**
JNK	**Nakash**	**1.90**	**263**	P	**Pn**	**05 18 32.4**	**+0.4**
JNK				*e*S	**Sn**	**05 18 54.7**	**-0.1**
JAK	**Akkeshi**	**2.09**	**247**	P	**Pn**	**05 18 34.6**	**+0.1**
JAK				*e*S	**Sn**	**05 18 58.3**	**-1.1**
JTKR	**Abashiri--Toko**	**2.47**	**274**	P	**Pn**	**05 18 41.2**	**+1.5**
JAR	**Ashorobuto**	**2.64**	**259**	P	**Pn**	**05 18 43.4**	**+1.4**
JAR				*e*S	**Sn**	**05 19 13.7**	**+0.9**
JOB	**Onbets**	**2.71**	**251**	P	**Pn**	**05 18 43.8**	**+0.8**
JOB				*e*S	**Sn**	**05 19 14.5**	**0.0**
JMP	**Maruseppu**	**2.87**	**275**	P	**Pn**	**05 18 46.8**	**+1.6**
JCH	**Churui**	**3.14**	**248**	P	**Pn**	**05 18 49.9**	**+1.0**
JCH				*e*S	**Sn**	**05 19 24.9**	**-0.3**
JKK2	**Kamakawa 2**	**3.31**	**272**	P	**Pn**	**05 18 53.8**	**+2.6**
ASAJ	**Asahikawa**	**3.42**	**276**	P	**Pn**	**05 18 55.2**	**+2.5**
ASAJ	**Asahikawa**	**3.42**	**276**	P	**Pn**	**05 18 55.0**	**+2.3**
	comp=N,12nm,0.3s,baz=91,slow=13,SNR=20						
ASAJ				S	Sn	05 19 40.9	+8.8
	comp=N,9.6nm,0.3s,baz=222,slow=28,SNR=9.2						
ERM	**Erimo**	**3.56**	**241**	*e*PN	**Pn**	**05 18 57.2**	**+2.5**
ERM	**Erimo**	**3.56**	**241**	*e*P	**Pn**	**05 18 57.2**	**+2.5**
JSE	**Soyaes**	**3.57**	**290**	P	**Pn**	**05 18 56.3**	**+1.5**
JNBK	**Urakawa-nobuka**	**3.69**	**247**	P	**Pn**	**05 18 56.6**	**+0.1**
JNBK				*e*S	**Sn**	**05 19 38.0**	**-0.7**
YSS	**Yuzh-Sakhalins**	**4.47**	**316**	*e*PN	**Pn**	**05 19 07.0**	**-0.1**
YSS				pmax	pmax		
	comp=Z,30nm,0.4s						
YSS	**Yuzh-Sakhalins**	**4.47**	**316**	*e*P	**Pn**	**05 19 07.8**	**+0.7**
YSS				AMB	AMB	05 19 10.0	
	comp=Z,30nm,0.4s						
YSS				*e*S	**Sn**	**05 19 54.6**	**-3.3**
MJAR	**Matsushiro Arr**	**10.08**	**227**	P	**Pn**	**05 20 25.0**	**+1.0**
	comp=Z,0.5nm,0.3s,baz=27,slow=14,SNR=2.6						
PETK	**Petropavlovsk-**	**11.54**	**33**	PN	**Pn**	**05 20 43.4**	**-0.4**
PETK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PETK	**Petropavlovsk-**	**11.54**	**33**	P	**Pn**	**05 20 43.4**	**-0.4**
	comp=Z,1.7nm,0.3s,baz=199,slow=15,SNR=29						
FX1	**Attu Island--F**	**19.32**	**53**	P	**P**	**05 22 22.8**	**+0.4**
	comp=Z,1.7nm,0.3s,baz=30,slow=12,SNR=7.1						
YAK	**Yakutsk**	**20.96**	**336**	*e*P	Pn	05 22 42.9	-0.3
YAK				pmax	pmax		
	comp=Z,9.0nm,0.7s						
YAK	**Yakutsk**	**20.96**	**336**	*e*P	Pn	05 22 42.9	-0.3
KDAK	**Kodiak Island**	**39.09**	**47**	*e*P	**P**	**05 25 23.4**	**-0.1**
COLA	**College**	**40.92**	**36**	*e*P	**P**	**05 25 39.4**	**+0.8**
COLA				pmax	pmax		
	comp=Z,20nm,0.8s						
COLA	**College**	**40.92**	**36**	*e*P	**P**	**05 25 39.3**	**+0.7**
ZALV	**Zalesovo Beam**	**41.04**	**307**	PcP	**PcP**	**05 27 39.0**	**+0.5**
	comp=Z,1.0nm,0.5s,baz=102,slow=2.1,SNR=5.6						
ILAR	**Eielson Array**	**41.34**	**36**	*e*P	**P**	**05 25 42.3**	**+0.3**
ILAR	**Eielson Array**	**41.34**	**36**	P	**P**	**05 25 42.3**	**+0.3**
	comp=Z,2.7nm,0.8s,baz=252,slow=6.2,SNR=28						
KURK	**Kurchatov**	**45.58**	**304**	P	**P**	**05 26 16.7**	**+0.4**
KURK						05 27 54.3	
KURBB	**Kurchatov Arra**	**45.66**	**304**	P	**P**	**05 26 16.7**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=68,slow=7.4,SNR=4.0						
KURBB				PcP	**PcP**	**05 27 54.3**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=78,slow=3.2,SNR=5.1						
YKA	**Yellowknife Ar**	**55.66**	**34**	*e*P	**P**	**05 27 32.2**	**+0.2**
YKA	**Yellowknife Ar**	**55.66**	**34**	P	**P**	**05 27 32.3**	**+0.2**
	comp=Z,1.8nm,0.6s,baz=297,slow=6.7,SNR=12						
ARCES	**ARCESS Array B**	**59.20**	**340**	P	**P**	**05 27 56.3**	**-0.6**
	comp=Z,1.2nm,0.8s,baz=52,slow=8.2,SNR=4.0						
WRA	**Warramunga Arr**	**64.58**	**194**	P	**P**	**05 28 32.0**	**-1.5**
	comp=Z,1.0nm,1.1s,baz=8.7,slow=6.6,SNR=4.0						
FINES	**FINESS Array B**	**64.85**	**333**	P	**P**	**05 28 34.2**	**-0.6**
	comp=Z,2.1nm,0.9s,baz=46,slow=8.2,SNR=6.1						
NVAR	**Mina Array Bea**	**67.42**	**58**	P	**P**	**05 28 52.8**	**+0.8**
	comp=Z,1.4nm,0.6s,baz=294,slow=7.3,SNR=12						
NOA	**NORSAR Array B**	**69.56**	**339**	P	**P**	**05 29 03.9**	**-0.8**
	comp=Z,0.6nm,0.6s,baz=31,slow=6.3,SNR=5.8						
PDAR	**Pinedale Array**	**69.75**	**50**	P	**P**	**05 29 07.0**	**+0.5**
	comp=Z,0.8nm,0.7s,baz=247,slow=2.2,SNR=6.6						
KIV	**Kislovodsk**	**69.79**	**312**	*e*P	**P**	**05 29 07.1**	**+0.6**
KIV				pmax	pmax		
	comp=Z,13nm,1.1s						
KIV				MLR	MLR		
	comp=Z,42nm,18.0s						
CLL	**Collm**	**77.29**	**333**	*i* P	**P**	**05 29 50.3**	**0.0**
CLL				pmax	pmax		
	comp=Z,6.0nm,0.7s						
CLL	**Collm**	**77.29**	**333**	*i* P	**P**	**05 29 50.3**	**0.0**
	comp=Z,6.0nm,0.7s						
CLL				*e*PcP	**PcP**	**05 30 00.0**	**-0.7**
GERES	**GERESS Array B**	**79.14**	**331**	P	**P**	**05 30 00.4**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=29,slow=3.0,SNR=4.4						
TXAR	**Lajitas Array**	**82.50**	**56**	P	**P**	**05 30 19.4**	**+0.5**
	comp=Z,1.1nm,0.8s,baz=292,slow=4.1,SNR=6.5						
TORD	**Torodi Ar. Bea**	**115.20**	**323**	PKP	**PKPdf**	**05 36 36.7**	**-0.9**
	comp=Z,0.4nm,1.0s,baz=82,slow=1.5,SNR=2.9						

WEL 02 05:31:29.6±0.2, 45°.44S×166°.58E, h22km±1km, ML4.0/15, 1C, Error ellipse: s-maj=2.5km s-min=1.3km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.41**	**96**	P*	Pb	05 31 38.0	-0.1
DCZ				S*	Sb	05 31 43.6	-0.3
DCZ				AML	AML	05 31 44.1	
DCZ				AML	AML	05 31 44.8	
DCZ				AML	AML	05 31 44.9	
WHZ	**Wether Hill Ro**	**1.06**	**116**	PN	Pn	05 31 48.9	-0.3
WHZ				AML	AML	05 32 11.7	
WHZ				AML	AML	05 32 13.8	
MLZ	**Mavora Lakes**	**1.12**	**86**	⇑PN	Pn	05 31 49.4	-0.7
MLZ				AML	AML	05 32 10.5	
MLZ				AML	AML	05 32 10.8	
MSZ	**Milford Sound**	**1.22**	**52**	PN	Pn	05 31 50.8	-0.5
MSZ				AML	AML	05 32 13.7	
MSZ				AML	AML	05 32 13.8	
MSZ				AML	AML	05 32 17.4	
APZ	**The Paps**	**1.71**	**145**	PN	Pb	05 31 59.5	-0.8
WKZ	**Wanaka**	**1.83**	**71**	PN	Pb	05 32 02.0	-0.5
WKZ				AML	AML	05 32 31.0	
WKZ				AML	AML	05 32 35.8	
WKZ				AML	AML	05 32 44.6	
WKZ				AML	AML	05 32 44.7	
EAZ	**Earnscleugh**	**1.93**	**85**	PN	Pb	05 32 03.0	-1.2
EAZ				AML	AML	05 32 32.9	
EAZ				AML	AML	05 32 32.9	
EAZ				AML	AML	05 32 43.5	
EAZ				AML	AML	05 32 43.5	
JCZ	**Jackson Bay**	**2.06**	**49**	PN	Pb	05 32 05.7	-0.9
JCZ				AML	AML	05 32 42.5	
JCZ				AML	AML	05 32 42.7	
SYZ	**Scrubby Hill**	**2.10**	**123**	PN	Pb	05 32 06.2	-0.7
TUZ	**Tuapeka**	**2.20**	**105**	PN	Pb	05 32 06.8	-1.8
TUZ				AML	AML	05 32 39.6	
TUZ				AML	AML	05 32 40.7	
LBZ	**Lake Benmore**	**2.77**	**69**	*e*PN	Pn	05 32 13.4	+0.8
LBZ				AML	AML	05 33 14.9	
LBZ				AML	AML	05 33 25.7	

ISCJB ***02*** *05:39:08.8±0.6, 77°.84N±0°.05×7°.8E±0°.2, h10km, mb3.8/9, MS3.4/19, Error ellipse: s-maj=8.2km s-min=6.3km az=147.6*
CSEM ***02*** *05:39:08.8±0.2, 77°.86N×7°.86E, h10km, ML3.8, Error ellipse: s-maj=6.9km s-min=4.8km az=163.0*
IDC ***02*** *05:39:11.7±0.7, 77°.76N×7°.74E, h0km, mb3.8/9, mb1 4.0/11, mb1mx3.8/29, mbtmp3.8/11, ML3.7/2, MS3.4/25, Ms1 3.4/25, ms1mx3.3/36, Error ellipse: s-maj=17.8km s-min=12.8km az=32.0*
NAO ***02*** *05:39:12.7±3.2, 77°.95N×8°.66E, h20km±23km, ML3.8*
BER ***02*** *05:39:12.4±2.2, 77°.81N×8°.55E, h10km, MD2.3, ML3.4, ML3.8(NAO)*
ISC 02 05:39:11.8±0.6, 77°.94N±0°.07×7°.85E±0°.06, h10km, n44, σ2°.04/31, mb3.8/9, MS3.4/19, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.29**	**38**	Pg	**Pn**	**05 39 34.9**	**-0.9**
KBS				Lg	Lg	05 39 50.4	
KBS	**Kingsbay**	**1.29**	**38**	*e*P	**Pn**	**05 39 34.9**	**-0.9**
KBS				*e*Pg	**Pb**	**05 39 35.9**	**-0.2**
KBS				*e*S	**Sn**	**05 39 50.4**	**-2.7**
KBS				AML	AML	05 39 53.1	
	comp=Z,938nm,0.3s						
KBS	**Kingsbay**	**1.29**	**38**	*e*P	**Pn**	**05 39 34.9**	**-0.9**
	SNR=50						
KBS				*e*S	**Sn**	**05 39 50.4**	**-2.7**
	comp=Z,938nm,0.3s,SNR=50						
KBS				Lg	Lg	05 39 50.4	
SPA0	**Spitsbergen Ar**	**1.79**	**78**	Pg	**Pn**	**05 39 42.6**	**-0.1**
	baz=260,slow=12						
SPA0				Lg	Lg	05 40 04.5	
	baz=249,slow=28						
SPA0	**Spitsbergen Ar**	**1.79**	**78**	Pg	**Pn**	**05 39 42.6**	**-0.1**
	baz=260,slow=12						
SPA0				Lg	Lg	05 40 04.5	
	baz=249,slow=28						
SPA0	**Spitsbergen Ar**	**1.79**	**78**	Pg	**Pn**	**05 39 42.6**	**-0.1**
	baz=260,slow=12,SNR=739						
SPA0				Lg	Lg	05 40 04.6	
	baz=249,slow=23,SNR=0.9						
SPITS	**Spitsbergen Ar**	**1.79**	**78**	Pn	**Pn**	**05 39 42.6**	**-0.1**
	baz=246,slow=14,SNR=5627						
SPITS				Sn	**Sn**	**05 40 04.7**	**-0.7**
	baz=240,slow=20,SNR=11						
HSP	**Hornsund**	**1.92**	**115**	*e*P	**Pn**	**05 39 41.7**	**-2.8**
DAG	**Danmarks Havn**	**5.90**	**272**	*i* P	**Pn**	**05 40 36.2**	**-2.9**
DAG				*i* S	Sn	05 41 36.6	-10
JMIC	**Jan Mayen**	**8.20**	**220**	LR	LR	05 43 21.7	
	comp=Z,155nm,21.9s,baz=81,slow=31						
ARA0	**ARCESS Array S**	**9.71**	**141**	Pn	**Pn**	**05 41 28.7**	**-2.7**
	baz=333,slow=12						
ARA0				Sn	Sn	05 43 08.7	-12
	baz=346,slow=22						
ARA0	**ARCESS Array S**	**9.71**	**141**	Pn	**Pn**	**05 41 28.7**	**-2.7**
	baz=333,slow=12						
ARA0				Sn	Sn	05 43 08.7	-12
	baz=346,slow=22						
ARA0	**ARCESS Array S**	**9.71**	**141**	Pn	**Pn**	**05 41 28.7**	**-2.7**
	baz=333,slow=12,SNR=109						
ARCES	**ARCESS Array B**	**9.71**	**141**	Pn	**Pn**	**05 41 28.8**	**-2.6**
	comp=Z,1.8nm,0.3s,baz=325,slow=12,SNR=72						
ARCES				Sn	Sn	05 43 08.9	-11
	comp=Z,0.1nm,0.3s,baz=348,slow=19,SNR=3.4						
ARCES				LR	LR	05 45 08.6	
	comp=Z,95nm,20.8s,baz=157,slow=37						
SUMG	**Summit**	**12.58**	**269**	*i* P	**Pn**	**05 42 08.5**	**-2.4**
NOA	**NORSAR Array B**	**17.02**	**174**	LR	LR	05 48 36.4	
	comp=Z,56nm,21.5s,baz=5.0,slow=34						
FIA0	**FINESS Array S**	**17.57**	**150**	P	**Pn**	**05 43 13.7**	**-2.6**
	baz=0.2,slow=14						
FIA0	**FINESS Array S**	**17.57**	**150**	Pn	**Pn**	**05 43 13.7**	**-2.6**
	baz=0.2,slow=14						
FIA0	**FINESS Array S**	**17.57**	**150**	P	**Pn**	**05 43 13.7**	**-2.6**
	baz=0.2,slow=13,SNR=1.7						
FINES	**FINESS Array B**	**17.57**	**150**	P	**Pn**	**05 43 13.8**	**-2.5**
	comp=Z,0.4nm,0.3s,baz=2.6,slow=13,SNR=11						
FINES				LR	LR	05 50 04.3	
	comp=Z,47nm,18.0s,baz=49,slow=37						
HFS	**Hagfors**	**17.99**	**171**	P	**P**	**05 43 23.4**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=18,slow=20,SNR=4.4						
HFS				LR	LR	05 49 20.1	
	comp=Z,77nm,20.7s,baz=219,slow=34						
SFJD	**Kangerlussuaq**	**19.58**	**269**	LR	LR	05 50 57.2	
	comp=Z,126nm,21.9s,baz=32,slow=36						
RES	**Resolute Bay**	**21.54**	**315**	LR	LR	05 52 06.1	
	comp=Z,89nm,21.0s,baz=348,slow=36						
FRB	**Frobisher Bay**	**26.15**	**281**	LR	LR	05 54 54.8	
	comp=Z,102nm,19.1s,baz=35,slow=36						
VRAC	**Vranov**	**28.93**	**168**	LR	LR	05 55 47.5	
	comp=Z,32nm,21.4s,baz=349,slow=35						
GERES	**GERESS Array B**	**29.29**	**172**	LR	LR	05 56 24.2	
	comp=Z,46nm,18.2s,baz=147,slow=36						
BVAR	**Borovoye Array**	**33.10**	**101**	LR	LR	06 00 49.9	
	comp=Z,118nm,21.8s,baz=165,slow=39						
SCHQ	**Schefferville**	**33.95**	**272**	LR	LR	06 00 34.6	
	comp=Z,115nm,20.4s,baz=63,slow=38						
ZALV	**Zalesovo Beam**	**35.26**	**86**	LR	LR	06 05 19.1	
	comp=Z,34nm,18.6s,baz=340,slow=44						
ILAR	**Eielson Array**	**36.70**	**342**	P	**P**	**05 46 21.4**	**+3.2**
	comp=Z,0.7nm,0.8s,baz=1.0,slow=7.0,SNR=10						
ILAR				LR	LR	06 02 09.7	
	comp=Z,30nm,18.4s,baz=230,slow=37						
KBZ	**Khabaz**	**37.04**	**136**	LR	LR	06 02 02.5	
	comp=Z,59nm,18.6s,baz=109,slow=37						
KURBB	**Kurchatov Arra**	**37.06**	**94**	P	**P**	**05 46 22.5**	**+1.1**
	comp=Z,1.3nm,0.3s,baz=342,slow=8.8,SNR=9.1						
BRTR	**Keskin Array B**	**39.79**	**148**	P	**P**	**05 46 46.0**	**+1.3**
	comp=Z,1.5nm,0.8s,baz=348,slow=5.5,SNR=4.5						
BRTR				LR	LR	06 05 38.4	
	comp=Z,25nm,18.9s,baz=305,slow=40

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**Plate Boundary**	**0.60**	**225⇑**	*iP*	**Pn**	**06 38 08.4**	**-0.4**
PB01				*i* S	**Sn**	**06 38 22.9**	**-0.4**
PB01				AML	AML	06 38 23.6	
	comp=N,17μm,0.2s						
HMBC	**Humberstone**	**0.88**	**293⇑**	*iP*	**Pn**	**06 38 10.8**	**-0.1**
HMBC				*i* S	**Sn**	**06 38 27.1**	**0.0**
HMBC				AML	AML	06 38 28.5	
	comp=E,3μm,0.4s						
PB09	**Plate Boundary**	**1.19**	**190⇓**	*iP*	**Pn**	**06 38 14.2**	**+0.1**
PB09				*i* S	**Sn**	**06 38 33.2**	**+0.6**
PB09				AML	AML	06 38 36.8	
	comp=E,6μm,0.4s						
PB07	**Plate Boundary**	**1.36**	**216⇓**	*iP*	**Pn**	**06 38 16.4**	**+0.4**
PB07				*i* S	**Sn**	**06 38 36.9**	**+0.9**
PB07				AML	AML	06 38 38.8	
	comp=E,3μm,0.4s						
PSGC	**Pisagua**	**1.45**	**314⇑**	*iP*	**Pn**	**06 38 16.8**	**0.0**
PSGC				*e*S	**Sn**	**06 38 37.5**	**+0.1**
PSGC				AML	AML	06 38 43.8	
	comp=N,609nm,0.9s						
MNMC	**Minimini**	**1.57**	**340⇑**	*iP*	**Pn**	**06 38 18.6**	**+0.2**
MNMC				AML	AML	06 38 43.6	
	comp=E,2μm,0.2s						
LPAZ	**La Paz**	**4.39**	**11**	Pn	**Pn**	**06 38 55.8**	**+0.8**
	comp=E,1.7nm,0.3s,baz=177,slow=6.4,SNR=47						
SIV	**San Ignacio**	**8.85**	**60**	Pn	Pn	06 39 47.5	-7.0
	comp=E,0.8nm,0.3s,baz=229,slow=18,SNR=12						
TORD	**Torodi Ar. Bea**	**77.17**	**71**	P	**P**	**06 49 29.0**	**-1.2**
	comp=E,1.9nm,0.6s,baz=252,slow=5.4,SNR=23						
MKAR	**Makanchi Array**	**144.98**	**35**	PKPbc	**PKPdf**	**06 57 13.0**	**+0.8**
	comp=E,1.3nm,0.8s,baz=332,slow=3.0,SNR=7.3						

MAN 02 06:41:12,9°.91N×126°.11E,h11km,mb3.8,ML2.5,MS2.1, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.62**	**259**	*eP*	Pb	06 41 24.8	-0.2
SCPH				*e*S	Sg	06 41 31.8	-0.6
BUTP	**Butuan**	**1.05**	**207**	*eP*	Pb	06 41 31.4	-0.8
BUTP				*e*S	Sg	06 41 39.4	-6.5
BUKP	**Musuan**	**2.27**	**207**	*eP*	Pn	06 41 51.1	+1.6
BUKP				*e*S	Sn	06 42 02.8	-15

TRN 02 06:48:52.0,10°.32N×60°.02W,h79km,MD3.6,Trinidad

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBH	**Brigand Hill**	**1.04**	**279**	*eP*	Pn	06 49 11.0	-0.5
TBH	**Brigand Hill**	**1.04**	**279**	*e*	Pn	06 49 16.3	+4.8
TOSP	**Speyside**	**1.09**	**333**	*eP*	Pn	06 49 11.7	-0.4
TOSP				*e*S	Sn	06 49 27.4	+0.2
TPR	**Prospect**	**1.13**	**319**	*eP*	Pn	06 49 13.3	+0.6
TRN	**Trinidad (W)**	**1.39**	**284**	*eP*	Pn	06 49 16.9	+1.0
TCE	**Chacachacare**	**1.74**	**283**	*eP*	Pn	06 49 20.2	-0.3
GRW	**Mount Saint Ca**	**2.43**	**319**	*eP*	Pn	06 49 30.4	+0.7
SVB	**Belmont**	**3.17**	**338**	*eP*	Pn	06 49 40.2	+0.6
SVB				*e*S	Sn	06 50 14.9	-1.6
MCLT	**Moule a Chique**	**3.48**	**345**	*e*S	Sn	06 50 22.5	-1.6

IDC ***02*** *07:27:21.3±1.4, 2°.02N×126°.59E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.6/23, mbtmp3.8/6, Error ellipse: s-maj=104.5km s-min=18.6km az=68.0*
ISCJB ***02*** *07:27:26.1±1.0, 2°.2N±0°.1×126°.6E±0°.1, h47km, mb3.7/5, Error ellipse: s-maj=19.2km s-min=11.8km az=141.9*
DJA ***02*** *07:27:35.2±1.0, 1°.N±13°×12°6E±°, h10km, M4.5/8, mb4.9/3, mB5.4/2, MLv4.2/8, Mw(mB)4.8/2*
ISC 02 07:27:27.7±1.4,2°.0N±0°.1×126°.6E±0°.1,h47km,n14, σ2°.28/10,mb3.8/5,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.48**	**148**	P	Pn	07 28 01.9	+10
LBMI	**Labuha**	**2.81**	**161**	P	Pn	07 28 17.5	+7.3
KMSI	**Cibinong**	**2.98**	**241**	P	Pn	07 28 31.6	+19
GTOI	**Gorontalo**	**3.83**	**249**	P	**Pn**	**07 28 26.2**	**+2.0**
MRSI	**Marisa**	**4.89**	**252**	P	**Pn**	**07 28 39.2**	**+0.4**
NLAI	**Namlea**	**5.26**	**174**	P	**Pn**	**07 28 47.1**	**+3.2**
MSAI	**Masohi**	**5.83**	**156**	P	Pn	07 28 58.8	+7.0
AAI	**Ambon**	**5.91**	**164**	P	Pn	07 28 57.3	+4.5
	67nm,0.5s,2μm0.3nm						
FITZ	**Fitzroy Crossi**	**20.03**	**183**	P	**P**	**07 31 55.3**	**-1.5**
	1.1nm,0.3s,baz=7.1,slow=12,SNR=16						
WRA	**Warramunga Arr**	**23.13**	**161**	P	**P**	**07 32 28.8**	**-1.3**
	2.7nm,0.4s,baz=341,slow=10,SNR=33						
WRA				S	**S**	**07 36 33.9**	**-4.2**
	0.6nm,0.7s,baz=346,slow=17,SNR=3.8						
ASAR	**Alice Springs**	**26.52**	**165**	P	**P**	**07 33 00.5**	**-0.6**
	0.3nm,0.4s,baz=346,slow=11,SNR=13						
STKA	**Stephens Creek**	**36.61**	**158**	P	**P**	**07 34 29.9**	**+0.3**
	1.6nm,0.8s,baz=322,slow=16,SNR=3.0						
MKAR	**Makanchi Array**	**58.86**	**326**	P	**P**	**07 37 22.2**	**+0.4**
	0.2nm,0.3s,baz=119,slow=7.9,SNR=5.3						
KURBB	**Kurchatov Arra**	**63.08**	**328**	P	**P**	**07 37 50.5**	**+0.2**
	0.2nm,0.3s,baz=138,slow=5.7,SNR=6.4						

JMA 02 07:46:15.3±0.2,28°.71N×140°.09E,h485km,M3.7,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.45**	**130**	P	P	07 47 22.0	+0.4
CBIJ				*e*S	S	07 48 14.5	-0.9
BSO1	**Boso 1**	**5.97**	**7**	P	P	07 47 52.4	+2.5
JIE	**Ise**	**6.36**	**334**	P	P	07 47 55.5	+1.1
JKN2	**Miekihoku**	**6.40**	**330**	P	P	07 47 55.8	+1.0
JRY	**Ryogami san**	**7.36**	**352**	P	P	07 48 04.8	+0.3
JFM	**Mihama**	**7.64**	**334**	P	P	07 48 09.0	+1.6
JWT	**Wachi**	**7.67**	**330**	P	P	07 48 09.2	+1.5
JHO	**Hitachi**	**7.89**	**3**	P	P	07 48 11.6	+1.6

CSEM ***02*** *07:46:51.6, 39°.08N×27°.55E, h7km, MD2.5, After DDA*
DDA 02 07:46:51.6,39°.08N×27°.55E,h7km,MD2.5,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKHS	**Akhisar**	**0.29**	**135**	*iP*	Pg	07 46 57.4	+0.1
AKHS				*i* S	Sb	07 47 02.9	-1.3
AKHS	**Akhisar**	**0.29**	**135**	*iP*	Pg	07 46 57.4	+0.1
AKHS				*i* S	Sb	07 47 02.9	-1.3
BALY	**Balya**	**0.66**	**5**	*iP*	Pg	07 47 04.0	-0.4
BALY	**Balya**	**0.66**	**5**	*iP*	Pg	07 47 04.0	-0.4
DURS	**Dursunbey**	**0.88**	**54**	*iP*	Pg	07 47 08.2	-0.5
DURS	**Dursunbey**	**0.88**	**54**	*iP*	Pg	07 47 08.2	-0.5
DEMI	**Demirci**	**0.91**	**92**	*iP*	Pb	07 47 10.2	+0.4
DEMI				*i* S	Sb	07 47 22.0	-0.2
DEMI	**Demirci**	**0.91**	**92**	*iP*	Pb	07 47 10.2	+0.4
DEMI				*i* S	Sb	07 47 22.0	-0.2
MANT	**Manisa**	**0.98**	**127**	*iP*	Pg	07 47 10.2	-0.6
MANT				*i* S	Sn	07 47 26.6	+0.1
MANT	**Manisa**	**0.98**	**127**	*iP*	Pg	07 47 10.2	-0.6
MANT				*i* S	Sn	07 47 26.6	+0.1

ISCJB ***02*** *07:48:17.8±1.3, 7°.71S±0°.06×128°.30E±0°.09, h142km, mb3.5/2, Error ellipse: s-maj=14.0km s-min=6.7km az=22.0*
AUST ***02*** *07:48:18.0, 7°.49S×128°.54E, h200km*
IDC ***02*** *07:48:23.4±5.7, 7°.92S×127°.71E, h229km±61km, mb3.3/2, mb1 3.4/5, mb1mx3.1/20, mbtmp3.3/5, Error ellipse: s-maj=66.4km s-min=28.5km az=63.0*
ISC 02 07:48:15.5±1.0,7°.66S±0°.06×128°.2E±0°.1,h142km,n12, σ2°.26/14,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**4.43**	**242**	P	Pn	07 49 28.9	+7.5
	baz=4.8,SNR=15						
SOEI				S	Sn	07 50 22.8	+10
	baz=4.8,SNR=6.4						
TLE	**Tual**	**4.91**	**66**	P	Pn	07 49 30.9	+3.2
	baz=4.6,SNR=5.0						
TLE				S	**Sn**	**07 50 26.1**	**+2.2**
	baz=4.6,SNR=3.4						
MTN	**Manton Dam**	**5.89**	**151**	P	Pn	07 49 45.9	+5.1
	baz=5.9,SNR=12						
MTN				S	**Sn**	**07 50 49.7**	**+2.3**
	baz=5.9,SNR=7.7						
FAKI	**Fak Fak**	**6.18**	**41**	P	**Pn**	**07 49 44.9**	**+0.3**
	baz=5.9,SNR=6.9						
KDU	**Kakadu**	**6.52**	**140**	P	Pn	07 49 53.5	+4.4
	baz=6.5,SNR=98						
KDU				S	**Sn**	**07 51 01.6**	**-0.7**
	baz=6.5,SNR=12						
KNRA	**Kununurra**	**7.99**	**176**	P	Pn	07 50 13.1	+4.3
	baz=8.2,SNR=18						
KNRA				S	**Sn**	**07 51 38.2**	**+0.4**
	baz=8.2,SNR=13						
FITZ	**Fitzroy Crossi**	**10.68**	**193**	P	**Pn**	**07 50 47.3**	**+2.5**
	1.8nm,0.3s,baz=30,slow=13,SNR=56						
FITZ				S	**Sn**	**07 52 41.7**	**-1.2**
	0.9nm,0.3s,baz=283,slow=22,SNR=6.2						
FITZ	**Fitzroy Crossi**	**10.68**	**193**	P	**Pn**	**07 50 47.9**	**+3.1**
	baz=11,SNR=46						
WRA	**Warramunga Arr**	**13.58**	**155**	P	**P**	**07 51 25.4**	**-1.1**
	0.3nm,0.3s,baz=331,slow=12,SNR=17						
WRA				S	**Sn**	**07 53 48.9**	**-3.8**
	1.3nm,0.3s,baz=17,slow=13,SNR=7.0						
ASAR	**Alice Springs**	**16.83**	**162**	P	**Pn**	**07 52 04.0**	**+1.2**
	0.2nm,0.3s,baz=335,slow=10,SNR=18						
ASAR				S	**S**	**07 55 08.3**	**-2.3**
	0.3nm,0.3s,baz=320,slow=17,SNR=6.2						
MKAR	**Makanchi Array**	**67.82**	**328**	P	**P**	**07 58 56.9**	**-1.4**
	0.3nm,0.5s,baz=122,slow=8.2,SNR=8.9						
ZALV	**Zalesovo Beam**	**71.40**	**335**	P	**P**	**07 59 18.1**	**-1.9**
	0.7nm,0.4s,baz=138,slow=7.9,SNR=3.4						

ISCJB ***02*** *07:53:57.7±1.1, 12°.70N±0°.09×90°.36W±0°.05, h24km, mb3.8/2, Error ellipse: s-maj=12.9km s-min=6.4km az=8.1*
CASC ***02*** *07:53:58.7±1.4, 12°.78N×90°.27W, h10km±13km, MD3.7, ML3.6*
IDC ***02*** *07:54:05.3±10.0, 14°.45N×89°.62W, h0km, mb3.7/2, mb1 3.9/4, mb1mx3.6/23, mbtmp3.5/4, ML3.6/2, Error ellipse: s-maj=212.3km s-min=51.1km az=6.0*
ISC 02 07:53:59.4±1.5,12°.8N±0°.1×90°.26W±0°.06,h24km,n19, σ0°.94/22,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	**San Blas**	**1.24**	**30**	*eP*	**Pn**	**07 54 20.8**	**-0.7**
SBLS				*e*S	**Sb**	**07 54 38.0**	**-0.1**
RTR	**El Retiro**	**1.28**	**28**	*eP*	**Pn**	**07 54 21.5**	**-0.6**
BOQS	**Boqueron**	**1.36**	**44**	*eP*	**Pn**	**07 54 23.1**	**-0.1**
SNET	**Serv Nac Est T**	**1.36**	**47**	*eP*	**Pn**	**07 54 22.7**	**-0.4**
SNET				AML	AML	07 54 23.8	
	comp=Z,972nm,0.3s						
LFRS	**El Faro**	**1.45**	**54**	*eP*	**Pn**	**07 54 24.2**	**-0.1**
RBDL	**Robledal**	**1.46**	**23**	*eP*	**Pn**	**07 54 23.9**	**-0.6**
LFU	**La Fuente**	**1.49**	**49**	*eP*	**Pn**	**07 54 24.6**	**-0.2**
LBRS	**Las Brisas**	**1.54**	**51**	*eP*	**Pn**	**07 54 25.7**	**+0.3**
LBRS				*e*S	**Sb**	**07 54 47.2**	**+0.8**
FUG	**Fuego 3**	**1.77**	**342**	*eP*	**Pn**	**07 54 28.2**	**-0.6**
NBG	**Las Nubes**	**1.82**	**357**	*eP*	**Pn**	**07 54 30.4**	**+0.8**
JAT	**Jato**	**2.05**	**319**	*eP*	**Pn**	**07 54 32.4**	**0.0**
CAHU	**Cacacuatique**	**2.24**	**63**	*eP*	**Pn**	**07 54 35.0**	**-0.2**
MRL	**Marmol**	**2.36**	**14**	*eP*	**Pn**	**07 54 38.2**	**+1.3**
CNCH	**Conchagua**	**2.42**	**77**	*eP*	**Pn**	**07 54 37.4**	**-0.3**
COPN	**Copaltepe**	**3.63**	**99**	*eP*	**Pn**	**07 54 55.6**	**+1.4**
CMIG	**Matias Romero**	**6.20**	**315**	Pn	**Pn**	**07 55 30.4**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=136,slow=12,SNR=4.6						
CMIG				Sn	**Sn**	**07 56 39.1**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=31,slow=13,SNR=1.9						
TXAR	**Lajitas Array**	**20.67**	**325**	P	**P**	**07 58 37.2**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=141,slow=12,SNR=11						
NVAR	**Mina Array Bea**	**35.70**	**321**	P	**P**	**08 00 58.5**	**+2.2**
	comp=Z,1.1nm,0.7s,baz=130,slow=8.4,SNR=12						
YKA	**Yellowknife Ar**	**52.62**	**346**	P	**P**	**08 03 09.3**	**-1.9**
	comp=Z,0.3nm,0.3s,baz=150,slow=7.7,SNR=5.8						

NSSC ***02*** *07:54:43.5±1.6, 7°.45S×110°.50E, h0km±999km*
MOS ***02*** *07:54:57.8±0.9, 7°.65S×107°.50E, h33km, mb6.9/94, MS6.9/94, Error ellipse: s-maj=7.5km s-min=3.8km az=123.3*
IDC ***02*** *07:54:59.0±1.4, 7°.71S×107°.41E, h31km±9km, mb6.3/42, mb1 6.3/43, mb1mx6.3/43, mbtmp6.2/43, ML5.6/1, MS6.8/49, Ms1 6.8/49, ms1mx6.8/53, Error ellipse: s-maj=10.7km s-min=8.0km az=56.0*
BJI ***02*** *07:55:00.0, 7°.80S×107°.30E, h49km, mB7.1/58, mb6.5/61, Ms7.2/78, Ms7 7.0/72*
BGS ***02*** *07:55:00.1±2.6, 7°.78S×107°.30E, h40km, MS7.0*
ISCJB ***02*** *07:55:01.1±0.4, 7°.72S±0°.02×107°.46E±0°.02, h59km±3km, mb6.7/227, MS6.9/261, Error ellipse: s-maj=3.5km s-min=2.7km az=26.3*
NEIC ***02*** *07:55:01.1±0.1, 7°.78S×107°.30E, h46km, mb6.8/105, ME7.1, MS7.0/136, MW7.0, MW7.0, MW6.9(USGS), Error ellipse: s-maj=4.9km s-min=3.2km az=41.0, Moment Tensor Solution. s60 Moment tensor: Scale 10^19Nm; M_{rr}4.39; $M_{\theta\theta}$-2.29; $M_{\phi\phi}$-2.10; $M_{r\theta}$0.79; $M_{\theta\phi}$-1.26; $M_{\phi r}$-1.08; Best double couple: $M_0$4.20000×10^19 NP1:ϕ_s60.00000°, δ45.00000°, λ109.00000°. NP2:ϕ_s214.00000°, δ48.00000°, λ72.00000°. Principal axes: T 4.7100, Plg76.0000°, Azm51.0000°; N -1.2500, Plg13.0000°, Azm226.0000°; P -3.4600, Plg1.0000°, Azm316.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*
NEIC At least 81 people killed, more than 1,297 injured, 25,000 displaced and severe damage in western Java, including at least 30 people killed and 27 missing due to a landslide at Cikangkareng. Felt [VII] at Tasikmalaya; [VI] at Cianjur and Sukabumi; [V] at Bandung, Bekasi, Bogor and Purwakarta; [IV] at Cibinong, Cikarang, Ciputat, Cirebon, Depok, Jakarta, Pekalongan, Serpong, Tangerang and Yogyakarta; [III] at Karangkates, Klaten, Semarang, Sleman, Tretes and Wonosari. Felt widely on Java. A tsunami of about 1 m was recorded on a tide gauge at Pameungpeuk. Felt [IV] at Denpasar and [II] at Kuta, Bali. Also felt at Ubud. Felt at Jambi and Metro, Sumatra and on Sumbawa. Felt [V] in Singapore.
AUST ***02*** *07:55:02.8, 7°.88S×107°.39E, h60km*
BKK ***02*** *07:55:02.6±0.3, 8°S±2°×10°7E±°, h57km±3km, M7.5/66, mb6.6/66, mB7.3/66, MLv7.2/5, Mw(mB)7.2/66, Mwp7.5/51*
TEH ***02*** *07:55:02.0, 7°.77S×107°.32E, h50km, ML7.0*
GCMT ***02*** *07:55:07.5±0.1, 8°.12S×107°.33E, h53km, MW7.0, Moment Tensor Solution. s121,c326; s99,c276; Moment tensor: Scale 10^19Nm; M_{rr}3.82±.01; $M_{\theta\theta}$-1.68±.01; $M_{\phi\phi}$-2.14±.01; $M_{r\theta}$1.43±.01; $M_{\theta\phi}$-0.83±.01; $M_{\phi r}$-1.28±.01; Best double couple: $M_0$3.60000×10^19 NP1:ϕ_s198.00000°, δ50.00000°, λ65.00000°. NP2:ϕ_s54.00000°, δ46.00000°, λ117.00000°. Principal axes: T 4.4800, Plg71.0000°, Azm41.0000°; N -1.7100, Plg19.0000°, Azm214.0000°; P -2.7700, Plg2.0000°, Azm305.0000°; Data Used: II IU CN IC G. LP body wave period 50 sec. Mantle waves from 115 sta. Surface waves: sta=116, comp=268, per= 50.*
NEIC ***02*** *07:55:16.2±0.0, 7°.98S×107°.15E, h51km, Moment Tensor Solution. s209 Moment tensor: Scale 10^19Nm; M_{rr}4.07; $M_{\theta\theta}$-1.98; $M_{\phi\phi}$-2.09; $M_{r\theta}$0.46; $M_{\theta\phi}$-1.01; $M_{\phi r}$-1.67; Best double couple: $M_0$3.90000×10^19 NP1:ϕ_s206.00000°, δ55.00000°, λ73.00000°. NP2:ϕ_s54.00000°, δ39.00000°, λ112.00000°. Principal axes: T 4.5700, Plg73.0000°, Azm67.0000°; N -1.3900, Plg13.0000°, Azm215.0000°; P -3.1800, Plg8.0000°, Azm307.0000°;*
ISC 02 07:55:01.8±0.2,7°.74S±0°.02×107°.41E±0°.02,h58km±1km, h58km:pP-P,n2550,σ1°.55/2993,mb6.7/214,MS6.9/263, 478C-278D,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.44**	**66**	P	**Pn**	**07 55 15.2**	**+2.1**
	baz=0.5,SNR=1000						
LEM	**Lembang**	**0.93**	**13**	P	Pn	07 55 24.9	+5.8
	baz=1.1,SNR=1000						
UGM	**Wanagama**	**3.09**	**93**	*e*Pn	**Pn**	**07 55 50.5**	**+2.3**
UGM	**Wanagama**	**3.09**	**93**	P	**Pn**	**07 55 49.5**	**+1.3**
	baz=3.1,SNR=1000						
XMI	**Christmas Isla**	**3.19**	**212**	P	Pn	07 55 43.7	-5.9
	baz=3.1,SNR=1000						
XMI				S	Sn	07 56 13.9	-12
	baz=3.1,SNR=9.4						
XMIS	**Christmas Isla**	**3.23**	**212**	*e*Pn	Pn	07 55 44.1	-6.1
XMIS				*e*Sn	Sn	07 56 16.2	-11
XMIS	**Christmas Isla**	**3.23**	**212**	P	Pn	07 55 44.5	-5.7
	baz=3.1,SNR=978						
XMIS				S	Sn	07 56 14.2	-13
	baz=3.1,SNR=17						
PMBI	**Palembang**	**5.45**	**331**	P	Pn	07 56 27.4	+6.8
	baz=5.6,SNR=28						
MNAI	**Manna**	**5.55**	**307**	*e*Pn	**Pn**	**07 56 24.3**	**+2.3**
MNAI	**Manna**	**5.55**	**307**	P	**Pn**	**07 56 24.0**	**+2.0**
	baz=5.6,SNR=1000						
KSM	**Kuching**	**9.59**	**18**	*e*Pn	Pn	07 57 23.9	+6.7
KSM	**Kuching**	**9.59**	**18**	P	Pn	07 57 25.1	+7.8
KSM	**Kuching**	**9.59**	**18**	P	Pn	07 57 24.0	+6.7
	baz=9.8,SNR=97						
BTDF	**Bukit Timah Da**	**9.74**	**338**	P	Pn	07 57 26.7	+7.4
	baz=9.9,SNR=42						
BTDF				P	Pn	07 57 26.7	+7.4
	baz=9.9,SNR=42						
PPI	**Padang Panjang**	**10.06**	**316**	P	**Pn**	**07 57 24.2**	**+0.5**
	baz=10,SNR=120						
MYKOM	**Kota Tinggi**	**10.11**	**339**	P	Pn	07 57 29.5	+5.2
BKNI	**Bangkinang**	**10.22**	**321**	P	**Pn**	**07 57 28.2**	**+2.3**
	baz=10,SNR=132						
KGM	**Kluang**	**10.51**	**337**	P	Pn	07 57 35.3	+5.4
SBUM	**Sibu**	**11.20**	**26**	*e*Pn	Pn	07 57 46.9	+7.6
SBUM	**Sibu**	**11.20**	**26**	P	Pn	07 57 48.6	+9.3
COCO	**West Island**	**11.32**	**246**	Pn	**Pn**	**07 57 37.9**	**-3.0**
	47μm,0.9s,SNR=67						
BTM	**Bintulu**	**12.25**	**28**	P	**P**	**07 58 01.8**	**-2.3**
FRIM	**Kepong**	**12.33**	**332**	P	Pn	07 57 58.2	+3.4
KAPI	**Kappang**	**12.56**	**78**	Pn	**Pn**	**07 58 01.0**	**+3.1**
	SNR=356						
KAPI	**Kappang**	**12.56**	**78**	Pn	**Pn**	**07 57 59.0**	**+1.1**
KAPI				*e*Pn	P	07 58 00.6	-7.0
KAPI				Sn	**Sn**	**08 00 17.9**	**+1.7**
KAPI	**Kappang**	**12.56**	**78**	Pn	**Pn**	**07 57 59.0**	**+1.1**
	69nm,0.3s,baz=267,slow=11,SNR=200						
KAPI				Sn	**Sn**	**08 00 17.9**	**+1.7**
	27nm,0.3s,baz=241,slow=18,SNR=1.8						
KAPI				LR	LR	08 03 35.1	
	comp=Z,426μm,20.4s,baz=163,slow=41						
WSI	**Waingapu**	**12.88**	**100**	P	**Pn**	**07 58 01.1**	**-1.2**
	baz=13,SNR=6.8						
WSI				S	**Sn**	**08 00 20.4**	**-3.7**
	baz=13,SNR=3.6						
PSI	**Prapat**	**13.46**	**321**	Pn	Pn	07 58 06.8	-3.4
PSI				Sn	**S**	**08 01 03.1**	**+4.0**
PSI	**Prapat**	**13.46**	**321**	Pn	Pn	07 58 06.8	-3.4
	33nm,0.3s,baz=144,slow=9.6,SNR=66						
PSI				Sn	**S**	**08 01 03.1**	**+4.0**
	baz=273,slow=13,SNR=2.6						
PSI				LR	LR	08 04 14.4	
	comp=Z,413μm,18.1s,baz=134,slow=42						
PSI	**Prapat**	**13.46**	**321**	P	Pn	07 58 06.7	-3.6
	baz=14,SNR=79						
KTGM	**Kuala Trenggan**	**13.66**	**342**	P	**P**	**07 58 16.9**	**-3.0**
IPM	**Ipoh**	**13.70**	**332**	*e*Pn	**Pn**	**07 58 16.1**	**+2.6**
IPM	**Ipoh**	**13.70**	**332**	P	**Pn**	**07 58 16.5**	**+3.0**
KULM	**Kulim**	**14.59**	**332**	*e*Pn	**Pn**	**07 58 25.2**	**0.0**
KULM	**Kulim**	**14.59**	**332**	P	**Pn**	**07 58 26.7**	**+1.5**
MMRI	**Maumere**	**14.70**	**95**	*e*Pn	Pn	07 58 22.8	-3.9
TSM	**Tawau**	**15.87**	**41**	P	**P**	**07 58 48.1**	**+3.7**
KKM	**Kota Kinabalu**	**16.26**	**33**	*e*Pn	**P**	**07 58 51.5**	**+2.7**
	20μm,2.0s						
KKM				*e*S	**S**	**08 02 01.5**	**+5.0**
KKM	**Kota Kinabalu**	**16.26**	**33**	P	**P**	**07 58 52.3**	**+3.5**
KKM	**Kota Kinabalu**	**16.26**	**33**	P	**Pn**	**07 58 45.8**	**-1.0**
	baz=16,SNR=47						
KKM				S	S	08 02 05.6	+9.2
	baz=16,SNR=12						
SKLT	**Songkhla**	**16.28**	**335**	P	**Pn**	**07 58 46.9**	**0.0**
	773nm,1.9s,76μm						
SDKM	**Sandakan**	**16.49**	**37**	P	**P**	**07 58 54.5**	**+3.2**
LUWI	**Luwuk**	**16.69**	**67**	P	**P**	**07 58 56.0**	**+2.5**
	baz=17,SNR=144						
LUWI				S	S	08 02 22.2	+17
	baz=17,SNR=3.9						
SOEI	**Soe**	**16.78**	**98**	P	**Pn**	**07 58 51.1**	**-2.2**
	baz=17,SNR=314						
SOEI				S	**S**	**08 02 07.7**	**+0.6**
	baz=17,SNR=8.7						
MYLDM	**Lahad Datu**	**16.94**	**41**	P	P	07 59 04.0	+7.7
KDM	**Kudat**	**17.32**	**33**	P	**P**	**07 59 05.3**	**+4.8**
KRAB	**Krabi**	**17.84**	**333**	P	**Pn**	**07 59 05.2**	**-1.0**
	2μm,0.6s,17μm						
MBWA	**Marble Bar**	**17.88**	**140**	P	**P**	**07 59 03.1**	**-3.6**
	SNR=275						
MBWA	**Marble Bar**	**17.88**	**140**	*e*Pn	**P**	**07 59 02.6**	**-4.1**
	45μm,2.6s						
MBWA				*e*Sn	Sn	08 02 04.2	-21
PKDT	**Phuket**	**17.97**	**330**	P	**P**	**07 59 06.2**	**-1.4**
	848nm,1.4s,57μm						
SRIT	**Nakonsritamara**	**17.99**	**334**	P	**P**	**07 59 08.0**	**+0.1**
	2μm,1.4s,73μm						
SURA	**Surathani**	**18.49**	**335**	P	**Pn**	**07 59 14.3**	**+0.2**
	788nm,1.1s,67μm						
CMBY	**CAMPBELL BAY**	**19.88**	**317**	*e*P	**P**	**07 59 26.7**	**-1.9**
CMBY				AMB	AMB	08 00 01.6	
	comp=Z,2μm,0.4s						
FITZ	**Fitzroy Crossi**	**20.52**	**122**	*e*P	**P**	**07 59 35.5**	**+0.1**
FITZ				S	**S**	**08 03 21.0**	**-0.9**
FITZ	**Fitzroy Crossi**	**20.52**	**122**	P	**P**	**07 59 35.5**	**+0.1**
	comp=Z,5μm,0.8s,baz=298,slow=7.3,SNR=1088						
FITZ				S	**S**	**08 03 21.0**	**-0.9**
	comp=Z,352nm,0.6s,baz=164,slow=20,SNR=3.6						
FITZ				LR	LR	08 07 26.2	
	comp=Z,372μm,20.9s,baz=294,slow=36						
FITZ	**Fitzroy Crossi**	**20.52**	**122**	P	**P**	**07 59 35.5**	**+0.1**
	baz=20,SNR=1000						
PPR	**Puerto Princes**

SCPH	**Surigao**	**25.04**	**46**	*e*P	**P**	**08 00 22.1 +1.2**
KDU	**Kakadu**	**25.14**	**103**	P	**P**	**08 00 21.0 -0.8**
	baz=25,SNR=564					
FAKI	**Fak Fak**	**25.18**	**80**	P	**P**	**08 00 22.2 0.0**
	baz=25,SNR=88					
FAKI				S	**S**	**08 04 40.9 -2.7**
	baz=25,SNR=16					
TLE	**Tual**	**25.24**	**87**	P	**P**	**08 00 22.8 0.0**
	baz=25,SNR=86					
TLE				S	**S**	**08 04 40.4 -4.1**
	baz=25,SNR=6.9					
DGPR	**DIGLIPUR**	**25.27**	**325**	*e*P	**P**	**08 00 20.9 -2.0**
OCLP	**Ormoc**	**25.32**	**43**	*e*P	**P**	**08 00 26.3 +2.9**
TGY	**Tagaytay City**	**25.51**	**32**	P	**P**	**08 00 27.4 +2.2**
TGY				PcP	**PcP**	**08 03 57.8 +2.1**
TGY	**Tagaytay City**	**25.51**	**32**	P	**P**	**08 00 27.4 +2.2**
	comp=Z,990nm,0.7s,baz=200,slow=3.6,SNR=20					
TGY				PcP	**PcP**	**08 03 57.8 +2.1**
	comp=Z,880nm,0.9s,baz=249,slow=3.4,SNR=3.3					
TGY				LR	LR	08 12 32.1
	comp=Z,816nm,19.6s,baz=216,slow=41					
KLBR	**Kellerberrin**	**25.62**	**159**	P	**P**	**08 00 24.4 -1.7**
	baz=26,SNR=55					
PLP	**Palo**	**25.65**	**43**⇑	*e*P	**P**	**08 00 26.9 +0.5**
LQP	**Lukban**	**25.84**	**33**⇑	*e*P	**P**	**08 00 30.3 +2.0**
GQP	**Guinayangan**	**26.17**	**35**	*e*P	**P**	**08 00 33.7 +2.7**
CNP	**Catarman**	**26.43**	**41**	*e*P	**P**	**08 00 35.9 +2.4**
NWAO	**Narrogin (SRO)**	**26.67**	**161**	P	**P**	**08 00 35.0 -0.4**
	SNR=14					
NWAO	**Narrogin (SRO)**	**26.67**	**161**	*e*P	**P**	**08 00 34.1 -1.4**
	comp=Z,2μm,1.5s					
NWAO				S	**S**	**08 05 03.4 -3.4**
NWAO	**Narrogin (SRO)**	**26.67**	**161**	P	**P**	**08 00 34.0 -1.4**
	comp=Z,507nm,1.1s,baz=341,slow=8.1,SNR=44					
NWAO				S	**S**	**08 05 03.4 -3.4**
	comp=Z,94nm,0.7s,baz=96,slow=16,SNR=1.3					
NWAO				LR	LR	08 10 14.0
	comp=Z,451μm,21.6s,baz=320,slow=34					
QIZ	**Qiongzhong**	**26.70**	**5**	P	**P**	**08 00 37.8 +2.0**
QIZ				sP	**sP**	**08 00 55.3 -1.7**
QIZ				S	**S**	**08 05 09.0 +1.6**
QIZ				sS	**sS**	**08 05 31.5 -0.3**
QIZ				pmax	pmax	
	comp=Z,43μm,10.9s					
QIZ				LR	LR	
	comp=N,212μm,17.0s					
QIZ				LR	LR	
	comp=E,95μm,16.4s					
QIZ				LR	LR	
	comp=Z,319μm,27.6s					
QIZ	**Qiongzhong**	**26.70**	**5**	*e*P	**P**	**08 00 38.6 +2.8**
	comp=Z,409nm,0.9s					
QIZ				LR	LR	
	comp=Z,193μm,21.0s					
PCPH	**Palayan**	**26.82**	**30**‖	*e*P	**P**	**08 00 37.9 +1.0**
PVCP	**Virac**	**26.93**	**38**‖	*i*P	**P**	**08 00 39.9 +1.9**
BALP	**Baler**	**27.22**	**31**	*e*P	**P**	**08 00 42.2 +1.7**
BCPH	**Baguio City Da**	**27.28**	**29**⇑	*i*P	**P**	**08 00 41.8 +0.6**
CM31	**Chiang Mai Arr**	**27.33**	**342**	*e*P	**P**	**08 00 41.2 -0.3**
	comp=Z,481nm,0.9s					
CMAR	**Chiang Mai Arr**	**27.33**	**342**	P	**P**	**08 00 40.9 -0.7**
CMAR				PcP	**PcP**	**08 04 01.7 +1.8**
CMAR				S	**S**	**08 05 15.7 -1.7**
CMAR				ScP	**ScP**	**08 07 38.7 +3.1**
CMAR				PKiKP	**PKiKP**	**08 11 37.9 +0.5**
CMAR				*e*		08 33 07.8
CMAR	**Chiang Mai Arr**	**27.33**	**342**	P	**P**	**08 00 40.9 -0.7**
	comp=Z,147nm,0.7s,baz=178,slow=8.6,SNR=176					
CMAR				PcP	**PcP**	**08 04 01.7 +1.8**
	comp=Z,137nm,0.7s,baz=191,slow=3.3,SNR=9.6					
CMAR				S	**S**	**08 05 15.7 -1.7**
	comp=Z,17nm,0.9s,baz=193,slow=3.7,SNR=2.1					
CMAR				ScP	**ScP**	**08 07 38.7 +3.1**
	comp=Z,20nm,0.9s,baz=203,slow=3.6,SNR=2.6					
CMAR				PKiKP	**PKiKP**	**08 11 37.9 +0.5**
	comp=Z,24nm,1.0s,baz=228,slow=1.7,SNR=7.6					
CMAR				LR	LR	08 13 35.1
	comp=Z,363μm,18.2s,baz=167,slow=41					
CMAR				P3KPbc		08 33 07.8
	comp=Z,0.6nm,0.3s,baz=325,slow=4.7,SNR=3.5					
CHTO	**Chiang Mai**	**27.67**	**343**	*e*P	**P**	**08 00 44.5 0.0**
CHTO				*e*		08 04 02.9
CHTO				MLR	MLR	
	comp=Z,257μm,21.0s					
CHTO	**Chiang Mai**	**27.67**	**343**	P	**P**	**08 00 45.4 +0.8**
	SNR=111					
CHTO	**Chiang Mai**	**27.67**	**343**	*e*P	**P**	**08 00 44.5 0.0**
CHTO				*e*PcP	**PcP**	**08 04 02.9 +2.2**
CHTO				LR	LR	
	comp=Z,257μm,21.0s					
CHTO	**Chiang Mai**	**27.67**	**343**	P	**P**	**08 00 44.3 -0.2**
	comp=Z,324nm,1.5s,comp=Z,16μm					
PAYA	**Payao**	**27.93**	**345**	P	**P**	**08 00 47.5 +0.6**
	comp=Z,267nm,0.9s,comp=Z,2μm					
RKGY	**Rocky Gully**	**28.16**	**163**	P	**P**	**08 00 48.8 0.0**
	baz=28,SNR=11					
CAUP	**Cauayan**	**28.36**	**30**	*e*P	**P**	**08 00 52.2 +1.5**
SIPP	**Brgy, Tapao**	**28.57**	**27**‖	*e*P	P	08 00 57.7 +5.2
WRA	**Warramunga Arr**	**28.77**	**118**	P	**P**	**08 00 54.0 -0.4**
WRA				PcP	**PcP**	**08 04 04.8 +1.4**
WRA				S	**S**	**08 05 35.9 -4.3**
WRA				*e*		08 33 04.3
WRA				PKKKP		08 34 15.7
WRA	**Warramunga Arr**	**28.77**	**118**	P	**P**	**08 00 54.0 -0.4**
	comp=Z,746nm,0.8s,baz=289,slow=10,SNR=687					
WRA				PcP	**PcP**	**08 04 04.9 +1.4**
	comp=Z,171nm,0.6s,baz=302,slow=2.3,SNR=5.4					
WRA				S	**S**	**08 05 35.9 -4.3**
	comp=Z,38nm,0.8s,baz=290,slow=7.5,SNR=2.5					
WRA				LR	LR	08 11 59.5
	comp=Z,235μm,21.0s,baz=295,slow=36					
WRA				P3KPbc		08 33 04.3
	comp=Z,1.1nm,1.0s,baz=116,slow=4.4,SNR=2.8					
WRA				P3KP		08 34 15.7
	comp=Z,2.7nm,0.9s,baz=116,slow=3.9,SNR=2.4					
WRAB	**Tennant Creek**	**28.78**	**118**	P	**P**	**08 00 54.1 -0.3**
	comp=Z,7μm,0.6s					
WRAB	**Tennant Creek**	**28.78**	**118**	*e*P	**P**	**08 00 54.2 -0.3**
WRAB				pmax	pmax	
	comp=Z,3μm,3.0s					
WRAB				MLR	MLR	
	comp=Z,244μm,20.0s					
WRAB	**Tennant Creek**	**28.78**	**118**	*e*P	**P**	**08 00 54.2 -0.3**
	comp=Z,3μm,3.0s					
WRAB				LR	LR	
	comp=Z,244μm,20.0s					
APYP	**Conner**	**28.87**	**28**	*e*P	**P**	**08 00 56.8 +1.6**
PIP	**Pasuquin**	**28.99**	**27**⇑	*e*P	**P**	**08 00 58.4 +2.2**
ASAR	**Alice Springs**	**29.93**	**125**	P	**P**	**08 01 04.2 -0.6**
ASAR				PcP	**PcP**	**08 04 07.6 +1.2**
ASAR				S	**S**	**08 05 53.8 -4.6**
ASAR				*e*		08 33 04.7
ASAR				PKKKP		08 34 10.6
ASAR	**Alice Springs**	**29.93**	**125**	P	**P**	**08 01 04.2 -0.6**
	comp=Z,482nm,0.9s,baz=299,slow=7.4,SNR=691					
ASAR				PcP	**PcP**	**08 04 07.6 +1.2**
	comp=Z,255nm,0.9s,baz=310,slow=2.1,SNR=9.8					
ASAR				S	**S**	**08 05 53.8 -4.6**
	comp=Z,39nm,0.8s,baz=296,slow=13,SNR=2.3					
ASAR				LR	LR	08 12 49.2
	comp=Z,359μm,21.6s,baz=301,slow=36					
ASAR				P3KPbc		08 33 04.7
	comp=Z,6.2nm,0.7s,baz=116,slow=4.2,SNR=28					
ASAR				P3KP		08 34 10.6
	comp=Z,3.8nm,1.0s,baz=90,slow=2.8,SNR=2.9					
AS31	**Alice Springs**	**29.93**	**125**	*e*P	**P**	**08 01 04.7 -0.1**
FORT	**Forrest**	**29.98**	**143**	*e*P	**P**	**08 01 04.7 -0.2**
	comp=Z,1μm,0.7s					
FORT	**Forrest**	**29.98**	**143**	P	**P**	**08 01 04.8 -0.2**
	baz=30,SNR=185					
PALK	**Pallekele**	**30.52**	**299**	P	P	08 01 15.0 +5.0
	SNR=61					
PALK	**Pallekele**	**30.52**	**299**	*e*P	P	08 01 14.2 +4.2
	comp=Z,3μm,1.4s					
HKC	**Hong Kong Obse**	**30.58**	**12**⇑	*i*P	**P**	**08 01 11.0 +0.7**
PALU	**Palau**	**30.86**	**62**	P	**P**	**08 01 12.9 -0.1**
	baz=31,SNR=24					
PALU				S	**S**	**08 06 13.3 +0.3**
	baz=31,SNR=5.6					
GZH	**Guangzhou**	**31.18**	**11**	P	P	08 01 22.4 +6.9
GZH				S	S	08 06 28.1 +10
GZH				pmax	pmax	
	comp=Z,54μm,8.6s					
GZH				LR	LR	
	comp=N,105μm,15.5s					
GZH				LR	LR	
	comp=E,211μm,17.8s					
GZH				LR	LR	
	comp=Z,603μm,25.9s					
KMI	**Kunming**	**32.98**	**352**	P	**P**	**08 01 33.0 +1.4**
KMI				pP	**pP**	**08 01 47.4 +1.3**
KMI				sP	**sP**	**08 01 55.2 +2.3**
KMI				PP	**PP**	**08 02 47.4 +0.3**
KMI				PcP	**PcP**	**08 04 16.9 +2.2**
KMI				S	**S**	**08 06 50.0 +3.9**
KMI				sS	**sS**	**08 07 13.9 +3.2**
KMI				ScP	**ScP**	**08 07 56.6 +2.5**
KMI				SS	**SnSn**	**08 08 53.7 +5.0**
KMI				pmax	pmax	
	comp=Z,260nm,1.3s					
KMI				pmax	pmax	
	comp=Z,16μm,10.1s					
KMI				LR	LR	
	comp=N,253μm,15.7s					
KMI				LR	LR	
	comp=E,200μm,17.4s					
KMI				LR	LR	
	comp=Z,403μm,14.6s					
TWG	**Pinlang**	**33.18**	**23**	*e*P	P	08 01 36.8 +3.6
	comp=Z,1μm,0.6s					
TPUB	**Ta-pu**	**33.44**	**22**	*e*P	**P**	**08 01 37.1 +1.6**
	comp=Z,548nm,0.9s					
TPUB				*e*PcP	**PcP**	**08 04 16.6 +0.9**
YULB	**Yu-li**	**33.78**	**23**	*e*P	**P**	**08 01 39.7 +1.3**
	comp=Z,443nm,0.8s					
YULB				*e*PcP	**PcP**	**08 04 17.1 +0.4**
YULB				*e*S	**S**	**08 06 57.9 -0.4**
YULB				*e*ScP	**ScP**	**08 07 59.9 +3.1**
GYA	**Guiyang**	**34.00**	**359**⇑	*i*P	P	08 01 43.7 +3.4
GYA				pP	pP	08 01 57.9 +3.0
GYA				PP	**PP**	**08 03 01.0 +2.7**
GYA				PcP	**PcP**	**08 04 20.4 +3.0**
GYA				S	**S**	**08 07 01.2 -0.5**
GYA				ScP	**ScP**	**08 08 01.0 +3.5**
GYA				pmax	pmax	
	comp=Z,250nm,0.8s					
GYA				pmax	pmax	
	comp=Z,22μm,14.9s					
GYA				LR	LR	
	comp=N,189μm,14.0s					
GYA				LR	LR	
	comp=E,215μm,18.9s					
GYA				LR	LR	
	comp=Z,212μm,15.3s					
SSLB	**Suanglung**	**34.01**	**23**	*e*P	**P**	**08 01 42.6 +2.2**
	comp=Z,802nm,0.8s					
SSLB				*e*PcP	**PcP**	**08 04 19.1 +1.7**
SSLB				*e*S	**S**	**08 07 06.0 +4.2**
SSLB				*e*ScP	**ScP**	**08 07 58.1 +0.6**
QZH	**Quanzhou**	**34.26**	**18**⇑	*i*P	**P**	**08 01 41.4 -1.1**
QZH				PP	**PP**	**08 03 03.5 +2.4**
QZH				PcP	**PcP**	**08 04 18.0 0.0**
QZH				S	**S**	**08 07 02.4 -3.1**
QZH				pmax	pmax	
	comp=Z,2μm,1.8s					
QZH				pmax	pmax	
	comp=Z,43μm,6.8s					
QZH				LR	LR	
	comp=N,317μm,20.9s					
QZH				LR	LR	
	comp=E,76μm,14.6s					
QZH				LR	LR	
	comp=Z,718μm,27.4s					
TRD	**Trivandrum**	**34.37**	**297**	*e*P	**P**	**08 01 43.1 -0.5**
TRD				AMB	AMB	08 01 48.8
	comp=Z,3μm,1.5s					
NACB	**Ninganchiao**	**34.60**	**23**	*e*P	**P**	**08 01 47.0 +1.5**
	comp=Z,425nm,0.9s					
NACB				*e*pP	**pP**	**08 01 58.7 -1.3**
DGAR	**Diego Garcia**	**34.65**	**268**	P	**P**	**08 01 48.2 +2.1**
	comp=Z,13μm,1.1s,SNR=21					
DGAR	**Diego Garcia**	**34.65**	**268**	*e*P	**P**	**08 01 47.9 +1.9**
DGAR				pmax	pmax	
	comp=Z,4μm,1.3s					
DGAR				MLR	MLR	
	comp=Z,352μm,22.0s					
DGAR	**Diego Garcia**	**34.65**	**268**	P	**P**	**08 01 49.1 +3.1**
	SNR=17					
DGAR	**Diego Garcia**	**34.65**	**268**	*e*P	**P**	**08 01 47.9 +1.9**
	comp=Z,4μm,1.3s					
DGAR				LR	LR	
	comp=Z,352μm,22.0s					
VIS	**Vishakhapatnam**	**34.72**	**317**	*e*P	**P**	**08 01 46.9 +0.3**
VIS				AMB	AMB	08 01 52.7
	comp=Z,1μm,0.4s					
VIS				*i* S	**S**	**08 07 12.6 -0.3**
IMP	**Imphal**	**34.89**	**338**	*ex*	**P**	**08 01 48.0 0.0**
YHNB	**Yeheng**	**34.97**	**23**	*e*P	**P**	**08 01 50.6 +1.9**
	comp=Z,384nm,0.7s					
YHNB				*e*S	**S**	**08 07 17.5 +0.9**
YHNB				LR	LR	
	comp=Z,152μm,22.0s					
KAAM	**Kaadhehdhoo**	**35.28**	**282**	P	P	08 01 55.4 +3.9
	baz=35,SNR=59					
KAAM				S	S	08 07 28.5 +6.9
	baz=35,SNR=4.7					
TATO	**Taipei**	**35.29**	**22**	P	P	08 01 56.1 +4.8
	SNR=11					
TATO	**Taipei**	**35.29**	**22**	*e*P	**P**	**08 01 52.8 +1.5**
	comp=Z,862nm,1.0s					
TATO				LR	LR	
	comp=Z,144μm,22.0s					
COEN	**Coen**	**35.63**	**103**	*e*P	**P**	**08 01 54.4 -0.2**
	comp=Z,118nm,1.4s					
COEN	**Coen**	**35.63**	**103**	P	**P**	**08 01 54.2 -0.3**
	baz=36,SNR=977					
COEN				S	**S**	**08 07 26.4 -0.6**
	baz=36,SNR=9.0					
SHL	**Shillong**	**36.39**	**336**⇑	*i*P	**P**	**08 02 01.0 0.0**
SHL				*i* x	x	08 04 30.0
SHL				*i* x	x	08 07 30.0
BBOO	**Buckleboo**	**36.44**	**137**	*e*P	**P**	**08 02 00.7 -0.5**
	comp=Z,27μm,1.3s					
BBOO	**Buckleboo**	**36.44**	**137**	P	**P**	**08 02 00.8 -0.5**
	baz=36,SNR=450					
MTSU	**Mount Surprise**	**37.35**	**110**	P	**P**	**08 02 10.2 +1.0**
	baz=37,SNR=1000					
BOK	**Bokaro**	**37.74**	**327**	*e*P	**P**	**08 02 12.1 -0.2**
BOK				AMB	AMB	08 02 18.8
	comp=Z,680nm,0.0s					
MNCY	**Minicoy**	**37.77**	**294**	*ex*	**P**	**08 02 13.0 +0.3**
MNCY				*ex*	x	08 08 54.0
ENH	**Enshi**	**37.84**	**3**	*e*P	**P**	**08 02 13.8 +0.8**
	comp=Z,315nm,0.8s					
ENH				*e*PcP	**PcP**	**08 04 29.2 +0.6**
HYB	**Hyderabad**	**37.92**	**311**⇑	*i*P	**P**	**08 02 13.0 -0.9**
	comp=Z,660nm,1.0s					
HYB				*e*PP	**PP**	**08 03 38.0 -3.6**
HYB				*e*S	**S**	**08 08 02.0 +0.2**
HYB				LR	LR	08 16 00.0
	comp=Z,51nm,18.0s					
HYB	**Hyderabad**	**37.92**	**311**	*e*P	**P**	**08 02 15.3 +1.4**
CD2	**Chengdu**	**38.58**	**355**⇑	*i*P	**P**	**08 02 18.8 -0.5**
CD2				sP	**sP**	**08 02 42.5 +1.7**
CD2				PP	**PnPn**	**08 03 54.4 +3.2**
CD2				S	**S**	**08 08 11.0 -0.5**
CD2				sS	**sS**	**08 08 40.3 +3.9**
CD2				SS	**SS**	**08 10 57.5 -6.1**
CD2				pmax	pmax	
	comp=Z,670nm,1.1s					
CD2				pmax	pmax	
	comp=Z,28μm,11.8s					
CD2				LR	LR	
	comp=N,344μm,16.7s					
CD2				LR	LR	
	comp=Z,287μm,14.3s					
WHN	**Wuhan**	**38.64**	**10**⇑	P	**P**	**08 02 21.0 +1.3**
WHN				pP	**pP**	**08 02 36.7 +2.3**
WHN				S	**S**	**08 08 14.6 +2.4**
WHN				LR	LR	
	comp=N,86μm,14.2s					
WHN				LR	LR	
	comp=E,223μm,12.6s					
WHN				LR	LR	
	comp=Z,481μm,25.6s					
PMG	**Port Moresby**	**39.33**	**95**	P	**P**	**08 02 25.3 -0.5**
PMG				*e*P	**P**	**08 02 26.1 +0.4**
PMG				S	**S**	**08 08 21.2 -1.9**
PMG	**Port Moresby**	**39.33**	**95**	P	**P**	**08 02 25.3 -0.5**
	comp=Z,1μm,0.9s,baz=270,slow=4.8,SNR=109					
PMG				S	**S**	**08 08 21.2 -1.9**
	comp=Z,96nm,1.1s,baz=200,slow=12,SNR=5.1					
PMG				LR	LR	08 21 31.4
	comp=Z,53μm,21.1s,baz=258,slow=40					
ODAN	**Odare**	**39.49**	**331**	*e*P	**P**	**08 02 26.4 -0.8**
CTA	**Charters Tower**	**39.54**	**112**	P	**P**	**08 02 27.4 -0.1**
CTA				PcP	**PcP**	**08 04 35.0 +0.7**
CTA				S	**S**	**08 08 26.9 +0.5**
CTA	**Charters Tower**	**39.54**	**112**	P	**P**	**08 02 27.4 -0.1**
	comp=Z,2μm,1.0s,baz=282,slow=11,SNR=394					
CTA				PcP	**PcP**	**08 04 35.0 +0.7**
	comp=Z,206nm,0.6s,baz=270,slow=4.7,SNR=6.5					
CTA				S	**S**	**08 08 26.9 +0.5**
	comp=Z,38nm,1.0s,baz=75,slow=18,SNR=5.9					
CTA				LR	LR	08 19 06.0
	comp=Z,264μm,21.2s,baz=283,slow=37					
CTAO	**Charters Tower**	**39.54**	**112**	*e*P	**P**	**08 02 28.7 +1.1**
CTAO				pmax	pmax	
	comp=Z,3μm,1.0s					
CTAO				MLR	MLR	
	comp=Z,337μm,22.0s					
CTAO	**Charters Tower**	**39.54**	**112**	*e*P	**P**	**08 02 28.7 +1.1**
	comp=Z,3μm,1.0s					
CTAO				LR	LR	
	comp=Z,337μm,22.0s					
TAPN	**Taplejung**	**39.76**	**332**	*e*P	**P**	**08 02 29.0 -0.5**
STKA	**Stephens Creek**	**39.85**	**132**	P	**P**	**08 02 30.1 +0.1**
STKA				*e*P	**P**	**08 02 30.3 +0.4**
STKA				PcP	**PcP**	**08 04 36.1 +1.1**
STKA				S	**S**	**08 08 27.7 -2.9**
STKA	**Stephens Creek**	**39.85**	**132**	P	**P**	**08 02 30.1 +0.1**
	comp=Z,1μm,0.4s,baz=304,slow=7.8,SNR=1030					
STKA				PcP	**PcP**	**08 04 36.1 +1.1**
	comp=Z,691nm,0.8s,baz=321,slow=3.6,SNR=2.9					
STKA				S	**S**	**08 08 27.7 -2.9**
	comp=Z,33nm,0.9s,baz=314,slow=17,SNR=1.9					
STKA				LR	LR	08 19 42.2
	comp=Z,350μm,20.4s,baz=292,slow=37					
STKA	**Stephens Creek**	**39.85**	**132**	P	**P**	**08 02 30.0 +0.1**
	baz=40,SNR=1000					
JOW	**Kunigami**	**39.88**	**30**	*e*P	**P**	**08 02 32.0 +1.8**
	comp=Z,1μm,1.3s					
RAMN	**Ramite**	**39.95**	**330**	*e*P	**P**	**08 02 30.3 -0.7**
NGP	**Nagpur**	**40.00**	**316**	*e*P	**P**	**08 02 32.1 +0.9**
NGP				AMB	AMB	08 02 36.4
	comp=Z,1μm,0.7s					
NGP				*e*S	**S**	**08 08 32.5 -0.4**
LATR	**Latur**	**40.02**	**311**	*e*P	**P**	**08 02 30.4 -1.1**
LATR				*ex*	x	08 08 23.9
MANU	**Manus Island**	**40.19**	**84**	P	**P**	**08 02 34.5 +1.5**
	baz=40,SNR=19					
LSA	**Lhasa**	**40.37**	**338**	P	**P**	**08 02 35.6 +0.8**
LSA				S	S	08 08 32.7 -6.5
LSA				pmax	pmax	
	comp=Z,190nm,0.9s					
LSA				pmax	pmax	
	comp=Z,20μm,13.6s					
LSA				LR	LR	
	comp=N,138μm,20.7s					
LSA				LR	LR	
	comp=E,118μm,19.6s					
LSA				LR	LR	
	comp=Z,266μm,19.3s					
LSA	**Lhasa**	**40.37**	**338**	*e*P	**P**	**08 02 35.1 +0.3**
LSA				*e*		08 04 39.8
LSA				pmax	pmax	
	comp=Z,486nm,0.8s					
LSA				MLR	MLR	
	comp=Z,166μm,22.0s					
LSA	**Lhasa**	**40.37**	**338**	*e*P	**P**	**08 02 35.1 +0.3**
	comp=Z,486nm,0.8s					
LSA				*e*PcP	**PcP**	**08 04 39.8 +2.6**
LSA				LR	LR	
	comp=Z,166μm,22.0s					
GOA	**Goa**	**40.49**	**305**	*e*P	**P**	**08 02 35.8 +0.4**
GOA				AMB	AMB	08 02 38.7
	comp=Z,3μm,3.5s					
JIRN	**Jiri**	**40.74**	**331**	*e*P	**P**	**08 02 37.0 -0.7**
JBP	**Jabalpur**	**40.78**	**320**⇑	*i*P	**P**	**08 02 37.6 -0.1**
JBP				*ex*	x	08 08 22.5
SSE	**Sheshan**	**40.80**	**18**	P	**P**	**08 02 39.2 +1.5**
SSE				S	S	08 08 50.8 +6.2
SSE				sS	**sS**	**08 09 13.1 +3.4**
SSE				pmax	pmax	
	comp=Z,580nm,1.0s					
SSE				pmax	pmax	
	comp=Z,32μm,10.4s					
SSE				LR	LR	
	comp=N,136μm,26.1s					
SSE				LR	LR	
	comp=E,124μm,26.1s					
SSE				LR	LR	
	comp=Z,193μm,25.6s					
NJ2	**Nanjing**	**41.04**	**15**	*e*P	**P**	**08 02 41.4 +1.7**
NJ2				pP	**pP**	**08 02 56.0 +1.5**
NJ2				sP	**sP**	**08 03 02.0 +0.8**
NJ2				S	**S**	**08 08 51.3 +3.1**
NJ2				sS	**sS**	**08 09 17.0 +3.8**
NJ2				LR	LR	
	comp=N,66μm,23.6s					
NJ2				LR	LR	
	comp=E,35μm,14.6s					
NJ2				LR	LR	
	comp=Z,75μm,22.8s					
PKI	**Pulchoki**	**41.05**	**330**	*e*P	**P**	**08 02 39.0 -1.3**
PKIN	**Phulchoki**	**41.06**	**330**	*e*P	**P**	**08 02 39.3 -1.0**
GUN	**Gumba**	**41.10**	**330**	*e*P	**P**	**08 02 39.9 -0.8**
AKL	**Akola**	**41.12**	**314**	*ex*	**P**	**08 02 42.0 +1.4**
AKL				*i* S	**S**	**08 08 48.9 -0.8**
KAD	**Karad**	**41.20**	**307**	*e*S	**S**	**08 08 51.1 0.0**
DMN	**Daman**	**41.24**	**329**	*e*P	**P**	**08 02 40.2 -1.5**
KKN	**Kakani**	**41.30**	**330**	*e*P	**P**	**08 02 41.2 -0.9**
XAN	**Xi'an**	**41.57**	**2**	P	**P**	**08 02 44.0 0.0**
XAN				pP	**pP**	**08 02 58.9 0.0**
XAN				S	**S**	**08 08 57.7 +1.6**
XAN				SS	SS	08 11 54.6 -8.4
XAN				pmax	pmax	
	comp=Z,190nm,0.7s					
XAN				pmax	pmax	
	comp=Z,8μm,14.5s					
XAN				LR	LR	
	comp=N,135μm,18.5s					
XAN				LR	LR	
	comp=E,54μm,18.1s					
XAN				LR	LR	
	comp=Z,71μm,18.1s					
KOLN	**Koldanda**	**42.15**	**328**	*e*P	**P**	**08 02 47.8 -1.3**
POO	**Poona**	**42.16**	**309**⇑	*i*P	**P**	**08 02 49.0 -0.1**
	comp=Z,4μm,2.0s					
POO				*e*P	**P**	**08 02 50.5 +1.4**
POO				*i* PP	**PP**	**08 04 26.0 -1.7**
POO				*i* PPP	PPP	08 04 52.0
BHPL	**Bhopal**	**42.52**	**317**	*e*P	**P**	**08 02 53.1 +1.2**
BHPL				AMB	AMB	08 02 57.1
	comp=Z,1μm,0.3s					
BHPL	**Bhopal**	**42.52**	**317**	*e*P	**S**	**08 09 07.3 -3.0**
DANN	**Dangsing**	**42.53**	**328**	*e*P	**P**	**08 02 50.8 -1.5**
ARPS	**Mount Arapiles**	**42.60**	**138**	P	**P**	**08 02 52.8 +0.4**
	baz=43,SNR=116					
PYUN	**Piuthan**	**42.73**	**327**	*e*P	**P**	**08 02 53.2 -0.6**
CMSA	**Cobar Meteorol**	**42.79**	**129**	P	**P**	**08 02 54.8 +0.8**
	baz=43,SNR=1000					
GUMO	**Guam**	**42.80**	**60**	*e*P	**P**	**08 02 53.4 -0.9**
	comp=Z,1μm,0.7s					
GUMO				LR	LR	
	comp=Z,58μm,22.0s					
RMQ	**Roma**	**43.44**	**121**	P	**P**	**08 03 01.6 +2.2**
	baz=43,SNR=166					
LZH	**Lanzhou**	**43.72**	**356**⇑	P	**P**	**08 03 02.6 +1.0**
LZH				pP	**pP**	**08 03 16.0 -0.5**
LZH				sP	**sP**	**08 03 21.9 -1.3**
LZH				PP	**PcP**	**08 04 47.0 -0.8**
LZH				ScP	**ScP**	**08 08 33.0 -1.6**
LZH				PcS	**PcS**	**08 08 38.9 -1.9**
LZH				S	**S**	**08 09 31.0 +3.2**
LZH				sS	**sS**	**08 09 53.2 +0.2**
LZH				SS	**SS**	**08 12 39.5 -5.8**
LZH				ScS	**ScS**	**08 12 54.1 -1.8**
LZH				pmax

LZH				LR	LR		
	comp=Z,275μm,16.0s						
RABL	**Rabaul**	**44.63**	**88**	P	P	08 03 17.8	+8.7
	baz=45,SNR=3.0						
TIA	**Tai'an**	**44.66**	**11**	⇑P	**P**	**08 03 08.7**	**-0.2**
TIA				PP	**PP**	**08 04 52.6**	**-1.6**
TIA				PcS	**PcS**	**08 08 46.9**	**+2.6**
TIA				S	**S**	**08 09 37.4**	**-3.7**
TIA				ScS	**ScS**	**08 12 59.0**	**-2.5**
TIA				pmax	pmax		
	comp=Z,730nm,0.6s						
TIA				pmax	pmax		
	comp=Z,35μm,7.5s						
TIA				LR	LR		
	comp=N,133μm,22.6s						
TIA				LR	LR		
	comp=E,97μm,26.1s						
TIA				LR	LR		
	comp=Z,199μm,27.6s						
EIDS	**Eidsvold**	**45.13**	**118**	*e*P	**P**	**08 03 14.1**	**+1.1**
	comp=Z,10μm,0.9s						
EIDS	**Eidsvold**	**45.13**	**118**	P	**P**	**08 03 14.8**	**+1.8**
	baz=45,SNR=164						
PTH	**Pithoragarh**	**45.38**	**326**	*e*P	P	08 03 07.8	-7.2
PTH				*e*S	S	08 09 43.8	-8.3
TIY	**Taiyuan**	**45.45**	**6**	*e*P	**P**	**08 03 17.2**	**+1.9**
TIY				S	**S**	**08 09 52.3**	**-0.5**
TIY				SS	**ScS**	**08 13 06.1**	**-0.6**
TIY				pmax	pmax		
	comp=Z,1μm,0.7s						
TIY				pmax	pmax		
	comp=Z,23μm,5.0s						
TIY				LR	LR		
	comp=N,127μm,16.2s						
TIY				LR	LR		
	comp=E,28μm,14.0s						
TIY				LR	LR		
	comp=Z,125μm,16.2s						
TOO	**Toolangi**	**45.49**	**137**	P	**P**	**08 03 17.4**	**+1.7**
	baz=46,SNR=89						
YNG	**Young**	**46.03**	**131**	P	**P**	**08 03 20.7**	**+0.8**
	baz=46,SNR=976						
JNU	**Nakatsue**	**46.36**	**28**	P	**P**	**08 03 22.2**	**-0.3**
JNU				*e*P	**P**	**08 03 23.0**	**+0.6**
JNU				PcP	**PcP**	**08 04 57.8**	**+1.0**
JNU				ScP	**ScP**	**08 08 46.4**	**+1.0**
JNU				S	S	08 09 59.6	-6.2
JNU	**Nakatsue**	**46.36**	**28**	P	**P**	**08 03 22.2**	**-0.3**
	comp=Z,107nm,0.6s,baz=188,slow=3.8,SNR=41						
JNU				PcP	**PcP**	**08 04 57.8**	**+1.0**
	comp=Z,177nm,0.9s,baz=223,slow=2.0,SNR=2.5						
JNU				ScP	**ScP**	**08 08 46.4**	**+1.0**
	comp=Z,79nm,1.0s,baz=248,slow=3.5,SNR=5.4						
JNU				S	S	08 09 59.6	-6.2
	comp=Z,19nm,0.9s,baz=339,slow=16,SNR=8.4						
JNU				LR	LR	08 23 49.8	
	comp=Z,43μm,20.7s,baz=198,slow=37						
NDI	**New Delhi**	**46.47**	**322**	*ex*	x	08 03 42.6	
NDI				*ex*	S	08 10 00.0	-7.5
CAN	**Canberra**	**46.91**	**132**	*e*P	**P**	**08 03 27.8**	**+0.9**
CAN				pmax	pmax		
	comp=Z,697nm,0.8s						
CAN				MLR	MLR		
	comp=Z,260μm,22.0s						
CAN	**Canberra**	**46.91**	**132**	*e*P	**P**	**08 03 27.8**	**+0.9**
	comp=Z,698nm,0.8s						
CAN				LR	LR		
	comp=Z,260μm,22.0s						
ARMA	**Armidale**	**47.09**	**125**	*e*P	**P**	**08 03 30.2**	**+1.8**
	comp=Z,38nm,0.8s						
ARMA	**Armidale**	**47.09**	**125**	P	**P**	**08 03 30.3**	**+1.8**
	baz=47,SNR=230						
DDI	**Dehra Dun**	**47.18**	**325**	*e*P	**P**	**08 03 29.3**	**+0.3**
DDI				AMB	AMB	08 03 30.5	
	comp=Z,4μm,2.0s						
DDI				*ex*	x	08 10 14.0	
CNB	**Canberra Magne**	**47.18**	**132**	P	**P**	**08 03 29.8**	**+0.8**
	baz=47,SNR=155						
GTA	**Gaotai**	**47.43**	**352**	⇑P	**P**	**08 03 31.4**	**+0.6**
GTA				pP	**pP**	**08 03 44.2**	**-1.7**
GTA				sP	**sP**	**08 03 49.3**	**-3.3**
GTA				PcP	**PcP**	**08 05 04.4**	**+3.8**
GTA				ScP	**ScP**	**08 08 51.6**	**+1.7**
GTA				PcS	**PcS**	**08 08 56.0**	**0.0**
GTA				S	**S**	**08 10 21.9**	**+0.7**
GTA				sS	sS	08 10 41.1	-5.5
GTA				ScS	**ScS**	**08 13 18.7**	**-1.0**
GTA				SS	**SS**	**08 13 44.8**	**-5.0**
GTA				pmax	pmax		
	comp=Z,28μm,10.2s						
GTA				LR	LR		
	comp=N,115μm,21.6s						
GTA				LR	LR		
	comp=E,216μm,26.4s						
GTA				LR	LR		
	comp=Z,172μm,22.6s						
MGCD	**Mangrove Creek**	**47.66**	**128**	P	**P**	**08 03 34.2**	**+1.6**
	baz=48,SNR=263						
MILA	**Mila**	**47.80**	**134**	P	**P**	**08 03 35.6**	**+1.8**
	baz=48,SNR=18						
BHJ	**Bhuj**	**48.08**	**311**	*e*P	**P**	**08 03 36.7**	**+0.8**
BHJ				AMB	AMB	08 03 39.9	
	comp=Z,3μm,1.5s						
BTO	**Baotou**	**48.16**	**3**	P	**P**	**08 03 35.2**	**-1.2**
BTO				S	**S**	**08 10 34.3**	**+2.9**
BTO	**Baotou**	**48.16**	**3**	*e*P	**P**	**08 03 36.9**	**+0.5**
BTO				S	**S**	**08 10 30.4**	**-1.0**
BJT	**Baijiatuau**	**48.20**	**9**	*e*P	**P**	**08 03 37.6**	**+1.0**
	comp=Z,1μm,1.1s						
BJT				*e*PcP	**PcP**	**08 05 05.3**	**+2.2**
BJT				LR	LR		
	comp=Z,108μm,21.0s						
BJI	**Beijing**	**48.22**	**9**	P	**P**	**08 03 37.2**	**+0.5**
BJI				PcP	**PcP**	**08 05 04.8**	**+1.6**
BJI				ScP	**ScP**	**08 08 54.8**	**+1.8**
BJI				S	**S**	**08 10 32.0**	**0.0**
BJI				ScS	**ScS**	**08 13 26.6**	**+2.1**
BJI				pmax	pmax		
	comp=Z,940nm,1.0s						
BJI				pmax	pmax		
	comp=Z,32μm,6.5s						
BJI				LR	LR		
	comp=N,107μm,20.3s						
BJI				LR	LR		
	comp=E,112μm,18.1s						
BJI				LR	LR		
	comp=Z,185μm,33.1s						
DL2	**Dalian**	**48.25**	**15**	⇑*i*P	**P**	**08 03 36.9**	**-0.1**
DL2				pP	**pP**	**08 03 52.6**	**+0.5**
DL2				sP	**sP**	**08 03 58.1**	**-0.6**
DL2				PcP	**PcP**	**08 05 04.9**	**+1.6**
DL2				PP	**PP**	**08 05 32.4**	**+2.5**
DL2				PcS	**PcS**	**08 08 59.5**	**+0.4**
DL2				S	**S**	**08 10 30.1**	**-2.3**
DL2				ScS	**ScS**	**08 13 24.5**	**-0.3**
DL2				pmax	pmax		
	comp=Z,690nm,0.7s						
DL2				pmax	pmax		
	comp=Z,20μm,6.9s						
DL2				LR	LR		
	comp=N,28μm,22.9s						
DL2				LR	LR		
	comp=E,41μm,20.1s						
DL2				LR	LR		
	comp=Z,84μm,22.0s						
SMLA	**Simla**	**48.29**	**325**	*i* P	**P**	**08 03 36.8**	**-0.6**
SMLA				AMB	AMB	08 03 46.4	
	comp=Z,6μm,0.4s						
SMLA				*i* x	x	08 10 14.3	
CBIJ	**Chichi jima**	**48.31**	**43**	P	**P**	**08 03 35.4**	**-2.3**
CBIJ				S	S	08 10 27.6	-6.1
CBIJ	**Chichi jima**	**48.31**	**43**	P	**P**	**08 03 35.4**	**-2.3**
	comp=Z,827nm,0.6s,baz=190,slow=5.8,SNR=20						
CBIJ				S	S	08 10 27.6	-6.1
	comp=Z,73nm,0.7s,baz=300,slow=20,SNR=2.3						
CBIJ				LR	LR	08 25 59.5	
	comp=Z,41μm,19.8s,baz=224,slow=38						
INCN	**Inchon**	**48.44**	**20**	P	**P**	**08 03 38.7**	**+0.2**
	SNR=63						
INCN	**Inchon**	**48.44**	**20**	*e*P	**P**	**08 03 39.4**	**+0.8**
	comp=Z,1μm,1.4s						
INCN				*e*PcP	**PcP**	**08 05 05.2**	**+1.1**
INCN				LR	LR		
	comp=Z,48μm,20.0s						
HHC	**Hu-ho-hao-te**	**48.49**	**4**	*e*P	**P**	**08 03 39.9**	**+0.9**
HHC				pP	**pP**	**08 03 52.3**	**-1.8**
HHC				sP	**sP**	**08 03 57.6**	**-3.2**
HHC				PP	**PP**	**08 05 33.4**	**+1.1**
HHC				PcS	**PcS**	**08 08 59.3**	**-1.1**
HHC				S	**S**	**08 10 36.7**	**+0.6**
HHC				sS	**sS**	**08 10 59.7**	**-1.9**
HHC				ScS	**ScS**	**08 13 25.4**	**-1.2**
HHC				SS	**SS**	**08 14 04.9**	**-2.0**
HHC				pmax	pmax		
	comp=Z,720nm,1.2s						
HHC				pmax	pmax		
	comp=Z,58μm,5.1s						
HHC				LR	LR		
	comp=N,216μm,27.8s						
HHC				LR	LR		
	comp=E,298μm,25.1s						
HHC				LR	LR		
	comp=Z,323μm,27.5s						
SDNR	**Sundarnagar**	**48.68**	**325**	*e*P	**P**	**08 03 39.6**	**-0.9**
SDNR				*e*S	**S**	**08 10 37.6**	**-1.2**
KSAR	**Wonju Array Be**	**48.85**	**22**	P	**P**	**08 03 42.2**	**+0.6**
KSAR				PcP	**PcP**	**08 05 05.5**	**-0.1**
KSAR				ScP	**ScP**	**08 08 56.3**	**+0.6**
KSAR				S	**S**	**08 10 41.1**	**+0.2**
KSAR				PKiKP	**PKiKP**	**08 11 55.1**	**+0.6**
KSAR				P'P'		08 34 18.8	
KSAR				P'P'ab	**P'P'ab**	**08 35 36.3**	**+2.0**
KSRS	**Korea Array**	**48.88**	**22**	P	**P**	**08 03 42.2**	**+0.4**
	comp=Z,385nm,1.1s,baz=205,slow=8.8,SNR=174						
KSRS				PcP	**PcP**	**08 05 05.5**	**-0.1**
	comp=Z,299nm,1.0s,baz=205,slow=3.3,SNR=13						
KSRS				ScP	**ScP**	**08 08 56.3**	**+0.5**
	comp=Z,38nm,0.9s,baz=220,slow=3.6,SNR=7.1						
KSRS				S	**S**	**08 10 41.1**	**-0.1**
	comp=Z,4.6nm,1.0s,baz=203,slow=8.0,SNR=2.7						
KSRS				PKiKP	**PKiKP**	**08 11 55.1**	**+0.6**
	comp=Z,5.2nm,0.7s,baz=209,slow=1.7,SNR=5.2						
KSRS				PKPPKP	P'P'df	08 34 18.8	-23
	comp=Z,3.1nm,1.0s,baz=26,slow=0.4,SNR=6.1						
KSRS				PKP2ab		08 35 36.3	
	comp=Z,9.6nm,1.1s,baz=19,slow=2.5,SNR=5.3						
BHK	**Bhakra**	**48.93**	**324**	*e*P	**P**	**08 03 45.0**	**+2.6**
BHK				*ex*	x	08 10 39.0	
MOO	**Moorlands**	**49.18**	**141**	P	**P**	**08 03 46.0**	**+1.8**
	baz=49,SNR=31						
TAU	**Tasmania Unive**	**49.52**	**142**	P	**P**	**08 03 48.0**	**+1.3**
	comp=Z,2μm,1.4s,SNR=26						
TAU	**Tasmania Unive**	**49.52**	**142**	*e*P	**P**	**08 03 48.1**	**+1.3**
TAU				pmax	pmax		
	comp=Z,848nm,1.3s						
TAU				MLR	MLR		
	comp=Z,284μm,22.0s						
TAU	**Tasmania Unive**	**49.52**	**142**	*e*P	**P**	**08 03 48.1**	**+1.4**
	comp=Z,848nm,1.3s						
TAU				LR	LR		
	comp=Z,284μm,22.0s						
DHRM	**DHARAMSHALA**	**49.61**	**325**	*e*P	**P**	**08 03 47.5**	**-0.4**
DHRM				AMB	AMB	08 03 52.6	
	comp=Z,1μm,0.3s						
DHRM	**DHARAMSHALA**	**49.61**	**325**	*ex*	**S**	**08 10 50.3**	**-2.1**
DLH	**Dalhousie**	**50.02**	**325**	*e*P	**P**	**08 03 52.0**	**+1.1**
DLH				*ex*	x	08 10 56.0	
THN	**Thein Dam**	**50.08**	**325**	*e*P	**P**	**08 03 52.5**	**+1.4**
THN				*ex*	x	08 05 51.0	
SNY	**Shenyang**	**51.50**	**15**	⇑P	**P**	**08 04 01.1**	**-0.5**
SNY				S	S	08 11 10.3	-7.3
SNY				pmax	pmax		
	comp=Z,840nm,2.5s						
SNY				LR	LR		
	comp=N,104μm,27.0s						
SNY				LR	LR		
	comp=E,83μm,26.0s						
SNY				LR	LR		
	comp=Z,150μm,27.3s						
MSEY	**Mahe Island**	**51.69**	**270**	P	**P**	**08 04 05.7**	**+2.0**
	comp=Z,3μm,1.1s,SNR=19						
MSEY	**Mahe Island**	**51.69**	**270**	P	P	08 04 07.0	+3.3
	SNR=24						
MSEY	**Mahe Island**	**51.69**	**270**	*e*P	**P**	**08 04 05.3**	**+1.6**
	comp=Z,2μm,1.7s						
MSEY				LR	LR		
	comp=Z,256μm,22.0s						
PAF	**Port-aux-Franc**	**51.88**	**210**	*e*P	**P**	**08 04 04.4**	**+0.1**
PAF				pmax	pmax		
	comp=Z,1μm,1.1s						
PAF				MLR	MLR		
	comp=Z,199μm,21.0s						
PAF	**Port-aux-Franc**	**51.88**	**210**	*e*P	**P**	**08 04 04.4**	**+0.1**
	comp=Z,1μm,1.1s						
PAF				LR	LR		
	comp=Z,199μm,21.0s						
HNR	**Honiara**	**51.94**	**96**	P	**P**	**08 04 05.0**	**-0.4**
HNR				S	**S**	**08 11 20.8**	**-3.8**
HNR	**Honiara**	**51.94**	**96**	P	**P**	**08 04 05.0**	**-0.4**
	comp=Z,2μm,0.7s,baz=240,slow=2.3,SNR=22						
HNR				S	**S**	**08 11 20.8**	**-3.8**
	comp=Z,51nm,0.3s,baz=208,slow=12,SNR=3.9						
HNR				LR	LR	08 27 53.0	
	comp=Z,51μm,20.2s,baz=275,slow=38						
MAT	**Matsushiro**	**52.68**	**31**	P	**P**	**08 04 08.6**	**-1.9**
MAT				S	**S**	**08 11 28.8**	**-5.3**
MJAR	**Matsushiro Arr**	**52.68**	**31**	P	**P**	**08 04 09.2**	**-1.4**
MJAR				PcP	**PcP**	**08 05 20.2**	**+0.5**
MJAR				ScP	**ScP**	**08 09 13.8**	**+1.5**
MJAR				S	S	08 11 27.7	-6.4
MJAR				P'P'		08 34 21.1	
MJAR	**Matsushiro Arr**	**52.68**	**31**	P	**P**	**08 04 09.2**	**-1.4**
	comp=Z,296nm,0.8s,baz=209,slow=7.6,SNR=166						
MJAR				PcP	**PcP**	**08 05 20.2**	**+0.5**
	comp=Z,268nm,0.9s,baz=208,slow=4.5,SNR=12						
MJAR				ScP	**ScP**	**08 09 13.8**	**+1.5**
	comp=Z,80nm,1.0s,baz=207,slow=5.0,SNR=8.5						
MJAR				S	S	08 11 27.7	-6.4
	comp=Z,6.5nm,1.1s,baz=162,slow=5.1,SNR=2.8						
MJAR				LR	LR	08 27 20.9	
	comp=Z,62μm,21.4s,baz=210,slow=37						
MJAR				PKPPKP	P'P'df	08 34 21.1	-16
	comp=Z,3.7nm,1.0s,baz=65,slow=2.1,SNR=4.6						
LHI	**Lord Howe Isla**	**53.51**	**124**	P	**P**	**08 04 19.4**	**+2.7**
	baz=54,SNR=28						
CN2	**Changchun**	**53.84**	**16**	⇑P	**P**	**08 04 18.3**	**-0.6**
CN2				*es*P	**sP**	**08 04 36.2**	**-4.6**
CN2				PP	**PP**	**08 06 21.8**	**+1.2**
CN2				*e*S	**S**	**08 11 50.5**	**+1.0**
CN2				SS	**SS**	**08 15 32.1**	**+0.6**
CN2				pmax	pmax		
	comp=Z,31μm,13.0s						
WMQ	**Urumqi**	**54.34**	**343**	P	**P**	**08 04 22.9**	**+0.3**
WMQ				pP	**pP**	**08 04 35.5**	**-2.5**
WMQ				sP	**sP**	**08 04 40.9**	**-3.7**
WMQ				PcP	**PcP**	**08 05 26.4**	**+0.4**
WMQ				PP	**PP**	**08 06 26.6**	**+1.4**
WMQ				ScP	**ScP**	**08 09 19.5**	**0.0**
WMQ				PcS	**PcS**	**08 09 24.2**	**-1.3**
WMQ				S	**S**	**08 11 55.7**	**-0.7**
WMQ				sS	sS	08 12 16.9	-5.5
WMQ				ScS	**ScS**	**08 14 04.7**	**-2.1**
WMQ				SS	**SS**	**08 15 36.9**	**-2.7**
WMQ				pmax	pmax		
	comp=Z,1μm,1.0s						
WMQ				pmax	pmax		
	comp=Z,27μm,2.8s						
WMQ				LR	LR		
	comp=N,95μm,18.5s						
WMQ				LR	LR		
	comp=E,107μm,21.4s						
WMQ				LR	LR		
	comp=Z,70μm,15.5s						
VLA	**Vladivostok**	**55.29**	**22***c*	*i*P	**P**	**08 04 29.2**	**-0.2**
VLA				*i* S	**S**	**08 12 08.0**	**-1.1**
VLA				pmax	pmax		
	comp=Z,1μm,1.6s						
VLA				MLR	MLR		
	comp=E,878μm,17.0s						
KSH	**Kashi**	**55.30**	**331**	⇑*i*P	**P**	**08 04 27.6**	**-2.1**
KSH				sP	**sP**	**08 04 49.9**	**-1.8**
KSH				PP	**PP**	**08 06 32.7**	**-1.3**
KSH				PcS	**PcS**	**08 09 28.1**	**-1.9**
KSH				S	S	08 12 01.1	-8.5
KSH				SS	SS	08 15 46.8	-8.2
KSH				pmax	pmax		
	comp=Z,17μm,5.2s						
KSH				LR	LR		
	comp=N,72μm,17.0s						
KSH				LR	LR		
	comp=E,38μm,15.0s						
KSH				LR	LR		
	comp=Z,63μm,20.1s						
SONM	**Songino Array**	**55.33**	**359**	P	**P**	**08 04 29.0**	**-0.8**
SONM				PcP	**PcP**	**08 05 30.2**	**+0.5**
SONM				ScP	**ScP**	**08 09 24.0**	**+0.2**
SONM				S	**S**	**08 12 10.7**	**+0.8**
SONM				P'P'		08 34 14.3	
SONM				*e*		08 41 45.8	
SONM	**Songino Array**	**55.33**	**359**	P	**P**	**08 04 29.0**	**-0.8**
	comp=Z,622nm,1.0s,baz=191,slow=6.8,SNR=240						
SONM				PcP	**PcP**	**08 05 30.2**	**+0.5**
	comp=Z,398nm,0.5s,baz=177,slow=4.2,SNR=15						
SONM				ScP	**ScP**	**08 09 24.0**	**+0.2**
	comp=Z,72nm,0.7s,baz=174,slow=4.4,SNR=7.1						
SONM				S	**S**	**08 12 10.7**	**+0.8**
	comp=Z,16nm,1.0s,baz=182,slow=8.7,SNR=3.0						
SONM				LR	LR	08 30 14.0	
	comp=Z,183μm,20.0s,baz=173,slow=38						
SONM				PKPPKP	P'P'df	08 34 14.3	-18
	comp=Z,9.4nm,1.1s,baz=336,slow=3.2,SNR=9.2						
SONM				P4KPbc		08 41 45.8	
	comp=Z,7.8nm,0.9s,baz=182,slow=4.3,SNR=16						
ULN	**Ulaanbaatar**	**55.36**	**360**	P	**P**	**08 04 30.9**	**+0.9**
	SNR=185						
ULN	**Ulaanbaatar**	**55.36**	**360**	*e*P	**P**	**08 04 31.3**	**+1.2**
	comp=Z,1μm,0.9s						
ULN				LR	LR		
	comp=Z,191μm,21.0s						
KBL	**Kabul**	**55.53**	**322**	*e*P	**P**	**08 04 31.3**	**-0.3**
KBL				*e*S	**S**	**08 12 10.4**	**-2.7**
KBL				pmax	pmax		
	comp=Z,3μm,1.3s						
KBL	**Kabul**	**55.53**	**322**	*e*P	**P**	**08 04 31.3**	**-0.3**
	comp=Z,3μm,1.3s						
KBL				*e*S	**S**	**08 12 10.4**	**-2.7**
KBL	**Kabul**	**55.53**	**322**	P	**P**	**08 04 31.2**	**-0.4**
	baz=56,SNR=97						
MDJ	**Mudanjiang**	**55.82**	**19**	P	**P**	**08 04 32.6**	**-0.6**
MDJ				pP	**pP**	**08 04 44.1**	**-4.5**
MDJ				sP	sP	08 04 49.0	-6.2
MDJ				PcP	**PcP**	**08 05 28.8**	**-2.8**
MDJ				S	**S**	**08 12 11.4**	**-4.7**
MDJ				ScS	**ScS**	**08 14 15.9**	**-1.3**
MDJ				SS	**SS**	**08 15 58.2**	**-4.5**
MDJ				pmax	pmax		
	comp=Z,340nm,1.4s						
MDJ				pmax	pmax		
	comp=Z,27μm,11.1s						
MDJ				LR	LR		
	comp=N,72μm,22.3s						
MDJ				LR	LR		
	comp=E,57μm,21.8s						
MDJ				LR	LR		
	comp=Z,81μm,29.3s						
MDJ	**Mudanjiang**	**55.82**	**19**	*e*P	**P**	**08 04 34.0**	**+0.8**
	comp=Z,793nm,1.4s						
MDJ				LR	LR		
	comp=Z,53μm,21.0s						
WBK	**Wadi Bani Khal**	**56.19**	**304**	P	**P**	**08 04 38.1**	**+1.8**
	SNR=271						
USRK	**Ussuriysk Arra**	**56.27**	**21**	P	**P**	**08 04 35.9**	**-0.5**
	comp=Z,257nm,0.8s,baz=203,slow=7.6,SNR=172						
USRK				PcP	**PcP**	**08 05 33.6**	**+0.3**
	comp=Z,93nm,0.8s,baz=201,slow=4.4,SNR=2.0						
USRK				S	**S**	**08 12 21.9**	**-0.1**
	comp=Z,4.5nm,0.6s,baz=241,slow=4.8,SNR=3.3						
USRK				LR	LR	08 30 50.0	
	comp=Z,70μm,20.3s,baz=16,slow=38						
USRK				PKPPKP	P'P'df	08 34 23.7	-8.0
	comp=Z,9.7nm,1.0s,baz=333,slow=1.6,SNR=6.7						
JMDO	**Jabal Madar**	**56.80**	**303**	P	**P**	**08 04 42.2**	**+1.6**
	SNR=234						
SMDO	**Samad**	**57.15**	**304**	P	**P**	**08 04 44.8**	**+1.6**
	SNR=312						
ULHL	**Ulahol**	**57.31**	**333**	P	**P**	**08 04 46.5**	**+2.4**
	SNR=16						
KZA	**Kyzart**	**57.63**	**332**	P	**P**	**08 04 48.8**	**+2.1**
	SNR=209						
BSY	**Bisya**	**57.72**	**303**	P	**P**	**08 04 48.8**	**+1.6**
	SNR=552						
HIA	**Hailar**	**57.78**	**10**	*e*P	**P**	**08 04 47.7**	**+0.7**
	comp=Z,1μm,1.3s						
HIA				LR	LR		
	comp=Z,95μm,22.0s						
AAA	**Alma-Ata**	**57.82**	**334**	*e*P	**P**	**08 04 47.0**	**-0.5**
AAA				*e*S	S	08 12 36.3	-6.4
AAA				pmax	pmax		
	comp=Z,32μm,8.6s						
AAA				smax	smax		
	comp=E,77μm,7.9s						
AAA				MLR	MLR		
	comp=Z,126μm,21.0s						
ZAK	**Zakamensk**	**57.99**	**357**	⇑*i*P	**P**	**08 04 50.2**	**+1.6**
ZAK				*e*		08 05 42.6	
ZAK				*e*		08 08 16.0	
ZAK				*e*		08 12 49.1	
ZAK				*e*		08 14 33.0	
ZAK				pmax	pmax		
	comp=Z,220nm,1.1s						
HOQ	**Hoqain**	**57.99**	**304**	P	**P**	**08 04 50.6**	**+1.6**
	SNR=422						
UCH	**Uchtor**	**58.10**	**332**	P	**P**	**08 04 51.2**	**+1.3**
	SNR=45						
TKM2	**Tokmak 2**	**58.14**	**333**	*e*P	**P**	**08 04 49.5**	**-0.4**
TKM2				MLR	MLR		
	comp=Z,110μm,22.0s						
TKM2	**Tokmak 2**	**58.14**	**333**	P	**P**	**08 04 52.6**	**+2.7**
	SNR=14						
TKM2	**Tokmak 2**	**58.14**	**333**	*e*P	**P**	**08 04 49.5**	**-0.4**
	comp=Z,122nm,2.1s						
TKM2				LR	LR		
	comp=Z,110μm,22.0s						
KBK	**Karagaybulak**	**58.23**	**332**	P	**P**	**08 04 52.4**	**+1.9**
	SNR=10						
RBK	**Rabkut**	**58.23**	**296**	P	**P**	**08 04 52.9**	**+2.0**
	SNR=119						
AML	**Almayashu**	**58.41**	**331**	P	**P**	**08 04 52.9**	**+0.8**
	SNR=69						
AAK	**Ala-Archa**	**58.42**	**332**	P	**P**	**08 04 52.5**	**+0.7**
	comp=Z,2μm,0.9s						
AAK	**Ala-Archa**	**58.42**	**332**	P	**P**	**08 04 51.3**	**-0.5**
AAK						08 05 42.7	
AAK				S	**S**	**08 12 50.5**	**-0.3**
AAK				pmax	pmax		
	comp=Z,71nm,0.7s						
AAK				smax	smax		
	comp=N,17nm,0.9s						
AAK				MLR	MLR		
	comp=Z,107μm,20.8s						
AAK	**Ala-Archa**	**58.42**	**332**	P	**P**	**08 04 53.5**	**+1.7**
	SNR=171						
AAK	**Ala-Archa**	**58.42**	**332**	P	**P**	**08 04 51.9**	**+0.2**
	SNR=93						
AAK	**Ala-Archa**	**58.42**	**332**	P	**P**	**08 04 51.3**	**-0.5**
AAK				*e*P	**P**	**08 04 52.0**	**+0.2**
AAK				PcP	**PcP**	**08 05 42.7**	**+0.6**
AAK				*e*PcP	**PcP**	**08 05 42.9**	**+0.8**
AAK				S	**S**	**08 12 50.5**	**-0.3**
AAK				P'P'	**P'P'df**	**08 34 31.4**	**+2.3**
AAK	**Ala-Archa**	**58.42**	**332**	P	**P**	**08 04 51.3**	**-0.5**
	comp=Z,71nm,0.7s,baz=134,slow=6.6,SNR=79						
AAK				PcP	**PcP**	**08 05 42.7**	**+0.6**
	comp=Z,242nm,0.6s,baz=141,slow=4.1,SNR=12						
AAK				S	**S**	**08 12 50.5**	**-0.3**
	comp=Z,17nm,0.9s,baz=229,slow=11,SNR=2.9						
AAK				PKPPKP	**P'P'df**	**08 34 31.4**	**+2.3**
	comp=Z,14nm,1.0s,baz=336,slow=2.2,SNR=5.4						
AAK				LR	LR	08 35 16.0	
	comp=Z,107μm,20.8s,baz=136,slow=41						
DZM	**Mont Dzumac**	**58.47**	**111**	*e*P	**P**	**08 04 53.4**	**+0.9**
	comp=Z,2μm,1.2s						
DZM				*e*S	**S**	**08 12 52.1**	**0.0**
	comp=Z,183μm,30.1s						
DZM				*e*LQ	LQ	08 19 42.9	
	comp=Z,132μm,27.5s						
DZM				*e*LR	LR	08 22 11.9	
	comp=Z,448μm,30.8s						
DZM	**Mont Dzumac**	**58.47**	**111**	P	**P**	**08 04 52.8**	**+0.3**
DZM				S	**S**	**08 12

comp=Z,212μm,22.0s
FRU Bishkek 58.52 332⇑ *i*P P 08 04 51.0 -1.3
FRU *e*S **S 08 12 46.0 -5.8**
FRU pmax pmax
comp=Z,2μm,1.8s
FRU smax smax
comp=E,3μm,8.0s
ARQ Araqi 58.54 303 P **P 08 04 54.3 +1.5**
SNR=183
CHMS Chumysh 58.58 332 P **P 08 04 54.8 +2.0**
SNR=8.8
MK31 Makanchi Array 58.71 340 *e*P **P 08 04 52.5 -1.1**
MK31 pmax pmax
comp=Z,451nm,0.7s
MK31 Makanchi Array 58.71 340 *e*P **P 08 04 53.4 -0.2**
MKAR Makanchi Array 58.71 340 P **P 08 04 53.2 -0.4**
MKAR S **S 08 12 52.1 -2.0**
MKAR pmax pmax
comp=Z,202nm,0.6s
MKAR smax smax
comp=N,11nm,0.6s
MKAR Makanchi Array 58.71 340 P **P 08 04 53.2 -0.4**
MKAR S **S 08 12 52.1 -2.0**
MKAR ⇑*e* 08 34 35.4
MKAR *e* 08 42 00.2
MKAR Makanchi Array 58.71 340 P **P 08 04 53.2 -0.4**
comp=N,202nm,0.6s,baz=157,slow=7.4,SNR=142
MKAR S **S 08 12 52.1 -2.0**
comp=N,11nm,0.6s,baz=145,slow=7.0,SNR=2.3
MKAR PKP2bc 08 34 35.4
comp=N,10nm,0.9s,baz=309,slow=1.0,SNR=7.5
MKAR LR LR 08 35 50.8
comp=N,68μm,21.0s,baz=154,slow=42
MKAR P4KPbc 08 42 00.2
comp=N,2.0nm,0.6s,baz=157,slow=4.9,SNR=12
EKS2 Erkin-Say 58.78 331 *e*P **P 08 04 54.7 +0.5**
EKS2 pmax pmax
comp=Z,2μm,1.0s
EKS2 MLR MLR
comp=Z,87μm,22.0s
EKS2 Erkin-Say 58.78 331 P **P 08 04 55.4 +1.2**
SNR=21
EKS2 Erkin-Say 58.78 331 *e*P **P 08 04 54.7 +0.5**
comp=Z,2μm,1.0s
EKS2 LR LR
comp=Z,87μm,22.0s
USP Ospenovka 58.91 332 P **P 08 04 56.3 +1.2**
SNR=167
ABTO Aybut 58.99 295 P **P 08 04 57.5 +1.4**
SNR=128
TLY Talaya 59.27 357*c i*P **P 08 04 58.2 +0.9**
TLY *e* 08 05 46.6
TLY *e* 08 07 06.2
TLY *e*PPP PPP 08 08 36.6
TLY *e*S **S 08 12 58.3 -2.8**
TLY *e*PS **PnS 08 13 13.9 -7.1**
TLY *e* 08 14 41.2
TLY pmax pmax
comp=Z,372nm,1.1s
TLY MLR MLR
comp=Z,128μm,17.0s
TLY Talaya 59.27 357 P **P 08 04 58.4 +1.1**
comp=Z,2μm,1.4s,SNR=58
ERM Erimo 59.32 30 P **P 08 04 58.1 +0.2**
comp=Z,4μm,0.9s,SNR=59
ERM Erimo 59.32 30 *e*P **P 08 04 58.0 +0.2**
ERM pmax pmax
comp=Z,760nm,1.0s
ERM MLR MLR
comp=Z,57μm,20.0s
ERM Erimo 59.32 30 *e*P **P 08 04 58.0 +0.2**
comp=Z,760nm,1.0s
ERM LR LR
comp=Z,57μm,20.0s
ABPO Ambohimpanom 59.37 253 P **P 08 05 01.0 +2.1**
comp=Z,518nm,1.0s,SNR=12
ABPO Ambohimpanom 59.37 253 *e*P **P 08 04 59.6 +0.7**
ABPO pmax pmax
comp=Z,711nm,1.1s
ABPO MLR MLR
comp=Z,70μm,20.0s
ABPO Ambohimpanom 59.37 253 *e*P **P 08 04 59.6 +0.7**
comp=Z,711nm,1.1s
ABPO LR LR
comp=Z,70μm,20.0s
OPO Ambohidratompo 59.39 253 P **P 08 04 59.3 +0.3**
OPO S **S 08 13 06.9 +2.7**
OPO Ambohidratompo 59.39 253 P **P 08 04 59.3 +0.3**
comp=Z,501nm,1.1s,baz=82,slow=5.4,SNR=126
OPO S **S 08 13 06.9 +2.7**
comp=Z,7.9nm,0.8s,baz=45,slow=7.1,SNR=3.7
OPO LR LR 08 25 26.2
comp=Z,127μm,20.7s,baz=106,slow=31
MOY Mondy 59.42 355 *e*P **P 08 04 59.2 +0.7**
UOSS Wadi Hilu 59.50 305 P **P 08 05 00.0 +0.6**
comp=Z,8μm,1.6s
ASHO Ashiyiah 59.50 304 P **P 08 05 01.0 +1.5**
SNR=168
HATD Hatta, Dubai 59.51 305 P **P 08 05 00.7 +1.2**
SNR=186
MIR Mirnyy 59.56 187 *e*P **P 08 05 00.0 +0.9**
MIR *e* 08 13 10.0
MIR *e* 08 14 46.0
MIR pmax pmax
comp=Z,2μm,2.0s
MIR pmax pmax
comp=Z,20μm,18.0s
CIT Chita 59.75 4 *e*P **P 08 05 01.4 +0.7**
CIT *e* 08 05 48.3
CIT *e* 08 13 10.7
CIT *e* 08 14 45.0
CIT pmax pmax
comp=Z,4μm,3.0s
IRK Irkutsk 59.80 358⇑*i*P **P 08 05 01.3 +0.3**
IRK *e* 08 05 46.3
IRK *e*S **S 08 13 06.8 -1.2**
IRK *e* 08 14 44.0
IRK pmax pmax
comp=Z,1μm,2.2s
HVS Khovu-Aksy 59.82 350*c i*P **P 08 05 00.9 -0.3**
BANOM Banah 59.86 306 P **P 08 05 04.9 +3.0**
SNR=22
NAZ Nazwa, Dubai 59.96 305 P **P 08 05 03.8 +1.2**
SNR=195
ASUD Al Ashush, Dub 60.08 304 P **P 08 05 05.1 +1.7**
SNR=227
IDAH Dahanechah 60.54 314 *e*P **P 08 05 07.4 +0.7**
ASAJ Asahikawa 60.62 28 *e*P **P 08 05 06.6 -0.1**
comp=Z,228nm,0.7s
ASAJ S **S 08 13 14.7 -4.0**
ASAJ P'P' 08 34 23.2
ASAJ Asahikawa 60.62 28 P **P 08 05 06.6 -0.1**
comp=Z,515nm,0.6s,baz=241,slow=11,SNR=114
ASAJ S **S 08 13 14.7 -4.0**
comp=Z,12nm,0.8s,baz=270,slow=20,SNR=2.6
ASAJ LR LR 08 31 38.3
comp=Z,55μm,21.7s,baz=232,slow=36
ASAJ PKPPKP **P'P'df 08 34 23.2 -2.2**
comp=Z,15nm,1.0s,baz=59,slow=3.8,SNR=5.1
KK31 Karatay Array 60.70 330 *i* P **P 08 05 06.3 -1.0**
KK31 pmax pmax
comp=Z,77nm,0.4s
KKAR Karatay Array 60.70 330 *e*P **P 08 05 06.8 -0.5**
KKAR pmax pmax
comp=Z,80nm,0.4s
KKAR Karatay Array 60.70 330 *e*P **P 08 05 06.8 -0.5**
comp=Z,80nm,0.4s
IMON Monand 60.93 315 *e*P **P 08 05 10.7 +1.3**
IKOO Kooshah 60.98 314 *e*P **P 08 05 09.7 -0.1**
HABR Khabarovsk 61.02 21*c i*P **P 08 05 08.8 -0.6**
HABR *e**PP **pP 08 05 23.2 -1.8**
HABR *e* 08 05 49.8
HABR *e* 08 07 21.9
HABR *i*S **S 08 13 21.4 -2.3**
HABR *e* 08 13 40.6
HABR *e**SS **sS 08 13 49.3 -0.7**
HABR *e* 08 14 53.0
HABR *e*SS **SS 08 17 23.1 -1.3**
HABR pmax pmax
comp=N,229nm,2.8s
HABR pmax pmax
comp=Z,855nm,2.8s
HABR pmax pmax
comp=E,336nm,2.8s
HABR pmax pmax
comp=Z,19μm,5.6s

HABR MLR MLR
comp=N,48μm,19.0s
HABR MLR MLR
comp=Z,38μm,18.0s
HABR MLR MLR
comp=E,56μm,17.0s
ITEG Tejag 61.42 314 *e*P **P 08 05 12.6 0.0**
MUKL Al Mukalla 61.96 291⇑*e*P **P 08 05 17.9 +1.7**
MCQ Macquarie Isla 62.09 149 *e*P **P 08 05 18.3 +1.8**
MCQ Macquarie Isla 62.09 149 *e*P **P 08 05 18.2 +1.8**
MCQ Macquarie Isla 62.09 149 P **P 08 05 18.8 +2.3**
baz=62,SNR=6.7
YUK Yuzh-Kuril'sk 62.15 30*c i*P **P 08 05 16.7 -0.3**
YUK *i* 08 06 00.3
YUK *i* 08 07 32.1
YUK *i*S **S 08 13 34.2 -3.9**
YUK *i* 08 15 05.1
YUK *e*SS **SS 08 17 41.8 -0.4**
YUK pmax pmax
comp=Z,9μm,2.3s
YUK pmax pmax
comp=Z,4μm,1.5s
YUK pmax pmax
comp=E,1μm,1.5s
YUK pmax pmax
comp=N,993nm,1.1s
YUK MLR MLR
comp=N,4μm,21.0s
YUK MLR MLR
comp=E,9μm,21.0s
YUK MLR MLR
comp=Z,35μm,21.0s
KWAJ Kwajalein Atol 62.20 76 *e*P **P 08 05 19.2 +1.2**
KWAJ pmax pmax
comp=Z,5μm,1.8s
KWAJ Kwajalein Atol 62.20 76 *e*P **P 08 05 19.2 +1.2**
comp=Z,5μm,1.8s
IMYA Miami 62.38 318 *e*P **P 08 05 18.1 -0.9**
IMOG Moghan 62.76 317 *e*P **P 08 05 21.5 -0.2**
ISRO Mashad 62.78 318 *e*P **P 08 05 21.2 -0.4**
YSS Yuzh-Sakhalins 62.85 26*c i*P **P 08 05 22.0 +0.4**
YSS *i* 08 05 59.0
YSS *e*PPP PPP 08 09 08.0
YSS *i*S **S 08 13 44.0 -2.8**
YSS *e*PS **PnS 08 14 06.0 -4.1**
YSS *e*PPS PPS 08 14 25.0
YSS pmax pmax
comp=Z,3μm,1.1s
YSS pmax pmax
comp=N,1μm,0.9s
YSS pmax pmax
comp=E,420nm,0.5s
YSS pmax pmax
comp=N,10μm,12.0s
YSS pmax pmax
comp=E,8μm,12.0s
YSS pmax pmax
comp=Z,22μm,12.0s
YSS smax smax
comp=N,15μm,10.0s
YSS smax smax
comp=E,12μm,12.0s
YSS MLR MLR
comp=N,35μm,19.0s
YSS MLR MLR
comp=Z,33μm,19.0s
YSS MLR MLR
comp=E,24μm,22.0s
DRV Dumont d'Urvil 62.92 166 PP PP 08 07 19.0 -22
DRV S S 08 13 22.0 -25
DRV SS SS 08 17 22.0 -31
DRV L L 08 20 00.0
DRV R 08 23 00.0
IPAY Payeh 63.18 317 *e*P **P 08 05 25.2 +0.8**
KURBB Kurchatov Arra 63.28 340 P **P 08 05 23.8 -0.7**
comp=E,269nm,0.7s,baz=156,slow=5.6,SNR=432
KURBB S **S 08 13 49.0 -3.0**
comp=E,4.9nm,0.9s,baz=152,slow=4.5,SNR=2.8
KURBB PKPPKP **P'P'df 08 34 18.6 -2.1**
comp=E,15nm,1.2s,baz=338,slow=2.5,SNR=8.9
KURBB P4KPbc 08 42 13.2
comp=E,0.6nm,0.3s,baz=160,slow=3.8,SNR=2.4
KURK Kurchatov 63.33 340 P **P 08 05 23.8 -0.9**
KURK S **S 08 13 49.0 -3.6**
KURK pmax pmax
comp=Z,269nm,0.7s
KURK smax smax
comp=N,5.0nm,0.9s
KURK Kurchatov 63.33 340 P **P 08 05 23.8 -0.9**
KURK S **S 08 13 49.0 -3.6**
KURK P'P' 08 34 18.6
KURK *e* 08 42 13.2
IKRD Kardeh 63.68 318 *e*P P 08 05 23.4 -4.3
KUR Kuril'sk 64.01 31⇑*i*P P 08 05 22.6 -6.7
KUR *i*S S 08 13 52.8 -8.5
KUR pmax pmax
comp=N,1μm,1.7s
KUR pmax pmax
comp=E,693nm,1.7s
KUR pmax pmax
comp=Z,6μm,1.7s
WAKE Wake Island 64.22 64 *e*P **P 08 05 31.7 +0.4**
comp=Z,6μm,1.6s
WAKE LR LR
comp=Z,23μm,22.0s
ZAA0 Zalesovo Array 64.34 345 *e*P **P 08 05 30.8 -0.6**
ZALV Zalesovo Beam 64.34 345 P **P 08 05 30.2 -1.2**
ZALV S **S 08 14 01.0 -4.1**
ZALV pmax pmax
comp=Z,129nm,0.4s
ZALV smax smax
comp=N,43nm,0.9s
ZALV MLR MLR
comp=Z,87μm,20.6s
ZALV Zalesovo Beam 64.34 345 P **P 08 05 30.2 -1.2**
ZALV S **S 08 14 01.0 -4.1**
ZALV ⇑*e* 08 34 22.2
ZALV *e* 08 42 18.9
ZALV Zalesovo Beam 64.34 345 P **P 08 05 30.2 -1.2**
comp=Z,129nm,0.4s,baz=168,slow=5.3,SNR=287
ZALV S **S 08 14 01.0 -4.1**
comp=Z,43nm,0.9s,baz=140,slow=5.5,SNR=5.7
ZALV PKP2bc 08 34 22.2
comp=Z,38nm,1.1s,baz=316,slow=4.1,SNR=10
ZALV LR LR 08 38 44.1
comp=Z,87μm,20.6s,baz=40,slow=41
ZALV P4KPbc 08 42 18.9
comp=Z,1.4nm,0.3s,baz=145,slow=5.3,SNR=4.6
BDHA Al Bayda' 65.05 289⇑*e*P **P 08 05 38.7 +1.7**
BDHA AMb AMB 08 05 41.3
comp=Z,4μm,1.4s
NVS Novosibirsk 65.55 345⇑*i*P **P 08 05 36.6 -2.6**
NVS *e* 08 06 11.2
NVS *e*S **S 08 14 15.3 -4.6**
NVS *e* 08 15 23.6
NVS pmax pmax
comp=N,323nm,1.7s
NVS pmax pmax
comp=E,253nm,1.7s
NVS pmax pmax
comp=Z,629nm,1.7s
NVS smax smax
comp=E,241nm,1.8s
RPZ Rata Peaks 65.73 135 *e*P **P 08 05 41.3 +0.6**
comp=E,1μm,1.1s
RPZ Rata Peaks 65.73 135 LR LR 08 34 10.7
comp=E,235μm,20.1s,baz=274,slow=36
ODZ Otahua Downs 65.75 136 *e*P **P 08 05 41.4 +0.6**
comp=E,435nm,1.4s
CLNS Chul'man 65.93 10*c i*P **P 08 05 41.3 -0.4**
CLNS *e* 08 06 11.7
CLNS *e* 08 08 05.3
CLNS *e*PPP PPP 08 09 38.8
CLNS *e*S **S 08 14 21.1 -3.5**
CLNS *e*SS **SS 08 18 36.2 -4.7**
CLNS pmax pmax
comp=Z,960nm,1.3s
CLNS pmax pmax
comp=E,369nm,1.3s
CLNS pmax pmax
comp=N,809nm,1.4s
CLNS pmax pmax
comp=Z,97nm,1.2s
CLNS pmax pmax
comp=N,160nm,1.3s

CLNS pmax pmax
comp=E,47nm,1.0s
CLNS smax smax
comp=N,12μm,12.3s
CLNS smax smax
comp=E,16μm,11.5s
CLNS MLR MLR
comp=E,31μm,13.0s
CLNS MLR MLR
comp=N,39μm,14.0s
CLNS MLR MLR
comp=Z,64μm,14.0s
TARA Tarawa 65.95 85 *e*P **P 08 05 44.7 +2.1**
comp=Z,6μm,1.7s
TARA LR LR
comp=Z,32μm,19.0s
IGAR Gharneh 66.10 310 *e*P **P 08 05 44.2 +0.7**
IZEF Zefreh 66.11 311 *e*P **P 08 05 43.3 -0.3**
OUZ Omahuta 66.15 125 *e*P **P 08 05 46.0 +2.5**
comp=Z,2μm,1.9s
IANJ Anjilo 66.17 314 *e*P **P 08 05 43.9 0.0**
TRBA At Turbah 66.22 288⇑*e*P **P 08 05 46.2 +1.7**
DAMY Dhamar 66.30 290 P **P 08 05 47.3 +2.1**
baz=66,SNR=134
DHBB Dhamar BB 66.30 290⇑*e*P **P 08 05 46.9 +1.7**
IKIA Kiasar 66.70 315 *e*P **P 08 05 48.0 +0.7**
IGLO Ghaloghah 66.74 315 *e*P P 08 05 55.2 +7.7
ISHM Shahmirzad 66.78 314 *e*P **P 08 05 48.3 +0.4**
MAW Mawson 66.79 197 P **P 08 05 46.7 -0.2**
MAW S **S 08 14 31.6 -3.0**
MAW P'P' 08 34 12.4
MAW Mawson 66.79 197 P **P 08 05 46.7 -0.2**
comp=Z,739nm,1.0s,baz=52,slow=7.4,SNR=219
MAW S **S 08 14 31.6 -3.0**
comp=Z,5.0nm,0.7s,baz=336,slow=20,SNR=1.2
MAW LR LR 08 28 29.1
comp=Z,54μm,21.6s,baz=32,slow=30
MAW PKPPKP **P'P'df 08 34 12.4 -4.7**
comp=Z,67nm,1.1s,baz=243,slow=5.3,SNR=10
MAW Mawson 66.79 197 P **P 08 05 46.7 -0.2**
baz=67,SNR=288
ILAS Lasjerd 66.81 314 *e*P **P 08 05 49.0 +1.0**
IKLH Kolahroud 66.86 311 *e*P **P 08 05 50.1 +1.7**
ATD Arta Tunnel 67.01 286 P **P 08 05 49.8 +0.3**
ATD S **S 08 14 37.4 -1.8**
ATD Arta Tunnel 67.01 286 P **P 08 05 49.8 +0.3**
comp=Z,308nm,1.1s,baz=91,slow=3.4,SNR=155
ATD S **S 08 14 37.4 -1.8**
comp=Z,3.3nm,0.3s,baz=73,slow=19,SNR=2.2
ATD LR LR 08 30 34.6
comp=Z,29μm,21.5s,baz=113,slow=32
IPIR Pirpir 67.10 310 *e*P **P 08 05 51.8 +1.8**
KHZ Kahutara 67.24 133 *e*P **P 08 05 50.4 0.0**
comp=Z,870nm,1.1s
IALA Alasht 67.26 314 *e*P **P 08 05 51.6 +0.7**
HAJJ Hajjah 67.34 291⇑*e*P **P 08 05 53.4 +1.7**
VOSK Vostochnaya 67.74 337 P **P 08 05 52.8 -0.4**
VOSK pmax pmax
comp=Z,854nm,0.9s
QRN Al-Qurain 67.80 305 *e*P **P 08 05 54.4 +0.3**
QRN AMb AMB 08 05 59.9
comp=Z,11μm,1.6s
SNZO South Karori 67.91 131 PFAKE 08 06 10.0 +15
SNZO LR LR
comp=Z,97μm,20.0s
RAYN Ar Rayn 67.96 299 P **P 08 05 55.0 -0.3**
comp=Z,5μm,1.4s
KBD Kabd 68.15 306 *e*P **P 08 05 56.7 +0.5**
KBD AMb AMB 08 06 02.2
comp=Z,4μm,1.5s
BVA0 Borovoye Array 68.20 337 *i* P **P 08 05 55.9 -0.2**
BVA0 pmax pmax
comp=Z,7μm,1.8s
BVAR Borovoye Array 68.20 337 P **P 08 05 55.9 -0.2**
BVAR S **S 08 14 49.2 -2.8**
BVAR pmax pmax
comp=Z,468nm,0.6s
BVAR smax smax
comp=N,8.0nm,0.8s
BVAR MLR MLR
comp=Z,97μm,21.6s
BVAR Borovoye Array 68.20 337 P **P 08 05 55.9 -0.2**
BVAR S **S 08 14 49.2 -2.8**
BVAR P'P' 08 34 10.1
BVAR *e* 08 42 43.2
BVAR Borovoye Array 68.20 337 P **P 08 05 55.9 -0.2**
comp=Z,468nm,0.6s,baz=143,slow=9.8,SNR=250
BVAR S **S 08 14 49.2 -2.8**
comp=Z,8.2nm,0.8s,baz=119,slow=15,SNR=2.5
BVAR PKPPKP **P'P'df 08 34 10.1 -2.6**
comp=Z,20nm,1.1s,baz=318,slow=1.9,SNR=6.7
BVAR LR LR 08 39 49.4
comp=Z,97μm,21.6s,baz=145,slow=40
BVAR P4KPbc 08 42 43.2
comp=Z,1.0nm,0.6s,baz=145,slow=5.3,SNR=3.3
BRVK Borovoye 68.27 337 P **P 08 05 56.6 +0.1**
comp=Z,8μm,1.3s
BRVK Borovoye 68.27 337*c i*P **P 08 05 56.2 -0.3**
BRVK pmax pmax
comp=Z,2μm,1.7s
BRVK MLR MLR
comp=Z,144μm,24.0s
BRVK Borovoye 68.27 337 P **P 08 05 55.8 -0.7**
SNR=727
BRVK Borovoye 68.27 337 PFAKE 08 06 10.0 +14
BRVK LR LR
comp=Z,137μm,22.0s
UMR Umm Al-Rimmam 68.28 306 *e*P **P 08 05 57.6 +0.5**
UMR AMb AMB 08 06 00.9
comp=Z,7μm,0.7s
NAY Al-Naaiem 68.54 305 *e*P **P 08 05 58.9 +0.1**
NAY AMb AMB 08 06 03.8
comp=Z,159nm,1.4s
MIB Mutribah 68.68 306 *e*P **P 08 05 59.9 +0.3**
MIB AMb AMB 08 06 05.5
comp=Z,7μm,1.4s
RST Umm Al-Ruwaisa 68.83 306 *e*P **P 08 06 00.7 +0.1**
RST AMb AMB 08 06 06.0
comp=Z,41μm,0.9s
MSVF Nonsavu 69.29 106 P **P 08 06 04.0 +0.3**
comp=Z,5μm,1.0s,SNR=70
MSVF Nonsavu 69.29 106 PFAKE 08 06 20.0 +16
MSVF LR LR
comp=Z,75μm,20.0s
WNDE Wendo Genet 70.14 280 *i* P **P 08 06 11.6 +2.4**
WNDE *e*S S 08 15 04.8 -12
KMBO Kilima Mbogo 70.19 272⇑*i*P **P 08 06 10.7 +1.1**
KMBO Kilima Mbogo 70.19 272 P **P 08 06 10.8 +1.3**
SNR=253
KMBO Kilima Mbogo 70.19 272 P **P 08 06 10.4 +0.9**
KMBO S **S 08 15 16.4 -1.1**
KMBO P'P' 08 34 12.2
KMBO Kilima Mbogo 70.19 272 P **P 08 06 10.4 +0.9**
comp=Z,290nm,0.9s,baz=68,slow=8.8,SNR=294
KMBO S **S 08 15 16.4 -1.1**
comp=Z,1.8nm,0.7s,baz=18,slow=20,SNR=5.6
KMBO LR LR 08 31 17.4
comp=Z,214μm,21.9s,baz=80,slow=31
KMBO PKPPKP **P'P'df 08 34 12.2 -1.6**
comp=Z,32nm,1.1s,baz=268,slow=2.5,SNR=22
KMBO Kilima Mbogo 70.19 272 P **P 08 06 10.7 +1.1**
baz=70,SNR=160
AB31 Akbulak array 70.25 329 *e*P **P 08 06 09.3 +0.5**
AB31 pmax pmax
comp=Z,3μm,0.6s
IKOM Komasi 70.29 310 *e*P **P 08 06 10.1 +0.5**
IVIS Veis 70.93 310 *e*P **P 08 06 12.7 -0.8**
FUNA Funafuti 70.97 96 PFAKE 08 06 30.0 +16
FUNA LR LR
comp=Z,27μm,20.0s
ILIN Lien 71.01 311 *e*P **P 08 06 13.8 -0.3**
IGHG Ghaleghazi 71.06 310 *e*P **P 08 06 13.6 -0.8**
GALA Gala 71.16 317 P P 08 06 17.8 +3.3
SNR=12
GALA S **S 08 15 28.6 +1.5**
LKRN Lenkeran, Azer 71.32 315⇑P **P 08 06 15.8 +0.3**
SNR=5.4
LKRN Lenkeran, Azer 71.32 315⇑P **P 08 06 15.8 +0.3**
SNR=5.4
LKRN S **S 08 15 26.4 -2.7**
LKRN Lenkeran, Azer 71.32 315⇑P **P 08 06 15.8 +0.3**
SNR=5.4
IDHR Dehrash 71.35 310 *e*P **P 08 06 14.8 -1.3**
NDR Nardaran 71.35 317⇑P **P 08 06 17.7 +2.0**
SNR=22

NDR			S	S	08 15 31.3	+1.9
GOBA	**Gobu**	**71.44 317**	P	**P**	**08 06 19.3**	**+3.1**
GOBA	SNR=79					
GOBA			S	**S**	**08 15 33.0**	**+2.5**
YAK	**Yakutsk**	**71.67 11**	*c i* P	**P**	**08 06 16.4**	**-0.8**
YAK			*e**PP	pP	08 06 27.1	-6.0
YAK			*e*		08 06 36.1	
YAK			*e*		08 08 52.0	
YAK			*e*S	**S**	**08 15 29.2**	**-3.0**
YAK			*e*		08 16 12.3	
YAK			*e*SS	**SS**	**08 20 06.5**	**-2.6**
YAK			pmax	pmax		
	comp=Z,6μm,1.3s					
YAK			pmax	pmax		
	comp=N,2μm,1.1s					
YAK			pmax	pmax		
	comp=E,1μm,1.4s					
YAK			pmax	pmax		
	comp=Z,9μm,8.7s					
YAK			pmax	pmax		
	comp=N,3μm,5.8s					
YAK			pmax	pmax		
	comp=E,2μm,4.6s					
YAK			smax	smax		
	comp=N,6μm,4.4s					
YAK			smax	smax		
	comp=E,2μm,2.0s					
ISRB	**Sarab**	**71.71 314**	*e*P	**P**	**08 06 18.5**	**+0.2**
ALIB	**Äli-Bayra**	**71.73 316**	P	**P**	**08 06 20.5**	**+2.5**
	SNR=280					
ALIB	**Äli-Bayra**	**71.73 316**	P	**P**	**08 06 20.5**	**+2.5**
	SNR=280					
ALIB	**Äli-Bayra**	**71.73 316**	P	**P**	**08 06 20.5**	**+2.5**
	SNR=280					
SKR	**Severo-Kuril's**	**71.77 30⇑**	*i* P	P	08 06 13.0	-5.0
SKR			*e*		08 06 23.5	
SKR			*e*		08 06 35.0	
SKR			*e*PPP	PPP	08 10 36.0	
SKR			*i* S	**S**	**08 15 30.0**	**-3.7**
SKR			*e*		08 15 58.0	
SKR			*e*PS	**PnS**	**08 16 10.0**	**-0.3**
SKR			pmax	pmax		
	comp=N,220nm,0.5s					
SKR			pmax	pmax		
	comp=E,160nm,0.6s					
SKR			pmax	pmax		
	comp=Z,34μm,14.0s					
SKR			pmax	pmax		
	comp=N,14μm,10.0s					
SKR			pmax	pmax		
	comp=E,21μm,10.0s					
SKR			smax	smax		
	comp=N,17μm,10.0s					
SKR			smax	smax		
	comp=E,33μm,10.0s					
SKR			MLR	MLR		
	comp=N,11μm,16.0s					
SKR			MLR	MLR		
	comp=Z,16μm,16.0s					
SKR			MLR	MLR		
	comp=E,15μm,18.0s					
GLBA	**Clilabad**	**71.83 316**	⇑P	**P**	**08 06 18.8**	**+0.1**
	SNR=7.8					
GLBA	**Clilabad**	**71.83 316**	S	**S**	**08 15 32.1**	**-2.8**
GLBA	**Clilabad**	**71.83 316**	⇑P	**P**	**08 06 18.8**	**+0.1**
	SNR=7.8					
AKTO	**Aktyubinsk**	**71.96 329**	P	**P**	**08 06 19.5**	**+0.3**
AKTO			S	**S**	**08 15 32.1**	**-4.0**
AKTO			pmax	pmax		
	comp=Z,982nm,0.9s					
AKTO			smax	smax		
	comp=N,88nm,0.9s					
AKTO			MLR	MLR		
	comp=Z,58μm,21.0s					
AKTO	**Aktyubinsk**	**71.96 329**	P	**P**	**08 06 19.5**	**+0.3**
AKTO			S	**S**	**08 15 32.1**	**-4.0**
AKTO	**Aktyubinsk**	**71.96 329**	P	**P**	**08 06 19.5**	**+0.3**
	comp=Z,982nm,0.9s,baz=123,slow=7.3					
AKTO			S	**S**	**08 15 32.1**	**-4.0**
	comp=Z,88nm,0.9s,baz=268,slow=20,SNR=56					
AKTO			LR	LR	08 43 24.1	
	comp=Z,58μm,21.0s,baz=128,slow=40					
SIZA	**Siyzn**	**72.31 317**	P	**P**	**08 06 22.9**	**+1.3**
	SNR=147					
SIZA	**Siyzn**	**72.31 317**	P	**P**	**08 06 22.9**	**+1.3**
	SNR=147					
SIZA	**Siyzn**	**72.31 317**	P	**P**	**08 06 22.9**	**+1.3**
	SNR=147					
IHRS	**Heris**	**72.37 314**	*e*P	**P**	**08 06 22.2**	**0.0**
PQL	**Pirkuli**	**72.39 317**	⇑P	**P**	**08 06 23.3**	**+1.2**
	SNR=214					
PQL	**Pirkuli**	**72.39 317**	⇑P	**P**	**08 06 23.3**	**+1.2**
	SNR=214					
PQL			S	**S**	**08 15 38.6**	**-3.1**
PQL	**Pirkuli**	**72.39 317**	⇑P	**P**	**08 06 23.3**	**+1.2**
	SNR=214					
IML	**Ismayilli**	**72.67 317**	⇑P	**P**	**08 06 24.3**	**+0.6**
	SNR=36					
IML	**Ismayilli**	**72.67 317**	⇑P	**P**	**08 06 24.3**	**+0.6**
	SNR=36					
IML			S	**S**	**08 15 41.8**	**-2.8**
IML	**Ismayilli**	**72.67 317**	⇑P	**P**	**08 06 24.3**	**+0.6**
	SNR=36					
IFTB	**Fath-abad**	**72.71 314**	*e*P	**P**	**08 06 23.5**	**-0.7**
QUBA	**Quba, Azerbaij**	**72.71 318**	⇑P	**P**	**08 06 24.9**	**+0.9**
	SNR=157					
QUBA	**Quba, Azerbaij**	**72.71 318**	⇑P	**P**	**08 06 24.9**	**+0.9**
	SNR=157					
QUBA			S	**S**	**08 15 43.4**	**-1.7**
QUBA	**Quba, Azerbaij**	**72.71 318**	⇑P	**P**	**08 06 24.9**	**+0.9**
	SNR=157					
IAZR	**Azarshahr**	**72.86 313**	*e*P	**P**	**08 06 25.6**	**+0.4**
RAO	**Raoul Island**	**72.91 118**	PFAKE		08 06 40.0	+15
RAO			LR	LR		
	comp=Z,107μm,22.0s					
ITBZ	**Tabriz**	**72.97 314**	*e*P	**P**	**08 06 25.9**	**+0.2**
BRDA	**Brd**	**73.12 316**	P	**P**	**08 06 27.8**	**+1.6**
	SNR=189					
BRDA	**Brd**	**73.12 316**	P	**P**	**08 06 27.8**	**+1.6**
	SNR=189					
BRDA	**Brd**	**73.12 316**	P	**P**	**08 06 27.8**	**+1.6**
	SNR=189					
ISHB	**Shabestar**	**73.37 314**	*e*P	**P**	**08 06 28.5**	**+0.3**
IMRD	**Marand**	**73.49 314**	*e*P	**P**	**08 06 29.4**	**+0.6**
SEKA	**Sheki**	**73.52 317**	P	**P**	**08 06 29.4**	**+0.7**
	SNR=268					
SEKA	**Sheki**	**73.52 317**	P	**P**	**08 06 29.4**	**+0.7**
	SNR=268					
SEKA			S	**SKiKP**	**08 15 50.9**	**-3.5**
SEKA	**Sheki**	**73.52 317**	P	**P**	**08 06 29.4**	**+0.7**
	SNR=268					
NAX	**Nakhchivan**	**73.83 314**	⇑P	**P**	**08 06 30.8**	**+0.1**
	SNR=665					
NAX	**Nakhchivan**	**73.83 314**	⇑P	**P**	**08 06 30.8**	**+0.1**
	SNR=665					
NAX			S	**SKiKP**	**08 15 54.4**	**-0.5**
NAX	**Nakhchivan**	**73.83 314**	⇑P	**P**	**08 06 30.8**	**+0.1**
	SNR=665					
GANJ	**Ganja**	**73.87 316**	P	**P**	**08 06 31.2**	**+0.4**
	SNR=197					
GANJ	**Ganja**	**73.87 316**	P	**P**	**08 06 31.2**	**+0.4**
	SNR=197					
GANJ			S	**SKiKP**	**08 15 51.1**	**-3.7**
GANJ	**Ganja**	**73.87 316**	P	**P**	**08 06 31.2**	**+0.4**
	SNR=197					
POGA	**Pongola**	**73.90 244⇑**	*i* P	**P**	**08 06 31.5**	**+0.2**
POGA			AMB	AMB	08 06 33.5	
	comp=Z,2μm,1.5s					
PETK	**Petropavlovsk-**	**74.03 29**	P	**P**	**08 06 31.1**	**-0.3**
PETK			S	**S**	**08 15 58.9**	**-0.6**
PETK			pmax	pmax		
	comp=Z,361nm,0.7s					
PETK			smax	smax		
	comp=N,2.0nm,0.7s					
PETK	**Petropavlovsk-**	**74.03 29**	S	**P**	**08 06 31.1**	**-0.3**
PETK			S	**S**	**08 15 58.9**	**-0.6**
PETK			⇑*e*		08 33 42.2	
PETK	**Petropavlovsk-**	**74.03 29**	P	**P**	**08 06 31.1**	**-0.3**
	comp=N,335nm,0.7s,baz=202,slow=4.3,SNR=310					
PETK			S	**S**	**08 15 58.9**	**-0.6**
	comp=N,1.5nm,0.7s,baz=233,slow=14,SNR=2.7					
PETK			PKP2bc		08 33 42.2	
	comp=N,3.4nm,1.0s,baz=79,slow=4.7,SNR=4.1					
PETK			LR	LR	08 38 20.5	
	comp=N,15μm,21.0s,baz=228,slow=35					
MAK	**Makhachkala**	**74.10 319**	*c i* P	**P**	**08 06 33.4**	**+1.4**
MAK			*e**PP	**pP**	**08 06 49.2**	**+1.2**
MAK			*e*		08 09 24.5	
MAK			*e*S	**S**	**08 15 59.2**	**-1.4**
MAK			*e**SS	**SKKSac**	**08 16 34.8**	**0.0**
MAK			*e*		08 16 40.6	
MAK			*e*SS	**SS**	**08 20 51.8**	**+4.9**
MAK			pmax	pmax		
	comp=Z,4μm,2.2s					
MAK			pmax	pmax		
	comp=Z,29μm,8.6s					
MAK			MLR	MLR		
	comp=E,63μm,20.0s					
MAK			MLR	MLR		
	comp=N,45μm,20.0s					
MAK			MLR	MLR		
	comp=Z,40μm,21.0s					
CUKT	**Cukurca**	**74.42 312**	*e*P	**P**	**08 06 33.8**	**-0.3**
PET	**Petropavlovsk**	**74.44 29**	*c e*P	**P**	**08 06 33.4**	**-0.3**
PET			*e*		08 09 17.1	
PET			*e*S	**S**	**08 16 01.6**	**-2.4**
PET			pmax	pmax		
	comp=Z,41μm,6.7s					
PET			pmax	pmax		
	comp=Z,2μm,1.7s					
PET			pmax	pmax		
	comp=Z,33μm,13.2s					
PET			pmax	pmax		
	comp=Z,8μm,12.5s					
PET			pmax	pmax		
	comp=Z,8μm,15.3s					
PET			smax	smax		
	comp=E,31μm,9.6s					
PET			smax	smax		
	comp=E,24μm,10.9s					
HAKT	**HAKKARI**	**74.47 312**	*i* P	**P**	**08 06 35.0**	**+0.5**
GNI	**Garni**	**74.76 315**	P	**P**	**08 06 37.0**	**+0.9**
	SNR=278					
GNI	**Garni**	**74.76 315**	S	**S**	**08 16 07.5**	**-1.0**
GNI	**Garni**	**74.76 315**	S	**S**	**08 16 07.5**	**-1.0**
	comp=E,66nm,1.0s,baz=272,slow=20,SNR=7.8					
GNI			LR	LR	08 40 38.2	
	comp=E,45μm,21.2s,baz=107,slow=37					
SVE	**Sverdlovsk**	**74.84 335**	*d i* P	**P**	**08 06 36.7**	**+0.7**
SVE			*e*		08 06 57.8	
SVE			*e*		08 09 32.2	
SVE			*e*PPP	PPP	08 11 04.7	
SVE			*e*S	**SKiKP**	**08 16 00.7**	**+4.9**
SVE			*e*		08 16 59.1	
SVE			pmax	pmax		
	comp=Z,7μm,1.5s					
SVE			pmax	pmax		
	comp=Z,22μm,9.4s					
SVE			smax	smax		
	comp=N,73μm,9.6s					
SVE			smax	smax		
	comp=Z,24μm,8.2s					
SVE			smax	smax		
	comp=E,29μm,9.4s					
SVE			MLR	MLR		
	comp=N,74μm,22.0s					
SVE			MLR	MLR		
	comp=Z,142μm,23.0s					
SVE			MLR	MLR		
	comp=E,73μm,21.0s					
DGRG	**David-gareji**	**74.86 317**	P	**P**	**08 06 38.3**	**+1.8**
DGRG			S	**S**	**08 16 06.4**	**-2.9**
CLDR	**Caldiran**	**74.94 314**	*e*P	**P**	**08 06 38.1**	**+0.9**
SYO	**Syowa Base**	**74.96 200⇓**	*i* P	**P**	**08 06 34.5**	**-2.0**
VNDA	**Vanda**	**75.17 169**	P	**P**	**08 06 37.2**	**-0.4**
VNDA			S	**S**	**08 16 10.1**	**-1.5**
VNDA			P'P'		08 33 58.5	
VNDA	**Vanda**	**75.17 169**	P	**P**	**08 06 37.2**	**-0.4**
	comp=E,276nm,1.0s,baz=305,slow=5.8,SNR=264					
VNDA			S	**S**	**08 16 10.1**	**-1.5**
	comp=E,1.5nm,0.7s,baz=103,slow=19,SNR=6.0					
VNDA			PKPPKP	**P'P'df**	**08 33 58.5**	**-4.0**
	comp=E,15nm,1.1s,baz=79,slow=0.4,SNR=6.4					
VNDA			LR	LR	08 38 10.5	
	comp=E,67μm,19.0s,baz=305,slow=34					
GEVA	**Gevas**	**75.23 313**	*i* P	**P**	**08 06 40.0**	**+1.1**
DYDN	**Diyadin**	**75.26 314**	*i* P	**P**	**08 06 40.4**	**+1.4**
SIRT	**Sirnak**	**75.38 312**	*e*P	**P**	**08 06 40.0**	**+0.3**
SIRN	**S¨–rnak**	**75.40 312**	*i* P	**P**	**08 06 41.0**	**+1.2**
TBLG	**Delisi**	**75.41 317**	*i* P	**P**	**08 06 40.7**	**+1.1**
TBLG			*i* S	**S**	**08 16 14.6**	**-0.8**
TBLG	**Delisi**	**75.41 317**	P	**P**	**08 06 40.7**	**+1.1**
TBLG			S	**S**	**08 16 14.6**	**-0.8**
ARU	**Arti**	**75.46 334**	*c i* P	**P**	**08 06 39.9**	**+0.4**
ARU			*PP	**pP**	**08 06 54.4**	**-1.2**
ARU					08 09 28.2	
ARU			S	**S**	**08 16 14.6**	**-0.6**
ARU			*SS	**sS**	**08 16 40.6**	**-1.8**
ARU			SSS	SSS	08 24 18.1	
ARU			pmax	pmax		
	comp=Z,7μm,2.5s					
ARU			pmax	pmax		
	comp=Z,23μm,10.1s					
ARU			MLR	MLR		
	comp=Z,84μm,28.0s					
ARU	**Arti**	**75.46 334**	P	**P**	**08 06 40.3**	**+0.8**
	comp=Z,20μm,1.3s					
MSNA	**Messina**	**75.47 249**	*e*P	**P**	**08 06 41.0**	**+0.5**
MSNA			AMB	AMB	08 06 42.9	
	comp=Z,1μm,1.9s					
KZR	**Kazreti**	**75.49 316**	P	**P**	**08 06 41.4**	**+1.2**
DUS	**Dusheti**	**75.59 317**	P	P	08 06 45.9	+5.2
DUS			S	**S**	**08 16 19.9**	**+2.5**
AGRB	**Hanur-Agry**	**75.77 314**	*e*P	**P**	**08 06 43.0**	**+1.0**
KSD	**Kokstad**	**75.79 241⇑**	*i* P	**P**	**08 06 43.6**	**+1.3**
KSD			AMB	AMB	08 06 45.3	
	comp=Z,2μm,1.4s					
DIGO	**Kars**	**75.82 315**	*i* P	**P**	**08 06 43.5**	**+1.2**
TUTA	**Tutak**	**75.83 314**	*i* P	**P**	**08 06 43.8**	**+1.4**
TATV	**Tatvan**	**75.88 313**	*i* P	**P**	**08 06 44.6**	**+2.0**
GUDG	**Gudauri**	**75.89 317**	P	**P**	**08 06 42.2**	**-0.4**
KARS	**Kars**	**76.11 315**	*e*P	**P**	**08 06 45.4**	**+1.5**
MZRK	**Al-Mazaregh**	**76.12 310**	*e*P	**P**	**08 06 46.3**	**+2.5**
AKH	**Akhalkalaki**	**76.14 316**	P	**P**	**08 06 44.7**	**+0.8**
AKH			S	**S**	**08 16 19.7**	**-4.1**
SBA	**Scott Base**	**76.25 169**	PFAKE		08 07 00.0	+16
SBA			LR	LR		
	comp=Z,44μm,22.0s					
BEST	**Besiri**	**76.39 312**	*i* P	**P**	**08 06 46.4**	**+1.0**
ZEI	**Tsey**	**76.41 317**	*e*P	**P**	**08 06 46.6**	**+1.0**
ZEI			*e*S	**S**	**08 16 22.5**	**-4.3**
ZEI			pmax	pmax		
	comp=E,1μm,1.0s					
ZEI			pmax	pmax		
	comp=N,3μm,2.1s					
MARD	**Mardin**	**76.55 311**	*i* P	**P**	**08 06 47.5**	**+1.1**
KBSD	**Kabsdagh**	**76.61 311**	*e*P	**P**	**08 06 47.4**	**+0.8**
ONI	**Oni**	**76.64 317**	P	**P**	**08 06 47.9**	**+1.3**
ONI			S	**S**	**08 16 28.1**	**-0.9**
MBAR	**Mbarara**	**76.71 271⇑**	*i* P	**P**	**08 06 48.2**	**+0.4**
MBAR	**Mbarara**	**76.71 271**	LR	LR	08 35 23.6	
	comp=N,125μm,20.8s,baz=179,slow=32					
HOMI	**Horasan**	**76.72 314**	*i* P	**P**	**08 06 48.8**	**+1.4**
SFNV	**Sufian**	**76.73 310**	*e*P	**P**	**08 06 49.2**	**+1.8**
MAZI	**Mazidag**	**76.84 311**	*e*P	**P**	**08 06 48.7**	**+0.7**
BNGL	**BINGOL**	**76.86 313**	*i* P	**P**	**08 06 49.9**	**+1.7**
ERPM	**east rand prop**	**76.93 245**	*e*P	**P**	**08 06 49.1**	**+0.2**
ERPM			AMB	AMB	08 06 51.3	
	comp=Z,1μm,1.6s					
ERZM	**Erzurum**	**77.05 314**	*i* P	**P**	**08 06 52.2**	**+2.8**
EZM	**Erzurum**	**77.05 314**	*e*P	**P**	**08 06 52.4**	**+3.1**
DAGI	**Agillar**	**77.10 315**	*i* P	**P**	**08 06 50.5**	**+1.1**
ARTV	**Artvin**	**77.13 315**	*i* P	**P**	**08 06 51.0**	**+1.3**
DDEM	**Demirkent**	**77.15 315**	*i* P	**P**	**08 06 50.7**	**+1.0**
DIY	**Diyarbakir**	**77.16 312**	*e*P	**P**	**08 06 52.5**	**+2.8**
KIG	**Kigali**	**77.20 270**	*e*P	**P**	**08 06 52.8**	**+2.2**
KIG			AMB	AMB	08 06 54.1	
	comp=Z,835nm,2.1s					
BNGB	**Bing¨||**	**77.21 313**	*e*P	**P**	**08 06 50.9**	**+0.9**
DBAD	**Bademkaya**	**77.23 315**	*i* P	**P**	**08 06 50.9**	**+0.8**
DIYA	**Diyarbakir**	**77.25 312**	*i* P	**P**	**08 06 52.3**	**+2.1**
DBOC	**Borcka**	**77.38 315**	*i* P	**P**	**08 06 52.2**	**+1.4**
BCA	**Borcka**	**77.44 315**	*e*P	**P**	**08 06 51.7**	**+0.5**
KBZ	**Khabaz**	**77.46 318**	P	**P**	**08 06 52.0**	**+0.8**
KBZ			S	**S**	**08 16 34.1**	**-3.6**
KBZ			pmax	pmax		
	comp=Z,872nm,0.9s					
KBZ			smax	smax		
	comp=N,32nm,1.1s					
KBZ	**Khabaz**	**77.46 318**	P	**P**	**08 06 52.0**	**+0.8**
KBZ			S	**S**	**08 16 34.0**	**-3.6**
KBZ			PKKPbc	**PKKPbc**	**08 25 58.9**	**+1.5**
KBZ			P'P'ab		08 33 40.9	
KBZ			P'P'		08 33 58.5	
KBZ	**Khabaz**	**77.46 318**	P	**P**	**08 06 52.0**	**+0.8**
	comp=N,872nm,0.9s,baz=115,slow=5.0,SNR=205					
KBZ			S	**S**	**08 16 34.0**	**-3.6**
	comp=N,32nm,1.1s,baz=302,slow=20,SNR=15					
KBZ			PKKPbc	**PKKPbc**	**08 25 58.9**	**+1.5**
	comp=N,10nm,0.8s,baz=253,slow=3.2,SNR=7.6					
KBZ			PKP2ab		08 33 40.9	
	comp=N,4.7nm,1.0s,baz=271,slow=1.4,SNR=4.3					
KBZ			PKPPKP	**P'P'df**	**08 33 58.5**	**+0.7**
	comp=N,11nm,1.1s,baz=312,slow=5.7,SNR=7.4					
KBZ			LR	LR	08 48 01.4	
	comp=N,20μm,20.8s,baz=17,slow=41					
KLOF	**Kloof**	**77.50 245**	*e*P	**P**	**08 06 53.2**	**+1.2**
KLOF			AMB	AMB	08 06 54.4	
	comp=Z,925nm,1.6s					
LSZ	**Lusaka**	**77.65 256⇑**	*i* P	**P**	**08 06 53.8**	**+0.8**
LSZ	**Lusaka**	**77.65 256**	P	**P**	**08 06 53.9**	**+0.9**
	SNR=304					
LSZ	**Lusaka**	**77.65 256**	PFAKE		08 07 00.0	+7.0
LSZ			LR	LR		
	comp=Z,302μm,21.0s					
KIV	**Kislovodsk**	**77.69 318**	*c i* P	**P**	**08 06 53.2**	**+0.6**
KIV			*e*		08 09 52.1	
KIV			*e*S	**S**	**08 16 39.8**	**-0.6**
KIV			*e*SS	**SS**	**08 21 46.7**	**+5.1**
KIV			pmax	pmax		
	comp=Z,19μm,5.0s					
KIV			pmax	pmax		
	comp=Z,1μm,1.1s					
KIV			MLR	MLR		
	comp=Z,29μm,18.0s					
KIV	**Kislovodsk**	**77.69 318**	P	**P**	**08 06 53.1**	**+0.5**
	comp=Z,6μm,1.1s					
KOPT	**Kop Dagi**	**77.71 314**	*i* P	**P**	**08 06 54.8**	**+1.7**
JHLN	**Al Jahlan**	**77.76 309**	*e*P	**P**	**08 06 56.2**	**+3.1**
ZALF	**Zalf**	**77.78 306**	*e*P	**P**	**08 06 56.3**	**+3.1**
PZAR	**Pazar-Rize**	**77.85 315**	*e*P	**P**	**08 06 53.7**	**+0.3**
ASF	**Jabal al Asfar**	**77.91 305**	S	**S**	**08 16 41.6**	**-1.6**
ASF	**Jabal al Asfar**	**77.91 305**	S	**S**	**08 16 41.6**	**-1.6**
	comp=Z,3.3nm,0.8s,baz=315,slow=23,SNR=11					
ASF			LR	LR	08 40 09.0	
	comp=Z,111μm,21.7s,baz=244,slow=35					
URFA	**Urfa**	**78.05 311**	*e*P	**P**	**08 06 55.9**	**+1.2**
BAYT	**Ayd¨–ntepe-Bay**	**78.10 314**	*e*P	**P**	**08 06 56.4**	**+1.4**
ERZN	**Erzincan**	**78.12 313**	*e*P	**P**	**08 06 55.0**	**-0.1**
PTK	**Pertek**	**78.12 312**	*e*P	**P**	**08 06 56.6**	**+1.4**
KSR	**Koster**	**78.16 245⇑**	*i* P	**P**	**08 06 58.9**	**+3.1**
KSR			AMB	AMB	08 07 04.9	
	comp=Z,125nm,3.0s					
SOKR	**Solikamsk**	**78.19 336**	*c i* P	**P**	**08 06 55.2**	**+0.4**
SOKR			S	**S**	**08 16 40.2**	**-4.6**
SOKR			pmax	pmax		
	comp=Z,4μm,1.5s					
SOKR			MLR	MLR		
	comp=Z,128μm,28.0s					
ROOS	**tl_alroos**	**78.19 307**	*e*P	**P**	**08 06 58.0**	**+2.4**
SALA	**Sala**	**78.20 306**	*e*P	**P**	**08 06 57.5**	**+1.8**
GRM	**Grahamstown**	**78.21 238⇑**	*i* P	**P**	**08 06 56.9**	**+1.2**
GRM			AMB	AMB	08 06 58.8	
	comp=Z,2μm,1.5s					
SLMH	**Al Salmeh**	**78.33 309**	*e*P	**P**	**08 06 58.5**	**+2.2**
SEY	**Seymchan**	**78.36 19**	*c i* P	**P**	**08 06 55.8**	**+0.1**
ATAB	**Bozova**	**78.46 311**	*i* P	**P**	**08 06 58.2**	**+1.3**
GUMT	**Gumushane**	**78.60 314**	*e*P	**P**	**08 07 00.6**	**+2.9**
TOTH	**TOTAH**	**78.63 306**	*e*P	**P**	**08 06 60.0**	**+2.0**
MALT	**Malatya**	**78.64 311**	*e*P	**P**	**08 06 58.9**	**+0.9**
MALT	**Malatya**	**78.64 311**	⇑P	**P**	**08 06 58.9**	**+0.9**
MALT	**Malatya**	**78.64 311⇑**	*i* P	**P**	**08 06 58.9**	**+0.9**
KELT	**Kelkit**	**78.65 313**	*i* P	**P**	**08 06 60.0**	**+1.9**
MARH	**Ras Al Marh**	**78.79 307**	*e*P	P	08 07 02.5	+3.4
TCHB	**Talchebab**	**78.80 305**	*e*P	**P**	**08 07 01.6**	**+2.7**
QASN	**Qassioun**	**78.81 306**	*e*P	**P**	**08 07 01.4**	**+2.4**
EIL	**Elat**	**78.81 302**	S	**S**	**08 16 48.3**	**-4.5**
EIL	**Elat**	**78.81 302**	S	**S**	**08 16 48.3**	**-4.5**
	comp=Z,9.0nm,0.7s,baz=123,slow=17,SNR=2.0					
EIL			LR	LR	08 41 46.8	
	comp=Z,84μm,18.4s,baz=107,slow=36					
EIL	**Elat**	**78.81 302**	P	**P**	**08 06 60.0**	**+1.0**
	baz=79,SNR=185					
KFRA	**Kufra**	**78.89 308**	*e*P	**P**	**08 07 01.8**	**+2.4**
KEMA	**Kemaliye**	**78.91 312**	*i* P	**P**	**08 07 01.1**	**+1.7**
FKH	**Fakeheh**	**78.91 307**	*e*P	**P**	**08 07 01.1**	**+1.5**
ILIC	**ilic-Erzincan**	**78.91 313**	*e*P	**P**	**08 06 59.8**	**+0.3**
GZT	**Gaziantep**	**78.97 310**	*i* P	**P**	**08 07 01.0**	**+1.1**
HAWK	**Haweek**	**78.99 307**	*e*P	**P**	**08 07 02.2**	**+2.2**
AKCD	**Akcadag**	**79.00 311**	*i* P	**P**	**08 07 01.3**	**+1.2**
BRBR	**Barbar**	**79.03 306**	*e*P	**P**	**08 07 03.3**	**+2.9**
RCY	**Rachaya**	**79.15 306**	*e*P	**P**	**08 07 02.8**	**+1.8**
KUZU	**Kuzuini**	**79.16 310**	*i* P	**P**	**08 07 02.5**	**+1.7**
HVD	**Gariep Dam**	**79.17 240**	*e*P	**P**	**08 07 01.9**	**+0.8**
HVD			AMB	AMB	08 07 03.8	
	comp=Z,1μm,2.0s					
BIDA	**Albida**	**79.21 308**	*e*P	**P**	**08 07 02.5**	**+1.4**
WRDH	**Warideh**	**79.28 308**	*e*P	**P**	**08 07 02.8**	**+1.3**
HWQ	**Hawqa**	**79.28 307**	*e*P	**P**	**08 07 03.1**	**+1.5**
ESPY	**Espiye-Giresun**	**79.29 314**	*e*P	**P**	**08 07 02.3**	**+0.9**
AFI	**Afiamalu**	**79.30 103**	S	**S**	**08 17 03.2**	**+4.5**
AFI			LR	LR		
	comp=Z,23μm,20.0s					
AFI	**Afiamalu**	**79.30 103**	S	**S**	**08 17 03.2**	**+4.5**
	comp=Z,18nm,0.8s,baz=232,slow=20,SNR=1.6					
MMAI	**Mount Meron Ar**	**79.36 306**	S	**S**	**08 16 58.9**	**+0.3**
MMAI	**Mount Meron Ar**	**79.36 306**	S	**S**	**08 16 58.9**	**+0.3**
	comp=Z,0.5nm,0.3s,baz=114,slow=1.7,SNR=2.1					
MMAI			LR	LR	08 44 54.6	
	comp=Z,98μm,20.0s,baz=115,slow=38					
LBTB	**Lobatse**	**79.38 246⇑**	*i* P	**P**	**08 07 03.0**	**+0.6**
LBTB			AMB	AMB	08 07 04.7	
	comp=Z,1μm,2.5s					
BTCH	**Batrach**	**79.41 309**	*e*P	**P**	**08 07 04.5**	**+2.3**
BHL	**Bhannes**	**79.41 307**	*e*P	**P**	**08 07 04.0**	**+1.7**
DARE	**Darende-Malaty**	**79.42 311**	*e*P	**P**	**08 07 03.5**	**+1.2**
BOSA	**Boshof**	**79.48 242⇑**	*i* P	**P**	**08 07 03.0**	**+0.2**
BOSA			AMB	AMB	08 07 05.0	
	comp=Z,1μm,1.7s					
BOSA	**Boshof**	**79.48 242**	P	**P**	**08 07 03.1**	**+0.2**
BOSA			S	**S**	**08 16 58.4**	**-1.9**
BOSA			PKKPbc	**PKKPbc**	**08 25 54.2**	**+2.4**
BOSA	**Boshof**	**79.48 242**	P	**P**	**08 07 03.1**	**+0.2**
	comp=Z,464nm,1.1s,baz=101,slow=5.0,SNR=122					
BOSA			S	**S**	**08 16 58.4**	**-1.9**
	comp=Z,2.4nm,0.7s,baz=292,slow=19,SNR=2.4					
BOSA			PKKPbc	**PKKPbc**	**08 25 54.2**	**+2.4**
	comp=Z,13nm,0.8s,baz=262,slow=1.4,SNR=7.8					
BOSA			LR	LR	08 37 44.8	
	comp=Z,45μm,19.8s,baz=86,slow=32					
KMRS	**Kahramanmaras**	**79.52 310**	*e*P	**P**	**08 07 03.7**	**+1.0**
SOC	**

TOKA	Tokat	80.72 313	*i* P	P	08 07 10.7	+1.5
BNN	Bunyan	80.72 311	*e*P	P	08 07 10.2	+0.9
MIDW	Midway	80.78 60	PFAKE		08 07 20.0	+10
MIDW			LR	LR		
	comp=Z,17μm,21.0s					
KARA	Karaisali	80.85 310	*e*P	P	08 07 11.0	+1.1
PHNC	Paralimni	81.00 307	P	P	08 07 12.4	+1.7
	comp=Z,14nm,0.8s					
EREN	Erenkoy	81.04 308	*e*P	P	08 07 11.2	+0.4
GULE	Gulek	81.07 310	*i* P	P	08 07 12.9	+1.7
VRHR	Novokhopersk	81.23 324	*e*P	P	08 07 11.8	+0.3
VRHR			*e*S	S	08 17 12.8	-4.5
VRHR			pmax	pmax		
	comp=Z,1μm,1.8s					
VRHR			pmax	pmax		
	comp=N,50nm,0.9s					
VRHR			pmax	pmax		
	comp=E,50nm,0.5s					
VRHR			pmax	pmax		
	comp=Z,14μm,3.9s					
VRHR			pmax	pmax		
	comp=N,530nm,0.6s					
VRHR			pmax	pmax		
	comp=E,3μm,1.0s					
VRHR			smax	smax		
	comp=E,18μm,3.2s					
VRHR			smax	smax		
	comp=Z,16μm,4.2s					
VRHR			smax	smax		
	comp=N,13μm,2.6s					
VRHR			MLR	MLR		
	comp=Z,56μm,26.0s					
VRHR			MLR	MLR		
	comp=N,4μm,22.0s					
VRHR			MLR	MLR		
	comp=E,29μm,27.0s					
KVT	Kavak	81.26 314	*e*P	P	08 07 13.3	+1.3
KIZK	Mersin	81.33 309	*i* P	P	08 07 13.3	+0.9
YOZ	Yozgat	81.35 312	*e*P	P	08 07 13.9	+1.2
NIG	Nigde	81.43 310	*e*P	P	08 07 15.9	+2.7
AVNT	Avonos	81.44 311	*i* P	P	08 07 14.3	+1.1
LFK	Lefkose	81.47 307	*e*P	P	08 07 13.9	+0.7
HAVZ	Havza	81.50 313	*i* P	P	08 07 15.4	+2.1
ANN	Anapa	81.51 317	*c i*P	P	08 07 13.1	0.0
ANN			*e**PP	pP	08 07 28.2	-1.2
ANN			*e*		08 10 18.6	
ANN			*i* S	S	08 17 15.6	-4.8
ANN			pmax	pmax		
	comp=N,8μm,7.5s					
ANN			pmax	pmax		
	comp=E,6μm,7.5s					
ANN			pmax	pmax		
	comp=Z,34μm,7.5s					
ANN			pmax	pmax		
	comp=N,416nm,1.5s					
ANN			pmax	pmax		
	comp=E,273nm,1.5s					
ANN			pmax	pmax		
	comp=Z,1μm,1.5s					
CSS	Prodhromos	81.55 307	P	P	08 07 13.7	+0.1
	comp=Z,54nm,1.7s					
CSS	Prodhromos	81.55 307	*e*P	P	08 07 14.1	+0.5
CSS	Prodhromos	81.55 307	P	P	08 07 14.4	+0.8
CSS	Prodhromos	81.55 307	PFAKE		08 07 30.0	+16
CSS			LR	LR		
	comp=Z,119μm,20.0s					
IKL	Isikli	81.61 308	*e*P	P	08 07 14.7	+0.8
MAMC	Mammari	81.69 307	P	P	08 07 15.7	+1.3
SZAC	Souni-Zanaja	81.85 307	P	P	08 07 16.9	+1.7
LEF	Lefka	81.94 307	*e*P	P	08 07 16.7	+1.1
DIKM	Dikmen	82.00 314	*e*P	P	08 07 17.3	+1.5
CORM	Corum	82.02 312	*e*P	P	08 07 17.2	+1.1
CTKT	Corum	82.03 313	*i* P	P	08 07 17.3	+1.1
CDAG	Cicekdag	82.05 312	*i* P	P	08 07 17.3	+1.1
ALFC	Alevga	82.18 307	P	P	08 07 17.4	+0.4
	comp=Z,10nm,0.8s					
QSPA	South Pole Qui	82.26 180	P	P	08 07 16.1	-0.8
QSPA			S	S	08 17 24.7	-3.1
QSPA			PKKPbc	PKKPbc	08 25 45.6	-2.2
QSPA			P'P'		08 33 37.5	
QSPA	South Pole Qui	82.26 180	P	P	08 07 16.1	-0.8
	comp=Z,910nm,1.0s,baz=307,slow=1.9,SNR=430					
QSPA			S	S	08 17 24.7	-3.1
	baz=317,slow=19					
QSPA			PKKPbc	PKKPbc	08 25 45.6	-2.2
	comp=Z,51nm,0.7s,baz=198,slow=1.2,SNR=25					
QSPA			PKPPKP	P'P'df	08 33 37.5	-13
	comp=Z,17nm,1.0s,baz=158,slow=2.2,SNR=8.4					
QSPA			LR	LR	08 39 06.0	
	comp=Z,135μm,21.9s,baz=346,slow=32					
SULT	Sultanhani-AKS	82.28 310	*e*P	P	08 07 18.9	+1.3
BYBT	Boyabat	82.30 314	*e*P	P	08 07 20.1	+2.7
PPCY	Paphos	82.31 307	P	P	08 07 18.2	+0.6
ERMK	Ermenek	82.32 309	*i* P	P	08 07 20.2	+2.3
AKMC	Akamas	82.36 307	P	P	08 07 18.3	+0.4
VORD	Divnogorie	82.53 324	*e*P	P	08 07 18.6	+0.3
VORD			*e*S	S	08 17 25.9	-4.8
VORD			pmax	pmax		
	comp=E,120nm,1.1s					
VORD			pmax	pmax		
	comp=Z,630nm,1.1s					
VORD			pmax	pmax		
	comp=N,50nm,0.4s					
VORD			pmax	pmax		
	comp=Z,970nm,1.2s					
VORD			pmax	pmax		
	comp=N,330nm,0.7s					
VORD			pmax	pmax		
	comp=E,550nm,0.9s					
VORD			smax	smax		
	comp=E,36μm,7.0s					
VORD			smax	smax		
	comp=Z,14μm,4.9s					
VORD			smax	smax		
	comp=N,26μm,3.2s					
VORD			MLR	MLR		
	comp=Z,55μm,24.0s					
VORD			MLR	MLR		
	comp=N,38μm,18.0s					
VORD			MLR	MLR		
	comp=E,33μm,23.0s					
BRTR	Keskin Array B	82.62 312	P	P	08 07 19.5	+0.2
BRTR			S	S	08 17 27.1	-5.3
BRTR			PKKPbc	PKKPbc	08 25 46.2	+0.5
BRTR			P'P'		08 33 44.0	
BRTR	Keskin Array B	82.62 312	P	P	08 07 19.5	+0.2
	comp=E,566nm,0.9s,baz=137,slow=6.2,SNR=331					
BRTR			S	S	08 17 27.1	-5.3
	comp=E,4.1nm,1.0s,baz=77,slow=7.6,SNR=2.4					
BRTR			PKKPbc	PKKPbc	08 25 46.2	+0.5
	comp=E,13nm,1.0s,baz=222,slow=1.7,SNR=10.0					
BRTR			PKPPKP	P'P'df	08 33 44.0	-5.2
	comp=E,5.8nm,1.1s,baz=254,slow=2.0,SNR=5.2					
BRTR			LR	LR	08 45 33.5	
	comp=E,66μm,21.1s,baz=102,slow=37					
GAZI	Gazipasa	82.68 308	*i* P	P	08 07 20.3	+0.8
VSR	Storozhevoye	82.70 324	*e*P	P	08 07 19.5	+0.3
VSR			*e*S	S	08 17 28.3	-4.1
VSR			pmax	pmax		
	comp=Z,1μm,1.0s					
VSR			pmax	pmax		
	comp=N,50nm,0.5s					
VSR			pmax	pmax		
	comp=E,350nm,1.6s					
VSR			pmax	pmax		
	comp=Z,4μm,0.6s					
VSR			pmax	pmax		
	comp=N,610nm,0.5s					
VSR			pmax	pmax		
	comp=E,3μm,0.9s					
VSR			smax	smax		
	comp=E,12μm,4.2s					
VSR			smax	smax		
	comp=Z,9μm,4.1s					
VSR			smax	smax		
	comp=N,12μm,4.3s					
VSR			MLR	MLR		
	comp=Z,47μm,25.0s					
VSR			MLR	MLR		
	comp=N,21μm,27.0s					
VSR			MLR	MLR		
	comp=E,16μm,27.0s					
TOS	Tosya	82.71 313	*e*P	P	08 07 20.9	+1.2
HDMB	Hadim	82.74 309	*e*P	P	08 07 20.7	+0.6
VOR	Voronezh	82.87 324	⇑*i*P	P	08 07 20.0	-0.1
VOR			*e*S	S	08 17 30.0	-4.2
VOR			pmax	pmax		
	comp=Z,8μm,2.0s					
CANT	Cankiri	82.88 313	*e*P	P	08 07 21.7	+1.1
BBAL	Bala	82.95 311	*i* P	P	08 07 22.0	+1.0
AFSR	Af`ar-Bala (A	82.96 311	*e*P	P	08 07 21.8	+0.8
BZK	Bozkurt	82.99 314	*e*P	P	08 07 22.5	+1.5
SUR	Sutherland	83.05 238	P	P	08 07 25.1	+3.3
	SNR=20					
SUR	Sutherland	83.05 238	PKKPbc	PKKPbc	08 25 47.4	+3.3
SUR	Sutherland	83.05 238	PKKPbc	PKKPbc	08 25 47.4	+3.3
	comp=Z,27nm,1.0s,baz=82,slow=1.6,SNR=3.6					
SUR			LR	LR	08 37 09.0	
	comp=Z,257μm,21.5s,baz=92,slow=30					
KONT	Konya--Tatoy	83.09 310	*e*P	P	08 07 22.7	+1.0
LADK	Ladik-KONYA	83.16 310	*e*P	P	08 07 22.5	+0.4
ANTO	Ankara	83.28 312	*e*P	P	08 07 23.1	+0.4
ANTO	Ankara	83.28 312	⇑P	P	08 07 23.4	+0.8
ANTO	Ankara	83.28 312	P	P	08 07 23.7	+1.0
	SNR=474					
ANTO	Ankara	83.28 312	PFAKE		08 07 30.0	+7.4
ANTO			LR	LR		
	comp=Z,65μm,20.0s					
ANTO	Ankara	83.28 312	⇑*i*P	P	08 07 23.4	+0.8
LOD	Lodumlu	83.31 312	*e*P	P	08 07 23.7	+0.9
KDHN	Kadinhani	83.43 310	*i* P	P	08 07 23.9	+0.4
KIZT	Kizilcal	83.70 311	*e*P	P	08 07 25.2	+0.3
SAFT	Safranbolu	83.74 313	*e*P	P	08 07 26.0	+1.1
ELIM	Elim	83.75 236	*e*P	P	08 07 26.5	+1.3
ELIM			AMB	AMB	08 07 28.2	
	comp=Z,1μm,1.5s					
SIM	Simferopol'	83.79 317	*c e*P	P	08 07 25.8	+0.8
SIM					08 10 40.0	
SIM			*e*S	S	08 17 41.4	-2.4
SIM			pmax	pmax		
	comp=Z,13μm,8.5s					
SUTC	Sutluce-Ispart	84.02 309	*e*P	P	08 07 26.4	-0.1
CVNA	Calvinia	84.02 239	⇑*i*P	P	08 07 27.9	+1.2
CVNA			AMB	AMB	08 07 29.7	
	comp=Z,1μm,1.6s					
SVRH	Sivrihisar-ESK	84.12 311	*e*P	P	08 07 27.9	+1.0
CER	Ceres	84.24 237	*e*P	P	08 07 28.9	+1.2
CER			AMB	AMB	08 07 30.7	
	comp=Z,992nm,2.7s					
BCK	Bucak	84.33 309	*e*P	P	08 07 28.0	-0.1
BOLV	Bolvadin	84.36 310	*i* P	P	08 07 29.5	+1.3
ISP	Isparta	84.47 309	*e*P	P	08 07 27.9	-0.9
ISP	Isparta	84.47 309	P	P	08 07 28.4	-0.4
ISP	Isparta	84.47 309	⇑P	P	08 07 28.6	-0.2
ISP	Isparta	84.47 309	PFAKE		08 07 40.0	+11
ISP			LR	LR		
	comp=Z,54μm,22.0s					
ISP	Isparta	84.47 309	⇑*i*P	P	08 07 28.6	-0.2
MDUB	Mudurnu	84.62 312	*e*P	P	08 07 30.3	+0.8
MAIT	Maitri	84.62 199	*e*P	P	08 07 25.9	-2.9
ESKT	Eskisehir	84.64 311	*e*P	P	08 07 32.1	+2.5
KDZE	Karadeniz Ereo	84.66 313	*e*P	P	08 07 30.1	+0.5
ELL	Elmali	84.69 308	*e*P	P	08 07 30.7	+0.8
KSL	Kastellorizon	84.80 307	*e*P	P	08 07 30.4	+0.1
AKAS	Kas	84.80 307	*i* P	P	08 07 30.5	0.0
GOLH	Golhisar	85.07 308	*i* P	P	08 07 32.5	+0.7
ALT	Altintas	85.08 310	*i* P	P	08 07 40.2	+8.3
GULT	Gulveren	85.12 312	*e*P	P	08 07 32.8	+0.8
MOS	Moscow	85.22 328	*c i*P	P	08 07 32.6	+0.7
MOS			*e*		08 07 44.7	
MOS			*e*		08 10 46.8	
MOS			*i* S	S	08 17 49.2	-8.3
MOS			pmax	pmax		
	comp=Z,38μm,4.0s					
MOS			pmax	pmax		
	comp=N,10μm,4.4s					
MOS			pmax	pmax		
	comp=E,14μm,4.4s					
MOS			pmax	pmax		
	comp=Z,4μm,1.9s					
MOS			pmax	pmax		
	comp=N,617nm,2.0s					
MOS			pmax	pmax		
	comp=E,898nm,2.0s					
MOS			smax	smax		
	comp=N,76μm,4.8s					
MOS			smax	smax		
	comp=E,84μm,4.8s					
GPA	Golpazari	85.23 312	*e*P	P	08 07 34.8	+2.3
FETY	Fethiye	85.31 308	*e*P	P	08 07 33.5	+0.6
SPNC	Sapanca-Adapaz	85.33 312	*e*P	P	08 07 33.6	+0.7
KHL	Karahalli	85.35 310	*e*P	P	08 07 34.6	+1.4
KHAL	Karahalli	85.39 310	*i* P	P	08 07 34.6	+1.2
CAVI	Cavuskoy	85.56 311	*e*P	P	08 07 35.0	+1.0
OBN	Obninsk	85.56 327	*c i*P	P	08 07 34.0	+0.4
OBN			*i*		08 07 48.0	
OBN			*e*		08 10 54.8	
OBN			*i*		08 17 50.5	
OBN			*i* S	S	08 17 59.7	-1.1
OBN			*i* SS	SS	08 23 37.1	-0.8
OBN			pmax	pmax		
	comp=Z,32μm,3.2s					
OBN			pmax	pmax		
	comp=Z,2μm,0.9s					
OBN	Obninsk	85.56 327	P	P	08 07 34.2	+0.6
	comp=Z,12μm,0.8s					
GDZ	Gediz	85.57 310	*i* P	P	08 07 35.3	+1.0
DNZL	Cakiroluk	85.57 309	*i* P	P	08 07 35.2	+0.8
DENT	Denizli	85.60 309	*e*P	P	08 07 36.5	+2.1
DALY	Dalyan (Mu¨la	85.68 308	*e*P	P	08 07 35.6	+0.9
TURN	Turunc	85.73 308	*i* P	P	08 07 38.0	+3.0
HRT	Hereke	85.84 312	*e*P	P	08 07 36.3	+0.9
SILT	Sile	85.93 312	*e*P	P	08 07 37.0	+1.1
ARG	Arkhangelos	85.97 307	P	P	08 07 36.9	+0.8
ARG	Arkhangelos	85.97 307	P	P	08 07 36.9	+0.8
ARG	Arkhangelos	85.97 307	*e*P	P	08 07 38.3	+2.2
ARG	Arkhangelos	85.97 307	P	P	08 07 36.9	+0.8
YLV	Yalova	85.99 312	*e*P	P	08 07 36.2	0.0
YER	Yerkesik	86.04 308	*e*P	P	08 07 37.7	+1.1
KULA	Kula-Manisa	86.06 310	*e*P	P	08 07 37.9	+1.2
ULDT	Uludag	86.07 311	*i* P	P	08 07 37.8	+1.0
DEMI	Demirci	86.13 310	*i* P	P	08 07 38.5	+1.5
KLMR	Klimovskoe	86.22 333	*c i*P	P	08 07 37.3	+0.5
KLMR			*i* S	S	08 17 56.0	-11
KLMR			pmax	pmax		
	comp=Z,31μm,2.8s					
KLMR			pmax	pmax		
	comp=Z,7μm,1.5s					
ORLT	Orhaneli	86.23 311	*e*P	P	08 07 40.1	+2.7
BUY	Buyukada	86.25 312	*i* P	P	08 07 38.2	+0.8
MDNY	Mudanya-Bursa	86.31 311	*e*P	P	08 07 38.7	+0.9
DST	Dursunbey	86.33 311	*e*P	P	08 07 46.0	+8.1
ISK	Istanbul-Kandi	86.34 312	*e*P	P	08 07 38.8	+0.9
ARMT	Armutlu	86.37 312	*e*P	P	08 07 38.6	+0.6
KLYT	Kilyos	86.40 312	*e*P	P	08 07 39.1	+1.0
DURS	Dursunbey	86.44 311	*i* P	P	08 07 39.8	+1.3
AYDN	Tasoluk	86.47 309	*i* P	P	08 07 41.2	+2.5
MLSB	Milas	86.47 308	*e*P	P	08 07 39.8	+1.1
DAT	Datca	86.51 308	*e*P	P	08 07 39.6	+0.7
BGKT	Bogazkoy	86.58 312	*e*P	P	08 07 39.8	+0.8
KARP	Karpathos	86.59 306	P	P	08 07 40.4	+1.1
KARP	Karpathos	86.59 306	*e*P	P	08 07 41.1	+1.8
KARP	Karpathos	86.59 306	*e*P	P	08 07 41.1	+1.8
KARP	Karpathos	86.59 306	P	P	08 07 40.4	+1.1
KCTX	Karacabey (Bur	86.68 311	*e*P	P	08 07 40.5	+0.9
BDRM	Kayabasi	86.68 308	*i* P	P	08 07 40.7	+1.0
AKHS	Akhisar	86.78 310	*i* P	P	08 07 41.3	+1.2
AKS	Akhisar	86.78 310	*e*P	P	08 07 43.0	+2.8
BODT	Bodrum	86.79 308	*e*P	P	08 07 41.1	+0.9
CTKS	Kestanelik-??a	86.79 312	*e*P	P	08 07 40.7	+0.6
ELBA	Catalca	86.82 312	*i* P	P	08 07 41.3	+1.0
BALB	Balikesir	86.90 310	*e*P	P	08 07 41.8	+1.1
GCAM	G?zelcaml?	86.98 308	*i* P	P	08 07 42.6	+1.6
CTYL	Yal??k??y-??at	87.00 312	*e*P	P	08 07 42.1	+1.0
SLVT	Silivri	87.00 312	*e*P	P	08 07 42.5	+1.3
BNT	Bandirma	87.03 311	*e*P	P	08 07 44.0	+2.8
IZM	Izmir	87.10 309	*e*P	P	08 07 43.3	+1.6
BALY	Balya	87.12 311	*i* P	P	08 07 43.0	+1.2
GONE	Gonen-Balikesi	87.13 311	*e*P	P	08 07 42.5	+0.8
ZKR	Zakros	87.26 306	*e*P	P	08 07 45.6	+3.1
SMG	Samos	87.29 308	P	P	08 07 43.6	+1.0
SMG	Samos	87.29 308	*e*P	P	08 07 44.3	+1.7
SMG	Samos	87.29 308	P	P	08 07 43.6	+1.0
MANR	Mangalia	87.32 315	⇑*i*P	P	08 07 44.3	+1.8
TSUM	Tsumeb	87.33 251	PFAKE		08 07 50.0	+6.6
TSUM			LR	LR		
	comp=Z,159μm,20.0s					
EFOR	EFORIE	87.35 315	⇑*i*P	P	08 07 44.0	+1.3
ADK	Adak	87.44 37	PFAKE		08 08 00.0	+17
ADK			LR	LR		
	comp=Z,26μm,21.0s					
TKR	Tekirdag	87.45 312	*e*P	P	08 07 44.8	+1.5
TLCR		87.48 316	⇑P	P	08 07 44.7	+1.4
TLCR		87.48 316	⇑*i*P	P	08 07 44.7	+1.4
KRBG	Karabiga-Canak	87.50 311	*e*P	P	08 07 44.3	+0.8
PSN	Preselentsi	87.57 314	*i* P	P	08 07 45.3	+1.5
TIRR	Tirgusor	87.59 315	⇑P	P	08 07 44.7	+0.9
TIRR	Tirgusor	87.59 315	⇑*i*P	P	08 07 44.7	+0.9
TIRR	Tirgusor	87.59 315	⇓*i*P	S	08 18 24.4	+3.4
MFT	Murefte	87.59 312	*e*P	P	08 07 44.8	+0.7
PHSR	Pinarhisar	87.59 312	*e*P	P	08 07 44.7	+0.8
URLA	Izmir	87.61 309	*i* P	P	08 07 45.8	+1.7
RKY	Sarkoy-Tekirda	87.65 311	*e*P	P	08 07 45.2	+0.9
AYVA	Ayvalik	87.73 310	*i* P	P	08 07 45.8	+1.2
NPS	Neapolis	87.77 306	P	P	08 07 46.4	+1.4
NPS	Neapolis	87.77 306	P	P	08 07 46.4	+1.4
NPS	Neapolis	87.77 306	*e*P	P	08 07 47.7	+2.7
NPS	Neapolis	87.77 306	P	P	08 07 46.4	+1.4
CVD	Cernavoda	87.82 315	⇓P	P	08 07 46.6	+1.7
CVD	Cernavoda	87.82 315	⇓*i*P	P	08 07 46.6	+1.7
LAST	Lasithi	87.86 306	*e*P	P	08 07 46.8	+1.3
LPK	Lapseki	87.89 311	*e*P	P	08 07 46.7	+1.3
KIS	Kishinev	87.90 318	⇑*i*P	P	08 07 45.0	-0.3
	comp=Z,10μm,2.5s					
KIS			*i* pP	pP	08 08 04.0	+2.3
KIS	Kishinev	87.90 318	*i* PP	PP	08 11 00.0	-12
	comp=Z,11μm,10.0s					
KIS	Kishinev	87.90 318	*i* PS	PS	08 19 48.0	+14
KIS			LRM	MLR	08 51 32.0	
	comp=Z,51μm,22.0s					
KIS	Kishinev	87.90 318	α *i*P	P	08 07 45.0	-0.3
KIS			*i* S	S	08 18 22.0	-1.9
KIS			*i*		08 19 35.0	
KIS			*i* PS	PS	08 19 48.0	+14
KIS			pmax	pmax		
	comp=N,2μm,2.5s					
KIS			pmax	pmax		
	comp=Z,10μm,2.5s					
KIS			pmax	pmax		
	comp=E,4μm,2.4s					
KIS			smax	smax		
	comp=E,16μm,8.0s					
KIS			pmax	pmax		
	comp=Z,40μm,8.0s					
KIS			pmax	pmax		
	comp=N,4μm,4.0s					
KIS			pmax	pmax		
	comp=Z,9μm,15.0s					
KIS			smax	smax		
	comp=N,96μm,8.0s					
KIS			smax	smax		
	comp=E,114μm,9.0s					
KIS	Kishinev	87.90 318	⇑*i*P	P	08 07 45.7	+0.4
HARR	Harsova	87.97 315	⇑P	P	08 07 46.5	+0.8
HARR	Harsova	87.97 315	⇑*i*P	P	08 07 46.5	+0.8
PRD	Provadia	88.02 314	*i* P	P	08 07 47.4	+1.5
CHOS	Chios island	88.03 309	P	P	08 07 47.3	+1.1
CHOS	Chios island	88.03 309	*e*P	P	08 07 47.6	+1.4
CHOS	Chios island	88.03 309	P	P	08 07 47.3	+1.1
PRK	Paraskevi	88.03 310	P	P	08 07 47.0	+0.9
PRK	Paraskevi	88.03 310	P	P	08 07 47.0	+0.9
PRK	Paraskevi	88.03 310	*e*P	P	08 07 47.3	+1.2
PRK	Paraskevi	88.03 310	P	P	08 07 47.0	+0.9
SANT	Santorini	88.11 307	P	P	08 07 45.9	-0.7
SANT	Santorini	88.11 307	PFAKE		08 08 00.0	+13
SANT			LR	LR		
	comp=Z,35μm,20.0s					
EZN	Ezine	88.11 310	*e*P	P	08 07 47.8	+1.4
GELI	Tayfur-Gelibol	88.11 311	*e*P	P	08 07 47.4	+1.0
TMCR	Tamitsa	88.12 336	*e*P	P	08 07 46.3	+0.4
TMCR			*e*		08 11 16.0	
TMCR			*e*S	SKSac	08 18 10.1	+0.8
TMCR			pmax	pmax		
	comp=Z,3μm,1.3s					
LEOM	Leova	88.16 317	⇑P	P	08 07 48.1	+1.6
LEOM	Leova	88.16 317	⇑*i*P	P	08 07 48.1	+1.6
APE	Apeiranthos	88.18 308	P	P	08 07 46.9	0.0
APE	Apeiranthos	88.18 308	P	P	08 07 46.9	0.0
APE	Apeiranthos	88.18 308	*e*P	P	08 07 48.0	+1.1
APE	Apeiranthos	88.18 308	P	P	08 07 46.9	0.0
APE	Apeiranthos	88.18 308	⇑*i*P	P	08 07 47.2	+0.3
EDRB	Edirne	88.21 312	*e*P	P	08 07 48.0	+1.1
BOZC	Bozcaada	88.32 310	*i* P	P	08 07 48.6	+1.1
IDI	Anoyia	88.36 306	P	P	08 07 48.5	+0.7
IDI	Anoyia	88.36 306	*e*P	P	08 07 49.9	+2.1
IDI	Anoyia	88.36 306	P	P	08 07 48.5	+0.7
IDI			S	SKSac	08 18 10.7	-1.5
IDI			PKKPbc	PKKPbc	08 25 34.4	+2.6
IDI	Anoyia	88.36 306	P	P	08 07 48.5	+0.7
	baz=109,slow=9.1					
IDI			S	SKSac	08 18 10.7	-1.5
	comp=Z,11nm,0.8s,baz=254,slow=20,SNR=7.8					
IDI			PKKPbc	PKKPbc	08 25 34.4	+2.6
	comp=Z,30nm,0.6s,baz=318,slow=4.5,SNR=6.9					
IDI			LR	LR	08 47 46.4	
	comp=Z,56μm,21.6s,baz=93,slow=36					
AMRR	Amara	88.37 315	⇓P	P	08 07 50.1	+2.6
AMRR	Amara	88.37 315	⇓*i*P	P	08 07 50.1	+2.6
SIVA	Sivas	88.37 305	*e*P	P	08 07 49.9	+2.1
JMB	Yambol	88.46 313	P	P	08 07 49.2	+1.2
JMB	Yambol	88.46 313	P	P	08 07 49.2	+1.2
JMB	Yambol	88.46 313	P	P	08 07 49.2	+1.2
JMB	Yambol	88.46 313	*i* P	P	08 07 50.1	+2.1
AKASG	Malin Array Be	88.52 321	P	P	08 07 47.8	-0.3
AKASG					08 11 16.5	
AKASG			S	SKSac	08 18 10.4	-1.9
AKASG			pmax	pmax		
	comp=Z,59nm,0.5s					
AKASG			pmax	pmax		
	comp=Z,103nm,0.9s					
AKASG	Malin Array Be	88.52 321	P	P	08 07 47.8	-0.3
AKASG			PP	PP	08 11 16.5	-0.5
AKASG			S	SKSac	08 18 10.4	-1.9
AKASG			PKKPbc	PKKPdf	08 25 29.2	+2.5
AKASG			P'P'		08 33 35.7	
AKASG			P4KP		08 44 43.0	
AKASG	Malin Array Be	88.52 321	P	P	08 07 47.8	-0.3
	comp=Z,72nm,0.6s,baz=85,slow=4.3,SNR=145					
AKASG			PP	PP	08 11 16.5	-0.5
	comp=Z,103nm,0.9s,baz=95,slow=6.4,SNR=8.5					
AKASG			S	SKSac	08 18 10.4	-1.9
	comp=Z,2.3nm,0.7s,baz=141,slow=3.1,SNR=3.3					
AKASG			PKKPbc	PKKPdf	08 25 29.2	+2.5
	comp=Z,4.1nm,0.6s,baz=284,slow=3.1,SNR=5.6					
AKASG			PKPPKP	P'P'df	08 33 35.7	-1.7
	comp=Z,0.4nm,0.3s,baz=291,slow=2.6,SNR=3.0					
AKASG			P4KP		08 44 43.0	
	comp=Z,0.5nm,0.4s,baz=90,slow=4.6,SNR=4.2					
AKASG			LR	LR	08 55 02.1	
	comp=Z,53μm,21.4s,baz=80,slow=41					
KIEV	Kiev	88.53 321	PFAKE		08 08 00.0	+12
KIEV			LR	LR		
	comp=Z,51μm,22.0s					
ALN	Alexandroupoli	88.53 311	P	P	08 07 49.0	+0.6
ALN	Alexandroupoli	88.53 311	P	P	08 07 49.0	+0.6
ALN	Alexandroupoli	88.53 311	*e*P	P	08 07 49.7	+1.3
ALN	Alexandroupoli	88.53 311	P	P	08 07 49.0	+0.6
GHRR		88.63 317	⇓*i*P	P	08 07 50.5	+1.7
PGOR	Pogoanele	88.68 316	⇑*i*P	P	08 07 51.9	+2.9
PETR	Petresti	88.68 316	⇑*i*P	P	08 07 51.7	+2.7
GRER		88.78 316	⇑*i*P	P	08 07 52.7	+3.2
SMTH	Samothraki Isl	88.83 311	P	P	08 07 49.9	0.0
SMTH	Samothraki Isl	88.83 311	*e*P	P	08 07 50.5	+0.6
SMTH	Samothraki Isl	88.83 311	P	P	08 07 49.9	0.0
VAM	Vamos	88

SZH	Strazhica	89.08 314	*i* P	P	08 07 52.2	+1.2
PLOR	Plostina	89.11 316	⇑P	P	08 07 52.3	+1.2
PLOR	Plostina	89.11 316	⇑*i*P	P	08 07 52.3	+1.2
SULR		89.14 315	⇓*i*P	P	08 07 52.8	+1.6
KDZ	Kurdzhali	89.14 312	*i* P	P	08 07 52.7	+1.4
KARN	Karanos	89.16 306	*e*P	P	08 07 53.4	+1.8
BTMR	Bucharest-Geot	89.19 315	⇑*i*P	P	08 07 52.6	+1.2
BVCR	Bucharest-Old	89.20 315	⇑*i*P	P	08 07 53.7	+2.3
TESR	Tescani	89.25 317	⇑*i*P	P	08 07 52.6	+0.9
TESR	Tescani	89.25 317	⇑*i*P	S	08 18 44.0	+7.3
SECR		89.34 315	⇑*i*P	P	08 07 53.5	+1.3
CIOR	Ciorogarla	89.36 315	⇑*i*P	P	08 07 55.2	+3.0
PVL	Pavlikeni	89.50 314	*i* P	P	08 07 54.9	+2.0
MLR	Muntele Rosu	89.52 316	P	P	08 07 54.0	+0.9
MLR			S	SKSac	08 18 17.4	-1.3
MLR			PKKPbc	PKKPdf	08 25 27.2	+2.2
MLR	Muntele Rosu	89.52 316	⇑*i*P	P	08 07 54.1	+0.9
MLR	Muntele Rosu	89.52 316	P	P	08 07 54.0	+0.9
	comp=Z,96nm,1.1s,baz=242,slow=0.4,SNR=218					
MLR			S	SKSac	08 18 17.4	-1.3
	comp=Z,6.2nm,1.1s,baz=317,slow=8.6,SNR=3.4					
MLR			PKKPbc	PKKPdf	08 25 27.2	+2.2
	comp=Z,1.3nm,0.9s,baz=304,slow=2.6,SNR=3.7					
MLR			LR	LR	08 52 25.2	
	comp=Z,14μm,21.9s,baz=274,slow=38					
ZIMR		89.57 314	⇓P	P	08 07 55.3	+2.1
ZIMR		89.57 314	⇓*i*P	P	08 07 55.3	+2.1
PTL	Penteli	89.66 308	P	P	08 07 54.0	+0.1
PTL	Penteli	89.66 308	*e*P	P	08 07 54.8	+0.9
PTL	Penteli	89.66 308	P	P	08 07 54.0	+0.1
KAVA	Kavala	89.69 311	P	P	08 07 54.2	+0.3
KAVA	Kavala	89.69 311	P	P	08 07 54.2	+0.3
PRAR	RASCA	89.70 318	⇑*i*P	P	08 07 55.0	+1.2
ATHU	Athens Univers	89.71 308	P	P	08 07 53.7	-0.3
ATHU	Athens Univers	89.71 308	P	P	08 07 53.7	-0.3
ANKY	Antikythira Is	89.73 306	P	P	08 07 55.4	+1.2
ANKY	Antikythira Is	89.73 306	*e*P	P	08 07 56.0	+1.8
ANKY	Antikythira Is	89.73 306	P	P	08 07 55.4	+1.2
PLD	Plovdiv	89.75 312	P	P	08 07 54.5	+0.4
PLD	Plovdiv	89.75 312	P	P	08 07 54.5	+0.4
PLD	Plovdiv	89.75 312	P	P	08 07 54.5	+0.4
PLD	Plovdiv	89.75 312	*i* P	P	08 07 55.2	+1.1
ATH	Athens Observa	89.77 308	P	P	08 07 54.2	-0.1
ATH	Athens Observa	89.77 308	P	P	08 07 54.2	-0.1
ATH	Athens Observa	89.77 308	*e*P	P	08 07 50.4	-3.9
ATH	Athens Observa	89.77 308	P	P	08 07 54.2	-0.1
ERET	Eretria	89.78 309	P	P	08 07 53.3	-1.1
AOS	Alonnisos	89.85 309	P	P	08 07 54.6	0.0
AOS	Alonnisos	89.85 309	*e*P	P	08 07 55.5	+0.9
AOS	Alonnisos	89.85 309	P	P	08 07 54.6	0.0
RAR	Rarotonga	89.85 111	P	P	08 07 55.7	+0.7
RAR	Rarotonga	89.85 111	P	P	08 07 55.7	+0.7
	comp=Z,270nm,1.2s,baz=270,slow=5.5,SNR=9.6					
RAR			LR	LR	08 47 05.6	
	comp=Z,48μm,21.1s,baz=270,slow=35					
NAIG	Nisos Aigina	89.91 308	*e*P	P	08 07 54.8	-0.1
OUR	Ouranopolis	89.97 311	P	P	08 07 55.6	+0.4
OUR	Ouranopolis	89.97 311	P	P	08 07 55.6	+0.4
OUR	Ouranopolis	89.97 311	P	P	08 07 55.6	+0.4
MRKA	Markates	89.99 309	P	P	08 07 55.0	-0.4
DOPR	Dopca	89.99 316	⇑*i*P	P	08 07 56.6	+1.4
HUMR	Humele	90.00 315	⇑*i*P	P	08 07 57.0	+1.8
HUMR	Humele	90.00 315	⇑*i*P	S	08 18 43.4	-0.4
KYTH	Kithira	90.02 306	P	P	08 07 56.4	+0.9
KYTH	Kithira	90.02 306	*e*P	P	08 07 56.9	+1.4
KYTH	Kithira	90.02 306	P	P	08 07 56.4	+0.9
DID	Didima	90.06 308	P	P	08 07 55.0	-0.7
DID	Didima	90.06 308	*e*P	P	08 07 55.2	-0.5
DID	Didima	90.06 308	P	P	08 07 55.0	-0.7
GOLR		90.07 315	⇑*i*P	P	08 07 57.4	+1.8
DIDY	Didyma	90.08 308	P	P	08 07 55.2	-0.7
MTUR	Matau	90.08 316	⇑P	P	08 07 56.6	+0.9
MTUR	Matau	90.08 316	⇑*i*P	P	08 07 56.6	+0.9
VOIR		90.13 316	⇑P	P	08 07 55.9	0.0
VOIR		90.13 316	⇑*i*P	P	08 07 55.9	0.0
VOIR		90.13 316	⇑*i*P	S	08 18 48.8	+3.7
PAIG	Paliouri	90.13 310	P	P	08 07 55.9	0.0
PAIG	Paliouri	90.13 310	P	P	08 07 55.9	0.0
PAIG	Paliouri	90.13 310	*e*P	P	08 07 56.8	+0.9
PAIG	Paliouri	90.13 310	P	P	08 07 55.9	0.0
SKIA	Skiathos	90.16 309	P	P	08 07 55.8	-0.3
VLI	Veliai	90.17 307	P	P	08 07 55.9	-0.3
VLI	Veliai	90.17 307	*e*P	P	08 07 56.6	+0.4
VLI	Veliai	90.17 307	P	P	08 07 55.9	-0.3
PUL	Pulkovo	90.19 330	*c i*P	P	08 07 56.5	+0.8
PUL			pmax	pmax		
	comp=Z,741nm,1.1s					
MICGM	Minsk	90.20 325	⇑*i*P	P	08 07 54.0	-1.9
MNK	Minsk	90.23 325	*c i*P	P	08 07 54.0	-2.0
MNK			*e*PP	pP	08 08 10.0	-2.5
MNK			*e*S	S	08 18 36.0	-9.4
MNK			pmax	pmax		
	comp=Z,2μm,1.5s					
MNK			pmax	pmax		
	comp=Z,54μm,6.0s					
MNK			pmax	pmax		
	comp=E,24μm,4.0s					
MNK			pmax	pmax		
	comp=E,3μm,1.5s					
MNK			pmax	pmax		
	comp=N,840nm,2.0s					
MNK			smax	smax		
	comp=N,77μm,8.0s					
MNK			smax	smax		
	comp=E,118μm,4.0s					
NVR	Nevrokopi	90.24 312	P	P	08 07 56.4	-0.1
NVR	Nevrokopi	90.24 312	*e*P	P	08 07 57.4	+0.9
NVR	Nevrokopi	90.24 312	P	P	08 07 56.4	-0.1
SMIA	Simia	90.31 309	P	P	08 07 56.5	-0.4
LTK	Loutraki	90.36 308	P	P	08 07 56.1	-1.0
LTK	Loutraki	90.36 308	*e*P	P	08 07 56.4	-0.7
LTK	Loutraki	90.36 308	P	P	08 07 56.1	-1.0
NEO	Neokhori	90.37 309	P	P	08 07 56.5	-0.6
NEO	Neokhori	90.37 309	P	P	08 07 56.5	-0.6
PLG	Polygyros	90.38 311	P	P	08 07 57.0	-0.2
PLG	Polygyros	90.38 311	P	P	08 07 57.0	-0.2
PLG	Polygyros	90.38 311	P	P	08 07 57.0	-0.2
SRS	Serrai	90.40 311	P	P	08 07 56.9	-0.3
SRS	Serrai	90.40 311	P	P	08 07 56.9	-0.3
SRS	Serrai	90.40 311	P	P	08 07 56.9	-0.3
ARR	Arges	90.40 316	⇑*i*P	P	08 07 57.8	+0.6
ARR	Arges	90.40 316	⇑*i*P	S	08 18 50.5	+2.9
XOR	Xorichti	90.41 310	P	P	08 07 56.9	-0.4
XOR	Xorichti	90.41 310	P	P	08 07 56.9	-0.4
ACOR	Acrocorinthos	90.41 308	P	P	08 07 56.7	-0.6
BURAR	Bucovina Array	90.42 318	⇓P	P	08 07 59.0	+1.7
BURAR	Bucovina Array	90.42 318	⇓*i*P	P	08 07 59.0	+1.7
BURAR	Bucovina Array	90.42 318	⇓*i*P	S	08 18 57.7	+10
LKR	Lokris	90.44 309	*e*P	P	08 07 57.4	0.0
SOH	Sokhos	90.53 311	P	P	08 07 57.7	-0.1
SOH	Sokhos	90.53 311	P	P	08 07 57.7	-0.1
SOH	Sokhos	90.53 311	*e*P	P	08 07 59.1	+1.3
SOH	Sokhos	90.53 311	P	P	08 07 57.7	-0.1
JOF	Joensuu	90.57 334	*e*P	P	08 07 58.0	+0.6
JOF			pmax	pmax		
	comp=Z,138nm,0.5s					
JOF	Joensuu	90.57 334	*e*p	P	08 07 58.0	+0.6
	comp=Z,138nm,0.5s					
VNA2	Neumayer--Watz	90.60 197	*e*P	P	08 07 58.4	+0.9
VNA2	Neumayer--Watz	90.60 197	*e*PcP	PcP	08 07 59.8	+1.2
VNA2	Neumayer--Watz	90.60 197	*e*sP	sP	08 08 18.5	-1.9
VNA2	Neumayer--Watz	90.60 197	*e*PP	PP	08 11 29.7	-3.0
DYR	Agios Nikonas	90.65 307	P	P	08 07 59.0	+0.5
DYR	Agios Nikonas	90.65 307	*e*P	P	08 07 59.9	+1.4
MPEP	Malo Peshtene	90.67 314	*i* P	P	08 07 59.7	+1.3
HORT	Hortiatis	90.68 311	P	P	08 07 58.2	-0.4
HORT	Hortiatis	90.68 311	P	P	08 07 58.2	-0.4
VLX	Vlachokerasia	90.71 307	P	P	08 07 59.2	+0.3
VLX	Vlachokerasia	90.71 307	*e*P	P	08 08 00.1	+1.2
VLX	Vlachokerasia	90.71 307	P	P	08 07 59.2	+0.3
MDB	Medias	90.72 316	⇓P	P	08 08 00.3	+1.8
MDB	Medias	90.72 316	⇓*i*P	P	08 08 00.3	+1.8
AXAR	Agios Charalam	90.72 309	P	P	08 07 58.8	+0.1
AXAR	Agios Charalam	90.72 309	P	P	08 07 58.8	+0.1
LVZ	Lovozero	90.72 339	*c i*P	P	08 07 57.4	-0.7
LVZ			pmax	pmax		
	comp=Z,662nm,1.2s					
LVZ	Lovozero	90.72 339	P	P	08 07 57.6	-0.5
	comp=Z,4μm,1.5s					
DSF	Desfina	90.76 309	P	P	08 07 58.1	-0.9
DSF	Desfina	90.76 309	P	P	08 07 58.1	-0.9
THE	Thessaloniki	90.79 311	P	P	08 07 58.6	-0.4
THE	Thessaloniki	90.79 311	P	P	08 07 58.6	-0.4
THE	Thessaloniki	90.79 311	P	P	08 07 58.6	-0.4
GUR	Goura	90.83 308	P	P	08 07 59.5	+0.1
GUR	Goura	90.83 308	*e*P	P	08 08 00.1	+0.7
GUR	Goura	90.83 308	P	P	08 07 59.5	+0.1
ARCR	ARCALIA	90.90 317	⇓*i*P	P	08 08 00.7	+1.3
NACGM	Naroch	90.91 325	*e*P	P	08 07 56.0	-3.2
KNT	Kendrikon	90.92 311	P	P	08 07 59.2	-0.4
KNT	Kendrikon	90.92 311	P	P	08 07 59.2	-0.4
KNT	Kendrikon	90.92 311	P	P	08 07 59.2	-0.4
VTS	Vitosha	90.93 313	P	P	08 08 00.2	+0.4
VTS	Vitosha	90.93 313	⇓P	P	08 08 00.1	+0.3
VTS	Vitosha	90.93 313	P	P	08 08 00.2	+0.4
VTS	Vitosha	90.93 313	⇓*i*P	P	08 08 00.1	+0.5
VNA1	Neumayer--Stat	90.98 197	*e*P	P	08 08 00.1	+0.8
VNA1	Neumayer--Stat	90.98 197	*e*PcP	PcP	08 08 01.7	+1.4
VNA1	Neumayer--Stat	90.98 197	*e*PP	PP	08 11 25.7	-10
KLV	Kalavryta, Ach	91.00 308	P	P	08 08 00.2	+0.1
KLV	Kalavryta, Ach	91.00 308	*e*P	P	08 08 00.8	+0.7
KLV	Kalavryta, Ach	91.00 308	P	P	08 08 00.2	+0.1
AGG	Agios Georgios	91.01 309	P	P	08 07 59.4	-0.7
AGG	Agios Georgios	91.01 309	P	P	08 07 59.4	-0.7
AGG	Agios Georgios	91.01 309	*e*P	P	08 08 00.1	0.0
AGG	Agios Georgios	91.01 309	P	P	08 07 59.4	-0.7
LOT	Lotru	91.01 316	⇑*i*P	P	08 08 01.3	+1.2
ITM	Ithomi	91.04 307	P	P	08 08 00.4	+0.1
ITM	Ithomi	91.04 307	*e*P	P	08 08 01.3	+1.0
ITM	Ithomi	91.04 307	P	P	08 08 00.4	+0.1
KALE	Kalithea	91.06 308	P	P	08 08 00.2	-0.2
KALE	Kalithea	91.06 308	*e*P	P	08 08 00.9	+0.5
KALE	Kalithea	91.06 308	P	P	08 08 00.2	-0.2
APA	Apatity	91.07 336	⇓*i*P	P	08 07 59.0	-0.7
APA			*i*		08 11 40.0	
APA			*i*		08 18 24.0	
APA			*i* S	S	08 18 54.0	+1.4
APA			*i* PS	PS	08 20 01.0	-7.3
APA			*i* SS	SS	08 25 09.0	+11
APA			pmax	pmax		
	comp=Z,756nm,1.2s					
TRIZ	Trizonia	91.11 308	P	P	08 08 00.2	-0.3
TRIZ	Trizonia	91.11 308	*e*P	P	08 08 01.4	+0.9
PYL	PYLOS	91.14 307	P	P	08 07 59.4	-1.3
PYL	PYLOS	91.14 307	*e*P	P	08 08 00.6	-0.1
PYL	PYLOS	91.14 307	P	P	08 07 59.4	-1.3
MAKR	Makrakomi, Fth	91.16 309	P	P	08 08 00.8	0.0
MAKR	Makrakomi, Fth	91.16 309	P	P	08 08 00.8	0.0
VAY	Valandovo	91.19 311	*i* P	P	08 07 59.8	-1.1
EFP	Efpalio	91.25 308	P	P	08 08 01.7	+0.5
EFP	Efpalio	91.25 308	*e*P	P	08 08 02.3	+1.1
PSA1	Psathopyrgos	91.25 308	*e*P	P	08 07 57.8	-3.3
AMT	Artemida-Makis	91.26 308	P	P	08 08 02.0	+0.7
AMT	Artemida-Makis	91.26 308	*e*P	P	08 08 02.6	+1.3
SRE	Strehaia	91.28 315	⇓P	P	08 08 02.7	+1.5
SRE	Strehaia	91.28 315	⇓*i*P	P	08 08 02.7	+1.5
IIGN	Ignalina	91.32 326	*e*P	P	08 08 01.4	+0.3
IIGN			AMB	AMB	08 08 05.2	
	comp=Z,304nm,1.4s					
THL	Klokotos Trika	91.34 310	P	P	08 08 01.4	-0.1
THL	Klokotos Trika	91.34 310	*e*P	P	08 08 02.1	+0.6
CJR	Cluj-Napoca	91.35 317	⇑P	P	08 08 02.3	+0.8
CJR	Cluj-Napoca	91.35 317	⇑*i*P	P	08 08 02.3	+0.8
EVR	Evrytania	91.40 309	P	P	08 08 01.9	-0.1
EVR	Evrytania	91.40 309	*e*P	P	08 08 02.8	+0.8
EVR	Evrytania	91.40 309	P	P	08 08 01.9	-0.1
ISAL	Salakas	91.42 326	*e*P	P	08 08 03.2	+1.6
ISAL			AMB	AMB	08 08 05.0	
	comp=Z,292nm,2.5s					
RLS	Riolos of Patr	91.53 308	P	P	08 08 03.6	+1.1
RLS	Riolos of Patr	91.53 308	*e*P	P	08 08 03.3	+0.8
RLS	Riolos of Patr	91.53 308	P	P	08 08 03.6	+1.1
LVV	L'vov	91.60 320	*d i*P	P	08 08 02.8	+0.3
LVV			*i*		08 11 42.2	
LVV			*i*		08 18 28.2	
LVV			*i* S	S	08 18 55.0	-3.1
LVV			*i* PS	PS	08 20 04.8	-10
LVV			*e*SS	SS	08 25 05.6	-0.4
LVV			pmax	pmax		
	comp=Z,9μm,5.2s					
LVV			pmax	pmax		
	comp=N,1μm,5.1s					
LVV			pmax	pmax		
	comp=E,2μm,5.5s					
AXS	Araxos	91.62 308	P	P	08 08 03.7	+0.8
KZN	Kozani	91.64 310	P	P	08 08 02.4	-0.6
KZN	Kozani	91.64 310	P	P	08 08 02.4	-0.6
KZN	Kozani	91.64 310	P	P	08 08 02.4	-0.6
VSU	Vasula	91.68 329	*c i*P	P	08 08 02.9	+0.2
VSU			pmax	pmax		
	comp=Z,1μm,0.9s					
VSU			MLR	MLR		
	comp=Z,301μm,22.0s					
GZR	Gura Zlata	91.69 315	⇓P	P	08 08 04.8	+1.6
GZR	Gura Zlata	91.69 315	⇓*i*P	P	08 08 04.8	+1.6
GZR	Gura Zlata	91.69 315	⇑*i*P	S	08 19 03.8	+4.5
SFD	Strofades	91.77 307	P	P	08 08 03.7	+0.1
SFD	Strofades	91.77 307	*e*P	P	08 08 03.9	+0.3
DRGR		91.96 317	⇑P	P	08 08 05.1	+0.7
DRGR		91.96 317	⇑*i*P	P	08 08 05.1	+0.7
DRGR		91.96 317	⇓*i*P	SKSac	08 18 42.6	+10
FNA	Florina	92.00 311	P	P	08 08 03.7	-1.0
FNA	Florina	92.00 311	P	P	08 08 03.7	-1.0
FNA	Florina	92.00 311	P	P	08 08 03.7	-1.0
KFL	Anninata	92.07 308	P	P	08 08 05.5	+0.5
BIA	Bitola	92.08 311	*e*P	P	08 08 01.4	-3.7
SKO	Skopje	92.13 312	P	P	08 08 04.6	-0.6
SKO	Skopje	92.13 312	P	P	08 08 04.6	-0.6
SKO	Skopje	92.13 312	P	P	08 08 04.6	-0.6
SKO	Skopje	92.13 312	*i* P	P	08 08 01.5	-3.7
NEST	Nestorio	92.20 310	P	P	08 08 05.2	-0.5
VLS	Valsamata	92.23 308	P	P	08 08 06.0	+0.2
VLS	Valsamata	92.23 308	P	P	08 08 06.0	+0.2
VLS	Valsamata	92.23 308	*e*P	P	08 08 06.6	+0.8
VLS	Valsamata	92.23 308	P	P	08 08 06.0	+0.2
LKD2	Lefkada island	92.27 309	P	P	08 08 06.5	+0.6
LKD2	Lefkada island	92.27 309	*e*P	P	08 08 07.4	+1.5
LKD2	Lefkada island	92.27 309	P	P	08 08 06.5	+0.6
TRPA	Tarpa	92.29 318	⇑*i*P	P	08 08 06.2	+0.5
KWP	Kalwaria Pacla	92.41 320	⇑P	P	08 08 07.9	+1.6
KWP	Kalwaria Pacla	92.41 320	PFAKE		08 08 20.0	+14
KWP			LR	LR		
	comp=Z,45μm,20.0s					
KWP	Kalwaria Pacla	92.41 320	⇑*i*P	P	08 08 07.9	+1.6
KWP	Kalwaria Pacla	92.41 320	*e*P	P	08 08 06.8	+0.5
KWP			*e*PP	PP	08 11 49.7	+1.7
KWP			*e*SKSac	SKSac	08 18 34.1	-0.8
KWP			*e*S	S	08 19 05.4	-0.1
KWP			LMZ	LR	08 57 16.5	
KBN	Korca	92.42 310	*i* P	P	08 08 06.5	-0.2
KBN	Korca	92.42 310	P	P	08 08 05.9	-0.8
KBN	Korca	92.42 310	P	P	08 08 05.9	-0.8
KBN	Korca	92.42 310	P	P	08 08 05.9	-0.8
UZH	Uzhgorod	92.53 319	⇓*i*P	P	08 08 08.0	+1.2
UZH			*e*		08 08 22.2	
UZH			*e*		08 11 49.2	
UZH			*e*		08 13 54.6	
UZH			*e*		08 18 33.6	
UZH			*e*S	S	08 19 05.0	-1.5
UZH			*e*		08 20 18.2	
UZH			*e*		08 25 16.2	
UZH			*e*		08 28 58.4	
BZS	Buzias	92.53 316	⇑P	P	08 08 07.6	+0.6
BZS	Buzias	92.53 316	⇑*i*P	P	08 08 07.6	+0.6
KOLS	Kolonicke sedl	92.59 319	*e*P	P	08 08 07.9	+0.8
KOLS			*e*		08 19 04.3	
KOLS			pmax	pmax		
	comp=Z,753nm,1.2s					
KOLS	Kolonicke sedl	92.59 319	*e*P	P	08 08 07.9	+0.8
KOLS			*e*PP	PP	08 11 49.8	+0.5
FINES	FINESS Array B	92.61 332	P	P	08 08 07.1	+0.2
FINES			S	SKSac	08 18 34.9	-0.5
FINES			PKKPbc	PKKPdf	08 25 20.7	+1.0
FINES	FINESS Array B	92.61 332	P	P	08 08 07.1	+0.2
	comp=Z,196nm,0.8s,baz=106,slow=4.4,SNR=111					
FINES			S	SKSac	08 18 34.9	-0.5
	comp=Z,2.3nm,0.6s,baz=321,slow=6.2,SNR=2.2					
FINES			PKKPbc	PKKPdf	08 25 20.7	+1.0
	comp=Z,14nm,0.9s,baz=201,slow=1.0,SNR=10					
FINES			LR	LR	08 57 09.0	
	comp=Z,48μm,21.2s,baz=100,slow=40					
IGT	Igoumenitsa	92.62 309	P	P	08 08 08.2	+0.7
IGT	Igoumenitsa	92.62 309	P	P	08 08 08.2	+0.7
IGT	Igoumenitsa	92.62 309	P	P	08 08 08.2	+0.7
KAF	Kangasniemi	92.63 332	*e*P	P	08 08 08.0	+1.0
KAF			pmax	pmax		
	comp=Z,42nm,0.4s					
KAF	Kangasniemi	92.63 332	*e*p	P	08 08 08.0	+1.0
	comp=Z,42nm,0.4s					
SUW	Suwalki	92.82 324	*e*P	P	08 08 08.0	0.0
SUW			*e*pP	pP	08 08 21.8	-2.7
SUW			*e*SKSac	SKSac	08 18 33.6	-3.2
SUW			*e*S	S	08 19 04.5	-4.3
SUW			LMZ	LR	08 46 47.3	
TIM	Timisoara	92.83 316	⇓P	P	08 08 11.0	+2.7
TIM	Timisoara	92.83 316	⇓*i*P	P	08 08 11.0	+2.7
PHP	Peshkopia	92.83 312	*i* P	P	08 08 08.3	-0.2
PHP	Peshkopia	92.83 312	P	P	08 08 07.7	-0.8
PHP	Peshkopia	92.83 312	P	P	08 08 07.7	-0.8
PHP	Peshkopia	92.83 312	P	P	08 08 07.7	-0.8
SRN	Sarande	92.92 310	*i* P	P	08 08 08.9	+0.1
SRN	Sarande	92.92 310	P	P	08 08 09.2	+0.4
SRN	Sarande	92.92 310	P	P	08 08 09.2	+0.4
KEK	Kerkira	93.05 309	P	P	08 08 09.9	+0.4
KEK	Kerkira	93.05 309	*e*P	P	08 08 10.8	+1.3
KEK	Kerkira	93.05 309	P	P	08 08 09.9	+0.4
CRVS	Cervenica-Dubn	93.11 319	*e*P	P	08 08 11.1	+1.5
CRVS			*e*		08 19 05.5	
CRVS			pmax	pmax		
	comp=Z,804nm,2.3s					
CRVS	Cervenica-Dubn	93.11 319	*e*P	P	08 08 11.1	+1.5
CRVS			*e*PP	PP	08 11 53.2	-0.3
TIR	Tirane	93.21 311	P	P	08 08 10.2	0.0
TIR	Tirane	93.21 311	PFAKE		08 08 20.0	+10
TIR			LR	LR		
	comp=Z,55μm,22.0s					
PUK	Puka	93.28 312	*i* P	P	08 08 11.2	+0.6
STHS	Stebnicka Huta	93.32 319	*e*P	P	08 08 11.4	+0.8
STHS			pmax	pmax		
	comp=Z,176nm,1.0s					
STHS	Stebnicka Huta	93.32 319	*e*P	P	08 08 11.4	+0.8
IVA	Berane	93.39 313	*e*P	P	08 08 12.0	+0.9
DIVS	Divibare	93.47 314	P	P	08 08 11.8	+0.4
KECS	Kecovo	93.69 318	*e*P	P	08 08 12.3	0.0
KECS			pmax	pmax		
	comp=Z,103nm,1.2s					
KECS	Kecovo	93.69 318	*e*P	P	08 08 12.3	0.0
ULC	Ulcinj	93.75 312	⇑*i*P	P	08 08 12.6	-0.1
PDG	Podgorica	93.80 312	P	P	08 08 12.9	+0.1
TTG	Podgorica	93.80 312	⇑*i*P	P	08 08 13.5	+0.7
TTG	Podgorica	93.80 312	P	P	08 08 12.9	+0.1
TTG	Podgorica	93.80 312	P	P	08 08 12.9	+0.1
PKSN	Nyarlorinc	93.91 317	⇓*e*P	P	08 08 15.5	+2.3
NIE	Niedzica	93.93 319	⇑*i*P	P	08 08 16.1	+2.8
NIE			*e*PP	pP	08 08 29.8	-0.1
NIE			*e*		08 12 03.2	
NIE			*e*		08 18 44.5	
NIE			*e*S	ScS	08 19 21.2	+0.9
NIE			*e*SS	SS	08 25 40.5	+1.0
NIE	Niedzica	93.93 319	*i* P	P	08 08 16.1	+2.8
NIE			*e*pP	pP	08 08 29.8	-0.1
NIE			*e*PP	PP	08 12 03.2	+3.3
NIE			*e*SKSac	SKSac	08 18 44.5	+1.2
NIE			*e*S	ScS	08 19 21.2	+0.9
NIE			*e*SS	SS	08 25 40.5	+1.0
NIE			L	L	08 59 27.0	
	comp=Z,54μm,19.5s					
BEL	Belsk	93.93 322	*e*P	P	08 08 13.9	+0.7
BEL			*e*pP	pP	08 08 28.9	-0.8
BEL			*e*PP	PP	08 11 59.7	-0.1
BEL			*e*SKSac	SKSac	08 18 42.4	-0.7
BEL			*e*S	S	08 19 15.0	-3.7
BEL			LMZ	LR	08 53 02.3	
PSZ	Piszkesteto	94.02 318	⇑P	P	08 08 14.0	+0.2
PSZ	Piszkesteto	94.02 318	PFAKE		08 08 30.0	+16
PSZ			LR	LR		
	comp=Z,38μm,21.0s					
PSZ	Piszkesteto	94.02 318	⇑*i*P	P	08 08 14.0	+0.2
PSZ	Piszkesteto	94.02 318	⇓*e*P	P	08 08 14.5	+0.7
NKME	Niksic	94.06 312	⇑*i*P	P	08 08 15.3	+1.2
PKS2	Kecel	94.31 316	⇓*e*P	P	08 08 17.2	+2.1
OJC	Ojcow	94.36 320	⇑*i*P	P	08 08 15.4	+0.1
OJC			*e*PP	pP	08 08 29.4	-2.4
OJC			*e*		08 12 02.8	
OJC			*e*		08 18 44.1	
OJC			*e*S	S	08 19 20.8	-1.7
OJC	Ojcow	94.36 320	*i* P	P	08 08 15.4	+0.1
OJC			*e*pP	pP	08 08 29.4	-2.4
OJC			*e*PP	PP	08 12 02.8	-0.3
OJC			*e*SKSac	SKSac	08 18 44.1	-1.4
OJC			*e*S	S	08 19 20.8	-1.7
OJC			*e*SS	SS	08 25 39.3	-6.2
OJC			L	L	08 57 20.0	
	comp=Z,45μm,20.4s					
HCY	Herceg Novi	94.36 312	⇑*i*P	P	08 08 16.5	+1.0
ARCES	ARCESS Array B	94.36 340	P	P	08 08 14.5	-0.3
ARCES			S	SKSac	08 18 43.2	-1.5
ARCES			PKKPbc	PKKPdf	08 25 15.4	-1.4
ARCES	ARCESS Array B	94.36 340	P	P	08 08 14.5	-0.3
	comp=Z,106nm,0.6s,baz=93,slow=3.5,SNR=237					
ARCES			S	SKSac	08 18 43.2	-1

VRAC			PP	**PP**	**08 12 17.3**	**-1.2**
	comp=Z,37nm,1.1s,baz=92,slow=6.0,SNR=3.5					
VRAC			S	**SKSac**	**08 18 55.1**	**-1.0**
	comp=Z,2.2nm,0.3s,baz=264,slow=22,SNR=4.7					
DPC	**Dobruska-Polom**	**96.59 320**	⇑*i*P	**P**	**08 08 26.1**	**+0.6**
DPC			*e*		08 08 38.2	
DPC			*e*		08 12 18.5	
DPC			*e*		08 18 58.1	
DPC			*e*S	**S**	**08 19 42.0**	**0.0**
DPC	**Dobruska-Polom**	**96.59 320**	⇑*i*P	**P**	**08 08 26.1**	**+0.6**
DPC			*e*pP	**pP**	**08 08 38.2**	**-3.8**
DPC			*e*x	x	08 11 25.9	
DPC			*e*PP	**PP**	**08 12 18.5**	**-2.0**
DPC			*e*SKS	**SKSac**	**08 18 58.1**	**+0.7**
DPC			*e*S	**S**	**08 19 42.0**	**0.0**
DPC			*e*x	x	08 20 53.0	
DPC			*e*x	x	08 26 00.6	
DPC			AMS	AMS	08 58 40.0	
KSP	**Ksiaz**	**96.64 320**	*e*P	**P**	**08 08 26.3**	**+0.6**
KSP			*e*PP	**PP**	**08 12 17.5**	**-3.3**
KSP			*e*SKSac	**SKSac**	**08 18 54.2**	**-3.4**
KSP			*e*S	**S**	**08 19 36.9**	**-5.4**
KSP			LMZ	LR	08 58 41.2	
TRO	**Tromso**	**96.66 339**	*e*P	**P**	**08 08 25.8**	**+0.5**
CONA	**Conrad Observa**	**96.72 317**	⇑*i*P	**P**	**08 08 26.1**	**-0.1**
	comp=Z,7μm,5.9s,SNR=55					
UPC	**Upice**	**96.80 320**	⇑*i*P	**P**	**08 08 27.2**	**+0.8**
UPC			*e*		08 08 39.0	
UPC			*e*		08 12 24.5	
UPC	**Upice**	**96.80 320**	⇑*i*P	**P**	**08 08 27.2**	**+0.8**
UPC			*e*pP	**pP**	**08 08 39.0**	**-3.9**
UPC			*e*PP	**PP**	**08 12 24.5**	**+2.5**
WDD	**Wield Dalam**	**96.81 305**	PFAKE		08 08 40.0	+13
WDD			LR	LR		
	comp=Z,39μm,22.0s					
ARSA	**Arzberg**	**96.90 317**	⇑*i*PcP	**PcP**	**08 08 27.3**	**+0.3**
	comp=Z,8μm,5.7s,SNR=51					
BJO	**Bjornoya**	**96.92 344**	AMS	AMS	08 50 05.9	
	comp=Z,61μm,22.5s					
BOJS	**Bojanci**	**96.97 315**	*i* P	**P**	**08 08 27.6**	**+0.3**
BOJS			*i* PP	**PP**	**08 12 21.1**	**-2.4**
BOJS			*e*SKSac	**SKSac**	**08 18 56.9**	**-2.6**
BOJS			*e*S	**ScS**	**08 19 49.2**	**+3.5**
BOJS			*e*SS	**SS**	**08 26 22.5**	**-0.2**
KIP	**Kipapa**	**97.02 69***c*	*i*P	Pdif	08 08 29.8	+1.7
KIP			pmax	pmax		
	comp=Z,114nm,1.3s					
KIP			MLR	MLR		
	comp=Z,23μm,27.0s					
KIP	**Kipapa**	**97.02 69**	PFAKE		08 08 40.0	+12
KIP			LR	LR		
	comp=Z,16μm,20.0s					
TREC	**Trest**	**97.06 319**	⇑*i*P	Pdif	08 08 27.8	+0.1
TREC			*e*		08 12 23.3	
TREC			*e*		08 19 00.8	
TREC			*e*S	**S**	**08 19 45.3**	**-0.7**
TREC			*e*SP	**SP**	**08 21 07.2**	**0.0**
TREC			MLR	MLR		
	comp=Z,37μm,20.7s					
TREC	**Trest**	**97.06 319**	⇑*i*P	Pdif	08 08 27.8	+0.1
TREC			*e*x	x	08 11 19.1	
TREC			*e*PP	**PP**	**08 12 23.3**	**-0.8**
TREC			*e*SKS	**SKSac**	**08 19 00.8**	**+0.9**
TREC			*e*S	**S**	**08 19 45.3**	**-0.7**
TREC			*e*SP	**SP**	**08 21 07.2**	**0.0**
TREC			*e*x	x	08 26 12.7	
TREC			AMS	AMS	09 01 10.0	
	comp=Z,37μm,20.7s					
SOKA	**Soboth**	**97.20 316**	⇑*i*PcP	Pdif	08 08 28.7	+0.2
	comp=Z,10μm,5.6s,SNR=110					
LJU	**Ljubljana**	**97.51 315**	*i* P	Pdif	08 08 30.0	+0.3
LJU			*e*pP	pP	08 08 50.1	+3.9
LJU			*e*PP	**PP**	**08 12 26.0**	**-1.6**
LJU			*e*SKSac	**SKSac**	**08 19 01.0**	**-1.3**
LJU			*e*S	**ScS**	**08 19 55.0**	**+4.8**
LJU			*e*SS	**SS**	**08 26 30.6**	**+0.3**
OBKA	**Obir**	**97.52 316**	⇑*i*PcP	Pdif	08 08 30.2	+0.3
	comp=Z,10μm,6.0s,SNR=56					
PRU	**Pruhonice**	**97.71 319**	⇑*i*P	Pdif	08 08 30.8	+0.3
PRU			*e*		08 08 43.6	
PRU			*e*		08 12 26.7	
PRU			*e*		08 19 02.6	
PRU			*e*S	**S**	**08 19 49.7**	**-1.8**
PRU			*e*SP	**SP**	**08 21 12.7**	**-1.5**
PRU			MLR	MLR		
	comp=Z,48μm,22.0s					
PRU	**Pruhonice**	**97.71 319**	⇑*i*P	Pdif	08 08 30.8	+0.3
PRU			*e*pP	pP	08 08 43.6	-3.4
PRU			*e*x	x	08 11 28.0	
PRU			*e*PP	**PP**	**08 12 26.7**	**-2.3**
PRU			*e*SKS	**SKSac**	**08 19 02.6**	**-0.5**
PRU			*e*S	**S**	**08 19 49.7**	**-1.8**
PRU			*e*SP	**SP**	**08 21 12.7**	**-1.5**
PRU			*e*x	x	08 26 24.3	
PRU			AMS	AMS	08 59 10.0	
	comp=Z,48μm,22.0s					
BSD	**Bornholm Skovb**	**97.71 325**	⇑*i*P	**P**	**08 08 30.3**	**-0.1**
BSD			*i* S	**SKSac**	**08 19 00.9**	**-1.9**
BSD			pmax	pmax		
	comp=Z,79nm,1.1s					
BSD			MLR	MLR		
	comp=Z,46μm,22.0s					
BSD	**Bornholm Skovb**	**97.71 325**	⇑*i*P	**P**	**08 08 30.3**	**-0.1**
	comp=Z,79nm,1.0s					
PVCC	**Panska Ves**	**97.72 320**	⇑*i*P	Pdif	08 08 31.0	+0.4
PVCC			*e*		08 12 24.3	
PVCC			*e*		08 19 02.7	
PVCC			*e*S	**S**	**08 19 49.9**	**-1.6**
PVCC			*e*SP	**SP**	**08 21 13.1**	**-1.2**
PVCC			*e*SS	**SS**	**08 26 29.0**	**-4.0**
PVCC			MLR	MLR		
	comp=Z,59μm,23.0s					
PVCC	**Panska Ves**	**97.72 320**	⇑*i*P	Pdif	08 08 31.0	+0.4
PVCC			*e*x	x	08 11 29.8	
PVCC			*e*PP	**PP**	**08 12 24.3**	**-4.8**
PVCC			*e*SKS	**SKSac**	**08 19 02.7**	**-0.4**
PVCC			*e*S	**S**	**08 19 49.9**	**-1.6**
PVCC			*e*SP	**SP**	**08 21 13.1**	**-1.2**
PVCC			*e*SS	**SS**	**08 26 29.0**	**-4.0**
PVCC			AMS	AMS	08 58 40.0	
	comp=Z,59μm,23.0s					
SPA0	**Spitsbergen Ar**	**97.73 348**	*e*P	**P**	**08 08 28.9**	**-1.1**
SPA0			⇑*i*P	**PcP**	**08 08 29.8**	**-0.3**
SPITS	**Spitsbergen Ar**	**97.73 348**	P	**P**	**08 08 29.3**	**-0.7**
SPITS			S	**SKSac**	**08 19 02.0**	**-0.2**
SPITS			PKKPbc	**PKKPbc**	**08 25 05.5**	**-3.2**
SPITS	**Spitsbergen Ar**	**97.73 348**	P	**P**	**08 08 29.3**	**-0.7**
	comp=Z,271nm,0.7s,baz=127,slow=16,SNR=154					
SPITS			S	**SKSac**	**08 19 02.0**	**-0.2**
	comp=Z,53nm,1.2s,baz=143,slow=5.0,SNR=1.9					
SPITS			PKKPbc	**PKKPbc**	**08 25 05.4**	**-3.2**
	comp=Z,5.5nm,0.9s,baz=198,slow=4.2,SNR=4.9					
SPITS			LR	LR	08 59 13.0	
	comp=Z,112μm,21.8s,baz=95,slow=39					
PRA	**Prague**	**97.78 319**	⇑P	Pdif	08 08 31.0	+0.1
PRA			PP	**PP**	**08 12 27.0**	**-2.6**
PRA			SKS	**SKSac**	**08 19 03.0**	**-0.4**
MOA	**Molln**	**97.78 317**	⇑*i*P	**P**	**08 08 30.7**	**-0.3**
	comp=Z,7μm,5.7s,SNR=37					
JAVS	**Javornik**	**97.82 315**	*i* P	**P**	**08 08 31.1**	**-0.1**
HSP	**Hornsund**	**97.90 347**	*e*P	**P**	**08 08 30.2**	**-0.6**
STEI	**Steigen**	**97.93 338**	*e*P	Pdif	08 08 31.4	+0.3
STEI			AMB	AMB	08 08 36.4	
	comp=Z,1μm,1.3s					
VOY	**Vojsko**	**97.95 315**	*e*P	**P**	**08 08 31.5**	**-0.3**
VOY			*e*pP	**pP**	**08 08 50.4**	**+2.1**
VOY			*e*		08 09 20.4	
TRI	**Trieste**	**98.02 315**	*e*P	Pdif	08 08 32.4	+0.4
TRI			pmax	pmax		
	comp=Z,323nm,1.5s					
TRI	**Trieste**	**98.02 315**	*e*P	Pdif	08 08 32.4	+0.3
	comp=Z,323nm,1.5s					
AQU	**L'Aquila**	**98.11 312**	*e*P	Pdif	08 08 33.9	+1.3
	comp=Z,643nm,1.6s					
AQU			LR	LR		
	comp=Z,67μm,22.0s					
BRG	**Berggiesshubel**	**98.13 320**	*i* P	Pdif	08 08 32.5	+0.1
	comp=Z,720nm,2.1s					
BRG			PP	**PP**	**08 12 32.8**	**+0.5**
	comp=Z,962nm,2.3s					
BRG			SKS	**SKSac**	**08 19 05.0**	**-0.2**
BRG			S	**S**	**08 19 54.0**	**-1.0**
BRG			PS	PS	08 21 09.0	-17
BRG			SS	SS	08 26 20.0	-19
BRG			PKPPKP	**P'P'df**	**08 33 20.8**	**+1.3**
	comp=Z,368nm,2.8s					
BRG						
	comp=Z,71μm,22.5s					
BRG						
	comp=N,22μm,22.5s					
BRG						
	comp=E,60μm,22.5s					
BRG	**Berggiesshubel**	**98.13 320**	*e*Pdiff	Pdif	08 08 32.6	+0.2
	comp=Z,722nm,2.1s					
BRG	**Berggiesshubel**	**98.13 320**	*i* P	Pdif	08 08 32.5	+0.1
BRG					08 12 32.8	
BRG					08 19 05.0	
BRG			S	**S**	**08 19 54.0**	**-1.0**
BRG			pmax	pmax		
	comp=Z,720nm,2.1s					
BRG			pmax	pmax		
	comp=Z,962nm,2.3s					
BRG			MLR	MLR		
	comp=N,22μm,22.5s					
BRG			MLR	MLR		
	comp=E,60μm,22.5s					
BRG			MLR	MLR		
	comp=Z,71μm,22.5s					
MYKA	**Terra Mystica**	**98.15 316**	⇑*i*PcP	Pdif	08 08 32.7	0.0
	comp=Z,8μm,5.9s,SNR=80					
GEC2	**GERESS Array S**	**98.21 318**	*e*Pdiff	Pdif	08 08 33.1	+0.2
	comp=Z,1μm,2.2s					
GEC2	**GERESS Array S**	**98.21 318**	*e*P	Pdif	08 08 33.1	+0.2
GEC2			pmax	pmax		
	comp=Z,1μm,2.2s					
GERES	**GERESS Array B**	**98.21 318**	P	Pdif	08 08 33.2	+0.3
GERES			PP	**PP**	**08 12 32.5**	**-0.5**
GERES			S	**SKSac**	**08 19 03.9**	**-2.0**
GERES			PKKPbc	**PKKPbc**	**08 25 04.9**	**-1.7**
GERES			P'P'		08 33 15.4	
GERES	**GERESS Array B**	**98.21 318**	P	Pdif	08 08 33.2	+0.3
	comp=Z,24nm,0.9s,baz=98,slow=3.4,SNR=47					
GERES			PP	**PP**	**08 12 32.5**	**-0.5**
	comp=Z,30nm,1.0s,baz=80,slow=7.5,SNR=6.1					
GERES			S	**SKSac**	**08 19 03.9**	**-2.0**
	comp=Z,1.9nm,0.8s,baz=76,slow=13,SNR=1.9					
GERES			PKKPbc	**PKKPbc**	**08 25 04.9**	**-1.7**
	comp=Z,5.2nm,0.9s,baz=264,slow=1.0,SNR=5.4					
GERES			PKPPKP	**P'P'df**	**08 33 15.4**	**-4.2**
	comp=Z,0.3nm,0.4s,baz=248,slow=1.1,SNR=4.2					
GERES			LR	LR	09 02 20.2	
	comp=Z,35μm,19.9s,baz=94,slow=41					
MOR8	**Moi Rana**	**98.22 336**	*e*P	**P**	**08 08 31.6**	**-0.9**
MOR8			AMB	AMB	08 08 37.5	
	comp=Z,681nm,1.6s					
RUE	**Ruedersdorf**	**98.29 322**	*e*Pdiff	Pdif	08 08 33.2	+0.2
	comp=Z,1μm,2.1s					
RUE	**Ruedersdorf**	**98.29 322**	*e*P	Pdif	08 08 34.4	+1.4
	comp=Z,232nm,1.2s					
KHC	**Kasperske Hory**	**98.30 319**	⇑*i*P	**P**	**08 08 33.0**	**-0.2**
KHC			*e*		08 12 32.4	
KHC			*e*		08 19 05.8	
KHC			*e*S	**S**	**08 19 55.4**	**-1.2**
KHC			*e*SP	**SP**	**08 21 20.5**	**-0.2**
KHC			MLR	MLR		
	comp=Z,53μm,24.1s					
KHC	**Kasperske Hory**	**98.30 319**	⇑*i*P	**P**	**08 08 33.0**	**-0.2**
KHC			*e*x	x	08 08 34.5	
KHC			*e*sP	**sP**	**08 08 52.5**	**-3.6**
KHC			*e*x	x	08 12 04.0	
KHC			*e*PP	**PP**	**08 12 32.4**	**-1.2**
KHC			*e*x	x	08 13 04.0	
KHC			*e*SKS	**SKSac**	**08 19 05.8**	**-0.4**
KHC			*e*S	**S**	**08 19 55.4**	**-1.2**
KHC			*e*SP	**SP**	**08 21 20.5**	**-0.2**
KHC			*e*PKKP	**PKKPbc**	**08 25 06.5**	**+0.2**
KHC			*e*SS	**SS**	**08 26 34.4**	**-6.9**
KHC			AMS	AMS	08 57 20.0	
	comp=Z,53μm,24.1s					
KHC	**Kasperske Hory**	**98.30 319**	*e*P	**P**	**08 08 33.0**	**-0.2**
	comp=Z,71nm,1.3s					
KBA	**Koelnbreinsper**	**98.37 316**	⇑*i*Pdiff	**P**	**08 08 33.2**	**-0.6**
	comp=Z,6μm,7.2s,SNR=23					
FBE	**Freiberg**	**98.50 320**	*e*Pdiff	Pdif	08 08 34.5	+0.5
	comp=Z,1μm,2.2s					
HFS	**Hagfors**	**98.50 330**	P	Pdif	08 08 34.0	+0.2
HFS			S	**SKSac**	**08 19 04.1**	**-2.6**
HFS			PKKPbc	**PKKPbc**	**08 25 03.8**	**-2.2**
HFS	**Hagfors**	**98.50 330**	P	Pdif	08 08 34.0	+0.2
	comp=Z,96nm,0.9s,baz=92,slow=3.5,SNR=60					
HFS			S	**SKSac**	**08 19 04.1**	**-2.6**
	comp=Z,12nm,1.1s,baz=155,slow=4.8,SNR=2.7					
HFS			PKKPbc	**PKKPbc**	**08 25 03.8**	**-2.2**
	comp=Z,4.5nm,0.5s,baz=188,slow=3.0,SNR=11					
LOF	**Lofoten**	**98.57 338**	*e*P	Pdif	08 08 34.6	+0.6
LOF			AMS	AMS	08 58 48.9	
	comp=Z,93μm,23.4s					
KBS	**Kingsbay**	**98.59 349**	⇑*i*P	**P**	**08 08 32.0**	**-1.8**
KBS			AMB	AMB	08 08 38.4	
	comp=Z,561nm,2.5s					
KBS			*e*PP	**PP**	**08 12 35.1**	**+0.1**
KBS			*e*SKS	**SKSac**	**08 19 06.9**	**+0.4**
KBS			AMS	AMS	08 52 55.1	
	comp=Z,57μm,20.5s					
KBS	**Kingsbay**	**98.59 349***c*	*i*P	**P**	**08 08 33.3**	**-0.6**
KBS			pmax	pmax		
	comp=Z,164nm,0.9s					
KBS	**Kingsbay**	**98.59 349**	PFAKE		08 08 50.0	+16
KBS			LR	LR		
	comp=Z,66μm,20.0s					
RGN	**Rugen**	**98.62 324**	P	Pdif	08 08 35.7	+1.2
	comp=Z,131nm,0.3s					
FLOS	**Flostrand**	**98.66 336**	*e*P	Pdif	08 08 35.4	+1.1
FLOS			AMB	AMB	08 08 39.7	
	comp=Z,900nm,1.4s					
CHGN	**Chignik**	**98.70 34**	*e*P	**P**	**08 08 33.9**	**-0.8**
CLL	**Collm**	**98.74 321**	*e*Pdiff	**P**	**08 08 34.8**	**-0.3**
	comp=Z,509nm,2.2s					
CLL	**Collm**	**98.74 321**	*i* P	**P**	**08 08 34.9**	**-0.2**
CLL			*e*		08 19 07.0	
CLL			*e*S	S	08 19 54.0	-6.1
CLL			pmax	pmax		
	comp=Z,500nm,2.2s					
CLL	**Collm**	**98.74 321**	⇑*i*Pdif	**P**	**08 08 34.9**	**-0.2**
	comp=Z,500nm,2.2s					
CLL			*i* Pmax		08 08 35.1	
CLL			*e*PdiffIp		08 08 37.0	
	comp=Z,7μm,31.5s					
CLL			*e*		08 08 55.0	
CLL			*i*		08 09 59.5	
CLL			*e*		08 11 54.0	
CLL			*e*PP	**PP**	**08 12 36.0**	**-0.8**
CLL			*e*pPP		08 12 53.0	
CLL			*e*sPP		08 12 59.0	
CLL			*e*		08 15 42.0	
CLL			*e*SKSac	**SKSac**	**08 19 07.0**	**-1.2**
CLL			*e*Sdif	S	08 19 54.0	-6.1
CLL			*e*SP	**SP**	**08 21 23.0**	**-2.3**
CLL			*e*PPS	PPS	08 22 29.0	
CLL			*e*SS	**SS**	**08 26 46.0**	**-1.2**
CLL			*e*		08 29 00.0	
CLL			*i* PKPPKPdif	**P'P'df**	**08 33 20.4**	**+2.1**
	comp=Z,758nm,3.2s					
CLL			*e*SSSS		08 35 00.0	
CLL			sPdif		08 54 00.0	
	comp=N,50μm,25.2s					
CLL			sPdif		08 54 00.0	
	comp=E,15μm,25.1s					
CLL			*e*3PKPdf		08 54 19.0	
CLL			Lmax		08 58 00.0	
CLL			LV		09 01 00.0	
	comp=Z,25μm,20.0s					
CLL			W		11 59 00.0	
WET	**Wettzell**	**98.76 319**	*e*Pdiff	Pdif	08 08 35.7	+0.4
	comp=Z,899nm,2.3s					
WET	**Wettzell**	**98.76 319**	*e*P	Pdif	08 08 35.7	+0.4
WET			pmax	pmax		
	comp=Z,899nm,2.3s					
RJOB	**Jochberg**	**98.77 317**	*e*Pdiff	**P**	**08 08 35.1**	**-0.3**
	comp=Z,602nm,2.3s					
TBI	**Tubuai**	**98.87 115**	*e*P	**P**	**08 08 34.5**	**-1.8**
TBI	**Tubuai**	**98.87 115**	*e*PP	PP	08 12 36.4	-2.1
	comp=Z,14μm,30.5s					
TBI			*e*SKSac	**SKSac**	**08 19 09.1**	**-1.0**
	comp=Z,18μm,29.2s					
TBI			*e*S	**S**	**08 19 59.6**	**-2.9**
	comp=Z,20μm,34.0s					
TBI			*e*SP	**SP**	**08 21 28.4**	**+0.4**
	comp=Z,74μm,31.0s					
TBI			*e*SS	**SS**	**08 26 50.3**	**+0.1**
	comp=Z,45μm,33.5s					
TBI			*e*LQ	LQ	08 36 36.9	
	comp=Z,56μm,34.0s					
TBI			*e*LR	LR	08 40 53.8	
	comp=Z,197μm,24.0s					
ABTA	**Abfaltersbach**	**98.93 316**	⇓*i*Pdiff	**P**	**08 08 35.7**	**-0.5**
	comp=Z,6μm,8.1s,SNR=31					
TANN	**Tannenbergstha**	**99.06 320**	*e*Pdiff	**Pdif**	**08 08 37.0**	**+0.4**
	comp=Z,514nm,2.3s					
COP	**Copenhagen**	**99.14 325**	⇑*i*P	**Pdif**	**08 08 37.9**	**+1.2**
COP			*i* S	**SKSac**	**08 19 10.6**	**+0.6**
COP			pmax	pmax		
	comp=Z,22nm,0.8s					
COP			MLR	MLR		
	comp=Z,16μm,20.0s					
COP	**Copenhagen**	**99.14 325**	⇑*i*P	**Pdif**	**08 08 37.9**	**+1.2**
	comp=Z,22nm,0.8s					
WERD	**Werda**	**99.16 320**	*e*Pdiff	**Pdif**	**08 08 37.3**	**+0.3**
	comp=Z,488nm,2.2s					
ROTZ	**Rotzenmuhle**	**99.21 319**	*e*Pdiff	**Pdif**	**08 08 38.0**	**+0.7**
	comp=Z,637nm,2.2s					
LLD	**Lille Linde**	**99.27 325**	*i* P	**Pdif**	**08 08 38.2**	**+0.9**
LLD	**Lille Linde**	**99.27 325**	*i* P	**Pdif**	**08 08 38.2**	**+0.9**
NSS	**Namsos**	**99.28 334**	⇑*i*P	**Pdif**	**08 08 37.8**	**+0.7**
NSS			AMB	AMB	08 08 42.8	
	comp=Z,115nm,1.7s					
NSS			AMS	AMS	09 01 01.7	
	comp=Z,27μm,18.3s					
MANZ	**Manzenberg**	**99.28 319**	*e*Pdiff	**Pdif**	**08 08 38.3**	**+0.7**
	comp=Z,829nm,2.2s					
NEUB	**Neuenburg**	**99.51 321**	*e*Pdiff	**Pdif**	**08 08 38.6**	**+0.1**
	comp=Z,894nm,2.2s					
WTTA	**Wattenberg**	**99.54 317**	⇑*i*Pdiff	**Pdif**	**08 08 38.2**	**-0.8**
	comp=Z,3μm,5.1s,SNR=38					
NC602	**NORSAR Array S**	**99.57 330**	⇑*i*P	**Pdif**	**08 08 38.3**	**-0.3**
WATA	**Walderalm**	**99.59 317**	⇑*i*Pdiff	**Pdif**	**08 08 39.4**	**+0.2**
	comp=Z,591nm,2.3s,SNR=6.8					
MOX	**Moxa**	**99.60 320**	*e*Pdiff	**Pdif**	**08 08 39.3**	**+0.3**
	comp=Z,686nm,2.5s					
MOX			*e*PP	**PP**	**08 12 41.6**	**-1.9**
MOX			*e*		08 19 12.5	
MOX			*e*Sdiff	**S**	**08 20 05.7**	**-1.8**
MOX			*e*SP	**SP**	**08 21 30.3**	**-4.4**
MOX			*e*SS	**SS**	**08 27 02.9**	**+3.5**
MOX			*e*PKPPKP	**P'P'df**	**08 33 17.1**	**+0.3**
MOX			*e*L	L	08 55 50.4	
	comp=Z,32μm,21.8s					
MOX	**Moxa**	**99.60 320**	*e*P	**Pdif**	**08 08 39.3**	**+0.3**
MOX			*e*		08 12 41.6	
MOX			*e*		08 19 12.5	
MOX			*e*S	**S**	**08 20 05.7**	**-1.8**
MOX			*e*SS	**SS**	**08 27 02.9**	**+3.5**
MOX			pmax	pmax		
	comp=Z,686nm,2.5s					
MOX			MLR	MLR		
	comp=Z,32μm,21.8s					
NB2	**NORSAR Subarra**	**99.72 331**	P	**Pdif**	**08 08 39.7**	**+0.4**
	comp=Z,573nm,2.0s,baz=80,slow=4.6					
NB2	**NORSAR Subarra**	**99.72 331**	P	**Pdif**	**08 08 39.7**	**+0.4**
	baz=80,slow=4.6					
NOA	**NORSAR Array B**	**99.72 331**	P	**Pdif**	**08 08 39.5**	**+0.1**
NOA			PP	**PP**	**08 12 43.5**	**-0.6**
NOA			S	**SKSac**	**08 19 11.4**	**-1.4**
NOA			PKKPbc	**PKKPbc**	**08 25 01.7**	**-1.0**
NOA	**NORSAR Array B**	**99.72 331**	P	**Pdif**	**08 08 39.5**	**+0.1**
	comp=Z,30nm,0.8s,baz=87,slow=4.5,SNR=25					
NOA			PP	**PP**	**08 12 43.5**	**-0.6**
	comp=Z,15nm,0.8s,baz=96,slow=8.4,SNR=2.4					
NOA			S	**SKSac**	**08 19 11.4**	**-1.4**
	comp=Z,1.9nm,1.0s,baz=29,slow=22,SNR=2.7					
NOA			PKKPbc	**PKKPbc**	**08 25 01.7**	**-1.0**
	comp=Z,9.1nm,0.9s,baz=260,slow=2.2,SNR=8.4					
NOA			LR	LR	08 58 09.6	
	comp=Z,60μm,21.9s,baz=110,slow=38					
FUR	**Furstenfeldbru**	**99.80 318**	*e*Pdiff	**Pdif**	**08 08 40.6**	**+0.7**
	comp=Z,583nm,2.1s					
FUR	**Furstenfeldbru**	**99.80 318**	*e*P	**Pdif**	**08 08 40.6**	**+0.7**
FUR			pmax	pmax		
	comp=Z,583nm,2.1s					
GRF	**Grafenberg Arr**	**99.85 319**	*e*Pdiff	**Pdif**	**08 08 40.9**	**+0.8**
	comp=Z,840nm,2.2s					
GRF			*e*PP	**PP**	**08 12 45.0**	**-0.4**
GRF			*e*		08 19 13.9	
GRF			*e*Sdiff	**S**	**08 20 09.1**	**-0.6**
GRF			*e*SP	**SP**	**08 21 34.6**	**-2.8**
GRF			*e*SS	**SS**	**08 26 58.8**	**-4.1**
GRF			*e*PKPPKP	**P'P'df**	**08 33 15.8**	**-0.6**
GRF			*e*L	L	09 00 53.6	
	comp=Z,45μm,21.6s					
GRF	**Grafenberg Arr**	**99.85 319**	*e*P	**Pdif**	**08 08 40.9**	**+0.8**
GRF			*e*		08 12 45.0	
GRF			*e*		08 19 13.9	
GRF			*e*S	**S**	**08 20 09.1**	**-0.6**
GRF			*e*SP	**SP**	**08 21 34.6**	**-2.8**
GRF			*e*SS	**SS**	**08 26 58.8**	**-4.1**
GRF			pmax	pmax		
	comp=Z,840nm,2.2s					
GRFO	**Grafenberg**	**99.85 319**	*e*P	**Pdif**	**08 08 41.8**	**+1.7**
GRFO			pmax	pmax		
	comp=Z,192nm,1.4s					
GRFO	**Grafenberg**	**99.85 319**	*e*Pdif	**Pdif**	**08 08 41.8**	**+1.7**
	comp=Z,192nm,1.4s					
NAO01	**NORSAR Array S**	**99.89 330**	*e*Pdif	**Pdif**	**08 08 41.2**	**+1.2**
	comp=Z,24nm,1.0s					
MOTA	**Moosalm**	**99.91 317**	⇑*i*Pdiff	**Pdif**	**08 08 41.1**	**+0.5**
	comp=Z,745nm,2.5s,SNR=25					
PPT2	**Papeete2**	**99.94 109**	*e*Pdif	**Pdif**	**08 08 39.6**	**-1.7**
PPT2	**Papeete2**	**99.94 109**	*e*PP	PP	08 12 40.7	-6.2
	comp=Z,18μm,30.8s					
PPT2			*e*SKSac	**SKSac**	**08 19 14.4**	**-1.4**
	comp=Z,17μm,27.2s					
PPT2			*e*Sdif	**ScS**	**08 20 09.0**	**-2.8**
	comp=Z,28μm,28.2s					
PPT2			*e*SP	**SP**	**08 21 40.5**	**+0.6**
	comp=Z,74μm,30.0s					
PPT2			*e*SS	**SS**	**08 27 08.9**	**+3.2**
	comp=Z,53μm,28.5s					
PPT2	**Papeete2**	**99.94 109**	*e*LR	LR	08 41 18.0	
	comp=Z,70μm,21.2s					
PPT	**Papeete**	**99.95 109**	P	**Pdif**	**08 08 43.6**	**+2.4**
PPT	**Papeete**	**99.95 109**	P	**Pdif**	**08 08 43.6**	**+2.4**
	comp=Z,49nm,0.9s,baz=279,slow=11,SNR=3.7					
PPT			LR	LR	08 53 07.3	
	comp=Z,37μm,20.0s,baz=258,slow=35					
TBLU	**Trondheim**	**100.08 333**	⇑*i*P	**Pdif**	**08 08 40.4**	**-0.4**
TBLU			IAmB		08 08 42.6	
	comp=Z,7μm,5.0s					
TBLU			IAmb	IAmb	08 08 44.7	
	comp=Z,65nm,3.8s					
TBLU			IAMS		09 00 59.9	
	comp=Z,101μm,20.5s					
TBLU			IAMS		09 01 05.9	
	comp=Z,112μm,20.9s					
TBLU

comp=Z,179nm,1.3s
KONO MLR MLR
comp=Z,38µm,20.0s
KONO Kongsberg 100.58 329 *e*Pdif Pdif 08 08 44.1 +1.0
comp=Z,179nm,1.3s
KONO LR LR
comp=Z,38µm,20.0s
IM04 Indian Mountai 100.61 24 *e*Pdif Pdif 08 08 44.0 +0.9
IMA2 Indian Mountai 100.64 24 *e*Pdif Pdif 08 08 44.6 +1.2
BERNI Berninapass 100.64 316⇑ *i*P Pdif 08 08 44.2 +0.2
DAVA Damuels 100.74 317⇑ *i*Pdif Pdif 08 08 44.4 +0.1
comp=Z,7µm,5.5s,SNR=51
DAVOX Davos/Dischmat 100.74 316⇑ *i*P Pdif 08 08 44.5 +0.2
DAVOX Davos/Dischmat 100.74 316 P Pdif 08 08 44.5 +0.2
DAVOX Davos/Dischmat 100.74 316 P Pdif 08 08 44.5 +0.2
comp=Z,37nm,0.8s,baz=120,slow=2.4,SNR=53
MUD Monsted U'grnd 100.95 326⇑ *i*P Pdif 08 08 46.1 +1.3
MUD *i* S **SKSac 08 19 19.7 +0.9**
MUD pmax pmax
comp=Z,33nm,1.4s
MUD MLR MLR
comp=Z,47µm,19.0s
MUD Monsted U'grnd 100.95 326⇑ *i*P Pdif 08 08 46.1 +1.3
comp=Z,33nm,1.3s
KEST Kesra 101.00 305 P Pdif 08 08 46.9 +1.2
KEST *e*Pdif Pdif 08 08 47.9 +2.3
KEST PP PP 08 12 50.7 -4.0
KEST PKKPbc **PKKPbc 08 24 57.6 -0.5**
KEST PKKPab PKKPdf 08 25 22.8 +19
KEST Kesra 101.00 305 P Pdif 08 08 46.9 +1.2
comp=Z,17nm,1.0s,baz=105,slow=0.5,SNR=46
KEST PP PP 08 12 50.7 -4.0
comp=Z,15nm,0.9s,baz=16,slow=3.6,SNR=4.4
KEST PKKPbc **PKKPbc 08 24 57.6 -0.5**
comp=Z,8.4nm,1.0s,baz=261,slow=3.2,SNR=5.8
KEST PKKPab PKKPdf 08 25 22.8 +19
comp=Z,15nm,1.0s,baz=245,slow=4.8,SNR=7.3
LIENZ Kamor/St.Gall 101.00 317⇑ *i*P Pdif 08 08 45.6 +0.1
VDL Val di Lei 101.04 316⇑ *i*P Pdif 08 08 45.6 -0.1
VSL Villasalto 101.06 309 *e*Pdif Pdif 08 08 46.5 +0.8
comp=Z,152nm,1.5s
VSL LR LR
comp=Z,22µm,22.0s
PLONS Plons/SG 101.08 316⇑ *i*P Pdif 08 08 45.8 +0.1
TUE Stuetta 101.11 316 *e*Pdif Pdif 08 08 46.6 +0.6
comp=Z,37nm,1.0s
TUE LR LR
comp=Z,42µm,20.0s
STU Stuttgart 101.18 318 *e*Pdiff Pdif 08 08 46.5 +0.5
comp=Z,874nm,2.4s
STU Stuttgart 101.18 318 *e*P Pdif 08 08 47.3 +1.3
STU pmax pmax
comp=Z,224nm,1.4s
STU Stuttgart 101.18 318 *e*Pdif Pdif 08 08 47.3 +1.3
comp=Z,224nm,1.4s
HOMB Homborsund 101.22 328⇑ *i*P Pdif 08 08 46.1 +0.2
HOMB AMS AMS 08 56 43.1
comp=Z,40µm,27.3s
OSPF L'Ospedale 101.23 311 *e*P Pdif 08 08 46.3 -0.2
MUGIO Muggio 101.33 315⇑ *i*P Pdif 08 08 45.8 -1.0
LLS Linth-Limmern 101.34 316⇑ *i*P Pdif 08 08 46.6 -0.4
WEIN Weingarten 101.34 317⇑ *i*P Pdif 08 08 46.9 +0.1
MOL Molde 101.37 332⇑ *i*P Pdif 08 08 47.0 +0.6
MOL *e*PP PP 08 12 56.4 0.0
MOL *e*SKS 08 19 21.4
PGF Pioggiola 101.37 312 *e*P Pdif 08 08 47.6 +0.4
comp=Z,596nm,1.9s
PGF Pioggiola 101.37 312 *e*P Pdif 08 08 47.6 +0.4
PGF pmax pmax
comp=Z,596nm,1.9s
PGF Pioggiola 101.37 312 *e*P Pdif 08 08 47.6 +0.4
comp=Z,596nm,1.9s
WILA Wila 101.40 317⇑ *i*P Pdif 08 08 47.0 -0.1
STEIN Stein am Rhein 101.42 317⇑ *i*P Pdif 08 08 47.1 -0.1
OHAK Old Harbor 101.50 33 *e*Pdif Pdif 08 08 47.6 +0.4
comp=Z,482nm,1.2s
RSO Redoubt South 101.54 30 *e*Pdif Pdif 08 08 48.6 +1.1
comp=Z,629nm,0.3s
TRULL Truellikon 101.55 317⇑ *i*P Pdif 08 08 47.3 -0.4
FUSIO Fusio 101.58 316⇑ *i*P Pdif 08 08 47.7 -0.4
PPLA Purkeypile 101.58 27 *e*Pdif Pdif 08 08 49.4 +1.7
comp=Z,20µm,1.2s
MUO Muotathal 101.59 316⇑ *i*P Pdif 08 08 47.7 -0.5
ZUR Degenried 101.62 317⇑ *i*P Pdif 08 08 47.9 -0.2
FLACH Flaach 101.63 317⇑ *i*P Pdif 08 08 48.0 0.0
TNS Taunus Mts 101.63 320 *e*Pdiff Pdif 08 08 48.5 +0.4
comp=Z,542nm,2.2s
TNS Taunus Mts 101.63 320 *e*P Pdif 08 08 48.5 +0.4
TNS pmax pmax
comp=Z,542nm,2.2s
SLE Schleitheim 101.67 317⇑ *i*P Pdif 08 08 48.2 -0.1
BNALP Bannalp 101.74 316⇑ *i*P Pdif 08 08 48.7 -0.1
BFO Black Forest 101.77 318 *e*Pdiff Pdif 08 08 48.7 0.0
comp=Z,426nm,2.4s
BFO Black Forest 101.77 318 *e*P Pdif 08 08 48.3 -0.4
BFO pmax pmax
comp=Z,72nm,1.4s
BFO MLR MLR
comp=Z,39µm,21.0s
BFO Black Forest 101.77 318 *e*Pdif Pdif 08 08 48.3 -0.4
comp=Z,72nm,1.4s
BFO LR LR
comp=Z,39µm,21.0s
KDAK Kodiak Island 101.84 33 *e*Pdif Pdif 08 08 49.5 +0.9
comp=Z,369nm,1.3s
KDAK PP **PP 08 12 59.1 -1.0**
KDAK PKKPbc **PKKPbc 08 24 54.8 -1.6**
KDAK LR LR
comp=Z,33µm,22.0s
KDAK Kodiak Island 101.84 33 P Pdif 08 08 49.5 +0.9
comp=Z,134nm,1.1s,baz=249,slow=1.7,SNR=30
KDAK PP **PP 08 12 59.1 -1.0**
comp=Z,21nm,0.8s,baz=297,slow=6.6,SNR=4.2
KDAK PKKPbc **PKKPbc 08 24 54.8 -1.6**
comp=Z,40nm,1.0s,baz=89,slow=4.2,SNR=11
COLD Coldfoot 101.88 23 *e*Pdif Pdif 08 08 49.9 +1.2
comp=Z,4µm,0.6s
HASLI Hasliberg/Brie 101.93 316⇑ *i*P Pdif 08 08 49.1 -0.5
SULZ Cheisacher 101.94 317⇑ *i*P Pdif 08 08 49.5 0.0
IBBN Ibbenburen 101.98 322 *e*Pdiff Pdif 08 08 50.0 +0.5
comp=Z,702nm,2.2s
BPAW Bear Paw Mtn. 101.99 26 *e*Pdif Pdif 08 08 49.7 +0.4
comp=Z,2µm,0.9s
MMK Mattmark 102.08 315⇑ *i*P Pdif 08 08 50.3 -0.1
LANF Langenberg 102.09 318 *e*P Pdif 08 08 50.9 +0.8
HYA Hoyanger 102.15 331 *e*P Pdif 08 08 52.5 +2.6
HYA AMS AMS 09 00 31.6
comp=Z,33µm,24.3s
BALST Balsthal 102.23 317⇑ *i*P Pdif 08 08 50.4 -0.4
WIMIS Wimmis 102.30 316⇑ *i*P Pdif 08 08 51.1 0.0
LKBD Leukerbad 102.30 316⇑ *i*P Pdif 08 08 51.2 -0.1
BUG Bochum--Univer 102.33 321 *e*Pdiff Pdif 08 08 51.3 +0.3
comp=Z,463nm,2.2s
TRF Thorofare Moun 102.38 27 *e*Pdif Pdif 08 08 52.1 +0.9
comp=Z,545nm,1.5s
SAOF Saorge 102.41 313 *e*P Pdif 08 08 52.0 +0.3
DIX Grande Dixence 102.46 315⇑ *i*P Pdif 08 08 51.8 -0.3
CDF Champ du Feu 102.47 318 *e*P Pdif 08 08 52.0 +0.1
comp=Z,29nm,0.7s
CDF Champ du Feu 102.47 318 *e*P Pdif 08 08 52.0 +0.1
CDF pmax pmax
comp=Z,29nm,0.7s
CDF Champ du Feu 102.47 318 *e*P Pdif 08 08 52.0 +0.1
comp=Z,29nm,0.7s
SBF Sospel 102.50 313 *e*P Pdif 08 08 52.6 +0.5
comp=Z,121nm,1.1s
SBF Sospel 102.50 313 *e*P Pdif 08 08 52.6 +0.5
SBF pmax pmax
comp=Z,121nm,1.1s
SBF Sospel 102.50 313 *e*P Pdif 08 08 52.6 +0.5
comp=Z,121nm,1.1s
AUTN L'Aution 102.51 313 *e*P Pdif 08 08 52.8 +0.5
ABSA Djebel Ababsia 102.53 305 P Pdif 08 08 55.4 +3.0
SENIN Lac Senin/Sane 102.53 316⇑ *i*P Pdif 08 08 52.5 +0.1
BOURR Bourrignon 102.54 317⇑ *i*P Pdif 08 08 52.6 +0.4
ECH Echery 102.56 318 *e*P Pdif 08 08 53.1 +0.9
ECH pmax pmax
comp=Z,321nm,2.1s
ECH MLR MLR
comp=Z,32µm,20.0s
ECH Echery 102.56 318 *e*P Pdif 08 08 52.8 +0.6
ECH Echery 102.56 318 *e*Pdif Pdif 08 08 53.1 +0.9
comp=Z,321nm,2.1s
ECH LR LR
comp=Z,32µm,20.0s
REVF Revere 102.56 313 *e*P Pdif 08 08 52.7 +0.4
LUCF Luceram 102.57 313 *e*P Pdif 08 08 53.0 +0.6
CMAH Djebel Manchou 102.58 306 P Pdif 08 08 55.2 +2.6
MOF Molkenrain 102.59 317 *e*P Pdif 08 08 52.4 0.0
WTSB Winterswijk 102.59 321 *e*P Pdif 08 08 52.7 +0.6
comp=Z,893nm,2.4s
TOUF Mont Tournerai 102.64 313 *e*P Pdif 08 08 53.0 +0.1
BER Bergen 102.65 330⇑ *i*P Pdif 08 08 53.2 +1.0
BER *e*PP **PP 08 13 06.0 -0.1**
BER AMS AMS 08 59 30.7
comp=Z,52µm,21.4s
GRYON Gryon 102.66 316⇑ *i*P Pdif 08 08 52.9 +0.1
MVIF Mont Vial 102.71 313 *e*P Pdif 08 08 53.0 -0.1
SALAN Lac Salanfe 102.76 315⇑ *i*P Pdif 08 08 53.3 -0.1
AIGLE Aigle 102.77 316⇑ *i*P Pdif 08 08 53.4 +0.2
HINF Hinteralfeld 102.78 317 *e*P Pdif 08 08 53.3 +0.1
HINF Hinteralfeld 102.78 317 *e*P Pdif 08 08 53.3 +0.1
HINF Hinteralfeld 102.78 317 *e*P Pdif 08 08 53.3 +0.1
LOMF Lomont 102.81 317 *e*P Pdif 08 08 53.8 +0.4
EMV Vieux Emosson 102.82 315⇑ *i*P Pdif 08 08 53.8 +0.1
KMY Karmoy 102.83 329 *e*P Pdif 08 08 53.7 +0.6
SUE Sulen 102.85 331⇑ *i*P Pdif 08 08 54.8 +1.7
SUE AMS AMS 08 59 58.9
comp=Z,38µm,24.4s
CALN Calern 102.90 313 *e*P Pdif 08 08 54.6 +0.6
MCK McKinley 102.93 26 *e*P Pdif 08 08 54.9 +1.4
MCK pmax pmax
comp=Z,705nm,0.8s
MCK McKinley 102.93 26 *e*Pdif Pdif 08 08 54.9 +1.4
comp=Z,705nm,0.8s
LPG La Plagne 102.94 315 *e*P Pdif 08 08 54.9 +0.6
LPG La Plagne 102.94 315 *e*P Pdif 08 08 54.9 +0.6
LPG La Plagne 102.94 315 *e*P Pdif 08 08 54.9 +0.6
MBDF Montbardon 102.96 314 *e*P Pdif 08 08 53.8 -0.4
comp=Z,210nm,1.9s
MBDF Montbardon 102.96 314 *e*P Pdif 08 08 53.8 -0.4
MBDF pmax pmax
comp=Z,210nm,1.9s
MBDF Montbardon 102.96 314 *e*P Pdif 08 08 53.8 -0.4
comp=Z,210nm,1.9s
BNI Bardonecchia 103.01 314 *e*P Pdif 08 08 55.2 +0.7
BNI pmax pmax
comp=Z,22nm,1.0s
BNI MLR MLR
comp=Z,47µm,21.0s
BNI Bardonecchia 103.01 314 *e*Pdif Pdif 08 08 55.2 +0.7
comp=Z,22nm,1.0s
BNI LR LR
comp=Z,47µm,21.0s
BRANT Les Verrieres 103.08 316⇑ *i*P Pdif 08 08 54.6 0.0
FRF La Foret Royal 103.08 313 *e*P Pdif 08 08 55.3 +0.7
comp=Z,540nm,1.9s
FRF La Foret Royal 103.08 313 *e*P Pdif 08 08 55.3 +0.7
FRF pmax pmax
comp=Z,540nm,1.9s
FRF La Foret Royal 103.08 313 *e*P Pdif 08 08 55.3 +0.7
comp=Z,540nm,1.9s
HAU Haudompre 103.11 317 *e*P Pdif 08 08 54.9 +0.2
comp=Z,235nm,1.3s
HAU Haudompre 103.11 317 *e*P Pdif 08 08 54.9 +0.2
HAU pmax pmax
comp=Z,235nm,1.3s
HAU Haudompre 103.11 317 *e*P Pdif 08 08 54.9 +0.2
comp=Z,235nm,1.3s
CKFL Kef-Lekhel 103.14 306 P Pdif 08 08 57.6 +2.4
WLF Walferdange 103.14 319 P Pdif 08 08 56.7 +2.0
comp=Z,106nm,2.7s
WLF Walferdange 103.14 319 *e*Pdiff Pdif 08 08 56.0 +1.3
comp=Z,562nm,2.4s
WLF Walferdange 103.14 319 *e*P Pdif 08 08 56.5 +1.8
WLF pmax pmax
comp=Z,118nm,1.4s
WLF MLR MLR
comp=Z,34µm,22.0s
WLF Walferdange 103.14 319 *e*Pdif Pdif 08 08 56.5 +1.8
comp=Z,118nm,1.4s
WLF LR LR
comp=Z,34µm,22.0s
PMR Palmer 103.16 29 *e*P Pdif 08 08 54.9 +0.4
PMR pmax pmax
comp=Z,393nm,1.3s
PMR Palmer 103.16 29 *e*Pdif Pdif 08 08 54.9 +0.4
comp=Z,393nm,1.3s
MEM Membach 103.17 320 SP SP 08 22 08.9 -3.7
LMR La Mourre 103.19 313 *e*P Pdif 08 08 55.7 +0.6
comp=Z,320nm,1.9s
LMR La Mourre 103.19 313 *e*P Pdif 08 08 55.7 +0.6
LMR pmax pmax
comp=Z,320nm,1.9s
LMR La Mourre 103.19 313 *e*P Pdif 08 08 55.7 +0.6
comp=Z,320nm,1.9s
HGN Heimansgroeve 103.21 320 *e*P Pdif 08 08 55.1 +0.1
comp=Z,3µm,5.6s
HGN *e*PKPdf PP 08 13 02.4 -8.2
HGN *e*PP PKiKP 08 13 38.9 +25
HGN *e*PPP PPP 08 15 32.4
HGN *e*SKS **SKSac 08 19 35.4 +5.6**
HGN *e*S **Sdif 08 20 36.4 -1.2**
HGN *e*SS SS 08 28 08.7 +19
COLA College 103.21 25 *e*P Pdif 08 08 55.6 +1.0
COLA pmax pmax
comp=Z,357nm,1.1s
COLA MLR MLR
comp=Z,25µm,22.0s
COLA College 103.21 25 *e*Pdif Pdif 08 08 55.6 +1.0
comp=Z,357nm,1.1s
COLA LR LR
comp=Z,25µm,22.0s
GIMEL St. Georges / 103.24 316⇑ *i*P Pdif 08 08 55.6 +0.2
CASM Ain Smara 103.33 305 P Pdif 08 08 58.5 +2.6
THEF They Montfort 103.34 318 *e*P Pdif 08 08 55.8 +0.2
CABF La Chapelle 103.36 316 *e*P Pdif 08 08 56.7 +0.8
comp=Z,68nm,0.9s
CABF La Chapelle 103.36 316 *e*P Pdif 08 08 56.7 +0.8
CABF pmax pmax
comp=Z,68nm,0.9s
CABF La Chapelle 103.36 316 *e*P Pdif 08 08 56.7 +0.8
comp=Z,68nm,0.9s
BEBN Eben Emael 103.37 320 P Pdif 08 08 56.1 +0.4
BEBN Eben Emael 103.37 320 SP SP 08 22 09.6 -5.0
PAGF Fort de Pagny 103.49 318 *e*P Pdif 08 08 56.9 +0.6
baz=81
PAGF Fort de Pagny 103.49 318 *e*P Pdif 08 08 56.9 +0.6
SML Sawmill 103.51 28 *e*P Pdif 08 08 57.2 +1.1
SML pmax pmax
comp=Z,417nm,1.4s
SML Sawmill 103.51 28 *e*Pdif Pdif 08 08 57.2 +1.1
comp=Z,417nm,1.4s
ORIF Oris-en-Rattie 103.58 314 *e*P Pdif 08 08 57.5 +0.6
comp=Z,390nm,1.9s
ORIF Oris-en-Rattie 103.58 314 *e*P Pdif 08 08 57.5 +0.6
ORIF pmax pmax
comp=Z,390nm,1.9s
ORIF Oris-en-Rattie 103.58 314 *e*P Pdif 08 08 57.5 +0.6
comp=Z,390nm,1.9s
BCLA Clavier 103.64 320 P Pdif 08 08 58.4 +1.5
BCLA PKP **PKiKP 08 13 16.3 +1.3**
BCLA Clavier 103.64 320 SP SP 08 22 14.5 -2.9
ILAR Eielson Array 103.64 25 Pdif Pdif 08 08 56.4 -0.2
ILAR PKiKP **PKiKP 08 13 14.7 0.0**
ILAR PKKPbc **PKKPbc 08 24 48.7 -2.6**
ILAR PKKPab PKKPdf 08 25 09.6 +10
ILAR SKKPbc SKKPbc 08 28 32.1 +2.5
ILAR P'P' 08 33 05.6
ILAR Eielson Array 103.64 25 Pdiff Pdif 08 08 56.4 -0.2
comp=Z,9.4nm,0.7s,baz=286,slow=4.2,SNR=75
ILAR PKiKP **PKiKP 08 13 14.6 0.0**
comp=Z,13nm,0.7s,baz=273,slow=2.9,SNR=11
ILAR PKKPbc **PKKPbc 08 24 48.7 -2.6**
comp=Z,30nm,1.0s,baz=111,slow=2.0,SNR=17
ILAR PKKPab PKKPdf 08 25 09.6 +10
comp=Z,25nm,1.0s,baz=106,slow=3.0,SNR=8.0
ILAR SKKPbc SKKPbc 08 28 32.1 +2.5
comp=Z,2.1nm,1.1s,baz=108,slow=2.0,SNR=2.9
ILAR PKPPKP **P'P'df 08 33 05.6 -2.6**
comp=Z,6.0nm,1.1s,baz=86,slow=0.5,SNR=10
DFRA Djebel Bou Aff 103.82 306 P Pdif 08 09 00.9 +2.7
SMRF Simiane la Rot 103.84 313 *e*P Pdif 08 08 59.3 +1.3
comp=Z,364nm,1.9s
SMRF Simiane la Rot 103.84 313 *e*P Pdif 08 08 59.3 +1.3
comp=Z,364nm,1.9s
TAM Tamanrasset 103.88 292 *e*P Pdif 08 09 01.1 +2.3
TAM pmax pmax
comp=Z,285nm,2.3s
TAM MLR MLR
comp=Z,38µm,21.0s
TAM Tamanrasset 103.88 292 *e*Pdif Pdif 08 09 01.1 +2.3
comp=Z,284nm,2.3s
TAM LR LR
comp=Z,38µm,21.0s
MEZF Maizieres J'vi 103.94 318 *e*P Pdif 08 08 58.9 +0.6
comp=Z,226nm,1.4s
MEZF Maizieres J'vi 103.94 318 *e*P Pdif 08 08 58.9 +0.6
comp=Z,226nm,1.4s
GIVF Givet 103.97 320 *e*P Pdif 08 08 58.9 +0.5
comp=Z,115nm,1.4s
GIVF Givet 103.97 320 *e*P Pdif 08 08 58.9 +0.5
GIVF pmax pmax
comp=Z,115nm,1.4s
GIVF Givet 103.97 320 *e*P Pdif 08 08 58.9 +0.5
comp=Z,115nm,1.4s
SFTF Sexfontaines 103.97 318 *e*P Pdif 08 08 58.8 +0.3
comp=Z,507nm,1.6s,baz=84
SFTF Sexfontaines 103.97 318 *e*P Pdif 08 08 58.8 +0.3
comp=Z,507nm,1.6s
DOU Dourbes 104.11 320 P Pdif 08 09 00.2 +1.2
DOU PKP **PP 08 13 19.7 +2.3**
DOU Dourbes 104.11 320 SP SP 08 22 18.7 -3.8
UCC Uccle 104.20 320 P Pdif 08 08 59.1 -0.2
SET Setif 104.21 305 P Pdif 08 09 03.0 +3.1
SNF Seneffe 104.28 320 P Pdif 08 09 01.6 +1.9
SNF PKP **PP 08 13 18.8 +0.3**
SNF Seneffe 104.28 320 SP SP 08 22 20.6 -3.6
BAIF Baives 104.37 320 *e*P Pdif 08 09 00.9 +0.8
comp=Z,118nm,1.3s
BAIF Baives 104.37 320 *e*P Pdif 08 09 00.9 +0.8
BAIF pmax pmax
comp=Z,118nm,1.3s
BAIF Baives 104.37 320 *e*P Pdif 08 09 00.9 +0.8
comp=Z,118nm,1.3s
VIVF Saint-Julien-l 104.44 314 *e*P Pdif 08 09 01.2 +0.5
VIVF Saint-Julien-l 104.44 314 *e*P Pdif 08 09 01.2 +0.5
VIVF Saint-Julien-l 104.44 314 *e*P Pdif 08 09 01.2 +0.5
SSB Saint Sauveur 104.51 315 *e*P Pdif 08 09 01.9 +0.9
SSB pmax pmax
comp=Z,39nm,1.2s
SSB MLR MLR
comp=Z,25µm,21.0s
SSB Saint Sauveur 104.51 315 *e*P Pdif 08 09 01.3 +0.3
SSB Saint Sauveur 104.51 315 *e*Pdif Pdif 08 09 01.9 +0.9
comp=Z,38nm,1.2s
SSB LR LR
comp=Z,25µm,21.0s
PAX Paxson 104.61 27 *e*P Pdif 08 09 01.9 +0.9
PAX pmax pmax
comp=Z,428nm,1.7s
PAX Paxson 104.61 27 *e*Pdif Pdif 08 09 01.9 +0.9
comp=Z,428nm,1.7s
DIV Divide 104.84 29 *e*Pdif Pdif 08 09 04.0 +1.9
comp=Z,127nm,0.9s
LOR Lormes 104.84 317 *e*P Pdif 08 09 02.9 +0.6
comp=Z,351nm,1.6s,baz=84
LOR Lormes 104.84 317 *e*P Pdif 08 09 02.9 +0.6
comp=Z,351nm,1.6s
SMF Signal de Mont 104.90 316 *e*P Pdif 08 09 03.1 +0.5
comp=Z,152nm,1.1s
SMF Signal de Mont 104.90 316 *e*P Pdif 08 09 03.1 +0.5
SMF pmax pmax
comp=Z,152nm,1.1s
SMF Signal de Mont 104.90 316 *e*P Pdif 08 09 03.1 +0.5
comp=Z,152nm,1.1s
LASF Ste Croix 105.08 313 *e*P Pdif 08 09 04.3 +0.8
LASF Ste Croix 105.08 313 *e*P Pdif 08 09 04.3 +0.8
SSF Saint Saulge 105.09 317 *e*P Pdif 08 09 04.2 +0.7
comp=Z,227nm,1.7s
SSF Saint Saulge 105.09 317 *e*P Pdif 08 09 04.2 +0.7
SSF pmax pmax
comp=Z,227nm,1.7s
SSF Saint Saulge 105.09 317 *e*P Pdif 08 09 04.2 +0.7
comp=Z,227nm,1.7s
AVF Avril sur Loir 105.22 316 *e*P Pdif 08 09 04.6 +0.6
comp=Z,239nm,1.6s
AVF Avril sur Loir 105.22 316 *e*P Pdif 08 09 04.6 +0.6
AVF pmax pmax
comp=Z,239nm,1.6s
AVF Avril sur Loir 105.22 316 *e*P Pdif 08 09 04.6 +0.6
comp=Z,239nm,1.6s
MENT Mentasta 105.40 27 *e*Pdif Pdif 08 09 06.1 +1.6
LBL Lubilhac 105.42 315 *e*P Pdif 08 09 06.4 +1.3
BMRM Bremner River 105.43 29 *e*Pdif Pdif 08 09 06.3 +1.6
comp=Z,4µm,1.1s
AGO Saint Agoulin 105.44 316 *e*P Pdif 08 09 06.2 +1.1
AKET Djebel Ketaf 105.44 305 P Pdif 08 09 08.1 +2.6
PYM Petit Puy Mans 105.55 315 *e*P Pdif 08 09 06.6 +1.0
JMIC Jan Mayen 105.56 342 *e*P Pdif 08 09 05.4 +0.4
JMIC *e*PP **PP 08 13 28.2 +0.8**
JMIC *e*SKS **SKSac 08 19 41.7 +2.0**
BGF Bois d'Agland 105.59 316 *e*P Pdif 08 09 06.7 +1.0
comp=Z,309nm,1.6s
BGF Bois d'Agland 105.59 316 *e*P Pdif 08 09 06.7 +1.0
BGF pmax pmax
comp=Z,309nm,1.6s
BGF Bois d'Agland 105.59 316 *e*P Pdif 08 09 06.7 +1.0
comp=Z,309nm,1.6s
HYF Humbligny 105.66 317 *e*P Pdif 08 09 07.1 +1.1
HYF Humbligny 105.66 317 *e*P Pdif 08 09 07.1 +1.1
FRNF Fournols 105.89 315 *e*P Pdif 08 09 08.5 +1.4
LRW Lerwick 105.89 330 *e*P Pdif 08 09 07.6 +0.9
LRW *e* 08 13 09.2
LRW AMS AMS 09 04 01.0
comp=Z,48µm,19.3s
SJAF Saint Jean de 105.89 312 *e*P Pdif 08 09 07.6 +0.4
EGAK Eagle 106.02 25 *e*Pdif Pdif 08 09 08.0 +0.9
comp=Z,437nm,0.7s
EGAK LR LR
comp=Z,47µm,20.0s
TCF Toulx Ste Croi 106.05 316 *e*P Pdif 08 09 08.8 +1.0
comp=Z,178nm,1.7s
TCF Toulx Ste Croi 106.05 316 *e*P Pdif 08 09 08.8 +1.0
TCF pmax pmax
comp=Z,178nm,1.7s
TCF Toulx Ste Croi 106.05 316 *e*P Pdif 08 09 08.8 +1.0
comp=Z,178nm,1.7s
ABA Alger-Bouzarea 106.10 306 P Pdif 08 09 09.9 +1.7
LRDF Laroque-de-Fa 106.11 312 *e*P Pdif 08 09 08.7 +0.6
FILF Fillols 106.13 312 *e*P Pdif 08 09 09.0 +0.7
EMHD Djebel Mahouad 106.19 305 P Pdif 08 09 10.8 +2.0
ELSH Elham, Standar 106.19 321 *e*P Pdif 08 09 08.9 +0.7
ELSH *e* 08 13 15.6
ELSH AMS AMS 09 01 57.1
comp=Z,55µm,23.7s
CAF Calviac 106.28 314 *e*P Pdif 08 09 09.9 +1.0
comp=Z,179nm,1.6s
CAF Calviac 106.28 314 *e*P Pdif 08 09 09.9 +1.0
CAF pmax pmax
comp=Z,179nm,1.6s
CAF Calviac 106.28 314 *e*P Pdif 08 09 09.9 +1.0
comp=Z,179nm,1.6s
MTLF Montolieu 106.32 313 *e*P Pdif 08 09 09.9 +0.9
comp=Z,175nm,1.6s
MTLF Montolieu 106.32 313 *e*P Pdif 08 09 09.9 +0.9
MTLF pmax pmax
comp=Z,175nm,1.6s
MTLF Montolieu 106.32 313 *e*P Pdif 08 09 09.9 +0.9
comp=Z,175nm,1.6s
RJF Les Rejaudoux 106.63 315 *e*P Pdif 08 09 11.7 +1.3
comp=Z,332nm,1.9s
RJF Les Rejaudoux 106.63 315 *e*P Pdif 08 09 11.7 +1.3
RJF pmax pmax
comp=Z,332nm,1.9s
RJF Les Rejaudoux 106.63 315 *e*P Pdif 08 09 11.7 +1.3
comp=Z,332nm,1.9s
LMK Market Rasen 106.72 324 *e*P Pdif 08 09 11.0 +0.5
HMNX Herstmonceux 106.73 321 *e*P Pdif 08 09 11.2 +0.7
HMNX *e* 08 13 06.4
HMNX AMS AMS 09 01 43.1
comp=Z,42µm,23.7s
TORD Torodi Ar. Bea 106.96 281 Pdif Pdif 08 09 12.8 +0.4
TORD PKiKP **PKiKP 08 13 22.4 +0.3**
TORD PKKPbc **PKKPbc 08 24 38.9 -0.7**
TORD PKKPab **PKKPab 08 24 55.2 +0.4**
TORD P'P' 08 32 59.9
TORD Torodi Ar. Bea 106.96 281 Pdiff Pdif 08 09 12.8 +0.4
comp=Z,13nm,1.1s,baz=92,slow=2.8,SNR=54
TORD PKiKP **PKiKP 08 13 22.4 +0.3**
comp=Z,32nm,0.8s,baz=70,slow=1.5,SNR=31
TORD PKKPbc **PKKPbc 08 24 38.9 -0.7**
comp=Z,7.6nm,0.8s,baz=281,slow=3.2,SNR=9.9
TORD PKKPab **PKKPab 08 24 55.2 +0.4**
comp=Z,14nm,1.0s,baz=288,slow=4.1,SNR=4.5

TORD PKPPKP P'P'df 08 32 59.9 -5.5
comp=Z,3.7nm,1.1s,baz=276,slow=1.5,SNR=3.2
DAWY Dawson 106.96 25 *e*Pdif **Pdif 08 09 12.4 +0.9**
MLS Moulis 107.17 312 *e*P **Pdif 08 09 12.9 +0.1**
LFF La Frestale 107.22 315 *e*P **Pdif 08 09 14.4 +1.4**
comp=Z,271nm,1.7s
LFF La Frestale 107.22 315 *e*P **Pdif 08 09 14.4 +1.4**
LFF pmax pmax
comp=Z,271nm,1.7s
LFF La Frestale 107.22 315 *e*P **Pdif 08 09 14.4 +1.4**
comp=Z,271nm,1.7s
DRUM Mains of Drumt 107.27 327 *e*P **Pdif 08 09 13.2 +0.3**
DRUM *e* 08 13 02.2
DRUM AMS AMS 08 59 51.0
comp=Z,42µm,26.1s
EBNR Beni Rached 107.33 306 P Pdif 08 09 30.2 +16
LDF La Druitiere 107.35 318 *e*P **Pdif 08 09 14.0 +0.5**
comp=Z,166nm,1.5s
LDF La Druitiere 107.35 318 *e*P **Pdif 08 09 14.0 +0.5**
LDF pmax pmax
comp=Z,166nm,1.5s
LDF La Druitiere 107.35 318 *e*P **Pdif 08 09 14.0 +0.5**
comp=Z,166nm,1.5s
HPK Haverah Park 107.39 324 *e*P **Pdif 08 09 13.4 -0.1**
HPK AMS AMS 09 02 02.3
comp=Z,34µm,24.9s
PMSA Palmer Station 107.41 184 Pdif **Pdif 08 09 14.2 +0.8**
PMSA PKiKP **PKiKP 08 13 21.7 +0.1**
PMSA PKKPbc **PKKPbc 08 24 37.9 -1.8**
PMSA PKKPab **PKKPdf 08 24 52.3 +0.5**
PMSA LR LR
comp=Z,80µm,20.0s
PMSA Palmer Station 107.41 184 Pdiff **Pdif 08 09 14.2 +0.8**
comp=Z,1.8nm,0.6s,baz=182,slow=5.1,SNR=5.2
PMSA PKiKP **PKiKP 08 13 21.7 +0.1**
comp=Z,34nm,1.2s,baz=225,slow=2.9,SNR=4.4
PMSA PKKPbc **PKKPbc 08 24 37.9 -1.8**
comp=Z,15nm,1.0s,baz=347,slow=1.7,SNR=8.1
PMSA PKKPab **PKKPdf 08 24 52.3 +0.5**
comp=Z,65nm,1.0s,baz=353,slow=2.8,SNR=17
ECHA Ech Chlef 107.47 305 P **Pdif 08 09 19.2 +4.9**
FLN La Foliniere 107.56 319 *e*P **Pdif 08 09 13.3 -1.1**
comp=Z,144nm,1.4s
FLN La Foliniere 107.56 319 *e*P **Pdif 08 09 13.3 -1.1**
FLN pmax pmax
comp=Z,144nm,1.4s
FLN La Foliniere 107.56 319 *e*P **Pdif 08 09 13.3 -1.1**
comp=Z,144nm,1.4s
ETRT Tiaret 107.56 305 P Pdif 08 09 34.0 +19
WOL Wolverton 107.63 321 *e*P **Pdif 08 09 14.0 -0.6**
WOL *e* 08 13 16.7
WOL AMS AMS 09 05 39.2
comp=Z,47µm,20.5s
MFF Saint Martin d 107.64 316 *e*P **Pdif 08 09 15.4 +0.6**
comp=Z,224nm,1.6s
MFF Saint Martin d 107.64 316 *e*P **Pdif 08 09 15.4 +0.6**
MFF pmax pmax
comp=Z,224nm,1.6s
MFF Saint Martin d 107.64 316 *e*P **Pdif 08 09 15.4 +0.6**
comp=Z,224nm,1.6s
INK Inuvik 107.65 20 *e*Pdif **Pdif 08 09 14.2 -0.1**
comp=Z,40nm,1.0s
INK PKiKP **PKiKP 08 13 22.6 +0.7**
INK PP **PP 08 13 45.5 +2.8**
INK PKKPbc **PKKPbc 08 24 37.5 -1.6**
INK Inuvik 107.65 20 PKiKP **PKiKP 08 13 22.6 +0.7**
comp=Z,90nm,1.2s,baz=302,slow=2.9,SNR=6.0
INK PP **PP 08 13 45.5 +2.8**
comp=Z,52nm,0.9s,baz=282,slow=4.9,SNR=5.1
INK PKKPbc **PKKPbc 08 24 37.5 -1.6**
comp=Z,51nm,1.0s,baz=124,slow=3.2,SNR=16
EANR 'Ain N'Sour 107.70 305 P **Pdif 08 09 17.9 +2.5**
EPF Esparros 107.71 313 *e*P **Pdif 08 09 15.7 +0.4**
EPF Esparros 107.71 313 *e*P **Pdif 08 09 15.7 +0.4**
EPF Esparros 107.71 313 *e*P **Pdif 08 09 15.7 +0.4**
RESF Ens 107.74 312 *e*P **Pdif 08 09 17.0 +1.5**
EDI Edinburgh 107.86 326 *e*P **Pdif 08 09 15.7 +0.2**
EDI AMS AMS 09 00 27.3
comp=Z,60µm,24.2s
GRR Gorron 107.86 318 *e*P **Pdif 08 09 16.4 +0.7**
comp=Z,137nm,1.6s
GRR Gorron 107.86 318 *e*P **Pdif 08 09 16.4 +0.7**
GRR pmax pmax
comp=Z,137nm,1.6s
GRR Gorron 107.86 318 *e*P **Pdif 08 09 16.4 +0.7**
comp=Z,137nm,1.6s
STNC Stoke 107.90 323 *e*P **Pdif 08 09 14.7 -1.1**
STNC *e* 08 13 30.1
STNC AMS AMS 09 01 00.0
comp=Z,35µm,25.8s
SWN1 Swindon 107.95 322 *e*P **Pdif 08 09 16.2 +0.1**
SWN1 *e* 08 13 14.5
SWN1 AMS AMS 09 02 03.3
comp=Z,43µm,24.9s
EKA Eskdalemuir Ar 107.98 326 Pdif **Pdif 08 09 16.6 +0.5**
EKA PKiKP **PKiKP 08 13 23.6 +0.6**
EKA PP **PP 08 13 47.8 +2.2**
EKA PKKPbc **PKKPbc 08 24 38.3 +0.6**
EKA Eskdalemuir Ar 107.98 326 Pdiff **Pdif 08 09 16.6 +0.5**
comp=Z,3.5nm,0.6s,baz=92,slow=4.6,SNR=9.3
EKA PKiKP **PKiKP 08 13 23.6 +0.6**
comp=Z,16nm,0.8s,baz=1.9,slow=2.1,SNR=11
EKA PP **PP 08 13 47.8 +2.2**
comp=Z,10nm,0.6s,baz=94,slow=8.2,SNR=3.5
EKA PKKPbc **PKKPbc 08 24 38.3 +0.6**
comp=Z,5.4nm,0.8s,baz=270,slow=3.3,SNR=4.2
OJGS Djebel Guires 108.01 305 P Pdif 08 09 40.0 +23
ESK Eskdalemuir 108.01 326 *e*P **Pdif 08 09 16.4 +0.2**
ESK AMS AMS 08 59 36.5
comp=Z,29µm,26.7s
ESK Eskdalemuir 108.01 326 PFAKE 08 13 40.0
ESK LR LR
comp=Z,28µm,20.0s
OKGL Djebel Kef Gue 108.06 305 P Pdif 08 09 41.0 +24
SOFL Sornfelli, Far 108.09 333 *e*P **Pdif 08 09 17.9 +1.4**
SOFL *e* 08 13 26.2
SOFL AMS AMS 09 06 16.0
comp=Z,82µm,20.4s
KESW Keswick, Cumbr 108.11 325 *e*P **Pdif 08 09 15.7 -1.0**
KESW AMS AMS 08 55 21.8
comp=Z,36µm,28.6s
MDO Dochfour 108.14 328 *e*P **Pdif 08 09 17.7 +1.0**
REYF Montagne du Re 108.24 313 *e*P **Pdif 08 09 18.2 +0.5**
ETSF Etsaut 108.38 313 *e*P **Pdif 08 09 19.6 +1.3**
comp=Z,37nm,1.2s
ETSF Etsaut 108.38 313 *e*P **Pdif 08 09 19.6 +1.3**
ETSF pmax pmax
comp=Z,37nm,1.2s
ETSF Etsaut 108.38 313 *e*P **Pdif 08 09 19.6 +1.3**
comp=Z,37nm,1.2s
HLM1 Long Mynd 108.41 323 *e*P **Pdif 08 09 18.7 +0.6**
ATE Arette 108.46 313 *e*P **Pdif 08 09 19.5 +0.9**
FOEL Foel Wylfa 108.53 323 *e*P **Pdif 08 09 17.6 -1.0**
FOEL *e* 08 13 08.7
FOEL AMS AMS 09 01 46.4
comp=Z,42µm,24.8s
MCH1 Michaelchurch 108.59 322 *e*P **Pdif 08 09 16.2 -2.7**
MCH1 AMS AMS 09 00 32.9
comp=Z,39µm,26.8s
JSA Saint Aubin 108.59 319 *e*P **Pdif 08 09 20.0 +1.1**
JSA *e* 08 13 31.3
JSA AMS AMS 09 06 41.3
comp=Z,33µm,22.1s
PGBU Glenifferbraes 108.60 326 *e*P **Pdif 08 09 18.4 -0.4**
PGBU AMS AMS 09 00 35.1
comp=Z,53µm,25.0s
ODJA Bouhanifia 108.75 305 P Pdif 08 09 43.0 +23
HYT Haines Junctio 108.81 28 *e*Pdif **Pdif 08 09 22.8 +3.0**
KPL Plockton 108.84 328 *e*P **Pdif 08 09 19.1 -0.7**
KPL *e* 08 13 07.7
KPL AMS AMS 09 07 24.9
comp=Z,49µm,20.2s
SJPF Ste Jean 108.84 313 *e*P **Pdif 08 09 21.7 +1.4**
comp=Z,192nm,1.9s
SJPF Ste Jean 108.84 313 *e*P **Pdif 08 09 21.7 +1.4**
SJPF pmax pmax
comp=Z,192nm,1.9s
SJPF Ste Jean 108.84 313 *e*P **Pdif 08 09 21.7 +1.4**
comp=Z,192nm,1.9s
GAL1 Galloway 108.96 326 *e*P **Pdif 08 09 19.0 -1.4**
GAL1 AMS AMS 09 01 18.1
comp=Z,34µm,25.1s
SGMF Saint Gilles 109.00 318 *e*P **Pdif 08 09 23.0 +2.2**
comp=Z,353nm,1.8s
SGMF Saint Gilles 109.00 318 *e*P **Pdif 08 09 23.0 +2.2**
SGMF pmax pmax
comp=Z,353nm,1.8s
SGMF Saint Gilles 109.00 318 *e*P **Pdif 08 09 23.0 +2.2**
comp=Z,353nm,1.8s
USTO Oran 109.05 305 P Pdif 08 09 46.0 +25
WLF1 Llynfaes 109.14 324 *e*P **Pdif 08 09 22.4 +1.1**
WLF1 *e* 08 13 28.7
WLF1 AMS AMS 09 03 33.1
comp=Z,36µm,24.2s
LPW Lampeter 109.21 323 *e*P **Pdif 08 09 21.2 -0.4**
LPW *e* 08 12 44.0
LPW AMS AMS 08 52 19.2
comp=Z,453µm,37.8s
ROSF Rostrenen 109.46 319 *e*P **Pdif 08 09 23.2 +0.4**
comp=Z,132nm,1.5s
ROSF Rostrenen 109.46 319 *e*P **Pdif 08 09 23.2 +0.4**
ROSF Rostrenen 109.46 319 *e*P **Pdif 08 09 23.2 +0.4**
QUIF Quistinic 109.47 318 *e*P **Pdif 08 09 23.2 +0.3**
comp=Z,121nm,1.4s
QUIF Quistinic 109.47 318 *e*P **Pdif 08 09 23.2 +0.3**
QUIF Quistinic 109.47 318 *e*P **Pdif 08 09 23.2 +0.3**
DYA Yadsworthy 109.48 321 *e*P **Pdif 08 09 23.4 +0.5**
DYA AMS AMS 09 06 59.3
comp=Z,39µm,20.9s
SCO Scoresbysund 109.70 344 ⇑ *i*P **Pdif 08 09 24.4 +1.0**
SCO *i* 08 13 58.3
SCO *i* S **SKSac 08 20 00.6 +2.9**
SCO Scoresbysund 109.70 344 ⇑ *i*P **Pdif 08 09 24.4 +1.0**
SCO *i* 08 13 58.3
SCO *i* S **SKSac 08 20 00.6 +2.9**
SCO
comp=Z,59µm,29.0s
HTL Hartland 109.70 321 *e*P **Pdif 08 09 22.4 -1.4**
HTL AMS AMS 09 05 07.4
comp=Z,44µm,21.3s
SHEL Horse Pasture 109.78 250 PFAKE 08 13 40.0
SHEL LR LR
comp=Z,79µm,22.0s
OLHC Oulhaca 109.79 305 P Pdif 08 09 44.0 +19
SKAG Skagway 110.29 29 *e*Pdif **Pdif 08 09 29.3 +3.1**
TAOE Nuku Hiva Isla 110.70 102 *e*PP PP 08 13 58.9 -7.8
comp=Z,19µm,29.7s
TAOE *e*SP SP 08 23 30.4 -1.0
comp=Z,36µm,27.8s
TAOE *e*SS **SS 08 29 31.3 -1.6**
comp=Z,21µm,27.9s
TAOE Nuku Hiva Isla 110.70 102 *e*LR LR 08 46 27.6
comp=Z,84µm,22.9s
SIT Sitka 111.10 31 *e*P **Pdif 08 09 32.6 +2.7**
SIT Sitka 111.10 31 *e*Pdif **Pdif 08 09 32.6 +2.7**
ESDC Sonseca Array 111.33 310 Pdif **Pdif 08 09 31.8 +0.3**
ESDC PKiKP **PKiKP 08 13 30.3 +0.5**
ESDC PP **PP 08 14 08.7 -1.8**
ESDC PKKPbc **PKKPbc 08 24 26.5 +0.1**
ESDC PKKPab **PKKPab 08 24 35.9 +1.0**
ESDC Sonseca Array 111.33 310 Pdiff **Pdif 08 09 31.8 +0.3**
comp=Z,0.1nm,0.3s,baz=62,slow=1.5,SNR=5.8
ESDC PKiKP **PKiKP 08 13 30.3 +0.5**
comp=Z,14nm,0.8s,baz=22,slow=2.8,SNR=7.8
ESDC PP **PP 08 14 08.7 -1.8**
comp=Z,16nm,0.9s,baz=68,slow=7.7,SNR=6.4
ESDC PKKPbc **PKKPbc 08 24 26.5 +0.1**
comp=Z,7.2nm,0.6s,baz=281,slow=3.4,SNR=19
ESDC PKKPab **PKKPab 08 24 35.9 +1.0**
comp=Z,42nm,1.0s,baz=274,slow=4.3,SNR=23
PAB San Pablo 111.64 309 PFAKE 08 13 40.0
PAB LR LR
comp=Z,40µm,20.0s
RKT Rikitea 111.76 119 *e*Pdif **Pdif 08 09 32.0 -1.7**
RKT Rikitea 111.76 119 *e*PP PP 08 14 11.3 -2.5
comp=Z,13µm,31.2s
RKT *e*SKSac **SKSac 08 20 06.3 -1.9**
comp=Z,8µm,30.2s
RKT *e*Sdif **SKKSac 08 21 05.4 -6.4**
comp=Z,10µm,30.8s
RKT *e*SP **SP 08 23 39.7 -0.7**
comp=Z,48µm,37.5s
RKT *e*SS **SS 08 29 46.8 +0.6**
comp=Z,76µm,35.0s
RKT Rikitea 111.76 119 *e*LR LR 08 46 50.9
comp=Z,145µm,29.5s
SUMG Summit 112.00 349 ⇑ *i*P **Pdif 08 09 35.2 +1.1**
SUMG pmax pmax
comp=Z,14nm,0.9s
SUMG Summit 112.00 349 ⇑ *i*P **Pdif 08 09 35.2 +1.1**
comp=Z,14nm,0.9s
SUMG
comp=Z,56µm,29.0s
SUMG Summit 112.00 349 *i* P **PKKPbc 08 24 23.7 -1.9**
SUMG Summit 112.00 349 *e*Pdif **Pdif 08 09 36.0 +1.8**
KULLO Kullorsuaq 112.61 356 ⇑ *i*P **Pdif 08 09 36.7 +0.4**
KULLO *i* 08 14 17.8
KULLO pmax pmax
comp=Z,45nm,0.9s
KULLO MLR MLR
comp=Z,67µm,25.0s
MDT Midelt 112.65 302 PKKPbc PKKPbc 08 24 23.7 +1.8
MDT Midelt 112.65 302 PKKPbc PKKPbc 08 24 23.7 +1.8
comp=Z,13nm,1.1s,baz=220,slow=2.5,SNR=5.0
KIC Kosan Boka 112.71 274 *e*PKP2 **Pdif 08 09 43.4 +5.3**
comp=Z,135nm,1.7s
KIC Kosan Boka 112.71 274 *e*PKIKP **PKiKP 08 13 33.6 +0.5**
comp=Z,94nm,1.0s
KIC Kosan Boka 112.71 274 *e*P **PKKPab 08 24 31.1 +1.6**
comp=Z,253nm,1.2s
BORG Borgarnes 112.75 339 *e*PKPdf 08 13 32.2
BORG PP **PP 08 14 20.2 +0.6**
BORG LR LR
comp=Z,34µm,19.0s
BORG Borgarnes 112.75 339 PKiKP **PKiKP 08 13 32.2 +0.6**
comp=Z,31nm,0.6s,baz=27,slow=2.5,SNR=11
BORG PP **PP 08 14 20.2 +0.6**
comp=Z,30nm,0.9s,baz=45,slow=4.5,SNR=3.7
CRAG Craig 112.80 33 *e*Pdif **Pdif 08 09 39.9 +2.4**
DBIC Dimbokro 112.86 274 *e*P **PKiKP 08 13 32.7 -0.6**
DBIC Dimbokro 112.86 274 Pdif **Pdif 08 09 38.0 -0.7**
DBIC *e*PKPdf **PKiKP 08 13 33.3 0.0**
DBIC PKiKP **PKiKP 08 13 33.8 +0.5**
DBIC PP **PP 08 14 19.3 -2.9**
DBIC PKKPbc **PKKPbc 08 24 19.6 -0.9**
DBIC Dimbokro 112.86 274 Pdiff **Pdif 08 09 38.0 -0.7**
comp=Z,2.5nm,0.9s,baz=84,slow=3.8,SNR=3.6
DBIC PKiKP **PKiKP 08 13 33.8 +0.5**
comp=Z,50nm,0.9s,baz=88,slow=3.0,SNR=13
DBIC PP **PP 08 14 19.3 -2.9**
comp=Z,30nm,1.0s,baz=60,slow=6.8,SNR=4.5
DBIC PKKPbc **PKKPbc 08 24 19.6 -0.9**
comp=Z,10.0nm,0.7s,baz=235,slow=3.8,SNR=2.6
WRAK Wrangell Islan 112.86 31 *e*Pdif **Pdif 08 09 40.5 +2.8**
WRAK LR LR
comp=Z,36µm,22.0s
VAL Valentia 112.94 323 *e*P **Pdif 08 09 38.0 -0.2**
VAL Valentia 112.94 323 *e*P **PKiKP 08 13 34.1 +1.8**
VAL Valentia 112.94 323 ⇑ *i*SP SP 08 23 48.1 -1.5
LIC Lamto 112.98 273 *e*P **Pdif 08 09 41.4 +2.1**
LIC Lamto 112.98 273 *e*PKP2 **Pdif 08 09 44.4 +5.1**
comp=Z,22nm,0.9s
LIC Lamto 112.98 273 *e*PKIKP **PKiKP 08 13 33.4 -0.2**
comp=Z,166nm,1.1s
LIC Lamto 112.98 273 *e*P **PKKPab 08 24 29.9 +1.6**
comp=Z,268nm,1.2s
LIC Lamto 112.98 273 *e*P **Pdif 08 09 41.4 +2.1**
TIC Toumodi 113.02 274 *e*PKP2 **Pdif 08 09 44.9 +5.4**
comp=Z,132nm,1.6s
TIC Toumodi 113.02 274 *e*PKIKP **PKiKP 08 13 33.5 -0.2**
comp=Z,103nm,0.9s
TIC Toumodi 113.02 274 *e*P **PKKPab 08 24 29.7 +1.6**
comp=Z,233nm,1.3s
PBRG Braganca 113.08 312 *e*Pdif **Pdif 08 09 39.4 +0.2**
PBRG Braganca 113.08 312 *e*PKPdf **PKiKP 08 13 34.7 +1.7**
PBRG Braganca 113.08 312 *e*PP PP 08 14 23.6 +0.7
DLBC Dease Lake 113.22 29 *e*Pdif **Pdif 08 09 41.7 +2.2**
DLBC PKiKP **PKiKP 08 13 33.5 +0.7**
DLBC PP **PP 08 14 23.9 +0.7**
DLBC PKKPbc **PKKPbc 08 24 20.6 -0.2**
DLBC Dease Lake 113.22 29 PKiKP **PKiKP 08 13 33.5 +0.7**
comp=Z,97nm,1.2s,baz=339,slow=1.4,SNR=18
DLBC PP **PP 08 14 23.9 +0.7**
comp=Z,12nm,0.8s,baz=260,slow=3.1,SNR=4.0
DLBC PKKPbc **PKKPbc 08 24 20.6 -0.2**
comp=Z,34nm,1.0s,baz=110,slow=1.7,SNR=17
MVO Moncorvo 113.41 311 *i* Pdif **Pdif 08 09 42.3 +1.6**
MVO Moncorvo 113.41 311 *e*PKPdf **PKiKP 08 13 36.2 +2.5**
MVO Moncorvo 113.41 311 *e*PP PP 08 14 25.1 -0.2
MVO *e*SKSac **SKSac 08 20 14.7 +0.5**
MVO *e*SS **SS 08 30 07.4 -0.2**
MVO Moncorvo 113.41 311 *e*LR LR 08 52 29.5
comp=Z,22µm,20.0s
PVRL Vila Real 113.89 312 *e*PKPdf **PKiKP 08 13 36.8 +2.2**
PVRL Vila Real 113.89 312 *e*PP PP 08 14 25.6 -3.1
PBAR Barrancos 113.93 308 *i* Pdif **Pdif 08 09 44.3 +1.3**
PBAR Barrancos 113.93 308 *e*PKPdf **PKiKP 08 13 36.0 +1.3**
PBAR Barrancos 113.93 308 *e*PP PP 08 14 26.4 -2.6
MTE Manteigas 113.93 311 *i* Pdif **Pdif 08 09 45.3 +2.3**
MTE Manteigas 113.93 311 *e*PKPdf **PKiKP 08 13 35.5 +0.8**
MTE Manteigas 113.93 311 *e*PP PP 08 14 24.9 -4.1
MTE *e*SKSac **SKSac 08 20 16.3 0.0**
MTE *e*SS **SS 08 30 12.4 -2.2**
MTE Manteigas 113.93 311 *e*LR LR 08 51 23.0
comp=Z,29µm,20.0s
MTE Manteigas 113.93 311 *e*PKPdf **PKiKP 08 13 35.8 +1.0**
MTE LR LR
comp=Z,32µm,22.0s
POLO Lamas de Olo 113.93 312 *e*Pdif **Pdif 08 09 44.2 +1.2**
POLO Lamas de Olo 113.93 312 *e*PKPdf **PKiKP 08 13 36.2 +1.4**
POLO Lamas de Olo 113.93 312 *e*PP PP 08 14 28.1 -1.0
PCBR Castelo Branco 113.98 310 *e*PKPdf **PKiKP 08 13 36.9 +2.2**
PCBR Castelo Branco 113.98 310 *e*PP PP 08 14 23.0 -6.3
PMRV Marv??o 113.99 310 *i* Pdif **Pdif 08 09 44.4 +1.2**
PMRV Marv??o 113.99 310 *e*PKPdf PKiKP 08 13 27.2 -7.6
PMRV Marv??o 113.99 310 *e*PP PP 08 14 26.7 -2.7
PMRV *e*SKSac **SKSac 08 20 16.3 -0.1**
PMRV Marv??o 113.99 310 *e*SS SS 08 30 18.7 +3.4
PMRV Marv??o 113.99 310 *e*LR LR 08 54 01.0
comp=Z,22µm,18.0s
PCAB Cabril 114.04 312 *e*PKPdf PKPdf 08 13 36.8 +1.9
PCAB Cabril 114.04 312 *e*PP **PP 08 14 29.0 -0.7**
PVIS Viseu 114.13 311 *e*PKPdf PKPdf 08 13 37.1 +2.0
PVIS Viseu 114.13 311 *e*PP **PP 08 14 31.0 +0.6**
PGAV Gavieira, Arco 114.16 313 *e*Pdif **Pdif 08 09 46.2 +2.1**
PGAV Gavieira, Arco 114.16 313 *e*PKPdf PKPdf 08 13 36.5 +1.3
PGAV Gavieira, Arco 114.16 313 *e*PP **PP 08 14 30.4 -0.3**
PGAV *e*SKSac **SKSac 08 20 18.3 +1.1**
PGAV Gavieira, Arco 114.16 313 *e*SS SS 08 30 18.5 +0.9
PGAV Gavieira, Arco 114.16 313 *e*LR LR 08 54 11.0
comp=Z,24µm,22.0s
PESTR Estremoz 114.24 309 *i* Pdif **Pdif 08 09 45.7 +1.3**
PESTR Estremoz 114.24 309 *e*PKPdf PKPdf 08 13 36.5 +1.2
PESTR Estremoz 114.24 309 *e*PP **PP 08 14 28.7 -2.5**
RTC Rabat Centre 114.38 304 PFAKE 08 13 50.0 +14
RTC LR LR
comp=Z,33µm,21.0s
PVAQ Vaqueiros 114.58 308 *i* Pdif **Pdif 08 09 47.6 +1.7**
PVAQ Vaqueiros 114.58 308 *e*PKPdf PKPdf 08 13 36.6 +0.6
PVAQ Vaqueiros 114.58 308 *e*PP **PP 08 14 33.2 -0.5**
PVAQ Vaqueiros 114.58 308 *e*SS SS 08 30 23.9 +0.7
PVAQ Vaqueiros 114.58 308 *e*LR LR 08 51 32.4
comp=Z,18µm,20.0s
PBEJ Beja 114.59 308 *e*PKPdf PKPdf 08 13 38.3 +2.3
PBEJ Beja 114.59 308 *e*PP **PP 08 14 31.9 -1.8**
EVO Evora 114.62 309 *e*PKIKP PKPdf 08 13 36.7 +0.7
comp=Z,181nm,1.1s
EVO Evora 114.62 309 *e*Pdif **Pdif 08 09 46.5 +0.5**
EVO Evora 114.62 309 *e*PKPdf PKPdf 08 13 37.9 +1.9
EVO Evora 114.62 309 *e*PP **PP 08 14 31.1 -2.8**
PMTG Montargil 114.69 309 *i* Pdif **Pdif 08 09 47.5 +1.2**
PMTG Montargil 114.69 309 *e*PKPdf PKPdf 08 13 36.2 +0.1
PMTG Montargil 114.69 309 *e*PP **PP 08 14 31.2 -3.2**
EVOP Sao Brissos 114.71 309 *e*PKIKP PKPdf 08 13 36.7 +0.5
EVOP Sao Brissos 114.71 309 *e*PKPdf PKPdf 08 13 36.7 +0.5
PTOM Tomar 114.73 310 *e*PKPdf PKPdf 08 13 37.9 +1.7
PTOM Tomar 114.73 310 *e*PP **PP 08 14 31.8 -2.8**
PBDV Barranco-do-Ve 114.78 307 *e*Pdif **Pdif 08 09 49.0 +2.2**
PBDV Barranco-do-Ve 114.78 307 *e*PKPdf PKPdf 08 13 36.9 +0.5
PBDV Barranco-do-Ve 114.78 307 *e*PP **PP 08 14 34.7 -0.4**
PBDV Barranco-do-Ve 114.78 307 *e*SS SS 08 30 29.2 +3.4
PNCL Nicolau / Gran 115.09 308 *e*Pdif **Pdif 08 09 50.0 +1.9**
PNCL Nicolau / Gran 115.09 308 *e*PKPdf **PKPdf 08 13 37.8 +0.9**
PNCL Nicolau / Gran 115.09 308 *e*PP **PP 08 14 35.8 -1.4**
PNCL Nicolau / Gran 115.09 308 *e*SS SS 08 30 28.8 -1.1
PACT Alcochete 115.21 309 *e*Pdif **Pdif 08 09 51.1 +2.5**
PACT Alcochete 115.21 309 *e*PKPdf **PKPdf 08 13 39.0 +1.9**
PACT Alcochete 115.21 309 *e*PP **PP 08 14 33.6 -4.4**
MORF Marmelete 115.33 308 *i* Pdif **Pdif 08 09 51.3 +2.0**
MORF Marmelete 115.33 308 *e*PKPdf **PKPdf 08 13 37.9 +0.4**
MORF Marmelete 115.33 308 *e*PP PP 08 14 39.0 0.0
MORF *e*SKSac **SKSac 08 20 23.2 +1.5**
MORF Marmelete 115.33 308 *e*SS SS 08 30 34.5 +1.3
MORF Marmelete 115.33 308 *e*PKIKP **PKPdf 08 13 37.8 +0.3**
MORF *e* 08 14 38.9
MORF *e*SS SS 08 30 34.6 +1.4
PTEO Sao Teotonio 115.35 308 *e*PKPdf **PKPdf 08 13 39.3 +1.9**
PTEO Sao Teotonio 115.35 308 *e*PP PP 08 14 38.4 -0.6
LIS Lisbon 115.46 309 *e*P **PKPdf 08 13 37.5 -0.1**
LIS *e*PP **PP 08 14 39.8 0.0**
LIS *e*SS SS 08 30 35.8 +1.1
LIS AMS AMS 09 19 02.1
comp=Z,27µm,14.9s
LIS Lisbon 115.46 309 *e*P **PKPdf 08 13 37.5 -0.1**
LIS Lisbon 115.46 309 A A 09 19 02.1
comp=Z,27µm,14.9s
LIS Lisbon 115.46 309 *e*PKIKP **PKPdf 08 13 37.5 -0.1**
LIS *e* 08 14 39.8
LIS *e*SS SS 08 30 35.7 +1.1
PMST Lisbon--Monsan 115.49 309 *e*Pdif **Pdif 08 09 50.8 +0.9**
PMST Lisbon--Monsan 115.49 309 *e*PP **PP 08 14 35.9 -4.1**
PFVI Vila Bisbo 115.50 307 *e*Pdif **Pdif 08 09 51.6 +1.6**
PFVI Vila Bisbo 115.50 307 *e*PKPdf **PKPdf 08 13 39.5 +1.7**
PFVI Vila Bisbo 115.50 307 *e*PP **PP 08 14 37.2 -2.9**
PFVI Vila Bisbo 115.50 307 *e*SS SS 08 30 35.3 0.0
PMAFR Mafra 115.52 309 *e*PKPdf **PKPdf 08 13 37.2 -0.6**
PMAFR Mafra 115.52 309 *e*PP **PP 08 14 35.6 -4.6**
BBB Bella Bella 116.79 35 PKP **PKPdf 08 13 40.4 +0.7**
BBB PKKPbc **PKKPbc 08 24 07.0 -1.1**
BBB Bella Bella 116.79 35 PKP **PKPdf 08 13 40.4 +0.7**
comp=Z,60nm,0.6s,baz=331,slow=2.6,SNR=62
BBB PKKPbc **PKKPbc 08 24 07.0 -1.1**
comp=Z,12nm,0.9s,baz=126,slow=3.6,SNR=6.6
ILULI Ilulissat 117.01 352 ⇑ *i*P **Pdif 08 09 57.0 +1.1**
ILULI pmax pmax
comp=Z,10.0nm,0.8s
ILULI MLR MLR
comp=Z,84µm,22.0s
YKW3 Yellowknife Ar 117.36 20 *e*PKPdf **PKPdf 08 13 40.6 0.0**
YKA Yellowknife Ar 117.41 20 Pdif **Pdif 08 09 58.6 +0.8**
YKA PKP **PKiKP 08 13 41.1 +0.5**
YKA PP **PP 08 14 52.0 -0.3**
YKA PKKPbc **PKKPbc 08 24 04.1 -2.1**
YKA SKKPbc SKKPbc 08 27 48.9 -0.4
YKA Yellowknife Ar 117.41 20 Pdiff **Pdif 08 09 58.6 +0.8**
comp=Z,1.6nm,0.8s,baz=321,slow=4.6,SNR=9.0
YKA PKP **PKiKP 08 13 41.1 +0.5**
comp=Z,81nm,0.6s,baz=335,slow=1.9,SNR=98
YKA PP **PP 08 14 52.0 -0.3**
comp=Z,35nm,1.1s,baz=327,slow=7.8,SNR=4.8
YKA PKKPbc **PKKPbc 08 24 04.1 -2.1**
comp=Z,36nm,0.9s,baz=122,slow=3.7,SNR=29
YKA SKKPbc SKKPbc 08 27 48.9 -0.3
comp=Z,4.6nm,1.0s,baz=136,slow=2.7,SNR=4.4
USHA Ushuaia 117.57 183 PKP **PKPdf 08 13 41.7 +0.5**
USHA PKKPbc **PKKPbc 08 24 06.1 +0.5**
USHA Ushuaia 117.57 183 PKP **PKPdf 08 13 41.7 +0.5**
comp=Z,160nm,0.9s,baz=127,slow=2.2,SNR=40
USHA PKKPbc **PKKPbc 08 24 06.1 +0.5**
comp=Z,86nm,1.1s,baz=342,slow=3.2,SNR=12
SFJD Kangerlussuaq 118.96 350 ⇑ *i*P **Pdif 08 10 05.4 +0.8**
comp=Z,12nm,1.0s
SFJD Kangerlussuaq 118.96 350 *e*Pdif **Pdif 08 10 06.3 +1.7**
SFJD PKKPbc **PKKPab 08 23 59.5 -1.0**
SFJD LR LR
comp=Z,41µm,22.0s
SFJD Kangerlussuaq 118.96 350 PKKPbc PKKPbc 08 23 59.5 -1.2
comp=Z,24nm,1.1s,baz=225,slow=4.3,SNR=4.3
EFI East Falkland 119.52 190 *e*PKIKP **PKPdf 08 13 44.9 -0.2**
EFI MLR MLR
comp=Z,19µm,19.0s
EFI East Falkland 119.52 190 *e*PKPdf **PKPdf 08 13 44.9 -0.2**
EFI LR LR
comp=Z,19µm,19.0s
ASCN Ascension 119.90 256 *e*PKPdf **PKPdf 08 13 48.0 +1.1**
ASCN LR LR
comp=Z,36µm,21.0s
PGC Sidney 120.99 37 *e*PKPdf **PKPdf 08 13 49.0 +1.1**
NLWA Neilton Lookou 121.28 38 *e*PKPdf **PKPdf 08 13 50.0 +1.4**
NLWA LR LR
comp=Z,16µm,21.0s
HDW Hoodsport 121.67 38 P **PKPdf 08 13 51.0 +1.6**

MBW Mount Baker 121.84 36 P **PKPdf 08 13 50.4 +0.5**
CMW Cultus Mountai 121.88 37 P **PKPdf 08 13 50.7 +0.9**
PMPST Porto Santo, M 122.33 304 *e*PKPdf **PKPdf 08 13 51.7 +0.7**
PMPST Porto Santo, M 122.33 304 *e*PP PP 08 15 26.9 -0.5
PMPS Porto Santo 122.34 304 *e*PKPdf **PKPdf 08 13 52.4 +1.4**
PMPS Porto Santo 122.34 304 *e*PP PP 08 15 28.3 +0.9
TDL Tradedollar La 122.76 39 P **PKPdf 08 13 52.6 +1.0**
KEBM Edson Butte 122.80 43 *e*PKPdf **PKPdf 08 13 52.9 +1.2**
COR Corvallis 122.81 41 *e*PKIKP **PKiKP 08 13 53.9 +2.3**
COR Corvallis 122.81 41 *e*PKPdf **PKPdf 08 13 53.9 +2.3**
LON Longmire 122.83 38 *e*PKIKP **PKiKP 08 13 52.1 +0.4**
LON Longmire 122.83 38 *e*PKPdf **PKPdf 08 13 52.1 +0.4**
FUL Funchal 122.89 304 *e*PKPdf **PKPdf 08 13 53.2 +1.1**
FUL Funchal 122.89 304 *e*PP PP 08 15 26.4 -4.7
PMAR Madeira 122.89 304 *e*PKPdf **PKPdf 08 13 54.2 +1.9**
PMAR Madeira 122.89 304 *e*PP PP 08 15 31.4 0.0
WPW White Pass 123.02 38 P **PKPdf 08 13 53.1 +1.0**
PMOZ Porto Moniz, M 123.10 304 *e*PKPdf **PKPdf 08 13 53.8 +1.2**
PMOZ Porto Moniz, M 123.10 304 *e*PP PP 08 15 34.1 +1.4
PMOZ Porto Moniz, M 123.10 304 *e*LR LR 08 55 04.0
comp=Z,33µm,20.0s
KBO Bosley Butte 123.12 44 *e*PKPdf **PKPdf 08 13 54.2 +1.8**
TWW Teanaway 123.23 38 P **PKPdf 08 13 53.6 +1.1**
TBM Table Mountain 123.37 37 P **PKPdf 08 13 54.2 +1.4**
NAC Naches 123.44 38 P **PKPdf 08 13 53.9 +1.0**
KRMB Red Mountain 123.60 45 *e*PKPdf **PKPdf 08 13 54.7 +1.3**
VFP Flag Point 123.68 40 P **PKPdf 08 13 54.4 +0.9**
EDM Edmonton 123.93 28 *e*PKIKP **PKPdf 08 13 53.9 +0.4**
EDM Edmonton 123.93 28 *e*PKPdf **PKPdf 08 13 53.9 +0.4**
YBH Yreka Blue Hor 124.35 44 Pdif **Pdif 08 10 29.8 +0.4**
YBH PKP **PKiKP 08 13 55.4 +0.3**
YBH *e*PKPdf **PKPdf 08 13 56.6 +1.8**
YBH PP **PP 08 15 41.0 +0.4**
YBH PKKPbc **PKKPab 08 23 37.0 -1.0**
YBH Yreka Blue Hor 124.35 44 Pdiff **Pdif 08 10 29.8 +0.4**
comp=Z,1.5nm,1.0s,baz=342,slow=3.2,SNR=5.7
YBH PKP **PKiKP 08 13 55.4 +0.3**
comp=Z,49nm,0.9s,baz=339,slow=2.3,SNR=32
YBH PP **PP 08 15 41.0 +0.4**
comp=Z,64nm,1.2s,baz=247,slow=4.7,SNR=5.1
YBH PKKPbc **PKKPab 08 23 37.0 -1.0**
comp=Z,2.5nm,0.8s,baz=69,slow=4.8,SNR=3.7
KCPM Cahto Peak 124.50 47 *e*PKPdf **PKPdf 08 13 56.4 +1.2**
KIPM Iron Peak 124.53 47 *e*PKPdf **PKPdf 08 13 57.2 +1.9**
NEW Newport 124.86 35 Pdif **Pdif 08 10 32.6 +1.2**
NEW PKP **PKiKP 08 13 56.0 +0.2**
NEW PP **PP 08 15 44.8 +1.1**
NEW LR LR
comp=Z,26µm,22.0s
NEW Newport 124.86 35 Pdiff **Pdif 08 10 32.6 +1.2**
comp=Z,1.8nm,0.9s,baz=279,slow=5.4,SNR=2.5
NEW PKP **PKiKP 08 13 56.0 +0.2**
comp=Z,127nm,0.9s,baz=262,slow=1.3,SNR=45
NEW PP **PP 08 15 44.8 +1.1**
comp=Z,56nm,1.1s,baz=312,slow=7.3,SNR=3.9
NEW Newport 124.86 35 ⇑PKiKP **PKiKP 08 13 56.6 +0.8**
baz=125
WDC Whiskeytown Da 124.91 45 *e*P **Pdif 08 10 32.8 +1.1**
WDC *e* 08 13 56.4
WDC Whiskeytown Da 124.91 45 *e*Pdif **Pdif 08 10 32.8 +1.1**
WDC *e*PKPdf **PKiKP 08 13 56.4 +0.3**
HOPS Hopland 125.11 47 *e*PKPdf **PKPdf 08 13 56.7 +0.5**
MCCM Marconi Confer 125.55 48 *e*PKPdf **PKPdf 08 13 58.9 +1.9**
SAC San Andreas 126.09 49 *e*PKIKP **PKPdf 08 14 00.2 +2.1**
SAC San Andreas 126.09 49 *e*PKPdf **PKPdf 08 14 00.1 +2.1**
WALA Waterton Lakes 126.18 33 *e*PKPdf **PKPdf 08 13 60.0 +1.9**
BSMT Bassoo Peak 126.39 34 *e*PKPdf **PKPdf 08 13 59.0 +0.4**
FCC Fort Churchill 126.49 14 *e*PKIKP **PKPdf 08 13 58.8 +0.6**
FCC Fort Churchill 126.49 14 *e*PKPdf **PKPdf 08 13 58.8 +0.6**
BMO Blue Mountains 126.50 39 *e*PKIKP **PKPdf 08 13 59.7 +0.9**
BMO MLR MLR
comp=Z,21µm,22.0s
BMO Blue Mountains 126.50 39 *e*PKPdf **PKPdf 08 13 59.7 +0.9**
BMO LR LR
comp=Z,21µm,22.0s
BLMT Blacktail Moun 126.54 34 *e*PKPdf **PKPdf 08 14 00.3 +1.3**
BEKR Beckworth 126.73 45 *e*PKPdf **PKPdf 08 14 00.6 +1.1**
JTMT Jette 126.73 34 *e*PKPdf **PKPdf 08 13 60.0 +0.8**
WVOR Wild Horse Val 126.80 42 *e*PKIKP **PKPdf 08 14 00.7 +1.2**
WVOR MLR MLR
comp=Z,22µm,22.0s
WVOR Wild Horse Val 126.80 42 *e*PKPdf **PKPdf 08 14 00.7 +1.2**
WVOR LR LR
comp=Z,22µm,22.0s
YBMT Yellow Bay 126.82 34 *e*PKPdf **PKPdf 08 14 00.1 +0.8**
COYC Coyhaique 126.93 180 ⇑/*P* **PKPdf 08 13 59.6 0.0**
SWMT Swartz Lake 127.03 34 *e*PKPdf **PKPdf 08 14 01.0 +1.2**
SAO San Andreas Ge 127.10 49 *e*PKIKP **PKPdf 08 14 00.7 +0.6**
SAO San Andreas Ge 127.10 49 *e*PKPdf **PKPdf 08 14 00.7 +0.6**
CMB Columbia Colle 127.42 47 *e*PKIKP **PKPdf 08 14 01.1 +0.4**
CMB Columbia Colle 127.42 47 *e*PKPdf **PKPdf 08 14 01.1 +0.4**
MSO Missoula 127.44 35 ⇓PKiKP **PKiKP 08 14 01.1 0.0**
baz=128
SLMT Seeley Lake 127.46 34 *e*PKPdf **PKPdf 08 14 01.9 +1.2**
PAHR Pah Rah Range 127.48 45 *e*PKPdf **PKPdf 08 14 01.2 +0.3**
FFC Flin Flon 127.58 21 PFAKE 08 14 10.0 +10
FFC LR LR
comp=Z,12µm,20.0s
CHMT Chamberlain Mo 127.78 34 *e*PKPdf **PKPdf 08 14 02.5 +1.1**
BART Pico Bartolome 127.80 312 *e*PKiKP **PKPdf 08 14 00.8 -0.7**
WAKR Walker 127.93 47 *e*PKPdf **PKPdf 08 14 04.1 +2.2**
PSMN Pico do Norte, 128.01 311 *e*PKiKP **PKiKP 08 14 02.4 0.0**
CMLA Cha da Macela 128.06 313 *e*PKiKP **PKPdf 08 14 01.1 -0.8**
CMLA Cha da Macela 128.06 313 *e*PKIKP **PKPdf 08 14 03.3 +1.4**
CMLA MLR MLR
comp=Z,37µm,20.0s
CMLA Cha da Macela 128.06 313 *e*PKPdf **PKPdf 08 14 03.3 +1.4**
CMLA LR LR
comp=Z,37µm,20.0s
MFID Camas Ranch 128.15 39 ⇑PKiKP **PKiKP 08 14 03.7 +1.1**
baz=128
PSET Sete Cidades 128.18 313 *e*PKiKP **PKiKP 08 14 03.0 +0.3**
B17A L&G Farms, Che 128.28 32 ⇑PKiKP **PKiKP 08 14 02.8 +0.1**
baz=128
A18A Metzger Ranch, 128.37 31 ⇓PKiKP **PKiKP 08 14 03.1 +0.3**
baz=128
BMN Battle Mountai 128.66 43 *e*PKIKP **PKPdf 08 14 04.0 +0.8**
BMN MLR MLR
comp=Z,20µm,22.0s
BMN Battle Mountai 128.66 43 *e*PKPdf **PKPdf 08 14 04.0 +0.8**
BMN LR LR
comp=Z,20µm,22.0s
HRY Holter Researc 128.69 34 *e*PKPdf **PKPdf 08 14 04.2 +1.3**
MLAC Mammoth Lakes 128.71 47 ⇓PKiKP **PKiKP 08 14 05.4 +1.3**
baz=129
C17A Wharram Farm, 128.71 32 ⇓PKiKP **PKiKP 08 14 03.5 -0.1**
baz=129
SMMC Simmler 128.72 51 ⇓PKiKP **PKiKP 08 14 05.0 +1.1**
baz=129
B18A Beardsley Farm 128.75 31 ⇑PKiKP **PKiKP 08 14 03.9 +0.3**
baz=129
NVAR Mina Array Bea 128.77 46 Pdif **Pdif 08 10 49.9 +0.6**
NVAR PKPpre PKPpre 08 13 51.4
NVAR PKP **PKiKP 08 14 04.2 0.0**
NVAR PP **PP 08 16 08.8 -1.4**
NVAR SKPbc SKiKP 08 17 19.9 -15
NVAR SKKPbc SKKPbc 08 27 03.1 -7.6
NVAR Mina Array Bea 128.77 46 Pdiff **Pdif 08 10 49.9 +0.6**
comp=Z,1.8nm,1.0s,baz=260,slow=2.7,SNR=2.4
NVAR PKhKP PKPpre 08 13 51.4
comp=Z,6.5nm,0.7s,baz=322,slow=1.7,SNR=11
NVAR PKP **PKiKP 08 14 04.2 0.0**
comp=Z,88nm,0.9s,baz=292,slow=1.7,SNR=16
NVAR PP **PP 08 16 08.8 -1.4**
comp=Z,68nm,1.1s,baz=276,slow=6.9,SNR=5.7
NVAR SKPbc SKiKP 08 17 19.9 -15
comp=Z,22nm,0.8s,baz=271,slow=4.5,SNR=3.7
NVAR SKKPbc SKKPbc 08 27 03.1 -7.6
comp=Z,12nm,1.0s,baz=142,slow=3.0,SNR=5.0
LRM Limekiln Ridge 128.87 35 *e*PKPdf **PKPdf 08 14 04.5 +1.0**
A19A Klindworth Far 128.92 30 ⇑PKiKP **PKiKP 08 14 03.9 -0.1**
baz=129
RCTC Rector, Farmer 128.93 49 ⇑PKiKP **PKiKP 08 14 04.4 +0.2**
baz=129
ADH Angra Heroismo 128.94 314 *e*PKiKP **PKPdf 08 14 03.4 -0.1**
HLID Hailey 128.95 39 *e*PKPdf **PKPdf 08 14 06.1 +2.4**
HLID LR LR
comp=Z,18µm,20.0s
HLID Hailey 128.95 39 ⇓PKiKP **PKiKP 08 14 05.3 +1.0**
baz=129
EGMT Eagleton 129.00 31 *e*PKPdf **PKPdf 08 14 04.8 +1.3**
EGMT LR LR
comp=Z,33µm,22.0s
EGMT Eagleton 129.00 31 ⇓PKiKP **PKiKP 08 14 04.6 +0.5**
baz=129
PKM Peak Mountain 129.00 51 ⇓PKiKP **PKiKP 08 14 05.8 +1.1**
baz=129
DLMT Dillon 129.05 36 *e*PKPdf **PKPdf 08 14 05.9 +2.2**
D17A Six Diamond Ra 129.05 33 ⇓PKiKP **PKiKP 08 14 04.5 +0.2**
baz=129
B19A Brinkman Farms 129.13 31 ⇑PKiKP **PKiKP 08 14 04.8 +0.4**
baz=129
MCMT McKenzie Canyo 129.21 36 *e*PKPdf **PKPdf 08 14 05.7 +1.5**
VES Vestal, Richgr 129.22 50 ⇑PKiKP **PKiKP 08 14 05.0 +0.2**
baz=129
SBC Santa Barbara 129.24 51 ⇓PKiKP **PKiKP 08 14 06.3 +1.4**
baz=129
PGRA Graciosa 129.30 315 *e*PKiKP **PKiKP 08 14 05.5 +0.6**
A20A Cobblestone Ra 129.35 30 ⇓PKiKP **PKiKP 08 14 04.8 0.0**
baz=129
E17A Martinsdale 129.38 34 ⇓PKiKP **PKiKP 08 14 05.4 +0.3**
baz=129
TIN Tinemaha 129.39 48 ⇑PKiKP **PKiKP 08 14 06.1 +0.8**
baz=130
BOZ Bozeman (W) 129.44 35 *e*PKIKP **PKPdf 08 14 06.6 +2.2**
BOZ MLR MLR
comp=Z,29µm,21.0s
BOZ Bozeman (W) 129.44 35 *e*PKPdf **PKPdf 08 14 06.6 +2.2**
BOZ LR LR
comp=Z,29µm,21.0s
D18A Linhart Farms, 129.50 32 ⇑PKiKP **PKiKP 08 14 05.5 +0.3**
baz=130
C19A Slack Wire Ran 129.54 31 ⇑PKiKP **PKiKP 08 14 05.5 +0.3**
baz=130
PMAN Manadas 129.55 315 *e*PKiKP **PKPdf 08 14 04.0 -0.7**
B20A Solberg Farm, 129.60 30 ⇑PKiKP **PKiKP 08 14 05.5 +0.1**
baz=130
ROSA Rosais 129.62 315 *e*PKiKP **PKPdf 08 14 04.3 -0.5**
ARVC Arvin 129.67 50 ⇓PKiKP **PKiKP 08 14 06.8 +1.0**
baz=130
TPH Tonopah 129.69 46 PFAKE 08 14 20.0 +15
TPH LR LR
comp=Z,20µm,22.0s
CWC Cottonwood Cre 129.74 48 ⇓PKiKP **PKiKP 08 14 06.7 +0.6**
baz=130
PPNO Prainha do Nor 129.74 314 *e*PKiKP **PKiKP 08 14 06.2 +0.3**
ISA Isabella 129.74 49 *e*PKIKP **PKPdf 08 14 04.0 -1.2**
ISA Isabella 129.74 49 *e*PKPdf **PKPdf 08 14 04.0 -1.2**
ISA Isabella 129.74 49 ⇑PKiKP **PKiKP 08 14 06.3 +0.3**
baz=130
A21A Bergtoll Ranch 129.76 29 ⇓PKiKP **PKiKP 08 14 05.6 -0.1**
baz=130
F17A Fitzpatrick Pl 129.83 34 ⇑PKiKP **PKiKP 08 14 06.7 +0.7**
baz=130
E18A Harlowton 129.83 33 ⇓PKiKP **PKiKP 08 14 06.2 +0.2**
baz=130
ELK Elko 129.85 42 *e*PKPdf **PKPdf 08 14 07.7 +2.1**
BLG Laguna Peak 129.86 52 ⇓PKiKP **PKiKP 08 14 06.7 +0.5**
baz=130
PCAN Candelaria 129.90 315 *e*PKiKP **PKiKP 08 14 06.8 +0.6**
OSI Osito Adit 129.94 51 *e*PKPdf **PKPdf 08 14 08.3 +2.7**
OSI Osito Adit 129.94 51 ⇓PKiKP **PKiKP 08 14 07.1 +0.6**
baz=130
PCED Cedros 129.98 315 *e*PKiKP **PKPdf 08 14 05.0 -0.5**
D19A Cripps Ranch, 130.00 32 ⇓PKiKP **PKiKP 08 14 06.4 +0.2**
baz=130
QLMT Earthquake Lak 130.03 36 *e*PKPdf **PKPdf 08 14 08.1 +2.4**
GRAC Grapevine Rang 130.04 47 ⇑PKiKP **PKiKP 08 14 07.8 +1.3**
baz=130
C20A Veseth Ranch, 130.09 31 ⇓PKiKP **PKiKP 08 14 06.7 +0.3**
baz=130
B21A Ellsworth Farm 130.10 29 ⇓PKiKP **PKiKP 08 14 06.3 0.0**
baz=130
G17A Pierce Place, 130.13 35 ⇓PKiKP **PKiKP 08 14 07.4 +0.8**
baz=130
H16A Russell Place, 130.21 36 ⇓PKiKP **PKiKP 08 14 08.1 +1.3**
baz=130
A22A Carney Farms, 130.24 28 ⇓PKiKP **PKiKP 08 14 06.8 +0.2**
baz=130
RPN Rapa Nui 130.32 136 *e*PKPdf **PKPdf 08 14 08.3 +1.8**
RPN LR LR
comp=Z,41µm,22.0s
MPMC Manual Prospec 130.33 49 ⇑PKiKP **PKiKP 08 14 08.5 +1.2**
baz=130
F18A Big Timber 130.35 34 ⇑PKiKP **PKiKP 08 14 07.7 +0.7**
baz=130
DECC Green Verdugo 130.38 51 ⇓PKiKP **PKiKP 08 14 08.2 +1.0**
baz=130
YMR Madison River 130.39 36 *e*PKPdf **PKPdf 08 14 08.7 +2.3**
EDW2 Edwards Air Fo 130.41 50 ⇓PKiKP **PKiKP 08 14 08.5 +1.1**
baz=130
LRMC Laurel Mountai 130.41 49 ⇑PKiKP **PKiKP 08 14 08.5 +1.1**
baz=130
D20A Manuel Ranch, 130.43 31 ⇓PKiKP **PKiKP 08 14 07.7 +0.6**
baz=130
GCMT Greycliff 130.45 34 *e*PKPdf **PKPdf 08 14 07.2 +0.9**
C21A Desert Coulee 130.47 30 ⇓PKiKP **PKiKP 08 14 07.7 +0.7**
baz=130
E19A Rath Farm, Rou 130.50 32 ⇑PKiKP **PKiKP 08 14 07.7 +0.5**
baz=130
PASC Pasadena Art C 130.52 51 *e*PKPdf **PKPdf 08 14 08.7 +2.0**
YNR Norris Junctio 130.53 35 *e*PKPdf **PKPdf 08 14 09.9 +3.2**
I16A Newdale 130.55 37 ⇓PKiKP **PKiKP 08 14 08.3 +0.8**
baz=131
YFT Old Faithful 130.60 36 *e*PKPdf **PKPdf 08 14 10.0 +3.1**
FMP Fort Macarthur 130.60 52 ⇑PKiKP **PKiKP 08 14 08.5 +0.8**
baz=131
CIS Catalina Islan 130.62 52 ⇓PKiKP **PKiKP 08 14 08.6 +0.8**
baz=131
FURC Furnace Creek, 130.63 48 ⇑PKiKP **PKiKP 08 14 09.0 +1.4**
baz=131
SCI San Clemente I 130.66 53 ⇑PKiKP **PKiKP 08 14 08.9 +1.1**
baz=131
B22A Reddig Ranch S 130.69 29 ⇓PKiKP **PKiKP 08 14 08.2 +0.7**
baz=131
R11A Troy Canyon, C 130.73 45 ⇑PKiKP **PKiKP 08 14 09.1 +1.0**
baz=131
A23A Redstone 130.75 28 ⇓PKiKP **PKiKP 08 14 07.9 +0.3**
baz=131
H17A Grant Village 130.78 36 *e*PKPdf **PKPdf 08 14 08.8 +1.6**
H17A Grant Village 130.78 36 ⇓PKiKP **PKiKP 08 14 09.6 +1.5**
baz=131
LKWY Lake 130.78 35 *e*PKIKP **PKPdf 08 14 10.4 +3.2**
LKWY MLR MLR
comp=Z,58µm,21.0s
LKWY Lake 130.78 35 *e*PKPdf **PKPdf 08 14 10.4 +3.2**
LKWY LR LR
comp=Z,58µm,21.0s
G18A Lazy EL Ranch, 130.80 34 ⇑PKiKP **PKiKP 08 14 08.3 +0.3**
baz=131
F19A Roth Farm, Mol 130.80 33 ⇑PKiKP **PKiKP 08 14 08.1 +0.2**
baz=131
E20A Meyer Farm, Mu 130.82 32 ⇓PKiKP **PKiKP 08 14 08.4 +0.6**
baz=131
IMW Indian Meadow 130.86 36 *e*PKPdf **PKPdf 08 14 09.6 +2.1**
FLWY Flagg Ranch 130.89 36 *e*PKPdf **PKPdf 08 14 09.5 +2.1**
BFSC Mount Baldy Ra 130.90 51 ⇑PKiKP **PKiKP 08 14 09.0 +0.6**
baz=131
HVU Hansel Valley 130.92 40 *e*PKIKP **PKPdf 08 14 08.6 +1.2**
HVU Hansel Valley 130.92 40 *e*PKPdf **PKPdf 08 14 08.6 +1.2**
RRI2 Red Ridge 130.95 37 *e*PKPdf **PKPdf 08 14 08.2 +0.6**
D21A La Casta Ranch 131.04 31 ⇓PKiKP **PKiKP 08 14 08.6 +0.4**
baz=131
B23A Brockton 131.05 28 ⇑PKiKP **PKiKP 08 14 08.6 +0.4**
baz=131
I17A Pilgrim Ck. 131.06 36 ⇑PKiKP **PKiKP 08 14 09.6 +1.0**
baz=131
MOOW Moose Ponds 131.06 36 *e*PKPdf **PKPdf 08 14 09.2 +1.5**
RLMT Red Lodge 131.08 34 *e*PKPdf **PKPdf 08 14 07.7 0.0**
RLMT LR LR
comp=Z,26µm,21.0s
TPAW Teton Pass 131.09 37 *e*PKPdf **PKPdf 08 14 09.4 +1.6**
C22A Vida 131.12 29 ⇓PKiKP **PKiKP 08 14 08.8 +0.4**
baz=131
H18A Shoshone NF, C 131.13 35 ⇓PKiKP **PKiKP 08 14 09.5 +0.7**
baz=131
GSC Goldstone 131.14 49 *e*PKIKP **PKPdf 08 14 09.4 +1.5**
GSC Goldstone 131.14 49 *e*PKPdf **PKPdf 08 14 09.4 +1.5**
GSC Goldstone 131.14 49 ⇓PKiKP **PKiKP 08 14 10.1 +1.3**
baz=131
RRX Edison Barstow 131.16 50 ⇑PKiKP **PKiKP 08 14 10.3 +1.5**
baz=131
A24A Westby 131.17 27 ⇓PKiKP **PKiKP 08 14 09.0 +0.6**
baz=131
BGU Big Grassy Mou 131.21 41 *e*PKPdf **PKPdf 08 14 10.0 +2.0**
REDW Red Top Meadow 131.22 37 *e*PKPdf **PKPdf 08 14 09.1 +1.0**
SNOW Snow King Moun 131.22 37 *e*PKPdf **PKPdf 08 14 09.8 +1.7**
LOHW Long Hollow 131.22 36 *e*PKPdf **PKPdf 08 14 09.4 +1.4**
F20A Billings 131.26 33 ⇑PKiKP **PKiKP 08 14 09.2 +0.4**
baz=131
SHOC Shoshone 131.29 48 ⇑PKiKP **PKiKP 08 14 10.1 +1.1**
baz=131
E21A Keefer Ranch, 131.34 31 ⇑PKiKP **PKiKP 08 14 09.7 +0.8**
baz=131
SPUT South Promonto 131.38 40 *e*PKPdf **PKPdf 08 14 05.4 -2.9**
D22A Cohagen 131.39 30 ⇑PKiKP **PKiKP 08 14 09.5 +0.5**
baz=131
DGMT Dagmar 131.41 28 *e*PKPdf **PKPdf 08 14 09.7 +1.7**
DGMT LR LR
comp=Z,29µm,22.0s
DGMT Dagmar 131.41 28 ⇑PKiKP **PKiKP 08 14 08.8 -0.1**
baz=131
AHID Auburn Hatcher 131.41 38 *e*PKPdf **PKPdf 08 14 08.3 -0.1**
AHID LR LR
comp=Z,31µm,22.0s
C23A Lambert 131.42 29 ⇑PKiKP **PKiKP 08 14 09.4 +0.4**
baz=131
BBRC Big Bear Solar 131.46 51 ⇓PKiKP **PKiKP 08 14 10.3 +0.6**
baz=132
MURC Murrieta 131.49 51 ⇓PKiKP **PKiKP 08 14 10.1 +0.5**
baz=132
H19A Powell 131.52 34 ⇑PKiKP **PKiKP 08 14 10.5 +1.1**
baz=132
SACV Santiago Islan 131.53 283 *e*PKPdf **PKPdf 08 14 10.3 +1.3**
SACV LR LR
comp=Z,41µm,22.0s
A25A Svangstu Ranch 131.56 27 ⇓PKiKP **PKiKP 08 14 09.9 +0.8**
baz=132
G20A Bridger 131.60 33 ⇑PKiKP **PKiKP 08 14 10.3 +0.7**
baz=132
I18A Diamond G Ranc 131.63 36 ⇓PKiKP **PKiKP 08 14 10.3 +0.5**
baz=132
LAO LASA Array 131.68 31 PFAKE 08 14 20.0 +11
LAO LR LR
comp=Z,15µm,22.0s
HEC Hector,Ludlow 131.68 50 ⇓PKiKP **PKiKP 08 14 10.9 +0.9**
baz=132
DUG Dugway 131.72 42 *e*PKIKP **PKPdf 08 14 09.9 +1.0**
DUG MLR MLR
comp=Z,22µm,22.0s
DUG Dugway 131.72 42 *e*PKPdf **PKPdf 08 14 09.9 +1.0**
DUG LR LR
comp=Z,22µm,22.0s
DUG Dugway 131.72 42 ⇓PKiKP **PKiKP 08 14 10.7 +0.8**
baz=132
PLCA Paso Flores 131.74 182 PKPpre PKPpre 08 13 56.0
PLCA PKP **PKiKP 08 14 09.7 -0.2**
PLCA *e*PKPdf **PKPdf 08 14 10.0 +1.1**
PLCA PP **PP 08 16 27.7 -0.2**
PLCA Paso Flores 131.74 182 PKhKP PKPpre 08 13 56.0
comp=Z,5.9nm,0.8s,baz=195,slow=1.5,SNR=8.6
PLCA PKP **PKiKP 08 14 09.7 -0.2**
comp=Z,53nm,0.8s,baz=171,slow=1.8,SNR=29
PLCA PP **PP 08 16 27.7 -0.2**
comp=Z,38nm,1.0s,baz=182,slow=4.6,SNR=3.4
TUQ Turquoise Moun 131.74 49 ⇑PKiKP **PKiKP 08 14 11.5 +1.3**
baz=132
HWUT Hardware Ranch 131.78 39 PFAKE 08 14 20.0 +11
HWUT LR LR
comp=Z,22µm,22.0s
F21A Absaloka Mine, 131.79 32 ⇓PKiKP **PKiKP 08 14 10.5 +0.7**
baz=132
109C Camp Elliot, M 131.82 52 ⇑PKiKP **PKiKP 08 14 11.1 +0.9**
baz=132
D23A Lindsay 131.85 30 PKiKP **PKiKP 08 14 10.5 +0.6**
baz=132
I19A Meeteetse 131.90 35 ⇓PKiKP **PKiKP 08 14 10.9 +0.6**
baz=132
C24A Savage 131.98 29 ⇑PKiKP **PKiKP 08 14 10.9 +0.8**
baz=132
E22A Miles City 131.99 31 ⇑PKiKP **PKiKP 08 14 10.4 +0.2**
baz=132
B25A Knox Farm, Ray 132.03 27 ⇓PKiKP **PKiKP 08 14 11.0 +0.8**
baz=132
PFO Pinyon Flat Ob 132.06 51 PKPpre PKPpre 08 13 56.9
PFO PKP **PKiKP 08 14 11.7 +0.8**
PFO PP **PP 08 16 30.1 -1.6**
PFO SKPbc **SKPab 08 17 33.9 +1.6**
PFO LR LR
comp=Z,29µm,22.0s
PFO Pinyon Flat Ob 132.06 51 PKhKP PKPpre 08 13 56.9
comp=Z,15nm,0.8s,baz=254,slow=1.4,SNR=11
PFO PKP **PKiKP 08 14 11.7 +0.8**
comp=Z,112nm,0.8s,baz=305,slow=1.0,SNR=14
PFO PP **PP 08 16 30.1 -1.6**
comp=Z,125nm,1.2s,baz=301,slow=6.3,SNR=7.9
PFO SKPbc **SKPab 08 17 33.9 +1.6**
baz=318,slow=3.8
PFO Pinyon Flat Ob 132.06 51 ⇑PKiKP **PKiKP 08 14 12.0 +1.1**
baz=132
A26A Wade Farm, Ken 132.06 26 ⇑PKiKP **PKiKP 08 14 10.4 +0.2**
baz=132
G21A Lodge Grass 132.14 33 ⇑PKiKP **PKiKP 08 14 11.1 +0.5**
baz=132
CTU Camp Tracy 132.15 40 *e*PKPdf **PKPdf 08 14 11.3 +1.5**
H20A Greybull 132.18 34 ⇑PKiKP **PKiKP 08 14 10.8 +0.1**
baz=132
GMRC Granite Mounta 132.21 49 ⇑PKiKP **PKiKP 08 14 12.3 +1.2**
baz=132
BAR Barrett 132.24 52 *e*PKPdf **PKPdf 08 14 09.8 -0.2**
BELC Belle Mtn. Jos 132.26 50 ⇓PKiKP **PKiKP 08 14 12.3 +1.0**
baz=132
E23A Ismay 132.27 30 ⇑PKiKP **PKiKP 08 14 11.3 +0.6**
baz=132
F22A Rosebud 132.28 32 ⇑PKiKP **PKiKP 08 14 11.2 +0.4**
baz=132
D24A Glendive 132.32 29 ⇓PKiKP **PKiKP 08 14 11.5 +0.7**
baz=132
NLU North Lily Min 132.33 41 *e*PKPdf **PKPdf 08 14 11.2 +0.9**
BW06 Boulder Array 132.34 37 *e*PKPdf **PKPdf 08 14 10.9 +0.7**
BW06 LR LR
comp=Z,41µm,22.0s
J19A Crowheart 132.34 36 ⇑PKiKP **PKiKP 08 14 11.3 +0.1**
baz=132
PDAR Pinedale Array 132.34 37 PKPpre PKPpre 08 13 56.5
PDAR PKP **PKiKP 08 14 11.1 -0.2**
PDAR PP **PP 08 16 34.2 +1.2**
PDAR SKPbc **SKPab 08 17 35.1 +1.9**
PDAR SKKPbc SKKPbc 08 26 49.8 -8.5
PDAR Pinedale Array 132.34 37 PKhKP PKPpre 08 13 56.5
comp=Z,3.9nm,0.6s,baz=158,slow=0.8,SNR=8.6
PDAR PKP **PKiKP 08 14 11.1 -0.2**
comp=Z,62nm,0.6s,baz=180,slow=1.6,SNR=42
PDAR PP **PP 08 16 34.2 +1.2**
comp=Z,70nm,1.1s,baz=298,slow=3.2,SNR=5.6
PDAR SKPbc **SKPab 08 17 35.1 +1.9**
comp=Z,143nm,0.9s,baz=260,slow=0.9,SNR=16
PDAR SKKPbc SKKPbc 08 26 49.8 -8.5
comp=Z,14nm,0.9s,baz=130,slow=7.1,SNR=6.3
MONP Monument Peak 132.36 52 ⇓PKiKP **PKiKP 08 14 12.6 +1.1**
baz=132
A27A Ledoux Ranch, 132.36 25 PKiKP **PKiKP 08 14 11.1 +0.3**
baz=132
B26A Jensen Ranch, 132.37 27 ⇓PKiKP **PKiKP 08 14 11.2 +0.3**
baz=132
JLU Jordanelle 132.40 40 *e*PKPdf **PKPdf 08 14 12.8 +2.4**
C25A Freed Ranch, W 132.40 28 ⇓PKiKP **PKiKP 08 14 12.0 +1.0**
baz=132
M17A Scullys Gap (B 132.41 39 ⇑PKiKP **PKiKP 08 14 11.8 +0.4**
baz=132
I20A Worland 132.45 35 ⇓PKiKP **PKiKP 08 14 11.6 +0.3**
baz=132
ARUT Antelope Range 132.49 45 *e*PKIKP **PKPdf 08 14 11.4 +0.9**
ARUT Antelope Range 132.49 45 *e*PKPdf **PKPdf 08 14 11.4 +0.9**
LDFC Landfair 132.50 49 *e*PKPdf **PKPdf 08 14 12.2 +1.6**
L18A Fontenelle, Gr 132.54 38 ⇑PKiKP **PKiKP 08 14 12.0 +0.4**
baz=133
MPU Maple Canyon 132.59 41 *e*PKPdf **PKPdf 08 14 11.6 +0.9**
H21A Big Horn, Sher 132.62 33 ⇑PKiKP **PKiKP 08 14 11.8 +0.2**
baz=133
G22A Birney 132.63 32 ⇓PKiKP **PKiKP 08 14 11.8 +0.2**
baz=133
DVTC Desert V Tower 132.69 52 ⇓PKiKP **PKiKP 08 14 13.1 +1.0**
baz=133
E24A Baker 132.72 30 ⇓PKiKP **PKiKP 08 14 12.0 +0.4**
baz=133
K19A Absolon Red Bu 132.72 36 ⇓PKiKP **PKiKP 08 14 11.9 -0.1**
baz=133
F23A Volborg 132.76 31 ⇓PKiKP **PKiKP 08 14 11.9 +0.1**
baz=133
B27A Peters Farms, 132.77 26 ⇑PKiKP **PKiKP 08 14 11.9 +0.3**
baz=133
D25A Fairfield 132.78 28 ⇑PKiKP **PKiKP 08 14 12.3 +0.6**
baz=133
A28A Rude Farm, Bot 132.80 25 ⇓PKiKP **PKiKP 08 14 11.5 -0.2**
baz=133

SCHQ	Schefferville	132.81	355	PKPpre	PKPpre	08 13 57.1	
SCHQ				PKP	PKPdf	08 14 10.7	+0.3
SCHQ				*e*PKPdf	PKiKP	08 14 12.0	+0.5
SCHQ				PP	PP	08 16 36.1	+1.3
SCHQ				SKPbc	SKPab	08 17 35.2	+0.7
SCHQ	Schefferville	132.81	355	PKhKP	PKPpre	08 13 57.1	
	comp=Z,7.0nm,0.6s,baz=317,slow=3.6,SNR=6.7						
SCHQ				PKP	PKPdf	08 14 10.7	+0.3
	comp=Z,127nm,0.6s,baz=14,slow=2.4,SNR=42						
SCHQ				PP	PP	08 16 36.1	+1.3
	comp=Z,50nm,0.7s,baz=8.5,slow=10,SNR=5.3						
SCHQ				SKPbc	SKPab	08 17 35.2	+0.7
	comp=Z,279nm,1.0s,baz=27,slow=4.4,SNR=15						
BC3	Big Chuckawall	132.81	51	⇑PKiKP	PKiKP	08 14 13.7	+1.3
	baz=133						
C26A	Wahner Farm, P	132.84	27	⇓PKiKP	PKiKP	08 14 12.6	+0.8
	baz=133						
J20A	Shoshoni	132.84	35	⇓PKiKP	PKiKP	08 14 12.7	+0.6
	baz=133						
IRM	Iron Mountain	132.84	50	⇑PKiKP	PKiKP	08 14 13.8	+1.6
	baz=133						
L19A	Farson	132.85	37	⇑PKiKP	PKiKP	08 14 12.9	+0.6
	baz=133						
MVU	Marysvale	132.99	43	PFAKE		08 14 20.0	+8.5
MVU				LR	LR		
	comp=Z,22μm,22.0s						
I21A	Big Trails, Te	133.00	34	⇑PKiKP	PKiKP	08 14 12.2	-0.2
	baz=133						
H22A	Clearmont	133.01	33	⇑PKiKP	PKiKP	08 14 12.3	-0.1
	baz=133						
G23A	Biddle	133.12	32	⇑PKiKP	PKiKP	08 14 12.5	0.0
	baz=133						
B28A	Dugan Ranch, T	133.12	25	⇓PKiKP	PKiKP	08 14 12.3	-0.1
	baz=133						
K20A	Yellowstone Ra	133.12	36	⇑PKiKP	PKiKP	08 14 12.5	-0.2
	baz=133						
F24A	Ekalaka	133.16	30	⇑PKiKP	PKiKP	08 14 12.8	+0.1
	baz=133						
C27A	Sayler Ranch,	133.19	27	⇓PKiKP	PKiKP	08 14 13.2	+0.6
	baz=133						
E25A	Miller Ranch,	133.21	29	⇓PKiKP	PKiKP	08 14 13.2	+0.6
	baz=133						
J21A	Lysite	133.21	35	⇑PKiKP	PKiKP	08 14 13.0	0.0
	baz=133						
A29A	Manning Farm,	133.22	24	⇓PKiKP	PKiKP	08 14 12.2	-0.3
	baz=133						
D26A	Manning	133.28	28	PKiKP	PKiKP	08 14 12.2	-0.6
	baz=133						
M19A	Rock Springs	133.32	38	⇓PKiKP	PKiKP	08 14 13.6	+0.3
	baz=133						
TRQA	Tornquist	133.38	192	PFAKE		08 14 20.0	+8.0
TRQA				LR	LR		
	comp=Z,34μm,21.0s						
ULM	Lac du Bonnet	133.38	20	PKPpre	PKPpre	08 13 58.0	
ULM				PKP	PKPdf	08 14 11.8	+0.3
ULM				*e*PKPdf	PKiKP	08 14 12.4	-0.4
ULM				SKPbc	SKPab	08 17 37.1	0.0
ULM	Lac du Bonnet	133.38	20	PKhKP	PKPpre	08 13 58.0	
	comp=Z,19nm,0.7s,baz=350,slow=3.3,SNR=4.7						
ULM				PKP	PKPdf	08 14 11.8	+0.3
	comp=Z,288nm,1.1s,baz=328,slow=3.1,SNR=41						
ULM				SKPbc	SKPab	08 17 37.1	0.0
	comp=Z,359nm,0.9s,baz=332,slow=4.5,SNR=18						
W13A	Hualapai Mount	133.40	48	⇓PKiKP	PKiKP	08 14 14.7	+1.1
	baz=134						
I22A	9 Mile Ranch,	133.40	34	⇑PKiKP	PKiKP	08 14 13.1	-0.2
	baz=133						
Q16A	Castle Valley	133.47	42	⇓PKiKP	PKiKP	08 14 14.6	+1.0
	baz=134						
Y12C	Blythe	133.49	50	⇑PKiKP	PKiKP	08 14 14.2	+0.7
	baz=134						
L20A	Wamsutter	133.52	37	⇓PKiKP	PKiKP	08 14 13.5	-0.2
	baz=134						
B29A	Wagenman Farm,	133.53	24	⇓PKiKP	PKiKP	08 14 12.8	-0.4
	baz=134						
G24A	Alzada	133.53	31	⇓PKiKP	PKiKP	08 14 12.8	-0.6
	baz=134						
GLA	Glamis	133.53	51	*e*PKIKP	PKPdf	08 14 14.0	+1.6
GLA	Glamis	133.53	51	*e*PKPdf	PKPdf	08 14 14.0	+1.6
GLA	Glamis	133.53	51	⇑PKiKP	PKiKP	08 14 14.8	+1.1
	baz=134						
H23A	Clabaugh Cattl	133.54	32	⇓PKiKP	PKPdf	08 14 12.8	+0.6
	baz=134						
PDMCI	Parker Dam,Lak	133.55	49	⇓PKiKP	PKiKP	08 14 14.3	+0.7
	baz=134						
A30A	Hoffart Farm,	133.57	23	PKiKP	PKPdf	08 14 12.2	+0.2
	baz=134						
F25A	Bowman	133.59	30	⇑PKiKP	PKiKP	08 14 13.9	+0.5
	baz=134						
D27A	Center	133.64	27	⇑PKiKP	PKiKP	08 14 13.7	+0.3
	baz=134						
E26A	Carlson Angus	133.68	28	PKiKP	PKiKP	08 14 13.9	+0.3
	baz=134						
C28A	Hausauer Farms	133.68	26	⇑PKiKP	PKiKP	08 14 13.5	0.0
	baz=134						
J22A	Midwest	133.71	34	⇑PKiKP	PKiKP	08 14 13.4	-0.6
	baz=134						
K21A	Alcova	133.77	36	⇑PKiKP	PKiKP	08 14 13.8	-0.4
	baz=134						
H24A	Dirks Ranch, A	133.86	32	⇑PKiKP	PKPdf	08 14 13.4	+0.6
	baz=134						
MDND	Maddock	133.91	25	*e*PKPdf	PKPdf	08 14 13.5	+0.8
MDND	Maddock	133.91	25	⇑PKiKP	PKPdf	08 14 13.5	+0.8
	baz=134						
I23A	Meade Ranch, G	133.91	33	⇓PKiKP	PKPdf	08 14 13.4	+0.5
	baz=134						
M20A	Sweetwater, Wa	133.92	37	⇑PKiKP	PKiKP	08 14 14.3	-0.2
	baz=134						
U15A	North Rim	133.95	46	⇑PKiKP	PKiKP	08 14 15.8	+1.1
	baz=134						
B30A	Myrvik Farm, E	133.95	24	⇑PKiKP	PKPdf	08 14 13.4	+0.6
	baz=134						
D28A	Regan	134.00	26	⇑PKiKP	PKiKP	08 14 13.9	-0.3
	baz=134						
F26A	Lodgepole	134.03	29	⇑PKiKP	PKiKP	08 14 14.3	-0.1
	baz=134						
O19A	Miners Draw (B	134.04	39	⇓PKiKP	PKiKP	08 14 14.5	-0.2
	baz=134						
L21A	Rawlins	134.12	36	⇑PKiKP	PKiKP	08 14 14.4	-0.5
	baz=134						
E27A	Carson	134.12	28	⇓PKiKP	PKiKP	08 14 14.5	0.0
	baz=134						
G25A	Newell	134.13	30	⇓PKiKP	PKPdf	08 14 13.7	+0.5
	baz=134						
K22A	Casper	134.18	35	⇓PKiKP	PKiKP	08 14 14.5	-0.4
	baz=134						
J23A	Dilts Ranch, B	134.23	34	⇑PKiKP	PKiKP	08 14 14.3	-0.6
	baz=134						
G27A	Dupree	134.24	30	⇓PKiKP	PKiKP	08 14 15.1	+0.3
	baz=135						
N20A	Spence Gulch,	134.26	38	⇑PKiKP	PKiKP	08 14 15.1	-0.1
	baz=134						
F27A	Lemmon	134.32	29	⇓PKiKP	PKiKP	08 14 14.7	-0.2
	baz=134						
M21A	Separation Pea	134.34	37	⇓PKiKP	PKiKP	08 14 14.9	-0.4
	baz=134						
RWWY	Rawlins	134.38	37	*e*PKPdf	PKPdf	08 14 13.0	-1.1
E28A	Huff	134.41	27	⇓PKiKP	PKiKP	08 14 14.4	-0.6
	baz=134						
I24A	Kuemmerle Ranc	134.43	33	⇓PKiKP	PKPdf	08 14 14.2	+0.3
	baz=134						
H25A	Fruitdale	134.44	31	⇓PKiKP	PKPdf	08 14 14.3	+0.5
	baz=134						
G26A	Maurine	134.46	30	⇑PKiKP	PKiKP	08 14 14.6	-0.6
	baz=134						
113A	Mohawk Valley,	134.46	51	⇓PKiKP	PKiKP	08 14 15.8	+0.3
	baz=134						
C30A	Mose, Pekin	134.49	24	⇑PKiKP	PKPdf	08 14 14.3	+0.5
	baz=134						
P19A	Cripple Cowboy	134.51	40	⇓PKiKP	PKiKP	08 14 16.0	+0.3
	baz=134						
D29A	Pettibone, Tap	134.53	26	⇓PKiKP	PKPdf	08 14 14.5	+0.7
	baz=134						
Y14A	Wickenburg	134.56	49	⇑PKiKP	PKiKP	08 14 16.1	+0.4
	baz=135						
K23A	Bowen Ranch, D	134.62	34	⇓PKiKP	PKiKP	08 14 15.1	-0.6
	baz=135						
L22A	Ellis Ranch, M	134.62	36	⇑PKiKP	PKiKP	08 14 15.6	-0.3
	baz=135						
O20A	White River Ci	134.69	39	⇓PKiKP	PKiKP	08 14 15.8	-0.2
	baz=135						
N21A	Black Mountain	134.76	38	⇑PKiKP	PKiKP	08 14 15.9	-0.3
	baz=135						
J24A	Dixon Ranch, L	134.76	33	⇓PKiKP	PKiKP	08 14 15.5	-0.5
	baz=135						
I25A	Rochford	134.79	32	⇓PKiKP	PKPdf	08 14 15.3	+0.7
	baz=135						
Z14A	Wintersburg	134.84	50	⇑PKiKP	PKiKP	08 14 16.5	+0.2
	baz=135						
D30A	Buchanan	134.85	25	⇓PKiKP	PKiKP	08 14 15.2	-0.7
	baz=135						
E29A	Napoleon	134.89	26	⇑PKiKP	PKPdf	08 14 14.7	+0.2
	baz=135						
F28A	McLaughlin	134.91	28	⇓PKiKP	PKiKP	08 14 15.5	-0.6
	baz=135						
M22A	Cedar Creek Ra	134.92	36	⇓PKiKP	PKiKP	08 14 16.1	-0.5
	baz=135						
P20A	De Beque	134.96	40	⇑PKiKP	PKiKP	08 14 16.5	0.0
	baz=135						
L23A	Garrett	134.99	35	⇑PKiKP	PKPdf	08 14 15.7	+0.6
	baz=135						
AGMN	Agassiz Nation	135.03	22	*e*PKPdf	PKPdf	08 14 15.0	+0.3
AGMN				LR	LR		
	comp=Z,33μm,22.0s						
WUAZ	Wupatki	135.03	46	PFAKE		08 14 30.0	+15
WUAZ				LR	LR		
	comp=Z,17μm,21.0s						
WUAZ	Wupatki	135.03	46	⇓PKiKP	PKiKP	08 14 17.4	+0.5
	baz=135						
K24A	Anderson Ranch	135.09	34	⇑PKiKP	PKPdf	08 14 15.7	+0.5
	baz=135						
O21A	Pagoda	135.12	38	⇓PKiKP	PKiKP	08 14 16.9	-0.1
	baz=135						
J25A	Sunshine Ranch	135.19	32	⇓PKiKP	PKiKP	08 14 16.3	-0.6
	baz=135						
H27A	Howes	135.20	30	⇑PKiKP	PKPdf	08 14 15.9	+0.7
	baz=135						
I26A	New Underwood	135.23	31	⇓PKiKP	PKiKP	08 14 16.5	-0.3
	baz=135						
E30A	Jud	135.26	26	⇓PKiKP	PKPdf	08 14 15.9	+0.6
	baz=135						
Q20A	Ridgley Place,	135.33	40	PKiKP	PKiKP	08 14 16.8	-0.5
	baz=135						
F29A	Eureka	135.37	27	⇓PKiKP	PKiKP	08 14 16.5	-0.5
	baz=135						
N22A	Wattenberg Ran	135.38	37	⇓PKiKP	PKiKP	08 14 17.3	-0.2
	baz=135						
LPA	La Plata	135.38	197	*de*PDIFF	Pdif	08 11 15.0	-3.5
LPA				PKIKP	PKPdf	08 14 12.0	-3.8
LPA				pPP		08 17 05.0	
LPA				SKP		08 17 40.0	
LPA				SKIKP		08 17 49.0	
LPA				PPP	PPP	08 19 46.0	
LPA				SKIKS		08 21 22.0	
LPA				SDIFF		08 25 06.0	
LPA							
	comp=Z,76μm,22.0s						
M23A	Laramie	135.39	36	⇓PKiKP	PKiKP	08 14 16.8	-0.6
	baz=135						
G28A	Parade	135.44	29	⇑PKiKP	PKiKP	08 14 16.6	-0.6
	baz=135						
L24A	Wheatland	135.47	35	⇑PKiKP	PKiKP	08 14 17.1	-0.4
	baz=136						
X16A	Lo Mia Camp, P	135.50	48	⇓PKiKP	PKiKP	08 14 18.3	+0.5
	baz=136						
214A	Organ Pipe Nat	135.53	52	⇑PKiKP	PKiKP	08 14 18.1	+0.4
	baz=136						
P21A	Newcastle	135.54	39	⇓PKiKP	PKiKP	08 14 18.0	+0.2
	baz=136						
I27A	Quinn	135.61	30	⇑PKiKP	PKiKP	08 14 17.3	-0.3
	baz=136						
N23A	Red Feather La	135.62	37	⇓PKiKP	PKiKP	08 14 17.7	-0.3
	baz=136						
J26A	Sides Ranch, S	135.62	32	⇓PKiKP	PKiKP	08 14 17.2	-0.5
	baz=136						
K25A	Mack Ranch, Ha	135.68	33	⇓PKiKP	PKiKP	08 14 17.5	-0.4
	baz=136						
H28A	Mission Ridge	135.68	29	⇑PKiKP	PKiKP	08 14 17.3	-0.4
	baz=136						
R20A	Redvale	135.71	41	⇓PKiKP	PKiKP	08 14 18.5	+0.3
	baz=136						
O22A	Kremmling	135.71	38	⇑PKiKP	PKiKP	08 14 18.0	-0.3
	baz=136						
Q21A	Lamborn Mesa,	135.86	40	⇓PKiKP	PKiKP	08 14 18.6	+0.1
	baz=136						
CCHI	Chillan	135.90	181	⇑*i*P	PKPdf	08 14 17.0	+0.3
M24A	Cheyenne	135.91	35	⇑PKiKP	PKiKP	08 14 18.2	-0.3
	baz=136						
S20A	Disappointment	135.92	42	⇓PKiKP	PKiKP	08 14 18.8	+0.1
	baz=136						
P22A	Eagle	135.92	39	⇑PKiKP	PKiKP	08 14 18.4	-0.2
	baz=136						
L25A	Engebretsen Ra	135.93	34	⇓PKiKP	PKiKP	08 14 18.2	-0.2
	baz=136						
K26A	Motz Farm, Whi	135.99	33	⇓PKiKP	PKPdf	08 14 17.6	+0.8
	baz=136						
SMCO	Snowmass	136.04	39	*e*PKPdf	PKPdf	08 14 19.5	+2.0
O23A	Lake Granby, G	136.06	37	⇓PKiKP	PKiKP	08 14 18.7	-0.3
	baz=136						
I28A	Midland	136.10	30	PKiKP	PKiKP	08 14 17.8	-0.8
	baz=136						
R21A	Cimarron	136.14	41	⇑PKiKP	PKiKP	08 14 19.6	+0.5
	baz=136						
MVCO	Mesa Verde	136.16	43	PFAKE		08 14 30.0	+12
MVCO				LR	LR		
	comp=Z,25μm,20.0s						
MVCO	Mesa Verde	136.16	43	⇓PKiKP	PKiKP	08 14 19.5	+0.4
	baz=136						
J27A	Elkhorn Farm,	136.22	31	⇑PKiKP	PKPdf	08 14 18.1	+0.8
	baz=136						
Q22A	Crested Butte,	136.26	40	⇑PKiKP	PKiKP	08 14 19.5	+0.1
	baz=136						
N24A	Carr	136.28	36	⇓PKiKP	PKiKP	08 14 18.6	-0.6
	baz=136						
M25A	Palm-Egli Farm	136.36	35	⇑PKiKP	PKiKP	08 14 18.9	-0.5
	baz=136						
S21A	Coal Bank Pass	136.38	42	⇑PKiKP	PKiKP	08 14 20.1	+0.4
	baz=136						
W18A	Petrified Fore	136.40	46	⇓PKiKP	PKiKP	08 14 19.8	+0.1
	baz=136						
K27A	Flueckinger Fa	136.49	32	⇑PKiKP	PKPdf	08 14 18.2	+0.4
	baz=136						
J28A	Allard Ranch,	136.49	30	⇓PKiKP	PKPdf	08 14 18.4	+0.7
	baz=136						
L26A	Underwood Farm	136.50	33	⇑PKiKP	PKiKP	08 14 18.9	-0.7
	baz=136						
ISCO	Idaho Springs	136.50	38	*e*PKIKP	PKPdf	08 14 14.7	-3.5
ISCO				MLR	MLR		
	comp=Z,34μm,22.0s						
ISCO	Idaho Springs	136.50	38	*e*PKPdf	PKPdf	08 14 14.7	-3.5
ISCO				LR	LR		
	comp=Z,34μm,22.0s						
ISCO	Idaho Springs	136.50	38	⇓PKiKP	PKiKP	08 14 19.6	-0.3
	baz=136						
X18A	Snowflake	136.53	47	⇑PKiKP	PKiKP	08 14 20.0	0.0
	baz=137						
U20A	Newcomb	136.60	44	⇓PKiKP	PKiKP	08 14 19.7	-0.3
	baz=137						
O24A	Longmont	136.62	37	⇑PKiKP	PKiKP	08 14 19.3	-0.6
	baz=137						
P23A	Jefferson	136.62	38	⇑PKiKP	PKiKP	08 14 19.5	-0.7
	baz=137						
R22A	Saguache, Gunn	136.73	40	⇓PKiKP	PKiKP	08 14 20.2	-0.2
	baz=137						
N25A	Grover	136.75	35	⇓PKiKP	PKPdf	08 14 18.9	+0.5
	baz=137						
EYMN	Ely	136.83	19	PFAKE		08 14 30.0	+12
EYMN				LR	LR		
	comp=Z,43μm,20.0s						
BRSD	Miller	136.83	28	⇑PKiKP	PKPdf	08 14 18.9	+0.6
	baz=137						
M26A	McRoberts Ranc	136.85	34	⇓PKiKP	PKPdf	08 14 19.2	+0.7
	baz=137						
L27A	T5 Ranch, Ells	136.88	33	⇑PKiKP	PKPdf	08 14 19.3	+0.8
	baz=137						
Q23A	Hartsel	136.91	39	⇓PKiKP	PKiKP	08 14 19.9	-0.8
	baz=137						
T21A	Navajo Lake	136.93	42	⇑PKiKP	PKiKP	08 14 20.3	-0.4
	baz=137						
K28A	Ten Mile Ranch	136.93	31	⇑PKiKP	PKPdf	08 14 19.0	+0.4
	baz=137						
TUC	Tucson	136.94	50	PFAKE		08 14 30.0	+11
TUC				LR	LR		
	comp=Z,27μm,22.0s						
V20A	Brimhall	136.94	44	⇓PKiKP	PKiKP	08 14 20.5	-0.3
	baz=137						
S22A	4UR Ranch, Cre	136.97	41	⇑PKiKP	PKiKP	08 14 20.4	-0.4
	baz=137						
P24A	Kohler Place,	137.10	37	⇑PKiKP	PKiKP	08 14 20.4	-0.6
	baz=137						
U21A	Nageezi	137.16	43	⇓PKiKP	PKiKP	08 14 21.1	-0.1
	baz=137						
O25A	Wiggins	137.19	36	⇑PKiKP	PKiKP	08 14 20.2	-0.8
	baz=137						
M27A	Reverse DX Ran	137.22	33	⇑PKiKP	PKPdf	08 14 19.8	+0.7
	baz=137						
N26A	Koester Ranch,	137.24	35	⇑PKiKP	PKPdf	08 14 19.8	+0.5
	baz=137						
W20A	Ramah	137.27	45	⇑PKiKP	PKiKP	08 14 21.1	-0.4
	baz=137						
Q24A	Divide	137.30	38	⇓PKiKP	PKiKP	08 14 21.0	-0.5
	baz=137						
T22A	Edith	137.34	42	⇑PKiKP	PKiKP	08 14 21.7	+0.1
	baz=137						
R23A	Moffat	137.35	40	⇓PKiKP	PKiKP	08 14 21.5	-0.1
	baz=137						
L28A	Connealy Angus	137.35	32	⇑PKiKP	PKPdf	08 14 20.1	+0.7
	baz=137						
K29A	Lazy Trails An	137.43	30	⇓PKiKP	PKiKP	08 14 20.5	-0.9
	baz=137						
V21A	Milan	137.51	44	⇓PKiKP	PKiKP	08 14 21.5	-0.4
	baz=138						
S23A	Nye Farm, Mont	137.52	40	⇓PKiKP	PKiKP	08 14 21.8	-0.1
	baz=138						
P25A	Willow Gulch B	137.55	37	⇑PKiKP	PKiKP	08 14 21.0	-0.9
	baz=138						
X20A	Quemado	137.57	46	⇑PKiKP	PKiKP	08 14 22.0	-0.1
	baz=138						
O26A	Horse Wrangler	137.57	35	⇑PKiKP	PKPdf	08 14 20.7	+0.8
	baz=138						
N27A	Anderson Farm,	137.63	34	⇑PKiKP	PKiKP	08 14 21.0	-0.9
	baz=138						
U22A	Llaves	137.72	42	⇑PKiKP	PKiKP	08 14 22.4	0.0
	baz=138						
R24A	Sanders Place,	137.77	39	⇓PKiKP	PKiKP	08 14 21.5	-0.9
	baz=138						
SDCO	Great Sand Dun	137.82	40	PFAKE		08 14 30.0	+9.4
SDCO				LR	LR		
	comp=Z,36μm,22.0s						
OGNE	Ogallala	137.82	34	*e*PKPdf	PKPdf	08 14 14.1	-6.1
OGNE				LR	LR		
	comp=Z,31μm,22.0s						
OGNE	Ogallala	137.82	34	⇓PKiKP	PKPdf	08 14 21.2	+0.9
	baz=138						
L29A	Maesberg Ranch	137.86	31	⇑PKiKP	PKPdf	08 14 21.1	+0.9
	baz=138						
M28A	Bar X Bar Ranc	137.87	33	⇓PKiKP	PKPdf	08 14 21.2	+0.8
	baz=138						
W21A	San Fidel	137.87	45	⇓PKiKP	PKiKP	08 14 22.9	+0.3
	baz=138						
Q25A	Bedland, Calha	137.88	38	⇑PKiKP	PKiKP	08 14 21.9	-0.7
	baz=138						
T23A	Casias Ranch,	137.89	41	⇑PKiKP	PKiKP	08 14 22.7	-0.1
	baz=138						
V22A	San Miguel Ran	137.94	43	⇓PKiKP	PKiKP	08 14 22.9	0.0
	baz=138						
Y20A	Horse Springs,	137.97	47	⇓PKiKP	PKiKP	08 14 23.2	+0.3
	baz=138						
P26A	Davis Ranch, A	138.00	36	⇓PKiKP	PKiKP	08 14 22.3	-0.5
	baz=138						
S24A	Houchin Ranch,	138.06	40	⇑PKiKP	PKiKP	08 14 22.9	-0.2
	baz=138						
O27A	Beecher Island	138.08	35	⇓PKiKP	PKiKP	08 14 22.1	-0.8
	baz=138						
X21A	Alamocita Cree	138.12	46	⇑PKiKP	PKiKP	08 14 22.8	-0.4
	baz=138						
M29A	Burnside Ranch	138.19	32	PKiKP	PKPdf	08 14 20.8	-0.2
	baz=138						
U23A	El Rito	138.19	42	⇑PKiKP	PKiKP	08 14 23.5	+0.2
	baz=138						
Z20A	Nine Sixteen R	138.21	48	⇑PKiKP	PKiKP	08 14 23.4	0.0
	baz=138						
N28A	Pribbeno Ranch	138.27	34	⇓PKiKP	PKPdf	08 14 22.0	+0.9
	baz=138						
T24B	San Luis	138.30	41	⇓PKiKP	PKiKP	08 14 23.6	0.0
	baz=138						
Q26A	Hugo	138.31	37	⇓PKiKP	PKiKP	08 14 22.4	-1.0
	baz=138						
R25A	Fountain Ranch	138.34	39	⇓PKiKP	PKiKP	08 14 22.6	-0.8
	baz=138						
Y21A	Point of Rocks	138.43	46	⇑PKiKP	PKiKP	08 14 23.9	0.0
	baz=138						
W22A	Albuquerque	138.43	44	⇓PKiKP	PKiKP	08 14 24.1	+0.2
	baz=138						
ECSD	EROS Data Cent	138.44	26	PFAKE		08 14 30.0	+8.8
ECSD				LR	LR		
	comp=Z,29μm,20.0s						
120A	U Bar Ranch, L	138.45	49	⇑PKiKP	PKiKP	08 14 23.5	-0.4
	baz=138						
P27A	Ficken Ranch,	138.45	36	⇓PKiKP	PKiKP	08 14 22.6	-1.0
	baz=138						
319A	Douglas	138.50	50	⇓PKiKP	PKiKP	08 14 23.9	0.0
	baz=139						
O28A	Krutsinger Ran	138.52	34	⇑PKiKP	PKPdf	08 14 22.3	+0.7
	baz=138						
V23A	Ortiz Mt. (NFS	138.53	43	⇓PKiKP	PKiKP	08 14 24.1	+0.1
	baz=139						
S25A	Robets Cordova	138.54	39	⇓PKiKP	PKiKP	08 14 23.1	-0.9
	baz=139						
M30A	Dale-Ortello V	138.55	31	⇓PKiKP	PKPdf	08 14 21.8	+0.2
	baz=139						
X22A	Bernardo	138.63	45	⇓PKiKP	PKiKP	08 14 23.5	-0.7
	baz=139						
N29A	Votaw Ranch, W	138.67	33	⇑PKiKP	PKPdf	08 14 22.7	+0.9
	baz=139						
SPMN	St. Paul	138.75	22	⇓PKiKP	PKPdf	08 14 22.4	+0.7
	baz=139						
U24A	Moreno Valley	138.75	41	⇑PKiKP	PKiKP	08 14 24.1	-0.4
	baz=139						
R26A	Arlington	138.75	38	⇑PKiKP	PKiKP	08 14 23.3	-1.0
	baz=139						
KSCO	Kaye Shedlock'	138.78	36	⇑PKiKP	PKiKP	08 14 23.5	-0.8
	baz=139						
Z21A	St. Cloud Mine	138.78	47	⇑PKiKP	PKiKP	08 14 24.5	-0.1
	baz=139						
ANMO	Albuquerque	138.78	44	PKPpre	PKPpre	08 14 12.8	
ANMO				PKP	PKPdf	08 14 22.6	+0.2
ANMO				PP	PP	08 17 14.5	+0.7
ANMO				SKPbc	SKiKP	08 17 56.2	+0.2
ANMO				LR	LR		
	comp=Z,36μm,21.0s						
ANMO	Albu

baz=139
S27A Las Animas 139.48 38 ⇓PKiKP PKPdf 08 14 24.6 +1.1
baz=140
BGNE Belgrade 139.52 30 ⇑PKiKP PKPdf 08 14 24.1 +0.9
baz=140
122A Conniff Cattle 139.57 47 ⇓PKiKP PKiKP 08 14 26.2 +0.1
baz=140
Y23A Lovelace Mesa, 139.61 45 ⇓PKiKP PKiKP 08 14 25.3 -0.9
baz=140
X24A Lazy VL Ranch, 139.69 44 PKiKP PKiKP 08 14 25.4 -1.0
baz=140
R28A Tribune 139.70 36 ⇓PKiKP PKiKP 08 14 25.4 -0.8
baz=140
U26A Atchley Ranch, 139.75 40 ⇑PKiKP PKiKP 08 14 25.6 -0.9
baz=140
P30A Selden 139.78 34 ⇓PKiKP PKiKP 08 14 25.1 -1.1
baz=140
222A Williams Famil 139.80 48 ⇑PKiKP PKiKP 08 14 25.7 -0.9
baz=140
Q29A Oakley 139.82 35 PKiKP PKPdf 08 14 25.0 +1.0
baz=140
Z23A Rita Site, Whi 139.84 46 ⇓PKiKP PKiKP 08 14 26.2 -0.4
baz=140
T27A Campo 139.98 39 ⇑PKiKP PKiKP 08 14 25.9 -1.0
baz=140
W25A X Bar L Ranch, 139.98 42 ⇓PKiKP PKPdf 08 14 25.7 +1.2
baz=140
R29A Marienthal 140.04 36 ⇑PKiKP PKiKP 08 14 26.3 -0.6
baz=140
Y24A Capitan 140.05 45 ⇓PKiKP PKiKP 08 14 26.5 -0.6
baz=140
V26A Tequesquite Ra 140.09 41 ⇑PKiKP PKiKP 08 14 25.9 -1.2
baz=140
123A Bell Site, Whi 140.14 47 ⇑PKiKP PKiKP 08 14 26.4 -0.9
baz=140
S28A Manter 140.15 37 ⇓PKiKP PKPdf 08 14 25.9 +1.3
baz=140
Q30A Quinter 140.19 34 ⇓PKiKP PKPdf 08 14 25.7 +1.0
baz=140
X25A Clemmons Ranch 140.24 43 ⇓PKiKP PKiKP 08 14 26.4 -1.1
baz=140
P31A Stockton 140.26 33 ⇑PKiKP PKPdf 08 14 25.8 +1.1
baz=140
T28A Walsh 140.32 38 ⇓PKiKP PKiKP 08 14 26.3 -1.2
baz=140
U27A Thompson Grove 140.32 40 ⇑PKiKP PKiKP 08 14 26.4 -1.1
baz=140
223A Chaparral, Ant 140.34 48 ⇑PKiKP PKiKP 08 14 27.1 -0.7
baz=140
LPIG La Paz 140.41 61 PKPpre PKPpre 08 14 20.4
LPIG PKP **PKPdf 08 14 25.8 +0.5**
LPIG PP **PP 08 17 24.3 0.0**
LPIG La Paz 140.41 61 PKhKP PKPpre 08 14 20.4
comp=Z,106nm,1.0s,baz=225,slow=1.4,SNR=3.3
LPIG PKP **PKPdf 08 14 25.8 +0.5**
comp=Z,188nm,1.0s,baz=319,slow=5.7,SNR=6.7
LPIG PP **PP 08 17 24.3 0.0**
comp=Z,347nm,1.3s,baz=187,slow=1.4,SNR=4.9
Z24A Sheeppen Canyo 140.42 45 ⇓PKiKP PKiKP 08 14 27.4 -0.6
baz=140
W26A Owens Ranch, T 140.52 42 ⇑PKiKP PKiKP 08 14 27.1 -0.8
baz=141
Y25A Mesa, Roswell 140.56 44 ⇑PKiKP PKiKP 08 14 27.0 -1.1
baz=141
S29A Ulysses 140.59 37 ⇓PKiKP PKiKP 08 14 27.1 -0.9
baz=141
Q31A Ellis 140.62 34 ⇑PKiKP PKiKP 08 14 26.7 -1.3
baz=141
R30A Dighton 140.63 35 ⇑PKiKP PKiKP 08 14 26.8 -1.2
baz=141
CFAA Coronel Fontan 140.66 186 PKPpre PKPpre 08 14 18.4
CFAA PKP **PKPdf 08 14 26.4 +0.7**
CFAA PP **PP 08 17 23.4 -0.5**
CFAA Coronel Fontan 140.66 186 PKhKP PKPpre 08 14 18.4
comp=Z,11nm,0.9s,baz=188,slow=2.6,SNR=74
CFAA PKP **PKPdf 08 14 26.4 +0.7**
comp=Z,10nm,0.5s,baz=183,slow=3.3,SNR=18
CFAA PP **PP 08 17 23.4 -0.5**
comp=Z,1.6nm,0.6s,baz=228,slow=4.1,SNR=4.1
124A Stringfield Ra 140.69 46 ⇓PKiKP PKiKP 08 14 28.2 -0.3
baz=141
U28A Mallet 140.72 39 ⇓PKiKP PKPdf 08 14 27.0 +1.3
baz=141
V27A Dan Oppiter Fa 140.72 40 ⇑PKiKP PKiKP 08 14 27.4 -1.0
baz=141
T29A Hugoton 140.79 37 ⇓PKiKP PKiKP 08 14 27.3 -1.1
baz=141
X26A CR and CF Fran 140.81 43 ⇓PKiKP PKiKP 08 14 27.7 -0.9
baz=141
Z25A Roswell 140.90 45 ⇓PKiKP PKiKP 08 14 28.1 -0.7
baz=141
S30A Montezuma 140.96 36 ⇓PKiKP PKiKP 08 14 27.7 -1.0
baz=141
224A Cornudas Mount 140.97 47 ⇑PKiKP PKiKP 08 14 28.4 -0.6
baz=141
W27A Bowe Ranch, En 141.00 41 ⇓PKiKP PKiKP 08 14 28.0 -1.0
baz=141
RCBR Riachuelo 141.00 251 *e*PKPdf PKPdf 08 14 25.3 -1.5
RCBR LR LR
comp=Z,80μm,20.0s
R31A Burdett 141.05 35 ⇓PKiKP PKiKP 08 14 27.7 -1.2
baz=141
V28A Channing 141.12 40 ⇑PKiKP PKiKP 08 14 28.2 -1.0
baz=141
Y26A Elida 141.16 43 ⇑PKiKP PKiKP 08 14 28.3 -1.1
baz=141
X27A F and S Farms, 141.22 42 ⇓PKiKP PKiKP 08 14 28.6 -0.9
baz=141
MNTX Cornudas Mount 141.26 48 PFAKE 08 14 40.0 +13
MNTX LR LR
comp=Z,24μm,22.0s
U29A Oasis Ranch, S 141.27 38 ⇑PKiKP PKPdf 08 14 27.9 +1.2
baz=141
125A Gardner Draw, 141.28 46 ⇓PKiKP PKiKP 08 14 28.5 -1.1
baz=141
324A Moseley Ranch, 141.32 48 ⇓PKiKP PKiKP 08 14 28.5 -1.3
baz=141
T30A Plains 141.32 37 ⇓PKiKP PKiKP 08 14 28.2 -1.3
baz=141
SCIA State Center 141.38 25 PFAKE 08 14 40.0 +13
SCIA LR LR
comp=Z,52μm,22.0s
Z26A Caprock 141.42 44 ⇓PKiKP PKPdf 08 14 28.5 +1.4
baz=142
W28A Vega 141.44 40 ⇓PKiKP PKiKP 08 14 28.6 -1.3
baz=142
225A Deer Hill, Car 141.46 47 ⇓PKiKP PKiKP 08 14 29.2 -0.9
baz=142
V29A Stinnett 141.48 39 ⇓PKiKP PKiKP 08 14 28.7 -1.2
baz=142
S31A Mullinville 141.54 35 ⇓PKiKP PKiKP 08 14 28.7 -1.2
baz=142
U30A WK&E Inc. Balk 141.59 38 ⇑PKiKP PKiKP 08 14 28.9 -1.1
baz=142
Y27A Causey 141.63 43 ⇑PKiKP PKiKP 08 14 29.2 -1.1
baz=142
JFWS Jewell Farm 141.67 21 PFAKE 08 14 40.0 +13
JFWS LR LR
comp=Z,33μm,21.0s
325A Bean Ranch, Si 141.73 48 ⇑PKiKP PKiKP 08 14 29.4 -1.2
baz=142
GDL2 Guadalupe Moun 141.74 46 *e*PKPdf PKPdf 08 14 25.4 -2.2
126A Clayton Basin, 141.74 45 ⇑PKiKP PKiKP 08 14 29.3 -1.2
baz=142
T31A Randall Ranch, 141.79 36 ⇑PKiKP PKiKP 08 14 29.3 -1.1
baz=142
MSTX Muleshoe 141.84 43 *e*PKPdf PKPdf 08 14 25.7 -2.1
MSTX Muleshoe 141.84 43 ⇓PKiKP PKiKP 08 14 29.3 -1.4
baz=142
W29A Amraillo 141.88 40 ⇑PKiKP PKiKP 08 14 29.5 -1.3
baz=142
X28A Dimmitt 141.89 41 ⇓PKiKP PKiKP 08 14 29.7 -1.1
baz=142
Z27A Tatum 141.92 44 ⇑PKiKP PKiKP 08 14 29.6 -1.3
baz=142
226B Tecolote Peak, 141.94 46 ⇑PKiKP PKiKP 08 14 29.7 -1.2
baz=142
425A Indio Mountain 142.02 49 ⇓PKiKP PKiKP 08 14 30.0 -1.2
baz=142
KSU1 Kansas State U 142.03 31 PFAKE 08 14 40.0 +12
KSU1 LR LR
comp=Z,32μm,22.0s
CLNB Carlsbad 142.05 46 *e*PKPdf PKPdf 08 14 25.5 -2.7
V30A Spur Ranch, Mi 142.07 39 ⇑PKiKP PKiKP 08 14 30.1 -1.0
baz=142
U31A Nine Bar Ranch 142.18 37 ⇓PKPdf PKPdf 08 14 24.3 -3.9
baz=142
127A Arkansas Junct 142.19 45 ⇓PKPdf PKPdf 08 14 24.5 -4.0
baz=142
Y28A McKinney Farm, 142.23 42 ⇑PKPdf PKPdf 08 14 24.3 -4.2
baz=142
X29A Tulia 142.26 41 ⇑PKPdf PKPdf 08 14 25.0 -3.6
baz=142
TLL Tololo Astrono 142.28 183 ⇑*i*P PKPdf 08 14 21.8 -7.1
326A Caldwell Ranch 142.49 47 ⇑PKPdf PKPdf 08 14 25.7 -3.3
baz=142
PKME Peaks-Kenny Pk 142.50 356 PFAKE 08 14 40.0 +12
PKME LR LR
comp=Z,36μm,22.0s
Z28A Tucker Farm, M 142.50 43 ⇑PKPdf PKPdf 08 14 25.6 -3.4
baz=142
W30A Crocket Farms 142.52 39 ⇓PKPdf PKPdf 08 14 25.9 -3.0
baz=142
V31A Spring Creek L 142.58 38 ⇑PKPdf PKPdf 08 14 26.1 -2.9
baz=143
227A Bennet, Jal 142.60 46 ⇑PKPdf PKPdf 08 14 26.1 -3.1
baz=143
Y29A Porterfield Fa 142.64 42 ⇑PKPdf PKPdf 08 14 26.2 -3.0
baz=143
SADO Sadowa 142.67 8 PKPpre PKPpre 08 14 23.3
SADO PP **PP 08 17 34.2 -1.9**
SADO Sadowa 142.67 8 PKhKP PKPpre 08 14 23.3
comp=Z,110nm,0.6s,baz=341,slow=4.0,SNR=55
SADO PP **PP 08 17 34.2 -1.9**
comp=Z,101nm,1.1s,baz=304,slow=11,SNR=3.7
426A McDonald Obser 142.79 48 ⇓PKPdf PKPdf 08 14 26.9 -2.9
baz=143
X30A Coker Ranch, T 142.80 40 ⇓PKPdf PKPdf 08 14 26.5 -2.9
baz=143
327A Balmorhea Ranc 142.81 47 ⇑PKPdf PKPdf 08 14 27.1 -2.5
baz=143
128A Castleberry Fa 142.82 44 ⇑PKPdf PKPdf 08 14 26.8 -2.7
baz=143
EMMW East Machias 142.90 354 *e*PKPdf PKPdf 08 14 25.4 -3.8
W31A Holland Ranch, 142.91 39 ⇓PKPdf PKPdf 08 14 27.1 -2.5
baz=143
Z29A Hungry Hill Ra 142.98 43 ⇓PKPdf PKPdf 08 14 27.5 -2.3
baz=143
FRNY Flat Rock 143.03 1 *e*PKPdf PKPbc 08 14 25.9 -0.4
228A UT Block 9, Go 143.03 45 ⇑PKPdf PKPbc 08 14 27.8 +0.9
baz=143
CPUP Villa Florida 143.04 203 PKPpre PKPpre 08 14 26.3
CPUP Villa Florida 143.04 203 PKhKP PKPpre 08 14 26.3
comp=Z,89nm,0.5s,baz=122,slow=1.9,SNR=128
526A Mary Lane Ranc 143.05 49 ⇑PKPdf PKPbc 08 14 27.9 +0.9
baz=143
Y30A Stafford Cattl 143.14 41 ⇓PKPdf PKPbc 08 14 28.0 +1.0
baz=143
427A Hayter Ranch, 143.15 47 ⇓PKPdf PKPbc 08 14 28.2 +0.9
baz=143
LONY Lake Ozonia 143.22 2 *e*PKPdf PKPbc 08 14 26.8 0.0
LONY LR LR
comp=Z,42μm,22.0s
WVL Waterville 143.22 356 *e*PKPdf PKPbc 08 14 26.5 -0.3
129A Stewart Farms, 143.24 44 ⇓PKPdf PKPbc 08 14 28.1 +0.7
baz=143
X31A McDonald Ranch 143.25 39 ⇓PKPdf PKPbc 08 14 28.2 +0.9
baz=143
626A Big Bend Ranch 143.27 50 PKPdf PKPbc 08 14 27.9 +0.4
baz=143
328A Wristen Ranch, 143.29 46 ⇓PKPdf PKPbc 08 14 28.5 +1.0
baz=143
Z30A Sanderson Ranc 143.35 42 ⇑PKPdf PKPbc 08 14 28.5 +0.8
baz=143
527A Woodward Ranch 143.37 48 ⇓PKPdf PKPbc 08 14 28.8 +0.9
baz=143
LCO Las Campanas 143.42 183 *e*PKPdf PKPbc 08 14 28.2 0.0
LCO LR LR
comp=Z,87μm,22.0s
LCO Las Campanas 143.42 183 ⇑*i*P PKPab 08 14 25.4 -1.8
Y31A Rekieta Farm, 143.50 40 ⇓PKPdf PKPbc 08 14 29.1 +1.1
baz=144
LBNH Lisbon 143.63 359 *e*PKIKP PKPbc 08 14 28.1 +0.1
LBNH MLR MLR
comp=Z,63μm,22.0s
LBNH Lisbon 143.63 359 *e*PKPdf PKPbc 08 14 28.1 +0.1
LBNH LR LR
comp=Z,63μm,22.0s
229A Bryant Ranch, 143.66 44 ⇓PKPdf PKPbc 08 14 29.8 +1.2
baz=144
TXAR Lajitas Array 143.74 50 PKP PKPdf 08 14 30.5 -0.8
TXAR PP **PP 08 17 42.9 -1.2**
TXAR SKPbc **SKiKP 08 18 08.0 +1.8**
TXAR Lajitas Array 143.74 50 PKP PKPdf 08 14 30.5 -0.8
comp=Z,122nm,0.6s,baz=234,slow=1.1,SNR=150
TXAR PP **PP 08 17 42.9 -1.2**
comp=Z,48nm,1.1s,baz=247,slow=4.6,SNR=2.6
TXAR SKPbc **SKiKP 08 18 08.0 +1.8**
comp=Z,41nm,0.9s,baz=352,slow=1.8,SNR=3.9
428A Kincaid Ranch, 143.74 47 ⇓PKPdf PKPdf 08 14 30.6 -0.6
baz=144
329A Wagon Wheel Ra 143.82 45 ⇓PKPdf PKPdf 08 14 30.4 -0.9
baz=144
130A Snyder 143.87 43 ⇑PKPdf PKPdf 08 14 30.4 -0.9
baz=144
MDV Middlebury 143.87 1 *e*PKPdf PKPbc 08 14 29.0 +0.3
NCB Newcomb 143.88 2 *e*PKPdf PKPbc 08 14 29.2 +0.4
NCB LR LR
comp=Z,34μm,21.0s
627A Terlingua Ranc 143.89 49 ⇑PKPdf PKPdf 08 14 30.7 -0.9
baz=144
WMOK Wichita Mounta 143.92 38 PFAKE 08 14 40.0 +8.7
WMOK LR LR
comp=Z,32μm,21.0s
528A Cox Ranch, San 143.96 48 ⇓PKPdf PKPdf 08 14 31.2 -0.5
baz=144
Z31A Sharp Cattle R 143.98 41 ⇓PKPdf PKPdf 08 14 30.8 -0.7
baz=144
Y32A R-V Farms, Ver 143.99 40 ⇓PKPdf PKPdf 08 14 30.7 -0.8
baz=144
HNH Hanover 144.17 360 *e*PKPdf PKPbc 08 14 30.3 +0.7
230A Sterling City 144.19 44 ⇑PKPdf PKPdf 08 14 31.6 -0.3
baz=144
131A Roby 144.21 42 ⇓PKPdf PKPdf 08 14 31.8 -0.2
baz=144
628A Black Gap, Mar 144.24 49 ⇑PKPdf PKPdf 08 14 32.1 0.0
baz=144
429A Davenport Ranc 144.36 46 ⇑PKPdf PKPdf 08 14 32.6 +0.3
baz=144
FFD Franklin Falls 144.40 359 *e*PKPdf PKPdf 08 14 31.4 -0.4
529A Stev Forest Ra 144.40 47 ⇓PKPdf PKPdf 08 14 32.6 +0.2
baz=144
Z32A Haskell 144.41 41 ⇑PKPdf PKPdf 08 14 32.7 +0.4
baz=144
330A Mertzon 144.43 45 ⇓PKPdf PKPdf 08 14 32.3 -0.1
baz=144
ACCN Adirondack Com 144.48 1 *e*PKPdf PKPbc 08 14 30.7 0.0
231A Bronte 144.71 43 ⇑PKPdf PKPdf 08 14 32.9 +0.1
baz=145
ABTX Abilene, Hawle 144.74 42 *e*PKPdf PKPdf 08 14 33.3 +0.5
ABTX Abilene, Hawle 144.74 42 ⇓PKPdf PKPdf 08 14 33.2 +0.4
baz=145
430A Baggett Ranch, 144.74 46 ⇑PKPdf PKPdf 08 14 33.5 +0.6
baz=145
TUL1 Tulsa 144.84 34 *e*PKPab PKPdf 08 14 32.9 0.0
TUL1 Tulsa 144.84 34 ⇑PKPdf PKPdf 08 14 32.9 0.0
baz=145
SFIN Scholer Farm 145.00 19 *e*PKPbc PKPdf 08 14 33.0 0.0
SFIN Scholer Farm 145.00 19 ⇓PKPdf PKPdf 08 14 33.4 +0.4
baz=145
331A San Angelo 145.01 44 ⇑PKPdf PKPdf 08 14 34.0 +0.6
baz=145
530A J-C Ranch, Com 145.03 47 ⇓PKPdf PKPdf 08 14 34.7 +1.2
baz=145
232A Coleman 145.19 43 ⇑PKPdf PKPdf 08 14 34.6 +0.9
baz=145
431A Sonora 145.24 45 ⇓PKPdf PKPdf 08 14 35.0 +1.2
baz=145
HRV Adam Dziewonsk 145.36 359 *e*PKIKP PKPab 08 14 33.9 +0.3
HRV Adam Dziewonsk 145.36 359 *e*PKPdf PKPab 08 14 33.9 +0.3
332A Millersview 145.43 43 ⇓PKPdf PKPab 08 14 35.5 +1.1
baz=146
WES Weston 145.47 358 *e*PKIKP PKPbc 08 14 33.9 +0.1
WES Weston 145.47 358 *e*PKPdf PKPbc 08 14 33.9 +0.1
BINY Binghamton 145.54 4 *e*PKPdf PKPab 08 14 34.4 +0.1
BINY LR LR
comp=Z,34μm,22.0s
ALLY Alegheny Colle 145.57 10 *e*PKPdf PKPab 08 14 34.6 +0.1
531A Rocksprings 145.58 46 ⇓PKPdf PKPab 08 14 36.0 +1.0
baz=146
QUA2 Belchertown 145.59 360 *e*PKPdf PKPab 08 14 34.9 +0.4
432A Menard 145.70 44 ⇑PKPdf PKPab 08 14 35.9 +0.5
baz=146
JCT Junction City 145.93 45 *e*PKP2 PKPab 08 14 36.3 +0.1
JCT MLR MLR
comp=Z,35μm,20.0s
JCT Junction City 145.93 45 *e*PKPdf PKPab 08 14 36.3 +0.1
JCT LR LR
comp=Z,35μm,20.0s
JCT Junction City 145.93 45 ⇑PKPdf PKPab 08 14 36.5 +0.3
baz=146
BRYW Bryant College 145.94 359 *e*PKPdf PKPbc 08 14 35.3 0.0
631A Perdido Creek 145.98 47 ⇓PKPdf PKPab 08 14 36.5 +0.1
baz=146
532A Rocksprings 146.06 45 ⇓PKPdf PKPab 08 14 36.5 -0.2
baz=146
OLIL Olney 146.12 22 *e*PKPbc PKPab 08 14 36.4 -0.1
BLO Bloomington 146.28 20 *e*PKP2 PKPbc 08 14 36.4 0.0
BLO Bloomington 146.28 20 *e*PKPbc PKPbc 08 14 36.4 0.0
BDFB Brasilia 146.35 226 PKPbc PKPbc 08 14 37.0 -0.4
BDFB Brasilia 146.35 226 PKPbc PKPbc 08 14 37.0 -0.4
comp=Z,732nm,0.8s,baz=125,slow=2.4,SNR=223
632A Uvalde 146.50 46 ⇑PKPdf PKPbc 08 14 37.3 -0.1
baz=147
YLE Yale 146.56 0 *e*PKPdf PKPbc 08 14 36.9 -0.2
SIUC Southern Illin 146.56 24 *e*PKPbc PKPab 08 14 37.9 -0.5
WHTX Lake Whitney 146.56 40 ⇓PKPdf PKPbc 08 14 37.8 +0.3
baz=147
732A Laxson Ranch, 146.80 48 ⇓PKPdf PKPbc 08 14 38.5 +0.3
baz=147
SSPA Standing Stone 146.90 7 *e*PKPdf PKPbc 08 14 37.5 -0.7
USIN University of 146.95 22 *e*PKPdf PKPbc 08 14 38.2 -0.1
CPNY Central Park 147.06 2 *e*PKPbc PKPbc 08 14 38.4 -0.1
MIAR Mount Ida 147.06 33 *e*PKP2 PKPbc 08 14 38.9 +0.1
MIAR MLR MLR
comp=Z,35μm,22.0s
MIAR Mount Ida 147.06 33 *e*PKPbc PKPbc 08 14 38.9 +0.1
MIAR LR LR
comp=Z,35μm,22.0s
BRNJ Basking Ridge 147.14 3 *e*PKPbc PKPbc 08 14 39.5 +0.7
WCI Wyandotte Cave 147.21 20 *e*PKP2 PKPbc 08 14 38.6 -0.6
WCI Wyandotte Cave 147.21 20 *e*PKPdf PKPbc 08 14 38.6 -0.6
PARMO Parma 147.23 26 *e*PKPdf PKPbc 08 14 39.0 -0.2
UALR University of 147.53 31 *e*PKPdf PKPbc 08 14 39.2 -0.9
MCWV Mont Chateau 147.55 10 *e*PKPbc PKPbc 08 14 40.2 +0.2
MCWV LR LR
comp=Z,58μm,21.0s
HBAR Harrisburg 147.74 28 *e*PKPbc PKPbc 08 14 40.5 -0.1
GLAT Glass 147.76 26 *e*PKPdf PKPbc 08 14 39.8 -0.8
HALT Halls 148.04 26 *e*PKPdf PKPdf 08 14 39.7 +1.4
SDMD Soldier's Deli 148.23 6 *e*PKPbc PKPbc 08 14 41.0 -0.8
MET Memphis--Engin 148.43 28 *e*PKPbc PKPab 08 14 44.9 -0.8
NATX Nacogdoches 148.47 38 *e*PKPdf PKPbc 08 14 41.3 -1.4
NATX LR LR
comp=Z,41μm,21.0s
WVT Waverly 148.49 24 *e*PKP2 PKPbc 08 14 43.4 +0.8
WVT Waverly 148.49 24 *e*PKPbc PKPbc 08 14 43.4 +0.8
PB10 Plate Boundary 148.88 184 ⇑*i*P PKPdf 08 14 40.9 +0.8
HKT Hockley 148.95 42 *e*PKP2 PKPbc 08 14 42.5 -1.4
HKT Hockley 148.95 42 *e*PKPdf PKPbc 08 14 42.5 -1.4
CEN1 Los Morros 148.98 184 ⇑*i*P PKPbc 08 14 43.7 -0.6
KVTX Kingsville 148.98 47 *e*PKPbc PKPbc 08 14 44.1 +0.1
KVTX LR LR
comp=Z,30μm,21.0s
OXF Oxford 149.18 28 *e*PKIKP PKPdf 08 14 41.6 +1.5
OXF MLR MLR
comp=Z,53μm,22.0s
OXF Oxford 149.18 28 *e*PKPdf PKPdf 08 14 41.6 +1.5
OXF LR LR
comp=Z,53μm,22.0s
LVC Limon Verde 149.63 187 *e*PKPdf PKPbc 08 14 44.1 -2.1
LVC *e*PKPbc **PKiKP 08 14 46.0 -1.3**
LVC LR LR
comp=Z,42μm,22.0s
TZTN Tazewell 149.63 18 *e*PKPdf PKPdf 08 14 42.4 +1.6
TZTN *e*PKPbc **PKPbc 08 14 45.6 +0.1**
JSRW J. Sargeant Re 149.79 8 *e*PKPdf PKPdf 08 14 43.1 +2.1
BLA Blacksburg 149.81 12 *e*PKPdf PKPdf 08 14 42.1 +0.9
BLA *e*PKPbc **PKiKP 08 14 47.1 +0.2**
BLA LR LR
comp=Z,40μm,20.0s
VWCC Virginia Weste 149.87 12 *e*PKPdf PKPdf 08 14 42.4 +1.1
VWCC *e*PKPbc **PKiKP 08 14 46.8 -0.1**
PB04 Plate Boundary 150.03 186 ⇑*i*P PKPdf 08 14 42.8 +1.0
SWET Sewanee 150.03 22 *e*PKPdf PKPdf 08 14 42.9 +1.4
SWET *e*PKPbc **PKPbc 08 14 47.0 +0.4**
CPCT Cooper Cave 150.32 20 *e*PKPdf PKPdf 08 14 43.4 +1.5
CPCT *e*PKPbc **PKPbc 08 14 47.5 +0.3**
TKL Tuckaleechee C 150.38 19 PKP PKPdf 08 14 42.0 0.0
TKL *e*PKPdf **PKPdf 08 14 42.9 +0.9**
TKL PKPbc **PKiKP 08 14 48.0 -0.1**
TKL *e*PKPbc **PKPbc 08 14 48.5 +1.2**
TKL Tuckaleechee C 150.38 19 PKP PKPdf 08 14 42.0 0.0
comp=Z,214nm,1.2s,baz=342,slow=2.5,SNR=57
TKL PKPbc **PKiKP 08 14 48.0 -0.1**
comp=Z,2μm,0.8s,baz=342,slow=2.5,SNR=246
PB09 Plate Boundary 150.47 186 ⇑*i*P PKPdf 08 14 44.5 +1.7
VBMS Vicksburg 150.48 32 PFAKE 08 14 50.0 +2.4
VBMS LR LR
comp=Z,47μm,21.0s
PB07 Plate Boundary 150.60 185 ⇑*i*P PKPdf 08 14 43.7 +0.7
PB01 Plate Boundary 151.24 186 ⇑*i*P PKPdf 08 14 44.5 +0.6
LRAL Lakeview Retre 151.50 26 *e*PKPdf PKPdf 08 14 45.7 +1.9
LRAL LR LR
comp=Z,32μm,22.0s
KMSC Kings Mountain 151.56 15 *e*PKPdf PKPdf 08 14 45.6 +1.7
KMSC *e*PKPbc **PKiKP 08 14 50.8 +0.2**
KMSC Kings Mountain 151.56 15 ⇓PKPdf PKPdf 08 14 44.9 +1.0
baz=152
HMBC Humberstone 152.04 185 ⇑*i*P PKPdf 08 14 44.9 -0.2
CNNC Cliffs of the 152.20 9 *e*PKPdf PKPdf 08 14 46.8 +2.1
CNNC *e*PKPbc **PKiKP 08 14 52.5 +0.7**
CNNC LR LR
comp=Z,53μm,22.0s
PSGC Pisagua 152.73 185 ⇑*i*P PKPdf 08 14 46.1 -0.1
MNMC Minimini 153.14 186 ⇑*i*P PKPdf 08 14 47.7 +0.7
BRAL Brewton 153.18 28 *e*PKPdf PKPdf 08 14 49.0 +2.6
BRAL *e*PKPbc **PKiKP 08 14 55.1 +1.1**
BRAL LR LR
comp=Z,41μm,21.0s
SIV San Ignacio 153.81 206 PKP PKPdf 08 14 48.0 +0.2
SIV PKPbc **PKiKP 08 14 56.4 +0.6**
SIV PKPab **PKPab 08 15 08.5 0.0**
SIV San Ignacio 153.81 206 PKP PKPdf 08 14 48.0 +0.2
comp=Z,240nm,1.0s,baz=155,slow=1.9,SNR=232
SIV PKPbc **PKiKP 08 14 56.4 +0.6**
comp=Z,315nm,0.9s,baz=135,slow=2.8,SNR=25
SIV PKPab **PKPab 08 15 08.5 0.0**
comp=Z,553nm,1.0s,baz=155,slow=3.3,SNR=19
TIGA Tifton 154.28 22 *e*PKPdf PKPdf 08 14 50.1 +2.2
TIGA *e*PKPbc **PKiKP 08 14 58.2 +2.0**
TIGA Tifton 154.28 22 ⇑PKPdf PKPdf 08 14 49.3 +1.4
baz=154
BBSR BB Station 154.41 344 *e*PKPdf PKPdf 08 14 50.0 +1.9
BBSR *e*PKPbc **PKiKP 08 14 57.9 +1.4**
BBSR LR LR
comp=Z,25μm,21.0s
LPAZ La Paz 155.73 190 *e*PKPdf PKPdf 08 14 51.6 +0.5
LPAZ PKPab **PKPab 08 15 16.1 -1.3**
LPAZ La Paz 155.73 190 PKP PKPdf 08 14 51.5 +0.5
comp=Z,101nm,1.0s,baz=86,slow=1.0,SNR=129
LPAZ PKPab **PKPab 08 15 16.1 -1.3**
comp=Z,219nm,0.9s,baz=194,slow=2.7,SNR=10.0
CMIG Matias Romero 156.35 65 PKP PKPdf 08 14 51.3 +0.2
CMIG PKPab **PKPab 08 15 20.2 +0.7**
CMIG Matias Romero 156.35 65 PKP PKPdf 08 14 51.3 +0.2
comp=Z,183nm,1.0s,baz=304,slow=1.1,SNR=74
CMIG PKPab **PKPab 08 15 20.2 +0.7**
comp=Z,145nm,0.8s,baz=272,slow=4.5,SNR=7.1
DWPF Disney 158.08 21 *e*PKPdf PKPdf 08 14 53.8 +0.9
NNA Nana 159.96 168 PKP PKPdf 08 14 56.0 +0.3
NNA *e*PKPdf **PKPdf 08 14 57.0 +1.4**
NNA PKPab **PKPab 08 15 35.4 +0.5**
NNA PP **PP 08 19 16.2 +1.1**
NNA LR LR
comp=Z,37μm,22.0s
NNA Nana 159.96 168 PKP PKPdf 08 14 56.0 +0.3
comp=Z,184nm,1.0s,baz=301,slow=2.0,SNR=34
NNA PKPab **PKPab 08 15 35.4 +0.5**
comp=Z,613nm,1.4s,baz=222,slow=5.0,SNR=6.3
NNA PP **PP 08 19 16.2 +1.1**
comp=Z,6.3nm,0.5s,baz=225,slow=4.3,SNR=2.8
TEIG Tepich 160.38 49 *e*PKPdf PKPdf 08 14 57.0 +1.1
TEIG LR LR
comp=Z,61μm,22.0s
PAYG Puerto Ayora 160.48 115 *e*PKPdf PKPdf 08 14 59.0 +2.8
PAYG LR LR
comp=Z,35μm,22.0s
SAML Samuel 160.96 210 *e*PKPdf PKPdf 08 14 57.0 +0.3

SAML LR LR
comp=Z,63μm,22.0s
ATAH Atahualpa 164.13 158 PKP **PKPdf 08 15 01.1 +0.7**
ATAH PP **PP 08 19 39.3 +1.2**
ATAH Atahualpa 164.13 158 PKP **PKPdf 08 15 01.1 +0.7**
comp=Z,407nm,1.0s,baz=152,slow=0.7,SNR=117
ATAH PP **PP 08 19 39.3 +1.2**
comp=Z,18nm,0.9s,baz=225,slow=4.3,SNR=2.3
ANWB Willy Bob 165.57 314 *e*P **PKPdf 08 15 01.0 +0.1**
ANWB Willy Bob 165.57 314 *e*PKPdf **PKPdf 08 15 02.1 +1.2**
ANWB LR LR
comp=Z,29μm,22.0s
BBGH Gun Hill 166.11 294 *e*P **PKPdf 08 15 04.7 +3.3**
BBGH Gun Hill 166.11 294 PFAKE 08 15 10.0 +8.5
BBGH LR LR
comp=Z,54μm,22.0s
SEG Port Louis 166.16 310 *e*P **PKPdf 08 15 02.4 +0.9**
GRTK Grand Turk 166.23 354 *e*PKPdf **PKPdf 08 15 02.7 +1.3**
GRTK LR LR
comp=Z,49μm,22.0s
MGG Marie-Galante 166.30 307 *e*P **PKPdf 08 15 02.0 +0.5**
SKI Saint Kitts 166.46 316 *e*P **PKPdf 08 15 01.3 -0.4**
SKI Saint Kitts 166.46 316 *e*P **PKPdf 08 15 02.3 +0.6**
DOG Dongo Capester 166.47 309 *e*P **PKPdf 08 15 02.7 +1.0**
SSG Sans Toucher 166.48 309 *e*P **PKPdf 08 15 02.2 +0.4**
CRG Carmichael 166.49 309 *e*P **PKPdf 08 15 02.4 +0.5**
ECG Echelle 166.49 309 *e*P **PKPdf 08 15 02.5 +0.6**
LKG Breislack 166.49 309 *e*P **PKPdf 08 15 02.3 +0.4**
PHG Guadaloupe-2 166.50 309 *e*P **PKPdf 08 15 02.7 +0.9**
SCG Saint Claude 166.52 309 *e*P **PKPdf 08 15 03.0 +1.2**
HMG Houelmont 166.56 309 *e*P **PKPdf 08 15 03.1 +1.3**
TBG Guadaloupe-3 166.59 308 *e*P **PKPdf 08 15 03.2 +1.4**
DBCT Belle View Cho 166.68 305 *e*P **PKPdf 08 15 02.5 +0.6**
DBCT Belle View Cho 166.68 305 *e* **PKPab 08 16 08.9 +4.2**
MDN Morne-Daniel 166.69 305 *e*P **PKPdf 08 15 04.2 +2.3**
MDN Morne-Daniel 166.69 305 *e* PKPab 08 16 11.3 +6.6
MDN Morne-Daniel 166.69 305 *e* **PP 08 19 55.3 +3.0**
DPMT Pointe Michel 166.71 305 *e*P **PKPdf 08 15 02.6 +0.7**
DPMT Pointe Michel 166.71 305 *e* **PKPab 08 16 09.5 +4.8**
DPMT Pointe Michel 166.71 305 *e* **PP 08 19 57.2 +4.8**
FDF Fort de France 166.80 303 *e*PKIKP **PKPdf 08 15 03.3 +1.2**
FDF Fort de France 166.80 303 *e*P **PKPdf 08 15 02.6 +0.5**
FDF Fort de France 166.80 303 *e*PKPdf **PKPdf 08 15 03.2 +1.2**
STVI Saint Thomas 167.09 326 *e*PKPdf **PKPdf 08 15 02.7 +0.6**
MCLT Moule a Chique 167.11 298 *e*P **PKPdf 08 15 02.9 +0.7**
MCLT Moule a Chique 167.11 298 *e*P **PKPdf 08 15 03.1 +0.9**
CDVI St. Croix 167.46 323 *e*PKPdf **PKPdf 08 15 03.5 +1.1**
JTS JuntasAbangare 167.53 77 *e*PKPdf **PKPdf 08 15 02.4 -0.2**
JTS LR LR
comp=Z,56μm,22.0s
SVB Belmont 167.57 297 *e*P **PKPdf 08 15 01.8 -0.8**
SVB Belmont 167.57 297 *e*P **PKPdf 08 15 02.4 -0.1**
TOSP Speyside 167.60 288 *e*P **PKPdf 08 15 03.2 +0.6**
TOSP Speyside 167.60 288 *e*P **PKPdf 08 15 04.0 +1.4**
MTP Monte Pirata 167.63 327 *e*PKPdf **PKPdf 08 15 03.1 +0.6**
GTBY Guantanamo Bay 167.64 11 *e*PKPdf **PKPdf 08 15 02.8 +0.3**
GTBY LR LR
comp=Z,41μm,22.0s
CBYP Canovanas 167.65 329 *e*PKPdf **PKPdf 08 15 02.9 +0.3**
TPR Prospect 167.85 287 *e*P **PKPdf 08 15 06.3 +3.5**
TPR Prospect 167.85 287 *e* **PP 08 20 02.5 +3.6**
SJG San Juan 167.93 329 *e*PKPdf **PKPdf 08 15 03.1 +0.4**
SJG LR LR
comp=Z,43μm,22.0s
AGPR Aguadilla, PR 168.07 334 *e*PKPdf **PKPdf 08 15 03.4 +0.6**
LRS Lares 168.11 333 *e*PKPdf **PKPdf 08 15 03.4 +0.5**
CELP Cerrillos 168.17 331 *e*PKPdf **PKPdf 08 15 03.5 +0.6**
OBIP Obispado Ponce 168.21 331 *e*PKPdf **PKPdf 08 15 03.3 +0.4**
GRSS Sisters 168.28 294 *e*P **PKPdf 08 15 04.4 +1.4**
GRSS Sisters 168.28 294 *e* **PP 08 20 03.0 +2.1**
TBH Brigand Hill 168.30 284 *e*P **PKPdf 08 15 07.4 +4.3**
TBH Brigand Hill 168.30 284 *e* **PP 08 20 05.3 +4.1**
LSP Las Mesas 168.32 333 *e*PKPdf **PKPdf 08 15 03.1 +0.1**
GRHS Sauteurs 168.33 293 *e* PP 08 19 50.5 -11
GRW Mount Saint Ca 168.37 293 *e*P **PKPdf 08 15 03.0 -0.2**
GRW Mount Saint Ca 168.37 293 *e* **PP 08 20 03.6 +2.1**
GRGR Grenville 168.38 293 *e*P **PKPdf 08 15 02.7 -0.5**
GRGR Grenville 168.38 293 *e*PKPdf **PKPdf 08 15 02.6 -0.5**
GRGR LR LR
comp=Z,31μm,22.0s
CRPR Cabo Rojo, PR 168.48 333 *e*PKPdf **PKPdf 08 15 04.0 +0.9**
MTDJ Mount Denham 168.51 24 *e*PKPdf **PKPdf 08 15 03.9 +0.6**
MTDJ LR LR
comp=Z,56μm,22.0s
TRN Trinidad (W) 168.58 286 *e*P **PKPdf 08 15 04.7 +1.4**
TRN Trinidad (W) 168.58 286 *e* **PP 08 20 05.9 +3.2**
TPP Pointe-a-Pierr 168.70 284 *e*P **PKPdf 08 15 05.9 +2.5**
TPP Pointe-a-Pierr 168.70 284 *e* **PP 08 20 07.7 +4.4**
SDDR Presa de Saban 168.75 354 *e*PKPdf **PKPdf 08 15 04.5 +1.2**
SDDR LR LR
comp=Z,41μm,21.0s
SIPA Siparia 168.79 283 *e*P **PKPdf 08 15 07.8 +4.3**
ALNG Atlantic LNG 168.96 284 *e*P **PKPdf 08 15 06.4 +2.9**
ALNG Atlantic LNG 168.96 284 *e* **PKPab 08 16 19.0 +4.1**
BUAY Buenos Aires 168.97 283 *e*P **PKPdf 08 15 08.1 +4.5**
BUAY Buenos Aires 168.97 283 *e* **PKPab 08 16 18.1 +3.1**
OTAV Otavalo 170.53 142 *e*PKPdf **PKPdf 08 15 05.6 +0.5**
OTAV LR LR
comp=Z,45μm,22.0s
BCIP Isla Barro Col 172.69 78 *e*PKPdf **PKPdf 08 15 05.4 -0.1**
BCIP LR LR
comp=Z,37μm,20.0s
ROSC El Rosal 176.66 149 PKP **PKPdf 08 15 07.5 +0.2**
ROSC *e*PKPdf PKPdf 08 15 07.8 +0.6
ROSC PP **PP 08 20 42.6 +1.6**
ROSC El Rosal 176.66 149 PKP **PKPdf 08 15 07.5 +0.2**
comp=Z,157nm,1.0s,baz=142,slow=0.7,SNR=118
ROSC PP **PP 08 20 42.6 +1.6**
comp=Z,22nm,1.0s,baz=51,slow=4.1,SNR=2.9
SDV Santo Domingo 177.75 301 *e*PKPdf **PKPdf 08 15 06.6 -0.6**
SDV LR LR
comp=Z,3μm,19.0s

AUST ***02*** *08:02:14.9,8°.37S×107°.38E, h0km*
ISCJB ***02*** *08:02:20.7±0.3,7°.80S±0°.05×107°.40E±0°.05, h62km, mb5.2/38, Error ellipse: s-maj=8.6km s-min=5.9km az=135.4*
NEIC ***02*** *08:02:21.2±1.4,7°.82S×107°.39E, h52km±12km, mb5.5/3, Error ellipse: s-maj=11.1km s-min=6.6km az=52.0*
IDC ***02*** *08:02:21.7±0.7,7°.80S×107°.40E, h55km±6km, mb4.8/31, mb1 4.9/31, mb1mx4.8/36, mbtmp4.8/31, Error ellipse: s-maj=15.4km s-min=11.2km az=67.0*
ISC 02 08:02:22.3±0.3,7°.85S±0°.06×107°.39E±0°.06,h62km,n151,
σ1 09/150,mb5.1/38,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.51**	**55**	S	**Sn**	**08 02 45.2**	**+1.6**
	baz=0.9,SNR=9.9						
XMIS	**Christmas Isla**	**3.13**	**213**	S	Sn	08 03 33.0	-12
	baz=2.7,SNR=6.2						
PPI	**Padang Panjang**	**10.13**	**316**	P	**Pn**	**08 04 45.9**	**+0.8**
	baz=10,SNR=9.1						
KAPI	**Kappang**	**12.60**	**78**	Pn	**Pn**	**08 05 19.1**	**+0.3**
KULM	**Kulim**	**14.69**	**333**	Pn	**Pn**	**08 05 45.0**	**-1.7**
LUWI	**Luwuk**	**16.75**	**67**	P	**Pn**	**08 06 10.9**	**-2.1**
	baz=17,SNR=4.6						
SOEI	**Soe**	**16.78**	**98**	S	**S**	**08 09 28.1**	**+1.0**
	baz=17,SNR=6.0						
MBWA	**Marble Bar**	**17.81**	**139**	Pn	**P**	**08 06 25.2**	**-0.8**
FITZ	**Fitzroy Crossi**	**20.47**	**122**	P	**P**	**08 06 55.0**	**-0.1**
FITZ	**Fitzroy Crossi**	**20.47**	**122**	P	**P**	**08 06 55.0**	**-0.1**
	212nm,0.8s,baz=303,slow=13,SNR=2.8						
AAI	**Ambon**	**21.10**	**80**	P	**P**	**08 07 03.1**	**+1.1**
	baz=21,SNR=6.2						
MEEK	**Meekatharra**	**21.51**	**152**	S	S	08 10 54.1	-7.4
	baz=21,SNR=4.8						
MORW	**Morawa**	**22.62**	**160**	S	**S**	**08 11 17.7**	**-4.0**
	baz=22,SNR=3.5						
CMAR	**Chiang Mai Arr**	**27.44**	**342**	P	**P**	**08 08 00.6**	**-1.9**
CMAR	**Chiang Mai Arr**	**27.44**	**342**	P	**P**	**08 08 00.6**	**-1.9**
	24nm,0.8s,baz=180,slow=6.0,SNR=3.7						
CHTO	**Chiang Mai**	**27.78**	**343**	*e*P	**P**	**08 08 04.0**	**-1.5**
	184nm,1.4s						
WRAB	**Tennant Creek**	**28.74**	**117**	*e*P	**P**	**08 08 12.2**	**-2.0**
PMG	**Port Moresby**	**39.33**	**95**	P	**P**	**08 09 47.1**	**+1.2**
PMG	**Port Moresby**	**39.33**	**95**	P	**P**	**08 09 47.1**	**+1.2**
	35nm,0.8s,baz=270,slow=12,SNR=2.7						
STKA	**Stephens Creek**	**39.78**	**132**	*e*P	**P**	**08 09 49.2**	**-0.2**
	29nm,0.7s						
STKA				P	**P**	**08 09 49.5**	**0.0**
STKA	**Stephens Creek**	**39.78**	**132**	P	**P**	**08 09 49.5**	**0.0**
	160nm,0.7s,baz=303,slow=8.7,SNR=21						
YNG	**Young**	**45.96**	**131**	P	**P**	**08 10 40.7**	**+1.2**
	baz=46,SNR=11						
KSAR	**Wonju Array Be**	**48.97**	**22**	P	**P**	**08 11 03.8**	**+1.3**
KSRS	**Korea Array**	**48.99**	**22**	P	**P**	**08 11 03.8**	**+1.1**
	2.3nm,0.6s,baz=209,slow=7.4,SNR=4.8						
MJAR	**Matsushiro Arr**	**52.79**	**31**	PcP	**PcP**	**08 12 39.6**	**-0.5**
MJAR	**Matsushiro Arr**	**52.79**	**31**	PcP	**PcP**	**08 12 39.6**	**-0.5**
	4.9nm,1.0s,baz=187,slow=4.2,SNR=4.0						
SONM	**Songino Array**	**55.45**	**359**	P	**P**	**08 11 50.2**	**-0.4**
SONM				PcP	**PcP**	**08 12 50.1**	**-0.1**
SONM				ScP	**ScP**	**08 16 44.3**	**+0.4**
SONM	**Songino Array**	**55.45**	**359**	P	**P**	**08 11 50.2**	**-0.4**
	3.5nm,0.6s,baz=174,slow=8.8,SNR=5.0						
SONM				PcP	**PcP**	**08 12 50.1**	**-0.1**
	11nm,0.6s,baz=193,slow=3.8,SNR=5.6						
SONM				ScP	**ScP**	**08 16 44.3**	**+0.4**
	4.5nm,0.7s,baz=199,slow=3.1,SNR=4.1						
USRK	**Ussuriysk Arra**	**56.38**	**21**	P	**P**	**08 11 56.8**	**-0.4**
	2.5nm,0.5s,baz=181,slow=6.5,SNR=4.6						
DZM	**Mont Dzumac**	**58.44**	**111**	P	**P**	**08 12 13.4**	**+1.0**
DZM	**Mont Dzumac**	**58.44**	**111**	P	**P**	**08 12 13.4**	**+1.0**
	7.5nm,0.8s,baz=143,slow=20,SNR=3.1						
MKAR	**Makanchi Array**	**58.81**	**340**	P	**P**	**08 12 12.4**	**-1.9**
MKAR	**Makanchi Array**	**58.81**	**340**	P	**P**	**08 12 12.4**	**-1.9**
	14nm,0.7s,baz=153,slow=7.8,SNR=9.4						
OPO	**Ambohidratompo**	**59.34**	**253**	P	**P**	**08 12 18.3**	**-0.4**
OPO	**Ambohidratompo**	**59.34**	**253**	P	**P**	**08 12 18.3**	**-0.4**
	10nm,0.6s,baz=104,slow=6.8,SNR=7.1						
MCQ	**Macquarie Isla**	**62.00**	**149**	P	**P**	**08 12 35.0**	**-0.9**
	baz=62,SNR=4.5						
KURBB	**Kurchatov Arra**	**63.38**	**340**	P	**P**	**08 12 45.0**	**-0.1**
	4.3nm,0.5s,baz=160,slow=5.8,SNR=7.2						
KURK	**Kurchatov**	**63.43**	**340**	P	**P**	**08 12 45.0**	**-0.4**
ZALV	**Zalesovo Beam**	**64.45**	**345**	P	**P**	**08 12 50.3**	**-1.8**
ZALV	**Zalesovo Beam**	**64.45**	**345**	P	**P**	**08 12 50.3**	**-1.8**
	5.3nm,0.4s,baz=146,slow=5.3,SNR=8.2						
MAW	**Mawson**	**66.67**	**197**	P	**P**	**08 13 06.0**	**-0.2**
MAW	**Mawson**	**66.67**	**197**	P	**P**	**08 13 06.0**	**-0.2**
	51nm,0.6s,baz=38,slow=7.0,SNR=20						
MAW	**Mawson**	**66.67**	**197**	P	**P**	**08 13 06.7**	**+0.5**
	baz=66,SNR=10						
QRN	**Al-Qurain**	**67.86**	**305**	*e*P	**P**	**08 13 14.0**	**-0.4**
QRN				AMb	AMB	08 13 16.9	
	comp=Z,213nm,0.6s						
RDF	**Al-Radifah**	**68.22**	**305**	*e*P	**P**	**08 13 16.6**	**-0.1**
RDF				AMb	AMB	08 13 19.4	
	comp=Z,157nm,1.2s						
BVAR	**Borovoye Array**	**68.30**	**337**	P	**P**	**08 13 16.7**	**0.0**
BVAR				pP	**pP**	**08 13 31.7**	**-1.8**
BVAR	**Borovoye Array**	**68.30**	**337**	P	**P**	**08 13 16.7**	**0.0**
	comp=Z,5.3nm,0.3s,baz=128,slow=7.7,SNR=27						
BVAR				pP	**pP**	**08 13 31.7**	**-1.8**
	comp=Z,16nm,0.6s,baz=141,slow=8.2,SNR=3.6						
UMR	**Umm Al-Rimmam**	**68.33**	**306**	*e*P	**P**	**08 13 17.2**	**-0.2**
UMR				AMb	AMB	08 13 20.0	
	comp=Z,192nm,0.6s						
NAY	**Al-Naaiem**	**68.59**	**305**	*e*P	**P**	**08 13 18.4**	**-0.7**
NAY				AMb	AMB	08 13 21.5	
	comp=Z,4.2nm,0.7s						
MIB	**Mutribah**	**68.73**	**306**	*e*P	**P**	**08 13 19.4**	**-0.5**
MIB				AMb	AMB	08 13 22.1	
	comp=Z,181nm,0.8s						
RST	**Umm Al-Ruwaisa**	**68.89**	**306**	*e*P	**P**	**08 13 19.9**	**-0.9**
RST				AMb	AMB	08 13 23.2	
	comp=Z,2μm,0.7s						
KMBO	**Kilima Mbogo**	**70.17**	**272**	P	**P**	**08 13 30.2**	**+0.8**
KMBO	**Kilima Mbogo**	**70.17**	**272**	P	**P**	**08 13 30.2**	**+0.8**
	comp=Z,7.8nm,0.7s,baz=46,slow=11,SNR=6.5						
AKTO	**Aktyubinsk**	**72.05**	**329**	P	**P**	**08 13 39.5**	**-0.2**
AKTO	**Aktyubinsk**	**72.05**	**329**	P	**P**	**08 13 39.5**	**-0.2**
	comp=Z,14nm,0.8s,baz=114,slow=10,SNR=11						
PETK	**Petropavlovsk-**	**74.14**	**29**	P	**P**	**08 13 52.2**	**+0.2**
PETK	**Petropavlovsk-**	**74.14**	**29**	P	**P**	**08 13 52.2**	**+0.2**
	comp=Z,4.6nm,0.6s,baz=192,slow=4.4,SNR=4.2						
VNDA	**Vanda**	**75.06**	**169**	P	**P**	**08 13 56.8**	**-0.2**
VNDA	**Vanda**	**75.06**	**169**	P	**P**	**08 13 56.8**	**-0.2**
	comp=Z,12nm,0.9s,baz=307,slow=9.1,SNR=4.0						
KBZ	**Khabaz**	**77.54**	**318**	P	**P**	**08 14 13.5**	**+2.0**
KBZ	**Khabaz**	**77.54**	**318**	P	**P**	**08 14 13.5**	**+2.0**
	comp=Z,18nm,0.8s,baz=136,slow=3.5,SNR=4.6						
ASF	**Jabal al Asfar**	**77.96**	**305**	P	**P**	**08 14 15.4**	**+1.0**
ASF	**Jabal al Asfar**	**77.96**	**305**	P	**P**	**08 14 15.4**	**+1.0**
	comp=Z,24nm,0.9s,baz=58,slow=4.6,SNR=8.7						
EIL	**Elat**	**78.86**	**302**	P	**P**	**08 14 19.9**	**+0.7**
EIL	**Elat**	**78.86**	**302**	P	**P**	**08 14 19.9**	**+0.7**
	comp=Z,19nm,0.8s,baz=43,slow=6.6,SNR=3.4						
BOSA	**Boshof**	**79.41**	**242**	P	**P**	**08 14 22.7**	**+0.2**
BOSA	**Boshof**	**79.41**	**242**	P	**P**	**08 14 22.7**	**+0.2**
	comp=Z,16nm,0.7s,baz=111,slow=6.8,SNR=7.4						
MMAI	**Mount Meron Ar**	**79.41**	**306**	P	**P**	**08 14 23.8**	**+1.6**
MMAI	**Mount Meron Ar**	**79.41**	**306**	P	**P**	**08 14 23.8**	**+1.6**
	comp=Z,13nm,0.6s,baz=93,slow=7.6,SNR=9.1						
CSS	**Prodhromos**	**81.60**	**307**	*e*P	**P**	**08 14 33.5**	**-0.4**
	comp=Z,39nm,0.7s						
QSPA	**South Pole Qui**	**82.14**	**180**	P	**P**	**08 14 36.1**	**-0.2**
QSPA	**South Pole Qui**	**82.14**	**180**	P	**P**	**08 14 36.1**	**-0.2**
	comp=Z,36nm,0.9s,baz=289,slow=13,SNR=5.2						
BRTR	**Keskin Array B**	**82.68**	**312**	P	**P**	**08 14 38.5**	**-1.1**
BRTR	**Keskin Array B**	**82.68**	**312**	P	**P**	**08 14 38.5**	**-1.1**
	comp=Z,8.4nm,0.6s,baz=137,slow=7.4,SNR=10						
IDI	**Anoyia**	**88.41**	**306**	P	**P**	**08 15 09.2**	**+1.1**
IDI	**Anoyia**	**88.41**	**306**	P	**P**	**08 15 09.2**	**+1.1**
	comp=Z,8.2nm,0.7s,baz=37,slow=20,SNR=3.3						
AKASG	**Malin Array Be**	**88.60**	**321**	P	**P**	**08 15 08.8**	**+0.3**
AKASG				pP	**pP**	**08 15 24.1**	**-1.8**
AKASG	**Malin Array Be**	**88.60**	**321**	P	**P**	**08 15 08.8**	**+0.3**
	comp=Z,3.6nm,0.5s,baz=82,slow=5.0,SNR=5.2						
AKASG				pP	**pP**	**08 15 24.1**	**-1.8**
	comp=Z,19nm,0.9s,baz=81,slow=5.0,SNR=4.6						
SNAA	**Sanae**	**88.83**	**197**	*e*P	**P**	**08 15 10.4**	**+1.1**
SNAA	**Sanae**	**88.83**	**197**	*e*I	pP	08 15 28.3	+1.5
MLR	**Muntele Rosu**	**89.59**	**316**	P	**P**	**08 15 14.1**	**+0.6**
MLR	**Muntele Rosu**	**89.59**	**316**	P	**P**	**08 15 14.1**	**+0.6**
	comp=Z,3.6nm,0.8s,baz=5.7,slow=10,SNR=4.6						
VNA2	**Neumayer--Watz**	**90.48**	**197**	*e*P	**P**	**08 15 18.3**	**+1.3**
VNA2	**Neumayer--Watz**	**90.48**	**197**	*e*I	pP	08 15 36.7	+2.3
VNA1	**Neumayer--Stat**	**90.86**	**197**	*e*P	**P**	**08 15 20.1**	**+1.4**
VNA1	**Neumayer--Stat**	**90.86**	**197**	*e*I	pP	08 15 38.6	+2.4
FINES	**FINESS Array B**	**92.70**	**332**	P	**P**	**08 15 27.9**	**+0.6**
FINES	**FINESS Array B**	**92.70**	**332**	P	**P**	**08 15 27.9**	**+0.6**
	comp=Z,4.7nm,0.6s,baz=119,slow=4.9,SNR=2.7						
ARCES	**ARCESS Array B**	**94.47**	**340**	P	**P**	**08 15 36.0**	**+0.7**
ARCES	**ARCESS Array B**	**94.47**	**340**	P	**P**	**08 15 36.0**	**+0.7**
	comp=Z,2.9nm,0.6s,baz=103,slow=6.7,SNR=3.0						
SPITS	**Spitsbergen Ar**	**97.84**	**348**	P	**P**	**08 15 50.2**	**-0.3**
SPITS	**Spitsbergen Ar**	**97.84**	**348**	P	**P**	**08 15 50.2**	**-0.3**
	comp=Z,11nm,0.8s,baz=120,slow=8.5,SNR=3.7						
TORD	**Torodi Ar. Bea**	**106.97**	**281**	PKiKP	**PKiKP**	**08 20 40.4**	**-1.7**
TORD	**Torodi Ar. Bea**	**106.97**	**281**	PKiKP	**PKiKP**	**08 20 40.4**	**-1.7**
	comp=Z,3.0nm,0.8s,baz=31,slow=1.2,SNR=2.9						
INK	**Inuvik**	**107.76**	**20**	PKKPbc	PKKPbc	08 31 55.2	-3.5
INK				PKKP	**PKKPdf**	**08 32 14.6**	**+2.7**
INK	**Inuvik**	**107.76**	**20**	PKKPbc	PKKPbc	08 31 55.2	-3.5
	comp=Z,4.0nm,1.1s,baz=286,slow=11,SNR=3.6						
INK				PKKP	**PKKPdf**	**08 32 14.6**	**+2.7**
	comp=Z,0.9nm,0.7s,baz=27,slow=4.5,SNR=3.0						
USHA	**Ushuaia**	**117.45**	**183**	PKP	**PKPdf**	**08 21 01.3**	**+0.4**
USHA	**Ushuaia**	**117.45**	**183**	PKP	**PKPdf**	**08 21 01.3**	**+0.4**
	comp=Z,9.0nm,1.0s,baz=90,slow=1.0,SNR=3.4						
YKA	**Yellowknife Ar**	**117.52**	**21**	PKP	**PKPdf**	**08 21 00.8**	**0.0**
YKA				pPKP	**pPKPdf**	**08 21 17.7**	**-1.2**
YKA				PKKPbc	**PKKPbc**	**08 31 23.1**	**-2.8**
YKA	**Yellowknife Ar**	**117.52**	**21**	PKP	**PKPdf**	**08 21 00.8**	**0.0**
	comp=Z,2.4nm,0.6s,baz=343,slow=1.7,SNR=8.1						
YKA				pPKP	**pPKPdf**	**08 21 17.7**	**-1.2**
	comp=Z,5.3nm,0.7s,baz=332,slow=1.9,SNR=8.7						
YKA				PKKPbc	**PKKPbc**	**08 31 23.0**	**-2.8**
	comp=Z,1.4nm,0.6s,baz=123,slow=3.9,SNR=5.4						
SCHQ	**Schefferville**	**132.92**	**355**	PKP	**PKPdf**	**08 21 31.0**	**+0.5**
SCHQ	**Schefferville**	**132.92**	**355**	PKP	**PKPdf**	**08 21 31.0**	**+0.5**
	comp=Z,10nm,0.7s,baz=257,slow=14,SNR=3.8						
CPUP	**Villa Florida**	**142.92**	**203**	PKPpre	PKPpre	08 21 46.5	
CPUP	**Villa Florida**	**142.92**	**203**	PKhKP	PKPpre	08 21 46.5	
	comp=Z,5.1nm,0.5s,baz=82,slow=2.5,SNR=7.5						
X31A	**McDonald Ranch**	**143.35**	**39**	P	PKPbc	08 21 48.8	+1.3
	baz=143						
328A	**Wristen Ranch,**	**143.38**	**46**	P	PKPbc	08 21 49.0	+1.3
	baz=143						
Z30A	**Sanderson Ranc**	**143.44**	**42**	P	**PKPdf**	**08 21 49.4**	**-1.2**
	baz=143						
Y31A	**Rekieta Farm,**	**143.59**	**41**	P	PKPbc	08 21 49.4	+1.2
	baz=144						
229A	**Bryant Ranch,**	**143.76**	**45**	P	PKPbc	08 21 49.7	+0.8
	baz=144						
TXAR	**Lajitas Array**	**143.82**	**50**	PKP	PKPbc	08 21 50.1	+1.0
TXAR				pPKP	pPKPdf	08 22 07.7	-1.8
TXAR	**Lajitas Array**	**143.82**	**50**	PKP	PKPbc	08 21 50.1	+1.0
	comp=Z,3.4nm,0.5s,baz=256,slow=3.3,SNR=8.4						
TXAR				pPKP	pPKPdf	08 22 07.7	-1.8
	comp=Z,5.9nm,0.6s,baz=227,slow=1.1,SNR=3.4						
329A	**Wagon Wheel Ra**	**143.91**	**45**	P	**PKPdf**	**08 21 50.5**	**-0.9**
	baz=144						
130A	**Snyder**	**143.97**	**43**	P	**PKPdf**	**08 21 50.8**	**-0.7**
	baz=144						
Z31A	**Sharp Cattle R**	**144.07**	**41**	P	PKPbc	08 21 50.6	+0.9
	baz=144						
Y32A	**R-V Farms, Ver**	**144.09**	**40**	P	PKPbc	08 21 50.6	+0.9
	baz=144						
230A	**Sterling City**	**144.29**	**44**	P	**PKPdf**	**08 21 51.6**	**-0.5**
	baz=144						
131A	**Roby**	**144.31**	**42**	P	PKPbc	08 21 51.1	+0.7
	baz=144						
628A	**Black Gap, Mar**	**144.33**	**49**	P	**PKPdf**	**08 21 51.4**	**-0.8**
	baz=144						
429A	**Davenport Ranc**	**144.46**	**46**	P	**PKPdf**	**08 21 52.0**	**-0.4**
	baz=144						
Z32A	**Haskell**	**144.51**	**41**	P	**PKPdf**	**08 21 52.1**	**-0.3**
	baz=144						
330A	**Mertzon**	**144.52**	**45**	P	**PKPdf**	**08 21 52.5**	**0.0**
	baz=144						
231A	**Bronte**	**144.81**	**43**	P	**PKPdf**	**08 21 53.0**	**0.0**
	baz=145						
ABTX	**Abilene, Hawle**	**144.84**	**42**	*e*PKPdf	**PKPdf**	**08 21 53.2**	**+0.3**
ABTX	**Abilene, Hawle**	**144.84**	**42**	P	**PKPdf**	**08 21 52.7**	**-0.2**
	baz=145						
TUL1	**Tulsa**	**144.94**	**34**	P	**PKPdf**	**08 21 52.8**	**-0.2**
	baz=145						
331A	**San Angelo**	**145.10**	**44**	P	**PKPdf**	**08 21 53.9**	**+0.4**
	baz=145						
530A	**J-C Ranch, Com**	**145.12**	**47**	P	**PKPdf**	**08 21 54.6**	**+1.0**
	baz=145						
SFIN	**Scholer Farm**	**145.12**	**20**	P	**PKPdf**	**08 21 53.1**	**-0.1**
	baz=145						
232A	**Coleman**	**145.29**	**43**	P	**PKPdf**	**08 21 54.7**	**+1.0**
	baz=145						
431A	**Sonora**	**145.34**	**45**	P	**PKPab**	**08 21 54.8**	**+0.8**
	baz=145						
332A	**Millersview**	**145.53**	**44**	P	**PKPab**	**08 21 55.6**	**+0.9**
	baz=145						
531A	**Rocksprings**	**145.68**	**46**	P	**PKPab**	**08 21 55.8**	**+0.6**
	baz=146						
432A	**Menard**	**145.79**	**44**	P	**PKPab**	**08 21 56.1**	**+0.5**
	baz=146						
JCT	**Junction City**	**146.02**	**45**	*e*PKPdf	**PKPab**	**08 21 56.3**	**-0.2**
JCT	**Junction City**	**146.02**	**45**	P	**PKPab**	**08 21 56.9**	**+0.3**
	baz=146						
BDFB	**Brasilia**	**146.26**	**226**	PKPbc	**PKPab**	**08 21 58.0**	**+0.1**
BDFB	**Brasilia**	**146.26**	**226**	PKPbc	**PKPab**	**08 21 58.0**	**+0.1**
	comp=Z,30nm,0.6s,baz=88,slow=1.2,SNR=10						
WHTX	**Lake Whitney**	**146.66**	**41**	*e*PKPbc	**PKPbc**	**08 21 57.7**	**0.0**
732A	**Laxson Ranch,**	**146.89**	**48**	P	**PKPab**	**08 21 59.8**	**-0.1**
	baz=147						
MIAR	**Mount Ida**	**147.17**	**33**	*e*PKPbc	**PKPbc**	**08 21 59.3**	**+0.3**
PARMO	**Parma**	**147.34**	**26**	*e*PKPbc	**PKPbc**	**08 21 59.5**	**+0.1**
SWET	**Sewanee**	**150.15**	**22**	*e*PKPbc	**PKPbc**	**08 22 06.5**	**-0.3**
TKL	**Tuckaleechee C**	**150.49**	**19**	PKPbc	**PKPbc**	**08 22 07.0**	**-0.5**
TKL	**Tuckaleechee C**	**150.49**	**19**	PKPbc	**PKPbc**	**08 22 07.0**	**-0.5**
	comp=Z,35nm,0.6s,baz=114,slow=3.7,SNR=8.8						
KMSC	**Kings Mountain**	**151.68**	**15**	P	**PKPbc**	**08 22 08.8**	**-1.5**
	baz=152						
**SI

AUST ***02*** *08:07:43.8±1.0, 8°12S×107°26E, h31km, Error ellipse: s-maj=0.8km s-min=0.7km az=337.0*
NEIC ***02*** *08:07:44.6±0.9, 7°77S×107°45E, h54km±7km, mb5.3/2, Error ellipse: s-maj=8.9km s-min=7.3km az=47.0*
IDC ***02*** *08:07:44.7±0.7, 7°74S×107°45E, h52km±5km, mb4.6/32, mb1 4.7/33, mb1mx4.7/36, mbtmp4.6/33, Error ellipse: s-maj=12.2km s-min=9.9km az=67.0*
ISCJB ***02*** *08:07:46.3±0.4, 7°73S±0°06×107°45E±0°03, h83km±3km, mb4.9/35, Error ellipse: s-maj=10.2km s-min=3.5km az=23.1*
DJA ***02*** *08:07:46.6±0.6, 8°S±3°×10°7E±°, h40km±5km, M6.1/23, mb6.4/11, MLv6.0/23*
ISC 02 08:07:45.3±0.5,**7°87S**±0°06×**107°42E**±0°04,**h59**km±4km,
n212,σ1$**26**/217,**mb4.9**/35,**1D**,**Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.50**	**52**	P	**Pn**	**08 07 58.5**	**+1.2**
CISI				S	**Sn**	**08 08 08.7**	**+2.6**
CISI	**Cisompet, Garu**	**0.50**	**52**	P	**Pn**	**08 07 58.9**	**+1.6**
	baz=0.8,SNR=328						
CISI				S	**Sn**	**08 08 08.7**	**+2.6**
	baz=0.8,SNR=912						
SKJI	**Sukabumi**	**1.21**	**315**	P	**Pn**	**08 08 06.0**	**-0.1**
SKJI				S	**Sn**	**08 08 23.3**	**+1.7**
DBJI	**Dramaga**	**1.46**	**333**	P	**Pn**	**08 08 11.9**	**+2.4**
DBJI				S	**Sn**	**08 08 33.2**	**+5.5**
CLJI	**Cilicap**	**1.59**	**85**	P	Pn	08 08 15.2	+4.0
CLJI				S	Sn	08 08 37.9	+7.1
TNG	**Tangerang**	**1.85**	**336**	P	Pn	08 08 18.2	+3.5
TGJI	**Tegal**	**1.96**	**60**	P	Pn	08 08 20.1	+3.9
TGJI				S	Sn	08 08 46.8	+7.0
BJII	**Banjamegara**	**2.34**	**77**	P	**Pn**	**08 08 23.8**	**+2.4**
BJII				S	Sn	08 08 56.7	+7.7
YOGI	**Yogyakarta**	**2.85**	**89**	P	**Pn**	**08 08 29.5**	**+1.1**
YOGI				S	**Sn**	**08 09 03.8**	**+2.2**
UGM	**Wanagama**	**3.08**	**91**	P	**Pn**	**08 08 32.9**	**+1.3**
UGM				S	**Sn**	**08 09 08.3**	**+1.1**
UGM	**Wanagama**	**3.08**	**91**	P	**Pn**	**08 08 32.8**	**+1.3**
	baz=3.2,SNR=36						
XMI	**Christmas Isla**	**3.08**	**213**	P	Pn	08 08 26.8	-4.7
	baz=2.8,SNR=13						
XMI				S	Sn	08 08 56.3	-11
	baz=2.8,SNR=10						
XMIS	**Christmas Isla**	**3.12**	**214**	P	Pn	08 08 27.2	-5.0
	baz=2.8,SNR=6.2						
XMIS				S	Sn	08 08 56.6	-12
	baz=2.8,SNR=13						
BLSI	**Bandar Lampung**	**3.29**	**319**	P	**Pn**	**08 08 35.8**	**+1.4**
WOJI	**Wonogiri, Jawa**	**3.48**	**90**	P	**Pn**	**08 08 38.2**	**+1.3**
WOJI				S	**Sn**	**08 09 18.1**	**+1.2**
PCJI	**Pacitan**	**3.74**	**95**	P	**Pn**	**08 08 42.2**	**+1.7**
PCJI				S	**Sn**	**08 09 23.9**	**+0.6**
KLI	**Kotabumi**	**3.92**	**319**	P	Pn	08 08 46.4	+3.4
SJI	**Sawahan**	**4.31**	**89**	P	**Pn**	**08 08 51.6**	**+3.1**
PWJI	**Pagerwojo**	**4.35**	**92**	P	Pn	08 08 52.4	+3.5
LWLI	**Liwa**	**4.38**	**310**	P	**Pn**	**08 08 51.5**	**+2.1**
LWLI				S	**Sn**	**08 09 40.2**	**+1.0**
KRKI	**Karangkates**	**5.00**	**94**	P	Pn	08 09 03.1	+5.3
	4μm,1.0s,32nm						
PMBI	**Palembang**	**5.57**	**332**	P	Pn	08 09 12.0	+6.4
	5μm,1.1s,23nm						
MNAI	**Manna**	**5.64**	**308**	P	**Pn**	**08 09 08.5**	**+1.9**
	baz=5.7,SNR=13						
EGSI	**Enggano, Bengk**	**5.68**	**296**	P	**Pn**	**08 09 07.9**	**+0.7**
	13μm,1.4s,62nm						
PPBI	**Pangkal Pinang**	**5.81**	**347**	P	Pn	08 09 22.9	+14
BLJI	**Banyuglugur**	**6.12**	**89**	P	Pn	08 09 21.9	+8.7
KSI	**Kapahiang**	**6.37**	**311**	P	Pn	08 09 22.5	+5.9
	4μm,0.8s,16nm						
IGBI	**Denpasar**	**7.71**	**98**	P	Pn	08 09 39.9	+5.0
	5μm,0.7s,19nm						
SRBI	**Singaraja**	**7.73**	**92**	P	Pn	08 09 48.6	+13
RGRI	**Rengat**	**9.03**	**326**	P	**Pn**	**08 09 51.8**	**-1.2**
	2μm,1.0s						
PPI	**Padang Panjang**	**10.16**	**316**	P	**Pn**	**08 10 09.4**	**+1.0**
	baz=10,SNR=10						
BKNI	**Bangkinang**	**10.33**	**322**	P	**Pn**	**08 10 11.1**	**+0.3**
	baz=10,SNR=3.6						
KAPI	**Kappang**	**12.58**	**78**	P	**Pn**	**08 10 39.6**	**-2.0**
KAPI	**Kappang**	**12.58**	**78**	P	**Pn**	**08 10 39.6**	**-2.0**
	1.6nm,0.3s,baz=258,slow=17,SNR=4.2						
BKSI	**Bulukumba**	**12.87**	**79**	P	P	08 10 50.4	-4.0
	4μm,0.9s						
SPSI	**Sidrap Palu**	**12.88**	**73**	P	**Pn**	**08 10 47.3**	**+1.6**
	2μm,2.0s						
SNSI	**Sinabang, Aceh**	**15.05**	**312**	P	P	08 11 27.9	+9.2
SOEI	**Soe**	**16.76**	**98**	P	**P**	**08 11 39.2**	**+1.5**
	baz=17,SNR=5.7						
SOEI				S	**Sn**	**08 14 38.7**	**-3.2**
	baz=17,SNR=5.1						
FITZ	**Fitzroy Crossi**	**20.44**	**122**	P	**P**	**08 12 18.9**	**+0.9**
FITZ	**Fitzroy Crossi**	**20.44**	**122**	P	**P**	**08 12 18.9**	**+0.9**
	61nm,0.9s,baz=304,slow=11,SNR=3.0						
AAI	**Ambon**	**21.08**	**80**	P	**P**	**08 12 27.1**	**+2.2**
	baz=21,SNR=4.6						
MEEK	**Meekatharra**	**21.48**	**152**	S	**S**	**08 16 18.8**	**-5.6**
	baz=21,SNR=4.1						
MORW	**Morawa**	**22.60**	**160**	S	**S**	**08 16 47.5**	**+2.9**
	baz=22,SNR=4.2						
MTN	**Manton Dam**	**23.84**	**104**	P	P	08 13 03.9	+11
	baz=24,SNR=3.8						
KDU	**Kakadu**	**25.11**	**103**	P	**P**	**08 13 04.6**	**-0.1**
	baz=25,SNR=4.5						
CMAR	**Chiang Mai Arr**	**27.46**	**342**	P	**P**	**08 13 23.8**	**-2.1**
CMAR				ScP	**ScP**	**08 20 20.4**	**+1.3**
CMAR	**Chiang Mai Arr**	**27.46**	**342**	P	**P**	**08 13 23.8**	**-2.1**
	3.6nm,0.4s,baz=176,slow=8.8,SNR=10						
CMAR				ScP	**ScP**	**08 20 20.4**	**+1.3**
	2.9nm,0.7s,baz=206,slow=3.1,SNR=6.0						
WRA	**Warramunga Arr**	**28.70**	**118**	P	**P**	**08 13 36.9**	**-0.2**
WRA	**Warramunga Arr**	**28.70**	**118**	P	**P**	**08 13 36.9**	**-0.2**
	9.7nm,0.6s,baz=290,slow=10.0,SNR=7.5						
ASAR	**Alice Springs**	**29.85**	**125**	P	**P**	**08 13 48.0**	**+0.7**
ASAR	**Alice Springs**	**29.85**	**125**	P	**P**	**08 13 48.0**	**+0.7**
	12nm,0.9s,baz=318,slow=8.1,SNR=3.7						
PALU	**Palau**	**30.92**	**61**	S	S	08 19 15.3	+18
	baz=31,SNR=3.2						
COEN	**Coen**	**35.60**	**103**	P	**P**	**08 14 37.9**	**+0.4**
	baz=36,SNR=4.9						
MTSU	**Mount Surprise**	**37.30**	**110**	P	**P**	**08 14 54.0**	**+1.9**
	baz=37,SNR=5.4						
PMG	**Port Moresby**	**39.31**	**95**	P	**P**	**08 15 08.0**	**-1.0**
PMG	**Port Moresby**	**39.31**	**95**	P	**P**	**08 15 08.0**	**-1.0**
	23nm,1.0s,baz=292,slow=13,SNR=3.5						
CTA	**Charters Tower**	**39.49**	**112**	P	**P**	**08 15 11.4**	**+1.0**
CTA				PcP	**PcP**	**08 17 17.7**	**+0.4**
CTA	**Charters Tower**	**39.49**	**112**	P	**P**	**08 15 11.4**	**+1.0**
	84nm,1.1s,baz=330,slow=14,SNR=2.0						
CTA				PcP	**PcP**	**08 17 17.7**	**+0.4**
	19nm,1.1s,baz=295,slow=17,SNR=2.8						
CTAO	**Charters Tower**	**39.49**	**112**	P	P	08 15 07.0	-3.3
	623nm,2.0s						
STKA	**Stephens Creek**	**39.76**	**132**	P	**P**	**08 15 13.0**	**+0.6**
STKA				PcP	**PcP**	**08 17 18.5**	**+0.6**
STKA	**Stephens Creek**	**39.76**	**132**	P	**P**	**08 15 13.0**	**+0.6**
	162nm,0.6s,baz=311,slow=9.0,SNR=47						
STKA				PcP	**PcP**	**08 17 18.5**	**+0.6**
	10nm,0.5s,baz=322,slow=12,SNR=2.7						
STKA	**Stephens Creek**	**39.76**	**132**	P	**P**	**08 15 13.6**	**+1.1**
	baz=40,SNR=25						
CMSA	**Cobar Meteorol**	**42.70**	**129**	P	**P**	**08 15 38.5**	**+1.9**
	baz=43,SNR=9.1						
YNG	**Young**	**45.94**	**131**	P	**P**	**08 16 04.0**	**+1.6**
	baz=46,SNR=16						
MGCD	**Mangrove Creek**	**47.57**	**128**	P	**P**	**08 16 17.6**	**+2.3**
	baz=48,SNR=6.3						
KSAR	**Wonju Array Be**	**48.97**	**22**	P	**P**	**08 16 25.6**	**-0.2**
KSAR				PcP	**PcP**	**08 17 50.0**	**+0.9**
KSAR				ScP	**ScP**	**08 21 38.6**	**-0.7**
KSRS	**Korea Array**	**49.00**	**22**	P	**P**	**08 16 25.6**	**-0.4**
	3.5nm,0.8s,baz=215,slow=7.2,SNR=4.8						
KSRS				PcP	**PcP**	**08 17 50.0**	**+0.8**
	7.1nm,0.9s,baz=202,slow=2.6,SNR=6.6						
KSRS				ScP	**ScP**	**08 21 38.6**	**-0.8**
	2.6nm,0.9s,baz=205,slow=3.5,SNR=4.6						
MJAR	**Matsushiro Arr**	**52.79**	**31**	P	**P**	**08 16 54.2**	**-0.4**
MJAR				PcP	**PcP**	**08 18 04.3**	**+0.9**
MJAR	**Matsushiro Arr**	**52.79**	**31**	P	**P**	**08 16 54.2**	**-0.4**
	7.6nm,1.1s,baz=205,slow=7.6,SNR=4.5						
MJAR				PcP	**PcP**	**08 18 04.4**	**+0.9**
	6.2nm,0.8s,baz=206,slow=4.0,SNR=5.8						
SONM	**Songino Array**	**55.47**	**359**	P	**P**	**08 17 13.4**	**-0.6**
SONM				PcP	**PcP**	**08 18 14.0**	**+0.4**
SONM				ScP	**ScP**	**08 22 07.5**	**0.0**
SONM	**Songino Array**	**55.47**	**359**	P	**P**	**08 17 13.4**	**-0.6**
	7.3nm,0.8s,baz=178,slow=9.2,SNR=6.6						
SONM				PcP	**PcP**	**08 18 14.0**	**+0.4**
	4.0nm,0.4s,baz=176,slow=3.9,SNR=8.6						
SONM				ScP	**ScP**	**08 22 07.5**	**0.0**
	6.6nm,0.7s,baz=180,slow=3.2,SNR=10						
USRK	**Ussuriysk Arra**	**56.39**	**21**	P	**P**	**08 17 19.5**	**-1.0**
	3.2nm,0.5s,baz=173,slow=7.1,SNR=6.8						
CASY	**Casey**	**58.36**	**179**	*eP*	**P**	**08 17 33.2**	**-0.9**
	20nm,0.9s						
MKAR	**Makanchi Array**	**58.84**	**340**	P	**P**	**08 17 35.6**	**-2.1**
MKAR				pP	**pP**	**08 17 50.5**	**-3.2**
MKAR	**Makanchi Array**	**58.84**	**340**	P	**P**	**08 17 35.6**	**-2.1**
	2.9nm,0.4s,baz=157,slow=7.2,SNR=16						
MKAR				pP	**pP**	**08 17 50.5**	**-3.2**
	7.3nm,0.6s,baz=151,slow=7.6,SNR=4.6						
OPO	**Ambohidratompo**	**59.36**	**253**	P	**P**	**08 17 42.8**	**+0.7**
OPO				pP	**pP**	**08 17 57.5**	**-0.5**
OPO	**Ambohidratompo**	**59.36**	**253**	P	**P**	**08 17 42.8**	**+0.7**
	7.5nm,0.8s,baz=35,slow=6.1,SNR=5.8						
OPO				pP	**pP**	**08 17 57.5**	**-0.5**
	7.0nm,0.8s,baz=75,slow=6.1,SNR=3.9						
ASAJ	**Asahikawa**	**60.73**	**28**	P	**P**	**08 17 51.1**	**+0.3**
ASAJ	**Asahikawa**	**60.73**	**28**	P	**P**	**08 17 51.1**	**+0.3**
	6.0nm,0.5s,baz=332,slow=14,SNR=5.3						
KURBB	**Kurchatov Arra**	**63.40**	**340**	P	**P**	**08 18 08.1**	**-0.4**
	2.4nm,0.4s,baz=156,slow=5.8,SNR=5.8						
KURK	**Kurchatov**	**63.45**	**340**	P	**P**	**08 18 08.1**	**-0.8**
ZALV	**Zalesovo Beam**	**64.47**	**345**	P	**P**	**08 18 14.6**	**-0.8**
ZALV	**Zalesovo Beam**	**64.47**	**345**	P	**P**	**08 18 14.6**	**-0.8**
	3.2nm,0.3s,baz=153,slow=6.3,SNR=7.4						
MAW	**Mawson**	**66.66**	**197**	P	**P**	**08 18 29.5**	**+0.1**
MAW	**Mawson**	**66.66**	**197**	P	**P**	**08 18 29.5**	**+0.1**
	48nm,0.9s,baz=49,slow=6.8,SNR=21						
MAW	**Mawson**	**66.66**	**197**	P	**P**	**08 18 30.2**	**+0.8**
	baz=66,SNR=15						
BVAR	**Borovoye Array**	**68.32**	**337**	P	**P**	**08 18 38.8**	**-1.3**
BVAR	**Borovoye Array**	**68.32**	**337**	P	**P**	**08 18 38.8**	**-1.3**
	5.3nm,0.4s,baz=127,slow=8.0,SNR=18						
URZ	**Urewera**	**69.24**	**128**	*eP*	**P**	**08 18 46.6**	**+0.4**
KMBO	**Kilima Mbogo**	**70.20**	**272**	P	**P**	**08 18 52.7**	**-0.1**
KMBO	**Kilima Mbogo**	**70.20**	**272**	P	**P**	**08 18 52.7**	**-0.1**
	5.0nm,0.8s,baz=54,slow=11,SNR=5.0						
ABKAR	**Akbulak array**	**70.37**	**329**	*eP*	**P**	**08 18 52.1**	**-0.7**
	27nm,0.5s						
FUNA	**Funafuti**	**70.95**	**96**	*eP*	P	08 18 52.9	-4.2
	333nm,1.3s						
AKTO	**Aktyubinsk**	**72.08**	**329**	P	**P**	**08 19 02.5**	**-0.7**
AKTO	**Aktyubinsk**	**72.08**	**329**	P	**P**	**08 19 02.5**	**-0.7**
	7.5nm,0.5s,baz=68,slow=7.3,SNR=18						
PETK	**Petropavlovsk-**	**74.15**	**29**	P	**P**	**08 19 13.5**	**-1.8**
PETK	**Petropavlovsk-**	**74.15**	**29**	P	**P**	**08 19 13.5**	**-1.8**
	5.0nm,0.8s,baz=185,slow=4.4,SNR=20						
SYO	**Syowa Base**	**74.83**	**200‖**	*eP*	P	08 19 25.2	+6.2
VNDA	**Vanda**	**75.04**	**169**	P	**P**	**08 19 20.4**	**+0.2**
VNDA	**Vanda**	**75.04**	**169**	P	**P**	**08 19 20.4**	**+0.2**
	16nm,0.9s,baz=316,slow=4.4,SNR=11						
KBZ	**Khabaz**	**77.57**	**318**	P	**P**	**08 19 35.6**	**+0.7**
KBZ	**Khabaz**	**77.57**	**318**	P	**P**	**08 19 35.6**	**+0.7**
	11nm,0.9s,baz=75,slow=18,SNR=4.7						
LSZ	**Lusaka**	**77.62**	**256**	*eP*	**P**	**08 19 36.4**	**+0.3**
ASF	**Jabal al Asfar**	**77.99**	**305**	P	**P**	**08 19 39.2**	**+1.5**
ASF	**Jabal al Asfar**	**77.99**	**305**	P	**P**	**08 19 39.2**	**+1.5**
	19nm,0.9s,baz=62,slow=8.7,SNR=5.8						
BOSA	**Boshof**	**79.42**	**242**	P	**P**	**08 19 46.2**	**+0.4**
BOSA	**Boshof**	**79.42**	**242**	P	**P**	**08 19 46.2**	**+0.4**
	11nm,0.9s,baz=104,slow=9.8,SNR=7.2						
MMAI	**Mount Meron Ar**	**79.44**	**306**	P	**P**	**08 19 46.0**	**+0.4**
MMAI	**Mount Meron Ar**	**79.44**	**306**	P	**P**	**08 19 46.0**	**+0.4**
	6.1nm,0.5s,baz=96,slow=8.5,SNR=6.5						
QSPA	**South Pole Qui**	**82.13**	**180**	P	**P**	**08 19 59.2**	**-0.2**
QSPA	**South Pole Qui**	**82.13**	**180**	P	**P**	**08 19 59.2**	**-0.2**
	36nm,0.9s,baz=21,slow=0.7,SNR=9.3						
BRTR	**Keskin Array B**	**82.71**	**312**	P	**P**	**08 20 03.1**	**+0.1**
BRTR	**Keskin Array B**	**82.71**	**312**	P	**P**	**08 20 03.1**	**+0.1**
	9.6nm,0.8s,baz=134,slow=7.1,SNR=7.1						
SUR	**Sutherland**	**82.98**	**238**	P	**P**	**08 20 06.6**	**+1.8**
SUR	**Sutherland**	**82.98**	**238**	P	**P**	**08 20 06.6**	**+1.8**
	31nm,0.9s,baz=117,slow=5.7,SNR=8.7						
TSUM	**Tsumeb**	**87.29**	**251**	*eP*	**P**	**08 20 27.2**	**+0.8**
TSUM	**Tsumeb**	**87.29**	**251**	P	**P**	**08 20 27.7**	**+1.3**
	16nm,0.9s,baz=69,slow=4.9,SNR=9.5						
AKASG	**Malin Array Be**	**88.63**	**321**	P	**P**	**08 20 31.7**	**-0.2**
AKASG	**Malin Array Be**	**88.63**	**321**	P	**P**	**08 20 31.7**	**-0.2**
	2.8nm,0.5s,baz=82,slow=5.1,SNR=7.5						
FINES	**FINESS Array B**	**92.73**	**332**	P	**P**	**08 20 50.2**	**-0.5**
FINES	**FINESS Array B**	**92.73**	**332**	P	**P**	**08 20 50.2**	**-0.5**
	5.2nm,0.7s,baz=114,slow=3.5,SNR=3.9						
ARCES	**ARCESS Array B**	**94.49**	**340**	P	**P**	**08 20 57.9**	**-0.8**
ARCES	**ARCESS Array B**	**94.49**	**340**	P	**P**	**08 20 57.9**	**-0.8**
	10nm,1.1s,baz=106,slow=6.1,SNR=5.4						
KHC	**Kasperske Hory**	**98.40**	**319**	*eP*	Pdif	08 21 17.5	+0.5
ILAR	**Eielson Array**	**103.75**	**25**	PKKPbc	PKKPbc	08 37 31.6	-2.6
ILAR	**Eielson Array**	**103.75**	**25**	PKKPbc	PKKPbc	08 37 31.6	-2.6
	1.1nm,0.9s,baz=161,slow=2.2,SNR=5.3						
YKA	**Yellowknife Ar**	**117.53**	**21**	PKP	**PKPdf**	**08 26 23.8**	**-0.3**
YKA				pPKP	**pPKPdf**	**08 26 41.1**	**-0.5**
YKA				PKKPbc	**PKKPbc**	**08 36 49.2**	**+0.1**
YKA	**Yellowknife Ar**	**117.53**	**21**	PKP	**PKPdf**	**08 26 23.8**	**-0.3**
	1.5nm,0.6s,baz=337,slow=2.1,SNR=6.7						
YKA				pPKP	**pPKPdf**	**08 26 41.1**	**-0.5**
	1.5nm,0.6s,baz=338,slow=1.9,SNR=3.8						
YKA				PKKPbc	**PKKPbc**	**08 36 49.2**	**+0.1**
	1.6nm,0.8s,baz=118,slow=3.9,SNR=7.7						
NVAR	**Mina Array Bea**	**128.86**	**46**	SKPbc	SKiKP	08 30 02.8	-16
	2.7nm,1.0s,baz=268,slow=4.2,SNR=3.7						
LRM	**Limekiln Ridge**	**128.97**	**35**	*e*PKPdf	**PKPdf**	**08 26 48.5**	**+1.6**
HLID	**Hailey**	**129.05**	**39**	*e*PKPdf	**PKPdf**	**08 26 44.4**	**-2.6**
GCMT	**Greycliff**	**130.55**	**34**	*e*PKPdf	**PKPdf**	**08 26 47.7**	**-2.1**
YFT	**Old Faithful**	**130.70**	**36**	*e*PKPdf	**PKPdf**	**08 26 52.6**	**+2.4**
LKWY	**Lake**	**130.89**	**35**	PKPdf	**PKPdf**	**08 26 50.6**	**0.0**
LOHW	**Long Hollow**	**131.33**	**37**	*e*PKPdf	**PKPdf**	**08 26 50.3**	**-1.2**
NLU	**North Lily Min**	**132.43**	**41**	*e*PKPdf	**PKPdf**	**08 26 51.7**	**-2.0**
PDAR	**Pinedale Array**	**132.44**	**37**	SKPbc	**SKPab**	**08 30 16.2**	**-0.6**
PDAR	**Pinedale Array**	**132.44**	**37**	SKPbc	**SKPab**	**08 30 16.2**	**-0.6**
	4.0nm,1.0s,baz=267,slow=0.6,SNR=5.8						
LDFC	**Landfair**	**132.58**	**49**	*e*PKPdf	**PKPdf**	**08 26 55.8**	**+1.9**
SCHQ	**Schefferville**	**132.94**	**355**	SKPbc	**SKPbc**	**08 30 15.9**	**-0.7**
SCHQ	**Schefferville**	**132.94**	**355**	SKPbc	**SKPbc**	**08 30 15.9**	**-0.7**
	11nm,0.8s,baz=294,slow=2.9,SNR=6.8						
TRQA	**Tornquist**	**133.25**	**192**	PKPdf	**PKPdf**	**08 26 53.0**	**-2.0**
ULM	**Lac du Bonnet**	**133.51**	**20**	SKPbc	**SKPbc**	**08 30 18.9**	**+0.3**
ULM	**Lac du Bonnet**	**133.51**	**20**	SKPbc	**SKPbc**	**08 30 18.9**	**+0.3**
	12nm,0.7s,baz=330,slow=1.9,SNR=7.2						
426A	**McDonald Obser**	**142.87**	**48**	P	**PKPdf**	**08 27 11.5**	**-1.6**
	baz=143						
CPUP	**Villa Florida**	**142.92**	**203**	PKPpre	PKPpre	08 27 09.8	
CPUP	**Villa Florida**	**142.92**	**203**	PKhKP	PKPpre	08 27 09.8	
	3.3nm,0.5s,baz=293,slow=1.2,SNR=6.2						
Z29A	**Hungry Hill Ra**	**143.07**	**43**	P	PKPbc	08 27 11.6	+1.5
	baz=143						
228A	**UT Block 9, Go**	**143.13**	**45**	P	PKPbc	08 27 11.7	+1.4
	baz=143						
Y30A	**Stafford Cattl**	**143.24**	**41**	P	PKPbc	08 27 11.4	+0.9
	baz=143						
129A	**Stewart Farms,**	**143.34**	**44**	P	**PKPdf**	**08 27 12.8**	**-0.9**
	baz=143						
X31A	**McDonald Ranch**	**143.35**	**39**	P	PKPbc	08 27 11.8	+1.0
	baz=143						
626A	**Big Bend Ranch**	**143.36**	**50**	P	**PKPdf**	**08 27 12.8**	**-1.0**
	baz=143						
328A	**Wristen Ranch,**	**143.38**	**46**	P	**PKPdf**	**08 27 12.5**	**-1.3**
	baz=143						
Z30A	**Sanderson Ranc**	**143.44**	**42**	P	PKPbc	08 27 12.1	+1.0
	baz=143						
527A	**Woodward Ranch**	**143.45**	**49**	P	PKPbc	08 27 12.6	+1.2
	baz=143						
Y31A	**Rekieta Farm,**	**143.59**	**41**	P	**PKPdf**	**08 27 12.9**	**-1.2**
	baz=143						
TXAR	**Lajitas Array**	**143.82**	**50**	PKP	**PKPdf**	**08 27 13.7**	**-0.9**
TXAR				pPKP	**pPKPdf**	**08 27 31.3**	**-0.9**
TXAR				SKPbc	**SKiKP**	**08 30 49.1**	**-0.3**
TXAR	**Lajitas Array**	**143.82**	**50**	PKP	**PKPdf**	**08 27 13.7**	**-0.9**
	3.3nm,0.6s,baz=12,slow=1.6,SNR=27						
TXAR				pPKP	**pPKPdf**	**08 27 31.3**	**-0.9**
	3.0nm,0.7s,baz=145,slow=0.7,SNR=2.5						
TXAR				SKPbc	**SKiKP**	**08 30 49.1**	**-0.3**
	2.1nm,0.8s,baz=297,slow=0.3,SNR=5.0						
428A	**Kincaid Ranch,**	**143.82**	**47**	P	**PKPdf**	**08 27 14.3**	**-0.4**
	baz=144						
329A	**Wagon Wheel Ra**	**143.91**	**45**	P	**PKPdf**	**08 27 14.0**	**-0.7**
	baz=144						
130A	**Snyder**	**143.97**	**43**	P	**PKPdf**	**08 27 13.7**	**-1.1**
	baz=144						
627A	**Terlingua Ranc**	**143.97**	**49**	P	**PKPdf**	**08 27 14.3**	**-0.7**
	baz=144						
WMOK	**Wichita Mounta**	**144.02**	**38**	*e*PKPdf	PKPbc	08 27 13.4	+0.7
528A	**Cox Ranch, San**	**144.05**	**48**	P	**PKPdf**	**08 27 14.2**	**-0.8**
	baz=144						
Z31A	**Sharp Cattle R**	**144.07**	**41**	P	**PKPdf**	**08 27 14.1**	**-0.8**
	baz=144						
Y32A	**R-V Farms, Ver**	**144.09**	**40**	P	PKPbc	08 27 13.8	+0.9
	baz=144						
230A	**Sterling City**	**144.29**	**44**	P	**PKPdf**	**08 27 15.0**	**-0.4**
	baz=144						
131A	**Roby**	**144.31**	**42**	P	**PKPdf**	**08 27 14.9**	**-0.5**
	baz=144						
628A	**Black Gap, Mar**	**144.33**	**49**	P	**PKPdf**	**08 27 15.2**	**-0.2**
	baz=144						
429A	**Davenport Ranc**	**144.45**	**47**	P	**PKPdf**	**08 27 15.4**	**-0.3**
	baz=144						
529A	**Stev Forest Ra**	**144.49**	**48**	P	**PKPdf**	**08 27 15.2**	**-0.6**
	baz=144						
Z32A	**Haskell**	**144.51**	**41**	P	**PKPdf**	**08 27 15.5**	**-0.2**
	baz=144						
330A	**Mertzon**	**144.52**	**45**	P	**PKPdf**	**08 27 15.2**	**-0.6**
	baz=144						
231A	**Bronte**	**144.80**	**43**	P	**PKPdf**	**08 27 16.2**	**0.0**
	baz=145						
430A	**Baggett Ranch,**	**144.83**	**46**	P	**PKPdf**	**08 27 16.8**	**+0.5**
	baz=145						
ABTX	**Abilene, Hawle**	**144.84**	**42**	P	**PKPdf**	**08 27 16.6**	**+0.4**
	baz=145						
TUL1	**Tulsa**	**144.94**	**34**	P	**PKPdf**	**08 27 16.0**	**-0.3**
	baz=145						
331A	**San Angelo**	**145.10**	**44**	P	**PKPdf**	**08 27 17.0**	**+0.3**
	baz=145						
530A	**J-C Ranch, Com**	**145.11**	**47**	P	**PKPdf**	**08 27 17.9**	**+1.1**
	baz=145						
SFIN	**Scholer Farm**	**145.13**	**20**	P	**PKPdf**	**08 27 16.3**	**-0.1**
	baz=145						
232A	**Coleman**	**145.28**	**43**	P	**PKPdf**	**08 27 17.9**	**+0.9**
	baz=145						
431A	**Sonora**	**145.34**	**45**	P	**PKPab**	**08 27 18.1**	**+0.9**
	baz=145						
332A	**Millersview**	**145.53**	**44**	P	**PKPab**	**08 27 18.9**	**+1.1**
	baz=145						
531A	**Rocksprings**	**145.67**	**46**	P	**PKPab**	**08 27 19.4**	**+0.9**
	baz=146						
BINY	**Binghamton**	**145.68**	**4**	*e*PKPdf	**PKPdf**	**08 27 17.0**	**-0.4**
432A	**Menard**	**145.79**	**44**	P	**PKPab**	**08 27 19.4**	**+0.5**
	baz=146						
JCT	**Junction City**	**146.02**	**45**	*e*PKPdf	**PKPab**	**08 27 19.9**	**+0.1**
JCT	**Junction City**	**146.02**	**45**	P	**PKPab**	**08 27 20.3**	**+0.5**
	baz=146						
631A	**Perdido Creek**	**146.07**	**47**	P	**PKPab**	**08 27 20.1**	**+0.1**
	baz=146						
532A	**Rocksprings**	**146.15**	**46**	P	**PKPab**	**08 27 20.4**	**+0.1**
	baz=146						
BDFB	**Brasil

XMIS				S	Sn	08 17 06.3	-4.2	
	baz=2.7,SNR=4.1							
UGM	**Wanagama**	**3.25**	**86**	P	**Pn**	**08 16 44.2**	**+0.3**	
	baz=3.1,SNR=22							
UGM				S	**Sn**	**08 17 20.2**	**-1.2**	
	baz=3.1,SNR=4.6							
PCJI	**Pacitan**	**3.89**	**91**	P	**Pn**	**08 16 53.5**	**+0.9**	
PCJI				S	**Sn**	**08 17 35.4**	**-1.7**	
PWJI	**Pagerwojo**	**4.51**	**89**	P	**Pn**	**08 17 01.8**	**+0.7**	
PWJI				S	**Sn**	**08 17 52.6**	**+0.2**	
MNAI	**Manna**	**5.69**	**311**	P	**Pn**	**08 17 18.4**	**+1.1**	
	baz=5.9,SNR=10							
KAPI	**Kappang**	**12.80**	**77**	P	Pn	08 18 50.1	-4.5	
KAPI	**Kappang**	**12.80**	**77**	P	Pn	08 18 50.1	-4.5	
	1.6nm,0.3s,baz=61,slow=19,SNR=4.7							
PSI	**Prapat**	**13.68**	**322**	LR	LR	08 25 33.4		
	comp=Z,49μm,18.9s,baz=179,slow=43							
SOEI	**Soe**	**16.89**	**97**	P	**Pn**	**08 19 46.1**	**-1.7**	
	baz=17,SNR=8.7							
FITZ	**Fitzroy Crossi**	**20.44**	**121**	*e*P	**P**	**08 20 29.0**	**+1.3**	
	32nm,0.6s							
FITZ				P	Pn	08 20 29.9	-0.5	
FITZ	**Fitzroy Crossi**	**20.44**	**121**	P	Pn	08 20 29.9	-0.5	
	39nm,0.6s,baz=307,slow=12,SNR=8.2							
FITZ	**Fitzroy Crossi**	**20.44**	**121**	P	Pn	08 20 29.9	-0.4	
	baz=20,SNR=6.9							
MTN	**Manton Dam**	**23.94**	**103**	P	**P**	**08 21 04.0**	**+0.2**	
	baz=24,SNR=7.2							
MTN				S	**S**	**08 25 12.3**	**-3.8**	
	baz=24,SNR=4.0							
KDU	**Kakadu**	**25.21**	**102**	P	**P**	**08 21 15.5**	**+0.1**	
	baz=25,SNR=8.3							
CMAR	**Chiang Mai Arr**	**27.68**	**343**	P	**P**	**08 21 35.4**	**-2.2**	
CMAR	**Chiang Mai Arr**	**27.68**	**343**	P	**P**	**08 21 35.4**	**-2.2**	
	2.6nm,0.4s,baz=173,slow=9.1,SNR=8.5							
WRA	**Warramunga Arr**	**28.73**	**117**	P	**P**	**08 21 48.4**	**+1.4**	
WRA	**Warramunga Arr**	**28.73**	**117**	P	**P**	**08 21 48.4**	**+1.4**	
	6.2nm,0.8s,baz=294,slow=10,SNR=9.3							
WRAB	**Tennant Creek**	**28.73**	**117**	P	**P**	**08 21 48.3**	**+1.3**	
ASAR	**Alice Springs**	**29.84**	**124**	P	**P**	**08 21 58.3**	**+1.5**	
ASAR	**Alice Springs**	**29.84**	**124**	P	**P**	**08 21 58.3**	**+1.5**	
	3.2nm,0.7s,baz=307,slow=9.0,SNR=5.0							
COEN	**Coen**	**35.70**	**103**	P	**P**	**08 22 48.7**	**+0.7**	
	baz=36,SNR=19							
STKA	**Stephens Creek**	**39.70**	**131**	P	**P**	**08 23 24.4**	**+2.7**	
STKA	**Stephens Creek**	**39.70**	**131**	P	**P**	**08 23 24.4**	**+2.7**	
	30nm,0.5s,baz=304,slow=7.6,SNR=66							
STKA	**Stephens Creek**	**39.70**	**131**	P	**P**	**08 23 24.2**	**+2.6**	
	baz=40,SNR=68							
CMSA	**Cobar Meteorol**	**42.66**	**128**	P	**P**	**08 23 48.8**	**+2.8**	
	baz=42,SNR=12							
YNG	**Young**	**45.88**	**131**	P	P	08 24 08.1	-3.6	
	baz=46,SNR=6.1							
SONM	**Songino Array**	**55.74**	**359**	P	**P**	**08 25 23.4**	**-2.2**	
SONM				ScP	**ScP**	**08 30 17.7**	**-0.2**	
SONM	**Songino Array**	**55.74**	**359**	P	**P**	**08 25 23.4**	**-2.2**	
	2.6nm,0.8s,baz=180,slow=7.3,SNR=5.6							
SONM				ScP	**ScP**	**08 30 17.7**	**-0.2**	
	1.1nm,0.8s,baz=167,slow=3.9,SNR=3.2							
MKAR	**Makanchi Array**	**59.04**	**340**	P	**P**	**08 25 47.5**	**-1.3**	
MKAR	**Makanchi Array**	**59.04**	**340**	P	**P**	**08 25 47.5**	**-1.3**	
	1.6nm,0.4s,baz=160,slow=7.7,SNR=16							
ZALV	**Zalesovo Beam**	**64.70**	**346**	P	**P**	**08 26 24.2**	**-2.4**	
ZALV	**Zalesovo Beam**	**64.70**	**346**	P	**P**	**08 26 24.2**	**-2.4**	
	1.5nm,0.4s,baz=137,slow=7.5,SNR=2.3							
RPZ	**Rata Peaks**	**65.56**	**134**	P	**P**	**08 26 33.1**	**+0.6**	
RPZ	**Rata Peaks**	**65.56**	**134**	P	**P**	**08 26 33.1**	**+0.6**	
	9.7nm,0.8s,baz=225,slow=4.3,SNR=2.3							
UMR	**Umm Al-Rimmam**	**68.39**	**306**	*e*P	**P**	**08 26 51.6**	**+1.0**	
UMR				AMb	AMB	08 26 52.3		
	comp=Z,103nm,1.0s							
BVAR	**Borovoye Array**	**68.51**	**337**	P	**P**	**08 26 50.0**	**-0.9**	
BVAR	**Borovoye Array**	**68.51**	**337**	P	**P**	**08 26 50.0**	**-0.9**	
	comp=Z,4.0nm,0.4s,baz=130,slow=8.4,SNR=10.0							
NAY	**Al-Naaiem**	**68.65**	**306**	*e*P	**P**	**08 26 52.8**	**+0.5**	
NAY				AMb	AMB	08 26 53.8		
	comp=Z,1.3nm,1.0s							
MIB	**Mutribah**	**68.79**	**306**	*e*P	**P**	**08 26 53.9**	**+0.8**	
MIB				AMb	AMB	08 26 54.8		
	comp=Z,33nm,0.6s							
RST	**Umm Al-Ruwaisa**	**68.94**	**306**	*e*P	**P**	**08 26 54.3**	**+0.2**	
RST				AMb	AMB	08 26 55.8		
	comp=Z,351nm,0.8s							
ABKAR	**Akbulak array**	**70.52**	**329**	*e*P	**P**	**08 27 02.8**	**-0.5**	
AKTO	**Aktyubinsk**	**72.23**	**329**	P	**P**	**08 27 12.7**	**-1.0**	
AKTO	**Aktyubinsk**	**72.23**	**329**	P	**P**	**08 27 12.7**	**-1.0**	
	comp=Z,2.9nm,0.3s,baz=102,slow=17,SNR=17							
MMAI	**Mount Meron Ar**	**79.46**	**306**	P	**P**	**08 27 57.1**	**+1.7**	
MMAI	**Mount Meron Ar**	**79.46**	**306**	P	**P**	**08 27 57.1**	**+1.7**	
	comp=Z,2.4nm,0.5s,baz=92,slow=6.2,SNR=4.3							
BRTR	**Keskin Array B**	**82.77**	**312**	P	**P**	**08 28 13.7**	**+0.8**	
BRTR	**Keskin Array B**	**82.77**	**312**	P	**P**	**08 28 13.7**	**+0.8**	
	comp=Z,2.2nm,0.6s,baz=152,slow=8.3,SNR=7.3							
AKASG	**Malin Array Be**	**88.74**	**322**	P	**P**	**08 28 42.2**	**+0.2**	
AKASG	**Malin Array Be**	**88.74**	**322**	P	**P**	**08 28 42.2**	**+0.2**	
	comp=Z,1.5nm,0.4s,baz=83,slow=5.2,SNR=5.7							
ARCES	**ARCESS Array B**	**94.69**	**340**	P	**P**	**08 29 08.6**	**-0.6**	
ARCES	**ARCESS Array B**	**94.69**	**340**	P	**P**	**08 29 08.6**	**-0.6**	
	comp=Z,2.2nm,0.9s,baz=100,slow=5.0,SNR=4.8							
SPITS	**Spitsbergen Ar**	**98.10**	**348**	P	**P**	**08 29 23.8**	**-0.8**	
SPITS	**Spitsbergen Ar**	**98.10**	**348**	P	**P**	**08 29 23.8**	**-0.8**	
	comp=Z,5.1nm,1.0s,baz=125,slow=7.6,SNR=2.3							
TORD	**Torodi Ar. Bea**	**106.88**	**281**	PKiKP	**PKiKP**	**08 34 15.0**	**+0.2**	
TORD	**Torodi Ar. Bea**	**106.88**	**281**	PKiKP	**PKiKP**	**08 34 15.0**	**+0.2**	
	comp=Z,1.6nm,1.2s,baz=110,slow=1.1,SNR=2.2							
YKA	**Yellowknife Ar**	**117.84**	**21**	PKP	**PKPdf**	**08 34 35.2**	**+0.9**	
YKA	**Yellowknife Ar**	**117.84**	**21**	PKP	**PKPdf**	**08 34 35.2**	**+0.9**	
	comp=Z,0.2nm,0.7s,baz=321,slow=2.4,SNR=3.0							
TXAR	**Lajitas Array**	**144.12**	**50**	PKP	PKPbc	08 35 23.7	+0.8	
TXAR	**Lajitas Array**	**144.12**	**50**	PKP	PKPbc	08 35 23.7	+0.8	
	comp=Z,0.2nm,0.5s,baz=257,slow=0.8,SNR=6.7							
TKL	**Tuckaleechee C**	**150.82**	**19**	PKPbc	**PKPbc**	**08 35 41.0**	**-0.1**	
TKL	**Tuckaleechee C**	**150.82**	**19**	PKPbc	**PKPbc**	**08 35 41.0**	**-0.1**	
	comp=Z,2.5nm,0.8s,baz=270,slow=5.1,SNR=3.2							

IDC ***02*** *08:17:35.7±0.7,* ***38°.08N×23°.25E,*** *h0km, mb4.3/15, mb1 4.4/18, mb1mx4.2/34, mbtmp4.3/18, ML3.8/3, MS4.9/1, Ms1 4.9/1, ms1mx4.0/56, Error ellipse: s-maj=17.1km s-min=13.1km az=90.0*

THE ***02*** *08:17:36.9, 38°.12N×23°.29E, h5km, ML4.4/8, Error ellipse: s-maj=0.5km s-min=0.3km az=106.0*

CSEM ***02*** *08:17:36.9±0.1, 38°.11N×23°.28E, h5km, mb4.7/4, Error ellipse: s-maj=1.8km s-min=1.7km az=25.0*

NEIC ***02*** *08:17:36.9, 38°.12N×23°.29E, h5km, ML4.4(THE), After THE.*

ISCJB ***02*** *08:17:36.5±0.3, 38°.11N±0°.01×23°.32E±0°.01, h10km±2km, mb4.3/18, Error ellipse: s-maj=1.9km s-min=1.8km az=28.7*

ATH ***02*** *08:17:37.1, 38°.10N×23°.33E, h24km±1km, MD3.5/48, ML4.3*

PDG ***02*** *08:17:39.4±0.3, 38°.15N×23°.10E, h25km±3km, ML4.0/11, Error ellipse: s-maj=3.3km s-min=2.9km az=90.0*

ISC 02 08:17:37.2±0.9, 38°.11N±0°.01×23°.29E±0°.01, h10km±6km, n373, σ1°03/485, mb4.5/18, 11C-11D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTK	**Loutraki**	**0.27**	**250**	P	**Pg**	**08 17 41.9**	**-0.8**
LTK				S	**Sg**	**08 17 46.1**	**-0.2**
LTK	**Loutraki**	**0.27**	**250**	*e*PB	**Pg**	**08 17 43.3**	**+0.6**
LTK	**Loutraki**	**0.27**	**250**	P	**Pg**	**08 17 41.9**	**-0.8**
LTK				S	**Sg**	**08 17 46.1**	**-0.2**
LTK	**Loutraki**	**0.27**	**250**	P	**Pg**	**08 17 41.8**	**-0.9**
LTK	**Loutraki**	**0.27**	**250**	*e*Pb	**Pg**	**08 17 43.3**	**+0.6**
LTK				S	**Sg**	**08 17 46.1**	**-0.2**
ATH	**Athens Observa**	**0.37**	**112**	P	**Pg**	**08 17 44.0**	**-0.5**
ATH				S	**Sg**	**08 17 49.3**	**-0.1**
ATH	**Athens Observa**	**0.37**	**112**	*e*PB	**Pg**	**08 17 44.3**	**-0.2**
ATH				*e*SB	**Sg**	**08 17 50.3**	**+0.9**
ATH	**Athens Observa**	**0.37**	**112**	P	**Pg**	**08 17 44.0**	**-0.5**
ATH				S	**Sg**	**08 17 49.3**	**-0.1**
ATH	**Athens Observa**	**0.37**	**112**	P	**Pg**	**08 17 44.0**	**-0.5**
ATH	**Athens Observa**	**0.37**	**112**	*e*Pb	**Pg**	**08 17 44.3**	**-0.2**
ATH				S	**Sg**	**08 17 49.3**	**-0.1**
ATH				*e*Sb	**Sg**	**08 17 50.3**	**+0.9**
NAIG	**Nisos Aigina**	**0.39**	**156**	*e*PB	**Pg**	**08 17 44.3**	**-0.6**
NAIG	**Nisos Aigina**	**0.39**	**156**	*e*Pb	**Pg**	**08 17 44.3**	**-0.6**
ACOR	**Acrocorinthos**	**0.40**	**236**	P	**Pg**	**08 17 44.4**	**-0.7**
ACOR	**Acrocorinthos**	**0.40**	**236**	P	**Pg**	**08 17 44.4**	**-0.7**
ATHU	**Athens Univers**	**0.42**	**110**	P	**Pg**	**08 17 44.8**	**-0.7**
ATHU	**Athens Univers**	**0.42**	**110**	P	**Pg**	**08 17 44.8**	**-0.7**
ATHU	**Athens Univers**	**0.42**	**110**	P	**Pg**	**08 17 44.8**	**-0.7**
ATHU				S	**Sg**	**08 17 50.8**	**-0.3**
PTL	**Penteli**	**0.46**	**98**	P	**Pg**	**08 17 45.6**	**-0.7**
PTL				S	**Sg**	**08 17 52.7**	**+0.3**
PTL	**Penteli**	**0.46**	**98**	*e*PB	**Pg**	**08 17 46.2**	**-0.1**
PTL				*e*SB	**Sg**	**08 17 52.9**	**+0.5**
PTL	**Penteli**	**0.46**	**98**	P	**Pg**	**08 17 45.6**	**-0.7**
PTL				S	**Sg**	**08 17 52.7**	**+0.3**
PTL	**Penteli**	**0.46**	**98**	P	**Pg**	**08 17 46.0**	**-0.3**
PTL				S	**Sg**	**08 17 52.6**	**+0.2**
ERET	**Eretria**	**0.53**	**51**	P	**Pg**	**08 17 47.1**	**-0.4**
ERET				S	**Sg**	**08 17 54.2**	**-0.2**
ERET	**Eretria**	**0.53**	**51**	P	**Pg**	**08 17 47.1**	**-0.4**
ERET				S	**Sg**	**08 17 54.2**	**-0.2**
LKR	**Lokris**	**0.58**	**337**	*e*PB	**Pg**	**08 17 48.1**	**-0.4**
LKR				*e*SN	**Sb**	**08 17 58.6**	**+0.8**
LKR	**Lokris**	**0.58**	**337**	*e*Pb	**Pg**	**08 17 48.1**	**-0.4**
LKR				*e*Sn	**Sb**	**08 17 58.6**	**+0.8**
DID	**Didima**	**0.61**	**184**	P	**Pg**	**08 17 48.0**	**-1.0**
DID				S	**Sb**	**08 17 57.8**	**-0.7**
DID	**Didima**	**0.61**	**184**	*e*PN	**Pg**	**08 17 48.1**	**-1.0**
DID				*e*SN	**Sb**	**08 17 58.0**	**-0.5**
DID	**Didima**	**0.61**	**184**	P	**Pg**	**08 17 48.0**	**-1.0**
DID				S	**Sb**	**08 17 57.8**	**-0.7**
DID	**Didima**	**0.61**	**184**	*e*Pn	**Pg**	**08 17 48.1**	**-1.0**
DID				S	**Sg**	**08 17 56.9**	**-0.1**
DID				*e*Sn	**Sb**	**08 17 58.0**	**-0.5**
DIDY	**Didyma**	**0.64**	**185**	P	**Pg**	**08 17 48.5**	**-1.1**
DIDY				S	**Sg**	**08 17 58.4**	**+0.4**
DIDY	**Didyma**	**0.64**	**185**	P	**Pg**	**08 17 48.5**	**-1.1**
DIDY				S	**Sg**	**08 17 58.4**	**+0.4**
MRKA	**Markates**	**0.64**	**22**	P	**Pg**	**08 17 48.7**	**-0.9**
MRKA	**Markates**	**0.64**	**22**	P	**Pg**	**08 17 49.2**	**-0.4**
MRKA				S	**Sg**	**08 17 58.7**	**+0.7**
DSF	**Desfina**	**0.67**	**297**	P	**Pg**	**08 17 49.3**	**-0.9**
DSF				S	**Sg**	**08 17 59.0**	**+0.1**
DSF	**Desfina**	**0.67**	**297**	P	**Pg**	**08 17 49.3**	**-0.9**
DSF				S	**Sg**	**08 17 59.0**	**+0.1**
DSF	**Desfina**	**0.67**	**297**	P	**Pg**	**08 17 49.3**	**-0.9**
DSF				S	**Sg**	**08 17 59.0**	**+0.1**
GUR	**Goura**	**0.77**	**257**	*e*PB	**Pg**	**08 17 51.9**	**-0.1**
GUR				*e*SN	**Sb**	**08 18 04.6**	**+1.4**
GUR	**Goura**	**0.77**	**257**	*e*Pb	**Pg**	**08 17 51.9**	**-0.1**
GUR				*e*Sn	**Sb**	**08 18 04.6**	**+1.4**
SMIA	**Simia**	**0.77**	**356**	P	**Pg**	**08 17 51.4**	**-0.7**
SMIA	**Simia**	**0.77**	**356**	P	**Pg**	**08 17 51.4**	**-0.7**
SMIA				S	**Sb**	**08 18 03.4**	**+0.2**
AXAR	**Agios Charalam**	**0.82**	**323**	P	**Pg**	**08 17 52.2**	**-0.8**
AXAR	**Agios Charalam**	**0.82**	**323**	P	**Pg**	**08 17 52.2**	**-0.8**
AXAR	**Agios Charalam**	**0.82**	**323**	P	**Pg**	**08 17 52.2**	**-0.8**
MRMA	**Marmari**	**0.86**	**93**	P	**Pb**	**08 17 54.5**	**0.0**
MRMA				S	**Sb**	**08 18 05.7**	**-0.3**
KLV	**Kalavryta, Ach**	**0.90**	**266**	P	**Pg**	**08 17 53.5**	**-1.0**
KLV				S	**Sb**	**08 18 07.2**	**+0.2**
KLV	**Kalavryta, Ach**	**0.90**	**266**	*e*PB	**Pg**	**08 17 54.0**	**-0.5**
KLV				*e*SN	**Sn**	**08 18 09.2**	**+0.2**
KLV	**Kalavryta, Ach**	**0.90**	**266**	P	**Pg**	**08 17 53.5**	**-1.0**
KLV	**Kalavryta, Ach**	**0.90**	**266**	P	**Pg**	**08 17 53.8**	**-0.7**
KLV				S	**Sb**	**08 18 07.2**	**+0.2**
KLV				*e*Sn	**Sn**	**08 18 09.2**	**+0.2**
KALE	**Kalithea**	**0.94**	**287**	P	**Pg**	**08 17 54.5**	**-0.9**
KALE				S	**Sb**	**08 18 08.8**	**+0.5**
KALE	**Kalithea**	**0.94**	**287**	*e*PB	**Pg**	**08 17 54.8**	**-0.6**
KALE				*e*SN	**Sn**	**08 18 10.6**	**+0.5**
KALE	**Kalithea**	**0.94**	**287**	P	**Pg**	**08 17 54.5**	**-0.9**
KALE	**Kalithea**	**0.94**	**287**	P	**Pg**	**08 17 54.5**	**-0.9**
KALE	**Kalithea**	**0.94**	**287**	*e*Pb	**Pg**	**08 17 54.8**	**-0.6**
KALE				S	**Sb**	**08 18 08.8**	**+0.5**
KALE				*e*Sn	**Sn**	**08 18 10.6**	**+0.5**
TRIZ	**Trizonia**	**0.99**	**285**	P	**Pg**	**08 17 55.2**	**-1.0**
TRIZ				S	**Sb**	**08 18 09.9**	**+0.4**
TRIZ	**Trizonia**	**0.99**	**285**	*e*PB	**Pg**	**08 17 55.5**	**-0.7**
TRIZ				*e*SN	**Sn**	**08 18 12.0**	**+0.9**
TRIZ	**Trizonia**	**0.99**	**285**	P	**Pg**	**08 17 55.2**	**-1.0**
TRIZ	**Trizonia**	**0.99**	**285**	*e*Pb	**Pg**	**08 17 55.5**	**-0.7**
TRIZ				S	**Sg**	**08 18 09.0**	**-0.1**
TRIZ				*e*Sn	**Sn**	**08 18 12.0**	**+0.9**
VLX	**Vlachokerasia**	**1.03**	**224**	*e*PN	**Pg**	**08 17 57.0**	**-0.1**
VLX				*e*SN	**Sn**	**08 18 11.9**	**-0.5**
VLX	**Vlachokerasia**	**1.03**	**224**	P	**Pg**	**08 17 56.2**	**-0.9**
VLX	**Vlachokerasia**	**1.03**	**224**	*e*Pn	**Pg**	**08 17 57.0**	**-0.1**
VLX				*e*Sn	**Sn**	**08 18 11.9**	**-0.5**
SKIA	**Skiathos**	**1.06**	**8**	P	**Pg**	**08 17 56.8**	**-0.8**
SKIA				S	**Sb**	**08 18 12.1**	**+0.5**
SKIA	**Skiathos**	**1.06**	**8**	P	**Pg**	**08 17 57.3**	**-0.3**
SKIA				S	**Sb**	**08 18 12.1**	**+0.5**
PSA1	**Psathopyrgos**	**1.12**	**281**	*e*PN	**Pn**	**08 17 59.3**	**+0.3**
PSA1				*e*SN	**Sn**	**08 18 16.1**	**+1.6**
EFP	**Efpalio**	**1.13**	**287**	P	**Pb**	**08 17 57.9**	**-0.9**
EFP				S	**Sn**	**08 18 14.5**	**-0.1**
EFP	**Efpalio**	**1.13**	**287**	*e*PN	**Pn**	**08 17 59.2**	**+0.1**
EFP	**Efpalio**	**1.13**	**287**	P	**Pb**	**08 17 58.1**	**-0.7**
EFP	**Efpalio**	**1.13**	**287**	*e*Pn	**Pn**	**08 17 59.2**	**+0.1**
EFP				S	**Sn**	**08 18 14.5**	**-0.1**
AOS	**Alonnisos**	**1.15**	**24**	P	**Pb**	**08 17 58.0**	**-1.2**
AOS	**Alonnisos**	**1.15**	**24**	*e*PN	**Pb**	**08 17 58.5**	**-0.8**
AOS				*e*SN	**Sn**	**08 18 15.7**	**+0.5**
AOS	**Alonnisos**	**1.15**	**24**	P	**Pb**	**08 17 58.0**	**-1.2**
AOS	**Alonnisos**	**1.15**	**24**	P	**Pb**	**08 17 58.0**	**-1.2**
AOS	**Alonnisos**	**1.15**	**24**	*e*Pn	**Pb**	**08 17 58.5**	**-0.8**
AOS				*e*Sn	**Sn**	**08 18 15.7**	**+0.5**
AGG	**Agios Georgios**	**1.18**	**321**	P	**Pb**	**08 17 58.5**	**-1.2**
AGG	**Agios Georgios**	**1.18**	**321**	*e*PB	**Pb**	**08 17 59.0**	**-0.7**
AGG	**Agios Georgios**	**1.18**	**321**	P	**Pb**	**08 17 58.5**	**-1.2**
AGG	**Agios Georgios**	**1.18**	**321**	P	**Pb**	**08 17 58.7**	**-1.0**
AGG	**Agios Georgios**	**1.18**	**321**	*e*Pb	**Pb**	**08 17 59.0**	**-0.7**
AGG				S	**Sn**	**08 18 15.6**	**-0.3**
NEO	**Neokhori**	**1.19**	**358**	P	**Pb**	**08 17 59.0**	**-0.9**
NEO				S	**Sn**	**08 18 16.2**	**-0.1**
NEO	**Neokhori**	**1.19**	**358**	*e*PN	**Pb**	**08 17 59.7**	**-0.2**
NEO				*e*SN	**Sn**	**08 18 18.0**	**+1.7**
NEO	**Neokhori**	**1.19**	**358**	P	**Pb**	**08 17 59.0**	**-0.9**
NEO				S	**Sn**	**08 18 16.2**	**-0.1**
NEO	**Neokhori**	**1.19**	**358**	P	**Pb**	**08 17 59.4**	**-0.5**
NEO	**Neokhori**	**1.19**	**358**	*e*Pn	**Pb**	**08 17 59.7**	**-0.2**
NEO				S	**Sn**	**08 18 16.2**	**-0.1**
NEO				*e*Sn	**Sn**	**08 18 18.0**	**+1.7**
UPR	**University Cam**	**1.19**	**279**	P	**Pg**	**08 18 00.6**	**+0.5**
UPR				S	**Sn**	**08 18 16.8**	**+0.6**
XOR	**Xorichti**	**1.25**	**357**	P	**Pn**	**08 18 00.0**	**-0.8**
XOR				S	**Sg**	**08 18 17.5**	**-0.1**
XOR	**Xorichti**	**1.25**	**357**	P	**Pn**	**08 18 00.0**	**-0.8**
XOR				S	**Sg**	**08 18 17.5**	**-0.1**
XOR	**Xorichti**	**1.25**	**357**	P	**Pn**	**08 18 00.4**	**-0.4**
XOR				S	**Sg**	**08 18 17.5**	**-0.1**
MAKR	**Makrakomi, Fth**	**1.27**	**315**	P	**Pn**	**08 18 00.6**	**-0.5**
MAKR				S	**Sn**	**08 18 18.5**	**+0.2**
MAKR	**Makrakomi, Fth**	**1.27**	**315**	P	**Pn**	**08 18 00.6**	**-0.5**
MAKR				S	**Sn**	**08 18 18.5**	**+0.2**
MAKR	**Makrakomi, Fth**	**1.27**	**315**	P	**Pn**	**08 18 01.0**	**-0.1**
MAKR				S	**Sn**	**08 18 18.5**	**+0.2**
AMT	**Artemida-Makis**	**1.38**	**246**	P	**Pn**	**08 18 02.0**	**-0.5**
AMT	**Artemida-Makis**	**1.38**	**246**	*e*PN	**Pg**	**08 18 03.5**	**-0.1**
AMT	**Artemida-Makis**	**1.38**	**246**	P	**Pn**	**08 18 02.0**	**-0.5**
AMT	**Artemida-Makis**	**1.38**	**246**	*e*Pn	**Pg**	**08 18 03.5**	**-0.1**
AMT				S	**Sn**	**08 18 20.8**	**0.0**
EVR	**Evrytania**	**1.41**	**305**	P	**Pn**	**08 18 02.2**	**-0.8**
EVR				S	**Sg**	**08 18 22.5**	**-0.1**
EVR	**Evrytania**	**1.41**	**305**	*e*PN	**Pb**	**08 18 03.7**	**0.0**
EVR				*e*SN	**Sg**	**08 18 23.9**	**+1.3**
EVR	**Evrytania**	**1.41**	**305**	P	**Pn**	**08 18 02.2**	**-0.8**
EVR				S	**Sg**	**08 18 22.5**	**-0.1**
EVR	**Evrytania**	**1.41**	**305**	P	**Pn**	**08 18 03.0**	**0.0**
EVR	**Evrytania**	**1.41**	**305**	*e*Pn	**Pb**	**08 18 03.7**	**0.0**
EVR				S	**Sg**	**08 18 22.5**	**-0.1**
EVR				*e*Sn	**Sg**	**08 18 23.9**	**+1.3**
VLI	**Veliai**	**1.42**	**191**	P	**Pn**	**08 18 02.3**	**-0.8**
VLI				S	**Sb**	**08 18 22.1**	**+0.2**
VLI	**Veliai**	**1.42**	**191**	*e*PB	**Pn**	**08 18 02.1**	**-1.0**
VLI	**Veliai**	**1.42**	**191**	P	**Pn**	**08 18 02.3**	**-0.8**
VLI				S	**Sb**	**08 18 22.1**	**+0.2**
VLI	**Veliai**	**1.42**	**191**	P	**Pn**	**08 18 02.3**	**-0.8**
VLI				S	**Sb**	**08 18 22.1**	**+0.2**
ITM	**Ithomi**	**1.43**	**230**	P	**Pn**	**08 18 02.8**	**-0.4**
ITM	**Ithomi**	**1.43**	**230**	*e*PN	**Pn**	**08 18 03.4**	**+0.2**
ITM	**Ithomi**	**1.43**	**230**	P	**Pn**	**08 18 02.8**	**-0.4**
ITM	**Ithomi**	**1.43**	**230**	P	**Pn**	**08 18 03.0**	**-0.2**
ITM	**Ithomi**	**1.43**	**230**	*e*Pn	**Pn**	**08 18 03.4**	**+0.2**
RLS	**Riolos of Patr**	**1.44**	**268**	P	**Pn**	**08 18 02.8**	**-0.5**
RLS				S	**Sg**	**08 18 23.1**	**-0.3**
RLS	**Riolos of Patr**	**1.44**	**268**	*e*PB	**Pn**	**08 18 03.5**	**+0.2**
RLS	**Riolos of Patr**	**1.44**	**268**	P	**Pn**	**08 18 02.8**	**-0.5**
RLS				S	**Sg**	**08 18 23.1**	**-0.3**
RLS	**Riolos of Patr**	**1.44**	**268**	P	**Pn**	**08 18 02.8**	**-0.5**
RLS	**Riolos of Patr**	**1.44**	**268**	*e*Pn	**Pn**	**08 18 03.5**	**+0.2**
RLS				S	**Sg**	**08 18 23.1**	**-0.3**
AXS	**Araxos**	**1.51**	**274**	P	**Pn**	**08 18 04.1**	**-0.2**
AXS				S	**Sb**	**08 18 24.2**	**-0.2**
AXS	**Araxos**	**1.51**	**274**	P	**Pn**	**08 18 04.1**	**-0.2**
AXS				S	**Sb**	**08 18 24.2**	**-0.2**
DYR	**Agios Nikonas**	**1.55**	**210**	P	**Pn**	**08 18 04.4**	**-0.4**
DYR				S	**Sb**	**08 18 26.0**	**+0.4**
DYR	**Agios Nikonas**	**1.55**	**210**	*e*PN	**Pb**	**08 18 05.5**	**-0.5**
DYR				*e*SN	**Sg**	**08 18 26.6**	**-0.4**
DYR	**Agios Nikonas**	**1.55**	**210**	P	**Pn**	**08 18 04.7**	**-0.1**
DYR	**Agios Nikonas**	**1.55**	**210**	*e*Pn	**Pb**	**08 18 05.5**	**-0.5**
DYR				S	**Sb**	**08 18 26.0**	**+0.4**
PYL	**PYLOS**	**1.73**	**226**	*e*PN	**Pb**	**08 18 08.5**	**-0.6**
PYL	**PYLOS**	**1.73**	**226**	P	**Pb**	**08 18 08.4**	**-0.6**
THL	**Klokotos Trika**	**1.76**	**326**	*e*PN	**Pb**	**08 18 08.9**	**-0.6**
THL	**Klokotos Trika**	**1.76**	**326**	*e*Pn	**Pb**	**08 18 08.9**	**-0.6**
PAIG	**Paliouri**	**1.84**	**10**	P	**Pn**	**08 18 08.2**	**-0.6**
PAIG	**Paliouri**	**1.84**	**10**	*e*PB	**Pn**	**08 18 08.3**	**-0.6**
PAIG	**Paliouri**	**1.84**	**10**	P	**Pn**	**08 18 08.2**	**-0.6**
PAIG	**Paliouri**	**1.84**	**10**	P	**Pn**	**08 18 08.2**	**-0.6**
KYTH	**Kithira**	**1.84**	**186**	P	**Pn**	**08 18 08.4**	**-0.5**
KYTH	**Kithira**	**1.84**	**186**	*e*PB	**Pn**	**08 18 08.6**	**-0.3**
KYTH	**Kithira**	**1.84**	**186**	P	**Pn**	**08 18 08.4**	**-0.5**
KYTH	**Kithira**	**1.84**	**186**	P	**Pn**	**08 18 08.4**	**-0.5**
SFD	**Strofades**	**2.00**	**245**	*e*PN	**Pb**	**08 18 13.3**	**-0.3**
SFD	**Strofades**	**2.00**	**245**	*e*Pn	**Pb**	**08 18 13.3**	**-0.3**
APE	**Apeiranthos**	**2.07**	**120**	P	**Pn**	**08 18 11.

PVY	Plav	5.15	331	⇓iPn	Pn	08 18 55.6	+1.2
PVY				eSn	Sn	08 19 52.0	-1.9
PVY	Plav	5.15	331	⇓iPn	Pn	08 18 55.6	+1.2
BUY	Buyukada	5.28	57	i P	Pn	08 18 56.6	+0.6
BUY	Buyukada	5.28	57	i P	Pn	08 18 56.6	+0.6
PDG	Podgorica	5.30	326	⇓iPn	Pn	08 18 56.9	+0.5
TTG	Podgorica	5.30	326	⇓iPn	Pn	08 18 56.9	+0.5
TTG				eSn	Sn	08 19 55.3	-2.2
BUM	Brajici-Budva	5.37	323	ePn	Pn	08 18 58.4	+1.0
BUM				eSn	Sn	08 19 57.7	-1.5
BUM	Brajici-Budva	5.37	323	ePn	Pn	08 18 58.4	+1.0
BEY	Berane	5.41	333	⇑iPn	Pn	08 18 59.2	+1.2
IVA	Berane	5.41	333	⇑iPn	Pn	08 18 59.2	+1.2
IVA				eSn	Sn	08 19 57.5	-2.9
HCY	Herceg Novi	5.67	321	⇓iPn	Pn	08 19 02.0	+0.5
HCY				eSn	Sn	08 20 04.1	-2.5
HCY	Herceg Novi	5.67	321	⇓iPn	Pn	08 19 02.0	+0.5
NKME	Niksic	5.70	326	⇑iPn	Pn	08 19 03.1	+1.1
NKME				eSn	Sn	08 20 05.2	-2.3
NKME	Niksic	5.70	326	⇑iPn	Pn	08 19 03.1	+1.1
NKY	Niksic	5.72	326	⇑iPn	Pn	08 19 03.0	+0.7
NKY				eSn	Sn	08 20 05.8	-2.3
NKY	Niksic	5.72	326	⇑iPn	Pn	08 19 03.0	+0.7
BRY	Bratogost	6.00	324	⇑iPn	Pn	08 19 06.8	+0.7
BRY				eSn	Sn	08 20 11.5	-3.3
BRY	Bratogost	6.00	324	⇑iPn	Pn	08 19 06.8	+0.7
SEYT	Eskypehyr	6.07	74	i P	Pn	08 19 06.2	-0.9
SEYT	Eskypehyr	6.07	74	i P	Pn	08 19 06.2	-0.9
UPM	Unac-Piva	6.08	328	ePn	Pn	08 19 08.6	+1.3
UPM				eSn	Sn	08 20 13.9	-3.0
UPM	Unac-Piva	6.08	328	ePn	Pn	08 19 08.6	+1.3
GRUS	Gruza	6.09	342	ePn	Pn	08 19 08.3	+1.1
STON	Ston	6.38	320	i Pn	Pn	08 19 11.4	+0.2
STON				Sn	Sn	08 20 22.2	-1.9
BBLS	Lazići	6.45	334	ePn	Pn	08 19 13.8	+1.5
DIVS	Divibare	6.47	338	ePn	Pn	08 19 14.0	+1.4
TEKS	Tekeris	7.02	337	⇑iPn	Pn	08 19 22.5	+2.4
BZS	Buzias	7.60	351	⇑iP	Pn	08 19 28.5	+0.5
BZS	Buzias	7.60	351	⇑iP	Pn	08 19 28.5	+0.5
MLR	Muntele Rosu	7.63	14	Pn	Pn	08 19 29.4	+0.8
MLR				Sn	Sn	08 20 55.0	-0.1
MLR	Muntele Rosu	7.63	14	Pn	Pn	08 19 29.4	+0.8
0.6nm,0.3s,baz=196,slow=14,SNR=7.5							
MLR				Sn	Sn	08 20 55.0	-0.1
0.3nm,0.3s,baz=295,slow=17,SNR=2.4							
MLR	Muntele Rosu	7.63	14	Pn	Pn	08 19 29.4	+0.8
MLR				Sn	Sn	08 20 55.0	-0.1
BRTR	Keskin Array B	8.23	76	Pn	Pn	08 19 38.0	+1.2
BRTR	Keskin Array B	8.23	76	Pn	Pn	08 19 38.0	+1.2
0.5nm,0.3s,baz=255,slow=11,SNR=8.1							
BRTR	Keskin Array B	8.23	76	Pn	Pn	08 19 38.0	+1.2
PKSM	Moragy	8.79	338	⇓iP	Pn	08 19 46.6	+2.3
PKSM	Moragy	8.79	338	⇓iP	Pn	08 19 46.6	+2.3
NVLJ	Novalja	9.03	318	ePn	Pn	08 19 47.5	0.0
NVLJ				Sn	Sn	08 21 25.3	-3.8
BOJS	Bojanci	9.51	323	i Pn	Pn	08 19 54.7	+0.6
BOJS				i Sn	Sn	08 21 39.5	-1.5
BOJS	Bojanci	9.51	323	Pn	Pn	08 19 54.7	+0.6
BOJS				i Sn	Sn	08 21 39.5	-1.5
JAVS	Javornik	10.36	322	i Pn	Pn	08 20 06.2	+0.3
JAVS				i Sn	Sn	08 21 57.1	-5.0
JAVS	Javornik	10.36	322	i Pn	Pn	08 20 06.2	+0.3
PERS	Pernice	10.44	327	i Pn	Pn	08 20 07.1	+0.2
PERS				i Sn	Sn	08 22 03.7	-0.2
PERS	Pernice	10.44	327	i Pn	Pn	08 20 07.1	+0.2
PERS				i Sn	Sn	08 22 03.7	-0.2
SMF	Signal de Mont	16.67	307	ePn	Pn	08 21 27.7	-3.2
SMF	Signal de Mont	16.67	307	ePn	Pn	08 21 27.7	-3.2
CAF	Calviac	17.26	300	ePn	Pn	08 21 36.9	-1.4
CAF	Calviac	17.26	300	ePn	Pn	08 21 36.9	-1.4
BGF	Bois d'Agland	17.27	306	ePn	Pn	08 21 35.6	-2.8
BGF	Bois d'Agland	17.27	306	ePn	Pn	08 21 35.6	-2.8
TCF	Toulx Ste Croi	17.59	304	ePn	Pn	08 21 42.4	+0.1
86nm,1.6s							
TCF	Toulx Ste Croi	17.59	304	ePn	Pn	08 21 42.4	+0.1
TCF	Toulx Ste Croi	17.59	304	ePn	Pn	08 21 42.4	+0.1
85nm,1.6s							
EPF	Esparros	18.09	293	eP	P	08 21 49.9	+0.9
68nm,1.6s							
EPF	Esparros	18.09	293	eP	P	08 21 49.9	+0.9
EPF	Esparros	18.09	293	eP	P	08 21 49.9	+0.9
68nm,1.6s							
ETSF	Etsaut	18.73	292	ePn	Pn	08 21 56.9	+0.5
92nm,1.8s							
ETSF	Etsaut	18.73	292	eP	Pn	08 21 56.9	+0.5
ETSF	Etsaut	18.73	292	eP	Pn	08 21 56.9	+0.5
91nm,1.8s							
MFF	Saint Martin d	19.23	304	ePn	Pn	08 22 02.6	+0.3
61nm,1.2s							
MFF	Saint Martin d	19.23	304	eP	Pn	08 22 02.6	+0.3
MFF	Saint Martin d	19.23	304	eP	Pn	08 22 02.6	+0.3
61nm,1.2s							
SJPF	Ste Jean	19.24	293	eP	Pn	08 22 03.4	+0.9
SJPF	Ste Jean	19.24	293	eP	Pn	08 22 03.4	+0.9
SJPF	Ste Jean	19.24	293	eP	Pn	08 22 03.4	+0.9
LDF	La Druitiere	19.91	309	eP	Pn	08 22 09.8	-0.6
LDF	La Druitiere	19.91	309	eP	Pn	08 22 09.8	-0.6
LDF	La Druitiere	19.91	309	eP	Pn	08 22 09.8	-0.6
FLN	La Foliniere	20.20	309	eP	Pn	08 22 14.3	+0.5
30nm,0.9s							
FLN	La Foliniere	20.20	309	eP	Pn	08 22 14.3	+0.5
FLN	La Foliniere	20.20	309	eP	Pn	08 22 14.3	+0.5
30nm,0.9s							
GRR	Gorron	20.29	308	eP	P	08 22 13.4	+0.5
GRR	Gorron	20.29	308	eP	P	08 22 13.4	+0.5
GRR	Gorron	20.29	308	eP	P	08 22 13.4	+0.5
ESDC	Sonseca Array	21.24	283	P	P	08 22 23.4	0.0
ESDC	Sonseca Array	21.24	283	P	P	08 22 23.4	0.0
3.0nm,0.7s,baz=76,slow=10,SNR=8.8							
ESDC	Sonseca Array	21.24	283	P	P	08 22 23.4	0.0
SGMF	Saint Gilles	21.30	307	eP	P	08 22 24.1	+0.2
42nm,1.1s							
SGMF	Saint Gilles	21.30	307	eP	P	08 22 24.1	+0.2
SGMF	Saint Gilles	21.30	307	eP	P	08 22 24.1	+0.2
41nm,1.1s							
QUIF	Quistinic	21.59	305	eP	P	08 22 26.7	-0.2
48nm,0.9s							
QUIF	Quistinic	21.59	305	eP	P	08 22 26.7	-0.2
QUIF	Quistinic	21.59	305	eP	P	08 22 26.7	-0.2
48nm,0.9s							
ROSF	Rostrenen	21.78	306	eP	P	08 22 29.5	+0.5
36nm,1.0s							
ROSF	Rostrenen	21.78	306	eP	P	08 22 29.5	+0.5
ROSF	Rostrenen	21.78	306	eP	P	08 22 29.5	+0.5
36nm,1.0s							
HFS	Hagfors	22.87	348	P	P	08 22 41.5	+1.0
HFS	Hagfors	22.87	348	P	P	08 22 41.5	+1.0
7.7nm,0.7s,baz=144,slow=13,SNR=5.5							
HFS	Hagfors	22.87	348	P	P	08 22 41.5	+1.0
NB2	NORSAR Subarra	24.17	346	P	P	08 22 52.7	-0.7
comp=Z,14nm,1.1s,SNR=9.3							
NB2	NORSAR Subarra	24.17	346	P	P	08 22 52.7	-0.7
comp=Z,14nm,1.1s,SNR=4.1							
NOA	NORSAR Array B	24.17	346	P	P	08 22 54.4	+1.0
NOA	NORSAR Array B	24.17	346	P	P	08 22 54.4	+1.0
comp=Z,4.9nm,0.8s,baz=148,slow=9.6,SNR=5.2							
NOA	NORSAR Array B	24.17	346	P	P	08 22 54.4	+1.0
EKA	Eskdalemuir Ar	24.77	323	P	P	08 22 59.6	+0.7
EKA	Eskdalemuir Ar	24.77	323	P	P	08 22 59.6	+0.7
comp=Z,14nm,0.8s,baz=110,slow=9.8,SNR=14							
EKA	Eskdalemuir Ar	24.77	323	P	P	08 22 59.6	+0.7
TORD	Torodi Ar. Bea	31.42	223	P	P	08 23 58.4	-0.3
TORD	Torodi Ar. Bea	31.42	223	P	P	08 23 58.3	-0.3
comp=Z,3.6nm,0.6s,baz=31,slow=9.0,SNR=13							
TORD	Torodi Ar. Bea	31.42	223	P	P	08 23 58.3	-0.3
ARCES	ARCESS Array B	31.50	1	P	P	08 23 58.5	-0.4
ARCES	ARCESS Array B	31.50	1	P	P	08 23 58.4	-0.4
comp=Z,3.6nm,0.8s,baz=163,slow=8.9,SNR=4.2							
ARCES	ARCESS Array B	31.50	1	P	P	08 23 58.5	-0.4
KURBB	Kurchatov Arra	40.51	54	P	P	08 25 17.6	+1.5
comp=Z,1.5nm,0.7s,baz=283,slow=8.2,SNR=4.7							
KURK	Kurchatov	40.56	54	P	P	08 25 17.6	+1.0
KURK	Kurchatov	40.56	54	P	P	08 25 17.6	+1.0
MKAR	Makanchi Array	43.47	59	P	P	08 25 41.4	+0.9
MKAR	Makanchi Array	43.47	59	P	P	08 25 41.4	+0.9
comp=Z,1.8nm,0.6s,baz=277,slow=5.7,SNR=12							
MKAR	Makanchi Array	43.47	59	P	P	08 25 41.3	+0.9
ZALV	Zalesovo Beam	44.11	48	P	P	08 25 45.3	-0.1
ZALV	Zalesovo Beam	44.11	48	P	P	08 25 45.3	-0.1
comp=Z,1.3nm,0.4s,baz=278,slow=5.4,SNR=4.4							
ZALV	Zalesovo Beam	44.11	48	P	P	08 25 45.3	-0.1
SONM	Songino Array	58.80	51	P	P	08 27 36.9	+1.2
SONM	Songino Array	58.80	51	P	P	08 27 36.9	+1.2
comp=Z,8.4nm,1.2s,baz=270,slow=4.4,SNR=6.4							
SONM	Songino Array	58.80	51	P	P	08 27 36.9	+1.2
OPO	Ambohidratompo	60.69	154	P	P	08 27 49.6	+0.7
OPO	Ambohidratompo	60.69	154	P	P	08 27 49.6	+0.7
comp=Z,3.3nm,0.9s,baz=263,slow=12,SNR=4.6							
OPO	Ambohidratompo	60.69	154	P	P	08 27 49.6	+0.7
BOSA	Boshof	66.40	178	P	P	08 28 26.1	-0.4
BOSA	Boshof	66.40	178	P	P	08 28 26.0	-0.4
comp=Z,2.2nm,0.6s,baz=8,5,slow=5.7,SNR=2.9							
BOSA	Boshof	66.40	178	P	P	08 28 26.0	-0.4
CMAR	Chiang Mai Arr	67.73	84	P	P	08 28 33.8	-1.4
CMAR	Chiang Mai Arr	67.73	84	P	P	08 28 33.8	-1.4
comp=Z,0.7nm,0.3s,baz=311,slow=8.2,SNR=4.5							
CMAR	Chiang Mai Arr	67.73	84	P	P	08 28 33.8	-1.4
INK	Inuvik	72.48	351	P	P	08 29 02.8	-0.6
INK	Inuvik	72.48	351	P	P	08 29 02.8	-0.6
comp=Z,13nm,1.2s,baz=59,slow=8.0,SNR=3.0							
INK	Inuvik	72.48	351	P	P	08 29 02.8	-0.6
YKA	Yellowknife Ar	74.18	341	P	P	08 29 13.5	-0.1
YKA	Yellowknife Ar	74.18	341	P	P	08 29 13.5	-0.1
comp=Z,0.7nm,0.8s,baz=31,slow=5.0,SNR=3.3							
YKA	Yellowknife Ar	74.18	341	P	P	08 29 13.5	-0.1
ASAR	Alice Springs	120.00	98	PKP	PKPdf	08 36 26.8	-1.5
ASAR	Alice Springs	120.00	98	PKP	PKPdf	08 36 26.8	-1.5
comp=Z,1.3nm,0.9s,baz=124,slow=0.3,SNR=2.1							
ASAR	Alice Springs	120.00	98	PKIKP	PKPdf	08 36 26.8	-1.5

DJA **02** *08:24:49.0±1.4, 8°S±5°×10°7E±°, h34km±18km, M4.8/9, MLv4.8/9*
IDC **02** *08:24:52.0±1.7, 7°81S×107°08E, h0km, mb4.2/7, mb1 4.3/7, mb1mx4.0/24, mbtmp4.2/7, Error ellipse: s-maj=118.1km s-min=19.7km az=46.0*
ISC 02 08:24:58.1±0.8, **7°24S**±0°08×**107°73E**±0°06, **h35km, n25,**
σ1§**61**/16, **mb4.3/6, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	Cisompet, Garu	0.33	164	P	Pn	08 25 04.9	-1.6
CISI	Cisompet, Garu	0.33	164	P	Sn	08 25 12.1	0.0
65µm,0.9s							
SKJI	Sukabumi	1.18	281	P	Pn	08 25 12.6	-5.6
SKJI	Sukabumi	1.18	281	P	Pn	08 25 21.9	+3.7
16µm,0.6s,171µm							
DBJI	Dramaga	1.19	305	P	Pn	08 25 16.5	-1.7
DBJI	Dramaga	1.19	305	P	Pn	08 25 28.0	+10
1µm,0.6s,5.7nm							
DBJI	Dramaga	1.19	305	P	Pn	08 25 28.0	+10
CLJI	Cilicap	1.36	110	P	Pn	08 25 20.7	0.0
TGJI	Tegal	1.43	75	P	Pn	08 25 25.2	+3.6
TGJI	Tegal	1.43	75	P	Sn	08 25 39.3	0.0
5.5nm2µm,1.0s							
BJII	Banjamegara	1.97	93	P	Pn	08 25 27.2	-1.9
BJII	Banjamegara	1.97	93	P	Sn	08 25 45.6	-7.0
2.6nm462nm,0.9s							
PCJI	Pacitan	3.55	106	P	Pn	08 25 46.9	-3.9
SJI	Sawahan	4.04	97	P	Pn	08 25 55.5	-2.1
SJI	Sawahan	4.04	97	P	Pn	08 26 09.3	+12
756nm,0.8s							
PWJI	Pagerwojo	4.12	101	P	Pn	08 25 56.2	-2.4
PWJI	Pagerwojo	4.12	101	P	Pn	08 26 10.2	+12
587nm,1.0s							
FITZ	Fitzroy Crossi	20.52	123	P	P	08 29 33.6	+0.1
3.0nm,0.6s,baz=310,slow=9.9,SNR=5.9							
WRA	Warramunga Arr	28.73	119	P	P	08 30 55.0	+2.5
0.8nm,0.8s,baz=296,slow=11,SNR=4.9							
STKA	Stephens Creek	39.95	132	P	P	08 32 29.2	-0.1
2.8nm,0.4s,baz=303,slow=8.5,SNR=9.8							
MKAR	Makanchi Array	58.36	340	P	P	08 34 50.9	+1.0
9.2nm,1.1s,baz=147,slow=7.9,SNR=5.2							
BVAR	Borovoye Array	67.87	337	P	P	08 35 54.6	+1.7
1.9nm,0.4s,baz=137,slow=7.8,SNR=4.7							
BRTR	Keskin Array B	82.53	312	P	P	08 37 16.6	-1.1
1.4nm,0.9s,baz=138,slow=6.1,SNR=3.8							
ARCES	ARCESS Array B	94.01	340	P	P	08 38 12.6	+0.4
0.9nm,0.8s,baz=88,slow=4.1,SNR=3.9							
TXAR	Lajitas Array	143.18	49	PKP	PKPdf	08 44 27.5	-1.9
0.3nm,0.6s,baz=269,slow=1.4,SNR=8.3							

IDC **02** *08:37:51.4±3.3, 33°48N×132°08E, h0km, mb3.2/1, mb1 3.4/3, mb1mx3.2/28, mbtmp3.3/3, ML3.2/2, Error ellipse: s-maj=57.8km s-min=15.0km az=148.0*
ISCJB **02** *08:37:53.2±0.7, 33°32N±0°05×132°14E±0°04, h46km±7km, mb3.0/1, Error ellipse: s-maj=7.9km s-min=4.9km az=176.1*
JMA **02** *08:37:53.1, 33°32N×132°13E, h47km±1km, M3.6*
JMA Felt I J1.
ISC 02 08:37:54.0±2.1, **33°32N**±0°05×**132°13E**±0°03, **h38**km±2km,
n13, σ0§**58**/22, **4C-4D, Shikoku**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNA	Nagahama	0.37	50	⇑P	Pn	08 38 02.8	0.0
JNA				S	Sn	08 38 09.7	+0.1
JUS	Usuki	0.41	232	P	Pn	08 38 02.9	-0.3
JUS				S	Sn	08 38 09.9	-0.1
UWA2	Uwa jima 2	0.42	104	⇑P	Pn	08 38 03.3	-0.2
UWA2				S	Sn	08 38 10.8	+0.4
JKI	Kunimi	0.57	304	⇓P	Pn	08 38 05.0	-0.7
JKI				eS	Sn	08 38 13.8	0.0
OIT2	Oita 2	0.57	266	⇓P	Pn	08 38 05.5	-0.3
OIT2				S	Sn	08 38 14.4	+0.4
JTO	Tosashimizu	0.72	129	⇓P	Pn	08 38 07.1	-0.7
JTO				eS	Sn	08 38 17.3	-0.3
JKU	Kubokawa	0.78	90	⇓P	Pn	08 38 07.7	-0.8
JKU				S	Sn	08 38 18.8	-0.2
JHM	Kurahashi	0.88	22	⇑P	Pn	08 38 09.3	-0.6
JHM				S	Sn	08 38 21.5	-0.1
JET	Tanbara	0.89	59	⇑P	Pn	08 38 09.3	-0.8
JET				S	Sn	08 38 21.3	-0.5
JNU	Nakatsue	1.07	260	Pg	Pn	08 38 12.1	-0.5
109nm,0.3s,baz=83,slow=4.5,SNR=1166							
JNU				Lg	Lg	08 38 26.3	
94nm,0.3s,baz=197,slow=18,SNR=49							
KSRS	Korea Array	5.37	321	Pn	Pn	08 39 10.9	-0.7
0.8nm,0.3s,baz=140,slow=14,SNR=7.5							
MJAR	Matsushiro Arr	5.94	56	Pn	Pn	08 39 20.2	+0.8
0.8nm,0.3s,baz=238,slow=15,SNR=7.4							
SONM	Songino Array	24.19	314	P	P	08 43 08.1	+1.1
0.4nm,0.6s,baz=130,slow=10,SNR=2.8							

IDC **02** *08:42:47.7±4.8, 7°49S×107°25E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/23, mbtmp3.8/4, Error ellipse: s-maj=200.7km s-min=76.8km az=43.0*
DJA **02** *08:42:56.3±0.7, 8°S±3°×10°7E±°, h31km±7km, M4.5/10, MLv4.5/10*
ISCJB **02** *08:42:57.2±2.6, 8°22S±0°06×107°27E±0°06, h33km±22km, mb3.7/3, Error ellipse: s-maj=11.5km s-min=6.9km az=42.9*
ISC 02 08:42:56.8±2.1, **8°1S**±0°1×**107°28E**±0°08, **h44**km±24km,
n15, σ1§**06**/18, **mb3.3**/3, **Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	Cisompet, Garu	0.75	45	P	Pn	08 43 10.4	-0.7
CISI				S	Sn	08 43 20.7	-0.8
SKJI	Sukabumi	1.30	326	P	Pn	08 43 18.5	-0.1
SKJI				S	Sn	08 43 34.8	0.0
DBJI	Dramaga	1.62	341	P	Pn	08 43 24.5	+1.5
DBJI				S	Sn	08 43 43.5	+0.9
CLJI	Cilicap	1.76	78	P	Pn	08 43 28.5	+3.7
TGJI	Tegal	2.19	56	P	Pn	08 43 30.1	-0.7
TGJI				S	Sn	08 43 59.3	+2.6
BJII	Banjamegara	2.52	73	P	Pn	08 43 35.8	+0.4
WOJI	Wonogiri, Jawa	3.62	86	P	Pn	08 43 50.4	+0.1
PCJI	Pacitan	3.86	92	P	Pn	08 43 54.2	+0.5
PCJI				S	Sn	08 44 36.0	-1.8
SJI	Sawahan	4.46	86	P	Pn	08 44 02.9	+0.9
PWJI	Pagerwojo	4.48	89	P	Pn	08 44 02.5	+0.3
FITZ	Fitzroy Crossi	20.44	121	P	P	08 47 31.4	+0.7
1.7nm,0.7s,baz=270,slow=7.1,SNR=5.6							
WRA	Warramunga Arr	28.72	117	P	P	08 48 49.3	-0.9
0.4nm,0.8s,baz=290,slow=9.7,SNR=3.8							
ASAR	Alice Springs	29.84	124	P	P	08 48 59.7	-0.5
0.6nm,1.0s,baz=298,slow=8.9,SNR=3.6							
STKA	Stephens Creek	39.71	131	P	P	08 50 25.5	+0.4
5.6nm,0.6s,baz=307,slow=9.9,SNR=24							
TXAR	Lajitas Array	144.06	50	PKP	PKPab	09 02 25.3	-0.7
0.1nm,0.7s,baz=243,slow=4.0,SNR=2.8							

IDC **02** *08:44:28.6±2.6, 41°36N×81°80E, h0km, mb3.8/3, mb1 3.7/7, mb1mx3.5/31, mbtmp3.7/7, ML3.6/4, MS5.1/1, Ms1 5.1/1, ms1mx4.1/57, Error ellipse: s-maj=39.2km s-min=22.3km az=122.0*
NNC **02** *08:44:36.5±1.0, 41°93N×81°46E, h0km±3km, mb4.1, mpv3.7, Error ellipse: s-maj=8.6km s-min=2.7km az=147.0*
ISC 02 08:44:30.7±1.9, **41°4N**±0°1×**81°90E**±0°10, **h10**km, **n11,**
σ1§**61**/16, **mb3.8/3, 5C-3D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKM2	Tokmak 2	4.91	290	⇓Pn	Pn	08 45 45.1	+0.3
11nm,0.3s							
TKM2				⇑Sn	Sn	08 46 39.4	-2.4
19nm,0.5s							
TKM2				⇑Lg	Lg	08 46 57.3	
89nm,1.1s							
MK31	Makanchi Array	5.37	3	⇑Pn	Pn	08 45 51.6	+0.6
1.5nm,0.3s,baz=187,slow=13,SNR=50							
MK31				Pg	Pb	08 46 06.1	+1.4
3.7nm,0.4s,baz=183,slow=15,SNR=8.2							
MK31				⇑Sn	Sn	08 46 49.9	-3.0
4.8nm,0.5s,baz=188,slow=25,SNR=3.6							
MK31				⇓Lg	Lg	08 47 12.3	
12nm,0.6s,baz=185,slow=32,SNR=5.2							
MKAR	Makanchi Array	5.37	3	Pn	Pn	08 45 51.8	+0.8
1.1nm,0.3s,baz=183,slow=13,SNR=21							
MKAR				Pg	Pb	08 46 06.2	+1.5
2.1nm,0.3s,baz=186,slow=15,SNR=13							
MKAR				Sn	Sn	08 46 51.3	-1.6
3.2nm,0.3s,baz=183,slow=25,SNR=6.5							
MKAR				Lg	Lg	08 47 12.4	
3.5nm,0.3s,baz=189,slow=31,SNR=12							
AAK	Ala-Archa	5.64	285	Pn	Pn	08 45 55.3	+0.5
1.3nm,0.3s,baz=100,slow=13,SNR=5.8							
AAK				Pg	Pb	08 46 10.3	+0.9
2.6nm,0.3s,baz=78,slow=14,SNR=11							
AAK				Sn	Sb	08 47 18.9	+1.8
0.7nm,0.3s,baz=234,slow=19,SNR=3.7							
AAK				LR	LR	08 48 21.9	
comp=Z,17µm,19.9s,baz=103,slow=42							
KK31	Karatay Array	8.61	285	⇓Pg	Pg	08 47 06.0	-9.4
2.8nm,0.7s,baz=93,slow=15,SNR=10							
KK31				⇑Lg	Lg	08 48 55.4	
18nm,1.2s,baz=95,slow=24,SNR=5.2							
KURBB	Kurchatov Arra	9.49	347	Pn	Pn	08 46 49.4	+2.0
0.3nm,0.3s,baz=175,slow=13,SNR=2.4							
KURBB				Lg	Lg	08 49 34.0	
0.2nm,0.3s,baz=168,slow=28,SNR=5.0							
ZALV	Zalesovo Beam	12.68	8	Lg	Lg	08 51 09.8	
0.1nm,0.3s,baz=181,slow=24,SNR=2.6							
BVAR	Borovoye Array	13.97	330	Pn	Pn	08 47 47.8	-0.7
0.4nm,0.3s,baz=140,slow=9.2,SNR=2.9							
ARCES	ARCESS Array B	40.23	333	P	P	08 52 06.7	-0.4
0.9nm,0.6s,baz=94,slow=9.8,SNR=8.6							
NOA	NORSAR Array B	45.82	320	P	P	08 52 51.2	-1.3
0.6nm,0.5s,baz=83,slow=7.2,SNR=2.5							
TORD	Torodi Ar. Bea	74.12	274	P	P	08 56 07.4	-0.1
0.5nm,0.5s,baz=42,slow=4.4,SNR=5.9							

IDC **02** *08:49:40.6±0.7, 41°74N×81°49E, h0km, mb4.0/13, mb1 4.0/20, mb1mx3.9/36, mbtmp3.9/20, ML3.6/7, Error ellipse: s-maj=13.8km s-min=11.8km az=68.0*
ISCJB **02** *08:49:41.7±0.5, 41°69N±0°05×81°66E±0°05, h17km, mb4.0/14, Error ellipse: s-maj=6.9km s-min=5.8km az=8.8*
MOS **02** *08:49:42.7±1.7, 41°78N×81°52E, h23km, mb4.2/13, Error ellipse: s-maj=12.4km s-min=6.9km az=106.1*
BJI **02** *08:49:43.0, 41°77N×81°52E, h10km, ML4.1/9*
NNC **02** *08:49:45.0±1.6, 41°92N×81°46E, h0km, mb4.5, mpv4.2, Error ellipse: s-maj=16.7km s-min=6.6km az=156.0*
ISC 02 08:49:43.1±0.6, **41°68N**±0°05×**81°71E**±0°04, **h17**km, **n56,**
σ1§**37**/60, **mb4.0**/15, **10C-7D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDC	Almaty	3.83	295	⇑Pn	Pn	08 50 42.7	+1.3
KNDC				⇑Lg	Lg	08 51 38.3	
AAA	Alma-Ata	3.87	296	ePN	Pb	08 50 47.9	-3.0
AAA				eS	Sb	08 51 38.9	+1.5
AAA				pmax	p

AAK Pg **Pb** **08 51 18.2 +0.3**
comp=Z,4.3nm,0.3s,baz=72,slow=10,SNR=7.2
AAK Lg Lg 08 52 26.1
comp=Z,5.2nm,0.3s,baz=248,slow=22,SNR=5.2
USP Ospenovka 5.56 289 P **Pn** **08 51 04.7 -0.4**
SNR=8.2
AML Almayashu 6.00 277 P **Pb** **08 51 28.5 +1.1**
SNR=15
KK31 Karatay Array 8.41 284 ⇑Pg Pb 08 52 14.6 +6.4
comp=Z,12nm,0.8s,baz=136,slow=6.1,SNR=4.8
KK31 ⇑Lg Lg 08 54 03.6
comp=Z,45nm,1.1s,baz=95,slow=23,SNR=8.2
KURBB Kurchatov Arra 9.22 347 Pn **Pn** **08 51 53.1 -2.1**
comp=Z,0.2nm,0.3s,baz=174,slow=12,SNR=2.6
KURBB Lg Lg 08 54 29.7
comp=Z,1.2nm,0.3s,baz=170,slow=31,SNR=5.9
KURK Kurchatov 9.29 348 P Pn 08 51 53.1 -3.1
ZALV Zalesovo Beam 12.46 9 P **Pn** **08 52 37.5 -1.9**
ZALV 08 54 58.7
ZALV smax smax
comp=N,1.0nm,0.3s
ZALV Zalesovo Beam 12.46 9 Pn **Pn** **08 52 37.5 -1.9**
comp=N,0.3nm,0.3s,baz=196,slow=14,SNR=4.0
ZALV Sn **Sn** **08 54 58.7 +1.0**
comp=N,0.5nm,0.3s,baz=180,slow=24,SNR=3.3
ZALV Lg Lg 08 56 12.6
baz=203,slow=25,SNR=3.0
HVS Khovu-Aksy 12.56 37 *e*P Pn 08 52 45.6 +4.6
NVS Novosibirsk 13.21 4 *e*P P 08 53 03.4 +3.7
NVS pmax pmax
comp=Z,387nm,4.3s
NVS pmax pmax
comp=N,26nm,2.6s
NVS pmax pmax
comp=E,42nm,2.6s
VOSK Vostochnaya 13.22 330 ⇑Pn **Pn** **08 52 51.1 +1.1**
comp=E,7.6nm,1.3s
VOSK ⇓Lg Lg 08 56 35.3
comp=E,27nm,1.1s
VOSK Vostochnaya 13.22 330 P **Pn** **08 52 51.1 +1.1**
VOSK pmax pmax
comp=Z,8.0nm,1.3s
VOSK pmax pmax
comp=N,27nm,1.1s
BVA0 Borovoye Array 13.68 330 ⇑Pn **Pn** **08 52 56.4 +0.1**
comp=N,2.2nm,0.6s,baz=126,slow=10,SNR=5.7
BVA0 ⇓Lg Lg 08 56 49.3
comp=N,43nm,1.5s,baz=127,slow=27,SNR=5.7
BVA0 Borovoye Array 13.68 330 *i*P **P** **08 53 02.4 -2.5**
BVA0 pmax pmax
comp=Z,2.0nm,0.6s
BVAR Borovoye Array 13.68 330 P Pn 08 52 52.4 -3.8
BVAR Borovoye Array 13.68 330 Pn Pn 08 52 52.4 -3.8
comp=Z,0.3nm,0.3s,baz=125,slow=15,SNR=2.4
BVAR Lg Lg 08 56 48.7
comp=Z,0.4nm,0.3s,baz=140,slow=20,SNR=4.0
BRVK Borovoye 13.75 330 *e*P **Pn** **08 52 58.4 +1.3**
AB31 Akbulak array 17.01 304 ⇓Pn **Pn** **08 53 37.2 -2.8**
comp=Z,4.6nm,0.7s,baz=108,slow=13,SNR=36
AB31 Akbulak array 17.01 304 *e*P **Pn** **08 53 37.3 -2.7**
AB31 pmax pmax
comp=Z,5.0nm,0.7s
SONM Songino Array 18.54 62 P **Pn** **08 54 00.1 +0.9**
comp=Z,0.1nm,0.3s,baz=268,slow=11,SNR=3.1
AKTO Aktyubinsk 18.57 306 P **P** **08 53 56.9 -2.1**
AKTO Aktyubinsk 18.57 306 P **P** **08 53 56.9 -2.1**
comp=Z,0.2nm,0.3s,baz=104,slow=14,SNR=4.2
ARU Arti 21.02 322 *d*i P **P** **08 54 27.6 +1.9**
ARU 08 54 43.2
ARU S **S** **08 58 19.8 +0.9**
ARU SS **SnSn** **08 58 40.6 +0.6**
ARU pmax pmax
comp=Z,16nm,1.0s
CMAR Chiang Mai Arr 27.43 142 P **P** **08 55 30.2 +2.2**
comp=Z,1.0nm,0.3s,baz=317,slow=8.6,SNR=5.3
QIZ Qiongzhong 32.90 125 P **P** **08 56 16.4 0.0**
QIZ S **S** **09 01 34.6 +1.1**
QIZ pmax pmax
comp=Z,22nm,1.9s
BRTR Keskin Array B 36.12 283 P **P** **08 56 44.0 -0.3**
comp=Z,2.0nm,0.7s,baz=103,slow=7.9,SNR=6.8
AKASG Malin Array Be 36.74 303 P **P** **08 56 48.1 -1.2**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 36.74 303 P **P** **08 56 48.1 -1.2**
comp=Z,0.3nm,0.3s,baz=64,slow=10,SNR=3.6
FINES FINESS Array B 38.36 320 P **P** **08 57 01.6 -1.3**
comp=Z,3.5nm,0.9s,baz=125,slow=21,SNR=2.7
ARCES ARCESS Array B 39.95 333 P **P** **08 57 15.5 -0.6**
comp=Z,2.0nm,0.5s,baz=91,slow=9.0,SNR=28
SPITS Spitsbergen Ar 44.55 345 P **P** **08 57 53.7 +0.2**
comp=Z,2.8nm,0.8s,baz=101,slow=15,SNR=3.0
NB2 NORSAR Subarra 45.54 320 P **P** **08 58 00.3 -1.2**
comp=Z,2.2nm,0.6s,baz=81,slow=7.9
NOA NORSAR Array B 45.54 320 P **P** **08 58 00.4 -1.2**
comp=Z,2.7nm,0.6s,baz=82,slow=8.0,SNR=7.2
INK Inuvik 67.21 13 P **P** **09 00 35.6 -0.2**
comp=Z,0.7nm,0.6s,baz=292,slow=5.4,SNR=2.2
ILAR Eielson Array 67.29 20 P **P** **09 00 35.9 -0.4**
comp=Z,0.5nm,0.7s,baz=311,slow=5.7,SNR=6.7
TORD Torodi Ar. Bea 73.96 273 P **P** **09 01 16.3 -1.5**
comp=Z,1.4nm,0.5s,baz=40,slow=5.5,SNR=21
YKA Yellowknife Ar 75.35 8 P **P** **09 01 25.0 -0.1**
comp=Z,0.7nm,0.8s,baz=330,slow=6.4,SNR=4.3
WRA Warramunga Arr 78.28 130 P **P** **09 01 43.5 +1.4**
comp=Z,0.6nm,0.7s,baz=322,slow=5.3,SNR=4.1
ASAR Alice Springs 80.99 133 P **P** **09 01 57.7 +0.8**
comp=Z,0.8nm,0.8s,baz=325,slow=5.6,SNR=5.9

IDC 02 08:59:40.3±1.8, 9°.42S×155°.31E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.7/17, mbtmp3.8/4, Error ellipse: s-maj=84.4km s-min=27.7km az=129.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.80**	**240**	P	P	09 04 44.3	-0.6
	1.7nm,0.8s,baz=65,slow=9.6,SNR=8.6						
ASAR	**Alice Springs**	**24.89**	**233**	P	P	09 05 05.0	-0.1
	2.5nm,0.8s,baz=63,slow=9.3,SNR=20						
STKA	**Stephens Creek**	**25.72**	**208**	P	P	09 05 12.5	0.0
	4.4nm,0.8s,baz=43,slow=12,SNR=4.9						
ILAR	**Eielson Array**	**85.50**	**21**	P	P	09 12 20.3	+0.4
	0.3nm,0.9s,baz=236,slow=4.9,SNR=4.0						

*ISCJB **02** 08:59:51.6±0.8, 64°.78N±0°.03×30°.7E±0°.1, h0km, Error ellipse: s-maj=8.4km s-min=4.2km az=175.1*
*IDC **02** 08:59:53.5±2.9, 64°.73N×31°.05E, h0km, mb1 3.1/3, mb1mx2.9/28, mbtmp3.0/3, ML3.3/2, Error ellipse: s-maj=43.2km s-min=9.5km az=99.0*
*CSEM **02** 08:59:53.1, 64°.78N×30°.78E, h0km, ML2.2, Mining explosion. After HEL*
*HEL **02** 08:59:53.1±0.1, 64°.78N×30°.78E, h0km, ML2.2, Explosion*
ISC 02 08:59:52.5±1.1, 64°.79N±0°.03×30°.63E±0°.07, h0km, n19, σ0°66/32, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KU6	**Riekki**	**1.28**	**346**	*e*P	**Pg**	**09 00 16.6**	**-0.3**
KU6				*e*S	**Sg**	**09 00 33.4**	**-0.2**
KU6	**Riekki**	**1.28**	**346**	P	**Pg**	**09 00 16.6**	**-0.3**
KU6				S	**Sg**	**09 00 33.3**	**-0.2**
MSF	**Maaselka**	**1.31**	**330**	*e*P	**Pg**	**09 00 17.3**	**-0.2**
MSF				*e*S	**Sg**	**09 00 34.4**	**-0.1**
MSF	**Maaselka**	**1.31**	**330**	P	**Pg**	**09 00 17.3**	**-0.2**
MSF				S	**Sg**	**09 00 34.4**	**-0.1**
KJN	**Kajaani**	**1.45**	**242**	*e*P	**Pg**	**09 00 20.0**	**-0.2**
KJN				*e*S	**Sb**	**09 00 39.2**	**0.0**
KJN	**Kajaani**	**1.45**	**242**	P	**Pg**	**09 00 20.0**	**-0.2**
KJN				S	**Sb**	**09 00 39.2**	**0.0**
JOF	**Joensuu**	**1.90**	**171**	*e*P	**Pn**	**09 00 26.2**	**0.0**
JOF				*e*S	**Sn**	**09 00 50.0**	**-0.8**
JOF	**Joensuu**	**1.90**	**171**	P	**Pn**	**09 00 26.1**	**0.0**
JOF				S	**Sn**	**09 00 49.9**	**-0.8**
OUL	**Oulu**	**2.04**	**281**	*e*P	**Pb**	**09 00 29.9**	**-0.4**
OUL				*e*S	**Sb**	**09 00 56.2**	**0.0**
OUL	**Oulu**	**2.04**	**281**	P	**Pb**	**09 00 29.9**	**-0.4**
OUL				S	**Sb**	**09 00 56.1**	**0.0**
RNF	**Rovaniemi**	**2.64**	**316**	*e*P	**Pn**	**09 00 37.8**	**+1.5**
RNF				*e*SB	**Sb**	**09 01 13.5**	**0.0**
RNF	**Rovaniemi**	**2.64**	**316**	P	**Pn**	**09 00 37.7**	**+1.5**
RNF				Sb	**Sb**	**09 01 13.5**	**0.0**
VRF	**Varrio**	**3.00**	**353**	*e*P	**Pn**	**09 00 42.3**	**+1.0**
VRF				MSG		09 01 33.1	
	comp=Z,7.1nm,0.2s						
VRF	**Varrio**	**3.00**	**353**	P	**Pn**	**09 00 42.2**	**+1.0**
KAF	**Kangasniemi**	**3.31**	**218**	MSG		09 01 43.7	
	comp=Z,5.5nm,0.2s						
KEF	**Keuruu**	**3.69**	**227**	MSG		09 01 52.9	
	comp=Z,3.4nm,0.2s						
FINES	**FINESS Array B**	**3.94**	**214**	Pn	**Pn**	**09 00 55.1**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=33,slow=14,SNR=6.6						
FINES				Pg	**Pb**	**09 01 03.5**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=30,slow=15,SNR=6.5						
FINES				Sn	**Sn**	**09 01 40.8**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=39,slow=22,SNR=5.8						
FINES				Lg	Lg	09 01 53.5	
	comp=Z,1.9nm,0.3s,baz=30,slow=31,SNR=15						
ARCES	**ARCESS Array B**	**5.17**	**340**	Pn	**Pn**	**09 01 11.3**	**+0.4**
	comp=Z,1.3nm,0.3s,baz=156,slow=14,SNR=88						
ARCES				Sn	**Sn**	**09 02 09.6**	**-1.5**
	comp=Z,0.6nm,0.3s,baz=155,slow=26,SNR=8.5						
ARCES				Lg	Lg	09 02 31.1	
	comp=Z,1.9nm,0.3s,baz=153,slow=27,SNR=16						
NOA	**NORSAR Array B**	**9.60**	**256**	Pn	**Pn**	**09 02 11.4**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=56,slow=13,SNR=2.8						
NOA				Lg	Lg	09 04 50.8	
	comp=Z,0.2nm,0.3s,baz=45,slow=26,SNR=3.4						

*NNC **02** 09:15:03.6±7.4, 39°.77N×72°.51E, h0km, mb4.0, mpv3.5, Error ellipse: s-maj=66.0km s-min=29.0km az=164.0*
ISC 02 09:15:08.7±2.7, 39°.8N±0°.2×71°.94E±0°.09, h19km, n11, σ1°34/10, 2C-5D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**2.67**	**29**	P	**Pn**	**09 15 50.8**	**-0.2**
	SNR=18						
UCH	**Uchtor**	**3.10**	**38**	P	**Sg**	**09 16 46.9**	**-1.4**
	SNR=6.9						
KZA	**Kyzart**	**3.37**	**47**	P	**Pn**	**09 16 01.5**	**+0.7**
	SNR=7.3						
AAK	**Ala-Archa**	**3.41**	**34**	P	**Pn**	**09 16 03.0**	**+2.0**
	SNR=7.5						
KK31	**Karatay Array**	**3.46**	**342**	⇑Pn	**Pn**	**09 16 01.4**	**-0.1**
	1.7nm,0.2s,baz=150,slow=12,SNR=81						
KK31				⇑Pg	**Pb**	**09 16 11.0**	**+1.7**
	12nm,0.3s,baz=152,slow=15,SNR=14						
KK31				⇓Lg	Lg	09 16 59.4	
	7.0nm,0.3s,baz=151,slow=30,SNR=4.2						
CHMS	**Chumysh**	**3.82**	**33**	P	**Pn**	**09 16 07.3**	**+0.7**
	SNR=11						
USP	**Ospenovka**	**3.95**	**28**	P	**Sg**	**09 17 14.9**	**-0.5**
	SNR=5.4						
ULHL	**Ulahol**	**4.06**	**52**	P	**Pn**	**09 16 09.6**	**-0.4**
	SNR=12						
TKM2	**Tokmak 2**	**4.15**	**40**	⇓Pg	Pn	09 16 16.6	+5.4
	5.1nm,0.4s						
TKM2				⇓Lg	Lg	09 17 10.8	
	30nm,0.5s						
AB31	**Akbulak array**	**12.72**	**322**	⇓P	Pn	09 18 03.7	-4.8
	0.9nm,0.4s,baz=129,slow=13,SNR=23						
AKTO	**Aktyubinsk**	**14.44**	**322**	⇓P	**Pn**	**09 18 30.5**	**-1.5**
	5.4nm,1.5s						

IDC 02 09:15:16.4±1.9, 1°.00N×127°.48E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.4/21, mbtmp3.6/3, Error ellipse: s-maj=133.1km s-min=24.6km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.87**	**162**	P	P	09 20 10.1	-0.9
	1.0nm,0.5s,baz=342,slow=11,SNR=26						
ASAR	**Alice Springs**	**25.30**	**166**	P	P	09 20 45.6	+0.7
	0.5nm,0.4s,baz=350,slow=9.4,SNR=13						
MKAR	**Makanchi Array**	**60.22**	**326**	P	P	09 25 26.3	-0.1
	0.6nm,0.7s,baz=116,slow=7.8,SNR=3.9						

DJA 02 09:24:11.4±0.9, 8°S±5°×107°E±°, h10km, M3.8/6, MLv3.8/6, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.88**	**44**	P	Pg	09 24 27.8	-0.7
CISI				S	Sg	09 24 37.3	-2.8
SKJI	**Sukabumi**	**1.35**	**332**	P	Pn	09 24 31.2	-5.1
SKJI				S	Sb	09 24 52.3	-1.8
LEM	**Lembang**	**1.43**	**17**	P	Pn	09 24 36.7	-0.9
LEM				S	Sg	09 24 57.4	-0.3
DBJI	**Dramaga**	**1.69**	**345**	P	Pn	09 24 41.8	+0.7
DBJI				S	Sn	09 25 02.3	-0.6
BJII	**Banjamegara**	**2.63**	**71**	P	Pn	09 24 54.2	+0.1

*MOS **02** 09:28:42.3±1.0, 7°.73S×107°.37E, h37km, mb5.3/13, Error ellipse: s-maj=14.0km s-min=8.4km az=114.5*
*BKK **02** 09:28:43.7±0.3, 8°S±3°×10°7E±°, h10km, M5.5/10, mb5.4/10, MLv5.5/5*
*BJI **02** 09:28:44.4, 8°.10S×107°.30E, h50km, mB5.1/6, mb4.7/23, Ms5.4/9, Ms7 5.3/9*
*ISCJB **02** 09:28:45.2±0.4, 8°.11S±0°.03×107°.25E±0°.02, h60km±3km, mb4.8/48, Error ellipse: s-maj=5.4km s-min=3.3km az=27.1*
*IDC **02** 09:28:45.9±0.7, 7°.77S×107°.30E, h54km±5km, mb4.2/21, mb1 4.4/23, mb1mx4.3/28, mbtmp4.2/23, Error ellipse: s-maj=15.9km s-min=10.7km az=60.0*
*AUST **02** 09:28:45.6±1.1, 8°.15S×107°.27E, h33km, Error ellipse: s-maj=0.8km s-min=0.6km az=327.0*
*NEIC **02** 09:28:46.3±0.7, 7°.96S×107°.28E, h59km±5km, mb4.9/8, Error ellipse: s-maj=9.2km s-min=6.8km az=52.0*
NEIC Felt [V] at Bandung and Jakarta. Also felt at Karawang.
*DJA **02** 09:28:46.1±0.5, 8°S±3°×10°7E±°, h29km±5km, M5.6/24, mB6.2/7, mb5.3/24, MLv5.4/23, Mw(mB)5.9/7*
ISC 02 09:28:45.4±0.3, 8°.14S±0°.03×107°.24E±0°.03, h51km±2km, h51km:pP-P, n363, σ1°46/380, mb4.8/48, 93C-65D, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.81**	**44**	*e*Pn	**Pn**	**09 29 00.3**	**-0.4**
CISI	**Cisompet, Garu**	**0.81**	**44**	P	**Pn**	**09 29 00.2**	**-0.5**
CISI				S	**Sn**	**09 29 10.2**	**-1.7**
CISI	**Cisompet, Garu**	**0.81**	**44**	P	**Pn**	**09 28 59.7**	**-1.1**
	baz=0.8,SNR=720						
SKJI	**Sukabumi**	**1.32**	**329**	P	**Pn**	**09 29 07.1**	**-0.3**
LEM	**Lembang**	**1.36**	**16**	P	**Pn**	**09 29 09.0**	**+0.8**
LEM	**Lembang**	**1.36**	**16**	P	**Pn**	**09 29 08.9**	**+0.8**
	baz=1.4,SNR=432						
LEM				S	**Sn**	**09 29 27.4**	**+2.3**
	baz=1.4,SNR=5.5						
DBJI	**Dramaga**	**1.65**	**343**	P	**Pn**	**09 29 13.2**	**+1.2**
CLJI	**Cilicap**	**1.81**	**77**	P	**Pn**	**09 29 16.1**	**+2.0**
TNG	**Tangerang**	**2.04**	**343**	P	**Pn**	**09 29 18.6**	**+1.2**
TNG				S	**Sn**	**09 29 44.5**	**+2.8**
TGJI	**Tegal**	**2.25**	**56**	P	**Pn**	**09 29 21.0**	**+0.8**
TGJI				S	**Sn**	**09 29 48.3**	**+1.5**
BJII	**Banjamegara**	**2.58**	**72**	P	**Pn**	**09 29 25.0**	**+0.3**
BJII				S	**Sn**	**09 29 58.7**	**+3.8**
XMI	**Christmas Isla**	**2.76**	**214**	P	**Pn**	**09 29 28.1**	**+0.9**
	baz=2.8,SNR=74						
XMI				S	**Sn**	**09 29 57.5**	**-1.8**
	baz=2.8,SNR=8.8						
XMIS	**Christmas Isla**	**2.80**	**214**	*e*Pn	**Pn**	**09 29 28.3**	**+0.5**
XMIS				*e*Sn	**Sn**	**09 29 57.2**	**-3.3**
XMIS	**Christmas Isla**	**2.80**	**214**	P	**Pn**	**09 29 28.3**	**+0.5**
	baz=2.8,SNR=282						
XMIS				S	**Sn**	**09 29 57.9**	**-2.5**
	baz=2.8,SNR=12						
YOGI	**Yogyakarta**	**3.04**	**84**	P	**Pn**	**09 29 31.1**	**0.0**
UGM	**Wanagama**	**3.26**	**86**	*e*Pn	**Pn**	**09 29 34.0**	**0.0**
UGM	**Wanagama**	**3.26**	**86**	P	**Pn**	**09 29 33.9**	**-0.1**
UGM				S	**Sn**	**09 30 13.3**	**+1.6**
UGM	**Wanagama**	**3.26**	**86**	P	**Pn**	**09 29 34.2**	**+0.1**
	baz=3.2,SNR=105						
BLSI	**Bandar Lampung**	**3.39**	**324**	P	**Pn**	**09 29 37.9**	**+2.0**
WOJI	**Wonogiri, Jawa**	**3.66**	**86**	P	**Pn**	**09 29 39.4**	**-0.1**
PCJI	**Pacitan**	**3.90**	**91**	P	**Pn**	**09 29 43.4**	**+0.6**
PCJI				S	**Sn**	**09 30 26.1**	**-1.2**
KLI	**Kotabumi**	**4.03**	**324**	P	**Pn**	**09 29 47.2**	**+2.6**
LWLI	**Liwa**	**4.43**	**314**	P	**Pn**	**09 29 51.9**	**+1.7**
LWLI				S	**Sn**	**09 30 42.6**	**+2.0**
SJI	**Sawahan**	**4.50**	**85**	P	**Pn**	**09 29 52.5**	**+1.3**
PWJI	**Pagerwojo**	**4.52**	**89**	P	**Pn**	**09 29 51.7**	**+0.4**
PWJI				S	**Sn**	**09 30 44.1**	**+1.5**
KRKI	**Karangkates**	**5.16**	**91**	P	**Pn**	**09 30 02.0**	**+1.9**
	907nm,0.8s,32μm9.0nm						
GRJI	**Gresik**	**5.34**	**77**	S	**Sn**	**09 31 02.4**	**-0.3**
TPI	**Tanjungpandan**	**5.37**	**4**	P	Pn	09 30 12.6	+10
EGSI	**Enggano, Bengk**	**5.65**	**299**	P	**Pn**	**09 30 08.1**	**+1.2**
	2μm,0.8s						
MNAI	**Manna**	**5.68**	**311**	*e*Pn	**Pn**	**09 30 08.3**	**+1.1**
MNAI	**Manna**	**5.68**	**311**	P	**Pn**	**09 30 08.3**	**+1.1**
	639nm,1.1s,19μm3.5nm						
MNAI	**Manna**	**5.68**	**311**	P	**Pn**	**09 30 08.3**	**+1.1**
	baz=5.7,SNR=41						
PMBI	**Palembang**	**5.73**	**334**	P	**Pn**	**09 30 10.7**	**+2.7**
	600nm,1.0s,2.2nm						
PMBI	**Palembang**	**5.73**	**334**	P	Pn	09 30 01.1	-6.9
	baz=5.8,SNR=3.8						
PPBI	**Pangkal Pinang**	**6.04**	**349**	P	**Pn**	**09 30 14.4**	**+2.2**
	104nm,1.1s,12μm1.0nm						
BLJI	**Banyuglugur**	**6.31**	**87**	P	**Pn**	**09 30 17.6**	**+1.8**
	271nm,0.7s,1.6nm						
KSI	**Kapahiang**	**6.42**	**314**	P	**Pn**	**09 30 19.7**	**+2.2**
	500nm,0.6s,2.2nm						
KMMI	**Kalianget**	**6.76**	**81**	P	**Pn**	**09 30 22.3**	**+0.3**
	75nm,1.0s						
MASI	**Maura Aman, Be**	**7.03**	**315**	P	**Pn**	**09 30 27.5**	**+1.7**
	481nm,0.9s						
IGBI	**Denpasar**	**7.85**	**95**	P	**Pn**	**09 30 38.3**	**+1.3**
	589nm,1.0s,17μm						
SRBI	**Singaraja**	**7.89**	**90**	P	**Pn**	**09 30 40.0**	**+2.4**
	194nm,0.6s						
DNP	**Denpasar**	**7.90**	**94**	P	Pn	09 30 50.5	+13
STKI	**Sintang**	**9.18**	**28**	P	**Pn**	**09 30 57.3**	**+2.0**
	48nm,0.8s						
TPRI	**Tanjung Pinang**	**9.40**	**343**	P	Pn	09 31 11.1	+13
PDSI	**Padang**	**9.86**	**316**	P	**Pn**	**09 31 02.8**	**-1.8**
	108nm,0.5s,37μm						
KSM	**Kuching**	**10.03**	**18**	*e*Pn	**Pn**	**09 31 05.9**	**-0.9**
KSM	**Kuching**	**10.03**	**18**	P	**Pn**	**09 31 06.3**	**-0.6**
KSM	**Kuching**	**10.03**	**18**	P	Pn	09 31 18.0	+11
PPI	**Padang Panjang**	**10.24**	**318**	P	**Pn**	**09 31 10.6**	**+0.9**
	83nm,0.5s						
PPI	**Padang Panjang**	**10.24**	**318**	P	**Pn**	**09 31 10.3**	**+0.6**
	baz=10,SNR=6.6						
MYKOM	**Kota Tinggi**	**10.43**	**341**	P	**Pn**	**09 31 11.8**	**-0.5**
MYKOM	**Kota Tinggi**	**10.43**	**341**	P	Pn	09 31 16.3	+4.0
	28nm,1.6s						
BKNI	**Bangkinang**	**10.44**	**323**	P	**Pn**	**09 31 12.3**	**-0.2**
	145nm,1.2s						
MTKI	**Muara Teweh, K**	**10.46**	**47**	P	**Pn**	**09 31 10.2**	**-2.5**
	968nm,0.5s,15μm						
KGM	**Kluang**	**10.82**	**339**	P	Pn	09 31 22.5	+4.8
SBUM	**Sibu**	**11.63**	**25**	*e*Pn	**Pn**	**09 31 29.0**	**+0.2**
KAPI	**Kappang**	**12.81**	**77**	P	**Pn**	**09 31 44.4**	**-0.5**
KAPI	**Kappang**	**12.81**	**77**	P	Pn	09 31 48.9	+4.0
	126nm,1.2s						
KAPI	**Kappang**	**12.81**	**77**	P	**Pn**	**09 31 44.4**	**-0.5**
	0.5nm,0.3s,baz=248,slow=14,SNR=4.6						
MMSI	**Mamuju**	**12.81**	**66**	P	**P**	**09 31 52.2**	**-2.3**
BKSI	**Bulukumba**	**13.10**	**78**	P	**Pn**	**09 31 51.9**	**+3.1**
	54nm,1.3s						
TTSI	**Tana Toraja**	**13.50**	**69**	P	**P**	**09 32 01.6**	**-0.5**
PSI	**Prapat**	**13.67**	**322**	P	Pn	09 31 51.0	-5.8
PSI	**Prapat**	**13.67**	**322**	P	Pn	09 31 51.0	-5.8
	1.3nm,0.3s,baz=146,slow=11,SNR=5.2						
PSI	**Prapat**	**13.67**	**322**	P	Pn	09 31 50.9	-5.9
	baz=14,SNR=4.3						
KULM	**Kulim**	**14.87**	**334**	*e*Pn	**Pn**	**09 32 11.9**	**-0.8**
SOEI	**Soe**	**16.90**	**97**	P	**Pn**	**09 32 38.4**	**-0.2**
	126nm,1.1s						
SOEI	**Soe**	**16.90**	**97**	P	**Pn**	**09 32 36.6**	**-2.0**
	baz=17,SNR=5.5						
SOEI				S	**Sn**	**09 35 40.7**	**-5.0**
	baz=17,SNR=3.6						
MRSI	**Marisa**	**16.97**	**60**	P	**P**	**09 32 41.3**	**+0.6**
	49nm,0.7s,3μm						
NLAI	**Namlea**	**20.35**	**77**	P	Pn	09 33 21.0	+0.9
	107nm,0.7s						
FITZ	**Fitzroy Crossi**	**20.45**	**121**	*e*Pn	Pn	09 33 20.8	-0.6
	22nm,0.8s						
FITZ	**Fitzroy Crossi**	**20.45**	**121**	P	Pn	09 33 20.7	-0.6
	25nm,0.7s,baz=286,slow=6.5,SNR=74						
FITZ	**Fitzroy Crossi**	**20.45**	**121**	P	Pn	09 33 20.6	-0.7
	baz=20,SNR=33						
MEEK	**Meekatharra**	**21.33**	**151**	P	P	09 33 34.0	+5.8
	baz=21,SNR=9.8						
MEEK				S	**S**	**09 37 18.0**	**-4.5**
	baz=21,SNR=5.3						
KNRA	**Kununurra**	**22.34**	**112**	P	**P**	**09 33 39.5**	**+0.4**
	baz=22,SNR=7.8						
MORW	**Morawa**	**22.41**	**159**	S	**S**	**09 37 48.9**	**+6.3**
	baz=22,SNR=5.7						
MTN	**Manton Dam**	**23.95**	**103**	P	**P**	**09 33 55.1**	**0.0**
	baz=24,SNR=9.3						
KDU	**Kakadu**	**25.22**	**102**	P	**P**	**09 34 06.0**	**-0.7**
	baz=25,SNR=8.6						
FAKI	**Fak Fak**	**25.42**	**80**	P	**P**	**09 34 07.3**	**-1.2**
	baz=25,SNR=5.9						
QIZ	**Qiongzhong**	**27.12**	**5**	P	**P**	**09 34 24.9**	**+1.2**
QIZ				S	**S**	**09 39 02.1**	**+3.5**
QIZ				pmax	pmax		
	comp=Z,20nm,1.7s						
CM31	**Chiang Mai Arr**	**27.67**	**343**	P	**P**	**09 34 29.6**	**+0.9**
CMAR	**Chiang Mai Arr**	**27.67**	**343**	P	**P**	**09 34 24.9**	**-3.8**
CMAR				PcP	**PcP**	**09 37 44.8**	**-0.2**
CMAR	**Chiang Mai Arr**	**27.67**	**343**	P	**P**	**09 34 24.9**	**-3.8**
	comp=Z,1.9nm,0.3s,baz=178,slow=9.0,SNR=6.9						
CMAR				PcP	**PcP**	**09 37 44.8**	**-0.2**
	comp=Z,2.1nm,0.7s,baz=201,slow=4.0,SNR=5.8						
WRA	**Warramunga Arr**	**28.73**	**117**	P	**P**	**09 34 38.8**	**+0.6**
WRA				PcP	**PcP**	**09 37 47.8**	**0.0**
WRA	**Warramunga Arr**	**28.73**	**117**	P	**P**	**09 34 38.8**	**+0.6**
	comp=Z,3.5nm,0.5s,baz=293,slow=10,SNR=56						
WRA				PcP	**PcP**	**09 37 47.8**	**0.0**
	comp=Z,1.6nm,0.6s,baz=298,slow=2.3,SNR=5.7						
WRAB	**Tennant Creek**	**28.74**	**117**	*e*P	**P**	**09 34 38.7**	**+0.4**
WRAB				pmax	pmax		
	comp=Z,70nm,2.0s						
WRAB	**Tennant Creek**	**28.74**	**117**	*e*P	**P**	**09 34 38.7**	**+0.4**
	comp=Z,70nm,2.0s						
ASAR	**Alice Springs**	**29.84**	**124**	P	**P**	**09 34 49.0**	**+1.0**
ASAR				PcP	**PcP**	**09 37 51.0**	**+0.5**
**ASAR

STKA	Stephens Creek	39.71	131		P	P	09 36 15.0	+2.0
	baz=40,SNR=151							
NJ2	Nanjing	41.48	15	eP	P	P	09 36 29.0	+1.6
NJ2					pmax	pmax		
	comp=Z,17nm,0.5s							
ARPS	Mount Arapiles	42.42	137		P	P	09 36 38.1	+2.9
	baz=42,SNR=5.0							
CMSA	Cobar Meteorol	42.67	128		P	P	09 36 39.5	+2.2
	baz=43,SNR=7.6							
LZH	Lanzhou	44.11	356	eP	P	P	09 36 46.7	-2.2
LZH					pP	pP	09 37 00.2	-2.3
LZH					sP	sP	09 37 06.1	-2.4
LZH					PP	PP	09 38 31.8	-0.8
LZH					eS	S	09 43 17.2	-1.0
LZH					sS	sS	09 43 39.1	-2.0
LZH					SS	SS	09 46 27.5	-10
LZH					pmax	pmax		
	comp=Z,39nm,1.2s							
LZH					pmax	pmax		
	comp=Z,190nm,6.0s							
LZH					LR	LR		
	comp=N,2μm,14.2s							
LZH					LR	LR		
	comp=E,2μm,14.3s							
LZH					LR	LR		
	comp=Z,3μm,17.6s							
YNG	Young	45.89	131		P	P	09 37 05.7	+2.7
	baz=46,SNR=13							
CAN	Canberra	46.77	132	eP	P	P	09 37 12.5	+2.5
CAN					pmax	pmax		
	comp=Z,60nm,1.2s							
CAN	Canberra	46.77	132	eP	P	P	09 37 12.5	+2.5
	comp=Z,60nm,1.2s							
ARMA	Armidale	47.00	124		P	P	09 37 15.3	+3.5
	baz=47,SNR=5.0							
CNB	Canberra Magne	47.04	131		P	P	09 37 14.6	+2.6
	baz=47,SNR=4.4							
MGCD	Mangrove Creek	47.54	128		P	P	09 37 19.1	+3.1
	baz=48,SNR=7.3							
GTA	Gaotai	47.81	352	eP	P	P	09 37 18.3	+0.3
GTA					pP	pP	09 37 30.5	-1.2
GTA					sP	sP	09 37 35.5	-2.2
GTA					pmax	pmax		
	comp=Z,3.0nm,0.7s							
BJI	Beijing	48.65	9		P	P	09 37 25.5	+1.3
BJI					pmax	pmax		
	comp=Z,15nm,0.5s							
HHC	Hu-ho-hao-te	48.91	4	eP	P	P	09 37 28.9	+2.5
HHC					pP	pP	09 37 41.3	+1.1
HHC					sP	sP	09 37 46.6	+0.5
HHC					PP	PP	09 39 23.1	+2.8
HHC					PcS	PcS	09 42 47.3	+0.8
HHC					S	S	09 44 29.5	+2.8
HHC					sS	sS	09 44 50.7	+0.9
HHC					ScS	ScS	09 47 14.0	-0.4
HHC					SS	SS	09 47 56.7	-1.5
HHC					pmax	pmax		
	comp=Z,47nm,1.1s							
HHC					LR	LR		
	comp=N,2μm,18.6s							
HHC					LR	LR		
	comp=E,2μm,18.0s							
HHC					LR	LR		
	comp=Z,6μm,18.8s							
KSAR	Wonju Array Be	49.29	22		P	P	09 37 27.6	-1.6
KSAR					PcP	PcP	09 38 51.5	0.0
KSRS	Korea Array	49.31	22		P	P	09 37 27.6	-1.7
	comp=Z,0.8nm,0.7s,baz=224,slow=6.7,SNR=4.6							
KSRS					PcP	PcP	09 38 51.5	-0.1
	comp=Z,3.1nm,0.9s,baz=202,slow=3.1,SNR=9.8							
MJAR	Matsushiro Arr	53.11	31		P	P	09 37 54.5	-3.4
MJAR					PcP	PcP	09 39 05.7	0.0
MJAR	Matsushiro Arr	53.11	31		P	P	09 37 54.5	-3.4
	comp=Z,3.3nm,0.9s,baz=210,slow=8.6,SNR=6.7							
MJAR					PcP	PcP	09 39 05.7	0.0
	comp=Z,3.3nm,0.8s,baz=196,slow=3.8,SNR=6.2							
CN2	Changchun	54.27	16	eP	P	P	09 38 09.1	+2.8
WMQ	Urumqi	54.67	343	eP	P	P	09 38 11.2	+1.9
WMQ					pP	pP	09 38 24.2	+0.9
WMQ					sP	sP	09 38 29.2	+0.1
WMQ					pmax	pmax		
	comp=Z,9.0nm,1.0s							
WMQ					pmax	pmax		
	comp=Z,81nm,4.6s							
KSH	Kashi	55.57	331	eP	P	P	09 38 13.6	-2.3
KSH					PcS	PcS	09 43 12.9	-2.6
KSH					S	S	09 45 49.3	-8.7
KSH					sS	sS	09 46 16.8	-4.7
KSH					pmax	pmax		
	comp=Z,1μm,12.5s							
KSH					LR	LR		
	comp=N,810nm,10.8s							
KSH					LR	LR		
	comp=E,740nm,13.0s							
KSH					LR	LR		
	comp=Z,2μm,16.1s							
SONM	Songino Array	55.73	359		P	P	09 38 14.9	-2.0
SONM					PcP	PcP	09 39 15.2	-0.5
SONM					ScP	ScP	09 43 08.5	-2.1
SONM	Songino Array	55.73	359		P	P	09 38 14.9	-2.0
	comp=Z,3.4nm,0.7s,baz=179,slow=8.1,SNR=15							
SONM					PcP	PcP	09 39 15.2	-0.5
	comp=Z,3.6nm,0.6s,baz=181,slow=2.7,SNR=7.4							
SONM					ScP	ScP	09 43 08.5	-2.1
	comp=Z,2.1nm,0.6s,baz=175,slow=3.5,SNR=5.7							
ULN	Ulaanbaatar	55.76	360	eP		P	09 38 15.2	-1.9
	comp=Z,8.7nm,0.9s							
MDJ	Mudanjiang	56.26	19		P	P	09 38 21.8	+1.3
MDJ					pmax	pmax		
	comp=Z,7.0nm,0.6s							
USRK	Ussuriysk Arra	56.70	21		P	P	09 38 20.9	-2.8
	comp=Z,1.0nm,0.4s,baz=194,slow=7.0,SNR=4.6							
ASAJ	Asahikawa	61.05	28		P	P	09 38 51.1	-2.8
ASAJ	Asahikawa	61.05	28		P	P	09 38 51.1	-2.8
	comp=Z,2.5nm,0.6s,baz=252,slow=9.6,SNR=4.0							
YSS	Yuzh-Sakhalins	63.28	26	eP		P	09 39 07.9	-0.9
YSS				e			09 39 22.2	
YSS					pmax	pmax		
	comp=Z,20nm,0.9s							
MAW	Mawson	66.35	197		P	P	09 39 30.1	+1.7
MAW	Mawson	66.35	197		P	P	09 39 30.1	+1.7
	comp=Z,15nm,0.6s,baz=44,slow=8.6,SNR=14							
MAW	Mawson	66.35	197		P	P	09 39 31.7	+3.3
	baz=66,SNR=6.0							
BVAR	Borovoye Array	68.50	337		P	P	09 39 40.4	-1.8
BVAR	Borovoye Array	68.50	337		P	P	09 39 40.4	-1.8
BVAR	Borovoye Array	68.50	337		P	P	09 39 40.4	-1.8
	comp=Z,3.1nm,0.4s,baz=133,slow=8.5,SNR=6.4							
ABKAR	Akbulak array	70.51	329	eP		P	09 39 53.6	-1.1
	comp=Z,13nm,0.5s							
YAK	Yakutsk	72.10	11	eP	P		09 40 00.1	-3.9
YAK					pmax	pmax		
	comp=Z,13nm,1.0s							
YAK					pmax	pmax		
	comp=N,7.0nm,1.3s							
YAK					pmax	pmax		
	comp=E,5.0nm,1.0s							
AKTO	Aktyubinsk	72.22	329		P	P	09 40 03.3	-1.7
AKTO	Aktyubinsk	72.22	329		P	P	09 40 03.3	-1.7
AKTO	Aktyubinsk	72.22	329		P	P	09 40 03.3	-1.7
	comp=E,2.0nm,0.3s,baz=129,slow=8.0,SNR=5.1							
PETK	Petropavlovsk-	74.47	29		P	P	09 40 15.9	-2.3
PETK	Petropavlovsk-	74.47	29		P	P	09 40 15.8	-2.3
PETK	Petropavlovsk-	74.47	29		P	P	09 40 15.8	-2.3
	comp=E,1.5nm,0.6s,baz=196,slow=3.9,SNR=9.8							
SYO	Syowa Base	74.52	200⇓	eP		P	09 40 19.0	+0.8
SYO	Syowa Base	74.52	200⇑	eP	cP	PcP	09 40 31.0	-1.5
VNDA	Vanda	74.81	169		P	P	09 40 21.6	+1.8
VNDA	Vanda	74.81	169		P	P	09 40 21.6	+1.8
	comp=E,5.6nm,0.9s,baz=307,slow=7.1,SNR=12							
DGRG	David-gareji	75.04	317		P	P	09 40 22.7	+0.8
GUDG	Gudauri	76.08	317		P	P	09 40 30.1	+2.1
KBZ	Khabaz	77.65	318		P	P	09 40 36.0	-0.5
KBZ	Khabaz	77.65	318		P	P	09 40 36.0	-0.5
KBZ	Khabaz	77.65	318		P	P	09 40 36.0	-0.5
	comp=E,6.0nm,0.9s,baz=134,slow=4.4,SNR=6.8							
BOSA	Boshof	79.14	242		P	P	09 40 47.2	+1.9
BOSA	Boshof	79.14	242		P	P	09 40 47.2	+1.9
	comp=E,2.7nm,0.7s,baz=109,slow=4.6,SNR=6.3							
TIXI	Tiksi	80.90	7	eP		P	09 40 51.6	-2.0
TIXI					pmax	pmax		
	comp=Z,13nm,1.2s							
VRHR	Novokhopersk	81.46	324	eP		P	09 40 56.5	-0.5
VRHR					pmax	pmax		
	comp=Z,20nm,1.0s							
VRHR					pmax	pmax		
	comp=N,9.0nm,0.6s							
VRHR					pmax	pmax		
	comp=E,20nm,1.4s							
CSS	Prodhromos	81.66	307	eP		P	09 40 59.4	+0.9
	comp=E,13nm,0.8s							
ANN	Anapa	81.69	318	eP		P	09 40 56.5	-1.9
ANN					pmax	pmax		
	comp=Z,42nm,1.5s							
VORD	Divnogorie	82.76	324	eP		P	09 41 03.0	-0.8
VORD					pmax	pmax		
	comp=Z,20nm,2.0s							
VORD					pmax	pmax		
	comp=N,10.0nm,0.6s							
VORD					pmax	pmax		
	comp=E,8.0nm,0.6s							
BRTR	Keskin Array B	82.76	312		P	P	09 41 03.1	-1.2
BRTR					pP	pP	09 41 18.9	-0.2
BRTR	Keskin Array B	82.76	312		P	P	09 41 03.1	-1.2
	comp=E,3.1nm,0.8s,baz=123,slow=5.3,SNR=13							
BRTR					pP	pP	09 41 18.9	-0.2
	comp=E,1.4nm,0.8s,baz=132,slow=6.8,SNR=3.1							
VSR	Storozhevoye	82.93	324	eP		P	09 41 03.8	-0.9
VSR					pmax	pmax		
	comp=Z,10.0nm,0.6s							
VSR					pmax	pmax		
	comp=N,10.0nm,1.4s							
VSR					pmax	pmax		
	comp=E,10.0nm,0.6s							
OBN	Obninsk	85.81	327⇑	eP		P	09 41 18.1	-1.1
OBN					pmax	pmax		
	comp=Z,20nm,1.2s							
KLMR	Klimovskoe	86.50	333	eP		P	09 41 21.6	-0.9
KLMR					pmax	pmax		
	comp=Z,13nm,1.0s							
SNAA	Sanae	88.52	197	eP		P	09 41 35.1	+2.9
SNAA	Sanae	88.52	197	eP		P	09 41 34.4	+2.2
	comp=Z,19nm,0.9s							
AKASG	Malin Array Be	88.73	322		P	P	09 41 32.3	-1.1
AKASG					*PP	pP	09 41 48.2	-0.2
AKASG	Malin Array Be	88.73	322		P	P	09 41 32.2	-1.1
AKASG					pP	pP	09 41 48.1	-0.2
AKASG	Malin Array Be	88.73	322		P	P	09 41 32.2	-1.1
	comp=Z,1.5nm,0.6s,baz=81,slow=5.5,SNR=5.0							
AKASG					pP	pP	09 41 48.1	-0.2
	comp=Z,1.8nm,0.6s,baz=81,slow=5.5,SNR=2.9							
VNA2	Neumayer--Watz	90.16	197	eP		P	09 41 43.1	+3.3
VNA1	Neumayer--Stat	90.54	198	eP		P	09 41 45.1	+3.6
KOLS	Kolonicke sedl	92.78	319	eP		P	09 41 53.2	+0.9
KOLS	Kolonicke sedl	92.78	319		P	P	09 41 53.2	+0.9
FINES	FINESS Array B	92.88	332		P	P	09 41 51.0	-1.5
FINES	FINESS Array B	92.88	332		P	P	09 41 50.9	-1.5
	comp=Z,2.5nm,0.8s,baz=95,slow=5.9,SNR=3.2							
STHS	Stebnicka Huta	93.52	319	eP		P	09 41 55.2	-0.6
STHS	Stebnicka Huta	93.52	319	eP		P	09 41 55.2	-0.6
ARCES	ARCESS Array B	94.68	340		P	P	09 41 59.1	-1.6
ARCES	ARCESS Array B	94.68	340		P	P	09 41 59.1	-1.6
	comp=Z,3.0nm,1.0s,baz=90,slow=6.3,SNR=6.7							
YKA	Yellowknife Ar	117.84	21		PKP	PKPdf	09 47 24.9	-0.9
YKA					pPKP	pPKPdf	09 47 41.2	0.0
YKA	Yellowknife Ar	117.84	21		PKP	PKPdf	09 47 24.9	-0.9
	comp=Z,0.8nm,0.6s,baz=323,slow=1.4,SNR=9.8							
YKA					pPKP	pPKPdf	09 47 41.2	0.0
	comp=Z,1.1nm,0.8s,baz=335,slow=2.2,SNR=5.2							
NEW	Newport	125.28	35		⇑PKiKP	PKiKP	09 47 41.3	+0.3
	baz=125							
SWMT	Swartz Lake	127.45	34		ePKPdf	PKPdf	09 47 44.4	-0.5
MSO	Missoula	127.87	35		⇑PKiKP	PKiKP	09 47 46.2	-0.1
	baz=128							
PAHR	Pah Rah Range	127.88	45		ePKPdf	PKPdf	09 47 46.7	+0.7
B17A	L&G Farms, Che	128.72	32		⇑PKiKP	PKPdf	09 47 47.5	+0.3
	baz=128							
A18A	Metzger Ranch,	128.81	31		⇑PKiKP	PKPdf	09 47 47.5	+0.2
	baz=129							
C17A	Wharram Farm,	129.14	32		⇓PKiKP	PKPdf	09 47 48.3	+0.2
	baz=129							
NVAR	Mina Array Bea	129.17	46		PKP	PKPdf	09 47 48.6	0.0
NVAR					pPKP	pPKPdf	09 48 05.6	+1.5
NVAR					SKPbc	SKPab	09 51 03.8	-1.0
NVAR	Mina Array Bea	129.17	46		PKP	PKPdf	09 47 48.6	0.0
	comp=Z,0.7nm,0.8s,baz=278,slow=2.6,SNR=7.4							
NVAR					pPKP	pPKPdf	09 48 05.6	+1.5
	comp=Z,1.2nm,1.0s,baz=226,slow=0.9,SNR=5.6							
NVAR					SKPbc	SKPab	09 51 03.8	-1.0
	comp=Z,0.4nm,0.6s,baz=277,slow=5.1,SNR=3.6							
B18A	Beardsley Farm	129.18	31		⇑PKiKP	PKiKP	09 47 48.6	-0.2
	baz=129							
LRM	Limekiln Ridge	129.29	35		ePKPdf	PKPdf	09 47 49.4	+0.7
PKM	Peak Mountain	129.38	51		⇓PKiKP	PKPdf	09 47 48.5	-0.6
	baz=129							
EGMT	Eagleton	129.43	32		⇑PKiKP	PKPdf	09 47 49.0	+0.3
	baz=129							
D17A	Six Diamond Ra	129.48	33		⇑PKiKP	PKPdf	09 47 48.9	+0.1
	baz=129							
A20A	Cobblestone Ra	129.79	30		⇑PKiKP	PKPdf	09 47 49.6	+0.4
	baz=130							
E17A	Martinsdale	129.81	34		⇓PKiKP	PKPdf	09 47 49.7	+0.2
	baz=130							
D18A	Linhart Farms,	129.93	32		⇓PKiKP	PKiKP	09 47 50.3	-0.1
	baz=130							
C19A	Slack Wire Ran	129.98	31		⇓PKiKP	PKiKP	09 47 50.4	-0.1
	baz=130							
B20A	Solberg Farm,	130.04	30		⇓PKiKP	PKPdf	09 47 50.0	+0.3
	baz=130							
F17A	Fitzpatrick Pl	130.26	34		⇑PKiKP	PKiKP	09 47 51.0	-0.1
	baz=130							
D19A	Cripps Ranch,	130.43	32		⇑PKiKP	PKiKP	09 47 51.5	+0.1
	baz=130							
C20A	Veseth Ranch,	130.53	31		⇓PKiKP	PKiKP	09 47 51.6	+0.1
	baz=130							
H16A	Russell Place,	130.64	36		⇓PKiKP	PKiKP	09 47 52.3	+0.2
	baz=130							
A22A	Carney Farms,	130.68	28		⇑PKiKP	PKiKP	09 47 52.3	+0.5
	baz=130							
MPMC	Manual Prospec	130.72	49		⇑PKiKP	PKiKP	09 47 52.4	-0.1
	baz=130							
F18A	Big Timber	130.78	34		⇑PKiKP	PKiKP	09 47 52.5	+0.3
	baz=130							
EDW2	Edwards Air Fo	130.79	50		⇓PKiKP	PKiKP	09 47 53.3	+0.8
	baz=131							
D20A	Manuel Ranch,	130.87	32		⇑PKiKP	PKiKP	09 47 53.0	+0.8
	baz=131							
C21A	Desert Coulee	130.91	30		⇑PKiKP	PKiKP	09 47 52.9	+0.6
	baz=131							
E19A	Rath Farm, Rou	130.93	33		⇑PKiKP	PKiKP	09 47 52.7	+0.2
	baz=131							
CIS	Catalina Islan	131.00	52		⇑PKiKP	PKiKP	09 47 52.8	-0.1
	baz=131							
F19A	Roth Farm, Mol	131.23	33		⇑PKiKP	PKiKP	09 47 53.2	+0.1
	baz=131							
E20A	Meyer Farm, Mu	131.25	32		⇓PKiKP	PKiKP	09 47 52.8	-0.3
	baz=131							
BFSC	Mount Baldy Ra	131.28	51		⇓PKiKP	PKPdf	09 47 52.9	+0.3
	baz=131							
B23A	Brockton	131.48	28		⇑PKiKP	PKiKP	09 47 53.7	+0.3
	baz=131							
H18A	Shoshone NF, C	131.56	35		⇑PKiKP	PKiKP	09 47 54.1	+0.1
	baz=131							
D22A	Cohagen	131.82	30		⇑PKiKP	PKiKP	09 47 54.6	+0.4
	baz=132							
C23A	Lambert	131.86	29		⇑PKiKP	PKiKP	09 47 54.5	+0.3
	baz=132							
G20A	Bridger	132.03	33		⇑PKiKP	PKiKP	09 47 55.1	+0.3
	baz=132							
A26A	Wade Farm, Ken	132.50	26		⇓PKiKP	PKiKP	09 47 55.3	-0.1
	baz=132							
GMRC	Granite Mounta	132.60	50		⇑PKiKP	PKiKP	09 47 56.3	0.0
	baz=132							
BELC	Belle Mtn. Jos	132.65	51		⇓PKiKP	PKiKP	09 47 56.1	-0.2
	baz=132							
D24A	Glendive	132.76	29		⇑PKiKP	PKiKP	09 47 56.1	0.0
	baz=132							
PDAR	Pinedale Array	132.76	37		PKP	PKPdf	09 47 55.6	+0.3
PDAR					SKPbc	SKPbc	09 51 17.6	-1.0
PDAR	Pinedale Array	132.76	37		PKP	PKPdf	09 47 55.6	+0.3
	comp=Z,0.3nm,0.5s,baz=60,slow=2.2,SNR=4.5							
PDAR					SKPbc	SKPbc	09 51 17.6	-1.0
	comp=Z,1.4nm,1.0s,baz=132,slow=1.3,SNR=7.2							
J19A	Crowheart	132.76	36		⇓PKiKP	PKiKP	09 47 56.1	-0.2
	baz=132							
C25A	Freed Ranch, W	132.83	28		⇑PKiKP	PKiKP	09 47 56.3	+0.1
	baz=133							
I20A	Worland	132.88	35		⇓PKiKP	PKiKP	09 47 56.2	-0.3
	baz=133							
L18A	Fontenelle, Gr	132.97	38		⇓PKiKP	PKPdf	09 47 56.2	+0.6
	baz=133							
K19A	Absolon Red Bu	133.15	36		⇑PKiKP	PKiKP	09 47 56.7	-0.5
	baz=133							
F23A	Volborg	133.19	31		⇑PKiKP	PKiKP	09 47 57.0	0.0
	baz=133							
SCHQ	Schefferville	133.20	355		SKPbc	SKPbc	09 51 17.9	-1.4
SCHQ	Schefferville	133.20	355		SKPbc	SKPbc	09 51 17.9	-1.4
	comp=Z,3.8nm,0.7s,baz=332,slow=2.6,SNR=4.5							
J20A	Shoshoni	133.27	35		⇑PKiKP	PKiKP	09 47 57.1	-0.3
	baz=133							
B28A	Dugan Ranch, T	133.56	25		⇑PKiKP	PKiKP	09 47 57.9	+0.3
	baz=133							
A29A	Manning Farm,	133.65	24		⇓PKiKP	PKiKP	09 47 57.4	-0.3
	baz=133							
ULM	Lac du Bonnet	133.82	20		SKPbc	SKPbc	09 51 20.1	-1.4
ULM	Lac du Bonnet	133.82	20		SKPbc	SKPbc	09 51 20.1	-1.4
	comp=Z,2.6nm,0.5s,baz=293,slow=4.0,SNR=4.7							
C28A	Hausauer Farms	134.12	26		⇑PKiKP	PKiKP	09 47 58.7	0.0
	baz=134							
K21A	Alcova	134.20	36		⇓PKiKP	PKPdf	09 47 58.6	+0.7
	baz=134							
M20A	Sweetwater, Wa	134.34	38		⇓PKiKP	PKiKP	09 47 59.4	-0.2
	baz=134							
MDND	Maddock	134.35	25		⇑PKiKP	PKiKP	09 47 58.9	-0.3
	baz=134							
U15A	North Rim	134.35	46		⇓PKiKP	PKiKP	09 48 00.2	+0.3
	baz=134							
L21A	Rawlins	134.54	36		⇑PKiKP	PKPdf	09 47 59.3	+0.6
	baz=134							
G27A	Dupree	134.67	30		⇑PKiKP	PKiKP	09 48 00.5	+0.5
	baz=135							
N20A	Spence Gulch,	134.68	38		⇑PKiKP	PKiKP	09 47 59.9	-0.5
	baz=134							
M21A	Separation Pea	134.76	37		⇑PKiKP	PKPdf	09 47 59.3	+0.2
	baz=134							
113A	Mohawk Valley,	134.85	51		⇑PKiKP	PKiKP	09 48 00.5	-0.2
	baz=135							
G26A	Maurine	134.90	30		⇑PKiKP	PKiKP	09 48 00.0	-0.4
	baz=135							
C30A	Mose, Pekin	134.93	24		⇑PKiKP	PKiKP	09 48 00.4	+0.1
	baz=135							
O20A	White River Ci	135.10	39		⇓PKiKP	PKPdf	09 48 00.6	+0.9
	baz=135							
N21A	Black Mountain	135.18	38		⇓PKiKP	PKiKP	09 48 00.9	-0.6
	baz=135							
J24A	Dixon Ranch, L	135.20	33		⇑PKiKP	PKiKP	09 48 00.7	-0.5
	baz=135							
I25A	Rochford	135.22	32		⇓PKiKP	PKPdf	09 48 00.5	+0.7
	baz=135							
D30A	Buchanan	135.28	25		⇓PKiKP	PKPdf	09 48 00.5	+0.9
	baz=135							
P20A	De Beque	135.38	40		⇑PKiKP	PKiKP	09 48 01.7	0.0
	baz=135							
WUAZ	Wupatki	135.44	47		⇓PKiKP	PKiKP	09 48 02.3	+0.3
	baz=135							
J25A	Sunshine Ranch	135.62	33		⇓PKiKP	PKiKP	09 48 02.1	+0.1
	baz=136							
X16A	Lo Mia Camp, P	135.90	48		⇑PKiKP	PKiKP	09 48 02.6	-0.4
	baz=136							
P21A	Newcastle	135.96	39		⇓PKiKP	PKiKP	09 48 02.7	-0.3
	baz=136							
N23A	Red Feather La	136.04	37		⇑PKiKP	PKiKP	09 48 02.8	-0.4
	baz=136							
I27A	Quinn	136.05	31		⇓PKiKP	PKiKP	09 48 02.8	-0.1
	baz=136							
Q21A	Lamborn Mesa,	136.28	40		⇑PKiKP	PKiKP	09 48 03.8	+0.1
	baz=136							
S20A	Disappointment	136.33	42		⇓PKiKP	PKiKP	09 48 04.1	+0.2
	baz=136							
M24A	Cheyenne	136.33	35		⇑PKiKP	PKiKP	09 48 03.7	0.0
	baz=136							
K26A	Motz Farm, Whi	136.42	33		⇑PKiKP	PKiKP	09 48 03.7	0.0
	baz=136							
O23A	Lake Granby, G	136.49	37		⇑PKiKP	PKiKP	09 48 04.1	0.0
	baz=136							
MVCO	Mesa Verde	136.58	43		⇑PKiKP	PKiKP	09 48 04.3	0.0
	baz=136							
J27A	Elkhorn Farm,	136.65	31		⇑PKiKP	PKiKP	09 48 04.5	+0.4
	baz=136							
Q22A	Crested Butte,	136.68	40		⇓PKiKP	PKiKP	09 48 04.5	-0.1
	baz=136							
S21A	Coal Bank Pass	136.80	42		⇑PKiKP	PKiKP	09 48 04.4	-0.5
	baz=137							
W18A	Petrified Fore	136.80	46		⇑PKiKP	PKiKP	09 48 04.6	-0.2
	baz=137							
K27A	Flueckinger Fa	136.92	32		⇑PKiKP	PKiKP	09 48 04.5	-0.2
	baz=137							
ISCO	Idaho Springs	136.92	38		⇑PKiKP	PKiKP	09 48 05.1	0.0
	baz=137							
J28A	Allard Ranch,	136.92	31		⇓PKiKP	PKiKP	09 48 04.4	-0.2
	baz=137							
X18A	Snowflake	136.93	47		⇓PKiKP	PKiKP	09 48 05.0	-0.1
	baz=137							
P23A	Jefferson	137.05	38		⇑PKiKP	PKiKP	09 48 05.0	-0.4
	baz=137							
Q23A	Hartsel	137.33	39		⇓PKiKP	PKiKP	09 48 05.4	-0.5
	baz=137							
V20A	Brimhall	137.35	44		⇑PKiKP	PKiKP	09 48 05.8	-0.2
	baz=137							
U21A	Nageezi	137.57	43		⇓PKiKP	PKiKP	09 48 06.4	0.0
	baz=137							
W20A	Ramah	137.67	45		⇓PKiKP	PKiKP	09 48 06.7	+0.1
	baz=138							
T22A	Edith	137.75	42		⇑PKiKP	PKiKP	09 48 06.8	+0.1
	baz=138							
R23A	Moffat	137.77	40		⇑PKiKP	PKiKP	09 48 06.6	-0.2

Z28A	**Tucker Farm, M**	**142.91**	**43**	⇓PKPdf	**PKPdf**	**09 48 13.3**	**-0.7**
	baz=143						
227A	**Bennet, Jal**	**143.00**	**46**	⇓PKPdf	**PKPdf**	**09 48 12.5**	**-1.8**
	baz=143						
V31A	**Spring Creek L**	**143.01**	**38**	⇑PKPdf	**PKPdf**	**09 48 12.3**	**-1.8**
	baz=143						
Y29A	**Porterfield Fa**	**143.05**	**42**	⇑PKPdf	PKPbc	09 48 12.2	+1.0
	baz=143						
426A	**McDonald Obser**	**143.18**	**48**	⇓PKPdf	PKPbc	09 48 12.8	+1.0
	baz=143						
X30A	**Coker Ranch, T**	**143.21**	**41**	⇑PKPdf	PKPbc	09 48 12.8	+1.3
	baz=143						
W31A	**Holland Ranch,**	**143.33**	**39**	⇑PKPdf	PKPbc	09 48 12.9	+1.1
	baz=143						
Z29A	**Hungry Hill Ra**	**143.39**	**43**	⇑PKPdf	PKPbc	09 48 12.8	+0.7
	baz=143						
228A	**UT Block 9, Go**	**143.44**	**45**	⇓PKPdf	PKPbc	09 48 13.0	+0.7
	baz=143						
526A	**Mary Lane Ranc**	**143.44**	**49**	⇑PKPdf	PKPbc	09 48 12.9	+0.5
	baz=143						
427A	**Hayter Ranch,**	**143.55**	**48**	⇑PKPdf	PKPbc	09 48 13.3	+0.7
	baz=143						
129A	**Stewart Farms,**	**143.65**	**44**	⇓PKPdf	PKPbc	09 48 13.3	+0.5
	baz=143						
X31A	**McDonald Ranch**	**143.67**	**40**	⇑PKPdf	PKPbc	09 48 13.1	+0.3
	baz=143						
328A	**Wristen Ranch,**	**143.69**	**46**	⇑PKPdf	PKPbc	09 48 13.7	+0.7
	baz=144						
527A	**Woodward Ranch**	**143.76**	**49**	⇓PKPdf	PKPbc	09 48 14.4	+1.0
	baz=144						
Z30A	**Sanderson Ranc**	**143.76**	**42**	⇑PKPdf	PKPbc	09 48 13.8	+0.6
	baz=144						
Y31A	**Rekieta Farm,**	**143.91**	**41**	⇓PKPdf	PKPbc	09 48 14.6	+1.0
	baz=144						
229A	**Bryant Ranch,**	**144.07**	**45**	⇓PKPdf	**PKPdf**	**09 48 15.2**	**-0.8**
	baz=144						
TXAR	**Lajitas Array**	**144.13**	**50**	PKP	PKPbc	09 48 14.8	+0.4
TXAR				SKPbc	**SKPbc**	**09 51 49.8**	**-1.3**
TXAR	**Lajitas Array**	**144.13**	**50**	PKP	PKPbc	09 48 14.8	+0.4
	comp=Z,1.9nm,0.7s,baz=262,slow=1.6,SNR=28						
TXAR				SKPbc	**SKPbc**	**09 51 49.8**	**-1.3**
	comp=Z,0.5nm,0.7s,baz=323,slow=1.4,SNR=3.5						
428A	**Kincaid Ranch,**	**144.14**	**47**	⇓PKPdf	PKPbc	09 48 15.4	+1.0
	baz=144						
329A	**Wagon Wheel Ra**	**144.22**	**46**	⇓PKPdf	PKPbc	09 48 15.3	+0.7
	baz=144						
627A	**Terlingua Ranc**	**144.28**	**50**	⇓PKPdf	PKPbc	09 48 15.6	+0.7
	baz=144						
130A	**Snyder**	**144.28**	**43**	⇑PKPdf	PKPbc	09 48 15.3	+0.6
	baz=144						
528A	**Cox Ranch, San**	**144.36**	**48**	⇓PKPdf	PKPbc	09 48 15.7	+0.6
	baz=144						
Z31A	**Sharp Cattle R**	**144.39**	**41**	⇑PKPdf	PKPbc	09 48 15.7	+0.6
	baz=144						
Y32A	**R-V Farms, Ver**	**144.41**	**40**	⇓PKPdf	PKPbc	09 48 15.6	+0.5
	baz=144						
230A	**Sterling City**	**144.60**	**44**	⇓PKPdf	PKPbc	09 48 16.4	+0.6
	baz=144						
131A	**Roby**	**144.62**	**43**	⇓PKPdf	PKPbc	09 48 16.4	+0.5
	baz=144						
628A	**Black Gap, Mar**	**144.64**	**49**	⇑PKPdf	PKPbc	09 48 16.5	+0.5
	baz=144						
429A	**Davenport Ranc**	**144.76**	**47**	⇑PKPdf	PKPbc	09 48 16.8	+0.5
	baz=145						
529A	**Stev Forest Ra**	**144.80**	**48**	⇑PKPdf	PKPbc	09 48 16.9	+0.4
	baz=145						
Z32A	**Haskell**	**144.83**	**41**	⇑PKPdf	PKPbc	09 48 16.9	+0.4
	baz=145						
330A	**Mertzon**	**144.84**	**45**	⇑PKPdf	PKPbc	09 48 16.9	+0.3
	baz=145						
231A	**Bronte**	**145.12**	**43**	⇑PKPdf	**PKPdf**	**09 48 17.9**	**0.0**
	baz=145						
BDFB	**Brasilia**	**145.95**	**226**	PKPbc	**PKPbc**	**09 48 20.9**	**+0.3**
BDFB	**Brasilia**	**145.95**	**226**	PKPbc	**PKPbc**	**09 48 20.9**	**+0.3**
	comp=Z,7.9nm,0.5s,baz=121,slow=2.9,SNR=10.0						
WVT	**Waverly**	**148.93**	**24**	*e*PKP2	**PKPbc**	**09 48 28.0**	**-0.1**
WVT	**Waverly**	**148.93**	**24**	*e*PKPbc	**PKPbc**	**09 48 28.0**	**-0.1**
HKT	**Hockley**	**149.36**	**42**	*e*PKP2	**PKPbc**	**09 48 30.9**	**+1.7**
HKT	**Hockley**	**149.36**	**42**	*e*PKPbc	**PKPbc**	**09 48 30.9**	**+1.7**
LPAZ	**La Paz**	**155.30**	**191**	PKP	**PKPdf**	**09 48 36.5**	**+1.6**
LPAZ				PKPab	**PKPab**	**09 49 02.4**	**+2.6**
LPAZ	**La Paz**	**155.30**	**191**	PKP	**PKPdf**	**09 48 36.5**	**+1.6**
	comp=Z,1.1nm,0.9s,baz=28,slow=12,SNR=3.8						
LPAZ				PKPab	**PKPab**	**09 49 02.4**	**+2.6**
	comp=Z,5.9nm,0.9s,baz=152,slow=3.2,SNR=16						
SAML	**Samuel**	**160.53**	**210**	*e*PKPdf	**PKPdf**	**09 48 41.4**	**+0.8**
SAML				*e*PKPab	**PKPab**	**09 49 23.9**	**+2.1**
OTAV	**Otavalo**	**170.31**	**144**	*e*PKPdf	**PKPdf**	**09 48 49.9**	**+0.6**

JMA 02 09:30:19.3±0.2, 26°71N×127°76E, h52km±3km, M3.8, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIH	**Iheya**	**0.37**	**30**	P	Pn	09 30 29.5	+0.2
JIH				S	Sn	09 30 36.7	+0.2
JOW	**Kunigami**	**0.48**	**75**	P	Pn	09 30 30.1	-0.3
JOW				S	Sn	09 30 37.7	-0.7
JAGN	**Aguni-jima**	**0.48**	**256**	P	Pn	09 30 30.4	0.0
JAGN				S	Sn	09 30 38.0	-0.4
JJT2	**Tamagusuku 2**	**0.57**	**181**	P	Pn	09 30 31.7	+0.2
JKE	**Kume jima 2**	**0.95**	**247**	P	Pn	09 30 36.0	-0.4
JKE				S	Sn	09 30 48.0	-1.1
JTK	**Tokunoshima**	**1.51**	**44**	P	Pn	09 30 44.3	+0.3
JTK				S	Sn	09 31 02.6	+0.1
JAMN	**Amaminishikomi**	**1.98**	**39**	P	Pn	09 30 51.1	+0.7
JAMN				*e*S	Sn	09 31 14.0	0.0
JAM	**Amami Oshima**	**2.36**	**44**	P	Pn	09 30 57.0	+1.5
JAM				S	Sn	09 31 24.6	+1.3
JZK	**Kikaishima**	**2.53**	**50**	P	Pn	09 30 59.9	+1.9
JZK				*e*S	Sn	09 31 29.5	+1.9
JMZ	**Minamidaito 2**	**3.23**	**105**	P	Pn	09 31 04.5	-3.0
JMZ				S	Sn	09 31 39.3	-5.5
JIJ	**Ishigaki jima**	**4.02**	**235**	P	Pn	09 31 17.3	-1.0
IRIF	**Iriomote-Funau**	**4.34**	**238**	P	Pn	09 31 24.6	+1.8

*IDC **02** 09:32:08.0±0.7, 50.°00N×87.°47E, h0km, mb3.8/11, mb1 4.0/18, mb1mx3.8/35, mbtmp3.9/18, ML4.1/7, MS4.3/1, Ms1 4.3/1, ms1mx3.5/41, Error ellipse: s-maj=11.8km s-min=9.6km az=12.0*
*ISCJB **02** 09:32:08.5±0.4, 50.°09N±0.°04×87.°28E±0.°05, h10km, mb3.9/12, Error ellipse: s-maj=6.2km s-min=4.1km az=145.6*
*MOS **02** 09:32:09.3±1.5, 49.°97N×87.°34E, h21km, mb4.1/8, Error ellipse: s-maj=10.3km s-min=7.6km az=87.3*
*ASRS **02** 09:32:09.3±0.8, 50.°06N×87.°35E, h15km, Ms3.7/4*
*NNC **02** 09:32:18.3±4.1, 50.°07N×86.°51E, h25km±21km, mb4.3, mpv4.4, Error ellipse: s-maj=29.1km s-min=16.5km az=63.0*
*BJI **02** 09:32:25.8, 48.°60N×86.°75E, h10km, ML3.9/5*

ISC 02 09:32:09.3±0.5, 50.°00N±0.°04×87.°29E±0.°05, h10km, n47, σ1°88/54, mb3.8/12, 3C-9D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKAR	**Aktash**	**0.38**	**34**	*i* PG	**Pg**	**09 32 15.4**	**-1.5**
AKAR	**Aktash**	**0.38**	**34**	*i* Pg	**Pg**	**09 32 15.4**	**-1.5**
AKAR				*i* Sg	**Sg**	**09 32 20.4**	**-1.6**
ARTR	**Artybash**	**1.80**	**360**	*i* PN	**Pb**	**09 32 41.4**	**-0.9**
ARTR				*e*		09 33 03.6	
ARTR	**Artybash**	**1.80**	**360**	*i* Pg	**Pb**	**09 32 41.4**	**-0.9**
ARTR				*e*Sg	**Sn**	**09 33 03.6**	**+0.3**
TASR	**Tashtagol**	**2.78**	**7**	*e*PN	**Pb**	**09 32 58.4**	**-0.8**
TASR				*e*		09 33 33.5	
TASR	**Tashtagol**	**2.78**	**7**	*e*Pg	**Pb**	**09 32 58.4**	**-0.8**
TASR				*e*Sg	**Sb**	**09 33 33.5**	**+0.2**
ZALV	**Zalesovo Beam**	**4.24**	**340**	PN	**Pn**	**09 33 15.0**	**+1.1**
ZALV						09 34 05.5	
ZALV				pmax	pmax		
	comp=Z,21nm,0.3s						
ZALV				smax	smax		
	comp=N,20nm,0.3s						
ZALV				MLR	MLR		
	comp=Z,3μm,20.7s						
ZALV	**Zalesovo Beam**	**4.24**	**340**	Pn	**Pn**	**09 33 15.0**	**+1.1**
	comp=Z,21nm,0.3s,baz=159,slow=14,SNR=130						
ZALV				Sn	**Sn**	**09 34 05.5**	**+2.2**
	comp=Z,20nm,0.3s,baz=153,slow=25,SNR=5.5						
ZALV				Lg	Lg	09 34 22.5	
	comp=Z,38nm,0.3s,baz=160,slow=28,SNR=6.6						
ZALV				LR	LR	09 34 34.1	
	comp=Z,3μm,20.6s,baz=64,slow=34						

HVS	**Khovu-Aksy**	**4.24**	**72**	*c i*PN	**Pn**	**09 33 14.9**	**+0.9**
HVS				*i*		09 33 23.7	
HVS				*i*		09 34 17.6	
HVS				pmax	pmax		
	comp=Z,69nm,1.5s						
HVS				smax	smax		
	comp=Z,269nm,1.7s						
ABNR	**Abakan**	**4.53**	**33**	*e*PN	**Pn**	**09 33 18.7**	**+0.9**
ABNR				*i*		09 33 29.7	
ABNR				*i*		09 34 28.6	
ABNR				pmax	pmax		
	comp=Z,190nm,0.1s						
ABNR				smax	smax		
	comp=Z,227nm,0.1s						
MK31	**Makanchi Array**	**4.63**	**228**	⇓Pn	Pn	09 33 22.7	+3.3
	comp=Z,42nm,0.6s,baz=53,slow=13,SNR=449						
MK31				⇑Pg	**Pg**	**09 33 36.7**	**-1.2**
	comp=Z,46nm,0.5s,baz=52,slow=16,SNR=10						
MK31				⇓Lg	Lg	09 34 36.6	
	comp=Z,249nm,0.8s,baz=49,slow=28,SNR=11						
MKAR	**Makanchi Array**	**4.63**	**228**	PN	**Pn**	**09 33 22.5**	**+3.2**
MKAR				pmax	pmax		
	comp=Z,22nm,0.3s						
MKAR	**Makanchi Array**	**4.63**	**228**	Pn	**Pn**	**09 33 22.5**	**+3.2**
	comp=Z,22nm,0.3s,baz=46,slow=13,SNR=204						
MKAR				Sn	**Sn**	**09 34 11.1**	**-2.0**
	comp=Z,24nm,0.3s,baz=50,slow=23,SNR=4.6						
MKAR				Lg	Lg	09 34 34.6	
	comp=Z,39nm,0.3s,baz=45,slow=29,SNR=7.8						
KZLR	**Kyzyl**	**4.85**	**67**	*e*PN	**Pn**	**09 33 23.3**	**+1.0**
KZLR				*i*		09 33 34.4	
KZLR				*i*		09 34 36.9	
KZLR				pmax	pmax		
	comp=Z,68nm,0.2s						
KZLR				smax	smax		
	comp=Z,28nm,1.4s						
NVS	**Novosibirsk**	**5.44**	**334**	*e*PN	**Pn**	**09 33 30.7**	**+0.3**
NVS				*e*		09 33 47.5	
NVS				*e*		09 34 34.3	
NVS				*e*		09 34 58.7	
NVS	**Novosibirsk**	**5.44**	**334**	*e*Pg	**Pb**	**09 33 47.5**	**+3.1**
NVS				*e*Sg	**Sg**	**09 34 58.7**	**-5.2**
KURK	**Kurchatov**	**5.60**	**281**	PN	**Pn**	**09 33 34.3**	**+1.7**
KURK						09 34 41.1	
KURK				pmax	pmax		
	comp=Z,7.0nm,0.3s						
KURK				smax	smax		
	comp=N,14nm,0.3s						
KURBB	**Kurchatov Arra**	**5.65**	**280**	Pn	**Pn**	**09 33 34.3**	**+1.1**
	comp=N,7.3nm,0.3s,baz=92,slow=15,SNR=279						
KURBB				Sn	**Sn**	**09 34 41.1**	**+3.0**
	comp=N,13nm,0.3s,baz=95,slow=22,SNR=5.0						
KURBB				Lg	Lg	09 35 05.8	
	comp=N,23nm,0.3s,baz=88,slow=32,SNR=11						
WMQ	**Urumqi**	**6.19**	**177**	Pn	**Pb**	**09 33 55.0**	**-2.3**
WMQ				Sg	Sg	09 35 21.9	-6.1
WMQ				smax	smax		
	comp=N,110nm,0.6s						
WMQ				smax	smax		
	comp=E,71nm,0.5s						
MOY	**Mondy**	**8.83**	**74**	*e*P	Pn	09 34 24.3	+7.2
MOY				pmax	pmax		
	comp=Z,8.0nm,1.2s						
MOY				pmax	pmax		
	comp=N,166nm,2.1s						
TLY	**Talaya**	**10.48**	**75**	*i* P	**Pn**	**09 34 41.7**	**+2.2**
VOSK	**Vostochnaya**	**10.56**	**291**	⇓Pn	**Pn**	**09 34 40.4**	**-0.1**
	comp=N,2.3nm,0.5s						
VOSK				⇓Sn	**Sn**	**09 36 35.5**	**-3.3**
	comp=N,12nm,0.7s						
TKM2	**Tokmak 2**	**10.73**	**233**	⇓Pn	**Pn**	**09 34 45.7**	**+2.5**
	comp=N,14nm,1.4s						
TKM2				⇓Lg	Lg	09 37 46.7	
	comp=N,39nm,0.9s						
BVA0	**Borovoye Array**	**10.96**	**292**	⇓Pn	**Pn**	**09 34 48.2**	**+2.1**
	comp=N,2.5nm,0.5s,baz=100,slow=14,SNR=12						
BVA0				⇓Sn	Sn	09 36 42.4	-6.2
	comp=N,9.4nm,0.6s,baz=90,slow=21,SNR=7.4						
BVAR	**Borovoye Array**	**10.96**	**292**	P	**Pn**	**09 34 45.6**	**-0.5**
BVAR						09 36 45.5	
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BVAR				smax	smax		
	comp=N,3.0nm,0.3s						
BVAR	**Borovoye Array**	**10.96**	**292**	Pn	**Pn**	**09 34 45.6**	**-0.5**
	comp=N,1.3nm,0.3s,baz=105,slow=14,SNR=10						
BVAR				Sn	**Sn**	**09 36 45.5**	**-3.1**
	comp=N,2.8nm,0.3s,baz=98,slow=22,SNR=5.9						
BRVK	**Borovoye**	**11.03**	**293**	*e*P	Pn	09 34 51.1	+4.1
AAK	**Ala-Archa**	**11.51**	**235**	*e*P	**Pn**	**09 34 56.3**	**+2.5**
AAK	**Ala-Archa**	**11.51**	**235**	Pn	**Pn**	**09 34 55.1**	**+1.3**
	comp=N,0.4nm,0.3s,baz=94,slow=15,SNR=1.9						
AAK				Lg	Lg	09 38 11.1	
	comp=N,0.4nm,0.3s,baz=2.2,slow=22,SNR=3.9						
SONM	**Songino Array**	**12.75**	**92**	Pn	**Pn**	**09 35 08.5**	**-2.2**
	comp=N,0.2nm,0.3s,baz=283,slow=13,SNR=3.5						
SONM				Lg	Lg	09 38 47.2	
	comp=N,0.2nm,0.3s,baz=273,slow=32,SNR=7.0						
KK31	**Karatay Array**	**13.44**	**246**	Pn	**Pn**	**09 35 18.2**	**-1.7**
	comp=N,1.4nm,0.4s,baz=56,slow=15,SNR=23						
KK31				⇑Lg	Lg	09 39 13.1	
	comp=N,23nm,0.8s,baz=49,slow=29,SNR=4.1						
AB31	**Akbulak array**	**17.70**	**278**	⇓P	**Pn**	**09 36 14.8**	**-0.9**
	comp=N,1.0nm,0.5s,baz=80,slow=9.9,SNR=20						
AKTO	**Aktyubinsk**	**18.69**	**283**	P	**P**	**09 36 27.4**	**-0.1**
AKTO	**Aktyubinsk**	**18.69**	**283**	P	**P**	**09 36 27.4**	**-0.1**
	comp=N,0.3nm,0.3s,baz=89,slow=14,SNR=5.7						
CMAR	**Chiang Mai Arr**	**32.83**	**159**	P	**P**	**09 38 44.3**	**+1.3**
	comp=N,0.7nm,0.3s,baz=337,slow=8.8,SNR=3.2						
FINES	**FINESS Array B**	**34.99**	**313**	P	**P**	**09 39 01.8**	**+0.5**
	comp=N,2.7nm,0.9s,baz=80,slow=10.0,SNR=3.5						
AKASG	**Malin Array Be**	**36.23**	**294**	P	**P**	**09 39 11.7**	**-0.5**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**36.23**	**294**	P	**P**	**09 39 11.7**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=58,slow=9.2,SNR=2.4						
BRTR	**Keskin Array B**	**38.62**	**276**	P	**P**	**09 39 35.1**	**+2.4**
	comp=Z,0.8nm,0.6s,baz=46,slow=8.3,SNR=3.7						
HFS	**Hagfors**	**41.19**	**313**	P	**P**	**09 39 54.5**	**+0.9**
	comp=Z,2.2nm,0.7s,baz=78,slow=11,SNR=3.7						
NOA	**NORSAR Array B**	**42.02**	**315**	P	**P**	**09 40 02.1**	**+1.6**
	comp=Z,0.7nm,0.5s,baz=67,slow=7.7,SNR=3.1						
ILAR	**Eielson Array**	**58.10**	**24**	P	**P**	**09 42 01.9**	**-0.4**
	comp=Z,6.4nm,0.4s,baz=314,slow=6.0,SNR=3.4						
INK	**Inuvik**	**58.15**	**17**	P	**P**	**09 42 04.3**	**+1.7**
	comp=Z,1.5nm,0.9s,baz=323,slow=8.2,SNR=3.6						
YKA	**Yellowknife Ar**	**66.51**	**11**	P	**P**	**09 42 60.0**	**+1.3**
	comp=Z,0.4nm,0.7s,baz=342,slow=6.0,SNR=3.0						
TORD	**Torodi Ar. Bea**	**77.24**	**275**	P	**P**	**09 44 05.2**	**+1.4**
	comp=Z,0.4nm,0.7s,baz=28,slow=5.3,SNR=5.2						
WRA	**Warramunga Arr**	**81.11**	**136**	P	**P**	**09 44 22.9**	**-1.8**
	comp=Z,0.6nm,0.9s,baz=341,slow=5.9,SNR=3.3						
ASAR	**Alice Springs**	**84.18**	**138**	P	**P**	**09 44 38.7**	**-1.9**
	comp=Z,0.4nm,0.8s,baz=339,slow=5.6,SNR=3.1						

*IDC **02** 09:35:14.1±1.2, 38.°16N×23.°16E, h0km, mb3.9/5, mb1 3.8/7, mb1mx3.6/30, mbtmp3.8/7, ML3.0/2, MS4.2/1, Ms1 4.2/1, ms1mx3.6/39, Error ellipse: s-maj=32.1km s-min=16.1km az=119.0*
*ISCJB **02** 09:35:15.1±0.3, 38.°10N±0.°01×23.°30E±0.°02, h8km±2km, mb3.8/5, Error ellipse: s-maj=2.4km s-min=2.1km az=42.3*
*CSEM **02** 09:35:15.4±0.1, 38.°10N×23.°28E, h5km, ML3.7, Error ellipse: s-maj=2.2km s-min=2.0km az=117.0*
*THE **02** 09:35:15.4, 38.°11N×23.°28E, h1km, ML3.8/9, Error ellipse: s-maj=0.8km s-min=0.2km az=90.0*
*ATH **02** 09:35:15.4, 38.°12N×23.°28E, h12km±2km, ML3.3*

ISC 02 09:35:15.7±0.9, 38.°11N±0.°01×23.°27E±0.°01, h9km±7km, n131, σ0°73/195, mb4.0/5, 3C-5D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTK	**Loutraki**	**0.26**	**251**	P	**Pg**	**09 35 20.5**	**-0.4**
LTK				S	**Sg**	**09 35 24.4**	**0.0**
LTK	**Loutraki**	**0.26**	**251**	*e*PG	**Pg**	**09 35 20.5**	**-0.4**
LTK				*e*SG	**Sg**	**09 35 24.8**	**+0.4**
LTK	**Loutraki**	**0.26**	**251**	P	**Pg**	**09 35 20.5**	**-0.4**
LTK				S	**Sg**	**09 35 24.2**	**-0.2**
ATH	**Athens Observa**	**0.38**	**111**	P	**Pg**	**09 35 22.7**	**-0.4**
ATH				S	**Sg**	**09 35 28.2**	**+0.2**
ATH	**Athens Observa**	**0.38**	**111**	*e*PB	**Pg**	**09 35 23.0**	**-0.1**
ATH				*e*SB	**Sg**	**09 35 28.3**	**+0.2**
ATH	**Athens Observa**	**0.38**	**111**	P	**Pg**	**09 35 22.6**	**-0.5**
ATH	**Athens Observa**	**0.38**	**111**	*e*Pb	**Pg**	**09 35 23.0**	**-0.1**

ATH				S	**Sg**	**09 35 28.2**	**+0.2**
ACOR	**Acrocorinthos**	**0.39**	**236**	P	**Pg**	**09 35 23.0**	**-0.3**
ACOR				S	**Sg**	**09 35 28.8**	**+0.3**
ACOR	**Acrocorinthos**	**0.39**	**236**	P	**Pg**	**09 35 23.0**	**-0.3**
ACOR				S	**Sg**	**09 35 28.8**	**+0.3**
NAIG	**Nisos Aigina**	**0.39**	**154**	*e*PB	**Pg**	**09 35 23.0**	**-0.4**
NAIG	**Nisos Aigina**	**0.39**	**154**	*e*Pb	**Pg**	**09 35 23.0**	**-0.4**
ATHU	**Athens Univers**	**0.43**	**109**	P	**Pg**	**09 35 23.4**	**-0.7**
ATHU	**Athens Univers**	**0.43**	**109**	P	**Pg**	**09 35 23.4**	**-0.7**
ATHU				S	**Sg**	**09 35 29.2**	**-0.5**
PTL	**Penteli**	**0.47**	**97**	P	**Pg**	**09 35 24.4**	**-0.5**
PTL	**Penteli**	**0.47**	**97**	*e*PG	**Pg**	**09 35 24.4**	**-0.5**
PTL	**Penteli**	**0.47**	**97**	P	**Pg**	**09 35 24.3**	**-0.6**
PTL				S	**Sg**	**09 35 31.2**	**+0.1**
ERET	**Eretria**	**0.54**	**51**	P	**Pg**	**09 35 25.8**	**-0.4**
ERET				S	**Sg**	**09 35 33.9**	**+0.7**
ERET	**Eretria**	**0.54**	**51**	P	**Pg**	**09 35 25.8**	**-0.4**
ERET				S	**Sg**	**09 35 33.9**	**+0.7**
DID	**Didima**	**0.60**	**183**	P	**Pg**	**09 35 26.6**	**-0.8**
DID				S	**Sg**	**09 35 36.1**	**+0.8**
DID	**Didima**	**0.60**	**183**	*e*PB	**Pg**	**09 35 26.7**	**-0.7**
DID				*e*SB	**Sg**	**09 35 36.4**	**+1.1**
DID	**Didima**	**0.60**	**183**	P	**Pg**	**09 35 26.6**	**-0.8**
DID				S	**Sg**	**09 35 36.1**	**+0.8**
DIDY	**Didyma**	**0.63**	**184**	P	**Pg**	**09 35 27.1**	**-0.9**
DIDY				S	**Sg**	**09 35 37.1**	**+0.8**
DIDY	**Didyma**	**0.63**	**184**	P	**Pg**	**09 35 27.1**	**-0.9**
DIDY				S	**Sg**	**09 35 37.1**	**+0.8**
MRKA	**Markates**	**0.65**	**22**	P	**Pg**	**09 35 27.5**	**-0.7**
MRKA				S	**Sg**	**09 35 36.9**	**+0.2**
MRKA	**Markates**	**0.65**	**22**	P	**Pg**	**09 35 27.5**	**-0.7**
MRKA				S	**Sg**	**09 35 36.9**	**+0.2**
DSF	**Desfina**	**0.66**	**297**	P	**Pg**	**09 35 28.2**	**-0.3**
DSF				S	**Sb**	**09 35 38.2**	**-0.6**
DSF	**Desfina**	**0.66**	**297**	P	**Pg**	**09 35 28.2**	**-0.3**
DSF				S	**Sg**	**09 35 37.8**	**+0.6**
GUR	**Goura**	**0.76**	**257**	P	**Pg**	**09 35 29.7**	**-0.6**
GUR	**Goura**	**0.76**	**257**	P	**Pg**	**09 35 29.7**	**-0.6**
GUR				S	**Sg**	**09 35 40.0**	**-0.2**
SMIA	**Simia**	**0.77**	**356**	P	**Pg**	**09 35 30.0**	**-0.6**
SMIA	**Simia**	**0.77**	**356**	P	**Pg**	**09 35 30.0**	**-0.6**
AXAR	**Agios Charalam**	**0.82**	**324**	P	**Pg**	**09 35 30.9**	**-0.5**
AXAR				S	**Sg**	**09 35 42.5**	**+0.4**
AXAR	**Agios Charalam**	**0.82**	**324**	P	**Pg**	**09 35 31.0**	**-0.5**
AXAR				S	**Sg**	**09 35 42.5**	**+0.4**
MRMA	**Marmari**	**0.87**	**93**	P	**Pb**	**09 35 33.7**	**+0.7**
MRMA				S	**Sg**	**09 35 44.4**	**+0.5**
KLV	**Kalavryta, Ach**	**0.89**	**266**	P	**Pg**	**09 35 32.0**	**-0.9**
KLV				S	**Sg**	**09 35 44.8**	**+0.4**
KLV	**Kalavryta, Ach**	**0.89**	**266**	*e*PB	**Pg**	**09 35 32.5**	**-0.4**
KLV				*e*SB	**Sb**	**09 35 45.2**	**-0.1**
KLV	**Kalavryta, Ach**	**0.89**	**266**	P	**Pg**	**09 35 32.0**	**-0.9**
KLV	**Kalavryta, Ach**	**0.89**	**266**	*e*Pb	**Pg**	**09 35 32.5**	**-0.4**
KLV				S	**Sg**	**09 35 44.6**	**+0.2**
KLV				*e*Sb	**Sb**	**09 35 45.2**	**-0.1**
KALE	**Kalithea**	**0.94**	**288**	P	**Pg**	**09 35 33.3**	**-0.5**
KALE				S	**Sb**	**09 35 47.1**	**+0.4**
KALE	**Kalithea**	**0.94**	**288**	*e*PN	**Pg**	**09 35 33.8**	**0.0**
KALE				*e*SB	**Sb**	**09 35 46.9**	**+0.2**
KALE	**Kalithea**	**0.94**	**288**	P	**Pg**	**09 35 33.3**	**-0.5**
KALE	**Kalithea**	**0.94**	**288**	*e*Pn	**Pg**	**09 35 33.8**	**0.0**
KALE				S	**Sb**	**09 35 46.9**	**+0.2**
TRIZ	**Trizonia**	**0.98**	**286**	P	**Pg**	**09 35 34.0**	**-0.6**
TRIZ				S	**Sb**	**09 35 48.0**	**+0.1**
TRIZ	**Trizonia**	**0.98**	**286**	*e*PN	**Pg**	**09 35 34.6**	**0.0**
TRIZ				*e*SB	**Sb**	**09 35 48.3**	**+0.4**
TRIZ	**Trizonia**	**0.98**	**286**	P	**Pg**	**09 35 34.0**	**-0.6**
TRIZ	**Trizonia**	**0.98**	**286**	*e*Pn	**Pg**	**09 35 34.6**	**0.0**
TRIZ				S	**Sb**	**09 35 48.0**	**+0.1**
VLX	**Vlachokerasia**	**1.02**	**224**	P	**Pg**	**09 35 34.8**	**-0.6**
VLX				S	**Sb**	**09 35 50.2**	**+1.0**
VLX	**Vlachokerasia**	**1.02**	**224**	*e*PN	**Pg**	**09 35 35.4**	**0.0**
VLX				*e*SB	**Sb**	**09 35 50.0**	**+0.8**
**

MMB	**Musomiste**	**3.49**	**6**	*i* P		**Pn**	**09 36 09.0**	**-1.2**
MMB	**Musomiste**	**3.49**	**6**	*i* P		**Pn**	**09 36 09.0**	**-1.2**
RZN	**Rozhen**	**3.74**	**17**	*i* P		**Pn**	**09 36 13.7**	**-0.1**
RZN	**Rozhen**	**3.74**	**17**	*i* P		**Pn**	**09 36 13.7**	**-0.1**
KKB	**Krupnik**	**3.76**	**358**	*i* P		**Pn**	**09 36 14.4**	**+0.6**
KKB	**Krupnik**	**3.76**	**358**	*i* P		**Pn**	**09 36 14.4**	**+0.6**
VTS	**Vitosha**	**4.48**	**359**	⇓*i* P		**Pn**	**09 36 25.1**	**+1.2**
VTS	**Vitosha**	**4.48**	**359**	⇓*i* P		**Pn**	**09 36 25.1**	**+1.2**
BARS	**Barje**	**4.83**	**347**	⇓*i* Pn		**Pn**	**09 36 29.5**	**+0.9**
GRUS	**Gruza**	**6.09**	**342**	*e* Pn		**Pn**	**09 36 47.0**	**+1.1**
BBLS	**Lazići**	**6.45**	**334**	*e* Pn		**Pn**	**09 36 53.1**	**+2.2**
DIVS	**Divibare**	**6.48**	**339**	*e* Pn		**Pn**	**09 36 54.3**	**+3.0**
VOIR		**7.44**	**10**	⇑*i* P		**Pn**	**09 37 05.2**	**+0.7**
VOIR		**7.44**	**10**	⇑*i* P		**Pn**	**09 37 05.2**	**+0.7**
MLR	**Muntele Rosu**	**7.64**	**14**	⇓*i* P		**Pn**	**09 37 08.4**	**+1.1**
MLR	**Muntele Rosu**	**7.64**	**14**	Pn		**Pn**	**09 37 06.2**	**-1.1**
	0.1nm,0.3s,baz=193,slow=11,SNR=5.1							
MLR				Sn		**Sn**	**09 38 35.0**	**+1.0**
	baz=149,slow=18,SNR=2.3							
MLR	**Muntele Rosu**	**7.64**	**14**	⇓*i* P		**Pn**	**09 37 08.4**	**+1.1**
VRI	**Vrincioaia**	**8.17**	**17**	⇑*i* P		Pn	09 37 19.1	+4.7
BRTR	**Keskin Array B**	**8.24**	**75**	Pn		**Pn**	**09 37 16.8**	**+1.3**
	0.1nm,0.3s,baz=269,slow=12,SNR=5.6							
BRTR				LR		LR	09 40 43.6	
	comp=Z,1μm,19.2s,baz=12,slow=40							
CRVS	**Cervenica-Dubn**	**10.87**	**354**	*e* PN		Pn	09 37 45.7	-5.7
HFS	**Hagfors**	**22.87**	**348**	P		**P**	**09 40 17.8**	**-1.4**
	7.0nm,1.0s,baz=166,slow=13,SNR=3.6							
EKA	**Eskdalemuir Ar**	**24.77**	**323**	P		**P**	**09 40 37.0**	**-0.5**
	2.5nm,0.7s,baz=123,slow=8.8,SNR=5.8							
TORD	**Torodi Ar. Bea**	**31.41**	**223**	P		**P**	**09 41 36.7**	**-0.5**
	0.8nm,0.5s,baz=34,slow=9.1,SNR=12							
DBIC	**Dimbokro**	**40.36**	**226**	P		**P**	**09 42 53.5**	**-0.5**
	1.2nm,0.4s,baz=5.2,slow=11,SNR=3.3							
MKAR	**Makanchi Array**	**43.48**	**59**	P		**P**	**09 43 19.1**	**-0.1**
	0.6nm,0.6s,baz=268,slow=6.7,SNR=3.3							

IDC 02 09:35:40.4±1.5, 38°.06N×23°.13E, $h0^{km}$, mb3.8/3, mb1 3.7/5, mb1mx3.5/29, mbtmp3.6/5, ML2.9/2, Error ellipse: s-maj=36.5km s-min=24.2km az=135.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLR	**Muntele Rosu**	**7.72**	**15**	Pn	Pn	09 37 35.5	+1.3
	0.1nm,0.3s,baz=103,slow=18,SNR=3.8						
BRTR	**Keskin Array B**	**8.36**	**75**	Pn	Pn	09 37 44.7	+1.6
	0.1nm,0.3s,baz=257,slow=12,SNR=4.5						
EKA	**Eskdalemuir Ar**	**24.74**	**323**	P	P	09 41 03.2	-0.2
	1.6nm,0.7s,baz=130,slow=9.2,SNR=3.7						
TORD	**Torodi Ar. Bea**	**31.29**	**223**	P	P	09 42 02.6	+0.3
	0.9nm,0.6s,baz=34,slow=8.5,SNR=4.7						
MKAR	**Makanchi Array**	**43.61**	**59**	P	P	09 43 45.3	-1.0
	0.5nm,0.5s,baz=269,slow=8.9,SNR=2.9						

*IDC **02** 09:55:43.3±0.8, 41°.70N×81°.54E, $h0^{km}$, mb3.8/9, mb1 3.9/15, mb1mx3.8/33, mbtmp3.7/15, ML3.6/6, Error ellipse: s-maj=14.7km s-min=11.7km az=73.0*
*ISCJB **02** 09:55:44.2±0.5, 41°.67N±0°.05×81°.55E±0°.07, $h17^{km}$, mb3.7/9, Error ellipse: s-maj=7.9km s-min=6.8km az=156.4*
*BJI **02** 09:55:46.2, 42°.00N×81°.40E, $h33^{km}$, mb4.1/1, ML3.9/10*
*MOS **02** 09:55:46.8±1.4, 41°.75N×81°.49E, $h33^{km}$, mb4.2/6, Error ellipse: s-maj=12.6km s-min=7.2km az=102.3*
*NNC **02** 09:55:47.8±1.5, 41°.88N×81°.36E, $h0^{km}$, mb4.2, mpv4.0, Error ellipse: s-maj=13.7km s-min=5.3km az=144.0*

ISC 02 09:55:45.7±0.7, 41°.64N±0°.07×81°.29E±0°.04, $h17^{km}$, n44, σ1§66/50, mb3.9/9, 11C-10D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDC	**Almaty**	**3.57**	**298**	⇓Pg	**Pb**	**09 56 50.5**	**+2.1**
KNDC				⇑Lg	Lg	09 57 40.2	
AAA	**Alma-Ata**	**3.60**	**298**	*e* PN	**Pb**	**09 56 50.4**	**+1.4**
AAA				*e* S	**Sg**	**09 57 40.7**	**-0.7**
AAA				pmax	pmax		
	comp=Z,179nm,0.6s						
AAA				smax	smax		
	comp=N,349nm,0.7s						
TKM2	**Tokmak 2**	**4.41**	**289**	⇑Pn	Pn	09 56 56.4	+4.4
	comp=N,13nm,0.3s						
TKM2				⇑Pg	**Pg**	**09 57 08.4**	**-1.8**
	comp=N,63nm,0.9s						
TKM2				⇓Lg	Lg	09 58 09.3	
	comp=N,139nm,0.7s						
TKM2	**Tokmak 2**	**4.41**	**289**	PN	Pn	09 56 56.5	+4.4
TKM2						09 58 08.0	
TKM2				pmax	pmax		
	comp=Z,63nm,0.9s						
TKM2				pmax	pmax		
	comp=N,139nm,0.7s						
KSH	**Kashi**	**4.57**	**244**	Pn	**Pb**	**09 57 06.4**	**+1.0**
KSH				smax	smax		
	comp=N,69nm,0.8s						
KSH				smax	smax		
	comp=E,160nm,1.2s						
FRU	**Bishkek**	**5.09**	**286**	⇓*i* PN	**Pg**	**09 57 23.0**	**-0.2**
FRU				*e* S	**Sg**	**09 58 27.0**	**-2.2**
FRU				pmax	pmax		
	comp=Z,205nm,1.8s						
FRU				pmax	pmax		
	comp=E,360nm,1.8s						
AAK	**Ala-Archa**	**5.15**	**283**	PN	Pn	09 57 07.3	+5.2
AAK						09 57 22.6	
AAK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AAK				pmax	pmax		
	comp=Z,3.0nm,0.3s						
AAK	**Ala-Archa**	**5.15**	**283**	Pn	Pn	09 57 07.3	+5.2
	comp=Z,1.2nm,0.3s,baz=88,slow=14,SNR=7.2						
AAK				Pg	**Pg**	**09 57 22.6**	**-1.7**
	comp=Z,2.9nm,0.3s,baz=101,slow=12,SNR=26						
AAK				Lg	Lg	09 58 31.0	
	comp=Z,3.2nm,0.3s,baz=342,slow=20,SNR=6.3						
WMQ	**Urumqi**	**5.20**	**63**	Pg	**Pb**	**09 57 15.5**	**-0.7**
WMQ				Sg	**Sb**	**09 58 22.0**	**+3.7**
WMQ				smax	smax		
	comp=N,140nm,1.2s						
WMQ				smax	smax		
	comp=E,260nm,1.5s						
MK31	**Makanchi Array**	**5.21**	**8**	⇑Pn	**Pn**	**09 57 03.6**	**+0.8**
	comp=E,1.7nm,0.3s,baz=190,slow=13,SNR=178						
MK31				⇑Pg	**Pb**	**09 57 17.9**	**+1.6**
	comp=E,6.3nm,0.4s,baz=185,slow=17,SNR=13						
MK31				⇓Sn	**Sn**	**09 58 02.7**	**+0.3**
	comp=E,16nm,0.7s,baz=197,slow=24,SNR=7.4						
MK31				⇑Lg	Lg	09 58 24.9	
	comp=E,41nm,0.8s,baz=190,slow=26,SNR=6.1						
MK31	**Makanchi Array**	**5.21**	**8**	PN	**Pn**	**09 57 03.6**	**+0.8**
MK31				*e*		09 57 17.8	
MK31						09 58 02.7	
MK31						09 58 25.2	
MK31				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MK31				pmax	pmax		
	comp=Z,22nm,0.9s						
MK31				smax	smax		
	comp=N,15nm,0.7s						
MK31				pmax	pmax		
	comp=N,19nm,0.6s						
MKAR	**Makanchi Array**	**5.21**	**8**	PN	**Pn**	**09 57 03.6**	**+0.8**
MKAR						09 57 17.7	
MKAR						09 58 02.8	
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MKAR				smax	smax		
	comp=N,5.0nm,0.3s						
MKAR	**Makanchi Array**	**5.21**	**8**	Pn	**Pn**	**09 57 03.6**	**+0.8**
	comp=N,1.9nm,0.3s,baz=188,slow=12,SNR=64						
MKAR				Pg	**Pb**	**09 57 17.7**	**+1.4**
	comp=N,2.4nm,0.3s,baz=185,slow=16,SNR=25						
MKAR				Sn	**Sn**	**09 58 02.8**	**+0.4**
	comp=N,5.1nm,0.3s,baz=190,slow=26,SNR=5.9						
MKAR				Lg	Lg	09 58 25.6	
	comp=N,7.7nm,0.3s,baz=185,slow=30,SNR=6.4						
KK31	**Karatay Array**	**8.11**	**284**	⇑Pg	Pb	09 58 14.3	+8.6
	comp=N,6.9nm,0.8s,baz=96,slow=15,SNR=13						
KK31				⇓Lg	Lg	10 00 02.9	
	comp=N,26nm,1.1s,baz=96,slow=24,SNR=8.4						
KURBB	**Kurchatov Arra**	**9.19**	**349**	Pn	**Pn**	**09 57 58.0**	**+0.6**
	comp=N,0.2nm,0.3s,baz=174,slow=12,SNR=7.3						
KURBB				Sn	**Sn**	**09 59 39.3**	**-1.0**
	comp=N,0.7nm,0.3s,baz=176,slow=27,SNR=4.0						
KURBB				Lg	Lg	10 00 32.0	
	comp=N,0.9nm,0.3s,baz=81,slow=12,SNR=4.3						
KURK	**Kurchatov**	**9.27**	**349**	P	**Pn**	**09 57 58.0**	**-0.4**
KURK						09 59 39.3	
KURK				smax	smax		
	comp=N,1.0nm,0.3s						
ZALV	**Zalesovo Beam**	**12.54**	**10**	P	**Pn**	**09 58 41.5**	**-1.7**
ZALV	**Zalesovo Beam**	**12.54**	**10**	Pn	**Pn**	**09 58 41.5**	**-1.7**
	baz=190,slow=16,SNR=1.9						
ZALV				Lg	Lg	10 02 15.8	
	comp=N,0.3nm,0.3s,baz=205,slow=26,SNR=3.0						
HVS	**Khovu-Aksy**	**12.78**	**38**	*i* P	**Pn**	**09 58 47.9**	**+1.4**
VOSK	**Vostochnaya**	**13.10**	**331**	⇑Pn	**Pn**	**09 58 53.6**	**+2.7**
	comp=N,4.3nm,1.2s						
VOSK				⇓Lg	Lg	10 02 40.0	
	comp=N,14nm,1.1s						
VOSK	**Vostochnaya**	**13.10**	**331**	P	**Pn**	**09 58 53.6**	**+2.7**
VOSK				pmax	pmax		
	comp=Z,4.0nm,1.3s						
VOSK				pmax	pmax		
	comp=N,2.0nm,0.6s						
BVA0	**Borovoye Array**	**13.56**	**331**	⇑Pn	**Pn**	**09 59 00.2**	**+3.0**
	comp=N,3.9nm,1.1s,baz=136,slow=11,SNR=5.2						
BVA0				⇑Lg	Lg	10 02 52.3	
	comp=N,31nm,1.4s,baz=128,slow=25,SNR=6.6						
BVAR	**Borovoye Array**	**13.56**	**331**	P	**Pn**	**09 58 56.8**	**-0.3**
BVAR	**Borovoye Array**	**13.56**	**331**	Pn	**Pn**	**09 58 56.8**	**-0.3**
	comp=N,0.2nm,0.3s,baz=130,slow=13,SNR=2.3						
BVAR				Sn	Sn	10 01 14.9	-12
	comp=N,0.4nm,0.3s,baz=36,slow=20,SNR=3.7						
BVAR				Lg	Lg	10 02 51.6	
	baz=145,slow=28,SNR=3.9						
BRVK	**Borovoye**	**13.62**	**331**	⇑Pn	**Pn**	**09 59 00.3**	**+2.3**
	comp=N,4.3nm,0.6s						
BRVK				⇓Lg	Lg	10 02 55.7	
	comp=N,47nm,1.3s						
BRVK	**Borovoye**	**13.62**	**331**	*e* P	**Pn**	**09 58 59.7**	**+1.7**
GTA	**Gaotai**	**14.27**	**93**	*e* P	**Pn**	**09 59 04.2**	**-2.8**
GTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KRAR	**Krasnoyarsk**	**16.25**	**24**	*e* P	**Pn**	**09 59 33.1**	**+0.2**
AB31	**Akbulak array**	**16.77**	**304**	⇓P	**Pn**	**09 59 39.7**	**+0.2**
	comp=Z,2.7nm,0.7s,baz=103,slow=12,SNR=19						
AB31	**Akbulak array**	**16.77**	**304**	*i* P	**Pn**	**09 59 40.2**	**+0.6**
AB31				pmax	pmax		
	comp=Z,3.0nm,0.7s						
AKTO	**Aktyubinsk**	**18.34**	**307**	⇓P	**Pn**	**10 00 02.7**	**+3.6**
	comp=Z,1.9nm,0.7s						
AKTO	**Aktyubinsk**	**18.34**	**307**	P	**P**	**09 59 59.2**	**+0.1**
AKTO	**Aktyubinsk**	**18.34**	**307**	P	**P**	**09 59 59.2**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=118,slow=17,SNR=3.0						
SONM	**Songino Array**	**18.84**	**62**	P	**P**	**10 00 03.2**	**-1.6**
	comp=Z,0.4nm,0.3s,baz=259,slow=12,SNR=4.2						
ARU	**Arti**	**20.86**	**323**	*d i* P	Pn	10 00 29.4	+0.4
ARU						10 00 44.0	
ARU				S	**S**	**10 04 17.9**	**-0.4**
ARU				SS	**SnSn**	**10 04 34.8**	**-3.9**
ARU				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CMAR	**Chiang Mai Arr**	**27.59**	**142**	P	**P**	**10 01 31.7**	**-0.3**
	comp=Z,1.0nm,0.3s,baz=317,slow=7.4,SNR=3.8						
BRTR	**Keskin Array B**	**35.83**	**283**	P	**P**	**10 02 46.6**	**+2.2**
	comp=Z,1.3nm,0.7s,baz=91,slow=8.8,SNR=6.9						
ARCES	**ARCESS Array B**	**39.84**	**333**	P	**P**	**10 03 18.1**	**+0.3**
	comp=Z,1.9nm,0.7s,baz=91,slow=8.2,SNR=6.9						
NOA	**NORSAR Array B**	**45.37**	**320**	P	**P**	**10 04 02.7**	**0.0**
	comp=Z,1.1nm,0.6s,baz=80,slow=7.7,SNR=3.0						
ILAR	**Eielson Array**	**67.43**	**20**	P	**P**	**10 06 38.6**	**-1.2**
	comp=Z,0.4nm,0.8s,baz=306,slow=5.4,SNR=3.6						
TORD	**Torodi Ar. Bea**	**73.65**	**273**	P	**P**	**10 07 19.3**	**+0.8**
	comp=Z,0.8nm,0.6s,baz=40,slow=5.7,SNR=10						
YKA	**Yellowknife Ar**	**75.43**	**8**	P	**P**	**10 07 26.8**	**-1.4**
	comp=Z,0.4nm,0.8s,baz=344,slow=5.8,SNR=3.6						
WRA	**Warramunga Arr**	**78.50**	**130**	P	**P**	**10 07 46.3**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=328,slow=5.2,SNR=3.4						
ASAR	**Alice Springs**	**81.19**	**133**	P	**P**	**10 08 00.8**	**+0.3**
	comp=Z,0.7nm,0.8s,baz=316,slow=5.2,SNR=3.0						

DJA 02 09:57:14.1±0.9, 8°S±5°×10°7E±°, $h25^{km}$±7^{km}, M4.1/7, MLv4.1/7, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.76**	**40**	P	Pb	09 57 28.2	-0.6
CISI				S	Sb	09 57 37.9	-0.9
LEM	**Lembang**	**1.34**	**13**	P	Pn	09 57 37.4	0.0
LEM				S	Sb	09 57 55.2	-0.4
SKJI	**Sukabumi**	**1.36**	**326**	P	Pn	09 57 36.4	-1.1
SKJI				S	Sn	09 57 53.1	-1.6
DBJI	**Dramaga**	**1.67**	**340**	P	Pn	09 57 42.3	+0.4
CLJI	**Cilicap**	**1.73**	**76**	P	Pb	09 57 45.3	+0.1
CLJI				S	Sb	09 58 07.1	+0.5
BJII	**Banjamegara**	**2.50**	**71**	P	Pn	09 57 53.1	-0.2
PWJI	**Pagerwojo**	**4.44**	**89**	P	Pn	09 58 20.0	+0.1
PWJI				S	Sn	09 59 09.8	-1.1

DJA 02 10:00:35.4±1.1, 8°S±7°×10°7E±°, $h39^{km}$, M4.0/5, MLv4.0/5, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.74**	**34**	P	Pn	10 00 49.7	+0.2
CISI				S	Sn	10 00 59.3	-0.4
LEM	**Lembang**	**1.36**	**9**	P	Pn	10 00 59.1	+1.0
LEM				S	Sn	10 01 17.2	+2.1
SKJI	**Sukabumi**	**1.44**	**324**	P	Pn	10 00 58.1	-0.8
DBJI	**Dramaga**	**1.74**	**338**	P	Pn	10 01 03.7	+0.6
DBJI				S	Sn	10 01 23.6	-0.5

DJA 02 10:12:54.0±1.1, 8°S±8°×10°7E±°, $h41^{km}$, M3.7/5, MLv3.7/5, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.93**	**39**	P	Pn	10 13 11.1	+0.4
CISI				S	Sn	10 13 21.1	-1.9
SKJI	**Sukabumi**	**1.44**	**332**	P	Pn	10 13 19.3	+1.7
SKJI				S	Sn	10 13 34.4	-1.0
LEM	**Lembang**	**1.50**	**15**	P	Pn	10 13 19.5	+0.8
LEM				S	Sn	10 13 39.5	+2.2
DBJI	**Dramaga**	**1.79**	**345**	P	Pn	10 13 23.4	+0.9

DJA 02 10:14:30.1±1.0, 8°S±6°×10°7E±°, $h39^{km}$, M4.0/5, MLv4.0/5, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.72**	**43**	P	Pn	10 14 43.4	-0.4
CISI				S	Sn	10 14 52.8	-0.9
LEM	**Lembang**	**1.28**	**13**	P	Pn	10 14 53.8	+2.1
LEM				S	Sn	10 15 09.5	+1.7
SKJI	**Sukabumi**	**1.31**	**325**	P	Pn	10 14 51.4	-0.5
SKJI				S	Sn	10 15 07.5	-0.7
DBJI	**Dramaga**	**1.62**	**340**	P	Pn	10 14 56.8	+0.6
DBJI				S	Sn	10 15 13.8	-2.0
BJII	**Banjamegara**	**2.48**	**73**	P	Pn	10 15 01.4	-6.7

*LDG **02** 10:16:07.7±0.1, 41°.55N×81°.42E, $h10^{km}$, Mb4.4/9, Error ellipse: s-maj=4.5km s-min=3.8km az=96.0*
*ISCJB **02** 10:16:10.0±0.3, 41°.65N±0°.03×81°.61E±0°.05, $h17^{km}$, mb4.2/21, Error ellipse: s-maj=5.0km s-min=4.4km az=154.7*
*IDC **02** 10:16:09.3±0.6, 41°.71N×81°.56E, $h0^{km}$, mb4.2/14, mb1 4.3/21, mb1mx4.1/35, mbtmp4.1/21, ML3.9/7, Error ellipse: s-maj=14.0km s-min=10.0km az=60.0*
*BJI **02** 10:16:10.4, 41°.72N×81°.53E, $h10^{km}$, mB4.4/2, mb4.4/11, ML4.4/10, Ms4.5/3, Ms7 4.4/3*
*MOS **02** 10:16:11.6±1.3, 41°.81N×81°.58E, $h24^{km}$, mb4.3/12, Error ellipse: s-maj=13.1km s-min=7.8km az=109.1*
*NNC **02** 10:16:14.1±1.9, 41°.89N×81°.42E, $h0^{km}$, mb4.5, mpv4.3, Error ellipse: s-maj=18.5km s-min=7.3km az=144.0*

ISC 02 10:16:11.6±0.4, 41°.64N±0°.04×81°.45E±0°.04, $h17^{km}$, n75, σ1§84/80, mb4.3/21, 16C-5D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDC	**Almaty**	**3.67**	**297**	⇑Pn	Pn	10 17 11.6	+3.9
KNDC				⇓Lg	Lg	10 18 06.9	
AAA	**Alma-Ata**	**3.71**	**298**	*e* PN	**Pb**	**10 17 16.9**	**+0.3**
AAA				*e* S	**Sg**	**10 18 07.1**	**-3.5**
AAA				pmax	pmax		
	comp=Z,277nm,0.7s						
AAA				smax	smax		
	comp=E,640nm,0.9s						
ULHL	**Ulahol**	**3.93**	**281**	P	**Pn**	**10 17 14.0**	**+2.7**
	SNR=37						
TKM2	**Tokmak 2**	**4.53**	**288**	⇑Pn	**Pn**	**10 17 22.4**	**+2.9**
	comp=E,44nm,0.3s						
TKM2				⇓Pg	Pb	10 17 34.1	+3.4
	comp=E,138nm,0.8s						
TKM2				⇑Sn	**Sn**	**10 18 16.9**	**+5.0**
	comp=E,102nm,0.5s						
TKM2				⇑Lg	Lg	10 18 33.9	
	comp=E,311nm,0.8s						
TKM2	**Tokmak 2**	**4.53**	**288**	PN	**Pn**	**10 17 22.4**	**+2.9**
TKM2						10 17 34.7	
TKM2						10 18 18.2	
TKM2				pmax	pmax		
	comp=Z,44nm,0.3s						
TKM2				pmax	pmax		
	comp=Z,138nm,0.8s						
TKM2				smax	smax		
	comp=N,103nm,0.5s						
TKM2				pmax	pmax		
	comp=N,276nm,0.8s						
TKM2	**Tokmak 2**	**4.53**	**288**	P	**Pn**	**10 17 22.7**	**+3.2**
	SNR=62						
KZA	**Kyzart**	**4.65**	**277**	P	Pn	10 17 24.9	+3.5
	SNR=14						
KSH	**Kashi**	**4.68**	**245**	Pn	**Pb**	**10 17 32.1**	**-1.1**
KSH				smax	smax		
	comp=N,110nm,0.7s						
KSH				smax	smax		
	comp=E,200nm,0.7s						
KBK	**Karagaybulak**	**4.94**	**284**	P	**Pn**	**10 17 28.1**	**+2.9**
	SNR=18						
WMQ	**Urumqi**	**5.09**	**63**	Pn	**Pn**	**10 17 28.1**	**+1.0**
WMQ				Sn	**Sn**	**10 18 28.7**	**+3.2**
WMQ				smax	smax		
	comp=N,170nm,0.5s						
WMQ				smax	smax		
	comp=E,320nm,0.7s						
CHMS	**Chumysh**	**5.15**	**287**	P	**Pg**	**10 17 47.9**	**-2.2**
	SNR=8.0						
MK31	**Makanchi Array**	**5.18**	**6**	⇑Pn	**Pn**	**10 17 29.5**	**+1.1**
	comp=E,6.2nm,0.3s,baz=190,slow=13,SNR=603						
MK31				⇑Pg	**Pb**	**10 17 43.8**	**+2.1**
	comp=E,45nm,0.6s,baz=185,slow=16,SNR=14						
MK31				⇑Sn	**Sn**	**10 18 29.2**	**+1.4**
	comp=E,46nm,0.6s,baz=185,slow=24,SNR=2.8						
MK31				⇑Lg	Lg	10 18 50.7	
	comp=E,106nm,0.6s,baz=186,slow=30,SNR=3.9						
MK31	**Makanchi Array**	**5.18**	**6**	PN	**Pn**	**10 17 29.5**	**+1.1**
MK31				*e*		10 17 46.1	
MK31						10 18 29.9	
MK31				pmax	pmax		
	comp=Z,11nm,0.2s						
MK31				pmax	pmax		
	comp=Z,42nm,0.4s						
MK31				smax	smax		
	comp=N,46nm,0.5s						
MK31				pmax	pmax		
	comp=N,168nm,0.6s						
MKAR	**Makanchi Array**	**5.18**	**6**	PN	**Pn**	**10 17 29.4**	**+1.0**
MKAR						10 17 43.5	
MKAR						10 18 29.3	
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.3s						
MKAR				pmax	pmax		
	comp=Z,10.0nm,0.3s						
MKAR				smax	smax		
	comp=N,21nm,0.3s						
MKAR	**Makanchi Array**	**5.18**	**6**	Pn	**Pn**	**10 17 29.4**	**+1.0**
	comp=N,5.9nm,0.3s,baz=186,slow=13,SNR=169						
MKAR				Pg	**Pb**	**10 17 43.5**	**+1.8**
	comp=N,10.0nm,0.3s,baz=185,slow=16,SNR=25						
MKAR				Sn	**Sn**	**10 18 29.3**	**+1.5**
	comp=N,21nm,0.3s,baz=185,slow=24,SNR=7.4						
MKAR				Lg	Lg	10 18 50.5	
	comp=N,26nm,0.3s,baz=189,slow=32,SNR=9.7						
UCH	**Uchtor**	**5.21**	**279**	P	**Pb**	**10 17 41.2**	**-1.2**
	SNR=7.5						
FRU	**Bishkek**	**5.21**	**285**	*e* PN	Pg	10 17 47.7	-3.6
FRU				*i*		10 17 50.0	
FRU				*e* S	**Sg**	**10 18 53.6**	**-5.2**
FRU				pmax	pmax		
	comp=Z,188nm,1.0s						
FRU				pmax	pmax		
	comp=N,231nm,1.0s						
AAK	**Ala-Archa**	**5.26**	**283**	PN	**Pn**	**10 17 32.5**	**+2.9**
AAK						10 17 48.4	
AAK				pmax	pmax		
	comp=Z,4.0nm,0.3s						
AAK				pmax	pmax		
	comp=Z,13nm,0.3s						
AAK	**Ala-Archa**	**5.26**	**283**	P	Pn	10 17 32.9	+3.3
	SNR=5.6						
AAK	**Ala-Archa**	**5.26**	**283**	Pn	**Pn**	**10 17 32.5**	**+2.9**
	comp=Z,4.3nm,0.3s,baz=98,slow=12,SNR=16						
AAK				Pg	Pg	10 17 48.4	-3.9
	comp=Z,13nm,0.3s,baz=96,slow=16,SNR=28						
AAK				Lg	Lg	10 18 54.9	
	comp=Z,6.3nm,0.3s,baz=254,slow=19,SNR=5.3						
USP	**Ospenovka**	**5.39**	**290**	P	**Pn**	**10 17 33.6**	**+2.4**
	SNR=7.1						
AML	**Almayashu**	**5.81**	**277**	P	Pg	10 17 58.5	-4.3
	SNR=22						
KK31	**Karatay Array**	**8.23**	**284**	⇓Pn	Pn	10 18 15.9	+5.7
	comp=Z,1.1nm,0.5s,baz=105,slow=12,SNR=12						
KK31				⇓Pg	Pb	10 18 43.5	+10
	comp=Z,17nm,0.8s,baz=99,slow=15,SNR=11						
KK31				⇑Lg	Lg	10 20 30.5	
	comp=Z,71nm,1.1s,baz=91,slow=29,SNR=4.1						
KURBB	**Kurchatov Arra**	**9.21**	**348**	Pn	**Pn**	**10 18 22.6**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=175,slow=12,SNR=8.7						
KURBB				Sn	**Sn**	**10 20 06.9**	**+0.3**

comp=N,108nm,1.3s
GTA Gaotai 14.15 93 *e*P **Pn 10 19 28.8 -2.4**
GTA pP P 10 19 32.7 -6.0
GTA pmax pmax
comp=Z,7.0nm,0.7s
GUN Gumba 14.17 164 *e*P **P 10 19 39.5 +0.2**
comp=Z,43nm,0.6s
PKIN Phulchoki 14.40 166 *e*P **Pn 10 19 35.8 +0.9**
comp=Z,17nm,0.6s
PKI Pulchoki 14.41 166 *e*P **Pn 10 19 35.6 +0.5**
comp=Z,25nm,0.7s
TAPN Taplejung 15.16 158 *e*P **P 10 19 51.9 +1.7**
comp=Z,46nm,0.8s
RAMN Ramite 15.26 162 *e*P **Pn 10 19 44.3 -2.1**
comp=Z,32nm,0.7s
ODAN Odare 15.54 160 *e*P **Pn 10 19 50.4 +0.3**
comp=Z,29nm,0.5s
AB31 Akbulak array 16.86 304 ⇑Pn **Pn 10 20 04.7 -2.0**
comp=Z,4.5nm,0.6s,baz=109,slow=12,SNR=67
AB31 Akbulak array 16.86 304 *i* P **P 10 20 09.0 +0.3**
AB31 pmax pmax
comp=Z,5.0nm,0.6s
ZAK Zakamensk 17.45 53 *e*P **Pn 10 20 13.9 -0.2**
ZAK pmax pmax
comp=Z,3.0nm,1.3s
AKTO Aktyubinsk 18.43 306 ⇑Pn **P 10 20 25.4 -0.6**
comp=Z,9.7nm,1.2s
AKTO Aktyubinsk 18.43 306 P **P 10 20 25.8 -0.2**
AKTO Aktyubinsk 18.43 306 P **P 10 20 25.8 -0.2**
comp=Z,0.3nm,0.3s,baz=94,slow=14,SNR=6.9
SONM Songino Array 18.73 62 P **P 10 20 29.3 -0.1**
comp=Z,0.5nm,0.3s,baz=266,slow=12,SNR=9.3
CMAR Chiang Mai Arr 27.52 142 P **P 10 21 58.1 +0.9**
comp=Z,1.2nm,0.3s,baz=319,slow=8.5,SNR=9.2
KSRS Korea Array 35.74 81 P **P 10 23 09.2 -0.2**
comp=Z,1.0nm,0.5s,baz=280,slow=8.7,SNR=5.2
BRTR Keskin Array B 35.94 283 P **P 10 23 12.8 +1.5**
comp=Z,2.9nm,0.8s,baz=88,slow=7.8,SNR=7.7
AKASG Malin Array Be 36.60 303 P **P 10 23 18.4 +1.9**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 36.60 303 P **P 10 23 18.4 +1.9**
comp=Z,0.5nm,0.4s,baz=72,slow=8.5,SNR=4.0
FINES FINESS Array B 38.26 320 P **P 10 23 30.4 0.0**
comp=Z,9.6nm,1.1s,baz=97,slow=12,SNR=4.0
ARCES ARCESS Array B 39.89 333 P **P 10 23 43.9 -0.1**
comp=Z,3.9nm,0.6s,baz=92,slow=8.1,SNR=33
NB2 NORSAR Subarra 45.44 320 P **P 10 24 29.1 -0.1**
comp=Z,5.0nm,0.6s,baz=81,slow=7.9
NOA NORSAR Array B 45.44 320 P **P 10 24 28.9 -0.3**
comp=Z,2.7nm,0.7s,baz=83,slow=7.2,SNR=10
GERES GERESS Array B 46.80 303 P **P 10 24 40.9 +0.7**
comp=Z,0.8nm,0.6s,baz=82,slow=7.0,SNR=6.0
PGF Pioggiola 52.19 297 *e*P **P 10 25 21.1 -0.3**
comp=Z,6.7nm,0.9s
LPG La Plagne 52.43 301 *e*P **P 10 25 23.5 +0.1**
comp=Z,13nm,0.8s
LPL La Plagne 52.44 301 *e*P **P 10 25 23.5 +0.2**
comp=Z,12nm,0.8s
SBF Sospel 52.67 299 *e*P **P 10 25 24.6 -0.3**
comp=Z,9.0nm,0.7s
MBDF Montbardon 52.74 300 *e*P **P 10 25 25.5 0.0**
comp=Z,16nm,1.2s
ORIF Oris-en-Rattie 53.23 301 *e*P **P 10 25 29.0 -0.1**
comp=Z,7.1nm,0.8s
LMR La Mourre 53.50 299 *e*P **P 10 25 30.9 0.0**
comp=Z,9.6nm,0.9s
VIVF Saint-Julien-l 54.03 301 *e*P **P 10 25 34.6 -0.3**
ILAR Eielson Array 67.38 20 P **P 10 27 04.4 -1.1**
comp=Z,1.0nm,0.7s,baz=318,slow=5.1,SNR=8.6
FITZ Fitzroy Crossi 72.14 136 P **P 10 27 35.0 -0.2**
comp=Z,1.9nm,0.7s,baz=323,slow=5.1,SNR=7.8
TORD Torodi Ar. Bea 73.77 273 P **P 10 27 45.2 +0.1**
comp=Z,2.4nm,0.5s,baz=39,slow=5.3,SNR=16
YKA Yellowknife Ar 75.41 8 P **P 10 27 53.3 -0.6**
comp=Z,1.1nm,0.7s,baz=342,slow=6.2,SNR=4.5
WRA Warramunga Ar 78.41 130 P **P 10 28 12.1 +0.8**
comp=Z,2.5nm,0.8s,baz=327,slow=5.2,SNR=11
ASAR Alice Springs 81.11 133 P **P 10 28 26.8 +0.9**
comp=Z,1.6nm,0.8s,baz=320,slow=5.0,SNR=12

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*ISCJB **02** 10:18:34.7±1.6, 8°.3S±0°.1×107°.5E±0°.2, h33km, Error ellipse: s-maj=29.4km s-min=9.7km az=26.1*
*DJA **02** 10:18:38.4±1.2, 8°S±7°×10°7E±°, h21km, M3.6/4, MLv3.6/4*
ISC 02 10:18:34.9±1.9, 8°.34S±0°.10×107°.5E±0°.2, h35km, n5, σ1§58/7, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.84**	**23**	P	**Pn**	**10 18 50.6**	**+0.3**
CISI				S	**Sn**	**10 18 59.8**	**-1.7**
LEM	**Lembang**	**1.51**	**5**	P	**Pn**	**10 19 01.3**	**+1.7**
LEM				S	**Sn**	**10 19 16.9**	**-1.2**
LEM	**Lembang**	**1.51**	**5**	P	**Pn**	**10 19 01.1**	**+1.5**
	baz=36,SNR=4.1						
SKJI	**Sukabumi**	**1.61**	**325**	P	**Pn**	**10 19 01.2**	**+0.3**
XMIS	**Christmas Isla**	**2.79**	**220**	P	**Pn**	**10 19 17.5**	**+0.4**
	baz=37,SNR=4.0						

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*IDC **02** 10:57:21.3±3.0, 43°.81N×147°.75E, h0km, mb3.3/4, mb1 3.7/5, mb1mx3.4/25, mbtmp3.3/5, ML3.1/1, MS3.8/1, Ms1 3.8/1, ms1mx3.1/23, Error ellipse: s-maj=101.6km s-min=26.9km az=174.0*
*MOS **02** 10:57:25.9±1.3, 43°.78N×147°.47E, h54km, mb4.0/1, Error ellipse: s-maj=32.7km s-min=28.2km az=67.1*
*ISCJB **02** 10:57:26.4±1.1, 43°.80N±0°.09×147°.3E±0°.1, h60km±12km, mb3.3/4, Error ellipse: s-maj=19.9km s-min=6.4km az=139.1*
*JMA **02** 10:57:27.0±0.2, 43°.68N×147°.27E, h27km, M3.5*
*SKHL **02** 10:57:28.0±0.1, 43°.81N×147°.36E, h33km, mb4.1/2*
ISC 02 10:57:25.7±1.5, 43°.7N±0°.1×147°.5E±0°.1, h37km±3km, n19, σ1§54/31, mb3.3/4, 2C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**1.23**	**286**	*c i* PN	**Pn**	**10 57 45.9**	**-0.5**
YUK				*i* S	**Sn**	**10 57 59.3**	**-2.4**
YUK				pmax	pmax		
	comp=N,21nm,0.1s						
YUK				pmax	pmax		
	comp=E,20nm,0.1s						
YUK				pmax	pmax		
	comp=Z,67nm,0.1s						
YUK				smax	smax		
	comp=N,670nm,0.3s						
YUK				smax	smax		
	comp=E,986nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.23**	**286**	*i* P	**Pn**	**10 57 45.9**	**-0.5**
YUK				AMB	AMB	10 57 47.7	
	comp=E,21nm,0.1s						
YUK				AMB	AMB	10 57 47.7	
	comp=E,20nm,0.1s						
YUK				AMB	AMB	10 57 47.7	
	comp=E,67nm,0.1s						
YUK				*i* S	**Sn**	**10 57 59.4**	**-2.3**
YUK				A	A	10 58 01.9	
	comp=E,670nm,0.3s						
YUK				A	A	10 58 01.9	
	comp=E,986nm,0.3s						
NEM2	**Nemuro 2**	**1.32**	**256**	P	**Pn**	**10 57 47.6**	**0.0**
NEM2				*e*S	**Sn**	**10 58 02.7**	**-1.2**
KUR	**Kuril'sk**	**1.55**	**10**	⇑PN	**Pn**	**10 57 51.6**	**+0.8**
KUR				*e*S	**Sn**	**10 58 09.2**	**-0.5**
KUR				pmax	pmax		
	comp=N,11nm,0.3s						
KUR				pmax	pmax		
	comp=E,9.0nm,0.3s						
KUR				pmax	pmax		
	comp=Z,19nm,0.3s						
KUR				smax	smax		
	comp=N,180nm,0.2s						
KUR				smax	smax		
	comp=E,159nm,0.2s						
KUR	**Kuril'sk**	**1.55**	**10**	*i* P	**Pn**	**10 57 51.6**	**+0.8**
KUR				AMB	AMB	10 57 53.9	
	comp=E,11nm,0.3s						
KUR				AMB	AMB	10 57 53.9	
	comp=E,9.0nm,0.3s						
KUR				AMB	AMB	10 57 53.9	
	comp=E,18nm,0.3s						
KUR				*e*S	**Sn**	**10 58 09.2**	**-0.5**
KUR				A	A	10 58 11.0	
	comp=E,180nm,0.2s						
KUR				A	A	10 58 11.0	
	comp=E,159nm,0.2s						
JRA	**Rausu**	**1.74**	**279**	P	**Pn**	**10 57 53.6**	**+0.3**
JRA				*e*S	**Sn**	**10 58 13.0**	**-1.2**
JNK	**Nakash**	**2.02**	**268**	P	**Pn**	**10 57 57.5**	**+0.3**
JNK				*e*S	**Sn**	**10 58 19.6**	**-1.7**
JAK	**Akkeshi**	**2.17**	**252**	P	**Pn**	**10 57 59.6**	**+0.4**
JAK				*e*S	**Sn**	**10 58 23.5**	**-1.2**
JTKR	**Abashiri--Toko**	**2.62**	**277**	P	**Pn**	**10 58 06.5**	**+1.2**
JAR	**Ashorobuto**	**2.75**	**263**	P	**Pn**	**10 58 08.7**	**+1.5**
JAR				*e*S	**Sn**	**10 58 39.9**	**+0.8**
JOB	**Onbets**	**2.79**	**255**	P	**Pn**	**10 58 08.9**	**+1.1**
JOB				*e*S	**Sn**	**10 58 40.0**	**-0.2**
JMP	**Maruseppu**	**3.01**	**277**	P	**Pn**	**10 58 12.1**	**+1.2**
JCH	**Churui**	**3.22**	**252**	P	**Pn**	**10 58 15.4**	**+1.7**
JCH				*e*S	**Sn**	**10 58 49.3**	**-1.4**
ASAJ	**Asahikawa**	**3.57**	**278**	Pn	**Pn**	**10 58 20.9**	**+2.4**
	comp=E,1.2nm,0.3s,baz=350,slow=12,SNR=12						
ASAJ				Sn	**Sn**	**10 59 04.2**	**+4.9**
	comp=E,1.2nm,0.3s,baz=235,slow=30,SNR=6.5						
ASAJ				LR	LR	10 59 33.5	
	comp=E,1μm,21.1s,baz=131,slow=35						
JNBK	**Urakawa-nobuka**	**3.76**	**249**	P	**Pn**	**10 58 22.0**	**+0.9**
ILAR	**Eielson Array**	**41.38**	**36**	P	**P**	**11 05 07.4**	**-0.3**
	comp=E,0.3nm,0.6s,baz=277,slow=7.0,SNR=5.2						
YKA	**Yellowknife Ar**	**55.70**	**34**	P	**P**	**11 06 56.9**	**-1.0**
	comp=E,0.4nm,0.6s,baz=297,slow=6.9,SNR=3.0						
NVAR	**Mina Array Bea**	**67.39**	**58**	P	**P**	**11 08 17.5**	**+0.1**
	comp=E,0.2nm,0.6s,baz=290,slow=8.3,SNR=3.3						
TXAR	**Lajitas Array**	**82.46**	**56**	P	**P**	**11 09 44.6**	**+0.2**
	comp=E,0.1nm,0.7s,baz=328,slow=3.2,SNR=2.7						

MAN 02 11:04:47, 10°.48N×125°.48E, h1km, mb4.2, ML3.0, MS2.7, 1C, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.69**	**179**	*e*P	Pg	11 05 00.7	+0.4
SCPH				*i* S	Sg	11 05 09.7	+0.5
PLP	**Palo**	**0.84**	**325**⇑	*e*P	Pb	11 05 04.4	0.0
PLP				*e*S	Sn	11 05 18.9	-0.2
BUTP	**Butuan**	**1.50**	**174**	*e*P	Pn	11 05 14.8	-0.3
BUTP				*e*S	Sb	11 05 32.2	-3.1
BUKP	**Musuan**	**2.61**	**189**	*e*P	Pb	11 05 32.8	-1.9
PAGZ	**Pagadian**	**3.33**	**219**	*e*P	Pn	11 05 41.7	+1.5

PRE 02 11:09:14.4±1.2, 0°.70N×30°.76E, h10km, ML4.0, 1D, Uganda

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBAR	**Mbarara**	**1.29**	**181**	⇓*i* P	Pg	11 09 39.5	0.0
MBAR				*e*S	Sn	11 09 56.4	0.0
MBAR				AML	AML	11 09 58.7	
	comp=Z,2μm,0.2s						
KIG	**Kigali**	**2.74**	**195**	*e*P	Pn	11 09 58.4	-0.3
KIG				*e*S	Sn	11 10 31.4	-0.6
KIG				AML	AML	11 10 39.1	
	comp=Z,194nm,0.3s						
KMBO	**Kilima Mbogo**	**6.74**	**106**	*e*P	Pn	11 10 55.2	+1.3
KMBO				*e*S	Sn	11 12 07.2	-3.8
KMBO				AML	AML	11 13 10.1	
	comp=Z,103nm,0.5s						

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*IDC **02** 11:11:39.0±0.9, 17°.09N×101°.28W, h0km, mb3.8/8, mb1 4.0/11, mb1mx3.9/26, mbtmp3.7/11, ML3.1/3, Error ellipse: s-maj=35.2km s-min=16.1km az=56.0*
*NEIC **02** 11:11:42.6±1.1, 17°.19N×101°.17W, h22km±7km, mb4.0/3, MD4.2(MEX), Error ellipse: s-maj=10.7km s-min=4.7km az=216.0*
*MEX **02** 11:11:44.2±0.7, 17°.15N×101°.25W, h22km±10km, MD4.1*
ISC 02 11:11:42.5±1.4, 17°.16N±0°.06×101°.22W±0°.04, h23km±10km, n173, σ1§20/172, mb3.9/11, 60C-62D, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.50**	**332**	*i* P	**Pb**	**11 11 52.6**	**-0.1**
ZIIG				*i* S	**Sb**	**11 11 58.9**	**-0.6**
ZIIG	**Zihuatanejo**	**0.50**	**332**	*i* P	**Pb**	**11 11 52.6**	**-0.1**
ZIIG				*i* S	**Sb**	**11 11 58.9**	**-0.6**
CAIG	**El Cayaco**	**0.92**	**97**	*e*P	Pb	11 11 58.3	-1.4
CAIG				*e*S	**Sb**	**11 12 10.7**	**-0.8**
CAIG	**El Cayaco**	**0.92**	**97**	*e*P	Pb	11 11 58.3	-1.4
CAIG				*e*S	**Sb**	**11 12 10.7**	**-0.8**
MEIG	**Mezcala**	**1.71**	**63**	*e*P	**Pn**	**11 12 10.2**	**-0.8**
MEIG				*e*S	**Sn**	**11 12 31.6**	**-0.5**
MEIG	**Mezcala**	**1.71**	**63**	*e*P	**Pn**	**11 12 10.2**	**-0.8**
MEIG				*e*S	**Sn**	**11 12 31.6**	**-0.5**
PLIG	**Platanillo**	**2.04**	**53**	*e*P	**Pn**	**11 12 15.1**	**-0.5**
PLIG				*i* S	**Sn**	**11 12 39.6**	**-0.9**
PLIG	**Platanillo**	**2.04**	**53**	*e*P	**Pn**	**11 12 15.1**	**-0.5**
PLIG				*i* S	**Sn**	**11 12 39.6**	**-0.9**
MMIG	**Aquila**	**2.32**	**299**	*i* P	**Pn**	**11 12 19.3**	**+0.1**
MMIG				*i* S	**Sn**	**11 12 45.3**	**-1.8**
MMIG	**Aquila**	**2.32**	**299**	*i* P	**Pn**	**11 12 19.3**	**+0.1**
MMIG				*i* S	**Sn**	**11 12 45.3**	**-1.8**
PNIG	**Pinotepa**	**3.06**	**104**	*e*P	**Pn**	**11 12 29.1**	**-0.4**
PNIG				*i* S	**Sn**	**11 13 04.2**	**-1.3**
PNIG	**Pinotepa**	**3.06**	**104**	*e*P	**Pn**	**11 12 29.1**	**-0.4**
PNIG				*i* S	**Sn**	**11 13 04.2**	**-1.3**
VHO	**Vista Hermosa**	**4.29**	**90**	*e*P	**Pn**	**11 12 47.3**	**+0.7**
VHO				*i* S	**Sn**	**11 13 35.5**	**-0.6**
VHO	**Vista Hermosa**	**4.29**	**90**	*e*P	**Pn**	**11 12 47.3**	**+0.7**
VHO				*i* S	**Sn**	**11 13 35.5**	**-0.6**
HUIG	**Huatulco**	**5.10**	**105**	*i* P	**Pn**	**11 12 58.4**	**+0.9**
HUIG				*i* S	**Sn**	**11 13 55.0**	**-0.7**
HUIG	**Huatulco**	**5.10**	**105**	*i* P	**Pn**	**11 12 58.4**	**+0.9**
HUIG				*i* S	**Sn**	**11 13 55.0**	**-0.7**
CMIG	**Matias Romero**	**6.06**	**90**	Pn	**Pn**	**11 13 11.2**	**+0.4**
CMIG	**Matias Romero**	**6.06**	**90**	Pn	**Pn**	**11 13 11.2**	**+0.4**
	0.5nm,0.3s,baz=271,slow=13,SNR=4.2						
TXAR	**Lajitas Array**	**12.32**	**350**	Pn	**Pn**	**11 14 38.4**	**+1.7**
TXAR				Lg	Lg	11 18 18.6	
TXAR	**Lajitas Array**	**12.32**	**350**	Pn	**Pn**	**11 14 38.4**	**+1.7**
	0.0nm,0.3s,baz=165,slow=18,SNR=8.0						
TXAR				Lg	Lg	11 18 18.6	
	0.1nm,0.3s,baz=164,slow=28,SNR=5.9						
628A	**Black Gap, Mar**	**12.37**	**353**	⇓P	Pn	11 14 44.6	+7.4
	baz=12						
TEIG	**Tepich**	**12.64**	**74**	*e*Pn	Pn	11 14 38.5	-2.5
530A	**J-C Ranch, Com**	**12.93**	**360**	⇑P	Pn	11 14 51.2	+6.2
	baz=13						
529A	**Stev Forest Ra**	**12.94**	**356**	⇑P	P	11 14 53.1	-2.4
	baz=13						
531A	**Rocksprings**	**12.96**	**3**	⇑P	P	11 14 53.1	-2.6
	baz=13						
532A	**Rocksprings**	**12.97**	**5**	⇓P	Pn	11 14 52.3	+6.9
	baz=13						
528A	**Cox Ranch, San**	**13.02**	**354**	⇑P	P	11 14 53.3	-3.2
	baz=13						
526A	**Mary Lane Ranc**	**13.11**	**349**	⇓P	P	11 14 55.4	-2.1
	baz=13						
527A	**Woodward Ranch**	**13.11**	**351**	⇑P	Pn	11 14 54.2	+6.7
	baz=13						
429A	**Davenport Ranc**	**13.42**	**357**	⇑P	P	11 14 58.5	-2.4
	baz=13						
431A	**Sonora**	**13.47**	**2**	⇓P	P	11 14 58.8	-2.6
	baz=14						
430A	**Baggett Ranch,**	**13.57**	**360**	⇑P	P	11 15 00.0	-2.5
	baz=14						
426A	**McDonald Obser**	**13.69**	**350**	⇑P	P	11 15 02.2	-1.9
	baz=14						
427A	**Hayter Ranch,**	**13.77**	**352**	⇑P	**P**	**11 15 04.0**	**-0.9**
	baz=14						
425A	**Indio Mountain**	**13.99**	**346**	⇓P	**P**	**11 15 05.9**	**-1.4**
	baz=14						
331A	**San Angelo**	**14.11**	**3**	⇓P	**P**	**11 15 07.6**	**-0.9**
	baz=14						
330A	**Mertzon**	**14.18**	**0**	⇑P	**P**	**11 15 08.5**	**-0.9**
	baz=14						
332A	**Millersview**	**14.22**	**5**	⇓P	P	11 15 08.0	-1.8
	baz=14						
329A	**Wagon Wheel Ra**	**14.28**	**357**	⇓P	**P**	**11 15 09.8**	**-0.7**
	baz=14						
326A	**Caldwell Ranch**	**14.32**	**350**	⇓P	**P**	**11 15 10.7**	**-0.1**
	baz=14						
325A	**Bean Ranch, Si**	**14.55**	**347**	⇓P	**P**	**11 15 14.1**	**+0.5**
	baz=15,SNR=7.4						
231A	**Bronte**	**14.73**	**3**	⇑P	**P**	**11 15 14.3**	**-1.2**
	baz=15						
232A	**Coleman**	**14.73**	**5**	⇓P	Pn	11 15 14.1	+4.5
	baz=15,SNR=6.1						
324A	**Moseley Ranch,**	**14.74**	**346**	⇑P	**P**	**11 15 16.4**	**+0.7**
	baz=15,SNR=5.7						
229A	**Bryant Ranch,**	**14.75**	**358**	⇓P	**P**	**11 15 14.7**	**-1.0**
	baz=15						
227A	**Bennet, Jal**	**14.91**	**353**	⇑P	**P**	**11 15 17.2**	**-0.2**
	baz=15						
228A	**UT Block 9, Go**	**14.95**	**355**	⇓P	**P**	**11 15 17.4**	**-0.5**
	baz=15						
226B	**Tecolote Peak,**	**15.09**	**350**	⇓P	**P**	**11 15 19.8**	**+0.3**
	baz=15						
WHTX	**Lake Whitney**	**15.16**	**12**	⇑P	**Pn**	**11 15 19.0**	**+3.9**
	baz=15						
225A	**Deer Hill, Car**	**15.24**	**348**	⇓P	**P**	**11 15 21.6**	**+0.3**
	baz=15,SNR=7.9						
224A	**Cornudas Mount**	**15.36**	**346**	⇑P	**P**	**11 15 22.9**	**+0.4**
	baz=15,SNR=7.9						
129A	**Stewart Farms,**	**15.42**	**358**	⇑P	**Pn**	**11 15 22.3**	**+3.6**
	baz=16						
128A	**Castleberry Fa**	**15.44**	**356**	⇑P	**Pn**	**11 15 22.7**	**+3.7**
	baz=16						
ABTX	**Abilene, Hawle**	**15.46**	**5**	*e*Pn	**Pn**	**11 15 18.8**	**-0.5**
ABTX	**Abilene, Hawle**	**15.46**	**5**	⇓P	**Pn**	**11 15 22.6**	**+3.4**
	baz=16						
127A	**Arkansas Junct**	**15.57**	**353**	⇑P	**P**	**11 15 24.8**	**0.0**
	baz=16						
320A	**Kipp Ranch, An**	**15.60**	**336**	⇑P	**P**	**11 15 24.8**	**-0.4**
	baz=16						
126A	**Clayton Basin,**	**15.63**	**351**	⇓P	**P**	**11 15 25.6**	**+0.1**
	baz=16						
125A	**Gardner Draw,**	**15.74**	**349**	⇓P	**P**	**11 15 27.0**	**+0.3**
	baz=16,SNR=13						
319A	**Douglas**	**15.94**	**334**	⇓P	**P**	**11 15 28.9**	**0.0**
	baz=16						
124A	**Stringfield Ra**	**15.94**	**347**	⇓P	**P**	**11 15 29.4**	**+0.3**
	baz=16,SNR=6.1						
Z29A	**Hungry Hill Ra**	**16.04**	**359**	⇓P	**Pn**	**11 15 28.9**	**+2.1**
	baz=16,SNR=6.6						
Z30A	**Sanderson Ranc**	**16.06**	**0**	⇑P	**Pn**	**11 15 28.8**	**+1.8**
	baz=16						
Z28A	**Tucker Farm, M**	**16.09**	**356**	⇑P	**Pn**	**11 15 30.2**	**+2.7**
	baz=16						
220A	**Playas Peak, P**	**16.11**	**337**	⇓P	**P**	**11 15 31.2**	**+0.4**
	baz=16						
Z31A	**Sharp Cattle R**	**16.12**	**3**	⇓P	**Pn**	**11 15 29.7**	**+2.0**
	baz=16,SNR=6.2						
Z32A	**Haskell**	**16.16**	**5**	⇑P	**Pn**	**11 15 30.5**	**+2.4**
	baz=16						
Z27A	**Tatum**	**16.19**	**354**	⇓P	**Pn**	**11 15 31.1**	**+2.4**
	baz=16						
Z26A	**Caprock**	**16.24**	**352**	⇑P	**Pn**	**11 15 32.4**	**+3.2**
	baz=16						
Z25A	**Roswell**	**16.36**	**350**	⇑P	**Pn**	**11 15 33.1**	**+2.3**
	baz=16						
121A	**Cookes Peak, D**	**16.42**	**340**	⇑P	**P**	**11 15 35.4**	**+1.1**
	baz=16						
Z24A	**Sheeppen Canyo**	**16.53**	**348**	⇑P	**P**	**11 15 36.4**	**+0.9**
	baz=17						
Z23A	**Rita Site, Whi**	**16.66**	**345**	⇓P	**Pn**	**11 15 37.3**	**+2.7**
	baz=17						
Y28A	**McKinney Farm,**	**16.70**	**357**	⇓P	**Pn**	**11 15 37.5**	**+2.3**
	baz=17						
120A	**U Bar Ranch, L**	**16.72**	**338**	⇓P	**Pn**	**11 15 37.9**	**+2.4**
	baz=17						
Y27A	**Causey**	**16.75**	**354**	⇓P	**Pn**	**11 15 35.8**	**0.0**
	baz=17						
MSTX	**Muleshoe**	**16.80**	**356**	⇑P	**Pn**	**11 15 38.1**	**+1.7**
	baz=17						
Z22A	**Elephant Butte**	**16.84**	**343**	⇓P	**P**	**11 15 39.9**	**+0.9**
	baz=17,SNR=6.0						
Y25A	**Mesa, Roswell**	**16.98**	**350**	⇑P	**Pn**	**11 15 40.6**	**+1.8**
	baz=17						
Z21A	**St. Cloud Mine**	**17.10**	**341**	⇓P	**Pn**	**11 15 42.5**	**+2.2**
	baz=17						
Y24A	**Capitan**	**17.12**	**348**	⇑P	**Pn**	**11 15 42.6**	**+2.0**
	baz=17						
X30A	**Coker Ranch, T**	**17.22**	**1**	⇑P	**Pn**	**11 15 41.4**	**-0.2**
	baz=17						
X29A	**Tulia**	**17.22**	**359**	⇑P	**Pn**	**11 15 41.7**	**0.0**
	baz=17						
Y23A	**Lovelace Mesa,**	**17.26**	**346**	⇓P	**Pn**	**11 15 44.6**	**+2.4**
	baz=17,SNR=6.9						
X31A	**McDonald Ranch**	**17.43**	**3**	⇑P	**Pn**	**11 15 44.0**	**-0.3**
	baz=18						
Y22A	**Socorro**	**17.49**	**344**	⇓P	**Pn**	**11 15 46.9**	**+1.9**
	baz=18						
Y20A	**Horse Springs,**	**17.88**	**340**	⇑P	**Pn**	**11 15 51.3**	**+1.3**
	baz=18						
LAZ	**Ladron**	**17.97**	**344**	*e*P	**Pn**	**11 15 51.0**	**-0.1**
	2.6nm,1.3s						
W26A	**Owens Ranch, T**	**18.00**	**353**	⇓P	**Pn**	**11 15 52.4**	**+1.0**
	baz=18						
X22A	**Bernardo**	**18.04**	**344**	⇓P	**Pn**	**11 15 53.0**	**+1.2**
	baz=18						
X21A	**Alamocita Cree**	**18.19**	**342**	⇑P	**Pn**	**11 15 54.4**	**+0.6**
	baz=18						
ANMO	**Albuquerque**	**18.32**	**346**	P	**P**	**11 15 55.4**	**0.0**
ANMO	**Albuquerque**	**18.32**	**346**	P	**P**	**11 15 55.4**	**0.0**
	0.1nm,0.3s,baz=149,slow=12,SNR=6.2						
W24A	**Lazy 6 Ranch,**	**18.36**	**349**	⇓P	**P**	**11 15 56.5**	**+0.7**
	baz=18,SNR=6.7						
W23A	**Werner Place,**	**18.46**	**347**	⇑P	**P**	**11 15 57.2**	**+0.3**
	baz=18						
X20A	**Quemado**	**18.50**	**341**	⇑P	**P**	**11 15 57.4**	**+0.1**
	baz=18						
V31A	**Spring Creek L**	**18.58**	**4**	⇓P	**P**	**11 15 57.2**	**-0.8**
	baz=19						
V26A	**Tequesquite Ra**	**18.70**	**353**	⇑P	**P**	**11 15 59.1**	**-0.4**
	baz=19,SNR=5.4						
V24A	**Rampart Ranch,**	**18.84**	**350**	⇓P	**P**	**11 16 01.4**	**+0.3**
	baz=19						
X18A	**Snowflake**	**18.98**	**337**	⇑P	**P**	**11 16 02.9**	**+0.3**
	baz=19						
V23A	**Ortiz Mt. (NFS**	**19.03**	**348**	⇓P	**P**	**11 16 03.8**	**+0.6**
	baz=19,SNR=5.7						
U27A	**Thompson Grove**	**19.24**	**356**	⇑P	**P**	**11 16 05.0**	**-0.4**
	baz=19						
TUL1	**Tulsa**	**19.29**	**13**	*e*P	**P**	**11 16 04.0**	**-1.8**
TUL1	**Tulsa**	**19.29**	**13**	⇑P	**P**	**11 16 03.6**	**-2.1**
	baz=19						
U26A	**Atchley Ranch,**	**19.29**	**354**	⇑P	**P**	**11 16 06.2**	**+0.2**
	baz=19						
V22A	**San Miguel Ran**	**19.35**	**346**	⇓P	**P**	**11 16 07.2**	**+0.5**
	baz=19						
U25A	**Circle Dot Ran**	**19.37**	**352**	⇓P	**P**	**11 16 07.1**	**+0.2**
	baz=19						
X16A	**Lo Mia Camp, P**	**19.47**	**334**	⇓P	**P**	**11 16 07.8**	**-0.2

	baz=21							
R30A	Dighton	21.06	2	⇓P		P	11 16 24.1	-1.0
	baz=21							
R25A	Fountain Ranch	21.08	353	⇑P		P	11 16 25.0	-0.4
	baz=21							
R27A	Eads	21.09	357	⇓P		P	11 16 24.8	-0.7
	baz=21							
S22A	4UR Ranch, Cre	21.09	348	⇑P		P	11 16 26.3	+0.6
	baz=21,SNR=8.6							
R31A	Burdett	21.10	4	⇑P		P	11 16 23.8	-1.7
	baz=21							
R28A	Tribune	21.11	359	⇑P		P	11 16 24.6	-1.1
	baz=21							
R26A	Arlington	21.15	355	⇓P		P	11 16 25.6	-0.5
	baz=21							
R29A	Marienthal	21.19	0	⇑P		P	11 16 25.1	-1.4
	baz=21							
S21A	Coal Bank Pass	21.23	345	⇑P		P	11 16 27.9	+0.8
	baz=21,SNR=5.7							
R24A	Sanders Place,	21.27	352	⇑P		P	11 16 27.3	-0.2
	baz=21							
R23A	Moffat	21.34	350	⇓P		P	11 16 29.1	+0.8
	baz=21,SNR=9.1							
PFO	Pinyon Flat Ob	21.35	323	⇓P		P	11 16 28.0	-0.3
	baz=21							
BELC	Belle Mtn. Jos	21.38	324	⇑P		P	11 16 27.5	-1.2
	baz=21							
S20A	Disappointment	21.53	344	⇓P		P	11 16 30.8	+0.4
	baz=22							
R22A	Saguache, Gunn	21.55	348	⇓P		P	11 16 31.5	+0.9
	baz=22,SNR=6.1							
U15A	North Rim	21.55	335	⇑P		P	11 16 31.2	+0.5
	baz=22							
Q30A	Quinter	21.76	2	⇑P		P	11 16 31.1	-1.4
	baz=22							
Q26A	Hugo	21.78	355	⇓P		P	11 16 32.6	-0.3
	baz=22,SNR=5.8							
KSCO	Kaye Shedlock'	21.81	357	eP		P	11 16 32.3	-0.8
KSCO	Kaye Shedlock'	21.81	357	⇑P		P	11 16 32.4	-0.7
	baz=22							
Q28A	Sharon Springs	21.83	359	⇓P		P	11 16 32.2	-1.2
	baz=22							
Q25A	Bedland, Calha	21.84	354	⇓P		P	11 16 32.9	-0.7
	baz=22							
PV01	Paradox Valley	21.87	344	eP		P	11 16 33.8	-0.2
	215nm,0.9s							
ARUT	Antelope Range	23.19	335	eP		P	11 16 49.6	+1.7
	43nm,0.6s							
TKL	Tuckaleechee C	24.09	37	P		P	11 16 58.4	+2.0
TKL	Tuckaleechee C	24.09	37	P		P	11 16 58.4	+2.0
	3.2nm,0.8s,baz=238,slow=13,SNR=3.6							
NVAR	Mina Array Bea	25.94	328	P		P	11 17 13.9	+0.5
NVAR	Mina Array Bea	25.94	328	P		P	11 17 13.9	+0.5
	2.5nm,1.1s,baz=144,slow=9.4,SNR=11							
PDAR	Pinedale Array	26.50	346	P		P	11 17 18.0	-0.4
PDAR	Pinedale Array	26.50	346	P		P	11 17 18.0	-0.4
	0.2nm,0.6s,baz=147,slow=7.0,SNR=2.7							
YKA	Yellowknife Ar	46.25	351	P		P	11 20 05.3	-0.5
YKA	Yellowknife Ar	46.25	351	P		P	11 20 05.3	-0.5
	1.1nm,0.7s,baz=158,slow=7.3,SNR=6.9							
LPAZ	La Paz	46.57	134	P		P	11 20 09.5	0.0
LPAZ	La Paz	46.57	134	P		P	11 20 09.5	0.0
	0.6nm,0.7s,baz=315,slow=8.6,SNR=3.1							
ILAR	Eielson Array	56.55	338	P		P	11 21 23.5	+0.6
ILAR	Eielson Array	56.55	338	P		P	11 21 23.5	+0.6
	0.7nm,1.0s,baz=132,slow=6.5,SNR=6.2							
BPAW	Bear Paw Mtn.	57.68	337	P		P	11 21 30.5	-0.5
	12nm,1.7s							
CPUP	Villa Florida	60.73	134	P		P	11 21 52.0	-0.6
CPUP	Villa Florida	60.73	134	P		P	11 21 52.0	-0.6
	0.3nm,0.3s,baz=294,slow=10.0,SNR=3.3							
BDFB	Brasilia	61.76	119	P		P	11 21 59.7	-0.2
BDFB	Brasilia	61.76	119	P		P	11 21 59.7	-0.2
	1.9nm,0.4s,baz=264,slow=10,SNR=2.6							
WRA	Warramunga Arr	127.45	258	PKP		PKPdf	11 30 47.0	+0.6
WRA	Warramunga Arr	127.45	258	PKP		PKPdf	11 30 47.0	+0.6
	1.0nm,0.7s,baz=80,slow=2.7,SNR=9.2							
ASAR	Alice Springs	128.19	253	PKP		PKPdf	11 30 47.8	+0.1
ASAR	Alice Springs	128.19	253	PKP		PKPdf	11 30 47.8	+0.1
	0.8nm,0.9s,baz=108,slow=1.2,SNR=5.9							

MEX 02 11:14:30.7±0.6, 15°.32N×95°.02W, h16km±9km, MD3.5, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	1.14	293	i P	Pn	11 14 48.6	-3.5
HUIG				i S	Sb	11 15 01.5	-5.2
CMIG	Matias Romero	1.77	4	eP	Pn	11 14 57.3	-3.4
CMIG				i S	Sn	11 15 17.8	-5.0
PCIG		1.78	77	i P	Pn	11 14 56.8	-4.0
PCIG				i S	Sn	11 15 17.2	-5.9
TGIG		2.33	51	i P	Pn	11 15 05.5	-3.0
TGIG				eS	Sn	11 15 32.1	-4.7
CCIG	Comitan	2.94	71	i P	Pn	11 15 14.5	-2.4
CCIG				eS	Sn	11 15 48.5	-3.5
PNIG	Pinotepa	3.18	290	eP	Pn	11 15 17.9	-2.1
PNIG				eS	Sn	11 15 53.4	-4.3

*IDC **02** 11:16:45.5±3.3, 7°.79S×107°.29E, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.7/24, mbtmp4.0/5, Error ellipse: s-maj=185.7km s-min=23.5km az=49.0*
*AUST **02** 11:16:48.5±0.7, 8°.31S×107°.25E, h0km, Error ellipse: s-maj=1.0km s-min=0.7km az=322.0*
*DJA **02** 11:16:53.7±0.9, 8°.S±4°×10°.7E±°, h18km±6km, M4.3/8, MLv4.3/8*
ISC 02 11:16:51.1±1.5, 8°.24S±0°.07×107°.24E±0°.06, h23km±15km, n27, σ1§45/31, mb3.6/4, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	Cisompet, Garu	0.88	40	P	Pb	11 17 07.3	-0.6
CISI				S	Sb	11 17 16.5	-2.8
CISI	Cisompet, Garu	0.88	40	P	Pb	11 17 07.2	-0.7
	baz=0.9,SNR=27						
CISI				S	Sb	11 17 17.3	-2.0
	baz=0.9,SNR=9.6						
LEM	Lembang	1.45	15	P	Pn	11 17 06.2	-10
LEM				S	Sb	11 17 37.6	+2.0
LEM	Lembang	1.45	15	P	Pn	11 17 16.6	+0.5
	baz=1.5,SNR=41						
LEM				S	Sb	11 17 37.8	+2.1
	baz=1.5,SNR=5.7						
CLJI	Cilicap	1.83	74	P	Pb	11 17 24.5	+0.5
TGJI	Tegal	2.31	54	P	Pn	11 17 28.1	+0.3
TGJI				S	Sn	11 17 55.8	+0.3
BJII	Banjamegara	2.61	70	P	Pn	11 17 32.2	+0.2
XMI	Christmas Isla	2.68	215	P	Pn	11 17 35.0	+2.1
	baz=2.6,SNR=9.7						
XMI				S	Sn	11 18 03.9	-0.8
	baz=2.6,SNR=9.6						
XMIS	Christmas Isla	2.73	215	P	Pn	11 17 32.6	-0.9
	baz=2.7,SNR=30						
XMIS				S	Sn	11 18 04.5	-1.3
	baz=2.7,SNR=10						
UGM	Wanagama	3.27	85	P	Pn	11 17 41.3	+0.3
	baz=3.3,SNR=42						
PCJI	Pacitan	3.90	90	P	Pn	11 17 50.8	+1.1
PCJI				S	Sn	11 18 32.4	-2.3
SJI	Sawahan	4.51	84	P	Pn	11 17 59.5	+1.3
PWJI	Pagerwojo	4.53	88	P	Pn	11 18 00.0	+1.7
MNAI	Manna	5.74	312	P	Pn	11 18 17.9	+2.9
	baz=5.8,SNR=4.4						
JAGI	Jajag, Banyuwa	6.84	92	P	Pn	11 18 32.7	+2.5
	baz=6.8,SNR=20						
STKI	Sintang	9.27	27	P	Pn	11 18 55.3	-8.1
SOEI	Soe	16.89	96	P	Pn	11 20 47.3	+1.0
	baz=17,SNR=3.2						
FITZ	Fitzroy Crossi	20.41	121	P	P	11 21 27.3	+0.6
	7.2nm,0.8s,baz=287,slow=9.4,SNR=20						
FITZ	Fitzroy Crossi	20.41	121	P	P	11 21 27.5	+0.8
	baz=20,SNR=7.9						
MEEK	Meekatharra	21.25	151	S	S	11 25 31.3	+0.3
	baz=21,SNR=4.7						
KNRA	Kununurra	22.30	111	P	P	11 21 46.7	-0.5
	baz=22,SNR=4.3						
KDU	Kakadu	25.20	102	P	P	11 22 13.1	-2.2
	baz=25,SNR=3.9						
WRA	Warramunga Arr	28.69	117	P	P	11 22 45.5	-1.2
	0.5nm,0.5s,baz=288,slow=9.9,SNR=10						
ASAR	Alice Springs	29.79	124	P	P	11 22 55.8	-0.7
	1.1nm,1.0s,baz=297,slow=8.4,SNR=5.4						
STKA	Stephens Creek	39.65	131	P	P	11 24 21.7	+0.3
	3.9nm,0.4s,baz=314,slow=8.9,SNR=7.2						
STKA	Stephens Creek	39.65	131	P	P	11 24 22.1	+0.7
	baz=40,SNR=5.3						
KURBB	Kurchatov Arra	63.69	340	P	P	11 27 16.1	-4.5
	0.3nm,0.6s,baz=153,slow=6.0,SNR=3.1						

*IDC **02** 11:29:33.8±1.0, 23°.31N×123°.07E, h0km, mb3.4/7, mb1 3.6/7, mb1mx3.5/24, mbtmp3.4/7, Error ellipse: s-maj=45.5km s-min=20.0km az=70.0*
*ISCJB **02** 11:29:36.2±1.5, 23°.42N±0°.05×123°.51E±0°.06, h32km±9km, mb3.3/7, Error ellipse: s-maj=10.4km s-min=7.8km az=43.1*
*JMA **02** 11:29:36.6±0.2, 23°.43N×123°.52E, h47km±3km, M3.3*
ISC 02 11:29:36.0±2.1, 23°.49N±0°.08×123°.53E±0°.07, h14km±12km, n17, σ1§07/23, mb3.4/7, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	Hateruma jima	0.62	24	P	Pn	11 29 50.0	-0.4
HATJ				S	Sn	11 29 59.5	-0.7
IRIF	Iriomote-Funau	0.86	12	P	Pg	11 29 53.2	+0.4
IRIF				S	Sn	11 30 05.9	-0.3
JKRS	Kuro-shima	0.87	30	P	Pn	11 29 53.7	-0.1
JKRS				S	Sn	11 30 06.0	-0.3
JIJ	Ishigaki jima	1.04	33	P	Pb	11 29 55.6	-0.2
JIJ				S	Sb	11 30 09.3	0.0
YOJ	Yonaguni jima	1.08	334	P	Pb	11 29 56.4	-0.1
YOJ				S	Sg	11 30 11.0	+0.1
JTJ	Tarama	1.57	43	P	Pn	11 30 03.2	-0.3
JTJ				S	Sn	11 30 23.3	-0.4
JMJ	Miyako jima 2	2.09	50	eS	Sn	11 30 36.0	-0.4
JOGS	Gusukube	2.13	53	P	Pn	11 30 11.1	-0.1
JOGS				S	Sn	11 30 37.6	0.0
JKE	Kume jima 2	4.09	46	P	Pn	11 30 36.1	-2.1
JMZ	Minamidaito 2	7.38	70	P	Pn	11 31 19.2	-4.1
SONM	Songino Array	27.87	335	P	P	11 35 24.1	-1.3
	0.8nm,0.7s,baz=134,slow=8.3,SNR=4.5						
MKAR	Makanchi Array	40.33	316	P	P	11 37 12.8	-0.4
	0.3nm,0.4s,baz=101,slow=8.5,SNR=4.9						
ZALV	Zalesovo Beam	42.00	326	P	P	11 37 25.1	-1.5
	0.4nm,0.4s,baz=124,slow=7.7,SNR=2.9						
WRA	Warramunga Arr	44.44	165	P	P	11 37 45.4	-1.2
	0.5nm,0.9s,baz=347,slow=9.5,SNR=3.7						
ASAR	Alice Springs	47.94	167	P	P	11 38 14.1	-0.2
	0.3nm,0.9s,baz=353,slow=7.2,SNR=4.4						
ILAR	Eielson Array	68.85	27	P	P	11 40 41.9	+2.1
	0.1nm,0.6s,baz=278,slow=6.3,SNR=3.2						
YKA	Yellowknife Ar	82.77	23	P	P	11 42 01.7	+2.4
	0.5nm,0.9s,baz=313,slow=3.5,SNR=2.8						

CSEM 02 11:34:12.1, 42°.49N×1°.92W, h0km, ML1.5, Mining explosion. After MDD, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EARA	Aranguren	0.38	41	Pg	Pg	11 34 19.1	-0.3
	6.6nm,0.3s,SNR=6.3						
EARA				Lg	Lg	11 34 23.9	
	25nm,0.3s,SNR=11						
IUNC	Unciti	0.41	49	Pg	Pg	11 34 19.4	-0.6
	263nm,1.8s,SNR=7.9						
IUNC				Lg	Lg	11 34 25.0	
	213nm,1.3s,SNR=7.9						
IZUN	Zunzarren	0.50	42	Pg	Pg	11 34 21.3	-0.6
	3.1nm,0.3s,SNR=7.9						
IZUN				Lg	Lg	11 34 28.1	
	331nm,1.9s,SNR=7.9						
IUSE	Utxeti	0.53	31	Pg	Pg	11 34 22.5	+0.1
	0.3nm,0.3s,SNR=7.9						
IUSE				Lg	Lg	11 34 29.6	
	27nm,0.9s,SNR=7.9						
IEPA	Eparoz	0.56	59	Pg	Pg	11 34 22.3	-0.7
	2.2nm,0.3s,SNR=7.9						
IEPA				Lg	Lg	11 34 30.4	
	56nm,0.9s,SNR=7.9						
IELO	Elcoad	0.61	55	Pg	Pg	11 34 23.2	-0.8
	4.4nm,0.8s,SNR=7.9						
IELO				Lg	Lg	11 34 31.6	
	22nm,1.0s,SNR=7.9						
ELIZ	Elizondo	0.73	23	Pg	Pg	11 34 25.2	-1.0
	4.7nm,0.7s,SNR=7.9						
ELIZ				Lg	Lg	11 34 34.8	
	52nm,1.6s,SNR=7.9						
EALK	Alkurruntz	0.79	22	Pg	Pg	11 34 25.8	-1.4
	2.5nm,0.5s,SNR=7.9						
EALK				Lg	Lg	11 34 38.0	
	13nm,0.9s,SNR=4.8						
EBIE	Bielsa	1.53	82	Lg	Lg	11 35 00.9	
	5.9nm,0.8s,SNR=7.9						

*ISCJB **02** 11:40:31.3±0.9, 37°.61N±0°.09×95°.89E±0°.06, h12km, mb3.5/4, Error ellipse: s-maj=12.7km s-min=7.2km az=5.9*
*IDC **02** 11:40:32.7±1.5, 37°.63N×95°.92E, h0km, mb3.5/4, mb1 3.6/8, mb1mx3.5/31, mbtmp3.5/8, ML3.8/4, Error ellipse: s-maj=41.1km s-min=21.6km az=44.0*
*BJI **02** 11:40:34.3, 37°.68N×95°.65E, h10km, mb4.2/2, ML3.8/5, Ms3.7/2, Ms7.3/1*
ISC 02 11:40:33.6±1.1, 37°.74N±0°.09×95°.74E±0°.06, h12km, n10, σ1§86/14, mb3.6/4, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	Gaotai	3.60	61	Pn	Pb	11 41 33.7	-3.6
GTA				Pg	Pg	11 41 41.5	-1.1
GTA				Sn	Sb	11 42 19.5	-1.5
GTA				Sg	Sg	11 42 30.7	+1.4
GTA				smax	smax		
	comp=N,27nm,0.9s						
GTA				smax	smax		
	comp=E,19nm,0.8s						
LZH	Lanzhou	6.70	102	ePg	Pg	11 42 40.8	-1.1
LZH				Sg	Sg	11 44 08.1	-0.6
LZH				smax	smax		
	comp=N,43nm,1.1s						
LZH				smax	smax		
	comp=E,70nm,1.2s						
LZH				LR	LR		
	comp=N,140nm,5.2s						
LZH				LR	LR		
	comp=E,130nm,5.6s						
LZH				LR	LR		
	comp=Z,150nm,6.5s						
SONM	Songino Array	12.75	34	Pn	Pn	11 43 36.3	+1.5
	comp=Z,0.7nm,0.3s,baz=216,slow=16,SNR=11						
MKAR	Makanchi Array	13.44	317	Pn	Pn	11 43 43.1	-1.0
	comp=Z,0.4nm,0.3s,baz=121,slow=14,SNR=12						
MKAR				Sn	Sn	11 46 09.5	-3.7
	comp=Z,0.1nm,0.3s,baz=124,slow=24,SNR=12						
KURBB	Kurchatov Arra	17.78	322	Pn	Pn	11 44 41.6	+0.9
	comp=Z,0.1nm,0.3s,baz=138,slow=10,SNR=3.9						
ZALV	Zalesovo Beam	17.87	339	P	P	11 44 43.2	+0.7
	comp=Z,0.3nm,0.3s,baz=145,slow=10,SNR=2.7						
BVAR	Borovoye Array	23.29	319	P	P	11 45 44.5	+3.4
	comp=Z,1.0nm,0.6s,baz=106,slow=11,SNR=3.0						
KSRS	Korea Array	25.44	81	P	P	11 46 01.7	+0.6
	comp=Z,0.9nm,0.7s,baz=281,slow=9.2,SNR=3.9						
ILAR	Eielson Array	66.76	24	P	P	11 51 24.8	+0.3
	comp=Z,0.4nm,0.8s,baz=302,slow=7.0,SNR=5.5						
ASAR	Alice Springs	70.84	143	P	P	11 51 50.2	-0.2
	comp=Z,0.7nm,1.0s,baz=331,slow=5.8,SNR=5.4						

*ISCJB **02** 11:48:08.1±0.9, 8°.18S±0°.06×107°.28E±0°.09, h62km, Error ellipse: s-maj=13.8km s-min=7.7km az=26.4*
*DJA **02** 11:48:08.2±0.7, 8°.S±4°×10°.7E±°, h22km±13km, M4.2/3, MLv4.2/3*
ISC 02 11:48:08.6±1.5, 8°.19S±0°.07×107°.31E±0°.09, h62km, n7, σ1§17/10, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	Cisompet, Garu	0.81	39	P	Pn	11 48 24.1	-0.2
CISI				S	Sn	11 48 34.3	-1.6
CISI	Cisompet, Garu	0.81	39	P	Pn	11 48 23.9	-0.5
	baz=8.9,SNR=74						
LEM	Lembang	1.39	13	P	Pn	11 48 33.3	+1.3
LEM				S	Sn	11 48 50.8	+1.3
LEM	Lembang	1.39	13	P	Pn	11 48 33.2	+1.3
	baz=9.2,SNR=15						
SKJI	Sukabumi	1.39	328	P	Pn	11 48 31.5	-0.4
SKJI				S	Sn	11 48 48.2	-1.2
XMI	Christmas Isla	2.76	215	P	Pn	11 48 51.0	+0.6
	baz=11,SNR=4.8						
XMIS	Christmas Isla	2.80	215	P	Pn	11 48 51.3	+0.2
	baz=11,SNR=12						

*SKHL **02** 11:53:53.6±1.1, 48°.59N×153°.18E, h250km±9km, mb5.5/1, msh4.8/1*
*KRSC **02** 11:53:53.8±0.4, 48°.48N×153°.46E, h307km±17km, ML4.6*
*ISCJB **02** 11:53:55.8±0.2, 49°.03N±0°.03×152°.21E±0°.05, h243km±2km, mb4.2/96, Error ellipse: s-maj=6.8km s-min=2.3km az=136.3*
*BJI **02** 11:53:56.7, 49°.10N×152°.10E, h239km, mB4.8/9, mb4.3/15*
*MOS **02** 11:53:56.5±1.1, 49°.10N×152°.35E, h254km, mb4.3/39, Error ellipse: s-maj=9.4km s-min=5.5km az=71.1*
*NEIC **02** 11:53:57.8±0.2, 49°.12N×152°.12E, mb4.4/19, Error ellipse: s-maj=6.9km s-min=3.5km az=148.0*
*IDC **02** 11:53:58.1±0.5, 49°.12N×152°.18E, h250km±5km, mb3.9/37, mb1 4.1/42, mb1mx4.1/43, mbtmp3.9/42, Error ellipse: s-maj=9.4km s-min=6.2km az=140.0*
ISC 02 11:53:57.3±0.3, 49°.07N±0°.04×152°.25E±0°.03, h246km±2km, h245km; pP-P, n283, σ1§45/340, mb4.4/96, 7C-3D, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	2.98	56	⇓i PN	Pn	11 54 44.2	-5.0
SKR				eS	S	11 55 24.5	-5.7
SKR				pmax	pmax		
	comp=Z,540nm,0.5s						
SKR				pmax	pmax		
	comp=N,110nm,0.6s						
SKR				pmax	pmax		
	comp=E,110nm,0.6s						
SKR				pmax	pmax		
	comp=Z,1μm,2.0s						
SKR				smax	smax		
	comp=N,1μm,6.0s						
SKR				smax	smax		
	comp=E,1μm,6.0s						
SKR				smax	smax		
	comp=N,230nm,0.5s						
SKR				smax	smax		
	comp=E,190nm,0.7s						
SKR				MLR	MLR		
	comp=Z,900nm,16.0s						
SKR	Severo-Kuril's	2.98	56	P	Pn	11 54 49.2	0.0
SKR				S	S	11 55 29.8	-0.4
SKR	Severo-Kuril's	2.98	56	i P	Pn	11 54 44.2	-5.0
SKR				AMB	AMB	11 54 44.2	
	comp=Z,1μm,2.0s						
SKR				AMB	AMB	11 54 45.0	
	comp=Z,110nm,0.5s						
SKR				AMB	AMB	11 54 45.0	
	comp=Z,540nm,0.5s						
SKR				eS	S	11 55 24.5	-5.7
SKR				A	A	11 55 27.0	
	comp=Z,1μm,6.0s						
SKR				A	A	11 55 27.0	
	comp=Z,1μm,6.0s						
SKR				A	A	11 55 35.0	
	comp=Z,230nm,0.5s						
SKR				A	A	11 55 35.0	
	comp=Z,190nm,0.5s						
SKR				AMS	AMS	11 56 26.0	
	comp=Z,900nm,16.0s						
PAU	Pauzhetka	3.79	49	PN	Pn	11 54 58.2	-0.1
PAU				S	S	11 55 46.7	0.0
PAU	Pauzhetka	3.79	49	P	Pn	11 54 58.2	-0.1
PAU				S	S	11 55 46.7	0.0
MIPR	Malaya Ipel'ka	4.31	40	P	Pn	11 55 05.2	+0.8
MIPR				S	S	11 55 57.1	-0.7
KUR	Kuril'sk	4.86	220	⇓i PN	Pn	11 55 12.1	+0.8
KUR				eS	S	11 56 12.5	+2.4
KUR				pmax	pmax		
	comp=N,12nm,0.3s						
KUR				pmax	pmax		
	comp=Z,6μm,0.3s						
KUR				pmax	pmax		
	comp=E,96nm,0.6s						
KUR				smax	smax		
	comp=E,96nm,0.6s						
KUR				smax	smax		
	comp=N,82nm,0.6s						
KUR	Kuril'sk	4.86	220	i P	Pn	11 55 12.1	+0.8
KUR				AMB	AMB	11 55 14.9	
	comp=N,12nm,0.3s						
KUR				AMB	AMB	11 55 14.9	
	comp=N,96nm,0.3s						
KUR				AMB	AMB	11 55 14.9	
	comp=N,6μm,0.3s						
KUR				eS	S	11 56 12.5	+2.4
KUR				A	A	11 56 21.5	
	comp=N,515nm,0.6s						
KUR				A	A	11 56 21.5	
	comp=N,96nm,0.6s						
ASAK	Asacha	4.89	45	P	Pn	11 55 12.2	+0.6
ASAK				S	S	11 56 11.5	+0.8
APC	Apacha	4.95	37	P	Pn	11 55 12.9	+0.7
APC				S	S	11 56 10.5	-1.4
MTVR	Mutnovka	5.09	46	P	Pn	11 55 13.5	-0.5
MTVR				S	S	11 56 12.9	-2.2
RUS	Russkaya	5.21	47	PN	Pn	11 55 14.6	-0.8
RUS				S	S	11 56 13.0	-4.7
RUS	Russkaya	5.21	47	P	Pn	11 55 14.6	-0.8
RUS				S	S	11 56 13.0	-4.7
PEA0	Petropavlovsk-	5.31	38	ePn	Pn	11 55 17.2	+0.6
PEA0B	Petropavlovsk-	5.31	38	ePn	Pn	11 55 17.3	+0.7
PEA0B				eS	S	11 56 20.0	+0.1
PETK	Petropavlovsk-	5.31	38	PN	Pn	11 55 17.1	+0.5
PETK				S	S	11 56 18.4	-1.4
PETK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PETK	Petropavlovsk-	5.31	38	P	Pn	11 55 17.1	+0.5
PETK				S	S	11 56 18.4	-1.4
PETK	Petropavlovsk-	5.31	38	P	Pn	11 55 17.1	+0.5
	comp=Z,2.3nm,0.3s,baz=213,slow=13,SNR=94						
PETK				S	S	11 56 18.4	-1.4
	comp=Z,0.2nm,0.3s,baz=265,slow=33,SNR=3.6						
PET	Petropavlovsk	5.66	43	ePN	Pn	11 55 21.2	+0.3
PET				eS	S	11 56 23.6	-4.1
PET				pmax	pmax		
	comp=Z,18nm,0.4s						
PET				smax	smax		
	comp=N,68nm,0.7s						
PET				smax	smax		
	comp=E,75nm,0.6s						
PET	Petropavlovsk	5.66	43	P	Pn	11 55 20.5	-0.4
PET				S	S	11 56 23.9	-3.8
PET	Petropavlovsk	5.66	43	eP	Pn	11 55 21.1	+0.2
KRX	Arik	5.88	41	P	Pn	11 55 24.4	+0.5
KRX				S	S	11 56 31.9	-1.2
SMAR	Somma	5.88	42	P	Pn	11 55 24.2	+0.2
SMAR				S	S	11 56 31.6	-1.6
KRER	Koryakskii	5.89	41	P	Pn	11 55 25.0	+1.0
KRER				S	S	11 56 31.9	-1.4
SDLR	Sedlovina	5.93	42	P	Pn	11 55 25.1	+0.6
SDLR				S	S	11 56 31.6	-2.5
NLC	Nalytchevo	6.07	45	S	S	11 56 30.6	-6.4
SPN	Mys Shipunski	6.34	48	PN	Pn	11 55 28.0	-1.5
SPN				S	S	11 56 36.5	-6.8
SPN	Mys Shipunski	6.34	48	P	Pn	11 55 28.0	-1.5
SPN				S	S	11 56 36.5	-6.8
YUK	Yuzh-Kuril'sk	6.69	224	i PN	Pn	11 55 33.8	-0.2
YUK				i S	S	11 56 49.2	-2.1
YUK				pmax	pmax		
	comp=E,31nm,0.5s						
YUK				pmax	pmax		
	comp=Z,141nm,0.5s						
YUK				pmax	pmax		
	comp=N,16nm,0.2s						

comp=N,155nm,0.7s
YUK A A 11 56 54.5
comp=N,127nm,0.7s
YSS Yuzh-Sakhalins 6.71 255‖ *e*PN Pn 11 55 38.0 +3.8
YSS pmax pmax
comp=Z,20nm,0.9s
YSS Yuzh-Sakhalins 6.71 255 *e*P Pn 11 55 38.0 +3.8
YSS AMB AMB 11 55 39.0
comp=Z,20nm,0.9s
JRA Rausu 7.11 226 P **Pn** **11 55 38.5 -0.7**
NEM2 Nemuro 2 7.27 221 P Pn 11 55 37.6 -3.7
NEM2 *e*S S 11 56 54.8 -10
JNK Nakash 7.56 226 P **Pn** **11 55 44.3 -0.7**
JTKR Abashiri--Toko 7.68 232 P **Pn** **11 55 46.9 +0.4**
JSE Soyaes 7.78 242 P Pn 11 55 51.7 +4.0
TUMR Tumrok 7.89 35 P **Pn** **11 55 49.7 +0.6**
ESO Esso 7.91 27 PN **Pn** **11 55 51.2 +1.9**
ESO S **S** **11 57 18.5 -0.9**
ESO Esso 7.91 27 P **Pn** **11 55 51.2 +1.9**
ESO S **S** **11 57 18.5 -0.9**
JMP Maruseppu 7.95 234 P **Pn** **11 55 50.9 +1.0**
JAK Akkeshi 8.03 224 P Pn 11 55 47.4 -3.5
JAK *e*S S 11 57 12.1 -10
MKZ Mys Kozlova 8.04 43 PN **Pn** **11 55 48.8 -2.1**
MKZ S S 11 57 13.2 -9.2
MKZ Mys Kozlova 8.04 43 P **Pn** **11 55 48.8 -2.1**
MKZ S S 11 57 13.2 -9.2
JAR Ashorobuto 8.24 229 P **Pn** **11 55 52.9 -0.7**
ASAJ Asahikawa 8.29 237 P **Pn** **11 55 56.0 +1.9**
ASAJ Asahikawa 8.29 237 *e*Pn **Pn** **11 55 56.1 +1.9**
ASAJ *e*S **S** **11 57 30.8 +2.5**
ASAJ Asahikawa 8.29 237 P **Pn** **11 55 56.2 +2.0**
comp=Z,12nm,0.3s,baz=55,slow=14,SNR=131
JKK2 Kamakawa 2 8.36 235 P **Pn** **11 55 56.0 +0.8**
KPT Kopyto 8.44 32 P **Pn** **11 55 56.4 +0.3**
KIRR Kirishev 8.47 33 P **Pn** **11 55 58.5 +1.9**
KIRR S **S** **11 57 30.0 -2.7**
JOB Onbets 8.50 227 P **Pn** **11 55 54.6 -2.3**
JOB *e*S S 11 57 23.5 -10
BZMR Bezymyannaya 8.51 33 P **Pn** **11 55 57.1 0.0**
BZMR S **S** **11 57 28.2 -5.4**
SRDR Sredinnyy 8.56 29 P **Pn** **11 55 58.2 +0.7**
KRSR Krestovskiy 8.76 32 P **Pn** **11 56 00.3 +0.2**
KLY Klyuchi 8.87 32 PN **Pn** **11 56 02.8 +1.5**
KLY S **S** **11 57 39.0 -2.5**
KLY Klyuchi 8.87 32 P **Pn** **11 56 02.8 +1.5**
KLY S **S** **11 57 39.0 -2.5**
JAB Ashibetsu 8.89 235 P **Pn** **11 56 03.7 +1.8**
JFR Furan 8.93 232 P **Pn** **11 56 01.9 -0.5**
JCH Churui 8.95 227 P Pn 11 55 59.4 -3.2
JCH *e*S S 11 57 32.5 -11
BDR Baidarnaya 9.26 32 P **Pn** **11 56 06.9 +0.5**
BDR S S 11 57 45.0 -5.8
SRKR Sorokina 9.31 32 P **Pn** **11 56 06.0 -1.1**
JBT2 Biratori 2 9.32 231 P **Pn** **11 56 05.3 -2.0**
JBT2 *e*S S 11 57 44.8 -7.7
SMKR Semkarok 9.36 33 P **Pn** **11 56 06.7 -1.0**
JNBK Urakawa-nobuka 9.49 228 P Pn 11 56 05.5 -4.0
JNBK *e*S S 11 57 43.3 -13
ERM Erimo 9.50 225 *e*PN **Pn** **11 56 07.2 -2.4**
ERM Erimo 9.50 225 *e*P **Pn** **11 56 06.9 -2.7**
ERM Erimo 9.50 225 *e*Pn **Pn** **11 56 07.2 -2.4**
ERM *e*S S 11 57 42.0 -15
JEM Erimo 9.50 225 P **Pn** **11 56 06.7 -2.9**
KBTR Krutoberegovo 9.61 38 PN **Pn** **11 56 08.5 -2.2**
KBTR Krutoberegovo 9.61 38 P **Pn** **11 56 08.5 -2.2**
KBTR S S 11 57 48.5 -10
JEW Eniwo 9.76 234 P **Pn** **11 56 13.1 +0.3**
JSK Shakotan 9.96 239 P **Pn** **11 56 16.6 +1.3**
JNB Noboribetsu 10.23 234 P **Pn** **11 56 16.7 -2.1**
JNB *e*S S 11 58 05.6 -8.1
BKI Bering 10.43 49 PN **Pn** **11 56 19.1 -2.0**
BKI Bering 10.43 49 P **Pn** **11 56 19.1 -2.0**
BKI S S 11 58 05.8 -12
JKB Kayabe 10.65 232 P Pn 11 56 20.4 -3.6
JKB *e*S S 11 58 10.6 -13
JSH Shimam 10.66 237 P **Pn** **11 56 23.9 -0.2**
JYM2 Yakumo 2 10.84 235 P **Pn** **11 56 24.6 -1.8**
JYM2 *e*S S 11 58 19.7 -8.0
PALN Palana 11.01 21 P **Pn** **11 56 28.1 -0.2**
JSR Shiriuchi 11.22 232 P **Pn** **11 56 28.4 -2.9**
JSR *e*S S 11 58 25.6 -11
JOSM Okushiri--Mats 11.34 237 P **Pn** **11 56 31.8 -1.0**
HABR Khabarovsk 11.37 273 *e*PN **Pn** **11 56 34.0 +1.1**
HABR *e*S **S** **11 58 40.7 +1.0**
HABR pmax pmax
comp=Z,20nm,1.9s
HABR MLR MLR
comp=Z,331nm,19.0s
JTM Tenmabayashi 11.45 228 P Pn 11 56 29.5 -4.6
JTM *e*S S 11 58 26.1 -16
JANG Nango 11.56 225 P Pn 11 56 30.1 -5.4
JANG *e*S S 11 58 27.4 -17
JTH Tanohata 11.75 223 P Pn 11 56 33.6 -4.2
OFUJ Ofunato 12.54 221 P Pn 11 56 43.6 -4.0
JRG Rokugo 12.75 225 P Pn 11 56 46.5 -3.7
JIO Ouri 13.20 221 P Pn 11 56 51.7 -4.0
FX1 Attu Island--F 13.71 66 P **P** **11 57 04.0 +1.1**
FX1 S **S** **11 59 30.3 -3.2**
FX1 Attu Island--F 13.71 66 P **P** **11 57 04.0 +1.1**
comp=Z,2.0nm,0.3s,baz=280,slow=3.3,SNR=16
FX1 S **S** **11 59 30.3 -3.2**
comp=Z,3.5nm,0.3s,baz=83,slow=19,SNR=8.5
SEY Seymchan 13.90 0 *c iP* **P** **11 57 05.4 +0.6**
SEY Seymchan 13.90 0 *e*P **P** **11 57 05.4 +0.6**
USRK Ussuriysk Arra 14.72 258 P **P** **11 57 14.1 -0.1**
comp=Z,0.8nm,0.3s,baz=63,slow=12,SNR=9.3
MDJ Mudanjiang 16.11 263 *e*P **P** **11 57 29.4 0.0**
comp=Z,28nm,1.0s
MAT Matsushiro 16.18 225 P **Pn** **11 57 31.1 -0.6**
MJAR Matsushiro Arr 16.18 225 P **Pn** **11 57 31.0 -0.7**
MJAR Matsushiro Arr 16.18 225 P **Pn** **11 57 31.0 -0.7**
comp=Z,5.2nm,0.3s,baz=20,slow=12,SNR=81
YAK Yakutsk 18.07 324 *e*P **P** **11 57 51.0 +0.4**
YAK *e*S **S** **12 01 03.0 -1.4**
YAK pmax pmax
comp=Z,31nm,1.1s
YAK pmax pmax
comp=E,16nm,1.3s
YAK pmax pmax
comp=N,13nm,1.1s
YAK pmax pmax
comp=Z,12nm,0.6s
YAK pmax pmax
comp=E,6.0nm,0.8s
YAK pmax pmax
comp=N,14nm,0.9s
YAK smax smax
comp=N,79nm,2.3s
YAK smax smax
comp=E,11nm,1.0s
YAK Yakutsk 18.07 324 *e*P **Pn** **11 57 52.0 -1.5**
CN2 Changchun 19.16 264 *e*P **P** **11 58 02.5 +0.1**
KSRS Korea Array 21.08 246 P **P** **11 58 23.2 +0.4**
comp=E,12nm,0.8s,baz=43,slow=11,SNR=38
KSRS ScP **ScP** **12 05 31.2 0.0**
comp=E,0.3nm,0.4s,baz=202,slow=1.3,SNR=6.3
KSAR Wonju Array Be 21.11 246 P **P** **11 58 23.2 +0.1**
KSAR ScP **ScP** **12 05 31.2 -0.1**
TJN Taejon 22.13 244 *e*P **P** **11 58 34.8 +2.1**
JNU Nakatsue 22.54 233 P **P** **11 58 37.5 +1.0**
comp=E,33nm,0.9s
JNU Nakatsue 22.54 233 P **P** **11 58 37.5 +1.0**
comp=E,25nm,0.7s,baz=31,slow=5.9,SNR=26
TIXI Tiksi 25.08 343 *i P* **P** **11 58 58.7 -0.3**
TIXI pmax pmax
comp=Z,4.0nm,0.5s
HHC Hu-ho-hao-te 29.64 269 *e*P **P** **11 59 37.9 -2.1**
HHC pP **pP** **12 00 28.1 -0.6**
HHC sP **sP** **12 00 57.6 +0.5**
HHC S **S** **12 04 11.8 -5.2**
HHC sS **sS** **12 05 41.1 -3.4**
HHC PcS **PcS** **12 06 19.2 -2.1**
HHC ScS **ScS** **12 09 46.9 -4.4**
HHC pmax pmax
comp=Z,28nm,1.0s
HHC pmax pmax
comp=Z,250nm,5.3s
HHC LR LR
comp=N,380nm,15.5s
HHC LR LR
comp=E,360nm,16.6s
HHC LR LR
comp=Z,1μm,17.8s
ULN Ulaanbaatar 29.65 285 *e*P **P** **11 59 41.1 +0.9**
ULN Ulaanbaatar 29.65 285 *e*P **P** **11 59 37.6 -2.5**
comp=Z,1.3nm,0.4s
SONM Songino Array 30.08 285 P **P** **11 59 42.5 -1.4**
SONM ScP **ScP** **12 05 56.3 -0.9**
SONM Songino Array 30.08 285 P **P** **11 59 42.5 -1.4**
comp=Z,0.3nm,0.4s,baz=46,slow=10,SNR=2.2
SONM ScP **ScP** **12 05 56.3 -0.9**
comp=Z,0.4nm,0.4s,baz=64,slow=3.4,SNR=3.8
IM04 Indian Mountai 32.26 38 *e*P **P** **12 00 02.9 +0.3**
IMA2 Indian Mountai 32.30 38 *e*P **P** **12 00 03.5 +0.4**
CAST Castle Rocks 32.90 43 *e*P **P** **12 00 08.8 +0.7**
comp=Z,7.2nm,0.6s
SPU Mount Spurr 33.01 47 *e*P **P** **12 00 10.8 +1.6**
KDAK Kodiak Island 33.14 54 P **P** **12 00 09.5 -0.7**
KDAK Kodiak Island 33.14 54 P **P** **12 00 09.5 -0.7**
comp=Z,5.2nm,0.8s,baz=263,slow=8.1,SNR=3.6
BPAW Bear Paw Mtn. 33.38 42 *e*P **P** **12 00 13.1 +0.8**
comp=Z,7.7nm,0.8s
COLD Coldfoot 33.77 36 *e*P **P** **12 00 16.3 +0.7**
comp=Z,7.2nm,0.7s
MCK McKinley 34.30 43 *e*P **P** **12 00 21.0 +0.8**
MCK pmax pmax
comp=Z,11nm,1.0s
MCK McKinley 34.30 43 *e*P **P** **12 00 21.0 +0.8**
comp=Z,11nm,1.0s
COLA College 34.71 40 *e*P **P** **12 00 24.5 +0.9**
COLA pmax pmax
comp=Z,21nm,0.9s
COLA College 34.71 40 *e*P **P** **12 00 24.5 +0.9**
comp=Z,21nm,0.9s
SML Sawmill 34.73 46 *e*P **P** **12 00 24.4 +0.5**
SML pmax pmax
comp=Z,10.0nm,0.8s
SML Sawmill 34.73 46 *e*P **P** **12 00 24.4 +0.5**
comp=Z,10nm,0.8s
ILAR Eielson Array 35.13 41 P **P** **12 00 27.3 +0.1**
ILAR Eielson Array 35.13 41 P **P** **12 00 27.3 +0.1**
comp=Z,5.5nm,0.8s,baz=269,slow=8.7,SNR=45
IL1 Eielson Array 35.13 41 *e*P **P** **12 00 27.5 +0.2**
KRAR Krasnoyarsk 35.76 304 *i P* **P** **12 00 34.3 +1.7**
KRAR pmax pmax
comp=Z,20nm,0.4s
MENT Mentasta 36.72 43 *e*P **P** **12 00 40.9 +0.2**
HVS Khovu-Aksy 36.75 296 *i P* **P** **12 00 42.6 +1.4**
HVS pmax pmax
comp=Z,34nm,1.2s
LZH Lanzhou 37.30 268 ⇑P P 12 00 40.5 -5.6
LZH pP pP 12 01 30.7 -5.4
LZH sP sP 12 01 57.6 -6.6
LZH PP **PP** **12 02 16.0 -0.7**
LZH pmax pmax
comp=Z,20nm,1.3s
LZH pmax pmax
comp=Z,67nm,5.0s
EGAK Eagle 37.57 40 *e*P **P** **12 00 47.8 0.0**
comp=Z,4.0nm,0.6s
INK Inuvik 40.03 34 *e*P **P** **12 01 08.8 +0.9**
comp=Z,3.6nm,0.6s
INK Inuvik 40.03 34 P **P** **12 01 09.0 +1.0**
comp=Z,4.1nm,0.4s,baz=306,slow=6.9,SNR=47
HYT Haines Junctio 40.04 46 *e*P **P** **12 01 09.9 +1.5**
CD2 Chengdu 40.56 262 P **P** **12 01 12.9 -0.1**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
ZAA0 Zalesovo Array 40.81 303 *e*P **P** **12 01 14.2 -0.4**
ZALV Zalesovo Beam 40.81 303 P **P** **12 01 14.4 -0.2**
ZALV 12 03 10.8
ZALV pmax pmax
comp=Z,10.0nm,0.4s
ZALV pmax pmax
comp=Z,1.0nm,0.4s
ZALV pmax pmax
comp=N,1.0nm,0.6s
ZALV Zalesovo Beam 40.81 303 P **P** **12 01 14.3 -0.2**
ZALV PcP **PcP** **12 03 10.8 +0.5**
ZALV ScP **ScP** **12 06 34.5 -1.4**
ZALV Zalesovo Beam 40.81 303 P **P** **12 01 14.4 -0.2**
comp=N,9.8nm,0.4s,baz=63,slow=6.9,SNR=13
ZALV PcP **PcP** **12 03 10.8 +0.5**
comp=N,0.6nm,0.4s,baz=65,slow=3.8,SNR=3.8
ZALV ScP **ScP** **12 06 34.5 -1.4**
comp=N,0.6nm,0.6s,baz=46,slow=4.2,SNR=3.5
NVS Novosibirsk 41.34 305 *i P* **P** **12 01 18.1 -0.8**
NVS *e*S **S** **12 07 11.8 -2.4**
NVS pmax pmax
comp=Z,9.0nm,0.5s
NVS pmax pmax
comp=E,7.0nm,0.6s
NVS smax smax
comp=E,15nm,1.6s
GYA Guiyang 41.72 254 *e*P **P** **12 01 22.6 +0.2**
GYA pmax pmax
comp=Z,10.0nm,0.8s
WMQ Urumqi 43.59 289 *e*P **P** **12 01 37.4 +0.2**
WMQ pP **pP** **12 02 27.4 -1.2**
WMQ sP **sP** **12 02 54.4 -2.0**
WMQ pmax pmax
comp=Z,7.0nm,0.6s
WMQ pmax pmax
comp=Z,220nm,8.2s
DLBC Dease Lake 44.42 47 P **P** **12 01 45.0 +1.5**
DLBC Dease Lake 44.42 47 P **P** **12 01 45.0 +1.5**
comp=Z,3.2nm,0.8s,baz=287,slow=8.1,SNR=12
KMI Kunming 45.15 256 P **P** **12 01 47.7 -2.2**
KMI pmax pmax
comp=Z,11nm,1.0s
MK31 Makanchi Array 45.39 295 P **P** **12 01 51.7 +0.4**
MK31 pmax pmax
comp=Z,1.0nm,0.3s
MK31 Makanchi Array 45.39 295 *e*P **P** **12 01 51.8 +0.4**
MKAR Makanchi Array 45.39 295 P **P** **12 01 51.7 +0.3**
MKAR 12 03 27.0
MKAR pmax pmax
comp=Z,4.0nm,0.8s
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR pmax pmax
comp=N,1.0nm,0.8s
MKAR Makanchi Array 45.39 295 P **P** **12 01 51.6 +0.3**
MKAR PcP **PcP** **12 03 27.0 +1.0**
MKAR ScP **ScP** **12 06 53.9 -0.9**
MKAR Makanchi Array 45.39 295 P **P** **12 01 51.7 +0.3**
comp=N,4.4nm,0.8s,baz=65,slow=8.1,SNR=25
MKAR PcP **PcP** **12 03 27.0 +1.0**
comp=N,0.8nm,0.6s,baz=58,slow=4.3,SNR=5.3
MKAR ScP **ScP** **12 06 53.9 -0.9**
comp=N,0.9nm,0.8s,baz=56,slow=3.8,SNR=3.9
KURK Kurchatov 45.62 301 P **P** **12 01 54.0 +1.0**
KURK pmax pmax
comp=Z,23nm,0.7s
KURK pmax pmax
comp=N,1.0nm,0.9s
KURK Kurchatov 45.62 301 P **P** **12 01 54.0 +1.0**
KURK ScP **ScP** **12 06 54.7 -0.9**
KURBB Kurchatov Arra 45.72 301 P **P** **12 01 54.0 +0.2**
comp=N,20nm,0.7s,baz=66,slow=8.5,SNR=87
KURBB ScP **ScP** **12 06 54.7 -1.3**
comp=N,0.7nm,0.9s,baz=59,slow=3.9,SNR=3.3
BBB Bella Bella 48.21 54 P **P** **12 02 13.7 +0.8**
BBB Bella Bella 48.21 54 P **P** **12 02 13.7 +0.8**
comp=N,3.9nm,0.9s,baz=356,slow=7.0,SNR=3.2
VOSK Vostochnaya 48.80 307 P **P** **12 02 17.3 -0.1**
VOSK pmax pmax
comp=Z,11nm,0.8s
RES Resolute Bay 48.83 19 P **P** **12 02 17.5 +0.2**
RES Resolute Bay 48.83 19 P **P** **12 02 17.5 +0.2**
comp=Z,11nm,0.7s,baz=276,slow=9.2,SNR=6.4
BVA0 Borovoye Array 48.96 308 *i P* **P** **12 02 18.5 -0.1**
BVA0 pmax pmax
comp=Z,11nm,0.6s
BVAR Borovoye Array 48.96 308 P **P** **12 02 18.7 +0.1**
BVAR 12 03 38.7
BVAR pmax pmax
comp=Z,11nm,0.5s
BVAR pmax pmax
comp=Z,1.0nm,0.5s
BVAR pmax pmax
comp=N,1.0nm,0.5s
BVAR Borovoye Array 48.96 308 P **P** **12 02 18.7 +0.1**
BVAR PcP **PcP** **12 03 38.7 +0.1**
BVAR ScP **ScP** **12 07 08.0 -1.6**
BVAR Borovoye Array 48.96 308 P **P** **12 02 18.7 +0.1**
comp=N,11nm,0.5s,baz=59,slow=8.2,SNR=42
BVAR PcP **PcP** **12 03 38.7 +0.1**
comp=N,1.3nm,0.5s,baz=101,slow=3.1,SNR=4.8
BVAR ScP **ScP** **12 07 08.0 -1.6**
comp=N,0.7nm,0.5s,baz=100,slow=4.4,SNR=3.1
BRVK Borovoye 48.99 308 *c iP* **P** **12 02 19.0 +0.1**
BRVK pmax pmax
comp=Z,15nm,0.7s
BRVK Borovoye 48.99 308 *e*P **P** **12 02 19.0 +0.1**
BRVK Borovoye 48.99 308 *e*P **P** **12 02 18.9 0.0**
comp=Z,13nm,0.6s
YKW3 Yellowknife Ar 49.39 38 *e*P **P** **12 02 22.4 +0.7**
comp=Z,0.1nm,0.9s
YKA Yellowknife Ar 49.43 38 P **P** **12 02 22.6 +0.7**
YKA pP **pP** **12 03 17.3 +2.6**
YKA Yellowknife Ar 49.43 38 P **P** **12 02 22.6 +0.7**
comp=Z,10nm,0.8s,baz=300,slow=7.0,SNR=40
YKA pP **pP** **12 03 17.3 +2.6**
comp=Z,2.0nm,0.9s,baz=300,slow=7.5,SNR=3.4
AAK Ala-Archa 52.31 294 P **P** **12 02 44.9 +0.9**
AAK pmax pmax
comp=Z,2.0nm,0.5s
AAK Ala-Archa 52.31 294 *e*P **P** **12 02 44.7 +0.7**
AAK Ala-Archa 52.31 294 P **P** **12 02 44.9 +0.9**
AAK Ala-Archa 52.31 294 P **P** **12 02 44.9 +0.9**
comp=Z,2.4nm,0.5s,baz=119,slow=2.7,SNR=4.5
CMAR Chiang Mai Arr 52.40 254 P **P** **12 02 46.0 +1.3**
CMAR PcP **PcP** **12 03 52.9 +0.9**
CMAR Chiang Mai Arr 52.40 254 P **P** **12 02 46.0 +1.3**
comp=Z,3.5nm,0.7s,baz=33,slow=6.9,SNR=21
CMAR PcP **PcP** **12 03 52.9 +0.9**
comp=Z,0.5nm,0.4s,baz=20,slow=3.5,SNR=6.9
ARU Arti 52.92 316 *c iP* **P** **12 02 46.8 -1.1**
ARU S S 12 10 14.8 +18
ARU pmax pmax
comp=Z,9.0nm,0.7s
ARU Arti 52.92 316 *e*P **P** **12 02 46.8 -1.1**
KSH Kashi 53.26 290 *e*P **P** **12 02 51.0 +0.1**
KSH sP sP 12 04 15.7 +4.1
KSH PP **PP** **12 04 57.6 +4.2**
KSH PcS **PcS** **12 07 54.6 +0.1**
KSH S **S** **12 10 01.1 -1.5**
KSH Kashi 53.26 290 SS **SKiKP** **12 13 45.4 +5.7**
KSH pmax pmax
comp=Z,100nm,13.1s
KSH LR LR
comp=N,170nm,12.2s
KSH LR LR
comp=E,230nm,16.2s
KSH LR LR
comp=Z,160nm,15.3s
EDM Edmonton 55.14 47 *e*P **P** **12 03 04.5 +0.5**
EDM Edmonton 55.14 47 *e*P **P** **12 03 04.5 +0.5**
ARCES ARCESS Array B 55.47 340 P **P** **12 03 05.3 -0.8**
ARCES ARCESS Array B 55.47 340 P **P** **12 03 05.3 -0.8**
comp=Z,1.5nm,0.4s,baz=29,slow=7.6,SNR=25
ARE0 ARCESS Array S 55.47 340 *e*P **P** **12 03 05.6 -0.5**
AB31 Akbulak array 56.51 308 *i P* **P** **12 03 13.6 -0.1**
AB31 pmax pmax
comp=Z,2.0nm,0.4s
ABKAR Akbulak array 56.51 308 *e*P **P** **12 03 13.8 +0.1**
comp=Z,3.2nm,0.5s
AKTO Aktyubinsk 56.76 310 P **P** **12 03 14.8 -0.7**
AKTO 12 04 08.5
AKTO pmax pmax
comp=Z,2.0nm,0.4s
AKTO pmax pmax
comp=Z,2.0nm,0.5s
AKTO Aktyubinsk 56.76 310 P **P** **12 03 14.8 -0.7**
AKTO PcP **PcP** **12 04 08.5 +0.2**
AKTO Aktyubinsk 56.76 310 P **P** **12 03 14.8 -0.7**
comp=Z,1.8nm,0.4s,baz=51,slow=6.5,SNR=6.8
AKTO PcP **PcP** **12 04 08.5 +0.2**
comp=Z,1.6nm,0.5s,baz=248,slow=2.3,SNR=5.1
BSMT Bassoo Peak 57.73 53 *e*P **P** **12 03 23.4 +0.8**
comp=Z,3.8nm,1.1s
PMG Port Moresby 58.40 186 P **P** **12 03 26.9 -0.2**
PMG Port Moresby 58.40 186 P **P** **12 03 26.9 -0.2**
comp=Z,16nm,0.8s,baz=309,slow=6.5,SNR=3.5
SLMT Seeley Lake 58.80 53 *e*P **P** **12 03 30.9 +1.0**
comp=Z,3.4nm,0.6s
HRY Holter Researc 60.01 52 *e*P **P** **12 03 39.0 +1.0**
comp=Z,6.5nm,0.7s
LRM Limekiln Ridge 60.27 53 *e*P **P** **12 03 41.0 +1.0**
comp=Z,55nm,1.3s
MCMT McKenzie Canyo 60.71 54 *e*P **P** **12 03 43.9 +0.9**
comp=Z,0.3nm,0.7s
WAKR Walker 61.17 64 *e*P **P** **12 03 47.3 +1.2**
comp=Z,4.5nm,1.3s
FINES FINESS Array B 61.69 334 P **P** **12 03 48.0 -0.9**
FINES FINESS Array B 61.69 334 P **P** **12 03 48.0 -0.9**
comp=Z,3.6nm,0.3s,baz=38,slow=7.5,SNR=34
NVAR Mina Array Bea 61.88 63 P **P** **12 03 51.9 +1.0**
NVAR pP **pP** **12 04 48.0 +1.8**
NVAR Mina Array Bea 61.88 63 P **P** **12 03 51.9 +1.0**
comp=Z,1.9nm,0.7s,baz=300,slow=7.2,SNR=21
NVAR pP **pP** **12 04 48.0 +1.8**
comp=Z,0.7nm,0.7s,baz=286,slow=5.9,SNR=4.5
H17A Grant Village 62.20 54 *e*P **P** **12 03 55.1 +2.1**
SFJD Kangerlussuaq 62.96 10 P **P** **12 03 56.5 -0.8**
SFJD Kangerlussuaq 62.96 10 P **P** **12 03 56.5 -0.8**
comp=Z,8.1nm,0.7s,baz=320,slow=7.9,SNR=3.7
PDAR Pinedale Array 63.86 54 P **P** **12 04 04.5 +0.6**
PDAR pP **pP** **12 05 01.2 +1.8**
PDAR Pinedale Array 63.86 54 P **P** **12 04 04.5 +0.6**
comp=Z,2.9nm,0.8s,baz=298,slow=1.4,SNR=26
PDAR pP **pP** **12 05 01.2 +1.8**
comp=Z,0.7nm,0.7s,baz=346,slow=1.6,SNR=3.8
VSU Vasula 63.89 332 *i P* **P** **12 04 02.9 -0.5**
VSU pmax pmax
comp=Z,100nm,1.3s
ULM Lac du Bonnet 65.15 41 P **P** **12 04 11.1 -0.7**
ULM Lac du Bonnet 65.15 41 P **P** **12 04 11.1 -0.7**
comp=Z,3.2nm,0.6s,baz=316,slow=7.5,SNR=3.6
NB2 NORSAR Subarra 65.84 340 P **P** **12 04 16.6 +0.6**
comp=Z,3.5nm,0.7s,baz=31,slow=6.5
NOA NORSAR Array B 65.84 340 P **P** **12 04 16.6 +0.6**
NOA NORSAR Array B 65.84 340 P **P** **12 04 16.6 +0.6**
comp=Z,4.5nm,0.8s,baz=28,slow=6.6,SNR=11
HFS Hagfors 66.08 339 P **P** **12 04 16.7 -0.7**
HFS Hagfors 66.08 339 P **P** **12 04 16.7 -0.7**
comp=Z,5.9nm,0.4s,baz=57,slow=5.3,SNR=41
KIV Kislovodsk 68.77 313 *e*P **P** **12 04 35.5 +0.8**
KIV pmax pmax
comp=Z,5.0nm,0.7s
KBZ Khabaz 68.84 313 P **P** **12 04 35.8 +0.8**
KBZ pmax pmax
comp=Z,3.0nm,0.7s
KBZ Khabaz 68.84 313 P **P** **12 04 35.8 +0.8**
KBZ Khabaz 68.84 313 P **P** **12 04 35.8 +0.8**
comp=Z,2.5nm,0.7s,baz=0.2,slow=3.2,SNR=5.2
AKASG Malin Array Be 69.30 325 P **P** **12 04 36.2 -1.5**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 69.30 325 P **P** **12 04 36.2 -1.5**
AKASG Malin Array Be 69.30 325 P **P** **12 04 36.2 -1.5**
comp=Z,1.0nm,0.4s,baz=33,slow=6.0,SNR=3.0
ECSD EROS Data Cent 69.69 46 *e*P **P** **12 04 40.3 +0.1**
comp=Z,9.3nm,0.9s
WRA Warramunga Arr 70.53 198 P **P** **12 04 45.2 -0.3**
WRA Warramunga Arr 70.53 198 P **P** **12 04 45.2 -0.3**
comp=Z,4.1nm,0.5s,baz=17,slow=6.5,SNR=81
FITZ Fitzroy Crossi 70.94 207 *e*P **P** **12 04 48.3 +0.5**
FITZ Fitzroy Crossi 70.94 207 P **P** **12 04 48.1 +0.3**
comp=Z,10.0nm,0.7s,baz=26,slow=5.2,SNR=26
SCHQ Schefferville 71.39 23 P **P** **12 04 50.0 -0.2**
SCHQ Schefferville 71.39 23 P **P** **12 04 50.0 -0.2**
comp=Z,4.1nm,0.5s,baz=313,slow=8.2,SNR=7.7
CRVS Cervenica-Dubn 73.58 329 *e*P **P** **12 05 02.1 -1.2**
CRVS pmax pmax
comp=Z,16nm,2.3s
CRVS Cervenica-Dubn 73.58 329 *e*P **P** **12 05 02.0 -1.2**
CLL Collm 74.11 335 *e*P **P** **12 05 05.0 -1.3**
CLL *e* 12 05 14.0
CLL pmax pmax
comp=Z,5.0nm,0.7s
CLL Collm 74.11 335 *e*P **P** **12 05 05.0 -1.3**
comp=Z,5.0nm,0.7s
AS31 Alice Springs 74.23 197 *e*P **P** **12 05 07.9 +0.7**
ASAR Alice Springs 74.24 197 P **P** **12 05 07.9 +0.6**
ASAR pP **pP** **12 06 04.4 -0.2**
ASAR Alice Springs 74.24 197 P **P** **12 05 07.9 +0.6**
comp=Z,5.0nm,0.4s,baz=10,slow=5.7,SNR=80
ASAR pP **pP** **12 06 04.4 -0.2**
comp=Z,1.2nm,0.8s,baz=12,slow=5.9,SNR=3.2

KHC	Kasperske Hory	75.90	333	eP	P	12 05 22.0 +5.4
KHC	Kasperske Hory	75.90	333	eP	P	12 05 22.0 +5.4
GERES	GERESS Array B	76.12	333	P	P	12 05 18.9 +1.0
GERES	GERESS Array B	76.12	333	P	P	12 05 18.9 +1.0
	comp=Z,0.2nm,0.3s,baz=40,slow=7.7,SNR=3.5					
BRTR	Keskin Array B	76.31	316	P	P	12 05 19.0 -0.2
BRTR	Keskin Array B	76.31	316	P	P	12 05 19.0 -0.2
	comp=Z,0.9nm,0.8s,baz=64,slow=6.6,SNR=3.9					
TXAR	Lajitas Array	76.86	60	P	P	12 05 22.9 +0.5
TXAR				pP	pP	12 06 20.8 +0.7
TXAR	Lajitas Array	76.86	60	P	P	12 05 22.9 +0.5
	comp=Z,0.6nm,0.5s,baz=302,slow=5.1,SNR=8.7					
TXAR				pP	pP	12 06 20.8 +0.7
	comp=Z,2.1nm,0.8s,baz=297,slow=5.5,SNR=9.4					
KBA	Koelnbreinsper	77.81	333⇑	iP	P	12 05 28.0 +0.6
	comp=Z,6.2nm,0.7s					
WTTA	Wattenberg	78.14	334⇑	iP	P	12 05 29.8 +0.6
	comp=Z,8.3nm,0.5s					
FETA	Feichten	78.63	334⇑	iP	P	12 05 32.2 +0.3
	comp=Z,4.9nm,1.1s					
SSF	Saint Saulge	80.48	339	eP	P	12 05 41.9 +0.3
	comp=Z,4.8nm,0.7s					
SGMF	Saint Gilles	80.64	343	eP	P	12 05 42.7 +0.3
	comp=Z,24nm,0.7s					
ROSF	Rostrenen	80.69	344	eP	P	12 05 43.2 +0.5
	comp=Z,10nm,0.6s					
AVF	Avril sur Loir	80.77	339	eP	P	12 05 43.5 +0.4
	comp=Z,14nm,0.6s					
SMF	Signal de Mont	80.79	339	eP	P	12 05 43.7 +0.4
	comp=Z,30nm,0.9s					
QUIF	Quistinic	81.08	344	eP	P	12 05 45.4 +0.7
LPG	La Plagne	81.12	336	eP	P	12 05 46.3 +0.9
	comp=Z,17nm,0.9s					
STKA	Stephens Creek	81.14	189	P	P	12 05 45.0 -0.1
STKA	Stephens Creek	81.14	189	P	P	12 05 45.0 -0.1
	comp=Z,6.3nm,1.0s,baz=16,slow=8.7,SNR=5.3					
TCF	Toulx Ste Croi	81.51	340	eP	P	12 05 47.6 +0.5
	comp=Z,17nm,0.7s					
MFF	Saint Martin d	81.73	341	eP	P	12 05 48.8 +0.6
	comp=Z,17nm,0.7s					
ORIF	Oris-en-Rattie	81.89	337	eP	P	12 05 50.1 +0.9
	comp=Z,11nm,0.6s					
VIVF	Saint-Julien-l	82.26	337	eP	P	12 05 51.9 +0.9
	comp=Z,27nm,1.2s					
SBF	Sospel	82.45	335	eP	P	12 05 52.8 +0.8
RJF	Les Rejaudoux	82.60	340	eP	P	12 05 53.2 +0.5
	comp=Z,16nm,0.9s					
CAF	Calviac	82.83	339	eP	P	12 05 55.0 +1.1
	comp=Z,13nm,0.5s					
SMRF	Simiane la Rot	82.84	336	eP	P	12 05 55.8 +1.8
FRF	La Foret Royal	82.94	336	eP	P	12 05 55.0 +0.5
	comp=Z,7.2nm,0.7s					
LFF	La Frestale	83.12	340	eP	P	12 05 56.2 +0.9
	comp=Z,12nm,0.5s					
LASF	Ste Croix	83.19	338	eP	P	12 05 56.9 +1.1
	comp=Z,11nm,0.8s					
LMR	La Mourre	83.19	336	eP	P	12 05 56.7 +0.9
	comp=Z,15nm,0.8s					
PGF	Pioggiola	83.21	334	eP	P	12 05 56.6 +0.6
	comp=Z,7.7nm,0.8s					
ESDC	Sonseca Array	89.16	342	P	P	12 06 23.7 -1.3
ESDC	Sonseca Array	89.16	342	P	P	12 06 23.7 -1.3
	comp=Z,0.3nm,0.3s,baz=7.0,slow=3.7,SNR=5.5					
KEST	Kesra	89.36	331	P	P	12 06 25.9 0.0
KEST	Kesra	89.36	331	P	P	12 06 25.9 0.0
	comp=Z,2.1nm,0.8s,baz=333,slow=4.5,SNR=5.9					
PLCA	Paso Flores	148.91	91	PKPbc	PKPbc	12 13 15.6 +0.1
PLCA	Paso Flores	148.91	91	PKPbc	PKPbc	12 13 15.6 +0.1
	comp=Z,1.1nm,0.7s,baz=296,slow=0.5,SNR=4.7					
SNAA	Sanae	154.60	198	ePKP	PKPbc	12 13 26.4 -1.0
SNAA	Sanae	154.60	198	ePKPab	PKPab	12 13 42.4 -1.0
VNA2	Neumayer--Watz	156.09	196	ePKPdf	PKPdf	12 13 15.2 -5.5
VNA2	Neumayer--Watz	156.09	196	ePKSdf	PKSdf	12 16 48.2 -5.9
VNA3	Neumayer Olymp	156.21	194	ePKPdf	PKPdf	12 13 30.7 +10
VNA3	Neumayer Olymp	156.21	194	ePKPab	PKPab	12 13 49.6 -0.7
VNA3	Neumayer Olymp	156.21	194	ePP	PP	12 17 29.8 +0.5

*BJI **02** 12:24:38.5, 43.°85N×147.°67E, h54km, mB5.0/33, mb4.9/51, Ms4.2/28, Ms7 4.0/28*
*ISCJB **02** 12:24:38.3±0.4, 43.°75N±0.°03×147.°85E±0.°02, h60km±3km, mb5.0/244, Error ellipse: s-maj=4.8km s-min=2.5km az=165.9*
*JMA **02** 12:24:38.6±0.2, 43.°55N×147.°70E, h15km, M4.6*
JMA Felt I J1.
*MOS **02** 12:24:38.2±0.8, 43.°71N×147.°85E, h61km, mb5.3/111, Error ellipse: s-maj=6.5km s-min=4.1km az=111.8*
MOS Felt (III) at Malokurilskoye; (II) at Yuzhno-Kuril'sk.
*NEIC **02** 12:24:39.1±0.4, 43.°80N×147.°80E, h52km±3km, mb5.0/76, Error ellipse: s-maj=5.2km s-min=2.3km az=164.0*
NEIC Felt [III] at Shakotan and [II] at Yuzhno-Kuril'sk. Recorded [1 JMA] in eastern Hokkaido.
*SKHL **02** 12:24:39.9±1.0, 43.°70N×147.°90E, h77km±7km, mb5.4/5, Ms4.1/3*
SKHL Felt (III) at Malokurilskoe, (II) at Yushno-Kurilsk.
*IDC **02** 12:24:40.2±0.5, 43.°80N×147.°80E, h65km±4km, mb4.6/37, mb1 4.7/42, mb1mx4.7/45, mbtmp4.6/42, MS3.8/7, Ms1 3.8/7, ms1mx3.4/46, Error ellipse: s-maj=12.8km s-min=8.9km az=163.0*
*SZGRF **02** 12:24:41.9, 44.°63N×148.°20E, h33km, mb5.1, Kuril Islands, Russia*
*NIED **02** 12:25:00, 43.°60N×147.°80E, h59km, Mw4.8 Best double couple: M0=1.74000×10^16 NP1:φ=233.00000°, δ90.00000°, λ130.00000°. NP2:φ=324.00000°, δ40.00000°, λ1.00000°.*
ISC 02 12:24:39.2±0.3, 43.°77N±0.°04×147.°86E±0.°03, h56km±2km, h56km:pP-P, n887, σ0.96/968, mb5.0/244, MS4.0/13, 183C-141D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	1.47	0	⇓iPN		Pn	12 25 04.2	+0.9
KUR				i S		Sn	12 25 21.3	-0.2
KUR				pmax		pmax		
	comp=Z,733nm,0.6s							
KUR				pmax		pmax		
	comp=E,428nm,0.3s							
KUR				pmax		pmax		
	comp=N,349nm,0.2s							
KUR				smax		smax		
	comp=N,5μm,0.5s							
KUR				smax		smax		
	comp=E,4μm,0.5s							
KUR	Kuril'sk	1.47	0	i P		Pn	12 25 04.2	+0.9
KUR				AMB		AMB	12 25 05.9	
	comp=E,349nm,0.6s							
KUR				AMB		AMB	12 25 05.9	
	comp=E,428nm,0.6s							
KUR				AMB		AMB	12 25 05.9	
	comp=E,733nm,0.6s							
KUR				i S		Sn	12 25 21.3	-0.2
KUR				A		A	12 25 23.1	
	comp=E,5μm,0.5s							
KUR				A		A	12 25 23.1	
	comp=E,4μm,0.5s							
YUK	Yuzh-Kuril'sk	1.47	281	i PN		Pn	12 25 03.6	+0.2
YUK				i S		Sn	12 25 22.0	+0.4
YUK				pmax		pmax		
	comp=N,133nm,0.1s							
YUK				pmax		pmax		
	comp=Z,3μm,0.4s							
YUK				pmax		pmax		
	comp=E,384nm,0.1s							
YUK				smax		smax		
	comp=E,17μm,0.7s							
YUK				smax		smax		
	comp=N,6μm,0.6s							
YUK	Yuzh-Kuril'sk	1.47	281	i P		Pn	12 25 03.6	+0.2
YUK				AMB		AMB	12 25 04.0	
	comp=N,133nm,0.1s							
YUK				AMB		AMB	12 25 04.0	
	comp=N,384nm,0.1s							
YUK				AMB		AMB	12 25 04.0	
	comp=N,3μm,0.1s							
YUK				i S		Sn	12 25 22.0	+0.4
YUK				A		A	12 25 22.7	
	comp=N,6μm,0.7s							
YUK				A		A	12 25 22.7	
	comp=N,17μm,0.7s							
YUK				A		A	12 25 25.8	
	comp=N,27μm,2.3s							
YUK				A		A	12 25 25.8	
	comp=N,20μm,2.3s							
NEM2	Nemuro 2	1.59	256	P		Pn	12 25 04.5	-0.5
NEM2				eS		Sn	12 25 23.0	-1.5
JRA	Rausu	1.99	276	P		Pn	12 25 11.3	+0.9
JRA				eS		Sn	12 25 35.3	+1.1
JNK	Nakash	2.29	267	P		Pn	12 25 14.6	+0.1
JNK				eS		Sn	12 25 41.4	-0.1
JAK	Akkeshi	2.43	253	P		Pn	12 25 16.1	-0.4
JAK				eS		Sn	12 25 43.6	-1.5
JTKR	Abashiri--Toko	2.87	275	P		Pn	12 25 23.8	+1.4
JTKR				eS		Sn	12 25 57.6	+1.9
JAR	Ashorobuto	3.01	262	P		Pn	12 25 25.2	+0.7
JAR				eS		Sn	12 25 59.1	-0.2
JOB	Onbets	3.06	255	P		Pn	12 25 25.3	+0.2
JOB				eS		Sn	12 26 00.0	-0.5
JMP	Maruseppu	3.26	276	P		Pn	12 25 29.6	+1.7
JCH	Churui	3.49	252	P		Pn	12 25 30.7	-0.2
JCH				eS		Sn	12 26 09.7	-1.2
JKK2	Kamakawa 2	3.70	273	P		Pn	12 25 35.8	+1.9
ASAJ	Asahikawa	3.82	277	P		Pn	12 25 36.3	+0.8
ASAJ				S		Sn	12 26 28.6	+9.5
ASAJ	Asahikawa	3.82	277	P		Pn	12 25 36.3	+0.8
	comp=N,28nm,0.3s,baz=95,slow=10.0,SNR=302							
ASAJ				S		Sn	12 26 28.6	+9.5
	comp=N,24nm,0.3s,baz=288,slow=28,SNR=6.0							
ERM	Erimo	3.88	245	Pn		Pn	12 25 37.1	+0.9
	comp=N,1μm,0.6s,SNR=89							
ERM	Erimo	3.88	245	c iPN		Pn	12 25 37.9	+1.7
ERM	Erimo	3.88	245	eP		Pn	12 25 37.9	+1.7
ERM	Erimo	3.88	245	ePn		Pn	12 25 37.5	+1.3
JFR	Furan	3.88	263	P		Pn	12 25 37.7	+1.3
JFR				eS		Sn	12 26 21.1	+0.4
JSE	Soyaes	3.97	289	P		Pn	12 25 39.3	+1.8
JNBK	Urakawa-nobuka	4.03	250	P		Pn	12 25 38.4	0.0
JNBK				eS		Sn	12 26 22.6	-1.7
JHR	Hokuryu	4.45	272	P		Pn	12 25 46.7	+2.6
JWK2	Keihoku	4.54	292	P		Pn	12 25 48.5	+3.2
JYG	Yagishiri	4.68	280	P		Pn	12 25 49.6	+2.3
JEW	Eniwo	4.77	261	P		Pn	12 25 50.3	+1.8
JEW				eS		Sn	12 26 42.9	+0.4
YSS	Yuzh-Sakhalins	4.81	313	k iPN		Pn	12 25 52.0	+3.0
YSS				i S		Sn	12 26 43.9	+0.6
YSS				pmax		pmax		
	comp=N,360nm,0.5s							
YSS				pmax		pmax		
	comp=E,450nm,0.5s							
YSS				pmax		pmax		
	comp=Z,600nm,0.5s							
YSS				smax		smax		
	comp=N,480nm,0.6s							
YSS				smax		smax		
	comp=E,480nm,0.6s							
YSS				MLR		MLR		
	comp=Z,1μm,18.0s							
YSS				MLR		MLR		
	comp=N,600nm,19.0s							
YSS				MLR		MLR		
	comp=E,900nm,17.0s							
YSS	Yuzh-Sakhalins	4.81	313	i P		Pn	12 25 52.0	+3.0
YSS				AMB		AMB	12 25 52.9	
	comp=E,360nm,0.5s							
YSS				AMB		AMB	12 25 52.9	
	comp=E,450nm,0.5s							
YSS				AMB		AMB	12 25 52.9	
	comp=E,600nm,0.5s							
YSS				i S		Sn	12 26 43.9	+0.6
YSS				A		A	12 26 47.0	
	comp=E,480nm,0.6s							
YSS				AMS		AMS	12 27 45.0	
	comp=E,600nm,18.0s							
YSS				AMS		AMS	12 27 45.0	
	comp=E,900nm,18.0s							
YSS				AMS		AMS	12 27 45.0	
	comp=E,1μm,18.0s							
UGL	Uglegorsk	6.65	325	ePN		Pn	12 26 17.2	+3.0
UGL				e			12 27 35.0	
UGL				pmax		pmax		
	comp=Z,98nm,0.7s							
UGL				MLR		MLR		
	comp=N,650nm,17.0s							
UGL				MLR		MLR		
	comp=Z,600nm,17.0s							
UGL				MLR		MLR		
	comp=E,700nm,20.0s							
UGL	Uglegorsk	6.65	325	eP		Pn	12 26 17.2	+3.0
UGL				AMB		AMB	12 26 18.0	
	comp=E,98nm,0.7s							
UGL				eS		Sn	12 27 29.3	+0.7
UGL				A		A	12 27 39.5	
	comp=E,260nm,0.7s							
UGL				A		A	12 27 39.5	
	comp=E,360nm,0.7s							
UGL				AMS		AMS	12 29 08.0	
	comp=E,650nm,17.0s							
UGL				AMS		AMS	12 29 08.0	
	comp=E,700nm,17.0s							
UGL				AMS		AMS	12 29 08.0	
	comp=E,600nm,17.0s							
SKR	Severo-Kuril's	8.91	36	ePN		Pn	12 26 39.0	-6.1
SKR				pmax		pmax		
	comp=Z,80nm,0.5s							
SKR				MLR		MLR		
	comp=Z,800nm,14.0s							
SKR	Severo-Kuril's	8.91	36	eP		Pn	12 26 39.0	-6.1
SKR				AMB		AMB	12 26 41.4	
	comp=Z,80nm,0.5s							
SKR				eS		Sn	12 28 15.7	-8.2
SKR				A		A	12 28 24.0	
	comp=Z,80nm,0.5s							
SKR				A		A	12 28 24.0	
	comp=Z,60nm,0.5s							
SKR				AMS		AMS	12 30 14.0	
	comp=Z,800nm,14.0s							
HABR	Khabarovsk	10.06	302	dePN		Pn	12 27 03.6	+2.7
HABR				pmax		pmax		
	comp=N,11nm,1.4s							
HABR				pmax		pmax		
	comp=E,52nm,1.4s							
HABR				pmax		pmax		
	comp=Z,72nm,1.4s							
HABR				MLR		MLR		
	comp=Z,557nm,19.0s							
OKH	Okha	10.31	343	ePN		Pn	12 27 07.2	+2.9
OKH	Okha	10.31	343	eP		Pn	12 27 07.2	+2.9
OKH				eS		Sn	12 29 01.1	+2.8
OKH				AMS		AMS	12 32 44.6	
	comp=Z,1μm,11.0s							
OKH				AMS		AMS	12 32 44.6	
	comp=Z,800nm,11.0s							
MAT	Matsushiro	10.32	229	P		Pn	12 27 03.3	-1.3
MAT				S		Sn	12 29 00.2	+1.5
MJAR	Matsushiro Arr	10.32	229	P		Pn	12 27 03.3	-1.3
MJAR	Matsushiro Arr	10.32	229	P		Pn	12 27 03.3	-1.3
	comp=Z,0.9nm,0.3s,baz=30,slow=13,SNR=25							
PEA0	Petropavlovsk-	11.39	31	ePn		Pn	12 27 17.3	-1.7
PEA0B	Petropavlovsk-	11.39	31	ePn		Pn	12 27 17.6	-1.5
PETK	Petropavlovsk-	11.39	31	PN		Pn	12 27 17.6	-1.4
PETK				pmax		pmax		
	comp=Z,2.0nm,0.3s							
PETK				MLR		MLR		
	comp=Z,238nm,21.6s							
PETK	Petropavlovsk-	11.39	31	P		Pn	12 27 17.6	-1.4
PETK	Petropavlovsk-	11.39	31	P		Pn	12 27 17.6	-1.4
	comp=Z,1.7nm,0.3s,baz=201,slow=13,SNR=31							
PETK				LR		LR	12 31 39.1	
	comp=Z,238nm,21.6s,baz=266,slow=37							
USRK	Ussuriysk Arra	11.45	278	P		Pn	12 27 19.2	-0.7
	comp=Z,0.7nm,0.3s,baz=89,slow=12,SNR=38							
USRK				LR		LR	12 32 00.6	
	comp=Z,197nm,18.3s,baz=42,slow=39							
VLA	Vladivostok	11.64	272⇑	ePN		Pn	12 27 22.5	+0.1
VLA				pmax		pmax		
	comp=Z,56nm,1.5s							
VLA	Vladivostok	11.64	272	eP		Pn	12 27 22.5	+0.1
PET	Petropavlovsk	11.70	34	ePN		Pn	12 27 20.6	-2.6
PET				pmax		pmax		
	comp=Z,18nm,0.9s							
PET				MLR		MLR		
	comp=Z,400nm,20.0s							
PET				MLR		MLR		
	comp=Z,300nm,15.0s							
PET	Petropavlovsk	11.70	34	eP		Pn	12 27 21.3	-1.9
MDJ	Mudanjiang	13.14	280	P		Pn	12 27 43.1	+0.2
MDJ				pmax		pmax		
	comp=Z,14nm,0.8s							
MDJ				pmax		pmax		
	comp=Z,51nm,6.2s							
MDJ	Mudanjiang	13.14	280	ePn		Pn	12 27 43.2	+0.2
	comp=Z,7.6nm,0.6s							
CN2	Changchun	16.18	278	eP		Pn	12 28 20.0	-2.8
CN2				esP		sP	12 28 39.2	-5.2
CN2				eS		Sn	12 31 15.2	-6.1
CN2				pmax		pmax		
	comp=Z,10.0nm,1.1s							
CN2				pmax		pmax		
	comp=Z,200nm,4.0s							
CN2				LR		LR		
	comp=N,200nm,13.0s							
CN2				LR		LR		
	comp=E,200nm,13.0s							
CN2				LR		LR		
	comp=Z,200nm,18.0s							
KSRS	Korea Array	16.39	254	P		Pn	12 28 24.6	-0.8
	comp=Z,0.3nm,0.3s,baz=60,slow=12,SNR=53							
KSRS				S		Sn	12 31 28.4	+2.3
	comp=Z,0.2nm,0.3s,baz=66,slow=25,SNR=7.3							
KSRS				PcP		PcP	12 33 14.6	-0.5
	baz=35,slow=1.6,SNR=8.0							
KSRS				LR		LR	12 34 50.1	
	comp=Z,138nm,21.7s,baz=50,slow=37							
KS01	Wonju Array Si	16.39	254	ePn		Pn	12 28 24.4	-1.1
KSAR	Wonju Array Be	16.42	254	P		Pn	12 28 24.6	-1.2
KSAR				S		Sn	12 31 28.4	+1.4
KSAR				PcP		PcP	12 33 14.6	-0.5
TJN	Taejon	17.31	252	eP		P	12 28 38.6	+1.0
SNY	Shenyang	17.91	272	⇑P		Pn	12 28 44.6	+0.4
SNY				pmax		pmax		
	comp=Z,37nm,0.8s							
SNY				LR		LR		
	comp=N,220nm,15.7s							
SNY				LR		LR		
	comp=E,250nm,17.8s							
SNY				LR		LR		
	comp=Z,480nm,21.6s							
FX1	Attu Island--F	19.05	53	eP		Pn	12 28 58.0	+0.2
FX1	Attu Island--F	19.05	53	P		P	12 28 57.0	+0.4
	comp=Z,5.3nm,0.3s,baz=345,slow=1.3,SNR=41							
SEY	Seymchan	19.38	6	d iP		P	12 28 59.0	-1.1
SEY	Seymchan	19.38	6	eP		P	12 28 59.0	-1.1
CLNS	Chul'man	19.53	320	eP		P	12 28 59.8	-2.1
CLNS				eS		S	12 32 30.5	-8.8
CLNS				pmax		pmax		
	comp=Z,10.0nm,0.7s							
CLNS				pmax		pmax		
	comp=N,8.0nm,0.9s							
CLNS				pmax		pmax		
	comp=E,6.0nm,1.0s							
CLNS				smax		smax		
	comp=E,17nm,1.1s							
CLNS				smax		smax		
	comp=N,12nm,1.0s							
CLNS				MLR		MLR		
	comp=Z,183nm,15.0s							
CLNS				MLR		MLR		
	comp=N,123nm,16.0s							
CLNS				MLR		MLR		
	comp=E,121nm,14.0s							
HIA	Hailar	20.05	296	eP		P	12 29 04.9	-2.7
	comp=E,22nm,0.9s							
DL2	Dalian	20.25	265	eP		P	12 29 10.2	+0.4
DL2				pmax		pmax		
	comp=Z,45nm,0.9s							
YAK	Yakutsk	21.19	336	eP		P	12 29 15.6	-4.1
YAK				e			12 29 34.0	
YAK				eS		S	12 33 03.1	-8.8
YAK				e*SS		sS	12 33 27.3	-4.9
YAK				pmax		pmax		
	comp=Z,176nm,1.0s							
YAK				pmax		pmax		
	comp=N,25nm,1.1s							
YAK				pmax		pmax		
	comp=E,29nm,1.2s							
YAK				smax		smax		
	comp=N,185nm,2.2s							
YAK				smax		smax		
	comp=E,105nm,1.5s							
YAK				MLR		MLR		
	comp=E,121nm,22.0s							
YAK				MLR		MLR		
	comp=N,181nm,21.0s							
YAK				MLR		MLR		
	comp=Z,393nm,23.0s							
YAK	Yakutsk	21.19	336	eP		P	12 29 16.4	-3.3
BJI	Beijing	23.80	272	P		P	12 29 46.3	-0.4
BJI				pP		pP	12 29 59.5	-0.8
BJI				S		S	12 33 56.4	-1.8
BJI				pmax		pmax		
	comp=Z,35nm,0.8s							
BJT	Baijiatuau	23.81	272	eP		P	12 29 46.7	-0.1
	comp=Z,47nm,1.0s							
HHC	Hu-ho-hao-te	26.87	276	eP		P	12 30 13.5	-1.2
HHC				pP		pP	12 30 28.0	-0.6
HHC				sP		sP	12 30 35.4	+0.1
HHC				PP		PnPn	12 31 00.0	+1.2
HHC				S		S	12 34 42.7	-4.6
HHC				sS		sS	12 35 07.7	-3.4
HHC				SS		SnSn	12 35 58.0	+1.6
HHC				PcS		PcS	12 37 16.2	-1.0
HHC				pmax		pmax		
	comp=Z,19nm,1.2s							
HHC				pmax		pmax		
	comp=Z,670nm,5.1s							
HHC				LR		LR		
	comp=N,220nm,13.9s							
HHC				LR		LR		
	comp=E,330nm,14.5s							
HHC				LR		LR		
	comp=Z,730nm,15.5s							
ULN	Ulaanbaatar	28.50	293	eP		P	12 30 29.3	+0.1
ULN	Ulaanbaatar	28.50	293	eP		P	12 30 29.6	+0.3
	comp=Z,22nm,0.8s							
SONA1	Songino Array	28.93	293	eP		P	12 30 33.5	+0.5
SONM	Songino Array	28.94	293	P		P	12 30 32.9	-0.2
SONM				pP		pP	12 30 47.1	-0.1
SONM	Songino Array	28.94	293	P		P	12 30 32.9	-0.2
	comp=Z,14nm,0.9s,baz=85,slow=8.8,SNR=55							
SONM				pP		pP	12 30 47.1	-0.1
	comp=Z,4.4nm,0.7s,baz=75,slow=6.4,SNR=4.1							
SONM				LR		LR	12 43 04.7	
	comp=Z,366nm,21.9s,baz=253,slow=38							
TLY	Talaya	30.38	301	eP		P	12 30 46.8	+1.1
TLY				pmax		pmax		
	comp=Z,4.0nm,0.8s							
TLY				MLR		MLR		
	comp=Z,172nm,17.0s							
TLY	Talaya	30.38	301	eP		P	12 30 46.4	+0.7
ZAK	Zakamensk	30.70	298	eP		P	12 30 47.6	-1.0
ZAK				e			12 33 45.1	
ZAK				pmax		pmax		
	comp=Z,6.0nm,1.0s							
XAN	Xi'an	31.57	265	P		P	12 30 55.9	-0.5
XAN				pmax		pmax		
	comp=Z,2.0nm,0.8s							
XAN				pmax		pmax		
	comp=Z,24nm,6.8s							
TNA	Tin City	32.56	33	eP		P	12 31 05.1	+0.5
	comp=Z,261nm,1.6s							
ENH	Enshi	33.17	259	eP		P	12 31 09.9	-0.4
	comp=Z,4.1nm,0.4s							
LZH	Lanzhou	34.29	272	eP		P	12 31 21.0	+0.8
LZH				pP		pP	12 31 35.1	+0.7
LZH				sP		sP	12 31 41.9	+0.9
LZH				PP		PnPn	12 32 37.2	+1.3
LZH				eS		S	12 36 41.0	-2.5
LZH				sS		sS	12 37 06.1	-1.4
LZH				eSS		SnSn	12 38 54.3	-2.6
LZH				pmax		pmax		
	comp=Z,36nm,1.3s							
LZH				pmax		pmax		
	comp=Z,110nm,4.2s							
LZH				LR		LR		
	comp=N,240nm,12.8s							
LZH				LR		LR		
	comp=E,380nm,14.0s							
LZH				LR		LR		
	comp=Z,590nm,17.2s							
GTA	Gaotai	35.80	280	eP		P	12 31 34.4	+1.2
GTA				pP		pP	12 31 45.3	-2.1
GTA				sP		sP	12 31 48.4	-5.6
GTA				pmax		pmax		
	comp=Z,13nm,1.0s							
KRAR	Krasnoyarsk	36.51	309⇓	eP		P	12 31 41.0	+2.2

KRAR pmax pmax
comp=Z,13nm,0.5s
HVS Khovu-Aksy 36.62 301⇑ *eP* **P 12 31 40.0 0.0**
HVS pmax pmax
comp=Z,71nm,1.5s
CD2 Chengdu 36.92 265 P **P 12 31 42.8 +0.1**
CD2 pP **pP 12 31 57.2 +0.2**
CD2 sP **sP 12 32 04.0 +0.5**
CD2 PP **PnPn 12 33 09.6 +1.4**
CD2 PcP **PcP 12 34 04.2 +1.1**
CD2 S **S 12 37 23.1 -0.6**
CD2 sS **sS 12 37 46.9 -0.9**
CD2 SS **SnSn 12 39 52.8 -7.7**
CD2 pmax pmax
comp=Z,50nm,0.6s
CD2 pmax pmax
comp=Z,140nm,4.5s
CD2 LR LR
comp=N,180nm,7.7s
CD2 LR LR
comp=Z,150nm,8.9s
SVW2 Sparrevohn 37.21 42 *eP* **P 12 31 46.0 +1.3**
comp=Z,22nm,0.9s
GYA Guiyang 37.43 256 P **P 12 31 48.7 +1.6**
GYA pP **pP 12 32 02.6 +1.2**
GYA sP **sP 12 32 10.0 +2.1**
GYA PP **PnPn 12 33 16.7 +2.2**
GYA PcP **PcP 12 34 06.5 +1.7**
GYA S **S 12 37 31.2 -0.4**
GYA ScP **ScP 12 37 48.0 +0.9**
GYA SS **SnSn 12 40 06.9 -6.0**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,4.8s
GYA LR LR
comp=N,580nm,15.4s
GYA LR LR
comp=E,500nm,17.0s
GYA LR LR
comp=Z,540nm,16.6s
IM04 Indian Mountai 38.33 34 *eP* **P 12 31 54.5 +0.4**
IMA2 Indian Mountai 38.37 34 *eP* **P 12 31 55.3 +0.7**
OHAK Old Harbor 38.53 48 *eP* **P 12 31 55.5 -0.4**
comp=Z,20nm,1.0s
PPLA Purkeypile 38.84 39 *eP* **P 12 32 00.2 +1.6**
comp=Z,40nm,1.3s
KDAK Kodiak Island 38.86 47 P **P 12 31 58.3 -0.3**
comp=Z,190nm,0.8s,SNR=8.0
KDAK Kodiak Island 38.86 47 *eP* **P 12 31 58.1 -0.5**
KDAK Kodiak Island 38.86 47 *eP* **P 12 31 58.3 -0.3**
KDAK Kodiak Island 38.86 47 P **P 12 31 58.0 -0.5**
comp=Z,23nm,0.7s,baz=273,slow=6.4,SNR=17
CAST Castle Rocks 38.90 38 *eP* **P 12 32 00.3 +1.4**
comp=Z,19nm,0.8s
SPU Mount Spurr 38.92 42 *eP* **P 12 32 00.5 +1.3**
BPAW Bear Paw Mtn. 39.40 37 *eP* **P 12 32 03.8 +0.7**
comp=Z,8.4nm,0.8s
TRF Thorofare Moun 39.70 38 *eP* **P 12 32 06.2 +0.4**
comp=Z,10nm,1.0s
COLD Coldfoot 39.86 32 *eP* **P 12 32 07.9 +1.0**
comp=Z,27nm,0.8s
MCK McKinley 40.30 38 *eP* **P 12 32 11.3 +0.7**
MCK pmax pmax
comp=Z,14nm,0.8s
MCK McKinley 40.30 38 *eP* **P 12 32 11.3 +0.7**
comp=Z,14nm,0.8s
PMR Palmer 40.30 41 *eP* **P 12 32 10.6 0.0**
PMR pmax pmax
comp=Z,8.0nm,0.7s
PMR Palmer 40.30 41 *eP* **P 12 32 10.6 0.0**
comp=Z,8.3nm,0.7s
SML Sawmill 40.67 41 *eP* **P 12 32 14.1 +0.4**
SML pmax pmax
comp=Z,10.0nm,0.7s
SML Sawmill 40.67 41 *eP* **P 12 32 14.1 +0.4**
comp=Z,10nm,0.7s
COLA College 40.75 36 *eP* **P 12 32 14.1 -0.1**
COLA pmax pmax
comp=Z,26nm,0.9s
COLA College 40.75 36 *eP* **P 12 32 15.0 +0.8**
COLA College 40.75 36 *eP* **P 12 32 14.1 -0.1**
comp=Z,26nm,0.9s
KMI Kunming 41.02 258 P **P 12 32 18.7 +1.4**
KMI pP **pP 12 32 32.2 +0.5**
KMI sP **sP 12 32 39.0 +0.8**
KMI S **S 12 38 26.4 +0.6**
KMI sS **sS 12 38 51.3 +1.1**
KMI pmax pmax
comp=Z,13nm,1.0s
KMI pmax pmax
comp=Z,84nm,5.3s
KMI LR LR
comp=N,140nm,15.7s
KMI LR LR
comp=E,89nm,17.1s
KMI LR LR
comp=Z,290nm,26.2s
IL1 Eielson Array 41.17 36 *eP* **P 12 32 16.6 -1.1**
ILAR Eielson Array 41.17 36 P **P 12 32 17.6 -0.1**
ILAR Eielson Array 41.17 36 P **P 12 32 17.6 -0.1**
comp=Z,10nm,0.8s,baz=265,slow=8.3,SNR=120
ZAA0 Zalesovo Array 41.40 307 *eP* **P 12 32 19.2 -0.5**
ZALV Zalesovo Beam 41.40 307 P **P 12 32 19.0 -0.7**
ZALV 12 34 16.6
ZALV 12 34 33.9
ZALV pmax pmax
comp=Z,4.0nm,0.5s
ZALV MLR MLR
comp=Z,128nm,18.0s
ZALV Zalesovo Beam 41.40 307 P **P 12 32 19.0 -0.7**
ZALV PcP **PcP 12 34 16.6 -0.2**
ZALV pPcP 12 34 33.9
ZALV Zalesovo Beam 41.40 307 P **P 12 32 19.0 -0.7**
comp=Z,3.8nm,0.5s,baz=74,slow=6.6,SNR=20
ZALV PcP **PcP 12 34 16.6 -0.2**
comp=Z,8.0nm,0.6s,baz=87,slow=2.8,SNR=15
ZALV pPcP 12 34 33.9
comp=Z,9.5nm,0.7s,baz=88,slow=2.9,SNR=10.0
ZALV LR LR 12 50 32.7
comp=Z,128nm,18.0s,baz=72,slow=38
PAX Paxson 41.91 39 *eP* **P 12 32 25.5 +1.6**
PAX pmax pmax
comp=Z,9.0nm,1.1s
PAX Paxson 41.91 39 *eP* **P 12 32 25.5 +1.6**
comp=Z,8.6nm,1.1s
DIV Divide 41.96 42 *eP* **P 12 32 25.3 +1.0**
comp=Z,33nm,1.1s
NVS Novosibirsk 42.11 309 *eP* **P 12 32 25.0 -0.5**
NVS *e*S S 12 38 33.0 -7.8
NVS pmax pmax
comp=Z,13nm,0.8s
NVS pmax pmax
comp=N,3.0nm,0.7s
NVS pmax pmax
comp=E,12nm,0.7s
NVS smax smax
comp=E,9.0nm,1.3s
BMRM Bremner River 42.54 42 *eP* **P 12 32 30.0 +0.9**
comp=E,31nm,0.8s
WMQ Urumqi 42.57 292 P **P 12 32 31.5 +2.0**
WMQ pP **pP 12 32 46.5 +2.5**
WMQ sP **sP 12 32 51.5 +1.0**
WMQ PP **PP 12 34 13.5 +4.7**
WMQ PcP **PcP 12 34 24.5 +3.6**
WMQ pmax pmax
comp=Z,41nm,1.0s
WMQ pmax pmax
comp=Z,260nm,5.6s
WMQ LR LR
comp=N,330nm,37.5s
WMQ LR LR
comp=E,220nm,30.9s
WMQ LR LR
comp=Z,310nm,32.8s
MENT Mentasta 42.70 39 *eP* **P 12 32 31.2 +0.9**
EGAK Eagle 43.62 36 *eP* **P 12 32 37.7 +0.2**
comp=Z,20nm,0.9s
DAWY Dawson 44.47 37 *eP* **P 12 32 45.0 +0.5**
MK31 Makanchi Array 45.03 298 P **P 12 32 49.4 +0.2**
MK31 pmax pmax
comp=Z,12nm,0.5s
MK31 Makanchi Array 45.03 298 *eP* **P 12 32 49.4 +0.2**
MKAR Makanchi Array 45.03 298 P **P 12 32 49.3 +0.1**
MKAR 12 34 28.8
MKAR pmax pmax
comp=Z,15nm,0.8s
MKAR Makanchi Array 45.03 298 *eP* **P 12 32 49.5 +0.3**
MKAR Makanchi Array 45.03 298 P **P 12 32 49.3 +0.1**
MKAR PcP **PcP 12 34 28.8 -0.4**
MKAR Makanchi Array 45.03 298 P **P 12 32 49.3 +0.1**
comp=Z,15nm,0.8s,baz=80,slow=9.0,SNR=67
MKAR PcP **PcP 12 34 28.8 -0.4**
comp=Z,2.6nm,0.6s,baz=60,slow=5.0,SNR=3.7
KURK Kurchatov 45.95 304 P **P 12 32 56.8 +0.6**
KURK 12 34 32.4
KURK 12 34 49.3
KURK pmax pmax
comp=Z,21nm,0.7s
KURK pmax pmax
comp=Z,5.0nm,0.7s
KURK Kurchatov 45.95 304 P **P 12 32 56.8 +0.6**
KURK PcP **PcP 12 34 32.4 +0.2**
KURK pPcP 12 34 49.2
HYT Haines Junctio 45.98 41 *eP* **P 12 32 58.4 +1.8**
KURBB Kurchatov Arra 46.03 304 P **P 12 32 56.8 -0.1**
comp=Z,21nm,0.7s,baz=74,slow=8.8,SNR=117
KURBB PcP **PcP 12 34 32.4 -0.1**
comp=Z,5.7nm,0.8s,baz=77,slow=3.3,SNR=11
KURBB pPcP 12 34 49.2
comp=Z,4.6nm,0.7s,baz=76,slow=3.6,SNR=7.5
INK Inuvik 46.13 30 *eP* **P 12 32 58.3 +0.9**
INK Inuvik 46.13 30 P **P 12 32 58.3 +0.9**
comp=Z,26nm,0.5s,baz=290,slow=7.1,SNR=114
LSA Lhasa 46.70 272 P **P 12 33 04.3 +1.2**
LSA pmax pmax
comp=Z,20nm,0.7s
LSA Lhasa 46.70 272 *eP* **P 12 33 04.3 +1.2**
LSA pmax pmax
comp=Z,12nm,0.8s
LSA Lhasa 46.70 272 *eP* **P 12 33 04.3 +1.2**
comp=Z,12nm,0.8s
SKAG Skagway 47.38 43 *eP* P 12 33 13.1 +5.7
CHTO Chiang Mai 47.78 255 *eP* **P 12 33 11.8 +0.8**
CHTO Chiang Mai 47.78 255 *eP* **P 12 33 11.8 +0.8**
CMAR Chiang Mai Arr 48.02 254 P **P 12 33 12.5 -0.4**
CMAR Chiang Mai Arr 48.02 254 P **P 12 33 12.5 -0.4**
comp=Z,2.5nm,0.7s,baz=42,slow=7.5,SNR=12
VOSK Vostochnaya 49.67 309 P **P 12 33 24.6 -0.5**
VOSK pmax pmax
comp=Z,20nm,1.0s
BVA0 Borovoye Array 49.89 310 *i* P **P 12 33 26.4 -0.3**
BVA0 pmax pmax
comp=Z,40nm,1.2s
BVAR Borovoye Array 49.89 310 P **P 12 33 26.6 -0.1**
BVAR 12 34 46.5
BVAR pmax pmax
comp=Z,11nm,0.7s
BVAR MLR MLR
comp=Z,144nm,19.3s
BVAR Borovoye Array 49.89 310 P **P 12 33 26.6 -0.1**
BVAR PcP **PcP 12 34 46.5 +0.1**
BVAR pPcP 12 35 03.7
BVAR Borovoye Array 49.89 310 P **P 12 33 26.6 -0.1**
comp=Z,16nm,0.9s,baz=69,slow=7.9,SNR=42
BVAR PcP **PcP 12 34 46.5 +0.1**
comp=Z,4.0nm,0.7s,baz=57,slow=5.3,SNR=5.1
BVAR pPcP 12 35 03.7
comp=Z,3.8nm,0.7s,baz=108,slow=4.8,SNR=4.8
BVAR LR LR 12 56 23.3
comp=Z,144nm,19.3s,baz=82,slow=38
BRVK Borovoye 49.94 310 P **P 12 33 27.8 +0.7**
comp=Z,156nm,1.0s,SNR=6.9
BRVK Borovoye 49.94 310 *c i* P **P 12 33 26.9 -0.2**
BRVK pmax pmax
comp=Z,27nm,0.8s
BRVK Borovoye 49.94 310 *eP* **P 12 33 26.9 -0.2**
BRVK Borovoye 49.94 310 *eP* **P 12 33 27.6 +0.5**
DLBC Dease Lake 50.32 43 P **P 12 33 30.5 +0.6**
DLBC Dease Lake 50.32 43 P **P 12 33 30.5 +0.6**
comp=Z,9.8nm,1.0s,baz=292,slow=6.6,SNR=23
TAPN Taplejung 50.53 272 *eP* **P 12 33 32.8 +0.6**
TKM2 Tokmak 2 50.96 296 P **P 12 33 36.1 +0.8**
TKM2 pmax pmax
comp=Z,30nm,1.0s
TKM2 Tokmak 2 50.96 296 P **P 12 33 36.2 +1.0**
SNR=22
TKM2 Tokmak 2 50.96 296 *eP* **P 12 33 36.0 +0.8**
comp=Z,31nm,1.0s
ODAN Odare 51.04 272 *eP* **P 12 33 35.7 -0.4**
JIRN Jiri 51.45 273 *eP* **P 12 33 39.7 +0.5**
comp=Z,82nm,1.1s
KBK Karagaybulak 51.51 296 *i* P **P 12 33 40.3 +1.0**
KBK Karagaybulak 51.51 296 P **P 12 33 40.2 +1.0**
SNR=5.5
USP Ospenovka 51.52 297 *i* P **P 12 33 39.9 +0.7**
USP Ospenovka 51.52 297 P **P 12 33 39.9 +0.7**
SNR=22
GUN Gumba 51.53 274 *eP* **P 12 33 39.9 +0.1**
RAMN Ramite 51.56 272 *eP* **P 12 33 40.0 0.0**
comp=Z,88nm,0.8s
KZA Kyzart 51.58 295 *i* P **P 12 33 41.7 +1.6**
KZA Kyzart 51.58 295 P **P 12 33 41.7 +1.6**
SNR=22
AAK Ala-Archa 51.81 296 *c i* P **P 12 33 42.0 +0.4**
AAK pmax pmax
comp=Z,35nm,1.2s
AAK Ala-Archa 51.81 296 P **P 12 33 42.2 +0.7**
SNR=6.5
AAK Ala-Archa 51.81 296 *eP* **P 12 33 42.0 +0.4**
AAK Ala-Archa 51.81 296 *eP* **P 12 33 41.4 -0.2**
KKN Kakani 52.03 274 *eP* **P 12 33 43.6 +0.2**
comp=Z,48nm,0.9s
PKIN Phulchoki 52.07 274 *eP* **P 12 33 43.6 -0.2**
comp=Z,28nm,1.0s
DMN Daman 52.26 274 *eP* **P 12 33 45.6 +0.4**
comp=Z,51nm,0.9s
EKS2 Erkin-Say 52.27 296 *eP* **P 12 33 45.5 +0.6**
EKS2 *e* 12 34 56.3
EKS2 pmax pmax
comp=Z,10.0nm,0.6s
EKS2 Erkin-Say 52.27 296 P **P 12 33 45.7 +0.8**
SNR=13
EKS2 Erkin-Say 52.27 296 *eP* **P 12 33 45.5 +0.6**
comp=Z,10nm,0.6s
EKS2 *e*PcP **PcP 12 34 56.3 +0.7**
KSH Kashi 52.33 292 P P 12 33 49.6 +4.2
KSH sP sP 12 34 12.2 +5.5
KSH PP PP 12 35 50.8 +6.6
KSH S **S 12 41 10.7 +3.9**
KSH sS sS 12 41 38.1 +6.2
KSH SS **SS 12 44 48.2 +3.5**
KSH pmax pmax
comp=Z,13nm,1.1s
KSH pmax pmax
comp=Z,53nm,5.9s
KSH LR LR
comp=N,110nm,4.3s
KSH LR LR
comp=E,93nm,6.3s
KSH LR LR
comp=Z,190nm,15.5s
AML Almayashu 52.58 296 *i* P **P 12 33 48.5 +1.0**
AML Almayashu 52.58 296 P **P 12 33 48.5 +1.0**
SNR=20
DANN Dangsing 52.81 276 *eP* **P 12 33 50.1 +0.9**
comp=Z,104nm,0.7s
ALE Alert 53.05 5 P **P 12 33 49.9 0.0**
comp=Z,177nm,1.2s,SNR=8.1
KOLN Koldanda 53.26 275 *eP* **P 12 33 52.9 +0.5**
comp=Z,53nm,0.8s
SVE Sverdlovsk 53.48 317 *eP* P 12 33 49.0 -4.4
SVE pmax pmax
comp=Z,37nm,1.0s
PYUN Piuthan 53.50 276 *eP* **P 12 33 54.4 +0.1**
comp=Z,156nm,0.9s
SOKR Solikamsk 54.08 321 *eP* **P 12 33 57.7 0.0**
SOKR pmax pmax
comp=Z,30nm,0.8s
KK31 Karatay Array 54.16 298 *i* P **P 12 33 58.6 0.0**
KK31 pmax pmax
comp=Z,6.0nm,0.4s
KKAR Karatay Array 54.16 298 *eP* **P 12 33 58.9 +0.2**
KKAR pmax pmax
comp=Z,11nm,0.6s
KKAR Karatay Array 54.16 298 *eP* **P 12 33 58.9 +0.2**
comp=Z,11nm,0.6s
ARU Arti 54.69 317 *d i* P **P 12 34 01.5 -0.7**
ARU *PP **pP** 12 34 13.8 -3.4
ARU 12 35 03.4
ARU S **S 12 41 38.3 +0.4**
ARU pmax pmax
comp=Z,47nm,1.2s
ARU Arti 54.69 317 *eP* **P 12 34 01.4 -0.7**
ARU Arti 54.69 317 P **P 12 34 01.0 -1.2**
comp=Z,302nm,0.5s,SNR=5.7
RES Resolute Bay 54.80 17 P **P 12 34 02.7 0.0**
RES Resolute Bay 54.80 17 P **P 12 34 02.7 0.0**
comp=Z,52nm,0.9s,baz=315,slow=8.6,SNR=18
KBS Kingsbay 54.85 351 *eP* **P 12 34 01.2 -1.9**
KBS pmax pmax
comp=Z,10.0nm,0.7s
KBS Kingsbay 54.85 351 *eP* **P 12 34 01.2 -1.9**
comp=Z,9.6nm,0.7s
SPITS Spitsbergen Ar 54.86 349 P **P 12 34 01.2 -2.0**
SPITS Spitsbergen Ar 54.86 349 P **P 12 34 01.2 -2.0**
comp=Z,2.8nm,0.5s,baz=45,slow=8.4,SNR=15
YKW3 Yellowknife Ar 55.46 34 *eP* **P 12 34 08.0 +0.3**
comp=Z,0.2nm,0.9s
YKA Yellowknife Ar 55.50 34 P **P 12 34 07.6 -0.4**
YKA Yellowknife Ar 55.50 34 P **P 12 34 07.6 -0.4**
comp=Z,12nm,0.6s,baz=302,slow=7.5,SNR=72
AB31 Akbulak array 57.45 309 *i* P **P 12 34 22.3 +0.2**
AB31 pmax pmax
comp=Z,20nm,0.5s
ABKAR Akbulak array 57.45 309 *eP* **P 12 34 22.3 +0.2**
comp=Z,22nm,0.5s
AKTO Aktyubinsk 57.91 311 P **P 12 34 25.4 +0.1**
AKTO pmax pmax
comp=Z,15nm,0.7s
AKTO Aktyubinsk 57.91 311 P **P 12 34 25.4 +0.1**
AKTO Aktyubinsk 57.91 311 P **P 12 34 25.4 +0.1**
comp=Z,15nm,0.7s,baz=64,slow=9.1,SNR=30
LVZ Lovozero 57.99 336 *eP* **P 12 34 24.9 -0.7**
LVZ pmax pmax
comp=Z,21nm,1.2s
APA Apatity 58.57 336⇓ *eP* **P 12 34 29.0 -0.6**
APA MLR MLR
comp=Z,500nm,12.0s
NLWA Neilton Lookou 58.63 53 *eP* **P 12 34 31.2 +0.8**
comp=Z,21nm,0.9s
HDW Hoodsport 58.96 52 P **P 12 34 33.5 +0.8**
TMCR Tamitsa 59.21 331 *eP* **P 12 34 33.4 -0.6**
TMCR *e* 12 35 19.7
TMCR *e* 12 36 45.1
TMCR pmax pmax
comp=Z,42nm,1.4s
ARCES ARCESS Array B 59.41 340 P **P 12 34 34.2 -1.1**
ARCES PcP **PcP 12 35 22.8 +0.2**
ARCES ARCESS Array B 59.41 340 P **P 12 34 34.2 -1.1**
comp=Z,14nm,0.8s,baz=43,slow=6.9,SNR=33
ARCES PcP **PcP 12 35 22.8 +0.2**
comp=Z,4.2nm,0.7s,baz=352,slow=2.5,SNR=6.3
KBL Kabul 59.67 290 *eP* **P 12 34 37.2 -0.7**
KBL pmax pmax
comp=Z,39nm,1.0s
KBL Kabul 59.67 290 *eP* **P 12 34 37.2 -0.7**
comp=Z,39nm,1.0s
TDL Tradedollar La 60.14 53 P **P 12 34 41.8 +0.8**
LVP Lakeview Peak 60.19 53 P **P 12 34 42.1 +0.8**
KLMR Klimovskoe 60.70 328 *eP* **P 12 34 42.4 -1.9**
KLMR pmax pmax
comp=Z,26nm,1.2s
KEBM Edson Butte 60.81 57 *eP* **P 12 34 46.8 +1.3**
comp=Z,22nm,0.9s
VLL Laurance Lake 60.95 54 P **P 12 34 47.4 +1.0**
EDM Edmonton 61.04 43 *eP* **P 12 34 46.7 -0.1**
EDM Edmonton 61.04 43 *eP* **P 12 34 46.7 -0.1**
VFP Flag Point 61.15 54 P **P 12 34 48.6 +0.7**
FRIS Frissel Point 61.40 55 P **P 12 34 50.4 +0.8**
NEW Newport 61.93 49 *eP* **P 12 34 53.0 0.0**
comp=Z,15nm,1.0s
NEW Newport 61.93 49 ⇓P **P 12 34 52.9 0.0**
baz=62,SNR=12
JOF Joensuu 62.31 332 *eP* **P 12 34 54.0 -1.1**
JOF pmax pmax
comp=Z,19nm,0.6s
JOF Joensuu 62.31 332 *ep* **P 12 34 54.0 -1.1**
comp=Z,19nm,0.6s
KHMM Horse Mountain 62.31 59 *eP* **P 12 34 57.0 +1.3**
comp=Z,18nm,1.2s
YBH Yreka Blue Hor 62.45 58 *eP* **P 12 34 57.7 +1.2**
comp=Z,11nm,1.1s
WALA Waterton Lakes 63.19 47 *eP* **P 12 35 01.5 +0.1**
comp=Z,0.4nm,1.2s
WDC Whiskeytown Da 63.22 59 *eP* **P 12 35 02.1 +0.5**
WDC pmax pmax
comp=Z,9.0nm,1.1s
WDC Whiskeytown Da 63.22 59 *eP* **P 12 35 02.1 +0.5**
comp=Z,9.1nm,1.1s
HYB Hyderabad 63.29 269 *i* P **P 12 35 02.0 -0.4**
HYB *ep*P **pP 12 35 17.5 -0.2**
BSMT Bassoo Peak 63.44 48 *eP* **P 12 35 03.5 +0.3**
comp=Z,4.9nm,0.9s
BMO Blue Mountains 63.83 52 *eP* **P 12 35 06.0 +0.4**
comp=Z,4.6nm,1.0s
SUMG Summit 63.87 2⇑ *i P* **P 12 35 06.3 +0.4**
SUMG pmax pmax
comp=Z,35nm,0.8s
SUMG Summit 63.87 2⇑ *i P* **P 12 35 06.3 +0.4**
comp=Z,35nm,0.8s
SUMG Summit 63.87 2 *eP* **P 12 35 06.2 +0.4**
comp=Z,50nm,0.8s
SWMT Swartz Lake 64.08 48 *eP* **P 12 35 07.9 +0.6**
comp=Z,17nm,1.1s
WVOR Wild Horse Val 64.49 55 *eP* **P 12 35 10.4 +0.3**
WVOR *e* 12 35 42.9
WVOR pmax pmax
comp=Z,10.0nm,1.0s
WVOR Wild Horse Val 64.49 55 *eP* **P 12 35 10.4 +0.3**
comp=Z,10nm,1.0s
WVOR *e*PcP **PcP 12 35 42.9 -1.0**
SLMT Seeley Lake 64.51 48 *eP* **P 12 35 10.5 +0.3**
comp=Z,30nm,1.0s
MSO Missoula 64.52 49 ⇓P **P 12 35 10.4 +0.2**
baz=64,SNR=18
KAF Kangasniemi 64.53 334 *eP* **P 12 35 08.7 -1.1**
KAF pmax pmax
comp=Z,9.0nm,0.5s
KAF Kangasniemi 64.53 334 *ep* **P 12 35 08.7 -1.1**
comp=Z,9.3nm,0.5s
WRAB Tennant Creek 64.59 194 P **P 12 35 10.6 0.0**
WRAB pmax pmax
comp=Z,14nm,0.9s
WRAB Tennant Creek 64.59 194 P **P 12 35 10.6 0.0**
comp=Z,14nm,0.9s
WRA Warramunga Arr 64.60 194 P **P 12 35 09.9 -0.8**
WRA pP **pP 12 35 28.6 +2.6**
WRA Warramunga Arr 64.60 194 P **P 12 35 09.9 -0.8**
comp=Z,1.4nm,0.8s,baz=12,slow=6.8,SNR=8.8
WRA pP **pP 12 35 28.6 +2.6**
comp=Z,8.3nm,0.8s,baz=13,slow=8.0,SNR=20
MOS Moscow 64.74 324 *eP* **P 12 35 10.7 -0.5**
MOS *e* 12 35 31.3
MOS *e* 12 35 42.8
MOS *e*PPP PPP 12 39 08.5
MOS pmax pmax
comp=Z,100nm,0.8s
MOS pmax pmax
comp=Z,45nm,0.7s
BEKR Beckworth 64.99 58 *eP* **P 12 35 13.7 +0.3**
comp=Z,7.4nm,0.9s
FIA1 FINESS Array S 65.09 333 *eP* **P 12 35 12.7 -0.8**
FINES FINESS Array B 65.09 333 P **P 12 35 12.8 -0.7**
FINES FINESS Array B 65.09 333 P **P 12 35 12.8 -0.7**
comp=Z,18nm,0.5s,baz=40,slow=7.5,SNR=49
B17A L&G Farms, Che 65.30 46 ⇓P **P 12 35 15.2 +0.1**
baz=65,SNR=10.0
FFC Flin Flon 65.38 37 P **P 12 35 15.0 -0.4**
comp=Z,191nm,1.1s,SNR=5.1
A18A Metzger Ranch, 65.40 45 ⇓P **P 12 35 15.6 -0.1**
baz=65,SNR=7.7
MFID Camas Ranch 65.54 53 ⇑P **P 12 35 16.9 +0.1**
baz=65,SNR=5.7
OBN Obninsk 65.60 324 ⇓*eP* **P 12 35 16.8 0.0**
OBN *i* 12 35 38.9
OBN *e* 12 35 47.3
OBN pmax pmax
comp=Z,79nm,1.2s
OBN Obninsk 65.60 324 *eP* **P 12 35 16.8 0.0**
C17A Wharram Farm, 65.73 47 ⇑P **P 12 35 17.8 -0.1**
baz=66,SNR=19
HRY Holter Researc 65.73 48 *eP* **P 12 35 18.4 +0.4**
comp=Z,13nm,0.8s
FCC Fort Churchill 65.75 30 *eP* **P 12 35 17.9 +0.2**
FCC Fort Churchill 65.75 30 *eP* **P 12 35 17.9 +0.2**

B18A **Beardsley Farm** 65.76 46 ⇑P P 12 35 18.1 0.0
baz=66,SNR=12
LRM **Limekiln Edge** 65.95 49 eP P 12 35 20.0 +0.4
comp=Z,187nm,1.0s
A19A **Klindworth Far** 65.95 45 P P 12 35 19.6 +0.2
baz=66
VRHR **Novokhopersk** 65.97 318 eP P 12 35 17.7 -1.6
VRHR pmax pmax
comp=Z,50nm,0.9s
VRHR pmax pmax
comp=N,10.0nm,0.5s
VRHR pmax pmax
comp=E,20nm,0.6s
EGMT **Eagleton** 66.01 46 eP P 12 35 20.0 +0.2
comp=E,25nm,1.0s
EGMT **Eagleton** 66.01 46 ⇓P P 12 35 19.7 0.0
baz=66,SNR=10
D17A **Six Diamond Ra** 66.07 47 ⇓P P 12 35 20.3 0.0
baz=66,SNR=7.6
B19A **Brinkman Farms** 66.15 45 ⇓P P 12 35 21.0 +0.4
baz=66,SNR=8.9
DLMT **Dillon** 66.16 49 eP P 12 35 21.1 +0.2
comp=E,13nm,1.1s
HLID **Hailey** 66.26 52 eP P 12 35 22.0 +0.4
comp=E,6.8nm,1.1s
HLID **Hailey** 66.26 52 ⇓P P 12 35 22.0 +0.4
baz=66,SNR=13
MCMT **McKenzie Canyo** 66.35 50 eP P 12 35 22.4 +0.1
comp=E,2.6nm,0.9s
WAKR **Walker** 66.39 59 eP P 12 35 23.2 +0.8
comp=E,8.1nm,0.9s
A20A **Cobblestone Ra** 66.40 44 ⇑P P 12 35 22.5 +0.3
baz=66,SNR=6.8
E17A **Martinsdale** 66.41 48 ⇓P P 12 35 23.2 +0.7
baz=66,SNR=17
D18A **Linhart Farms,** 66.51 47 ⇓P P 12 35 23.4 +0.5
baz=66,SNR=7.4
BOZ **Bozeman (W)** 66.51 49 eP P 12 35 23.7 +0.6
BOZ pmax pmax
comp=Z,11nm,0.8s
BOZ **Bozeman (W)** 66.51 49 eP P 12 35 23.7 +0.6
comp=Z,11nm,0.8s
C19A **Slack Wire Ran** 66.56 46 ⇓P P 12 35 24.0 +0.7
baz=66,SNR=8.6
B20A **Solberg Farm,** 66.64 45 ⇓P P 12 35 23.8 +0.1
baz=66,SNR=7.8
A21A **Bergtoll Ranch** 66.83 44 P P 12 35 25.3 +0.4
baz=67
E18A **Harlowton** 66.85 47 ⇑P P 12 35 25.8 +0.5
baz=67,SNR=5.2
F17A **Fitzpatrick Pl** 66.87 48 ⇓P P 12 35 25.9 +0.6
baz=67,SNR=12
D19A **Cripps Ranch,** 67.01 46 ⇑P P 12 35 26.5 +0.3
baz=67,SNR=6.9
VSR **Storozhevoye** 67.06 320 eP P 12 35 26.1 -0.1
VSR pmax pmax
comp=Z,10.0nm,0.4s
VSR pmax pmax
comp=N,30nm,0.9s
VSR pmax pmax
comp=E,50nm,1.1s
C20A **Veseth Ranch,** 67.11 45 ⇑P P 12 35 27.4 +0.6
baz=67,SNR=14
NVAR **Mina Array Bea** 67.13 58 P P 12 35 27.7 +0.5
NVAR **Mina Array Bea** 67.13 58 P P 12 35 27.7 +0.5
comp=E,10nm,0.7s,baz=296,slow=6.9,SNR=99
QLMT **Earthquake Lak** 67.14 49 eP P 12 35 27.7 +0.5
comp=E,2.9nm,1.2s
B21A **Ellsworth Farm** 67.15 44 ⇓P P 12 35 27.1 +0.1
baz=67,SNR=5.6
VORD **Divnogorie** 67.16 319 eP P 12 35 26.7 -0.2
VORD pmax pmax
comp=E,10.0nm,0.6s
VORD pmax pmax
comp=Z,20nm,0.6s
VORD pmax pmax
comp=N,20nm,0.8s
G17A **Pierce Place,** 67.20 49 ⇑P P 12 35 28.0 +0.6
baz=67,SNR=12
NV11 **Mina Array Sit** 67.22 58 eP P 12 35 28.2 +0.5
MLAC **Mammoth Lakes** 67.30 59 ⇓P P 12 35 29.4 +1.1
baz=67,SNR=5.0
H16A **Russell Place,** 67.32 49 ⇑P P 12 35 28.7 +0.4
baz=67,SNR=12
A22A **Carney Farms,** 67.33 43 ⇑P P 12 35 28.2 +0.1
baz=67,SNR=8.5
F18A **Big Timber** 67.38 48 ⇓P P 12 35 29.1 +0.6
baz=67,SNR=14
D20A **Manuel Ranch,** 67.45 46 ⇑P P 12 35 29.6 +0.7
baz=67,SNR=15
GCMT **Greycliff** 67.48 48 eP P 12 35 29.8 +0.6
comp=N,4.4nm,1.1s
C21A **Desert Coulee** 67.50 45 ⇑P P 12 35 29.7 +0.5
baz=67
E19A **Rath Farm, Rou** 67.52 47 ⇑P P 12 35 29.8 +0.5
baz=67,SNR=13
YFT **Old Faithful** 67.70 49 eP P 12 35 32.8 +2.0
comp=N,18nm,1.0s
I16A **Newdale** 67.71 50 ⇑P P 12 35 31.6 +0.8
baz=68,SNR=10
B22A **Reddig Ranch S** 67.75 44 ⇓P P 12 35 31.0 +0.2
baz=68
F19A **Roth Farm, Mol** 67.83 47 ⇓P P 12 35 31.8 +0.5
baz=68,SNR=16
H17A **Grant Village** 67.88 49 eP P 12 35 33.3 +1.4
H17A **Grant Village** 67.88 49 ⇑P P 12 35 33.7 +1.8
baz=68,SNR=17
IMW **Indian Meadow** 68.00 50 eP P 12 35 33.8 +1.0
comp=N,13nm,0.9s
D21A **La Casta Ranch** 68.06 45 ⇓P P 12 35 33.2 +0.5
baz=68,SNR=8.0
B23A **Brockton** 68.14 43 ⇓P P 12 35 33.3 +0.1
baz=68,SNR=9.3
RRI2 **Red Ridge** 68.14 51 eP P 12 35 34.6 +1.0
comp=N,20nm,0.9s
H18A **Shoshone NF, C** 68.20 49 ⇓P P 12 35 34.5 +0.6
baz=68,SNR=9.1
MOOW **Moose Ponds** 68.21 50 eP P 12 35 34.4 +0.5
comp=N,11nm,0.9s
TPAW **Teton Pass** 68.26 50 eP P 12 35 35.4 +1.0
comp=N,31nm,1.2s
ASAR **Alice Springs** 68.31 194 P P 12 35 34.1 -0.3
ASAR pP pP 12 35 53.1 +3.2
ASAR **Alice Springs** 68.31 194 P P 12 35 34.1 -0.3
comp=N,0.5nm,0.7s,baz=8.8,slow=5.8,SNR=6.8
ASAR pP pP 12 35 53.1 +3.2
comp=N,6.5nm,0.8s,baz=13,slow=6.0,SNR=24
HVU **Hansel Valley** 68.32 53 eP P 12 35 34.9 +0.3
HVU pmax pmax
comp=Z,9.0nm,1.0s
HVU **Hansel Valley** 68.32 53 eP P 12 35 34.9 +0.3
comp=Z,9.0nm,1.0s
A24A **Westby** 68.32 42 ⇑P P 12 35 34.4 +0.1
baz=68
LOHW **Long Hollow** 68.37 50 eP P 12 35 35.7 +0.8
comp=Z,2.2nm,0.5s
REDW **Red Top Meadow** 68.40 50 eP P 12 35 35.9 +0.8
comp=Z,23nm,1.3s
D22A **Cohagen** 68.42 45 ⇑P P 12 35 35.2 +0.2
baz=68
C23A **Lambert** 68.49 44 P P 12 35 35.6 +0.2
baz=68
CWC **Cottonwood Cre** 68.51 60 ⇑P P 12 35 36.3 +0.5
baz=68,SNR=5.5
DGMT **Dagmar** 68.53 43 ⇑P P 12 35 35.6 0.0
baz=68
GRAC **Grapevine Rang** 68.60 59 ⇓P P 12 35 37.0 +0.7
baz=68,SNR=5.8
G20A **Bridger** 68.63 47 ⇓P P 12 35 35.9 -0.6
baz=68
SFJD **Kangerlussuaq** 68.67 8⇑iP P 12 35 35.8 -0.3
comp=Z,15nm,0.7s
LAO **LASA Array** 68.70 45 eP P 12 35 37.6 +0.8
comp=Z,14nm,1.0s
A25A **Svangstu Ranch** 68.75 42 ⇑P P 12 35 37.3 +0.4
baz=68
ISA **Isabella** 68.75 61 ⇓P P 12 35 37.0 -0.3
baz=69
R11A **Troy Canyon, C** 68.84 57 ⇓P P 12 35 38.2 +0.2
baz=69,SNR=20
I19A **Meeteetse** 68.98 49 ⇓P P 12 35 39.1 +0.4
baz=69,SNR=6.3
E22A **Miles City** 69.01 45 ⇓P P 12 35 38.8 +0.1
baz=69
C24A **Savage** 69.05 44 P P 12 35 39.1 +0.2
baz=69
MPMC **Manual Prospec** 69.12 60 ⇑P P 12 35 39.7 -0.1
baz=69,SNR=13

HWUT **Hardware Ranch** 69.13 52 eP P 12 35 40.0 +0.4
comp=Z,12nm,1.1s
G21A **Lodge Grass** 69.16 47 ⇓P P 12 35 39.5 -0.2
baz=69
B25A **Knox Farm, Ray** 69.18 43 ⇑P P 12 35 39.4 -0.3
baz=69
FURC **Furnace Creek,** 69.25 59 ⇓P P 12 35 40.7 +0.5
baz=69,SNR=17
F22A **Rosebud** 69.29 46 ⇓P P 12 35 40.3 -0.1
baz=69,SNR=9.8
A26A **Wade Farm, Ken** 69.29 41 ⇑P P 12 35 40.3 0.0
baz=69
E23A **Ismay** 69.30 45 ⇑P P 12 35 40.7 +0.3
baz=69
DUG **Dugway** 69.32 54 eP P 12 35 41.3 +0.5
DUG pmax pmax
comp=Z,12nm,1.0s
DUG **Dugway** 69.32 54 eP P 12 35 41.3 +0.5
comp=Z,12nm,1.0s
DUG **Dugway** 69.32 54 ⇓P P 12 35 41.2 +0.5
baz=69,SNR=12
D24A **Glendive** 69.38 44 ⇓P P 12 35 41.6 +0.6
baz=69,SNR=7.2
IDID **Didziasalis** 69.42 328 eP P 12 35 39.1 -1.8
IDID AMB AMB 12 35 39.6
comp=Z,19nm,0.9s
J19A **Crowheart** 69.46 49 ⇑P P 12 35 42.2 +0.6
baz=69,SNR=14
ISAL **Salakas** 69.46 329 eP P 12 35 41.5 +0.4
ISAL AMB AMB 12 35 42.9
comp=Z,25nm,1.0s
BW06 **Boulder Array** 69.50 50 eP P 12 35 41.8 -0.2
comp=Z,9.9nm,0.9s
PDAR **Pinedale Array** 69.50 50 P P 12 35 41.9 -0.2
PDAR **Pinedale Array** 69.50 50 P P 12 35 41.9 -0.2
comp=Z,6.8nm,0.8s,baz=262,slow=2.0,SNR=46
I20A **Worland** 69.51 48 ⇓P P 12 35 42.5 +0.6
baz=69,SNR=9.1
EDW2 **Edwards Air Fo** 69.55 61 ⇑P P 12 35 42.5 +0.2
baz=69,SNR=5.2
IIGN **Ignalina** 69.59 329 eP P 12 35 42.1 +0.1
IIGN AMB AMB 12 35 42.3
comp=Z,26nm,0.8s
H21A **Big Horn, Sher** 69.64 47 ⇓P P 12 35 42.5 -0.2
baz=69,SNR=8.3
G22A **Birney** 69.65 46 ⇑P P 12 35 42.4 -0.3
baz=69
NACGM **Naroch** 69.72 328 e P 12 35 39.0 -3.8
M17A **Scullys Gap (B** 69.73 52 ⇑P P 12 35 43.2 -0.2
baz=70,SNR=5.2
F23A **Volborg** 69.77 46 ⇑P P 12 35 43.4 0.0
baz=70,SNR=8.4
NB2 **NORSAR Subarra** 69.77 339 P P 12 35 42.8 -0.3
comp=Z,39nm,0.7s,baz=31,slow=6.5
NB2 **NORSAR Subarra** 69.77 339 P P 12 35 42.8 -0.3
baz=31,slow=6.5
NOA **NORSAR Array B** 69.77 339 P P 12 35 42.8 -0.3
NOA **NORSAR Array B** 69.77 339 P P 12 35 42.8 -0.3
comp=Z,36nm,0.8s,baz=30,slow=6.4,SNR=59
L18A **Fontenelle, Gr** 69.79 51 ⇓P P 12 35 43.8 +0.1
baz=70,SNR=7.2
K19A **Absolon Red Bu** 69.86 50 ⇑P P 12 35 43.6 -0.6
baz=70,SNR=7.3
HFS **Hagfors** 69.87 338 P P 12 35 43.1 -0.5
HFS **Hagfors** 69.87 338 P P 12 35 43.1 -0.5
comp=Z,33nm,0.6s,baz=45,slow=4.9,SNR=54
NLU **North Lily Min** 69.90 54 eP P 12 35 45.0 +0.5
comp=Z,3.7nm,0.8s
J20A **Shoshoni** 69.93 49 ⇓P P 12 35 44.7 +0.2
baz=70,SNR=12
C26A **Wahner Farm, P** 70.00 42 ⇓P P 12 35 45.2 +0.5
baz=70
NAO01 **NORSAR Array S** 70.02 339 eP P 12 35 44.3 -0.3
comp=Z,28nm,0.8s
GSC **Goldstone** 70.03 60 ⇑P P 12 35 45.5 +0.3
baz=70
I21A **Big Trails, Te** 70.05 48 ⇓P P 12 35 45.5 +0.2
baz=70,SNR=14
L19A **Farson** 70.05 51 ⇑P P 12 35 45.5 +0.2
baz=70
DAU **Daniels Canyon** 70.08 53 eP P 12 35 46.3 +0.6
DAU pmax pmax
comp=Z,8.0nm,1.0s
DAU **Daniels Canyon** 70.08 53 eP P 12 35 46.3 +0.6
comp=Z,7.6nm,1.0s
A28A **Rude Farm, Bot** 70.13 41 ⇑P P 12 35 45.7 +0.2
baz=70
G23A **Biddle** 70.13 46 ⇓P P 12 35 45.4 -0.3
baz=70
KIV **Kislovodsk** 70.13 312 eP P 12 35 47.1 +1.4
KIV e 12 36 09.1
KIV eS S 12 44 54.8 +2.3
KIV pmax pmax
comp=Z,59nm,0.9s
KIV pmax pmax
comp=Z,25nm,4.8s
KIV **Kislovodsk** 70.13 312 P P 12 35 46.4 +0.7
comp=Z,440nm,0.7s,SNR=8.9
KBZ **Khabaz** 70.17 312 P P 12 35 46.1 +0.3
KBZ pmax pmax
comp=Z,34nm,0.9s
KBZ MLR MLR
comp=Z,162nm,21.8s
KBZ **Khabaz** 70.17 312 P P 12 35 46.0 +0.3
KBZ **Khabaz** 70.17 312 P P 12 35 46.0 +0.3
comp=Z,34nm,0.9s,baz=49,slow=3.0,SNR=41
KBZ LR LR 13 11 11.2
comp=Z,162nm,21.8s,baz=14,slow=40
BFSC **Mount Baldy Ra** 70.17 61 ⇓P P 12 35 46.0 -0.2
baz=70
F24A **Ekalaka** 70.18 45 ⇑P P 12 35 46.2 +0.2
baz=70,SNR=7.1
K20A **Yellowstone Ra** 70.25 50 ⇑P P 12 35 45.8 -0.7
baz=70,SNR=6.1
ZEI **Tsey** 70.25 311 eP P 12 35 45.8 -0.8
ZEI pmax pmax
comp=Z,24nm,1.0s
E25A **Miller Ranch,** 70.27 44 ⇑P P 12 35 46.5 +0.1
baz=70
J21A **Lysite** 70.28 49 ⇓P P 12 35 46.4 -0.3
baz=70,SNR=7.0
SHPR **Sheep Range** 70.28 58 eP P 12 35 47.3 +0.5
comp=Z,19nm,1.3s
I22A **9 Mile Ranch,** 70.43 48 ⇓P P 12 35 47.8 +0.2
baz=70,SNR=5.9
TUQ **Turquoise Moun** 70.50 59 ⇑P P 12 35 48.2 +0.1
baz=70,SNR=6.2
ARUT **Antelope Range** 70.50 56 eP P 12 35 48.5 +0.3
ARUT pmax pmax
comp=Z,116nm,1.1s
ARUT **Antelope Range** 70.50 56 eP P 12 35 48.5 +0.3
comp=Z,116nm,1.1s
G24A **Alzada** 70.55 45 ⇓P P 12 35 48.0 -0.2
baz=70
A29A **Manning Farm,** 70.60 40 ⇓P P 12 35 48.2 -0.1
baz=70
BBRC **Big Bear Solar** 70.63 61 ⇑P P 12 35 49.0 -0.1
baz=70
F25A **Bowman** 70.63 44 ⇓P P 12 35 48.6 0.0
baz=70
HEC **Hector,Ludlow** 70.63 60 ⇓P P 12 35 49.1 +0.2
baz=70,SNR=9.7
L20A **Wamsutter** 70.68 50 ⇑P P 12 35 49.3 0.0
baz=70
J22A **Midwest** 70.76 48 ⇑P P 12 35 49.3 -0.3
baz=70,SNR=9.6
K21A **Alcova** 70.86 49 ⇑P P 12 35 50.0 -0.3
baz=71,SNR=6.2
B29A **Wagenman Farm,** 70.87 41 ⇑P P 12 35 50.0 0.0
baz=71
H24A **Dirks Ranch, A** 70.88 46 ⇓P P 12 35 49.7 -0.5
baz=71,SNR=5.9
GMRC **Granite Mounta** 71.09 60 ⇓P P 12 35 51.8 +0.1
baz=71,SNR=6.9
Q16A **Castle Valley** 71.11 54 ⇓P P 12 35 52.3 +0.4
baz=71
M20A **Sweetwater, Wa** 71.11 50 ⇓P P 12 35 52.0 +0.2
baz=71,SNR=6.0
ULM **Lac du Bonnet** 71.17 37 P P 12 35 51.3 -0.5
ULM **Lac du Bonnet** 71.17 37 P P 12 35 51.3 -0.5
comp=Z,4.6nm,0.6s,baz=297,slow=4.5,SNR=4.4
D28A **Regan** 71.19 42 ⇓P P 12 35 51.6 -0.4
baz=71
MDND **Maddock** 71.19 41 eP P 12 35 52.3 +0.3
MDND **Maddock** 71.19 41 ⇓P P 12 35 51.9 0.0
baz=71,SNR=5.6
E27A **Carson** 71.23 43 ⇓P P 12 35 52.2 0.0

baz=71
L21A **Rawlins** 71.25 50 ⇓P P 12 35 52.4 -0.2
baz=71,SNR=5.7
K22A **Casper** 71.25 49 ⇓P P 12 35 52.4 -0.2
baz=71,SNR=6.8
PFO **Pinyon Flat Ob** 71.34 61 ⇓P P 12 35 53.2 -0.1
baz=71
B30A **Myrvik Farm, E** 71.36 40 ⇓P P 12 35 53.0 +0.1
baz=71,SNR=12
SRU **San Rafael** 71.36 54 eP P 12 35 53.5 +0.2
SRU pmax pmax
comp=Z,16nm,0.9s
SRU **San Rafael** 71.36 54 eP P 12 35 53.5 +0.2
comp=Z,16nm,0.9s
BELC **Belle Mtn. Jos** 71.38 61 ⇑P P 12 35 53.3 -0.2
baz=71,SNR=5.0
O19A **Miners Draw (B** 71.38 52 ⇑P P 12 35 53.2 -0.2
baz=71,SNR=5.1
I24A **Kuemmerle Ranc** 71.44 47 ⇑P P 12 35 52.8 -0.9
baz=71
M21A **Separation Pea** 71.49 50 ⇑P P 12 35 53.7 -0.5
baz=71,SNR=6.1
BORG **Borgarnes** 71.49 355 P P 12 35 53.6 +0.2
BORG **Borgarnes** 71.49 355 P P 12 35 53.6 +0.2
comp=Z,25nm,0.7s,baz=324,slow=2.2,SNR=8.3
G26A **Maurine** 71.50 45 ⇓P P 12 35 53.4 -0.5
baz=71,SNR=6.9
N20A **Spence Gulch,** 71.51 51 ⇓P P 12 35 54.4 +0.2
baz=71,SNR=8.8
E28A **Huff** 71.56 43 ⇑P P 12 35 54.2 0.0
baz=71
RSSD **Black Hills** 71.57 46 eP P 12 35 54.5 -0.1
RSSD pmax pmax
comp=Z,3.0nm,0.4s
RSSD **Black Hills** 71.57 46 eP P 12 35 54.5 -0.1
comp=Z,2.6nm,0.4s
L22A **Ellis Ranch, M** 71.72 49 ⇑P P 12 35 55.5 0.0
baz=72,SNR=11
D29A **Pettibone, Tap** 71.75 42 ⇓P P 12 35 55.1 -0.3
baz=72
I25A **Rochford** 71.80 46 ⇑P P 12 35 55.8 -0.1
baz=72
IRM **Iron Mountain** 71.81 60 ⇓P P 12 35 56.0 +0.1
baz=72,SNR=7.8
MONP **Monument Peak** 71.83 62 ⇓P P 12 35 56.0 -0.3
baz=72
AKASG **Malin Array Be** 71.87 324 iP P 12 35 55.7 -0.2
AKASG pmax pmax
comp=Z,18nm,0.6s
AKASG **Malin Array Be** 71.87 324 P P 12 35 55.3 -0.6
AKASG **Malin Array Be** 71.87 324 P P 12 35 55.3 -0.6
comp=Z,18nm,0.6s,baz=39,slow=6.0,SNR=40
P19A **Cripple Cowboy** 71.91 52 ⇑P P 12 35 56.4 -0.3
baz=72,SNR=8.8
BC3 **Big Chuckawall** 71.95 61 ⇑P P 12 35 56.7 -0.2
baz=72,SNR=5.7
N21A **Black Mountain** 71.98 51 ⇓P P 12 35 57.1 0.0
baz=72,SNR=5.7
W13A **Hualapai Mount** 71.98 59 ⇑P P 12 35 57.2 0.0
baz=72
O20A **White River Ci** 71.99 51 ⇓P P 12 35 57.1 0.0
baz=72
L23A **Garrett** 72.06 49 ⇓P P 12 35 57.3 -0.3
baz=72
U15A **North Rim** 72.08 57 ⇑P P 12 35 58.4 +0.5
baz=72,SNR=14
D30A **Buchanan** 72.12 41 ⇓P P 12 35 57.4 -0.1
baz=72
Y12C **Blythe** 72.47 60 ⇑P P 12 36 00.4 +0.6
baz=72
E30A **Jud** 72.48 42 ⇓P P 12 35 59.6 -0.1
baz=72
M23A **Laramie** 72.49 49 ⇑P P 12 36 00.1 0.0
baz=72
F29A **Eureka** 72.51 43 ⇓P P 12 35 59.9 0.0
baz=72
N22A **Wattenberg Ran** 72.54 50 ⇓P P 12 36 00.3 -0.1
baz=72
AGMN **Agassiz Nation** 72.61 39 eP P 12 35 59.8 -0.6
comp=Z,31nm,1.5s
J26A **Sides Ranch, S** 72.64 46 ⇓P P 12 36 00.7 -0.1
baz=72
I27A **Quinn** 72.64 45 ⇓P P 12 36 00.6 -0.1
baz=72
K25A **Mack Ranch, Ha** 72.70 47 ⇑P P 12 36 01.3 +0.1
baz=72
GLA **Glamis** 72.74 61 ⇓P P 12 36 02.1 +0.6
baz=73
N23A **Red Feather La** 72.76 50 ⇑P P 12 36 02.1 +0.3
baz=72,SNR=7.6
O22A **Kremmling** 72.93 51 ⇑P P 12 36 02.9 +0.1
baz=73
M24A **Cheyenne** 72.98 49 ⇑P P 12 36 03.3 +0.3
baz=73,SNR=7.1
PV01 **Paradox Valley** 73.15 53 eP P 12 36 04.2 +0.1
comp=Z,901nm,1.2s
P22A **Eagle** 73.19 51 ⇑P P 12 36 04.8 +0.4
baz=73,SNR=5.2
O23A **Lake Granby, G** 73.24 50 ⇑P P 12 36 05.3 +0.6
baz=73,SNR=10
WUAZ **Wupatki** 73.25 57 ⇑P P 12 36 05.2 +0.5
baz=73,SNR=5.8
Q21A **Lamborn Mesa,** 73.25 52 ⇓P P 12 36 05.1 +0.5
baz=73
Y14A **Wickenburg** 73.30 59 ⇑P P 12 36 05.2 +0.4
baz=73,SNR=5.7
N24A **Carr** 73.39 49 ⇓P P 12 36 06.0 +0.6
baz=73
S20A **Disappointment** 73.48 53 ⇓P P 12 36 06.4 +0.3
baz=73,SNR=7.2
J28A **Allard Ranch,** 73.51 45 ⇑P P 12 36 06.2 +0.3
baz=73,SNR=5.3
R21A **Cimarron** 73.58 52 ⇑P P 12 36 07.0 +0.3
baz=73,SNR=6.9
113A **Mohawk Valley,** 73.59 60 ⇑P P 12 36 07.1 +0.6
baz=73
Q22A **Crested Butte,** 73.61 52 ⇑P P 12 36 07.4 +0.5
baz=73,SNR=7.6
ISCO **Idaho Springs** 73.70 50 eP P 12 36 07.8 +0.4
ISCO pmax pmax
comp=Z,11nm,1.3s
ISCO **Idaho Springs** 73.70 50 eP P 12 36 07.8 +0.4
comp=Z,11nm,1.3s
ISCO **Idaho Springs** 73.70 50 ⇓P P 12 36 07.6 +0.2
baz=74,SNR=7.5
MVCO **Mesa Verde** 73.82 54 ⇓P P 12 36 08.3 +0.3
baz=74,SNR=6.1
M26A **McRoberts Ranc** 73.89 48 ⇑P P 12 36 08.9 +0.6
baz=74
S21A **Coal Bank Pass** 73.92 53 ⇑P P 12 36 09.3 +0.5
baz=74,SNR=9.6
X16A **Lo Mia Camp, P** 73.94 58 ⇑P P 12 36 09.3 +0.5
baz=74,SNR=15
R22A **Saguache, Gunn** 74.13 52 ⇑P P 12 36 10.7 +0.7
baz=74,SNR=6.1
Q23A **Hartsel** 74.19 51 ⇓P P 12 36 10.7 +0.5
baz=74
S22A **4UR Ranch, Cre** 74.42 53 ⇓P P 12 36 12.0 +0.4
baz=74
O26A **Horse Wrangler** 74.66 49 ⇓P P 12 36 13.1 +0.4
baz=74
N27A **Anderson Farm,** 74.68 48 ⇑P P 12 36 13.1 +0.3
baz=74
R23A **Moffat** 74.69 52 ⇓P P 12 36 13.5 +0.4
baz=74
LVV **L'vov** 74.70 326 eP P 12 36 12.8 +0.2
P25A **Willow Gulch B** 74.70 50 ⇑P P 12 36 13.4 +0.4
baz=74
X18A **Snowflake** 74.77 57 ⇑P P 12 36 14.0 +0.4
baz=75
V20A **Brimhall** 74.80 55 ⇑P P 12 36 14.2 +0.5
baz=75
EYMN **Ely** 74.81 37 eP P 12 36 12.7 -0.6
comp=Z,30nm,1.4s
U21A **Nageezi** 74.84 54 ⇑P P 12 36 14.3 +0.3
baz=75,SNR=6.0
OGNE **Ogallala** 74.85 47 ⇑P P 12 36 13.8 +0.1
baz=75
T22A **Edith** 74.88 53 ⇑P P 12 36 14.5 +0.2
baz=75,SNR=5.1
R24A **Sanders Place,** 75.07 51 ⇓P P 12 36 15.3 +0.1
baz=75
Q25A **Bedland, Calha** 75.07 50 ⇓P P 12 36 15.3 +0.1
baz=75
O27A **Beecher Island** 75.14 48 ⇑P P 12 36 15.7 +0.2
baz=75
W20A **Ramah** 75.24 55 ⇑P P 12 36 16.3 -0.1
baz=75,SNR=5.3

V21A **Milan** 75.28 54 ⇑P P 12 36 16.8 +0.3
baz=75
KWP **Kalwaria Pacla** 75.38 327 ⇓P P 12 36 17.1 +0.6
KWP **Kalwaria Pacla** 75.38 327 eP P 12 36 17.1 +0.6
comp=Z,84nm,1.2s
KWP **Kalwaria Pacla** 75.38 327 ⇓iP P 12 36 17.1 +0.6
KWP **Kalwaria Pacla** 75.38 327 eP P 12 36 17.1 +0.6
O28A **Krutsinger Ran** 75.57 48 ⇑P P 12 36 17.4 -0.6
baz=75
R25A **Fountain Ranch** 75.59 51 ⇑P P 12 36 18.1 -0.1
baz=75
V22A **San Miguel Ran** 75.64 54 ⇑P P 12 36 18.4 -0.2
baz=75
X20A **Quemado** 75.64 56 ⇑P P 12 36 19.3 +0.7
baz=75,SNR=11
U23A **El Rito** 75.77 53 ⇓P P 12 36 20.0 +0.6
baz=76,SNR=12
S25A **Robets Cordova** 75.84 51 ⇓P P 12 36 20.3 +0.6
baz=76
BUR08 **Bucovina Ar. S** 75.91 324 eP P 12 36 19.8 +0.1
BURAR **Bucovina Array** 75.93 324 ⇓P P 12 36 20.0 +0.2
BURAR **Bucovina Array** 75.93 324 ⇓iP P 12 36 20.0 +0.2
R26A **Arlington** 75.95 50 ⇑P P 12 36 20.1 0.0
baz=76,SNR=8.7
OJC **Ojcow** 76.03 329⇑eP P 12 36 20.7 +0.4
OJC **Ojcow** 76.03 329 eP P 12 36 20.7 +0.4
KOLS **Kolonicke sedl** 76.10 326 eP P 12 36 20.9 +0.2
KOLS pmax pmax
comp=Z,10.0nm,1.0s
KOLS **Kolonicke sedl** 76.10 326 eP P 12 36 20.9 +0.2
BSEG **Bad Segeberg** 76.12 336 eP P 12 36 21.3 +0.6
comp=Z,38nm,1.2s
BSEG **Bad Segeberg** 76.12 336 eP P 12 36 21.3 +0.6
BSEG pmax pmax
comp=Z,38nm,1.2s
STHS **Stebnicka Huta** 76.12 327 eP P 12 36 21.9 +1.1
STHS pmax pmax
comp=Z,14nm,1.2s
STHS **Stebnicka Huta** 76.12 327 eP P 12 36 21.9 +1.1
X21A **Alamocita Cree** 76.13 56 ⇓P P 12 36 22.2 +0.8
baz=76,SNR=8.7
Y20A **Horse Springs,** 76.15 56 ⇓P P 12 36 22.2 +0.7
baz=76,SNR=7.2
TESR **Tescani** 76.16 323⇑iP P 12 36 21.0 -0.1
T25A **Trinidad** 76.22 52 ⇓P P 12 36 21.5 -0.4
baz=76
RUE **Ruedersdorf** 76.28 333 eP P 12 36 22.5 +0.9
comp=Z,32nm,0.6s
SPMN **St. Paul** 76.30 39 eP P 12 36 21.3 -0.5
R27A **Eads** 76.32 50 ⇓P P 12 36 21.9 -0.4
baz=76
UZH **Uzhgorod** 76.34 326 eP P 12 36 22.4 +0.4
UZH e 12 36 32.0
MALT **Malatya** 76.35 310 ⇑P P 12 36 23.9 +1.5
MALT **Malatya** 76.35 310⇑iP P 12 36 23.9 +1.5
S26A **Kim** 76.42 51 ⇑P P 12 36 22.3 -0.5
baz=76
CRVS **Cervenica-Dubn** 76.45 327 eP P 12 36 21.9 -0.8
CRVS pmax pmax
comp=Z,8.0nm,0.9s
CRVS **Cervenica-Dubn** 76.45 327 eP P 12 36 21.9 -0.8
NIE **Niedzica** 76.48 328⇑eP P 12 36 26.0 +3.1
NIE **Niedzica** 76.48 328 eP P 12 36 26.0 +3.1
Y21A **Point of Rocks** 76.50 56 ⇓P P 12 36 24.5 +1.0
baz=76,SNR=6.1
BGNE **Belgrade** 76.55 45 ⇑P P 12 36 23.4 0.0
baz=76
LAZ **Ladron** 76.55 55 eP P 12 36 24.6 +0.8
comp=Z,3.0nm,1.1s
X22A **Bernardo** 76.55 55 ⇓P P 12 36 24.2 +0.5
baz=76
Z20A **Nine Sixteen R** 76.56 57 ⇑P P 12 36 24.1 +0.3
baz=76,SNR=6.8
VRI **Vrincioaia** 76.62 322 ⇓P P 12 36 24.0 +0.3
VRI **Vrincioaia** 76.62 322⇓iP P 12 36 24.0 +0.3
TRPA **Tarpa** 76.64 326⇑iP P 12 36 24.2 +0.5
T26A **Comanche Natio** 76.66 51 ⇑P P 12 36 24.1 -0.2
baz=76
V24A **Rampart Ranch,** 76.72 53 ⇓P P 12 36 25.1 +0.4
baz=76
U25A **Circle Dot Ran** 76.75 52 ⇑P P 12 36 24.4 -0.5
baz=76
KSP **Ksiaz** 76.80 331 eP P 12 36 24.9 +0.3
UMR **Umm Al-Rimmam** 76.88 298 eP P 12 36 25.2 -0.1
UMR AMb AMB 12 36 26.0
comp=Z,48nm,0.7s
120A **U Bar Ranch, L** 76.93 57 ⇓P P 12 36 26.3 +0.5
baz=77,SNR=5.0
TIRR **Tirgusor** 76.94 320 ⇑P P 12 36 25.0 -0.4
TIRR **Tirgusor** 76.94 320⇑iP P 12 36 25.0 -0.4
MIB **Mutribah** 76.95 299 eP P 12 36 25.4 -0.4
MIB AMb AMB 12 36 26.8
comp=Z,75nm,0.9s
OKC **Ostrava-Krasne** 76.96 329 eP P 12 36 25.5 0.0
OKC **Ostrava-Krasne** 76.96 329⇑eP P 12 36 25.5 0.0
Y22A **Socorro** 76.97 55 ⇑P P 12 36 26.4 +0.3
baz=77
HARR **Harsova** 76.98 321 ⇑P P 12 36 26.8 +1.1
HARR **Harsova** 76.98 321⇑iP P 12 36 26.8 +1.1
Z21A **St. Cloud Mine** 76.99 56 ⇓P P 12 36 27.0 +0.8
baz=77,SNR=9.6
W24A **Lazy 6 Ranch,** 77.00 54 ⇑P P 12 36 27.0 +0.7
baz=77,SNR=8.9
R29A **Marienthal** 77.13 49 ⇑P P 12 36 26.6 -0.3
baz=77
KECS **Kecovo** 77.17 327 eP P 12 36 26.6 -0.1
KECS pmax pmax
comp=Z,4.0nm,0.9s
KECS **Kecovo** 77.17 327 eP P 12 36 26.6 -0.1
UPC **Upice** 77.18 331 eP P 12 36 27.3 +0.5
UPC **Upice** 77.18 331⇑eP P 12 36 27.3 +0.5
DPC **Dobruska-Polom** 77.20 331⇑iP P 12 36 27.4 +0.5
DPC e*PP pP 12 36 44.0 +1.4
DPC **Dobruska-Polom** 77.20 331⇑iP P 12 36 27.4 +0.5
DPC epP pP 12 36 44.0 +1.4
MORC **Moravsky Berou** 77.24 330 eP P 12 36 27.4 +0.3
MORC pmax pmax
comp=Z,9.0nm,0.7s
MORC **Moravsky Berou** 77.24 330 eP P 12 36 27.4 +0.3
comp=Z,9.1nm,0.7s
MLR **Muntele Rosu** 77.26 322 P P 12 36 27.7 +0.2
MLR **Muntele Rosu** 77.26 322⇑iP P 12 36 27.5 0.0
MLR **Muntele Rosu** 77.26 322 P P 12 36 27.7 +0.2
comp=Z,1.3nm,0.6s,baz=191,slow=3.6,SNR=9.1
ISR **Istrita** 77.28 322 ⇑P P 12 36 28.3 +0.8
ISR **Istrita** 77.28 322⇑iP P 12 36 28.3 +0.8
P31A **Stockton** 77.28 47 ⇑P P 12 36 27.2 -0.4
baz=77
QRN **Al-Qurain** 77.30 298 eP P 12 36 27.6 -0.1
QRN AMb AMB 12 36 28.5
comp=Z,71nm,0.5s
319A **Douglas** 77.34 59 ⇑P P 12 36 28.6 +0.5
baz=77
RST **Umm Al-Ruwaisa** 77.37 299 eP P 12 36 27.7 -0.5
RST AMb AMB 12 36 29.4
comp=Z,624nm,0.9s
NAY **Al-Naaiem** 77.39 298 eP P 12 36 27.9 -0.3
NAY AMb AMB 12 36 29.2
comp=Z,1.6nm,1.3s
RDF **Al-Radifah** 77.41 298 eP P 12 36 27.6 -0.8
RDF AMb AMB 12 36 29.2
comp=Z,83nm,0.6s
SCHQ **Schefferville** 77.43 20 P P 12 36 28.1 0.0
SCHQ **Schefferville** 77.43 20 P P 12 36 28.1 0.0
comp=Z,13nm,0.7s,baz=0.0,slow=4.0,SNR=15
NRDL **Niedersach Rie** 77.44 335 eP P 12 36 28.2 +0.2
comp=Z,9.0nm,0.8s
220A **Playas Peak, P** 77.44 58 ⇑P P 12 36 29.3 +0.7
baz=77,SNR=5.1
Z22A **Elephant Butte** 77.45 56 ⇑P P 12 36 29.2 +0.5
baz=77,SNR=6.2
121A **Cookes Peak, D** 77.45 57 ⇓P P 12 36 29.3 +0.5
baz=77,SNR=5.7
Y23A **Lovelace Mesa,** 77.52 55 ⇑P P 12 36 29.4 +0.3
baz=77,SNR=7.9
CLL **Collm** 77.53 333 eP P 12 36 28.5 -0.3
comp=Z,25nm,0.6s
CLL **Collm** 77.53 333⇑iP P 12 36 28.4 -0.3
CLL pmax pmax
comp=Z,25nm,0.6s
CLL **Collm** 77.53 333⇑iP P 12 36 28.4 -0.3
comp=Z,25nm,0.6s
CLL e(sP) sP 12 36 48.0 -2.6
CLL e 12 36 58.0
W25A **X Bar L Ranch,** 77.55 53 ⇓P P 12 36 29.4 +0.1
baz=77,SNR=7.9
BRG **Berggiesshubel** 77.59 332 eP P 12 36 29.0 0.0
comp=Z,8.1nm,0.9s
BRG **Berggiesshubel** 77.59 332 eP P 12 36 29.0 0.0
comp=Z,8.0nm,0.9s
BRG **Berggiesshubel** 77.59 332 eP P 12 36 29.0 0.0
BRG pmax pmax
comp=Z,8.0nm,0.9s
DRGR 77.63 325 ⇓P P 12 36 29.6 +0.1
DRGR 77.63 325⇓iP P 12 36 29.5 +0.1
PVCC **Panska Ves** 77.67 332 eP P 12 36 29.9 +0.4
PVCC **Panska Ves** 77.67 332⇑eP P 12 36 29.9 +0.4
VOIR 77.70 323 ⇓P P 12 36 30.5 +0.7
VOIR 77.70 323⇓iP P 12 36 30.5 +0.7
FBE **Freiberg** 77.75 332 eP P 12 36 30.3 +0.4
comp=Z,17nm,0.7s
PSZ **Piszkesteto** 77.86 327 eP P 12 36 31.4 +0.7
PSZ pmax pmax
comp=Z,9.0nm,0.8s
PSZ **Piszkesteto** 77.86 327 eP P 12 36 31.4 +0.7
comp=Z,9.0nm,0.8s
PSZ **Piszkesteto** 77.86 327⇑iP P 12 36 31.2 +0.5
Y24A **Capitan** 77.89 55 ⇑P P 12 36 31.1 -0.1
baz=78,SNR=5.7
BR131 **Keskin Array S** 77.90 314 eP P 12 36 31.7 +0.6
comp=Z,2.3nm,0.6s
BRTR **Keskin Array B** 77.90 314 P P 12 36 31.5 +0.3
BRTR **Keskin Array B** 77.90 314 P P 12 36 31.5 +0.3
comp=Z,3.8nm,0.7s,baz=90,slow=3.4,SNR=18
CLZ **Clausthal** 77.92 335 eP P 12 36 31.4 +0.5
comp=Z,25nm,0.8s
CLZ **Clausthal** 77.92 335 eP P 12 36 31.4 +0.5
CLZ pmax pmax
comp=Z,25nm,0.8s
VRAC **Vranov** 77.97 330 P P 12 36 31.2 0.0
VRAC **Vranov** 77.97 330 P P 12 36 31.2 0.0
comp=Z,13nm,0.9s,baz=40,slow=6.0,SNR=10
NEUB **Neuenburg** 78.02 334 eP P 12 36 31.4 0.0
comp=Z,21nm,0.9s
V27A **Dan Oppiter Fa** 78.10 52 ⇓P P 12 36 32.3 0.0
baz=78
PRU **Pruhonice** 78.13 331⇑iP P 12 36 32.4 +0.4
PRU **Pruhonice** 78.13 331⇑iP P 12 36 32.4 +0.4
ANTO **Ankara** 78.24 315 eP P 12 36 33.5 +0.6
ANTO pmax pmax
comp=Z,16nm,0.8s
ANTO **Ankara** 78.24 315 eP P 12 36 33.5 +0.6
comp=Z,16nm,0.8s
ANTO **Ankara** 78.24 315⇑iP P 12 36 33.7 +0.8
EKA **Eskdalemuir Ar** 78.25 344 P P 12 36 32.5 -0.1
EKA **Eskdalemuir Ar** 78.25 344 P P 12 36 32.5 -0.1
comp=Z,11nm,0.6s,baz=28,slow=5.2,SNR=40
ESK **Eskdalemuir** 78.28 344 iP P 12 36 33.4 +0.7
Y25A **Mesa, Roswell** 78.33 54 ⇓P P 12 36 33.8 +0.2
baz=78
TREC **Trest** 78.38 330 eP P 12 36 33.9 +0.4
TREC **Trest** 78.38 330⇑eP P 12 36 33.9 +0.4
TANN **Tannenbergstha** 78.48 333 eP P 12 36 34.0 0.0
comp=Z,6.0nm,0.8s
TANN e 12 36 56.8
WERD **Werda** 78.50 333 eP P 12 36 34.1 0.0
comp=Z,8.0nm,0.8s
MOX **Moxa** 78.56 333 eP P 12 36 34.5 +0.1
comp=Z,17nm,1.2s
MOX e 12 36 56.7
MOX **Moxa** 78.56 333 eP P 12 36 34.5 +0.1
MOX e 12 36 56.7
MOX pmax pmax
comp=Z,17nm,1.2s
GUNZ **Gunzen** 78.56 333 eP P 12 36 34.6 +0.1
comp=Z,10.0nm,0.7s
GZR **Gura Zlata** 78.71 324 ⇑P P 12 36 35.3 -0.1
GZR **Gura Zlata** 78.71 324⇑iP P 12 36 35.3 -0.1
124A **Stringfield Ra** 78.74 55 ⇓P P 12 36 35.8 -0.3
baz=78
MANZ **Manzenberg** 78.96 333 eP P 12 36 37.1 +0.4
comp=Z,8.0nm,0.9s
BZS **Buzias** 79.03 325 ⇑P P 12 36 36.8 -0.2
BZS **Buzias** 79.03 325⇑iP P 12 36 36.8 -0.2
ROTZ **Rotzenmuhle** 79.12 333 eP P 12 36 38.0 +0.5
comp=Z,11nm,1.0s
224A **Cornudas Mount** 79.14 56 ⇑P P 12 36 38.3 +0.2
baz=79
KHC **Kasperske Hory** 79.19 331⇑iP P 12 36 38.3 +0.3
KHC e*PP pP 12 36 53.9 +0.2
KHC **Kasperske Hory** 79.19 331⇑iP P 12 36 38.3 +0.3
KHC epP pP 12 36 53.9 +0.2
KHC **Kasperske Hory** 79.19 331 eP P 12 36 38.3 +0.3
comp=Z,18nm,0.7s
BUG **Bochum--Univer** 79.21 336 eP P 12 36 38.2 +0.3
comp=Z,42nm,1.3s
Z26A **Caprock** 79.21 54 ⇓P P 12 36 38.9 +0.5
baz=79
125A **Gardner Draw,** 79.24 55 ⇓P P 12 36 38.9 +0.2
baz=79
CONA **Conrad Observa** 79.39 329⇑iP P 12 36 39.8 +0.7
comp=Z,10nm,0.8s,SNR=6.6
GEC2 **GERESS Array S** 79.39 331 eP P 12 36 39.1 0.0
comp=Z,6.0nm,0.7s
GEC2 e 12 37 01.7
GEC2 **GERESS Array S** 79.39 331 eP P 12 36 39.1 0.0
GEC2 e 12 37 01.7
GEC2 pmax pmax
comp=Z,6.0nm,0.7s
GERES **GERESS Array B** 79.39 331 P P 12 36 38.6 -0.6
GERES **GERESS Array B** 79.39 331 P P 12 36 38.6 -0.6
comp=Z,3.4nm,0.6s,baz=38,slow=6.7,SNR=31
WET **Wettzell** 79.42 332 eP P 12 36 39.6 +0.4
comp=Z,14nm,0.9s
WET **Wettzell** 79.42 332 eP P 12 36 39.6 +0.4
WET pmax pmax
comp=Z,14nm,0.9s
GRF **Grafenberg Arr** 79.51 333 eP P 12 36 40.2 +0.6
comp=Z,24nm,0.8s
GRF e 12 37 01.9
GRF **Grafenberg Arr** 79.51 333 eP P 12 36 40.2 +0.6
GRF e 12 37 01.9
GRF pmax pmax
comp=Z,24nm,0.8s
324A **Moseley Ranch,** 79.61 56 ⇓P P 12 36 40.7 0.0
baz=79
Z27A **Tatum** 79.63 54 ⇑P P 12 36 40.9 +0.2
baz=79
GDL2 **Guadalupe Moun** 79.74 55 eP P 12 36 42.0 +0.6
comp=Z,1.8nm,0.5s
PKSM **Moragy** 79.75 327 ⇑P P 12 36 40.2 -0.8
PKSM **Moragy** 79.75 327⇑iP P 12 36 40.2 -0.8
226B **Tecolote Peak,** 79.95 55 ⇓P P 12 36 42.2 -0.2
baz=80,SNR=8.5
325A **Bean Ranch, Si** 79.97 56 ⇓P P 12 36 42.6 0.0
baz=80
MOA **Molln** 80.04 330⇑iP P 12 36 42.7 +0.2
comp=Z,5.7nm,0.7s
BEBN **Eben Emael** 80.24 337 P P 12 36 43.8 +0.3
comp=Z,12nm,0.9s
MEM **Membach** 80.31 336 P P 12 36 44.0 +0.1
comp=Z,11nm,1.1s
425A **Indio Mountain** 80.38 57 ⇑P P 12 36 45.1 +0.3
baz=80,SNR=5.3
Z29A **Hungry Hill Ra** 80.54 53 ⇓P P 12 36 45.7 +0.1
baz=80
128A **Castleberry Fa** 80.55 54 ⇑P P 12 36 45.4 -0.2
baz=80,SNR=5.7
326A **Caldwell Ranch** 80.60 56 ⇓P P 12 36 45.9 -0.1
baz=80,SNR=7.8
RJOB **Jochberg** 80.65 331 eP P 12 36 46.8 +0.9
comp=Z,13nm,1.0s
BCLA **Clavier** 80.69 337 P P 12 36 46.1 +0.2
SOKA **Soboth** 80.75 329⇑iP P 12 36 46.5 0.0
comp=Z,14nm,1.0s,SNR=9.5
PERS **Pernice** 80.75 329 iP P 12 36 46.4 0.0
VTS **Vitosha** 80.76 322 ⇑P P 12 36 46.5 -0.2
VTS **Vitosha** 80.76 322⇑iP P 12 36 46.5 -0.2
FUR **Furstenfeldbru** 80.81 332 eP P 12 36 47.3 +0.6
comp=Z,30nm,0.7s
FUR **Furstenfeldbru** 80.81 332 eP P 12 36 47.3 +0.6
FUR pmax pmax
comp=Z,30nm,0.7s
STU **Stuttgart** 80.97 334 eP P 12 36 47.6 +0.1
comp=Z,22nm,0.9s
KBA **Koelnbreinsper** 81.02 330⇑iP P 12 36 48.1 +0.1
comp=Z,18nm,0.8s,SNR=12
426A **McDonald Obser** 81.03 56 ⇓P P 12 36 48.3 -0.1
baz=81
GIVF **Givet** 81.11 337 eP P 12 36 49.7 +1.5
GIVF **Givet** 81.11 337 eP P 12 36 49.7 +1.5
GIVF **Givet** 81.11 337 eP P 12 36 49.7 +1.5
WLF **Walferdange** 81.11 336 P P 12 36 50.2 +2.0
comp=Z,21nm,2.0s
DOU **Dourbes** 81.18 337 P P 12 36 49.2 +0.6
328A **Wristen Ranch,** 81.25 55 ⇓P P 12 36 49.4 +0.1
baz=81,SNR=8.7
427A **Hayter Ranch,** 81.28 55 ⇓P P 12 36 49.8 +0.2
baz=81
Y32A **R-V Farms, Ver** 81.29 51 ⇑P P 12 36 49.2 -0.2
baz=81
MYKA **Terra Mystica** 81.30 330⇑iP P 12 36 48.8 -0.6
comp=Z,7.0nm,0.9s
BAIF **Baives** 81.32 337 eP P 12 36 48.3 -1.0
BAIF **Baives** 81.32 337 eP P 12 36 48.3 -1.0
BAIF **Baives** 81.32 337 eP P 12 36 48.3 -1.0
526A **Mary Lane Ranc** 81.43 56 ⇑P P 12 36 50.5 0.0
baz=81,SNR=8.2
WTTA **Wattenberg** 81.46 332⇑iP P 12 36 50.6 +0.2
comp=Z,11nm,0.6s
VISS **Visnje** 81.56 329 iP P 12 36 49.6 -1.1
MOTA **Moosalm** 81.58 332⇑iP P 12 36 51.0 +0.1
comp=Z,9.8nm,0.7s,SNR=5.6
BFO **Black Forest** 81.63 334 eP P 12 36 51.0 0.0
comp=Z,9.0nm,0.8s
BFO e 12 37 13.5
BFO **Black Forest** 81.63 334 eP P 12 36 51.0 0.0
BFO e 12 37 13.5
BFO pmax pmax
comp=Z,9.0nm,0.8s
BFO **Black Forest** 81.63 334 eP P 12 36 50.7 -0.3
comp=Z,8.4nm,0.9s
ASF **Jabal al Asfar** 81.64 307 P P 12 36 51.9 +0.5
ASF **Jabal al Asfar** 81.64 307 P P 12 36 51.9 +0.5
comp=Z,4.5nm,0.6s,baz=354,slow=3.4,SNR=8.0
BOJS **Bojanci** 81.66 328 iP P 12 36 50.7 -0.5
527A **Woodward Ranch** 81.66 56 ⇑P P 12 36 51.7 0.0
baz=82,SNR=5.6
329A **Wagon Wheel Ra** 81.66 54 ⇑P P 12 36 51.5 -0.1
baz=81,SNR=5.9
JAVS **Javornik** 81.77 329 iP P 12 36 50.4 -1.5
Z32A **Haskell** 81.78 51 ⇓P P 12 36 51.7 -0.3
baz=82
428A **Kincaid Ranch,** 81.80 55 ⇓P P 12 36 53.0 +0.7
baz=82
MMAI **Mount Meron Ar** 81.88 308 P P 12 36 52.6 -0.1
MMAI **Mount Meron Ar** 81.88 308 P P 12 36 52.6 -0.1
comp=Z,17nm,0.7s,baz=41,slow=6.1,SNR=20
CDF **Champ du Feu** 81.89 335⇑iP P 12 36 52.3 -0.2
comp=Z,33nm,0.9s
CDF **Champ du Feu** 81.89 335⇑iP P 12 36 52.3 -0.2
CDF pmax pmax
comp=Z,33nm,0.9s
CDF **Champ du Feu** 81.89 335⇑iP P 12 36 52.3 -0.2
comp=Z,33nm,0.9s
FETA **Feichten** 81.98 332⇑iP P 12 36 53.2 +0.1
comp=Z,9.2nm,1.1s
DAVA **Damuels** 82.04 333⇓iP P 12 36 53.2 -0.2
comp=Z,24nm,1.2s
ECH **Echery** 82.10 335 eP P 12 36 53.4 -0.1
ECH pmax pmax
comp=Z,12nm,0.8s
ECH **Echery** 82.10 335 eP P 12 36 53.0 -0.5
ECH **Echery** 82.10 335 eP P 12 36 53.4 -0.1
comp=Z,12nm,0.8s
528A **Cox Ranch, San** 82.14 56 ⇓P P 12 36 54.3 +0.2
baz=82,SNR=6.1
330A **Mertzon** 82.19 54 ⇑P P 12 36 54.3 -0.1
baz=82
TXAR **Lajitas Array** 82.21 57 P P 12 36 54.7 +0.2
TXAR pP pP 12 37 13.1 +2.7
TXAR **Lajitas Array** 82.21 57 P P 12 36 54.7 +0.2
comp=Z,4.5nm,0.8s,baz=303,slow=3.8,SNR=53
TXAR pP pP 12 37 13.1 +2.7
comp=Z,5.4nm,0.7s,baz=299,slow=3.6,SNR=10
PAGF **Fort de Pagny** 82.23 336 eP P 12 36 54.3 +0.2
comp=Z,8.9nm,0.6s
PAGF **Fort de Pagny** 82.23 336 eP P 12 36 54.3 +0.2
comp=Z,8.9nm,0.6s
627A **Terlingua Ranc** 82.29 56 ⇑P P 12 36 54.9 -0.1
baz=82
231A **Bronte** 82.31 53 ⇓P P 12 36 54.8 -0.1
baz=82
429A **Davenport Ranc** 82.34 55 ⇓P P 12 36 55.1 -0.1
baz=82
MOF **Molkenrain** 82.43 335 eP P 12 36 54.8 -0.5
RAYN **Ar Rayn** 82.46 295 P P 12 36 56.5 +0.7
comp=Z,84nm,0.9s,SNR=6.8
MEZF **Maizieres J'vi** 82.48 336 eP P 12 36 55.5 +0.1
MEZF **Maizieres J'vi** 82.48 336 eP P 12 36 55.5 +0.1
DAVOX **Davos/Dischmat** 82.48 332 P P 12 36 55.9 +0.1
DAVOX **Davos/Dischmat** 82.48 332 P P 12 36 55.9 +0.1
comp=Z,6.4nm,0.8s,baz=332,slow=4.9,SNR=5.3
529A **Stev Forest Ra** 82.51 55 ⇑P P 12 36 56.3 +0.3
baz=82,SNR=9.6
HAU **Haudompre** 82.53 335 eP P 12 36 55.4 -0.4
HAU **Haudompre** 82.53 335 eP P 12 36 55.4 -0.4
HAU **Haudompre** 82.53 335 eP P 12 36 55.4 -0.4
HINF **Hinteralfeld** 82.55 335 eP P 12 36 56.0 +0.1
comp=Z,12nm,0.8s
HINF **Hinteralfeld** 82.55 335 eP P 12 36 56.0 +0.1
HINF pmax pmax
comp=Z,13nm,0.8s
HINF **Hinteralfeld** 82.55 335 eP P 12 36 56.0 +0.1
comp=Z,12nm,0.8s
628A **Black Gap, Mar** 82.57 56 ⇓P P 12 36 56.5 +0.1
baz=82
430A **Baggett Ranch,** 82.61 54 ⇑P P 12 36 56.1 -0.4
baz=82,SNR=5.3
232A **Coleman** 82.73 52 ⇑P P 12 36 56.8 -0.3
baz=82,SNR=5.8
SFTF **Sexfontaines** 82.75 336 eP P 12 36 56.7 -0.1
SFTF **Sexfontaines** 82.75 336 eP P 12 36 56.7 -0.1
TUE **Stuetta** 82.93 333 eP P 12 36 58.3 +0.2
comp=Z,8.2nm,0.8s
530A **J-C Ranch, Com** 83.01 55 ⇓P P 12 36 58.8 +0.2
baz=83,SNR=6.6
332A **Millersview** 83.04 53 ⇓P P 12 36 58.5 -0.2
baz=83
431A **Sonora** 83.05 54 ⇑P P 12 36 59.0 +0.2
baz=83
432A **Menard** 83.39 53 ⇑P P 12 37 00.5 -0.1
baz=83
531A **Rocksprings** 83.47 54 ⇑P P 12 37 00.8 -0.2
baz=83,SNR=6.8
JCT **Junction City** 83.67 53 ⇓P P 12 37 02.1 +0.1
baz=84
FLN **La Foliniere** 83.75 340 eP P 12 37 01.8 -0.2
comp=Z,18nm,0.5s
FLN **La Foliniere** 83.75 340 eP P 12 37 01.8 -0.2
FLN pmax pmax
comp=Z,18nm,0.5s
FLN **La Foliniere** 83.75 340 eP P 12 37 01.8 -0.2
comp=Z,18nm,0.5s
LDF **La Druitiere** 83.82 339 eP P 12 37 02.2 -0.1
comp=Z,66nm,1.2s
LDF **La Druitiere** 83.82 339 eP P 12 37 02.2 -0.1
LDF pmax pmax
comp=Z,66nm,1.2s
LDF **La Druitiere** 83.82 339 eP P 12 37 02.2 -0.1
comp=Z,66nm,1.2s
CABF **La Chapelle** 83.86 335 eP P 12 37 02.6 -0.1
CABF **La Chapelle** 83.86 335 eP P 12 37 02.6 -0.1
CABF **La Chapelle** 83.86 335 eP P 12 37 02.6 -0.1
532A **Rocksprings** 83.87 54 ⇓P P 12 37 02.8 -0.2
baz=84,SNR=7.3
WHTX **Lake Whitney** 83.89 51 ⇑P P 12 37 03.0 0.0
baz=84
LOR **Lormes** 83.94 336⇑iP P 12 37 02.8 -0.2
comp=Z,32nm,0.9s
LOR **Lormes** 83.94 336⇑iP P 12 37 02.8 -0.2
comp=Z,32nm,0.9s
631A **Perdido Creek** 84.00 55 ⇓P P 12 37 03.4 -0.2
baz=84,SNR=11
MIAR **Mount Ida** 84.08 47 eP P 12 37 03.7 -0.2
MIAR pmax pmax
comp=Z,10.0nm,0.9s
MIAR **Mount Ida** 84.08 47 eP P 12 37 03.7 -0.2
comp=Z,10nm,0.9s
GRR **Gorron** 84.20 340 eP P 12 37 04.5 +0.3
comp=Z,59nm,0.9s
GRR **Gorron** 84.20 340 eP P 12 37 04.5 +0.3
GRR pmax pmax
comp=Z,59nm,0.9s
GRR **Gorron** 84.20 340 eP P 12 37 04.5 +0.3
comp=Z,59nm,0.9s
SSF **Saint Saulge** 84.23 336 eP P 12 37 04.3 -0.2

comp=Z,13nm,0.7s
SSF Saint Saulge 84.23 336 *e*P **P 12 37 04.3 -0.2**
SSF pmax pmax
comp=Z,13nm,0.7s
SSF Saint Saulge 84.23 336 *e*P **P 12 37 04.3 -0.2**
comp=Z,13nm,0.7s
632A Uvalde 84.40 54 ⇓P **P 12 37 05.5 -0.1**
baz=84
SMF Signal de Mont 84.51 336⇑*i*P **P 12 37 05.8 -0.1**
comp=Z,39nm,0.9s
SMF Signal de Mont 84.51 336⇑*i*P **P 12 37 05.8 -0.1**
SMF pmax pmax
comp=Z,39nm,0.9s
SMF Signal de Mont 84.51 336⇑*i*P **P 12 37 05.8 -0.1**
comp=Z,39nm,0.9s
AVF Avril sur Loir 84.52 336⇑*i*P **P 12 37 06.0 +0.1**
comp=Z,23nm,0.9s
AVF Avril sur Loir 84.52 336⇑*i*P **P 12 37 06.0 +0.1**
AVF pmax pmax
comp=Z,23nm,0.9s
AVF Avril sur Loir 84.52 336⇑*i*P **P 12 37 06.0 +0.1**
comp=Z,23nm,0.9s
LPL La Plagne 84.63 334 *e*P **P 12 37 07.1 +0.3**
comp=Z,13nm,0.6s
LPL La Plagne 84.63 334 *e*P **P 12 37 07.1 +0.3**
LPL pmax pmax
comp=Z,13nm,0.6s
LPL La Plagne 84.63 334 *e*P **P 12 37 07.1 +0.3**
comp=Z,13nm,0.6s
LPG La Plagne 84.64 334 *e*P **P 12 37 07.2 +0.3**
comp=Z,17nm,0.7s
LPG La Plagne 84.64 334 *e*P **P 12 37 07.2 +0.3**
LPG pmax pmax
comp=Z,17nm,0.7s
LPG La Plagne 84.64 334 *e*P **P 12 37 07.2 +0.3**
comp=Z,17nm,0.7s
SGMF Saint Gilles 84.74 341 *e*P **P 12 37 06.7 -0.3**
comp=Z,42nm,0.8s
SGMF Saint Gilles 84.74 341 *e*P **P 12 37 06.7 -0.3**
SGMF pmax pmax
comp=Z,43nm,0.8s
SGMF Saint Gilles 84.74 341 *e*P **P 12 37 06.7 -0.3**
comp=Z,42nm,0.8s
ROSF Rostrenen 84.83 341 *e*P **P 12 37 07.9 +0.4**
comp=Z,46nm,0.8s
ROSF Rostrenen 84.83 341 *e*P **P 12 37 07.9 +0.4**
ROSF pmax pmax
comp=Z,47nm,0.8s
ROSF Rostrenen 84.83 341 *e*P **P 12 37 07.9 +0.4**
comp=Z,46nm,0.8s
BGF Bois d'Agland 84.88 337 *e*P **P 12 37 07.8 +0.1**
BGF Bois d'Agland 84.88 337 *e*P **P 12 37 07.8 +0.1**
BGF Bois d'Agland 84.88 337 *e*P **P 12 37 07.8 +0.1**
AQU L'Aquila 85.03 328 P **P 12 37 08.6 -0.1**
comp=Z,11nm,0.4s
BNI Bardonecchia 85.06 334 P **P 12 37 09.1 +0.2**
BNI pmax pmax
comp=Z,9.0nm,1.0s
BNI Bardonecchia 85.06 334 P **P 12 37 09.1 +0.2**
comp=Z,9.1nm,1.0s
QUIF Quistinic 85.20 341 *e*P **P 12 37 09.3 0.0**
QUIF Quistinic 85.20 341 *e*P **P 12 37 09.3 0.0**
QUIF Quistinic 85.20 341 *e*P **P 12 37 09.3 0.0**
AGO Saint Agoulin 85.25 336 *e*P **P 12 37 09.6 -0.1**
TCF Toulx Ste Croi 85.30 337 *e*P **P 12 37 09.2 -0.7**
comp=Z,24nm,1.0s
TCF Toulx Ste Croi 85.30 337 *e*P **P 12 37 09.2 -0.7**
TCF pmax pmax
comp=Z,24nm,1.0s
TCF Toulx Ste Croi 85.30 337 *e*P **P 12 37 09.2 -0.7**
comp=Z,24nm,1.0s
MBDF Montbardon 85.32 333 *e*P **P 12 37 09.7 -0.5**
comp=Z,10nm,0.6s
MBDF Montbardon 85.32 333 *e*P **P 12 37 09.7 -0.5**
MBDF pmax pmax
comp=Z,10.0nm,0.6s
MBDF Montbardon 85.32 333 *e*P **P 12 37 09.7 -0.5**
comp=Z,10nm,0.6s
ORIF Oris-en-Rattie 85.44 334 *e*P **P 12 37 11.0 +0.3**
comp=Z,16nm,0.8s
ORIF Oris-en-Rattie 85.44 334 *e*P **P 12 37 11.0 +0.3**
ORIF pmax pmax
comp=Z,16nm,0.8s
ORIF Oris-en-Rattie 85.44 334 *e*P **P 12 37 11.0 +0.3**
comp=Z,16nm,0.8s
PYM Petit Puy Mans 85.56 336 *e*P **P 12 37 09.9 -1.4**
MFF Saint Martin d 85.66 339⇑*i*P **P 12 37 12.2 +0.6**
comp=Z,56nm,1.0s
MFF Saint Martin d 85.66 339⇑*i*P **P 12 37 12.2 +0.6**
MFF pmax pmax
comp=Z,56nm,1.0s
MFF Saint Martin d 85.66 339⇑*i*P **P 12 37 12.2 +0.6**
comp=Z,56nm,1.0s
SAOF Saorge 85.72 332 *e*P **P 12 37 11.2 -0.8**
WVT Waverly 85.75 42 P **P 12 37 12.4 +0.1**
WVT pmax pmax
comp=Z,3.0nm,0.9s
WVT Waverly 85.75 42 P **P 12 37 12.3 +0.1**
comp=Z,3.5nm,0.9s
IDI Anoyia 85.76 317 P **P 12 37 12.5 +0.1**
IDI Anoyia 85.76 317 P **P 12 37 12.5 +0.1**
comp=Z,6.3nm,0.5s,baz=16,slow=7.4,SNR=5.4
TOUF Mont Tournerai 85.80 333 *e*P **P 12 37 11.4 -1.2**
VIVF Saint-Julien-l 85.87 335 *e*P **P 12 37 13.2 +0.4**
comp=Z,15nm,0.7s
VIVF Saint-Julien-l 85.87 335 *e*P **P 12 37 13.2 +0.4**
VIVF pmax pmax
comp=Z,15nm,0.7s
VIVF Saint-Julien-l 85.87 335 *e*P **P 12 37 13.2 +0.4**
comp=Z,15nm,0.7s
MVIF Mont Vial 85.93 333 *e*P **P 12 37 11.4 -1.8**
LBL Lubilhac 85.96 336 *e*P **P 12 37 11.5 -1.8**
FRF La Foret Royal 86.40 333 *e*P **P 12 37 16.2 +0.9**
comp=Z,43nm,1.0s
FRF La Foret Royal 86.40 333 *e*P **P 12 37 16.2 +0.9**
FRF pmax pmax
comp=Z,43nm,1.0s
FRF La Foret Royal 86.40 333 *e*P **P 12 37 16.2 +0.9**
comp=Z,43nm,1.0s
RJF Les Rejaudoux 86.40 337 *e*P **P 12 37 15.7 +0.4**
comp=Z,32nm,1.0s
RJF Les Rejaudoux 86.40 337 *e*P **P 12 37 15.7 +0.4**
RJF pmax pmax
comp=Z,32nm,1.0s
RJF Les Rejaudoux 86.40 337 *e*P **P 12 37 15.7 +0.4**
comp=Z,32nm,1.0s
CAF Calviac 86.59 336 *e*P **P 12 37 17.1 +0.8**
comp=Z,53nm,1.1s
CAF Calviac 86.59 336 *e*P **P 12 37 17.1 +0.8**
CAF pmax pmax
comp=Z,53nm,1.1s
CAF Calviac 86.59 336 *e*P **P 12 37 17.1 +0.8**
comp=Z,53nm,1.1s
LMR La Mourre 86.65 333 *e*P **P 12 37 16.4 -0.1**
comp=Z,53nm,1.0s
LMR La Mourre 86.65 333 *e*P **P 12 37 16.4 -0.1**
LMR pmax pmax
comp=Z,53nm,1.0s
LMR La Mourre 86.65 333 *e*P **P 12 37 16.4 -0.1**
comp=Z,53nm,1.0s
LASF Ste Croix 86.83 335 *e*P **P 12 37 18.0 +0.5**
comp=Z,46nm,1.3s
LASF Ste Croix 86.83 335 *e*P **P 12 37 18.0 +0.5**
comp=Z,46nm,1.3s
LFF La Frestale 86.95 337 *e*P **P 12 37 18.9 +0.9**
comp=Z,56nm,1.0s
LFF La Frestale 86.95 337 *e*P **P 12 37 18.9 +0.9**
LFF pmax pmax
comp=Z,56nm,1.0s
LFF La Frestale 86.95 337 *e*P **P 12 37 18.9 +0.9**
comp=Z,56nm,1.0s
SWET Sewanee 87.40 41 *e*P **P 12 37 20.1 -0.3**
comp=Z,6.1nm,0.7s
MTLF Montolieu 87.99 336 *e*P **P 12 37 23.8 +0.8**
comp=Z,12nm,1.0s
MTLF Montolieu 87.99 336 *e*P **P 12 37 23.8 +0.8**
MTLF pmax pmax
comp=Z,12nm,1.0s
MTLF Montolieu 87.99 336 *e*P **P 12 37 23.8 +0.8**
comp=Z,12nm,1.0s
EPF Esparros 88.82 337 *e*P **P 12 37 26.7 -0.3**
comp=Z,13nm,0.9s
EPF Esparros 88.82 337 *e*P **P 12 37 26.7 -0.3**
EPF pmax pmax
comp=Z,13nm,0.9s
EPF Esparros 88.82 337 *e*P **P 12 37 26.7 -0.3**
comp=Z,13nm,0.9s

ETSF Etsaut 89.20 337 *e*P **P 12 37 30.0 +1.2**
comp=Z,9.3nm,0.6s
ETSF Etsaut 89.20 337 *e*P **P 12 37 30.0 +1.2**
ETSF pmax pmax
comp=Z,9.0nm,0.6s
ETSF Etsaut 89.20 337 *e*P **P 12 37 30.0 +1.2**
comp=Z,9.3nm,0.6s
ESDC Sonseca Array 93.13 339 P **P 12 37 46.3 -0.8**
ESDC Sonseca Array 93.13 339 P **P 12 37 46.3 -0.8**
comp=Z,1.2nm,0.7s,baz=17,slow=3.5,SNR=9.5
TORD Torodi Ar. Bea 115.49 323 PKP **PKPdf 12 43 13.7 -1.5**
TORD pPKP **pPKiKP 12 43 31.9 +0.1**
TORD PP PP 12 44 08.9 -7.6
TORD Torodi Ar. Bea 115.49 323 PKP **PKPdf 12 43 13.7 -1.5**
comp=Z,0.7nm,0.4s,baz=22,slow=0.8,SNR=9.6
TORD pPKP **pPKiKP 12 43 31.9 +0.1**
comp=Z,0.5nm,0.6s,baz=12,slow=2.1,SNR=3.8
TORD PP PP 12 44 08.9 -7.6
comp=Z,1.3nm,0.9s,baz=29,slow=6.6,SNR=5.4
DBIC Dimbokro 124.06 327 PKP **PKPdf 12 43 30.9 -0.8**
DBIC Dimbokro 124.06 327 PKP **PKPdf 12 43 30.9 -0.8**
comp=Z,2.1nm,0.6s,baz=147,slow=2.0,SNR=4.2
LPAZ La Paz 139.03 59 PKP **PKPdf 12 44 00.1 -0.4**
LPAZ La Paz 139.03 59 PKP **PKPdf 12 44 00.1 -0.4**
comp=Z,1.3nm,0.9s,baz=29,slow=3.9,SNR=4.6
MAIT Maitri 145.43 204 *e*P **PKPdf 12 44 07.5 -1.9**
SNAA Sanae 148.63 197 *e*PKP **PKPbc 12 44 18.4 -0.3**
SNAA Sanae 148.63 197 *es*PKPbc sPKPbc 12 44 38.3 -3.0
SNAA Sanae 148.63 197 *es*PKPab sPKPab 12 44 41.6 -3.2
BDFB Brasilia 148.88 31 PKPbc **PKPbc 12 44 20.6 -0.4**
BDFB Brasilia 148.88 31 PKPbc **PKPbc 12 44 20.6 -0.4**
comp=Z,6.2nm,0.6s,baz=267,slow=2.2,SNR=8.3
VNA2 Neumayer--Watz 150.15 196 *e*PKP **PKPbc 12 44 22.8 +0.4**
VNA2 Neumayer--Watz 150.15 196 *e*I 12 44 41.0
VNA2 Neumayer--Watz 150.15 196 *e*I 12 44 42.9
VNA2 Neumayer--Watz 150.15 196 *es*PKPab sPKPab 12 44 44.7 -6.2
VNA3 Neumayer Olymp 150.32 194 *e*PKP **PKPbc 12 44 21.4 -1.4**
VNA3 Neumayer Olymp 150.32 194 *e*PKiKP **PKiKP 12 44 23.3 -0.3**
VNA3 Neumayer Olymp 150.32 194 *e*PKPab **PKPab 12 44 29.5 +0.1**
VNA3 Neumayer Olymp 150.32 194 *e*I 12 44 43.1
VNA3 Neumayer Olymp 150.32 194 *es*PKPab sPKPab 12 44 48.4 -3.3
VNA1 Neumayer--Stat 150.54 196 *e*pPKPdf pPKPdf 12 44 33.3 -1.2
VNA1 Neumayer--Stat 150.54 196 *e*I 12 44 43.8
PLCA Paso Flores 151.57 97 PKPbc **PKPbc 12 44 27.0 +0.3**
PLCA pPKPbc **pPKPbc 12 44 44.2 +0.9**
PLCA Paso Flores 151.57 97 PKPbc **PKPbc 12 44 27.0 +0.3**
comp=Z,5.8nm,0.9s,baz=282,slow=2.3,SNR=10.0
PLCA pPKPbc **pPKPbc 12 44 44.2 +0.9**
comp=Z,5.3nm,0.8s,baz=336,slow=5.3,SNR=3.2

NSSP ***02*** *12:28:58.2,38.°28N×44.°75E,h5km,Ms3.2*
DDA ***02*** *12:28:58.6,38.°33N×44.°81E,h7km,ML3.7*
CSEM ***02*** *12:29:00.5±0.3,38.°30N×44.°73E,h2km,ML3.5,Error ellipse: s-maj=7.5km s-min=5.0km az=174.0*
TEH ***02*** *12:29:01.2,38.°37N×44.°71E,h6km,ML3.5*
ISK ***02*** *12:29:01.8,38.°33N×44.°42E,h5km,ML3.6*
AZER ***02*** *12:29:12.2,38.°87N×44.°68E,h0km*

ISC 02 12:29:00.6±1.2,38.°31N±0.°02×44.°72E±0.°02,h1km±11km, n53,σ1°42/72,7C-9D,Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ISHB	**Shabestar**	**0.71**	**92**	⇑*e*Pg		**Pg**	**Pg**	**12 29 13.7**	**-0.5**
ISHB				*e*Sg			**Sg**	**12 29 23.6**	**+0.3**
ISHB				*e*				12 29 27.1	
	comp=Z,30μm,0.2s								
ISHB	**Shabestar**	**0.71**	**92**	⇑*e*Pg		**Pg**	**Pg**	**12 29 13.7**	**-0.5**
ISHB				*e*Sg			**Sg**	**12 29 23.6**	**+0.3**
IMRD	**Marand**	**0.87**	**62**	*e*Pg		**Pg**	**Pg**	**12 29 16.6**	**-0.7**
IMRD				*e*				12 29 39.6	
	comp=Z,43μm,0.2s								
IMRD	**Marand**	**0.87**	**62**	*e*Pg		**Pg**	**Pg**	**12 29 16.6**	**-0.7**
CLDR	**Caldiran**	**1.04**	**323**	*e*PG		**Pg**	**Pg**	**12 29 19.3**	**-1.3**
CLDR	**Caldiran**	**1.04**	**323**	*e*Pg		**Pg**	**Pg**	**12 29 19.3**	**-1.3**
MAKU	**Maku**	**1.04**	**358**	*e*Pg		**Pg**	**Pg**	**12 29 18.9**	**-1.7**
MAKU				*e*Sg			**Sg**	**12 29 31.6**	**-2.5**
NAX	**Nakhchivan**	**1.05**	**35**	⇑S			**Sb**	**12 29 35.6**	**-0.4**
NAX	**Nakhchivan**	**1.05**	**35**	S			**Sb**	**12 29 35.6**	**-0.4**
HAKT	**HAKKARI**	**1.10**	**227**	*i* P			**Pg**	**12 29 20.0**	**-1.6**
HAKT				*i* S			**Sb**	**12 29 38.6**	**+1.2**
HAKT	**HAKKARI**	**1.10**	**227**	*i* P			**Pg**	**12 29 20.0**	**-1.6**
HAKT				*i* S			**Sb**	**12 29 38.6**	**+1.2**
ITBZ	**Tabriz**	**1.13**	**94**	*e*Pg			**Pg**	**12 29 21.4**	**-0.8**
ITBZ				*e*Sg			**Sg**	**12 29 36.8**	**0.0**
ITBZ				*e*				12 29 43.2	
	comp=Z,5μm,0.2s								
ITBZ	**Tabriz**	**1.13**	**94**	*e*Pg			**Pg**	**12 29 21.4**	**-0.8**
ITBZ				*e*Sg			**Sg**	**12 29 36.8**	**0.0**
IAZR	**Azarshahr**	**1.18**	**122**	⇓*e*Pg			**Pg**	**12 29 22.5**	**-0.7**
IAZR				*e*				12 29 23.1	
	comp=Z,27μm,0.2s								
IAZR	**Azarshahr**	**1.18**	**122**	⇓*e*Pg			**Pg**	**12 29 22.5**	**-0.7**
GEVA	**Gevas**	**1.31**	**271**	*i* P			**Pn**	**12 29 23.4**	**-2.7**
GEVA				*i* S			**Sn**	**12 29 44.3**	**0.0**
GEVA	**Gevas**	**1.31**	**271**	*i* P			**Pn**	**12 29 23.4**	**-2.7**
GEVA				*i* S			**Sn**	**12 29 44.3**	**0.0**
CUKT	**Cukurca**	**1.38**	**220**	*e*PN			**Pn**	**12 29 26.4**	**-0.7**
CUKT				*e*SN			**Sb**	**12 29 45.3**	**-0.1**
CUKT	**Cukurca**	**1.38**	**220**	*e*Pn			**Pn**	**12 29 26.4**	**-0.7**
CUKT				*e*Sn			**Sb**	**12 29 45.3**	**-0.1**
DYDN	**Diyadin**	**1.47**	**327**	*i* P			**Pn**	**12 29 27.9**	**-0.5**
DYDN				*i* S			**Sg**	**12 29 52.5**	**+4.6**
DYDN	**Diyadin**	**1.47**	**327**	*i* P			**Pn**	**12 29 27.9**	**-0.5**
DYDN				*i* S			**Sg**	**12 29 52.5**	**+4.6**
IHRS	**Heris**	**1.83**	**89**	*e*Pn			**Pn**	**12 29 33.9**	**+0.5**
IHRS				*e*				12 29 37.6	
	comp=Z,5μm,0.1s								
IHRS				*e*Sg			**Sb**	**12 29 58.3**	**-0.1**
IHRS	**Heris**	**1.83**	**89**	*e*Pn			**Pn**	**12 29 33.9**	**+0.5**
IHRS				*e*Sg			**Sb**	**12 29 58.3**	**-0.1**
GNI	**Garni**	**1.84**	**1**	*e*PN			**Pg**	**12 29 35.9**	**+0.1**
GNI	**Garni**	**1.84**	**1**	⇓*i*P			**Pb**	**12 29 34.0**	**-1.1**
GNI				⇓*i*S			**Sg**	**12 30 02.3**	**+2.7**
GNI	**Garni**	**1.84**	**1**	⇓P			**Pb**	**12 29 34.0**	**-1.1**
GNI	**Garni**	**1.84**	**1**	*e*Pn			**Pg**	**12 29 35.9**	**+0.1**
GNI				S			**Sg**	**12 30 02.3**	**+2.7**
TUTA	**Tutak**	**1.84**	**307**	*i* P			**Pn**	**12 29 33.7**	**+0.1**
TUTA	**Tutak**	**1.84**	**307**	*i* P			**Pn**	**12 29 33.7**	**+0.1**
AGRB	**Hanur-Agry**	**1.85**	**314**	*e*PN			**Pn**	**12 29 33.5**	**-0.1**
AGRB	**Hanur-Agry**	**1.85**	**314**	*e*Pn			**Pn**	**12 29 33.5**	**-0.1**
SIRT	**Sirnak**	**1.98**	**247**	*e*PN			**Pn**	**12 29 35.5**	**+0.2**
SIRT	**Sirnak**	**1.98**	**247**	*e*Pn			**Pn**	**12 29 35.5**	**+0.2**
SIRN	**S¨–rnak**	**2.00**	**247**	*i* P			**Pb**	**12 29 38.0**	**+0.2**
SIRN	**S¨–rnak**	**2.00**	**247**	*i* P			**Pb**	**12 29 38.0**	**+0.2**
DIGO	**Kars**	**2.34**	**334**	*i* P			**Pg**	**12 29 44.7**	**-0.9**
DIGO	**Kars**	**2.34**	**334**	*i* P			**Pg**	**12 29 44.7**	**-0.9**
ISRB	**Sarab**	**2.38**	**101**	*e*Pn			**Pn**	**12 29 41.5**	**+0.6**
ISRB				*e*				12 29 56.3	
	comp=Z,2μm,0.2s								
ISRB	**Sarab**	**2.38**	**101**	*e*Pn			**Pn**	**12 29 41.5**	**+0.6**
GRMI	**Germi**	**2.54**	**78**	*e*Pn			**Pn**	**12 29 44.6**	**+1.6**
GRMI				*e*Sg			**Sg**	**12 30 21.1**	**-1.1**
GANJ	**Ganja**	**2.64**	**28**	⇓S			**Sb**	**12 30 19.1**	**-2.6**
GANJ	**Ganja**	**2.64**	**28**	S			**Sb**	**12 30 19.1**	**-2.6**
BRDA	**Brd**	**2.73**	**44**	⇑P			**Pg**	**12 29 52.5**	**-0.4**
	SNR=3.7								
BEST	**Besiri**	**2.75**	**262**	*i* P			**Pn**	**12 29 47.0**	**+1.1**
GLBA	**Clilabad**	**3.02**	**71**	⇑P			**Pg**	**12 29 59.4**	**+0.9**
	SNR=9.1								
GLBA				⇑S			**Sg**	**12 30 37.8**	**+0.2**
LKRN	**Lenkeran, Azer**	**3.21**	**82**	⇓P			**Pg**	**12 30 04.2**	**+2.1**
LKRN				⇓S			**Sg**	**12 30 45.8**	**+2.0**
SEKA	**Sheki**	**3.47**	**33**	⇓P			**Pb**	**12 30 02.4**	**-0.4**
	SNR=8.7								
MAZI	**Mazidag**	**3.49**	**257**	*e*PN			**Pn**	**12 29 56.6**	**+0.5**
MAZI	**Mazidag**	**3.49**	**257**	*e*Pn			**Pn**	**12 29 56.6**	**+0.5**
SNGE	**Sanandaj**	**3.84**	**146**	*e*Pn			Pn	12 30 04.6	+3.5
PQL	**Pirkuli**	**3.88**	**49**	⇑P			**Pb**	**12 30 09.2**	**-0.8**
	SNR=3.6								
PZAR	**Pazar-Rize**	**4.11**	**315**	*e*PN			**Pn**	**12 30 05.8**	**+1.3**
PZAR	**Pazar-Rize**	**4.11**	**315**	*e*Pn			**Pn**	**12 30 05.8**	**+1.3**

IDC ***02*** *12:30:34.8±2.7,59.°43N×24.°93E,h0km,mb1 3.4/4, mb1mx3.1/28,mbtmp3.3/4,ML3.0/3,Error ellipse: s-maj=32.6km s-min=10.1km az=152.0*
ISCJB ***02*** *12:30:34.3±0.4,59.°48N±0.°03×24.°70E±0.°06,h0km,Error ellipse: s-maj=4.4km s-min=3.8km az=24.5*
CSEM ***02*** *12:30:35.4±0.2,59.°50N×24.°78E,h2km,ML2.5,Error ellipse: s-maj=4.0km s-min=3.0km az=128.0,Mining explosion.*
NAO ***02*** *12:30:35.7±1.0,59.°49N×24.°95E,ML2.2*
BER ***02*** *12:30:36.5±2.9,59.°52N×24.°84E,h0km,ML2.2(NAO), Suspected explosion*
HEL ***02*** *12:30:36.0±0.0,59.°49N×24.°72E,h0km,ML2.3, ML2.2(UPP),Explosion*
UPP ***02*** *12:30:41.1,59.°58N×23.°94E,h0km,ML2.2,Mining explosion.*

ISC 02 12:30:34.2±0.7,59.°49N±0.°02×24.°73E±0.°03,h0km,n67, σ1°16/78,Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**0.75**	**347**	*e*P			**Pg**	**12 30 49.4**	**+0.8**
MEF				*e*S			**Sg**	**12 30 59.0**	**+0.6**
MEF	**Metsahovi**	**0.75**	**347**	P			**Pg**	**12 30 49.4**	**+0.8**
MEF				*e*S			**Sg**	**12 30 59.1**	**+0.7**
	53nm,0.2s,SNR=90								
MTSE	**Matsula**	**0.91**	**212**	*e*P			**Pg**	**12 30 52.3**	**+0.8**
MTSE				*e*S			**Sg**	**12 31 04.7**	**+1.3**
MTSE	**Matsula**	**0.91**	**212**	P			**Pg**	**12 30 52.3**	**+0.8**
MTSE				S			**Sg**	**12 31 04.6**	**+1.3**
PVF	**Pernaja**	**1.20**	**28**	*e*P			**Pg**	**12 30 57.5**	**+0.2**
PVF	**Pernaja**	**1.20**	**28**	P			**Pg**	**12 30 57.4**	**+0.2**
VSU	**Vasula**	**1.46**	**134**	Pg			**Pn**	**12 31 02.2**	**+0.5**
VSU				Lg			Lg	12 31 21.6	
VSU	**Vasula**	**1.46**	**134**	Pg			**Pn**	**12 31 02.2**	**+0.5**
VSU				Lg			Lg	12 31 21.6	
VSU	**Vasula**	**1.46**	**134**	*e*P			**Pn**	**12 31 02.3**	**+0.5**
VSU				*e*S			**Sg**	**12 31 20.8**	**-0.2**
VSU	**Vasula**	**1.46**	**134**	P			**Pn**	**12 31 02.2**	**+0.5**
VSU				S			**Sg**	**12 31 20.8**	**-0.2**
VSU				Lg			Lg	12 31 21.6	
VJF	**Virojoki**	**1.77**	**52**	*e*P			**Pn**	**12 31 07.2**	**+1.2**
VJF				*e*S			**Sn**	**12 31 30.5**	**+1.3**
VJF	**Virojoki**	**1.77**	**52**	P			**Pn**	**12 31 07.1**	**+1.2**
VJF				S			**Sn**	**12 31 30.4**	**+1.3**
FIA0	**FINESS Array S**	**2.07**	**18**	Pn			**Pn**	**12 31 11.9**	**+1.7**
	baz=204,slow=16								
FIA0				Lg			Lg	12 31 40.0	
	baz=190,slow=28								
FIA0				Rg			Rg	12 31 50.9	
	baz=189,slow=37								
FIA0	**FINESS Array S**	**2.07**	**18**	Pn			**Pn**	**12 31 11.9**	**+1.7**
	baz=204,slow=16								
FIA0				Lg			Lg	12 31 40.0	
	baz=190,slow=28								
FIA0				Rg			Rg	12 31 50.9	
	baz=189,slow=37								
FIA0	**FINESS Array S**	**2.07**	**18**	Pn			**Pn**	**12 31 11.9**	**+1.7**
	baz=204,slow=16,SNR=50								
FIA0				Lg			Lg	12 31 40.0	
	baz=190,slow=28,SNR=19								
FINES	**FINESS Array B**	**2.07**	**18**	Pn			**Pb**	**12 31 12.7**	**0.0**
	11nm,0.3s,baz=192,slow=14,SNR=308								
FINES				Sn			**Sb**	**12 31 38.5**	**-0.4**
	8.4nm,0.3s,baz=194,slow=24,SNR=18								
RAF	**Rauma**	**2.14**	**317**	MSG				12 31 45.0	
	comp=Z,20nm,0.2s								
RAF	**Rauma**	**2.14**	**317**	*e*P			**Pb**	**12 31 13.6**	**-0.1**
	SNR=50								
SLIT	**Slitere, Latvi**	**2.26**	**216**	*e*P			**Pb**	**12 31 15.6**	**-0.2**
	SNR=50								
AAL	**Aland**	**2.49**	**288**	P			**Pn**	**12 31 17.4**	**+1.5**
AAL	**Aland**	**2.49**	**288**	P			**Pn**	**12 31 17.4**	**+1.5**
KEF	**Keuruu**	**2.69**	**1**	MSG				12 31 58.3	
	comp=Z,11nm,0.2s								
KAF	**Kangasniemi**	**2.75**	**16**	MSG				12 32 00.0	
	comp=Z,8.0nm,0.2s								
NRTU	**Norrtaelje**	**3.11**	**276**	P			**Pn**	**12 31 25.6**	**+1.2**
NRTU	**Norrtaelje**	**3.11**	**276**	P			**Pn**	**12 31 25.6**	**+1.2**
	baz=94								
NYNU	**Nynaeshamn**	**3.49**	**265**	P			**Pn**	**12 31 31.4**	**+1.7**
NYNU	**Nynaeshamn**	**3.49**	**265**	P			**Pn**	**12 31 31.3**	**+1.7**
FLYU	**Flymyra**	**3.52**	**283**	P			**Pn**	**12 31 31.1**	**+1.0**
FLYU	**Flymyra**	**3.52**	**283**	P			**Pn**	**12 31 31.1**	**+1.0**
BACU	**Backbrunna**	**3.89**	**279**	P			**Pn**	**12 31 36.2**	**+1.1**
BACU	**Backbrunna**	**3.89**	**279**	P			**Pn**	**12 31 36.2**	**+1.1**
IGGU	**Iggoen**	**3.96**	**294**	P			**Pn**	**12 31 37.1**	**+1.1**
IGGU	**Iggoen**	**3.96**	**294**	P			**Pn**	**12 31 37.1**	**+1.1**
ARNU	**Arnoeviken**	**4.25**	**305**	P			**Pn**	**12 31 41.3**	**+1.2**
ARNU	**Arnoeviken**	**4.25**	**305**	P			**Pn**	**12 31 41.2**	**+1.2**
ESKU	**Eskilstuna**	**4.28**	**270**	P			**Pn**	**12 31 42.2**	**+1.8**
ESKU	**Eskilstuna**	**4.28**	**270**	P			**Pn**	**12 31 42.2**	**+1.8**
HEMU	**Hemsoen**	**4.56**	**317**	P			**Pn**	**12 31 46.5**	**+2.1**
HEMU	**Hemsoen**	**4.56**	**317**	P			**Pn**	**12 31 46.4**	**+2.1**
FALU	**Falun**	**4.58**	**287**	P			**Pn**	**12 31 45.5**	**+0.8**
FALU	**Falun**	**4.58**	**287**	P			**Pn**	**12 31 45.5**	**+0.8**
VSTU	**Vaestervik**	**4.67**	**250**	P			**Pn**	**12 31 47.5**	**+1.7**
VSTU	**Vaestervik**	**4.67**	**250**	P			**Pn**	**12 31 47.5**	**+1.7**
ASPU	**Aespoe**	**4.75**	**248**	P			**Pn**	**12 31 48.5**	**+1.5**
ASPU	**Aespoe**	**4.75**	**248**	P			**Pn**	**12 31 48.4**	**+1.5**
NRAU	**Nora**	**4.94**	**275**	P			**Pn**	**12 31 50.2**	**+0.7**
NRAU	**Nora**	**4.94**	**275**	P			**Pn**	**12 31 50.2**	**+0.7**
OSKU	**Oskarshamn**	**5.10**	**247**	P			**Pn**	**12 31 53.1**	**+1.4**
OSKU	**Oskarshamn**	**5.10**	**247**	P			**Pn**	**12 31 53.1**	**+1.4**
ASKU	**Askersund**	**5.13**	**268**	P			**Pn**	**12 31 53.5**	**+1.4**
ASKU	**Askersund**	**5.13**	**268**	P			**Pn**	**12 31 53.5**	**+1.4**
SOLU	**Sollefteaa**	**5.21**	**320**	P			**Pn**	**12 31 55.0**	**+1.7**
SOLU	**Sollefteaa**	**5.21**	**320**	P			**Pn**	**12 31 54.9**	**+1.7**
HFS	**Hagfors**	**5.61**	**281**	Pn			**Pn**	**12 31 59.5**	**+0.7**
	baz=91,slow=14								
HFS				Sn			**Sn**	**12 33 03.2**	**-0.6**
	baz=95,slow=22								
HFS	**Hagfors**	**5.61**	**281**	Pn			**Pn**	**12 31 59.5**	**+0.7**
	baz=91,slow=14								
HFS				Sn			**Sn**	**12 33 03.2**	**-0.6**
	baz=95,slow=22								
HFS	**Hagfors**	**5.61**	**281**	Pn			**Pn**	**12 31 58.9**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=96,slow=13,SNR=21								
HFS				Sn			**Sn**	**12 33 02.8**	**-1.0**
	comp=Z,0.6nm,0.3s,baz=90,slow=29,SNR=7.5								
HFS				Lg			Lg	12 33 26.3	
	comp=Z,0.9nm,0.3s,baz=97,slow=34,

CLCH	Cerro Calan	1.72	196	⇑iP	Pn	12 41 44.9	+0.5
CLCH				i S	Sn	12 42 09.8	+0.4
CLCH				AML	AML	12 42 11.8	
	comp=E,994nm,0.7s						
SAN	Santiago	1.81	199	eP	Pn	12 41 46.1	+0.8
SAN				AML	AML	12 42 14.5	
	comp=N,317nm,0.3s						
ANTU	Antumapu	1.91	197	eP	Pn	12 41 46.7	+0.2
ANTU				eS	Sn	12 42 13.3	+0.2
ANTU				AML	AML	12 42 15.4	
	comp=N,582nm,0.5s						
PCH	Pirque	1.93	193	eP	Pn	12 41 47.5	+0.7
PCH				i S	Sn	12 42 14.8	+1.2
TACH	Talagante	2.08	203	eP	Pn	12 41 48.9	+0.5
LMEL	Las Melosas	2.11	185	⇑iP	Pn	12 41 49.5	+0.4
LMEL				AML	AML	12 42 27.0	
	comp=N,292nm,0.3s						
CHCH	Chadas Angostu	2.26	194	⇑iP	Pn	12 41 51.5	+0.8
CHCH				i S	Sn	12 42 20.7	+0.2
CACH	El Canelo	2.43	192	eP	Pn	12 41 53.8	+1.0
CACH				i S	Sn	12 42 25.7	+1.5

*ISCJB **02** 13:18:58.6±0.5, 13°.8N±0°.1×88°.5W±0°.1, h200km, mb3.3/5, Error ellipse: s-maj=20.2km s-min=6.6km az=138.2*
*CASC **02** 13:18:58.4±1.8, 13°.56N×88°.59W, h205km±25km, MD4.5*
*IDC **02** 13:19:01.0±6.0, 13°.58N×88°.52W, h233km±63km, mb3.1/6, mb1 3.3/6, mb1mx3.1/25, mbtmp3.1/6, Error ellipse: s-maj=45.5km s-min=17.4km az=57.0*

ISC 02 13:18:58.3±0.8, 13°.6N±0°.1×88°.6W±0°.1, h200km, n20, σ1§78/21, mb3.5/5, 3C, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNVI	San Vicente	0.28	267	eP	Pn	13 19 26.0	+1.0
VSM	San Miguel	0.33	127	⇑iP	Pn	13 19 26.2	+1.0
BLLM	Bellamira	0.35	121	eP	Pn	13 19 25.5	+0.5
LBRS	Las Brisas	0.49	283	⇑iP	Pn	13 19 26.6	+1.1
LFRS	El Faro	0.50	270	⇑iP	Pn	13 19 26.3	+0.8
CNCH	Conchagua	0.78	117	eP	Pn	13 19 27.7	+0.9
SNJE	San Jose	1.05	283	i P	Pn	13 19 29.8	+1.1
RTR	El Retiro	1.10	284	i P	Pn	13 19 30.4	+1.4
VCR	Vista de Mar	4.50	140	eP	Pn	13 20 08.7	+2.2
VCR				eS	Sn	13 21 02.4	+2.2
JCR	Jicaral	5.04	138	eP	Pn	13 20 12.6	-0.8
JCR				eS	Sn	13 21 09.2	-3.2
CGA2	Cerro Gallo 2	5.37	131	eP	Pn	13 20 21.1	+3.4
CGA2				eS	Sn	13 21 24.2	+4.0
CMIG	Matias Romero	7.01	300	S	Sn	13 21 47.4	-11
	0.3nm,0.3s,baz=101,slow=16,SNR=2.1						
TXAR	Lajitas Array	20.99	321	P	P	13 23 27.2	+0.8
	0.8nm,0.6s,baz=134,slow=10,SNR=9.7						
TKL	Tuckaleechee C	22.35	10	P	P	13 23 40.0	+0.2
	4.2nm,0.7s,baz=187,slow=9.2,SNR=3.4						
SIV	San Ignacio	40.05	136	P	P	13 26 13.5	-0.8
	0.9nm,0.5s,baz=326,slow=11,SNR=4.0						
YKA	Yellowknife Ar	52.20	345	P	P	13 27 48.0	-0.3
	0.3nm,0.4s,baz=131,slow=8.3,SNR=5.4						
DLBC	Dease Lake	54.39	335	P	P	13 28 05.1	+0.7
	0.8nm,0.6s,baz=153,slow=4.5,SNR=3.5						
ILAR	Eielson Array	64.52	336	P	P	13 29 13.0	-0.5
	0.1nm,0.6s,baz=167,slow=4.9,SNR=4.2						
WRA	Warramunga Arr	138.55	255	PKP	PKPdf	13 37 58.6	-2.5
	0.4nm,0.4s,baz=89,slow=2.4,SNR=11						
ASAR	Alice Springs	138.69	250	PKP	PKPdf	13 37 59.2	-2.0
	0.2nm,0.6s,baz=90,slow=3.0,SNR=4.0						

GUC 02 13:36:55.5±0.7, 32°.07S×71°.82W, h27km±2km, MD3.9, ML3.3, 3C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	Papudo	0.56	145	⇓iP	Pb	13 37 06.3	-0.6
PACH				i S	Sb	13 37 14.5	-0.2
ROCH	El Roble	1.12	143	⇓iP	Pn	13 37 15.5	-0.4
ROCH				i S	Sn	13 37 30.4	-0.3
ROCH				AML	AML	13 37 34.9	
	comp=N,968nm,0.4s						
CMCH	Combarbala	1.14	38	⇑iP	Pn	13 37 15.5	-0.3
CMCH				i S	Sn	13 37 30.8	+0.2
CMCH				AML	AML	13 37 36.9	
	comp=N,2μm,0.6s						
JACH	Jahuel	1.20	121	⇑iP	Pn	13 37 16.8	+0.1
JACH				i S	Sb	13 37 33.0	0.0
LCCH	Las Cruces	1.41	172	eP	Pn	13 37 20.2	+0.7
LCCH				i S	Sn	13 37 38.0	+0.7
PEL	Peldehue	1.43	138	⇓iP	Pn	13 37 20.5	+0.7
PEL				i S	Sb	13 37 39.2	-0.3
PEL				AML	AML	13 37 42.5	
	comp=N,1μm,0.4s						
SAN	Santiago	1.69	145	⇓iP	Pb	13 37 24.8	-1.2
SAN				i S	Sb	13 37 46.1	-0.7
CLCH	Cerro Calan	1.70	141	⇓iP	Pn	13 37 24.7	+1.1
CLCH				i S	Sb	13 37 46.7	-0.7
CLCH				AML	AML	13 38 00.5	
	comp=E,575nm,0.6s						
TACH	Talagante	1.74	155	eP	Pn	13 37 25.0	+1.0
TACH				i S	Sb	13 37 47.4	-0.9
PCH	Pirque	1.89	145	eP	Pn	13 37 27.7	+1.5
PCH				i S	Sb	13 37 51.7	-1.2
CHCH	Chadas Angostu	2.10	152	eP	Pn	13 37 30.3	+1.3
CHCH				i S	Sb	13 37 56.9	-1.7
LMEL	Las Melosas	2.23	143	⇓iP	Pn	13 37 32.4	+1.5
LMEL				i S	Sn	13 38 00.1	+2.4
LMEL				AML	AML	13 38 08.8	
	comp=N,157nm,0.1s						
CACH	El Canelo	2.28	154	⇑iP	Pn	13 37 33.4	+1.8
CACH				i S	Sb	13 38 02.7	-1.3

*ATH **02** 13:49:49.8, 37°.42N×20°.97E, h23km±1km, MD3.5/37, ML3.3*
*ISCJB **02** 13:49:50.2±0.6, 37°.35N±0°.03×20°.83E±0°.05, h36km±8km, mb3.8/2, Error ellipse: s-maj=7.0km s-min=4.1km az=143.4*
*CSEM **02** 13:49:50.5±0.3, 37°.40N×20°.97E, h15km, ML3.4, Error ellipse: s-maj=6.4km s-min=3.2km az=60.0*
*THE **02** 13:49:50.6, 37°.38N×20°.98E, h32km±1km, ML3.4/2, Error ellipse: s-maj=2.0km s-min=0.6km az=229.0*

ISC 02 13:49:50.0±0.9, 37°.39N±0°.02×20°.94E±0°.03, h35km±3km, n116, σ1§48/147, 1C, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFD	Strofades	0.15	155	P	Pb	13 49 56.2	-0.1
SFD				S	Sb	13 50 00.9	+0.3
SFD	Strofades	0.15	155	ePB	Pb	13 49 56.2	-0.1
SFD				eSB	Sb	13 49 59.7	-0.9
SFD	Strofades	0.15	155	P	Pb	13 49 56.2	-0.1
SFD				eSb	Sb	13 49 59.7	-0.9
SFD				S	Sb	13 50 00.0	-0.6
AMT	Artemida-Makis	0.63	76	P	Pb	13 50 01.9	-0.9
AMT				S	Sn	13 50 11.0	-0.3
AMT	Artemida-Makis	0.63	76	ePN	Pb	13 50 01.9	-0.9
AMT				eSN	Sn	13 50 11.1	-0.3
AMT	Artemida-Makis	0.63	76	P	Pb	13 50 02.0	-0.9
AMT				eSn	Sn	13 50 11.1	-0.3
KFL	Anninata	0.73	351	P	Pn	13 50 03.9	0.0
KFL				S	Sb	13 50 14.9	+0.6
KFL	Anninata	0.73	351	P	Pn	13 50 03.9	0.0
KFL				S	Sb	13 50 14.9	+0.6
RLS	Riolos of Patr	0.79	32	P	Pn	13 50 04.6	-0.1
RLS	Riolos of Patr	0.79	32	ePN	Pn	13 50 04.9	+0.2
RLS				eSN	Sb	13 50 14.6	-1.3
RLS	Riolos of Patr	0.79	32	P	Pn	13 50 04.6	-0.1
RLS	Riolos of Patr	0.79	32	ePn	Pn	13 50 04.9	+0.2
RLS				eSn	Sb	13 50 14.6	-1.3
RLS				S	Sn	13 50 16.4	+1.1
PYL	PYLOS	0.81	127	P	Pn	13 50 04.8	-0.1
PYL				S	Sb	13 50 15.8	-0.5
PYL	PYLOS	0.81	127	ePB	Pb	13 50 05.1	-0.6
PYL				eSN	Sb	13 50 17.6	+1.3
PYL	PYLOS	0.81	127	P	Pn	13 50 04.8	-0.1
PYL	PYLOS	0.81	127	ePb	Pb	13 50 05.1	-0.6
PYL				S	Sb	13 50 16.5	+0.2
PYL				eSn	Sb	13 50 17.6	+1.3
ITM	Ithomi	0.81	104	P	Pn	13 50 04.9	-0.1
ITM	Ithomi	0.81	104	ePN	Pb	13 50 05.2	-0.6
ITM				eSN	Sb	13 50 17.1	+0.5
ITM	Ithomi	0.81	104	P	Pn	13 50 04.9	-0.1
ITM	Ithomi	0.81	104	ePb	Pb	13 50 05.2	-0.6
ITM				S	Sb	13 50 16.4	-0.2
ITM				eSn	Sb	13 50 17.1	+0.5
VLS	Valsamata	0.84	341	ePN	Pn	13 50 05.8	+0.4
VLS	Valsamata	0.84	341	P	Pn	13 50 05.9	+0.5
AXS	Araxos	0.88	23	P	Pn	13 50 06.2	+0.3
AXS	Araxos	0.88	23	P	Pn	13 50 06.2	+0.3
VLX	Vlachokerasia	1.15	90	P	Pn	13 50 09.1	-0.6
VLX				S	Sn	13 50 24.4	+0.2
VLX	Vlachokerasia	1.15	90	ePN	Pb	13 50 11.4	0.0
VLX	Vlachokerasia	1.15	90	P	Pb	13 50 11.1	-0.3
VLX	Vlachokerasia	1.15	90	ePn	Pb	13 50 11.4	0.0
VLX				S	Sb	13 50 27.0	+0.9
KLV	Kalavryta, Ach	1.16	55	ePN	Pb	13 50 11.0	-0.7
KLV	Kalavryta, Ach	1.16	55	ePn	Pb	13 50 11.0	-0.7
KLV				S	Sb	13 50 28.1	+1.5
LAKA	Lakka	1.19	44	P	Pn	13 50 10.1	-0.1
LAKA	Lakka	1.19	44	ePN	Pb	13 50 11.8	-0.2
LAKA				eSN	Sb	13 50 27.2	+0.1
LAKA	Lakka	1.19	44	P	Pb	13 50 11.3	-0.7
LAKA	Lakka	1.19	44	ePn	Pb	13 50 11.8	-0.2
LAKA				eSn	Sb	13 50 27.2	+0.1
PSA1	Psathopyrgos	1.20	38	ePN	Pb	13 50 12.9	+0.7
GUR	Goura	1.24	63	ePN	Pb	13 50 12.4	-0.6
GUR	Goura	1.24	63	P	Pb	13 50 11.8	-1.2
GUR	Goura	1.24	63	ePn	Pb	13 50 12.4	-0.6
GUR				S	Sb	13 50 31.5	+2.7
DYR	Agios Nikonas	1.28	119	ePN	Pb	13 50 13.5	-0.1
DYR				eSN	Sb	13 50 32.0	+2.3
DYR	Agios Nikonas	1.28	119	P	Pb	13 50 13.1	-0.5
DYR	Agios Nikonas	1.28	119	ePn	Pb	13 50 13.5	-0.1
DYR				S	Sb	13 50 31.0	+1.3
DYR				eSn	Sb	13 50 32.0	+2.3
EFP	Efpalio	1.29	36	P	Pb	13 50 14.5	+0.7
TRIZ	Trizonia	1.33	42	ePN	Pb	13 50 14.7	+0.3
TRIZ	Trizonia	1.33	42	P	Pb	13 50 14.5	+0.1
KALE	Kalithea	1.38	43	ePN	Pb	13 50 15.2	-0.2
KALE	Kalithea	1.38	43	P	Pb	13 50 14.8	-0.6
KALE	Kalithea	1.38	43	ePn	Pb	13 50 15.2	-0.2
KALE				S	Sb	13 50 33.1	+0.3
LKD2	Lefkada island	1.42	351	ePN	Pb	13 50 15.7	-0.3
LKD2	Lefkada island	1.42	351	ePn	Pb	13 50 15.7	-0.3
LKD2	Lefkada island	1.42	351	P	Pb	13 50 16.7	+0.7
LKD2				S	Sb	13 50 34.2	+0.4
DSF	Desfina	1.62	50	P	Pb	13 50 19.5	+0.1
DSF				S	Sb	13 50 39.2	-0.3
EVR	Evrytania	1.68	24	ePN	Pb	13 50 20.8	+0.5
EVR	Evrytania	1.68	24	ePn	Pb	13 50 20.8	+0.5
EVR	Evrytania	1.68	24	P	Pb	13 50 21.2	+0.9
LTK	Loutraki	1.73	68	ePN	Pb	13 50 20.3	-0.9
LTK	Loutraki	1.73	68	P	Pb	13 50 20.1	-1.1
VLI	Veliai	1.73	112	ePN	Pb	13 50 21.4	+0.2
VLI	Veliai	1.73	112	P	Pb	13 50 21.2	0.0
DID	Didima	1.83	86	ePB	Pb	13 50 21.0	-1.9
DID	Didima	1.83	86	P	Pb	13 50 20.8	-2.1
DID				S	Sb	13 50 45.2	-0.4
MAKR	Makrakomi, Fth	1.88	30	P	Pb	13 50 24.3	+0.6
AGG	Agios Georgios	1.97	33	ePN	Pb	13 50 24.3	-0.9
AGG	Agios Georgios	1.97	33	ePn	Pb	13 50 24.3	-0.9
AGG	Agios Georgios	1.97	33	P	Pb	13 50 24.7	-0.5
KYTH	Kithira	2.01	123	ePN	Pb	13 50 25.6	-0.4
KYTH	Kithira	2.01	123	P	Pb	13 50 25.2	-0.8
KYTH	Kithira	2.01	123	ePb	Pb	13 50 25.6	-0.4
LKR	Lokris	2.06	52	ePN	Pb	13 50 25.2	-1.6
LKR	Lokris	2.06	52	ePn	Pb	13 50 25.2	-1.6
NAIG	Nisos Aigina	2.06	79	ePB	Pn	13 50 24.0	+1.9
NAIG	Nisos Aigina	2.06	79	ePn	Pn	13 50 24.0	+1.9
JAN	Janina	2.27	358	ePN	Pn	13 50 27.4	+2.3
JAN	Janina	2.27	358	ePn	Pn	13 50 27.4	+2.3
ATH	Athens Observa	2.28	74	ePN	Pn	13 50 27.2	+2.0
ATH	Athens Observa	2.28	74	ePn	Pn	13 50 27.2	+2.0
THL	Klokotos Trika	2.33	21	ePB	Pb	13 50 29.8	-1.6
THL	Klokotos Trika	2.33	21	ePb	Pb	13 50 29.8	-1.6
PTL	Penteli	2.41	73	ePN	Pb	13 50 29.7	-3.1
PTL	Penteli	2.41	73	ePn	Pb	13 50 29.7	-3.1
ANKY	Antikythira Is	2.43	128	ePN	Pb	13 50 30.7	-2.4
ANKY	Antikythira Is	2.43	128	ePn	Pb	13 50 30.7	-2.4
MRKA	Markates	2.47	57	P	Pn	13 50 30.3	+2.5
KEK	Kerkira	2.49	339	ePN	Pn	13 50 30.9	+2.8
KEK	Kerkira	2.49	339	ePn	Pn	13 50 30.9	+2.8
NEO	Neokhori	2.63	42	ePN	Pn	13 50 32.7	+2.7
NEO	Neokhori	2.63	42	P	Pn	13 50 32.6	+2.6
AOS	Alonnisos	2.92	52	ePN	Pn	13 50 36.4	+2.4
AOS	Alonnisos	2.92	52	ePn	Pn	13 50 36.4	+2.4
KZN	Kozani	2.99	12	ePN	Pn	13 50 38.4	+3.4
KZN	Kozani	2.99	12	ePn	Pn	13 50 38.4	+3.4
KARN	Karanos	3.11	129	ePN	Pn	13 50 39.3	+2.6
KARN	Karanos	3.11	129	ePn	Pn	13 50 39.3	+2.6
VAM	Vamos	3.29	126	ePN	Pn	13 50 41.8	+2.8
VAM	Vamos	3.29	126	ePn	Pn	13 50 41.8	+2.8
FNA	Florina	3.41	6	ePN	Pn	13 50 43.7	+2.9
FNA	Florina	3.41	6	ePn	Pn	13 50 43.7	+2.9
PLG	Polygyros	3.57	32	ePN	Pn	13 50 45.1	+2.2
PLG	Polygyros	3.57	32	ePn	Pn	13 50 45.1	+2.2
IDI	Anoyia	3.81	122	ePN	Pn	13 50 48.9	+2.6
IDI	Anoyia	3.81	122	ePn	Pn	13 50 48.9	+2.6
SOH	Sokhos	3.91	28	ePN	Pn	13 50 50.1	+2.5
SOH	Sokhos	3.91	28	ePn	Pn	13 50 50.1	+2.5
LIA	Limnos Island	4.16	52	ePN	Pn	13 50 53.0	+2.0
LIA	Limnos Island	4.16	52	ePn	Pn	13 50 53.0	+2.0
CHOS	Chios island	4.17	75	ePN	Pn	13 50 53.0	+1.8
CHOS	Chios island	4.17	75	ePn	Pn	13 50 53.0	+1.8
NVR	Nevrokopi	4.56	29	ePN	Pn	13 50 59.1	+2.5
NVR	Nevrokopi	4.56	29	ePn	Pn	13 50 59.1	+2.5
BARS	Barje	5.47	7	⇑iPn	Pn	13 51 10.5	+1.5
SJES	Sjenica	5.92	353	ePn	Pn	13 51 16.4	+1.2
STON	Ston	6.01	337	ePn	Pn	13 51 17.6	+1.1
STON				Sn	Sn	13 52 20.8	-3.2
DIVS	Divibare	6.74	354	ePn	Pn	13 51 27.1	+0.5
NVLJ	Novalja	8.51	329	ePn	Pn	13 51 52.5	+1.8
NVLJ				Sn	Sn	13 53 22.2	-3.2
BRTR	Keskin Array B	10.22	73	Sn	Pn	13 52 14.2	0.0
	0.4nm,0.3s,baz=66,slow=29,SNR=6.7						
MKAR	Makanchi Array	45.44	58	P	P	13 58 01.6	-3.8
	0.7nm,0.8s,baz=274,slow=9.1,SNR=4.4						
ZALV	Zalesovo Beam	45.98	48	P	P	13 58 10.9	+1.4
	0.6nm,0.4s,baz=271,slow=8.8,SNR=3.7						

NAO 02 13:50:38.0±1.7, 60°.64N×11°.17E, ML1.9, Southern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NB2	NORSAR Subarra	0.41	3	Pg	Pg	13 50 45.7	-0.1
	baz=180,slow=18						
NB2				Lg	Lg	13 50 51.3	
NB2				Rg	Rg	13 50 53.5	
HFS	Hagfors	1.35	111	Pg	Pg	13 51 03.0	-0.9
	baz=294,slow=18						
HFS				Lg	Lg	13 51 20.6	
	baz=292,slow=28						

*IDC **02** 14:18:06.0±3.0, 7°.32S×107°.60E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/24, mbtmp3.7/4, Error ellipse: s-maj=167.1km s-min=24.9km az=50.0*
*ISCJB **02** 14:18:11.0±0.5, 8°.20S±0°.04×107°.13E±0°.05, h46km, mb3.6/3, Error ellipse: s-maj=7.2km s-min=4.9km az=27.7*
*AUST **02** 14:18:11.5±1.1, 8°.20S×107°.18E, h22km, Error ellipse: s-maj=1.6km s-min=0.7km az=311.0*
*DJA **02** 14:18:12.2±1.0, 8°.5±6°.×10°.7E±°, h25km±10km, M4.2/8, MLv4.2/8*

ISC 02 14:18:11.9±0.9, 8°.17S±0°.04×107°.15E±0°.05, h46km, n22, σ1§71/24, mb3.5/3, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	Cisompet, Garu	0.90	48	P	Pn	14 18 26.7	-1.6
CISI	Cisompet, Garu	0.90	48	P	Pn	14 18 18.7	-10
	baz=0.9,SNR=182						
CISI				S	Sn	14 18 37.0	-3.2
	baz=0.9,SNR=18						
SKJI	Sukabumi	1.29	333	P	Pn	14 18 33.4	-0.2
SKJI				S	Sn	14 18 48.6	-1.1
LEM	Lembang	1.41	19	P	Pn	14 18 36.1	+0.8
LEM				S	Sn	14 18 53.0	+0.2
LEM	Lembang	1.41	19	P	Pn	14 18 35.9	+0.6
	baz=1.4,SNR=37						
LEM				S	Sn	14 18 55.6	+2.8
	baz=1.4,SNR=4.9						
DBJI	Dramaga	1.65	346	P	Pn	14 18 39.4	+0.9
TGJI	Tegal	2.34	57	P	Pn	14 18 48.3	+0.3
BJII	Banjamegara	2.67	72	P	Pn	14 18 52.1	-0.5
XMI	Christmas Isla	2.69	212	P	Pn	14 18 53.8	+1.1
	baz=2.7,SNR=6.4						
XMI				S	Sn	14 19 22.6	-1.4
	baz=2.7,SNR=7.8						
XMIS	Christmas Isla	2.73	213	P	Pn	14 18 54.0	+0.7
	baz=2.7,SNR=14						
XMIS				S	Sn	14 19 23.0	-2.2
	baz=2.7,SNR=9.6						
UGM	Wanagama	3.35	86	P	Pn	14 19 01.7	-0.2
	baz=3.3,SNR=16						
SJI	Sawahan	4.60	85	P	Pn	14 19 20.7	+1.7
PWJI	Pagerwojo	4.62	89	P	Pn	14 19 27.0	+7.8
JAGI	Jajag, Banyuwa	6.94	93	P	Pn	14 19 53.3	+2.2
	baz=6.9,SNR=6.6						
FITZ	Fitzroy Crossi	20.52	121	P	P	14 22 47.6	+1.1
	2.5nm,0.8s,baz=302,slow=9.5,SNR=5.7						
MTN	Manton Dam	24.03	103	P	P	14 23 24.2	+1.3
	baz=24,SNR=3.8						
FAKI	Fak Fak	25.52	80	P	P	14 23 32.5	-3.9
	baz=26,SNR=3.6						
WRA	Warramunga Arr	28.81	117	P	P	14 24 06.7	+0.7
	0.3nm,0.4s,baz=294,slow=10,SNR=5.4						
STKA	Stephens Creek	39.76	131	P	P	14 25 41.5	+1.1
	2.4nm,0.6s,baz=300,slow=8.7,SNR=9.7						
STKA	Stephens Creek	39.76	131	P	P	14 25 41.7	+1.2
	baz=40,SNR=6.6						
MKAR	Makanchi Array	59.03	340	P	P	14 28 03.3	-3.8
	0.3nm,0.7s,baz=146,slow=8.4,SNR=3.1						
NIUE	Niue	80.73	108	P	P	14 30 26.8	+5.8
	baz=81,SNR=4.9						

*IDC **02** 14:55:23.7±15.0, 6°.86S×107°.01E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.5/23, mbtmp3.8/4, Error ellipse: s-maj=302.2km s-min=182.4km az=173.0*
*ISCJB **02** 14:55:37.5±0.6, 8°.14S±0°.05×107°.32E±0°.06, h62km, mb3.7/3, Error ellipse: s-maj=8.3km s-min=6.5km az=176.5*
*DJA **02** 14:55:38.3±1.0, 8°.5±5°.×10°.7E±°, h22km±7km, M4.1/7, MLv4.1/7*

ISC 02 14:55:39.9±1.2, 8°.02S±0°.10×107°.39E±0°.09, h62km, n15, σ1§17/16, mb3.4/3, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	Cisompet, Garu	0.62	42	P	Pn	14 55 51.8	-1.7
CISI				S	Sn	14 56 01.9	-1.4
CISI	Cisompet, Garu	0.62	42	P	Pn	14 55 51.8	-1.6
	baz=14,SNR=383						
LEM	Lembang	1.21	11	P	Pn	14 56 01.3	+0.4
LEM				S	Sn	14 56 17.8	+1.3
LEM	Lembang	1.21	11	P	Pn	14 56 00.9	0.0
	baz=14,SNR=28						
DBJI	Dramaga	1.59	336	P	Pn	14 56 04.6	-1.3
DBJI				S	Sn	14 56 25.6	+0.1
BJII	Banjamegara	2.40	74	P	Pn	14 56 17.0	+0.1
XMI	Christmas Isla	2.94	215	P	Pn	14 56 20.4	-3.9
	baz=16,SNR=9.0						
XMIS	Christmas Isla	2.99	215	P	Pn	14 56 20.6	-4.3
	baz=16,SNR=34						
SJI	Sawahan	4.34	87	P	Pn	14 56 43.6	+0.1
PWJI	Pagerwojo	4.37	90	P	Pn	14 56 44.8	+1.0
MNAI	Manna	5.72	309	P	Pn	14 57 03.5	+1.2
	baz=19,SNR=5.0						
FITZ	Fitzroy Crossi	20.38	121	P	P	15 00 12.9	+1.1
	1.1nm,0.7s,baz=321,slow=13,SNR=3.9						
WRA	Warramunga Arr	28.65	117	P	P	15 01 30.8	-0.2
	0.8nm,1.0s,baz=290,slow=9.9,SNR=4.8						
ASAR	Alice Springs	29.79	125	P	P	15 01 39.6	-1.5
	0.9nm,1.0s,baz=302,slow=8.7,SNR=3.3						
STKA	Stephens Creek	39.67	131	P	P	15 03 07.0	+0.8
	3.7nm,0.5s,baz=310,slow=8.0,SNR=12						

*ISCJB **02** 14:56:02.2±0.4, 38°.11N±0°.02×23°.26E±0°.02, h11km±3km, Error ellipse: s-maj=3.3km s-min=2.8km az=8.9*
*CSEM **02** 14:56:02.2±0.1, 38°.12N×23°.24E, h5km, ML3.2/3, Error ellipse: s-maj=2.5km s-min=2.3km az=64.0*
*THE **02** 14:56:02.4, 38°.10N×23°.25E, h10km±1km, ML3.2/3, Error ellipse: s-maj=1.0km s-min=0.3km az=188.0*
*ATH **02** 14:56:02.2, 38°.11N×23°.26E, h22km, MD3.5/34, ML3.1*

ISC 02 14:56:02.4±0.9, 38°.11N±0°.02×23°.26E±0°.02, h13km±7km, n104, σ0§66/139, 2C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTK	Loutraki	0.25	250	P	Pg	14 56 07.2	-0.5
LTK				S	Sg	14 56 11.1	-0.2
LTK	Loutraki	0.25	250	ePB	Pg	14 56 07.6	-0.1
LTK				eSB	Sg	14 56 11.9	+0.6
LTK	Loutraki	0.25	250	P	Pg	14 56 07.2	-0.5
LTK	Loutraki	0.25	250	ePb	Pg	14 56 07.6	-0.1
LTK				S	Sg	14 56 11.1	-0.2
ACOR	Acrocorinthos	0.38	235	P	Pg	14 56 09.7	-0.4
ACOR				S	Sg	14 56 15.5	+0.3
ACOR	Acrocorinthos	0.38	235	P	Pg	14 56 09.7	-0.4
ACOR				S	Sg	14 56 15.5	+0.3
ATH	Athens Observa	0.38	111	P	Pg	14 56 10.2	+0.1
ATH				S	Sg	14 56 15.8	+0.5
ATH	Athens Observa	0.38	111	ePB	Pg	14 56 10.0	+0.1
ATH				eSB	Sb	14 56 16.4	-0.6
ATH	Athens Observa	0.38	111	P	Pg	14 56 10.2	+0.1
ATH				S

comp=E,0.3nm,0.4s,baz=253,slow=5.6,SNR=7.3

*ISCJB **02** 15:20:18.8±0.3,7°.41S±0°.04×120°.31E±0°.04,h383km±4km, mb3.5/9, Error ellipse: s-maj=7.5km s-min=5.7km az=34.4*
*AUST **02** 15:20:19.8±0.0,7°.35S×120°.21E,h400km, Error ellipse: s-maj=1.5km s-min=1.0km az=337.0*
*IDC **02** 15:20:20.5±1.3,7°.16S×120°.58E,h388km±15km,mb3.3/10, mb1 3.5/13,mb1mx3.4/26,mbtmp3.4/13, Error ellipse: s-maj=32.7km s-min=10.2km az=60.0*
*DJA **02** 15:20:21.1±0.4,8°.5S±4°.×12°.0E±°.,h367km±5km, M4.1/7, mb4.5/7,mB6.0/1,MLv3.9/7,Mw(mB)5.6/1*

ISC 02 15:20:19.4±0.6,**7°.46S**±0°.05×**120°.31E**±0°.05,**h376**km±7km, **n40**,σ1°**37**/47,**mb3.5**/9,**Flores Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBFI	**Labuhan Bajo,**	**1.10**	**202**	P	**Pn**	**15 21 08.5**	**+0.2**
LBFI				S	**S**	**15 21 46.7**	**-1.0**
WSI	**Waingapu**	**2.20**	**180**	P	**Pn**	**15 21 15.0**	**+0.5**
baz=2.3,SNR=7.4							
WSI				S	**S**	**15 21 57.2**	**-1.6**
baz=2.3,SNR=17							
MMRI	**Maumere**	**2.24**	**122**	P	**Pn**	**15 21 14.7**	**0.0**
KAPI	**Kappang**	**2.49**	**347**	P	**Pn**	**15 21 18.9**	**+2.3**
KAPI	**Kappang**	**2.49**	**347**	P	**Pn**	**15 21 17.1**	**+0.4**
5.5nm,0.3s,baz=200,slow=4.4,SNR=22							
KAPI				S	**S**	**15 22 01.6**	**-1.2**
baz=1.3,slow=23,SNR=6.6							
SPSI	**Sidrap Palu**	**3.51**	**351**	P	**Pn**	**15 21 27.5**	**+2.2**
MTNI	**Mataram**	**4.26**	**254**	P	**Pn**	**15 21 34.8**	**+2.2**
SOEI	**Soe**	**4.53**	**121**	P	**Pn**	**15 21 36.0**	**+0.6**
SOEI				S	**S**	**15 22 35.3**	**-1.7**
SOEI	**Soe**	**4.53**	**121**	P	**Pn**	**15 21 35.8**	**+0.4**
baz=4.7,SNR=38							
SOEI				S	**S**	**15 22 35.2**	**-1.9**
baz=4.7,SNR=7.8							
SKSI	**Soroako, Sulaw**	**5.00**	**12**	P	**Pn**	**15 21 42.1**	**+1.7**
41nm,0.8s,0.1nm							
JAGI	**Jajag, Banyuwa**	**6.18**	**260**	P	**Pn**	**15 21 53.4**	**+0.2**
baz=6.1,SNR=28							
JAGI				S	**S**	**15 23 05.5**	**-4.0**
baz=6.1,SNR=8.8							
MRSI	**Marisa**	**8.05**	**12**	P	**P**	**15 22 14.9**	**-1.1**
30nm,0.8s							
GTOI	**Gorontalo**	**8.48**	**19**	P	**P**	**15 22 21.7**	**+0.9**
86nm,0.9s							
AAI	**Ambon**	**8.69**	**65**	P	**P**	**15 22 24.8**	**+1.6**
baz=8.7,SNR=3.3							
UGM	**Wanagama**	**9.71**	**267**	P	**P**	**15 22 35.4**	**+0.8**
baz=9.6,SNR=4.1							
UGM				S	**S**	**15 24 24.1**	**-0.5**
baz=9.6,SNR=5.7							
KNRA	**Kununurra**	**11.63**	**135**	P	**Pn**	**15 22 57.6**	**+1.1**
baz=12,SNR=19							
FITZ	**Fitzroy Crossi**	**11.79**	**154**	P	**Pn**	**15 22 59.4**	**+1.1**
1.2nm,0.3s,baz=341,slow=7.0,SNR=45							
FITZ				S	**S**	**15 25 09.4**	**+1.1**
0.5nm,0.3s,baz=356,slow=16,SNR=2.6							
FITZ	**Fitzroy Crossi**	**11.79**	**154**	P	**Pn**	**15 22 59.5**	**+1.1**
baz=12,SNR=31							
MTN	**Manton Dam**	**11.92**	**118**	P	**Pn**	**15 23 00.2**	**+0.3**
baz=12,SNR=35							
TLE	**Tual**	**12.48**	**82**	P	**Pn**	**15 23 08.0**	**+1.5**
baz=13,SNR=3.6							
FAKI	**Fak Fak**	**12.71**	**70**	P	**P**	**15 23 07.4**	**-0.5**
baz=13,SNR=10							
SWI	**Sorong**	**12.73**	**60**	P	**Pn**	**15 23 10.0**	**+0.6**
47nm,0.8s							
SWI	**Sorong**	**12.73**	**60**	P	**Pn**	**15 23 09.2**	**-0.2**
baz=13,SNR=7.6							
KDU	**Kakadu**	**13.05**	**114**	P	**P**	**15 23 11.8**	**+0.2**
baz=13,SNR=26							
CBJI	**Citeko**	**13.40**	**274**	P	**Pn**	**15 23 17.5**	**+0.2**
197nm,0.5s,16μm							
WRA	**Warramunga Arr**	**18.41**	**134**	P	**P**	**15 24 09.8**	**+0.2**
2.3nm,0.3s,baz=312,slow=10,SNR=240							
WRA				S	**S**	**15 27 18.5**	**-1.4**
0.1nm,0.3s,baz=306,slow=19,SNR=4.5							
MEEK	**Meekatharra**	**19.14**	**185**	P	**P**	**15 24 18.1**	**+1.0**
baz=19,SNR=5.9							
ASAR	**Alice Springs**	**20.73**	**143**	P	**P**	**15 24 33.4**	**+1.1**
7.5nm,0.5s,baz=318,slow=9.1,SNR=119							
COEN	**Coen**	**23.36**	**108**	P	**P**	**15 24 56.1**	**-0.2**
baz=24,SNR=4.5							
STKA	**Stephens Creek**	**31.36**	**144**	P	**P**	**15 26 08.2**	**+1.4**
3.5nm,0.4s,baz=324,slow=8.9,SNR=24							
STKA	**Stephens Creek**	**31.36**	**144**	P	**P**	**15 26 08.2**	**+1.4**
baz=32,SNR=18							
RABL	**Rabaul**	**31.85**	**86**	P	P	15 26 07.4	-3.8
baz=32,SNR=3.8							
CMAR	**Chiang Mai Arr**	**33.28**	**321**	P	**P**	**15 26 23.9**	**+0.5**
1.0nm,0.6s,baz=141,slow=7.2,SNR=7.9							
MJAR	**Matsushiro Arr**	**46.88**	**20**	P	P	15 28 10.1	-3.5
1.1nm,0.7s,baz=204,slow=8.0,SNR=3.0							
USRK	**Ussuriysk Arra**	**52.49**	**11**	P	**P**	**15 28 53.4**	**-1.7**
0.8nm,0.5s,baz=202,slow=4.5,SNR=2.8							
SONM	**Songino Array**	**56.41**	**349**	P	**P**	**15 29 21.8**	**-1.4**
0.4nm,0.6s,baz=142,slow=7.3,SNR=2.7							
MKAR	**Makanchi Array**	**63.70**	**332**	P	**P**	**15 30 11.3**	**-0.7**
1.8nm,0.6s,baz=142,slow=7.4,SNR=18							
ZALV	**Zalesovo Beam**	**68.08**	**338**	P	**P**	**15 30 38.0**	**-1.5**
1.2nm,0.3s,baz=150,slow=3.5,SNR=9.3							
BVAR	**Borovoye Array**	**73.57**	**331**	P	**P**	**15 31 10.8**	**-1.3**
0.6nm,0.6s,baz=94,slow=5.8,SNR=5.3							
AKTO	**Aktyubinsk**	**78.71**	**325**	P	**P**	**15 31 39.2**	**-1.7**
1.1nm,0.5s,baz=53,slow=5.1,SNR=4.3							

IDC 02 15:21:50.8±0.9,**18°.94N**×**145°.54E**,**h207**km±8km,**mb3.5**/14, **mb1 3.6**/15,**mb1mx3.5**/28,**mbtmp3.5**/15,**Error ellipse: s-maj=21.8km s-min=8.9km az=92.0**,**Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**8.69**	**340**	S	S	15 25 24.1	-6.7
9.4nm,0.3s,baz=128,slow=16,SNR=3.8							
MJAR	**Matsushiro Arr**	**18.69**	**341**	P	P	15 25 53.1	-0.5
0.5nm,0.3s,baz=173,slow=13,SNR=6.0							
KSRS	**Korea Array**	**24.04**	**324**	P	P	15 26 47.0	+0.1
0.5nm,0.5s,baz=160,slow=8.5,SNR=3.5							
KSRS				pP	pP	15 27 26.5	+0.6
0.8nm,1.0s,baz=42,slow=41,SNR=1.5							
ASAJ	**Asahikawa**	**25.23**	**355**	P	P	15 26 57.3	-0.3
1.8nm,0.7s,baz=222,slow=12,SNR=3.5							
PETK	**Petropavlovsk-**	**35.39**	**13**	P	P	15 28 27.2	+0.5
0.7nm,0.7s,baz=175,slow=7.8,SNR=6.7							
CTA	**Charters Tower**	**38.79**	**179**	P	P	15 28 54.2	-1.4
1.9nm,0.5s,baz=12,slow=13,SNR=3.3							
WRA	**Warramunga Arr**	**40.17**	**196**	P	P	15 29 07.3	+0.3
7.1nm,0.6s,baz=19,slow=8.9,SNR=16							
FITZ	**Fitzroy Crossi**	**41.68**	**209**	P	P	15 29 19.7	+0.4
2.7nm,0.3s,baz=29,slow=9.8,SNR=10							
ASAR	**Alice Springs**	**43.84**	**195**	P	P	15 29 37.0	+0.3
1.5nm,0.5s,baz=11,slow=7.3,SNR=14							
DZM	**Mont Dzumac**	**45.60**	**152**	P	P	15 29 50.9	+0.3
7.6nm,0.5s,baz=311,slow=9.3,SNR=12							
STKA	**Stephens Creek**	**50.66**	**184**	P	P	15 30 28.0	-1.1
1.1nm,0.4s,baz=4.5,slow=11,SNR=6.6							
ZALV	**Zalesovo Beam**	**57.74**	**322**	pP	pP	15 32 05.2	-1.6
0.6nm,0.6s,baz=117,slow=8.3,SNR=2.3							
ILAR	**Eielson Array**	**63.50**	**26**	P	P	15 31 57.1	-1.5
0.3nm,0.7s,baz=272,slow=5.1,SNR=4.7							
BVAR	**Borovoye Array**	**66.20**	**320**	P	P	15 32 16.6	+0.3
0.9nm,0.6s,baz=95,slow=8.3,SNR=5.4							
BVAR				pP	pP	15 33 03.5	-0.8
1.8nm,0.9s,baz=101,slow=7.6,SNR=3.5							
BVAR				sP	sP	15 33 27.8	+1.0
0.7nm,0.5s,baz=89,slow=6.8,SNR=2.4							
YKA	**Yellowknife Ar**	**77.85**	**28**	P	P	15 33 26.5	+1.3
0.4nm,0.6s,baz=288,slow=4.8,SNR=2.9							
ARCES	**ARCESS Array B**	**82.22**	**342**	P	P	15 33 47.6	-0.9
1.1nm,0.8s,baz=76,slow=7.5,SNR=2.5							
NVAR	**Mina Array Bea**	**83.11**	**52**	P	P	15 33 54.3	+0.4
1.1nm,0.7s,baz=270,slow=5.4,SNR=7.6							
FINES	**FINESS Array B**	**86.61**	**335**	P	P	15 34 08.0	-2.6
5.2nm,1.1s,baz=78,slow=7.4,SNR=4.3							
LPAZ	**La Paz**	**147.83**	**91**	PKPbc	PKPbc	15 41 12.1	-0.8
1.4nm,0.8s,baz=315,slow=5.7,SNR=6.6							

*ISCJB **02** 15:26:06.3±0.2,44°.78N±0°.01×6°.72E±0°.02,h2km±2km, Error ellipse: s-maj=1.9km s-min=1.6km az=143.3*
*ROM **02** 15:26:06.9±0.3,44°.76N×6°.78E,h4km±2km,Ml2.8/14, Error ellipse: s-maj=3.8km s-min=1.6km az=66.0*
*CSEM **02** 15:26:07.5±0.1,44°.76N×6°.76E,h2km,ML3.3/36,Error ellipse: s-maj=1.3km s-min=1.1km az=49.0*
*LDG **02** 15:26:08.8±0.1,44°.72N×6°.82E,h2km,Md3.2/3,Ml3.3/33, Error ellipse: s-maj=1.3km s-min=1.0km az=74.0*
*PRU **02** 15:26:09.1,44°.91N×6°.39E,h3km*
*STR **02** 15:26:09.1±0.1,44°.69N×6°.75E,h5km,Ml3.1, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 02 15:26:08.0±0.8,**44°.76N**±0°.01×**6°.76E**±0°.01,**h5**km±5km, **n190**,σ0°**98**/302,**4C-2D**,**France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBDF	**Montbardon**	**0.03**	**165**	*e*Pg	**Pg**	**15 26 08.7**	**-0.5**
SNR=1.0							
MBDF				*e*Sg	**Sg**	**15 26 09.5**	**-0.6**
15μm,0.2s							
MBDF	**Montbardon**	**0.03**	**165**	*e*Pg	**Pg**	**15 26 08.7**	**-0.5**
SNR=1.0							
MBDF				*e*Sg	**Sg**	**15 26 09.5**	**-0.6**
7μm,0.2s							
SURF	**Saint Ours**	**0.28**	**172**	Pg	**Pg**	**15 26 13.4**	**0.0**
SURF				Sg	**Sg**	**15 26 17.1**	**0.0**
SURF	**Saint Ours**	**0.28**	**172**	Pg	**Pg**	**15 26 13.4**	**0.0**
SURF				Sg	**Sg**	**15 26 17.1**	**0.0**
BNI	**Bardonecchia**	**0.30**	**349**	Pg	**Pg**	**15 26 13.7**	**-0.2**
BNI				Sg	**Sg**	**15 26 17.7**	**-0.2**
305nm,0.3s							
BNI	**Bardonecchia**	**0.30**	**349**	Pg	**Pg**	**15 26 13.7**	**-0.2**
BNI				Sg	**Sg**	**15 26 17.7**	**-0.2**
305nm,0.3s							
PZZ	**Stroppo**	**0.36**	**134**	Pg	**Pg**	**15 26 14.7**	**-0.2**
PZZ				Sg	**Sg**	**15 26 19.7**	**+0.1**
2μm,0.8s							
PZZ	**Stroppo**	**0.36**	**134**	P	**Pg**	**15 26 14.6**	**-0.3**
PZZ				S	**Sg**	**15 26 19.6**	**0.0**
DOI	**San Damiano**	**0.43**	**126**	Pg	**Pg**	**15 26 16.2**	**0.0**
DOI				Sg	**Sg**	**15 26 22.4**	**+0.5**
871nm,0.3s							
DOI	**San Damiano**	**0.43**	**126**	Pg	**Pg**	**15 26 16.2**	**0.0**
DOI				Sg	**Sg**	**15 26 22.4**	**+0.5**
871nm,0.3s							
RSP	**Reno Superiore**	**0.53**	**42**	Pg	**Pg**	**15 26 18.5**	**+0.3**
RSP				Sg	**Sg**	**15 26 25.7**	**+0.6**
497nm,0.2s							
RSP	**Reno Superiore**	**0.53**	**42**	P	**Pg**	**15 26 18.2**	**0.0**
RSP	**Reno Superiore**	**0.53**	**42**	Pg	**Pg**	**15 26 18.5**	**+0.3**
RSP				S	**Sg**	**15 26 25.6**	**+0.5**
ORIF	**Oris-en-Rattie**	**0.65**	**285**	*e*Pg	**Pg**	**15 26 19.5**	**-0.9**
SNR=1.0							
ORIF				*e*Sg	**Sg**	**15 26 27.6**	**-1.2**
271nm,0.3s							
ORIF	**Oris-en-Rattie**	**0.65**	**285**	*e*Pg	**Pg**	**15 26 19.5**	**-0.9**
SNR=1.0							
ORIF				*e*Sg	**Sg**	**15 26 27.6**	**-1.2**
135nm,0.3s							
STV	**Sant Anna di V**	**0.65**	**141**	Pg	**Pg**	**15 26 20.2**	**-0.3**
STV				Sg	**Sg**	**15 26 29.4**	**+0.5**
217nm,0.4s							
STV	**Sant Anna di V**	**0.65**	**141**	P	**Pg**	**15 26 19.9**	**-0.6**
STV	**Sant Anna di V**	**0.65**	**141**	Pg	**Pg**	**15 26 20.2**	**-0.3**
STV				S	**Sg**	**15 26 28.3**	**-0.6**
STV				Sg	**Sg**	**15 26 29.4**	**+0.5**
217nm,0.4s							
ENR	**Entracque**	**0.71**	**138**	P	**Pg**	**15 26 21.1**	**-0.5**
ENR				S	**Sg**	**15 26 30.1**	**-0.7**
LPG	**La Plagne**	**0.74**	**360**	*e*Pg	**Pg**	**15 26 21.9**	**-0.3**
SNR=1.0							
LPG				*e*Sg	**Sg**	**15 26 33.6**	**+1.7**
300nm,0.3s							
LPG	**La Plagne**	**0.74**	**360**	*e*Pg	**Pg**	**15 26 21.9**	**-0.3**
SNR=1.0							
LPG				*e*Sg	**Sg**	**15 26 33.6**	**+1.7**
150nm,0.3s							
LSD	**Lago del Serru**	**0.75**	**20**	Pg	**Pg**	**15 26 22.0**	**-0.5**
LSD				Sg	**Sg**	**15 26 31.9**	**-0.2**
442nm,0.2s							
LSD	**Lago del Serru**	**0.75**	**20**	P	**Pg**	**15 26 21.9**	**-0.5**
LSD				S	**Sg**	**15 26 32.0**	**-0.2**
LPL	**La Plagne**	**0.76**	**359**	*e*Pg	**Pg**	**15 26 22.2**	**-0.4**
SNR=1.0							
LPL				*e*Sg	**Sg**	**15 26 33.9**	**+1.4**
387nm,0.4s,SNR=1.0							
LPL	**La Plagne**	**0.76**	**359**	*e*Pg	**Pg**	**15 26 22.2**	**-0.4**
SNR=1.0							
LPL				*e*Sg	**Sg**	**15 26 33.9**	**+1.4**
194nm,0.4s,SNR=1.0							
TOUF	**Mont Tournerai**	**0.82**	**155**	Pg	**Pg**	**15 26 23.4**	**-0.3**
TOUF	**Mont Tournerai**	**0.82**	**155**	Pg	**Pg**	**15 26 23.4**	**-0.3**
MONC	**Moncucco Torin**	**0.89**	**69**	Pg	**Pg**	**15 26 25.9**	**+0.9**
524nm,0.5s							
MONC	**Moncucco Torin**	**0.89**	**69**	Pg	**Pg**	**15 26 25.9**	**+0.9**
524nm,0.5s							
AUTN	**L'Aution**	**0.90**	**148**	Pg	**Pg**	**15 26 25.2**	**0.0**
AUTN				Sg	**Sg**	**15 26 36.9**	**0.0**
AUTN	**L'Aution**	**0.90**	**148**	Pg	**Pg**	**15 26 25.2**	**0.0**
AUTN				Sg	**Sg**	**15 26 36.9**	**0.0**
MVIF	**Mont Vial**	**0.91**	**162**	Pg	**Pg**	**15 26 25.2**	**-0.1**
MVIF	**Mont Vial**	**0.91**	**162**	Pg	**Pg**	**15 26 25.2**	**-0.1**
SAOF	**Saorge**	**0.96**	**143**	Pg	**Pg**	**15 26 26.0**	**-0.3**
SAOF	**Saorge**	**0.96**	**143**	Pg	**Pg**	**15 26 26.0**	**-0.3**
LUCF	**Luceram**	**0.96**	**154**	Pg	**Pg**	**15 26 25.9**	**-0.5**
LUCF	**Luceram**	**0.96**	**154**	Pg	**Pg**	**15 26 25.9**	**-0.5**
CALN	**Calern**	**1.01**	**175**	Pg	**Pg**	**15 26 27.3**	**0.0**
CALN	**Calern**	**1.01**	**175**	Pg	**Pg**	**15 26 27.3**	**0.0**
SBF	**Sospel**	**1.02**	**151**	*e*Pg	**Pg**	**15 26 27.1**	**-0.3**
SBF				*e*Sg	**Sg**	**15 26 39.7**	**-0.9**
515nm,0.4s,SNR=1.0							
SBF	**Sospel**	**1.02**	**151**	*e*Pg	**Pg**	**15 26 27.1**	**-0.3**
SBF				*e*Sg	**Sg**	**15 26 39.7**	**-0.9**
258nm,0.4s,SNR=1.0							
TRAV	**Traversella**	**1.03**	**42**	Pg	**Pg**	**15 26 27.1**	**-0.6**
TRAV				Sg	**Sg**	**15 26 40.2**	**-0.9**
371nm,0.3s							
TRAV	**Traversella**	**1.03**	**42**	P	**Pg**	**15 26 27.0**	**-0.6**
TRAV				S	**Sg**	**15 26 40.0**	**-1.1**
MRGE	**Morge**	**1.03**	**12**	Pg	**Pg**	**15 26 27.2**	**-0.6**
93nm,0.6s							
MRGE	**Morge**	**1.03**	**12**	Pg	**Pg**	**15 26 27.2**	**-0.6**
93nm,0.6s							
REVF	**Revere**	**1.11**	**157**	Pg	**Pg**	**15 26 28.9**	**-0.2**
REVF				Sg	**Sg**	**15 26 44.1**	**+0.6**
REVF	**Revere**	**1.11**	**157**	Pg	**Pg**	**15 26 28.9**	**-0.2**
REVF				Sg	**Sg**	**15 26 44.1**	**+0.6**
NEGI	**Seborga**	**1.13**	**143**	P	**Pg**	**15 26 28.4**	**-1.3**
NEGI				S	**Sg**	**15 26 41.8**	**-2.6**
RORO	**Rocca Rossa**	**1.14**	**124**	Pg	**Pg**	**15 26 28.7**	**-1.0**
118nm,0.3s							
RORO	**Rocca Rossa**	**1.14**	**124**	Pg	**Pg**	**15 26 28.7**	**-1.0**
118nm,0.3s							
RORO				S	**Sg**	**15 26 42.3**	**-2.1**
SMRF	**Simiane la Rot**	**1.15**	**228**	*e*Pg	**Pg**	**15 26 30.1**	**0.0**
SNR=1.0							
SMRF				*e*Sg	**Sg**	**15 26 45.8**	**+0.8**
228nm,0.4s,SNR=1.0							
SMRF	**Simiane la Rot**	**1.15**	**228**	*e*Pg	**Pg**	**15 26 30.1**	**0.0**
SNR=1.0							
SMRF				*e*Sg	**Sg**	**15 26 45.8**	**+0.8**
114nm,0.4s,SNR=1.0							
FRF	**La Foret Royal**	**1.20**	**184**	*e*Pg	**Pg**	**15 26 30.4**	**-0.5**
SNR=1.0							
FRF				*e*Sg	**Sg**	**15 26 45.8**	**-0.6**
369nm,0.5s,SNR=1.0							
FRF	**La Foret Royal**	**1.20**	**184**	*e*Pg	**Pg**	**15 26 30.4**	**-0.5**
SNR=1.0							
FRF				*e*Sg	**Sg**	**15 26 45.8**	**-0.6**
184nm,0.5s,SNR=1.0							
QLNO	**Quiliano**	**1.21**	**110**	Pg	**Pg**	**15 26 30.6**	**-0.6**
117nm,0.3s							
QLNO	**Quiliano**	**1.21**	**110**	Pg	**Pg**	**15 26 30.6**	**-0.6**
117nm,0.3s							
ORO	**Oropa**	**1.23**	**44**	Pg	**Pg**	**15 26 30.1**	**-1.4**
148nm,0.2s							
ORO	**Oropa**	**1.23**	**44**	Pg	**Pg**	**15 26 30.1**	**-1.4**
148nm,0.2s							
FINB	**Finale Ligure**	**1.26**	**117**	Pg	**Pg**	**15 26 31.4**	**-0.7**
FINB				Sg	**Sg**	**15 26 48.0**	**-0.5**
361nm,0.3s							
FINB	**Finale Ligure**	**1.26**	**117**	Pg	**Pg**	**15 26 31.4**	**-0.7**
FINB				Sg	**Sg**	**15 26 48.0**	**-0.5**
361nm,0.3s							
PCP	**Piancastagn**	**1.29**	**99**	Pg	**Pg**	**15 26 31.8**	**-1.0**
57nm,0.3s							
PCP	**Piancastagn**	**1.29**	**99**	P	**Pg**	**15 26 31.7**	**-1.0**
PCP				S	**Sg**	**15 26 47.6**	**-1.9**
DIX	**Grande Dixence**	**1.40**	**19**	Pg	**Pn**	**15 26 33.9**	**-0.5**

2d 15h

VLX			*e*SN	**Sb**	**14 56 35.8**	**+0.5**
VLX	**Vlachokerasia**	**1.02**	**224**	P	**Pg**	**14 56 21.3**	**-0.8**
VLX	**Vlachokerasia**	**1.02**	**224**	*e*Pn	**Pb**	**14 56 21.7**	**-0.3**
VLX				*e*Sn	**Sb**	**14 56 35.8**	**+0.5**
LAKA	**Lakka**	**1.02**	**278**	*e*PN	**Pn**	**14 56 22.5**	**0.0**
LAKA	**Lakka**	**1.02**	**278**	*e*Pn	**Pn**	**14 56 22.5**	**0.0**
PSA1	**Psathopyrgos**	**1.11**	**282**	*e*PN	**Pn**	**14 56 24.0**	**+0.3**
EFP	**Efpalio**	**1.11**	**287**	*e*PN	**Pg**	**14 56 23.5**	**-0.4**
EFP	**Efpalio**	**1.11**	**287**	*e*Pn	**Pg**	**14 56 23.5**	**-0.4**
AOS	**Alonnisos**	**1.16**	**24**	P	**Pb**	**14 56 23.5**	**-0.9**
AOS	**Alonnisos**	**1.16**	**24**	*e*PN	**Pb**	**14 56 23.5**	**-0.9**
AOS	**Alonnisos**	**1.16**	**24**	P	**Pb**	**14 56 23.5**	**-0.9**
AGG	**Agios Georgios**	**1.17**	**322**	P	**Pb**	**14 56 23.8**	**-0.7**
AGG	**Agios Georgios**	**1.17**	**322**	*e*PN	**Pb**	**14 56 24.0**	**-0.5**
AGG	**Agios Georgios**	**1.17**	**322**	P	**Pb**	**14 56 23.8**	**-0.7**
NEO	**Neokhori**	**1.20**	**359**	P	**Pn**	**14 56 24.5**	**-0.4**
NEO	**Neokhori**	**1.20**	**359**	*e*PN	**Pn**	**14 56 24.5**	**-0.4**
NEO				*e*SN	**Sn**	**14 56 41.3**	**+0.2**
NEO	**Neokhori**	**1.20**	**359**	P	**Pn**	**14 56 24.5**	**-0.4**
NEO				*e*Sn	**Sn**	**14 56 41.3**	**+0.2**
XOR	**Xorichti**	**1.25**	**357**	P	**Pn**	**14 56 25.5**	**-0.3**
XOR	**Xorichti**	**1.25**	**357**	P	**Pn**	**14 56 25.5**	**-0.3**
AMT	**Artemida-Makis**	**1.36**	**245**	*e*PN	**Pg**	**14 56 28.1**	**-0.5**
AMT	**Artemida-Makis**	**1.36**	**245**	*e*Pn	**Pg**	**14 56 28.1**	**-0.5**
EVR	**Evrytania**	**1.40**	**306**	*e*PN	**Pg**	**14 56 29.1**	**-0.2**
EVR				*e*SN	**Sg**	**14 56 48.3**	**+0.8**
EVR	**Evrytania**	**1.40**	**306**	*e*Pn	**Pg**	**14 56 29.1**	**-0.2**
EVR				*e*Sn	**Sg**	**14 56 48.3**	**+0.8**
ITM	**Ithomi**	**1.41**	**229**	*e*PN	**Pb**	**14 56 28.2**	**-0.4**
ITM	**Ithomi**	**1.41**	**229**	*e*Pn	**Pb**	**14 56 28.2**	**-0.4**
VLI	**Veliai**	**1.41**	**191**	*e*PN	**Pb**	**14 56 28.3**	**-0.4**
VLI	**Veliai**	**1.41**	**191**	*e*Pn	**Pb**	**14 56 28.3**	**-0.4**
RLS	**Riolos of Patr**	**1.42**	**268**	*e*PN	**Pb**	**14 56 28.9**	**+0.1**
RLS	**Riolos of Patr**	**1.42**	**268**	*e*Pn	**Pb**	**14 56 28.9**	**+0.1**
DYR	**Agios Nikonas**	**1.54**	**209**	*e*PN	**Pb**	**14 56 30.5**	**-0.3**
DYR				*e*SN	**Sg**	**14 56 51.2**	**-0.7**
DYR	**Agios Nikonas**	**1.54**	**209**	*e*Pn	**Pb**	**14 56 30.5**	**-0.3**
DYR				*e*Sn	**Sg**	**14 56 51.2**	**-0.7**
PYL	**PYLOS**	**1.71**	**225**	*e*PN	**Pb**	**14 56 33.9**	**+0.1**
PYL	**PYLOS**	**1.71**	**225**	*e*Pn	**Pb**	**14 56 33.9**	**+0.1**
THL	**Klokotos Trika**	**1.75**	**327**	*e*PN	**Pb**	**14 56 34.3**	**-0.1**
THL	**Klokotos Trika**	**1.75**	**327**	*e*Pn	**Pb**	**14 56 34.3**	**-0.1**
KYTH	**Kithira**	**1.83**	**186**	*e*PN	**Pn**	**14 56 34.4**	**+0.7**
KYTH	**Kithira**	**1.83**	**186**	*e*Pn	**Pn**	**14 56 34.4**	**+0.7**
LIT	**Litokhoron**	**2.08**	**343**	*e*PN	**Pn**	**14 56 37.9**	**+0.8**
LIT	**Litokhoron**	**2.08**	**343**	*e*Pn	**Pn**	**14 56 37.9**	**+0.8**
APE	**Apeiranthos**	**2.08**	**119**	*e*PB	**Pn**	**14 56 37.4**	**+0.3**
APE	**Apeiranthos**	**2.08**	**119**	*e*Pb	**Pn**	**14 56 37.4**	**+0.3**
VLS	**Valsamata**	**2.11**	**273**	*e*PN	**Pb**	**14 56 39.5**	**-1.1**
VLS	**Valsamata**	**2.11**	**273**	*e*Pn	**Pb**	**14 56 39.5**	**-1.1**
LKD2	**Lefkada island**	**2.15**	**289**	*e*PN	**Pb**	**14 56 39.3**	**+1.2**
LKD2	**Lefkada island**	**2.15**	**289**	*e*Pn	**Pb**	**14 56 39.3**	**+1.2**
CHOS	**Chios island**	**2.21**	**82**	*e*PN	**Pn**	**14 56 39.5**	**+0.5**
CHOS	**Chios island**	**2.21**	**82**	*e*Pn	**Pn**	**14 56 39.5**	**+0.5**
ANKY	**Antikythira Is**	**2.24**	**179**	*e*PN	**Pn**	**14 56 39.3**	**+0.1**
ANKY	**Antikythira Is**	**2.24**	**179**	*e*Pn	**Pn**	**14 56 39.3**	**+0.1**
PLG	**Polygyros**	**2.27**	**4**	*e*PN	**Pn**	**14 56 39.8**	**+0.1**
PLG	**Polygyros**	**2.27**	**4**	*e*Pn	**Pn**	**14 56 39.8**	**+0.1**
SOH	**Sokhos**	**2.71**	**1**	*e*PN	**Pn**	**14 56 46.7**	**+0.9**
SOH	**Sokhos**	**2.71**	**1**

DIX	Grande Dixence	1.40	19	Pg	Pn	15 26 33.9	-0.5
LMR	La Mourre	1.43	187	ePg	Pn	15 26 34.4	-0.2
	SNR=1.0						
LMR				eSg	Sb	15 26 53.2	-0.5
	116nm,0.2s						
LMR	La Mourre	1.43	187	ePg	Pn	15 26 34.4	-0.2
	SNR=1.0						
LMR				eSg	Sb	15 26 53.2	-0.5
	58nm,0.2s						
VIVF	Saint-Julien-I	1.49	275	ePn	Pn	15 26 35.1	-0.3
	SNR=1.0						
VIVF	Saint-Julien-I	1.49	275	ePg	Pn	15 26 36.5	+1.1
VIVF				eSg	Sg	15 26 57.1	+1.3
	120nm,0.4s						
VIVF	Saint-Julien-I	1.49	275	ePn	Pn	15 26 35.1	-0.3
	SNR=1.0						
VIVF	Saint-Julien-I	1.49	275	ePg	Pn	15 26 36.5	+1.1
VIVF				eSg	Sg	15 26 57.1	+1.3
	60nm,0.4s						
MMK	Mattmark	1.55	33	Pg	Pn	15 26 36.3	-0.1
MMK	Mattmark	1.55	33	Pg	Pn	15 26 36.3	-0.1
SSB	Saint Sauveur	1.66	289	Pn	Pn	15 26 37.3	-0.4
SSB	Saint Sauveur	1.66	289	Pn	Pn	15 26 37.3	-0.4
CABF	La Chapelle	1.91	346	ePn	Pn	15 26 41.9	+0.6
	SNR=1.0						
CABF	La Chapelle	1.91	346	ePg	Pg	15 26 45.4	+0.8
	SNR=1.0						
CABF				eSg	Sg	15 27 10.6	+1.2
	80nm,0.5s,SNR=1.0						
CABF	La Chapelle	1.91	346	ePn	Pn	15 26 41.9	+0.6
	SNR=1.0						
CABF	La Chapelle	1.91	346	ePg	Pg	15 26 45.4	+0.8
	SNR=1.0						
CABF				eSg	Sg	15 27 10.6	+1.2
	40nm,0.5s,SNR=1.0						
LASF	Ste Croix	2.19	253	ePn	Pn	15 26 44.3	-0.7
	SNR=1.0						
LASF	Ste Croix	2.19	253	ePg	Pg	15 26 50.2	+0.3
	SNR=1.0						
LASF				eSn	Sn	15 27 11.1	-1.4
	38nm,0.5s,SNR=1.0						
LASF	Ste Croix	2.19	253	ePn	Pn	15 26 44.3	-0.7
	SNR=1.0						
LASF	Ste Croix	2.19	253	ePg	Pg	15 26 50.2	+0.3
	SNR=1.0						
LASF				eSn	Sn	15 27 11.1	-1.4
	19nm,0.5s,SNR=1.0						
LBL	Lubilhac	2.54	282	Pn	Pn	15 26 50.3	+0.5
LBL	Lubilhac	2.54	282	Pn	Pn	15 26 50.3	+0.5
PGF	Pioggiola	2.74	143	ePn	Pn	15 26 52.7	0.0
	SNR=1.0						
PGF				eSn	Sn	15 27 22.8	-3.4
	18nm,0.3s,SNR=1.0						
PGF	Pioggiola	2.74	143	ePn	Pn	15 26 52.7	0.0
	SNR=1.0						
SMF	Signal de Mont	2.78	314	ePn	Pn	15 26 54.0	+0.8
	SNR=1.0						
SMF	Signal de Mont	2.78	314	ePg	Pg	15 27 00.8	-0.5
SMF				eSg	Sg	15 27 37.9	+0.5
	28nm,0.3s						
SMF	Signal de Mont	2.78	314	ePn	Pn	15 26 54.0	+0.8
	SNR=1.0						
SMF	Signal de Mont	2.78	314	ePg	Pg	15 27 00.8	-0.5
SMF				eSg	Sg	15 27 37.9	+0.5
	14nm,0.3s						
PYM	Petit Puy Mans	2.83	292	Pn	Pn	15 26 54.2	+0.3
PYM	Petit Puy Mans	2.83	292	Pg	Pg	15 27 02.3	+0.1
PYM	Petit Puy Mans	2.83	292	Pn	Pn	15 26 54.2	+0.3
PYM	Petit Puy Mans	2.83	292	Pg	Pg	15 27 02.3	+0.1
AGO	Saint Agoulin	2.87	298	Pn	Pn	15 26 54.7	+0.4
AGO	Saint Agoulin	2.87	298	Pn	Pn	15 26 54.7	+0.4
FRNF	Fournols	3.04	283	Pn	Pn	15 26 56.4	-0.3
FRNF	Fournols	3.04	283	Pg	Pg	15 27 06.1	-0.1
FRNF	Fournols	3.04	283	Pn	Pn	15 26 56.4	-0.3
FRNF	Fournols	3.04	283	Pg	Pg	15 27 06.1	-0.1
HINF	Hinteralfeld	3.06	1	ePn	Pn	15 26 56.9	-0.1
	SNR=1.0						
HINF				eSg	Sg	15 27 46.1	-0.2
	22nm,0.5s						
HINF	Hinteralfeld	3.06	1	ePn	Pn	15 26 56.9	-0.1
	SNR=1.0						
HINF				eSg	Sg	15 27 46.1	-0.2
	11nm,0.5s						
AVF	Avril sur Loir	3.13	312	ePn	Pn	15 26 58.5	+0.5
	SNR=1.0						
AVF	Avril sur Loir	3.13	312	ePg	Pg	15 27 07.1	-0.9
AVF				eSg	Sg	15 27 48.8	+0.2
	30nm,0.5s						
AVF	Avril sur Loir	3.13	312	ePn	Pn	15 26 58.5	+0.5
	SNR=1.0						
AVF	Avril sur Loir	3.13	312	ePg	Pg	15 27 07.1	-0.9
AVF				eSg	Sg	15 27 48.8	+0.2
	15nm,0.5s						
LOR	Lormes	3.23	322	ePn	Pn	15 26 59.5	+0.3
	baz=144,SNR=1.0						
LOR	Lormes	3.23	322	ePg	Pg	15 27 09.9	+0.2
LOR	Lormes	3.23	322	ePn	Pn	15 26 59.5	+0.3
	baz=144,SNR=1.0						
LOR	Lormes	3.23	322	ePg	Pg	15 27 09.9	+0.2
FELD	Feldberg im Sc	3.24	15	Pn	Pn	15 27 00.1	+0.6
SSF	Saint Saulge	3.24	317	ePn	Pn	15 26 59.5	+0.1
	SNR=1.0						
SSF	Saint Saulge	3.24	317	ePg	Pg	15 27 09.3	-0.6
SSF				eSn	Sn	15 27 37.0	-1.3
	SNR=1.0						
SSF				eSg	Sg	15 27 51.9	0.0
	17nm,0.3s						
SSF	Saint Saulge	3.24	317	ePn	Pn	15 26 59.5	+0.1
	SNR=1.0						
SSF	Saint Saulge	3.24	317	ePg	Pg	15 27 09.3	-0.6
SSF				eSn	Sn	15 27 37.0	-1.3
	SNR=1.0						
SSF				eSg	Sg	15 27 51.9	0.0
	8.6nm,0.3s						
HAU	Haudompre	3.26	355	ePn	Pn	15 26 59.5	-0.3
	SNR=1.0						
HAU				eSn	Sn	15 27 37.1	-1.9
	SNR=1.0						
HAU				eSg	Sg	15 27 52.4	-0.3
	18nm,0.4s						
HAU	Haudompre	3.26	355	ePn	Pn	15 26 59.5	-0.3
	SNR=1.0						
HAU				eSn	Sn	15 27 37.1	-1.9
	SNR=1.0						
HAU				eSg	Sg	15 27 52.4	-0.3
	8.8nm,0.4s						
BGF	Bois d'Agland	3.28	305	ePn	Pn	15 27 00.2	+0.2
	SNR=1.0						
BGF	Bois d'Agland	3.28	305	ePg	Pg	15 27 09.8	-1.0
BGF				eSg	Sg	15 27 53.4	0.0
	51nm,0.4s						
BGF	Bois d'Agland	3.28	305	ePn	Pn	15 27 00.2	+0.2
	SNR=1.0						
BGF	Bois d'Agland	3.28	305	ePg	Pg	15 27 09.8	-1.0
BGF				eSg	Sg	15 27 53.4	0.0
	25nm,0.4s						
CAF	Calviac	3.34	275	ePn	Pn	15 27 01.0	+0.1
	SNR=1.0						
CAF	Calviac	3.34	275	ePg	Pg	15 27 11.9	-0.1
CAF				eSn	Sn	15 27 39.5	-1.5
	SNR=1.0						
CAF				eSg	Sg	15 27 55.0	-0.3
	19nm,0.6s,SNR=1.0						
CAF	Calviac	3.34	275	ePn	Pn	15 27 01.0	+0.1
	SNR=1.0						
CAF	Calviac	3.34	275	ePg	Pg	15 27 11.9	-0.1
CAF				eSn	Sn	15 27 39.5	-1.5
	SNR=1.0						
CAF				eSg	Sg	15 27 55.0	-0.3
	9.6nm,0.6s,SNR=1.0						
THEF	They Montfort	3.51	352	Pn	Pn	15 27 03.1	-0.1
THEF	They Montfort	3.51	352	Pn	Pn	15 27 03.1	-0.1
TCF	Toulx Ste Croi	3.55	297	ePn	Pn	15 27 03.9	+0.2
	SNR=1.0						
TCF	Toulx Ste Croi	3.55	297	ePg	Pg	15 27 15.8	-0.1
TCF				eSn	Sn	15 27 44.2	-1.8
	SNR=1.0						
TCF				eSg	Sg	15 28 01.7	-0.1
	36nm,0.7s,SNR=1.0						
TCF	Toulx Ste Croi	3.55	297	ePn	Pn	15 27 03.9	+0.2
	SNR=1.0						
TCF	Toulx Ste Croi	3.55	297	ePg	Pg	15 27 15.8	-0.1
TCF				eSn	Sn	15 27 44.2	-1.8
	SNR=1.0						
TCF				eSg	Sg	15 28 01.7	-0.1
	18nm,0.7s,SNR=1.0						
MTLF	Montolieu	3.57	248	ePn	Pn	15 27 03.5	-0.4
	SNR=1.0						
MTLF	Montolieu	3.57	248	ePg	Pb	15 27 14.7	+3.2
MTLF				eSn	Sn	15 27 44.1	-2.4
	9.0nm,0.4s,SNR=1.0						
MTLF	Montolieu	3.57	248	ePn	Pn	15 27 03.5	-0.4
	SNR=1.0						
MTLF	Montolieu	3.57	248	ePg	Pb	15 27 14.7	+3.2
FETA	Feichten	3.58	49	⇑iPn	Pn	15 27 05.6	+1.4
	SNR=5.4						
FETA	Feichten	3.58	49	Pn	Pn	15 27 05.6	+1.4
	SNR=5.4						
EJON	La Jonquera	3.64	232	P	Pn	15 27 05.7	+0.8
	0.3nm,0.1s,SNR=7.9						
SFTF	Sexfontaines	3.65	342	ePn	Pn	15 27 05.1	+0.1
SFTF				eSg	Sg	15 28 04.7	-0.4
	18nm,0.5s						
SFTF	Sexfontaines	3.65	342	ePn	Pn	15 27 05.1	+0.1
SFTF				eSg	Sg	15 28 04.7	-0.4
	8.8nm,0.5s						
CDF	Champ du Feu	3.67	5	ePn	Pn	15 27 05.0	-0.5
	SNR=1.0						
CDF	Champ du Feu	3.67	5	ePg	Pg	15 27 17.6	-0.7
CDF				eSg	Sg	15 28 05.1	-0.8
	12nm,0.5s,SNR=1.0						
CDF	Champ du Feu	3.67	5	ePn	Pn	15 27 05.0	-0.5
	SNR=1.0						
CDF	Champ du Feu	3.67	5	ePg	Pg	15 27 17.6	-0.7
CDF				eSg	Sg	15 28 05.1	-0.8
	5.9nm,0.5s,SNR=1.0						
RJF	Les Rejaudoux	3.76	280	ePn	Pn	15 27 07.0	+0.5
	SNR=1.0						
RJF	Les Rejaudoux	3.76	280	ePg	Pg	15 27 19.5	-0.4
RJF				eSg	Sg	15 28 08.1	-0.5
	50nm,0.9s,SNR=1.0						
RJF	Les Rejaudoux	3.76	280	ePn	Pn	15 27 07.0	+0.5
	SNR=1.0						
RJF	Les Rejaudoux	3.76	280	ePg	Pg	15 27 19.5	-0.4
RJF				eSg	Sg	15 28 08.1	-0.5
	25nm,0.9s,SNR=1.0						
PAGF	Fort de Pagny	3.87	350	ePn	Pn	15 27 08.2	+0.2
	baz=170						
PAGF				eSg	Sg	15 28 11.4	-0.7
	5.7nm,0.6s						
PAGF	Fort de Pagny	3.87	350	ePn	Pn	15 27 08.2	+0.2
	baz=170						
PAGF				eSg	Sg	15 28 11.4	-0.7
	2.8nm,0.6s						
MEZF	Maizieres J'vi	3.93	343	ePn	Pn	15 27 08.6	-0.2
	SNR=1.0						
MEZF	Maizieres J'vi	3.93	343	ePg	Pg	15 27 22.6	-0.6
MEZF				eSg	Sg	15 28 13.3	-0.7
	30nm,0.5s						
MEZF	Maizieres J'vi	3.93	343	ePn	Pn	15 27 08.6	-0.2
	SNR=1.0						
MEZF	Maizieres J'vi	3.93	343	ePg	Pg	15 27 22.6	-0.6
MEZF				eSg	Sg	15 28 13.3	-0.7
	15nm,0.5s						
MOTA	Moosalm	3.98	48	⇓iPn	Pn	15 27 10.5	+0.8
	SNR=4.3						
MOTA				⇑iSn	Sn	15 27 57.0	+0.2
MOTA	Moosalm	3.98	48	Pn	Pn	15 27 10.5	+0.8
	SNR=4.3						
MOTA				Sn	Sn	15 27 57.0	+0.2
CLLI	Llivia	4.15	238	P	Pn	15 27 12.7	+0.6
	0.7nm,0.6s,SNR=13						
CLLI				S	Sn	15 28 00.6	-0.5
	4.4nm,0.3s						
WTTA	Wattenberg	4.22	52	⇑iPn	Pn	15 27 13.8	+0.7
	SNR=5.7						
WTTA	Wattenberg	4.22	52	Pn	Pn	15 27 13.8	+0.7
	SNR=5.7						
LFF	La Frestale	4.29	275	ePn	Pn	15 27 13.9	+0.1
	SNR=1.0						
LFF	La Frestale	4.29	275	ePg	Pg	15 27 29.2	-0.8
LFF				eSg	Sg	15 28 24.5	-1.0
	46nm,0.9s,SNR=1.0						
LFF	La Frestale	4.29	275	ePn	Pn	15 27 13.9	+0.1
	SNR=1.0						
LFF	La Frestale	4.29	275	ePg	Pg	15 27 29.2	-0.8
LFF				eSg	Sg	15 28 24.5	-1.0
	23nm,0.9s,SNR=1.0						
CFON	Fontmartina	4.35	228	P	Pn	15 27 15.3	+0.5
	1.3nm,0.2s,SNR=25						
CFON				S	Sn	15 28 04.0	-1.9
	13nm,0.3s						
CSOR	Sort	4.73	242	P	Pn	15 27 21.6	+1.6
	SNR=8.7						
CSOR				S	Sn	15 28 16.6	+1.3
	3.5nm,0.4s						
EMIR	Miracle	4.76	235	P	Pn	15 27 21.2	+0.8
	0.1nm,0.0s,SNR=7.9						
EPF	Esparros	4.95	252	ePn	Pn	15 27 23.0	0.0
EPF	Esparros	4.95	252	ePg	Pg	15 27 41.5	-1.3
EPF				eSn	Sn	15 28 17.2	-3.4
EPF				eSg	Sg	15 28 44.8	-2.1
	5.2nm,0.5s						
EPF	Esparros	4.95	252	ePn	Pn	15 27 23.0	0.0
EPF	Esparros	4.95	252	ePg	Pg	15 27 41.5	-1.3
EPF				eSg	Sg	15 28 44.8	-2.1
	2.6nm,0.5s						
KBA	Koelnbreinsper	5.15	61	⇑iPn	Pn	15 27 27.8	+2.0
KBA				⇓iSn	Sn	15 28 26.4	+0.8
KBA	Koelnbreinsper	5.15	61	Pn	Pn	15 27 27.8	+2.0
KBA				Sn	Sn	15 28 26.4	+0.8
MFF	Saint Martin d	5.18	293	ePn	Pn	15 27 26.3	+0.2
	SNR=1.0						
MFF				eSg	Sg	15 28 52.5	-1.7
	5.8nm,0.4s,SNR=1.0						
MFF	Saint Martin d	5.18	293	ePn	Pn	15 27 26.3	+0.2
	SNR=1.0						
MFF				eSg	Sg	15 28 52.5	-1.7
	2.9nm,0.4s,SNR=1.0						
EBIE	Bielsa	5.22	249	P	Pn	15 27 28.6	+1.7
	2.5nm,0.4s,SNR=7.1						
EBIE				S	Sn	15 28 29.2	+1.6
	0.6nm,0.5s,SNR=7.9						
GIVF	Givet	5.51	347	ePn	Pn	15 27 30.3	-0.3
GIVF				eSg	Sg	15 29 02.6	-2.1
	4.5nm,0.2s						
GIVF	Givet	5.51	347	ePn	Pn	15 27 30.3	-0.3
GIVF				eSg	Sg	15 29 02.6	-2.1
	2.2nm,0.2s						
BAIF	Baives	5.58	343	ePn	Pn	15 27 31.5	0.0
	SNR=1.0						
BAIF	Baives	5.58	343	ePg	Pg	15 27 52.8	-2.0
BAIF				eSg	Sg	15 29 04.9	-2.2
	4.9nm,0.5s						
BAIF	Baives	5.58	343	ePn	Pn	15 27 31.5	0.0
	SNR=1.0						
BAIF	Baives	5.58	343	ePg	Pg	15 27 52.8	-2.0
BAIF				eSg	Sg	15 29 04.9	-2.2
	2.5nm,0.5s						
ETSF	Etsaut	5.61	253	ePn	Pn	15 27 32.0	-0.1
	SNR=1.0						
ETSF				eSn	Sn	15 28 33.1	-3.8
	1.6nm,0.3s,SNR=1.0						
ETSF	Etsaut	5.61	253	ePn	Pn	15 27 32.0	-0.1
	SNR=1.0						
IELO	Elcoad	6.09	255	P	Pn	15 27 39.8	+1.1
	10nm,0.5s,SNR=7.9						
IELO				S	Sn	15 28 50.5	+1.7
	4.4nm,0.6s,SNR=7.9						
LDF	La Druitiere	6.09	311	ePn	Pn	15 27 38.6	0.0
	SNR=1.0						
LDF				eSg	Sg	15 29 21.2	-2.3
	7.1nm,0.5s						
LDF	La Druitiere	6.09	311	ePn	Pn	15 27 38.6	0.0
	SNR=1.0						
LDF				eSg	Sg	15 29 21.2	-2.3
	3.5nm,0.5s						
GRR	Gorron	6.38	307	ePn	Pn	15 27 42.7	+0.1
	SNR=1.0						
GRR				eSg	Sg	15 29 30.2	-2.6
	5.9nm,0.4s						
GRR	Gorron	6.38	307	ePn	Pn	15 27 42.7	+0.1
	SNR=1.0						
GRR				eSg	Sg	15 29 30.2	-2.6
	3.0nm,0.4s						
KHC	Kasperske Hory	6.40	44	ePN	Pn	15 27 44.0	+1.2
KHC				eSN	Sn	15 28 55.8	-0.4
KHC	Kasperske Hory	6.40	44	Pn	Pn	15 27 44.0	+1.2
KHC				Sn	Sn	15 28 55.8	-0.4

*IDC **02** 15:27:45.0±0.8, 7.°76S×107.°28E, h0km, mb3.9/11, mb1 4.0/11, mb1mx3.8/24, mbtmp3.9/11, Error ellipse: s-maj=37.0km s-min=15.5km az=52.0*

*ISCJB **02** 15:27:49.8±0.4, 8.°08S±0.°04×107.°05E±0.°04, h46km, mb3.8/10, Error ellipse: s-maj=5.9km s-min=4.5km az=137.7*

*DJA **02** 15:27:51.4±1.9, 8.°S±13.°×10.°7E±.°, h18km±13km, M4.7/11, mb4.7/1, mB5.2/1, MLv4.7/11, Mw(mB)4.5/1*

*AUST **02** 15:27:51.3, 8.°37S×107.°38E, h20km*

ISC 02 15:27:51.8±0.6, 8.°14S±0.°04×107.°14E±0.°04, h46km, n48, σ1°74/50, mb3.8/10, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	Cisompet, Garu	0.89	49	P	Pn	15 28 07.7	-0.2
CISI	Cisompet, Garu	0.89	49	P	Pn	15 28 06.9	-1.0
	baz=0.9,SNR=1000						
CISI				S	Sn	15 28 18.1	-1.6
	baz=0.9,SNR=13						
SKJI	Sukabumi	1.27	333	P	Pn	15 28 13.9	+0.9
LEM	Lembang	1.39	20	P	Pn	15 28 16.0	+1.2
LEM	Lembang	1.39	20	S	Sn	15 28 37.1	+5.0
	baz=1.6,SNR=5.5						
DBJI	Dramaga	1.62	346	P	Pn	15 28 20.2	+2.3
CLJI	Cilicap	1.90	78	P	Pn	15 28 24.0	+2.2
TGJI	Tegal	2.33	57	P	Pn	15 28 28.9	+1.2
BJII	Banjamegara	2.67	73	P	Pn	15 28 32.2	-0.2
XMI	Christmas Isla	2.71	212	P	Pn	15 28 34.1	+1.3
	baz=2.7,SNR=21						
XMI				S	Sn	15 29 03.0	-1.4
	baz=2.7,SNR=19						
XMIS	Christmas Isla	2.75	212	P	Pn	15 28 34.6	+1.2
	baz=2.7,SNR=5.8						
XMIS				S	Sn	15 29 03.3	-2.2
	baz=2.7,SNR=16						
YOGI	Yogyakarta	3.14	84	P	Pn	15 28 40.6	+1.8
UGM	Wanagama	3.36	86	P	Pn	15 28 41.0	-0.8
UGM	Wanagama	3.36	86	P	Pn	15 28 41.5	-0.3
	baz=3.1,SNR=27						
LWLI	Liwa	4.36	315	P	Pn	15 28 57.1	+1.5
SJI	Sawahan	4.60	85	P	Pn	15 29 00.2	+1.3
PWJI	Pagerwojo	4.62	89	P	Pn	15 28 59.0	-0.1
KRKI	Karangkates	5.26	91	P	Sn	15 30 06.7	-0.6
EGSI	Enggano, Bengk	5.57	300	S	Pn	15 29 14.9	+2.8
MNAI	Manna	5.60	312	S	Sn	15 30 12.6	-3.1
	baz=5.9,SNR=5.8						
GMJI	Gumukmas	6.24	92	P	Pn	15 29 23.6	+2.2
JAGI	Jajag, Banyuwa	6.95	93	P	Pn	15 29 31.6	+0.5
	baz=6.7,SNR=36						
KKM	Kota Kinabalu	16.75	33	S	Sn	15 34 45.3	-3.2
	baz=17,SNR=3.2						
SOEI	Soe	17.00	97	P	P	15 31 49.0	+1.2
	baz=17,SNR=3.7						
SOEI				S	S	15 35 01.8	-1.0
	baz=17,SNR=4.8						
FITZ	Fitzroy Crossi	20.54	121	P	P	15 32 27.3	+0.8
	4.1nm,0.7s,baz=290,slow=8.4,SNR=8.9						
FITZ	Fitzroy Crossi	20.54	121	P	P	15 32 27.6	+1.0
	baz=20,SNR=5.0						
FITZ				S	S	15 35 55.7	-18
	baz=20,SNR=3.8						
MEEK	Meekatharra	21.38	151	P	P	15 32 43.2	+7.6
	baz=21,SNR=10						
MEEK				S	S	15 36 28.2	-2.4
	baz=21,SNR=6.9						
KNRA	Kununurra	22.43	112	P	P	15 32 46.5	-0.4
	baz=22,SNR=6.7						
KNRA				S	S	15 36 44.4	-6.1
	baz=22,SNR=3.5						
MORW	Morawa	22.44	159	S	S	15 36 53.8	+3.3
	baz=22,SNR=3.2						
MTN	Manton Dam	24.04	103	P	P	15 33 02.1	-0.8
	baz=24,SNR=9.4						
KDU	Kakadu	25.32	102	P	P	15 33 12.9	-1.5
	baz=25,SNR=5.7						
FAKI	Fak Fak	25.52	80	S	S	15 37 42.3	+1.5
	baz=25,SNR=3.8						
WRA	Warramunga Arr	28.82	117	P	P	15 33 45.1	-0.8
	0.8nm,0.8s,baz=288,slow=10,SNR=5.4						
ASAR	Alice Springs	29.93	124	P	P	15 33 55.6	-0.1
	0.5nm,0.7s,baz=297,slow=8.2,SNR=5.6						
MTSU	Mount Surprise	37.47	109	P	P	15 35 02.0	+0.7
	baz=37,SNR=5.9						
STKA	Stephens Creek	39.79	131	P	P	15 35 21.4	+0.9
	8.5nm,0.6s,baz=302,slow=8.7,SNR=30						
STKA	Stephens Creek	39.79	131	P	P	15 35 21.5	+1.0
	baz=40,SNR=23						
CMSA	Cobar Meteorol	42.75	128	P	P	15 35 46.4	+1.5
	baz=42,SNR=13						
YNG	Young	45.97	131	P	P	15 36 12.3	+1.7
	baz=46,SNR=6.1						
SONM	Songino Array	55.73	359	PcP	PcP	15 38 21.7	-1.0
	0.7nm,0.5s,baz=170,slow=3.7,SNR=4.0						
MKAR	Makanchi Array	59.00	340	P	P	15 37 45.2	-1.5
	0.3nm,0.6s,baz=144,slow=9.1,SNR=5.5						
ZALV	Zalesovo Beam	64.66	346	P	P	15 38 22.2	-2.4
	0.4nm,0.4s,baz=155,slow=4.7,SNR=2.5						
MAW	Mawson	66.32	197	P	P	15 38 37.4	+2.1
	1.3nm,0.6s,baz=36,slow=4.9,SNR=4.4						
BVAR	Borovoye Array	68.46	337	P	P	15 38 47.3	-1.6
	0.4nm,0.3s,baz=130,slow=8.5,SNR=4.4						
AKTO	Aktyubinsk	72.17	329	P	P	15 39 09.9	-1.8
	0.5nm,0.3s,baz=135,slow=7.1,SNR=2.4						
PETK	Petropavlovsk-	74.51	29	P	P	15 39 22.5	-2.9
	0.6nm,0.5s,baz=184,slow=4.2,SNR=2.3						
BRTR	Keskin Array B	82.68	312	P	P	15 40 10.2	-0.7
	0.4nm,0.5s,baz=150,slow=5.2,SNR=2.4						
TXAR	Lajitas Array	144.20	50	PKP	PKPab	15 47 21.7	+0.5
	0.2nm,0.6s,baz=302,slow=1.7,SNR=2.0						

*IDC **02** 15:37:41.0±0.9, 1.°59S×99.°20E, h0km, mb4.1/10, mb1 4.2/12, mb1mx3.9/26, mbtmp4.0/12, ML3.8/2, MS3.0/1, Ms1 3.0/1, ms1mx2.4/29, Error ellipse: s-maj=44.0km s-min=14.3km az=55.0*

*ISCJB **02** 15:37:43.8±0.7, 1.°50S±0.°08×99.°31E±0.°07, h30km, mb4.0/10, Error ellipse: s-maj=11.1km s-min=9.7km az=7.8*

*DJA **02** 15:37:47.0±1.2, 1.°S±8.°×9.°9E±.°, h25km, M4.3/4, MLv4.3/4*

ISC 02 15:37:46.5±0.8, 1.°32S±0.°07×99.°38E±0.°08, h30km, n23, σ0°99/23, mb4.1/10, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	Padang	1.16	70	P	Pn	15 38 05.9	-0.7
PDSI				S	Sn	15 38 22.4	+0.9
PPI	Padang Panjang	1.33	50	P	Pn	15 38 09.2	+0.2
PPI	Padang Panjang	1.33	50	P	Pn	15 38 09.4	+0.4
	baz=12,SNR=73						
BKNI	Bangkinang	2.33	45	P	Pn	15 38 24.1	+1.3
BKNI	Bangkinang	2.33	45	P	Pb	15 38 27.5	-0.3
	baz=13,SNR=4.2						
RGRI	Rengat	3.11	72	P	Pb	15 38 49.5	+8.4
KSI	Kapahiang	3.96

BRTR Keskin Array B 72.41 312 P **P 15 49 09.2 -1.0**
0.4nm,0.6s,baz=108,slow=8.9,SNR=3.1
FINES FINESS Array B 83.22 332 P **P 15 50 10.1 +0.3**
4.1nm,1.0s,baz=125,slow=5.6,SNR=4.0
CPUP Villa Florida 144.49 218 PKP PKPbc 15 57 19.3 0.0
2.1nm,0.7s,baz=120,slow=8.1,SNR=5.6
TXAR Lajitas Array 144.53 36 PKP PKPbc 15 57 20.0 +0.5
2.0nm,0.6s,baz=269,slow=1.4,SNR=24

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*BJI **02** 16:27:25.9, 55°.12N×165°.88E, h6km, mB4.7/19, mb4.5/33, Ms4.4/16, Ms7 4.0/13*
*IDC **02** 16:27:29.3±0.5, 55°.24N×165°.36E, h0km, mb4.2/25, mb1 4.3/28, mb1mx4.3/33, mbtmp4.2/28, ML4.0/3, MS3.6/10, Ms1 3.6/10, ms1mx3.4/38, Error ellipse: s-maj=14.6km s-min=9.4km az=172.0*
*MOS **02** 16:27:30.6±0.7, 55°.12N×165°.40E, h22km, mb4.5/32, Error ellipse: s-maj=9.3km s-min=7.2km az=136.5*
*KRSC **02** 16:27:30.9±0.4, 55°.05N×165°.40E, h37km±37km, ML5.0, FELT [III-IV] at Nikolskoe.*
*NEIC **02** 16:27:31.3±2.1, 55°.23N×165°.34E, h13km±14km, mb4.6/50, Error ellipse: s-maj=7.3km s-min=3.2km az=163.0*
*ISCJB **02** 16:27:31.3±0.5, 55°.06N±0°.02×165°.34E±0°.02, h27km±4km, mb4.5/89, MS3.8/13, Error ellipse: s-maj=4.1km s-min=1.6km az=170.3*

ISC 02 16:27:31.8±0.4, 55°.10N±0°.04×165°.37E±0°.03, h18km±1km, n462, σ1§01/526, mb4.5/89, MS3.8/13, 124C-129D, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.36**	**72**	PN	**Pg**	**16 27 38.7**	**-0.7**
BKI				S	**Sg**	**16 27 44.3**	**-0.3**
BKI	**Bering**	**0.36**	**72**	*i* P	**Pg**	**16 27 38.7**	**-0.7**
BKI				*i* S	**Sg**	**16 27 44.3**	**-0.3**
KBTR	**Krutoberegovo**	**1.82**	**309**	PN	**Pn**	**16 27 59.8**	**-2.5**
KBTR	**Krutoberegovo**	**1.82**	**309**	*i* P	**Pn**	**16 27 59.8**	**-2.5**
MKZ	**Mys Kozlova**	**2.17**	**257**	PN	**Pn**	**16 28 06.3**	**-0.8**
MKZ				S	**Sn**	**16 28 32.1**	**-1.4**
MKZ	**Mys Kozlova**	**2.17**	**257**	*i* P	**Pn**	**16 28 06.3**	**-0.8**
MKZ				*i* S	**Sn**	**16 28 32.1**	**-1.4**
SMKR	**Semkarok**	**2.66**	**306**	*i* P	**Pn**	**16 28 13.2**	**-0.6**
SMKR				*i* S	**Sn**	**16 28 44.7**	**-0.9**
ZLN	**Zelenaya**	**2.75**	**291**	*e*P	**Pn**	**16 28 15.1**	**0.0**
ZLN				*i* S	**Sn**	**16 28 48.3**	**+0.3**
BDR	**Baidarnaya**	**2.77**	**304**	*i* P	**Pn**	**16 28 15.0**	**-0.4**
BDR				*i* S	**Sn**	**16 28 47.9**	**-0.5**
BZGR	**Bezymyannyi-Gr**	**2.79**	**290**	*i* P	**Pn**	**16 28 15.9**	**+0.3**
CIRR	**Tsirk**	**2.81**	**293**	*i* P	**Pn**	**16 28 16.2**	**+0.2**
CIRR				*i* S	**Sn**	**16 28 48.7**	**-0.8**
LGNR	**Loginova**	**2.83**	**292**	*e*P	**Pn**	**16 28 16.9**	**+0.5**
LGNR				*i* S	**Sn**	**16 28 51.4**	**+1.2**
SRKR	**Sorokina**	**2.84**	**305**	*e*P	**Pn**	**16 28 16.0**	**-0.2**
SRKR				*i* S	**Sn**	**16 28 49.3**	**-0.7**
BZMR	**Bezymyannaya**	**2.90**	**289**	*e*P	**Pn**	**16 28 16.7**	**-0.5**
BZWR	**Bezymyannyi-We**	**2.90**	**289**	*e*P	**Pn**	**16 28 17.3**	**0.0**
KLY	**Klyuchi**	**2.94**	**296**	PN	**Pn**	**16 28 16.1**	**-1.4**
KLY				S	**Sn**	**16 28 49.6**	**-2.7**
KLY	**Klyuchi**	**2.94**	**296**	*e*P	**Pn**	**16 28 16.1**	**-1.4**
KLY				*i* S	**Sn**	**16 28 49.6**	**-2.7**
KRSR	**Krestovskiy**	**2.94**	**294**	*e*P	**Pn**	**16 28 17.2**	**-0.6**
KRSR				*i* S	**Sn**	**16 28 52.0**	**-0.7**
KIRR	**Kirishev**	**2.98**	**289**	*e*P	**Pn**	**16 28 19.1**	**+0.7**
KIRR				*i* S	**Sn**	**16 28 53.5**	**-0.2**
KMNR	**Kamenistaya**	**3.00**	**285**	*e*P	**Pn**	**16 28 19.6**	**+1.1**
KMNR				*i* S	**Sn**	**16 28 54.6**	**+0.6**
TUMR	**Tumrok**	**3.00**	**276**	*e*P	**Pn**	**16 28 18.9**	**+0.3**
KPT	**Kopyto**	**3.05**	**289**	*e*P	**Pn**	**16 28 19.6**	**+0.3**
KPT				*i* S	**Sn**	**16 28 54.8**	**-0.5**
KOZR	**Kozyr**	**3.25**	**290**	PN	**Pn**	**16 28 23.4**	**+1.4**
KOZR				S	**Sn**	**16 29 01.6**	**+1.4**
KOZ	**Kozyrevsk**	**3.27**	**289**	*e*P	**Pn**	**16 28 23.4**	**+1.3**
KOZ				*i* S	**Sn**	**16 29 01.6**	**+1.1**
SRDR	**Sredinnyy**	**3.42**	**293**	*e*P	**Pn**	**16 28 25.4**	**+1.1**
SRDR				*i* S	**Sn**	**16 29 04.4**	**0.0**
KII	**Karymskiy**	**3.61**	**255**	*e*P	**Pn**	**16 28 27.3**	**+0.5**
KII				*i* S	**Sn**	**16 29 08.3**	**-0.7**
SPN	**Mys Shipunski**	**3.73**	**240**	PN	**Pn**	**16 28 27.6**	**-0.9**
SPN	**Mys Shipunski**	**3.73**	**240**	*i* P	**Pn**	**16 28 27.6**	**-0.9**
SPN				*i* S	**Sn**	**16 29 08.9**	**-3.0**
ESO	**Esso**	**3.88**	**285**	PN	**Pn**	**16 28 31.2**	**+0.6**
ESO	**Esso**	**3.88**	**285**	*e*P	**Pn**	**16 28 31.2**	**+0.6**
ESO				*i* S	**Sn**	**16 29 15.1**	**-0.6**
NLC	**Nalytchevo**	**4.03**	**244**	PN	**Pn**	**16 28 31.8**	**-0.8**
NLC	**Nalytchevo**	**4.03**	**244**	*e*P	**Pn**	**16 28 31.8**	**-0.8**
NLC				*i* S	**Sn**	**16 29 16.8**	**-2.5**
SDLR	**Sedlovina**	**4.22**	**247**	*i* P	**Pn**	**16 28 35.8**	**+0.5**
SDLR				*i* S	**Sn**	**16 29 22.6**	**-1.6**
SMAR	**Somma**	**4.27**	**247**	*i* P	**Pn**	**16 28 36.4**	**+0.3**
SMAR				*i* S	**Sn**	**16 29 23.2**	**-2.4**
KRER	**Koryakskii**	**4.28**	**248**	*i* P	**Pn**	**16 28 37.0**	**+0.8**
KRER				*i* S	**Sn**	**16 29 24.9**	**-0.9**
UGLR	**Uglovaya**	**4.29**	**247**	*e*P	**Pn**	**16 28 37.3**	**+1.1**
UGLR				*i* S	**Sn**	**16 29 24.3**	**-1.5**
AVH	**Avacha**	**4.31**	**248**	*e*P	**Pn**	**16 28 37.5**	**+1.0**
AVH				*i* S	**Sn**	**16 29 25.1**	**-1.1**
KRX	**Arik**	**4.31**	**249**	*i* P	**Pn**	**16 28 37.5**	**+0.9**
KRX				*i* S	**Sn**	**16 29 25.2**	**-1.2**
KOK	**Koryaka**	**4.35**	**248**	*e*P	**Pn**	**16 28 38.2**	**+1.2**
KOK				*i* S	**Sn**	**16 29 25.6**	**-1.7**
PET	**Petropavlovsk**	**4.47**	**245**	*e*PN	**Pn**	**16 28 38.9**	**+0.4**
PET				pmax	pmax		
	comp=Z,94nm,0.4s						
PET				MLR	MLR		
	comp=Z,500nm,6.0s						
PET				MLR	MLR		
	comp=Z,600nm,14.0s						
PET	**Petropavlovsk**	**4.47**	**245**	*i* P	**Pn**	**16 28 39.0**	**+0.4**
PET				*i* S	**Sn**	**16 29 27.8**	**-2.2**
GNL	**Ganaly**	**4.56**	**255**	*i* P	**Pn**	**16 28 40.9**	**+0.9**
GNL				*i* S	**Sn**	**16 29 31.4**	**-1.2**
RUS	**Russkaya**	**4.86**	**240**	PN	**Pn**	**16 28 43.9**	**-0.1**
RUS	**Russkaya**	**4.86**	**240**	*i* P	**Pn**	**16 28 43.9**	**-0.1**
RUS				*i* S	**Sn**	**16 29 36.4**	**-3.4**
PEA0B	**Petropavlovsk-**	**4.93**	**249**	*e*Pn	**Pn**	**16 28 45.9**	**+0.9**
PETK	**Petropavlovsk-**	**4.93**	**249**	PN	**Pn**	**16 28 45.9**	**+0.9**
PETK				pmax	pmax		
	comp=Z,24nm,0.3s						
PETK				MLR	MLR		
	comp=Z,358nm,20.4s						
PETK	**Petropavlovsk-**	**4.93**	**249**	Pn	**Pn**	**16 28 45.9**	**+0.9**
PETK				Sn	**Sn**	**16 29 41.6**	**+0.1**
PETK	**Petropavlovsk-**	**4.93**	**249**	Pn	**Pn**	**16 28 45.9**	**+0.9**
	comp=Z,24nm,0.3s,baz=80,slow=17,SNR=376						
PETK				Sn	**Sn**	**16 29 41.6**	**+0.1**
	comp=Z,9.9nm,0.3s,baz=93,slow=20,SNR=7.6						
PETK				LR	LR	16 30 48.5	
	comp=Z,358nm,20.4s,baz=74,slow=40						
PALN	**Palana**	**4.97**	**326**	*e*P	**Pn**	**16 28 46.8**	**+1.4**
MTVR	**Mutnovka**	**5.00**	**241**	*i* P	**Pn**	**16 28 46.4**	**+0.4**
MTVR				*i* S	**Sn**	**16 29 40.8**	**-2.6**
GRL	**Gorelyy**	**5.02**	**242**	*e*P	**Pn**	**16 28 47.2**	**+0.9**
GRL				*i* S	**Sn**	**16 29 43.2**	**-0.6**
FX1	**Attu Island--F**	**5.11**	**113**	*e*P	**Pn**	**16 28 45.9**	**-1.4**
FX1				Sn	**Sn**	**16 29 42.1**	**-3.7**
FX1	**Attu Island--F**	**5.11**	**113**	Pn	**Pn**	**16 28 46.3**	**-1.1**
	comp=Z,12nm,0.3s,baz=353,slow=7.2,SNR=43						
FX1				Sn	**Sn**	**16 29 42.1**	**-3.7**
	comp=Z,26nm,0.3s,baz=159,slow=17,SNR=3.6						
ASAK	**Asacha**	**5.20**	**242**	*e*P	**Pn**	**16 28 49.6**	**+0.9**
ASAK				*i* S	**Sn**	**16 29 46.7**	**-1.5**
APC	**Apacha**	**5.31**	**249**	*e*P	**Pn**	**16 28 51.7**	**+1.6**
APC				*i* S	**Sn**	**16 29 50.9**	**+0.2**
SMY	**Shemya**	**5.68**	**111**	*e*PN	**Pn**	**16 28 57.4**	**+2.2**
SMY				pmax	pmax		
	comp=Z,56nm,0.7s						
SMY	**Shemya**	**5.68**	**111**	*e*P	**Pn**	**16 28 57.4**	**+2.2**
	comp=Z,56nm,0.7s						
MIPR	**Malaya Ipel'ka**	**5.84**	**245**	*e*P	**Pn**	**16 28 58.8**	**+1.3**
PAU	**Pauzhetka**	**6.29**	**238**	PN	**Pn**	**16 29 03.8**	**+0.2**
PAU	**Pauzhetka**	**6.29**	**238**	*e*P	**Pn**	**16 29 03.8**	**+0.2**
PAU				*i* S	**Sn**	**16 30 13.5**	**-1.4**
SKR	**Severo-Kuril's**	**7.13**	**235**	*e*PN	Pn	16 29 09.5	-5.6
SKR				pmax	pmax		
	comp=Z,30nm,0.4s						
SKR	**Severo-Kuril's**	**7.13**	**235**	*i* P	**Pn**	**16 29 15.2**	**+0.1**
YSS	**Yuzh-Sakhalins**	**16.34**	**249**	*e*P	**Pn**	**16 31 21.0**	**+0.9**
AKUT	**Akutan**	**16.69**	**81**	*e*P	**Pn**	**16 31 25.5**	**+0.9**
ASAJ	**Asahikawa**	**18.31**	**243**	P	**P**	**16 31 45.1**	**+0.4**
ASAJ	**Asahikawa**	**18.31**	**243**	P	**P**	**16 31 45.1**	**+0.4**
	comp=Z,1.0nm,0.3s,baz=69,slow=13,SNR=13						
ASAJ				LR	LR	16 38 50.6	
	comp=Z,212nm,19.1s,baz=165,slow=37						
ERM	**Erimo**	**19.57**	**237**	*e*P	**P**	**16 31 56.4**	**-2.1**
ERM				pmax	pmax		
	comp=Z,10.0nm,0.9s						
YAK	**Yakutsk**	**19.65**	**305**	*e*P	**Pn**	**16 32 00.4**	**-0.3**
YAK				pmax	pmax		
	comp=Z,12nm,1.1s						
YAK				pmax	pmax		
	comp=E,7.0nm,1.3s						
CHGN	**Chignik**	**20.30**	**72**	*e*P	**P**	**16 32 06.9**	**+0.5**
IM04	**Indian Mountai**	**22.39**	**45**	*e*P	**P**	**16 32 27.6**	**-1.2**
IMA2	**Indian Mountai**	**22.45**	**44**	*e*P	**P**	**16 32 29.7**	**+0.2**
RSO	**Redoubt South**	**22.65**	**59**	*e*P	**P**	**16 32 32.2**	**+0.3**
	comp=E,45nm,0.9s						
PPLA	**Purkeypile**	**22.82**	**53**	*e*P	**P**	**16 32 34.0**	**+0.4**
	comp=E,28nm,1.3s						
OHAK	**Old Harbor**	**22.87**	**68**	*e*P	**P**	**16 32 31.2**	**-2.7**
	comp=E,27nm,1.0s						
KDAK	**Kodiak Island**	**23.13**	**66**	P	**P**	**16 32 34.7**	**-1.8**
KDAK	**Kodiak Island**	**23.13**	**66**	P	**P**	**16 32 34.7**	**-1.8**
	comp=E,5.5nm,0.6s,baz=238,slow=5.2,SNR=5.0						
BPAW	**Bear Paw Mtn.**	**23.39**	**50**	*e*P	**P**	**16 32 38.7**	**-0.5**
	comp=E,34nm,1.4s						
TRF	**Thorofare Moun**	**23.69**	**51**	*e*P	**P**	**16 32 41.7**	**-0.6**
	comp=E,30nm,1.2s						
USRK	**Ussuriysk Arra**	**23.97**	**257**	P	**P**	**16 32 46.8**	**+1.9**
	comp=E,2.1nm,0.8s,baz=61,slow=9.8,SNR=5.1						
USRK				LR	LR	16 42 33.5	
	comp=E,120nm,21.6s,baz=243,slow=38						
COLD	**Coldfoot**	**24.00**	**42**	*e*P	**P**	**16 32 43.8**	**-1.2**
	comp=E,16nm,1.0s						
MCK	**McKinley**	**24.29**	**51**	*e*P	**P**	**16 32 47.6**	**-0.2**
MCK				pmax	pmax		
	comp=Z,20nm,1.0s						
MCK	**McKinley**	**24.29**	**51**	*e*P	**P**	**16 32 47.6**	**-0.2**
	comp=Z,20nm,1.0s						
SML	**Sawmill**	**24.67**	**55**	*e*P	**P**	**16 32 50.6**	**-0.7**
SML				pmax	pmax		
	comp=Z,8.0nm,0.9s						
SML	**Sawmill**	**24.67**	**55**	*e*P	**P**	**16 32 50.6**	**-0.7**
	comp=Z,7.9nm,0.9s						
COLA	**College**	**24.77**	**48**	P	**P**	**16 32 52.0**	**0.0**
COLA				pmax	pmax		
	comp=Z,89nm,1.0s						
COLA	**College**	**24.77**	**48**	P	**P**	**16 32 52.0**	**0.0**
	comp=Z,89nm,1.0s						
ILAR	**Eielson Array**	**25.18**	**48**	P	**P**	**16 32 54.5**	**-1.2**
ILAR	**Eielson Array**	**25.18**	**48**	P	**P**	**16 32 54.5**	**-1.2**
	comp=Z,5.8nm,0.8s,baz=259,slow=8.8,SNR=64						
PAX	**Paxson**	**25.89**	**52**	*e*P	**P**	**16 33 01.6**	**-0.8**
PAX				pmax	pmax		
	comp=Z,7.0nm,0.8s						
PAX	**Paxson**	**25.89**	**52**	*e*P	**P**	**16 33 01.6**	**-0.8**
	comp=Z,6.8nm,0.8s						
MAT	**Matsushiro**	**26.24**	**236**	P	**P**	**16 33 06.8**	**+1.2**
MJAR	**Matsushiro Arr**	**26.24**	**236**	P	**P**	**16 33 07.0**	**+1.3**
MJAR	**Matsushiro Arr**	**26.24**	**236**	P	**P**	**16 33 07.0**	**+1.3**
	comp=Z,4.3nm,0.7s,baz=34,slow=8.7,SNR=14						
BMRM	**Bremner River**	**26.56**	**57**	*e*P	**P**	**16 33 07.9**	**-0.5**
	comp=Z,18nm,1.2s						
MENT	**Mentasta**	**26.69**	**52**	*e*P	**P**	**16 33 08.8**	**-0.7**
EGAK	**Eagle**	**27.63**	**48**	*e*P	**P**	**16 33 15.5**	**-2.4**
	comp=Z,16nm,1.1s						
CN2	**Changchun**	**27.92**	**263**	*e*P	**P**	**16 33 20.9**	**+0.2**
CN2				*es*P	**sP**	**16 33 29.7**	**+1.3**
CN2				*e*S	**S**	**16 38 01.2**	**-2.2**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,200nm,13.0s						
CN2				LR	LR		
	comp=E,200nm,13.0s						
CN2				LR	LR		
	comp=Z,200nm,13.0s						
DAWY	**Dawson**	**28.47**	**49**	*e*P	**P**	**16 33 24.8**	**-0.7**
HYT	**Haines Junctio**	**29.98**	**55**	*e*P	**P**	**16 33 39.1**	**+0.1**
INK	**Inuvik**	**30.36**	**40**	P	**P**	**16 33 42.0**	**0.0**
INK	**Inuvik**	**30.36**	**40**	P	**P**	**16 33 42.0**	**0.0**
	comp=Z,2.0nm,0.4s,baz=278,slow=7.6,SNR=8.5						
KSRS	**Korea Array**	**30.83**	**251**	P	**P**	**16 33 48.5**	**+2.0**
	comp=Z,3.9nm,1.0s,baz=40,slow=9.2,SNR=10						
KSRS				LR	LR	16 45 50.7	
	comp=Z,72nm,20.6s,baz=65,slow=36						
KSAR	**Wonju Array Be**	**30.86**	**251**	P	**P**	**16 33 48.5**	**+1.7**
WRAK	**Wrangell Islan**	**34.02**	**62**	*e*P	**P**	**16 34 15.7**	**+1.5**
	comp=Z,8.2nm,0.9s						
DLBC	**Dease Lake**	**34.35**	**57**	*e*P	**P**	**16 34 18.4**	**+1.2**
BJI	**Beijing**	**35.64**	**266**	P	**P**	**16 34 30.1**	**+1.7**
BJI				pmax	pmax		
	comp=Z,14nm,0.4s						
SONM	**Songino Array**	**36.46**	**284**	P	**P**	**16 34 36.1**	**+0.6**
SONM	**Songino Array**	**36.46**	**284**	P	**P**	**16 34 36.1**	**+0.6**
	comp=Z,2.1nm,0.7s,baz=57,slow=8.4,SNR=17						
HHC	**Hu-ho-hao-te**	**37.75**	**271**	*e*P	**P**	**16 34 44.9**	**-1.7**
HHC				pP	**pP**	**16 34 49.4**	**-2.7**
HHC				sP	**sP**	**16 34 51.9**	**-2.4**
HHC				PP	**PnPn**	**16 36 13.4**	**-0.4**
HHC				S	**S**	**16 40 33.6**	**-2.5**
HHC				PcS	**PcS**	**16 40 50.4**	**-1.5**
HHC				ScS	**ScS**	**16 44 55.7**	**-2.5**
HHC				pmax	pmax		
	comp=Z,40nm,1.0s						
HHC				pmax	pmax		
	comp=Z,160nm,5.3s						
HHC				LR	LR		
	comp=N,360nm,17.1s						
HHC				LR	LR		
	comp=E,240nm,18.2s						
HHC				LR	LR		
	comp=Z,220nm,18.0s						
BBB	**Bella Bella**	**38.20**	**66**	P	**P**	**16 34 50.5**	**+0.5**
BBB	**Bella Bella**	**38.20**	**66**	P	**P**	**16 34 50.5**	**+0.5**
	comp=Z,4.7nm,0.7s,baz=296,slow=11,SNR=7.9						
YKA	**Yellowknife Ar**	**39.56**	**46**	P	**P**	**16 35 01.4**	**+0.1**
YKA	**Yellowknife Ar**	**39.56**	**46**	P	**P**	**16 35 01.3**	**+0.1**
	comp=Z,3.6nm,0.6s,baz=299,slow=8.2,SNR=11						
NJ2	**Nanjing**	**39.82**	**254**	*e*P	**P**	**16 35 05.9**	**+2.1**
NJ2				pmax	pmax		
	comp=Z,16nm,0.6s						
HVS	**Khovu-Aksy**	**41.46**	**295**	*i* P	**P**	**16 35 17.6**	**+0.3**
NLWA	**Neilton Lookou**	**43.19**	**70**	*e*P	**P**	**16 35 32.1**	**+0.8**
	comp=Z,10nm,1.0s						
ZALV	**Zalesovo Beam**	**44.29**	**303**	*i* P	**P**	**16 35 41.5**	**+1.5**
ZALV	**Zalesovo Beam**	**44.29**	**303**	P	**P**	**16 35 39.6**	**-0.4**
ZALV	**Zalesovo Beam**	**44.29**	**303**	P	**P**	**16 35 39.6**	**-0.4**
	comp=Z,0.3nm,0.4s,baz=25,slow=5.2,SNR=3.7						
ZALV				LR	LR	16 56 43.6	
	comp=Z,77nm,18.1s,baz=69,slow=40						
NVS	**Novosibirsk**	**44.52**	**305**	*e*P	P	16 35 35.2	-6.6
NVS				pmax	pmax		
	comp=Z,11nm,1.5s						
NVS				pmax	pmax		
	comp=E,9.0nm,1.4s						
LZH	**Lanzhou**	**45.42**	**272**	*e*P	**P**	**16 35 48.0**	**-1.5**
LZH				pP	**pP**	**16 35 51.2**	**-3.9**
LZH				PP	**PP**	**16 37 35.0**	**-0.7**
LZH				pmax	pmax		
	comp=Z,21nm,1.5s						
LZH				pmax	pmax		
	comp=Z,76nm,6.1s						
LZH				LR	LR		
	comp=N,310nm,14.5s						
LZH				LR	LR		
	comp=E,290nm,14.3s						
LZH				LR	LR		
	comp=Z,390nm,18.0s						
GTA	**Gaotai**	**45.44**	**278**	*e*P	**P**	**16 35 51.0**	**+1.5**
GTA				pP	**pP**	**16 35 55.5**	**+0.3**
GTA				sP	**sP**	**16 35 58.5**	**+1.1**
GTA				S	**S**	**16 42 32.7**	**+2.7**
GTA				sS	sS	16 42 46.8	+7.6
GTA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,81nm,7.1s						
GTA				LR	LR		
	comp=N,130nm,14.7s						
GTA				LR	LR		
	comp=E,120nm,17.1s						
GTA				LR	LR		
	comp=Z,150nm,13.3s						
NEW	**Newport**	**46.22**	**65**	*e*P	**P**	**16 35 55.1**	**-0.4**
	comp=Z,2.4nm,0.7s						
NEW	**Newport**	**46.22**	**65**	⇓P	**P**	**16 35 54.8**	**-0.7**
	baz=46						
ENH	**Enshi**	**46.42**	**261**	*e*P	**P**	**16 35 57.3**	**0.0**
	comp=Z,3.7nm,0.6s						
WALA	**Waterton Lakes**	**47.37**	**62**	*e*P	**P**	**16 36 04.5**	**0.0**
	comp=Z,0.7nm,1.1s						
YBH	**Yreka Blue Hor**	**47.45**	**75**	*e*P	**P**	**16 36 05.9**	**+0.6**
	comp=Z,5.0nm,1.0s						
BSMT	**Bassoo Peak**	**47.69**	**64**	*e*P	**P**	**16 36 07.3**	**+0.2**
	comp=Z,17nm,1.0s						
JTMT	**Jette**	**48.02**	**64**	*e*P	**P**	**16 36 09.5**	**-0.2**
	comp=Z,19nm,1.0s						
SWMT	**Swartz Lake**	**48.32**	**64**	*e*P	**P**	**16 36 11.9**	**-0.1**
	comp=Z,9.2nm,1.1s						
SLMT	**Seeley Lake**	**48.75**	**64**	*e*P	**P**	**16 36 14.7**	**-0.6**
	comp=Z,14nm,1.2s						
MSO	**Missoula**	**48.79**	**64**	⇓P	**P**	**16 36 14.8**	**-0.8**
	baz=48						
CHMT	**Chamberlain Mo**	**49.09**	**64**	*e*P	**P**	**16 36 17.4**	**-0.7**
	comp=Z,6.0nm,1.3s						
WMQ	**Urumqi**	**49.20**	**291**	P	**P**	**16 36 19.0**	**+0.3**
WMQ				pP	**pP**	**16 36 23.5**	**-0.9**
WMQ				sP	**sP**	**16 36 26.0**	**-0.6**
WMQ				PcP	**PcP**	**16 37 43.0**	**+1.4**
WMQ				PP	**PP**	**16 38 12.8**	**+0.6**
WMQ				*e*S	**S**	**16 43 22.5**	**-0.8**
WMQ				ScS	**ScS**	**16 46 07.9**	**-1.7**
WMQ				SS	**SS**	**16 46 48.3**	**-5.8**
WMQ				pmax	pmax		
	comp=Z,12nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,120nm,4.7s						
WMQ				LR	LR		
	comp=N,270nm,21.8s						
WMQ				LR	LR		
	comp=E,180nm,23.7s						
CD2	**Chengdu**	**49.22**	**267**	P	**P**	**16 36 19.5**	**+0.5**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
WVOR	**Wild Horse Val**	**49.22**	**72**	*e*P	**P**	**16 36 19.1**	**+0.1**
WVOR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
WVOR	**Wild Horse Val**	**49.22**	**72**	*e*P	**P**	**16 36 19.1**	**+0.1**
	comp=Z,2.0nm,0.7s						
A18A	**Metzger Ranch,**	**49.50**	**60**	⇑P	**P**	**16 36 19.7**	**-1.2**
	baz=49,SNR=5.4						
B18A	**Beardsley Farm**	**49.88**	**60**	⇓P	**P**	**16 36 23.2**	**-0.7**
	baz=50,SNR=5.9						
C17A	**Wharram Farm,**	**49.89**	**62**	⇓P	**P**	**16 36 23.2**	**-0.8**
	baz=50						
A19A	**Klindworth Far**	**50.04**	**59**	⇓P	**P**	**16 36 24.7**	**-0.3**
	baz=50						
MKAR	**Makanchi Array**	**50.05**	**297**	*i* P	**P**	**16 36 27.8**	**+2.7**
MKAR	**Makanchi Array**	**50.05**	**297**	P	**P**	**16 36 24.3**	**-0.7**
MKAR	**Makanchi Array**	**50.05**	**297**	P	**P**	**16 36 24.3**	**-0.7**
	comp=Z,0.8nm,0.7s,baz=56,slow=6.6,SNR=5.3						
MKAR				LR	LR	16 58 35.1	
	comp=Z,63nm,20.1s,baz=19,slow=37						
MFID	**Camas Ranch**	**50.08**	**69**	⇑P	**P**	**16 36 25.2**	**-0.3**
	baz=50						
EGMT	**Eagleton**	**50.14**	**61**	⇓P	**P**	**16 36 25.7**	**-0.1**
	baz=50						
D17A	**Six Diamond Ra**	**50.25**	**62**	⇑P	**P**	**16 36 25.7**	**-1.0**
	baz=50,SNR=12						
B19A	**Brinkman Farms**	**50.25**	**60**	⇑P	**P**	**16 36 26.3**	**-0.3**
	baz=50						
A20A	**Cobblestone Ra**	**50.47**	**59**	⇑P	**P**	**16 36 27.9**	**-0.4**
	baz=50,SNR=9.7						
E17A	**Martinsdale**	**50.62**	**63**	⇓P	**P**	**16 36 29.8**	**+0.2**
	baz=50,SNR=11						
D18A	**Linhart Farms,**	**50.67**	**61**	⇓P	**P**	**16 36 29.9**	**+0.1**
	baz=50,SNR=7.8						
C19A	**Slack Wire Ran**	**50.68**	**60**	⇓P	**P**	**16 36 30.0**	**+0.1**
	baz=50,SNR=8.1						
MCMT	**McKenzie Canyo**	**50.70**	**66**	*e*P	**P**	**16 36 29.7**	**-0.6**
	comp=Z,2.0nm,1.1s						
B20A	**Solberg Farm,**	**50.72**	**59**	⇑P	**P**	**16 36 29.6**	**-0.5**
	baz=50						
HLID	**Hailey**	**50.73**	**68**	*e*P	**P**	**16 36 30.1**	**-0.4**
	comp=Z,4.9nm,1.1s						
HLID	**Hailey**	**50.73**	**68**	⇓P	**P**	**16 36 30.1**	**-0.4**
	baz=50						
BOZ	**Bozeman (W)**	**50.78**	**64**	*e*P	**P**	**16 36 31.0**	**+0.2**
BOZ				pmax	pmax		
	comp=Z,2.0nm,0.4s						
BOZ	**Bozeman (W)**	**50.78**	**64**	*e*P	**P**	**16 36 31.0**	**+0.2**
	comp=Z,1.7nm,0.4s						
A21A	**Bergtoll Ranch**	**50.89**	**58**	⇑P	**P**	**16 36 31.5**	**+0.1**
	baz=51						
GYA	**Guiyang**	**50.93**	**261**	*e*P	**P**	**16 36 33.0**	**+0.9**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						

G20A	Bridger	52.82	62	⇑P		P	16 36 45.8 -0.2
	baz=53,SNR=12						
I18A	Diamond G Ranc	53.05	65	⇑P		P	16 36 48.4 +0.5
	baz=53						
E22A	Miles City	53.12	60	⇓P		P	16 36 47.4 -0.6
	baz=53,SNR=5.7						
B25A	Knox Farm, Ray	53.20	57	⇑P		P	16 36 50.2 +1.6
	baz=53						
I19A	Meeteetse	53.25	64	⇓P		P	16 36 49.4 +0.1
	baz=53						
G21A	Lodge Grass	53.33	62	⇓P		P	16 36 49.5 -0.2
	baz=53						
E23A	Ismay	53.39	59	⇑P		P	16 36 50.5 +0.4
	baz=53						
F22A	Rosebud	53.42	61	⇓P		P	16 36 50.5 +0.2
	baz=53						
D24A	Glendive	53.44	58	⇑P		P	16 36 51.1 +0.7
	baz=53						
H20A	Greybull	53.44	63	⇓P		P	16 36 50.1 -0.4
	baz=53						
C25A	Freed Ranch, W	53.54	57	⇑P		P	16 36 51.7 +0.6
	baz=53						
HWUT	Hardware Ranch	53.60	68	*e*P		P	16 36 52.3 +0.4
	comp=Z,8.1nm,1.1s						
GRAC	Grapevine Rang	53.71	76	⇑P		P	16 36 53.3 +0.8
	baz=54						
CWC	Cottonwood Cre	53.72	77	⇑P		P	16 36 53.3 +0.5
	baz=54						
R11A	Troy Canyon, C	53.74	73	⇓P		P	16 36 52.7 -0.2
	baz=54						
I20A	Worland	53.75	63	⇓P		P	16 36 53.0 +0.1
	baz=54						
J19A	Crowheart	53.76	65	⇓P		P	16 36 52.9 -0.1
	baz=54						
G22A	Birney	53.80	61	⇓P		P	16 36 53.2 +0.1
	baz=54,SNR=5.9						
H21A	Big Horn, Sher	53.83	62	⇓P		P	16 36 53.4 0.0
	baz=54,SNR=5.4						
E24A	Baker	53.84	59	⇑P		P	16 36 54.1 +0.7
	baz=54						
BW06	Boulder Array	53.84	65	*e*P		P	16 36 53.7 0.0
	comp=Z,12nm,1.1s						
PDAR	Pinedale Array	53.84	65	P		P	16 36 53.7 0.0
PDAR	Pinedale Array	53.84	65	P		P	16 36 53.7 0.0
	comp=Z,6.5nm,0.9s,baz=320,slow=3.9,SNR=36						
PKM	Peak Mountain	53.86	79	⇓P		P	16 36 55.0 +1.2
	baz=54						
F23A	Volborg	53.89	60	⇓P		P	16 36 53.6 -0.1
	baz=54,SNR=9.4						
DUG	Dugway	53.93	70	⇑P		P	16 36 53.9 -0.3
	baz=54,SNR=5.6						
ARU	Arti	53.98	319	*c i*P		P	16 36 54.4 +0.3
ARU							16 38 52.0
ARU				S		S	16 44 29.7 +1.1
ARU				SS		SKiKP	16 48 04.2 -1.1
ARU				pmax		pmax	
	comp=Z,7.0nm,1.7s						
ISA	Isabella	54.06	78	⇑P		P	16 36 55.8 +0.7
	baz=54						
A28A	Rude Farm, Bot	54.12	54	⇑P		P	16 36 55.8 +0.5
	baz=54						
K19A	Absolon Red Bu	54.17	65	⇑P		P	16 36 55.8 -0.2
	baz=54						
M17A	Scullys Gap (B	54.18	67	⇑P		P	16 36 56.0 -0.1
	baz=54						
L18A	Fontenelle, Gr	54.19	66	⇑P		P	16 36 56.0 -0.2
	baz=54,SNR=5.6						
KMI	Kunming	54.19	263	P		P	16 36 57.2 +0.8
KMI				pP		pP	16 37 02.5 +0.4
KMI				pmax		pmax	
	comp=Z,7.0nm,1.1s						
J20A	Shoshoni	54.20	64	⇓P		P	16 36 56.2 +0.1
	baz=54,SNR=19						
G23A	Biddle	54.26	61	⇓P		P	16 36 56.7 +0.2
	baz=54						
I21A	Big Trails, Te	54.28	63	⇑P		P	16 36 56.9 +0.1
	baz=54						
MPMC	Manual Prospec	54.32	77	⇓P		P	16 36 57.3 +0.2
	baz=54,SNR=5.1						
E25A	Miller Ranch,	54.33	58	⇓P		P	16 36 57.1 +0.2
	baz=54						
FURC	Furnace Creek,	54.38	76	⇑P		P	16 36 58.7 +1.4
	baz=54						
C27A	Sayler Ranch,	54.38	56	⇑P		P	16 36 58.0 +0.7
	baz=54						
B28A	Dugan Ranch, T	54.40	55	⇓P		P	16 36 58.2 +0.8
	baz=54						
L19A	Farson	54.42	66	⇓P		P	16 36 57.9 +0.1
	baz=54						
J21A	Lysite	54.53	63	⇓P		P	16 36 58.7 +0.1
	baz=54						
K20A	Yellowstone Ra	54.55	65	⇓P		P	16 36 58.6 -0.1
	baz=54						
A29A	Manning Farm,	54.59	54	⇓P		P	16 36 59.7 +1.0
	baz=54						
LRMC	Laurel Mountai	54.63	77	⇓P		P	16 37 00.1 +0.7
	baz=54						
I22A	9 Mile Ranch,	54.63	62	⇑P		P	16 36 59.4 +0.2
	baz=54,SNR=6.8						
F25A	Bowman	54.71	59	⇓P		P	16 37 00.2 +0.5
	baz=54						
H23A	Clabaugh Cattl	54.71	61	⇓P		P	16 36 59.8 +0.1
	baz=54						
D27A	Center	54.80	57	⇑P		P	16 37 01.0 +0.7
	baz=54						
E26A	Carlson Angus	54.80	58	⇓P		P	16 37 00.6 +0.2
	baz=54						
B29A	Wagenman Farm,	54.86	54	⇓P		P	16 37 01.0 +0.3
	baz=55						
EDW2	Edwards Air Fo	54.90	78	⇓P		P	16 37 02.0 +0.8
	baz=55						
C28A	Hausauer Farms	54.91	55	⇓P		P	16 37 01.8 +0.7
	baz=55						
J22A	Midwest	54.98	63	⇑P		P	16 37 02.5 +0.7
	baz=55,SNR=9.8						
H24A	Dirks Ranch, A	55.00	60	⇑P		P	16 37 02.0 +0.1
	baz=55						
L20A	Wamsutter	55.02	65	⇓P		P	16 37 02.9 +0.7
	baz=55						
SHOC	Shoshone	55.11	76	⇓P		P	16 37 03.9 +1.2
	baz=55						
K21A	Alcova	55.14	64	⇓P		P	16 37 02.7 -0.3
	baz=55,SNR=6.0						
F26A	Lodgepole	55.15	58	⇑P		P	16 37 03.2 +0.4
	baz=55						
ULM	Lac du Bonnet	55.16	51	*e*P		P	16 37 02.4 -0.5
	comp=Z,7.0nm,0.9s						
ULM	Lac du Bonnet	55.16	51	P		P	16 37 02.3 -0.5
	comp=Z,10nm,0.8s,baz=311,slow=7.7,SNR=8.1						
D28A	Regan	55.20	56	⇑P		P	16 37 04.0 +0.8
	baz=55						
G25A	Newell	55.25	59	⇓P		P	16 37 04.0 +0.4
	baz=55						
GSC	Goldstone	55.26	77	⇓P		P	16 37 04.5 +0.7
	baz=55,SNR=9.7						
E27A	Carson	55.27	57	⇓P		P	16 37 04.1 +0.4
	baz=55						
ARUT	Antelope Range	55.32	72	P		P	16 37 04.7 +0.4
ARUT				pmax		pmax	
	comp=Z,34nm,0.9s						
ARUT	Antelope Range	55.32	72	P		P	16 37 04.7 +0.4
	comp=Z,34nm,0.9s						
B30A	Myrvik Farm, E	55.35	54	⇓P		P	16 37 05.3 +1.0
	baz=55						
G27A	Dupree	55.35	59	⇓P		P	16 37 07.8 +3.4
	baz=56						
F27A	Lemmon	55.45	58	⇓P		P	16 37 05.2 +0.2
	baz=55						
M20A	Sweetwater, Wa	55.47	66	⇑P		P	16 37 06.1 +0.6
	baz=55						
K22A	Casper	55.50	63	⇑P		P	16 37 05.8 +0.2
	baz=55						
BFSC	Mount Baldy Ra	55.55	78	⇓P		P	16 37 06.8 +0.8
	baz=55						
L21A	Rawlins	55.55	65	⇓P		P	16 37 06.0 0.0
	baz=55						
G26A	Maurine	55.58	59	⇓P		P	16 37 05.7 -0.3
	baz=55,SNR=5.9						
E28A	Huff	55.59	57	⇓P		P	16 37 06.7 +0.7
	baz=55						
TUQ	Turquoise Moun	55.65	76	⇑P		P	16 37 07.7 +0.9
	baz=56						
RSSD	Black Hills	55.71	61	*e*P		P	16 37 07.0 -0.1
RSSD				pmax		pmax	
	comp=Z,10.0nm,1.1s						
RSSD	Black Hills	55.71	61	*e*P		P	16 37 07.0 -0.1
	comp=Z,10nm,1.1s						
Q16A	Castle Valley	55.73	70	*e*P		P	16 37 08.1 +0.7
Q16A	Castle Valley	55.73	70	⇓P		P	16 37 08.0 +0.6
	baz=56,SNR=7.2						
M21A	Separation Pea	55.81	65	⇑P		P	16 37 07.5 -0.4
	baz=56,SNR=6.9						
O19A	Miners Draw (B	55.83	67	⇑P		P	16 37 08.7 +0.7
	baz=56						
HEC	Hector,Ludlow	55.87	77	⇑P		P	16 37 09.3 +1.1
	baz=56						
K23A	Bowen Ranch, D	55.89	63	⇓P		P	16 37 08.3 0.0
	baz=56						
N20A	Spence Gulch,	55.90	66	⇑P		P	16 37 09.4 +0.8
	baz=56,SNR=20						
I25A	Rochford	55.93	61	⇓P		P	16 37 08.9 +0.2
	baz=56						
SRU	San Rafael	55.94	69	*e*P		P	16 37 09.4 +0.6
SRU				pmax		pmax	
	comp=Z,28nm,1.0s						
SRU	San Rafael	55.94	69	*e*P		P	16 37 09.4 +0.6
	comp=Z,28nm,1.0s						
L22A	Ellis Ranch, M	55.99	64	⇑P		P	16 37 10.3 +1.1
	baz=56,SNR=9.0						
GMRC	Granite Mounta	56.28	76	⇑P		P	16 37 11.8 +0.6
	baz=56,SNR=6.6						
L23A	Garrett	56.31	63	⇑P		P	16 37 10.9 -0.6
	baz=56,SNR=12						
N21A	Black Mountain	56.34	66	⇓P		P	16 37 12.4 +0.6
	baz=56						
J25A	Sunshine Ranch	56.35	61	⇑P		P	16 37 11.6 0.0
	baz=56						
M22A	Cedar Creek Ra	56.36	65	⇓P		P	16 37 11.9 0.0
	baz=56						
LDFC	Landfair	56.37	76	*e*P		P	16 37 12.2 +0.3
	comp=Z,11nm,0.9s						
P19A	Cripple Cowboy	56.39	68	⇓P		P	16 37 12.6 +0.6
	baz=56,SNR=10						
O20A	White River Ci	56.42	67	*e*P		P	16 37 12.1 -0.2
O20A	White River Ci	56.42	67	⇑P		P	16 37 12.7 +0.5
	baz=56,SNR=5.5						
BELC	Belle Mtn. Jos	56.66	77	⇑P		P	16 37 14.9 +0.9
	baz=56						
PFO	Pinyon Flat Ob	56.69	78	⇑P		P	16 37 15.6 +1.4
	baz=56						
O21A	Pagoda	56.77	66	⇓P		P	16 37 15.2 +0.4
	baz=56,SNR=8.1						
M23A	Laramie	56.77	64	⇓P		P	16 37 14.9 +0.2
	baz=56						
J26A	Sides Ranch, S	56.77	61	⇑P		P	16 37 14.9 +0.4
	baz=56						
P20A	De Beque	56.80	67	⇓P		P	16 37 15.1 +0.2
	baz=57						
H28A	Mission Ridge	56.80	58	⇓P		P	16 37 15.4 +0.7
	baz=56						
N22A	Wattenberg Ran	56.87	65	⇓P		P	16 37 16.7 +1.2
	baz=57,SNR=8.2						
AAK	Ala-Archa	56.92	298	*e*P		P	16 37 15.4 -0.4
AAK				pmax		pmax	
	comp=Z,6.0nm,1.1s						
U15A	North Rim	56.93	73	⇑P		P	16 37 16.2 +0.2
	baz=57,SNR=5.3						
IRM	Iron Mountain	57.02	76	⇑P		P	16 37 17.0 +0.7
	baz=57,SNR=5.5						
W13A	Hualapai Mount	57.03	75	⇓P		P	16 37 17.4 +0.8
	baz=57						
N23A	Red Feather La	57.07	65	⇓P		P	16 37 17.8 +0.8
	baz=57,SNR=9.5						
BC3	Big Chuckawall	57.22	77	⇓P		P	16 37 18.9 +1.0
	baz=57						
I28A	Midland	57.22	59	⇑P		P	16 37 17.3 -0.3
	baz=57						
MONP	Monument Peak	57.24	78	⇓P		P	16 37 19.2 +1.0
	baz=57						
P21A	Newcastle	57.28	67	⇑P		P	16 37 19.3 +0.9
	baz=57						
O22A	Kremmling	57.29	66	⇑P		P	16 37 19.5 +1.0
	baz=57						
PV04	Paradox Valley	57.33	69	*e*P		P	16 37 19.1 +0.3
PDMCI	Parker Dam,Lak	57.48	76	⇓P		P	16 37 20.8 +1.3
	baz=57						
O23A	Lake Granby, G	57.58	65	⇓P		P	16 37 21.9 +1.3
	baz=57						
P22A	Eagle	57.59	66	⇓P		P	16 37 21.6 +1.0
	baz=57,SNR=5.2						
J28A	Allard Ranch,	57.61	59	⇓P		P	16 37 21.2 +0.8
	baz=57						
Q21A	Lamborn Mesa,	57.72	67	⇑P		P	16 37 21.8 +0.4
	baz=58						
R20A	Redvale	57.76	68	⇓P		P	16 37 22.2 +0.4
	baz=58						
SMCO	Snowmass	57.78	67	*e*P		P	16 37 23.0 +0.8
	comp=Z,8.8nm,1.1s						
GLA	Glamis	58.02	77	⇑P		P	16 37 25.1 +1.7
	baz=58						
S20A	Disappointment	58.04	69	⇓P		P	16 37 24.6 +0.8
	baz=58						
ISCO	Idaho Springs	58.04	65	⇓P		P	16 37 24.5 +0.7
	baz=58						
Q22A	Crested Butte,	58.05	67	⇑P		P	16 37 24.8 +0.8
	baz=58						
K28A	Ten Mile Ranch	58.07	60	⇑P		P	16 37 24.5 +0.8
	baz=58						
R21A	Cimarron	58.07	68	⇑P		P	16 37 25.1 +1.1
	baz=58,SNR=7.5						
M26A	McRoberts Ranc	58.09	62	⇓P		P	16 37 24.5 +0.6
	baz=58						
WUAZ	Wupatki	58.11	73	⇑P		P	16 37 25.2 +1.0
	baz=58						
P23A	Jefferson	58.24	66	⇓P		P	16 37 26.4 +1.2
	baz=58						
MVCO	Mesa Verde	58.42	69	⇑P		P	16 37 27.1 +0.7
	baz=58						
KSH	Kashi	58.45	295	P		P	16 37 29.0 +2.6
KSH				sP		sP	16 37 36.9 +2.5
KSH				PP		PP	16 39 40.8 +5.3
KSH				PcS		PcS	16 42 19.9 +1.2
KSH				S		S	16 45 31.8 +3.1
KSH				pmax		pmax	
	comp=Z,48nm,4.6s						
KSH				LR		LR	
	comp=N,67nm,5.8s						
KSH				LR		LR	
	comp=E,69nm,4.7s						
KSH				LR		LR	
	comp=Z,120nm,5.3s						
S21A	Coal Bank Pass	58.46	68	⇓P		P	16 37 27.8 +1.0
	baz=58,SNR=8.8						
N26A	Koester Ranch,	58.52	63	⇓P		P	16 37 28.2 +1.2
	baz=58						
Q23A	Hartsel	58.59	66	⇑P		P	16 37 28.5 +0.9
	baz=58						
R22A	Saguache, Gunn	58.60	67	⇓P		P	16 37 28.6 +0.9
	baz=58						
ABKAR	Akbulak array	58.80	312	*e*P		P	16 37 27.6 -1.0
	comp=Z,1.4nm,0.6s						
EYMN	Ely	58.81	50	*e*P		P	16 37 27.9 -0.8
	comp=Z,6.2nm,1.0s						
X16A	Lo Mia Camp, P	58.88	73	⇑P		P	16 37 30.7 +1.1
	baz=59						
Q24A	Divide	58.90	66	⇑P		P	16 37 30.6 +0.8
	baz=59						
O26A	Horse Wrangler	58.91	63	⇑P		P	16 37 30.5 +0.9
	baz=59						
S22A	4UR Ranch, Cre	58.91	68	⇓P		P	16 37 31.1 +1.1
	baz=59,SNR=6.1						
P25A	Willow Gulch B	59.01	64	⇓P		P	16 37 32.0 +1.6
	baz=59						
W18A	Petrified Fore	59.30	72	⇑P		P	16 37 33.7 +1.2
	baz=59						
O27A	Beecher Island	59.37	63	⇑P		P	16 37 33.6 +0.7
	baz=59						
T22A	Edith	59.42	68	⇓P		P	16 37 34.2 +0.9
	baz=59						
FINES	FINESS Array B	59.45	339	P		P	16 37 32.1 -0.8
FINES	FINESS Array B	59.45	339	P		P	16 37 32.1 -0.8
	comp=Z,1.3nm,0.6s,baz=79,slow=12,SNR=4.2						
FINES				LR		LR	17 06 23.0
	comp=Z,65nm,18.8s,baz=180,slow=39						
U21A	Nageezi	59.45	69	⇓P		P	16 37 34.4 +0.8
	baz=59						
V20A	Brimhall	59.48	70	⇑P		P	16 37 34.0 +0.2
	baz=59						
X18A	Snowflake	59.62	72	⇑P		P	16 37 36.0 +1.2
	baz=59						
Q26A	Hugo	59.78	64	⇓P		P	16 37 36.6 +0.9
	baz=60						
S24A	Houchin Ranch,	59.85	67	⇑P		P	16 37 37.3 +0.9
	baz=60						
V21A	Milan	59.92	70	⇑P		P	16 37 37.4 +0.5
	baz=60						
R25A	Fountain Ranch	59.96	66	⇓P		P	16 37 37.7 +0.7
	baz=60						
W20A	Ramah	59.97	71	⇑P		P	16 37 38.0 +0.8
	baz=60						
T24B	San Luis	60.19	67	⇑P		P	16 37 39.5 +0.7
	baz=60						
V22A	San Miguel Ran	60.24	69	⇑P		P	16 37 39.0 0.0
	baz=60						
S25A	Roberts Cordova	60.24	66	⇑P		P	16 37 39.7 +0.7
	baz=60						
R26A	Arlington	60.28	65	⇑P		P	16 37 39.6 +0.5
	baz=60,SNR=7.8						
X20A	Quemado	60.41	71	⇑P		P	16 37 41.5 +1.3
	baz=60,SNR=5.9						
S26A	Kim	60.78	65	⇓P		P	16 37 42.4 -0.2
	baz=60						
X21A	Alamocita Cree	60.86	71	⇓P		P	16 37 44.3 +1.0
	baz=61,SNR=13						
Y20A	Horse Springs,	60.95	72	⇓P		P	16 37 44.8 +0.9
	baz=61						
P30A	Selden	60.99	62	⇓P		P	16 37 44.5 +0.6
	baz=61						
T26A	Comanche Natio	61.05	66	⇓P		P	16 37 44.4 -0.1
	baz=61						
U25A	Circle Dot Ran	61.20	67	⇑P		P	16 37 46.5 +0.9
	baz=61						
ANMO	Albuquerque	61.21	70	P		P	16 37 45.3 -0.3
	comp=Z,1.8nm,0.4s						
V24A	Rampart Ranch,	61.25	68	⇓P		P	16 37 46.7 +0.8
	baz=61						
Y21A	Point of Rocks	61.25	71	⇓P		P	16 37 47.6 +1.6
	baz=61						
COWI	Conover	61.26	50	*e*P		P	16 37 44.8 -0.7
	comp=Z,5.5nm,1.0s						
Z20A	Nine Sixteen R	61.43	72	⇑P		P	16 37 47.8 +0.7
	baz=61						
Q30A	Quinter	61.43	62	⇓P		P	16 37 46.9 0.0
	baz=61						
P31A	Stockton	61.45	61	⇑P		P	16 37 46.8 -0.2
	baz=61						
W24A	Lazy 6 Ranch,	61.57	69	⇑P		P	16 37 49.2 +1.1
	baz=61						
CMAR	Chiang Mai Arr	61.59	262	P		P	16 37 48.5 +0.3
CMAR	Chiang Mai Arr	61.59	262	P		P	16 37 48.5 +0.3
	comp=Z,0.9nm,0.6s,baz=23,slow=6.7,SNR=6.3						
CMAR				LR		LR	17 07 16.4
	comp=Z,88nm,18.4s,baz=265,slow=39						
Y22A	Socorro	61.69	71	⇓P		P	16 37 49.7 +0.8
	baz=62						
BNM	Barren Site	61.72	70	*e*P		P	16 37 49.8 +0.7
	comp=Z,0.8nm,0.7s						
120A	U Bar Ranch, L	61.84	73	⇓P		P	16 37 50.5 +0.7
	baz=62						
T28A	Walsh	61.87	65	⇑P		P	16 37 50.2 +0.3
	baz=62						
V26A	Tequesquite Ra	61.99	67	⇓P		P	16 37 51.1 +0.3
	baz=62						
U27A	Thompson Grove	62.02	66	⇓P		P	16 37 51.4 +0.5
	baz=62						
W25A	X Bar L Ranch,	62.07	68	⇓P		P	16 37 52.1 +0.8
	baz=62						
Y23A	Lovelace Mesa,	62.19	70	⇓P		P	16 37 53.3 +1.0
	baz=62,SNR=5.5						
Z22A	Elephant Butte	62.21	71	⇓P		P	16 37 53.6 +1.3
	baz=62						
220A	Playas Peak, P	62.38	73	⇓P		P	16 37 54.8 +1.3
	baz=62						
NB2	NORSAR Subarra	62.41	346	P		P	16 37 52.2 -0.8
	comp=Z,1.1nm,0.5s,baz=16,slow=6.9						
NOA	NORSAR Array B	62.41	346	P		P	16 37 52.3 -0.8
NOA	NORSAR Array B	62.41	346	P		P	16 37 52.3 -0.8
	comp=Z,1.1nm,0.5s,baz=16,slow=7.0,SNR=4.6						
NOA				LR		LR	17 10 47.7
	comp=Z,25nm,18.1s,baz=25,slow=42						
Y24A	Capitan	62.53	70	⇑P		P	16 37 55.4 +0.9
	baz=62						
X26A	CR and CF Fran	62.92	68	⇑P		P	16 37 57.8 +0.7
	baz=63						
W27A	Bowe Ranch, En	62.93	67	⇑P		P	16 37 57.9 +0.8
	baz=63						
Y25A	Mesa, Roswell	62.93	69	⇓P		P	16 37 57.6 +0.5
	baz=63						
Y26A	Elida	63.40	68	⇑P		P	16 38 00.7 +0.6
	baz=63						
Z25A	Roswell	63.41	70	⇑P		P	16 38 01.3 +1.0
	baz=63						
124A	Stringfield Ra	63.45	70	⇓P		P	16 38 01.5 +0.8
	baz=63						
Y27A	Causey	63.78	68	⇑P		P	16 38 03.5 +0.9
	baz=64						
Z26A	Caprock	63.81	69	⇑P		P	16 38 03.4 +0.6
	baz=64						
224A	Cornudas Mount	63.89	71	⇓P		P	16 38 04.4 +0.9
	baz=64						
125A	Gardner Draw,	63.91	70	⇓P		P	16 38 04.6 +1.0
	baz=64						
MSTX	Muleshoe	63.92	68	⇓P		P	16 38 04.1 +0.5
	baz=64						
225A	Deer Hill, Car	64.25	70	⇑P		P	16 38 06.5 +0.6
	baz=64						
126A	Clayton Basin,	64.27	69	⇑P		P	16 38 06.4 +0.5
	baz=64						
324A	Moseley Ranch,	64.40	71	⇑P		P	16 38 07.5 +0.6
	baz=64						
226B	Tecolote Peak,	64.63	70	⇓P		P	16 38 08.8 +0.6
	baz=64						
325A	Bean Ranch, Si	64.73	71	⇓P		P	16 38 09.8 +0.7
	baz=64						
128A	Castleberry Fa	65.11	68	⇑P		P	16 38 11.7 +0.3
	baz=65						
425A	Indio Mountain	65.18	71	⇓P		P	16 38 13.0 +1.1
	baz=65						
Z30A	Sanderson Ranc	65.32	67	⇑P		P	16 38 12.9 +0.2
	baz=65						
WMOK	Wichita Mounta	65.42	64	*e*P		P	16 38 12.8 -0.5
WMOK				pmax		pmax	
	comp=Z,8.0nm,0.9s						
WMOK	Wichita Mounta	65.42	64	*e*P		P	16 38 12.8 -0.5
	comp=Z,8.2nm,0.9s						
426A	McDonald Obser	65.79	71	⇑P		P	16 38 16.5 +0.6
	baz=66						
Z31A	Sharp Cattle R	65.81	66	⇓P		P	16 38 16.1 +0.3
	baz=66						
328A	Wristen Ranch,	65.89	69	⇑P		P	16 38 17.2 +0.8
	baz=66						
427A	Hayter Ranch,	65.99	70	⇑P		P	16 38 17.5 +0.4
	baz=66						
Z32A	Haskell	66.17	66	⇓P		P	16 38 18.1 0.0
	baz=66						
131A	Roby	66.18	67	⇑P		P	16 38 18.5 +0.2
	baz=66						
526A	Mary Lane Ranc	66.23	71	⇑P		P	16 38 19.3 +0.6
	baz=66						
329A	Wagon Wheel Ra	66.26	69	⇑P		P	16 38 19.2 +0.4
	baz=66						
527A	Woodward Ranch	66.42	71	⇓P		P	16 38 20.4 +0.5
	baz=66						
428A	Kincaid Ranch,	66.47	70	⇓P		P	16 38 20.8 +0.7
	baz=66						
626A	Big Bend Ranch	66.59	72	⇓P		P	16 38 22.0 +1.0
	baz=66						
528A	Cox Ranch, San	66.85	70	⇑P		P	16 38 23.6 +0.9
	baz=67						
429A	Davenport Ranc	66.98	69	⇑P		P	16 38 24.2 +0.8
	baz=67						
TXAR	Lajitas Array	67.02	71	P		P	16 38 23.9 +0.2
TXAR	Lajitas Array	67.02	71	P		P	16 38 23.9 +0.2
	comp=Z,3.2nm,0.8s,baz=303,slow=4.4,SNR=31						
627A	Terlingua Ranc	67.08	71	⇑P		P	16 38 25.1 +1.0
	baz=67						
232A	Coleman	67.19	67	⇑P		P	16 38 25.3 +0.6
	baz=67					

AKASG Malin Array Be 68.41 332 P **P 16 38 31.0 -1.0**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 68.41 332 P **P 16 38 30.9 -1.0**
AKASG Malin Array Be 68.41 332 P **P 16 38 30.9 -1.0**
comp=Z,1.0nm,0.5s,baz=28,slow=6.9,SNR=2.2
532A Rocksprings 68.43 68 ⇓P **P 16 38 33.0 +0.5**
baz=68
631A Perdido Creek 68.63 69 ⇑P **P 16 38 34.1 +0.3**
baz=68
632A Uvalde 68.98 69 ⇓P **P 16 38 36.5 +0.6**
baz=69
732A Laxson Ranch, 69.50 69 ⇓P **P 16 38 39.7 +0.6**
baz=69
KBZ Khabaz 70.13 319 LR LR 17 14 03.6
comp=Z,54nm,18.8s,baz=112,slow=40
SWET Sewanee 71.41 55 *e*P **P 16 38 50.0 -0.7**
comp=Z,9.7nm,0.8s
KMSC Kings Mountain 73.58 52 ⇑P **P 16 39 03.3 -0.4**
baz=73
GERES GERESS Array B 73.73 341 P **P 16 39 04.3 -0.1**
GERES GERESS Array B 73.73 341 P **P 16 39 04.3 -0.1**
comp=Z,0.4nm,0.4s,baz=35,slow=4.9,SNR=4.9
BRTR Keskin Array B 76.95 324 P **P 16 39 22.6 -0.5**
BRTR Keskin Array B 76.95 324 P **P 16 39 22.6 -0.5**
comp=Z,0.5nm,0.7s,baz=27,slow=2.3,SNR=3.1
WRAB Tennant Creek 79.27 210 *e*P **P 16 39 35.9 0.0**
WRAB pmax pmax
comp=Z,2.0nm,0.6s
WRAB Tennant Creek 79.27 210 *e*P **P 16 39 35.9 0.0**
comp=Z,2.1nm,0.6s
WRA Warramunga Arr 79.29 210 P **P 16 39 35.3 -0.6**
WRA Warramunga Arr 79.29 210 P **P 16 39 35.3 -0.6**
comp=Z,1.9nm,0.8s,baz=26,slow=6.1,SNR=13
ASAR Alice Springs 82.94 209 P **P 16 39 55.8 +0.4**
ASAR Alice Springs 82.94 209 P **P 16 39 55.8 +0.4**
comp=Z,2.7nm,0.8s,baz=17,slow=4.7,SNR=30
ESDC Sonseca Array 85.16 352 P **P 16 40 06.5 -0.3**
ESDC Sonseca Array 85.16 352 P **P 16 40 06.5 -0.3**
comp=Z,0.2nm,0.3s,baz=8.6,slow=4.7,SNR=7.8

NSSC ***02*** *17:19:46.3±0.7, 36°.68N×40°.49E, h3km±3km, ML2.6*
DDA ***02*** *17:19:46.7, 36°.75N×40°.36E, h7km, MD3.2*
CSEM ***02*** *17:19:46.6±0.5, 36°.69N×40°.49E, h2km, ML2.6, Error ellipse: s-maj=12.7km s-min=6.8km az=94.0*
ISK ***02*** *17:19:55.5, 37°.61N×40°.71E, h5km, MD3.2*
ISC 02 17:19:46.2±1.1, 36°.73N±0°.03×40°.50E±0°.03, h4km±11km, n33, σ1§06/49, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBSD	**Kabsdagh**	**0.28**	**7**	*e*P	**Pb**	**17 19 52.9**	**-1.0**
KBSD				*e*S	**Sb**	**17 19 57.3**	**-1.6**
KBSD				AML	AML	17 19 58.4	
	comp=Z,727nm,0.3s						
KBSD				AML	AML	17 19 58.8	
	comp=N,680nm,0.2s						
KBSD				AML	AML	17 19 59.1	
	comp=E,704nm,0.2s						
KBSD	**Kabsdagh**	**0.28**	**7**	*e*P	**Pb**	**17 19 52.9**	**-1.0**
	SNR=75						
KBSD				*e*S	**Sb**	**17 19 57.3**	**-1.6**
	comp=E,704nm,0.2s,SNR=59						
SFNV	**Sufian**	**0.44**	**226**	*e*P	**Pg**	**17 19 54.7**	**0.0**
SFNV				*e*S	**Sg**	**17 20 00.3**	**-0.1**
SFNV				AML	AML	17 20 01.5	
	comp=Z,509nm,0.4s						
SFNV				AML	AML	17 20 01.6	
	comp=N,368nm,0.4s						
SFNV				AML	AML	17 20 04.6	
	comp=E,505nm,0.4s						
SFNV	**Sufian**	**0.44**	**226**	*e*P	**Pg**	**17 19 54.7**	**0.0**
	SNR=75						
SFNV				*e*S	**Sg**	**17 20 00.3**	**-0.1**
	comp=E,505nm,0.4s,SNR=59						
MARD	**Mardin**	**0.63**	**21**	*i* P	**Pb**	**17 19 59.6**	**-0.3**
MARD				*i* S	**Sb**	**17 20 09.3**	**+0.1**
MAZI	**Mazidag**	**0.73**	**357**	*e*PG	**Pb**	**17 20 01.8**	**0.0**
MAZI	**Mazidag**	**0.73**	**357**	*e*Pg	**Pb**	**17 20 01.8**	**+0.1**
MZRK	**Al-Mazaregh**	**0.91**	**172**	*e*P	**Pg**	**17 20 03.1**	**-0.4**
MZRK				*e*S	**Sg**	**17 20 14.6**	**-0.7**
MZRK				AML	AML	17 20 15.4	
	comp=N,285nm,0.3s						
MZRK				AML	AML	17 20 20.3	
	comp=E,128nm,0.8s						
MZRK				AML	AML	17 20 22.4	
	comp=Z,81nm,0.3s						
MZRK	**Al-Mazaregh**	**0.91**	**172**	*e*P	**Pg**	**17 20 03.2**	**-0.4**
	SNR=67						
MZRK				*e*S	**Sg**	**17 20 14.6**	**-0.7**
	comp=Z,81nm,0.3s,SNR=59						
DIY	**Diyarbakir**	**1.19**	**349**	*e*PG	**Pg**	**17 20 06.2**	**-2.8**
DIY	**Diyarbakir**	**1.19**	**349**	*e*Pg	**Pg**	**17 20 06.2**	**-2.8**
DIYA	**Diyarbakir**	**1.23**	**346**	*i* P	**Pg**	**17 20 09.7**	**-0.2**
DIYA				*i* S	**Sb**	**17 20 26.7**	**+0.2**
DIYA	**Diyarbakir**	**1.23**	**346**	*i* P	**Pg**	**17 20 09.7**	**-0.2**
DIYA				*i* S	**Sb**	**17 20 26.7**	**+0.2**
BEST	**Besiri**	**1.32**	**28**	*i* P	**Pg**	**17 20 12.4**	**+0.9**
BEST				*i* S	**Sn**	**17 20 31.3**	**+1.7**
SIRT	**Sirnak**	**1.73**	**63**	*e*PN	Pg	17 20 23.2	+3.7
SIRT				*e*SN	**Sg**	**17 20 43.1**	**+1.2**
SIRT	**Sirnak**	**1.73**	**63**	*e*Pn	Pg	17 20 23.2	+3.7
SIRT				*e*Sn	**Sg**	**17 20 43.1**	**+1.2**
ATAB	**Bozova**	**1.91**	**294**	*i* P	**Pn**	**17 20 20.6**	**+0.9**
ATAB				*i* S	**Sb**	**17 20 46.1**	**+0.1**
ATAB	**Bozova**	**1.91**	**294**	*i* P	**Pn**	**17 20 20.6**	**+0.9**
ATAB				*i* S	**Sb**	**17 20 46.1**	**+0.1**
SLMH	**Al Salmeh**	**2.14**	**257**	*e*P	**Pn**	**17 20 22.3**	**-0.4**
SLMH				*e*S	**Sn**	**17 20 49.3**	**-0.4**
SLMH				AML	AML	17 20 56.5	
	comp=E,142nm,0.5s						
SLMH				AML	AML	17 20 56.9	
	comp=N,139nm,0.3s						
SLMH				AML	AML	17 20 57.0	
	comp=Z,53nm,0.4s						
SLMH	**Al Salmeh**	**2.14**	**257**	*e*P	**Pn**	**17 20 22.3**	**-0.4**
	SNR=45						
SLMH				*e*S	**Sn**	**17 20 49.3**	**-0.4**
	comp=Z,53nm,0.4s,SNR=40						
ELZG	**Elazig**	**2.14**	**326**	*i* P	**Pb**	**17 20 26.4**	**+0.7**
ELZG	**Elazig**	**2.14**	**326**	*i* P	**Pb**	**17 20 26.4**	**+0.7**
BINT	**Bingol**	**2.15**	**360**	*e*Pn	**Pn**	**17 20 22.2**	**-0.8**
BNGB	**Bing°‖l**	**2.27**	**4**	*e*PN	**Pn**	**17 20 22.2**	**-2.5**
MALT	**Malatya**	**2.29**	**315**	*e*PN	**Pg**	**17 20 31.2**	**+0.9**
MALT				*e*SN	**Sb**	**17 20 56.9**	**+0.1**
MALT	**Malatya**	**2.29**	**315**	*e*Pn	**Pg**	**17 20 31.2**	**+1.1**
MALT				*e*Sn	**Sb**	**17 20 56.9**	**+0.1**
PTK	**Pertek**	**2.33**	**338**	*e*PN	**Pn**	**17 20 26.1**	**+0.5**
PTK	**Pertek**	**2.33**	**338**	*e*Pn	**Pn**	**17 20 26.2**	**+0.6**
CUKT	**Cukurca**	**2.54**	**77**	*e*PN	**Pg**	**17 20 36.1**	**+1.1**
CUKT	**Cukurca**	**2.54**	**77**	*e*Pn	**Pg**	**17 20 36.1**	**+1.1**
AKCD	**Akcadag**	**2.58**	**308**	*e*P	**Pn**	**17 20 28.2**	**-0.8**
AKCD	**Akcadag**	**2.58**	**308**	*e*P	**Pn**	**17 20 28.2**	**-0.8**
DARE	**Darende-Malaty**	**3.02**	**308**	*e*PN	**Pb**	**17 20 42.1**	**+1.4**

BJI ***02*** *17:21:38.7, 10°.48N×93°.55E, h20km, mB4.8/9, mb4.8/23, Ms4.3/3, Ms7 4.0/3*
ISCJB ***02*** *17:21:53.9±0.2, 10°.94N±0°.03×93°.46E±0°.03, h123km, mb4.6/61, Error ellipse: s-maj=4.5km s-min=2.8km az=136.3*
DJA ***02*** *17:21:53.3±1.4, 11°.4N×9°.3E±1°.8, h120km, M4.8/8, mB5.1/3, mb4.8/8, MLv4.9/1, Mw(mB)4.4/3*
IDC ***02*** *17:21:54.8±0.7, 11°.05N×93°.59E, h117km±5km, mb4.0/19, mb1 4.2/21, mb1mx4.0/28, mbtmp4.0/21, MS3.2/5, Ms1 3.3/5, ms1mx2.9/41, Error ellipse: s-maj=15.9km s-min=9.1km az=56.0*
MOS ***02*** *17:21:54.8±0.9, 11°.02N×93°.66E, h132km, mb4.6/21, Error ellipse: s-maj=11.2km s-min=5.3km az=113.1*
NEIC ***02*** *17:21:55.6±0.8, 11°.03N×93°.60E, h124km±7km, mb4.8/16, Error ellipse: s-maj=9.3km s-min=4.1km az=66.0*
BKK ***02*** *17:21:55.6±0.9, 11°.4N±3°×9°.3E±°, h103km±8km, M4.4/26, mB4.8/12, mb4.8/26, MLv4.9/7, Mw(mB)4.1/12*
ISC 02 17:21:55.2±0.3, 10°.95N±0°.04×93°.51E±0°.05, h123km, n245, σ1§05/264, mb4.6/61, 9C-8D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.02**	**313**	*e*P	Pn	17 22 16.0	-1.7
PBA				*e*S	Sn	17 22 33.1	-1.6
PBA				AML	AML	17 22 35.9	
	comp=E,13μm,0.2s						
PBA				AML	AML	17 22 36.6	
	comp=N,10μm,0.6s						
DGPR	**DIGLIPUR**	**2.28**	**346**	*e*P	**Pn**	**17 22 32.1**	**-0.2**
CMBY	**CAMPBELL BAY**	**3.94**	**174**	*e*P	**Pn**	**17 22 53.7**	**-0.4**
CMBY				*e*S	**Sn**	**17 23 38.3**	**-1.4**
PKDT	**Phuket**	**5.65**	**122**	P	**Pn**	**17 23 17.4**	**+0.3**
	comp=N,180nm,1.0s,comp=N,2μmcomp=N,0.5nm						
BSI	**Banda Aceh**	**5.71**	**162**	P	**Pn**	**17 23 16.7**	**-1.1**
	comp=N,53nm,0.9s,comp=N,2μmcomp=N,0.7nm						
KRAB	**Krabi**	**6.24**	**115**	P	**Pn**	**17 23 26.2**	**+1.3**
	comp=N,87nm,0.9s,comp=N,996nmcomp=N,0.3nm						
SURA	**Surathani**	**6.29**	**106**	P	**Pn**	**17 23 27.4**	**+1.8**
	comp=N,152nm,0.9s,comp=N,7μmcomp=N,0.6nm						
PHET	**Kaeng Krachan**	**6.30**	**71**	P	**Pn**	**17 23 25.8**	**0.0**
	comp=N,300nm,0.8s,comp=N,1.0nm						
SRIT	**Nakonsritamara**	**6.45**	**111**	P	**Pn**	**17 23 27.8**	**0.0**
	comp=N,243nm,1.3s,comp=N,1.2nm						
UTHA	**Uthaitani**	**7.37**	**51**	P	**Pn**	**17 23 40.0**	**-0.3**
	comp=N,19nm,0.7s,comp=N,172nmcomp=N,0.1nm						
SKLT	**Songkhla**	**7.97**	**118**	P	**Pn**	**17 23 48.0**	**-0.3**
	comp=N,71nm,1.0s						
SKLT	**Songkhla**	**7.97**	**118**	P	**Pn**	**17 23 49.3**	**+1.0**
	comp=N,71nm,1.0s,comp=N,0.3nm						
TSI	**Tuntungan**	**8.94**	**146**	P	**Pn**	**17 24 01.5**	**0.0**
	comp=N,80nm,0.7s						
KULM	**Kulim**	**9.04**	**128**	*e*P	**Pn**	**17 24 02.8**	**0.0**
	comp=N,30nm,1.1s						
KULM	**Kulim**	**9.04**	**128**	P	**Pn**	**17 24 03.2**	**+0.4**
KULM	**Kulim**	**9.04**	**128**	P	**Pn**	**17 24 03.5**	**+0.8**
KULM	**Kulim**	**9.04**	**128**	P	**Pn**	**17 24 02.9**	**+0.1**
	comp=N,24nm,1.2s						
CM31	**Chiang Mai Arr**	**9.13**	**35**	*e*P	**Pn**	**17 24 03.1**	**-0.9**
	comp=N,42nm,0.6s						
CMAR	**Chiang Mai Arr**	**9.13**	**35**	P	**Pn**	**17 24 03.1**	**-0.8**
CMAR				S	**Sn**	**17 25 47.4**	**+2.5**
CMAR	**Chiang Mai Arr**	**9.13**	**35**	P	**Pn**	**17 24 03.1**	**-0.8**
	comp=N,7.5nm,0.3s,baz=226,slow=12,SNR=95						
CMAR				S	**Sn**	**17 25 47.4**	**+2.5**
	baz=240,slow=25,SNR=2.2						
CMAR				LR	LR	17 27 57.5	
	comp=N,83nm,19.2s,baz=150,slow=40						
CHTO	**Chiang Mai**	**9.42**	**33**	*e*P	**Pn**	**17 24 06.8**	**-1.1**
CHTO				pmax	pmax		
	comp=Z,51nm,0.9s						
CHTO	**Chiang Mai**	**9.42**	**33**	*e*P	**Pn**	**17 24 06.8**	**-1.1**
	comp=Z,51nm,0.9s						
CHTO	**Chiang Mai**	**9.42**	**33**	P	**Pn**	**17 24 06.8**	**-1.1**
	comp=Z,78nm,1.0s,comp=Z,768nm						
CHTO	**Chiang Mai**	**9.42**	**33**	P	**Pn**	**17 24 06.9**	**-0.9**
	comp=Z,78nm,1.0s						
LAMP	**Lampang**	**9.57**	**38**	P	**Pn**	**17 24 09.5**	**-0.5**
	comp=Z,23nm,0.7s,comp=Z,162nm						
CHAI	**Chaiyaphum**	**9.60**	**58**	P	**Pn**	**17 24 09.9**	**-0.5**
	comp=Z,16nm,1.0s,comp=Z,162nm						
PSI	**Prapat**	**9.72**	**146**	P	**Pn**	**17 24 12.9**	**+0.8**
PSI				S	**Sn**	**17 25 59.0**	**-0.6**
PSI	**Prapat**	**9.72**	**146**	P	**Pn**	**17 24 12.9**	**+0.8**
	comp=Z,0.6nm,0.3s,baz=338,slow=12,SNR=17						
PSI				S	**Sn**	**17 25 59.0**	**-0.6**
	comp=Z,2.1nm,0.3s,baz=180,slow=13,SNR=2.6						
IPM	**Ipoh**	**9.84**	**130**	*e*P	**Pn**	**17 24 12.9**	**-0.7**
	comp=Z,18nm,0.6s						
IPM	**Ipoh**	**9.84**	**130**	P	**Pn**	**17 24 13.1**	**-0.6**
IPM	**Ipoh**	**9.84**	**130**	P	**Pn**	**17 24 13.3**	**-0.3**
IPM	**Ipoh**	**9.84**	**130**	P	**Pn**	**17 24 13.3**	**-0.3**
	comp=Z,46nm,1.2s						
LOEI	**Loei**	**9.95**	**48**	P	Pn	17 24 18.4	+3.3
	comp=Z,64nm,1.3s,comp=Z,8μm						
PAYA	**Payao**	**10.37**	**36**	P	**Pn**	**17 24 20.6**	**-0.1**
	comp=Z,65nm,0.9s,comp=Z,518nm						
KTGM	**Kuala Trenggan**	**11.05**	**120**	P	**Pn**	**17 24 30.6**	**+0.8**
FRIM	**Kepong**	**11.12**	**133**	P	**Pn**	**17 24 31.0**	**+0.2**
NONG	**Nongkai**	**11.70**	**52**	P	**P**	**17 24 47.5**	**+0.8**
VIS	**Vishakhapatnam**	**11.93**	**305**	*i* P	**Pn**	**17 24 40.5**	**-1.0**
VIS				*i* x	x	17 26 40.0	
VIS				*ex*	x	17 26 42.0	
	comp=E,174nm,0.5s						
VIS				*ex*	x	17 26 43.6	
	comp=N,293nm,0.4s						
KGM	**Kluang**	**13.18**	**132**	P	**P**	**17 25 05.0**	**+1.7**
MYKOM	**Kota Tinggi**	**13.72**	**131**	P	**P**	**17 25 11.4**	**+2.1**
MYKOM	**Kota Tinggi**	**13.72**	**131**	P	**P**	**17 25 08.9**	**-0.4**
SHL	**Shillong**	**14.62**	**354**	⇓*i*x	**Pn**	**17 25 14.0**	**-2.3**
SHL				*i* x	x	17 27 47.0	
BOK	**Bokaro**	**14.69**	**331**	*e*P	**Pn**	**17 25 14.5**	**-2.5**
HYB	**Hyderabad**	**15.85**	**296**	*i* P	**Pn**	**17 25 32.5**	**+0.9**
HYB				*e*S	**Sn**	**17 28 30.0**	**+2.3**
HYB	**Hyderabad**	**15.85**	**296**	*e*P	**Pn**	**17 25 30.0**	**-1.7**
KMI	**Kunming**	**16.59**	**31**	P	**P**	**17 25 42.5**	**+1.3**
KMI				pmax	pmax		
	comp=Z,33nm,0.7s						
ODAN	**Odare**	**16.84**	**341**	*e*P	**Pn**	**17 25 43.9**	**0.0**
	comp=Z,34nm,0.4s						
NGP	**Nagpur**	**17.18**	**308**	*e*P	**P**	**17 25 47.2**	**-0.4**
NGP				*ex*	x	17 28 47.1	
RAMN	**Ramite**	**17.19**	**339**	*e*P	**Pn**	**17 25 48.6**	**+0.4**
	comp=Z,68nm,0.5s						
TAPN	**Taplejung**	**17.20**	**342**	*e*P	**P**	**17 25 48.1**	**+0.1**
	comp=Z,78nm,0.6s						
QIZ	**Qiongzhong**	**17.70**	**61**	P	**P**	**17 25 49.7**	**-3.5**
QIZ				S	**S**	**17 29 07.5**	**-3.4**
JBP	**Jabalpur**	**17.72**	**315**	⇓*i*x	Pn	17 26 00.4	+6.1
JBP				*ex*	x	17 29 01.2	
LATR	**Latur**	**17.98**	**296**	*e*P	**P**	**17 25 56.5**	**+0.2**
LATR				*ex*	x	17 28 56.0	
JIRN	**Jiri**	**17.98**	**339**	*e*P	**Pn**	**17 25 57.8**	**0.0**
	comp=Z,39nm,0.4s						
PKI	**Pulchoki**	**18.20**	**336**	*e*P	**P**	**17 25 59.7**	**+0.7**
	comp=Z,46nm,0.6s						
PKIN	**Phulchoki**	**18.21**	**336**	*e*P	**Pn**	**17 26 00.6**	**+0.2**
	comp=Z,54nm,0.6s						
GUN	**Gumba**	**18.33**	**338**	*e*P	**Pn**	**17 26 01.4**	**-0.5**
	comp=Z,88nm,0.4s						
DMN	**Daman**	**18.35**	**336**	*e*P	**P**	**17 26 01.4**	**+0.8**
	comp=Z,55nm,0.8s						
KKN	**Kakani**	**18.45**	**336**	*e*P	**P**	**17 26 02.3**	**+0.7**
	comp=Z,45nm,0.5s						
LSA	**Lhasa**	**18.78**	**354**	P	**P**	**17 26 05.2**	**-0.3**
LSA				pmax	pmax		
	comp=Z,30nm,0.4s						
LSA	**Lhasa**	**18.78**	**354**	*e*P	**P**	**17 26 04.9**	**-0.6**
LSA				pmax	pmax		
	comp=Z,75nm,0.6s						
LSA	**Lhasa**	**18.78**	**354**	*e*P	**P**	**17 26 04.8**	**-0.6**
	comp=Z,74nm,0.6s						
KOLN	**Koldanda**	**19.14**	**332**	*e*P	**P**	**17 26 10.3**	**+1.1**
	comp=Z,82nm,0.5s						
KSM	**Kuching**	**19.16**	**118**	*e*P	**P**	**17 26 10.0**	**+0.7**
	comp=Z,35nm,0.9s						
KSM	**Kuching**	**19.16**	**118**	P	**Pn**	**17 26 13.4**	**+1.9**
DANN	**Dangsing**	**19.57**	**334**	*e*P	**P**	**17 26 14.9**	**+1.0**
	comp=Z,242nm,0.5s						
BHPL	**Bhopal**	**19.61**	**311**	*e*P	**P**	**17 26 14.6**	**+0.5**
SBUM	**Sibu**	**20.40**	**113**	P	Pn	17 26 24.9	-1.1
POO	**Poona**	**20.43**	**294**	*ex*	**S**	**17 29 60.0**	**-5.4**
BTM	**Bintulu**	**20.89**	**110**	P	Pn	17 26 31.8	+0.1
KKM	**Kota Kinabalu**	**22.98**	**100**	P	**P**	**17 26 51.0**	**+1.5**
NDI	**New Delhi**	**23.31**	**321**	*e*P	**P**	**17 26 51.0**	**-1.4**
NDI				*ex*	x	17 27 14.0	
KDM	**Kudat**	**23.39**	**98**	P	**P**	**17 26 54.7**	**+1.5**
SDKM	**Sandakan**	**24.02**	**101**	P	**P**	**17 27 00.3**	**+1.2**
DDI	**Dehra Dun**	**24.04**	**326**	*e*P	**P**	**17 27 00.7**	**+1.7**
ENH	**Enshi**	**24.30**	**35**	*e*P	**P**	**17 26 59.9**	**-1.4**
	comp=Z,22nm,0.6s						
TSM	**Tawau**	**25.03**	**103**	P	**P**	**17 27 08.9**	**+0.7**
SMLA	**Simla**	**25.14**	**325**	*e*P	**P**	**17 27 09.9**	**+1.0**
MYLDM	**Lahad Datu**	**25.39**	**101**	P	**P**	**17 27 12.8**	**+1.4**
DHRM	**DHARAMSHALA**	**26.48**	**326**	*e*P	**P**	**17 27 21.6**	**+0.3**
XAN	**Xi'an**	**26.96**	**29**	P	**P**	**17 27 23.1**	**-2.3**
XAN				pmax	pmax		
	comp=Z,2.0nm,0.7s						
XAN				pmax	pmax		
	comp=Z,16nm,8.4s						
GTA	**Gaotai**	**28.89**	**10**	*e*P	**P**	**17 27 43.3**	**+0.7**
GTA				pP	pP	17 27 49.3	-20
GTA				sP	sP	17 27 52.5	-31
GTA				pmax	pmax		
	comp=Z,11nm,0.8s						
KAPI	**Kappang**	**30.57**	**120**	LR	LR	17 40 41.2	
	comp=Z,64nm,20.6s,baz=296,slow=37						
KBL	**Kabul**	**32.39**	**320**	*e*P	**P**	**17 28 14.1**	**+0.5**
KBL				pmax	pmax		
	comp=Z,7.0nm,0.6s						
KBL	**Kabul**	**32.39**	**320**	*e*P	**P**	**17 28 14.1**	**+0.5**
	comp=Z,7.2nm,0.6s						
WMQ	**Urumqi**	**33.13**	**352**	P	**P**	**17 28 20.8**	**+1.1**
WMQ				pP	pP	17 28 27.8	-19
WMQ				sP	sP	17 28 30.8	-30
WMQ				pmax	pmax		
	comp=Z,37nm,0.6s						
WMQ				pmax	pmax		
	comp=Z,93nm,4.8s						
WMQ				LR	LR		
	comp=N,56nm,25.6s						
WMQ				LR	LR		
	comp=E,72nm,27.8s						
WMQ				LR	LR		
	comp=Z,53nm,32.3s						
TKM2	**Tokmak 2**	**35.46**	**337**	*e*P	**P**	**17 28 39.9**	**-0.1**
TKM2				pmax	pmax		
	comp=Z,3.0nm,0.5s						
TKM2	**Tokmak 2**	**35.46**	**337**	*e*P	**P**	**17 28 39.9**	**-0.1**
	comp=Z,3.0nm,0.5s						
KBK	**Karagaybulak**	**35.49**	**336**	P	**P**	**17 28 42.0**	**+1.8**
	SNR=7.2						
AML	**Almayashu**	**35.57**	**334**	P	**P**	**17 28 42.4**	**+1.2**
	SNR=5.2						
AAK	**Ala-Archa**	**35.65**	**336**	*d i* P	**P**	**17 28 41.5**	**-0.1**
AAK				pmax	pmax		
	comp=Z,20nm,1.2s						
AAK	**Ala-Archa**	**35.65**	**336**	*e*P	**P**	**17 28 43.0**	**+1.4**
	comp=Z,6.5nm,0.9s						
AAK	**Ala-Archa**	**35.65**	**336**	LR	LR	17 45 55.2	
	comp=Z,55nm,18.8s,baz=170,slow=40						
CHMS	**Chumysh**	**35.85**	**336**	*i* P	**P**	**17 28 43.8**	**+0.6**
CHMS	**Chumysh**	**35.85**	**336**	P	**P**	**17 28 43.8**	**+0.6**
	SNR=5.4						
EKS2	**Erkin-Say**	**35.97**	**335**	*e*P	**P**	**17 28 45.1**	**+0.8**
EKS2				pmax	pmax		
	comp=Z,8.0nm,0.7s						
EKS2	**Erkin-Say**	**35.97**	**335**	P	**P**	**17 28 45.5**	**+1.2**
	SNR=5.8						
EKS2	**Erkin-Say**	**35.97**	**335**	*e*P	**P**	**17 28 45.0**	**+0.8**
	comp=Z,8.0nm,0.7s						
USP	**Ospenovka**	**36.18**	**336**	*i* P	**P**	**17 28 46.8**	**+0.8**
USP	**Ospenovka**	**36.18**	**336**	P	**P**	**17 28 46.8**	**+0.8**
	SNR=11						
MK31	**Makanchi Array**	**36.96**	**347**	P	**P**	**17 28 52.4**	**-0.2**
MK31				pmax	pmax		
	comp=Z,5.0nm,0.4s						
MK31	**Makanchi Array**	**36.96**	**347**	*e*P	**P**	**17 28 52.3**	**-0.2**
MKAR	**Makanchi Array**	**36.96**	**347**	P	**P**	**17 28 52.4**	**-0.1**
MKAR				*PP	**pP**	**17 29 18.1**	**-1.8**
MKAR	**Makanchi Array**	**36.96**	**347**	P	**P**	**17 28 52.4**	**-0.1**
MKAR				pP	**pP**	**17 29 18.1**	**-1.8**
MKAR	**Makanchi Array**	**36.96**	**347**	P	**P**	**17 28 52.4**	**-0.1**
	comp=Z,3.8nm,0.3s,baz=168,slow=9.0,SNR=75						
MKAR				pP	**pP**	**17 29 18.1**	**-1.8**
	comp=Z,2.2nm,0.7s,baz=171,slow=8.6,SNR=2.7						
KK31	**Karatay Array**	**37.76**	**332**	*e*P	**P**	**17 28 59.6**	**+0.3**
KK31				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KKAR	**Karatay Array**	**37.76**	**332**	*e*P	**P**	**17 28 59.6**	**+0.4**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
KKAR	**Karatay Array**	**37.76**	**332**	*e*P	**P**	**17 28 59.6**	**+0.4**
	comp=Z,2.2nm,0.4s						
SONM	**Songino Array**	**38.33**	**14**	P	**P**	**17 29 03.6**	**-0.5**
SONM				ScP	**ScP**	**17 34 52.9**	**+0.8**
SONM	**Songino Array**	**38.33**	**14**	P	**P**	**17 29 03.6**	**-0.5**
	comp=Z,2.6nm,0.6s,baz=200,slow=7.7,SNR=14						
SONM				ScP	**ScP**	**17 34 52.9**	**+0.8**
	comp=Z,1.8nm,0.8s,baz=202,slow=2.4,SNR=9.0						
HVS	**Khovu-Aksy**	**40.06**	**0**	*d i* P	**P**	**17 29 18.9**	**+0.4**
KSAR	**Wonju Array Be**	**40.59**	**44**	P	**P**	**17 29 22.4**	**-0.5**
KSRS	**Korea Array**	**40.62**	**44**	P	**P**	**17 29 22.4**	**-0.7**
	comp=Z,2.5nm,0.5s,baz=239,slow=8.3,SNR=18						
KSRS				LR	LR	17 47 17.6	
	comp=Z,24nm,18.4s,baz=126,slow=38						
TLY	**Talaya**	**41.44**	**10**	*e*P	**P**	**17 29 30.6**	**+0.9**
TLY				pmax	pmax		
	comp=Z,10.0nm,1.4s						
FITZ	**Fitzroy Crossi**	**42.89**	**132**	P	**P**	**17 29 41.4**	**-0.4**
FITZ	**Fitzroy Crossi**	**42.89**	**132**	P	**P**	**17 29 41.4**	**-0.4**
	comp=Z,4.5nm,0.4s,baz=310,slow=5.0,SNR=18						
ZAA0	**Zalesovo Array**	**43.44**	**353**	*e*P	**P**	**17 29 45.6**	**-0.1**
ZALV	**Zalesovo Beam**	**43.44**	**353**	*i* P	**P**	**17 29 45.7**	**0.0**
ZALV				pmax	pmax		
	comp=Z,40nm,0.3s						
ZALV	**Zalesovo Beam**	**43.44**	**353**	P	**P**	**17 29 45.8**	**+0.1**
ZALV				ScP	**ScP**	**17 35 10.7**	**-1.3**
ZALV	**Zalesovo Beam**	**43.44**	**353**	P	**P**	**17 29 45.8**	**+0.1**
	comp=Z,40nm,0.3s,baz=166,slow=8.8,SNR=282						
ZALV				ScP	**ScP**	**17 35 10.7**	**-1.3**
	comp=Z,0.5nm,0.6s,baz=142,slow=4.9,SNR=3.2						
NVS	**Novosibirsk**	**44.52**	**352**	*e*P	**P**	**17 29 52.6**	**-1.8**
NVS				*e*		17 31 31.6	
NVS				pmax	pmax		
	comp=N,11nm,0.8s						
NVS				p

KIV	**Kislovodsk**	**54.64**	**317**	*eP*	**P**	**17 31 12.7**	**+1.2**
KIV				pmax	pmax		
	comp=Z,20nm,1.0s						
KIV				MLR	MLR		
	comp=Z,17nm,16.0s						
SOKR	**Solikamsk**	**55.74**	**338**	*eP*	**P**	**17 31 19.5**	**+0.7**
SOKR				pmax	pmax		
	comp=Z,10.0nm,0.6s						
YAK	**Yakutsk**	**57.30**	**19**	*eP*	**P**	**17 31 30.4**	**+0.5**
YAK				pmax	pmax		
	comp=Z,5.0nm,0.4s						
VRHR	**Novokhopersk**	**58.08**	**324**	*eP*	**P**	**17 31 35.5**	**0.0**
VRHR				pmax	pmax		
	comp=Z,20nm,0.8s						
VRHR				pmax	pmax		
	comp=N,4.0nm,0.5s						
VRHR				pmax	pmax		
	comp=E,10.0nm,0.9s						
VORD	**Divnogorie**	**59.38**	**323**	*eP*	**P**	**17 31 44.7**	**+0.2**
VORD				pmax	pmax		
	comp=Z,10.0nm,0.8s						
VORD				pmax	pmax		
	comp=N,30nm,0.6s						
VORD				pmax	pmax		
	comp=E,40nm,0.6s						
VSR	**Storozhevoye**	**59.55**	**324**	*eP*	**P**	**17 31 45.0**	**-0.7**
VSR				pmax	pmax		
	comp=Z,9.0nm,0.5s						
VSR				pmax	pmax		
	comp=N,4.0nm,0.6s						
VSR				pmax	pmax		
	comp=E,5.0nm,0.5s						
BR131	**Keskin Array S**	**59.97**	**310**	*eP*	**P**	**17 31 48.8**	**-0.2**
	comp=E,2.2nm,0.6s						
BRTR	**Keskin Array B**	**59.97**	**310**	P	**P**	**17 31 48.5**	**-0.5**
BRTR				pP	**pP**	**17 32 16.6**	**-2.1**
BRTR	**Keskin Array B**	**59.97**	**310**	P	**P**	**17 31 48.5**	**-0.5**
	comp=E,3.2nm,0.6s,baz=123,slow=7.6,SNR=23						
BRTR				pP	**pP**	**17 32 16.6**	**-2.1**
	comp=E,2.2nm,0.9s,baz=108,slow=7.9,SNR=5.1						
OBN	**Obninsk**	**62.46**	**327**	*eP*	**P**	**17 32 05.6**	**+0.3**
OBN				pmax	pmax		
	comp=Z,10.0nm,1.3s						
STKA	**Stephens Creek**	**62.69**	**135**	P	**P**	**17 32 07.8**	**+0.6**
STKA	**Stephens Creek**	**62.69**	**135**	P	**P**	**17 32 07.8**	**+0.6**
	comp=Z,3.5nm,0.8s,baz=287,slow=8.6,SNR=11						
AKASG	**Malin Array Be**	**65.37**	**321**	P	**P**	**17 32 23.0**	**-1.5**
AKASG	**Malin Array Be**	**65.37**	**321**	P	**P**	**17 32 22.9**	**-1.5**
AKASG	**Malin Array Be**	**65.37**	**321**	P	**P**	**17 32 22.9**	**-1.5**
	comp=Z,0.3nm,0.3s,baz=75,slow=6.1,SNR=4.5						
VRI	**Vrincioaia**	**66.07**	**315**	*jP*	**P**	**17 32 30.3**	**+1.2**
PLOR	**Plostina**	**66.12**	**315**	*jP*	**P**	**17 32 30.6**	**+1.2**
MLR	**Muntele Rosu**	**66.56**	**315**	*jP*	**P**	**17 32 33.4**	**+1.1**
BUR08	**Bucovina Ar. S**	**67.38**	**317**	*eP*	**P**	**17 32 38.2**	**+0.7**
JOF	**Joensuu**	**67.82**	**334**	*eP*	**P**	**17 32 41.0**	**+1.2**
JOF				pmax	pmax		
	comp=Z,7.0nm,0.6s						
JOF	**Joensuu**	**67.82**	**334**	*ep*	**P**	**17 32 41.0**	**+1.2**
	comp=Z,6.9nm,0.6s						
DRGR		**68.95**	**316**	⇑*iP*	**P**	**17 32 48.0**	**+0.7**
FINES	**FINESS Array B**	**69.72**	**332**	P	**P**	**17 32 51.5**	**-0.1**
FINES	**FINESS Array B**	**69.72**	**332**	P	**P**	**17 32 51.5**	**-0.1**
	comp=Z,4.1nm,0.5s,baz=100,slow=5.7,SNR=30						
CRVS	**Cervenica-Dubn**	**70.02**	**318**	*eP*	**P**	**17 32 54.6**	**+0.8**
CRVS				pmax	pmax		
	comp=Z,4.0nm,1.1s						
CRVS	**Cervenica-Dubn**	**70.02**	**318**	*eP*	**P**	**17 32 54.5**	**+0.8**
STHS	**Stebnicka Huta**	**70.22**	**319**	*eP*	**P**	**17 32 56.9**	**+2.0**
STHS				pmax	pmax		
	comp=Z,2.0nm,0.9s						
STHS	**Stebnicka Huta**	**70.22**	**319**	*eP*	**P**	**17 32 56.9**	**+2.0**
ARCES	**ARCESS Array B**	**72.17**	**340**	P	**P**	**17 33 06.9**	**+0.6**
ARCES	**ARCESS Array B**	**72.17**	**340**	P	**P**	**17 33 06.9**	**+0.6**
	comp=Z,4.1nm,0.7s,baz=97,slow=6.3,SNR=22						
DPC	**Dobruska-Polom**	**73.47**	**319**	*eP*	**P**	**17 33 15.3**	**+0.9**
DPC	**Dobruska-Polom**	**73.47**	**319**	*eP*	**P**	**17 33 15.3**	**+0.9**
BOJS	**Bojanci**	**74.05**	**314**	*i* P	**P**	**17 33 18.1**	**+0.3**
PERS	**Pernice**	**74.16**	**315**	*i* P	**P**	**17 33 18.9**	**+0.4**
VISS	**Visnje**	**74.34**	**315**	*i* P	**P**	**17 33 19.8**	**+0.3**
JAVS	**Javornik**	**74.88**	**315**	*i* P	**P**	**17 33 22.7**	**0.0**
GERES	**GERESS Array B**	**75.13**	**318**	P	**P**	**17 33 24.5**	**+0.4**
GERES	**GERESS Array B**	**75.13**	**318**	P	**P**	**17 33 24.5**	**+0.4**
	comp=Z,2.4nm,0.5s,baz=92,slow=5.9,SNR=28						
KHC	**Kasperske Hory**	**75.22**	**318**	*eP*	**P**	**17 33 24.7**	**+0.2**
KHC	**Kasperske Hory**	**75.22**	**318**	*eP*	**P**	**17 33 24.7**	**+0.2**
BOSA	**Boshof**	**76.70**	**237**	P	**P**	**17 33 34.9**	**+1.5**
BOSA	**Boshof**	**76.70**	**237**	P	**P**	**17 33 34.9**	**+1.5**
	comp=Z,5.1nm,0.8s,baz=108,slow=7.1,SNR=7.8						
NB2	**NORSAR Subarra**	**76.76**	**330**	P	**P**	**17 33 32.4**	**-0.5**
	comp=Z,0.2nm,0.6s,baz=93,slow=6.2						
NOA	**NORSAR Array B**	**76.76**	**330**	P	**P**	**17 33 32.5**	**-0.5**
NOA	**NORSAR Array B**	**76.76**	**330**	P	**P**	**17 33 32.5**	**-0.5**
	comp=Z,1.4nm,0.6s,baz=93,slow=5.5,SNR=3.8						
PGF	**Pioggiola**	**78.66**	**311**	*eP*	**P**	**17 33 43.8**	**-0.2**
PGF	**Pioggiola**	**78.66**	**311**	*eP*	**P**	**17 33 43.8**	**-0.2**
PGF	**Pioggiola**	**78.66**	**311**	*eP*	**P**	**17 33 43.8**	**-0.2**
KEST	**Kesra**	**78.98**	**304**	P	**P**	**17 33 46.2**	**+0.3**
KEST				pP	**pP**	**17 34 16.1**	**-0.9**
KEST	**Kesra**	**78.98**	**304**	P	**P**	**17 33 46.2**	**+0.3**
	comp=Z,1.5nm,0.6s,baz=33,slow=2.2,SNR=8.7						
KEST				pP	**pP**	**17 34 16.1**	**-0.9**
	comp=Z,0.9nm,0.6s,baz=61,slow=1.7,SNR=2.5						
SBF	**Sospel**	**79.69**	**313**	*eP*	**P**	**17 33 49.9**	**+0.4**
SBF	**Sospel**	**79.69**	**313**	*eP*	**P**	**17 33 49.9**	**+0.4**
SBF	**Sospel**	**79.69**	**313**	*eP*	**P**	**17 33 49.9**	**+0.4**
LPG	**La Plagne**	**80.02**	**315**	⇑*iP*	**P**	**17 33 52.2**	**+0.6**
	comp=Z,15nm,0.7s						
LPG	**La Plagne**	**80.02**	**315**	⇑*iP*	**P**	**17 33 52.2**	**+0.6**
LPG	**La Plagne**	**80.02**	**315**	⇑*iP*	**P**	**17 33 52.2**	**+0.6**
LPL	**La Plagne**	**80.03**	**315**	⇑*iP*	**P**	**17 33 52.2**	**+0.6**
	comp=Z,17nm,0.7s						
LPL	**La Plagne**	**80.03**	**315**	⇑*iP*	**P**	**17 33 52.2**	**+0.6**
LPL	**La Plagne**	**80.03**	**315**	⇑*iP*	**P**	**17 33 52.2**	**+0.6**
MBDF	**Montbardon**	**80.08**	**314**	*eP*	**P**	**17 33 51.5**	**-0.2**
MBDF	**Montbardon**	**80.08**	**314**	*eP*	**P**	**17 33 51.5**	**-0.2**
MBDF	**Montbardon**	**80.08**	**314**	*eP*	**P**	**17 33 51.5**	**-0.2**
FRF	**La Foret Royal**	**80.28**	**313**	*eP*	**P**	**17 33 52.7**	**0.0**
	comp=Z,6.2nm,0.6s						
FRF	**La Foret Royal**	**80.28**	**313**	*eP*	**P**	**17 33 52.7**	**0.0**
FRF	**La Foret Royal**	**80.28**	**313**	*eP*	**P**	**17 33 52.7**	**0.0**
LMR	**La Mourre**	**80.41**	**312**	*eP*	**P**	**17 33 53.2**	**-0.1**
	comp=Z,26nm,1.1s						
LMR	**La Mourre**	**80.41**	**312**	*eP*	**P**	**17 33 53.2**	**-0.1**
LMR	**La Mourre**	**80.41**	**312**	*eP*	**P**	**17 33 53.2**	**-0.1**
ORIF	**Oris-en-Rattie**	**80.69**	**314**	*eP*	**P**	**17 33 54.9**	**0.0**
ORIF	**Oris-en-Rattie**	**80.69**	**314**	*eP*	**P**	**17 33 54.9**	**0.0**
ORIF	**Oris-en-Rattie**	**80.69**	**314**	*eP*	**P**	**17 33 54.9**	**0.0**
SMRF	**Simiane la Rot**	**81.01**	**313**	*eP*	**P**	**17 33 57.5**	**+0.9**
SMRF	**Simiane la Rot**	**81.01**	**313**	*eP*	**P**	**17 33 57.5**	**+0.9**
MAW	**Mawson**	**81.41**	**191**	P	**P**	**17 34 00.6**	**+2.7**
MAW	**Mawson**	**81.41**	**191**	P	**P**	**17 34 00.6**	**+2.7**
	comp=Z,0.8nm,0.6s,baz=30,slow=8.6,SNR=4.9						
VIVF	**Saint-Julien-l**	**81.55**	**314**	*eP*	**P**	**17 34 00.1**	**+0.7**
	comp=Z,5.0nm,0.7s						
VIVF	**Saint-Julien-l**	**81.55**	**314**	*eP*	**P**	**17 34 00.1**	**+0.7**
VIVF	**Saint-Julien-l**	**81.55**	**314**	*eP*	**P**	**17 34 00.1**	**+0.7**
SMF	**Signal de Mont**	**81.91**	**316**	*eP*	**P**	**17 34 00.7**	**-0.5**
	comp=Z,4.7nm,0.5s						
SMF	**Signal de Mont**	**81.91**	**316**	*eP*	**P**	**17 34 00.7**	**-0.5**
SMF	**Signal de Mont**	**81.91**	**316**	*eP*	**P**	**17 34 00.7**	**-0.5**
AVF	**Avril sur Loir**	**82.22**	**316**	*eP*	**P**	**17 34 02.9**	**+0.1**
AVF	**Avril sur Loir**	**82.22**	**316**	*eP*	**P**	**17 34 02.9**	**+0.1**
AVF	**Avril sur Loir**	**82.22**	**316**	*eP*	**P**	**17 34 02.9**	**+0.1**
ESDC	**Sonseca Array**	**88.77**	**310**	P	**P**	**17 34 36.3**	**+0.8**
ESDC	**Sonseca Array**	**88.77**	**310**	P	**P**	**17 34 36.3**	**+0.8**
	comp=Z,0.3nm,0.4s,baz=64,slow=4.9,SNR=3.3						
ILAR	**Eielson Array**	**92.14**	**22**	P	**P**	**17 34 49.9**	**-0.7**
ILAR	**Eielson Array**	**92.14**	**22**	P	**P**	**17 34 49.9**	**-0.7**
	comp=Z,0.3nm,0.7s,baz=297,slow=4.0,SNR=3.1						
PDAR	**Pinedale Array**	**122.52**	**20**	PKP	**PKPdf**	**17 40 37.0**	**+0.2**
PDAR	**Pinedale Array**	**122.52**	**20**	PKP	**PKPdf**	**17 40 37.0**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=224,slow=2.5,SNR=2.7						
NVAR	**Mina Array Bea**	**122.59**	**29**	PKP	**PKPdf**	**17 40 36.9**	**-0.2**
NVAR	**Mina Array Bea**	**122.59**	**29**	PKP	**PKPdf**	**17 40 36.9**	**-0.2**
	comp=Z,0.3nm,0.4s,baz=272,slow=2.6,SNR=1.8						
TXAR	**Lajitas Array**	**136.66**	**22**	PKP	**PKPdf**	**17 41 04.9**	**+1.1**
TXAR				SKP		17 44 26.1	
TXAR	**Lajitas Array**	**136.66**	**22**	PKP	**PKPdf**	**17 41 04.9**	**+1.1**
	comp=Z,0.2nm,0.4s,baz=210,slow=0.7,SNR=2.6						
TXAR				SKP		17 44 26.1	
	comp=Z,2.0nm,0.8s,baz=282,slow=1.8,SNR=17						
TRQA	**Tornquist**	**145.21**	**215**	*e*PKPdf	**PKPbc**	**17 41 18.4**	**-0.2**
PLCA	**Paso Flores**	**147.17**	**203**	PKPbc	**PKPab**	**17 41 25.6**	**-0.7**
PLCA	**Paso Flores**	**147.17**	**203**	PKPbc	**PKPab**	**17 41 25.6**	**-0.7**
	comp=Z,2.0nm,0.6s,baz=123,slow=3.5,SNR=7.7						
CPUP	**Villa Florida**	**148.52**	**237**	PKPbc	**PKPbc**	**17 41 29.3**	**+0.9**
CPUP	**Villa Florida**	**148.52**	**237**	PKPbc	**PKPbc**	**17 41 29.3**	**+0.9**
	comp=Z,0.5nm,0.3s,baz=353,slow=2.8,SNR=3.1						

IDC 02 17:26:09.1±5.8, 9°40S×118°43E, h78km±51km, mb3.1/3, mb1 3.2/6, mb1mx3.1/23, mbtmp3.1/6, ML3.2/3, MS3.2/1, Ms1 3.2/1, ms1mx2.3/11, Error ellipse: s-maj=100.4km s-min=20.1km az=64.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**4.55**	**17**	P	Pn	17 27 16.0	+0.4
	0.8nm,0.3s,baz=206,slow=6.2,SNR=9.0						
KAPI				S	Sn	17 28 03.6	-3.6
	4.1nm,0.3s,baz=338,slow=22,SNR=18						
FITZ	**Fitzroy Crossi**	**11.13**	**142**	P	Pn	17 28 44.4	-1.0
	0.2nm,0.3s,baz=333,slow=12,SNR=11						
FITZ				S	Sn	17 30 37.7	-10
	0.2nm,0.3s,baz=179,slow=18,SNR=5.7						
WRA	**Warramunga Arr**	**18.60**	**126**	P	P	17 30 20.0	-0.4
	0.1nm,0.3s,baz=302,slow=12,SNR=11						
ASAR	**Alice Springs**	**20.50**	**136**	P	P	17 30 42.0	+0.9
	0.5nm,0.5s,baz=316,slow=10,SNR=13						
PMG	**Port Moresby**	**28.34**	**92**	LR	LR	17 43 44.7	
	comp=Z,49nm,18.5s,baz=240,slow=37						
MKAR	**Makanchi Array**	**64.56**	**333**	P	P	17 36 38.2	+0.2
	0.2nm,0.5s,baz=141,slow=6.1,SNR=4.1						
ZALV	**Zalesovo Beam**	**69.21**	**340**	P	P	17 37 07.0	-0.3
	0.3nm,0.4s,baz=126,slow=7.3,SNR=2.7						

IDC 02 17:27:10.5±3.7, 4°00S×153°93E, h420km±40km, mb3.1/7, mb1 3.3/9, mb1mx3.0/22, mbtmp3.2/9, Error ellipse: s-maj=27.3km s-min=21.9km az=43.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.60**	**231**	P	P	17 29 13.2	+0.8
	1.9nm,0.3s,baz=98,slow=5.3,SNR=8.4						
PMG				S	S	17 31 04.2	+12
	0.4nm,0.3s,baz=266,slow=15,SNR=2.7						
CTA	**Charters Tower**	**17.65**	**204**	P	P	17 30 50.9	+0.1
	0.4nm,0.3s,baz=20,slow=10,SNR=7.1						
DZM	**Mont Dzumac**	**21.68**	**147**	P	P	17 31 29.2	0.0
	5.5nm,0.5s,baz=268,slow=22,SNR=9.7						
WRA	**Warramunga Arr**	**24.81**	**229**	P	P	17 31 57.0	-0.4
	0.4nm,0.4s,baz=67,slow=11,SNR=2.5						
ASAR	**Alice Springs**	**27.50**	**223**	P	P	17 32 20.6	-0.6
	0.5nm,0.4s,baz=54,slow=9.1,SNR=6.2						
MKAR	**Makanchi Array**	**80.47**	**319**	P	P	17 38 38.3	+1.0
	0.6nm,0.8s,baz=96,slow=7.2,SNR=4.5						
ILAR	**Eielson Array**	**81.00**	**22**	P	P	17 38 39.0	-0.8
	0.6nm,0.7s,baz=248,slow=4.8,SNR=4.8						
ZALV	**Zalesovo Beam**	**81.12**	**326**	P	P	17 38 40.6	0.0
	0.3nm,0.6s,baz=94,slow=4.3,SNR=2.8						
QSPA	**South Pole Qui**	**85.95**	**180**	P	P	17 39 05.3	+0.6
	1.5nm,1.0s,baz=331,slow=8.1,SNR=7.1						
TORD	**Torodi Ar. Bea**	**151.11**	**290**	PKPbc	PKPbc	17 46 15.7	-0.3
	0.6nm,0.7s,baz=80,slow=1.8,SNR=4.5						

*ISCJB **02** 17:32:07.7±0.5, 14°14S±0°09×63°3E±0°1, h10km, mb4.0/14, MS3.3/2, Error ellipse: s-maj=14.8km s-min=13.0km az=17.0*

*IDC **02** 17:32:08.0±0.6, 14°18S×63°28E, h0km, mb4.0/12, mb1 4.1/13, mb1mx3.9/28, mbtmp4.0/13, ML4.4/1, MS3.4/2, Ms1 3.4/2, ms1mx2.6/45, Error ellipse: s-maj=24.8km s-min=16.3km az=79.0*

*NEIC **02** 17:32:11.0±7.9, 14°18S×63°27E, h18km±49km, mb4.5/3, Error ellipse: s-maj=14.2km s-min=9.6km az=70.0*

ISC 02 17:32:09.7±0.5, 14°2S±0°1×63°3E±0°1, h10km, n40, σ0.58/38, mb4.0/14, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**16.05**	**252**	Pn	**Pn**	**17 35 56.1**	**+0.2**
OPO				Sn	Sn	17 38 39.5	-15
OPO	**Ambohidratompo**	**16.05**	**252**	Pn	**Pn**	**17 35 56.1**	**+0.2**
	1.4nm,0.3s,baz=81,slow=14,SNR=9.3						
OPO				Sn	Sn	17 38 39.5	-15
	0.6nm,0.3s,baz=100,slow=12,SNR=2.3						
ATD	**Arta Tunnel**	**32.61**	**321**	LR	LR	17 50 21.3	
	comp=Z,32nm,20.0s,baz=21,slow=34						
LBTB	**Lobatse**	**36.99**	**247**	LR	LR	17 52 35.3	
	comp=Z,103nm,19.1s,baz=199,slow=33						
MAW	**Mawson**	**53.38**	**180**	P	**P**	**17 41 29.0**	**0.0**
MAW	**Mawson**	**53.38**	**180**	P	**P**	**17 41 29.0**	**0.0**
	1.2nm,0.6s,baz=351,slow=9.3,SNR=4.8						
MKAR	**Makanchi Array**	**63.05**	**15**	P	**P**	**17 42 35.5**	**-1.6**
MKAR	**Makanchi Array**	**63.05**	**15**	P	**P**	**17 42 35.5**	**-1.6**
	0.5nm,0.9s,baz=195,slow=8.7,SNR=3.0						
ABKAR	**Akbulak array**	**63.23**	**358**	*eP*	**P**	**17 42 38.1**	**0.0**
	0.3nm,0.3s						
ASAR	**Alice Springs**	**66.90**	**110**	P	**P**	**17 43 02.6**	**-0.1**
ASAR	**Alice Springs**	**66.90**	**110**	P	**P**	**17 43 02.6**	**-0.1**
	1.6nm,0.6s,baz=271,slow=5.7,SNR=40						
AS31	**Alice Springs**	**66.90**	**110**	*eP*	**P**	**17 43 02.4**	**-0.3**
WRA	**Warramunga Arr**	**67.73**	**106**	P	**P**	**17 43 08.5**	**+0.5**
WRA	**Warramunga Arr**	**67.73**	**106**	P	**P**	**17 43 08.5**	**+0.5**
	3.5nm,0.6s,baz=269,slow=5.5,SNR=41						
WRAB	**Tennant Creek**	**67.75**	**106**	*eP*	**P**	**17 43 08.6**	**+0.4**
	5.8nm,0.7s						
SNAA	**Sanae**	**69.19**	**198**	*eP*	**P**	**17 43 16.2**	**-0.1**
SNAA	**Sanae**	**69.19**	**198**	P	**P**	**17 43 16.2**	**-0.1**
SNAA	**Sanae**	**69.19**	**198**	P	**P**	**17 43 16.2**	**-0.1**
	0.5nm,0.7s,baz=52,slow=13,SNR=6.4						
ZALV	**Zalesovo Beam**	**70.31**	**13**	P	**P**	**17 43 22.6**	**-0.6**
ZALV	**Zalesovo Beam**	**70.31**	**13**	P	**P**	**17 43 22.6**	**-0.6**
	0.3nm,0.3s,baz=229,slow=6.8,SNR=4.1						
VNA2	**Neumayer--Watz**	**70.40**	**199**	*eP*	**P**	**17 43 24.1**	**+0.5**
AKASG	**Malin Array Be**	**71.16**	**338**	P	**P**	**17 43 28.3**	**-0.1**
AKASG	**Malin Array Be**	**71.16**	**338**	P	**P**	**17 43 28.3**	**-0.1**
	1.0nm,0.5s,baz=158,slow=5.9,SNR=3.1						
VNA3	**Neumayer Olymp**	**71.19**	**199**	*eP*	**P**	**17 43 28.7**	**+0.2**
SONM	**Songino Array**	**72.71**	**29**	P	**P**	**17 43 39.2**	**+1.2**
SONM	**Songino Array**	**72.71**	**29**	P	**P**	**17 43 39.2**	**+1.2**
	0.7nm,0.6s,baz=229,slow=6.7,SNR=4.2						
STKA	**Stephens Creek**	**72.83**	**119**	P	**P**	**17 43 39.0**	**0.0**
STKA	**Stephens Creek**	**72.83**	**119**	P	**P**	**17 43 39.0**	**0.0**
	1.8nm,0.8s,baz=290,slow=10,SNR=3.2						
QSPA	**South Pole Qui**	**75.89**	**180**	*eP*	**P**	**17 43 55.9**	**-0.4**
	4.2nm,0.8s						
QSPA	**South Pole Qui**	**75.89**	**180**	P	**P**	**17 43 55.9**	**-0.4**
	5.2nm,1.0s,baz=280,slow=2.3,SNR=16						
GERES	**GERESS Array B**	**76.55**	**329**	P	**P**	**17 43 59.8**	**-0.5**
GERES	**GERESS Array B**	**76.55**	**329**	P	**P**	**17 43 59.8**	**-0.5**
	0.7nm,0.8s,baz=141,slow=6.8,SNR=4.8						
VNDA	**Vanda**	**78.10**	**167**	P	**P**	**17 44 08.2**	**-0.2**
VNDA	**Vanda**	**78.10**	**167**	P	**P**	**17 44 08.2**	**-0.2**
	0.4nm,0.5s,baz=290,slow=3.4,SNR=2.9						
PDAR	**Pinedale Array**	**150.86**	**349**	PKPbc	**PKPbc**	**17 52 03.3**	**+0.2**
PDAR				PKPab	**PKPab**	**17 52 11.0**	**+0.8**
PDAR	**Pinedale Array**	**150.86**	**349**	PKPbc	**PKPbc**	**17 52 03.3**	**+0.2**
	2.6nm,0.7s,baz=75,slow=3.1,SNR=19						
PDAR				PKPab	**PKPab**	**17 52 11.0**	**+0.8**
	1.0nm,0.6s,baz=66,slow=2.0,SNR=5.0						
NVAR	**Mina Array Bea**	**155.81**	**3**	PKPbc	PKPdf	17 52 15.4	+11
NVAR	**Mina Array Bea**	**155.81**	**3**	PKPbc	PKPdf	17 52 15.4	+11
	0.5nm,0.7s,baz=225,slow=1.1,SNR=4.1						
TXAR	**Lajitas Array**	**160.69**	**323**	PKPab	**PKPab**	**17 52 52.6**	**+0.2**
TXAR	**Lajitas Array**	**160.69**	**323**	PKPab	**PKPab**	**17 52 52.6**	**+0.2**
	0.3nm,0.7s,baz=86,slow=3.0,SNR=3.0						

DJA 02 17:34:08.6±1.7, 8°S±8°×10°7E±°, h10km, M3.8/4, MLv3.8/4, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.76**	**49**	P	Pg	17 34 23.1	-0.3
CISI				S	Sg	17 34 33.4	0.0
SKJI	**Sukabumi**	**1.25**	**327**	P	Pn	17 34 30.5	-1.6
SKJI				S	Sb	17 34 47.8	-0.6
LEM	**Lembang**	**1.28**	**17**	P	Pn	17 34 30.5	-2.3
DBJI	**Dramaga**	**1.57**	**342**	P	Pn	17 34 33.4	-3.2
DBJI				S	Sb	17 34 57.5	-0.3

*NEIC **02** 17:35:38.5, 38°44S×175°68E, h194km, MG4.0(WEL), After WEL.*

WEL 02 17:35:39.5±0.4, 38°41S×175°63E, h183km±3km, ML4.0/18, 27C-3D, Error ellipse: s-maj=2.9km s-min=1.8km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HIZ	**Hauiti**	**0.62**	**260**	⇑PN	Pn	17 36 04.7	-0.4
HIZ				SN	Sn	17 36 25.0	+0.2
HIZ	**Hauiti**	**0.62**	**260**	Pn	Pn	17 36 03.2	-1.9
HIZ				Sn	Sn	17 36 26.0	+1.2
KRVZ	**Karewarewa**	**0.68**	**180**	PN	Pn	17 36 05.3	-0.3
KRVZ	**Karewarewa**	**0.68**	**180**	Pn	Pn	17 36 05.5	-0.1
WTVZ	**West Tongariro**	**0.70**	**183**	⇑PN	Pn	17 36 05.5	-0.2
WTVZ				SN	Sn	17 36 26.1	0.0
WTVZ	**West Tongariro**	**0.70**	**183**	Pn	Pn	17 36 05.5	-0.2
OTVZ	**Oturere**	**0.75**	**178**	PN	Pn	17 36 06.1	+0.1
OTVZ	**Oturere**	**0.75**	**178**	Pn	Pn	17 36 06.1	+0.1
NGZ	**Ngauruhoe**	**0.76**	**182**	PN	Pn	17 36 06.0	-0.1
NGZ	**Ngauruhoe**	**0.76**	**182**	Pn	Pn	17 36 06.0	-0.1
WPVZ	**Whakapapa**	**0.79**	**185**	⇓PN	Pn	17 36 06.2	0.0
WPVZ	**Whakapapa**	**0.79**	**185**	Pn	Pn	17 36 06.2	0.0
FWVZ	**Far West T-bar**	**0.84**	**184**	PN	Pn	17 36 06.5	-0.2
FWVZ	**Far West T-bar**	**0.84**	**184**	Pn	Pn	17 36 06.5	-0.2
WHVZ	**Whangaehu Hut**	**0.87**	**182**	PN	Pn	17 36 06.7	-0.1
TRVZ	**Turoa**	**0.89**	**184**	PN	Pn	17 36 06.7	-0.3
TRVZ	**Turoa**	**0.89**	**184**	Pn	Pn	17 36 06.8	-0.2
PKVZ	**Pokaka**	**0.90**	**194**	PN	Pn	17 36 06.6	-0.3
PKVZ	**Pokaka**	**0.90**	**194**	Pn	Pn	17 36 06.6	-0.3
WNVZ	**Wahianoa**	**0.91**	**182**	PN	Pn	17 36 07.0	-0.1
WNVZ	**Wahianoa**	**0.91**	**182**	Pn	Pn	17 36 07.0	-0.1
MTVZ	**Mangateitei**	**0.98**	**187**	PN	Pn	17 36 07.3	-0.1
MTVZ	**Mangateitei**	**0.98**	**187**	Pn	Pn	17 36 07.3	-0.1
VRZ	**Vera Road**	**0.99**	**224**	⇑PN	Pn	17 36 07.2	-0.2
VRZ	**Vera Road**	**0.99**	**224**	Pn	Pn	17 36 07.2	-0.1
MOVZ	**Moawhango**	**1.00**	**175**	PN	Pn	17 36 07.1	-0.4
MOVZ	**Moawhango**	**1.00**	**175**	Pn	Pn	17 36 07.1	-0.4
BKZ	**Black Stump Fm**	**1.01**	**139**	⇑PN	Pn	17 36 07.4	-0.1
BKZ				SN	Sn	17 36 27.6	-1.7
BKZ				AML	AML	17 36 30.4	
BKZ	**Black Stump Fm**	**1.01**	**139**	Pn	Pn	17 36 07.0	-0.6
BHHZ	**Black Hill Sta**	**1.12**	**163**	⇑PN	Pn	17 36 08.1	-0.4
BHHZ	**Black Hill Sta**	**1.12**	**163**	Pn	Pn	17 36 08.1	-0.4
NMHZ	**Naumai**	**1.14**	**127**	⇓PN	Pn	17 36 09.4	+0.8
NMHZ	**Naumai**	**1.14**	**127**	Pn	Pn	17 36 09.4	+0.8
URZ	**Urewera**	**1.17**	**83**	PN	Pn	17 36 08.3	-0.5
URZ				AML	AML	17 36 31.1	
URZ				AML	AML	17 36 32.5	
URZ	**Urewera**	**1.17**	**83**	Pn	Pn	17 36 08.3	-0.5
RAHZ	**Arahi**	**1.24**	**114**	PN	Pn	17 36 10.0	+0.6
RAHZ	**Arahi**	**1.24**	**114**	Pn	Pn	17 36 10.0	+0.6
MCHZ	**McNeill Hill**	**1.32

NNZ	Nelson	3.30 211	PN	Pn	17 36 28.5	-3.3
NNZ	Nelson	3.30 211	Pn	Pn	17 36 28.5	-3.3
QRZ	Quartz Range	3.40 224	PN	Pn	17 36 29.6	-3.5
QRZ	Quartz Range	3.40 224	Pn	Pn	17 36 29.6	-3.5
CMWZ	Cape Campbell	3.50 198	PN	Pn	17 36 32.3	-2.1
CMWZ	Cape Campbell	3.50 198	Pn	Pn	17 36 32.3	-2.1
BSWZ	Blackbirch Sta	3.56 202	PN	Pn	17 36 32.4	-2.7
BSWZ			AML	AML	17 37 16.7	
BSWZ	Blackbirch Sta	3.56 202	Pn	Pn	17 36 32.4	-2.7
THZ	Tophouse	3.95 211	PN	Pn	17 36 36.1	-3.9
THZ	Tophouse	3.95 211	Pn	Pn	17 36 36.1	-3.9
KHZ	Kahutara	4.31 201	PN	Pn	17 36 41.4	-3.0
KHZ			AML	AML	17 37 31.4	
KHZ			AML	AML	17 37 32.1	
KHZ	Kahutara	4.31 201	Pn	Pn	17 36 41.4	-3.0
DSZ	Denniston Nort	4.44 220	PN	Pn	17 36 41.8	-4.5
LTZ	Lake Taylor	5.06 209	PN	Pn	17 36 49.3	-5.0
LTZ	Lake Taylor	5.06 209	Pn	Pn	17 36 49.5	-4.8
OXZ	Oxford	5.61 208	PN	Pn	17 36 56.1	-5.3
CRLZ	Canterbury Las	5.64 203	PN	Pn	17 36 56.6	-5.1
CRLZ	Canterbury Las	5.64 203	Pn	Pn	17 36 56.8	-4.9
MQZ	McQueen's Vall	5.75 202	PN	Pn	17 36 57.8	-5.3
MQZ	McQueen's Vall	5.75 202	Pn	Pn	17 36 57.8	-5.3
LBZ	Lake Benmore	7.24 213	ePN	Pn	17 37 17.3	-5.4
LBZ	Lake Benmore	7.24 213	Pn	Pn	17 37 17.7	-5.0
ODZ	Otahua Downs	7.60 208	ePN	Pn	17 37 22.4	-5.0
ODZ	Otahua Downs	7.60 208	Pn	Pn	17 37 22.5	-4.9
JCZ	Jackson Bay	7.67 220	ePN	Pn	17 37 21.6	-6.9
JCZ	Jackson Bay	7.67 220	Pn	Pn	17 37 22.0	-6.5

CSEM ***02*** *17:41:13.5, 45°.57N×26°.56E, h152km, MD4.2/2, After BUC*

BUC 02 17:41:13.5±0.6, 45°.57N×26°.56E, h152km±5km, MD4.2/2, 70C-18D, Error ellipse: s-maj=4.1km s-min=3.2km az=340.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRI	Vrincioaia	0.32	21	⇑iP	Pn	17 41 34.1	-0.2
VRI	Vrincioaia	0.32	21	⇑iP	Pn	17 41 34.1	-0.2
VRI				i S	Sn	17 41 47.8	-2.4
VRI	Vrincioaia	0.32	21	⇑iP	Pn	17 41 34.1	-0.2
VRI				i S	Sn	17 41 47.8	-2.4
GRER		0.35	123	⇑iP	Pn	17 41 34.8	+0.4
GRER		0.35	123	⇑iP	Pn	17 41 34.8	+0.4
GRER		0.35	123	⇑iP	Pn	17 41 34.8	+0.4
ODBI	Odobesti	0.39	61	⇓iP	Pn	17 41 35.1	+0.6
ODBI	Odobesti	0.39	61	⇓iP	Pn	17 41 35.1	+0.6
ODBI				i S	Sn	17 41 49.4	-1.2
ODBI	Odobesti	0.39	61	⇓iP	Pn	17 41 35.1	+0.6
ODBI				i S	Sn	17 41 49.4	-1.2
MLR	Muntele Rosu	0.44	260	⇑iP	Pn	17 41 34.7	-0.2
MLR	Muntele Rosu	0.44	260	⇑iP	Pn	17 41 34.7	-0.2
MLR				i S	Sn	17 41 49.7	-1.5
MLR	Muntele Rosu	0.44	260	⇑iP	Pn	17 41 34.7	-0.2
MLR				i S	Sn	17 41 49.7	-1.5
ISR	Istrita	0.45	182	⇑iP	Pn	17 41 34.7	-0.2
ISR	Istrita	0.45	182	⇑iP	Pn	17 41 34.7	-0.2
ISR				i S	Sn	17 41 49.8	-1.4
ISR	Istrita	0.45	182	⇑iP	Pn	17 41 34.7	-0.2
ISR				i S	Sn	17 41 49.8	-1.4
PETR	Petresti	0.49	72	⇑iP	Pn	17 41 35.1	+0.2
PETR	Petresti	0.49	72	⇑iP	Pn	17 41 35.1	+0.2
PETR				i S	Sn	17 41 50.1	-1.2
PETR	Petresti	0.49	72	⇑iP	Pn	17 41 35.1	+0.2
PETR				i S	Sn	17 41 50.1	-1.2
SECR		0.64	213	⇑iP	Pn	17 41 36.0	+0.2
SECR		0.64	213	⇑iP	Pn	17 41 36.0	+0.2
SECR				i S	Sn	17 41 51.9	-0.9
SECR		0.64	213	⇑iP	Pn	17 41 36.0	+0.2
SECR				i S	Sn	17 41 51.9	-0.9
PGOR	Pogoanele	0.73	156	⇑iP	Pn	17 41 36.3	0.0
PGOR	Pogoanele	0.73	156	⇑iP	Pn	17 41 36.3	0.0
PGOR				i S	Sn	17 41 52.9	-0.8
PGOR	Pogoanele	0.73	156	⇑iP	Pn	17 41 36.3	0.0
PGOR				i S	Sn	17 41 52.9	-0.8
PLAR	PLOIESTI	0.76	210	S	Sn	17 41 53.7	-0.4
PLAR	PLOIESTI	0.76	210	i S	Sn	17 41 53.7	-0.4
PLAR	PLOIESTI	0.76	210	i S	Sn	17 41 53.7	-0.4
GHRR		0.77	50	⇑iP	Pn	17 41 36.9	+0.3
GHRR		0.77	50	⇑iP	Pn	17 41 36.9	+0.3
GHRR				i S	Sn	17 41 53.2	-1.0
GHRR		0.77	50	⇑iP	Pn	17 41 36.9	+0.3
GHRR				i S	Sn	17 41 53.2	-1.0
DOPR	Dopca	0.91	296	⇑iP	Pn	17 41 37.7	0.0
DOPR	Dopca	0.91	296	⇑iP	Pn	17 41 37.7	0.0
DOPR				i S	Sn	17 41 54.6	-1.6
DOPR	Dopca	0.91	296	⇑iP	Pn	17 41 37.7	0.0
DOPR				i S	Sn	17 41 54.6	-1.6
SULR		0.92	194	⇑iP	Pn	17 41 37.8	0.0
SULR		0.92	194	⇑iP	Pn	17 41 37.8	0.0
SULR				i S	Sn	17 41 55.5	-0.7
SULR		0.92	194	⇑iP	Pn	17 41 37.8	0.0
SULR				i S	Sn	17 41 55.5	-0.7
TESR	Tescani	0.94	4	⇑iP	Pn	17 41 37.6	-0.3
TESR	Tescani	0.94	4	⇑iP	Pn	17 41 37.6	-0.3
TESR				i S	Sn	17 41 53.7	-3.0
TESR	Tescani	0.94	4	⇑iP	Pn	17 41 37.6	-0.3
VOIR		1.07	263	⇓iP	Pn	17 41 39.1	-0.1
VOIR		1.07	263	⇓iP	Pn	17 41 39.1	-0.1
VOIR				i S	Sn	17 41 56.9	-1.8
VOIR		1.07	263	⇓iP	Pn	17 41 39.1	-0.1
VOIR				i S	Sn	17 41 56.9	-1.8
AMRR	Amara	1.11	150	⇑iP	Pn	17 41 39.3	0.0
AMRR	Amara	1.11	150	⇑iP	Pn	17 41 39.3	0.0
AMRR				i S	Sn	17 41 57.2	-1.8
AMRR	Amara	1.11	150	⇑iP	Pn	17 41 39.3	0.0
AMRR				i S	Sn	17 41 57.2	-1.8
MTUR	Matau	1.11	252	⇑iP	Pn	17 41 39.7	+0.2
MTUR	Matau	1.11	252	⇑iP	Pn	17 41 39.7	+0.2
MTUR	Matau	1.11	252	⇑iP	Pn	17 41 39.7	+0.2
CIOR	Ciorogarla	1.22	204	S	Sn	17 41 59.4	-1.6
CIOR	Ciorogarla	1.22	204	i S	Sn	17 41 59.4	-1.6
CIOR	Ciorogarla	1.22	204	i S	Sn	17 41 59.4	-1.6
BUC1	Bucharest	1.28	197	⇑iP	Pn	17 41 40.9	-0.1
BUC1	Bucharest	1.28	197	⇑iP	Pn	17 41 40.9	-0.1
BUC1				i S	Sn	17 42 00.3	-1.6
BUC1	Bucharest	1.28	197	⇑iP	Pn	17 41 40.9	-0.1
BUC1				i S	Sn	17 42 00.3	-1.6
HARR	Harsova	1.31	132	⇑iP	Pn	17 41 41.0	-0.2
HARR	Harsova	1.31	132	⇑iP	Pn	17 41 41.0	-0.2
HARR	Harsova	1.31	132	⇑iP	Pn	17 41 41.0	-0.2
GOLR		1.35	238	S	Sn	17 42 02.8	-0.3
GOLR		1.35	238	i S	Sn	17 42 02.8	-0.3
GOLR		1.35	238	i S	Sn	17 42 02.8	-0.3
ARR	Arges	1.37	262	⇑iP	Pn	17 41 42.0	0.0
ARR	Arges	1.37	262	⇑iP	Pn	17 41 42.0	0.0
ARR				i S	Sn	17 42 02.5	-1.2
ARR	Arges	1.37	262	⇑iP	Pn	17 41 42.0	0.0
ARR				i S	Sn	17 42 02.5	-1.2
LEOM	Leova	1.48	52	⇑iP	Pn	17 41 43.0	+0.1
LEOM	Leova	1.48	52	⇑iP	Pn	17 41 43.0	+0.1
LEOM				i S	Sn	17 42 04.3	-1.2
LEOM	Leova	1.48	52	⇑iP	Pn	17 41 43.0	+0.1
LEOM				i S	Sn	17 42 04.3	-1.2
HUMR	Humele	1.53	228	⇓iP	Pn	17 41 43.5	0.0
HUMR	Humele	1.53	228	⇓iP	Pn	17 41 43.5	0.0
HUMR				i S	Sn	17 42 04.9	-1.6
HUMR	Humele	1.53	228	⇓iP	Pn	17 41 43.5	0.0
HUMR				i S	Sn	17 42 04.9	-1.6
TLCR		1.63	103	⇑iP	Pn	17 41 44.6	+0.1
TLCR		1.63	103	⇑iP	Pn	17 41 44.6	+0.1
TLCR				i S	Sn	17 42 06.8	-1.5
TLCR		1.63	103	⇑iP	Pn	17 41 44.6	+0.1
TLCR				i S	Sn	17 42 06.8	-1.5
CVD	Cernavoda	1.63	140	⇑iP	Pn	17 41 43.1	-1.5
CVD	Cernavoda	1.63	140	⇑iP	Pn	17 41 43.1	-1.5
CVD				i S	Sn	17 42 05.6	-2.8
TIRR	Tirgusor	1.72	130	⇓iP	Pn	17 41 45.4	-0.1
TIRR	Tirgusor	1.72	130	⇓iP	Pn	17 41 45.4	-0.1
TIRR				i S	Sn	17 42 07.3	-2.8
TIRR	Tirgusor	1.72	130	⇓iP	Pn	17 41 45.4	-0.1
TIRR				i S	Sn	17 42 07.3	-2.8
IAS	Iasi	1.76	23	S	Sn	17 42 08.9	-2.1
IAS	Iasi	1.76	23	i S	Sn	17 42 08.9	-2.1
IAS	Iasi	1.76	23	i S	Sn	17 42 08.9	-2.1
LOT	Lotru	1.97	267	⇑iP	Pn	17 41 48.5	0.0
LOT	Lotru	1.97	267	⇑iP	Pn	17 41 48.5	0.0
LOT				i S	Sn	17 42 14.6	-0.8
LOT	Lotru	1.97	267	⇑iP	Pn	17 41 48.5	0.0
ZIMR		2.10	205	S	Sn	17 42 15.7	-2.0
ZIMR		2.10	205	i S	Sn	17 42 15.7	-2.0
KIS	Kishinev	2.12	47	S	Sn	17 42 16.4	-1.8
KIS	Kishinev	2.12	47	i S	Sn	17 42 16.4	-1.8
KIS	Kishinev	2.12	47	i S	Sn	17 42 16.4	-1.8
BURAR	Bucovina Array	2.25	336	⇑iP	Pn	17 41 53.5	+1.8
BURAR	Bucovina Array	2.25	336	⇑iP	Pn	17 41 53.5	+1.8
MANR	Mangalia	2.27	140	⇓iP	Pn	17 41 51.8	-0.1
MANR	Mangalia	2.27	140	⇓iP	Pn	17 41 51.8	-0.1
MANR	Mangalia	2.27	140	⇓iP	Pn	17 41 51.8	-0.1
SRE	Strehaia	2.55	250	⇑iP	Pn	17 41 55.4	+0.2
SRE	Strehaia	2.55	250	⇑iP	Pn	17 41 55.4	+0.2
SRE	Strehaia	2.55	250	⇑iP	Pn	17 41 55.4	+0.2
GZR	Gura Zlata	2.67	268	⇑iP	Pn	17 41 57.7	+0.8
GZR	Gura Zlata	2.67	268	⇑iP	Pn	17 41 57.7	+0.8
GZR	Gura Zlata	2.67	268	⇑iP	Pn	17 41 57.7	+0.8
DRGR		2.94	296	⇓iP	Pn	17 42 00.6	+0.4
DRGR		2.94	296	⇓iP	Pn	17 42 00.6	+0.4
DRGR		2.94	296	⇓iP	Pn	17 42 00.6	+0.4
BZS	Buzias	3.47	272	⇑iP	Pn	17 42 07.1	+0.2
BZS	Buzias	3.47	272	⇑iP	Pn	17 42 07.1	+0.2
BZS	Buzias	3.47	272	⇑iP	Pn	17 42 07.1	+0.2

BJI ***02*** *18:00:08.4, 28°.99S×178°.48W, h263km, mB5.7/45, mb5.4/51*

ISCJB ***02*** *18:00:09.0±0.6, 29°.27S±0°.04×178°.88W±0°.02, h257km±5km, mb5.6/254, Error ellipse: s-maj=6.1km s-min=3.0km az=165.5*

NEIC ***02*** *18:00:09.3±0.1, 29°.40S×178°.96W, h257km, mb5.8/176, ME5.7, MW6.1, MW6.2, MW6.1(USGS), Error ellipse: s-maj=6.0km s-min=3.9km az=153.0, Moment Tensor Solution. s42 Moment tensor: Scale 10^{18}Nm; M_{rr}-1.72; $M_{\theta\theta}$0.05; $M_{\phi\phi}$1.67; $M_{r\theta}$-0.85; $M_{r\phi}$1.13; $M_{\theta\phi}$0.52; Best double couple: M_o2.30000×10^{18} NP1:ϕ_s181.00000°, δ53.00000°, λ-128.00000°. NP2:ϕ_s53.00000°, δ51.00000°, λ-51.00000°. Principal axes: T 2.2500, Plg1.0000°, Azm296.0000°; N 0.0300, Plg29.0000°, Azm206.0000°; P -2.2900, Plg60.0000°, Azm28.0000°; Depth from broadband displacement seismograms. Energy computed from CMT mechanism.*

BKK ***02*** *18:00:09.0±1.6, 29°S±8°×17°9W±°, h237km±15km, M5.3/40, mB5.8/26, mb5.4/40, Mw(mB)5.3/26*

MOS ***02*** *18:00:09.1±0.9, 29°.21S×178°.96W, h256km, mb6.0/40, Error ellipse: s-maj=8.5km s-min=6.9km az=83.0*

IDC ***02*** *18:00:09.9±0.6, 29°.21S×178°.92W, h256km±5km, mb5.0/31, mb1 5.1/32, mb1mx5.1/32, mbtmp5.0/32, Error ellipse: s-maj=8.3km s-min=6.5km az=168.0*

IGIL ***02*** *18:00:10.0, 29°.23S×178°.83W, h261km, MS5.7*

GCMT ***02*** *18:00:13.5±0.1, 29°.24S×178°.67W, h259km, MW6.1, Moment Tensor Solution. s118,c272; s94,c141; Moment tensor: Scale 10^{18}Nm; M_{rr}-1.44±.01; $M_{\theta\theta}$-0.43±.01; $M_{\phi\phi}$1.87±.01; $M_{r\theta}$-0.93±.01; $M_{r\phi}$0.72±.01; $M_{\theta\phi}$0.37±.01; Best double couple: M_o2.10000×10^{18} NP1:ϕ_s167.00000°, δ56.00000°, λ-133.00000°. NP2: ϕ_s45.00000°, δ53.00000°, λ-45.00000°. Principal axes: T 2.0800, Plg2.0000°, Azm285.0000°; N 0.0300, Plg34.0000°, Azm194.0000°; P -2.1100, Plg56.0000°, Azm18.0000°; Data Used: II IU CN IC G. Surface waves: sta=117, comp=271, per= 50.*

DJA ***02*** *18:00:13.5±1.0, 29°S±7°×17°9W±°, h300km±13km, M5.5/25, mB5.9/17, mb5.3/25, Mw(mB)5.5/17, Mwp5.7/1*

AUST ***02*** *18:00:16.5±0.4, 29°.13S×178°.92W, h314km, Error ellipse: s-maj=0.9km s-min=0.7km az=309.0*

NEIC ***02*** *18:00:30.8±0.0, 28°.95S×178°.86W, h259km, Moment Tensor Solution. s127 Moment tensor: Scale 10^{18}Nm; M_{rr}-1.14; $M_{\theta\theta}$-0.53; $M_{\phi\phi}$1.68; $M_{r\theta}$-0.81; $M_{\theta\phi}$0.50; $M_{\phi r}$0.30; Best double couple: M_o1.80000×10^{18} NP1:ϕ_s161.00000°, δ58.00000°, λ-134.00000°. NP2:ϕ_s43.00000°, δ53.00000°, λ-41.00000°. Principal axes: T 1.7900, Plg2.0000°, Azm281.0000°; N 0.0000, Plg36.0000°, Azm189.0000°; P -1.7900, Plg53.0000°, Azm14.0000°;*

ISC 02 18:00:10.2±0.2, 29°.22S±0°.04×178°.81W±0°.03, h262km±1km, h262km:pP-P, n1838, σ1§41/2131, mb5.8/243, 258C-272D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	0.78	92	P	Pn	18 00 44.7	-0.8
RAO	Raoul Island	0.78	92	P	Pn	18 00 44.7	-0.8
	20μm,0.3s,baz=283,slow=14,SNR=326						
OUZ	Omahuta	8.78	225	eP	Pn	18 02 14.2	+0.9
	156nm,1.2s						
URZ	Urewera	9.63	200	eP	Pn	18 02 16.2	-7.7
	0.7nm,0.6s						
URZ				S	S	18 04 03.5	-9.0
URZ	Urewera	9.63	200	P	Pn	18 02 17.1	-6.8
	6.9nm,0.3s,baz=344,slow=4.8,SNR=45						
URZ				S	S	18 04 03.5	-9.0
	537nm,0.3s,baz=18,slow=20,SNR=15						
BKZ	Black Stump Fm	10.65	200	ePn	Pn	18 02 29.0	-7.7
MSVF	Nonsavu	11.79	345	Pn	Pn	18 02 52.0	+0.8
	22μm,1.3s						
MSVF	Nonsavu	11.79	345	eP	Pn	18 02 51.6	+0.4
MSVF				pmax	pmax		
	comp=Z,5μm,1.1s						
MSVF	Nonsavu	11.79	345	eP	Pn	18 02 51.6	+0.4
	comp=Z,5μm,1.1s						
BFZ	Birch Farm	12.13	198	ePn	Pn	18 02 45.4	-10
NIUE	Niue	12.95	41	P	Pn	18 03 04.4	-0.8
	baz=13,SNR=16						
NIUE				S	S	18 05 21.5	-7.6
	baz=13,SNR=19						
SNZO	South Karori	13.17	202	eP	Pn	18 02 58.9	-8.7
	comp=Z,153nm,0.6s						
KHZ	Kahutara	14.54	203	eP	P	18 03 14.3	-10
	comp=Z,263nm,0.3s						
DZM	Mont Dzumac	15.08	295	eP	Pn	18 03 32.9	+1.8
	comp=Z,7μm,1.4s						
DZM				eS	S	18 06 13.7	-3.0
	comp=Z,26μm,26.1s						
DZM	Mont Dzumac	15.08	295	P	Pn	18 03 33.1	+2.1
DZM				S	S	18 06 18.5	+1.7
DZM	Mont Dzumac	15.08	295	P	Pn	18 03 33.1	+2.1
	comp=Z,48nm,0.3s,baz=112,slow=11,SNR=215						
DZM				S	S	18 06 18.5	+1.7
	baz=128,slow=19,SNR=1.0						
AFI	Afiamalu	16.57	25	eP	P	18 03 44.4	-2.4
	comp=Z,811nm,1.1s						
AFI				S	S	18 06 38.1	-8.6
AFI	Afiamalu	16.57	25	P	P	18 03 44.6	-2.2
	comp=Z,288nm,0.3s,baz=62,slow=4.4,SNR=56						
AFI				S	S	18 06 38.1	-8.6
	comp=Z,100nm,0.3s,baz=107,slow=23,SNR=4.1						
RPZ	Rata Peaks	16.58	207	eP	P	18 03 41.5	-5.1
	comp=Z,64nm,0.6s						
RPZ				S	S	18 06 33.2	-13
RPZ				ScP	ScP	18 11 32.0	+1.1
RPZ	Rata Peaks	16.58	207	P	P	18 03 39.5	-7.1
	comp=Z,7.6nm,0.3s,baz=192,slow=8.1,SNR=27						
RPZ				S	S	18 06 33.2	-13
	comp=Z,66nm,0.3s,baz=50,slow=17,SNR=14						
RPZ				ScP	ScP	18 11 32.0	+1.1
	comp=Z,1.0nm,0.3s,baz=90,slow=19,SNR=2.8						
ODZ	Otahua Downs	17.86	205	eP	P	18 03 56.2	-4.2
	comp=Z,49nm,0.6s						
RAR	Rarotonga	18.96	69	eP	P	18 04 12.6	+0.1
	comp=Z,74nm,0.9s						
RAR				S	S	18 07 38.2	+4.5
RAR	Rarotonga	18.96	69	P	P	18 04 13.2	+0.6
	comp=Z,7.8nm,0.3s,baz=270,slow=4.3,SNR=20						
RAR				S	S	18 07 38.2	+4.5
	comp=Z,4.1nm,0.3s,baz=270,slow=19,SNR=1.7						
LHI	Lord Howe Isla	19.23	258	P	Pn	18 04 18.3	-1.3
	baz=19,SNR=18						
FUNA	Funafuti	20.68	354	eP	P	18 04 28.0	-2.7
	comp=Z,2μm,1.3s						
ARMA	Armidale	25.64	260	eP	P	18 05 17.7	+1.3
	comp=Z,41nm,0.7s						
ARMA	Armidale	25.64	260	P	P	18 05 18.3	+2.0
	baz=26,SNR=58						
MGCD	Mangrove Creek	25.99	254	P	P	18 05 22.0	+2.7
	baz=26,SNR=22						
TBI	Tubuai	26.91	84	eP	P	18 05 28.7	+1.1
	comp=Z,185nm,1.0s						
TBI				epP	pP	18 06 19.0	+0.4
	comp=Z,688nm,1.2s						
TBI				eS	S	18 09 44.8	0.0
	comp=Z,5μm,27.2s						
EIDS	Eidsvold	26.99	271	eP	P	18 05 28.8	+0.4
	comp=Z,165nm,1.3s						
EIDS	Eidsvold	26.99	271	P	P	18 05 29.2	+0.8
	baz=27,SNR=18						
KNTN	Kanton	27.15	16	eP	P	18 05 29.6	-0.1
	comp=Z,1μm,1.0s						
CNB	Canberra Magne	27.51	249	P	P	18 05 34.5	+1.5
	baz=27,SNR=44						
CNB				S	S	18 09 57.9	+3.7
	baz=27,SNR=6.2						
CAN	Canberra	27.81	249	eP	P	18 05 36.4	+0.8
CAN				pmax	pmax		
	comp=Z,61nm,0.8s						
CAN	Canberra	27.81	249	eP	P	18 05 36.4	+0.8
	comp=Z,61nm,0.8s						
MILA	Mila	27.84	245	P	P	18 05 37.8	+2.0
	baz=28,SNR=11						
HNR	Honiara	28.00	310	P	P	18 05 36.9	-0.4
HNR	Honiara	28.00	310	P	P	18 05 36.9	-0.4
	comp=Z,121nm,0.7s,baz=357,slow=5.9,SNR=7.5						
YNG	Young	28.26	251	P	P	18 05 41.8	+2.2
	baz=28,SNR=28						
YNG				S	S	18 10 10.2	+4.3
	baz=28,SNR=14						
RMQ	Roma	28.75	268	P	P	18 05 44.5	+0.5
	baz=29,SNR=64						
PAE	Paea	29.10	73	eP	P	18 05 47.4	+0.4
PAE				epP	pP	18 06 37.8	-0.6
	comp=Z,49nm,1.2s						
PPT2	Papeete2	29.14	73	eP	P	18 05 48.1	+0.7
	comp=Z,276nm,1.1s						
PPT2				epP	pP	18 06 37.5	-1.4
	comp=Z,288nm,1.2s						
PPT2				eS	S	18 10 18.4	-1.6
	comp=Z,3μm,23.6s						
PPT	Papeete	29.15	73	P	P	18 05 48.4	+0.9
PPT	Papeete	29.15	73	P	P	18 05 48.4	+0.9
	comp=Z,229nm,0.9s,baz=351,slow=4.6,SNR=10						
TVO	Taravao	29.32	74	eP	P	18 05 49.5	+0.5
	comp=Z,162nm,0.8s						
MCQ	Macquarie Isla	29.95	206	P	P	18 05 43.8	-10
	baz=30,SNR=5.6						
TAU	Tasmania Unive	30.37	234	eP	P	18 05 57.9	0.0
TAU				e*PP	pP	18 06 47.0	-2.6
TAU	Tasmania Unive	30.37	234	eP	P	18 05 57.9	0.0
TAU				epP	pP	18 06 47.0	-2.6
CMSA	Cobar Meteorol	30.63	257	P	P	18 06 00.7	+0.4
	baz=30,SNR=56						
TOO	Toolangi	30.80	245	P	P	18 06 02.8	+1.0
	baz=31,SNR=19						
TARA	Tarawa	31.42	344	eP	P	18 06 07.4	+0.1
	comp=Z,654nm,1.0s						
PMOR	Pomariorio Ree	31.83	70	eP	P	18 06 11.3	+0.4
	comp=Z,435nm,1.4s						
CTA	Charters Tower	32.93	278	P	P	18 06 21.4	+0.9
CTA				ScP	ScP	18 12 17.3	+0.2
CTA	Charters Tower	32.93	278	P	P	18 06 21.4	+0.9
	comp=Z,42nm,0.4s,baz=105,slow=11,SNR=46						
CTA				ScP	ScP	18 12 17.3	+0.2
	comp=Z,13nm,0.8s,baz=118,slow=4.2,SNR=4.8						
CTAO	Charters Tower	32.93	278	eP	P	18 06 20.8	+0.3
CTAO				pmax	pmax		
	comp=Z,54nm,0.5s						
CTAO	Charters Tower	32.93	278	eP	P	18 06 20.8	+0.3
	comp=Z,54nm,0.5s						
ARPS	Mount Arapiles	33.67	247	P	P	18 06 27.1	+0.4
	baz=34,SNR=16						
STKA	Stephens Creek	34.07	255	eP	P	18 06 29.8	-0.5
	comp=Z,15nm,0.9s						
STKA				ScP	ScP	18 12 21.8	+0.8
STKA	Stephens Creek	34.07	255	P	P	18 06 30.6	+0.4
	comp=Z,72nm,0.8s,baz=106,slow=9.7,SNR=62						
STKA				ScP	ScP	18 12 21.8	+0.8
	comp=Z,42nm,0.9s,baz=97,slow=3.4,SNR=9.7						
STKA	Stephens Creek	34.07	255	P	P	18 06 30.3	+0.1
	baz=34,SNR=92						
STKA				S	S	18 11 43.6	+7.5
	baz=34,SNR=3.7						
MTSU	Mount Surprise	35.39	280	P	P	18 06 42.5	+0.9
	baz=35,SNR=28						
XMAS	Kiritimati	37.22	37	eP	P	18 06 58.3	+1.3
	comp=Z,1μm,1.3s						
PMG	Port Moresby	37.47	295	eP	P	18 06 59.6	+0.5
	comp=Z,28nm,1.2s						
PMG	Port Moresby	37.47	295	P	P	18 07 01.1	+2.0
	comp=Z,75nm,1.2s						
PMG	Port Moresby	37.47	295	P	P	18 06 59.5	+0.3
	comp=Z,33nm,0.6s,baz=118,slow=4.5,SNR=12						
COEN	Coen	38.28	285	eP	P	18 07 05.8	-0.1
	comp=Z,62nm,1.0s						
COEN	Coen	38.28	285	P	P	18 07 08.4	+2.5
	baz=38,SNR=9.9						
BBOO	Buckleboo	38.62	253	eP	P	18 07 07.3	-1.3
	comp=Z,38nm,0.6s						
BBOO	Buckleboo	38.62	253	P	P	18 07 07.2	-1.4
	baz=38,SNR=26						
RKT	Rikitea	39.64	92	eP	P	18 07 17.8	+0.8
	comp=Z,97nm,1.2s						
RKT				eS	S	18 13 01.0	+0.8
	comp=Z,4μm,27.7s						
KWAJ	K

SBA	Scott Base	49.16	184	eP	P	18 08 33.1 +1.9
SBA				e*PP	pP	18 09 28.4 +1.2
SBA				pmax	pmax	
	comp=Z,113nm,1.1s					
SBA	Scott Base	49.16	184	eP	P	18 08 33.1 +1.9
	comp=Z,113nm,1.1s					
SBA				epP	pP	18 09 28.4 +1.2
VNDA	Vanda	49.19	185	eP	P	18 08 31.8 +0.2
	comp=Z,29nm,0.6s					
VNDA				ScP	ScP	18 13 20.3 +0.3
VNDA				⇑e		18 39 41.0
VNDA				P'P'ab	P'P'ab	18 40 19.0 -6.8
VNDA	Vanda	49.19	185	P	P	18 08 32.1 +0.5
	comp=Z,9.8nm,0.7s,baz=26,slow=6.8,SNR=36					
VNDA				ScP	ScP	18 13 20.3 +0.3
	comp=Z,13nm,0.8s,baz=19,slow=2.3,SNR=6.3					
VNDA				PKP2bc		18 39 41.0
	comp=Z,1.1nm,0.7s,baz=244,slow=5.2,SNR=4.3					
VNDA				PKP2ab		18 40 19.0
	comp=Z,0.9nm,0.3s,baz=249,slow=4.9,SNR=10					
KNRA	Kununurra	49.92	274	P	P	18 08 37.0 -0.9
	baz=50,SNR=90					
KNRA				S	S	18 15 25.0 -2.8
	baz=50,SNR=15					
WAKE	Wake Island	50.22	342	eP	P	18 08 40.4 +0.5
	comp=Z,2μm,1.1s					
SRPI	Serui, Papua	50.65	294	P	pP	18 09 43.7 +4.1
BAKI	Biak	51.16	295	P	P	18 08 48.9 +1.7
TLE	Tual	51.36	288	P	pP	18 09 53.5 +8.4
TLE	Tual	51.36	288	P	P	18 08 50.0 +1.3
	baz=51,SNR=3.3					
FITZ	Fitzroy Crossi	51.66	269	eP	P	18 08 49.7 -1.2
	comp=Z,41nm,0.9s					
FITZ				epP	pP	18 09 49.3 +2.0
FITZ				ScP	ScP	18 13 32.7 +0.9
FITZ	Fitzroy Crossi	51.66	269	P	P	18 08 50.2 -0.6
	comp=Z,31nm,0.7s,baz=143,slow=5.8,SNR=39					
FITZ				ScP	ScP	18 13 32.7 +0.9
	comp=Z,20nm,0.8s,baz=134,slow=2.8,SNR=4.3					
FITZ	Fitzroy Crossi	51.66	269	P	P	18 08 49.8 -1.0
	baz=52,SNR=33					
FITZ				S	S	18 15 49.2 -2.5
	baz=52,SNR=16					
FAKI	Fak Fak	53.27	290	P	P	18 09 02.1 -0.5
	baz=53,SNR=10.0					
FAKI				S	S	18 16 10.9 -2.7
	baz=53,SNR=15					
PUH	Pauahi	53.41	28	eP	P	18 09 04.5 +0.9
	comp=Z,2μm,1.1s					
STCH	Steam Cracks	53.46	28	eP	P	18 09 02.5 -1.4
	comp=Z,2μm,1.1s					
POHA	Pohakuloa	53.63	28	eP	P	18 09 05.6 +0.3
	comp=Z,801nm,1.3s					
KLBR	Kellerberrin	54.07	250	P	P	18 09 06.7 -1.6
	baz=54,SNR=9.7					
HON	Honolulu	54.11	24	eP	P	18 09 09.4 +1.0
HON	Honolulu	54.11	24	eP	P	18 09 09.4 +1.0
KIP	Kipapa	54.20	24	eP	P	18 09 10.1 +1.0
KIP				pmax	pmax	
	comp=Z,737nm,1.2s					
KIP	Kipapa	54.20	24	eP	P	18 09 10.1 +1.0
	comp=Z,737nm,1.2s					
HKL	Haleakala	54.20	26	eP	P	18 09 10.8 +1.3
HKL	Haleakala	54.20	26	eP	P	18 09 10.8 +1.3
MEEK	Meekatharra	54.76	257	P	P	18 09 11.3 -2.0
	baz=55,SNR=21					
GUMO	Guam	55.15	315	eP	P	18 09 16.5 +0.5
	comp=Z,14nm,1.1s					
BLDU	Balliliu	55.20	251	P	P	18 09 16.0 -0.2
	baz=55,SNR=6.0					
SWI	Sorong	55.26	291	P	P	18 09 17.8 +0.9
	baz=55,SNR=14					
MBWA	Marble Bar	55.66	263	P	P	18 09 20.5 +0.9
	SNR=5.8					
MBWA	Marble Bar	55.66	263	eP	P	18 09 18.7 -1.0
	comp=Z,103nm,0.9s					
CASY	Casey	55.85	207	eP	P	18 09 17.1 -3.2
	comp=Z,29nm,0.6s					
MORW	Morawa	56.20	253	P	P	18 09 21.7 -1.7
	baz=56,SNR=17					
PALU	Palau	57.81	301	P	P	18 09 36.9 +2.2
	baz=58,SNR=3.8					
MMRI	Maumere	58.79	278	eP	P	18 09 42.4 +0.8
	comp=Z,232nm,1.6s					
MMRI	Maumere	58.79	278	P	P	18 09 43.1 +1.5
	comp=Z,79nm,1.0s,comp=Z,2μm					
TNTI	Ternate	59.37	290	eP	P	18 09 46.5 +0.9
	comp=Z,235nm,1.1s					
QSPA	South Pole Qui	60.88	180	P	P	18 09 55.7 +0.6
QSPA				S	S	18 17 53.4 +1.9
QSPA	South Pole Qui	60.88	180	P	P	18 09 55.7 +0.6
	comp=Z,136nm,0.7s,baz=26,slow=1.8,SNR=159					
QSPA				S	S	18 17 53.4 +1.9
	comp=Z,19nm,1.0s,baz=195,slow=14,SNR=11					
LBFI	Labuhan Bajo,	60.90	277	P	P	18 09 55.6 -0.3
	comp=Z,120nm,1.0s,comp=Z,4μm					
LUWI	Luwuk	62.19	286	P	P	18 10 05.9 +1.4
	baz=62,SNR=6.1					
KAPI	Kappang	62.71	280	P	P	18 10 20.1 +12
MIR	Mirnyy	62.85	207	eP	P	18 10 09.0 +1.0
MIR				e		18 11 11.0
MIR				pmax	pmax	
	comp=Z,42nm,1.0s					
IGBI	Denpasar	64.86	274	P	P	18 10 23.0 +1.1
	comp=Z,321nm,1.1s,comp=Z,4μm					
SRBI	Singaraja	65.15	275	P	P	18 10 23.7 -0.1
	comp=Z,103nm,1.4s,comp=Z,2μm					
CTBH	Cotabato--PC H	65.64	294	⇑iP	P	18 10 26.3 -0.6
JAGI	Jajag, Banyuwa	65.89	274	P	P	18 10 28.2 -0.4
	comp=Z,99nm,1.1s					
JAGI	Jajag, Banyuwa	65.89	274	P	P	18 10 28.7 +0.2
	baz=66,SNR=13					
GMJI	Gumukmas	66.60	274	P	P	18 10 34.0 +1.0
	comp=Z,100nm,1.4s					
KRKI	Karangkates	67.52	273	P	P	18 10 40.3 +1.5
	comp=Z,257nm,1.1s					
PWJI	Pagerwojo	68.15	273	P	P	18 10 43.4 +0.7
	comp=Z,89nm,1.3s,comp=Z,13μm					
SJI	Sawahan	68.32	273	P	P	18 10 44.8 +0.9
	comp=Z,55nm,0.9s					
TSM	Tawau	69.19	288	P	P	18 10 48.6 -0.5
UGM	Wanagama	69.32	272	P	P	18 10 51.0 +1.1
	baz=69,SNR=6.1					
BJII	Banjamegara	70.31	273	P	P	18 10 58.0 +2.0
	comp=Z,59nm,1.3s,comp=Z,2μm					
SDKM	Sandakan	70.49	288	P	P	18 10 56.5 -0.5
TGJI	Tegal	71.04	273	P	P	18 11 01.0 +0.7
	comp=Z,142nm,1.1s,comp=Z,3μm					
KKM	Kota Kinabalu	71.52	288	eP	P	18 11 01.7 -1.6
	comp=Z,78nm,0.8s					
KKM	Kota Kinabalu	71.52	288	P	P	18 11 05.1 +1.8
KKM	Kota Kinabalu	71.52	288	P	P	18 11 03.0 -0.3
	baz=72,SNR=9.1					
CISI	Cisompet, Garu	71.86	271	P	P	18 11 05.7 +0.5
	baz=72,SNR=5.3					
LEM	Lembang	72.37	272	P	P	18 11 09.6 +1.2
	comp=Z,220nm,1.1s					
LEM	Lembang	72.37	272	P	P	18 11 09.9 +1.5
	baz=72,SNR=11					
BTM	Bintulu	72.63	284	P	P	18 11 11.8 +2.0
SBUM	Sibu	72.98	283	eP	P	18 11 11.4 -0.3
	comp=Z,57nm,1.0s					
SBUM				epP	pP	18 12 19.8 +7.3
SBUM	Sibu	72.98	283	P	P	18 11 13.6 +1.8
SBUM	Sibu	72.98	283	P	P	18 11 12.3 +0.6
	comp=Z,58nm,1.1s,comp=Z,1μm					
MAW	Mawson	73.16	201	P	P	18 11 11.2 -0.7
MAW	Mawson	73.16	201	P	P	18 11 11.2 -0.7
	comp=Z,12nm,0.7s,baz=116,slow=5.8,SNR=36					
MAW	Mawson	73.16	201	P	P	18 11 11.2 -0.7
	baz=73,SNR=37					
DBJI	Dramaga	73.26	272	P	P	18 11 14.7 +1.3
	comp=Z,260nm,1.0s,comp=Z,2μm					
PMSA	Palmer Station	73.62	156	eP	P	18 11 14.2 -0.4
	comp=Z,80nm,1.1s					
PMSA	Palmer Station	73.62	156	P	P	18 11 15.0 +0.4
	comp=Z,30nm,0.9s,baz=237,slow=4.3,SNR=34					
KSM	Kuching	74.11	281	eP	P	18 11 17.6 -0.8
	comp=Z,67nm,1.0s					
KSM	Kuching	74.11	281	P	P	18 11 17.8 -0.5
KSM	Kuching	74.11	281	P	P	18 11 17.6 -0.8
	comp=Z,80nm,1.2s,comp=Z,958nm					
KSM	Kuching	74.11	281	P	P	18 11 17.8 -0.5
	baz=74,SNR=26					
JOW	Kunigami	75.35	313	eP	P	18 11 27.1 +2.0
	comp=Z,130nm,1.6s					
KASI	Kota Agung	75.72	272	P	P	18 11 28.1 +0.6
	comp=Z,157nm,1.0s					
KLI	Kotabumi	75.72	272	P	P	18 11 27.7 +0.2
	comp=Z,177nm,0.9s					
LWLI	Liwa	76.34	272	P	P	18 11 32.0 +0.8
	comp=Z,199nm,0.9s,comp=Z,2μm					
MJAR	Matsushiro Arr	76.88	326	P	P	18 11 32.7 -0.7
MJAR	Matsushiro Arr	76.88	326	P	P	18 11 32.7 -0.7
	comp=Z,92nm,1.1s,baz=158,slow=4.5,SNR=67					
MAT	Matsushiro	76.88	326	P	P	18 11 32.7 -0.8
MAT				S	S	18 20 58.5 -0.5
USHA	Ushuaia	77.29	146	P	P	18 11 37.4 +1.8
USHA	Ushuaia	77.29	146	P	P	18 11 37.4 +1.8
	comp=Z,39nm,1.1s,baz=240,slow=7.3,SNR=4.6					
TWG	Pinlang	77.61	305	eP	P	18 11 35.8 -2.0
	comp=Z,182nm,0.6s					
MNAI	Manna	77.62	272	P	P	18 11 40.8 +2.6
	baz=78,SNR=3.8					
NACB	Ninganchiao	78.10	306	eP	P	18 11 40.6 +0.1
SYO	Syowa Base	78.10	193	⇓eP	P	18 11 37.0 -2.8
JNU	Nakatsue	78.21	319	eP	P	18 11 40.7 -0.2
	comp=Z,148nm,1.4s					
TPUB	Ta-pu	78.23	305	eP	P	18 11 39.1 -2.1
	comp=Z,31nm,0.7s					
KSI	Kapahiang	78.28	272	P	P	18 11 41.2 -0.6
	comp=Z,302nm,0.8s,comp=Z,3μm					
SSLB	Suanglung	78.31	306	eP	P	18 11 38.6 -3.1
	comp=Z,27nm,0.7s					
MASI	Maura Aman, Be	78.83	273	P	P	18 11 44.5 -0.3
	comp=Z,632nm,1.0s,comp=Z,5μm					
ERM	Erimo	79.09	332	P	P	18 11 47.6 +2.2
	comp=Z,1μm,1.9s,SNR=15					
ERM	Erimo	79.09	332	eP	P	18 11 47.7 +2.2
ERM				pmax	pmax	
	comp=Z,368nm,1.3s					
ERM	Erimo	79.09	332	eP	P	18 11 47.7 +2.2
	comp=Z,368nm,1.3s					
SNAA	Sanae	79.34	179	eP	P	18 11 46.3 -0.3
SNAA	Sanae	79.34	179	epP	pP	18 12 47.7 -0.6
VNA3	Neumayer Olymp	79.52	176	eP	P	18 11 47.3 -0.2
BTDF	Bukit Timah Da	79.69	277	P	P	18 11 49.0 -0.4
	baz=80,SNR=12					
BTDF				P	P	18 11 49.0 -0.4
	baz=80,SNR=12					
YUK	Yuzh-Kuril'sk	79.75	335	iP	P	18 11 50.1 +1.2
YUK				i*PP	sP	18 13 20.6 +2.2
YUK				i		18 15 00.4
YUK				iS	S	18 21 34.2 +5.1
YUK				iSS	SS	18 26 48.0 +2.9
YUK				pmax	pmax	
	comp=E,221nm,1.0s					
YUK				pmax	pmax	
	comp=Z,505nm,1.0s					
YUK				pmax	pmax	
	comp=N,540nm,1.0s					
YUK				pmax	pmax	
	comp=Z,988nm,1.3s					
MYKOM	Kota Tinggi	79.84	278	P	P	18 11 49.8 -0.4
MYKOM	Kota Tinggi	79.84	278	P	P	18 11 52.5 +2.3
MYKOM	Kota Tinggi	79.84	278	P	P	18 11 49.9 -0.3
	comp=Z,152nm,1.0s,comp=Z,2μm					
VNA2	Neumayer--Watz	79.95	177	eP	P	18 11 50.0 +0.2
	baz=184,slow=3.2					
VNA2	Neumayer--Watz	79.95	177	epP	pP	18 12 50.1 -1.5
	baz=184,slow=3.2					
MAIT	Maitri	80.00	184	eP	P	18 11 48.2 -1.8
KUR	Kuril'sk	80.07	337	⇓iP	P	18 11 45.0 -5.6
KUR				iS	S	18 21 29.9 -2.5
KUR				pmax	pmax	
	comp=N,234nm,1.7s					
KUR				pmax	pmax	
	comp=E,189nm,1.7s					
KUR				pmax	pmax	
	comp=Z,917nm,1.7s					
KUR				MLR	MLR	
	comp=N,648nm,19.0s					
KUR				MLR	MLR	
	comp=Z,812nm,18.0s					
KUR				MLR	MLR	
	comp=E,1μm,20.0s					
VNA1	Neumayer--Stat	80.18	177	eP	P	18 11 51.2 +0.2
VNA1	Neumayer--Stat	80.18	177	epP	pP	18 12 56.2 +3.4
AMKA	Amchitka	80.27	359	eP	P	18 11 51.5 0.0
	comp=E,431nm,1.0s					
KGM	Kluang	80.41	278	P	P	18 11 53.7 +0.4
QZH	Quanzhou	80.71	305	⇑iP	P	18 11 53.0 -1.5
QZH				pP	pP	18 12 55.0 -1.4
QZH				sP	sP	18 13 23.4 -0.7
QZH				S	S	18 21 36.4 -3.4
QZH				sS	sS	18 23 27.0 -1.8
QZH				pmax	pmax	
	comp=Z,2μm,6.0s					
QZH				LR	LR	
	comp=Z,2μm,20.4s					
ADK	Adak	80.78	1	eP	P	18 11 53.9 -0.3
ADK				pmax	pmax	
	comp=Z,5μm,1.1s					
ADK	Adak	80.78	1	eP	P	18 11 53.9 -0.3
	comp=Z,1μm,1.1s					
ASAJ	Asahikawa	81.08	333	eP	P	18 11 57.5 +1.6
	comp=Z,256nm,1.3s					
PDSI	Padang	81.46	274	P	P	18 11 56.8 -2.0
	comp=Z,166nm,0.9s,comp=Z,2μm					
BKNI	Bangkinang	81.56	275	P	P	18 11 59.8 +0.5
	comp=Z,171nm,1.2s,comp=Z,2μm					
PPI	Padang Panjang	81.74	274	P	P	18 11 58.6 -1.6
	comp=Z,43nm,0.7s,comp=Z,865nm					
PPI	Padang Panjang	81.74	274	P	P	18 12 00.1 -0.1
	baz=82,SNR=4.9					
SMY	Shemya	81.84	356	eP	P	18 11 59.9 +0.2
SMY				pmax	pmax	
	comp=Z,1μm,1.2s					
SMY	Shemya	81.84	356	eP	P	18 11 59.9 +0.2
	comp=Z,1μm,1.2s					
FX1	Attu Island--F	82.06	355	P	P	18 12 00.8 -0.1
FX1	Attu Island--F	82.06	355	P	P	18 12 00.7 -0.1
	comp=Z,314nm,1.0s,baz=125,slow=6.3,SNR=83					
KTGM	Kuala Trenggan	82.22	281	P	P	18 12 02.8 +0.1
FRIM	Kepong	82.48	278	P	P	18 12 04.8 +0.7
TJN	Taejon	82.56	319	iP	P	18 12 03.9 +0.1
SKR	Severo-Kuril's	82.59	344	eP	P	18 11 58.0 -5.6
SKR				eS	S	18 21 52.0 -5.9
SKR				pmax	pmax	
	comp=N,900nm,2.0s					
SKR				pmax	pmax	
	comp=Z,1μm,2.0s					
SKR				pmax	pmax	
	comp=Z,80nm,0.6s					
SKR				smax	smax	
	comp=N,2μm,10.0s					
SKR				smax	smax	
	comp=E,1.0nm,10.0s					
SSE	Sheshan	82.80	312	P	P	18 12 06.2 +1.0
SSE				pP	pP	18 13 07.9 +0.4
SSE				S	S	18 22 03.1 +2.1
SSE				sS	sS	18 23 51.9 +1.3
SSE				pmax	pmax	
	comp=Z,58nm,1.0s					
SSE				pmax	pmax	
	comp=Z,730nm,7.8s					
SSE				LR	LR	
	comp=N,1μm,33.8s					
SSE				LR	LR	
	comp=E,1μm,33.7s					
SSE				LR	LR	
	comp=Z,1μm,20.0s					
KSRS	Korea Array	83.00	320	P	P	18 12 06.7 +0.6
	comp=Z,62nm,1.0s,baz=142,slow=4.8,SNR=77					
KSAR	Wonju Array Be	83.01	320	P	P	18 12 06.7 +0.5
YSS	Yuzh-Sakhalins	83.39	335	iP	P	18 12 10.1 +2.3
YSS				e*PP	pP	18 13 10.0 -0.2
YSS				e*SP	sP	18 13 38.0 +0.2
YSS				ePPP	PPP	18 17 26.0
YSS				e		18 22 04.0
YSS				eS	SKKSac	18 22 10.0 +0.5
YSS				ePS	PS	18 23 38.0 +0.1
YSS				pmax	pmax	
	comp=Z,2μm,4.0s					
YSS				pmax	pmax	
	comp=Z,720nm,1.0s					
YSS				pmax	pmax	
	comp=N,270nm,1.2s					
YSS				pmax	pmax	
	comp=E,360nm,1.0s					
YSS				smax	smax	
	comp=N,3μm,10.0s					
YSS				smax	smax	
	comp=E,2μm,10.0s					
IPM	Ipoh	83.62	279	eP	P	18 12 08.4 -1.5
	comp=E,88nm,0.6s					
IPM	Ipoh	83.62	279	P	P	18 12 09.1 -0.7
IPM	Ipoh	83.62	279	P	P	18 12 08.8 -1.1
	comp=E,151nm,0.9s,comp=E,2μm					
INCN	Inchon	83.75	319	P	P	18 12 11.4 +1.4
	SNR=10					
INCN	Inchon	83.75	319	eP	P	18 12 11.1 +1.2
	comp=E,24nm,1.1s					
AKUT	Akutan	83.78	8	eP	P	18 12 09.5 -0.1
	comp=E,1μm,1.8s					
PLCA	Paso Flores	83.82	133	eP	P	18 12 11.6 +1.0
	comp=E,132nm,1.3s					
PLCA	Paso Flores	83.82	133	P	P	18 12 11.4 +0.8
	comp=E,54nm,1.1s,baz=233,slow=5.3,SNR=31					
QIZ	Qiongzhong	83.85	296	P	P	18 12 11.2 +0.3
QIZ				pP	pP	18 13 15.2 +1.9
QIZ				sP	sP	18 13 41.0 +0.1
QIZ				S	SKSac	18 22 09.9 +1.2
QIZ				sS	sS	18 24 00.9 -1.0
QIZ				pmax	pmax	
	comp=Z,670nm,11.2s					
QIZ				LR	LR	
	comp=N,820nm,25.8s					
QIZ				LR	LR	
	comp=E,350nm,24.8s					
QIZ				LR	LR	
	comp=Z,2μm,26.9s					
EFI	East Falkland	84.16	147	eP	P	18 12 11.7 -0.2
EFI				pmax	pmax	
	comp=Z,393nm,1.3s					
EFI	East Falkland	84.16	147	eP	P	18 12 11.5 -0.4
	comp=Z,299nm,1.3s					
SCI	San Clemente I	84.19	47	⇓P	P	18 12 13.6 +1.4
	baz=85					
PET	Petropavlovsk	84.23	347	κ iP	P	18 12 11.9 0.0
PET				e*PP	pP	18 13 14.2 -0.2
PET				e*SP	sP	18 13 41.0 -0.9
PET				e		18 15 30.8
PET				S	S	18 22 12.7 -1.5
PET				eSS	SS	18 27 52.4 +1.4
PET				eSSS	SSS	18 31 19.4
PET				pmax	pmax	
	comp=Z,386nm,0.6s					
PET				pmax	pmax	
	comp=Z,2μm,4.9s					
PET				pmax	pmax	
	comp=Z,2μm,14.8s					
KULM	Kulim	84.34	279	eP	P	18 12 12.6 -0.8
	comp=Z,93nm,1.0s					
KULM				epP	pP	18 13 18.4 +2.4
KULM	Kulim	84.34	279	P	P	18 12 13.2 -0.3
KULM	Kulim	84.34	279	P	P	18 12 13.1 -0.3
	comp=Z,109nm,1.1s,comp=Z,1μm					
SBC	Santa Barbara	84.40	45	⇑P	P	18 12 14.6 +1.4
	baz=85					
PETK	Petropavlovsk-	84.50	346	P	P	18 12 13.8 +0.5
PETK				i		18 17 25.1
PETK				pmax	pmax	
	comp=Z,358nm,0.6s					
PETK				pmax	pmax	
	comp=Z,3.0nm,0.6s					
PETK	Petropavlovsk-	84.50	346	P	P	18 12 13.8 +0.5
PETK				PKiKP	PKiKP	18 17 25.1 0.0
PETK	Petropavlovsk-	84.50	346	P	P	18 12 13.8 +0.5
	comp=Z,358nm,0.6s,baz=139,slow=7.4,SNR=782					
PETK				PKiKP	PKiKP	18 17 25.1 0.0
	comp=Z,3.1nm,0.6s,baz=142,slow=5.0,SNR=3.6					
CIS	Catalina Islan	84.55	47	⇓P	P	18 12 15.3 +1.2
	baz=85,SNR=39					
BLG	Laguna Peak	84.59	46	⇑P	P	18 12 15.4 +1.2
	baz=85,SNR=18					
PSI	Prapat	84.61	276	P	P	18 12 13.5 -1.5
	baz=84,SNR=27					
PKM	Peak Mountain	84.63	45	⇓P	P	18 12 16.1 +1.4
	baz=85,SNR=78					
FALS	False Pass	84.78	9	eP	P	18 12 16.4 +1.8
	comp=Z,234nm,1.1s					
SMMC	Simmler	84.79	45	⇑P	P	18 12 17.2 +1.9
	baz=85,SNR=47					
FMP	Fort Macarthur	84.82	47	⇑P	P	18 12 16.8 +1.4
	baz=85					
SAO	San Andreas Ge	84.89	43	eP	P	18 12 17.1 +1.4
SAO				pmax	pmax	
	comp=Z,335nm,1.2s					
SAO	San Andreas Ge	84.89	43	eP	P	18 12 17.1 +1.4
	comp=Z,85nm,1.2s					
PTRM	Twissleman Ran	84.89	44	eP	P	18 12 17.6 +1.9
NJ2	Nanjing	84.94	311	eP	P	18 12 16.4 +0.4
NJ2				pP	pP	18 13 20.2 +1.6
NJ2				sP	sP	18 13 50.1 +4.0
NJ2				S	SKKSac	18 22 21.8 -0.1
NJ2				pmax	pmax	
	comp=Z,2μm,1.3s					
NJ2				LR	LR	
	comp=N,3μm,14.1s					
NJ2				LR	LR	
	comp=E,1μm,17.3s					
NJ2				LR	LR	
	comp=Z,1μm,21.1s					
VLA	Vladivostok	85.04	326	d iP	P	18 12 16.6 +0.4
VLA				pmax	pmax	
	comp=Z,162nm,1.6s					
109C	Camp Elliot, M	85.06	48	⇓P	P	18 12 17.9 +1.3
	baz=86					
OSI	Osito Adit	85.13	46	⇑P	P	18 12 18.6 +1.6
	baz=86,SNR=18					
DECC	Green Verdugo	85.14	46	⇓P	P	18 12 18.1 +1.1
	baz=86,SNR=8.3					
PASC	Pasadena Art C	85.19	46	eP	P	18 12 18.6 +1.4
	comp=Z,302nm,1.3s					
BAR	Barrett	85.21	48	eP	P	18 12 18.7 +1.3
	comp=Z,116nm,1.5s					
BAR				ePP	PP	18 15 46.4 +7.0
SKLT	Songkhla	85.30	281	P	P	18 12 20.0 +1.8
	comp=Z,57nm,0.8s,comp=Z,1μm					
UBPT	Khong Chiam	85.36	290	P	P	18 12 20.7 +2.3
	comp=Z,60nm,1.7s					
ARVC	Arvin	85.40	45	⇓P	P	18 12 19.3 +1.1
	baz=86,SNR=34					
MURC	Murrieta	85.45	47	⇑P	P	18 12 20.2 +1.7
	baz=86,SNR=79					
MONP	Monument Peak	85.51	48	⇓P	P	18 12 20.6 +1.5
	baz=86					
BFSC	Mount Baldy Ra	85.56	47	⇑P	P	18 12 20.4 +1.2
	baz=86,SNR=178					
DVTC	Desert V Tower	85.57	49	⇑P	P	18 12 20.8 +1.6
	baz=86					
VES	Vestal, Richgr	85.70	45	⇓P	P	18 12 20.6 +0.9
	baz=86,SNR=73					
EDW2	Edwards Air Fo	85.76	46	⇑P	P	18 12 21.7 +1.6
	baz=86,SNR=292					
USRK	Ussuriysk Arra	85.79	327	P	P	18 12 20.8 +0.8
	comp=Z,116nm,1.0s,baz=128,slow=3.1,SNR=94					
RCTC	Rector, Farmer	85.92	44	⇑P	P	18 12 21.6 +0.9
	baz=86					
PFO	Pinyon Flat Ob	85.94	48	eP	P	18 12 22.6 +1.5
	comp=Z,568nm,1.5s					
PFO				ePKKPbc	PKKPdf	18 30 16.6 +2.5
PFO	Pinyon Flat Ob	85.94	48	P	P	18 12 22.6 +1.6
	comp=Z,134nm,1.1s,baz=244,slow=3.2,SNR=75					
PFO	Pinyon Flat Ob	85.94	48	⇑P	P	18 12 22.4 +1.4
	baz=86,SNR=124					
ISA	Isabella	85.97	45	eP	P	18 12 22.4 +1.3
ISA				pmax	pmax	
	comp=Z,577nm,1.3s					
ISA	Isabella	85.97	45	eP	P	18 12 22.4 +1.3
	comp=Z,140nm,1.3s					
ISA	Isabella	85.97	45	⇑P	P	18 12 22.8 +1.7
	baz=86,SNR=358					
BBRC	Big Bear Solar	86.05	47	⇑P	P	18 12 23.1 +1.4
	baz=86					
LRMC	Laurel Mountai	86.33	46	⇓P	P	18 12 24.2 +1.3
	baz=87,SNR=73					
CMB	Columbia Colle	86.36	42	eP	P	18 12 23.9 +1.0
CMB				pmax	pmax	
	comp=Z,237nm,1.1s					
CMB	Columbia Colle	86.36	42	eP	P	18 12 23.9 +1.0
	comp=Z,237nm,1.1s					
SPIA	Saint Paul Isl	86.37	5	eP	P	18 12 25.9 +3.5
RRX	Edison Barstow	86.39	47	⇑P	P	18 12 24.7 +1.6
	baz=87,SNR=16					
KHMM	Horse Mountain	86.40	39	eP	P	18 12 25.0 +1.8
	comp=

OHCM	**Honcut**	86.60	41	eP	P	18 12 24.9	+1.0
BC3	**Big Chuckawall**	86.62	48	⇓P	P	18 12 26.4	+2.1
	baz=87						
GLA	**Glamis**	86.66	49	eP	P	18 12 26.6	+2.1
GLA				pmax	pmax		
	comp=Z,1μm,1.5s						
GLA	**Glamis**	86.66	49	eP	P	18 12 26.6	+2.1
	comp=Z,273nm,1.5s						
GLA	**Glamis**	86.66	49	⇑P	P	18 12 26.3	+1.8
	baz=87						
CHBT	**CHBT**	86.66	286	P	P	18 12 27.1	+2.3
	comp=Z,86nm,0.9s,comp=Z,1μm						
CWC	**Cottonwood Cre**	86.71	45	⇑P	P	18 12 25.9	+1.1
	baz=87,SNR=19						
KRMB	**Red Mountain**	86.75	38	eP	P	18 12 26.7	+1.9
	comp=Z,1μm,1.8s						
KRMB				ePP	PP	18 15 54.4	+2.7
GSC	**Goldstone**	86.78	46	eP	P	18 12 26.0	+0.9
GSC				e		18 15 53.7	
GSC				pmax	pmax		
	comp=Z,574nm,1.3s						
GSC	**Goldstone**	86.78	46	eP	P	18 12 26.0	+0.9
	comp=Z,138nm,1.3s						
GSC				ePP	PP	18 15 53.7	+1.6
GSC	**Goldstone**	86.78	46	⇑P	P	18 12 26.5	+1.5
	baz=87,SNR=88						
HEC	**Hector,Ludlow**	86.78	47	⇓P	P	18 12 26.5	+1.4
	baz=87,SNR=296						
MPMC	**Manual Prospec**	86.83	45	⇓P	P	18 12 26.8	+1.4
	baz=87,SNR=230						
SRIT	**Nakonsritamara**	86.89	282	P	P	18 12 28.0	+2.1
	comp=Z,352nm,0.8s						
CHGN	**Chignik**	86.94	11	eP	P	18 12 25.7	+0.6
MTUM	**Tungsten Hills**	87.01	44	eP	P	18 12 27.4	+1.2
MTUM				ePP	PP	18 15 55.3	+1.4
TIN	**Tinemaha**	87.02	44	⇓P	P	18 12 27.4	+1.2
	baz=87						
MLAC	**Mammoth Lakes**	87.02	43	⇓P	P	18 12 27.8	+1.5
	baz=87						
KRAB	**Krabi**	87.05	281	P	P	18 12 28.6	+1.9
	comp=Z,70nm,0.8s,comp=Z,584nm						
WHN	**Wuhan**	87.08	307	⇓P	P	18 12 25.1	-1.3
WHN				pP	pP	18 13 27.4	-2.0
WHN				SKS	SKSac	18 22 30.6	+2.3
WHN				S	S	18 22 45.7	+2.8
WHN				pmax	pmax		
	comp=Z,2μm,6.4s						
WHN				LR	LR		
	comp=N,2μm,16.6s						
WHN				LR	LR		
	comp=E,2μm,17.4s						
WHN				LR	LR		
	comp=Z,2μm,25.5s						
IRM	**Iron Mountain**	87.13	48	⇑P	P	18 12 28.8	+2.2
	baz=88,SNR=318						
GMRC	**Granite Mounta**	87.18	47	⇑P	P	18 12 28.7	+1.6
	baz=88,SNR=166						
113A	**Mohawk Valley,**	87.19	50	⇑P	P	18 12 28.6	+1.7
	baz=88						
WAKR	**Walker**	87.23	43	eP	P	18 12 28.6	+1.2
MDJ	**Mudanjiang**	87.26	326	P	P	18 12 28.0	+1.0
MDJ				pP	pP	18 13 30.1	+0.1
MDJ				sP	sP	18 13 57.6	+0.2
MDJ				PP	PP	18 15 56.3	+0.7
MDJ				S	S	18 22 46.1	+2.1
MDJ				sS	sS	18 24 37.3	+2.5
MDJ				SS	SS	18 28 38.3	+2.6
MDJ				pmax	pmax		
	comp=Z,160nm,1.4s						
MDJ				pmax	pmax		
	comp=Z,1μm,4.3s						
MDJ				LR	LR		
	comp=N,3μm,29.4s						
MDJ				LR	LR		
	comp=E,3μm,29.0s						
MDJ				LR	LR		
	comp=Z,820nm,24.1s						
MDJ	**Mudanjiang**	87.26	326	eP	P	18 12 26.9	-0.1
	comp=Z,320nm,1.4s						
Y12C	**Blythe**	87.28	49	⇓P	P	18 12 29.3	+1.9
	baz=88,SNR=58						
214A	**Organ Pipe Nat**	87.34	51	⇓P	P	18 12 29.6	+1.8
	baz=88						
TUQ	**Turquoise Moun**	87.42	47	⇑P	P	18 12 29.7	+1.5
	baz=88,SNR=99						
SKNT	**Sakolnakorn**	87.46	291	P	P	18 12 30.1	+1.5
	comp=Z,114nm,1.6s,comp=Z,2μm						
KEBM	**Edson Butte**	87.47	37	eP	P	18 12 30.5	+2.3
	comp=Z,673nm,1.2s						
KEBM				ePP	PP	18 15 59.8	+2.4
FURC	**Furnace Creek,**	87.48	45	⇑P	P	18 12 29.7	+1.4
	baz=88,SNR=38						
SHOC	**Shoshone**	87.49	46	⇓P	P	18 12 29.7	+1.3
	baz=88,SNR=65						
GRAC	**Grapevine Rang**	87.51	45	⇑P	P	18 12 29.8	+1.4
	baz=88						
YBH	**Yreka Blue Hor**	87.55	38	P	P	18 12 30.0	+1.5
YBH	**Yreka Blue Hor**	87.55	38	P	P	18 12 30.0	+1.5
	comp=Z,81nm,1.0s,baz=175,slow=3.0,SNR=150						
DL2	**Dalian**	87.61	318	⇓iP	P	18 12 28.9	+0.1
DL2				pP	pP	18 13 31.5	-0.3
DL2				sP	sP	18 13 54.6	-4.6
DL2				SKS	SKSac	18 22 27.0	-4.1
DL2				S	S	18 22 49.8	+2.2
DL2				pmax	pmax		
	comp=Z,260nm,1.4s						
DL2				pmax	pmax		
	comp=Z,990nm,5.6s						
HABR	**Khabarovsk**	87.68	331	c iP	P	18 12 30.2	+1.4
HABR				e*PP	pP	18 13 33.0	+1.1
HABR				*SP	sP	18 14 01.7	+2.4
HABR				e		18 15 57.5	
HABR				ePPP	PPP	18 17 54.5	
HABR				eS	SKSac	18 22 29.8	-1.2
HABR				e		18 22 52.5	
HABR				e*SS	sS	18 24 29.0	-10
HABR				eSS	SS	18 28 40.6	-1.0
HABR				SSS	SSS	18 32 17.3	
HABR				pmax	pmax		
	comp=Z,2μm,1.6s						
HABR				MLR	MLR		
	comp=Z,403nm,20.0s						
LTIM	**Timbered Crate**	87.84	39	P	P	18 12 31.2	+1.2
NVAR	**Mina Array Bea**	87.86	43	P	P	18 12 31.3	+1.0
NVAR				P'P'		18 38 27.4	
NVAR	**Mina Array Bea**	87.86	43	P	P	18 12 31.3	+1.0
	comp=Z,98nm,0.8s,baz=222,slow=8.5,SNR=532						
NVAR				PKPPKP	P'P'df	18 38 27.4	+5.8
	comp=Z,1.0nm,0.8s,baz=109,slow=2.2,SNR=6.1						
PDMCI	**Parker Dam,Lak**	87.87	48	⇓P	P	18 12 32.0	+1.8
	baz=88,SNR=96						
HUMO	**Hull Mountain**	88.02	38	eP	P	18 12 32.3	+1.7
	comp=Z,490nm,1.4s						
PAHR	**Pah Rah Range**	88.06	42	eP	P	18 12 32.1	+1.0
	comp=Z,228nm,1.2s						
Z14A	**Wintersburg**	88.09	50	⇑P	P	18 12 33.0	+1.8
	baz=88						
PAYG	**Puerto Ayora**	88.39	90	eP	P	18 12 32.7	-0.4
	comp=Z,139nm,1.6s						
Y14A	**Wickenburg**	88.40	49	⇑P	P	18 12 34.3	+1.5
	baz=89,SNR=134						
W13A	**Hualapai Mount**	88.53	48	P	P	18 12 35.3	+1.8
	baz=89						
CHAI	**Chaiyaphum**	88.55	289	P	P	18 12 34.2	+0.5
	comp=Z,28nm,0.8s,comp=Z,238nm						
SHPR	**Sheep Range**	88.57	46	eP	P	18 12 35.1	+1.5
SHPR				ePP	PP	18 16 07.3	+0.9
TIA	**Tai'an**	88.66	313	⇓P	P	18 12 35.2	+1.4
TIA				pP	pP	18 13 37.5	+0.5
TIA				sP	sP	18 14 00.0	-4.3
TIA				pmax	pmax		
	comp=Z,260nm,1.0s						
TIA				pmax	pmax		
	comp=Z,2μm,3.7s						
TIA				LR	LR		
	comp=N,1μm,20.5s						
TIA				LR	LR		
	comp=E,2μm,27.5s						
TIA				LR	LR		
	comp=Z,1μm,28.4s						
NONG	**Nongkai**	88.71	291	P	P	18 12 35.3	+0.9
	comp=Z,196nm,1.3s,comp=Z,3μm						
OHAK	**Old Harbor**	88.77	14	eP	P	18 12 34.4	+0.7
	comp=Z,707nm,1.5s						
CN2	**Changchun**	88.78	323	⇓P	P	18 12 34.7	+0.5
CN2				epP	pP	18 13 36.4	-1.0
CN2				eS	S	18 22 58.6	+0.2
CN2				sS	sS	18 24 47.1	-2.5
CN2				pmax	pmax		
	comp=Z,40nm,1.0s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,500nm,12.0s						
CN2				LR	LR		
	comp=E,300nm,12.0s						
CN2				LR	LR		
	comp=Z,500nm,16.0s						
TUC	**Tucson**	88.93	52	eP	P	18 12 37.2	+1.9
TUC				pmax	pmax		
	comp=Z,736nm,1.4s						
TUC	**Tucson**	88.93	52	eP	P	18 12 37.2	+1.9
	comp=Z,736nm,1.4s						
PHET	**Kaeng Krachan**	89.01	285	P	P	18 12 39.1	+3.2
	comp=Z,250nm,0.9s,comp=Z,3μm						
BSI	**Banda Aceh**	89.08	277	P	P	18 12 35.5	-0.8
COR	**Corvallis**	89.20	36	eP	P	18 12 38.1	+2.0
COR				e		18 16 11.9	
COR				pmax	pmax		
	comp=Z,622nm,1.4s						
COR	**Corvallis**	89.20	36	eP	P	18 12 38.1	+2.0
	comp=Z,103nm,1.4s						
COR				ePP	PP	18 16 11.9	+0.9
K05A	**Summer Lake**	89.21	39	P	P	18 12 38.0	+1.5
KDAK	**Kodiak Island**	89.43	14	P	P	18 12 37.8	+1.0
	comp=Z,704nm,1.4s,SNR=9.8						
KDAK	**Kodiak Island**	89.43	14	eP	P	18 12 37.8	+1.0
	comp=Z,292nm,1.4s						
319A	**Douglas**	89.44	53	⇑P	P	18 12 40.0	+2.3
	baz=90						
R11A	**Troy Canyon, C**	89.46	45	eP	P	18 12 38.5	+0.8
	comp=Z,753nm,1.4s						
R11A	**Troy Canyon, C**	89.46	45	⇑P	P	18 12 38.7	+1.0
	baz=90						
X16A	**Lo Mia Camp, P**	89.73	50	⇑P	P	18 12 41.2	+2.1
	baz=90,SNR=157						
BMN	**Battle Mountai**	89.79	42	eP	P	18 12 40.4	+1.2
BMN				pmax	pmax		
	comp=Z,504nm,1.4s						
BMN	**Battle Mountai**	89.79	42	eP	P	18 12 40.4	+1.2
	comp=Z,504nm,1.4s						
H04A	**Detroit Lake**	89.85	37	P	P	18 12 40.1	+1.0
320A	**Kipp Ranch, An**	89.94	54	⇓P	P	18 12 42.2	+2.1
	baz=90						
PINOR	**Pine Mountain**	89.95	38	eP	P	18 12 41.6	+2.0
	comp=Z,725nm,1.2s						
LOEI	**Loei**	89.96	290	P	P	18 12 40.6	+0.3
	comp=Z,92nm,0.7s						
F03A	**Seaside**	90.01	35	eP	P	18 12 41.6	+1.7
	comp=Z,676nm,1.4s						
F03A				ePP	PP	18 16 19.6	+2.1
LCO	**Las Campanas**	90.21	124	eP	P	18 12 42.1	+0.3
	comp=Z,128nm,1.3s						
220A	**Playas Peak, P**	90.27	53	⇓P	P	18 12 43.5	+1.9
	baz=91						
WVOR	**Wild Horse Val**	90.27	40	P	P	18 12 42.4	+1.1
WVOR	**Wild Horse Val**	90.27	40	P	P	18 12 42.4	+1.1
CCUT	**Cedar City**	90.35	46	eP	P	18 12 43.9	+1.9
	comp=Z,206nm,1.2s						
GYA	**Guiyang**	90.35	300	⇑iP	P	18 12 43.2	+1.1
GYA				pP	pP	18 13 46.8	+1.4
GYA				sP	sP	18 14 14.6	+1.9
GYA				PP	PP	18 16 23.8	+3.1
GYA				SKS	SKSac	18 22 47.0	-1.1
GYA				S	S	18 23 13.4	-0.5
GYA				sS	sS	18 25 03.2	-2.3
GYA				SS	SS	18 29 24.0	+2.6
GYA				pmax	pmax		
	comp=Z,40nm,1.0s						
GYA				pmax	pmax		
	comp=Z,2μm,6.9s						
GYA				LR	LR		
	comp=N,7μm,20.8s						
GYA				LR	LR		
	comp=E,4μm,22.2s						
GYA				LR	LR		
	comp=Z,6μm,21.5s						
ENH	**Enshi**	90.36	305	eP	P	18 12 43.0	+1.1
	comp=Z,133nm,1.3s						
ENH				ePKKPbc	PKKPbc	18 30 10.6	+1.1
U15A	**North Rim**	90.36	48	⇑P	P	18 12 43.7	+1.6
	baz=91,SNR=234						
WUAZ	**Wupatki**	90.42	49	eP	P	18 12 43.8	+1.5
	comp=Z,290nm,1.3s						
WUAZ	**Wupatki**	90.42	49	⇑P	P	18 12 44.0	+1.8
	baz=91,SNR=84						
E03A	**Lebam**	90.43	35	eP	P	18 12 43.6	+1.8
	comp=Z,547nm,1.3s						
UTHA	**Uthaitani**	90.49	287	P	P	18 12 45.7	+2.9
	comp=Z,11nm,1.4s,comp=Z,101nm						
120A	**U Bar Ranch, L**	90.56	53	⇑P	P	18 12 44.7	+1.8
	baz=91						
VFP	**Flag Point**	90.66	36	P	P	18 12 44.2	+1.1
CROR	**Criterion Ridg**	90.68	37	P	P	18 12 43.2	+0.1
LVP	**Lakeview Peak**	90.68	35	P	P	18 12 44.3	+1.2
TRQA	**Tornquist**	90.76	135	eP	P	18 12 44.2	+0.3
	comp=Z,109nm,1.5s						
TRQA				ePKKPbc	PKKPbc	18 30 09.4	+1.6
X18A	**Snowflake**	90.79	50	⇓P	P	18 12 45.8	+1.8
	baz=91,SNR=56						
FL2	**Flat Top 2**	90.80	35	P	P	18 12 45.0	+1.3
221A	**Mesquite Ranch**	90.85	53	⇓P	P	18 12 46.0	+1.8
	baz=91						
I07A	**Izee**	90.87	38	eP	P	18 12 45.3	+1.2
	comp=Z,326nm,1.1s						
NLWA	**Neilton Lookou**	90.87	34	eP	P	18 12 45.5	+1.6
NLWA				ePP	PP	18 16 25.1	+0.9
STD	**Studebaker Rid**	90.89	35	P	P	18 12 45.7	+1.6
Z20A	**Nine Sixteen R**	90.91	52	⇓P	P	18 12 46.6	+2.1
	baz=91,SNR=189						
J08A	**Circle Bar Ran**	90.96	39	eP	P	18 12 45.5	+1.1
	comp=Z,505nm,1.4s						
TDL	**Tradedollar La**	90.97	35	P	P	18 12 45.8	+1.3
NANT	**Nan**	91.08	291	P	P	18 12 48.5	+3.1
	comp=Z,45nm,1.5s						
121A	**Cookes Peak, D**	91.14	53	⇓P	P	18 12 47.5	+1.8
	baz=92						
ELK	**Elko**	91.16	43	eP	P	18 12 46.3	+0.7
	comp=Z,138nm,1.3s						
W18A	**Petrified Fore**	91.27	50	eP	P	18 12 47.7	+1.5
	comp=Z,14μm,1.4s						
W18A	**Petrified Fore**	91.27	50	⇑P	P	18 12 47.3	+1.1
	baz=92,SNR=11						
222A	**Williams Famil**	91.38	54	⇓P	P	18 12 48.2	+1.5
	baz=92						
LON	**Longmire**	91.45	35	eP	P	18 12 44.9	-1.7
LON				pmax	pmax		
	comp=Z,215nm,1.8s						
LON	**Longmire**	91.45	35	eP	P	18 12 44.9	-1.7
	comp=Z,215nm,1.8s						
Y20A	**Horse Springs,**	91.50	52	⇑P	P	18 12 49.4	+2.0
	baz=92,SNR=195						
WPW	**White Pass**	91.55	35	P	P	18 12 48.1	+1.0
BJT	**Baijiatuau**	91.58	316	eP	P	18 12 48.1	+0.8
	comp=Z,90nm,1.0s						
BJI	**Beijing**	91.59	316	P	P	18 12 47.9	+0.6
BJI				pP	pP	18 13 51.0	+0.4
BJI				sP	sP	18 14 16.0	-2.0
BJI				SKS	SKSac	18 22 50.9	-3.3
BJI				S	ScS	18 23 26.4	+0.1
BJI				sS	sS	18 25 17.6	+1.5
BJI				SS	SS	18 29 41.3	+2.9
BJI				pmax	pmax		
	comp=Z,100nm,1.2s						
BJI				pmax	pmax		
	comp=Z,890nm,10.6s						
PHC	**Port Hardy**	91.60	30	P	P	18 12 48.4	+1.4
MVU	**Marysvale**	91.65	46	eP	P	18 12 49.3	+1.3
	comp=Z,171nm,1.3s						
Z21A	**St. Cloud Mine**	91.65	52	⇓P	P	18 12 50.0	+2.0
	baz=92,SNR=33						
D05A	**Enumclaw**	91.66	35	P	P	18 12 49.0	+1.6
X20A	**Quemado**	91.78	51	⇓P	P	18 12 50.6	+1.9
	baz=92,SNR=173						
122A	**Conniff Cattle**	91.78	53	⇓P	P	18 12 50.3	+1.8
	baz=92,SNR=11						
TRW	**Toppenish Ridg**	91.79	36	P	P	18 12 49.5	+1.3
223A	**Chaparral, Ant**	91.80	54	⇑P	P	18 12 49.9	+1.2
	baz=92						
LAMP	**Lampang**	91.81	290	P	P	18 12 51.5	+2.6
	comp=Z,9.2nm,1.0s,comp=Z,86nm						
RSO	**Redoubt South**	91.88	13	eP	P	18 12 48.6	+0.2
PGC	**Sidney**	91.95	33	eP	P	18 12 50.1	+1.3
	comp=Z,376nm,1.8s						
G08A	**Pilot Rock**	91.96	38	P	P	18 12 50.1	+1.0
SVW2	**Sparrevohn**	91.97	11	eP	P	18 12 49.0	+0.5
	comp=Z,61nm,1.2s						
PAYA	**Payao**	92.03	291	P	P	18 12 52.6	+2.7
	comp=Z,5.6nm,1.3s,comp=Z,66nm						
Y21A	**Point of Rocks**	92.04	52	⇓P	P	18 12 51.7	+1.8
	baz=92,SNR=129						
W20A	**Ramah**	92.11	51	⇑P	P	18 12 51.9	+1.7
	baz=92,SNR=136						
Z22A	**Elephant Butte**	92.11	53	⇓P	P	18 12 51.6	+1.5
	baz=92,SNR=138						
626A	**Big Bend Ranch**	92.13	57	⇑P	P	18 12 51.1	+0.9
	baz=92,SNR=50						
324A	**Moseley Ranch,**	92.17	55	⇓P	P	18 12 51.0	+0.6
	baz=92,SNR=50						
425A	**Indio Mountain**	92.17	56	⇓P	P	18 12 51.4	+0.9
	baz=92,SNR=68						
X21A	**Alamocita Cree**	92.21	51	⇓P	P	18 12 52.2	+1.5
	baz=93,SNR=133						
123A	**Bell Site, Whi**	92.26	54	⇑P	P	18 12 52.2	+1.4
	baz=93						
DUG	**Dugway**	92.29	44	eP	P	18 12 51.6	+0.9
DUG				pmax	pmax		
	comp=Z,126nm,1.4s						
DUG	**Dugway**	92.29	44	eP	P	18 12 51.6	+0.9
	comp=Z,126nm,1.4s						
DUG	**Dugway**	92.29	44	⇑P	P	18 12 51.5	+0.7
	baz=93						
CM31	**Chiang Mai Arr**	92.34	290	eP	P	18 12 50.3	-1.0
	comp=Z,4.3nm,0.6s						
CMAR	**Chiang Mai Arr**	92.34	290	P	P	18 12 52.0	+0.7
CMAR				PKiKP	PKiKP	18 17 40.9	+1.7
CMAR				ScS	S	18 23 37.0	+5.1
CMAR				PKKPbc	PKKPbc	18 30 04.3	+0.4
CMAR	**Chiang Mai Arr**	92.34	290	P	P	18 12 52.0	+0.7
	comp=Z,9.7nm,1.1s,baz=116,slow=2.6,SNR=23						
CMAR				PKiKP	PKiKP	18 17 40.9	+1.7
	comp=Z,2.2nm,0.8s,baz=206,slow=1.6,SNR=8.2						
CMAR				ScS	S	18 23 37.0	+5.1
	comp=Z,1.3nm,1.1s,baz=118,slow=12,SNR=4.3						
CMAR				PKKPbc	PKKPbc	18 30 04.3	+0.4
	comp=Z,3.0nm,0.8s,baz=281,slow=4.0,SNR=13						
TXAR	**Lajitas Array**	92.35	58	P	P	18 12 52.1	+0.9
TXAR				PP	PP	18 16 37.5	+1.2
TXAR	**Lajitas Array**	92.35	58	P	P	18 12 52.1	+0.9
	comp=Z,20nm,1.0s,baz=211,slow=7.0,SNR=90						
TXAR				PP	PP	18 16 37.5	+1.2
	comp=Z,9.1nm,1.3s,baz=216,slow=6.2,SNR=3.6						
LTY	**Liberty**	92.37	35	eP	P	18 12 51.6	+0.8
	comp=Z,440nm,2.3s						
MNTX	**Cornudas Mount**	92.38	55	eP	P	18 12 51.5	+0.3
	comp=Z,114nm,1.2s						
BBB	**Bella Bella**	92.40	28	P	P	18 12 52.0	+1.4
BBB	**Bella Bella**	92.40	28	P	P	18 12 52.0	+1.4
	comp=Z,82nm,1.1s,baz=226,slow=7.4,SNR=36						
526A	**Mary Lane Ranc**	92.43	57	⇓P	P	18 12 52.4	+0.7
	baz=93,SNR=48						
MFID	**Camas Ranch**	92.48	41	⇓P	P	18 12 52.4	+0.9
	baz=93						
224A	**Cornudas Mount**	92.48	54	⇓P	P	18 12 52.9	+1.0
	baz=93,SNR=55						
Y22A	**Socorro**	92.49	52	⇑P	P	18 12 53.2	+1.3
	baz=93,SNR=25						
325A	**Bean Ranch, Si**	92.49	55	⇓P	P	18 12 52.3	+0.3
	baz=93,SNR=56						
V20A	**Brimhall**	92.51	50	⇓P	P	18 12 52.9	+0.9
	baz=93,SNR=24						
CHTO	**Chiang Mai**	92.52	290	eP	P	18 12 52.8	+0.7
CHTO				e*PP	pP	18 13 58.8	+3.3
CHTO				pmax	pmax		
	comp=Z,24nm,1.3s						
CHTO	**Chiang Mai**	92.52	290	P	P	18 12 53.7	+1.6
	SNR=5.3						
CHTO	**Chiang Mai**	92.52	290	eP	P	18 12 52.8	+0.7
	comp=Z,6.0nm,1.3s						
CHTO				epP	pP	18 13 58.8	+3.3
CHTO	**Chiang Mai**	92.52	290	P	P	18 12 53.1	+1.0
CHTO	**Chiang Mai**	92.52	290	P	P	18 12 54.5	+2.4
	comp=Z,18nm,1.3s						
Q16A	**Castle Valley**	92.55	46	eP	P	18 12 53.5	+1.4
Q16A	**Castle Valley**	92.55	46	⇓P	P	18 12 53.5	+1.4
	baz=93						
TIY	**Taiyuan**	92.56	312	eP	P	18 12 53.0	+1.0
TIY				pP	pP	18 13 56.1	+0.8
TIY				SKS	SKSac	18 23 00.7	+0.7
TIY				S	ScS	18 23 38.1	+3.4
TIY				pmax	pmax		
	comp=Z,83nm,0.9s						
TIY				pmax	pmax		
	comp=Z,540nm,6.6s						
BMO	**Blue Mountains**	92.57	39	eP	P	18 12 52.0	+0.1
	comp=Z,220nm,1.6s						
BGU	**Big Grassy Mou**	92.59	44	eP	P	18 12 53.0	+0.9
	comp=Z,331nm,1.4s						
NLU	**North Lily Min**	92.60	45	eP	P	18 12 53.6	+1.4
	comp=Z,117nm,1.4s						
Y22D	**IRIS PASSCAL I**	92.60	52	⇑P	P	18 12 53.8	+1.4
	baz=93						
LENM	**Lemitar**	92.61	52	eP	P	18 12 53.9	+1.4
627A	**Terlingua Ranc**	92.62	58	⇑P	P	18 12 53.3	+0.8
	baz=93,SNR=65						
Z23A	**Rita Site, Whi**	92.63	53	⇑P	P	18 12 53.7	+1.3
	baz=93,SNR=25						
LAZ	**Ladron**	92.63	52	eP	P	18 12 54.0	+1.5
	comp=Z,70nm,1.4s						
KMI	**Kunming**	92.66	297	P	P	18 12 53.8	+0.9
KMI				pP	pP	18 13 56.6	+0.3
KMI				sP	sP	18 14 27.1	+3.5
KMI				PP	PP	18 16 42.2	+3.3
KMI				SKS	SKSac	18 23 02.9	+1.5
KMI				S	S	18 23 33.2	-1.6
KMI				sS	sS	18 25 26.3	-0.7
KMI				SS	SS	18 29 55.4	+0.7
KMI				pmax	pmax		
	comp=Z,20nm,1.7s						
KMI				pmax	pmax		
	comp=Z,400nm,7.7s						
KMI				LR	LR		
	comp=N,390nm,21.2s						
KMI				LR	LR		
	comp=E,820nm,17.9s						
KMI				LR	LR		
	comp=Z,1μm,31.7s						
SPU	**Mount Spurr**	92.68	13	eP	P	18 12 51.2	-0.7
W21A	**San Fidel**	92.68	51	⇑P	P	18 12 54.7	+1.9
	baz=93						
TMUT	**Trail Mountain**	92.75	46	eP	P	18 12 54.8	+1.6
	comp=Z,107nm,0.8s						
ETW	**Entiat**	92.77	35	P	P	18 12 53.5	+0.7
X22A	**Bernardo**	92.78	52	⇑P	P	18 12 54.7	+1.6
	baz=93,SNR=27						
426A	**McDonald Obser**	92.80	56	⇑P	P	18 12 53.9	+0.4
	baz=93,SNR=46						
U20A	**Newcomb**	92.80	50	⇓P	P	18 12 54.2	+1.0
	baz=93						
527A	**Woodward Ranch**	92.82	57	⇑P	P	18 12 53.8	+0.3
	baz=93,SNR=42						
XAN	**Xi'an**	92.84	308	S	SKSac	18 23 00.5	-1.1
BNM	**Barren Site**	92.84	52	eP	P	18 12 54.3	+0.8
	comp=Z,190nm,1.7s		

SPUT	**South Promonto**	93.17	44	eP	P	18 12 55.7 +0.9
	comp=Z,248nm,1.2s					
326A	**Caldwell Ranch**	93.18	56	⇓P	P	18 12 55.1 +0.1
	baz=94,SNR=15					
E09A	**Wood Farm, Sta**	93.18	37	eP	P	18 12 55.0 +0.5
	comp=Z,142nm,1.3s					
W22A	**Albuquerque**	93.19	51	⇓P	P	18 12 56.4 +1.3
	baz=94					
CTU	**Camp Tracy**	93.23	45	eP	P	18 12 56.5 +1.3
	comp=Z,144nm,1.4s					
HVU	**Hansel Valley**	93.26	43	eP	P	18 12 56.4 +1.2
HVU				pmax	pmax	
	comp=Z,308nm,1.2s					
HVU	**Hansel Valley**	93.26	43	eP	P	18 12 56.4 +1.2
	comp=Z,255nm,1.2s					
Z24A	**Sheeppen Canyo**	93.27	53	⇑P	P	18 12 56.2 +0.6
	baz=94,SNR=36					
MVCO	**Mesa Verde**	93.29	49	eP	P	18 12 56.4 +0.9
	comp=Z,54nm,1.4s					
MVCO	**Mesa Verde**	93.29	49	⇓P	P	18 12 56.0 +0.4
	baz=94					
F10A	**Beach Ranch, E**	93.33	38	eP	P	18 12 55.5 +0.2
427A	**Hayter Ranch,**	93.35	56	⇑P	P	18 12 56.2 +0.4
	baz=94,SNR=47					
JLU	**Jordanelle**	93.36	45	eP	P	18 12 56.4 +0.5
	comp=Z,214nm,1.5s					
DAU	**Daniels Canyon**	93.37	45	eP	P	18 12 57.0 +1.0
DAU	**Daniels Canyon**	93.37	45	eP	P	18 12 57.0 +1.0
GDL2	**Guadalupe Moun**	93.38	55	eP	P	18 12 57.0 +1.0
GDL2				ePKKPbc	PKKPbc	18 30 04.7 +2.6
HLID	**Hailey**	93.38	41	eP	P	18 12 56.9 +1.1
	comp=Z,88nm,1.0s					
HLID	**Hailey**	93.38	41	⇓P	P	18 12 56.9 +1.1
	baz=94					
X23A	**Hourglass Bar**	93.38	52	⇑P	P	18 12 56.9 +0.8
	baz=94,SNR=22					
PV05	**Paradox Valley**	93.39	48	eP	P	18 12 57.8 +1.8
ANMO	**Albuquerque**	93.40	52	eP	P	18 12 56.5 +0.4
	comp=Z,110nm,1.4s					
ANMO				P	P	18 12 57.5 +1.4
ANMO	**Albuquerque**	93.40	52	P	P	18 12 57.5 +1.4
	comp=Z,22nm,1.0s,baz=224,slow=5.1,SNR=49					
U21A	**Nageezi**	93.41	50	⇑P	P	18 12 57.2 +1.1
	baz=94,SNR=110					
125A	**Gardner Draw,**	93.41	54	⇑P	P	18 12 56.9 +0.8
	baz=94,SNR=52					
528A	**Cox Ranch, San**	93.44	57	⇑P	P	18 12 56.6 +0.3
	baz=94,SNR=45					
226B	**Tecolote Peak,**	93.45	55	⇓P	P	18 12 56.9 +0.7
	baz=94,SNR=26					
SIT	**Sitka**	93.45	22	eP	P	18 12 57.2 +1.8
SIT				pmax	pmax	
	comp=Z,103nm,1.5s					
SIT	**Sitka**	93.45	22	eP	P	18 12 57.2 +1.8
	comp=Z,103nm,1.5s					
Y24A	**Capitan**	93.55	53	⇑P	P	18 12 57.8 +1.0
	baz=94,SNR=66					
327A	**Balmorhea Ranc**	93.56	56	⇑P	P	18 12 57.0 +0.3
	baz=94					
RAGM	**Ragged Mountai**	93.57	16	eP	P	18 12 58.9 +2.9
	comp=Z,162nm,1.4s					
PV09	**Paradox Valley**	93.61	47	eP	P	18 12 49.9 -7.2
V22A	**San Miguel Ran**	93.62	51	⇓P	P	18 12 57.7 +0.5
	baz=94,SNR=12					
PMR	**Palmer**	93.64	14	eP	P	18 12 56.4 +0.2
PMR				pmax	pmax	
	comp=Z,149nm,1.4s					
PMR	**Palmer**	93.64	14	eP	P	18 12 56.4 +0.2
	comp=Z,149nm,1.4s					
PV04	**Paradox Valley**	93.69	48	eP	P	18 12 58.2 +0.9
PV04				ePP	PP	18 16 46.8 +0.1
Z25A	**Roswell**	93.70	54	⇓P	P	18 12 58.2 +0.8
	baz=94,SNR=33					
W23A	**Werner Place,**	93.73	52	⇓P	P	18 12 58.3 +0.7
	baz=94,SNR=7.4					
S20A	**Disappointment**	93.73	48	⇓P	P	18 12 58.5 +0.9
	baz=94					
CLNB	**Carlsbad**	93.76	55	eP	P	18 12 58.2 +0.6
	comp=Z,10nm,1.2s					
PV01	**Paradox Valley**	93.76	48	eP	P	18 12 57.8 +0.1
	comp=Z,142nm,0.7s					
B08A	**Colville Reser**	93.77	35	eP	P	18 12 57.5 +0.2
	comp=Z,43nm,1.0s					
T21A	**Navajo Lake**	93.80	49	⇑P	P	18 12 58.9 +1.0
	baz=94					
428A	**Kincaid Ranch,**	93.81	57	⇓P	P	18 12 57.9 0.0
	baz=94,SNR=16					
529A	**Stev Forest Ra**	93.84	58	⇓P	P	18 12 58.2 +0.1
	baz=94					
126A	**Clayton Basin,**	93.86	55	⇑P	P	18 12 58.3 +0.2
	baz=94,SNR=18					
HWUT	**Hardware Ranch**	93.89	44	eP	P	18 12 58.2 0.0
	comp=Z,179nm,1.6s					
X24A	**Lazy VL Ranch,**	93.89	52	P	P	18 12 58.8 +0.5
	baz=94					
U22A	**Llaves**	93.92	50	⇑P	P	18 12 59.6 +1.2
	baz=94					
R20A	**Redvale**	93.92	48	⇓P	P	18 12 58.9 +0.5
	baz=94					
PV15	**Paradox Valley**	93.94	48	ePP	PP	18 16 48.9 +0.2
C09A	**Chrisman Ranch**	93.95	36	eP	P	18 12 57.2 -0.8
	comp=Z,101nm,1.3s					
DIV	**Divide**	93.96	15	eP	P	18 12 58.6 +0.8
	comp=Z,117nm,1.3s					
SML	**Sawmill**	94.00	14	eP	P	18 12 59.5 +1.6
SML				pmax	pmax	
	comp=Z,14nm,1.2s					
SML	**Sawmill**	94.00	14	eP	P	18 12 59.5 +1.6
	comp=Z,14nm,1.2s					
S21A	**Coal Bank Pass**	94.01	49	⇓P	P	18 12 60.0 +1.1
	baz=94					
V23A	**Ortiz Mt. (NFS**	94.02	51	⇓P	P	18 13 00.6 +1.6
	baz=94,SNR=17					
227A	**Bennet, Jal**	94.04	56	P	P	18 12 59.3 +0.3
	baz=94					
328A	**Wristen Ranch,**	94.06	56	⇓P	P	18 12 59.1 +0.1
	baz=94,SNR=13					
Y25A	**Mesa, Roswell**	94.07	53	⇓P	P	18 12 59.7 +0.6
	baz=94,SNR=66					
BMRM	**Bremner River**	94.09	16	eP	P	18 12 59.4 +1.0
	comp=Z,205nm,1.6s					
Z26A	**Caprock**	94.22	54	⇓P	P	18 13 00.1 +0.3
	baz=95,SNR=33					
PPLA	**Purkeypile**	94.24	12	eP	P	18 12 59.9 +0.8
	comp=Z,29nm,1.2s					
T22A	**Edith**	94.24	50	⇑P	P	18 13 00.7 +0.8
	baz=95,SNR=17					
W24A	**Lazy 6 Ranch,**	94.26	52	⇓P	P	18 13 00.6 +0.6
	baz=95,SNR=42					
429A	**Davenport Ranc**	94.34	57	⇑P	P	18 13 00.1 -0.2
	baz=95,SNR=70					
U23A	**El Rito**	94.34	51	⇑P	P	18 13 01.3 +0.9
	baz=95,SNR=5.2					
127A	**Arkansas Junct**	94.35	55	⇓P	P	18 13 00.4 0.0
	baz=95,SNR=19					
P19A	**Cripple Cowboy**	94.35	47	⇓P	P	18 13 01.0 +0.7
	baz=95					
M17A	**Scullys Gap (B**	94.35	44	⇑P	P	18 13 00.8 +0.5
	baz=95					
Q20A	**Ridgley Place,**	94.40	47	P	P	18 13 01.1 +0.6
	baz=95					
X25A	**Clemmons Ranch**	94.41	53	⇑P	P	18 13 00.9 +0.2
	baz=95,SNR=43					
530A	**J-C Ranch, Com**	94.50	58	⇓P	P	18 13 01.2 +0.1
	baz=95,SNR=19					
R21A	**Cimarron**	94.56	48	⇑P	P	18 13 02.4 +1.0
	baz=95,SNR=40					
228A	**UT Block 9, Go**	94.61	56	⇑P	P	18 13 01.5 0.0
	baz=95,SNR=10					
V24A	**Rampart Ranch,**	94.64	52	⇑P	P	18 13 02.6 +0.8
	baz=95,SNR=37					
O19A	**Miners Draw (B**	94.64	46	⇑P	P	18 13 02.3 +0.8
	baz=95					
P20A	**De Beque**	94.65	47	⇑P	P	18 13 02.4 +0.7
	baz=95,SNR=30					
SEY	**Seymchan**	94.68	347	d iP	P	18 13 01.0 +0.1
Y26A	**Elida**	94.68	54	⇑P	P	18 13 02.2 +0.3
	baz=95,SNR=12					
S22A	**4UR Ranch, Cre**	94.69	49	⇓P	P	18 13 02.9 +0.9
	baz=95,SNR=42					
631A	**Perdido Creek**	94.69	59	⇑P	P	18 13 02.2 +0.3
	baz=95,SNR=36					
329A	**Wagon Wheel Ra**	94.72	57	⇓P	P	18 13 02.5 +0.4
	baz=95,SNR=20					
CAST	**Castle Rocks**	94.74	12	eP	P	18 12 59.8 -1.4
	comp=Z,116nm,1.4s					
Z27A	**Tatum**	94.79	54	⇓P	P	18 13 02.4 0.0
	baz=95,SNR=22					
732A	**Laxson Ranch,**	94.80	60	⇓P	P	18 13 02.3 -0.1
	baz=95,SNR=17					
Q21A	**Lamborn Mesa,**	94.80	48	⇑P	P	18 13 03.4 +1.0
	baz=95					
T23A	**Casias Ranch,**	94.83	50	⇓P	P	18 13 03.5 +0.9
	baz=95,SNR=8.9					
NEW	**Newport**	94.84	36	eP	P	18 13 02.6 +0.5
	comp=Z,23nm,1.3s					
NEW				PP	PP	18 16 52.7 -2.5
NEW				ePP	PP	18 16 52.9 -2.3
NEW	**Newport**	94.84	36	P	P	18 13 02.6 +0.5
	comp=Z,5.4nm,0.5s,baz=227,slow=4.3,SNR=16					
NEW				PP	PP	18 16 52.7 -2.5
	comp=Z,11nm,1.1s,baz=220,slow=6.7,SNR=8.3					
NEW	**Newport**	94.84	36	⇓P	P	18 13 04.1 +1.9
	baz=95,SNR=12					
AHID	**Auburn Hatcher**	94.84	43	eP	P	18 13 03.2 +0.7
	comp=Z,258nm,1.4s					
TNA	**Tin City**	94.85	5	eP	P	18 13 02.4 +0.8
	comp=Z,237nm,1.2s					
CD2	**Chengdu**	94.86	303	⇑ iP	P	18 13 03.9 +1.2
CD2				pP	pP	18 14 08.1 +2.0
CD2				sP	sP	18 14 33.0 -0.4
CD2				PP	PP	18 16 54.9 -0.8
CD2				SKS	SKSac	18 23 13.4 +0.7
CD2				S	S	18 23 52.3 -1.1
CD2				sS	sS	18 25 44.5 -1.5
CD2				SS	SS	18 30 28.3 +2.8
CD2				pmax	pmax	
	comp=Z,50nm,1.5s					
CD2				pmax	pmax	
	comp=Z,520nm,7.1s					
430A	**Baggett Ranch,**	94.91	58	⇓P	P	18 13 02.4 -0.5
	baz=95,SNR=6.3					
HHC	**Hu-ho-hao-te**	94.91	314	eP	P	18 13 03.2 +0.5
HHC				pP	pP	18 14 05.2 -1.0
HHC				sP	sP	18 14 31.5 -2.0
HHC				PP	PP	18 16 58.4 +2.4
HHC				SKS	SKSac	18 23 12.7 +0.1
HHC				S	S	18 23 52.2 -1.3
HHC				sS	sS	18 25 41.9 -4.2
HHC				SS	SS	18 30 28.5 +2.6
HHC				pmax	pmax	
	comp=Z,38nm,1.0s					
HHC				pmax	pmax	
	comp=Z,980nm,5.6s					
HHC				LR	LR	
	comp=N,1μm,15.4s					
HHC				LR	LR	
	comp=E,1μm,16.6s					
HHC				LR	LR	
	comp=Z,3μm,14.3s					
W25A	**X Bar L Ranch,**	94.92	52	⇓P	P	18 13 03.6 +0.6
	baz=95,SNR=59					
128A	**Castleberry Fa**	94.94	55	⇓P	P	18 13 03.4 +0.4
	baz=95,SNR=31					
U24A	**Moreno Valley**	95.00	51	⇑P	P	18 13 04.6 +1.1
	baz=95					
L18A	**Fontenelle, Gr**	95.00	44	⇓P	P	18 13 03.6 +0.3
	baz=95					
R22A	**Saguache, Gunn**	95.00	49	⇓P	P	18 13 04.6 +1.1
	baz=95,SNR=20					
X26A	**CR and CF Fran**	95.02	53	⇓P	P	18 13 03.6 +0.2
	baz=95,SNR=18					
MCMT	**McKenzie Canyo**	95.04	41	eP	P	18 13 04.4 +1.0
	comp=Z,40nm,1.1s					
RRI2	**Red Ridge**	95.05	43	eP	P	18 13 04.3 +0.8
	comp=Z,264nm,1.6s					
229A	**Bryant Ranch,**	95.09	56	⇓P	P	18 13 03.5 -0.2
	baz=96,SNR=9.9					
TRF	**Thorofare Moun**	95.09	12	ePKPdf	P	18 12 56.5 -6.5
	comp=Z,106nm,1.2s					
531A	**Rocksprings**	95.10	58	⇑P	P	18 13 04.2 +0.4
	baz=95,SNR=37					
O20A	**White River Ci**	95.10	47	eP	P	18 13 04.0 +0.3
	comp=Z,81nm,1.2s					
O20A	**White River Ci**	95.10	47	⇓P	P	18 13 04.0 +0.3
	baz=96,SNR=11					
LVC	**Limon Verde**	95.12	119	eP	P	18 13 04.6 +0.2
	comp=Z,94nm,1.6s					
LVC				ePKKPbc	PKKPbc	18 30 00.3 +3.7
Y27A	**Causey**	95.12	54	⇑P	P	18 13 03.9 0.0
	baz=96,SNR=27					
S23A	**Nye Farm, Mont**	95.22	50	⇓P	P	18 13 04.9 +0.5
	baz=96					
Q22A	**Crested Butte,**	95.25	48	⇑P	P	18 13 05.3 +0.7
	baz=96,SNR=32					
I16A	**Newdale**	95.27	42	⇑P	P	18 13 05.6 +1.3
	baz=96,SNR=20					
P21A	**Newcastle**	95.27	47	⇑P	P	18 13 04.9 +0.3
	baz=96					
330A	**Mertzon**	95.27	57	⇓P	P	18 13 04.1 -0.5
	baz=96,SNR=8.1					
T24B	**San Luis**	95.28	50	⇑P	P	18 13 05.8 +1.0
	baz=96,SNR=14					
M19A	**Rock Springs**	95.30	45	⇑P	P	18 13 04.6 0.0
	baz=96,SNR=10.0					
431A	**Sonora**	95.32	58	⇓P	P	18 13 04.6 -0.2
	baz=96					
632A	**Uvalde**	95.33	59	⇓P	P	18 13 04.9 0.0
	baz=96,SNR=18					
W26A	**Owens Ranch, T**	95.33	53	⇓P	P	18 13 04.9 +0.1
	baz=96,SNR=12					
REDW	**Red Top Meadow**	95.34	43	eP	P	18 13 05.8 +1.0
	comp=Z,239nm,1.4s					
HIA	**Hailar**	95.36	325	eP	P	18 13 03.7 -0.7
	comp=Z,70nm,1.5s					
TPAW	**Teton Pass**	95.36	43	eP	P	18 13 05.8 +0.9
	comp=Z,168nm,1.5s					
Z28A	**Tucker Farm, M**	95.36	55	⇓P	P	18 13 05.0 0.0
	baz=96,SNR=14					
SKAG	**Skagway**	95.38	21	eP	P	18 13 06.2 +2.0
	comp=Z,83nm,1.6s					
SMCO	**Snowmass**	95.38	48	eP	P	18 13 06.4 +1.1
	comp=Z,59nm,1.0s					
SMCO				ePP	PP	18 17 00.9 +0.9
SMCO				ePKKPbc	PKKPdf	18 29 57.8 0.0
129A	**Stewart Farms,**	95.40	56	⇓P	P	18 13 05.1 0.0
	baz=96,SNR=14					
MSTX	**Muleshoe**	95.44	54	eP	P	18 13 06.1 +0.8
	comp=Z,5μm,1.4s					
MSTX				ePP	PP	18 17 03.8 +3.5
MSTX	**Muleshoe**	95.44	54	⇑P	P	18 13 05.4 0.0
	baz=96,SNR=15					
SNOW	**Snow King Moun**	95.46	43	eP	P	18 13 06.9 +1.6
	comp=Z,244nm,1.5s					
N20A	**Spence Gulch,**	95.48	46	⇓P	P	18 13 06.0 +0.5
	baz=96,SNR=56					
DLMT	**Dillon**	95.50	40	eP	P	18 13 06.7 +1.3
	comp=Z,93nm,1.3s					
L19A	**Farson**	95.52	44	⇑P	P	18 13 06.3 +0.7
	baz=96,SNR=26					
532A	**Rocksprings**	95.56	59	⇓P	P	18 13 06.1 +0.3
	baz=96,SNR=46					
BPAW	**Bear Paw Mtn.**	95.56	12	eP	P	18 13 04.2 -0.7
	comp=Z,54nm,1.5s					
230A	**Sterling City**	95.56	57	⇓P	P	18 13 05.6 -0.2
	baz=96,SNR=7.6					
X27A	**F and S Farms,**	95.57	53	⇑P	P	18 13 06.2 +0.3
	baz=96					
SDCO	**Great Sand Dun**	95.57	50	eP	P	18 13 06.2 +0.1
	comp=Z,48nm,1.4s					
U25A	**Circle Dot Ran**	95.59	51	⇑P	P	18 13 06.4 +0.3
	baz=96,SNR=30					
R23A	**Moffat**	95.59	49	⇑P	P	18 13 06.6 +0.5
	baz=96,SNR=17					
IMW	**Indian Meadow**	95.60	42	eP	P	18 13 07.0 +1.0
	comp=Z,231nm,1.7s					
MCK	**McKinley**	95.61	13	eP	P	18 13 05.5 +0.3
MCK				e		18 16 58.5
MCK				pmax	pmax	
	comp=Z,98nm,1.2s					
MCK	**McKinley**	95.61	13	eP	P	18 13 05.5 +0.3
	comp=Z,98nm,1.2s					
MCK				ePP	PP	18 16 58.5 -2.3
MOOW	**Moose Ponds**	95.63	42	eP	P	18 13 06.8 +0.8
	comp=Z,125nm,1.5s					
LOHW	**Long Hollow**	95.63	43	eP	P	18 13 06.8 +0.7
	comp=Z,218nm,1.8s					
O21A	**Pagoda**	95.64	47	⇑P	P	18 13 06.4 +0.2
	baz=96					
MSO	**Missoula**	95.64	39	eP	P	18 13 06.1 +0.2
	comp=Z,8.0nm,0.8s					
MSO				ePP	PP	18 16 57.5 -4.0
MSO	**Missoula**	95.64	39	⇓P	P	18 13 05.7 -0.2
	baz=96					
PAX	**Paxson**	95.65	15	eP	P	18 13 07.5 +2.0
PAX				pmax	pmax	
	comp=Z,69nm,1.4s					
PAX	**Paxson**	95.65	15	eP	P	18 13 07.5 +2.0
	comp=Z,69nm,1.4s					
V26A	**Tequesquite Ra**	95.69	52	⇓P	P	18 13 06.8 +0.4
	baz=96,SNR=16					
S24A	**Houchin Ranch,**	95.71	50	⇓P	P	18 13 07.7 +1.0
	baz=96,SNR=26					
BTO	**Baotou**	95.74	314	eP	P	18 13 07.1 +0.6
P22A	**Eagle**	95.75	48	⇑P	P	18 13 07.0 +0.3
	baz=96,SNR=6.2					
331A	**San Angelo**	95.77	57	⇓P	P	18 13 06.3 -0.5
	baz=96					
BW06	**Boulder Array**	95.77	44	eP	P	18 13 04.6 -2.2
	comp=Z,47nm,1.1s					
PDAR	**Pinedale Array**	95.77	44	P	P	18 13 07.0 +0.2
PDAR				PP	PP	18 17 02.8 0.0
PDAR				PKKPbc	PKKPdf	18 29 56.9 -0.2
PDAR	**Pinedale Array**	95.77	44	P	P	18 13 07.0 +0.2
	comp=Z,13nm,0.8s,baz=199,slow=3.3,SNR=79					
PDAR				PP	PP	18 17 02.8 0.0
	comp=Z,4.4nm,1.0s,baz=243,slow=6.0,SNR=4.0					
PDAR				PKKPbc	PKKPdf	18 29 56.9 -0.2
	comp=Z,2.0nm,0.7s,baz=76,slow=3.8,SNR=9.6					
Y28A	**McKinney Farm,**	95.78	54	⇑P	P	18 13 06.7 -0.1
	baz=96					
BSMT	**Bassoo Peak**	95.81	37	eP	P	18 13 07.0 +0.2
W27A	**Bowe Ranch, En**	95.81	53	⇓P	P	18 13 06.8 -0.2
	baz=96,SNR=15					
JCT	**Junction City**	95.81	58	eP	P	18 13 07.3 +0.3
JCT				pmax	pmax	
	comp=Z,70nm,1.4s					
JCT	**Junction City**	95.81	58	eP	P	18 13 07.3 +0.3
	comp=Z,70nm,1.4s					
JCT	**Junction City**	95.81	58	⇑P	P	18 13 06.8 -0.2
	baz=96					
I17A	**Pilgrim Ck.**	95.83	42	⇓P	P	18 13 08.1 +1.1
	baz=96,SNR=23					
HYT	**Haines Junctio**	95.84	19	eP	P	18 13 06.8 +0.4
HYT				ePP	PP	18 17 02.8 +0.2
Z29A	**Hungry Hill Ra**	95.84	55	⇑P	P	18 13 07.1 0.0
	baz=96,SNR=26					
FLWY	**Flagg Ranch**	95.85	42	eP	P	18 13 08.8 +1.7
	comp=Z,177nm,1.4s					
QLMT	**Earthquake Lak**	95.86	41	eP	P	18 13 08.5 +1.4
QLMT				ePP	PP	18 17 02.9 -0.5
LRM	**Limekiln Ridge**	95.86	40	eP	P	18 13 08.1 +1.0
LRM				ePP	PP	18 17 02.4 -1.0
H16A	**Russell Place,**	95.89	42	⇓P	P	18 13 08.4 +1.2
	baz=96,SNR=51					
M20A	**Sweetwater, Wa**	95.89	45	⇑P	P	18 13 07.8 +0.4
	baz=96,SNR=16					
N21A	**Black Mountain**	95.91	46	⇑P	P	18 13 08.2 +0.7
	baz=96,SNR=47					
Q23A	**Hartsel**	95.98	49	⇓P	P	18 13 08.3 +0.4
	baz=96,SNR=13					
T25A	**Trinidad**	95.98	51	⇓P	P	18 13 07.8 0.0
	baz=96,SNR=13					
JTMT	**Jette**	96.01	38	eP	P	18 13 08.9 +1.3
432A	**Menard**	96.02	58	⇑P	P	18 13 07.9 -0.1
	baz=96,SNR=12					
SWMT	**Swartz Lake**	96.02	38	eP	P	18 13 09.3 +1.7
130A	**Snyder**	96.03	56	⇑P	P	18 13 08.0 +0.1
	baz=96					
YMR	**Madison River**	96.03	42	eP	P	18 13 09.6 +1.7
	comp=Z,234nm,1.5s					
U26A	**Atchley Ranch,**	96.04	52	⇑P	P	18 13 08.0 -0.1
	baz=96,SNR=14					
CHMT	**Chamberlain Mo**	96.07	39	eP	P	18 13 08.1 +0.1
CHMT				ePP	PP	18 17 01.6 -3.3
L20A	**Wamsutter**	96.09	45	⇓P	P	18 13 08.8 +0.6
	baz=96,SNR=10					
R24A	**Sanders Place,**	96.09	49	⇓P	P	18 13 08.7 +0.4
	baz=96,SNR=13					
H17A	**Grant Village**	96.10	42	eP	P	18 13 10.6 +2.3
	comp=Z,82nm,1.4s					
BLMT	**Blacktail Moun**	96.13	38	eP	P	18 13 07.8 -0.4
	comp=Z,4.0nm,0.5s					
SLMT	**Seeley Lake**	96.13	39	eP	P	18 13 08.2 0.0
X28A	**Dimmitt**	96.14	54	⇓P	P	18 13 08.7 +0.3
	baz=96					
I18A	**Diamond G Ranc**	96.15	43	⇓P	P	18 13 08.9 +0.4
	baz=97,SNR=12					
231A	**Bronte**	96.17	57	⇓P	P	18 13 08.2 -0.3
	baz=96,SNR=9.4					
Y29A	**Porterfield Fa**	96.17	55	⇓P	P	18 13 08.8 +0.2
	baz=96,SNR=10					
O22A	**Kremmling**	96.20	47	⇓P	P	18 13 08.9 +0.1
	baz=97,SNR=34					
BOZ	**Bozeman (W)**	96.22	41	eP	P	18 13 08.6 0.0
BOZ				pmax	pmax	
	comp=Z,59nm,1.2s					
BOZ	**Bozeman (W)**	96.22	41	eP	P	18 13 08.6 0.0
	comp=Z,66nm,1.2s					
YNR	**Norris Junctio**	96.23	42	eP	P	18 13 12.5 +3.7
P23A	**Jefferson**	96.23	48	⇓P	P	18 13 10.0 +1.0
	baz=97,SNR=9.0					
K19A	**Absolon Red Bu**	96.24	44	⇑P	P	18 13 08.8 -0.1
	baz=97,SNR=18					
S25A	**Robets Cordova**	96.24	50	⇓P	P	18 13 09.0 0.0
	baz=97,SNR=23					
Z30A	**Sanderson Ranc**	96.27	55	⇓P	P	18 13 08.7 -0.3
	baz=97,SNR=21					
LKWY	**Lake**	96.30	42	eP	P	18 13 11.9 +2.7
LKWY				pmax	pmax	
	comp=Z,121nm,1.6s					
LKWY	**Lake**	96.30	42	eP	P	18 13 11.9 +2.7
	comp=Z,121nm,1.6s					
332A	**Millersview**	96.31	58	⇑P	P	18 13 09.0 -0.3
	baz=97,SNR=10					
DLBC	**Dease Lake**	96.32	23	P	P	18 13 08.8 +0.1
DLBC				PP	PP	18 17 04.9 -1.5
DLBC	**Dease Lake**	96.32	23	P	P	18 13 08.8 +0.1
	comp=Z,9.2nm,0.9s,baz=238,slow=6.2,SNR=18					
DLBC				PP	PP	18 17 04.9 -1.5
	comp=Z,8.0nm,1.2s,baz=197,slow=7.3,SNR=5.5					
V27A	**Dan Oppiter Fa**	96.33	53	⇑P	P	18 13 09.7 +0.3
	baz=97					
J19A	**Crowheart**	96.36	44	⇑P	P	18 13 09.9 +0.6
	baz=97,SNR=27					
X29A	**Tulia**	96.45	54	⇓P	P	18 13 10.1 +0.3
	baz=97,SNR=6.0					
K20A	**Yellowstone Ra**	96.45	44	⇑P	P	18 13 09.8 +0.1
	baz=97,SNR=34					
Q24A	**Divide**	96.46	49	⇓P	P	18 13 10.3 +0.2
	baz=97,SNR=12					
M21A	**Separation Pea**	96.47	46	⇓P	P	18 13 09.9 -0.1
	baz=97,SNR=32					
131A	**Roby**	96.49	56	⇓P	P	18 13 10.1 +0.1
	baz=97					
W28A	**Vega**	96.51	53	⇓P	P	18 13 10.4 +0.3
	baz=97					
G17A	**Pierce Place,**	96.54	41	⇓P	P	18 13 11.2 +1.2
	baz=97,SNR=9.2					
T26A	**Comanche

I19A	Meeteetse	96.83	43	⇓P		P	18 13 12.3 +0.8
	baz=97,SNR=32						
W29A	Amraillo	96.83	54	⇓P		P	18 13 12.2 +0.6
	baz=97						
M22A	Cedar Creek Ra	96.84	46	⇑P		P	18 13 12.0 +0.3
	baz=97,SNR=7.4						
COLA	College	96.84	13	eP		P	18 13 10.4 -0.3
COLA				pmax	pmax		
	comp=Z,175nm,1.5s						
COLA	College	96.84	13	ePKPdf		P	18 13 10.3 -0.3
	comp=Z,47nm,1.5s						
S26A	Kim	96.87	51	P		P	18 13 12.4 +0.7
	baz=97						
P24A	Kohler Place,	96.91	48	⇑P		P	18 13 12.2 +0.2
	baz=97						
F17A	Fitzpatrick Pl	96.92	41	⇑P		P	18 13 12.7 +0.9
	baz=97,SNR=15						
IMA2	Indian Mountai	96.93	10	ePKPdf		P	18 13 09.9 -1.3
IMA2				ePP		PP	18 17 03.4 -7.5
ILAR	Eielson Array	96.94	13	P		P	18 13 10.8 -0.5
ILAR				PP		PP	18 17 08.7 -2.2
ILAR				PKKPbc		PKKPbc	18 29 51.7 -2.3
ILAR	Eielson Array	96.94	13	P		P	18 13 10.8 -0.5
	comp=Z,20nm,1.0s,baz=226,slow=5.1,SNR=36						
ILAR				PP		PP	18 17 08.7 -2.2
	comp=Z,9.3nm,1.0s,baz=229,slow=7.3,SNR=5.0						
ILAR				PKKPbc		PKKPbc	18 29 51.7 -2.3
	comp=Z,1.1nm,0.6s,baz=18,slow=2.7,SNR=6.4						
N23A	Red Feather La	96.98	47	⇓P		P	18 13 13.1 +0.7
	baz=97,SNR=12						
Z31A	Sharp Cattle R	96.99	56	⇑P		P	18 13 12.3 +0.1
	baz=97,SNR=11						
J20A	Shoshoni	97.00	44	⇑P		P	18 13 13.0 +0.8
	baz=97,SNR=38						
WALA	Waterton Lakes	97.00	37	eP		Pdif	18 13 12.4 +0.3
	comp=Z,79nm,1.4s						
ABTX	Abilene, Hawle	97.01	57	eP		Pdif	18 13 12.7 +0.3
	comp=Z,104nm,1.5s						
ABTX	Abilene, Hawle	97.01	57	⇓P		P	18 13 12.4 0.0
	baz=97						
Q25A	Bedland, Calha	97.03	49	⇑P		Pdif	18 13 12.7 +0.1
	baz=97						
X30A	Coker Ranch, T	97.04	55	⇓P		Pdif	18 13 12.7 +0.2
	baz=97						
U28A	Mallet	97.08	52	⇑P		P	18 13 12.4 -0.3
	baz=98						
T27A	Campo	97.09	51	⇓P		Pdif	18 13 13.1 +0.3
	baz=98						
K21A	Alcova	97.11	45	⇑P		Pdif	18 13 13.0 +0.1
	baz=98,SNR=49						
O24A	Longmont	97.13	48	⇑P		Pdif	18 13 13.5 +0.6
	baz=98						
E17A	Martinsdale	97.13	40	⇑P		Pdif	18 13 13.4 +0.6
	baz=98						
H19A	Powell	97.19	42	⇓P		Pdif	18 13 13.9 +0.9
	baz=98,SNR=11						
G18A	Lazy EL Ranch,	97.22	42	⇓P		Pdif	18 13 14.2 +1.0
	baz=98,SNR=12						
Y31A	Rekieta Farm,	97.23	55	⇓P		Pdif	18 13 13.7 +0.3
	baz=98,SNR=11						
R26A	Arlington	97.24	50	⇓P		Pdif	18 13 13.8 +0.4
	baz=98,SNR=13						
RLMT	Red Lodge	97.28	42	eP		Pdif	18 13 14.6 +1.0
	comp=Z,69nm,1.6s						
L22A	Ellis Ranch, M	97.29	46	⇑Pdiff		Pdif	18 13 14.6 +1.0
	baz=98						
S27A	Las Animas	97.29	51	⇓P		P	18 13 13.6 0.0
	baz=98						
I20A	Worland	97.30	43	⇑Pdiff		Pdif	18 13 14.5 +1.0
	baz=98						
V29A	Stinnett	97.31	53	⇑P		Pdif	18 13 13.7 0.0
	baz=98						
J21A	Lysite	97.38	44	⇓Pdiff		Pdif	18 13 14.7 +0.7
	baz=98						
P25A	Willow Gulch B	97.39	49	⇑Pdiff		Pdif	18 13 14.7 +0.5
	baz=98						
GCMT	Greycliff	97.43	41	eP		Pdif	18 13 15.9 +1.8
	comp=Z,63nm,1.7s						
M23A	Laramie	97.43	46	⇓Pdiff		Pdif	18 13 15.0 +0.6
	baz=98						
LZH	Lanzhou	97.45	307	⇓P		Pdif	18 13 15.5 +1.0
LZH				pP		pP	18 14 18.3 +0.3
LZH				sP		sP	18 14 45.2 -0.1
LZH				PP		PP	18 17 15.0 -0.7
LZH				SKS		SKSac	18 23 27.1 +0.9
LZH				S		ScS	18 24 16.5 +0.7
LZH				SS		SS	18 31 04.7 +2.7
LZH				pmax	pmax		
	comp=Z,39nm,1.2s						
LZH				pmax	pmax		
	comp=Z,390nm,7.2s						
LZH				LR	LR		
	comp=N,370nm,14.0s						
LZH				LR	LR		
	comp=E,400nm,15.1s						
LZH				LR	LR		
	comp=Z,530nm,19.8s						
F18A	Big Timber	97.46	41	⇓Pdiff		Pdif	18 13 14.7 +0.5
	baz=98						
Z32A	Haskell	97.47	56	⇑Pdiff		Pdif	18 13 14.7 +0.3
	baz=98						
PHWY	Pilot Hill	97.51	47	eP		Pdif	18 13 15.5 +0.7
	comp=Z,24nm,1.2s						
PHWY				ePP		PP	18 17 14.3 -1.8
Q26A	Hugo	97.52	50	⇓Pdiff		Pdif	18 13 14.7 0.0
	baz=98						
T28A	Walsh	97.53	52	⇓Pdiff		P	18 13 14.7 0.0
	baz=98						
K22A	Casper	97.57	45	⇑Pdiff		Pdif	18 13 15.1 +0.3
	baz=98						
W30A	Crocket Farms	97.62	54	⇑Pdiff		P	18 13 14.9 -0.1
	baz=98						
N24A	Carr	97.62	47	⇓Pdiff		Pdif	18 13 15.8 +0.7
	baz=98						
D17A	Six Diamond Ra	97.63	40	⇑Pdiff		Pdif	18 13 15.4 +0.4
	baz=98						
R27A	Eads	97.67	50	⇑Pdiff		Pdif	18 13 15.5 +0.2
	baz=98						
H20A	Greybull	97.67	43	⇓Pdiff		Pdif	18 13 15.3 +0.1
	baz=98						
E18A	Harlowton	97.73	41	⇑Pdiff		Pdif	18 13 16.5 +1.1
	baz=98						
I21A	Big Trails, Te	97.73	44	⇑Pdiff		Pdif	18 13 15.6 +0.1
	baz=98						
O25A	Wiggins	97.74	48	⇑Pdiff		Pdif	18 13 15.6 0.0
	baz=98						
X31A	McDonald Ranch	97.77	55	⇑Pdiff		P	18 13 15.7 0.0
	baz=98						
U29A	Oasis Ranch, S	97.78	53	⇓Pdiff		Pdif	18 13 15.8 +0.1
	baz=98						
L23A	Garrett	97.79	46	⇑Pdiff		Pdif	18 13 16.4 +0.5
	baz=98						
V30A	Spur Ranch, Mi	97.83	53	⇑Pdiff		Pdif	18 13 16.2 +0.1
	baz=98						
Y32A	R-V Farms, Ver	97.84	56	⇓Pdiff		P	18 13 15.7 -0.3
	baz=98						
C17A	Wharram Farm,	97.86	39	⇑Pdiff		Pdif	18 13 16.5 +0.7
	baz=98						
F19A	Roth Farm, Mol	97.88	41	⇓Pdiff		Pdif	18 13 16.7 +0.6
	baz=98						
S28A	Manter	97.92	51	⇑Pdiff		Pdif	18 13 16.8 +0.4
	baz=98						
G20A	Bridger	97.95	42	⇑Pdiff		Pdif	18 13 16.9 +0.5
	baz=98						
P26A	Davis Ranch, A	97.96	49	⇓Pdiff		Pdif	18 13 16.8 +0.2
	baz=98						
M24A	Cheyenne	98.00	47	⇓Pdiff		Pdif	18 13 17.1 +0.3
	baz=98						
J22A	Midwest	98.01	45	⇑Pdiff		Pdif	18 13 17.1 +0.4
	baz=98						
DAWY	Dawson	98.01	16	eP		Pdif	18 13 17.0 +0.9
	comp=Z,56nm,1.4s						
W31A	Holland Ranch,	98.07	54	⇑Pdiff		Pdif	18 13 17.3 +0.2
	baz=98						
T29A	Hugoton	98.11	52	⇑Pdiff		P	18 13 17.2 0.0
	baz=98						
N25A	Grover	98.13	48	⇓Pdiff		P	18 13 17.1 -0.2
	baz=98						
D18A	Linhart Farms,	98.15	40	⇓Pdiff		Pdif	18 13 18.0 +0.8
	baz=99						
KSCO	Kaye Shedlock'	98.16	50	eP		Pdif	18 13 18.5 +1.0
	comp=Z,10nm,0.5s						
KSCO	Kaye Shedlock'	98.16	50	⇑Pdiff		Pdif	18 13 18.1 +0.7
	baz=98						
K23A	Bowen Ranch, D	98.18	45	⇓Pdiff		Pdif	18 13 17.7 +0.2
	baz=99						
EGAK	Eagle	98.18	15	eP		Pdif	18 13 17.8 +1.0
	comp=Z,74nm,1.4s						
EGAK				ePP		PP	18 17 18.2 -2.1
B17A	L&G Farms, Che	98.22	39	⇓Pdiff		Pdif	18 13 17.9 +0.5
	baz=99						
L24A	Wheatland	98.24	46	⇑Pdiff		Pdif	18 13 18.4 +0.6
	baz=99						
U30A	WK&E Inc. Balk	98.25	53	⇓Pdiff		P	18 13 17.8 -0.1
	baz=99						
I22A	9 Mile Ranch,	98.26	44	⇑Pdiff		P	18 13 18.2 +0.4
	baz=99						
JTS	JuntasAbangare	98.28	83	eP		Pdif	18 13 22.1 +3.6
	comp=Z,137nm,1.2s						
WHTX	Lake Whitney	98.30	58	⇓Pdiff		Pdif	18 13 17.3 -0.8
	baz=99						
E19A	Rath Farm, Rou	98.31	41	⇓Pdiff		P	18 13 18.8 +0.9
	baz=99						
F20A	Billings	98.31	42	⇑Pdiff		P	18 13 18.6 +0.6
	baz=99						
H21A	Big Horn, Sher	98.32	43	⇓Pdiff		P	18 13 18.8 +0.7
	baz=99						
O26A	Horse Wrangler	98.34	49	⇓Pdiff		Pdif	18 13 18.3 0.0
	baz=99						
R28A	Tribune	98.36	51	⇑Pdiff		P	18 13 18.8 +0.4
	baz=99						
V31A	Spring Creek L	98.43	54	⇓Pdiff		Pdif	18 13 18.4 -0.2
	baz=99						
P27A	Ficken Ranch,	98.47	49	⇑Pdiff		P	18 13 19.2 +0.3
	baz=99						
S29A	Ulysses	98.47	52	⇑Pdiff		P	18 13 19.3 +0.5
	baz=99						
M25A	Palm-Egli Farm	98.48	47	⇑Pdiff		P	18 13 19.3 +0.4
	baz=99						
HKT	Hockley	98.54	61	eP		P	18 13 19.4 +0.3
HKT				e			18 17 27.9
HKT				pmax	pmax		
	comp=Z,39nm,1.6s						
HKT	Hockley	98.54	61	eP		P	18 13 19.4 +0.3
	comp=Z,39nm,1.6s						
HKT				ePP		PP	18 17 27.9 +4.1
COLD	Coldfoot	98.55	11	eP		P	18 13 19.6 +1.2
	comp=Z,24nm,1.1s						
COLD				ePP		PP	18 17 24.3 +1.2
G21A	Lodge Grass	98.55	43	⇓Pdiff		P	18 13 19.2 +0.2
	baz=99						
J23A	Dilts Ranch, B	98.57	45	⇓Pdiff		P	18 13 19.6 +0.3
	baz=99						
T30A	Plains	98.59	52	⇑Pdiff		Pdif	18 13 19.0 -0.4
	baz=99						
EGMT	Eagleton	98.64	39	eP		P	18 13 20.3 +1.0
	comp=Z,66nm,1.5s						
EGMT	Eagleton	98.64	39	⇓Pdiff		P	18 13 20.1 +0.8
	baz=99						
D19A	Cripps Ranch,	98.65	40	⇓Pdiff		P	18 13 20.1 +0.7
	baz=99						
K24A	Anderson Ranch	98.67	46	⇑Pdiff		P	18 13 20.2 +0.5
	baz=99						
WMOK	Wichita Mounta	98.68	55	eP		P	18 13 19.8 0.0
WMOK				pmax	pmax		
	comp=Z,17nm,1.5s						
WMOK	Wichita Mounta	98.68	55	eP		P	18 13 19.8 0.0
	comp=Z,17nm,1.5s						
N26A	Koester Ranch,	98.70	48	⇑Pdiff		Pdif	18 13 19.6 -0.2
	baz=99						
E20A	Meyer Farm, Mu	98.71	41	⇑Pdiff		P	18 13 20.1 +0.4
	baz=99						
Q28A	Sharon Springs	98.72	50	⇑Pdiff		P	18 13 20.4 +0.4
	baz=99						
H22A	Clearmont	98.72	44	⇓Pdiff		P	18 13 20.5 +0.7
	baz=99						
U31A	Nine Bar Ranch	98.72	53	⇓Pdiff		Pdif	18 13 19.8 -0.2
	baz=99						
B18A	Beardsley Farm	98.84	39	⇑Pdiff		P	18 13 21.0 +0.8
	baz=99						
O27A	Beecher Island	98.86	49	⇓Pdiff		Pdif	18 13 20.4 -0.1
	baz=99						
R29A	Marienthal	98.86	51	⇓Pdiff		P	18 13 20.6 0.0
	baz=99						
C19A	Slack Wire Ran	98.87	40	⇓Pdiff		P	18 13 21.4 +1.0
	baz=99						
L25A	Engebretsen Ra	98.91	47	⇓Pdiff		Pdif	18 13 20.2 -0.5
	baz=99						
F21A	Absaloka Mine,	98.93	42	⇓Pdiff		P	18 13 21.5 +0.8
	baz=99						
S30A	Montezuma	98.93	52	⇑Pdiff		Pdif	18 13 20.6 -0.3
	baz=99						
P28A	Saint Francis	99.02	50	⇑Pdiff		Pdif	18 13 21.7 +0.5
	baz=99						
D20A	Manuel Ranch,	99.03	41	⇑Pdiff		Pdif	18 13 21.5 +0.5
	baz=99						
M26A	McRoberts Ranc	99.08	48	⇓Pdiff		Pdif	18 13 22.1 +0.6
	baz=100						
J24A	Dixon Ranch, L	99.08	45	⇓Pdiff		Pdif	18 13 21.6 +0.1
	baz=100						
G22A	Birney	99.09	43	⇑Pdiff		Pdif	18 13 22.2 +0.8
	baz=100						
A18A	Metzger Ranch,	99.10	39	⇑Pdiff		Pdif	18 13 21.7 +0.4
	baz=100						
N27A	Anderson Farm,	99.13	48	⇑Pdiff		Pdif	18 13 22.0 +0.3
	baz=100						
T31A	Randall Ranch,	99.20	53	⇑Pdiff		Pdif	18 13 22.4 +0.4
	baz=100						
K25A	Mack Ranch, Ha	99.21	46	⇓Pdiff		Pdif	18 13 22.6 +0.5
	baz=100						
LPAZ	La Paz	99.27	114	ePdif		Pdif	18 13 24.7 +1.1
	comp=Z,3.9nm,0.8s						
LPAZ	La Paz	99.27	114	P		Pdif	18 13 24.6 +1.1
	comp=Z,3.8nm,0.7s,baz=222,slow=5.1,SNR=13						
H23A	Clabaugh Cattl	99.28	44	⇑Pdiff		Pdif	18 13 22.5 +0.2
	baz=100						
O28A	Krutsinger Ran	99.29	49	⇓Pdiff		Pdif	18 13 22.9 +0.5
	baz=100						
B19A	Brinkman Farms	99.33	39	⇓Pdiff		Pdif	18 13 22.8 +0.5
	baz=100						
E21A	Keefer Ranch,	99.34	42	⇓Pdiff		Pdif	18 13 23.5 +1.0
	baz=100						
R30A	Dighton	99.38	51	⇓Pdiff		Pdif	18 13 23.2 +0.4
	baz=100						
I24A	Kuemmerle Ranc	99.38	45	⇑Pdiff		Pdif	18 13 22.9 +0.1
	baz=100						
L26A	Underwood Farm	99.41	47	⇑Pdiff		Pdif	18 13 23.1 +0.1
	baz=100						
F22A	Rosebud	99.41	43	⇑Pdiff		Pdif	18 13 23.5 +0.7
	baz=100						
C20A	Veseth Ranch,	99.45	40	⇓Pdiff		Pdif	18 13 23.8 +0.9
	baz=100						
OGNE	Ogallala	99.53	48	⇓Pdiff		Pdif	18 13 23.8 +0.3
	baz=100						
S31A	Mullinville	99.59	52	⇓Pdiff		Pdif	18 13 23.9 +0.1
	baz=100						
M27A	Reverse DX Ran	99.60	48	⇓Pdiff		Pdif	18 13 24.0 +0.2
	baz=100						
G23A	Biddle	99.62	43	⇑Pdiff		Pdif	18 13 24.3 +0.5
	baz=100						
J25A	Sunshine Ranch	99.65	46	⇓Pdiff		Pdif	18 13 24.3 +0.3
	baz=100						
D21A	La Casta Ranch	99.67	41	⇓Pdiff		Pdif	18 13 25.2 +1.3
	baz=100						
K26A	Motz Farm, Whi	99.69	46	⇑Pdiff		Pdif	18 13 25.0 +0.8
	baz=100						
A19A	Klindworth Far	99.70	39	⇓Pdiff		Pdif	18 13 24.6 +0.6
	baz=100						
N28A	Pribbeno Ranch	99.73	49	⇑Pdiff		Pdif	18 13 24.9 +0.5
	baz=100						
Q30A	Quinter	99.76	51	⇓Pdiff		Pdif	18 13 25.3 +0.8
	baz=100						
EDM	Edmonton	99.78	34	eP		Pdif	18 13 25.3 +1.1
EDM				e			18 17 32.0
EDM	Edmonton	99.78	34	ePdif		Pdif	18 13 25.3 +1.1
EDM				ePP		PP	18 17 32.0 -0.7
B20A	Solberg Farm,	99.84	40	⇓Pdiff		Pdif	18 13 25.0 +0.4
	baz=100						
RSSD	Black Hills	99.88	45	eP		Pdif	18 13 25.6 +0.5
RSSD				e			18 17 32.9
RSSD	Black Hills	99.88	45	ePdif		Pdif	18 13 25.6 +0.5
RSSD				ePP		PP	18 17 32.9 -1.2
F23A	Volborg	99.89	43	⇓Pdiff		Pdif	18 13 25.7 +0.8
	baz=100						
H24A	Dirks Ranch, A	99.89	44	⇑Pdiff		Pdif	18 13 25.3 +0.3
	baz=100						
R31A	Burdett	99.89	52	⇓Pdiff		Pdif	18 13 25.1 0.0
	baz=100						
YAK	Yakutsk	99.90	338	eP		Pdif	18 13 23.4 -1.0
YAK				e*PP		pP	18 14 26.0 -2.1
YAK				e			18 17 29.8
YAK				eS		SKSac	18 23 31.9 -4.8
YAK				e*SS		S	18 24 36.4 +1.9
YAK				eSS		SS	18 31 31.1 -3.5
YAK				pmax	pmax		
	comp=Z,33nm,1.0s						
YAK				pmax	pmax		
	comp=E,6.0nm,1.5s						
YAK				pmax	pmax		
	comp=N,7.0nm,1.3s						
YAK				pmax	pmax		
	comp=Z,241nm,2.1s						
YAK				pmax	pmax		
	comp=E,161nm,2.1s						
YAK				pmax	pmax		
	comp=N,218nm,2.3s						
YAK				smax	smax		
	comp=N,321nm,2.3s						
YAK				smax	smax		
	comp=E,183nm,2.5s						
LAO	LASA Array	99.92	42	ePdif		Pdif	18 13 26.6 +1.6
	comp=E,94nm,1.7s						
L27A	T5 Ranch, Ells	99.93	47	⇑Pdiff		Pdif	18 13 26.0 +0.7
	baz=100						
E22A	Miles City	99.94	42	⇑Pdiff		Pdif	18 13 26.3 +1.1
	baz=100						
I25A	Rochford	100.02	45	⇓Pdiff		Pdif	18 13 26.2 +0.5
	baz=100						
P30A	Selden	100.02	50	⇓Pdiff		Pdif	18 13 26.0 +0.4
	baz=100						
C21A	Desert Coulee	100.02	41	⇓Pdiff		Pdif	18 13 26.2 +0.7
	baz=100						
J26A	Sides Ranch, S	100.07	46	⇓Pdiff		Pdif	18 13 26.8 +1.0
	baz=100						
A20A	Cobblestone Ra	100.13	39	⇓Pdiff		Pdif	18 13 26.8 +0.9
	baz=100						
CIT	Chita	100.16	325	eP		Pdif	18 13 25.8 -0.1
CIT				e			18 23 38.7
CIT				e			18 24 41.0
CIT				pmax	pmax		
	comp=Z,39nm,2.4s						
D22A	Cohagen	100.19	41	⇓Pdiff		Pdif	18 13 27.1 +0.9
	baz=101						
M28A	Bar X Bar Ranc	100.19	48	⇓Pdiff		Pdif	18 13 27.0 +0.6
	baz=101						
G24A	Alzada	100.28	44	⇓Pdiff		Pdif	18 13 27.4 +0.7
	baz=101						
K27A	Flueckinger Fa	100.29	47	⇓Pdiff		Pdif	18 13 27.5 +0.7
	baz=101						
Q31A	Ellis	100.33	51	⇑Pdiff		Pdif	18 13 27.1 +0.1
	baz=101						
E23A	Ismay	100.35	42	⇑Pdiff		Pdif	18 13 27.8 +0.9
	baz=101						
B21A	Ellsworth Farm	100.39	40	⇑Pdiff		Pdif	18 13 28.0 +0.9
	baz=101						
N29A	Votaw Ranch, W	100.39	49	⇓Pdiff		Pdif	18 13 27.8 +0.5
	baz=101						
L28A	Connealy Angus	100.40	48	⇓Pdiff		Pdif	18 13 27.6 +0.2
	baz=101						
H25A	Fruitdale	100.41	45	⇑Pdiff		Pdif	18 13 27.9 +0.6
	baz=101						
O30A	MW Ranch, Wils	100.46	50	⇑Pdiff		Pdif	18 13 28.0 +0.4
	baz=101						
F24A	Ekalaka	100.53	43	⇓Pdiff		Pdif	18 13 28.1 +0.3
	baz=101						
I26A	New Underwood	100.57	45	⇓Pdiff		Pdif	18 13 28.8 +0.8
	baz=101						
P31A	Stockton	100.59	51	⇑Pdiff		Pdif	18 13 28.5 +0.3
	baz=101						
C22A	Vida	100.67	41	⇓Pdiff		Pdif	18 13 28.8 +0.5
	baz=101						
J27A	Elkhorn Farm,	100.71	46	⇑Pdiff		Pdif	18 13 29.4 +0.7
	baz=101						
N30A	Hueftle Ranch,	100.73	49	⇑Pdiff		Pdif	18 13 29.6 +0.8
	baz=101						
A21A	Bergtoll Ranch	100.75	40	⇓Pdiff		Pdif	18 13 29.2 +0.6
	baz=101						
G25A	Newell	100.81	44	⇓Pdiff		Pdif	18 13 29.4 +0.4
	baz=101						
K28A	Ten Mile Ranch	100.85	47	⇑Pdiff		Pdif	18 13 29.8 +0.5
	baz=101						
B22A	Reddig Ranch S	100.90	41	⇓Pdiff		Pdif	18 13 30.4 +1.1
	baz=101						
E24A	Baker	100.98	43	⇓Pdiff		Pdif	18 13 30.8 +1.1
	baz=101						
I27A	Quinn	101.09	46	⇑Pdiff		Pdif	18 13 31.3 +1.0
	baz=102						
L29A	Maesberg Ranch	101.10	48	⇓Pdiff		Pdif	18 13 31.5 +1.1
	baz=102						
C23A	Lambert	101.11	41	⇑Pdiff		Pdif	18 13 31.7 +1.4
	baz=102						
F25A	Bowman	101.16	43	⇓Pdiff		Pdif	18 13 31.3 +0.8
	baz=102						
G27A	Dupree	101.20	44	⇑Pdiff		Pdif	18 13 33.8 +3.1
	baz=102						
M30A	Dale-Ortello V	101.24	49	⇑Pdiff		Pdif	18 13 31.1 +0.1
	baz=102						
D24A	Glendive	101.25	42	⇑Pdiff		Pdif	18 13 31.4 +0.5
	baz=102						
CPUP	Villa Florida	101.27	129	P		Pdif	18 13 32.9 +1.3
CPUP				PKKPbc		PKKPbc	18 29 39.7 +0.2
CPUP	Villa Florida	101.27	129	P		Pdif	18 13 32.9 +1.3
	comp=Z,0.3nm,0.3s,baz=215,slow=9.3,SNR=4.6						
CPUP				PKKPbc		PKKPbc	18 29 39.7 +0.2
	comp=Z,5.1nm,0.6s,baz=40,slow=3.5,SNR=18						
J28A	Allard Ranch,	101.28	47	⇑Pdiff		Pdif	18 13 32.0 +0.8
	baz=102						
A22A	Carney Farms,	101.31	40	⇑Pdiff		Pdif	18 13 31.8 +0.6
	baz=102						
H27A	Howes	101.35	45	⇑Pdiff		Pdif	18 13 31.5 +0.1
	baz=102						
G26A	Maurine	101.36	44	⇑Pdiff		Pdif	18 13 31.8 +0.4
	baz=102						
TUL1	Tulsa	101.38	55	⇑Pdiff		Pdif	18 13 31.2 -0.5
	baz=102						
C24A	Savage	101.41	42	⇑Pdiff		Pdif	18 13 32.5 +0.9
	baz=102						
ULN	Ulaanbaatar	101.43	319	ePdif		Pdif	18 13 30.4 -1.5
	comp=Z,9.7nm,1.0s						
SHL	Shillong	101.47	293	eP		Pdif	18 13 31.4 -1.2
SHL				ex		x	18 23 46.0
E25A	Miller Ranch,	101.48	43	⇑Pdiff		Pdif	18 13 32.7 +0.7
	baz=102						
K29A	Lazy Trails An	101.55	47	⇓Pdiff		Pdif	18 13 32.4 0.0
	baz=102						
B23A	Brockton	101.56	41	⇑Pdiff		Pdif	18 13 33.1 +0.9
	baz=102						
I28A	Midland	101.61	46	⇑Pdiff		Pdif	18 13 32.5 -0.1
	baz=102						
SONM	Songino Array	101.80	318	P		Pdif	18 13 34.2 +0.8
SONM				PP		PP	18 17 45.9 -2.4
SONM				PKKPbc		PKKPbc	18 29 38.9 -0.6
SONM	Songino Array	101.80	318	P		Pdif	18 13 34.2 +0.8
	comp=Z,1.9nm,0.6s,baz=138,slow=6.7,SNR=9.1						
SONM				PP		PP	18 17 45.9 -2.4
	comp=Z,2.5nm,1.0s,baz=103,slow=6.4,SNR=4.2						
SONM				PKKPbc		PKKPbc	18 29 38.9 -0.6
	comp=Z,1.8nm,0.5s,baz

BGNE Belgrade 102.32 49 ⇑Pdiff **Pdif 18 13 36.5 +0.7**
baz=103
D26A Manning 102.32 43 ⇓Pdiff **Pdif 18 13 36.5 +0.8**
baz=103
A24A Westby 102.36 41 ⇑Pdiff **Pdif 18 13 36.8 +1.0**
baz=103
B25A Knox Farm, Ray 102.51 42 ⇑Pdiff **Pdif 18 13 37.2 +0.7**
baz=103
E27A Carson 102.55 44 ⇓Pdiff **Pdif 18 13 38.1 +1.4**
baz=103
F28A McLaughlin 102.73 45 ⇓Pdiff **Pdif 18 13 38.0 +0.5**
baz=103
INK Inuvik 102.84 16 *e*Pdif **Pdif 18 13 35.3 -2.0**
comp=Z,17nm,1.2s
A25A Svangstu Ranch 102.87 41 ⇓Pdiff **Pdif 18 13 39.4 +1.4**
baz=103
D27A Center 102.90 43 ⇑Pdiff **Pdif 18 13 39.5 +1.2**
baz=103
C26A Wahner Farm, P 102.92 42 ⇓Pdiff **Pdif 18 13 39.3 +1.0**
baz=103
B26A Jensen Ranch, 103.10 42 ⇑Pdiff **Pdif 18 13 40.3 +1.2**
baz=104
E28A Huff 103.15 44 ⇓Pdiff **Pdif 18 13 40.3 +0.9**
baz=104
C27A Sayler Ranch, 103.21 43 ⇓Pdiff **Pdif 18 13 40.0 +0.4**
baz=104
BRSD Miller 103.22 46 ⇓Pdiff **Pdif 18 13 39.8 +0.1**
baz=104
F29A Eureka 103.33 45 ⇓Pdiff **Pdif 18 13 40.1 0.0**
baz=104
A26A Wade Farm, Ken 103.47 41 ⇑Pdiff **Pdif 18 13 41.8 +1.1**
baz=104
D28A Regan 103.52 43 ⇓Pdiff **Pdif 18 13 41.5 +0.6**
baz=104
B27A Peters Farms, 103.69 42 ⇓Pdiff **Pdif 18 13 42.8 +1.2**
baz=104
E29A Napoleon 103.78 44 ⇑Pdiff **Pdif 18 13 42.7 +0.5**
baz=104
C28A Hausauer Farms 103.87 43 ⇓Pdiff **Pdif 18 13 42.9 +0.4**
baz=104
D29A Pettibone, Tap 104.04 44 ⇓Pdiff **Pdif 18 13 43.2 -0.1**
baz=104
E30A Jud 104.20 45 ⇑Pdiff **Pdif 18 13 44.0 0.0**
baz=105
B28A Dugan Ranch, T 104.23 42 ⇓Pdiff **Pdif 18 13 44.6 +0.5**
baz=105
ECSD EROS Data Cent 104.39 48 *e*Pdif **Pdif 18 13 48.4 +3.4**
ECSD *e*PP **PP 18 18 05.3 -2.2**
MDND Maddock 104.40 43 ⇓Pdiff **Pdif 18 13 44.6 -0.3**
baz=105
A28A Rude Farm, Bot 104.50 42 ⇓Pdiff **Pdif 18 13 46.0 +0.6**
baz=105
D30A Buchanan 104.57 44 ⇓Pdiff **Pdif 18 13 45.3 -0.3**
baz=105
YKA Yellowknife Ar 104.69 26 Pdif **Pdif 18 13 45.3 -0.5**
YKA PKiKP **PKiKP 18 18 00.2 +0.5**
YKA PKKPbc **PKKPbc 18 29 30.1 -1.1**
YKA Yellowknife Ar 104.69 26 Pdiff **Pdif 18 13 45.3 -0.5**
comp=Z,2.5nm,0.9s,baz=245,slow=4.0,SNR=6.6
YKA PKiKP **PKiKP 18 18 00.2 +0.5**
comp=Z,2.8nm,0.6s,baz=260,slow=1.9,SNR=15
YKA PKKPbc **PKKPbc 18 29 30.1 -1.1**
comp=Z,3.5nm,0.7s,baz=44,slow=3.2,SNR=9.0
B29A Wagenman Farm,104.84 43 ⇓Pdiff **Pdif 18 13 37.4 -9.4**
baz=105
C30A Mose, Pekin 105.01 44 ⇑Pdiff **Pdif 18 13 46.3 -1.3**
baz=105
A29A Manning Farm, 105.12 42 ⇓Pdiff **Pdif 18 13 48.1 +0.1**
baz=106
VIS Vishakhapatnam 105.12 282 *e*P **Pdif 18 13 47.4 -1.3**
B30A Myrvik Farm, E 105.44 43 ⇓Pdiff **Pdif 18 13 45.5 -3.9**
baz=106
BOK Bokaro 105.60 289 *e*P **Pdif 18 13 47.1 -3.6**
TAPN Taplejung 105.61 293 *e*P **PKiK 18 18 03.2 +0.2**
ODAN Odare 105.67 292 *e*P **PKiK 18 18 02.9 -0.1**
comp=Z,29nm,0.8s
RAMN Ramite 106.34 292 *e*P **PKiK 18 18 03.8 -0.5**
comp=Z,22nm,0.7s
TRD Trivandrum 106.50 271 ⇓*ex* x 18 19 38.4
PLAL Pickwick Lake 106.64 59 *e*PKiKP **PKiKP 18 18 02.8 -1.5**
PLAL *e*PKKPbc PKKPbc 18 29 18.0 -6.1
JIRN Jiri 106.97 293 *e*P **PKiK 18 18 05.2 -0.4**
comp=Z,21nm,0.5s
GUN Gumba 107.32 293 *e*P **PKiK 18 18 04.9 -1.3**
SPMN St. Paul 107.50 48 ⇓Pdiff **Pdif 18 13 54.0 -4.7**
baz=108
PKI Pulchoki 107.56 292 *e*P **PKiK 18 18 05.4 -1.2**
PKIN Phulchoki 107.58 292 *e*P **PKiK 18 18 06.0 -0.6**
ULM Lac du Bonnet 107.66 42 PP PP 18 18 29.1 -2.1
comp=Z,10nm,0.9s,baz=231,slow=7.7,SNR=6.0
KKN Kakani 107.76 292 *e*P **PKiK 18 18 05.9 -0.9**
DMN Daman 107.83 292 *e*P **PKiK 18 18 06.4 -0.6**
OLIL Olney 108.13 55 *e*PP PP 18 18 33.3 -1.6
JFWS Jewell Farm 108.27 51 *e*PP PP 18 18 36.5 +0.7
TIGA Tifton 108.67 64 ⇓Pdiff **Pdif 18 14 00.6 -3.6**
baz=109
KOLN Koldanda 109.11 292 *e*P **PKiK 18 18 07.8 -1.6**
comp=Z,13nm,0.6s
DANN Dangsing 109.21 292 *e*P **PKiK 18 18 07.4 -2.3**
EYMN Ely 109.39 45 *e*PKiKP **PKiK 18 18 09.6 +0.6**
EYMN *e*PP **PP 18 18 42.5 -1.4**
SFIN Scholer Farm 109.48 54 *e*PP PP 18 18 45.1 +0.5
SFIN Scholer Farm 109.48 54 ⇓Pdiff **Pdif 18 14 07.0 -0.6**
baz=110
CPCT Cooper Cave 109.50 60 *e*PP PP 18 18 43.1 -1.8
NGP Nagpur 110.23 283 *e*P **PKiK 18 18 10.6 -0.8**
TZTN Tazewell 110.64 59 *e*PP PP 18 18 53.5 +0.4
LATR Latur 111.23 280 *e*P **PKiK 18 18 10.6 -2.7**
KMSC Kings Mountain 111.81 61 *e*PP PP 18 19 00.4 -1.0
WMQ Urumqi 111.94 309 PKP **PKiK 18 18 10.7 -3.3**
WMQ PP **PP 18 19 02.3 0.0**
WMQ PKS **PKSdf 18 21 46.3 -4.4**
WMQ SKKS 18 25 25.2
WMQ SS **SS 18 34 13.9 -5.1**
WMQ AMB AMB
comp=Z,580nm,7.8s
WMQ LR LR
comp=N,760nm,24.1s
WMQ LR LR
comp=E,490nm,25.5s
WMQ LR LR
comp=Z,500nm,26.8s
SDDR Presa de Saban 113.96 81 *e*PKiKP **PKiKP 18 18 19.0 +0.5**
SDDR *e*PP **PP 18 19 18.1 +1.2**
DDI Dehra Dun 114.57 292 *e*P PKPdf 18 18 18.5 -1.0
NDI New Delhi 114.67 290 *e*P PKPdf 18 18 16.0 -3.6
NDI *ex* x 18 18 40.1
BDFB Brasilia 114.84 127 PKP PKPdf 18 18 20.2 -0.3
BDFB PKKPbc **PKKPbc 18 28 57.4 +0.2**
BDFB Brasilia 114.84 127 PKP PKPdf 18 18 20.2 -0.3
comp=Z,2.9nm,0.6s,baz=180,slow=2.0,SNR=3.0
BDFB PKKPbc **PKKPbc 18 28 57.4 +0.2**
comp=Z,4.4nm,0.6s,baz=81,slow=6.1,SNR=6.0
JSRW J. Sargeant Re 115.29 59 *e*PKPdf **PKPdf 18 18 20.0 -0.5**
SMLA Simla 115.56 293 *e*P **PKPdf 18 18 20.0 -1.2**
SSPA Standing Stone 116.18 56 *e*PKPdf **PKPdf 18 18 21.6 -0.6**
SSPA *e*PP **PP 18 19 30.0 -2.0**
SADO Sadowa 116.45 52 PKP **PKPdf 18 18 21.8 -0.8**
SADO PP **PP 18 19 32.4 -1.5**
SADO Sadowa 116.45 52 PKP **PKPdf 18 18 21.8 -0.8**
comp=Z,11nm,0.5s,baz=265,slow=2.8,SNR=7.5
SADO PP **PP 18 19 32.4 -1.5**
comp=Z,7.4nm,0.9s,baz=274,slow=9.3,SNR=4.7
MK31 Makanchi Array 116.48 311 *i* PKIKP **PKPdf 18 18 21.4 -1.2**
MK31 pmax pmax
comp=Z,27nm,0.6s
MK31 Makanchi Array 116.48 311 *e*PKPdf **PKPdf 18 18 20.9 -1.7**
MKAR Makanchi Array 116.48 311 PKIKP **PKPdf 18 18 21.7 -0.9**
MKAR 18 28 52.2
MKAR pmax pmax
comp=Z,16nm,0.6s
MKAR pmax pmax
comp=Z,3.0nm,0.5s
MKAR Makanchi Array 116.48 311 *e*PKPdf **PKPdf 18 18 21.3 -1.3**
MKAR PKP **PKPdf 18 18 21.7 -0.9**
MKAR PKKPbc **PKKPbc 18 28 52.1 -0.1**
MKAR *e*PKKPbc **PKKPab 18 28 52.3 -2.4**
MKAR Makanchi Array 116.48 311 PKP **PKPdf 18 18 21.7 -0.9**
comp=Z,16nm,0.6s,baz=90,slow=1.8,SNR=82
MKAR PKKPbc **PKKPbc 18 28 52.1 -0.1**
comp=Z,2.8nm,0.5s,baz=283,slow=2.2,SNR=12
SDMD Soldier's Deli 116.59 58 *e*PKPdf **PKPdf 18 18 22.9 -0.1**
DHRM DHARAMSHALA 116.63 294 *e*P **PKPdf 18 18 22.1 -1.5**
DHRM AMB AMB 19 07 17.1
comp=Z,452nm,14.9s

ZAA0 Zalesovo Array 116.69 319 *e*PKPdf **PKPdf 18 18 20.8 -1.9**
ZALV Zalesovo Beam 116.69 319 PKIKP **PKPdf 18 18 21.5 -1.2**
ZALV pmax pmax
comp=Z,15nm,0.6s
ZALV Zalesovo Beam 116.69 319 PKP **PKPdf 18 18 21.5 -1.2**
ZALV Zalesovo Beam 116.69 319 PKP **PKPdf 18 18 21.5 -1.2**
comp=Z,15nm,0.6s,baz=144,slow=1.6,SNR=34
MVL Millersville 117.12 57 *e*PKPdf **PKPdf 18 18 23.6 -0.4**
LRS Lares 117.53 84 *e*PKPdf **PKPdf 18 18 24.9 -0.5**
NVS Novosibirsk 117.79 320 *e*PKIKP **PKPdf 18 18 22.0 -2.8**
NVS *e* 18 24 51.1
NVS pmax pmax
comp=Z,99nm,1.2s
NVS pmax pmax
comp=E,63nm,1.5s
BOSA Boshof 118.06 204 *e*PKPdf **PKPdf 18 18 25.9 -0.6**
BOSA *e*PKPdf **PKPdf 18 18 26.3 -0.2**
BOSA PKKPbc **PKKPbc 18 28 46.5 -0.1**
BOSA *e*PKKPbc **PKKPab 18 28 48.2 -5.0**
BOSA SKKPbc SKKPbc 18 32 03.3 -1.7
BOSA Boshof 118.06 204 PKP **PKPdf 18 18 26.3 -0.2**
comp=E,15nm,0.6s,baz=148,slow=2.7,SNR=36
BOSA PKKPbc **PKKPbc 18 28 46.5 -0.1**
comp=E,5.2nm,0.6s,baz=281,slow=9.8,SNR=11
BOSA SKKPbc SKKPbc 18 32 03.3 -1.7
comp=E,13nm,1.1s,baz=27,slow=4.8,SNR=4.7
SJG San Juan 118.06 84 *e*PKPdf **PKPdf 18 18 25.5 -0.9**
HUMP Col San Antoni 118.33 84 *e*PKPdf **PKPdf 18 18 26.7 -0.2**
KSH Kashi 119.03 301 PKP **PKPdf 18 18 27.9 0.0**
KSH PKS **PKSdf 18 22 02.2 -2.4**
KSH SKS **SKSdf 18 25 09.9 -4.8**
KSH SKKS **SKKSac 18 26 23.7 -0.8**
KSH AMB AMB
comp=Z,170nm,4.1s
KSH LR LR
comp=N,160nm,12.6s
KSH LR LR
comp=E,200nm,13.3s
KSH LR LR
comp=Z,310nm,15.4s
PAL Palisades 119.18 57 *e*PKIKP **PKPdf 18 18 27.5 -0.4**
PAL Palisades 119.18 57 *e*PKPdf **PKPdf 18 18 27.5 -0.4**
ULHL Ulahol 119.52 304 P **PKPdf 18 18 28.4 -0.4**
comp=N,13nm
LONY Lake Ozonia 119.57 53 *e*PKPdf **PKPdf 18 18 27.9 -0.7**
NCB Newcomb 119.67 54 *e*PKPdf **PKPdf 18 18 28.5 -0.4**
KURK Kurchatov 119.73 314 PKKPbc PKKPbc 18 28 40.8 +0.1
KURK SKKPbc SKKPbc 18 32 03.5 -0.7
KURBB Kurchatov Arra 119.77 314 PKKPbc PKKPbc 18 28 40.8 +0.2
comp=Z,4.1nm,1.0s,baz=282,slow=4.8,SNR=13
KURBB SKKPbc SKKPbc 18 32 03.5 -0.6
comp=Z,0.8nm,0.5s,baz=287,slow=4.0,SNR=6.1
ACCN Adirondack Com 119.93 54 *e*PKPdf **PKPdf 18 18 28.6 -0.8**
TKM2 Tokmak 2 120.14 305 *e*PKIKP **PKPdf 18 18 28.8 -1.2**
TKM2 Tokmak 2 120.14 305 P **PKPdf 18 18 28.9 -1.1**
SNR=51
TKM2 Tokmak 2 120.14 305 *e*PKPdf **PKPdf 18 18 28.8 -1.2**
TKM2 *e*PKPdf **PKPdf 18 18 29.0 -1.1**
KZA Kyzart 120.20 304 P **PKPdf 18 18 30.7 +0.3**
SNR=41
FRNY Flat Rock 120.31 53 *e*PKPdf **PKPdf 18 18 28.8 -1.2**
FRNY *e*PKPdf **PKiK 18 18 29.0 -1.0**
FRNY *e*PP **PP 18 19 58.4 -1.9**
MDV Middlebury 120.41 54 *e*PKPdf **PKPdf 18 18 29.9 -0.3**
KBK Karagaybulak 120.55 305 P **PKPdf 18 18 30.0 -0.7**
SNR=31
CHMS Chumysh 120.77 305 *i* PKIKP **PKPdf 18 18 29.8 -1.2**
CHMS Chumysh 120.77 305 P **PKPdf 18 18 29.9 -1.2**
SNR=38
UCH Uchtor 120.77 304 *i* PKIKP **PKPdf 18 18 33.8 +2.2**
UCH Uchtor 120.77 304 P **PKPdf 18 18 33.8 +2.2**
SNR=13
FRU Bishkek 120.83 305 *e*PKIKP **PKPdf 18 18 30.0 -1.1**
FRU pmax pmax
comp=Z,152nm,1.8s
AAK Ala-Archa 120.87 305 *e*PKIKP **PKPdf 18 18 30.7 -0.7**
AAK Ala-Archa 120.87 305 PKPdf **PKPdf 18 18 31.0 -0.4**
SNR=22
AAK Ala-Archa 120.87 305 P **PKPdf 18 18 31.2 -0.2**
SNR=19
AAK Ala-Archa 120.87 305 *e*PKPdf **PKPdf 18 18 30.6 -0.7**
AAK *e*PKPdf **PKPdf 18 18 31.0 -0.4**
AAK *e*PKKPab **PKKPbc 18 28 37.4 +0.9**
AAK Ala-Archa 120.87 305 PKKPbc PKKPbc 18 28 37.3 +0.9
comp=Z,3.1nm,0.7s,baz=261,slow=3.8,SNR=5.8
HNH Hanover 120.98 54 *e*PKPdf **PKPdf 18 18 31.4 +0.2**
USP Ospenovka 121.00 305 P **PKPdf 18 18 30.8 -0.6**
SNR=38
LBTB Lobatse 121.19 206 *e*PKPdf **PKPdf 18 18 32.7 +0.2**
LBTB *e*PKKPab **PKKPab 18 28 37.7 -1.6**
AML Almayashu 121.34 304 P **PKPdf 18 18 32.4 -0.2**
SNR=62
EKS2 Erkin-Say 121.39 304 *e*PKIKP **PKPdf 18 18 32.1 -0.2**
EKS2 Erkin-Say 121.39 304 P **PKPdf 18 18 31.9 -0.4**
SNR=29
EKS2 Erkin-Say 121.39 304 *e*PKPdf **PKPdf 18 18 32.1 -0.2**
EKS2 *e*PKPdf **PKiK 18 18 32.3 -0.2**
KBL Kabul 123.10 294 *e*PKIKP **PKPdf 18 18 35.7 -0.3**
KBL Kabul 123.10 294 *e*PKPdf **PKPdf 18 18 35.7 -0.3**
KBL *e*PKPdf **PKiK 18 18 36.0 -0.2**
PKME Peaks-Kenny Pk 123.38 53 *e*PKPdf **PKPdf 18 18 35.7 -0.1**
KK31 Karatay Array 123.83 304 *i* PKIKP **PKPdf 18 18 35.7 -1.1**
KK31 pmax pmax
comp=Z,82nm,0.7s
KKAR Karatay Array 123.83 304 *e*PKIKP **PKPdf 18 18 36.0 -0.9**
KKAR Karatay Array 123.83 304 *e*PKPdf **PKPdf 18 18 36.0 -0.9**
VOSK Vostochnaya 124.69 316 *e*PKIKP **PKPdf 18 18 37.0 -1.2**
VOSK Vostochnaya 124.69 316 *e*PKPdf **PKPdf 18 18 37.0 -1.2**
VOSK *e*PKKPab **PKKPbc 18 28 21.6 -0.2**
BVA0 Borovoye Array 125.07 316 *i* PKIKP **PKPdf 18 18 37.6 -1.3**
BVA0 pmax pmax
comp=Z,213nm,0.8s
BVAR Borovoye Array 125.07 316 PKIKP **PKPdf 18 18 39.1 +0.2**
BVAR pmax pmax
comp=Z,87nm,0.6s
BVAR Borovoye Array 125.07 316 PKP **PKPdf 18 18 39.1 +0.2**
BVAR Borovoye Array 125.07 316 PKP **PKPdf 18 18 39.1 +0.2**
comp=Z,87nm,0.6s,baz=112,slow=2.0,SNR=13
BRVK Borovoye 125.14 316 *e*PKIKP **PKPdf 18 18 38.0 -1.0**
BRVK Borovoye 125.14 316 PKPdf **PKPdf 18 18 38.4 -0.6**
SNR=70
BRVK Borovoye 125.14 316 *e*PKPdf **PKPdf 18 18 38.0 -1.0**
SCHQ Schefferville 125.83 41 *e*PKPdf **PKPdf 18 18 39.5 -0.8**
SCHQ PKP **PKPdf 18 18 39.6 -0.7**
SCHQ Schefferville 125.83 41 PKP **PKPdf 18 18 39.6 -0.7**
comp=Z,36nm,1.0s,baz=297,slow=3.0,SNR=13
KULLO Kullorsuaq 126.19 16 *i* PKIKP **PKPdf 18 18 38.9 -1.5**
KULLO pmax pmax
comp=Z,42nm,0.9s
LSZ Lusaka 128.65 214 PKPdf **PKPdf 18 18 48.5 +1.4**
SNR=6.6
LSZ Lusaka 128.65 214 *e*PKPdf **PKPdf 18 18 47.0 -0.1**
LSZ *e*PKPdf **PKiK 18 18 47.1 -0.6**
LSZ *e*SKPbc SKiKP 18 21 40.6 -18
JMDO Jabal Madar 128.72 276 PKPdf **PKPdf 18 18 48.6 +1.8**
SNR=6.8
SMDO Samad 129.00 277 PKPdf **PKPdf 18 18 47.3 -0.1**
SNR=9.4
BSY Bisya 129.63 276 PKPdf **PKPdf 18 18 49.1 +0.6**
SNR=10
HOQ Hoqain 129.81 277 PKPdf **PKPdf 18 18 49.0 +0.2**
SNR=12
KBS Kingsbay 129.98 357 *e* **PKPdf 18 18 46.9 -0.7**
KBS *e*PP **PP 18 21 04.4 +1.0**
KBS Kingsbay 129.98 357 *e*PKIKP **PKPdf 18 18 47.2 -0.4**
KBS *e* 18 21 03.6
KBS Kingsbay 129.98 357 *e*PKPdf **PKPdf 18 18 47.2 -0.4**
KBS *e*PKPdf **PKiK 18 18 48.0 -0.4**
KBS *e*PP **PP 18 21 03.6 +0.2**
KBS *e*SKPbc SKPab 18 21 46.2 +1.1
ILULI Ilulissat 130.13 22 *i* PKIKP **PKPdf 18 18 48.1 +0.1**
RCBR Riachuelo 130.15 128 *e*PKPdf **PKPdf 18 18 49.9 +0.1**
RCBR *e*PKPdf **PKiK 18 18 52.1 +1.4**
RBK Rabkut 130.32 269 P **SKPab 18 21 49.1 +0.7**
SNR=5.3
ARQ Araqi 130.42 277 PKPdf **PKPdf 18 18 50.8 +0.8**
SNR=5.1
ARQ Araqi 130.42 277 P **SKPab 18 21 48.7 +0.1**
SNR=7.4
SPA0 Spitsbergen Ar 130.48 356 *e* **PKPdf 18 18 49.0 +0.4**
SPA0 *e*PP **PP 18 21 06.5 -0.2**
SPITS Spitsbergen Ar 130.48 356 PKP **PKPdf 18 18 48.6 +0.1**
SPITS SKPbc **SKPab 18 21 47.2 0.0**
SPITS Spitsbergen Ar 130.48 356 PKP **PKPdf 18 18 48.6 +0.1**
comp=Z,83nm,0.8s,baz=15,slow=6.0,SNR=29
SPITS SKPbc **SKPab 18 21 47.2 0.0**
comp=Z,81nm,1.0s,baz=27,slow=6.8,SNR=7.9
SVE Sverdlovsk 130.54 321 *e*PKIKP **PKPdf 18 18 48.9 -0.3**
SVE pmax pmax
comp=Z,137nm,1.2s
ABTO Aybut 131.05 268 P **SKPab 18 21 51.5 -0.1**
SNR=5.4
HATD Hatta, Dubai 131.23 279 PKPdf **PKPdf 18 18 51.0 -0.5**
SNR=11
HATD Hatta, Dubai 131.23 279 P **SKPab 18 21 51.8 -0.3**
SNR=6.8
SFJD Kangerlussuaq 131.23 24 *i* P **PKPdf 18 18 50.6 +0.5**
SFJD *i* 18 21 10.2
SFJD *e* 18 21 48.5
SFJD Kangerlussuaq 131.23 24 *e*PKPdf **PKPdf 18 18 49.7 -0.4**
SFJD PKP **PKPdf 18 18 50.5 +0.4**
SFJD PP **PP 18 21 09.8 -1.8**
SFJD SKPbc **SKPbc 18 21 50.1 +0.2**
SFJD Kangerlussuaq 131.23 24 PKP **PKPdf 18 18 50.5 +0.4**
comp=Z,19nm,0.5s,baz=142,slow=0.5,SNR=8.7
SFJD PP **PP 18 21 09.8 -1.8**
comp=Z,36nm,1.2s,baz=294,slow=7.9,SNR=12
SFJD SKPbc **SKPbc 18 21 50.2 +0.2**
comp=Z,15nm,0.7s,baz=250,slow=4.4,SNR=3.5
ASHO Ashiyiah 131.25 278 PKPdf **PKPdf 18 18 52.1 +0.6**
SNR=13
ASHO Ashiyiah 131.25 278 P **SKPab 18 21 51.6 -0.5**
SNR=11
AB31 Akbulak array 131.61 311 *i* PKIKP **PKPdf 18 18 51.6 +0.2**
AB31 pmax pmax
comp=Z,36nm,0.8s
NAZ Nazwa, Dubai 131.68 279 PKPdf **PKPdf 18 18 53.0 +0.7**
SNR=13
NAZ Nazwa, Dubai 131.68 279 P **SKPab 18 21 53.2 -0.7**
SNR=8.2
ARU Arti 131.74 321 *i* PKIKP **PKPdf 18 18 50.7 -0.7**
ARU 18 21 11.2
SUMG Summit 131.75 15 *i* PKIKP **PKPdf 18 18 52.3 +0.7**
SUMG pmax pmax
comp=Z,45nm,0.9s
SUMG Summit 131.75 15 *i* P **PKPdf 18 18 52.3 +0.7**
comp=Z,45nm,0.9s
SUMG *e* 18 21 09.3
SUMG *i* 18 21 52.5
SUMG Summit 131.75 15 *e*PKPdf **PKPdf 18 18 51.4 -0.2**
SUMG *e*PKPdf **PKiK 18 18 51.6 -1.0**
SUMG *e*PP **PP 18 21 11.8 -3.5**
SUMG *e*SKPbc **SKPab 18 21 54.6 +1.3**
ASUD Al Ashush, Dub 131.86 278 PKPdf **PKPdf 18 18 53.9 +1.2**
SNR=6.1
ASUD Al Ashush, Dub 131.86 278 P **SKPab 18 21 54.9 +0.2**
SNR=5.5
SOKR Solikamsk 132.02 326 *d* PKIKP **PKPdf 18 18 51.4 -0.4**
SOKR 18 19 59.6
SOKR pmax pmax
comp=Z,180nm,1.1s
AKTO Aktyubinsk 132.79 313 PKIKP **PKPdf 18 18 52.6 -1.0**
AKTO pmax pmax
comp=Z,69nm,0.7s
AKTO Aktyubinsk 132.79 313 PKPpre PKPpre 18 18 39.1
AKTO PKP **PKPdf 18 18 53.7 +0.1**
AKTO SKPbc **SKPbc 18 21 55.8 -0.2**
AKTO Aktyubinsk 132.79 313 PKhKP PKPpre 18 18 39.1
comp=Z,5.1nm,0.6s,baz=110,slow=4.2,SNR=19
AKTO PKP **PKPdf 18 18 53.7 +0.1**
comp=Z,57nm,0.6s,baz=98,slow=2.1,SNR=39
AKTO SKPbc **SKPbc 18 21 55.8 -0.2**
comp=Z,16nm,0.7s,baz=88,slow=5.0,SNR=7.0
KMBO Kilima Mbogo 134.19 235 PKPdf **PKPdf 18 19 00.1 +2.3**
SNR=5.8
KMBO Kilima Mbogo 134.19 235 *e*PKPdf **PKPdf 18 18 57.2 -0.5**
KMBO PKP **PKPdf 18 18 57.5 -0.2**
KMBO *e*PKPdf PKPdf 18 18 59.0 +1.2
KMBO *e*SKPbc **SKPbc 18 22 01.2 -0.9**
KMBO SKPbc **SKPbc 18 22 01.6 -0.6**
KMBO Kilima Mbogo 134.19 235 PKP **PKPdf 18 18 57.5 -0.2**
comp=Z,12nm,1.0s,baz=56,slow=0.4,SNR=12
KMBO SKPbc **SKPbc 18 22 01.6 -0.6**
comp=Z,18nm,0.7s,baz=76,slow=5.3,SNR=17
LVZ Lovozero 136.51 342 *i* PKIKP **PKPdf 18 18 59.8 -0.3**
APA Apatity 137.08 343 ⇓PKIKP **PKPdf 18 18 57.0 -4.1**
APA *i* 18 20 03.0
APA *i* 18 21 45.0
APA *i* SS SS 18 39 38.0 +6.2
APA pmax pmax
comp=Z,182nm,1.0s
APA MLR MLR
comp=Z,900nm,25.0s
ARCES ARCESS Array B 137.29 348 PKPpre PKPpre 18 18 50.1
ARCES PKP **PKPdf 18 19 00.7 -0.8**
ARCES PP **PP 18 21 50.6 +0.9**
ARCES SKPbc **SKPbc 18 22 09.4 -0.2**
ARCES ARCESS Array B 137.29 348 PKhKP PKPpre 18 18 50.1
comp=Z,9.5nm,0.6s,baz=32,slow=2.8,SNR=46
ARCES PKP **PKPdf 18 19 00.7 -0.8**
comp=Z,37nm,0.6s,baz=70,slow=0.7,SNR=23
ARCES PP **PP 18 21 50.6 +0.9**
comp=Z,19nm,1.0s,baz=6.7,slow=4.2,SNR=4.7
ARCES SKPbc **SKPbc 18 22 09.4 -0.2**
comp=Z,17nm,0.7s,baz=32,slow=3.0,SNR=5.5
ARE0 ARCESS Array S 137.29 348 *e* PKPpre 18 18 51.9
ARE0 *e*PP **PP 18 21 49.7 -0.1**
ARE0 ARCESS Array S 137.29 348 *e*PKPpre PKPpre 18 18 51.8
DAMY Dhamar 137.59 259 *e*PKPdf **PKPdf 18 19 05.2 +1.2**
DAMY *e*SKPbc **SKiKP 18 22 16.3 -0.5**
TMCR Tamitsa 138.00 337 *e*PKIKP **PKPdf 18 18 58.3 -4.6**
TMCR pmax pmax
comp=Z,162nm,1.5s
KTK1 Kautokeino 138.16 348 *e* PKPpre 18 18 54.2
KTK1 *e*PP **PP 18 21 55.3 +0.2**
TRO Tromso 138.28 351 *e* PKPpre 18 18 54.0
QRN Al-Qurain 139.34 281 *e*P PKPpre 18 19 00.0
QRN AMb AMB 18 19 11.2
comp=Z,465nm,0.9s
KLMR Klimovskoe 139.40 332 *c* PKHKP PKPpre 18 18 56.8
KLMR 18 22 12.1
KBD Kabd 139.62 282 *e*P PKPpre 18 19 00.2
KBD AMb AMB 18 19 13.0
comp=Z,95nm,1.9s
RDF Al-Radifah 139.69 281 *e*P PKPpre 18 18 59.9
RDF AMb AMB 18 19 02.8
comp=Z,305nm,2.1s
MIB Mutribah 140.04 283 *e*P PKPpre 18 19 00.5
MIB AMb AMB 18 19 04.7
comp=Z,78nm,0.6s
RAYN Ar Rayn 140.07 272 *e*PKPdf PKPpre 18 19 01.2
STEI Steigen 140.37 352 *e* **PKPdf 18 19 03.2 -3.9**
LOF Lofoten 140.38 353 *e* PKPpre 18 19 01.3
MAK Makhachkala 140.63 303 *e*PKHKP PKPpre 18 18 56.7
MAK *e* 18 22 09.0
MAK *e* 18 25 50.5
MAK pmax pmax
comp=Z,452nm,1.4s
JOF Joensuu 141.07 339 *e*PKHKP PKPpre 18 19 03.0
JOF pmax pmax
comp=Z,70nm,0.6s
JOF Joensuu 141.07 339 *e*p PKPpre 18 19 03.0
comp=Z,70nm,0.6s
BORG Borgarnes 141.73 15 PKP **PKPdf 18 19 07.4 -2.2**
BORG SKPbc **SKPbc 18 22 22.3 +0.6**
BORG Borgarnes 141.73 15 PKP **PKPdf 18 19 07.4 -2.2**
comp=Z,26nm,1.0s,baz=28,slow=3.4,SNR=5.2
BORG SKPbc **SKPbc 18 22 22.3 +0.6**
comp=Z,34nm,1.0s,baz=321,slow=1.3,SNR=5.4
KONS Konsvik 141.99 352 *e* **PKPdf 18 19 06.7 -3.3**
FLOS Flostrand 142.12 352 *e* **PKPdf 18 19 06.7 -3.5**
MOR8 Moi Rana 142.14 351 *e* **PKPdf 18 19 05.6 -4.8**
DGRG David-gareji 142.33 301 P **PKPdf 18 19 06.8 -4.7**
DUS Dusheti 142.77 302 P **PKPdf 18 19 09.9 -2.4**
TBLG Delisi 142.78 302 *e*PKHKP PKPpre 18 19 05.8
TBLG Delisi 142.78 302 P PKPpre 18 19 05.8
VRHR Novokhopersk 142.80 317 *e*PKHKP PKPpre 18 19 07.8
VRHR pmax pmax
comp=Z,90nm,0.6s
VRHR pmax pmax
comp=N,20nm,0.7s
VRHR pmax pmax
comp=E,40nm,0.8s
GNI Garni 142.90 299 *e*P PKPpre 18 19 06.8
GNI Garni 142.90 299 PKPdf **PKPdf 18 19 10.5 -2.3**
SNR=18
GNI Garni 142.90 299 *e*PKPpre PKPpre 18 19 08.9
GNI PKP **PKPdf 18 19 12.4 -0.3**

GNI	Garni	142.90	299	PKP	PKPdf	18 19 12.4	-0.3
	comp=E,20nm,0.7s,baz=304,slow=1.8,SNR=16						
MOS	Moscow	142.97	326	ePKHKP	PKPpre	18 19 07.3	
MOS				pmax	pmax		
	comp=Z,451nm,1.4s						
MOS				pmax	pmax		
	comp=Z,900nm,2.0s						
KAF	Kangasniemi	143.21	341	ePKHKP	PKPpre	18 19 08.3	
KAF	Kangasniemi	143.21	341	ep	PKPab	18 19 08.3	-0.5
ZEI	Tsey	143.28	303	i PKHKP	PKPpre	18 19 09.7	
ZEI				pmax	pmax		
	comp=Z,202nm,1.5s						
CLDR	Caldiran	143.58	297	eP	PKPbc	18 19 12.0	-0.3
ONI	Oni	143.63	303	P	PKPab	18 19 11.6	+0.4
DYDN	Diyadin	143.74	298	i P	PKPbc	18 19 12.7	0.0
AKH	Akhalkalaki	143.74	301	P	PKPbc	18 19 12.5	-0.1
HKR	Hakkari	143.76	295	eP	PKPdf	18 19 22.2	+7.9
HAKT	HAKKARI	143.79	295	i P	PKPbc	18 19 12.8	-0.1
FINES	FINESS Array B	143.80	340	PKP	PKPbc	18 19 11.5	-0.3
FINES	FINESS Array B	143.80	340	PKP	PKPbc	18 19 11.5	-0.3
	comp=Z,595nm,0.5s,baz=57,slow=3.7,SNR=1565						
OBN	Obninsk	143.81	326	⇓i PKIKP	PKPab	18 19 10.8	-0.5
OBN				i		18 22 30.4	
OBN				i SS	SS	18 40 50.2	-0.5
OBN				pmax	pmax		
	comp=Z,998nm,1.3s						
KBZ	Khabaz	143.87	305	PKIKP	PKPbc	18 19 12.8	+0.2
KBZ				pmax	pmax		
	comp=Z,64nm,0.9s						
KBZ	Khabaz	143.87	305	PKP	PKPbc	18 19 12.8	+0.3
KBZ	Khabaz	143.87	305	PKP	PKPbc	18 19 12.8	+0.3
	comp=Z,64nm,0.8s,baz=95,slow=3.3,SNR=61						
CUKT	Cukurca	143.87	294	eP	PKPab	18 19 12.4	+0.1
DIGO	Kars	143.92	299	i P	PKPab	18 19 12.9	+0.3
VOR	Voronezh	143.97	319	⇑i PKIKP	PKPab	18 19 12.0	-0.1
VOR				pmax	pmax		
	comp=Z,760nm,1.8s						
KIV	Kislovodsk	143.98	306	dePKHKP	PKPpre	18 19 07.6	
KIV				e		18 22 26.0	
KIV				e		18 35 05.6	
KIV				eSS	SS	18 40 49.0	-5.1
KIV				pmax	pmax		
	comp=Z,173nm,1.1s						
KIV				MLR	MLR		
	comp=Z,540nm,21.0s						
VSR	Storozhevoye	144.19	319	ePKIKP	PKPab	18 19 12.6	-0.4
VSR				pmax	pmax		
	comp=N,130nm,0.9s						
VSR				pmax	pmax		
	comp=Z,480nm,0.9s						
VSR				pmax	pmax		
	comp=E,240nm,1.0s						
VORD	Divnogorie	144.22	318	ePKIKP	PKPab	18 19 12.9	-0.1
VORD				pmax	pmax		
	comp=Z,350nm,1.0s						
VORD				pmax	pmax		
	comp=N,90nm,1.1s						
VORD				pmax	pmax		
	comp=E,210nm,1.3s						
AGRB	Hanur-Agry	144.28	298	eP	PKPbc	18 19 14.1	-0.1
GEVA	Gevas	144.29	296	i P	PKPbc	18 19 14.2	0.0
TUTA	Tutak	144.42	298	i P	PKPdf	18 19 15.3	-0.2
SIRT	Sirnak	144.80	295	eP	PKPbc	18 19 15.2	-0.5
SIRN	S¨–rnak	144.82	295	i P	PKPbc	18 19 15.8	0.0
ARTV	Artvin	144.94	301	i P	PKPbc	18 19 15.8	-0.4
DAGI	Agillar	144.96	301	i P	PKPbc	18 19 16.0	-0.1
HOMI	Horasan	145.07	299	i P	PKPdf	18 19 16.7	0.0
DDEM	Demirkent	145.10	300	i P	PKPdf	18 19 16.2	-0.3
DBOC	Borcka	145.11	301	i P	PKPdf	18 19 15.9	-0.5
DBAD	Bademkaya	145.13	301	i P	PKPdf	18 19 16.4	-0.1
BCA	Borcka	145.13	301	eP	PKPdf	18 19 16.2	-0.2
TBLU	Trondheim	145.46	353	e	PKPdf	18 19 16.3	+0.1
TBLU				AMB	AMB	18 19 20.8	
	comp=Z,1μm,2.2s						
ERZM	Erzurum	145.50	299	eP	PKPdf	18 19 16.7	-0.7
EZM	Erzurum	145.50	299	eP	PKPbc	18 19 17.8	-0.2
PZAR	Pazar-Rize	145.71	301	eP	PKPbc	18 19 18.4	+0.1
BNGL	BINGOL	145.75	297	i P	PKPbc	18 19 18.4	-0.3
BNGB	Bing¨¶l	146.11	297	eP	PKPdf	18 19 18.4	+0.2
MARD	Mardin	146.12	294	i P	PKPdf	18 19 17.8	-0.6
KOPT	Kop Dagi	146.15	299	i P	PKPdf	18 19 18.8	+0.3
SOC	Sochi	146.16	306	ePKIKP	PKPdf	18 19 17.5	-0.5
SOC				i		18 19 21.9	
SOC				e		18 20 23.7	
SOC				pmax	pmax		
	comp=Z,132nm,0.8s						
SOC				pmax	pmax		
	comp=Z,549nm,1.1s						
MZRK	Al-Mazaregh	146.25	292	eP	PKPab	18 19 21.1	-0.3
KBSD	Kabsdagh	146.32	294	eP	PKPbc	18 19 20.4	+0.1
BAYT	Ayd¨–ntepe-Bay	146.38	300	eP	PKPbc	18 19 20.1	-0.5
MAZI	Mazidag	146.38	295	eP	PKPdf	18 19 18.1	-0.7
MOL	Molde	146.39	355	e	PKPbc	18 19 20.0	+0.4
DIY	Diyarbakir	146.54	295	eP	PKPbc	18 19 21.5	+0.6
KTUT	Trabzon	146.58	301	eP	PKPbc	18 19 20.0	-0.8
MACK	Trabzon	146.59	301	i P	PKPbc	18 19 20.4	-0.5
DIYA	Diyarbakir	146.62	295	i P	PKPdf	18 19 19.3	+0.2
SFNV	Sufian	146.68	293	eP	PKPab	18 19 22.6	-0.5
ERZN	Erzincan	146.79	298	eP	PKPbc	18 19 21.1	-0.6
GUMT	Gumushane	146.87	300	eP	PKPbc	18 19 22.3	+0.4
EZC	Erzincan	147.06	299	eP	PKPbc	18 19 22.5	+0.1
KELT	Kelkit	147.08	300	i P	PKPdf	18 19 19.4	-0.5
PTK	Pertek	147.12	297	eP	PKPdf	18 19 20.5	+0.5
ESPY	Espiye-Giresun	147.37	301	eP	PKPdf	18 19 19.5	-0.7
ANN	Anapa	147.46	309	i PKHKP	PKPdf	18 19 18.6	-1.5
ANN				pmax	pmax		
	comp=Z,655nm,1.0s						
ELZG	Elazig	147.47	297	eP	PKPdf	18 19 22.1	+1.4
NB2	NORSAR Subarra	147.48	351	PKP	PKPbc	18 19 22.4	-0.3
	comp=Z,682nm,1.1s,baz=16,slow=2.9						
NB2	NORSAR Subarra	147.48	351	PKP	PKPbc	18 19 22.4	-0.3
	baz=16,slow=2.9						
NOA	NORSAR Array B	147.48	351	PKPbc	PKPbc	18 19 21.7	-1.0
NOA	NORSAR Array B	147.48	351	PKPbc	PKPbc	18 19 21.7	-1.0
	comp=Z,148nm,0.7s,baz=14,slow=4.4,SNR=261						
ILIC	ilic-Erzincan	147.69	298	eP	PKPbc	18 19 22.6	-1.5
NAO01	NORSAR Array S	147.72	351	ePKPdf	PKPdf	18 19 20.2	+0.1
NC602	NORSAR Array S	147.73	350	e	PKPdf	18 19 19.8	-0.3
NC602				ePP	PP	18 22 52.1	-0.2
KEMA	Kemaliye	147.77	298	i P	PKPdf	18 19 20.7	-0.3
SUSE	Susehri	147.87	300	i P	PKPdf	18 19 20.8	-0.4
HYA	Hoyanger	147.88	355	e	PKPdf	18 19 20.5	+0.2
HYA				AMB	AMB	18 19 26.1	
	comp=Z,656nm,2.5s						
MALT	Malatya	147.92	296	eP	PKPdf	18 19 20.4	-0.8
MALT	Malatya	147.92	296	⇑PKIKP	PKPdf	18 19 21.5	+0.2
MALT	Malatya	147.92	296	⇑i P	PKPdf	18 19 21.5	+0.2
HFS	Hagfors	147.95	348	PKPbc	PKPbc	18 19 23.3	-0.6
HFS	Hagfors	147.95	348	PKPbc	PKPbc	18 19 23.3	-0.6
	comp=Z,295nm,0.8s,baz=80,slow=1.7,SNR=102						
JHLN	Al Jahlan	148.05	291	eP	PKPbc	18 19 25.3	+0.3
SUE	Sulen	148.08	357	⇓i	PKPbc	18 19 24.1	-0.1
SUE				AMB	AMB	18 19 26.5	
	comp=Z,1μm,2.6s						
IDID	Didziasalis	148.14	332	eP	PKPdf	18 19 22.6	+1.6
IDID				AMB	AMB	18 19 27.6	
	comp=Z,197nm,1.0s						
ISAL	Salakas	148.21	333	eP	PKPdf	18 19 22.8	+1.8
ISAL				AMP		18 19 23.2	
ISAL				AMB	AMB	18 19 27.9	
	comp=Z,228nm,1.1s						
MICGM	Minsk	148.22	330	⇑ePKP	PKPdf	18 19 20.0	-1.1
MNK	Minsk	148.24	330	⇑ePKHKP	PKPdf	18 19 20.0	-1.1
MNK				eSS	SS	18 41 36.0	-4.5
AKCD	Akcadag	148.32	296	i P	PKPdf	18 19 21.4	-0.6
IIGN	Ignalina	148.33	333	eP	PKPdf	18 19 22.5	+1.3
IIGN				AMB	AMB	18 19 27.7	
	comp=Z,264nm,1.2s						
NACGM	Naroch	148.41	332	e	PKPdf	18 19 18.0	-3.4
SLMH	Al Salmeh	148.45	292	eP	PKPbc	18 19 26.4	+0.4
RSDY	Resadiye-TOKAT	148.51	300	eP	PKPbc	18 19 25.8	-0.2
ASK	Askoy	148.62	356	e	PKPbc	18 19 25.2	-0.3
ASK				AMB	AMB	18 19 27.8	
	comp=Z,1μm,2.0s						
DARE	Darende-Malaty	148.63	297	eP	PKPdf	18 19 22.9	+0.4
GZT	Gaziantep	148.68	295	i P	PKPdf	18 19 22.3	-0.3
RUND	Rundenannen	148.68	356	e	PKPbc	18 19 25.1	-0.7
RUND				AMB	AMB	18 19 27.9	
	comp=Z,1μm,1.9s						
BER	Bergen	148.72	356	e	PKPbc	18 19 26.1	+0.3
BER				ePP	PP	18 22 58.2	+0.2
SCER	sogukcermik	148.74	299	i P	PKPdf	18 19 22.6	0.0
SVSK	Karacayir	148.83	300	eP	PKPdf	18 19 23.4	+0.8
EGD	Espegrend	148.83	356	e	PKPbc	18 19 25.4	-0.7
ERBA	Erbaa	148.89	301	eP	PKPdf	18 19 20.9	-1.8
ZALF	Zalf	148.92	286	eP	PKPbc	18 19 27.6	+0.3
KONO	Kongsberg	149.04	352	e	PKPdf	18 19 20.8	-1.5
KONO				eSS	SS	18 41 51.4	+2.6
KONO	Kongsberg	149.04	352	ePKPdf	PKPdf	18 19 22.8	+0.6
LRW	Lerwick	149.05	2	eP	PKPdf	18 19 22.6	+0.4
TOKT	Tokat	149.11	300	eP	PKPbc	18 19 27.7	+0.1
KUZU	Kuzuini	149.11	294	i P	PKPdf	18 19 22.8	-0.4
KMRS	Kahramanmaras	149.20	295	eP	PKPdf	18 19 22.6	-0.7
ASF	Jabal al Asfar	149.24	285	PKP	PKPdf	18 19 22.7	-0.9
ASF				PKPbc	PKiKP	18 19 29.1	-0.1
ASF	Jabal al Asfar	149.24	285	PKP	PKPdf	18 19 22.7	-0.9
	comp=Z,26nm,0.9s,baz=144,slow=0.5,SNR=18						
ASF				PKPbc	PKiKP	18 19 29.1	-0.1
	comp=Z,123nm,0.9s,baz=67,slow=1.5,SNR=84						
KVT	Kavak	149.34	302	eP	PKPdf	18 19 24.8	+1.4
KFRA	Kufra	149.40	291	eP	PKPbc	18 19 28.1	-0.3
SALA	Sala	149.41	286	eP	PKPbc	18 19 29.2	+0.5
DRWC	Darouich	149.45	293	eP	PKPab	18 19 36.2	+1.9
PINB	Pinarbasi	149.46	297	i P	PKPdf	18 19 22.8	-1.2
BLS5	Blasjo	149.59	355	e	PKPdf	18 19 23.7	+0.5
BLS5				AMB	AMB	18 19 31.5	
	comp=Z,630nm,0.7s						
ANDN	Andirin	149.63	295	i P	PKPdf	18 19 23.6	-0.4
BTCH	Batrach	149.65	292	eP	PKPbc	18 19 29.7	+0.7
SIM	Simferopol'	149.66	310	i PKIKP	PKPdf	18 19 22.4	-1.3
SIM				pmax	pmax		
	comp=Z,273nm,0.9s						
MARH	Ras Al Marh	149.66	288	eP	PKPbc	18 19 30.2	+0.8
TOTH	TOTAH	149.70	287	eP	PKPbc	18 19 29.5	+0.3
FKH	Fakeheh	149.73	289	eP	PKPdf	18 19 25.3	+1.0
HAWK	Haweek	149.73	289	eP	PKPbc	18 19 29.8	+0.5
DIKM	Dikmen	149.80	303	eP	PKPbc	18 19 27.8	-1.3
QASN	Qassioun	149.83	287	eP	PKPbc	18 19 28.6	-1.0
BNN	Bunyan	149.87	298	eP	PKPbc	18 19 27.4	-2.1
KMY	Karmoy	149.89	356	e	PKPdf	18 19 23.4	-0.2
HTY	Hatay	149.90	292	eP	PKPbc	18 19 28.9	-0.6
YAYL	Yayladag	149.93	292	i P	PKPdf	18 19 23.7	-1.0
AKASG	Malin Array Be	149.94	323	PKIKP	PKPdf	18 19 23.1	-0.9
AKASG				pmax	pmax		
	comp=Z,11nm,0.8s						
AKASG				pmax	pmax		
	comp=Z,232nm,0.5s						
AKASG	Malin Array Be	149.94	323	PKP	PKPdf	18 19 23.1	-0.9
AKASG				PKPbc	PKPbc	18 19 29.3	+0.2
AKASG	Malin Array Be	149.94	323	PKP	PKPdf	18 19 23.1	-0.9
	comp=Z,11nm,0.8s,baz=37,slow=1.7,SNR=29						
AKASG				PKPbc	PKPbc	18 19 29.3	+0.2
	comp=Z,232nm,0.5s,baz=47,slow=3.5,SNR=199						
KIEV	Kiev	149.95	323	ePKIKP	PKPdf	18 19 22.5	-1.4
KIEV	Kiev	149.95	323	ePKPdf	PKPdf	18 19 22.5	-1.4
KOZT	Kozan	150.05	295	eP	PKPdf	18 19 26.3	+1.7
ARNB	Al Arnab	150.05	292	eP	PKPbc	18 19 29.9	-0.1
TCHB	Talchebab	150.05	285	eP	PKPbc	18 19 32.9	+2.8
BRBR	Barbar	150.10	287	eP	PKPbc	18 19 31.1	+0.7
HWQ	Hawqa	150.11	289	eP	PKPdf	18 19 23.7	-1.2
STAV	Stavanger	150.13	355	e	pPKPdf	18 20 29.6	-1.1
YOZ	Yozgat	150.15	299	eP	PKPbc	18 19 30.2	0.0
CEYT	Ceyhan	150.15	294	eP	PKPbc	18 19 29.1	-1.0
RCY	Rachaya	150.19	287	eP	PKPdf	18 19 26.1	+0.9
BYBT	Boyabat	150.20	303	eP	PKPbc	18 19 29.7	-0.3
YURE	YUREGIR	150.26	294	eP	PKPbc	18 19 30.0	-0.4
BHL	Bhannes	150.35	288	eP	PKPdf	18 19 24.7	-0.6
SUW	Suwalki	150.51	333	ePKIKP	PKPdf	18 19 26.3	+1.6
SUW	Suwalki	150.51	333	ePKPdf	PKPdf	18 19 26.3	+1.6
SUW	Suwalki	150.51	333	ePKPdf	PKPdf	18 19 24.5	-0.2
SUW				ePKPbc	PKPbc	18 19 30.3	-0.1
SUW				ePKPab	PKPab	18 19 37.8	-0.2
SUW				epPKPbc	pPKPbc	18 20 36.4	-0.2
HOMB	Homborsund	150.52	352	e	PKPbc	18 19 30.8	+0.6
MMAI	Mount Meron Ar	150.54	286	PKPbc	PKPbc	18 19 32.0	+0.7
MMAI	Mount Meron Ar	150.54	286	PKPbc	PKPbc	18 19 32.0	+0.7
	comp=Z,329nm,0.6s,baz=74,slow=6.2,SNR=169						
CORM	Corum	150.57	301	eP	PKPdf	18 19 25.6	+0.1
BZK	Bozkurt	150.63	305	eP	PKPbc	18 19 30.9	-0.2
AVNT	Avonos	150.65	298	i P	PKPdf	18 19 23.5	-2.2
EIL	Elat	150.65	279	PKP	PKPdf	18 19 25.2	-0.5
EIL				PKPbc	PKiKP	18 19 32.1	0.0
EIL	Elat	150.65	279	PKP	PKPdf	18 19 25.2	-0.5
	comp=Z,42nm,1.1s,baz=37,slow=2.3,SNR=7.7						
EIL				PKPbc	PKiKP	18 19 32.1	0.0
	comp=Z,156nm,0.7s,baz=65,slow=1.9,SNR=41						
KARA	Karaisali	150.68	295	eP	PKPdf	18 19 24.8	-0.8
TOS	Tosya	150.84	303	eP	PKPbc	18 19 32.4	+0.7
CDAG	Cicekdag	150.88	300	i P	PKPdf	18 19 24.4	-1.5
GULE	Gulek	150.90	295	i P	PKPdf	18 19 25.8	-0.3
NIG	Nigde	150.93	297	eP	PKPdf	18 19 26.5	+0.2
ILGA	Ilgaz	151.06	303	eP	PKPdf	18 19 24.6	-1.7
MVH1	Achvaich	151.06	6	eP	PKPdf	18 19 24.8	-0.7
CANT	Cankiri	151.24	302	eP	PKPbc	18 19 32.4	-0.2
KAC	Achnashellach	151.37	7	eP	PKPdf	18 19 25.0	-0.9
BR131	Keskin Array S	151.41	300	ePKPdf	PKPdf	18 19 25.6	-1.2
BRTR	Keskin Array B	151.41	300	PKP	PKPdf	18 19 26.3	-0.5
BRTR				PKPbc	PKPbc	18 19 33.0	-0.2
BRTR	Keskin Array B	151.41	300	PKP	PKPdf	18 19 26.3	-0.5
	comp=Z,9.8nm,0.8s,baz=137,slow=2.5,SNR=41						
BRTR				PKPbc	PKPbc	18 19 33.0	-0.2
	comp=Z,73nm,0.8s,baz=145,slow=4.5,SNR=82						
KAMT	Kaman	151.42	299	eP	PKPbc	18 19 32.8	-0.3
MCD	Coleburn Disti	151.48	5	eP	PKPdf	18 19 27.0	+0.9
KIZK	Mersin	151.48	293	i P	PKPdf	18 19 25.7	-1.1
KPL	Plockton	151.49	8	eP	PKPdf	18 19 26.7	+0.6
MDO	Dochfour	151.53	6	eP	PKPdf	18 19 25.3	-0.9
EREN	Erenkoy	151.53	291	eP	PKPdf	18 19 29.3	+2.4
KSB	Sheil Bridge	151.64	8	eP	PKPdf	18 19 25.7	-0.6
PHNC	Paralimni	151.67	290	P	PKPbc	18 19 31.3	-2.4
	comp=Z,4.0nm,0.6s						
SAFT	Safranbolu	151.77	304	eP	PKPbc	18 19 34.1	+0.3
SULT	Sultanhani-AKS	151.77	297	eP	PKPbc	18 19 31.5	-2.4
BBAL	Bala	151.84	300	i P	PKPdf	18 19 26.1	-1.3
IKL	Isikli	151.87	293	eP	PKPdf	18 19 30.7	+3.3
AFSR	Af¨ar-Bala (A	151.90	300	eP	PKPdf	18 19 27.1	-0.4
ANTO	Ankara	152.02	301	eP	PKPdf	18 19 26.4	-1.2
ANTO	Ankara	152.02	301	ePKIKP	PKPdf	18 19 26.1	-1.5
ANTO	Ankara	152.02	301	PKPdf	PKPdf	18 19 27.4	-0.2
	SNR=99						
ANTO	Ankara	152.02	301	ePKPdf	PKPdf	18 19 26.1	-1.5
ANTO				ePKPdf	PKPbc	18 19 27.0	-7.5
ANTO	Ankara	152.02	301	⇓i P	PKPdf	18 19 26.2	-1.4
LOD	Lodumlu	152.04	301	eP	PKPdf	18 19 26.7	-1.0
LFK	Lefkose	152.07	291	eP	PKPdf	18 19 30.4	+2.5
KIS	Kishinev	152.15	317	ePKP	PKPdf	18 19 25.0	-2.5
KIS				i pPKP	pPKPdf	18 20 36.0	+1.7
KIS	Kishinev	152.15	317	ePP	PP	18 23 20.0	+1.5
KIS				i SKKS		18 29 42.0	
KIS				LRM	MLR	19 29 16.0	
	comp=Z,600nm,22.0s						
KIS	Kishinev	152.15	317	ePKIKP	PKPdf	18 19 25.0	-2.5
KIS				i		18 19 43.0	
KIS				e		18 23 20.0	
KIS				MLR	MLR		
	comp=Z,600nm,20.0s						
KIS				MLR	MLR		
	comp=Z,600nm,22.0s						
MUD	Monsted U'grnd	152.20	350	ePKIKP	PKPdf	18 19 30.0	+2.8
MUD				pmax	pmax		
	comp=Z,110nm,1.0s						
MUD	Monsted U'grnd	152.20	350	i P	PKPdf	18 19 30.0	+2.8
	comp=Z,108nm,1.0s						
CSS	Prodhromos	152.25	290	eP	PKPdf	18 19 28.9	+0.8
CSS	Prodhromos	152.25	290	P	PKPdf	18 19 26.5	-1.5
CSS	Prodhromos	152.25	290	ePKPdf	PKPdf	18 19 26.6	-1.5
CSS				ePKPdf	PKPbc	18 19 27.0	-8.0
CSS				ePKPbc	PKiKP	18 19 34.8	-0.5
BSD	Bornholm Skovb	152.30	343	i PKIKP	PKPdf	18 19 26.2	-1.2
BSD				e		18 19 45.0	
BSD				pmax	pmax		
	comp=Z,22nm,1.1s						
BSD				MLR	MLR		
	comp=Z,410nm,20.0s						
BSD	Bornholm Skovb	152.30	343	i P	PKPdf	18 19 26.2	-1.2
	comp=Z,22nm,1.1s						
BSD				i		18 19 34.0	
BSD				e		18 19 45.0	
BSD							
	comp=Z,400nm,20.0s						
MAMC	Mammari	152.33	291	P	PKPdf	18 19 27.4	-0.7
COP	Copenhagen	152.36	346	i PKIKP	PKPdf	18 19 27.5	+0.1
COP				i		18 19 45.8	
COP				pmax	pmax		
	comp=Z,24nm,0.8s						
COP	Copenhagen	152.36	346	i P	PKPdf	18 19 27.5	+0.1
	comp=Z,24nm,0.8s						
COP				e		18 19 34.5	
COP				i		18 19 45.8	
ERMK	Ermenek	152.45	294	i P	PKPdf	18 19 27.8	-0.8
LEF	Lefka	152.60	291	eP	PKPbc	18 19 35.6	-0.1
LADK	Ladik-KONYA	152.67	297	eP	PKPdf	18 19 31.5	+2.8
KONT	Konya--Tatoy	152.71	297	eP	PKPbc	18 19 33.3	-2.7
LLD	Lille Linde	152.73	346	i PKIKP	PKPdf	18 19 29.2	+1.2
LLD				e		18 19 47.2	
LLD				pmax	pmax		
	comp=Z,67nm,0.9s						
LLD	Lille Linde	152.73	346	i P	PKPdf	18 19 29.2	+1.2
	comp=Z,67nm,0.9s						
LLD				i		18 19 35.4	
LLD				e		18 19 47.2	
LEOM	Leova	152.75	317	⇑PKIKP	PKPbc	18 19 35.9	+0.2
LEOM	Leova	152.75	317	⇑i P	PKPbc	18 19 35.9	+0.2
HDMB	Hadim	152.76	295	eP	PKPdf	18 19 29.3	+0.3
EAB	Aberfoyle	152.76	7	eP	PKPdf	18 19 27.9	-0.2
ALFC	Alevga	152.84	291	P	PKPdf	18 19 28.8	-0.1
	comp=Z,2.1nm,0.8s						
GAZI	Gazipasa	152.98	293	eP	PKPdf	18 19 24.7	-4.4
TLCR		153.01	314	⇓PKIKP	PKPdf	18 19 30.0	+1.2
TLCR		153.01	314	⇓i P	PKPdf	18 19 30.0	+1.2
MDUB	Mudurnu	153.06	303	eP	PKPbc	18 19 34.1	-2.6
PPCY	Paphos	153.06	290	P	PKPdf	18 19 29.3	+0.1
AKMC	Akamas	153.07	290	P	PKPdf	18 19 29.2	0.0
SVRH	Sivrihisar-ESK	153.07	300	eP	PKPbc	18 19 35.2	-1.6
BEL	Belsk	153.11	333	ePKPdf	PKPdf	18 19 30.0	+1.3
BEL				ePKPbc	PKiKP	18 19 36.8	+0.4
BEL				ePKPab	PKPab	18 19 49.4	+0.4
BEL				epPKPdf	pPKPdf	18 20 35.8	+0.3
LVV	L'vov	153.11	326	ePKIKP	PKPdf	18 19 27.0	-1.8
LVV				MLR	MLR		
	comp=Z,500nm,23.0s						
PGBU	Glenifferbraes	153.12	7	eP	PKPdf	18 19 27.2	-1.3
ESY	Stoneypath	153.18	5	eP	PKPdf	18 19 28.7	0.0
RGN	Rugen	153.21	344	ePKPbc	PKPbc	18 19 35.4	-1.0
RGN				ePKPab	PKPab	18 19 49.9	+0.6
GKP	Gorka Klasztor	153.24	338	ePKPdf	PKPdf	18 19 28.5	-0.3
GKP				ePKPbc	PKiKP	18 19 36.8	+0.2
GKP				ePKPab	PKPab	18 19 49.9	+0.4
GKP				epPKPdf	pPKPdf	18 20 35.4	-0.3
GKP				epPKPbc	pPKPbc	18 20 41.6	-1.3
EBL	Broad Law	153.29	5	eP	PKPbc	18 19 35.1	-1.5
ESKT	Eskisehir	153.56	301	eP	PKPdf	18 19 31.1	+1.2
GULT	Gulveren	153.57	303	eP	PKPdf	18 19 30.0	+0.1
TIRR	Tirgusor	153.59	313	ePKIKP	PKPdf	18 19 27.7	-1.9
TIRR	Tirgusor	153.59	313	ePKPdf	PKPdf	18 19 27.7	-1.9
TIRR				ePKPbc	PKPbc	18 19 37.4	-0.1
TIRR	Tirgusor	153.59	313	⇑i P	PKPdf	18 19 28.6	-1.0
TESR	Tescani	153.68	318	⇓i P	PKPdf	18 19 31.0	+1.3
EKA	Eskdalemuir Ar	153.72	6	PKP	PKPdf	18 19 29.9	+0.5
EKA				PKPbc	PKiKP	18 19 37.7	+0.1
EKA				PKPab	PKPab	18 19 51.7	+0.2
EKA				PP	PP	18 23 26.5	+0.1
EKA	Eskdalemuir Ar	153.72	6	PKP	PKPdf	18 19 29.9	+0.5
	comp=Z,2.2nm,0.6s,baz=333,slow=1.3,SNR=7.9						
EKA				PKPbc	PiKiKP	18 19 37.7	+0.1
	comp=Z,4.5nm,0.5s,baz=328,slow=2.0,SNR=28						
EKA				PKPab	PKPab	18 19 51.7	+0.2
	comp=Z,19nm,0.5s,baz=339,slow=3.0,SNR=25						
EKA				PP	PP	18 23 26.5	+0.1
	comp=Z,12nm,1.2s,baz=343,slow=4.4,SNR=4.8						
ESK	Eskdalemuir	153.73	6	eP	PKPbc	18 19 36.0	-1.5
ESK	Eskdalemuir	153.73	6	ePKIKP	PKPbc	18 19 37.3	-0.2
ESK	Eskdalemuir

OKC ex x 18 19 42.2
OKC ePKPAB **PKPab** **18 20 00.7 +0.5**
OKC ex x 18 20 34.0
OKC ePP **PP** **18 23 32.8 -5.2**
OKC ex x 18 27 05.1
OKC eSS SS 18 43 03.9 +1.6
OKC AMS AMS 19 24 50.0
comp=Z,400nm,18.7s
DRGR **155.73 322** ⇓PKIKP **PKPdf** **18 19 31.2 -1.4**
DRGR **155.73 322** ⇓*i*P **PKPdf** **18 19 31.2 -1.4**
NRDL **Niedersach Rie** **155.83 347** ePKPdf **PKPdf** **18 19 31.5 -0.8**
NRDL ePKPbc PKPbc 18 19 43.0
NRDL ePKPab **PKPab** **18 20 00.6 +0.1**
BALY **Balya** **155.90 303** eP **PKPdf** **18 19 30.0 -3.0**
SART **Tekirdag** **155.91 305** *i* P **PKPdf** **18 19 31.1 -2.0**
LOT **Lotru** **155.94 318** ⇓*i*P **PKPdf** **18 19 32.4 -0.6**
UPC **Upice** **155.98 336** ePKIKP **PKPdf** **18 19 32.2 -0.5**
UPC *e* 18 20 02.0
UPC *e* 18 23 37.2
UPC **Upice** **155.98 336** ePKPDF **PKPdf** **18 19 32.2 -0.5**
UPC *ex* x 18 19 44.7
UPC ePKPAB **PKPab** **18 20 02.0 +0.7**
UPC ePP **PP** **18 23 37.2 -2.1**
DPC **Dobruska-Polom** **156.00 336** ePKIKP **PKPdf** **18 19 32.1 -0.7**
DPC *e* 18 20 36.0
DPC *e* 18 23 37.0
DPC eSS SS 18 42 58.9 -6.4
DPC **Dobruska-Polom** **156.00 336** ePKPDF **PKPdf** **18 19 32.1 -0.7**
DPC *ex* x 18 19 44.3
DPC ePKPAB **PKPab** **18 20 02.3 +0.8**
DPC *ex* x 18 20 36.0
DPC ePP **PP** **18 23 37.0 -2.5**
DPC *ex* x 18 25 04.4
DPC *ex* x 18 33 53.3
DPC eSS SS 18 42 58.9 -6.4
DPC AMS AMS 19 24 00.0
DPC **Dobruska-Polom** **156.00 336** ePKPdf **PKPdf** **18 19 32.2 -0.6**
AKHS **Akhisar** **156.00 301** *i* P **PKPdf** **18 19 31.6 -1.6**
MORC **Moravsky Berou** **156.00 333** ePKIKP **PKPdf** **18 19 31.8 -1.0**
MORC **Moravsky Berou** **156.00 333** ePKPdf **PKPdf** **18 19 31.8 -1.0**
MORC ePKPdf **PKPdf** **18 19 32.0 -0.8**
FOEL **Foel Wylfa** **156.13 7** eP **PKPdf** **18 19 36.0 +3.1**
CLL **Collm** **156.23 341** ePKPdf **PKPdf** **18 19 32.6 -0.4**
CLL ePKPbc PKPbc 18 19 43.6
CLL ePKPab **PKPab** **18 20 02.7 +0.4**
CLL ePP PP 18 23 34.5 -6.1
CLL eSS SS 18 42 56.9 -10
CLL eSSS SSS 18 49 06.6
CLL **Collm** **156.23 341** ePKIKP **PKPdf** **18 19 32.0 -1.0**
CLL *i* 18 20 02.2
CLL pmax pmax
comp=Z,121nm,1.6s
CLL pmax pmax
comp=Z,95nm,1.0s
CLL pmax pmax
comp=Z,377nm,0.8s
CLL **Collm** **156.23 341** ePKPdf **PKPdf** **18 19 32.0 -1.0**
comp=Z,121nm,1.6s
CLL ePKPdiff PKPbc 18 19 43.0
comp=Z,95nm,1.0s
CLL *i* PKPab **PKPab** **18 20 02.2 -0.1**
comp=Z,377nm,0.8s
CLL *ep*PKPab **pPKPab** **18 21 09.0 +2.8**
CLL *es*PKPab **sPKPab** **18 21 34.0 +0.6**
CLL *e*SKPdf **SKPdf** **18 22 36.0 -4.4**
CLL ePP **PP** **18 23 37.0 -3.6**
comp=Z,55nm,1.5s
CLL *e* 18 24 27.0
CLL *e* 18 25 04.0
CLL *e*SKSdf **SKSdf** **18 26 20.0 +6.3**
CLL ePPP PPP 18 27 18.0
CLL *e* 18 28 30.0
CLL *es*SKKSac 18 32 00.0
CLL *e*SKSP 18 33 31.0
CLL ePSKS 18 34 04.0
CLL *e* 18 35 23.0
CLL ePPS PPS 18 36 59.0
CLL *e* 18 38 13.0
CLL *es*PSKSrev 18 39 42.0
CLL eSS SS 18 42 58.0 -9.4
CLL *e*(PSS) 18 44 24.0
CLL eSSS SSS 18 49 16.0
CLL eSSSS 18 53 18.0
BRG **Berggiesshubel** **156.34 340** *i* PKP **PKPdf** **18 19 32.6 -0.6**
comp=Z,141nm,1.4s
BRG *i* 18 19 43.8
comp=Z,160nm,1.7s
BRG *i* 18 20 03.5
comp=Z,377nm,1.0s
BRG pPKP pPKPdf 18 20 30.9 -9.1
comp=Z,118nm,1.6s
BRG PP **PP** **18 23 38.9 -2.3**
comp=Z,73nm,1.9s
BRG *i* 18 33 57.0
BRG SS SS 18 43 01.0 -7.7
BRG **Berggiesshubel** **156.34 340** ePKPdf **PKPdf** **18 19 32.8 -0.4**
BRG ePKPbc PKPbc 18 19 43.7
BRG ePKPab **PKPab** **18 20 03.5 +0.7**
BRG **Berggiesshubel** **156.34 340** *i* PKIKP **PKPdf** **18 19 32.6 -0.6**
BRG 18 23 38.9
BRG pmax pmax
comp=Z,141nm,1.4s
BRG pmax pmax
comp=Z,160nm,1.7s
BRG pmax pmax
comp=Z,377nm,1.0s
BRG pmax pmax
comp=Z,118nm,1.6s
BRG pmax pmax
comp=Z,73nm,1.9s
LIC **Lamto** **156.38 164** ePKIKP **PKPdf** **18 19 34.1 -0.3**
comp=Z,126nm,1.2s
LIC eR
comp=Z,643nm,21.8s
LIC **Lamto** **156.38 164** ePKIKP **PKPdf** **18 19 34.5 +0.1**
comp=Z,274nm,1.3s
CLZ **Clausthal** **156.39 346** ePKPdf **PKPdf** **18 19 32.5 -0.8**
CLZ ePKPbc PKPbc 18 19 44.3
CLZ ePKPab **PKPab** **18 20 03.7 +0.6**
CLZ **Clausthal** **156.39 346** ePKPdf **PKPdf** **18 19 32.5 -0.8**
PSZ **Piszkesteto** **156.40 327** ⇓PKIKP **PKPdf** **18 19 33.3 -0.2**
PSZ **Piszkesteto** **156.40 327** ePKPdf **PKPdf** **18 19 32.4 -1.0**
PSZ ePKPdf **PKPdf** **18 19 32.6 -0.8**
PSZ **Piszkesteto** **156.40 327** ⇓*i*P **PKPdf** **18 19 33.3 -0.2**
PSZ **Piszkesteto** **156.40 327** ⇓*e* **PKPdf** **18 19 32.6 -0.8**
PSZ *e* 18 20 03.9
IBBN **Ibbenburen** **156.43 350** ePKPdf **PKPdf** **18 19 34.3 +1.1**
IBBN ePKPab **PKPab** **18 20 03.7 +0.6**
PVCC **Panska Ves** **156.44 338** ePKIKP **PKPdf** **18 19 32.7 -0.6**
PVCC *e* 18 23 38.0
PVCC MLR MLR
comp=Z,800nm,28.3s
PVCC **Panska Ves** **156.44 338** ePKPDF **PKPdf** **18 19 32.7 -0.6**
PVCC ePKPAB **PKPab** **18 20 04.2 +0.9**
PVCC ePP **PP** **18 23 38.0 -3.8**
PVCC AMS AMS 19 23 50.0
comp=Z,800nm,28.3s
FBE **Freiberg** **156.47 340** ePKPdf **PKPdf** **18 19 33.4 +0.1**
FBE ePKPab **PKPab** **18 20 04.4 +1.0**
BART **Pico Bartolome** **156.48 62** ePKPdf **PKPdf** **18 19 35.8 +1.9**
GZR **Gura Zlata** **156.55 319** ⇑PKIKP **PKPdf** **18 19 34.9 +1.2**
GZR **Gura Zlata** **156.55 319** ⇑*i*P **PKPdf** **18 19 34.9 +1.2**
KIC **Kosan Boka** **156.58 165** ePKIKP **PKPdf** **18 19 34.1 -0.5**
comp=Z,310nm,1.2s
NEUB **Neuenburg** **156.65 343** ePKPab **PKPab** **18 20 04.6 +0.5**
PSMN **Pico do Norte,** **156.73 64** ePKPdf **PKPdf** **18 19 36.1 +2.0**
VRAC **Vranov** **156.75 334** PKP **PKPdf** **18 19 32.5 -1.3**
VRAC PKPab **PKPab** **18 20 03.2 -1.5**
VRAC PP **PP** **18 23 41.6 -2.0**
VRAC **Vranov** **156.75 334** PKP **PKPdf** **18 19 32.5 -1.3**
comp=Z,15nm,1.1s,baz=13,slow=1.0,SNR=30
VRAC PKPab **PKPab** **18 20 03.2 -1.5**
comp=Z,145nm,1.1s,baz=41,slow=4.0,SNR=30
VRAC PP **PP** **18 23 41.6 -2.0**
comp=Z,18nm,1.2s,baz=47,slow=5.3,SNR=6.5
TIC **Toumodi** **156.79 164** ePKIKP **PKPdf** **18 19 34.2 -0.7**
comp=Z,312nm,1.4s
DBIC **Dimbokro** **156.85 165** ePKPdf **PKPdf** **18 19 34.1 -0.8**
DBIC PKP **PKPdf** **18 19 34.7 -0.3**
DBIC ePKPdf **PKPdf** **18 19 35.3 +0.3**
DBIC PKPab **PKPab** **18 20 07.2 +1.3**
DBIC **Dimbokro** **156.85 165** PKP **PKPdf** **18 19 34.7 -0.3**
comp=Z,56nm,1.1s,baz=188,slow=0.9,SNR=20
DBIC PKPab **PKPab** **18 20 07.2 +1.3**
comp=Z,46nm,1.0s,baz=177,slow=5.2,SNR=7.5
PRA **Prague** **156.88 338** PKPDF **PKPdf** **18 19 34.0 +0.1**
PRA PKPAB **PKPab** **18 20 07.0 +1.8**
PRA PP **PP** **18 23 42.0 -2.2**
RDO **Rodhopi** **156.90 307** P PKPdf 18 19 26.4 -7.8
RDO **Rodhopi** **156.90 307** eP **PKPdf** **18 19 32.5 -1.7**
WTSB **Winterswijk** **156.90 351** ePKPdf **PKPdf** **18 19 33.4 -0.4**
comp=Z,274nm,1.5s
WTSB *e*PKPbc PKPbc 18 19 44.7
comp=Z,128nm,1.2s
WTSB *e*X 18 19 51.1
WTSB *e*PKPab **PKPab** **18 20 04.7 -0.4**
comp=Z,702nm,1.5s
PRU **Pruhonice** **156.92 338** ePKIKP **PKPdf** **18 19 33.5 -0.4**
PRU *e* 18 20 35.8
PRU *e* 18 23 40.8
PRU eSS SS 18 43 17.2 +2.3
PRU MLR MLR
comp=Z,500nm,21.6s
PRU **Pruhonice** **156.92 338** ePKPDF **PKPdf** **18 19 33.5 -0.4**
PRU *ex* x 18 19 46.6
PRU ePKPAB **PKPab** **18 20 06.0 +0.6**
PRU *ex* x 18 20 35.8
PRU ePP **PP** **18 23 40.8 -3.6**
PRU *ex* x 18 25 11.8
PRU *ex* x 18 27 15.5
PRU *ex* x 18 34 05.3
PRU eSS SS 18 43 17.2 +2.3
PRU AMS AMS 19 24 20.0
comp=Z,500nm,21.6s
MCH1 **Michaelchurch** **157.04 7** eP PKPdf 18 19 41.3 +7.3
SMOL **Smolenice** **157.05 332** ePKIKP **PKPdf** **18 19 36.9 +2.7**
SMOL **Smolenice** **157.05 332** ePKP **PKPdf** **18 19 36.9 +2.7**
SMOL *e* 18 20 06.8
BZS **Buzias** **157.06 321** ⇑PKIKP **PKPdf** **18 19 33.0 -1.3**
BZS **Buzias** **157.06 321** ⇑*i*P **PKPdf** **18 19 33.0 -1.3**
MPEP **Malo Peshtene** **157.09 314** *i* P **PKPdf** **18 19 33.6 -0.8**
BUD **Budapest** **157.12 328** *e* **PKPdf** **18 19 33.5 -0.8**
BUD *e* 18 20 06.9
PKSN **Nyarlorinc** **157.13 326** ⇓*e* **PKPdf** **18 19 34.8 +0.5**
PKSN *e* 18 20 07.2
SMTH **Samothraki Isl** **157.16 306** P **PKPdf** **18 19 30.9 -3.7**
SMTH **Samothraki Isl** **157.16 306** eP **PKPdf** **18 19 32.0 -2.6**
SMTH **Samothraki Isl** **157.16 306** P **PKPdf** **18 19 30.9 -3.7**
TREC **Trest** **157.18 335** ePKIKP **PKPdf** **18 19 33.7 -0.6**
TREC *e* 18 20 37.9
TREC eSS SS 18 43 19.5 +1.7
TREC MLR MLR
comp=Z,700nm,25.2s
TREC **Trest** **157.18 335** ePKPDF **PKPdf** **18 19 33.7 -0.6**
TREC *ex* x 18 19 47.0
TREC *ex* x 18 19 56.8
TREC ePKPAB **PKPab** **18 20 06.9 +0.4**
TREC *ex* x 18 20 37.9
TREC ePP PP 18 23 39.5 -6.5
TREC *ex* x 18 27 18.9
TREC *ex* x 18 33 55.6
TREC eSS SS 18 43 19.5 +1.7
TREC AMS AMS 19 22 50.0
comp=Z,700nm,25.2s
TANN **Tannenbergstha** **157.18 341** ePKPdf **PKPdf** **18 19 33.5 -0.9**
TANN ePKPab **PKPab** **18 20 07.3 +0.7**
WERD **Werda** **157.20 341** ePKPdf **PKPdf** **18 19 33.9 -0.4**
WERD ePKPab **PKPab** **18 20 07.3 +0.7**
MOX **Moxa** **157.20 343** ePKPdf **PKPdf** **18 19 33.8 -0.5**
MOX ePKPbc PKPbc 18 19 47.1
MOX ePKPab **PKPab** **18 20 07.1 +0.5**
MOX *ep*PKPab **pPKPab** **18 21 11.3 +0.8**
MOX ePP **PP** **18 23 42.7 -3.2**
MOX eSS SS 18 43 14.7 -3.1
MOX eSSS SSS 18 49 22.7
MOX **Moxa** **157.20 343** ePKIKP **PKPdf** **18 19 33.8 -0.5**
PLN **Plauen** **157.20 342** ePKPdf **PKPdf** **18 19 33.6 -0.7**
PLN ePKPab **PKPab** **18 20 07.3 +0.7**
PGB **Panagyurishte** **157.21 312** *i* P **PKPdf** **18 19 32.8 -1.8**
RZN **Rozhen** **157.24 309** *i* P **PKPdf** **18 19 32.5 -2.4**
GUNZ **Gunzen** **157.27 341** ePKPdf **PKPdf** **18 19 33.6 -0.8**
GUNZ ePKPab **PKPab** **18 20 07.8 +0.9**
BUG **Bochum--Univer** **157.34 350** ePKPab **PKPab** **18 20 07.1 0.0**
ZST **Bratislava** **157.43 331** ePKIKP **PKPdf** **18 19 36.5 +1.9**
ZST **Bratislava** **157.43 331** ePKP **PKPdf** **18 19 36.5 +1.9**
ZST *e* 18 20 07.8
CHOS **Chios island** **157.46 300** eP **PKPdf** **18 19 35.0 -0.1**
PKSG **157.48 328** *e* **PKPdf** **18 19 33.8 -0.9**
PKSG *e* 18 20 08.0
CSKK **Cs^‡kako** **157.56 328** *e* **PKPdf** **18 19 33.7 -1.1**
CSKK *e* 18 20 08.5
LIA **Limnos Island** **157.62 305** eP **PKPdf** **18 19 33.2 -1.9**
MANZ **Manzenberg** **157.67 341** ePKPdf **PKPdf** **18 19 33.6 -1.3**
MANZ ePKPbc PKPbc 18 19 46.5
MANZ ePKPab **PKPab** **18 20 09.3 +0.7**
PKS2 **Kecel** **157.73 326** ⇓*e* **PKPdf** **18 19 35.6 +0.6**
PKS2 *e* 18 20 09.5
PKST **T^'s** **157.74 329** ⇓*e* **PKPdf** **18 19 34.1 -1.0**
PKST *e* 18 20 09.2
VTS **Vitosha** **157.81 313** P **PKPdf** **18 19 32.3 -3.2**
VTS **Vitosha** **157.81 313** ⇓PKIKP **PKPdf** **18 19 36.4 +0.9**
VTS **Vitosha** **157.81 313** P **PKPdf** **18 19 32.3 -3.2**
VTS **Vitosha** **157.81 313** ⇓*i*P **PKPdf** **18 19 36.4 +0.9**
VTS **Vitosha** **157.81 313** *i* P **PKPdf** **18 19 34.0 -1.5**
ROTZ **Rotzenmuhle** **157.84 341** ePKPdf **PKPdf** **18 19 34.2 -0.9**
ROTZ ePKPab **PKPab** **18 20 10.6 +1.2**
MMB **Musomiste** **157.94 310** *i* P **PKPdf** **18 19 33.4 -2.2**
NVR **Nevrokopi** **157.96 309** P **PKPdf** **18 19 32.6 -3.0**
NVR **Nevrokopi** **157.96 309** eP **PKPdf** **18 19 33.1 -2.5**
NVR **Nevrokopi** **157.96 309** P **PKPdf** **18 19 32.6 -3.0**
KHC **Kasperske Hory** **157.98 338** ePKIKP **PKPdf** **18 19 33.9 -1.5**
KHC *e* 18 20 10.2
KHC *e* 18 20 36.1
KHC *e* 18 21 05.5
KHC *e* 18 23 46.0
KHC eSS SS 18 43 29.5 +3.2
KHC MLR MLR
comp=Z,600nm,29.2s
KHC **Kasperske Hory** **157.98 338** ePKPDF **PKPdf** **18 19 33.9 -1.5**
KHC *ex* x 18 19 48.8
KHC *ex* x 18 19 58.5
KHC ePKPAB **PKPab** **18 20 10.2 +0.2**
KHC *ex* x 18 20 21.0
KHC *ex* x 18 20 36.1
KHC *ex* x 18 21 05.5
KHC ePP **PP** **18 23 46.0 -4.3**
KHC *ex* x 18 27 20.7
KHC *ex* x 18 34 11.9
KHC eSS SS 18 43 29.5 +3.2
KHC AMS AMS 19 24 40.0
comp=Z,600nm,29.2s
KHC **Kasperske Hory** **157.98 338** ePKPdf **PKPdf** **18 19 34.6 -0.7**
KHC ePKPdf **PKPdf** **18 19 34.9 -0.5**
ZKR **Zakros** **158.04 292** eP **PKPdf** **18 19 36.0 +0.2**
SOP **Sopron** **158.06 331** ⇓*e* **PKPdf** **18 19 34.4 -1.0**
SOP *e* 18 20 10.8
CONA **Conrad Observa** **158.15 333** *i* PKPdf **PKPdf** **18 19 34.3 -1.3**
comp=Z,33nm,1.3s,SNR=16
CONA ⇑*i*PKPab **PKPab** **18 20 11.9 +1.0**
comp=Z,204nm,1.2s
GRF **Grafenberg Arr** **158.18 342** ePKPdf **PKPdf** **18 19 35.3 -0.2**
GRF ePKPbc PKPbc 18 19 48.2
GRF ePKPab **PKPab** **18 20 11.9 +1.1**
GRF *ep*PKPab **pPKPab** **18 21 16.5 +1.8**
GRF ePP **PP** **18 23 47.6 -3.7**
GRF eSS SS 18 43 26.1 -2.1
GRF eSSS SSS 18 49 35.9
GRF **Grafenberg Arr** **158.18 342** ePKIKP **PKPdf** **18 19 35.3 -0.2**
GRF *e* 18 20 11.9
GRF ePP **PP** **18 23 47.6 -3.7**
GRF eSS SS 18 43 26.1 -2.1
GRF eSSS SSS 18 49 35.9
GRFO **Grafenberg** **158.18 342** ePKIKP **PKPdf** **18 19 36.9 +1.4**
GRFO *e* 18 20 11.9
GRFO **Grafenberg** **158.18 342** ePKPdf **PKPdf** **18 19 36.9 +1.4**
GRFO ePKPab **PKPab** **18 20 11.8 +1.0**
GEC2 **GERESS Array S** **158.18 337** ePKPdf **PKPdf** **18 19 34.4 -1.3**
GEC2 ePKPbc PKPbc 18 19 47.6
GEC2 ePKPab **PKPab** **18 20 11.5 +0.5**
GEC2 **GERESS Array S** **158.18 337** ePKIKP **PKPdf** **18 19 34.4 -1.3**
GERES **GERESS Array B** **158.18 337** PKP **PKPdf** **18 19 34.6 -1.1**
GERES PKPab **PKPab** **18 20 10.9 -0.1**
GERES **GERESS Array B** **158.18 337** PKP **PKPdf** **18 19 34.6 -1.1**
comp=Z,10nm,1.0s,baz=90,slow=1.3,SNR=3.4
GERES PKPab **PKPab** **18 20 10.9 -0.1**
comp=Z,27nm,0.6s,baz=34,slow=4.7,SNR=32
BEBN **Eben Emael** **158.19 352** PKPab **PKPab** **18 20 10.8 0.0**
BEBN PP **PP** **18 23 49.4 -1.6**
HGN **Heimansgroeve** **158.19 352** ePKPdf **PKPdf** **18 19 35.1 -0.3**
comp=Z,78nm,1.3s
HGN ePKPbc PKPbc 18 19 47.2
comp=Z,45nm,1.4s
HGN ePKPab **PKPab** **18 20 10.3 -0.5**
comp=Z,457nm,1.1s
WET **Wettzell** **158.19 339** ePKPdf **PKPdf** **18 19 34.7 -0.9**
WET ePKPbc PKPbc 18 19 48.3
WET ePKPab **PKPab** **18 20 11.9 +1.0**
WET **Wettzell** **158.19 339** ePKIKP **PKPdf** **18 19 34.7 -0.9**
PKSM **Moragy** **158.21 326** ⇑PKIKP **PKPdf** **18 19 33.7 -1.9**
PKSM **Moragy** **158.21 326** ⇑*i*P **PKPdf** **18 19 33.7 -1.9**
PKSM **Moragy** **158.21 326** ⇓*e* **PKPdf** **18 19 34.4 -1.2**
PKSM *e* 18 20 10.6
KKB **Krupnik** **158.24 311** *i* P **PKPdf** **18 19 36.4 +0.5**
SRS **Serrai** **158.25 309** P **PKPdf** **18 19 31.9 -4.0**
SRS **Serrai** **158.25 309** PKIKP **PKPdf** **18 19 31.9 -4.0**
SRS **Serrai** **158.25 309** P **PKPdf** **18 19 31.9 -4.0**
TNS **Taunus Mts** **158.32 347** ePKPdf **PKPdf** **18 19 35.5 -0.3**
TNS ePKPab **PKPab** **18 20 11.7 +0.2**
TNS **Taunus Mts** **158.32 347** ePKIKP **PKPdf** **18 19 35.5 -0.3**
UCC **Uccle** **158.32 355** PKPab **PKPab** **18 20 11.8 +0.5**
MEM **Membach** **158.33 352** PKP **PKPdf** **18 19 36.5 +0.9**
MEM PKPab **PKPab** **18 20 11.6 +0.2**
MEM PP **PP** **18 23 52.1 +0.2**
MEM **Membach** **158.33 352** ePKIKP **PKPdf** **18 19 34.9 -0.8**
MEM *e* 18 20 12.0
MEM **Membach** **158.33 352** ePKPdf **PKPdf** **18 19 34.9 -0.8**
MEM ePKPab **PKPab** **18 20 12.0 +0.6**
SANT **Santorini** **158.42 296** eP **PKPdf** **18 19 32.4 -3.9**
NPS **Neapolis** **158.51 293** eP **PKPdf** **18 19 38.5 +2.1**
BCLA **Clavier** **158.60 353** PKP **PKPdf** **18 19 35.6 -0.4**
BCLA PKPab **PKPab** **18 20 12.5 -0.1**
BCLA PP **PP** **18 23 51.4 -2.0**
SNF **Seneffe** **158.61 355** PKP **PKPdf** **18 19 35.6 -0.4**
SNF PKPab **PKPab** **18 20 12.9 +0.3**
SNF PP **PP** **18 23 52.9 -0.5**
LAST **Lasithi** **158.63 292** eP **PKPdf** **18 19 35.2 -1.4**
KNT **Kendrikon** **158.69 310** P **PKPdf** **18 19 32.6 -3.8**
KNT **Kendrikon** **158.69 310** PKIKP **PKPdf** **18 19 32.6 -3.8**
KNT **Kendrikon** **158.69 310** P **PKPdf** **18 19 32.6 -3.8**
MOA **Molln** **158.83 335** *i* PKPdf **PKPdf** **18 19 35.3 -1.1**
comp=Z,18nm,1.2s,SNR=10
MOA *i* PKPab **PKPab** **18 20 14.5 +0.8**
comp=Z,231nm,1.4s,SNR=16
ARSA **Arzberg** **158.83 332** ⇓*i*PKPdf **PKPdf** **18 19 34.8 -1.6**
comp=Z,28nm,1.3s,SNR=11
ARSA ⇑*i*PKPab **PKPab** **18 20 14.3 +0.5**
comp=Z,109nm,1.4s,SNR=9.0
VAY **Valandovo** **158.84 310** P **PKPdf** **18 19 35.7 -0.9**
VAY **Valandovo** **158.84 310** PKIKP **PKPdf** **18 19 35.7 -0.9**
VAY **Valandovo** **158.84 310** P **PKPdf** **18 19 35.7 -0.9**
VAY **Valandovo** **158.84 310** ePKP **PKPdf** **18 19 32.8 -3.8**
BEHE **Becsehely** **158.90 329** **PKPdf** **18 19 35.7 -0.8**
BEHE *e* 18 20 13.2
DIVS **Divibare** **158.91 320** P **PKPdf** **18 19 35.1 -1.6**
GIVF **Givet** **158.97 353** ePKIKP **PKPdf** **18 19 35.8 -0.6**
comp=Z,390nm,1.8s
DOU **Dourbes** **158.99 354** PKP **PKPdf** **18 19 35.6 -0.9**
DOU PKPab **PKPab** **18 20 14.3 0.0**
DOU PP **PP** **18 23 53.6 -1.9**
BAIF **Baives** **159.06 355** ePKIKP **PKPdf** **18 19 35.9 -0.6**
comp=Z,189nm,1.5s
IDI **Anoyia** **159.09 293** eP **PKPdf** **18 19 36.8 -0.4**
IDI **Anoyia** **159.09 293** PKP **PKPdf** **18 19 36.0 -1.2**
IDI ePKPdf **PKPdf** **18 19 36.6 -0.6**
IDI ePKPdf **PKPdf** **18 19 37.2 0.0**
IDI PKPab **PKPab** **18 20 16.6 +1.2**
IDI **Anoyia** **159.09 293** PKP **PKPdf** **18 19 36.0 -1.2**
comp=Z,28nm,1.1s,baz=102,slow=6.4,SNR=6.8
IDI PKPab **PKPab** **18 20 16.7 +1.2**
comp=Z,22nm,1.0s,baz=63,slow=4.5,SNR=3.5
SIVA **Sivas** **159.20 292** eP **PKPdf** **18 19 37.0 -0.2**
WLF **Walferdange** **159.24 351** PKP **PKPdf** **18 19 37.5 +0.7**
WLF PKPab **PKPab** **18 20 15.7 +0.3**
WLF **Walferdange** **159.24 351** ePKPdf **PKPdf** **18 19 37.4 +0.7**
WLF ePKPab **PKPab** **18 20 16.2 +0.8**
NEO **Neokhori** **159.24 305** eP **PKPdf** **18 19 36.1 -1.1**
SKO **Skopje** **159.25 313** P **PKPdf** **18 19 35.7 -1.3**
SKO **Skopje** **159.25 313** PKIKP **PKPdf** **18 19 35.7 -1.3**
SKO **Skopje** **159.25 313** P **PKPdf** **18 19 35.7 -1.3**
SKO **Skopje** **159.25 313** ePKP **PKPdf** **18 19 35.7 -1.3**
LIT **Litokhoron** **159.44 307** eP **PKPdf** **18 19 36.6 -0.8**
RJOB **Jochberg** **159.44 337** ePKPdf **PKPdf** **18 19 37.5 +0.3**
RJOB ePKPab **PKPab** **18 20 17.6 +1.1**
PERS **Pernice** **159.49 332** *i* PKPdf **PKPdf** **18 19 35.4 -1.9**
PERS ePKPab **PKPab** **18 20 16.0 -0.7**
SOKA **Soboth** **159.49 332** ⇑*i*PKPdf **PKPdf** **18 19 36.0 -1.3**
comp=Z,46nm,1.3s,SNR=32
SOKA ⇓*i*PKPab **PKPab** **18 20 16.2 -0.5**
comp=Z,184nm,1.3s
STU **Stuttgart** **159.53 345** ePKPdf **PKPdf** **18 19 36.8 -0.3**
STU ePKPab **PKPab** **18 20 17.1 +0.4**
STU **Stuttgart** **159.53 345** ePKP2 **PKPab** **18 20 16.5 -0.2**
STU **Stuttgart** **159.53 345** ePKPab **PKPab** **18 20 16.5 -0.2**
FUR **Furstenfeldbru** **159.55 340** ePKPdf **PKPdf** **18 19 37.5 +0.3**
FUR ePKPab **PKPab** **18 20 17.9 +1.0**
FUR **Furstenfeldbru** **159.55 340** ePKIKP **PKPdf** **18 19 37.5 +0.3**
LANF **Langenberg** **159.63 347** PKP **PKPdf** **18 19 37.2 -0.1**
LKR **Lokris** **159.65 303** eP **PKPdf** **18 19 36.4 -1.2**
IVA **Berane** **159.71 317** ⇑*i*PKP **PKPdf** **18 19 35.9 -1.8**
PLE **Pljevlja** **159.73 319** ePKP **PKPdf** **18 19 35.6 -2.1**
BIA **Bitola** **159.81 311** ePKP **PKPdf** **18 19 34.9 -2.9**
KBA **Koelnbreinsper** **159.82 335** ⇑*i*PKPdf **PKPdf** **18 19 35.9 -1.9**
comp=Z,30nm,1.4s,SNR=11
KBA *i* PKPab **PKPab** **18 20 19.2 +0.9**
comp=Z,75nm,0.9s,SNR=5.4
OBKA **Obir** **159.82 332** ⇑*i*PKPab **PKPab** **18 20 18.2 0.0**
comp=Z,73nm,1.2s,SNR=6.4
OBKA **Obir** **159.82 332** P **PKPdf** **18 19 36.2 -1.4**
comp=Z,17nm,1.6s
PVY **Plav** **159.83 316** ePKP **PKPdf** **18 19 35.9 -2.0**
KARN **Karanos** **159.85 294** eP **PKPdf** **18 19 38.8 +0.8**
DID **Didima** **159.85 300** eP **PKPdf** **18 19 36.2 -1.7**
DIDY **Didyma** **159.88 300** P **PKPdf** **18 19 35.0 -3.0**
LTK **Loutraki** **159.89 302** eP **PKPdf** **18 19 36.0 -1.3**
FNA **Florina** **159.89 310** eP **PKPdf** **18 19 37.0 -0.9**
AGG **Agios Georgios** **159.99 305** P **PKPdf** **18 19 35.0 -3.0**
AGG **Agios Georgios** **159.99 305** PKIKP **PKPdf** **18 19 35.0 -3.0**
AGG **Agios Georgios** **159.99 305** eP **PKPdf** **18 19 36.0 -2.0**
AGG **Agios Georgios** **159.99 305** P **PKPdf** **18 19 35.0 -3.0**
THL **Klokotos Trika** **160.00 307** P **PKPdf** **18 19 35.5 -2.4**
THL **Klokotos Trika** **160.00 307** eP **PKPdf** **18 19 36.2 -1.7**
PHP **Peshkopia** **160.04 314** P **PKPdf** **18 19 35.5 -2.5**
PHP **Peshkopia** **160.04 314** PKIKP **PKPdf** **18 19 35.5 -2.5**
PHP **Peshkopia** **160.04 314** P **PKPdf** **18 19 35.5 -2.5**
MYKA **Terra Mystica** **160.08 334** ⇑*i*PKPdf **PKPdf** **18 19 36.4 -1.6**
comp=Z,31nm,1.6s,SNR=10
MYKA ⇑*i*PKPab **PKPab** **18 20 18.7 -0.6**
comp=Z,167nm,1.3s,SNR=9.8
UPM **Unac-Piva** **160.08 319** ⇑*i*PKP **PKPdf** **18 19 36.2 -2.0**
BFO **Black Forest** **160.14 346** ePKPdf **PKPdf** **18 19 37.3 -0.6**
BFO ePKPab **PKPab** **18 20 19.7 +0.3**
BFO ePP **PP** **18 23 57.1 -4.7**
BFO eSS SS 18 43 45.8 -2.9
BFO eSSS SSS 18 50 03.9
BFO **Black Forest** **160.14 346** ePKIKP **PKPdf** **18 19 37.1 -0.8**
BFO *e* 18 20 19.7
BFO ePP **PP** **18 23 57.1 -4.7**
BFO eSS SS 18 43 45.8 -2.9
BFO eSSS SSS 18 50 03.9
BFO **Black Forest** **160.14 346** ePKPdf **PKPdf** **18 19 37.1 -0.8**
BFO ePKPdf **PKPdf** **18 19 38.6 +0.7**
WATA **Walderalm** **160.20 339** ⇑*i*PKPdf **PKPdf** **18 19 36.9 -1.3**
comp=Z,31nm,1.7s
WATA ⇑*i*PKPab **PKPab** **18 20 20.3 +0.4**
comp=Z,49nm,0.5s,SNR=12
LJU **Ljubljana** **160.21 332** *i* PKPdf **PKPdf** **18 19 36.9 -1.1**
LJU ePKPab **PKPab** **18 20 18.4 -1.4**
LJU *ep*PKPdf **pPKPdf** **18 20 42.8 -2.1**
LJU *ep*PKPab **pPKPab** **18 21 26.6 +3.0**
ANKY **Antikythira Is** **160.24 295** eP **PKPdf** **18 19 39.1 +0.8**
WTTA **Wattenberg** **160.24 339** ⇑*i*PKPdf **PKPdf** **18 19 37.1 -1.1**
comp=Z,62nm,1.7s,SNR=11
WTTA *i* PKPab **PKPab** **18 20 20.8 +0.7**
comp=Z,256nm,0.9s,SNR=16
CDF **Champ du Feu** **160.27 348** ePKIKP **PKPdf** **18 19 36.8 -1.3**

comp=Z,139nm,1.7s
RETA Reutte 160.31 340 ⇑ *i* PKPdf **PKPdf 18 19 37.1 -1.0**
comp=Z,27nm,1.5s
RETA *i* PKPab **PKPab 18 20 21.1 +0.8**
comp=Z,393nm,1.2s,SNR=27
BOJS Bojanci 160.32 330 *i* PKPdf **PKPdf 18 19 37.1 -1.0**
BOJS *e*PKPab **PKPab 18 20 19.8 -0.5**
NKME Niksic 160.32 318 ⇑ *i* PKP **PKPdf 18 19 36.2 -2.1**
MOTA Moosalm 160.34 340 ⇑ *i* PKPdf **PKPdf 18 19 37.0 -1.3**
comp=Z,19nm,1.1s,SNR=11
MOTA ⇓ *i* PKPab **PKPab 18 20 20.9 +0.5**
comp=Z,467nm,1.2s
TTG Podgorica 160.35 317 ⇑ *i* PKP **PKPdf 18 19 36.7 -1.5**
KALE Kalithea 160.37 303 *e*P **PKPdf 18 19 39.0 +0.5**
GUR Goura 160.38 302 P **PKPdf 18 19 36.7 -1.9**
GUR Goura 160.38 302 *e*P **PKPdf 18 19 37.4 -1.2**
GUR Goura 160.38 302 P **PKPdf 18 19 36.7 -1.9**
PAGF Fort de Pagny 160.38 351 *e*PKIKP **PKPdf 18 19 37.5 -0.6**
comp=Z,58nm,1.4s
ABTA Abfaltersbach 160.40 336 ⇓ *i* PKPdf **PKPdf 18 19 36.5 -1.8**
comp=Z,47nm,1.1s,SNR=26
ABTA ⇑ *i* PKPab **PKPab 18 20 20.3 -0.4**
comp=Z,127nm,0.8s,SNR=10
EVR Evrytania 160.41 305 P **PKPdf 18 19 35.5 -3.1**
EVR Evrytania 160.41 305 *e*P **PKPdf 18 19 37.9 -0.7**
EVR Evrytania 160.41 305 P **PKPdf 18 19 35.5 -3.1**
TRIZ Trizonia 160.43 303 *e*P **PKPdf 18 19 39.0 +0.6**
FLN La Foliniere 160.45 3 *e*PKIKP **PKPdf 18 19 37.4 -0.7**
comp=Z,286nm,1.3s
FLN *e*R
comp=Z,668nm,22.2s
VOY Vojsko 160.48 333 *e*PKPdf **PKPdf 18 19 37.2 -1.2**
VOY *e* 18 19 51.6
VOY *e*PKPab **PKPab 18 20 20.2 -0.9**
BRY Bratogost 160.48 319 ⇑ *i* PKP **PKPdf 18 19 36.8 -1.8**
ECH Echery 160.48 348 *e*PKIKP **PKPdf 18 19 37.1 -1.2**
ECH Echery 160.48 348 PKP **PKPdf 18 19 37.7 -0.6**
ECH Echery 160.48 348 *e*PKPdf **PKPdf 18 19 37.1 -1.2**
KLV Kalavryta, Ach 160.49 302 P **PKPdf 18 19 35.7 -2.9**
KLV Kalavryta, Ach 160.49 302 *e*P **PKPdf 18 19 37.9 -0.7**
KLV Kalavryta, Ach 160.49 302 P **PKPdf 18 19 35.7 -2.9**
MEZF Maizieres J'vi 160.52 352 *e*PKIKP **PKPdf 18 19 37.9 -0.3**
JAVS Javornik 160.52 332 *i* PKPdf **PKPdf 18 19 36.9 -1.6**
JAVS *i* PKPab **PKPab 18 20 20.4 -0.9**
JAVS *i* PP **PP 18 24 04.4 +0.1**
EFP Efpalio 160.53 304 *e*P **PKPdf 18 19 39.0 +0.4**
DRME Dracevica, Mon 160.53 316 *e*PKP **PKPdf 18 19 36.8 -1.7**
LAKA Lakka 160.54 303 P **PKPdf 18 19 36.9 -1.8**
LAKA Lakka 160.54 303 *e*P **PKPdf 18 19 39.6 +0.9**
LAKA Lakka 160.54 303 P **PKPdf 18 19 36.9 -1.8**
TIR Tirane 160.59 314 *e*PKIKP **PKPdf 18 19 37.4 -1.1**
TIR *e* 18 20 21.5
TIR Tirane 160.59 314 *e*PKPdf **PKPdf 18 19 37.4 -1.1**
TIR *e*PKPab **PKPab 18 20 21.5 -0.2**
ROSF Rostrenen 160.61 9 *e*PKIKP **PKPdf 18 19 37.4 -0.9**
comp=Z,437nm,1.8s
ULC Ulcinj 160.63 316 *e*PKP **PKPdf 18 19 36.8 -1.8**
LDF La Druitiere 160.63 3 *e*PKIKP **PKPdf 18 19 37.5 -0.9**
comp=Z,230nm,1.4s
BUM Brajici-Budva 160.64 317 ⇑ *i* PKP **PKPdf 18 19 37.0 -1.7**
THEF They Montfort 160.67 350 PKP **PKPdf 18 19 37.5 -0.9**
FETA Feichten 160.74 340 *i* PKPdf **PKPdf 18 19 38.1 -0.7**
comp=Z,38nm,1.3s,SNR=16
FETA ⇑ *i* PKPab **PKPab 18 20 23.0 +0.7**
comp=Z,243nm,1.2s,SNR=16
DAVA Damuels 160.74 342 *i* PKPdf **PKPdf 18 19 37.9 -0.8**
comp=Z,25nm,1.4s,SNR=5.8
DAVA *i* PKPab **PKPab 18 20 23.0 +0.7**
comp=Z,228nm,0.7s,SNR=23
DYR Agios Nikonas 160.76 298 *e*P **PKPdf 18 19 39.1 +0.2**
SGMF Saint Gilles 160.78 8 *e*PKIKP **PKPdf 18 19 37.6 -0.9**
comp=Z,329nm,1.6s
HCY Herceg Novi 160.79 318 *e*PKP **PKPdf 18 19 37.0 -1.7**
TRI Trieste 160.79 332 *e*PKIKP **PKPdf 18 19 37.6 -1.0**
TRI *e* 18 20 21.3
TRI Trieste 160.79 332 *e*PKPdf **PKPdf 18 19 37.6 -1.0**
TRI *e*PKPdf **PKPdf 18 19 39.3 +0.7**
TRI *e*PKPab **PKPab 18 20 21.2 -1.1**
TRI *e*PKPab PKPab 18 20 22.1 -0.3
GRR Gorron 160.80 4 *e*PKIKP **PKPdf 18 19 38.0 -0.5**
comp=Z,473nm,1.8s
SFTF Sexfontaines 160.81 352 *e*PKIKP **PKPdf 18 19 38.0 -0.6**
comp=Z,539nm,1.6s
HAU Haudompre 160.83 349 *e*PKIKP **PKPdf 18 19 37.7 -0.9**
comp=Z,312nm,1.8s
HAU *e*R
comp=Z,545nm,21.5s
MOF Molkenrain 160.84 348 PKP **PKPdf 18 19 38.2 -0.5**
HINF Hinteralfeld 160.92 348 *e*PKIKP **PKPdf 18 19 37.7 -1.1**
comp=Z,222nm,1.6s
ITM Ithomi 160.94 300 P **PKPdf 18 19 37.2 -1.9**
ITM Ithomi 160.94 300 *e*P **PKPdf 18 19 37.3 -1.9**
ITM Ithomi 160.94 300 P **PKPdf 18 19 37.2 -1.9**
RLS Riolos of Patr 160.99 303 *e*P **PKPdf 18 19 38.8 -0.3**
QUIF Quistinic 161.03 9 *e*PKIKP **PKPdf 18 19 38.0 -0.8**
comp=Z,209nm,1.3s
PYL PYLOS 161.17 299 *e*P **PKPdf 18 19 39.0 -0.3**
DAVOX Davos/Dischmat 161.20 341 PKP **PKPdf 18 19 38.1 -1.2**
DAVOX PKPab **PKPab 18 20 25.2 +0.8**
DAVOX PP **PP 18 24 07.1 -0.7**
DAVOX Davos/Dischmat 161.20 341 PKP **PKPdf 18 19 38.1 -1.2**
comp=Z,12nm,1.0s,baz=202,slow=1.3,SNR=18
DAVOX PKPab **PKPab 18 20 25.2 +0.8**
comp=Z,174nm,0.5s,baz=51,slow=3.8,SNR=59
DAVOX PP **PP 18 24 07.1 -0.7**
comp=Z,19nm,1.2s,baz=265,slow=5.9,SNR=3.5
FUORN Ofenpass-Fuorn 161.24 340 *e*PKPdf **PKPdf 18 19 38.7 -0.7**
LOMF Lomont 161.38 348 PKP **PKPdf 18 19 38.5 -0.8**
KEK Kerkira 161.46 309 P **PKPdf 18 19 37.8 -1.7**
KEK Kerkira 161.46 309 *e*P **PKPdf 18 19 37.3 -2.2**
KEK Kerkira 161.46 309 P **PKPdf 18 19 37.8 -1.7**
VLS Valsamata 161.58 304 *e*P **PKPdf 18 19 39.7 0.0**
TUE Stuetta 161.63 342 *e*PKPdf **PKPdf 18 19 38.7 -1.1**
TUE *e*PKPdf **PKPdf 18 19 38.9 -0.9**
LOR Lormes 161.86 354 *e*PKIKP **PKPdf 18 19 39.1 -0.6**
comp=Z,281nm,1.4s
LOR *e*R
comp=Z,881nm,21.8s
HYF Humbligny 161.95 357 *e*PKIKP **PKPdf 18 19 39.5 -0.3**
SSF Saint Saulge 162.10 355 *e*PKIKP **PKPdf 18 19 39.3 -0.7**
comp=Z,273nm,1.4s
CABF La Chapelle 162.22 349 *e*PKIKP **PKPdf 18 19 39.9 -0.3**
comp=Z,328nm,1.4s
SENIN Lac Senin/Sane 162.23 346 *e*PKPdf **PKPdf 18 19 39.9 -0.5**
AVF Avril sur Loir 162.38 355 *e*PKIKP **PKPdf 18 19 39.2 -1.0**
comp=Z,144nm,1.4s
OG01 Vacheresse 162.39 347 PKP **PKPdf 18 19 39.0 -1.4**
SMF Signal de Mont 162.48 354 *e*PKIKP **PKPdf 18 19 39.5 -0.9**
comp=Z,182nm,1.4s
MFF Saint Martin d 162.62 3 *e*PKIKP **PKPdf 18 19 39.9 -0.6**
comp=Z,262nm,1.5s
BGF Bois d'Agland 162.65 356 *e*PKIKP **PKPdf 18 19 40.0 -0.5**
comp=Z,299nm,1.4s
TCF Toulx Ste Croi 162.94 358 *e*PKIKP **PKPdf 18 19 40.1 -0.8**
comp=Z,240nm,1.4s
RSL Roselend 163.01 347 PKP **PKPdf 18 19 39.8 -1.3**
AGO Saint Agoulin 163.13 355 PKP **PKPdf 18 19 40.3 -0.7**
LPL La Plagne 163.16 346 *e*PKIKP **PKPdf 18 19 40.6 -0.7**
comp=Z,99nm,1.4s
LPG La Plagne 163.17 346 *e*PKIKP **PKPdf 18 19 40.9 -0.5**
comp=Z,39nm,1.1s
VLC Villacollemand 163.39 336 *e*PKPdf **PKPdf 18 19 39.1 -2.2**
VLC *e*PKPab **PKPab 18 20 34.2 +0.4**
PYM Petit Puy Mans 163.44 356 PKP **PKPdf 18 19 40.1 -1.3**
GDM Grand'Maison 163.58 348 PKP **PKPdf 18 19 41.5 -0.2**
AQU L'Aquila 163.60 326 *e*PKPdf **PKPdf 18 19 40.3 -1.3**
AQU *e*PKPab **PKPab 18 20 35.8 +1.0**
GRN Grenoble 163.61 349 PKP **PKPdf 18 19 41.9 +0.3**
BNI Bardonecchia 163.61 346 *e*PKIKP **PKPdf 18 19 40.9 -0.8**
BNI *e* 18 20 35.6
BNI Bardonecchia 163.61 346 *e*PKPdf **PKPdf 18 19 40.9 -0.8**
BNI *e*PKPab **PKPab 18 20 35.6 +0.7**
SSB Saint Sauveur 163.75 352 *e*PKIKP **PKPdf 18 19 39.8 -1.9**
SSB Saint Sauveur 163.75 352 PKP **PKPdf 18 19 39.4 -2.3**
SSB Saint Sauveur 163.75 352 *e*PKPdf **PKPdf 18 19 39.8 -1.9**
FRNF Fournols 163.83 357 PKP **PKPdf 18 19 42.4 +0.7**
PMOZ Porto Moniz, M 163.84 73 *e*PKPdf **PKPdf 18 19 43.5 +1.3**
CUC Castrocucco 163.88 316 *e*PKPdf **PKPdf 18 19 39.9 -2.1**
CUC *e*PKPab **PKPab 18 20 35.2 -1.0**
CUC *e*PKPab PKPab 18 20 35.8 -0.4
ORIF Oris-en-Rattie 163.90 348 *e*PKIKP **PKPdf 18 19 41.2 -0.7**
comp=Z,228nm,1.7s
ORIF *e*R
comp=Z,598nm,21.5s
MBDF Montbardon 163.90 346 *e*PKIKP **PKPdf 18 19 41.0 -1.0**
comp=Z,147nm,1.5s
LBL Lubilhac 163.94 355 PKP **PKPdf 18 19 41.4 -0.5**
RJF Les Rejaudoux 163.94 359 *e*PKIKP **PKPdf 18 19 41.3 -0.5**
comp=Z,250nm,1.5s
RJF *e*R
comp=Z,558nm,18.2s
TOA0 Torodi Ar. Sit 164.00 182 *e*PKPdf **PKPdf 18 19 41.8 -0.9**
TOA0 *e*PKPab **PKPab 18 20 36.0 -1.0**
TORD Torodi Ar. Bea 164.00 182 PKP **PKPdf 18 19 42.5 -0.2**
TORD PKPab **PKPab 18 20 36.8 -0.2**
TORD *e* PP **PP 18 24 23.0 +1.0**
TORD Torodi Ar. Bea 164.00 182 PKP **PKPdf 18 19 42.5 -0.2**
comp=Z,43nm,1.0s,baz=309,slow=0.6,SNR=69
TORD PKPab **PKPab 18 20 36.8 -0.2**
comp=Z,50nm,0.8s,baz=182,slow=3.8,SNR=25
TORD PP **PP 18 24 23.0 +1.0**
comp=Z,6.8nm,1.1s,baz=163,slow=3.4,SNR=3.9
SURF Saint Ours 164.13 345 PKP **PKPdf 18 19 42.2 0.0**
VIVF Saint-Julien-l 164.15 351 *e*PKIKP **PKPdf 18 19 41.6 -0.4**
comp=Z,283nm,1.5s
LFF La Frestale 164.31 1 *e*PKIKP **PKPdf 18 19 41.7 -0.4**
comp=Z,108nm,1.2s
CAF Calviac 164.31 358 *e*PKIKP **PKPdf 18 19 41.8 -0.4**
comp=Z,90nm,1.2s
OG26 St.-Nazaire-De 164.33 349 PKP **PKPdf 18 19 41.9 -0.3**
SAOF Saorge 164.41 343 PKP **PKPdf 18 19 41.6 -0.7**
AUTN L'Aution 164.44 343 PKP **PKPdf 18 19 41.9 -0.7**
TOUF Mont Tournerai 164.47 343 PKP **PKPdf 18 19 42.0 -0.5**
PMPST Porto Santo, M 164.51 71 *e*PKPdf **PKPdf 18 19 45.0 +2.3**
PMPS Porto Santo 164.52 71 *e*PKPdf **PKPdf 18 19 44.2 +1.6**
LUCF Luceram 164.56 343 PKP **PKPdf 18 19 41.8 -0.7**
SBF Sospel 164.56 343 *e*PKIKP **PKPdf 18 19 41.2 -1.3**
comp=Z,163nm,1.4s
MVIF Mont Vial 164.60 344 PKP **PKPdf 18 19 42.1 -0.5**
REVF Revere 164.69 343 PKP **PKPdf 18 19 42.1 -0.5**
CALN Calern 164.80 344 PKP **PKPdf 18 19 42.3 -0.5**
CEL Celeste 164.82 310 *e*PKPdf **PKPdf 18 19 40.9 -1.9**
CEL *e*PKPab **PKPab 18 20 41.6 +1.1**
SMRF Simiane la Rot 164.87 348 *e*PKIKP **PKPdf 18 19 42.3 -0.4**
comp=Z,252nm,1.6s
LASF Ste Croix 165.02 353 *e*PKIKP **PKPdf 18 19 42.5 -0.3**
comp=Z,314nm,1.7s
FRF La Foret Royal 165.04 344 *e*PKIKP **PKPdf 18 19 41.8 -1.0**
comp=Z,223nm,1.6s
PGAV Gavieira, Arco 165.15 29 *e*PKPdf **PKPdf 18 19 43.7 +0.6**
PGAV Gavieira, Arco 165.15 29 *e*PKPab **PKPab 18 20 43.6 +1.9**
PGAV Gavieira, Arco 165.15 29 *e*PP PP 18 24 29.1 +0.5
PGF Pioggiola 165.28 337 *e*PKIKP **PKPdf 18 19 41.8 -1.4**
comp=Z,196nm,1.5s
LMR La Mourre 165.28 345 *e*PKIKP **PKPdf 18 19 42.0 -1.0**
comp=Z,193nm,1.7s
PCAB Cabril 165.47 29 *e*PKPdf **PKPdf 18 19 44.2 +0.9**
PCAB Cabril 165.47 29 *e*PKPab **PKPab 18 20 44.9 +1.9**
POLO Lamas de Olo 165.84 29 *e*PKPdf **PKPdf 18 19 43.5 -0.2**
POLO Lamas de Olo 165.84 29 *e*PKPab **PKPab 18 20 45.0 +0.2**
POLO Lamas de Olo 165.84 29 *e*PP PP 18 24 30.9 -1.3
MTLF Montolieu 165.89 357 *e*PKIKP **PKPdf 18 19 42.9 -0.6**
comp=Z,202nm,1.7s
PBRG Braganca 165.89 25 *e*PKPdf **PKPdf 18 19 44.7 +1.1**
PBRG Braganca 165.89 25 *e*PKPab **PKPab 18 20 46.7 +1.8**
PBRG Braganca 165.89 25 *e*PP PP 18 24 31.8 -0.5
PVRL Vila Real 165.96 29 *e*PKPdf **PKPdf 18 19 44.5 +0.8**
PVRL Vila Real 165.96 29 *e*PKPab **PKPab 18 20 45.6 +0.4**
SJPF Ste Jean 166.00 7 *e*PKIKP **PKPdf 18 19 43.8 +0.2**
comp=Z,65nm,1.3s
LARF Larrau 166.10 7 PKP **PKPdf 18 19 44.6 +0.9**
REYF Montagne du Re 166.12 5 PKP **PKPdf 18 19 44.4 +0.6**
LABF Labassere 166.18 3 PKP **PKPdf 18 19 42.5 -1.3**
EPF Esparros 166.20 3 *e*PKIKP **PKPdf 18 19 43.6 -0.2**
comp=Z,206nm,1.4s
LRDF Laroque-de-Fa 166.27 356 PKP **PKPdf 18 19 43.8 0.0**
ETSF Etsaut 166.28 5 *e*PKIKP **PKPdf 18 19 44.0 +0.1**
comp=Z,91nm,1.3s
MVO Moncorvo 166.33 27 *e*PKPdf **PKPdf 18 19 44.3 +0.3**
MVO Moncorvo 166.33 27 *e*PKPab **PKPab 18 20 48.3 +1.4**
MVO Moncorvo 166.33 27 *e*PP PP 18 24 33.3 -1.3
VIEF Viey 166.34 4 PKP **PKPdf 18 19 43.5 -0.5**
PVIS Viseu 166.34 31 *e*PKPdf **PKPdf 18 19 44.9 +0.9**
PVIS Viseu 166.34 31 *e*PKPab **PKPab 18 20 47.1 +0.1**
RESF Ens 166.43 3 PKP **PKPdf 18 19 45.0 +0.9**
FILF Fillols 166.65 356 PKP **PKPdf 18 19 44.1 -0.1**
MTE Manteigas 166.75 30 *e*PKPdf **PKPdf 18 19 44.6 +0.3**
MTE Manteigas 166.75 30 *e*PKPab **PKPab 18 20 50.5 +1.7**
MTE Manteigas 166.75 30 *e*PP PP 18 24 37.8 +0.9
MTE Manteigas 166.75 30 *e*PKPdf **PKPdf 18 19 44.9 +0.5**
VALF Valcebollere 166.83 357 PKP **PKPdf 18 19 44.7 +0.2**
PTOM Tomar 166.96 35 *e*PKPdf **PKPdf 18 19 45.4 +1.0**
PTOM Tomar 166.96 35 *e*PKPab **PKPab 18 20 49.8 +0.1**
PTOM Tomar 166.96 35 *e*PP PP 18 24 39.3 +1.3
PMAFR Mafra 166.99 39 *e*PKPdf **PKPdf 18 19 46.2 +1.7**
PMAFR Mafra 166.99 39 *e*PKPab **PKPab 18 20 50.0 +0.1**
PMAFR Mafra 166.99 39 *e*PP PP 18 24 37.5 -0.8
LIS Lisbon 167.23 39 *e*P **PKPdf 18 19 43.9 -0.7**
LIS *e*PP **PP 18 24 39.5 0.0**
LIS AMS AMS 18 59 49.4
comp=E,1μm,15.5s
LIS Lisbon 167.23 39 *e*P **PKPdf 18 19 43.9 -0.7**
LIS Lisbon 167.23 39 *e*PKIKP **PKPdf 18 19 43.9 -0.7**
LIS *e* 18 24 39.5
PCBR Castelo Branco 167.23 32 *e*PKPdf **PKPdf 18 19 45.7 +1.1**
PCBR Castelo Branco 167.23 32 *e*PKPab **PKPab 18 20 50.7 -0.1**
PCBR Castelo Branco 167.23 32 *e*PP PP 18 24 37.9 -1.4
PMTG Montargil 167.47 36 *e*PKPdf **PKPdf 18 19 44.1 -0.7**
PMTG Montargil 167.47 36 *e*PKPab **PKPab 18 20 51.8 -0.1**
PMTG Montargil 167.47 36 *e*PP PP 18 24 39.8 -0.8
PMRV Marv??o 167.60 33 *e*PKPdf **PKPdf 18 19 46.0 +1.1**
PMRV Marv??o 167.60 33 *e*PKPab **PKPab 18 20 53.6 +1.1**
PMRV Marv??o 167.60 33 *e*PP PP 18 24 41.5 +0.3
VSL Villasalto 167.73 329 *e*PKPdf **PKPdf 18 19 44.4 -0.6**
PESTR Estremoz 167.94 35 *e*PKPdf **PKPdf 18 19 45.6 +0.4**
PESTR Estremoz 167.94 35 *e*PKPab **PKPab 18 20 51.4 -2.7**
PESTR Estremoz 167.94 35 *e*PP PP 18 24 42.7 -0.3
EVO Evora 167.98 37 ⇓ *i* PKIKP **PKPdf 18 19 45.6 +0.4**
comp=E,363nm,1.5s
EVO *e*R
comp=E,868nm,22.2s
PNCL Nicolau / Gran 168.00 40 *e*PKPdf **PKPdf 18 19 45.3 +0.1**
PNCL Nicolau / Gran 168.00 40 *e*PKPab **PKPab 18 20 51.9 -2.4**
PNCL Nicolau / Gran 168.00 40 *e*PP PP 18 24 43.6 +0.2
PTEO Sao Teotonio 168.28 42 *e*PKPdf **PKPdf 18 19 46.7 +1.3**
PTEO Sao Teotonio 168.28 42 *e*PKPab **PKPab 18 20 55.6 0.0**
PBEJ Beja 168.43 38 *e*PKPdf **PKPdf 18 19 46.6 +1.1**
PBEJ Beja 168.43 38 *e*PKPab **PKPab 18 20 57.8 +1.6**
PBEJ Beja 168.43 38 *e*PP PP 18 24 47.1 +1.5
MORF Marmelete 168.48 43 *e*PKPdf **PKPdf 18 19 46.5 +0.9**
MORF Marmelete 168.48 43 *e*PKPab PKPab 18 20 50.8 -5.8
MORF Marmelete 168.48 43 *e*PP PP 18 24 46.0 -0.1
MORF Marmelete 168.48 43 *e*PKIKP **PKPdf 18 19 44.9 -0.7**
MORF *e* 18 24 46.1
PFVI Vila Bisbo 168.49 44 *e*PKPdf **PKPdf 18 19 45.7 +0.1**
PFVI Vila Bisbo 168.49 44 *e*PKPab **PKPab 18 20 52.2 -4.4**
PAB San Pablo 168.74 22 *e*PKIKP **PKPdf 18 19 45.7 -0.1**
PAB *e* 18 20 53.3
PAB San Pablo 168.74 22 *e*PKPdf **PKPdf 18 19 45.7 -0.1**
PAB *e*PKPab **PKPab 18 20 53.2 -4.3**
ESDC Sonseca Array 168.74 21 PKP **PKPdf 18 19 46.1 +0.4**
ESDC PKPab **PKPab 18 20 56.4 -1.2**
ESDC PP **PP 18 24 46.9 +0.1**
ESDC Sonseca Array 168.74 21 PKP **PKPdf 18 19 46.1 +0.4**
comp=E,30nm,1.1s,baz=355,slow=2.7,SNR=40
ESDC PKPab **PKPab 18 20 56.4 -1.2**
comp=E,45nm,1.1s,baz=335,slow=3.5,SNR=24
ESDC PP **PP 18 24 46.9 +0.1**
comp=E,2.5nm,0.9s,baz=338,slow=4.8,SNR=5.9
ESLA Sonseca Array 168.74 21 *e*PKPdf **PKPdf 18 19 45.7 -0.1**
PBAR Barrancos 168.75 35 *e*PKPdf **PKPdf 18 19 46.2 +0.5**
PBAR Barrancos 168.75 35 *e*PKPab **PKPab 18 20 53.6 -4.0**
PBAR Barrancos 168.75 35 *e*PP PP 18 24 46.7 -0.4
PBDV Barranco-do-Ve 168.95 41 *e*PKPdf **PKPdf 18 19 46.9 +1.0**
PBDV Barranco-do-Ve 168.95 41 *e*PKPab **PKPab 18 20 54.6 -4.0**
PBDV Barranco-do-Ve 168.95 41 *e*PP PP 18 24 49.8 +1.5
PVAQ Vaqueiros 168.96 40 *e*PKPdf **PKPdf 18 19 46.6 +0.7**
PVAQ Vaqueiros 168.96 40 *e*PKPab **PKPab 18 20 54.6 -4.0**
PVAQ Vaqueiros 168.96 40 *e*PP PP 18 24 48.9 +0.6
KEST Kesra 170.54 315 *e*PKPdf **PKPdf 18 19 46.2 -0.7**
KEST PKP 18 19 46.6
KEST PKPab **PKPab 18 21 05.2 -0.6**
KEST Kesra 170.54 315 PKP **PKPdf 18 19 46.6 -0.3**
comp=E,14nm,1.0s,baz=262,slow=2.7,SNR=26
KEST PKPab **PKPab 18 21 05.2 -0.6**
comp=E,6.8nm,0.8s,baz=297,slow=0.6,SNR=7.3
CMAH Djebel Manchou 170.95 326 P **PKPdf 18 19 45.0 -2.1**
ABSA Djebel Ababsia 171.20 325 P **PKPdf 18 19 47.0 -0.3**
CKFL Kef-Lekhel 171.47 328 P **PKPdf 18 19 47.0 -0.5**
CASM Ain Smara 171.69 329 P **PKPdf 18 19 46.0 -1.5**
DFRA Djebel Bou Aff 171.70 333 P **PKPdf 18 19 48.0 +0.4**
CTEI Djebel Teioual 171.89 329 P **PKPdf 18 19 47.5 -0.2**
SET Setif 172.19 334 P **PKPdf 18 19 50.0 +2.2**
CKHR Kef el Ahmar 172.31 333 P **PKPdf 18 19 49.0 +1.1**
TAM Tamanrasset 172.50 212 *e*PKIKP **PKPdf 18 19 47.9 -0.5**
TAM Tamanrasset 172.50 212 *e*PKPdf **PKPdf 18 19 47.9 -0.5**
MDT Midelt 173.87 53 PKP **PKPdf 18 19 48.8 +0.2**
MDT PKPab **PKPab 18 21 21.0 +0.3**
MDT PP **PP 18 25 14.4 +1.2**
MDT Midelt 173.87 53 PKP **PKPdf 18 19 48.8 +0.2**
comp=E,35nm,1.1s,baz=349,slow=0.9,SNR=29
MDT PKPab **PKPab 18 21 21.0 +0.3**
comp=E,17nm,1.0s,baz=298,slow=5.6,SNR=5.5
MDT PP **PP 18 25 14.4 +1.2**
comp=E,4.6nm,1.1s,baz=306,slow=6.2,SNR=5.2

IDC 02 18:14:40.0±9.3, 15°48N×145°84E, $h0^{km}$, mb3.7/6, mb1 3.8/6, mb1mx3.6/27, mbtmp3.8/6, Error ellipse: s-maj=198.0km s-min=53.1km az=120.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**22.05**	**343**	P	P	18 19 34.8	-1.7
	0.5nm,0.4s,baz=166,slow=9.6,SNR=3.4						
CMAR	**Chiang Mai Arr**	**44.86**	**281**	P	P	18 22 55.7	-0.8
	0.8nm,1.0s,baz=82,slow=6.9,SNR=2.9						
SONM	**Songino Array**	**45.76**	**323**	P	P	18 23 04.7	+1.3
	0.5nm,0.6s,baz=121,slow=6.1,SNR=2.4						
MKAR	**Makanchi Array**	**60.81**	**315**	P	P	18 24 55.0	+0.9
	0.8nm,0.5s,baz=94,slow=7.8,SNR=9.7						
KURBB	**Kurchatov Arra**	**63.81**	**319**	P	P	18 25 13.8	-0.2
	1.5nm,0.6s,baz=97,slow=7.3,SNR=12						
BVAR	**Borovoye Array**	**69.05**	**321**	P	P	18 25 46.6	-0.9
	0.7nm,0.5s,baz=104,slow=9.2,SNR=4.3						

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*ISCJB **02** 18:28:15.9±0.4, 38°.08N±0°.02×23°.30E±0°.02, h14^{km}±3^{km}, mb3.4/4, Error ellipse: s-maj=3.2km s-min=2.6km az=4.9*
*IDC **02** 18:28:15.4±1.2, 38°.08N×23°.14E, h0^{km}, mb3.5/4, mb1 3.6/7, mb1mx3.5/29, mbtmp3.4/7, ML3.1/3, Error ellipse: s-maj=24.1km s-min=17.9km az=115.0*
*CSEM **02** 18:28:15.8±0.1, 38°.08N×23°.30E, h10^{km}, ML3.6/3, Error ellipse: s-maj=3.0km s-min=2.9km az=139.0*
*ATH **02** 18:28:15.8, 38°.10N×23°.31E, h23^{km}, MD3.0/28, ML3.2*
*THE **02** 18:28:16.0, 38°.10N×23°.27E, h2^{km}±1^{km}, ML3.6/3, Error ellipse: s-maj=1.2km s-min=0.3km az=139.0*
ISC 02 18:28:16.0±0.9, **38°.09N**±0°.02×**23°.29E**±0°.01, **h10**^{km}±7^{km}, **n120**, σ0°.99/158, **mb3.5**/4, **Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTK	**Loutraki**	**0.27**	**255**	P	**Pg**	**18 28 20.9**	**-0.5**
LTK				S	**Sg**	**18 28 25.1**	**0.0**
LTK	**Loutraki**	**0.27**	**255**	*e*PB	**Pg**	**18 28 21.1**	**-0.3**
LTK				*e*SB	**Sb**	**18 28 27.5**	**0.0**
LTK	**Loutraki**	**0.27**	**255**	*e*Pb	**Pg**	**18 28 21.1**	**-0.3**
LTK				S	**Sg**	**18 28 25.1**	**0.0**
LTK				*e*Sb	**Sb**	**18 28 27.5**	**0.0**
ATH	**Athens Observa**	**0.35**	**109**	P	**Pg**	**18 28 23.3**	**+0.2**
ATH				S	**Sb**	**18 28 29.0**	**-1.1**
ATH	**Athens Observa**	**0.35**	**109**	*e*PB	**Pb**	**18 28 23.5**	**-0.9**
ATH				*e*SB	**Sb**	**18 28 28.9**	**-1.1**
ATH	**Athens Observa**	**0.35**	**109**	*e*Pb	**Pb**	**18 28 23.5**	**-0.9**
ATH				S	**Sb**	**18 28 29.0**	**-1.1**
NAIG	**Nisos Aigina**	**0.37**	**155**	*e*PB	**Pg**	**18 28 23.5**	**+0.2**
NAIG	**Nisos Aigina**	**0.37**	**155**	*e*Pb	**Pg**	**18 28 23.5**	**+0.2**
ACOR	**Acrocorinthos**	**0.39**	**239**	P	**Pg**	**18 28 23.2**	**-0.5**
ACOR	**Acrocorinthos**	**0.39**	**239**	P	**Pg**	**18 28 23.2**	**-0.5**
ATHU	**Athens Univers**	**0.41**	**108**	P	**Pg**	**18 28 24.1**	**0.0**
ATHU				S	**Sb**	**18 28 30.6**	**-1.0**
ATHU	**Athens Univers**	**0.41**	**108**	P	**Pg**	**18 28 24.1**	**0.0**
ATHU				S	**Sb**	**18 28 30.6**	**-1.0**
PTL	**Penteli**	**0.45**	**95**	P	**Pg**	**18 28 24.9**	**+0.1**
PTL	**Penteli**	**0.45**	**95**	*e*PB	**Pg**	**18 28 25.0**	**+0.1**
PTL				*e*SB	**Sg**	**18 28 31.3**	**+0.4**
PTL	**Penteli**	**0.45**	**95**	*e*Pb	**Pg**	**18 28 25.0**	**+0.1**
PTL				*e*Sb	**Sg**	**18 28 31.3**	**+0.4**
ERET	**Eretria**	**0.54**	**49**	P	**Pg**	**18 28 26.3**	**-0.2**
ERET	**Eretria**	**0.54**	**49**	P	**Pg**	**18 28 26.3**	**-0.2**
DID	**Didima**	**0.58**	**184**	P	**Pg**	**18 28 27.1**	**-0.3**
DID	**Didima**	**0.58**	**184**	*e*PN	**Pg**	**18 28 27.1**	**-0.3**
DID				*e*SN	**Sb**	**18 28 36.5**	**-0.2**
DID	**Didima**	**0.58**	**184**	P	**Pg**	**18 28 27.1**	**-0.3**
DID				*e*Sn	**Sb**	**18 28 36.5**	**-0.2**
LKR	**Lokris**	**0.60**	**338**	*e*PB	**Pg**	**18 28 27.4**	**-0.4**
LKR				*e*SN	**Sb**	**18 28 37.1**	**-0.2**
LKR	**Lokris**	**0.60**	**338**	*e*Pb	**Pg**	**18 28 27.4**	**-0.4**
LKR				*e*Sn	**Sb**	**18 28 37.1**	**-0.2**
DIDY	**Didyma**	**0.62**	**186**	P	**Pg**	**18 28 27.5**	**-0.5**
DIDY	**Didyma**	**0.62**	**186**	P	**Pg**	**18 28 27.5**	**-0.5**
DSF	**Desfina**	**0.68**	**298**	P	**Pg**	**18 28 28.8**	**-0.5**
DSF				S	**Sg**	**18 28 38.5**	**+0.3**
DSF	**Desfina**	**0.68**	**298**	P	**Pg**	**18 28 28.8**	**-0.5**
DSF				S	**Sg**	**18 28 38.5**	**+0.3**
GUR	**Goura**	**0.77**	**259**	P	**Pg**	**18 28 30.1**	**-0.7**
GUR				S	**Sb**	**18 28 41.3**	**-0.7**
GUR	**Goura**	**0.77**	**259**	*e*PN	**Pg**	**18 28 30.2**	**-0.6**
GUR				*e*SN	**Sb**	**18 28 42.2**	**+0.2**
GUR	**Goura**	**0.77**	**259**	P	**Pg**	**18 28 30.1**	**-0.7**
GUR				S	**Sb**	**18 28 41.3**	**

AMT	Artemida-Makis	1.37	247	*e*Pn	Pb	18 28 41.9	+0.1
VLI	Veliai	1.40	192	P	Pn	18 28 41.4	-0.2
VLI	Veliai	1.40	192	*e*PN	Pn	18 28 41.4	-0.2
VLI	Veliai	1.40	192	P	Pn	18 28 41.4	-0.2
ITM	Ithomi	1.42	230	P	Pn	18 28 42.1	+0.3
ITM	Ithomi	1.42	230	*e*PN	Pb	18 28 42.2	-0.3
ITM	Ithomi	1.42	230	P	Pn	18 28 42.1	+0.3
EVR	Evrytania	1.43	306	P	Pn	18 28 41.9	-0.2
EVR	Evrytania	1.43	306	*e*PN	Pb	18 28 42.4	-0.4
EVR	Evrytania	1.43	306	P	Pn	18 28 41.9	-0.2
EVR	Evrytania	1.43	306	*e*Pn	Pb	18 28 42.4	-0.4
RLS	Riolos of Patr	1.44	269	*e*PN	Pb	18 28 42.8	-0.1
RLS	Riolos of Patr	1.44	269	*e*Pn	Pb	18 28 42.8	-0.1
DYR	Agios Nikonas	1.53	210	P	Pn	18 28 43.9	+0.5
DYR	Agios Nikonas	1.53	210	*e*PN	Pb	18 28 44.3	-0.2
DYR	Agios Nikonas	1.53	210	P	Pn	18 28 43.9	+0.5
DYR	Agios Nikonas	1.53	210	*e*Pn	Pb	18 28 44.3	-0.2
PYL	PYLOS	1.72	226	*e*PN	Pb	18 28 46.8	-0.8
PYL	PYLOS	1.72	226	*e*Pn	Pb	18 28 46.8	-0.8
THL	Klokotos Trika	1.78	326	*e*PN	Pb	18 28 47.8	-0.9
THL	Klokotos Trika	1.78	326	*e*Pn	Pb	18 28 47.8	-0.9
APE	Apeiranthos	2.05	119	*e*PB	Pn	18 28 50.6	0.0
APE	Apeiranthos	2.05	119	*e*Pb	Pn	18 28 50.6	0.0
CHOS	Chios island	2.19	81	*e*PB	Pn	18 28 53.0	+0.4
CHOS	Chios island	2.19	81	*e*Pb	Pn	18 28 53.0	+0.4
OUR	Ouranopolis	2.30	13	P	Pn	18 28 54.0	0.0
OUR	Ouranopolis	2.30	13	P	Pn	18 28 54.0	0.0
SOH	Sokhos	2.73	1	*e*PN	Pn	18 29 00.6	+0.7
SOH	Sokhos	2.73	1	*e*Pn	Pn	18 29 00.6	+0.7
IDI	Anoyia	3.08	155	Pn	Pn	18 29 06.7	+1.9
	2.2nm,0.3s,baz=314,slow=19,SNR=11						
IDI				Sn	Sn	18 29 41.2	-0.5
	5.1nm,0.3s,baz=296,slow=21,SNR=7.1						
SRN	Sarande	3.13	306	*e*PN	Pn	18 29 07.8	+2.5
SRN				*i* SN	Sn	18 29 37.2	-5.5
SRN	Sarande	3.13	306	*e*Pn	Pn	18 29 07.8	+2.5
SRN				*i* Sn	Sn	18 29 37.2	-5.5
KBN	Korca	3.19	323	*e*PN	Pn	18 29 06.4	+0.1
KBN	Korca	3.19	323	*e*Pn	Pn	18 29 06.4	+0.1
MMB	Musomiste	3.51	5	*i* P	Pn	18 29 10.0	-0.7
MMB	Musomiste	3.51	5	*i* P	Pn	18 29 10.0	-0.7
RZN	Rozhen	3.76	16	*i* P	Pn	18 29 14.7	+0.5
RZN	Rozhen	3.76	16	*i* P	Pn	18 29 14.7	+0.5
KKB	Krupnik	3.77	358	*i* P	Pn	18 29 15.6	+1.3
KKB	Krupnik	3.77	358	*i* P	Pn	18 29 15.6	+1.3
PHP	Peshkopia	4.21	329	*e*PN	Pn	18 29 21.4	+1.1
PHP	Peshkopia	4.21	329	*e*Pn	Pn	18 29 21.4	+1.1
VTS	Vitosha	4.50	359	*i* P	Pn	18 29 26.2	+1.9
VTS	Vitosha	4.50	359	*i* P	Pn	18 29 26.2	+1.9
PUK	Puka	4.73	328	*i* PN	Pn	18 29 30.1	+2.6
PUK	Puka	4.73	328	*i* Pn	Pn	18 29 30.1	+2.6
BARS	Barje	4.85	347	*e*Pn	Pn	18 29 30.2	+1.1
MLR	Muntele Rosu	7.66	14	Pn	Pn	18 30 09.0	+1.3
	0.1nm,0.3s,baz=196,slow=13,SNR=5.0						
MLR				Sn	Sn	18 31 35.6	+1.1
	0.0nm,0.3s,baz=234,slow=14,SNR=2.4						
BRTR	Keskin Array B	8.23	75	Pn	Pn	18 30 18.7	+3.1
	0.1nm,0.3s,baz=257,slow=12,SNR=2.9						
ESDC	Sonseca Array	21.25	283	P	P	18 33 02.3	0.0
	1.1nm,0.7s,baz=78,slow=11,SNR=2.7						
EKA	Eskdalemuir Ar	24.79	323	P	P	18 33 39.1	+1.2
	2.6nm,0.8s,baz=121,slow=8.0,SNR=5.3						
TORD	Torodi Ar. Bea	31.40	223	P	P	18 34 36.7	-0.6
	0.3nm,0.4s,baz=35,slow=9.6,SNR=7.1						
MKAR	Makanchi Array	43.48	59	P	P	18 36 20.9	+1.6
	0.4nm,0.8s,baz=286,slow=8.7,SNR=3.5						

ISCJB ***02*** *18:28:54.9±0.9, 6°.96N±0°.06×72°.89W±0°.06, h179km±8km, mb3.4/1, Error ellipse: s-maj=10.6km s-min=8.7km az=147.6*
FUNV ***02*** *18:28:54.0, 6°.75N×73°.16W, h165km, MW4.3*
IDC ***02*** *18:28:59.3±6.8, 4°.74N×76°.57W, h111km±74km, mb3.3/1, mb1 3.9/2, mb1mx3.2/21, mbtmp3.6/2, ML3.1/1, Error ellipse: s-maj=98.7km s-min=33.4km az=44.0*
ISC 02 18:28:54.5±1.1, 6°.90N±0°.07×72°.97W±0°.07, h170km±9km, n18, σ1§54/33, 3C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	Capacho	1.15	34	⇑*i*P	Pn	18 29 23.6	+0.9
CAPV				*e*S	Sn	18 29 44.8	+0.3
ROSC	El Rosal	2.44	214	P	Pn	18 29 35.3	-1.1
	117nm,0.3s,baz=273,slow=19,SNR=72						
ROSC				S	Sn	18 30 04.4	-4.5
	159nm,0.3s,baz=78,slow=22,SNR=17						
VIGV	El Vigia	2.50	39	*e*P	Pn	18 29 38.0	+1.4
VIGV				*e*S	Sn	18 30 09.8	+0.5
SOCV	Socops	2.50	57	*e*P	Pn	18 29 37.4	+0.7
SOCV				*e*S	Sn	18 30 09.7	+0.3
ELOV	Elorza	3.46	88	*e*P	Pn	18 29 49.6	+1.2
ELOV				*e*S	Sn	18 30 29.7	-0.7
VIRV	Villa del Rosa	3.62	9	⇑*i*P	Pn	18 29 50.3	-0.2
VIRV				*e*S	Sn	18 30 33.1	-1.1
SANV	Sanarito	4.26	53	*e*P	Pn	18 29 60.0	+1.1
SANV				*e*S	Sn	18 30 48.2	-0.9
CURV	Curarigua	4.29	44	*e*P	Pn	18 30 00.2	+1.1
CURV				*e*S	Sn	18 30 48.9	-0.7
DABV	Dabajuro	4.61	30	*e*P	Pn	18 30 04.4	+1.2
DABV				*e*S	Sn	18 30 56.3	-0.7
TEPV	Terepaima	4.81	51	*e*P	Pn	18 30 07.1	+1.2
TEPV				*e*S	Sn	18 31 01.2	-0.6
SIQV	Siquisique	4.86	40	⇑*i*P	Pn	18 30 06.8	+0.3
SIQV				*e*S	Sn	18 31 01.2	-1.7
BAUV	El Baul	5.28	67	*e*P	Pn	18 30 11.8	-0.2
BAUV				*e*S	Sn	18 31 10.5	-2.2
MAPV	Macapo	5.33	57	*e*P	Pn	18 30 13.5	+0.9
MAPV				*e*S	Sn	18 31 12.8	-1.0
MONV	Montecano	5.83	30	*e*P	Pn	18 30 19.4	+0.3
MONV				*e*S	Sn	18 31 22.9	-2.7
BIRV	Birongo	7.51	61	*e*P	Pn	18 30 41.7	+0.3
BIRV				*e*S	Sn	18 32 02.0	-3.8
TXAR	Lajitas Array	36.52	311	P	P	18 35 45.1	+1.2
	0.6nm,0.6s,baz=123,slow=9.5,SNR=7.9						
ASAR	Alice Springs	149.28	234	PKPbc	PKPbc	18 48 23.8	-0.2
	0.4nm,0.5s,baz=116,slow=3.4,SNR=9.0						
WRA	Warramunga Arr	150.51	241	PKPbc	PKPbc	18 48 27.0	0.0
	0.4nm,0.4s,baz=108,slow=2.5,SNR=18						

IDC ***02*** *18:33:46.4±0.6, 1°.68S×99°.37E, h0km, mb4.0/18, mb1 4.1/19, mb1mx4.0/28, mbtmp4.0/19, ML3.4/1, Error ellipse: s-maj=24.7km s-min=11.4km az=54.0*
ISCJB ***02*** *18:33:49.3±0.5, 1°.63S±0°.05×99°.34E±0°.05, h30km, mb4.0/16, Error ellipse: s-maj=8.4km s-min=5.7km az=140.6*
AUST ***02*** *18:33:49.8±4.7, 1°.75S×99°.33E, h16km±1km, Error ellipse: s-maj=2.5km s-min=1.0km az=247.0*
DJA ***02*** *18:33:53.2±0.6, 2°S±4°×10°0E±°, h12km, M4.5/9, mb4.5/4, mB5.1/2, MLv4.6/9, Mw(mB)4.5/2*
ISC 02 18:33:51.3±0.6, 1°.57S±0°.05×99°.40E±0°.08, h30km, n39, σ1§13/39, mb4.0/16, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	Padang	1.25	58	P	Pn	18 34 11.2	-1.5
PDSI				S	Sn	18 34 28.9	+0.3
PPI	Padang Panjang	1.49	42	P	Pn	18 34 14.9	-1.1
PPI	Padang Panjang	1.49	42	P	Pn	18 34 15.1	-1.0
	baz=1.7,SNR=112						
SDSI	Sungai Dareh	2.12	73	P	Pn	18 34 24.4	-0.4
BKNI	Bangkinang	2.50	41	P	Pb	18 34 34.1	-1.4
BKNI	Bangkinang	2.50	41	P	Pb	18 34 34.1	-1.4
	baz=2.7,SNR=14						
MASI	Maura Aman, Be	3.24	119	P	Pn	18 34 40.4	+0.3
KSI	Kapahiang	3.80	123	P	Pn	18 34 49.1	+1.2
PSI	Prapat	4.37	354	Pn	Pn	18 34 55.0	-0.8
	1.8nm,0.3s,baz=169,slow=16,SNR=3.2						
PSI	Prapat	4.37	354	P	Pn	18 34 57.1	+1.3
	baz=4.5,SNR=5.5						
MNAI	Manna	4.50	128	P	Pn	18 34 57.3	-0.2
	baz=4.5,SNR=12						
MNAI				S	Sn	18 35 48.0	-1.0
	baz=4.5,SNR=5.0						
BTDF	Bukit Timah Da	5.25	56	P	Pn	18 35 13.5	+5.6
	baz=5.4,SNR=4.1						
BTDF				P	Pn	18 35 13.5	+5.6
	baz=5.4,SNR=4.1						
KCSI	Kotacane, Aceh	5.32	342	P	Pn	18 35 14.2	+5.5
	43nm,1.0s,0.2nm						
MYKOM	Kota Tinggi	5.56	53	P	Pn	18 35 15.0	+2.9
	28nm,0.9s,0.2nm						
LWLI	Liwa	5.77	126	P	Pn	18 35 16.1	+1.0
	181nm,0.7s,2μm0.8nm						
IPM	Ipoh	6.23	15	P	Pn	18 35 24.3	+3.0
CISI	Čisompet, Garu	10.28	126	P	Pn	18 36 13.3	-3.6
	baz=10,SNR=7.7						
CISI				S	Sn	18 38 27.0	+16
	baz=10,SNR=4.7						
CMAR	Chiang Mai Arr	19.91	359	P	P	18 38 21.1	+0.4
	1.8nm,0.7s,baz=188,slow=10,SNR=16						
KAPI	Kappang	20.60	100	P	P	18 38 28.5	+0.3
	3.0nm,0.4s,baz=253,slow=20,SNR=2.5						
FITZ	Fitzroy Crossi	30.55	124	P	P	18 40 05.8	+3.4
	baz=31,SNR=3.5						
WRA	Warramunga Arr	38.73	121	P	P	18 41 12.3	-0.8
	1.4nm,0.7s,baz=303,slow=8.9,SNR=20						
WRA				PcP	PcP	18 43 25.5	+0.9
	0.3nm,0.5s,baz=318,slow=2.4,SNR=3.1						
ASAR	Alice Springs	39.99	126	P	P	18 41 22.9	-0.7
	1.0nm,0.6s,baz=301,slow=7.3,SNR=33						
ASAR				S	S	18 47 29.5	+2.0
	0.9nm,1.1s,baz=294,slow=15,SNR=5.1						
KSRS	Korea Array	46.96	31	P	P	18 42 19.2	-0.4
	0.5nm,0.6s,baz=219,slow=8.0,SNR=2.8						
SONM	Songino Array	49.58	6	P	P	18 42 40.7	+0.9
	1.0nm,0.5s,baz=202,slow=7.5,SNR=4.1						
STKA	Stephens Creek	49.88	132	P	P	18 42 41.0	-1.2
	1.8nm,0.8s,baz=320,slow=7.9,SNR=3.1						
MKAR	Makanchi Array	50.46	345	P	P	18 42 47.0	+0.7
	2.0nm,0.7s,baz=146,slow=8.5,SNR=20						
CMSA	Cobar Meteorol	52.84	129	P	P	18 43 05.1	+0.6
	baz=53,SNR=8.4						
USRK	Ussuriysk Arra	54.07	29	P	P	18 43 13.0	-0.1
	2.1nm,0.6s,baz=230,slow=8.9,SNR=3.8						
KURBB	Kurchatov Arra	54.97	344	P	P	18 43 20.3	+0.7
	1.0nm,0.9s,baz=164,slow=7.1,SNR=7.7						
ZALV	Zalesovo Beam	56.64	350	P	P	18 43 31.5	0.0
	1.8nm,0.6s,baz=164,slow=6.0,SNR=11						
BVAR	Borovoye Array	59.58	340	P	P	18 43 51.9	-0.2
	0.7nm,0.7s,baz=134,slow=8.6,SNR=4.8						
KBZ	Khabaz	67.59	319	P	P	18 44 45.3	+0.1
	2.2nm,0.7s,baz=86,slow=6.7,SNR=4.6						
MAW	Mawson	70.55	194	P	P	18 45 02.2	-0.8
	0.8nm,0.7s,baz=32,slow=9.5,SNR=3.4						
BRTR	Keskin Array B	72.59	313	P	P	18 45 15.9	-0.3
	0.6nm,0.5s,baz=133,slow=6.8,SNR=4.0						
FINES	FINESS Array B	83.46	332	P	P	18 46 16.1	+0.3
	1.8nm,0.6s,baz=116,slow=8.9,SNR=9.4						
ARCES	ARCESS Array B	85.87	340	P	P	18 46 27.8	-0.1
	1.8nm,0.9s,baz=85,slow=7.4,SNR=4.1						
GERES	GERESS Array B	88.33	319	P	P	18 46 41.3	+0.9
	0.4nm,0.8s,baz=82,slow=9.6,SNR=5.0						
CPUP	Villa Florida	144.30	217	PKP	PKPdf	18 53 23.9	-1.4
	1.5nm,0.5s,baz=122,slow=2.6,SNR=7.8						
TXAR	Lajitas Array	144.72	36	PKP	PKPdf	18 53 25.9	-0.1
	1.0nm,0.4s,baz=254,slow=0.9,SNR=20						

MAN 02 18:42:15, 8°.23N×126°.43E, h32km, mb4.0, ML2.7, MS2.4, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	Butuan	1.09	313	*e*P	Pn	18 42 34.6	+0.5
BUTP				*e*S	Sb	18 42 53.3	+4.2
MATI	Mati	1.28	188	*e*P	Pn	18 42 37.4	+0.6
BUKP	Musuan	1.40	256	*e*P	Pn	18 42 39.4	+1.1
CGP	Cagayan de Oro	1.73	278	⇓*e*P	Pn	18 42 44.5	+1.6
CGP				*e*S	Sn	18 43 04.7	+0.8

IDC 02 19:13:42.3±1.3, 3°.28S×100°.71E, h0km, mb3.8/10, mb1 3.9/11, mb1mx3.8/26, mbtmp3.8/11, ML3.6/1, Error ellipse: s-maj=50.7km s-min=14.6km az=55.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	6.30	344	Pn	Pn	19 15 14.7	-2.0
	1.4nm,0.3s,baz=309,slow=10,SNR=2.8						
CMAR	Chiang Mai Arr	21.67	355	P	P	19 18 34.0	-0.8
	0.3nm,0.4s,baz=187,slow=9.6,SNR=3.0						
FITZ	Fitzroy Crossi	28.52	123	P	P	19 19 40.3	+0.5
	2.9nm,1.1s,baz=292,slow=9.4,SNR=5.5						
WRA	Warramunga Arr	36.74	119	P	P	19 20 50.7	-1.1
	0.4nm,0.4s,baz=302,slow=8.4,SNR=19						
ASAR	Alice Springs	37.93	125	P	P	19 21 01.8	-0.1
	0.7nm,0.5s,baz=298,slow=7.5,SNR=28						
STKA	Stephens Creek	47.77	131	P	P	19 22 21.7	+0.1
	4.2nm,1.0s,baz=338,slow=11,SNR=2.0						
SONM	Songino Array	51.15	5	P	P	19 22 47.7	+0.5
	2.0nm,0.7s,baz=185,slow=9.1,SNR=11						
MKAR	Makanchi Array	52.45	344	P	P	19 22 57.1	+0.3
	0.3nm,0.3s,baz=156,slow=9.0,SNR=7.9						
USRK	Ussuriysk Arra	54.96	27	P	P	19 23 14.4	-0.7
	1.8nm,0.7s,baz=199,slow=7.3,SNR=4.5						
ZALV	Zalesovo Beam	58.55	349	P	P	19 23 40.6	0.0
	0.8nm,0.6s,baz=167,slow=7.3,SNR=5.0						
BRTR	Keskin Array B	74.71	313	P	P	19 25 23.9	-0.5
	0.4nm,0.7s,baz=109,slow=5.0,SNR=3.0						
TXAR	Lajitas Array	145.26	39	PKPbc	PKPdf	19 33 23.0	0.0
	0.6nm,0.7s,baz=358,slow=1.4,SNR=7.0						

ISCJB ***02*** *19:14:01.8±0.6, 24°.35S±0°.04×67°.82W±0°.06, h119km±7km, mb4.5/12, Error ellipse: s-maj=9.7km s-min=6.6km az=178.5*
NEIC ***02*** *19:14:02.8±0.6, 24°.36S×67°.79W, h115km±6km, mb4.5/4, Error ellipse: s-maj=10.9km s-min=6.6km az=96.0*
IDC ***02*** *19:14:03.1±2.0, 24°.31S×67°.82W, h114km±17km, mb4.4/7, mb1 4.3/12, mb1mx4.1/19, mbtmp4.3/12, Error ellipse: s-maj=19.1km s-min=14.3km az=91.0*
GUC ***02*** *19:14:05.5±0.8, 24°.18S×68°.18W, h147km±9km, ML5.2*
ISC 02 19:14:02.7±0.7, 24°.40S±0°.05×67°.87W±0°.06, h114km±8km, n56, σ1§23/64, mb4.7/12, 4C-4D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPCH	San Pedro de A	1.51	348	*e*P	Pn	19 14 33.6	+3.3
SPCH				*i* S	Sn	19 14 55.0	+4.0
SPCH				AML	AML	19 14 58.4	
	comp=E,28μm,0.6s						
LVC	Limon Verde	2.02	331	*e*P	Pn	19 14 38.3	+1.9
LVC				*e*S	Sn	19 14 59.9	-2.1
CEN1	Los Morros	2.36	295	⇓*i*P	Pn	19 14 43.6	+3.0
CEN1				*i* S	Sn	19 15 11.9	+2.4
CEN1				AML	AML	19 15 13.4	
	comp=N,7μm,0.7s						
ANCH	Antofagasta	2.43	286	⇑*i*P	Pn	19 14 42.6	+1.3
ANCH				*i* S	Sn	19 15 10.4	-0.7
ANCH				AML	AML	19 15 13.2	
	comp=N,12μm,0.5s						
PB04	Plate Boundary	2.59	325	⇑*i*P	Pn	19 14 48.7	+5.2
PB04				*i* S	Sn	19 15 20.8	+6.0
PB04				AML	AML	19 15 28.9	
	comp=N,9μm,0.5s						
PB10	Plate Boundary	2.61	289	⇑*i*P	Pn	19 14 44.6	+0.9
PB10				*i* S	Sn	19 15 14.0	-1.2
PB10				AML	AML	19 15 20.5	
	comp=N,21μm,0.7s						
MACH	Maria Elena	2.80	321	⇑*i*P	Pn	19 14 47.4	+1.0
MACH				*i* S	Sn	19 15 19.1	-0.8
PB09	Plate Boundary	2.88	334	⇓*i*P	Pn	19 14 49.4	+1.9
PB09				*i* S	Sn	19 15 21.8	-0.1
PB09				AML	AML	19 15 26.7	
	comp=E,14μm,0.8s						
PB07	Plate Boundary	3.24	325	⇓*i*P	Pn	19 14 52.6	+0.4
PB07				*i* S	Sn	19 15 28.7	-1.8
PB07				AML	AML	19 15 31.8	
	comp=N,4μm,0.7s						
PB01	Plate Boundary	3.66	336	⇓*i*P	Pn	19 14 57.8	+0.1
PB01				*i* S	Sn	19 15 38.5	-1.7
PB01				AML	AML	19 15 39.8	
	comp=N,3μm,0.3s						
LCO	Las Campanas	5.25	208	*e*P	Pn	19 15 18.4	-0.9
	comp=N,376nm,0.3s						
CFAA	Coronel Fontan	7.19	183	P	Pn	19 15 46.6	+1.4
CFAA				S	Sn	19 17 03.0	-2.4
CFAA	Coronel Fontan	7.19	183	P	Pn	19 15 46.6	+1.4
	comp=N,3.4nm,0.3s,baz=355,slow=14,SNR=162						
CFAA				S	Sn	19 17 03.0	-2.4
	comp=N,2.2nm,0.3s,baz=258,slow=19,SNR=12						
LPAZ	La Paz	8.07	358	*e*P	Pn	19 15 57.9	+0.1
	comp=N,29nm,0.4s						
LPAZ	La Paz	8.07	358	P	Pn	19 15 57.3	-0.5
	comp=N,13nm,0.3s,baz=156,slow=4.4,SNR=202						
CPUP	Villa Florida	9.72	104	*e*P	Pn	19 16 19.4	-0.1
	comp=N,53nm,0.6s						
CPUP	Villa Florida	9.72	104	P	Pn	19 16 20.3	+0.8
	comp=N,1.2nm,0.3s,baz=263,slow=12,SNR=9.1						
SIV	San Ignacio	10.51	39	P	Pn	19 16 28.6	-1.8
SIV				S	Sn	19 18 16.4	-10
SIV	San Ignacio	10.51	39	P	Pn	19 16 28.6	-1.8
	comp=N,14nm,0.3s,baz=229,slow=14,SNR=103						
SIV				S	Sn	19 18 16.4	-10
	baz=257,slow=17,SNR=4.1						
TRQA	Tornquist	14.51	161	*e*P	Pn	19 17 21.5	-1.2
	comp=N,64nm,0.8s						
SAML	Samuel	16.00	17	*e*P	Pn	19 17 38.9	-2.5
	comp=N,2.5nm,0.6s						
PLCA	Paso Flores	16.45	187	*e*P	P	19 17 47.0	-0.5
	comp=N,13nm,1.1s						
PLCA	Paso Flores	16.45	187	P	P	19 17 47.6	+0.1
	comp=N,0.5nm,0.3s,baz=9.2,slow=12,SNR=9.6						
BDFB	Brasilia	20.57	69	P	P	19 18 32.1	-0.6
BDFB	Brasilia	20.57	69	P	P	19 18 32.1	-0.6
	comp=N,22nm,0.4s,baz=240,slow=11,SNR=45						
USHA	Ushuaia	30.40	181	P	P	19 20 05.7	+1.8
USHA	Ushuaia	30.40	181	P	P	19 20 05.7	+1.8
	comp=N,10nm,0.9s,baz=0.0,slow=6.1,SNR=4.4						
VNA2	Neumayer--Watz	57.61	160	*e*P	P	19 23 41.1	+0.6
	baz=293,slow=7.3						
SNAA	Sanae	59.24	161	*e*P	P	19 23 52.2	+0.4
TXAR	Lajitas Array	63.54	325	P	P	19 24 21.4	+0.1
TXAR	Lajitas Array	63.54	325	P	P	19 24 21.4	+0.1
	comp=N,0.2nm,0.4s,baz=141,slow=5.8,SNR=3.1						
QSPA	South Pole Qui	65.81	180	*e*P	P	19 24 36.2	+0.5
	comp=N,5.8nm,0.4s						
LIC	Lamto	68.31	72	*e*P	P	19 24 52.3	+0.2
	comp=N,14nm,0.5s						
TIC	Toumodi	68.52	72	*e*P	P	19 24 54.0	+0.5
	comp=N,4.8nm,0.2s						
KIC	Kosan Boka	68.63	72	*e*P	P	19 24 53.8	-0.3
	comp=N,20nm,0.5s						
DBIC	Dimbokro	68.68	72	P	P	19 24 54.4	0.0
DBIC	Dimbokro	68.68	72	P	P	19 24 54.4	0.0
	comp=N,7.3nm,0.4s,baz=203,slow=6.8,SNR=27						
PDAR	Pinedale Array	77.09	330	P	P	19 25 44.3	+0.6
PDAR	Pinedale Array	77.09	330	P	P	19 25 44.3	+0.6
	comp=N,0.3nm,0.4s,baz=130,slow=8.4,SNR=4.2						
TOA0	Torodi Ar. Sit	77.45	69	*e*P	P	19 25 45.5	-0.5
TORD	Torodi Ar. Bea	77.45	69	P	P	19 25 45.9	-0.1
TORD	Torodi Ar. Bea	77.45	69	P	P	19 25 45.9	-0.1
	comp=N,10nm,0.4s,baz=260,slow=5.8,SNR=238						
BOSA	Boshof	81.26	117	P	P	19 26 07.5	+0.7
BOSA	Boshof	81.26	117	P	P	19 26 07.5	+0.7
	comp=N,1.6nm,0.4s,baz=239,slow=4.3,SNR=7.3						
MAW	Mawson	81.29	163	P	P	19 26 06.8	+0.8
MAW	Mawson	81.29	163	P	P	19 26 06.8	+0.8
	comp=N,5.0nm,0.5s,baz=224,slow=6.6,SNR=21						
YKA	Yellowknife Ar	94.22	340	P	P	19 27 08.0	-0.4
YKA	Yellowknife Ar	94.22	340	P	P	19 27 08.0	-0.4
	comp=N,0.8nm,0.6s,baz=139,slow=4.4,SNR=3.7						
ASAR	Alice Springs	127.76	205	PKP	PKPdf	19 32 54.7	-0.8
ASAR	Alice Springs	127.76	205	PKP	PKPdf	19 32 54.7	-0.8
	comp=N,0.8nm,0.5s,baz=131,slow=1.6,SNR=12						
WRA	Warramunga Arr	130.91	208	PKP	PKPdf	19 33 01.3	-0.3
WRA	Warramunga Arr	130.91	208	PKP	PKPdf	19 33 01.3	-0.3
	comp=N,0.5nm,0.3s,baz=155,slow=1.7,SNR=24						
ZALV	Zalesovo Beam	144.11	28	PKP	PKPbc	19 33 23.4	+0.4
ZALV	Zalesovo Beam	144.11	28	PKP	PKPbc	19 33 23.5	+0.4
	comp=N,1.3nm,0.5s,baz=305,slow=4.3,SNR=8.5						
MKAR	Makanchi Array	147.33	39	PKP	PKPdf	19 33 29.9	-0.5
MKAR				PKPbc	PKPbc	19 33 32.8	-0.3
MKAR	Makanchi Array	147.33	39	PKP	PKPdf	19 33 29.9	-0.5
	comp=N,0.8nm,0.4s,baz=254,slow=3.1,SNR=28						
MKAR				PKPbc	PKPbc	19 33 32.8	-0.3
	comp=N,0.9nm,0.4s,baz=305,slow=3.0,SNR=29						

IDC ***02*** *19:37:51.3±1.1, 0°.90N×122°.99E, h0km, mb3.7/4, mb1 3.9/6, mb1mx3.6/25, mbtmp3.8/6, ML4.2/2, Error ellipse: s-maj=58.0km s-min=18.3km az=70.0*
ISCJB ***02*** *19:38:02.4±0.6, 0°.56N±0°.09×122°.26E±0°.07, h114km, mb3.6/4, Error ellipse: s-maj=14.3km s-min=8.4km az=31.8*
DJA ***02*** *19:38:04.0±1.0, 1°N±10°×12°2E±°, h92km±16km, M4.4/4, mb4.7

MTSU	**Mount Surprise**	**28.25**	**114**	P	**P**	**19 46 47.2**	**+1.0**
	baz=28,SNR=10						
CTA	**Charters Tower**	**30.61**	**117**	P	**P**	**19 47 07.0**	**+0.1**
	2.8nm,0.7s,baz=304,slow=3.6,SNR=2.6						
CMAR	**Chiang Mai Arr**	**31.66**	**325**	P	**P**	**19 47 15.3**	**-0.8**
	0.4nm,0.4s,baz=155,slow=6.8,SNR=4.4						
STKA	**Stephens Creek**	**33.04**	**140**	P	**P**	**19 47 28.8**	**+0.9**
	2.4nm,0.8s,baz=318,slow=12,SNR=3.0						
MJAR	**Matsushiro Arr**	**48.13**	**23**	P	**P**	**19 49 30.5**	**+0.2**
	0.6nm,0.6s,baz=186,slow=10,SNR=3.4						
USRK	**Ussuriysk Arra**	**53.29**	**13**	P	**P**	**19 50 10.0**	**+1.7**
	1.9nm,0.6s,baz=189,slow=8.2,SNR=5.4						
SONM	**Songino Array**	**56.09**	**351**	P	**P**	**19 50 30.1**	**+1.7**
	2.2nm,0.6s,baz=168,slow=8.9,SNR=9.2						
MKAR	**Makanchi Array**	**62.52**	**334**	P	**P**	**19 51 13.4**	**+1.3**
	1.1nm,0.6s,baz=142,slow=6.4,SNR=10.0						
ZALV	**Zalesovo Beam**	**67.21**	**340**	P	**P**	**19 51 42.5**	**+0.6**
	1.2nm,0.4s,baz=142,slow=5.3,SNR=5.6						

MAN 02 19:46:19, 9°.07N×125°.48E, h30km, mb4.3, ML3.2, MS3.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.17**	**127**	*eP*	Pn	19 46 26.2	+0.6
BUTP				*eS*	Sb	19 46 32.4	+3.4
SCPH	**Surigao**	**0.70**	**1**	*eP*	Pn	19 46 33.1	+0.2
SCPH				*eS*	Sn	19 46 48.9	+6.1
BUKP	**Musuan**	**1.26**	**199**	*eP*	Pn	19 46 41.1	+0.4
BUKP				*eS*	Sn	19 46 54.7	-1.9

NNC ***02*** *20:02:20.4±5.6, 36°.70N×70°.10E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=60.7km s-min=49.4km az=88.0*

ISC 02 20:02:21.0±3.8, 36°.4N±0°.3×70°.3E±0°.2, h64km, n10, σ0=96/10, 2C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.29**	**24**	P	**Pn**	**20 03 52.4**	**+0.9**
	SNR=14						
KK31	**Karatay Array**	**6.69**	**1**	⇓P	**Pn**	**20 03 57.5**	**+0.9**
	1.4nm,0.3s,baz=191,slow=14,SNR=92						
KK31				⇑S	**Sn**	**20 05 10.7**	**-0.6**
	3.6nm,0.7s,baz=192,slow=26,SNR=4.4						
EKS2	**Erkin-Say**	**6.80**	**22**	P	**Pn**	**20 03 59.7**	**+1.5**
	SNR=5.1						
KZA	**Kyzart**	**6.84**	**33**	P	**Pn**	**20 03 58.8**	**-0.3**
	SNR=5.9						
CHMS	**Chumysh**	**7.42**	**26**	P	**Pn**	**20 04 07.5**	**+0.8**
	SNR=7.7						
ULHL	**Ulahol**	**7.43**	**37**	P	Pn	20 03 55.6	-11
	SNR=16						
TKM2	**Tokmak 2**	**7.68**	**31**	⇑P	**Pn**	**20 04 10.4**	**+0.1**
	2.3nm,0.5s						
TKM2	**Tokmak 2**	**7.68**	**31**	P	**Pn**	**20 04 10.3**	**+0.1**
	SNR=6.5						
AB31	**Akbulak array**	**14.90**	**333**	P	**Pn**	**20 05 46.7**	**-1.1**
	0.9nm,0.3s,baz=159,slow=12,SNR=61						
AKTO	**Aktyubinsk**	**16.58**	**332**	⇓P	**Pn**	**20 06 09.5**	**+0.4**
	2.5nm,1.1s						

IDC 02 20:08:12.5±0.8, 18°.00N×146°.71E, h0km, mb4.0/16, mb1 4.1/17, mb1mx4.0/28, mbtmp4.0/17, ML3.9/1, MS3.3/1, Ms1 3.3/1, ms1mx2.5/44, Error ellipse: s-maj=26.6km s-min=15.4km az=96.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**19.93**	**340**	P	P	20 12 45.5	-0.5
	0.4nm,0.3s,baz=173,slow=10,SNR=4.9						
JNU	**Nakatsue**	**20.71**	**320**	LR	LR	20 19 52.7	
	comp=Z,81nm,20.3s,baz=227,slow=34						
KSRS	**Korea Array**	**25.44**	**323**	P	P	20 13 42.6	+0.6
	0.9nm,0.8s,baz=138,slow=8.0,SNR=5.2						
USRK	**Ussuriysk Arra**	**28.90**	**338**	P	P	20 14 14.5	+1.4
	1.8nm,0.5s,baz=135,slow=9.7,SNR=8.2						
PETK	**Petropavlovsk-**	**36.07**	**11**	P	P	20 15 16.0	+0.3
	1.0nm,0.7s,baz=190,slow=7.3,SNR=3.2						
WRA	**Warramunga Arr**	**39.61**	**198**	P	P	20 15 46.2	+0.2
	1.0nm,0.7s,baz=26,slow=8.4,SNR=11						
FITZ	**Fitzroy Crossi**	**41.43**	**211**	P	P	20 16 00.4	-0.7
	0.8nm,0.8s,baz=24,slow=18,SNR=3.2						
ASAR	**Alice Springs**	**43.26**	**197**	P	P	20 16 16.4	+0.5
	0.3nm,0.6s,baz=22,slow=6.7,SNR=6.0						
SONM	**Songino Array**	**44.28**	**321**	P	P	20 16 24.5	+0.4
	0.8nm,0.7s,baz=139,slow=7.5,SNR=4.5						
ZALV	**Zalesovo Beam**	**59.15**	**323**	P	P	20 18 14.8	-0.2
	1.5nm,0.5s,baz=116,slow=7.7,SNR=9.3						
MKAR	**Makanchi Array**	**59.63**	**314**	P	P	20 18 18.3	-0.2
	1.1nm,0.7s,baz=87,slow=8.7,SNR=8.2						
ILAR	**Eielson Array**	**63.85**	**26**	P	P	20 18 46.0	-0.5
	0.9nm,0.8s,baz=253,slow=5.5,SNR=8.3						
BVAR	**Borovoye Array**	**67.62**	**321**	P	P	20 19 11.4	+0.3
	2.5nm,0.4s,baz=99,slow=8.0,SNR=25						
YKA	**Yellowknife Ar**	**78.15**	**28**	P	P	20 20 13.3	-0.1
	1.1nm,0.6s,baz=287,slow=5.7,SNR=3.7						
NVAR	**Mina Array Bea**	**82.81**	**52**	P	P	20 20 40.2	+0.9
	1.0nm,0.6s,baz=266,slow=5.4,SNR=10						
ARCES	**ARCESS Array B**	**83.44**	**342**	P	P	20 20 42.1	+0.5
	2.0nm,0.7s,baz=68,slow=7.0,SNR=12						
JOF	**Joensuu**	**85.05**	**335**	*ep*	P	20 20 49.3	-0.5
	1.9nm,0.4s						
FINES	**FINESS Array B**	**87.91**	**336**	P	P	20 21 02.3	-1.6
	1.1nm,0.5s,baz=64,slow=4.2,SNR=21						
HFS	**Hagfors**	**93.38**	**338**	P	P	20 21 27.5	-2.0
	2.0nm,0.8s,baz=103,slow=6.2,SNR=4.0						

MEX 02 20:11:03.0±0.5, 16°.77N×100°.98W, h16km±10km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.74**	**68**	*i* P	Pg	20 11 14.9	-2.5
CAIG				*i* S	Sg	20 11 23.4	-3.9
ZIIG	**Zihuatanejo**	**0.96**	**331**	*eP*	Pb	20 11 17.9	-3.3
ZIIG				*i* S	Sb	20 11 29.3	-4.3
MEIG	**Mezcala**	**1.74**	**48**	*i* P	Pn	20 11 29.3	-3.4
MEIG				*i* S	Sn	20 11 49.5	-5.1
PLIG	**Platanillo**	**2.15**	**41**	*eP*	Pn	20 11 34.6	-3.6
PLIG				*i* S	Sn	20 12 00.5	-4.2
MMIG	**Aquila**	**2.72**	**304**	*i* P	Pn	20 11 43.0	-3.0
MMIG				*i* S	Sn	20 12 13.8	-4.8
PNIG	**Pinotepa**	**2.76**	**97**	*i* P	Pn	20 11 44.6	-2.0
PNIG				*eS*	Sn	20 12 15.3	-4.4
MOIG	**Morelia**	**2.90**	**356**	*eP*	Pn	20 11 46.5	-2.5
MOIG				*eS*	Sn	20 12 19.8	-3.9

IDC 02 20:26:04.7±2.2, 6°.55S×129°.87E, h0km, mb3.4/1, mb1 3.7/4, mb1mx3.5/20, mbtmp3.6/4, ML3.7/3, Error ellipse: s-maj=92.5km s-min=28.0km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.20**	**199**	Pn	Pn	20 29 00.1	+0.2
	0.2nm,0.3s,baz=19,slow=11,SNR=28						
FITZ				Sn	Sn	20 31 01.3	-15
	0.4nm,0.3s,baz=313,slow=24,SNR=7.9						
WRA	**Warramunga Arr**	**14.00**	**162**	Pn	Pn	20 29 23.7	-0.8
	0.4nm,0.3s,baz=344,slow=13,SNR=34						
WRA				Sn	Sn	20 31 47.8	-13
	0.2nm,0.3s,baz=332,slow=24,SNR=5.0						
ASAR	**Alice Springs**	**17.45**	**168**	P	Pn	20 30 10.1	+0.4
	0.2nm,0.3s,baz=344,slow=9.6,SNR=19						
ASAR				S	Sn	20 33 14.6	-10
	0.1nm,0.3s,baz=357,slow=29,SNR=3.6						
MKAR	**Makanchi Array**	**67.78**	**327**	P	P	20 37 04.4	0.0
	0.2nm,0.3s,baz=118,slow=8.0,SNR=6.4						

ISK ***02*** *20:43:53.8, 39°.13N×32°.84E, h5km, MD3.3*
CSEM ***02*** *20:43:54.8±0.1, 39°.12N×32°.82E, h0km±1km, MD3.3, Error ellipse: s-maj=2.6km s-min=2.0km az=129.0*
DDA ***02*** *20:43:54.0, 39°.07N×32°.84E, h7km, ML3.5*

ISC 02 20:43:54.4±1.1, 39°.12N±0°.02×32°.79E±0°.02, h8km±12km, n55, σ0=86/65, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFSR	**Af¯ar-Bala (A**	**0.40**	**34**	*eP*G	**Pg**	**20 44 02.3**	**+0.1**
AFSR	**Af¯ar-Bala (A**	**0.40**	**34**	*eP*g	**Pg**	**20 44 02.3**	**+0.1**
BBAL	**Bala**	**0.50**	**32**	*i* P	**Pg**	**20 44 04.4**	**+0.3**
BBAL				*i* S	**Sb**	**20 44 12.4**	**-0.6**
BBAL	**Bala**	**0.50**	**32**	*i* P	**Pg**	**20 44 04.4**	**+0.3**
BBAL				*i* S	**Sb**	**20 44 12.4**	**-0.6**
KIZT	**Kizilcal**	**0.74**	**252**	*e*PG	**Pb**	**20 44 10.1**	**+0.4**
KIZT	**Kizilcal**	**0.74**	**252**	*e*Pg	**Pb**	**20 44 10.1**	**+0.4**
ANTO	**Ankara**	**0.75**	**1**	*e*PG	**Pb**	**20 44 09.4**	**-0.3**
ANTO	**Ankara**	**0.75**	**1**	*e*Pg	**Pb**	**20 44 09.4**	**-0.3**
KAMT	**Kaman**	**0.76**	**71**	*e*PG	**Pg**	**20 44 08.6**	**-0.5**
KAMT				*e*SG	**Sb**	**20 44 20.0**	**-0.6**
KAMT	**Kaman**	**0.76**	**71**	*e*Pg	**Pg**	**20 44 08.6**	**-0.5**
KAMT				*e*Sg	**Sb**	**20 44 20.0**	**-0.6**
LOD	**Lodumlu**	**0.77**	**359**	*e*PG	**Pg**	**20 44 09.5**	**+0.3**
LOD	**Lodumlu**	**0.77**	**359**	*e*Pg	**Pg**	**20 44 09.5**	**+0.3**
KDHN	**Kadinhani**	**0.79**	**221**	*i* P	**Pb**	**20 44 10.4**	**-0.1**
KDHN				*i* S	**Sg**	**20 44 20.6**	**+0.6**
KDHN	**Kadinhani**	**0.79**	**221**	*i* P	**Pb**	**20 44 10.4**	**-0.1**
KDHN				*i* S	**Sg**	**20 44 20.6**	**+0.6**
LADK	**Ladik-KONYA**	**0.98**	**200**	*e*PG	**Pn**	**20 44 14.1**	**-0.4**
LADK	**Ladik-KONYA**	**0.98**	**200**	*e*Pg	**Pn**	**20 44 14.1**	**-0.4**
SVRH	**Sivrihisar-ESK**	**1.03**	**289**	*e*PG	**Pn**	**20 44 15.2**	**0.0**
SVRH	**Sivrihisar-ESK**	**1.03**	**289**	*e*Pg	**Pn**	**20 44 15.2**	**0.0**
SULT	**Sultanhani-AKS**	**1.08**	**148**	*e*PG	**Pb**	**20 44 15.6**	**+0.1**
SULT	**Sultanhani-AKS**	**1.08**	**148**	*e*Pg	**Pb**	**20 44 15.6**	**+0.1**
KONT	**Konya--Tatoy**	**1.22**	**196**	*e*PN	**Pg**	**20 44 18.3**	**+0.5**
KONT	**Konya--Tatoy**	**1.22**	**196**	*e*Pn	**Pg**	**20 44 18.3**	**+0.5**
CDAG	**Cicekdag**	**1.33**	**67**	*i* P	**Pn**	**20 44 18.4**	**-1.0**
CDAG				*i* S	**Sg**	**20 44 37.2**	**0.0**
CDAG	**Cicekdag**	**1.33**	**67**	*i* P	**Pn**	**20 44 18.4**	**-1.0**
CDAG				*i* S	**Sg**	**20 44 37.2**	**0.0**
CANT	**Cankiri**	**1.62**	**23**	*e*PN	**Pb**	**20 44 24.3**	**-0.3**
AVNT	**Avonos**	**1.65**	**101**	*i* P	**Pn**	**20 44 24.3**	**+0.5**
AVNT				*i* S	**Sg**	**20 44 46.9**	**-0.6**
AVNT	**Avonos**	**1.65**	**101**	*i* P	**Pn**	**20 44 24.3**	**+0.5**
AVNT				*i* S	**Sg**	**20 44 46.9**	**-0.6**
NIG	**Nigde**	**1.75**	**125**	*e*PN	**Pb**	**20 44 26.3**	**-0.6**
NIG	**Nigde**	**1.75**	**125**	*e*Pn	**Pb**	**20 44 26.3**	**-0.6**
CORM	**Corum**	**1.77**	**53**	*e*PN	**Pb**	**20 44 26.4**	**-0.9**
CORM	**Corum**	**1.77**	**53**	*e*Pn	**Pb**	**20 44 26.4**	**-0.9**
MDUB	**Mudurnu**	**1.82**	**318**	*e*PN	**Pb**	**20 44 27.7**	**-0.3**
MDUB	**Mudurnu**	**1.82**	**318**	*e*Pn	**Pb**	**20 44 27.7**	**-0.3**
YOZ	**Yozgat**	**2.03**	**74**	*e*PN	**Pn**	**20 44 29.9**	**+0.8**
YOZ	**Yozgat**	**2.03**	**74**	*e*Pn	**Pn**	**20 44 29.9**	**+0.8**
SAFT	**Safranbolu**	**2.12**	**358**	*e*PN	**Pb**	**20 44 31.8**	**-1.2**
SAFT	**Safranbolu**	**2.12**	**358**	*e*Pn	**Pb**	**20 44 31.8**	**-1.2**
TOS	**Tosya**	**2.14**	**26**	*e*PN	**Pn**	**20 44 31.6**	**+1.1**
TOS	**Tosya**	**2.14**	**26**	*e*Pn	**Pn**	**20 44 31.6**	**+1.1**
CTKT	**Corum**	**2.15**	**45**	*i* P	**Pb**	**20 44 34.5**	**+0.8**
CTKT	**Corum**	**2.15**	**45**	*i* P	**Pb**	**20 44 34.5**	**+0.8**
SUTC	**Sutluce-Ispart**	**2.16**	**221**	*e*PN	**Pb**	**20 44 32.8**	**-1.0**
SUTC	**Sutluce-Ispart**	**2.16**	**221**	*e*Pn	**Pb**	**20 44 32.8**	**-1.0**
HDMB	**Hadim**	**2.17**	**186**	*e*PN	**Pb**	**20 44 32.6**	**-1.4**
HDMB	**Hadim**	**2.17**	**186**	*e*Pn	**Pb**	**20 44 32.6**	**-1.4**
GULT	**Gulveren**	**2.19**	**308**	*e*PN	**Pb**	**20 44 33.2**	**-1.0**
GULT	**Gulveren**	**2.19**	**308**	*e*Pn	**Pb**	**20 44 33.2**	**-1.0**
BNN	**Bunyan**	**2.40**	**95**	*e*PN	**Pn**	**20 44 35.1**	**+1.0**
BNN	**Bunyan**	**2.40**	**95**	*e*Pn	**Pn**	**20 44 35.1**	**+1.0**
BYBT	**Boyabat**	**2.79**	**32**	*e*PN	**Pn**	**20 44 40.9**	**+1.5**
BYBT	**Boyabat**	**2.79**	**32**	*e*Pn	**Pn**	**20 44 40.9**	**+1.5**
KOZT	**Kozan**	**2.90**	**123**	*e*PN	**Pn**	**20 44 42.5**	**+1.7**
KOZT	**Kozan**	**2.90**	**123**	*e*Pn	**Pn**	**20 44 42.5**	**+1.7**
SVSK	**Karacayir**	**3.35**	**75**	*e*PN	**Pn**	**20 44 48.9**	**+1.8**
SVSK	**Karacayir**	**3.35**	**75**	*e*Pn	**Pn**	**20 44 48.9**	**+1.8**

IDC ***02*** *20:48:54.8±0.6, 7°.78S×107°.32E, h0km, mb3.9/15, mb1 4.1/16, mb1mx4.0/25, mbtmp4.0/16, ML4.2/1, Error ellipse: s-maj=25.5km s-min=14.4km az=55.0*
NEIC ***02*** *20:48:59.6±0.4, 7°.89S×107°.27E, h35km, mb4.5/3, Error ellipse: s-maj=13.8km s-min=8.4km az=55.0*
ISCJB ***02*** *20:49:01.4±0.5, 8°.11S±0°.05×107°.27E±0°.03, h66km±5km, mb3.8/15, Error ellipse: s-maj=8.0km s-min=5.0km az=20.5*
AUST ***02*** *20:49:01.2, 8°.37S×107°.38E, h35km*
DJA ***02*** *20:49:02.1±0.6, 8°.S±3°×10°.7E±°, h26km±6km, M5.0/19, mb5.3/3, mB5.5/2, MLv4.8/19, Mw(mB)4.9/2*

ISC 02 20:49:01.1±0.9, 8°.15S±0°.04×107°.25E±0°.04, h50km±8km, n78, σ1=70/81, mb3.8/15, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.81**	**44**	P	**Pn**	**20 49 16.4**	**0.0**
CISI				S	**Sn**	**20 49 26.1**	**-1.4**
CISI	**Cisompet, Garu**	**0.81**	**44**	P	**Pn**	**20 49 16.0**	**-0.5**
	baz=0.9,SNR=194						
CISI				S	**Sn**	**20 49 26.2**	**-1.4**
	baz=0.9,SNR=16						
SKJI	**Sukabumi**	**1.32**	**329**	S	**Sn**	**20 49 37.3**	**-2.4**
LEM	**Lembang**	**1.36**	**16**	P	**Pn**	**20 49 25.4**	**+1.5**
LEM				S	**Sn**	**20 49 40.2**	**-0.7**
LEM	**Lembang**	**1.36**	**16**	P	**Pn**	**20 49 25.3**	**+1.4**
	baz=1.6,SNR=157						
LEM				S	**Sn**	**20 49 46.0**	**+5.1**
	baz=1.6,SNR=5.4						
DBJI	**Dramaga**	**1.66**	**343**	P	**Pn**	**20 49 29.0**	**+1.2**
CLJI	**Cilicap**	**1.80**	**77**	P	Pn	20 49 33.2	+3.4
TGJI	**Tegal**	**2.25**	**56**	P	**Pn**	**20 49 36.9**	**+1.0**
TGJI				S	**Sn**	**20 50 03.6**	**+1.1**
SBJI	**Serang**	**2.30**	**331**	P	**Pn**	**20 49 38.8**	**+2.2**
BJII	**Banjamegara**	**2.57**	**72**	P	**Pn**	**20 49 41.1**	**+0.7**
XMI	**Christmas Isla**	**2.76**	**214**	P	**Pn**	**20 49 43.8**	**+0.9**
	baz=2.7,SNR=10						
XMI				S	**Sn**	**20 50 12.7**	**-2.4**
	baz=2.7,SNR=6.6						
XMIS	**Christmas Isla**	**2.80**	**214**	*e*P	**Pn**	**20 49 43.6**	**0.0**
XMIS	**Christmas Isla**	**2.80**	**214**	P	**Pn**	**20 49 44.0**	**+0.5**
	baz=2.7,SNR=37						
YOGI	**Yogyakarta**	**3.04**	**84**	P	**Pn**	**20 49 47.8**	**+1.1**
YOGI				S	**Sn**	**20 50 20.5**	**-1.4**
UGM	**Wanagama**	**3.25**	**86**	P	**Pn**	**20 49 50.5**	**+0.8**
UGM	**Wanagama**	**3.25**	**86**	P	**Pn**	**20 49 50.2**	**+0.4**
	baz=3.1,SNR=24						
BLSI	**Bandar Lampung**	**3.40**	**324**	P	**Pn**	**20 49 54.2**	**+2.5**
KASI	**Kota Agung**	**3.77**	**313**	P	**Pn**	**20 49 58.3**	**+1.5**
KLI	**Kotabumi**	**4.03**	**324**	P	Pn	20 50 05.0	+4.6
LWLI	**Liwa**	**4.43**	**314**	P	**Pn**	**20 50 08.9**	**+2.9**
SJI	**Sawahan**	**4.50**	**85**	P	**Pn**	**20 50 08.9**	**+2.1**
PWJI	**Pagerwojo**	**4.51**	**89**	P	**Pn**	**20 50 08.0**	**+1.0**
KRKI	**Karangkates**	**5.16**	**91**	P	Pn	20 50 20.0	+4.2
MNAI	**Manna**	**5.68**	**311**	P	**Pn**	**20 50 24.5**	**+1.4**
	baz=5.9,SNR=17						
GMJI	**Gumukmas**	**6.14**	**92**	P	**Pn**	**20 50 31.4**	**+2.1**
	86nm,0.7s,2μm0.4nm						
KSI	**Kapahiang**	**6.43**	**314**	P	**Pn**	**20 50 36.0**	**+2.6**
	297nm,0.6s,5μm1.4nm						
MASI	**Maura Aman, Be**	**7.04**	**315**	P	Pn	20 50 45.2	+3.5
BYJI	**Banyuwangi**	**7.04**	**91**	P	Pn	20 50 46.3	+4.6
PPI	**Padang Panjang**	**10.24**	**318**	P	**Pn**	**20 51 25.2**	**-0.4**
	baz=10,SNR=4.9						
PSI	**Prapat**	**13.68**	**322**	Pn	Pn	20 52 06.0	-6.7
PSI	**Prapat**	**13.68**	**322**	Pn	Pn	20 52 06.0	-6.7
	1.1nm,0.3s,baz=162,slow=20,SNR=2.3						
PSI	**Prapat**	**13.68**	**322**	S	**S**	**20 55 06.7**	**+2.8**
	baz=14,SNR=4.7						
SOEI	**Soe**	**16.89**	**97**	P	**P**	**20 52 56.5**	**+0.7**
	baz=17,SNR=3.6						
MBWA	**Marble Bar**	**17.68**	**138**	*e*P	**Pn**	**20 53 02.6**	**-1.3**
	10.0nm,0.6s						
MBWA				*e*P	**pP**	**20 53 15.1**	**-0.6**
MBWA				*e*		20 53 15.6	
FITZ	**Fitzroy Crossi**	**20.45**	**121**	*e*P	**P**	**20 53 35.2**	**+0.6**
	25nm,0.8s						
FITZ				S	S	20 57 12.3	-8.7
FITZ	**Fitzroy Crossi**	**20.45**	**121**	P	Pn	20 53 36.2	-0.9
	4.2nm,0.7s,baz=298,slow=9.5,SNR=20						
FITZ				S	S	20 57 12.3	-8.7
	1.5nm,0.8s,baz=346,slow=19,SNR=2.7						
FITZ	**Fitzroy Crossi**	**20.45**	**121**	P	Pn	20 53 36.3	-0.8
	baz=20,SNR=10						
MEEK	**Meekatharra**	**21.32**	**151**	P	P	20 53 52.8	+8.8
	baz=21,SNR=8.9						
MEEK				S	S	20 57 31.1	-7.2
	baz=21,SNR=4.5						
KNRA	**Kununurra**	**22.33**	**112**	P	**P**	**20 53 55.4**	**+0.5**
	baz=22,SNR=6.3						
KDU	**Kakadu**	**25.21**	**102**	P	**P**	**20 54 21.9**	**-0.6**
	baz=25,SNR=4.0						
TLE	**Tual**	**25.43**	**86**	P	P	20 54 17.1	-7.3
	baz=25,SNR=5.4						
CMAR	**Chiang Mai Arr**	**27.67**	**343**	P	**P**	**20 54 41.7**	**-3.0**
CMAR	**Chiang Mai Arr**	**27.67**	**343**	P	**P**	**20 54 41.7**	**-3.0**
	0.3nm,0.4s,baz=175,slow=9.4,SNR=3.8						
WRA	**Warramunga Arr**	**28.73**	**117**	P	**P**	**20 54 54.9**	**+0.8**
WRA				PcP	**PcP**	**20 58 03.7**	**0.0**
WRA	**Warramunga Arr**	**28.73**	**117**	P	**P**	**20 54 54.9**	**+0.8**
	0.4nm,0.5s,baz=293,slow=10,SNR=8.3						
WRA				PcP	**PcP**	**20 58 03.7**	**0.0**
	0.3nm,0.5s,baz=314,slow=2.1,SNR=3.1						
WRAB	**Tennant Creek**	**28.73**	**117**	*e*P	**P**	**20 54 55.2**	**+1.0**
WRAB				*e*		20 55 07.6	
ASAR	**Alice Springs**	**29.84**	**124**	P	**P**	**20 55 06.3**	**+2.4**
ASAR				PcP	**PcP**	**20 58 07.0**	**+0.5**
ASAR	**Alice Springs**	**29.84**	**124**	P	**P**	**20 55 06.3**	**+2.4**
	0.6nm,0.7s,baz=303,slow=9.8,SNR=5.4						
ASAR				PcP	**PcP**	**20 58 07.0**	**+0.5**
	0.2nm,0.3s,baz=295,slow=2.6,SNR=2.8						
STKA	**Stephens Creek**	**39.70**	**131**	P	**P**	**20 56 30.6**	**+1.7**
STKA	**Stephens Creek**	**39.70**	**131**	P	**P**	**20 56 30.6**	**+1.7**
	8.6nm,0.6s,baz=308,slow=6.0,SNR=36						
STKA	**Stephens Creek**	**39.70**	**131**	P	**P**	**20 56 30.8**	**+2.0**
	baz=40,SNR=28						
CMSA	**Cobar Meteorol**	**42.66**	**128**	P	**P**	**20 56 55.8**	**+2.6**
	baz=42,SNR=5.8						
MJAR	**Matsushiro Arr**	**53.11**	**31**	P	**P**	**20 58 11.7**	**-2.1**
MJAR	**Matsushiro Arr**	**53.11**	**31**	P	**P**	**20 58 11.7**	**-2.1**
	0.4nm,0.5s,baz=219,slow=9.4,SNR=3.4						
SONM	**Songino Array**	**55.74**	**359**	P	**P**	**20 58 31.1**	**-1.8**
SONM				PcP	**PcP**	**20 59 30.9**	**-0.7**
SONM	**Songino Array**	**55.74**	**359**	P	**P**	**20 58 31.1**	**-1.8**
	0.1nm,0.3s,baz=169,slow=8.6,SNR=5.6						
SONM				PcP	**PcP**	**20 59 30.9**	**-0.7**
	0.6nm,0.4s,baz=177,slow=3.4,SNR=4.9						
MKAR	**Makanchi Array**	**59.04**	**340**	P	**P**	**20 58 54.4**	**-1.7**
MKAR	**Makanchi Array**	**59.04**	**340**	P	**P**	**20 58 54.4**	**-1.7**
	0.4nm,0.5s,baz=150,slow=9.4,SNR=7.0						
ZALV	**Zalesovo Beam**	**64.69**	**346**	P	**P**	**20 59 31.9**	**-1.9**
ZALV	**Zalesovo Beam**	**64.69**	**346**	P	**P**	**20 59 31.9**	**-1.9**
	0.3nm,0.3s,baz=160,slow=4.6,SNR=2.9						
MAW	**Mawson**	**66.35**	**197**	P	**P**	**20 59 46.8**	**+2.5**
MAW	**Mawson**	**66.35**	**197**	P	**P**	**20 59 46.8**	**+2.5**
	2.7nm,0.8s,baz=80,slow=6.8,SNR=6.9						
ABKAR	**Akbulak array**	**70.52**	**329**	*e*P	**P**	**21 00 09.6**	**-1.1**
	3.2nm,0.5s						
PETK	**Petropavlovsk-**	**74.47**	**29**	P	**P**	**21 00 32.1**	**-2.0**
PETK	**Petropavlovsk-**	**74.47**	**29**	P	**P**	**21 00 32.1**	**-2.0**
	0.4nm,0.5s,baz=202,slow=7.3,SNR=2.6						
LSZ	**Lusaka**	**77.39**	**256**	P	**P**	**21 00 53.9**	**+2.1**
LSZ	**Lusaka**	**77.39**	**256**	P	**P**	**21 00 53.9**	**+2.1**
	0.9nm,0.6s,baz=96,slow=10,SNR=3.6						
KBZ	**Khabaz**	**77.66**	**318**	P	**P**	**21 00 52.9**	**+0.4**
KBZ	**Khabaz**	**77.66**	**318**	P	**P**	**21 00 52.9**	**+0.4**
	2.1nm,0.8s,baz=145,slow=11,SNR=4.0						
BRTR	**Keskin Array B**	**82.77**	**312**	P	**P**	**21 01 20.1**	**-0.2**
BRTR	**Keskin Array B**	**82.77**	**312**	P	**P**	**21 01 20.1**	**-0.2**
	0.7nm,0.7s,baz=133,slow=5.2,SNR=5.0						
ARCES	**ARCESS Array B**	**94.69**	**340**	P	**P**	**21 02 16.7**	**+0.1**
ARCES	**ARCESS Array B**	**94.69**	**340**	P	**P**	**21 02 16.7**	**+0.1**
	1.3nm,0.8s,baz=97,slow=7.4,SNR=2.4						
TXAR	**Lajitas Array**	**144.12**	**50**	PKP	**PKPdf**	**21 08 30.9**	**-1.3**
TXAR	**Lajitas Array**	**144.12**	**50**	PKP	**PKPdf**	**21 08 30.

comp=Z,180nm,18.8s,baz=224,slow=32
MAW Mawson 48.51 199 LR LR 21 56 28.5
comp=Z,107nm,18.4s,baz=32,slow=34
ASAR Alice Springs 59.89 275 P P 21 38 48.8 +0.2
0.5nm,0.7s,baz=143,slow=6.5,SNR=7.8
HNR Honiara 60.80 308 LR LR 21 59 15.4
comp=Z,82nm,22.0s,baz=125,slow=30
WRA Warramunga Arr 62.85 278 P P 21 39 08.7 +0.1
0.6nm,0.7s,baz=153,slow=5.7,SNR=8.4
ILAR Eielson Array 125.74 5 PKP PKPdf 21 47 43.8 +1.0
0.2nm,0.6s,baz=208,slow=3.7,SNR=3.3
MKAR Makanchi Array 144.07 274 PKP PKPab 21 48 14.7 -0.4
0.8nm,0.8s,baz=141,slow=2.8,SNR=3.1
ZALV Zalesovo Beam 147.60 285 PKPbc PKPdf 21 48 24.0 +0.8
0.1nm,0.3s,baz=145,slow=3.0,SNR=2.4

IGQ 02 21:38:53.7, 1°.68S×81°.32W, h17km±166km, Mb4.3, Ms4.1, 2C-1D, Error ellipse: s-maj=10.9km s-min=5.5km az=8.8, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PECV	**Mancha de Ca P**	**1.55**	**55**	⇑S	Sn	21 39 33.9	-6.6
PECV	**Mancha de Ca P**	**1.55**	**55**	⇑P	Pn	21 39 17.5	-3.2
JAMA	**Jama**	**1.79**	**38**	P	Pb	21 39 25.7	-0.5
JAMA	**Jama**	**1.79**	**38**	S	Sn	21 39 44.4	-2.1
IGUA	**Igualata**	**2.69**	**86**	P	Pn	21 39 38.0	+1.0
BBIL	**Ulba Tungurahu**	**2.84**	**85**	⇓P	Pn	21 39 41.4	+2.7
BMAS	**Trigal station**	**2.84**	**87**	P	Pn	21 39 40.1	+1.2
JUI6	**Juive**	**2.86**	**85**	P	Pb	21 39 41.9	-2.9
ARRY	**Arrayan**	**2.87**	**87**	P	Pn	21 39 40.3	+1.1
RETU	**Refugio**	**2.88**	**86**	P	Pb	21 39 42.6	-2.7
PAT1	**Patacocha**	**2.88**	**87**	P	Pn	21 39 41.1	+1.6
BPAT	**Tungurahua Vol**	**2.89**	**87**	P	Pn	21 39 40.9	+1.3
BULB	**Ulba Tungurahu**	**2.92**	**85**	P	Pn	21 39 41.6	+1.7
ULBA	**Ulba**	**2.92**	**86**	P	Pn	21 39 41.8	+1.9
CAMI	**Rancho Maria**	**2.98**	**71**	P	Pb	21 39 45.1	-2.0
PISA	**Pisayambo**	**3.00**	**78**	P	Pn	21 39 42.6	+1.5
BNAS	**Cotopaxi Volca**	**3.01**	**71**	P	Pn	21 39 44.1	+2.9
BMOR	**Cotopaxi Volca**	**3.01**	**72**	P	Pn	21 39 43.4	+2.0
MOV1	**Cotopaxi Vol s**	**3.03**	**72**	P	Pn	21 39 43.6	+1.9
BREF	**Cotopaxi Volca**	**3.05**	**71**	P	Pb	21 39 45.4	-2.9
JUA2	**San Juan 2**	**3.08**	**62**	P	Pn	21 39 43.8	+1.6
BTAM	**Cotopaxi Volca**	**3.09**	**71**	P	Pn	21 39 44.6	+2.2
VC1	**Cotopaxi 1**	**3.09**	**71**	P	Pn	21 39 45.2	+2.7
PITA	**Cotopaxi Volc**	**3.09**	**69**	P	Pn	21 39 45.4	+3.0
TERV	**Terraza Guagua**	**3.10**	**61**	P	Pn	21 39 45.5	+3.0
PINO	**Pino**	**3.10**	**61**	P	Pn	21 39 43.2	+0.5
GGP	**Refugio Guagua**	**3.10**	**61**	P	Pn	21 39 43.8	+1.1
TAMB	**Tambo**	**3.11**	**72**	P	Pn	21 39 44.6	+1.9
COV1	**Cotopaxi Volc**	**3.14**	**71**	P	Pn	21 39 45.8	+2.5
ANTI	**Antisana**	**3.38**	**69**	P	Pn	21 39 48.6	+2.0
OTAV	**Otavalo**	**3.44**	**56**	P	Pn	21 39 48.7	+1.5
COTA	**Cotacachi**	**3.59**	**56**	P	Pn	21 39 51.9	+2.6
CAYA	**Cayambe**	**3.75**	**62**	P	Pn	21 39 55.2	+3.6
CONE	**Cono NE Rev Vo**	**4.01**	**67**	P	Pn	21 39 56.1	+1.3

*NNC **02** 21:40:00.3±3.5, 41°.02N×74°.06E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=32.6km s-min=10.4km az=170.0*
*KNET **02** 21:40:05.2±0.4, 41°.77N×73°.85E, h11km±2km, ml2.5, Error ellipse: s-maj=2.6km s-min=1.6km az=39.0*
ISC 02 21:40:05.2±2.0, 41°.8N±0°.1×73°.85E±0°.05, h13km±12km, n13, σ0°.47/18, 7C-11D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**0.37**	**342**	⇓P	**Pg**	**21 40 12.8**	**0.0**
	258nm,0.1s,SNR=1023						
AML				⇑S	**Sb**	**21 40 19.1**	**-0.6**
	740nm,0.2s						
UCH	**Uchtor**	**0.67**	**48**	P	**Pb**	**21 40 18.9**	**-0.2**
	10nm,0.2s,SNR=9.3						
UCH				⇑S	**Sb**	**21 40 29.3**	**+0.9**
	62nm,0.4s						
EKS2	**Erkin-Say**	**0.88**	**357**	P	**Pg**	**21 40 22.4**	**+0.1**
	15nm,0.1s,SNR=95						
EKS2				⇓S	**Sn**	**21 40 35.7**	**-0.6**
	44nm,0.3s						
AAK	**Ala-Archa**	**0.98**	**29**	⇓P	**Pb**	**21 40 24.4**	**+0.2**
	45nm,0.2s,SNR=40						
AAK				⇓S	**Sn**	**21 40 39.1**	**+0.4**
	46nm,0.3s						
KZA	**Kyzart**	**1.09**	**74**	⇓P	**Pb**	**21 40 25.9**	**-0.3**
	54nm,0.3s,SNR=97						
KZA				⇓S	**Sn**	**21 40 42.0**	**+0.3**
	73nm,0.2s						
KBK	**Karagaybulak**	**1.20**	**43**	⇓P	**Pg**	**21 40 28.4**	**+0.1**
	17nm,0.1s,SNR=26						
CHMS	**Chumysh**	**1.39**	**29**	⇓P	**Pg**	**21 40 31.7**	**-0.2**
	22nm,0.2s,SNR=38						
USP	**Ospenovka**	**1.56**	**18**	⇓P	**Pg**	**21 40 34.8**	**-0.4**
	24nm,0.2s,SNR=29						
TKM2	**Tokmak 2**	**1.73**	**48**	⇑Pn	**Pg**	**21 40 37.9**	**-0.5**
	25nm,0.3s						
TKM2				⇑Sn	Sg	21 41 08.2	+7.4
	53nm,0.5s						
TKM2	**Tokmak 2**	**1.73**	**48**	⇓P	**Pg**	**21 40 37.6**	**-0.8**
	51nm,0.2s,SNR=127						
ULHL	**Ulahol**	**1.84**	**75**	⇓P	**Pb**	**21 40 39.1**	**+0.1**
	12nm,0.2s,SNR=39						
KK31	**Karatay Array**	**2.80**	**299**	⇑Pn	**Pb**	**21 40 55.1**	**0.0**
	7.1nm,0.2s,baz=116,slow=14,SNR=95						
KK31				⇑Sn	**Sg**	**21 41 35.6**	**+0.4**
	19nm,0.5s,baz=126,slow=28,SNR=16						
MK31	**Makanchi Array**	**7.86**	**48**	⇑P	Pn	21 42 04.8	+5.5
	0.9nm,0.5s,baz=228,slow=13,SNR=7.5						

WEL 02 21:47:29.2±0.3, 40°.93S×172°.92E, h187km±2km, ML4.0/16, 15C-8D, Error ellipse: s-maj=2.3km s-min=2.2km az=0.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QRZ	**Quartz Range**	**0.31**	**288**	⇓PN	Pn	21 47 54.1	-0.1
QRZ				SN	Sn	21 48 12.2	-1.2
NNZ	**Nelson**	**0.45**	**130**	⇑PN	Pn	21 47 54.7	+0.1
NNZ				SN	Sn	21 48 13.3	-1.0
DUWZ	**D'Urville Isla**	**0.77**	**81**	⇑PN	Pn	21 47 56.2	0.0
THZ	**Tophouse**	**0.84**	**181**	PN	Pn	21 47 56.8	+0.2
THZ				SN	Sn	21 48 17.1	-0.9
TUWZ	**Tuamarina**	**0.92**	**124**	PN	Pn	21 47 57.4	+0.3
TUWZ				SN	Sn	21 48 18.2	-0.5
TUWZ				AML	AML	21 48 19.4	
TCW	**Tory Channel**	**1.06**	**106**	⇑PN	Pn	21 47 58.3	+0.3
TCW				AML	AML	21 48 20.8	
TCW				AML	AML	21 48 21.2	
BSWZ	**Blackbirch Sta**	**1.07**	**138**	PN	Pn	21 47 58.3	+0.3
BSWZ				AML	AML	21 48 22.4	
BSWZ				AML	AML	21 48 24.9	
DSZ	**Denniston Nort**	**1.18**	**225**	⇓PN	Pn	21 47 58.5	-0.5
DSZ				SN	Sn	21 48 20.1	-2.1
SNZO	**South Karori**	**1.40**	**106**	⇑PN	Pn	21 48 00.6	-0.2
SNZO				AML	AML	21 48 24.8	
SNZO				AML	AML	21 48 25.1	
WEL	**Wellington**	**1.44**	**105**	⇑PN	Pn	21 48 01.1	-0.1
KIW	**Kapiti Island**	**1.51**	**88**	⇑PN	Pn	21 48 01.6	-0.2
KIW				AML	AML	21 48 26.2	
KIW				AML	AML	21 48 27.4	
BHW	**Baring Head**	**1.55**	**109**	⇑PN	Pn	21 48 01.9	-0.3
BHW				AML	AML	21 48 26.4	
BHW				AML	AML	21 48 28.0	
KHZ	**Kahutara**	**1.56**	**163**	⇓PN	Pn	21 48 02.1	-0.2
KHZ				AML	AML	21 48 26.5	
KHZ				AML	AML	21 48 27.1	
CAW	**Cannon Point**	**1.63**	**97**	PN	Pn	21 48 02.7	-0.3
CAW				AML	AML	21 48 28.6	
CAW				AML	AML	21 48 29.3	
OGWZ	**Otaki Gorge**	**1.71**	**87**	PN	Pn	21 48 03.5	-0.2
MSWZ	**Moikau Station**	**1.82**	**106**	⇑PN	Pn	21 48 04.5	-0.4
MSWZ				AML	AML	21 48 32.8	
MSWZ				AML	AML	21 48 33.1	
KHEZ	**Kahui Hut**	**1.83**	**28**	PN	Pn	21 48 04.4	-0.8
PLWZ	**Palliser**	**1.87**	**111**	⇑PN	Pn	21 48 05.0	-0.5
LTZ	**Lake Taylor**	**1.92**	**195**	⇓PN	Pn	21 48 05.6	-0.3
PAWZ	**Paruwai Farm**	**1.94**	**104**	PN	Pn	21 48 05.7	-0.5
PAWZ				AML	AML	21 48 34.8	
PAWZ				AML	AML	21 48 35.0	
WAZ	**Wanganui**	**1.96**	**54**	PN	Pn	21 48 06.3	-0.1
HOWZ	**Holdsworth Sta**	**1.97**	**90**	⇑PN	Pn	21 48 06.0	-0.4
MTW	**Mount Morrison**	**1.97**	**98**	⇑PN	Pn	21 48 06.0	-0.4

MTW				AML	AML	21 48 35.0	
MTW				AML	AML	21 48 35.2	
MRZ	**Mangatainoka R**	**2.04**	**83**	⇑PN	Pn	21 48 06.5	-0.7
MRZ				AML	AML	21 48 35.0	
MRZ				AML	AML	21 48 35.1	
TRWZ	**Traveller**	**2.14**	**104**	PN	Pn	21 48 08.0	-0.3
TRWZ				AML	AML	21 48 39.1	
TRWZ				AML	AML	21 48 39.3	
POWZ	**Post Office Ro**	**2.23**	**77**	PN	Pn	21 48 08.5	-0.7
TIWZ	**Tintock**	**2.25**	**87**	⇑PN	Pn	21 48 09.0	-0.5
TMWZ	**Te Maipa**	**2.25**	**96**	PN	Pn	21 48 09.1	-0.4
VRZ	**Vera Road**	**2.29**	**39**	PN	Pn	21 48 08.5	-1.4
PRWZ	**Pori Road**	**2.35**	**82**	PN	Pn	21 48 10.2	-0.4
CPWZ	**Castlepoint**	**2.49**	**91**	PN	Pn	21 48 12.1	0.0
OXZ	**Oxford**	**2.49**	**195**	⇓PN	Pn	21 48 11.0	-1.1
BFZ	**Birch Farm**	**2.54**	**86**	PN	Pn	21 48 12.1	-0.6
DVHZ	**Dannevirke**	**2.55**	**77**	PN	Pn	21 48 11.9	-0.9
WNVZ	**Wahianoa**	**2.60**	**53**	PN	Pn	21 48 12.5	-1.2
WHVZ	**Whangaehu Hut**	**2.62**	**52**	PN	Pn	21 48 13.0	-1.1
MOVZ	**Moawhango**	**2.65**	**56**	PN	Pn	21 48 12.6	-1.5
WPVZ	**Whakapapa**	**2.65**	**50**	PN	Pn	21 48 13.1	-1.1
CRLZ	**Canterbury Las**	**2.66**	**185**	PN	Pn	21 48 12.6	-1.4
WVZ	**Waitaha Valley**	**2.70**	**216**	⇓PN	Pn	21 48 13.2	-1.3
PNHZ	**Pukenui**	**2.70**	**69**	PN	Pn	21 48 13.9	-0.7
WTVZ	**West Tongariro**	**2.73**	**49**	*e*PN	Pn	21 48 13.3	-1.9
ANWZ	**Angora Road**	**2.74**	**81**	PN	Pn	21 48 14.6	-0.5
OTVZ	**Oturere**	**2.74**	**51**	PN	Pn	21 48 14.0	-1.4
KRVZ	**Karewarewa**	**2.77**	**50**	PN	Pn	21 48 14.3	-1.4
MQZ	**McQueen's Vall**	**2.79**	**184**	⇑PN	Pn	21 48 13.7	-1.9
BHHZ	**Black Hill Sta**	**2.80**	**60**	PN	Pn	21 48 14.4	-1.5
WPHZ	**Waipukurau**	**2.82**	**73**	PN	Pn	21 48 15.3	-0.7
PRHZ	**Porangahau**	**2.90**	**78**	PN	Pn	21 48 16.3	-0.7
RPZ	**Rata Peaks**	**3.11**	**206**	⇓PN	Pn	21 48 18.2	-1.3
PXZ	**Pawanui**	**3.13**	**75**	PN	Pn	21 48 19.0	-0.7
PXZ				AML	AML	21 48 59.9	
PXZ				AML	AML	21 48 59.9	
KAHZ	**Kahuranaki**	**3.23**	**71**	PN	Pn	21 48 20.5	-0.4
BKZ	**Black Stump Fm**	**3.25**	**58**	PN	Pn	21 48 19.5	-1.9
BKZ				AML	AML	21 48 59.9	
BKZ				AML	AML	21 48 60.0	
CKHZ	**Cape Kidnapper**	**3.42**	**70**	PN	Pn	21 48 23.0	-0.3
NMHZ	**Naumai**	**3.50**	**60**	PN	Pn	21 48 23.9	-0.5
FOZ	**Fox Glacier**	**3.56**	**221**	⇑PN	Pn	21 48 22.0	-3.0
LBZ	**Lake Benmore**	**4.00**	**209**	PN	Pn	21 48 28.4	-2.1
KNZ	**Kokohu**	**4.12**	**64**	PN	Pn	21 48 30.4	-1.6
URZ	**Urewera**	**4.19**	**52**	PN	Pn	21 48 29.5	-3.4
URZ				AML	AML	21 49 20.3	
MHGZ	**Mahia Peninsul**	**4.22**	**67**	PN	Pn	21 48 32.1	-1.1
MWZ	**Matawai**	**4.40**	**55**	*e*PN	Pn	21 48 32.9	-2.7
JCZ	**Jackson Bay**	**4.40**	**223**	PN	Pn	21 48 33.0	-2.7
ODZ	**Otahua Downs**	**4.44**	**201**	⇓PN	Pn	21 48 34.5	-1.5
WKZ	**Wanaka**	**4.84**	**215**	PN	Pn	21 48 38.3	-2.9
PUZ	**Puketiti**	**5.01**	**57**	*e*PN	Pn	21 48 39.7	-3.8
EAZ	**Earnscleugh**	**5.05**	**210**	PN	Pn	21 48 40.9	-3.0
MXZ	**Matakaoa Point**	**5.36**	**53**	PN	Pn	21 48 44.5	-3.4
TUZ	**Tuapeka**	**5.57**	**204**	PN	Pn	21 48 48.4	-2.1
MLZ	**Mavora Lakes**	**5.62**	**217**	PN	Pn	21 48 49.0	-2.3
WHZ	**Wether Hill Ro**	**6.15**	**214**	PN	Pn	21 48 55.0	-3.1
SYZ	**Scrubby Hill**	**6.24**	**205**	PN	Pn	21 48 57.3	-2.0
APZ	**The Paps**	**6.90**	**209**	PN	Pn	21 49 04.9	-3.0

*IDC **02** 22:00:33.9±0.9, 11°.15S×161°.76E, h0km, mb3.8/9, mb1 4.1/12, mb1mx3.9/22, mbtmp3.9/12, ML4.2/3, MS3.6/3, Ms1 3.6/3, ms1mx2.9/36, Error ellipse: s-maj=25.6km s-min=21.4km az=97.0*
*ISCJB **02** 22:00:37.4±0.6, 11°.17S±0°.08×161°.71E±0°.10, h36km, mb3.8/11, MS3.6/2, Error ellipse: s-maj=13.8km s-min=11.2km az=167.4*
*NEIC **02** 22:00:37.0±3.8, 11°.10S×161°.75E, h20km±23km, mb4.2/4, Error ellipse: s-maj=11.1km s-min=8.3km az=64.0*
ISC 02 22:00:39.3±0.7, 11°.13S±0°.09×161°.7E±0°.1, h36km, n32, σ0°.60/31, mb3.8/11, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.42**	**314**	Pn	**Pn**	**22 01 15.5**	**-0.9**
HNR	**Honiara**	**2.42**	**314**	Pn	**Pn**	**22 01 15.5**	**-0.9**
	43nm,0.3s,baz=177,slow=14,SNR=5.1						
DZM	**Mont Dzumac**	**11.78**	**158**	Pn	**Pn**	**22 03 24.1**	**-0.9**
DZM	**Mont Dzumac**	**11.78**	**158**	Pn	**Pn**	**22 03 24.1**	**-0.9**
	1.2nm,0.3s,baz=278,slow=23,SNR=7.8						
DZM				LR	LR	22 06 42.8	
	comp=Z,192nm,19.3s,baz=215,slow=31						
CTA	**Charters Tower**	**17.33**	**237**	P	**P**	**22 04 40.0**	**+0.3**
CTA	**Charters Tower**	**17.33**	**237**	P	**P**	**22 04 40.0**	**+0.3**
	0.6nm,0.3s,baz=97,slow=13,SNR=3.7						
CTAO	**Charters Tower**	**17.33**	**237**	Pn	**Pn**	**22 04 38.7**	**+0.1**
COEN	**Coen**	**18.31**	**259**	*e*Pn	**P**	**22 04 49.9**	**-0.6**
	23nm,0.7s						
WRAB	**Tennant Creek**	**27.74**	**248**	*e*P	**P**	**22 06 24.5**	**-0.3**
	1.8nm,0.7s						
WRA	**Warramunga Arr**	**27.75**	**248**	P	**P**	**22 06 24.6**	**-0.2**
WRA				PcP	**PcP**	**22 09 42.3**	**+1.2**
WRA	**Warramunga Arr**	**27.75**	**248**	P	**P**	**22 06 24.6**	**-0.2**
	1.0nm,0.9s,baz=75,slow=9.9,SNR=10.0						
WRA				PcP	**PcP**	**22 09 42.3**	**+1.2**
	0.8nm,0.9s,baz=82,slow=3.3,SNR=3.4						
STKA	**Stephens Creek**	**27.77**	**219**	P	**P**	**22 06 25.4**	**+0.5**
STKA	**Stephens Creek**	**27.77**	**219**	LR	LR	22 16 05.3	
	comp=Z,243nm,21.0s,baz=204,slow=34						
ASAR	**Alice Springs**	**29.25**	**241**	P	**P**	**22 06 37.7**	**-0.5**
ASAR	**Alice Springs**	**29.25**	**241**	P	**P**	**22 06 37.7**	**-0.5**
	1.0nm,0.7s,baz=68,slow=9.9,SNR=10						
MJAR	**Matsushiro Arr**	**52.33**	**336**	LR	LR	22 29 53.8	
	comp=Z,37nm,18.5s,baz=195,slow=34						
KSRS	**Korea Array**	**57.80**	**328**	P	**P**	**22 10 27.5**	**+0.4**
	0.5nm,0.5s,baz=142,slow=7.0,SNR=3.5						
KSAR	**Wonju Array Be**	**57.81**	**328**	P	**P**	**22 10 27.5**	**+0.3**
VNDA	**Vanda**	**66.38**	**180**	*e*P	**P**	**22 11 24.7**	**+0.6**
	0.4nm,0.5s						
VNDA	**Vanda**	**66.38**	**180**	P	**P**	**22 11 24.2**	**+0.1**
	0.4nm,0.7s,baz=18,slow=7.1,SNR=3.6						
CMAR	**Chiang Mai Arr**	**68.54**	**295**	P	**P**	**22 11 39.5**	**+0.8**
CMAR	**Chiang Mai Arr**	**68.54**	**295**	P	**P**	**22 11 39.5**	**+0.8**
	0.4nm,0.3s,baz=101,slow=4.7,SNR=4.7						
SONM	**Songino Array**	**76.44**	**325**	P	**P**	**22 12 25.4**	**0.0**
SONM	**Songino Array**	**76.44**	**325**	P	**P**	**22 12 25.4**	**0.0**
	1.2nm,0.6s,baz=134,slow=5.0,SNR=6.2						
QSPA	**South Pole Qui**	**78.87**	**180**	*e*P	**P**	**22 12 38.9**	**+0.1**
	6.4nm,1.2s						
ILAR	**Eielson Array**	**84.89**	**20**	P	**P**	**22 13 09.9**	**-0.2**
ILAR	**Eielson Array**	**84.89**	**20**	P	**P**	**22 13 09.9**	**-0.2**
	0.3nm,0.7s,baz=226,slow=3.9,SNR=4.1						
DIB	**Dawson Inlet,**	**84.91**	**33**	T	T	23 46 17.1	
NVAR	**Mina Array Bea**	**89.12**	**51**	P	**P**	**22 13 31.6**	**+0.1**
NVAR	**Mina Array Bea**	**89.12**	**51**	P	**P**	**22 13 31.7**	**+0.1**
	0.2nm,0.5s,baz=230,slow=7.0,SNR=2.2						
MKAR	**Makanchi Array**	**90.89**	**318**	P	**P**	**22 13 39.0**	**-0.4**
MKAR	**Makanchi Array**	**90.89**	**318**	P	**P**	**22 13 39.0**	**-0.4**
	0.3nm,0.6s,baz=112,slow=4.3,SNR=4.1						

KRSC 02 22:28:46.3±0.0, 56°.29N×160°.57E, h20km±13km, ML3.6, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLY	**Klyuchi**	**0.05**	**63**	*i* P	Pb	22 28 50.9	+1.0
KLY				*i* S	Sb	22 28 54.5	+2.2
KRSR	**Krestovskiy**	**0.07**	**182**	*i* P	Pb	22 28 50.1	-0.1
KRSR				*i* S	Sb	22 28 53.0	+0.2
CIRR	**Tsirk**	**0.20**	**150**	*i* P	Pb	22 28 52.0	+0.3
CIRR				*i* S	Sb	22 28 56.6	+1.3
LGNR	**Loginova**	**0.22**	**162**	*i* P	Pb	22 28 52.4	+0.3
LGNR				*i* S	Sb	22 28 56.2	+0.2
ZLN	**Zelenaya**	**0.30**	**154**	*e*P	Pb	22 28 53.6	+0.4
ZLN				*i* S	Sb	22 28 59.8	+1.9
BZWR	**Bezymyannyi-We**	**0.33**	**187**	*i* P	Pb	22 28 53.9	+0.2
BZWR				*i* S	Sb	22 28 59.8	+1.1
BZGR	**Bezymyannyi-Gr**	**0.36**	**169**	*i* P	Pb	22 28 53.9	-0.2
BZGR				*i* S	Sb	22 29 00.3	+0.9
BZMR	**Bezymyannaya**	**0.36**	**187**	*i* P	Pb	22 28 54.2	0.0
BZMR				*i* S	Sb	22 29 00.5	+1.0
KIRR	**Kirishev**	**0.36**	**201**	*i* P	Pb	22 28 53.8	-0.4
KIRR				*i* S	Sb	22 28 59.8	+0.2
KPT	**Kopyto**	**0.38**	**211**	*i* P	Pb	22 28 54.1	-0.3
KPT				*i* S	Sb	22 29 00.9	+1.0
BDR	**Baidarnaya**	**0.45**	**52**	*i* P	Pb	22 28 55.1	-0.6
BDR				*i* S	Sb	22 29 01.9	-0.2

KOZ	**Kozyrevsk**	**0.45**	**239**	*i* P	Pb	22 28 55.7	+0.1
KOZ				*i* S	Sb	22 29 03.4	+1.4
SRDR	**Sredinnyy**	**0.48**	**274**	*i* P	Pb	22 28 55.4	-0.7
SRDR				*i* S	Sb	22 29 02.5	-0.2
SRKR	**Sorokina**	**0.49**	**42**	*i* P	Pb	22 28 55.5	-0.9
SRKR				*i* S	Sb	22 29 02.8	-0.5
KMNR	**Kamenistaya**	**0.57**	**199**	*i* P	Pb	22 28 57.3	-0.4
KMNR				*i* S	Sb	22 29 06.0	+0.5
SMKR	**Semkarok**	**0.58**	**59**	*i* P	Pb	22 28 57.2	-0.7
SMKR				*i* S	Sb	22 29 05.8	0.0
TUMR	**Tumrok**	**1.04**	**194**	*e*P	Pb	22 29 05.1	-0.6
ESO	**Esso**	**1.11**	**252**	*e*P	Pn	22 29 05.9	-0.8
ESO				*i* S	Sb	22 29 20.6	-0.3
KBTR	**Krutoberegovo**	**1.26**	**93**	*i* P	Pn	22 29 08.0	-0.7
KBTR				*i* S	Sn	22 29 24.8	-0.2
MKZ	**Mys Kozlova**	**1.86**	**159**	*i* P	Pn	22 29 17.9	+1.0
MKZ				*i* S	Sb	22 29 41.8	-0.5
KII	**Karymskiy**	**2.35**	**196**	*e*P	Pn	22 29 23.3	-0.5
KII				*i* S	Sn	22 29 51.4	-0.7
GNL	**Ganaly**	**3.01**	**211**	*e*P	Pn	22 29 33.4	+0.4
SDLR	**Sedlovina**	**3.17**	**199**	*e*P	Pn	22 29 37.2	+2.0
KRER	**Koryakskii**	**3.17**	**200**	*e*P	Pn	22 29 35.8	+0.5
KOK	**Koryaka**	**3.21**	**201**	*e*P	Pn	22 29 37.3	+1.7
AVH	**Avacha**	**3.21**	**200**	*e*P	Pn	22 29 36.4	+0.7
SPN	**Mys Shipunski**	**3.21**	**186**	*e*P	Pn	22 29 37.5	+1.9
SPN				*i* S	Sn	22 30 16.2	+2.9
BKI	**Bering**	**3.24**	**107**	*e*P	Pn	22 29 36.8	+0.9
BKI				*i* S	Sn	22 30 14.4	+0.5
UGLR	**Uglovaya**	**3.25**	**199**	*e*P	Pn	22 29 39.0	+2.8
APC	**Apacha**	**3.91**	**212**	*e*P	Pn	22 29 45.5	+0.3
RUS	**Russkaya**	**4.05**	**198**	*e*P	Pn	22 29 48.0	+1.0
ASAK	**Asacha**	**4.21**	**203**	*e*P	Pn	22 29 51.3	+1.8

*SZGRF **02** 23:22:14.2±1°.42S×177°.84W, h33km, Fiji Islands region*
*PRU **02** 23:22:27.0, 16°.70S×175°.75W, h30km*
*ISCJB **02** 23:23:16.5±0.5, 21°.05S±0°.09×178°.59W±0°.09, h579km, mb3.9/18, Error ellipse: s-maj=13.7km s-min=9.5km az=140.3*
*IDC **02** 23:23:17.2±1.6, 21°.01S×178°.57W, h576km±18km, mb3.5/18, mb1 3.7/20, mb1mx3.7/25, mbtmp3.6/20, Error ellipse: s-maj=14.4km s-min=11.6km az=113.0*
*AUST **02** 23:23:41.2±4.9, 22°.21S×178°.49E, h581km±1km, Error ellipse: s-maj=4.1km s-min=1.9km az=227.0*
ISC 02 23:23:17.2±0.5, 21°.0S±0°.1×178°.5W±0°.1, h579km, n104, σ0°.93/115, mb4.0/18, 14C-6D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.02**	**263**	P	**P**	**23 26 15.8**	**-0.9**
	1.3nm,0.3s,baz=81,slow=20,SNR=8.9						
URZ	**Urewera**	**17.60**	**191**	P	**P**	**23 26 48.8**	**-1.0**
	2.8nm,0.3s,baz=325,slow=2.9,SNR=14						
RPZ	**Rata Peaks**	**24.25**	**199**	P	**P**	**23 27 50.2**	**+0.6**
	11nm,0.7s,baz=29,slow=13,SNR=3.0						
EIDS	**Eidsvold**	**28.23**	**255**	P	**P**	**23 28 25.5**	**+0.6**
	baz=25,SNR=3.3						
CMSA	**Cobar Meteorol**	**33.61**	**244**	P	**P**	**23 29 11.6**	**+0.8**
	baz=31,SNR=6.2						
MTSU	**Mount Surprise**	**35.07**	**268**	P	**P**	**23 29 23.6**	**+0.5**
	baz=32,SNR=11						
STKA	**Stephens Creek**	**37.12**	**245**	P	**P**	**23 29 40.1**	**+0.3**
	3.9nm,0.6s,baz=349,slow=22,SNR=8.0						
STKA	**Stephens Creek**	**37.12**	**245**	P	**P**	**23 29 40.9**	**+1.1**
	baz=34,SNR=5.7						
ASAR	**Alice Springs**	**43.91**	**257**	P	**P**	**23 30 34.1**	**+0.1**
	1.7nm,0.4s,baz=89,slow=7.7,SNR=28						
ASAR				PcP	**PcP**	**23 32 04.9**	**-2.

CLL *i* PKPab **PKPab 23 42 04.4 -0.3**
comp=Z,7.0nm,0.8s
CLZ Clausthal 148.45 349 *e*PKPbc **PKPbc 23 41 59.4 +0.2**
DPC Dobruska-Polom 148.46 342 *i* PKP **PKPbc 23 41 59.4 +0.2**
DPC *ex* x 23 42 05.6
BRG Berggiesshubel 148.62 345 ⇑*i*PKP **PKPbc 23 41 59.7 +0.2**
comp=Z,30nm,1.7s
BRG *e* 23 42 05.2
comp=Z,4.6nm,0.9s
BRG Berggiesshubel 148.62 345 *e*PKPbc **PKPbc 23 41 59.6 +0.1**
BRG *e*PKPab **PKPab 23 42 04.6 -0.8**
KECS Kecovo 148.63 335 *e* **PKPbc 23 42 00.4 +0.8**
FBE Freiberg 148.72 345 *e*PKPbc **PKPbc 23 41 59.8 0.0**
FBE *e*PKPab **PKPab 23 42 05.0 -0.8**
SULR 148.75 325 ⇓*i*P **PKPbc 23 42 02.7 +2.7**
PVCC Panska Ves 148.78 344 *i* PKP **PKPbc 23 41 59.8 -0.1**
NEUB Neuenburg 148.80 347 *e*PKPbc **PKPbc 23 42 00.0 +0.1**
VOIR 148.87 327 ⇑*i*P **PKPbc 23 42 00.3 -0.1**
ARR Arges 149.13 327 ⇑*i*P **PKPbc 23 42 01.5 +0.4**
PRU Pruhonice 149.28 343 *i* PKP **PKPbc 23 42 00.5 -0.7**
PRU *e*pPKP **PKPab 23 42 08.6 +0.4**
BUG Bochum--Univer 149.29 353 *e*PKPab **PKPab 23 42 06.0 -2.1**
MOX Moxa 149.36 347 *e*PKPbc **PKPbc 23 42 00.9 -0.5**
MOX *e*PKPab **PKPab 23 42 06.9 -1.6**
TANN Tannenbergstha 149.40 346 *e*PKPbc **PKPbc 23 42 01.3 -0.2**
TANN *e*PKPab **PKPab 23 42 07.9 -0.9**
PLN Plauen 149.40 347 *e*PKPbc **PKPbc 23 42 01.4 0.0**
WERD Werda 149.40 346 *e*PKPbc **PKPbc 23 42 01.3 -0.2**
WERD *e*PKPab **PKPab 23 42 08.1 -0.6**
GUNZ Gunzen 149.48 346 *e*PKPbc **PKPbc 23 42 01.7 0.0**
GUNZ *e*PKPab **PKPab 23 42 08.9 -0.1**
HUMR Humele 149.53 326 ⇓*i*P **PKPbc 23 42 01.3 -0.6**
TREC Trest 149.64 342 *i* PKP **PKPbc 23 42 02.0 -0.1**
MANZ Manzenberg 149.88 346 *e*PKPbc **PKPbc 23 42 02.8 +0.2**
GZR Gura Zlata 150.03 329 ⇓*i*P **PKPbc 23 42 01.5 -1.7**
ROTZ Rotzenmuhle 150.06 346 *e*PKPbc **PKPbc 23 42 03.2 +0.2**
KHC Kasperske Hory 150.32 344 *i* PKP **PKPbc 23 42 03.3 -0.4**
KHC *e*pPKP **PKPab 23 42 13.2 +0.6**
TNS Taunus Mts 150.33 351 *e*PKPbc **PKPbc 23 42 03.9 +0.2**
GRF Grafenberg Arr 150.35 347 *e*PKPab **PKPab 23 42 11.9 -0.8**
BZS Buzias 150.40 331 ⇑*i*P **PKPbc 23 42 03.5 -0.4**
WET Wettzell 150.49 345 *e*PKPbc **PKPbc 23 42 04.0 -0.1**
WET *e*PKPab **PKPab 23 42 12.4 -0.9**
GEC2 GERESS Array S 150.55 343 *e*PKPbc **PKPbc 23 42 04.2 -0.1**
GERES GERESS Array B 150.55 343 PKPbc **PKPbc 23 42 03.7 -0.6**
comp=Z,3.3nm,0.8s,baz=31,slow=2.2,SNR=29
CONA Conrad Observa 150.74 340 P **PKPbc 23 42 04.5 -0.3**
comp=Z,4.8nm,0.6s
STU Stuttgart 151.62 349 *e*PKPbc **PKPbc 23 42 06.6 0.0**
FUR Furstenfeldbru 151.78 346 *e*PKPab **PKPab 23 42 16.7 -2.1**
VTS Vitosha 151.79 325 ⇓*i*P **PKPbc 23 42 06.3 -1.1**
RJOB Jochberg 151.81 344 *e*PKPab **PKPab 23 42 16.8 -2.2**
BFO Black Forest 152.19 350 *e*PKPbc **PKPbc 23 42 08.0 +0.1**
BFO *e*PKPab **PKPab 23 42 18.3 -2.2**
ABTA Abfaltersbach 152.79 343 P **PKPbc 23 42 08.4 -0.9**
comp=Z,4.2nm,0.6s
ESDC Sonseca Array 160.83 13 PKPab **PKPab 23 42 57.8 -0.3**
comp=Z,0.1nm,0.3s,baz=325,slow=4.9,SNR=4.6
KEST Kesra 163.79 336 PKP **PKPdf 23 42 15.2 +0.2**
comp=Z,0.5nm,0.5s,baz=346,slow=4.2,SNR=5.5

AUST ***02*** *23:27:04.0±8.4, 22°.49S×173°.74W, h0km, Error ellipse: s-maj=2.9km s-min=1.2km az=346.0*
IDC ***02*** *23:27:07.3±0.4, 21°.91S×174°.58W, h0km, mb4.7/25, mb1 4.8/27, mb1mx4.8/32, mbtmp4.6/27, ML4.0/2, MS4.4/28, Ms1 4.4/28, ms1mx4.3/39, Error ellipse: s-maj=18.5km s-min=12.9km az=131.0*
ISCJB ***02*** *23:27:11.1±0.2, 22°.14S±0°.05×174°.56W±0°.04, h31km, mb4.9/97, MS4.5/35, Error ellipse: s-maj=8.5km s-min=4.5km az=147.3*
GCMT ***02*** *23:27:11.8±0.3, 22°.04S×173°.87W, h12km±1km, MW5.0, Moment Tensor Solution. s28,c36; s66,c108; Moment tensor: Scale 10^16 Nm; Mrr3.51±.20; Mθθ-0.74±.13; Mφφ-2.77±.13; Mrθ1.24±.37; Mrφ-1.65±.08; Mθφ1.87±.33; Best double couple: M0 4.20000×10^16 NP1:φ=32.00000°, δ61.00000°, λ92.00000°. NP2:φ=207.00000°, δ29.00000°, λ86.00000°. Principal axes: T 4.1600, Plg74.0000°, Azm308.0000°; N 0.1800, Plg2.0000°, Azm210.0000°; P -4.3300, Plg16.0000°, Azm120.0000°; Data Used: II IU IC G CN.*
BJI ***02*** *23:27:12.7, 21°.90S×174°.60W, h30km, mB5.3/18, mb5.1/23, Ms4.9/13, Ms7 4.6/13*
NEIC ***02*** *23:27:15.8±1.3, 22°.05S×174°.64W, h59km±12km, mb4.8/62, Error ellipse: s-maj=9.0km s-min=6.5km az=130.0*
MOS ***02*** *23:27:16.1±1.3, 21°.89S×174°.66W, h69km, mb5.1/24, Error ellipse: s-maj=12.2km s-min=10.1km az=50.7*
ISC 02 23:27:12.9±0.5**, 22°.04S**±0°.06×**174°.58W**±0°.07**, h30**km±2km**, h30**km:**pP-P, n492,** σ1**§34**/497**, mb4.9**/98**, MS4.5**/36**, 128C-107D, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**5.26**	**57**	P	Pn	23 28 16.8	-13
baz=4.9,SNR=25							
RAO	**Raoul Island**	**7.79**	**202**	Sn	**Sn**	**23 30 30.2**	**-1.1**
RAO	**Raoul Island**	**7.79**	**202**	Sn	**Sn**	**23 30 30.2**	**-1.1**
36nm,0.3s,baz=106,slow=23,SNR=4.6							
MSVF	**Nonsavu**	**8.15**	**300**	*e*P	Pn	23 29 13.5	+4.2
MSVF	**Nonsavu**	**8.15**	**300**	*e*Pn	Pn	23 29 13.5	+4.2
AFI	**Afiamalu**	**8.51**	**19**	Pn	Pn	23 29 04.8	-10
AFI				Sn	Sn	23 30 30.7	-19
AFI	**Afiamalu**	**8.51**	**19**	Pn	Pn	23 29 04.8	-10
9.1nm,0.3s,baz=190,slow=22,SNR=5.7							
AFI				Sn	Sn	23 30 30.7	-19
12nm,0.3s,baz=197,slow=19,SNR=3.0							
RAR	**Rarotonga**	**13.80**	**89**	*e*Pn	Pn	23 30 14.1	-12
RAR	**Rarotonga**	**13.80**	**89**	Pn	Pn	23 30 13.7	-13
9.9nm,0.3s,baz=270,slow=7.7,SNR=4.6							
RAR				LR	LR	23 34 47.4	
comp=Z,2μm,19.6s,baz=269,slow=33							
DZM	**Mont Dzumac**	**17.59**	**266**	*e*LR	LR	23 35 34.3	
983nm,22.4s							
DZM	**Mont Dzumac**	**17.59**	**266**	P	**Pn**	**23 31 14.3**	**-1.7**
DZM	**Mont Dzumac**	**17.59**	**266**	P	**Pn**	**23 31 14.3**	**-1.7**
0.3nm,0.3s,baz=113,slow=23,SNR=7.4							
URZ	**Urewera**	**17.68**	**202**	*e*Pn	**P**	**23 31 20.0**	**+2.5**
URZ				S	Sn	23 34 18.4	-14
URZ	**Urewera**	**17.68**	**202**	P	**Pn**	**23 31 17.0**	**+0.2**
0.8nm,0.3s,baz=75,slow=14,SNR=4.4							
URZ				S	Sn	23 34 18.4	-14
0.6nm,0.3s,baz=21,slow=15,SNR=2.8							
TBI	**Tubuai**	**23.21**	**98**	*e*S	S	23 36 10.8	-17
1μm,25.8s							
TBI				*e*LR	LR	23 37 35.2	
2μm,27.2s,baz=272							
PPT2	**Papeete2**	**23.93**	**84**	*e*LQ	LQ	23 36 44.5	
2μm,24.8s							
PPT2				*e*LR	LR	23 37 49.6	
2μm,25.5s,baz=254							
PPT	**Papeete**	**23.93**	**84**	LR	LR	23 39 54.7	
comp=Z,1μm,18.3s,baz=264,slow=32							
RPZ	**Rata Peaks**	**24.68**	**206**	P	**P**	**23 32 29.6**	**-1.6**
RPZ	**Rata Peaks**	**24.68**	**206**	P	**P**	**23 32 29.6**	**-1.6**
12nm,0.6s,baz=11,slow=16,SNR=2.3							
RPZ				LR	LR	23 41 22.5	
comp=Z,949nm,20.7s,baz=22,slow=34							
HNR	**Honiara**	**27.48**	**293**	LR	LR	23 42 17.2	
comp=Z,227nm,19.2s,baz=166,slow=33							
RMQ	**Roma**	**33.64**	**255**	P	**P**	**23 33 51.6**	**+0.6**
baz=34,SNR=5.5							
RKT	**Rikitea**	**36.51**	**99**	*e*LR	LR	23 43 27.7	
2μm,30.0s,baz=266							
CMSA	**Cobar Meteorol**	**36.54**	**246**	P	**P**	**23 34 15.0**	**-0.9**
baz=37,SNR=7.6							
MTSU	**Mount Surprise**	**38.72**	**268**	P	**P**	**23 34 34.3**	**-0.3**
baz=39,SNR=9.8							
STKA	**Stephens Creek**	**40.04**	**246**	P	**P**	**23 34 44.5**	**-0.9**
STKA	**Stephens Creek**	**40.04**	**246**	P	**P**	**23 34 44.5**	**-0.9**
2.9nm,0.7s,baz=89,slow=11,SNR=6.4							
STKA				LR	LR	23 50 19.2	
comp=Z,870nm,18.1s,baz=51,slow=35							
MANU	**Manus Island**	**41.98**	**293**	P	P	23 35 20.8	+19
baz=43,SNR=8.4							
AS31	**Alice Springs**	**47.29**	**258**	*e*P	**P**	**23 35 42.4**	**-1.6**
ASAR	**Alice Springs**	**47.29**	**258**	P	**P**	**23 35 42.5**	**-1.4**
ASAR				PcP	**PcP**	**23 37 14.2**	**-0.6**
ASAR	**Alice Springs**	**47.29**	**258**	P	**P**	**23 35 42.5**	**-1.4**
12nm,1.0s,baz=90,slow=8.3,SNR=42							
ASAR				PcP	**PcP**	**23 37 14.2**	**-0.6**
2.3nm,0.7s,baz=88,slow=3.5,SNR=5.0							
ASAR				LR	LR	23 54 46.9	
comp=Z,422nm,21.1s,baz=105,slow=35							
WRAB	**Tennant Creek**	**47.55**	**263**	*e*P	**P**	**23 35 44.7**	**-1.3**
WRAB				pmax	pmax		
comp=Z,11nm,0.8s							
WRAB	**Tennant Creek**	**47.55**	**263**	*e*P	**P**	**23 35 44.7**	**-1.3**
comp=Z,11nm,0.8s							
WRA	**Warramunga Arr**	**47.56**	**263**	P	**P**	**23 35 43.8**	**-2.3**
WRA	**Warramunga Arr**	**47.56**	**263**	P	**P**	**23 35 43.8**	**-2.3**
comp=Z,8.4nm,0.9s,baz=90,slow=5.9,SNR=40							
WRA				LR	LR	23 54 26.1	
comp=Z,177nm,20.6s,baz=120,slow=34							
KDU	**Kakadu**	**51.17**	**271**	P	P	23 36 19.1	+5.4
baz=52,SNR=3.9							
FORT	**Forrest**	**51.64**	**248**	P	**P**	**23 36 15.9**	**-1.1**
baz=52,SNR=12							
SBA	**Scott Base**	**56.58**	**185**	*e*P	P	23 36 56.5	+4.2
SBA				pmax	pmax		
comp=Z,169nm,3.0s							
SBA	**Scott Base**	**56.58**	**185**	*e*P	P	23 36 56.5	+4.2
comp=Z,169nm,3.0s							
VNDA	**Vanda**	**56.69**	**186**	*e*P	**P**	**23 36 54.8**	**+1.7**
VNDA	**Vanda**	**56.69**	**186**	P	**P**	**23 36 54.1**	**+1.0**
comp=Z,2.3nm,0.8s,baz=3.2,slow=5.8,SNR=12							
VNDA				LR	LR	23 57 28.7	
comp=Z,245nm,18.7s,baz=16,slow=32							
SOEI	**Soe**	**59.73**	**271**	P	**P**	**23 37 15.8**	**+0.3**
baz=60,SNR=7.4							
KLBR	**Kellerberrin**	**60.31**	**245**	P	**P**	**23 37 19.1**	**+0.1**
baz=61,SNR=5.7							
QSPA	**South Pole Qui**	**68.04**	**180**	*e*P	**P**	**23 38 11.2**	**+1.8**
QSPA	**South Pole Qui**	**68.04**	**180**	P	**P**	**23 38 09.5**	**+0.2**
comp=Z,6.9nm,1.0s,baz=49,slow=1.6,SNR=12							
QSPA				LR	LR	00 04 00.4	
comp=Z,314nm,18.6s,baz=240,slow=32							
MJAR	**Matsushiro Arr**	**73.36**	**322**	P	**P**	**23 38 40.1**	**-1.8**
MJAR	**Matsushiro Arr**	**73.36**	**322**	P	**P**	**23 38 40.1**	**-1.8**
comp=Z,8.0nm,0.8s,baz=155,slow=5.9,SNR=14							
FX1	**Attu Island--F**	**75.36**	**352**	P	**P**	**23 38 50.3**	**-2.8**
FX1	**Attu Island--F**	**75.36**	**352**	P	**P**	**23 38 50.3**	**-2.8**
comp=Z,8.2nm,0.9s,baz=163,slow=12,SNR=5.9							
JNU	**Nakatsue**	**75.59**	**315**	LR	LR	00 07 25.8	
comp=Z,138nm,19.1s,baz=52,slow=32							
SCI	**San Clemente I**	**76.49**	**46**	⇑P	**P**	**23 39 00.5**	**+0.4**
baz=77							
KSM	**Kuching**	**76.77**	**277**	*e*P	**P**	**23 39 01.8**	**-0.4**
comp=Z,14nm,0.7s							
KSM	**Kuching**	**76.77**	**277**	P	**P**	**23 39 02.2**	**+0.1**
baz=78,SNR=4.0							
SAO	**San Andreas Ge**	**77.02**	**41**	*e*P	**P**	**23 39 03.0**	**0.0**
SAO				pmax	pmax		
comp=Z,13nm,1.0s							
SAO	**San Andreas Ge**	**77.02**	**41**	*e*P	**P**	**23 39 03.0**	**0.0**
comp=Z,13nm,1.0s							
MURC	**Murrieta**	**77.76**	**46**	⇓P	**P**	**23 39 07.4**	**+0.1**
baz=78							
BFSC	**Mount Baldy Ra**	**77.84**	**45**	⇑P	**P**	**23 39 07.9**	**+0.1**
baz=78							
MONP	**Monument Peak**	**77.87**	**47**	⇓P	**P**	**23 39 07.8**	**-0.3**
baz=78							
DVTC	**Desert V Tower**	**77.95**	**47**	⇓P	**P**	**23 39 08.1**	**-0.3**
baz=78							
EDW2	**Edwards Air Fo**	**78.02**	**45**	⇓P	**P**	**23 39 07.9**	**-0.7**
baz=78,SNR=12							
ISA	**Isabella**	**78.18**	**44**	*e*P	**P**	**23 39 09.2**	**-0.4**
ISA				pmax	pmax		
comp=Z,13nm,1.2s							
ISA	**Isabella**	**78.18**	**44**	*e*P	**P**	**23 39 09.2**	**-0.4**
comp=Z,12nm,1.2s							
ISA	**Isabella**	**78.18**	**44**	⇑P	**P**	**23 39 09.5**	**-0.2**
baz=78							
PFO	**Pinyon Flat Ob**	**78.27**	**46**	*e*P	**P**	**23 39 10.2**	**0.0**
PFO				*e*pP	**pP**	**23 39 18.9**	**-0.9**
PFO	**Pinyon Flat Ob**	**78.27**	**46**	P	**P**	**23 39 09.3**	**-0.9**
comp=Z,5.0nm,1.0s,baz=275,slow=5.8,SNR=4.9							
PFO	**Pinyon Flat Ob**	**78.27**	**46**	⇓P	**P**	**23 39 09.8**	**-0.4**
baz=78							
PET	**Petropavlovsk**	**78.28**	**344**	*e*P	P	23 39 13.1	+3.5
PET				*e*S	**S**	**23 49 07.7**	**+5.3**
PET				MLR	MLR		
comp=Z,200nm,18.0s							
SWSC	**Sam W. Stewart**	**78.32**	**47**	⇑P	**P**	**23 39 10.0**	**-0.3**
baz=79							
KHMM	**Horse Mountain**	**78.41**	**37**	*e*P	**P**	**23 39 11.0**	**+0.2**
comp=Z,11nm,1.0s							
CMB	**Columbia Colle**	**78.48**	**41**	*e*P	**P**	**23 39 10.2**	**-1.0**
CMB				pmax	pmax		
comp=Z,8.0nm,0.9s							
CMB	**Columbia Colle**	**78.48**	**41**	*e*P	**P**	**23 39 10.2**	**-1.0**
comp=Z,7.7nm,0.9s							
LRMC	**Laurel Mountai**	**78.58**	**44**	⇑P	**P**	**23 39 11.7**	**-0.1**
baz=79							
PMSA	**Palmer Station**	**78.60**	**156**	LR	LR	00 07 21.4	
comp=Z,201nm,19.9s,baz=265,slow=31							
PEA0B	**Petropavlovsk-**	**78.61**	**343**	*e*P	**P**	**23 39 09.7**	**-1.7**
PETK	**Petropavlovsk-**	**78.61**	**343**	P	**P**	**23 39 09.6**	**-1.8**
PETK	**Petropavlovsk-**	**78.61**	**343**	P	**P**	**23 39 09.6**	**-1.8**
PETK	**Petropavlovsk-**	**78.61**	**343**	P	**P**	**23 39 09.6**	**-1.8**
comp=Z,7.8nm,0.7s,baz=130,slow=7.7,SNR=30							
PETK				LR	LR	00 09 33.2	
comp=Z,190nm,20.4s,baz=331,slow=32							
OHCM	**Honcut**	**78.67**	**39**	*e*P	**P**	**23 39 12.3**	**+0.3**
YSS	**Yuzh-Sakhalins**	**78.72**	**332**	*e*P	**P**	**23 39 11.5**	**-0.7**
YSS				*e*		23 49 09.0	
YSS				pmax	pmax		
comp=Z,30nm,1.0s							
KRMB	**Red Mountain**	**78.75**	**36**	*e*P	**P**	**23 39 12.7**	**+0.1**
comp=Z,35nm,1.8s							
KRMB				*e*pP	**PcP**	**23 39 23.5**	**+2.1**
BELC	**Belle Mtn. Jos**	**78.81**	**46**	⇓P	**P**	**23 39 12.4**	**-0.8**
baz=79							
WDC	**Whiskeytown Da**	**78.88**	**38**	*e*P	**P**	**23 39 12.8**	**-0.4**
WDC				*e*		23 39 21.9	
WDC				pmax	pmax		
comp=Z,15nm,1.1s							
WDC	**Whiskeytown Da**	**78.88**	**38**	*e*P	**P**	**23 39 12.8**	**-0.4**
comp=Z,15nm,1.1s							
WDC				*e*PcP	**PcP**	**23 39 21.9**	**+0.1**
BC3	**Big Chuckawall**	**78.97**	**47**	⇓P	**P**	**23 39 13.3**	**-0.8**
baz=79							
GSC	**Goldstone**	**79.04**	**45**	*e*P	**P**	**23 39 13.3**	**-1.1**
GSC				pmax	pmax		
comp=Z,6.0nm,1.0s							
GSC	**Goldstone**	**79.04**	**45**	*e*P	**P**	**23 39 13.3**	**-1.1**
comp=Z,6.0nm,1.0s							
GSC	**Goldstone**	**79.04**	**45**	⇑P	**P**	**23 39 13.8**	**-0.5**
baz=79							
GLA	**Glamis**	**79.05**	**48**	⇑P	**P**	**23 39 14.1**	**-0.3**
baz=79							
MPMC	**Manual Prospec**	**79.06**	**44**	⇑P	**P**	**23 39 13.5**	**-1.1**
baz=79,SNR=12							
HEC	**Hector,Ludlow**	**79.08**	**45**	⇓P	**P**	**23 39 13.9**	**-0.6**
baz=79							
MTUM	**Tungsten Hills**	**79.17**	**42**	*e*P	**P**	**23 39 14.9**	**-0.3**
WAKR	**Walker**	**79.36**	**41**	*e*P	**P**	**23 39 15.5**	**-0.6**
IRM	**Iron Mountain**	**79.47**	**47**	⇓P	**P**	**23 39 16.4**	**-0.3**
baz=80							
GMRC	**Granite Mounta**	**79.49**	**46**	⇓P	**P**	**23 39 16.6**	**-0.3**
baz=80							
YBH	**Yreka Blue Hor**	**79.55**	**37**	*e*P	**P**	**23 39 15.8**	**-1.1**
comp=Z,11nm,1.0s							
YBH				*e*PcP	**pP**	**23 39 25.4**	**-1.2**
YBH	**Yreka Blue Hor**	**79.55**	**37**	P	**P**	**23 39 16.0**	**-1.0**
comp=Z,11nm,1.0s,baz=232,slow=4.7,SNR=25							
YBH				LR	LR	00 08 49.3	
comp=Z,334nm,18.8s,baz=194,slow=32							
113A	**Mohawk Valley,**	**79.62**	**48**	⇓P	**P**	**23 39 16.5**	**-0.9**
baz=80							
Y12C	**Blythe**	**79.66**	**47**	⇑P	**P**	**23 39 17.1**	**-0.5**
baz=80							
BEKR	**Beckworth**	**79.67**	**39**	*e*P	**P**	**23 39 16.5**	**-1.3**
comp=Z,4.4nm,1.0s							
TUQ	**Turquoise Moun**	**79.70**	**45**	⇓P	**P**	**23 39 17.5**	**-0.5**
baz=80							
GRAC	**Grapevine Rang**	**79.71**	**43**	⇓P	**P**	**23 39 17.7**	**-0.2**
baz=80							
214A	**Organ Pipe Nat**	**79.83**	**50**	⇑P	**P**	**23 39 17.8**	**-0.8**
baz=80							
NVAR	**Mina Array Bea**	**80.00**	**42**	P	**P**	**23 39 18.1**	**-1.5**
NVAR	**Mina Array Bea**	**80.00**	**42**	P	**P**	**23 39 18.1**	**-1.5**
comp=Z,9.9nm,0.9s,baz=223,slow=8.5,SNR=33							
HUMO	**Hull Mountain**	**80.00**	**36**	*e*P	**P**	**23 39 19.4**	**+0.1**
comp=Z,14nm,1.1s							
NV11	**Mina Array Sit**	**80.09**	**42**	*e*P	**P**	**23 39 18.9**	**-1.2**
PAHR	**Pah Rah Range**	**80.15**	**40**	*e*P	**P**	**23 39 19.6**	**-0.8**
comp=Z,11nm,0.9s							
KSRS	**Korea Array**	**80.16**	**317**	P	**P**	**23 39 20.2**	**0.0**
comp=Z,4.9nm,0.9s,baz=138,slow=5.8,SNR=11							
KSRS				LR	LR	00 11 28.8	
comp=Z,94nm,19.2s,baz=145,slow=33							
KSAR	**Wonju Array Be**	**80.18**	**317**	P	**P**	**23 39 20.2**	**-0.1**
PDMCI	**Parker Dam,Lak**	**80.23**	**47**	⇑P	**P**	**23 39 20.4**	**-0.3**
baz=80							
Z14A	**Wintersburg**	**80.52**	**48**	⇑P	**P**	**23 39 21.7**	**-0.6**
baz=81							
Y14A	**Wickenburg**	**80.80**	**48**	⇑P	**P**	**23 39 22.6**	**-1.3**
baz=81,SNR=7.6							
SHPR	**Sheep Range**	**80.83**	**45**	*e*P	**P**	**23 39 24.7**	**+0.6**
W13A	**Hualapai Mount**	**80.86**	**46**	⇓P	**P**	**23 39 23.8**	**-0.6**
baz=81,SNR=5.1							
MAW	**Mawson**	**81.18**	**199**	LR	LR	00 14 13.0	
comp=Z,371nm,18.3s,baz=118,slow=35							
K05A	**Summer Lake**	**81.22**	**37**	*e*P	**P**	**23 39 25.7**	**-0.4**
comp=Z,24nm,1.0s							
TUC	**Tucson**	**81.46**	**50**	*e*P	**P**	**23 39 27.0**	**-0.5**
TUC				pmax	pmax		
comp=Z,8.0nm,0.9s							
TUC	**Tucson**	**81.46**	**50**	*e*P	**P**	**23 39 27.0**	**-0.5**
comp=Z,7.8nm,0.9s							
R11A	**Troy Canyon, C**	**81.65**	**43**	*e*P	**P**	**23 39 27.7**	**-0.8**
comp=Z,2.8nm,0.9s							
R11A	**Troy Canyon, C**	**81.65**	**43**	⇑P	**P**	**23 39 27.7**	**-0.8**
baz=82							
H04A	**Detroit Lake**	**81.81**	**35**	*e*P	**P**	**23 39 29.1**	**+0.1**
comp=Z,10nm,0.9s							
PINOR	**Pine Mountain**	**81.94**	**36**	*e*P	**P**	**23 39 30.7**	**+1.2**
comp=Z,19nm,1.0s							
USRK	**Ussuriysk Arra**	**82.05**	**324**	P	**P**	**23 39 29.2**	**-0.9**
comp=Z,5.0nm,1.0s,baz=170,slow=5.6,SNR=7.3							
319A	**Douglas**	**82.05**	**52**	⇑P	**P**	**23 39 29.5**	**-1.1**
baz=82							
X16A	**Lo Mia Camp, P**	**82.15**	**48**	⇑P	**P**	**23 39 30.5**	**-0.7**
baz=82,SNR=13							
WVOR	**Wild Horse Val**	**82.31**	**38**	*e*P	**P**	**23 39 30.9**	**-0.8**
WVOR				pmax	pmax		
comp=Z,13nm,1.2s							
WVOR	**Wild Horse Val**	**82.31**	**38**	*e*P	**P**	**23 39 30.9**	**-0.8**
comp=Z,13nm,1.2s							
E03A	**Lebam**	**82.36**	**33**	*e*P	**P**	**23 39 32.5**	**+0.8**
320A	**Kipp Ranch, An**	**82.58**	**52**	⇓P	**P**	**23 39 32.2**	**-1.3**
baz=83							
CCUT	**Cedar City**	**82.61**	**45**	*e*P	**P**	**23 39 33.6**	**+0.1**
comp=Z,13nm,1.3s							
U15A	**North Rim**	**82.68**	**46**	⇑P	**P**	**23 39 33.7**	**-0.3**
baz=83,SNR=16							
ARUT	**Antelope Range**	**82.69**	**44**	*e*P	**P**	**23 39 33.5**	**-0.4**
ARUT				pmax	pmax		
comp=Z,125nm,0.9s							
ARUT	**Antelope Range**	**82.69**	**44**	*e*P	**P**	**23 39 33.5**	**-0.4**
comp=Z,125nm,0.9s							
NLWA	**Neilton Lookou**	**82.79**	**32**	*e*P	**P**	**23 39 33.7**	**-0.3**
comp=Z,16nm,1.2s							
WUAZ	**Wupatki**	**82.80**	**47**	⇑P	**P**	**23 39 33.9**	**-0.6**
baz=83							
I07A	**Izee**	**82.87**	**37**	*e*P	**P**	**23 39 34.3**	**-0.3**
comp=Z,8.8nm,1.0s							
220A	**Playas Peak, P**	**82.87**	**52**	⇓P	**P**	**23 39 34.1**	**-0.8**
baz=83							
TDL	**Tradedollar La**	**82.92**	**34**	P	**P**	**23 39 35.1**	**+0.3**
J08A	**Circle Bar Ran**	**82.98**	**38**	*e*P	**P**	**23 39 35.4**	**+0.2**
comp=Z,20nm,1.1s							
120A	**U Bar Ranch, L**	**83.13**	**51**	⇑P	**P**	**23 39 35.9**	**-0.4**
baz=83,SNR=8.0							
X18A	**Snowflake**	**83.24**	**49**	⇑P	**P**	**23 39 36.0**	**-0.9**
baz=84							
ELK	**Elko**	**83.29**	**41**	*e*P	**P**	**23 39 36.3**	**-0.7**
comp=Z,6.6nm,1.0s							
LON	**Longmire**	**83.39**	**33**	*e*P	**P**	**23 39 36.6**	**-0.6**
LON				pmax	pmax		
comp=Z,5.0nm,0.9s							
LON	**Longmire**	**83.39**	**33**	*e*P	**P**	**23 39 36.6**	**-0.6**
comp=Z,4.9nm,0.9s							
Z20A	**Nine Sixteen R**	**83.45**	**51**	⇓P	**P**	**23 39 37.9**	**0.0**
baz=84,SNR=9.2							
221A	**Mesquite Ranch**	**83.47**	**52**	⇓P	**P**	**23 39 37.3**	**-0.7**
baz=84							
WPW	**White Pass**	**83.49**	**34**	P	**P**	**23 39 37.9**	**+0.2**
D05A	**Enumclaw**	**83.59**	**33**	*e*P	**P**	**23 39 39.4**	**+1.3**
comp=Z,50nm,1.2s							
MDJ	**Mudanjiang**	**83.62**	**324**	P	**P**	**23 39 39.8**	**+1.5**
MDJ				PP	**PP**	**23 42 51.9**	**+0.3**
MDJ				S	**S**	**23 49 56.8**	**-1.7**
MDJ				SS	**SS**	**23 55 25.4**	**-0.7**
MDJ				pmax	pmax		
comp=Z,7.0nm,0.5s							
MDJ				pmax	pmax		
comp=Z,130nm,4.9s							
MDJ				LR	LR		
comp=N,84nm,21.3s							
MDJ				LR	LR		
comp=E,130nm,18.0s							
MDJ				LR	LR

TXAR LR LR 00 11 34.6
comp=Z,236nm,18.5s,baz=285,slow=31
526A Mary Lane Ranc 85.26 55 ⇓P P 23 39 46.1 -1.0
baz=86,SNR=8.6
X22A Bernardo 85.30 50 ⇓P P 23 39 46.7 -0.6
baz=86
F10A Beach Ranch, E 85.31 36 *eP* **P 23 39 45.6 -1.4**
comp=Z,22nm,1.0s
SRU San Rafael 85.33 45 *eP* **P 23 39 47.0 -0.4**
SRU pmax pmax
comp=Z,14nm,1.0s
SRU San Rafael 85.33 45 *eP* **P 23 39 47.0 -0.4**
comp=Z,14nm,1.0s
BNM Barren Site 85.39 50 *eP* **P 23 39 47.5 -0.3**
comp=Z,6.0nm,1.0s
HVU Hansel Valley 85.40 41 *eP* **P 23 39 47.7 +0.1**
HVU pmax pmax
comp=Z,10.0nm,1.0s
HVU Hansel Valley 85.40 41 *eP* **P 23 39 47.7 +0.1**
comp=Z,9.8nm,1.0s
OD2 Odessa Site #2 85.41 34 P **P 23 39 48.5 +1.2**
HLID Hailey 85.45 39 *eP* **P 23 39 46.3 -1.5**
comp=Z,9.1nm,1.0s
HLID Hailey 85.45 39 ⇓P P 23 39 47.8 0.0
baz=86
LPM Los Pinos Moun 85.47 50 *eP* **P 23 39 48.3 +0.2**
CN2 Changchun 85.48 321 *eP* **P 23 39 48.0 +0.3**
CN2 *e*pP **pP 23 39 58.5 +1.1**
CN2 *e*S **S 23 50 18.9 +1.9**
CN2 pmax pmax
comp=Z,20nm,1.2s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,200nm,19.0s
CN2 LR LR
comp=E,200nm,19.0s
CN2 LR LR
comp=Z,200nm,14.0s
KLR Kul'dur 85.49 328 *eP* P 23 39 42.8 -4.8
627A Terlingua Ranc 85.50 56 ⇓P P 23 39 47.3 -1.0
baz=86,SNR=12
124A Stringfield Ra 85.52 52 ⇑P P 23 39 47.3 -1.2
baz=86
V21A Milan 85.52 49 ⇑P P 23 39 48.1 -0.4
baz=86,SNR=5.9
426A McDonald Obser 85.59 55 ⇓P P 23 39 47.9 -1.0
baz=86,SNR=11
527A Woodward Ranch 85.66 55 ⇑P P 23 39 48.0 -1.1
baz=86,SNR=10
MVCO Mesa Verde 85.66 47 ⇑P P 23 39 48.4 -0.7
baz=86
W22A Albuquerque 85.69 50 ⇓P P 23 39 48.3 -0.9
baz=86
Y23A Lovelace Mesa, 85.69 51 ⇑P P 23 39 47.9 -1.4
baz=86,SNR=12
225A Deer Hill, Car 85.69 53 ⇑P P 23 39 47.7 -1.6
baz=86,SNR=6.2
B08A Colville Reser 85.71 33 *eP* **P 23 39 49.3 +0.5**
comp=Z,5.8nm,0.9s
U21A Nageezi 85.83 48 ⇓P P 23 39 49.0 -0.9
baz=86,SNR=18
Z24A Sheeppen Canyo 85.89 52 ⇑P P 23 39 49.1 -1.2
baz=86,SNR=9.0
PLCA Paso Flores 85.89 132 P **P 23 39 49.4 -0.8**
PLCA Paso Flores 85.89 132 P **P 23 39 49.4 -0.8**
comp=Z,3.1nm,0.9s,baz=234,slow=6.7,SNR=3.0
PLCA LR LR 00 13 57.4
comp=Z,290nm,18.3s,baz=316,slow=33
C09A Chrisman Ranch 85.90 34 *eP* **P 23 39 50.1 +0.4**
comp=Z,7.7nm,1.0s
SYO Syowa Base 85.90 192⇑*e*X pP 23 39 58.2 -1.0
628A Black Gap, Mar 85.91 56 ⇑P P 23 39 48.9 -1.3
baz=86,SNR=15
ANMO Albuquerque 85.91 50 *eP* **P 23 39 48.8 -1.6**
comp=Z,18nm,1.0s
ANMO Albuquerque 85.91 50 P **P 23 39 48.9 -1.5**
comp=Z,15nm,1.0s,baz=209,slow=5.3,SNR=32
ANMO LR LR 00 12 09.5
comp=Z,397nm,18.7s,baz=246,slow=32
X23A Hourglass Bar 85.92 50 ⇑P P 23 39 49.7 -0.7
baz=86
326A Caldwell Ranch 85.94 54 ⇑P P 23 39 49.3 -1.2
baz=86
HWUT Hardware Ranch 86.05 42 *eP* **P 23 39 49.5 -1.3**
comp=Z,6.2nm,1.0s
S20A Disappointment 86.08 47 ⇑P P 23 39 51.1 -0.1
baz=86
125A Gardner Draw, 86.08 53 ⇓P P 23 39 49.8 -1.3
baz=86,SNR=5.6
V22A San Miguel Ran 86.08 49 ⇑P P 23 39 50.7 -0.5
baz=86
PV01 Paradox Valley 86.10 46 *eP* **P 23 39 50.7 -0.5**
comp=Z,283nm,1.0s
Y24A Capitan 86.14 51 ⇑P P 23 39 50.9 -0.6
baz=86,SNR=28
427A Hayter Ranch, 86.15 55 ⇑P P 23 39 50.4 -1.1
baz=86,SNR=19
226B Tecolote Peak, 86.17 53 ⇓P P 23 39 50.6 -1.0
baz=86,SNR=10
T21A Navajo Lake 86.20 48 ⇑P P 23 39 51.7 -0.1
baz=86
W23A Werner Place, 86.24 50 ⇓P P 23 39 52.0 0.0
baz=86,SNR=6.4
528A Cox Ranch, San 86.30 56 ⇓P P 23 39 51.4 -0.9
baz=86,SNR=11
Z25A Roswell 86.34 52 ⇑P P 23 39 51.8 -0.7
baz=87,SNR=6.5
SNAA Sanae 86.36 177 *eP* **P 23 39 52.4 +0.6**
comp=Z,12nm,1.4s
S21A Coal Bank Pass 86.38 47 ⇓P P 23 39 52.6 -0.2
baz=87
X24A Lazy VL Ranch, 86.45 51 ⇓P P 23 39 52.7 -0.4
baz=87
IPM Ipoh 86.48 276 *eP* **P 23 39 53.3 -0.1**
comp=Z,12nm,0.7s
V23A Ortiz Mt. (NFS 86.51 49 ⇑P P 23 39 52.8 -0.5
baz=87,SNR=9.3
M17A Scullys Gap (B 86.53 43 ⇓P P 23 39 52.3 -1.0
baz=87
428A Kincaid Ranch, 86.64 55 ⇓P P 23 39 53.4 -0.5
baz=87
T22A Edith 86.65 48 ⇑P P 23 39 54.3 +0.3
baz=87
Y25A Mesa, Roswell 86.67 51 ⇑P P 23 39 52.7 -1.4
baz=87,SNR=9.9
Q20A Ridgley Place, 86.71 46 ⇑P P 23 39 53.7 -0.5
baz=87
529A Stev Forest Ra 86.72 56 ⇑P P 23 39 52.6 -1.7
baz=87,SNR=10
W24A Lazy 6 Ranch, 86.79 50 ⇑P P 23 39 53.6 -1.1
baz=87,SNR=12
NEW Newport 86.80 34 *eP* **P 23 39 54.5 +0.3**
NEW Newport 86.80 34 P **P 23 39 52.7 -1.5**
comp=Z,0.7nm,0.3s,baz=353,slow=5.3,SNR=4.4
U23A El Rito 86.80 49 ⇓P P 23 39 55.6 +0.9
baz=87
328A Wristen Ranch, 86.85 54 ⇓P P 23 39 53.5 -1.4
baz=87,SNR=5.3
VNA2 Neumayer--Watz 86.85 176 *eP* **P 23 39 55.5 +1.3**
baz=191,slow=2.7
Z26A Caprock 86.88 52 ⇑P P 23 39 53.6 -1.4
baz=87,SNR=12
O19A Miners Draw (B 86.88 44 ⇓P P 23 39 54.9 -0.1
baz=87
R21A Cimarron 86.91 46 ⇑P P 23 39 55.3 +0.1
baz=87
P20A De Beque 86.94 45 ⇓P P 23 39 54.7 -0.6
baz=87
X25A Clemmons Ranch 86.99 51 ⇑P P 23 39 54.4 -1.2
baz=87,SNR=6.6
127A Arkansas Junct 87.05 53 ⇓P P 23 39 55.0 -0.9
baz=87
S22A 4UR Ranch, Cre 87.07 47 ⇓P P 23 39 55.2 -0.9
baz=87
MCMT McKenzie Canyo 87.10 39 *eP* **P 23 39 55.2 -0.8**
comp=Z,2.5nm,1.0s
V24A Rampart Ranch, 87.14 50 ⇓P P 23 39 55.7 -0.7
baz=87
CMIG Matias Romero 87.15 70 P **P 23 39 54.1 -2.4**
CMIG Matias Romero 87.15 70 P **P 23 39 54.1 -2.4**
comp=Z,4.4nm,1.0s,baz=286,slow=8.3,SNR=3.6
CMIG LR LR 00 10 35.3
comp=Z,311nm,19.6s,baz=45,slow=30
RRI2 Red Ridge 87.17 41 *eP* **P 23 39 57.0 +0.5**
comp=Z,4.8nm,1.0s
L18A Fontenelle, Gr 87.18 42 ⇑P P 23 39 56.4 0.0
baz=87
429A Davenport Ranc 87.20 55 ⇑P P 23 39 55.0 -1.6
baz=87,SNR=16
Y26A Elida 87.30 52 ⇑P P 23 39 56.5 -0.6
baz=88
TRF Thorofare Moun 87.32 11 *eP* **P 23 39 56.4 -0.1**
comp=Z,16nm,0.9s
228A UT Block 9, Go 87.36 54 ⇑P P 23 39 56.9 -0.5
baz=88
O20A White River Ci 87.37 45 ⇑P P 23 39 57.4 +0.1
baz=88
530A J-C Ranch, Com 87.41 56 ⇑P P 23 39 56.2 -1.4
baz=88,SNR=9.0
REDW Red Top Meadow 87.46 41 *eP* **P 23 39 57.7 -0.1**
comp=Z,3.9nm,1.0s
REDW *e*pP **pP 23 40 07.5 0.0**
W25A X Bar L Ranch, 87.47 50 ⇓P P 23 39 57.1 -0.8
baz=88,SNR=7.1
TPAW Teton Pass 87.47 41 *eP* **P 23 39 58.4 +0.5**
comp=Z,4.7nm,1.1s
329A Wagon Wheel Ra 87.53 55 ⇑P P 23 39 57.5 -0.7
baz=88
Q22A Crested Butte, 87.59 46 ⇓P P 23 39 57.8 -0.8
baz=88
X26A CR and CF Fran 87.61 51 ⇓P P 23 39 57.8 -0.8
baz=88,SNR=5.5
631A Perdido Creek 87.66 57 ⇑P P 23 39 57.1 -1.7
baz=88,SNR=16
128A Castleberry Fa 87.68 53 ⇑P P 23 39 57.8 -1.1
baz=88,SNR=6.7
L19A Farson 87.70 43 ⇓P P 23 39 58.3 -0.6
baz=88
IMW Indian Meadow 87.71 40 *eP* **P 23 39 59.6 +0.5**
comp=Z,4.0nm,1.0s
SMCO Snowmass 87.71 46 *eP* **P 23 39 58.2 -1.1**
comp=Z,5.8nm,0.9s
N20A Spence Gulch, 87.72 44 ⇓P P 23 39 58.6 -0.5
baz=88
Y27A Causey 87.77 52 ⇑P P 23 39 58.6 -0.8
baz=88
430A Baggett Ranch, 87.77 56 ⇑P P 23 39 58.1 -1.2
baz=88
PSI Prapat 87.79 274 P **P 23 39 59.6 -0.3**
baz=89,SNR=3.6
MCK McKinley 87.82 11 *eP* **P 23 39 59.6 +0.9**
MCK pmax pmax
comp=Z,16nm,1.0s
MCK McKinley 87.82 11 *eP* **P 23 39 59.6 +0.9**
comp=Z,16nm,1.0s
732A Laxson Ranch, 87.83 58 ⇑P P 23 39 59.5 -0.1
baz=88
229A Bryant Ranch, 87.88 54 ⇓P P 23 39 58.7 -1.1
baz=88
PDAR Pinedale Array 87.93 42 P **P 23 39 58.1 -1.9**
PDAR Pinedale Array 87.93 42 P **P 23 39 58.1 -1.9**
comp=Z,3.2nm,0.9s,baz=221,slow=3.7,SNR=17
PDAR LR LR 00 12 31.2
comp=Z,160nm,18.7s,baz=261,slow=31
H16A Russell Place, 87.97 40 ⇓P P 23 40 00.6 +0.4
baz=88
R23A Moffat 87.98 47 ⇓P P 23 40 00.1 -0.4
baz=88
531A Rocksprings 88.02 56 ⇓P P 23 39 59.1 -1.4
baz=88,SNR=26
P22A Eagle 88.06 46 ⇓P P 23 40 00.4 -0.3
baz=88
U25A Circle Dot Ran 88.08 49 ⇑P P 23 40 00.1 -0.7
baz=88
330A Mertzon 88.10 55 ⇓P P 23 39 59.5 -1.4
baz=88
M20A Sweetwater, Wa 88.11 44 ⇓P P 23 40 00.8 -0.1
baz=88
S24A Houchin Ranch, 88.13 48 ⇑P P 23 40 01.0 -0.2
baz=88
N21A Black Mountain 88.16 44 ⇑P P 23 40 01.0 -0.2
baz=88
V26A Tequesquite Ra 88.23 50 ⇑P P 23 40 00.9 -0.6
baz=88
DLBC Dease Lake 88.25 22 P **P 23 40 00.6 -0.3**
DLBC Dease Lake 88.25 22 P **P 23 40 00.6 -0.3**
comp=Z,0.4nm,0.3s,baz=270,slow=10,SNR=4.3
DLBC LR LR 00 18 09.1
comp=Z,159nm,18.1s,baz=135,slow=35
BOZ Bozeman (W) 88.28 39 *eP* **P 23 40 00.3 -1.2**
BOZ pmax pmax
comp=Z,2.0nm,0.9s
BOZ Bozeman (W) 88.28 39 *eP* **P 23 40 00.3 -1.2**
comp=Z,1.8nm,0.9s
L20A Wamsutter 88.29 43 ⇑P P 23 40 02.0 +0.2
baz=88
632A Uvalde 88.32 57 ⇑P P 23 40 00.5 -1.5
baz=88,SNR=13
Q23A Hartsel 88.33 47 ⇑P P 23 40 01.7 -0.5
baz=89
W27A Bowe Ranch, En 88.40 51 ⇑P P 23 40 01.0 -1.3
baz=89
K19A Absolon Red Bu 88.40 42 ⇑P P 23 40 02.6 +0.3
baz=89
T25A Trinidad 88.44 49 ⇓P P 23 40 02.2 -0.3
baz=89
O22A Kremmling 88.49 45 ⇑P P 23 40 02.1 -0.7
baz=89
532A Rocksprings 88.50 57 ⇓P P 23 40 01.4 -1.4
baz=89,SNR=16
J19A Crowheart 88.51 42 ⇓P P 23 40 02.7 0.0
baz=89
U26A Atchley Ranch, 88.55 50 ⇑P P 23 40 02.1 -1.0
baz=89
Z29A Hungry Hill Ra 88.55 53 ⇑P P 23 40 02.6 -0.4
baz=89
SEY Seymchan 88.62 346 ⇓*i*P **P 23 40 01.1 -1.4**
K20A Yellowstone Ra 88.63 42 ⇑P P 23 40 02.5 -0.8
baz=89
S25A Robets Cordova 88.68 48 ⇑P P 23 40 03.2 -0.5
baz=89
M21A Separation Pea 88.70 44 ⇑P P 23 40 03.4 -0.4
baz=89
JCT Junction City 88.74 56 ⇑P P 23 40 03.1 -0.8
baz=89
N22A Wattenberg Ran 88.88 45 ⇑P P 23 40 04.2 -0.4
baz=89
L21A Rawlins 88.88 43 ⇑P P 23 40 04.5 -0.1
baz=89
432A Menard 88.92 56 ⇑P P 23 40 03.5 -1.3
baz=89
ISCO Idaho Springs 88.93 46 ⇓P P 23 40 04.8 -0.2
baz=89
I19A Meeteetse 88.96 41 ⇑P P 23 40 04.8 -0.1
baz=89
231A Bronte 88.99 55 ⇑P P 23 40 03.8 -1.3
baz=89
Z30A Sanderson Ranc 88.99 53 ⇓P P 23 40 04.2 -0.9
baz=89
R25A Fountain Ranch 89.02 48 ⇓P P 23 40 04.2 -1.0
baz=89
T26A Comanche Natio 89.03 49 ⇓P P 23 40 04.3 -1.1
baz=89
ILAR Eielson Array 89.14 11 P **P 23 40 03.2 -1.7**
ILAR Eielson Array 89.14 11 P **P 23 40 03.2 -1.7**
comp=Z,4.2nm,1.0s,baz=216,slow=5.4,SNR=18
ILAR LR LR 00 19 28.1
comp=Z,172nm,18.9s,baz=168,slow=35
J20A Shoshoni 89.16 42 ⇓P P 23 40 05.9 +0.2
baz=89
BJI Beijing 89.23 314 P P 23 40 12.0 +6.1
BJI pmax pmax
comp=Z,10.0nm,0.6s
BJI pmax pmax
comp=Z,97nm,6.4s
BJI LR LR
comp=N,140nm,19.7s
BJI LR LR
comp=E,100nm,17.9s
BJI LR LR
comp=Z,89nm,25.0s
N23A Red Feather La 89.26 45 ⇑P P 23 40 06.8 +0.3
baz=90
K21A Alcova 89.31 43 ⇓P P 23 40 07.1 +0.6
baz=90
I20A Worland 89.44 41 ⇑P P 23 40 07.6 +0.6
baz=90
232A Coleman 89.48 55 ⇑P P 23 40 06.6 -0.8
baz=90
L22A Ellis Ranch, M 89.52 44 ⇑P P 23 40 07.9 +0.4
baz=90
ENH Enshi 89.54 303 *eP* **P 23 40 07.6 -0.1**
comp=Z,5.3nm,0.4s
J21A Lysite 89.55 42 ⇓P P 23 40 07.8 +0.2
baz=90
D17A Six Diamond Ra 89.66 38 ⇓P P 23 40 08.5 +0.6
baz=90
R26A Arlington 89.67 48 ⇑P P 23 40 07.7 -0.5
baz=90
K22A Casper 89.77 43 ⇓P P 23 40 08.8 +0.1
baz=90
ABTX Abilene, Hawle 89.81 55 ⇑P P 23 40 08.3 -0.6
baz=90
C17A Wharram Farm, 89.88 37 ⇑P P 23 40 09.0 +0.1
baz=90
I21A Big Trails, Te 89.89 42 ⇓P P 23 40 08.8 -0.3
baz=90
F19A Roth Farm, Mol 89.96 40 ⇑P P 23 40 10.0 +0.7
baz=90
L23A Garrett 90.03 44 ⇓P P 23 40 09.7 -0.3
baz=90
DAWY Dawson 90.09 15 *eP* **P 23 40 08.6 -0.8**
R27A Eads 90.11 48 ⇑P P 23 40 09.7 -0.5
baz=90
GYA Guiyang 90.18 298 *eP* P 23 40 17.2 +6.3
GYA pP pP 23 40 26.8 +6.2
GYA pmax pmax
comp=Z,10.0nm,1.0s
GYA pmax pmax
comp=Z,90nm,5.2s
J22A Midwest 90.19 43 ⇑P P 23 40 10.2 -0.4
baz=90
EGAK Eagle 90.30 14 *eP* **P 23 40 11.0 +0.7**
comp=Z,8.9nm,1.1s
K23A Bowen Ranch, D 90.40 43 ⇓P P 23 40 12.0 +0.5
baz=91
EGMT Eagleton 90.66 37 ⇓P P 23 40 13.1 +0.5
baz=91
D19A Cripps Ranch, 90.70 38 ⇑P P 23 40 13.6 +0.8
baz=91
E20A Meyer Farm, Mu 90.79 39 ⇓P P 23 40 13.8 +0.6
baz=91
R28A Tribune 90.82 49 ⇓P P 23 40 12.9 -0.7
baz=91
C19A Slack Wire Ran 90.91 38 ⇓P P 23 40 14.2 +0.5
baz=91
D20A Manuel Ranch, 91.09 39 ⇑P P 23 40 15.0 +0.4
baz=91
A18A Metzger Ranch, 91.10 37 ⇑P P 23 40 15.0 +0.5
baz=91
C20A Veseth Ranch, 91.49 38 ⇑P P 23 40 17.6 +1.2
baz=92
XAN Xi'an 91.60 306 P **P 23 40 17.4 +0.2**
XAN pP **pP 23 40 27.6 +0.6**
XAN sP **sP 23 40 31.6 +1.1**
XAN SKS **SKSac 23 50 48.5 +0.6**
XAN S **SKKSac 23 51 10.1 +6.1**
XAN sS **sS 23 51 26.9 -4.8**
XAN pmax pmax
comp=Z,3.0nm,0.9s
XAN pmax pmax
comp=Z,23nm,6.3s
D21A La Casta Ranch 91.75 39 ⇓P P 23 40 18.5 +0.9
baz=92
F23A Volborg 92.01 41 ⇓P P 23 40 19.8 +1.0
baz=92
H24A Dirks Ranch, A 92.06 42 ⇑P P 23 40 19.1 -0.1
baz=92
RSSD Black Hills 92.08 43 *eP* **P 23 40 16.8 -2.6**
RSSD pmax pmax
comp=Z,10.0nm,1.3s
RSSD Black Hills 92.08 43 *eP* **P 23 40 16.8 -2.6**
comp=Z,10.0nm,1.3s
S31A Mullinville 92.14 50 ⇓P P 23 40 19.5 -0.1
baz=92
I25A Rochford 92.22 43 ⇑P P 23 40 20.3 +0.2
baz=92
Q30A Quinter 92.22 49 ⇑P P 23 40 19.7 -0.2
baz=92
B21A Ellsworth Farm 92.43 38 ⇑P P 23 40 21.0 +0.3
baz=93
P30A Selden 92.46 48 ⇓P P 23 40 20.4 -0.7
baz=93
HHC Hu-ho-hao-te 92.72 313 *eP* P 23 40 27.0 +4.7
HHC pP pP 23 40 37.6 +5.6
HHC sP sP 23 40 41.5 +6.0
HHC SKS **SKSac 23 50 57.3 +3.4**
HHC S **ScS 23 51 30.4 +3.1**
HHC pmax pmax
comp=Z,37nm,1.2s
HHC pmax pmax
comp=Z,170nm,5.4s
HHC LR LR
comp=N,250nm,17.6s
HHC LR LR
comp=E,120nm,17.5s
HHC LR LR
comp=Z,140nm,16.5s
A21A Bergtoll Ranch 92.77 38 ⇑P P 23 40 22.8 +0.5
baz=93
KMI Kunming 92.89 296 P **P 23 40 25.4 +1.8**
KMI pP **pP 23 40 36.0 +2.7**
KMI sP **sP 23 40 40.1 +3.3**
KMI PP **PP 23 44 04.9 -1.7**
KMI SKS **SKSac 23 50 50.2 -5.6**
KMI S **SKKSac 23 51 20.9 +6.6**
KMI pmax pmax
comp=Z,12nm,0.6s
KMI LR LR
comp=N,130nm,19.3s
KMI LR LR
comp=E,200nm,19.3s
KMI LR LR
comp=Z,230nm,19.8s
C23A Lambert 93.18 39 ⇑P P 23 40 25.0 +0.9
baz=93
D24A Glendive 93.35 40 ⇑P P 23 40 26.0 +1.1
baz=94
G27A Dupree 93.37 42 ⇑P P 23 40 28.2 +3.1
baz=94
C24A Savage 93.49 40 ⇑P P 23 40 26.3 +0.7
baz=94
B23A Brockton 93.62 39 ⇑P P 23 40 27.2 +1.1
baz=94
CMAR Chiang Mai Arr 93.63 288 P **P 23 40 26.9 +0.1**
CMAR Chiang Mai Arr 93.63 288 P **P 23 40 26.9 +0.1**
comp=Z,4.8nm,0.9s,baz=121,slow=3.0,SNR=18
CMAR LR LR 00 23 42.2
comp=Z,90nm,18.0s,baz=354,slow=36
CHTO Chiang Mai 93.76 289 *eP* **P 23 40 28.7 +1.3**
CHTO pmax pmax
comp=Z,5.0nm,0.8s
CHTO Chiang Mai 93.76 289 *eP* **P 23 40 28.7 +1.3**
comp=Z,5.3nm,0.8s
K29A Lazy Trails An 93.84 45 ⇑P P 23 40 28.3 +0.9
baz=94
DGMT Dagmar 94.08 39 *eP* **P 23 40 27.6 -0.7**
comp=Z,37nm,1.1s
DGMT Dagmar 94.08 39 ⇑P P 23 40 29.1 +0.8
baz=94
F27A Lemmon 94.17 42 ⇑P P 23 40 29.2 +0.5
baz=94
CD2 Chengdu 94.30 301 P P 23 40 34.6 +4.8
CD2 pmax pmax
comp=Z,10.0nm,0.5s
E27A Carson 94.70 42 ⇓P P 23 40 32.0 +0.8
baz=95
INK Inuvik 94.95 14 P **P 23 40 31.1 -0.6**
INK Inuvik 94.95 14 P **P 23 40 31.1 -0.6**
comp=Z,3.0nm,0.9s,baz=197,slow=4.2,SNR=7.5
INK LR LR 00 21 44.1
comp=Z,273nm,18.2s,baz=142,slow=35
F29A Eureka 95.52 43 ⇓P P 23 40 35.3 +0.4
baz=96
LZH Lanzhou 96.24 306 *eP* P 23 40 45.8 +7.2
LZH pP pP 23 40 56.4 +8.0
LZH sP sP 23 41 00.3 +8.4
LZH *e*PP PP 23 44 44.3 +12
LZH Lanzhou 96.24 306 SKS **SKSac 23 51 18.3 +5.0**
LZH Lanzhou 96.24 306 *e*S **S 23 51 56.1 -0.4**
LZH Lanzhou 96.24 306 sS sS 23 52 20.7 +8.0
LZH pmax pmax
comp=Z,29nm,1.6s
LZH pmax pmax
comp=Z,100nm,9.3s
LZH LR LR
comp=N,170nm,17.0s
LZH LR LR
comp=E,150nm,16.5s
LZH LR LR
comp=Z,240nm,19.0s
MDND Maddock 96.53 41 ⇓P P 23 40 39.8 +0.3

baz=97
YKA Yellowknife Ar 96.60 24 P **P 23 40 39.3 0.0**
YKA Yellowknife Ar 96.60 24 P **P 23 40 39.3 0.0**
comp=Z,1.2nm,0.7s,baz=228,slow=4.0,SNR=3.9
ECSD EROS Data Cent 96.71 46 *e*P **P 23 40 39.4 -1.0**
comp=Z,13nm,1.1s
LPAZ La Paz 98.53 111 LR LR 00 19 41.8
comp=Z,351nm,18.1s,baz=65,slow=32
SONM Songino Array 99.01 318 LR LR 00 23 24.9
comp=Z,109nm,21.3s,baz=249,slow=34
ULM Lac du Bonnet 99.75 40 LR LR 00 21 48.3
comp=Z,372nm,18.8s,baz=92,slow=33
KSH Kashi 118.38 304 *e*PKP **PKPdf 23 46 00.2 +2.5**
KSH sPKP 23 46 14.5
KSH PP PP 23 47 25.3 +11
KSH PKS **PKSdf 23 49 36.7 +2.2**
KSH SKS **SKSdf 23 53 08.3 +0.5**
KSH AMB AMB
comp=Z,120nm,5.5s
KSH LR LR
comp=N,67nm,6.4s
KSH LR LR
comp=E,68nm,4.7s
KSH LR LR
comp=Z,98nm,6.1s
BVAR Borovoye Array 122.31 320 PKIKP **PKPdf 23 46 04.4 -0.3**
BVAR Borovoye Array 122.31 320 PKP **PKPdf 23 46 04.4 -0.3**
BVAR Borovoye Array 122.31 320 PKP **PKPdf 23 46 04.4 -0.3**
comp=Z,0.6nm,0.7s,baz=103,slow=6.5,SNR=5.0
ARU Arti 128.27 326 *i* PKIKP **PKPdf 23 46 16.2 +0.2**
ARU 23 48 18.8
ARU MLR MLR
comp=Z,166nm,20.0s
ARCES ARCESS Array B 130.97 351 PKP **PKPdf 23 46 20.6 -0.2**
ARCES ARCESS Array B 130.97 351 PKP **PKPdf 23 46 20.6 -0.2**
comp=Z,1.5nm,0.7s,baz=356,slow=4.0,SNR=3.3
SUW Suwalki 145.35 342 *e*PKIKP **PKPbc 23 46 45.7 -1.6**
SUW Suwalki 145.35 342 *e*PKPbc **PKPbc 23 46 45.7 -1.6**
SUW Suwalki 145.35 342 *e*PKP **PKPbc 23 46 45.8 -1.6**
MUD Monsted U'grnd 145.52 356 *e*PKIKP **PKPdf 23 46 46.9 -0.7**
MUD pmax pmax
comp=Z,21nm,1.0s
MUD Monsted U'grnd 145.52 356 *i* P **PKPdf 23 46 46.9 -0.7**
comp=Z,21nm,0.9s
AKASG Malin Array Be 145.87 333 PKP2 **PKPdf 23 46 47.1 -1.4**
AKASG Malin Array Be 145.87 333 PKPbc **PKPdf 23 46 47.1 -1.4**
AKASG Malin Array Be 145.87 333 PKPbc **PKPdf 23 46 47.1 -1.4**
comp=Z,9.9nm,1.0s,baz=32,slow=3.6,SNR=9.0
KIEV Kiev 145.88 333 *e*PKP2 **PKPdf 23 46 47.3 -1.1**
KIEV Kiev 145.88 333 *e*PKPdf **PKPdf 23 46 47.3 -1.1**
LVV L'vov 148.62 337 *e*PKP2 **PKPbc 23 46 57.8 +1.0**
KWP Kalwaria Pacla 149.26 338 *e*PKIKP **PKPdf 23 46 54.0 -0.2**
KWP *e* 23 47 02.0
KWP Kalwaria Pacla 149.26 338 *e*PKPdf **PKPdf 23 46 54.0 -0.2**
KWP *e*PKPab **PKPab 23 47 02.0 -0.9**
KWP Kalwaria Pacla 149.26 338 ||*i*P **PKPbc 23 46 59.4 +0.9**
KWP Kalwaria Pacla 149.26 338 *e*PKP **PKPab 23 47 02.7 -0.3**
BUR08 Bucovina Ar. S 149.91 333 *e*PKPdf **PKPdf 23 46 55.4 0.0**
BUR08 *e*PKPab **PKiKP 23 47 03.6 +2.5**
BURAR Bucovina Array 149.92 333 ||PKP2 **PKPbc 23 47 00.2 -0.1**
BURAR Bucovina Array 149.92 333 ||*i*P **PKPbc 23 47 00.2 -0.1**
STHS Stebnicka Huta 149.94 339 *e*PKP2 **PKPbc 23 47 02.2 +2.0**
STHS Stebnicka Huta 149.94 339 *e*PKP **PKPbc 23 47 02.2 +2.0**
KOLS Kolonicke sedl 150.00 338 *e*PKP2 **PKPbc 23 47 02.7 +2.4**
KOLS Kolonicke sedl 150.00 338 *e*PKP **PKPbc 23 47 02.7 +2.4**
GHRR 150.09 328 ⇑*i*P **PKPbc 23 47 01.1 +0.5**
CLL Collm 150.19 350 *e*PKIKP **PKPbc 23 46 59.0 -1.7**
CLL *i* 23 47 01.0
CLL pmax pmax
comp=Z,4.0nm,0.9s
CLL pmax pmax
comp=Z,18nm,1.7s
CLL Collm 150.19 350 *e*PKPbc **PKPbc 23 46 59.0 -1.7**
comp=Z,4.0nm,0.9s
CLL ⇑*i*PKiKP **PKiKP 23 47 01.0 -0.5**
comp=Z,12nm,1.1s
CLL *i* PKPab **PKPab 23 47 06.6 -0.1**
comp=Z,18nm,1.7s
CLL *i* 23 47 08.9
CLL *i* pPKPdf **pPKPdf 23 47 11.0 +5.4**
CLL Lm MLR 00 59 00.0
comp=Z,100nm,19.5s
BR131 Keskin Array S 150.22 313 *e*PKPdf **PKPdf 23 46 55.5 -0.7**
BRTR Keskin Array B 150.22 313 PKPbc **PKPbc 23 47 00.2 -1.1**
BRTR Keskin Array B 150.22 313 PKPbc **PKPbc 23 47 00.2 -1.1**
comp=Z,2.9nm,0.9s,baz=112,slow=2.3,SNR=12
UZH Uzhgorod 150.25 337 *e*PKIKP **PKPbc 23 47 00.0 -0.9**
UZH *e* 23 47 18.0
CRVS Cervenica-Dubn 150.31 338 *e*PKIKP **PKPab 23 47 04.9 -2.4**
CRVS Cervenica-Dubn 150.31 338 *e*PKP **PKPab 23 47 04.9 -2.4**
UPC Upice 150.39 346 *e*PKIKP **PKPbc 23 47 03.4 +2.2**
UPC Upice 150.39 346 ⇑*e*PKP **PKPbc 23 47 03.4 +2.2**
UPC *e*PKPAB **PKPab 23 47 10.1 +2.5**
BRG Berggiesshubel 150.46 349 *e*PKP **PKPbc 23 47 03.4 +2.1**
comp=Z,12nm,1.1s
BRG Berggiesshubel 150.46 349 *e*PKIKP **PKPbc 23 47 03.4 +2.1**
BRG pmax pmax
comp=Z,12nm,1.1s
DPC Dobruska-Polom 150.47 346 *e*PKIKP **PKPbc 23 47 03.1 +1.7**
DPC Dobruska-Polom 150.47 346 ⇑*e*PKP **PKPbc 23 47 03.1 +1.7**
DPC *e*PKPAB **PKPab 23 47 09.2 +1.2**
OKC Ostrava-Krasne 150.49 343 *e*PKIKP **PKPbc 23 47 02.0 +0.6**
OKC *e* 23 47 07.7
OKC Ostrava-Krasne 150.49 343 ⇑*e*PKP **PKPbc 23 47 02.0 +0.6**
OKC *e*PKPAB **PKPab 23 47 07.7 -0.3**
VRI Vrincioaia 150.56 329 ⇑PKIKP **PKPbc 23 47 00.9 -0.9**
VRI Vrincioaia 150.56 329 ⇑*i*P **PKPbc 23 47 00.9 -0.9**
PLOR Plostina 150.61 329 ||PKIKP **PKPdf 23 46 58.8 +2.3**
PLOR Plostina 150.61 329 ||*i*P **PKPdf 23 46 58.8 +2.3**
MORC Moravsky Berou 150.71 344 *e*PKIKP **PKPdf 23 46 56.6 +0.1**
MORC Moravsky Berou 150.71 344 *e*PKPdf **PKPdf 23 46 56.6 +0.1**
KECS Kecovo 151.00 339 *e*PKIKP **PKPbc 23 47 03.1 +0.4**
KECS Kecovo 151.00 339 *e*PKP **PKPbc 23 47 03.1 +0.4**
MOX Moxa 151.04 352 *e*PKPdf **PKPdf 23 47 01.4 +4.5**
MOX *e*PKPbc PKPbc 23 47 12.4 +10
MOX *e*PKPab PKPab 23 47 20.5 +10
MOX Moxa 151.04 352 *e*PKIKP **PKPdf 23 47 01.4 +4.5**
PRU Pruhonice 151.19 348 *e*PKIKP **PKPbc 23 47 02.1 -1.0**
PRU *e* 23 47 09.8
PRU Pruhonice 151.19 348 ⇑*e*PKP **PKPbc 23 47 02.1 -1.0**
PRU *e*PKPAB **PKPab 23 47 09.8 -1.1**
MLR Muntele Rosu 151.21 329 ⇑*i*P **PKPbc 23 47 01.8 -1.6**
DRGR 151.61 335 ⇑PKIKP **PKPbc 23 47 04.4 +0.1**
DRGR 151.61 335 ⇑*i*P **PKPbc 23 47 04.3 0.0**
SULR 151.65 328 ||*i*P PKPdf 23 46 52.8 -5.2
TREC Trest 151.65 346 *e*PKIKP **PKPbc 23 47 04.3 +0.1**
TREC Trest 151.65 346 ⇑*e*PKP **PKPbc 23 47 04.3 +0.1**
TREC *e*PKPAB **PKPab 23 47 14.3 +1.4**
VOIR 151.67 330 ||PKIKP **PKPdf 23 46 59.7 +1.5**
VOIR 151.67 330 ||*i*P **PKPdf 23 46 59.7 +1.5**
PSZ Piszkesteto 151.68 339 *e*PKIKP **PKPdf 23 46 57.5 -0.6**
PSZ Piszkesteto 151.68 339 *e*PKPdf **PKPdf 23 46 57.5 -0.6**
PSZ Piszkesteto 151.68 339 ||*i*P **PKPab 23 47 11.5 -1.6**
ARR Arges 151.91 330 ⇑*i*P **PKPbc 23 47 05.0 0.0**
GRF Grafenberg Arr 152.02 352 *e*PKPdf **PKPdf 23 47 03.0 +4.5**
GRF *e*PKPbc PKPbc 23 47 14.7 +10
GRF *e*PKPab PKPab 23 47 24.6 +10
GRF Grafenberg Arr 152.02 352 *e*PKIKP **PKPdf 23 47 03.0 +4.5**
KHC Kasperske Hory 152.20 348 *e*PKIKP **PKPdf 23 46 58.6 -0.2**
KHC *e* 23 47 16.1
KHC Kasperske Hory 152.20 348 ⇑*e*PKP **PKPbc 23 47 06.5 +1.0**
KHC *e*PKPAB **PKPab 23 47 16.4 +1.2**
KHC Kasperske Hory 152.20 348 *e*PKPdf **PKPdf 23 46 58.6 -0.2**
KHC *e*PKPab **PKPab 23 47 16.1 +0.9**
GERES GERESS Array B 152.45 348 PKP **PKPdf 23 46 58.2 -1.0**
GERES PKPbc **PKPbc 23 47 05.4 -0.7**
GERES GERESS Array B 152.45 348 PKP **PKPdf 23 46 58.2 -1.0**
comp=Z,0.2nm,0.4s,baz=76,slow=4.1,SNR=3.6
GERES PKPbc **PKPbc 23 47 05.4 -0.7**
comp=Z,1.7nm,0.9s,baz=48,slow=2.0,SNR=6.7
GZR Gura Zlata 152.71 333 ⇑PKIKP **PKPdf 23 47 03.0 +3.3**
GZR Gura Zlata 152.71 333 ⇑*i*P **PKPdf 23 47 03.0 +3.3**
CONA Conrad Observa 152.84 345 ⇑*i*PKiKP **PKiKP 23 47 07.8 +0.6**
comp=Z,4.5nm,1.1s
BZS Buzias 153.01 334 ||PKIKP **PKPbc 23 47 06.0 -1.3**
BZS Buzias 153.01 334 ||*i*P **PKPbc 23 47 06.0 -1.3**
MOA Molln 153.28 347 ||*i*PKPbc **PKPdf 23 47 03.4 +3.0**
comp=Z,7.4nm,1.6s
PKSM Moragy 153.59 339 ||PKIKP **PKPbc 23 47 08.3 -0.3**
PKSM Moragy 153.59 339 ||*i*P **PKPbc 23 47 08.3 -0.3**
ESDC Sonseca Array 160.69 22 PKPab **PKPab 23 47 50.2 -1.6**
ESDC Sonseca Array 160.69 22 PKPab **PKPab 23 47 50.2 -1.6**

2009 SEP

comp=Z,0.3nm,0.5s,baz=317,slow=4.3,SNR=4.4

*CSEM **02** 23:45:04.4, 42°.25N×13°.53E, h9km, MD2.0/9, After ROM*
ROM 02 23:45:04.4±0.1, 42°.25N×13°.53E, h9km, Md2.0/9, Ml1.1/5, Error ellipse: s-maj=1.1km s-min=1.1km az=51.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAGN	**Fagnano**	**0.05**	**70**	Pg	Pg	23 45 06.6	+0.2
FAGN				Sg	Sg	23 45 07.9	+0.1
900nm,0.2s							
FAGN	**Fagnano**	**0.05**	**70**	Pg	Pg	23 45 06.6	+0.2
FAGN				Sg	Sg	23 45 07.9	+0.1
900nm,0.2s							
AQU	**L'Aquila**	**0.14**	**319**	Pg	Pg	23 45 08.2	+0.6
AQU				Sg	Sg	23 45 10.9	+1.0
64nm,0.2s							
AQU	**L'Aquila**	**0.14**	**319**	Pg	Pg	23 45 08.2	+0.6
AQU				Sg	Sg	23 45 10.9	+1.0
64nm,0.2s							
PTQR	**Pietraquaria**	**0.25**	**202**	Pg	Pg	23 45 10.3	+0.8
PTQR				Sg	Sg	23 45 14.2	+1.2
7.0nm,0.2s							
PTQR	**Pietraquaria**	**0.25**	**202**	Pg	Pg	23 45 10.3	+0.8
PTQR				Sg	Sg	23 45 14.2	+1.2
7.0nm,0.2s							
VCEL	**Villa Celiera**	**0.28**	**58**	Pg	Pg	23 45 10.9	+0.8
VCEL				Sg	Sb	23 45 15.6	-1.0
23nm,0.4s							
VCEL	**Villa Celiera**	**0.28**	**58**	Pg	Pg	23 45 10.9	+0.8
VCEL				Sg	Sb	23 45 15.6	-1.0
23nm,0.4s							
CAMP	**Campotosto**	**0.30**	**343**	Pg	Pg	23 45 11.0	+0.4
CAMP				Sg	Sb	23 45 16.4	-0.9
CAMP	**Campotosto**	**0.30**	**343**	Pg	Pg	23 45 11.0	+0.4
CAMP				Sg	Sb	23 45 16.4	-0.9
FIAM	**Fiamignano**	**0.30**	**274**	Pg	Pg	23 45 11.0	+0.4
FIAM				Sg	Sg	23 45 16.0	+1.2
14nm,0.6s							
FIAM	**Fiamignano**	**0.30**	**274**	Pg	Pg	23 45 11.0	+0.4
FIAM				Sg	Sg	23 45 16.0	+1.2
14nm,0.6s							
TERO	**Teramo**	**0.38**	**9**	Pg	Pg	23 45 12.1	+0.1
TERO				Sg	Sg	23 45 18.2	+1.2
12nm,0.4s							
TERO	**Teramo**	**0.38**	**9**	Pg	Pg	23 45 12.1	+0.1
TERO				Sg	Sg	23 45 18.2	+1.2
12nm,0.4s							
VVLD	**Villa Vallelon**	**0.39**	**169**	Pg	Pb	23 45 13.5	0.0
VVLD	**Villa Vallelon**	**0.39**	**169**	Pg	Pb	23 45 13.5	0.0

*ATH **02** 23:46:37.3, 36°.62N×26°.68E, h26km±4km, MD3.3/9*
*THE **02** 23:46:39.8, 36°.58N×26°.71E, h18km±6km, ML2.7/1, Error ellipse: s-maj=6.8km s-min=1.4km az=319.0*
*ISK **02** 23:46:48.0, 36°.77N×27°.83E, h28km, MD2.7*
CSEM 02 23:46:37.8±0.4, 36°.67N×26°.67E, h20km, MD2.7, Error ellipse: s-maj=11.4km s-min=7.3km az=140.0, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BODT	**Bodrum**	**0.65**	**52**	*e*PG	Pn	23 46 59.2	+7.4
BODT	**Bodrum**	**0.65**	**52**	*e*Pg	Pn	23 46 59.2	+7.3
DAT	**Datca**	**0.73**	**85**	*e*PG	Pn	23 46 54.5	+1.3
DAT	**Datca**	**0.73**	**85**	*e*Pg	Pn	23 46 54.5	+1.4
SMG	**Samos**	**1.05**	**7**	P	Pn	23 46 59.5	+2.1
SMG	**Samos**	**1.05**	**7**	*e*PN	Pn	23 46 59.6	+2.2
SMG	**Samos**	**1.05**	**7**	*e*Pn	Pn	23 46 59.6	+2.2
MLSB	**Milas**	**1.08**	**54**	*e*PG	Pb	23 46 59.0	+1.1
MLSB				*e*SG	Sb	23 47 08.0	-3.7
MLSB	**Milas**	**1.08**	**54**	*e*Pg	Pb	23 46 59.0	+1.1
MLSB				*e*Sg	Sb	23 47 08.0	-3.7
KARP	**Karpathos**	**1.19**	**160**	P	Pn	23 46 59.5	+0.2
KARP				S	Sb	23 47 13.9	-0.8
KARP	**Karpathos**	**1.19**	**160**	*e*PN	Pb	23 46 59.7	0.0
KARP				*e*SN	Sn	23 47 16.1	+1.2
KARP	**Karpathos**	**1.19**	**160**	*e*Pn	Pb	23 46 59.7	0.0
KARP				S	Sb	23 47 13.9	-0.8
KARP				*e*Sn	Sn	23 47 16.1	+1.2
ARG	**Arkhangelos**	**1.26**	**111**	P	Pn	23 46 59.9	-0.3
ARG	**Arkhangelos**	**1.26**	**111**	*e*PB	Pn	23 46 59.9	-0.3
ARG				*e*SN	Sb	23 47 18.0	+1.4
ARG	**Arkhangelos**	**1.26**	**111**	*e*Pb	Pn	23 46 59.9	-0.3
ARG				*e*Sn	Sb	23 47 18.0	+1.4
YER	**Yerkesik**	**1.37**	**70**	*e*PG	Pn	23 46 59.4	-2.5
YER	**Yerkesik**	**1.37**	**70**	*e*Pg	Pn	23 46 59.4	-2.5
ZKR	**Zakros**	**1.59**	**194**	*e*PN	Pn	23 47 05.5	+0.6
ZKR				*e*SN	Sb	23 47 26.1	-0.2
ZKR	**Zakros**	**1.59**	**194**	*e*Pn	Pn	23 47 05.5	+0.6
ZKR				*e*Sn	Sb	23 47 26.1	-0.2
DALY	**Dalyan (Mu¨la**	**1.60**	**84**	*e*PG	Pn	23 47 02.8	-2.1
DALY	**Dalyan (Mu¨la**	**1.60**	**84**	*e*Pg	Pn	23 47 02.8	-2.1
NPS	**Neapolis**	**1.65**	**212**	P	Pn	23 47 06.1	+0.5
NPS	**Neapolis**	**1.65**	**212**	*e*PN	Pn	23 47 06.0	+0.4
NPS				*e*SN	Sb	23 47 27.6	-0.2
NPS	**Neapolis**	**1.65**	**212**	*e*Pn	Pn	23 47 06.0	+0.4
NPS				*e*Sn	Sb	23 47 27.6	-0.2
CHOS	**Chios island**	**1.78**	**344**	*e*PB	Pn	23 47 08.6	+1.0
CHOS	**Chios island**	**1.78**	**344**	*e*Pb	Pn	23 47 08.6	+1.0
LAST	**Lasithi**	**1.79**	**213**	P	Pn	23 47 07.6	-0.1
LAST	**Lasithi**	**1.79**	**213**	*e*PB	Pn	23 47 07.8	+0.1
LAST				*e*SN	Sb	23 47 31.5	-0.6
LAST	**Lasithi**	**1.79**	**213**	*e*Pb	Pn	23 47 07.8	+0.1
LAST				*e*Sn	Sb	23 47 31.5	-0.6
FETY	**Fethiye**	**1.94**	**90**	*e*PG	Pn	23 47 06.8	-2.8
FETY	**Fethiye**	**1.94**	**90**	*e*Pg	Pn	23 47 06.8	-2.9
IDI	**Anoyia**	**2.00**	**227**	P	Pn	23 47 10.7	+0.2
IDI	**Anoyia**	**2.00**	**227**	*e*PB	Pn	23 47 10.8	+0.3
IDI				*e*SN	Sn	23 47 35.5	+0.5
IDI	**Anoyia**	**2.00**	**227**	*e*Pb	Pn	23 47 10.8	+0.3
IDI				*e*Sn	Sn	23 47 35.5	+0.5
SIVA	**Sivas**	**2.24**	**223**	*e*PN	Pn	23 47 14.3	+0.6
SIVA				*e*SN	Sn	23 47 42.4	+1.7
SIVA	**Sivas**	**2.24**	**223**	*e*Pn	Pn	23 47 14.3	+0.6
SIVA				*e*Sn	Sn	23 47 42.4	+1.7
VAM	**Vamos**	**2.37**	**239**	*e*PN	Pn	23 47 15.9	+0.4
VAM				*e*SN	Sn	23 47 44.9	+0.9
VAM	**Vamos**	**2.37**	**239**	*e*Pn	Pn	23 47 15.9	+0.4
VAM				*e*Sn	Sn	23 47 44.9	+0.9
KARN	**Karanos**	**2.57**	**241**	*e*PN	Pn	23 47 19.1	+0.8
KARN				*e*SN	Sn	23 47 49.7	+0.8
KARN	**Karanos**	**2.57**	**241**	*e*Pn	Pn	23 47 19.1	+0.8
KARN				*e*Sn	Sn	23 47 49.7	+0.8
ELL	**Elmali**	**2.60**	**87**	*e*PN	Pn	23 47 15.5	-3.4
ELL	**Elmali**	**2.60**	**87**	*e*Pn	Pn	23 47 15.5	-3.4

IDC 03 00:00:40.5±1.6, 3°.69N×95°.82E, h0km, mb3.7/3, mb1 4.0/5, mb1mx3.6/26, mbtmp3.7/5, ML3.8/2, Error ellipse: s-maj=62.5km s-min=24.1km az=36.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.22**	**106**	Pn	Pn	00 01 33.2	+0.7
15nm,0.3s,baz=313,slow=14,SNR=59							
PSI				Sn	Sn	00 02 11.9	+0.1
26nm,0.3s,baz=332,slow=24,SNR=7.1							
CMAR	**Chiang Mai Arr**	**14.99**	**12**	Pn	Pn	00 04 15.2	+1.4
0.1nm,0.3s,baz=198,slow=11,SNR=3.9							
WRA	**Warramunga Arr**	**44.53**	**123**	P	P	00 08 54.0	-0.3
1.6nm,0.5s,baz=303,slow=9.3,SNR=19							
ASAR	**Alice Springs**	**46.00**	**128**	P	P	00 09 06.3	+0.3
0.7nm,0.5s,baz=306,slow=8.0,SNR=8.5							
BRTR	**Keskin Array B**	**66.43**	**312**	P	P	00 11 31.6	-0.4
0.3nm,0.8s,baz=74,slow=5.1,SNR=2.3							

WEL 03 00:05:31.4±0.4, 37°.70S×176°.34E, h187km±3km, ML3.8/10, 6C, Error ellipse: s-maj=2.6km s-min=2.6km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOZ	**Tahuroa Road**	**0.66**	**267**	PN	Pn	00 05 57.9	+0.3
URZ	**Urewera**	**0.83**	**132**	⇑PN	Pn	00 05 58.2	-0.3
URZ				SN	Sn	00 06 18.8	-0.8
URZ				AML	AML	00 06 21.5	
MWZ	**Matawai**	**1.13**	**124**	PN	Pn	00 06 00.7	0.0
MWZ				SN	Sn	00 06 23.7	+0.1
MWZ				AML	AML	00 06 26.1	
MWZ				AML	AML	00 06 33.2	
MWZ				AML	AML	00 06 33.3	
RAHZ	**Arahi**	**1.35**	**154**	PN	Pn	00 06 02.9	+0.4
RAHZ				SN	Sn	00 06 26.8	0.0
NMHZ	**Naumai**	**1.44**	**165**	PN	Pn	00 06 04.1	+0.7
BKZ	**Black Stump Fm**	**1.47**	**175**	PN	Pn	00 06 03.2	-0.4
BKZ				SN	Sn	00 06 27.9	-0.9
BKZ				AML	AML	00 06 28.7	
OTVZ	**Oturere**	**1.55**	**200**	PN	Pn	00 06 04.8	+0.3
PUZ	**Puketiti**	**1.56**	**104**	PN	Pn	00 06 04.1	-0.3
PUZ				AML	AML	00 06 40.7	
PUZ				AML	AML	00 06 41.2	
MXZ	**Matakaoa Point**	**1.57**	**86**	PN	Pn	00 06 05.0	+0.5
TUVZ	**Tukino**	**1.65**	**199**	PN	Pn	00 06 05.4	-0.1
CNGZ	**Carnagh Statio**	**1.67**	**118**	PN	Pn	00 06 06.0	+0.6
WHVZ	**Whangaehu Hut**	**1.68**	**200**	PN	Pn	00 06 05.7	-0.2
KNZ	**Kokohu**	**1.69**	**142**	PN	Pn	00 06 05.5	0.0
PRGZ	**Paritu Road**	**1.72**	**136**	PN	Pn	00 06 06.2	+0.2
WNVZ	**Wahianoa**	**1.72**	**199**	PN	Pn	00 06 05.9	-0.2
MCHZ	**McNeill Hill**	**1.76**	**171**	PN	Pn	00 06 06.6	+0.3
MCHZ				SN	Sn	00 06 33.8	+0.1
MOVZ	**Moawhango**	**1.76**	**195**	PN	Pn	00 06 05.8	-0.7
PKVZ	**Pokaka**	**1.77**	**206**	PN	Pn	00 06 06.5	0.0
BHHZ	**Black Hill Sta**	**1.80**	**187**	⇑PN	Pn	00 06 06.2	-0.6
MTVZ	**Mangateitei**	**1.81**	**202**	PN	Pn	00 06 06.8	-0.1
VRZ	**Vera Road**	**1.89**	**221**	PN	Pn	00 06 07.9	+0.3
MHGZ	**Mahia Peninsul**	**1.90**	**140**	PN	Pn	00 06 07.9	+0.1
CKHZ	**Cape Kidnapper**	**2.04**	**164**	⇑PN	Pn	00 06 09.2	0.0
KAHZ	**Kahuranaki**	**2.13**	**169**	⇑PN	Pn	00 06 10.1	-0.2
PNHZ	**Pukenui**	**2.21**	**183**	PN	Pn	00 06 10.3	-0.9
WAZ	**Wanganui**	**2.31**	**207**	PN	Pn	00 06 09.2	-3.0
WPHZ	**Waipukurau**	**2.36**	**178**	PN	Pn	00 06 12.1	-0.7
PXZ	**Pawanui**	**2.36**	**170**	PN	Pn	00 06 12.0	-0.8
PXZ				AML	AML	00 06 46.7	
PXZ				AML	AML	00 06 46.7	
PXZ				AML	AML	00 06 47.0	
PXZ				AML	AML	00 06 47.0	
PRHZ	**Porangahau**	**2.57**	**175**	PN	Pn	00 06 14.1	-1.1
DVHZ	**Dannevirke**	**2.60**	**183**	PN	Pn	00 06 14.0	-1.5
POWZ	**Post Office Ro**	**2.72**	**189**	PN	Pn	00 06 15.3	-1.7
ANWZ	**Angora Road**	**2.76**	**178**	PN	Pn	00 06 16.2	-1.1
PRWZ	**Pori Road**	**2.86**	**186**	PN	Pn	00 06 17.1	-1.5
MRZ	**Mangatainoka R**	**3.01**	**191**	⇑PN	Pn	00 06 18.2	-2.2
MRZ				AML	AML	00 06 57.7	
MRZ				AML	AML	00 06 59.7	
TIWZ	**Tintock**	**3.09**	**186**	PN	Pn	00 06 19.2	-2.2
CPWZ	**Castlepoint**	**3.20**	**182**	PN	Pn	00 06 21.2	-1.5
OGWZ	**Otaki Gorge**	**3.24**	**196**	PN	Pn	00 06 20.9	-2.3
HOWZ	**Holdsworth Sta**	**3.25**	**191**	PN	Pn	00 06 20.7	-2.6
KIW	**Kapiti Island**	**3.34**	**199**	PN	Pn	00 06 21.7	-2.8
TMWZ	**Te Maipa**	**3.42**	**186**	PN	Pn	00 06 22.9	-2.5
MTW	**Mount Morrison**	**3.51**	**190**	PN	Pn	00 06 23.3	-3.2
CAW	**Cannon Point**	**3.54**	**196**	⇑PN	Pn	00 06 24.1	-2.7
CAW				AML	AML	00 06 26.7	
CAW				AML	AML	00 07 07.8	
DUWZ	**D'Urville Isla**	**3.62**	**210**	PN	Pn	00 06 25.4	-2.5
TRWZ	**Traveller**	**3.73**	**188**	PN	Pn	00 06 26.3	-2.9
TRWZ				AML	AML	00 07 14.7	
PAWZ	**Paruwai Farm**	**3.74**	**191**	PN	Pn	00 06 26.2	-3.2
WEL	**Wellington**	**3.78**	**198**	PN	Pn	00 06 26.8	-3.0
MSWZ	**Moikau Station**	**3.80**	**192**	PN	Pn	00 06 26.7	-3.4
MSWZ				AML	AML	00 07 13.8	
MSWZ				AML	AML	00 07 14.1	
TCW	**Tory Channel**	**3.85**	**204**	PN	Pn	00 06 27.6	-3.1
TCW				AML	AML	00 07 15.3	
TCW				AML	AML	00 07 15.8	
BHW	**Baring Head**	**3.87**	**197**	PN	Pn	00 06 27.5	-3.5
PLWZ	**Palliser**	**3.95**	**192**	PN	Pn	00 06 28.3	-3.7
TUWZ	**Tuamarina**	**4.16**	**206**	PN	Pn	00 06 31.2	-3.3
NNZ	**Nelson**	**4.19**	**212**	PN	Pn	00 06 31.8	-3.1
QRZ	**Quartz Range**	**4.30**	**222**	PN	Pn	00 06 33.3	-3.1
BSWZ	**Blackbirch Sta**	**4.43**	**205**	PN	Pn	00 06 35.2	-2.9
THZ	**Tophouse**	**4.84**	**212**	PN	Pn	00 06 40.1	-3.3
KHZ	**Kahutara**	**5.17**	**204**	PN	Pn	00 06 43.8	-3.8
LTZ	**Lake Taylor**	**5.95**	**210**	PN	Pn	00 06 53.4	-4.3
OXZ	**Oxford**	**6.50**	**209**	PN	Pn	00 07 00.2	-4.7
MQZ	**McQueen's Vall**	**6.62**	**204**	PN	Pn	00 07 01.1	-5.3

MEX 03 00:12:17.2±0.5, 15°.46N×94°.67W, h16km±7km, MD3.5, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.42**	**80**	*i* P	Pn	00 12 38.9	-3.4
PCIG				*i* S	Sn	00 12 55.2	-5.5
HUIG	**Huatulco**	**1.42**	**283**	*i* P	Pn	00 12 39.0	-3.4
HUIG				*i* S	Sn	00 12 55.0	-5.8
CMIG	**Matias Romero**	**1.64**	**353**	*i* P	Pn	00 12 41.8	-3.5
CMIG				*i* S	Sn	00 13 01.0	-5.1
TGIG		**1.98**	**48**	*i* P	Pn	00 12 47.5	-2.6
TGIG				*i* S	Sn	00 13 10.7	-4.1
CCIG	**Comitan**	**2.57**	**71**	*i* P	Pn	00 12 56.0	-2.4
PNIG	**Pinotepa**	**3.46**	**286**	*i* P	Pn	00 13 08.0	-2.4
PNIG				*i* S	Sn	00 13 47.5	-3.5

*ISCJB **03** 00:13:13.2±1.0, 8°.17S×0°

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSP	**Hornsund**	**0.67**	**286**	*eP*	**Pg**	**00 20 38.6**	**+1.6**
SPA0	**Spitsbergen Ar**	**1.42**	**343**	Pg	**Pn**	**00 20 49.4**	**-0.6**
	baz=156,slow=16						
SPA0				Lg	Lg	00 21 06.9	
	baz=138,slow=22						
SPA0	**Spitsbergen Ar**	**1.42**	**343**	Pg	**Pn**	**00 20 49.4**	**-0.6**
	baz=156,slow=16						
SPA0				Lg	Lg	00 21 06.9	
	baz=138,slow=22						
SPA0	**Spitsbergen Ar**	**1.42**	**343**	Pg	**Pn**	**00 20 49.4**	**-0.6**
	baz=156,slow=16,SNR=8.0						
SPA0				Lg	Lg	00 21 06.9	
	baz=138,slow=22,SNR=4.5						
SPITS	**Spitsbergen Ar**	**1.42**	**343**	Pn	**Pn**	**00 20 49.3**	**-0.6**
	baz=147,slow=20,SNR=615						
SPITS				Sn	**Sn**	**00 21 06.3**	**-2.3**
	baz=158,slow=34,SNR=16						
KBS	**Kingsbay**	**2.50**	**330**	Pn	**Pn**	**00 21 04.1**	**-0.6**
KBS				Pg	**Pb**	**00 21 10.0**	**+0.9**
KBS				Lg	Lg	00 21 39.5	
KBS	**Kingsbay**	**2.50**	**330**	Pn	**Pn**	**00 21 04.1**	**-0.6**
KBS				*e*Pg	**Pb**	**00 21 09.9**	**+0.9**
KBS				*e*Sg	**Sb**	**00 21 39.1**	**-0.7**
KBS				AML	AML	00 21 48.3	
	comp=Z,896nm,0.5s						
KBS	**Kingsbay**	**2.50**	**330**	Pn	**Pn**	**00 21 04.1**	**-0.6**
KBS	**Kingsbay**	**2.50**	**330**	Pg	**Pb**	**00 21 10.0**	**+0.9**
KBS				*e*Sg	**Sb**	**00 21 39.1**	**-0.7**
	comp=Z,896nm,0.5s,SNR=92						
KBS				Lg	Lg	00 21 39.5	
ARA0	**ARCESS Array S**	**7.62**	**161**	Pn	**Pn**	**00 22 17.7**	**+2.8**
	baz=354,slow=14						
ARA0				Sn	**Sn**	**00 23 37.8**	**-3.3**
	baz=359,slow=22						
ARA0	**ARCESS Array S**	**7.62**	**161**	Pn	**Pn**	**00 22 17.7**	**+2.8**
	baz=354,slow=14						
ARA0				Sn	**Sn**	**00 23 37.8**	**-3.3**
	baz=359,slow=22						
ARA0	**ARCESS Array S**	**7.62**	**161**	Pn	**Pn**	**00 22 17.7**	**+2.8**
	baz=354,slow=12,SNR=3.4						
ARCES	**ARCESS Array B**	**7.62**	**161**	Pn	**Pn**	**00 22 17.3**	**+2.4**
	comp=Z,0.8nm,0.3s,baz=348,slow=12,SNR=20						
ARCES				Sn	**Sn**	**00 23 36.7**	**-4.4**
	comp=Z,3.1nm,0.3s,baz=1.3,slow=20,SNR=5.0						
APA0	**Apatity Array**	**10.24**	**147**	Pn	**Pn**	**00 22 52.7**	**+1.9**
	baz=342,slow=10						
APA0	**Apatity Array**	**10.24**	**147**	Pn	**Pn**	**00 22 52.7**	**+1.9**
	baz=342,slow=10						
APA0	**Apatity Array**	**10.24**	**147**	Pn	**Pn**	**00 22 52.7**	**+1.9**
	baz=342,slow=10.0,SNR=1.0						
JOF	**Joensuu**	**14.61**	**156**	*ep*	**Pn**	**00 23 51.1**	**+0.7**
KAF	**Kangasniemi**	**15.03**	**166**	*ep*	**Pn**	**00 23 58.2**	**+2.1**
FINES	**FINESS Array B**	**15.68**	**166**	Pn	**Pn**	**00 24 04.1**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=348,slow=11,SNR=3.4						
FINES				Sn	**Sn**	**00 26 53.3**	**-4.9**
	comp=Z,0.5nm,0.3s,baz=354,slow=23,SNR=5.2						
HFS	**Hagfors**	**16.86**	**188**	Pn	**P**	**00 24 23.3**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=356,slow=14,SNR=3.3						
ILAR	**Eielson Array**	**38.33**	**350**	P	**P**	**00 27 42.6**	**-1.7**
	comp=Z,0.2nm,0.7s,baz=2.9,slow=7.2,SNR=2.7						
MKAR	**Makanchi Array**	**39.06**	**102**	P	**P**	**00 27 53.6**	**+3.0**
	comp=Z,0.4nm,0.6s,baz=338,slow=6.4,SNR=5.1						
TXAR	**Lajitas Array**	**68.39**	**307**	P	**P**	**00 31 24.4**	**-1.2**
	comp=Z,0.2nm,0.7s,baz=44,slow=5.3,SNR=3.2						

*ISCJB **03** 00:49:42.2±0.8, 14°.10N±0°.04×93°.02E±0°.05, h46km±8km, mb4.2/22, MS3.3/1, Error ellipse: s-maj=9.2km s-min=5.5km az=21.7*
*NEIC **03** 00:49:43.5±0.5, 14°.05N×92°.90E, h41km±4km, mb4.1/6, Error ellipse: s-maj=7.9km s-min=4.8km az=68.0*
*IDC **03** 00:49:43.6±0.6, 14°.00N×92°.85E, h41km±4km, mb4.0/16, mb1 4.1/18, mb1mx3.9/31, mbtmp4.0/18, ML4.2/2, MS3.4/1, Ms1 3.4/1, ms1mx2.6/39, Error ellipse: s-maj=20.1km s-min=10.0km az=56.0*
ISC 03 00:49:43.7±0.5, 14°.10N±0°.05×92°.93E±0°.06, h42km±4km, h41km; pP-P, n55, σ1§05/77, mb4.2/22, 1D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGPR	**DIGLIPUR**	**0.92**	**180**	*eP*	**Pn**	**00 50 00.4**	**+0.3**
DGPR				*e*S	**Sn**	**00 50 12.6**	**+0.5**
DGPR				AML	AML	00 50 14.8	
	comp=N,22μm,0.5s						
DGPR				AML	AML	00 50 15.0	
	comp=E,12μm,0.2s						
PBA	**Port Blair**	**2.44**	**184**	*eP*	Pn	00 50 20.6	-0.4
PBA				*e*S	Sn	00 50 49.0	-0.5
PBA				AML	AML	00 50 53.0	
	comp=E,3μm,0.5s						
PBA				AML	AML	00 50 53.0	
	comp=N,2μm,0.5s						
CMBY	**CAMPBELL BAY**	**7.11**	**172**	*eP*	**Pn**	**00 51 23.9**	**-1.3**
CMBY				*e*S	**Sn**	**00 52 43.4**	**-1.4**
CMBY				AML	AML	00 52 45.3	
	comp=N,2.5nm,0.3s						
CMBY				AML	AML	00 52 45.4	
	comp=E,298nm,0.4s						
CM31	**Chiang Mai Arr**	**7.22**	**52**	*e*Pn	**Pn**	**00 51 27.9**	**+1.2**
	comp=E,8.3nm,0.4s						
CM31				*e*Sn	**Sn**	**00 52 47.8**	**+0.3**
CMAR	**Chiang Mai Arr**	**7.22**	**52**	P	**Pn**	**00 51 27.6**	**+0.9**
CMAR				S	**Sn**	**00 52 44.9**	**-2.5**
CMAR	**Chiang Mai Arr**	**7.22**	**52**	P	**Pn**	**00 51 27.6**	**+0.9**
	comp=E,1.5nm,0.3s,baz=244,slow=15,SNR=25						
CMAR				S	**Sn**	**00 52 44.9**	**-2.5**
	comp=E,2.0nm,0.3s,baz=244,slow=28,SNR=6.1						
CHTO	**Chiang Mai**	**7.43**	**50**	*e*Pn	**Pn**	**00 51 29.3**	**-0.4**
	comp=E,13nm,0.4s						
CHTO				*e*Sn	**Sn**	**00 52 49.8**	**-2.9**
VIS	**Vishakhapatnam**	**9.91**	**293**	*i* P	**Pn**	**00 52 01.4**	**-2.2**
VIS				*i* x	x	00 53 41.6	
VIS				*ex*	x	00 53 44.3	
	comp=N,230nm,0.4s						
VIS				*ex*	x	00 53 45.2	
	comp=E,153nm,0.5s						
SHL	**Shillong**	**11.45**	**355**	*eP*	**Pn**	**00 52 22.8**	**-2.1**
SHL				*ex*	x	00 53 23.0	
KULM	**Kulim**	**11.59**	**138**	*e*Pn	**Pn**	**00 52 26.3**	**-0.4**
	comp=E,37nm,0.8s						
PSI	**Prapat**	**12.69**	**152**	P	**Pn**	**00 52 43.9**	**+2.2**
PSI	**Prapat**	**12.69**	**152**	P	**Pn**	**00 52 43.9**	**+2.2**
	comp=E,0.7nm,0.3s,baz=324,slow=11,SNR=17						
JBP	**Jabalpur**	**15.22**	**308**	*eP*	**Pn**	**00 53 15.8**	**+0.1**
JBP				*ex*	x	00 55 51.4	
ENH	**Enshi**	**22.18**	**41**	*eP*	**P**	**00 54 36.5**	**+0.2**
	comp=E,14nm,0.8s						
MKAR	**Makanchi Array**	**33.79**	**347**	P	**P**	**00 56 22.6**	**+0.9**
MKAR				pP	**pP**	**00 56 35.1**	**+2.0**
MKAR	**Makanchi Array**	**33.79**	**347**	P	**P**	**00 56 22.6**	**+0.9**
	comp=E,3.0nm,0.7s,baz=171,slow=7.7,SNR=18						
MKAR				pP	**pP**	**00 56 35.1**	**+2.0**
	comp=E,1.6nm,0.7s,baz=170,slow=7.2,SNR=5.5						
KKAR	**Karatay Array**	**34.74**	**331**	*eP*	**P**	**00 56 30.0**	**+0.1**
	comp=E,0.5nm,0.4s						
SONM	**Songino Array**	**35.45**	**16**	P	**P**	**00 56 37.2**	**+1.1**
SONM				pP	**pP**	**00 56 49.5**	**+2.0**
SONM	**Songino Array**	**35.45**	**16**	P	**P**	**00 56 37.2**	**+1.1**
	comp=E,0.4nm,0.3s,baz=186,slow=10,SNR=3.6						
SONM				pP	**pP**	**00 56 49.5**	**+2.0**
	comp=E,1.2nm,0.5s,baz=199,slow=8.6,SNR=5.3						
KSAR	**Wonju Array Be**	**38.78**	**47**	P	**P**	**00 57 05.2**	**+0.8**
KSAR				pP	**pP**	**00 57 16.7**	**+0.8**
KSRS	**Korea Array**	**38.82**	**47**	P	**P**	**00 57 05.2**	**+0.6**
	comp=E,1.1nm,0.6s,baz=236,slow=8.9,SNR=4.7						
KSRS				pP	**pP**	**00 57 16.7**	**+0.6**
	comp=E,1.0nm,0.5s,baz=240,slow=9.7,SNR=3.2						
KSRS				LR	LR	01 15 22.6	
	comp=E,50nm,19.9s,baz=282,slow=40						
ZALV	**Zalesovo Beam**	**40.27**	**353**	P	**P**	**00 57 17.1**	**+0.6**
ZALV	**Zalesovo Beam**	**40.27**	**353**	P	**P**	**00 57 17.1**	**+0.6**
	comp=E,3.0nm,0.8s,baz=175,slow=8.2,SNR=12						
BVAR	**Borovoye Array**	**42.76**	**340**	P	**P**	**00 57 36.9**	**0.0**
BVAR	**Borovoye Array**	**42.76**	**340**	P	**P**	**00 57 36.9**	**0.0**
	comp=E,0.7nm,0.5s,baz=134,slow=8.5,SNR=5.3						
ABKAR	**Akbulak array**	**44.27**	**329**	*eP*	**P**	**00 57 49.5**	**+0.4**
	comp=E,2.9nm,0.8s						
ABKAR				*ep*P	**pP**	**00 58 00.2**	**-0.6**
FITZ	**Fitzroy Crossi**	**45.43**	**134**	P	**P**	**00 57 58.0**	**-0.7**
FITZ	**Fitzroy Crossi**	**45.43**	**134**	P	**P**	**00 57 58.0**	**-0.7**
	comp=E,3.6nm,0.6s,baz=319,slow=5.5,SNR=14						
AKTO	**Aktyubinsk**	**45.98**	**329**	P	**P**	**00 58 02.7**	**0.0**
AKTO	**Aktyubinsk**	**45.98**	**329**	P	**P**	**00 58 02.7**	**0.0**
	comp=E,0.9nm,0.6s,baz=122,slow=11,SNR=4.5						
NWAO	**Narrogin (SRO)**	**52.21**	**154**	P	**P**	**00 58 50.1**	**-0.4**
NWAO	**Narrogin (SRO)**	**52.21**	**154**	P	**P**	**00 58 50.1**	**-0.4**
	comp=E,11nm,0.6s,baz=300,slow=8.1						
WRA	**Warramunga Arr**	**52.95**	**129**	P	**P**	**00 58 56.0**	**-0.3**
WRA				pP	**pP**	**00 59 07.3**	**-0.9**
WRA	**Warramunga Arr**	**52.95**	**129**	P	**P**	**00 58 56.0**	**-0.3**
	comp=E,5.2nm,0.7s,baz=309,slow=7.9,SNR=23						
WRA				pP	**pP**	**00 59 07.3**	**-0.9**
	comp=E,2.2nm,0.7s,baz=309,slow=8.1,SNR=4.7						
WRAB	**Tennant Creek**	**52.95**	**129**	*eP*	**P**	**00 58 56.0**	**-0.3**
	comp=E,5.1nm,0.6s						
ASAR	**Alice Springs**	**54.90**	**133**	P	**P**	**00 59 10.4**	**0.0**
ASAR				pP	**pP**	**00 59 21.6**	**-0.9**
ASAR	**Alice Springs**	**54.90**	**133**	P	**P**	**00 59 10.4**	**0.0**
	comp=E,5.5nm,0.7s,baz=310,slow=6.8,SNR=48						
ASAR				pP	**pP**	**00 59 21.6**	**-0.9**
	comp=E,2.1nm,0.5s,baz=307,slow=6.7,SNR=5.4						
BRTR	**Keskin Array B**	**57.57**	**308**	P	**P**	**00 59 28.9**	**-0.6**
BRTR				pP	**pP**	**00 59 40.6**	**-1.0**
BRTR	**Keskin Array B**	**57.57**	**308**	P	**P**	**00 59 28.9**	**-0.6**
	comp=E,1.2nm,0.8s,baz=121,slow=7.8,SNR=12						
BRTR				pP	**pP**	**00 59 40.6**	**-1.0**
	comp=E,1.4nm,0.6s,baz=118,slow=8.0,SNR=7.9						
STKA	**Stephens Creek**	**65.29**	**135**	*eP*	**P**	**01 00 21.1**	**-0.5**
	comp=E,0.6nm,0.6s						
STKA	**Stephens Creek**	**65.29**	**135**	P	**P**	**01 00 21.8**	**+0.3**
	comp=E,3.2nm,0.6s,baz=294,slow=9.6,SNR=7.7						
FINES	**FINESS Array B**	**66.70**	**331**	P	**P**	**01 00 30.0**	**-0.1**
FINES				pP	**pP**	**01 00 42.3**	**-0.1**
FINES	**FINESS Array B**	**66.70**	**331**	P	**P**	**01 00 30.0**	**-0.1**
	comp=E,1.7nm,0.7s,baz=107,slow=6.6,SNR=8.2						
FINES				pP	**pP**	**01 00 42.3**	**-0.1**
	comp=E,2.3nm,0.7s,baz=101,slow=7.5,SNR=2.2						
ARCES	**ARCESS Array B**	**69.05**	**340**	P	**P**	**01 00 45.1**	**+0.4**
ARCES				pP	**pP**	**01 00 57.4**	**+0.3**
ARCES	**ARCESS Array B**	**69.05**	**340**	P	**P**	**01 00 45.1**	**+0.4**
	comp=E,2.8nm,0.9s,baz=72,slow=7.8,SNR=3.7						
ARCES				pP	**pP**	**01 00 57.4**	**+0.3**
	comp=E,2.0nm,0.8s,baz=86,slow=6.2,SNR=1.8						
GERES	**GERESS Array B**	**72.45**	**317**	P	**P**	**01 01 06.3**	**+0.3**
GERES				pP	**pP**	**01 01 18.6**	**+0.1**
GERES	**GERESS Array B**	**72.45**	**317**	P	**P**	**01 01 06.3**	**+0.3**
	comp=E,0.8nm,0.7s,baz=91,slow=5.6,SNR=7.7						
GERES				pP	**pP**	**01 01 18.6**	**+0.1**
	comp=E,0.6nm,0.5s,baz=60,slow=5.3,SNR=5.7						
LPG	**La Plagne**	**77.44**	**314**	*eP*	**P**	**01 01 35.6**	**+0.5**
	comp=E,9.7nm,0.8s						
LPL	**La Plagne**	**77.45**	**314**	*eP*	**P**	**01 01 35.0**	**0.0**
	comp=E,7.0nm,0.7s						
BOSA	**Boshof**	**77.95**	**236**	*eP*	**P**	**01 01 37.5**	**-0.5**
	comp=E,0.7nm,0.5s						
BOSA	**Boshof**	**77.95**	**236**	P	**P**	**01 01 38.6**	**+0.6**
	comp=E,2.2nm,1.0s,baz=113,slow=8.8,SNR=3.4						
LOR	**Lormes**	**79.17**	**316**	*eP*	**P**	**01 01 44.3**	**0.0**
TCF	**Toulx Ste Croi**	**80.45**	**315**	*eP*	**P**	**01 01 51.5**	**+0.3**
ILAR	**Eielson Array**	**89.45**	**22**	pP	pP	01 02 48.3	-0.4
ILAR	**Eielson Array**	**89.45**	**22**	pP	pP	01 02 48.3	-0.4
	comp=E,0.4nm,0.6s,baz=298,slow=4.1,SNR=4.6						

*NIED **03** 01:04:00, 33°.20N×140°.90E, h53km, Mw4.3 Best double couple: M0:3.49000×10^15 NP1:φ=317.00000°, δ=81.00000°, λ=53.00000°. NP2:φ=216.00000°, δ=38.00000°, λ=166.00000°.*
*IDC **03** 01:04:51.1±0.7, 33°.12N×140°.76E, h0km, mb4.0/11, mb1 4.1/14, mb1mx4.0/27, mbtmp4.0/14, MS2.9/1, Ms1 2.9/1, ms1mx2.3/51, Error ellipse: s-maj=27.5km s-min=14.8km az=93.0*
*NEIC **03** 01:04:56.9±1.0, 33°.14N×140°.97E, h43km±10km, mb4.0/1, Error ellipse: s-maj=13.4km s-min=8.8km az=88.0*
*JMA **03** 01:04:56.7±0.2, 33°.21N×140°.92E, h47km, M4.1*
ISC 03 01:04:54.7±1.9, 33°.15N±0°.05×141°.08E±0°.06, h28km±14km, n55, σ1§80/67, mb4.0/16, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.06**	**268**	P	**Pn**	**01 05 13.7**	**+0.1**
JHJ2				S	**Sn**	**01 05 26.8**	**-0.7**
JHCJ	**Hachijojimakas**	**1.08**	**266**	P	**Pn**	**01 05 13.8**	**-0.1**
JHCJ				S	**Sn**	**01 05 26.2**	**-1.7**
BSO1	**Boso 1**	**1.50**	**357**	P	**Pb**	**01 05 21.0**	**-0.6**
BSO3	**Boso 3**	**1.71**	**344**	P	**Pn**	**01 05 23.6**	**+1.2**
JKO	**Kozu shima**	**1.92**	**303**	P	**Pn**	**01 05 25.9**	**+0.4**
JKO				S	**Sn**	**01 05 46.8**	**-2.0**
JIM2	**Oshima 3**	**2.08**	**319**	P	**Pn**	**01 05 28.0**	**+0.3**
JIM2				S	**Sn**	**01 05 49.8**	**-2.9**
JIZS	**Izushimoda**	**2.41**	**311**	P	**Pn**	**01 05 33.2**	**+1.0**
JOD2	**Odawara 2**	**2.68**	**323**	P	**Pn**	**01 05 36.5**	**+0.6**
TK02	**Tokai 2**	**2.88**	**287**	P	**Pn**	**01 05 39.5**	**+0.9**
TK04	**Tokai 4**	**2.94**	**296**	P	**Pn**	**01 05 40.8**	**+1.4**
JRY	**Ryogami san**	**3.38**	**329**	P	**Pn**	**01 05 46.9**	**+1.3**
MJAR	**Matsushiro Arr**	**4.12**	**326**	Pn	**Pn**	**01 05 57.5**	**+1.7**
MJAR				Sn	**Sn**	**01 06 42.8**	**-0.4**
MJAR	**Matsushiro Arr**	**4.12**	**326**	Pn	**Pn**	**01 05 57.5**	**+1.7**
	12nm,0.3s,baz=147,slow=11,SNR=179						
MJAR				Sn	**Sn**	**01 06 42.8**	**-0.4**
	4.9nm,0.3s,baz=145,slow=24,SNR=7.7						
MAT	**Matsushiro**	**4.13**	**326**	P	**Pn**	**01 05 57.8**	**+1.9**
MAT				S	**Sn**	**01 06 43.1**	**-0.1**
CBIJ	**Chichi jima**	**6.11**	**171**	Pn	**Pn**	**01 06 25.1**	**+2.0**
CBIJ				Sn	**Sn**	**01 07 28.4**	**-3.7**
CBIJ	**Chichi jima**	**6.11**	**171**	Pn	**Pn**	**01 06 25.1**	**+2.0**
	baz=342,slow=20						
CBIJ				Sn	**Sn**	**01 07 28.4**	**-3.7**
	9.2nm,0.3s,baz=53,slow=20,SNR=2.3						
JNU	**Nakatsue**	**8.55**	**273**	Pn	**Pn**	**01 06 57.2**	**+0.5**
JNU	**Nakatsue**	**8.55**	**273**	Pn	**Pn**	**01 06 57.2**	**+0.5**
	0.8nm,0.3s,baz=0.0,slow=3.0,SNR=4.2						
JNU				LR	LR	01 09 43.0	
	comp=Z,80nm,19.4s,baz=56,slow=35						
ERM	**Erimo**	**9.00**	**10**	*e*Pn	**Pn**	**01 07 04.0**	**+1.2**
ERM				*e*S	**Sn**	**01 08 38.0**	**-5.1**
ASAJ	**Asahikawa**	**11.01**	**6**	Pn	**Pn**	**01 07 30.2**	**-0.1**
ASAJ				Sn	**Sn**	**01 09 27.9**	**-4.6**
ASAJ	**Asahikawa**	**11.01**	**6**	Pn	**Pn**	**01 07 30.2**	**-0.1**
	0.9nm,0.3s,baz=208,slow=15,SNR=5.9						
ASAJ				Sn	**Sn**	**01 09 27.9**	**-4.6**
	0.6nm,0.3s,baz=180,slow=20,SNR=2.9						
KSRS	**Korea Array**	**11.57**	**295**	Pn	**Pn**	**01 07 40.1**	**+2.2**
	0.2nm,0.3s,baz=111,slow=15,SNR=6.8						
KSAR	**Wonju Array Be**	**11.60**	**295**	Pn	**Pn**	**01 07 40.1**	**+1.8**
USRK	**Ussuriysk Arra**	**13.10**	**330**	Pn	**Pn**	**01 07 58.5**	**-0.4**
	0.1nm,0.3s,baz=132,slow=20,SNR=2.9						
SONM	**Songino Array**	**29.89**	**310**	P	**P**	**01 11 02.6**	**+2.6**
SONM	**Songino Array**	**29.89**	**310**	P	**P**	**01 11 02.6**	**+2.6**
	0.6nm,0.5s,baz=104,slow=6.1,SNR=3.4						
ZALV	**Zalesovo Beam**	**44.40**	**315**	P	**P**	**01 13 02.2**	**-0.5**
ZALV	**Zalesovo Beam**	**44.40**	**315**	P	**P**	**01 13 02.2**	**-0.5**
	0.3nm,0.3s,baz=96,slow=9.3,SNR=3.3						
MKAR	**Makanchi Array**	**46.04**	**305**	P	**P**	**01 13 14.6**	**-1.2**
MKAR	**Makanchi Array**	**46.04**	**305**	P	**P**	**01 13 14.6**	**-1.2**
	1.5nm,0.8s,baz=91,slow=9.9,SNR=6.6						
ILAR	**Eielson Array**	**52.94**	**31**	P	**P**	**01 14 09.5**	**+1.3**
ILAR	**Eielson Array**	**52.94**	**31**	P	**P**	**01 14 09.5**	**+1.3**
	0.5nm,0.7s,baz=267,slow=6.1,SNR=6.9						
FITZ	**Fitzroy Crossi**	**53.05**	**198**	P	**P**	**01 14 09.8**	**+0.4**
FITZ	**Fitzroy Crossi**	**53.05**	**198**	P	**P**	**01 14 09.8**	**+0.4**
	1.0nm,0.6s,baz=11,slow=12,SNR=7.2						
WRAB	**Tennant Creek**	**53.17**	**188**	*eP*	**P**	**01 14 09.8**	**-0.5**
	8.2nm,0.6s						
WRA	**Warramunga Arr**	**53.18**	**188**	P	**P**	**01 14 09.9**	**-0.4**
WRA	**Warramunga Arr**	**53.18**	**188**	P	**P**	**01 14 09.9**	**-0.4**
	12nm,0.5s,baz=5.1,slow=7.5,SNR=225						
AS31	**Alice Springs**	**56.91**	**188**	*eP*	**P**	**01 14 37.3**	**0.0**
ASAR	**Alice Springs**	**56.91**	**188**	P	**P**	**01 14 37.4**	**+0.1**
ASAR	**Alice Springs**	**56.91**	**188**	P	**P**	**01 14 37.4**	**+0.1**
	3.7nm,0.5s,baz=7.5,slow=8.6,SNR=49						
INK	**Inuvik**	**57.98**	**26**	P	**P**	**01 14 46.0**	**+1.8**
INK	**Inuvik**	**57.98**	**26**	P	**P**	**01 14 46.0**	**+1.8**
	0.8nm,0.6s,baz=311,slow=11,SNR=5.1						
ABKAR	**Akbulak array**	**60.27**	**312**	*eP*	**P**	**01 14 58.8**	**-1.7**
	0.8nm,0.6s						
NWAO	**Narrogin (SRO)**	**69.46**	**201**	P	**P**	**01 15 59.3**	**-1.0**
NWAO	**Narrogin (SRO)**	**69.46**	**201**	P	**P**	**01 15 59.3**	**-1.0**
	13nm,1.0s,baz=56,slow=8.4,SNR=3.6						
FINES	**FINESS Array B**	**72.12**	**333**	P	**P**	**01 16 16.2**	**-0.1**
FINES	**FINESS Array B**	**72.12**	**333**	P	**P**	**01 16 16.2**	**-0.1**
	2.1nm,1.0s,baz=52,slow=3.4,SNR=4.7						
NVAR	**Mina Array Bea**	**77.56**	**52**	P	**P**	**01 16 50.5**	**+2.0**
NVAR	**Mina Array Bea**	**77.56**	**52**	P	**P**	**01 16 50.5**	**+2.0**
	0.1nm,0.4s,baz=339,slow=2.2,SNR=1.9						
NOA	**NORSAR Array B**	**77.66**	**338**	P	**P**	**01 16 46.7**	**-1.6**
NOA	**NORSAR Array B**	**77.66**	**338**	P	**P**	**01 16 46.7**	**-1.6**
	0.7nm,0.7s,baz=15,slow=1.8,SNR=3.4						
BRTR	**Keskin Array B**	**81.22**	**312**	P	**P**	**01 17 08.4**	**+0.1**
BRTR	**Keskin Array B**	**81.22**	**312**	P	**P**	**01 17 08.4**	**+0.1**
	0.3nm,0.7s,baz=60,slow=3.8,SNR=3.1						
TXAR	**Lajitas Array**	**92.71**	**52**	P	**P**	**01 18 07.1**	**+2.5**
TXAR	**Lajitas Array**	**92.71**	**52**	P	**P**	**01 18 07.1**	**+2.5**
	0.4nm,0.6s,baz=303,slow=3.0,SNR=6.8						

*ISCJB **03** 01:14:37.6±0.8, 23°.76S±0°.06×67°.12W±0°.09, h187km±10km, mb3.2/3, Error ellipse: s-maj=13.0km s-min=9.2km az=172.6*
*IDC **03** 01:14:37.8±1.9, 23°.94S×67°.12W, h180km±20km, mb3.0/3, mb1 3.4/5, mb1mx3.2/17, mbtmp3.1/5, Error ellipse: s-maj=25.3km s-min=18.7km az=73.0*
*GUC **03** 01:14:40.7±0.5, 23°.64S×67°.55W, h210km, ML4.3*
ISC 03 01:14:37.2±1.0, 23°.79S±0°.06×67°.02W±0°.09, h174km±12km, n16, σ2§09/25, mb3.3/3, 6C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB04	**Plate Boundary**	**2.73**	**303**	⇑*i*P	Pn	01 15 29.4	+7.1
PB04				*i* S	Sn	01 16 06.9	+10
PB04				AML	AML	01 16 12.8	
	comp=N,260nm,0.4s						
PB09	**Plate Boundary**	**2.85**	**314**	⇑*i*P	**Pn**	**01 15 26.1**	**+2.1**
PB09				*i* S	**Sn**	**01 16 00.9**	**+0.6**
PB09				AML	AML	01 16 03.9	
	comp=E,886nm,0.6s						
CEN1	**Los Morros**	**2.94**	**277**	⇓*i*P	**Pn**	**01 15 27.5**	**+2.5**
CEN1				*i* S	**Sn**	**01 16 04.0**	**+1.8**
CEN1				AML	AML	01 16 05.7	
	comp=N,396nm,0.4s						
MACH	**Maria Elena**	**2.98**	**302**	*i* P	**Pn**	**01 15 27.1**	**+1.5**
MACH				*i* S	**Sn**	**01 16 03.0**	**-0.2**
ANCH	**Antofagasta**	**3.11**	**271**	⇑*i*P	**Pn**	**01 15 28.2**	**+1.3**
ANCH				*i* S	**Sn**	**01 16 04.0**	**-1.6**
ANCH				AML	AML	01 16 06.4	
	comp=E,836nm,0.1s						
PB10	**Plate Boundary**	**3.25**	**274**	⇑*i*P	**Pn**	**01 15 29.7**	**+1.0**
PB10				*i* S	**Sn**	**01 16 07.1**	**-1.7**
PB10				AML	AML	01 16 09.4	
	comp=E,1μm,0.4s						
PB07	**Plate Boundary**	**3.35**	**307**	⇑*i*P	**Pn**	**01 15 31.1**	**+1.0**
PB07				*i* S	**Sn**	**01 16 09.4**	**-1.9**
PB07				AML	AML	01 16 12.2	
	comp=E,280nm,0.1s						
HMBC	**Humberstone**	**4.39**	**322**	⇑*i*P	**Pn**	**01 15 42.8**	**-0.5**
HMBC				*i* S	**Sn**	**01 16 32.1**	**-2.9**
PSGC	**Pisagua**	**5.07**	**325**	*eP*	**Pn**	**01 15 50.7**	**-1.4**
PSGC				*i* S	**Sn**	**01 16 46.4**	**-4.5**
LPAZ	**La Paz**	**7.54**	**352**	P	**Pn**	**01 16 27.1**	**+2.1**
	comp=E,1.3nm,0.3s,baz=153,slow=12,SNR=33						
LPAZ				S	**Sn**	**01 17 48.6**	**-1.5**
	comp=E,0.1nm,0.3s,baz=323,slow=22,SNR=5.3						
CFAA	**Coronel Fontan**	**7.86**	**188**	P	**Pn**	**01 16 29.1**	**+0.4**
	comp=E,0.1nm,0.3s,baz=24,slow=13,SNR=8.9						
CFAA				S	**Sn**	**01 17 52.0**	**-4.8**
	comp=E,0.1nm,0.3s,baz=306,slow=22,SNR=8.3						
CPUP	**Villa Florida**	**9.14**	**108**	P	**Pn**	**01 16 46.6**	**+1.0**
	comp=E,0.2nm,0.3s,baz=261,slow=11,S

EDRB Edirne 1.44 17 *e*Pn **Pb 01 24 34.4 +0.3**

IDC 03 01:26:36.8±2.2, 21°.09N×144°.67E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.3/26, mbtmp3.4/3, MS3.2/1, Ms1 3.2/1, ms1mx2.4/19, Error ellipse: s-maj=314.0km s-min=26.8km az=110.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**6.39**	**340**	LR	LR	01 29 55.0	
	comp=Z,174nm,18.1s,baz=162,slow=31						
WRA	**Warramunga Arr**	**42.01**	**195**	P	P	01 34 30.2	+0.2
	0.8nm,0.7s,baz=16,slow=8.7,SNR=9.8						
ASAR	**Alice Springs**	**45.70**	**194**	P	P	01 34 59.1	-0.6
	0.2nm,0.3s,baz=14,slow=8.0,SNR=2.9						
ILAR	**Eielson Array**	**61.95**	**27**	P	P	01 36 58.1	0.0
	0.1nm,0.3s,baz=248,slow=9.6,SNR=3.9						

CSEM ***03*** *01:43:12.4±0.1, 46°.67N×10°.10E, h12km, ML1.9/5, Error ellipse: s-maj=1.2km s-min=1.1km az=167.0*
ROM ***03*** *01:43:12.1±0.2, 46°.66N×10°.08E, h9km±3km, Md1.7/4, Ml1.2/2, Error ellipse: s-maj=3.1km s-min=1.6km az=50.0*
ZUR ***03*** *01:43:12.8, 46°.67N×10°.09E, h7km±1km, ML1.4/4*
VIE ***03*** *01:43:12.5±0.2, 46°.68N×10°.11E, h10km±3km, mb1.2/1, ML1.7/3, Error ellipse: s-maj=1.4km s-min=1.0km az=151.0 26 km ESE of Davos*
ISC 03 01:43:12.6±1.4, 46°.67N±0°.02×10°.10E±0°.02, h12km±8km, n20, σ0°.23/37, 4C-6D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUORN	**Ofenpass-Fuorn**	**0.12**	**115**	⇓*i*Pg	**Pg**	**01 43 16.1**	**+0.1**
	223nm,0.4s						
FUORN				*i* Sg	**Sg**	**01 43 18.2**	**-0.3**
	223nm,0.4s						
FUORN	**Ofenpass-Fuorn**	**0.12**	**115**	Pg	**Pg**	**01 43 16.1**	**+0.1**
FUORN				Sg	**Sg**	**01 43 18.1**	**-0.4**
FUORN	**Ofenpass-Fuorn**	**0.12**	**115**	⇓*i*Pg	**Pg**	**01 43 16.1**	**+0.1**
	223nm,0.4s						
FUORN				*i* Sg	**Sg**	**01 43 18.2**	**-0.3**
	223nm,0.4s						
DAVOX	**Davos/Dischmat**	**0.19**	**306**	⇓*i*Pg	**Pg**	**01 43 17.0**	**+0.1**
	103nm,0.3s						
DAVOX	**Davos/Dischmat**	**0.19**	**306**	Pg	**Pg**	**01 43 17.0**	**+0.1**
DAVOX				Sg	**Sg**	**01 43 19.7**	**-0.2**
DAVOX	**Davos/Dischmat**	**0.19**	**306**	⇓*i*Pg	**Pg**	**01 43 17.0**	**+0.1**
	103nm,0.3s						
DAVOX				Sg	**Sg**	**01 43 19.7**	**-0.2**
BERNI	**Berninapass**	**0.26**	**192**	⇑*i*Pg	**Pg**	**01 43 18.5**	**+0.3**
	107nm,0.5s						
BERNI				*e*Sg	**Sg**	**01 43 22.3**	**+0.3**
	107nm,0.5s						
BERNI	**Berninapass**	**0.26**	**192**	Pg	**Pg**	**01 43 18.5**	**+0.3**
BERNI				Sg	**Sg**	**01 43 22.1**	**+0.1**
BERNI	**Berninapass**	**0.26**	**192**	⇑*i*Pg	**Pg**	**01 43 18.5**	**+0.3**
	107nm,0.5s						
BERNI				Sg	**Sg**	**01 43 22.1**	**+0.1**
BRMO	**Bormio**	**0.27**	**136**	Pg	**Pg**	**01 43 18.2**	**-0.1**
BRMO				Sg	**Sg**	**01 43 22.2**	**+0.1**
	18nm,0.1s						
BRMO	**Bormio**	**0.27**	**136**	Pg	**Pg**	**01 43 18.2**	**-0.1**
BRMO				Sg	**Sg**	**01 43 22.2**	**+0.1**
	18nm,0.1s						
FETA	**Feichten**	**0.56**	**51**	⇓*i*Pg	**Pg**	**01 43 23.3**	**-0.2**
FETA				⇓*i*Sg	**Sg**	**01 43 30.6**	**-0.3**
	6.7nm,0.1s						
FETA	**Feichten**	**0.56**	**51**	Pg	**Pg**	**01 43 23.3**	**-0.2**
FETA				Sg	**Sg**	**01 43 30.6**	**-0.3**
	6.7nm,0.1s						
TUE	**Stuetta**	**0.56**	**249**	Pg	**Pg**	**01 43 23.2**	**-0.3**
TUE				Sg	**Sg**	**01 43 30.7**	**-0.2**
	17nm,0.4s						
TUE	**Stuetta**	**0.56**	**249**	Pg	**Pg**	**01 43 23.2**	**-0.3**
TUE				Sg	**Sg**	**01 43 30.7**	**-0.2**
	17nm,0.4s						
DAVA	**Damuels**	**0.63**	**346**	⇑*i*Pg	**Pg**	**01 43 25.2**	**+0.2**
	0.6nm,0.1s						
DAVA				⇑*i*Sg	**Sg**	**01 43 33.6**	**+0.3**
	5.9nm,0.2s						
DAVA	**Damuels**	**0.63**	**346**	Pg	**Pg**	**01 43 25.2**	**+0.2**
	0.6nm,0.1s						
DAVA				Sg	**Sg**	**01 43 33.6**	**+0.3**
	5.9nm,0.2s						
ABSI	**Aberstueckl**	**0.84**	**86**	*e*Pg	**Pg**	**01 43 29.3**	**+0.4**
ABSI				*e*Sg	**Sg**	**01 43 40.0**	**+0.1**
MUGIO	**Muggio**	**1.05**	**225**	*e*Pg	**Pg**	**01 43 32.7**	**-0.1**
	18nm,0.3s						
MUGIO	**Muggio**	**1.05**	**225**	*e*Pg	**Pg**	**01 43 32.7**	**-0.1**
	18nm,0.3s						

NIED ***03*** *01:43:00, 33°.70N×142°.60E, h8km, Mw4.3 Best double couple: M0:3.16000×10^15 NP1:φ=210.00000°, δ70.00000°, λ-64.00000°. NP2:φ=336.00000°, δ32.00000°, λ-140.00000°.*
IDC ***03*** *01:43:24.9±0.5, 33°.62N×142°.60E, h0km, mb4.1/24, mb1 4.4/30, mb1mx4.3/35, mbtmp4.2/30, MS3.6/16, Ms1 3.6/16, ms1mx3.3/48, Error ellipse: s-maj=15.3km s-min=13.5km az=66.0*
JMA ***03*** *01:43:26.7±0.5, 33°.66N×142°.60E, h61km, M4.5*
NEIC ***03*** *01:43:26.5±0.2, 33°.59N×142°.57E, h10km, mb4.6/15, MW4.3(NIED), Error ellipse: s-maj=6.3km s-min=5.9km az=202.0*
MOS ***03*** *01:43:27.0±1.2, 33°.64N×142°.50E, h25km, mb4.6/34, Error ellipse: s-maj=13.2km s-min=6.8km az=123.5*
BJI ***03*** *01:43:28.8, 33°.77N×142°.44E, h30km, mB4.7/26, mb4.6/37, Ms4.2/16, Ms7 4.2/10*
ISCJB ***03*** *01:43:29.1±0.2, 33°.64N±0°.04×142°.42E±0°.03, h35km, mb4.4/56, MS3.7/19, Error ellipse: s-maj=6.3km s-min=2.7km az=14.5*
ISC 03 01:43:30.2±0.4, 33°.69N±0°.05×142°.58E±0°.04, h35km, h35km:pP-P, n286, σ1s31/314, mb4.5/56, MS3.7/19, 66C-64D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.64**	**306**	P	**Pn**	**01 43 54.2**	**-1.9**
BSO1				S	**Sn**	**01 44 15.0**	**-0.7**
BSO3	**Boso 3**	**2.04**	**304**	P	**Pn**	**01 44 00.3**	**-1.6**
BSO4	**Boso 4**	**2.27**	**306**	P	**Pn**	**01 44 03.8**	**-1.3**
JHJ2	**Mitsune**	**2.38**	**257**	P	**Pn**	**01 44 04.6**	**-2.2**
JHCJ	**Hachijojimakas**	**2.41**	**256**	P	**Pn**	**01 44 04.7**	**-2.4**
JOD2	**Odawara 2**	**3.29**	**300**	P	**Pn**	**01 44 16.7**	**-2.5**
JAG	**Ashikaga**	**3.75**	**318**	P	**Pn**	**01 44 23.8**	**-1.8**
JYN	**Shimob**	**3.79**	**300**	P	**Pn**	**01 44 24.8**	**-1.4**
JYN				S	**Sn**	**01 45 08.7**	**-0.9**
JRY	**Ryogami san**	**3.81**	**309**	P	**Pn**	**01 44 24.3**	**-2.2**
JRY				S	**Sn**	**01 45 09.8**	**-0.4**
MJAR	**Matsushiro Arr**	**4.58**	**310**	Pn	**Pn**	**01 44 35.1**	**-1.9**
MJAR				Sn	**Sn**	**01 45 28.9**	**0.0**
MJAR	**Matsushiro Arr**	**4.58**	**310**	Pn	**Pn**	**01 44 35.1**	**-1.9**
	14nm,0.3s,baz=146,slow=12,SNR=92						
MJAR				Sn	**Sn**	**01 45 28.9**	**0.0**
	6.7nm,0.3s,baz=140,slow=25,SNR=9.3						
MAT	**Matsushiro**	**4.58**	**310**	P	**Pn**	**01 44 35.2**	**-1.8**
MAT				S	**Sn**	**01 45 28.9**	**-0.1**
CBIJ	**Chichi jima**	**6.58**	**183**	Pn	Pn	01 45 01.0	-3.5
CBIJ				Sn	Sn	01 46 09.7	-8.5
CBIJ	**Chichi jima**	**6.58**	**183**	Pn	Pn	01 45 01.0	-3.5
	97nm,0.3s,baz=275,slow=22,SNR=34						
CBIJ				Sn	Sn	01 46 09.7	-8.5
	78nm,0.3s,baz=283,slow=22,SNR=9.6						
ERM	**Erimo**	**8.33**	**3**	*e*P	Pn	01 45 24.2	-4.2
ERM	**Erimo**	**8.33**	**3**	*e*Pn	Pn	01 45 24.2	-4.2
ERM				*e*S	Sn	01 46 53.1	-8.0
JNU	**Nakatsue**	**9.80**	**270**	*e*Pn	**Pn**	**01 45 48.4**	**-0.3**
JNU	**Nakatsue**	**9.80**	**270**	Pn	**Pn**	**01 45 49.1**	**+0.4**
	1.3nm,0.3s,baz=69,slow=8.2,SNR=12						
ASAJ	**Asahikawa**	**10.41**	**0**	Pn	**Pn**	**01 45 55.9**	**-1.2**
ASAJ				Sn	Sn	01 47 42.5	-10
ASAJ	**Asahikawa**	**10.41**	**0**	Pn	**Pn**	**01 45 55.9**	**-1.2**
	1.4nm,0.3s,baz=156,slow=20,SNR=3.8						
ASAJ				Sn	Sn	01 47 42.5	-10
	0.6nm,0.3s,baz=64,slow=33,SNR=4.0						
ASAJ				LR	LR	01 50 34.5	
	comp=Z,196nm,20.0s,baz=186,slow=41						
KSRS	**Korea Array**	**12.51**	**292**	Pn	**Pn**	**01 46 25.7**	**0.0**
	0.3nm,0.3s,baz=97,slow=14,SNR=10						
KSAR	**Wonju Array Be**	**12.54**	**292**	Pn	**Pn**	**01 46 25.7**	**-0.4**
YSS	**Yuzh-Sakhalins**	**13.25**	**1**	*e*P	**Pn**	**01 46 32.8**	**-3.0**
YSS				pmax	pmax		
	comp=Z,20nm,0.8s						
YSS				MLR	MLR		
	comp=Z,200nm,14.0s						
USRK	**Ussuriysk Arra**	**13.33**	**325**	Pn	**Pn**	**01 46 35.5**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=135,slow=12,SNR=12						
MDJ	**Mudanjiang**	**14.83**	**321**	P	**Pn**	**01 46 56.8**	**-0.5**
MDJ				pP	**P**	**01 47 02.3**	**-0.4**
MDJ				S	**Sn**	**01 49 37.6**	**-2.8**
MDJ				SS	**SnSn**	**01 49 53.1**	**0.0**
MDJ				ScP	**ScP**	**01 55 37.7**	**0.0**
MDJ				pmax	pmax		
	comp=Z,12nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,68nm,6.7s						
CN2	**Changchun**	**16.72**	**312**	*e*P	**P**	**01 47 22.8**	**-0.9**
CN2				*e*PP	pP	01 47 37.6	+4.8
CN2				*e*S	**Sn**	**01 50 26.0**	**-0.3**
CN2				*e*SS	**SnSn**	**01 50 47.0**	**+7.5**
SNY	**Shenyang**	**17.06**	**304**	⇑P	**P**	**01 47 25.4**	**-2.0**
SNY				pmax	pmax		
	comp=Z,13nm,0.7s						
SNY				pmax	pmax		
	comp=Z,96nm,3.5s						
SNY				LR	LR		
	comp=N,160nm,15.5s						
SNY				LR	LR		
	comp=E,280nm,13.8s						
KLR	**Kul'dur**	**17.49**	**336**	*e*P	Pn	01 47 23.7	-7.6
NJ2	**Nanjing**	**19.99**	**272**	*e*P	**Pn**	**01 48 00.2**	**-1.4**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
BJI	**Beijing**	**22.01**	**294**	P	**P**	**01 48 22.3**	**+0.9**
BJI				S	**S**	**01 52 23.5**	**+1.2**
BJI				pmax	pmax		
	comp=Z,15nm,0.6s						
BJI				pmax	pmax		
	comp=Z,68nm,4.4s						
PEA0	**Petropavlovsk-**	**22.22**	**25**	*e*P	P	01 48 27.9	+4.3
PETK	**Petropavlovsk-**	**22.22**	**25**	P	**P**	**01 48 24.8**	**+1.2**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
PETK				MLR	MLR		
	comp=Z,52nm,18.2s						
PETK	**Petropavlovsk-**	**22.22**	**25**	P	**P**	**01 48 24.8**	**+1.2**
PETK	**Petropavlovsk-**	**22.22**	**25**	P	**P**	**01 48 24.8**	**+1.2**
	comp=Z,0.5nm,0.4s,baz=184,slow=8.7,SNR=3.5						
PETK				LR	LR	01 57 25.4	
	comp=Z,52nm,18.2s,baz=154,slow=38						
HHC	**Hu-ho-hao-te**	**25.61**	**295**	*e*P	**P**	**01 48 56.7**	**+0.3**
HHC				pP	**pP**	**01 49 08.3**	**+2.0**
HHC				sP	**sP**	**01 49 13.8**	**+3.2**
HHC				PP	**PnPn**	**01 49 37.4**	**+4.4**
HHC				S	**S**	**01 53 19.1**	**-3.1**
HHC				sS	**sS**	**01 53 38.8**	**+0.1**
HHC				SS	**SnSn**	**01 54 24.6**	**+7.1**
HHC				PcS	**PcS**	**01 56 06.8**	**-0.5**
HHC				pmax	pmax		
	comp=Z,61nm,1.1s						
HHC				pmax	pmax		
	comp=Z,190nm,5.1s						
HHC				LR	LR		
	comp=N,290nm,15.5s						
HHC				LR	LR		
	comp=E,230nm,16.3s						
SEY	**Seymchan**	**29.91**	**9**	*e*P	P	01 49 31.0	-3.5
ULN	**Ulaanbaatar**	**30.11**	**309**	*e*P	**P**	**01 49 37.2**	**+0.6**
	comp=E,12nm,1.1s						
SONA1	**Songino Array**	**30.53**	**308**	*e*P	**P**	**01 49 40.9**	**+0.6**
SONM	**Songino Array**	**30.53**	**308**	P	**P**	**01 49 41.2**	**+0.9**
SONM	**Songino Array**	**30.53**	**308**	P	**P**	**01 49 41.2**	**+0.9**
	comp=E,5.7nm,0.8s,baz=115,slow=8.5,SNR=23						
SONM				LR	LR	02 03 14.8	
	comp=E,151nm,18.3s,baz=260,slow=39						
LZH	**Lanzhou**	**31.73**	**285**	*e*P	**P**	**01 49 48.3**	**-2.7**
LZH				pP	**pP**	**01 50 00.5**	**-0.6**
LZH				sP	**sP**	**01 50 05.8**	**+0.5**
LZH				PP	**PnPn**	**01 50 53.6**	**-2.0**
LZH				pmax	pmax		
	comp=Z,20nm,1.3s						
LZH				pmax	pmax		
	comp=Z,74nm,5.2s						
LZH				LR	LR		
	comp=N,330nm,12.6s						
LZH				LR	LR		
	comp=E,320nm,12.3s						
LZH				LR	LR		
	comp=Z,400nm,17.0s						
GYA	**Guiyang**	**31.79**	**267**	*e*P	**P**	**01 49 52.4**	**+0.8**
GYA				pP	pP	01 50 05.8	+4.1
GYA				PP	**PnPn**	**01 50 58.4**	**+1.9**
GYA				S	**S**	**01 54 57.8**	**-1.8**
GYA				sS	**sS**	**01 55 19.2**	**+2.9**
GYA				ScP	**ScP**	**01 56 22.0**	**-0.9**
GYA				ScS	**ScS**	**02 00 17.7**	**-3.8**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,70nm,4.7s						
QIZ	**Qiongzhong**	**32.60**	**252**	P	**P**	**01 49 58.7**	**+0.1**
QIZ				S	**S**	**01 55 11.0**	**-1.2**
CD2	**Chengdu**	**32.80**	**276**	P	**P**	**01 50 02.0**	**+1.6**
CD2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
ZAK	**Zakamensk**	**33.16**	**312**	*e*P	**P**	**01 50 01.4**	**-1.9**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.4s						
TLY	**Talaya**	**33.30**	**315**	*e*P	**P**	**01 50 05.8**	**+1.4**
TLY				pmax	pmax		
	comp=Z,7.0nm,0.8s						
TLY				MLR	MLR		
	comp=Z,99nm,14.0s						
GTA	**Gaotai**	**34.58**	**292**	*e*P	**P**	**01 50 17.0**	**+1.1**
GTA				pP	**pP**	**01 50 28.0**	**+2.0**
GTA				sP	**sP**	**01 50 34.1**	**+3.9**
GTA				S	**S**	**01 55 43.0**	**+0.2**
GTA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
GTA				pmax	pmax		
	comp=Z,93nm,5.2s						
GTA				LR	LR		
	comp=N,160nm,18.1s						
GTA				LR	LR		
	comp=E,170nm,15.2s						
KMI	**Kunming**	**35.57**	**267**	P	**P**	**01 50 25.4**	**+0.8**
KMI				sP	**sP**	**01 50 39.4**	**+0.5**
KMI				pmax	pmax		
	comp=Z,23nm,0.5s						
HVS	**Khovu-Aksy**	**39.27**	**311**	*e*P	**P**	**01 50 54.2**	**-1.3**
CMAR	**Chiang Mai Arr**	**41.71**	**260**	P	**P**	**01 51 15.4**	**-0.5**
CMAR	**Chiang Mai Arr**	**41.71**	**260**	P	**P**	**01 51 15.4**	**-0.5**
	comp=Z,1.6nm,0.3s,baz=53,slow=8.0,SNR=4.6						
CMAR				LR	LR	02 08 07.7	
	comp=Z,65nm,19.0s,baz=344,slow=36						
WMQ	**Urumqi**	**43.27**	**300**	P	P	01 51 31.1	+2.6
WMQ				PP	**PcP**	**01 53 14.2**	**-2.8**
WMQ				PcP	PP	01 53 20.5	+11
WMQ				pmax	pmax		
	comp=Z,25nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,99nm,4.6s						
ZAA0	**Zalesovo Array**	**44.91**	**315**	P	**P**	**01 51 43.2**	**+1.9**
ZALV	**Zalesovo Beam**	**44.91**	**315**	P	**P**	**01 51 40.9**	**-0.4**
ZALV						01 53 22.1	
ZALV				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ZALV				MLR	MLR		
	comp=Z,35nm,19.2s						
ZALV	**Zalesovo Beam**	**44.91**	**315**	P	**P**	**01 51 40.9**	**-0.4**
ZALV				PcP	**PcP**	**01 53 22.1**	**-0.2**
ZALV	**Zalesovo Beam**	**44.91**	**315**	P	**P**	**01 51 40.9**	**-0.4**
	comp=Z,0.9nm,0.6s,baz=116,slow=6.5,SNR=12						
ZALV				PcP	**PcP**	**01 53 22.1**	**-0.2**
	comp=Z,1.9nm,0.8s,baz=93,slow=3.3,SNR=4.5						
ZALV				LR	LR	02 12 54.9	
	comp=Z,35nm,19.2s,baz=68,slow=39						
NVS	**Novosibirsk**	**45.87**	**316**	*e*P	P	01 51 45.4	-3.5
MK01	**Makanchi Array**	**46.76**	**305**	*e*P	**P**	**01 51 56.0**	**-0.1**
MKAR	**Makanchi Array**	**46.76**	**305**	P	**P**	**01 51 56.2**	**+0.1**
MKAR				pmax	pmax		
	comp=Z,11nm,0.7s						
MKAR				MLR	MLR		
	comp=Z,56nm,19.6s						
MKAR	**Makanchi Array**	**46.76**	**305**	*e*P	P	01 51 59.5	+3.4
MKAR	**Makanchi Array**	**46.76**	**305**	P	**P**	**01 51 56.2**	**+0.1**
	comp=Z,11nm,0.7s,baz=86,slow=8.8,SNR=8.3						
MKAR				LR	LR	02 11 54.3	
	comp=Z,56nm,19.6s,baz=281,slow=36						
KURK	**Kurchatov**	**48.79**	**311**	P	**P**	**01 52 12.0**	**+0.3**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KURK	**Kurchatov**	**48.79**	**311**	P	**P**	**01 52 12.0**	**+0.3**
KURBB	**Kurchatov Arra**	**48.85**	**310**	P	**P**	**01 52 12.0**	**-0.2**
	comp=Z,1.9nm,0.6s,baz=85,slow=7.7,SNR=16						
IL1	**Eielson Array**	**51.84**	**31**	*e*P	**P**	**01 52 34.0**	**-0.6**
ILAR	**Eielson Array**	**51.84**	**31**	P	**P**	**01 52 34.4**	**-0.2**
ILAR	**Eielson Array**	**51.84**	**31**	P	**P**	**01 52 34.4**	**-0.2**
	comp=Z,1.3nm,0.9s,baz=265,slow=6.2,SNR=12						
TKM2	**Tokmak 2**	**52.12**	**301**	*e*P	**P**	**01 52 38.2**	**+1.0**
TKM2				pmax	pmax		
	comp=Z,11nm,1.2s						
TKM2	**Tokmak 2**	**52.12**	**301**	*e*P	**P**	**01 52 38.2**	**+1.0**
	comp=Z,11nm,1.2s						
KSH	**Kashi**	**52.70**	**297**	*e*P	**P**	**01 52 43.2**	**+1.7**
KSH				PcP	**PcP**	**01 53 52.2**	**+1.2**
KSH				PP	**PP**	**01 54 44.3**	**+3.6**
KSH				S	**S**	**02 00 04.6**	**-2.5**
KSH				sS	sS	02 00 32.7	+8.3
KSH				pmax	pmax		
	comp=Z,59nm,4.5s						
KSH				LR	LR		
	comp=N,48nm,4.9s						
KSH				LR	LR		
	comp=E,79nm,5.5s						
KSH				LR	LR		
	comp=Z,130nm,4.6s						
AAK	**Ala-Archa**	**52.97**	**301**	*e*P	**P**	**01 52 43.1**	**-0.4**
AAK				pmax	pmax		
	comp=Z,7.0nm,1.2s						
VOSK	**Vostochnaya**	**53.25**	**314**	*e*P	**P**	**01 52 45.0**	**-0.2**
VOSK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
VOSK	**Vostochnaya**	**53.25**	**314**	*e*P	**P**	**01 52 45.0**	**-0.2**
	comp=Z,6.9nm,1.0s						
BVAR	**Borovoye Array**	**53.56**	**314**	P	**P**	**01 52 47.6**	**+0.2**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BVAR				MLR	MLR		
	comp=Z,59nm,19.3s						
BVAR	**Borovoye Array**	**53.56**	**314**	P	**P**	**01 52 47.6**	**+0.2**
BVAR	**Borovoye Array**	**53.56**	**314**	P	**P**	**01 52 47.6**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=82,slow=10,SNR=3.6						
BVAR				LR	LR	02 18 11.7	
	comp=Z,59nm,19.3s,baz=103,slow=39						
BRVK	**Borovoye**	**53.62**	**314**	*e*P	**P**	**01 52 46.2**	**-1.6**
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.3s						
WRAB	**Tennant Creek**	**53.89**	**190**	*e*P	**P**	**01 52 49.0**	**-1.1**
WRAB				pmax	pmax		
	comp=Z,15nm,1.3s						
WRAB	**Tennant Creek**	**53.89**	**190**	*e*P	**P**	**01 52 49.0**	**-1.1**
	comp=Z,15nm,1.3s						
WRA	**Warramunga Arr**	**53.91**	**190**	P	**P**	**01 52 49.2**	**-1.0**
WRA	**Warramunga Arr**	**53.91**	**190**	P	**P**	**01 52 49.2**	**-1.0**
	comp=Z,2.3nm,0.4s,baz=7,2,slow=7.6,SNR=33						
KKAR	**Karatay Array**	**55.67**	**302**	*e*P	**P**	**01 53 04.2**	**+1.2**
KKAR				pmax	pmax		
	comp=Z,11nm,1.1s						
KKAR	**Karatay Array**	**55.67**	**302**	*e*P	**P**	**01 53 04.2**	**+1.2**
	comp=Z,11nm,1.1s						
AS01	**Alice Springs**	**57.62**	**189**	*e*P	**P**	**01 53 15.6**	**-1.3**
AS01				*e*pP	**pP**	**01 53 28.3**	**+0.9**
ASAR	**Alice Springs**	**57.63**	**189**	P	**P**	**01 53 16.6**	**-0.4**
ASAR	**Alice Springs**	**57.63**	**189**	P	**P**	**01 53 16.6**	**-0.4**
	comp=Z,5.4nm,0.9s,baz=8.6,slow=5.7,SNR=29						
ARU	**Arti**	**59.52**	**320**	*d*iP	**P**	**01 53 28.7**	**-1.0**
ARU				S	**S**	**02 01 37.8**	**+1.1**
ARU				SS	**SS**	**02 05 26.8**	**-4.9**
ARU				pmax	pmax		
	comp=Z,8.0nm,1.7s						
ABKAR	**Akbulak array**	**60.85**	**312**	*e*P	**P**	**01 53 39.1**	**+0.1**
	comp=Z,0.5nm,0.5s						
AKTO	**Aktyubinsk**	**61.65**	**314**	P	**P**	**01 53 45.6**	**+1.2**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.9s						
AKTO				MLR	MLR		
	comp=Z,45nm,18.8s						
AKTO	**Aktyubinsk**	**61.65**	**314**	P	**P**	**01 53 45.5**	**+1.2**
AKTO	**Aktyubinsk**	**61.65**	**314**	P	**P**	**01 53 45.5**	**+1.2**
	comp=Z,1.4nm,0.9s,baz=86,slow=12,SNR=4.7						
AKTO				LR	LR	02 22 50.6	
	comp=Z,45nm,18.8s,baz=241,slow=38						
STKA	**Stephens Creek**	**65.22**	**181**	P	**P**	**01 54 07.5**	**-0.5**
STKA	**Stephens Creek**	**65.22**	**181**	P	**P**	**01 54 07.5**	**-0.5**
	comp=Z,4.0nm,1.0s,baz=344,slow=15,SNR=2.8						
YKA	**Yellowknife Ar**	**66.23**	**30**	P	**P**	**01 54 12.9**	**-1.3**
YKA	**Yellowknife Ar**	**66.23**	**30**	P	**P**	**01 54 12.9**	**-1.3**
	comp=Z,2.2nm,0.9s,baz=296,slow=6.2,SNR=3.8						
ARCES	**ARCESS Array B**	**67.46**	**340**	LR	LR	02 28 03.4	
	comp=Z,41nm,20.2s,baz=271,slow=40						
B08A	**Colville Reser**	**70.54**	**44**	*e*P	**P**	**01 54 42.8**	**+1.2**
	comp=Z,3.7nm,1.0s						
OBN	**Obninsk**	**71.35**	**324**	*e*P	**P**	**01 54 45.3**	**-0.9**
OBN				*e*		01 55 05.8	
OBN				*e*		01 57 23.6	
OBN				*e*SS	SS	02 08 35.7	+0.3
OBN				pmax	pmax		
	comp=Z,5.0nm,0.9s						
NEW	**Newport**	**71.87**	**44**	⇑P	**P**	**01 54 50.4**	**+0.8**
	baz=72						
FINES	**FINESS Array B**	**72.22**	**333**	P	**P**	**01 54 51.0**	**-0.3**
FINES	**FINESS Array B**	**72.22**	**333**	P	**P**	**01 54 51.0**	**-0.3**
	comp=Z,2.4nm,0.9s,baz=46,slow=12,SNR=3.1						
FINES				LR	LR	02 30 38.5	
	comp=Z,39nm,18.8s,baz=40,slow=39						
K05A	**Summer Lake**	**72.34**	**50**	*e*P	P	01 54 54.7	+2.0
	comp=Z,14nm,1.4s						
KBZ	**Khabaz**	**73.82**	**312**	P	**P**	**01 55 02.5**	**+1.3**
KBZ				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KBZ				MLR	MLR		
	comp=Z,32nm,18.1s						
KBZ	**Khabaz**	**73.82**	**312**	P	**P**	**01 55 02.5**	**+1.3**
KBZ	**Khabaz**	**73.82**	**312**	P	**P**	**01 55 02.5**	**+1.3**
	comp=Z,2.7nm,0.8s,baz=70,slow=8.3

HFS	Hagfors	77.53	336	LR	LR	02 32 29.4	
	comp=Z,32nm,20.4s,baz=44,slow=38						
AKASG	Malin Array Be	77.53	323	P	P	01 55 22.4	+0.1
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	Malin Array Be	77.53	323	P	P	01 55 22.4	+0.1
AKASG	Malin Array Be	77.53	323	P	P	01 55 22.4	+0.1
	comp=Z,0.5nm,0.4s,baz=41,slow=8.7,SNR=3.3						
D20A	Manuel Ranch,	77.59	41	⇓P	P	01 55 23.6	+0.9
	baz=77						
E19A	Rath Farm, Rou	77.60	42	⇑P	P	01 55 23.7	+0.8
	baz=77,SNR=5.3						
NOA	NORSAR Array B	77.64	338	P	P	01 55 24.2	+1.5
NOA	NORSAR Array B	77.64	338	P	P	01 55 24.2	+1.5
	comp=Z,1.6nm,0.9s,baz=41,slow=5.3,SNR=3.3						
NOA				LR	LR	02 34 19.9	
	comp=Z,53nm,18.7s,baz=40,slow=39						
C21A	Desert Coulee	77.72	40	⇑P	P	01 55 24.6	+1.1
	baz=78						
H17A	Grant Village	77.78	45	⇓P	P	01 55 25.5	+1.4
	baz=78						
F19A	Roth Farm, Mol	77.87	43	⇓P	P	01 55 25.0	+0.6
	baz=78						
E20A	Meyer Farm, Mu	77.94	42	⇑P	P	01 55 25.6	+0.9
	baz=78						
BLG	Laguna Peak	78.02	57	⇓P	P	01 55 27.1	+1.8
	baz=78						
MPMC	Manual Prospec	78.05	55	⇓P	P	01 55 26.3	+0.6
	baz=78						
MOOW	Moose Ponds	78.05	45	eP	P	01 55 27.4	+1.7
	comp=Z,10nm,1.9s						
R11A	Troy Canyon, C	78.07	52	⇓P	P	01 55 26.0	+0.2
	baz=78						
H18A	Shoshone NF, C	78.14	44	⇑P	P	01 55 27.0	+0.9
	baz=78						
LRMC	Laurel Mountai	78.23	55	⇓P	P	01 55 27.3	+0.7
	baz=78						
FURC	Furnace Creek,	78.25	54	⇓P	P	01 55 27.4	+0.9
	baz=78						
EDW2	Edwards Air Fo	78.35	56	⇓P	P	01 55 27.5	+0.3
	baz=78						
B23A	Brockton	78.45	39	⇓P	P	01 55 28.0	+0.5
	baz=78						
D22A	Cohagen	78.62	40	⇑P	P	01 55 29.2	+0.7
	baz=78						
DUG	Dugway	78.82	49	eP	P	01 55 31.2	+1.4
DUG				pmax	pmax		
	comp=Z,5.0nm,1.3s						
DUG	Dugway	78.82	49	eP	P	01 55 31.2	+1.4
	comp=Z,4.7nm,1.3s						
DUG	Dugway	78.82	49	⇑P	P	01 55 30.6	+0.7
	baz=79						
CIS	Catalina Islan	78.86	57	⇑P	P	01 55 31.4	+1.4
	baz=79						
I19A	Meeteetse	78.91	44	⇓P	P	01 55 31.0	+0.7
	baz=79						
PDAR	Pinedale Array	79.33	45	P	P	01 55 33.2	+0.5
PDAR	Pinedale Array	79.33	45	P	P	01 55 33.2	+0.5
	comp=Z,0.6nm,0.6s,baz=251,slow=1.7,SNR=6.8						
TUQ	Turquoise Moun	79.46	54	⇑P	P	01 55 33.9	+0.5
	baz=79						
I20A	Worland	79.46	44	⇓P	P	01 55 32.9	-0.4
	baz=79						
E23A	Ismay	79.49	41	⇑P	P	01 55 33.7	+0.5
	baz=79						
HEC	Hector,Ludlow	79.52	55	⇓P	P	01 55 33.9	+0.3
	baz=79						
H21A	Big Horn, Sher	79.68	43	⇓P	P	01 55 35.0	+0.6
	baz=80						
K19A	Absolon Red Bu	79.72	45	⇓P	P	01 55 34.8	0.0
	baz=80						
J20A	Shoshoni	79.85	44	⇓P	P	01 55 35.8	+0.5
	baz=80						
F23A	Volborg	79.92	41	⇓P	P	01 55 36.1	+0.4
	baz=80						
E24A	Baker	79.99	40	⇓P	P	01 55 36.3	+0.3
	baz=80						
GMRC	Granite Mounta	80.00	55	⇑P	P	01 55 36.6	+0.2
	baz=80						
PFO	Pinyon Flat Ob	80.11	56	⇓P	P	01 55 37.3	+0.3
	baz=80						
BELC	Belle Mtn. Jos	80.20	56	⇑P	P	01 55 37.8	+0.3
	baz=80						
G23A	Biddle	80.25	42	⇓P	P	01 55 37.6	+0.2
	baz=80						
I22A	9 Mile Ranch,	80.44	43	⇑P	P	01 55 39.0	+0.5
	baz=80						
IRM	Iron Mountain	80.70	55	⇑P	P	01 55 40.3	+0.4
	baz=81						
J22A	Midwest	80.74	44	⇓P	P	01 55 40.8	+0.6
	baz=81,SNR=7.8						
BC3	Big Chuckawall	80.77	56	⇓P	P	01 55 40.8	+0.4
	baz=81						
H24A	Dirks Ranch, A	81.00	42	⇓P	P	01 55 41.5	0.0
	baz=81						
E26A	Carlson Angus	81.03	39	⇓P	P	01 55 41.7	+0.2
	baz=81						
PDMCI	Parker Dam,Lak	81.31	55	⇓P	P	01 55 44.1	+1.0
	baz=81						
U15A	North Rim	81.32	52	⇓P	P	01 55 44.2	+0.6
	baz=81						
Y12C	Blythe	81.36	55	⇓P	P	01 55 44.2	+0.8
	baz=81						
G27A	Dupree	81.49	40	⇑P	P	01 55 47.2	+3.3
	baz=82						
BUR04	Bucovina Ar. S	81.53	323	eP	P	01 55 44.7	+0.4
BUR04				epP	pP	01 55 54.1	-1.1
RSSD	Black Hills	81.68	42	eP	P	01 55 44.8	-0.4
RSSD				pmax	pmax		
	comp=Z,1.0nm,0.4s						
RSSD	Black Hills	81.68	42	eP	P	01 55 44.8	-0.4
	comp=Z,1.5nm,0.4s						
G26A	Maurine	81.72	40	⇓P	P	01 55 45.8	+0.5
	baz=82						
BR131	Keskin Array S	81.80	313	eP	P	01 55 46.1	+0.3
	comp=Z,2.1nm,0.8s						
BRTR	Keskin Array B	81.80	313	P	P	01 55 46.8	+1.0
BRTR	Keskin Array B	81.80	313	P	P	01 55 46.8	+1.0
	comp=Z,2.0nm,0.8s,baz=107,slow=4.3,SNR=9.4						
L23A	Garrett	81.99	44	⇑P	P	01 55 47.4	+0.4
	baz=82						
KOLS	Kolonicke sedl	82.09	325	eP	P	01 55 48.2	+1.2
KOLS	Kolonicke sedl	82.09	325	eP	P	01 55 48.2	+1.2
STHS	Stebnicka Huta	82.25	326	eP	P	01 55 49.3	+1.4
STHS	Stebnicka Huta	82.25	326	eP	P	01 55 49.3	+1.4
BR231	Keskin MP Arra	82.25	313	eP	P	01 55 46.8	-1.4
PPT	Papeete	82.28	117	LR	LR	02 27 56.4	
	comp=Z,104nm,20.0s,baz=315,slow=32						
Q20A	Ridgley Place,	82.38	48	⇓P	P	01 55 49.7	+0.7
	baz=82						
M23A	Laramie	82.38	45	⇓P	P	01 55 49.3	+0.3
	baz=82						
PV05	Paradox Valley	82.40	49	eP	P	01 55 50.5	+1.4
CRVS	Cervenica-Dubn	82.50	325	eP	P	01 55 50.2	+1.0
CRVS	Cervenica-Dubn	82.50	325	eP	P	01 55 50.2	+1.0
N23A	Red Feather La	82.61	45	⇑P	P	01 55 51.0	+0.7
	baz=82						
PV01	Paradox Valley	82.70	49	eP	P	01 55 51.6	+0.9
	comp=Z,419nm,1.1s						
O22A	Kremmling	82.70	46	⇑P	P	01 55 51.5	+0.7
	baz=82						
R20A	Redvale	82.79	49	⇑P	P	01 55 51.8	+0.7
	baz=83						
Q21A	Lamborn Mesa,	82.89	48	⇑P	P	01 55 53.2	+1.6
	baz=83						
M24A	Cheyenne	82.91	44	⇓P	P	01 55 53.0	+1.3
	baz=83						
P22A	Eagle	82.93	47	⇓P	P	01 55 52.6	+0.8
	baz=83						
H28A	Mission Ridge	82.97	40	⇓P	P	01 55 52.9	+1.2
	baz=83						
S20A	Disappointment	83.02	49	⇑P	P	01 55 53.4	+1.0
	baz=83						
O23A	Lake Granby, G	83.05	46	⇑P	P	01 55 53.8	+1.2
	baz=83						
X16A	Lo Mia Camp, P	83.06	53	⇑P	P	01 55 53.8	+1.2
	baz=83						
K26A	Motz Farm, Whi	83.07	43	⇓P	P	01 55 53.4	+1.1
	baz=83						
R21A	Cimarron	83.19	48	⇑P	P	01 55 54.6	+1.3
	baz=83,SNR=5.9						
Q22A	Crested Butte,	83.29	47	⇓P	P	01 55 55.3	+1.5
	baz=83,SNR=6.4						
MVCO	Mesa Verde	83.31	50	⇑P	P	01 55 54.9	+1.0
	baz=83						
S21A	Coal Bank Pass	83.48	49	⇓P	P	01 55 55.6	+0.8
	baz=83						
ISCO	Idaho Springs	83.49	46	⇓P	P	01 55 55.7	+0.8
	baz=83						
P23A	Jefferson	83.62	46	⇑P	P	01 55 56.7	+1.1
	baz=84						
R22A	Saguache, Gunn	83.77	48	⇑P	P	01 55 58.4	+2.0
	baz=84,SNR=5.0						
PSZ	Piszkesteto	83.94	325	eP	P	01 55 57.0	+0.3
PSZ				pmax	pmax		
	comp=Z,16nm,1.3s						
PSZ	Piszkesteto	83.94	325	eP	P	01 55 57.0	+0.3
	comp=Z,16nm,1.3s						
X18A	Snowflake	83.98	52	⇑P	P	01 55 57.6	+0.3
	baz=84						
S22A	4UR Ranch, Cre	84.03	48	⇑P	P	01 55 59.0	+1.3
	baz=84,SNR=5.5						
V20A	Brimhall	84.18	51	⇓P	P	01 55 59.0	+0.7
	baz=84						
U21A	Nageezi	84.32	50	⇑P	P	01 56 00.0	+1.0
	baz=84						
R23A	Moffat	84.37	47	⇓P	P	01 56 00.3	+0.9
	baz=84						
PVCC	Panska Ves	84.42	330	eP	P	01 55 59.7	+0.7
PVCC	Panska Ves	84.42	330	eP	P	01 55 59.7	+0.7
BRG	Berggiesshubel	84.42	330	eP	P	01 56 00.5	+1.5
BRG				pmax	pmax		
	comp=Z,5.0nm,1.3s						
T22A	Edith	84.43	49	⇑P	P	01 56 00.5	+0.8
	baz=84						
VRAC	Vranov	84.45	328	P	P	01 55 58.9	-0.3
VRAC	Vranov	84.45	328	P	P	01 55 58.9	-0.3
	comp=Z,2.3nm,0.8s,baz=30,slow=8.1,SNR=4.8						
VRAC				LR	LR	02 37 31.1	
	comp=Z,25nm,18.4s,baz=139,slow=38						
CLL	Collm	84.47	331	eP	P	01 55 59.0	-0.2
CLL				e		01 56 11.0	
P25A	Willow Gulch B	84.54	46	⇑P	P	01 56 00.8	+0.8
	baz=84						
W20A	Ramah	84.57	51	⇓P	P	01 56 01.0	+0.6
	baz=84						
MMAI	Mount Meron Ar	84.69	306	P	P	01 56 01.6	+0.8
MMAI	Mount Meron Ar	84.69	306	P	P	01 56 01.6	+0.8
	comp=Z,2.9nm,0.9s,baz=35,slow=3.1,SNR=6.0						
R24A	Sanders Place,	84.78	47	⇓P	P	01 56 02.1	+0.8
	baz=85						
PRU	Pruhonice	84.83	329	eP	P	01 56 00.2	-0.9
PRU				e		01 56 12.6	
PRU	Pruhonice	84.83	329	eP	P	01 56 00.2	-0.9
PRU				ex	x	01 56 12.6	
SDCO	Great Sand Dun	84.85	48	eP	P	01 56 02.5	+0.7
	comp=Z,4.2nm,1.0s						
Q25A	Bedland, Calha	84.87	46	⇑P	P	01 56 02.6	+0.9
	baz=85						
X20A	Quemado	84.93	52	⇑P	P	01 56 02.9	+0.7
	baz=85						
S24A	Houchin Ranch,	85.09	48	⇑P	P	01 56 04.4	+1.4
	baz=85						
V22A	San Miguel Ran	85.11	50	⇑P	P	01 56 04.0	+1.0
	baz=85						
U23A	El Rito	85.31	49	⇑P	P	01 56 05.4	+1.4
	baz=85,SNR=6.6						
R25A	Fountain Ranch	85.34	47	⇓P	P	01 56 05.0	+1.0
	baz=85						
T24B	San Luis	85.35	48	⇑P	P	01 56 05.6	+1.3
	baz=85						
Y20A	Horse Springs,	85.39	52	⇑P	P	01 56 05.8	+1.3
	baz=85,SNR=5.0						
X21A	Alamocita Cree	85.45	51	⇑P	P	01 56 05.9	+1.1
	baz=85						
Z20A	Nine Sixteen R	85.74	53	⇑P	P	01 56 07.1	+0.9
	baz=86,SNR=5.0						
R26A	Arlington	85.74	46	⇑P	P	01 56 06.8	+0.7
	baz=86						
U24A	Moreno Valley	85.83	49	⇑P	P	01 56 07.8	+1.1
	baz=86						
T25A	Trinidad	85.90	48	⇑P	P	01 56 07.9	+1.0
	baz=86						
120A	U Bar Ranch, L	86.06	53	⇑P	P	01 56 08.4	+0.7
	baz=86						
GERES	GERESS Array B	86.06	329	P	P	01 56 06.7	-0.7
GERES	GERESS Array B	86.06	329	P	P	01 56 06.7	-0.7
	comp=Z,0.3nm,0.6s,baz=35,slow=4.9,SNR=4.5						
Z21A	St. Cloud Mine	86.23	52	⇓P	P	01 56 09.5	+0.9
	baz=86						
Y22A	Socorro	86.30	51	⇓P	P	01 56 09.3	+0.4
	baz=86						
319A	Douglas	86.33	55	⇑P	P	01 56 09.8	+0.7
	baz=86						
U25A	Circle Dot Ran	86.38	48	⇓P	P	01 56 10.7	+1.4
	baz=86						
T26A	Comanche Natio	86.38	47	⇑P	P	01 56 09.9	+0.6
	baz=86						
W24A	Lazy 6 Ranch,	86.50	50	⇑P	P	01 56 10.9	+1.0
	baz=86						
121A	Cookes Peak, D	86.63	53	⇓P	P	01 56 11.9	+1.3
	baz=86						
Z22A	Elephant Butte	86.72	52	⇓P	P	01 56 11.9	+0.9
	baz=87						
U26A	Atchley Ranch,	86.79	48	⇓P	P	01 56 12.4	+1.1
	baz=87						
P30A	Selden	86.81	44	⇑P	P	01 56 11.7	+0.5
	baz=87						
Z26A	Caprock	88.65	50	⇑P	P	01 56 20.0	-0.2
	baz=88						
Z27A	Tatum	89.11	50	⇑P	P	01 56 22.6	+0.3
	baz=89						
226B	Tecolote Peak,	89.29	51	⇑P	P	01 56 22.8	-0.4
	baz=89						
425A	Indio Mountain	89.58	53	⇑P	P	01 56 24.8	+0.1
	baz=89						
427A	Hayter Ranch,	90.58	52	⇓P	P	01 56 29.4	+0.2
	baz=90						
329A	Wagon Wheel Ra	91.09	50	⇑P	P	01 56 32.2	+0.7
	baz=91						
428A	Kincaid Ranch,	91.13	51	⇓P	P	01 56 32.6	+0.8
	baz=91						
TX31	Lajitas Ar. Si	91.38	53	eP	P	01 56 33.5	+0.5
TXAR	Lajitas Array	91.39	53	P	P	01 56 33.5	+0.5
TXAR	Lajitas Array	91.39	53	P	P	01 56 33.5	+0.5
	comp=Z,0.9nm,0.7s,baz=299,slow=3.4,SNR=15						
528A	Cox Ranch, San	91.43	52	⇓P	P	01 56 34.1	+0.9
	baz=91						
Z32A	Haskell	91.46	48	⇓P	P	01 56 33.7	+0.5
	baz=91						
627A	Terlingua Ranc	91.49	53	⇓P	P	01 56 34.2	+0.6
	baz=91						
330A	Mertzon	91.66	50	⇓P	P	01 56 34.6	+0.4
	baz=92						
529A	Stev Forest Ra	91.83	52	⇑P	P	01 56 35.7	+0.7
	baz=92						
232A	Coleman	92.31	49	⇓P	P	01 56 37.4	+0.2
	baz=92						
530A	J-C Ranch, Com	92.39	51	⇑P	P	01 56 38.1	+0.6
	baz=92						
531A	Rocksprings	92.89	51	⇓P	P	01 56 40.9	+1.1
	baz=93						
532A	Rocksprings	93.33	50	⇑P	P	01 56 42.3	+0.4
	baz=93						
WHTX	Lake Whitney	93.60	48	⇓P	P	01 56 43.8	+0.7
	baz=93						
SAML	Samuel	145.81	50	ePKPdf	PKPab	02 03 06.1	-0.7
LPAZ	La Paz	147.39	66	ePKPdf	PKPbc	02 03 10.4	-1.2
LPAZ				PKPbc	PKPbc	02 03 11.2	-0.4
LPAZ				ePKPbc	PKiKP	02 03 12.3	-1.5
LPAZ	La Paz	147.39	66	PKPbc	PKPbc	02 03 11.2	-0.4
	comp=Z,5.1nm,0.8s,baz=351,slow=4.7,SNR=18						
MTVR	Mutnovka	0.74	19	P	Pn	01 50 49.2	+0.1
MTVR				i S	Sn	01 51 04.2	-0.3
GRL	Gorelyy	0.79	13	P	Pn	01 50 49.5	0.0
GRL				i S	Sn	01 51 05.2	+0.1
RUS	Russkaya	0.79	34	P	Pn	01 50 49.4	+0.1
RUS				i S	Sn	01 51 04.2	-0.6
MIPR	Malaya Ipel'ka	0.80	309	P	Pn	01 50 48.8	-0.6
MIPR				i S	Sn	01 51 02.8	-2.2
APC	Apacha	1.21	342	eP	Pn	01 50 52.8	-0.5
APC				eS	Sn	01 51 10.1	-1.7
PETK	Petropavlovsk-	1.33	358	PN	Pn	01 50 54.4	-0.2
PETK				S	Sn	01 51 12.9	-1.3
PETK				pmax	pmax		
	comp=Z,35nm,0.3s						
PETK				smax	smax		
	comp=N,5.0nm,0.3s						
PETK	Petropavlovsk-	1.33	358	P	Pn	01 50 54.4	-0.2
	comp=N,34nm,0.3s,baz=161,slow=12,SNR=199						
PETK				S	Sn	01 51 12.9	-1.3
	comp=N,5.4nm,0.3s,baz=249,slow=31,SNR=12						
PET	Petropavlovsk	1.35	23	ePN	Pn	01 50 54.9	+0.1
PET				eS	Sn	01 51 14.1	-0.5
PET				smax	smax		
	comp=N,132nm,0.5s						
PET				smax	smax		
	comp=E,122nm,0.7s						
PET	Petropavlovsk	1.35	23	P	Pn	01 50 54.8	0.0
PET				i S	Sn	01 51 14.3	-0.3
SKR	Severo-Kuril's	1.52	224	ePN	Pn	01 50 52.5	-4.2
SKR				eS	Sn	01 51 13.5	-4.4
SKR				pmax	pmax		
	comp=Z,150nm,0.5s						
SKR				pmax	pmax		
	comp=E,80nm,0.4s						
SKR				smax	smax		
	comp=N,520nm,0.6s						
SKR				smax	smax		
	comp=E,220nm,0.6s						
SKR	Severo-Kuril's	1.52	224	P	Pn	01 50 58.0	+1.3
SKR				i S	Sn	01 51 19.1	+1.2
UGLR	Uglovaya	1.57	24	P	Pn	01 50 58.4	+1.0
UGLR				i S	Sn	01 51 20.7	+1.6
AVH	Avacha	1.60	21	P	Pn	01 50 59.0	+1.3
AVH				i S	Sn	01 51 21.1	+1.4
KOK	Koryaka	1.60	19	P	Pn	01 50 59.1	+1.3
KOK				i S	Sn	01 51 21.5	+1.7
SMAR	Somma	1.61	22	P	Pn	01 50 59.1	+1.1
SMAR				i S	Sn	01 51 21.1	+0.9
KRER	Koryakskii	1.64	21	P	Pn	01 50 58.7	+0.4
KRER				i S	Sn	01 51 21.2	+0.5
SDLR	Sedlovina	1.64	24	P	Pn	01 50 58.9	+0.6
SDLR				i S	Sn	01 51 21.1	+0.3
KRX	Arik	1.67	18	P	Pn	01 50 59.4	+0.8
KRX				i S	Sn	01 51 22.7	+1.4
NLC	Nalytchevo	1.69	34	P	Pn	01 50 58.4	-0.3
NLC				i S	Sn	01 51 19.5	-2.0
SPN	Mys Shipunski	1.90	45	P	Pn	01 51 02.1	+0.8
SPN				i S	Sn	01 51 25.6	-0.5
MKZ	Mys Kozlova	3.66	39	P	Pn	01 51 23.5	-0.3
MKZ				i S	Sn	01 52 04.8	-1.6
TUMR	Tumrok	3.78	21	P	Pn	01 51 27.8	+2.2
BZMR	Bezymyannaya	4.46	20	P	Pn	01 51 36.2	+1.5
BZWR	Bezymyannyi-We	4.49	20	P	Pn	01 51 36.9	+1.8
BZGR	Bezymyannyi-Gr	4.51	21	P	Pn	01 51 37.8	+2.5
KBTR	Krutoberegovo	5.34	32	P	Pn	01 51 46.7	+0.4
KBTR				i S	Sn	01 52 45.8	-0.8
BKI	Bering	5.97	52	P	Pn	01 51 55.0	+0.2
BKI				i S	Sn	01 52 57.3	-4.5
FX1	Attu Island--F	9.49	77	P	Pn	01 52 45.0	+2.8
	comp=E,1.2nm,0.3s,baz=138,slow=14,SNR=17						
FX1				S	Sn	01 54 24.1	-2.8
	comp=E,7.2nm,0.3s,baz=148,slow=20,SNR=14						
MKAR	Makanchi Array	47.44	295	P	P	01 58 48.7	-2.0
MKAR	Makanchi Array	47.44	295	P	P	01 58 48.7	-2.0
	comp=E,0.2nm,0.4s,baz=49,slow=6.7,SNR=3.8						
TXAR	Lajitas Array	72.47	65	P	P	02 01 44.8	+2.9
	comp=E,0.2nm,0.4s,baz=301,slow=4.1,SNR=7.0						
ESDC	Sonseca Array	87.54	346	P	P	02 03 02.3	-0.3
	comp=E,0.4nm,0.5s,baz=2.4,slow=4.9,SNR=4.2						

*MOS **03** 01:50:26.6±1.1,51°.73N×157°.24E,h119km,mb4.1/1,Error ellipse: s-maj=53.3km s-min=24.4km az=66.7*

*KRSC **03** 01:50:28.6±0.1,51°.67N×158°.15E,h104km±84km,ML3.8*

*ISCJB **03** 01:50:29.2±0.6,51°.84N±0°.06×157°.7E±0°.1,h124km±4km, mb3.4/3,Error ellipse: s-maj=12.6km s-min=5.7km az=40.5*

*IDC **03** 01:50:29.3±4.1,51°.87N×157°.26E,h120km±27km,mb3.2/3, mb1 3.5/4,mb1mx3.1/27,mbtmp3.3/4,Error ellipse: s-maj=59.2km s-min=22.6km az=11.0*

ISC 03 01:50:28.9±0.9,51°.78N±0°.06×157°.78E±0°.06,h124km±6km, n34,σ1§54/59,mb3.2/3,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAK	Asacha	0.61	7	eP	Pn	01 50 48.1	+0.1
ASAK				i S	Sn	01 51 02.7	+0.2
PAU	Pauzhetka	0.68	243	P	Pn	01 50 48.9	+0.5
PAU				i S	Sn	01 51 03.8	+0.6

*NEIC **03** 02:20:09.2,19°.67N×67°.85W,h114km,MD3.5(RSPR), After RSPR.*

RSPR 03 02:20:09.2,19°.67N×67°.85W,h114km±5km,MD3.5/4, 6C-5D,Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	Aguadilla, PR	1.39	150	ePn	Pn	02 20 31.0	-3.9
AGPR				eS	Sn	02 20 49.5	-4.8
LSP	Las Mesas	1.65	154	ePn	Pn	02 20 35.2	-2.9
LSP				eS	Sn	02 20 58.0	-2.1
LRS	Lares	1.67	145	ePn	Pn	02 20 35.3	-3.0
LRS				eS	Sn	02 20 56.1	-4.4
AOPR	Arecibo Observ	1.68	142	⇑eP	Pn	02 20 37.6	-0.8
AOPR	Arecibo Observ	1.68	142	⇑eP	Pn	02 20 37.6	-0.8
DR12	Loma Pena Alta	1.69	239	⇑eP	Pn	02 20 38.3	-0.4
DR12				eS	Sn	02 21 00.9	-0.2
DR12	Loma Pena Alta	1.69	239	⇑eP	Pn	02 20 38.3	-0.4
DR12				eS	Sn	02 21 00.9	-0.2
CRPR	Cabo Rojo, PR	1.80	157	⇓eP	Pn	02 20 39.5	-0.3
CRPR	Cabo Rojo, PR	1.80	157	⇓eP	Pn	02 20 39.5	-0.3
CRPR				eS	Sn	02 21 03.2	0.0
CELP	Cerrillos	1.99	143	⇓eP	Pn	02 20 42.1	-0.2
CELP				eS	Sn	02 21 07.6	+0.1
CELP	Cerrillos	1.99	143	ePn	Pn	02 20 40.9	-1.4
CELP				eS	Sn	02 21 08.7	+1.2
OBIP	Obispado Ponce	2.00	144	ePn	Pn	02 20 41.6	-0.8
OBIP				eS	Sn	02 21 05.8	-1.9
SJG	San Juan	2.23	134	⇑eP	Pn	02 20 45.0	-0.3
SJG	San Juan	2.23	134	⇑eP	Pn	02 20 45.1	-0.3
SJG	San Juan	2.23	134	ePn	Pn	02 20 45.2	-0.1
SJG				eS	Sn	02 21 11.1	-1.9
CBYP	Canovanas	2.34	126	ePn	Pn	02 20 45.5	-1.3
CBYP				eS	Sn	02 21 13.1	-2.5
MTP	Monte Pirata	2.68	125	⇓eP	Pn	02 20 51.0	-0.1
MTP	Monte Pirata	2.68	125	⇓eP	Pn	02 20 51.0	-0.1

IDC 03 02:34:31.2±1.8,19°.55S×177°.75W,h494km±23km, mb3.2/6,mb1 3.5/8,mb1mx3.3/21,mbtmp3.3/8,Error ellipse: s-maj=30.3km s-min=13.3km az=142.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	8.02	46	P	P	02 36 29.4	+1.6
	3.8nm,0.3s,baz=162,slow=9.6,SNR=2.7						
AFI				S	S	02 38 01.7	-1.7
	1.3nm,0.3s,baz=207,slow=22,SNR=1.1						
URZ	Urewera	19.17	192	P	P	02 38 21.8	-0.6
	2.0nm,0.3s

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**3.53**	**57**	Pn	**Pn**	**02 40 59.7**	**+1.9**
GTA				Pg	**Pb**	**02 41 06.8**	**+1.3**
GTA				Sn	**Sn**	**02 41 42.1**	**+2.6**
GTA				Sg	**Sg**	**02 41 53.1**	**-3.3**
GTA				smax	smax		
	comp=N,49nm,0.6s						
GTA				smax	smax		
	comp=E,29nm,0.9s						
GTA				LR	LR		
	comp=N,480nm,9.0s						
GTA				LR	LR		
	comp=E,310nm,5.7s						
GTA				LR	LR		
	comp=Z,290nm,8.1s						
LZH	**Lanzhou**	**6.49**	**101**	*e*Pg	Pb	02 42 00.8	+5.0
LZH				Sg	**Sg**	**02 43 27.1**	**-4.1**
LZH				smax	smax		
	comp=N,51nm,1.1s						
LZH				smax	smax		
	comp=E,83nm,1.1s						
LZH				LR	LR		
	comp=N,220nm,6.5s						
LZH				LR	LR		
	comp=E,180nm,5.2s						
LZH				LR	LR		
	comp=Z,280nm,7.0s						
WMQ	**Urumqi**	**8.86**	**317**	P	**Pn**	**02 42 10.6**	**-0.2**
SONM	**Songino Array**	**12.79**	**33**	Pn	**Pn**	**02 43 05.0**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=220,slow=14,SNR=4.8						
SONM				LR	LR	02 48 19.2	
	comp=Z,35nm,20.4s,baz=255,slow=39						
MKAR	**Makanchi Array**	**13.69**	**317**	Pn	**Pn**	**02 43 14.4**	**-2.4**
	comp=Z,0.4nm,0.3s,baz=124,slow=14,SNR=11						
MKAR				Sn	**Sn**	**02 45 47.1**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=119,slow=25,SNR=6.2						
AAK	**Ala-Archa**	**17.18**	**294**	P	**Pn**	**02 44 02.7**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=200,slow=10,SNR=5.1						
KURBB	**Kurchatov Arra**	**18.03**	**322**	P	**Pn**	**02 44 11.9**	**-1.3**
	baz=135,slow=11,SNR=6.9						
ZALV	**Zalesovo Beam**	**18.10**	**338**	P	**Pn**	**02 44 13.2**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=168,slow=7.4,SNR=3.7						
CMAR	**Chiang Mai Arr**	**19.22**	**171**	P	**Pn**	**02 44 27.7**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=342,slow=9.0,SNR=4.7						
BVAR	**Borovoye Array**	**23.54**	**319**	P	**P**	**02 45 13.4**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=103,slow=12,SNR=2.9						
KSRS	**Korea Array**	**25.29**	**80**	P	**P**	**02 45 29.1**	**-0.1**
	comp=Z,2.8nm,0.6s,baz=275,slow=9.4,SNR=11						
AKTO	**Aktyubinsk**	**29.84**	**308**	P	**P**	**02 46 10.1**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=141,slow=11,SNR=4.9						
PETK	**Petropavlovsk-**	**44.66**	**49**	P	**P**	**02 48 15.4**	**+0.1**
	comp=Z,0.8nm,0.8s,baz=274,slow=11,SNR=3.7						
BRTR	**Keskin Array B**	**47.85**	**293**	P	**P**	**02 48 40.1**	**-0.7**
	comp=Z,0.8nm,0.7s,baz=105,slow=7.8,SNR=6.3						
NOA	**NORSAR Array B**	**55.55**	**324**	P	**P**	**02 49 37.3**	**-0.5**
	comp=Z,0.8nm,0.8s,baz=75,slow=6.9,SNR=2.5						
ILAR	**Eielson Array**	**66.85**	**25**	P	**P**	**02 50 53.6**	**-0.7**
	comp=Z,0.4nm,0.8s,baz=298,slow=6.3,SNR=4.2						
WRA	**Warramunga Arr**	**67.65**	**141**	P	**P**	**02 50 59.2**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=297,slow=8.4,SNR=10						
ASAR	**Alice Springs**	**70.59**	**143**	P	**P**	**02 51 18.9**	**+0.8**
	comp=Z,0.3nm,0.4s,baz=334,slow=6.2,SNR=3.6						
ESDC	**Sonseca Array**	**73.72**	**308**	P	**P**	**02 51 39.0**	**+2.1**
	comp=Z,0.4nm,0.5s,baz=50,slow=5.5,SNR=4.4						
TORD	**Torodi Ar. Bea**	**85.44**	**283**	P	**P**	**02 52 41.7**	**+0.8**
	comp=Z,0.4nm,1.0s,baz=38,slow=4.6,SNR=4.3						

DJA 03 03:21:50.9±1.0, 10°S±8°×10°9E±°, h25^km, M4.8/6, MLv4.8/6, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOGI	**Yogyakarta**	**2.43**	**36**	P	Pn	03 22 31.4	+2.3
CISI	**Cisompet, Garu**	**2.47**	**335**	P	Pn	03 22 31.3	+1.6
UGM	**Wanagama**	**2.50**	**41**	P	Pn	03 22 30.0	0.0
BJII	**Banjamegara**	**2.60**	**19**	P	Pb	03 22 37.9	+1.0
BJII				S	Sn	03 23 03.2	+0.9
LEM	**Lembang**	**3.21**	**337**	P	Pn	03 22 41.6	+1.6
SJI	**Sawahan**	**3.53**	**54**	P	Pn	03 22 41.7	-2.6
SKJI	**Sukabumi**	**3.61**	**320**	P	Pn	03 22 38.8	-6.4
KRKI	**Karangkates**	**3.90**	**65**	P	Pn	03 22 50.1	+0.8

*ISCJB **03** 03:26:00.7±0.3, 43°.54N±0°.03×106°.27E±0°.04, h10^km, mb4.2/25, MS3.5/13, Error ellipse: s-maj=5.3km s-min=4.4km az=31.3*
*BJI **03** 03:26:01.9, 43°.50N×106°.29E, h7^km, mB4.4/8, mb4.1/10, ML4.9/6, Ms4.4/15, Ms7 4.2/9*
*IDC **03** 03:26:01.0±0.6, 43°.54N×106°.27E, h0^km, mb3.9/15, mb1 4.0/19, mb1mx3.9/32, mbtmp3.9/19, ML3.4/4, MS3.4/14, Ms1 3.5/14, ms1mx3.3/34, Error ellipse: s-maj=17.5km s-min=11.7km az=27.0*
*NEIC **03** 03:26:02.6±0.4, 43°.54N×106°.31E, h10^km, mb4.4/3, Error ellipse: s-maj=10.1km s-min=6.4km az=197.0*
*MOS **03** 03:26:03.4±1.1, 43°.59N×106°.40E, h31^km, mb4.3/20, Error ellipse: s-maj=10.1km s-min=6.9km az=118.2*
ISC 03 03:26:03.3±0.4, 43°.52N±0°.04×106°.24E±0°.04, h10^km, n97, σ1$94/90, mb4.2/25, MS3.5/13, Mongolia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTO	**Baotou**	**4.05**	**135**	*e*Pn	**Pn**	**03 27 06.0**	**+0.6**
BTO				Pg	Pb	03 27 18.1	+3.4
BTO				Sn	**Sn**	**03 27 54.1**	**+1.2**
BTO				Sg	**Sb**	**03 28 07.7**	**+4.0**
BTO				smax	smax		
	comp=N,190nm,0.7s						
BTO				smax	smax		
	comp=E,310nm,0.8s						
ULN	**Ulaanbaatar**	**4.39**	**7**	*e*Pn	**Pn**	**03 27 09.3**	**-0.8**
ULN				*e*Pg	**Pb**	**03 27 23.1**	**+2.5**
ULN				*e*S	**Sb**	**03 28 17.4**	**+3.9**
GTA	**Gaotai**	**6.33**	**232**	Pg	**Pn**	**03 27 37.1**	**+0.3**
GTA				Sg	Pg	03 28 01.1	-3.4
GTA				smax	smax		
	comp=N,100nm,1.0s						
GTA				smax	smax		
	comp=E,110nm,0.8s						
GTA	**Gaotai**	**6.33**	**232**	Pn	Pn	03 27 40.8	+4.0
GTA				Sn	**Sn**	**03 28 49.2**	**0.0**
GTA				smax	smax		
	comp=N,280nm,1.2s						
GTA				smax	smax		
	comp=E,300nm,1.4s						
GTA				LR	LR		
	comp=N,1μm,7.8s						
GTA				LR	LR		
	comp=E,2μm,6.7s						
GTA				LR	LR		
	comp=Z,2μm,9.7s						
ZAK	**Zakamensk**	**7.16**	**345**	*e*P	**Pn**	**03 27 47.8**	**-0.3**
ZAK				*e*		03 29 09.6	
ZAK				pmax	pmax		
	comp=Z,58nm,1.0s						
ZAK				smax	smax		
	comp=E,944nm,1.3s						
LZH	**Lanzhou**	**7.64**	**195**	Pn	**Pn**	**03 27 56.0**	**+1.1**
LZH				Sn	**Sn**	**03 29 19.0**	**-2.6**
LZH				Sg	Sb	03 30 00.1	+13
LZH				smax	smax		
	comp=N,560nm,1.2s						
LZH				smax	smax		
	comp=E,630nm,1.2s						
LZH				LR	LR		
	comp=N,2μm,6.0s						
LZH				LR	LR		
	comp=E,2μm,7.1s						
LZH				LR	LR		
	comp=Z,2μm,8.0s						
BJI	**Beijing**	**8.20**	**112**	P	Pb	03 28 29.6	+4.3
BJI				pmax	pmax		
	comp=Z,24nm,0.5s						
BJI				pmax	pmax		
	comp=Z,150nm,3.3s						
BJI				LR	LR		
	comp=N,1μm,7.2s						
BJI				LR	LR		
	comp=E,770nm,6.3s						
BJI				LR	LR		
	comp=Z,140nm,14.1s						
BJT	**Baijiatuau**	**8.20**	**112**	Pn	Pn	03 27 59.5	-2.8
BJT				*e*Pg	Pb	03 28 31.4	+6.0
BJT				*e*S	**Sg**	**03 30 22.3**	**-4.1**
TLY	**Talaya**	**8.36**	**349**	*e*P	**Pn**	**03 28 04.3**	**-0.1**
TLY				pmax	pmax		
	comp=Z,7.0nm,0.3s						
XAN	**Xi'an**	**9.69**	**167**	P	**Pn**	**03 28 21.3**	**-1.5**
HIA	**Hailar**	**10.95**	**54**	*e*Pn	Pn	03 28 37.0	-3.0
	comp=Z,12nm,0.6s						
HIA				*e*S	**Sn**	**03 30 42.1**	**-0.4**
HVS	**Khovu-Aksy**	**11.41**	**316**	*e*P	**Pn**	**03 28 46.6**	**+0.3**
MDJ	**Mudanjiang**	**16.81**	**78**	P	**P**	**03 30 00.5**	**-0.4**
MDJ				pmax	pmax		
	comp=Z,41nm,4.9s						
MK31	**Makanchi Array**	**17.19**	**289**	*e*P	**Pn**	**03 30 04.3**	**+0.8**
MK31	**Makanchi Array**	**17.19**	**289**	*e*Pn	**Pn**	**03 30 04.2**	**+0.8**
MKAR	**Makanchi Array**	**17.19**	**289**	P	**Pn**	**03 30 01.1**	**-2.4**
MKAR	**Makanchi Array**	**17.19**	**289**	P	**Pn**	**03 30 01.1**	**-2.4**
MKAR	**Makanchi Array**	**17.19**	**289**	P	**Pn**	**03 30 01.1**	**-2.4**
	comp=Z,0.4nm,0.3s,baz=92,slow=14,SNR=19						
MKAR				Lg	Lg	03 35 10.6	
	comp=Z,0.0nm,0.3s,baz=100,slow=31,SNR=3.6						
ZALV	**Zalesovo Beam**	**17.50**	**314**	P	**Pn**	**03 30 07.3**	**+0.1**
ZALV				MLR	MLR		
	comp=Z,70nm,18.4s						
ZALV	**Zalesovo Beam**	**17.50**	**314**	P	**Pn**	**03 30 07.3**	**+0.1**
ZALV	**Zalesovo Beam**	**17.50**	**314**	P	**Pn**	**03 30 07.3**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=113,slow=14,SNR=2.2						
ZALV				Lg	Lg	03 35 05.7	
	comp=Z,0.2nm,0.3s,baz=135,slow=17,SNR=4.5						
ZALV				LR	LR	03 36 50.3	
	comp=Z,70nm,18.4s,baz=71,slow=37						
KSAR	**Wonju Array Be**	**17.53**	**103**	P	**Pn**	**03 30 07.0**	**-0.7**
KSRS	**Korea Array**	**17.55**	**103**	P	**Pn**	**03 30 07.0**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=290,slow=12,SNR=9.4						
KSRS				Lg	Lg	03 35 18.9	
	comp=Z,0.1nm,0.3s,baz=294,slow=27,SNR=4.0						
KSRS				LR	LR	03 37 27.2	
	comp=Z,36nm,19.0s,baz=335,slow=39						
KLR	**Kul'dur**	**18.46**	**63**	*e*P	Pn	03 30 25.7	+6.6
USRK	**Ussuriysk Arra**	**18.56**	**79**	P	**P**	**03 30 19.7**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=249,slow=12,SNR=2.4						
USRK				Lg	Lg	03 35 49.9	
	comp=Z,0.3nm,0.3s,baz=320,slow=27,SNR=3.3						
USRK				LR	LR	03 38 03.2	
	comp=Z,181nm,18.9s,baz=88,slow=39						
NVS	**Novosibirsk**	**18.73**	**315**	*e*P	**P**	**03 30 23.2**	**+1.3**
KURK	**Kurchatov**	**20.05**	**301**	P	**P**	**03 30 36.0**	**-0.4**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KURK	**Kurchatov**	**20.05**	**301**	P	**P**	**03 30 36.0**	**-0.4**
KURBB	**Kurchatov Arra**	**20.09**	**300**	P	**P**	**03 30 36.0**	**-0.8**
	comp=Z,5.6nm,0.7s,baz=103,slow=11,SNR=46						
KURBB				Lg	Lg	03 36 36.9	
	comp=Z,2.6nm,1.2s,baz=101,slow=28,SNR=7.0						
SHL	**Shillong**	**21.40**	**218**	*ex*	**P**	**03 30 55.0**	**+3.6**
JNU	**Nakatsue**	**21.87**	**110**	LR	LR	03 40 17.7	
	comp=Z,48nm,18.3s,baz=165,slow=39						
TAPN	**Taplejung**	**22.01**	**229**	*e*P	**P**	**03 31 02.4**	**+4.3**
	comp=Z,197nm,1.0s						
TKM2	**Tokmak 2**	**22.28**	**279**	*e*P	**P**	**03 31 00.2**	**-0.6**
TKM2				pmax	pmax		
	comp=Z,7.0nm,1.0s						
TKM2	**Tokmak 2**	**22.28**	**279**	*e*P	**P**	**03 31 00.2**	**-0.6**
	comp=Z,7.3nm,1.0s						
ODAN	**Odare**	**22.57**	**229**	*e*P	**P**	**03 31 08.2**	**+4.2**
	comp=Z,97nm,1.1s						
GUN	**Gumba**	**22.62**	**233**	*e*P	**P**	**03 31 09.1**	**+4.5**
JIRN	**Jiri**	**22.63**	**232**	*e*P	**P**	**03 31 08.9**	**+4.1**
	comp=Z,42nm,0.9s						
RAMN	**Ramite**	**22.94**	**230**	*e*P	**P**	**03 31 12.4**	**+4.5**
	comp=Z,59nm,0.9s						
KKN	**Kakani**	**23.06**	**234**	*e*P	**P**	**03 31 13.6**	**+4.5**
	comp=Z,49nm,0.9s						
YAK	**Yakutsk**	**23.11**	**29**	*e*P	**P**	**03 31 08.0**	**-1.1**
YAK				pmax	pmax		
	comp=Z,7.0nm,0.4s						
AAK	**Ala-Archa**	**23.14**	**279**	*e*P	**P**	**03 31 07.7**	**-2.0**
AAK				pmax	pmax		
	comp=Z,9.0nm,1.2s						
AAK	**Ala-Archa**	**23.14**	**279**	P	**P**	**03 31 08.7**	**-1.0**
AAK	**Ala-Archa**	**23.14**	**279**	P	**P**	**03 31 08.7**	**-1.0**
	comp=Z,1.1nm,0.4s,baz=96,slow=10.0,SNR=3.5						
AAK				LR	LR	03 39 40.0	
	comp=Z,164nm,19.1s,baz=61,slow=35						
PKI	**Pulchoki**	**23.15**	**233**	*e*P	**P**	**03 31 13.6**	**+3.5**
	comp=Z,25nm,0.8s						
DMN	**Daman**	**23.30**	**234**	*e*P	P	03 31 16.4	+4.8
	comp=Z,54nm,1.1s						
DANN	**Dangsing**	**23.57**	**237**	*e*P	**P**	**03 31 18.4**	**+4.1**
	comp=Z,59nm,0.9s						
KOLN	**Koldanda**	**24.08**	**237**	*e*P	P	03 31 23.9	+4.8
	comp=Z,25nm,0.7s						
PYUN	**Piuthan**	**24.22**	**238**	*e*P	P	03 31 25.2	+4.8
QIZ	**Qiongzhong**	**24.60**	**172**	P	**P**	**03 31 20.8**	**-2.9**
QIZ				S	**S**	**03 35 41.1**	**-3.6**
QIZ				LR	LR		
	comp=N,300nm,12.2s						
QIZ				LR	LR		
	comp=E,350nm,14.0s						
QIZ				LR	LR		
	comp=Z,520nm,9.6s						
MJAR	**Matsushiro Arr**	**25.34**	**95**	P	**P**	**03 31 31.7**	**+1.3**
MJAR	**Matsushiro Arr**	**25.34**	**95**	P	**P**	**03 31 31.7**	**+1.3**
	comp=Z,0.5nm,0.5s,baz=279,slow=11,SNR=2.7						
BVAR	**Borovoye Array**	**25.45**	**305**	P	**P**	**03 31 30.9**	**-0.2**
BVAR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
BVAR	**Borovoye Array**	**25.45**	**305**	P	**P**	**03 31 30.9**	**-0.2**
BVAR	**Borovoye Array**	**25.45**	**305**	P	**P**	**03 31 30.9**	**-0.2**
	comp=Z,5.2nm,0.6s,baz=100,slow=11,SNR=28						
BRVK	**Borovoye**	**25.51**	**305**	*e*P	**P**	**03 31 31.5**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,12nm,1.0s						
BRVK	**Borovoye**	**25.51**	**305**	*e*P	**P**	**03 31 31.5**	**-0.2**
	comp=Z,12nm,1.0s						
CMAR	**Chiang Mai Arr**	**25.73**	**196**	P	**P**	**03 31 34.8**	**+0.9**
CMAR	**Chiang Mai Arr**	**25.73**	**196**	P	**P**	**03 31 34.8**	**+0.9**
	comp=Z,1.5nm,0.9s,baz=359,slow=9.4,SNR=8.8						
YSS	**Yuzh-Sakhalins**	**25.79**	**70**	*e*P	**P**	**03 31 31.9**	**-2.4**
YSS				pmax	pmax		
	comp=Z,11nm,1.3s						
ASAJ	**Asahikawa**	**26.11**	**76**	LR	LR	03 42 35.7	
	comp=Z,107nm,18.4s,baz=173,slow=38						
ARU	**Arti**	**32.58**	**310**	P	**P**	**03 32 34.0**	**-0.5**
AKTO	**Aktyubinsk**	**33.13**	**299**	P	**P**	**03 32 38.4**	**-1.0**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKTO				MLR	MLR		
	comp=Z,52nm,21.1s						
AKTO	**Aktyubinsk**	**33.13**	**299**	P	**P**	**03 32 38.4**	**-1.0**
AKTO	**Aktyubinsk**	**33.13**	**299**	P	**P**	**03 32 38.4**	**-1.0**
	comp=Z,0.8nm,0.4s,baz=80,slow=6.1,SNR=3.5						
AKTO				LR	LR	03 45 40.3	
	comp=Z,52nm,21.1s,baz=103,slow=36						
PETK	**Petropavlovsk-**	**34.85**	**56**	P	**P**	**03 32 52.6**	**-1.7**
PETK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
PETK				MLR	MLR		
	comp=Z,31nm,21.8s						
PETK	**Petropavlovsk-**	**34.85**	**56**	P	**P**	**03 32 52.6**	**-1.7**
PETK	**Petropavlovsk-**	**34.85**	**56**	P	**P**	**03 32 52.6**	**-1.7**
	comp=Z,1.5nm,0.5s,baz=228,slow=7.6,SNR=2.5						
PETK				LR	LR	03 46 07.9	
	comp=Z,30nm,21.8s,baz=250,slow=35						
VRHR	**Novokhopersk**	**43.18**	**304**	*e*P	**P**	**03 34 05.5**	**+1.5**
VRHR				pmax	pmax		
	comp=Z,10.0nm,0.3s						
VRHR				pmax	pmax		
	comp=N,20nm,0.9s						
VRHR				pmax	pmax		
	comp=E,10.0nm,0.6s						
VORD	**Divnogorie**	**44.63**	**304**	*e*P	**P**	**03 34 15.1**	**-0.5**
VORD				pmax	pmax		
	comp=Z,7.0nm,0.7s						
VORD				pmax	pmax		
	comp=N,9.0nm,0.8s						
VORD				pmax	pmax		
	comp=E,6.0nm,0.6s						
VSR	**Storozhevoye**	**44.63**	**304**	*e*P	**P**	**03 34 14.9**	**-0.7**
VSR				pmax	pmax		
	comp=Z,10.0nm,0.5s						
VSR				pmax	pmax		
	comp=N,2.0nm,0.3s						
VSR				pmax	pmax		
	comp=E,20nm,1.0s						
KBZ	**Khabaz**	**44.83**	**293**	LR	LR	03 55 44.2	
	comp=E,81nm,19.3s,baz=55,slow=40						
KIV	**Kislovodsk**	**44.88**	**294**	*e*P	**P**	**03 34 16.1**	**-1.8**
KIV				pmax	pmax		
	comp=Z,6.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,40nm,15.0s						
OBN	**Obninsk**	**45.03**	**310**	*e*P	**P**	**03 34 17.6**	**-1.1**
OBN				*e*		03 35 54.3	
OBN				pmax	pmax		
	comp=Z,5.0nm,1.1s						
ARCES	**ARCESS Array B**	**46.88**	**332**	LR	LR	03 54 20.5	
	comp=Z,50nm,18.6s,baz=48,slow=36						
FINES	**FINESS Array B**	**48.59**	**321**	LR	LR	03 55 51.1	
	comp=Z,60nm,21.6s,baz=58,slow=37						
BRTR	**Keskin Array B**	**52.80**	**293**	P	**P**	**03 35 18.7**	**-0.2**
BRTR	**Keskin Array B**	**52.80**	**293**	P	**P**	**03 35 18.7**	**-0.2**
	comp=Z,1.2nm,0.9s,baz=61,slow=7.4,SNR=6.8						
NOA	**NORSAR Array B**	**55.36**	**324**	P	**P**	**03 35 35.7**	**-1.3**
NOA	**NORSAR Array B**	**55.36**	**324**	P	**P**	**03 35 35.7**	**-1.3**
	comp=Z,1.0nm,1.0s,baz=44,slow=6.3,SNR=2.5						
NOA				LR	LR	04 01 06.2	
	comp=Z,45nm,18.6s,baz=85,slow=38						
COLA	**College**	**57.64**	**29**	*e*P	**P**	**03 35 53.7**	**+0.6**
COLA				pmax	pmax		
	comp=Z,23nm,1.0s						
COLA	**College**	**57.64**	**29**	*e*P	**P**	**03 35 53.6**	**+0.6**
	comp=Z,23nm,1.0s						
ILAR	**Eielson Array**	**58.03**	**29**	P	**P**	**03 35 54.8**	**-1.2**
ILAR	**Eielson Array**	**58.03**	**29**	P	**P**	**03 35 54.8**	**-1.2**
	comp=Z,2.3nm,0.7s,baz=290,slow=5.6,SNR=28						
ILAR				LR	LR	04 02 04.8	
	comp=Z,65nm,18.4s,baz=169,slow=37						
INK	**Inuvik**	**59.95**	**22**	*e*P	**P**	**03 36 08.0**	**-1.2**
	comp=Z,3.2nm,0.8s						
GERES	**GERESS Array B**	**60.41**	**311**	P	**P**	**03 36 12.7**	**-0.1**
GERES	**GERESS Array B**	**60.41**	**311**	P	**P**	**03 36 12.6**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=42,slow=13,SNR=3.1						
FITZ	**Fitzroy Crossi**	**63.85**	**159**	P	**P**	**03 36 34.1**	**-1.7**
FITZ	**Fitzroy Crossi**	**63.85**	**159**	P	**P**	**03 36 34.1**	**-1.7**
	comp=Z,1.3nm,0.8s,baz=0.0,slow=20,SNR=2.5						
WRA	**Warramunga Arr**	**68.22**	**151**	P	**P**	**03 37 02.7**	**-1.3**
WRA	**Warramunga Arr**	**68.22**	**151**	P	**P**	**03 37 02.7**	**-1.3**
	comp=Z,0.6nm,0.7s,baz=346,slow=7.4,SNR=3.6						
YKA	**Yellowknife Ar**	**69.38**	**19**	P	**P**	**03 37 09.6**	**-1.2**
YKA	**Yellowknife Ar**	**69.38**	**19**	P	**P**	**03 37 09.6**	**-1.2**
	comp=Z,0.8nm,0.6s,baz=333,slow=6.0,SNR=3.6						
ASAR	**Alice Springs**	**71.52**	**153**	P	**P**	**03 37 23.5**	**-0.9**
ASAR	**Alice Springs**	**71.52**	**153**	P	**P**	**03 37 23.5**	**-0.9**
	comp=Z,1.1nm,0.6s,baz=344,slow=6.7,SNR=12						
PDAR	**Pinedale Array**	**88.30**	**26**	LR	LR	04 21 01.2	
	comp=Z,32nm,18.6s,baz=73,slow=37						
BDFB	**Brasilia**	**144.60**	**314**	PKP	PKPbc	03 45 40.7	+1.4
BDFB	**Brasilia**	**144.60**	**314**	PKP	PKPbc	03 45 40.7	+1.4
	comp=Z,2.6nm,0.9s,baz=345,slow=1.7,SNR=4.3						

*IDC **03** 03:54:16.0±1.2, 57°.65S×25°.41W, h0^km, mb3.8/4, mb1 3.9/4, mb1mx3.8/16, mbtmp3.8/4, Error ellipse: s-maj=41.1km s-min=32.3km az=76.0*
*ISCJB **03** 03:54:20.2±1.0, 57°.7S±0°.2×25°.3W±0°.5, h43^km, mb3.7/4, Error ellipse: s-maj=41.7km s-min=14.3km az=152.3*
ISC 03 03:54:21.7±1.0, 57°.8S±0°.2×25°.3W±0°.3, h43^km, n7, σ1$01/7, mb3.8/4, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA2	**Neumayer--Watz**	**15.22**	**157**	*e*Pn	**Pn**	**03 57 52.9**	**-0.3**
	baz=314,slow=14						
SNAA	**Sanae**	**16.76**	**155**	*e*Pn	**P**	**03 58 13.4**	**-1.3**
CPUP	**Villa Florida**	**38.70**	**310**	P	**P**	**04 01 40.8**	**-0.4**
	0.5nm,0.4s,baz=118,slow=15,SNR=3.5						
VNDA	**Vanda**	**44.91**	**182**	P	**P**	**04 02 32.6**	**+1.4**
	0.5nm,0.7s,baz=145,slow=3.1,SNR=3.7						
LPAZ	**La Paz**	**52.19**	**304**	P	**P**	**04 03 28.4**	**-0.3**
	0.4nm,0.3s,baz=138,slow=14,SNR=6.7						
TORD	**Torodi Ar. Bea**	**74.07**	**27**	P	**P**	**04 05 53.4**	**+0.5**
	1.0nm,0.6s,baz=202,slow=6.8,SNR=22						
ILAR	**Eielson Array**	**152.00**	**309**	PKPbc	**PKPbc**	**04 14 10.4**	**0.0**
	0.5nm,0.5s,baz=138,slow=3.1,SNR=11						

*AUST **03** 04:01:44.3, 25°.11S×179°.50W, h100^km*
*ISCJB **03** 04:02:20.8±0.6, 25°.07S±0°.08×179°.8E±0°.1, h507^km, mb4.0/14, Error ellipse: s-maj=12.4km s-min=10.2km az=12.2*
*IDC **03** 04:02:26.0±2.0, 24°.99S×179°.58E, h551^km±22^km, mb3.6/14, mb1 3.8/15, mb1mx3.7/19, mbtmp3.6/15, Error ellipse: s-maj=14.7km s-min=11.8km az=156.0*
ISC 03 04:02:21.5±0.6, 25°.10S±0°.10×179°.74E±0°.10, h507^km, n45, σ1$25/44, mb3.9/14, 1C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.56**	**281**	P	**P**	**04 05 07.5**	**+1.3**
	1.7nm,0.3s,baz=66,slow=22,SNR=12						
URZ	**Urewera**	**13.31**	**189**	S	**S**	**04 07 33.3**	**-2.3**
	0.5nm,0.3s,baz=40,slow=23,SNR=1.5						
LHI	**Lord Howe Isla**	**19.28**	**246**	S	S	04 09 49.3	+28
	baz=20,SNR=3.3						
ARMA	**Armidale**	**25.40**	**252**	P	**P**	**04 07 10.5**	**+2.2**
	baz=26,SNR=7.8						
EIDS	**Eidsvold**	**25.91**	**263**	P	**P**	**04 07 13.6**	**+0.9**
	baz=27,SNR=7.8						
RMQ	**Roma**	**27.90**	**260**	P	**P**	**04 07 32.1**	**+1.8**
	baz=28,SNR=5.9						
CMSA	**Cobar Meteorol**	**30.57**	**250**	P	**P**	**04 07 54.3**	**+0.9**
	baz=31,SNR=8.9						
CTA	**Charters Tower**	**31.27**	**272**	P	**P**	**04 08 00.3**	**+0.7**
	20nm,0.3s,baz=98,slow=11,SNR=33						
MTSU	**Mount Surprise**	**33.58**	**275**	P	**P**	**04 08 20.2**	**+0.9**
	baz=34,SNR=23						
STKA	**Stephens Creek**	**34.07**	**250**	P	**P**	**04 08 24.2**	**+1.0**
	3.2nm,0.4s,baz=74,slow=10,SNR=12						
STKA	**

1.7nm,0.9s,baz=284,slow=0.5,SNR=5.1
ARCES PKP **PKPdf 04 20 37.5 -0.7**
1.5nm,0.5s,baz=54,slow=2.4,SNR=12
FINES FINESS Array B 139.50 341 PKhKP PKPpre 04 20 41.2
0.9nm,0.4s,baz=36,slow=4.8,SNR=7.4
FINES PKP **PKPdf 04 20 51.4 +1.0**
0.8nm,0.4s,baz=63,slow=0.4,SNR=6.0
NB2 NORSAR Subarra143.22 351 PKP PKPab 04 20 53.9 -1.0
comp=Z,2.1nm,0.5s,baz=16,slow=3.1
NOA NORSAR Array B143.22 351 PKP PKPab 04 20 54.3 -0.6
comp=Z,5.3nm,0.8s,baz=16,slow=5.0,SNR=14
NACGM Naroch 144.18 333 *e* PKPbc 04 20 54.0 -4.4
AKASG Malin Array Be 145.84 326 PKPbc **PKPdf 04 21 02.5 +0.6**
comp=Z,5.0nm,0.5s,baz=42,slow=4.0,SNR=9.8
BRTR Keskin Array B 148.10 306 PKPbc **PKPbc 04 21 09.6 -0.5**
comp=Z,2.2nm,0.7s,baz=134,slow=2.6,SNR=11
BRG Berggiesshubel 152.04 341 *i* PKP **PKPbc 04 21 18.9 0.0**
comp=Z,5.6nm,0.6s
GERES GERESS Array B 153.89 339 PKPbc **PKPbc 04 21 22.6 -0.4**
comp=Z,0.4nm,0.5s,baz=51,slow=4.3,SNR=4.3
GERES PKPab **PKPab 04 21 38.6 -0.2**
comp=Z,0.3nm,0.4s,baz=336,slow=2.9,SNR=3.7
ESDC Sonseca Array 165.14 11 PKPab **PKPab 04 22 27.4 -0.6**
comp=Z,0.4nm,0.5s,baz=318,slow=3.6,SNR=4.1
TORD Torodi Ar. Bea 167.97 189 PKP **PKPdf 04 21 29.4 -0.9**
comp=Z,0.4nm,0.7s,baz=315,slow=1.4,SNR=4.4
TORD PKPab **PKPab 04 22 41.0 +0.1**
comp=Z,1.1nm,0.6s,baz=168,slow=3.9,SNR=10

*IDC **03** 04:13:01.2±1.9, 37.°64N×96.°12E, h0km, mb3.8/3, mb1 3.8/6, mb1mx3.5/30, mbtmp3.8/6, ML3.8/3, Error ellipse: s-maj=55.2km s-min=23.7km az=11.0*
*BJI **03** 04:13:03.9, 37.°64N×95.°82E, h8km, ML3.6/7, Ms3.3/3, Ms7 3.2/3*
ISC 03 04:13:01.5±1.0, 37.°64N±0.°09×96.°10E±0.°05, h12km, n8, σ2°02/13, mb3.8/3, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**3.41**	**58**	Pn	**Pb**	**04 14 01.2**	**-0.7**
GTA				Pg	**Pg**	**04 14 08.0**	**+1.2**
GTA				Sn	**Sb**	**04 14 41.1**	**-2.2**
GTA				Sg	**Sg**	**04 14 51.9**	**+1.0**
GTA				smax	smax		
	comp=N,42nm,0.5s						
GTA				smax	smax		
	comp=E,25nm,0.7s						
GTA				LR	LR		
	comp=N,300nm,9.0s						
GTA				LR	LR		
	comp=E,310nm,6.2s						
GTA				LR	LR		
	comp=Z,200nm,8.1s						
LZH	**Lanzhou**	**6.40**	**102**	*e*Pg	**Pg**	**04 15 01.9**	**-2.1**
LZH				Sg	**Sg**	**04 16 26.9**	**+0.1**
LZH				smax	smax		
	comp=N,34nm,1.1s						
LZH				smax	smax		
	comp=E,35nm,1.1s						
LZH				LR	LR		
	comp=N,120nm,6.0s						
LZH				LR	LR		
	comp=E,130nm,5.2s						
LZH				LR	LR		
	comp=Z,140nm,7.0s						
SONM Songino Array		**12.68**	**33**	Pn	**Pn**	**04 16 02.3**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=209,slow=14,SNR=2.4						
MKAR Makanchi Array		**13.71**	**316**	Pn	**Pn**	**04 16 14.1**	**-1.6**
	comp=Z,0.4nm,0.3s,baz=125,slow=14,SNR=16						
MKAR				Sn	**Sn**	**04 18 43.8**	**-4.0**
	comp=Z,0.1nm,0.3s,baz=112,slow=16,SNR=2.4						
AAK Ala-Archa		**17.25**	**294**	Pn	**P**	**04 17 04.0**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=150,slow=8.1,SNR=2.3						
KSRS Korea Array		**25.17**	**81**	P	**P**	**04 18 28.5**	**+1.9**
	comp=Z,3.2nm,0.6s,baz=273,slow=10.0,SNR=12						
AKTO Aktyubinsk		**29.88**	**308**	P	**P**	**04 19 10.8**	**+2.1**
	comp=Z,0.7nm,0.4s,baz=99,slow=13,SNR=4.2						
TORD Torodi Ar. Bea		**85.53**	**283**	P	**P**	**04 25 41.3**	**+1.4**
	comp=Z,0.2nm,0.6s,baz=59,slow=5.1,SNR=4.2						

*ISCJB **03** 04:24:19.8±0.7, 24.°14S±0.°06×66.°77W±0.°07, h196km±8km, mb3.4/6, Error ellipse: s-maj=10.2km s-min=9.1km az=166.5*
*IDC **03** 04:24:19.2±1.5, 24.°20S×66.°77W, h178km±14km, mb3.3/6, mb1 3.5/10, mb1mx3.4/20, mbtmp3.3/10, Error ellipse: s-maj=17.9km s-min=12.0km az=89.0*
*GUC **03** 04:24:21.5±0.3, 23.°92S×67.°12W, h225km, ML4.6*
ISC 03 04:24:20.2±0.9, 24.°12S±0.°07×66.°74W±0.°08, h187km±9km, n22, σ1°08/28, mb3.5/6, 6C-1D, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB04	**Plate Boundary**	**3.14**	**306**	⇑*i*P	Pn	04 25 17.3	+6.5
PB04				AML	AML	04 26 05.3	
	comp=N,392nm,0.2s						
CEN1	**Los Morros**	**3.26**	**282**	⇓*i*P	**Pn**	**04 25 14.3**	**+1.9**
CEN1				*i*S	**Sn**	**04 25 54.9**	**+1.7**
CEN1				AML	AML	04 25 57.1	
	comp=N,312nm,0.2s						
PB09	**Plate Boundary**	**3.27**	**315**	⇑*i*P	**Pn**	**04 25 14.4**	**+1.7**
PB09				*i*S	**Sn**	**04 25 54.1**	**+0.5**
PB09				AML	AML	04 25 57.5	
	comp=E,910nm,0.6s						
ANCH Antofagasta		**3.39**	**277**	⇑*i*P	**Pn**	**04 25 14.7**	**+0.8**
ANCH				*i*S	**Sn**	**04 25 55.0**	**-0.9**
ANCH				AML	AML	04 25 56.6	
	comp=E,743nm,0.2s						
PB10	**Plate Boundary**	**3.55**	**279**	⇑*i*P	**Pn**	**04 25 16.3**	**+0.4**
PB10				*i*S	**Sn**	**04 25 58.1**	**-1.4**
PB10				AML	AML	04 25 59.6	
	comp=N,2μm,0.3s						
PB07	**Plate Boundary**	**3.76**	**309**	⇑*i*P	**Pn**	**04 25 19.3**	**+0.6**
PB07				*i*S	**Sn**	**04 26 02.6**	**-1.8**
PB07				AML	AML	04 26 08.6	
	comp=E,308nm,0.3s						
PB01	**Plate Boundary**	**3.98**	**320**	⇑*i*P	**Pn**	**04 25 21.9**	**+0.5**
PB01				*i*S	**Sn**	**04 26 07.9**	**-1.5**
CFAA Coronel Fontan		**7.57**	**190**	P	**Pn**	**04 26 07.0**	**-0.8**
	comp=E,0.1nm,0.3s,baz=0.8,slow=10,SNR=21						
CFAA				S	Sn	04 27 26.8	-6.3
	comp=E,0.8nm,0.3s,baz=277,slow=12,SNR=17						
LPAZ La Paz		**7.91**	**350**	P	**Pn**	**04 26 14.7**	**+1.8**
	comp=E,0.5nm,0.3s,baz=157,slow=9.8,SNR=14						
LPAZ				S	**Sn**	**04 27 41.1**	**-1.1**
	comp=E,0.1nm,0.3s,baz=86,slow=20,SNR=1.5						
CPUP Villa Florida		**8.80**	**106**	P	**Pn**	**04 26 24.5**	**+0.7**
	comp=E,0.4nm,0.3s,baz=267,slow=13,SNR=3.9						
SIV San Ignacio		**9.68**	**34**	P	**Pn**	**04 26 35.4**	**-0.2**
	comp=E,0.6nm,0.3s,baz=227,slow=12,SNR=16						
BDFB Brasilia		**19.51**	**68**	P	**P**	**04 28 33.9**	**+0.5**
	comp=E,0.9nm,0.3s,baz=241,slow=7.6,SNR=11						
TXAR Lajitas Array		**63.92**	**324**	P	**P**	**04 34 33.3**	**0.0**
	comp=E,0.4nm,0.6s,baz=154,slow=8.9,SNR=7.1						
QSPA South Pole Qui		**66.08**	**180**	P	**P**	**04 34 47.4**	**+0.5**
	comp=E,0.8nm,0.5s,baz=185,slow=1.5,SNR=9.0						
TORD Torodi Ar. Bea		**76.39**	**69**	P	**P**	**04 35 48.8**	**-0.5**
	comp=E,0.5nm,0.4s,baz=256,slow=5.6,SNR=17						
PDAR Pinedale Array		**77.38**	**329**	P	**P**	**04 35 54.8**	**+0.3**
	comp=E,0.2nm,0.4s,baz=121,slow=8.7,SNR=3.7						
NVAR Mina Array Bea		**78.79**	**321**	P	**P**	**04 36 03.2**	**+0.8**
	comp=E,0.2nm,0.6s,baz=150,slow=5.7,SNR=2.9						
YKA Yellowknife Ar		**94.32**	**340**	P	**P**	**04 37 17.3**	**-0.5**
	comp=E,0.5nm,0.5s,baz=134,slow=4.8,SNR=6.8						
ASAR Alice Springs		**128.44**	**204**	PKP	**PKPdf**	**04 43 04.6**	**-0.8**
	comp=E,0.5nm,0.6s,baz=126,slow=1.6,SNR=3.9						
WRA Warramunga Arr		**131.63**	**207**	PKP	**PKPdf**	**04 43 10.9**	**-0.6**
	comp=E,0.4nm,0.5s,baz=155,slow=1.7,SNR=6.5						
ZALV Zalesovo Beam		**143.39**	**28**	PKP	PKPbc	04 43 29.7	+0.1
	comp=E,1.2nm,0.6s,baz=300,slow=4.1,SNR=5.6						
MKAR Makanchi Array		**146.47**	**40**	PKP	**PKPdf**	**04 43 37.7**	**+0.2**
	comp=E,1.0nm,0.5s,baz=312,slow=2.4,SNR=12						
MKAR				PKPbc	**PKPbc**	**04 43 39.5**	**+0.3**
	comp=E,1.0nm,0.5s,baz=297,slow=3.2,SNR=12						

IDC 03 04:34:45.4±26.0, 22.°06S×178.°76E, h584km±325km, mb2.9/4, mb1 3.3/4, mb1mx3.0/18, mbtmp2.9/4, Error ellipse: s-maj=189.9km s-min=95.4km az=158.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**41.23**	**259**	P	P	04 41 39.7	-1.2
	0.5nm,0.5s,baz=96,slow=6.9,SNR=7.0						
WRA	**Warramunga Arr**	**41.41**	**264**	P	P	04 41 42.8	+0.5
	1.6nm,0.3s,baz=98,slow=8.5,SNR=63						
NVAR	**Mina Array Bea**	**84.24**	**45**	P	P	04 46 18.0	+1.4
	0.2nm,0.5s,baz=223,slow=9.2,SNR=3.6						
TXAR	**Lajitas Array**	**90.44**	**59**	P	P	04 46 44.9	-1.0
	0.6nm,0.8s,baz=217,slow=7.5,SNR=7.7						
HFS	**Hagfors**	**140.52**	**348**	PKP	PKPdf	04 53 06.8	-1.6
	0.6nm,0.3s,baz=97,slow=3.6,SNR=5.2						

*IDC **03** 04:54:59.3±0.4, 3.°35S×135.°44E, h0km, mb4.8/17, mb1 4.9/19, mb1mx4.8/22, mbtmp4.8/19, ML4.9/2, MS4.2/15, Ms1 4.2/15, ms1mx3.9/28, Error ellipse: s-maj=21.3km s-min=11.2km az=79.0*
*BJI **03** 04:55:01.8, 3.°56S×135.°92E, h47km, mB5.0/27, mb5.1/45, Ms4.6/19, Ms7 4.4/13*
*BKK **03** 04:55:02.3±0.4, 3.°5±6.°×13.°5E±.°, h10km, M5.4/21, mB5.9/7, mb5.1/21, Mw(mB)5.5/7*
*ISCJB **03** 04:55:02.6±0.5, 3.°44S±0.°02×135.°53E±0.°02, h35km±4km, mb4.9/70, MS4.2/18, Error ellipse: s-maj=3.8km s-min=3.5km az=17.8*
*MOS **03** 04:55:02.2±1.2, 3.°47S×135.°36E, h33km, mb5.2/27, Error ellipse: s-maj=14.0km s-min=6.6km az=111.1*
*NEIC **03** 04:55:05.0±0.9, 3.°38S×135.°55E, h40km±8km, mb4.8/21, Error ellipse: s-maj=7.6km s-min=5.0km az=58.0*
NEIC Felt [III] at Nabire.
*GCMT **03** 04:55:06.9±0.3, 3.°30S×135.°55E, h38km±1km, MW5.0, Moment Tensor Solution. s40,c48; s54,c67; Moment tensor: Scale 10^{16}Nm; M_{rr}2.58±.20; $M_{\theta\theta}$-3.17±.13; $M_{\phi\phi}$0.59±.17; $M_{r\theta}$-0.58±.15; $M_{\theta\phi}$1.81±.11; $M_{\phi r}$0.57±.21; Best double couple: $M_0$3.40000×10^{16} NP1:ϕ_b303.00000°, δ53.00000°, λ106.00000°. NP2:ϕ_b99.00000°, δ40.00000°, λ71.00000°. Principal axes: T 2.7300, Plg76.0000°, Azm265.0000°; N 1.2500, Plg12.0000°, Azm114.0000°; P -3.9900, Plg7.0000°, Azm22.0000°; Data Used: IU IC II G CN.*
*AUST **03** 04:55:06.1, 3.°46S×135.°52E, h60km*
*DJA **03** 04:55:07.0±0.2, 3.°5±2.°×13.°5E±.°, h51km±4km, M5.2/35, mB5.6/18, mb5.3/35, MLv5.5/15, Mw(mB)5.1/18, Mwp6.3/2*
ISC 03 04:55:05.9±0.3, 3.°35S±0.°03×135.°58E±0.°03, h49km±2km, n238, σ1°52/318, mb5.0/70, MS4.2/18, 2C-3D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRPI	**Serui, Papua**	**1.61**	**24**	P	**Pn**	**04 55 30.5**	**-1.4**
SRPI				S	**Sn**	**04 55 51.7**	**+0.2**
KMPI	**Kaimana, Papua**	**1.90**	**260**	P	**Pn**	**04 55 37.7**	**+1.8**
BAKI	**Biak**	**2.20**	**14**	P	**Pn**	**04 55 39.2**	**-0.9**
BAKI				S	**Sn**	**04 56 06.0**	**-0.1**
RKPI	**Ransiki, Papua**	**2.30**	**322**	P	**Pn**	**04 55 40.0**	**-0.9**
RKPI				S	**Sn**	**04 56 05.4**	**-3.2**
FAKI	**Fak Fak**	**3.36**	**277**	P	**Pn**	**04 55 54.1**	**-1.8**
FAKI				S	**Sn**	**04 56 32.5**	**-2.0**
FAKI	**Fak Fak**	**3.36**	**277**	P	**Pn**	**04 55 54.3**	**-1.6**
	baz=3.3,SNR=101						
FAKI				S	**Sn**	**04 56 32.5**	**-2.0**
	baz=3.3,SNR=12						
TLE	**Tual**	**3.64**	**231**	P	**Pn**	**04 55 59.4**	**-0.3**
TLE				S	**Sn**	**04 56 45.3**	**+3.9**
TLE	**Tual**	**3.64**	**231**	P	**Pn**	**04 56 00.1**	**+0.4**
	baz=3.5,SNR=19						
TLE				S	**Sn**	**04 56 44.2**	**+2.8**
	baz=3.5,SNR=8.9						
SWI	**Sorong**	**4.98**	**300**	P	**Pn**	**04 56 16.9**	**-1.2**
SWI				S	**Sn**	**04 57 11.7**	**-2.7**
SWI	**Sorong**	**4.98**	**300**	P	**Pn**	**04 56 16.8**	**-1.3**
	baz=5.0,SNR=81						
SWI				S	**Sn**	**04 57 12.3**	**-2.0**
	baz=5.0,SNR=5.6						
JAY	**Jayapura**	**5.18**	**81**	P	**Pn**	**04 56 21.8**	**+0.8**
	150nm,0.8s,12μm766μm0.9nm						
JAY				S	**Sn**	**04 57 22.0**	**+2.5**
	150nm,0.8s,12μm766μm0.9nm						
BNDI	**Bandanaira**	**5.79**	**258**	P	**Pn**	**04 56 30.1**	**+0.9**
	674nm,0.8s,38μm14nm						
BNDI				S	**Sn**	**04 57 32.5**	**-1.8**
	674nm,0.8s,38μm14nm						
BNDI	**Bandanaira**	**5.79**	**258**	S	**Sn**	**04 57 32.0**	**-2.3**
	baz=5.7,SNR=8.8						
SAUI	**Saumlaki**	**6.28**	**223**	P	**Pn**	**04 56 37.5**	**+1.6**
	436nm,1.1s,2.8nm						
SAUI				S	**Sn**	**04 57 51.2**	**+4.8**
	436nm,1.1s,2.8nm						
MSAI	**Masohi**	**6.64**	**270**	P	**Pn**	**04 56 40.2**	**-0.8**
	72nm,0.6s,2μm0.8nm						
MSAI				S	**Sn**	**04 57 54.4**	**-1.1**
	72nm,0.6s,2μm0.8nm						
MMPI	**Merauke**	**6.97**	**137**	P	Pn	04 56 51.0	+5.5
	946nm,0.5s,11nm						
MMPI	**Merauke**	**6.97**	**137**	S	**Sn**	**04 58 04.7**	**+1.1**
	baz=7.0,SNR=5.4						
AAI	**Ambon**	**7.38**	**267**	P	**Pn**	**04 56 50.8**	**-0.4**
	301nm,0.6s,5μm1.6nm						
AAI				S	**Sn**	**04 58 11.2**	**-2.4**
	301nm,0.6s,5μm1.6nm						
AAI	**Ambon**	**7.38**	**267**	P	**Pn**	**04 56 50.1**	**-1.0**
	baz=7.3,SNR=6.4						
NLAI	**Namlea**	**8.47**	**270**	P	**Pn**	**04 57 06.0**	**-0.1**
	170nm,0.6s,2μm						
NLAI				S	**Sn**	**04 58 39.0**	**-1.4**
	170nm,0.6s,2μm						
LBMI	**Labuha**	**8.51**	**288**	P	**Pn**	**04 57 03.5**	**-3.2**
	632nm,1.0s,6μm						
LBMI				S	**Sn**	**04 58 38.4**	**-3.0**
	632nm,1.0s,6μm						
TNTI	**Ternate**	**9.18**	**296**	*e*Pn	**Pn**	**04 57 15.5**	**-0.2**
KDU	**Kakadu**	**9.78**	**198**	P	**Pn**	**04 57 20.9**	**-3.1**
	baz=9.7,SNR=154						
MTN	**Manton Dam**	**10.41**	**205**	P	**Pn**	**04 57 30.4**	**-2.3**
	baz=10,SNR=180						
MTN				S	Sn	04 59 19.7	-8.3
	baz=10,SNR=7.7						
SOEI	**Soe**	**12.92**	**240**	P	**Pn**	**04 58 05.1**	**-1.9**
	218nm,0.9s,2μm						
SOEI				S	**Sn**	**05 00 27.4**	**-2.0**
	218nm,0.9s,2μm						
SOEI	**Soe**	**12.92**	**240**	P	**Pn**	**04 58 05.3**	**-1.7**
	baz=13,SNR=7.5						
COEN	**Coen**	**12.94**	**145**	*e*Pn	**Pn**	**04 58 04.8**	**-2.3**
COEN	**Coen**	**12.94**	**145**	P	**Pn**	**04 58 04.7**	**-2.5**
	baz=13,SNR=126						
PMG	**Port Moresby**	**12.98**	**118**	Pn	**Pn**	**04 58 07.3**	**-0.5**
PMG				*e*S	Sn	05 00 22.9	-7.9
PMG	**Port Moresby**	**12.98**	**118**	P	P	04 58 12.2	-4.7
	83nm,1.4s						
PMG	**Port Moresby**	**12.98**	**118**	Pn	**Pn**	**04 58 10.5**	**+2.8**
	6.0nm,0.3s,baz=348,slow=14,SNR=10						
PMG				Sn	**Sn**	**05 00 26.2**	**-4.6**
	2.0nm,0.3s,baz=199,slow=19,SNR=1.7						
PMG				LR	LR	05 03 47.3	
	comp=Z,725nm,19.4s,baz=270,slow=40						
LUWI	**Luwuk**	**13.01**	**280**	P	**Pn**	**04 58 05.1**	**-3.0**
	171nm,1.0s,2μm						
LUWI				S	**Sn**	**05 00 27.1**	**-4.3**
	171nm,1.0s,2μm						
APSI	**Ampana**	**14.13**	**280**	S	**Sn**	**05 00 56.1**	**-2.8**
MRSI	**Marisa**	**14.16**	**285**	P	**Pn**	**04 58 21.9**	**-1.9**
	104nm,1.0s						
TOLI	**Toli-Toli**	**15.44**	**286**	P	**Pn**	**04 58 41.0**	**+0.4**
	338nm,0.7s						
BKSI	**Bulukumba**	**15.54**	**262**	P	**Pn**	**04 58 43.2**	**+1.3**
	25nm,0.9s						
TTSI	**Tana Toraja**	**15.74**	**271**	P	**P**	**04 58 46.0**	**-1.7**
	77nm,1.1s,660nm						
SPSI	**Sidrap Palu**	**15.79**	**267**	P	**Pn**	**04 58 43.8**	**-1.4**
	41nm,0.8s,2μm33μm						
KAPI	**Kappang**	**15.88**	**263**	Pn	**Pn**	**04 58 46.6**	**+0.4**
KAPI	**Kappang**	**15.88**	**263**	P	**Pn**	**04 58 46.0**	**-0.2**
	26nm,1.0s						
KAPI	**Kappang**	**15.88**	**263**	Pn	**Pn**	**04 58 46.6**	**+0.4**
	0.5nm,0.3s,baz=92,slow=12,SNR=4.3						
LBFI	**Labuhan Bajo,**	**16.42**	**251**	P	**P**	**04 58 53.9**	**-1.3**
	74nm,1.1s						
WRAB	**Tennant Creek**	**16.53**	**184**	*e*P	Pn	04 58 48.9	-5.6
WRAB				pmax	pmax		
	comp=Z,80nm,0.8s						
WRAB	**Tennant Creek**	**16.53**	**184**	*e*Pn	Pn	04 58 48.9	-5.6
	comp=Z,80nm,0.8s						
WRAB				*e*S	Sn	05 01 41.3	-16
WRA	**Warramunga Arr**	**16.54**	**184**	Pn	Pn	04 58 49.2	-5.4
WRA				Sn	Sn	05 01 44.3	-13
WRA	**Warramunga Arr**	**16.54**	**184**	Pn	Pn	04 58 49.2	-5.4
	comp=Z,2.8nm,0.3s,baz=2.0,slow=13,SNR=122						
WRA				Sn	Sn	05 01 44.3	-13
	comp=Z,5.0nm,0.3s,baz=4.2,slow=23,SNR=6.9						
WRA				LR	LR	05 05 40.6	
	comp=Z,2μm,18.7s,baz=5.0,slow=39						
MMSI	**Mamuju**	**16.66**	**272**	P	**Pn**	**04 58 55.9**	**-0.3**
	comp=Z,74nm,1.1s						
MTSU	**Mount Surprise**	**17.00**	**150**	P	**Pn**	**04 58 57.6**	**-2.8**
	baz=17,SNR=32						
MTSU				S	Sn	05 02 00.4	-8.3
	baz=17,SNR=5.3						
FITZ	**Fitzroy Crossi**	**17.61**	**213**	P	**Pn**	**04 59 04.4**	**-3.4**
FITZ				S	Sn	05 02 07.7	-15
FITZ	**Fitzroy Crossi**	**17.61**	**213**	P	**Pn**	**04 59 04.4**	**-3.4**
	comp=Z,3.4nm,0.3s,baz=35,slow=13,SNR=74						
FITZ				S	Sn	05 02 07.7	-15
	comp=Z,3.9nm,0.3s,baz=203,slow=14,SNR=11						
FITZ				LR	LR	05 06 47.7	
	comp=Z,942nm,18.4s,baz=30,slow=40						
FITZ	**Fitzroy Crossi**	**17.61**	**213**	P	**Pn**	**04 59 05.5**	**-2.3**
	baz=18,SNR=16						
FITZ				S	Sn	05 02 07.3	-16
	baz=18,SNR=5.4						
BKB	**Balikpapan**	**18.79**	**276**	P	**P**	**04 59 20.1**	**-1.2**
	comp=Z,304nm,0.8s						
MYLDM Lahad Datu		**19.05**	**296**	P	**Pn**	**04 59 27.3**	**+1.8**
MYLDM Lahad Datu		**19.05**	**296**	P	**Pn**	**04 59 25.6**	**+0.2**
	comp=Z,83nm,1.2s						
TSM Tawau		**19.26**	**293**	P	**Pn**	**04 59 27.2**	**-0.6**
CTA Charters Tower		**19.63**	**149**	P	**Pn**	**04 59 32.0**	**-0.2**
CTA				S	**S**	**05 03 02.9**	**-6.7**
CTA Charters Tower		**19.63**	**149**	P	**Pn**	**04 59 32.0**	**-0.2**
	comp=Z,1.7nm,0.3s,baz=323,slow=13,SNR=18						
CTA				S	**S**	**05 03 02.9**	**-6.7**
	comp=Z,0.3nm,0.3s,baz=244,slow=21,SNR=1.3						
CTAO Charters Tower		**19.63**	**149**	*e*P	**P**	**04 59 29.6**	**-0.9**
CTAO Charters Tower		**19.63**	**149**	*e*P	**P**	**04 59 29.6**	**-0.9**
AS01 Alice Springs		**20.26**	**184**	*e*P	**P**	**04 59 37.3**	**-0.1**
AS31 Alice Springs		**20.27**	**184**	*e*P	**P**	**04 59 37.8**	**+0.3**
AS31				*e*S	S	05 03 12.8	-9.4
ASAR Alice Springs		**20.27**	**184**	P	**P**	**04 59 37.9**	**+0.4**
ASAR				S	S	05 03 12.9	-9.3
ASAR Alice Springs		**20.27**	**184**	P	**P**	**04 59 37.9**	**+0.4**
	comp=Z,128nm,0.8s,baz=9.2,slow=12,SNR=500						
ASAR				S	S	05 03 12.9	-9.3
	comp=Z,5.0nm,0.7s,baz=6.6,slow=28,SNR=4.4						
ASAR				LR	LR	05 07 56.2	
	comp=Z,2μm,18.8s,baz=3.9,slow=38						
SDKM Sandakan		**20.42**	**296**	P	**P**	**04 59 39.5**	**+0.2**
BBKI Banjar Baru		**20.71**	**269**	P	**P**	**04 59 40.2**	**-2.1**
	comp=Z,147nm,0.8s,comp=Z,8μm						
KKM Kota Kinabalu		**21.47**	**296**	*e*P	**P**	**04 59 50.1**	**-0.5**
	comp=Z,22nm,0.7s						
KKM Kota Kinabalu		**21.47**	**296**	P	**P**	**04 59 51.8**	**+1.2**
KMMI Kalianget		**21.84**	**259**	P	**P**	**04 59 55.2**	**+0.8**
	comp=Z,195nm,0.9s,comp=Z,4μm						
BLJI Banyuglugur		**22.31**	**258**	P	**P**	**04 59 57.5**	**-2.0**
	comp=Z,165nm,0.7s,comp=Z,2μm						
BTM Bintulu		**23.41**	**286**	P	**P**	**05 00 12.2**	**+1.4**
MBWA Marble Bar		**23.48**	**220**	*e*P	**P**	**05 00 10.8**	**-0.6**
	comp=Z,60nm,0.6s						
PBKI Pangkalan Bun		**23.89**	**271**	P	**P**	**05 00 14.7**	**-0.6**
	comp=Z,539nm,1.0s,comp=Z,5μm						
SBUM Sibu		**24.05**	**284**	P	**P**	**05 00 17.8**	**+1.0**
SBUM Sibu		**24.05**	**284**	P	**P**	**05 00 17.1**	**+0.3**
	comp=Z,54nm,1.1s,comp=Z,898nm						
STKI Sintang		**24.33**	**278**	P	**P**	**05 00 19.7**	**+0.4**
	comp=Z,113nm,1.0s						
UGM Wanagama		**25.34**	**259**	P	**P**	**05 00 27.4**	**-1.1**
	baz=25,SNR=5.5						
UGM				S	S	05 04 26.0	-26
	baz=25,SNR=20						
KSM Kuching		**25.71**	**280**	*e*P	**P**	**05 00 32.0**	**+0.1**
	comp=Z,29nm,0.8s						
KSM Kuching		**25.71**	**280**	P	**P**	**05 00 32.6**	**+0.7**
KSM Kuching		**25.71**	**280**	P	**P**	**05 00 31.6**	**-0.3**
	comp=Z,46nm,0.8s						
KSM Kuching		**25.71**	**280**	P	**P**	**05 00 32.4**	**+0.5**
	baz=26,SNR=6.9						
BJII Banjamegara		**26.06**	**260**	P	**P**	**05 00 34.2**	**-0.9**
FORT Forrest		**28.20**	**194**	*e*P	**P**	**05 00 53.5**	**-0.5**
	comp=Z,53nm,0.6s						
FORT Forrest		**28.20**	**194**	P	**P**	**05 00 53.5**	**-0.5**
	baz=28,SNR=15						
MEEK Meekatharra		**28.30**	**213**	P	**P**	**05 00 54.0**	**-0.9**
	baz=28,SNR=6.7						
STKA Stephens Creek		**28.94**	**169**	*e*P	**P**	**05 00 59.4**	**-1.2**
	comp=Z,2.8nm,0.7s						
STKA Stephens Creek		**28.94**	**169**	P	**P**	**05 00 59.6**	**-1.0**
	comp=Z,12nm,0.6s,baz=345,slow=8.6,SNR=26						
STKA				LR	LR	05 13 56.2	
	comp=Z,887nm,18.2s,baz=345,slow=39						
STKA Stephens Creek		**28.94**	**169**	P	**P**	**05 00 59.4**	**-1.2**
	baz=29,SNR=15						
BBOO Buckleboo		**29.31**	**179**	P	**P**	**05 01 03.6**	**-0.3**
	baz=29,SNR=5.5						
MORW Morawa		**31.61**	**214**	P	**P**	**05 01 23.6**	**-0.6**
	baz=32,SNR=3.1						
MYKOM Kota Tinggi		**32.13**	**279**	P	**P**	**05 01 29.3**	**+0.3**
BLDU Ballidu		**32.46**	**211**	P	**P**	**05 01 31.0**	**-0.7**
	baz=32,SNR=5.3						
KGM Kluang		**32.69**	**279**	P	**P**	**05 01 34.7**	**+0.8**
KLBR Kellerberrin		**32.73**	**209**	P	**P**	**

comp=E,320nm,18.2s
GYA LR LR
comp=Z,440nm,17.5s
KSAR Wonju Array Be 41.21 351 P **P 05 02 46.3 +0.4**
KSAR PcP **PcP 05 04 45.0 +0.8**
KSRS Korea Array 41.21 351 P **P 05 02 46.3 +0.3**
comp=Z,8.9nm,1.0s,baz=172,slow=9.7,SNR=22
KSRS PcP **PcP 05 04 45.0 +0.8**
comp=Z,2.7nm,0.8s,baz=200,slow=3.0,SNR=8.9
LAMP Lampang 41.54 303 P **P 05 02 49.7 +0.8**
comp=Z,5.9nm,1.0s
PAYA Payao 41.74 304 P **P 05 02 50.6 0.0**
comp=Z,7.1nm,1.0s,comp=Z,218nm
CMAR Chiang Mai Arr 42.09 302 P **P 05 02 53.4 -0.1**
CMAR PcP **PcP 05 04 48.7 +1.1**
CMAR Chiang Mai Arr 42.09 302 P **P 05 02 53.4 -0.1**
comp=Z,6.9nm,1.0s,baz=126,slow=6.8,SNR=27
CMAR PcP **PcP 05 04 48.7 +1.1**
comp=Z,2.0nm,0.6s,baz=152,slow=2.5,SNR=7.7
CHTO Chiang Mai 42.25 303 *e*P **P 05 02 53.5 -1.3**
CHTO pmax pmax
comp=Z,4.0nm,0.7s
CHTO Chiang Mai 42.25 303 *e*P **P 05 02 53.5 -1.3**
comp=Z,3.5nm,0.7s
CHTO Chiang Mai 42.25 303 P **P 05 02 54.5 -0.3**
comp=Z,18nm,2.4s
KMI Kunming 42.62 313 P **P 05 02 58.2 +0.2**
KMI pP **pP 05 03 11.0 -0.1**
KMI sP **sP 05 03 16.8 -0.1**
KMI S **S 05 09 20.6 +2.7**
KMI SS **SS 05 12 25.1 -4.5**
KMI pmax pmax
comp=Z,19nm,0.9s
XAN Xi'an 44.88 328 P **P 05 03 15.3 -0.5**
XAN pmax pmax
comp=Z,6.0nm,1.3s
XAN pmax pmax
comp=Z,22nm,5.5s
BJI Beijing 46.71 339 P **P 05 03 30.0 0.0**
BJI pP **pP 05 03 41.8 -1.5**
BJI sP **sP 05 03 49.2 +0.2**
BJI S **S 05 10 18.6 +2.4**
BJI sS **sS 05 10 40.1 +1.6**
BJI pmax pmax
comp=Z,41nm,1.3s
BJI LR LR
comp=N,180nm,19.4s
BJI LR LR
comp=E,95nm,15.1s
USRK Ussuriysk Arra 47.44 356 P **P 05 03 35.8 +0.2**
comp=E,5.4nm,0.7s,baz=186,slow=6.6,SNR=13
USRK LR LR 05 22 11.4
comp=E,157nm,18.8s,baz=286,slow=34
CN2 Changchun 47.81 350 *e*P **P 05 03 39.6 +1.1**
CN2 PcP **PcP 05 05 07.5 +0.7**
CN2 *e*PP **PP 05 05 31.2 +0.4**
CN2 *e*S **S 05 10 33.3 +1.5**
CN2 *e*SS **SS 05 13 57.2 -3.8**
CN2 LR LR
comp=N,200nm,17.0s
CN2 LR LR
comp=E,200nm,17.0s
CN2 LR LR
comp=Z,200nm,18.0s
MDJ Mudanjiang 48.05 354 P **P 05 03 40.5 +0.2**
MDJ pP **pP 05 03 52.0 -1.7**
MDJ PcP **PcP 05 05 07.5 -0.1**
MDJ S **S 05 10 33.0 -2.1**
MDJ pmax pmax
comp=Z,19nm,1.0s
MDJ pmax pmax
comp=Z,40nm,4.1s
MDJ Mudanjiang 48.05 354 *e*P **P 05 03 40.6 +0.3**
comp=Z,13nm,0.7s
HHC Hu-ho-hao-te 49.16 336 *e*P **P 05 03 50.2 +1.1**
HHC pP **pP 05 04 02.6 +0.1**
HHC sP **sP 05 04 07.9 -0.3**
HHC PP **PP 05 05 45.0 +1.7**
HHC PcS **PcS 05 09 07.5 -0.9**
HHC S **S 05 10 52.7 +1.5**
HHC sS **sS 05 11 13.8 +0.2**
HHC ScS **ScS 05 13 35.0 -2.1**
HHC SS **SS 05 14 20.7 -2.4**
HHC pmax pmax
comp=Z,88nm,1.1s
HHC pmax pmax
comp=Z,87nm,5.0s
HHC LR LR
comp=N,290nm,15.3s
HHC LR LR
comp=E,340nm,14.9s
HHC LR LR
comp=Z,280nm,15.7s
LZH Lanzhou 49.18 326 ⇓P **P 05 03 50.8 +1.4**
LZH pP **pP 05 04 03.3 +0.5**
LZH sP **sP 05 04 08.5 0.0**
LZH PcP **PcP 05 05 13.1 +1.0**
LZH PP **PP 05 05 45.7 +2.1**
LZH *e*S **S 05 10 54.0 +2.3**
LZH sS **sS 05 11 15.0 +0.9**
LZH SS **SS 05 14 21.3 -2.4**
LZH pmax pmax
comp=Z,60nm,1.5s
LZH pmax pmax
comp=Z,170nm,5.0s
YSS Yuzh-Sakhalins 50.48 6 *e*P **P 05 03 59.9 +1.0**
YSS pmax pmax
comp=Z,24nm,1.7s
RPZ Rata Peaks 50.99 147 P **P 05 04 03.5 +0.6**
RPZ Rata Peaks 50.99 147 P **P 05 04 03.5 +0.6**
comp=Z,9.9nm,0.7s,baz=270,slow=14,SNR=3.6
KLR Kul'dur 52.47 357 *e*P P 05 04 08.9 -4.8
LSA Lhasa 53.73 311 P **P 05 04 24.8 +0.9**
LSA pmax pmax
comp=Z,40nm,0.7s
LSA Lhasa 53.73 311 *e*P **P 05 04 24.8 +0.9**
LSA pmax pmax
comp=Z,20nm,0.7s
LSA Lhasa 53.73 311 *e*P **P 05 04 24.8 +0.9**
comp=Z,20nm,0.7s
GTA Gaotai 53.78 326 ⇑P **P 05 04 24.8 +1.1**
GTA pP **pP 05 04 37.7 +0.4**
GTA sP **sP 05 04 42.7 -0.2**
GTA S **S 05 11 56.4 +1.4**
GTA sS **sS 05 12 17.3 -0.4**
GTA SS **SS 05 15 37.3 +0.7**
GTA pmax pmax
comp=Z,50nm,0.8s
GTA pmax pmax
comp=Z,120nm,5.7s
GTA LR LR
comp=N,170nm,16.6s
GTA LR LR
comp=E,180nm,17.6s
TAPN Taplejung 55.31 307 *e*P **P 05 04 35.2 -0.1**
comp=E,153nm,1.0s
ODAN Odare 55.36 306 *e*P **P 05 04 35.4 -0.1**
comp=E,148nm,0.8s
RAMN Ramite 56.04 306 *e*P **P 05 04 40.2 -0.2**
comp=E,179nm,0.7s
JIRN Jiri 56.66 306 *e*P **P 05 04 45.1 +0.1**
comp=E,106nm,0.7s
ULN Ulaanbaatar 56.79 337 *e*P **P 05 04 46.0 +0.7**
comp=E,35nm,1.6s
GUN Gumba 57.02 306 *e*P **P 05 04 47.6 +0.1**
comp=E,167nm,0.7s
SONM Songino Array 57.02 337 P **P 05 04 47.6 +0.7**
SONM Songino Array 57.02 337 P **P 05 04 47.6 +0.7**
comp=E,4.3nm,0.7s,baz=150,slow=7.8,SNR=10.0
SONM LR LR 05 29 44.9
comp=E,77nm,18.7s,baz=91,slow=37
PKI Pulchoki 57.26 306 *e*P **P 05 04 48.8 -0.4**
comp=E,86nm,1.0s
PKIN Phulchoki 57.27 306 *e*P **P 05 04 49.2 0.0**
KKN Kakani 57.45 306 *e*P **P 05 04 50.4 0.0**
comp=E,120nm,0.8s
DMN Daman 57.52 306 *e*P **P 05 04 51.0 +0.1**
comp=E,152nm,0.8s
KOLN Koldanda 58.81 305 *e*P **P 05 05 00.0 +0.1**
comp=E,148nm,0.8s
DANN Dangsing 58.91 306 *e*P **P 05 05 00.7 +0.1**
comp=E,182nm,1.0s
PETK Petropavlovsk- 59.25 15 P **P 05 05 03.7 +1.5**
PETK Petropavlovsk- 59.25 15 P **P 05 05 03.7 +1.5**
PETK Petropavlovsk- 59.25 15 P **P 05 05 03.7 +1.5**
comp=E,3.0nm,0.6s,baz=186,slow=7.2,SNR=7.0
PETK LR LR 05 25 51.2
comp=E,63nm,20.1s,baz=12,slow=31
PYUN Piuthan 59.43 305 *e*P **P 05 05 04.5 +0.3**
comp=E,719nm,0.8s
HYB Hyderabad 59.91 292 *i*P **P 05 05 05.5 -1.9**
ZAK Zakamensk 60.29 337 *e*P **P 05 05 09.8 +0.3**
ZAK pmax pmax
comp=Z,14nm,1.4s
TLY Talaya 61.18 338 *e*P **P 05 05 15.0 -0.4**
TLY *e*S **S 05 13 34.4 +3.0**
TLY pmax pmax
comp=Z,10.0nm,0.9s
TLY MLR MLR
comp=Z,65nm,17.0s
MOY Mondy 62.20 336 *e*P **P 05 05 23.5 +1.1**
MOY pmax pmax
comp=Z,34nm,2.2s
WMQ Urumqi 63.61 323 P **P 05 05 34.0 +2.1**
WMQ pP **pP 05 05 47.0 +1.3**
WMQ sP **sP 05 05 52.2 +0.9**
WMQ PcP **PcP 05 06 09.5 +1.6**
WMQ pmax pmax
comp=Z,45nm,1.0s
WMQ pmax pmax
comp=Z,290nm,4.0s
FX1 Attu Island--F 64.32 24 *e*P **P 05 05 37.5 +1.3**
FX1 Attu Island--F 64.32 24 P **P 05 05 37.6 +1.3**
comp=Z,7.5nm,0.6s,baz=246,slow=3.1,SNR=20
HVS Khovu-Aksy 64.96 332 *d i*P **P 05 05 41.8 +1.2**
SEY Seymchan 67.32 8 *e*P **P 05 05 58.0 +2.6**
MK31 Makanchi Array 68.42 324 *e*P **P 05 06 02.9 +0.2**
MK31 pmax pmax
comp=Z,13nm,0.6s
MK31 Makanchi Array 68.42 324 *e*P **P 05 06 03.3 +0.6**
MKAR Makanchi Array 68.42 324 *ce*P **P 05 06 03.2 +0.5**
MKAR pmax pmax
comp=Z,15nm,0.7s
MKAR Makanchi Array 68.42 324 P **P 05 06 03.2 +0.5**
MKAR Makanchi Array 68.42 324 P **P 05 06 03.2 +0.5**
comp=Z,15nm,0.7s,baz=111,slow=8.1,SNR=142
KSH Kashi 69.27 314 P **P 05 06 09.9 +1.6**
KSH pP **pP 05 06 20.9 -1.4**
KSH PP **PP 05 08 45.5 +3.5**
KSH S **S 05 15 12.6 +1.3**
KSH pmax pmax
comp=Z,9.0nm,0.8s
KSH pmax pmax
comp=Z,87nm,4.6s
KSH LR LR
comp=N,310nm,7.5s
KSH LR LR
comp=E,200nm,9.9s
KSH LR LR
comp=Z,120nm,5.6s
KZA Kyzart 70.78 317 P **P 05 06 19.1 +1.2**
SNR=16
TKM2 Tokmak 2 70.89 318 *e*P **P 05 06 18.6 +0.4**
TKM2 pmax pmax
comp=Z,7.0nm,0.9s
TKM2 Tokmak 2 70.89 318 P **P 05 06 18.5 +0.3**
SNR=6.5
TKM2 Tokmak 2 70.89 318 *e*P **P 05 06 18.6 +0.4**
comp=Z,7.5nm,0.9s
ZAA0 Zalesovo Array 70.94 331 *e*P **P 05 06 17.3 -0.7**
ZALV Zalesovo Beam 70.94 331 *i*P **P 05 06 17.3 -0.7**
ZALV pmax pmax
comp=Z,13nm,0.7s
ZALV Zalesovo Beam 70.94 331 P **P 05 06 17.4 -0.7**
ZALV Zalesovo Beam 70.94 331 P **P 05 06 17.4 -0.7**
comp=Z,12nm,0.7s,baz=112,slow=6.2,SNR=59
ZALV LR LR 05 36 18.6
comp=Z,46nm,20.8s,baz=340,slow=35
AAK Ala-Archa 71.52 317 *e*P **P 05 06 22.6 +0.6**
AAK pmax pmax
comp=Z,7.0nm,0.9s
AAK Ala-Archa 71.52 317 *e*P **P 05 06 22.6 +0.6**
comp=Z,7.4nm,0.9s
USP Ospenovka 71.76 318 P **P 05 06 23.7 +0.5**
SNR=12
AML Almayashu 71.87 316 P **P 05 06 25.3 +0.9**
SNR=15
EKS2 Erkin-Say 72.02 317 *e*P **P 05 06 25.7 +0.8**
EKS2 pmax pmax
comp=Z,13nm,1.2s
EKS2 Erkin-Say 72.02 317 P **P 05 06 25.9 +0.9**
SNR=8.2
EKS2 Erkin-Say 72.02 317 *e*P **P 05 06 25.7 +0.8**
comp=Z,13nm,1.2s
NVS Novosibirsk 72.22 331 *e*P **P 05 06 24.1 -1.5**
NVS *e* 05 06 36.1
NVS pmax pmax
comp=N,16nm,1.4s
NVS pmax pmax
comp=E,23nm,1.4s
NVS pmax pmax
comp=Z,43nm,1.4s
KK31 Karatay Array 74.41 316 *i*P **P 05 06 38.9 0.0**
KK31 pmax pmax
comp=Z,4.0nm,0.6s
KKAR Karatay Array 74.41 316 *e*P **P 05 06 39.3 +0.3**
KKAR pmax pmax
comp=Z,4.0nm,0.6s
KKAR Karatay Array 74.41 316 *e*P **P 05 06 39.2 +0.3**
comp=Z,4.4nm,0.6s
PPT2 Papeete2 74.55 107 *e*LR LR 05 29 53.8
comp=Z,97nm,24.8s
VNDA Vanda 75.44 174 *e*P **P 05 06 43.9 -0.3**
comp=Z,3.2nm,1.0s
VNDA Vanda 75.44 174 P **P 05 06 44.0 -0.1**
comp=Z,1.8nm,0.7s,baz=326,slow=6.0,SNR=9.7
VNDA LR LR 05 38 36.7
comp=Z,401nm,20.0s,baz=350,slow=35
BVA0 Borovoye Array 78.07 326 *i*P **P 05 06 59.3 -0.1**
BVA0 pmax pmax
comp=Z,17nm,0.8s
BRVK Borovoye 78.14 326 *e*P **P 05 06 59.9 +0.1**
BRVK pmax pmax
comp=Z,20nm,0.8s
BRVK Borovoye 78.14 326 *e*P **P 05 06 59.9 +0.1**
comp=Z,20nm,0.8s
MAW Mawson 80.37 202 P **P 05 07 11.9 +0.2**
MAW Mawson 80.37 202 P **P 05 07 11.9 +0.2**
comp=Z,6.0nm,0.7s,baz=80,slow=6.7,SNR=11
MAW LR LR 05 40 02.4
comp=Z,189nm,21.3s,baz=233,slow=34
MAW Mawson 80.37 202 P **P 05 07 12.3 +0.6**
baz=80,SNR=6.1
AB31 Akbulak array 83.20 320 *i*P **P 05 07 26.1 -0.9**
AB31 pmax pmax
comp=Z,5.0nm,0.8s
ABKAR Akbulak array 83.20 320 *e*P **P 05 07 26.5 -0.5**
comp=Z,3.1nm,0.6s
SVE Sverdlovsk 84.60 328 *e*P **P 05 07 34.5 +0.6**
SVE pmax pmax
comp=Z,23nm,0.9s
AKTO Aktyubinsk 84.67 321 LR LR 05 44 07.9
comp=Z,43nm,20.5s,baz=282,slow=35
IM04 Indian Mountai 85.26 23 *e*P **P 05 07 38.2 +1.1**
IMA2 Indian Mountai 85.33 23 *e*P **P 05 07 38.0 +0.4**
ARU Arti 85.62 327 *d i*P **P 05 07 37.1 -2.0**
ARU 05 10 52.3
ARU S S 05 17 59.1 -8.3
ARU pmax pmax
comp=Z,10.0nm,0.7s
MCK McKinley 86.59 26 *e*P **P 05 07 43.3 -0.4**
MCK pmax pmax
comp=Z,5.0nm,0.6s
MCK McKinley 86.59 26 *e*P **P 05 07 43.3 -0.4**
comp=Z,5.5nm,0.6s
QSPA South Pole Qui 86.60 180 *e*P **P 05 07 43.0 -1.0**
comp=Z,14nm,0.9s
COLA College 87.33 25 *e*P **P 05 07 47.0 -0.2**
COLA College 87.33 25 *e*P **P 05 07 47.0 -0.2**
ILAR Eielson Array 87.71 25 P **P 05 07 48.0 -1.1**
ILAR Eielson Array 87.71 25 P **P 05 07 48.0 -1.1**
comp=Z,5.4nm,0.7s,baz=262,slow=4.4,SNR=110
ILAR LR LR 05 41 10.1
comp=Z,97nm,21.4s,baz=280,slow=32
PAX Paxson 87.94 27 *e*P **P 05 07 51.1 +0.7**
PAX pmax pmax
comp=Z,6.0nm,1.0s
PAX Paxson 87.94 27 *e*P **P 05 07 51.1 +0.7**
comp=Z,6.3nm,1.0s
EGAK Eagle 90.12 25 *e*P **P 05 08 00.2 -0.2**
comp=Z,1.8nm,0.7s
KLMR Klimovskoe 95.87 331 *e*P **P 05 08 24.4 -2.6**
KLMR pmax pmax
comp=Z,14nm,1.5s
OBN Obninsk 97.89 325 *e*P **P 05 08 34.2 -2.1**
OBN *e* 05 08 48.4
OBN *e* 05 12 34.5
OBN *e*PS **PS 05 21 26.4 -1.9**
OBN *e*SS SS 05 26 49.4 +8.8
OBN pmax pmax
comp=Z,6.0nm,0.9s
ARCES ARCESS Array B 100.07 340 P **Pdif 05 08 44.9 -0.8**
ARCES ARCESS Array B 100.07 340 P **Pdif 05 08 44.9 -0.8**
comp=Z,4.4nm,0.6s,baz=77,slow=5.4,SNR=18
PDAR Pinedale Array 110.38 45 PKiKP **PKiKP 05 13 33.0 -0.3**
PDAR PKKPbc **PKKPbc 05 24 33.0 -2.0**
PDAR Pinedale Array 110.38 45 PKiKP **PKiKP 05 13 33.0 -0.3**
comp=Z,0.3nm,0.6s,baz=250,slow=2.7,SNR=3.3
PDAR PKKPbc **PKKPbc 05 24 33.0 -2.0**
comp=Z,0.6nm,0.8s,baz=88,slow=4.1,SNR=4.1
TXAR Lajitas Array 118.29 58 PKP **PKPdf 05 13 48.3 -0.3**
TXAR Lajitas Array 118.29 58 PKP **PKPdf 05 13 48.3 -0.3**
comp=Z,0.5nm,0.9s,baz=96,slow=1.3,SNR=4.0
TORD Torodi Ar. Bea 133.42 285 PKPpre PKPpre 05 13 59.2
TORD PKP **PKPdf 05 14 17.1 -0.6**
TORD PP **PP 05 16 45.8 -0.2**
TORD Torodi Ar. Bea 133.42 285 PKhKP PKPpre 05 13 59.2
comp=Z,0.2nm,0.8s,baz=83,slow=38,SNR=2.4
TORD PKP **PKPdf 05 14 17.1 -0.6**
comp=Z,1.9nm,0.8s,baz=59,slow=1.4,SNR=11
TORD PP **PP 05 16 45.7 -0.2**
comp=Z,0.7nm,1.0s,baz=57,slow=5.3,SNR=3.8
OTAV Otavalo 145.85 94 *e*PKPdf **PKPab 05 14 41.7 -0.3**
CPUP Villa Florida 147.96 158 PKP **PKPdf 05 14 43.6 +0.1**
CPUP *e*PKPbc **PKPbc 05 14 47.3 +0.7**
CPUP Villa Florida 147.96 158 PKP **PKPdf 05 14 43.6 +0.1**
comp=Z,22nm,0.8s,baz=179,slow=5.8,SNR=26
CPUP PKPbc **PKPbc 05 14 47.4 +0.7**
comp=Z,22nm,0.8s,baz=203,slow=2.2,SNR=56
LPAZ La Paz 149.50 130 *e*PKPdf **PKPdf 05 14 48.4 +1.3**
LPAZ PKP **PKPdf 05 14 48.5 +1.4**
LPAZ *e*PKPbc **PkiKP 05 14 53.1 +0.4**
LPAZ PKPbc **PkiKP 05 14 53.3 +0.6**
LPAZ La Paz 149.50 130 PKP **PKPdf 05 14 48.5 +1.4**
comp=Z,13nm,0.9s,baz=165,slow=1.3,SNR=8.1
LPAZ PKPbc **PKiKP 05 14 53.3 +0.6**
comp=Z,9.7nm,0.7s,baz=348,slow=0.5,SNR=24
ROSC El Rosal 150.13 86 PKPbc **PKPbc 05 14 53.7 +0.7**
ROSC El Rosal 150.13 86 PKPbc **PKPbc 05 14 53.7 +0.7**
comp=Z,6.6nm,0.6s,baz=105,slow=21,SNR=5.2
BDFB Brasilia 160.80 169 PKP **PKPdf 05 15 02.0 +0.2**
BDFB Brasilia 160.80 169 PKP **PKPdf 05 15 02.0 +0.2**
comp=Z,2.2nm,0.9s,baz=34,slow=3.6,SNR=4.0

DJA 03 05:03:42.0±1.6, 8°S±15°×10°7E±°, h23km±9km, M4.0/7, MLv4.0/7, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.55**	**55**	P	Pb	05 03 52.3	-0.8
LEM	**Lembang**	**1.07**	**14**	P	Pn	05 04 01.7	-0.1
SKJI	**Sukabumi**	**1.17**	**317**	P	Pn	05 04 01.7	-1.3
SKJI				S	Sn	05 04 17.3	-1.0
DBJI	**Dramaga**	**1.44**	**335**	P	Pn	05 04 05.9	-0.8
CLJI	**Ciilicap**	**1.65**	**85**	P	Pn	05 04 10.6	+1.1
TGJI	**Tegal**	**2.01**	**60**	P	Pn	05 04 13.1	-1.4
BJII	**Banjamegara**	**2.39**	**77**	P	Pb	05 04 31.5	+7.0

IDC 03 05:04:17.9±1.2, 57°24S×26°41W, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.8/16, mbtmp4.0/4, Error ellipse: s-maj=48.6km s-min=29.9km az=78.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDFB	**Brasilia**	**44.62**	**330**	P	P	05 12 33.2	+1.2
	1.0nm,0.3s,baz=146,slow=7.3,SNR=3.3						
VNDA	**Vanda**	**45.40**	**183**	P	P	05 12 37.8	+0.4
	0.8nm,0.6s,baz=184,slow=6.0,SNR=5.6						
LPAZ	**La Paz**	**51.42**	**305**	P	P	05 13 24.9	-0.4
	1.1nm,0.4s,baz=178,slow=3.2,SNR=11						
TORD	**Torodi Ar. Bea**	**73.89**	**29**	P	P	05 15 54.5	+0.1
	0.8nm,0.6s,baz=200,slow=6.3,SNR=5.7						
YKA	**Yellowknife Ar**	**137.34**	**317**	PKP	PKPdf	05 23 39.5	-2.2
	0.7nm,0.6s,baz=124,slow=2.2,SNR=4.7						
ILAR	**Eielson Array**	**151.22**	**310**	PKPbc	PKPbc	05 24 11.0	-0.6
	1.4nm,0.7s,baz=149,slow=4.2,SNR=26						

TRN 03 05:05:28.4, 13°93N×60°40W, h20km, MD3.5, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCLT	**Moule a Chique**	**0.56**	**248**	*e*P	Pn	05 05 42.7	+1.3
MCLT				*e*S	Sn	05 05 51.8	+1.6
SVB	**Belmont**	**1.05**	**232**	*e*P	Pg	05 05 50.0	+1.1
SVB				*e*S	Sg	05 06 04.3	+1.5
TOSP	**Speyside**	**2.61**	**183**	*e*P	Pb	05 06 13.7	-0.9
TOSP				*e*S	Sn	05 06 42.3	+1.6

DJA 03 05:16:55.0±1.4, 8°S±11°×10°9E±1°2, h30km, M4.2/5, MLv4.2/5, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.96**	**290**	P	Pn	05 17 10.5	-2.0
CISI				S	Sn	05 17 25.2	0.0
LEM	**Lembang**	**1.52**	**314**	P	Pn	05 17 19.3	-1.1
LEM				S	Sn	05 17 39.6	+0.3
SKJI	**Sukabumi**	**2.32**	**292**	P	Pn	05 17 32.2	+1.0
DBJI	**Dramaga**	**2.36**	**304**	P	Pn	05 17 33.1	+1.3

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*NIED **03** 05:29:00, 37°60N×142°60E, h23km, Mw3.8 Best double couple: M0=4.76000×10^14 NP1:φs=17.00000°, δ77.00000°, λ79.00000°. NP2:φs=238.00000°, δ17.00000°, λ130.00000°.*

JMA 03 05:29:13.0±0.2, 37°56N×142°62E, h19km±3km, M4.0, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**1.34**	**312**	P	Pb	05 29 37.2	-0.4
JIO				S	Sb	05 29 54.6	+0.2
JFK	**Kawauchi**	**1.40**	**263**	P	Pn	05 29 38.0	+0.4
JFK				*e*S	Sb	05 29 56.1	-0.1
JMM	**Marumori**	**1.48**	**282**	P	Pn	05 29 39.0	+0.4
JMM				S	Sn	05 29 57.7	+0.3
ONAJ	**Iwakimizuishiy**	**1.52**	**253**	P	Pn	05 29 39.8	+0.5
ONAJ				*e*S	Sn	05 29 58.8	+0.2
JOU	**Okura**	**1.74**	**298**	P	Pb	05 29 43.6	-0.8
JOU				*e*S	Sb	05 30 05.4	-0.6
JMK	**Ichinoseki**	**1.77**	**322**	P	Pn	05 29 43.7	+1.1
JMK				*e*S	Sn	05 30 05.3	+0.6
JFT	**Otama**	**1.81**	**269**	P	Pb	05 29 44.5	-1.2
JFT				*e*S	Sb	05 30 07.5	-0.5
JYS	**Shirataka**	**2.13**	**289**	P	Pn	05 29 49.1	+1.6
JYS				*e*S	Sn	05 30 15.0	+1.6
JOM	**Ohasama**	**2.18**	**332**	P	Pn	05 29 49.2	+1.0
JYK	**Kaneyama**	**2.24**	**308**	P	Pn	05 29 50.5	+1.5
JAG	**Ashikaga**	**2.78**	**247**	P	Pn	05 29 57.9	+1.4
JANG	**Nango**	**2.94**	**343**	*e*S	Sn	05 30 34.1	+0.6
MAT	**Matsushiro**	**3.67**	**255**	P	Pn	05 30 12.4	+3.6
MAT				*e*S	Sn	05 30 54.4	+2.8

IDC 03 05:33:02.0±2.0, 1°82N×126°82E, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.4/22, mbtmp3.3/4, ML3.3/1, Error ellipse: s-maj=120.6km s-min=23.6km az=69.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.83**	**183**	P	P	05 37 35.1	+0.6
	0.1nm,0.3s,baz=0.0,slow=9.1,SNR=2.8						
WRA	**Warramunga Arr**	**22.85**	**162**	P	P	05 38 06.0	-1.1
	0.5nm,0.7s,baz=339,slow=10,SNR=9.2						
ASAR	**Alice Springs**	**26.25**	**165**	P	P	05 38 39.4	+0.3
	0.4nm,0.5s,baz=346,slow=13,SNR=5.3						
MKAR	**Makanchi Array**	**59.17**	**326**	P	P	05 43 04.9	+0.1
	0.2nm,0.3s,baz=126,slow=7.6,SNR=4.7						

DJA 03 06:05:16.2±1.0, 4°N±5°×9°8E±°, h112km±10km, M3.5/3, MLv3.5/3, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCSI	**Kotacane, Aceh**	**0.69**	**161**	P	Pn	06 05 41.5	+6.7
KCSI				S	Sn	06 05 51.3	+2.6
TSI	**Tuntungan**	**1.23**	**123**	P	Pn	06 05 40.9	+0.9
SNSI	**Sinabang, Aceh**	**2.14**	**215**	P	Pn	06 05 54.4	+3.4
SNSI				S	Sn	06 06 16.0	-1.7
BSI	**Banda Aceh**	**2.59**	**300**	P	Pn	06 06 03.9	+7.0
BSI				S	Sn	06 06 29.4	+1.2
KULM	**Kulim**	**3.29**	**70**	P	Pn	06 06 04.3	-1.8
IPM	**Ipoh**	**3.49**	**85**	P	Pn	06 06 00.6	-8.2

*JMA **03** 06:16:35.5±0.3, 27°84N×127°75E, h18km±3km, M3.3*
*IDC **03** 06:16:37.1±1.0, 27°39N×127°25E, h0km, mb3.4/7, mb1 3.6/8, mb1mx3.6/27, mbtmp3.5/8, ML3.3/1, MS2.8/2, Ms1 2.8/2, ms1mx2.3/24, Error ellipse: s-maj=34.3km s-min=19.6km az=71.0*

ISC 03 06:16:37.1±1.8, 27°74N±0°06×127°89E±0°07, h12km±12km, n15, σ1§34/17, mb3.5/7, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIH	**Iheya**	**0.70**	**174**	P	**Pg**	**06 16 50.9**	**+0.2**
JIH				S	**Sb**	**06 17 01.8**	**+0.9**
JTK	**Tokunoshima**	**0.95**	**87**	P	**Pg**	**06 16 54.9**	**-0.4**
JTK				S	**Sg**	**06 17 08.5**	**+0.8**
JOW	**Kunigami**	**0.97**	**159**	P	**Pg**	**06 16 55.7**	**0.0**
JOW				S	**Sn**	**06 17 10.0**	**-0.1**
JAMN	**Amaminishikomi**	**1.25**	**66**	P	**Pn**	**06 16 59.3**	**-1.0**
JAMN				S	**Sb**	**06 17 15.9**	**-0.7**
JAGN	**Aguni-jima**	**1.28**	**207**	P	**Pn**	**06 16 58.8**	**-2.0**
JAGN				S	**Sb**	**06 17 16.5**	**-1.0**
JJT2	**Tamagusuku 2**	**1.60**	**184**	P	**Pn**	**06 17 05.3**	**+0.2**
JNU	**Nakatsue**	**5.96**	**25**	Pn	Pn	06 18 12.1	+6.9
	0.6nm,0.3s,baz=217,slow=12,SNR=7.4						
ASAJ	**Asahikawa**	**20.17**	**32**	LR	LR	06 28 42.4	
	comp=Z,15nm,20.4s,baz=242,slow=35						
SONM	**Songino Array**	**26.13**	**326**	P	**P**	**06 22 11.9**	**+0.8**
	0.5nm,0.4s,baz=138,slow=13,SNR=2.2						
MKAR	**Makanchi Array**	**40.31**	**311**	P	**P**	**06 24 12.5**	**-1.8**
	0.2nm,0.6s,baz=102,slow=14,SNR=2.8						
ZALV	**Zalesovo Beam**	**40.87**	**322**	P	**P**	**06 24 20.8**	**+2.0**
	0.6nm,0.4s,baz=79,slow=7.5,SNR=3.3						
ZALV				LR	LR	06 44 44.7	
	comp=Z,17nm,19.2s,baz=339,slow=41						
KURBB	**Kurchatov Arra**	**43.56**	**315**	P	**P**	**06 24 43.1**	**+2.4**
	0.2nm,0.5s,baz=99,slow=8.8,SNR=2.5						
WRA	**Warramunga Arr**	**47.81**	**172**	P	**P**	**06 25 13.5**	**-1.1**
	1.2nm,1.0s,baz=353,slow=8.2,SNR=5.8						
ASAR	**Alice Springs**	**51.43**	**173**	P	**P**	**06 25 42.7**	**+0.5**
	0.5nm,0.8s,baz=340,slow=7.9,SNR=4.6						
ILAR	**Eielson Array**	**63.26**	**29**	P	P	06 27 11.6	+6.4
	0.1nm,0.5s,baz=268,slow=6.8,SNR=3.1						

IDC 03 06:26:04.9±1.2, 54°18N×86°24E, h0km, mb3.7/2, mb1 3.9/5, mb1mx3.5/31, mbtmp3.7/5, ML3.6/3, 2D, Error ellipse: s-maj=16.2km s-min=10.5km az=161.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**0.87**	**255**	Pg	Pg	06 26 19.8	-1.8
	2.5nm,0.3s,baz=65,slow=17,SNR=22						
ZALV				Lg	Lg	06 26 32.5	
	21nm,0.3s,baz=62,slow=28,SNR=43						
ZALV				Rg	Rg	06 26 36.7	
	18nm,0.4s,baz=351,slow=36,SNR=8.3						
KURBB	**Kurchatov Arra**	**5.92**	**236**	Pn	Pn	06 27 35.0	+1.3
	1.0nm,0.3s,baz=52,slow=14,SNR=45						
KURBB				Lg	Lg	06 29 13.7	
	0.4nm,0.3s,baz=50,slow=33,SNR=6.5						
MK31	**Makanchi Array**	**7.81**	**200**	⇓Pn	Pn	06 28 01.9	+2.0
	2.4nm,0.6s,baz=25,slow=13,SNR=33						
MK31				⇓Sn	Sn	06 29 30.0	+1.0
	0.4nm,0.4s,baz=32,slow=20						
MK31				Lg	Lg	06 30 13.0	
	2.7nm,0.8s,baz=32,slow=31,SNR=5.8						
MKAR	**Makanchi Array**	**7.81**	**200**	Pn	Pn	06 28 01.9	+2.1
	0.9nm,0.3s,baz=25,slow=13,SNR=40						
MKAR				Sn	Sn	06 29 26.3	-2.8
	0.1nm,0.3s,baz=43,slow=40,SNR=1.3						
MKAR				Lg	Lg	06 30 11.9	
	0.2nm,0.3s,baz=32,slow=30,SNR=8.2						
BVAR	**Borovoye Array**	**9.50**	**269**	Pn	Pn	06 28 24.0	+1.2
	0.3nm,0.3s,baz=72,slow=18,SNR=3.9						
BVAR				Sn	Sn	06 30 02.6	-7.6
	0.4nm,0.3s,baz=226,slow=40,SNR=3.9						
MJAR	**Matsushiro Arr**	**39.53**	**95**	P	P	06 33 35.6	-1.7
	1.0nm,0.4s,baz=308,slow=6.0,SNR=4.5						
ILAR	**Eielson Array**	**54.56**	**25**	P	P	06 35 33.5	-0.8
	0.4nm,0.9s,baz=318,slow=5.3,SNR=4.7						

PRE 03 06:33:01.5±2.7, 32°85S×22°05E, h5km, ML3.6, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CVNA	**Calvinia**	**2.37**	**305**	*e*P	Pn	06 33 42.5	+1.3
CVNA				*e*S	Sn	06 34 11.9	+1.2
CVNA				AML	AML	06 34 16.9	
	comp=Z,169nm,0.3s						
ELIM	**Elim**	**2.59**	**227**	*e*P	Pn	06 33 43.4	-0.8
ELIM				*e*S	Sn	06 34 15.7	-0.4
ELIM				AML	AML	06 34 28.4	
	comp=Z,150nm,0.4s						
BUFB	**Buffelsbos**	**2.60**	**121**	*e*P	Pn	06 33 45.0	+0.8
BUFB				*e*S	Sn	06 34 16.2	0.0
BUFB				AML	AML	06 34 22.5	
	comp=Z,79nm,0.3s						
HVD	**Gariep Dam**	**3.69**	**54**	*e*P	Pn	06 34 01.2	+1.8
HVD				*e*S	Sn	06 34 44.0	+4.0
HVD				AML	AML	06 34 60.0	
	comp=Z,83nm,0.3s						
GRM	**Grahamstown**	**3.77**	**98**	*e*P	Pn	06 34 01.3	+0.8
GRM				*e*S	Sn	06 34 46.7	+1.4
GRM				AML	AML	06 34 58.2	
	comp=Z,49nm,0.3s						
BOSA	**Boshof**	**5.04**	**34**	*e*P	Pn	06 34 17.9	-0.2
BOSA				*e*S	Sn	06 35 15.5	-1.3
BOSA				AML	AML	06 35 40.0	
	comp=Z,36nm,0.4s						
SWZ	**Schweizer**	**6.33**	**28**	*e*P	Pn	06 34 37.3	+1.7
SWZ				*e*S	Sn	06 35 44.6	-3.8
SWZ				AML	AML	06 36 16.7	
	comp=Z,24nm,0.3s						
SEK	**Senekal**	**6.59**	**48**	*e*P	Pn	06 34 40.6	+1.2
SEK				*e*S	Sn	06 35 52.9	-2.2
SEK				AML	AML	06 36 28.6	
	comp=Z,34nm,0.6s						
PRYS	**Parys**	**7.49**	**39**	*e*P	Pn	06 34 50.2	-1.4
PRYS				*e*S	Sn	06 36 10.7	-6.4
PRYS				AML	AML	06 36 53.1	
	comp=Z,12nm,0.4s						
LBTB	**Lobatse**	**8.40**	**23**	*e*S	Sn	06 36 35.4	-4.1
LBTB				AML	AML	06 37 21.8	
	comp=Z,9.9nm,0.7s						

IDC 03 06:37:40.6±2.2, 6°69S×129°44E, h0km, mb3.5/1, mb1 3.6/4, mb1mx3.5/20, mbtmp3.4/4, ML3.0/3, Error ellipse: s-maj=85.1km s-min=28.8km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.93**	**198**	Pn	Pn	06 40 30.7	-1.5
	0.1nm,0.3s,baz=28,slow=12,SNR=2.8						
WRA	**Warramunga Arr**	**14.01**	**161**	Pn	Pn	06 41 01.1	+0.6
	0.1nm,0.3s,baz=341,slow=12,SNR=5.5						
WRA				Sn	Sn	06 43 23.2	-14
	0.6nm,0.3s,baz=337,slow=23,SNR=10						
ASAR	**Alice Springs**	**17.42**	**166**	P	P	06 41 46.0	-0.6
	0.0nm,0.3s,baz=339,slow=10,SNR=8.2						
MKAR	**Makanchi Array**	**67.66**	**327**	P	P	06 48 39.7	0.0
	0.2nm,0.5s,baz=125,slow=6.9,SNR=4.7						

*ISCJB **03** 06:38:22.6±0.8, 5°37S±0°05×35°63E±0°07, h10km, Error ellipse: s-maj=10.7km s-min=6.1km az=161.7*
*PRE **03** 06:38:23.7±1.6, 5°46S×35°75E, h10km, ML4.5*

ISC 03 06:38:24.1±1.1, 5°42S±0°06×35°69E±0°08, h10km, n4, σ1§80/8, Tanzania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DODT	**Dodoma, Tanzan**	**0.77**	**176**	*i*P	**Pg**	**06 38 39.2**	**+0.2**
DODT				*i*S	**Sg**	**06 38 48.5**	**-0.7**
KMBO	**Kilima Mbogo**	**4.54**	**20**	*e*P	**Pn**	**06 39 34.2**	**+1.0**
KMBO				*e*S	**Sn**	**06 40 24.2**	**-1.9**
KIG	**Kigali**	**6.58**	**301**	*e*P	**Pn**	**06 40 01.3**	**+0.1**
KIG				*e*S	**Sn**	**06 41 14.9**	**-1.5**
KIG				AML	AML	06 42 03.4	
	comp=Z,108nm,0.6s						
MBAR	**Mbarara**	**6.88**	**314**	*e*P	**Pn**	**06 40 07.9**	**+2.6**
MBAR				*e*S	**Sn**	**06 41 22.4**	**-1.5**

DJA 03 06:40:21.8±1.1, 10°S±12°×12°3E±°, h16km±16km, M4.0/4, mb4.4/1, MLv3.7/4, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**1.05**	**96**	P	Pb	06 40 40.3	-1.4
SOEI				S	Sb	06 40 54.8	-0.6
MMRI	**Maumere**	**1.39**	**316**	P	Pn	06 40 45.0	-1.6
MMRI				S	Sn	06 41 04.4	-0.3
LBFI	**Labuhan Bajo,**	**3.48**	**289**	P	Pn	06 41 15.4	+0.1
BKSI	**Bulukumba**	**5.28**	**324**	P	Pn	06 41 39.5	-0.6

*ISCJB **03** 07:02:22.8±0.6, 24°27S±0°04×67°14W±0°07, h168km±8km, mb3.5/7, Error ellipse: s-maj=10.4km s-min=7.0km az=174.0*
*IDC **03** 07:02:23.4±1.4, 24°27S×67°07W, h157km±12km, mb3.4/7, mb1 3.6/12, mb1mx3.5/21, mbtmp3.5/12, Error ellipse: s-maj=18.1km s-min=12.1km az=89.0*
*GUC **03** 07:02:26.3±0.7, 23°98S×67°63W, h214km±8km, ML4.9*

ISC 03 07:02:24.0±0.8, 24°27S±0°06×67°13W±0°07, h167km±8km, n25, σ1§72/34, mb3.3/7, 4C-3D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPCH	**San Pedro de A**	**1.67**	**324**	⇑*i*P	Pn	07 03 00.0	+3.0
SPCH				*i*S	**Sn**	**07 03 26.2**	**+3.8**
CEN1	**Los Morros**	**2.95**	**287**	⇓*i*P	**Pn**	**07 03 13.9**	**+2.4**
CEN1				*i*S	**Sn**	**07 03 48.4**	**0.0**
CEN1				AML	AML	07 03 49.5	
	comp=N,1μm,0.5s						
ANCH	**Antofagasta**	**3.06**	**280**	⇑*i*P	**Pn**	**07 03 13.5**	**+0.8**
ANCH				*i*S	**Sn**	**07 03 48.6**	**-2.0**
ANCH				AML	AML	07 03 50.9	
	comp=E,2μm,0.1s						
PB09	**Plate Boundary**	**3.14**	**321**	⇓*i*P	**Pn**	**07 03 15.6**	**+1.6**
PB09				*i*S	**Sn**	**07 03 52.5**	**-0.3**
PB09				AML	AML	07 03 54.4	
	comp=E,5μm,0.5s						
PB10	**Plate Boundary**	**3.23**	**283**	⇑*i*P	**Pn**	**07 03 15.3**	**+0.5**
PB10				*i*S	**Sn**	**07 03 51.7**	**-2.7**
PB10				AML	AML	07 03 57.0	
	comp=E,3μm,0.7s						
PB07	**Plate Boundary**	**3.59**	**314**	⇑*i*P	**Pn**	**07 03 19.8**	**+0.2**
PB07				*i*S	**Sn**	**07 03 59.8**	**-3.1**
PB07				AML	AML	07 04 03.1	
	comp=E,2μm,0.4s						
PB01	**Plate Boundary**	**3.88**	**325**	⇓*i*P	**Pn**	**07 03 23.1**	**-0.1**
PB01				*i*S	**Sn**	**07 04 07.2**	**-2.3**
PB01				AML	AML	07 04 10.2	
	comp=E,824nm,0.1s						
HMBC	**Humberstone**	**4.72**	**327**	*e*P	**Pn**	**07 03 32.8**	**-1.4**
HMBC				*i*S	**Sn**	**07 04 24.8**	**-4.3**
CFAA	**Coronel Fontan**	**7.38**	**187**	P	**Pn**	**07 04 09.5**	**+0.5**
	comp=E,0.1nm,0.3s,baz=352,slow=12,SNR=23						
CFAA				S	**Sn**	**07 05 28.9**	**-3.0**
	comp=E,0.2nm,0.3s,baz=319,slow=18,SNR=9.1						
LPAZ	**La Paz**	**7.99**	**353**	P	**Pn**	**07 04 17.9**	**+0.1**
	comp=E,1.9nm,0.3s,baz=147,slow=6.2,SNR=51						
LPAZ				S	**Sn**	**07 05 46.8**	**-0.8**
	comp=E,0.3nm,0.3s,baz=341,slow=16,SNR=5.2						
CPUP	**Villa Florida**	**9.10**	**105**	P	**Pn**	**07 04 31.6**	**-0.3**
	comp=E,0.2nm,0.3s,baz=287,slow=14,SNR=3.1						
SIV	**San Ignacio**	**10.00**	**36**	P	**Pn**	**07 04 42.2**	**-1.7**
	comp=E,1.9nm,0.3s,baz=226,slow=14,SNR=34						
SIV				S	Sn	07 06 24.5	-10
	comp=E,0.1nm,0.3s,baz=240,slow=17,SNR=3.7						
PLCA	**Paso Flores**	**16.67**	**189**	P	**Pn**	**07 06 09.0**	**+1.1**
	comp=E,0.2nm,0.3s,baz=37,slow=13,SNR=3.6						
BDFB	**Brasilia**	**19.89**	**68**	P	**P**	**07 06 43.0**	**+0.3**
	comp=E,3.4nm,0.3s,baz=241,slow=11,SNR=82						
SNAA	**Sanae**	**59.14**	**161**	P	**P**	**07 12 06.8**	**+0.1**
	comp=E,0.3nm,0.7s,baz=301,slow=18,SNR=3.2						
TXAR	**Lajitas Array**	**63.83**	**325**	P	**P**	**07 12 39.2**	**+0.5**
	comp=E,0.2nm,0.5s,baz=123,slow=6.7,SNR=5.4						
DBIC	**Dimbokro**	**67.99**	**71**	P	**P**	**07 13 04.7**	**-0.8**
	comp=E,3.9nm,0.8s,baz=236,slow=3.9,SNR=3.2						
TORD	**Torodi Ar. Bea**	**76.77**	**69**	P	**P**	**07 13 57.6**	**+0.2**
	comp=E,3.3nm,0.5s,baz=264,slow=6.1,SNR=39						
PDAR	**Pinedale Array**	**77.32**	**329**	P	**P**	**07 14 01.3**	**+1.1**
	comp=E,0.1nm,0.4s,baz=135,slow=9.0,SNR=2.7						
NVAR	**Mina Array Bea**	**78.67**	**321**	P	**P**	**07 14 08.8**	**+1.0**
	comp=E,0.4nm,0.8s,baz=174,slow=6.0,SNR=3.9						
BOSA	**Boshof**	**80.71**	**117**	P	**P**	**07 14 19.6**	**+0.6**
	comp=E,3.7nm,0.8s,baz=269,slow=4.7,SNR=7.6						
ASAR	**Alice Springs**	**128.17**	**205**	PKP	**PKPdf**	**07 21 11.9**	**+0.9**
	comp=E,0.2nm,0.5s,baz=146,slow=2.5,SNR=3.0						
WRA	**Warramunga Arr**	**131.34**	**207**	PKP	**PKPdf**	**07 21 17.6**	**+0.5**
	comp=E,0.3nm,0.6s,baz=170,slow=1.6,SNR=8.4						
WRA				SKPbc	**SKPbc**	**07 24 27.1**	**+0.5**
	comp=E,1.0nm,1.1s,baz=150,slow=3.5,SNR=7.7						
ZALV	**Zalesovo Beam**	**143.68**	**28**	PKP	PKPbc	07 21 37.7	+1.1
	comp=E,1.2nm,0.5s,baz=292,slow=4.3,SNR=4.8						
MKAR	**Makanchi Array**	**146.80**	**40**	PKPbc	**PKPbc**	**07 21 45.9**	**-0.4**
	comp=E,2.0nm,0.6s,baz=309,slow=3.2,SNR=26						

*GUC **03** 07:47:27.6±0.5, 22°83S×66°76W, h255km, ML3.9*
*IDC **03** 07:47:30.8±9.7, 22°18S×65°44W, h251km±82km, mb2.9/1, mb1 2.8/2, mb1mx2.7/17, mbtmp2.8/2, Error ellipse: s-maj=121.3km s-min=82.6km az=37.0*

ISC 03 07:47:31.2±3.6, 22°6S±0°2×67°0W±0°5, h284km±39km, n10, σ1§60/14, 3C-2D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**Plate Boundary**	**2.24**	**290**	*e*P	**Pn**	**07 48 18.3**	**-0.5**
PB04	**Plate Boundary**	**2.35**	**277**	*e*P	Pn	07 48 25.1	+5.6
PB04				*i*S	S	07 49 08.4	+10
PB04				AML	AML	07 49 11.3	
	comp=N,80nm,0.2s						
PB01	**Plate Boundary**	**2.79**	**303**	⇑*i*P	**Pn**	**07 48 23.8**	**-0.1**
PB01				*i*S	**S**	**07 49 06.8**	**+0.9**
PB01				AML	AML	07 49 07.8	
	comp=E,112nm,0.2s						
PB07	**Plate Boundary**	**2.83**	**287**	⇑*i*P	**Pn**	**07 48 24.1**	**-0.3**
PB07				*i*S	**S**	**07 49 06.9**	**+0.2**
PB07				AML	AML	07 49 07.6	
	comp=E,114nm,0.2s						
CEN1	**Los Morros**	**3.08**	**254**	⇑*i*P	**Pn**	**07 48 28.6**	**+1.8**
CEN1				*i*S	**S**	**07 49 14.3**	**+3.1**
CEN1				AML	AML	07 49 16.8	
	comp=N,32nm,0.1s						
ANCH	**Antofagasta**	**3.35**	**250**	⇓*i*P	**Pn**	**07 48 27.7**	**-1.7**
ANCH				*i*S	**S**	**07 49 14.1**	**-1.9**
ANCH				AML	AML	07 49 15.2	
	comp=E,245nm,0.0s						
PB10	**Plate Boundary**	**3.43**	**253**	⇓*i*P	**Pn**	**07 48 29.4**	**-1.0**
PB10				*e*S	**S**	**07 49 16.0**	**-1.5**
LPAZ	**La Paz**	**6.35**	**350**	P	**Pn**	**07 49 04.5**	**-0.5**
	comp=E,0.3nm,0.3s,baz=168,slow=11,SNR=9.5						
LPAZ				S	**S**	**07 50 19.9**	**-0.6**
	comp=E,0.0nm,0.3s,baz=238,slow=13,SNR=1.6						
TORD	**Torodi Ar. Bea**	**76.04**	**69**	P	P	07 58 42.8	-5.2
	comp=E,0.4nm,0.8s,baz=234,slow=6.0,SNR=4.7						
MKAR	**Makanchi Array**	**145.40**	**38**	PKP	**PKPdf**	**08 06 36.2**	**+0.9**
	comp=E,0.3nm,0.7s,baz=321,slow=2.0,SNR=2.6						

IDC 03 07:52:44.5±16.0, 27°60S×61°34E, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.4/26, mbtmp3.5/2, Error ellipse: s-maj=940.2km s-min=59.1km az=36.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**64.67**	**105**	P	P	08 03 25.2	+0.6
	0.5nm,0.6s,baz=246,slow=6.3,SNR=5.8						
WRA	**Warramunga Arr**	**66.40**	**101**	P	P	08 03 34.9	-0.9
	0.2nm,0.5s,baz=242,slow=5.4,SNR=2.2						
YKA	**Yellowknife Ar**	**145.00**	**357**	PKPbc	PKPbc	08 12 21.5	-0.8
	0.9nm,0.9s,baz=352,slow=3.7,SNR=3.5						

IDC 03 08:22:47.2±2.4, 4°14S×135°67E, h0km, mb3.3/1, mb1 3.6/4, mb1mx3.5/18, mbtmp3.4/4, ML3.2/2, Error ellipse: s-maj=80.2km s-min=28.7km az=84.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.76**	**185**	Pn	Pn	08 26 29.5	-1.1
	0.1nm,0.3s,baz=6.6,slow=13,SNR=8.2						
WRA				Sn	Sn	08 29 20.6	-5.5
	0.1nm,0.3s,baz=358,slow=23,SNR=4.1						
FITZ	**Fitzroy Crossi**	**17.00**	**215**	Pn	Pn	08 26 45.7	-0.8
	0.1nm,0.3s,baz=45,slow=10.0,SNR=2.5						
FITZ				Sn	Sn	08 29 48.1	-8.1
	0.1nm,0.3s,baz=198,slow=18,SNR=3.5						
ASAR	**Alice Springs**	**19.48**	**185**	P	Pn	08 27 16.8	-0.3
	0.1nm,0.3s,baz=6.0,slow=12,SNR=12						
MKAR	**Makanchi Array**	**69.11**	**324**	P	P	08 33 55.2	0.0
	0.2nm,0.5s,baz=121,slow=7.5,SNR=2.7						

IDC 03 08:41:14.8±1.9, 18°28S×168°48E, h0km, mb3.9/6, mb1 4.1/7, mb1mx3.9/18, mbtmp3.9/7, ML4.2/1, MS3.2/1, Ms1 3.2/1, ms1mx2.5/32, Error ellipse: s-maj=57.2km s-min=22.4km az=121.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.23**	**207**	Pn	Pn	08 42 22.3	+1.7
	12nm,0.3s,baz=112,slow=11,SNR=87						
DZM				Sn	Sn	08 43 09.6	-1.3
	31nm,0.3s,baz=326,slow=23,SNR=17						
DZM				LR	LR	08 43 52.0	
	comp=Z,285nm,19.8s,baz=10.0,slow=37						
STKA	**Stephens Creek**	**27.77**	**236**	P	P	08 47 06.3	+0.9
	2.6nm,0.6s,baz=68,slow=11,SNR=8.5						
WRA	**Warramunga Arr**	**32.27**	**261**	P	P	08 47 44.4	-1.1
	0.3nm,0.7s,baz=93,slow=8.9,SNR=8.5						
ASAR	**Alice Springs**	**32.67**	**255**	P	P	08 47 48.6	-0.4
	1.5nm,0.6s,baz=83,slow=8.5,SNR=24						
USRK	**Ussuriysk Arra**	**70.56**	**333**	P	P	08 52 32.9	+1.3
	1.2nm,0.6s,baz=124,slow=3.6,SNR=5.8						
SONM	**Songino Array**	**86.03**	**323**	P	P	08 53 57.4	0.0
	0.3nm,0.5s,baz=106,slow=4.4,SNR=3.9						
ILAR	**Eielson Array**	**89.54**	**18**	P	P	08 54 13.2	-0.5
	0.2nm,0.5s,baz=239,slow=5.4,SNR=2.6						
ARCES	**ARCESS Array B**	**123.96**	**345**	PKP	PKPdf	09 00 12.8	-1.6
	3.6nm,1.0s,baz=57,slow=3.3,SNR=4.2						

IDC 03 08:57:07.0±16.0, 20°17S×178°26W, h521km±142km, mb3.2/4, mb1 3.4/4, mb1mx2.9/19, mbtmp3.2/4, Error ellipse: s-maj=187.9km s-min=45.7km az=135.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**44.35**	**256**	P	P	09 04 31.4	+0.4
	2.5nm,0.5s,baz=97,slow=7.6,SNR=51						
ASAR				PcP	PcP	09 06 03.8	-0.1
	0.4nm,0.7s,baz=105,slow=4.2,SNR=4.8						
WRA	**Warramunga Arr**	**44.40**	**262**	P	P	09 04 30.5	-1.0
	1.1nm,0.4s,baz=96,slow=7.8,SNR=48						
FITZ	**Fitzroy Crossi**	**52.83**	**262**	P	P	09 05 34.3	+0.2
	1.8nm,0.8s,baz=188,slow=7.1,SNR=4.0						
ILAR	**Eielson Array**	**88.05**	**13**	P	P	09 09 01.5	+0.4
	0.2nm,0.4s,baz=221,slow=5.8,SNR=4.8						
AKASG	**Malin Array Be**	**142.60**	**331**	PKP	PKPdf	09 15 37.4	-3.1
	1.3nm,0.5s,baz=39,slow=3.6,SNR=4.6						
BRTR	**Keskin Array B**	**146.43**	**313**	PKPbc	PKPbc	09 15 49.8	-0.2
	0.4nm,0.5s,baz=90,slow=1.4,SNR=3.1						

*NIED **03** 08:59:00, 38°30N×141°80E, h68km, Mw3.7 Best double couple: M=3.99000×10^14 NP1:φs=211.00000°, δ83.00000°, λ-86.00000°. NP2:φs=359.00000°, δ9.00000°, λ-121.00000°.*
*ISCJB **03** 08:59:20.2±1.1, 38°30N±0°04×141°9E±0°1, h50km±8km, mb3.6/2, Error ellipse: s-maj=14.2km s-min=5.3km az=18.6*
*JMA **03** 08:59:20.9±0.1, 38°30N×141°82E, h47km±1km, M3.5*
*IDC **03** 08:59:21.9±3.8, 38°37N×142°18E, h73km±22km, mb3.3/2, mb1 3.3/5, mb1mx3.1/28, mbtmp3.3/5, Error ellipse: s-maj=48.6km s-min=13.6km az=120.0*

ISC 03 08:59:20.4±1.7, 38°30N±0°05×141°91E±0°10, h41km±17km, n17, σ1§26/27, 9D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.47**	**290**	⇓P	**Pn**	**08 59 30.9**	**+0.2**
JIO				S	**Sn**	**08 59 37.9**	**-0.1**
OFUJ	**Ofunato**	**0.80**	**346**	⇓P	**Pn**	**08 59 35.6**	**+0.3**
OFUJ				S	**Sn**	**08 59 45.9**	**-0.1**
JMK	**Ichinoseki**	**0.85**	**321**	⇓P	**Pn**	**08 59 36.2**	**+0.3**
JMK				*e*S	**Sn**	**08 59 46.9**	**-0.2**
JMM	**Marumori**	**0.98**	**244**	⇓P	**Pn**	**08 59 37.1**	**-0.6**
JMM				S	**Sn**	**08 59 48.3**	**-2.1**
JOU	**Okura**	**0.98**	**274**	⇓P	**Pn**	**08 59 37.8**	**+0.1**
JOU				S	**Sn**	**08 59 50.0**	**-0.4**
JFK	**Kawauchi**	**1.24**	**222**	⇓P	**Pn**	**08 59 40.8**	**-0.5**
JFK				S	**Sn**	**08 59 55.9**	**-0.9**
JOM	**Ohasama**	**1.27**	**338**	⇓P	**Pn**	**08 59 42.3**	**+0.7**
JOM				*e*S	**Sn**	**08 59 57.5**	**0.0**
JYK	**Kaneyama**	**1.36**	**297**	⇓P	**Pn**	**08 59 43.1**	**+0.2**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTR	**El Retiro**	**1.01**	**323**	*e*P	Pn	09 02 56.4	-0.3
CAHU	**Cacacuatique**	**1.04**	**49**	*e*P	Pn	09 02 56.6	-0.5
CAHU				*e*S	Sb	09 03 11.9	+0.1
CNCH	**Conchagua**	**1.17**	**80**	*e*P	Pn	09 02 58.0	-0.7
CNCH				*e*S	Sn	09 03 14.2	+0.6
RBDL	**Robledal**	**1.21**	**327**	*e*P	Pn	09 02 59.1	-0.3
RBDL				*e*S	Sn	09 03 14.7	-0.2
MRL	**Marmol**	**2.08**	**342**	*e*P	Pn	09 03 12.4	+1.2
FUG	**Fuego 3**	**2.23**	**308**	*e*P	Pb	09 03 17.2	-1.3
FUG				*e*S	Sn	09 03 41.0	+0.9

AUST ***03*** *09:04:22.8±0.5, 8°.64S×120°.48E, h154km, Error ellipse: s-maj=1.0km s-min=0.8km az=40.0*
NEIC ***03*** *09:04:23.6±0.7, 8°.27S×120°.77E, h189km±8km, mb4.2/3, Error ellipse: s-maj=16.4km s-min=5.1km az=63.0*
IDC ***03*** *09:04:24.9±1.2, 8°.19S×120°.85E, h202km±11km, mb3.8/10, mb1 3.9/13, mb1mx3.7/26, mbtmp3.8/13, MS3.9/2, Ms1 3.9/2, ms1mx3.0/35, Error ellipse: s-maj=27.7km s-min=7.7km az=60.0*
DJA ***03*** *09:04:25.2±0.8, 9°S±6°×12°1E±°, h155km±10km, M4.5/7, mb4.5/1, mB4.7/1, MLv4.4/7, Mw(mB)3.9/1*
ISC 03 09:04:24.1±0.4, **8°.53S**±0°.04×**120°.46E**±0°.06, **h200**km, **n69,** σ1§**91**/78, **mb3.7**/11, **Flores region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBFI	**Labuhan Bajo,**	**0.57**	**275**	P	**Pn**	**09 04 48.8**	**-2.7**
LBFI				S	**Sn**	**09 05 07.9**	**-4.7**
WSI	**Waingapu**	**1.15**	**188**	P	**Pn**	**09 04 53.3**	**-1.6**
WSI	**Waingapu**	**1.15**	**188**	S	**Sn**	**09 05 14.7**	**-4.3**
baz=1.0,SNR=13							
MMRI	**Maumere**	**1.76**	**94**	P	**Pn**	**09 04 57.6**	**-2.6**
BKSI	**Bulukumba**	**3.20**	**354**	P	**Pn**	**09 05 14.8**	**-1.4**
KAPI	**Kappang**	**3.56**	**349**	P	**Pn**	**09 05 17.7**	**-2.8**
KAPI				S	**Sn**	**09 06 01.9**	**-3.0**
KAPI				*e*Sn	Sn	09 06 04.1	-0.8
KAPI	**Kappang**	**3.56**	**349**	P	**Pn**	**09 05 19.0**	**-1.6**
KAPI	**Kappang**	**3.56**	**349**	P	**Pn**	**09 05 17.7**	**-2.8**
7.8nm,0.3s,baz=162,slow=7.3,SNR=15							
KAPI				S	**Sn**	**09 06 01.9**	**-3.0**
1.3nm,0.3s,baz=209,slow=18,SNR=3.1							
BBSI	**Bau Bau**	**3.67**	**35**	P	**Pn**	**09 05 20.7**	**-1.2**
SOEI	**Soe**	**3.95**	**108**	P	**Pn**	**09 05 22.5**	**-2.9**
SOEI	**Soe**	**3.95**	**108**	P	**Pn**	**09 05 23.2**	**-2.2**
baz=3.9,SNR=66							
SPSI	**Sidrap Palu**	**4.59**	**351**	P	**Pn**	**09 05 33.3**	**0.0**
TTSI	**Tana Toraja**	**5.49**	**353**	P	**Pn**	**09 05 45.5**	**+0.7**
UGM	**Wanagama**	**9.86**	**273**	P	**Pn**	**09 06 41.2**	**-0.4**
baz=9.9,SNR=4.9							
FITZ	**Fitzroy Crossi**	**10.77**	**153**	P	**Pn**	**09 06 52.4**	**-0.9**
FITZ				S	**Sn**	**09 08 49.8**	**-3.6**
FITZ	**Fitzroy Crossi**	**10.77**	**153**	P	**Pn**	**09 06 52.4**	**-0.9**
1.4nm,0.3s,baz=337,slow=11,SNR=23							
FITZ				S	**Sn**	**09 08 49.8**	**-3.6**
2.8nm,0.3s,baz=187,slow=11,SNR=5.9							
FITZ	**Fitzroy Crossi**	**10.77**	**153**	P	**Pn**	**09 06 52.4**	**-0.9**
baz=11,SNR=35							
KNRA	**Kununurra**	**10.78**	**132**	P	**Pn**	**09 06 50.8**	**-2.8**
baz=11,SNR=32							
KNRA				S	Sn	09 08 42.4	-12
baz=11,SNR=12							
MTN	**Manton Dam**	**11.33**	**113**	P	**Pn**	**09 06 58.1**	**-2.4**
baz=11,SNR=40							
MTN				S	Sn	09 08 54.7	-12
baz=11,SNR=11							
KDU	**Kakadu**	**12.51**	**110**	P	**Pn**	**09 07 13.0**	**-2.5**
baz=12,SNR=18							
CISI	**Cisompet, Garu**	**12.56**	**274**	S	**Sn**	**09 09 36.2**	**-0.3**
baz=13,SNR=6.2							
MBWA	**Marble Bar**	**12.58**	**183**	*e*Pn	**P**	**09 07 19.1**	**-1.0**
20nm,1.1s							
FAKI	**Fak Fak**	**12.98**	**65**	P	**P**	**09 07 26.5**	**+1.8**
baz=13,SNR=4.0							
KSM	**Kuching**	**14.18**	**314**	*e*Pn	**P**	**09 07 37.9**	**-0.2**
KKM	**Kota Kinabalu**	**15.08**	**344**	*e*Pn	**Pn**	**09 07 46.0**	**-1.6**
KKM	**Kota Kinabalu**	**15.08**	**344**	P	**P**	**09 07 50.4**	**+2.3**
baz=15,SNR=4.7							
WRA	**Warramunga Arr**	**17.58**	**132**	P	**P**	**09 08 14.9**	**-0.6**
WRA				S	**S**	**09 11 28.0**	**+0.2**
WRA	**Warramunga Arr**	**17.58**	**132**	P	**P**	**09 08 14.9**	**-0.6**
2.6nm,0.3s,baz=308,slow=11,SNR=178							
WRA				S	**S**	**09 11 28.0**	**+0.2**
1.8nm,0.3s,baz=309,slow=24,SNR=4.6							
WRAB	**Tennant Creek**	**17.58**	**132**	*e*P	**P**	**09 08 15.4**	**-0.1**
12nm,0.9s							
MEEK	**Meekatharra**	**18.10**	**185**	P	**Pn**	**09 08 23.8**	**+0.5**
baz=18,SNR=4.7							
AS31	**Alice Springs**	**19.81**	**141**	*e*P	**P**	**09 08 40.7**	**+1.1**
ASAR	**Alice Springs**	**19.81**	**141**	P	**P**	**09 08 40.4**	**+0.8**
ASAR				S	**S**	**09 12 13.7**	**+1.9**
ASAR				ScP	**ScP**	**09 16 05.3**	**-0.9**
ASAR	**Alice Springs**	**19.81**	**141**	P	**P**	**09 08 40.4**	**+0.8**
3.2nm,0.3s,baz=330,slow=13,SNR=123							
ASAR				S	**S**	**09 12 13.7**	**+1.9**
baz=310,slow=19,SNR=5.1							
ASAR				ScP	**ScP**	**09 16 05.3**	**-0.9**
0.2nm,0.3s,baz=318,slow=2.4,SNR=4.6							
MORW	**Morawa**	**20.85**	**191**	P	Pn	09 08 54.7	-1.9
baz=21,SNR=3.3							
BLDU	**Ballidu**	**22.25**	**189**	P	**P**	**09 09 06.2**	**+1.5**
baz=22,SNR=8.6							
KLBR	**Kellerberrin**	**23.09**	**186**	P	**P**	**09 09 14.3**	**+2.1**
baz=23,SNR=8.5							
FORT	**Forrest**	**23.25**	**163**	P	**P**	**09 09 15.6**	**+1.8**
baz=23,SNR=8.7							
NWAO	**Narrogin (SRO)**	**24.46**	**187**	P	**P**	**09 09 28.0**	**+3.3**
NWAO	**Narrogin (SRO)**	**24.46**	**187**	P	**P**	**09 09 28.0**	**+3.3**
5.8nm,0.7s,baz=9.2,slow=16,SNR=5.5							
BBOO	**Buckleboo**	**28.15**	**151**	P	**P**	**09 09 59.2**	**+1.4**
baz=28,SNR=7.3							
STKA	**Stephens Creek**	**30.42**	**143**	P	**P**	**09 10 19.6**	**+1.7**
STKA	**Stephens Creek**	**30.42**	**143**	P	**P**	**09 10 19.6**	**+1.7**
16nm,0.4s,baz=323,slow=8.3,SNR=101							
STKA	**Stephens Creek**	**30.42**	**143**	P	**P**	**09 10 19.4**	**+1.5**
baz=30,SNR=70							
ARPS	**Mount Arapiles**	**34.17**	**149**	P	**P**	**09 10 52.6**	**+2.2**
baz=34,SNR=24							
CMAR	**Chiang Mai Arr**	**34.20**	**322**	P	**P**	**09 10 51.4**	**+0.4**
CMAR	**Chiang Mai Arr**	**34.20**	**322**	P	**P**	**09 10 51.4**	**+0.4**
0.7nm,0.3s,baz=134,slow=6.0,SNR=5.6							
YNG	**Young**	**36.29**	**139**	P	**P**	**09 11 11.1**	**+2.5**
baz=36,SNR=19							
TOO	**Toolangi**	**36.72**	**146**	P	**P**	**09 11 15.2**	**+3.0**
baz=37,SNR=8.2							
MGCD	**Mangrove Creek**	**37.47**	**135**	P	P	09 11 21.8	+3.2
baz=37,SNR=7.4							
SONM	**Songino Array**	**57.48**	**349**	P	**P**	**09 13 51.9**	**-0.5**
SONM				pP	**pP**	**09 14 38.8**	**+1.0**
SONM	**Songino Array**	**57.48**	**349**	P	**P**	**09 13 51.9**	**-0.5**
0.7nm,0.5s,baz=166,slow=8.2,SNR=4.3							
SONM				pP	**pP**	**09 14 38.8**	**+1.0**
0.5nm,0.5s,baz=156,slow=11,SNR=4.8							
MK31	**Makanchi Array**	**64.71**	**332**	*e*P	**P**	**09 14 40.6**	**-0.2**
MKAR	**Makanchi Array**	**64.71**	**332**	P	**P**	**09 14 40.9**	**0.0**
MKAR				pP	**pP**	**09 15 25.8**	**-1.5**
MKAR	**Makanchi Array**	**64.71**	**332**	P	**P**	**09 14 40.9**	**0.0**
1.9nm,0.5s,baz=148,slow=7.6,SNR=42							
MKAR				pP	**pP**	**09 15 25.8**	**-1.5**
1.5nm,0.9s,baz=145,slow=7.7,SNR=5.0							
ZALV	**Zalesovo Beam**	**69.13**	**338**	P	**P**	**09 15 07.5**	**-1.0**
ZALV	**Zalesovo Beam**	**69.13**	**338**	P	**P**	**09 15 07.5**	**-1.0**
3.4nm,0.5s,baz=141,slow=5.6,SNR=11							
KURBB	**Kurchatov Arra**	**69.20**	**333**	P	**P**	**09 15 08.7**	**-0.3**
0.6nm,0.4s,baz=142,slow=5.6,SNR=5.4							
KURK	**Kurchatov**	**69.22**	**333**	P	**P**	**09 15 08.7**	**-0.4**
MAW	**Mawson**	**70.17**	**200**	P	P	09 15 18.2	+3.5
MAW	**Mawson**	**70.17**	**200**	P	P	09 15 18.2	+3.5
0.8nm,0.5s,baz=88,slow=3.5,SNR=6.9							
VNDA	**Vanda**	**72.23**	**171**	P	**P**	**09 15 29.9**	**+3.0**
VNDA	**Vanda**	**72.23**	**171**	P	**P**	**09 15 29.9**	**+3.0**
1.7nm,0.5s,baz=318,slow=7.0,SNR=24							
BVAR	**Borovoye Array**	**74.57**	**331**	P	**P**	**09 15 40.9**	**-0.1**
BVAR	**Borovoye Array**	**74.57**	**331**	P	**P**	**09 15 40.8**	**-0.1**
0.4nm,0.4s,baz=130,slow=4.7,SNR=3.2							
ABKAR	**Akbulak array**	**78.02**	**324**	*e*P	**P**	**09 16 00.1**	**-0.3**
0.5nm,0.5s							
FINES	**FINESS Array B**	**99.53**	**331**	LR	LR	10 05 23.9	
comp=Z,54nm,18.9s,baz=181,slow=37							
ARCES	**ARCESS Array B**	**99.67**	**339**	LR	LR	10 03 45.8	
comp=Z,39nm,19.5s,baz=268,slow=36							
TORD	**Torodi Ar. Bea**	**119.80**	**280**	PKP	**PKPdf**	**09 22 52.4**	**+0.8**
TORD	**Torodi Ar. Bea**	**119.80**	**280**	PKP	**PKPdf**	**09 22 52.3**	**+0.8**
0.2nm,0.6s,baz=70,slow=4.0,SNR=3.3							

BJI ***03*** *09:05:12.3, 5°.91S×146°.56E, h72km, mB4.9/26, mb4.9/37, Ms4.8/14, Ms7 4.6/10*
ISCJB ***03*** *09:05:18.6±0.2, 5°.27S±0°.03×145°.98E±0°.04, h69km, mb4.8/68, Error ellipse: s-maj=6.2km s-min=3.8km az=174.1*
MOS ***03*** *09:05:19.7±0.7, 5°.29S×145°.76E, h79km, mb5.1/17, Error ellipse: s-maj=11.9km s-min=7.8km az=100.1*
IDC ***03*** *09:05:20.8±2.0, 5°.33S×145°.85E, h75km±18km, mb4.5/27, mb1 4.6/29, mb1mx4.6/30, mbtmp4.5/29, MS3.8/17, Ms1 3.8/17, ms1mx3.6/31, Error ellipse: s-maj=13.2km s-min=8.1km az=88.0*
NEIC ***03*** *09:05:24.0±1.0, 5°.30S×145°.81E, h105km±9km, mb4.9/22, Error ellipse: s-maj=6.0km s-min=5.0km az=72.0*
AUST ***03*** *09:05:28.3±0.4, 5°.70S×145°.86E, h121km, Error ellipse: s-maj=1.2km s-min=0.8km az=18.0*
DJA ***03*** *09:05:38.9±1.2, 6°S±12°×14°5E±1°3, h207km±8km, M5.2/15, mB5.4/7, mb5.1/15, MLv5.5/2, Mw(mB)4.8/7*
ISC 03 09:05:20.4±0.3, **5°.32S**±0°.04×**145°.94E**±0°.06, **h69**km, **n186,** σ1§**22**/213, **mb5.0**/68, **2C-3D, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.24**	**163**	*e*Pn	**Pn**	**09 06 23.0**	**+0.5**
PMG				S	**Sn**	**09 07 10.7**	**-0.1**
PMG	**Port Moresby**	**4.24**	**163**	P	**Pn**	**09 06 22.9**	**+0.4**
PMG	**Port Moresby**	**4.24**	**163**	P	**Pn**	**09 06 23.0**	**+0.5**
175nm,0.3s,baz=358,slow=5.8,SNR=382							
PMG				S	**Sn**	**09 07 10.7**	**-0.1**
45nm,0.3s,baz=315,slow=18,SNR=4.3							
JAY	**Jayapura**	**5.92**	**298**	P	Pn	09 07 03.6	+18
111nm,0.7s,0.8nm							
RABL	**Rabaul**	**6.30**	**80**	P	Pn	09 06 57.6	+6.8
baz=6.5,SNR=3.8							
COEN	**Coen**	**9.00**	**197**	*e*Pn	**Pn**	**09 07 28.9**	**+1.2**
COEN				*e*Sn	**Sn**	**09 09 08.2**	**+0.6**
COEN	**Coen**	**9.00**	**197**	P	**Pn**	**09 07 29.4**	**+1.6**
baz=8.7,SNR=208							
MTSU	**Mount Surprise**	**12.83**	**187**	P	**Pn**	**09 08 22.2**	**+2.2**
baz=12,SNR=6.7							
HNR	**Honiara**	**14.48**	**107**	P	**P**	**09 08 46.6**	**-0.1**
HNR	**Honiara**	**14.48**	**107**	P	**P**	**09 08 46.6**	**-0.1**
10nm,0.3s,baz=83,slow=1.2,SNR=6.4							
HNR				LR	LR	09 14 07.7	
comp=Z,43nm,20.1s,baz=34,slow=36							
CTA	**Charters Tower**	**14.68**	**179**	P	**P**	**09 08 48.5**	**-0.5**
CTA	**Charters Tower**	**14.68**	**179**	P	**P**	**09 08 48.5**	**-0.5**
6.5nm,0.3s,baz=359,slow=14,SNR=30							
CTAO	**Charters Tower**	**14.68**	**179**	*e*P	**P**	**09 08 48.1**	**-0.8**
CTAO	**Charters Tower**	**14.68**	**179**	*e*Pn	**P**	**09 08 48.1**	**-0.8**
KDU	**Kakadu**	**15.17**	**240**	P	**P**	**09 08 53.4**	**-1.0**
baz=15,SNR=14							
SWI	**Sorong**	**15.31**	**286**	P	**P**	**09 08 56.4**	**+0.5**
172nm,0.8s,2μm							
SWI	**Sorong**	**15.31**	**286**	P	**P**	**09 08 56.6**	**+0.7**
baz=15,SNR=7.1							
AAI	**Ambon**	**17.76**	**275**	P	**Pn**	**09 09 24.6**	**+1.4**
232nm,0.7s							
AAI	**Ambon**	**17.76**	**275**	P	**Pn**	**09 09 25.4**	**+2.2**
baz=18,SNR=5.3							
WRAB	**Tennant Creek**	**18.39**	**217**	*e*P	**P**	**09 09 29.4**	**-0.6**
WRAB	**Tennant Creek**	**18.39**	**217**	*e*P	**P**	**09 09 29.4**	**-0.6**
WRA	**Warramunga Arr**	**18.40**	**217**	P	**P**	**09 09 30.0**	**-0.1**
WRA	**Warramunga Arr**	**18.40**	**217**	P	**P**	**09 09 30.0**	**-0.1**
2.5nm,0.3s,baz=41,slow=11,SNR=12							
WRA				LR	LR	09 17 14.9	
comp=Z,272nm,18.0s,baz=35,slow=39							
NLAI	**Namlea**	**18.90**	**276**	P	**Pn**	**09 09 37.4**	**+0.5**
233nm,0.7s,2μm							
KNRA	**Kununurra**	**19.76**	**237**	S	S	09 13 13.7	-10
baz=20,SNR=4.9							
EIDS	**Eidsvold**	**20.54**	**167**	*e*P	**P**	**09 09 54.5**	**+1.2**
28nm,0.8s							
EIDS	**Eidsvold**	**20.54**	**167**	P	**P**	**09 09 54.5**	**+1.2**
baz=20,SNR=9.7							
RMQ	**Roma**	**21.22**	**173**	P	**P**	**09 10 04.5**	**+3.8**
baz=21,SNR=10							
ASAR	**Alice Springs**	**21.61**	**211**	P	**P**	**09 10 04.7**	**-0.2**
ASAR				S	**S**	**09 13 59.7**	**-1.1**
ASAR	**Alice Springs**	**21.61**	**211**	P	**P**	**09 10 04.7**	**-0.2**
4.2nm,0.4s,baz=43,slow=7.7,SNR=16							
ASAR				S	**S**	**09 13 59.7**	**-1.1**
6.6nm,0.9s,baz=36,slow=22,SNR=6.2							
ASAR				LR	LR	09 18 54.8	
comp=Z,276nm,19.3s,baz=15,slow=38							
SOEI	**Soe**	**21.93**	**257**	P	**P**	**09 10 09.5**	**+1.0**
baz=22,SNR=6.4							
LUWI	**Luwuk**	**23.51**	**280**	P	**P**	**09 10 24.8**	**+0.2**
179nm,1.4s							
FITZ	**Fitzroy Crossi**	**23.55**	**236**	P	**P**	**09 10 24.9**	**0.0**
FITZ	**Fitzroy Crossi**	**23.55**	**236**	P	**P**	**09 10 24.9**	**0.0**
60nm,0.8s,baz=51,slow=8.6,SNR=11							
FITZ				LR	LR	09 20 22.5	
comp=Z,173nm,19.4s,baz=44,slow=38							
FITZ	**Fitzroy Crossi**	**23.55**	**236**	P	**P**	**09 10 26.5**	**+1.7**
baz=23,SNR=4.2							
GTOI	**Gorontalo**	**23.65**	**284**	P	**P**	**09 10 28.8**	**+3.0**
314nm,0.8s,4μm							
MMRI	**Maumere**	**23.75**	**261**	*e*P	**P**	**09 10 26.0**	**-0.7**
104nm,0.5s							
SKSI	**Soroako, Sulaw**	**24.70**	**275**	P	**P**	**09 10 37.2**	**+1.8**
79nm,0.9s,801nm							
ARMA	**Armidale**	**25.54**	**169**	*e*P	**P**	**09 10 43.7**	**+0.9**
110nm,2.0s							
ARMA	**Armidale**	**25.54**	**169**	P	**P**	**09 10 43.4**	**+0.6**
baz=25,SNR=8.8							
BKSI	**Bulukumba**	**25.70**	**269**	P	**P**	**09 10 47.7**	**+3.2**
50nm,1.1s							
DZM	**Mont Dzumac**	**25.90**	**132**	P	**P**	**09 10 46.2**	**-0.1**
DZM	**Mont Dzumac**	**25.90**	**132**	P	**P**	**09 10 46.2**	**-0.1**
20nm,0.7s,baz=316,slow=16,SNR=11							
DZM				LR	LR	09 19 43.9	
comp=Z,296nm,20.1s,baz=36,slow=33							
KAPI	**Kappang**	**26.08**	**269**	*e*P	**P**	**09 10 46.6**	**-1.3**
KAPI	**Kappang**	**26.08**	**269**	P	**P**	**09 10 46.5**	**-1.3**
20nm,0.6s,baz=134,slow=5.6,SNR=6.9							
TTSI	**Tana Toraja**	**26.15**	**274**	P	**P**	**09 10 49.9**	**+1.4**
69nm,1.0s,2μm							
STKA	**Stephens Creek**	**26.73**	**188**	*e*P	**P**	**09 10 53.6**	**+0.1**
3.6nm,0.9s							
STKA	**Stephens Creek**	**26.73**	**188**	P	**P**	**09 10 53.9**	**+0.3**
5.1nm,0.4s,baz=346,slow=10.0,SNR=6.0							
STKA				LR	LR	09 22 44.9	
comp=Z,267nm,21.3s,baz=20,slow=39							
MMSI	**Mamuju**	**27.09**	**274**	P	**P**	**09 11 00.7**	**+3.7**
FORT	**Forrest**	**30.40**	**211**	*e*P	**P**	**09 11 26.4**	**+0.3**
84nm,0.8s							
MSVF	**Nonsavu**	**33.72**	**114**	*e*P	**P**	**09 11 57.2**	**+1.6**
MSVF				pmax	pmax		
comp=Z,36nm,0.7s							
MSVF	**Nonsavu**	**33.72**	**114**	*e*P	**P**	**09 11 57.2**	**+1.6**
comp=Z,36nm,0.7s							
SBUM	**Sibu**	**34.55**	**282**	*e*P	**P**	**09 12 03.0**	**+0.3**
comp=Z,7.5nm,0.8s							
MORW	**Morawa**	**36.85**	**227**	P	**P**	**09 12 22.7**	**+0.5**
baz=37,SNR=6.6							
KLBR	**Kellerberrin**	**37.15**	**222**	P	**P**	**09 12 24.9**	**+0.1**
baz=37,SNR=20							
BLDU	**Ballidu**	**37.27**	**224**	P	**P**	**09 12 26.0**	**+0.3**
baz=37,SNR=18							
YHNB	**Yeheng**	**38.21**	**322**	*e*P	**P**	**09 12 33.0**	**-0.9**
comp=Z,56nm,1.0s							
NWAO	**Narrogin (SRO)**	**38.34**	**221**	P	**P**	**09 12 34.0**	**-0.7**
NWAO				PcP	**PcP**	**09 14 46.6**	**-0.8**
NWAO	**Narrogin (SRO)**	**38.34**	**221**	P	**P**	**09 12 34.0**	**-0.7**
comp=Z,17nm,0.8s,baz=56,slow=7.3,SNR=6.5							
NWAO				PcP	**PcP**	**09 14 46.6**	**-0.8**
comp=Z,5.0nm,0.5s,baz=168,slow=6.1,SNR=4.1							
NWAO				LR	LR	09 30 40.8	
comp=Z,207nm,20.5s,baz=351,slow=40							
TATO	**Taipei**	**38.37**	**323**	*e*P	**P**	**09 12 34.8**	**-0.3**
comp=Z,93nm,0.7s							
OUZ	**Omahuta**	**39.20**	**143**	*e*P	**P**	**09 12 43.9**	**+2.1**
RKGY	**Rocky Gully**	**39.58**	**219**	P	**P**	**09 12 46.3**	**+1.2**
baz=39,SNR=6.5							
JNU	**Nakatsue**	**40.81**	**341**	P	**P**	**09 12 54.2**	**-1.1**
JNU	**Nakatsue**	**40.81**	**341**	P	**P**	**09 12 54.2**	**-1.1**
comp=Z,18nm,1.0s,baz=140,slow=8.2,SNR=5.4							
MJAR	**Matsushiro Arr**	**42.27**	**351**	P	**P**	**09 13 06.4**	**-0.8**
MJAR	**Matsushiro Arr**	**42.27**	**351**	P	**P**	**09 13 06.4**	**-0.8**
comp=Z,12nm,1.1s,baz=170,slow=6.8,SNR=16							
MAT	**Matsushiro**	**42.27**	**351**	P	**P**	**09 13 06.1**	**-1.0**
MAT				*e*S	S	09 19 14.4	-8.4
QIZ	**Qiongzhong**	**43.00**	**305**	P	**P**	**09 13 13.3**	**-0.1**
QIZ				pP	**pP**	**09 13 30.6**	**+0.1**
QIZ				S	**S**	**09 19 33.6**	**-0.5**
QIZ				pmax	pmax		
comp=Z,25nm,2.1s							
QIZ				pmax	pmax		
comp=Z,180nm,3.3s							
QIZ				LR	LR		
comp=N,350nm,3.2s							
QIZ				LR	LR		
comp=Z,210nm,3.0s							
URZ	**Urewera**	**43.32**	**144**	*e*P	**P**	**09 13 16.2**	**+0.5**
comp=Z,9.1nm,0.5s							
URZ	**Urewera**	**43.32**	**144**	P	**P**	**09 13 16.4**	**+0.8**
comp=Z,14nm,0.6s,baz=196,slow=4.2,SNR=15							
URZ				LR	LR	09 27 56.8	
comp=Z,236nm,21.7s,baz=122,slow=31							
RPZ	**Rata Peaks**	**44.18**	**154**	*e*P	**P**	**09 13 22.7**	**+0.2**
comp=Z,27nm,0.9s							
RPZ	**Rata Peaks**	**44.18**	**154**	P	**P**	**09 13 22.9**	**+0.4**
comp=Z,18nm,0.6s,baz=312,slow=2.9,SNR=15							
RPZ				LR	LR	09 28 20.2	
comp=Z,281nm,21.2s,baz=323,slow=31							
NJ2	**Nanjing**	**45.24**	**327**	*e*P	**P**	**09 13 32.2**	**+1.2**
NJ2				pmax	pmax		
comp=Z,18nm,0.7s							
KSRS	**Korea Array**	**45.75**	**340**	P	**P**	**09 13 35.0**	**+0.1**
comp=Z,15nm,0.8s,baz=157,slow=9.0,SNR=60							
KSRS				LR	LR	09 29 19.3	
comp=Z,86nm,21.4s,baz=139,slow=32							
KSAR	**Wonju Array Be**	**45.75**	**340**	P	**P**	**09 13 35.0**	**0.0**
WHN	**Wuhan**	**46.75**	**322**	P	**P**	**09 13 42.7**	**-0.2**
PSI	**Prapat**	**47.65**	**279**	P	**P**	**09 13 48.6**	**-1.8**
PSI	**Prapat**	**47.65**	**279**	P	**P**	**09 13 48.6**	**-1.8**
comp=Z,4.1nm,0.6s,baz=180,slow=10.0,SNR=4.8							
ASAJ	**Asahikawa**	**49.30**	**357**	P	**P**	**09 14 02.3**	**-0.1**
ASAJ	**Asahikawa**	**49.30**	**357**	P	**P**	**09 14 02.3**	**-0.1**
comp=Z,14nm,1.0s,baz=227,slow=11,SNR=4.3							
GYA	**Guiyang**	**49.44**	**312**	P	**P**	**09 14 04.8**	**+0.8**
GYA				pP	**pP**	**09 14 23.7**	**+2.2**
GYA				sP	**sP**	**09 14 31.9**	**+2.6**
GYA				PcP	**PcP**	**09 15 27.0**	**+1.6**
GYA				PP	**PP**	**09 16 01.2**	**+2.4**
GYA				ScP	**ScP**	**09 19 13.5**	**-1.4**
GYA				PcS	**PcS**	**09 19 22.0**	**-0.3**
GYA				S	**S**	**09 21 05.4**	**-1.1**
GYA				sS	**sS**	**09 21 37.0**	**+0.8**
GYA				pmax	pmax		
comp=Z,20nm,0.8s							
GYA				pmax	pmax		
comp=Z,110nm,4.9s							
GYA				LR	LR		
comp=N,490nm,17.9s							
GYA				LR	LR		
comp=E,380nm,18.0s							
GYA				LR	LR		
comp=Z,460nm,17.8s							
ENH	**Enshi**	**49.71**	**318**	*e*P	**P**	**09 14 05.4**	**-0.4**
USRK	**Ussuriysk Arra**	**50.87**	**347**	P	**P**	**09 14 14.4**	**+0.1**
comp=Z,15nm,0.7s,baz=176,slow=7.0,SNR=66							
KMI	**Kunming**	**51.75**	**308**	P	**P**	**09 14 20.8**	**-0.7**
KMI				pmax	pmax		
comp=Z,14nm,1.0s							
MDJ	**Mudanjiang**	**51.84**	**345**	P	**P**	**09 14 21.2**	**-0.3**
MDJ				pP	**pP**	**09 14 39.3**	**+0.2**
MDJ				PP	**PP**	**09 16 19.3**	**-0.7**
MDJ				ScP	**ScP**	**09 19 24.3**	**-0.3**
MDJ				S	**S**	**09 21 38.5**	**-0.3**
MDJ				sS	**sS**	**09 22 09.4**	**+0.7**
MDJ				SS	**SS**	**09 25 16.8**	**+0.3**
MDJ				pmax	pmax		
comp=Z,16nm,1.0s							
MDJ				pmax	pmax		
comp=Z,40nm,4.2s							
MDJ	**Mudanjiang**	**51.84**	**345**	*e*P	**P**	**09 14 21.3**	**-0.2**
comp=Z,4.5nm,0.6s							
CMAR	**Chiang Mai Arr**	**52.00**	**298**	P	**P**	**09 14 23.4**	**+0.1**
CMAR	**Chiang Mai Arr**	**52.00**	**298**	P	**P**	**09 14 23.4**	**+0.1**
comp=Z,4.1nm,0.8s,baz=123,slow=6.1,SNR=16							
CMAR				LR	LR	09 36 20.8	
comp=Z,65nm,18.6s,baz=151,slow=36							

comp=E,2.4nm,1.0s,baz=155,slow=8.0,SNR=8.0
PPT Papeete 64.10 107 LR LR 09 40 37.8
comp=E,110nm,18.9s,baz=293,slow=33
ZAK Zakamensk 66.54 332 *e*P **P 09 16 02.4 -0.8**
ZAK *e* 09 16 20.0
ZAK pmax pmax
comp=Z,9.0nm,1.0s
TLY Talaya 67.26 333 *e*P **P 09 16 08.4 +0.8**
TLY pmax pmax
comp=Z,3.0nm,0.9s
SEY Seymchan 68.24 3*c e*P **P 09 16 13.4 -0.1**
YAK Yakutsk 68.32 352 *e*P **P 09 16 13.9 0.0**
YAK pmax pmax
comp=Z,14nm,0.6s
WMQ Urumqi 71.59 320 *e*P **P 09 16 35.5 +0.9**
WMQ pmax pmax
comp=Z,10.0nm,0.8s
WMQ pmax pmax
comp=Z,100nm,5.0s
VNDA Vanda 72.65 176 P **P 09 16 40.5 +0.3**
VNDA Vanda 72.65 176 P **P 09 16 40.5 +0.3**
comp=Z,11nm,0.6s,baz=328,slow=6.3,SNR=50
SBA Scott Base 73.31 175 *e*P **P 09 16 44.8 +0.7**
SBA pmax pmax
comp=Z,10.0nm,1.0s
SBA Scott Base 73.31 175 *e*P **P 09 16 44.8 +0.7**
comp=Z,9.6nm,1.0s
MK31 Makanchi Array 76.31 321 *e*P **P 09 17 01.0 -1.0**
MK31 Makanchi Array 76.31 321 *e*P **P 09 17 00.9 -1.0**
MKAR Makanchi Array 76.31 321 P **P 09 17 01.5 -0.5**
MKAR Makanchi Array 76.31 321 P **P 09 17 01.5 -0.5**
MKAR Makanchi Array 76.31 321 P **P 09 17 01.5 -0.5**
comp=Z,2.7nm,0.7s,baz=96,slow=7.3,SNR=11
ZALV Zalesovo Beam 77.88 328 P **P 09 17 09.0 -1.6**
ZALV Zalesovo Beam 77.88 328 P **P 09 17 09.0 -1.6**
ZALV Zalesovo Beam 77.88 328 P **P 09 17 09.0 -1.6**
comp=Z,2.8nm,0.7s,baz=110,slow=6.4,SNR=7.7
ZALV LR LR 09 50 00.3
comp=Z,41nm,20.6s,baz=340,slow=34
KSH Kashi 78.14 312 *e*P **P 09 17 10.4 -2.1**
KSH sP **sP 09 17 39.1 +0.3**
KSH PP **PP 09 20 08.5 -1.5**
KSH S S 09 26 54.3 -7.6
KSH ScS **SKSac 09 27 19.0 -2.2**
KSH pmax pmax
comp=Z,53nm,4.0s
KSH LR LR
comp=N,120nm,4.6s
KSH LR LR
comp=E,110nm,5.6s
KSH LR LR
comp=Z,200nm,4.4s
KURK Kurchatov 80.04 323 P **P 09 17 21.4 -1.1**
KURK Kurchatov 80.04 323 P **P 09 17 21.4 -1.1**
KURBB Kurchatov Arra 80.06 323 P **P 09 17 21.4 -1.2**
comp=Z,2.0nm,0.8s,baz=115,slow=4.2,SNR=11
AAK Ala-Archa 80.11 315⇓*i*P **P 09 17 22.3 -1.0**
AAK pmax pmax
comp=Z,5.0nm,0.7s
EKS2 Erkin-Say 80.63 315 *e*P **P 09 17 25.5 -0.5**
EKS2 pmax pmax
comp=Z,8.0nm,1.2s
EKS2 Erkin-Say 80.63 315 *e*P **P 09 17 25.5 -0.5**
comp=Z,7.7nm,1.2s
MAW Mawson 82.47 203 *e*P **P 09 17 34.6 -0.4**
MAW Mawson 82.47 203 P **P 09 17 34.4 -0.6**
comp=Z,11nm,0.8s,baz=80,slow=6.2,SNR=22
MAW LR LR 09 54 16.9
comp=Z,75nm,18.8s,baz=282,slow=36
MAW Mawson 82.47 203 P **P 09 17 35.1 +0.1**
baz=82,SNR=10.0
KKAR Karatay Array 83.06 314 *e*P **P 09 17 37.4 -1.3**
KKAR pmax pmax
comp=Z,2.0nm,0.8s
KKAR Karatay Array 83.06 314 *e*P **P 09 17 37.4 -1.3**
comp=Z,2.1nm,0.8s
IMA2 Indian Mountai 83.30 21 *e*P **P 09 17 38.9 -0.6**
SML Sawmill 83.49 26 *e*P **P 09 17 39.4 -1.1**
SML pmax pmax
comp=Z,7.0nm,1.2s
SML Sawmill 83.49 26 *e*P **P 09 17 39.4 -1.1**
comp=Z,7.0nm,1.2s
MCK McKinley 84.04 24 *e*P **P 09 17 41.9 -1.3**
MCK pmax pmax
comp=Z,26nm,1.0s
MCK McKinley 84.04 24 *e*P **P 09 17 41.9 -1.3**
comp=Z,26nm,1.0s
DIV Divide 84.36 27 *e*P **P 09 17 44.4 -0.6**
comp=Z,9.3nm,0.8s
QSPA South Pole Qui 84.64 180 *e*P **P 09 17 45.8 -0.6**
comp=Z,20nm,0.8s
BMRM Bremner River 84.83 27 *e*P **P 09 17 46.7 -0.6**
COLA College 84.94 23 *e*P **P 09 17 46.2 -1.4**
COLA pmax pmax
comp=Z,69nm,0.9s
COLA College 84.94 23 *e*P **P 09 17 46.2 -1.4**
comp=Z,69nm,0.9s
COLD Coldfoot 85.07 21 *e*P **P 09 17 48.1 -0.2**
comp=Z,9.1nm,1.1s
ILAR Eielson Array 85.28 23 P **P 09 17 47.4 -2.0**
ILAR Eielson Array 85.28 23 P **P 09 17 47.4 -2.0**
comp=Z,16nm,0.8s,baz=251,slow=5.1,SNR=177
ILAR LR LR 09 49 23.0
comp=Z,36nm,21.4s,baz=240,slow=31
BVAR Borovoye Array 85.60 324 P **P 09 17 49.8 -1.5**
BVAR Borovoye Array 85.60 324 P **P 09 17 49.8 -1.5**
BVAR Borovoye Array 85.60 324 P **P 09 17 49.8 -1.5**
comp=Z,3.4nm,0.8s,baz=101,slow=7.7,SNR=10
BRVK Borovoye 85.67 324*c i*P **P 09 17 50.6 -1.0**
BRVK pmax pmax
comp=Z,3.0nm,0.8s
MENT Mentasta 85.91 26 *e*P **P 09 17 52.1 -0.5**
EGAK Eagle 87.58 24 *e*P **P 09 17 59.8 -0.9**
comp=Z,12nm,0.9s
HYT Haines Junctio 88.10 28 *e*P **P 09 18 03.5 +0.1**
SYO Syowa Base 90.86 200⇓*e*P **P 09 18 14.2 -1.8**
SYO Syowa Base 90.86 200⇓*e*PcP **PcP 09 18 17.7 +0.7**
OPO Ambohidratompo 96.58 251 P **P 09 18 42.5 -1.1**
OPO Ambohidratompo 96.58 251 P **P 09 18 42.5 -1.1**
comp=Z,12nm,0.9s,baz=112,slow=3.1,SNR=6.6
NVAR Mina Array Bea 97.79 52 P **P 09 18 48.1 -0.6**
NVAR Mina Array Bea 97.79 52 P **P 09 18 48.1 -0.6**
comp=Z,0.5nm,0.7s,baz=236,slow=6.4,SNR=4.4
YKA Yellowknife Ar 99.06 28 PKKPbc PKKPbc 09 35 17.9 -3.8
YKA Yellowknife Ar 99.06 28 PKKPbc PKKPbc 09 35 17.9 -3.8
comp=Z,1.8nm,0.7s,baz=102,slow=3.5,SNR=7.1
PDAR Pinedale Array 104.24 47 PKKPbc PKKPbc 09 35 04.3 -2.0
PDAR Pinedale Array 104.24 47 PKKPbc PKKPbc 09 35 04.3 -2.0
comp=Z,0.5nm,0.9s,baz=116,slow=4.2,SNR=3.7
ARCES ARCESS Array B 105.28 342 PKKPbc PKKPbc 09 34 59.2 -4.6
ARCES ARCESS Array B 105.28 342 PKKPbc PKKPbc 09 34 59.2 -4.6
comp=Z,1.0nm,0.3s,baz=247,slow=3.4,SNR=22
OBN Obninsk 105.38 326 *e*P **Pdif 09 19 20.9 -0.8**
OBN *e*SS SS 09 38 35.5 +0.5
OBN pmax pmax
comp=Z,5.0nm,0.6s
TXAR Lajitas Array 110.36 61 PKKPab PKKPab 09 34 57.3 +0.3
TXAR Lajitas Array 110.36 61 PKKPab PKKPab 09 34 57.3 +0.3
comp=Z,2.5nm,0.8s,baz=111,slow=5.0,SNR=31
CFAA Coronel Fontan 130.91 141 PKP **PKPdf 09 24 24.2 -0.6**
CFAA Coronel Fontan 130.91 141 PKP **PKPdf 09 24 24.2 -0.6**
comp=Z,0.2nm,0.5s,baz=225,slow=7.1,SNR=4.5
CPUP Villa Florida 141.29 145 PKPpre PKPpre 09 24 36.2
CPUP Villa Florida 141.29 145 PKhKP PKPpre 09 24 36.2
comp=Z,4.8nm,0.8s,baz=219,slow=6.0,SNR=10
TORD Torodi Ar. Bea 143.90 285 PKP PKPab 09 24 45.5 -0.7
TORD Torodi Ar. Bea 143.90 285 PKP PKPab 09 24 45.5 -0.7
comp=Z,2.5nm,0.6s,baz=62,slow=3.4,SNR=17
SIV San Ignacio 145.90 129 PKPbc **PKPdf 09 24 52.4 0.0**
SIV San Ignacio 145.90 129 PKPbc **PKPdf 09 24 52.4 0.0**
comp=Z,25nm,0.6s,baz=248,slow=3.9,SNR=102
SAML Samuel 147.69 116 *e*PKPdf **PKPdf 09 24 55.8 +0.3**
KIC Kosan Boka 150.81 273 *e*P **PKPbc 09 25 04.7 -1.5**
comp=Z,23nm,0.8s
DBIC Dimbokro 150.93 274 PKPbc **PKPbc 09 25 05.5 -0.9**
DBIC Dimbokro 150.93 274 PKPbc **PKPbc 09 25 05.5 -0.9**
comp=Z,14nm,0.6s,baz=78,slow=2.7,SNR=22
TIC Toumodi 151.09 274 *e*P **PKPdf 09 25 03.0 +2.1**
comp=Z,43nm,0.8s
LIC Lamto 151.10 273 *e*P **PKPbc 09 25 05.1 -1.7**
comp=Z,81nm,0.6s
BDFB Brasilia 155.01 147 PKPbc PKPdf 09 25 14.8 +8.1
BDFB PKPab **PKPab 09 25 29.5 -1.5**
BDFB Brasilia 155.01 147 PKPbc PKPdf 09 25 14.8 +8.1
comp=Z,8.8nm,0.8s,baz=181,slow=3.6,SNR=11
BDFB PKPab **PKPab 09 25 29.5 -1.5**
comp=Z,9.7nm,0.7s,baz=150,slow=3.5,SNR=6.1

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*IDC **03** 09:06:03.2±1.0, 7°.71S×107°.38E, h0km, mb4.1/5, mb1 4.2/5, mb1mx3.9/24, mbtmp4.1/5, Error ellipse: s-maj=54.2km s-min=23.2km az=65.0*
*ISCJB **03** 09:06:11.2±0.8, 8°.02S±0°.08×107°.26E±0°.06, h62km, mb4.3/6, Error ellipse: s-maj=12.3km s-min=7.9km az=21.6*
*DJA **03** 09:06:13.2±1.7, 8°S±13°×10°7E±°, h22km±10km, M4.4/8, MLv4.4/8*
ISC 03 09:06:12.4±1.0, **7°.9S**±0°.1×**107°.31E**±0°.06, **h62**km, **n22**, σ1°**56**/19, **mb4.1**/6, **Jawa**

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.60**	**57**	P		**Pn**	**09 06 25.0**	**-0.7**
CISI				S		**Sn**	**09 06 34.2**	**-1.2**
CISI	**Cisompet, Garu**	**0.60**	**57**	P		**Pn**	**09 06 24.0**	**-1.7**
LEM	**Lembang**	**1.09**	**16**	P		Pn	09 06 35.4	+3.4
LEM	**Lembang**	**1.09**	**16**	P		**Pn**	**09 06 33.8**	**+1.8**
SKJI	**Sukabumi**	**1.15**	**319**	P		**Pn**	**09 06 32.1**	**-0.4**
DBJI	**Dramaga**	**1.43**	**337**	P		**Pn**	**09 06 38.3**	**+2.0**
DBJI	**Dramaga**	**1.43**	**337**	P		**Pn**	**09 06 38.0**	**+1.7**
CBJI	**Citeko**	**1.52**	**343**	P		**Pn**	**09 06 35.5**	**-2.0**
CLJI	**Cilicap**	**1.70**	**85**	P		**Pn**	**09 06 41.9**	**+2.1**
KPJI	**Karang Pucung**	**1.70**	**71**	P		**Pn**	**09 06 40.6**	**+0.8**
TGJI	**Tegal**	**2.06**	**61**	P		**Pn**	**09 06 46.7**	**+1.9**
SBJI	**Serang**	**2.11**	**326**	P		**Pn**	**09 06 47.8**	**+2.4**
BJII	**Banjamegara**	**2.44**	**77**	P		**Pn**	**09 06 50.8**	**+0.8**
SJI	**Sawahan**	**4.42**	**88**	P		**Pn**	**09 07 17.7**	**+0.6**
PWJI	**Pagerwojo**	**4.45**	**92**	P		**Pn**	**09 07 19.2**	**+1.7**
STKA	**Stephens Creek**	**39.83**	**132**	P		**P**	**09 13 39.4**	**-0.6**
	13nm,0.6s,baz=314,slow=9.1,SNR=9.1							
WMQ	**Urumqi**	**54.45**	**343**	P		P	09 15 42.7	+9.1
WMQ				pP		pP	09 15 47.7	-2.1
WMQ				sP		sP	09 15 49.7	-7.2
WMQ				pmax		pmax		
	comp=Z,19nm,0.8s							
WMQ				pmax		pmax		
	comp=Z,90nm,4.8s							
MKAR	**Makanchi Array**	**58.82**	**340**	P		P	09 16 00.9	-3.6
	comp=Z,0.4nm,0.5s,baz=143,slow=7.4,SNR=3.6							
MAW	**Mawson**	**66.61**	**197**	P		**P**	**09 16 55.8**	**-0.2**
	comp=Z,2.0nm,0.6s,baz=45,slow=10.0,SNR=7.3							
BVAR	**Borovoye Array**	**68.30**	**337**	P		**P**	**09 17 05.9**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=148,slow=9.5,SNR=3.2							
BRTR	**Keskin Array B**	**82.64**	**312**	P		**P**	**09 18 30.2**	**+0.7**
	comp=Z,0.6nm,0.6s,baz=125,slow=7.0,SNR=4.2							
TXAR	**Lajitas Array**	**143.91**	**50**	PKP		PKPbc	09 25 39.7	+0.1
	comp=Z,0.3nm,0.7s,baz=211,slow=1.1,SNR=4.3							

IDC 03 09:22:01.1±4.7, **1°.16S×99°.91E, h0**km, **mb3.5**/4, **mb1 3.6**/4, **mb1mx3.4**/24, **mbtmp3.5**/4, **Error ellipse: s-maj=250.9km s-min=24.9km az=53.0, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.50**	**121**	P		P	09 29 25.2	-0.2
	0.3nm,0.6s,baz=297,slow=9.0,SNR=6.8							
ASAR	**Alice Springs**	**39.82**	**127**	P		P	09 29 36.5	-0.1
	0.3nm,0.7s,baz=300,slow=7.8,SNR=5.4							
MKAR	**Makanchi Array**	**50.20**	**344**	P		P	09 30 58.7	-0.1
	0.1nm,0.3s,baz=145,slow=5.3,SNR=3.5							
KURBB	**Kurchatov Arra**	**54.72**	**343**	P		P	09 31 32.2	0.0
	0.2nm,0.3s,baz=152,slow=8.1,SNR=2.8							
TXAR	**Lajitas Array**	**144.09**	**37**	PKP		PKPdf	09 41 39.2	-0.5
	0.4nm,0.6s,baz=258,slow=0.2,SNR=9.9							

BEO 03 09:28:14.0±0.8, **43°.18N**×**23°.40E, h8**km±6km, **ML1.3**/4, **Bulgaria**

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
ZAPS	**Zavoj**	**0.57**	**280**	*e*Pg		Pg	09 28 24.1	-1.0
ZAPS				*e*Sg		Sg	09 28 33.4	+0.8
BARS	**Barje**	**1.22**	**253**	*e*Pg		Pb	09 28 35.9	-1.4
BARS				*e*Sg		Sb	09 28 52.8	-0.4
PLD	**Plovdiv**	**1.44**	**138**	*e*Pg		Pn	09 28 39.7	-0.6
PLD				*e*Sg		Sg	09 29 00.2	-0.2
SELS	**Selova**	**1.67**	**272**	*e*Pn		Pn	09 28 43.7	+0.2
SELS				*e*Sg		Sb	09 29 06.5	+0.3

IDC 03 09:29:42.0±3.5, **33°.29S**×**179°.32E, h236**km±29km, **mb3.8**/6, **mb1 4.0**/7, **mb1mx3.6**/20, **mbtmp3.8**/7, **Error ellipse: s-maj=32.7km s-min=18.3km az=45.0, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**5.28**	**199**	P		Pn	09 31 01.8	+1.1
	29nm,0.3s,baz=35,slow=2.1,SNR=46							
URZ				S		S	09 32 02.4	-0.9
	33nm,0.3s,baz=112,slow=22,SNR=21							
RPZ	**Rata Peaks**	**12.25**	**209**	P		Pn	09 32 25.5	-3.4
	1.3nm,0.3s,baz=17,slow=11,SNR=5.9							
RPZ				S		S	09 34 31.7	-13
	3.3nm,0.3s,baz=148,slow=23,SNR=14							
CTA	**Charters Tower**	**32.19**	**286**	P		P	09 35 49.4	+1.2
	4.1nm,0.4s,baz=120,slow=12,SNR=7.4							
ASAR	**Alice Springs**	**40.79**	**272**	P		P	09 37 00.0	-0.6
	5.3nm,0.7s,baz=107,slow=7.3,SNR=89							
WRA	**Warramunga Arr**	**42.05**	**277**	P		P	09 37 10.7	-0.1
	5.2nm,0.4s,baz=118,slow=7.7,SNR=144							
QSPA	**South Pole Qui**	**56.83**	**180**	P		P	09 39 02.1	+0.3
	2.5nm,0.7s,baz=47,slow=1.8,SNR=20							
VNA2	**Neumayer--Watz**	**75.97**	**178**	*e*P		P	09 41 02.7	+0.2
	baz=164,slow=4.7							
PETK	**Petropavlovsk-**	**88.07**	**347**	P		P	09 42 05.0	-0.1
	0.5nm,0.4s,baz=139,slow=7.3,SNR=2.9							
NVAR	**Mina Array Bea**	**91.90**	**44**	P		P	09 42 24.1	+0.5
	0.2nm,0.3s,baz=209,slow=4.5,SNR=4.1							
FINES	**FINESS Array B**	**146.98**	**337**	PKPbc		PKPdf	09 48 53.6	+0.1
	0.9nm,0.5s,baz=35,slow=4.7,SNR=6.3							

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*MOS **03** 09:32:39.0±1.2, 38°.02N×142°.77E, h30km, mb4.7/28, Error ellipse: s-maj=10.2km s-min=6.5km az=99.5*
*NEIC **03** 09:32:41.8±0.8, 37°.90N×142°.77E, h43km±7km, mb4.5/4, MW4.0(NIED), Error ellipse: s-maj=8.3km s-min=6.2km az=137.0*
NEIC Recorded [1 JMA] in Iwate and Miyagi.
*ISCJB **03** 09:32:41.1±0.8, 37°.99N±0°.04×142°.73E±0°.05, h49km±5km, mb4.3/38, MS3.6/1, Error ellipse: s-maj=7.8km s-min=4.7km az=39.5*
*JMA **03** 09:32:42.1±0.1, 38°.00N×142°.66E, h51km±3km, M4.3*
JMA Felt I J1.
*IDC **03** 09:32:43.6±0.5, 37°.90N×142°.70E, h58km±3km, mb3.9/24, mb1 4.1/29, mb1mx4.0/35, mbtmp3.9/29, MS3.2/6, Ms1 3.2/6, ms1mx2.8/44, Error ellipse: s-maj=12.2km s-min=8.8km az=155.0*
*NIED **03** 09:33:00, 38°.00N×142°.70E, h32km, Mw4.0 Best double couple: $M_0$1.10000×10^{15} NP1:ϕ_s=36.00000°, δ78.00000°, λ-104.00000°. NP2:ϕ_s=265.00000°, δ18.00000°, λ-43.00000°.*

ISC 03 09:32:43.8±0.5, **38°.03N**±0°.05×**142°.72E**±0°.05, **h58**km±3km, **h58**km:**pP-P, n133**, σ1°**32**/183, **mb4.4**/38, **3C-15D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
JIO	**Ouri**	**1.16**	**292**	⇓P		**Pn**	**09 33 02.1**	**-1.7**
JIO				S		**Sn**	**09 33 16.2**	**-2.5**
OFUJ	**Ofunato**	**1.33**	**322**	⇓P		**Pn**	**09 33 04.7**	**-1.4**
OFUJ				S		**Sn**	**09 33 21.4**	**-1.5**
JMK	**Ichinoseki**	**1.49**	**308**	⇓P		**Pn**	**09 33 07.0**	**-1.3**
JMK				*e*S		**Sn**	**09 33 25.3**	**-1.5**
JMM	**Marumori**	**1.53**	**264**	⇓P		**Pn**	**09 33 06.8**	**-2.0**
JMM				S		**Sn**	**09 33 24.3**	**-3.4**
JFK	**Kawauchi**	**1.61**	**246**	⇓P		**Pn**	**09 33 07.2**	**-2.7**
JFK				*e*S		**Sn**	**09 33 25.5**	**-4.1**
JOU	**Okura**	**1.65**	**282**	⇓P		**Pn**	**09 33 09.3**	**-1.2**
JOU				*e*S		**Sn**	**09 33 28.8**	**-1.9**
JOM	**Ohasama**	**1.82**	**323**	⇓P		**Pn**	**09 33 11.8**	**-1.0**
JOM				S		**Sn**	**09 33 34.2**	**-0.5**
JFT	**Otama**	**1.96**	**256**	P		**Pn**	**09 33 13.3**	**-1.3**
JFT				S		**Sn**	**09 33 36.0**	**-2.1**
JYK	**Kaneyama**	**2.05**	**296**	⇓P		**Pn**	**09 33 15.0**	**-0.9**
JYK				*e*S		**Sn**	**09 33 39.4**	**-1.0**
JYS	**Shiratake**	**2.10**	**276**	⇓P		**Pn**	**09 33 15.4**	**-1.2**
JYS				S		**Sn**	**09 33 39.8**	**-1.8**
JRG	**Rokugo**	**2.13**	**310**	⇓P		**Pn**	**09 33 16.0**	**-0.9**
JRG				*e*S		**Sn**	**09 33 42.2**	**0.0**
JANG	**Nango**	**2.52**	**339**	⇓P		**Pn**	**09 33 20.9**	**-1.4**
JANG				*e*S		**Sn**	**09 33 50.4**	**-1.4**
JAW	**Awa shima**	**2.77**	**280**	P		**Pn**	**09 33 25.0**	**-0.6**
MJAR	**Matsushiro Arr**	**3.89**	**249**	P		**Pn**	**09 33 40.2**	**-0.9**
MJAR				S		**Sn**	**09 34 25.1**	**-0.4**
MJAR	**Matsushiro Arr**	**3.89**	**249**	P		**Pn**	**09 33 40.2**	**-0.9**
	5.5nm,0.3s,baz=16,slow=13,SNR=56							
MJAR				S		**Sn**	**09 34 25.1**	**-0.4**
	7.8nm,0.3s,baz=267,slow=31,SNR=5.3							
MJAR				LR		LR	09 35 28.8	
	comp=Z,421nm,19.3s,baz=45,slow=43							
MAT	**Matsushiro**	**3.89**	**249**	P		**Pn**	**09 33 41.0**	**-0.1**
MAT				S		**Sn**	**09 34 26.2**	**+0.6**
ERM	**Erimo**	**3.99**	**5**	*c e*P		**Pn**	**09 33 41.2**	**-1.2**
ERM				pmax		pmax		
	comp=Z,118nm,0.8s							
ERM	**Erimo**	**3.99**	**5**	*e*Pn		**Pn**	**09 33 41.2**	**-1.2**
ERM				*e*Sn		**Sn**	**09 34 24.0**	**-3.9**
ASAJ	**Asahikawa**	**6.08**	**359**	P		**Pn**	**09 34 10.3**	**-0.7**
ASAJ				S		**Sn**	**09 35 14.1**	**-5.0**
ASAJ	**Asahikawa**	**6.08**	**359**	P		**Pn**	**09 34 10.3**	**-0.7**
	comp=Z,29nm,0.3s,baz=215,slow=11,SNR=92							
ASAJ				S		**Sn**	**09 35 14.1**	**-5.0**
	comp=Z,8.5nm,0.3s,baz=36,slow=28,SNR=4.9							
ASAJ				LR		LR	09 37 20.0	
	comp=Z,353nm,20.8s,baz=171,slow=44							
YUK	**Yuzh-Kuril'sk**	**6.45**	**21**	*d i*P		Pn	09 34 10.8	-5.2
YUK				*i* S		Sn	09 35 21.0	-7.2
YUK				pmax		pmax		
	comp=Z,140nm,0.5s							
YUK				pmax		pmax		
	comp=E,26nm,0.1s							
YUK				pmax		pmax		
	comp=N,73nm,0.2s							
YUK				smax		smax		
	comp=E,274nm,0.5s							
YUK				smax		smax		
	comp=N,572nm,0.5s							
YSS	**Yuzh-Sakhalins**	**8.92**	**0**	⇓*i*P		**Pn**	**09 34 48.4**	**-1.4**
YSS				*e*S		**Sn**	**09 36 26.0**	**-2.6**
YSS				pmax		pmax		
	comp=Z,90nm,0.9s							
YSS				smax		smax		
	comp=N,30nm,0.8s							
YSS				smax		smax		
	comp=E,20nm,0.9s							
YSS				MLR		MLR		
	comp=Z,200nm,15.0s							
USRK	**Ussuriysk Arra**	**10.17**	**311**	P		**Pn**	**09 35 06.9**	**0.0**
	comp=Z,0.6nm,0.3s,baz=131,slow=13,SNR=5.9							
JNU	**Nakatsue**	**10.81**	**247**	P		**Pn**	**09 35 13.9**	**-1.9**
JNU	**Nakatsue**	**10.81**	**247**	P		**Pn**	**09 35 13.9**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=41,slow=11,SNR=2.5							
JNU				LR		LR	09 39 41.6	
	comp=Z,122nm,19.9s,baz=56,slow=39							
CBIJ	**Chichi jima**	**10.91**	**183**	P		Pn	09 35 11.7	-5.5
CBIJ				S		Sn	09 37 04.4	-13
CBIJ	**Chichi jima**	**10.91**	**183**	P		Pn	09 35 11.7	-5.5
	baz=311,slow=20							
CBIJ				S		Sn	09 37 04.4	-13
	comp=Z,21nm,0.3s,baz=301,slow=21,SNR=6.0							
KSRS	**Korea Array**	**11.73**	**272**	P		**Pn**	**09 35 29.4**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=85,slow=14,SNR=5.0							
KSRS				LR		LR	09 39 43.4	
	comp=Z,89nm,18.5s,baz=344,slow=36							
KSAR	**Wonju Array Be**	**11.76**	**272**	P		**Pn**	**09 35 29.4**	**+0.7**
HABR	**Khabarovsk**	**11.83**	**334**	*e*P		**Pn**	**09 35 26.7**	**-2.9**
HABR				*e*			09 37 37.4	
HABR				pmax		pmax		
	comp=Z,14nm,1.3s							
HABR				MLR		MLR		
	comp=Z,134nm,18.0s							
KLR	**Kul'dur**	**13.71**	**328**	*e*P		Pn	09 35 49.4	-5.7
PETK	**Petropavlovsk-**	**18.30**	**30**	P		**Pn**	**09 36 54.1**	**+0.7**
PETK				MLR		MLR		
	comp=Z,21nm,18.5s							
PETK	**Petropavlovsk-**	**18.30**	**30**	P		**Pn**	**09 36 54.1**	**+0.7**
PETK	**Petropavlovsk-**	**18.30**	**30**	P		**Pn**	**09 36 54.1**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=204,slow=17,SNR=3.3							
PETK				LR		LR	09 44 48.1	
	comp=Z,21nm,18.5s,baz=41,slow=39							
WHN	**Wuhan**	**24.54**	**261**	⇓P		**P**	**09 37 57.5**	**-0.4**
YAK	**Yakutsk**	**25.34**	**346**	*e*P		**P**	**09 38 05.3**	**+0.4**
YAK				pmax		pmax		
	comp=Z,17nm,0.6s							
SEY	**Seymchan**	**25.62**	**10**	⇓*i*P		**P**	**09 38 09.3**	**+1.9**
SONM	**Songino Array**	**28.11**	**302**	P		**P**	**09 38 30.7**	**+0.6**
SONM	**Songino Array**	**28.11**	**302**	P		**P**	**09 38 30.7**	**+0.6**
	comp=Z,0.9nm,0.6s,baz=115,slow=10.0,SNR=7.9							
ENH	**Enshi**	**28.46**	**264**	*e*P		**P**	**09 38 32.6**	**-0.7**
GTA	**Gaotai**	**33.27**	**286**	*e*P		**P**	**09 39 16.3**	**+0.6**
GTA				pmax		pmax		
	comp=Z,13nm,0.6s							
QIZ	**Qiongzhong**	**34.29**	**246**	P		**P**	**09 39 22.6**	**-1.9**
QIZ				S		**S**	**09 44 48.4**	**+0.7**
ZAA0	**Zalesovo Array**	**42.02**	**312**	*e*P		**P**	**09 40 29.5**	**+0.4**
ZALV	**Zalesovo Beam**	**42.02**	**312**	P		**P**	**09 40 29.8**	**+0.6**
ZALV							09 42 23.4	
ZALV				pmax		pmax		
	comp=Z,5.0nm,0.5s							
ZALV				pmax		pmax		
	comp=Z,2.0nm,0.5s							
ZALV	**Zalesovo Beam**	**42.02**	**312**	P		**P**	**09 40 29.8**	**+0.6**
ZALV				PcP		**PcP**	**09 42 23.4**	**+0.2**
ZALV	**Zalesovo Beam**	**42.02**	**312**	P		**P**	**09 40 29.8**	**+0.6**
	comp=Z,4.9nm,0.5s,baz=85,slow=8.0,SNR=12							
ZALV				PcP		**PcP**	**09 42 23.4**	**+0.2**
	comp=Z,2.2nm,0.5s,baz=85,slow=3.3,SNR=7.0							
CMAR	**Chiang Mai Arr**	**42.75**	**255**	P		**P**	**09 40 35.4**	**-0.2**
CMAR	**Chiang Mai Arr**	**42.75**	**255**	P		**P**	**09 40 35.4**	**-0.2**
	comp=Z,1.1nm,0.3s,baz=45,slow=6.1,SNR=5.0							
MK31	**Makanchi Array**	**44.48**	**301**	*e*P		**P**	**09 40 49.2**	**+0.1**
MK31	**Makanchi Array**	**44.48**	**301**	*e*P		**P**	**09 40 49.2**	**+0.1**
MKAR	**Makanchi Array**	**44.48**	**301**	P		**P**	**09 40 49.3**	**+0.1**
MKAR				*PP		**pP**	**09 41 04.1**	**-0.1**
MKAR				pmax		pmax		
	comp=Z,2.0nm,0.5s							
MKAR				pmax		pmax		
	comp=Z,1.0nm,0.6s							
MKAR	**Makanchi Array**	**44.48**	**301**	P		**P**	**09 40 49.2**	**+0.1**
MKAR				pP		**pP**	**09 41 04.1**	**-0.1**
MKAR	**Makanchi Array**	**44.48**	**301**	P		**P**	**09 40 49.2**	**+0.1**
	comp=Z,1.5nm,0.5s,baz=87,slow=9.0,SNR=8.4							
MKAR				pP		**p

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BVAR                                                    09 42 54.2
BVAR                                pmax    pmax
      comp=Z,3.0nm,0.6s
BVAR                                pmax    pmax
      comp=Z,1.0nm,0.5s
BVAR                                pmax    pmax
      comp=Z,2.0nm,0.5s
BVAR  Borovoye Array    50.67 312   P       P       09 41 37.4 +0.4
BVAR                                pP      pP      09 41 51.6 -0.7
BVAR                                PcP     PcP     09 42 54.2 +0.6
BVAR  Borovoye Array    50.67 312   P       P       09 41 37.4 +0.4
      comp=Z,3.6nm,0.6s,baz=65,slow=9.0,SNR=9.5
BVAR                                pP      pP      09 41 51.6 -0.7
      comp=Z,1.3nm,0.5s,baz=81,slow=7.6,SNR=3.7
BVAR                                PcP     PcP     09 42 54.2 +0.6
      comp=Z,2.3nm,0.5s,baz=66,slow=3.3,SNR=5.1
BRVK  Borovoye          50.73 312 ceP   P       09 41 37.9 +0.5
BRVK                                pmax    pmax
      comp=Z,4.0nm,0.7s
BRVK  Borovoye          50.73 312 eP    P       09 41 37.4 -0.1
      comp=Z,3.7nm,0.6s
AAK   Ala-Archa         50.94 298 ceP   P       09 41 39.7 +0.3
AAK                                 pmax    pmax
      comp=Z,9.0nm,2.5s
AAK   Ala-Archa         50.94 298   P       P       09 41 38.5 -0.9
AAK   Ala-Archa         50.94 298   P       P       09 41 38.5 -0.9
      comp=Z,0.9nm,0.3s,baz=143,slow=4.4,SNR=3.7
HYT   Haines Junctio    52.88  37 eP        P       09 41 55.6 +2.1
INK   Inuvik            53.02  28   P       P       09 41 55.1 +0.9
INK   Inuvik            53.02  28   P       P       09 41 55.1 +0.9
      comp=Z,1.4nm,0.5s,baz=293,slow=6.1,SNR=11
KKAR  Karatay Array     53.53 300 eP    P       09 41 58.6 +0.2
KKAR                                pmax    pmax
      comp=Z,4.0nm,0.9s
KKAR  Karatay Array     53.53 300 eP    P       09 41 58.6 +0.2
      comp=Z,4.3nm,0.9s
ABKAR Akbulak array     58.09 310 eP    P       09 42 30.8 -0.1
      comp=Z,3.4nm,0.6s
WRA   Warramunga Arr    58.20 189   P       P       09 42 30.8 -1.2
WRA                                 pP      pP      09 42 44.9 -2.6
WRA   Warramunga Arr    58.20 189   P       P       09 42 30.8 -1.2
      comp=Z,1.3nm,0.6s,baz=6.5,slow=7.0,SNR=12
WRA                                 pP      pP      09 42 44.9 -2.6
      comp=Z,4.0nm,0.8s,baz=7.2,slow=7.1,SNR=9.5
AKTO  Aktyubinsk        58.78 312   P       P       09 42 35.0 -0.7
AKTO                                pmax    pmax
      comp=Z,3.0nm,0.7s
AKTO  Aktyubinsk        58.78 312   P       P       09 42 35.0 -0.7
AKTO  Aktyubinsk        58.78 312   P       P       09 42 35.0 -0.7
      comp=Z,2.6nm,0.7s,baz=63,slow=11,SNR=8.6
ASAR  Alice Springs     61.93 189   P       P       09 42 56.9 -0.5
ASAR                                pP      pP      09 43 11.7 -1.5
ASAR  Alice Springs     61.93 189   P       P       09 42 56.9 -0.5
      comp=Z,0.5nm,0.7s,baz=4.2,slow=6.9,SNR=4.3
ASAR                                pP      pP      09 43 11.7 -1.5
      comp=Z,1.5nm,0.8s,baz=15,slow=7.3,SNR=8.6
YKA   Yellowknife Ar    62.42  31   P       P       09 43 01.0 +0.7
YKA   Yellowknife Ar    62.42  31   P       P       09 43 01.0 +0.7
      comp=Z,0.7nm,0.6s,baz=305,slow=7.0,SNR=3.6
ARCES ARCESS Array B    63.43 340   P       P       09 43 06.6 -0.2
ARCES                               pP      pP      09 43 23.9 +1.3
ARCES                               sP      sP      09 43 31.8 +2.6
ARCES ARCESS Array B    63.43 340   P       P       09 43 06.6 -0.2
      comp=Z,5.7nm,1.0s,baz=52,slow=7.9,SNR=7.0
ARCES                               pP      pP      09 43 23.9 +1.3
      comp=Z,1.4nm,0.7s,baz=31,slow=7.6,SNR=1.0
ARCES                               sP      sP      09 43 31.8 +2.6
      comp=Z,3.2nm,0.9s,baz=67,slow=9.3,SNR=1.7
JOF   Joensuu           65.57 332 eP    P       09 43 20.8 -0.1
JOF                                 pmax    pmax
      comp=Z,2.0nm,0.5s
JOF   Joensuu           65.57 332 ep    P       09 43 20.8 -0.1
      comp=Z,2.3nm,0.5s
KAF   Kangasniemi       67.89 333 eP    P       09 43 34.3 -1.4
KAF                                 pmax    pmax
      comp=Z,5.0nm,0.5s
KAF   Kangasniemi       67.89 333 ep    P       09 43 34.3 -1.4
      comp=Z,4.8nm,0.5s
OBN   Obninsk           67.92 323 eP    P       09 43 36.5 +0.6
OBN                               e               09 44 03.0
OBN                                 pmax    pmax
      comp=Z,6.0nm,1.0s
FINES FINESS Array B    68.41 332   P       P       09 43 39.4 +0.4
FINES                               pP      pP      09 43 53.9 -1.0
FINES                               sP      sP      09 44 04.0 +2.6
FINES FINESS Array B    68.41 332   P       P       09 43 39.4 +0.4
      comp=Z,5.8nm,0.6s,baz=34,slow=8.6,SNR=19
FINES                               pP      pP      09 43 53.9 -1.0
      comp=Z,3.4nm,0.7s,baz=46,slow=6.1,SNR=4.6
FINES                               sP      sP      09 44 04.0 +2.6
      comp=Z,3.2nm,0.4s,baz=57,slow=7.6,SNR=3.7
KIV   Kislovodsk        71.03 311 eP    P       09 43 57.5 +1.9
KIV                                 pmax    pmax
      comp=Z,11nm,0.9s
KBZ   Khabaz            71.04 311   P       P       09 43 57.2 +1.8
KBZ                                 pmax    pmax
      comp=Z,4.0nm,0.8s
KBZ   Khabaz            71.04 311   P       P       09 43 57.2 +1.8
KBZ   Khabaz            71.04 311   P       P       09 43 57.2 +1.8
      comp=Z,4.0nm,0.8s,baz=50,slow=5.9,SNR=6.8
NVAR  Mina Array Bea    73.56  54   P       P       09 44 12.1 +1.2
NVAR                                pP      pP      09 44 28.1 +1.1
NVAR  Mina Array Bea    73.56  54   P       P       09 44 12.1 +1.2
      comp=Z,0.9nm,0.8s,baz=282,slow=6.4,SNR=7.2
NVAR                                pP      pP      09 44 28.1 +1.1
      comp=Z,1.6nm,0.7s,baz=287,slow=6.0,SNR=12
NB2   NORSAR Subarra    73.66 338   P       P       09 44 11.4 +0.5
      comp=Z,2.1nm,0.5s,baz=35,slow=6.2
NOA   NORSAR Array B    73.66 338   P       P       09 44 11.4 +0.5
NOA   NORSAR Array B    73.66 338   P       P       09 44 11.4 +0.5
      comp=Z,2.8nm,0.6s,baz=38,slow=5.9,SNR=13
AKASG Malin Array Be    74.14 323   P       P       09 44 14.0 +0.3
AKASG                               *PP     pP      09 44 29.8  0.0
AKASG                               pmax    pmax
      comp=Z,3.0nm,0.5s
AKASG                               pmax    pmax
      comp=Z,1.0nm,0.4s
AKASG Malin Array Be    74.14 323   P       P       09 44 14.0 +0.3
AKASG                               pP      pP      09 44 29.8  0.0
AKASG Malin Array Be    74.14 323   P       P       09 44 14.0 +0.3
      comp=Z,3.0nm,0.5s,baz=46,slow=5.7,SNR=5.6
AKASG                               pP      pP      09 44 29.8  0.0
      comp=Z,1.5nm,0.4s,baz=44,slow=7.3,SNR=4.2
PDAR  Pinedale Array    76.23  46   P       P       09 44 27.1 +0.8
PDAR                                pP      pP      09 44 43.0 +0.6
PDAR  Pinedale Array    76.23  46   P       P       09 44 27.1 +0.8
      comp=Z,0.9nm,0.6s,baz=286,slow=1.5,SNR=10
PDAR                                pP      pP      09 44 43.0 +0.6
      comp=Z,2.0nm,0.5s,baz=150,slow=1.1,SNR=13
SRU   San Rafael        77.97  50 eP    P       09 44 37.2 +1.1
SRU                                 pmax    pmax
      comp=Z,3.0nm,0.6s
SRU   San Rafael        77.97  50 eP    P       09 44 37.1 +1.1
      comp=Z,2.8nm,0.6s
STHS  Stebnicka Huta    78.73 325 eP    P       09 44 41.4 +1.6
STHS                                pmax    pmax
      comp=Z,2.0nm,0.7s
STHS  Stebnicka Huta    78.73 325 eP    P       09 44 41.4 +1.6
BRTR  Keskin Array B    78.96 312   P       P       09 44 41.9 +0.5
BRTR  Keskin Array B    78.96 312   P       P       09 44 41.9 +0.5
      comp=Z,0.8nm,0.8s,baz=38,slow=7.3,SNR=4.3
CRVS  Cervenica-Dubn    79.01 325 eP    P       09 44 44.7 +3.4
CRVS                                pmax    pmax
      comp=Z,2.0nm,1.0s
CRVS  Cervenica-Dubn    79.01 325 eP    P       09 44 44.7 +3.4
PV01  Paradox Valley    79.77  49   P       P       09 44 45.8 -0.1
VYHS  Vyhne             80.49 326 eP    P       09 44 50.4 +1.1
VYHS                                pmax    pmax
      comp=Z,3.0nm,1.4s
VYHS  Vyhne             80.49 326 eP    P       09 44 50.4 +1.1
CLL   Collm             80.74 331 eP    P       09 44 50.0 -0.6
CLL   Collm             80.74 331 eP    P       09 44 50.0 -0.6
GERES GERESS Array B    82.40 329   P       P       09 44 59.7 +0.2
GERES GERESS Array B    82.40 329   P       P       09 44 59.7 +0.2
      comp=Z,0.3nm,0.3s,baz=52,slow=6.4,SNR=2.5
TXAR  Lajitas Array     88.69  53   P       P       09 45 31.6 +0.5
TXAR                                pP      pP      09 45 47.8 +0.1
TXAR  Lajitas Array     88.69  53   P       P       09 45 31.6 +0.5
      comp=Z,0.3nm,0.6s,baz=302,slow=3.0,SNR=8.5
TXAR                                pP      pP      09 45 47.8 +0.1
      comp=Z,0.5nm,0.6s,baz=306,slow=3.1,SNR=6.4
TORD  Torodi Ar. Bea    117.34 316  PKP     PKPdf   09 51 22.2 -1.0
TORD  Torodi Ar. Bea    117.34 316  PKP     PKPdf   09 51 22.2 -1.0
      comp=Z,0.3nm,0.5s,baz=40,slow=3.1,SNR=3.1
QSPA  South Pole Qui    127.77 180  PKP     PKPdf   09 51 40.6 -1.0
QSPA  South Pole Qui    127.77 180  PKP     PKPdf   09 51 40.6 -1.0
      comp=Z,0.6nm,0.7s,baz=348,slow=0.8,SNR=5.6
VNA2  Neumayer--Watz    143.56 196 ePKPdf   PKPbc   09 52 08.4 +0.1
      baz=144,slow=2.6
LPAZ  La Paz            145.29  60 ePKPbc   PKPab   09 52 16.3 +0.2
LPAZ  La Paz            145.29  60  PKPbc   PKPab   09 52 16.5 +0.4
      comp=Z,2.0nm,0.6s,baz=26,slow=1.0,SNR=12
```

*CSEM **03** 09:42:40.0, 42°.36N×13°.39E, h10km, MD1.6/6, After ROM*
ROM 03 09:42:40.0±0.1, 42°.36N×13°.39E, h10km±1km, Md1.6/6, Ml1.0/2, Error ellipse: s-maj=2.3km s-min=1.4km az=130.0, Central Italy

```
Code  Station Name      Δ°   AZ°   Phase ID        Time        Res
                                  Op      ISC     h m s       ISC
AQU   L'Aquila          0.02 131  Pg      Pg      09 42 42.3 +0.4
AQU                               Sg      Sg      09 42 43.3 +0.1
      542nm,0.2s
AQU   L'Aquila          0.02 131  Pg      Pg      09 42 42.3 +0.4
AQU                               Sg      Sg      09 42 43.3 +0.1
      542nm,0.2s
CAMP  Campotosto        0.17   6  Pg      Pg      09 42 44.7 +0.7
CAMP                              Sg      Sg      09 42 47.6 +0.9
      46nm,0.7s
CAMP  Campotosto        0.17   6  Pg      Pg      09 42 44.7 +0.7
CAMP                              Sg      Sg      09 42 47.6 +0.9
      46nm,0.7s
FIAM  Fiamignano        0.22 244  Pg      Pg      09 42 45.4 +0.7
FIAM                              Sg      Sg      09 42 49.0 +1.0
FIAM  Fiamignano        0.22 244  Pg      Pg      09 42 45.4 +0.7
FIAM                              Sg      Sg      09 42 49.0 +1.0
TERO  Teramo            0.30  32  Pg      Pg      09 42 46.7 +0.5
TERO                              Sg      Sg      09 42 51.3 +0.9
      14nm,0.1s
TERO  Teramo            0.30  32  Pg      Pg      09 42 46.7 +0.5
TERO                              Sg      Sg      09 42 51.3 +0.9
      14nm,0.1s
```

MEX 03 10:19:54.8±0.3, 16°.04N×96°.54W, h56km±5km, MD3.7, Oaxaca

```
Code  Station Name      Δ°   AZ°   Phase ID        Time        Res
                                  Op      ISC     h m s       ISC
HUIG  Huatulco          0.50 123  i P     Pn      10 20 05.1  -1.3
HUIG                              eS      Sn      10 20 12.9  -1.9
VHO   Vista Hermosa     1.04 350  eP      Pn      10 20 11.8  -1.7
VHO                               eS      Sn      10 20 25.4  -2.1
PNIG  Pinotepa          1.56 283  eP      Pn      10 20 18.7  -1.6
PNIG                              eS      Sn      10 20 37.8  -1.7
CMIG  Matias Romero     1.90  56  eP      Pn      10 20 23.2  -1.8
CMIG                              i S     Sn      10 20 46.2  -1.6
UTMO  Huajuapan         2.15 326  i P     Pn      10 20 27.9  -0.7
UTMO                              eS      Sn      10 20 52.5  -1.8
PCIG  ?                 3.21  95  eP      Pn      10 20 42.0  -0.8
PCIG                              i S     Sn      10 21 18.1  -1.9
CAIG  El Cayaco         3.71 286  eP      Pn      10 20 48.9  -0.7
CAIG                              i S     Sn      10 21 30.0  -2.1
```

*ISCJB **03** 10:23:21.0±0.6, 37°.86N±0°.08×95°.71E±0°.09, h10km, mb3.7/7, Error ellipse: s-maj=13.8km s-min=6.9km az=37.9*
*IDC **03** 10:23:21.7±1.0, 37°.77N×95°.67E, h0km, mb3.7/6, mb1 3.9/9, mb1mx3.7/30, mbtmp3.7/9, ML3.7/2, Error ellipse: s-maj=32.1km s-min=19.9km az=63.0*
*BJI **03** 10:23:24.9, 37°.70N×95°.68E, h6km, ML3.8/7*
*NNC **03** 10:23:24.4±2.7, 37°.82N×95°.31E, h0km, mb4.0, Error ellipse: s-maj=76.4km s-min=32.3km az=45.0*
ISC 03 10:23:22.6±0.8, 37°.84N±0°.08×95°.76E±0°.05, h10km, n16, σ1§44/21, mb3.9/7, 3C-1D, Qinghai

```
Code  Station Name      Δ°   AZ°   Phase ID        Time        Res
                                  Op      ISC     h m s       ISC
GTA   Gaotai            3.54  62  Pn      Pb      10 24 23.8  -1.6
GTA                               Pg      Pg      10 24 29.6  -0.9
GTA                               Sn      Sb      10 25 11.0  +2.5
GTA                               Sg      Sg      10 25 14.4  -1.9
GTA                               smax    smax
      comp=N,50nm,0.7s
GTA                               smax    smax
      comp=E,52nm,0.8s
LZH   Lanzhou           6.70 103  ePg     Pg      10 25 28.5  -2.5
LZH                               Sg      Sg      10 27 00.5  +2.7
LZH                               smax    smax
      comp=N,47nm,0.8s
LZH                               smax    smax
      comp=E,51nm,0.7s
SONM  Songino Array     12.66  35  Pn      Pn      10 26 27.8  +5.0
      comp=E,0.4nm,0.3s,baz=220,slow=15,SNR=5.2
MK31  Makanchi Array    13.38 316 ⇑Pn           Pn      10 26 32.2  -0.4
      comp=E,1.6nm,0.6s,baz=124,slow=14,SNR=27
MK31                            ⇓Sn             Sn      10 29 00.7  -0.6
      comp=E,1.5nm,0.7s,baz=126,slow=26,SNR=5.8
MKAR  Makanchi Array    13.38 316  Pn           Pn      10 26 32.3  -0.2
      comp=E,0.7nm,0.3s,baz=127,slow=14,SNR=23
MKAR                            Sn              Sn      10 29 01.6  +0.3
      comp=E,0.1nm,0.3s,baz=128,slow=25,SNR=5.7
TKM2  Tokmak 2          16.17 295 ⇑P            Pn      10 27 08.7  -1.5
      comp=E,3.0nm,0.6s
KURBB Kurchatov Arra    17.71 322  P            P       10 27 30.0  -0.1
      comp=E,0.2nm,0.3s,baz=129,slow=11,SNR=6.1
ZALV  Zalesovo Beam     17.78 338  P            P       10 27 30.9   0.0
      comp=E,0.1nm,0.3s,baz=144,slow=10,SNR=7.0
CMAR  Chiang Mai Arr    19.51 171  P            Pn      10 27 50.3  -1.1
      baz=342,slow=11,SNR=5.7
VOSK  Vostochnaya       22.76 319 ⇑P            P       10 28 25.9  +0.9
      comp=E,4.1nm,1.2s
KSRS  Korea Array       25.41  81  P            P       10 28 51.6  +1.3
      comp=E,1.5nm,0.6s,baz=271,slow=9.3,SNR=7.2
BRTR  Keskin Array B    47.59 293  P            P       10 31 59.2  +0.4
      comp=E,0.6nm,0.5s,baz=87,slow=6.2,SNR=3.1
ILAR  Eielson Array     66.67  24  P            P       10 34 14.8  +1.6
      comp=E,0.6nm,0.7s,baz=299,slow=4.9,SNR=10
WRA   Warramunga Arr    67.97 141  P            P       10 34 22.7  +0.7
      comp=E,0.3nm,0.7s,baz=319,slow=8.6,SNR=4.8
INK   Inuvik            67.97  18  P            P       10 34 22.1  +0.9
      comp=E,1.4nm,0.9s,baz=337,slow=7.7,SNR=3.8
ASAR  Alice Springs     70.91 143  P            P       10 34 40.4  +0.3
      comp=E,0.4nm,0.6s,baz=332,slow=6.2,SNR=8.6
```

*ISCJB **03** 10:30:42.9±0.5, 46°.62N±0°.09×153°.21E±0°.10, h24km, mb3.8/14, MS3.1/1, Error ellipse: s-maj=15.6km s-min=4.4km az=143.9*
*MOS **03** 10:30:45.7±1.4, 46°.75N×153°.27E, h47km, mb4.2/8, Error ellipse: s-maj=18.1km s-min=9.2km az=59.6*
*SKHL **03** 10:30:46.3±0.9, 47°.02N×153°.06E, h42km±8km, mb4.7/2, msh5.0/1*
*JMA **03** 10:30:46.6±0.7, 46°.69N×153°.13E, h30km, M4.5*
*IDC **03** 10:30:49.5±3.2, 46°.69N×153°.12E, h61km±28km, mb3.5/13, mb1 3.7/15, mb1mx3.6/29, mbtmp3.6/15, ML3.8/2, MS3.1/1, Ms1 3.1/1, ms1mx2.2/38, Error ellipse: s-maj=21.2km s-min=17.6km az=143.0*
ISC 03 10:30:45.0±0.7, 46°.6N±0°.1×153°.36E±0°.09, h24km, n49, σ1§79/49, mb3.9/14, 1C, Kuril Islands

```
Code  Station Name      Δ°   AZ°   Phase ID        Time        Res
                                  Op      ISC     h m s       ISC
KUR   Kuril'sk          4.08 252 ⇑i PN          Pn      10 31 47.4 +1.6
KUR                               i S             Sn      10 32 33.8 +1.0
KUR                               pmax    pmax
      comp=Z,54nm,0.4s
KUR                               pmax    pmax
      comp=N,27nm,0.4s
KUR                               pmax    pmax
      comp=E,21nm,0.2s
KUR                               smax    smax
      comp=E,57nm,0.6s
KUR                               smax    smax
      comp=N,107nm,0.5s
KUR   Kuril'sk          4.08 252  i P     Pn      10 31 47.4 +1.6
KUR                               AMB     AMB     10 31 50.9
      comp=N,27nm,0.4s
KUR                               AMB     AMB     10 31 50.9
      comp=N,21nm,0.4s
KUR                               AMB     AMB     10 31 50.9
      comp=N,54nm,0.4s
KUR                               i S     Sn      10 32 33.8 +1.0
KUR                               A       A       10 32 40.0
      comp=N,107nm,0.6s
KUR                               A       A       10 32 40.0
      comp=N,57nm,0.6s
SKR   Severo-Kuril's    4.44  23 ePN    Pn      10 31 48.4  -2.3
SKR   Severo-Kuril's    4.44  23 eP     Pn      10 31 48.4  -2.3
SKR                               eS      Sn      10 32 37.5  -4.1
SKR                               A       A       10 32 43.5
      comp=N,80nm,0.5s
SKR                               A       A       10 32 43.5
      comp=N,70nm,0.5s
YUK   Yuzh-Kuril'sk     5.89 246  i PN    Pn      10 32 11.5 +0.8
YUK                               pmax    pmax
      comp=N,58nm,0.9s
YUK                               pmax    pmax
      comp=E,17nm,0.3s
YUK                               pmax    pmax
      comp=Z,77nm,0.9s
YUK                               pmax    pmax
      comp=N,365µm,2.2s
YUK                               pmax    pmax
      comp=E,544nm,2.0s
YUK                               pmax    pmax
      comp=E,128nm,1.0s
YUK   Yuzh-Kuril'sk     5.89 246  i P     Pn      10 32 11.5 +0.8
YUK                               AMB     AMB     10 32 12.8
      comp=E,58nm,0.9s
YUK                               AMB     AMB     10 32 12.8
      comp=E,18nm,0.9s
YUK                               AMB     AMB     10 32 12.8
      comp=E,77nm,0.9s
YUK                               i S     Sn      10 33 15.6 -1.8
YUK                               A       A       10 33 22.1
      comp=E,74nm,0.7s
YUK                               A       A       10 33 22.1
      comp=E,100nm,0.7s
YUK                               A       A       10 33 50.0
      comp=E,365nm,2.2s
YUK                               A       A       10 33 50.0
      comp=E,544nm,2.2s
NEM2  Nemuro 2          6.31 242  P       Pn      10 32 14.8 -1.7
NEM2                              eS      Sn      10 33 20.3 -7.5
JNK   Nakash            6.83 247  P       Pn      10 32 24.1 +0.5
JNK                               eS      Sn      10 33 37.8 -2.8
PETK  Petropavlovsk-    7.06  22  PN      Pn      10 32 29.3 +2.7
PETK                              pmax    pmax
      comp=Z,1.0nm,0.3s
PETK  Petropavlovsk-    7.06  22  P       Pn      10 32 29.3 +2.7
      comp=Z,0.5nm,0.3s,baz=190,slow=16,SNR=4.8
JAK   Akkeshi           7.16 243  P       Pn      10 32 26.4 -1.6
JAK                               eS      Sn      10 33 41.3 -7.2
JTKR  Abashiri--Toko    7.18 252  P       Pn      10 32 29.8 +1.5
PET   Petropavlovsk     7.25  26 ePN    Pn      10 32 32.4 +3.1
PET                               pmax    pmax
      comp=Z,7.0nm,0.5s
JAR   Ashorobuto        7.58 247  P       Pn      10 32 34.4 +0.6
JAR                               eS      Sn      10 33 55.4 -3.5
JOB   Onbets            7.74 245  P       Pn      10 32 35.3 -0.7
JKK2  Kamakawa 2        7.98 254  P       Pn      10 32 41.3 +1.9
ASAJ  Asahikawa         7.99 255  P       Pn      10 32 42.4 +3.0
ASAJ  Asahikawa         7.99 255  P       Pn      10 32 42.1 +2.7
      comp=Z,2.3nm,0.3s,baz=84,slow=17,SNR=21
JCH   Churui            8.19 244  P       Pn      10 32 41.2 -1.0
JCH                               eS      Sn      10 34 06.3 -7.5
ERM   Erimo             8.65 241  i PN    Pn      10 32 49.3 +0.8
ERM   Erimo             8.65 241  eP      Pn      10 32 49.3 +0.8
JBT2  Biratori 2        8.73 248  P       Pn      10 32 49.8 +0.2
JNBK  Urakawa-nobuka    8.75 244  P       Pn      10 32 48.3 -1.5
JNB   Noboribetsu       9.73 249  eS      Sn      10 34 45.7 -6.1
JKB   Kayabe            10.03 246 eS      Sn      10 34 49.1  -10
JSH   Shimam            10.29 252 P       Pn      10 33 14.4 +3.4
JYM2  Yakumo 2          10.34 249 P       Pn      10 33 11.0 -0.6
JANG  Nango             10.63 238 P       Pn      10 33 14.3 -1.4
FX1   Attu Island--F    14.22  57  P       Pn      10 34 04.4 -0.2
      comp=Z,1.6nm,0.3s,baz=67,slow=18,SNR=17
FX1                               S       Sn      10 36 29.9  -12
      comp=Z,0.4nm,0.3s,baz=72,slow=20,SNR=4.3
MJA0  Matsu Arr-Jizo    15.13 234 eP      P       10 34 24.4 +2.4
MJAR  Matsushiro Arr    15.15 234  P      Pn      10 34 21.2 +3.9
      comp=Z,0.2nm,0.3s,baz=33,slow=9.6,SNR=5.4
ZALV  Zalesovo Beam     42.81 306  LR     LR      10 57 59.2
      comp=Z,23nm,18.4s,baz=73,slow=38
MKAR  Makanchi Array    47.14 298  P       P       10 39 13.6 -1.5
MKAR  Makanchi Array    47.14 298  P       P       10 39 13.6 -1.5
      comp=Z,0.4nm,0.6s,baz=67,slow=9.1,SNR=3.7
KURK  Kurchatov         47.57 304  P       P       10 39 17.3 -1.0
KURK                              pmax    pmax
      comp=Z,1.0nm,0.5s
KURBB Kurchatov Arra    47.66 304  P       P       10 39 17.2 -1.7
      comp=Z,0.6nm,0.5s,baz=70,slow=8.6,SNR=5.1
YKA   Yellowknife Ar    50.91  37  P       P       10 39 43.7 +0.1
      comp=Z,0.3nm,0.5s,baz=297,slow=7.4,SNR=2.6
NVAR  Mina Array Bea    62.34  62  P       P       10 41 07.1 +1.6
      comp=Z,0.4nm,0.7s,baz=311,slow=6.9,SNR=5.3
FINES FINESS Array B    64.21 335  P       P       10 41 16.5 -0.8
      comp=Z,0.9nm,0.5s,baz=46,slow=6.0,SNR=5.9
PDAR  Pinedale Array    64.67  54  P       P       10 41 21.3 +0.4
      comp=Z,0.2nm,0.4s,baz=316,slow=5.0,SNR=3.4
NOA   NORSAR Array B    68.39 341 eP      P       10 41 44.0 -0.1
NOA   NORSAR Array B    68.39 341  P       P       10 41 43.0 -1.1
      comp=Z,1.3nm,0.6s,baz=25,slow=6.4,SNR=6.0
WRA   Warramunga Arr    68.46 199  P       P       10 41 43.7 -1.2
      comp=Z,0.4nm,0.7s,baz=16,slow=6.7,SNR=3.2
HFS   Hagfors           68.62 340  P       P       10 41 45.1 -0.4
      comp=Z,1.5nm,0.4s,baz=54,slow=6.1,SNR=12
AKASG Malin Array Be    71.73 326  P       P       10 42 03.5 -1.2
AKASG                             pmax    pmax
      comp=Z,1.0nm,0.5s
AKASG Malin Array Be    71.73 326  P       P       10 42 03.5 -1.2
      comp=Z,1.1nm,0.5s,baz=37,slow=5.9,SNR=2.4
ASAR  Alice Springs     72.16 199  P       P       10 42 07.8 +0.3
      comp=Z,0.6nm,0.6s,baz=12,slow=5.3,SNR=9.0
TXAR  Lajitas Array     77.40  61  P       P       10 42 39.1 +1.0
      comp=Z,0.8nm,0.5s,baz=301,slow=5.0,SNR=28
BRTR  Keskin Array B    78.59 317  P       P       10 42 45.2 +0.6
      comp=Z,0.8nm,0.8s,baz=47,slow=2.6,SNR=4.1
```

*IDC **03** 11:21:12.7±0.6, 0°.21S×125°.10E, h0km, mb4.0/15, mb1 4.1/17, mb1mx4.0/27, mbtmp4.0/17, ML3.8/2, MS3.2/2, Ms1 3.2/2, ms1mx2.5/38, Error ellipse: s-maj=26.7km s-min=12.9km az=78.0*
*ISCJB **03** 11:21:14.8±2.7, 0°.03S±0°.06×125°.31E±0°.04, h15km±18km, mb4.0/15, MS3.2/2, Error ellipse: s-maj=9.5km s-min=6.5km az=171.0*
*DJA **03** 11:21:16.7±0.3, 0°.5S±4°×12°.5E±°, h11km, M4.6/11, mb4.7/3, mB4.9/2, MLv4.5/11, Mw(mB)4.2/2*
*AUST **03** 11:21:17.1, 0°.00N×125°.50E, h10km*
ISC 03 11:21:14.3±2.0, 0°.03S±0°.06×125°.31E±0°.03, h6km±13km, n45, σ1§38/44, mb4.1/15, Southern Molucca Sea

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Code  Station Name      Δ°   AZ°   Phase ID        Time        Res
                                  Op      ISC     h m s       ISC
TNTI  Ternate           2.20  69  P       Pb      11 21 54.1  -0.4
TNTI                              S       Sb      11 22 22.2 +0.1
LBMI  Labuha            2.27 106  P       Pb      11 21 55.0  -0.7
LBMI                              S       Sb      11 22 24.5 +0.4
GTOI  Gorontalo         2.39 286  P       Pb      11 21 58.0 +0.2
GTOI                              S       Sg      11 22 30.3  -0.9
LUWI  Luwuk             2.73 248  P       Pn      11 21 59.7 +1.0
LUWI                              S       Sn      11 22 33.7 +1.6
LUWI  Luwuk             2.73 248  P       Pb      11 22 02.2  -1.4
      baz=2.9,SNR=23
LUWI                              S       Sb      11 22 38.9 +1.5
      baz=2.9,SNR=8.6
MRSI  Marisa            3.41 278  P       Pn      11 22 07.7  -0.3
MRSI                              S       Sn      11 22 50.3 +1.5
APSI  Ampana            3.77 256  S       Sn      11 22 59.8 +2.2
AAI   Ambon             4.64 142  P       Pn      11 22 26.7 +1.8
AAI   Ambon             4.64 142  P       Pn      11 22 27.5 +2.6
      baz=4.6,SNR=3.0
SKSI  Soroako, Sulaw    4.69 238  P       Pn      11 22 26.5 +0.8
MSAI  Masohi            4.89 132  P       Pn      11 22 32.4 +4.0
TTSI  Tana Toraja       6.26 241  P       Pn      11 22 48.1 +0.9
      78nm,0.7s,1µm0.4nm
BNDI  Bandanaira        6.40 134  P       Pn      11 22 52.5 +3.3
      baz=6.3,SNR=3.5
BKSI  Bulukumba         7.38 224  P       Pn      11 23 03.9 +1.2
      31nm,0.7s,465nm0.2nm
KAPI  Kappang           7.44 228  P       Pn      11 23 04.2 +0.7
KAPI  Kappang           7.44 228  Pn      Pn      11 22 59.7  -3.8
      9.1nm,0.3s,baz=45,slow=8.6,SNR=24
KAPI                              Sn      Sn      11 24 18.2  -10
      4.0nm,0.3s,baz=99,slow=19,SNR=9.8
FAKI  Fak Fak           7.51 113  P       Pn      11 23 05.8 +1.4
      baz=7.4,SNR=5.6
TLE   Tual              9.28 127  P       Pn      11 23 31.9 +3.2
```

baz=9.2,SNR=4.8
SOEI Soe 9.72 186 S Sn 11 25 34.7 +10
baz=9.8,SNR=3.4
MTN Manton Dam 13.98 156 P **Pn 11 24 34.6 +1.5**
baz=14,SNR=4.9
KDU Kakadu 14.45 151 P **Pn 11 24 40.3 +0.8**
baz=14,SNR=5.6
KNRA Kununurra 15.92 168 P **Pn 11 24 58.7 -0.3**
baz=16,SNR=5.5
FITZ Fitzroy Crossi 17.97 179 P **Pn 11 25 23.4 -1.4**
0.1nm,0.3s,baz=20,slow=12,SNR=3.1
FITZ Fitzroy Crossi 17.97 179 P **P 11 25 26.6 +1.2**
baz=18,SNR=3.4
PMBI Palembang 20.73 262 P Pn 11 26 01.4 +3.3
baz=21,SNR=5.0
WRA Warramunga Arr 21.68 156 P **P 11 26 03.7 -2.3**
1.9nm,0.6s,baz=336,slow=12,SNR=15
WRA PcP **PcP 11 30 04.5 -3.0**
0.3nm,0.8s,baz=335,slow=2.0,SNR=2.6
MANU Manus Island 22.14 95 S S 11 29 54.4 -21
baz=22,SNR=3.7
ASAR Alice Springs 24.94 161 P **P 11 26 37.8 -0.7**
1.4nm,0.5s,baz=343,slow=11,SNR=21
ASAR PcP **PcP 11 30 13.5 -0.8**
0.3nm,0.5s,baz=348,slow=2.3,SNR=6.1
CMAR Chiang Mai Arr 31.76 307 P **P 11 27 37.6 -1.9**
0.4nm,0.5s,baz=129,slow=7.1,SNR=3.6
PATS Pohnpei 33.62 78 S S 11 33 00.4 -19
baz=33,SNR=3.9
STKA Stephens Creek 35.23 156 P **P 11 28 08.2 -1.3**
4.1nm,1.0s,baz=336,slow=10,SNR=4.6
KSRS Korea Array 37.37 3 P **P 11 28 29.6 +1.8**
1.4nm,0.7s,baz=184,slow=9.9,SNR=6.8
MJAR Matsushiro Art 38.30 17 P **P 11 28 36.2 +0.5**
1.2nm,0.7s,baz=187,slow=8.3,SNR=4.5
USRK Ussuriysk Arra 44.43 7 P **P 11 29 27.0 +1.1**
1.5nm,0.5s,baz=191,slow=7.0,SNR=4.6
SONM Songino Array 50.43 344 P **P 11 30 13.6 +0.8**
0.4nm,0.5s,baz=165,slow=6.0,SNR=3.5
SONM LR LR 11 55 33.9
comp=Z,31nm,18.3s,baz=240,slow=41
PETK Petropavlovsk- 59.42 22 P **P 11 31 19.8 +2.2**
2.6nm,0.6s,baz=186,slow=6.7,SNR=8.7
MKAR Makanchi Array 59.87 327 P **P 11 31 21.4 +0.5**
2.3nm,0.6s,baz=130,slow=7.7,SNR=7.8
MKAR LR LR 11 58 08.0
comp=Z,15nm,18.9s,baz=60,slow=37
ZALV Zalesovo Beam 63.31 335 P **P 11 31 42.5 -1.5**
0.7nm,0.3s,baz=131,slow=6.0,SNR=5.8
BVAR Borovoye Array 69.71 328 P **P 11 32 25.1 +0.2**
1.7nm,0.8s,baz=123,slow=7.1,SNR=6.1
AKTO Aktyubinsk 75.73 323 P **P 11 33 00.5 -0.3**
3.2nm,0.6s,baz=106,slow=9.5,SNR=9.0
ILAR Eielson Array 89.08 25 P **P 11 34 09.2 -1.0**
0.2nm,0.6s,baz=257,slow=4.8,SNR=5.8
QSPA South Pole Qui 89.91 180 P **P 11 34 13.0 -1.2**
0.9nm,0.7s,baz=57,slow=6.3,SNR=8.7
EIL Elat 90.33 300 P P 11 34 24.4 +7.6
baz=90,SNR=4.3
TORD Torodi Ar. Bea 122.64 286 PKP **PKPdf 11 40 10.4 -1.6**
0.6nm,0.7s,baz=86,slow=1.9,SNR=3.7
TXAR Lajitas Array 124.98 54 PKP **PKPdf 11 40 16.6 +0.3**
0.2nm,0.9s,baz=323,slow=2.3,SNR=2.9

*CSEM **03** 11:22:28.7±0.2, 40.°42N×21.°85E, h8km, ML1.9/5, Error ellipse: s-maj=5.0km s-min=3.8km az=29.0*
*ATH **03** 11:22:28.7, 40.°42N×21.°86E, h5km±2km, MD3.0/5*
*ISCJB **03** 11:22:29.2±0.6, 40.°41N±0.°03×21.°85E±0.°04, h8km±6km, Error ellipse: s-maj=6.6km s-min=4.4km az=39.5*
*THE **03** 11:22:29.6, 40.°38N×21.°85E, h0km±3km, ML1.9/5, Error ellipse: s-maj=3.9km s-min=1.0km az=264.0*
ISC 03 11:22:29.0±1.0, 40.°41N±0.°03×21.°86E±0.°03, h8km±8km, n22, σ0°49/38, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KZN	**Kozani**	**0.12**	**213**	P	**Pg**	**11 22 31.3**	**-0.4**
KZN	**Kozani**	**0.12**	**213**	*e*PG	**Pg**	**11 22 31.3**	**-0.4**
KZN				*e*SG	**Sg**	**11 22 34.0**	**+0.4**
KZN	**Kozani**	**0.12**	**213**	P	**Pg**	**11 22 31.3**	**-0.4**
KZN				*e*Sg	**Sg**	**11 22 34.0**	**+0.4**
FNA	**Florina**	**0.52**	**316**	P	**Pg**	**11 22 38.8**	**-0.4**
FNA				S	**Sb**	**11 22 48.8**	**+0.5**
FNA	**Florina**	**0.52**	**316**	*e*PB	**Pg**	**11 22 38.8**	**-0.4**
FNA				*e*SB	**Sg**	**11 22 46.6**	**+0.6**
FNA	**Florina**	**0.52**	**316**	P	**Pg**	**11 22 38.8**	**-0.4**
FNA				*e*Sb	**Sg**	**11 22 46.6**	**+0.6**
LIT	**Litokhoron**	**0.57**	**122**	P	**Pg**	**11 22 39.8**	**-0.3**
LIT				S	**Sb**	**11 22 49.5**	**-0.2**
LIT	**Litokhoron**	**0.57**	**122**	P	**Pg**	**11 22 39.8**	**-0.3**
LIT				S	**Sb**	**11 22 49.5**	**-0.2**
NEST	**Nestorio**	**0.62**	**271**	P	**Pg**	**11 22 40.7**	**-0.2**
NEST				S	**Sb**	**11 22 51.1**	**+0.1**
NEST	**Nestorio**	**0.62**	**271**	P	**Pg**	**11 22 40.7**	**-0.2**
NEST				S	**Sb**	**11 22 51.1**	**+0.1**
THL	**Klokotos Trika**	**0.85**	**172**	P	**Pg**	**11 22 44.8**	**-0.6**
THL				S	**Sb**	**11 22 57.6**	**0.0**
THL	**Klokotos Trika**	**0.85**	**172**	*e*PB	**Pg**	**11 22 45.4**	**0.0**
THL				*e*SB	**Sb**	**11 22 57.3**	**-0.3**
THL	**Klokotos Trika**	**0.85**	**172**	P	**Pg**	**11 22 44.8**	**-0.6**
THL	**Klokotos Trika**	**0.85**	**172**	*e*Pb	**Pg**	**11 22 45.4**	**0.0**
THL				*e*Sb	**Sb**	**11 22 57.3**	**-0.3**
SOH	**Sokhos**	**1.21**	**70**	*e*PB	**Pg**	**11 22 51.8**	**-0.5**
SOH				*e*SB	**Sb**	**11 23 08.2**	**+0.1**
SOH	**Sokhos**	**1.21**	**70**	*e*Pb	**Pg**	**11 22 51.8**	**-0.5**
SOH				*e*Sb	**Sb**	**11 23 08.2**	**+0.1**
PLG	**Polygyros**	**1.21**	**91**	*e*PB	**Pg**	**11 22 51.9**	**-0.4**
PLG	**Polygyros**	**1.21**	**91**	*e*Pb	**Pg**	**11 22 51.9**	**-0.4**
XOR	**Xorichti**	**1.46**	**135**	P	**Pn**	**11 22 55.6**	**-0.2**
XOR				S	**Sg**	**11 23 17.4**	**+1.4**
XOR	**Xorichti**	**1.46**	**135**	P	**Pn**	**11 22 55.6**	**-0.2**
XOR				S	**Sg**	**11 23 17.4**	**+1.4**
EVR	**Evrytania**	**1.49**	**181**	*e*PB	**Pb**	**11 22 56.9**	**-0.1**
EVR	**Evrytania**	**1.49**	**181**	*e*Pb	**Pb**	**11 22 56.9**	**-0.1**

*IDC **03** 12:10:51.2±2.5, 1.°51S×99.°43E, h0km, mb3.7/4, mb1 3.7/6, mb1mx3.5/25, mbtmp3.6/6, ML3.6/2, Error ellipse: s-maj=111.8km s-min=20.0km az=59.0*
*ISCJB **03** 12:10:53.0±1.1, 1.°5S±0.°1×99.°23E±0.°08, h30km, mb3.7/4, Error ellipse: s-maj=15.3km s-min=11.6km az=9.5*
*DJA **03** 12:10:56.4±1.4, 1.°S±15'×9.°9E±.°, h10km, M4.4/4, MLv4.4/4*
ISC 03 12:10:55.2±1.2, 1.°5S±0.°1×99.°41E±0.°09, h30km, n11, σ0°88/13, mb3.7/4, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PDSI	**Padang**	**1.19**	**62**	P	**Pb**	**12 11 16.3**	**-0.8**
PDSI				S	**Sb**	**12 11 33.2**	**+1.0**
PPI	**Padang Panjang**	**1.41**	**44**	P	**Pn**	**12 11 18.8**	**0.0**
SDSI	**Sungai Dareh**	**2.08**	**75**	P	**Pb**	**12 11 31.3**	**-1.1**
BKNI	**Bangkinang**	**2.41**	**42**	P	**Pb**	**12 11 38.1**	**+0.1**
PSI	**Prapat**	**4.27**	**353**	Pn	**Pn**	**12 11 57.6**	**-0.7**
0.7nm,0.3s,baz=160,slow=16,SNR=2.4
CMAR Chiang Mai Arr 19.81 359 P **Pn 12 15 24.0 -1.1**
0.2nm,0.3s,baz=190,slow=9.6,SNR=4.6
WRA Warramunga Arr 38.77 121 P **P 12 18 17.3 0.0**
0.8nm,0.8s,baz=304,slow=9.0,SNR=11
WRA PcP **PcP 12 20 29.8 +1.2**
0.4nm,1.0s,baz=302,slow=4.9,SNR=3.2
ASAR Alice Springs 40.04 126 P **P 12 18 27.9 0.0**
0.5nm,0.8s,baz=299,slow=7.7,SNR=4.9
MKAR Makanchi Array 50.36 345 P **P 12 19 50.7 +1.2**
0.5nm,0.4s,baz=153,slow=8.5,SNR=5.3
ZALV Zalesovo Beam 56.54 350 P **P 12 20 35.0 +0.4**
0.8nm,0.5s,baz=165,slow=7.3,SNR=5.7
TXAR Lajitas Array 144.63 36 PKP **PKPdf 12 30 29.5 -0.3**
0.5nm,0.5s,baz=299,slow=0.8,SNR=6.9

*ISCJB **03** 12:18:50.8±0.5, 24.°84N±0.°03×121.°95E±0.°02, h98km±4km, Error ellipse: s-maj=5.3km s-min=3.1km az=163.4*
*JMA **03** 12:18:51.7±0.2, 24.°86N×122.°01E, h93km, M3.4*
*TAP **03** 12:18:51.0, 24.°81N×121.°93E, h97km, ML4.2, C*
ISC 03 12:18:51.5±1.4, 24.°81N±0.°05×121.°95E±0.°03, h95km±7km, n53, σ0°78/94, 16D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILA	**Ilan**	**0.19**	**257**	P	**Pn**	**12 19 05.5**	**+0.4**
baz=254
ILA S **Sn 12 19 15.7 +0.5**
baz=254

TWC	**Suao**	**0.22**	**205**	↓*i*P	**Pn**	**12 19 05.4**	**+0.1**
baz=199
TWC *e*S **Sn 12 19 15.3 -0.1**
baz=199
TWE Neicheng 0.27 251 ↓*i*P **Pn 12 19 05.7 +0.2**
baz=249
TWE *e*S **Sn 12 19 16.1 +0.3**
baz=249
TWA Mucha 0.38 297 ↓*i*P **Pn 12 19 05.8 -0.2**
baz=303
TWA *e*S **Sn 12 19 16.3 -0.4**
baz=303
ENTT Nioudou 0.39 244 ↓*i*P **Pn 12 19 06.6 +0.5**
baz=253
ENTT *e*S **Sn 12 19 17.6 +0.7**
baz=253
ENA Nanau 0.42 207 ↓*i*P **Pn 12 19 06.7 +0.4**
baz=197
ENA S **Sn 12 19 18.2 +0.9**
baz=197
TAP1 Taipei 0.45 301 P **Pn 12 19 06.2 -0.2**
baz=304
TAP1 *e*S **Sn 12 19 17.1 -0.4**
baz=304
TAP Taipei 0.47 300 P **Pn 12 19 06.5 0.0**
baz=304
TAP *e*S **Sn 12 19 17.3 -0.5**
baz=304
NSK Sanguang 0.56 256 ↓*i*P **Pn 12 19 07.1 -0.2**
baz=255
NSK S **Sn 12 19 18.3 -0.8**
baz=255
TWY Chenhua 0.56 326 *i* P **Pn 12 19 07.0 -0.3**
baz=327
TWY S **Sn 12 19 18.6 -0.5**
baz=327
TWS1 Kuangyinshan 0.56 301 ↓*i*P **Pn 12 19 07.5 +0.1**
baz=304
TWS1 *e*S **Sn 12 19 19.6 +0.5**
baz=304
NNS Nan Shan 0.64 235 ↓*i*P **Pn 12 19 08.2 +0.1**
baz=234
NNS S **Sn 12 19 20.6 +0.1**
baz=234
NCU National Centr 0.71 283 ↓*i*P **Pn 12 19 08.7 0.0**
baz=283
NCU S **Sn 12 19 21.7 +0.2**
baz=283
TWD Chiawan 0.79 204 *i* P **Pn 12 19 08.8 -0.6**
baz=212
TWD *e*S **Sn 12 19 22.8 0.0**
baz=212
PCYT Pengchaiyu 0.82 8 P **Pn 12 19 09.7 0.0**
baz=2.0
NSTT Nanjuang 0.88 259 ↓*i*P **Pn 12 19 10.1 -0.3**
baz=251
NSTT S **Sn 12 19 23.7 -0.7**
baz=251
HWA Hwalien 0.89 201 P **Pn 12 19 10.1 -0.3**
baz=209
HSN Hsinchu 0.89 270 P **Pn 12 19 10.0 -0.4**
baz=264
HSN *e*S **Sn 12 19 23.9 -0.7**
baz=264
TWT Tachien 0.90 232 ↓*i*P **Pn 12 19 11.3 +0.6**
baz=232
TWT *e*S **Sn 12 19 25.7 +0.7**
baz=232
WHF Hehuan Shan 0.91 224 *i* P **Pn 12 19 11.0 -0.1**
baz=218
WHF S **Sn 12 19 25.4 -0.3**
baz=218
YOJ Yonaguni jima 1.02 109 P **Pn 12 19 11.8 -0.1**
YOJ *e*S **Sn 12 19 26.6 -0.6**
ESL Shilin 1.10 206 ↓*i*P **Pn 12 19 11.4 -1.3**
baz=205
ESL *e*S **Sn 12 19 27.2 -1.4**
baz=205
NSY Sanyi 1.15 250 P **Pn 12 19 13.4 +0.1**
baz=250
NSY *e*S **Sn 12 19 29.8 0.0**
baz=250
TWQ1 Liyutan 1.17 247 ↓*i*P **Pn 12 19 13.5 -0.1**
baz=247
TWQ1 *e*S **Sn 12 19 29.4 -0.6**
baz=247
SMLT Sun Moon Lake 1.33 226 P **Pn 12 19 15.9 +0.3**
baz=232
SMLT *e*S **Sn 12 19 34.6 +0.9**
baz=232
TCU Taichung 1.33 241 P **Pn 12 19 15.7 +0.2**
baz=240
TCU S **Sn 12 19 33.3 -0.3**
baz=240
TYC Yuchr 1.34 228 ↓*i*P **Pn 12 19 15.8 +0.2**
baz=236
TYC *e*S **Sn 12 19 34.3 +0.5**
baz=236
EHY Hungye 1.42 204 *i* P **Pn 12 19 15.1 -1.5**
baz=197
WNT Mingjian 1.48 232 *e*P **Pn 12 19 17.8 +0.4**
baz=240
WNT *e*S **Sn 12 19 37.4 +0.5**
baz=240
TWF1 Yuli 1.57 203 P **Pn 12 19 17.0 -1.4**
baz=195
YUS Yu-Shan 1.60 215 ↓*i*P **Pn 12 19 19.9 +0.6**
baz=215
YUS S **Sn 12 19 41.4 +1.2**
baz=215
ALS Alishan 1.66 219 ↓*i*P **Pn 12 19 20.4 +0.5**
baz=228
ALS *e*S **Sn 12 19 43.5 +2.2**
baz=228
CHN5 Tsauling 1.68 224 P **Pn 12 19 19.7 -0.2**
baz=231
CHN5 *e*S **Sn 12 19 42.7 +1.3**
baz=231
IRIF Iriomote-Funau 1.69 106 P **Pn 12 19 19.5 -0.4**
IRIF *e*S **Sn 12 19 40.7 -0.7**
WGK Gukeng 1.69 229 P **Pn 12 19 20.4 +0.4**
baz=238
WGK *e*S **Sn 12 19 42.5 +0.9**
baz=238
CHKT Chengkung 1.78 198 *e*P **Pn 12 19 20.5 -0.7**
baz=198
CHKT *e*S **Sn 12 19 41.8 -1.8**
baz=198
ELDTW Lidau 1.82 208 P **Pn 12 19 21.1 -0.7**
baz=200
ELDTW *e*S **Sn 12 19 44.9 +0.1**
baz=200
HATJ Hateruma jima 1.85 114 P **Pn 12 19 22.1 +0.1**
HATJ *e*S **Sn 12 19 45.9 +0.8**
CHN4 Tsaushan 1.91 221 P **Pn 12 19 23.3 +0.5**
baz=221
CHN4 S **Sn 12 19 48.5 +1.9**
baz=221
CHY Chiayi 1.91 227 *e*P **Pn 12 19 23.9 +1.1**
baz=234
JKRS Kuro-shima 1.96 106 P **Pn 12 19 23.6 +0.2**
JKRS *e*S **Sn 12 19 47.6 -0.1**
WSF Szhu 1.96 234 *e*S **Sn 12 19 48.4 +0.6**
baz=234
JIJ Ishigaki jima 2.04 102 P **Pn 12 19 24.3 -0.2**
JIJ *e*S **Sn 12 19 48.8 -0.9**
CHN1 Nanshi 2.08 219 P **Pn 12 19 25.3 +0.3**
baz=220
CHN1 *e*S **Sn 12 19 50.8 +0.3**
baz=220
SGST Jiashian 2.13 216 *e*P **Pn 12 19 26.3 +0.7**
baz=225
SGST *e*S **Sn 12 19 52.5 +0.9**
baz=225
TWG Pinlang 2.14 202 P **Pn 12 19 24.2 -1.6**
baz=194
TWM1 Shoushan 2.42 216 *e*P **Pn 12 19 29.4 -0.1**
baz=214
JTJ Tarama 2.51 93 P **Pn 12 19 31.1 +0.5**
JTJ *e*S **Sn 12 20 00.7 +0.1**
PNG Penghu 2.51 241 *e*P **Pn 12 19 29.6 -1.1**
baz=247
PNG *e*S **Sn 12 19 57.8 -2.9**
baz=247
WDGT Dungji 2.60 234 *e*P **Pn 12 19 31.5 -0.3**
baz=232
SCZT Fangliau 2.72 207 *e*P **Pn 12 19 34.0 +0.6**
baz=216

JOGS	**Gusukube**	**3.14**	**90**	*e*S	**Sn**	**12 20 17.1**	**+1.4**
KNM	**Kinmen**	**3.23**	**264**	*e*P	**Pn**	**12 19 40.4**	**+0.2**
baz=262

*ISCJB **03** 12:21:54.5±0.7, 59.°65N±0.°04×24.°49E±0.°08, h0km, Error ellipse: s-maj=6.2km s-min=5.5km az=40.1*
*CSEM **03** 12:21:55.6±0.2, 59.°68N×24.°61E, h2km, ML2.0, Error ellipse: s-maj=4.9km s-min=4.2km az=109.0, Mining explosion.*
*IDC **03** 12:21:56.8±2.8, 59.°70N×24.°63E, h0km, mb1 3.1/3, mb1mx2.9/26, mbtmp3.1/3, Error ellipse: s-maj=34.6km s-min=9.8km az=154.0*
*HEL **03** 12:21:56.9±0.1, 59.°69N×24.°58E, h0km, ML2.0, Explosion*
*NAO **03** 12:21:57.0±1.0, 59.°69N×24.°70E, ML2.0*
*BER **03** 12:21:57.4±2.6, 59.°71N×24.°67E, h0km, ML2.0(NAO), Suspected explosion*
ISC 03 12:21:55.5±0.8, 59.°70N±0.°03×24.°46E±0.°03, h0km, n34, σ0°74/43, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MEF	**Metsahovi**	**0.52**	**357**	*e*P	**Pg**	**12 22 06.2**	**+0.7**
MEF	**Metsahovi**	**0.52**	**357**	P	**Pg**	**12 22 06.1**	**+0.7**
MEF				*e*S	**Sg**	**12 22 13.3**	**+1.1**
25nm,0.4s,SNR=90
MTSE Matsula 1.04 199 *e*P **Pg 12 22 15.8 +0.3**
MTSE Matsula 1.04 199 P **Pg 12 22 15.7 +0.3**
PVF Pernaja 1.10 39 *e*P **Pg 12 22 16.1 -0.5**
PVF Pernaja 1.10 39 P **Pg 12 22 16.1 -0.5**
VSU Vasula 1.71 136 Pg **Pn 12 22 26.9 +0.5**
VSU Lg Lg 12 22 48.9
VSU Vasula 1.71 136 Pg **Pn 12 22 26.9 +0.5**
VSU Lg Lg 12 22 48.9
VSU Vasula 1.71 136 Pg **Pn 12 22 26.9 +0.5**
SNR=90
VSU Lg Lg 12 22 48.9
VJF Virojoki 1.76 60 *e*S **Sn 12 22 50.2 -0.1**
VJF Virojoki 1.76 60 S **Sn 12 22 50.2 -0.1**
RAF Rauma 1.89 316 *e*P **Pb 12 22 30.8 0.0**
RAF *e*S **Sg 12 22 55.8 -0.3**
RAF MSG 12 22 58.6
comp=Z,8.4nm,0.2s
RAF Rauma 1.89 316 P **Pb 12 22 30.7 0.0**
RAF S **Sg 12 22 55.7 -0.3**
FIA0 FINESS Array S 1.93 24 Pg **Pb 12 22 31.0 -0.4**
baz=192,slow=18
FIA0 Lg Lg 12 22 55.8
baz=193,slow=37
FIA0 FINESS Array S 1.93 24 Pg **Pb 12 22 31.0 -0.4**
baz=192,slow=18
FIA0 Lg Lg 12 22 55.8
baz=193,slow=37
FIA0 FINESS Array S 1.93 24 *e*PN **Pb 12 22 30.7 -0.7**
FIA0 MSG 12 22 58.0
comp=Z,9.4nm,0.2s
FIA0 FINESS Array S 1.93 24 Pn **Pb 12 22 30.7 -0.7**
FIA0 FINESS Array S 1.93 24 Pg **Pb 12 22 31.0 -0.4**
baz=192,slow=18,SNR=90
FIA0 Lg Lg 12 22 55.8
baz=193,slow=30,SNR=91
FINES FINESS Array B 1.93 24 Pn **Pb 12 22 31.0 -0.4**
comp=Z,3.9nm,0.3s,baz=202,slow=15,SNR=72
FINES Sn **Sb 12 22 56.0 +0.1**
comp=Z,4.0nm,0.3s,baz=204,slow=24,SNR=22
AAL Aland 2.30 284 *e*P **Pb 12 22 37.0 -0.8**
AAL Aland 2.30 284 P **Pb 12 22 36.9 -0.8**
SLIT Slitere, Latvi 2.37 210 *e*P **Pb 12 22 38.3 -0.6**
SNR=50
HFS Hagfors 5.43 279 Pn **Pn 12 23 18.4 +0.8**
baz=98,slow=14
HFS Sn **Sn 12 24 21.2 +0.4**
baz=91,slow=28
HFS Hagfors 5.43 279 Pn **Pn 12 23 18.4 +0.8**
baz=98,slow=14
HFS Sn **Sn 12 24 21.2 +0.4**
baz=91,slow=28
HFS Hagfors 5.43 279 Pn **Pn 12 23 19.0 +1.4**
comp=Z,0.2nm,0.3s,baz=94,slow=15,SNR=7.0
HFS Sn **Sn 12 24 20.8 0.0**
comp=Z,0.3nm,0.3s,baz=86,slow=23,SNR=3.8
HFS Lg Lg 12 24 45.3
comp=Z,0.5nm,0.3s,baz=94,slow=32,SNR=4.2
HFS Hagfors 5.43 279 Pn **Pn 12 23 18.4 +0.8**
baz=98,slow=14,SNR=50
HFS Sn **Sn 12 24 21.2 +0.4**
baz=91,slow=24,SNR=50
NB2 NORSAR Subarra 6.71 287 Pn **Pn 12 23 35.3 +0.2**
NB2 NORSAR Subarra 6.71 287 Pn **Pn 12 23 35.3 +0.2**
NB2 NORSAR Subarra 6.71 287 Pn **Pn 12 23 35.3 +0.2**
SNR=50
NOA NORSAR Array B 6.71 287 Pn **Pn 12 23 34.0 -1.1**
comp=Z,0.4nm,0.3s,baz=96,slow=13,SNR=4.2
NOA Sn **Sn 12 24 49.0 -3.1**
comp=Z,0.3nm,0.3s,baz=175,slow=5.6,SNR=3.8
NOA Lg Lg 12 25 26.4
comp=Z,0.5nm,0.3s,baz=50,slow=12,SNR=4.6
ARA0 ARCESS Array S 9.89 2 Pn **Pn 12 24 18.7 0.0**
baz=181,slow=12
ARA0 ARCESS Array S 9.89 2 Pn **Pn 12 24 18.7 0.0**
baz=181,slow=12
ARA0 ARCESS Array S 9.89 2 Pn **Pn 12 24 18.7 0.0**
baz=181,slow=12,SNR=50
ARCES ARCESS Array B 9.89 2 Pn **Pn 12 24 18.6 0.0**
comp=Z,0.4nm,0.3s,baz=178,slow=12,SNR=13

DDA 03 12:43:57.9, 37.°02N×38.°85E, h7km, ML3.2, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUZU	**Kuzuini**	**1.45**	**261**	*i* P	Pg	12 44 25.8	0.0
KUZU				*i* S	Sg	12 44 45.6	+1.0
AKCD	**Akcadag**	**1.47**	**330**	*i* P	Pn	12 44 25.1	+0.1
AKCD				*i* S	Sg	12 44 46.1	+0.5
ELZG	**Elazig**	**1.48**	**4**	*i* P	Pb	12 44 25.7	-0.3
ELZG				*i* S	Sg	12 44 46.0	+0.1
MARD	**Mardin**	**1.56**	**79**	*i* P	Pb	12 44 27.6	+0.2
MARD				*i* S	Sg	12 44 49.3	+0.7

KRSC 03 12:57:09.6±0.5, 49.°88N×157.°09E, h10km±10km, ML3.7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.02**	**323**	P	Pg	12 57 27.9	-1.3
SKR				*i* S	Sg	12 57 41.5	-0.9
PAU	**Pauzhetka**	**1.60**	**354**	P	Pn	12 57 38.3	+0.4
PAU				*i* S	Sb	12 57 59.7	+0.2
MIPR	**Malaya Ipel'ka**	**2.41**	**355**	P	Pn	12 57 49.6	+0.5
ASAK	**Asacha**	**2.56**	**11**	P	Pn	12 57 53.4	+2.2
ASAK				*i* S	Sn	12 58 24.4	+1.9
MTVR	**Mutnovka**	**2.70**	**14**	P	Pn	12 57 55.2	+2.0
MTVR				*i* S	Sn	12 58 28.2	+2.2
RUS	**Russkaya**	**2.71**	**19**	P	Pn	12 57 54.6	+1.5
RUS				*i* S	Sn	12 58 27.3	+1.3
APC	**Apacha**	**3.05**	**1**	P	Pn	12 57 59.4	+1.6
PET	**Petropavlovsk**	**3.30**	**17**	P	Pn	12 58 03.1	+1.9
PET				*i* S	Sn	12 58 42.2	+1.8
UGLR	**Uglovaya**	**3.50**	**17**	P	Pn	12 58 07.1	+2.8
AVH	**Avacha**	**3.54**	**16**	P	Pn	12 58 07.8	+3.1
AVH				*i* S	Sn	12 58 49.5	+2.8
KOK	**Koryaka**	**3.55**	**15**	P	Pn	12 58 07.9	+3.0
KRER	**Koryakskii**	**3.58**	**16**	P	Pn	12 58 08.1	+2.7
KRER				*i* S	Sn	12 58 50.0	+2.0
SDLR	**Sedlovina**	**3.58**	**18**	P	Pn	12 58 07.5	+2.2
SDLR				*i* S	Sn	12 58 49.7	+1.9
KRX	**Arik**	**3.62**	**15**	P	Pn	12 58 08.6	+2.8
KRX				*i* S	Sn	12 58 51.3	+2.6
GNL	**Ganaly**	**3.86**	**8**	P	Pn	12 58 11.6	+2.5
MKZ	**Mys Kozlova**	**5.48**	**30**	P	Pn	12 58 32.0	+0.8
MKZ				*i* S	Sn	12 59 31.8	-2.5
KBTR	**Krutoberegovo**	**7.22**	**26**	P	Pn	12 58 56.1	+1.1

*CSEM **03** 13:00:26.3, 39.°43N×28.°17E, h8km, MD2.6, After ISK*
ISK 03 13:00:26.3, 39.°43N×28.°17E, h8km, MD2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BALB	**Balikesir**	**0.31**	**314**	*e*PG	Pg	13 00 32.9	+0.5
BALB				*e*SG	Sg	13 00 37.9	+1.3
BALB	**Balikesir**	**0.31**	**314**	*e*Pg	Pg	13 00 32.9	+0.5

BALB				*e*Sg	Sg	13 00 37.9	+1.3
DST	**Dursunbey**	**0.39**	**63**	*e*PG	Pg	13 00 34.3	+0.3
DST				*e*SG	Sg	13 00 40.5	+1.2
DST	**Dursunbey**	**0.39**	**63**	*e*Pg	Pg	13 00 34.3	+0.2
DST				*e*Sg	Sg	13 00 40.5	+1.2
GONE	**Gonen-Balikesi**	**0.72**	**329**	*e*PG	Pg	13 00 40.7	+0.4
GONE	**Gonen-Balikesi**	**0.72**	**329**	*e*Pg	Pg	13 00 40.7	+0.4
ORLT	**Orhaneli**	**0.83**	**42**	*e*PG	Pg	13 00 42.7	+0.2
ORLT	**Orhaneli**	**0.83**	**42**	*e*Pg	Pg	13 00 42.7	+0.2
KULA	**Kula-Manisa**	**0.99**	**157**	*e*PG	Pb	13 00 45.8	0.0
KULA	**Kula-Manisa**	**0.99**	**157**	*e*Pg	Pb	13 00 45.8	0.0
MDNY	**Mudanya-Bursa**	**1.09**	**30**	*e*PN	Pb	13 00 47.6	+0.2
MDNY	**Mudanya-Bursa**	**1.09**	**30**	*e*Pn	Pb	13 00 47.6	+0.2
KRBG	**Karabiga-Canak**	**1.18**	**326**	*e*PN	Pb	13 00 48.5	-0.4
KRBG	**Karabiga-Canak**	**1.18**	**326**	*e*Pn	Pb	13 00 48.5	-0.4
ARMT	**Armutlu**	**1.26**	**25**	*e*PN	Pg	13 00 50.9	+0.4
ARMT	**Armutlu**	**1.26**	**25**	*e*Pn	Pg	13 00 50.9	+0.4
YLV	**Yalova**	**1.47**	**39**	*e*PN	Pb	13 00 53.7	-0.3
YLV	**Yalova**	**1.47**	**39**	*e*Pn	Pb	13 00 53.7	-0.3
EZN	**Ezine**	**1.48**	**286**	*e*PN	Pb	13 00 53.8	-0.2
EZN	**Ezine**	**1.48**	**286**	*e*Pn	Pb	13 00 53.8	-0.2
GELI	**Tayfur-Gelibol**	**1.62**	**307**	*e*PN	Pb	13 00 56.0	-0.5
GELI	**Tayfur-Gelibol**	**1.62**	**307**	*e*Pn	Pb	13 00 56.0	-0.5

IDC 03 13:11:19.6±7.5, 14°.29N×93°.97E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.5/27, mbtmp3.6/4, Error ellipse: s-maj=469.3km s-min=25.8km az=60.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**33.85**	**346**	P	P	13 18 03.7	-0.1
	0.2nm,0.5s,baz=166,slow=8.6,SNR=2.8						
FITZ	**Fitzroy Crossi**	**44.85**	**135**	P	P	13 19 35.3	-0.5
	4.4nm,1.3s,baz=323,slow=10,SNR=3.9						
WRA	**Warramunga Arr**	**52.29**	**130**	P	P	13 20 33.5	+0.2
	0.3nm,0.5s,baz=311,slow=7.6,SNR=10.0						
ASAR	**Alice Springs**	**54.29**	**134**	P	P	13 20 48.0	-0.1
	0.4nm,0.3s,baz=311,slow=7.2,SNR=20						

IDC 03 13:15:50.1±2.2, 5°.12S×152°.77E, h0km, mb3.4/4, mb1 3.7/4, mb1mx3.4/18, mbtmp3.4/4, Error ellipse: s-maj=127.9km s-min=27.0km az=130.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.21**	**229**	P	P	13 20 57.6	-1.3
	0.6nm,0.9s,baz=54,slow=10,SNR=3.1						
ASAR	**Alice Springs**	**25.89**	**223**	P	P	13 21 24.6	+0.5
	0.3nm,0.8s,baz=59,slow=9.0,SNR=4.6						
FITZ	**Fitzroy Crossi**	**29.48**	**242**	P	P	13 21 56.3	+0.1
	1.6nm,1.0s,baz=44,slow=8.0,SNR=3.9						
ILAR	**Eielson Array**	**82.47**	**22**	P	P	13 28 13.6	-0.6
	0.2nm,0.6s,baz=240,slow=5.7,SNR=5.3						
TORD	**Torodi Ar. Bea**	**150.38**	**288**	PKPbc	PKPbc	13 35 45.2	+0.6
	0.2nm,0.5s,baz=71,slow=2.0,SNR=2.7						

*CSEM **03** 13:21:36.0, 42°.15N×13°.60E, h8km, MD1.9/6, After ROM*
ROM 03 13:21:36.0±0.2, 42°.15N×13°.60E, h8km±2km, Md1.9/6, Ml1.3/3, Error ellipse: s-maj=2.2km s-min=1.5km az=94.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAGN	**Fagnano**	**0.12**	**353**	Pg	Pg	13 21 38.5	-0.2
FAGN				Sg	Sg	13 21 41.6	+1.0
FAGN	**Fagnano**	**0.12**	**353**	Pg	Pg	13 21 38.5	-0.2
FAGN				Sg	Sg	13 21 41.6	+1.0
PTQR	**Pietraquaria**	**0.20**	**229**	Pg	Pg	13 21 41.2	+1.0
PTQR				Sg	Sg	13 21 44.3	+1.3
	7.0nm,0.2s						
PTQR	**Pietraquaria**	**0.20**	**229**	Pg	Pg	13 21 41.2	+1.0
PTQR				Sg	Sg	13 21 44.3	+1.3
	7.0nm,0.2s						
INTR	**Introdacqua**	**0.26**	**122**	Pg	Pg	13 21 42.1	+0.7
INTR				Sg	Sb	13 21 46.7	-1.2
	51nm,0.5s						
INTR	**Introdacqua**	**0.26**	**122**	Pg	Pg	13 21 42.1	+0.7
INTR				Sg	Sb	13 21 46.7	-1.2
	51nm,0.5s						
VVLD	**Villa Vallelon**	**0.28**	**177**	Pg	Pg	13 21 42.3	+0.6
VVLD				Sg	Sb	13 21 47.1	-1.4
	27nm,0.5s						
VVLD	**Villa Vallelon**	**0.28**	**177**	Pg	Pg	13 21 42.3	+0.6
VVLD				Sg	Sb	13 21 47.1	-1.4
	27nm,0.5s						
VCEL	**Villa Celiera**	**0.30**	**36**	Pg	Pb	13 21 43.6	-0.2
VCEL				Sg	Sb	13 21 47.8	-1.3
	29nm,0.4s						
VCEL	**Villa Celiera**	**0.30**	**36**	Pg	Pb	13 21 43.6	-0.2
VCEL				Sg	Sb	13 21 47.8	-1.3
	29nm,0.4s						
SDI	**San Donato**	**0.47**	**161**	Pg	Pg	13 21 45.1	-0.1
SDI				Sg	Sb	13 21 53.6	-0.2
	15nm,0.4s						
SDI	**San Donato**	**0.47**	**161**	Pg	Pg	13 21 45.1	-0.1
SDI				Sg	Sb	13 21 53.6	-0.2
	15nm,0.4s						

*NIED **03** 13:26:00, 31°.10N×130°.30E, h165km, Mw6.2 Best double couple: M0 2.14000×10^18 NP1:φs20.00000°, δ70.00000°, λ79.00000°. NP2:φs229.00000°, δ23.00000°, λ117.00000°.*
*BKK **03** 13:26:02.0±0.3, 31°N±5°×13°0E±°, h10km, M6.5/59, mb6.3/59, mB6.7/57, Mw(mB)6.5/57, Mwp6.3/10*
*BJI **03** 13:26:13.6, 30°.88N×130°.55E, h165km, mB6.3/46, mb5.8/62*
*JMA **03** 13:26:17.9±0.1, 31°.13N×130°.30E, h167km±1km, M6.0 Broadband fault plane solution: P waves. NP1: φs8.00000°, δ78.00000°, λ65.00000°. NP2:φs254.00000°, δ27.00000°, λ153.00000°. Principal axes: T Plg51.0000°, Azm250.0000°; N Plg24.0000°, Azm14.0000°; P Plg29.0000°, Azm118.0000°;*
JMA Felt IV J1.
*ISCJB **03** 13:26:17.4±0.1, 31°.18N±0°.01×130°.08E±0°.01, h164km±1km, mb5.9/521 Error ellipse: s-maj=2.3km s-min=1.7km az=146.2*
*NEIC **03** 13:26:17.9±0.1, 31°.14N×130°.01E, h163km, mb5.9/260, ME5.7, MW6.2, MW6.2, MW6.1(NIED), MW6.1(USGS), Error ellipse: s-maj=3.3km s-min=2.7km az=141.0, Moment Tensor Solution. s90 Moment tensor: Scale 10^18Nm; Mrr1.74; Mθθ-0.40; Mφφ-1.34; Mrθ0.38; Mθφ-0.44; Mφr1.90; Best double couple: M0 2.50000×10^18 NP1: φs207.00000°, δ20.00000°, λ102.00000°. NP2: φs14.00000°, δ70.00000°, λ86.00000°. Principal axes: T 2.6500, Plg64.0000°, Azm276.0000°; N -0.2500, Plg4.0000°, Azm15.0000°; P -2.4100, Plg24.0000°, Azm107.0000°; Broadband fault plane solution: P waves. NP1:φs219.00000°, δ21.00000°, λ103.00000°. NP2: φs25.00000°, δ70.00000°, λ85.00000°. Principal axes: T Plg65.0000°, Azm287.0000°; N Plg0.0000°, Azm0.0000°; P Plg25.0000°, Azm119.0000°; Depth from broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt at Kagoshima, Kokubu, Kumamoto and Sueyoshi. Also felt on Okinawa, at Hiroshima, Mihara and Yanai, Honshu and at Imabari and Niihama, Shikoku. Recorded [4 JMA] in Miyazaki; [3 JMA] in Kagoshima and Oita; [2 JMA] in Kumamoto; [1 JMA] in Fukuoka and Nagasaki, Kyushu. Recorded [2 JMA] in Hiroshima, Okayama and Wakayama; [1 JMA] in Aichi, Gifu, Hyogo, Osaka, Shiga, Tottori and Yamaguchi, Honshu. Recorded [2 JMA] in Ehime, Kagawa, Kochi and Tokushima, Shikoku. Also recorded [3 JMA] on Tanega-shima and [2 JMA] on Akuseki-jima, Amami-oshima, Io-jima, Kakaroma-jima, Kikaiga-shima, Kuchinoerabu-jima, Kuchino-shima, Nakano-shima, Suwanose-jima, Take-jima, Tokuno-shima, Uke-jima and Yaku-shima.
*IDC **03** 13:26:18.8±0.4, 31°.21N×130°.22E, h169km±3km, mb5.5/46, mb1 5.6/50, mb1mx5.6/51, mbtmp5.5/50, MS5.3/8, Ms1 5.3/8, ms1mx4.7/49 Error ellipse: s-maj=7.0km s-min=5.2km az=79.0*
*MOS **03** 13:26:18.2±0.9, 31°.16N×130°.23E, h179km, mb6.1/147, Error ellipse: s-maj=6.1km s-min=3.4km az=114.8*
*BGS **03** 13:26:19.3±1.6, 31°.44N×129°.86E, h166km, mb6.0*
*GCMT **03** 13:26:21.9±0.1, 31°.08N×130°.19E, h168km, MW6.2, Moment Tensor Solution. s114, c271; s89, c139; Moment tensor: Scale 10^18Nm; Mrr1.44±.01; Mθθ-0.70±.02; Mφφ-0.75±.02; Mrθ0.33±.01; Mθφ-0.76±.02; Mφr1.94±.01; Best double couple: M0 2.40000×10^18 NP1:φs18.00000°, δ73.00000°, λ74.00000°. NP2: φs241.00000°, δ23.00000°, λ131.00000°. Principal axes: T 2.5800, Plg59.0000°, Azm267.0000°; N -0.2800, Plg15.0000°, Azm23.0000°; P -2.3000, Plg26.0000°, Azm120.0000°; Data Used: II IU CN G IC. Surface waves: sta=120, comp=292, per= 50.*
*DJA **03** 13:26:22.9±1.0, 31°N±4°×13°0E±°, h196km±9km, M6.2/101, mb6.0/101, mB6.4/90, Mw(mB)6.2/90, Mwp6.1/12*
*NEIC **03** 13:26:29.8±0.0, 31°.11N×130°.27E, h147km, Moment Tensor Solution. s115 Moment tensor: Scale 10^18Nm; Mrr1.45; Mθθ-0.60; Mφφ-0.86; Mrθ0.34; Mθφ-0.66; Mφr1.73; Best double couple: M0 2.30000×10^18 NP1:φs234.00000°, δ23.00000°, λ123.00000°. NP2:φs19.00000°, δ71.00000°, λ77.00000°. Principal axes: T 2.3800, Plg61.0000°, Azm269.0000°; N -0.2400, Plg12.0000°, Azm22.0000°; P -2.1400, Plg25.0000°, Azm118.0000°;*
ISC 03 13:26:18.2±0.2, 31°.18N±0°.02×130°.18E±0°.02, h167km±1km, h167km:pP-P, n2300, σ1°.33/2642, mb6.0/521, 459C-264D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSU	**Suzuyama**	**0.40**	**36**	⇑P	**Pn**	**13 26 40.8**	**-0.4**
JSU				S	**Sn**	**13 26 58.7**	**-0.2**
JTSR	**Tashiro 2**	**0.63**	**91**	⇑P	**Pn**	**13 26 41.3**	**-0.9**
JTSR				S	**Sn**	**13 26 58.7**	**-1.9**
JSJ	**Shimokoshiki**	**0.64**	**321**	⇓P	**Pn**	**13 26 42.4**	**+0.2**
JSJ				S	**Sn**	**13 27 01.1**	**+0.4**
JKC	**Kuchinoerabu**	**0.72**	**179**	⇑P	**Pn**	**13 26 42.1**	**-0.6**
JKC				S	**Sn**	**13 27 00.6**	**-0.9**
JTN	**Tanegashima 3**	**0.86**	**127**	⇑P	**Pn**	**13 26 42.7**	**-1.0**
JTN				S	**Sn**	**13 27 01.4**	**-1.8**
JNAR	**Kushima--Naru**	**0.99**	**69**	⇑P	**Pn**	**13 26 44.1**	**-0.5**
JZO	**Okuchi**	**1.02**	**20**	⇑P	**Pn**	**13 26 44.8**	**-0.1**
JTZ	**Takazaki**	**1.06**	**47**	⇑P	**Pn**	**13 26 44.7**	**-0.4**
JTZ				*e*S	**Sn**	**13 27 05.3**	**-0.5**
JHD	**Hondo**	**1.28**	**358**	⇓P	**Pn**	**13 26 47.8**	**+0.8**
JNN	**Nakanoshima**	**1.36**	**191**	⇑P	**Pn**	**13 26 47.6**	**-0.2**
JNN				S	**Sn**	**13 27 10.6**	**0.0**
JIU2	**Izumi 2**	**1.46**	**21**	⇑P	**Pn**	**13 26 49.0**	**+0.2**
JIU2				S	**Sn**	**13 27 12.9**	**+0.5**
NGSJ	**Nagasakinomoza**	**1.48**	**347**	⇓P	**Pn**	**13 26 49.7**	**+0.8**
JTSN	**Tsuno**	**1.55**	**46**	⇑P	**Pn**	**13 26 48.8**	**-0.8**
JKIT	**Kitakata**	**1.80**	**37**	⇑P	**Pn**	**13 26 51.7**	**-0.5**
JTA	**Tamana**	**1.80**	**9**	⇑P	**Pn**	**13 26 52.7**	**+0.4**
JFU	**Fukue jima 2**	**1.91**	**321**	⇓P	**Pn**	**13 26 54.5**	**+1.1**
JUR	**Ureshino**	**1.92**	**354**	⇓P	**Pn**	**13 26 54.2**	**+0.7**
JNU	**Nakatsue**	**2.02**	**17**	⇑P	**Pn**	**13 26 54.9**	**+0.2**
JNU	**Nakatsue**	**2.02**	**17**	*e*Pn	**Pn**	**13 26 54.3**	**-0.4**
JNU				*e*Sn	**Sn**	**13 27 22.9**	**-0.2**
JNU				S	**Sn**	**13 27 23.6**	**+0.5**
JNU	**Nakatsue**	**2.02**	**17**	P	**Pn**	**13 26 54.9**	**+0.2**
	1μm,0.3s,baz=216,slow=3.1,SNR=4746						
JNU				S	**Sn**	**13 27 23.6**	**+0.5**
	1μm,0.3s,baz=20,slow=18,SNR=12						
JUS	**Usuki**	**2.30**	**35**	⇑P	**Pn**	**13 26 56.6**	**-1.3**
JFA	**Akaike**	**2.58**	**11**	⇑P	**Pn**	**13 27 01.6**	**+0.5**
JII	**Iki**	**2.64**	**352**	⇓P	**Pn**	**13 27 02.9**	**+1.1**
JTO	**Tosashimizu**	**2.79**	**52**	⇑P	**Pn**	**13 27 01.5**	**-2.1**
UWA2	**Uwa jima 2**	**2.90**	**45**	⇑P	**Pn**	**13 27 02.5**	**-2.5**
JNA	**Nagahama**	**3.06**	**39**	⇑P	**Pn**	**13 27 04.7**	**-2.4**
JTY	**Toyota**	**3.16**	**13**	⇑P	**Pn**	**13 27 08.6**	**+0.3**
JKU	**Kubokawa**	**3.23**	**48**	⇑P	**Pn**	**13 27 07.3**	**-1.9**
JTU	**Tsushima**	**3.40**	**349**	⇓P	**Pn**	**13 27 12.1**	**+0.9**
MRT2	**Murotomisaki 2**	**4.01**	**56**	⇑P	**Pn**	**13 27 17.5**	**-1.6**
JGT	**Gotsu**	**4.24**	**25**	P	**Pn**	**13 27 21.1**	**-0.9**
JAI	**Aioi**	**4.45**	**53**	⇑P	**Pn**	**13 27 23.3**	**-1.4**
JOW	**Kunigami**	**4.64**	**202**	*e*Pn	**Pn**	**13 27 25.4**	**-1.9**
JOW				*e*Sn	**Sn**	**13 28 15.5**	**-5.9**
JAD	**Aida**	**5.03**	**41**	⇑P	**Pn**	**13 27 30.5**	**-1.7**
JAJ2	**Tsuna**	**5.11**	**50**	⇑P	**Pn**	**13 27 31.9**	**-1.4**
TJN	**Taejon**	**5.69**	**336**	*i* P	**Pn**	**13 27 42.9**	**+2.0**
KSAR	**Wonju Array Be**	**6.53**	**344**	P	**Pn**	**13 27 54.8**	**+2.8**
KSAR				ScP	**ScP**	**13 37 45.9**	**+0.3**
KSAR				ScS	**ScS**	**13 41 17.4**	**-1.4**
KSAR				PKiKP	**PKiKP**	**13 42 30.6**	**-0.8**
KSRS	**Korea Array**	**6.53**	**344**	P	**Pn**	**13 27 54.8**	**+2.8**
	24nm,0.3s,baz=166,slow=14,SNR=760						
KSRS				ScP	**ScP**	**13 37 45.9**	**+0.3**
	0.3nm,0.3s,baz=158,slow=1.2,SNR=40						
KSRS				ScS	**ScS**	**13 41 17.4**	**-1.4**
	0.2nm,0.3s,baz=268,slow=3.2,SNR=4.3						
KSRS				PKiKP	**PKiKP**	**13 42 30.6**	**-0.8**
	0.1nm,0.3s,baz=208,slow=1.1,SNR=7.5						
JAA	**Atsumi**	**6.79**	**58**	P	**Pn**	**13 27 56.1**	**+0.6**
INCN	**Inchon**	**6.94**	**336**	P	**Pn**	**13 27 59.4**	**+1.9**
	SNR=392						
INCN	**Inchon**	**6.94**	**336**	*e*Pn	Pn	13 27 50.6	-6.9
SSE	**Sheshan**	**7.71**	**272**	⇓P	**Pn**	**13 28 08.8**	**+1.1**
SSE				S	**Sn**	**13 29 33.7**	**-0.4**
SSE				pmax	pmax		
	comp=Z,97nm,0.7s						
SSE				pmax	pmax		
	comp=Z,6μm,7.5s						
SSE				LR	LR		
	comp=N,6μm,9.9s						
SSE				LR	LR		
	comp=E,13μm,9.9s						
SSE				LR	LR		
	comp=Z,20μm,8.9s						
JNG	**Nsakai**	**8.40**	**50**	P	**Pn**	**13 28 17.4**	**+0.5**
AJI	**Ajiro2**	**8.41**	**60**	P	**Pn**	**13 28 17.7**	**+0.8**
MAT	**Matsushiro**	**8.55**	**49**	P	**Pn**	**13 28 19.3**	**+0.5**
MAT				S	**Sn**	**13 29 53.4**	**-0.8**
MAT	**Matsushiro**	**8.55**	**49**	P	**Pn**	**13 28 19.3**	**+0.5**
MJAR	**Matsushiro Arr**	**8.55**	**49**	P	**Pn**	**13 28 19.6**	**+0.7**
MJAR				S	**Sn**	**13 29 53.6**	**-0.5**
MJAR				ScS	**ScS**	**13 41 24.3**	**+2.7**
MJAR	**Matsushiro Arr**	**8.55**	**49**	P	**Pn**	**13 28 19.6**	**+0.7**
	comp=Z,22nm,0.3s,baz=238,slow=12,SNR=145						
MJAR				S	**Sn**	**13 29 53.6**	**-0.5**
	comp=Z,60nm,0.3s,baz=228,slow=18,SNR=9.1						
MJAR				ScS	**ScS**	**13 41 24.3**	**+2.7**
	baz=261,slow=2.6,SNR=7.3						
JSZ	**Suzu**	**8.62**	**42**	P	**Pn**	**13 28 20.8**	**+1.1**
JRY	**Ryogami san**	**8.72**	**54**	⇑P	**Pn**	**13 28 21.6**	**+0.5**
JJN	**Nakama**	**8.87**	**46**	P	**Pn**	**13 28 24.1**	**+1.1**
JAG	**Ashikaga**	**9.32**	**53**	P	**Pn**	**13 28 29.9**	**+1.0**
JIZZ	**Izumozaki**	**9.47**	**46**	P	**Pn**	**13 28 32.7**	**+1.7**
JSD	**Sado**	**9.54**	**42**	⇑P	**Pn**	**13 28 32.6**	**+0.7**
NJ2	**Nanjing**	**9.70**	**278**	*e*P	**Pn**	**13 28 36.2**	**+2.2**
NJ2				S	**Sn**	**13 30 27.4**	**+5.7**
NJ2				pmax	pmax		
	comp=Z,330nm,1.2s						
NJ2				pmax	pmax		
	comp=Z,4μm,6.2s						
NJ2				LR	LR		
	comp=N,23μm,14.9s						
NJ2				LR	LR		
	comp=E,36μm,20.1s						
NJ2				LR	LR		
	comp=Z,52μm,27.3s						
TATO	**Taipei**	**9.85**	**233**	P	**Pn**	**13 28 38.1**	**+2.1**
	SNR=19						
TATO	**Taipei**	**9.85**	**233**	*e*Pn	Pn	13 28 31.1	-4.9
YHNB	**Yeheng**	**10.13**	**232**	*e*Pn	**Pn**	**13 28 39.0**	**-0.8**
NACB	**Ninganchiao**	**10.32**	**230**	*e*P	**Pn**	**13 28 39.1**	**-3.1**
DL2	**Dalian**	**10.41**	**320**	P	**Pn**	**13 28 44.3**	**+1.0**
DL2				sP		13 29 24.7	
DL2				ScS	**ScS**	**13 41 22.0**	**-2.6**
DL2				pmax	pmax		
	comp=Z,930nm,1.3s						
DL2				LR	LR		
	comp=N,26μm,10.8s						
DL2				LR	LR		
	comp=Z,15μm,8.0s						
SSLB	**Suanglung**	**11.01**	**230**	*e*Pn	**Pn**	**13 28 48.6**	**-2.7**
SSLB				*e*Sn	**Sn**	**13 30 47.9**	**-5.6**
YULB	**Yu-li**	**11.07**	**228**	*e*Pn	Pn	13 28 47.1	-4.9
CBIJ	**Chichi jima**	**11.25**	**108**	P	**Pn**	**13 28 55.3**	**+0.9**
CBIJ				S	**Sn**	**13 30 59.1**	**-0.1**
CBIJ	**Chichi jima**	**11.25**	**108**	P	**Pn**	**13 28 55.3**	**+0.9**
	baz=224,slow=2.8						
CBIJ				S	**Sn**	**13 30 59.1**	**-0.1**
	comp=Z,7.7nm,0.3s,baz=287,slow=19,SNR=1.7						
TPUB	**Ta-pu**	**11.56**	**230**	*e*Pn	Pn	13 28 54.4	-4.1
TWG	**Pinlang**	**11.63**	**226**	*e*Pn	Pn	13 28 54.0	-5.2
SNY	**Shenyang**	**11.88**	**335**	⇓P	**P**	**13 29 05.9**	**-2.5**
SNY				sP		13 29 44.0	
SNY				S	**S**	**13 31 21.1**	**-2.9**
SNY				pmax	pmax		
	comp=Z,190nm,1.6s						
SNY				pmax	pmax		
	comp=Z,5μm,9.6s						
SNY				LR	LR		
	comp=N,17μm,5.8s						
SNY				LR	LR		
	comp=E,31μm,6.4s						
SNY				LR	LR		
	comp=Z,13μm,9.4s						
QZH	**Quanzhou**	**11.97**	**242**	⇑*i*P	**Pn**	**13 29 03.0**	**-0.6**
QZH				sP		13 29 47.6	
QZH				S	**Sn**	**13 31 15.1**	**-1.3**
QZH				LR	LR		
	comp=N,40μm,5.2s						
QZH				LR	LR		
	comp=E,30μm,5.0s						
QZH				LR	LR		
	comp=Z,26μm,12.5s						
TIA	**Tai'an**	**11.97**	**298**	⇓P	**Pn**	**13 29 06.3**	**+2.7**
TIA				sP		13 29 48.9	
TIA				S	**S**	**13 31 22.0**	**-4.4**
TIA				pmax	pmax		
	comp=Z,280nm,1.3s						
TIA				pmax	pmax		
	comp=Z,8μm,8.6s						
TIA				LR	LR		
	comp=N,19μm,11.8s						
TIA				LR	LR		
	comp=E,21μm,12.0s						
TIA				LR	LR		
	comp=Z,18μm,13.0s						
VLA	**Vladivostok**	**11.99**	**6**	⇓*i*P	**Pn**	**13 29 05.6**	**+1.8**
VLA				*e*S	**Sn**	**13 31 16.6**	**-0.1**
VLA				pmax	pmax		
	comp=Z,117nm,1.2s						
USRK	**Ussuriysk Arra**	**13.08**	**6**	P	**P**	**13 29 19.9**	**-1.9**
	comp=Z,0.3nm,0.3s,baz=183,slow=12,SNR=78						
USRK				P3KPbc		14 05 19.6	
	comp=Z,0.2nm,0.3s,baz=339,slow=3.6,SNR=9.9						
CN2	**Changchun**	**13.14**	**345**	*e*P	**P**	**13 29 21.2**	**-1.3**
CN2				*es*P		13 30 01.7	
CN2				*e*S	**Sn**	**13 31 45.6**	**+1.3**
CN2				ScP	**ScP**	**13 37 53.5**	**-0.1**
CN2				ScS	**ScS**	**13 41 29.4**	**-0.7**
CN2				LR	LR		
	comp=N,23μm,10.0s						
CN2				LR	LR		
	comp=E,41μm,10.0s						
CN2				LR	LR		
	comp=Z,17μm,10.0s						
MDJ	**Mudanjiang**	**13.42**	**358**	P	**P**	**13 29 25.2**	**-0.4**
MDJ				sP		13 30 09.1	
MDJ				S	**Sn**	**13 31 52.7**	**+1.8**
MDJ				ScP	**ScP**	**13 37 54.4**	**+0.4**
MDJ				ScS	**ScS**	**13 41 30.6**	**-0.1**
MDJ				pmax	pmax		
	comp=Z,140nm,1.6s						
MDJ				pmax	pmax		
	comp=Z,2μm,10.2s						
MDJ				LR	LR		
	comp=N,5μm,27.4s						
MDJ				LR	LR		
	comp=E,7μm,29.3s						
MDJ				LR	LR		
	comp=Z,10μm,29.3s						
MDJ	**Mudanjiang**	**13.42**	**358**	*e*Pn	**Pn**	**13 29 23.1**	**+1.0**
	comp=Z,367nm,1.5s						
WHN	**Wuhan**	**13.62**	**271**	⇓P	**P**	**13 29 27.2**	**-0.7**
WHN				S	**S**	**13 31 59.9**	**-3.0**
WHN				LR	LR		
	comp=N,77μm,6.5s						
WHN				LR	LR		
	comp=E,24μm,4.2s						
WHN				LR	LR		
	comp=Z,34μm,10.3s						
BJT	**Baijiatuau**	**14.40**	**312**	*e*P	**P**	**13 29 37.6**	**+1.1**
	comp=Z,2μm,1.0s						
BJI	**Beijing**	**14.41**	**312**	P	**P**	**13 29 37.1**	**+0.5**
BJI				S	**Sn**	**13 32 13.4**	**-1.2**
BJI				ScP	**ScP**	**13 37 56.0**	**+0.3**
BJI				ScS	**ScS**	**13 41 32.4**	**-0.8**
BJI				pmax	pmax		
	comp=Z,1μm,1.2s						
BJI				LR	LR		
	comp=N,17μm,14.0s						
BJI				LR	LR		
	comp=E,18μm,10.3s						
ERM	**Erimo**	**15.00**	**40**	*ce*P	**Pn**	**13 29 40.4**	**-1.3**
ERM				pmax	pmax		
	comp=Z,205nm,0.8s						
ERM	**Erimo**	**15.00**	**40**	*e*Pn	**Pn**	**13 29 40.5**	**-1.2**
	comp=Z,212nm,0.9s						
PIP	**Pasuquin**	**15.46**	**216**	⇓*e*P	**Pn**	**13 29 46.0**	**-1.5**
SIPP	**Brgy, Tapao**	**15.88**	**216**	⇑*e*P	**P**	**13 29 53.2**	**+0.2**
TIY	**Taiyuan**	**16.02**	**299**	*e*P	**P**	**13 29 58.0**	**+3.5**
TIY				sP	**sP**	**13 30 42.9**	**-0.9**
TIY				S	**S**	**13 32 50.9**	**-1.2**
TIY				pmax	pmax		
	comp=Z,17μm,3.4s						
ASAJ	**Asahikawa**	**16.20**	**34**	P	**P**	**13 29 54.8**	**-1.6**
ASAJ				*e*Pn	**Pn**	**13 29 54.9**	**-1.5**
ASAJ	**Asahikawa**	**16.20**	**34**	P	**P**	**13 29 54.8**	**-1.6**
	comp=Z,23nm,0.3s,baz=226,slow=14,SNR=172						
ASAJ				S	**S**	**13 32 49.4**	**-6.5**
	baz=348,slow=25,SNR=4.4						
ASAJ				ScP	**ScP**	**13 37 58.5**	**-0.5**
	comp=Z,1.4nm,0.3s,baz=306,slow=9.5,SNR=12						
HKC	**Hong Kong Obse**	**16.80**	**242**	⇑*i*P	**P**	**13 30 02.0**	**-1.1**
HKC				*i* S	**S**	**13 33 05.0**	**-4.6**
GZH	**Guangzhou**	**17.00**	**246**	P	**P**	**13 30 01.0**	**-4.4**
GZH				S	S	13 33 00.8	-13
GZH				LR	LR		
	comp=N,51μm,5.5s						
GZH				LR	LR		
	comp=E,20μm,5.7s						
GZH				LR	LR		
	comp=Z,40μm,12.8s						
BCPH	**Baguio City Da**	**17.14**	**213**	⇑*i*P	**P**	**13 30 06.4**	**-0.7**
BALP	**Baler**	**17.26**	**209**	*e*P	**Pn**	**13 30 09.9**	**+0.5**
PCPH	**Palayan**	**17.63**	**210**	⇑*e*P	**Pn**	**13 30 13.4**	**-0.3**
HABR	**

HHC				S	**S**	**13 33 27.7**	**-3.6**
HHC				PcP	**PcP**	**13 34 46.7**	**+3.6**
HHC				PcS	**PcS**	**13 38 21.7**	**+2.1**
HHC				pmax	pmax		
	comp=Z,1μm,1.5s						
HHC				pmax	pmax		
	comp=Z,12μm,5.4s						
HHC				LR	LR		
	comp=N,22μm,11.9s						
HHC				LR	LR		
	comp=E,27μm,9.5s						
HHC				LR	LR		
	comp=Z,31μm,11.3s						
KLR	**Kul'dur**	**18.07**	**3⇓**	*i*P	**P**	**13 30 14.5**	**-2.3**
KLR				*e*S	S	13 33 26.0	-9.1
KLR				pmax	pmax		
	comp=N,220nm,2.2s						
KLR				pmax	pmax		
	comp=Z,870nm,2.2s						
KLR				pmax	pmax		
	comp=N,3μm,11.0s						
KLR				pmax	pmax		
	comp=Z,3μm,11.0s						
KLR				smax	smax		
	comp=N,9μm,8.0s						
KLR				smax	smax		
	comp=E,4μm,8.0s						
XAN	**Xi'an**	**18.14 285**		P	**Pn**	**13 30 19.0**	**-0.7**
XAN				sP	**sP**	**13 31 06.1**	**-1.2**
XAN				S	**S**	**13 33 39.3**	**+2.5**
XAN				ScP	**ScP**	**13 37 58.3**	**-4.9**
XAN				pmax	pmax		
	comp=Z,290nm,1.5s						
XAN				pmax	pmax		
	comp=Z,3μm,9.2s						
XAN				LR	LR		
	comp=N,7μm,13.1s						
XAN				LR	LR		
	comp=E,6μm,14.1s						
XAN				LR	LR		
	comp=Z,5μm,12.1s						
PVCP	**Virac**	**18.36 199⇑**		*i*P	**Pn**	**13 30 23.1**	**+0.8**
YSS	**Yuzh-Sakhalins**	**18.49 28⇑**		*i*P	**P**	**13 30 21.0**	**-0.4**
YSS				*i* S	S	13 33 36.0	-7.5
YSS				pmax	pmax		
	comp=Z,1μm,6.0s						
YSS				smax	smax		
	comp=N,3μm,12.0s						
YSS				MLR	MLR		
	comp=Z,6μm,15.0s						
YSS				MLR	MLR		
	comp=N,3μm,13.0s						
YSS				MLR	MLR		
	comp=E,4μm,14.0s						
GQP	**Guinayangan**	**18.61 204⇑**		*e*P	**Pn**	**13 30 24.1**	**-1.1**
LQP	**Lukban**	**18.75 207⇑**		*e*P	**Pn**	**13 30 26.4**	**-0.8**
BTO	**Baotou**	**18.81 306**		*i* P	**Pn**	**13 30 26.8**	**-0.8**
BTO				S	**Sn**	**13 33 56.7**	**-3.2**
BTO				LR	LR		
	comp=N,12μm,8.8s						
BTO				LR	LR		
	comp=E,10μm,8.3s						
TGY	**Tagaytay City**	**19.00 209**		P	**Pn**	**13 30 29.0**	**-1.0**
TGY	**Tagaytay City**	**19.00 209**		P	**Pn**	**13 30 29.0**	**-1.0**
	comp=E,40nm,0.3s,baz=7.6,slow=5.3,SNR=22						
AUQP	**San Andres**	**19.07 203**		*e*P	**Pn**	**13 30 31.6**	**+0.9**
CNP	**Catarman**	**19.27 197**		*e*P	**Pn**	**13 30 33.2**	**+0.2**
KUR	**Kuril'sk**	**19.69 40**		*d i*P	**P**	**13 30 35.9**	**+1.5**
KUR				*i* S	**S**	**13 34 07.5**	**+0.3**
KUR				pmax	pmax		
	comp=Z,212nm,0.9s						
KUR				pmax	pmax		
	comp=E,49nm,0.9s						
KUR				pmax	pmax		
	comp=N,39nm,0.4s						
KUR				pmax	pmax		
	comp=Z,2μm,2.6s						
KUR				smax	smax		
	comp=E,7μm,9.2s						
KUR				MLR	MLR		
	comp=N,4μm,20.0s						
KUR				MLR	MLR		
	comp=E,5μm,14.0s						
KUR				MLR	MLR		
	comp=Z,3μm,14.0s						
HIA	**Hailar**	**19.71 339**		*e*P	**P**	**13 30 34.1**	**-0.6**
	comp=Z,241nm,1.0s						
UGL	**Uglegorsk**	**20.01 23**		*e*P	**P**	**13 30 37.0**	**-0.8**
UGL				*e*		13 31 27.5	
UGL				*i* S	**S**	**13 34 10.0**	**-3.4**
UGL				pmax	pmax		
	comp=Z,320nm,1.1s						
UGL				pmax	pmax		
	comp=Z,3μm,4.0s						
UGL				pmax	pmax		
	comp=N,2μm,6.0s						
UGL				pmax	pmax		
	comp=E,2μm,4.0s						
UGL				smax	smax		
	comp=N,21μm,14.0s						
UGL				smax	smax		
	comp=E,8μm,5.0s						
UGL				MLR	MLR		
	comp=Z,10μm,15.0s						
UGL				MLR	MLR		
	comp=N,4μm,16.0s						
UGL				MLR	MLR		
	comp=E,9μm,16.0s						
RCP	**Roxas**	**20.70 201⇑**		*e*P	**P**	**13 30 45.9**	**+0.4**
GYA	**Guiyang**	**21.12 263⇑**		*i*P	**P**	**13 30 50.2**	**+0.1**
GYA				PP	**pP**	**13 31 22.5**	**+3.3**
GYA				sP	**sP**	**13 31 44.2**	**+4.0**
GYA				S	**S**	**13 34 30.2**	**-5.3**
GYA				PcP	**PcP**	**13 34 50.6**	**+1.3**
GYA				SS	**SnSn**	**13 35 16.9**	**+1.9**
GYA				ScP	**ScP**	**13 38 11.0**	**+0.6**
GYA				PcS	**PcS**	**13 38 27.8**	**+0.1**
GYA				pmax	pmax		
	comp=Z,1μm,0.7s						
GYA				pmax	pmax		
	comp=Z,11μm,5.9s						
GYA				LR	LR		
	comp=N,24μm,15.0s						
GYA				LR	LR		
	comp=E,15μm,11.3s						
GYA				LR	LR		
	comp=Z,14μm,12.2s						
LLP	**Lapu-Lapu**	**21.55 197⇑**		*e*P	**P**	**13 30 54.3**	**-0.3**
LLP				*e*S	**S**	**13 34 45.3**	**+2.6**
SCPH	**Surigao**	**21.73 193**		*e*P	**P**	**13 30 56.7**	**+0.2**
QIZ	**Qiongzhong**	**21.99 241**		P	**P**	**13 31 00.0**	**+0.9**
QIZ				S	**S**	**13 34 48.5**	**-1.5**
QIZ				sS	**sS**	**13 35 40.6**	**-1.8**
QIZ				pmax	pmax		
	comp=Z,280nm,1.0s						
QIZ				pmax	pmax		
	comp=Z,6μm,11.7s						
QIZ				LR	LR		
	comp=N,10μm,9.7s						
QIZ				LR	LR		
	comp=E,7μm,14.3s						
QIZ				LR	LR		
	comp=Z,17μm,18.7s						
QIZ	**Qiongzhong**	**21.99 241**		*e*P	**P**	**13 30 57.6**	**-1.5**
	comp=Z,517nm,1.3s						
QIZ				*e*ScP	**ScP**	**13 38 11.8**	**-0.6**
QIZ				LR	LR		
	comp=Z,19μm,20.0s						
GUMO	**Guam**	**22.11 139**		*e*P	**P**	**13 30 58.2**	**-2.1**
	comp=Z,73nm,1.2s						
LZH	**Lanzhou**	**22.44 290**		⇑P	**P**	**13 31 04.5**	**+1.0**
LZH				pP	**pP**	**13 31 36.5**	**+3.0**
LZH				PP	**PnPn**	**13 31 40.5**	**+2.9**
LZH				sP	**sP**	**13 31 56.2**	**+1.8**
LZH				S	**S**	**13 34 58.0**	**+0.6**
LZH				sS	**sS**	**13 35 47.3**	**-4.0**
LZH				SS	**SnSn**	**13 35 55.0**	**+8.4**
LZH				pmax	pmax		
	comp=Z,2μm,1.0s						
LZH				LR	LR		
	comp=N,9μm,10.0s						
LZH				LR	LR		
	comp=E,11μm,10.0s						
LZH				LR	LR		
	comp=Z,11μm,14.0s						
BUTP	**Butuan**	**22.50 192**		*e*P	**P**	**13 31 03.5**	**-0.5**
CD2	**Chengdu**	**22.63 276⇑**		*i*P	**P**	**13 31 05.1**	**0.0**
CD2				pP	**pP**	**13 31 36.7**	**+1.2**
CD2				PP	**PnPn**	**13 31 41.6**	**+1.5**
CD2				sP	**sP**	**13 31 56.3**	**0.0**
CD2				PcP	**PcP**	**13 34 54.0**	**+1.9**
CD2				S	**S**	**13 34 56.0**	**-4.3**
CD2				PcS	**PcS**	**13 38 31.9**	**+0.7**
CD2				pmax	pmax		
	comp=Z,3μm,1.6s						
CGP	**Cagayan de Oro**	**23.18 194⇓**		*e*P	**P**	**13 31 09.2**	**-1.0**
BUKP	**Musuan**	**23.67 193**		*e*P	**P**	**13 31 14.4**	**-0.3**
PPR	**Puerto Princes**	**23.81 209⇑**		*e*P	**P**	**13 31 18.4**	**+2.5**
PAGZ	**Pagadian**	**24.07 197**		*e*P	**P**	**13 31 17.3**	**-0.9**
CIT	**Chita**	**24.14 334**		*e*P	**P**	**13 31 19.0**	**+0.3**
CIT				*e*		13 31 56.9	
CIT				*e*		13 32 07.5	
CIT				*e*		13 32 16.0	
CIT				pmax	pmax		
	comp=Z,864nm,2.5s						
ULN	**Ulaanbaatar**	**24.27 320**		P	**P**	**13 31 21.2**	**+1.2**
	SNR=206						
ULN	**Ulaanbaatar**	**24.27 320**		*e*P	**P**	**13 31 20.9**	**+0.8**
	comp=Z,793nm,1.3s						
ULN				LR	LR		
	comp=Z,6μm,19.0s						
ULN	**Ulaanbaatar**	**24.27 320**		P	**P**	**13 31 21.0**	**+1.0**
	comp=Z,504nm,1.1s,comp=Z,12μm						
DAV	**Davao City (W)**	**24.37 191**		*e*P	P	13 31 14.8	-6.2
SONM	**Songino Array**	**24.62 319**		P	**P**	**13 31 23.8**	**+0.6**
SONM				ScP	**ScP**	**13 38 18.9**	**-0.3**
SONM				*e*		14 04 31.6	
SONM	**Songino Array**	**24.62 319**		P	**P**	**13 31 23.8**	**+0.6**
	comp=Z,199nm,1.1s,baz=133,slow=8.2,SNR=263						
SONM				ScP	**ScP**	**13 38 18.9**	**-0.3**
	comp=Z,13nm,1.1s,baz=109,slow=2.1,SNR=11						
SONM				P3KPbc		14 04 31.6	
	comp=Z,0.8nm,1.0s,baz=309,slow=5.2,SNR=5.7						
KMI	**Kunming**	**24.90 263**		P	**P**	**13 31 25.6**	**-0.5**
KMI				pP	**pP**	**13 31 58.2**	**-1.9**
KMI				PP	**PnPn**	**13 32 10.4**	**+0.1**
KMI				sP	**sP**	**13 32 18.0**	**-1.7**
KMI				S	**S**	**13 35 34.7**	**-2.4**
KMI				sS	sS	13 36 32.2	-5.8
KMI				SS	**SnSn**	**13 36 48.0**	**+1.6**
KMI				pmax	pmax		
	comp=Z,340nm,1.0s						
KMI				pmax	pmax		
	comp=Z,7μm,6.9s						
KMI				LR	LR		
	comp=N,12μm,7.3s						
KMI				LR	LR		
	comp=E,5μm,6.4s						
KMI				LR	LR		
	comp=Z,6μm,10.7s						
CLNS	**Chul'man**	**25.91 353**		*e*P	**P**	**13 31 33.2**	**-1.4**
CLNS				*e*		13 32 11.1	
CLNS				*e*		13 34 58.3	
CLNS				*e*S	**S**	**13 35 53.6**	**+1.5**
CLNS				pmax	pmax		
	comp=Z,90nm,1.1s						
CLNS				pmax	pmax		
	comp=N,82nm,1.2s						
CLNS				pmax	pmax		
	comp=E,23nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,65nm,0.8s						
CLNS				pmax	pmax		
	comp=E,34nm,1.0s						
CLNS				pmax	pmax		
	comp=N,67nm,0.9s						
CLNS				smax	smax		
	comp=E,579nm,10.7s						
CLNS				smax	smax		
	comp=N,3μm,13.3s						
CLNS				MLR	MLR		
	comp=Z,3μm,12.0s						
CLNS				MLR	MLR		
	comp=N,3μm,11.0s						
CLNS				MLR	MLR		
	comp=E,2μm,8.0s						
GTA	**Gaotai**	**26.02 297**		⇑P	**P**	**13 31 35.7**	**-0.2**
GTA				pP	**pP**	**13 32 08.4**	**-1.9**
GTA				sP	**sP**	**13 32 27.3**	**-2.4**
GTA				PcP	**PcP**	**13 35 01.3**	**+1.8**
GTA				S	**S**	**13 35 52.6**	**-1.8**
GTA				PcS	**PcS**	**13 38 39.5**	**-1.1**
GTA				ScS	**ScS**	**13 42 11.3**	**-2.1**
GTA				pmax	pmax		
	comp=Z,340nm,1.1s						
GTA				pmax	pmax		
	comp=Z,6μm,6.4s						
GTA				LR	LR		
	comp=N,9μm,13.3s						
GTA				LR	LR		
	comp=E,7μm,15.2s						
GTA				LR	LR		
	comp=Z,6μm,15.3s						
PANO	**Nakornpanom**	**27.11 245**		P	**P**	**13 31 47.2**	**+1.6**
	comp=Z,494nm,0.9s,comp=Z,9μm						
KDM	**Kudat**	**27.18 210**		P	**P**	**13 31 48.1**	**+1.8**
SKR	**Severo-Kuril's**	**27.40 37**		*e*P	P	13 31 43.0	-4.9
SKR				*e*		13 32 18.0	
SKR				*e*		13 32 36.4	
SKR				*e*S	**S**	**13 36 10.0**	**-5.5**
SKR				*e*SS	**SnSn**	**13 37 54.0**	**+8.1**
SKR				pmax	pmax		
	comp=N,1μm,2.0s						
SKR				pmax	pmax		
	comp=Z,2μm,2.0s						
SKR				pmax	pmax		
	comp=N,180nm,1.0s						
SKR				pmax	pmax		
	comp=E,180nm,1.0s						
SKR				smax	smax		
	comp=N,9μm,10.0s						
SKR				smax	smax		
	comp=E,6μm,10.0s						
SKNT	**Sakolnakorn**	**27.70 245**		P	**P**	**13 31 52.0**	**+1.1**
	comp=E,673nm,0.9s,comp=E,9μm						
ZAK	**Zakamensk**	**27.74 322⇑**		*i*P	**P**	**13 31 51.5**	**+0.4**
ZAK				*e*		13 32 30.4	
ZAK				pmax	pmax		
	comp=Z,50nm,1.3s						
NONG	**Nongkai**	**27.75 248**		P	**P**	**13 31 52.7**	**+1.4**
	comp=Z,652nm,1.8s,comp=Z,10μm						
MYLDM	**Lahad Datu**	**28.10 205**		P	**P**	**13 31 57.2**	**+2.8**
MYLDM	**Lahad Datu**	**28.10 205**		P	**P**	**13 31 57.0**	**+2.6**
	comp=Z,628nm,1.4s,comp=Z,9μm						
KKM	**Kota Kinabalu**	**28.23 210**		*e*P	**P**	**13 31 53.9**	**-1.8**
	comp=Z,143nm,0.8s						
KKM				*e*ScP	**ScP**	**13 38 29.0**	**-1.3**
KKM				LR	LR		
	comp=Z,6μm,22.0s						
KKM	**Kota Kinabalu**	**28.23 210**		P	**P**	**13 31 57.0**	**+1.2**
KKM	**Kota Kinabalu**	**28.23 210**		P	**P**	**13 31 57.1**	**+1.4**
	comp=Z,217nm,0.9s,comp=Z,6μm						
TLY	**Talaya**	**28.29 324**		*c i*P	**P**	**13 31 56.5**	**+0.6**
TLY				*e*		13 32 30.6	
TLY				*e*S	**S**	**13 36 30.4**	**+0.8**
TLY				*e*SS	**sS**	**13 37 33.3**	**+2.2**
TLY				pmax	pmax		
	comp=Z,113nm,1.6s						
TLY				MLR	MLR		
	comp=Z,3μm,14.0s						
TLY	**Talaya**	**28.29 324**		P	**P**	**13 31 57.0**	**+1.1**
	comp=Z,201nm,1.0s,SNR=24						
IRK	**Irkutsk**	**28.32 326**		*e*P	**P**	**13 31 57.4**	**+1.3**
IRK				*e*		13 32 32.6	
IRK				pmax	pmax		
	comp=Z,298nm,3.0s						
TSM	**Tawau**	**29.15 206**		P	**P**	**13 32 04.7**	**+1.0**
LOEI	**Loei**	**29.55 249**		P	**P**	**13 32 04.8**	**-2.5**
	comp=Z,528nm,1.9s,comp=Z,8μm						
PEA0B	**Petropavlovsk-**	**29.62 34**		*e*P	**P**	**13 32 07.5**	**-0.1**
PETK	**Petropavlovsk-**	**29.62 34**		P	**P**	**13 32 08.3**	**+0.7**
PETK				*PP	**pP**	**13 32 42.1**	**-0.4**
PETK						13 35 08.5	
PETK				S	**S**	**13 36 48.9**	**-1.5**
PETK						13 38 33.2	
PETK				pmax	pmax		
	comp=Z,67nm,1.0s						
PETK				pmax	pmax		
	comp=Z,39nm,1.0s						
PETK				pmax	pmax		
	comp=Z,16nm,1.0s						
PETK				smax	smax		
	comp=N,3.0nm,0.7s						
PETK				pmax	pmax		
	comp=N,21nm,1.1s						
PETK	**Petropavlovsk-**	**29.62 34**		P	**P**	**13 32 08.3**	**+0.7**
PETK				pP	**pP**	**13 32 42.1**	**-0.4**
PETK				PcP	**PcP**	**13 35 08.6**	**+0.7**
PETK				S	**S**	**13 36 48.9**	**-1.5**
PETK				ScP	**ScP**	**13 38 33.1**	**-0.9**
PETK				PKiKP	**PKiKP**	**13 42 40.1**	**-0.2**
PETK	**Petropavlovsk-**	**29.62 34**		P	**P**	**13 32 08.3**	**+0.7**
	comp=N,67nm,1.0s,baz=221,slow=6.4,SNR=76						
PETK				pP	**pP**	**13 32 42.1**	**-0.4**
	comp=N,38nm,1.0s,baz=214,slow=4.9,SNR=3.8						
PETK				PcP	**PcP**	**13 35 08.5**	**+0.7**
	comp=N,16nm,0.9s,baz=218,slow=1.6,SNR=3.1						
PETK				S	**S**	**13 36 48.9**	**-1.5**
	comp=N,2.8nm,0.7s,baz=48,slow=12,SNR=3.6						
PETK				ScP	**ScP**	**13 38 33.1**	**-0.9**
	comp=N,21nm,1.1s,baz=202,slow=3.1,SNR=9.1						
PETK				PKiKP	**PKiKP**	**13 42 40.1**	**-0.2**
	comp=N,4.8nm,1.0s,baz=116,slow=3.4,SNR=5.7						
MOY	**Mondy**	**29.65 322**		*e*P	**P**	**13 32 08.7**	**+0.7**
MOY				pmax	pmax		
	comp=Z,394nm,3.7s						
PAYA	**Payao**	**29.73 254**		P	**P**	**13 32 10.7**	**+1.7**
	comp=Z,92nm,0.8s,comp=Z,269μm						
CHAI	**Chaiyaphum**	**29.88 246**		P	**P**	**13 32 10.7**	**+0.5**
	comp=Z,352nm,0.9s,comp=Z,2μm						
PET	**Petropavlovsk**	**30.04 35**		*c i*P	**P**	**13 32 12.5**	**+1.3**
PET				*i* *PP	**pP**	**13 32 45.6**	**-0.5**
PET				*e*		13 35 09.8	
PET				*i* S	**S**	**13 36 51.7**	**-5.2**
PET				*e**SS	**sS**	**13 37 53.9**	**-4.6**
PET				*e*		13 38 51.4	
PET				*e*		13 42 29.6	
PET				pmax	pmax		
	comp=Z,2μm,2.2s						
PET				pmax	pmax		
	comp=Z,83nm,0.7s						
PET				pmax	pmax		
	comp=Z,300nm,12.0s						
PET				smax	smax		
	comp=N,5μm,10.8s						
PET				smax	smax		
	comp=N,123nm,2.0s						
PET				smax	smax		
	comp=N,6μm,15.3s						
PET				MLR	MLR		
	comp=Z,3μm,17.0s						
PET				MLR	MLR		
	comp=Z,3μm,16.0s						
CMAI	**Chiengmai2**	**30.14 256**		P	**P**	**13 32 14.1**	**+1.4**
	comp=Z,354nm,1.4s,comp=Z,31μm						
LAMP	**Lampang**	**30.34 253**		P	**P**	**13 32 15.7**	**+1.4**
	comp=Z,227nm,0.9s,comp=Z,2μm						
TNTI	**Ternate**	**30.36 186**		*e*P	**P**	**13 32 13.5**	**-0.9**
	comp=Z,2μm,2.1s						
TNTI	**Ternate**	**30.36 186**		P	**P**	**13 32 15.0**	**+0.6**
	comp=Z,397nm,1.7s,comp=Z,6μmcomp=Z,11μm						
CHTO	**Chiang Mai**	**30.76 254**		*e*P	**P**	**13 32 18.4**	**+0.4**
CHTO				pmax	pmax		
	comp=Z,453nm,1.0s						
CHTO				MLR	MLR		
	comp=Z,6μm,22.0s						
CHTO	**Chiang Mai**	**30.76 254**		P	**P**	**13 32 18.9**	**+0.8**
	SNR=72						
CHTO	**Chiang Mai**	**30.76 254**		*e*P	**P**	**13 32 18.4**	**+0.4**
	comp=Z,113nm,1.0s						
CHTO				*e*ScP	**ScP**	**13 38 38.8**	**+0.4**
CHTO				LR	LR		
	comp=Z,6μm,22.0s						
CHTO	**Chiang Mai**	**30.76 254**		P	**P**	**13 32 19.5**	**+1.5**
	comp=Z,596nm,1.0s,comp=Z,8μmcomp=Z,22μm						
CHTO	**Chiang Mai**	**30.76 254**		P	**P**	**13 32 18.6**	**+0.6**
	comp=Z,596nm,1.0s,comp=Z,8μm						
YAK	**Yakutsk**	**30.86 360**		*c i*P	**P**	**13 32 17.1**	**-1.3**
YAK				*e**PP	**pP**	**13 32 55.9**	**+2.6**
YAK				*e*		13 35 10.6	
YAK				*e*S	**S**	**13 37 06.5**	**-3.0**
YAK				*e**SS	**sS**	**13 38 10.4**	**-0.8**
YAK				*e*		13 42 27.8	
YAK				pmax	pmax		
	comp=Z,61nm,0.9s						
YAK				pmax	pmax		
	comp=N,60nm,1.3s						
YAK				pmax	pmax		
	comp=E,28nm,1.4s						
YAK				pmax	pmax		
	comp=Z,114nm,0.9s						
YAK				pmax	pmax		
	comp=E,74nm,1.4s						
YAK				smax	smax		
	comp=E,611nm,2.3s						
YAK				smax	smax		
	comp=N,871nm,2.7s						
CM31	**Chiang Mai Arr**	**30.94 253**		*e*P	**P**	**13 32 20.7**	**+1.1**
	comp=N,177nm,0.9s						
CMAR	**Chiang Mai Arr**	**30.94 253**		P	**P**	**13 32 21.1**	**+1.5**
CMAR				PcP	**PcP**	**13 35 13.2**	**+1.2**
CMAR				ScP	**ScP**	**13 38 40.5**	**+1.5**
CMAR				PKKKP		14 05 15.3	
CMAR	**Chiang Mai Arr**	**30.94 253**		P	**P**	**13 32 21.0**	**+1.5**
	comp=N,114nm,0.8s,baz=50,slow=6.8,SNR=533						
CMAR				PcP	**PcP**	**13 35 13.2**	**+1.2**
	comp=N,72nm,1.0s,baz=25,slow=2.2,SNR=16						
CMAR				ScP	**ScP**	**13 38 40.5**	**+1.5**
	comp=N,28nm,1.1s,baz=37,slow=1.8,SNR=13						
CMAR				P3KP		14 05 15.3	
	comp=N,0.6nm,0.8s,baz=309,slow=2.7,SNR=4.8						
GTOI	**Gorontalo**	**31.13 194**		P	**P**	**13 32 19.5**	**-1.7**
	comp=N,142nm,0.8s,comp=N,3μm						
MRSI	**Marisa**	**31.52 196**		P	**P**	**13 32 25.5**	**+0.9**
	comp=N,159nm,1.9s,comp=N,3μm						
CHBT	**CHBT**	**31.53 241**		P	**P**	**13 32 25.9**	**+1.2**
CHBT	**CHBT**	**31.53 241**		P	**P**	**13 32 26.0**	**+1.2**
	comp=N,984nm,0.9s,comp=N,10μm						
LBMI	**Labuha**	**31.75 185**		P	**P**	**13 32 29.0**	**+2.4**
	comp=N,260nm,1.1s,comp=N,4μm						
SWI	**Sorong**	**31.88 178**		P	**P**	**13 32 28.9**	**+1.1**
	comp=N,90nm,0.9s,comp=N,2μm						
UTHA	**Uthaitani**	**32.08 248**		P	**P**	**13 32 31.1**	**+1.6**
	comp=N,146nm,0.9s,comp=N,1μm						
BTM	**Bintulu**	**32.17 213**		P	**P**	**13 32 31.4**	**+1.1**
IMP	**Imphal**	**32.54 268**		*e*x	**P**	**13 32 33.0**	**-0.6**
BAKI	**Biak**	**32.68 169**		P	**P**	**13 32 36.4**	**+1.6**
	comp=N,162nm,1.0s,comp=N,2μm						
RKPI	**Ransiki, Papua**	**32.73 173**		P	**P**	**13 32 36.1**	**+0.9**
	comp=N,114nm,1.0s,comp=N,3μm						
LUWI	**Luwuk**	**32.81 194**		P	**P**	**13 32 33.2**	**-2.7**
	comp=N,153nm,0.8s,comp=N,2μm						
SBUM	**Sibu**	**33.23 214**		*e*P	**P**	**13 32 40.1**	**+0.5**
	comp=N,1μm,2.2s						
SBUM				*e*ScP	**ScP**	**13 38 49.1**	**+2.3**
SBUM	**Sibu**	**33.23 214**		P	**P**	**13 32 41.1**	**+1.6**
SBUM	**Sibu**	**33.23 214**		P	**P**	**13 32 40.2**	**+0.6**
	comp=N,183nm,1.3s,comp=N,6μm						
SRPI	**Serui, Papua**	**33.37 169**		P	**P**	**13 32 42.2**	**+1.5**
	comp=N,181nm,0.8s						
HVS	**Khovu-Aksy**	**33.46 317**		*c i*P	**P**	**13 32 42.2**	**+0.9**
HVS				pmax	pmax		
	comp=Z,1μm,1.4s						
PHET	**Kaeng Krachan**	**33.48 244**		P	**P**	**13 32 43.5**	**+1.7**
	comp=Z,1μm,0.8s,comp=Z,10μm						
LSA	**Lhasa**	**33.57 278**		P	**P**	**13 32 44.2**	**+1.2**
LSA				LR	LR		
	comp=N,4μm,17.4s						
LSA				LR	LR		
	comp=E,10μm,27.4s						
LSA				LR	LR		
	comp=Z,12μm,24.0s						
LSA	**Lhasa**	**33.57 278**		*e*P	**P**	**13 32 41.7**	**-1.3**
LSA				*e*		13 35 20.4	
LSA				pmax	pmax		
	comp=Z,118nm,1.2s						
LSA				MLR	MLR		
	comp=Z,10μm,21.0s						
LSA	**Lhasa**	**33.57 278**		*e*P	**P**	**13 32 41.7**	**-1.3**
	comp=Z,118nm,1.2s						
LSA				*e*PcP	**PcP**	**13 35 20.4**	**+0.8**
LSA				*e*ScP	**ScP**	**13 38 49.7**	**+1.3**
LSA				LR	LR		
	comp=Z,10μm,21.0s						
SMKI	**Samarinda**	**33.78 204**		P	P	13 32 47.6	+3.3
	comp=Z,647nm,1.2s,comp=Z,10μm						
FAKI	**Fak Fak**	**33.97 176**		P	**P**	**13 32 46.7**	**+0.8**

comp=Z,486nm,0.8s,comp=Z,6μm
SHL Shillong 34.04 270⇑ *i*P **P 13 32 46.0 -0.7**
SHL *ex* x 13 40 18.0
SKSI Soroako, Sulaw 34.56 196 P **P 13 32 51.9 +0.8**
comp=Z,82nm,1.7s,comp=Z,3μm
AAI Ambon 34.72 183 P **P 13 32 53.4 +1.0**
comp=Z,713nm,1.0s,comp=Z,9μm
SEY Seymchan 34.80 18⇑ *i*P **P 13 32 53.8 +1.2**
WAKE Wake Island 34.90 101 *e*P **P 13 32 51.5 -2.4**
comp=Z,384nm,1.3s
JAY Jayapura 34.97 161 P **P 13 32 57.3 +2.7**
comp=Z,102nm,0.8s,comp=Z,2μm
KSM Kuching 35.02 216 *e*P **P 13 32 55.5 +0.6**
comp=Z,311nm,0.9s
KSM *e*ScP **ScP 13 38 52.9 -0.2**
KSM LR LR
comp=Z,2μm,19.0s
KSM Kuching 35.02 216 P **P 13 32 56.8 +1.8**
KSM Kuching 35.02 216 P **P 13 32 56.4 +1.4**
comp=Z,515nm,1.1s,comp=Z,10μm
MTKI Muara Teweh, K 35.09 207 P **P 13 32 57.0 +1.4**
comp=Z,832nm,1.1s,comp=Z,12μm
MMSI Mamuju 35.35 200 P **P 13 32 58.5 +0.7**
comp=Z,1μm,0.8s,comp=Z,11μm
TTSI Tana Toraja 35.44 198 P **P 13 32 59.0 +0.5**
comp=Z,104nm,1.4s,comp=Z,2μm
BNDI Bandanaira 35.50 180 P **P 13 32 59.5 +0.4**
comp=Z,635nm,1.2s,comp=Z,9μm
WMQ Urumqi 35.62 303 P **P 13 33 00.9 +1.0**
WMQ pP **pP 13 33 35.5 +0.1**
WMQ sP **sP 13 33 54.0 -0.6**
WMQ PP **PnPn 13 34 26.7 +1.4**
WMQ PcP **PcP 13 35 27.0 +2.2**
WMQ S **S 13 38 23.6 0.0**
WMQ ScP **ScP 13 38 56.4 +1.4**
WMQ PcS **PcS 13 39 12.4 +0.2**
WMQ SS SS 13 40 53.7 -10
WMQ ScS **ScS 13 42 59.9 -0.3**
WMQ pmax pmax
comp=Z,300nm,1.2s
WMQ pmax pmax
comp=Z,5μm,4.8s
WMQ LR LR
comp=N,2μm,18.6s
WMQ LR LR
comp=E,4μm,22.8s
WMQ LR LR
comp=Z,5μm,22.2s
STKI Sintang 35.67 213 P **P 13 33 02.1 +1.6**
comp=Z,135nm,0.9s
SURA Surathani 35.87 239 P **P 13 33 04.0 +1.7**
comp=Z,560nm,1.8s,comp=Z,82μm
KRAR Krasnoyarsk 35.99 325*c i*P P 13 33 06.5 +3.7
KRAR pmax pmax
comp=Z,300nm,2.7s
KKSI Kolaka, Sulawe 36.08 195 P **P 13 33 05.4 +1.4**
comp=Z,232nm,1.1s,comp=Z,5μm
KTGM Kuala Trenggan 36.14 230 P **P 13 33 07.3 +2.8**
SRIT Nakonsritamara 36.27 238 P **P 13 33 07.1 +1.4**
comp=Z,1μm,1.3s,comp=Z,20μm
KRAB Krabi 36.82 238 P **P 13 33 11.9 +1.6**
comp=Z,832nm,0.9s,comp=Z,6μm
TAPN Taplejung 37.09 275 *e*P **P 13 33 13.0 +0.2**
comp=Z,334nm,1.0s
BBSI Bau Bau 37.18 193 P **P 13 33 14.5 +1.2**
comp=Z,289nm,1.2s,comp=Z,5μm
KAPI Kappang 37.34 197 P **P 13 33 13.3 -1.3**
SNR=22
KAPI Kappang 37.34 197 *e*P **P 13 33 11.6 -3.1**
KAPI Kappang 37.34 197 P **P 13 33 13.1 -1.6**
comp=Z,189nm,1.5s,comp=Z,4μm
BBKI Banjar Baru 37.42 206 P **P 13 33 16.2 +0.8**
comp=Z,2μm,0.9s,comp=Z,31μm
ODAN Odare 37.50 274 *e*P **P 13 33 16.3 +0.1**
comp=Z,596nm,0.8s
BKSI Bulukumba 37.55 197 P **P 13 33 15.8 -0.6**
comp=Z,166nm,0.7s,comp=Z,3μm
PKDT Phuket 37.67 239 P **P 13 33 19.3 +1.8**
comp=Z,2μm,1.0s,comp=Z,16μm
FX1 Attu Island--F 37.83 42 *e*P **P 13 33 19.4 +1.0**
FX1 *e*PcP **PcP 13 35 31.9 +0.7**
FX1 *e*ScP **ScP 13 39 03.3 +0.3**
KULM Kulim 37.84 233 *e*P **P 13 33 20.1 +1.2**
comp=Z,1μm,1.0s
KULM *e*ScP **ScP 13 39 04.0 +0.4**
KULM LR LR
comp=Z,3μm,21.0s
KULM Kulim 37.84 233 P **P 13 33 21.6 +2.7**
KULM Kulim 37.84 233 P **P 13 33 20.8 +1.9**
comp=Z,2μm,1.3s,comp=Z,20μm
PBKI Pangkalan Bun 38.03 211 P **P 13 33 21.4 +0.9**
comp=Z,408nm,1.8s,comp=Z,8μm
RAMN Ramite 38.15 275 *e*P **P 13 33 21.7 0.0**
IPM Ipoh 38.17 232 *e*P **P 13 33 22.4 +0.7**
comp=Z,2μm,0.9s
IPM *e*ScP **ScP 13 39 05.2 +0.3**
IPM Ipoh 38.17 232 P **P 13 33 23.6 +1.9**
IPM Ipoh 38.17 232 P **P 13 33 22.5 +0.8**
comp=Z,3μm,0.9s,comp=Z,26μm
JIRN Jiri 38.30 276 *e*P **P 13 33 23.7 +0.6**
comp=Z,242nm,0.4s
SMY Shemya 38.33 43 *e*P **P 13 33 22.8 +0.2**
SMY *e* 13 35 33.4
SMY pmax pmax
comp=Z,515nm,1.3s
SMY Shemya 38.33 43 *e*P **P 13 33 22.8 +0.2**
comp=Z,515nm,1.3s
SMY *e*PcP **PcP 13 35 33.4 +0.7**
MYKOM Kota Tinggi 38.39 226 P **P 13 33 25.4 +1.9**
MYKOM Kota Tinggi 38.39 226 P **P 13 33 25.4 +1.9**
comp=Z,492nm,1.0s,comp=Z,10μmcomp=Z,19μm
GUN Gumba 38.49 277 *e*P **P 13 33 25.3 +0.6**
comp=Z,680nm,0.3s
KGM Kluang 38.55 226 P **P 13 33 26.7 +2.0**
DGPR DIGLIPUR 38.63 251 *e*P **P 13 33 23.9 -1.6**
DGPR AMB AMB 13 33 29.1
comp=Z,1μm,1.5s
FRIM Kepong 38.69 230 P **P 13 33 27.9 +1.9**
PKI Pulchoki 38.98 276 *e*P **P 13 33 28.7 -0.1**
comp=Z,370nm,0.8s
PKIN Phulchoki 38.99 276 *e*P **P 13 33 29.1 +0.3**
comp=Z,217nm,0.9s
KKN Kakani 39.03 277 *e*P **P 13 33 29.4 +0.4**
comp=Z,270nm,0.7s
DMN Daman 39.23 277 *e*P **P 13 33 30.6 -0.1**
comp=Z,84nm,0.4s
ZAA0 Zalesovo Array 39.51 319 *e*P **P 13 33 32.1 -0.2**
ZAA0 *e*ScP **ScP 13 39 07.0 -2.4**
ZALV Zalesovo Beam 39.51 319 P **P 13 33 32.4 0.0**
ZALV 13 35 36.2
ZALV pmax pmax
comp=Z,18nm,0.3s
ZALV pmax pmax
comp=Z,93nm,1.0s
ZALV pmax pmax
comp=N,91nm,1.1s
ZALV Zalesovo Beam 39.51 319 P **P 13 33 32.4 0.0**
ZALV PcP **PcP 13 35 36.1 -0.3**
ZALV ScP **ScP 13 39 07.9 -1.5**
ZALV PKiKP **PKiKP 13 42 46.7 -1.0**
ZALV Zalesovo Beam 39.51 319 P **P 13 33 32.4 0.0**
comp=N,18nm,0.3s,baz=104,slow=6.7,SNR=134
ZALV PcP **PcP 13 35 36.2 -0.3**
comp=N,93nm,1.0s,baz=114,slow=3.5,SNR=11
ZALV ScP **ScP 13 39 07.9 -1.5**
comp=N,91nm,1.1s,baz=111,slow=3.8,SNR=19
ZALV PKiKP **PKiKP 13 42 46.7 -1.0**
comp=N,3.6nm,0.8s,baz=202,slow=1.6,SNR=3.6
PBA Port Blair 39.64 249 *e*P P 13 33 34.5 +0.6
PBA AMB AMB 13 33 35.7
comp=Z,379nm,0.7s
MK31 Makanchi Array 39.72 307 P **P 13 33 34.4 +0.1**
MK31 pmax pmax
comp=Z,173nm,1.2s
MK31 Makanchi Array 39.72 307 *e*P **P 13 33 34.4 +0.1**
MK31 *e*PcP **PcP 13 35 37.8 +0.4**
MK31 *e*ScP **ScP 13 39 09.0 -1.4**
MKAR Makanchi Array 39.72 307 P **P 13 33 34.5 +0.3**
MKAR *PP **pP 13 34 10.7 +0.3**
MKAR 13 35 37.3
MKAR pmax pmax
comp=Z,53nm,0.7s
MKAR pmax pmax
comp=Z,27nm,0.8s
MKAR pmax pmax
comp=Z,42nm,0.9s
MKAR pmax pmax
comp=N,58nm,0.9s
MKAR Makanchi Array 39.72 307 *e*P **P 13 33 34.5 +0.3**
MKAR pP **pP 13 34 10.7 +0.3**
MKAR PcP **PcP 13 35 37.3 -0.1**
MKAR ScP **ScP 13 39 09.7 -0.7**
MKAR PKiKP **PKiKP 13 42 47.7 -0.5**
MKAR ScS **ScS 13 43 19.9 -3.6**
MKAR PKKKP 14 05 02.7
MKAR *e* 14 11 42.2
MKAR Makanchi Array 39.72 307 P **P 13 33 34.5 +0.3**
comp=N,52nm,0.7s,baz=94,slow=9.8,SNR=185
MKAR pP **pP 13 34 10.7 +0.3**
comp=N,27nm,0.8s,baz=102,slow=9.3,SNR=2.3
MKAR PcP **PcP 13 35 37.3 -0.1**
comp=N,42nm,0.9s,baz=86,slow=3.5,SNR=12
MKAR ScP **ScP 13 39 09.7 -0.7**
comp=N,58nm,0.9s,baz=80,slow=3.4,SNR=21
MKAR PKiKP **PKiKP 13 42 47.7 -0.5**
comp=N,1.1nm,0.5s,baz=73,slow=1.1,SNR=6.8
MKAR ScS **ScS 13 43 19.9 -3.6**
comp=N,7.7nm,1.0s,baz=108,slow=4.7,SNR=5.8
MKAR P3KP 14 05 02.7
comp=N,0.3nm,0.5s,baz=333,slow=5.2,SNR=3.3
MKAR P4KPbc 14 11 42.2
comp=N,0.9nm,0.7s,baz=87,slow=6.6,SNR=6.9
BOK Bokaro 39.77 271 *e*P **P 13 33 35.1 +0.2**
TPI Tanjungpandan 39.99 217 P **P 13 33 38.4 +1.7**
comp=N,254nm,1.8s,comp=N,5μm
DANN Dangsing 40.17 278 *e*P **P 13 33 39.1 +0.6**
PPBI Pangkal Pinang 40.28 219 P **P 13 33 40.7 +1.5**
comp=N,633nm,1.2s
MMRI Maumere 40.31 192 *e*P **P 13 33 36.8 -2.6**
comp=N,410nm,0.8s
MMRI Maumere 40.31 192 P **P 13 33 38.8 -0.6**
comp=N,628nm,0.9s,comp=N,7μm
KOLN Koldanda 40.47 277 *e*P **P 13 33 41.3 +0.4**
TIXI Tiksi 40.53 359*c i*P **P 13 33 40.1 -0.4**
TIXI pmax pmax
comp=Z,283nm,1.4s
TSI Tuntungan 40.56 234 P **P 13 33 42.8 +1.4**
comp=Z,4μm,0.8s,comp=Z,43μm
LBFI Labuhan Bajo, 40.65 196 P **P 13 33 41.3 -0.8**
comp=Z,956nm,1.1s,comp=Z,11μm
NVS Novosibirsk 40.65 320⇑ *i*P **P 13 33 40.9 -0.8**
NVS *i* *PP **pP 13 34 18.8 +0.8**
NVS *e* 13 35 17.7
NVS pmax pmax
comp=N,182nm,2.7s
NVS pmax pmax
comp=E,603nm,2.7s
NVS pmax pmax
comp=Z,995nm,2.7s
NVS pmax pmax
comp=N,114nm,2.3s
NVS pmax pmax
comp=Z,321nm,2.3s
NVS pmax pmax
comp=E,155nm,2.1s
PSI Prapat 40.82 232 P **P 13 33 44.6 +0.9**
PSI Prapat 40.82 232 P **P 13 33 44.6 +0.9**
comp=E,1μm,0.8s,baz=15,slow=5.5,SNR=544
PYUN Piuthan 40.89 278 *e*P **P 13 33 44.6 +0.2**
comp=E,907nm,1.1s
RGRI Rengat 41.00 225 P **P 13 33 47.3 +2.2**
comp=E,2μm,0.8s,comp=E,91μmcomp=E,15μm
KMMI Kalianget 41.06 205 P **P 13 33 46.6 +1.1**
comp=E,1μm,1.0s,comp=E,15μm
KCSI Kotacane, Aceh 41.09 234 P **P 13 33 45.1 -0.7**
SOEI Soe 41.09 189 P **P 13 33 44.7 -1.2**
comp=E,695nm,0.8s,comp=E,6μm
AMKA Amchitka 41.15 46 *e*P **P 13 33 46.3 +0.5**
comp=E,229nm,0.9s
AMKA *e*S **S 13 39 49.4 +3.1**
BKNI Bangkinang 41.28 228 P **P 13 33 48.8 +1.5**
comp=E,1μm,1.6s,comp=E,21μm
KWAJ Kwajalein Atol 41.32 115 *e*P **P 13 33 48.5 +0.8**
KWAJ pmax pmax
comp=Z,495nm,1.2s
KWAJ Kwajalein Atol 41.32 115 *e*P **P 13 33 48.5 +0.8**
comp=Z,495nm,1.2s
CMBY CAMPBELL BAY 41.54 242 *e*P **P 13 33 49.7 +0.3**
CMBY AMB AMB 13 33 50.4
comp=Z,527nm,1.1s
SRBI Singaraja 41.59 203 P **P 13 33 50.2 +0.4**
comp=Z,502nm,1.0s,comp=Z,9μm
ABJI Asem Bagus 41.66 204 P **P 13 33 51.1 +0.8**
comp=Z,983nm,1.1s,comp=Z,15μm
PMBI Palembang 41.67 220 P **P 13 33 52.9 +2.5**
comp=Z,2μm,1.2s,comp=Z,20μm
MTNI Mataram 41.80 201 P **P 13 33 50.0 -1.5**
BLJI Banyuglugur 41.84 205 P **P 13 33 52.0 +0.2**
comp=Z,228nm,1.8s,comp=Z,7μm
BYJI Banyuwangi 42.00 204 P **P 13 33 54.7 +1.6**
comp=Z,1μm,1.6s,comp=Z,21μm
DNP Denpasar 42.15 202 P **P 13 33 55.4 +1.1**
comp=Z,2μm,0.8s,comp=Z,36μm
PPI Padang Panjang 42.29 228 P **P 13 33 56.4 +0.9**
comp=Z,807nm,1.7s,comp=Z,17μm
IGBI Denpasar 42.30 202 P **P 13 33 54.7 -0.8**
comp=Z,1μm,0.9s,comp=Z,14μm
GMJI Gumukmas 42.38 205 P **P 13 33 55.8 -0.4**
comp=Z,278nm,1.1s,comp=Z,6μm
SJI Sawahan 42.52 208 P **P 13 33 58.6 +1.1**
comp=Z,1μm,0.9s,comp=Z,21μm
KURK Kurchatov 42.57 313 P **P 13 33 57.8 +0.4**
KURK *PP **pP 13 34 35.0 +1.1**
KURK 13 35 45.5
KURK pmax pmax
comp=Z,68nm,0.9s
KURK pmax pmax
comp=Z,71nm,1.1s
KURK pmax pmax
comp=Z,26nm,0.9s
KURK pmax pmax
comp=N,30nm,1.0s
KURK Kurchatov 42.57 313 P **P 13 33 57.8 +0.4**
KURK pP **pP 13 34 35.0 +1.1**
KURK PcP **PcP 13 35 45.5 -1.1**
KURK ScP **ScP 13 39 20.2 -1.3**
KURK PKiKP **PKiKP 13 42 50.0 -0.5**
KURK *e* 14 11 54.4
PDSI Padang 42.60 227 P **P 13 33 58.0 -0.1**
comp=N,603nm,1.4s,comp=N,16μm
KURBB Kurchatov Arra 42.62 312 P **P 13 33 57.8 0.0**
comp=N,59nm,0.9s,baz=99,slow=9.2,SNR=262
KURBB pP **pP 13 34 35.0 +0.7**
comp=N,71nm,1.1s,baz=99,slow=9.1,SNR=4.5
KURBB PcP **PcP 13 35 45.5 -1.2**
comp=N,26nm,0.9s,baz=104,slow=3.8,SNR=6.6
KURBB ScP **ScP 13 39 20.2 -1.5**
comp=N,30nm,1.0s,baz=97,slow=4.3,SNR=12
KURBB PKiKP **PKiKP 13 42 50.0 -0.6**
comp=N,2.0nm,0.9s,baz=84,slow=0.7,SNR=4.6
KURBB P4KPbc 14 11 54.4
comp=N,0.1nm,0.3s,baz=105,slow=3.4,SNR=4.2
KRKI Karangkates 42.64 206 P **P 13 33 58.6 +0.3**
comp=N,818nm,1.6s,comp=N,12μm
PWJI Pagerwojo 42.77 207 P **P 13 33 59.3 0.0**
comp=N,1μm,0.9s,comp=N,14μm
TGJI Tegal 42.87 212 P **P 13 34 02.3 +2.2**
comp=N,1μm,1.2s,comp=N,25μmcomp=N,19μm
BJII Banjamegara 43.02 211 P **P 13 34 03.1 +1.7**
comp=N,792nm,1.9s,comp=N,25μm
UGM Wanagama 43.19 209 *e*P **P 13 34 02.1 -0.7**
comp=N,1μm,0.9s
UGM Wanagama 43.19 209 P **P 13 34 03.8 +1.0**
comp=N,2μm,1.1s,comp=N,30μmcomp=N,23μm
YOGI Yogyakarta 43.20 209 P **P 13 34 03.5 +0.7**
comp=N,4μm,1.1s,comp=N,47μm
KLI Kotabumi 43.23 218 P **P 13 34 04.4 +1.3**
comp=N,894nm,1.1s,comp=N,15μm
MASI Maura Aman, Be 43.28 223 P **P 13 34 05.4 +1.9**
comp=N,2μm,0.9s,comp=N,24μm
AAA Alma-Ata 43.40 302 *i*P **P 13 34 05.8 +1.5**
AAA *e*S **S 13 40 18.2 -1.5**
AAA pmax pmax
comp=Z,6μm,7.9s
AAA smax smax
comp=E,3μm,11.1s
AAA MLR MLR
comp=Z,6μm,18.0s
TNG Tangerang 43.43 215 P **P 13 34 07.0 +2.4**
comp=Z,7μm,1.1s,comp=Z,86μmcomp=Z,38μm
BLSI Bandar Lampung 43.45 218 P **P 13 34 06.0 +1.1**
comp=Z,758nm,1.8s,comp=Z,14μm
KSI Kapahiang 43.49 222 P **P 13 34 05.7 +0.5**
comp=Z,917nm,1.1s,comp=Z,13μm
PMG Port Moresby 43.51 155 *e*P **P 13 34 03.8 -1.5**
comp=Z,30nm,1.2s
PMG *e*ScP **ScP 13 39 25.4 -0.5**
PMG S **S 13 40 17.5 -4.1**
PMG LR LR
comp=Z,4μm,20.0s
PMG Port Moresby 43.51 155 P **P 13 34 05.3 0.0**
comp=Z,100nm,1.3s,comp=Z,3μm
PMG Port Moresby 43.51 155 P **P 13 34 05.1 -0.2**
comp=Z,70nm,1.0s,baz=348,slow=9.3,SNR=8.8
PMG S **S 13 40 17.5 -4.1**
comp=Z,9.2nm,0.8s,baz=139,slow=18,SNR=2.0
SBJI Serang 43.64 216 P **P 13 34 07.6 +1.3**
comp=Z,2μm,1.4s,comp=Z,24μm
ADK Adak 43.70 46 *e*P **P 13 34 03.9 -2.5**
ADK pmax pmax
comp=Z,249nm,1.1s
ADK Adak 43.70 46 *e*P **P 13 34 03.9 -2.5**
comp=Z,62nm,1.1s
ULHL Ulahol 43.97 300 *i*P **P 13 34 11.0 +2.0**
ULHL Ulahol 43.97 300 P **P 13 34 11.0 +2.0**
SNR=6.0
KASI Kota Agung 43.98 218 P **P 13 34 08.7 -0.3**
comp=Z,332nm,0.9s,comp=Z,6μm
GSTR Great Sitkin T 44.11 46 *e*P **P 13 34 09.8 +0.1**
VIS Vishakhapatnam 44.40 264 *i*P **P 13 34 12.1 -0.3**
VIS *i* x x 13 35 10.7
TKM2 Tokmak 2 44.41 301 *e*P **P 13 34 13.6 +1.1**
TKM2 *e* 13 35 53.6
TKM2 pmax pmax
comp=Z,196nm,0.9s
TKM2 MLR MLR
comp=Z,5μm,19.0s
TKM2 Tokmak 2 44.41 301 P P 13 34 15.7 +3.2
SNR=5.2
TKM2 Tokmak 2 44.41 301 *e*P **P 13 34 13.6 +1.1**
comp=Z,196nm,0.9s
TKM2 *e*PcP **PcP 13 35 53.6 +0.3**
TKM2 *e*ScP **ScP 13 39 29.3 -0.2**
TKM2 LR LR
comp=Z,5μm,19.0s
KSH Kashi 44.42 296⇑ *i*P P 13 34 16.4 +3.9
KSH sP sP 13 35 10.6 +2.5
KSH PP **PP 13 36 04.5 +5.1**
KSH PcS **PcS 13 39 49.7 +2.8**
KSH S **S 13 40 39.5 +4.8**
KSH ScS **ScS 13 43 53.7 +0.8**
KSH pmax pmax
comp=Z,220nm,1.4s
KSH pmax pmax
comp=Z,3μm,3.9s
KSH LR LR
comp=N,3μm,10.3s
KSH LR LR
comp=E,3μm,10.1s
KSH LR LR
comp=Z,2μm,12.4s
DDI Dehra Dun 44.46 283 *e*P **P 13 34 13.3 +0.5**
DDI AMB AMB 13 34 16.9
comp=Z,590nm,1.4s
KZA Kyzart 44.72 300 *i*P P 13 34 18.8 +3.6
KZA Kyzart 44.72 300 P P 13 34 18.9 +3.6
SNR=9.4
KBK Karagaybulak 44.90 301 *i*P **P 13 34 18.6 +2.3**
KBK Karagaybulak 44.90 301 P **P 13 34 18.6 +2.3**
SNR=19
SMLA Simla 44.99 284 *e*P **P 13 34 16.9 0.0**
CHMS Chumysh 45.02 301 *i*P **P 13 34 18.9 +1.8**
CHMS Chumysh 45.02 301 P **P 13 34 18.9 +1.8**
SNR=71
SDNR Sundarnagar 45.07 285 *ex* **P 13 34 18.0 +0.4**
FRU Bishkek 45.13 301 *i*P **P 13 34 18.0 0.0**
FRU *i* *SP **sP 13 35 14.0 +0.3**
FRU *e*S S **13 40 48.0 +3.4**
FRU pmax pmax
comp=Z,700nm,2.0s
FRU pmax pmax
comp=Z,4μm,4.0s
FRU MLR MLR
comp=Z,4μm,14.0s
USP Ospenovka 45.19 302 *i*P **P 13 34 19.1 +0.7**
USP Ospenovka 45.19 302 P **P 13 34 19.1 +0.7**
SNR=56
AAK Ala-Archa 45.23 301 *e*P **P 13 34 19.3 +0.3**
AAK *e* 13 35 53.0
AAK pmax pmax
comp=Z,62nm,1.0s
AAK MLR MLR
comp=Z,3μm,19.0s
AAK Ala-Archa 45.23 301 P **P 13 34 20.0 +1.0**
SNR=57
AAK Ala-Archa 45.23 301 P **P 13 34 21.0 +2.0**
SNR=32
AAK Ala-Archa 45.23 301 *e*P **P 13 34 19.2 +0.3**
comp=Z,62nm,1.0s
AAK *e*PcP **PcP 13 35 53.0 -3.1**
AAK LR LR
comp=Z,3μm,19.0s
AAK Ala-Archa 45.23 301 P **P 13 34 19.6 +0.7**
comp=Z,33nm,0.8s,baz=90,slow=6.8,SNR=90
UCH Uchtor 45.25 300 *i*P **P 13 34 22.3 +2.8**
UCH Uchtor 45.25 300 P **P 13 34 22.3 +2.8**
SNR=34
DHRM DHARAMSHALA 45.44 286 *e*P **P 13 34 19.7 -1.1**
BHK Bhakra 45.55 285 *e*P **P 13 34 22.8 +1.4**
NDI New Delhi 45.61 281 *e*P **P 13 34 19.0 -2.9**
NDI *ex* x 13 34 43.9
NDI AMB AMB 13 34 46.5
comp=Z,366nm,0.7s
NDI *ex* x 13 39 48.0
DLH Dalhousie 45.65 287 *e*P **P 13 34 23.0 +0.6**
DLH *ex* x 13 34 32.0
EKS2 Erkin-Say 45.76 301 *e*P P 13 34 19.6 -3.4
EKS2 *e* 13 35 56.9
EKS2 pmax pmax
comp=Z,109nm,1.4s
EKS2 MLR MLR
comp=Z,4μm,19.0s
EKS2 Erkin-Say 45.76 301 P **P 13 34 23.9 +0.8**
SNR=51
EKS2 Erkin-Say 45.76 301 *e*P P 13 34 19.6 -3.4
comp=Z,109nm,1.4s
EKS2 *e*P **P 13 34 23.2 +0.1**
EKS2 *e*PcP **PcP 13 35 56.9 -1.0**
EKS2 *e*ScP **ScP 13 39 33.4 -1.6**
EKS2 LR LR
comp=Z,4μm,19.0s
AML Almayashu 45.87 300 *i*P **P 13 34 25.1 +0.9**
AML Almayashu 45.87 300 P **P 13 34 25.1 +0.9**
SNR=108
COEN Coen 46.58 163 *e*P **P 13 34 28.4 -1.1**
comp=Z,125nm,1.2s
COEN *e*PcP **PcP 13 36 01.5 +0.7**
COEN *e*ScP **ScP 13 39 38.9 +0.4**
NGP Nagpur 46.62 270 *e*P **P 13 34 30.2 +0.3**
NGP *ex* x 13 34 32.8
comp=Z,502nm,1.1s
NGP ⇑*ex* x 13 41 19.3
BHPL Bhopal 47.22 274 *e*P **P 13 34 34.5 0.0**
VOSK Vostochnaya 47.48 315 P **P 13 34 36.0 -0.1**
VOSK pmax pmax
comp=Z,67nm,0.9s
XMIS Christmas Isla 47.64 214 *e*P **P 13 34 35.3 -2.4**
comp=Z,536nm,1.1s
BVA0 Borovoye Array 47.85 315 P **P 13 34 39.6 +0.6**
BVA0 pmax pmax
comp=Z,208nm,1.4s
BVAR Borovoye Array 47.85 315 PcP **PcP 13 36 04.7 -0.2**
BVAR ScP **ScP 13 39 42.3 -1.1**
BVAR ScS **ScS 13 44 12.4 -2.2**
BVAR Borovoye Array 47.85 315 PcP **PcP 13 36 04.7 -0.2**
baz=100,slow=4.4
BVAR ScP **ScP 13 39 42.3 -1.1**
comp=Z,45nm,1.0s,baz=104,slow=4.8,SNR=10
BVAR ScS **ScS 13 44 12.4 -2.2**
comp=Z,5.9nm,1.1s,baz=132,slow=2.1,SNR=4.7
BRVK Borovoye 47.92 315 *e*P **P 13 34 39.5 +0.1**
BRVK *e* 13 36 06.2
BRVK pmax pmax
comp=Z,412nm,1.5s
BRVK MLR MLR
comp=Z,3μm,20.0s
BRVK Borovoye 47.92 315 P **P 13 34 40.2 +0.8**
SNR=98

BRVK	**Borovoye**	**47.92 315**	*e*P	**P**	**13 34 39.5**	**+0.1**
	comp=Z,412nm,1.5s					
BRVK			*e*PcP	**PcP**	**13 36 06.2**	**+1.0**
BRVK			*e*ScP	**ScP**	**13 39 41.4**	**-2.3**
BRVK			LR	LR		
	comp=Z,3μm,20.0s					
KK31	**Karatay Array**	**48.11 302**	*i* P	**P**	**13 34 41.5**	**+0.4**
KK31			pmax	pmax		
	comp=Z,158nm,0.9s					
KKAR	**Karatay Array**	**48.11 302**	*e*P	**P**	**13 34 41.7**	**+0.6**
KKAR	**Karatay Array**	**48.11 302**	*e*P	**P**	**13 34 41.6**	**+0.6**
AKL	**Akola**	**48.54 271** ⇑	*i*P	**P**	**13 34 44.3**	**-0.4**
AKL			AMP		13 34 48.5	
	comp=Z,517nm,1.0s					
AKL			*i* x	x	13 42 36.8	
HYB	**Hyderabad**	**48.61 266** ⇑	*i*P	**P**	**13 34 44.0**	**-1.3**
	comp=Z,97nm,0.5s					
HYB			*e*pP	**pP**	**13 35 22.0**	**-0.7**
HYB			*e*PP	**PP**	**13 36 40.0**	**+0.3**
HYB			*e*PPP	PPP	13 37 32.0	
HYB			*e*S	S	13 41 42.0	+7.5
HYB			*e*sS	**sS**	**13 42 40.0**	**+0.3**
HYB	**Hyderabad**	**48.61 266**	*e*P	**P**	**13 34 46.0**	**+0.8**
FITZ	**Fitzroy Crossi**	**49.19 186**	P	**P**	**13 34 49.8**	**+0.3**
FITZ			*e*PcP	**PcP**	**13 36 10.7**	**+0.6**
FITZ			S	**S**	**13 41 40.8**	**-1.5**
FITZ			P'P'		14 05 32.0	
FITZ	**Fitzroy Crossi**	**49.19 186**	P	**P**	**13 34 49.8**	**+0.3**
	comp=Z,282nm,0.8s,baz=11,slow=8.9,SNR=396					
FITZ			S	**S**	**13 41 40.8**	**-1.5**
	comp=Z,18nm,1.0s,baz=185,slow=14,SNR=14					
FITZ			PKPPKP	P'P'df	14 05 32.0	-12
	comp=Z,4.4nm,1.0s,baz=180,slow=1.0,SNR=3.0					
HNR	**Honiara**	**49.44 140**	P	**P**	**13 34 52.0**	**+0.6**
HNR	**Honiara**	**49.44 140**	P	**P**	**13 34 52.0**	**+0.6**
	comp=Z,126nm,0.9s,baz=228,slow=8.7,SNR=3.9					
LATR	**Latur**	**49.88 268** ⇑	*e*P	**P**	**13 34 53.2**	**-1.6**
TARA	**Tarawa**	**50.10 118**	*e*P	**P**	**13 34 56.6**	**+0.1**
	comp=Z,73nm,1.1s					
TARA			LR	LR		
	comp=Z,2μm,19.0s					
TNA	**Tin City**	**50.47 28**	*e*P	**P**	**13 34 58.9**	**+0.3**
	comp=Z,442nm,1.4s					
TNA			*e*PcP	**PcP**	**13 36 12.9**	**-1.3**
KBL	**Kabul**	**50.78 291**	*e*P	**P**	**13 35 01.9**	**+0.2**
KBL			*e*		13 36 16.0	
KBL			pmax	pmax		
	comp=Z,3μm,2.6s					
KBL	**Kabul**	**50.78 291**	*e*P	**P**	**13 35 01.9**	**+0.2**
	comp=Z,3μm,2.6s					
KBL			*e*PcP	**PcP**	**13 36 15.9**	**-0.3**
WRAB	**Tennant Creek**	**50.98 175**	*e*P	**P**	**13 35 02.5**	**-0.4**
WRAB			pmax	pmax		
	comp=Z,128nm,0.7s					
WRAB			MLR	MLR		
	comp=Z,3μm,19.0s					
WRAB	**Tennant Creek**	**50.98 175**	*e*P	**P**	**13 35 02.5**	**-0.4**
	comp=Z,128nm,0.7s					
WRAB			*e*ScP	**ScP**	**13 39 57.7**	**+0.6**
WRAB			LR	LR		
	comp=Z,3μm,19.0s					
WRA	**Warramunga Arr**	**50.99 175**	P	**P**	**13 35 02.9**	**-0.1**
WRA			ScP	**ScP**	**13 39 57.0**	**-0.2**
WRA			S	**S**	**13 42 01.9**	**-5.2**
WRA			P'P'		14 05 38.0	
WRA			*e*		14 12 29.2	
WRA	**Warramunga Arr**	**50.99 175**	P	**P**	**13 35 02.9**	**-0.1**
	comp=Z,121nm,0.7s,baz=354,slow=8.3,SNR=263					
WRA			ScP	**ScP**	**13 39 57.0**	**-0.2**
	comp=Z,12nm,0.8s,baz=353,slow=4.5,SNR=7.1					
WRA			S	**S**	**13 42 01.9**	**-5.2**
	comp=Z,12nm,1.0s,baz=356,slow=13,SNR=12					
WRA			PKPPKP	**P'P'df**	**14 05 38.0**	**-3.6**
	comp=Z,1.2nm,0.8s,baz=140,slow=2.4,SNR=4.5					
WRA			P4KPbc		14 12 29.2	
	comp=Z,3.4nm,0.9s,baz=355,slow=5.2,SNR=10					
PALK	**Pallekele**	**51.89 253**	P	**P**	**13 35 12.1**	**+2.2**
	SNR=12					
PALK	**Pallekele**	**51.89 253**	*e*P	**P**	**13 35 11.3**	**+1.3**
	comp=Z,180nm,0.9s					
PALK			*e*PcP	**PcP**	**13 36 21.2**	**+0.8**
PALK	**Pallekele**	**51.89 253**	P	**P**	**13 35 11.4**	**+1.5**
	comp=Z,463nm,0.9s,comp=Z,5μmcomp=Z,15μm					
POO	**Poona**	**52.15 270** ⇓	*i*P	**P**	**13 35 12.0**	**+0.1**
	comp=Z,636nm,1.2s					
POO			*e*P	**P**	**13 35 12.6**	**+0.7**
POO			AMB	AMB	13 35 14.9	
	comp=Z,150nm,0.7s					
KAD	**Karad**	**52.40 268**	*e*P	**P**	**13 35 14.9**	**+1.2**
MBWA	**Marble Bar**	**53.00 192**	P	**P**	**13 35 18.2**	**+0.4**
	SNR=17					
MBWA	**Marble Bar**	**53.00 192**	*e*P	**P**	**13 35 17.9**	**+0.1**
	comp=Z,270nm,0.9s					
MBWA			*e*PcP	**PcP**	**13 36 24.5**	**+0.3**
CTA	**Charters Tower**	**53.26 161**	P	**P**	**13 35 20.4**	**+0.6**
CTA			S	**S**	**13 42 37.4**	**-0.8**
CTA	**Charters Tower**	**53.26 161**	P	**P**	**13 35 20.4**	**+0.6**
	comp=Z,75nm,0.7s,baz=332,slow=8.1,SNR=74					
CTA			S	**S**	**13 42 37.4**	**-0.8**
	comp=Z,3.1nm,0.7s,baz=232,slow=18,SNR=5.9					
CTAO	**Charters Tower**	**53.26 161**	*e*P	**P**	**13 35 19.2**	**-0.6**
CTAO			*e*		13 36 24.5	
CTAO			pmax	pmax		
	comp=Z,139nm,1.0s					
CTAO			MLR	MLR		
	comp=Z,4μm,20.0s					
CTAO	**Charters Tower**	**53.26 161**	*e*P	**P**	**13 35 19.2**	**-0.6**
	comp=Z,139nm,1.0s					
CTAO			*e*PcP	**PcP**	**13 36 24.5**	**-0.8**
CTAO			*e*ScP	**ScP**	**13 40 08.0**	**+1.0**
CTAO			LR	LR		
	comp=Z,4μm,20.0s					
SDPT	**Sand Point**	**53.45 42**	*e*P	**P**	**13 35 17.8**	**-2.9**
	comp=Z,94nm,0.6s					
SVE	**Sverdlovsk**	**53.49 320**	*d*P	**P**	**13 35 22.0**	**+1.0**
SVE			*e*		13 37 25.7	
SVE			*e*S	**S**	**13 42 39.9**	**-0.6**
SVE			*e*SSS	SSS	13 48 32.3	
SVE			pmax	pmax		
	comp=Z,567nm,2.0s					
SVE			MLR	MLR		
	comp=Z,4μm,13.0s					
GOA	**Goa**	**53.52 267**	*e*P	**P**	**13 35 21.9**	**+0.1**
GOA			AMB	AMB	13 35 26.0	
	comp=Z,133nm,0.8s					
COCO	**West Island**	**53.70 222**	*e*P	**P**	**13 35 22.0**	**-1.1**
COCO			pmax	pmax		
	comp=Z,696nm,1.1s					
COCO			MLR	MLR		
	comp=Z,1μm,22.0s					
COCO	**West Island**	**53.70 222**	P	**P**	**13 35 24.6**	**+1.5**
	SNR=7.9					
COCO	**West Island**	**53.70 222**	*e*P	**P**	**13 35 22.0**	**-1.1**
	comp=Z,696nm,1.1s					
COCO			LR	LR		
	comp=Z,1μm,22.0s					
COCO	**West Island**	**53.70 222**	P	**P**	**13 35 24.6**	**+1.5**
	comp=Z,556nm,1.7s,comp=Z,11μm					
BHJ	**Bhuj**	**53.84 277**	*e*P	**P**	**13 35 23.8**	**-0.2**
MNGI	**Mangalore**	**53.87 263**	*e*4	x	13 36 34.4	
MNGI			*e*4	x	13 44 56.0	
TRD	**Trivandrum**	**54.32 257**	*e*P	**P**	**13 35 29.1**	**+1.5**
TRD			AMB	AMB	13 35 31.4	
	comp=Z,436nm,1.5s					
TRD			*e*x	x	13 43 09.4	
CHGN	**Chignik**	**54.54 40**	*e*P	**P**	**13 35 27.8**	**-0.9**
CHGN			*e*ScP	**ScP**	**13 40 13.6**	**+1.4**
AB31	**Akbulak array**	**54.62 311**	*i* P	**P**	**13 35 29.8**	**+0.5**
AB31			pmax	pmax		
	comp=Z,155nm,0.9s					
ABKAR	**Akbulak array**	**54.62 311**	*e*P	**P**	**13 35 29.5**	**+0.2**
ABKAR			*e*PcP	**PcP**	**13 36 30.2**	**0.0**
AS31	**Alice Springs**	**54.65 176**	*e*P	**P**	**13 35 30.0**	**+0.2**
ASAR	**Alice Springs**	**54.65 176**	P	**P**	**13 35 29.9**	**+0.1**
ASAR			ScP	**ScP**	**13 40 12.8**	**-0.2**
ASAR			S	**S**	**13 42 57.2**	**+0.4**
ASAR			P'P'		14 05 19.6	
ASAR		⇑	*e*		14 05 52.2	
ASAR			*e*		14 12 48.5	
ASAR	**Alice Springs**	**54.65 176**	P	**P**	**13 35 29.9**	**+0.1**
	comp=Z,184nm,0.7s,baz=6.5,slow=9.8,SNR=598					
ASAR			ScP	**ScP**	**13 40 12.8**	**-0.2**
	comp=Z,12nm,1.1s,baz=344,slow=5.1,SNR=5.9					
ASAR			S	**S**	**13 42 57.2**	**+0.4**
	comp=Z,17nm,1.0s,baz=15,slow=22,SNR=16					
ASAR			PKPPKP	P'P'df	14 05 19.6	-17
	comp=Z,0.7nm,0.8s,baz=121,slow=3.6,SNR=4.2					
ASAR			PKP2bc		14 05 52.2	
	comp=Z,10nm,1.2s,baz=136,slow=2.1,SNR=8.8					
ASAR			P4KPbc		14 12 48.5	
	comp=Z,4.8nm,0.8s,baz=359,slow=4.9,SNR=30					
ARU	**Arti**	**54.66 320**	*c i*P	**P**	**13 35 29.3**	**-0.2**
ARU			*PP	**pP**	**13 36 07.8**	**+0.1**
ARU					13 36 25.2	
ARU			S	**S**	**13 42 56.6**	**+0.5**
ARU					13 44 53.6	
ARU			SS	**SS**	**13 46 39.1**	**-1.9**
ARU			SSS	SSS	13 48 54.1	
ARU			pmax	pmax		
	comp=Z,569nm,1.7s					
ARU			MLR	MLR		
	comp=Z,6μm,15.0s					
ARU	**Arti**	**54.66 320**	P	**P**	**13 35 29.6**	**+0.1**
	comp=Z,1μm,1.5s,SNR=74					
SOKR	**Solikamsk**	**55.38 324**	*c i*P	**P**	**13 35 35.0**	**+0.5**
SOKR			*PP	**pP**	**13 36 15.8**	**+2.9**
SOKR			S	**S**	**13 43 05.4**	**-0.2**
SOKR			pmax	pmax		
	comp=Z,500nm,1.3s					
SOKR			MLR	MLR		
	comp=Z,5μm,21.0s					
AKTO	**Aktyubinsk**	**55.67 313**	P	**P**	**13 35 38.3**	**+1.4**
AKTO			pmax	pmax		
	comp=Z,88nm,0.9s					
AKTO	**Aktyubinsk**	**55.67 313**	P	**P**	**13 35 38.2**	**+1.4**
AKTO	**Aktyubinsk**	**55.67 313**	P	**P**	**13 35 38.2**	**+1.4**
	comp=Z,88nm,0.9s,baz=88,slow=7.9,SNR=9.9					
SVW2	**Sparrevohn**	**55.71 34**	*e*P	**P**	**13 35 39.0**	**+2.0**
	comp=Z,393nm,1.7s					
IM04	**Indian Mountai**	**56.31 29**	*e*P	**P**	**13 35 42.3**	**+1.1**
IM04			*e*PcP	**PcP**	**13 36 36.3**	**-0.1**
IM04			*e*ScP	**ScP**	**13 40 19.1**	**-0.8**
IMA2	**Indian Mountai**	**56.35 28**	*e*P	**P**	**13 35 41.7**	**+0.2**
IMA2			*e*PcP	**PcP**	**13 36 36.7**	**-0.1**
IMA2			*e*ScP	**ScP**	**13 40 19.6**	**-0.6**
RSO	**Redoubt South**	**57.14 35**	*e*P	**P**	**13 35 47.9**	**+0.6**
PPLA	**Purkeypile**	**57.18 32**	*e*P	**P**	**13 35 49.0**	**+1.5**
	comp=Z,808nm,1.7s					
CAST	**Castle Rocks**	**57.18 32**	*e*P	**P**	**13 35 48.4**	**+1.0**
	comp=Z,269nm,1.2s					
OHAK	**Old Harbor**	**57.26 39**	*e*P	**P**	**13 35 48.1**	**+0.2**
	comp=Z,617nm,1.7s					
SPU	**Mount Spurr**	**57.41 34**	*e*P	**P**	**13 35 50.3**	**+1.3**
KDAK	**Kodiak Island**	**57.56 38**	*e*P	**P**	**13 35 49.9**	**-0.1**
	comp=Z,277nm,1.0s					
KDAK			pP	**pP**	**13 36 29.5**	**+0.9**
KDAK			LR	LR		
	comp=Z,2μm,21.0s					
KDAK	**Kodiak Island**	**57.56 38**	P	**P**	**13 35 50.8**	**+0.8**
	comp=Z,128nm,0.6s,baz=276,slow=7.0,SNR=67					
KDAK			pP	**pP**	**13 36 29.5**	**+0.9**
	comp=Z,177nm,0.9s,baz=302,slow=4.6,SNR=7.7					
BPAW	**Bear Paw Mtn.**	**57.61 31**	*e*P	**P**	**13 35 51.7**	**+1.4**
	comp=Z,182nm,1.2s					
BPAW			*e*ScP	**ScP**	**13 40 23.2**	**-2.4**
COLD	**Coldfoot**	**57.68 27**	*e*P	**P**	**13 35 51.2**	**+0.5**
	comp=Z,282nm,1.7s					
COLD			*e*PcP	**PcP**	**13 36 42.0**	**+0.2**
TRF	**Thorofare Moun**	**57.98 31**	*e*P	**P**	**13 35 53.8**	**+0.7**
	comp=Z,171nm,1.3s					
TRF			*e*PcP	**PcP**	**13 36 43.7**	**+0.5**
TRF			*e*ScP	**ScP**	**13 40 25.5**	**-2.0**
MCK	**McKinley**	**58.55 31**	*e*P	**P**	**13 35 56.9**	**+0.1**
MCK			pmax	pmax		
	comp=Z,202nm,1.1s					
MCK	**McKinley**	**58.55 31**	*e*P	**P**	**13 35 56.9**	**+0.1**
	comp=Z,202nm,1.1s					
MCK			*e*ScP	**ScP**	**13 40 29.6**	**-0.2**
PMR	**Palmer**	**58.75 34**	*e*P	**P**	**13 35 58.7**	**+0.5**
PMR			pmax	pmax		
	comp=Z,678nm,1.6s					
PMR	**Palmer**	**58.75 34**	*e*P	**P**	**13 35 58.7**	**+0.5**
	comp=Z,678nm,1.6s					
COLA	**College**	**58.87 30**	*e*P	**P**	**13 36 00.2**	**+1.2**
COLA			pmax	pmax		
	comp=Z,630nm,2.0s					
COLA	**College**	**58.87 30**	*e*P	**P**	**13 36 00.2**	**+1.2**
	comp=Z,168nm,2.0s					
SML	**Sawmill**	**59.09 33**	*e*P	**P**	**13 36 01.4**	**+0.7**
SML			pmax	pmax		
	comp=Z,74nm,1.2s					
SML	**Sawmill**	**59.09 33**	*e*P	**P**	**13 36 01.4**	**+0.7**
	comp=Z,74nm,1.2s					
SML			*e*ScP	**ScP**	**13 40 32.4**	**+0.2**
ILAR	**Eielson Array**	**59.29 30**	P	**P**	**13 36 01.7**	**-0.2**
ILAR			pP	**pP**	**13 36 41.4**	**+0.6**
ILAR			S	**S**	**13 43 54.7**	**-2.0**
ILAR			P'P'		14 05 18.4	
ILAR			*e*		14 13 05.2	
ILAR	**Eielson Array**	**59.29 30**	P	**P**	**13 36 01.7**	**-0.2**
	comp=Z,25nm,0.9s,baz=263,slow=5.5,SNR=173					
ILAR			pP	**pP**	**13 36 41.4**	**+0.6**
	comp=Z,28nm,0.9s,baz=278,slow=6.3,SNR=6.1					
ILAR			S	**S**	**13 43 54.7**	**-2.0**
	comp=Z,1.0nm,1.0s,baz=251,slow=2.8,SNR=3.9					
ILAR			PKPPKP	P'P'df	14 05 18.4	-15
	comp=Z,2.7nm,0.9s,baz=155,slow=1.5,SNR=11					
ILAR			P4KPbc		14 13 05.2	
	comp=Z,0.3nm,0.7s,baz=290,slow=3.7,SNR=5.0					
EIDS	**Eidsvold**	**59.68 158**	*e*P	**P**	**13 36 03.8**	**-1.2**
	comp=Z,94nm,1.2s					
PAX	**Paxson**	**60.21 32**	*e*P	**P**	**13 36 08.4**	**+0.1**
PAX			pmax	pmax		
	comp=Z,93nm,1.0s					
PAX	**Paxson**	**60.21 32**	*e*P	**P**	**13 36 08.4**	**+0.1**
	comp=Z,93nm,1.0s					
DIV	**Divide**	**60.42 34**	*e*P	**P**	**13 36 11.4**	**+1.6**
	comp=Z,218nm,1.0s					
MENT	**Mentasta**	**61.00 31**	*e*P	**P**	**13 36 14.5**	**+0.9**
BMRM	**Bremner River**	**61.01 34**	*e*P	**P**	**13 36 14.9**	**+1.1**
	comp=Z,202nm,1.0s					
RAGM	**Ragged Mountai**	**61.11 34**	*e*P	**P**	**13 36 16.3**	**+1.9**
	comp=Z,526nm,1.3s					
FUNA	**Funafuti**	**61.31 122**	*e*P	**P**	**13 36 17.4**	**+1.2**
	comp=Z,242nm,1.2s					
FUNA			LR	LR		
	comp=Z,12μm,19.0s					
FORT	**Forrest**	**61.65 182**	*e*P	**P**	**13 36 18.6**	**+0.3**
	comp=Z,531nm,0.8s					
EGAK	**Eagle**	**61.70 29**	*e*P	**P**	**13 36 17.4**	**-0.9**
	comp=Z,185nm,1.4s					
EGAK			LR	LR		
	comp=Z,1μm,22.0s					
KAAM	**Kaadhehdhoo**	**62.04 252**	P	**P**	**13 36 23.4**	**+2.1**
	comp=Z,2μm,1.5s,comp=Z,25μm					
DAWY	**Dawson**	**62.62 30**	*e*P	**P**	**13 36 24.7**	**+0.3**
	comp=Z,112nm,1.2s					
DAWY			*e*PcP	**PcP**	**13 37 01.9**	**+0.1**
WBK	**Wadi Bani Khal**	**63.13 281**	P	**P**	**13 36 30.6**	**+2.1**
	SNR=76					
TMCR	**Tamitsa**	**63.32 331**	*e*P	**P**	**13 36 29.2**	**+0.3**
TMCR			*e*S	**S**	**13 44 47.7**	**+0.3**
TMCR			pmax	pmax		
	comp=Z,1μm,1.1s					
DZM	**Mont Dzumac**	**63.35 142**	*e*P	**P**	**13 36 31.2**	**+1.4**
	comp=Z,401nm,1.1s					
DZM			*e*pP	**pP**	**13 37 07.5**	**-1.6**
	comp=Z,278nm,1.4s					
DZM			*e*S	**S**	**13 44 52.2**	**+3.2**
	comp=Z,4μm,26.8s					
DZM	**Mont Dzumac**	**63.35 142**	*e*LR	LR	13 55 35.3	
	comp=Z,3μm,24.8s					
DZM	**Mont Dzumac**	**63.35 142**	P	**P**	**13 36 31.0**	**+1.2**
DZM	**Mont Dzumac**	**63.35 142**	P	**P**	**13 36 31.0**	**+1.2**
	comp=Z,177nm,1.0s,baz=332,slow=6.7,SNR=52					
LVZ	**Lovozero**	**63.54 335**	*c i*P	**P**	**13 36 30.4**	**0.0**
LVZ			pmax	pmax		
	comp=Z,328nm,1.4s					
LVZ	**Lovozero**	**63.54 335**	P	**P**	**13 36 31.2**	**+0.8**
	comp=Z,1μm,1.1s,SNR=17					
KLMR	**Klimovskoe**	**63.62 327**	*c i*P	**P**	**13 36 30.7**	**-0.3**
KLMR			*i* *PP	**PcP**	**13 37 05.6**	**-0.2**
KLMR			*i*		13 38 51.4	
KLMR			*i* S	**S**	**13 44 47.4**	**-3.8**
KLMR			SS	**SS**	**13 49 01.1**	**0.0**
KLMR			SSS	SSS	13 51 58.5	
KLMR			pmax	pmax		
	comp=Z,965nm,1.5s					
KLMR			pmax	pmax		
	comp=Z,1μm,1.4s					
STKA	**Stephens Creek**	**63.64 169**	*e*P	**P**	**13 36 32.2**	**+0.8**
	comp=Z,24nm,0.8s					
STKA			S	**S**	**13 44 48.5**	**-3.6**
STKA	**Stephens Creek**	**63.64 169**	P	**P**	**13 36 32.4**	**+1.0**
	comp=Z,110nm,0.7s,baz=351,slow=8.1,SNR=132					
STKA			S	**S**	**13 44 48.5**	**-3.6**
	comp=Z,3.5nm,1.0s,baz=18,slow=20,SNR=1.8					
INK	**Inuvik**	**63.69 24**	*e*P	**P**	**13 36 31.4**	**+0.2**
	comp=Z,279nm,1.4s					
INK			*e*PcP	**PcP**	**13 37 06.9**	**+0.9**
INK			P'P'		14 05 16.4	
INK	**Inuvik**	**63.69 24**	PKPPKP	P'P'df	14 05 16.4	-10
	comp=Z,3.4nm,0.9s,baz=84,slow=5.2,SNR=5.6					
SMDO	**Samad**	**63.72 282**	P	**P**	**13 36 34.1**	**+1.7**
	SNR=52					
BBOO	**Buckleboo**	**63.89 174**	*e*P	**P**	**13 36 32.4**	**-0.6**
JMDO	**Jabal Madar**	**63.96 281**	P	**P**	**13 36 35.5**	**+1.6**
	SNR=60					
BANOM	**Banah**	**64.01 286**	P	**P**	**13 36 36.9**	**+2.7**
	SNR=24					
APA	**Apatity**	**64.09 335** ⇑	*i*P	**P**	**13 36 33.8**	**-0.2**
APA			*i* *PP	**pP**	**13 37 14.5**	**+1.1**
APA			*i* S	**S**	**13 44 56.0**	**-0.9**
APA			pmax	pmax		
	comp=Z,33nm,0.9s					
APA			MLR	MLR		
	comp=Z,2μm,17.0s					
HOQ	**Hoqain**	**64.12 283**	P	**P**	**13 36 36.5**	**+1.6**
	SNR=48					
SPA0	**Spitsbergen Ar**	**64.36 348**	*e*P	**P**	**13 36 35.9**	**+0.3**
SPA0			*e*S	**S**	**13 44 58.7**	**-1.3**
HYT	**Haines Junctio**	**64.40 33**	*e*P	**P**	**13 36 37.4**	**+1.1**
MAK	**Makhachkala**	**64.53 306**	*e*P	**P**	**13 36 37.7**	**+0.5**
MAK			*e*		13 37 10.0	
MAK			*e*		13 39 00.7	
MAK			*e*S	**S**	**13 45 03.9**	**+0.9**
MAK			*e**SS	**sS**	**13 46 08.1**	**-3.4**
MAK			*e*SS	**SS**	**13 49 18.2**	**+2.1**
MAK			pmax	pmax		
	comp=Z,777nm,1.7s					
MAK			MLR	MLR		
	comp=Z,3μm,14.0s					
BSY	**Bisya**	**64.56 282**	P	**P**	**13 36 39.7**	**+1.9**
	SNR=33					
ARMA	**Armidale**	**64.56 160**	*e*P	**P**	**13 36 38.7**	**+1.2**
	comp=Z,63nm,1.0s					
HATD	**Hatta, Dubai**	**64.59 285**	P	**P**	**13 36 39.7**	**+1.7**
	SNR=50					
KNTN	**Kanton**	**64.68 110**	*e*P	**P**	**13 36 39.8**	**+1.2**
	comp=Z,473nm,1.5s					
ASHO	**Ashiyiah**	**64.71 285**	P	**P**	**13 36 40.3**	**+1.5**
	SNR=45					
KBS	**Kingsbay**	**64.72 349** ⇑	*i*P	**P**	**13 36 38.1**	**+0.3**
KBS			AMB	AMB	13 36 40.4	
	comp=Z,372nm,1.5s					
KBS			*e*S	**S**	**13 45 05.0**	**+0.7**
KBS			IAMS		14 06 02.1	
	comp=Z,2μm,15.5s					
KBS	**Kingsbay**	**64.72 349**	*c i*P	**P**	**13 36 38.3**	**+0.4**
KBS			pmax	pmax		
	comp=Z,372nm,1.2s					
KBS	**Kingsbay**	**64.72 349**	*e*P	**P**	**13 36 36.6**	**-1.3**
	comp=Z,63nm,0.9s					
KBS			LR	LR		
	comp=Z,2μm,19.0s					
ARQ	**Araqi**	**64.88 283**	P	**P**	**13 36 41.3**	**+1.4**
	SNR=56					
NAZ	**Nazwa, Dubai**	**64.91 285**	P	**P**	**13 36 41.0**	**+1.0**
	SNR=40					
NWAO	**Narrogin (SRO)**	**64.93 192**	P	**P**	**13 36 40.1**	**+0.4**
	SNR=6.5					
NWAO	**Narrogin (SRO)**	**64.93 192**	*e*P	**P**	**13 36 39.5**	**-0.2**
	comp=Z,266nm,1.0s					
NWAO			LR	LR		
	comp=Z,1μm,21.0s					
NWAO	**Narrogin (SRO)**	**64.93 192**	P	**P**	**13 36 39.9**	**+0.1**
	comp=Z,210nm,0.9s,baz=16,slow=8.5,SNR=63					
HSP	**Hornsund**	**65.10 347**	*e*P	**P**	**13 36 40.5**	**+0.1**
ASUD	**Al Ashush, Dub**	**65.34 285**	P	**P**	**13 36 44.4**	**+1.7**
	SNR=30					
VRHR	**Novokhopersk**	**65.58 316**	*e*P	**P**	**13 36 43.6**	**-0.2**
VRHR			*e*S	S	13 45 06.7	-8.9
VRHR			pmax	pmax		
	comp=Z,490nm,1.0s					
VRHR			pmax	pmax		
	comp=N,210nm,1.1s					
VRHR			pmax	pmax		
	comp=E,210nm,0.8s					
VRHR			smax	smax		
	comp=E,490nm,2.9s					
VRHR			smax	smax		
	comp=Z,320nm,4.6s					
VRHR			smax	smax		
	comp=N,400nm,3.0s					
SKAG	**Skagway**	**65.88 34**	*e*P	**P**	**13 36 46.5**	**+0.9**
	comp=N,108nm,1.1s					
SKAG			*e*PcP	**PcP**	**13 37 18.0**	**+2.8**
ARCES	**ARCESS Array B**	**66.05 338**	P	**P**	**13 36 46.2**	**-0.4**
ARCES			P'P'		14 05 14.4	
ARCES	**ARCESS Array B**	**66.05 338**	P	**P**	**13 36 46.2**	**-0.4**
	comp=N,185nm,1.0s,baz=69,slow=8.0,SNR=112					
ARCES			PKPPKP	P'P'df	14 05 14.4	-7.7
	comp=N,8.5nm,1.0s,baz=186,slow=0.9,SNR=7.6					
ARCES			LR	LR	14 10 24.1	
	comp=N,3μm,18.1s,baz=62,slow=40					
ARE0	**ARCESS Array S**	**66.05 338** ⇑	*i*P	**P**	**13 36 45.7**	**-0.9**
ARE0			*e*S	**S**	**13 45 19.5**	**-1.3**
ARE0	**ARCESS Array S**	**66.05 338**	*e*P	**P**	**13 36 46.1**	**-0.5**
ARE0			*e*PcP	**PcP**	**13 37 13.1**	**-2.7**
MOS	**Moscow**	**66.22 322**	*α i*P	**P**	**13 36 48.7**	**+0.9**
MOS			*e*		13 37 16.4	
MOS			*e**PP	**pP**	**13 37 29.8**	**+2.3**
MOS			*e*		13 39 16.1	
MOS			*e*PPP	PPP	13 40 53.9	
MOS			*e*S	**S**	**13 45 21.3**	**-1.8**
MOS			*e*		13 46 25.0	
MOS			pmax	pmax		
	comp=Z,2μm,1.3s					
MOS			pmax	pmax		
	comp=N,458nm,1.3s					
MOS			pmax	pmax		
	comp=E,489nm,1.2s					
MOS			pmax	pmax		
	comp=Z,3μm,1.7s					
MOS			pmax	pmax		
	comp=N,1μm,2.2s					
MOS			pmax	pmax		
	comp=E,1μm,2.3s					
MOS			MLR	MLR		
	comp=Z,3μm,15.0s					
ALE	**Alert**	**66.37 2**	P	**P**	**13 36 49.0**	**+0.6**
	comp=Z,2μm,1.0s,SNR=84					
DGRG	**David-gareji**	**66.54 305**	P	**P**	**13 36 51.2**	**+1.0**
JOF	**Joensuu**	**66.57 330**	*e*P	**P**	**13 36 49.7**	**-0.3**
JOF			pmax	pmax		
	comp=Z,1μm,0.9s					
JOF	**Joensuu**	**66.57 330**	*e*p	**P**	**13 36 49.7**	**-0.3**
	comp=Z

VSR smax smax
comp=N,1μm,5.9s
VSR smax smax
comp=Z,220nm,4.0s
VSR smax smax
comp=E,600nm,5.8s
VORD Divnogorie 67.00 317 *e*P **P 13 36 53.1 +0.2**
VORD *e*S S 13 45 25.9 -6.8
VORD pmax pmax
comp=Z,360nm,1.3s
VORD pmax pmax
comp=N,10.0nm,0.6s
VORD pmax pmax
comp=E,210nm,1.0s
VORD smax smax
comp=N,2μm,7.3s
VORD smax smax
comp=Z,530nm,6.8s
VORD smax smax
comp=E,430nm,3.2s
OBN Obninsk 67.01 321*c i*P **P 13 36 53.2 +0.4**
OBN *e**PP **pP 13 37 34.7 +2.1**
OBN *e* 13 39 19.9
OBN *e*SS SS 13 49 57.0 +3.2
OBN pmax pmax
comp=Z,1μm,1.4s
OBN MLR MLR
comp=Z,2μm,16.0s
OBN Obninsk 67.01 321 P **P 13 36 53.8 +1.0**
comp=Z,4μm,1.3s,SNR=28
ZEI Tsey 67.07 307 *e*P **P 13 36 54.1 +0.3**
ZEI pmax pmax
comp=Z,513nm,1.2s
DGAR Diego Garcia 67.18 245 *e*P **P 13 36 52.8 -1.7**
DGAR pmax pmax
comp=Z,980nm,1.4s
DGAR MLR MLR
comp=Z,2μm,20.0s
DGAR Diego Garcia 67.18 245 *e*P **P 13 36 52.8 -1.7**
comp=Z,980nm,1.4s
DGAR LR LR
comp=Z,2μm,20.0s
KZR Kazreti 67.24 306 P **P 13 36 57.3 +2.6**
KBZ Khabaz 67.40 308 P **P 13 36 56.2 +0.7**
KBZ pmax pmax
comp=Z,527nm,1.0s
KBZ Khabaz 67.40 308 P **P 13 36 56.2 +0.7**
KBZ Khabaz 67.40 308 P **P 13 36 56.2 +0.7**
comp=Z,527nm,1.0s,baz=63,slow=3.0,SNR=293
ONI Oni 67.45 307 P **P 13 36 57.2 +1.2**
KIV Kislovodsk 67.46 309*c i*P **P 13 36 57.3 +1.3**
KIV *e* 13 37 21.1
KIV *e**PP **pP 13 37 35.9 +0.1**
KIV *e* 13 39 28.3
KIV *e*PPP PPP 13 41 10.1
KIV *e*S **S 13 45 39.8 +1.1**
KIV pmax pmax
comp=Z,1μm,1.1s
KIV pmax pmax
comp=Z,1μm,4.2s
KIV MLR MLR
comp=Z,2μm,17.0s
KIV Kislovodsk 67.46 309 P **P 13 36 57.1 +1.1**
comp=Z,6μm,1.2s
GNI Garni 67.47 304 *e*P **P 13 36 57.5 +1.2**
GNI Garni 67.47 304 P **P 13 36 58.2 +1.9**
SNR=92
GNI Garni 67.47 304 *e*P **P 13 36 57.9 +1.5**
comp=Z,468nm,1.1s
GNI LR LR
comp=Z,1μm,20.0s
GNI Garni 67.47 304 P **P 13 36 57.8 +1.5**
comp=Z,189nm,1.0s,baz=159,slow=3.0,SNR=109
AKH Akhalkalaki 67.87 306 P **P 13 37 00.3 +1.5**
TRO Tromso 68.05 339 *e*P **P 13 36 59.3 +0.2**
PUL Pulkovo 68.28 328*d i*P **P 13 37 02.1 +1.4**
PUL pmax pmax
comp=Z,1μm,1.3s
DIGO Kars 68.34 305 *i* P **P 13 37 00.6 -1.2**
CLDR Caldiran 68.45 303 *e*P **P 13 37 03.7 +1.2**
DYDN Diyadin 68.46 304 *i* P **P 13 37 03.9 +1.4**
KARS Kars 68.46 305 *e*P **P 13 37 04.0 +1.5**
CAN Canberra 68.47 164 *e*P **P 13 37 03.2 +1.0**
CAN pmax pmax
comp=Z,105nm,1.1s
CAN MLR MLR
comp=Z,2μm,21.0s
CAN Canberra 68.47 164 *e*P **P 13 37 03.2 +1.0**
comp=Z,105nm,1.1s
CAN LR LR
comp=Z,2μm,21.0s
CRAG Craig 68.49 37 *e*P **P 13 37 03.2 +1.1**
comp=Z,83nm,1.1s
WRAK Wrangell Islan 68.51 36 *e*P **P 13 37 02.5 +0.3**
comp=Z,115nm,1.2s
WRAK *e*PcP **PcP 13 37 28.2 +2.0**
WRAK LR LR
comp=Z,971nm,19.0s
DLBC Dease Lake 68.81 34 *e*P **P 13 37 04.8 +0.6**
comp=Z,134nm,1.3s
AGRB Hanur-Agry 68.94 304 *e*P **P 13 37 07.5 +2.0**
KAF Kangasniemi 69.02 331 *e*P **P 13 37 04.9 -0.4**
KAF pmax pmax
comp=Z,960nm,0.9s
KAF Kangasniemi 69.02 331 *e*p **P 13 37 04.9 -0.4**
comp=Z,960nm,0.9s,baz=60,slow=5.8
ARTV Artvin 69.04 306 *i* P **P 13 37 06.8 +0.7**
TUTA Tutak 69.13 304 *i* P **P 13 37 07.0 +0.2**
HAKT HAKKARI 69.23 302 *i* P **P 13 37 06.5 -0.9**
DDEM Demirkent 69.28 306 *i* P **P 13 37 08.0 +0.5**
RBK Rabkut 69.38 278 P **P 13 37 09.8 +1.5**
SNR=27
FIA1 FINESS Array S 69.42 330 *e*P **P 13 37 07.3 -0.5**
FINES FINESS Array B 69.42 330 P **P 13 37 07.3 -0.5**
FINES FINESS Array B 69.42 330 P **P 13 37 07.3 -0.5**
comp=Z,311nm,0.7s,baz=64,slow=6.3,SNR=523
FINES LR LR 14 11 02.2
comp=Z,3μm,18.6s,baz=154,slow=39
CUKT Cukurca 69.43 302 *e*P **P 13 37 09.1 +0.6**
UMR Umm Al-Rimmam 69.47 293 *e*P **P 13 37 09.9 +1.2**
UMR AMb AMB 13 37 11.8
comp=Z,1μm,1.1s
HOMI Horasan 69.52 305 *i* P **P 13 37 10.2 +1.2**
SOC Sochi 69.58 309*c i*P **P 13 37 09.3 +0.2**
SOC *e**PP **pP 13 37 47.9 -1.2**
SOC *e* 13 39 49.2
SOC *e*PPP PPP 13 41 25.3
SOC *e*S **S 13 46 00.4 -3.1**
SOC *e* 13 46 48.6
SOC *e*SSS SSS 13 53 41.8
SOC pmax pmax
comp=Z,3μm,2.3s
KBD Kabd 69.64 292 *e*P **P 13 37 10.2 +0.5**
KBD AMb AMB 13 37 13.0
comp=Z,702nm,1.2s
QRN Al-Qurain 69.65 292 *e*P **P 13 37 10.3 +0.6**
QRN AMb AMB 13 37 14.6
comp=Z,1μm,1.4s
MIB Mutribah 69.66 293 *e*P **P 13 37 10.8 +1.0**
MIB AMb AMB 13 37 12.9
comp=Z,2μm,1.2s
PZAR Pazar-Rize 69.76 306 *e*P **P 13 37 11.3 +1.2**
RDF Al-Radifah 69.86 292 *e*P **P 13 37 12.4 +1.4**
RDF AMb AMB 13 37 15.1
comp=Z,1μm,0.8s
ERZM Erzurum 69.95 305 *i* P **P 13 37 13.5 +1.7**
EZM Erzurum 69.95 305 *e*P **P 13 37 14.5 +2.7**
NAY Al-Naaiem 69.97 293 *e*P **P 13 37 13.0 +1.2**
NAY AMb AMB 13 37 14.8
comp=Z,60nm,1.2s
RST Umm Al-Ruwaisa 70.06 293 *e*P **P 13 37 12.9 +0.6**
RST AMb AMB 13 37 14.9
comp=Z,9μm,1.1s
STEI Steigen 70.10 339 *e*P **P 13 37 11.4 -0.4**
STEI AMB AMB 13 37 13.6
comp=Z,600nm,1.5s
SIRT Sirnak 70.17 302 *e*P **P 13 37 13.9 +0.9**
VRTB Varto-Mus 70.19 304 *e*P **P 13 37 15.2 +2.0**
SIRN S¨–rnak 70.20 302 *i* P **P 13 37 13.5 +0.4**
ABTO Aybut 70.22 279 P **P 13 37 14.9 +1.4**
SNR=23
BNGL BINGOL 70.50 304 *i* P **P 13 37 16.1 +1.0**
LOF Lofoten 70.51 339 *e*P **P 13 37 14.6 +0.4**
VSU Vasula 70.52 327*c i*P **P 13 37 15.2 +0.7**
VSU pmax pmax
comp=Z,3μm,1.3s
ANN Anapa 70.58 311*d i*P **P 13 37 13.9 -1.2**
ANN *i* 13 37 34.4
ANN *i* *PP **pP 13 37 54.7 -0.5**
ANN *e*PPP PPP 13 41 35.3
ANN *e*S **S 13 46 15.0 0.0**
ANN pmax pmax
comp=N,281nm,1.2s
ANN pmax pmax
comp=E,265nm,1.2s
ANN pmax pmax
comp=Z,1μm,1.2s
ANN pmax pmax
comp=N,446nm,5.8s
ANN pmax pmax
comp=E,283nm,5.8s
ANN pmax pmax
comp=Z,1μm,5.8s
ANN smax smax
comp=E,260nm,7.0s
BAYT Ayd¨–ntepe-Bay 70.61 306 *e*P **P 13 37 16.9 +1.3**
KTUT Trabzon 70.62 307 *e*P **P 13 37 15.4 0.0**
BNGB Bing¨¶l 70.81 304 *e*P **P 13 37 18.1 +1.2**
GUMT Gumushane 71.03 306 *e*P **P 13 37 20.5 +2.4**
ERZN Erzincan 71.24 305 *e*P **P 13 37 20.3 +0.9**
KELT Kelkit 71.32 306 *i* P **P 13 37 20.7 +0.8**
ESPY Espiye-Giresun 71.36 307 *e*P **P 13 37 19.0 -1.0**
MOR8 Moi Rana 71.37 337 *e*P **P 13 37 17.8 -1.8**
MOR8 IAmb IAmb 13 37 19.4
comp=Z,315nm,0.9s
EZC Erzincan 71.42 306 *e*P **P 13 37 23.0 +2.5**
MARD Mardin 71.45 303 *i* P **P 13 37 21.6 +0.8**
AFI Afiamalu 71.49 120 P **P 13 37 21.6 +0.5**
AFI Afiamalu 71.49 120 P **P 13 37 21.6 +0.5**
comp=Z,47nm,0.7s,baz=270,slow=15,SNR=6.0
AFI LR LR 14 04 00.2
comp=Z,1μm,18.9s,baz=248,slow=32
DIY Diyarbakir 71.60 304 *e*P **P 13 37 23.9 +2.4**
FLOS Flostrand 71.62 338 *e*P **P 13 37 20.3 -0.7**
MAZI Mazidag 71.63 303 *e*P **P 13 37 22.6 +0.9**
DIYA Diyarbakir 71.67 304 *i* P **P 13 37 20.9 -1.0**
STOK Stokkvaagen 71.74 338 *e*P **P 13 37 21.9 +0.2**
KBSD Kabsdagh 71.76 303 *e*P P 13 37 11.9 -11
PTK Pertek 71.77 305 *e*P **P 13 37 24.3 +1.7**
MICGM Minsk 71.82 323⇑*i*P **P 13 37 21.0 -1.4**
MNK Minsk 71.85 323⇑*i*P **P 13 37 21.0 -1.6**
MNK *e**PP **pP 13 38 00.0 -2.8**
MNK *e* 13 40 04.0
MNK *e*PPP PPP 13 41 48.0
MNK *e*S **S 13 46 26.0 -3.3**
MNK *e**SS **SKSac 13 47 06.0 -4.3**
MNK *e*PS **PnS 13 47 20.0 -3.3**
MNK pmax pmax
comp=Z,4μm,3.0s
MNK pmax pmax
comp=N,990nm,1.0s
MNK pmax pmax
comp=E,2μm,1.0s
MNK pmax pmax
comp=Z,2μm,1.0s
MNK MLR MLR
comp=Z,4μm,14.0s
IDID Didziasalis 72.01 324 *e*P **P 13 37 24.3 +0.8**
IDID AMB AMB 13 37 26.6
comp=Z,315nm,1.1s
ILIC ilic-Erzincan 72.10 306 *e*P **P 13 37 24.8 +0.3**
MZRK Al-Mazaregh 72.19 301 *e*P **P 13 37 24.9 -0.1**
NACGM Naroch 72.19 324 *e*P **P 13 37 22.0 -2.6**
ISAL Salakas 72.19 325 *e*P **P 13 37 25.5 +0.9**
ISAL AMB AMB 13 37 27.8
comp=Z,325nm,1.1s
ELZG Elazig 72.22 305 *i* P **P 13 37 27.0 +1.7**
KEMA Kemaliye 72.23 305 *i* P **P 13 37 25.3 +0.1**
IIGN Ignalina 72.25 324 *e*P **P 13 37 25.3 +0.3**
IIGN AMB AMB 13 37 27.6
comp=Z,215nm,1.1s
RSDY Resadiye-TOKAT 72.54 307 *e*P **P 13 37 25.3 -1.8**
SIM Simferopol' 72.64 312*ce*P **P 13 37 27.5 +0.1**
SIM *PP **sP 13 38 26.2 +0.5**
SIM S **S 13 46 36.0 -2.7**
SIM pmax pmax
comp=Z,338nm,0.9s
MALT Malatya 72.70 305 *e*P **P 13 37 28.8 +0.8**
MALT Malatya 72.70 305⇓*i*P **P 13 37 28.2 +0.1**
MALT Malatya 72.70 305⇓*i*P **P 13 37 28.2 +0.1**
URFA Urfa 72.80 304 *e*P **P 13 37 28.9 +0.2**
ERBA Erbaa 72.81 307 *i* P **P 13 37 27.3 -1.3**
AKASG Malin Array Be 72.90 319 P **P 13 37 28.5 -0.4**
AKASG pmax pmax
comp=Z,85nm,0.5s
AKASG MLR MLR
comp=Z,2μm,18.6s
AKASG Malin Array Be 72.90 319 P **P 13 37 28.5 -0.4**
AKASG Malin Array Be 72.90 319 P **P 13 37 28.5 -0.4**
comp=Z,85nm,0.5s,baz=56,slow=6.6,SNR=380
AKASG LR LR 14 10 29.3
comp=Z,2μm,18.6s,baz=50,slow=36
KIEV Kiev 72.92 319 *e*P **P 13 37 28.4 -0.5**
KIEV pmax pmax
comp=Z,510nm,1.1s
KIEV MLR MLR
comp=Z,3μm,19.0s
KIEV Kiev 72.92 319 *e*P **P 13 37 28.4 -0.5**
comp=Z,510nm,1.1s
KIEV LR LR
comp=Z,3μm,19.0s
SCER sogukcermik 72.92 306 *i* P **P 13 37 30.8 +1.4**
SVSK Karacayir 72.98 307 *e*P **P 13 37 31.1 +1.6**
AKCD Akcadag 73.06 305 *i* P **P 13 37 30.8 +0.6**
KVT Kavak 73.11 308 *e*P **P 13 37 31.7 +1.3**
TOKT Tokat 73.11 307 *e*P **P 13 37 32.5 +2.1**
ATAB Bozova 73.17 304 *i* P **P 13 37 31.7 +1.0**
NSS Namsos 73.18 337⇑*i*P **P 13 37 29.1 -1.2**
NSS AMB AMB 13 37 31.8
comp=Z,89nm,1.6s
NSS *e*S **S 13 46 41.0 -3.1**
DARE Darende-Malaty 73.25 305 *e*P **P 13 37 33.2 +1.9**
YKW3 Yellowknife Ar 73.29 26 *e*P **P 13 37 31.1 +0.1**
comp=Z,4.9nm,1.3s
YKW3 *e*PcP **PcP 13 37 46.6 +0.2**
YKA Yellowknife Ar 73.33 26 P **P 13 37 31.7 +0.5**
YKA pP **pP 13 38 11.6 0.0**
YKA P'P' 14 04 56.4
YKA Yellowknife Ar 73.33 26 P **P 13 37 31.7 +0.5**
comp=Z,40nm,0.7s,baz=304,slow=5.8,SNR=99
YKA pP **pP 13 38 11.6 0.0**
comp=Z,17nm,0.7s,baz=305,slow=5.8,SNR=4.0
YKA PKPPKP P'P'df 14 04 56.4 -13
comp=Z,1.5nm,0.8s,baz=152,slow=1.8,SNR=4.4
HAVZ Havza 73.34 308 *i* P **P 13 37 33.5 +1.8**
DIKM Dikmen 73.39 309 *e*P **P 13 37 31.5 -0.4**
GZT Gaziantep 73.74 304 *i* P **P 13 37 35.7 +1.4**
BYBT Boyabat 73.80 309 *e*P **P 13 37 35.1 +0.9**
JHLN Al Jahlan 73.87 302 *e*P P 13 37 28.8 -6.0
XMAS Kiritimati 73.88 98 PFAKE 13 37 50.0 +15
XMAS LR LR
comp=Z,4μm,20.0s
RAYN Ar Rayn 73.89 288 *e*P **P 13 37 35.8 +0.5**
comp=Z,814nm,1.0s
PINB Pinarbasi 73.95 306 *i* P **P 13 37 36.8 +1.2**
SLMH Al Salmeh 73.99 303 *e*P P 13 37 26.1 -10
JMIC Jan Mayen 74.00 347⇑*i*P **P 13 37 36.2 +1.3**
BZK Bozkurt 74.08 310 *e*P **P 13 37 36.8 +1.0**
KMRS Kahramanmaras 74.14 304 *e*P **P 13 37 37.6 +1.2**
CTKT Corum 74.17 308 *i* P **P 13 37 38.3 +1.5**
BNN Bunyan 74.26 306 *e*P **P 13 37 38.3 +1.1**
YOZ Yozgat 74.26 307 *e*P **P 13 37 38.1 +0.8**
KUZU Kuzuini 74.35 304 *i* P **P 13 37 39.1 +1.4**
KULLO Kullorsuaq 74.39 2⇑*i*P **P 13 37 37.0 -0.2**
KULLO *i* S **SKiKP 13 46 51.2 +5.0**
KULLO pmax pmax
comp=Z,290nm,1.0s
KULLO MLR MLR
comp=Z,1μm,16.0s
SUW Suwalki 74.46 324 *e*P **P 13 37 38.5 +0.7**
SUW pmax pmax
comp=Z,1μm,1.0s
SUW Suwalki 74.46 324 *e*P **P 13 37 38.5 +0.7**
comp=Z,1μm,1.0s
SUW Suwalki 74.46 324 *e*P **P 13 37 37.8 -0.1**
SUW *e*pP **pP 13 38 19.1 +0.7**
SUW *e*S **S 13 46 59.8 +1.1**
CORM Corum 74.48 308 *e*P **P 13 37 39.7 +1.2**
TOS Tosya 74.49 309 *e*P **P 13 37 40.7 +2.2**
ANDN Andirin 74.50 305 *i* P **P 13 37 38.3 -0.3**
TBLU Trondheim 74.58 336⇑*i*P **P 13 37 36.4 -2.0**
TBLU IAmb IAmb 13 37 38.7
comp=Z,224nm,1.4s
TBLU AMS AMS 14 16 47.2
comp=Z,2μm,16.2s
ILGA Ilgaz 74.69 309 *i* P **P 13 37 40.8 +1.0**
KOZT Kozan 74.91 305 *e*P **P 13 37 42.9 +2.1**
CDAG Cicekdag 74.92 307 *i* P **P 13 37 41.5 +0.5**
KIS Kishinev 74.93 316⇑*i*P **P 13 37 40.0 -0.7**
comp=Z,300nm,1.4s
KIS *i* pP **pP 13 38 20.0 -1.3**
KIS Kishinev 74.93 316 *e*PP PP 13 40 38.0 +7.8
KIS Kishinev 74.93 316α*i*P **P 13 37 40.0 -0.7**
KIS *i* *PP **pP 13 38 20.0 -1.3**
KIS *i* 13 38 38.0
KIS *e* 13 40 38.0
KIS *e*PPP PPP 13 42 20.0
KIS *i* S S 13 46 58.0 -6.3
KIS *i* 13 47 22.0
KIS *i* 13 47 33.0
KIS pmax pmax
comp=Z,2μm,2.0s
KIS pmax pmax
comp=N,300nm,1.4s
KIS pmax pmax
comp=E,600nm,2.0s
KIS pmax pmax
comp=Z,2μm,6.0s
KIS pmax pmax
comp=N,600nm,2.0s
KIS pmax pmax
comp=E,1μm,3.0s
KIS pmax pmax
comp=Z,2μm,16.0s
KIS MLR MLR
comp=Z,3μm,16.0s
KIS MLR MLR
comp=N,2μm,14.0s
KIS MLR MLR
comp=E,2μm,16.0s
KIS MLR MLR
comp=Z,2μm,18.0s
CANT Cankiri 74.96 308 *e*P **P 13 37 42.4 +1.2**
AVNT Avonos 74.98 306 *i* P **P 13 37 41.5 0.0**
BTCH Batrach 75.13 303 *e*P **P 13 37 39.1 -3.1**
MUKL Al Mukalla 75.18 278 *e*P **P 13 37 44.3 +1.6**
CEYT Ceyhan 75.18 304 *e*P **P 13 37 44.3 +2.0**
HFS Hagfors 75.25 332 P **P 13 37 41.6 -0.7**
HFS Hagfors 75.25 332 P **P 13 37 41.6 -0.7**
comp=Z,160nm,0.7s,baz=63,slow=6.6,SNR=171
SAFT Safranbolu 75.28 309 *e*P **P 13 37 43.2 +0.3**
HTY Hatay 75.32 303 *e*P **P 13 37 44.4 +1.3**
YURE YUREGIR 75.35 304 *i* P **P 13 37 44.5 +1.1**
BR131 Keskin Array S 75.37 308 *e*P **P 13 37 44.2 +0.6**
comp=Z,584nm,1.0s
BRTR Keskin Array B 75.37 308 P **P 13 37 44.7 +1.1**
BRTR pP **pP 13 38 25.8 +1.6**
BRTR *e* 14 14 19.9
BRTR Keskin Array B 75.37 308 P **P 13 37 44.7 +1.1**
comp=Z,716nm,1.0s,baz=99,slow=4.1,SNR=743
BRTR pP **pP 13 38 25.7 +1.6**
comp=Z,46nm,0.9s,baz=102,slow=2.9,SNR=0.9
BRTR P4KPbc 14 14 19.9
comp=Z,1.4nm,1.0s,baz=112,slow=3.4,SNR=6.5
YAYL Yayladag 75.38 303 *i* P **P 13 37 44.0 +0.3**
TAU Tasmania Unive 75.39 167 *e*P **P 13 37 43.1 0.0**
TAU MLR MLR
comp=Z,3μm,21.0s
TAU Tasmania Unive 75.39 167 *e*P **P 13 37 43.1 0.0**
TAU LR LR
comp=Z,3μm,21.0s
NIG Nigde 75.47 306 *e*P **P 13 37 46.6 +2.2**
LEOM Leova 75.53 316⇑P **P 13 37 45.7 +1.5**
LEOM Leova 75.53 316⇑*i*P **P 13 37 45.7 +1.5**
KARA Karaisali 75.55 305 *e*P **P 13 37 46.0 +1.5**
ARNB Al Arnab 75.56 303 *e*P **P 13 37 45.6 +0.9**
NB2 NORSAR Subarra 75.64 334 P **P 13 37 44.0 -0.6**
comp=Z,334nm,0.9s,baz=46,slow=5.9
NB2 NORSAR Subarra 75.64 334 P **P 13 37 44.0 -0.6**
baz=46,slow=5.9
NOA NORSAR Array B 75.64 334 P **P 13 37 43.7 -0.9**
NOA pP **pP 13 38 26.8 +1.5**
NOA NORSAR Array B 75.64 334 P **P 13 37 43.7 -0.9**
comp=Z,162nm,0.8s,baz=50,slow=5.6,SNR=275
NOA pP **pP 13 38 26.8 +1.5**
comp=Z,72nm,1.0s,baz=50,slow=5.9,SNR=3.9
NC602 NORSAR Array S 75.71 334⇑*i*P **P 13 37 43.7 -1.3**
NC602 *e*SS SS 13 52 09.0 +2.5
GULE Gulek 75.74 305 *i* P **P 13 37 46.3 +0.5**
BBAL Bala 75.81 308 *i* P **P 13 37 46.5 +0.4**
TLCR 75.83 314⇑P **P 13 37 46.6 +0.7**
TLCR 75.83 314⇑*i*P **P 13 37 46.5 +0.7**
ANTO Ankara 75.87 308 *e*P **P 13 37 46.8 +0.4**
ANTO Ankara 75.87 308⇑P **P 13 37 47.1 +0.7**
ANTO Ankara 75.87 308 P **P 13 37 47.3 +0.9**
SNR=174
ANTO Ankara 75.87 308 *e*P **P 13 37 47.1 +0.7**
ANTO LR LR
comp=Z,1μm,19.0s
ANTO Ankara 75.87 308⇑*i*P **P 13 37 47.0 +0.7**
HAWK Haweek 75.88 302 *e*P **P 13 37 46.8 +0.3**
NAO01 NORSAR Array S 75.89 334 *e*P **P 13 37 43.8 -2.2**
comp=Z,102nm,0.8s
ZALF Zalf 75.94 300 *e*P P 13 37 41.3 -5.6
MOL Molde 75.96 336 *e*P **P 13 37 45.4 -0.8**
MOL AMB AMB 13 37 49.0
comp=Z,562nm,1.6s
MOL *e*S **S 13 47 16.0 +0.9**
FKH Fakeheh 76.00 302 *e*P **P 13 37 48.1 +0.8**
MARH Ras Al Marh 76.05 301 *e*P P 13 37 41.7 -6.1
KDZE Karadeniz Ereo 76.07 310 *e*P **P 13 37 45.9 -1.5**
SULT Sultanhani-AKS 76.18 306 *e*P **P 13 37 49.3 +1.1**
SUMG Summit 76.23 356⇑*i*P **P 13 37 48.8 +0.7**
SUMG *i* 13 38 28.4
SUMG *i* S **S 13 47 16.5 -2.0**
SUMG pmax pmax
comp=Z,520nm,0.9s
SUMG MLR MLR
comp=Z,770nm,17.0s
SUMG Summit 76.23 356⇑*i*P **P 13 37 48.8 +0.7**
comp=Z,523nm,0.9s
SUMG *i* 13 38 28.4
SUMG *i* S **S 13 47 16.5 -2.0**
SUMG
comp=Z,770nm,16.0s
SUMG Summit 76.23 356 *e*P **P 13 37 48.5 +0.4**
LVV L'vov 76.23 320*d i*P **P 13 37 48.2 +0.1**
LVV *e**PP **pP 13 38 29.6 +0.8**
LVV *e* 13 40 43.8
LVV *e*S **S 13 47 15.4 -3.0**
LVV *e*PS **PnS 13 48 11.2 -8.0**
LVV *e*SSS SSS 13 55 30.6
LVV MLR MLR
comp=N,1μm,15.0s
LVV MLR MLR
comp=Z,2μm,15.0s
LVV MLR MLR
comp=E,2μm,14.0s
GHRR 76.24 316⇓*i*P **P 13 37 49.7 +1.5**
CFR Carcaliu 76.25 315⇓P **P 13 37 48.6 +0.3**
CFR Carcaliu 76.25 315⇓*i*P **P 13 37 48.6 +0.3**
HWQ Hawqa 76.33 302 *e*P **P 13 37 49.3 +0.2**
TOTH TOTAH 76.41 301 *e*P P 13 37 43.6 -5.8
TIRR Tirgusor 76.44 314 *e*P **P 13 37 49.6 +0.2**
TIRR pmax pmax
comp=Z,347nm,1.2s
TIRR Tirgusor 76.44 314 *e*P **P 13 37 49.6 +0.2**
comp=Z,347nm,1.2s
TIRR Tirgusor 76.44 314⇑*i*P **P 13 37 50.0 +0.6**
TESR Tescani 76.46 316⇑*i*P **P 13 37 50.4 +0.9**
SALA Sala 76.49 300 *e*P P 13 37 44.6 -5.5
PETR Petresti 76.52 315⇑*i*P **P 13 37 52.8 +3.0**
KIZK Mersin 76.57 305 *i* P **P 13 37 50.0 -0.3**
HARR Harsova 76.62 314⇑P **P 13 37 51.1 +0.7**
HARR Harsova 76.62 314⇑*i*P **P 13 37 51.1 +0.7**
ASF Jabal al Asfar 76.62 300 P **P 13 37 51.8 +1.0**
ASF Jabal al Asfar 76.62 300 P **P 13 37 51.8 +1.0**
comp=Z,376nm,1.1s,baz=12,slow=1.9,SNR=311
MDUB Mudurnu 76.65 309 *e*P **P 13 37 51.5 +0.8**
MANR Mangalia 76.66 313⇑*i*P **P 13 37 51.9 +1.3**
SCO Scoresbysund 76.67 351⇑*i*P **P 13 37 50.9 +0.8**

SCO *i* S **S** **13 47 21.9 -0.6**
SCO pmax pmax
comp=Z,130nm,1.2s
SCO Scoresbysund 76.67 351⇑*i*P P 13 37 50.9 +0.8
comp=Z,130nm,1.2s
SCO *i* S **S** **13 47 21.9 -0.6**
BHL Bhannes 76.72 302 *e*P **P** **13 37 51.6 +0.3**
BUR08 Bucovina Ar. S 76.72 318 *e*P **P** **13 37 51.5 +0.5**
BRBR Barbar 76.73 301 *e*P P 13 37 44.8 -6.7
VRI Vrincioaia 76.75 316⇓*i*P P 13 37 52.3 +1.2
VRI Vrincioaia 76.75 316⇓*i*P P 13 37 52.3 +1.2
RCY Rachaya 76.78 301 *e*P **P** **13 37 52.7 +1.0**
PLOR Plostina 76.80 316⇑P P 13 37 52.4 +0.9
PLOR Plostina 76.80 316⇑*i*P P 13 37 52.4 +0.9
BEL Belsk 76.85 323 *e*P **P** **13 37 52.3 +0.8**
BEL *e*pP **pP** **13 38 33.8 +1.5**
BEL *e*S **S** **13 47 24.5 -0.6**
GRER 76.85 315⇑*i*P P 13 37 54.2 +2.5
SVRH Sivrihisar-ESK 76.93 308 *e*P **P** **13 37 52.8 +0.4**
KIZT Kizilcal 76.97 308 *e*P **P** **13 37 53.0 +0.4**
PGC Sidney 76.97 41 *e*P **P** **13 37 53.6 +1.4**
PGC *e*pP **pP** **13 38 34.1 +1.1**
LADK Ladik-KONYA 76.97 307 *e*P **P** **13 37 52.9 +0.3**
PSN Preselentsi 76.98 313 P sP 13 38 52.9 +1.9
EREN Erenkoy 77.01 304 *e*P **P** **13 37 53.1 +0.4**
IKL Isikli 77.01 304 *e*P **P** **13 37 52.8 +0.1**
AMRR Amara 77.03 314⇑*i*P P 13 37 55.2 +2.6
KWP Kalwaria Pacla 77.05 320⇓P P 13 37 53.6 +0.9
KWP Kalwaria Pacla 77.05 320 PFAKE 13 38 00.0 +7.3
KWP LR LR
comp=Z,2μm,19.0s
KWP Kalwaria Pacla 77.05 320⇓*i*P P 13 37 53.6 +0.9
KWP Kalwaria Pacla 77.05 320 *e*P **P** **13 37 53.6 +0.9**
KWP *e*pP **pP** **13 38 33.4 -0.1**
KWP *e*S **S** **13 47 26.4 -1.0**
TCHB Talchebab 77.08 300 *e*P **P** **13 37 50.3 -2.9**
PGOR Pogoanele 77.09 315⇓*i*P P 13 37 55.5 +2.5
KONT Konya--Tatoy 77.10 307 *e*P **P** **13 37 53.6 +0.4**
GULT Gulveren 77.12 309 *e*P **P** **13 37 54.0 +0.7**
SPNC Sapanca-Adapaz 77.13 310 *e*P **P** **13 37 53.1 -0.2**
KONO Kongsberg 77.15 333⇑*i*P P 13 37 52.4 -0.7
KONO IAmb IAmb 13 37 53.9
comp=Z,75nm,1.2s
KONO *e*S **S** **13 47 28.4 +0.3**
KONO AMS AMS 14 16 41.1
comp=Z,2μm,14.1s
KONO IAMS 14 16 48.0
comp=Z,2μm,13.2s
KONO Kongsberg 77.15 333 *e*P **P** **13 37 52.6 -0.4**
KONO *e* 13 38 03.7
KONO pmax pmax
comp=Z,201nm,1.4s
KONO MLR MLR
comp=Z,2μm,22.0s
KONO Kongsberg 77.15 333 *e*P **P** **13 37 52.6 -0.4**
comp=Z,48nm,1.4s
KONO *e*PcP **PcP** **13 38 03.7 +0.6**
KONO LR LR
comp=Z,2μm,22.0s
ISR Istrita 77.25 315⇑P P 13 37 55.0 +1.0
ISR Istrita 77.25 315⇑*i*P P 13 37 55.0 +1.0
GPA Golpazari 77.33 309 *e*P **P** **13 37 54.9 +0.5**
MMAI Mount Meron Ar 77.33 301 P **P** **13 37 56.0 +1.3**
MMAI Mount Meron Ar 77.33 301 P **P** **13 37 56.0 +1.3**
comp=Z,650nm,1.1s,baz=68,slow=9.2,SNR=184
SILT Sile 77.33 310 *e*P **P** **13 37 55.2 +0.9**
ESKT Eskisehir 77.35 309 *e*P **P** **13 37 55.1 +0.4**
SEYT Eskypehyr 77.35 309 *i*P **P** **13 37 54.9 +0.2**
ERMK Ermenek 77.36 305 *i*P **P** **13 37 54.0 -0.9**
PHNC Paralimni 77.36 303 P P 13 37 57.9 +3.2
HYA Hoyanger 77.39 336 *e*P **P** **13 37 54.6 +0.2**
HYA AMB AMB 13 37 56.6
comp=Z,464nm,1.3s
NLWA Neilton Lookou 77.41 42 *e*P **P** **13 37 57.2 +2.4**
comp=Z,277nm,1.6s
NLWA *e*pP **pP** **13 38 37.0 +1.4**
NLWA LR LR
comp=Z,688nm,20.0s
MLR Muntele Rosu 77.41 316 P **P** **13 37 55.3 +0.4**
MLR Muntele Rosu 77.41 316⇑*i*P P 13 37 55.9 +0.9
MLR Muntele Rosu 77.41 316 P **P** **13 37 55.3 +0.4**
comp=Z,41nm,0.9s,baz=39,slow=5.0,SNR=126
HRT Hereke 77.48 310 *e*P **P** **13 37 55.8 +0.5**
DOPR Dopca 77.49 316⇓*i*P P 13 37 56.6 +1.3
HDMB Hadim 77.50 306 *e*P **P** **13 37 55.5 -0.2**
ARCR ARCALIA 77.50 318⇑*i*P P 13 37 58.0 +2.7
A05A Maple Falls 77.54 40 *e*P **P** **13 37 56.9 +1.4**
comp=Z,154nm,1.4s
SECR 77.58 315⇓*i*P P 13 37 57.1 +1.4
LFK Lefkose 77.58 304 *e*P **P** **13 37 56.5 +0.5**
ADVT Abdulvahap 77.63 310 *e*P **P** **13 37 56.9 +0.8**
OUZ Omahuta 77.65 145 *e*P **P** **13 37 58.6 +2.6**
comp=Z,681nm,2.7s
SULR 77.65 315⇑*i*P P 13 37 58.5 +2.4
KLYT Kilyos 77.67 311 *e*P **P** **13 37 56.2 0.0**
KOLS Kolonicke sedl 77.67 320 *e*P **P** **13 37 56.8 +0.6**
KOLS pmax pmax
comp=Z,173nm,0.9s
KOLS Kolonicke sedl 77.67 320 *e*P **P** **13 37 56.8 +0.6**
KOLS *e*S **S** **13 47 30.9 -3.3**
CAVI Cavuskoy 77.68 310 *e*P **P** **13 37 57.0 +0.6**
BOLV Bolvadin 77.68 308 *i*P **P** **13 37 57.0 +0.4**
PRD Provadia 77.72 313 P sP 13 38 57.2 +2.1
ISK Istanbul-Kandi 77.75 311 *e*P **P** **13 37 55.8 -1.0**
BSD Bornholm Skovb 77.79 328⇑*i*P P 13 37 56.4 -0.3
BSD *i* S **S** **13 47 31.0 -4.1**
BSD pmax pmax
comp=Z,520nm,0.8s
BSD MLR MLR
comp=Z,2μm,13.0s
BSD Bornholm Skovb 77.79 328⇑*i*P P 13 37 56.4 -0.3
comp=Z,525nm,0.8s
BSD *i* S **S** **13 47 31.0 -4.1**
BSD
comp=Z,2μm,13.0s
YLV Yalova 77.80 310 *e*P **P** **13 37 57.5 +0.4**
GKP Gorka Klasztor 77.81 326 *e*P **P** **13 37 57.1 +0.3**
GKP *e*pP **pP** **13 38 39.0 +1.4**
GKP *e*S **S** **13 47 34.9 -0.4**
BUY Buyukada 77.82 310 *e*P **P** **13 37 57.3 +0.2**
BUY Buyukada 77.82 310 *i*P **P** **13 37 56.4 -0.7**
UZH Uzhgorod 77.83 320⇑*i*P P 13 37 58.0 +1.0
UZH *e* 13 38 37.8
UZH *i* S **S** **13 47 35.2 -0.6**
UZH *e* 13 48 31.4
UZH MLR MLR
comp=N,2μm,13.0s
UZH MLR MLR
comp=E,2μm,13.0s
UZH MLR MLR
comp=Z,900nm,13.0s
MAMC Mammari 77.86 304 P **P** **13 37 58.5 +1.0**
BGKT Bogazkoy 77.88 311 *e*P **P** **13 37 58.1 +0.6**
CSS Prodhromos 77.88 303 P **P** **13 37 58.1 +0.5**
comp=Z,3.9nm,1.0s
CSS Prodhromos 77.88 303 *e*P **P** **13 37 57.5 -0.1**
CSS Prodhromos 77.88 303 P **P** **13 37 58.5 +0.8**
CSS Prodhromos 77.88 303 *e*P **P** **13 37 58.4 +0.8**
comp=Z,71nm,0.9s
CSS LR LR
comp=Z,347nm,21.0s
SUE Sulen 77.97 336 *e*P **P** **13 37 57.4 -0.1**
SUE AMB AMB 13 38 00.1
comp=Z,362nm,0.8s
STHS Stebnicka Huta 77.97 321 *e*P **P** **13 37 59.2 +1.4**
STHS pmax pmax
comp=Z,331nm,1.3s
STHS Stebnicka Huta 77.97 321 *e*P **P** **13 37 59.2 +1.4**
TRPA Tarpa 77.97 319⇓*i*P P 13 37 59.1 +1.3
GAZI Gazipasa 77.97 305 *i*P **P** **13 37 57.2 -0.9**
VOIR 77.98 316⇓P P 13 37 59.1 +1.1
VOIR 77.98 316⇓*i*P P 13 37 59.1 +1.1
MDB Medias 78.00 317⇓*i*P P 13 37 59.8 +1.8
CTKS Kestanelik-??a 78.03 311 *e*P **P** **13 37 58.7 +0.5**
E03A Lebam 78.04 43 *e*P **P** **13 38 00.5 +2.2**
comp=Z,290nm,1.5s
E03A *e*pP **pP** **13 38 40.6 +1.5**
CTYL Yal??k??y-??at 78.04 311 *e*P **P** **13 37 59.1 +0.8**
ELBA Catalca 78.12 311 *i*P **P** **13 37 56.2 -2.6**
CRVS Cervenica-Dubn 78.14 320 *e*P **P** **13 37 59.8 +1.0**
CRVS pmax pmax
comp=Z,236nm,1.1s
CRVS Cervenica-Dubn 78.14 320 *e*P **P** **13 37 59.8 +1.0**
CRVS *e*S **S** **13 47 36.0 -3.1**
ARMT Armutlu 78.14 310 *e*P **P** **13 37 59.1 +0.2**
CJR Cluj-Napoca 78.14 318⇑P P 13 38 00.0 +1.1
CJR Cluj-Napoca 78.14 318⇑*i*P P 13 38 00.0 +1.1
RUND Rundenannen 78.20 335 *e*P **P** **13 37 57.8 -1.1**
RUND AMB AMB 13 37 59.8
comp=Z,484nm,2.2s
ASK Askoy 78.22 336 *e*P **P** **13 37 57.7 -1.2**
ASK AMB AMB 13 37 59.6
comp=Z,494nm,1.2s
SLVT Silivri 78.22 311 *e*P **P** **13 38 00.2 +0.9**
MDNY Mudanya-Bursa 78.22 310 *e*P **P** **13 37 58.5 -0.9**
BER Bergen 78.24 335 *e*P **P** **13 37 58.3 -0.7**
BER AMB AMB 13 38 00.1
comp=Z,310nm,3.6s
BER AMS AMS 14 17 40.0
comp=Z,2μm,17.9s
ARR Arges 78.26 316⇑*i*P P 13 38 00.6 +1.0
SUTC Sutluce-Ispart 78.27 307 *e*P **P** **13 37 59.8 0.0**
OJC Ojcow 78.28 322⇑*i*P P 13 38 00.3 +0.7
OJC *e*S **S** **13 47 38.9 -1.7**
OJC Ojcow 78.28 322 *e*P **P** **13 38 00.2 +0.7**
OJC Ojcow 78.28 322 *i*P **P** **13 38 00.3 +0.7**
OJC *e*S **S** **13 47 38.9 -1.7**
OJC L L 14 15 20.0
comp=Z,3μm,18.2s
ALFC Alevga 78.31 304 P **P** **13 38 00.4 +0.4**
comp=Z,2.0nm,0.7s
EGD Espegrend 78.35 335 *e*P **P** **13 37 58.5 -1.1**
BDHA Al Bayda' 78.36 279⇑*e*P P 13 38 02.5 +1.7
BDHA AMb AMb 13 38 02.8
comp=Z,408nm,0.4s
F03A Seaside 78.38 43 *e*P **P** **13 38 02.3 +2.2**
comp=Z,388nm,1.4s
F03A *e*pP **pP** **13 38 42.5 +1.5**
ISP Isparta 78.42 307 *e*P **P** **13 37 58.9 -1.8**
ISP Isparta 78.42 307 *e*P **P** **13 38 01.1 +0.4**
ISP MLR MLR
comp=Z,2μm,22.0s
ISP Isparta 78.42 307 *e*P **P** **13 38 01.1 +0.4**
ISP LR LR
comp=Z,2μm,22.0s
ISP Isparta 78.42 307⇑*i*P P 13 38 00.5 -0.2
PHSR Pinarhisar 78.45 312 *e*P **P** **13 38 02.1 +1.5**
NIE Niedzica 78.47 321⇑*i*P P 13 38 03.9 +3.3
NIE *e*S **S** **13 47 44.1 +1.4**
NIE Niedzica 78.47 321 *i*P P 13 38 03.9 +3.3
NIE *e*S **S** **13 47 44.1 +1.4**
NIE L L 14 16 19.0
comp=Z,2μm,22.6s
GDZ Gediz 78.48 309 *i*P **P** **13 38 00.4 -0.6**
HOMB Homborsund 78.49 333⇑*i*P P 13 37 59.9 -0.6
HOMB AMB AMB 13 38 01.8
comp=Z,242nm,2.3s
BLS5 Blasjo 78.49 334 *e*P **P** **13 38 00.8 +0.3**
BLS5 AMB AMB 13 38 03.1
comp=Z,489nm,1.3s
HUMR Humele 78.50 315⇑*i*P P 13 38 00.6 -0.2
COP Copenhagen 78.55 329⇑*i*P P 13 38 01.3 +0.5
COP *i* S **S** **13 47 40.0 -3.1**
COP pmax pmax
comp=Z,250nm,0.8s
COP MLR MLR
comp=Z,840nm,14.0s
COP Copenhagen 78.55 329⇑*i*P P 13 38 01.3 +0.5
comp=Z,252nm,0.8s
COP *i* S **S** **13 47 40.0 -3.1**
COP
comp=Z,830nm,13.0s
BCK Bucak 78.56 307 *e*P **P** **13 37 58.9 -2.5**
AKMC Akamas 78.56 304 P **P** **13 38 01.6 +0.2**
D05A Enumclaw 78.59 41 *e*P **P** **13 38 03.6 +2.3**
comp=Z,465nm,1.8s
SZH Strazhica 78.59 314 P **P** **13 38 01.8 +0.4**
DRGR 78.61 318⇑P P 13 38 02.1 +0.6
DRGR 78.61 318⇑*i*P P 13 38 02.1 +0.6
JMB Yambol 78.61 313 P **P** **13 38 04.1 +2.6**
JMB Yambol 78.61 313 P **P** **13 38 04.1 +2.6**
JMB Yambol 78.61 313 P **P** **13 38 04.1 +2.6**
JMB Yambol 78.61 313 P **P** **13 38 02.9 +1.4**
KCTX Karacabey (Bur 78.62 310 *e*P **P** **13 38 00.7 -0.9**
PPCY Paphos 78.62 304 P **P** **13 38 01.6 -0.1**
LOT Lotru 78.73 316⇑*i*P P 13 38 02.8 +0.6
ZIMR 78.74 314⇑*i*P P 13 38 03.5 +1.4
TKR Tekirdag 78.78 311 *e*P **P** **13 38 02.0 -0.3**
EDRB Edirne 78.84 312 *e*P **P** **13 38 01.6 -1.1**
KHAL Karahalli 78.84 308 *i*P **P** **13 38 02.4 -0.5**
KHL Karahalli 78.85 308 *e*P **P** **13 38 03.7 +0.8**
BNT Bandirma 78.86 310 *e*P **P** **13 38 04.7 +1.8**
LLD Lille Linde 78.86 329 *i*P **P** **13 38 03.7 +1.2**
LLD pmax pmax
comp=Z,240nm,0.8s
LLD Lille Linde 78.86 329 *i*P **P** **13 38 03.7 +1.2**
comp=Z,245nm,0.8s
RGN Rugen 78.87 328 *e*P **P** **13 38 03.2 +0.6**
comp=Z,689nm,1.0s
RGN Rugen 78.87 328 *e*P **P** **13 38 02.6 0.0**
comp=Z,631nm,1.3s
DURS Dursunbey 78.89 310 *i*P **P** **13 38 00.4 -2.7**
KECS Kecovo 78.91 320 *e*P **P** **13 38 03.9 +0.9**
KECS pmax pmax
comp=Z,83nm,1.0s
KECS Kecovo 78.91 320 *e*P **P** **13 38 03.9 +0.9**
TDL Tradedollar La 78.93 42 P **P** **13 38 05.2 +1.9**
LON Longmire 78.94 42 *e*P **P** **13 38 04.2 +0.9**
LON pmax pmax
comp=Z,33nm,1.2s
LON Longmire 78.94 42 *e*P **P** **13 38 04.2 +0.9**
comp=Z,32nm,1.2s
PVL Pavlikeni 78.99 314 P **P** **13 38 05.1 +1.6**
DEV Deva 79.00 317⇑P P 13 38 04.4 +0.9
DEV Deva 79.00 317⇑*i*P P 13 38 04.3 +0.8
DEMI Demirci 79.02 309 *i*P **P** **13 38 03.6 -0.2**
MFT Murefte 79.05 311 *e*P **P** **13 38 04.0 +0.1**
DAMY Dhamar 79.06 280 *e*P **P** **13 38 06.8 +2.1**
KMY Karmoy 79.09 335 *e*P **P** **13 38 04.6 +1.0**
SART Tekirdag 79.17 311 *i*P **P** **13 38 03.9 -0.8**
RKY Sarkoy-Tekirda 79.17 311 *e*P **P** **13 38 05.2 +0.6**
GONE Gonen-Balikesi 79.17 310 *e*P **P** **13 38 05.0 +0.5**
KRBG Karabiga-Canak 79.25 311 *e*P **P** **13 38 05.7 +0.7**
BALB Balikesir 79.26 310 *e*P **P** **13 38 05.6 +0.6**
COR Corvallis 79.26 44 *e*P **P** **13 38 07.7 +2.8**
COR *e**PP **pP** **13 38 47.5 +1.6**
COR pmax pmax
comp=Z,350nm,1.4s
COR Corvallis 79.26 44 *e*P **P** **13 38 07.7 +2.8**
comp=Z,58nm,1.4s
COR *e*pP **pP** **13 38 47.5 +1.6**
EIL Elat 79.30 298 P **P** **13 38 06.0 +0.5**
EIL Elat 79.30 298 P **P** **13 38 06.0 +0.5**
comp=Z,290nm,1.0s,baz=54,slow=4.0,SNR=181
LTY Liberty 79.30 41 *e*P **P** **13 38 06.6 +1.4**
comp=Z,130nm,1.5s
KULA Kula-Manisa 79.33 309 *e*P **P** **13 38 04.3 -1.3**
GZR Gura Zlata 79.34 317⇓P P 13 38 05.9 +0.4
GZR Gura Zlata 79.34 317⇓*i*P P 13 38 05.9 +0.4
OKC Ostrava-Krasne 79.37 322⇑*i*P P 13 38 06.1 +0.6
OKC *e* 13 38 10.9
OKC *e**PP **pP** **13 38 47.0 +0.6**
OKC *e*S **S** **13 47 50.2 -2.0**
OKC MLR MLR
comp=Z,3μm,15.5s
OKC Ostrava-Krasne 79.37 322⇑*i*P P 13 38 06.1 +0.6
OKC *e*PCP **PcP** **13 38 10.9 -2.1**
OKC *e*x x 13 38 17.8
OKC *e*pP **pP** **13 38 47.0 +0.6**
OKC *e*sP **sP** **13 39 03.5 -0.7**
OKC *e*PP PP 13 41 00.1 -7.1
OKC *e*x x 13 41 45.2
OKC *e*x x 13 44 47.7
OKC *e*S **S** **13 47 50.2 -2.0**
OKC *e*AS 13 48 46.2
OKC AMS AMS 14 18 10.0
comp=Z,3μm,15.5s
GOLH Golhisar 79.38 307 *i*P **P** **13 38 05.3 -0.6**
BALY Balya 79.38 310 *i*P **P** **13 38 05.1 -0.7**
ELL Elmali 79.39 306 *e*P **P** **13 38 06.4 +0.4**
ASR Mount Adams--S 79.40 42 P **P** **13 38 07.0 +1.2**
BOA8 Colville Reser 79.41 39 *e*P **P** **13 38 06.8 +1.1**
comp=Z,90nm,1.0s
MSEY Mahe Island 79.42 258 P **P** **13 38 07.9 +1.5**
SNR=14
MSEY Mahe Island 79.42 258 *e*P **P** **13 38 08.0 +1.7**
comp=Z,685nm,1.2s
MSEY LR LR
comp=Z,1μm,20.0s
MUD Monsted U'grnd 79.43 331⇑*i*P P 13 38 05.2 -0.4
MUD pmax pmax
comp=Z,210nm,0.8s
MUD MLR MLR
comp=Z,2μm,18.0s
MUD Monsted U'grnd 79.43 331⇑*i*P P 13 38 05.2 -0.4
comp=Z,212nm,0.8s
MUD
comp=Z,2μm,18.0s
WTV Waterville 79.45 40 P **P** **13 38 07.2 +1.2**
DENT Denizli 79.47 308 *e*P **P** **13 38 07.9 +1.7**
DIM Dimitrovgrad 79.49 313 P **P** **13 38 07.2 +1.0**
DNZL Cakiroluk 79.50 308 *i*P **P** **13 38 06.8 +0.2**
SRE Strehaia 79.50 316⇓*i*P P 13 38 08.3 +2.1
EDM Edmonton 79.52 33 *e*P **P** **13 38 07.5 +1.3**
EDM Edmonton 79.52 33 *e*P **P** **13 38 07.5 +1.3**
PSZ Piszkesteto 79.56 320⇑P P 13 38 07.4 +0.8
PSZ Piszkesteto 79.56 320 *e*P **P** **13 38 07.4 +0.8**
comp=Z,566nm,1.2s
PSZ LR LR
comp=Z,2μm,20.0s
PSZ Piszkesteto 79.56 320⇑*i*P P 13 38 07.4 +0.8
PSZ Piszkesteto 79.56 320⇑*e*P P 13 38 07.6 +1.0
KEBM Edson Butte 79.57 46 *e*P **P** **13 38 09.2 +2.4**
comp=Z,417nm,1.5s
KEBM *e*pP **pP** **13 38 49.5 +1.8**
LPK Lapseki 79.61 311 *e*P **P** **13 38 07.0 +0.1**
AKHS Akhisar 79.70 309 *i*P **P** **13 38 07.0 -0.4**
AKS Akhisar 79.70 309 *e*P **P** **13 38 08.3 +0.9**
MORC Moravsky Berou 79.72 323 *e*P **P** **13 38 08.1 +0.7**
MORC pmax pmax
comp=Z,399nm,1.0s
MORC Moravsky Berou 79.72 323 *e*P **P** **13 38 08.1 +0.7**
comp=Z,399nm,1.0s
KSP Ksiaz 79.73 324 *e*P **P** **13 38 08.0 +0.7**
KSP *e*pP **pP** **13 38 49.4 +1.0**
KSP *e*S **S** **13 47 55.2 -0.7**
VLL Laurance Lake 79.73 43 P **P** **13 38 09.6 +1.9**
SAW Saint Andrews 79.75 40 P **P** **13 38 09.0 +1.4**
GELI Tayfur-Gelibol 79.78 311 *e*P **P** **13 38 08.4 +0.6**
KDZ Kurdzhali 79.78 313 P **P** **13 38 09.1 +1.2**
VYHS Vyhne 79.80 321 *e*P **P** **13 38 08.9 +1.1**
VYHS pmax pmax
comp=Z,320nm,1.1s
VYHS Vyhne 79.80 321 *e*P **P** **13 38 08.9 +1.1**
VYHS *e*S **S** **13 47 55.0 -1.7**
AKAS Kas 79.86 306 *i*P **P** **13 38 07.6 -1.0**
H04A Detroit Lake 79.87 44 *e*P **P** **13 38 09.8 +1.5**
comp=Z,289nm,1.7s
MPEP Malo Peshtene 79.89 315 P **P** **13 38 09.4 +1.0**
BZS Buzias 79.89 317⇑P P 13 38 08.6 +0.2
BZS Buzias 79.89 317⇑*i*P P 13 38 08.6 +0.2
ILULI Ilulissat 79.90 0⇑*i*P P 13 38 08.2 +0.3
ILULI pmax pmax
comp=Z,100nm,1.0s
TRW Toppenish Ridg 79.92 42 P **P** **13 38 10.4 +1.8**
KSL Kastellorizon 79.92 306 *e*P **P** **13 38 08.3 -0.4**
VFP Flag Point 79.94 43 P **P** **13 38 10.0 +1.2**
RUE Ruedersdorf 79.95 326 *e*P **P** **13 38 09.4 +0.9**
comp=Z,1μm,1.1s
RUE Ruedersdorf 79.95 326 *e*P **P** **13 38 08.4 -0.1**
comp=Z,1μm,1.2s
TRBA At Turbah 79.96 279⇑*e*P P 13 38 11.1 +1.7
PLD Plovdiv 79.98 313 P **P** **13 38 08.9 0.0**
PLD Plovdiv 79.98 313 P **P** **13 38 08.9 0.0**
PLD Plovdiv 79.98 313 P **P** **13 38 08.9 0.0**
PLD Plovdiv 79.98 313 P **P** **13 38 09.7 +0.8**
KBO Bosley Butte 80.00 47 *e*P **P** **13 38 10.5 +1.4**
comp=Z,202nm,1.5s
DPC Dobruska-Polom 80.01 323⇑*i*P P 13 38 09.7 +0.8
DPC *e* 13 38 20.2
DPC *e* 13 41 13.7
DPC *e*S **S** **13 47 58.8 -0.2**
DPC *e*SP **SPn** **13 48 48.0 +5.3**
DPC *e*PS **sS** **13 49 09.8 -0.4**
DPC Dobruska-Polom 80.01 323⇑*i*P P 13 38 09.7 +0.8
DPC *e*x x 13 38 20.2
DPC *e*x x 13 38 30.7
DPC *e*pP **pP** **13 38 47.7 -2.3**
DPC *e*sP **sP** **13 39 07.6 -0.1**
DPC *e*PP **PP** **13 41 13.7 +1.2**
DPC *e*x x 13 41 59.6
DPC *e*x x 13 44 55.4
DPC *e*S **S** **13 47 58.8 -0.2**
DPC *e*AS 13 48 48.0
DPC *e*XS **sS** **13 49 09.8 -0.4**
DPC AMS AMS 14 18 20.0
DPC Dobruska-Polom 80.01 323 *e*P **P** **13 38 09.8 +0.9**
FETY Fethiye 80.02 307 *e*P **P** **13 38 07.9 -1.3**
UPC Upice 80.07 324 *e*P **P** **13 38 09.9 +0.7**
UPC Upice 80.07 324⇑*e*P P 13 38 09.9 +0.7
PGB Panagyurishte 80.07 314 P **P** **13 38 10.2 +0.7**
PKSN Nyarlorinc 80.16 319⇑*e*P P 13 38 11.2 +1.5
EZN Ezine 80.18 311 *e*P **P** **13 38 09.7 -0.3**
RZN Rozhen 80.20 313 P **P** **13 38 11.6 +1.3**
DALY Dalyan (Mu¨la 80.22 307 *e*P **P** **13 38 10.9 +0.7**
AYVA Ayvalik 80.22 310 *i*P **P** **13 38 11.0 +0.8**
TURN Turunc 80.22 307 *i*P **P** **13 38 12.5 +2.2**
BUD Budapest 80.29 320⇑*e* **P** **13 38 11.2 +0.8**
AYDN Tasoluk 80.30 308 *i*P **P** **13 38 11.5 +0.7**
YER Yerkesik 80.30 308 *e*P **P** **13 38 11.7 +0.9**
C09A Chrisman Ranch 80.31 40 *e*P **P** **13 38 11.2 +0.7**
comp=Z,333nm,1.8s
C09A *e*pP **pP** **13 38 52.3 +0.6**
OD2 Odessa Site #2 80.31 40 P **P** **13 38 12.0 +1.4**
SMTH Samothraki Isl 80.35 312 P **P** **13 38 09.6 -1.3**
SMTH Samothraki Isl 80.35 312 *e*P **P** **13 38 10.9 0.0**
SMTH Samothraki Isl 80.35 312 P **P** **13 38 09.6 -1.3**
BOZC Bozcaada 80.35 311 *i*P **P** **13 38 10.9 0.0**
VRAC Vranov 80.50 323 P **P** **13 38 12.6 +1.0**
VRAC Vranov 80.50 323 P **P** **13 38 12.6 +1.0**
comp=Z,524nm,1.0s,baz=54,slow=5.3,SNR=255
PRK Paraskevi 80.53 310 P **P** **13 38 11.2 -0.6**
PRK Paraskevi 80.53 310 P **P** **13 38 11.2 -0.6**
PRK Paraskevi 80.53 310 *e*P **P** **13 38 12.9 +1.1**
PRK Paraskevi 80.53 310 P **P** **13 38 11.2 -0.6**
SMOL Smolenice 80.54 322 *e*P **P** **13 38 13.7 +1.9**
SMOL Smolenice 80.54 322 *e*P **P** **13 38 13.7 +1.9**
MLSB Milas 80.56 308 *e*P **P** **13 38 13.1 +1.0**
HUMO Hull Mountain 80.56 46 *e*P **P** **13 38 13.7 +1.6**
comp=Z,141nm,1.6s
KRMB Red Mountain 80.57 47 *e*P **P** **13 38 13.9 +1.7**
comp=Z,1μm,2.1s
BSEG Bad Segeberg 80.61 329 *e*P **P** **13 38 12.5 +0.5**
comp=Z,503nm,1.0s
BSEG *e*S **S** **13 48 02.8 -2.1**
BSEG *e*sS **sS** **13 49 14.2 -2.0**
BSEG Bad Segeberg 80.61 329 *e*P **P** **13 38 12.5 +0.5**
BSEG *e*S **S** **13 48 02.8 -2.1**
BSEG *e*SS **sS** **13 49 14.2 -2.0**
BSEG pmax pmax
comp=Z,503nm,1.0s
VTS Vitosha 80.64 314 P **P** **13 38 12.8 +0.2**
VTS Vitosha 80.64 314⇑P P 13 38 13.3 +0.7
VTS Vitosha 80.64 314 P **P** **13 38 12.8 +0.2**
VTS Vitosha 80.64 314⇑*i*P P 13 38 13.3 +0.7
VTS Vitosha 80.64 314 P **P** **13 38 13.9 +1.3**
LRW Lerwick 80.64 338⇑*e*P P 13 38 12.0 0.0
LRW AMB AMB 13 38 13.2
comp=Z,388nm,1.4s
NEW Newport 80.66 39 *e*P **P** **13 38 11.8 -0.7**
comp=Z,55nm,0.9s
NEW LR LR
comp=Z,759nm,20.0s
NEW Newport 80.66 39 ⇓P **P** **13 38 13.4 +0.9**
baz=80
NEW ⇓S **S** **13 48 05.2 -0.6**
baz=80
PKSG 80.69 320⇓*e* **P** **13 38 14.2 +1.7**
KAVA Kavala 80.71 312 P **P** **13 38 14.0 +1.2**
KAVA Kavala 80.71 312 P **P** **13 38 14.0 +1.2**
GCAM G?zelcaml? 80.71 308 *i*P **P** **13 38 13.1 +0.2**
CSKK Cs¨‡kako 80.78 320⇓*e*P P 13 38 14.5 +1.5
PVCC Panska Ves 80.79 324 *e*P **P** **13 38 13.6 +0.6**
PVCC *e**PP **pP** **13 38 55.4 +1.3**
PVCC MLR MLR
comp=Z,3μm,17.1s
PVCC Panska Ves 80.79 324⇑*e*P P 13 38 13.6 +0.6
PVCC *e*PCP **PcP** **13 38 22.1 +2.9**

PVCC ex x 13 38 30.4
PVCC epP pP 13 38 55.4 +1.3
PVCC esP sP 13 39 09.6 -2.3
PVCC ePP PP 13 41 13.3 -5.5
PVCC AMS AMS 14 17 50.0
comp=Z,3µm,17.1s
MMB Musomiste 80.88 313 P P 13 38 14.3 +0.6
BRG Berggiesshubel 80.88 325 i P P 13 38 14.0 +0.5
comp=Z,390nm,1.4s
BRG i 13 38 27.0
comp=Z,87nm,0.9s
BRG PP PP 13 41 15.0 -4.6
BRG i 13 42 15.0
BRG S S 13 48 05.0 -2.9
BRG SS SS 13 53 21.0 -3.4
BRG
comp=N,2µm,19.6s
BRG
comp=E,3µm,17.9s
BRG
comp=Z,4µm,16.6s
BRG Berggiesshubel 80.88 325 eP P 13 38 14.1 +0.5
comp=Z,605nm,1.7s
BRG Berggiesshubel 80.88 325 i P P 13 38 14.0 +0.5
BRG S S 13 48 05.0 -2.9
BRG SS SS 13 53 21.0 -3.4
BRG pmax pmax
comp=Z,390nm,1.4s
BRG pmax pmax
comp=Z,87nm,0.9s
BRG MLR MLR
comp=N,2µm,19.6s
BRG MLR MLR
comp=E,3µm,17.9s
BRG MLR MLR
comp=Z,4µm,16.6s
LIA Limnos Island 80.88 311 eP P 13 38 14.1 +0.4
ARG Arkhangelos 80.89 307 P P 13 38 13.8 -0.1
ARG Arkhangelos 80.89 307 P P 13 38 13.8 -0.1
ARG Arkhangelos 80.89 307 eP P 13 38 15.6 +1.7
ARG Arkhangelos 80.89 307 P P 13 38 13.8 -0.1
ZST Bratislava 80.90 321 eP P 13 38 14.6 +0.9
ZST eS S 13 48 08.9 +0.7
ZST Bratislava 80.90 321 eP P 13 38 14.6 +0.9
ZST eS S 13 48 08.9 +0.7
BDRM Kayabasi 80.91 308 i P P 13 38 14.4 +0.5
NVR Nevrokopi 80.92 313 P P 13 38 14.0 0.0
NVR Nevrokopi 80.92 313 eP P 13 38 14.8 +0.8
NVR Nevrokopi 80.92 313 P P 13 38 14.0 0.0
PKST T"s 80.96 320|| eP P 13 38 15.1 +1.1
SMG Samos 80.97 309 P P 13 38 14.2 -0.1
SMG Samos 80.97 309 eP P 13 38 15.4 +1.1
SMG Samos 80.97 309 P P 13 38 14.2 -0.1
DAT Datca 81.00 307 eP P 13 38 14.3 -0.3
BODT Bodrum 81.00 308 eP P 13 38 15.0 +0.5
KHMM Horse Mountain 81.04 48 eP P 13 38 16.8 +2.1
comp=Z,160nm,1.4s
CLL Collm 81.07 326 eP P 13 38 14.8 +0.3
comp=Z,849nm,0.9s
CLL eS S 13 48 08.8 -1.0
CLL esS sS 13 49 19.0 -2.1
CLL esSS 13 54 38.0
CLL Collm 81.07 326 i P P 13 38 15.0 +0.5
CLL e*PP pP 13 38 59.0 +3.4
CLL eS S 13 48 10.0 +0.2
CLL pmax pmax
comp=Z,848nm,1.0s
TREC Trest 81.08 323 eP P 13 38 15.3 +0.6
TREC e 13 41 19.6
TREC eS S 13 48 09.5 -0.6
TREC eSP SPn 13 48 51.5 -4.6
TREC MLR MLR
comp=Z,2µm,16.2s
TREC Trest 81.08 323⇑ eP P 13 38 15.3 +0.6
TREC ex x 13 38 26.6
TREC epP pP 13 38 52.3 -3.5
TREC esP sP 13 39 11.8 -1.7
TREC ePP PP 13 41 19.6 -1.8
TREC ex x 13 42 13.6
TREC ex x 13 45 09.0
TREC eS S 13 48 09.5 -0.6
TREC ex x 13 48 51.5
TREC AMS AMS 14 19 10.0
comp=Z,2µm,16.2s
KKB Krupnik 81.12 314 P P 13 38 15.3 +0.3
CHOS Chios island 81.13 310 P P 13 38 15.6 +0.4
CHOS Chios island 81.13 310 eP P 13 38 15.5 +0.4
CHOS Chios island 81.13 310 P P 13 38 15.6 +0.4
PRU Pruhonice 81.14 324⇑ i P P 13 38 15.5 +0.6
PRU e 13 41 21.7
PRU eS S 13 48 11.0 +0.4
PRU ePS sS 13 49 22.9 +1.0
PRU MLR MLR
comp=Z,3µm,14.8s
PRU Pruhonice 81.14 324⇑ i P P 13 38 15.5 +0.6
PRU ex x 13 38 25.8
PRU ex x 13 38 36.7
PRU epP pP 13 38 53.1 -2.9
PRU esP sP 13 39 11.6 -2.1
PRU ePP PP 13 41 21.7 0.0
PRU ex x 13 42 12.6
PRU ex x 13 45 07.5
PRU eS S 13 48 11.0 +0.4
PRU ex x 13 49 07.8
PRU eXS sS 13 49 22.9 +1.0
PRU AMS AMS 14 19 00.0
comp=Z,3µm,14.8s
FBE Freiberg 81.14 325 eP P 13 38 15.8 +0.9
comp=Z,853nm,1.2s
PRA Prague 81.14 324 ⇑P P 13 38 16.0 +1.1
PRA pP pP 13 38 54.0 -2.0
PRA PP PP 13 41 22.0 +0.2
E09A Wood Farm, Sta 81.14 41 eP P 13 38 16.3 +1.3
comp=Z,316nm,1.7s
PINOR Pine Mountain 81.14 44 eP P 13 38 17.1 +2.1
comp=Z,288nm,1.6s
YBH Yreka Blue Hor 81.20 46 eP P 13 38 16.3 +0.8
comp=Z,85nm,1.4s
YBH ePcP PcP 13 38 22.2 +0.9
SRS Serrai 81.22 313 P P 13 38 14.9 -0.6
SRS Serrai 81.22 313 P P 13 38 14.9 -0.6
SRS Serrai 81.22 313 P P 13 38 14.9 -0.6
PKSM Moragy 81.25 319 ⇑P P 13 38 16.2 +0.7
PKSM Moragy 81.25 319⇑ i P P 13 38 16.2 +0.7
PKSM Moragy 81.25 319⇑ e P 13 38 16.4 +0.9
G08A Pilot Rock 81.40 42 eP P 13 38 17.8 +1.3
comp=Z,110nm,1.5s
OUR Ouranopolis 81.41 312 P P 13 38 16.4 -0.1
OUR Ouranopolis 81.41 312 P P 13 38 16.4 -0.1
OUR Ouranopolis 81.41 312 P P 13 38 16.4 -0.1
SOP Sopron 81.51 321⇑ eP P 13 38 18.0 +1.1
SOH Sokhos 81.54 313 P P 13 38 16.4 -0.8
SOH Sokhos 81.54 313 P P 13 38 16.4 -0.8
SOH Sokhos 81.54 313 eP P 13 38 17.7 +0.5
SOH Sokhos 81.54 313 P P 13 38 16.4 -0.8
KNT Kendrikon 81.63 313 P P 13 38 17.4 -0.3
KNT Kendrikon 81.63 313 P P 13 38 17.4 -0.3
KNT Kendrikon 81.63 313 P P 13 38 17.4 -0.3
NRDL Niedersach Rie 81.66 328 eP P 13 38 18.1 +0.6
comp=Z,320nm,1.1s
DIVS Divibare 81.71 317 P P 13 38 17.6 -0.5
NEUB Neuenburg 81.72 326 eP P 13 38 18.6 +0.7
comp=Z,1µm,0.9s
CONA Conrad Observa 81.73 322 i PcP P 13 38 19.4 +1.2
comp=Z,3µm,2.6s,SNR=237
PLG Polygyros 81.73 312 P P 13 38 17.5 -0.7
PLG Polygyros 81.73 312 P P 13 38 17.5 -0.7
PLG Polygyros 81.73 312 eP P 13 38 18.3 +0.1
PLG Polygyros 81.73 312 P P 13 38 17.5 -0.7
VAY Valandovo 81.75 313 P P 13 38 16.6 -1.6
VAY Valandovo 81.75 313 P P 13 38 16.6 -1.6
VAY Valandovo 81.75 313 P P 13 38 16.6 -1.6
VAY Valandovo 81.75 313 i P P 13 38 17.7 -0.5
K05A Summer Lake 81.75 45 eP P 13 38 20.3 +1.8
comp=Z,280nm,1.5s
URZ Urewera 81.77 144 eP P 13 38 14.4 -3.7
comp=Z,66nm,0.9s
KCPM Cahto Peak 81.79 48 eP P 13 38 18.4 -0.3
comp=Z,53nm,1.3s
I07A Izee 81.79 43 eP P 13 38 20.1 +1.5
comp=Z,236nm,1.8s
BORG Borgarnes 81.82 348 eP P 13 38 20.6 +2.4
comp=Z,139nm,1.2s

BORG LR LR
comp=Z,1µm,19.0s
PAIG Paliouri 81.83 312 P P 13 38 18.0 -0.7
PAIG Paliouri 81.83 312 P P 13 38 18.0 -0.7
PAIG Paliouri 81.83 312 eP P 13 38 19.0 +0.3
PAIG Paliouri 81.83 312 P P 13 38 18.0 -0.7
WALA Waterton Lakes 81.85 37 eP P 13 38 19.7 +0.8
comp=Z,160nm,1.4s
THE Thessaloniki 81.89 313 P P 13 38 18.5 -0.5
THE Thessaloniki 81.89 313 P P 13 38 18.5 -0.5
THE Thessaloniki 81.89 313 P P 13 38 18.5 -0.5
TANN Tannenbergstha 81.90 325 eP P 13 38 19.7 +0.7
comp=Z,648nm,1.6s
KARP Karpathos 81.91 307 P P 13 38 19.6 +0.3
KARP Karpathos 81.91 307 eP P 13 38 19.9 +0.6
KARP Karpathos 81.91 307 P P 13 38 19.6 +0.3
WDC Whiskeytown Da 81.95 47 eP P 13 38 20.1 +0.7
WDC pmax pmax
comp=Z,102nm,1.4s
WDC Whiskeytown Da 81.95 47 eP P 13 38 20.1 +0.7
comp=Z,102nm,1.4s
WERD Werda 81.96 325 eP P 13 38 19.9 +0.7
comp=Z,833nm,1.6s
F10A Beach Ranch, E 81.97 41 eP P 13 38 20.7 +1.2
comp=Z,58nm,1.3s
GUNZ Gunzen 82.00 325 eP P 13 38 20.3 +0.9
comp=Z,1µm,1.8s
PLN Plauen 82.00 325 eP P 13 38 20.3 +0.9
SKO Skopje 82.07 315 P P 13 38 20.6 +0.6
SKO Skopje 82.07 315 P P 13 38 20.6 +0.6
SKO Skopje 82.07 315 P P 13 38 20.6 +0.6
SKO Skopje 82.07 315 i P P 13 38 22.2 +2.2
AOS Alonnisos 82.12 311 P P 13 38 19.4 -0.9
AOS Alonnisos 82.12 311 eP P 13 38 20.5 +0.2
AOS Alonnisos 82.12 311 P P 13 38 19.4 -0.9
BEHE Becsehely 82.13 320⇑ e P 13 38 20.9 +0.8
SFJD Kangerlussuaq 82.13 0⇑ i P P 13 38 20.0 +0.3
comp=Z,126nm,0.9s
SFJD i S S 13 48 17.2 -2.9
SFJD Kangerlussuaq 82.13 0 eP P 13 38 19.8 +0.1
comp=Z,431nm,1.3s
SFJD LR LR
comp=Z,961nm,20.0s
BSMT Bassoo Peak 82.15 38 eP P 13 38 22.0 +1.5
KHC Kasperske Hory 82.16 324⇑ i P P 13 38 20.8 +0.5
KHC e*PP pP 13 39 03.1 +1.5
KHC eS S 13 48 20.5 -0.7
KHC ePS sS 13 49 33.9 +1.1
KHC MLR MLR
comp=Z,4µm,16.0s
KHC Kasperske Hory 82.16 324⇑ i P P 13 38 20.8 +0.5
KHC ex x 13 38 31.1
KHC ex x 13 38 38.5
KHC epP pP 13 39 03.1 +1.5
KHC esP sP 13 39 17.4 -1.9
KHC ePP PP 13 41 22.7 -7.6
KHC ex x 13 42 15.3
KHC ex x 13 45 21.3
KHC eS S 13 48 20.5 -0.7
KHC ex x 13 49 19.6
KHC eXS sS 13 49 33.9 +1.1
KHC AMS AMS 14 19 30.0
comp=Z,4µm,16.0s
KHC Kasperske Hory 82.16 324 eP P 13 38 20.8 +0.5
comp=Z,261nm,1.0s
MOX Moxa 82.16 326 eP P 13 38 21.0 +0.7
comp=Z,715nm,1.5s
MOX epP pP 13 38 59.8 -1.7
MOX esP sP 13 39 17.2 -2.0
MOX ePP PP 13 41 29.9 -0.3
MOX epPP 13 42 09.3
MOX esPP 13 42 27.1
MOX e 13 45 42.3
MOX eS S 13 48 20.3 -0.8
MOX esS sS 13 49 30.4 -2.3
MOX esSS 13 54 52.0
MOX Moxa 82.16 326 eP P 13 38 21.0 +0.7
MOX e 13 41 29.9
MOX eS S 13 48 20.3 -0.8
MOX eSS sS 13 49 30.4 -2.3
MOX pmax pmax
comp=Z,715nm,1.5s
BKZ Black Stump Fm 82.17 145 eP P 13 38 22.3 +2.0
comp=Z,178nm,1.4s
APE Apeiranthos 82.19 309 eP P 13 38 18.6 -2.1
APE Apeiranthos 82.19 309 P P 13 38 19.4 -1.3
APE Apeiranthos 82.19 309 ⇑P P 13 38 20.1 -0.6
APE Apeiranthos 82.19 309 eP P 13 38 19.9 -0.8
APE Apeiranthos 82.19 309 P P 13 38 19.4 -1.3
APE Apeiranthos 82.19 309⇑ i P P 13 38 20.1 -0.6
BLMT Blacktail Moun 82.28 38 eP P 13 38 21.6 +0.4
GEC2 GERESS Array S 82.28 323 eP P 13 38 21.5 +0.5
comp=Z,431nm,1.4s
GEC2 eS S 13 48 22.3 -0.3
GEC2 esS sS 13 49 31.6 -2.6
GEC2 esSS 13 54 52.0
GEC2 GERESS Array S 82.28 323 eP P 13 38 21.5 +0.5
GEC2 eS S 13 48 22.3 -0.3
GEC2 eSS sS 13 49 31.6 -2.6
GEC2 pmax pmax
comp=Z,431nm,1.4s
GEC2 GERESS Array S 82.28 323 eP P 13 38 21.2 +0.2
GERES GERESS Array B 82.28 323 P P 13 38 21.4 +0.3
GERES PKKPbc PKKPbc 13 56 45.6 -1.7
GERES GERESS Array B 82.28 323 P P 13 38 21.4 +0.3
comp=Z,74nm,0.7s,baz=41,slow=5.2,SNR=314
GERES PKKPbc PKKPbc 13 56 45.6 -1.7
comp=Z,3.0nm,0.3s,baz=217,slow=3.1,SNR=15
ARSA Arzberg 82.33 321 i P P 13 38 22.0 +0.8
comp=Z,2µm,2.2s,SNR=128
MANZ Manzenberg 82.35 325 eP P 13 38 22.1 +0.8
comp=Z,898nm,1.6s
SKIA Skiathos 82.39 311 P P 13 38 19.9 -1.8
MRMA Marmari 82.42 310 P P 13 38 21.7 -0.1
ROTZ Rotzenmuhle 82.44 325 eP P 13 38 22.9 +1.2
comp=Z,1µm,1.4s
XOR Xorichti 82.45 312 P P 13 38 20.6 -1.4
XOR Xorichti 82.45 312 P P 13 38 20.6 -1.4
NEO Neokhori 82.47 312 P P 13 38 21.3 -0.8
NEO Neokhori 82.47 312 eP P 13 38 22.5 +0.4
NEO Neokhori 82.47 312 P P 13 38 21.3 -0.8
JTMT Jette 82.48 38 eP P 13 38 23.5 +1.3
IVA Berane 82.49 316⇑ i P P 13 38 22.9 +0.7
LIT Litokhoron 82.49 313 P P 13 38 22.4 +0.2
LIT Litokhoron 82.49 313 P P 13 38 22.4 +0.2
LIT Litokhoron 82.49 313 P P 13 38 22.4 +0.2
HOPS Hopland 82.51 49 eP P 13 38 22.6 +0.4
comp=Z,24nm,1.8s
WET Wettzell 82.51 324 eP P 13 38 23.0 +0.9
comp=Z,382nm,1.3s
WET eS S 13 48 25.0 +0.3
WET esS sS 13 49 35.1 -1.3
WET Wettzell 82.51 324 eP P 13 38 23.0 +0.9
WET eS S 13 48 25.0 +0.3
WET eSS sS 13 49 35.1 -1.3
WET pmax pmax
comp=Z,382nm,1.3s
PLE Pljevlja 82.52 317⇑ i P P 13 38 23.1 +0.7
YBMT Yellow Bay 82.55 38 eP P 13 38 24.0 +1.5
comp=Z,84nm,1.4s
KMR Kremsmunster 82.56 323 eP P 13 38 18.9 -3.5
KMR pmax pmax
comp=Z,319nm,1.8s
KMR Kremsmunster 82.56 323 eP P 13 38 18.9 -3.5
comp=Z,319nm,1.8s
MRKA Markates 82.57 311 P P 13 38 21.5 -1.1
BMO Blue Mountains 82.61 41 eP P 13 38 23.6 +0.8
comp=Z,112nm,1.3s
BMO ePcP PcP 13 38 28.3 +0.9
BMO LR LR
comp=Z,707nm,21.0s
MOA Molln 82.62 322 i PcP P 13 38 23.6 +0.9
comp=Z,1µm,1.6s,SNR=173
SANT Santorini 82.62 308 P P 13 38 19.4 -3.6
SANT Santorini 82.62 308 eP P 13 38 22.2 -0.8
SANT Santorini 82.62 308 eP P 13 38 21.2 -1.7
comp=Z,807nm,1.2s
SANT LR LR
comp=Z,954nm,21.0s
THR1 Thera Island 82.62 308 P P 13 38 23.9 +0.9
BIA Bitola 82.69 314 i P P 13 38 22.8 -0.4
PTL Penteli 82.76 310 eP P 13 38 22.6 -1.0
SWMT Swartz Lake 82.78 38 eP P 13 38 24.1 +0.4

ZKR Zakros 82.79 307 P P 13 38 23.6 -0.2
ZKR Zakros 82.79 307 eP P 13 38 24.5 +0.7
ZKR Zakros 82.79 307 P P 13 38 23.6 -0.2
FNA Florina 82.80 314 P P 13 38 23.9 +0.1
FNA Florina 82.80 314 P P 13 38 23.9 +0.1
FNA Florina 82.80 314 P P 13 38 23.9 +0.1
KZN Kozani 82.82 313 P P 13 38 22.8 -1.2
KZN Kozani 82.82 313 P P 13 38 22.8 -1.2
KZN Kozani 82.82 313 eP P 13 38 23.9 -0.1
KZN Kozani 82.82 313 P P 13 38 22.8 -1.2
PHP Peshkopia 82.85 315 P P 13 38 24.1 0.0
PHP Peshkopia 82.85 315 P P 13 38 24.1 0.0
PHP Peshkopia 82.85 315 P P 13 38 24.1 0.0
IBBN Ibbenburen 82.85 329 eP P 13 38 24.0 +0.3
comp=Z,1µm,1.1s
UPM Unac-Piva 82.88 317⇑ i P P 13 38 24.0 -0.3
ATH Athens Observa 82.90 310 eP P 13 38 24.2 -0.1
PERS Pernice 82.93 321 i P P 13 38 24.6 +0.3
PERS eS S 13 48 25.8 -3.3
SOKA Soboth 82.94 321 i P P 13 38 25.1 +0.6
comp=Z,2µm,1.6s,SNR=531
GRF Grafenberg Arr 82.98 325 eP P 13 38 25.6 +1.1
comp=Z,2µm,1.1s
GRF epP pP 13 39 04.1 -1.7
GRF esP sP 13 39 21.5 -2.0
GRF ePP PP 13 41 38.3 +1.4
GRF epPP 13 42 17.4
GRF esPP 13 42 34.9
GRF e 13 45 48.9
GRF eS SKSac 13 48 30.3 -0.1
GRF esS sS 13 49 39.9 -1.2
GRF eSS SS 13 53 54.1 -1.4
GRF esSS 13 55 04.1
GRF Grafenberg Arr 82.98 325 eP P 13 38 25.6 +1.1
GRF e 13 41 38.3
GRF eS SKSac 13 48 30.3 -0.1
GRF eSS sS 13 49 39.9 -1.2
GRF eSS SS 13 53 54.1 -1.4
GRF pmax pmax
comp=Z,2µm,1.1s
GRFO Grafenberg 82.98 325 eP P 13 38 25.4 +0.9
GRFO pmax pmax
comp=Z,1µm,1.1s
GRFO Grafenberg 82.98 325 eP P 13 38 25.4 +0.9
comp=Z,1µm,1.1s
LKR Lokris 82.98 311 eP P 13 38 24.2 -0.5
SNZO South Karori 83.02 148 PFAKE 13 38 30.0 +5.5
SNZO LR LR
comp=Z,2µm,22.0s
NKY Niksic 83.06 316⇑ i P P 13 38 25.3 +0.1
THL Klokotos Trika 83.09 312 P P 13 38 23.8 -1.4
THL Klokotos Trika 83.09 312 eP P 13 38 24.5 -0.7
NKME Niksic 83.11 316⇑ i P P 13 38 25.4 0.0
FCC Fort Churchill 83.12 21 eP P 13 38 24.0 -1.0
FCC Fort Churchill 83.12 21 eP P 13 38 24.0 -1.0
comp=Z,346nm,1.3s
TTG Podgorica 83.13 316⇑ i P P 13 38 25.6 +0.2
NPS Neapolis 83.13 307 P P 13 38 24.8 -0.8
NPS Neapolis 83.13 307 P P 13 38 24.8 -0.8
NPS Neapolis 83.13 307 eP P 13 38 26.3 +0.7
NPS Neapolis 83.13 307 P P 13 38 24.8 -0.8
NAIG Nisos Aigina 83.17 310 eP P 13 38 24.9 -0.8
AGG Agios Georgios 83.20 312 P P 13 38 24.5 -1.4
AGG Agios Georgios 83.20 312 P P 13 38 24.5 -1.4
AGG Agios Georgios 83.20 312 eP P 13 38 25.1 -0.8
AGG Agios Georgios 83.20 312 P P 13 38 24.5 -1.4
NEST Nestorio 83.21 313 P P 13 38 25.0 -1.0
SLMT Seeley Lake 83.22 38 eP P 13 38 26.7 +0.7
MSO Missoula 83.24 38 eP P 13 38 27.3 +1.3
comp=Z,120nm,1.3s
MSO Missoula 83.24 38 ⇑P P 13 38 26.3 +0.3
baz=83
BRY Bratogost 83.27 317⇑ i P P 13 38 25.9 -0.4
LAST Lasithi 83.28 307 P P 13 38 26.7 +0.3
LAST Lasithi 83.28 307 eP P 13 38 27.5 +1.1
LAST Lasithi 83.28 307 P P 13 38 26.7 +0.3
WVOR Wild Horse Val 83.28 44 eP P 13 38 27.2 +0.9
WVOR pmax pmax
comp=Z,140nm,1.4s
WVOR MLR MLR
comp=Z,610nm,19.0s
WVOR Wild Horse Val 83.28 44 eP P 13 38 27.2 +0.9
comp=Z,140nm,1.4s
WVOR LR LR
comp=Z,610nm,19.0s
MCD Coleburn Disti 83.30 337⇑ eP P 13 38 24.9 -1.1
OBKA Obir 83.31 321 i PcP P 13 38 26.9 +0.5
comp=Z,1µm,1.4s,SNR=113
DRME Dracevica, Mon 83.31 316⇑ i P P 13 38 26.5 +0.1
OHCM Honcut 83.33 48 eP P 13 38 27.3 +0.8
MVH1 Achvaich 83.34 337⇑ eP P 13 38 25.2 -1.0
LTK Loutraki 83.36 311 P P 13 38 24.1 -2.6
LTK Loutraki 83.36 311 eP P 13 38 25.1 -1.6
LTK Loutraki 83.36 311 P P 13 38 24.1 -2.6
KHZ Kahutara 83.38 149 eP P 13 38 24.6 -1.8
comp=Z,112nm,1.3s
RPZ Rata Peaks 83.39 151 P P 13 38 26.5 +0.1
RPZ Rata Peaks 83.39 151 P P 13 38 26.5 +0.1
comp=Z,68nm,0.9s,baz=126,slow=5.3
TIR Tirane 83.40 315 eP P 13 38 27.1 +0.3
TIR MLR MLR
comp=Z,2µm,21.0s
TIR Tirane 83.40 315 eP P 13 38 27.1 +0.3
TIR LR LR
comp=Z,2µm,21.0s
ULC Ulcinj 83.41 315⇑ i P P 13 38 26.8 -0.1
MME1 Meikle Cairn 83.41 337⇑ eP P 13 38 25.9 -0.6
FFC Flin Flon 83.42 27 eP P 13 38 26.3 -0.3
FFC pmax pmax
comp=Z,1µm,1.6s
FFC MLR MLR
comp=Z,471nm,20.0s
FFC Flin Flon 83.42 27 eP P 13 38 26.3 -0.3
comp=Z,440nm,1.6s
FFC LR LR
comp=Z,773nm,20.0s
BUM Brajici-Budva 83.42 316⇑ i P P 13 38 27.0 0.0
RJOB Jochberg 83.45 323 eP P 13 38 27.9 +0.8
comp=Z,782nm,1.1s
DID Didima 83.47 310 P P 13 38 24.3 -3.0
DID Didima 83.47 310 eP P 13 38 25.5 -1.8
DID Didima 83.47 310 P P 13 38 24.3 -3.0
DIDY Didyma 83.51 310 P P 13 38 25.7 -1.9
WTSB Winterswijk 83.51 329 i P P 13 38 26.9 -0.2
comp=Z,1µm,1.7s
CHMT Chamberlain Mo 83.55 38 eP P 13 38 27.3 -0.4
BOJS Bojanci 83.56 320 i P P 13 38 28.0 +0.5
BOJS ePP PP 13 41 42.2 +0.6
BOJS eS S 13 48 31.1 -4.3
BOJS e 13 49 21.2
BOJS e 13 49 46.0
DRUM Mains of Drumt 83.56 336⇑ eP P 13 38 27.0 -0.3
DRUM AMB AMB 13 38 28.7
comp=Z,470nm,1.5s
HCY Herceg Novi 83.57 316⇑ i P P 13 38 27.1 -0.6
KBA Koelnbreinsper 83.59 322 i P P 13 38 28.1 +0.2
comp=Z,2µm,2.5s,SNR=175
EVR Evrytania 83.59 312 eP P 13 38 27.4 -0.6
VISS Visnje 83.60 320 i P P 13 38 28.0 +0.3
VISS eS S 13 48 30.0 -5.7
VISS e 13 49 29.7
VISS e 13 49 43.1
IDI Anoyia 83.61 307 P P 13 38 27.5 -0.6
IDI Anoyia 83.61 307 eP P 13 38 27.9 -0.2
IDI Anoyia 83.61 307 eP P 13 38 27.2 -0.8
comp=Z,450nm,0.9s
IDI Anoyia 83.61 307 P P 13 38 27.5 -0.6
comp=Z,601nm,1.1s,baz=46,slow=7.3,SNR=84
LJU Ljubljana 83.62 321 eP P 13 38 28.0 +0.2
BUG Bochum--Univer 83.67 328 eP P 13 38 28.1 +0.2
comp=Z,980nm,1.1s
BUG eS S 13 48 35.4 -0.8
BUG esS sS 13 49 46.0 -2.0
BUG esSS 13 55 18.2
KALE Kalithea 83.68 311 eP P 13 38 27.5 -0.9
MYKA Terra Mystica 83.72 322⇑ i P P 13 38 28.3 -0.1
comp=Z,776nm,1.3s,SNR=170
BEKR Beckworth 83.73 47 eP P 13 38 27.9 -0.8
comp=Z,88nm,1.4s
TRIZ Trizonia 83.74 311 P P 13 38 26.2 -2.4
TRIZ Trizonia 83.74 311 eP P 13 38 28.7 +0.1
MDO Dochfour 83.78 337⇑ eP P 13 38 27.3 -1.2
SIVA Sivas 83.81 307 P P 13 38 28.1 -0.9

SIVA Sivas 83.81 307 eP P 13 38 29.6 +0.6
SIVA Sivas 83.81 307 P P 13 38 28.1 -0.9
GUR Goura 83.81 311 P P 13 38 28.5 -0.6
GUR Goura 83.81 311 eP P 13 38 28.5 -0.6
GUR Goura 83.81 311 P P 13 38 28.5 -0.6
LAKA Lakka 83.87 311 P P 13 38 27.7 -1.6
LAKA Lakka 83.87 311 eP P 13 38 28.7 -0.6
LAKA Lakka 83.87 311 P P 13 38 27.7 -1.6
KLV Kalavryta, Ach 83.88 311 P P 13 38 27.7 -1.7
KLV Kalavryta, Ach 83.88 311 eP P 13 38 28.9 -0.5
KLV Kalavryta, Ach 83.88 311 P P 13 38 27.7 -1.7
PSA1 Psathopyrgos 83.89 311 eP P 13 38 30.0 +0.7
B17A L&G Farms, Che 83.93 36 ⇑P P 13 38 30.2 +0.8
baz=84
FUR Furstenfeldbru 83.95 324 eP P 13 38 30.4 +0.9
comp=Z,2µm,1.0s
FUR Furstenfeldbru 83.95 324 eP P 13 38 30.4 +0.9
FUR pmax pmax
comp=Z,2µm,1.0s
TNS Taunus Mts 83.96 327 eP P 13 38 30.1 +0.6
comp=Z,780nm,1.1s
TNS Taunus Mts 83.96 327 eP P 13 38 30.1 +0.6
TNS pmax pmax
comp=Z,780nm,1.1s
JAVS Javornik 83.96 321 i P P 13 38 29.6 -0.1
JAVS eS S 13 48 32.7 -6.9
VOY Vojsko 83.97 321⇑iP P 13 38 29.3 -0.4
A18A Metzger Ranch, 83.99 35 ⇓P P 13 38 30.1 +0.4
baz=84
VAM Vamos 84.01 308 P P 13 38 29.9 -0.1
VAM Vamos 84.01 308 P P 13 38 29.9 -0.1
VAM Vamos 84.01 308 eP P 13 38 30.5 +0.5
VAM Vamos 84.01 308 P P 13 38 29.9 -0.1
KAC Achnashellach 84.05 338⇑eP P 13 38 29.1 -0.6
VLX Vlachokerasia 84.11 310 eP P 13 38 29.6 -1.0
VLI Veliai 84.12 310 P P 13 38 27.8 -2.7
VLI Veliai 84.12 310 eP P 13 38 29.0 -1.5
VLI Veliai 84.12 310 P P 13 38 27.8 -2.7
SRN Sarande 84.18 313 P P 13 38 29.4 -1.3
SRN Sarande 84.18 313 P P 13 38 29.4 -1.3
KARN Karanos 84.20 308 P P 13 38 31.1 +0.1
KARN Karanos 84.20 308 eP P 13 38 31.2 +0.2
KARN Karanos 84.20 308 P P 13 38 31.1 +0.1
TRI Trieste 84.24 321 eP P 13 38 30.5 -0.5
TRI pmax pmax
comp=Z,574nm,1.0s
TRI Trieste 84.24 321 eP P 13 38 30.5 -0.5
comp=Z,574nm,1.0s
ABTA Abfaltersbach 84.24 322⇑eP P 13 38 30.4 -0.7
comp=Z,950nm,1.5s,SNR=202
KPL Plockton 84.29 338⇑eP P 13 38 31.0 +0.1
KPL AMB AMB 13 38 32.6
comp=Z,618nm,1.2s
KYTH Kithira 84.30 309 P P 13 38 30.5 -1.0
KYTH Kithira 84.30 309 eP P 13 38 30.7 -0.8
KYTH Kithira 84.30 309 P P 13 38 30.5 -1.0
RLS Riolos of Patr 84.31 311 P P 13 38 30.9 -0.6
RLS Riolos of Patr 84.31 311 eP P 13 38 31.6 +0.1
RLS Riolos of Patr 84.31 311 P P 13 38 30.9 -0.6
KSB Sheil Bridge 84.32 338⇑eP P 13 38 30.3 -0.8
ODZ Otahua Downs 84.32 152 eP P 13 38 32.9 +1.8
comp=Z,40nm,1.1s
MFID Camas Ranch 84.33 42 ⇑P P 13 38 32.9 +1.3
baz=84
WATA Walderalm 84.34 323⇑iP P 13 38 31.8 +0.1
comp=Z,211nm,1.1s,SNR=29
ANKY Antikythira Is 84.36 309 P P 13 38 31.1 -0.6
ANKY Antikythira Is 84.36 309 eP P 13 38 31.5 -0.2
ANKY Antikythira Is 84.36 309 P P 13 38 31.1 -0.6
WTTA Wattenberg 84.36 323 i PcP P 13 38 31.9 +0.1
comp=Z,1µm,1.7s,SNR=136
B18A Beardsley Farm 84.37 35 ⇓P P 13 38 32.5 +0.8
baz=84
ESY Stoneypath 84.38 335⇑eP P 13 38 30.6 -0.9
C17A Wharram Farm, 84.38 36 ⇑P P 13 38 32.0 +0.3
baz=84
KEK Kerkira 84.40 313 P P 13 38 31.5 -0.4
KEK Kerkira 84.40 313 P P 13 38 31.5 -0.4
LKD2 Lefkada island 84.40 312 P P 13 38 31.3 -0.7
LKD2 Lefkada island 84.40 312 eP P 13 38 31.9 -0.1
LKD2 Lefkada island 84.40 312 P P 13 38 31.3 -0.7
HRY Holter Researc 84.43 38 eP P 13 38 33.4 +1.3
PAHR Pah Rah Range 84.43 47 eP P 13 38 33.6 +1.3
comp=Z,191nm,1.2s
AMT Artemida-Makis 84.45 311 eP P 13 38 32.2 -0.1
DYR Agios Nikonas 84.49 310 P P 13 38 31.1 -1.3
DYR Agios Nikonas 84.49 310 eP P 13 38 32.7 +0.3
ITM Ithomi 84.52 310 P P 13 38 30.7 -1.9
ITM Ithomi 84.52 310 eP P 13 38 32.1 -0.5
ITM Ithomi 84.52 310 P P 13 38 30.7 -1.9
A19A Klindworth Far 84.52 35 ⇑P P 13 38 33.2 +0.8
baz=84
EDI Edinburgh 84.58 336 eP P 13 38 31.3 -1.2
EDI AMB AMB 13 38 32.1
comp=Z,322nm,1.8s
MOTA Moosalm 84.58 323⇑iPcP P 13 38 33.0 +0.2
comp=Z,145nm,1.0s,SNR=66
STU Stuttgart 84.58 325 eP P 13 38 33.0 +0.4
comp=Z,800nm,1.0s
STU Stuttgart 84.58 325 eP P 13 38 32.7 0.0
STU pmax pmax
comp=Z,655nm,1.0s
STU Stuttgart 84.58 325 eP P 13 38 32.7 0.0
comp=Z,655nm,1.0s
EGMT Eagleton 84.63 36 eP P 13 38 34.0 +1.0
comp=Z,214nm,1.1s
EGMT LR LR
comp=Z,776nm,21.0s
EGMT Eagleton 84.63 36 ⇑P P 13 38 33.9 +0.9
baz=84
EBL Broad Law 84.64 336⇑eP P 13 38 32.4 -0.4
RETA Reutte 84.66 324⇑iP P 13 38 33.2 +0.1
comp=Z,2µm,2.1s,SNR=68
LRM Limekiln Ridge 84.68 39 eP P 13 38 34.7 +1.2
D17A Six Diamond Ra 84.73 37 ⇑P P 13 38 34.3 +0.7
baz=85,SNR=79
B19A Brinkman Farms 84.74 35 ⇑P P 13 38 34.4 +0.9
baz=85
HGN Heimansgroeve 84.74 328 i P P 13 38 33.3 -0.1
comp=Z,1µm,1.6s
EAB Aberfoyle 84.77 336⇑eP P 13 38 32.6 -0.8
CMB Columbia Colle 84.78 48 eP P 13 38 35.1 +1.2
CMB pmax pmax
comp=Z,157nm,1.2s
CMB Columbia Colle 84.78 48 eP P 13 38 35.1 +1.2
comp=Z,157nm,1.2s
PYL PYLOS 84.80 310 eP P 13 38 33.4 -0.6
VLS Valsamata 84.80 312 P P 13 38 33.0 -1.0
VLS Valsamata 84.80 312 P P 13 38 33.0 -1.0
VLS Valsamata 84.80 312 eP P 13 38 34.1 +0.1
VLS Valsamata 84.80 312 P P 13 38 33.0 -1.0
MEM Membach 84.82 328 P P 13 38 34.0 +0.3
comp=Z,314nm,1.5s
MEM Membach 84.82 328 eP P 13 38 34.3 +0.5
MEM pmax pmax
comp=Z,498nm,1.1s
MEM Membach 84.82 328 eP P 13 38 34.3 +0.5
comp=Z,498nm,1.1s
SAO San Andreas Ge 84.83 50 eP P 13 38 35.6 +1.5
SAO pmax pmax
comp=Z,81nm,1.3s
SAO San Andreas Ge 84.83 50 eP P 13 38 35.6 +1.5
comp=Z,21nm,1.3s
BEBN Eben Emael 84.83 328 P P 13 38 33.8 -0.1
comp=Z,217nm,1.4s
DLMT Dillon 84.90 39 eP P 13 38 35.8 +1.3
comp=Z,205nm,1.1s
A20A Cobblestone Ra 84.95 34 ⇓P P 13 38 35.2 +0.6
baz=85,SNR=17
RAR Rarotonga 84.97 118 LR LR 14 08 08.3
comp=Z,1µm,21.5s,baz=281,slow=30
FETA Feichten 84.99 323⇓iP P 13 38 34.8 -0.2
comp=Z,632nm,1.7s,SNR=96
EKA Eskdalemuir Ar 85.03 335 P P 13 38 33.8 -0.9
EKA Eskdalemuir Ar 85.03 335 P P 13 38 33.8 -0.9
comp=Z,182nm,0.8s,baz=42,slow=5.0,SNR=122
HLID Hailey 85.04 41 eP P 13 38 36.8 +1.5
comp=Z,92nm,1.1s
HLID LR LR
comp=Z,708nm,20.0s
HLID Hailey 85.04 41 ⇓P P 13 38 36.5 +1.3
baz=85
ESK Eskdalemuir 85.06 335⇑eP P 13 38 34.0 -0.9
ESK AMB AMB 13 38 36.3
comp=Z,409nm,1.1s
ESK Eskdalemuir 85.06 335 eP P 13 38 34.3 -0.6
ESK pmax pmax
comp=Z,469nm,1.1s
ESK MLR MLR
comp=Z,2µm,19.0s
ESK Eskdalemuir 85.06 335 eP P 13 38 34.3 -0.6
comp=Z,131nm,1.1s
ESK LR LR
comp=Z,2µm,19.0s
E17A Martinsdale 85.10 37 ⇑P P 13 38 37.0 +1.5
baz=85
MCMT McKenzie Canyo 85.10 40 eP P 13 38 36.4 +0.8
comp=Z,25nm,1.4s
WAKR Walker 85.11 48 eP P 13 38 37.1 +1.4
LANF Langenberg 85.11 326 eP P 13 38 35.6 +0.3
PGBU Glenifferbraes 85.12 336⇑eP P 13 38 35.1 -0.1
PGBU AMB AMB 13 38 36.7
comp=Z,759nm,1.2s
ECK Cauldkaine Hil 85.14 335 eP P 13 38 34.6 -0.7
D18A Linhart Farms, 85.16 36 ⇑P P 13 38 36.6 +1.0
baz=85
C19A Slack Wire Ran 85.17 36 ⇓P P 13 38 36.9 +1.1
baz=85
B20A Solberg Farm, 85.20 35 ⇓P P 13 38 36.1 +0.3
baz=85,SNR=6.0
BOZ Bozeman (W) 85.23 38 eP P 13 38 36.5 +0.3
BOZ pmax pmax
comp=Z,156nm,1.5s
BOZ MLR MLR
comp=Z,641nm,20.0s
BOZ Bozeman (W) 85.23 38 eP P 13 38 36.5 +0.3
comp=Z,175nm,1.5s
BOZ LR LR
comp=Z,577nm,20.0s
DAVA Damuels 85.24 324⇑iPcP P 13 38 36.1 -0.1
comp=Z,1µm,1.7s,SNR=73
BCLA Clavier 85.27 328 P P 13 38 36.3 +0.3
comp=Z,120nm,1.3s
BFO Black Forest 85.31 325 eP P 13 38 36.0 -0.3
BFO pmax pmax
comp=Z,727nm,1.3s
BFO MLR MLR
comp=Z,3µm,21.0s
BFO Black Forest 85.31 325 eP P 13 38 36.0 -0.3
comp=Z,727nm,1.3s
BFO LR LR
comp=Z,3µm,21.0s
BMN Battle Mountai 85.33 45 eP P 13 38 38.7 +2.0
BMN e*PP pP 13 39 19.3 +1.0
BMN pmax pmax
comp=Z,247nm,1.5s
BMN MLR MLR
comp=Z,684nm,20.0s
BMN Battle Mountai 85.33 45 eP P 13 38 38.7 +2.0
comp=Z,247nm,1.5s
BMN epP pP 13 39 19.3 +1.0
BMN LR LR
comp=Z,684nm,20.0s
A21A Bergtoll Ranch 85.35 34 ⇓P P 13 38 37.3 +0.8
baz=85,SNR=40
WLF Walferdange 85.42 327 P P 13 38 37.6 +0.9
comp=Z,745nm,1.5s
WLF Walferdange 85.42 327 eP P 13 38 37.5 +0.7
comp=Z,1µm,1.2s
WLF Walferdange 85.42 327 eP P 13 38 37.0 +0.3
WLF pmax pmax
comp=Z,1µm,1.3s
WLF MLR MLR
comp=Z,3µm,22.0s
WLF Walferdange 85.42 327 eP P 13 38 37.0 +0.3
comp=Z,1µm,1.3s
WLF LR LR
comp=Z,3µm,22.0s
UCC Uccle 85.42 329 P P 13 38 36.9 +0.1
LIENZ Kamor/St.Gall 85.43 324⇑iP P 13 38 36.8 -0.3
STEIN Stein am Rhein 85.49 325⇑iP P 13 38 37.0 -0.2
FUORN Ofenpass-Fuorn 85.49 323⇑iP P 13 38 37.3 -0.2
FUORN Ofenpass-Fuorn 85.49 323 eP P 13 38 37.9 +0.4
comp=Z,701nm,1.3s
E18A Harlowton 85.52 37 P P 13 38 38.6 +1.1
baz=85
HPK Haverah Park 85.53 334⇑eP P 13 38 37.0 -0.2
HPK AMB AMB 13 38 38.8
comp=Z,772nm,1.2s
F17A Fitzpatrick Pl 85.57 38 ⇑P P 13 38 38.9 +1.0
baz=85
DAVOX Davos/Dischmat 85.58 323⇑iP P 13 38 37.7 -0.2
DAVOX Davos/Dischmat 85.58 323 P P 13 38 38.1 +0.2
DAVOX Davos/Dischmat 85.58 323 P P 13 38 38.1 +0.2
comp=Z,119nm,0.9s,baz=20,slow=4.8,SNR=104
KESW Keswick, Cumbr 85.59 335⇑eP P 13 38 37.3 -0.2
KESW AMB AMB 13 38 38.3
comp=Z,469nm,1.6s
SLE Schleitheim 85.61 325⇑iP P 13 38 37.8 0.0
D19A Cripps Ranch, 85.64 36 ⇑P P 13 38 39.1 +1.0
baz=86,SNR=70
WILA Wila 85.64 324⇑iP P 13 38 37.9 -0.1
PLONS Plons/SG 85.65 324⇑iP P 13 38 38.0 -0.1
SNF Seneffe 85.66 329 P P 13 38 38.2 +0.3
B21A Ellsworth Farm 85.70 34 ⇓P P 13 38 38.9 +0.7
baz=86,SNR=14
C20A Veseth Ranch, 85.71 35 ⇓P P 13 38 39.2 +0.9
baz=86,SNR=68
GIVF Givet 85.71 328 eP P 13 38 37.8 -0.4
comp=Z,1µm,1.4s
GIVF Givet 85.71 328 eP P 13 38 37.8 -0.4
GIVF pmax pmax
comp=Z,1µm,1.4s
GIVF Givet 85.71 328 eP P 13 38 37.8 -0.4
comp=Z,1µm,1.4s
BERNI Berninapass 85.75 323⇑iP P 13 38 38.5 -0.3
CDF Champ du Feu 85.76 326 eP P 13 38 38.5 -0.1
comp=Z,2µm,1.4s
CDF Champ du Feu 85.76 326 eP P 13 38 38.5 -0.1
CDF pmax pmax
comp=Z,2µm,1.4s
CDF Champ du Feu 85.76 326 eP P 13 38 38.5 -0.1
comp=Z,2µm,1.4s
DOU Dourbes 85.82 328 P P 13 38 38.0 -0.7
comp=Z,188nm,1.6s
A22A Carney Farms, 85.83 33 ⇑P P 13 38 39.2 +0.2
baz=86,SNR=47
ZUR Degenried 85.84 325⇑iP P 13 38 38.9 -0.1
NVAR Mina Array Bea 85.87 47 PKKPbc PKKPbc 13 56 39.2 +0.3
NVAR P'P' 14 04 35.4
NVAR Mina Array Bea 85.87 47 PKKPbc PKKPbc 13 56 39.2 +0.3
comp=Z,0.8nm,0.8s,baz=162,slow=3.8,SNR=3.6
NVAR PKPPKP P'P'df 14 04 35.4 -13
comp=Z,1.0nm,0.9s,baz=149,slow=2.1,SNR=3.7
QLMT Earthquake Lak 85.87 39 eP P 13 38 41.0 +1.6
G17A Pierce Place, 85.92 38 ⇑P P 13 38 40.8 +1.3
baz=86
GAL1 Galloway 85.95 336⇑eP P 13 38 38.5 -0.8
GAL1 AMB AMB 13 38 40.5
comp=Z,492nm,1.1s
ECH Echery 85.95 326 eP P 13 38 39.1 -0.4
ECH pmax pmax
comp=Z,560nm,1.4s
ECH MLR MLR
comp=Z,2µm,21.0s
ECH Echery 85.95 326 eP P 13 38 38.8 -0.7
ECH Echery 85.95 326 eP P 13 38 39.1 -0.4
comp=Z,560nm,1.4s
ECH LR LR
comp=Z,2µm,21.0s
NV11 Mina Array Sit 85.96 47 eP P 13 38 40.1 +0.2
SULZ Cheisacher 85.96 325⇑iP P 13 38 39.0 -0.6
LLS Linth-Limmern 85.98 324⇑iP P 13 38 39.5 -0.4
VDL Val di Lei 86.00 323⇑iP P 13 38 39.9 -0.1
MLAC Mammoth Lakes 86.01 48 ⇓P P 13 38 41.5 +1.2
baz=86
BAIF Baives 86.02 328 eP P 13 38 39.3 -0.4
comp=Z,546nm,1.3s
BAIF Baives 86.02 328 eP P 13 38 39.3 -0.4
BAIF pmax pmax
comp=Z,546nm,1.3s
BAIF Baives 86.02 328 eP P 13 38 39.3 -0.4
comp=Z,546nm,1.3s
KBI1 Birley Grange 86.03 333⇑eP P 13 38 38.3 -1.4
H16A Russell Place, 86.05 39 ⇓P P 13 38 41.7 +1.4
baz=86
TUE Stuetta 86.06 323 eP P 13 38 39.8 -0.5
comp=Z,217nm,1.1s
TUE LR LR
comp=Z,3µm,19.0s
F18A Big Timber 86.06 37 ⇓P P 13 38 41.0 +0.8
baz=86
D20A Manuel Ranch, 86.07 36 ⇑P P 13 38 40.9 +0.7
baz=86,SNR=61
C21A Desert Coulee 86.08 35 ⇑P P 13 38 41.0 +0.9
baz=86,SNR=23
MUO Muotathal 86.08 324⇑iP P 13 38 40.0 -0.4
GCMT Greycliff 86.17 37 eP P 13 38 41.6 +0.9
comp=Z,137nm,1.5s
E19A Rath Farm, Rou 86.17 36 ⇑P P 13 38 41.4 +0.7
baz=86,SNR=115
MOF Molkenrain 86.22 326 eP P 13 38 40.7 -0.2
YMR Madison River 86.22 39 eP P 13 38 42.0 +0.8
comp=Z,241nm,1.4s
BNALP Bannalp 86.26 324⇑iP P 13 38 40.6 -0.6
B22A Reddig Ranch S 86.27 34 ⇑P P 13 38 41.6 +0.5
baz=86,SNR=21
PTRM Twissleman Ran 86.29 50 eP P 13 38 42.9 +1.5
PTRM epP pP 13 39 23.6 +0.6
BALST Balsthal 86.30 325⇑iP P 13 38 40.8 -0.5
ELK Elko 86.33 44 eP P 13 38 43.5 +1.8
A23A Redstone 86.33 33 ⇓P P 13 38 42.1 +0.8
baz=86,SNR=14
MTUM Tungsten Hills 86.35 48 eP P 13 38 43.1 +1.2
HINF Hinteralfeld 86.38 326 eP P 13 38 40.8 -0.8
comp=Z,307nm,1.1s
HINF Hinteralfeld 86.38 326 eP P 13 38 40.8 -0.8
HINF pmax pmax
comp=Z,307nm,1.1s
HINF Hinteralfeld 86.38 326 eP P 13 38 40.8 -0.8
comp=Z,307nm,1.1s
PAGF Fort de Pagny 86.40 327 eP P 13 38 41.6 0.0
comp=Z,513nm,1.3s,baz=74
PAGF Fort de Pagny 86.40 327 eP P 13 38 41.6 0.0
comp=Z,513nm,1.3s
FUSIO Fusio 86.42 324⇑iP P 13 38 41.4 -0.6
YFT Old Faithful 86.44 39 eP P 13 38 42.9 +0.6
comp=Z,207nm,1.4s
MRIV Mauritius Mete 86.46 244 eP P 13 38 41.9 -0.5
I16A Newdale 86.46 40 ⇓P P 13 38 44.3 +2.0
baz=86
E20A Meyer Farm, Mu 86.47 36 ⇓P P 13 38 42.9 +0.7
baz=86,SNR=74
HASLI Hasliberg/Brie 86.47 324⇑iP P 13 38 41.6 -0.6
BOURR Bourrignon 86.49 325⇑iP P 13 38 41.6 -0.6
HAU Haudompre 86.49 326 eP P 13 38 41.5 -0.6
comp=Z,1µm,1.5s
HAU eR P 13 38 41.5 -0.6
comp=Z,3µm,18.2s
HAU Haudompre 86.49 326 eP P 13 38 41.5 -0.6
HAU pmax pmax
comp=Z,1µm,1.5s
HAU Haudompre 86.49 326 eP P 13 38 41.5 -0.6
comp=Z,1µm,1.5s
F19A Roth Farm, Mol 86.50 37 ⇓P P 13 38 43.0 +0.7
baz=86,SNR=47
THEF They Montfort 86.50 326 eP P 13 38 41.8 -0.4
RCTC Rector, Farmer 86.54 49 ⇑P P 13 38 43.3 +0.7
baz=86
G18A Lazy EL Ranch, 86.54 38 ⇑P P 13 38 42.8 +0.2
baz=86,SNR=10.0
MENF Mencas 86.56 330 eP P 13 38 40.5 -1.8
AQU L'Aquila 86.59 318 eP P 13 38 43.9 +1.1
comp=Z,958nm,1.2s
AQU LR LR
comp=Z,2µm,19.0s
MUGIO Muggio 86.59 323⇑iP P 13 38 41.7 -1.0
LKWY Lake 86.60 39 eP P 13 38 44.5 +1.5
LKWY pmax pmax
comp=Z,189nm,1.4s
LKWY MLR MLR
comp=Z,1µm,20.0s
LKWY Lake 86.60 39 eP P 13 38 44.5 +1.5
comp=Z,189nm,1.4s
LKWY LR LR
comp=Z,1µm,20.0s
H17A Grant Village 86.61 39 ⇓P P 13 38 46.1 +3.0
baz=86
SMMC Simmler 86.63 50 ⇓P P 13 38 44.2 +1.2
baz=86,SNR=15
B23A Brockton 86.63 33 ⇓P P 13 38 43.5 +0.6
baz=86,SNR=59
D21A La Casta Ranch 86.65 35 ⇑P P 13 38 44.1 +1.1
baz=86,SNR=69
CUC Castrocucco 86.67 315 eP P 13 38 42.3 -0.9
comp=Z,210nm,1.3s
CUC LR LR
comp=Z,2µm,19.0s
LOMF Lomont 86.71 325 eP P 13 38 42.7 -0.6
C22A Vida 86.72 34 ⇓P P 13 38 43.5 +0.2
baz=86,SNR=19
TIN Tinemaha 86.74 48 ⇓P P 13 38 44.9 +1.2
baz=87,SNR=5.0
IMW Indian Meadow 86.75 39 eP P 13 38 45.9 +2.1
comp=Z,110nm,1.2s
MEZF Maizieres J'vi 86.75 327 eP P 13 38 43.3 0.0
comp=Z,2µm,1.5s,baz=49
MEZF Maizieres J'vi 86.75 327 eP P 13 38 43.3 0.0
comp=Z,2µm,1.5s
FLWY Flagg Ranch 86.75 39 eP P 13 38 46.4 +2.6
comp=Z,830nm,2.1s
TPH Tonopah 86.76 47 PFAKE 13 38 50.0 +6.1
TPH LR LR
comp=Z,609nm,21.0s
A24A Westby 86.77 32 ⇑P P 13 38 44.2 +0.7
baz=87,SNR=27
WIMIS Wimmis 86.80 324⇑iP P 13 38 43.0 -0.7
RLMT Red Lodge 86.82 38 eP P 13 38 44.2 +0.1
comp=Z,204nm,1.4s
RLMT LR LR
comp=Z,796nm,22.0s
GMM Mts of Mourne 86.88 336⇑iP P 13 38 43.3 -0.5
H18A Shoshone NF, C 86.91 38 ⇓P P 13 38 45.5 +1.0
baz=87,SNR=47
VES Vestal, Richgr 86.92 50 ⇑P P 13 38 44.4 0.0
baz=87,SNR=11
WPM1 Penmaenmawr 86.93 334⇑eP P 13 38 43.7 -0.4
I17A Pilgrim Ck. 86.93 39 ⇑P P 13 38 46.8 +2.1
baz=87
F20A Billings 86.94 37 ⇑P P 13 38 45.1 +0.7
baz=87,SNR=7.5
MOOW Moose Ponds 86.95 39 eP P 13 38 45.9 +1.2
comp=Z,252nm,1.8s
FOEL Foel Wylfa 86.95 334⇑eP P 13 38 44.0 -0.3
FOEL AMB AMB 13 38 45.7
comp=Z,354nm,1.2s
WME Myndd Eilian 86.97 335⇑iP P 13 38 43.7 -0.6
SFTF Sexfontaines 86.97 327 eP P 13 38 44.1 -0.3
comp=Z,2µm,1.4s
SFTF Sexfontaines 86.97 327 eP P 13 38 44.1 -0.3
comp=Z,2µm,1.4s
E21A Keefer Ranch, 86.97 36 ⇑P P 13 38 45.5 +0.9
baz=87
D22A Cohagen 86.99 35 ⇓P P 13 38 45.5 +0.9
baz=87,SNR=20
PKM Peak Mountain 86.99 51 ⇑P P 13 38 46.2 +1.2
baz=87,SNR=24
DGMT Dagmar 87.00 33 eP P 13 38 46.2 +1.6
comp=Z,310nm,1.3s
DGMT epP pP 13 39 26.8 +0.5
DGMT LR LR
comp=Z,702nm,19.0s
DGMT Dagmar 87.00 33 ⇑P P 13 38 45.4 +0.8
baz=87,SNR=21
TPAW Teton Pass 87.01 40 eP P 13 38 47.0 +1.9
comp=Z,63nm,1.0s
C23A Lambert 87.01 34 ⇑P P 13 38 45.7 +1.0
baz=87,SNR=24
MMK Mattmark 87.05 324⇑iP P 13 38 44.9 -0.3
VLC Villacollemand 87.07 321 eP P 13 38 44.3 -0.7
VLC LR LR
comp=Z,2µm,20.0s
WLF1 Llynfaes 87.08 335⇑eP P 13 38 44.0 -0.8
WLF1 AMB AMB 13 38 46.2
comp=Z,313nm,1.2s
HVU Hansel Valley 87.10 42 eP P 13 38 47.5 +2.1
HVU pmax pmax
comp=Z,210nm,1.6s
HVU Hansel Valley 87.10 42 eP P 13 38 47.5 +2.1
comp=Z,174nm,1.6s
LOHW Long Hollow 87.12 39 eP P 13 38 47.2 +1.7
comp=Z,78nm,1.4s
SNOW Snow King Moun 87.14 40 eP P 13 38 48.1 +2.4
SNOW epP pP 13 39 31.8 +4.5
REDW Red Top Meadow 87.15 40 eP P 13 38 47.3 +1.6
comp=Z,125nm,1.4s
A25A Svangstu Ranch 87.16 32 ⇑P P 13 38 46.5 +1.1

baz=87,SNR=26
SENIN **Lac Senin/Sane** 87.17 324⇑ *i*P **P** 13 38 45.0 -0.7
SENIN **Lac Senin/Sane** 87.17 324 *e*P **P** 13 38 45.6 0.0
comp=Z,81nm,0.9s
BRANT **Les Verrieres** 87.18 325⇑ *i*P **P** 13 38 45.0 -0.6
YRC **Rhoscolyn** 87.18 335⇑ *i*P **P** 13 38 44.7 -0.6
CWC **Cottonwood Cre** 87.21 49 ⇓P **P** 13 38 46.8 +0.8
baz=87
H19A **Powell** 87.28 38 ⇑P **P** 13 38 47.6 +1.4
baz=87,SNR=9.1
LAO **LASA Array** 87.29 35 *e*P **P** 13 38 45.4 -0.7
LAO comp=Z,281nm,1.4s
comp=Z,579nm,20.0s LR LR
G20A **Bridger** 87.31 37 ⇓P **P** 13 38 46.6 +0.3
baz=87,SNR=35
DIX **Grande Dixence** 87.31 324⇑ *i*P **P** 13 38 45.5 -0.9
GRAC **Grapevine Rang** 87.32 48 ⇓P **P** 13 38 48.0 +1.6
baz=87
SBC **Santa Barbara** 87.33 51 ⇑P **P** 13 38 47.8 +1.4
baz=87
GRYON **Gryon** 87.34 324⇑ *i*P **P** 13 38 45.6 -0.8
AIGLE **Aigle** 87.36 325⇑ *i*P **P** 13 38 46.1 -0.3
AHID **Auburn Hatcher** 87.41 40 *e*P **P** 13 38 48.0 +1.1
comp=Z,71nm,1.3s
AHID comp=Z,786nm,19.0s LR LR
ISA **Isabella** 87.42 49 *e*P **P** 13 38 47.1 +0.1
ISA comp=Z,51nm,1.6s pmax pmax
ISA **Isabella** 87.42 49 *e*P **P** 13 38 47.1 +0.1
comp=Z,12nm,1.6s
ISA **Isabella** 87.42 49 ⇑P **P** 13 38 47.0 +0.1
baz=87,SNR=15
D23A **Lindsay** 87.45 34 ⇓P **P** 13 38 48.2 +1.4
baz=87,SNR=30
F21A **Absaloka Mine,** 87.45 36 ⇓P **P** 13 38 47.6 +0.8
baz=87
SALAN **Lac Salanfe** 87.48 324⇑ *i*P **P** 13 38 46.3 -0.9
I18A **Diamond G Ranc** 87.48 39 ⇓P **P** 13 38 48.9 +1.6
baz=87,SNR=28
BGU **Big Grassy Mou** 87.51 43 *e*P **P** 13 38 49.1 +1.8
comp=Z,670nm,1.9s
ARVC **Arvin** 87.51 50 ⇓P **P** 13 38 47.9 +0.7
baz=87,SNR=5.4
C24A **Savage** 87.57 34 ⇑P **P** 13 38 48.4 +1.0
baz=87,SNR=6.7
MCH1 **Michaelchurch** 87.58 333⇑ *e*P **P** 13 38 45.1 -2.1
MCH1 AMB AMB 13 38 46.1
comp=Z,213nm,1.4s
EMV **Vieux Emosson** 87.58 324⇑ *i*P **P** 13 38 46.9 -0.8
CABF **La Chapelle** 87.59 325 *e*P **P** 13 38 46.9 -0.6
comp=Z,344nm,1.1s
CABF **La Chapelle** 87.59 325 *e*P **P** 13 38 46.9 -0.6
CABF comp=Z,344nm,1.1s pmax pmax
CABF **La Chapelle** 87.59 325 *e*P **P** 13 38 46.9 -0.6
comp=Z,344nm,1.1s
SPUT **South Promonto** 87.59 42 *e*P **P** 13 38 49.1 +1.4
comp=Z,1μm,2.9s
E22A **Miles City** 87.60 35 ⇑P **P** 13 38 48.5 +0.9
baz=87,SNR=23
R11A **Troy Canyon, C** 87.61 46 *e*P **P** 13 38 49.2 +1.3
comp=Z,1μm,1.5s
R11A **Troy Canyon, C** 87.61 46 ⇓P **P** 13 38 49.0 +1.1
baz=88,SNR=78
B25A **Knox Farm, Ray** 87.62 32 ⇓P **P** 13 38 49.0 +1.4
baz=87,SNR=54
A26A **Wade Farm, Ken** 87.67 31 ⇓P **P** 13 38 48.7 +0.9
baz=88,SNR=21
WNDE **Wendo Genet** 87.69 277 *i*P **P** 13 38 50.3 +1.6
CEL **Celeste** 87.70 314 *e*P **P** 13 38 48.0 -0.2
CEL comp=Z,782nm,1.0s LR LR
comp=Z,1μm,20.0s
I19A **Meeteetse** 87.70 38 ⇑P **P** 13 38 49.6 +1.3
baz=88,SNR=17
MPMC **Manual Prospec** 87.82 49 ⇓P **P** 13 38 49.7 +0.7
baz=88,SNR=31
G21A **Lodge Grass** 87.82 37 ⇑P **P** 13 38 49.2 +0.5
baz=88,SNR=18
E23A **Ismay** 87.88 35 ⇓P **P** 13 38 50.1 +1.3
baz=88,SNR=36
OSI **Osito Adit** 87.89 50 ⇑P **P** 13 38 50.2 +1.1
baz=88
HWUT **Hardware Ranch** 87.91 41 *e*P **P** 13 38 50.5 +1.3
comp=Z,257nm,1.4s
D24A **Glendive** 87.91 34 ⇑P **P** 13 38 50.0 +1.0
baz=88,SNR=20
F22A **Rosebud** 87.91 36 ⇓P **P** 13 38 49.8 +0.8
baz=88,SNR=25
H20A **Greybull** 87.92 37 ⇑P **P** 13 38 50.1 +0.9
baz=88,SNR=30
BLG **Laguna Peak** 87.96 51 ⇓P **P** 13 38 50.2 +0.8
baz=88
B26A **Jensen Ranch,** 87.97 32 ⇓P **P** 13 38 50.4 +1.2
baz=88,SNR=13
FURC **Furnace Creek,** 87.97 48 ⇑P **P** 13 38 50.6 +1.2
baz=88,SNR=28
RSL **Roselend** 87.97 324 *e*P **P** 13 38 49.0 -0.5
C25A **Freed Ranch, W** 87.98 33 ⇓P **P** 13 38 50.8 +1.5
baz=88,SNR=28
A27A **Ledoux Ranch,** 87.99 31 P **P** 13 38 50.4 +1.1
baz=88
LPL **La Plagne** 88.04 324 *e*P **P** 13 38 49.3 -0.6
comp=Z,349nm,1.2s
LPL **La Plagne** 88.04 324 *e*P **P** 13 38 49.3 -0.6
LPL comp=Z,349nm,1.2s pmax pmax
LPL **La Plagne** 88.04 324 *e*P **P** 13 38 49.3 -0.6
comp=Z,349nm,1.2s
LRMC **Laurel Mountai** 88.04 49 ⇓P **P** 13 38 50.9 +0.9
baz=88,SNR=27
LPG **La Plagne** 88.05 324 *e*P **P** 13 38 49.4 -0.6
comp=Z,248nm,0.9s
LPG **La Plagne** 88.05 324 *e*P **P** 13 38 49.4 -0.6
LPG comp=Z,248nm,0.9s pmax pmax
LPG **La Plagne** 88.05 324 *e*P **P** 13 38 49.4 -0.6
comp=Z,248nm,0.9s
DUG **Dugway** 88.10 43 *e*P **P** 13 38 52.1 +1.9
DUG comp=Z,164nm,1.4s pmax pmax
DUG **Dugway** 88.10 43 *e*P **P** 13 38 52.1 +1.9
comp=Z,164nm,1.4s
DUG comp=Z,574nm,21.0s LR LR
DUG **Dugway** 88.10 43 ⇑P **P** 13 38 51.9 +1.7
baz=88,SNR=42
J19A **Crowheart** 88.19 39 ⇓P **P** 13 38 52.0 +1.4
baz=88,SNR=34
LOR **Lormes** 88.19 327 *e*P **P** 13 38 49.4 -0.9
comp=Z,689nm,1.5s,baz=60
LOR *e*R
comp=Z,2μm,18.5s
LOR **Lormes** 88.19 327 *e*P **P** 13 38 49.4 -0.9
comp=Z,689nm,1.5s
EDW2 **Edwards Air Fo** 88.21 50 ⇓P **P** 13 38 51.7 +1.1
baz=88,SNR=22
I20A **Worland** 88.22 38 ⇑P **P** 13 38 52.2 +1.6
baz=88,SNR=35
OG35 **Corcelles** 88.25 325 *e*P **P** 13 38 50.5 -0.1
BW06 **Boulder Array** 88.25 40 *e*P **P** 13 38 51.5 +0.6
comp=Z,155nm,1.4s
BW06 comp=Z,758nm,22.0s LR LR
PDAR **Pinedale Array** 88.25 40 P **P** 13 38 51.8 +0.9
PDAR pP **pP** 13 39 32.5 -0.2
PDAR PKKPbc **PKKPbc** 13 56 33.5 +0.1
PDAR P'P' 14 04 27.8
PDAR **Pinedale Array** 88.25 40 P **P** 13 38 51.8 +0.9
comp=Z,26nm,0.8s,baz=300,slow=1.2,SNR=182
PDAR pP **pP** 13 39 32.5 -0.2
comp=Z,37nm,1.0s,baz=283,slow=1.6,SNR=5.9
PDAR PKKPbc **PKKPbc** 13 56 33.5 +0.1
comp=Z,5.2nm,0.9s,baz=122,slow=3.3,SNR=20
PDAR PKPPKP P'P'df 14 04 27.8 -16
comp=Z,1.4nm,1.0s,baz=130,slow=2.8,SNR=5.5
G22A **Birney** 88.29 36 ⇓P **P** 13 38 52.0 +1.1
baz=88,SNR=24
H21A **Big Horn, Sher** 88.32 37 ⇑P **P** 13 38 52.4 +1.3
baz=88,SNR=19
E24A **Baker** 88.32 34 ⇓P **P** 13 38 52.3 +1.4
baz=88,SNR=12
D25A **Fairfield** 88.36 33 ⇓P **P** 13 38 52.5 +1.4
baz=88,SNR=17
DECC **Green Verdugo** 88.36 50 ⇓P **P** 13 38 51.8 +0.4
baz=88
F23A **Volborg** 88.38 35 ⇓P **P** 13 38 52.5 +1.3
baz=88,SNR=33
B27A **Peters Farms,** 88.39 31 ⇓P **P** 13 38 52.4 +1.2
baz=88
BNI **Bardonecchia** 88.39 324 *e*P **P** 13 38 51.1 -0.3
BNI MLR MLR
comp=Z,3μm,19.0s
BNI **Bardonecchia** 88.39 324 *e*P **P** 13 38 51.1 -0.3
BNI LR LR
comp=Z,3μm,19.0s
CTU **Camp Tracy** 88.40 42 *e*P **P** 13 38 54.0 +2.4
comp=Z,153nm,1.4s
CTU *e*pP **pP** 13 39 37.9 +4.5
C26A **Wahner Farm, P** 88.44 32 ⇓P **P** 13 38 52.7 +1.3
baz=88,SNR=16
A28A **Rude Farm, Bot** 88.45 31 ⇓P **P** 13 38 52.7 +1.3
baz=88,SNR=48
M17A **Scullys Gap (B** 88.50 41 ⇓P **P** 13 38 53.2 +1.1
baz=88,SNR=27
PASC **Pasadena Art C** 88.51 50 *e*P **P** 13 38 53.3 +1.3
comp=Z,31nm,1.2s
SSF **Saint Saulge** 88.51 327 *e*P **P** 13 38 51.0 -0.7
comp=Z,357nm,1.2s
SSF **Saint Saulge** 88.51 327 *e*P **P** 13 38 51.0 -0.7
SSF pmax pmax
comp=Z,357nm,1.2s
SSF **Saint Saulge** 88.51 327 *e*P **P** 13 38 51.0 -0.7
comp=Z,357nm,1.2s
L18A **Fontenelle, Gr** 88.55 40 ⇑P **P** 13 38 53.9 +1.6
baz=88,SNR=34
MWC **Mount Wilson** 88.56 50 *e*P **P** 13 38 53.7 +1.2
MWC pmax pmax
comp=Z,103nm,1.6s
MWC **Mount Wilson** 88.56 50 *e*P **P** 13 38 53.7 +1.2
comp=Z,103nm,1.6s
GDM **Grand'Maison** 88.57 324 *e*P **P** 13 38 52.1 -0.2
MBDF **Montbardon** 88.57 323 *e*P **P** 13 38 51.0 -1.3
comp=Z,186nm,0.9s
MBDF **Montbardon** 88.57 323 *e*P **P** 13 38 51.0 -1.3
MBDF pmax pmax
comp=Z,186nm,0.9s
MBDF **Montbardon** 88.57 323 *e*P **P** 13 38 51.0 -1.3
comp=Z,186nm,0.9s
K19A **Absolon Red Bu** 88.60 39 ⇑P **P** 13 38 52.9 +0.4
baz=88,SNR=15
J20A **Shoshoni** 88.65 38 ⇓P **P** 13 38 53.6 +1.0
baz=88,SNR=47
SMF **Signal de Mont** 88.65 326 *e*P **P** 13 38 51.7 -0.7
comp=Z,911nm,1.2s
SMF **Signal de Mont** 88.65 326 *e*P **P** 13 38 51.7 -0.7
SMF pmax pmax
comp=Z,911nm,1.2s
SMF **Signal de Mont** 88.65 326 *e*P **P** 13 38 51.7 -0.7
comp=Z,911nm,1.2s
SAOF **Saorge** 88.68 323 *e*P **P** 13 38 51.7 -1.0
NLU **North Lily Min** 88.69 43 *e*P **P** 13 38 55.0 +2.0
comp=Z,84nm,1.2s
SHOC **Shoshone** 88.69 48 ⇓P **P** 13 38 54.1 +1.2
baz=89,SNR=33
H22A **Clearmont** 88.69 37 ⇑P **P** 13 38 53.5 +0.7
baz=88,SNR=20
FMP **Fort Macarthur** 88.71 51 ⇑P **P** 13 38 53.7 +0.8
baz=89
GSC **Goldstone** 88.72 49 *e*P **P** 13 38 54.2 +1.1
GSC pmax pmax
comp=Z,79nm,1.3s
GSC **Goldstone** 88.72 49 *e*P **P** 13 38 54.2 +1.1
comp=Z,19nm,1.3s
GSC **Goldstone** 88.72 49 ⇓P **P** 13 38 54.1 +1.1
baz=89,SNR=44
SURF **Saint Ours** 88.72 323 *e*P **P** 13 38 52.9 -0.1
GRN **Grenoble** 88.73 324 *e*P **P** 13 38 53.1 +0.2
AUTN **L'Aution** 88.74 323 *e*P **P** 13 38 52.2 -1.0
I21A **Big Trails, Te** 88.75 38 ⇓P **P** 13 38 54.2 +1.1
baz=89,SNR=50
B28A **Dugan Ranch, T** 88.75 31 ⇑P **P** 13 38 54.0 +1.1
baz=89,SNR=16
G23A **Biddle** 88.75 36 ⇓P **P** 13 38 54.0 +0.9
baz=89,SNR=26
F24A **Ekalaka** 88.76 35 ⇓P **P** 13 38 54.1 +1.0
baz=89
HYF **Humbligny** 88.76 327 *e*P **P** 13 38 52.8 -0.1
HYF **Humbligny** 88.76 327 *e*P **P** 13 38 52.8 -0.1
AVF **Avril sur Loir** 88.78 327 *e*P **P** 13 38 52.3 -0.7
comp=Z,806nm,1.3s
AVF **Avril sur Loir** 88.78 327 *e*P **P** 13 38 52.3 -0.7
AVF pmax pmax
comp=Z,807nm,1.3s
AVF **Avril sur Loir** 88.78 327 *e*P **P** 13 38 52.3 -0.7
comp=Z,806nm,1.3s
C27A **Sayler Ranch,** 88.79 32 ⇓P **P** 13 38 54.5 +1.4
baz=89,SNR=19
E25A **Miller Ranch,** 88.79 34 ⇓P **P** 13 38 54.7 +1.6
baz=89,SNR=17
L19A **Farson** 88.81 40 ⇓P **P** 13 38 54.8 +1.3
baz=89,SNR=44
BFSC **Mount Baldy Ra** 88.81 50 ⇑P **P** 13 38 53.8 +0.2
baz=89,SNR=5.6
CIS **Catalina Islan** 88.82 51 ⇓P **P** 13 38 54.0 +0.5
baz=89
TOUF **Mont Tournerai** 88.82 323 *e*P **P** 13 38 52.6 -0.9
SBF **Sospel** 88.83 323 *e*P **P** 13 38 52.1 -1.3
comp=Z,176nm,0.7s
SBF **Sospel** 88.83 323 *e*P **P** 13 38 52.1 -1.3
SBF pmax pmax
comp=Z,176nm,0.7s
SBF **Sospel** 88.83 323 *e*P **P** 13 38 52.1 -1.3
comp=Z,176nm,0.7s
RRX **Edison Barstow** 88.85 49 ⇑P **P** 13 38 54.7 +1.0
baz=89
LUCF **Luceram** 88.86 323 *e*P **P** 13 38 52.2 -1.4
D26A **Manning** 88.86 33 ⇑P **P** 13 38 54.9 +1.5
baz=89,SNR=40
DAU **Daniels Canyon** 88.86 42 *e*P **P** 13 38 55.8 +1.8
DAU **Daniels Canyon** 88.86 42 *e*P **P** 13 38 55.8 +1.8
MCQ **Macquarie Isla** 88.87 164 *e*P **P** 13 38 56.0 +3.2
MCQ pmax pmax
comp=Z,10μm,1.1s
MCQ **Macquarie Isla** 88.87 164 *e*P **P** 13 38 56.0 +3.2
comp=Z,37μm,1.1s
A29A **Manning Farm,** 88.89 30 ⇓P **P** 13 38 54.4 +0.9
baz=89,SNR=37
ORIF **Oris-en-Rattie** 88.89 324 *e*P **P** 13 38 53.1 -0.6
comp=Z,182nm,1.0s
ORIF *e*R
comp=Z,3μm,18.0s
ORIF **Oris-en-Rattie** 88.89 324 *e*P **P** 13 38 53.1 -0.6
ORIF pmax pmax
comp=Z,182nm,1.0s
ORIF **Oris-en-Rattie** 88.89 324 *e*P **P** 13 38 53.1 -0.6
comp=Z,182nm,1.0s
PGF **Pioggiola** 88.90 321 *e*P **P** 13 38 53.2 -0.6
comp=Z,316nm,1.2s
PGF **Pioggiola** 88.90 321 *e*P **P** 13 38 53.2 -0.6
PGF pmax pmax
comp=Z,316nm,1.2s
PGF **Pioggiola** 88.90 321 *e*P **P** 13 38 53.2 -0.6
comp=Z,316nm,1.2s
MPU **Maple Canyon** 88.91 43 *e*P **P** 13 38 55.6 +1.6
comp=Z,185nm,1.3s
MPU *e*pP **pP** 13 39 36.8 +0.9
REVF **Revere** 88.95 322 *e*P **P** 13 38 53.0 -0.9
MVIF **Mont Vial** 88.96 323 *e*P **P** 13 38 52.8 -1.3
SCI **San Clemente I** 88.98 52 ⇓P **P** 13 38 54.9 +0.7
baz=89
K20A **Yellowstone Ra** 88.98 39 ⇑P **P** 13 38 54.7 +0.4
baz=89,SNR=36
J21A **Lysite** 88.99 38 ⇑P **P** 13 38 55.5 +1.2
baz=89,SNR=6.8
LDF **La Druitiere** 89.01 330 *e*P **P** 13 38 53.2 -0.9
comp=Z,559nm,1.3s
LDF **La Druitiere** 89.01 330 *e*P **P** 13 38 53.2 -0.9
LDF pmax pmax
comp=Z,559nm,1.3s
LDF **La Druitiere** 89.01 330 *e*P **P** 13 38 53.2 -0.9
comp=Z,559nm,1.3s
SHPR **Sheep Range** 89.02 47 *e*P **P** 13 38 55.9 +1.3
FLN **La Foliniere** 89.04 330 *e*P **P** 13 38 53.2 -1.0
comp=Z,484nm,1.4s,baz=67
FLN *e*R
comp=Z,3μm,20.8s
FLN **La Foliniere** 89.04 330 *e*P **P** 13 38 53.2 -1.0
FLN pmax pmax
comp=Z,484nm,1.4s
FLN **La Foliniere** 89.04 330 *e*P **P** 13 38 53.2 -1.0
comp=Z,484nm,1.4s
I22A **9 Mile Ranch,** 89.12 37 ⇓P **P** 13 38 55.7 +0.9
baz=89,SNR=36
G24A **Alzada** 89.15 35 ⇑P **P** 13 38 55.7 +0.8
baz=89
B29A **Wagenman Farm,** 89.18 30 ⇑P **P** 13 38 55.9 +1.0
baz=89,SNR=6.2
F25A **Bowman** 89.18 34 ⇑P **P** 13 38 56.4 +1.3
baz=89,SNR=19
BGF **Bois d'Agland** 89.19 327 *e*P **P** 13 38 54.3 -0.6
comp=Z,426nm,1.3s
BGF **Bois d'Agland** 89.19 327 *e*P **P** 13 38 54.3 -0.6
BGF pmax pmax
comp=Z,427nm,1.3s
BGF **Bois d'Agland** 89.19 327 *e*P **P** 13 38 54.3 -0.6
comp=Z,426nm,1.3s
CALN **Calern** 89.19 323 *e*P **P** 13 38 55.0 -0.2
H23A **Clabaugh Cattl** 89.20 36 ⇑P **P** 13 38 56.0 +0.8
baz=89
TUQ **Turquoise Moun** 89.20 48 ⇓P **P** 13 38 56.5 +1.1
baz=89,SNR=41
D27A **Center** 89.23 32 ⇑P **P** 13 38 56.5 +1.4
baz=89,SNR=12
ULM **Lac du Bonnet** 89.25 28 *e*P **P** 13 38 55.3 +0.2
comp=Z,404nm,1.0s
ULM pP **pP** 13 39 36.2 -0.8
ULM PKKPbc **PKKPbc** 13 56 29.2 -1.8
ULM **Lac du Bonnet** 89.25 28 P **P** 13 38 55.8 +0.7
comp=Z,226nm,0.9s,baz=319,slow=6.0,SNR=150
ULM pP **pP** 13 39 36.2 -0.8
comp=Z,73nm,1.0s,baz=328,slow=7.2,SNR=3.8
ULM PKKPbc **PKKPbc** 13 56 29.2 -1.8
comp=Z,6.3nm,0.9s,baz=202,slow=2.8,SNR=4.9
E26A **Carlson Angus** 89.26 33 ⇑P **P** 13 38 56.4 +1.1
baz=89,SNR=33
A30A **Hoffart Farm,** 89.27 30 P **P** 13 38 56.0 +0.7
baz=89
ARUT **Antelope Range** 89.27 45 *e*P **P** 13 38 56.0 +0.3
ARUT pmax pmax
comp=Z,1μm,1.4s
ARUT **Antelope Range** 89.27 45 *e*P **P** 13 38 56.0 +0.3
comp=Z,81nm,1.4s
BBRC **Big Bear Solar** 89.28 50 ⇓P **P** 13 38 56.5 +0.6
baz=89
C28A **Hausauer Farms** 89.29 31 ⇑P **P** 13 38 56.8 +1.4
baz=89,SNR=11
SSB **Saint Sauveur** 89.30 325 *e*P **P** 13 38 55.1 -0.4
SSB pmax pmax
comp=Z,99nm,1.0s
SSB MLR MLR
comp=Z,1μm,21.0s
SSB **Saint Sauveur** 89.30 325 *e*P **P** 13 38 55.1 -0.4
SSB **Saint Sauveur** 89.30 325 *e*P **P** 13 38 55.1 -0.4
comp=Z,99nm,1.0s
SSB LR LR
comp=Z,1μm,21.0s
HEC **Hector,Ludlow** 89.32 49 ⇓P **P** 13 38 57.0 +1.1
baz=89,SNR=22
M19A **Rock Springs** 89.32 40 ⇑P **P** 13 38 56.9 +1.0
baz=89,SNR=6.8
OSPF **L'Ospedale** 89.40 320 *e*P **P** 13 38 56.3 +0.2
OG26 **St.-Nazaire-De** 89.42 324 *e*P **P** 13 38 55.9 -0.2
AGO **Saint Agoulin** 89.42 326 *e*P **P** 13 38 57.2 +1.1
JSA **Saint Aubin** 89.43 331 *e*P **P** 13 38 55.5 -0.5
JSA AMB AMB 13 38 56.5
comp=Z,215nm,1.6s
L20A **Wamsutter** 89.43 39 ⇑P **P** 13 38 57.8 +1.4
baz=89,SNR=22
J22A **Midwest** 89.45 38 P **P** 13 38 57.2 +0.7
baz=89
CCUT **Cedar City** 89.47 45 *e*P **P** 13 38 58.5 +1.8
comp=Z,141nm,2.0s
GRR **Gorron** 89.49 330 *e*P **P** 13 38 55.6 -0.7
comp=Z,924nm,1.4s
GRR **Gorron** 89.49 330 *e*P **P** 13 38 55.6 -0.7
GRR pmax pmax
comp=Z,924nm,1.4s
GRR **Gorron** 89.49 330 *e*P **P** 13 38 55.6 -0.7
comp=Z,924nm,1.4s
H24A **Dirks Ranch, A** 89.49 36 ⇓P **P** 13 38 57.1 +0.6
baz=89,SNR=37
MURC **Murrieta** 89.50 50 ⇓P **P** 13 38 57.3 +0.6
baz=89
VIVF **Saint-Julien-I** 89.54 325 *e*P **P** 13 38 55.9 -0.7
comp=Z,304nm,1.3s
VIVF **Saint-Julien-I** 89.54 325 *e*P **P** 13 38 55.9 -0.7
VIVF pmax pmax
comp=Z,304nm,1.3s
VIVF **Saint-Julien-I** 89.54 325 *e*P **P** 13 38 55.9 -0.7
comp=Z,304nm,1.3s
MDND **Maddock** 89.54 31 *e*P **P** 13 38 58.6 +2.1
comp=Z,17μm,1.3s
MDND *e*pP **pP** 13 39 41.5 +3.0
MDND **Maddock** 89.54 31 ⇓P **P** 13 38 57.8 +1.2
baz=89,SNR=11
MVU **Marysvale** 89.55 44 *e*P **P** 13 38 59.2 +2.1
comp=Z,368nm,1.8s
MVU LR LR
comp=Z,693nm,19.0s
K21A **Alcova** 89.59 38 ⇑P **P** 13 38 58.1 +1.0
baz=89,SNR=94
I23A **Meade Ranch, G** 89.59 37 ⇑P **P** 13 38 57.5 +0.5
baz=89
D28A **Regan** 89.60 32 ⇓P **P** 13 38 58.2 +1.3
baz=89,SNR=21
F26A **Lodgepole** 89.62 34 ⇓P **P** 13 38 58.4 +1.3
baz=89,SNR=19
TMUT **Trail Mountain** 89.63 43 *e*P **P** 13 38 59.8 +2.3
comp=Z,177nm,1.5s
B30A **Myrvik Farm, E** 89.63 30 ⇑P **P** 13 38 57.9 +0.9
baz=89,SNR=20
LMR **La Mourre** 89.68 323 *e*P **P** 13 38 56.3 -1.0
comp=Z,321nm,1.2s
LMR **La Mourre** 89.68 323 *e*P **P** 13 38 56.3 -1.0
LMR pmax pmax
comp=Z,321nm,1.2s
LMR **La Mourre** 89.68 323 *e*P **P** 13 38 56.3 -1.0
comp=Z,321nm,1.2s
TCF **Toulx Ste Croi** 89.69 327 *e*P **P** 13 38 56.8 -0.5
comp=Z,732nm,1.4s
TCF **Toulx Ste Croi** 89.69 327 *e*P **P** 13 38 56.8 -0.5
TCF pmax pmax
comp=Z,732nm,1.4s
TCF **Toulx Ste Croi** 89.69 327 *e*P **P** 13 38 56.8 -0.5
comp=Z,732nm,1.4s
PYM **Petit Puy Mans** 89.70 326 *e*P **P** 13 38 58.8 +1.3
SMRF **Simiane la Rot** 89.71 324 *e*P **P** 13 38 56.8 -0.7
comp=Z,76nm,0.9s
SMRF **Simiane la Rot** 89.71 324 *e*P **P** 13 38 56.8 -0.7
comp=Z,76nm,0.9s
E27A **Carson** 89.71 33 ⇑P **P** 13 38 58.9 +1.4
baz=90,SNR=27
G25A **Newell** 89.73 35 ⇓P **P** 13 38 58.6 +1.0
baz=90,SNR=26
GMRC **Granite Mounta** 89.78 49 ⇓P **P** 13 38 59.3 +1.1
baz=90
G27A **Dupree** 89.83 34 ⇓P P 13 39 01.5 +3.5
baz=90,SNR=91
M20A **Sweetwater, Wa** 89.87 40 ⇓P **P** 13 39 00.1 +1.5
baz=90,SNR=30
Q16A **Castle Valley** 89.90 43 *e*P **P** 13 38 59.3 +0.7
Q16A **Castle Valley** 89.90 43 ⇑P **P** 13 39 00.5 +1.8
baz=90,SNR=39
F27A **Lemmon** 89.91 34 ⇓P **P** 13 38 59.7 +1.3
baz=90,SNR=30
J23A **Dilts Ranch, B** 89.94 37 ⇑P **P** 13 38 59.1 +0.4
baz=90
LDFC **Landfair** 89.95 48 *e*P **P** 13 39 00.0 +1.2
comp=Z,170nm,1.4s
VERF **Verneugheol** 89.95 326 *e*P **P** 13 38 58.6 0.0
K22A **Casper** 89.96 38 ⇑P **P** 13 38 59.9 +1.0
baz=90,SNR=30
LBL **Lubilhac** 89.97 326 *e*P **P** 13 38 59.7 +1.0
L21A **Rawlins** 89.99 39 ⇓P **P** 13 39 00.2 +1.2
baz=90,SNR=66
PFO **Pinyon Flat Ob** 89.99 50 *e*P **P** 13 38 59.9 +0.8
comp=Z,110nm,1.7s
PFO *e*pP **pP** 13 39 38.9 -2.1
PFO LR LR
comp=Z,1μm,22.0s
PFO **Pinyon Flat Ob** 89.99 50 ⇑P **P** 13 39 00.0 +0.9
baz=90,SNR=19
109C **Camp Elliot, M** 90.00 51 ⇑P **P** 13 38 59.8 +0.9
baz=90
E28A **Huff** 90.01 32 ⇓P **P** 13 39 00.0 +1.3
baz=90,SNR=9.8

BELC	Belle Mtn. Jos	90.05	49	⇓P	P	13 39 00.1	+0.7
	baz=90,SNR=17						
WDD	Wield Dalam	90.05	313	eP	P	13 38 57.5	-1.7
	comp=Z,327nm,1.2s						
WDD				LR	LR		
	comp=Z,1µm,22.0s						
G26A	Maurine	90.06	34	⇑P	P	13 39 00.3	+1.2
	baz=90,SNR=64						
H25A	Fruitdale	90.06	35	⇓P	P	13 39 00.2	+1.1
	baz=90,SNR=33						
I24A	Kuemmerle Ranc	90.09	36	⇓P	P	13 39 00.0	+0.7
	baz=90,SNR=19						
D29A	Pettibone, Tap	90.14	31	⇓P	P	13 39 00.3	+1.0
	baz=90,SNR=21						
C30A	Mose, Pekin	90.14	30	⇑P	P	13 39 00.1	+0.7
	baz=90,SNR=13						
SRU	San Rafael	90.15	43	eP	P	13 39 01.5	+1.7
SRU				pmax	pmax		
	comp=Z,97nm,0.9s						
SRU	San Rafael	90.15	43	eP	P	13 39 01.5	+1.7
	comp=Z,97nm,0.9s						
O19A	Miners Draw (B	90.16	41	⇓P	P	13 39 00.8	+1.0
	baz=90,SNR=38						
FRNF	Fournols	90.18	326	eP	P	13 39 00.2	+0.6
RSSD	Black Hills	90.20	36	eP	P	13 39 00.1	+0.1
RSSD				pmax	pmax		
	comp=Z,337nm,1.5s						
RSSD	Black Hills	90.20	36	eP	P	13 39 00.1	+0.1
	comp=Z,84nm,1.5s						
M21A	Separation Pea	90.24	39	⇑P	P	13 39 01.4	+1.1
	baz=90,SNR=50						
RWWY	Rawlins	90.26	39	eP	P	13 39 01.2	+0.8
	comp=Z,177nm,1.3s						
N20A	Spence Gulch,	90.27	40	⇑P	P	13 39 02.2	+1.8
	baz=90,SNR=73						
SGMF	Saint Gilles	90.32	331	eP	P	13 38 59.6	-0.5
	comp=Z,905nm,1.4s						
SGMF	Saint Gilles	90.32	331	eP	P	13 38 59.6	-0.5
SGMF				pmax	pmax		
	comp=Z,905nm,1.4s						
SGMF	Saint Gilles	90.32	331	eP	P	13 38 59.6	-0.5
	comp=Z,905nm,1.4s						
K23A	Bowen Ranch, D	90.36	38	⇑P	P	13 39 01.2	+0.5
	baz=90,SNR=22						
BAR	Barrett	90.42	51	eP	P	13 39 02.3	+1.4
	comp=Z,41nm,2.3s						
I25A	Rochford	90.43	36	⇑P	P	13 39 02.2	+1.2
	baz=90,SNR=92						
L22A	Ellis Ranch, M	90.44	38	⇑P	P	13 39 02.6	+1.4
	baz=90,SNR=49						
J24A	Dixon Ranch, L	90.45	37	⇑P	P	13 39 01.8	+0.8
	baz=90,SNR=15						
MONP	Monument Peak	90.45	51	⇑P	P	13 39 02.5	+1.1
	baz=90,SNR=12						
D30A	Buchanan	90.47	31	⇑P	P	13 39 01.8	+0.9
	baz=90,SNR=53						
E29A	Napoleon	90.49	32	⇓P	P	13 39 01.9	+0.8
	baz=90,SNR=16						
IRM	Iron Mountain	90.50	49	⇑P	P	13 39 02.8	+1.5
	baz=90						
F28A	McLaughlin	90.50	33	⇑P	P	13 39 02.5	+1.4
	baz=90,SNR=18						
LASF	Ste Croix	90.50	324	eP	P	13 39 00.5	-0.6
	comp=Z,276nm,1.3s						
LASF	Ste Croix	90.50	324	eP	P	13 39 00.5	-0.6
	comp=Z,276nm,1.3s						
MFF	Saint Martin d	90.53	328	eP	P	13 39 01.0	-0.2
	comp=Z,1µm,1.1s						
MFF	Saint Martin d	90.53	328	eP	P	13 39 01.0	-0.2
MFF				pmax	pmax		
	comp=Z,1µm,1.1s						
MFF	Saint Martin d	90.53	328	eP	P	13 39 01.0	-0.2
	comp=Z,1µm,1.1s						
ROSF	Rostrenen	90.55	331	eP	P	13 39 00.8	-0.4
	comp=Z,999nm,1.4s						
ROSF	Rostrenen	90.55	331	eP	P	13 39 00.8	-0.4
ROSF				pmax	pmax		
	comp=Z,999nm,1.4s						
ROSF	Rostrenen	90.55	331	eP	P	13 39 00.8	-0.4
	comp=Z,999nm,1.4s						
BC3	Big Chuckawall	90.61	49	⇓P	P	13 39 03.0	+1.0
	baz=90,SNR=21						
P19A	Cripple Cowboy	90.69	42	⇑P	P	13 39 03.7	+1.3
	baz=90,SNR=78						
W13A	Hualapai Mount	90.71	48	⇑P	P	13 39 03.6	+1.0
	baz=91,SNR=15						
N21A	Black Mountain	90.73	40	⇑P	P	13 39 04.0	+1.4
	baz=91,SNR=32						
RJF	Les Rejaudoux	90.74	327	eP	P	13 39 01.9	-0.3
	comp=Z,693nm,1.2s						
RJF				epP	pP	13 39 41.2	-2.9
RJF				eR			
	comp=Z,2µm,21.8s						
RJF	Les Rejaudoux	90.74	327	eP	P	13 39 01.9	-0.3
RJF				pmax	pmax		
	comp=Z,693nm,1.2s						
RJF	Les Rejaudoux	90.74	327	eP	P	13 39 01.9	-0.3
	comp=Z,693nm,1.2s						
RJF				epP	pP	13 39 41.2	-2.9
CAF	Calviac	90.76	326	eP	P	13 39 02.2	-0.1
	comp=Z,532nm,1.3s						
CAF	Calviac	90.76	326	eP	P	13 39 02.2	-0.1
CAF				pmax	pmax		
	comp=Z,532nm,1.3s						
CAF	Calviac	90.76	326	eP	P	13 39 02.2	-0.1
	comp=Z,532nm,1.3s						
VSL	Villasalto	90.76	318	eP	P	13 39 01.3	-1.1
	comp=Z,109nm,0.9s						
VSL				LR	LR		
	comp=Z,1µm,20.0s						
O20A	White River Ci	90.76	41	eP	P	13 39 03.4	+0.7
	comp=Z,168nm,1.4s						
O20A	White River Ci	90.76	41	⇑P	P	13 39 03.8	+1.2
	baz=91,SNR=29						
L23A	Garrett	90.77	38	⇓P	P	13 39 03.3	+0.6
	baz=91,SNR=100						
AGMN	Agassiz Nation	90.79	29	eP	P	13 39 03.3	+0.9
	comp=Z,186nm,1.4s						
AGMN				LR	LR		
	comp=Z,789nm,20.0s						
M22A	Cedar Creek Ra	90.79	39	⇑P	P	13 39 03.9	+1.1
	baz=91,SNR=22						
H27A	Howes	90.79	34	⇑P	P	13 39 03.6	+1.1
	baz=91,SNR=30						
K24A	Anderson Ranch	90.80	37	⇓P	P	13 39 03.3	+0.5
	baz=91,SNR=19						
DVTC	Desert V Tower	90.81	51	⇓P	P	13 39 04.1	+1.2
	baz=91,SNR=8.8						
QUIF	Quistinic	90.83	331	eP	P	13 39 01.9	-0.6
	comp=Z,496nm,1.2s						
QUIF	Quistinic	90.83	331	eP	P	13 39 01.9	-0.6
QUIF				pmax	pmax		
	comp=Z,496nm,1.2s						
QUIF	Quistinic	90.83	331	eP	P	13 39 01.9	-0.6
	comp=Z,496nm,1.2s						
SWSC	Sam W. Stewart	90.83	50	⇓P	P	13 39 03.7	+0.8
	baz=91,SNR=5.4						
J25A	Sunshine Ranch	90.84	36	⇑P	P	13 39 03.6	+0.8
	baz=91,SNR=17						
I26A	New Underwood	90.85	35	⇓P	P	13 39 04.2	+1.4
	baz=91,SNR=33						
U15A	North Rim	90.85	46	⇓P	P	13 39 05.1	+1.8
	baz=91,SNR=96						
E30A	Jud	90.87	31	⇓P	P	13 39 03.9	+1.1
	baz=91,SNR=72						
PPT	Papeete	90.92	110	LR	LR	14 15 17.6	
	comp=Z,925nm,19.1s,baz=120,slow=32						
PPT2	Papeete2	90.93	110	ePP	PP	13 42 35.5	-6.7
	comp=Z,461nm,29.8s						
PPT2				eSKSac	SKSac	13 49 20.3	+0.4
	comp=Z,1µm,18.6s						
PPT2	Papeete2	90.93	110	eLR	LR	14 08 32.7	
	comp=Z,3µm,25.2s						
F29A	Eureka	90.96	32	⇓P	P	13 39 04.3	+1.0
	baz=91,SNR=47						
G28A	Parade	91.02	33	⇓P	P	13 39 05.0	+1.4
	baz=91,SNR=28						
PDMCI	Parker Dam,Lak	91.06	48	⇓P	P	13 39 05.0	+1.1
	baz=91,SNR=18						
P20A	De Beque	91.11	41	⇑P	P	13 39 05.5	+1.2
	baz=91,SNR=34						
O21A	Pagoda	91.14	40	⇓P	P	13 39 05.8	+1.3
	baz=91,SNR=12						
Y12C	Blythe	91.16	49	⇑P	P	13 39 05.8	+1.4
	baz=91,SNR=9.1						
M23A	Laramie	91.22	38	⇑P	P	13 39 06.2	+1.4
	baz=91,SNR=17						
I27A	Quinn	91.22	35	⇑P	P	13 39 05.7	+1.2
	baz=91,SNR=7.6						
L24A	Wheatland	91.23	38	P	P	13 39 06.0	+1.3
	baz=91						
J26A	Sides Ranch, S	91.27	36	⇓P	P	13 39 06.2	+1.4
	baz=91,SNR=62						
H28A	Mission Ridge	91.27	34	⇑P	P	13 39 05.9	+1.2
	baz=91,SNR=31						
N22A	Wattenberg Ran	91.29	39	⇓P	P	13 39 06.7	+1.6
	baz=91,SNR=40						
PV09	Paradox Valley	91.36	42	eP	P	13 39 07.7	+2.1
K25A	Mack Ranch, Ha	91.37	37	⇑P	P	13 39 06.7	+1.4
	baz=91,SNR=12						
LFF	La Frestale	91.38	327	eP	P	13 39 05.1	0.0
	comp=Z,750nm,1.3s						
LFF	La Frestale	91.38	327	eP	P	13 39 05.1	0.0
LFF				pmax	pmax		
	comp=Z,750nm,1.3s						
LFF	La Frestale	91.38	327	eP	P	13 39 05.1	0.0
	comp=Z,750nm,1.3s						
GLA	Glamis	91.40	50	eP	P	13 39 07.3	+1.7
GLA				e*PP	pP	13 39 48.4	+0.9
GLA				pmax	pmax		
	comp=Z,54nm,1.0s						
GLA	Glamis	91.40	50	eP	P	13 39 07.3	+1.7
	comp=Z,13nm,1.0s						
GLA				epP	pP	13 39 48.4	+0.9
GLA	Glamis	91.40	50	⇑P	P	13 39 07.1	+1.5
	baz=91,SNR=18						
N23A	Red Feather La	91.50	39	⇓P	P	13 39 07.8	+1.6
	baz=91,SNR=66						
Q20A	Ridgley Place,	91.54	42	⇓P	P	13 39 07.7	+1.5
	baz=91,SNR=61						
PV04	Paradox Valley	91.57	42	eP	P	13 39 08.3	+1.9
P21A	Newcastle	91.62	41	⇑P	P	13 39 08.2	+1.5
	baz=92,SNR=43						
L25A	Engebretsen Ra	91.65	37	⇓P	P	13 39 08.1	+1.5
	baz=92,SNR=7.6						
K26A	Motz Farm, Whi	91.66	36	⇑P	P	13 39 07.8	+1.2
	baz=92,SNR=27						
PV05	Paradox Valley	91.67	43	eP	P	13 39 08.6	+1.6
O22A	Kremmling	91.68	40	⇑P	P	13 39 08.1	+1.0
	baz=92,SNR=55						
M24A	Cheyenne	91.69	38	⇑P	P	13 39 08.5	+1.5
	baz=92,SNR=23						
I28A	Midland	91.70	34	⇓P	P	13 39 07.8	+1.1
	baz=92,SNR=28						
J27A	Elkhorn Farm,	91.84	35	⇓P	P	13 39 08.9	+1.4
	baz=92,SNR=18						
PV15	Paradox Valley	91.85	42	eP	P	13 39 09.4	+1.6
MTLF	Montolieu	91.85	325	eP	P	13 39 06.7	-0.7
	comp=Z,152nm,1.3s						
MTLF	Montolieu	91.85	325	eP	P	13 39 06.7	-0.7
MTLF				pmax	pmax		
	comp=Z,152nm,1.3s						
MTLF	Montolieu	91.85	325	eP	P	13 39 06.7	-0.7
	comp=Z,152nm,1.3s						
PV01	Paradox Valley	91.94	42	eP	P	13 39 09.4	+1.3
	comp=Z,22µm,1.3s						
P22A	Eagle	91.96	40	⇑P	P	13 39 09.9	+1.7
	baz=92,SNR=58						
LRDF	Laroque-de-Fa	91.99	324	eP	P	13 39 07.6	-0.4
O23A	Lake Granby, G	91.99	39	⇓P	P	13 39 10.1	+1.6
	baz=92,SNR=36						
WUAZ	Wupatki	92.01	46	eP	P	13 39 09.7	+1.3
	comp=Z,189nm,1.3s						
WUAZ				LR	LR		
	comp=Z,526nm,20.0s						
WUAZ	Wupatki	92.01	46	⇑P	P	13 39 10.1	+1.7
	baz=92						
R20A	Redvale	92.01	42	⇓P	P	13 39 10.2	+1.7
	baz=92,SNR=48						
Y14A	Wickenburg	92.01	48	⇑P	P	13 39 09.9	+1.5
	baz=92,SNR=34						
Q21A	Lamborn Mesa,	92.03	41	⇑P	P	13 39 10.3	+1.7
	baz=92,SNR=36						
J28A	Allard Ranch,	92.09	35	⇑P	P	13 39 09.7	+1.1
	baz=92,SNR=22						
N24A	Carr	92.12	39	⇑P	P	13 39 10.3	+1.5
	baz=92,SNR=7.7						
M25A	Palm-Egli Farm	92.12	38	⇓P	P	13 39 10.2	+1.4
	baz=92,SNR=8.3						
K27A	Flueckinger Fa	92.13	36	⇑P	P	13 39 09.7	+0.9
	baz=92,SNR=6.2						
SJAF	Saint Jean de	92.15	324	eP	P	13 39 08.0	-0.8
L26A	Underwood Farm	92.19	37	⇓P	P	13 39 10.3	+1.2
	baz=92,SNR=6.0						
FILF	Fillols	92.26	324	eP	P	13 39 09.1	-0.2
S20A	Disappointment	92.27	43	⇑P	P	13 39 11.0	+1.3
	baz=92,SNR=75						
113A	Mohawk Valley,	92.27	49	⇓P	P	13 39 10.8	+1.3
	baz=92,SNR=12						
R21A	Cimarron	92.36	42	⇑P	P	13 39 11.9	+1.8
	baz=92,SNR=48						
CARF	Carcanieres	92.37	325	eP	P	13 39 09.2	-0.7
Q22A	Crested Butte,	92.38	41	⇓P	P	13 39 12.2	+1.9
	baz=92,SNR=119						
BRSD	Miller	92.42	33	eP	P	13 39 11.3	+1.3
	comp=Z,1µm,1.0s						
BRSD	Miller	92.42	33	⇑P	P	13 39 10.8	+0.8
	baz=92,SNR=17						
Z14A	Wintersburg	92.42	48	⇓P	P	13 39 11.5	+1.3
	baz=92,SNR=5.4						
ISCO	Idaho Springs	92.45	40	eP	P	13 39 12.3	+1.7
ISCO				pmax	pmax		
	comp=Z,50nm,1.1s						
ISCO				MLR	MLR		
	comp=Z,688nm,20.0s						
ISCO	Idaho Springs	92.45	40	eP	P	13 39 12.2	+1.7
	comp=Z,50nm,1.1s						
ISCO				LR	LR		
	comp=Z,688nm,20.0s						
ISCO	Idaho Springs	92.45	40	⇑P	P	13 39 11.9	+1.3
	baz=92						
O24A	Longmont	92.51	39	⇑P	P	13 39 12.0	+1.3
	baz=92						
L27A	T5 Ranch, Ells	92.55	36	⇓P	P	13 39 11.6	+0.8
	baz=92						
N25A	Grover	92.55	38	⇑P	P	13 39 12.1	+1.3
	baz=92						
K28A	Ten Mile Ranch	92.56	35	P	P	13 39 11.7	+1.0
	baz=92						
M26A	McRoberts Ranc	92.57	37	⇓P	P	13 39 12.3	+1.4
	baz=92						
MVCO	Mesa Verde	92.61	43	eP	P	13 39 12.9	+1.6
	comp=Z,179nm,1.3s						
MVCO				LR	LR		
	comp=Z,567nm,19.0s						
MVCO	Mesa Verde	92.61	43	⇓P	P	13 39 12.8	+1.5
	baz=92						
P23A	Jefferson	92.62	40	⇓P	P	13 39 13.1	+1.6
	baz=92,SNR=42						
VALF	Valcebollere	92.64	324	eP	P	13 39 11.2	-0.1
X16A	Lo Mia Camp, P	92.69	47	⇓P	P	13 39 13.5	+1.9
	baz=93,SNR=29						
MLS	Moulis	92.69	325	eP	P	13 39 10.6	-0.7
S21A	Coal Bank Pass	92.71	42	⇓P	P	13 39 13.8	+2.0
	baz=93,SNR=93						
EYMN	Ely	92.81	27	eP	P	13 39 12.0	+0.3
	comp=Z,138nm,0.9s						
EYMN				LR	LR		
	comp=Z,735nm,19.0s						
R22A	Saguache, Gunn	92.91	41	⇑P	P	13 39 14.9	+2.2
	baz=93,SNR=36						
M27A	Reverse DX Ran	92.92	37	⇓P	P	13 39 13.6	+1.1
	baz=93,SNR=6.3						
Q23A	Hartsel	92.96	40	⇓P	P	13 39 14.4	+1.5
	baz=93,SNR=15						
N26A	Koester Ranch,	92.99	38	⇓P	P	13 39 13.6	+0.8
	baz=93						
EPF	Esparros	93.00	326	eP	P	13 39 11.5	-1.2
	comp=Z,124nm,1.5s						
EPF	Esparros	93.00	326	eP	P	13 39 11.5	-1.2
EPF				pmax	pmax		
	comp=Z,124nm,1.5s						
EPF	Esparros	93.00	326	eP	P	13 39 11.5	-1.2
	comp=Z,124nm,1.5s						
L28A	Connealy Angus	93.00	36	⇓P	P	13 39 14.3	+1.5
	baz=93						
O25A	Wiggins	93.03	39	⇑P	P	13 39 14.1	+1.1
	baz=93,SNR=22						
P24A	Kohler Place,	93.03	39	⇑P	P	13 39 14.8	+1.6
	baz=93						
K29A	Lazy Trails An	93.04	35	⇓P	P	13 39 14.1	+1.1
	baz=93,SNR=7.0						
KMBO	Kilima Mbogo	93.09	271	P	P	13 39 14.7	+0.8
	SNR=24						
KMBO	Kilima Mbogo	93.09	271	eP	P	13 39 14.3	+0.5
KMBO				LR	LR		
	comp=Z,1µm,20.0s						
KMBO	Kilima Mbogo	93.09	271	P	P	13 39 14.1	+0.2
	comp=Z,60nm,1.0s,baz=32,slow=6.8,SNR=64						
SCHQ	Schefferville	93.09	10	eP	P	13 39 13.5	+0.6
SCHQ	Schefferville	93.09	10	P	P	13 39 12.9	+0.1
	comp=Z,96nm,1.2s,baz=353,slow=5.3,SNR=16						
SCHQ				LR	LR	14 20 43.4	
	comp=Z,1µm,21.2s,baz=110,slow=35						
U20A	Newcomb	93.16	44	⇑P	P	13 39 15.3	+1.6
	baz=93,SNR=20						
RESF	Ens	93.17	326	eP	P	13 39 14.0	+0.4
S22A	4UR Ranch, Cre	93.20	42	⇓P	P	13 39 15.9	+1.8
	baz=93,SNR=48						
VIEF	Viey	93.27	326	eP	P	13 39 14.5	+0.5
W18A	Petrified Fore	93.28	45	eP	P	13 39 16.2	+1.9
	comp=Z,7µm,1.6s						
W18A	Petrified Fore	93.28	45	⇑P	P	13 39 15.9	+1.6
	baz=93,SNR=7.9						
Q24A	Divide	93.29	40	⇑P	P	13 39 15.7	+1.1
	baz=93,SNR=30						
T21A	Navajo Lake	93.32	43	⇑P	P	13 39 16.3	+1.8
	baz=93,SNR=16						
KEST	Kesra	93.32	316	eP	P	13 39 15.2	+0.8
KEST	Kesra	93.32	316	P	P	13 39 14.7	+0.3
	comp=Z,40nm,1.0s,baz=313,slow=1.8,SNR=55						
N27A	Anderson Farm,	93.37	37	⇑P	P	13 39 15.4	+0.9
	baz=93,SNR=11						
O26A	Horse Wrangler	93.37	38	⇓P	P	13 39 15.5	+0.9
	baz=93,SNR=8.2						
214A	Organ Pipe Nat	93.41	49	⇑P	P	13 39 16.5	+1.7
	baz=93,SNR=24						
P25A	Willow Gulch B	93.44	39	⇓P	P	13 39 16.2	+1.2
	baz=93,SNR=19						
R23A	Moffat	93.46	41	⇓P	P	13 39 17.1	+1.9
	baz=93,SNR=39						
L29A	Maesberg Ranch	93.48	35	⇑P	P	13 39 15.5	+0.5
	baz=93,SNR=9.8						
OGNE	Ogallala	93.52	37	eP	P	13 39 14.3	-0.9
	comp=Z,222nm,1.4s						
OGNE				LR	LR		
	comp=Z,643nm,20.0s						
OGNE	Ogallala	93.52	37	⇑P	P	13 39 16.0	+0.7
	baz=93						
M28A	Bar X Bar Ranc	93.53	36	⇓P	P	13 39 16.0	+0.7
	baz=93,SNR=5.8						
ETSF	Etsaut	93.53	326	eP	P	13 39 15.1	-0.1
	comp=Z,62nm,1.0s						
ETSF	Etsaut	93.53	326	eP	P	13 39 15.1	-0.1
ETSF				pmax	pmax		
	comp=Z,62nm,1.0s						
ETSF	Etsaut	93.53	326	eP	P	13 39 15.1	-0.1
	comp=Z,62nm,1.0s						
X18A	Snowflake	93.54	46	⇓P	P	13 39 16.9	+1.4
	baz=93,SNR=16						
V20A	Brimhall	93.58	44	⇓P	P	13 39 16.9	+1.1
	baz=94,SNR=18						
LARF	Larrau	93.63	326	eP	P	13 39 15.5	-0.1
U21A	Nageezi	93.63	43	⇑P	P	13 39 17.4	+1.4
	baz=94,SNR=46						
T22A	Edith	93.67	42	⇑P	P	13 39 18.1	+1.9
	baz=94,SNR=38						
SJPF	Ste Jean	93.69	327	eP	P	13 39 15.5	-0.3
	comp=Z,174nm,1.3s						
SJPF	Ste Jean	93.69	327	eP	P	13 39 15.5	-0.3
SJPF				pmax	pmax		
	comp=Z,174nm,1.3s						
SJPF	Ste Jean	93.69	327	eP	P	13 39 15.5	-0.3
	comp=Z,174nm,1.3s						
S23A	Nye Farm, Mont	93.70	41	⇓P	P	13 39 18.0	+1.6
	baz=94						
Q25A	Bedland, Calha	93.82	39	⇓P	P	13 39 17.5	+0.7
	baz=94,SNR=20						
R24A	Sanders Place,	93.83	40	⇑P	P	13 39 18.2	+1.4
	baz=94,SNR=27						
M29A	Burnside Ranch	93.84	36	P	P	13 39 17.2	+0.6
	baz=94						
P26A	Davis Ranch, A	93.84	39	⇑P	P	13 39 17.8	+0.9
	baz=94,SNR=17						
O27A	Beecher Island	93.84	38	⇓P	P	13 39 17.4	+0.7
	baz=94,SNR=6.9						
CMAH	Djebel Manchou	93.85	317	P	P	13 39 16.9	+0.1
ABPO	Ambohimpanom	93.87	250	eP	P	13 39 16.8	-0.4
ABPO				pmax	pmax		
	comp=Z,426nm,1.7s						
ABPO				MLR	MLR		
	comp=Z,1µm,21.0s						
ABPO	Ambohimpanom	93.87	250	eP	P	13 39 16.8	-0.4
	comp=Z,426nm,1.7s						
ABPO				LR	LR		
	comp=Z,1µm,21.0s						
SDCO	Great Sand Dun	93.96	41	eP	P	13 39 18.2	+0.7
	comp=Z,80nm,1.8s						
SDCO				LR	LR		
	comp=Z,593nm,19.0s						
N28A	Pribbeno Ranch	93.97	37	⇑P	P	13 39 18.0	+0.7
	baz=94						
W20A	Ramah	94.02	45	⇑P	P	13 39 18.9	+1.1
	baz=94,SNR=20						
ECSD	EROS Data Cent	94.04	32	eP	P	13 39 18.3	+0.8
	comp=Z,80nm,1.3s						
ECSD				LR	LR		
	comp=Z,732nm,22.0s						
ABSA	Djebel Ababsia	94.06	317	P	P	13 39 18.1	+0.3
V21A	Milan	94.07	44	⇑P	P	13 39 19.2	+1.2
	baz=94,SNR=7.5						
TBI	Tubuai	94.08	115	ePP	PP	13 43 08.5	+1.8
	comp=Z,386nm,29.5s						
TBI				eSKSac	SKSac	13 49 37.7	+0.7
	comp=Z,2µm,32.7s						
TBI				eSP	SP	13 51 34.2	+4.2
	comp=Z,2µm,45.0s						
TBI	Tubuai	94.08	115	eLR	LR	14 09 39.6	
	comp=Z,3µm,39.5s						
U22A	Llaves	94.14	43	⇓P	P	13 39 20.1	+1.7
	baz=94,SNR=27						
T23A	Casias Ranch,	94.15	42	⇑P	P	13 39 20.1	+1.7
	baz=94,SNR=23						
M30A	Dale-Ortello V	94.17	35	⇑P	P	13 39 18.3	+0.1
	baz=94						
S24A	Houchin Ranch,	94.19	41	⇓P	P	13 39 19.7	+1.0
	baz=94,SNR=13						
Q26A	Hugo	94.21	39	⇓P	P	13 39 18.9	+0.4
	baz=94,SNR=8.1						
P27A	Ficken Ranch,	94.25	38	⇓P	P	13 39 19.3	+0.7
	baz=94,SNR=6.0						
O28A	Krutsinger Ran	94.26	37	P	P	13 39 18.9	+0.2
	baz=94						
N29A	Votaw Ranch, W	94.33	36	⇓P	P	13 39 19.4	+0.5
	baz=94						
R25A	Fountain Ranch	94.35	40	⇑P	P	13 39 19.7	+0.5
	baz=94,SNR=27						
CKFL	Kef-Lekhel	94.41	318	P	P	13 39 19.4	0.0
X20A	Quemado	94.42	45	⇑P	P	13 39 21.3	+1.7
	baz=94,SNR=42						
V22A	San Miguel Ran	94.42	43	⇓P	P	13 39 21.0	+1.3
	baz=94,SNR=16						
TUC	Tucson	94.48	48	eP	P	13 39 21.3	+1.5
TUC				pmax	pmax		
	comp=Z,103nm,1.5s						
TUC				MLR	MLR		
	comp=Z,902nm,20.0s						
TUC	Tucson	94.48	48	eP	P	13 39 21.2	+1.5
	comp=Z,103nm,1.5s						
TUC				LR

baz=95,SNR=9.0
DFRA Djebel Bou Aff 94.79 318 P P 13 39 21.6 +0.4
CTEI Djebel Teioual 94.83 317 P P 13 39 22.2 +0.8
X21A Alamocita Cree 94.91 45 ⇑P P 13 39 23.2 +1.2
baz=95,SNR=25
Y20A Horse Springs, 94.92 45 ⇑P P 13 39 24.0 +2.0
baz=95,SNR=17
V23A Ortiz Mt. (NFS 94.97 43 ⇑P P 13 39 24.3 +2.2
baz=95,SNR=15
T25A Trinidad 95.00 41 ⇑P P 13 39 23.1 +0.8
baz=95,SNR=16
Q28A Sharon Springs 95.01 38 ⇓P P 13 39 22.7 +0.6
baz=95,SNR=10
U24A Moreno Valley 95.02 42 ⇑P P 13 39 24.4 +1.9
baz=95,SNR=6.5
W22A Albuquerque 95.03 44 ⇓P P 13 39 24.0 +1.6
baz=95
R27A Eads 95.06 39 ⇓P P 13 39 22.9 +0.6
baz=95,SNR=20
P29A Atwood 95.08 37 ⇓P P 13 39 23.0 +0.6
baz=95
O30A MW Ranch, Wils 95.10 36 ⇑P P 13 39 22.8 +0.4
baz=95
BGNE Belgrade 95.11 34 eP P 13 39 22.6 +0.2
comp=Z,2µm,1.4s
BGNE Belgrade 95.11 34 ⇓P P 13 39 22.7 +0.2
baz=95,SNR=6.8
S26A Kim 95.17 40 P P 13 39 23.2 +0.2
baz=95
Y21A Point of Rocks 95.28 45 ⇑P P 13 39 25.2 +1.6
baz=95,SNR=20
SET Setif 95.31 318 P P 13 39 24.0 +0.5
Z20A Nine Sixteen R 95.32 46 ⇓P P 13 39 25.4 +1.7
baz=95
X22A Bernardo 95.34 44 ⇑P P 13 39 26.0 +2.2
baz=95
ANMO Albuquerque 95.36 44 eP P 13 39 24.6 +0.7
comp=Z,162nm,2.3s
ANMO LR LR
comp=Z,891nm,19.0s
CKHR Kef el Ahmar 95.37 318 P P 13 39 24.1 +0.2
W23A Werner Place, 95.39 43 ⇑P P 13 39 26.0 +1.9
baz=95,SNR=8.2
T26A Comanche Natio 95.43 40 ⇑P P 13 39 24.7 +0.5
baz=95,SNR=11
S27A Las Animas 95.44 40 ⇑P P 13 39 24.6 +0.4
baz=95
P30A Selden 95.48 37 ⇑P P 13 39 24.5 +0.4
baz=95
V24A Rampart Ranch, 95.51 42 ⇑P P 13 39 26.6 +2.0
baz=95,SNR=29
U25A Circle Dot Ran 95.53 41 ⇑P P 13 39 25.9 +1.2
baz=95,SNR=15
R28A Tribune 95.55 38 ⇑P P 13 39 25.0 +0.4
baz=95,SNR=9.6
Q29A Oakley 95.59 38 P P 13 39 24.7 0.0
baz=95
120A U Bar Ranch, L 95.68 47 ⇓P P 13 39 26.9 +1.5
baz=96
LPM Los Pinos Moun 95.69 44 eP P 13 39 26.2 +0.7
Y22A Socorro 95.75 45 ⇓P P 13 39 27.1 +1.4
baz=96,SNR=7.8
Z21A St. Cloud Mine 95.76 45 ⇑P P 13 39 27.4 +1.6
baz=96
X23A Hourglass Bar 95.77 44 ⇓P P 13 39 27.2 +1.4
baz=96
W24A Lazy 6 Ranch, 95.79 43 ⇓P P 13 39 27.7 +1.8
baz=96
BNM Barren Site 95.81 44 eP P 13 39 26.3 +0.3
comp=Z,24nm,1.3s
R29A Marienthal 95.85 38 ⇓P P 13 39 26.4 +0.5
baz=96
U26A Atchley Ranch, 95.90 41 ⇑P P 13 39 27.2 +0.8
baz=96
Q30A Quinter 95.92 37 ⇓P P 13 39 26.4 +0.2
baz=96
P31A Stockton 95.94 36 ⇓P P 13 39 26.6 +0.4
baz=96,SNR=11
T27A Campo 95.99 40 ⇑P P 13 39 27.3 +0.7
baz=96,SNR=8.8
S28A Manter 96.06 39 ⇓P P 13 39 27.7 +0.8
baz=96,SNR=8.7
319A Douglas 96.06 48 P P 13 39 28.2 +1.1
baz=96
220A Playas Peak, P 96.18 47 ⇑P P 13 39 28.9 +1.2
baz=96,SNR=5.8
ABA Alger-Bouzarea 96.21 320 P P 13 39 28.2 +0.7
121A Cookes Peak, D 96.22 46 ⇑P P 13 39 29.2 +1.4
baz=96,SNR=6.7
Z22A Elephant Butte 96.22 45 ⇑P P 13 39 29.2 +1.4
baz=96,SNR=23
X24A Lazy VL Ranch, 96.23 43 ⇑P P 13 39 29.2 +1.3
baz=96,SNR=6.7
AKET Djebel Ketaf 96.28 319 P P 13 39 29.0 +1.0
T28A Walsh 96.28 40 ⇓P P 13 39 28.5 +0.6
baz=96,SNR=6.1
Y23A Lovelace Mesa, 96.30 44 ⇑P P 13 39 29.4 +1.2
baz=96,SNR=13
V26A Tequesquite Ra 96.31 41 ⇑P P 13 39 28.9 +0.8
baz=96
Q31A Ellis 96.32 37 ⇑P P 13 39 28.2 +0.2
baz=96
W25A X Bar L Ranch, 96.33 42 ⇑P P 13 39 29.4 +1.2
baz=96,SNR=35
U27A Thompson Grove 96.40 40 ⇓P P 13 39 29.2 +0.7
baz=96,SNR=7.8
R30A Dighton 96.40 38 ⇑P P 13 39 28.8 +0.4
baz=96,SNR=5.0
S29A Ulysses 96.45 39 ⇑P P 13 39 29.2 +0.5
baz=96
320A Kipp Ranch, An 96.56 47 ⇓P P 13 39 30.8 +1.4
baz=96
221A Mesquite Ranch 96.58 46 ⇑P P 13 39 31.0 +1.6
baz=96
122A Conniff Cattle 96.58 46 ⇓P P 13 39 31.1 +1.7
baz=96
Z23A Rita Site, Whi 96.66 45 ⇑P P 13 39 30.6 +0.8
baz=96
Y24A Capitan 96.67 44 ⇓P P 13 39 30.9 +1.0
baz=96
EMHD Djebel Mahouad 96.69 320 P P 13 39 30.0 +0.2
T29A Hugoton 96.70 39 ⇑P P 13 39 30.3 +0.5
baz=96
X25A Clemmons Ranch 96.71 43 ⇑P P 13 39 31.1 +1.2
baz=97,SNR=24
U28A Mallet 96.76 40 ⇑P P 13 39 30.6 +0.5
baz=97
S30A Montezuma 96.78 38 ⇓P P 13 39 30.6 +0.4
baz=97
R31A Burdett 96.79 37 ⇓P P 13 39 30.1 0.0
baz=97
W26A Owens Ranch, T 96.83 42 ⇑P P 13 39 32.0 +1.5
baz=97
V27A Dan Oppiter Fa 96.87 41 ⇑P P 13 39 31.4 +0.8
baz=97
222A Williams Famil 96.93 46 ⇓P P 13 39 31.8 +0.8
baz=97
SCIA State Center 97.01 31 eP Pdif 13 39 31.9 +0.8
comp=Z,112nm,1.3s
SCIA LR LR
comp=Z,546nm,20.0s
Y25A Mesa, Roswell 97.11 43 ⇑P Pdif 13 39 32.6 +0.7
baz=97
Z24A Sheeppen Canyo 97.13 44 ⇑P Pdif 13 39 33.0 +1.0
baz=97
X26A CR and CF Fran 97.18 42 ⇑P Pdif 13 39 33.0 +0.8
baz=97
T30A Plains 97.19 39 ⇑P Pdif 13 39 32.6 +0.6
baz=97
V28A Channing 97.22 41 ⇓P Pdif 13 39 32.7 +0.4
baz=97
U29A Oasis Ranch, S 97.23 39 ⇑P Pdif 13 39 32.5 +0.2
baz=97
PBRG Braganca 97.23 329 eP P 13 39 32.0 -0.1
comp=Z,77nm,1.8s
PBRG Braganca 97.23 329 ePP PP 13 43 32.4 +2.7
PBRG i P x 13 44 23.1
W27A Bowe Ranch, En 97.24 41 ⇓P Pdif 13 39 33.5 +1.1
baz=97
S31A Mullinville 97.32 38 ⇓P Pdif 13 39 32.9 +0.4
baz=97
EBNR Beni Rached 97.41 320 P Pdif 13 39 34.0 +1.0
223A Chaparral, Ant 97.41 46 ⇓P Pdif 13 39 34.4 +1.2
baz=97
JFWS Jewell Farm 97.46 29 eP P 13 39 31.1 -1.9
JFWS pmax pmax
comp=Z,113nm,1.7s
JFWS MLR MLR
comp=Z,810nm,20.0s
JFWS Jewell Farm 97.46 29 eP P 13 39 31.1 -1.9
comp=Z,114nm,1.7s
JFWS LR LR
comp=Z,810nm,20.0s
U30A WK&E Inc. Balk 97.51 39 ⇓P Pdif 13 39 33.8 +0.3
baz=97
V29A Stinnett 97.52 40 ⇑P Pdif 13 39 34.1 +0.5
baz=97
124A Stringfield Ra 97.52 45 ⇑P Pdif 13 39 34.8 +0.9
baz=97
X27A F and S Farms, 97.52 42 ⇓P Pdif 13 39 34.5 +0.8
baz=97
Z25A Roswell 97.56 44 ⇓P Pdif 13 39 34.8 +1.0
baz=97,SNR=16
W28A Vega 97.59 41 ⇑P Pdif 13 39 34.8 +0.9
baz=97
T31A Randall Ranch, 97.61 38 ⇑P Pdif 13 39 34.3 +0.5
baz=97
Y26A Elida 97.62 43 ⇓P Pdif 13 39 34.6 +0.5
baz=98
KSU1 Kansas State U 97.64 35 eP Pdif 13 39 34.5 +0.6
comp=Z,38nm,0.9s
KSU1 LR LR
comp=Z,836nm,21.0s
ESDC Sonseca Array 97.65 326 P P 13 39 33.4 -0.5
ESDC PP PP 13 43 26.0 -7.0
ESDC PKKP PKKPbc 13 56 09.3 +0.2
ESDC Sonseca Array 97.65 326 P P 13 39 33.4 -0.5
comp=Z,40nm,1.0s,baz=28,slow=4.3,SNR=83
ESDC PP PP 13 43 26.0 -7.0
comp=Z,7.0nm,0.9s,baz=36,slow=7.2,SNR=5.3
ESDC PKKP PKKPbc 13 56 09.3 +0.2
comp=Z,2.4nm,0.7s,baz=220,slow=2.2,SNR=10
ESDC LR LR 14 30 37.5
comp=Z,1µm,18.9s,baz=65,slow=40
ESLA Sonseca Array 97.65 326 eP P 13 39 33.7 -0.3
comp=Z,17nm,1.1s
PGAV Gavieira, Arco 97.77 330 eP Pdif 13 39 34.6 +0.1
comp=Z,109nm,1.3s
PGAV Gavieira, Arco 97.77 330 ePP PP 13 43 36.4 +2.6
PGAV i P x 13 44 32.8
DRV Dumont d'Urvil 97.82 176 PP PP 13 43 40.0 +5.2
DRV S S 13 51 43.0 +59
DRV SS SS 13 57 21.0 -9.4
PCAB Cabril 97.87 330 eP Pdif 13 39 35.2 +0.3
comp=Z,84nm,1.4s
PCAB i P x 13 44 34.4
MVO Moncorvo 97.88 329 eP P 13 39 34.3 -0.7
comp=Z,89nm,1.2s
MVO Moncorvo 97.88 329 ePP PP 13 43 37.1 +2.4
MVO i P x 13 44 33.3
MVO eSKSac SKSac 13 49 59.9 +3.1
EANR 'Ain N'Sour 97.89 321 P P 13 39 34.8 -0.3
224A Cornudas Mount 97.92 45 ⇑P Pdif 13 39 36.2 +0.7
baz=98
PAB San Pablo 97.94 326 eP P 13 39 32.7 -2.6
PAB pmax pmax
comp=Z,257nm,1.1s
PAB MLR MLR
comp=Z,3µm,19.0s
PAB San Pablo 97.94 326 eP P 13 39 32.7 -2.6
comp=Z,42nm,1.1s
PAB LR LR
comp=Z,2µm,19.0s
Z26A Caprock 98.00 43 ⇑P Pdif 13 39 36.4 +0.6
baz=98
W29A Amraillo 98.00 41 ⇓P Pdif 13 39 36.5 +0.8
baz=98
125A Gardner Draw, 98.03 44 ⇑P Pdif 13 39 36.9 +1.0
baz=98
Y27A Causey 98.03 42 ⇓P Pdif 13 39 36.6 +0.7
baz=98
POLO Lamas de Olo 98.05 329 eP P 13 39 35.6 -0.2
comp=Z,41nm,1.3s
POLO Lamas de Olo 98.05 329 ePP PP 13 43 38.8 +2.8
POLO i P x 13 44 37.6
V30A Spur Ranch, Mi 98.06 40 ⇓P Pdif 13 39 36.6 +0.6
baz=98
U31A Nine Bar Ranch 98.06 39 ⇓P Pdif 13 39 37.0 +1.1
baz=98
PVRL Vila Real 98.09 329 eP P 13 39 35.9 0.0
comp=Z,51nm,2.2s
PVRL Vila Real 98.09 329 ePP PP 13 43 38.5 +2.2
PVRL i P x 13 44 37.0
X28A Dimmitt 98.13 41 ⇑Pdiff Pdif 13 39 36.5 +0.2
baz=98
ETRT Tiaret 98.20 320 P P 13 39 36.6 0.0
MSTX Muleshoe 98.20 42 eP Pdif 13 39 37.8 +1.1
MSTX epP pP 13 40 21.1 +2.4
MSTX Muleshoe 98.20 42 ⇓Pdiff Pdif 13 39 36.9 +0.2
baz=98
MNTX Cornudas Mount 98.26 45 eP Pdif 13 39 37.0 +0.1
comp=Z,16nm,1.3s
MNTX LR LR
comp=Z,658nm,20.0s
225A Deer Hill, Car 98.31 45 ⇑Pdiff Pdif 13 39 38.3 +1.0
baz=98
CASY Casey 98.31 188 PFAKE 13 39 50.0 +14
CASY LR LR
comp=Z,956nm,20.0s
324A Moseley Ranch, 98.38 46 ⇑Pdiff Pdif 13 39 38.1 +0.5
baz=98
Z27A Tatum 98.41 43 ⇑Pdiff Pdif 13 39 38.4 +0.8
baz=98
X29A Tulia 98.46 41 ⇑Pdiff Pdif 13 39 38.5 +0.7
baz=98
V31A Spring Creek L 98.51 39 ⇓Pdiff Pdif 13 39 38.9 +1.0
baz=98
Y28A McKinney Farm, 98.54 42 ⇓Pdiff Pdif 13 39 38.7 +0.5
baz=98
W30A Crocket Farms 98.55 40 ⇓Pdiff Pdif 13 39 38.7 +0.5
baz=98
PVIS Viseu 98.62 329 eP Pdif 13 39 38.8 +0.5
comp=Z,85nm,1.3s
PVIS Viseu 98.62 329 ePP PP 13 43 46.7 +6.4
PVIS i P x 13 44 38.6
MTE Manteigas 98.73 329 eP Pdif 13 39 38.9 +0.1
comp=Z,104nm,1.4s
MTE Manteigas 98.73 329 ePP PP 13 43 45.5 +4.4
MTE i P x 13 44 39.7
MTE Manteigas 98.73 329 eP P 13 39 36.9 -1.9
comp=Z,85nm,1.1s
MTE LR LR
comp=Z,2µm,19.0s
226B Tecolote Peak, 98.73 44 ⇑Pdiff Pdif 13 39 39.9 +0.9
baz=99
325A Bean Ranch, Si 98.74 45 ⇓Pdiff Pdif 13 39 40.0 +0.7
baz=99
127A Arkansas Junct 98.79 43 ⇓Pdiff Pdif 13 39 39.9 +0.6
baz=99
W31A Holland Ranch, 98.89 40 ⇓Pdiff Pdif 13 39 40.6 +1.0
baz=99
Y29A Porterfield Fa 98.91 41 ⇓Pdiff Pdif 13 39 40.5 +0.7
baz=99
Z28A Tucker Farm, M 98.91 42 ⇑Pdiff Pdif 13 39 40.3 +0.5
baz=99
X30A Coker Ranch, T 98.92 41 ⇑Pdiff Pdif 13 39 40.5 +0.7
baz=99
425A Indio Mountain 99.14 46 ⇓Pdiff Pdif 13 39 41.7 +0.8
baz=99
PCBR Castelo Branco 99.15 328 eP Pdif 13 39 41.2 +0.6
comp=Z,53nm,1.3s
PCBR Castelo Branco 99.15 328 ePP PP 13 43 47.9 +3.6
PCBR i P x 13 44 43.0
X31A McDonald Ranch 99.28 40 ⇑Pdiff Pdif 13 39 42.0 +0.7
baz=99
227A Bennet, Jal 99.30 44 ⇑Pdiff Pdif 13 39 42.4 +0.9
baz=99
Z29A Hungry Hill Ra 99.32 42 ⇑Pdiff Pdif 13 39 42.3 +0.6
baz=99
Y30A Stafford Cattl 99.33 41 ⇓Pdiff Pdif 13 39 42.4 +0.7
baz=99
128A Castleberry Fa 99.34 43 ⇓Pdiff Pdif 13 39 42.4 +0.7
baz=99
326A Caldwell Ranch 99.38 45 ⇓Pdiff Pdif 13 39 42.7 +0.8
baz=99
PMRV Marv??o 99.45 328 eP Pdif 13 39 42.1 +0.1
comp=Z,94nm,1.4s
PMRV Marv??o 99.45 328 ePP PP 13 43 49.6 +3.0
PMRV i P x 13 44 46.1
PMRV eSKSac SKSac 13 50 04.6 0.0
Y31A Rekieta Farm, 99.62 41 ⇑Pdiff Pdif 13 39 43.4 +0.5
baz=100
Z30A Sanderson Ranc 99.63 42 ⇓Pdiff Pdif 13 39 43.5 +0.6
baz=100
228A UT Block 9, Go 99.64 43 ⇑Pdiff Pdif 13 39 44.1 +1.0
baz=100
327A Balmorhea Ranc 99.64 44 ⇓Pdiff Pdif 13 39 43.8 +0.8
baz=100
129A Stewart Farms, 99.69 42 ⇑Pdiff Pdif 13 39 43.5 +0.2
baz=100
PTOM Tomar 99.75 329 ePP PP 13 43 52.4 +3.6
PTOM i P x 13 44 43.5
426A McDonald Obser 99.81 45 ⇑Pdiff Pdif 13 39 44.3 +0.3
baz=100
HDIL Hopedale 99.81 29 PFAKE 13 39 50.0 +6.5
HDIL LR LR
comp=Z,14µm,22.0s
WMOK Wichita Mounta 99.86 39 eP Pdif 13 39 44.2 +0.3
WMOK pmax pmax
comp=Z,24nm,1.5s
WMOK MLR MLR
comp=Z,591nm,19.0s
WMOK Wichita Mounta 99.86 39 ePdif Pdif 13 39 44.2 +0.3
comp=Z,24nm,1.5s
WMOK LR LR
comp=Z,591nm,19.0s
PESTR Estremoz 99.99 328 eP Pdif 13 39 44.8 +0.4
comp=Z,58nm,1.5s
PESTR Estremoz 99.99 328 ePP PP 13 43 53.1 +2.4
PESTR i P x 13 44 46.1
328A Wristen Ranch, 100.04 44 ⇓Pdiff Pdif 13 39 45.4 +0.6
baz=100
Y32A R-V Farms, Ver 100.05 40 ⇓Pdiff Pdif 13 39 45.2 +0.5
baz=100
427A Hayter Ranch, 100.06 45 ⇓Pdiff Pdif 13 39 45.5 +0.5
baz=100
PMTG Montargil 100.11 328 eP Pdif 13 39 44.7 -0.2
comp=Z,65nm,1.5s
PMTG Montargil 100.11 328 ePP PP 13 43 53.4 +1.8
PMTG i P x 13 44 48.8
Z31A Sharp Cattle R 100.17 41 ⇑Pdiff Pdif 13 39 45.9 +0.6
baz=100
229A Bryant Ranch, 100.20 43 ⇑Pdiff Pdif 13 39 46.1 +0.5
baz=100
526A Mary Lane Ranc 100.20 46 ⇓Pdiff Pdif 13 39 46.0 +0.3
baz=100
130A Snyder 100.23 42 ⇓Pdiff Pdif 13 39 46.3 +0.7
baz=100
PBAR Barrancos 100.30 327 eP Pdif 13 39 45.8 +0.1
comp=Z,67nm,1.3s
PBAR Barrancos 100.30 327 ePP PP 13 43 55.2 +2.2
PBAR i P x 13 44 47.8
527A Woodward Ranch 100.43 45 ⇓Pdiff Pdif 13 39 47.5 +0.8
baz=100
329A Wagon Wheel Ra 100.45 43 ⇓Pdiff Pdif 13 39 47.7 +1.0
baz=100
EVO Evora 100.45 328 ⇑iP Pdif 13 39 46.1 -0.3
comp=Z,99nm,1.4s
EVO eR
comp=Z,2µm,21.5s
EVO Evora 100.45 328 eP Pdif 13 39 47.1 +0.7
comp=Z,54nm,1.4s
EVO Evora 100.45 328 ePP PP 13 43 54.5 +0.3
EVO i P x 13 44 47.8
131A Roby 100.50 41 ⇓Pdiff Pdif 13 39 47.5 +0.7
baz=100
EVOP Sao Brissos 100.51 328 ⇑iP Pdif 13 39 46.1 -0.5
EVOP pmax pmax
comp=Z,99nm,1.4s
EVOP Sao Brissos 100.51 328 ⇑iP Pdif 13 39 46.1 -0.5
comp=Z,99nm,1.4s
TUL1 Tulsa 100.53 36 ⇓Pdiff Pdif 13 39 47.5 +0.7
baz=100
626A Big Bend Ranch 100.53 46 ⇓Pdiff Pdif 13 39 48.2 +1.1
baz=100
Z32A Haskell 100.55 40 ⇑Pdiff Pdif 13 39 47.7 +0.7
baz=100
428A Kincaid Ranch, 100.58 44 ⇓Pdiff Pdif 13 39 48.4 +1.1
baz=100
PACT Alcochete 100.63 329 ePP PP 13 43 58.3 +2.8
230A Sterling City 100.67 42 ⇑Pdiff Pdif 13 39 48.2 +0.6
baz=100
PMAFR Mafra 100.68 329 eP Pdif 13 39 47.2 -0.2
comp=Z,195nm,1.0s
PMAFR Mafra 100.68 329 ePP PP 13 43 57.5 +1.7
PMAFR i P x 13 44 54.7
PMST Lisbon--Monsan 100.81 329 ePP PP 13 44 00.9 +4.1
PMST i P x 13 44 56.5
LIS Lisbon 100.82 329 eP Pdif 13 39 48.2 +0.2
LIS ePP PP 13 43 58.1 +1.3
LIS AMS AMS 14 28 06.5
comp=Z,2µm,19.4s
LIS Lisbon 100.82 329 eP Pdif 13 39 48.2 +0.2
LIS Lisbon 100.82 329 A A 14 28 06.5
comp=Z,2µm,19.4s
LIS Lisbon 100.82 329 eP Pdif 13 39 48.2 +0.2
LIS e 13 43 58.1
SFIN Scholer Farm 100.87 28 ePdif Pdif 13 39 49.5 +1.3
SFIN Scholer Farm 100.87 28 ⇓Pdiff Pdif 13 39 48.8 +0.6
baz=101
528A Cox Ranch, San 100.92 45 ⇑Pdiff Pdif 13 39 50.1 +1.3
baz=101
ABTX Abilene, Hawle 100.96 41 ⇑Pdiff Pdif 13 39 49.6 +0.8
baz=101
TXAR Lajitas Array 100.97 46 P Pdif 13 39 50.0 +1.0
TXAR pP pP 13 40 31.1 -0.1
TXAR PP PP 13 43 51.2 -7.4
TXAR PKiKP PKiKP 13 44 13.7 +0.1
TXAR PKKP PKKPbc 13 56 01.5 +1.9
TXAR P'P' 14 04 19.3
TXAR Lajitas Array 100.97 46 P Pdif 13 39 50.0 +1.0
comp=Z,3.5nm,0.7s,baz=305,slow=3.2,SNR=37
TXAR pP pP 13 40 31.1 -0.1
comp=Z,3.1nm,0.8s,baz=284,slow=3.6,SNR=4.4
TXAR PP PP 13 43 51.2 -7.4
comp=Z,1.1nm,0.9s,baz=303,slow=5.3,SNR=3.6
TXAR PKiKP PKiKP 13 44 13.7 +0.1
comp=Z,2.8nm,0.9s,baz=262,slow=0.6,SNR=4.0
TXAR PKKP PKKPbc 13 56 01.5 +1.9
comp=Z,4.1nm,0.8s,baz=139,slow=4.8,SNR=17
TXAR PKPPKP P'P'df 14 04 19.3 -0.1
comp=Z,0.9nm,1.0s,baz=132,slow=1.3,SNR=4.2
330A Mertzon 100.98 43 ⇑Pdiff Pdif 13 39 49.6 +0.6
baz=101
PNCL Nicolau / Gran 101.03 328 eP Pdif 13 39 49.2 +0.2
comp=Z,69nm,1.5s
PNCL Nicolau / Gran 101.03 328 ePP PP 13 44 00.1 +1.6
PNCL i P x 13 44 57.4
627A Terlingua Ranc 101.06 46 ⇑Pdiff Pdif 13 39 50.7 +1.2
baz=101
231A Bronte 101.09 42 ⇑Pdiff Pdif 13 39 49.9 +0.5
baz=101
429A Davenport Ranc 101.12 44 ⇑Pdiff Pdif 13 39 50.3 +0.6
baz=101
PVAQ Vaqueiros 101.23 327 eP Pdif 13 39 49.9 0.0
comp=Z,93nm,1.1s
PVAQ Vaqueiros 101.23 327 ePP PP 13 44 01.2 +1.1
PVAQ i P x 13 44 54.7
PVAQ eSKSac SKSac 13 50 12.7 -0.6
LONY Lake Ozonia 101.25 18 PFAKE 13 40 00.0 +10
LONY LR LR
comp=Z,754nm,20.0s
529A Stev Forest Ra 101.29 44 ⇑Pdiff Pdif 13 39 51.3 +0.8
baz=101
628A Black Gap, Mar 101.34 45 ⇓Pdiff Pdif 13 39 51.4 +0.8
baz=101
430A Baggett Ranch, 101.40 43 ⇓Pdiff Pdif 13 39 51.5 +0.6
baz=101
PBDV Barranco-do-Ve 101.46 327 eP Pdif 13 39 52.2 +1.2
comp=Z,59nm,1.2s
PBDV Barranco-do-Ve 101.46 327 ePP PP 13 44 03.4 +1.6
PBDV i P x 13 44 55.9
MIR Mirnyy 101.47 194 eP Pdif 13 39 51.5 +1.5
MIR pmax pmax
comp=Z,63nm,1.0s
331A San Angelo 101.49 42 ⇑Pdiff Pdif 13 39 51.9 +0.6
baz=101
232A Coleman 101.51 42 ⇓Pdiff Pdif 13 39 51.9 +0.6
baz=101
PTEO Sao Teotonio 101.58 328 eP Pdif 13 39 52.0 +0.5
comp=Z,149nm,1.5s
PTEO Sao Teotonio 101.58 328 ePP PP 13 44 05.5 +2.9
PTEO i P x 13 45 05.4
MORF Marmelete 101.75 328 eP Pdif 13 39 52.9 +0.6
comp=Z,61nm,1.4s
MORF Marmelete 101.75 328 ePP PP 13 44 08.5 +4.5
MORF Marmelete 101.75 328 eP Pdif 13 39 52.1 -0.2
MORF e 13 44 05.2
530A J-C Ranch, Com 101.80 44 ⇑Pdiff Pdif 13 39 53.5 +0.8
baz=102
332A Millersview 101.83 42 ⇓Pdiff Pdif 13 39 53.6 +0.8

baz=102
431A Sonora 101.84 43 ⇑Pdiff Pdif 13 39 53.5 +0.6
baz=102
PKME Peaks-Kenny Pk 101.88 14 PFAKE 13 40 00.0 +7.4
PKME LR LR
comp=Z,827nm,19.0s
NCB Newcomb 101.95 18 *e*Pdif Pdif 13 39 54.3 +1.3
NCB LR LR
comp=Z,831nm,20.0s
PFVI Vila Bisbo 101.97 328 *e*P Pdif 13 39 54.1 +0.9
PFVI Vila Bisbo 101.97 328 *e*PP PP 13 44 07.8 +2.2
PFVI *i* P x 13 44 59.6
432A Menard 102.17 42 ⇓Pdiff Pdif 13 39 54.8 +0.5
baz=102
531A Rocksprings 102.26 43 ⇓Pdiff Pdif 13 39 55.4 +0.7
baz=102
LBNH Lisbon 102.27 16 PFAKE 13 40 00.0 +5.6
LBNH LR LR
comp=Z,920nm,19.0s
JCT Junction City 102.46 43 *e*P Pdif 13 39 55.9 +0.3
JCT pmax pmax
comp=Z,25nm,1.4s
JCT MLR MLR
comp=Z,713nm,20.0s
JCT Junction City 102.46 43 *e*Pdif Pdif 13 39 55.9 +0.3
comp=Z,26nm,1.4s
JCT LR LR
comp=Z,713nm,20.0s
JCT Junction City 102.46 43 ⇑Pdiff Pdif 13 39 56.3 +0.7
baz=102
WHTX Lake Whitney 102.66 40 ⇑Pdiff Pdif 13 39 56.6 +0.3
baz=102
532A Rocksprings 102.66 43 ⇓Pdiff Pdif 13 39 57.2 +0.7
baz=102
MIAR Mount Ida 102.72 36 *e*P Pdif 13 39 57.5 +0.9
MIAR pmax pmax
comp=Z,13nm,1.3s
MIAR MLR MLR
comp=Z,716nm,19.0s
MIAR Mount Ida 102.72 36 *e*Pdif Pdif 13 39 57.5 +0.9
comp=Z,13nm,1.3s
MIAR LR LR
comp=Z,716nm,19.0s
631A Perdido Creek 102.79 44 ⇑Pdiff Pdif 13 39 57.9 +0.9
baz=103
BINY Binghamton 103.11 20 PFAKE 13 40 10.0 +12
BINY LR LR
comp=Z,878nm,21.0s
632A Uvalde 103.19 43 ⇑Pdiff Pdif 13 39 59.7 +1.0
baz=103
RTC Rabat Centre 103.56 324 PFAKE 13 40 10.0 +10
RTC LR LR
comp=Z,841nm,22.0s
732A Laxson Ranch, 103.65 44 ⇓Pdiff Pdif 13 40 01.8 +1.0
baz=104
SSPA Standing Stone 103.96 22 *e*Pdif Pdif 13 40 02.5 +0.5
NATX Nacogdoches 104.35 38 PFAKE 13 40 10.0 +6.1
NATX LR LR
comp=Z,743nm,21.0s
TAM Tamanrasset 104.56 308 PFAKE 13 40 10.0 +4.8
TAM LR LR
comp=Z,678nm,20.0s
HKT Hockley 105.11 40 *e*PKPdf PKiKP 13 44 17.1 -3.8
RKT Rikitea 105.53 108 *e*PP PP 13 44 35.3 +1.8
comp=Z,325nm,29.5s
RKT *e*SKSac **SKSac 13 50 34.5 +1.2**
comp=Z,1μm,27.8s
RKT Rikitea 105.53 108 *e*PS SP 13 53 37.5 +4.8
comp=Z,2μm,27.2s
RKT Rikitea 105.53 108 *e*LR LR 14 15 11.4
comp=Z,2μm,30.2s
KVTX Kingsville 105.75 43 PFAKE 13 44 30.0
KVTX LR LR
comp=Z,817nm,19.0s
BLA Blacksburg 106.18 25 PFAKE 13 44 30.0
BLA LR LR
comp=Z,908nm,19.0s
CBN Corbin 106.34 22 PFAKE 13 44 30.0
CBN LR LR
comp=Z,840nm,21.0s
LRAL Lakeview Retre 107.10 32 PFAKE 13 44 40.0
LRAL LR LR
comp=Z,606nm,19.0s
KMSC Kings Mountain 107.67 27 ⇓Pdiff PKiKP 13 44 27.7 +2.1
baz=108
CMLA Cha da Macela 107.75 340 PFAKE 13 44 40.0
CMLA LR LR
comp=Z,2μm,19.0s
LSZ Lusaka 107.87 263 *e*Pdif Pdif 13 40 20.1 +0.3
LSZ *e*PKPdf **PKiKP 13 44 25.6 -0.9**
LSZ LR LR
comp=Z,1μm,20.0s
PMPST Porto Santo, M 108.68 331 *e*PP PP 13 44 58.7 +3.7
CNNC Cliffs of the 108.85 24 PFAKE 13 44 40.0
CNNC LR LR
comp=Z,1μm,19.0s
PMOZ Porto Moniz, M 109.26 331 *e*PP PP 13 44 51.5 -7.8
VNDA Vanda 110.13 173 Pdif Pdif 13 40 30.2 +1.8
VNDA PKiKP **PKiKP 13 44 29.4 +0.6**
VNDA PP PP 13 44 59.6 -6.3
VNDA PKKPbc **PKKPbc 13 55 31.4 -1.9**
VNDA Vanda 110.13 173 Pdiff Pdif 13 40 30.2 +1.8
comp=Z,0.5nm,0.8s,baz=323,slow=5.1,SNR=2.6
VNDA PKiKP **PKiKP 13 44 29.4 +0.6**
comp=Z,2.3nm,0.8s,baz=306,slow=5.6,SNR=7.7
VNDA PP PP 13 44 59.6 -6.3
comp=Z,2.1nm,0.9s,baz=337,slow=8.4,SNR=2.3
VNDA PKKPbc **PKKPbc 13 55 31.4 -1.9**
comp=Z,3.3nm,1.2s,baz=162,slow=1.9,SNR=4.1
MAW Mawson 110.44 202 *e*Pdif Pdif 13 40 28.8 -1.0
MAW *e*PKPdf **PKiKP 13 44 29.7 +0.1**
MAW PKiKP **PKiKP 13 44 30.2 +0.7**
MAW PKKPbc **PKKPbc 13 55 29.1 -2.9**
MAW Mawson 110.44 202 Pdiff Pdif 13 40 29.2 -0.7
comp=Z,5.5nm,1.0s,baz=338,slow=5.4,SNR=8.6
MAW PKiKP **PKiKP 13 44 30.2 +0.7**
comp=Z,12nm,0.9s,baz=98,slow=1.7,SNR=17
MAW PKKPbc **PKKPbc 13 55 29.1 -2.9**
comp=Z,5.5nm,0.8s,baz=223,slow=3.6,SNR=11
SBA Scott Base 110.96 172 *e*PKPdf PKiKP 13 44 29.7 -0.7
SBA LR LR
comp=Z,774nm,20.0s
MSKU Masuku 113.45 283 PFAKE 13 44 50.0
MSKU LR LR
comp=Z,2.0nm,20.0s
TOA0 Torodi Ar. Sit 113.78 304 *e*PKPdf PKiKP 13 44 35.9 -1.7
TORD Torodi Ar. Bea 113.78 304 Pdif Pdif 13 40 45.7 -0.4
TORD PKiKP **PKiKP 13 44 37.0 -0.6**
TORD PP PP 13 45 26.6 -5.8
TORD PKKPbc **PKKPbc 13 55 21.6 +2.0**
TORD Torodi Ar. Bea 113.78 304 Pdiff Pdif 13 40 45.7 -0.4
comp=Z,0.7nm,0.9s,baz=29,slow=3.3,SNR=4.3
TORD PKiKP **PKiKP 13 44 37.0 -0.6**
comp=Z,7.0nm,0.4s,baz=36,slow=1.1,SNR=75
TORD PP PP 13 45 26.6 -5.8
comp=Z,17nm,1.0s,baz=33,slow=6.2,SNR=8.9
TORD PKKPbc **PKKPbc 13 55 21.6 +2.0**
comp=Z,7.7nm,0.9s,baz=228,slow=3.3,SNR=19
BBSR BB Station 115.24 14 PFAKE 13 44 50.0 +10
BBSR LR LR
comp=Z,598nm,21.0s
BOSA Boshof 116.08 251 PKP PKPdf 13 44 41.8 0.0
BOSA PP **PP 13 45 45.5 -3.9**
BOSA Boshof 116.08 251 PKP PKPdf 13 44 41.8 0.0
comp=Z,17nm,0.9s,baz=60,slow=0.8,SNR=14
BOSA PP **PP 13 45 45.5 -3.9**
comp=Z,13nm,1.0s,baz=71,slow=8.8,SNR=5.4
TEIG Tepich 116.95 41 PFAKE 13 44 50.0 +6.4
TEIG LR LR
comp=Z,600nm,22.0s
TSUM Tsumeb 118.67 264 *e*PKPdf PKPdf 13 44 46.6 -0.4
TSUM PKP **PKPdf 13 44 47.3 +0.3**
TSUM LR LR
comp=Z,1μm,21.0s
TSUM Tsumeb 118.67 264 PKP PKPdf 13 44 47.3 +0.3
comp=Z,22nm,0.9s,baz=79,slow=2.9,SNR=20
SYO Syowa Base 118.93 204 ⇓*e*P PKPdf 13 44 44.9 -0.9
QSPA South Pole Qui 120.94 180 PKP PKPdf 13 44 49.9 0.0
QSPA PP **PP 13 46 20.9 -0.9**
QSPA South Pole Qui 120.94 180 PKP PKPdf 13 44 49.9 0.0
comp=Z,58nm,1.0s,baz=319,slow=1.6,SNR=74
QSPA PP **PP 13 46 20.9 -0.9**
comp=Z,20nm,0.8s,baz=328,slow=3.3,SNR=5.5
SUR Sutherland 121.00 249 PKP PKPdf 13 44 51.2 -0.1
SUR LR LR
comp=Z,2μm,19.0s
SUR Sutherland 121.00 249 PKP PKPdf 13 44 51.2 -0.1
comp=Z,24nm,1.1s,baz=30,slow=2.5,SNR=4.4
DBIC Dimbokro 122.89 303 *e*PKPdf PKPdf 13 44 54.1 -1.0
DBIC PKP **PKPdf 13 44 54.6 -0.5**
DBIC PP **PP 13 46 37.3 +2.0**
DBIC Dimbokro 122.89 303 PKP PKPdf 13 44 54.6 -0.5
comp=Z,77nm,1.1s,baz=20,slow=2.7,SNR=33
DBIC PP **PP 13 46 37.3 +2.0**
comp=Z,42nm,1.2s,baz=24,slow=8.8,SNR=5.8
KIC Kosan Boka 123.02 303 *e*PKIKP PKPdf 13 44 55.2 -0.2
comp=Z,196nm,1.0s
TIC Toumodi 123.02 303 *e*PKIKP PKPdf 13 44 55.0 -0.5
comp=Z,105nm,0.8s
LIC Lamto 123.31 303 *e*PKIKP PKPdf 13 44 55.3 -0.7
comp=Z,122nm,0.8s
LIC *e*R
comp=Z,1μm,22.8s
LIC Lamto 123.31 303 *e*PKIKP PKPdf 13 44 55.7 -0.3
comp=Z,183nm,0.8s
LIC Lamto 123.31 303 *e*PKPdf PKPdf 13 44 55.3 -0.7
GTBY Guantanamo Bay 123.68 29 *e*PKPdf PKPdf 13 44 56.6 +0.1
GTBY LR LR
comp=Z,644nm,22.0s
GRTK Grand Turk 123.76 24 PFAKE 13 45 10.0 +13
GRTK LR LR
comp=Z,735nm,20.0s
SDDR Presa de Saban 126.03 25 *e*PKPdf PKPdf 13 45 00.8 -0.4
SDDR LR LR
comp=Z,737nm,20.0s
JTS JuntasAbangare 126.75 45 *e*PKPdf PKPdf 13 45 01.6 -1.0
JTS LR LR
comp=Z,474nm,19.0s
SACV Santiago Islan 127.66 327 PFAKE 13 45 10.0 +5.7
SACV LR LR
comp=Z,777nm,21.0s
MAIT Maitri 128.41 202 *e*P PKPdf 13 45 02.9 -1.0
CELP Cerrillos 128.45 21 *e*PKPdf PKPdf 13 45 05.5 -0.2
OBIP Obispado Ponce 128.47 21 *e*PKPdf PKPdf 13 45 04.1 -1.6
SJG San Juan 128.54 20 PFAKE 13 45 20.0 +14
SJG LR LR
comp=Z,436nm,21.0s
ANWB Willy Bob 130.09 15 PFAKE 13 45 20.0 +11
ANWB LR LR
comp=Z,834nm,21.0s
BCIP Isla Barro Col 130.63 41 PFAKE 13 45 20.0 +10
BCIP LR LR
comp=Z,492nm,20.0s
PAYG Puerto Ayora 131.15 60 PFAKE 13 45 20.0 +9.0
PAYG LR LR
comp=Z,1μm,20.0s
SNAA Sanae 132.35 198 *e*PKPdf PKPdf 13 45 11.6 0.0
SNAA SKPbc **SKPab 13 48 23.8 -0.2**
SNAA Sanae 132.35 198 PKPbc PKPdf 13 45 11.7 +0.2
comp=Z,3.5nm,0.9s,baz=145,slow=3.4,SNR=18
SNAA PKP **PKPdf 13 45 11.7 +0.2**
comp=Z,10nm,1.0s,baz=158,slow=1.0,SNR=18
SNAA SKPbc **SKPab 13 48 23.8 -0.2**
comp=Z,50nm,1.1s,baz=121,slow=4.5,SNR=20
VNA2 Neumayer--Watz 133.99 198 *e*PKP PKPdf 13 45 15.5 +0.9
VNA2 Neumayer--Watz 133.99 198 *e*pPKiKP pPKPdf 13 45 57.4 -1.1
VNA2 Neumayer--Watz 133.99 198 *e*sPKPdf sPKPdf 13 46 10.1 -5.4
VNA2 Neumayer--Watz 133.99 198 *e*PP PP 13 47 44.7 -2.4
VNA2 Neumayer--Watz 133.99 198 *e*SKPab SKPbc 13 48 28.8 +0.7
VNA3 Neumayer Olymp 134.38 197 *e*PKP PKPdf 13 45 15.8 +0.5
VNA3 Neumayer Olymp 134.38 197 *e*pPKiKP pPKPdf 13 45 57.9 -1.3
VNA3 Neumayer Olymp 134.38 197 *e*sPKPdf sPKPdf 13 46 08.8 -7.5
VNA3 Neumayer Olymp 134.38 197 *e*PP PP 13 47 47.4 -2.2
VNA3 Neumayer Olymp 134.38 197 *e*SKPab SKPbc 13 48 29.8 +0.5
VNA1 Neumayer--Stat 134.39 198 *e*PKP PKPdf 13 45 15.9 +0.7
VNA1 Neumayer--Stat 134.39 198 *e*pPKiKP pPKPdf 13 46 01.0 +1.8
VNA1 Neumayer--Stat 134.39 198 *e*sPKPdf sPKPdf 13 46 13.3 -2.9
VNA1 Neumayer--Stat 134.39 198 *e*SKPab SKPab 13 48 31.1 -1.6
SDV Santo Domingo 135.45 30 *e*PKPdf PKPdf 13 45 19.1 -0.2
GRGR Grenville 135.46 17 PFAKE 13 45 30.0 +11
GRGR LR LR
comp=Z,610nm,21.0s
ROSC El Rosal 137.20 37 *e*PKPdf PKPdf 13 45 23.4 +0.7
ROSC PKP **PKPdf 13 45 23.6 +0.8**
ROSC El Rosal 137.20 37 PKP PKPdf 13 45 23.6 +0.8
comp=Z,32nm,0.7s,baz=281,slow=4.5,SNR=13
ASCN Ascension 139.66 297 PFAKE 13 45 40.0 +13
ASCN LR LR
comp=Z,1μm,19.0s
ATAH Atahualpa 144.14 54 PKP PKPdf 13 45 35.0 -0.2
ATAH Atahualpa 144.14 54 PKP PKPdf 13 45 35.0 -0.2
comp=Z,206nm,1.1s,baz=18,slow=3.6,SNR=89
PMSA Palmer Station 145.24 169 *e*PKPdf PKPab 13 45 35.3 -0.1
PMSA PKPbc **PKPab 13 45 35.4 +0.1**
PMSA LR LR
comp=Z,582nm,19.0s
PMSA Palmer Station 145.24 169 PKPbc PKPab 13 45 35.4 +0.1
comp=Z,127nm,1.0s,baz=192,slow=2.6,SNR=120
NNA Nana 148.58 59 *e*PKPdf PKPdf 13 45 42.5 +0.2
NNA *e*PKPbc **PKPbc 13 45 46.2 +0.1**
NNA PKPbc **PKPbc 13 45 46.4 +0.3**
NNA pPKPbc **pPKPbc 13 46 28.4 -1.3**
NNA LR LR
comp=Z,596nm,19.0s
NNA Nana 148.58 59 PKPbc PKPbc 13 45 46.4 +0.3
comp=Z,129nm,0.8s,baz=252,slow=3.2,SNR=34
NNA pPKPbc **pPKPbc 13 46 28.3 -1.3**
comp=Z,47nm,0.8s,baz=314,slow=3.8,SNR=2.4
RCBR Riachuelo 151.60 330 *e*PKPdf PKPdf 13 45 47.0 0.0
RCBR *e*PKPbc **PKiKP 13 45 54.2 +0.4**
RCBR LR LR
comp=Z,611nm,20.0s
SAML Samuel 154.62 32 *e*PKPdf PKPdf 13 45 51.4 +0.1
SAML *e*PKPbc **PKiKP 13 46 00.7 +0.7**
SAML *e*PP **PP 13 49 48.8 -1.4**
SAML LR LR
comp=Z,595nm,22.0s
LPAZ La Paz 157.67 53 *e*PKPdf PKPdf 13 45 56.6 +0.7
LPAZ PKP **PKPdf 13 45 57.0 +1.0**
LPAZ La Paz 157.67 53 PKP PKPdf 13 45 57.0 +1.0
comp=Z,21nm,1.2s,baz=313,slow=2.5,SNR=51
EFI East Falkland 158.64 166 PFAKE 13 46 10.0 +15
EFI LR LR
comp=Z,886nm,19.0s
PLCA Paso Flores 160.74 125 PKP PKPdf 13 45 58.0 -0.1
PLCA PKPab **PKPab 13 46 42.2 +1.0**
PLCA Paso Flores 160.74 125 PKP PKPdf 13 45 58.0 -0.1
comp=Z,13nm,1.1s,baz=229,slow=2.8,SNR=4.0
PLCA PKPab **PKPab 13 46 42.2 +1.0**
comp=Z,11nm,1.0s,baz=213,slow=4.7,SNR=2.9
LVC Limon Verde 160.97 68 *e*PKPdf PKPdf 13 46 00.1 +0.9
LVC LR LR
comp=Z,1μm,21.0s
SIV San Ignacio 161.72 37 PKP PKPdf 13 46 00.2 +0.4
SIV PKPab **PKPab 13 46 45.9 +0.1**
SIV San Ignacio 161.72 37 PKP PKPdf 13 46 00.2 +0.4
comp=Z,65nm,1.0s,baz=336,slow=0.4,SNR=87
SIV PKPab **PKPab 13 46 45.9 +0.1**
comp=Z,54nm,1.1s,baz=336,slow=4.6,SNR=17
LCO Las Campanas 161.80 89 *e*PKPdf PKPdf 13 46 00.3 +0.4
LCO LR LR
comp=Z,1μm,21.0s
CFAA Coronel Fontan 164.26 96 PKP PKPdf 13 46 01.6 -0.3
CFAA PKPab **PKPab 13 46 58.5 +1.5**
CFAA Coronel Fontan 164.26 96 PKP PKPdf 13 46 01.6 -0.3
comp=Z,2.2nm,1.0s,baz=272,slow=2.0
CFAA PKPab **PKPab 13 46 58.5 +1.5**
comp=Z,2.8nm,0.9s,baz=293,slow=4.6,SNR=6.1
BDFB Brasilia 164.44 354 PKP PKPdf 13 46 02.4 -0.1
BDFB PKPab **PKPab 13 46 56.9 -0.9**
BDFB PP **PP 13 50 42.0 -0.9**
BDFB Brasilia 164.44 354 PKP PKPdf 13 46 02.4 -0.1
comp=Z,36nm,1.0s,baz=342,slow=2.5,SNR=28
BDFB PKPab **PKPab 13 46 56.9 -0.9**
comp=Z,33nm,1.0s,baz=19,slow=1.8,SNR=6.1
BDFB PP **PP 13 50 42.0 -0.9**
comp=Z,19nm,1.1s,baz=348,slow=8.4,SNR=5.5
TRQA Tornquist 167.87 128 *e*PKPdf PKPdf 13 46 04.3 -0.2
TRQA LR LR
comp=Z,836nm,21.0s
CPUP Villa Florida 171.83 56 PKP PKPdf 13 46 07.7 +0.6
CPUP Villa Florida 171.83 56 PKP PKPdf 13 46 07.7 +0.6
comp=Z,25nm,1.1s,baz=207,slow=2.3,SNR=21
LPA La Plata 172.24 121 *de*PKIKP PKPdf 13 46 07.0 0.0
LPA PKIKS 13 49 41.0
LPA pPP 13 52 04.0
LPA PP PP 13 52 37.0 +73
LPA PPP PPP 13 57 16.0

DJA 03 13:51:13.6±0.8, 8°S±4°×10°7E±°, h17km±7km, M4.1/9, MLv4.1/9, Jawa

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.83**	**45**	P		Pb	13 51 28.7	-0.9
CISI				S		Sb	13 51 38.7	-1.9
SKJI	**Sukabumi**	**1.30**	**330**	P		Pn	13 51 35.3	-1.8
SKJI				S		Sn	13 51 52.0	-2.1
LEM	**Lembang**	**1.36**	**17**	P		Pn	13 51 37.4	-0.7
LEM				S		Sb	13 51 56.7	+0.5
DBJI	**Dramaga**	**1.64**	**343**	P		Pn	13 51 41.3	-0.5
DBJI				S		Sn	13 52 01.8	-0.7
CLJI	**Cilicap**	**1.83**	**77**	P		Pb	13 51 45.6	-1.0
CLJI				S		Sb	13 52 10.0	+0.8
KPJI	**Karang Pucung**	**1.88**	**65**	P		Pn	13 51 44.0	-0.9
KPJI				S		Sn	13 52 09.0	+0.8
TGJI	**Tegal**	**2.27**	**56**	P		Pn	13 51 50.3	0.0
SBJI	**Serang**	**2.28**	**332**	P		Pn	13 51 51.0	+0.5
SJI	**Sawahan**	**4.52**	**85**	P		Pn	13 52 21.9	+0.4
PWJI	**Pagerwojo**	**4.54**	**89**	P		Pn	13 52 22.2	+0.6
PWJI				S		Sn	13 53 11.8	-2.2

*ISN **03** 14:10:42.1±0.3, 33°27N×46°54E, h0km, ML3.3*
*KISR **03** 14:10:44.2±1.0, 32°78N×45°31E, h19km±999km, ML2.5*
*CSEM **03** 14:10:45.0±0.4, 33°25N×46°09E, h20km, ML3.3, Error ellipse: s-maj=9.8km s-min=7.3km az=127.0*

ISC 03 14:10:45.9±2.2, 33°18N±0°05×46°40E±0°09, h7km±17km, n10, σ0°69/18, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.40**	**261**	*i* Pg		**Pg**	**14 10 53.8**	**+0.1**
	baz=73							
IBDR				*e*Sg		**Sb**	**14 11 02.0**	**+0.2**
SNGE	**Sanandaj**	**2.06**	**22**	*e*Pn		**Pn**	**14 11 21.0**	**-0.3**
SNGE				*e*Sg		**Sn**	**14 11 47.6**	**+0.2**
KHMZ	**Khomeyn**	**3.02**	**78**	*e*Pn		**Pn**	**14 11 34.5**	**0.0**
ASAO	**Ashtian**	**3.31**	**65**	*e*Pn		**Pn**	**14 11 38.2**	**-0.2**
MIB	**Mutribah**	**3.46**	**166**	*e*P		**Pn**	**14 11 40.0**	**-0.2**
MIB				*e*S		**Sn**	**14 12 22.3**	**+0.9**
MIB				AML		AML	14 12 26.6	
	comp=Z,31nm,0.5s							
MIB	**Mutribah**	**3.46**	**166**	*e*P		**Pn**	**14 11 40.0**	**-0.2**
MIB				*e*S		**Sn**	**14 12 22.3**	**+0.9**
	comp=Z,31nm,0.5s							
NAY	**Al-Naaiem**	**3.98**	**169**	*e*P		**Pn**	**14 11 47.0**	**-0.5**
NAY				*e*S		**Sn**	**14 12 33.1**	**-1.3**
NAY				AML		AML	14 12 37.5	
	comp=Z,0.5nm,0.4s							
NAY	**Al-Naaiem**	**3.98**	**169**	*e*P		**Pn**	**14 11 47.0**	**-0.5**
NAY				*e*S		**Sn**	**14 12 33.1**	**-1.3**
RDF	**Al-Radifah**	**4.35**	**167**	*e*P		**Pn**	**14 11 52.5**	**0.0**
RDF				*e*S		**Sn**	**14 12 44.2**	**+0.7**
RDF				AML		AML	14 12 46.0	
	comp=Z,17nm,0.4s							
RDF	**Al-Radifah**	**4.35**	**167**	*e*P		**Pn**	**14 11 52.5**	**0.0**
RDF				*e*S		**Sn**	**14 12 44.2**	**+0.7**
	comp=Z,17nm,0.4s							

IDC 03 14:13:40.8±57.0, 21°20S×179°38W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/18, mbtmp3.8/3, MS3.8/1, Ms1 3.8/1, ms1mx3.4/22, Error ellipse: s-maj=1034.0km s-min=148.7km az=83.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**8.13**	**171**	LR		LR	14 18 20.1	
	comp=Z,610nm,19.7s,baz=191,slow=34							
STKA	**Stephens Creek**	**36.32**	**245**	P		P	14 20 44.6	-1.9
	1.9nm,0.9s,baz=96,slow=10,SNR=2.8							
ASAR	**Alice Springs**	**43.10**	**258**	P		P	14 21 43.0	-0.1
	0.6nm,0.5s,baz=93,slow=7.4,SNR=20							
WRA	**Warramunga Arr**	**43.23**	**263**	P		P	14 21 45.4	+1.3
	0.6nm,0.3s,baz=91,slow=8.3,SNR=55							

*ISCJB **03** 14:30:08.0±0.4, 59°49N±0°03×24°63E±0°06, h0km, Error ellipse: s-maj=5.0km s-min=4.2km az=138.7*
*HEL **03** 14:30:09.7±0.1, 59°49N×24°71E, h0km, ML2.4, ML2.2(UPP), Explosion*
*IDC **03** 14:30:09.2±2.3, 59°46N×25°00E, h0km, mb1 3.2/4, mb1mx3.0/28, mbtmp3.2/4, ML3.0/4, Error ellipse: s-maj=25.6km s-min=8.4km az=141.0*
*CSEM **03** 14:30:09.3±0.2, 59°52N×24°71E, h2km, ML2.3, Error ellipse: s-maj=4.3km s-min=3.3km az=144.0, Mining explosion.*
*NAO **03** 14:30:09.4±1.0, 59°51N×24°83E, ML2.3*
*BER **03** 14:30:10.3±3.1, 59°52N×24°82E, h0km, ML2.3(NAO), Suspected explosion*
*UPP **03** 14:30:14.4, 59°58N×23°99E, h0km, ML2.2, Suspected Mining explosion.*

ISC 03 14:30:07.8±0.7, 59°50N±0°03×24°73E±0°03, h0km, n69, σ1°03/83, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**0.74**	**347**	*e*P		**Pg**	**14 30 23.1**	**+1.1**
MEF				*e*S		**Sg**	**14 30 32.5**	**+1.0**
MEF	**Metsahovi**	**0.74**	**347**	*e*P		**Pg**	**14 30 23.0**	**+1.1**
	SNR=90							
MEF				S		**Sg**	**14 30 32.4**	**+1.0**
MTSE	**Matsula**	**0.92**	**211**	*e*P		**Pg**	**14 30 26.0**	**+0.5**
PVF	**Pernaja**	**1.19**	**28**	*e*P		**Pg**	**14 30 31.2**	**+0.6**
PVF	**Pernaja**	**1.19**	**28**	P		**Pg**	**14 30 31.2**	**+0.6**
VSU	**Vasula**	**1.47**	**134**	Pg		**Pn**	**14 30 36.1**	**+0.6**
VSU				Lg		Lg	14 30 55.2	
VSU	**Vasula**	**1.47**	**134**	Pg		**Pn**	**14 30 36.1**	**+0.6**
VSU				Lg		Lg	14 30 55.2	
VSU	**Vasula**	**1.47**	**134**	*e*P		**Pn**	**14 30 36.0**	**+0.6**
VSU	**Vasula**	**1.47**	**134**	*e*P		**Pn**	**14 30 36.1**	**+0.6**
	SNR=50							
VSU				Lg		Lg	14 30 55.2	
VSU				*e*S		**Sg**	**14 30 56.6**	**+1.6**
	172nm,0.3s,SNR=50							
VJF	**Virojoki**	**1.76**	**53**	*e*P		**Pn**	**14 30 41.0**	**+1.4**
VJF				MSG			14 31 06.9	
	comp=Z,32nm,0.1s							
VJF	**Virojoki**	**1.76**	**53**	P		**Pn**	**14 30 40.9**	**+1.4**
FIA0	**FINESS Array S**	**2.06**	**18**	Pn		**Pb**	**14 30 45.9**	**-0.2**
	baz=210,slow=16							
FIA0				Lg		Lg	14 31 13.6	
	baz=196,slow=28							
FIA0				Rg		Rg	14 31 24.6	
	baz=188,slow=37							
FIA0	**FINESS Array S**	**2.06**	**18**	Pn		**Pb**	**14 30 45.9**	**-0.2**
	baz=210,slow=16							
FIA0				Lg		Lg	14 31 13.6	
	baz=196,slow=28							
FIA0				Rg		Rg	14 31 24.6	
	baz=188,slow=37							
FIA0	**FINESS Array S**	**2.06**	**18**	*e*P		**Pb**	**14 30 46.2**	**+0.2**
FIA0	**FINESS Array S**	**2.06**	**18**	Pn		**Pb**	**14 30 45.8**	**-0.2**
	baz=210,slow=14,SNR=50							
FIA0	**FINESS Array S**	**2.06**	**18**	P		**Pb**	**14 30 46.2**	**+0.2**
FIA0				Lg		Lg	14 31 13.6	
	baz=196,slow=26,SNR=30							
FINES	**FINESS Array B**	**2.06**	**18**	Pn		**Pb**	**14 30 46.0**	**0.0**
	comp=Z,11nm,0.3s,baz=207,slow=15,SNR=232							
FINES				Lg		Lg	14 31 13.2	
	comp=Z,9.0nm,0.3s,baz=190,slow=26,SNR=23							
FINES				Rg		Rg	14 31 24.6	
	comp=Z,44nm,0.9s,baz=191,slow=29,SNR=23							
RAF	**Rauma**	**2.13**	**317**	*e*P		**Pb**	**14 30 47.0**	**-0.1**
RAF				*e*S		**Sb**	**14 31 13.5**	**-0.6**
RAF				MSG			14 31 17.3	
	comp=Z,23nm,0.1s							
RAF	**Rauma**	**2.13**	**317**	P		**Pb**	**14 30 47.0**	**-0.1**
RAF				S		**Sb**	**14 31 13.4**	**-0.6**
SLIT	**Slitere, Latvi**	**2.27**	**215**	*e*P		**Pn**	**14 30 49.1**	**+2.5**
	SNR=50							
AAL	**Aland**	**2.49**	**288**	*e*P		**Pn**	**14 30 51.2**	**+1.6**
AAL	**Aland**	**2.49**	**288**	P		**Pn**	**14 30 51.1**	**+1.6**
NRTU	**Norrtaelje**	**3.11**	**276**	P		**Pn**	**14 30 59.3**	**+1.2**
NRTU	**Norrtaelje**	**3.11**	**276**	P		**Pn**	**14 30 59.2**	**+1.2**
NYNU	**Nynaeshamn**	**3.49**	**265**	P		**Pn**	**14 31 05.0**	**+1.7**
NYNU	**Nynaeshamn**	**3.49**	**265**	P		**Pn**	**14 31 05.0**	**+1.7**
FLYU	**Flymyra**	**3.52**	**283**	P		**Pn**	**14 31 04.8**	**+1.2**
FLYU	**Flymyra**	**3.52**	**283**	P		**Pn**	**14 31 04.8**	**+1.2**
BACU	**Backbrunna**	**3.88**	**278**	P		**Pn**	**14 31 09.8**	**+1.1**

BACU	Backbrunna	3.88 278	P	Pn	14 31 09.8	+1.1
IGGU	Iggoen	3.95 294	P	Pn	14 31 10.6	+1.0
IGGU	Iggoen	3.95 294	P	Pn	14 31 10.6	+1.0
ARNU	Arnoeviken	4.24 304	P	Pn	14 31 14.7	+1.1
ARNU	Arnoeviken	4.24 304	P	Pn	14 31 14.7	+1.1
HEMU	Hemsoen	4.55 317	P	Pn	14 31 20.2	+2.4
HEMU	Hemsoen	4.55 317	P	Pn	14 31 20.2	+2.4
FALU	Falun	4.58 286	P	Pn	14 31 19.3	+1.0
FALU	Falun	4.58 286	P	Pn	14 31 19.3	+1.0
VSTU	Vaestervik	4.67 250	P	Pn	14 31 21.0	+1.4
VSTU	Vaestervik	4.67 250	P	Pn	14 31 20.9	+1.4
ASPU	Aespoe	4.76 247	P	Pn	14 31 22.2	+1.6
ASPU	Aespoe	4.76 247	P	Pn	14 31 22.2	+1.6
ROTU	Roteberg	4.82 297	P	Pn	14 31 22.0	+0.5
ROTU	Roteberg	4.82 297	P	Pn	14 31 22.0	+0.5
NRAU	Nora	4.94 275	P	Pn	14 31 23.9	+0.7
NRAU	Nora	4.94 275	P	Pn	14 31 23.9	+0.7
OSKU	Oskarshamn	5.10 247	P	Pn	14 31 26.8	+1.4
OSKU	Oskarshamn	5.10 247	P	Pn	14 31 26.8	+1.4
ASKU	Askersund	5.13 267	P	Pn	14 31 27.1	+1.2
ASKU	Askersund	5.13 267	P	Pn	14 31 27.0	+1.2
HFS	Hagfors	5.61 281	Pn	Pn	14 31 33.1	+0.8
	baz=96,slow=14					
HFS			Sn	Sn	14 32 37.0	-0.4
	baz=102,slow=28					
HFS	Hagfors	5.61 281	Pn	Pn	14 31 33.1	+0.8
	baz=96,slow=14					
HFS			Sn	Sn	14 32 37.0	-0.4
	baz=102,slow=28					
HFS	Hagfors	5.61 281	Pn	Pn	14 31 32.8	+0.5
	comp=Z,0.5nm,0.3s,baz=91,slow=13,SNR=21					
HFS			Sn	Sn	14 32 37.9	+0.5
	comp=Z,0.7nm,0.3s,baz=95,slow=27,SNR=8.4					
HFS			Lg	Lg	14 32 59.2	
	comp=Z,0.8nm,0.3s,baz=95,slow=31,SNR=5.2					
HFS	Hagfors	5.61 281	Pn	Pn	14 31 33.1	+0.8
	baz=96,slow=12,SNR=50					
HFS			Sn	Sn	14 32 37.0	-0.4
	baz=102,slow=27,SNR=50					
VANU	Vaenersborg	6.62 267	P	Pn	14 31 46.9	+0.6
VANU	Vaenersborg	6.62 267	P	Pn	14 31 46.9	+0.6
NB2	NORSAR Subarra	6.90 289	Pn	Pn	14 31 50.1	0.0
	baz=96,slow=14					
NB2			Sn	Sn	14 33 08.1	-1.2
	baz=93,slow=22					
NB2			Lg	Lg	14 33 42.5	
	baz=94,slow=37					
NB2	NORSAR Subarra	6.90 289	Pn	Pn	14 31 50.1	0.0
	baz=96,slow=14					
NB2			Sn	Sn	14 33 08.1	-1.2
	baz=93,slow=22					
NB2			Lg	Lg	14 33 42.5	
	baz=94,slow=37					
NB2	NORSAR Subarra	6.90 289	Pn	Pn	14 31 50.1	0.0
	baz=96,slow=13,SNR=50					
NB2			Sn	Sn	14 33 08.1	-1.2
	baz=93,slow=21,SNR=50					
NB2			Lg	Lg	14 33 42.5	
	baz=94,slow=32,SNR=2.8					
NOA	NORSAR Array B	6.90 289	Pn	Pn	14 31 50.3	+0.2
	comp=Z,0.4nm,0.3s,baz=22,slow=2.5,SNR=9.0					
NOA			Sn	Sn	14 33 10.4	+1.1
	comp=Z,0.4nm,0.3s,baz=101,slow=19,SNR=3.2					
NOA			Lg	Lg	14 33 38.6	
	comp=Z,0.6nm,0.3s,baz=227,slow=22,SNR=3.3					
STRU	Stroemstad	6.96 272	P	Pn	14 31 51.5	+0.5
STRU	Stroemstad	6.96 272	P	Pn	14 31 51.5	+0.5
APA0	Apatity Array	8.92 21	Pn	Pn	14 32 17.4	-0.3
	baz=198,slow=12					
APA0	Apatity Array	8.92 21	Pn	Pn	14 32 17.4	-0.3
	baz=198,slow=12					
APA0	Apatity Array	8.92 21	Pn	Pn	14 32 17.5	-0.3
	baz=198,slow=12,SNR=50					
ARA0	ARCESS Array S	10.08 2	Pn	Pn	14 32 33.6	0.0
	baz=180,slow=12					
ARA0	ARCESS Array S	10.08 2	Pn	Pn	14 32 33.6	0.0
	baz=180,slow=12					
ARA0	ARCESS Array S	10.08 2	Pn	Pn	14 32 33.7	0.0
	baz=180,slow=12,SNR=50					
ARCES	ARCESS Array B	10.08 2	Pn	Pn	14 32 33.5	-0.1
	comp=Z,0.2nm,0.3s,baz=176,slow=14,SNR=24					
ARCES			Sn	Sn	14 34 27.9	+0.6
	comp=Z,0.2nm,0.3s,baz=182,slow=22,SNR=3.0					
ARCES			Lg	Lg	14 35 16.2	
	comp=Z,0.2nm,0.3s,baz=177,slow=33,SNR=2.4					

AUST ***03*** *14:53:16.2±39.0, 11°.62S×167°.74E, h72km±2km, Error ellipse: s-maj=7.7km s-min=1.7km az=37.0*
ISCJB ***03*** *14:53:34.6±0.2, 12°.21S±0°.05×167°.09E±0°.05, h220km, mb4.4/57, Error ellipse: s-maj=7.8km s-min=5.6km az=138.8*
IDC ***03*** *14:53:38.0±0.8, 12°.35S×167°.01E, h234km±7km, mb4.0/21, mb1 4.2/22, mb1mx4.2/23, mbtmp4.0/22, Error ellipse: s-maj=12.9km s-min=9.1km az=95.0*
NEIC ***03*** *14:53:38.1±1.9, 12°.27S×167°.10E, h242km±18km, mb4.5/38, Error ellipse: s-maj=10.1km s-min=7.9km az=157.0*

ISC 03 14:53:36.1±0.3, 12°.25S±0°.06×167°.07E±0°.07, h220km, n155, σ1°53/180, mb4.5/57, 1C, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	9.78	183	P	Pn	14 55 54.6	+2.2
DZM				S	S	14 57 44.2	+2.0
DZM	Mont Dzumac	9.78	183	P	Pn	14 55 54.6	+2.2
	8.3nm,0.3s,baz=21,slow=18,SNR=25						
DZM				S	S	14 57 44.2	+2.0
	0.5nm,0.3s,baz=90,slow=20,SNR=5.6						
MSVF	Nonsavu	11.92	119	ePn	P	14 56 26.0	+2.4
RABL	Rabaul	16.78	297	S	S	15 00 13.9	-7.7
	baz=17,SNR=3.4						
EIDS	Eidsvold	19.95	227	eP	P	14 57 53.0	+1.3
	27nm,0.8s						
EIDS	Eidsvold	19.95	227	P	P	14 57 52.9	+1.3
	baz=21,SNR=14						
CTA	Charters Tower	21.44	246	P	P	14 58 07.2	-0.1
CTA	Charters Tower	21.44	246	P	P	14 58 07.2	-0.1
	12nm,0.8s,baz=59,slow=13,SNR=9.5						
CTAO	Charters Tower	21.44	246	eP	P	14 58 08.0	+0.6
	13nm,0.8s						
RMQ	Roma	22.30	228	P	P	14 58 16.5	+1.1
	baz=23,SNR=6.5						
MTSU	Mount Surprise	22.71	252	P	P	14 58 21.1	+1.8
	baz=24,SNR=4.7						
ARMA	Armidale	23.05	216	P	P	14 58 23.8	+1.5
	baz=24,SNR=9.0						
URZ	Urewera	27.41	163	eP	P	14 58 59.6	-1.7
URZ	Urewera	27.41	163	P	P	14 59 00.2	-1.0
	5.8nm,0.5s,baz=270,slow=3.0,SNR=5.6						
STKA	Stephens Creek	30.50	226	P	P	14 59 28.5	-0.3
STKA	Stephens Creek	30.50	226	P	P	14 59 28.5	-0.3
	2.1nm,0.6s,baz=56,slow=9.1,SNR=4.1						
RPZ	Rata Peaks	31.54	174	P	P	14 59 37.4	-0.2
RPZ	Rata Peaks	31.54	174	P	P	14 59 37.4	-0.2
	24nm,0.8s,baz=315,slow=3.5,SNR=16						
WRA	Warramunga Arr	32.32	252	P	P	14 59 44.0	-0.9
WRA				pP	pP	15 00 31.5	+2.0
WRA	Warramunga Arr	32.32	252	P	P	14 59 44.0	-0.9
	1.7nm,0.7s,baz=84,slow=9.2,SNR=36						
WRA				pP	pP	15 00 31.5	+2.0
	1.1nm,0.7s,baz=83,slow=9.0,SNR=3.3						
ASAR	Alice Springs	33.45	246	P	P	14 59 53.5	-1.1
ASAR				pP	pP	15 00 41.3	+1.9
ASAR				PP	PnPn	15 01 11.6	-3.3
ASAR				ScP	ScP	15 05 53.1	-1.1
ASAR	Alice Springs	33.45	246	P	P	14 59 53.5	-1.1
	1.3nm,0.6s,baz=73,slow=9.7,SNR=32						
ASAR				pP	pP	15 00 41.3	+1.9
	4.9nm,0.7s,baz=74,slow=9.3,SNR=11						
ASAR				PP	PnPn	15 01 11.6	-3.3
	2.1nm,0.7s,baz=74,slow=9.5,SNR=5.3						
ASAR				ScP	ScP	15 05 53.1	-1.1
	1.6nm,1.1s,baz=91,slow=4.3,SNR=4.2						
KDU	Kakadu	33.77	265	S	S	15 05 21.2	+16
	baz=34,SNR=4.1						
MTN	Manton Dam	35.07	265	P	P	15 00 08.9	+0.3
	baz=36,SNR=3.5						
KNRA	Kununurra	37.30	260	P	P	15 00 27.4	0.0
	baz=38,SNR=8.5						
FITZ	Fitzroy Crossi	40.34	256	P	P	15 00 52.6	0.0
	baz=41,SNR=15						
MEEK	Meekatharra	47.60	245	P	P	15 01 50.0	-0.3
	baz=48,SNR=6.0						

MJAR	Matsushiro Arr	55.64	332	P	P	15 02 49.0	-0.3
MJAR				PcP	PcP	15 03 46.5	+0.4
MJAR	Matsushiro Arr	55.64	332	P	P	15 02 49.0	-0.3
	5.3nm,0.7s,baz=168,slow=8.6,SNR=18						
MJAR				PcP	PcP	15 03 46.5	+0.4
	1.6nm,0.7s,baz=168,slow=4.0,SNR=3.5						
MAT	Matsushiro	55.64	332	P	P	15 02 49.2	-0.2
CISI	Cisompet, Garu	58.47	269	P	P	15 03 10.3	+0.6
	baz=59,SNR=4.0						
KSRS	Korea Array	61.60	325	P	P	15 03 31.1	+0.7
	3.0nm,0.9s,baz=143,slow=6.8,SNR=14						
KSAR	Wonju Array Be	61.62	325	P	P	15 03 31.1	+0.6
USRK	Ussuriysk Arra	64.61	333	P	P	15 03 51.7	+1.7
	7.3nm,1.0s,baz=119,slow=6.7,SNR=17						
VNDA	Vanda	65.32	181	eP	P	15 03 54.6	+0.4
	56nm,2.5s						
VNDA	Vanda	65.32	181	P	P	15 03 54.5	+0.4
	3.1nm,0.6s,baz=351,slow=6.1,SNR=22						
PETK	Petropavlovsk-	65.59	354	P	P	15 03 57.6	+1.5
PETK	Petropavlovsk-	65.59	354	P	P	15 03 57.6	+1.5
	2.5nm,0.5s,baz=142,slow=7.5,SNR=5.3						
SBA	Scott Base	65.60	180	eP	P	15 03 57.0	+1.1
	7.3nm,0.8s						
IPM	Ipoh	67.71	280	eP	P	15 04 10.2	-0.1
	12nm,0.9s						
ENH	Enshi	69.66	309	eP	P	15 04 22.7	+0.6
CM31	Chiang Mai Arr	73.78	293	eP	P	15 04 44.3	-2.6
	9.3nm,1.0s						
CMAR	Chiang Mai Arr	73.78	293	P	P	15 04 48.1	+1.3
CMAR	Chiang Mai Arr	73.78	293	P	P	15 04 48.1	+1.3
	6.0nm,0.9s,baz=118,slow=4.4,SNR=32						
CHTO	Chiang Mai	73.90	294	eP	P	15 04 48.0	+0.5
	7.4nm,1.0s						
QSPA	South Pole Qui	77.76	180	eP	P	15 05 08.2	-0.4
	4.5nm,0.7s						
ULN	Ulaanbaatar	80.04	324	eP	P	15 05 21.0	-0.3
	9.9nm,1.3s						
SONM	Songino Array	80.40	323	P	P	15 05 24.2	+1.0
SONM	Songino Array	80.40	323	P	P	15 05 24.2	+1.0
	1.9nm,1.0s,baz=116,slow=6.4,SNR=7.1						
CAST	Castle Rocks	81.70	17	eP	P	15 05 28.1	-1.4
	11nm,0.8s						
TRF	Thorofare Moun	82.25	18	eP	P	15 05 31.7	-0.9
	11nm,0.8s						
KHMM	Horse Mountain	82.77	46	eP	P	15 05 33.1	-2.7
	8.8nm,0.9s						
MCK	McKinley	82.87	18	eP	P	15 05 35.1	-0.6
	10nm,0.9s						
KRMB	Red Mountain	82.90	45	eP	P	15 05 36.9	+0.4
	64nm,2.9s						
IM04	Indian Mountai	83.22	15	eP	P	15 05 35.5	-1.9
IMA2	Indian Mountai	83.32	15	eP	P	15 05 38.4	+0.4
PAX	Paxson	83.43	20	eP	P	15 05 38.0	-0.6
	10nm,1.5s						
YBH	Yreka Blue Hor	83.81	45	eP	P	15 05 40.0	-1.0
	9.9nm,0.9s						
HUMO	Hull Mountain	83.98	44	eP	P	15 05 42.4	+0.7
	13nm,1.0s						
COLA	College	84.03	18	eP	P	15 05 40.6	-0.8
	83nm,0.8s						
MAW	Mawson	84.10	202	P	P	15 05 41.9	0.0
MAW	Mawson	84.10	202	P	P	15 05 41.9	0.0
	7.3nm,1.0s,baz=100,slow=4.7,SNR=12						
MAW	Mawson	84.10	202	P	P	15 05 41.6	-0.3
	baz=85,SNR=9.3						
CMB	Columbia Colle	84.13	49	eP	P	15 05 43.1	+0.4
	7.1nm,1.1s						
ILAR	Eielson Array	84.24	18	P	P	15 05 42.4	-0.2
ILAR				pP	pP	15 06 39.9	+4.0
ILAR	Eielson Array	84.24	18	P	P	15 05 42.4	-0.2
	15nm,0.7s,baz=247,slow=5.2,SNR=208						
ILAR				pP	pP	15 06 39.9	+4.0
	1.8nm,0.9s,baz=230,slow=6.0,SNR=3.4						
ISA	Isabella	84.78	52	eP	P	15 05 46.6	+0.6
	5.8nm,1.2s						
BEKR	Beckworth	84.79	48	eP	P	15 05 44.8	-1.3
	3.5nm,1.1s						
HYT	Haines Junctio	84.95	24	eP	P	15 05 45.0	-1.3
WAKR	Walker	85.00	49	eP	P	15 05 46.0	-1.2
COLD	Coldfoot	85.11	15	eP	P	15 05 46.7	-0.1
	10nm,1.0s						
MTUM	Tungsten Hills	85.26	50	eP	P	15 05 48.4	-0.1
K05A	Summer Lake	85.43	45	eP	P	15 05 49.0	-0.2
	13nm,0.9s						
NVAR	Mina Array Bea	85.81	49	P	P	15 05 52.2	+0.9
NVAR				pP	pP	15 06 49.6	+4.9
NVAR	Mina Array Bea	85.81	49	P	P	15 05 52.2	+0.9
	3.0nm,0.8s,baz=231,slow=8.4,SNR=23						
NVAR				pP	pP	15 06 49.6	+4.9
	1.0nm,0.9s,baz=230,slow=4.2,SNR=2.7						
PINOR	Pine Mountain	85.84	44	eP	P	15 05 51.1	+0.3
	7.8nm,1.0s						
NV11	Mina Array Sit	85.92	49	eP	P	15 05 50.9	-0.8
EGAK	Eagle	86.06	20	eP	P	15 05 51.5	0.0
DAWY	Dawson	86.21	21	eP	P	15 05 50.5	-1.9
ODAN	Odare	86.47	298	eP	P	15 05 54.7	0.0
	36nm,0.9s						
I07A	Izee	86.86	44	eP	P	15 05 55.5	-0.6
	9.5nm,0.9s						
WVOR	Wild Horse Val	86.89	46	eP	P	15 05 55.0	-1.2
	5.3nm,1.0s						
RAMN	Ramite	87.17	298	eP	P	15 05 58.0	-0.1
LDFC	Landfair	87.22	53	eP	P	15 05 56.1	-1.9
	22nm,1.3s						
LTY	Liberty	87.22	41	eP	P	15 05 56.6	-1.0
	9.0nm,1.0s						
J08A	Circle Bar Ran	87.31	45	eP	P	15 05 58.5	+0.3
SHPR	Sheep Range	87.59	52	eP	P	15 05 57.2	-2.6
	9.2nm,1.4s						
G08A	Pilot Rock	87.64	43	eP	P	15 05 59.6	-0.1
	9.3nm,1.0s						
JIRN	Jiri	87.71	299	eP	P	15 06 00.1	-0.7
R11A	Troy Canyon, C	87.81	50	eP	P	15 05 60.0	-0.9
	5.1nm,1.2s						
GUN	Gumba	88.04	299	eP	P	15 06 02.2	-0.1
PKI	Pulchoki	88.35	299	eP	P	15 06 03.4	-0.4
	24nm,0.9s						
KKN	Kakani	88.52	299	eP	P	15 06 04.4	0.0
	19nm,0.8s						
BMO	Blue Mountains	88.60	44	eP	P	15 06 01.3	-2.9
	10nm,1.5s						
DMN	Daman	88.62	298	eP	P	15 06 04.9	-0.1
	26nm,0.7s						
ELK	Elko	88.78	48	eP	P	15 06 04.5	-0.9
	5.8nm,1.0s						
F10A	Beach Ranch, E	89.01	43	eP	P	15 06 06.4	+0.3
	11nm,1.0s						
F10A				ePKKPbc	PKKPbc	15 23 47.9	+2.5
CCUT	Cedar City	89.27	51	eP	P	15 06 08.2	+0.4
	43nm,2.4s						
NEW	Newport	89.81	40	eP	P	15 06 09.8	+0.1
	7.2nm,0.9s						
HLID	Hailey	90.19	45	eP	P	15 06 11.4	-0.4
	5.3nm,0.8s						
MVU	Marysvale	90.40	51	eP	P	15 06 13.0	0.0
	4.0nm,0.9s						
SYO	Syowa Base	91.01	197	eP	P	15 06 12.7	-2.2
BSMT	Bassoo Peak	91.18	41	eP	P	15 06 14.8	-1.5
DLMT	Dillon	91.94	44	eP	P	15 06 18.3	-1.5
	5.2nm,0.9s						
PDAR	Pinedale Array	93.41	47	P	P	15 06 28.1	+1.3
PDAR	Pinedale Array	93.41	47	P	P	15 06 28.1	+1.3
	0.3nm,0.5s,baz=225,slow=5.0,SNR=3.5						
TXAR	Lajitas Array	95.27	61	P	P	15 06 35.5	+0.1
TXAR	Lajitas Array	95.27	61	P	P	15 06 35.5	+0.1
	1.0nm,0.7s,baz=226,slow=3.3,SNR=5.4						
MK31	Makanchi Array	95.29	317	eP	P	15 06 33.8	-1.2
MKAR	Makanchi Array	95.29	317	P	P	15 06 35.1	+0.1
MKAR				PKKPbc	PKKPdf	15 23 25.6	-3.5
MKAR				ePKKPbc	PKKPbc	15 23 26.0	-3.2
MKAR	Makanchi Array	95.29	317	P	P	15 06 35.1	+0.1
	5.7nm,0.7s,baz=97,slow=6.5,SNR=52						
MKAR				PKKPbc	PKKPdf	15 23 25.6	-3.5
	0.7nm,0.7s,baz=272,slow=2.3,SNR=9.1						
ZALV	Zalesovo Beam	95.29	324	P	P	15 06 34.4	-0.4
ZALV				PKKPbc	PKKPdf	15 23 25.1	-4.1
ZALV	Zalesovo Beam	95.29	324	P	P	15 06 34.4	-0.4
	1.2nm,0.7s,baz=103,slow=3.5,SNR=6.4						
ZALV				PKKPbc	PKKPdf	15 23 25.1	-4.1
	0.7nm,0.4s,baz=302,slow=3.1,SNR=4.4						
YKA	Yellowknife Ar	95.44	27	P	P	15 06 34.1	-1.1
YKA	Yellowknife Ar	95.44	27	P	P	15 06 34.1	-1.1
	1.1nm,0.6s,baz=256,slow=5.0,SNR=5.0						
VNA3	Neumayer Olymp	96.67	181	eP	P	15 06 39.7	-1.2
VNA2	Neumayer--Watz	96.94	182	eP	P	15 06 41.0	-1.0
	baz=184,slow=3.9						

VNA1	Neumayer--Stat	97.23	182	eP	P	15 06 42.0	-1.3
SCIA	State Center	105.27	50	ePdif	Pdif	15 07 17.1	-2.6
ARCES	ARCESS Array B	117.82	346	PKP	PKPdf	15 11 55.3	-0.3
ARCES				PKKPbc	PKKPbc	15 22 15.1	-4.9
ARCES	ARCESS Array B	117.82	346	PKP	PKPdf	15 11 55.3	-0.3
	8.5nm,0.6s,baz=67,slow=2.0,SNR=55						
ARCES				PKKPbc	PKKPbc	15 22 15.1	-4.9
	2.9nm,0.8s,baz=229,slow=2.1,SNR=5.5						
JOF	Joensuu	120.53	338	ep	PKPdf	15 11 59.7	-1.3
CPUP	Villa Florida	122.26	132	PKP	PKPdf	15 12 04.3	-1.2
CPUP	Villa Florida	122.26	132	PKP	PKPdf	15 12 04.3	-1.2
	0.5nm,0.5s,baz=219,slow=10.0,SNR=5.7						
KAF	Kangasniemi	122.83	339	ep	PKPdf	15 12 03.9	-1.6
FINES	FINESS Array B	123.36	339	PKP	PKPdf	15 12 06.0	-0.5
FINES	FINESS Array B	123.36	339	PKP	PKPdf	15 12 06.0	-0.5
	4.0nm,0.8s,baz=106,slow=8.8,SNR=9.9						
NB2	NORSAR Subarra	128.19	345	PKPdf	PKPdf	15 12 15.9	+0.1
	comp=Z,1.6nm,0.7s,baz=29,slow=1.8						
NOA	NORSAR Array B	128.19	345	PKP	PKPdf	15 12 16.2	+0.3
NOA	NORSAR Array B	128.19	345	PKP	PKPdf	15 12 16.2	+0.3
	comp=Z,2.0nm,0.7s,baz=31,slow=2.0,SNR=8.2						
BRTR	Keskin Array B	130.73	312	PKP	PKPdf	15 12 21.4	-0.1
BRTR	Keskin Array B	130.73	312	PKP	PKPdf	15 12 21.4	-0.1
	comp=Z,0.7nm,0.6s,baz=156,slow=4.6,SNR=4.5						
CLL	Collm	135.72	337	ePKPdf	PKPdf	15 12 31.0	+0.7
	comp=Z,4.0nm,0.7s						
GERES	GERESS Array B	137.35	334	PKP	PKPdf	15 12 33.8	+0.2
GERES	GERESS Array B	137.35	334	PKP	PKPdf	15 12 33.8	+0.2
	comp=Z,1.9nm,0.7s,baz=8.1,slow=2.8,SNR=10						
CEL	Celeste	143.54	320	ePKPdf	PKPab	15 12 42.2	+0.4
KEST	Kesra	149.16	323	PKPbc	PKPbc	15 12 59.7	+0.8
KEST	Kesra	149.16	323	PKPbc	PKPbc	15 12 59.7	+0.8
	comp=Z,6.2nm,0.7s,baz=295,slow=1.3,SNR=20						
PBRG	Braganca	150.07	351	eP	PKPbc	15 13 01.6	+0.7
POLO	Lamas de Olo	150.64	352	eP	PKPbc	15 13 03.1	+0.7
PVRL	Vila Real	150.73	352	eP	PKPbc	15 13 03.4	+0.9
MVO	Moncorvo	150.74	351	eP	PKPbc	15 13 03.0	+0.4
PVIS	Viseu	151.30	352	eP	PKPbc	15 13 04.3	+0.4
ESDC	Sonseca Array	151.56	345	PKPbc	PKPbc	15 13 04.7	+0.2
ESDC				PKPab	PKPab	15 13 14.9	+1.1
ESDC	Sonseca Array	151.56	345	PKPbc	PKPbc	15 13 04.7	+0.2
	comp=Z,3.9nm,0.7s,baz=7.4,slow=2.6,SNR=25						
ESDC				PKPab	PKPab	15 13 14.9	+1.1
	comp=Z,3.2nm,0.6s,baz=12,slow=4.2,SNR=10						
MTE	Manteigas	151.56	351	eP	PKPbc	15 13 05.2	+0.7
PAB	San Pablo	151.77	346	ePKPdf	PKPdf	15 12 58.2	-0.3
PCBR	Castelo Branco	152.10	351	eP	PKPbc	15 13 05.7	+0.1
PTOM	Tomar	152.45	352	eP	PKPbc	15 13 07.0	+0.6
PMRV	Marv??o	152.49	351	eP	PKPbc	15 13 07.1	+0.6
PMTG	Montargil	152.97	352	eP	PKPbc	15 13 07.8	+0.2
PBAR	Barrancos	153.66	350	eP	PKPab	15 13 23.6	+1.1
PBEJ	Beja	153.94	351	eP	PKPab	15 13 25.3	+1.6
TORD	Torodi Ar. Bea	165.71	275	PKP	PKPdf	15 13 13.8	-1.6
TORD				PKPab	PKPab	15 14 15.7	-0.1
TORD	Torodi Ar. Bea	165.71	275	PKP	PKPdf	15 13 13.8	-1.6
	comp=Z,1.6nm,1.1s,baz=6.7,slow=3.0,SNR=5.7						
TORD				PKPab	PKPab	15 14 15.7	-0.1
	comp=Z,3.0nm,1.0s,baz=74,slow=5.4,SNR=13						

IDC 03 15:15:20.8±4.9, 1°.27S×99°.76E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/23, mbtmp3.3/3, MS2.9/1, Ms1 2.9/1, ms1mx2.8/14, Error ellipse: s-maj=256.7km s-min=27.7km az=53.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	Prapat	4.13	348	LR	LR	15 17 48.4	
	comp=Z,174nm,21.4s,baz=353,slow=37						
WRA	Warramunga Arr	38.57	121	P	P	15 22 44.9	-0.9
	0.4nm,0.7s,baz=296,slow=8.5,SNR=3.7						
ASAR	Alice Springs	39.88	127	P	P	15 22 57.6	+0.9
	0.3nm,0.8s,baz=300,slow=7.5,SNR=4.1						
MKAR	Makanchi Array	50.26	344	P	P	15 24 18.9	+0.1
	0.2nm,0.5s,baz=141,slow=7.3,SNR=3.2						
TXAR	Lajitas Array	144.27	36	PKP	PKPbc	15 34 58.5	+0.6
	0.1nm,0.5s,baz=22,slow=5.1,SNR=2.6						

IDC 03 15:25:25.8±3.1, 15°.36S×175°.43W, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.6/19, mbtmp3.6/4, Error ellipse: s-maj=170.4km s-min=27.1km az=146.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	47.95	257	P	P	15 34 06.6	+0.1
	0.3nm,0.8s,baz=89,slow=7.6,SNR=3.4						
ASAR	Alice Springs	48.26	252	P	P	15 34 08.7	-0.3
	0.6nm,0.6s,baz=86,slow=7.9,SNR=14						
ILAR	Eielson Array	82.79	12	P	P	15 37 51.4	-0.1
	0.3nm,0.5s,baz=218,slow=5.2,SNR=9.5						
PDAR	Pinedale Array	83.55	43	P	P	15 37 56.2	+0.1
	0.3nm,0.6s,baz=215,slow=4.4,

KPT	**Kopyto**	**1.65 260**	*e*P	**Pn**	**15 43 17.9**	**0.0**
KPT			*i* S	**Sn**	**15 43 39.7**	**+0.5**
KMNR	**Kamenistaya**	**1.70 253**	P	**Pn**	**15 43 18.8**	**+0.2**
KMNR			*i* S	**Sb**	**15 43 41.6**	**-0.1**
KOZR	**Kozyr**	**1.81 264**	PN	**Pn**	**15 43 21.2**	**+1.2**
KOZR			S	**Sb**	**15 43 45.3**	**+0.5**
KOZ	**Kozyrevsk**	**1.83 264**	*e*P	**Pn**	**15 43 21.2**	**+1.0**
KOZ			*i* S	**Sb**	**15 43 45.3**	**+0.1**
SRDR	**Sredinnyy**	**1.89 272**	*e*P	**Pn**	**15 43 21.8**	**+0.6**
SRDR			*i* S	**Sb**	**15 43 46.9**	**-0.2**
MKZ	**Mys Kozlova**	**1.91 205**	PN	**Pn**	**15 43 20.8**	**-0.5**
MKZ			S	**Sn**	**15 43 43.9**	**-1.5**
MKZ	**Mys Kozlova**	**1.91 205**	P	**Pn**	**15 43 20.8**	**-0.5**
MKZ			*i* S	**Sn**	**15 43 43.9**	**-1.5**
BKI	**Bering**	**1.95 123**	PN	**Pn**	**15 43 21.4**	**-0.5**
BKI			S	**Sn**	**15 43 46.1**	**-0.3**
BKI	**Bering**	**1.95 123**	P	**Pn**	**15 43 21.4**	**-0.5**
BKI			*i* S	**Sn**	**15 43 46.1**	**-0.3**
TUMR	**Tumrok**	**1.96 240**	*e*P	**Pn**	**15 43 22.8**	**+0.7**
ESO	**Esso**	**2.50 263**	PN	**Pn**	**15 43 31.2**	**+1.7**
ESO			S	**Sb**	**15 44 03.2**	**-1.3**
ESO	**Esso**	**2.50 263**	P	**Pn**	**15 43 31.2**	**+1.7**
ESO			*i* S	**Sb**	**15 44 03.2**	**-1.3**
KII	**Karymskiy**	**3.09 224**	*e*P	**Pn**	**15 43 38.7**	**+1.1**
SPN	**Mys Shipunski**	**3.67 211**	PN	**Pn**	**15 43 45.0**	**-0.5**
SPN	**Mys Shipunski**	**3.67 211**	*e*P	**Pn**	**15 43 45.0**	**-0.5**
SPN			*i* S	**Sn**	**15 44 26.6**	**-2.2**
NLC	**Nalytchevo**	**3.81 216**	PN	**Pn**	**15 43 48.2**	**+0.7**
NLC			S	**Sn**	**15 44 33.0**	**+0.6**
NLC	**Nalytchevo**	**3.81 216**	*e*P	**Pn**	**15 43 48.2**	**+0.7**
NLC			*i* S	**Sn**	**15 44 33.0**	**+0.6**
SDLR	**Sedlovina**	**3.89 221**	*e*P	**Pn**	**15 43 50.0**	**+1.4**
SDLR			*i* S	**Sn**	**15 44 36.6**	**+2.2**
KRX	**Arik**	**3.91 223**	P	**Pn**	**15 43 50.3**	**+1.3**
KRER	**Koryakskii**	**3.92 222**	*e*P	**Pn**	**15 43 50.8**	**+1.7**
SMAR	**Somma**	**3.93 221**	*e*P	**Pn**	**15 43 49.7**	**+0.4**
AVH	**Avacha**	**3.95 222**	*e*P	**Pn**	**15 43 51.5**	**+2.0**
GNL	**Ganaly**	**3.96 231**	P	**Pn**	**15 43 51.1**	**+1.5**
UGLR	**Uglovaya**	**3.96 221**	P	**Pn**	**15 43 51.1**	**+1.4**
KOK	**Koryaka**	**3.97 223**	P	**Pn**	**15 43 52.3**	**+2.6**
KOK			*i* S	**Sn**	**15 44 38.8**	**+2.4**
INSR	**Institute**	**4.16 221**	P	**Pn**	**15 43 53.4**	**+1.2**
INSR			*i* S	**Sn**	**15 44 42.9**	**+2.0**
PET	**Petropavlovsk**	**4.17 220**	⇓*i*PN	**Pn**	**15 43 53.7**	**+1.3**
PET			*e*S	**Sn**	**15 44 42.8**	**+1.5**
PET			pmax	pmax		
	comp=Z,200nm,1.2s					
PET			pmax	pmax		
	comp=Z,284nm,0.7s					
PET			smax	smax		
	comp=E,800nm,2.3s					
PET			smax	smax		
	comp=N,324nm,0.7s					
PET			smax	smax		
	comp=E,225nm,0.7s					
PET			MLR	MLR		
	comp=Z,600nm,10.0s					
PET			MLR	MLR		
	comp=Z,900nm,9.0s					
PET	**Petropavlovsk**	**4.17 220**	*e*P	**Pn**	**15 43 53.6**	**+1.2**
PET			*i* S	**Sn**	**15 44 42.8**	**+1.5**
PETK	**Petropavlovsk-**	**4.48 227**	PN	**Pn**	**15 43 58.2**	**+1.6**
PETK					15 44 56.5	
PETK			pmax	pmax		
	comp=Z,3.0nm,0.3s					
PETK	**Petropavlovsk-**	**4.48 227**	Pn	**Pn**	**15 43 58.2**	**+1.6**
	comp=Z,2.5nm,0.3s,baz=62,slow=17,SNR=97					
PETK			Sn	**Sb**	**15 44 56.5**	**-4.9**
	baz=96,slow=19,SNR=1.8					
RUS	**Russkaya**	**4.71 217**	PN	**Pn**	**15 44 00.6**	**+0.8**
RUS	**Russkaya**	**4.71 217**	*e*P	**Pn**	**15 44 00.6**	**+0.8**
RUS			*i* S	**Sn**	**15 44 54.0**	**-0.5**
MTVR	**Mutnovka**	**4.78 219**	*e*P	**Pn**	**15 44 01.9**	**+1.0**
MTVR			*i* S	**Sn**	**15 44 56.7**	**+0.2**
APC	**Apacha**	**4.83 228**	*e*P	**Pn**	**15 44 03.6**	**+2.1**
ASAK	**Asacha**	**4.96 220**	*e*P	**Pn**	**15 44 04.5**	**+1.1**
ASAK			*i* S	**Sn**	**15 45 01.1**	**+0.2**
MIPR	**Malaya Ipel'ka**	**5.48 225**	*e*P	**Pn**	**15 44 12.5**	**+2.1**
PAU	**Pauzhetka**	**6.10 220**	PN	Pn	15 44 23.3	+4.4
PAU	**Pauzhetka**	**6.10 220**	*e*P	Pn	15 44 23.3	+4.4
FX1	**Attu Island--F**	**6.77 116**	Pn	**Pn**	**15 44 28.2**	**+0.2**
	comp=Z,3.6nm,0.3s,baz=350,slow=8,9,SNR=17					
FX1			Sn	**Sn**	**15 45 42.6**	**-2.5**
	comp=Z,1.5nm,0.3s,baz=37,slow=20,SNR=3.6					
SKR	**Severo-Kuril's**	**7.00 219**	*e*PN	Pn	15 44 23.2	-8.0
SKR	**Severo-Kuril's**	**7.00 219**	*e*P	**Pn**	**15 44 32.5**	**+1.3**
ASAJ	**Asahikawa**	**17.83 236**	Pn	**Pn**	**15 46 56.6**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=304,slow=10,SNR=4.6					
YAK	**Yakutsk**	**17.92 302**	*e*P	**P**	**15 46 58.5**	**+0.1**
YAK			pmax	pmax		
	comp=Z,12nm,1.0s					
YAK			pmax	pmax		
	comp=E,7.0nm,1.0s					
ERM	**Erimo**	**19.25 230**	*i* P	**P**	**15 47 12.4**	**-0.6**
KLR	**Kul'dur**	**20.12 263**	*e*P	Pn	15 47 23.7	-0.7
TIXI	**Tiksi**	**21.03 330**	*i* P	**P**	**15 47 34.5**	**+2.3**
TIXI			pmax	pmax		
	comp=Z,11nm,1.1s					
VLA	**Vladivostok**	**23.87 250**	⇓P	**P**	**15 48 00.8**	**-1.3**
VLA			S	S	15 52 07.6	-10
VLA			pmax	pmax		
	comp=Z,5.0nm,0.8s					
ILAR	**Eielson Array**	**25.36 50**	P	**P**	**15 48 16.8**	**+1.2**
	comp=Z,3.5nm,0.9s,baz=262,slow=7.6,SNR=13					
MJAR	**Matsushiro Arr**	**25.92 231**	P	**P**	**15 48 20.0**	**-0.9**
	comp=Z,1.4nm,0.6s,baz=28,slow=7.1,SNR=6.2					
TLY	**Talaya**	**34.31 288**	*e*P	**P**	**15 49 37.0**	**+1.9**
TLY			pmax	pmax		
	comp=Z,8.0nm,0.8s					
TLY			MLR	MLR		
	comp=Z,30nm,13.0s					
YKA	**Yellowknife Ar**	**39.65 46**	P	**P**	**15 50 18.5**	**-1.7**
	comp=Z,0.6nm,0.6s,baz=300,slow=8.5,SNR=2.7					
GTA	**Gaotai**	**44.03 275**	*e*P	P	15 51 00.9	+4.4
GTA			pP	pP	15 51 05.1	+5.7
GTA			sP	sP	15 51 08.1	+7.5
GTA			S	S	15 57 08.6	-20
GTA			sS	sS	15 58 57.0	+84
GTA			SS	SS	15 59 59.3	-46
GTA			pmax	pmax		
	comp=Z,3.0nm,0.6s					
GTA			pmax	pmax		
	comp=Z,87nm,5.2s					
GTA			LR	LR		
	comp=N,110nm,18.5s					
GTA			LR	LR		
	comp=E,130nm,21.4s					
GTA			LR	LR		
	comp=Z,72nm,17.1s					
MKAR	**Makanchi Array**	**48.37 295**	*e*P	**P**	**15 51 29.2**	**-1.3**
MKAR	**Makanchi Array**	**48.37 295**	P	**P**	**15 51 28.7**	**-1.8**
	comp=Z,0.2nm,0.4s,baz=51,slow=6.5,SNR=7.7					
NVAR	**Mina Array Bea**	**53.09 74**	P	**P**	**15 52 08.4**	**+2.0**
	comp=Z,0.2nm,0.5s,baz=309,slow=5.7,SNR=2.8					
FINES	**FINESS Array B**	**57.86 337**	P	**P**	**15 52 39.4**	**-0.6**
	comp=Z,1.9nm,0.8s,baz=5.4,slow=5.9,SNR=3.6					
TXAR	**Lajitas Array**	**67.83 70**	P	**P**	**15 53 48.4**	**+1.3**
	comp=Z,2.5nm,0.6s,baz=297,slow=4.8,SNR=23					
WRA	**Warramunga Arr**	**79.73 207**	P	**P**	**15 54 55.1**	**-1.5**
	comp=Z,0.5nm,0.9s,baz=16,slow=5.2,SNR=2.8					
ASAR	**Alice Springs**	**83.41 207**	P	**P**	**15 55 15.6**	**-0.4**
	comp=Z,1.1nm,1.0s,baz=21,slow=5.1,SNR=7.2					

IDC 03 15:44:44.0±5.3, 4°.93S×145°.49E, *h*64km±46km, mb3.5/5, mb1 3.6/7, mb1mx3.3/20, mbtmp3.5/7, ML2.7/1, Error ellipse: s-maj=34.6km s-min=29.7km az=151.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.75 160**		P		Pn	15 45 54.7	+1.6
	2.1nm,0.3s,baz=240,slow=16,SNR=7.1							
PMG				S		Sn	15 46 46.5	-0.3
	5.4nm,0.3s,baz=155,slow=19,SNR=5.1							
WRA	**Warramunga Arr**	**18.45 215**		P		Pn	15 48 55.2	-0.3
	baz=39,slow=13,SNR=2.8							
ASAR	**Alice Springs**	**21.72 210**		P		P	15 49 30.4	+0.2
	0.3nm,0.7s,baz=40,slow=8.6,SNR=4.3							
FITZ	**Fitzroy Crossi**	**23.41 234**		P		P	15 49 46.7	-0.9
	3.8nm,0.6s,baz=62,slow=7.6,SNR=15							
STKA	**Stephens Creek**	**27.05 187**		P		P	15 50 21.3	+0.7
	1.4nm,0.6s,baz=347,slow=14,SNR=2.4							
QSPA	**South Pole Qui**	**85.03 180**		P		P	15 57 12.6	0.0
	1.8nm,1.1s,baz=0.6,slow=0.5,SNR=5.2							
ILAR	**Eielson Array**	**85.10 23**		P		P	15 57 12.5	-0.2
	0.6nm,0.7s,baz=245,slow=5.7,SNR=5.9							

*ISCJB **03** 15:45:49.0±0.6, 59°.70N±0°.04×24°.37E±0°.07, h0km, Error ellipse: s-maj=5.8km s-min=5.0km az=138.7*
*CSEM **03** 15:45:50.8±0.2, 59°.74N×24°.56E, h2km, ML1.7, Error ellipse: s-maj=5.2km s-min=4.2km az=105.0, Mining explosion.*
*IDC **03** 15:45:52.0±2.3, 59°.77N×24°.66E, h0km, mb1 3.2/3, mb1mx2.9/27, mbtmp3.1/3, ML2.9/2, Error ellipse: s-maj=27.6km s-min=8.5km az=158.0*
*NAO **03** 15:45:51.4±1.0, 59°.73N×24°.57E, ML2.0*
*HEL **03** 15:45:51.6±0.1, 59°.71N×24°.53E, h0km, ML2.2, Explosion*
*BER **03** 15:45:51.7±2.7, 59°.72N×24°.60E, h0km, ML2.0(NAO), Suspected explosion*

ISC 03 15:45:50.3±0.9, 59°.70N±0°.03×24°.48E±0°.04, h0km, n34, σ0s91/46, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**0.52 356**		*e*P		**Pg**	**15 46 00.8**	**+0.5**
MEF				*e*S		**Sg**	**15 46 07.2**	**+0.2**
MEF	**Metsahovi**	**0.52 356**		P		**Pg**	**15 46 00.8**	**+0.5**
MEF				S		**Sg**	**15 46 07.2**	**+0.2**
MTSE	**Matsula**	**1.04 199**		*e*P		**Pg**	**15 46 10.6**	**+0.3**
MTSE	**Matsula**	**1.04 199**		P		**Pg**	**15 46 10.5**	**+0.3**
PVF	**Pernaja**	**1.10 39**		*e*P		**Pg**	**15 46 10.7**	**-0.6**
PVF	**Pernaja**	**1.10 39**		P		**Pg**	**15 46 10.6**	**-0.6**
VSU	**Vasula**	**1.70 136**		Pg		**Pn**	**15 46 21.7**	**+0.5**
VSU				Lg		Lg	15 46 43.2	
VSU	**Vasula**	**1.70 136**		Pg		**Pn**	**15 46 21.7**	**+0.5**
VSU				Lg		Lg	15 46 43.2	
VSU	**Vasula**	**1.70 136**		*e*P		**Pn**	**15 46 21.6**	**+0.5**
VSU	**Vasula**	**1.70 136**		P		**Pn**	**15 46 21.6**	**+0.5**
VSU				Lg		Lg	15 46 43.2	
	SNR=92							
VJF	**Virojoki**	**1.76 60**		*e*P		**Pn**	**15 46 22.0**	**+0.1**
VJF				*e*S		**Sn**	**15 46 44.8**	**-0.1**
VJF				MSG			15 46 48.5	
	comp=Z,22nm,0.2s							
VJF	**Virojoki**	**1.76 60**		P		**Pn**	**15 46 22.0**	**+0.1**
RAF	**Rauma**	**1.89 316**		*e*P		**Pb**	**15 46 25.5**	**-0.1**
RAF				MSG			15 46 55.5	
	comp=Z,16nm,0.2s							
RAF	**Rauma**	**1.89 316**		P		**Pb**	**15 46 25.5**	**-0.1**
FIA0	**FINESS Array S**	**1.92 24**		Pg		**Pn**	**15 46 25.6**	**+1.4**
	baz=197,slow=18							
FIA0				Lg		Lg	15 46 49.4	
	baz=208,slow=28							
FIA0	**FINESS Array S**	**1.92 24**		Pg		**Pn**	**15 46 25.6**	**+1.4**
	baz=197,slow=18							
FIA0				Lg		Lg	15 46 49.4	
	baz=208,slow=28							
FIA0	**FINESS Array S**	**1.92 24**		*e*P		**Pn**	**15 46 25.5**	**+1.3**
FIA0				MSG			15 46 52.4	
	comp=Z,13nm,0.3s							
FIA0	**FINESS Array S**	**1.92 24**		Pg		**Pn**	**15 46 25.6**	**+1.4**
	baz=197,slow=17,SNR=90							
FIA0				Lg		Lg	15 46 49.3	
	baz=208,slow=25,SNR=90							
FINES	**FINESS Array B**	**1.92 24**		Pn		**Pn**	**15 46 25.6**	**+1.4**
	comp=Z,5.4nm,0.3s,baz=200,slow=15,SNR=170							
FINES				Sn		**Sn**	**15 46 49.6**	**+0.6**
	comp=Z,5.5nm,0.3s,baz=204,slow=26,SNR=18							
AAL	**Aland**	**2.31 284**		*e*P		**Pb**	**15 46 32.5**	**-0.2**
AAL	**Aland**	**2.31 284**		P		**Pb**	**15 46 32.5**	**-0.2**
SLIT	**Slitere, Latvi**	**2.37 210**		*e*P		**Pb**	**15 46 33.0**	**-0.7**
	SNR=50							
HFS	**Hagfors**	**5.44 279**		Pn		**Pn**	**15 47 14.1**	**+1.5**
	baz=96,slow=12							
HFS				Sn		**Sn**	**15 48 15.0**	**-0.8**
	baz=92,slow=28							
HFS				Lg		Lg	15 48 38.3	
	baz=92,slow=37							
HFS	**Hagfors**	**5.44 279**		Pn		**Pn**	**15 47 14.1**	**+1.5**
	baz=96,slow=12							
HFS				Sn		**Sn**	**15 48 15.0**	**-0.8**
	baz=92,slow=28							
HFS				Lg		Lg	15 48 38.3	
	baz=92,slow=37							
HFS	**Hagfors**	**5.44 279**		Pn		**Pn**	**15 47 14.0**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=108,slow=14,SNR=9.3							
HFS				Sn		**Sn**	**15 48 16.1**	**+0.3**
	comp=Z,0.7nm,0.3s,baz=90,slow=23,SNR=8.4							
HFS				Lg		Lg	15 48 43.4	
	comp=Z,0.8nm,0.3s,baz=100,slow=32,SNR=5.6							
HFS	**Hagfors**	**5.44 279**		Pn		**Pn**	**15 47 14.1**	**+1.5**
	baz=96,slow=12,SNR=50							
HFS				Sn		**Sn**	**15 48 15.0**	**-0.8**
	baz=92,slow=24,SNR=50							
HFS				Lg		Lg	15 48 38.3	
	baz=92,slow=28,SNR=5.6							
NB2	**NORSAR Subarra**	**6.71 287**		Pn		**Pn**	**15 47 30.3**	**+0.3**
	baz=98,slow=14							
NB2				Sn		**Sn**	**15 48 46.0**	**-1.1**
	baz=98,slow=28							
NB2				Lg		Lg	15 49 20.0	
NB2	**NORSAR Subarra**	**6.71 287**		Pn		**Pn**	**15 47 30.3**	**+0.3**
	baz=98,slow=14							
NB2				Sn		**Sn**	**15 48 46.0**	**-1.1**
	baz=98,slow=28							
NB2				Lg		Lg	15 49 20.0	
NB2	**NORSAR Subarra**	**6.71 287**		Pn		**Pn**	**15 47 30.3**	**+0.3**
	baz=98,slow=14,SNR=50							
NB2				Sn		**Sn**	**15 48 46.0**	**-1.1**
	baz=98,slow=23,SNR=50							
NOA	**NORSAR Array B**	**6.71 287**		Pn		**Pn**	**15 47 29.3**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=21,slow=8.5,SNR=6.0							
NOA				Sn		**Sn**	**15 48 46.1**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=154,slow=21,SNR=6.0							
NOA				Lg		Lg	15 49 24.6	
	comp=Z,0.6nm,0.3s,baz=325,slow=11,SNR=4.9							
ARA0	**ARCESS Array S**	**9.89 2**		Pn		**Pn**	**15 48 12.4**	**-1.1**
	baz=180,slow=14							
ARA0	**ARCESS Array S**	**9.89 2**		Pn		**Pn**	**15 48 12.4**	**-1.1**
	baz=180,slow=14							
ARA0	**ARCESS Array S**	**9.89 2**		Pn		**Pn**	**15 48 12.4**	**-1.1**
	baz=180,slow=13,SNR=50							
ARCES	**ARCESS Array B**	**9.89 2**		Pn		**Pn**	**15 48 12.3**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=176,slow=12,SNR=23							

IDC 03 16:24:13.1±9.3, 5°.94S×151°.19E, *h*45km±68km, mb2.8/2, mb1 3.2/3, mb1mx3.0/18, mbtmp3.1/3, ML2.1/1, Error ellipse: s-maj=137.9km s-min=59.2km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.27 229**		P		Pn	16 25 29.3	-0.1
	0.4nm,0.3s,baz=330,slow=8.1,SNR=2.0							
PMG				S		Sn	16 26 29.7	+0.8
	1.0nm,0.3s,baz=180,slow=20,SNR=4.2							
WRA	**Warramunga Arr**	**21.49 228**		P		P	16 28 58.3	0.0
	0.4nm,0.9s,baz=52,slow=10,SNR=3.1							
ASAR	**Alice Springs**	**24.23 222**		P		P	16 29 25.8	-0.2
	0.4nm,0.9s,baz=61,slow=9.6,SNR=3.7							
TORD	**Torodi Ar. Bea**	**149.10 286**		PKPbc		PKPbc	16 43 57.1	-0.5
	0.3nm,0.6s,baz=101,slow=1.3,SNR=3.6							

IDC 03 16:35:59.1±3.4, 4°.09S×140°.67E, *h*0km, mb3.4/3, mb1 3.8/4, mb1mx3.5/17, mbtmp3.6/4, ML3.8/1, MS3.5/2, Ms1 3.5/2, ms1mx2.9/19, Error ellipse: s-maj=104.0km s-min=29.0km az=94.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**16.81 162**		LR		LR	16 45 41.7	
	comp=Z,445nm,19.7s,baz=289,slow=35							
WRA	**Warramunga Arr**	**16.92 201**		Pn		Pn	16 39 56.6	-0.8
	0.4nm,0.3s,baz=16,slow=13,SNR=21							
WRA				LR		LR	16 47 16.0	
	comp=Z,52nm,20.7s,baz=205,slow=40							
FITZ	**Fitzroy Crossi**	**20.26 225**		P		Pn	16 40 37.5	-0.7
	3.5nm,1.0s,baz=52,slow=15,SNR=8.8							
FITZ				S		S	16 44 21.9	-2.6
	1.2nm,0.8s,baz=128,slow=17,SNR=2.4							
ASAR	**Alice Springs**	**20.53 198**		P		P	16 40 38.5	-0.8
	0.8nm,0.5s,baz=28,slow=10,SNR=22							
MKAR	**Makanchi Array**	**72.07 322**		P		P	16 47 25.2	0.0
	0.2nm,0.5s,baz=115,slow=7.4,SNR=2.5							

IDC 03 16:55:54.3±4.0, 4°.84S×138°.62E, *h*0km, mb3.5/1, mb1 3.6/4, mb1mx3.3/17, mbtmp3.4/4, ML3.3/3, Error ellipse: s-maj=127.4km s-min=32.0km az=92.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.58 195**		Pn		Pn	16 59 36.0	+0.5
	0.1nm,0.3s,baz=12,slow=12,SNR=5.6							
FITZ	**Fitzroy Crossi**	**18.30 223**		P		Pn	17 00 09.8	0.0
	0.1nm,0.3s,baz=38,slow=14,SNR=4.1							
ASAR	**Alice Springs**	**19.26 193**		P		P	17 00 20.2	-0.4
	0.1nm,0.3s,baz=22,slow=9.9,SNR=13							
MKAR	**Makanchi Array**	**71.42 323**		P		P	17 07 16.6	+0.1
	0.5nm,0.8s,baz=123,slow=7.4,SNR=3.8							

*IDC **03** 16:58:04.3±0.5, 4°.72S×134°.01E, h0km, mb4.7/19, mb1 4.8/22, mb1mx4.7/25, mbtmp4.7/22, ML4.9/4, MS4.8/13, Ms1 4.8/13, ms1mx4.5/26, Error ellipse: s-maj=17.6km s-min=10.6km az=70.0*
*BJI **03** 16:58:05.1, 4°.93S×134°.31E, h35km, mB5.3/28, mb5.0/53, Ms4.9/48, Ms7 4.5/46*
*ISCJB **03** 16:58:05.0±0.7, 4°.77S±0°.02×134°.11E±0°.03, h18km±4km, mb5.0/93, MS4.7/30, Error ellipse: s-maj=4.5km s-min=3.5km az=147.0*
*AUST **03** 16:58:06.0±0.9, 4°.87S×134°.06E, h6km, Error ellipse: s-maj=0.7km s-min=0.5km az=29.0*
*BKK **03** 16:58:07.0±0.2, 5°.S±4°×13°.4E±°, h10km, M5.3/32, mB5.6/23, mb5.3/32, MLv6.0/2, Mw(mB)5.1/23*
*MOS **03** 16:58:07.5±1.1, 4°.74S×134°.05E, h33km, mb5.4/31, MS4.6/5, Error ellipse: s-maj=12.4km s-min=6.3km az=113.1*
*NEIC **03** 16:58:09.0±0.2, 4°.79S×134°.07E, h35km, mb5.1/34, Error ellipse: s-maj=7.5km s-min=5.1km az=55.0*
*GCMT **03** 16:58:09.2±0.1, 4°.64S×134°.05E, h12km, MW5.2, Moment Tensor Solution. s41,c60; s89,c147; Moment tensor: Scale 10^{16}Nm; M_{rr}-4.98±.23; $M_{\theta\theta}$-3.20±.15; $M_{\phi\phi}$8.18±.20; $M_{r\theta}$0.33±.46; $M_{\theta\phi}$5.62±.13; $M_{\phi r}$-0.14±.41; Best double couple: $M_0$8.10000×10^{16} NP1:ϕ_s244.00000°,δ71.00000°, λ-20.00000°. NP2:ϕ_s341.00000°,δ71.00000°, λ-160.00000°. Principal axes: T 10.5000, Plg0.0000°, Azm292.0000°; N -4.8000, Plg63.0000°, Azm22.0000°; P -5.7000, Plg27.0000°, Azm202.0000°; Data Used: II IU IC G CN.*
*DJA **03** 16:58:09.2±0.3, 5°.S±2°×13°.4E±°, h49km±17km, M5.5/15, mb5.6/14, mB5.8/14, MLv5.8/15, Mw(mB)5.4/14, Mwp6.0/2*

ISC 03 16:58:09.4±0.3, 4.77S±0°.03×134°.10E±0°.03, h35km±1km, h35km:pP-P, n329, σ1s49/389, mb5.1/93, MS4.6/31, 8C-13D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KMPI	**Kaimana, Papua**	**1.17 340**		P		**Pn**	**16 58 26.5**	**-2.8**
TLE	**Tual**	**1.60 237**		P		**Pn**	**16 58 35.7**	**+0.4**
TLE				S		**Sb**	**16 58 58.3**	**-0.2**
TLE	**Tual**	**1.60 237**		P		**Pn**	**16 58 35.9**	**+0.5**
	baz=1.5,SNR=92							
TLE				S		**Sb**	**16 58 58.0**	**-0.5**
	baz=1.5,SNR=6.0							
FAKI	**Fak Fak**	**2.60 315**		P		**Pn**	**16 58 46.8**	**-2.3**
FAKI				S		**Sn**	**16 59 17.4**	**-2.1**
FAKI	**Fak Fak**	**2.60 315**		P		**Pn**	**16 58 46.7**	**-2.3**
	baz=2.7,SNR=172							
RKPI	**Ransiki, Papua**	**3.24 1**		P		**Pn**	**16 58 56.3**	**-1.5**
SRPI	**Serui, Papua**	**3.59 37**		P		**Pn**	**16 59 01.4**	**-1.2**
BAKI	**Biak**	**4.08 30**		P		**Pn**	**16 59 08.6**	**-0.8**
BNDI	**Bandanaira**	**4.18 273**		P		**Pn**	**16 59 10.3**	**-0.5**
BNDI				S		**Sn**	**16 59 58.0**	**-0.5**
BNDI	**Bandanaira**	**4.18 273**		P		**Pn**	**16 59 10.4**	**-0.4**
	baz=4.2,SNR=12							
SAUI	**Saumlaki**	**4.23 221**		P		**Pn**	**16 59 12.1**	**+0.6**
SAUI				S		**Sn**	**17 00 03.2**	**+3.4**
SWI	**Sorong**	**4.80 324**		P		**Pn**	**16 59 17.4**	**-2.0**
SWI	**Sorong**	**4.80 324**		P		**Pn**	**16 59 17.4**	**-2.0**
	baz=4.9,SNR=74							
AAI	**Ambon**	**5.98 280**		P		**Pn**	**16 59 34.5**	**-1.1**
	1μm,0.8s,11μm42μm4.2nm							
AAI	**Ambon**	**5.98 280**		P		**Pn**	**16 59 34.5**	**-1.1**
	baz=6.0,SNR=48							
JAY	**Jayapura**	**6.96 71**		P		**Pn**	**16 59 48.8**	**-0.3**
	332nm,0.9s,9μm2.3nm							
MMPI	**Merauke**	**7.25 121**		P		**Pn**	**16 59 52.4**	**-0.5**
	1μm,0.8s,33μm28nm							
MMPI	**Merauke**	**7.25 121**		P		**Pn**	**16 59 52.8**	**-0.2**
	baz=7.2,SNR=5.7							
LBMI	**Labuha**	**7.76 302**		P		**Pn**	**17 00 01.3**	**+1.3**
	752nm,1.0s,6μm2.5nm							
KDU	**Kakadu**	**8.03 191**		P		**Pn**	**17 00 02.8**	**-0.9**
	baz=8.0,SNR=243							
MTN	**Manton Dam**	**8.54 200**		P		**Pn**	**17 00 09.7**	**-1.1**
	baz=8.5,SNR=616							
TNTI	**Ternate**	**8.69 309**		*e*Pn		**Pn**	**17 00 12.8**	**0.0**
TNTI	**Ternate**	**8.69 309**		P		**Pn**	**17 00 14.1**	**+1.4**
SOEI	**Soe**	**10.93 242**		P		**Pn**	**17 00 43.3**	**-0.4**
	318nm,0.6s,4μm							
SOEI	**Soe**	**10.93 242**		P		**Pn**	**17 00 41.8**	**-1.9**
	baz=11,SNR=23							
BBSI	**Bau Bau**	**11.50 266**		P		**Pn**	**17 00 54.2**

comp=Z,95nm,0.6s
FITZ Sn Sn 17 04 25.4 -14
FITZ eSn Sn 17 04 27.9 -11
FITZ Fitzroy Crossi 15.62 211 Pn Pn 17 01 41.7 -5.5
comp=Z,3.8nm,0.3s,baz=42,slow=12,SNR=232
FITZ Sn Sn 17 04 25.4 -14
comp=Z,12nm,0.3s,baz=184,slow=14,SNR=8.7
FITZ LR LR 17 08 56.9
comp=Z,2μm,18.5s,baz=35,slow=42
FITZ Fitzroy Crossi 15.62 211 P Pn 17 01 41.5 -5.6
baz=16,SNR=141
FITZ S Sn 17 04 27.5 -12
baz=16,SNR=7.9
BUTP Butuan 16.05 328 eP **P** **17 01 55.6 -0.1**
PAGZ Pagadian 16.47 319 eP **P** **17 01 59.5 -0.9**
MTSU Mount Surprise 16.62 144 P **Pn** **17 01 57.7 -2.3**
baz=17,SNR=18
MTSU S **S** **17 05 08.9 -5.2**
baz=17,SNR=5.1
IPIL Ipil 16.96 317 eP **P** **17 02 05.9 0.0**
MYLDM Lahad Datu 18.45 302 P **Pn** **17 02 26.0 +3.5**
TSM Tawau 18.54 299 P **Pn** **17 02 25.0 +1.3**
AS31 Alice Springs 18.79 181 eP **P** **17 02 23.9 -2.1**
AS31 eSn Sn 17 05 40.7 -15
ASAR Alice Springs 18.79 181 P **P** **17 02 24.6 -1.5**
ASAR S Sn 17 05 47.3 -8.8
ASAR Alice Springs 18.79 181 P **P** **17 02 24.6 -1.5**
comp=Z,14nm,0.3s,baz=2.1,slow=13,SNR=160
ASAR S Sn 17 05 47.3 -8.8
comp=Z,1.7nm,0.3s,baz=4.7,slow=27,SNR=3.6
ASAR LR LR 17 10 17.3
comp=Z,5μm,18.1s,baz=357,slow=39
CTA Charters Tower 19.29 143 P **Pn** **17 02 33.6 +1.0**
CTA Charters Tower 19.29 143 P **Pn** **17 02 33.6 +1.0**
comp=Z,4.6nm,0.3s,baz=322,slow=12,SNR=84
CTAO Charters Tower 19.29 143 eP **Pn** **17 02 32.5 -0.2**
CTAO Charters Tower 19.29 143 ePn **Pn** **17 02 32.5 -0.2**
RCP Roxas 19.76 325⇑eP **Pn** **17 02 40.1 +1.8**
KKM Kota Kinabalu 20.83 301 ePn Pn 17 02 50.2 -0.9
comp=Z,298nm,1.4s
KKM Kota Kinabalu 20.83 301 P Pn 17 02 53.2 +2.1
baz=21,SNR=4.5
GUMO Guam 21.14 30 ePn **P** **17 02 51.4 -0.1**
comp=Z,466nm,1.2s
MBWA Marble Bar 21.45 219 P **P** **17 02 55.3 +0.5**
SNR=14
MBWA Marble Bar 21.45 219⇓iP **P** **17 02 54.6 -0.3**
MBWA eS S 17 06 40.5 -11
BTM Bintulu 22.43 290 P **P** **17 03 07.5 +1.9**
SBUM Sibu 23.00 288 eP **P** **17 03 11.8 +0.3**
comp=Z,41nm,0.9s
SBUM Sibu 23.00 288 P **P** **17 03 12.0 +0.5**
UGM Wanagama 23.63 261 S Sn 17 08 01.4 +8.9
baz=24,SNR=5.3
KSM Kuching 24.56 284⇓iP **P** **17 03 25.8 -0.6**
comp=Z,119nm,1.1s
KSM Kuching 24.56 284 P **P** **17 03 26.6 +0.3**
KSM Kuching 24.56 284 P **P** **17 03 27.0 +0.6**
baz=25,SNR=11
RMQ Roma 25.75 149 P **P** **17 03 37.9 +0.9**
baz=26,SNR=14
HNR Honiara 26.06 102 P **P** **17 03 40.5 +0.6**
HNR Honiara 26.06 102 P **P** **17 03 40.5 +0.6**
comp=Z,82nm,0.8s,baz=180,slow=3.0,SNR=2.7
EIDS Eidsvold 26.18 143 eP **P** **17 03 40.6 -0.3**
comp=Z,54nm,1.1s
EIDS Eidsvold 26.18 143 P **P** **17 03 41.0 +0.1**
baz=26,SNR=8.0
CISI Cisompet, Garu 26.27 263 P P 17 03 35.7 -6.2
baz=26,SNR=12
MEEK Meekatharra 26.30 213 P **P** **17 03 42.0 0.0**
baz=26,SNR=7.6
FORT Forrest 26.49 192 eP **P** **17 03 43.2 -0.5**
comp=Z,253nm,0.7s
FORT Forrest 26.49 192 P **P** **17 03 44.3 +0.7**
baz=26,SNR=13
STKA Stephens Creek 27.87 166 eP **P** **17 03 55.4 -0.7**
comp=Z,93nm,2.3s
STKA Stephens Creek 27.87 166 P **P** **17 03 55.5 -0.5**
comp=Z,16nm,0.8s,baz=339,slow=6.7,SNR=16
STKA LR LR 17 16 01.6
comp=Z,4μm,18.4s,baz=341,slow=39
STKA Stephens Creek 27.87 166 P **P** **17 03 56.1 +0.1**
baz=28,SNR=5.2
BBOO Buckleboo 27.96 176⇓eP **P** **17 03 56.7 -0.1**
comp=Z,998nm,0.8s
BBOO Buckleboo 27.96 176 P **P** **17 03 57.0 +0.2**
baz=28,SNR=25
XMI Christmas Isla 28.70 257 S S 17 08 25.0 -26
baz=29,SNR=6.1
MORW Morawa 29.61 213 P **P** **17 04 11.6 +0.1**
baz=30,SNR=5.6
ARMA Armidale 30.41 149 eP **P** **17 04 18.6 -0.1**
comp=Z,50nm,1.0s
ARMA Armidale 30.41 149 P **P** **17 04 19.1 +0.5**
baz=30,SNR=7.5
BLDU Ballidu 30.49 211 P **P** **17 04 19.9 +0.6**
baz=30,SNR=30
KLBR Kellerberrin 30.78 208 P **P** **17 04 22.5 +0.6**
baz=31,SNR=9.6
MYKOM Kota Tinggi 30.91 281 P **P** **17 04 23.6 +0.4**
KGM Kluang 31.48 282 P **P** **17 04 27.8 -0.4**
NWAO Narrogin (SRO) 32.14 207 eP **P** **17 04 32.1 -1.7**
comp=Z,26nm,0.9s
NWAO Narrogin (SRO) 32.14 207 P **P** **17 04 33.4 -0.4**
comp=Z,21nm,0.8s,baz=29,slow=9.3,SNR=7.3
KTGM Kuala Trenggan 32.51 288 P **P** **17 04 36.7 -0.5**
ARPS Mount Arapiles 32.63 168 P **P** **17 04 39.2 +1.1**
baz=33,SNR=12
FRIM Kepong 33.40 283 P **P** **17 04 44.8 -0.3**
QIZ Qiongzhong 33.61 315 P **P** **17 04 46.6 -0.2**
QIZ S **S** **17 10 09.4 +2.1**
QIZ LR LR
comp=N,560nm,23.7s
QIZ LR LR
comp=E,350nm,17.7s
QIZ LR LR
comp=Z,750nm,30.3s
RKGY Rocky Gully 33.67 206 P **P** **17 04 49.2 +2.1**
baz=34,SNR=7.9
PPI Padang Panjang 33.93 276 P **P** **17 04 48.9 -0.8**
baz=34,SNR=5.5
TOO Toolangi 34.27 164 P **P** **17 04 54.7 +2.3**
baz=34,SNR=6.6
IPM Ipoh 34.29 285⇓eP **P** **17 04 51.4 -1.4**
comp=Z,20nm,0.8s
IPM Ipoh 34.29 285 P **P** **17 04 52.7 -0.1**
IPM Ipoh 34.29 285 P **P** **17 04 52.7 -0.1**
KULM Kulim 34.86 286 eP **P** **17 04 55.8 -2.0**
comp=Z,18nm,1.0s
KULM Kulim 34.86 286 P **P** **17 04 57.5 -0.2**
DZM Mont Dzumac 35.73 122 eP P 17 05 14.1 +8.9
comp=Z,174nm,1.4s
DZM eS **S** **17 10 40.8 +0.6**
comp=Z,924nm,28.2s
DZM eLR LR 17 14 40.7
comp=Z,3μm,24.9s
DZM Mont Dzumac 35.73 122 P **P** **17 05 06.1 +0.9**
DZM Mont Dzumac 35.73 122 P **P** **17 05 06.1 +0.9**
comp=Z,14nm,1.1s,baz=107,slow=20,SNR=2.9
PSI Prapat 35.94 281 P **P** **17 05 05.7 -1.4**
PSI Prapat 35.94 281 P **P** **17 05 05.7 -1.4**
comp=Z,5.5nm,0.4s,baz=186,slow=4.8,SNR=8.4
PSI Prapat 35.94 281 P **P** **17 05 06.2 -0.9**
baz=36,SNR=7.0
PANO Nakornpanom 36.37 307 P **P** **17 05 11.0 +0.4**
comp=Z,105nm,1.1s,comp=Z,2μm
SRIT Nakonsritamara 36.87 291 P **P** **17 05 16.0 +1.1**
comp=Z,47nm,1.5s,comp=Z,22μm
SSE Sheshan 37.73 342 eP **P** **17 05 22.5 +0.5**
SSE sP **sP** **17 05 37.9 +1.6**
SSE S **S** **17 11 11.1 +0.9**
SSE sS **sS** **17 11 30.4 +3.5**
SSE ScS **ScS** **17 15 30.5 -1.9**
SSE pmax pmax
comp=Z,21nm,0.6s
SSE pmax pmax
comp=Z,27nm,3.5s
SSE LR LR
comp=N,320nm,23.0s
SSE LR LR
comp=E,950nm,23.0s
SSE LR LR
comp=Z,770nm,23.0s
JNU Nakatsue 37.80 356 eP **P** **17 05 21.7 -0.9**
comp=Z,11nm,0.9s
JNU Nakatsue 37.80 356 P **P** **17 05 22.3 -0.3**
comp=Z,21nm,1.1s,baz=356,slow=6.3,SNR=4.1
CHAI Chaiyaphum 37.84 304 P **P** **17 05 22.1 -1.0**
comp=Z,10nm,0.7s,comp=Z,117nm
PHET Kaeng Krachan 38.48 298 P **P** **17 05 30.8 +2.2**
comp=Z,59nm,1.5s
LOEI Loei 39.25 305 P P 17 05 31.6 -3.4
comp=Z,67nm,0.9s,comp=Z,2μm
MOO Moorlands 39.28 165 P **P** **17 05 36.7 +1.8**
baz=39,SNR=3.4
NJ2 Nanjing 39.38 339 eP **P** **17 05 37.8 +1.9**
NJ2 pmax pmax
comp=Z,21nm,1.2s
TAU Tasmania Unive 39.76 165 eP **P** **17 05 39.4 +0.6**
TAU pmax pmax
comp=Z,80nm,1.3s
TAU Tasmania Unive 39.76 165 eP **P** **17 05 39.4 +0.6**
comp=Z,80nm,1.3s
UTHA Uthaitani 39.81 301 P **P** **17 05 39.3 -0.4**
comp=Z,7.8nm,1.1s
WHN Wuhan 39.87 333 P **P** **17 05 40.2 +0.3**
WHN S **S** **17 11 40.4 -2.1**
WHN pmax pmax
comp=Z,94nm,1.5s
WHN LR LR
comp=Z,1μm,18.0s
GYA Guiyang 40.86 321 P **P** **17 05 47.4 -0.9**
GYA pP **pP** **17 06 01.2 +2.6**
GYA PP **PnPn** **17 07 28.3 +1.0**
GYA S **S** **17 11 59.7 +2.1**
GYA sS **sS** **17 12 16.6 +2.2**
GYA SS **SS** **17 14 54.5 -5.4**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,5.2s
GYA LR LR
comp=N,530nm,17.8s
GYA LR LR
comp=E,500nm,18.2s
GYA LR LR
comp=Z,580nm,17.9s
LAMP Lampang 41.10 305 P **P** **17 05 50.2 -0.1**
comp=Z,7.8nm,1.0s,comp=Z,76nm
MJAR Matsushiro Arr 41.27 5 P **P** **17 05 50.8 -0.7**
MJAR Matsushiro Arr 41.27 5 P **P** **17 05 50.8 -0.7**
comp=Z,1.3nm,0.6s,baz=182,slow=9.3,SNR=5.5
MJAR LR LR 17 22 29.2
comp=Z,969nm,18.1s,baz=200,slow=36
MAT Matsushiro 41.27 5 P **P** **17 05 48.9 -2.6**
MAT S **S** **17 12 05.4 +2.1**
CM31 Chiang Mai Arr 41.63 305 eP **P** **17 05 53.7 -1.0**
comp=Z,26nm,1.1s
CMAR Chiang Mai Arr 41.63 305 P **P** **17 05 54.2 -0.5**
CMAR Chiang Mai Arr 41.63 305 P **P** **17 05 54.2 -0.5**
comp=Z,8.5nm,0.8s,baz=131,slow=6.6,SNR=51
CHTO Chiang Mai 41.81 305 eP **P** **17 05 54.5 -1.6**
CHTO pmax pmax
comp=Z,33nm,1.2s
CHTO Chiang Mai 41.81 305 P **P** **17 05 56.2 +0.1**
SNR=7.8
CHTO Chiang Mai 41.81 305 eP **P** **17 05 54.5 -1.6**
comp=Z,33nm,1.2s
CHTO Chiang Mai 41.81 305 P **P** **17 05 55.5 -0.6**
comp=Z,23nm,1.5s,comp=Z,485nm
CMAI Chiengmai2 42.30 307 P **P** **17 05 59.9 -0.4**
comp=Z,81nm,0.7s,comp=Z,12μm
KSAR Wonju Array Be 42.39 353 P **P** **17 06 00.1 -0.4**
KSRS Korea Array 42.40 353 P **P** **17 06 00.1 -0.5**
comp=Z,2.4nm,0.8s,baz=176,slow=9.9,SNR=10
KSRS LR LR 17 24 06.0
comp=Z,672nm,19.6s,baz=178,slow=37
KMI Kunming 42.56 316 P **P** **17 06 02.0 -0.4**
KMI pP **pP** **17 06 12.0 -0.7**
KMI sP **sP** **17 06 17.0 +0.2**
KMI PP **PP** **17 07 44.6 +3.1**
KMI S **S** **17 12 24.5 +1.5**
KMI sS **sS** **17 12 41.7 +1.8**
KMI SS **SS** **17 15 30.0 -3.8**
KMI pmax pmax
comp=Z,20nm,1.2s
KMI LR LR
comp=N,490nm,21.2s
KMI LR LR
comp=E,490nm,20.9s
KMI LR LR
comp=Z,840nm,25.5s
MSVF Nonsavu 44.87 110 eP **P** **17 06 20.7 -0.3**
MSVF pmax pmax
comp=Z,130nm,1.8s
MSVF Nonsavu 44.87 110 eP **P** **17 06 20.7 -0.3**
comp=Z,130nm,1.8s
XAN Xi'an 45.34 330 P **P** **17 06 23.1 -1.3**
XAN pP **pP** **17 06 33.1 -1.6**
XAN sP **sP** **17 06 37.1 -1.7**
XAN PP **PP** **17 08 10.0 -0.9**
XAN S **S** **17 13 01.2 -1.8**
XAN sS **sS** **17 13 17.8 -2.1**
XAN SS **ScS** **17 16 16.0 -2.7**
XAN pmax pmax
comp=Z,3.0nm,1.2s
XAN pmax pmax
comp=Z,22nm,5.1s
XAN LR LR
comp=N,330nm,16.9s
XAN LR LR
comp=E,110nm,15.0s
XAN LR LR
comp=Z,140nm,17.8s
CD2 Chengdu 45.81 323 P **P** **17 06 28.7 +0.5**
CD2 pP **pP** **17 06 39.0 +0.5**
CD2 sP **sP** **17 06 43.2 +0.6**
CD2 PP **PP** **17 08 16.7 +0.7**
CD2 S **S** **17 13 10.3 +0.4**
CD2 sS **sS** **17 13 27.4 +0.5**
CD2 SS **ScS** **17 16 27.2 +5.3**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,140nm,5.1s
CD2 LR LR
comp=N,700nm,20.2s
CD2 LR LR
comp=Z,570nm,21.4s
SNY Shenyang 47.35 349⇑P **P** **17 06 40.0 0.0**
SNY S **S** **17 13 36.1 +4.6**
SNY pmax pmax
comp=Z,18nm,2.5s
SNY LR LR
comp=N,450nm,20.6s
SNY LR LR
comp=E,460nm,20.4s
SNY LR LR
comp=Z,570nm,17.8s
BJI Beijing 47.54 341 P **P** **17 06 41.5 0.0**
BJI sP **sP** **17 06 53.8 -2.2**
BJI S **S** **17 13 37.7 +3.5**
BJI sS **sS** **17 13 53.0 +1.7**
BJI pmax pmax
comp=Z,29nm,1.4s
BJI pmax pmax
comp=Z,240nm,3.4s
BJI LR LR
comp=N,440nm,17.6s
BJI LR LR
comp=E,910nm,19.8s
BJI LR LR
comp=Z,470nm,24.4s
VLA Vladivostok 47.70 358⇑iP **P** **17 06 41.6 -1.1**
VLA S **S** **17 13 37.2 +0.8**
VLA pmax pmax
comp=Z,37nm,1.2s
USRK Ussuriysk Arra 48.78 358 P **P** **17 06 51.0 +0.1**
comp=Z,7.7nm,0.8s,baz=176,slow=7.6,SNR=20
CN2 Changchun 48.97 352 eP **P** **17 06 53.4 +0.9**
CN2 esP **sP** **17 07 07.3 +0.3**
CN2 ePP **PP** **17 08 47.7 +1.4**
CN2 eS **S** **17 13 55.8 +1.5**
CN2 eSS **SS** **17 17 23.1 -2.7**
CN2 pmax pmax
comp=Z,20nm,0.6s
CN2 LR LR
comp=N,500nm,18.0s
CN2 LR LR
comp=E,600nm,18.0s
CN2 LR LR
comp=Z,600nm,20.0s
ASAJ Asahikawa 49.26 8 eP **P** **17 06 53.1 -1.6**
comp=Z,5.7nm,0.7s
ASAJ Asahikawa 49.26 8 P **P** **17 06 54.0 -0.6**
comp=Z,10nm,0.8s,baz=153,slow=18,SNR=8.4
MDJ Mudanjiang 49.33 356 P **P** **17 06 55.0 -0.2**
MDJ pP **pP** **17 07 03.1 -2.5**
MDJ sP **sP** **17 07 07.1 -2.6**
MDJ PcP **PcP** **17 08 17.5 0.0**
MDJ S **S** **17 13 59.0 -0.3**
MDJ pmax pmax
comp=Z,25nm,1.9s
MDJ pmax pmax
comp=Z,100nm,3.4s
MDJ LR LR
comp=E,900nm,29.7s
MDJ LR LR
comp=Z,270nm,27.2s
LZH Lanzhou 49.54 328⇓P **P** **17 06 57.1 -0.1**
LZH pP **pP** **17 07 07.6 0.0**
LZH sP **sP** **17 07 13.7 +2.0**
LZH PcP **PcP** **17 08 18.0 -0.7**
LZH PP **PP** **17 08 52.3 +0.5**
LZH PcS **PcS** **17 12 13.1 -2.5**
LZH S **S** **17 14 02.2 -0.8**
LZH sS **sS** **17 14 18.8 -1.3**
LZH SS **SS** **17 17 32.1 -3.5**
LZH pmax pmax
comp=Z,34nm,1.3s
LZH pmax pmax
comp=Z,250nm,6.5s
LZH LR LR
comp=N,490nm,13.2s
LZH LR LR
comp=E,410nm,14.0s
LZH LR LR
comp=Z,750nm,17.5s
YUK Yuzh-Kuril'sk 49.72 11 P P 17 06 47.5 -11
YUK pmax pmax
comp=Z,634nm,24.4s
HHC Hu-ho-hao-te 49.87 338 eP **P** **17 07 00.1 +0.6**
HHC pP **pP** **17 07 10.0 0.0**
HHC sP **sP** **17 07 13.9 -0.2**
HHC PP **PP** **17 08 56.0 +1.3**
HHC PcS **PcS** **17 12 15.5 -1.2**
HHC S **S** **17 14 07.3 0.0**
HHC sS **sS** **17 14 23.9 -0.6**
HHC SS **SS** **17 17 37.0 -3.6**
HHC pmax pmax
comp=Z,45nm,1.0s
HHC pmax pmax
comp=Z,530nm,5.6s
HHC LR LR
comp=N,1μm,17.1s
HHC LR LR
comp=E,630nm,16.7s
HHC LR LR
comp=Z,850nm,17.6s
BTO Baotou 50.26 336 eP **P** **17 07 03.5 +1.0**
RPZ Rata Peaks 50.63 146 P **P** **17 07 05.5 +0.3**
RPZ Rata Peaks 50.63 146 P **P** **17 07 05.5 +0.3**
comp=Z,8.9nm,0.8s,baz=259,slow=5.2,SNR=3.9
ODZ Otahua Downs 51.26 147 eP **P** **17 07 09.2 -0.7**
comp=Z,17nm,0.8s
RAO Raoul Island 51.46 124 P **P** **17 07 11.5 -0.2**
YSS Yuzh-Sakhalins 52.06 8⇑eP **P** **17 07 15.2 -0.6**
YSS eS **S** **17 14 37.0 -0.2**
YSS e 17 17 04.0
YSS pmax pmax
comp=Z,30nm,1.0s
YSS MLR MLR
comp=Z,500nm,18.0s
LSA Lhasa 53.56 313 P **P** **17 07 28.0 +0.3**
LSA pmax pmax
comp=Z,20nm,1.5s
KLR Kul'dur 53.81 358 eP P 17 07 24.5 -4.1
KLR eS **S** **17 15 00.0 -1.0**
KLR pmax pmax
comp=Z,230nm,2.6s
KLR MLR MLR
comp=Z,600nm,16.0s
GTA Gaotai 54.14 327 P **P** **17 07 31.5 +0.1**
GTA pP **pP** **17 07 41.7 -0.2**
GTA sP **sP** **17 07 45.6 -0.4**
GTA S **S** **17 15 07.4 +1.3**
GTA sS **sS** **17 15 24.9 +1.5**
GTA SS **SS** **17 18 50.2 +1.8**
GTA pmax pmax
comp=Z,14nm,1.7s
GTA pmax pmax
comp=Z,210nm,4.7s
GTA LR LR
comp=N,290nm,17.6s
GTA LR LR
comp=E,310nm,18.0s
GTA LR LR
comp=Z,290nm,20.0s
TAPN Taplejung 54.99 308 eP **P** **17 07 37.2 -0.8**
comp=Z,81nm,1.1s
ODAN Odare 55.01 307 eP **P** **17 07 37.3 -0.8**
comp=Z,47nm,0.9s
RAMN Ramite 55.68 307 eP **P** **17 07 42.5 -0.4**
comp=Z,76nm,0.9s
JIRN Jiri 56.33 308 eP **P** **17 07 46.9 -0.8**
GUN Gumba 56.69 308 eP **P** **17 07 49.1 -1.1**
comp=Z,48nm,0.7s
PKI Pulchoki 56.90 307 eP **P** **17 07 50.4 -1.4**
KKN Kakani 57.10 307 eP **P** **17 07 52.3 -0.7**
comp=Z,33nm,0.9s
DMN Daman 57.16 307 eP **P** **17 07 52.9 -0.6**
ULN Ulaanbaatar 57.54 339 P **P** **17 07 56.2 +0.6**
SNR=15
ULN Ulaanbaatar 57.54 339 eP **P** **17 07 55.7 0.0**
comp=Z,29nm,1.0s
SONM Songino Array 57.76 338 P **P** **17 07 57.2 +0.1**
SONM Songino Array 57.76 338 P **P** **17 07 57.2 +0.1**
comp=Z,1.4nm,0.8s,baz=157,slow=8.3,SNR=15
SONM LR LR 17 35 21.6
comp=Z,604nm,19.0s,baz=263,slow=39
KOLN Koldanda 58.43 307 eP **P** **17 08 01.8 -0.6**
comp=Z,28nm,0.7s
DANN Dangsing 58.55 307 eP **P** **17 08 02.6 -0.7**
comp=Z,93nm,1.0s
PYUN Piuthan 59.06 307 eP **P** **17 08 06.5 -0.2**
comp=Z,159nm,0.9s
HYB Hyderabad 59.08 293 iP **P** **17 08 05.5 -1.3**
CIT Chita 59.22 345 eP **P** **17 08 08.0 +0.9**
CIT e 17 08 19.5
CIT e 17 08 58.7
CIT pmax pmax
comp=Z,108nm,2.8s
PEA0B Petropavlovsk- 61.01 16 eP **P** **17 08 19.5 +0.2**
PETK Petropavlovsk- 61.01 16 P **P** **17 08 19.6 +0.2**
PETK Petropavlovsk- 61.01 16 P **P** **17 08 19.6 +0.2**
PETK Petropavlovsk- 61.01 16 P **P** **17 08 19.6 +0.2**
comp=Z,2.2nm,0.6s,baz=147,slow=3.0,SNR=7.8
PETK LR LR 17 32 15.3
comp=Z,298nm,20.9s,baz=197,slow=34
ZAK Zakamensk 61.02 338⇓iP **P** **17 08 19.6 0.0**
ZAK pmax pmax
comp=Z,12nm,1.8s
PET Petropavlovsk 61.20 17 eP **P** **17 08 22.6 +2.0**
PET eS **S** **17 16 40.7 +2.9**
PET eSS **SS** **17 20 44.3 +5.8**
PET pmax pmax
comp=Z,14nm,1.0s
PET pmax pmax
comp=Z,100nm,16.7s
PET MLR MLR
comp=Z,200nm,18.0s
DRV Dumont d'Urvil 61.93 177 S S 17 16 33.0 -14
DRV L L 17 23 00.0
DRV R 17 30 00.0
TLY Talaya 61.95 339 eP P 17 08 32.1 +6.4
TLY eSS SS 17 20 47.5 -2.9
TLY pmax pmax
comp=Z,13nm,0.9s
TLY MLR MLR
comp=Z,385nm,18.0s
MOY Mondy 62.91 338 eP **P** **17 08 33.0 +0.7**
MOY pmax pmax
comp=Z,93nm,2.8s
CASY Casey 63.57 190 eP **P** **17 08 37.1 +0.9**
comp=Z,38nm,0.9s

WMQ	**Urumqi**	**63.86 324**	P	**P**	**17 08 39.7**	**+1.0**
WMQ			pP	**pP**	**17 08 50.0**	**+0.6**
WMQ			sP	**sP**	**17 08 53.9**	**+0.4**
WMQ			PcP	**PcP**	**17 09 15.3**	**+1.0**
WMQ			PP	**PP**	**17 11 01.8**	**+2.3**
WMQ			S	**S**	**17 17 11.4**	**-0.5**
WMQ			ScS	**SKSac**	**17 18 26.8**	**-3.1**
WMQ			SS	**SS**	**17 21 20.9**	**+0.1**
WMQ			pmax	pmax		
	comp=Z,73nm,1.0s					
WMQ			LR	LR		
	comp=N,480nm,28.5s					
WMQ			LR	LR		
	comp=E,220nm,20.3s					
WMQ			LR	LR		
	comp=Z,240nm,28.0s					
HVS	**Khovu-Aksy**	**65.54 333**	*d iP*	**P**	**17 08 49.7**	**+0.2**
HVS			pmax	pmax		
	comp=Z,97nm,1.5s					
YAK	**Yakutsk**	**66.69 358**	*e*P	**P**	**17 08 56.1**	**-0.4**
YAK			*e**PP	**pP**	**17 09 04.7**	**-2.6**
YAK			*e*		17 09 23.7	
YAK			*e*		17 11 21.3	
YAK			*e*S	**S**	**17 17 44.8**	**-0.8**
YAK			*e**SS	**sS**	**17 18 00.6**	**-2.7**
YAK			*e*		17 18 52.7	
YAK			*e*SS	**SS**	**17 22 07.0**	**+3.1**
YAK			pmax	pmax		
	comp=E,3.0nm,1.1s					
YAK			pmax	pmax		
	comp=Z,30nm,1.1s					
YAK			pmax	pmax		
	comp=N,6.0nm,1.3s					
YAK			pmax	pmax		
	comp=Z,4.0nm,0.8s					
YAK			pmax	pmax		
	comp=E,10.0nm,1.3s					
YAK			pmax	pmax		
	comp=N,18nm,1.3s					
YAK			smax	smax		
	comp=N,195nm,4.8s					
YAK			smax	smax		
	comp=E,136nm,3.9s					
MIR	**Mirnyy**	**67.90 196**	⇓*iP*	**P**	**17 09 07.0**	**+2.9**
MIR			*i*		17 09 18.0	
MIR			*i*		17 09 38.0	
MIR			pmax	pmax		
	comp=Z,81nm,1.5s					
MK31	**Makanchi Array**	**68.69 325**	P	**P**	**17 09 09.4**	**-0.1**
MK31			pmax	pmax		
	comp=Z,141nm,1.6s					
MK31	**Makanchi Array**	**68.69 325**	*e*P	**P**	**17 09 09.2**	**-0.3**
MKAR	**Makanchi Array**	**68.69 325**	*ce*P	**P**	**17 09 09.6**	**+0.1**
MKAR			pmax	pmax		
	comp=Z,10.0nm,0.6s					
MKAR	**Makanchi Array**	**68.69 325**	P	**P**	**17 09 09.7**	**+0.1**
MKAR	**Makanchi Array**	**68.69 325**	P	**P**	**17 09 09.7**	**+0.1**
	comp=Z,10.0nm,0.6s,baz=118,slow=7.6,SNR=67					
MKAR			LR	LR	17 39 50.8	
	comp=Z,233nm,19.5s,baz=17,slow=36					
SEY	**Seymchan**	**68.93 9**	*ce*P	**P**	**17 09 10.7**	**+0.1**
KSH	**Kashi**	**69.22 315**	⇓*iP*	**P**	**17 09 14.5**	**+1.4**
KSH			pP	**pP**	**17 09 24.8**	**+0.9**
KSH			S	**S**	**17 18 15.9**	**-1.2**
KSH			sS	**sS**	**17 18 35.2**	**+0.4**
KSH			pmax	pmax		
	comp=Z,80nm,1.7s					
KSH			pmax	pmax		
	comp=Z,220nm,3.3s					
KSH			LR	LR		
	comp=N,120nm,6.3s					
KSH			LR	LR		
	comp=E,100nm,6.3s					
KSH			LR	LR		
	comp=Z,160nm,9.9s					
KZA	**Kyzart**	**70.81 318**	*i* P	**P**	**17 09 24.2**	**+1.0**
KZA	**Kyzart**	**70.81 318**	P	**P**	**17 09 24.2**	**+1.0**
	SNR=15					
TKM2	**Tokmak 2**	**70.94 318**	*e*P	**P**	**17 09 23.5**	**-0.2**
TKM2			pmax	pmax		
	comp=Z,29nm,0.8s					
TKM2	**Tokmak 2**	**70.94 318**	P	**P**	**17 09 24.1**	**+0.3**
	SNR=21					
TKM2	**Tokmak 2**	**70.94 318**	*e*P	**P**	**17 09 23.5**	**-0.2**
	comp=Z,29nm,0.8s					
KBK	**Karagaybulak**	**71.26 318**	*i* P	**P**	**17 09 26.3**	**+0.7**
KBK	**Karagaybulak**	**71.26 318**	P	**P**	**17 09 26.3**	**+0.7**
	SNR=8.5					
ZAA0	**Zalesovo Array**	**71.47 332**	*e*P	**P**	**17 09 24.9**	**-1.5**
ZALV	**Zalesovo Beam**	**71.47 332**	*i* P	**P**	**17 09 25.3**	**-1.1**
ZALV			pmax	pmax		
	comp=Z,3.0nm,0.7s					
ZALV	**Zalesovo Beam**	**71.47 332**	P	**P**	**17 09 25.4**	**-1.1**
ZALV	**Zalesovo Beam**	**71.47 332**	P	**P**	**17 09 25.4**	**-1.1**
	comp=Z,2.5nm,0.7s,baz=105,slow=5.8,SNR=16					
CHMS	**Chumysh**	**71.54 318**	*i* P	**P**	**17 09 27.3**	**+0.2**
CHMS	**Chumysh**	**71.54 318**	P	**P**	**17 09 27.3**	**+0.2**
	SNR=7.3					
AAK	**Ala-Archa**	**71.55 318**	P	**P**	**17 09 28.3**	**+0.9**
	comp=Z,109nm,1.0s,SNR=5.3					
AAK	**Ala-Archa**	**71.55 318**	*e*P	**P**	**17 09 27.7**	**+0.3**
AAK			pmax	pmax		
	comp=Z,22nm,1.0s					
AAK	**Ala-Archa**	**71.55 318**	P	**P**	**17 09 28.5**	**+1.1**
	SNR=14					
AAK	**Ala-Archa**	**71.55 318**	P	**P**	**17 09 28.1**	**+0.7**
	SNR=7.5					
AAK	**Ala-Archa**	**71.55 318**	*e*P	**P**	**17 09 27.7**	**+0.3**
	comp=Z,22nm,1.0s					
FRU	**Bishkek**	**71.56 318**	*e*P	**P**	**17 09 27.0**	**-0.2**
FRU			*e*		17 09 36.0	
USP	**Ospenovka**	**71.82 318**	P	**P**	**17 09 29.2**	**+0.4**
	SNR=31					
AML	**Almayashu**	**71.88 317**	P	**P**	**17 09 30.4**	**+0.7**
	SNR=39					
EKS2	**Erkin-Say**	**72.04 318**	*e*P	**P**	**17 09 30.4**	**+0.1**
EKS2			pmax	pmax		
	comp=Z,29nm,0.9s					
EKS2	**Erkin-Say**	**72.04 318**	P	**P**	**17 09 31.0**	**+0.8**
	SNR=23					
EKS2	**Erkin-Say**	**72.04 318**	*e*P	**P**	**17 09 30.4**	**+0.1**
	comp=Z,29nm,0.9s					
KBL	**Kabul**	**72.52 308**	*e*P	**P**	**17 09 32.2**	**-1.2**
KBL			pmax	pmax		
	comp=Z,19nm,0.9s					
KBL	**Kabul**	**72.52 308**	*e*P	**P**	**17 09 32.2**	**-1.2**
	comp=Z,19nm,0.9s					
NVS	**Novosibirsk**	**72.75 332**	⇓*iP*	**P**	**17 09 31.8**	**-2.2**
NVS			pmax	pmax		
	comp=N,38nm,2.0s					
NVS			pmax	pmax		
	comp=Z,85nm,2.0s					
NVS			pmax	pmax		
	comp=E,43nm,2.1s					
VNDA	**Vanda**	**74.19 174**	*e*P	**P**	**17 09 42.1**	**0.0**
	comp=E,8.8nm,0.8s					
VNDA	**Vanda**	**74.19 174**	P	**P**	**17 09 42.2**	**0.0**
	comp=E,6.5nm,0.7s,baz=322,slow=6.1,SNR=30					
VNDA			LR	LR	17 41 23.1	
	comp=E,1μm,20.0s,baz=353,slow=35					
KK31	**Karatay Array**	**74.42 317**	*i* P	**P**	**17 09 44.2**	**0.0**
KK31			pmax	pmax		
	comp=Z,10.0nm,0.6s					
KKAR	**Karatay Array**	**74.42 317**	*e*P	**P**	**17 09 43.8**	**-0.3**
KKAR			pmax	pmax		
	comp=Z,15nm,0.8s					
KKAR	**Karatay Array**	**74.42 317**	*e*P	**P**	**17 09 43.8**	**-0.3**
	comp=Z,15nm,0.8s					
SBA	**Scott Base**	**75.03 173**	*e*P	**P**	**17 09 48.0**	**+1.0**
SBA			pmax	pmax		
	comp=Z,8.0nm,0.8s					
SBA	**Scott Base**	**75.03 173**	*e*P	**P**	**17 09 48.0**	**+1.0**
	comp=Z,7.6nm,0.8s					
PPT2	**Papeete2**	**75.55 107**	*e*S	**S**	**17 19 28.7**	**-1.5**
	comp=Z,294nm,24.0s					
PPT2			*e*SS	**SS**	**17 24 21.6**	**-0.1**
	comp=Z,369nm,26.8s					
PPT2			*e*LR	LR	17 33 11.3	
	comp=Z,536nm,22.0s					
VOSK	**Vostochnaya**	**77.96 326**	P	**P**	**17 10 03.0**	**-1.0**
VOSK			pmax	pmax		
	comp=Z,6.0nm,1.3s					
BVA0	**Borovoye Array**	**78.41 326**	*i* P	**P**	**17 10 05.8**	**-0.7**
BVA0			pmax	pmax		
	comp=Z,37nm,1.5s					
BRVK	**Borovoye**	**78.48 326**	P	**P**	**17 10 06.3**	**-0.6**
	comp=Z,121nm,0.9s,SNR=6.4					
BRVK	**Borovoye**	**78.48 326**	*d iP*	**P**	**17 10 06.3**	**-0.6**
BRVK			pmax	pmax		
	comp=Z,35nm,1.7s					
BRVK	**Borovoye**	**78.48 326**	P	**P**	**17 10 07.1**	**+0.2**
	SNR=12					
BRVK	**Borovoye**	**78.48 326**	*e*P	**P**	**17 10 06.0**	**-0.9**
	comp=Z,17nm,0.8s					
MAW	**Mawson**	**78.51 202**	*e*P	**P**	**17 10 08.1**	**+1.3**
	comp=Z,16nm,1.4s					
MAW	**Mawson**	**78.51 202**	P	**P**	**17 10 08.6**	**+1.8**
	comp=Z,22nm,0.9s,baz=73,slow=6.6,SNR=35					
MAW			LR	LR	17 42 02.7	
	comp=Z,1μm,20.4s,baz=80,slow=34					
MAW	**Mawson**	**78.51 202**	P	**P**	**17 10 08.6**	**+1.8**
	baz=78,SNR=16					
SMDO	**Samad**	**79.09 294**	P	**P**	**17 10 11.8**	**+0.7**
	SNR=6.5					
HOQ	**Hoqain**	**79.85 295**	P	**P**	**17 10 16.1**	**+1.0**
	SNR=12					
ABKAR	**Akbulak array**	**83.34 321**	*e*P	**P**	**17 10 32.2**	**-0.7**
	comp=Z,15nm,0.8s					
AKTO	**Aktyubinsk**	**84.84 321**	P	**P**	**17 10 39.8**	**-0.7**
AKTO			pmax	pmax		
	comp=Z,38nm,1.5s					
SVE	**Sverdlovsk**	**85.01 328**	⇓*eP*	**P**	**17 10 41.4**	**+0.2**
SVE			pmax	pmax		
	comp=Z,48nm,1.4s					
QSPA	**South Pole Qui**	**85.19 180**	LR	LR	17 49 03.3	
	comp=Z,2μm,19.6s,baz=16,slow=36					
ARU	**Arti**	**86.00 327**	*c iP*	**P**	**17 10 45.2**	**-1.0**
ARU					17 14 04.7	
ARU			S	S	17 21 08.3	-9.3
ARU			SS	**SS**	**17 26 57.7**	**+1.6**
ARU			pmax	pmax		
	comp=Z,18nm,2.5s					
SYO	**Syowa Base**	**87.20 201**	⇑*eP*	**P**	**17 10 51.2**	**-0.6**
SOKR	**Solikamsk**	**87.69 330**	*e*P	P	17 11 06.6	+12
SOKR			pmax	pmax		
	comp=Z,9.0nm,0.7s					
COLD	**Coldfoot**	**88.87 22**	*e*P	**P**	**17 11 00.0**	**+0.3**
	comp=Z,8.7nm,0.9s					
ILAR	**Eielson Array**	**89.61 25**	P	**P**	**17 11 01.6**	**-1.6**
ILAR	**Eielson Array**	**89.61 25**	P	**P**	**17 11 01.6**	**-1.6**
	comp=Z,0.9nm,0.8s,baz=257,slow=5.1,SNR=8.4					
ILAR			LR	LR	17 53 39.7	
	comp=Z,225nm,18.4s,baz=81,slow=37					
RAYN	**Ar Rayn**	**90.59 293**	P	**P**	**17 11 08.2**	**-0.6**
	comp=Z,90nm,1.1s,SNR=7.9					
DAWY	**Dawson**	**92.72 26**	*e*P	**P**	**17 11 17.7**	**-0.1**
INK	**Inuvik**	**95.28 22**	*e*P	**P**	**17 11 28.2**	**-1.2**
	comp=Z,8.1nm,1.1s					
MAIT	**Maitri**	**95.67 196**	*e*P	**P**	**17 11 29.8**	**-1.4**
KLMR	**Klimovskoe**	**96.37 331**	*e*P	P	17 11 30.3	-4.2
KLMR			pmax	pmax		
	comp=Z,28nm,1.6s					
KLMR			MLR	MLR		
	comp=Z,318nm,17.0s					
KMBO	**Kilima Mbogo**	**96.72 268**	LR	LR	17 56 46.1	
	comp=Z,120nm,18.0s,baz=275,slow=36					
TMCR	**Tamitsa**	**96.91 334**	*e*P	**P**	**17 11 35.4**	**-1.5**
TMCR			pmax	pmax		
	comp=Z,21nm,0.5s					
ARCES	**ARCESS Array B**	**100.89 340**	P	**Pdif**	**17 11 53.5**	**-1.2**
ARCES	**ARCESS Array B**	**100.89 340**	P	**Pdif**	**17 11 53.5**	**-1.2**
	comp=Z,3.7nm,0.8s,baz=92,slow=6.5,SNR=8.1					
BRTR	**Keskin Array B**	**101.07 309**	P	**Pdif**	**17 11 55.2**	**-1.1**
BRTR	**Keskin Array B**	**101.07 309**	P	**Pdif**	**17 11 55.2**	**-1.1**
	comp=Z,0.2nm,0.4s,baz=146,slow=7.9,SNR=2.3					
NVAR	**Mina Array Bea**	**106.72 51**	Pdif	**Pdif**	**17 12 26.9**	**+5.3**
NVAR	**Mina Array Bea**	**106.72 51**	Pdiff	**Pdif**	**17 12 26.9**	**+5.3**
	comp=Z,0.3nm,0.5s,baz=249,slow=6.4,SNR=3.3					
KOLS	**Kolonicke sedl**	**107.84 320**	*e*P	**Pdif**	**17 12 25.4**	**-0.6**
KOLS	**Kolonicke sedl**	**107.84 320**	PDIF	**Pdif**	**17 12 25.3**	**-0.7**
CRVS	**Cervenica-Dubn**	**108.37 320**	*e*P	**Pdif**	**17 12 25.9**	**-2.5**
CRVS	**Cervenica-Dubn**	**108.37 320**	PDIF	**Pdif**	**17 12 25.9**	**-2.5**
OKC	**Ostrava-Krasne**	**110.20 322**	AMS	AMS	18 10 30.0	
	comp=Z,300nm,22.3s					
DPC	**Dobruska-Polom**	**111.15 323**	AMS	AMS	18 12 10.0	
TREC	**Trest**	**112.01 322**	AMS	AMS	18 12 50.0	
	comp=Z,300nm,18.4s					
PRU	**Pruhonice**	**112.35 323**	AMS	AMS	18 07 40.0	
	comp=Z,200nm,18.0s					
CLL	**Collm**	**112.79 324**	*e*PS	PS	17 27 06.0	+0.3
CLL			*e*PPS	PPS	17 28 10.0	
CLL			*e*SS	SS	17 33 12.0	+1.7
CLL			*e*		17 38 48.0	
CLL			*e*		17 44 36.0	
CLL			LmV		18 12 00.0	
	comp=Z,400nm,19.5s					
KHC	**Kasperske Hory**	**113.24 322**	AMS	AMS	18 13 00.0	
	comp=Z,200nm,17.9s					
HINF	**Hinteralfeld**	**117.87 323**	*e*PKIKP	**PKPdf**	**17 16 52.9**	**+0.4**
	comp=Z,16nm,1.0s					
HINF	**Hinteralfeld**	**117.87 323**	*e*PKIKP	**PKPdf**	**17 16 52.9**	**+0.4**
HINF	**Hinteralfeld**	**117.87 323**	*e*PKPdf	**PKPdf**	**17 16 52.9**	**+0.4**
LPG	**La Plagne**	**118.94 320**	*e*PKIKP	**PKPdf**	**17 16 55.6**	**+0.6**
LPG	**La Plagne**	**118.94 320**	*e*PKIKP	**PKPdf**	**17 16 55.6**	**+0.6**
LPG	**La Plagne**	**118.94 320**	*e*PKPdf	**PKPdf**	**17 16 55.6**	**+0.6**
LPL	**La Plagne**	**118.94 320**	*e*PKIKP	**PKPdf**	**17 16 54.6**	**-0.3**
	comp=Z,8.4nm,0.8s					
LPL	**La Plagne**	**118.94 320**	*e*PKIKP	**PKPdf**	**17 16 54.6**	**-0.3**
LPL	**La Plagne**	**118.94 320**	*e*PKPdf	**PKPdf**	**17 16 54.6**	**-0.3**
MBDF	**Montbardon**	**119.25 319**	*e*PKIKP	**PKPdf**	**17 16 56.0**	**+0.6**
	comp=Z,8.6nm,0.9s					
MBDF	**Montbardon**	**119.25 319**	*e*PKIKP	**PKPdf**	**17 16 56.0**	**+0.6**
MBDF	**Montbardon**	**119.25 319**	*e*PKPdf	**PKPdf**	**17 16 56.0**	**+0.6**
ORIF	**Oris-en-Rattie**	**119.74 320**	*e*PKIKP	**PKPdf**	**17 16 56.7**	**+0.4**
ORIF	**Oris-en-Rattie**	**119.74 320**	*e*PKIKP	**PKPdf**	**17 16 56.7**	**+0.4**
ORIF	**Oris-en-Rattie**	**119.74 320**	*e*PKPdf	**PKPdf**	**17 16 56.7**	**+0.4**
TXAR	**Lajitas Array**	**120.29 59**	PKKPbc	PKKPbc	17 27 06.2	+0.9
TXAR	**Lajitas Array**	**120.29 59**	PKKPbc	PKKPbc	17 27 06.2	+0.8
	comp=Z,0.4nm,0.6s,baz=118,slow=7.3,SNR=5.7					
EVO	**Evora**	**131.92 320**	*e*PKIKP	**PKPdf**	**17 17 18.7**	**-0.9**
EVOP	**Sao Brissos**	**131.99 320**	*e*PKIKP	**PKPdf**	**17 17 18.7**	**-1.1**
EVOP	**Sao Brissos**	**131.99 320**	*e*PKPdf	**PKPdf**	**17 17 18.7**	**-1.1**
TORD	**Torodi Ar. Bea**	**132.32 283**	PKP	**PKPdf**	**17 17 20.8**	**-0.2**
TORD	**Torodi Ar. Bea**	**132.32 283**	PKP	**PKPdf**	**17 17 20.8**	**-0.2**
	comp=Z,1.5nm,0.8s,baz=62,slow=1.7,SNR=7.2					
DBIC	**Dimbokro**	**139.12 275**	PKP	**PKPdf**	**17 17 34.3**	**+0.6**
DBIC	**Dimbokro**	**139.12 275**	PKP	**PKPdf**	**17 17 34.3**	**+0.6**
	comp=Z,5.3nm,0.9s,baz=27,slow=2.0,SNR=3.3					
LVC	**Limon Verde**	**144.69 141**	*e*PKPdf	**PKPdf**	**17 17 44.1**	**+0.3**
CPUP	**Villa Florida**	**147.16 161**	*e*PKPdf	**PKPbc**	**17 17 49.5**	**-0.2**
CPUP			PKPbc	**PKPbc**	**17 17 50.3**	**+0.6**
CPUP	**Villa Florida**	**147.16 161**	PKPbc	**PKPbc**	**17 17 50.3**	**+0.6**
	comp=Z,5.6nm,0.7s,baz=180,slow=1.9,SNR=18					
LPAZ	**La Paz**	**149.65 134**	*e*PKPdf	**PKPdf**	**17 17 53.4**	**+0.7**
LPAZ			PKPbc	**PKPbc**	**17 17 58.4**	**+1.1**
LPAZ			*e*PKPbc	**PKPbc**	**17 17 58.6**	**+1.3**
LPAZ	**La Paz**	**149.65 134**	PKPbc	**PKPbc**	**17 17 58.4**	**+1.1**
	comp=Z,5.1nm,0.9s,baz=108,slow=2.1,SNR=9.2					
ROSC	**El Rosal**	**151.68 89**	PKPbc	**PKPbc**	**17 18 03.1**	**+1.2**
ROSC	**El Rosal**	**151.68 89**	PKPbc	**PKPbc**	**17 18 03.1**	**+1.2**
	comp=Z,6.5nm,0.4s,baz=96,slow=23,SNR=5.4					

IDC 03 17:10:17.4±3.1, 5°.35S×133°.71E, h0km, mb3.3/1, mb1 4.1/4, mb1mx3.6/18, mbtmp3.9/4, ML3.2/2, Error ellipse: s-maj=126.9km s-min=29.5km az=83.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.52**	**178**	Pn	Pn	17 13 43.2	-1.2
	0.1nm,0.3s,baz=359,slow=13,SNR=4.7						
FITZ	**Fitzroy Crossi**	**14.93**	**211**	Pn	Pn	17 13 49.1	-0.8
	0.4nm,0.3s,baz=40,slow=12,SNR=16						
ASAR	**Alice Springs**	**18.21**	**179**	P	P	17 14 32.8	+0.5
	0.2nm,0.3s,baz=4.8,slow=12,SNR=5.9						
MKAR	**Makanchi Array**	**68.94**	**325**	P	P	17 21 24.5	0.0
	0.2nm,0.5s,baz=123,slow=7.5,SNR=2.5						

*CSEM **03** 17:15:24.1, 42°.25N×13°.52E, h10km, MD2.8/22, After ROM*

ROM 03 17:15:24.1±0.1, 42°.25N×13°.52E, h10km, Md2.8/22, Ml2.5/18, Error ellipse: s-maj=0.8km s-min=0.6km az=63.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAGN	**Fagnano**	**0.05**	**69**	Pg	Pg	17 15 26.4	+0.3
FAGN				Sg	Sg	17 15 27.5	-0.1
	23μm,0.3s						
AQU	**L'Aquila**	**0.14**	**320**	Pg	Pg	17 15 27.8	+0.5
AQU				Sg	Sg	17 15 30.3	+0.7
	2μm,0.3s						
AQU	**L'Aquila**	**0.14**	**320**	Pg	Pg	17 15 27.8	+0.5
AQU				Sg	Sg	17 15 30.3	+0.7
	2μm,0.3s						
PTQR	**Pietraquaria**	**0.24**	**202**	Pg	Pg	17 15 29.9	+0.7
PTQR				Sg	Sg	17 15 34.0	+1.4
PTQR	**Pietraquaria**	**0.24**	**202**	Pg	Pg	17 15 29.9	+0.7
PTQR				Sg	Sg	17 15 34.0	+1.4
VCEL	**Villa Celiera**	**0.28**	**58**	Pg	Pg	17 15 30.6	+0.7
VCEL				Sg	Sg	17 15 34.9	+1.1
	872nm,0.6s						
VCEL	**Villa Celiera**	**0.28**	**58**	Pg	Pg	17 15 30.6	+0.7
VCEL				Sg	Sg	17 15 34.9	+1.1
	872nm,0.6s						
FIAM	**Fiamignano**	**0.30**	**274**	Pg	Pg	17 15 30.7	+0.4
FIAM				Sg	Sg	17 15 35.6	+1.2
	793nm,0.7s						
FIAM	**Fiamignano**	**0.30**	**274**	Pg	Pg	17 15 30.7	+0.4
FIAM				Sg	Sg	17 15 35.6	+1.2
	793nm,0.7s						
INTR	**Introdacqua**	**0.37**	**129**	Pg	Pg	17 15 32.0	+0.4
INTR				Sg	Sb	17 15 38.1	-0.8
	589nm,0.7s						
INTR	**Introdacqua**	**0.37**	**129**	Pg	Pg	17 15 32.0	+0.4
INTR				Sg	Sb	17 15 38.1	-0.8
	589nm,0.7s						
TERO	**Teramo**	**0.38**	**9**	Pg	Pg	17 15 31.9	+0.2
TERO				Sg	Sg	17 15 37.7	+0.9
	506nm,0.4s						
TERO	**Teramo**	**0.38**	**9**	Pg	Pg	17 15 31.9	+0.2
TERO				Sg	Sg	17 15 37.7	+0.9
	506nm,0.4s						
VVLD	**Villa Vallelon**	**0.38**	**169**	Pg	Pg	17 15 32.2	+0.4
VVLD				Sg	Sg	17 15 38.1	+1.1
	271nm,0.6s						
VVLD	**Villa Vallelon**	**0.38**	**169**	Pg	Pg	17 15 32.2	+0.4
VVLD				Sg	Sg	17 15 38.1	+1.1
	271nm,0.6s						
GUAR	**Guarcino**	**0.48**	**199**	Pg	Pg	17 15 33.7	+0.2
	240nm,0.4s						
GUAR	**Guarcino**	**0.48**	**199**	Pg	Pg	17 15 33.7	+0.2
	240nm,0.4s						
CERT	**Cerreto**	**0.50**	**233**	Pg	Pg	17 15 34.1	+0.2
	564nm,0.6s						
CERT	**Cerreto**	**0.50**	**233**	Pg	Pg	17 15 34.1	+0.2
	564nm,0.6s						
LNSS	**Leonessa**	**0.50**	**315**	Pg	Pg	17 15 34.5	+0.4
	401nm,0.7s						
LNSS	**Leonessa**	**0.50**	**315**	Pg	Pg	17 15 34.5	+0.4
	401nm,0.7s						
LPEL	**Lama dei Pelig**	**0.53**	**112**	Pg	Pg	17 15 35.0	+0.4
LPEL				Sg	Sb	17 15 43.1	-0.4
	445nm,1.0s						
LPEL	**Lama dei Pelig**	**0.53**	**112**	Pg	Pg	17 15 35.0	+0.4
LPEL				Sg	Sb	17 15 43.1	-0.4
	445nm,1.0s						
POFI	**Posta Fibreno**	**0.55**	**165**	Pg	Pg	17 15 34.8	-0.1
	112nm,0.8s						
POFI	**Posta Fibreno**	**0.55**	**165**	Pg	Pg	17 15 34.8	-0.1
	112nm,0.8s						
SDI	**San Donato**	**0.58**	**158**	Pg	Pg	17 15 35.6	+0.1
SDI				Sg	Sb	17 15 44.7	-0.2
	113nm,0.3s						
SDI	**San Donato**	**0.58**	**158**	Pg	Pg	17 15 35.6	+0.1
SDI				Sg	Sb	17 15 44.7	-0.2
	113nm,0.3s						
MNS	**Montasola**	**0.64**	**283**	Pg	Pg	17 15 36.1	-0.4
	134nm,0.5s						
MNS	**Montasola**	**0.64**	**283**	Pg	Pg	17 15 36.1	-0.4
	134nm,0.5s						
NRCA	**Norcia**	**0.66**	**333**	Pg	Pg	17 15 36.8	-0.2
NRCA				Sg	Sb	17 15 46.7	-0.5
	55nm,0.5s						
NRCA	**Norcia**	**0.66**	**333**	Pg	Pg	17 15 36.8	-0.2
NRCA				Sg	Sb	17 15 46.7	-0.5
	55nm,0.5s						
OFFI	**Offida**	**0.70**	**10**	Pg	Pb	17 15 38.5	+0.1
	606nm,0.7s						
OFFI	**Offida**	**0.70**	**10**	Pg	Pb	17 15 38.5	+0.1
	606nm,0.7s						
CERA	**Filignano**	**0.75**	**150**	Pg	Pg	17 15 38.1	-0.6
	185nm,0.8s						
CERA	**Filignano**	**0.75**	**150**	Pg	Pg	17 15 38.1	-0.6
	185nm,0.8s						
MIDA	**Miranda**	**0.82**	**138**	Pg	Pg	17 15 39.7	-0.3
	108nm,0.4s						
MIDA	**Miranda**	**0.82**	**138**	Pg	Pg	17 15 39.7	-0.3
	108nm,0.4s						
FDMO	**Fiordimonte**	**0.85**	**338**	Pg	Pg	17 15 40.0	-0.6
	125nm,0.9s						
FDMO	**Fiordimonte**	**0.85**	**338**	Pg	Pg	17 15 40.0	-0.6
	125nm,0.9s						

*AUST **03** 17:25:39.8, 6°.48S×130°.54E, h300km*
*ISCJB **03** 17:25:42.8±0.9, 6°.97S±0°.05×130°.57E±0°.08, h78km, mb3.6/1, Error ellipse: s-maj=11.9km s-min=7.2km az=164.0*
*IDC **03** 17:25:52.0±7.8, 7°.45S×130°.22E, h73km±64km, mb3.7/1, mb1 4.2/4, mb1mx3.4/20, mbtmp4.0/4, ML4.2/2, Error ellipse: s-maj=58.0km s-min=52.7km az=2.0*

ISC 03 17:25:48.0±1.6, 7°.2S±0°.1×130°.5E±0°.1, h78km, n13, σ2S75/12, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TLE	**Tual**	**2.65**	**56**	P	**Pn**	**17 26 27.9**	**-0.6**
	baz=2.3,SNR=16						
BNDI	**Bandanaira**	**2.69**	**346**	P	Pn	17 26 22.5	-6.6
	baz=2.1,SNR=3.8						
AAI	**Ambon**	**4.16**	**326**	P	Pn	17 26 42.8	-6.4
	baz=3.6,SNR=3.6						
MTN	**Manton Dam**	**5.69**	**174**	P	Pn	17 27 14.9	+4.9
	baz=6.4,SNR=46						
KDU	**Kakadu**	**5.82**	**161**	P	Pn	17 27 16.6	+4.8
	baz=6.5,SNR=125						
KNRA	**Kununurra**	**8.65**	**191**	P	Pn	17 27 53.8	+3.4
	baz=9.4,SNR=23

WSI	**Waingapu**	**2.94**	**254**	P	**Pn**	**17 32 48.9**	**+2.6**
	baz=2.7,SNR=6.0						
KNRA	**Kununurra**	**8.70**	**142**	P	**Pn**	**17 34 07.2**	**+2.7**
	baz=8.7,SNR=29						
KNRA				S	**Sn**	**17 35 41.9**	**+1.0**
	baz=8.7,SNR=7.8						
MTN	**Manton Dam**	**8.77**	**117**	P	**Pn**	**17 34 08.3**	**+2.8**
	baz=8.9,SNR=62						
MTN				S	**Sn**	**17 35 43.8**	**+1.1**
	baz=8.9,SNR=11						
FITZ	**Fitzroy Crossi**	**9.48**	**166**	P	**Pn**	**17 34 16.2**	**+0.9**
	0.5nm,0.3s,baz=358,slow=12,SNR=6.6						
FITZ				S	**Sn**	**17 35 57.2**	**-2.9**
	3.1nm,0.3s,baz=212,slow=11,SNR=12						
FITZ	**Fitzroy Crossi**	**9.48**	**166**	P	**Pn**	**17 34 17.6**	**+2.3**
	baz=9.5,SNR=6.2						
KDU	**Kakadu**	**9.90**	**113**	P	**Pn**	**17 34 22.6**	**+1.6**
	baz=10.0,SNR=28						
CISI	**Cisompet, Garu**	**15.25**	**274**	S	Sn	17 37 50.4	-30
	baz=15,SNR=4.0						
WRA	**Warramunga Arr**	**15.43**	**137**	P	**Pn**	**17 35 35.0**	**+1.0**
	1.2nm,0.3s,baz=317,slow=14,SNR=20						
WRA				S	**Sn**	**17 38 17.9**	**-6.6**
	0.7nm,0.3s,baz=300,slow=18,SNR=8.0						
ASAR	**Alice Springs**	**17.95**	**146**	P	**Pn**	**17 36 07.0**	**+1.9**
	0.2nm,0.3s,baz=328,slow=12,SNR=10						
ASAR				S	**Sn**	**17 39 20.6**	**-4.7**
	0.3nm,0.3s,baz=318,slow=21,SNR=8.8						
MEEK	**Meekatharra**	**18.19**	**193**	S	**S**	**17 39 29.9**	**-0.4**
	baz=18,SNR=3.3						
COEN	**Coen**	**20.25**	**106**	P	Pn	17 36 31.4	-1.1
	baz=20,SNR=8.6						
MTSU	**Mount Surprise**	**22.51**	**116**	P	**P**	**17 36 55.5**	**+1.6**
	baz=23,SNR=14						
PSI	**Prapat**	**26.80**	**295**	P	**P**	**17 37 31.0**	**-2.5**
	baz=27,SNR=3.1						
STKA	**Stephens Creek**	**28.58**	**146**	P	**P**	**17 37 50.0**	**+1.0**
	1.3nm,0.5s,baz=334,slow=11,SNR=5.4						
MKAR	**Makanchi Array**	**66.29**	**331**	P	**P**	**17 42 37.8**	**-2.2**
	0.6nm,0.5s,baz=136,slow=7.8,SNR=6.8						
ZALV	**Zalesovo Beam**	**70.46**	**337**	P	**P**	**17 43 03.4**	**-2.4**
	0.8nm,0.6s,baz=144,slow=5.4,SNR=3.6						
QSPA	**South Pole Qui**	**81.12**	**180**	P	**P**	**17 44 06.2**	**-0.4**
	0.7nm,0.5s,baz=206,slow=1.7,SNR=9.0						

*ISCJB **03** 17:36:07.8±0.9,29.°89N±0.°06×138.°8E±0.°1,h421km, Error ellipse: s-maj=15.9km s-min=7.9km az=165.5*
*JMA **03** 17:36:08.2±0.5,29.°99N×139.°36E,h461km,M3.4*
*IDC **03** 17:36:08.6±2.8,29.°83N×138.°85E,h407km±67km, mb1 2.9/5,mb1mx2.6/29,mbtmp3.0/5,Error ellipse: s-maj=63.8km s-min=44.0km az=62.0*

ISC 03 17:36:08.4±1.4,29.°88N±0.°09×139.°0E±0.°2,h421km,n16, σ1°82/20,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.96**	**134**	*e*S	**S**	**17 38 21.4**	**+0.7**
CBIJ	**Chichi jima**	**3.96**	**134**	P	**P**	**17 37 22.2**	**+0.8**
	3.0nm,0.3s,baz=282,slow=20,SNR=2.9						
CBIJ				S	**S**	**17 38 20.0**	**-0.7**
	22nm,0.3s,baz=266,slow=22,SNR=13						
JIE	**Ise**	**4.89**	**337**	P	**P**	17 37 33.8	+3.8
BSO1	**Boso 1**	**5.05**	**19**	P	**P**	**17 37 33.3**	**+2.3**
BSO1				*e*S	**S**	**17 38 40.5**	**+1.8**
BSO3	**Boso 3**	**5.07**	**14**	*e*S	**S**	**17 38 40.4**	**+0.7**
JOD2	**Odawara 2**	**5.37**	**1**	P	**P**	**17 37 35.7**	**+0.8**
JNY	**Yasuok**	**5.54**	**351**	P	**P**	**17 37 39.7**	**+3.0**
JHU	**Hanno**	**5.96**	**2**	P	**P**	**17 37 41.5**	**+0.5**
JRY	**Ryogami san**	**6.12**	**359**	P	**P**	**17 37 44.1**	**+1.4**
JYT	**Yasato**	**6.41**	**9**	P	**P**	**17 37 46.2**	**+0.4**
JYT				S	**S**	**17 39 02.1**	**-3.6**
JAG	**Ashikaga**	**6.54**	**3**	P	**P**	**17 37 47.0**	**-0.6**
JAG				*e*S	**S**	**17 39 04.4**	**-3.8**
MJAR	**Matsushiro Arr**	**6.67**	**355**	P	**P**	**17 37 49.3**	**+0.2**
	0.5nm,0.3s,baz=178,slow=12,SNR=6.6						
JHO	**Hitachi**	**6.84**	**11**	P	**P**	**17 37 51.8**	**+0.9**
JHO				S	**S**	**17 39 12.9**	**-1.4**
KSRS	**Korea Array**	**11.90**	**312**	P	**P**	**17 38 46.6**	**+0.2**
	0.2nm,0.3s,baz=127,slow=9.8,SNR=7.3						
ASAJ	**Asahikawa**	**14.50**	**10**	P	**P**	**17 39 16.3**	**+1.7**
	0.2nm,0.3s,baz=260,slow=12,SNR=4.0						
USRK	**Ussuriysk Arra**	**15.33**	**341**	P	**P**	**17 39 23.6**	**+0.1**
	0.6nm,0.3s,baz=143,slow=11,SNR=8.4						

*DDA **03** 18:00:03.5,39.°51N×26.°11E,h7km,MD2.9*
*CSEM **03** 18:00:05.0±0.3,39.°48N×26.°05E,h20km,MD2.9,Error ellipse: s-maj=8.4km s-min=6.5km az=79.0*
*THE **03** 18:00:05.2,39.°52N×26.°07E,h13km,ML2.2/3,Error ellipse: s-maj=1.8km s-min=0.4km az=55.0*
*ISK **03** 18:00:08.9,39.°75N×26.°45E,h5km,MD2.9*

ISC 03 18:00:05.0±1.0,39.°52N±0.°02×26.°11E±0.°03,h20km±4km, n42,σ0°76/56,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.30**	**155**	P	**Pg**	**18 00 11.6**	**-0.1**
PRK				S	**Sg**	**18 00 16.3**	**0.0**
PRK	**Paraskevi**	**0.30**	**155**	P	**Pg**	**18 00 11.6**	**-0.1**
PRK				S	**Sg**	**18 00 16.3**	**0.0**
BOZC	**Bozcaada**	**0.32**	**353**	*i* P	**Pg**	**18 00 11.6**	**-0.4**
BOZC				*i* S	**Sg**	**18 00 16.3**	**-0.5**
EZN	**Ezine**	**0.35**	**29**	*e*PG	**Pg**	**18 00 11.9**	**-0.6**
EZN	**Ezine**	**0.35**	**29**	*e*Pg	**Pg**	**18 00 11.9**	**-0.6**
AYVA	**Ayvalik**	**0.50**	**115**	*i* P	**Pg**	**18 00 15.1**	**-0.1**
AYVA				*i* S	**Sg**	**18 00 22.3**	**+0.3**
AYVA	**Ayvalik**	**0.50**	**115**	*i* P	**Pg**	**18 00 15.1**	**-0.1**
AYVA				*i* S	**Sg**	**18 00 22.3**	**+0.3**
LIA	**Limnos Island**	**0.80**	**298**	P	**Pb**	**18 00 20.4**	**+0.1**
LIA				S	**Sg**	**18 00 31.5**	**0.0**
LIA	**Limnos Island**	**0.80**	**298**	P	**Pb**	**18 00 20.4**	**+0.1**
LIA				S	**Sg**	**18 00 31.5**	**0.0**
GELI	**Tayfur-Gelibol**	**0.92**	**18**	*e*PG	**Pb**	**18 00 22.4**	**+0.1**
GELI				*e*SG	**Sb**	**18 00 32.4**	**-1.7**
GELI	**Tayfur-Gelibol**	**0.92**	**18**	*e*Pg	**Pb**	**18 00 22.4**	**+0.1**
LPK	**Lapseki**	**0.99**	**30**	*e*PG	**Pb**	**18 00 22.9**	**-0.6**
LPK	**Lapseki**	**0.99**	**30**	*e*Pg	**Pb**	**18 00 22.9**	**-0.6**
SMTH	**Samothraki Isl**	**1.04**	**335**	P	**Pb**	**18 00 24.3**	**-0.2**
SMTH	**Samothraki Isl**	**1.04**	**335**	P	**Pb**	**18 00 24.3**	**-0.2**
CHOS	**Chios island**	**1.14**	**182**	P	**Pn**	**18 00 25.5**	**-0.4**
CHOS				S	**Sn**	**18 00 41.7**	**+0.8**
CHOS	**Chios island**	**1.14**	**182**	P	**Pn**	**18 00 25.5**	**-0.4**
CHOS				S	**Sn**	**18 00 41.7**	**+0.8**
BALY	**Balya**	**1.19**	**79**	*i* P	**Pn**	**18 00 27.0**	**+0.4**
BALY				*i* S	**Sn**	**18 00 43.0**	**+0.7**
BALY	**Balya**	**1.19**	**79**	*i* P	**Pn**	**18 00 27.0**	**+0.4**
BALY				*i* S	**Sn**	**18 00 43.0**	**+0.7**
URLA	**Izmir**	**1.22**	**162**	*i* P	Pn	18 00 24.2	-2.8
URLA				*i* S	**Sb**	**18 00 42.3**	**-0.5**
URLA	**Izmir**	**1.22**	**162**	*i* P	Pn	18 00 24.2	-2.8
URLA				*i* S	**Sb**	**18 00 42.3**	**-0.5**
KRBG	**Karabiga-Canak**	**1.26**	**46**	*e*PG	**Pn**	**18 00 27.3**	**-0.2**
KRBG	**Karabiga-Canak**	**1.26**	**46**	*e*Pg	**Pn**	**18 00 27.3**	**-0.2**
GONE	**Gonen-Balikesi**	**1.33**	**66**	*e*PG	**Pn**	**18 00 29.0**	**+0.6**
GONE	**Gonen-Balikesi**	**1.33**	**66**	*e*Pg	**Pn**	**18 00 29.0**	**+0.6**
BALB	**Balikesir**	**1.38**	**85**	*e*PN	**Pg**	**18 00 31.4**	**-0.2**
BALB	**Balikesir**	**1.38**	**85**	*e*Pn	**Pg**	**18 00 31.4**	**-0.2**
RKY	**Sarkoy-Tekirda**	**1.43**	**35**	*e*PN	**Pn**	**18 00 30.5**	**+0.7**
RKY	**Sarkoy-Tekirda**	**1.43**	**35**	*e*Pn	**Pn**	**18 00 30.5**	**+0.7**
SART	**Tekirdag**	**1.43**	**35**	*i* P	**Pn**	**18 00 30.5**	**+0.6**
SART				*i* S	**Sn**	**18 00 48.6**	**+0.5**
SART	**Tekirdag**	**1.43**	**35**	*i* P	**Pn**	**18 00 30.5**	**+0.6**
SART				*i* S	**Sn**	**18 00 48.6**	**+0.5**
MFT	**Murefte**	**1.55**	**35**	*e*PN	**Pb**	**18 00 33.5**	**+0.4**
MFT	**Murefte**	**1.55**	**35**	*e*Pn	**Pb**	**18 00 33.5**	**+0.4**
BNT	**Bandirma**	**1.62**	**59**	*e*PN	**Pb**	**18 00 34.0**	**-0.3**
BNT	**Bandirma**	**1.62**	**59**	*e*Pn	**Pb**	**18 00 34.0**	**-0.3**
KCTX	**Karacabey (Bur**	**1.88**	**66**	*e*PN	**Pb**	**18 00 38.6**	**-0.2**
KCTX	**Karacabey (Bur**	**1.88**	**66**	*e*Pn	**Pb**	**18 00 38.6**	**-0.2**
ARMT	**Armutlu**	**2.36**	**63**	*e*PN	**Pb**	**18 00 45.2**	**-1.6**
ARMT	**Armutlu**	**2.36**	**63**	*e*Pn	**Pb**	**18 00 45.2**	**-1.6**
EDRB	**Edirne**	**2.37**	**12**	*e*PN	**Pb**	**18 00 46.6**	**-0.4**
CTKS	**Kestanelik-??a**	**2.51**	**46**	*e*PN	**Pn**	**18 00 47.2**	**+2.5**
CTKS	**Kestanelik-??a**	**2.51**	**46**	*e*Pn	**Pn**	**18 00 47.2**	**+2.5**

*GUC **03** 18:01:08.8±0.8,31.°33S×69.°49W,h150km±16km,MD3.5, ML4.0*
*ISCJB **03** 18:01:09.0±0.5,31.°33S±0.°04×69.°26W±0.°06,h122km±5km, mb3.7/3,Error ellipse: s-maj=8.4km s-min=6.2km az=25.0*
*IDC **03** 18:01:10.3±2.3,31.°44S×69.°22W,h115km±13km,mb3.5/3, mb1 3.5/4,mb1mx3.3/17,mbtmp3.4/4,Error ellipse: s-maj=47.1km s-min=27.2km az=101.0*

ISC 03 18:01:10.1±0.8,31.°32S±0.°05×69.°29W±0.°06,h117km±8km, n27,σ0°89/36,mb3.7/3,4C-7D,San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**0.94**	**108**	P	**Pn**	**18 01 31.1**	**-0.3**
	26nm,0.3s,baz=281,slow=7.6,SNR=1553						
CFAA				S	**Sn**	**18 01 46.5**	**-1.0**
	55nm,0.3s,baz=66,slow=20,SNR=87						
CMCH	**Combarbala**	**1.47**	**275**	⇓*i* P	**Pn**	**18 01 37.5**	**+0.4**
CMCH				*i* S	**Sn**	**18 01 58.8**	**+1.2**
CMCH				AML	AML	18 02 01.2	
	comp=N,8μm,0.4s						
JACH	**Jahuel**	**1.75**	**219**	⇓*i* P	**Pn**	**18 01 41.1**	**+0.6**
JACH				*i* S	**Sn**	**18 02 05.2**	**+1.6**
PEL	**Peldehue**	**2.17**	**213**	⇓*i* P	**Pn**	**18 01 45.3**	**-0.3**
PEL				*i* S	**Sn**	**18 02 12.6**	**-0.3**
PEL				AML	AML	18 02 13.5	
	comp=E,761nm,0.4s						
PACH	**Papudo**	**2.19**	**236**	⇓*i* P	**Pn**	**18 01 44.9**	**-1.0**
PACH				*i* S	**Sn**	**18 02 12.6**	**-0.8**
ROCH	**El Roble**	**2.20**	**221**	⇑*i* P	**Pn**	**18 01 45.4**	**-0.8**
ROCH				*i* S	**Sn**	**18 02 12.8**	**-1.0**
ROCH				AML	AML	18 02 18.6	
	comp=N,500nm,0.4s						
CLCH	**Cerro Calan**	**2.33**	**207**	⇑*i* P	**Pn**	**18 01 47.6**	**-0.1**
CLCH				*i* S	**Sn**	**18 02 16.5**	**+0.1**
CLCH				AML	AML	18 02 19.3	
	comp=E,674nm,0.6s						
CLCH				AML	AML	18 02 19.9	
	comp=E,829nm,0.5s						
CLCH				AML	AML	18 02 26.2	
	comp=N,466nm,0.5s						
SAN	**Santiago**	**2.42**	**208**	*i* S	**Sn**	**18 02 17.9**	**-0.7**
ANTU	**Antumapu**	**2.52**	**206**	AML	AML	18 02 22.1	
	comp=N,456nm,0.4s						
RCDM	**Rinconada Maip**	**2.52**	**210**	⇓*i* P	**Pn**	**18 01 49.7**	**-0.3**
RCDM				*i* S	**Sn**	**18 02 20.8**	**0.0**
RCDM				AML	AML	18 02 21.5	
	comp=E,525nm,0.3s						
PCH	**Pirque**	**2.52**	**204**	⇓*i* P	**Pn**	**18 01 50.2**	**+0.1**
PCH				*i* S	**Sn**	**18 02 20.9**	**+0.1**
LMEL	**Las Melosas**	**2.64**	**197**	*e*P	**Pn**	**18 01 51.9**	**+0.1**
LMEL				*i* S	**Sn**	**18 02 26.3**	**+2.6**
LMEL				AML	AML	18 02 32.9	
	comp=N,165nm,0.3s						
CHCH	**Chadas Angostu**	**2.85**	**203**	⇑*i* P	**Pn**	**18 01 54.2**	**-0.2**
LCCH	**Las Cruces**	**2.89**	**221**	*e*P	**Pn**	**18 01 53.4**	**-1.5**
CACH	**El Canelo**	**3.00**	**201**	⇓*i* P	**Pn**	**18 01 56.1**	**-0.3**
VACH	**Vallenar**	**3.02**	**335**	*i* S	**Sn**	**18 02 32.2**	**-0.2**
VACH				AML	AML	18 02 34.1	
	comp=E,801nm,0.1s						
LNV	**Longovilo**	**3.18**	**214**	⇑*i* P	**Pn**	**18 01 56.5**	**-2.2**
CPUP	**Villa Florida**	**11.60**	**68**	P	Pn	18 03 48.8	-3.3
	comp=E,1.1nm,0.3s,baz=239,slow=13,SNR=5.6						
LPAZ	**La Paz**	**15.00**	**4**	P	**P**	**18 04 38.9**	**-0.5**
	comp=E,0.1nm,0.3s,baz=192,slow=3.8,SNR=6.2						
BDFB	**Brasilia**	**24.91**	**56**	P	**P**	**18 06 23.1**	**+0.6**
	comp=E,1.0nm,0.4s,baz=285,slow=12,SNR=3.2						
VNA3	**Neumayer Olymp**	**50.99**	**159**	*e*P	**P**	**18 09 59.7**	**+0.2**
VNA2	**Neumayer--Watz**	**51.61**	**158**	*e*P	**P**	**18 10 04.4**	**+0.3**
	baz=288,slow=8.6						
SNAA	**Sanae**	**53.21**	**159**	P	**P**	**18 10 15.8**	**-0.2**
	comp=E,0.5nm,0.7s,baz=289,slow=8.5,SNR=6.3						
TORD	**Torodi Ar. Bea**	**81.10**	**69**	P	**P**	**18 13 12.8**	**+0.1**
	comp=E,1.2nm,0.8s,baz=282,slow=6.0,SNR=6.1						
WRA	**Warramunga Arr**	**124.21**	**207**	PKP	**PKPdf**	**18 19 54.9**	**-0.7**
	comp=E,0.4nm,0.5s,baz=156,slow=1.6,SNR=10						
ZALV	**Zalesovo Beam**	**150.73**	**32**	PKPbc	**PKPbc**	**18 20 48.7**	**+0.6**
	comp=E,2.0nm,0.6s,baz=301,slow=3.2,SNR=12						
MKAR	**Makanchi Array**	**153.25**	**47**	PKPbc	**PKPbc**	**18 20 54.2**	**+0.1**
	comp=E,0.4nm,0.7s,baz=318,slow=3.9,SNR=3.1						
MKAR				PKPab	**PKPab**	**18 21 07.0**	**+0.6**
	comp=E,0.3nm,0.7s,baz=316,slow=4.0,SNR=2.6						

GUC 03 18:07:24.5±0.6,32.°64S×71.°09W,h1km±2km,MD3.5, ML2.0,1C-2D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.31**	**290**	*i* P	Pg	18 07 31.2	+0.6
PACH				*i* S	Sg	18 07 35.5	+0.8
ROCH	**El Roble**	**0.34**	**169**	⇑*i* P	Pg	18 07 32.1	+0.8
ROCH				*i* S	Sg	18 07 37.3	+1.4
ROCH				AML	AML	18 07 39.8	
	comp=N,200nm,0.3s						
PEL	**Peldehue**	**0.60**	**146**	⇓*i* P	Pg	18 07 36.7	+0.5
PEL				*i* S	Sb	18 07 46.0	-1.1
PEL				AML	AML	18 07 47.2	
	comp=N,170nm,0.3s						
CHCH	**Chadas Angostu**	**1.34**	**164**	*e*P	Pg	18 07 49.4	-0.9
CHCH				*i* S	Sg	18 08 08.0	+0.2
LMEL	**Las Melosas**	**1.41**	**149**	⇓*i* P	Pn	18 07 50.8	-0.8
LMEL				*i* S	Sg	18 08 10.5	+0.1
LMEL				AML	AML	18 08 12.6	
	comp=N,63nm,0.2s						
CACH	**El Canelo**	**1.53**	**165**	*i* P	Pn	18 07 53.1	-0.1
CACH				*i* S	Sg	18 08 14.7	+0.7

*IDC **03** 18:15:54.0±5.8,24.°05N×123.°36E,h0km,mb3.4/2, mb1 3.6/3,mb1mx3.2/26,mbtmp3.4/3,ML3.1/1,Error ellipse: s-maj=310.1km s-min=40.9km az=95.0*
*ISCJB **03** 18:15:58.9±0.5,24.°84N±0.°04×122.°26E±0.°02, h108km±4km,mb3.3/2,Error ellipse: s-maj=5.9km s-min=3.4km az=170.9*
*JMA **03** 18:15:59.9±0.3,24.°80N×122.°28E,h106km,M2.5*
*TAP **03** 18:15:59.2,24.°84N×122.°20E,h107km,ML3.7,C*

ISC 03 18:15:59.4±0.9,24.°82N±0.°05×122.°25E±0.°03,h104km±7km, n48,σ0°72/83,8D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.42**	**240**	⇓*i* P	**Pn**	**18 16 15.3**	**+0.1**
	baz=236						
TWC				*e*S	**Sn**	**18 16 26.7**	**-0.3**
	baz=236						
TWE	**Neicheng**	**0.54**	**259**	*i* P	**Pn**	**18 16 16.1**	**+0.2**
	baz=256						
TWE				*e*S	**Sn**	**18 16 28.2**	**-0.1**
	baz=256						
ENA	**Nanau**	**0.61**	**230**	⇓P	**Pn**	**18 16 17.0**	**+0.6**
	baz=216						
ENA				*e*S	**Sn**	**18 16 30.3**	**+1.0**
	baz=216						
TWA	**Mucha**	**0.63**	**285**	P	**Pn**	**18 16 16.5**	**-0.1**
	baz=283						
TWA				*e*S	**Sn**	**18 16 28.9**	**-0.7**
	baz=283						
ENTT	**Nioudou**	**0.65**	**254**	P	**Pn**	**18 16 17.2**	**+0.4**
	baz=247						
ENTT				*e*S	**Sn**	**18 16 30.0**	**+0.1**
	baz=247						
TAP1	**Taipei**	**0.70**	**288**	⇓*e*P	**Pn**	**18 16 17.0**	**-0.1**
	baz=281						
TAP	**Taipei**	**0.71**	**288**	P	**Pn**	**18 16 17.1**	**-0.2**
	baz=281						
TAP				*e*S	**Sn**	**18 16 30.1**	**-0.6**
	baz=281						
TWY	**Chenhua**	**0.74**	**307**	P	**Pn**	**18 16 17.7**	**+0.1**
	baz=304						
TWY				*e*S	**Sn**	**18 16 31.5**	**+0.2**
	baz=304						
YOJ	**Yonaguni jima**	**0.78**	**117**	P	**Pn**	**18 16 18.4**	**+0.5**
YOJ				*e*S	**Sn**	**18 16 32.5**	**+0.7**
TWS1	**Kuangyinshan**	**0.81**	**290**	⇓*i* P	**Pn**	**18 16 18.3**	**+0.1**
	baz=290						
TWS1				*e*S	**Sn**	**18 16 32.9**	**+0.6**
	baz=290						
PCYT	**Pengchaiyu**	**0.82**	**349**	*e*P	**Pn**	**18 16 18.7**	**+0.4**
	baz=347						
NSK	**Sanguang**	**0.83**	**260**	*i* P	**Pn**	**18 16 18.6**	**+0.2**
	baz=256						
NSK				*e*S	**Sn**	**18 16 33.1**	**+0.3**
	baz=256						
NNS	**Nan Shan**	**0.89**	**245**	⇓*i* P	**Pn**	**18 16 19.7**	**+0.5**
	baz=231						
NNS				*e*S	**Sn**	**18 16 34.4**	**+0.4**
	baz=231						
TWD	**Chiawan**	**0.95**	**219**	P	**Pn**	**18 16 19.8**	**+0.1**
	baz=209						
TWD				*e*S	**Sn**	**18 16 34.9**	**0.0**
	baz=209						
NCU	**National Centr**	**0.98**	**279**	*e*P	**Pn**	**18 16 20.4**	**+0.5**
	baz=277						
NCU				S	**Sn**	**18 16 36.0**	**+0.6**
	baz=277						
HWA	**Hwalien**	**1.03**	**215**	*e*P	**Pn**	**18 16 20.7**	**+0.3**
	baz=202						
HWA				*e*S	**Sn**	**18 16 36.2**	**0.0**
	baz=202						
WHF	**Hehuan Shan**	**1.12**	**233**	⇓*i* P	**Pn**	**18 16 22.2**	**+0.3**
	baz=223						
WHF				S	**Sn**	**18 16 38.9**	**0.0**
	baz=223						
TWT	**Tachien**	**1.13**	**240**	P	**Pn**	**18 16 22.8**	**+1.0**
	baz=229						
TWT				*e*S	**Sn**	**18 16 39.7**	**+1.0**
	baz=229						
NSTT	**Nanjuang**	**1.15**	**261**	*i* P	**Pn**	**18 16 21.7**	**-0.1**
	baz=257						
NSTT				*e*S	**Sn**	**18 16 38.6**	**-0.1**
	baz=257						
ESL	**Shilin**	**1.25**	**217**	P	**Pn**	**18 16 22.4**	**-0.6**
	baz=217						
ESL				*e*S	**Sn**	**18 16 39.4**	**-1.4**
	baz=217						
NSY	**Sanyi**	**1.42**	**254**	P	**Pn**	**18 16 25.5**	**+0.6**
	baz=250						
NSY				*e*S	**Sn**	**18 16 44.9**	**+0.6**
	baz=250						
TWQ1	**Liyutan**	**1.43**	**251**	⇓*i* P	**Pn**	**18 16 25.2**	**+0.2**
	baz=247						
TWQ1				*e*S	**Sn**	**18 16 44.3**	**-0.1**
	baz=247						
IRIF	**Iriomote-Funau**	**1.43**	**110**	P	**Pn**	**18 16 25.1**	**+0.1**
IRIF				*e*S	**Sn**	**18 16 44.9**	**+0.4**
SMLT	**Sun Moon Lake**	**1.55**	**233**	P	**Pn**	**18 16 27.6**	**+1.0**
	baz=227						
SMLT				*e*S	**Sn**	**18 16 48.8**	**+1.6**
	baz=227						
EHY	**Hungye**	**1.56**	**213**	*e*P	**Pn**	**18 16 26.1**	**-0.6**
	baz=209						
TYC	**Yuchr**	**1.57**	**235**	*e*P	**Pn**	**18 16 27.4**	**+0.7**
	baz=229						
TYC				*e*S	**Sn**	**18 16 48.4**	**+0.9**
	baz=229						
TCU	**Taichung**	**1.58**	**245**	*e*P	**Pn**	**18 16 27.4**	**+0.5**
	baz=242						
HATJ	**Hateruma jima**	**1.61**	**118**	*e*S	**Sn**	**18 16 48.2**	**-0.1**
JKRS	**Kuro-shima**	**1.70**	**110**	P	**Pn**	**18 16 29.4**	**+1.0**
JKRS				*e*S	**Sn**	**18 16 51.1**	**+0.7**
TWF1	**Yuli**	**1.70**	**211**	*e*P	**Pn**	**18 16 27.8**	**-0.6**
	baz=212						
WNT	**Mingjian**	**1.71**	**237**	*e*P	**Pn**	**18 16 29.3**	**+0.8**
	baz=241						
WNT				*e*S	**Sn**	**18 16 51.9**	**+1.2**
	baz=241						
JIJ	**Ishigaki jima**	**1.78**	**104**	P	**Pn**	**18 16 29.8**	**+0.5**
JIJ				*e*S	**Sn**	**18 16 51.9**	**-0.3**
YUS	**Yu-Shan**	**1.78**	**222**	P	**Pn**	**18 16 30.9**	**+1.0**
	baz=209						
YUS				*e*S	**Sn**	**18 16 53.5**	**+0.5**
	baz=209						
ALS	**Alishan**	**1.86**	**226**	⇓*i* P	**Pn**	**18 16 31.7**	**+1.1**
	baz=229						
ALS				*e*S	**Sn**	**18 16 56.0**	**+1.6**
	baz=229						
CHN5	**Tsauling**	**1.89**	**230**	*e*P	**Pn**	**18 16 31.6**	**+0.8**
	baz=224						
CHN5				*e*S	**Sn**	**18 16 55.8**	**+1.1**
	baz=224						
CHKT	**Chengkung**	**1.90**	**205**	*e*P	**Pn**	**18 16 30.4**	**-0.5**
	baz=195						
CHKT				*e*S	**Sn**	**18 16 53.2**	**-1.6**
	baz=195						
WGK	**Gukeng**	**1.91**	**234**	*e*P	**Pn**	**18 16 31.9**	**+0.9**
	baz=228						
WGK				*e*S	**Sn**	**18 16 56.2**	**+1.0**
	baz=228						
ELDTW	**Lidau**	**1.98**	**215**	*e*P	**Pn**	**18 16 31.9**	**-0.2**
	baz=206						
CHN4	**Tsaushan**	**2.11**	**226**	*e*P	**Pn**	**18 16 34.4**	**+0.9**
	baz=219						
CHN4				*e*S	**Sn**	**18 17 00.7**	**+1.0**
	baz=219						
CHY	**Chiayi**	**2.13**	**232**	*e*P	**Pn**	**18 16 34.1**	**+0.3**
	baz=228						
JTJ	**Tarama**	**2.23**	**94**	P	**Pn**	**18 16 36.2**	**+1.0**
JTJ				*e*S	**Sn**	**18 17 02.9**	**+0.3**
TWG	**Pinlang**	**2.27**	**209**	*e*P	**Pn**	**18 16 35.3**	**-0.4**
	baz=199						
CHN1	**Nanshi**	**2.27**	**224**	*e*P	**Pn**	**18 16 36.3**	**+0.7**
	baz=226						
CHN1				*e*S	**Sn**	**18 17 03.9**	**+0.5**
	baz=226						
SGST	**Jiashian**	**2.31**	**222**	*e*P	**Pn**	**18 16 37.4**	**+1.2**
	baz=224						
SGST				*e*S	**Sn**	**18 17 05.3**	**+0.9**
	baz=224						
PNG	**Penghu**	**2.76**	**244**	*e*P	**Pn**	**18 16 41.1**	**-1.0**
	baz=241						
KSRS	**Korea Array**	**13.49**	**20**

FIA0	**FINESS Array S**	**1.92**	**24**	*e*P		**Pb**	**18 17 13.5**	**-0.2**
FIA0				MSG			18 17 41.2	
	comp=Z,15nm,0.2s							
FIA0	**FINESS Array S**	**1.92**	**24**	P		**Pb**	**18 17 13.5**	**-0.2**
FIA0				Lg	Lg		18 17 37.9	
	baz=191,slow=28,SNR=122							
FINES	**FINESS Array B**	**1.92**	**24**	Pn		**Pb**	**18 17 13.6**	**0.0**
	comp=Z,5.0nm,0.3s,baz=198,slow=16,SNR=251							
FINES				Lg	Lg		18 17 38.0	
	comp=Z,6.4nm,0.3s,baz=189,slow=30,SNR=35							
AAL	**Aland**	**2.31**	**284**	*e*P		**Pb**	**18 17 19.8**	**-0.6**
AAL	**Aland**	**2.31**	**284**	P		**Pb**	**18 17 19.7**	**-0.6**
SLIT	**Slitere, Latvi**	**2.38**	**210**	*e*P		**Pb**	**18 17 21.1**	**-0.4**
	SNR=50							
HFS	**Hagfors**	**5.45**	**279**	Pn		**Pn**	**18 18 02.0**	**+1.8**
	baz=98,slow=12							
HFS				Sn		**Sn**	**18 19 02.8**	**-0.7**
	baz=92,slow=28							
HFS				Lg	Lg		18 19 24.1	
	baz=90,slow=37							
HFS	**Hagfors**	**5.45**	**279**	Pn		**Pn**	**18 18 02.0**	**+1.8**
	baz=98,slow=12							
HFS				Sn		**Sn**	**18 19 02.8**	**-0.7**
	baz=92,slow=28							
HFS				Lg	Lg		18 19 24.1	
	baz=90,slow=37							
HFS	**Hagfors**	**5.45**	**279**	Pn		**Pn**	**18 18 01.6**	**+1.4**
	comp=Z,0.3nm,0.3s,baz=119,slow=13,SNR=16							
HFS				Sn		**Sn**	**18 19 04.8**	**+1.3**
	comp=Z,0.5nm,0.3s,baz=89,slow=24,SNR=6.3							
HFS	**Hagfors**	**5.45**	**279**	Pn		**Pn**	**18 18 02.0**	**+1.8**
	baz=98,slow=12,SNR=50							
HFS				Sn		**Sn**	**18 19 02.8**	**-0.7**
	baz=92,slow=24,SNR=50							
HFS				Lg	Lg		18 19 24.1	
	baz=90,slow=33,SNR=4.2							
NB2	**NORSAR Subarra**	**6.71**	**287**	Pn		**Pn**	**18 18 17.8**	**+0.1**
	baz=97,slow=14							
NB2				Sn		**Sn**	**18 19 33.5**	**-1.3**
	baz=94,slow=28							
NB2				Lg	Lg		18 20 06.6	
NB2	**NORSAR Subarra**	**6.71**	**287**	Pn		**Pn**	**18 18 17.8**	**+0.1**
	baz=97,slow=14							
NB2				Sn		**Sn**	**18 19 33.5**	**-1.3**
	baz=94,slow=28							
NB2				Lg	Lg		18 20 06.6	
NB2	**NORSAR Subarra**	**6.71**	**287**	Pn		**Pn**	**18 18 17.8**	**+0.1**
	baz=97,slow=13,SNR=50							
NB2				Sn		**Sn**	**18 19 33.5**	**-1.3**
	baz=94,slow=23,SNR=50							
NOA	**NORSAR Array B**	**6.71**	**287**	Pn		**Pn**	**18 18 18.3**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=322,slow=21,SNR=7.3							
NOA				Sn		**Sn**	**18 19 31.9**	**-2.9**
	comp=Z,0.4nm,0.3s,baz=188,slow=19,SNR=6.3							
NOA				Lg	Lg		18 20 09.6	
	comp=Z,0.6nm,0.3s,baz=329,slow=22,SNR=5.1							
ARA0	**ARCESS Array S**	**9.88**	**2**	Pn		**Pn**	**18 19 00.9**	**-0.1**
	baz=181,slow=11							
ARA0	**ARCESS Array S**	**9.88**	**2**	Pn		**Pn**	**18 19 00.9**	**-0.1**
	baz=181,slow=11							
ARA0	**ARCESS Array S**	**9.88**	**2**	Pn		**Pn**	**18 19 00.9**	**-0.1**
	baz=181,slow=11,SNR=50							
ARCES	**ARCESS Array B**	**9.88**	**2**	Pn		**Pn**	**18 19 00.5**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=179,slow=12,SNR=25							
ARCES				Sn		**Sn**	**18 20 48.5**	**-4.0**
	comp=Z,0.1nm,0.3s,baz=179,slow=22,SNR=2.8							

IDC 03 18:34:27.7±2.0, 2°.21N×127°.42E, h0km, mb3.3/4, mb1 3.4/4, mb1mx3.2/22, mbtmp3.3/4, Error ellipse: s-maj=182.8km s-min=22.5km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.03**	**163**	P		P	18 39 35.3	+0.6
	0.3nm,0.4s,baz=342,slow=11,SNR=6.3							
ASAR	**Alice Springs**	**26.48**	**167**	P		P	18 40 06.2	-0.7
	0.2nm,0.5s,baz=353,slow=8.0,SNR=4.9							
MKAR	**Makanchi Array**	**59.19**	**325**	P		P	18 44 31.2	+0.5
	0.1nm,0.4s,baz=109,slow=8.8,SNR=4.4							
KURBB	**Kurchatov Arra**	**63.39**	**328**	P		P	18 44 58.6	-0.4
	0.3nm,0.4s,baz=126,slow=6.7,SNR=6.0							

*JMA **03** 18:37:00.1±0.8, 44°.71N×149°.14E, h30km, M4.3*
*ISCJB **03** 18:37:00.4±0.9, 44°.41N±0°.05×149°.12E±0°.08, h48km±7km, mb4.1/31, MS3.5/2, Error ellipse: s-maj=9.6km s-min=7.0km az=26.0*
*NIED **03** 18:37:00, 44°.70N×149°.10E, h23km, Mw4.1 Best double couple: M0:1.51000×10^15 NP1:φs10.00000°, δ64.00000°, λ81.00000°. NP2:φs210.00000°, δ27.00000°, λ108.00000°.*
*MOS **03** 18:37:00.5±1.3, 44°.44N×149°.08E, h47km, mb4.5/22, Error ellipse: s-maj=10.1km s-min=7.7km az=118.5*
*SKHL **03** 18:37:01.4±0.4, 44°.45N×149°.18E, h53km±7km, mb4.7/3*
*IDC **03** 18:37:02.2±0.7, 44°.50N×149°.05E, h45km±7km, mb3.7/24, mb1 3.9/27, mb1mx3.9/34, mbtmp3.7/27, ML3.5/3, MS3.2/7, Ms1 3.2/7, ms1mx3.0/46, Error ellipse: s-maj=17.3km s-min=12.8km az=141.0*

ISC 03 18:37:02.0±0.7, 44°.40N±0°.05×149°.09E±0°.06, h50km±5km, n94, σt=48/115, mb4.1/31, 4C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.21**	**314**	*d* iPN		**Pn**	**18 37 20.8**	**-1.7**
KUR				*e*S		**Sn**	**18 37 35.1**	**-2.6**
KUR				pmax		pmax		
	comp=Z,966nm,0.6s							
KUR				pmax		pmax		
	comp=N,317nm,0.6s							
KUR				pmax		pmax		
	comp=E,176nm,0.6s							
KUR				smax		smax		
	comp=E,602nm,0.8s							
KUR				smax		smax		
	comp=N,1μm,0.5s							
KUR	**Kuril'sk**	**1.21**	**314**	*i* P		**Pn**	**18 37 20.8**	**-1.7**
KUR				AMB		AMB	18 37 21.3	
	comp=N,317nm,0.6s							
KUR				AMB		AMB	18 37 21.3	
	comp=N,176nm,0.6s							
KUR				AMB		AMB	18 37 21.3	
	comp=N,966nm,0.6s							
KUR				*e*S		**Sn**	**18 37 35.1**	**-2.6**
KUR				A		A	18 37 38.9	
	comp=N,1μm,0.8s							
KUR				A		A	18 37 38.9	
	comp=N,602nm,0.8s							
YUK	**Yuzh-Kuril'sk**	**2.35**	**262**	*i* PN		**Pn**	**18 37 38.7**	**+0.6**
YUK				*i* S		**Sn**	**18 38 07.0**	**+1.3**
YUK				pmax		pmax		
	comp=E,74nm,0.5s							
YUK				pmax		pmax		
	comp=N,78nm,0.5s							
YUK				pmax		pmax		
	comp=Z,134nm,0.5s							
YUK				pmax		pmax		
	comp=E,382nm,1.0s							
YUK	**Yuzh-Kuril'sk**	**2.35**	**262**	*i* P		**Pn**	**18 37 38.7**	**+0.6**
YUK				AMB		AMB	18 37 41.3	
	comp=E,78nm,0.5s							
YUK				AMB		AMB	18 37 41.3	
	comp=E,74nm,0.5s							
YUK				AMB		AMB	18 37 41.3	
	comp=E,134nm,0.5s							
YUK				*i* S		**Sn**	**18 38 07.0**	**+1.3**
YUK				A		A	18 38 14.4	
	comp=E,337nm,0.7s							
YUK				A		A	18 38 14.4	
	comp=E,395nm,0.7s							
NEM2	**Nemuro 2**	**2.63**	**248**	P		**Pn**	**18 37 41.6**	**-0.3**
NEM2				*e*S		**Sn**	**18 38 12.8**	**+0.2**
JRA	**Rausu**	**2.89**	**262**	P		**Pn**	**18 37 46.4**	**+0.9**
JNK	**Nakash**	**3.26**	**257**	P		**Pn**	**18 37 50.7**	**+0.2**
JNK				*e*S		**Sn**	**18 38 27.0**	**-1.0**
JAK	**Akkeshi**	**3.48**	**248**	P		**Pn**	**18 37 53.1**	**-0.5**
JTKR	**Abashiri--Toko**	**3.75**	**265**	P		**Pn**	**18 37 59.4**	**+2.1**
JAR	**Ashorobuto**	**4.00**	**256**	P		**Pn**	**18 38 02.3**	**+1.5**
JOB	**Onbets**	**4.10**	**250**	P		**Pn**	**18 38 02.9**	**+0.9**
JMP	**Maruseppu**	**4.14**	**267**	P		**Pn**	**18 38 04.2**	**+1.6**
JCH	**Churui**	**4.53**	**249**	P		**Pn**	**18 38 09.1**	**+1.1**
JCH				*e*S		**Sn**	**18 39 00.9**	**+1.5**
JKK2	**Kamakawa 2**	**4.60**	**266**	P		**Pn**	**18 38 11.5**	**+2.6**
ASAJ	**Asahikawa**	**4.67**	**269**	P		**Pn**	**18 38 12.8**	**+2.8**
	comp=E,4.1nm,0.3s,baz=75,slow=15,SNR=37							
ASAJ				S		Sn	18 39 19.9	+17
	comp=E,1.0nm,0.3s,baz=82,slow=7.1,SNR=2.9							
ASAJ				LR		LR	18 40 14.9	
	comp=E,428nm,18.6s,baz=151,slow=42							
JFR	**Furan**	**4.86**	**258**	P		**Pn**	**18 38 14.9**	**+2.3**
ERM	**Erimo**	**4.95**	**243**	*ce*PN		**Pn**	**18 38 15.8**	**+2.1**
ERM				pmax		pmax		
	comp=Z,34nm,0.5s							
ERM	**Erimo**	**4.95**	**243**	*e*P		**Pn**	**18 38 15.8**	**+2.1**
JNBK	**Urakawa-nobuka**	**5.08**	**248**	P		**Pn**	**18 38 16.7**	**+1.1**
YSS	**Yuzh-Sakhalins**	**5.12**	**302**	⇑ *i*PN		**Pn**	**18 38 16.7**	**+0.6**
YSS				*e*S		**Sn**	**18 39 14.1**	**+0.2**
YSS				pmax		pmax		
	comp=Z,20nm,0.4s							
YSS				smax		smax		
	comp=N,30nm,0.9s							
YSS				smax		smax		
	comp=E,20nm,0.6s							
YSS				MLR		MLR		
	comp=Z,500nm,14.0s							
YSS	**Yuzh-Sakhalins**	**5.12**	**302**	*i* P		**Pn**	**18 38 16.7**	**+0.6**
YSS				AMB		AMB	18 38 17.3	
	comp=Z,20nm,0.4s							
YSS				*e*S		**Sn**	**18 39 14.1**	**+0.2**
YSS				A		A	18 39 16.6	
	comp=Z,30nm,0.8s							
YSS				A		A	18 39 16.6	
	comp=Z,20nm,0.8s							
YSS				AMS		AMS	18 40 21.1	
	comp=Z,500nm,14.0s							
JBT2	**Biratori 2**	**5.15**	**254**	P		**Pn**	**18 38 17.9**	**+1.5**
JNB	**Noboribetsu**	**6.17**	**255**	P		**Pn**	**18 38 31.6**	**+1.1**
JKB	**Kayabe**	**6.41**	**250**	P		**Pn**	**18 38 34.1**	**+0.4**
JKB				*e*S		**Sn**	**18 39 43.5**	**-1.9**
JYM2	**Yakumo 2**	**6.76**	**253**	P		**Pn**	**18 38 40.3**	**+1.7**
JANG	**Nango**	**6.90**	**237**	P		**Pn**	**18 38 40.3**	**-0.2**
JANG				*e*S		**Sn**	**18 39 52.2**	**-5.4**
JTM	**Tenmabayashi**	**6.93**	**241**	*e*S		**Sn**	**18 39 55.4**	**-3.0**
JTH	**Tanohata**	**6.97**	**233**	P		**Pn**	**18 38 40.0**	**-1.5**
JTH				*e*S		Sn	18 39 52.6	-6.9
OFUJ	**Ofunato**	**7.68**	**229**	P		**Pn**	**18 38 50.7**	**-0.5**
JRG	**Rokugo**	**8.04**	**235**	*e*S		**Sn**	**18 40 21.3**	**-4.4**
JIO	**Ouri**	**8.31**	**227**	P		**Pn**	**18 38 58.6**	**-1.2**
JIO				*e*S		Sn	18 40 25.1	-7.1
PETK	**Petropavlovsk-**	**10.40**	**30**	PN		**Pn**	**18 39 28.2**	**-0.1**
PETK				pmax		pmax		
	comp=Z,1.0nm,0.3s							
PETK				MLR		MLR		
	comp=Z,62nm,20.7s							
PETK	**Petropavlovsk-**	**10.40**	**30**	P		**Pn**	**18 39 28.1**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=208,slow=14,SNR=16							
PETK				LR		LR	18 43 11.3	
	comp=Z,62nm,20.7s,baz=196,slow=36							
HABR	**Khabarovsk**	**10.51**	**298**	PN		**Pn**	**18 39 28.3**	**-1.5**
HABR				pmax		pmax		
	comp=Z,22nm,2.3s							
HABR				MLR		MLR		
	comp=Z,127nm,16.0s							
MJAR	**Matsushiro Arr**	**11.40**	**230**	P		**Pn**	**18 39 40.9**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=25,slow=14,SNR=7.6							
MJAR				LR		LR	18 44 14.2	
	comp=Z,116nm,21.3s,baz=90,slow=38							
USRK	**Ussuriysk Arra**	**12.26**	**275**	P		**Pn**	**18 39 56.6**	**+2.9**
	comp=Z,0.2nm,0.3s,baz=86,slow=14,SNR=14							
USRK				LR		LR	18 44 38.5	
	comp=Z,104nm,19.8s,baz=247,slow=37							
KLR	**Kul'dur**	**12.82**	**298**	*e*PN		**Pn**	**18 40 02.8**	**+1.5**
KSRS	**Korea Array**	**17.41**	**254**	P		**Pn**	**18 41 00.8**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=61,slow=12,SNR=3.9							
KSRS				LR		LR	18 48 11.5	
	comp=Z,71nm,18.6s,baz=340,slow=38							
JNU	**Nakatsue**	**18.08**	**238**	LR		LR	18 47 49.6	
	comp=Z,81nm,18.4s,baz=230,slow=36							
YAK	**Yakutsk**	**20.99**	**334**	*e*P		**P**	**18 41 42.2**	**+1.5**
YAK				pmax		pmax		
	comp=E,12nm,1.3s							
YAK				pmax		pmax		
	comp=Z,29nm,0.9s							
YAK				pmax		pmax		
	comp=N,14nm,1.3s							
YAK	**Yakutsk**	**20.99**	**334**	*e*P		Pn	18 41 42.5	-1.4
SONM	**Songino Array**	**29.52**	**292**	P		**P**	**18 43 02.1**	**+0.5**
	comp=N,0.3nm,0.5s,baz=91,slow=9.2,SNR=3.7							
ILAR	**Eielson Array**	**40.14**	**37**	P		**P**	**18 44 32.5**	**0.0**
	comp=N,1.1nm,0.5s,baz=269,slow=8.7,SNR=12							
ZALV	**Zalesovo Beam**	**41.73**	**307**	P		**P**	**18 44 46.4**	**+0.7**
ZALV							18 46 41.8	
ZALV				pmax		pmax		
	comp=Z,1.0nm,0.5s							
ZALV	**Zalesovo Beam**	**41.73**	**307**	P		**P**	**18 44 46.4**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=96,slow=7.2,SNR=2.5							
ZALV				PcP		**PcP**	**18 46 41.8**	**+0.5**
	comp=Z,1.0nm,0.5s,baz=104,slow=5.3,SNR=5.2							
INK	**Inuvik**	**45.13**	**31**	P		**P**	**18 45 13.4**	**+0.5**
	comp=Z,1.7nm,0.5s,baz=303,slow=8.1,SNR=11							
MKAR	**Makanchi Array**	**45.52**	**298**	P		**P**	**18 45 16.7**	**+0.3**
MKAR							18 46 55.0	
MKAR				pmax		pmax		
	comp=Z,1.0nm,0.5s							
MKAR				pmax		pmax		
	comp=Z,1.0nm,0.6s							
MKAR	**Makanchi Array**	**45.52**	**298**	P		**P**	**18 45 16.6**	**+0.3**
	comp=Z,0.8nm,0.5s,baz=80,slow=9.0,SNR=15							
MKAR				PcP		**PcP**	**18 46 55.0**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=78,slow=4.7,SNR=3.2							
KURK	**Kurchatov**	**46.33**	**304**	P		**P**	**18 45 22.9**	**+0.3**
KURK							18 46 57.8	
KURK				pmax		pmax		
	comp=Z,1.0nm,0.4s							
KURK				pmax		pmax		
	comp=Z,1.0nm,0.5s							
KURBB	**Kurchatov Arra**	**46.41**	**304**	P		**P**	**18 45 22.9**	**-0.4**
	comp=Z,0.6nm,0.4s,baz=73,slow=8.2,SNR=14							
KURBB				PcP		**PcP**	**18 46 57.8**	**+0.5**
	comp=Z,0.6nm,0.5s,baz=78,slow=3.6,SNR=7.0							
CMAR	**Chiang Mai Arr**	**49.05**	**255**	P		**P**	**18 45 43.5**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=37,slow=7.2,SNR=4.3							
CMAR				LR		LR	19 08 20.9	
	comp=Z,30nm,19.1s,baz=260,slow=38							
BVAR	**Borovoye Array**	**50.17**	**310**	P		**P**	**18 45 53.0**	**+0.8**
BVAR							18 47 12.0	
BVAR				pmax		pmax		
	comp=Z,1.0nm,0.5s							
BVAR	**Borovoye Array**	**50.17**	**310**	P		**P**	**18 45 53.0**	**+0.8**
	comp=Z,0.5nm,0.7s,baz=26,slow=10,SNR=3.9							
BVAR				PcP		**PcP**	**18 47 12.0**	**+1.2**
	comp=Z,0.5nm,0.5s,baz=51,slow=4.6,SNR=3.4							
AAK	**Ala-Archa**	**52.34**	**296**	⇓ *i*P		**P**	**18 46 09.4**	**+0.6**
AAK				pmax		pmax		
	comp=Z,14nm,2.2s							
AAK	**Ala-Archa**	**52.34**	**296**	*e*P		**P**	**18 46 09.4**	**+0.6**
YKA	**Yellowknife Ar**	**54.48**	**35**	P		**P**	**18 46 24.6**	**+0.6**
	comp=Z,1.8nm,0.6s,baz=299,slow=6.8,SNR=5.3							
FINES	**FINESS Array B**	**64.92**	**334**	P		**P**	**18 47 35.5**	**-0.2**
	comp=Z,1.5nm,0.6s,baz=48,slow=6.8,SNR=11							
WRA	**Warramunga Arr**	**65.43**	**195**	P		**P**	**18 47 40.9**	**+1.4**
	comp=Z,0.7nm,0.8s,baz=16,slow=6.8,SNR=5.9							
WRA				pP		**pP**	**18 47 53.6**	**0.0**
	comp=Z,1.2nm,0.8s,baz=12,slow=6.6,SNR=5.5							
OBN	**Obninsk**	**65.61**	**324**	P		**P**	**18 47 39.3**	**-1.0**
OBN				pmax		pmax		
	comp=Z,3.0nm,0.9s							
PDAR	**Pinedale Array**	**68.42**	**51**	P		**P**	**18 47 58.1**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=299,slow=1.9,SNR=3.3							
ASAR	**Alice Springs**	**69.14**	**195**	P		**P**	**18 48 04.9**	**+2.0**
	comp=Z,0.4nm,0.7s,baz=10,slow=5.1,SNR=7.6							
ASAR				pP		**pP**	**18 48 17.9**	**+0.8**
	comp=Z,0.7nm,0.7s,baz=12,slow=6.7,SNR=5.2							
NB2	**NORSAR Subarra**	**69.49**	**340**	P		**P**	**18 48 04.0**	**-0.8**
	comp=Z,2.7nm,0.7s,baz=31,slow=6.5							
NOA	**NORSAR Array B**	**69.49**	**340**	P		**P**	**18 48 03.9**	**-0.9**
	comp=Z,2.0nm,0.7s,baz=31,slow=6.2,SNR=8.0							
HFS	**Hagfors**	**69.62**	**338**	P		**P**	**18 48 04.7**	**-0.8**
	comp=Z,1.7nm,0.5s,baz=33,slow=5.7,SNR=9.3							
KIV	**Kislovodsk**	**70.36**	**313**	*e*P		**P**	**18 48 11.5**	**+1.0**
KIV				pmax		pmax		
	comp=Z,8.0nm,0.9s							
KIV				MLR		MLR		
	comp=Z,43nm,18.0s							
KBZ	**Khabaz**	**70.41**	**312**	P		**P**	**18 48 11.8**	**+1.2**
KBZ				pmax		pmax		
	comp=Z,5.0nm,1.0s							
KBZ	**Khabaz**	**70.41**	**312**	P		**P**	**18 48 11.8**	**+1.2**
	comp=Z,5.1nm,1.0s,baz=136,slow=6.9,SNR=6.9							
AKASG	**Malin Array Be**	**71.88**	**325**	P		**P**	**18 48 19.1**	**-0.2**
AKASG				pmax		pmax		
	comp=Z,3.0nm,0.6s							
AKASG	**Malin Array Be**	**71.88**	**325**	P		**P**	**18 48 19.1**	**-0.2**
	comp=Z,3.2nm,0.6s,baz=36,slow=6.4,SNR=8.4							
ANN	**Anapa**	**72.47**	**316**	*e*P		**P**	**18 48 20.5**	**-2.5**
ANN				*e*			18 48 36.7	
ANN				*e*			18 51 01.5	
ANN				*e*S		**S**	**18 57 40.5**	**-2.5**
ANN				*e*SS		**SS**	**19 02 21.4**	**0.0**
ANN				pmax		pmax		
	comp=Z,69nm,1.5s							
OKC	**Ostrava-Krasne**	**76.87**	**330**	*e*P		**P**	**18 48 50.6**	**+2.2**
OKC	**Ostrava-Krasne**	**76.87**	**330**	*e*P		**P**	**18 48 50.6**	**+2.2**
UPC	**Upice**	**77.06**	**331**	*e*P		**P**	**18 48 51.1**	**+1.6**
UPC	**Upice**	**77.06**	**331**	*e*P		**P**	**18 48 51.1**	**+1.6**
DPC	**Dobruska-Polom**	**77.08**	**331**	*e*P		**P**	**18 48 50.9**	**+1.2**
DPC	**Dobruska-Polom**	**77.08**	**331**	*e*P		**P**	**18 48 50.9**	**+1.2**
MLR	**Muntele Rosu**	**77.30**	**323**	P		**P**	**18 48 52.1**	**+1.1**
	comp=Z,0.5nm,0.5s,baz=146,slow=1.8,SNR=7.4							
CLL	**Collm**	**77.37**	**334**	⇑ *i*P		**P**	**18 48 51.1**	**-0.1**
CLL				pmax		pmax		
	comp=Z,10.0nm,1.1s							
CLL	**Collm**	**77.37**	**334**	⇑ *i*P		**P**	**18 48 51.1**	**-0.1**
	comp=Z,10.0nm,1.1s							
CLL				*e*PP		**PP**	**18 51 43.0**	**-2.2**
BRG	**Berggiesshubel**	**77.44**	**333**	*e*(P)		**P**	**18 48 51.1**	**-0.4**
	comp=Z,3.1nm,1.0s							
BRG	**Berggiesshubel**	**77.44**	**333**	*e*P		**P**	**18 48 51.1**	**-0.5**
BRG				pmax		pmax		
	comp=Z,3.0nm,1.0s							
PVCC	**Panska Ves**	**77.53**	**332**	*e*P		**P**	**18 48 54.8**	**+2.7**
PVCC	**Panska Ves**	**77.53**	**332**	*e*P		**P**	**18 48 54.8**	**+2.7**
VRAC	**Vranov**	**77.87**	**330**	P		**P**	**18 48 54.4**	**+0.4**
	comp=Z,2.4nm,0.6s,baz=129,slow=22,SNR=4.0							
PRU	**Pruhonice**	**78.00**	**332**	*e*P		**P**	**18 48 55.5**	**+0.8**
PRU				*e*			18 49 00.4	
PRU				*e*			18 49 10.3	
PRU	**Pruhonice**	**78.00**	**332**	*e*P		**P**	**18 48 55.5**	**+0.8**
PRU				*e*x		x	18 49 00.4	
PRU				*e*pP		**pP**	**18 49 10.3**	**+1.2**
BRTR	**Keskin Array B**	**78.10**	**315**	P		**P**	**18 48 56.4**	**+0.8**
	comp=Z,0.8nm,0.8s,baz=105,slow=3.2,SNR=5.6							
KHC	**Kasperske Hory**	**79.06**	**332**	*e*P		**P**	**18 49 01.5**	**+0.9**
KHC				*e*			18 49 15.5	
KHC	**Kasperske Hory**	**79.06**	**332**	*e*P		**P**	**18 49 01.5**	**+0.9**
KHC				*e*pP		**pP**	**18 49 15.5**	**+0.4**
GERES	**GERESS Array B**	**79.26**	**332**	P		**P**	**18 49 01.7**	**-0.1**
	comp=Z,0.8nm,0.4s,baz=42,slow=5.7,SNR=10							
TXAR	**Lajitas Array**	**81.12**	**58**	P		**P**	**18 49 13.2**	**+1.0**
	comp=Z,0.6nm,0.5s,baz=309,slow=4.4,SNR=8.9							
TXAR				pP		**pP**	**18 49 25.9**	**-0.8**
	comp=Z,0.6nm,0.6s,baz=303,slow=4.7,SNR=4.7							
DAVOX	**Davos/Dischmat**	**82.33**	**333**	P		**P**	**18 49 18.8**	**+0.4**
	comp=Z,2.8nm,0.6s,baz=5.8,slow=3.5,SNR=4.2							
IDI	**Anoyia**	**85.91**	**317**	P		**P**	**18 49 34.9**	**-1.7**
	comp=Z,4.7nm,0.7s,baz=352,slow=15,SNR=7.8							
TORD	**Torodi Ar. Bea**	**115.51**	**324**	PKP		**PKPdf**	**18 55 38.4**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=26,slow=1.0,SNR=3.6							

IDC 03 18:38:38.1±3.0, 19°.30S×169°.76E, h274km±33km, mb3.4/6, mb1 3.5/7, mb1mx3.2/20, mbtmp3.3/7, Error ellipse: s-maj=81.1km s-min=22.8km az=151.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.15**	**228**	P		Pn	18 39 45.0	+0.1
	0.5nm,0.3s,baz=30,slow=20,SNR=4.0							
CTA	**Charters Tower**	**22.14**	**264**	P		P	18 43 13.0	+1.4
	1.7nm,0.5s,baz=88,slow=12,SNR=3.6							
WRA	**Warramunga Arr**	**33.33**	**263**	P		P	18 44 49.9	-1.1
	0.4nm,0.3s,baz=96,slow=8.9,SNR=21							
ASAR	**Alice Springs**	**33.59**	**256**	P		P	18 44 52.9	-0.3
	4.3nm,0.5s,baz=80,slow=9.0,SNR=194							
FITZ	**Fitzroy Crossi**	**41.73**	**264**	P		P	18 46 01.4	+0.4
	1.2nm,0.5s,baz=72,slow=5.6,SNR=8.9							
PETK	**Petropavlovsk-**	**72.86**	**352**	P		P	18 49 37.3	+0.3
	0.9nm,0.6s,baz=166,slow=7.6,SNR=5.3							
ILAR	**Eielson Array**	**90.14**	**17**	P		P	18 51 05.7	-1.1
	0.2nm,0.6s,baz=238,slow=3.1,SNR=2.4							
GERES	**GERESS Array B**	**144.77**	**332**	PKP		PKPbc	18 57 41.7	-0.4
	0.4nm,0.5s,baz=66,slow=2.4,SNR=3.2							
DAVOX	**Davos/Dischmat**	**148.01**	**333**	PKPbc		PKPbc	18 57 51.7	+0.1
	1.8nm,0.5s,baz=188,slow=15,SNR=4.5							

WBNET 03 18:48:24.9, 50°.21N×12°.45E, h9km, Ml0.0, 3C-5D, Germany

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.03**	**358**	⇓ P		Pg	18 48 26.

Scale 10^{17}Nm; M_{rr}4.51; $M_{\theta\theta}$-3.81; $M_{\phi\phi}$-0.70; $M_{r\theta}$-3.65; $M_{\theta\phi}$2.44; $M_{\phi r}$-2.78; Best double couple: $M_0$6.70000×10^{17} NP1:ϕ_s142.00000°,δ40.00000°,λ139.00000°. NP2: ϕ_s266.00000°,δ65.00000°,λ58.00000°. Principal axes: T 7.3900, Plg57.0000°, Azm132.0000°; N -1.7700, Plg28.0000°, Azm281.0000°; P -5.6200, Plg14.0000°, Azm19.0000°; Broadband fault plane solution: P waves. NP1:ϕ_s144.00000°,δ42.00000°,λ141.00000°. NP2: ϕ_s265.00000°,δ65.00000°,λ55.00000°. Principal axes: T Plg55.0000°, Azm129.0000°; N Plg0.0000°, Azm0.0000°; P Plg13.0000°, Azm20.0000°; Depth from synthetics of broadband displacement seismograms.

NEIC Felt at Dibrugarh and Shillong, India.

*IDC **03** 19:51:08.5±0.5,24°.33N×94°.81E,h106^{km}±3^{km},mb5.4/46, mb1 5.4/47,mb1mx5.4/47,mbtmp5.3/47,MS4.9/50, Ms1 4.9/50,ms1mx4.9/60 Error ellipse: s-maj=8.8km s-min=6.2km az=51.0*

*LDG **03** 19:51:08.5±0.5,24°.30N×94°.23E,h105^{km},Mb5.2/47, Ms4.9/13,Error ellipse: s-maj=28.0km s-min=18.2km az=97.0*

*TEH **03** 19:51:08.0,24°.32N×94°.71E,h98^{km},ML5.9*

*MOS **03** 19:51:08.6±0.9,24°.29N×94°.77E,h127^{km},mb5.6/107, Error ellipse: s-maj=6.1km s-min=2.9km az=125.2*

*DJA **03** 19:51:08.5±1.0,24°N±4°×9°5E±°,h90^{km}±10^{km},M6.2/38, mb6.2/38,mB6.4/36,MLv6.4/1,Mw(mB)6.2/36,Mwp5.9/7*

*IGIL **03** 19:51:08.3,24°.32N×94°.71E,h98^{km},MS5.2*

*BKK **03** 19:51:10.9±0.5,24°N±4°×9°5E±°,h118^{km}±4^{km},M6.0/64, mb6.1/64,mB6.3/57,MLv6.2/5,Mw(mB)6.0/57,Mwp5.7/7*

*GCMT **03** 19:51:10.5±0.1,24°.29N×94°.73E,h116^{km},MW5.9, Moment Tensor Solution. s108,c234; s47,c63; Moment tensor: Scale 10^{17}Nm; M_{rr}4.22±.07; $M_{\theta\theta}$-6.89±.08; $M_{\phi\phi}$2.67±.08; $M_{r\theta}$-4.32±.06; $M_{\theta\phi}$3.77±.08; $M_{\phi r}$-2.84±.06; Best double couple: $M_0$8.80000×10^{17} NP1:ϕ_s255.00000°, δ70.00000°,λ48.00000°. NP2:ϕ_s144.00000°,δ46.00000°, λ152.00000°. Principal axes: T 8.5200, Plg47.0000°, Azm121.0000°; N 0.5100, Plg39.0000°, Azm272.0000°; P -9.0300, Plg15.0000°, Azm14.0000°; Data Used: II IU CN IC G. Surface waves: sta=114, comp=261, per= 50.*

*NEIC **03** 19:51:21.7±0.0,24°.67N×95°.20E,h95^{km},Moment Tensor Solution. s137 Moment tensor: Scale 10^{17}Nm; M_{rr}2.68; $M_{\theta\theta}$-5.93; $M_{\phi\phi}$3.25; $M_{r\theta}$-3.54; $M_{\theta\phi}$2.34; $M_{\phi r}$-2.52; Best double couple: $M_0$7.10000×10^{17} NP1:ϕ_s247.00000°, δ75.00000°,λ45.00000°. NP2:ϕ_s142.00000°,δ47.00000°, λ159.00000°. Principal axes: T 6.8400, Plg42.0000°, Azm114.0000°; N 0.5500, Plg42.0000°, Azm261.0000°; P -7.3900, Plg17.0000°, Azm8.0000°;*

ISC 03 19:51:07.6±0.2,24°.36N±0°.02×94°.70E±0°.02,h104^{km}±1^{km}, h104^{km}:pP-P,n1824,σ1°47/2262,mb5.5/398,280C-220D, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
IMP	**Imphal**	**0.82**	**301**	*e*4			**Sn**	**19 51 40.0**	**-0.9**
SHL	**Shillong**	**2.83**	**296**	*e*P			**Pn**	**19 51 49.0**	**-2.3**
SHL						AMB	AMB	19 51 51.8	
	comp=Z,19μm,0.9s								
SHL				*ex*			**Sn**	**19 52 21.0**	**-4.0**
CMAI	**Chiengmai2**	**5.96**	**137**	P			**Pn**	**19 52 33.8**	**+0.1**
	comp=Z,3μm,1.1s,comp=Z,41μmcomp=Z,18nm								
SLGI	**Shiliguri**	**6.14**	**294**	*e*P			**Pn**	**19 52 33.5**	**-2.3**
SLGI				*e*4			Sn	19 53 37.5	-7.1
LSA	**Lhasa**	**6.19**	**330**	P			**Pn**	**19 52 38.0**	**+1.0**
LSA				LR			LR		
	comp=N,16μm,3.2s								
LSA				LR			LR		
	comp=E,48μm,6.5s								
LSA				LR			LR		
	comp=Z,48μm,7.0s								
LSA	**Lhasa**	**6.19**	**330**	*e*P			**Pn**	**19 52 37.2**	**+0.2**
LSA				pmax			pmax		
	comp=Z,2μm,0.5s								
LSA	**Lhasa**	**6.19**	**330**	*e*P			**Pn**	**19 52 37.2**	**+0.2**
	comp=Z,2μm,0.5s								
CHTO	**Chiang Mai**	**6.78**	**144**	*e*P			**Pn**	**19 52 44.7**	**+0.1**
CHTO				pmax			pmax		
	comp=Z,390nm,0.6s								
CHTO	**Chiang Mai**	**6.78**	**144**	Pn			**Pn**	**19 52 45.1**	**+0.5**
	SNR=118								
CHTO	**Chiang Mai**	**6.78**	**144**	*e*P			**Pn**	**19 52 44.7**	**+0.1**
	comp=Z,98nm,0.6s								
CHTO	**Chiang Mai**	**6.78**	**144**	P			**Pn**	**19 52 44.2**	**-0.4**
	comp=Z,584nm,1.3s,comp=Z,19μmcomp=Z,24μmcomp=Z,14nm								
CHTO	**Chiang Mai**	**6.78**	**144**	P			**Pn**	**19 52 44.3**	**-0.4**
	comp=Z,292nm,1.1s,comp=Z,7μmcomp=Z,9.8nm								
PAYA	**Payao**	**6.91**	**135**	P			**Pn**	**19 52 46.7**	**+0.3**
	comp=Z,944nm,1.2s,comp=Z,9μmcomp=Z,4.2nm								
TAPN	**Taplejung**	**6.97**	**297**	*e*Pn			**Pn**	**19 52 44.8**	**-2.6**
TAPN				*e*Sn			**Sn**	**19 54 01.8**	**-3.5**
	comp=Z,11μm,0.5s								
ODAN	**Odare**	**7.06**	**292**	*e*Pn			Pn	19 52 43.9	-4.6
ODAN				*e*Sn			Sn	19 54 01.3	-6.0
	comp=Z,17μm,0.4s								
CM31	**Chiang Mai Arr**	**7.07**	**145**	*e*P			**Pn**	**19 52 48.5**	**-0.1**
	comp=Z,4.3nm,0.8s								
CMAR	**Chiang Mai Arr**	**7.07**	**145**	P			**Pn**	**19 52 48.5**	**-0.1**
CMAR				S			**Sn**	**19 54 07.2**	**-0.3**
CMAR				PcP			**PcP**	**19 59 29.7**	**+1.9**
CMAR				ScP			**ScP**	**20 02 50.6**	**+0.6**
CMAR				PKiKP			**PKiKP**	**20 07 29.0**	**-0.4**
CMAR	**Chiang Mai Arr**	**7.07**	**145**	P			**Pn**	**19 52 48.5**	**-0.1**
	comp=Z,12nm,0.3s,baz=318,slow=12,SNR=317								
CMAR				S			**Sn**	**19 54 07.2**	**-0.3**
	baz=308,slow=31,SNR=2.6								
CMAR				LR			LR	19 55 55.5	
	comp=Z,12μm,21.4s,baz=317,slow=41								
CMAR				PcP			**PcP**	**19 59 29.7**	**+1.9**
	comp=Z,1.5nm,0.3s,baz=285,slow=1.8,SNR=6.2								
CMAR				ScP			**ScP**	**20 02 50.6**	**+0.6**
	comp=Z,1.3nm,0.3s,baz=292,slow=1.9,SNR=23								
CMAR				PKiKP			**PKiKP**	**20 07 29.0**	**-0.4**
	comp=Z,0.6nm,0.3s,baz=265,slow=1.7,SNR=30								
KMI	**Kunming**	**7.35**	**82**	P			Pn	19 52 56.8	+4.3
KMI				sP			sP	19 53 21.8	
KMI				S			Sn	19 54 21.8	+7.4
KMI				pmax			pmax		
	comp=Z,1μm,1.5s								
KMI				LR			LR		
	comp=N,22μm,7.3s								
KMI				LR			LR		
	comp=E,15μm,5.8s								
KMI				LR			LR		
	comp=Z,19μm,7.7s								
LAMP	**Lampang**	**7.40**	**141**	P			**Pn**	**19 52 53.3**	**+0.3**
	comp=Z,261nm,0.6s,comp=Z,2μmcomp=Z,2.4nm								
RAMN	**Ramite**	**7.75**	**291**	*e*Pn			Pn	19 52 54.0	-4.0
RAMN				*e*Sn			Sn	19 54 16.7	-7.6
	comp=Z,14μm,0.5s								
BOK	**Bokaro**	**8.08**	**268**	*e*P			**Pn**	**19 52 59.7**	**-2.5**
BOK				AMB			AMB	19 53 01.8	
	comp=Z,529nm,0.6s								
JIRN	**Jiri**	**8.33**	**295**	*e*Pn			**Pn**	**19 53 02.9**	**-3.1**
JIRN				*e*Sn			**Sn**	**19 54 33.3**	**-5.3**
	comp=Z,9μm,0.4s								
GUN	**Gumba**	**8.68**	**296**	*e*Pn			Pn	19 53 07.5	-3.2
GUN				*e*Sn			**Sn**	**19 54 41.8**	**-5.3**
	comp=Z,11μm,0.6s								
PKI	**Pulchoki**	**8.96**	**293**	*e*Pn			Pn	19 53 10.0	-4.4
PKI				*e*Sn			Sn	19 54 47.3	-6.4
	comp=Z,7μm,0.5s								
KKN	**Kakani**	**9.13**	**294**	*e*Pn			Pn	19 53 13.2	-3.5
KKN				*e*Sn			Sn	19 54 50.7	-7.2
	comp=Z,5μm,0.5s								
LOEI	**Loei**	**9.16**	**137**	P			Pn	19 53 21.3	+4.3
	comp=Z,915nm,1.0s,comp=Z,14μm								
DMN	**Daman**	**9.22**	**293**	*e*Pn			Pn	19 53 14.4	-3.6
PBKT	**Sadao Pong**	**9.72**	**142**	P			**Pn**	**19 53 27.2**	**+2.7**
	comp=Z,693nm,0.8s,comp=Z,8μm								
UTHA	**Uthaitani**	**9.82**	**152**	P			**Pn**	**19 53 26.8**	**+0.9**
	comp=Z,115nm,0.9s,comp=Z,1μm								
NONG	**Nongkai**	**10.06**	**127**	P			**Pn**	**19 53 30.8**	**+1.7**
	comp=Z,2μm,1.1s,comp=Z,20μm								
CD2	**Chengdu**	**10.35**	**49**	⇓*i*P			**Pn**	**19 53 32.0**	**-1.0**
CD2				PP				19 53 45.1	
CD2				sP				19 53 58.7	
CD2				S			**Sn**	**19 55 26.9**	**-0.1**
CD2				SS				19 55 43.0	
CD2				PcP			**PcP**	**19 59 30.6**	**+0.2**
CD2				PcS			**PcS**	**20 03 03.0**	**-1.2**
CD2				pmax			pmax		
	comp=Z,570nm,0.8s								
CD2				pmax			pmax		
	comp=Z,3μm,9.8s								
CD2				LR			LR		
	comp=N,21μm,8.8s								
CD2				LR			LR		
	comp=Z,18μm,11.3s								
KOLN	**Koldanda**	**10.54**	**291**	*e*Pn			Pn	19 53 31.5	-4.4
KOLN				*e*Sn			Sn	19 55 23.7	-8.4
	comp=Z,5μm,0.5s								
DANN	**Dangsing**	**10.59**	**294**	*e*Pn			Pn	19 53 32.0	-4.6
DANN				*e*Sn			Sn	19 55 25.7	-7.6
	comp=Z,5μm,0.5s								
CHAI	**Chaiyaphum**	**10.84**	**140**	P			**Pn**	**19 53 41.8**	**+2.1**
	comp=Z,139nm,1.1s,comp=Z,1μm								
GYA	**Guiyang**	**11.01**	**77**	⇑*i*P			**Pn**	**19 53 43.2**	**+1.0**
GYA				PP			**P**	**19 53 54.2**	**+1.5**
GYA				sP				19 54 10.6	
GYA				S			**Sn**	**19 55 43.4**	**-0.1**
GYA				SS			SS	19 56 02.0	
GYA				pmax			pmax		
	comp=Z,450nm,1.0s								
GYA				pmax			pmax		
	comp=Z,1μm,7.7s								
GYA				LR			LR		
	comp=N,11μm,12.3s								
GYA				LR			LR		
	comp=E,7μm,10.8s								
GYA				LR			LR		
	comp=Z,5μm,11.7s								
PYUN	**Piuthan**	**11.15**	**292**	*e*Pn			Pn	19 53 38.9	-5.3
DGPR	**DIGLIPUR**	**11.24**	**189**	*e*P			**Pn**	**19 53 42.6**	**-2.6**
DGPR				AMB			AMB	19 53 45.2	
	comp=Z,1μm,0.7s								
SKNT	**Sakolnakorn**	**11.37**	**128**	P			**Pn**	**19 53 47.8**	**+0.9**
	comp=Z,718nm,1.6s,comp=Z,11μm								
PANO	**Nakornpanom**	**11.72**	**126**	P			**Pn**	**19 53 52.4**	**+0.9**
	comp=Z,1μm,1.1s,comp=Z,24μm								
PHET	**Kaeng Krachan**	**12.30**	**157**	P			**Pn**	**19 54 01.3**	**+2.0**
	comp=Z,3μm,0.9s,comp=Z,32μm								
VIS	**Vishakhapatnam**	**12.50**	**240**	*i* P			**Pn**	**19 53 59.4**	**-2.5**
VIS				*i* x			x	19 56 00.6	
PBA	**Port Blair**	**12.77**	**189**	*e*P			Pn	19 54 03.9	-1.5
PBA				AMB			AMB	19 54 10.9	
	comp=Z,717nm,2.5s								
JBP	**Jabalpur**	**13.53**	**268**	*i* x			Pn	19 54 11.5	-3.9
JBP				*ex*			Sn	19 56 37.5	-6.9
UBPT	**Khong Chiam**	**13.56**	**130**	P			**Pn**	**19 54 15.1**	**-0.7**
	comp=Z,2μm,1.2s,comp=Z,17μm								
UBPT	**Khong Chiam**	**13.56**	**130**	P			**Pn**	**19 54 16.4**	**+0.6**
	comp=Z,2μm,1.2s,comp=Z,17μm								
LZH	**Lanzhou**	**14.10**	**32**	⇓P			**Pn**	**19 54 21.2**	**-1.6**
LZH				pP			P	19 54 34.5	+7.3
LZH				PP				19 54 36.0	
LZH				sP				19 54 49.1	
LZH				S			**Sn**	**19 56 57.0**	**-1.2**
LZH				sS			**S**	**19 57 16.5**	**+4.3**
LZH				PcP			**PcP**	**19 59 36.7**	**+1.8**
LZH				ScP			**ScP**	**20 02 59.5**	**+0.5**
LZH				ScS			**ScS**	**20 06 36.5**	**0.0**
LZH				LR			LR		
	comp=N,11μm,10.0s								
LZH				LR			LR		
	comp=E,10μm,9.3s								
LZH				LR			LR		
	comp=Z,12μm,11.5s								
ENH	**Enshi**	**14.40**	**63**	*e*P			**Pn**	**19 54 25.4**	**-1.2**
	comp=Z,737nm,0.7s								
NGP	**Nagpur**	**14.79**	**261**	*e*P			**Pn**	**19 54 28.6**	**-3.0**
NGP				*ex*			x	19 54 48.2	
	comp=Z,338nm,0.9s								
NGP				*ex*			x	19 56 59.9	
QIZ	**Qiongzhong**	**15.03**	**108**	P			**Pn**	**19 54 31.8**	**-2.9**
QIZ				S			**Sn**	**19 57 21.6**	**+0.9**
QIZ				pmax			pmax		
	comp=Z,4μm,8.2s								
QIZ				LR			LR		
	comp=N,7μm,13.9s								
QIZ				LR			LR		
	comp=E,3μm,13.6s								
QIZ				LR			LR		
	comp=Z,8μm,12.9s								
QIZ	**Qiongzhong**	**15.03**	**108**	*e*P			**Pn**	**19 54 35.6**	**+0.9**
	comp=Z,2μm,1.0s								
GTA	**Gaotai**	**15.62**	**15**	⇓P			**Pn**	**19 54 40.6**	**-1.4**
GTA				pP			pP	19 54 55.6	-7.6
GTA				PP			PP	19 54 57.0	
GTA				sP			sP	19 55 09.3	-7.2
GTA				S			**Sn**	**19 57 33.3**	**-1.5**
GTA				sS			S	19 57 54.0	+11
GTA				PcP			**PcP**	**19 59 38.9**	**+2.0**
GTA				ScP			**ScP**	**20 03 02.6**	**+0.9**
GTA				PcS			**PcS**	**20 03 13.0**	**+0.6**
GTA				ScS			**ScS**	**20 06 39.8**	**-0.4**
GTA				pmax			pmax		
	comp=Z,380nm,1.0s								
GTA				pmax			pmax		
	comp=Z,4μm,4.0s								
GTA				LR			LR		
	comp=N,5μm,15.2s								
GTA				LR			LR		
	comp=E,9μm,12.4s								
GTA				LR			LR		
	comp=Z,9μm,17.1s								
XAN	**Xi'an**	**15.71**	**49**	P			**Pn**	**19 54 39.3**	**-3.8**
XAN				pP			P	19 54 53.5	+8.5
XAN				S			**Sn**	**19 57 31.0**	**-5.9**
XAN				sS			S	19 57 52.8	+8.1
XAN				LR			LR		
	comp=N,6μm,12.7s								
XAN				LR			LR		
	comp=E,2μm,11.6s								
XAN				LR			LR		
	comp=Z,2μm,17.4s								
SURA	**Surathani**	**15.82**	**162**	P			**P**	**19 54 46.0**	**-0.2**
	comp=Z,2μm,1.4s,comp=Z,21μm								
BHPL	**Bhopal**	**15.86**	**270**	*e*P			**Pn**	**19 54 41.6**	**-3.4**
BHPL				AMB			AMB	19 55 15.5	
	comp=Z,436nm,1.4s								
DDI	**Dehra Dun**	**15.94**	**296**	*e*P			**Pn**	**19 54 43.1**	**-2.8**
DDI				AMB			AMB	19 54 48.4	
	comp=Z,2μm,1.4s								
DDI				*ex*			x	19 57 20.5	
SRIT	**Nakonsritamara**	**16.36**	**163**	P			**P**	**19 54 52.7**	**+0.5**
	comp=Z,1μm,1.7s								
HYB	**Hyderabad**	**16.59**	**248**	*i* P			**Pn**	**19 54 53.5**	**-0.6**
	comp=Z,400nm,1.0s								
HYB				*es*P			**sP**	**19 55 23.0**	**-4.2**
HYB				*es*			**S**	**19 58 02.0**	**-0.8**
HYB	**Hyderabad**	**16.59**	**248**	*e*P			**Pn**	**19 54 53.0**	**-1.1**
KRAB	**Krabi**	**16.61**	**164**	P			**P**	**19 54 56.2**	**+1.2**
	comp=Z,608nm,0.8s,comp=Z,4μm								
AKL	**Akola**	**16.74**	**261**	⇑*i*P			**Pn**	**19 54 54.5**	**-1.4**
AKL				AMP				19 54 55.9	
	comp=Z,329nm,1.2s								
AKL				*i* x			x	19 57 41.7	
SMLA	**Simla**	**16.92**	**297**	*i* P			**Pn**	**19 54 55.1**	**-2.8**
SMLA				*i* x			x	19 57 53.9	
GZH	**Guangzhou**	**17.12**	**90**	P			**P**	**19 55 03.3**	**+2.8**
GZH				S			**S**	**19 58 14.4**	**+0.8**
GZH				pmax			pmax		
	comp=Z,12μm,7.1s								
SDNR	**Sundarnagar**	**17.20**	**298**	*e*P			**P**	**19 55 00.0**	**-1.4**
SDNR				*ex*			x	19 58 00.6	
CMBY	**CAMPBELL BAY**	**17.26**	**183**	*e*P			**P**	**19 55 01.3**	**-0.9**
CMBY				AMB			AMB	19 55 04.9	
	comp=Z,611nm,0.7s								
BHK	**Bhakra**	**17.62**	**298**	*e*P			**P**	**19 55 05.2**	**-0.8**
BHK				*ex*			x	19 58 06.4	
MDRS	**Chennai**	**17.69**	**233**	*e*P			**P**	**19 55 05.8**	**-1.1**
LATR	**Latur**	**17.89**	**254**	*e*P			**P**	**19 55 07.4**	**-1.7**
LATR				*ex*			x	19 58 08.8	
DHRM	**DHARAMSHALA**	**18.00**	**300**	*e*P			**P**	**19 55 09.2**	**-1.3**
DHRM				AMB			AMB	19 55 33.0	
	comp=Z,960nm,1.3s								
HKC	**Hong Kong Obse**	**18.00**	**93**	⇑*i*P			**Pn**	**19 55 12.0**	**+0.8**
HKC				*i* S			**Sn**	**19 58 32.0**	**-0.2**
SKLT	**Songkhla**	**18.00**	**161**	P			**Pn**	**19 55 15.0**	**+3.8**
SKLT	**Songkhla**	**18.00**	**161**	P			**Pn**	**19 55 15.0**	**+3.8**
	comp=Z,902nm,1.1s,comp=Z,12μm								
DLH	**Dalhousie**	**18.37**	**301**	*e*P			**P**	**19 55 14.0**	**-0.4**
DLH				*ex*			x	19 58 27.0	
WHN	**Wuhan**	**18.48**	**66**	⇑P			**Pn**	**19 55 17.6**	**+0.7**
WHN				S			S	19 58 33.7	-7.4
WHN				LR			LR		
	comp=N,14μm,10.7s								
WHN				LR			LR		
	comp=E,8μm,11.1s								
WHN				LR			LR		
	comp=Z,18μm,13.5s								
THN	**Thein Dam**	**18.52**	**300**	*e*P			**P**	**19 55 15.0**	**-0.9**
THN				*ex*			x	19 59 27.0	
JMU	**Jammu**	**19.27**	**300**	*ex*			**Pn**	**19 55 30.0**	**+3.9**
JMU				*ex*			**S**	**19 58 52.0**	**-4.6**
KULM	**Kulim**	**19.80**	**162**	*e*P			**P**	**19 55 30.7**	**+0.8**
	comp=Z,2μm,1.3s								
KULM	**Kulim**	**19.80**	**162**	P			**Pn**	**19 55 32.2**	**-0.2**
KULM	**Kulim**	**19.80**	**162**	P			**P**	**19 55 30.7**	**+0.8**
	comp=Z,2μm,1.3s,comp=Z,17μm								
TIY	**Taiyuan**	**20.16**	**45**	*e*P			**P**	**19 55 33.0**	**-0.7**
TIY				S			S	19 59 06.4	-8.0
TIY				pmax			pmax		
	comp=Z,110nm,0.8s								
TIY				LR			LR		
	comp=N,3μm,5.9s								
TIY				LR			LR		
	comp=E,620nm,4.6s								
TIY				LR			LR		
	comp=Z,3μm,13.2s								
POO	**Poona**	**20.25**	**257**	*e*P			**P**	**19 55 34.9**	**0.0**
POO				AMB			AMB	19 55 46.1	
	comp=Z,174nm,0.4s								
POO				*i* x			x	19 59 04.0	
WMQ	**Urumqi**	**20.25**	**345**	P			Pn	19 55 37.0	-0.6
WMQ				pP			pP	19 55 56.0	+1.7
WMQ				PP			**PnPn**	**19 56 02.0**	**+4.7**
WMQ				sP			sP	19 56 09.0	+1.5
WMQ				S			**S**	**19 59 14.0**	**-2.1**
WMQ				sS			sS	19 59 43.0	-5.7
WMQ				PcP			**PcP**	**19 59 47.0**	**+2.6**
WMQ				SS			Sn	19 59 50.0	+24
WMQ				pmax			pmax		
	comp=Z,1μm,0.8s								
WMQ				pmax			pmax		
	comp=Z,9μm,8.4s								
WMQ				LR			LR		
	comp=N,11μm,24.7s								
WMQ				LR			LR		
	comp=E,9μm,28.0s								
WMQ				LR			LR		
	comp=Z,12μm,25.4s								
KAD	**Karad**	**20.41**	**254**	*ex*			**P**	**19 55 37.7**	**+1.2**
KAD				*ex*			**S**	**19 59 12.8**	**-6.7**
KTGM	**Kuala Trenggan**	**20.58**	**155**	P			Pn	19 55 40.4	-1.1
BTO	**Baotou**	**20.67**	**35**	*e*P			**P**	**19 55 38.7**	**-0.6**
BTO				S			**S**	**19 59 21.1**	**-3.4**
BTO				LR			LR		
	comp=N,2μm,10.8s								
BTO				LR			LR		
	comp=E,2μm,7.8s								
IPM	**Ipoh**	**20.68**	**162**	*e*P			**P**	**19 55 38.6**	**-0.8**
	comp=E,800nm,1.1s								
IPM	**Ipoh**	**20.68**	**162**	P			**P**	**19 55 39.7**	**+0.3**
IPM	**Ipoh**	**20.68**	**162**	P			**P**	**19 55 38.5**	**-0.9**
	comp=E,811nm,1.5s,comp=E,10μmcomp=E,38μm								
KCSI	**Kotacane, Aceh**	**20.92**	**171**	P			**P**	**19 55 42.1**	**+0.1**
	comp=E,1μm,0.9s,comp=E,13μm								
TSI	**Tuntungan**	**21.07**	**169**	P			**P**	**19 55 45.2**	**+1.7**
	comp=E,3μm,1.2s,comp=E,23μm								
GOA	**Goa**	**21.50**	**250**	*e*P			**P**	**19 55 48.3**	**+0.2**
PALK	**Pallekele**	**21.64**	**221**	P			**P**	**19 55 51.5**	**+1.7**
	comp=E,1μm,0.9s,SNR=14								
PALK	**Pallekele**	**21.64**	**221**	P			**P**	**19 55 51.8**	**+2.0**
	SNR=6.6								
PALK	**Pallekele**	**21.64**	**221**	*e*P			**P**	**19 55 50.5**	**+0.7**
	comp=E,107nm,0.9s								
PALK	**Pallekele**	**21.64**	**221**	P			**P**	**19 55 51.1**	**+1.3**
	comp=E,235nm,1.0s,comp=E,4μm								
HHC	**Hu-ho-hao-te**	**21.67**	**37**	*e*P			**P**	**19 55 50.2**	**+0.3**
HHC				pP			**pP**	**19 56 10.6**	**+0.7**
HHC				PP			**PnPn**	**19 56 19.7**	**+3.2**
HHC				sP			**sP**	**19 56 22.7**	**-0.3**
HHC				S			**S**	**19 59 42.1**	**-1.7**
HHC				sS			**sS**	**20 00 12.9**	**-4.4**
HHC				SS			**SnSn**	**20 00 23.1**	**+5.2**
HHC				pmax			pmax		
	comp=Z,4μm,5.0s								
HHC				LR			LR		
	comp=N,12μm,14.3s								
HHC				LR			LR		
	comp=E,17μm,10.4s								
QZH	**Quanzhou**	**21.72**	**83**	⇑*i*P			**P**	**19 55 49.8**	**-0.7**
QZH				sP			**sP**	**19 56 21.4**	**-2.1**
QZH				S			**S**	**19 59 44.1**	**-0.7**
QZH				pmax			pmax		
	comp=Z,1μm,1.0s								
QZH				pmax			pmax		
	comp=Z,5μm,4.1s								
QZH				LR			LR		
	comp=N,26μm,10.0s								
QZH				LR			LR		
	comp=E,6μm,4.7s								
QZH				LR			LR		
	comp=Z,11μm,16.9s								
PSI	**Prapat**	**21.81**	**169**	P			**P**	**19 55 52.5**	**+0.8**
PSI				PcP			**PcP**	**19 59 49.0**	**+1.1**
PSI				ScP			**ScP**	**20 03 15.5**	**-0.2**
PSI	**Prapat**	**21.81**	**169**	P			**P**	**19 55 52.5**	**+0.8**
	comp=Z,676nm,1.0s,baz=313,slow=6.9,SNR=152								
PSI				PcP			**PcP**	**19 59 49.0**	**+1.1**
	comp=Z,48nm,1.0s,baz=8.6,slow=7.1,SNR=6.6								
PSI				ScP			**ScP**	**20 03 15.5**	**-0.2**
	comp=Z,175nm,1.0s,baz=243,slow=4.3,SNR=19								
PSI				LR			LR	20 06 43.5	
	comp=Z,3μm,18.2s,baz=343,slow=43								
KSH	**Kashi**	**21.87**	**318**	P			**P**	**19 55 52.6**	**+0.5**
KSH				pP			**pP**	**19 56 12.2**	**+0.1**
KSH				PP			**Pn

KGM Kluang 23.72 158 P **P** **19 56 11.5 +1.2**
TPUB Ta-pu 23.73 87 *e*P **P** **19 56 11.8 +1.4**
comp=Z,901nm,1.4s
AAA Alma-Ata 23.86 327 *e*P **P** **19 56 13.9 +2.5**
AAA *e*S **S** **20 00 21.4 +1.6**
AAA pmax pmax
comp=Z,8μm,3.7s
AAA smax smax
comp=E,17μm,8.7s
AAA MLR MLR
comp=Z,6μm,11.0s
BJT Baijiatuau 23.87 44 *e*P **P** **19 56 12.1 +0.7**
comp=Z,104nm,0.6s
BJI Beijing 23.88 44 P **P** **19 56 12.5 +1.0**
BJI sP **sP** **19 56 44.1 -2.3**
BJI S **S** **20 00 21.9 +1.8**
BJI sS **sS** **20 00 59.2 -0.4**
BJI pmax pmax
comp=Z,140nm,0.7s
BJI pmax pmax
comp=Z,470nm,4.8s
BJI LR LR
comp=N,4μm,11.5s
BJI LR LR
comp=E,3μm,10.2s
BJI LR LR
comp=Z,2μm,36.4s
KZA Kyzart 23.93 322 *i*P **P** **19 56 15.3 +2.8**
KZA Kyzart 23.93 322 P **P** **19 56 15.3 +2.8**
SNR=8.4
SSLB Suanglung 23.97 86 *e*P **P** **19 56 13.4 +0.9**
comp=Z,551nm,1.4s
MYKOM Kota Tinggi 24.11 157 P **P** **19 56 15.4 +1.6**
MYKOM Kota Tinggi 24.11 157 P **P** **19 56 14.7 +0.9**
comp=Z,906nm,1.5s,comp=Z,12μmcomp=Z,17μm
TWG Pinlang 24.20 88 *e*P **P** **19 56 16.7 +2.1**
comp=Z,2μm,0.8s
YHNB Yeheng 24.26 84 *e*P **P** **19 56 16.4 +1.1**
comp=Z,243nm,0.8s
TKM2 Tokmak 2 24.31 324 *e*P **P** **19 56 17.4 +1.8**
TKM2 pmax pmax
comp=Z,1μm,0.8s
TKM2 Tokmak 2 24.31 324 P **P** **19 56 17.7 +2.0**
SNR=716
TKM2 Tokmak 2 24.31 324 *e*P **P** **19 56 17.4 +1.8**
comp=Z,1μm,0.8s
YULB Yu-li 24.33 87 *e*P **P** **19 56 17.5 +1.7**
comp=Z,552nm,1.0s
TATO Taipei 24.34 83 *e*P **P** **19 56 17.3 +1.4**
comp=Z,82nm,1.0s
SSE Sheshan 24.35 68 ⇓P **P** **19 56 18.4 +2.5**
SSE sP **sP** **19 56 51.9 +0.9**
SSE S **S** **20 00 27.8 0.0**
SSE sS **sS** **20 01 07.7 0.0**
SSE pmax pmax
comp=Z,460nm,0.9s
SSE pmax pmax
comp=Z,770nm,4.8s
SSE LR LR
comp=N,2μm,22.5s
SSE LR LR
comp=E,3μm,22.6s
SSE LR LR
comp=Z,4μm,18.5s
UCH Uchtor 24.44 322 *i*P **P** **19 56 19.3 +2.2**
UCH Uchtor 24.44 322 P **P** **19 56 19.3 +2.2**
SNR=48
KBL Kabul 24.48 300 *e*P **P** **19 56 18.5 +1.2**
KBL Kabul 24.48 300 *e*P **P** **19 56 18.4 +1.2**
comp=Z,0.9nm,0.3s
KBK Karagaybulak 24.48 323 *i*P **P** **19 56 19.8 +2.6**
KBK Karagaybulak 24.48 323 P **P** **19 56 19.8 +2.6**
SNR=263
MK31 Makanchi Array 24.50 339 *i*P **P** **19 56 18.9 +1.8**
MK31 pmax pmax
comp=Z,739nm,0.7s
MK31 Makanchi Array 24.50 339 *e*P **P** **19 56 18.7 +1.6**
MKAR Makanchi Array 24.50 339 P **P** **19 56 18.9 +1.8**
MKAR **19 59 55.0**
MKAR S **S** **20 00 36.4 +6.4**
MKAR **20 07 10.9**
MKAR pmax pmax
comp=Z,582nm,0.6s
MKAR smax smax
comp=N,48nm,0.9s
MKAR MLR MLR
comp=Z,973nm,18.1s
MKAR Makanchi Array 24.50 339 P **P** **19 56 18.9 +1.8**
MKAR PcP **PcP** **19 59 55.0 +2.0**
MKAR S **S** **20 00 36.4 +6.4**
MKAR ScP **ScP** **20 03 23.2 +1.0**
MKAR ScS **ScS** **20 07 10.8 +1.0**
MKAR *e* 20 29 18.9
MKAR Makanchi Array 24.50 339 P **P** **19 56 18.9 +1.8**
comp=Z,582nm,0.6s,baz=145,slow=9.3,SNR=2147
MKAR PcP **PcP** **19 59 55.0 +2.0**
comp=Z,12nm,0.5s,baz=200,slow=2.4,SNR=4.1
MKAR S **S** **20 00 36.4 +6.4**
comp=Z,48nm,0.9s,baz=141,slow=9.3,SNR=5.6
MKAR ScP **ScP** **20 03 23.2 +1.0**
comp=Z,71nm,0.9s,baz=134,slow=3.5,SNR=17
MKAR ScS **ScS** **20 07 10.8 +1.0**
comp=Z,11nm,0.9s,baz=110,slow=8.3,SNR=10
MKAR LR LR 20 08 59.7
comp=Z,973nm,18.1s,baz=151,slow=44
MKAR P3KPbc 20 29 18.9
comp=Z,0.6nm,0.7s,baz=20,slow=3.3,SNR=4.6
NACB Ninganchiao 24.51 85 *e*P **P** **19 56 19.5 +2.1**
comp=Z,1μm,1.1s
BKNI Bangkinang 24.66 165 P **P** **19 56 19.1 +0.3**
comp=Z,922nm,1.6s,comp=Z,10μmcomp=Z,17μm
AAK Ala-Archa 24.72 322 P **P** **19 56 21.0 +1.7**
comp=Z,2μm,0.9s
AAK Ala-Archa 24.72 322 *e*P **P** **19 56 21.4 +2.1**
AAK **19 59 55.9**
AAK pmax pmax
comp=Z,244nm,0.8s
AAK Ala-Archa 24.72 322 P **P** **19 56 22.1 +2.8**
SNR=201
AAK Ala-Archa 24.72 322 P **P** **19 56 21.9 +2.6**
SNR=197
AAK Ala-Archa 24.72 322 *e*P **P** **19 56 21.4 +2.1**
comp=Z,244nm,0.8s
AAK PcP **PcP** **19 59 55.9 +2.3**
AAK ScP **ScP** **20 03 25.0 +1.9**
AAK ScS **ScS** **20 07 14.7 +3.4**
AAK Ala-Archa 24.72 322 P **P** **19 56 21.8 +2.6**
comp=Z,205nm,0.7s,baz=127,slow=6.5,SNR=328
AAK PcP **PcP** **19 59 55.9 +2.3**
comp=Z,32nm,0.6s,baz=162,slow=6.4,SNR=6.1
AAK ScP **ScP** **20 03 25.0 +1.9**
comp=Z,68nm,0.8s,baz=140,slow=4.0,SNR=14
AAK ScS **ScS** **20 07 14.7 +3.4**
comp=Z,11nm,1.0s,baz=250,slow=22,SNR=15
AAK LR LR 20 08 40.8
comp=Z,2μm,18.3s,baz=108,slow=42
FRU Bishkek 24.78 323 ⇓*i*P **P** **19 56 21.0 +1.3**
FRU pmax pmax
comp=Z,510nm,1.4s
FRU MLR MLR
comp=Z,4μm,14.0s
CHMS Chumysh 24.82 323 *i*P **P** **19 56 21.7 +1.6**
CHMS Chumysh 24.82 323 P **P** **19 56 21.7 +1.6**
SNR=264
AML Almayashu 24.85 321 *i*P **P** **19 56 23.4 +2.6**
AML Almayashu 24.85 321 P **P** **19 56 23.4 +2.6**
SNR=13
USP Ospenovka 25.14 324 *i*P **P** **19 56 24.9 +1.9**
USP Ospenovka 25.14 324 P **P** **19 56 24.9 +1.9**
SNR=146
EKS2 Erkin-Say 25.14 322 *e*P **P** **19 56 25.2 +2.1**
EKS2 pmax pmax
comp=Z,69nm,0.5s
EKS2 Erkin-Say 25.14 322 P **P** **19 56 25.5 +2.4**
SNR=370
EKS2 Erkin-Say 25.14 322 *e*P **P** **19 56 25.2 +2.1**
comp=Z,69nm,0.5s
SONM Songino Array 25.21 19 P **P** **19 56 25.5 +1.8**
SONM PcP **PcP** **19 59 56.0 +1.4**
SONM ScP **ScP** **20 03 24.5 +0.2**
SONM PKiKP **PKiKP** **20 07 34.7 -0.6**
SONM *e* 20 29 23.8
SONM Songino Array 25.21 19 P **P** **19 56 25.5 +1.8**
comp=Z,204nm,0.7s,baz=199,slow=10,SNR=432
SONM PcP **PcP** **19 59 56.0 +1.4**
comp=Z,10.0nm,0.7s,baz=191,slow=3.8,SNR=4.6
SONM ScP **ScP** **20 03 24.5 +0.2**
comp=Z,38nm,0.9s,baz=203,slow=4.0,SNR=24
SONM PKiKP **PKiKP** **20 07 34.7 -0.6**
comp=Z,2.2nm,0.6s,baz=219,slow=0.6,SNR=4.8
SONM P3KPbc 20 29 23.8
comp=Z,1.5nm,1.1s,baz=3.5,slow=4.8,SNR=5.8
PPI Padang Panjang 25.28 167 P **P** **19 56 23.6 -0.8**
comp=Z,257nm,1.4s,comp=Z,4μm
ULN Ulaanbaatar 25.43 20 P **P** **19 56 27.3 +1.6**
SNR=149
ULN Ulaanbaatar 25.43 20 *e*P **P** **19 56 26.5 +0.8**
comp=Z,420nm,0.8s
ULN Ulaanbaatar 25.43 20 P **P** **19 56 27.0 +1.3**
comp=Z,556nm,0.8s,comp=Z,4μmcomp=Z,16μm
RGRI Rengat 25.65 162 P **P** **19 56 29.4 +1.6**
comp=Z,2μm,1.4s,comp=Z,68μm
PDSI Padang 25.73 167 P **P** **19 56 27.5 -1.0**
comp=Z,562nm,1.5s,comp=Z,7μm
TGY Tagaytay City 26.74 108 P **P** **19 56 39.1 +1.4**
TGY Tagaytay City 26.74 108 P **P** **19 56 39.1 +1.4**
comp=Z,198nm,0.5s,baz=192,slow=3.4,SNR=5.2
TGY LR LR 20 08 37.5
comp=Z,8.7nm,21.2s,baz=275,slow=39
HVS Khovu-Aksy 26.75 359*d i*P **P** **19 56 39.0 +1.6**
HVS pmax pmax
comp=Z,928nm,1.4s
ZAK Zakamensk 26.82 12 *e*P **P** **19 56 40.8 +2.6**
ZAK *e* 20 07 19.7
ZAK pmax pmax
comp=Z,482nm,1.0s
ENPP El Nido 26.87 115 *e*P **P** **19 56 40.3 +1.5**
BUSP Coron 27.10 112 *e*P **P** **19 56 42.0 +1.1**
LQP Lukban 27.26 107⇑*e*P **P** **19 56 43.7 +1.2**
KSM Kuching 27.30 144 *e*P **P** **19 56 43.6 +1.0**
comp=Z,1μm,1.2s
KSM Kuching 27.30 144 P **P** **19 56 44.4 +1.8**
KSM Kuching 27.30 144 P **P** **19 56 43.8 +1.2**
comp=Z,804nm,1.2s,comp=Z,9μm
KK31 Karatay Array 27.31 319 *i*P **P** **19 56 43.0 +0.5**
KK31 pmax pmax
comp=Z,78nm,0.8s
KKAR Karatay Array 27.31 319 *e*P **P** **19 56 43.2 +0.7**
KKAR Karatay Array 27.31 319 *e*P **P** **19 56 43.1 +0.7**
comp=Z,0.3nm,0.4s
KDM Kudat 27.40 126 P **P** **19 56 46.1 +2.6**
BTM Bintulu 27.51 137 P **P** **19 56 46.9 +2.3**
KKM Kota Kinabalu 27.53 128 *e*P **P** **19 56 46.9 +2.1**
comp=Z,866nm,1.4s
KKM Kota Kinabalu 27.53 128 P **P** **19 56 47.4 +2.6**
KKM Kota Kinabalu 27.53 128 P **P** **19 56 47.4 +2.6**
comp=Z,530nm,1.4s,comp=Z,7μm
SBUM Sibu 27.58 139 P **P** **19 56 47.3 +2.2**
SBUM Sibu 27.58 139 P **P** **19 56 46.5 +1.4**
comp=Z,246nm,1.3s,comp=Z,5μm
SJMP San Jose 27.66 111 *e*P **P** **19 56 47.4 +1.5**
MOY Mondy 27.69 8 *e*P **P** **19 56 48.3 +2.4**
MOY pmax pmax
comp=Z,381nm,3.1s
TLY Talaya 28.13 12*d i*P **P** **19 56 52.6 +2.9**
TLY *e*S **S** **20 01 32.8 +5.6**
TLY pmax pmax
comp=Z,274nm,1.1s
TLY MLR MLR
comp=Z,3μm,15.0s
TLY Talaya 28.13 12 P **P** **19 56 52.9 +3.2**
comp=Z,1μm,1.0s,SNR=59
GQP Guinayangan 28.14 107 *e*P **P** **19 56 51.3 +1.1**
MASI Maura Aman, Be 28.30 164 P **P** **19 56 54.2 +2.7**
comp=Z,466nm,1.1s
OTRP Odiongan 28.48 110 *e*P **P** **19 56 53.9 +0.8**
SDKM Sandakan 28.52 127 P **P** **19 56 55.4 +1.9**
PPBI Pangkal Pinang 28.60 156 P **P** **19 56 55.0 +0.8**
comp=Z,1μm,1.0s,comp=Z,35μm
IRK Irkutsk 28.79 12 *e*P **P** **19 56 57.3 +1.8**
IRK *e* 20 07 26.6
IRK pmax pmax
comp=Z,769nm,1.2s
PMBI Palembang 28.83 159 P **P** **19 56 57.8 +1.6**
comp=Z,2μm,1.1s,comp=Z,14μm
KSI Kapahiang 28.88 164 P **P** **19 56 55.9 -0.8**
comp=Z,594nm,1.1s,comp=Z,7μm
KURBB Kurchatov Arra 29.06 339 P **P** **19 56 59.2 +1.3**
comp=Z,213nm,0.7s,baz=156,slow=7.6,SNR=990
KURBB PcP **PcP** **20 00 05.2 +1.7**
comp=Z,39nm,0.6s,baz=165,slow=2.3,SNR=11
KURBB ScP **ScP** **20 03 36.8 +1.1**
comp=Z,184nm,0.9s,baz=159,slow=2.8,SNR=44
KURBB ScS **ScS** **20 07 27.4 -2.2**
comp=Z,9.8nm,0.8s,baz=182,slow=3.4,SNR=8.4
KURBB P3KPbc 20 29 06.0
comp=Z,9.8nm,0.9s,baz=328,slow=5.0,SNR=55
KURBB PKP2ab 20 33 01.1
comp=Z,0.4nm,0.8s,baz=331,slow=5.0,SNR=5.2
STKI Sintang 29.11 144 P **P** **19 57 00.1 +1.4**
comp=Z,800nm,1.1s,comp=Z,8μm
KURK Kurchatov 29.11 339 P **P** **19 56 59.2 +0.8**
KURK **20 00 05.2**
KURK **20 07 27.4**
KURK pmax pmax
comp=Z,213nm,0.7s
KURK Kurchatov 29.11 339 P **P** **19 56 59.2 +0.8**
KURK PcP **PcP** **20 00 05.2 +1.6**
KURK ScP **ScP** **20 03 36.8 +1.0**
KURK ScS **ScS** **20 07 27.4 -2.4**
KURK *e* 20 29 06.0
KURK P'P'ab **P'P'ab** **20 33 01.1 -2.3**
SNY Shenyang 29.62 47 ⇓P **P** **19 57 02.8 -0.1**
SNY S **S** **20 01 49.4 -1.2**
SNY pmax pmax
comp=Z,37nm,0.9s
SNY pmax pmax
comp=Z,110nm,3.5s
SNY LR LR
comp=N,2μm,10.5s
SNY LR LR
comp=E,1μm,15.6s
SNY LR LR
comp=Z,3μm,19.6s
TPI Tanjungpandan 29.75 153 P **P** **19 57 05.6 +1.3**
comp=Z,743nm,1.0s,comp=Z,6μm
MYLDM Lahad Datu 29.78 126 P P 19 57 08.0 +3.3
TSM Tawau 29.93 128 P **P** **19 57 08.1 +2.1**
INCN Inchon 30.20 57 *e*P **P** **19 57 07.0 -1.2**
comp=Z,9.4nm,0.9s
JOW Kunigami 30.33 78 *e*P **P** **19 57 09.1 -0.3**
comp=Z,52nm,0.6s
ZAA0 Zalesovo Array 30.47 348 *e*P **P** **19 57 11.6 +1.2**
ZALV Zalesovo Beam 30.47 348 P **P** **19 57 11.7 +1.3**
ZALV **20 00 07.6**
ZALV **20 07 33.7**
ZALV pmax pmax
comp=Z,29nm,0.4s
ZALV Zalesovo Beam 30.47 348 P **P** **19 57 11.7 +1.3**
ZALV PcP **PcP** **20 00 07.6 +0.5**
ZALV ScP **ScP** **20 03 40.2 0.0**
ZALV ScS **ScS** **20 07 33.7 -2.5**
ZALV *e* 20 28 59.1
ZALV Zalesovo Beam 30.47 348 P **P** **19 57 11.7 +1.3**
comp=Z,29nm,0.4s,baz=175,slow=8.5,SNR=171
ZALV PcP **PcP** **20 00 07.6 +0.5**
comp=Z,13nm,0.4s,baz=175,slow=4.6,SNR=5.9
ZALV ScP **ScP** **20 03 40.2 0.0**
comp=Z,30nm,0.8s,baz=214,slow=1.6,SNR=7.2
ZALV ScS **ScS** **20 07 33.7 -2.5**
comp=Z,19nm,0.9s,baz=159,slow=8.9,SNR=9.4
ZALV LR LR 20 11 55.3
comp=Z,712nm,20.3s,baz=336,slow=41
ZALV P3KPbc 20 28 59.1
comp=Z,12nm,0.8s,baz=338,slow=5.4,SNR=50
TJN Taejon 30.48 59 *i*P **P** **19 57 11.4 +0.8**
KLI Kotabumi 30.68 160 P **P** **19 57 12.2 -0.4**
comp=Z,294nm,0.9s,comp=Z,4μm
KSAR Wonju Array Be 31.15 57 P **P** **19 57 15.7 -0.8**
KSAR PcP **PcP** **20 00 09.8 +0.5**
KSAR S **S** **20 02 13.2 -1.6**
KSAR ScP **ScP** **20 03 42.0 -0.7**
KSAR *e* 20 29 00.2
CIT Chita 31.15 23 *e*P **P** **19 57 17.7 +1.2**
CIT *e* 19 57 50.3
CIT *e* 19 57 56.0
CIT *e* 19 58 26.1
CIT *e* 19 58 45.8
CIT *e* 20 02 15.5
CIT pmax pmax
comp=Z,177nm,2.1s
KSRS Korea Array 31.18 57 P **P** **19 57 15.7 -1.1**
comp=Z,3.5nm,0.5s,baz=246,slow=8.6,SNR=27
KSRS PcP **PcP** **20 00 09.8 +0.5**
comp=Z,13nm,0.8s,baz=267,slow=2.4,SNR=7.6
KSRS S **S** **20 02 13.2 -2.1**
comp=Z,30nm,1.1s,baz=257,slow=15,SNR=13
KSRS ScP **ScP** **20 03 42.0 -0.8**
comp=Z,98nm,1.0s,baz=249,slow=3.6,SNR=51
KSRS LR LR 20 11 00.6
comp=Z,4μm,18.7s,baz=80,slow=38
KSRS P3KPbc 20 29 00.2
comp=Z,1.2nm,0.6s,baz=66,slow=4.9,SNR=7.1
KASI Kota Agung 31.19 161 P **P** **19 57 15.3 -1.8**
comp=Z,488nm,1.1s,comp=Z,4μm
PBKI Pangkalan Bun 31.55 146 P **P** **19 57 22.4 +2.1**
comp=Z,1μm,1.1s,comp=Z,16μm
IDAH Dahanechah 31.61 293 *e*P **P** **19 57 22.5 +1.5**
NVS Novosibirsk 31.62 347⇓*i*P **P** **19 57 20.4 0.0**
NVS *e*S **S** **20 02 18.4 -3.2**
NVS pmax pmax
comp=Z,250nm,1.4s
NVS pmax pmax
comp=N,215nm,1.6s
NVS pmax pmax
comp=E,204nm,1.6s
NVS smax smax
comp=N,465nm,2.5s
NVS smax smax
comp=E,533nm,2.2s
KRAR Krasnoyarsk 31.65 358*d i*P P 19 57 26.3 +5.6
KRAR pmax pmax
comp=Z,219nm,1.9s
HIA Hailar 31.66 32 *e*P **P** **19 57 22.2 +1.2**
comp=Z,50nm,0.8s
KAAM Kaadhehdhoo 31.70 225 P P 19 57 25.9 +4.4
CN2 Changchun 31.74 45 *e*P **P** **19 57 21.0 -0.7**
CN2 *e*pP **pP** **19 57 43.0 -2.0**
CN2 *e*sP **sP** **19 57 54.8 -2.3**
CN2 *e*PP **PnPn** **19 58 30.0 0.0**
CN2 *e*S **S** **20 02 21.6 -2.3**
CN2 *e*SS **SnSn** **20 04 17.0 -5.2**
CN2 pmax pmax
comp=Z,20nm,1.0s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,2μm,13.0s
CN2 LR LR
comp=E,2μm,13.0s
CN2 LR LR
comp=Z,2μm,14.0s
MTKI Muara Teweh, K 31.88 139 P **P** **19 57 25.3 +2.2**
comp=Z,639nm,1.1s,comp=Z,8μm
PAGZ Pagadian 31.96 116 *e*P **P** **19 57 25.8 +1.9**
IKOO Kooshah 32.30 293 *e*P **P** **19 57 28.7 +1.7**
TNG Tangerang 32.50 157 P **P** **19 57 31.5 +3.0**
comp=Z,6μm,1.1s
ITEG Tejag 32.56 293 *e*P **P** **19 57 31.6 +2.4**
SCPH Surigao 32.70 111 *e*P **P** **19 57 31.7 +1.4**
JNU Nakatsue 32.77 66 *e*P **P** **19 57 30.4 -0.5**
comp=Z,18nm,0.8s
JNU ScP **ScP** **20 03 47.6 -0.8**
JNU Nakatsue 32.77 66 P **P** **19 57 30.3 -0.5**
comp=Z,37nm,0.8s,baz=74,slow=1.1,SNR=24
JNU ScP **ScP** **20 03 47.6 -0.8**
comp=Z,92nm,0.9s,baz=56,slow=3.2,SNR=16
JNU LR LR 20 12 04.5
comp=Z,3μm,19.8s,baz=267,slow=38
DBJI Dramaga 32.89 158 P **P** **19 57 30.7 -1.3**
comp=Z,2μm,1.1s,comp=Z,14μm
SMKI Samarinda 32.92 135 P **P** **19 57 35.2 +2.9**
comp=Z,633nm,1.0s,comp=Z,9μm
IAKL Akhelmad 33.11 300 *e*P **P** **19 57 35.8 +1.7**
IAKL *e* 19 58 14.1
comp=N,562nm,0.3s
SGKI Sangatta, Kali 33.24 135 P P 19 57 31.8 -3.3
BUKP Musuan 33.33 114 *e*P **P** **19 57 38.0 +2.1**
BKB Balikpapan 33.35 137 P **P** **19 57 38.4 +2.4**
comp=N,935nm,1.0s,comp=N,9μm
IEMG Emamgholi 33.36 302 *e*P **P** **19 57 37.9 +1.7**
LEM Lembang 33.45 156 P **P** **19 57 37.3 +0.3**
comp=N,836nm,1.0s,comp=N,8μm
SMDO Samad 33.52 275 P **P** **19 57 40.0 +2.4**
SNR=7.3
ISFR Sfrayin 33.79 301 *e*P **P** **19 57 38.1 -1.9**
BVAR Borovoye Array 34.02 334 P **P** **19 57 42.7 +1.4**
BVAR **20 00 18.3**
BVAR S **S** **20 03 00.5 +1.6**
BVAR **20 03 53.3**
BVAR **20 07 51.6**
BVAR pmax pmax
comp=Z,118nm,0.6s
BVAR smax smax
comp=N,41nm,0.9s
BVAR MLR MLR
comp=Z,8μm,21.2s
BVAR Borovoye Array 34.02 334 P **P** **19 57 42.7 +1.4**
BVAR PcP **PcP** **20 00 18.3 +1.4**
BVAR S **S** **20 03 00.5 +1.6**
BVAR ScP **ScP** **20 03 53.3 +0.9**
BVAR ScS **ScS** **20 07 51.6 -2.7**
BVAR *e* 20 28 44.6
BVAR Borovoye Array 34.02 334 P **P** **19 57 42.7 +1.4**
comp=Z,118nm,0.6s,baz=128,slow=9.6,SNR=342
BVAR PcP **PcP** **20 00 18.3 +1.4**
comp=Z,41nm,0.6s,baz=147,slow=4.6,SNR=7.7
BVAR S **S** **20 03 00.5 +1.6**
comp=Z,40nm,0.9s,baz=137,slow=17,SNR=7.8
BVAR ScP **ScP** **20 03 53.3 +0.9**
comp=Z,195nm,0.7s,baz=144,slow=4.2,SNR=54
BVAR ScS **ScS** **20 07 51.6 -2.7**
comp=Z,22nm,0.9s,baz=183,slow=7.4,SNR=9.1
BVAR LR LR 20 13 35.6
comp=Z,8μm,21.1s,baz=342,slow=40
BVAR P3KPbc 20 28 44.6
comp=Z,0.8nm,0.6s,baz=298,slow=3.1,SNR=5.7
BRVK Borovoye 34.08 334 P **P** **19 57 43.7 +1.7**
comp=Z,1μm,0.6s
BRVK Borovoye 34.08 334 *e*P **P** **19 57 43.2 +1.2**
BRVK pmax pmax
comp=Z,108nm,0.6s
BRVK Borovoye 34.08 334 P **P** **19 57 43.6 +1.7**
SNR=92
BRVK Borovoye 34.08 334 *e*P **P** **19 57 43.1 +1.2**
comp=Z,108nm,0.6s
HOQ Hoqain 34.11 277 P **P** **19 57 45.2 +2.7**
SNR=8.0
CISI Cisompet, Garu 34.20 156 P **P** **19 57 41.4 -2.0**
comp=Z,382nm,1.0s,comp=Z,5μm
DAV Davao City (W) 34.20 115 P P 19 57 47.1 +3.7
SNR=5.5
DAV Davao City (W) 34.20 115 *e*P **P** **19 57 46.5 +3.1**
BSY Bisya 34.35 275 P **P** **19 57 46.4 +1.8**
SNR=7.5
IBND Bandar-abas 34.38 283 *e*P pP 19 58 10.7 +2.4
BJII Banjamegara 34.73 153 P **P** **19 57 50.1 +2.1**
MDJ Mudanjiang 34.78 46 P **P** **19 57 47.9 -0.2**
MDJ pP **pP** **19 58 08.7 -2.9**
MDJ PP **PP** **19 59 09.5 +0.7**
MDJ S S 20 03 04.6 -6.3
MDJ SS **SnSn** **20 05 36.4 +0.8**
MDJ pmax pmax
comp=Z,32nm,1.4s
MDJ pmax pmax
comp=Z,310nm,10.7s
MDJ Mudanjiang 34.78 46 *e*P **P** **19 57 47.7 -0.4**
comp=Z,39nm,1.0s
ASHO Ashiyiah 35.08 279 P **P** **19 57 53.9 +2.9**
SNR=6.4
IBAF Bafgh 35.17 291 *e*P **P** **19 57 53.5 +1.7**
VLA Vladivostok 35.77 49⇑*i*P **P** **19 57 56.2 -0.4**
VLA *e* 20 00 21.6
VLA *i*S **S** **20 03 26.9 +0.8**
VLA pmax pmax
comp=Z,141nm,1.1s
IMND Minoodasht 35.87 300 *e*P P 19 58 01.6 +4.1
IMEH Mehriz 35.98 290 *e*P **P** **19 57 59.2 +0.4**
ICHK Chekchek 36.17 292 *e*P **P** **19 58 01.4 +0.9**
USRK Ussuriysk Arra 36.21 48 P **P** **19 57 60.0 -0.3**
comp=Z,45nm,1.0s,baz=251,slow=8.1,SNR=42
USRK ScP **ScP** **20 03 58.6 -1.8**
comp=Z,31nm,0.9s,baz=243,slow=2.9,SNR=12
USRK LR LR 20 13 53.8
comp=Z,2μm,18.1s,baz=28,slow=38
XMIS Christmas Isla 36.24 162 *e*P **P** **19 58 01.4 +0.6**
comp=Z,2μm,1.3s

COCO	**West Island**	**36.38 176**	*i* P		**P**	**19 58 05.1 +3.1**
ISAD	**Sadrabad**	**36.78 291**	*e*P		**P**	**19 58 07.5 +1.8**
AB31	**Akbulak array**	**36.80 321**	*i* P		**P**	**19 58 06.9 +1.7**
AB31			pmax	pmax		
	comp=Z,43nm,0.4s					
ABKAR	**Akbulak array**	**36.80 321**	*e*P		**P**	**19 58 06.7 +1.4**
	comp=Z,3.3nm,1.5s					
IGLO	**Ghaloghah**	**37.01 299**	*e*P		**P**	**19 58 10.4 +2.9**
IKIA	**Kiasar**	**37.09 298**	*e*P		**P**	**19 58 09.5 +1.3**
IALA	**Alasht**	**37.77 298**	*e*P		**P**	**19 58 16.7 +2.6**
IFIR	**Firoozkooh**	**37.77 297**	*e*P		**P**	**19 58 15.8 +1.8**
IZEF	**Zefreh**	**37.95 293**	*e*P		**P**	**19 58 16.4 +0.9**
KAPI	**Kappang**	**38.05 137**	P		**P**	**19 58 16.7 +0.6**
	comp=Z,2μm,0.7s,SNR=19					
KAPI	**Kappang**	**38.05 137**	P		**P**	**19 58 16.9 +0.8**
	SNR=14					
KAPI	**Kappang**	**38.05 137**	P		**P**	**19 58 16.5 +0.4**
KAPI			PcP		**PcP**	**20 00 29.0 -0.5**
KAPI			ScP		**ScP**	**20 04 06.6 -1.1**
KAPI	**Kappang**	**38.05 137**	P		**P**	**19 58 16.5 +0.4**
	comp=Z,162nm,0.6s,baz=318,slow=6.0,SNR=76					
KAPI			PcP		**PcP**	**20 00 29.0 -0.5**
	comp=Z,63nm,0.6s,baz=354,slow=1.8,SNR=8.0					
KAPI			ScP		**ScP**	**20 04 06.6 -1.1**
	comp=Z,37nm,0.8s,baz=304,slow=2.1,SNR=9.2					
ISFB	**Sefidab**	**38.09 295**	*e*P		**P**	**19 58 18.1 +1.6**
KLR	**Kul'dur**	**38.10 40**	*e*P		P	19 58 13.0 -3.3
KLR			*e*S		S	20 03 51.0 -10
KLR			*e*			20 04 44.0
KLR			*e*			20 06 48.0
KLR			*e*			20 08 11.1
KLR			smax	smax		
	comp=N,2μm,9.5s					
KLR			smax	smax		
	comp=E,2μm,9.5s					
KLR			MLR	MLR		
	comp=E,2μm,12.0s					
KLR			MLR	MLR		
	comp=Z,5μm,12.0s					
IGAR	**Gharneh**	**38.18 292**	*e*P		**P**	**19 58 19.1 +1.7**
IDMV	**Damavand**	**38.35 297**	*e*P		**P**	**19 58 20.6 +1.7**
AKTO	**Aktyubinsk**	**38.46 322**	*i* P		**P**	**19 58 20.5 +1.2**
AKTO			pmax	pmax		
	comp=Z,111nm,0.7s					
AKTO	**Aktyubinsk**	**38.46 322**	PcP		**PcP**	**20 00 32.1 +1.9**
AKTO			ScP		**ScP**	**20 04 10.2 +1.4**
AKTO			*e*			20 28 26.0
AKTO	**Aktyubinsk**	**38.46 322**	PcP		**PcP**	**20 00 32.1 +1.9**
	comp=Z,64nm,0.9s,baz=150,slow=4.3,SNR=3.7					
AKTO			ScP		**ScP**	**20 04 10.2 +1.4**
	comp=Z,163nm,0.8s,baz=109,slow=3.7,SNR=41					
AKTO			P3KPbc			20 28 26.0
	comp=Z,1.2nm,0.4s,baz=325,slow=4.3,SNR=4.9					
IVRN	**Varamin**	**38.56 296**	*e*P		**P**	**19 58 21.9 +1.5**
IKLH	**Kolahrood**	**38.59 293**	*e*P		**P**	**19 58 23.4 +2.5**
CLNS	**Chul'man**	**39.12 26**	*e*P		**P**	**19 58 26.2 +1.5**
CLNS			pmax	pmax		
	comp=Z,31nm,1.1s					
CLNS			pmax	pmax		
	comp=E,27nm,1.3s					
CLNS			pmax	pmax		
	comp=N,20nm,1.3s					
MAT	**Matsushiro**	**39.12 61**	P		**P**	**19 58 24.8 -0.1**
MAT			S		**S**	**20 04 16.6 -0.4**
MJAR	**Matsushiro Arr**	**39.12 61**	P		**P**	**19 58 24.5 -0.5**
MJAR			PcP		**PcP**	**20 00 33.1 +0.4**
MJAR			ScP		**ScP**	**20 04 11.3 -0.3**
MJAR			*e*			20 28 24.4
MJAR	**Matsushiro Arr**	**39.12 61**	P		**P**	**19 58 24.5 -0.5**
	comp=N,53nm,0.8s,baz=269,slow=9.8,SNR=125					
MJAR			PcP		**PcP**	**20 00 33.1 +0.4**
	comp=N,13nm,0.7s,baz=237,slow=0.5,SNR=4.8					
MJAR			ScP		**ScP**	**20 04 11.3 -0.3**
	comp=N,113nm,1.0s,baz=262,slow=4.8,SNR=46					
MJAR			LR		LR	20 15 42.3
	comp=N,2μm,20.9s,baz=280,slow=38					
MJAR			P3KPbc			20 28 24.4
	comp=N,3.4nm,0.7s,baz=114,slow=3.0,SNR=6.3					
IPIR	**Pirpir**	**39.16 292**	*e*P		**P**	**19 58 28.2 +2.5**
IR3	**Iran Long-Peri**	**39.17 297**	*e*P		**P**	**19 58 27.2 +1.7**
IMHD	**Mahdasht**	**39.47 297**	*e*P		**P**	**19 58 29.7 +1.7**
IR5	**Iran Long-Peri**	**39.51 296**	*e*P		**P**	**19 58 29.9 +1.5**
HABR	**Khabarovsk**	**39.77 42**	*ce*P		**P**	**19 58 29.5 -0.6**
HABR			*e*			20 00 33.9
HABR			*e*S		**S**	**20 04 26.3 0.0**
HABR			*e*SS		**SS**	**20 07 27.0 +0.9**
HABR			*e*			20 08 26.1
HABR			pmax	pmax		
	comp=Z,22nm,0.9s					
HABR			pmax	pmax		
	comp=E,8.0nm,0.6s					
HABR			MLR	MLR		
	comp=Z,659nm,13.0s					
IGZV	**Ghazvin**	**39.89 298**	*e*P		**P**	**19 58 33.2 +1.6**
IRAZ	**Razeghan**	**40.05 297**	*e*P		**P**	**19 58 34.8 +1.8**
SVE	**Sverdlovsk**	**40.72 332**	*c i*P		**P**	**19 58 39.9 +2.0**
SVE			*e*			20 00 11.7
SVE			*e*			20 00 35.5
SVE			*e*S		**S**	**20 04 41.9 +1.6**
SVE			*e*SS		**SS**	**20 07 42.2 -2.5**
SVE			*e*			20 08 35.1
SVE			pmax	pmax		
	comp=Z,882nm,0.8s					
SVE			MLR	MLR		
	comp=Z,7μm,20.0s					
ARU	**Arti**	**41.40 330**	*d i*P		**P**	**19 58 44.8 +1.4**
ARU						20 00 20.9
ARU						20 00 39.5
ARU			PPP		PPP	20 00 55.7
ARU			S		**S**	**20 04 51.7 +1.4**
ARU			SS		SS	20 07 46.5 -12
ARU						20 08 35.7
ARU			pmax	pmax		
	comp=Z,248nm,0.7s					
ARU			MLR	MLR		
	comp=Z,6μm,18.0s					
ARU	**Arti**	**41.40 330**	P		**P**	**19 58 44.5 +1.1**
	comp=Z,3μm,0.5s					
UMR	**Umm Al-Rimmam**	**41.98 288**	*e*P		**P**	**19 58 49.6 +1.0**
UMR			AMb		AMB	19 58 56.4
	comp=Z,120nm,0.7s					
KBD	**Kabd**	**42.03 287**	*e*P		**P**	**19 58 50.4 +1.4**
KBD			AMb		AMB	19 58 56.2
	comp=Z,93nm,0.7s					
ISRB	**Sarab**	**42.04 300**	*e*P		**P**	**19 58 51.2 +2.0**
KSMR	**Kasumkent**	**42.14 306**	⇑*i*P		**P**	**19 58 53.0 +3.2**
KSMR			S		**pP**	**19 59 17.0 +3.0**
KSMR			pmax	pmax		
	comp=Z,144nm,0.4s					
RDF	**Al-Radifah**	**42.18 287**	*e*P		**P**	**19 58 51.8 +1.6**
RDF			AMb		AMB	19 58 57.7
	comp=Z,193nm,0.7s					
MIB	**Mutribah**	**42.29 288**	*e*P		**P**	**19 58 52.3 +1.2**
MIB			AMb		AMB	19 58 57.9
	comp=Z,312nm,0.9s					
NAY	**Al-Naaiem**	**42.42 287**	*e*P		**P**	**19 58 52.8 +0.6**
NAY			AMb		AMB	19 58 59.3
	comp=Z,10nm,0.8s					
IHRS	**Heris**	**42.57 301**	*e*P		**P**	**19 58 54.5 +0.9**
CBIJ	**Chichi jima**	**42.67 76**	P		**P**	**19 58 51.6 -2.6**
CBIJ	**Chichi jima**	**42.67 76**	P		**P**	**19 58 51.6 -2.6**
	comp=Z,66nm,0.4s,baz=267,slow=18					
CBIJ			LR		LR	20 18 54.1
	comp=Z,866nm,18.5s,baz=260,slow=39					
MAK	**Makhachkala**	**42.83 308**	*e*P		**P**	**19 58 58.1 +2.9**
MAK			*e*			20 00 37.3
MAK			*e*S		**S**	**20 05 13.2 +1.4**
MAK			*e**SS		sS	20 05 59.1 +5.6
MAK			*e*			20 08 45.8
MAK			*e*SSS		SSS	20 09 11.9
MAK			pmax	pmax		
	comp=Z,127nm,0.6s					
MAK			MLR	MLR		
	comp=Z,3μm,17.0s					
ITBZ	**Tabriz**	**43.27 301**	*e*P		**P**	**19 59 00.8 +1.7**
ASAJ	**Asahikawa**	**43.54 51**	*e*P		**P**	**19 59 00.6 -0.4**
	comp=Z,40nm,0.9s					
ASAJ			ScP		**ScP**	**20 04 27.2 -1.8**
ASAJ			S		**S**	**20 05 23.1 +1.0**
ASAJ	**Asahikawa**	**43.54 51**	P		**P**	**19 59 01.1 +0.1**
	comp=Z,48nm,0.9s,baz=288,slow=11,SNR=31					
ASAJ			ScP		**ScP**	**20 04 27.2 -1.8**
	comp=Z,62nm,0.9s,baz=270,slow=9.3,SNR=14					
ASAJ			S		**S**	**20 05 23.1 +1.0**
	comp=Z,54nm,1.2s,baz=325,slow=28,SNR=5.9					
ERM	**Erimo**	**43.60 54**	P		**P**	**19 59 02.9 +1.5**
	comp=Z,378nm,0.9s,SNR=9.2					
ERM	**Erimo**	**43.60 54**	*e*P		**P**	**19 59 02.3 +0.9**
ERM			pmax	pmax		
	comp=Z,95nm,1.0s					
ERM	**Erimo**	**43.60 54**	*e*P		**P**	**19 59 02.3 +0.9**
	comp=Z,95nm,1.0s					
ISHB	**Shabestar**	**43.69 301**	*e*P		**P**	**19 59 04.4 +1.8**
SOKR	**Solikamsk**	**44.02 333**	*d i*P		**P**	**19 59 06.4 +1.9**
SOKR			S		**S**	**20 05 29.9 +1.3**
SOKR			SS		**ScS**	**20 08 53.5 +1.3**
SOKR			pmax	pmax		
	comp=Z,570nm,1.3s					
SOKR			MLR	MLR		
	comp=Z,2μm,24.0s					
DGRG	**David-gareji**	**44.17 305**	P		**P**	**19 59 09.2 +3.1**
DGRG			S		**S**	**20 05 33.6 +2.0**
YSS	**Yuzh-Sakhalins**	**44.24 47**	⇑*i*P		**P**	**19 59 08.0 +1.5**
YSS			*e*S		**S**	**20 05 32.0 -0.3**
YSS			*e*			20 05 42.0
YSS			*e*SS		**SS**	**20 08 50.0 -3.8**
YSS			MLR	MLR		
	comp=Z,2μm,14.0s					
YSS			MLR	MLR		
	comp=E,1μm,15.0s					
YAK	**Yakutsk**	**44.44 23**	*d i*P		**P**	**19 59 08.6 +0.8**
YAK			*e*			20 00 56.9
YAK			*i* S		**S**	**20 05 34.8 +0.1**
YAK			*e*			20 08 50.9
YAK			pmax	pmax		
	comp=Z,103nm,0.9s					
YAK			pmax	pmax		
	comp=N,33nm,1.1s					
YAK			pmax	pmax		
	comp=E,45nm,1.3s					
YAK			pmax	pmax		
	comp=Z,51nm,0.9s					
YAK			pmax	pmax		
	comp=N,106nm,1.4s					
YAK			pmax	pmax		
	comp=E,58nm,1.4s					
YAK			smax	smax		
	comp=E,2μm,3.1s					
YAK			smax	smax		
	comp=N,629nm,2.5s					
GNI	**Garni**	**44.51 303**	P		P	19 59 12.5 +3.5
	SNR=9.4					
GNI	**Garni**	**44.51 303**	*e*P		**P**	**19 59 11.4 +2.4**
	comp=N,127nm,1.0s					
TBLG	**Delisi**	**44.68 305**	P		**P**	**19 59 12.2 +2.1**
TBLG			*e*S		**S**	**20 05 39.7 +0.9**
TBLG	**Delisi**	**44.68 305**	P		**P**	**19 59 12.2 +2.1**
TBLG			S		**S**	**20 05 39.7 +0.9**
DUS	**Dusheti**	**44.75 306**	P		**P**	**19 59 13.4 +2.7**
RAYN	**Ar Rayn**	**44.78 279**	P		**P**	**19 59 12.5 +1.2**
	comp=N,505nm,0.9s,SNR=38					
KZR	**Kazreti**	**44.88 305**	P		**P**	**19 59 14.8 +3.0**
GUDG	**Gudauri**	**44.96 306**	P		**P**	**19 59 15.4 +2.8**
CLDR	**Caldiran**	**45.07 302**	*e*P		**P**	**19 59 15.8 +2.2**
HAKT	**HAKKARI**	**45.16 299**	*i* P		**P**	**19 59 16.2 +1.9**
CUKT	**Cukurca**	**45.23 299**	*e*P		**P**	**19 59 15.8 +1.0**
DYDN	**Diyadin**	**45.27 302**	*i* P		**P**	**19 59 17.8 +2.7**
ZEI	**Tsey**	**45.42 307**	*e*P		**P**	**19 59 17.7 +1.5**
ZEI			pmax	pmax		
	comp=Z,224nm,1.0s					
AKH	**Akhalkalaki**	**45.57 305**	P		**P**	**19 59 20.6 +3.2**
AKH			S		**S**	**20 05 58.0 +5.9**
DIGO	**Kars**	**45.58 303**	*i* P		**P**	**19 59 19.3 +1.7**
ONI	**Oni**	**45.73 306**	P		**P**	**19 59 21.3 +2.8**
ONI			S		**S**	**20 05 58.0 +4.0**
AGRB	**Hanur-Agry**	**45.81 302**	*e*P		**P**	**19 59 22.0 +2.7**
KARS	**Kars**	**45.82 304**	*e*P		**P**	**19 59 21.6 +2.3**
YUK	**Yuzh-Kuril'sk**	**45.84 52**	*i* P		P	19 59 11.4 -7.8
YUK			*i*			20 01 03.8
YUK			*i* S		S	20 05 43.1 -12
YUK			*i* SS		**SS**	**20 09 16.0 -5.2**
YUK			pmax	pmax		
	comp=N,31nm,0.6s					
YUK			pmax	pmax		
	comp=Z,54nm,0.6s					
YUK			pmax	pmax		
	comp=E,84nm,0.7s					
YUK			MLR	MLR		
	comp=N,125nm,21.0s					
YUK			MLR	MLR		
	comp=Z,835nm,21.0s					
YUK			MLR	MLR		
	comp=E,223nm,21.0s					
TUTA	**Tutak**	**45.94 302**	*i* P		**P**	**19 59 23.1 +2.7**
SIRT	**Sirnak**	**46.17 299**	*e*P		**P**	**19 59 22.8 +0.7**
KBZ	**Khabaz**	**46.27 308**	P		**P**	**19 59 23.8 +1.2**
KBZ			S		**S**	**20 06 00.9 -0.6**
KBZ			pmax	pmax		
	comp=Z,33nm,0.9s					
KBZ			smax	smax		
	comp=N,16nm,1.1s					
KBZ			MLR	MLR		
	comp=Z,2μm,19.2s					
KBZ	**Khabaz**	**46.27 308**	P		**P**	**19 59 23.8 +1.2**
KBZ			ScP		**ScP**	**20 04 40.1 -0.1**
KBZ			S		**S**	**20 06 00.8 -0.6**
KBZ	**Khabaz**	**46.27 308**	P		**P**	**19 59 23.8 +1.2**
	comp=Z,33nm,0.8s,baz=130,slow=6.2,SNR=15					
KBZ			ScP		**ScP**	**20 04 40.1 -0.1**
	comp=Z,33nm,0.9s,baz=136,slow=2.3,SNR=7.4					
KBZ			S		**S**	**20 06 00.8 -0.6**
	comp=Z,16nm,1.1s,baz=77,slow=9.3,SNR=4.8					
KBZ			LR		LR	20 22 05.0
	comp=Z,2μm,19.2s,baz=252,slow=40					
KIV	**Kislovodsk**	**46.45 308**	*e*P		**P**	**19 59 25.6 +1.5**
KIV			*e*			20 01 17.4
KIV			*e*S		**S**	**20 06 06.4 +2.1**
KIV			pmax	pmax		
	comp=Z,126nm,1.0s					
KIV			MLR	MLR		
	comp=Z,1μm,15.0s					
KIV	**Kislovodsk**	**46.45 308**	P		**P**	**19 59 25.1 +1.0**
	comp=Z,723nm,1.0s,SNR=18					
HOMI	**Horasan**	**46.67 303**	*i* P		**P**	**19 59 29.2 +3.1**
ARTV	**Artvin**	**46.73 304**	*i* P		**P**	**19 59 28.9 +2.3**
DAGI	**Agillar**	**46.73 304**	*i* P		**P**	**19 59 28.3 +1.9**
DBOC	**Borcka**	**46.94 305**	*i* P		**P**	**19 59 30.5 +2.6**
BCA	**Borcka**	**46.98 305**	*e*P		**P**	**19 59 29.0 +0.8**
ERZM	**Erzurum**	**47.08 305**	*i* P		**P**	**19 59 32.0 +2.6**
EZM	**Erzurum**	**47.08 303**	*e*P		**P**	**19 59 31.8 +2.4**
BEST	**Besiri**	**47.10 300**	*i* P		**P**	**19 59 31.7 +2.4**
BNGL	**BINGOL**	**47.22 301**	*i* P		P	19 59 36.0 +5.7
KUR	**Kuril'sk**	**47.42 50**	*d i*P		**P**	**19 59 31.0 -0.5**
KUR			*i* S		S	20 06 11.2 -6.7
KUR			pmax	pmax		
	comp=Z,141nm,1.1s					
KUR			MLR	MLR		
	comp=N,463nm,14.0s					
KUR			MLR	MLR		
	comp=E,609nm,14.0s					
KUR			MLR	MLR		
	comp=Z,645nm,14.0s					
MARD	**Mardin**	**47.49 299**	*i* P		**P**	**19 59 34.1 +1.8**
PZAR	**Pazar-Rize**	**47.50 304**	*e*P		**P**	**19 59 33.8 +1.6**
BNGB	**Bing¨¶l**	**47.58 301**	*e*P		**P**	**19 59 35.3 +2.2**
KOPT	**Kop Dagi**	**47.75 303**	*i* P		**P**	**19 59 36.2 +1.7**
MAZI	**Mazidag**	**47.75 299**	*e*P		**P**	**19 59 35.7 +1.3**
BAYT	**Ayd¨–ntepe-Bay**	**48.04 303**	*e*P		**P**	**19 59 38.8 +2.2**
ERZN	**Erzincan**	**48.34 302**	*e*P		**P**	**19 59 40.8 +1.9**
KTUT	**Trabzon**	**48.35 304**	*e*P		**P**	**19 59 40.8 +2.0**
GUMO	**Guam**	**48.41 93**	*e*P		**P**	**19 59 39.1 -0.5**
	comp=Z,14nm,1.3s					
VRHR	**Novokhopersk**	**48.41 318**	*e*P		**P**	**19 59 39.7 +0.6**
VRHR			*e**PP		**pP**	**20 06 05.9 +2.2**
VRHR			*e*S		**S**	**20 06 29.3 -2.4**
VRHR			*e*			20 09 17.8
VRHR			pmax	pmax		
	comp=N,10.0nm,0.8s					
VRHR			pmax	pmax		
	comp=E,40nm,0.8s					
VRHR			pmax	pmax		
	comp=Z,110nm,0.8s					
VRHR			smax	smax		
	comp=E,2μm,1.9s					
VRHR			smax	smax		
	comp=Z,170nm,2.0s					
VRHR			smax	smax		
	comp=N,740nm,1.4s					
VRHR			MLR	MLR		
	comp=N,240nm,15.0s					
VRHR			MLR	MLR		
	comp=Z,2μm,15.0s					
VRHR			MLR	MLR		
	comp=E,1μm,17.0s					
GUMT	**Gumushane**	**48.55 303**	*e*P		**P**	**19 59 42.7 +2.2**
SOC	**Sochi**	**48.55 307**	*e*P		**P**	**19 59 41.2 +1.0**
SOC			*e*			20 00 05.6
SOC			*e*			20 01 41.9
SOC			*e*S		**S**	**20 06 33.8 -0.1**
SOC			pmax	pmax		
	comp=Z,37nm,0.6s					
SOC			MLR	MLR		
	comp=Z,1μm,13.0s					
PTK	**Pertek**	**48.59 301**	*e*P		**P**	**19 59 42.3 +1.4**
EZC	**Erzincan**	**48.62 302**	*e*P		**P**	**19 59 43.9 +2.8**
KELT	**Kelkit**	**48.71 303**	*i* P		**P**	**19 59 43.9 +2.1**
ELZG	**Elazig**	**48.90 301**	*i* P		**P**	**19 59 44.7 +1.4**
TRBA	**At Turbah**	**48.92 266**	*e*P		**P**	**19 59 45.0 +1.3**
ESPY	**Espiye-Giresun**	**49.13 304**	*e*P		**P**	**19 59 46.2 +1.4**
ILIC	**ilic-Erzincan**	**49.23 302**	*e*P		**P**	**19 59 47.4 +1.7**
KEMA	**Kemaliye**	**49.29 302**	*i* P		**P**	**19 59 48.5 +2.5**
MALT	**Malatya**	**49.34 300**	*e*P		**P**	**19 59 49.3 +2.8**
MALT	**Malatya**	**49.34 300**	⇑*i*P		**P**	**19 59 49.0 +2.4**
MALT	**Malatya**	**49.34 300**	⇑*i*P		**P**	**19 59 49.0 +2.4**
SUSE	**Susehri**	**49.52 303**	*i* P		**P**	**19 59 49.9 +2.0**
AKCD	**Akcadag**	**49.74 300**	*i* P		**P**	**19 59 51.0 +1.4**
VORD	**Divnogorie**	**49.83 317**	*e*P		**P**	**19 59 51.0 +1.2**
VORD			*e*S		**S**	**20 06 49.1 -2.4**
VORD			*e*			20 09 28.4
VORD			pmax	pmax		
	comp=Z,60nm,1.0s					
VORD			pmax	pmax		
	comp=N,20nm,0.6s					
VORD			pmax	pmax		
	comp=E,60nm,0.8s					
VORD			smax	smax		
	comp=E,2μm,3.4s					
VORD			smax	smax		
	comp=Z,40nm,1.1s					
VORD			smax	smax		
	comp=N,610nm,1.3s					
VORD			MLR	MLR		
	comp=Z,2μm,18.0s					
VORD			MLR	MLR		
	comp=N,1μm,14.0s					
VORD			MLR	MLR		
	comp=E,2μm,21.0s					
VSR	**Storozhevoye**	**49.95 317**	*e*P		**P**	**19 59 51.0 +0.2**
VSR			*e**PP		**pP**	**20 00 15.8 +0.2**
VSR			*e*S		**S**	**20 06 50.7 -2.6**
VSR			*e*			20 09 29.3
VSR			pmax	pmax		
	comp=Z,30nm,0.6s					
VSR			pmax	pmax		
	comp=N,10.0nm,1.1s					
VSR			pmax	pmax		
	comp=E,30nm,1.3s					
VSR			smax	smax		
	comp=N,1μm,2.0s					
VSR			smax	smax		
	comp=Z,10.0nm,1.0s					
VSR			smax	smax		
	comp=E,770nm,3.1s					
VSR			MLR	MLR		
	comp=Z,2μm,17.0s					
VSR			MLR	MLR		
	comp=N,330nm,11.0s					
VSR			MLR	MLR		
	comp=E,1μm,18.0s					
VOR	**Voronezh**	**50.03 318**	*e*P		**P**	**19 59 52.0 +0.6**
VOR			*e*S		**S**	**20 06 52.0 -2.3**
VOR			pmax	pmax		
	comp=Z,250nm,1.0s					
DARE	**Darende-Malaty**	**50.08 301**	*e*P		**P**	**19 59 54.2 +2.1**
RSDY	**Resadiye-TOKAT**	**50.19 303**	*e*P		**P**	**19 59 54.8 +2.0**
SVSK	**Karacayir**	**50.44 303**	*e*P		**P**	**19 59 57.0 +2.4**
ATD	**Arta Tunnel**	**50.69 265**	LR		LR	20 20 25.1
	comp=Z,897nm,19.9s,baz=66,slow=35					
TOKT	**Tokat**	**50.79 303**	*e*P		**P**	**19 59 58.7 +1.4**
ASF	**Jabal al Asfar**	**50.99 293**	ScP		**ScP**	**20 05 00.8 +0.1**
ASF	**Jabal al Asfar**	**50.99 293**	ScP		**ScP**	**20 05 00.8 +0.1**
	comp=Z,31nm,1.1s,baz=7.5,slow=1.3,SNR=10					
ASF			LR		LR	20 24 31.2
	comp=Z,884nm,20.4s,baz=208,slow=39					
TIXI	**Tiksi**	**51.10 13**	*d i*P		**P**	**20 00 00.0 +0.9**
TIXI			pmax	pmax		
	comp=Z,231nm,0.5s					
MBWA	**Marble Bar**	**51.38 150**	P		**P**	**20 00 02.4 +0.6**
	SNR=36					
MBWA	**Marble Bar**	**51.38 150**	*e*P		**P**	**20 00 01.6 -0.2**
	comp=Z,604nm,0.8s					
YURE	**YUREGIR**	**51.62 299**	*i* P		**P**	**20 00 05.4 +1.8**
MOS	**Moscow**	**51.79 323**	⇑*i*P		**P**	**20 00 04.7 +0.2**
MOS			*e**PP		**pP**	**20 00 29.6 +0.2**
MOS			*e*			20 01 16.3
MOS			*e*			20 02 02.6
MOS			*e*PPP		PPP	20 03 06.9
MOS			*i* S		**S**	**20 07 17.1 -1.4**
MOS			*e*			20 09 44.6
MOS			*e*SS		**SS**	**20 10 55.6 -0.4**
MOS			*e*SSS		SSS	20 12 38.9
MOS			pmax	pmax		
	comp=Z,166nm,1.0s					
MOS			smax	smax		
	comp=N,2μm,2.0s					
MOS			smax	smax		
	comp=E,600nm,1.7s					
MOS			MLR	MLR		
	comp=E,1μm,13.0s					
MOS			MLR	MLR		
	comp=Z,2μm,16.0s					
FITZ	**Fitzroy Crossi**	**51.87 142**	*e*P		**P**	**20 00 04.9 -0.6**
	comp=Z,647nm,1.4s					
FITZ			PcP		**PcP**	**20 01 17.2 +0.2**
FITZ			ScP		**ScP**	**20 05 03.8 -0.6**
FITZ	**Fitzroy Crossi**	**51.87 142**	P		**P**	**20 00 05.4 -0.1**
	comp=Z,274nm,1.1s,baz=338,slow=5.4,SNR=179					
FITZ			PcP		**PcP**	**20 01 17.2 +0.2**
	comp=Z,46nm,0.7s,baz=98,slow=1.9,SNR=3.7					
FITZ			ScP		**ScP**	**20 05 03.8 -0.6**
	comp=Z,33nm,1.0s,baz=21,slow=6.9,SNR=7.6					
AVNT	**Avonos**	**52.13 301**	*i* P		**P**	**20 00 09.1 +1.6**
MMAI	**Mount Meron Ar**	**52.15 294**	ScP		**ScP**	**20 05 05.9 +0.2**
MMAI	**Mount Meron Ar**	**52.15 294**	ScP		**ScP**	**20 05 05.9 +0.2**
	comp=Z,52nm,1.0s,baz=70,slow=7.2,SNR=24					
MMAI			LR		LR	20 27 55.2
	comp=Z,1μm,18.7s,baz=80,slow=42					
KLMR	**Klimovskoe**	**52.23 329**	*d i*P		**P**	**20 00 08.6 +0.9**
KLMR			*e**PP		**pP**	**20 00 33.5 +0.8**
KLMR						20 02 14.5
KLMR			*i* S		**S**	**20 07 24.0 -0.3**
KLMR			*i*			20 09 47.2
KLMR			SS		**SS**	**20 11 04.0 +1.2**
KLMR			pmax	pmax		
	comp=Z,222nm,1.4s					
KLMR			MLR	MLR		
	comp=Z,4μm,19.0s					
OBN	**Obninsk**	**52.24 322**	*d i*P		**P**	**20 00 08.3 +0.4**
OBN			*e*			20 01 19.5
OBN			*e*			20 02 10.0
OBN			*e*S		**S**	**20 07 23.2 -1.5**
OBN			*e*			20 09 47.5
OBN			pmax	pmax		
	comp=Z,44nm,0.9s					
OBN			MLR	MLR		
	comp=Z,2μm,22.0s					
GULE	**Gulek**	**52.27 299**	*i* P		**P**	**20 00 10.9 +2.2**
SIM	**Simferopol'**	**52.64 309**	*d*P		**P**	**20 00 11.6 +0.6**
SIM						20 02 17.5
SIM			PPP		PPP	20 03 23.6
SIM			*e*S		**S**	**20 07 29.8 -0.7**
SIM			pmax	pmax		
	comp=Z,34nm,0.7s					
SIM			MLR	MLR		
	comp=Z,260nm,16.0s					
ILGA	**Ilgaz**	**52.92 304**	*i* P		**P**	**20 00 15.5 +2.0**
EIL	**Elat**	**53.00 290**	ScP		**ScP**	**20 05 09.3 0.0**
EIL	**Elat**	**53.00 290**	ScP		**ScP**	**20 05 09.3 0.

BRTR Keskin Array B 53.03 302 P **P** **20 00 15.0 +0.8**
BRTR ScP **ScP** **20 05 08.7 -0.8**
BRTR S **S** **20 07 38.1 +1.9**
BRTR P'P'ab **P'P'ab** **20 31 17.6 -3.4**
BRTR Keskin Array B 53.03 302 P **P** **20 00 15.0 +0.8**
comp=Z,9.1nm,0.5s,baz=134,slow=8.6,SNR=62
BRTR ScP **ScP** **20 05 08.7 -0.8**
comp=Z,35nm,0.9s,baz=125,slow=5.2,SNR=17
BRTR S **S** **20 07 38.1 +1.9**
comp=Z,8.7nm,1.1s,baz=93,slow=12,SNR=6.9
BRTR LR LR 20 29 08.6
comp=Z,497nm,19.8s,baz=248,slow=43
BRTR PKP2ab 20 31 17.6
comp=Z,1.0nm,0.9s,baz=284,slow=5.0,SNR=4.0
PHNC Paralimni 53.06 296 P P 20 00 17.5 +3.2
comp=Z,1.1nm,0.9s
BBAL Bala 53.44 302 *i* P **P** **20 00 18.1 +1.0**
CSS Prodhromos 53.64 296 P **P** **20 00 19.5 +1.0**
comp=Z,1.7nm,0.8s
CSS Prodhromos 53.64 296 *e*P **P** **20 00 18.6 +0.1**
comp=Z,18nm,0.9s
ANTO Ankara 53.67 303 *e*P **P** **20 00 19.5 +0.7**
ANTO pmax pmax
comp=Z,106nm,1.0s
ANTO Ankara 53.67 303 P **P** **20 00 20.5 +1.7**
SNR=16
ANTO Ankara 53.67 303 *e*P **P** **20 00 19.5 +0.7**
comp=Z,106nm,1.0s
ANTO Ankara 53.67 303 ⇓*i*P **P** **20 00 20.3 +1.5**
MAMC Mammari 53.71 297 P **P** **20 00 20.7 +1.7**
ERMK Ermenek 53.81 299 *i* P **P** **20 00 20.9 +0.9**
TMCR Tamitsa 53.97 333 *e*P **P** **20 00 22.0 +1.6**
TMCR LR *e* 20 01 21.3
TMCR pmax pmax
comp=Z,216nm,1.0s
ALFC Alevga 54.22 297 P **P** **20 00 23.3 +0.6**
comp=Z,1.8nm,0.6s
KDHN Kadinhani 54.28 301 *i* P **P** **20 00 24.0 +0.7**
GAZI Gazipasa 54.33 298 *i* P **P** **20 00 24.2 +0.7**
AKMC Akamas 54.45 297 P **P** **20 00 24.6 +0.2**
PPCY Paphos 54.45 296 P **P** **20 00 24.3 -0.1**
PETK Petropavlovsk- 54.77 41 P **P** **20 00 25.1 -1.3**
PETK pmax pmax
comp=Z,26nm,0.9s
PETK MLR MLR
comp=Z,817nm,21.1s
PETK Petropavlovsk- 54.77 41 P **P** **20 00 25.1 -1.3**
PETK ScP **ScP** **20 05 14.3 -2.3**
PETK Petropavlovsk- 54.77 41 P **P** **20 00 25.1 -1.3**
comp=Z,26nm,0.9s,baz=164,slow=6.0,SNR=16
PETK ScP **ScP** **20 05 14.3 -2.3**
comp=Z,16nm,0.7s,baz=216,slow=4.4,SNR=8.3
PETK LR LR 20 25 04.8
comp=Z,817nm,21.1s,baz=260,slow=37
BOLV Bolvadin 55.18 301 *i* P **P** **20 00 31.2 +1.5**
SEYT Eskypehyr 55.19 302 *i* P **P** **20 00 30.5 +0.6**
PET Petropavlovsk 55.34 41 *e*P **P** **20 00 30.0 -0.4**
PET *e**SP **sP** **20 01 04.3 -3.0**
PET *e* 20 01 29.5
PET *e*S **S** **20 08 04.0 -2.5**
PET *e* 20 10 02.6
PET *e*SS **SS** **20 11 48.6 -3.4**
PET pmax pmax
comp=Z,200nm,3.3s
PET pmax pmax
comp=Z,40nm,0.8s
PET MLR MLR
comp=Z,1μm,18.0s
PET MLR MLR
comp=Z,900nm,16.0s
ISP Isparta 55.60 300 *e*P **P** **20 00 33.2 +0.4**
ISP pmax pmax
comp=Z,41nm,0.8s
ISP Isparta 55.60 300 *e*P **P** **20 00 33.2 +0.4**
comp=Z,41nm,0.8s
KORT Korkueli 55.82 299 *i* P **P** **20 00 35.1 +0.8**
AKASG Malin Array Be 56.14 316 P **P** **20 00 36.3 +0.1**
AKASG S **S** **20 08 15.0 -2.2**
AKASG 20 10 14.4
AKASG pmax pmax
comp=Z,29nm,0.6s
AKASG smax smax
comp=N,20nm,0.9s
AKASG MLR MLR
comp=Z,1μm,19.4s
AKASG Malin Array Be 56.14 316 P **P** **20 00 36.2 +0.1**
AKASG ScP **ScP** **20 05 22.5 -0.2**
AKASG S **S** **20 08 14.9 -2.2**
AKASG ScS **ScS** **20 10 14.4 -0.9**
AKASG ⇑*e* 20 30 45.3
AKASG Malin Array Be 56.14 316 P **P** **20 00 36.2 +0.1**
comp=Z,29nm,0.6s,baz=78,slow=6.8,SNR=33
AKASG ScP **ScP** **20 05 22.5 -0.2**
comp=Z,25nm,0.8s,baz=72,slow=4.8,SNR=11
AKASG S **S** **20 08 14.9 -2.2**
comp=Z,20nm,0.9s,baz=87,slow=13,SNR=17
AKASG ScS **ScS** **20 10 14.4 -0.9**
comp=Z,4.3nm,0.8s,baz=75,slow=8.2,SNR=4.5
AKASG LR LR 20 28 48.1
comp=Z,1μm,19.4s,baz=105,slow=40
AKASG PKP2bc 20 30 45.3
comp=Z,0.7nm,0.5s,baz=300,slow=1.9,SNR=6.8
KIEV Kiev 56.15 316 *e*P **P** **20 00 35.9 -0.4**
KIEV pmax pmax
comp=Z,52nm,0.7s
KIEV Kiev 56.15 316 *e*P **P** **20 00 35.9 -0.4**
comp=Z,52nm,0.7s
WNDE Wendo Genet 56.25 262 *e*P **P** **20 00 40.0 +2.2**
GDZ Gediz 56.29 302 *i* P **P** **20 00 38.2 +0.5**
KHAL Karahalli 56.35 301 *i* P **P** **20 00 38.4 +0.3**
KIS Kishinev 56.35 311 *e*P **P** **20 00 41.0 +3.2**
KIS *i* pP **pP** **20 01 02.0 -1.1**
KIS *i* S **S** **20 08 17.0 -3.2**
comp=Z,1μm,8.0s
KIS *i* sS **sS** **20 09 02.0 -1.7**
KIS *i* ScS **ScS** **20 10 16.0 -1.0**
KIS *e*SS **SS** **20 12 02.0 -6.3**
KIS *i* SSS SSS 20 14 34.0
KIS LRM MLR 20 28 08.0
comp=Z,700nm,20.0s
KIS Kishinev 56.35 311 *e*P **P** **20 00 41.0 +3.2**
KIS *i* S **S** **20 08 17.0 -3.2**
KIS *i* 20 10 16.0
KIS *e*SS **SS** **20 12 02.0 -6.3**
KIS smax smax
comp=N,1μm,8.0s
KIS smax smax
comp=E,2μm,8.0s
KIS MLR MLR
comp=Z,1μm,17.0s
KIS MLR MLR
comp=E,500nm,19.0s
KIS MLR MLR
comp=Z,700nm,20.0s
TLCR 56.40 309 ⇑P **P** **20 00 39.1 +0.9**
TLCR 56.40 309 ⇑*i*P **P** **20 00 39.0 +0.9**
BUY Buyukada 56.41 304 *i* P **P** **20 00 37.5 -0.8**
GOLH Golhisar 56.42 300 *i* P **P** **20 00 38.8 +0.1**
LVZ Lovozero 56.50 337 *ce*P **P** **20 00 39.8 +1.2**
LVZ pmax pmax
comp=Z,155nm,1.2s
LVZ Lovozero 56.50 337 P **P** **20 00 40.7 +2.1**
comp=Z,811nm,0.6s,SNR=14
AKAS Kas 56.51 298 *i* P **P** **20 00 39.5 +0.3**
JOF Joensuu 56.52 331 *e*P **P** **20 00 39.4 +0.7**
JOF pmax pmax
comp=Z,48nm,0.6s
JOF Joensuu 56.52 331 *e*p **P** **20 00 39.4 +0.7**
comp=Z,48nm,0.6s
TIRR Tirgusor 56.71 308 *e*P **P** **20 00 40.0 -0.4**
TIRR pmax pmax
comp=Z,114nm,1.4s
TIRR Tirgusor 56.71 308 *e*P **P** **20 00 40.0 -0.4**
comp=Z,114nm,1.4s
TIRR Tirgusor 56.71 308 ⇓*i*P **P** **20 00 41.0 +0.6**
LEOM Leova 56.76 311 ⇑P **P** **20 00 41.8 +1.1**
LEOM Leova 56.76 311 ⇑*i*P **P** **20 00 41.8 +1.1**
APA Apatity 56.85 336 ⇓*i*P **P** **20 00 42.2 +1.2**
APA *i* 20 01 32.0
APA *i* PPP PPP 20 04 10.0
APA *i* S **S** **20 08 28.0 +1.9**
APA *i* 20 10 22.0
APA *i* SS **SS** **20 12 10.0 -5.4**
APA pmax pmax
comp=Z,81nm,0.6s

APA MLR MLR
comp=Z,3μm,21.0s
CFR Carcaliu 56.88 309 ⇓P **P** **20 00 42.2 +0.7**
CFR Carcaliu 56.88 309 ⇓*i*P **P** **20 00 42.2 +0.7**
DEMI Demirci 56.88 302 *i* P **P** **20 00 42.0 +0.1**
TLB Topalu 56.97 309 ⇑P **P** **20 00 42.7 +0.5**
TLB Topalu 56.97 309 ⇑*i*P **P** **20 00 42.7 +0.5**
DURS Dursunbey 57.02 303 *i* P **P** **20 00 43.1 +0.3**
MANT Manisa 57.07 301 *i* P **P** **20 00 42.6 -0.8**
MICGM Minsk 57.15 320 *e*P **P** **20 00 42.0 -1.3**
MNK Minsk 57.17 320 *e*P **P** **20 00 42.0 -1.5**
MNK *e**PP **pP** **20 01 08.0 -0.9**
MNK *e*S **S** **20 08 26.0 -4.8**
MNK smax smax
comp=N,4μm,2.0s
TURN Turunc 57.23 299 *i* P **P** **20 00 46.4 +2.2**
MRIV Mauritius Mete 57.29 222 *e*P **P** **20 00 44.7 0.0**
GHRR 57.35 310 ⇑*i*P **P** **20 00 46.6 +1.7**
BALY Balya 57.66 303 *i* P **P** **20 00 48.0 +0.8**
GRER 57.69 309 ⇑*i*P **P** **20 00 48.9 +1.6**
AYDN Tasoluk 57.70 300 *i* P **P** **20 00 48.2 +0.6**
NACGM Naroch 57.81 321 *e*P **P** **20 00 46.0 -1.9**
VRI Vrincioaia 57.83 310 ⇓P **P** **20 00 50.2 +1.9**
VRI Vrincioaia 57.83 310 ⇓*i*P **P** **20 00 50.2 +1.9**
IDID Didziasalis 57.85 321 *e*P **P** **20 00 48.9 +0.7**
IDID AMB AMB 20 00 53.6
comp=Z,30nm,0.9s
TESR Tescani 57.86 311 ⇓*i*P **P** **20 00 49.2 +0.7**
PLOR Plostina 57.89 310 ⇓P **P** **20 00 50.7 +2.0**
PLOR Plostina 57.89 310 ⇓*i*P **P** **20 00 50.7 +2.0**
ISR Istrita 58.01 309 ⇑P **P** **20 00 51.7 +2.1**
ISR Istrita 58.01 309 ⇑*i*P **P** **20 00 51.7 +2.1**
VSU Vasula 58.08 325 *d i*P **P** **20 00 50.5 +0.8**
VSU pmax pmax
comp=Z,180nm,0.6s
BDRM Kayabasi 58.12 300 *i* P **P** **20 00 50.2 -0.3**
IIGN Ignalina 58.15 321 *e*P **P** **20 00 51.1 +0.8**
IIGN AMB AMB 20 00 56.4
comp=Z,51nm,0.9s
GCAM G?zelcaml? 58.20 300 *i* P **P** **20 00 52.5 +1.6**
ISAL Salakas 58.22 322 *e*P **P** **20 00 51.6 +0.9**
ISAL AMB AMB 20 00 57.2
comp=Z,36nm,0.9s
MLR Muntele Rosu 58.40 310 ScP **ScP** **20 05 33.6 +0.6**
MLR S **S** **20 08 47.4 0.0**
MLR P'P'ab P'P'ab 20 30 52.5 -5.8
MLR Muntele Rosu 58.40 310 ⇓*i*P **P** **20 00 54.2 +1.8**
MLR Muntele Rosu 58.40 310 ScP **ScP** **20 05 33.6 +0.6**
comp=Z,4.4nm,0.8s,baz=53,slow=2.9,SNR=3.3
MLR S **S** **20 08 47.4 0.0**
comp=Z,2.4nm,1.2s,baz=161,slow=23,SNR=14
MLR LR LR 20 30 16.8
comp=Z,587nm,20.2s,baz=59,slow=40
MLR PKP2ab 20 30 52.5
comp=Z,1.2nm,0.8s,baz=316,slow=4.1,SNR=9.4
SMG Samos 58.51 301 *e*P **P** **20 00 54.0 +0.8**
WRA Warramunga Arr 58.55 135 P **P** **20 00 53.6 0.0**
WRA pP **pP** **20 01 19.5 +0.4**
WRA ScP **ScP** **20 05 32.2 -1.5**
WRA S **S** **20 08 49.1 -0.4**
WRA P'P' 20 30 30.1
WRA ⇑*e* 20 30 41.2
WRA *e* 20 38 01.9
WRA Warramunga Arr 58.55 135 P **P** **20 00 53.6 0.0**
comp=Z,300nm,0.8s,baz=326,slow=7.4,SNR=705
WRA pP **pP** **20 01 19.5 +0.4**
comp=Z,65nm,0.7s,baz=323,slow=7.4,SNR=3.2
WRA ScP **ScP** **20 05 32.2 -1.5**
comp=Z,18nm,0.7s,baz=326,slow=4.2,SNR=9.2
WRA S **S** **20 08 49.1 -0.4**
comp=Z,2.8nm,0.8s,baz=330,slow=13,SNR=6.4
WRA PKPPKP **P'P'df** **20 30 30.1 +0.3**
comp=Z,5.0nm,1.0s,baz=161,slow=1.8,SNR=6.8
WRA LR LR 20 30 37.7
comp=Z,439nm,18.8s,baz=305,slow=40
WRA PKP2bc 20 30 41.2
comp=Z,19nm,0.9s,baz=136,slow=2.1,SNR=5.9
WRA P4KPbc 20 38 01.9
comp=Z,2.0nm,0.6s,baz=325,slow=4.3,SNR=21
WRAB Tennant Creek 58.55 135 P **P** **20 00 53.0 -0.6**
comp=Z,3μm,0.7s
WRAB Tennant Creek 58.55 135 *e*P **P** **20 00 53.5 -0.1**
WRAB pmax pmax
comp=Z,757nm,1.1s
WRAB Tennant Creek 58.55 135 *e*P **P** **20 00 53.5 -0.1**
comp=Z,757nm,1.1s
KARP Karpathos 58.57 298 P **P** **20 00 54.5 +0.9**
KARP Karpathos 58.57 298 P **P** **20 00 54.5 +0.9**
URLA Izmir 58.61 301 *i* P **P** **20 00 54.9 +1.0**
KAF Kangasniemi 58.68 329 *e*P **P** **20 00 54.3 +0.4**
KAF pmax pmax
comp=Z,50nm,1.0s
KAF Kangasniemi 58.68 329 *e*p **P** **20 00 54.3 +0.4**
comp=Z,50nm,1.0s
FIA1 FINESS Array S 58.71 328 *e*P **P** **20 00 54.8 +0.8**
FINES FINESS Array B 58.71 328 P **P** **20 00 55.1 +1.0**
FINES ScP **ScP** **20 05 34.9 +1.1**
FINES PKiKP **PKiKP** **20 08 05.7 +0.9**
FINES S **S** **20 08 49.8 -0.7**
FINES FINESS Array B 58.71 328 P **P** **20 00 55.1 +1.0**
comp=Z,50nm,0.7s,baz=100,slow=7.9,SNR=156
FINES ScP **ScP** **20 05 34.9 +1.1**
comp=Z,18nm,0.7s,baz=98,slow=10,SNR=5.2
FINES PKiKP **PKiKP** **20 08 05.7 +0.9**
comp=Z,5.0nm,0.8s,baz=124,slow=3.4,SNR=4.0
FINES S **S** **20 08 49.8 -0.7**
comp=Z,12nm,0.9s,baz=102,slow=6.4,SNR=7.3
FINES LR LR 20 28 39.2
comp=Z,3μm,20.3s,baz=98,slow=38
DOPR Dopca 58.76 310 ⇑*i*P **P** **20 00 55.6 +0.8**
BURAR Bucovina Array 58.79 312 ⇑P **P** **20 00 55.5 +0.5**
BURAR Bucovina Array 58.79 312 ⇑*i*P **P** **20 00 55.5 +0.5**
BUR08 Bucovina Ar. S 58.80 312 *e*P **P** **20 00 55.4 +0.3**
CHOS Chios island 59.03 301 P **P** **20 00 58.9 +2.1**
CHOS Chios island 59.03 301 *e*P **P** **20 00 57.9 +1.1**
CHOS Chios island 59.03 301 P **P** **20 00 58.9 +2.1**
VOIR 59.04 310 ⇑P **P** **20 00 57.6 +0.8**
VOIR 59.04 310 ⇑*i*P **P** **20 00 57.6 +0.8**
MTUR Matau 59.04 309 ⇑*i*P **P** **20 01 00.0 +3.2**
RDO Rodhopi 59.08 305 P **P** **20 00 57.2 +0.2**
RDO Rodhopi 59.08 305 *e*P **P** **20 00 58.0 +1.0**
RDO Rodhopi 59.08 305 P **P** **20 00 57.2 +0.2**
GOLR 59.14 309 ⇑*i*P P 20 01 03.2 +5.8
HUMR Humele 59.16 309 ⇑*i*P **P** **20 00 58.4 +0.9**
SMTH Samothraki Isl 59.17 304 P **P** **20 00 57.1 -0.6**
SMTH Samothraki Isl 59.17 304 *e*P **P** **20 00 58.2 +0.5**
SMTH Samothraki Isl 59.17 304 P **P** **20 00 57.1 -0.6**
ARR Arges 59.33 310 ⇑*i*P **P** **20 00 59.9 +1.1**
ZKR Zakros 59.40 298 *e*P **P** **20 01 00.3 +1.0**
ZKR Zakros 59.40 298 *e*PN **S** **20 08 56.8 -3.5**
ARCR ARCALIA 59.40 312 ⇓*i*P **P** **20 01 00.3 +1.1**
LVV L'vov 59.47 315 *e*P P 20 01 03.0 +3.4
LVV *e*PPP PPP 20 04 49.4
LVV *i* S **S** **20 08 58.0 -2.8**
LVV MLR MLR
comp=N,400nm,15.0s
LVV MLR MLR
comp=E,500nm,15.0s
LVV MLR MLR
comp=Z,600nm,15.0s
LIA Limnos Island 59.50 303 P **P** **20 01 00.1 +0.2**
LIA Limnos Island 59.50 303 P **P** **20 01 00.1 +0.2**
SANT Santorini 59.80 299 *e*P **P** **20 01 01.8 -0.3**
SANT Santorini 59.80 299 *e*P **P** **20 01 00.3 -1.8**
comp=Z,709nm,1.3s
THR3 Thira Island, 59.84 299 P **P** **20 01 01.6 -0.7**
THR3 Thira Island, 59.84 299 P **P** **20 01 01.6 -0.7**
SUW Suwalki 59.89 320 *e*P **P** **20 01 02.7 +0.4**
SUW pmax pmax
comp=Z,232nm,0.9s
SUW Suwalki 59.89 320 *e*P **P** **20 01 02.7 +0.4**
comp=Z,232nm,0.9s
SUW Suwalki 59.89 320 *e*P **P** **20 01 02.4 +0.1**
SUW *e*S **S** **20 09 04.6 -1.4**
SUW LMZ LR 20 23 55.9
LOT Lotru 59.93 310 ⇑*i*P **P** **20 01 03.9 +0.9**
CJR Cluj-Napoca 59.95 311 ⇑P **P** **20 01 05.0 +2.0**
CJR Cluj-Napoca 59.95 311 ⇑*i*P **P** **20 01 05.0 +2.0**
LAST Lasithi 59.99 298 P **P** **20 01 03.5 0.0**
LAST Lasithi 59.99 298 *e*P **P** **20 01 04.2 +0.7**
LAST Lasithi 59.99 298 *e*PN S 20 08 54.5 -14
LAST Lasithi 59.99 298 P **P** **20 01 03.5 0.0**
ARCES ARCESS Array B 60.14 338 P **P** **20 01 05.3 +1.4**

ARCES ScP **ScP** **20 05 41.3 +1.3**
ARCES S **S** **20 09 08.2 -0.6**
ARCES ARCESS Array B 60.14 338 P **P** **20 01 05.3 +1.4**
comp=Z,59nm,0.6s,baz=84,slow=7.1,SNR=233
ARCES ScP **ScP** **20 05 41.3 +1.3**
comp=Z,36nm,0.8s,baz=96,slow=3.7,SNR=10
ARCES S **S** **20 09 08.2 -0.6**
comp=Z,8.8nm,0.9s,baz=69,slow=13,SNR=3.8
ARCES LR LR 20 30 19.4
comp=Z,2μm,19.4s,baz=102,slow=39
ARE0 ARCESS Array S 60.14 338 *e*P **P** **20 01 05.0 +1.1**
ARE0 *e*pP **pP** **20 01 29.1 -0.4**
ARE0 *e*S **S** **20 09 10.8 +1.9**
ARE0 ARCESS Array S 60.14 338 *e*P **P** **20 01 05.5 +1.7**
KWP Kalwaria Pacla 60.34 315 *e*P **P** **20 01 06.1 +0.6**
KWP pmax pmax
comp=Z,304nm,1.1s
KWP Kalwaria Pacla 60.34 315 *e*P **P** **20 01 06.1 +0.6**
comp=Z,304nm,1.1s
KWP Kalwaria Pacla 60.34 315 ⇑*i*P **P** **20 01 06.7 +1.2**
KWP Kalwaria Pacla 60.34 315 *e*P **P** **20 01 06.5 +1.0**
KWP *e*S **S** **20 09 11.1 -0.8**
KWP LMZ LR 20 25 55.3
IDI Anoyia 60.44 298 P **P** **20 01 06.3 -0.2**
IDI Anoyia 60.44 298 *e*P **P** **20 01 06.7 +0.2**
IDI Anoyia 60.44 298 P **P** **20 01 06.3 -0.2**
IDI ScP **ScP** **20 05 41.9 -0.2**
IDI S **S** **20 09 10.9 -2.9**
IDI ⇑*e* 20 30 37.1
IDI Anoyia 60.44 298 ScP **ScP** **20 05 41.9 -0.2**
comp=Z,28nm,0.9s,baz=229,slow=7.7,SNR=6.9
IDI S **S** **20 09 10.9 -2.9**
comp=Z,53nm,1.1s,baz=174,slow=20,SNR=12
IDI PKP2bc 20 30 37.1
comp=Z,12nm,1.1s,baz=214,slow=9.1,SNR=6.5
DEV Deva 60.50 310 ⇑P **P** **20 01 08.6 +2.0**
DEV Deva 60.50 310 ⇑*i*P **P** **20 01 08.6 +2.0**
SRS Serrai 60.54 305 P **P** **20 01 07.1 0.0**
SRS Serrai 60.54 305 P **P** **20 01 07.1 0.0**
SRS Serrai 60.54 305 P **P** **20 01 07.1 0.0**
SIVA Sivas 60.55 298 *e*P **P** **20 01 08.2 +1.0**
TRPA Tarpa 60.55 313 ⇑*i*P **P** **20 01 08.3 +1.3**
AOS Alonnisos 60.60 303 *e*P **P** **20 01 08.7 +1.2**
HEF Hetta 60.62 336 *e* **P** **20 01 08.1 +1.1**
GZR Gura Zlata 60.63 310 ⇑P **P** **20 01 08.8 +1.1**
GZR Gura Zlata 60.63 310 ⇑*i*P **P** **20 01 08.8 +1.1**
VTS Vitosha 60.64 307 P **P** **20 01 08.7 +0.8**
VTS Vitosha 60.64 307 ⇑P **P** **20 01 08.5 +0.6**
VTS Vitosha 60.64 307 P **P** **20 01 08.7 +0.8**
VTS Vitosha 60.64 307 ⇑*i*P **P** **20 01 08.5 +0.6**
PAIG Paliouri 60.64 303 P **P** **20 01 07.7 0.0**
PAIG Paliouri 60.64 303 P **P** **20 01 07.7 0.0**
PAIG Paliouri 60.64 303 *e*P **P** **20 01 08.1 +0.4**
PAIG Paliouri 60.64 303 P **P** **20 01 07.7 0.0**
KOLS Kolonicke sedl 60.67 314 *e*P **P** **20 01 08.5 +0.7**
KOLS pmax pmax
comp=Z,35nm,1.3s
KOLS Kolonicke sedl 60.67 314 *e*P **P** **20 01 08.5 +0.7**
KOLS *e* 20 30 28.5
UZH Uzhgorod 60.68 314 *e*P **P** **20 01 09.1 +1.3**
UZH *e* 20 01 38.5
UZH *e* 20 03 28.7
UZH *e* 20 04 54.9
UZH *i* S **S** **20 09 15.1 -1.1**
UZH *i* 20 15 56.7
UZH MLR MLR
comp=N,600nm,14.0s
UZH MLR MLR
comp=E,1μm,14.0s
UZH MLR MLR
comp=Z,400nm,14.0s
COEN Coen 60.74 124 *e*P **P** **20 01 08.9 +0.2**
comp=Z,54nm,0.7s
PLG Polygyros 60.76 304 P **P** **20 01 08.1 -0.5**
PLG Polygyros 60.76 304 P **P** **20 01 08.1 -0.5**
PLG Polygyros 60.76 304 *e*P **P** **20 01 08.9 +0.3**
PLG Polygyros 60.76 304 P **P** **20 01 08.1 -0.5**
SOH Sokhos 60.76 305 *e*P **P** **20 01 09.1 +0.5**
PTL Penteli 60.79 301 *e*P **P** **20 01 08.7 -0.1**
NWAO Narrogin (SRO) 60.88 158 P **P** **20 01 09.7 +0.5**
SNR=13
NWAO Narrogin (SRO) 60.88 158 *e*P **P** **20 01 08.4 -0.9**
comp=Z,507nm,1.0s
NWAO ⇑*e* 20 30 35.3
NWAO Narrogin (SRO) 60.88 158 P **P** **20 01 08.8 -0.5**
comp=Z,307nm,0.6s,baz=340,slow=6.7,SNR=179
NWAO LR LR 20 29 26.1
comp=Z,839nm,21.9s,baz=134,slow=38
NWAO PKP2bc 20 30 35.3
comp=Z,17nm,1.0s,baz=162,slow=7.9,SNR=3.2
MRKA Markates 60.90 302 P **P** **20 01 10.2 +0.7**
VAM Vamos 60.97 298 P **P** **20 01 10.3 +0.2**
VAM Vamos 60.97 298 P **P** **20 01 10.3 +0.2**
VAM Vamos 60.97 298 *e*P **P** **20 01 11.2 +1.1**
VAM Vamos 60.97 298 *e*PN **S** **20 09 18.3 -2.2**
VAM Vamos 60.97 298 P **P** **20 01 10.3 +0.2**
AS31 Alice Springs 61.03 139 *e*P **P** **20 01 10.4 -0.1**
ASAR Alice Springs 61.03 139 P **P** **20 01 10.8 +0.3**
ASAR ScP **ScP** **20 05 43.5 -1.2**
ASAR S **S** **20 09 17.1 -4.2**
ASAR ScS **SKKSac** **20 10 48.1 -3.9**
ASAR ⇑*e* 20 30 34.1
ASAR *e* 20 38 13.5
ASAR Alice Springs 61.03 139 P **P** **20 01 10.8 +0.3**
comp=Z,157nm,0.8s,baz=321,slow=6.8,SNR=678
ASAR ScP **ScP** **20 05 43.5 -1.2**
comp=Z,13nm,0.6s,baz=322,slow=4.4,SNR=7.8
ASAR S **S** **20 09 17.1 -4.2**
comp=Z,1.0nm,0.9s,baz=308,slow=12,SNR=2.6
ASAR ScS **SKKSac** **20 10 48.1 -3.9**
comp=Z,3.0nm,0.9s,baz=325,slow=7.3,SNR=5.3
ASAR PKP2bc 20 30 34.1
comp=Z,14nm,1.0s,baz=137,slow=2.8,SNR=10
ASAR LR LR 20 32 25.2
comp=Z,839nm,19.4s,baz=314,slow=41
ASAR P4KPbc 20 38 13.5
comp=Z,0.8nm,0.7s,baz=319,slow=4.2,SNR=10
KNT Kendrikon 61.06 305 P **P** **20 01 10.8 +0.2**
KNT Kendrikon 61.06 305 P **P** **20 01 10.8 +0.2**
KNT Kendrikon 61.06 305 P **P** **20 01 10.8 +0.2**
NEO Neokhori 61.09 303 *e*P **P** **20 01 10.7 -0.1**
KMBO Kilima Mbogo 61.14 254 *e*P **P** **20 01 12.9 +1.2**
KMBO Kilima Mbogo 61.14 254 P **P** **20 01 13.1 +1.3**
SNR=27
KMBO Kilima Mbogo 61.14 254 P **P** **20 01 12.8 +1.0**
KMBO Kilima Mbogo 61.14 254 P **P** **20 01 12.8 +1.0**
comp=Z,59nm,1.0s,baz=48,slow=10,SNR=76
KMBO LR LR 20 28 31.9
comp=Z,1μm,19.2s,baz=85,slow=37
PMG Port Moresby 61.20 117 *e*P **P** **20 01 12.2 +0.5**
comp=Z,108nm,0.8s
PMG Port Moresby 61.20 117 P **P** **20 01 12.6 +0.8**
comp=Z,369nm,0.7s,baz=343,slow=4.2,SNR=88
PMG LR LR 20 30 48.4
comp=Z,266nm,19.1s,baz=291,slow=39
KARN Karanos 61.20 298 P **P** **20 01 11.3 -0.3**
KARN Karanos 61.20 298 *e*P **P** **20 01 12.2 +0.6**
KARN Karanos 61.20 298 *e*PN S 20 09 17.0 -6.4
KARN Karanos 61.20 298 P **P** **20 01 11.3 -0.3**
CRVS Cervenica-Dubn 61.20 314 *e*P **P** **20 01 12.8 +1.4**
CRVS pmax pmax
comp=Z,371nm,2.3s
CRVS Cervenica-Dubn 61.20 314 *e*P **P** **20 01 12.8 +1.4**
CRVS *e* 20 30 27.1
VAY Valandovo 61.28 305 *e*P **P** **20 01 10.4 -1.7**
STHS Stebnicka Huta 61.30 314 *e*P **P** **20 01 12.2 +0.1**
STHS pmax pmax
comp=Z,25nm,0.9s
STHS Stebnicka Huta 61.30 314 *e*P **P** **20 01 12.2 +0.1**
LKR Lokris 61.36 302 *e*P **P** **20 01 11.9 -0.7**
DID Didima 61.37 301 P **P** **20 01 10.6 -2.1**
DID Didima 61.37 301 *e*P **P** **20 01 11.4 -1.3**
DID Didima 61.37 301 P **P** **20 01 10.6 -2.1**
BEL Belsk 61.42 317 *e*P **P** **20 01 13.5 +0.8**
BEL *e*S **S** **20 09 25.1 -0.4**
BEL LMZ LR 20 25 16.7
BZS Buzias 61.42 310 ⇓P **P** **20 01 14.2 +1.3**
BZS Buzias 61.42 310 ⇓*i*P **P** **20 01 14.2 +1.3**
LTK Loutraki 61.49 301 P **P** **20 01 12.0 -1.5**
LTK Loutraki 61.49 301 *e*P **P** **20 01 12.3 -1.2**
LTK Loutraki 61.49 301 P **P** **20 01 12.0 -1.5**
LIT Litokhoron 61.52 304 P **P** **20 01 15.5 +1.8**
LIT Litokhoron 61.52 304 P **P** **20 01 15.5 +1.8**

LIT	Litokhoron	61.52 304	P	P	20 01 15.5	+1.8
ANKY	Antikythira Is	61.61 299	P	P	20 01 14.3	0.0
ANKY	Antikythira Is	61.61 299	eP	P	20 01 14.8	+0.5
ANKY	Antikythira Is	61.61 299	P	P	20 01 14.3	0.0
VLI	Veliai	61.74 300	P	P	20 01 14.3	-0.9
VLI	Veliai	61.74 300	eP	P	20 01 14.6	-0.6
VLI	Veliai	61.74 300	P	P	20 01 14.3	-0.9
KYTH	Kithira	61.74 299	eP	P	20 01 14.6	-0.7
AGG	Agios Georgios	61.82 303	P	P	20 01 14.7	-1.0
AGG	Agios Georgios	61.82 303	P	P	20 01 14.7	-1.0
AGG	Agios Georgios	61.82 303	P	P	20 01 14.7	-1.0
KECS	Kecovo	61.89 313	eP	P	20 01 16.9	+0.9
KECS			pmax	pmax		
	comp=Z,20nm,0.8s					
KECS	Kecovo	61.89 313	eP	P	20 01 16.9	+0.9
KECS			e		20 30 37.4	
NIE	Niedzica	61.91 315	eP	P	20 01 19.9	+3.7
NIE			eS	S	20 09 34.1	+2.2
NIE	Niedzica	61.91 315	eP	P	20 01 19.9	+3.7
NIE			eS	S	20 09 34.1	+2.2
NIE			L	L	20 33 36.0	
	comp=Z,1µm,21.3s					
THL	Klokotos Trika	61.97 303	P	P	20 01 16.2	-0.5
THL	Klokotos Trika	61.97 303	eP	P	20 01 16.2	-0.5
MAKR	Makrakomi, Fth	61.97 303	P	P	20 01 16.0	-0.8
MAKR	Makrakomi, Fth	61.97 303	P	P	20 01 16.0	-0.8
GUR	Goura	61.99 301	P	P	20 01 15.7	-1.3
GUR	Goura	61.99 301	eP	P	20 01 15.8	-1.3
GUR	Goura	61.99 301	ePN	S	20 09 17.7	-16
GUR	Goura	61.99 301	P	P	20 01 15.7	-1.3
SKO	Skopje	62.02 306	eP	P	20 01 17.6	+0.6
KZN	Kozani	62.03 304	P	P	20 01 17.2	0.0
KZN	Kozani	62.03 304	P	P	20 01 17.2	0.0
KZN	Kozani	62.03 304	eP	P	20 01 17.1	-0.1
KZN	Kozani	62.03 304	P	P	20 01 17.2	0.0
VLX	Vlachokerasia	62.06 301	P	P	20 01 16.2	-1.3
VLX	Vlachokerasia	62.06 301	eP	P	20 01 16.3	-1.3
VLX	Vlachokerasia	62.06 301	ePN	S	20 09 19.1	-15
VLX	Vlachokerasia	62.06 301	P	P	20 01 16.2	-1.3
KALE	Kalithea	62.07 302	eP	P	20 01 15.9	-1.6
KLV	Kalavryta, Ach	62.12 302	eP	P	20 01 16.6	-1.2
TRIZ	Trizonía	62.13 302	eP	P	20 01 17.2	-0.5
OJC	Ojcow	62.17 315	eP	P	20 01 18.4	+0.6
OJC			eS	S	20 09 33.5	-1.6
OJC	Ojcow	62.17 315	eP	P	20 01 18.4	+0.6
OJC			epP	pP	20 01 44.0	+0.4
OJC			eS	S	20 09 33.5	-1.6
OJC			L	L	20 27 27.0	
	comp=Z,1µm,21.2s					
DYR	Agios Nikonas	62.21 300	eP	P	20 01 18.3	-0.1
LAKA	Lakka	62.22 302	eP	P	20 01 18.3	-0.1
EVR	Evrytania	62.23 303	P	P	20 01 17.9	-0.7
EVR	Evrytania	62.23 303	eP	P	20 01 17.8	-0.8
EVR	Evrytania	62.23 303	P	P	20 01 17.9	-0.7
EFP	Efpalio	62.24 302	eP	P	20 01 18.4	-0.1
FNA	Florina	62.25 305	P	P	20 01 18.0	-0.7
FNA	Florina	62.25 305	P	P	20 01 18.0	-0.7
FNA	Florina	62.25 305	eP	P	20 01 17.9	-0.7
FNA	Florina	62.25 305	P	P	20 01 18.0	-0.7
PSZ	Piszkesteto	62.34 313	eP	P	20 01 20.0	+0.9
PSZ			pmax	pmax		
	comp=Z,63nm,1.0s					
PSZ	Piszkesteto	62.34 313	eP	P	20 01 20.0	+0.9
	comp=Z,63nm,1.0s					
PSZ	Piszkesteto	62.34 313	⇓iP	P	20 01 20.8	+1.7
PSZ	Piszkesteto	62.34 313	⇑e	pP	20 01 45.8	+0.9
PSZ	Piszkesteto	62.34 313	⇓ePKPPKPd	P'P'bc	20 30 31.0	-2.9
TRO	Tromso	62.44 337	eP	P	20 01 20.7	+1.4
ITM	Ithomi	62.45 301	eP	P	20 01 19.1	-0.9
AMT	Artemida-Makis	62.56 301	eP	P	20 01 20.2	-0.5
NEST	Nestorio	62.56 304	P	P	20 01 20.1	-0.6
RLS	Riolos of Patr	62.65 302	eP	P	20 01 21.3	+0.1
PYL	PYLOS	62.65 300	eP	P	20 01 20.3	-1.0
DIVS	Divibare	62.76 309	P	P	20 01 23.1	+1.1
PKS2	Kecel	62.98 311	e	pP	20 01 50.6	+1.6
BUD	Budapest	62.98 312	⇑e	pP	20 01 50.0	+1.0
VYHS	Vyhne	62.98 314	eP	P	20 01 23.9	+0.6
VYHS			pmax	pmax		
	comp=Z,40nm,1.4s					
VYHS	Vyhne	62.98 314	eP	P	20 01 23.9	+0.6
VYHS			e		20 30 24.8	
PVY	Plav	63.02 307	eP	P	20 01 23.8	0.0
IVA	Berane	63.02 307	eP	P	20 01 24.1	+0.4
LKD2	Lefkada island	63.14 303	eP	P	20 01 19.1	-5.4
ABPO	Ambohimpanom	63.23 231	P	P	20 01 26.2	+0.7
	comp=Z,565nm,0.7s,SNR=8.1					
ABPO	Ambohimpanom	63.23 231	eP	P	20 01 25.8	+0.3
ABPO			pmax	pmax		
	comp=Z,207nm,0.8s					
ABPO	Ambohimpanom	63.23 231	eP	P	20 01 25.8	+0.3
	comp=Z,207nm,0.8s					
OKC	Ostrava-Krasne	63.27 315	eP	P	20 01 25.9	+0.8
OKC			e		20 01 52.0	
OKC			eS	S	20 09 44.6	-4.2
OKC			MLR	MLR		
	comp=Z,1µm,16.4s					
OKC	Ostrava-Krasne	63.27 315	⇓eP	P	20 01 25.9	+0.8
OKC			ex	x	20 01 29.5	
OKC			epP	pP	20 01 52.0	+1.1
OKC			ex	x	20 04 06.8	
OKC			eS	S	20 09 44.6	-4.2
OKC			ex	x	20 16 53.9	
OKC			ePKPPKP	P'P'df	20 30 31.0	+6.7
OKC			AMS	AMS	20 32 00.0	
	comp=Z,1µm,16.4s					
TIR	Tirane	63.29 306	eP	P	20 01 24.2	-1.2
TIR			pmax	pmax		
	comp=Z,72nm,0.8s					
TIR	Tirane	63.29 306	eP	P	20 01 24.2	-1.2
	comp=Z,72nm,0.8s					
VLS	Valsamata	63.31 302	eP	P	20 01 24.4	-1.2
PLE	Pljevlja	63.31 308	eP	P	20 01 26.3	+0.6
PKSM	Moragy	63.41 311	⇑e	pP	20 01 52.6	+0.7
PKSG		63.41 312	eP	P	20 01 26.9	+0.8
PKSG		63.41 312	⇓ePKPPKPd	P'P'bc	20 30 29.4	-1.7
FORT	Forrest	63.46 148	eP	P	20 01 26.6	+0.1
	comp=Z,658nm,1.4s					
GKP	Gorka Klasztor	63.46 319	eP	P	20 01 27.7	+1.4
GKP			eS	S	20 09 50.4	-0.7
GKP			eSKSac	ScS	20 11 10.2	+0.5
GKP			LMZ	LR	20 25 52.9	
TTG	Podgorica	63.55 307	⇑iP	P	20 01 27.4	+0.3
KEK	Kerkira	63.63 304	eP	P	20 01 26.2	-1.5
ULC	Ulcinj	63.64 306	⇑iP	P	20 01 28.0	+0.2
DRME	Dracevica, Mon	63.65 307	⇑iP	P	20 01 28.1	+0.3
MORC	Moravsky Berou	63.66 315	eP	P	20 01 28.3	+0.5
MORC			pmax	pmax		
	comp=Z,60nm,0.9s					
MORC	Moravsky Berou	63.66 315	eP	P	20 01 28.3	+0.5
	comp=Z,60nm,0.9s					
PKST	T"'s	63.67 312	⇓eP	P	20 01 28.2	+0.3
PKST	T"'s	63.67 312	⇓ePKPPKPd	P'P'df	20 30 24.1	+0.3
NKY	Niksic	63.68 307	⇑iP	P	20 01 28.3	+0.2
UPM	Unac-Piva	63.68 308	⇑iP	P	20 01 28.4	+0.2
NKME	Niksic	63.72 307	eP	P	20 01 28.7	+0.4
STEI	Steigen	63.72 336	eP	P	20 01 28.1	+0.4
BUM	Brajici-Budva	63.84 307	⇑iP	P	20 01 29.3	+0.2
SPA0	Spitsbergen Ar	63.94 347	eP	P	20 01 30.6	+1.5
SPA0			epP	pP	20 01 53.6	-1.4
SPA0			eS	S	20 09 57.7	+1.4
SPITS	Spitsbergen Ar	63.94 347	LR	LR	20 34 30.6	
	comp=Z,1µm,18.2s,baz=90,slow=41					
BRY	Bratogost	64.00 307	eP	P	20 01 30.2	0.0
HSP	Hornsund	64.00 346	eP	P	20 01 31.2	+1.7
MOR8	Moi Rana	64.06 334	eP	P	20 01 30.0	0.0
FX1	Attu Island--F	64.10 41	eP	P	20 01 29.8	-0.7
FX1	Attu Island--F	64.10 41	P	P	20 01 31.3	+0.7
	comp=Z,21nm,0.7s,baz=86,slow=5.5,SNR=6.2					
HCY	Herceg Novi	64.11 307	⇑iP	P	20 01 30.5	-0.3
ZST	Bratislava	64.16 313	eP	P	20 01 31.8	+0.8
ZST			pmax	pmax		
	comp=Z,18nm,0.9s					
ZST	Bratislava	64.16 313	eP	P	20 01 31.8	+0.8
KSP	Ksiaz	64.32 316	eP	P	20 01 33.9	+1.9
KSP			eS	S	20 10 02.1	+0.2
KSP			eSKSac	ScS	20 11 17.3	+0.9
KSP			LMZ	LR	20 26 13.3	
VRAC	Vranov	64.34 315	LR	LR	20 34 04.1	
	comp=Z,922nm,19.8s,baz=80,slow=40					
LOF	Lofoten	64.36 336	eP	P	20 01 32.4	+0.5
DPC	Dobruska-Polom	64.37 316	eP	P	20 01 33.3	+0.9
DPC			e		20 01 59.3	
DPC			eS	S	20 09 59.5	-3.1
DPC			e		20 17 03.9	
DPC	Dobruska-Polom	64.37 316	eP	P	20 01 33.3	+0.9
DPC			ex	x	20 01 37.4	
DPC			ex	x	20 01 54.6	
DPC			epP	pP	20 01 59.3	+1.0
DPC			ex	x	20 04 18.2	
DPC			eS	S	20 09 59.5	-3.1
DPC			ex	x	20 17 03.9	
DPC			ePKPPKP	P'P'df	20 30 26.5	+3.9
DPC			AMS	AMS	20 32 40.0	
FLOS	Flostrand	64.49 334	eP	P	20 01 34.5	+1.7
UPC	Upice	64.54 316	eP	P	20 01 34.8	+1.3
UPC			e		20 02 00.5	
UPC	Upice	64.54 316	⇓eP	P	20 01 34.8	+1.3
UPC			ex	x	20 01 38.9	
UPC			epP	pP	20 02 00.5	+1.1
UPC			ePKPPKP	P'P'df	20 30 25.2	+3.0
SOP	Sopron	64.60 313	⇑e	pP	20 02 00.6	+0.8
BSD	Bornholm Skovb	64.62 321	iP	pP	20 01 58.6	-1.2
BSD			pmax	pmax		
	comp=Z,35nm,0.8s					
BSD						
	comp=Z,1µm,15.0s					
STOK	Stokkvaagen	64.63 334	eP	P	20 01 39.7	+6.0
BEHE	Becsehely	64.64 312	⇑e	pP	20 02 01.2	+1.1
HFS	Hagfors	64.76 327	ScP		20 06 01.4	
	comp=Z,17nm,0.7s,baz=66,slow=3.7,SNR=4.5					
HFS			S	S	20 10 06.4	-0.5
	comp=Z,36nm,0.8s,baz=90,slow=14,SNR=15					
HFS			LR	LR	20 32 30.1	
	comp=Z,1µm,21.1s,baz=82,slow=38					
KBS	Kingsbay	64.88 348	eP	P	20 01 36.3	+1.1
KBS	Kingsbay	64.88 348	eP	P	20 01 36.3	+1.1
KBS			pmax	pmax		
	comp=Z,35nm,0.7s					
KBS	Kingsbay	64.88 348	eP	P	20 01 36.2	+1.1
	comp=Z,9.0nm,0.7s					
CONA	Conrad Observa	65.03 313	⇑iP	P	20 01 37.8	+1.0
	comp=Z,58nm,1.2s,SNR=15					
TREC	Trest	65.06 315	eP	P	20 01 38.0	+1.1
TREC			e		20 02 03.4	
TREC			eS	S	20 10 08.2	-2.8
TREC			e		20 17 23.9	
TREC			MLR	MLR		
	comp=Z,2µm,26.5s					
TREC	Trest	65.06 315	⇓eP	P	20 01 38.0	+1.1
TREC			ex	x	20 01 41.4	
TREC			epP	pP	20 02 03.4	+0.6
TREC			ex	x	20 04 20.9	
TREC			eS	S	20 10 08.2	-2.8
TREC			ex	x	20 17 23.9	
TREC			ePKPPKP	P'P'df	20 30 22.6	+1.2
TREC			AMS	AMS	20 32 50.0	
	comp=Z,2µm,26.5s					
NSS	Namsos	65.19 332	eP	P	20 01 37.7	+0.3
NSS			AMS	AMS	20 31 57.7	
	comp=Z,834nm,20.7s					
ARSA	Arzberg	65.36 313	⇑iP	P	20 01 39.7	+0.8
	comp=Z,24nm,1.0s,SNR=15					
PVCC	Panska Ves	65.45 316	eP	P	20 01 40.6	+1.2
PVCC			e		20 02 06.2	
PVCC			eS	S	20 10 13.2	-2.5
PVCC	Panska Ves	65.45 316	⇓eP	P	20 01 40.6	+1.2
PVCC			ex	x	20 01 44.9	
PVCC			epP	pP	20 02 06.2	+0.9
PVCC			ex	x	20 04 26.6	
PVCC			eS	S	20 10 13.2	-2.5
PRU	Pruhonice	65.55 316	eP	P	20 01 41.2	+1.2
PRU			e		20 02 07.1	
PRU			eS	S	20 10 14.3	-2.7
PRU			e		20 17 34.0	
PRU			MLR	MLR		
	comp=Z,1µm,17.5s					
PRU	Pruhonice	65.55 316	⇓eP	P	20 01 41.2	+1.2
PRU			ex	x	20 01 45.7	
PRU			epP	pP	20 02 07.1	+1.1
PRU			ex	x	20 04 25.1	
PRU			eS	S	20 10 14.3	-2.7
PRU			ex	x	20 17 34.0	
PRU			ePKPPKP	P'P'df	20 30 21.9	+1.4
PRU			AMS	AMS	20 33 20.0	
	comp=Z,1µm,17.5s					
PRA	Prague	65.61 316	⇓P	P	20 01 42.0	+1.6
PRA			pP	pP	20 02 07.0	+0.7
PRA			S	S	20 10 15.0	-2.6
RUE	Ruedersdorf	65.64 318	eP	P	20 01 41.2	+0.7
	comp=Z,141nm,1.5s					
RUE			epP	pP	20 02 07.1	+0.6
	comp=Z,342nm,1.6s					
PERS	Pernice	65.75 312	iP	P	20 01 42.2	+0.8
PERS			ipP	pP	20 02 07.1	-0.3
PERS			eS	S	20 10 18.6	-1.0
PERS			esS	sS	20 11 02.8	-1.3
PERS			eSKSac	SKSac	20 11 26.3	-1.2
NC602	NORSAR Array S	65.76 328	eP	P	20 01 41.3	+0.1
BRG	Berggiesshubel	65.79 317	iP	P	20 01 42.4	+0.8
	comp=Z,13nm,0.8s					
BRG			ipP	pP	20 02 08.5	+1.0
	comp=Z,114nm,1.3s					
BRG			PP	PP	20 04 09.0	+1.7
BRG			S	S	20 10 19.0	-0.8
BRG			ePKKP	PKKPdf	20 21 45.6	-14
	comp=Z,12nm,1.6s					
BRG			ePKPPKP	P'P'df	20 30 19.7	-0.4
	comp=Z,17nm,1.3s					
BRG						
	comp=N,1µm,21.6s					
BRG						
	comp=E,1µm,20.9s					
BRG						
	comp=Z,2µm,17.0s					
BRG	Berggiesshubel	65.79 317	eP	P	20 01 42.5	+1.0
	comp=Z,75nm,1.6s					
BRG			epP	pP	20 02 08.2	+0.7
	comp=Z,115nm,1.3s					
BRG	Berggiesshubel	65.79 317	iP	P	20 01 42.4	+0.8
BRG			i*PP	pP	20 02 08.5	+1.0
BRG					20 04 09.0	
BRG			S	S	20 10 19.0	-0.8
BRG			pmax	pmax		
	comp=Z,13nm,0.8s					
SOKA	Soboth	65.79 312	⇑iP	P	20 01 42.1	+0.4
	comp=Z,23nm,0.9s,SNR=15					
BOJS	Bojanci	65.86 311	iP	P	20 01 46.9	+4.8
BOJS			ipP	pP	20 02 08.0	-0.1
BOJS			eS	S	20 10 19.7	-1.1
BOJS			esS	sS	20 11 07.2	+1.8
BOJS			eSKSac	SKSac	20 11 27.8	-0.4
NB2	NORSAR Subarra	65.88 328	P	P	20 01 42.4	+0.4
	comp=Z,42nm,0.7s,baz=82,slow=6.5					
NB2	NORSAR Subarra	65.88 328	P	P	20 01 42.4	+0.4
	baz=82,slow=6.5					
NOA	NORSAR Array B	65.88 328	P	P	20 01 42.5	+0.4
NOA			S	S	20 10 23.7	+3.0
NOA	NORSAR Array B	65.88 328	P	P	20 01 42.5	+0.4
	comp=Z,40nm,0.8s,baz=84,slow=6.3,SNR=86					
NOA			S	S	20 10 23.7	+3.0
	comp=Z,3.8nm,0.9s,baz=93,slow=12,SNR=5.3					
NOA			LR	LR	20 32 49.3	
	comp=Z,3µm,18.5s,baz=80,slow=38					
NAO01	NORSAR Array S	66.07 328	eP	P	20 01 43.4	+0.3
	comp=Z,46nm,0.8s					
TBLU	Trondheim	66.07 330	eP	P	20 01 46.7	+3.7
TBLU			eS	S	20 10 22.4	-0.3
TBLU			IAMS		20 32 45.7	
	comp=Z,4µm,22.3s					
TBLU			AMS	AMS	20 32 46.1	
	comp=Z,3µm,23.4s					
VISS	Visnje	66.09 311	iP	P	20 01 44.3	+0.8
VISS			ipP	pP	20 02 10.1	+0.5
MOA	Molln	66.10 313	⇑iP	P	20 01 43.9	+0.3
	comp=Z,48nm,0.8s,SNR=22					
FBE	Freiberg	66.15 317	eP	P	20 01 45.2	+1.4
	comp=Z,58nm,1.0s					
OBKA	Obir	66.15 312	⇓iP	P	20 01 45.0	+0.9
	comp=Z,20nm,0.8s,SNR=5.2					
LJU	Ljubljana	66.25 311	eP	P	20 01 46.0	+1.4
GEC2	GERESS Array S	66.29 315	eP	P	20 01 45.5	+0.6
	comp=Z,39nm,0.9s					
GEC2			epP	pP	20 02 11.1	+0.2
	comp=Z,170nm,1.2s					
GEC2			eS	S	20 10 26.5	+0.3
GEC2			eSSS	SSS	20 17 59.6	
GEC2	GERESS Array S	66.29 315	eP	P	20 01 45.5	+0.6
GEC2			e*PP	pP	20 02 11.1	+0.2
GEC2			eS	S	20 10 26.5	+0.3
GEC2			pmax	pmax		
	comp=Z,39nm,0.9s					
GERES	GERESS Array B	66.29 315	P	P	20 01 45.8	+0.8
GERES			pP	pP	20 02 11.7	+0.7
GERES			P'P'		20 30 17.6	
GERES	GERESS Array B	66.29 315	P	P	20 01 45.8	+0.8
	comp=Z,27nm,0.7s,baz=74,slow=5.9,SNR=81					
GERES			pP	pP	20 02 11.7	+0.7
	comp=Z,55nm,0.8s,baz=78,slow=5.9,SNR=11					
GERES			PKPPKP	P'P'df	20 30 17.6	-1.9
	comp=Z,2.4nm,1.0s,baz=248,slow=0.7,SNR=6.5					
GERES			LR	LR	20 34 51.6	
	comp=Z,1µm,21.3s,baz=79,slow=40					
CLL	Collm	66.30 317	eP	P	20 01 45.4	+0.6
	comp=Z,27nm,1.1s					
CLL			epP	pP	20 02 10.9	+0.1
	comp=Z,87nm,1.4s					
CLL	Collm	66.30 317	eP	P	20 01 45.0	+0.2
CLL			i*PP	pP	20 02 11.1	+0.3
CLL			eS	S	20 10 24.0	-2.0
CLL			pmax	pmax		
	comp=Z,27nm,1.1s					
CLL	Collm	66.30 317	eP	P	20 01 45.0	+0.2
CLL			i		20 01 47.7	
CLL			iPmax		20 01 50.3	
	comp=Z,27nm,1.1s					
CLL			ipP	pP	20 02 11.1	+0.3
	comp=Z,87nm,1.4s					
CLL			i		20 02 14.5	
CLL			ePP	PP	20 04 12.0	+0.3
CLL			epPP		20 04 36.0	
CLL			esPP		20 04 48.0	
CLL			ePPPP		20 06 29.0	
CLL			eS	S	20 10 24.0	-2.0
CLL			eSP	SPn	20 10 40.0	-5.0
CLL			ePS	PnS	20 11 04.0	+2.1
CLL			esPS		20 11 30.0	
CLL			eSS	SS	20 14 48.0	+4.3
CLL			esSS		20 15 28.0	
CLL			eSSS	SSS	20 18 00.0	
CLL			ePKKPdf	PKKPdf	20 21 59.0	+0.4
CLL			ePKPPKPd	P'P'df	20 30 15.0	-4.2
CLL			iP	P'P'bc	20 30 21.3	-1.7
CLL			LmV		20 34 00.0	
	comp=Z,2µm,19.3s					
KHC	Kasperske Hory	66.32 315	⇓iP	P	20 01 45.7	+0.7
KHC			e		20 02 11.4	
KHC			eS	S	20 10 26.8	+0.4
KHC			MLR	MLR		
	comp=Z,2µm,16.7s					
KHC	Kasperske Hory	66.32 315	⇓iP	P	20 01 45.7	+0.7
KHC			ex	x	20 01 50.2	
KHC			ex	x	20 02 03.1	
KHC			epP	pP	20 02 11.4	+0.4
KHC			ex	x	20 04 32.7	
KHC			eS	S	20 10 26.8	+0.4
KHC			ex	x	20 17 53.0	
KHC			ePKPPKP	P'P'df	20 30 15.9	-3.5
KHC			AMS	AMS	20 33 40.0	
	comp=Z,2µm,16.7s					
KHC	Kasperske Hory	66.32 315	eP	P	20 01 45.5	+0.5
	comp=Z,58nm,1.2s					
WAKE	Wake Island	66.33 79	eP	P	20 01 46.1	+0.7
	comp=Z,78nm,0.9s					
CUC	Castrocucco	66.57 305	eP	P	20 01 47.2	+0.4
	comp=Z,39nm,0.9s					
JAVS	Javornik	66.60 311	iP	P	20 01 47.2	+0.2
JAVS			ipP	pP	20 02 12.4	-0.6
JAVS			eS	S	20 10 28.1	-2.0
JAVS			esS	sS	20 11 14.8	+0.1
MBAR	Mbarara	66.67 258	⇑iP	P	20 01 47.9	-0.1
MBAR	Mbarara	66.67 258	P	P	20 01 48.0	+0.1
	comp=Z,168nm,0.7s,SNR=9.3					
VOY	Vojsko	66.69 312	eP	P	20 01 48.2	+0.7
VOY			e		20 01 52.0	
VOY			epP	pP	20 02 11.9	-1.6
VOY			e		20 02 14.2	
VOY			e		20 02 26.9	
WET	Wettzell	66.77 315	eP	P	20 01 48.8	+0.9
	comp=Z,52nm,1.3s					
WET	Wettzell	66.77 315	eP	P	20 01 48.8	+0.9
WET			pmax	pmax		
	comp=Z,52nm,1.3s					
TANN	Tannenbergstha	66.80 316	eP	P	20 01 48.9	+0.8
	comp=Z,42nm,1.4s					
TANN			epP	pP	20 02 14.6	+0.5
	comp=Z,80nm,1.1s					
TRI	Trieste	66.84 311	eP	P	20 01 48.5	+0.1
TRI			pmax	pmax		
	comp=Z,139nm,0.8s					
TRI	Trieste	66.84 311	eP	P	20 01 48.5	+0.1
	comp=Z,139nm,0.8s					
KBA	Koelnbreinsper	66.86 313	⇑iP	P	20 01 48.4	-0.2
	comp=Z,42nm,1.3s					
CTA	Charters Tower	66.86 127	P	P	20 01 49.0	+0.3
CTA	Charters Tower	66.86 127	P	P	20 01 49.0	+0.3
	comp=Z,206nm,0.9s,baz=314,slow=8.5,SNR=127					
CTAO	Charters Tower	66.86 127	eP	P	20 01 48.8	0.0
CTAO			pmax	pmax		
	comp=Z,370nm,1.1s					
CTAO	Charters Tower	66.86 127	eP	P	20 01 48.8	0.0
	comp=Z,370nm,1.1s					
KONO	Kongsberg	66.87 327	eP	P	20 01 48.2	0.0
KONO			epP	pP	20 02 12.3	-2.0
KONO			eS	S	20 10 33.1	+0.6
KONO	Kongsberg	66.87 327	eP	P	20 01 48.7	+0.4
KONO			pmax	pmax		
	comp=Z,49nm,1.1s					
KONO	Kongsberg	66.87 327	eP	P	20 01 48.7	+0.4
	comp=Z,12nm,1.1s					
GUNZ	Gunzen	66.89 316	eP	P	20 01 49.8	+1.2
	comp=Z,53nm,1.1s					
GUNZ			epP	pP	20 02 15.3	+0.6
	comp=Z,118nm,1.0s					
WERD	Werda	66.89 316	eP	P	20 01 49.5	+0.9
	comp=Z,37nm,1.1s					
WERD			epP	pP	20 02 15.2	+0.5
	comp=Z,74nm,1.0s					
CEL	Celeste	66.91 303	eP	P	20 01 48.9	-0.1
	comp=Z,170nm,1.0s					
CEL			e		20 02 14.2	
NEUB	Neuenburg	67.08 317	eP	P	20 01 50.7	+1.0
	comp=Z,91nm,1.4s					
NEUB			epP	pP	20 02 16.4	+0.6
	comp=Z,133nm,1.1s					
ROTZ	Rotzenmuhle	67.08 316	eP	P	20 01 51.4	+1.6
	comp=Z,74nm,1.0s					
RJOB	Jochberg	67.09 313	eP	P	20 01 50.9	+0.9
	comp=Z,48nm,0.9s					
RJOB			epP	pP	20 02 16.5	+0.5
	comp=Z,101nm,1.0s					
MANZ	Manzenberg	67.10 316	eP	P	20 01 51.6	+1.6
	comp=Z,51nm,1.4s					
MOX	Moxa	67.29 317	eP	P	20 01 52.0	+0.9
	comp=Z,39nm,1.2s					
MOX			epP	pP	20 02 17.5	+0.3
	comp=Z,67nm,1.1s					
MOX			epPP		20 04 43.1	
MOX			eS	S	20 10 38.5	+0.6
MOX			eSSS	SSS	20 18 20.6	
MOX	Moxa	67.29 317	eP	P	20 01 52.0	+0.9
MOX			e*PP	pP	20 02 17.5	+0.3
MOX			eS	S	20 10 38.5	+0.6
MOX			pmax	pmax		
	comp=Z,39nm,1.2s					
MOL	Molde	67.39 330	eP	P	20 01 52.4	+0.9
MOL			eS	S	20 10 40.6	+1.9
BSEG	Bad Segeberg	67.45 320	eP	P	20 01 53.2	+1.2
	comp=Z,205nm,1.8s					
BSEG			eS	S	20 10 41.4	+1.7
BSEG			eSSS	SSS	20 18 29.5	
BSEG	Bad Segeberg	67.45 320	eP	P	20 01 53.2	+1.2
BSEG			eS	S	20 10 41.4	+1.7
BSEG			pmax	pmax		
	comp=Z,205nm,1.8s					
ABTA	Abfaltersbach	67.48 312	⇑iP	P	20 01 52.3	-0.2
	comp

MUD	**Monsted U'grnd**	**67.63 323**	*i* P	P	20 01 56.7 +3.6
	comp=Z,19nm,0.7s				
MUD			*i*		20 10 40.0
GRF	**Grafenberg Arr**	**67.72 316**	*e*P	**P**	**20 01 55.1 +1.2**
	comp=Z,91nm,1.4s				
GRF			*e*pP	**PcP**	**20 02 20.4 +0.4**
	comp=Z,404nm,2.0s				
GRF			*e*pPP		20 04 45.8
GRF			*e*S	**S**	**20 10 44.5 +1.3**
GRF			*e*SSS	SSS	20 18 25.9
GRF	**Grafenberg Arr**	**67.72 316**	*e*P	**P**	**20 01 55.1 +1.2**
GRF			*e**PP	**PcP**	**20 02 20.4 +0.4**
GRF			*e*S	**S**	**20 10 44.5 +1.3**
GRF			pmax	pmax	
	comp=Z,91nm,1.4s				
GRFO	**Grafenberg**	**67.72 316**	*e*P	**P**	**20 01 53.9 +0.1**
GRFO			pmax	pmax	
	comp=Z,63nm,0.9s				
GRFO	**Grafenberg**	**67.72 316**	*e*P	**P**	**20 01 53.9 +0.1**
	comp=Z,63nm,0.9s				
AQU	**L'Aquila**	**67.82 308**	*e*P	**P**	**20 01 55.5 +0.9**
	comp=Z,45nm,0.8s				
CLZ	**Clausthal**	**67.82 318**	*e*P	**P**	**20 01 55.6 +1.2**
	comp=Z,47nm,0.9s				
CLZ	**Clausthal**	**67.82 318**	*e*P	**P**	**20 01 55.6 +1.2**
CLZ			pmax	pmax	
	comp=Z,47nm,0.9s				
NRDL	**Niedersach Rie**	**67.85 319**	*e*P	**P**	**20 01 56.1 +1.6**
	comp=Z,87nm,1.3s				
KIG	**Kigali**	**67.89 257**	*e*P	**P**	**20 01 58.2 +2.6**
KIG			AMB	AMB	20 01 58.5
	comp=Z,47nm,1.1s				
WTTA	**Wattenberg**	**67.96 313** ⇓	*i*P	**P**	**20 01 55.2 -0.4**
	comp=Z,34nm,0.8s,SNR=6.1				
WATA	**Walderalm**	**67.98 313** ⇑	*i*P	**P**	**20 01 55.7 0.0**
	comp=Z,23nm,0.7s,SNR=17				
FUR	**Furstenfeldbru**	**68.00 314**	*e*P	**P**	**20 01 57.1 +1.4**
	comp=Z,76nm,1.2s				
FUR			*e*pP	**pP**	**20 02 22.4 +0.6**
	comp=Z,111nm,1.0s				
FUR	**Furstenfeldbru**	**68.00 314**	*e*P	**P**	**20 01 57.1 +1.4**
FUR			*e**PP	**pP**	**20 02 22.4 +0.6**
FUR			pmax	pmax	
	comp=Z,76nm,1.2s				
HYA	**Hoyanger**	**68.28 329**	*e*S	**S**	**20 10 50.3 +1.0**
MOTA	**Moosalm**	**68.30 313** ⇑	*i*P	**P**	**20 01 57.7 0.0**
	comp=Z,38nm,0.8s,SNR=33				
BLS5	**Blasjo**	**68.49 327**	*e*P	**P**	**20 02 00.4 +1.9**
RETA	**Reutte**	**68.49 314**	*i*P	**P**	**20 01 59.0 +0.3**
	comp=Z,62nm,0.9s,SNR=16				
FETA	**Feichten**	**68.62 313** ⇑	*i*P	**P**	**20 01 59.8 +0.1**
	comp=Z,22nm,0.7s,SNR=9.6				
RUND	**Rundenannen**	**68.82 328**	*e*P	**P**	**20 02 00.1 -0.4**
BER	**Bergen**	**68.84 328**	*e*P	**P**	**20 02 00.0 -0.5**
BER			*e*pP	**PcP**	**20 02 25.5 +1.1**
BER			*e*S	**S**	**20 10 55.6 -0.4**
BER			*e*SKS	**SKSac**	**20 11 49.5 -0.7**
BER			*e*SS	**SS**	**20 15 25.1 +2.7**
EGD	**Espegrend**	**68.92 328**	*e*P	**P**	**20 02 00.4 -0.6**
SUE	**Sulen**	**68.97 329**	*e*P	**P**	**20 02 03.5 +2.1**
SUE			AMS	AMS	20 34 18.6
	comp=Z,3µm,18.4s				
DAVA	**Damuels**	**69.12 313** ⇓	*i*P	**P**	**20 02 03.0 +0.2**
	comp=Z,31nm,0.8s,SNR=12				
KMY	**Karmoy**	**69.14 327**	*e*P	**P**	**20 02 03.6 +1.2**
BBOO	**Buckleboo**	**69.19 143**	*e*P	**P**	**20 02 02.5 -0.5**
	comp=Z,297nm,0.9s				
STU	**Stuttgart**	**69.22 315**	*e*P	**P**	**20 02 04.2 +1.0**
	comp=Z,47nm,0.8s				
STU	**Stuttgart**	**69.22 315**	*e*P	**P**	**20 02 03.1 -0.1**
STU			pmax	pmax	
	comp=Z,99nm,0.8s				
STU	**Stuttgart**	**69.22 315**	*e*P	**P**	**20 02 03.1 -0.1**
	comp=Z,99nm,0.8s				
DAVOX	**Davos/Dischmat**	**69.24 313**	PKPPKP	**P'P'bc**	**20 30 10.9 -3.8**
	comp=Z,2.3nm,0.7s,baz=268,slow=5.7,SNR=5.3				
DAVOX			LR	LR	20 37 05.8
	comp=Z,2µm,20.5s,baz=70,slow=40				
IBBN	**Ibbenburen**	**69.30 319**	*e*P	**P**	**20 02 04.7 +1.2**
	comp=Z,38nm,1.0s				
IBBN			*e*pP	**pP**	**20 02 30.2 +0.5**
	comp=Z,97nm,1.2s				
TNS	**Taunus Mts**	**69.36 317**	*e*P	**P**	**20 02 05.1 +1.0**
	comp=Z,32nm,1.1s				
TNS			*e*pP	**pP**	**20 02 30.6 +0.3**
	comp=Z,61nm,0.8s				
TNS	**Taunus Mts**	**69.36 317**	*e*P	**P**	**20 02 05.1 +1.0**
TNS			*e**PP	**pP**	**20 02 30.6 +0.3**
TNS			pmax	pmax	
	comp=Z,32nm,1.1s				
VLC	**Villacollemand**	**69.53 310**	*e*P	**P**	**20 02 06.7 +1.4**
	comp=Z,77nm,1.0s				
TUE	**Stuetta**	**69.67 313**	*e*P	**P**	**20 02 06.4 +0.1**
	comp=Z,55nm,0.9s				
BUG	**Bochum--Univer**	**69.79 318**	*e*P	**P**	**20 02 07.6 +1.0**
	comp=Z,58nm,1.3s				
BUG			*e*pP	**pP**	**20 02 33.5 +0.7**
	comp=Z,73nm,1.0s				
BFO	**Black Forest**	**69.88 315**	*e*P	**P**	**20 02 07.9 +0.6**
	comp=Z,30nm,1.5s				
BFO			*e*pP	**pP**	**20 02 33.3 -0.2**
	comp=Z,29nm,1.2s				
BFO			*e*S	**S**	**20 11 07.6 -1.2**
BFO			*e*SSS	SSS	20 19 09.1
BFO	**Black Forest**	**69.88 315**	*e*P	**P**	**20 02 07.9 +0.6**
BFO			*e**PP	**pP**	**20 02 33.3 -0.2**
BFO			*e*S	**S**	**20 11 07.6 -1.2**
BFO			pmax	pmax	
	comp=Z,30nm,1.5s				
BFO	**Black Forest**	**69.88 315**	*e*P	**P**	**20 02 07.2 -0.1**
	comp=Z,15nm,0.7s				
LANF	**Langenberg**	**70.06 316**	*e*P	**P**	**20 02 09.6 +1.2**
CDF	**Champ du Feu**	**70.54 315**	*e*P	**P**	**20 02 11.4 0.0**
	comp=Z,49nm,0.8s				
CDF			*e*pP	**pP**	**20 02 38.7 +1.0**
CDF	**Champ du Feu**	**70.54 315**	*e*P	**P**	**20 02 11.4 0.0**
CDF			*e**PP	**pP**	**20 02 38.7 +1.0**
CDF	**Champ du Feu**	**70.54 315**	*e*P	**P**	**20 02 11.4 0.0**
	comp=Z,49nm,0.8s				
CDF			*e*pP	**pP**	**20 02 38.7 +1.0**
ECH	**Echery**	**70.67 315**	*e*P	**P**	**20 02 12.0 -0.1**
ECH			pmax	pmax	
	comp=Z,37nm,0.9s				
ECH	**Echery**	**70.67 315**	*e*P	**P**	**20 02 12.8 +0.7**
ECH	**Echery**	**70.67 315**	*e*P	**P**	**20 02 12.0 -0.1**
	comp=Z,37nm,0.9s				
MEM	**Membach**	**70.77 318**	P	**P**	**20 02 13.8 +1.2**
	comp=Z,18nm,1.5s				
MOF	**Molkenrain**	**70.78 315**	*e*P	**P**	**20 02 13.5 +0.6**
PGF	**Pioggiola**	**70.92 309**	*e*P	**P**	**20 02 13.7 -0.1**
	comp=Z,81nm,0.8s				
PGF			*e*pP	**pP**	**20 02 40.4 +0.2**
PGF	**Pioggiola**	**70.92 309**	*e*P	**P**	**20 02 13.7 -0.1**
PGF			*e**PP	**pP**	**20 02 40.4 +0.2**
PGF	**Pioggiola**	**70.92 309**	*e*P	**P**	**20 02 13.7 -0.1**
	comp=Z,81nm,0.8s				
PGF			*e*pP	**pP**	**20 02 40.4 +0.2**
BEBN	**Eben Emael**	**70.93 318**	P	**P**	**20 02 14.9 +1.4**
WLF	**Walferdange**	**70.93 317**	P	**P**	**20 02 15.2 +1.6**
	comp=Z,82nm,1.6s				
WLF	**Walferdange**	**70.93 317**	*e*P	**P**	**20 02 15.5 +1.9**
	comp=Z,225nm,1.6s				
WLF			*e*pP	**pP**	**20 02 40.7 +0.8**
	comp=Z,218nm,1.0s				
WLF	**Walferdange**	**70.93 317**	*e*P	**P**	**20 02 15.0 +1.4**
WLF			pmax	pmax	
	comp=Z,123nm,0.8s				
WLF	**Walferdange**	**70.93 317**	*e*P	**P**	**20 02 15.0 +1.4**
	comp=Z,123nm,0.8s				
HINF	**Hinteralfeld**	**70.97 315**	*e*P	**P**	**20 02 13.9 -0.1**
	comp=Z,18nm,0.7s				
HINF	**Hinteralfeld**	**70.97 315**	*e*P	**P**	**20 02 13.9 -0.1**
HINF	**Hinteralfeld**	**70.97 315**	*e*P	**P**	**20 02 13.9 -0.1**
	comp=Z,18nm,0.7s				
TNA	**Tin City**	**71.08 26**	*e*P	**P**	**20 02 14.7 +0.5**
	comp=Z,12nm,1.0s				
HAU	**Haudompre**	**71.25 315**	*e*P	**P**	**20 02 15.6 0.0**
	comp=Z,70nm,1.1s				
HAU			*e*R		
	comp=Z,1µm,21.8s				
HAU	**Haudompre**	**71.25 315**	*e*P	**P**	**20 02 15.6 0.0**
HAU	**Haudompre**	**71.25 315**	*e*P	**P**	**20 02 15.6 0.0**
	comp=Z,70nm,1.1s				
BCLA	**Clavier**	**71.26 318**	P	**P**	**20 02 17.2 +1.6**
	comp=Z,26nm,2.0s				
JMIC	**Jan Mayen**	**71.39 340**	IAMS		20 33 32.5
	comp=Z,2µm,19.9s				
JMIC	**Jan Mayen**	**71.39 340**	LR	LR	20 38 32.3
	comp=Z,918nm,19.0s,baz=83,slow=40				
PAGF	**Fort de Pagny**	**71.50 316**	*e*P	**P**	**20 02 17.6 +0.5**
	comp=Z,19nm,0.8s				
PAGF	**Fort de Pagny**	**71.50 316**	*e*P	**P**	**20 02 17.6 +0.5**
	comp=Z,19nm,0.8s				
VSL	**Villasalto**	**71.50 306**	*e*P	**P**	**20 02 17.8 +0.5**
	comp=Z,51nm,0.8s				
SAOF	**Saorge**	**71.54 311**	*e*P	**P**	**20 02 18.0 +0.5**
AUTN	**L'Aution**	**71.63 311**	*e*P	**P**	**20 02 17.6 -0.6**
GIVF	**Givet**	**71.64 317**	*e*P	**P**	**20 02 18.4 +0.5**
	comp=Z,52nm,1.0s				
GIVF			*e*pP	**pP**	**20 02 45.6 +1.4**
GIVF	**Givet**	**71.64 317**	*e*P	**P**	**20 02 18.4 +0.5**
GIVF			*e**PP	**pP**	**20 02 45.6 +1.4**
GIVF	**Givet**	**71.64 317**	*e*P	**P**	**20 02 18.4 +0.5**
	comp=Z,52nm,1.0s				
GIVF			*e*pP	**pP**	**20 02 45.6 +1.4**
STKA	**Stephens Creek**	**71.66 139**	*e*P	**P**	**20 02 17.4 -0.7**
	comp=Z,44nm,1.0s				
STKA			PKiKP	**PKiKP**	**20 08 23.2 +0.5**
STKA	**Stephens Creek**	**71.66 139**	P	**P**	**20 02 17.9 -0.3**
	comp=Z,136nm,0.9s,baz=321,slow=6.2,SNR=94				
STKA			PKiKP	**PKiKP**	**20 08 23.2 +0.5**
	comp=Z,4.7nm,0.7s,baz=254,slow=3.7,SNR=2.9				
STKA			LR	LR	20 34 34.7
	comp=Z,725nm,21.7s,baz=310,slow=36				
SBF	**Sospel**	**71.66 310**	*e*P	**P**	**20 02 18.3 +0.1**
	comp=Z,96nm,1.0s				
SBF	**Sospel**	**71.66 310**	*e*P	**P**	**20 02 18.3 +0.1**
SBF	**Sospel**	**71.66 310**	*e*P	**P**	**20 02 18.3 +0.1**
	comp=Z,96nm,1.0s				
LPG	**La Plagne**	**71.67 312**	*e*P	**P**	**20 02 18.8 +0.3**
	comp=Z,79nm,0.7s				
LPG			*e*pP	**pP**	**20 02 46.2 +1.3**
LPG	**La Plagne**	**71.67 312**	*e*P	**P**	**20 02 18.8 +0.3**
LPG			*e**PP	**pP**	**20 02 46.2 +1.3**
LPG	**La Plagne**	**71.67 312**	*e*P	**P**	**20 02 18.8 +0.3**
	comp=Z,79nm,0.7s				
LPG			*e*pP	**pP**	**20 02 46.2 +1.3**
LPL	**La Plagne**	**71.68 312**	*e*P	**P**	**20 02 18.8 +0.3**
	comp=Z,58nm,0.5s				
LPL	**La Plagne**	**71.68 312**	*e*P	**P**	**20 02 18.8 +0.3**
LPL	**La Plagne**	**71.68 312**	*e*P	**P**	**20 02 18.8 +0.3**
	comp=Z,58nm,0.5s				
RSL	**Roselend**	**71.70 312**	*e*P	**P**	**20 02 19.2 +0.7**
LUCF	**Luceram**	**71.72 310**	*e*P	**P**	**20 02 19.1 +0.5**
TOUF	**Mont Tournerai**	**71.75 311**	*e*P	P	20 02 22.8 +3.9
DOU	**Dourbes**	**71.78 317**	P	**P**	**20 02 19.7 +1.0**
	comp=Z,17nm,1.5s				
CABF	**La Chapelle**	**71.80 313**	*e*P	**P**	**20 02 19.2 +0.2**
	comp=Z,52nm,0.8s				
CABF			*e*pP	**pP**	**20 02 46.5 +1.1**
CABF	**La Chapelle**	**71.80 313**	*e*P	**P**	**20 02 19.2 +0.2**
CABF			*e**PP	**pP**	**20 02 46.5 +1.1**
CABF	**La Chapelle**	**71.80 313**	*e*P	**P**	**20 02 19.2 +0.2**
	comp=Z,52nm,0.8s				
CABF			*e*pP	**pP**	**20 02 46.5 +1.1**
BNI	**Bardonecchia**	**71.85 312**	*e*P	**P**	**20 02 19.1 -0.3**
BNI			pmax	pmax	
	comp=Z,46nm,1.0s				
BNI	**Bardonecchia**	**71.85 312**	*e*P	**P**	**20 02 19.1 -0.3**
	comp=Z,46nm,1.0s				
SNF	**Seneffe**	**71.86 318**	P	**P**	**20 02 20.1 +1.0**
MBDF	**Montbardon**	**71.88 311**	*e*P	**P**	**20 02 19.8 +0.2**
	comp=Z,37nm,0.6s				
MBDF	**Montbardon**	**71.88 311**	*e*P	**P**	**20 02 19.8 +0.2**
MBDF	**Montbardon**	**71.88 311**	*e*P	**P**	**20 02 19.8 +0.2**
	comp=Z,37nm,0.6s				
HNR	**Honiara**	**71.94 110**	P	**P**	**20 02 20.1 0.0**
HNR	**Honiara**	**71.94 110**	P	**P**	**20 02 20.1 0.0**
	comp=Z,266nm,0.9s,baz=250,slow=0.6,SNR=5.4				
HNR			LR	LR	20 33 32.4
	comp=Z,412nm,21.4s,baz=291,slow=35				
MEZF	**Maizieres J'vi**	**71.94 316**	*e*P	**P**	**20 02 20.2 +0.5**
	comp=Z,112nm,0.8s,baz=78				
MEZF			*e*pP	**pP**	**20 02 47.5 +1.4**
MEZF	**Maizieres J'vi**	**71.94 316**	*e*P	**P**	**20 02 20.2 +0.5**
	comp=Z,112nm,0.8s				
MEZF			*e*pP	**pP**	**20 02 47.5 +1.4**
BAIF	**Baives**	**72.03 317**	*e*P	**P**	**20 02 20.7 +0.5**
	comp=Z,48nm,0.9s				
BAIF	**Baives**	**72.03 317**	*e*P	**P**	**20 02 20.7 +0.5**
BAIF	**Baives**	**72.03 317**	*e*P	**P**	**20 02 20.7 +0.5**
	comp=Z,48nm,0.9s				
SFTF	**Sexfontaines**	**72.04 315**	*e*P	**P**	**20 02 20.4 +0.1**
	comp=Z,32nm,0.5s				
SFTF			*e*pP	**pP**	**20 02 47.6 +0.9**
SFTF	**Sexfontaines**	**72.04 315**	*e*P	**P**	**20 02 20.4 +0.1**
	comp=Z,32nm,0.5s				
SFTF			*e*pP	**pP**	**20 02 47.6 +0.9**
CALN	**Calern**	**72.07 310**	*e*P	**P**	**20 02 21.3 +0.5**
FRF	**La Foret Royal**	**72.30 310**	*e*P	**P**	**20 02 21.9 0.0**
	comp=Z,52nm,0.8s				
FRF			*e*pP	**pP**	**20 02 49.3 +1.0**
FRF	**La Foret Royal**	**72.30 310**	*e*P	**P**	**20 02 21.9 0.0**
FRF			*e**PP	**pP**	**20 02 49.3 +1.0**
FRF	**La Foret Royal**	**72.30 310**	*e*P	**P**	**20 02 21.9 0.0**
	comp=Z,52nm,0.8s				
FRF			*e*pP	**pP**	**20 02 49.3 +1.0**
OG35	**Corcelles**	**72.31 313**	*e*P	**P**	**20 02 22.5 +0.5**
ORIF	**Oris-en-Rattie**	**72.43 312**	*e*P	**P**	**20 02 23.2 +0.4**
	comp=Z,58nm,0.7s				
ORIF			*e*R		
	comp=Z,2µm,21.5s				
ORIF	**Oris-en-Rattie**	**72.43 312**	*e*P	**P**	**20 02 23.2 +0.4**
ORIF	**Oris-en-Rattie**	**72.43 312**	*e*P	**P**	**20 02 23.2 +0.4**
	comp=Z,58nm,0.7s				
LMR	**La Mourre**	**72.46 310**	*e*P	**P**	**20 02 23.0 +0.1**
	comp=Z,82nm,1.1s				
LMR	**La Mourre**	**72.46 310**	*e*P	**P**	**20 02 23.0 +0.1**
LMR	**La Mourre**	**72.46 310**	*e*P	**P**	**20 02 23.0 +0.1**
	comp=Z,82nm,1.1s				
KEST	**Kesra**	**72.63 302**	*e*P	**P**	**20 02 24.3 +0.1**
KEST			pP	**pP**	**20 02 51.3 +0.7**
KEST			S	**S**	**20 11 39.7 -1.3**
KEST	**Kesra**	**72.63 302**	P	**P**	**20 02 25.3 +1.1**
	comp=Z,27nm,0.9s,baz=325,slow=1.5,SNR=48				
KEST			pP	**pP**	**20 02 51.3 +0.7**
	comp=Z,51nm,0.9s,baz=316,slow=3.9,SNR=9.1				
KEST			S	**S**	**20 11 39.7 -1.3**
	comp=Z,1.7nm,1.1s,baz=300,slow=23,SNR=12				
KEST			LR	LR	20 38 13.8
	comp=Z,146nm,19.2s,baz=8.6,slow=39				
ALE	**Alert**	**72.77 357**	P	**P**	**20 02 25.0 +0.9**
	comp=Z,430nm,0.6s,SNR=27				
SMRF	**Simiane la Rot**	**72.92 311**	*e*P	**P**	**20 02 25.9 +0.3**
	comp=Z,39nm,0.8s				
SMRF			*e*pP	**pP**	**20 02 53.3 +1.2**
SMRF	**Simiane la Rot**	**72.92 311**	*e*P	**P**	**20 02 25.9 +0.3**
	comp=Z,39nm,0.8s				
SMRF			*e*pP	**pP**	**20 02 53.3 +1.2**
LOR	**Lormes**	**73.07 315**	*e*P	**P**	**20 02 26.2 -0.3**
	comp=Z,38nm,0.8s				
LOR			*e*R		
	comp=Z,658nm,17.8s				
LOR	**Lormes**	**73.07 315**	*e*P	**P**	**20 02 26.2 -0.3**
	comp=Z,38nm,0.8s				
SSB	**Saint Sauveur**	**73.22 312**	*e*P	**P**	**20 02 27.4 -0.1**
SSB			pmax	pmax	
	comp=Z,92nm,1.3s				
SSB	**Saint Sauveur**	**73.22 312**	*e*P	**P**	**20 02 27.4 -0.1**
	comp=Z,92nm,1.3s				
VIVF	**Saint-Julien-l**	**73.27 312**	*e*P	**P**	**20 02 27.7 0.0**
	comp=Z,54nm,0.9s				
VIVF			*e*pP	**pP**	**20 02 55.2 +1.1**
VIVF	**Saint-Julien-l**	**73.27 312**	*e*P	**P**	**20 02 27.7 0.0**
VIVF			*e**PP	**pP**	**20 02 55.2 +1.1**
VIVF	**Saint-Julien-l**	**73.27 312**	*e*P	**P**	**20 02 27.7 0.0**
	comp=Z,54nm,0.9s				
VIVF			*e*pP	**pP**	**20 02 55.2 +1.1**
SMF	**Signal de Mont**	**73.27 314**	*e*P	**P**	**20 02 27.6 -0.1**
	comp=Z,54nm,0.5s				
SMF			*e*pP	**pP**	**20 02 54.9 +0.8**
SMF	**Signal de Mont**	**73.27 314**	*e*P	**P**	**20 02 27.6 -0.1**
SMF			*e**PP	**pP**	**20 02 54.9 +0.8**
SMF	**Signal de Mont**	**73.27 314**	*e*P	**P**	**20 02 27.6 -0.1**
	comp=Z,54nm,0.5s				
SMF			*e*pP	**pP**	**20 02 54.9 +0.8**
SSF	**Saint Saulge**	**73.36 314**	*e*P	**P**	**20 02 28.3 +0.1**
	comp=Z,82nm,0.8s				
SSF			*e*pP	**pP**	**20 02 55.6 +1.0**
SSF	**Saint Saulge**	**73.36 314**	*e*P	**P**	**20 02 28.3 +0.1**
SSF			*e**PP	**pP**	**20 02 55.6 +1.0**
SSF	**Saint Saulge**	**73.36 314**	*e*P	**P**	**20 02 28.3 +0.1**
	comp=Z,82nm,0.8s				
SSF			*e*pP	**pP**	**20 02 55.6 +1.0**
AVF	**Avril sur Loir**	**73.55 314**	*e*P	**P**	**20 02 29.2 0.0**
	comp=Z,61nm,0.8s				
AVF	**Avril sur Loir**	**73.55 314**	*e*P	**P**	**20 02 29.2 0.0**
AVF	**Avril sur Loir**	**73.55 314**	*e*P	**P**	**20 02 29.2 0.0**
	comp=Z,61nm,0.8s				
EIDS	**Eidsvold**	**73.61 128**	*e*P	**P**	**20 02 30.0 +0.1**
	comp=Z,194nm,1.0s				
CMAH	**Djebel Manchou**	**73.84 303**	P	**P**	**20 02 31.6 +0.4**
HYF	**Humbligny**	**73.86 315**	*e*P	**P**	**20 02 31.8 +0.7**
HYF	**Humbligny**	**73.86 315**	*e*P	**P**	**20 02 31.8 +0.7**
ABSA	**Djebel Ababsia**	**73.90 303**	P	**P**	**20 02 32.5 +0.8**
AGO	**Saint Agoulin**	**73.92 314**	*e*P	**P**	**20 02 33.7 +2.2**
BGF	**Bois d'Agland**	**73.95 314**	*e*P	**P**	**20 02 31.7 +0.1**
	comp=Z,36nm,0.7s				
BGF	**Bois d'Agland**	**73.95 314**	*e*P	**P**	**20 02 31.7 +0.1**
BGF	**Bois d'Agland**	**73.95 314**	*e*P	**P**	**20 02 31.7 +0.1**
	comp=Z,36nm,0.7s				
LASF	**Ste Croix**	**74.06 311**	*e*P	**P**	**20 02 32.8 +0.5**
	comp=Z,46nm,0.8s				
LASF			*e*pP	**pP**	**20 03 00.3 +1.5**
LASF	**Ste Croix**	**74.06 311**	*e*P	**P**	**20 02 32.8 +0.5**
	comp=Z,46nm,0.8s				
LASF			*e*pP	**pP**	**20 03 00.3 +1.5**
PYM	**Petit Puy Mans**	**74.10 313**	*e*P	**P**	**20 02 34.4 +1.8**
CKFL	**Kef-Lekhel**	**74.44 303**	P	**P**	**20 02 35.6 +0.8**
TCF	**Toulx Ste Croi**	**74.46 314**	*e*P	**P**	**20 02 35.1 +0.5**
	comp=Z,90nm,0.8s				
TCF	**Toulx Ste Croi**	**74.46 314**	*e*P	**P**	**20 02 35.1 +0.5**
TCF	**Toulx Ste Croi**	**74.46 314**	*e*P	**P**	**20 02 35.1 +0.5**
	comp=Z,90nm,0.8s				
ESK	**Eskdalemuir**	**74.65 324**	P	**P**	**20 02 36.0 +0.6**
	comp=Z,205nm,0.7s,SNR=7.1				
ESK	**Eskdalemuir**	**74.65 324**	*e*P	**P**	**20 02 36.1 +0.6**
ESK			pmax	pmax	
	comp=Z,137nm,1.3s				
ESK	**Eskdalemuir**	**74.65 324**	*e*P	**P**	**20 02 36.0 +0.6**
	comp=Z,38nm,1.3s				
CASM	**Ain Smara**	**74.66 303**	P	**P**	**20 02 36.8 +0.8**
CTEI	**Djebel Teioual**	**74.79 303**	P	**P**	**20 02 37.6 +0.8**
CAF	**Calviac**	**75.00 313**	*e*P	**P**	**20 02 38.3 +0.5**
	comp=Z,54nm,0.9s				
CAF			*e*pP	**pP**	**20 03 05.8 +1.5**
CAF	**Calviac**	**75.00 313**	*e*P	**P**	**20 02 38.3 +0.5**
CAF			*e**PP	**pP**	**20 03 05.8 +1.5**
CAF	**Calviac**	**75.00 313**	*e*P	**P**	**20 02 38.3 +0.5**
	comp=Z,54nm,0.9s				
CAF			*e*pP	**pP**	**20 03 05.8 +1.5**
DFRA	**Djebel Bou Aff**	**75.04 304**	P	**P**	**20 02 39.4 +1.2**
LDF	**La Druitiere**	**75.18 317**	*e*P	**P**	**20 02 38.7 0.0**
	comp=Z,108nm,0.8s				
LDF			*e*pP	**pP**	**20 03 06.2 +1.0**
LDF	**La Druitiere**	**75.18 317**	*e*P	**P**	**20 02 38.7 0.0**
LDF			*e**PP	**pP**	**20 03 06.2 +1.0**
LDF	**La Druitiere**	**75.18 317**	*e*P	**P**	**20 02 38.7 0.0**
	comp=Z,108nm,0.8s				
LDF			*e*pP	**pP**	**20 03 06.2 +1.0**
RJF	**Les Rejaudoux**	**75.24 313**	*e*P	**P**	**20 02 39.9 +0.8**
	comp=Z,107nm,1.0s				
RJF			*e*pP	**pP**	**20 03 07.4 +1.7**
RJF			*e*R		
	comp=Z,1µm,22.0s				
RJF	**Les Rejaudoux**	**75.24 313**	*e*P	**P**	**20 02 39.9 +0.8**
RJF			*e**PP	**pP**	**20 03 07.4 +1.7**
RJF	**Les Rejaudoux**	**75.24 313**	*e*P	**P**	**20 02 39.9 +0.8**
	comp=Z,107nm,1.0s				
RJF			*e*pP	**pP**	**20 03 07.4 +1.7**
EJON	**La Jonquera**	**75.26 310**	P	**P**	**20 02 38.9 -0.4**
	SNR=7.9				
FLN	**La Foliniere**	**75.35 317**	*e*P	**P**	**20 02 39.8 +0.2**
	comp=Z,37nm,0.8s				
FLN			*e*R		
	comp=Z,1µm,22.0s				
FLN	**La Foliniere**	**75.35 317**	*e*P	**P**	**20 02 39.8 +0.2**
FLN	**La Foliniere**	**75.35 317**	*e*P	**P**	**20 02 39.8 +0.2**
	comp=Z,37nm,0.8s				
MTLF	**Montolieu**	**75.43 311**	*e*P	**P**	**20 02 40.5 +0.3**
	comp=Z,60nm,0.9s				
MTLF	**Montolieu**	**75.43 311**	*e*P	**P**	**20 02 40.5 +0.3**
MTLF	**Montolieu**	**75.43 311**	*e*P	**P**	**20 02 40.5 +0.3**
	comp=Z,60nm,0.9s				
CKHR	**Kef el Ahmar**	**75.49 303**	P	**P**	**20 02 41.5 +0.6**
SET	**Setif**	**75.52 303**	P	**P**	**20 02 42.0 +1.1**
SCO	**Scoresbysund**	**75.60 342**	*i* P	P	20 02 44.1 +3.5
SCO			*i* S	**S**	**20 12 13.9 +1.1**
SCO			pmax	pmax	
	comp=Z,28nm,1.1s				
SCO			MLR	MLR	
	comp=Z,2µm,27.0s				
SCO	**Scoresbysund**	**75.60 342**	*i* P	P	20 02 44.1 +3.5
	comp=Z,28nm,1.1s				
SCO			*i* S	**S**	**20 12 13.9 +1.1**
SCO					
	comp=Z,2µm,26.0s				
GRR	**Gorron**	**75.71 317**	*e*P	**P**	**20 02 41.9 +0.2**
	comp=Z,73nm,0.7s				
GRR			*e*pP	**pP**	**20 03 09.3 +1.0**
GRR	**Gorron**	**75.71 317**	*e*P	**P**	**20 02 41.9 +0.2**
GRR			*e**PP	**pP**	**20 03 09.3 +1.0**
GRR	**Gorron**	**75.71 317**	*e*P	**P**	**20 02 41.9 +0.2**
	comp=Z,73nm,0.7s				
GRR			*e*pP	**pP**	**20 03 09.3 +1.0**
CFON	**Fontmartina**	**75.81 310**	P	**P**	**20 02 42.4 -0.1**
	SNR=7.9				
LFF	**La Frestale**	**75.88 313**	*e*P	**P**	**20 02 43.4 +0.7**
	comp=Z,60nm,0.8s				
LFF	**La Frestale**	**75.88 313**	*e*P	**P**	**20 02 43.4 +0.7**
LFF	**La Frestale**	**75.88 313**	*e*P	**P**	**20 02 43.4 +0.7**
	comp=Z,60nm,0.8s				
MFF	**Saint Martin d**	**75.88 315**	*e*P	**P**	**20 02 42.8 +0.1**
	comp=Z,45nm,

REYF	Montagne du Re	77.31	312	eP		P	20 02 51.4 +0.5
QUIF	Quistinic	77.32	317	eP		P	20 02 51.0 +0.2
	comp=Z,42nm,1.0s						
QUIF	Quistinic	77.32	317	eP		P	20 02 51.0 +0.2
QUIF	Quistinic	77.32	317	eP		P	20 02 51.0 +0.2
	comp=Z,42nm,1.0s						
EMHD	Djebel Mahouad	77.37	304	P		P	20 02 53.0 +1.5
ETSF	Etsaut	77.48	311	eP		P	20 02 52.5 +0.6
	comp=Z,72nm,0.7s						
ETSF	Etsaut	77.48	311	eP		P	20 02 52.5 +0.6
ETSF	Etsaut	77.48	311	eP		P	20 02 52.5 +0.6
	comp=Z,72nm,0.7s						
ATE	Arette	77.51	312	eP		P	20 02 53.4 +1.4
ERTA	Horta de San J	77.58	309	P		P	20 02 53.8 +1.4
	SNR=7.9						
LARF	Larrau	77.73	312	eP		P	20 02 54.4 +1.2
ESAC	San Caprasio	77.86	310	P		P	20 02 55.4 +1.4
	comp=Z,54nm,0.7s,SNR=11						
SJPF	Ste Jean	77.86	312	eP		P	20 02 54.9 +1.0
	comp=Z,62nm,1.0s						
SJPF	Ste Jean	77.86	312	eP		P	20 02 54.9 +1.0
SJPF	Ste Jean	77.86	312	eP		P	20 02 54.9 +1.0
	comp=Z,62nm,1.0s						
IELO	Elcoad	77.97	312	P		P	20 02 56.0 +1.4
	SNR=7.9						
EALK	Alkurruntz	78.01	312	P		P	20 02 56.0 +1.4
	comp=Z,27nm,0.9s,SNR=5.6						
IEPA	Eparoz	78.01	312	P		P	20 02 56.2 +1.4
	SNR=7.9						
ELIZ	Elizondo	78.05	312	P		P	20 02 57.3 +2.3
	SNR=7.9						
BLWY	Bulawayo	78.06	241	i P		P	20 02 55.1 -0.4
BLWY				i			20 02 55.3
	baz=109,slow=16						
MSNA	Messina	78.11	239⇑	iP		P	20 02 56.7 +1.2
MSNA					AMB	AMB	20 02 58.1
	comp=Z,498nm,0.8s						
IUSE	Utxeti	78.14	312	P		P	20 02 56.1 +0.6
	SNR=7.9						
IUNC	Unciti	78.18	312	P		P	20 02 57.7 +1.9
	SNR=7.9						
EARA	Aranguren	78.23	312	P		P	20 02 57.9 +1.9
	SNR=7.9						
BPAW	Bear Paw Mtn.	78.26	24	eP		P	20 02 55.8 +0.1
	comp=Z,38nm,0.7s						
SDPT	Sand Point	78.27	34	eP		P	20 02 54.6 -1.3
	comp=Z,101nm,0.9s						
SUMG	Summit	78.28	347	i P		P	20 02 57.7 +1.5
SUMG				i			20 03 26.4
SUMG				i S		S	20 12 41.7 -1.1
SUMG					pmax	pmax	
	comp=Z,160nm,0.9s						
SUMG	Summit	78.28	347	i P		P	20 02 57.7 +1.5
	comp=Z,155nm,0.9s						
SUMG				i			20 03 26.4
SUMG				i S		S	20 12 41.7 -1.1
SUMG	Summit	78.28	347	eP		P	20 02 57.0 +0.9
	comp=Z,228nm,0.9s						
EMOS	Mosqueruela	78.36	309	P		P	20 02 58.3 +1.4
	SNR=7.9						
EBNR	Beni Rached	78.41	305	P		P	20 02 59.0 +1.9
PPLA	Purkeypile	78.43	25	eP		P	20 02 57.7 +0.9
	comp=Z,206nm,1.4s						
CAN	Canberra	78.51	137	eP		P	20 02 57.6 +0.1
CAN					pmax	pmax	
	comp=Z,202nm,1.2s						
CAN	Canberra	78.51	137	eP		P	20 02 57.6 +0.1
	comp=Z,202nm,1.2s						
BORG	Borgarnes	78.53	337	eP		P	20 03 01.0 +3.8
	comp=Z,37nm,1.0s						
BORG	Borgarnes	78.53	337	P		P	20 03 00.5 +3.4
	comp=Z,27nm,0.7s,baz=72,slow=7.1,SNR=5.1						
ECHA	Ech Chlef	78.58	304	P		P	20 03 00.0 +2.0
EBEN	Beniarda	78.81	307	P		P	20 03 01.9 +2.7
	SNR=7.9						
EANR	'Ain N'Sour	78.86	304	P		P	20 03 00.8 +1.2
TRF	Thorofare Moun	78.87	25	eP		P	20 02 59.6 +0.3
	comp=Z,20nm,0.8s						
CHGN	Chignik	78.88	33	eP		P	20 02 58.3 -0.9
ETRT	Tiaret	78.92	304	P		P	20 03 01.5 +1.5
COLA	College	78.97	23	eP		P	20 03 00.6 +1.1
COLA					pmax	pmax	
	comp=Z,202nm,0.9s						
COLA	College	78.97	23	eP		P	20 03 00.6 +1.1
	comp=Z,54nm,0.9s						
MCK	McKinley	79.22	24	eP		P	20 03 01.0 0.0
MCK					pmax	pmax	
	comp=Z,44nm,0.8s						
MCK	McKinley	79.22	24	eP		P	20 03 01.0 0.0
	comp=Z,44nm,0.8s						
ELAN	Lanestosa	79.31	313	P		P	20 03 03.5 +1.7
	comp=Z,27nm,0.7s,SNR=8.8						
ILAR	Eielson Array	79.36	23	P		P	20 03 01.8 +0.1
ILAR				pP		pP	20 03 29.6 +1.0
ILAR				PP		PP	20 06 08.3 +5.9
ILAR				S		S	20 12 48.8 -5.0
ILAR				PKKPbc		PKKPbc	20 21 50.6 -1.3
ILAR				P'P'			20 29 52.7
ILAR	Eielson Array	79.36	23	P		P	20 03 01.8 +0.1
	comp=Z,23nm,0.8s,baz=292,slow=5.4,SNR=124						
ILAR				pP		pP	20 03 29.6 +1.0
	comp=Z,15nm,0.7s,baz=299,slow=4.2,SNR=4.3						
ILAR				PP		PP	20 06 08.3 +5.9
	comp=Z,13nm,0.6s,baz=305,slow=6.2,SNR=13						
ILAR				S		S	20 12 48.8 -5.0
	comp=Z,1.7nm,1.0s,baz=292,slow=8.6,SNR=3.4						
ILAR				PKKPbc		PKKPbc	20 21 50.6 -1.3
	comp=Z,2.8nm,0.7s,baz=158,slow=2.1,SNR=13						
ILAR				PKPPKP		P'P'df	20 29 52.7 -3.0
	comp=Z,2.2nm,0.9s,baz=170,slow=1.2,SNR=10						
RSO	Redoubt South	79.46	28	eP		P	20 03 01.6 -1.0
	comp=Z,97nm,0.9s						
KULLO	Kullorsuaq	79.64	353⇑	iP		P	20 03 04.1 +1.1
KULLO				i			20 03 31.9
KULLO				i S		S	20 12 54.5 -1.8
KULLO					pmax	pmax	
	comp=Z,170nm,0.8s						
KULLO					MLR	MLR	
	comp=Z,1μm,24.0s						
POGA	Pongola	79.66	234⇑	iP		P	20 03 04.5 +0.7
POGA					AMB	AMB	20 03 05.8
	comp=Z,640nm,0.9s						
ETOB	Tobarra	79.79	308	P		P	20 03 06.5 +1.9
	comp=Z,24nm,0.6s,SNR=14						
VAL	Valentia	79.84	323	eP		P	20 03 05.5 +1.0
EMUR	La Murta	79.88	307	P		P	20 03 06.4 +1.3
	comp=Z,12nm,0.8s,SNR=5.3						
TAM	Tamanrasset	80.21	291	eP		P	20 03 08.1 +0.8
TAM					pmax	pmax	
	comp=Z,113nm,1.5s						
TAM	Tamanrasset	80.21	291	eP		P	20 03 08.1 +0.8
	comp=Z,113nm,1.5s						
TAM				epP		pP	20 03 32.5 -1.6
PMR	Palmer	80.34	26	eP		P	20 03 06.6 -0.4
PMR					pmax	pmax	
	comp=Z,100nm,1.2s						
PMR	Palmer	80.34	26	eP		P	20 03 06.6 -0.4
	comp=Z,100nm,1.2s						
EARI	Arriondas	80.47	313	P		P	20 03 09.1 +1.0
	SNR=7.9						
EVIA	Vianos	80.48	308	P		P	20 03 09.9 +1.5
	comp=Z,32nm,0.7s,SNR=8.0						
SML	Sawmill	80.53	25	eP		P	20 03 07.8 -0.3
SML				e*PP		pP	20 03 35.5 +0.5
SML					pmax	pmax	
	comp=Z,45nm,1.2s						
SML	Sawmill	80.53	25	eP		P	20 03 07.8 -0.3
	comp=Z,45nm,1.2s						
SML				epP		pP	20 03 35.5 +0.5
GUD	Guadarrama	80.84	310	P		P	20 03 11.4 +1.1
	SNR=7.9						
EHUE	Huescar	80.87	307	P		P	20 03 11.0 +0.5
	SNR=7.9						
OHAK	Old Harbor	80.90	31	eP		P	20 03 09.4 -0.6
	comp=Z,241nm,1.4s						
ENIJ	Nijar	80.93	306	P		P	20 03 11.0 +0.3
	SNR=7.9						
KDAK	Kodiak Island	80.93	30	P		P	20 03 10.7 +0.5
KDAK	Kodiak Island	80.93	30	P		P	20 03 10.7 +0.5
	comp=Z,24nm,0.6s,baz=258,slow=3.4,SNR=19						
KDAK					LR	LR	20 42 43.0
	comp=Z,758nm,18.0s,baz=297,slow=38						
PAX	Paxson	80.94	24	eP		P	20 03 11.1 +0.8
PAX					pmax	pmax	
	comp=Z,44nm,1.0s						
PAX	Paxson	80.94	24	eP		P	20 03 11.1 +0.8
	comp=Z,44nm,1.0s						
RES	Resolute Bay	81.00	3	P		P	20 03 11.6 +1.3
RES	Resolute Bay	81.00	3	P		P	20 03 11.6 +1.3
	comp=Z,72nm,0.9s,baz=337,slow=4.4,SNR=16						
RES					LR	LR	20 41 55.4
	comp=Z,755nm,18.8s,baz=338,slow=38						
INK	Inuvik	81.09	16	eP		P	20 03 11.4 +0.5
	comp=Z,284nm,1.1s						
INK					PKiKP	PKiKP	20 08 36.1 +0.1
INK					S	S	20 13 10.3 -1.3
INK					PKKPbc	PKKPbc	20 21 45.7 -2.5
INK	Inuvik	81.09	16	P		P	20 03 11.8 +0.9
	comp=Z,169nm,0.9s,baz=336,slow=6.6,SNR=145						
INK					PKiKP	PKiKP	20 08 36.1 +0.1
	comp=Z,5.4nm,0.8s,baz=90,slow=4.6,SNR=5.2						
INK					S	S	20 13 10.3 -1.3
	comp=Z,8.0nm,0.9s,baz=159,slow=23,SNR=14						
INK					PKKPbc	PKKPbc	20 21 45.7 -2.5
	comp=Z,3.0nm,0.8s,baz=174,slow=3.4,SNR=4.0						
INK					LR	LR	20 44 24.5
	comp=Z,528nm,19.1s,baz=133,slow=39						
ESDC	Sonseca Array	81.10	309	P		P	20 03 12.6 +1.0
	comp=Z,4.2nm,0.6s,baz=49,slow=5.2,SNR=37						
ESDC	Sonseca Array	81.10	309	P		P	20 03 12.3 +0.7
ESDC					PKKPbc	PKKPbc	20 21 46.7 -0.7
ESDC	Sonseca Array	81.10	309	P		P	20 03 12.3 +0.7
	comp=Z,8.8nm,0.8s,baz=49,slow=5.2,SNR=41						
ESDC					PKKPbc	PKKPbc	20 21 46.7 -0.7
	comp=Z,0.2nm,0.3s,baz=278,slow=1.3,SNR=5.1						
ESDC					LR	LR	20 46 04.3
	comp=Z,554nm,18.2s,baz=35,slow=41						
ESLA	Sonseca Array	81.10	309	eP		P	20 03 12.3 +0.7
	comp=Z,54nm,1.7s						
EQES	Quesada	81.22	307	P		P	20 03 13.2 +0.8
	comp=Z,32nm,0.8s,SNR=24						
SLR	Silverton	81.26	237⇑	iP		P	20 03 14.0 +1.4
SLR					AMB	AMB	20 03 15.4
	comp=Z,646nm,1.1s						
EGAK	Eagle	81.30	21	eP		P	20 03 13.0 +0.9
	comp=Z,155nm,1.2s						
PAB	San Pablo	81.42	309	eP		P	20 03 13.6 +0.2
PAB					pmax	pmax	
	comp=Z,106nm,0.9s						
PAB	San Pablo	81.42	309	eP		P	20 03 13.6 +0.2
	comp=Z,18nm,0.9s						
EBER	Berja	81.46	307	P		P	20 03 14.7 +1.0
	comp=Z,25nm,0.6s,SNR=17						
EBAN	Banos Encina	81.59	308	P		P	20 03 15.4 +1.2
	comp=Z,15nm,0.7s,SNR=13						
ERPM	east rand prop	81.61	236⇑	iP		P	20 03 15.6 +1.0
ERPM					AMB	AMB	20 03 17.1
	comp=Z,328nm,1.4s						
EQUE	Quentar	81.73	307	P		P	20 03 15.3 +0.3
	comp=Z,14nm,0.8s,SNR=11						
EPON	Pontenova	81.74	314	P		P	20 03 15.6 +0.8
	SNR=7.9						
ECOG	Cogollos-Vega	81.80	307	P		P	20 03 15.7 +0.3
	comp=Z,6.1nm,0.5s,SNR=4.5						
DIV	Divide	81.93	25	eP		P	20 03 16.2 +0.7
	comp=Z,46nm,0.9s						
EGUA	Guajares	81.98	307	P		P	20 03 16.3 +0.1
	SNR=7.9						
ECAL	Calabor	82.06	312	P		P	20 03 18.2 +1.5
	comp=Z,15nm,0.8s,SNR=4.7						
ERON	Agron	82.08	307	P		P	20 03 16.5 -0.4
	SNR=7.9						
KLOF	Kloof	82.10	237	eP		P	20 03 18.3 +1.2
KLOF					AMB	AMB	20 03 19.9
	comp=Z,629nm,0.8s						
PBRG	Braganca	82.12	312	eP		P	20 03 20.1 +3.2
	comp=Z,51nm,1.8s						
PBRG				epP		pP	20 03 45.1 +1.2
PBRG	Braganca	82.12	312	ePP		PP	20 06 52.3 +26
EADA	Adamuz	82.16	308	P		P	20 03 18.2 +1.0
	comp=Z,16nm,0.7s,SNR=16						
ELUQ	Luque	82.19	308	P		P	20 03 17.7 +0.3
	SNR=7.9						
ELOJ	Sierra Loja	82.28	307	P		P	20 03 17.9 +0.1
	comp=Z,7.8nm,0.8s,SNR=6.6						
KSR	Koster	82.38	237	eP		P	20 03 19.7 +1.1
KSR					AMB	AMB	20 03 21.4
	comp=Z,150nm,1.6s						
EPLA	Plasencia	82.42	310	P		P	20 03 20.4 +1.9
	comp=Z,13nm,0.9s,SNR=8.0						
BMRM	Bremner River	82.48	25	eP		P	20 03 18.6 +0.2
	comp=Z,169nm,0.9s						
PRYS	Parys	82.59	236⇑	iP		P	20 03 20.3 +0.6
PRYS					AMB	AMB	20 03 21.5
	comp=Z,129nm,0.9s						
MVO	Moncorvo	82.59	312	i P		P	20 03 20.5 +1.1
	comp=Z,51nm,2.2s						
MVO				pP		pP	20 03 44.7 -1.7
MVO	Moncorvo	82.59	312	PP		PP	20 06 50.2 +20
MVO				eS		S	20 13 24.5 -3.7
MVO	Moncorvo	82.59	312	eLQ		LQ	20 25 02.5
MVO				eLR		LR	20 31 55.8
	comp=Z,331nm,20.0s						
MVO	Moncorvo	82.59	312	P		P	20 03 21.2 +1.7
	comp=Z,29nm,0.7s,SNR=15						
TAU	Tasmania Unive	82.61	144	P		P	20 03 20.2 +1.1
	comp=Z,778nm,1.1s,SNR=9.8						
ECAB	El Cabril	82.80	308	P		P	20 03 21.7 +1.2
	comp=Z,22nm,0.8s,SNR=21						
STS	Santiago	82.85	314	P		P	20 03 22.9 +2.2
	SNR=7.9						
LBTB	Lobatse	82.95	239⇑	iP		P	20 03 22.6 +1.1
LBTB					AMB	AMB	20 03 23.9
	comp=Z,610nm,0.8s						
LBTB	Lobatse	82.95	239	eP		P	20 03 22.4 +0.9
	comp=Z,665nm,0.8s						
EMIJ	Mijas	82.97	307	P		P	20 03 22.3 +0.9
	SNR=7.9						
ELOB	Lobios	82.98	313	P		P	20 03 23.2 +1.7
	comp=Z,12nm,0.6s,SNR=8.6						
PVRL	Vila Real	83.01	312	eP		P	20 03 23.4 +1.8
KSD	Kokstad	83.01	232	eP		P	20 03 22.9 +1.1
KSD					AMB	AMB	20 03 24.6
	comp=Z,327nm,1.3s						
POLO	Lamas de Olo	83.02	312	eP		P	20 03 23.3 +1.6
	comp=Z,24nm,1.8s						
POLO				pP		pP	20 03 47.1 -1.6
POLO				eS		S	20 13 33.6 +1.0
PCAB	Cabril	83.03	313	eP		P	20 03 22.9 +1.3
	comp=Z,96nm,1.8s						
PGAV	Gavieira, Arco	83.08	313	eP		P	20 03 23.4 +1.4
	comp=Z,83nm,1.6s						
PGAV				epP		pP	20 03 50.3 +1.3
PGAV	Gavieira, Arco	83.08	313	ePP		PP	20 06 36.9 +3.0
PGAV				eS		S	20 14 13.0 +40
PGAV	Gavieira, Arco	83.08	313	eLQ		LQ	20 25 24.9
PGAV				eLR		LR	20 32 09.3
	comp=Z,520nm,18.0s						
EMAZ	Mazaricos	83.11	314	P		P	20 03 22.7 +0.7
	SNR=7.9						
SEK	Senekal	83.13	235⇑	iP		P	20 03 23.1 +0.7
SEK					AMB	AMB	20 03 24.5
	comp=Z,389nm,1.0s						
MTE	Manteigas	83.28	311	i P		P	20 03 24.1 +1.1
	comp=Z,135nm,1.7s						
MTE				pP		pP	20 03 49.4 -0.6
MTE	Manteigas	83.28	311	ePP		PP	20 06 52.0 +16
MTE				eS		S	20 13 40.9 +5.7
MTE	Manteigas	83.28	311	eLQ		LQ	20 25 21.0
MTE				eLR		LR	20 32 12.1
	comp=Z,383nm,20.0s						
MTE	Manteigas	83.28	311	eP		P	20 03 24.1 +1.1
	comp=Z,29nm,0.8s						
PVIS	Viseu	83.38	312	eP		P	20 03 25.3 +1.8
	comp=Z,64nm,1.6s						
ILULI	Ilulissat	83.47	348⇑	iP		P	20 03 24.1 +0.9
ILULI				i S		S	20 13 34.3 -1.5
ILULI					pmax	pmax	
	comp=Z,54nm,0.8s						
ILULI					MLR	MLR	
	comp=Z,910nm,22.0s						
PCBR	Castelo Branco	83.48	311	eP		P	20 03 25.6 +1.7
	comp=Z,77nm,1.9s						
PCBR				pP		pP	20 03 52.4 +1.5
PCBR	Castelo Branco	83.48	311	PP		PP	20 06 59.2 +22
EJIF	Jimena Fronter	83.53	307	P		P	20 03 24.5 +0.2
	SNR=7.9						
DZM	Mont Dzumac	83.58	118	eP		P	20 03 26.2 +1.5
	comp=Z,276nm,1.3s						
DZM	Mont Dzumac	83.58	118	eLR		LR	20 29 56.4
	comp=Z,2μm,37.0s						
PMRV	Marv??o	83.60	310	eP		P	20 03 25.1 +0.5
	comp=Z,79nm,1.5s						
PMRV				pP		pP	20 03 49.9 -1.7
PMRV	Marv??o	83.60	310	PP		PP	20 07 03.0 +25
PMRV				eS		S	20 13 36.8 -1.6
PMRV	Marv??o	83.60	310	eLQ		LQ	20 25 23.1
PMRV				eLR		LR	20 32 39.2
	comp=Z,257nm,16.0s						
ESPR	Espera	83.63	308	P		P	20 03 25.7 +1.0
	comp=Z,13nm,0.7s,SNR=12						
EBAD	Badajoz	83.63	310	P		P	20 03 25.9 +1.2
	comp=Z,20nm,0.8s,SNR=19						
ECEU	Ceuta	83.70	306	P		P	20 03 25.6 +0.4
	comp=Z,33nm,0.7s,SNR=9.7						
EMIN	Mina Concepcio	83.83	309	P		P	20 03 26.1 +0.3
	comp=Z,20nm,0.6s,SNR=20						
PBAR	Barrancos	83.91	309	i P		P	20 03 27.1 +1.0
	comp=Z,80nm,1.6s						
PBAR				pP		pP	20 03 52.9 -0.3
PBAR	Barrancos	83.91	309	PP		PP	20 07 04.2 +24
PBAR				eS		S	20 13 36.4 -5.0
PESTR	Estremoz	83.99	310	eP		P	20 03 27.5 +0.9
	comp=Z,30nm,1.5s						
PESTR				pP		pP	20 03 51.6 -2.0
PESTR	Estremoz	83.99	310	PP		PP	20 07 04.8 +24
PESTR				eS		S	20 13 44.2 +1.9
PCAS	Casmilo, Conde	84.09	311	eP		P	20 03 28.9 +1.9
	comp=Z,51nm,2.0s						
PCAS				pP		pP	20 03 51.7 -2.4
PCAS	Casmilo, Conde	84.09	311	ePP		PP	20 07 03.2 +21
PCAS				eS		S	20 13 39.0 -4.2
PTOM	Tomar	84.22	311	eP		P	20 03 29.3 +1.6
	comp=Z,93nm,1.6s						
PTOM				epP		pP	20 03 54.9 +0.1
PTOM	Tomar	84.22	311	PP		PP	20 07 09.3 +26
SWZ	Schweizer	84.27	237⇑	iP		P	20 03 29.0 +0.8
SWZ					AMB	AMB	20 03 30.8
	comp=Z,670nm,1.1s						
PMTG	Montargil	84.34	310	eP		P	20 03 29.9 +1.6
	comp=Z,24nm,2.1s						
PMTG				pP		pP	20 03 54.7 -0.7
PMTG	Montargil	84.34	310	PP		PP	20 07 06.8 +23
PMTG				eS		S	20 13 36.8 -8.9
EVO	Evora	84.44	310	eP		P	20 03 28.8 0.0
	comp=Z,61nm,1.1s						
EVO				eR			
	comp=Z,364nm,18.8s						
EVO	Evora	84.44	310	i P		P	20 03 30.2 +1.4
	comp=Z,38nm,2.4s						
EVO				epP		pP	20 03 55.6 -0.3
EVO	Evora	84.44	310	ePP		PP	20 07 11.5 +27
EGRO	El Granado	84.50	309	P		P	20 03 29.9 +0.8
	comp=Z,28nm,0.9s,SNR=11						
EVOP	Sao Brissos	84.51	310	eP		P	20 03 28.8 -0.4
EVOP	Sao Brissos	84.51	310	eP		P	20 03 28.8 -0.4
	comp=Z,61nm,1.1s						
PBEJ	Beja	84.56	309	eP		P	20 03 30.3 +0.9
	comp=Z,54nm,1.3s						
PBEJ				pP		pP	20 03 55.8 -0.7
PVAQ	Vaqueiros	84.73	309	i P		P	20 03 31.8 +1.5
	comp=Z,76nm,1.2s						
PVAQ				pP		pP	20 03 56.6 -0.8
PVAQ	Vaqueiros	84.73	309	PP		PP	20 07 09.6 +22
PVAQ				eS		S	20 13 44.2 -5.5
PVAQ	Vaqueiros	84.73	309	eLR		LR	20 33 24.2
	comp=Z,376nm,20.0s						
PACT	Alcochete	84.90	310	eP		P	20 03 32.9 +1.8
	comp=Z,311nm,1.5s						
PACT				epP		pP	20 04 00.4 +2.2
PACT	Alcochete	84.90	310	ePP		PP	20 07 13.1 +24
PBDV	Barranco-do-Ve	84.95	309	i P		P	20 03 33.2 +1.7
	comp=Z,126nm,1.2s						
PBDV				epP		pP	20 04 01.9 +3.3
PBDV				eS		S	20 13 47.7 -4.3
PNCL	Nicolau / Gran	84.99	310	i P		P	20 03 33.2 +1.6
	comp=Z,55nm,2.3s						
PNCL				pP		pP	20 03 54.6 -4.1
PNCL	Nicolau / Gran	84.99	310	PP		PP	20 07 11.7 +22
PNCL				eS		SKSac	20 13 40.3 -6.5
BOSA	Boshof	85.06	236⇑	iP		P	20 03 32.8 +0.7
BOSA					AMB	AMB	20 03 34.2
	comp=Z,589nm,0.9s						
BOSA	Boshof	85.06	236	eP		P	20 03 32.4 +0.2
	comp=Z,543nm,0.8s						
BOSA				S		S	20 13 44.7 -8.5
BOSA				PKKPbc		PKKPbc	20 21 39.9 +0.7
BOSA	Boshof	85.06	236	P		P	20 03 32.7 +0.7
	comp=Z,506nm,0.7s,baz=63,slow=4.6,SNR=436						
BOSA				S		S	20 13 44.7 -8.5
	comp=Z,5.8nm,1.2s,baz=191,slow=20,SNR=7.0						
BOSA				PKKPbc		PKKPbc	20 21 39.9 +0.7
	comp=Z,2.3nm,0.8s,baz=216,slow=4.7,SNR=3.8						
BOSA				LR		LR	20 43 02.3
	comp=Z,1μm,18.3s,baz=358,slow=37						
PMAFR	Mafra	85.13	311	eP		P	20 03 34.2 +1.9
	comp=Z,130nm,1.7s						
PMAFR				epP		pP	20 04 02.9 +3.5
PMAFR	Mafra	85.13	311	ePP		PP	20 07 15.3 +25
PMAFR				eS		SKSac	20 13 43.0 -4.7
PMAFR	Mafra	85.13	311	P		P	20 03 32.9 +0.6
	SNR=7.9						
LIS	Lisbon	85.14	310	eP		P	20 03 33.3 +1.0
LIS				eS		S	20 13 49.2 -4.5
LIS				AMS		AMS	20 47 02.4
	comp=E,1μm,18.7s						
LIS	Lisbon	85.14	310	eP		P	20 03 33.3 +1.0
LIS	Lisbon	85.14	310	eP		P	20 03 33.3 +1.0
LIS				eS		S	20 13 49.2 -4.5
HYT	Haines Junctio	85.20	23	eP		P	20 03 33.8 +1.4
	comp=E,90nm,1.1s						
SFJD	Kangerlussuaq	85.28	347	i P		P	20 03 33.2 +0.8
	comp=E,45nm,0.9s						
SFJD				e			20 03 59.9
SFJD				i S		SKSac	20 13 43.3 -4.2
SFJD							
	comp=Z,620nm,15.0s						
SFJD	Kangerlussuaq	85.28	347	eP		P	20 03 33.3 +0.8
	comp=Z,73nm,0.9s						
SFJD				S		SKSac	20 13 43.6 -3.9
SFJD	Kangerlussuaq	85.28	347	P		P	20 03 33.7 +1.3
	comp=Z,48nm,0.7s,baz=46,slow=5.0,SNR=25						
SFJD				S		SKSac	20 13 43.6 -3.9
	comp=Z,15nm,0.9s,baz=249,slow=22,SNR=6.0						
SFJD				LR		LR	20 45 38.9
	comp=Z,611nm,19.7s,baz=262,slow=38						
PTEO	Sao Teotonio	85.38	309	eP		P	20 03 35.1 +1.6
	comp=Z,106nm,1.6s						
MORF	Marmelete	85.44	309	eP		P	20 03 35.2 +1.3
	comp=Z,73nm,1.8s						
MORF				epP		pP	20 04 02.6 +1.5
MORF	Marmelete	85.44	309	ePP		PP	20 07 08.3 +15
MORF				eS		SKSac	20 13 34.2 -16
MORF	Marmelete	85.44	309	eP		P	20

TORD SKKP 20 24 51.6
comp=Z,0.2nm,0.5s,baz=63,slow=6.6,SNR=4.4
TORD LR LR 20 47 23.5
comp=Z,910nm,19.1s,baz=55,slow=39
BUFB Buffelsbos 88.28 231 *e*P **P 20 03 48.4 +0.9**
BUFB AMB AMB 20 03 49.3
comp=Z,58nm,0.9s
SIT Sitka 88.66 25 *e*P **P 20 03 51.1 +2.1**
SIT pmax pmax
comp=Z,67nm,1.3s
SIT Sitka 88.66 25 *e*P **P 20 03 51.1 +2.1**
comp=Z,66nm,1.3s
DLBC Dease Lake 89.54 22 *e*P **P 20 03 54.2 +1.0**
comp=Z,139nm,1.5s
DLBC PP PP 20 07 30.8 +5.5
DLBC S **SKSac 20 14 13.2 -0.8**
DLBC PKKPbc **PKKPbc 20 21 27.8 -0.5**
DLBC Dease Lake 89.54 22 P **P 20 03 54.6 +1.4**
comp=Z,34nm,1.2s,baz=314,slow=4.5,SNR=39
DLBC PP PP 20 07 30.8 +5.5
comp=Z,8.3nm,0.7s,baz=317,slow=7.8,SNR=6.3
DLBC S **SKSac 20 14 13.2 -0.8**
comp=Z,2.0nm,0.9s,baz=218,slow=20,SNR=7.5
DLBC PKKPbc **PKKPbc 20 21 27.8 -0.5**
comp=Z,4.7nm,0.9s,baz=112,slow=5.0,SNR=7.8
DLBC LR LR 20 47 48.1
comp=Z,832nm,18.9s,baz=321,slow=38
WRAK Wrangell Islan 90.25 24 *e*P **P 20 03 58.1 +1.7**
comp=Z,21nm,0.9s
SUR Sutherland 90.25 234 *e*P **P 20 03 58.4 +1.4**
SUR AMB AMB 20 03 60.0
comp=Z,128nm,3.8s
SUR Sutherland 90.25 234 P **P 20 03 58.2 +1.2**
comp=Z,844nm,0.8s,SNR=7.4
SUR Sutherland 90.25 234 *e*P **P 20 03 57.8 +0.8**
comp=Z,26nm,0.9s
YKW3 Yellowknife Ar 90.28 13 *e*P **P 20 03 56.2 -0.3**
comp=Z,0.7nm,1.0s
YKA Yellowknife Ar 90.35 13 P **P 20 03 57.0 +0.2**
YKA PP **PP 20 07 29.2 -2.1**
YKA PKKPbc **PKKPbc 20 21 23.8 -2.4**
YKA SKKPbc SKKPbc 20 24 52.6 +0.2
YKA Yellowknife Ar 90.35 13 P **P 20 03 57.0 +0.2**
comp=Z,14nm,0.9s,baz=331,slow=4.5,SNR=39
YKA PP **PP 20 07 29.2 -2.1**
comp=Z,18nm,0.8s,baz=335,slow=8.1,SNR=14
YKA PKKPbc **PKKPbc 20 21 23.8 -2.4**
comp=Z,5.3nm,0.7s,baz=160,slow=2.5,SNR=17
YKA SKKPbc SKKPbc 20 24 52.6 +0.2
comp=Z,0.5nm,0.7s,baz=169,slow=1.9,SNR=3.7
CVNA Calvinia 90.61 236 *e*P **P 20 03 59.2 +0.6**
CVNA AMB AMB 20 04 04.5
comp=Z,108nm,4.3s
MIR Mirnyy 90.63 181 *e*P **P 20 03 59.0 +1.3**
MIR *i* 20 04 32.0
MIR pmax pmax
comp=Z,385nm,1.5s
CASY Casey 91.15 174 *e*P **P 20 04 00.4 +0.3**
comp=Z,173nm,1.3s
FRB Frobisher Bay 91.21 353 P **P 20 04 01.2 +0.5**
FRB Frobisher Bay 91.21 353 P **P 20 04 01.2 +0.5**
comp=Z,26nm,0.6s,baz=11,slow=4.6,SNR=16
MSVF Nonsavu 91.34 109 P **P 20 04 04.6 +2.3**
comp=Z,344nm,1.0s,SNR=7.9
MSVF Nonsavu 91.34 109 *e*P **P 20 04 03.0 +0.8**
MSVF pmax pmax
comp=Z,170nm,1.6s
MSVF Nonsavu 91.34 109 *e*P **P 20 04 03.0 +0.8**
comp=Z,192nm,1.6s
CER Ceres 91.84 234⇑*i*P **P 20 04 05.5 +1.3**
CER AMB AMB 20 04 06.4
comp=Z,114nm,1.1s
PMOZ Porto Moniz, M 93.74 308 *e*LR LR 20 37 44.9
comp=Z,282nm,20.0s
MAW Mawson 94.70 192 *e*P **P 20 04 16.7 +0.3**
comp=Z,40nm,1.4s
MAW Mawson 94.70 192 P **P 20 04 17.0 +0.6**
comp=Z,73nm,1.1s,baz=15,slow=5.7,SNR=70
MAW LR LR 20 42 25.3
comp=Z,290nm,20.6s,baz=23,slow=32
BBB Bella Bella 95.09 25 P **P 20 04 19.2 +0.4**
BBB Bella Bella 95.09 25 P **P 20 04 19.2 +0.4**
comp=Z,6.2nm,0.8s,baz=283,slow=5.0,SNR=3.9
DBIC Dimbokro 95.92 280⇑*i*P **P 20 04 24.0 +0.7**
DBIC Dimbokro 95.92 280 *e*P **P 20 04 23.7 +0.4**
comp=Z,9.0nm,0.6s
DBIC S **SKSac 20 14 46.2 -4.4**
DBIC PKKPbc **PKKPdf 20 21 12.5 +1.2**
DBIC Dimbokro 95.92 280 P **P 20 04 23.7 +0.4**
comp=Z,13nm,0.7s,baz=42,slow=5.2,SNR=29
DBIC S **SKSac 20 14 46.2 -4.4**
comp=Z,3.5nm,0.9s,baz=59,slow=23,SNR=7.3
DBIC PKKPbc **PKKPdf 20 21 12.5 +1.2**
comp=Z,2.6nm,0.5s,baz=268,slow=4.3,SNR=11
DBIC LR LR 20 49 33.5
comp=Z,963nm,21.9s,baz=52,slow=36
KIC Kosan Boka 95.95 280 *e*PKP2 **P 20 04 24.6 +1.1**
comp=Z,225nm,1.7s
TIC Toumodi 96.08 280 *e*PKP2 **P 20 04 24.7 +0.6**
comp=Z,120nm,1.5s
LIC Lamto 96.26 280⇑*i*P **P 20 04 25.8 +0.9**
comp=Z,20nm,0.8s
LIC *e*pP **pP 20 04 49.7 -2.6**
LIC *e*R
S
comp=Z,2μm,22.5s
LIC Lamto 96.26 280 *e*PKP2 **P 20 04 25.7 +0.9**
comp=Z,38nm,0.8s
LIC Lamto 96.26 280⇑*i*P **P 20 04 25.8 +0.9**
comp=Z,20nm,0.8s
LIC *e*pP **pP 20 04 49.7 -2.6**
DRV Dumont d'Urvil 96.93 163 P **P 20 04 28.0 +1.4**
DRV Dumont d'Urvil 96.93 163 PP PP 20 08 24.0 +0.3
DRV S SKSac 20 14 37.0 -16
DRV SS SS 20 22 04.0 -15
RPZ Rata Peaks 97.26 135 *e*P **P 20 04 28.1 -0.6**
comp=Z,39nm,1.1s
RPZ Rata Peaks 97.26 135 LR LR 20 53 46.5
comp=Z,666nm,19.4s,baz=288,slow=39
URZ Urewera 99.09 128 S **SKSac 20 14 58.9 -6.8**
comp=Z,11nm,1.0s,baz=131,slow=20,SNR=6.4
URZ LR LR 20 52 18.6
comp=Z,418nm,20.6s,baz=294,slow=37
SCHQ Schefferville 99.56 349 P **Pdif 20 04 39.6 +0.6**
SCHQ PKKPbc **PKKPbc 20 21 00.1 -1.7**
SCHQ Schefferville 99.56 349 P **Pdif 20 04 39.6 +0.6**
comp=Z,6.8nm,0.8s,baz=6.2,slow=4.0,SNR=3.8
SCHQ PKKPbc **PKKPbc 20 21 00.1 -1.7**
comp=Z,20nm,0.6s,baz=204,slow=1.9,SNR=27
SCHQ LR LR 20 53 11.7
comp=Z,563nm,21.3s,baz=183,slow=37
FFC Flin Flon 99.95 10 *e*P **Pdif 20 04 40.2 -0.4**
FFC pmax pmax
comp=Z,29nm,1.0s
FFC Flin Flon 99.95 10 *e*P **Pdif 20 04 40.2 -0.4**
comp=Z,12nm,1.0s
SYO Syowa Base 101.22 198⇓*e*P **Pdif 20 04 45.4 -0.3**
NEW Newport 102.28 21 PKKPbc PKKPbc 20 20 52.6 -1.3
NEW Newport 102.28 21 S **SKSac 20 15 20.8 -0.6**
comp=Z,1.1nm,0.3s,baz=127,slow=23,SNR=6.9
NEW PKKPbc **PKKPbc 20 20 52.6 -1.3**
comp=Z,9.5nm,0.9s,baz=161,slow=2.6,SNR=9.9
A19A Klindworth Far 104.10 16⇑PKiKP **PKiKP 20 09 15.4 -0.5**
baz=104
B17A L&G Farms, Che 104.15 17⇑PKiKP **PKiKP 20 09 15.7 -0.4**
baz=104
B18A Beardsley Farm 104.33 17⇓PKiKP **PKiKP 20 09 16.5 +0.1**
baz=104
A20A Cobblestone Ra 104.34 15⇓PKiKP **PKiKP 20 09 16.5 +0.1**
baz=104
A21A Bergtoll Ranch 104.47 15⇑PKiKP **PKiKP 20 09 16.5 -0.1**
baz=104
B19A Brinkman Farms 104.49 16⇑PKiKP **PKiKP 20 09 16.4 -0.3**
baz=104
MSO Missoula 104.56 20⇑PKiKP **PKiKP 20 09 17.1 +0.2**
baz=104
EGMT Eagleton 104.68 17⇓PKiKP **PKiKP 20 09 18.4 +1.3**
baz=104
B20A Solberg Farm, 104.73 15⇑PKiKP **PKiKP 20 09 18.6 +1.5**
baz=104
C17A Wharram Farm, 104.77 18⇓PKiKP **PKiKP 20 09 19.2 +1.9**
baz=104
A23A Redstone 104.95 13⇓PKiKP **PKiKP 20 09 19.6 +2.1**
baz=105
C19A Slack Wire Ran 105.13 16⇑PKiKP **PKiKP 20 09 19.2 +1.3**
baz=105
ULM Lac du Bonnet 105.14 7 Pdif **Pdif 20 05 05.8 +2.0**
ULM PKiKP **PKiKP 20 09 18.2 +0.5**
ULM *e* 20 15 31.1
ULM PKKPbc **PKKPbc 20 20 43.3 -2.2**
ULM Lac du Bonnet 105.14 7 Pdiff **Pdif 20 05 05.8 +2.0**
comp=Z,4.5nm,0.8s,baz=328,slow=9.5,SNR=3.5
ULM PKiKP **PKiKP 20 09 18.2 +0.5**
comp=Z,9.4nm,0.6s,baz=18,slow=3.8,SNR=8.8
ULM Sdiff 20 15 31.1
comp=Z,15nm,1.1s,baz=84,slow=23,SNR=18
ULM PKKPbc **PKKPbc 20 20 43.3 -2.2**
comp=Z,11nm,0.6s,baz=196,slow=2.3,SNR=12
B23A Brockton 105.39 13⇓PKiKP **PKiKP 20 09 18.3 0.0**
baz=105
C20A Veseth Ranch, 105.41 16⇑PKiKP **PKiKP 20 09 18.4 0.0**
baz=105
C21A Desert Coulee 105.52 15⇓PKiKP **PKiKP 20 09 19.0 +0.4**
baz=105
A26A Wade Farm, Ken 105.56 11⇓PKiKP **PKiKP 20 09 19.2 +0.6**
baz=105
YBH Yreka Blue Hor 105.68 28 PKKPbc PKKPbc 20 20 42.9 -0.8
YBH Yreka Blue Hor 105.68 28 Sdiff **SKSac 20 15 36.7 -0.6**
comp=Z,1.2nm,0.8s,baz=138,slow=13,SNR=3.4
YBH PKKPbc **PKKPbc 20 20 42.9 -0.8**
comp=Z,3.2nm,0.7s,baz=98,slow=3.6,SNR=9.5
D19A Cripps Ranch, 105.70 16⇑PKiKP **PKiKP 20 09 19.9 +0.9**
baz=105
E17A Martinsdale 105.81 18⇓PKiKP **PKiKP 20 09 19.9 +0.5**
baz=106
A28A Rude Farm, Bot 105.85 10⇑PKiKP **PKiKP 20 09 19.7 +0.6**
baz=106
C22A Vida 105.88 14⇓PKiKP **PKiKP 20 09 19.8 +0.6**
baz=106
D20A Manuel Ranch, 105.96 16⇑PKiKP **PKiKP 20 09 19.8 +0.3**
baz=106
A29A Manning Farm, 106.00 10⇑PKiKP **PKiKP 20 09 20.6 +1.2**
baz=106
B28A Dugan Ranch, T 106.28 10⇓PKiKP **PKiKP 20 09 19.6 -0.3**
baz=106
D22A Cohagen 106.37 15⇑PKiKP **PKiKP 20 09 21.6 +1.4**
baz=106
E19A Rath Farm, Rou 106.37 17⇑PKiKP **PKiKP 20 09 21.4 +1.2**
baz=106
F17A Fitzpatrick Pl 106.37 18⇑PKiKP **PKiKP 20 09 21.6 +1.2**
baz=106
B29A Wagenman Farm, 106.43 10⇓PKiKP **PKiKP 20 09 20.6 +0.4**
baz=106
E20A Meyer Farm, Mu 106.50 16⇓PKiKP **PKiKP 20 09 21.8 +1.3**
baz=106
D23A Lindsay 106.57 14⇓PKiKP **PKiKP 20 09 20.1 -0.4**
baz=106
C26A Wahner Farm, P 106.58 12⇑PKiKP **PKiKP 20 09 21.9 +1.4**
baz=106
B30A Myrvik Farm, E 106.59 9⇑PKiKP **PKiKP 20 09 21.5 +1.0**
baz=106
F18A Big Timber 106.64 18⇓PKiKP **PKiKP 20 09 22.2 +1.4**
baz=106
MCMT McKenzie Canyo 106.69 20 *e*PKiKP **PKiKP 20 09 20.4 -0.7**
GCMT Greycliff 106.75 18 *e*PKiKP **PKiKP 20 09 21.4 +0.4**
C27A Sayler Ranch, 106.80 11⇓PKiKP **PKiKP 20 09 22.3 +1.3**
baz=106
LAO LASA Array 106.80 15 *e*PKiKP **PKiKP 20 09 20.7 -0.3**
D24A Glendive 106.82 13⇓PKiKP **PKiKP 20 09 22.6 +1.6**
baz=106
G17A Pierce Place, 106.88 18⇓PKiKP **PKiKP 20 09 22.8 +1.5**
baz=107
F19A Roth Farm, Mol 106.89 17⇑PKiKP **PKiKP 20 09 22.7 +1.4**
baz=107
MFID Camas Ranch 106.95 23⇑PKiKP **PKiKP 20 09 22.7 +1.2**
baz=107
MDND Maddock 106.99 10⇑PKiKP **PKiKP 20 09 21.8 +0.6**
baz=107
D25A Fairfield 106.99 13⇓PKiKP **PKiKP 20 09 21.9 +0.5**
baz=107
AGMN Agassiz Nation 107.06 7 *e*PKiKP **PKiKP 20 09 20.9 -0.4**
E22A Miles City 107.10 15⇑PKiKP **PKiKP 20 09 22.1 +0.5**
baz=107
F20A Billings 107.15 17⇑PKiKP **PKiKP 20 09 23.0 +1.3**
baz=107
E23A Ismay 107.19 14⇑PKiKP **PKiKP 20 09 22.2 +0.5**
baz=107
D26A Manning 107.28 12⇓PKiKP **PKiKP 20 09 23.0 +1.1**
baz=107
H16A Russell Place, 107.30 19⇑PKiKP **PKiKP 20 09 23.2 +1.0**
baz=107
C30A Mose, Pekin 107.30 9⇓PKiKP **PKiKP 20 09 23.0 +1.2**
baz=107
HLID Hailey 107.31 22 *e*PKiKP **PKiKP 20 09 23.3 +1.1**
HLID Hailey 107.31 22⇓PKiKP **PKiKP 20 09 23.4 +1.2**
baz=107
E24A Baker 107.35 14⇓PKiKP **PKiKP 20 09 23.5 +1.5**
baz=107
D27A Center 107.38 12⇑PKiKP **PKiKP 20 09 23.6 +1.6**
baz=107
YMR Madison River 107.41 19 *e*PKiKP **PKiKP 20 09 24.0 +1.6**
D28A Regan 107.46 11⇑PKiKP **PKiKP 20 09 23.7 +1.5**
baz=107
RLMT Red Lodge 107.48 18 *e*PKiKP **PKiKP 20 09 22.7 +0.2**
E25A Miller Ranch, 107.59 13⇑PKiKP **PKiKP 20 09 24.0 +1.5**
baz=107
YFT Old Faithful 107.65 19 *e*PKiKP **PKiKP 20 09 25.2 +2.3**
G20A Bridger 107.67 17⇑PKiKP **PKiKP 20 09 23.5 +0.7**
baz=107
D29A Pettibone, Tap 107.75 10⇑PKiKP **PKiKP 20 09 23.5 +0.8**
baz=108
H17A Grant Village 107.78 19 *e*PKiKP **PKiKP 20 09 25.8 +2.6**
H18A Shoshone NF, C 107.78 18⇓PKiKP **PKiKP 20 09 24.6 +1.5**
baz=108
EYMN Ely 107.82 4 *e*PKiKP **PKiKP 20 09 23.2 +0.4**
D30A Buchanan 107.84 10⇑PKiKP **PKiKP 20 09 24.1 +1.2**
baz=108
F23A Volborg 107.90 15⇓PKiKP **PKiKP 20 09 24.2 +1.1**
baz=108
G21A Lodge Grass 107.93 16⇑PKiKP **PKiKP 20 09 24.3 +1.1**
baz=108
E28A Huff 108.04 11⇑PKiKP **PKiKP 20 09 24.3 +1.0**
baz=108
F25A Bowman 108.13 13⇓PKiKP **PKiKP 20 09 24.5 +1.0**
baz=108
G22A Birney 108.16 15⇑PKiKP **PKiKP 20 09 24.3 +0.7**
baz=108
BEKR Beckworth 108.22 28 *e*PKiKP **PKiKP 20 09 24.2 +0.2**
MOOW Moose Ponds 108.31 19 *e*P **PKiKP 20 09 24.9 +0.8**
F26A Lodgepole 108.36 13⇓PKiKP **PKiKP 20 09 24.6 +0.6**
baz=108
G23A Biddle 108.39 15⇓PKiKP **PKiKP 20 09 24.6 +0.6**
baz=108
E30A Jud 108.41 10⇑PKiKP **PKiKP 20 09 24.4 +0.5**
baz=108
H20A Greybull 108.41 17⇓PKiKP **PKiKP 20 09 24.6 +0.5**
baz=108
F27A Lemmon 108.47 12⇓PKiKP **PKiKP 20 09 24.9 +0.8**
baz=108
LOHW Long Hollow 108.48 19 *e*PKiKP **PKiKP 20 09 24.8 +0.3**
TPAW Teton Pass 108.49 19 *e*PKiKP **PKiKP 20 09 25.6 +1.0**
RRI2 Red Ridge 108.50 20 *e*PKiKP **PKiKP 20 09 25.3 +0.7**
SNOW Snow King Moun 108.57 19 *e*PKiKP **PKiKP 20 09 25.9 +1.2**
I18A Diamond G Ranc 108.63 19⇑PKiKP **PKiKP 20 09 25.1 +0.4**
baz=108
REDW Red Top Meadow 108.63 19 *e*PKiKP **PKiKP 20 09 24.9 +0.1**
H22A Clearmont 108.73 16⇓PKiKP **PKiKP 20 09 25.5 +0.8**
baz=108
G27A Dupree 108.76 13⇑PKiKP **PKiKP 20 09 25.6 +0.9**
baz=109
G25A Newell 108.84 13⇓PKiKP **PKiKP 20 09 25.3 +0.5**
baz=108
VNDA Vanda 108.86 168 PKiKP **PKiKP 20 09 23.9 +0.1**
VNDA PKKPbc **PKKPbc 20 20 33.4 -1.5**
VNDA Vanda 108.86 168 Pdiff **Pdif 20 05 21.2 +1.7**
comp=Z,2.8nm,0.8s,baz=330,slow=4.6,SNR=8.9
VNDA PKiKP **PKiKP 20 09 23.9 +0.1**
comp=Z,6.1nm,0.9s,baz=303,slow=3.8,SNR=7.8
VNDA PKKPbc **PKKPbc 20 20 33.4 -1.5**
comp=Z,3.6nm,0.8s,baz=97,slow=2.5,SNR=8.8
I20A Worland 108.88 17⇓PKiKP **PKiKP 20 09 25.8 +0.8**
baz=109
F29A Eureka 108.91 11⇓PKiKP **PKiKP 20 09 25.3 +0.4**
baz=109
G26A Maurine 108.91 13⇑PKiKP **PKiKP 20 09 25.6 +0.7**
baz=109
H23A Clabaugh Cattl 108.99 15⇑PKiKP **PKiKP 20 09 25.2 0.0**
baz=109
H24A Dirks Ranch, A 109.02 14⇓PKiKP **PKiKP 20 09 25.6 +0.3**
baz=109
I21A Big Trails, Te 109.22 17⇓PKiKP **PKiKP 20 09 26.1 +0.3**
baz=109
J19A Crowheart 109.25 18⇓PKiKP **PKiKP 20 09 26.3 +0.4**
baz=109
I22A 9 Mile Ranch, 109.36 16⇑PKiKP **PKiKP 20 09 26.4 +0.4**
baz=109
J20A Shoshoni 109.44 17⇑PKiKP **PKiKP 20 09 26.6 +0.5**
baz=109
G28A Parade 109.45 12⇑PKiKP **PKiKP 20 09 26.8 +0.8**
baz=109
HVU Hansel Valley 109.45 21 *e*PKiKP **PKiKP 20 09 26.7 +0.5**
ELK Elko 109.50 24 *e*PKiKP **PKiKP 20 09 27.1 +0.7**
BW06 Boulder Array 109.56 19 *e*PKiKP **PKiKP 20 09 26.1 -0.5**
PDAR Pinedale Array 109.56 19 Pdif **Pdif 20 05 28.9 +4.8**
PDAR PKiKP **PKiKP 20 09 26.9 +0.4**
PDAR SKP 20 12 51.5
PDAR PKKPbc **PKKPbc 20 20 30.1 -1.8**
PDAR SKKPbc SKKPbc 20 24 02.9 -0.6
PDAR Pinedale Array 109.56 19 Pdiff **Pdif 20 05 28.9 +4.8**
comp=Z,0.3nm,0.6s,baz=57,slow=5.5,SNR=2.5
PDAR PKiKP **PKiKP 20 09 26.9 +0.4**
comp=Z,9.0nm,0.7s,baz=91,slow=1.1,SNR=40
PDAR SKP 20 12 51.5
comp=Z,3.5nm,0.7s,baz=77,slow=1.7,SNR=5.5
PDAR PKKPbc **PKKPbc 20 20 30.1 -1.8**
comp=Z,4.4nm,0.9s,baz=159,slow=4.2,SNR=12
PDAR SKKPbc SKKPbc 20 24 02.9 -0.6
comp=Z,1.9nm,1.0s,baz=139,slow=3.2,SNR=4.0
J21A Lysite 109.62 17⇓PKiKP **PKiKP 20 09 26.8 +0.2**
baz=109
H27A Howes 109.65 13⇓PKiKP **PKiKP 20 09 26.9 +0.5**
baz=109
K19A Absolon Red Bu 109.72 18⇓PKiKP **PKiKP 20 09 26.8 +0.1**
baz=109
WAKR Walker 109.75 28 *e*P **PKiKP 20 09 28.1 +1.1**
COWI Conover 109.79 3 *e*PKiKP **PKiKP 20 09 26.2 -0.3**
H28A Mission Ridge 109.82 12⇓PKiKP **PKiKP 20 09 27.2 +0.5**
baz=110
I24A Kuemmerle Ranc 109.84 15⇑PKiKP **PKiKP 20 09 27.0 +0.1**
baz=110
I25A Rochford 109.89 14⇓PKiKP **PKiKP 20 09 27.2 +0.2**
baz=110
SBA Scott Base 109.95 168 *e*PKiKP **PKiKP 20 09 26.6 +0.8**
HWUT Hardware Ranch 110.00 21 *e*PKiKP **PKiKP 20 09 28.0 +0.7**
K20A Yellowstone Ra 110.01 18⇓PKiKP **PKiKP 20 09 27.3 0.0**
baz=110
J23A Dilts Ranch, B 110.05 16⇓PKiKP **PKiKP 20 09 27.4 +0.2**
baz=110
I26A New Underwood 110.07 13⇑PKiKP **PKiKP 20 09 27.8 +0.6**
baz=110
BGU Big Grassy Mou 110.13 22 *e*PKiKP **PKiKP 20 09 27.9 +0.4**
L18A Fontenelle, Gr 110.19 19⇑PKiKP **PKiKP 20 09 28.2 +0.6**
baz=110
I27A Quinn 110.20 13⇑PKiKP **PKiKP 20 09 28.4 +1.0**
baz=110
L19A Farson 110.23 19⇑PKiKP **PKiKP 20 09 28.1 +0.3**
baz=110
NVAR Mina Array Bea 110.30 27 Pdif **Pdif 20 05 33.5 +6.1**
NVAR PKiKP **PKiKP 20 09 29.3 +1.3**
NVAR SKP 20 12 54.7
NVAR PKKPbc **PKKPbc 20 20 28.6 -0.8**
NVAR P'P' 20 28 54.7
NVAR Mina Array Bea 110.30 27 Pdiff **Pdif 20 05 33.5 +6.1**
comp=Z,0.3nm,0.7s,baz=316,slow=3.8,SNR=3.3
NVAR PKiKP **PKiKP 20 09 29.3 +1.3**
comp=Z,5.5nm,0.7s,baz=315,slow=2.2,SNR=22
NVAR SKP 20 12 54.7
comp=Z,2.5nm,0.7s,baz=320,slow=1.1,SNR=4.6
NVAR PKKPbc **PKKPbc 20 20 28.6 -0.8**
comp=Z,2.6nm,0.7s,baz=157,slow=4.4,SNR=9.2
NVAR PKPPKP **P'P'df 20 28 54.7 -3.4**
comp=Z,0.5nm,0.8s,baz=161,slow=2.5,SNR=3.7
J24A Dixon Ranch, L 110.33 15⇑PKiKP **PKiKP 20 09 28.1 +0.3**
baz=110
K21A Alcova 110.33 17⇑PKiKP **PKiKP 20 09 28.3 +0.4**
baz=110
NV11 Mina Array Sit 110.36 27 *e*PKiKP **PKiKP 20 09 28.9 +0.9**
BRSD Miller 110.41 10⇓PKiKP **PKiKP 20 09 28.2 +0.4**
baz=110
M17A Scullys Gap (B 110.41 20⇑PKiKP **PKiKP 20 09 28.3 +0.2**
baz=110
SPMN St. Paul 110.42 6⇑PKiKP **PKiKP 20 09 28.3 +0.5**
baz=110
I28A Midland 110.44 12⇑PKiKP **PKiKP 20 09 28.5 +0.7**
baz=110
J25A Sunshine Ranch 110.47 14⇓PKiKP **PKiKP 20 09 28.4 +0.4**
baz=110
MAIT Maitri 110.48 201 *e*P **PKiKP 20 09 25.2 -1.7**
K22A Casper 110.51 17⇓PKiKP **PKiKP 20 09 28.4 +0.2**
baz=110
L20A Wamsutter 110.61 18⇑PKiKP **PKiKP 20 09 29.1 +0.6**
baz=110
K23A Bowen Ranch, D 110.64 16⇑PKiKP **PKiKP 20 09 29.1 +0.6**
baz=110
J26A Sides Ranch, S 110.71 14⇑PKiKP **PKiKP 20 09 29.0 +0.6**
baz=110
M19A Rock Springs 110.84 19⇓PKiKP **PKiKP 20 09 29.4 +0.5**
baz=111
DUG Dugway 110.85 22 *e*PKiKP **PKiKP 20 09 29.8 +0.9**
DUG Dugway 110.85 22 *e*PKiKP **PKiKP 20 09 29.8 +0.9**
DUG Dugway 110.85 22⇓PKiKP **PKiKP 20 09 29.5 +0.6**
baz=111
K24A Anderson Ranch 110.87 15⇑PKiKP **PKiKP 20 09 28.9 +0.1**
baz=111
L21A Rawlins 110.92 17⇑PKiKP **PKiKP 20 09 29.3 +0.2**
baz=111
J28A Allard Ranch, 110.98 12⇓PKiKP **PKiKP 20 09 29.6 +0.7**
baz=111
SADO Sadowa 110.98 355 PKiKP **PKiKP 20 09 29.0 +0.2**
SADO PKKPbc **PKKPbc 20 20 25.2 -1.9**
SADO Sadowa 110.98 355 PKiKP **PKiKP 20 09 29.0 +0.2**
comp=Z,11nm,0.7s,baz=324,slow=2.8,SNR=8.8
SADO PKKPbc **PKKPbc 20 20 25.2 -1.9**
comp=Z,8.3nm,0.6s,baz=207,slow=1.8,SNR=6.9
J27A Elkhorn Farm, 110.99 13⇑PKiKP **PKiKP 20 09 29.9 +0.9**
baz=111
L22A Ellis Ranch, M 111.11 17⇑PKiKP **PKiKP 20 09 29.9 +0.5**
baz=111
M20A Sweetwater, Wa 111.14 18⇓PKiKP **PKiKP 20 09 30.1 +0.5**
baz=111
K25A Mack Ranch, Ha 111.20 15⇓PKiKP **PKiKP 20 09 30.0 +0.5**
baz=111
L23A Garrett 111.22 16⇑PKiKP **PKiKP 20 09 29.9 +0.3**
baz=111
RWWY Rawlins 111.22 17 *e*PKiKP **PKiKP 20 09 29.7 0.0**
M21A Separation Pea 111.26 18⇓PKiKP **PKiKP 20 09 30.0 +0.3**
baz=111
K26A Motz Farm, Whi 111.27 14⇑PKiKP **PKiKP 20 09 29.9 +0.3**
baz=111
ECSD EROS Data Cent 111.45 9 *e*PKiKP **PKiKP 20 09 29.5 -0.2**
R11A Troy Canyon, C 111.46 25 *e*PKiKP **PKiKP 20 09 31.1 +1.0**
R11A Troy Canyon, C 111.46 25⇓PKiKP **PKiKP 20 09 30.9 +0.7**
baz=111
L25A Engebretsen Ra 111.61 15⇑PKiKP **PKiKP 20 09 30.9 +0.7**
baz=111
N20A Spence Gulch, 111.72 19⇑PKiKP **PKiKP 20 09 31.2 +0.5**
baz=111
K29A Lazy Trails An 111.80 12⇓PKiKP **PKiKP 20 09 31.2 +0.7**
baz=112
M23A Laramie 111.83 16⇑PKiKP **PKiKP 20 09 31.4 +0.6**
baz=112
GRAC Grapevine Rang 111.90 27⇑PKiKP **PKiKP 20 09 31.8 +0.9**
baz=112
L26A Underwood Farm 111.92 14⇑PKiKP **PKiKP 20 09 31.5 +0.6**
baz=112
O19A Miners Draw (B 111.96 19⇓PKiKP **PKiKP 20 09 31.2 +0.2**
baz=112
N21A Black Mountain 112.00 18⇑PKiKP **PKiKP 20 09 31.7 +0.5**
baz=112
PHWY Pilot Hill 112.05 16 *e*PKiKP **PKiKP 20 09 31.4 +0.1**
M24A Cheyenne 112.05 16⇑PKiKP **PKiKP 20 09 31.9 +0.7**
baz=112
TMUT Trail Mountain 112.20 21 *e*PKiKP **PKiKP 20 09 32.6 +0.9**
N22A Wattenberg Ran 112.26 17⇑PKiKP **PKiKP 20 09 32.1 +0.4**
baz=112
M25A Palm-Egli Farm 112.27 15⇑PKiKP **PKiKP 20 09 32.1 +0.5**
baz=112
N23A Red Feather La 112.31 17⇓PKiKP **PKiKP 20 09 32.2 +0.4**
baz=112
O20A White River Ci 112.37 19 *e*PKiKP **PKiKP 20 09 32.0 +0.1**
O20A White River Ci 112.37 19⇑PKiKP **PKiKP 20 09 32.4 +0.5**
baz=112
L29A Maesberg Ranch 112.44 12⇓PKiKP **PKiKP 20 09 32.2 +0.4**
baz=112
O21A Pagoda 112.52 18⇓PKiKP **PKiKP 20 09 32.5 +0.3**
baz=112
Q16A Castle Valley 112.56 22 *e*PKiKP **PKiKP 20 09 32.1 -0.1**
Q16A Castle Valley 112.56 22⇓PKiKP **PKiKP 20 09 33.0 +0.7**
baz=112
M27A Reverse DX Ran 112.56 14⇑PKiKP **PKiKP 20 09 32.5 +0.5**
baz=112
PKM Peak Mountain 112.59 30⇑PKiKP **PKiKP 20 09 32.7 +0.3**

	baz=112						
SRU	San Rafael	112.60	21	ePKIKP	PKiKP	20 09 33.0	+0.7
SRU	San Rafael	112.60	21	ePKiKP	PKiKP	20 09 33.0	+0.7
P19A	Cripple Cowboy	112.61	20	⇓PKiKP	PKiKP	20 09 32.9	+0.6
	baz=112						
N24A	Carr	112.64	16	⇑PKiKP	PKiKP	20 09 32.8	+0.5
	baz=112						
MPMC	Manual Prospec	112.65	28	⇑PKiKP	PKiKP	20 09 33.3	+0.8
	baz=112						
O22A	Kremmling	112.83	18	⇑PKiKP	PKiKP	20 09 33.0	+0.1
	baz=112						
M28A	Bar X Bar Ranc	112.91	13	⇓PKiKP	PKiKP	20 09 33.2	+0.5
	baz=113						
JFWS	Jewell Farm	112.91	4	ePKIKP	PKiKP	20 09 32.0	-0.5
JFWS	Jewell Farm	112.91	4	ePKiKP	PKiKP	20 09 32.0	-0.5
O23A	Lake Granby, G	112.95	17	⇓PKiKP	PKiKP	20 09 33.6	+0.5
	baz=113						
N26A	Koester Ranch,	113.04	15	⇓PKiKP	PKiKP	20 09 33.5	+0.5
	baz=113						
M30A	Dale-Ortello V	113.06	12	⇓PKiKP	PKiKP	20 09 33.2	+0.2
	baz=113						
P21A	Newcastle	113.17	18	⇑PKiKP	PKiKP	20 09 33.7	+0.2
	baz=113						
OGNE	Ogallala	113.20	14	⇓PKiKP	PKiKP	20 09 33.4	+0.1
	baz=113						
N27A	Anderson Farm,	113.22	14	⇑PKiKP	PKiKP	20 09 33.9	+0.5
	baz=113						
BINY	Binghamton	113.22	352	ePKiKP	PKiKP	20 09 33.9	+0.7
O24A	Longmont	113.26	16	⇑PKiKP	PKiKP	20 09 34.0	+0.5
	baz=113						
P22A	Eagle	113.30	18	⇑PKiKP	PKiKP	20 09 34.1	+0.4
	baz=113						
ISCO	Idaho Springs	113.42	17	ePKIKP	PKiKP	20 09 34.0	0.0
ISCO	Idaho Springs	113.42	17	ePKiKP	PKiKP	20 09 34.0	0.0
ISCO	Idaho Springs	113.42	17	⇓PKiKP	PKiKP	20 09 34.3	+0.3
	baz=113						
EDW2	Edwards Air Fo	113.43	29	⇓PKiKP	PKiKP	20 09 34.9	+1.0
	baz=113						
Q20A	Ridgley Place,	113.44	19	⇑PKiKP	PKiKP	20 09 34.5	+0.5
	baz=113						
BGNE	Belgrade	113.49	11	ePKiKP	PKiKP	20 09 33.1	-0.6
BGNE	Belgrade	113.49	11	⇑PKiKP	PKiKP	20 09 34.2	+0.4
	baz=113						
N28A	Pribbeno Ranch	113.55	13	⇑PKiKP	PKiKP	20 09 34.3	+0.4
	baz=113						
O26A	Horse Wrangler	113.58	15	⇓PKiKP	PKiKP	20 09 34.3	+0.3
	baz=113						
GSC	Goldstone	113.58	28	ePKiKP	PKiKP	20 09 35.6	+1.4
GSC	Goldstone	113.58	28	ePKiKP	PKiKP	20 09 35.6	+1.4
GSC	Goldstone	113.58	28	⇑PKiKP	PKiKP	20 09 35.1	+1.0
	baz=113						
N29A	Votaw Ranch, W	113.61	13	⇑PKiKP	PKiKP	20 09 34.4	+0.4
	baz=113						
SMCO	Snowmass	113.62	18	ePKiKP	PKiKP	20 09 35.1	+0.5
N30A	Hueftle Ranch,	113.74	12	⇓PKiKP	PKiKP	20 09 34.6	+0.3
	baz=113						
P23A	Jefferson	113.76	17	⇑PKiKP	PKiKP	20 09 35.4	+0.7
	baz=114						
Q21A	Lamborn Mesa,	113.77	19	⇑PKiKP	PKiKP	20 09 35.1	+0.6
	baz=114						
PV04	Paradox Valley	113.77	20	ePKPdf	PKiKP	20 09 35.0	+0.5
O27A	Beecher Island	113.82	14	⇑PKiKP	PKiKP	20 09 34.9	+0.3
	baz=114						
Q22A	Crested Butte,	113.94	18	⇑PKiKP	PKiKP	20 09 35.5	+0.5
	baz=114						
O28A	Krutsinger Ran	114.04	14	⇓PKiKP	PKPdf	20 09 35.5	+0.6
	baz=114						
P25A	Willow Gulch B	114.06	16	⇑PKiKP	PKPdf	20 09 35.5	+0.4
	baz=114						
BFSC	Mount Baldy Ra	114.11	29	⇑PKiKP	PKPdf	20 09 35.6	+0.3
	baz=114						
R20A	Redvale	114.12	20	⇑PKiKP	PKPdf	20 09 35.9	+0.6
	baz=114						
QSPA	South Pole Qui	114.17	180	PKP	PKPdf	20 09 33.8	-0.3
QSPA				SKP		20 12 59.0	
QSPA				PKKPbc	PKKPbc	20 20 16.8	-1.0
QSPA				SKKPbc	SKKPbc	20 23 50.2	-5.9
QSPA	South Pole Qui	114.17	180	PKP	PKPdf	20 09 33.8	-0.3
	comp=Z,84nm,1.1s,baz=287,slow=1.2,SNR=26						
QSPA				SKP		20 12 59.0	
	comp=Z,7.6nm,0.7s,baz=248,slow=1.5,SNR=4.3						
QSPA				PKKPbc	PKKPbc	20 20 16.8	-1.0
	comp=Z,6.8nm,0.6s,baz=152,slow=0.8,SNR=29						
QSPA				SKKPbc	SKKPbc	20 23 50.2	-5.9
	comp=Z,3.6nm,0.9s,baz=149,slow=1.3,SNR=3.5						
HEC	Hector,Ludlow	114.19	28	⇓PKiKP	PKPdf	20 09 36.5	+1.2
	baz=114						
Q23A	Hartsel	114.20	17	⇑PKiKP	PKPdf	20 09 35.9	+0.3
	baz=114						
R21A	Cimarron	114.21	19	⇓PKiKP	PKPdf	20 09 36.0	+0.5
	baz=114						
P26A	Davis Ranch, A	114.22	15	⇓PKiKP	PKPdf	20 09 36.0	+0.6
	baz=114						
O29A	4D Ranch, Culb	114.24	13	⇑PKiKP	PKPdf	20 09 35.5	+0.3
	baz=114						
Q24A	Divide	114.33	17	⇓PKiKP	PKPdf	20 09 36.0	+0.2
	baz=114						
O30A	MW Ranch, Wils	114.34	12	⇓PKiKP	PKPdf	20 09 35.5	+0.1
	baz=114						
U15A	North Rim	114.39	24	⇓PKiKP	PKPdf	20 09 37.2	+1.3
	baz=114						
P27A	Ficken Ranch,	114.40	15	⇓PKiKP	PKPdf	20 09 36.0	+0.3
	baz=114						
S20A	Disappointment	114.46	20	⇑PKiKP	PKPdf	20 09 36.7	+0.7
	baz=114						
GMRC	Granite Mounta	114.51	27	⇓PKiKP	PKPdf	20 09 37.2	+1.2
	baz=114						
P28A	Saint Francis	114.57	14	⇑PKiKP	PKPdf	20 09 36.3	+0.3
	baz=114						
Q25A	Bedland, Calha	114.61	16	⇑PKiKP	PKPdf	20 09 36.4	+0.2
	baz=114						
P29A	Atwood	114.72	13	⇑PKiKP	PKPdf	20 09 36.6	+0.4
	baz=114						
Q26A	Hugo	114.78	16	⇑PKiKP	PKPdf	20 09 37.1	+0.6
	baz=114						
S21A	Coal Bank Pass	114.78	20	⇑PKiKP	PKPdf	20 09 37.4	+0.7
	baz=114						
MURC	Murrieta	114.86	29	⇑PKiKP	PKPdf	20 09 37.4	+0.8
	baz=115						
R23A	Moffat	114.87	18	⇓PKiKP	PKPdf	20 09 37.3	+0.5
	baz=115						
KSCO	Kaye Shedlock'	114.91	15	⇓PKiKP	PKPdf	20 09 37.1	+0.5
	baz=115						
P30A	Selden	114.92	13	⇓PKiKP	PKPdf	20 09 36.7	+0.1
	baz=115						
W13A	Hualapai Mount	114.96	26	⇑PKiKP	PKPdf	20 09 38.1	+1.2
	baz=115						
SSPA	Standing Stone	114.98	354	ePKPdf	PKPdf	20 09 36.5	0.0
MVCO	Mesa Verde	114.98	20	ePKPdf	PKPdf	20 09 38.0	+1.0
MVCO	Mesa Verde	114.98	20	⇓PKiKP	PKPdf	20 09 37.7	+0.7
	baz=115						
S22A	4UR Ranch, Cre	115.00	19	⇑PKiKP	PKPdf	20 09 37.9	+0.8
	baz=115						
R24A	Sanders Place,	115.03	17	⇑PKiKP	PKPdf	20 09 37.5	+0.5
	baz=115						
BELC	Belle Mtn. Jos	115.04	28	⇓PKiKP	PKPdf	20 09 38.4	+1.3
	baz=115						
P31A	Stockton	115.11	12	⇑PKiKP	PKPdf	20 09 37.4	+0.5
	baz=115						
PFO	Pinyon Flat Ob	115.18	28	PKP	PKPdf	20 09 37.9	+0.6
PFO				PKKPbc	PKKPbc	20 20 11.4	-1.5
PFO	Pinyon Flat Ob	115.18	28	PKP	PKPdf	20 09 37.9	+0.6
	comp=Z,4.1nm,0.6s,baz=1.0,slow=6.9,SNR=5.3						
PFO				PKKPbc	PKKPbc	20 20 11.4	-1.5
	comp=Z,3.1nm,0.6s,baz=226,slow=3.3,SNR=7.4						
PFO	Pinyon Flat Ob	115.18	28	⇑PKiKP	PKPdf	20 09 38.4	+1.1
	baz=115						
IRM	Iron Mountain	115.26	27	⇑PKiKP	PKPdf	20 09 38.7	+1.3
	baz=115						
SNAA	Sanae	115.27	200	ePKPdf	PKPdf	20 09 36.3	+0.2
SNAA				PKKPbc	PKKPbc	20 20 11.7	-1.8
SNAA				SKKPbc	SKKPbc	20 23 48.5	-3.5
SNAA	Sanae	115.27	200	PKKPbc	PKKPbc	20 20 11.7	-1.8
	comp=Z,0.9nm,0.9s,baz=277,slow=1.5,SNR=5.8						
SNAA				SKKPbc	SKKPbc	20 23 48.5	-3.5
	comp=Z,0.7nm,0.8s,baz=343,slow=3.2,SNR=3.1						
HDIL	Hopedale	115.32	3	ePKPdf	PKPdf	20 09 37.3	+0.1
R25A	Fountain Ranch	115.32	16	⇓PKiKP	PKPdf	20 09 37.5	0.0
	baz=115						
SDCO	Great Sand Dun	115.37	18	ePKPdf	PKPdf	20 09 37.9	+0.1
R26A	Arlington	115.39	16	⇑PKiKP	PKPdf	20 09 38.1	+0.5
	baz=115						
Q30A	Quinter	115.47	13	⇑PKiKP	PKPdf	20 09 38.2	+0.5
	baz=115						
T21A	Navajo Lake	115.48	20	⇑PKiKP	PKPdf	20 09 38.9	+1.0
	baz=115						
WUAZ	Wupatki	115.54	23	ePKPdf	PKPdf	20 09 38.6	+0.6
WUAZ	Wupatki	115.54	23	⇓PKiKP	PKPdf	20 09 38.8	+0.8
	baz=115						
S24A	Houchin Ranch,	115.55	17	⇓PKiKP	PKPdf	20 09 38.7	+0.6
	baz=115						
PDMCI	Parker Dam,Lak	115.55	26	⇑PKiKP	PKPdf	20 09 38.9	+1.1
	baz=115						
R27A	Eads	115.56	15	⇓PKiKP	PKPdf	20 09 38.4	+0.5
	baz=115						
BC3	Big Chuckawall	115.57	28	⇑PKiKP	PKPdf	20 09 39.4	+1.4
	baz=115						
SFIN	Scholer Farm	115.58	2	ePKPdf	PKPdf	20 09 38.3	+0.6
SFIN	Scholer Farm	115.58	2	⇓PKiKP	PKPdf	20 09 38.2	+0.4
	baz=115						
Q31A	Ellis	115.60	12	⇑PKiKP	PKPdf	20 09 38.4	+0.5
	baz=115						
T22A	Edith	115.65	19	⇓PKiKP	PKPdf	20 09 39.2	+0.9
	baz=115						
ACSO	Alum Creek Sta	115.71	358	ePKPdf	PKPdf	20 09 38.4	+0.4
R28A	Tribune	115.74	14	⇑PKiKP	PKPdf	20 09 38.7	+0.4
	baz=115						
U20A	Newcomb	115.74	21	⇑PKiKP	PKPdf	20 09 39.8	+1.4
	baz=116						
S25A	Robets Cordova	115.74	17	⇓PKiKP	PKPdf	20 09 38.6	+0.2
	baz=116						
MONP	Monument Peak	115.80	29	⇑PKiKP	PKPdf	20 09 40.0	+1.4
	baz=116						
BAR	Barrett	115.87	29	ePKPdf	PKPdf	20 09 39.9	+1.4
Y12C	Blythe	115.87	27	⇑PKiKP	PKPdf	20 09 40.0	+1.5
	baz=116						
T23A	Casias Ranch,	115.89	18	⇓PKiKP	PKPdf	20 09 39.8	+1.0
	baz=116						
U21A	Nageezi	115.96	20	⇑PKiKP	PKPdf	20 09 40.2	+1.3
	baz=116						
KSU1	Kansas State U	115.99	10	ePKPdf	PKPdf	20 09 38.6	0.0
SWSC	Sam W. Stewart	116.03	28	⇑PKiKP	PKPdf	20 09 40.3	+1.5
	baz=116						
T24B	San Luis	116.05	18	⇑PKiKP	PKPdf	20 09 40.3	+1.2
	baz=116						
S27A	Las Animas	116.11	15	⇓PKiKP	PKPdf	20 09 39.4	+0.4
	baz=116						
R30A	Dighton	116.12	13	⇓PKiKP	PKPdf	20 09 39.3	+0.4
	baz=116						
DVTC	Desert V Tower	116.14	29	⇓PKiKP	PKiKP	20 09 40.4	+1.3
	baz=116						
T25A	Trinidad	116.24	17	⇑PKiKP	PKiKP	20 09 39.9	+0.5
	baz=116						
R31A	Burdett	116.27	12	⇓PKiKP	PKiKP	20 09 39.7	+0.6
	baz=116						
V20A	Brimhall	116.28	21	⇓PKiKP	PKiKP	20 09 40.4	+0.9
	baz=116						
Y14A	Wickenburg	116.32	26	⇓PKiKP	PKiKP	20 09 40.4	+0.9
	baz=116						
GLA	Glamis	116.35	28	ePKIKP	PKPdf	20 09 41.1	+1.6
GLA	Glamis	116.35	28	ePKPdf	PKPdf	20 09 41.1	+1.6
GLA	Glamis	116.35	28	⇑PKiKP	PKPdf	20 09 41.0	+1.6
	baz=116						
T26A	Comanche Natio	116.42	16	⇑PKiKP	PKiKP	20 09 40.2	+0.5
	baz=116						
S28A	Manter	116.44	15	⇓PKiKP	PKiKP	20 09 40.0	+0.4
	baz=116						
W18A	Petrified Fore	116.48	22	ePKPdf	PKPdf	20 09 41.7	+1.8
W18A	Petrified Fore	116.48	22	⇓PKiKP	PKiKP	20 09 41.1	+1.2
	baz=116						
X16A	Lo Mia Camp, P	116.49	24	⇓PKiKP	PKiKP	20 09 41.1	+1.2
	baz=116						
U23A	El Rito	116.50	19	⇓PKiKP	PKiKP	20 09 40.8	+0.8
	baz=116						
V21A	Milan	116.54	20	⇓PKiKP	PKiKP	20 09 41.0	+1.0
	baz=116						
S29A	Ulysses	116.58	14	⇑PKiKP	PKiKP	20 09 40.5	+0.6
	baz=116						
V22A	San Miguel Ran	116.67	20	⇓PKiKP	PKiKP	20 09 41.8	+1.5
	baz=116						
S30A	Montezuma	116.70	13	⇑PKiKP	PKiKP	20 09 40.2	+0.1
	baz=116						
T27A	Campo	116.74	16	⇓PKiKP	PKiKP	20 09 40.6	+0.4
	baz=116						
VNA2	Neumayer--Watz	116.75	201	ePKPdf	PKPdf	20 09 39.6	+0.7
	baz=51,slow=2.1						
VNA2	Neumayer--Watz	116.75	201	eSKKPbc	SKKPbc	20 23 41.9	-5.4
	baz=51,slow=2.1						
T28A	Walsh	116.83	15	⇑PKiKP	PKiKP	20 09 40.4	0.0
	baz=116						
Z14A	Wintersburg	116.85	26	⇑PKiKP	PKiKP	20 09 41.8	+1.4
	baz=117						
W20A	Ramah	116.89	21	⇓PKiKP	PKiKP	20 09 41.9	+1.1
	baz=117						
S31A	Mullinville	116.93	13	⇑PKiKP	PKiKP	20 09 40.9	+0.4
	baz=117						
X18A	Snowflake	116.93	23	⇓PKiKP	PKiKP	20 09 41.8	+1.0
	baz=117						
U25A	Circle Dot Ran	116.94	17	⇓PKiKP	PKiKP	20 09 41.4	+0.7
	baz=117						
T29A	Hugoton	116.99	14	⇑PKiKP	PKiKP	20 09 41.3	+0.7
	baz=117						
113A	Mohawk Valley,	117.04	27	⇑PKiKP	PKiKP	20 09 41.9	+1.2
	baz=117						
V23A	Ortiz Mt. (NFS	117.04	19	⇓PKiKP	PKiKP	20 09 42.5	+1.5
	baz=117						
VNA1	Neumayer--Stat	117.06	201	ePKPdf	PKPdf	20 09 40.3	+0.9
U26A	Atchley Ranch,	117.12	17	⇓PKiKP	PKiKP	20 09 41.2	+0.1
	baz=117						
T30A	Plains	117.26	14	⇑PKiKP	PKiKP	20 09 41.7	+0.6
	baz=117						
U27A	Thompson Grove	117.33	16	⇑PKiKP	PKiKP	20 09 41.6	+0.2
	baz=117						
V24A	Rampart Ranch,	117.33	18	⇓PKiKP	PKiKP	20 09 42.8	+1.2
	baz=117						
T31A	Randall Ranch,	117.39	13	⇑PKiKP	PKiKP	20 09 41.7	+0.4
	baz=117						
X20A	Quemado	117.42	21	⇑PKiKP	PKiKP	20 09 43.0	+1.3
	baz=117						
W23A	Werner Place,	117.60	19	⇑PKiKP	PKiKP	20 09 42.9	+0.8
	baz=117						
U29A	Oasis Ranch, S	117.67	15	⇑PKiKP	PKiKP	20 09 42.2	+0.2
	baz=117						
V26A	Tequesquite Ra	117.67	17	⇑PKiKP	PKPdf	20 09 41.8	-0.3
	baz=117						
ANMO	Albuquerque	117.70	20	PKP	PKPdf	20 09 43.4	+1.1
ANMO				SKP		20 13 08.4	
ANMO				PKKPbc	PKKPbc	20 20 03.9	-0.4
ANMO	Albuquerque	117.70	20	PKP	PKPdf	20 09 43.4	+1.1
	comp=Z,27nm,0.8s,baz=49,slow=0.6,SNR=51						
ANMO				SKP		20 13 08.4	
	comp=Z,9.2nm,0.7s,baz=267,slow=0.0,SNR=8.6						
ANMO				PKKPbc	PKKPbc	20 20 03.9	-0.4
	comp=Z,5.1nm,0.8s,baz=159,slow=6.7,SNR=9.6						
U30A	WK&E Inc. Balk	117.73	14	⇓PKiKP	PKiKP	20 09 42.5	+0.4
	baz=117						
X21A	Alamocita Cree	117.74	21	⇑PKiKP	PKiKP	20 09 43.8	+1.4
	baz=118						
W24A	Lazy 6 Ranch,	117.77	19	⇑PKiKP	PKiKP	20 09 43.5	+1.1
	baz=118						
X22A	Bernardo	117.94	20	⇑PKiKP	PKiKP	20 09 44.3	+1.6
	baz=118						
V27A	Dan Oppiter Fa	117.95	16	⇓PKiKP	PKiKP	20 09 43.0	+0.4
	baz=118						
LAZ	Ladron	117.99	20	ePKPdf	PKPdf	20 09 43.8	+0.9
W25A	X Bar L Ranch,	118.03	18	⇑PKiKP	PKiKP	20 09 43.5	+0.7
	baz=118						
Y20A	Horse Springs,	118.04	22	⇑PKiKP	PKiKP	20 09 44.4	+1.4
	baz=118						
U31A	Nine Bar Ranch	118.06	13	⇑PKiKP	PKiKP	20 09 43.4	+0.7
	baz=118						
V28A	Channing	118.11	16	⇑PKiKP	PKiKP	20 09 43.4	+0.5
	baz=118						
X23A	Hourglass Bar	118.12	19	⇑PKiKP	PKiKP	20 09 44.3	+1.2
	baz=118						
214A	Organ Pipe Nat	118.14	26	⇑PKiKP	PKiKP	20 09 44.4	+1.4
	baz=118						
SIUC	Southern Illin	118.15	4	ePKPdf	PKPdf	20 09 43.5	+0.7
Y21A	Point of Rocks	118.18	21	⇑PKiKP	PKiKP	20 09 44.9	+1.7
	baz=118						
LPM	Los Pinos Moun	118.23	20	ePKPdf	PKPdf	20 09 43.7	+0.4
LENM	Lemitar	118.26	20	ePKPdf	PKPdf	20 09 44.4	+1.1
W26A	Owens Ranch, T	118.34	17	⇓PKiKP	PKiKP	20 09 44.2	+0.8
	baz=118						
X24A	Lazy VL Ranch,	118.36	19	⇑PKiKP	PKiKP	20 09 44.2	+0.7
	baz=118						
Y22D	IRIS PASSCAL I	118.36	20	⇓PKiKP	PKiKP	20 09 45.1	+1.6
	baz=118						
BNM	Barren Site	118.39	20	ePKPdf	PKPdf	20 09 44.7	+1.1
V30A	Spur Ranch, Mi	118.46	14	⇓PKiKP	PKiKP	20 09 44.2	+0.6
	baz=118						
Y22A	Socorro	118.48	20	⇓PKiKP	PKiKP	20 09 45.0	+1.2
	baz=118						
W27A	Bowe Ranch, En	118.55	17	⇑PKiKP	PKiKP	20 09 44.3	+0.5
	baz=118						
W28A	Vega	118.58	16	⇑PKiKP	PKiKP	20 09 44.3	+0.5
	baz=118						
TUC	Tucson	118.62	25	ePKIKP	PKPdf	20 09 45.5	+1.6
TUC	Tucson	118.62	25	ePKPdf	PKPdf	20 09 45.5	+1.6
X25A	Clemmons Ranch	118.62	18	⇓PKiKP	PKiKP	20 09 44.5	+0.5
	baz=118						
V31A	Spring Creek L	118.63	13	⇑PKiKP	PKiKP	20 09 44.9	+1.1
	baz=118						
Z20A	Nine Sixteen R	118.69	22	⇑PKiKP	PKiKP	20 09 45.8	+1.6
	baz=118						
Y23A	Lovelace Mesa,	118.77	20	⇑PKiKP	PKiKP	20 09 45.5	+1.2
	baz=118						
Z21A	St. Cloud Mine	118.82	21	⇓PKiKP	PKiKP	20 09 45.7	+1.2
	baz=119						
X26A	CR and CF Fran	118.84	17	⇑PKiKP	PKiKP	20 09 45.0	+0.6
	baz=119						
W29A	Amraillo	118.85	15	⇓PKiKP	PKiKP	20 09 44.6	+0.2
	baz=119						
X27A	F and S Farms,	118.94	17	⇓PKiKP	PKiKP	20 09 44.8	+0.2
	baz=119						
Y24A	Capitan	118.96	19	⇑PKiKP	PKiKP	20 09 45.7	+0.9
	baz=119						
Z22A	Elephant Butte	119.10	21	⇓PKiKP	PKiKP	20 09 46.1	+1.1
	baz=119						
PARMO	Parma	119.16	4	ePKPdf	PKPdf	20 09 45.5	+0.8
W31A	Holland Ranch,	119.18	14	⇓PKiKP	PKiKP	20 09 45.4	+0.5
	baz=119						
Y25A	Mesa, Roswell	119.18	18	⇓PKiKP	PKiKP	20 09 45.7	+0.7
	baz=119						
120A	U Bar Ranch, L	119.19	23	⇓PKiKP	PKiKP	20 09 46.3	+1.2
	baz=119						
TUL1	Tulsa	119.24	10	ePKPdf	PKPdf	20 09 45.3	+0.4
TUL1	Tulsa	119.24	10	⇑PKiKP	PKPdf	20 09 45.4	+0.4
	baz=119						
Z23A	Rita Site, Whi	119.33	20	⇓PKiKP	PKiKP	20 09 46.6	+1.2
	baz=119						
TZTN	Tazewell	119.41	358	ePKPdf	PKPdf	20 09 44.9	-0.4
Y26A	Elida	119.42	18	⇑PKiKP	PKiKP	20 09 46.1	+0.5
	baz=119						
X29A	Tulia	119.48	16	⇑PKiKP	PKiKP	20 09 46.1	+0.5
	baz=119						
121A	Cookes Peak, D	119.50	22	⇑PKiKP	PKiKP	20 09 47.1	+1.3
	baz=119						
Z24A	Sheeppen Canyo	119.53	19	⇓PKiKP	PKiKP	20 09 47.2	+1.4
	baz=119						
122A	Conniff Cattle	119.60	21	⇑PKiKP	PKiKP	20 09 47.3	+1.4
	baz=119						
Y27A	Causey	119.64	17	⇓PKiKP	PKiKP	20 09 46.5	+0.6
	baz=119						
MSTX	Muleshoe	119.66	17	ePKPdf	PKPdf	20 09 46.2	+0.3
MSTX	Muleshoe	119.66	17	⇓PKiKP	PKiKP	20 09 46.5	+0.5
	baz=119						
X30A	Coker Ranch, T	119.68	15	⇑PKiKP	PKiKP	20 09 46.0	+0.1
	baz=119						
X31A	McDonald Ranch	119.70	14	⇑PKiKP	PKiKP	20 09 46.2	+0.3
	baz=119						
Z25A	Roswell	119.77	19	⇓PKiKP	PKiKP	20 09 47.2	+1.0
	baz=120						
WVT	Waverly	119.80	2	ePKPdf	PKPdf	20 09 45.5	-0.5
WVT	Waverly	119.80	2	ePKPdf	PKPdf	20 09 45.5	-0.5
220A	Playas Peak, P	119.81	23	⇓PKiKP	PKiKP	20 09 47.3	+0.9
	baz=120						
WMOK	Wichita Mounta	119.85	13	ePKIKP	PKPdf	20 09 44.5	-1.7
WMOK	Wichita Mounta	119.85	13	ePKPdf	PKPdf	20 09 44.5	-1.7
Y28A	McKinney Farm,	119.86	16	⇑PKiKP	PKiKP	20 09 46.8	+0.5
	baz=120						
123A	Bell Site, Whi	119.90	20	⇑PKiKP	PKiKP	20 09 47.6	+1.1
	baz=120						
221A	Mesquite Ranch	119.97	22	⇑PKiKP	PKiKP	20 09 47.8	+1.2
	baz=120						
Z26A	Caprock	119.99	18	⇑PKiKP	PKiKP	20 09 47.1	+0.4
	baz=120						
Y29A	Porterfield Fa	120.05	16	⇓PKiKP	PKiKP	20 09 47.3	+0.6
	baz=120						
PPT2	Papeete2	120.05	97	ePS	PS	20 21 09.1	+4.7
	comp=Z,676nm,23.8s						
PPT2	Papeete2	120.05	97	eLR	LR	20 46 40.4	
	comp=Z,1μm,33.0s						
124A	Stringfield Ra	120.09	20	⇑PKiKP	PKiKP	20 09 48.0	+1.0
	baz=120						
222A	Williams Famil	120.12	21	⇓PKiKP	PKiKP	20 09 48.1	+1.1
	baz=120						
Z27A	Tatum	120.16	17	⇓PKiKP	PKiKP	20 09 47.7	+0.7
	baz=120						
Y30A	Stafford Cattl	120.22	15	⇑PKiKP	PKiKP	20 09 47.3	+0.2
	baz=120						
Y31

baz=122
232A Coleman 122.42 14 ⇓PKiKP **PKiKP 20 09 52.0 +0.6**
baz=122
426A McDonald Obser 122.42 19 ⇓PKiKP **PKiKP 20 09 52.0 +0.4**
baz=122
427A Hayter Ranch, 122.43 18 ⇓PKiKP **PKiKP 20 09 52.5 +1.0**
baz=122
330A Mertzon 122.51 16 ⇓PKiKP **PKiKP 20 09 52.0 +0.4**
baz=122
428A Kincaid Ranch, 122.75 18 ⇓PKiKP **PKiKP 20 09 53.3 +1.2**
baz=122
WHTX Lake Whitney 122.78 12 *e*PKPdf **PKPdf 20 09 52.4 +0.6**
WHTX Lake Whitney 122.78 12 ⇑PKiKP **PKPdf 20 09 52.4 +0.6**
baz=122
331A San Angelo 122.79 15 ⇓PKiKP **PKiKP 20 09 52.8 +0.7**
baz=122
332A Millersview 122.88 15 ⇓PKiKP **PKiKP 20 09 53.0 +0.7**
baz=123
LRAL Lakeview Retre 122.91 2 *e*PKPdf **PKPdf 20 09 51.9 -0.1**
526A Mary Lane Ranc 122.97 19 ⇑PKiKP **PKiKP 20 09 53.4 +0.7**
baz=123
527A Woodward Ranch 123.03 19 ⇑PKiKP **PKiKP 20 09 53.5 +0.8**
baz=123
429A Davenport Ranc 123.06 17 ⇓PKiKP **PKiKP 20 09 53.1 +0.4**
baz=123
430A Baggett Ranch, 123.08 16 ⇑PKiKP **PKiKP 20 09 53.2 +0.5**
baz=123
528A Cox Ranch, San 123.25 18 ⇓PKiKP **PKiKP 20 09 54.0 +0.8**
baz=123
431A Sonora 123.34 16 ⇓PKiKP **PKiKP 20 09 53.8 +0.5**
baz=123
432A Menard 123.35 15 ⇓PKiKP **PKiKP 20 09 53.6 +0.4**
baz=123
626A Big Bend Ranch 123.43 20 ⇑PKiKP **PKiKP 20 09 54.0 +0.5**
baz=123
529A Stev Forest Ra 123.45 18 ⇑PKiKP **PKiKP 20 09 54.2 +0.7**
baz=123
NATX Nacogdoches 123.49 10 *e*PKPdf **PKPdf 20 09 54.2 +1.0**
VBMS Vicksburg 123.52 5 *e*PKPdf **PKPdf 20 09 54.1 +0.9**
530A J-C Ranch, Com 123.66 17 ⇑PKiKP **PKiKP 20 09 54.7 +0.8**
baz=123
JCT Junction City 123.73 15 *e*PKIKP **PKPdf 20 09 53.8 0.0**
JCT Junction City 123.73 15 *e*PKPdf **PKPdf 20 09 53.8 0.0**
JCT Junction City 123.73 15 ⇑PKiKP **PKiKP 20 09 54.8 +0.8**
baz=124
627A Terlingua Ranc 123.75 19 ⇓PKiKP **PKiKP 20 09 54.7 +0.6**
baz=124
TXAR Lajitas Array 123.77 19 PKPpre PKPpre 20 09 45.1
TXAR PKP **PKiKP 20 09 54.3 +0.1**
TXAR pPKP pPKPdf 20 10 23.8 +1.3
TXAR SKP 20 13 19.8
TXAR PKKPbc **PKKPbc 20 19 41.4 0.0**
TXAR SKKPbc SKKPbc 20 23 20.3 +0.8
TXAR Lajitas Array 123.77 19 PKhKP PKPpre 20 09 45.1
comp=Z,0.6nm,0.6s,baz=338,slow=2.7,SNR=3.9
TXAR PKP **PKiKP 20 09 54.3 +0.1**
comp=Z,30nm,0.7s,baz=222,slow=1.2,SNR=132
TXAR pPKP pPKPdf 20 10 23.8 +1.3
comp=Z,9.5nm,0.7s,baz=318,slow=1.7,SNR=4.1
TXAR SKP 20 13 19.8
comp=Z,7.6nm,0.8s,baz=228,slow=1.5,SNR=6.3
TXAR PKKPbc **PKKPbc 20 19 41.4 0.0**
comp=Z,2.5nm,0.9s,baz=154,slow=6.9,SNR=9.4
TXAR SKKPbc SKKPbc 20 23 20.3 +0.8
comp=Z,3.0nm,0.9s,baz=167,slow=5.3,SNR=9.4
531A Rocksprings 123.85 16 ⇓PKiKP **PKiKP 20 09 54.7 +0.5**
baz=124
628A Black Gap, Mar 123.86 19 ⇓PKiKP **PKiKP 20 09 55.0 +0.7**
baz=124
532A Rocksprings 124.04 15 ⇑PKiKP **PKiKP 20 09 55.1 +0.5**
baz=124
TIGA Tifton 124.50 358 *e*PKPdf **PKPdf 20 09 56.2 +1.2**
TIGA Tifton 124.50 358 ⇓PKiKP **PKPdf 20 09 56.3 +1.2**
baz=124
631A Perdido Creek 124.56 16 ⇓PKiKP **PKiKP 20 09 56.0 +0.4**
baz=124
632A Uvalde 124.67 15 ⇑PKiKP **PKiKP 20 09 56.4 +0.5**
baz=124
BRAL Brewton 124.92 2 *e*PKPdf **PKPdf 20 09 57.5 +1.6**
732A Laxson Ranch, 125.36 16 ⇑PKiKP **PKiKP 20 09 57.5 +0.3**
baz=125
LPIG La Paz 126.07 29 PKP **PKPdf 20 09 59.9 +1.6**
LPIG La Paz 126.07 29 PKP **PKPdf 20 09 59.9 +1.6**
comp=Z,40nm,0.3s,baz=290,slow=3.9,SNR=4.9
KVTX Kingsville 126.99 14 *e*PKPdf **PKPdf 20 10 02.3 +2.4**
STVI Saint Thomas 133.15 333 *e*PKPdf **PKPdf 20 10 11.8 0.0**
STVI *e*SKP 20 13 30.7
SEG Port Louis 133.31 328 *e*P **SKPbc 20 13 31.9 +0.9**
CBYP Canovanas 133.58 334 *e*PKPdf **PKPdf 20 10 13.5 +0.7**
CBYP *e*SKP 20 13 31.8
MTP Monte Pirata 133.62 334 *e*PKPdf **PKPdf 20 10 11.9 -0.9**
MTP *e*SKP 20 13 32.7
SSG Sans Toucher 133.66 328 *e*P **SKPab 20 13 33.2 -1.5**
DOG Dongo Capester 133.68 328 *e*P **SKPab 20 13 33.2 -1.5**
CRG Carmichael 133.68 328 *e*P **SKPab 20 13 34.0 -0.9**
ECG Echelle 133.69 328 *e*P **SKPab 20 13 34.2 -0.7**
LKG Breislack 133.69 328 *e*P **SKPab 20 13 33.0 -1.9**
PHG Guadaloupe-2 133.71 328 *e*P **SKPab 20 13 33.5 -1.4**
SCG Saint Claude 133.71 328 *e*P **SKPab 20 13 33.9 -1.1**
HMG Houelmont 133.76 328 *e*P **SKPab 20 13 34.0 -1.0**
SJG San Juan 133.84 334 *e*SKP **SKPbc 20 13 33.4 +0.6**
TBG Guadaloupe-3 133.85 328 *e*P **SKPbc 20 13 33.7 +0.8**
AGPR Aguadilla, PR 133.89 336 *e*SKP **SKPbc 20 13 33.3 +0.3**
CELP Cerrillos 134.05 335 *e*PKPdf **PKPdf 20 10 14.1 +0.6**
CELP *e*SKP 20 13 33.9
OBIP Obispado Ponce 134.09 335 *e*SKP **SKPbc 20 13 33.9 +0.3**
LSP Las Mesas 134.15 336 *e*SKP **SKPbc 20 13 34.8 +1.0**
CRPR Cabo Rojo, PR 134.31 335 *e*SKP **SKPbc 20 13 35.0 +0.7**
RKT Rikitea 134.71 99 *e*LR LR 20 53 28.9
comp=Z,557nm,36.0s
SDDR Presa de Saban 134.81 341 *e*PKPdf **PKPdf 20 10 12.2 -2.9**
PMSA Palmer Station 137.29 193 SKPbc **SKPbc 20 13 40.9 -1.0**
PMSA Palmer Station 137.29 193 SKPbc **SKPbc 20 13 40.9 -1.0**
comp=Z,20nm,0.8s,baz=147,slow=3.2,SNR=9.2
CMIG Matias Romero 137.76 14 PKP **PKPdf 20 10 19.8 -0.7**
CMIG SKPbc **SKPbc 20 13 44.1 -0.8**
CMIG Matias Romero 137.76 14 PKP **PKPdf 20 10 19.8 -0.7**
comp=Z,28nm,0.7s,baz=303,slow=1.4,SNR=20
CMIG SKPbc **SKPbc 20 13 44.1 -0.8**
comp=Z,37nm,0.8s,baz=340,slow=3.4,SNR=16
SDV Santo Domingo 143.99 335 *e*PKPdf PKPbc 20 10 30.2 +0.1
BDFB Brasilia 144.00 277 PKP PKPbc 20 10 30.6 +0.6
BDFB Brasilia 144.00 277 PKP PKPbc 20 10 30.6 +0.6
comp=Z,84nm,0.8s,baz=72,slow=3.4,SNR=74
JTS JuntasAbangare 145.56 359 *e*PKPdf **PKPdf 20 10 33.1 -1.5**
EFI East Falkland 145.68 210 *e*PKP2 **PKPdf 20 10 33.4 -0.1**
EFI East Falkland 145.68 210 *e*PKPdf **PKPdf 20 10 33.4 -0.1**
BCIP Isla Barro Col 146.26 350 *e*PKPdf **PKPbc 20 10 37.2 +0.4**
USHA Ushuaia 147.09 198 PKPbc **PKPab 20 10 39.3 -0.5**
USHA SKPbc **SKiKP 20 14 07.1 +0.1**
USHA Ushuaia 147.09 198 PKPbc **PKPab 20 10 39.3 -0.5**
comp=Z,244nm,0.8s,baz=97,slow=3.8,SNR=108
USHA SKPbc **SKiKP 20 14 07.1 +0.1**
comp=Z,18nm,0.7s,baz=253,slow=3.3,SNR=5.5
ROSC El Rosal 149.06 338 PKP **PKPdf 20 10 42.7 +1.9**
ROSC *e*PKPdf **PKPbc 20 10 43.5 -1.6**
ROSC PKPbc **PKiKP 20 10 46.8 +0.5**
ROSC *e*PKPbc **PKPab 20 10 47.4 -2.0**
ROSC SKPbc 20 14 15.2
ROSC El Rosal 149.06 338 PKP **PKPdf 20 10 42.7 +1.9**
comp=Z,138nm,0.7s,baz=97,slow=1.5,SNR=55
ROSC PKPbc **PKiKP 20 10 46.8 +0.5**
comp=Z,342nm,0.5s,baz=78,slow=3.8,SNR=89
ROSC SKPbc 20 14 15.2
comp=Z,34nm,0.8s,baz=270,slow=4.0,SNR=4.7
SAML Samuel 153.92 302 *e*PKPdf **PKPdf 20 10 47.7 +0.1**
SAML *e*PKPbc **PKiKP 20 10 56.1 +0.4**
CPUP Villa Florida 154.66 260 *e*PKPdf **PKPdf 20 10 48.9 +0.5**
CPUP PKP **PKPdf 20 10 49.4 +1.0**
CPUP PKPbc **PKPbc 20 10 56.9 0.0**
CPUP PKPab **PKPab 20 11 12.9 +0.8**
CPUP Villa Florida 154.66 260 PKP **PKPdf 20 10 49.4 +1.0**
comp=Z,13nm,0.7s,baz=38,slow=1.8,SNR=44
CPUP PKPbc **PKPbc 20 10 56.9 0.0**
comp=Z,56nm,0.7s,baz=62,slow=3.0,SNR=51
CPUP PKPab **PKPab 20 11 12.9 +0.8**
comp=Z,24nm,0.7s,baz=59,slow=5.1,SNR=6.9
OTAV Otavalo 154.67 344 *e*PKPdf **PKPdf 20 10 50.8 +1.4**
SIV San Ignacio 155.81 286 PKP **PKPdf 20 10 50.8 +0.6**
SIV PKPab **PKPab 20 11 18.4 +1.0**
SIV San Ignacio 155.81 286 PKP **PKPdf 20 10 50.8 +0.6**
comp=Z,6.0nm,0.8s,baz=110,slow=3.5,SNR=21
SIV PKPab **PKPab 20 11 18.4 +1.0**
comp=Z,12nm,0.7s,baz=92,slow=3.1,SNR=10.0
TRQA Tornquist 155.91 230 *e*PKPdf **PKPdf 20 10 50.4 +0.7**

PLCA Paso Flores 159.52 214 PKP **PKPdf 20 10 55.3 +1.1**
PLCA PKPab **PKPab 20 11 32.5 -0.2**
PLCA Paso Flores 159.52 214 PKP **PKPdf 20 10 55.3 +1.1**
comp=Z,41nm,1.1s,baz=112,slow=1.2,SNR=36
PLCA PKPab **PKPab 20 11 32.5 -0.2**
comp=Z,50nm,0.8s,baz=128,slow=4.0,SNR=28
ATAH Atahualpa 161.64 338 PKP **PKPdf 20 10 59.6 +1.9**
ATAH PKPab **PKPab 20 11 44.9 +2.0**
ATAH Atahualpa 161.64 338 PKP **PKPdf 20 10 59.6 +1.9**
comp=Z,82nm,1.1s,baz=70,slow=1.7,SNR=34
ATAH PKPab **PKPab 20 11 44.9 +2.0**
comp=Z,48nm,0.8s,baz=6.3,slow=3.0,SNR=12
LPAZ La Paz 162.02 293 *e*PKPdf **PKPdf 20 10 58.5 +0.3**
LPAZ PKPab **PKPab 20 11 45.2 +0.2**
LPAZ La Paz 162.02 293 PKP **PKPdf 20 10 59.1 +0.9**
comp=Z,13nm,0.7s,baz=38,slow=2.4,SNR=57
LPAZ PKPab **PKPab 20 11 45.2 +0.2**
comp=Z,13nm,0.7s,baz=24,slow=7.4,SNR=6.7
CFAA Coronel Fontan 163.30 241 PKP **PKPdf 20 10 59.8 +1.5**
CFAA PKPab **PKPab 20 11 50.2 +0.6**
CFAA PP **PP 20 15 34.9 -0.2**
CFAA Coronel Fontan 163.30 241 PKP **PKPdf 20 10 59.8 +1.5**
comp=Z,4.6nm,0.8s,baz=304,slow=0.7,SNR=40
CFAA PKPab **PKPab 20 11 50.2 +0.6**
comp=Z,11nm,0.7s,baz=89,slow=3.3,SNR=20
CFAA PP **PP 20 15 34.9 -0.2**
comp=Z,2.3nm,1.0s,baz=100,slow=4.8,SNR=11
LVC Limon Verde 164.86 273 *e*PKPdf **PKPdf 20 11 02.6 +2.3**
NNA Nana 165.32 325 PKP **PKPdf 20 11 02.1 +1.5**
NNA *e*PKPdf **PKPdf 20 11 02.3 +1.6**
NNA PKPab **PKPab 20 12 00.1 +1.5**
NNA Nana 165.32 325 PKP **PKPdf 20 11 02.1 +1.5**
comp=Z,39nm,1.0s,baz=286,slow=2.1,SNR=6.7
NNA PKPab **PKPab 20 12 00.1 +1.5**
comp=Z,18nm,0.7s,baz=295,slow=4.7,SNR=3.7
LCO Las Campanas 166.15 247 *e*PKPdf **PKPdf 20 11 01.1 -0.2**

DJA 03 20:14:25.7±1.1, 8°S±5°×10°7E±°, h7km±6km, M3.5/8, MLv3.5/8, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.81**	**41**	P	Pg	20 14 41.3	-0.1
CISI				S	Sg	20 14 51.5	-0.4
SKJI	**Sukabumi**	**1.36**	**328**	P	Pn	20 14 48.5	-2.7
SKJI				S	Sb	20 15 08.5	-0.7
LEM	**Lembang**	**1.38**	**14**	P	Pn	20 14 50.3	-1.3
LEM				S	Sb	20 15 09.1	-0.9
DBJI	**Dramaga**	**1.69**	**342**	P	Pn	20 14 54.8	-0.9
KPJI	**Karang Pucung**	**1.83**	**63**	P	Pn	20 14 57.6	-0.1
KPJI				S	Sn	20 15 21.3	+0.1
TGJI	**Tegal**	**2.24**	**55**	P	Pn	20 15 03.0	-0.2
BJII	**Banjamegara**	**2.55**	**71**	P	Pn	20 15 07.0	-0.6

*DJA **03** 20:18:08.8±1.2, 18°S±19°×17°6W±2°1, h10km, M5.7/7, mB5.9/2, mb5.7/7, Mw(mB)5.5/2*
*BKK **03** 20:18:09.4±0.8, 18°S±14°×17°6W±1°6, h10km, M5.5/13, mB5.8/4, mb5.5/13, Mw(mB)5.4/4*
*BJI **03** 20:19:05.6, 19°74S×176°90W, h515km, mB4.8/13, mb4.5/23*
*AUST **03** 20:19:06.7±0.6, 19°64S×177°52W, h478km, Error ellipse: s-maj=1.2km s-min=1.1km az=293.0*
*ISCJB **03** 20:19:09.8±0.6, 19°79S±0°05×177°58W±0°03, h533km±7km, mb4.5/69, Error ellipse: s-maj=8.0km s-min=4.1km az=157.8*
*NEIC **03** 20:19:10.5±0.2, 19°71S×177°53W, mb4.5/34, Error ellipse: s-maj=8.2km s-min=5.3km az=144.0*
*IDC **03** 20:19:10.0±0.8, 19°69S×177°51W, h530km±7km, mb4.2/27, mb1 4.3/30, mb1mx4.3/34, mbtmp4.2/30, Error ellipse: s-maj=9.6km s-min=8.3km az=121.0*
*MOS **03** 20:19:11.7±2.6, 19°75S×177°58W, h536km, mb4.8/11, Error ellipse: s-maj=10.3km s-min=9.4km az=136.3*

ISC 03 20:19:10.9±0.3, 19°89S±0°05×177°49W±0°05, h543km±3km, h544km; pP-P, n616, σ19°05/690, mb4.5/69, 127C-161D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.74**	**296**	*i* P	**P**	**20 20 39.1**	**+0.8**
NIUE	**Niue**	**7.18**	**85**	P	**P**	**20 20 59.8**	**-0.6**
baz=7.2,SNR=47							
NIUE				S	**S**	**20 22 32.1**	**+2.1**
baz=7.2,SNR=4.6							
AFI	**Afiamalu**	**8.08**	**43**	P	P	20 21 05.3	-4.1
AFI				S	S	20 22 36.1	-10
AFI	**Afiamalu**	**8.08**	**43**	P	P	20 21 05.3	-4.1
135nm,0.3s,baz=20,slow=1.9,SNR=80							
AFI				S	S	20 22 36.1	-10
69nm,0.3s,baz=22,slow=24,SNR=7.7							
RAO	**Raoul Island**	**9.33**	**182**	P	**P**	**20 21 22.2**	**+0.4**
RAO				S	**S**	**20 23 07.5**	**-1.9**
RAO	**Raoul Island**	**9.33**	**182**	P	**P**	**20 21 22.2**	**+0.4**
160nm,0.3s,baz=252,slow=23,SNR=7.8							
RAO				S	**S**	**20 23 07.5**	**-1.9**
33nm,0.3s,baz=73,slow=19,SNR=3.0							
FUNA	**Funafuti**	**11.74**	**344**	*e*P	**P**	**20 21 43.9**	**-3.1**
465nm,1.0s							
DZM	**Mont Dzumac**	**15.16**	**259**	P	**P**	**20 22 22.3**	**-0.1**
DZM	**Mont Dzumac**	**15.16**	**259**	P	**P**	**20 22 22.3**	**-0.1**
7.0nm,0.3s,baz=71,slow=17,SNR=34							
RAR	**Rarotonga**	**16.65**	**98**	P	**P**	**20 22 35.5**	**-1.3**
RAR	**Rarotonga**	**16.65**	**98**	P	**P**	**20 22 35.5**	**-1.3**
2.6nm,0.3s,baz=270,slow=5.0,SNR=3.9							
URZ	**Urewera**	**18.90**	**193**	P	**P**	**20 22 55.6**	**-1.6**
URZ				S	**S**	**20 25 56.6**	**-4.4**
URZ	**Urewera**	**18.90**	**193**	P	**P**	**20 22 55.6**	**-1.6**
11nm,0.3s,baz=354,slow=3.0,SNR=30							
URZ				S	**S**	**20 25 56.6**	**-4.4**
1.7nm,0.3s,baz=23,slow=23,SNR=10							
RPZ	**Rata Peaks**	**25.62**	**199**	*e*P	**P**	**20 23 57.8**	**+0.4**
19nm,0.6s							
RPZ	**Rata Peaks**	**25.62**	**199**	P	**P**	**20 23 57.3**	**-0.1**
19nm,0.5s,baz=338,slow=4.2,SNR=18							
EIDS	**Eidsvold**	**29.48**	**253**	*e*P	**P**	**20 24 31.0**	**-0.3**
12nm,0.4s							
EIDS	**Eidsvold**	**29.48**	**253**	P	**P**	**20 24 31.5**	**+0.2**
baz=30,SNR=8.8							
ARMA	**Armidale**	**29.77**	**243**	*e*P	**P**	**20 24 35.1**	**+1.2**
40nm,0.8s							
ARMA	**Armidale**	**29.77**	**243**	P	**P**	**20 24 35.4**	**+1.5**
baz=30,SNR=17							
MGCD	**Mangrove Creek**	**30.93**	**238**	P	**P**	**20 24 45.5**	**+1.8**
baz=31,SNR=16							
RMQ	**Roma**	**31.65**	**252**	P	**P**	**20 24 51.2**	**+1.2**
baz=32,SNR=29							
KWAJ	**Kwajalein Atol**	**32.06**	**331**	*i* P	**P**	**20 24 52.3**	**-1.3**
CNB	**Canberra Magne**	**32.97**	**235**	P	**P**	**20 25 02.7**	**+1.6**
baz=33,SNR=34							
CAN	**Canberra**	**33.25**	**235**	*e*P	**P**	**20 25 04.4**	**+0.9**
CAN				pmax	pmax		
comp=Z,72nm,1.1s							
CAN	**Canberra**	**33.25**	**235**	*e*P	**P**	**20 25 04.4**	**+0.9**
comp=Z,72nm,1.1s							
YNG	**Young**	**33.41**	**237**	P	**P**	**20 25 06.0**	**+1.1**
baz=34,SNR=16							
MILA	**Mila**	**33.72**	**232**	P	**P**	**20 25 08.7**	**+1.2**
baz=34,SNR=11							
CTA	**Charters Tower**	**34.03**	**263**	P	**P**	**20 25 10.6**	**+0.3**
CTA				PcP	**PcP**	**20 27 32.4**	**0.0**
CTA	**Charters Tower**	**34.03**	**263**	P	**P**	**20 25 10.6**	**+0.3**
comp=Z,104nm,0.4s,baz=89,slow=12,SNR=241							
CTA				PcP	**PcP**	**20 27 32.4**	**0.0**
comp=Z,3.7nm,0.5s,baz=127,slow=5.1,SNR=3.5							
CTAO	**Charters Tower**	**34.03**	**263**	*e*P	**P**	**20 25 10.4**	**+0.1**
CTAO				pmax	pmax		
comp=Z,112nm,0.4s							
CTAO	**Charters Tower**	**34.03**	**263**	*e*P	**P**	**20 25 10.4**	**+0.1**
comp=Z,112nm,0.4s							
CMSA	**Cobar Meteorol**	**34.99**	**243**	P	**P**	**20 25 18.9**	**+0.9**
baz=35,SNR=139							
PATS	**Pohnpei**	**35.67**	**316**	S	S	20 30 09.6	-13
baz=36,SNR=3.4							
PMG	**Port Moresby**	**35.68**	**282**	P	**P**	**20 25 23.7**	**-0.3**
PMG	**Port Moresby**	**35.68**	**282**	P	**P**	**20 25 23.7**	**-0.3**
comp=Z,39nm,0.9s,baz=130,slow=2.3,SNR=6.5							
MTSU	**Mount Surprise**	**36.10**	**266**	P	**P**	**20 25 27.7**	**+0.2**
baz=36,SNR=91							
MTSU				S	**S**	**20 30 29.9**	**+1.1**
baz=36,SNR=3.9							
TOO	**Toolangi**	**36.64**	**233**	P	**P**	**20 25 33.0**	**+1.2**
baz=37,SNR=103							

MOO Moorlands 37.27 225 P **P 20 25 38.4 +1.6**
baz=37,SNR=7.0
COEN Coen 38.03 273 *e*P **P 20 25 43.1 -0.2**
comp=Z,160nm,0.4s
COEN Coen 38.03 273 P **P 20 25 43.7 +0.3**
baz=38,SNR=78
STKA Stephens Creek 38.49 244 *e*P **P 20 25 47.8 +0.9**
comp=Z,21nm,1.0s
STKA Stephens Creek 38.49 244 P **P 20 25 48.0 +1.2**
comp=Z,84nm,0.9s,baz=91,slow=9.3,SNR=131
STKA Stephens Creek 38.49 244 P **P 20 25 48.0 +1.2**
baz=38,SNR=104
ARPS Mount Arapiles 39.22 236 P **P 20 25 53.6 +0.9**
baz=39,SNR=58
BBOO Buckleboo 43.25 243 P **P 20 26 25.3 +0.6**
baz=43,SNR=290
ASAR Alice Springs 45.13 256 P **P 20 26 39.5 +0.1**
ASAR PcP **PcP 20 28 08.3 0.0**
ASAR S **S 20 32 37.8 -1.7**
ASAR Alice Springs 45.13 256 P **P 20 26 39.5 +0.1**
comp=Z,84nm,0.8s,baz=90,slow=7.8,SNR=647
ASAR PcP **PcP 20 28 08.3 0.0**
comp=Z,13nm,0.6s,baz=105,slow=3.9,SNR=12
ASAR S **S 20 32 37.8 -1.7**
comp=Z,16nm,0.8s,baz=93,slow=16,SNR=36
WRA Warramunga Arr 45.16 261 P **P 20 26 39.0 -0.7**
WRA PcP **PcP 20 28 07.9 -0.6**
WRA S **S 20 32 37.7 -2.3**
WRA Warramunga Arr 45.16 261 P **P 20 26 39.0 -0.7**
comp=Z,30nm,0.4s,baz=97,slow=7.9,SNR=914
WRA PcP **PcP 20 28 07.9 -0.6**
comp=Z,9.1nm,0.8s,baz=92,slow=3.6,SNR=6.6
WRA S **S 20 32 37.7 -2.3**
comp=Z,6.0nm,1.0s,baz=90,slow=15,SNR=7.9
KDU Kakadu 48.42 271 P **P 20 27 03.7 -0.6**
baz=48,SNR=27
MTN Manton Dam 49.64 270 P **P 20 27 12.4 -0.9**
baz=50,SNR=16
FORT Forrest 49.98 246 P **P 20 27 15.4 -0.1**
baz=50,SNR=59
KNRA Kununurra 51.18 266 P **P 20 27 24.2 -0.3**
baz=51,SNR=61
SWI Sorong 53.56 284 P **P 20 27 41.5 -0.1**
baz=54,SNR=3.6
FITZ Fitzroy Crossi 53.59 262 P **P 20 27 41.7 0.0**
FITZ Fitzroy Crossi 53.59 262 P **P 20 27 41.7 0.0**
comp=Z,14nm,0.5s,baz=116,slow=4.0,SNR=168
SOEI Soe 56.96 271 P **P 20 28 06.6 +1.2**
baz=57,SNR=25
MBWA Marble Bar 58.46 257 *e*P **P 20 28 14.7 -0.6**
comp=Z,69nm,0.6s
SBA Scott Base 58.51 184 *e*P P 20 28 18.2 +3.5
SBA pmax pmax
comp=Z,57nm,0.9s
SBA Scott Base 58.51 184 *e*P P 20 28 18.2 +3.5
comp=Z,57nm,0.9s
VNDA Vanda 58.56 185 *e*P **P 20 28 17.6 +2.5**
comp=Z,33nm,1.1s
VNDA ScP **ScP 20 32 09.4 +3.0**
VNDA Vanda 58.56 185 P **P 20 28 17.8 +2.7**
comp=Z,14nm,0.8s,baz=354,slow=7.6,SNR=34
VNDA ScP **ScP 20 32 09.4 +3.0**
comp=Z,2.4nm,0.7s,baz=1.9,slow=3.9,SNR=3.7
MEEK Meekatharra 58.57 250 P **P 20 28 15.5 -0.6**
baz=59,SNR=44
KLBR Kellerberrin 58.75 245 P **P 20 28 17.2 +0.1**
baz=59,SNR=53
NWAO Narrogin (SRO) 59.07 243 P **P 20 28 19.4 +0.1**
NWAO Narrogin (SRO) 59.07 243 P **P 20 28 19.4 +0.1**
comp=Z,20nm,0.6s,baz=124,slow=6.6,SNR=26
RKGY Rocky Gully 59.16 241 P **P 20 28 20.7 +0.9**
baz=59,SNR=7.8
BLDU Ballidu 59.74 246 P **P 20 28 23.8 0.0**
baz=60,SNR=48
MORW Morawa 60.50 247 P **P 20 28 28.8 -0.1**
baz=60,SNR=15
MJAR Matsushiro Arr 70.00 323 P **P 20 29 26.8 -1.4**
MJAR Matsushiro Arr 70.00 323 P **P 20 29 26.8 -1.4**
comp=Z,9.7nm,0.6s,baz=163,slow=5.9,SNR=24
QSPA South Pole Qui 70.18 180 P **P 20 29 31.0 +2.0**
QSPA South Pole Qui 70.18 180 P **P 20 29 31.0 +2.0**
comp=Z,79nm,0.7s,baz=25,slow=1.2,SNR=283
UGM Wanagama 70.46 268 P **P 20 29 31.2 -0.3**
baz=70,SNR=23
CISI Cisompet, Garu 73.11 268 P **P 20 29 45.9 -1.1**
baz=73,SNR=9.3
ASAJ Asahikawa 73.42 331 *e*P **P 20 29 48.0 +0.1**
comp=Z,18nm,0.8s
ASAJ Asahikawa 73.42 331 P **P 20 29 48.0 +0.1**
comp=Z,43nm,0.8s,baz=216,slow=6.4,SNR=22
KSM Kuching 73.80 278 *e*P **P 20 29 50.8 0.0**
comp=Z,11nm,0.4s
KSM Kuching 73.80 278 P **P 20 29 51.2 +0.4**
comp=Z,36nm,0.6s
KSM Kuching 73.80 278 P **P 20 29 51.2 +0.4**
baz=74,SNR=11
YSS Yuzh-Sakhalins 75.57 333 *e*P **P 20 30 00.1 +0.2**
YSS pmax pmax
comp=Z,59nm,1.0s
PETK Petropavlovsk- 75.81 345 P **P 20 29 59.8 -1.3**
PETK Petropavlovsk- 75.81 345 P **P 20 29 59.8 -1.3**
PETK Petropavlovsk- 75.81 345 P **P 20 29 59.8 -1.3**
comp=Z,22nm,0.9s,baz=134,slow=8.5,SNR=30
KSRS Korea Array 76.75 318 P **P 20 30 06.1 -0.5**
comp=Z,2.8nm,0.9s,baz=143,slow=6.4,SNR=7.6
KSAR Wonju Array Be 76.77 318 P **P 20 30 06.1 -0.6**
VES Vestal, Richgr 78.26 45 ⇓P **P 20 30 15.4 +0.5**
baz=78
MURC Murrieta 78.29 48 ⇑P **P 20 30 15.7 +0.5**
baz=78
BFSC Mount Baldy Ra 78.32 47 ⇓P **P 20 30 15.5 +0.1**
baz=78
MONP Monument Peak 78.45 49 ⇑P **P 20 30 16.5 +0.3**
baz=78
EDW2 Edwards Air Fo 78.45 46 ⇓P **P 20 30 16.4 +0.4**
baz=78,SNR=13
DVTC Desert V Tower 78.55 49 ⇑P **P 20 30 17.2 +0.6**
baz=79
ISA Isabella 78.57 45 *e*P **P 20 30 17.2 +0.6**
ISA pmax pmax
comp=Z,3.0nm,0.7s
ISA Isabella 78.57 45 *e*P **P 20 30 17.2 +0.6**
comp=Z,3.0nm,0.7s
ISA Isabella 78.57 45 ⇓P **P 20 30 16.9 +0.3**
baz=79,SNR=5.5
USRK Ussuriysk Arra 78.73 326 P **P 20 30 17.9 +0.7**
comp=Z,12nm,0.9s,baz=145,slow=3.6,SNR=25
PFO Pinyon Flat Ob 78.81 48 P **P 20 30 17.9 -0.2**
PFO Pinyon Flat Ob 78.81 48 P **P 20 30 17.9 -0.2**
comp=Z,3.0nm,0.8s,baz=274,slow=5.3,SNR=4.4
PFO Pinyon Flat Ob 78.81 48 ⇑P **P 20 30 18.4 +0.4**
baz=79
LRMC Laurel Mountai 78.99 46 ⇑P **P 20 30 19.1 +0.1**
baz=79
BELC Belle Mtn. Jos 79.34 48 ⇑P **P 20 30 21.1 +0.2**
baz=79,SNR=8.3
MPMC Manual Prospec 79.45 46 ⇑P **P 20 30 22.0 +0.5**
baz=80
GSC Goldstone 79.49 46 ⇓P **P 20 30 21.9 +0.4**
baz=80
YBH Yreka Blue Hor 79.51 38 *e*P **P 20 30 21.6 +0.1**
comp=Z,5.6nm,1.0s
YBH pP **pP 20 32 19.2 +1.7**
YBH Yreka Blue Hor 79.51 38 P **P 20 30 22.0 +0.5**
comp=Z,5.0nm,0.8s,baz=168,slow=2.3,SNR=15
YBH pP **pP 20 32 19.2 +1.7**
comp=Z,2.1nm,0.8s,baz=192,slow=1.1,SNR=4.3
BC3 Big Chuckawall 79.54 49 ⇓P **P 20 30 22.2 +0.3**
baz=80
HEC Hector,Ludlow 79.56 47 ⇑P **P 20 30 22.0 +0.1**
baz=80,SNR=8.6
GLA Glamis 79.67 49 ⇑P **P 20 30 23.2 +0.7**
baz=80
NJ2 Nanjing 79.86 309 *e*P **P 20 30 23.9 +0.5**
NJ2 pmax pmax
comp=Z,14nm,1.2s
GMRC Granite Mounta 80.00 47 ⇓P **P 20 30 24.7 +0.4**
baz=80
IRM Iron Mountain 80.02 48 ⇓P **P 20 30 25.1 +0.8**
baz=80
GRAC Grapevine Rang 80.06 45 ⇓P **P 20 30 25.1 +0.7**
baz=80
TUQ Turquoise Moun 80.17 47 ⇓P **P 20 30 25.6 +0.4**
baz=80,SNR=5.9
Y12C Blythe 80.25 49 ⇓P **P 20 30 26.4 +0.9**
baz=80
NVAR Mina Array Bea 80.25 43 P **P 20 30 25.8 +0.2**

NVAR pP **pP** 20 32 21.8 -0.1
NVAR PKKPbc **PKKPbc** 20 49 05.3 +0.2
NVAR Mina Array Bea 80.25 43 P **P** 20 30 25.8 +0.2
comp=Z,3.9nm,0.8s,baz=225,slow=8.8,SNR=21
NVAR pP **pP** 20 32 21.8 -0.1
comp=Z,1.6nm,0.9s,baz=225,slow=9.8,SNR=5.0
NVAR PKKPbc **PKKPbc** 20 49 05.3 +0.2
comp=Z,0.5nm,0.7s,baz=117,slow=2.0,SNR=4.0
113A Mohawk Valley, 80.28 50 ⇑P **P** 20 30 26.4 +0.8
baz=80
MDJ Mudanjiang 80.30 325 P **P** 20 30 25.7 +0.3
MDJ S **S** 20 39 50.5 +4.1
MDJ pmax pmax
comp=Z,22nm,1.1s
MDJ pmax pmax
comp=Z,120nm,6.5s
NV11 Mina Array Sit 80.35 43 *e*P **P** 20 30 26.3 +0.2
214A Organ Pipe Nat 80.56 51 ⇓P **P** 20 30 28.4 +1.2
baz=81
PDMCI Parker Dam,Lak 80.81 49 ⇑P **P** 20 30 29.3 +1.0
baz=81
QIZ Qiongzhong 81.05 294 P **P** 20 30 29.9 0.0
QIZ S **S** 20 39 56.9 +1.9
QIZ pmax pmax
comp=Z,21nm,2.1s
Z14A Wintersburg 81.17 50 ⇑P **P** 20 30 31.3 +1.0
baz=81
W13A Hualapai Mount 81.40 48 ⇑P **P** 20 30 32.3 +0.7
baz=82
Y14A Wickenburg 81.43 49 ⇓P **P** 20 30 32.3 +0.7
baz=82
PMSA Palmer Station 81.66 157 *e*P **P** 20 30 33.6 +1.5
comp=Z,34nm,1.0s
PMSA Palmer Station 81.66 157 P **P** 20 30 33.7 +1.5
comp=Z,28nm,0.8s,baz=245,slow=3.9,SNR=12
R11A Troy Canyon, C 81.98 44 *e*P **P** 20 30 34.1 -0.4
R11A Troy Canyon, C 81.98 44 ⇓P **P** 20 30 34.9 +0.4
baz=82
BMN Battle Mountai 82.08 42 *e*P **P** 20 30 34.2 -0.7
BMN pmax pmax
comp=Z,15nm,1.2s
BMN Battle Mountai 82.08 42 *e*P **P** 20 30 34.2 -0.7
comp=Z,14nm,1.2s
CN2 Changchun 82.11 322 *e*P **P** 20 30 34.4 -0.4
CN2 *e*PP **PP** 20 33 53.0 -0.2
CN2 *e*S **S** 20 40 06.4 +1.7
CN2 *e*SS **SS** 20 45 43.7 +3.0
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 pmax pmax
comp=Z,200nm,8.0s
TUC Tucson 82.23 52 *e*P **P** 20 30 36.6 +0.8
TUC pmax pmax
comp=Z,19nm,1.1s
TUC Tucson 82.23 52 *e*P **P** 20 30 36.5 +0.8
comp=Z,19nm,1.1s
MAW Mawson 82.30 200 P **P** 20 30 36.5 +1.1
MAW Mawson 82.30 200 P **P** 20 30 36.5 +1.1
comp=Z,13nm,0.6s,baz=127,slow=6.4,SNR=48
MAW Mawson 82.30 200 P **P** 20 30 36.4 +1.1
baz=82,SNR=18
X16A Lo Mia Camp, P 82.79 50 ⇑P **P** 20 30 39.7 +1.0
baz=83,SNR=16
CCUT Cedar City 83.04 46 *e*P **P** 20 30 40.7 +0.8
comp=Z,7.8nm,0.9s
U15A North Rim 83.20 48 ⇑P **P** 20 30 41.6 +0.8
baz=83,SNR=9.2
WUAZ Wupatki 83.38 49 *e*P **P** 20 30 42.4 +0.8
comp=Z,6.0nm,0.9s
WUAZ Wupatki 83.38 49 ⇑P **P** 20 30 42.7 +1.1
baz=84
320A Kipp Ranch, An 83.45 54 ⇑P **P** 20 30 43.5 +1.5
baz=84
ELK Elko 83.51 43 *e*P **P** 20 30 42.0 -0.2
comp=Z,4.7nm,1.0s
IPM Ipoh 83.53 277 *e*P **P** 20 30 42.5 -0.1
comp=Z,29nm,0.5s
IPM Ipoh 83.53 277 P **P** 20 30 42.8 +0.2
comp=Z,63nm,0.8s,comp=Z,558nm
BBB Bella Bella 83.64 28 PKKPbc PKKPbc 20 48 59.7 +2.0
BBB Bella Bella 83.64 28 PKKPbc PKKPbc 20 48 59.7 +2.0
comp=Z,7.3nm,0.8s,baz=113,slow=1.9,SNR=3.1
220A Playas Peak, P 83.72 53 ⇓P **P** 20 30 44.7 +1.4
baz=84
X18A Snowflake 83.91 50 ⇑P **P** 20 30 45.3 +1.0
baz=84
120A U Bar Ranch, L 83.94 52 ⇓P **P** 20 30 45.7 +1.3
baz=84
Z20A Nine Sixteen R 84.23 52 ⇓P **P** 20 30 47.1 +1.3
baz=84
221A Mesquite Ranch 84.33 53 ⇑P **P** 20 30 47.8 +1.5
baz=84
121A Cookes Peak, D 84.56 53 ⇓P **P** 20 30 48.9 +1.4
baz=85
Y20A Horse Springs, 84.76 51 ⇑P **P** 20 30 50.1 +1.5
baz=85
X20A Quemado 84.97 51 ⇓P **P** 20 30 50.4 +0.8
baz=85
Z21A St. Cloud Mine 85.01 52 ⇓P **P** 20 30 50.9 +1.2
baz=85
122A Conniff Cattle 85.23 53 ⇑P **P** 20 30 52.3 +1.7
baz=85
W20A Ramah 85.25 50 ⇑P **P** 20 30 51.5 +0.7
baz=85,SNR=7.6
Y21A Point of Rocks 85.33 51 ⇓P **P** 20 30 52.3 +1.0
baz=85,SNR=10
SKNT Sakolnakorn 85.35 290 P **P** 20 30 51.5 +0.1
comp=Z,66nm,1.5s
X21A Alamocita Cree 85.45 51 ⇓P **P** 20 30 52.5 +0.7
baz=86,SNR=5.5
Z22A Elephant Butte 85.51 52 ⇑P **P** 20 30 52.7 +0.6
baz=86
HLID Hailey 85.55 41 *e*P **P** 20 30 51.8 -0.2
comp=Z,4.9nm,1.1s
HLID Hailey 85.55 41 ⇑P **P** 20 30 52.5 +0.5
baz=86
V20A Brimhall 85.59 50 ⇑P **P** 20 30 52.5 0.0
baz=86
324A Moseley Ranch, 85.82 55 ⇓P **P** 20 30 54.2 +0.7
baz=86,SNR=11
Y22A Socorro 85.82 52 ⇑P **P** 20 30 54.2 +0.7
baz=86,SNR=5.1
LAZ Ladron 85.90 51 *e*P **P** 20 30 54.2 +0.2
comp=Z,2.7nm,0.8s
425A Indio Mountain 85.91 55 ⇑P **P** 20 30 54.9 +0.9
baz=86,SNR=15
MNTX Cornudas Mount 86.01 54 *e*P **P** 20 30 54.7 +0.4
comp=Z,8.5nm,0.9s
X22A Bernardo 86.04 51 ⇑P **P** 20 30 55.6 +1.0
baz=86
626A Big Bend Ranch 86.05 57 ⇓P **P** 20 30 55.6 +0.9
baz=86,SNR=13
Z23A Rita Site, Whi 86.06 53 ⇓P **P** 20 30 55.8 +1.2
baz=86
224A Cornudas Mount 86.07 54 ⇑P **P** 20 30 55.5 +0.8
baz=86,SNR=11
325A Bean Ranch, Si 86.18 55 ⇑P **P** 20 30 55.7 +0.4
baz=86,SNR=12
V21A Milan 86.19 50 ⇑P **P** 20 30 56.2 +0.8
baz=86
SRIT Nakonsritamara 86.29 280 P P 20 30 59.7 +3.7
526A Mary Lane Ranc 86.30 56 ⇑P **P** 20 30 56.8 +0.9
baz=86,SNR=12
TXAR Lajitas Array 86.32 57 P **P** 20 30 56.9 +1.0
TXAR pP **pP** 20 32 55.5 +1.2
TXAR Lajitas Array 86.32 57 P **P** 20 30 56.9 +1.0
comp=Z,7.1nm,0.7s,baz=218,slow=6.5,SNR=54
TXAR pP **pP** 20 32 55.5 +1.2
comp=Z,0.2nm,0.3s,baz=212,slow=3.2,SNR=1.5
124A Stringfield Ra 86.39 53 ⇓P **P** 20 30 56.8 +0.5
baz=86,SNR=6.1
U21A Nageezi 86.46 49 ⇑P **P** 20 30 57.0 +0.4
baz=86,SNR=18
KRAB Krabi 86.54 280 P **P** 20 30 58.4 +1.3
comp=Z,48nm,0.7s,comp=Z,432nm
627A Terlingua Ranc 86.59 57 ⇓P **P** 20 30 58.0 +0.8
baz=87,SNR=16
426A McDonald Obser 86.61 56 ⇓P **P** 20 30 58.1 +0.7
baz=87,SNR=23
225A Deer Hill, Car 86.61 54 ⇑P **P** 20 30 57.9 +0.5
baz=87,SNR=8.7
S20A Disappointment 86.62 48 ⇑P **P** 20 30 57.6 +0.2
baz=87
ANMO Albuquerque 86.65 51 *e*P **P** 20 30 57.6 +0.1
comp=Z,6.6nm,0.9s
ANMO Albuquerque 86.65 51 P **P** 20 30 57.8 +0.3
comp=Z,5.6nm,0.7s,baz=211,slow=5.0,SNR=13

527A Woodward Ranch 86.71 56 ⇓P **P** 20 30 58.1 +0.3
baz=87,SNR=12
Z24A Sheeppen Canyo 86.74 53 ⇓P **P** 20 30 58.5 +0.6
baz=87
GYA Guiyang 86.77 299 *e*P **P** 20 30 58.8 +0.7
GYA pP **pP** 20 32 53.2 -3.5
GYA sP sP 20 33 44.0 -7.6
GYA PP **PP** 20 34 31.8 +0.8
GYA SKS **SKSac** 20 40 34.4 +0.8
GYA S **S** 20 40 51.7 +0.9
GYA pmax pmax
comp=Z,10.0nm,1.0s
R20A Redvale 86.78 48 ⇓P **P** 20 30 58.6 +0.5
baz=87
S21A Coal Bank Pass 86.94 48 ⇑P **P** 20 30 59.6 +0.6
baz=87
Y24A Capitan 86.95 52 ⇑P **P** 20 30 59.2 +0.3
baz=87,SNR=14
125A Gardner Draw, 86.98 54 ⇓P **P** 20 30 59.5 +0.5
baz=87,SNR=5.5
628A Black Gap, Mar 87.00 57 ⇑P **P** 20 30 59.6 +0.5
baz=87,SNR=8.7
P19A Cripple Cowboy 87.05 46 ⇑P **P** 20 30 59.7 +0.4
baz=87
226B Tecolote Peak, 87.10 55 ⇓P **P** 20 31 00.1 +0.5
baz=87,SNR=12
427A Hayter Ranch, 87.17 56 ⇑P **P** 20 31 00.5 +0.6
baz=87,SNR=27
MCMT McKenzie Canyo 87.18 40 *e*P **P** 20 30 59.8 0.0
comp=Z,6.0nm,1.1s
Q20A Ridgley Place, 87.20 47 ⇑P **P** 20 31 00.7 +0.7
baz=87
Z25A Roswell 87.20 53 ⇓P **P** 20 31 01.1 +1.0
baz=87
V23A Ortiz Mt. (NFS 87.21 50 ⇓P **P** 20 31 01.0 +0.8
baz=87
O19A Miners Draw (B 87.28 45 ⇑P **P** 20 31 00.8 +0.5
baz=87
RRI2 Red Ridge 87.36 42 *e*P **P** 20 31 00.8 +0.1
comp=Z,8.3nm,1.0s
528A Cox Ranch, San 87.36 57 ⇓P **P** 20 31 01.4 +0.5
baz=87,SNR=7.5
P20A De Beque 87.39 46 ⇓P **P** 20 31 01.3 +0.5
baz=88
SYO Syowa Base 87.43 193 ⇑*e*P **P** 20 30 59.0 -1.2
R21A Cimarron 87.44 48 ⇑P **P** 20 31 01.3 +0.1
baz=88,SNR=5.6
U23A El Rito 87.47 50 ⇑P **P** 20 31 01.8 +0.5
baz=88
Y25A Mesa, Roswell 87.50 53 ⇓P **P** 20 31 01.4 0.0
baz=88,SNR=7.6
W24A Lazy 6 Ranch, 87.54 51 ⇑P **P** 20 31 02.2 +0.6
baz=88
MSO Missoula 87.59 38 ⇓P **P** 20 31 02.2 +0.6
baz=88
ILAR Eielson Array 87.61 13 P **P** 20 30 59.1 -1.9
ILAR pP **pP** 20 32 56.9 -3.0
ILAR PKKPbc **PKKPdf** 20 48 45.5 +2.5
ILAR Eielson Array 87.61 13 P **P** 20 30 59.1 -1.9
comp=Z,0.7nm,0.4s,baz=234,slow=5.3,SNR=15
ILAR pP **pP** 20 32 56.9 -3.0
comp=Z,4.8nm,1.1s,baz=226,slow=6.0,SNR=9.8
ILAR PKKPbc **PKKPdf** 20 48 45.5 +2.5
comp=Z,0.4nm,0.6s,baz=327,slow=2.1,SNR=6.1
Q21A Lamborn Mesa, 87.64 47 ⇑P **P** 20 31 02.6 +0.6
baz=88
S22A 4UR Ranch, Cre 87.66 48 ⇓P **P** 20 31 02.4 +0.1
baz=88,SNR=12
REDW Red Top Meadow 87.66 42 *e*P **P** 20 31 02.3 +0.3
comp=Z,9.1nm,1.2s
428A Kincaid Ranch, 87.68 56 ⇑P **P** 20 31 02.7 +0.5
baz=88,SNR=5.3
Z26A Caprock 87.76 54 ⇑P **P** 20 31 02.6 0.0
baz=88,SNR=13
529A Stev Forest Ra 87.80 57 ⇓P **P** 20 31 02.8 0.0
baz=88,SNR=8.9
328A Wristen Ranch, 87.86 56 ⇑P **P** 20 31 02.9 -0.1
baz=88,SNR=11
V24A Rampart Ranch, 87.86 51 ⇓P **P** 20 31 03.9 +0.7
baz=88
IMW Indian Meadow 87.88 42 *e*P **P** 20 31 03.6 +0.5
comp=Z,12nm,1.2s
R22A Saguache, Gunn 87.93 48 ⇓P **P** 20 31 04.3 +0.8
baz=88
127A Arkansas Junct 87.98 54 ⇑P **P** 20 31 03.6 0.0
baz=88,SNR=5.1
L19A Farson 88.00 44 ⇑P **P** 20 31 04.1 +0.5
baz=88
H16A Russell Place, 88.09 41 ⇓P **P** 20 31 04.7 +0.6
baz=88,SNR=8.6
N20A Spence Gulch, 88.11 45 ⇑P **P** 20 31 04.8 +0.6
baz=88
Q22A Crested Butte, 88.11 47 ⇓P **P** 20 31 04.9 +0.5
baz=88
XAN Xi'an 88.14 307 P **P** 20 31 04.6 +0.3
XAN pmax pmax
comp=Z,79nm,12.5s
Y26A Elida 88.15 53 ⇑P **P** 20 31 04.5 0.0
baz=88,SNR=8.2
PDAR Pinedale Array 88.19 43 P **P** 20 31 04.1 -0.5
PDAR pP **pP** 20 33 02.8 -0.9
PDAR Pinedale Array 88.19 43 P **P** 20 31 04.1 -0.5
comp=Z,3.8nm,0.8s,baz=218,slow=3.0,SNR=26
PDAR pP **pP** 20 33 02.8 -0.9
comp=Z,0.2nm,0.5s,baz=291,slow=2.5,SNR=1.7
W25A X Bar L Ranch, 88.24 52 ⇓P **P** 20 31 04.5 -0.4
baz=88,SNR=8.1
429A Davenport Ranc 88.26 57 ⇓P **P** 20 31 04.9 0.0
baz=88,SNR=26
228A UT Block 9, Go 88.33 55 ⇑P **P** 20 31 05.3 0.0
baz=88
BOZ Bozeman (W) 88.34 40 *e*P **P** 20 31 05.3 +0.2
BOZ pmax pmax
comp=Z,12nm,1.3s
BOZ Bozeman (W) 88.34 40 *e*P **P** 20 31 05.3 +0.2
comp=Z,12nm,1.3s
H17A Grant Village 88.35 41 ⇓P **P** 20 31 06.5 +1.2
baz=88
Z27A Tatum 88.36 54 ⇓P **P** 20 31 05.1 -0.3
baz=88,SNR=6.0
X26A CR and CF Fran 88.43 52 ⇑P **P** 20 31 06.8 +1.0
baz=88
M20A Sweetwater, Wa 88.47 45 ⇓P **P** 20 31 06.5 +0.6
baz=88
I18A Diamond G Ranc 88.48 42 ⇑P **P** 20 31 06.0 +0.1
baz=89
530A J-C Ranch, Com 88.50 57 ⇓P **P** 20 31 06.2 +0.2
baz=89
329A Wagon Wheel Ra 88.54 56 ⇑P **P** 20 31 06.5 +0.2
baz=89,SNR=7.9
N21A Black Mountain 88.57 46 ⇓P **P** 20 31 06.7 +0.3
baz=89,SNR=6.9
SDCO Great Sand Dun 88.59 49 *e*P **P** 20 31 05.4 -1.2
comp=Z,2.7nm,0.8s
SNAA Sanae 88.61 178 P **P** 20 31 05.8 0.0
SNAA Sanae 88.61 178 P **P** 20 31 05.8 0.0
comp=Z,4.9nm,0.8s,baz=206,slow=5.0,SNR=85
L20A Wamsutter 88.61 44 ⇑P **P** 20 31 07.0 +0.5
baz=89
128A Castleberry Fa 88.62 55 ⇑P **P** 20 31 06.8 +0.1
baz=89,SNR=7.9
Y27A Causey 88.63 53 ⇑P **P** 20 31 07.0 +0.3
baz=89
K19A Absolon Red Bu 88.68 43 ⇑P **P** 20 31 06.6 -0.2
baz=89
W26A Owens Ranch, T 88.69 52 ⇓P **P** 20 31 07.4 +0.4
baz=89
S24A Houchin Ranch, 88.75 49 ⇓P **P** 20 31 07.9 +0.5
baz=89
J19A Crowheart 88.75 43 ⇓P **P** 20 31 07.7 +0.6
baz=89
U25A Circle Dot Ran 88.79 51 ⇑P **P** 20 31 07.7 +0.2
baz=89
631A Perdido Creek 88.81 58 ⇑P **P** 20 31 07.9 +0.4
baz=89
430A Baggett Ranch, 88.84 57 ⇓P **P** 20 31 08.1 +0.4
baz=89
229A Bryant Ranch, 88.87 55 ⇓P **P** 20 31 08.1 +0.3
baz=89
K20A Yellowstone Ra 88.92 44 ⇑P **P** 20 31 07.7 -0.2
baz=89
O22A Kremmling 88.95 46 ⇑P **P** 20 31 08.1 -0.2
baz=89,SNR=5.8
MSTX Muleshoe 88.96 53 ⇓P **P** 20 31 08.6 +0.4
baz=89
V26A Tequesquite Ra 88.98 51 ⇓P **P** 20 31 08.3 0.0
baz=89
F17A Fitzpatrick Pl 89.06 40 ⇓P **P** 20 31 09.0 +0.6

baz=89,SNR=5.2
H18A Shoshone NF, C 89.06 41 ⇓P **P** 20 31 09.2 +0.6
baz=89
M21A Separation Pea 89.07 45 ⇓P **P** 20 31 08.3 -0.4
baz=89,SNR=5.8
129A Stewart Farms, 89.10 55 ⇑P **P** 20 31 09.0 +0.1
baz=89,SNR=7.0
T25A Trinidad 89.11 50 ⇓P **P** 20 31 09.4 +0.5
baz=89
531A Rocksprings 89.14 58 ⇓P **P** 20 31 09.4 +0.4
baz=89
330A Mertzon 89.14 56 ⇓P **P** 20 31 09.1 0.0
baz=89
I19A Meeteetse 89.17 42 ⇑P **P** 20 31 09.0 0.0
baz=89,SNR=5.3
W27A Bowe Ranch, En 89.21 52 ⇓P **P** 20 31 09.6 +0.3
baz=89
E17A Martinsdale 89.22 39 ⇓P **P** 20 31 09.6 +0.4
baz=89
L21A Rawlins 89.23 45 ⇑P **P** 20 31 09.8 +0.3
baz=89
U26A Atchley Ranch, 89.27 51 ⇓P **P** 20 31 10.2 +0.5
baz=89
HHC Hu-ho-hao-te 89.27 314 *e*P **P** 20 31 09.5 0.0
HHC pP pP 20 33 03.1 -5.7
HHC sP sP 20 33 53.7 -10
HHC PP **PP** 20 34 51.6 +1.2
HHC SKS **SKSac** 20 40 50.2 +2.5
HHC S **S** 20 41 14.4 +1.1
HHC sS sS 20 44 35.2 -11
HHC SS **SS** 20 47 27.7 +2.8
HHC pmax pmax
comp=Z,27nm,1.1s
HHC pmax pmax
comp=Z,150nm,5.6s
N22A Wattenberg Ran 89.31 46 ⇑P **P** 20 31 10.2 +0.3
baz=89,SNR=5.4
PLCA Paso Flores 89.34 133 P **P** 20 31 11.4 +1.4
PLCA Paso Flores 89.34 133 P **P** 20 31 11.4 +1.4
comp=Z,4.1nm,0.9s,baz=230,slow=4.8,SNR=6.4
230A Sterling City 89.38 56 ⇓P **P** 20 31 10.6 +0.4
baz=90
J20A Shoshoni 89.42 43 ⇑P **P** 20 31 10.2 +0.1
baz=90,SNR=12
G18A Lazy EL Ranch, 89.43 41 ⇓P **P** 20 31 10.6 +0.4
baz=90
Z29A Hungry Hill Ra 89.48 54 ⇓P **P** 20 31 10.8 +0.2
baz=90
632A Uvalde 89.48 58 ⇓P **P** 20 31 11.3 +0.7
baz=90
M22A Cedar Creek Ra 89.49 45 ⇓P **P** 20 31 11.3 +0.6
baz=90
KMI Kunming 89.50 297 P **P** 20 31 11.8 +0.8
KMI pP **pP** 20 33 07.3 -3.1
KMI pmax pmax
comp=Z,10.0nm,1.5s
RLMT Red Lodge 89.52 41 *e*P **P** 20 31 11.0 +0.3
comp=Z,7.9nm,1.1s
K21A Alcova 89.62 44 ⇑P **P** 20 31 10.6 -0.5
baz=90,SNR=6.0
F18A Big Timber 89.63 40 ⇑P **P** 20 31 11.8 +0.8
baz=90
532A Rocksprings 89.63 58 ⇑P **P** 20 31 11.7 +0.4
baz=90
R25A Fountain Ranch 89.64 49 ⇑P **P** 20 31 11.7 +0.5
baz=90
D17A Six Diamond Ra 89.67 39 ⇓P **P** 20 31 11.5 +0.3
baz=90,SNR=7.2
V27A Dan Oppiter Fa 89.67 52 ⇓P **P** 20 31 11.7 +0.3
baz=90
I20A Worland 89.67 43 ⇑P **P** 20 31 11.1 -0.2
baz=90,SNR=6.1
331A San Angelo 89.69 57 ⇓P **P** 20 31 11.8 +0.3
baz=90
N23A Red Feather La 89.70 46 ⇓P **P** 20 31 12.3 +0.6
baz=90
LAMP Lampang 89.78 290 P **P** 20 31 13.5 +1.3
comp=Z,6.2nm,0.7s
130A Snyder 89.78 55 ⇓P **P** 20 31 12.3 +0.3
baz=90
J21A Lysite 89.83 43 ⇓P **P** 20 31 12.1 0.0
baz=90,SNR=14
JCT Junction City 89.85 58 *e*P **P** 20 31 12.2 -0.1
JCT pmax pmax
comp=Z,5.0nm,0.6s
JCT Junction City 89.85 58 *e*P **P** 20 31 12.2 -0.1
comp=Z,5.4nm,0.6s
JCT Junction City 89.85 58 ⇓P **P** 20 31 12.4 0.0
baz=90
C17A Wharram Farm, 89.86 38 ⇑P **P** 20 31 12.4 +0.4
baz=90
PAYA Payao 89.86 291 P **P** 20 31 13.5 +0.9
comp=Z,5.8nm,0.6s
L22A Ellis Ranch, M 89.88 45 ⇓P **P** 20 31 12.6 +0.2
baz=90,SNR=6.7
Z30A Sanderson Ranc 89.93 54 ⇓P **P** 20 31 12.9 +0.2
baz=90
U27A Thompson Grove 89.95 51 ⇓P **P** 20 31 12.2 -0.6
baz=90
X29A Tulia 89.97 53 ⇓P **P** 20 31 13.0 +0.2
baz=90
H20A Greybull 90.01 42 ⇓P **P** 20 31 12.7 -0.1
baz=90
432A Menard 90.01 57 ⇑P **P** 20 31 13.2 +0.1
baz=90
231A Bronte 90.02 56 ⇑P **P** 20 31 13.0 -0.1
baz=90
F19A Roth Farm, Mol 90.07 41 ⇑P **P** 20 31 13.1 +0.1
baz=90
M23A Laramie 90.10 46 ⇓P **P** 20 31 14.0 +0.5
baz=90
K22A Casper 90.11 44 ⇑P **P** 20 31 13.4 0.0
baz=90
I21A Big Trails, Te 90.14 43 ⇓P **P** 20 31 13.2 -0.3
baz=90,SNR=9.8
332A Millersview 90.25 57 ⇓P **P** 20 31 14.2 +0.1
baz=90
131A Roby 90.26 55 ⇑P **P** 20 31 13.8 -0.3
baz=90,SNR=5.6
W29A Amraillo 90.28 53 ⇓P **P** 20 31 14.6 +0.3
baz=90
R26A Arlington 90.30 49 ⇑P **P** 20 31 14.7 +0.3
baz=90
P25A Willow Gulch B 90.31 48 ⇓P **P** 20 31 14.7 +0.3
baz=90
Y30A Stafford Cattl 90.35 54 ⇓P **P** 20 31 14.8 +0.2
baz=90
CM31 Chiang Mai Arr 90.36 289 *e*P **P** 20 31 16.0 +1.1
comp=Z,2.2nm,0.5s
CMAR Chiang Mai Arr 90.36 289 P **P** 20 31 15.8 +1.0
CMAR PKKPbc **PKKPbc** 20 48 41.0 +0.9
CMAR Chiang Mai Arr 90.36 289 P **P** 20 31 15.8 +1.0
comp=Z,3.7nm,0.8s,baz=115,slow=3.0,SNR=11
CMAR PKKPbc **PKKPbc** 20 48 41.0 +0.9
comp=Z,0.7nm,0.4s,baz=296,slow=5.0,SNR=5.2
L23A Garrett 90.41 45 ⇑P **P** 20 31 14.6 -0.2
baz=90,SNR=9.0
E19A Rath Farm, Rou 90.46 40 ⇑P **P** 20 31 15.4 +0.6
baz=90
CHTO Chiang Mai 90.49 290 P **P** 20 31 16.1 +0.6
CHTO Chiang Mai 90.49 290 P **P** 20 31 16.1 +0.6
232A Coleman 90.53 56 ⇓P **P** 20 31 15.7 +0.3
baz=91
H21A Big Horn, Sher 90.68 42 ⇓P **P** 20 31 16.5 +0.6
baz=91
I22A 9 Mile Ranch, 90.70 43 ⇑P **P** 20 31 16.3 +0.2
baz=91
Z31A Sharp Cattle R 90.70 55 ⇑P **P** 20 31 16.3 +0.1
baz=91
K23A Bowen Ranch, D 90.74 44 ⇑P **P** 20 31 16.7 +0.4
baz=91
D19A Cripps Ranch, 90.75 39 ⇓P **P** 20 31 16.7 +0.6
baz=91
T28A Walsh 90.76 51 ⇓P **P** 20 31 16.2 -0.3
baz=91
B18A Beardsley Farm 90.81 38 ⇓P **P** 20 31 16.4 0.0
baz=91
ABTX Abilene, Hawle 90.82 56 *e*P **P** 20 31 16.8 +0.1
ABTX Abilene, Hawle 90.82 56 ⇓P **P** 20 31 16.9 +0.2
baz=91
G21A Lodge Grass 90.85 42 ⇑P **P** 20 31 17.0 +0.3
baz=91
CD2 Chengdu 90.86 303 P **P** 20 31 18.1 +1.1
CD2 pmax pmax
comp=Z,10.0nm,0.5s
Y31A Rekieta Farm, 90.87 54 ⇓P **P** 20 31 17.0 +0.1
baz=91

E20A	**Meyer Farm, Mu**	90.88	40	⇓P	P	20 31 17.5	+0.7
	baz=91						
C19A	**Slack Wire Ran**	90.92	39	⇑P	P	20 31 17.6	+0.8
	baz=91						
D20A	**Manuel Ranch,**	91.16	40	⇓P	P	20 31 19.0	+1.0
	baz=91						
KSCO	**Kaye Shedlock'**	91.18	49	⇓P	P	20 31 19.1	+0.7
	baz=91						
F21A	**Absaloka Mine,**	91.18	41	⇓P	P	20 31 19.0	+0.8
	baz=91						
Z32A	**Haskell**	91.21	55	⇑P	P	20 31 19.1	+0.6
	baz=91						
K24A	**Anderson Ranch**	91.26	45	⇓P	P	20 31 19.3	+0.6
	baz=91						
B19A	**Brinkman Farms**	91.33	38	⇓P	P	20 31 19.5	+0.8
	baz=91						
R28A	**Tribune**	91.48	50	⇑P	P	20 31 20.1	+0.3
	baz=92						
Y32A	**R-V Farms, Ver**	91.51	54	⇑P	P	20 31 20.2	+0.4
	baz=92						
C20A	**Veseth Ranch,**	91.53	39	⇑P	P	20 31 20.3	+0.6
	baz=92						
W31A	**Holland Ranch,**	91.59	53	⇓P	P	20 31 20.6	+0.3
	baz=92						
J24A	**Dixon Ranch, L**	91.63	44	⇓P	P	20 31 20.8	+0.4
	baz=92						
V31A	**Spring Creek L**	91.90	53	⇓P	P	20 31 22.1	+0.5
	baz=92						
G23A	**Biddle**	91.98	42	⇓P	P	20 31 22.3	+0.4
	baz=92						
R29A	**Marienthal**	92.00	50	⇓P	P	20 31 22.8	+0.7
	baz=92						
C21A	**Desert Coulee**	92.12	39	⇓P	P	20 31 22.5	+0.1
	baz=92						
A20A	**Cobblestone Ra**	92.12	38	⇓P	P	20 31 22.8	+0.4
	baz=92						
F23A	**Volborg**	92.21	42	⇑P	P	20 31 23.2	+0.3
	baz=92						
H24A	**Dirks Ranch, A**	92.32	43	⇑P	P	20 31 23.2	-0.3
	baz=92						
K26A	**Motz Farm, Whi**	92.34	45	⇑P	P	20 31 24.3	+0.7
	baz=92						
D22A	**Cohagen**	92.37	40	⇑P	P	20 31 24.0	+0.5
	baz=92						
RSSD	**Black Hills**	92.38	44	*e*P	P	20 31 23.5	-0.4
RSSD				pmax	pmax		
	comp=Z,6.0nm,0.9s						
RSSD	**Black Hills**	92.38	44	*e*P	P	20 31 23.5	-0.4
	comp=Z,6.2nm,0.9s						
T31A	**Randall Ranch,**	92.54	51	⇓P	P	20 31 25.0	+0.5
	baz=93						
I25A	**Rochford**	92.54	44	⇓P	P	20 31 24.8	+0.2
	baz=93						
R30A	**Dighton**	92.56	50	⇓P	P	20 31 25.0	+0.4
	baz=93						
A21A	**Bergtoll Ranch**	92.76	38	⇑P	P	20 31 25.5	+0.2
	baz=93						
LZH	**Lanzhou**	92.78	307	P	P	20 31 24.7	-1.2
LZH				pP	pP	20 33 19.5	-6.1
LZH				sP	sP	20 34 10.2	-10
LZH				PP	PP	20 35 18.5	+0.6
LZH				pmax	pmax		
	comp=Z,20nm,1.2s						
LZH				pmax	pmax		
	comp=Z,57nm,8.1s						
Q30A	**Quinter**	92.88	50	⇓P	P	20 31 26.2	+0.1
	baz=93						
S31A	**Mullinville**	92.88	51	⇓P	P	20 31 26.6	+0.5
	baz=93						
O29A	**4D Ranch, Culb**	92.92	48	⇑P	P	20 31 26.7	+0.4
	baz=93						
B22A	**Reddig Ranch S**	93.00	39	⇑P	P	20 31 27.2	+0.8
	baz=93						
P30A	**Selden**	93.08	49	⇑P	P	20 31 27.5	+0.5
	baz=93						
C23A	**Lambert**	93.26	40	⇓P	P	20 31 28.6	+1.0
	baz=93						
J27A	**Elkhorn Farm,**	93.36	45	⇓P	P	20 31 29.4	+1.2
	baz=93						
B23A	**Brockton**	93.67	40	⇑P	P	20 31 30.2	+0.7
	baz=94						
GTA	**Gaotai**	96.96	309	*e*P	P	20 31 45.3	+0.6
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ZALV	**Zalesovo Beam**	110.32	321	PKIKP	**PKiKP**	20 36 39.5	-1.6
ZALV	**Zalesovo Beam**	110.32	321	PKiKP	**PKiKP**	20 36 39.5	-1.6
ZALV				SKP		20 39 25.1	
ZALV	**Zalesovo Beam**	110.32	321	PKiKP	**PKiKP**	20 36 39.5	-1.6
	comp=Z,2.1nm,0.5s,baz=148,slow=0.7,SNR=13						
ZALV				SKP		20 39 25.1	
	comp=Z,0.9nm,0.6s,baz=170,slow=2.5,SNR=3.7						
MK31	**Makanchi Array**	111.13	314*c*	*i*PKIKP	**PKiKP**	20 36 41.2	-1.7
MK31				pmax	pmax		
	comp=Z,2.0nm,0.4s						
MKAR	**Makanchi Array**	111.13	314	PKIKP	**PKiKP**	20 36 41.3	-1.6
MKAR	**Makanchi Array**	111.13	314	PKiKP	**PKiKP**	20 36 41.3	-1.6
MKAR				SKP		20 39 27.9	
MKAR				PKKPbc	**PKKPbc**	20 47 41.5	-0.5
MKAR	**Makanchi Array**	111.13	314	PKiKP	**PKiKP**	20 36 41.3	-1.6
	comp=Z,2.4nm,0.5s,baz=214,slow=0.8,SNR=42						
MKAR				SKP		20 39 27.9	
	comp=Z,5.9nm,0.8s,baz=149,slow=3.6,SNR=5.4						
MKAR				PKKPbc	**PKKPbc**	20 47 41.5	-0.5
	comp=Z,0.8nm,0.7s,baz=280,slow=3.9,SNR=6.6						
KURK	**Kurchatov**	113.87	318	PKIKP	**PKiKP**	20 36 46.4	-1.6
KURK						20 37 53.5	
KURK						20 47 31.5	
KURK	**Kurchatov**	113.87	318	PKiKP	**PKiKP**	20 36 46.4	-1.6
KURK				PP	**PP**	20 37 53.5	+1.5
KURK				SKP		20 39 32.5	
KURK				PKKPbc	**PKKPbc**	20 47 31.5	-1.5
KURBB	**Kurchatov Arra**	113.92	317	PKiKP	**PKiKP**	20 36 46.4	-1.7
	comp=Z,3.1nm,0.6s,baz=92,slow=2.0,SNR=34						
KURBB				PP	**PP**	20 37 53.5	+1.1
	comp=Z,1.4nm,0.9s,baz=86,slow=7.2,SNR=8.2						
KURBB				SKP		20 39 32.5	
	comp=Z,0.6nm,0.7s,baz=94,slow=1.9,SNR=5.5						
KURBB				PKKPbc	**PKKPbc**	20 47 31.5	-1.3
	comp=Z,0.8nm,0.7s,baz=277,slow=4.2,SNR=9.3						
KSH	**Kashi**	114.93	305	*e*PKP	PKPdf	20 36 49.7	-0.9
KSH				PP	PP	20 38 06.0	+6.1
KSH				PKS	**PKSdf**	20 40 24.5	-2.8
KSH				SKS	**SKSdf**	20 43 09.1	-2.3
KSH				SKKS	**SKKSac**	20 44 01.4	-3.1
KSH				AMB	AMB		
	comp=Z,37nm,4.8s						
TKM2	**Tokmak 2**	115.50	309	*e*PKIKP	**PKPdf**	20 36 50.5	-1.2
TKM2	**Tokmak 2**	115.50	309	*e*P	**PKPdf**	20 36 50.5	-1.2
AAK	**Ala-Archa**	116.30	308	PKIKP	**PKPdf**	20 36 52.1	-1.1
AAK	**Ala-Archa**	116.30	308	PKP	**PKPdf**	20 36 52.1	-1.1
AAK	**Ala-Archa**	116.30	308	PKP	**PKPdf**	20 36 52.1	-1.1
	comp=Z,1.3nm,0.4s,baz=157,slow=7.7,SNR=3.2						
BVAR	**Borovoye Array**	118.92	320	PKIKP	**PKPdf**	20 36 56.4	-1.2
BVAR						20 47 18.3	
BVAR	**Borovoye Array**	118.92	320	PKP	**PKPdf**	20 36 56.4	-1.2
BVAR				SKP		20 39 42.2	
BVAR				PKKPab	**PKKPab**	20 47 18.3	+0.9
BVAR	**Borovoye Array**	118.92	320	PKP	**PKPdf**	20 36 56.4	-1.2
	comp=Z,4.8nm,0.4s,baz=119,slow=2.4,SNR=39						
BVAR				SKP		20 39 42.2	
	comp=Z,2.4nm,0.9s,baz=103,slow=3.2,SNR=5.1						
BVAR				PKKPab	**PKKPab**	20 47 18.3	+0.9
	comp=Z,0.7nm,0.7s,baz=135,slow=1.0,SNR=4.4						
BRVK	**Borovoye**	118.98	320*c*	*i*PKIKP	**PKPdf**	20 36 56.7	-1.0
BRVK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KK31	**Karatay Array**	119.24	309*c*	*i*PKIKP	**PKPdf**	20 36 57.2	-1.4
KK31				pmax	pmax		
	comp=Z,2.0nm,0.4s						
KKAR	**Karatay Array**	119.24	309	*e*PKIKP	**PKPdf**	20 36 57.3	-1.3
KKAR	**Karatay Array**	119.24	309	*e*P	**PKPdf**	20 36 57.3	-1.3
KBL	**Kabul**	120.02	299	*e*PKIKP	**PKPdf**	20 37 00.1	-0.5
KBL	**Kabul**	120.02	299	*e*PKPdf	**PKPdf**	20 37 00.1	-0.5
SPITS	**Spitsbergen Ar**	121.28	357	PKP	**PKPdf**	20 37 00.3	-1.2
SPITS	**Spitsbergen Ar**	121.28	357	PKP	**PKPdf**	20 37 00.3	-1.2
	comp=Z,3.2nm,0.5s,baz=90,slow=4.2,SNR=8.6						
SFJD	**Kangerlussuaq**	122.20	22	PKP	**PKPdf**	20 37 02.4	-1.1
SFJD	**Kangerlussuaq**	122.20	22	PKP	**PKPdf**	20 37 02.4	-1.1
	comp=Z,4.7nm,0.7s,baz=158,slow=8.9,SNR=3.4						
SVE	**Sverdlovsk**	123.76	326	*e*PKIKP	**PKPdf**	20 37 06.1	-0.7
SVE				pmax	pmax		
	comp=Z,11nm,0.8s						
SOKR	**Solikamsk**	124.79	330	*e*PKIKP	**PKPdf**	20 37 07.9	-0.7
SOKR				pmax	pmax		
	comp=Z,10.0nm,0.6s						
ARU	**Arti**	124.97	326	*i* PKIKP	**PKPdf**	20 37 08.4	-0.7
ARU						20 43 18.8	
AB31	**Akbulak array**	125.97	317*c*	*i*PKIKP	**PKPdf**	20 37 10.5	-0.8
AB31				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ABKAR	**Akbulak array**	125.97	317	*e*PKPdf	**PKPdf**	20 37 10.5	-0.8
AKTO	**Aktyubinsk**	126.93	319	PKIKP	**PKPdf**	20 37 12.7	-0.4
AKTO	**Aktyubinsk**	126.93	319	PKP	**PKPdf**	20 37 12.7	-0.4
AKTO	**Aktyubinsk**	126.93	319	PKP	**PKPdf**	20 37 12.7	-0.4
	comp=Z,3.6nm,0.6s,baz=81,slow=3.6,SNR=12						
BOSA	**Boshof**	127.01	205	PKP	**PKPdf**	20 37 14.2	+0.1
BOSA	**Boshof**	127.01	205	PKP	**PKPdf**	20 37 14.2	+0.1
	comp=Z,7.2nm,0.7s,baz=132,slow=5.0,SNR=19						
ARCES	**ARCESS Array B**	128.41	350	PKP	**PKPdf**	20 37 14.3	-1.0
ARCES				PP	PP	20 39 35.0	+6.5
ARCES	**ARCESS Array B**	128.41	350	PKP	**PKPdf**	20 37 14.3	-1.0
	comp=Z,5.0nm,0.5s,baz=12,slow=1.4,SNR=55						
ARCES				PP	PP	20 39 35.0	+6.5
	comp=Z,2.8nm,1.0s,baz=0.0,slow=5.4,SNR=2.4						
JOF	**Joensuu**	132.69	343	*e*PKIKP	**PKPdf**	20 37 21.7	-1.9
JOF	**Joensuu**	132.69	343	*e*p	**PKPdf**	20 37 21.7	-1.9
KAF	**Kangasniemi**	134.69	345	*e*PKIKP	**PKPdf**	20 37 25.9	-1.5
KAF	**Kangasniemi**	134.69	345	*e*p	**PKPdf**	20 37 25.9	-1.5
FINES	**FINESS Array B**	135.32	344	PKPpre	PKPpre	20 37 19.5	
FINES				PKP	**PKPdf**	20 37 28.6	+0.1
FINES				SKPbc	**SKPbc**	20 40 09.1	+0.3
FINES	**FINESS Array B**	135.32	344	PKhKP	PKPpre	20 37 19.5	
	comp=Z,0.9nm,0.5s,baz=132,slow=2.8,SNR=8.9						
FINES				PKP	**PKPdf**	20 37 28.6	+0.1
	comp=Z,3.6nm,0.5s,baz=31,slow=4.2,SNR=17						
FINES				SKPbc	**SKPbc**	20 40 09.1	+0.3
	comp=Z,7.3nm,0.8s,baz=34,slow=3.5,SNR=11						
OBN	**Obninsk**	136.44	332	*e*PKIKP	**PKPdf**	20 37 30.2	-0.6
OBN				pmax	pmax		
	comp=Z,8.0nm,0.7s						
LSZ	**Lusaka**	136.89	218	*e*PKPdf	**PKPdf**	20 37 34.0	+0.9
NB2	**NORSAR Subarra**	138.43	354	PKP	PKPpre	20 37 26.3	
	comp=Z,2.1nm,0.7s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	138.43	354	PKPpre	PKPpre	20 37 24.5	
NOA				PKP	**PKPdf**	20 37 34.5	+0.1
NOA				SKPbc	**SKPbc**	20 40 18.7	+0.7
NOA	**NORSAR Array B**	138.43	354	PKhKP	PKPpre	20 37 24.5	
	comp=Z,1.8nm,0.7s,baz=16,slow=5.1,SNR=6.2						
NOA				PKP	**PKPdf**	20 37 34.5	+0.1
	comp=Z,2.3nm,0.6s,baz=14,slow=3.9,SNR=6.8						
NOA				SKPbc	**SKPbc**	20 40 18.7	+0.7
	comp=Z,3.3nm,0.8s,baz=14,slow=4.5,SNR=8.0						
KBZ	**Khabaz**	138.81	314	SKPbc	**SKPbc**	20 40 19.8	+0.3
KBZ	**Khabaz**	138.81	314	SKPbc	**SKPbc**	20 40 19.8	+0.3
	comp=Z,1.9nm,0.9s,baz=236,slow=7.8,SNR=3.6						
KIV	**Kislovodsk**	138.87	315	*e*PKIKP	**PKPdf**	20 37 36.2	+0.4
KIV				pmax	pmax		
	comp=Z,6.0nm,1.0s						
HFS	**Hagfors**	139.01	351	PKPpre	PKPpre	20 37 25.0	
HFS	**Hagfors**	139.01	351	PKhKP	PKPpre	20 37 25.0	
	comp=Z,1.8nm,0.4s,baz=79,slow=3.2,SNR=14						
KMBO	**Kilima Mbogo**	140.05	243	PKP	**PKPdf**	20 37 39.4	+0.4
KMBO	**Kilima Mbogo**	140.05	243	PKP	**PKPdf**	20 37 39.4	+0.4
	comp=Z,1.6nm,0.5s,baz=207,slow=2.3,SNR=4.8						
ANN	**Anapa**	141.89	319	*i* PKHKP	PKPpre	20 37 39.5	
ANN				pmax	pmax		
	comp=Z,47nm,1.1s						
AKASG	**Malin Array Be**	142.71	332	PKHKP	PKPpre	20 37 38.0	
AKASG						20 37 43.6	
AKASG	**Malin Array Be**	142.71	332	PKPpre	PKPpre	20 37 38.0	
AKASG				PKP	**PKPdf**	20 37 43.6	+1.3
AKASG				SKPbc	**SKiKP**	20 40 29.9	-0.5
AKASG	**Malin Array Be**	142.71	332	PKhKP	PKPpre	20 37 38.0	
	comp=Z,2.7nm,0.4s,baz=38,slow=4.2,SNR=9.9						
AKASG				PKP	**PKPdf**	20 37 43.6	+1.3
	comp=Z,3.6nm,0.5s,baz=42,slow=3.3,SNR=8.0						
AKASG				SKPbc	**SKiKP**	20 40 29.9	-0.5
	comp=Z,4.0nm,0.8s,baz=28,slow=2.6,SNR=9.2						
MZRK	**Al-Mazaregh**	142.99	304	*e*P	**PKPdf**	20 37 40.9	-2.4
KEMA	**Kemaliye**	143.54	310	*i* P	PKPbc	20 37 43.0	0.0
MALT	**Malatya**	143.93	308	⇑PKIKP	PKPbc	20 37 44.4	+0.1
MALT	**Malatya**	143.93	308	⇑*i*P	PKPbc	20 37 44.4	+0.1
ERBA	**Erbaa**	144.21	313	*i* P	PKPbc	20 37 45.2	+0.1
GZT	**Gaziantep**	144.90	307	*i* P	**PKPdf**	20 37 47.1	+0.3
KIS	**Kishinev**	145.48	328	*e*P	**PKPbc**	20 37 48.0	-0.6
KIS	**Kishinev**	145.48	328	*e*PKIKP	**PKPbc**	20 37 48.0	-0.6
CTKT	**Corum**	145.58	314	*i* P	**PKPbc**	20 37 49.6	+0.2
ROOS	**tl_alroos**	146.09	302	*e*P	**PKPbc**	20 37 50.1	-0.8
ILGA	**Ilgaz**	146.10	315	*i* P	**PKPbc**	20 37 50.8	0.0
LEOM	**Leova**	146.13	327	⇑PKIKP	**PKPdf**	20 37 49.3	+1.0
LEOM	**Leova**	146.13	327	⇑*i*P	**PKPdf**	20 37 49.3	+1.0
BTCH	**Batrach**	146.18	306	*e*P	**PKPbc**	20 37 50.8	-0.3
KWP	**Kalwaria Pacla**	146.22	336	⇓PKIKP	**PKPbc**	20 37 50.1	-0.5
KWP	**Kalwaria Pacla**	146.22	336	⇓*i*P	**PKPbc**	20 37 50.1	-0.5
KWP	**Kalwaria Pacla**	146.22	336	*e*PKP	**PKPbc**	20 37 49.9	-0.7
AVNT	**Avonos**	146.34	311	*i* P	**PKPbc**	20 37 51.2	-0.3
YAYL	**Yayladag**	146.45	306	*i* P	**PKPdf**	20 37 49.0	-0.4
YURE	**YÜREĞİR**	146.54	307	*i* P	**PKPbc**	20 37 51.7	-0.2
ARNB	**Al Arnab**	146.61	306	*e*P	**PKPbc**	20 37 51.4	-0.8
TLCR		146.69	325	⇑PKIKP	**PKPbc**	20 37 51.4	-0.6
TLCR		146.69	325	⇑*i*P	**PKPbc**	20 37 51.4	-0.6
BUR08	**Bucovina Ar. S**	146.75	332	*e*PKPbc	**PKPbc**	20 37 51.8	-0.4
BURAR	**Bucovina Array**	146.76	332	⇓PKIKP	**PKPbc**	20 37 52.1	-0.2
BURAR	**Bucovina Array**	146.76	332	⇓*i*P	**PKPbc**	20 37 52.1	-0.2
BR131	**Keskin Array S**	146.78	313	*e*PKPdf	**PKPdf**	20 37 49.1	-0.7
BR131				*e*PKPbc	**PKPbc**	20 37 51.9	-0.8
MARH	**Ras Al Marh**	146.78	302	*e*P	**PKPbc**	20 37 52.8	-0.2
BRTR	**Keskin Array B**	146.78	313	PKP	**PKPdf**	20 37 48.9	-1.0
BRTR				PKPbc	**PKPbc**	20 37 51.5	-1.1
BRTR				pPKPbc	pPKPbc	20 39 57.1	-0.9
BRTR	**Keskin Array B**	146.78	313	PKP	**PKPdf**	20 37 48.9	-1.0
	comp=Z,12nm,0.6s,baz=137,slow=4.5,SNR=62						
BRTR				PKPbc	**PKPbc**	20 37 51.5	-1.1
	comp=Z,12nm,0.6s,baz=137,slow=4.5,SNR=63						
BRTR				pPKPbc	pPKPbc	20 39 57.1	-0.9
	comp=Z,2.0nm,1.0s,baz=45,slow=2.2,SNR=3.7						
GHRR		146.84	328	⇓*i*P	**PKPbc**	20 37 52.7	+0.3
TESR	**Tescani**	146.90	329	⇓*i*P	**PKPbc**	20 37 51.9	-0.6
ASF	**Jabal al Asfar**	146.91	299	PKPbc	**PKPbc**	20 37 52.9	-0.2
ASF	**Jabal al Asfar**	146.91	299	PKPbc	**PKPbc**	20 37 52.9	-0.2
	comp=Z,9.1nm,0.7s,baz=55,slow=2.5,SNR=21						
SALA	**Sala**	146.92	300	*e*P	**PKPdf**	20 37 49.7	-0.6
STHS	**Stebnicka Huta**	146.94	337	*e*PKIKP	**PKPbc**	20 37 52.7	+0.1
STHS	**Stebnicka Huta**	146.94	337	*e*PKP	**PKPbc**	20 37 52.7	+0.1
KOLS	**Kolonicke sedl**	146.96	336	*e*PKIKP	**PKPbc**	20 37 52.6	0.0
KOLS	**Kolonicke sedl**	146.96	336	*e*PKP	**PKPbc**	20 37 52.6	0.0
GULE	**Gulek**	147.00	309	*i* P	**PKPbc**	20 37 53.5	+0.1
CFR	**Carcaliu**	147.06	326	⇓PKIKP	**PKPbc**	20 37 52.3	-0.6
CFR	**Carcaliu**	147.06	326	⇓*i*P	**PKPbc**	20 37 52.3	-0.6
UZH	**Uzhgorod**	147.19	336	⇓*i*PKIKP	**PKPbc**	20 37 53.1	-0.1
UZH				*e*		20 38 01.5	
UZH				*e*		20 39 51.5	
KSP	**Ksiaz**	147.24	344	*e*PKP	**PKPbc**	20 37 53.2	-0.1
ANTO	**Ankara**	147.28	314	*e*PKIKP	**PKPbc**	20 37 53.4	-0.5
ANTO	**Ankara**	147.28	314	*e*PKPbc	**PKPbc**	20 37 53.4	-0.5
ANTO	**Ankara**	147.28	314	⇓*i*P	**PKPbc**	20 37 53.4	-0.5
CRVS	**Cervenica-Dubn**	147.29	337	*e*PKIKP	**PKPbc**	20 37 53.5	0.0
CRVS	**Cervenica-Dubn**	147.29	337	*e*PKP	**PKPbc**	20 37 53.5	0.0
VRI	**Vrincioaia**	147.31	328	⇑PKIKP	**PKPbc**	20 37 53.0	-0.7
VRI	**Vrincioaia**	147.31	328	⇑*i*P	**PKPbc**	20 37 53.0	-0.7
PLOR	**Plostina**	147.36	328	⇑PKIKP	**PKPbc**	20 37 53.2	-0.6
PLOR	**Plostina**	147.36	328	⇑*i*P	**PKPbc**	20 37 53.2	-0.6
BRBR	**Barbar**	147.37	301	*e*P	**PKPbc**	20 37 54.8	+0.3
TIRR	**Tirgusor**	147.38	325	⇓PKIKP	**PKPbc**	20 37 53.2	-0.6
TIRR	**Tirgusor**	147.38	325	⇓*i*P	**PKPbc**	20 37 53.2	-0.6
HARR	**Harsova**	147.49	325	⇑PKIKP	**PKPbc**	20 37 53.9	-0.2
HARR	**Harsova**	147.49	325	⇑*i*P	**PKPbc**	20 37 53.9	-0.2
TLB	**Topalu**	147.50	325	⇓PKIKP	**PKPbc**	20 37 53.8	-0.3
TLB	**Topalu**	147.50	325	⇓*i*P	**PKPbc**	20 37 53.8	-0.3
TRPA	**Tarpa**	147.50	335	⇓*i*P	**PKPbc**	20 37 53.5	-0.5
CLZ	**Clausthal**	147.52	351	*e*PKPbc	**PKPbc**	20 37 53.8	-0.2
CLZ	**Clausthal**	147.52	351	*e*PKIKP	**PKPbc**	20 37 53.8	-0.2
CLL	**Collm**	147.57	348	*e*PKPbc	**PKPbc**	20 37 53.5	-0.6
CLL	**Collm**	147.57	348	⇓*i*PKIKP	**PKPbc**	20 37 53.5	-0.6
CLL				pmax	pmax		
	comp=Z,27nm,0.6s						
OKC	**Ostrava-Krasne**	147.62	341	*e*PKIKP	**PKPbc**	20 37 53.8	-0.5
OKC				*e*		20 40 01.2	
OKC	**Ostrava-Krasne**	147.62	341	⇓*e*PKPBC	**PKPbc**	20 37 53.8	-0.5
OKC				*e*pPKP	**pPKPdf**	20 40 01.2	+2.8
UPC	**Upice**	147.62	344	*e*PKIKP	**PKPbc**	20 37 54.3	0.0
UPC				*e*		20 40 01.2	
UPC	**Upice**	147.62	344	⇓*e*PKPBC	**PKPbc**	20 37 54.3	0.0
UPC				*e*pPKP	**pPKPdf**	20 40 01.2	+2.8
DPC	**Dobruska-Polom**	147.68	343	⇓*i*PKIKP	**PKPbc**	20 37 54.4	-0.1
DPC				*e*		20 37 58.8	
DPC				*e*		20 40 01.1	
DPC	**Dobruska-Polom**	147.68	343	⇓*i*PKPBC	**PKPbc**	20 37 54.4	-0.1
DPC				*e*PKPAB	**PKPab**	20 37 58.8	+0.1
DPC				*e*pPKP	**pPKPdf**	20 40 01.1	+2.5
BRG	**Berggiesshubel**	147.78	346	*e*PKPbc	**PKPbc**	20 37 54.2	-0.5
BRG	**Berggiesshubel**	147.78	346	*e*PKHKP	PKPpre	20 37 50.5	
BRG				*i*		20 37 54.3	
BRG				pmax	pmax		
	comp=Z,7.0nm,1.1s						
BRG				pmax	pmax		
	comp=Z,16nm,0.7s						
BRG				pmax	pmax		
	comp=N,7.0nm,1.0s						
FBE	**Freiberg**	147.87	347	*e*PKPbc	**PKPbc**	20 37 54.8	-0.1
DOPR	**Dopca**	147.90	329	⇓*i*P	**PKPbc**	20 37 55.7	+0.5
NEUB	**Neuenburg**	147.90	349	*e*PKPbc	**PKPbc**	20 37 54.6	-0.3
MMAI	**Mount Meron Ar**	147.92	301	PKPbc	**PKPbc**	20 37 55.5	-0.2
MMAI				pPKPbc	**pPKPbc**	20 40 03.0	+1.4
MMAI	**Mount Meron Ar**	147.92	301	PKPbc	**PKPbc**	20 37 55.5	-0.2
	comp=N,16nm,0.5s,baz=69,slow=5.8,SNR=50						
MMAI				pPKPbc	**pPKPbc**	20 40 03.0	+1.4
	comp=N,3.8nm,0.8s,baz=31,slow=3.4,SNR=4.1						
ISR	**Istrita**	147.92	327	⇓*i*P	**PKPbc**	20 37 55.0	-0.3
PVCC	**Panska Ves**	147.96	345	⇓*e*PKPBC	**PKPbc**	20 37 55.3	+0.2
PVCC				epPKP	**pPKPdf**	20 40 02.4	+3.4
MLR	**Muntele Rosu**	147.97	328	PKPbc	**PKPbc**	20 37 54.6	-0.9
MLR				pPKPbc	**pPKPbc**	20 40 04.4	+3.0
MLR	**Muntele Rosu**	147.97	328	PKPbc	**PKPbc**	20 37 54.6	-0.9
	comp=N,2.1nm,0.5s,baz=330,slow=7.4,SNR=49						
MLR				pPKPbc	**pPKPbc**	20 40 04.4	+3.0
	comp=N,1.6nm,1.2s,baz=87,slow=8.6,SNR=3.2						
KECS	**Kecovo**	148.00	337	*e*PKP	**PKPbc**	20 37 55.2	-0.1
SECR		148.22	327	⇓*i*P	**PKPbc**	20 37 55.7	-0.3
BUG	**Bochum--Univer**	148.29	354	*e*PKPbc	**PKPbc**	20 37 55.2	-0.7
PRA	**Prague**	148.42	345	⇓PKPBC	**PKPbc**	20 37 57.0	+0.7
VOIR		148.44	329	⇑*i*P	**PKPbc**	20 37 56.4	-0.2
MOX	**Moxa**	148.47	349	*e*PKPbc	**PKPbc**	20 37 55.8	-0.6
PRU	**Pruhonice**	148.47	345	⇓*i*PKPBC	**PKPbc**	20 37 56.2	-0.2
PRU				epPKP	**pPKPdf**	20 40 03.3	+3.5
PLN	**Plauen**	148.52	348	*e*PKPbc	**PKPbc**	20 37 56.2	-0.4
TANN	**Tannenbergstha**

*THE **03** 20:31:32.2, 35.°09N×26.°75E, h0km±2km, ML3.1/1, Error ellipse: s-maj=8.9km s-min=1.2km az=153.0*
ISC 03 20:31:30.6±1.4, 34.°95N±0.°06×26.°85E±0.°03, h7km±9km, n55, σ1°12/62, mb3.3/3, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.54**	**288**	P	**Pg**	**20 31 40.9**	**-0.3**
ZKR				S	**Sg**	**20 31 48.5**	**+0.2**
ZKR	**Zakros**	**0.54**	**288**	*e*PG	**Pg**	**20 31 40.9**	**-0.3**
ZKR				*e*SB	**Sg**	**20 31 48.5**	**+0.2**
ZKR	**Zakros**	**0.54**	**288**	*e*Pg	**Pg**	**20 31 40.9**	**-0.3**
ZKR				*e*Sb	**Sg**	**20 31 48.5**	**+0.2**
KARP	**Karpathos**	**0.65**	**23**	P	**Pg**	**20 31 42.8**	**-0.4**
KARP				S	**Sb**	**20 31 53.4**	**-0.3**
KARP	**Karpathos**	**0.65**	**23**	*e*PB	**Pg**	**20 31 42.9**	**-0.3**
KARP	**Karpathos**	**0.65**	**23**	*e*Pb	**Pg**	**20 31 42.9**	**-0.3**
KARP				S	**Sb**	**20 31 53.4**	**-0.3**
NPS	**Neapolis**	**1.06**	**288**	P	**Pg**	**20 31 50.7**	**-0.3**
NPS				S	**Sg**	**20 32 04.7**	**-0.1**
NPS	**Neapolis**	**1.06**	**288**	*e*PB	**Pg**	**20 31 50.2**	**-0.8**
NPS	**Neapolis**	**1.06**	**288**	*e*Pb	**Pg**	**20 31 50.2**	**-0.8**
NPS				S	**Sg**	**20 32 04.7**	**-0.1**
LAST	**Lasithi**	**1.14**	**281**	P	**Pg**	**20 31 52.0**	**-0.6**
LAST				S	**Sn**	**20 32 08.5**	**-0.6**
LAST	**Lasithi**	**1.14**	**281**	*e*PG	**Pg**	**20 31 52.0**	**-0.6**
LAST	**Lasithi**	**1.14**	**281**	*e*Pg	**Pg**	**20 31 52.0**	**-0.6**
LAST				S	**Sn**	**20 32 08.5**	**-0.6**
IDI	**Anoyia**	**1.64**	**283**	*e*PG	**Pb**	**20 32 01.0**	**-0.3**
IDI	**Anoyia**	**1.64**	**283**	Pn	**Pn**	**20 32 00.6**	**+0.6**
	2.4nm,0.3s,baz=96,slow=17,SNR=22						
IDI				Sn	**Sg**	**20 32 23.7**	**+0.3**
	8.6nm,0.3s,baz=8.3,slow=14,SNR=7.4						
IDI	**Anoyia**	**1.64**	**283**	*e*Pg	**Pb**	**20 32 01.0**	**-0.3**
ARG	**Arkhangelos**	**1.64**	**39**	P	**Pb**	**20 32 00.6**	**-0.6**
ARG	**Arkhangelos**	**1.64**	**39**	*e*PB	**Pg**	**20 32 01.8**	**-0.3**
ARG	**Arkhangelos**	**1.64**	**39**	P	**Pb**	**20 32 00.6**	**-0.6**
ARG	**Arkhangelos**	**1.64**	**39**	*e*Pb	**Pg**	**20 32 01.8**	**-0.3**
SIVA	**Sivas**	**1.67**	**273**	P	**Pn**	**20 32 00.8**	**+0.4**
SIVA				S	**Sb**	**20 32 23.4**	**+0.3**
SIVA	**Sivas**	**1.67**	**273**	*e*PB	**Pg**	**20 32 03.3**	**+0.6**
SIVA	**Sivas**	**1.67**	**273**	P	**Pn**	**20 32 00.8**	**+0.4**
SIVA	**Sivas**	**1.67**	**273**	*e*Pb	**Pg**	**20 32 03.3**	**+0.6**
SIVA				S	**Sb**	**20 32 23.4**	**+0.3**
VAM	**Vamos**	**2.22**	**283**	*e*PN	**Pb**	**20 32 11.0**	**0.0**
VAM	**Vamos**	**2.22**	**283**	*e*Pn	**Pb**	**20 32 11.0**	**0.0**
APE	**Apeiranthos**	**2.37**	**334**	*e*PN	**Pn**	**20 32 11.4**	**+1.4**
APE				*e*SN	**Sb**	**20 32 41.9**	**-1.3**
APE	**Apeiranthos**	**2.37**	**334**	*e*Pn	**Pn**	**20 32 11.4**	**+1.4**
APE				*e*Sn	**Sb**	**20 32 41.9**	**-1.3**
KARN	**Karanos**	**2.44**	**282**	P	**Pn**	**20 32 10.1**	**-0.9**
KARN	**Karanos**	**2.44**	**282**	*e*PN	**Pb**	**20 32 13.7**	**-1.2**
KARN	**Karanos**	**2.44**	**282**	*e*Pn	**Pb**	**20 32 13.7**	**-1.2**
SMG	**Samos**	**2.76**	**360**	*e*PN	**Pn**	**20 32 17.2**	**+1.9**
SMG	**Samos**	**2.76**	**360**	*e*Pn	**Pn**	**20 32 17.2**	**+1.9**
ANKY	**Antikythira Is**	**3.04**	**289**	*e*PN	**Pn**	**20 32 21.4**	**+2.3**
ANKY	**Antikythira Is**	**3.04**	**289**	*e*Pn	**Pn**	**20 32 21.4**	**+2.3**
KYTH	**Kithira**	**3.38**	**294**	*e*PN	**Pn**	**20 32 26.2**	**+2.4**
KYTH	**Kithira**	**3.38**	**294**	*e*Pn	**Pn**	**20 32 26.2**	**+2.4**
VLI	**Veliai**	**3.64**	**300**	*e*PN	**Pn**	**20 32 29.1**	**+1.8**
VLI	**Veliai**	**3.64**	**300**	*e*Pn	**Pn**	**20 32 29.1**	**+1.8**
DID	**Didima**	**3.88**	**312**	*e*PN	**Pn**	**20 32 32.3**	**+1.6**
DID	**Didima**	**3.88**	**312**	*e*Pn	**Pn**	**20 32 32.3**	**+1.6**
DYR	**Agios Nikonas**	**4.09**	**298**	*e*PB	Pn	20 32 37.7	+4.1
DYR	**Agios Nikonas**	**4.09**	**298**	*e*Pb	Pn	20 32 37.7	+4.1
VLX	**Vlachokerasia**	**4.35**	**305**	*e*PN	Pn	20 32 40.7	+3.4
VLX	**Vlachokerasia**	**4.35**	**305**	*e*Pn	Pn	20 32 40.7	+3.4
LTK	**Loutraki**	**4.38**	**316**	*e*PN	Pn	20 32 41.0	+3.4
LTK	**Loutraki**	**4.38**	**316**	*e*Pn	Pn	20 32 41.0	+3.4
GUR	**Goura**	**4.70**	**311**	*e*PN	**Pn**	**20 32 43.6**	**+1.5**
GUR	**Goura**	**4.70**	**311**	*e*Pn	**Pn**	**20 32 43.6**	**+1.5**
BRTR	**Keskin Array B**	**7.21**	**47**	Pn	Pn	20 33 21.4	+4.7
	0.1nm,0.3s,baz=221,slow=15,SNR=2.9						
BRTR				Sn	Sn	20 34 45.4	+6.6
	0.1nm,0.3s,baz=205,slow=22,SNR=2.4						
MMAI	**Mount Meron Ar**	**7.36**	**103**	Pn	**Pn**	**20 33 20.1**	**+1.5**
	0.5nm,0.3s,baz=295,slow=10,SNR=2.8						
MMAI				Sn	**Sn**	**20 34 41.4**	**-1.1**
	0.6nm,0.3s,baz=279,slow=20,SNR=2.8						
EIL	**Elat**	**8.64**	**125**	Sn	Sn	20 35 06.0	-7.9
	0.8nm,0.3s,baz=140,slow=8.4,SNR=5.1						
AKASG	**Malin Array Be**	**15.84**	**6**	Pn	**P**	**20 35 17.3**	**-0.5**
	0.3nm,0.3s,baz=196,slow=11,SNR=2.1						
TORD	**Torodi Ar. Bea**	**31.43**	**233**	P	**P**	**20 37 50.7**	**-2.1**
	0.4nm,0.9s,baz=39,slow=7.6,SNR=2.9						
KURBB	**Kurchatov Arra**	**40.18**	**51**	P	**P**	**20 39 08.4**	**+1.0**
	0.3nm,0.4s,baz=284,slow=9.7,SNR=4.7						
ZALV	**Zalesovo Beam**	**44.16**	**46**	P	**P**	**20 39 41.0**	**+1.3**
	0.7nm,0.5s,baz=264,slow=8.2,SNR=4.3						

IDC 03 20:52:26.9±8.6, 8.°35S×122.°90E, h215km±74km, mb3.5/1, mb1 3.4/4, mb1mx3.0/21, mbtmp3.3/4, Error ellipse: s-maj=108.8km s-min=67.1km az=62.0, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.06**	**165**	P	Pn	20 54 46.1	-0.6
	0.2nm,0.3s,baz=5.4,slow=13,SNR=18						
FITZ				S	S	20 56 39.0	-0.7
	0.6nm,0.3s,baz=145,slow=3.8,SNR=8.6						
WRA	**Warramunga Arr**	**15.98**	**137**	P	P	20 55 59.5	-0.3
	0.4nm,0.3s,baz=317,slow=12,SNR=27						
WRA				S	S	20 58 57.4	+0.6
	0.2nm,0.3s,baz=318,slow=26,SNR=5.3						
ASAR	**Alice Springs**	**18.53**	**147**	P	P	20 56 28.5	+0.9
	0.7nm,0.3s,baz=328,slow=12,SNR=22						
STKA	**Stephens Creek**	**29.16**	**146**	P	P	20 58 07.9	-0.3
	2.4nm,0.8s,baz=329,slow=12,SNR=4.9						

DJA 03 21:18:46.1±0.5, 4.°S±3.°×12.°2E±.°, h10km, M3.5/8, MLv3.5/8, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKSI	**Kolaka, Sulawe**	**0.78**	**265**	P	Pg	21 18 59.3	-1.9
KKSI				S	Sg	21 19 10.8	-0.6
BBSI	**Bau Bau**	**1.38**	**174**	P	Pn	21 19 11.2	-0.2
SKSI	**Soroako, Sulaw**	**1.91**	**325**	P	Pb	21 19 20.4	-0.8
SKSI				S	Sb	21 19 44.8	-0.5
BKSI	**Bulukumba**	**2.60**	**242**	P	Pn	21 19 28.6	+0.4
BKSI				S	Sn	21 20 00.8	+1.0
TTSI	**Tana Toraja**	**2.81**	**292**	P	Pn	21 19 32.3	+1.1
KAPI	**Kappang**	**2.82**	**251**	P	Pn	21 19 30.9	-0.3
LUWI	**Luwuk**	**3.07**	**6**	P	Pn	21 19 32.7	-2.0
GTOI	**Gorontalo**	**4.75**	**7**	P	Pn	21 19 57.6	-0.2

MAN 03 21:26:19, 16.°56N×120.°89E, h23km, mb4.0, ML2.8, MS2.5, 2C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCPH	**Baguio City Da**	**0.35**	**240**	↑*i*P	Pb	21 26 26.8	-0.1
BOLP	**Bolinao**	**0.96**	**260**	*e*P	Pb	21 26 37.0	0.0
CAUP	**Cauayan**	**0.97**	**67**	*e*P	Pn	21 26 37.4	+0.1
CAUP				*e*S	Sb	21 26 49.9	+0.3
PCPH	**Palayan**	**1.01**	**169**	↑*e*P	Pn	21 26 37.0	-0.8
BALP	**Baler**	**1.04**	**141**	*e*P	Pn	21 26 37.3	-1.0
BALP				*e*S	Sb	21 26 46.7	-5.0
ABRA	**Dolores**	**1.10**	**351**	*e*P	Pn	21 26 38.2	-0.8
SCZP	**Santa Cruz**	**1.22**	**231**	*e*P	Pn	21 26 40.3	-0.4
APYP	**Conner**	**1.34**	**14**	*e*P	Pb	21 26 43.3	-0.2

IDC 03 21:39:04.0±1.8, 0.°74N×125.°49E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/22, mbtmp3.6/4, Error ellipse: s-maj=195.8km s-min=23.1km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.30**	**158**	P	P	21 44 02.9	-0.4
	0.7nm,0.4s,baz=336,slow=10,SNR=8.4						
ASAR	**Alice Springs**	**25.60**	**162**	P	P	21 44 35.7	+0.5
	0.9nm,0.6s,baz=343,slow=9.6,SNR=13						
STKA	**Stephens Creek**	**35.84**	**156**	P	P	21 46 05.1	-0.4
	1.3nm,0.7s,baz=343,slow=9.5,SNR=2.9						
MKAR	**Makanchi Array**	**59.33**	**327**	P	P	21 49 07.9	0.0
	0.1nm,0.3s,baz=126,slow=8.8,SNR=5.9						

IDC 03 21:40:07.0±5.1, 6.°99S×155.°35E, h75km±42km, mb3.9/12, mb1 4.1/13, mb1mx3.9/21, mbtmp3.9/13, ML3.2/1, MS3.3/3, Ms1 3.3/3, ms1mx2.9/28, Error ellipse: s-maj=31.4km s-min=17.9km az=110.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.16**	**118**	S	Sn	21 42 35.3	+15
	9.1nm,0.3s,baz=61,slow=19,SNR=3.0						
HNR				LR	LR	21 43 22.3	
	comp=Z,283nm,19.2s,baz=333,slow=38						
PMG	**Port Moresby**	**8.46**	**253**	P	Pn	21 42 07.2	+0.2
	1.5nm,0.3s,baz=49,slow=8.0,SNR=3.6						
PMG				S	Sn	21 43 45.3	+4.3
	1.4nm,0.3s,baz=80,slow=19,SNR=2.9						
PMG				LR	LR	21 44 52.3	
	comp=Z,95nm,20.1s,baz=79,slow=34						
WRA	**Warramunga Arr**	**24.12**	**236**	P	P	21 45 16.1	+0.1
	2.7nm,0.7s,baz=58,slow=9.2,SNR=10						
WRA				PcP	PcP	21 48 55.8	+0.1
	0.5nm,0.5s,baz=61,slow=2.4,SNR=5.3						
ASAR	**Alice Springs**	**26.45**	**229**	P	P	21 45 36.5	-0.8
	0.6nm,0.6s,baz=58,slow=9.2,SNR=7.6						
FITZ	**Fitzroy Crossi**	**30.98**	**246**	P	P	21 46 17.5	-0.1
	3.2nm,0.7s,baz=86,slow=8.1,SNR=9.0						
FITZ				LR	LR	21 59 56.8	
	comp=Z,88nm,20.0s,baz=330,slow=38						
KAPI	**Kappang**	**35.46**	**271**	P	P	21 46 55.9	-0.6
	10nm,0.5s,baz=122,slow=9.5,SNR=4.9						
USRK	**Ussuriysk Arra**	**55.15**	**340**	P	P	21 49 32.3	+0.6
	0.5nm,0.6s,baz=120,slow=8.5,SNR=3.0						
PETK	**Petropavlovsk-**	**59.90**	**2**	P	P	21 50 05.4	+0.4
	5.0nm,0.9s,baz=164,slow=8.3,SNR=11						
CMAR	**Chiang Mai Arr**	**61.10**	**295**	P	P	21 50 15.2	+1.4
	5.0nm,0.7s,baz=122,slow=5.5,SNR=35						
ILAR	**Eielson Array**	**83.23**	**21**	P	P	21 52 24.1	-0.9
	0.8nm,0.5s,baz=241,slow=5.7,SNR=15						
MKAR	**Makanchi Array**	**83.63**	**319**	P	P	21 52 27.4	-0.1
	1.7nm,0.7s,baz=100,slow=5.6,SNR=12						
ZALV	**Zalesovo Beam**	**84.37**	**326**	P	P	21 52 29.0	-1.9
	0.4nm,0.4s,baz=92,slow=6.6,SNR=3.3						
MAW	**Mawson**	**84.54**	**203**	P	P	21 52 32.1	+0.5
	1.5nm,0.6s,baz=86,slow=9.4,SNR=8.7						
YKA	**Yellowknife Ar**	**96.16**	**28**	P	P	21 53 26.3	-0.1
	0.9nm,0.6s,baz=266,slow=4.8,SNR=5.2						
GERES	**GERESS Array B**	**127.23**	**329**	PKP	PKPdf	21 59 02.7	-0.5
	0.3nm,0.6s,baz=74,slow=5.2,SNR=4.1						
CPUP	**Villa Florida**	**134.15**	**138**	PKP	PKPdf	21 59 16.9	+0.1
	0.6nm,0.4s,baz=146,slow=7.3,SNR=3.4						
BDFB	**Brasilia**	**147.73**	**134**	PKPbc	PKPbc	21 59 44.4	0.0
	5.9nm,0.6s,baz=313,slow=3.3,SNR=8.5						
TORD	**Torodi Ar. Bea**	**153.37**	**285**	PKPbc	PKPbc	21 59 57.5	-0.3
	0.6nm,0.7s,baz=95,slow=1.9,SNR=14						
TORD				PKPab	PKPab	22 00 08.5	-1.5
	0.8nm,0.8s,baz=84,slow=4.3,SNR=5.7						

*IDC **03** 22:12:09.0±1.9, 46.°07S×166.°26E, h0km, mb3.9/3, mb1 4.2/4, mb1mx3.9/15, mbtmp4.0/4, ML4.0/1, MS3.6/1, Ms1 3.6/1, ms1mx2.7/29, Error ellipse: s-maj=59.7km s-min=27.7km az=170.0*
*WEL **03** 22:12:12.6±0.4, 45.°97S×166.°28E, h29km±1km, ML4.2/19, Error ellipse: s-maj=4.5km s-min=1.9km az=90.0*
ISC 03 22:12:10.0±2.1, 46.°11S±0.°06×166.°27E±0.°07, h6km±13km, n27, σ1°20/32, mb3.8/3, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.88**	**45**	PN	**Pg**	**22 12 27.0**	**+0.1**
DCZ				SN	**Sg**	**22 12 37.8**	**-0.6**
DCZ				AML	AML	22 12 38.6	
DCZ				AML	AML	22 12 38.7	
DCZ				AML	AML	22 12 39.6	
WHZ	**Wether Hill Ro**	**1.19**	**80**	PN	**Pb**	**22 12 33.1**	**+0.2**
WHZ				SN	**Sb**	**22 12 48.9**	**+0.4**
WHZ				AML	AML	22 12 49.5	
APZ	**The Paps**	**1.39**	**122**	PN	**Pn**	**22 12 36.1**	**+0.1**
APZ				SN	**Sb**	**22 12 54.3**	**-0.2**
MLZ	**Mavora Lakes**	**1.54**	**61**	PN	**Pn**	**22 12 38.1**	**+0.1**
MLZ				SN	**Sn**	**22 12 57.3**	**-0.9**
MLZ				AML	AML	22 13 02.0	
MSZ	**Milford Sound**	**1.85**	**40**	PN	**Pn**	**22 12 42.0**	**-0.2**
MSZ				AML	AML	22 13 21.0	
MSZ				AML	AML	22 13 21.1	
MSZ				AML	AML	22 13 21.9	
MSZ				AML	AML	22 13 21.9	
SYZ	**Scrubby Hill**	**2.04**	**103**	PN	**Pn**	**22 12 45.6**	**+0.9**
EAZ	**Earnscleugh**	**2.30**	**69**	PN	**Pn**	**22 12 50.3**	**+1.8**
EAZ				AML	AML	22 13 29.8	
EAZ				AML	AML	22 13 29.8	
EAZ				AML	AML	22 13 31.5	
WKZ	**Wanaka**	**2.32**	**58**	PN	**Pb**	**22 12 51.1**	**-1.0**
WKZ				SN	**Sb**	**22 13 20.3**	**-0.8**
WKZ				AML	AML	22 13 27.3	
WKZ				AML	AML	22 13 31.4	
TUZ	**Tuapeka**	**2.35**	**88**	PN	**Pn**	**22 12 50.3**	**+1.3**
TUZ				AML	AML	22 13 23.1	
TUZ				AML	AML	22 13 28.9	
JCZ	**Jackson Bay**	**2.69**	**42**	PN	**Pn**	**22 12 55.7**	**+1.8**
JCZ				AML	AML	22 13 42.0	
JCZ				AML	AML	22 13 43.6	
HHSZ	**Highcliff Hill**	**3.03**	**87**	PN	**Pn**	**22 12 60.0**	**+1.6**
ODZ	**Otahua Downs**	**3.25**	**73**	PN	**Pn**	**22 13 01.5**	**+0.1**
LBZ	**Lake Benmore**	**3.26**	**60**	PN	**Pn**	**22 13 02.3**	**+0.7**
LBZ				AML	AML	22 13 51.8	
LBZ				AML	AML	22 14 02.5	
FOZ	**Fox Glacier**	**3.52**	**45**	PN	Pb	22 13 09.0	-3.6
FOZ				AML	AML	22 14 10.7	
FOZ				AML	AML	22 14 11.6	
RPZ	**Rata Peaks**	**4.16**	**57**	PN	**Pn**	**22 13 13.8**	**-0.2**
RPZ				AML	AML	22 14 03.8	
RPZ				AML	AML	22 14 13.4	
RPZ	**Rata Peaks**	**4.16**	**57**	Pn	**Pn**	**22 13 14.1**	**+0.2**
	9.4nm,0.3s,baz=229,slow=8.1,SNR=26						
RPZ				Sn	**Sn**	**22 14 02.4**	**-0.4**
	10nm,0.3s,baz=101,slow=23,SNR=10						
RPZ				LR	LR	22 15 05.2	
	comp=Z,630nm,18.6s,baz=228,slow=42						
WVZ	**Waitaha Valley**	**4.40**	**48**	PN	**Pn**	**22 13 19.0**	**+1.8**
OXZ	**Oxford**	**4.96**	**58**	PN	**Pn**	**22 13 25.4**	**+0.4**
LTZ	**Lake Taylor**	**5.43**	**54**	PN	**Pn**	**22 13 34.6**	**+3.2**
LTZ				AML	AML	22 14 33.6	
DSZ	**Denniston Nort**	**5.91**	**44**	PN	**Pn**	**22 13 39.5**	**+1.4**
THZ	**Tophouse**	**6.46**	**50**	PN	**Pn**	**22 13 48.3**	**+2.6**
THZ				AML	AML	22 15 36.9	
QRZ	**Quartz Range**	**6.97**	**43**	PN	**Pn**	**22 13 53.8**	**+1.3**
ASAR	**Alice Springs**	**34.36**	**300**	P	**P**	**22 18 57.2**	**-0.4**
	1.4nm,0.7s,baz=134,slow=8.3,SNR=19						
WRA	**Warramunga Arr**	**36.96**	**304**	P	**P**	**22 19 19.2**	**-0.8**
	1.6nm,0.8s,baz=140,slow=7.8,SNR=9.7						
CMAR	**Chiang Mai Arr**	**88.36**	**299**	P	**P**	**22 25 03.2**	**+0.6**
	0.3nm,0.6s,baz=156,slow=4.6,SNR=4.1						
TORD	**Torodi Ar. Bea**	**144.65**	**207**	PKP	**PKPab**	**22 31 46.0**	**-0.3**
	1.6nm,0.7s,baz=153,slow=2.0,SNR=22						
BRTR	**Keskin Array B**	**145.15**	**277**	PKPbc	**PKPbc**	**22 31 47.4**	**-0.3**
	0.9nm,0.8s,baz=122,slow=4.6,SNR=6.2						

IDC 03 22:19:20.2±7.0, 18.°37N×146.°53E, h251km±65km, mb3.0/6, mb1 3.1/7, mb1mx3.0/25, mbtmp3.0/7, MS3.8/2, Ms1 3.8/2, ms1mx2.9/12, Error ellipse: s-maj=124.8km s-min=16.7km az=84.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**9.56**	**336**	LR	LR	22 24 37.8	
	comp=Z,840nm,21.1s,baz=293,slow=33						
MJAR	**Matsushiro Arr**	**19.53**	**340**	P	P	22 23 28.9	-0.2
	0.2nm,0.3s,baz=150,slow=14,SNR=3.0						
WRA	**Warramunga Arr**	**39.91**	**198**	P	P	22 26 30.0	-0.3
	0.2nm,0.3s,baz=27,slow=8.3,SNR=5.9						
WRA				LR	LR	22 41 14.2	
	comp=Z,90nm,19.8s,baz=180,slow=33						
ASAR	**Alice Springs**	**43.56**	**197**	P	P	22 26 59.7	0.0
	0.3nm,0.4s,baz=24,slow=9.3,SNR=4.9						
SONM	**Songino Array**	**43.89**	**321**	P	P	22 27 01.6	-0.6
	0.2nm,0.3s,baz=123,slow=10,SNR=2.7						
ZALV	**Zalesovo Beam**	**58.75**	**322**	P	P	22 28 51.7	-0.2
	1.0nm,0.6s,baz=92,slow=6.6,SNR=4.3						
MKAR	**Makanchi Array**	**59.26**	**314**	P	P	22 28 55.9	+0.4
	0.2nm,0.7s,baz=90,slow=8.7,SNR=2.8						
FINES	**FINESS Array B**	**87.51**	**336**	P	P	22 31 39.2	-0.1
	1.4nm,0.8s,baz=68,slow=4.8,SNR=6.0						

JMA 03 22:22:26.2±0.1, 31.°74N×141.°22E, h0km, M3.6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	**1.79**	**318**	P	Pn	22 22 58.7	+0.3
JHCJ				*e*S	Sn	22 23 22.1	+0.2
JHJ2	**Mitsune**	**1.81**	**319**	P	Pn	22 22 59.1	+0.5
JHJ2				*e*S	Sn	22 23 22.5	+0.2
BSO3	**Boso 3**	**3.11**	**349**	*e*S	Sn	22 23 56.9	+3.1
JHO	**Hitachi**	**4.89**	**354**	P	Pn	22 23 42.4	+1.4
JHO				*e*S	Sn	22 24 39.2	+0.9
JAG	**Ashikaga**	**4.90**	**343**	P	Pn	22 23 43.3	+2.2

*DDA **03** 22:23:50.5, 38.°90N×26.°93E, h34km, MD3.1*
*ISK **03** 22:23:51.6, 38.°99N×26.°98E, h6km, MD3.2*
*ATH **03** 22:23:51.1, 38.°89N×26.°92E, h27km±1km, MD3.3/5*
*CSEM **03** 22:23:52.0±0.1, 38.°88N×26.°88E, h20km, MD3.1, Error ellipse: s-maj=3.8km s-min=3.2km az=69.0*
ISC 03 22:23:51.8±1.0, 38.°90N±0.°02×26.°92E±0.°02, h24km±11km, n96, σ0°97/131, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AYVA	**Ayvalik**	**0.45**	**337**	*i*P	**Pb**	**22 24 01.1**	**0.0**
AYVA				*i*S	**Sb**	**22 24 06.8**	**-0.6**
AYVA	**Ayvalik**	**0.45**	**337**	*i*P	**Pb**	**22 24 01.1**	**0.0**
AYVA				*i*S	**Sb**	**22 24 06.8**	**-0.6**
IZM	**Izmir**	**0.57**	**151**	*e*PG	**Pn**	**22 24 04.2**	**-0.3**
IZM	**Izmir**	**0.57**	**151**	*e*Pg	**Pn**	**22 24 04.2**	**-0.3**
URLA	**Izmir**	**0.59**	**205**	*i*P	**Pb**	**22 24 02.8**	**-0.8**
URLA				*i*S	**Sb**	**22 24 11.6**	**0.0**
URLA	**Izmir**	**0.59**	**205**	*i*P	**Pb**	**22 24 02.8**	**-0.8**
URLA				*i*S	**Sb**	**22 24 11.6**	**0.0**
PRK	**Paraskevi**	**0.61**	**305**	*e*PN	**Pb**	**22 24 03.7**	**-0.2**
PRK				*e*SN	**Sn**	**22 24 13.0**	**-1.2**
PRK	**Paraskevi**	**0.61**	**305**	*e*Pn	**Pb**	**22 24 03.7**	**-0.2**
PRK				*e*Sn	**Sn**	**22 24 13.0**	**-1.2**
AKHS	**Akhisar**	**0.70**	**91**	*i*P	**Pb**	**22 24 05.1**	**-0.3**
AKHS				*i*S	**Sn**	**22 24 15.1**	**-1.3**
AKHS	**Akhisar**	**0.70**	**91**	*i*P	**Pb**	**22 24 05.1**	**-0.3**
AKHS				*i*S	**Sn**	**22 24 15.1**	**-1.3**
AKS	**Akhisar**	**0.70**	**91**	*e*PG	**Pb**	**22 24 04.8**	**-0.6**
AKS				*e*SG	**Sb**	**22 24 14.3**	**-0.3**
AKS	**Akhisar**	**0.70**	**91**	*e*Pg	**Pb**	**22 24 04.8**	**-0.6**
AKS				*e*Sg	**Sb**	**22 24 14.3**	**-0.3**
CHOS	**Chios island**	**0.85**	**233**	*e*PN	**Pb**	**22 24 07.8**	**-0.1**
CHOS				*e*SN	**Sn**	**22 24 19.5**	**-0.6**
CHOS	**Chios island**	**0.85**	**233**	*e*Pn	**Pb**	**22 24 07.8**	**-0.1**
CHOS				*e*Sn	**Sn**	**22 24 19.5**	**-0.6**
BALY	**Balya**	**1.00**	**33**	*i*P	**Pb**	**22 24 10.9**	**+0.3**
BALY				*i*S	**Sb**	**22 24 25.3**	**+2.0**
BALY	**Balya**	**1.00**	**33**	*i*P	**Pb**	**22 24 10.9**	**+0.3**
BALY				*i*S	**Sb**	**22 24 25.3**	**+2.0**
EZN	**Ezine**	**1.03**	**334**	*e*PG	**Pn**	**22 24 10.6**	**-0.3**
EZN				*e*SG	**Sb**	**22 24 24.8**	**+0.6**
EZN	**Ezine**	**1.03**	**334**	*e*Pg	**Pn**	**22 24 10.6**	**-0.3**
EZN				*e*Sg	**Sb**	**22 24 24.8**	**+0.6**
BALB	**Balikesir**	**1.05**	**45**	*e*PG	**Pn**	**22 24 10.2**	**-0.8**
BALB	**Balikesir**	**1.05**	**45**	*e*Pg	**Pn**	**22 24 10.3**	**-0.8**
BOZC	**Bozcaada**	**1.16**	**325**	*i*P	**Pn**	**22 24 12.6**	**0.0**
BOZC				*i*S	**Sn**	**22 24 27.2**	**-0.5**
SMG	**Samos**	**1.19**	**183**	*e*PN	**Pb**	**22 24 13.2**	**-0.5**
SMG				*e*SN	**Sb**	**22 24 30.0**	**+1.4**
SMG	**Samos**	**1.19**	**183**	*e*Pn	**Pb**	**22 24 13.2**	**-0.5**
SMG				*e*Sn	**Sb**	**22 24 30.0**	**+1.4**
GCAM	**G?zelcaml?**	**1.22**	**168**	*i*P	**Pb**	**22 24 13.7**	**-0.5**
GCAM				*i*S	**Sb**	**22 24 30.3**	**+0.8**
GCAM	**G?zelcaml?**	**1.22**	**168**	*i*P	**Pb**	**22

*ISCJB **03** 22:24:26.2±0.3, 38.′10N±0.′02×23.′75E±0.′03, h2km±5km, Error ellipse: s-maj=4.1km s-min=2.9km az=17.2*
*CSEM **03** 22:24:26.1±0.2, 38.′09N×23.′78E, h10km, ML2.3/11, Error ellipse: s-maj=3.2km s-min=2.7km az=113.0*
*THE **03** 22:24:26.4, 38.′09N×23.′77E, h10km±1km, ML2.3/11, Error ellipse: s-maj=1.2km s-min=0.6km az=117.0*
*ATH **03** 22:24:26.7, 38.′10N×23.′76E, h3km±2km, MD2.9/13, ML2.8*

ISC 03 22:24:26.2±0.8, 38.′10N±0.′02×23.′77E±0.′02, h8km±6km, n65, σ0s49/108, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTL	**Penteli**	**0.09**	**125**	P	**Pg**	**22 24 28.6**	**+0.2**
PTL				S	**Sg**	**22 24 29.9**	**-0.1**
PTL	**Penteli**	**0.09**	**125**	*e*PG	**Pg**	**22 24 28.6**	**+0.2**
PTL				*e*SG	**Sg**	**22 24 29.7**	**-0.3**
PTL	**Penteli**	**0.09**	**125**	P	**Pg**	**22 24 28.6**	**+0.2**
PTL				*e*Sg	**Sg**	**22 24 29.7**	**-0.3**
ATHU	**Athens Univers**	**0.13**	**176**	P	**Pg**	**22 24 29.2**	**+0.1**
ATHU				S	**Sg**	**22 24 31.0**	**-0.1**
ATHU	**Athens Univers**	**0.13**	**176**	P	**Pg**	**22 24 29.2**	**+0.1**
ATHU				S	**Sg**	**22 24 31.0**	**-0.1**
ATH	**Athens Observa**	**0.13**	**200**	P	**Pg**	**22 24 29.4**	**+0.3**
ATH				S	**Sg**	**22 24 31.8**	**+0.7**
ATH	**Athens Observa**	**0.13**	**200**	*e*PG	**Pg**	**22 24 29.3**	**+0.2**
ATH				*e*SG	**Sg**	**22 24 31.8**	**+0.7**
ATH	**Athens Observa**	**0.13**	**200**	P	**Pg**	**22 24 29.4**	**+0.3**
ATH				S	**Sg**	**22 24 31.8**	**+0.7**
ERET	**Eretria**	**0.34**	**4**	P	**Pg**	**22 24 33.5**	**+0.5**
ERET				S	**Sg**	**22 24 38.6**	**+1.0**
ERET	**Eretria**	**0.34**	**4**	P	**Pg**	**22 24 33.5**	**+0.5**
ERET				S	**Sg**	**22 24 38.6**	**+1.0**
NAIG	**Nisos Aigina**	**0.41**	**214**	*e*PG	**Pg**	**22 24 34.4**	**+0.3**
NAIG	**Nisos Aigina**	**0.41**	**214**	*e*Pg	**Pg**	**22 24 34.4**	**+0.3**
MRMA	**Marmari**	**0.48**	**95**	P	**Pg**	**22 24 36.3**	**+0.8**
MRMA				S	**Sb**	**22 24 43.2**	**-0.9**
MRMA	**Marmari**	**0.48**	**95**	P	**Pg**	**22 24 36.3**	**+0.8**
MRMA				S	**Sb**	**22 24 43.2**	**-0.9**
MRKA	**Markates**	**0.62**	**346**	P	**Pg**	**22 24 38.1**	**-0.1**
MRKA				S	**Sb**	**22 24 48.3**	**+0.1**
MRKA	**Markates**	**0.62**	**346**	P	**Pg**	**22 24 38.1**	**-0.1**
MRKA				S	**Sb**	**22 24 48.3**	**+0.1**
LTK	**Loutraki**	**0.64**	**263**	P	**Pg**	**22 24 39.1**	**+0.5**
LTK				S	**Sb**	**22 24 48.9**	**+0.2**
LTK	**Loutraki**	**0.64**	**263**	*e*PB	**Pg**	**22 24 39.3**	**+0.7**
LTK				*e*SG	**Sb**	**22 24 48.1**	**-0.6**
LTK	**Loutraki**	**0.64**	**263**	P	**Pg**	**22 24 39.1**	**+0.5**
LTK				*e*Sg	**Sb**	**22 24 48.1**	**-0.6**
DID	**Didima**	**0.73**	**216**	P	**Pg**	**22 24 40.1**	**-0.1**
DID				S	**Sb**	**22 24 50.8**	**-0.4**
DID	**Didima**	**0.73**	**216**	*e*PG	**Pg**	**22 24 40.3**	**+0.1**
DID				*e*SG	**Sb**	**22 24 51.2**	**0.0**
DID	**Didima**	**0.73**	**216**	*e*Pg	**Pg**	**22 24 40.3**	**+0.1**
DID				S	**Sb**	**22 24 50.8**	**-0.4**
DID				*e*Sg	**Sb**	**22 24 51.2**	**0.0**
ACOR	**Acrocorinthos**	**0.74**	**254**	P	**Pg**	**22 24 40.1**	**-0.4**
ACOR				S	**Sg**	**22 24 50.5**	**+0.3**
ACOR	**Acrocorinthos**	**0.74**	**254**	P	**Pg**	**22 24 40.1**	**-0.4**
ACOR				S	**Sg**	**22 24 50.5**	**+0.3**
DIDY	**Didyma**	**0.76**	**216**	P	**Pg**	**22 24 40.7**	**-0.2**
DIDY				S	**Sg**	**22 24 51.7**	**+0.8**
DIDY	**Didyma**	**0.76**	**216**	P	**Pg**	**22 24 40.7**	**-0.2**
DIDY				S	**Sg**	**22 24 51.7**	**+0.8**
SMIA	**Simia**	**0.90**	**331**	P	**Pg**	**22 24 43.5**	**+0.1**
SMIA				S	**Sb**	**22 24 56.5**	**+0.4**
SMIA	**Simia**	**0.90**	**331**	P	**Pg**	**22 24 43.5**	**+0.1**
SMIA				S	**Sb**	**22 24 56.5**	**+0.4**
DSF	**Desfina**	**1.03**	**288**	P	**Pg**	**22 24 45.4**	**-0.6**
DSF				S	**Sn**	**22 25 01.1**	**-0.5**
DSF	**Desfina**	**1.03**	**288**	P	**Pg**	**22 24 45.4**	**-0.6**
DSF				S	**Sn**	**22 25 01.1**	**-0.5**
AOS	**Alonnisos**	**1.07**	**4**	*e*PG	**Pn**	**22 24 47.7**	**+0.2**
AOS				*e*SG	**Sg**	**22 25 01.0**	**+0.3**
AOS	**Alonnisos**	**1.07**	**4**	*e*Sg	**Sg**	**22 25 01.0**	**+0.3**
AOS	**Alonnisos**	**1.07**	**4**	*e*Pg	**Pn**	**22 24 47.7**	**+0.2**
AXAR	**Agios Charalam**	**1.10**	**308**	P	**Pb**	**22 24 46.4**	**-1.1**
AXAR				S	**Sn**	**22 25 03.4**	**+0.1**
AXAR	**Agios Charalam**	**1.10**	**308**	P	**Pb**	**22 24 46.4**	**-1.1**
AXAR				S	**Sn**	**22 25 03.4**	**+0.1**
GUR	**Goura**	**1.14**	**262**	P	**Pb**	**22 24 48.2**	**0.0**
GUR				S	**Sb**	**22 25 03.0**	**-0.2**
GUR	**Goura**	**1.14**	**262**	*e*PB	**Pb**	**22 24 48.4**	**+0.2**
GUR				*e*SB	**Sb**	**22 25 03.0**	**-0.2**
GUR	**Goura**	**1.14**	**262**	*e*Pb	**Pb**	**22 24 48.4**	**+0.2**
GUR	**Goura**	**1.14**	**262**	P	**Pb**	**22 24 48.2**	**0.0**
GUR				S	**Sb**	**22 25 03.0**	**-0.2**
KLV	**Kalavryta, Ach**	**1.28**	**268**	P	**Pn**	**22 24 50.1**	**-0.3**
KLV				S	**Sb**	**22 25 06.7**	**-0.5**
KLV	**Kalavryta, Ach**	**1.28**	**268**	P	**Pn**	**22 24 50.1**	**-0.3**
KLV				S	**Sb**	**22 25 06.7**	**-0.5**
KALE	**Kalithea**	**1.32**	**283**	P	**Pn**	**22 24 50.3**	**-0.6**
KALE				S	**Sg**	**22 25 09.5**	**+0.9**
KALE	**Kalithea**	**1.32**	**283**	*e*PG	**Pn**	**22 24 50.9**	**0.0**
KALE	**Kalithea**	**1.32**	**283**	*e*Pg	**Pn**	**22 24 50.9**	**0.0**
KALE	**Kalithea**	**1.32**	**283**	P	**Pn**	**22 24 50.3**	**-0.6**
KALE				S	**Sg**	**22 25 09.5**	**+0.9**
VLX	**Vlachokerasia**	**1.32**	**237**	P	**Pn**	**22 24 50.4**	**-0.6**
VLX				S	**Sb**	**22 25 08.2**	**-0.2**
VLX	**Vlachokerasia**	**1.32**	**237**	*e*PG	**Pn**	**22 24 51.2**	**+0.2**
VLX	**Vlachokerasia**	**1.32**	**237**	*e*Pg	**Pn**	**22 24 51.2**	**+0.2**
VLX	**Vlachokerasia**	**1.32**	**237**	P	**Pn**	**22 24 50.4**	**-0.6**
VLX				S	**Sb**	**22 25 08.2**	**-0.2**
XOR	**Xorichti**	**1.34**	**340**	P	**Pn**	**22 24 50.5**	**-0.8**
XOR				S	**Sb**	**22 25 08.1**	**-0.9**
XOR	**Xorichti**	**1.34**	**340**	P	**Pn**	**22 24 50.5**	**-0.8**
XOR				S	**Sb**	**22 25 08.1**	**-0.9**
TRIZ	**Trizonia**	**1.37**	**282**	*e*PG	**Pb**	**22 24 51.9**	**-0.1**
TRIZ	**Trizonia**	**1.37**	**282**	*e*Pg	**Pb**	**22 24 51.9**	**-0.1**
LAKA	**Lakka**	**1.42**	**276**	*e*PN	**Pg**	**22 24 54.0**	**+0.5**
LAKA	**Lakka**	**1.42**	**276**	*e*Pn	**Pg**	**22 24 54.0**	**+0.5**
AGG	**Agios Georgios**	**1.46**	**310**	*e*PB	**Pn**	**22 24 53.2**	**+0.4**
AGG	**Agios Georgios**	**1.46**	**310**	*e*Pb	**Pn**	**22 24 53.2**	**+0.4**
EFP	**Efpalio**	**1.51**	**283**	*e*PG	**Pb**	**22 24 54.3**	**-0.1**
EFP	**Efpalio**	**1.51**	**283**	*e*Pg	**Pb**	**22 24 54.3**	**-0.1**
AMT	**Artemida-Makis**	**1.73**	**252**	*e*PB	**Pg**	**22 24 59.4**	**0.0**
AMT	**Artemida-Makis**	**1.73**	**252**	*e*Pb	**Pg**	**22 24 59.4**	**0.0**
EVR	**Evrytania**	**1.75**	**299**	*e*PG	**Pb**	**22 24 58.8**	**+0.3**
EVR	**Evrytania**	**1.75**	**299**	*e*Pg	**Pb**	**22 24 58.8**	**+0.3**
DYR	**Agios Nikonas**	**1.76**	**221**	*e*PG	**Pb**	**22 24 59.3**	**+0.6**
DYR	**Agios Nikonas**	**1.76**	**221**	*e*Pg	**Pb**	**22 24 59.3**	**+0.6**

*IDC **03** 22:57:04.8±2.2, 6.′87S×129.′64E, h0km, mb3.6/1, mb1 4.0/4, mb1mx3.6/20, mbtmp3.8/4, ML3.9/3, Error ellipse: s-maj=88.1km s-min=28.8km az=77.0*
*ISCJB **03** 22:57:13.9±1.1, 7.′33S±0.′06×129.′5E±0.′1, h79km, mb3.4/1, Error ellipse: s-maj=16.6km s-min=7.8km az=7.4*
*AUST **03** 22:57:20.7, 7.′48S×130.′05E, h100km*

ISC 03 22:57:13.9±1.1, 7.′32S±0.′07×129.′4E±0.′1, h79km, n11, σ2s61/13, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLE	**Tual**	**3.75**	**64**	P	**Pn**	**22 58 10.7**	**+1.2**
baz=3.2,SNR=7.9							
FAKI	**Fak Fak**	**5.23**	**34**	P	**Pn**	**22 58 28.7**	**-1.1**
baz=5.1,SNR=3.9							
MTN	**Manton Dam**	**5.76**	**162**	P	Pn	22 58 41.4	+4.5
baz=5.5,SNR=19							
MTN				S	**Sn**	**22 59 44.3**	**+2.6**
baz=5.5,SNR=9.3							
KDU	**Kakadu**	**6.16**	**150**	P	**Pn**	**22 58 45.3**	**+3.0**
baz=5.7,SNR=37							
KDU				S	**Sn**	**22 59 51.2**	**-0.1**
baz=5.7,SNR=6.5							
KNRA	**Kununurra**	**8.33**	**184**	P	Pn	22 59 16.2	+4.2
baz=8.3,SNR=15							
KNRA				S	**Sn**	**23 00 45.5**	**+1.0**
baz=8.3,SNR=14							
LUWI	**Luwuk**	**9.05**	**313**	S	Sn	23 01 28.7	+26
baz=9.7,SNR=3.4							
FITZ	**Fitzroy Crossi**	**11.32**	**198**	Pn	**Pn**	**22 59 55.7**	**+2.9**
0.5nm,0.3s,baz=28,slow=8.7,SNR=31							
FITZ				Sn	**Sn**	**23 01 55.5**	**-1.9**
1.2nm,0.3s,baz=77,slow=20,SNR=7.2							
FITZ	**Fitzroy Crossi**	**11.32**	**198**	S	**Sn**	**23 01 56.1**	**-1.4**
baz=12,SNR=7.0							
WRA	**Warramunga Arr**	**13.45**	**159**	Pn	**Pn**	**23 00 20.8**	**-0.8**
0.6nm,0.3s,baz=342,slow=13,SNR=23							
WRA				Sn	Sn	23 02 42.2	-7.2
1.0nm,0.3s,baz=329,slow=22,SNR=9.8							
ASAR	**Alice Springs**	**16.83**	**165**	P	**P**	**23 01 06.7**	**+1.0**
0.3nm,0.3s,baz=342,slow=10,SNR=7.9							
ASAR				S	**Sn**	**23 04 05.7**	**-5.7**
0.3nm,0.3s,baz=355,slow=24,SNR=5.3							
MKAR	**Makanchi Array**	**68.14**	**327**	P	**P**	**23 08 05.5**	**-0.2**
0.4nm,0.6s,baz=135,slow=7.9,SNR=4.8							

*ISCJB **03** 23:04:43.8±0.7, 31.′72S±0.′04×68.′92W±0.′06, h114km±6km, mb3.3/2, Error ellipse: s-maj=8.9km s-min=6.3km az=23.1*
*IDC **03** 23:04:43.6±1.9, 31.′85S×68.′91W, h105km±12km, mb3.2/2, mb1 3.5/3, mb1mx3.3/16, mbtmp3.2/3, Error ellipse: s-maj=48.1km s-min=34.2km az=56.0*
*GUC **03** 23:04:44.2±0.9, 31.′72S×69.′14W, h140km, MD3.5, ML3.5*

ISC 03 23:04:44.4±0.9, 31.′71S±0.′05×68.′94W±0.′06, h110km±8km, n15, σ0s96/23, 1C-2D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**0.61**	**80**	P	**Pn**	**23 05 01.8**	**-0.3**
19nm,0.3s,baz=254,slow=7.4,SNR=1070							
CFAA				S	**Sn**	**23 05 15.2**	**-0.2**
38nm,0.3s,baz=194,slow=14,SNR=102							
JACH	**Jahuel**	**1.71**	**235**	⇓*i*P	**Pn**	**23 05 14.4**	**+0.5**
JACH				*i* S	**Sn**	**23 05 37.6**	**+1.4**
CMCH	**Combarbala**	**1.84**	**286**	⇓*i*P	**Pn**	**23 05 15.1**	**-0.3**
CMCH				*i* S	**Sn**	**23 05 39.5**	**+0.3**
CMCH				AML	AML	23 05 40.4	
comp=E,2μm,0.5s							
PEL	**Peldehue**	**2.06**	**225**	*e*P	**Pn**	**23 05 19.0**	**+0.9**
PEL				*i* S	**Sn**	**23 05 44.9**	**+0.9**
PEL				AML	AML	23 05 48.0	
comp=N,268nm,0.3s							
CLCH	**Cerro Calan**	**2.16**	**218**	*i* S	**Sn**	**23 05 47.2**	**+0.9**
CLCH				AML	AML	23 05 56.5	
comp=E,211nm,0.5s							
ROCH	**El Roble**	**2.16**	**234**	*e*P	**Pn**	**23 05 19.1**	**-0.5**
ROCH				*i* S	**Sn**	**23 05 46.0**	**-0.6**
ROCH				AML	AML	23 05 50.1	
comp=N,231nm,0.2s							
TLL	**Tololo Astrono**	**2.22**	**313**	*e*P	**Pn**	**23 05 20.6**	**+0.1**
TLL				*i* S	**Sn**	**23 05 49.2**	**+1.1**
TLL				AML	AML	23 05 53.0	
comp=E,170nm,0.3s							
PACH	**Papudo**	**2.27**	**248**	*e*P	**Pn**	**23 05 19.5**	**-1.5**
PACH				*e*S	**Sn**	**23 05 46.5**	**-2.5**
PCH	**Pirque**	**2.32**	**214**	*i* S	**Sn**	**23 05 50.5**	**+0.3**
LCO	**Las Campanas**	**3.09**	**330**	⇑*i*P	**Pn**	**23 05 31.6**	**-0.3**
LCO				*i* S	**Sn**	**23 06 08.8**	**+0.4**
LCO				AML	AML	23 06 10.2	
comp=E,183nm,0.3s							
LPAZ	**La Paz**	**15.37**	**3**	P	**P**	**23 08 17.9**	**-0.3**
comp=E,0.1nm,0.3s,baz=186,slow=9.2,SNR=4.6							
TXAR	**Lajitas Array**	**69.10**	**328**	P	**P**	**23 15 39.4**	**+0.8**
comp=E,0.2nm,0.6s,baz=168,slow=8.9,SNR=3.7							
TORD	**Torodi Ar. Bea**	**80.96**	**69**	P	**P**	**23 16 47.1**	**0.0**
comp=E,0.5nm,0.6s,baz=251,slow=4.3,SNR=7.5							
WRA	**Warramunga Arr**	**124.00**	**207**	PKP	**PKPdf**	**23 23 29.4**	**-0.9**
comp=E,0.1nm,0.5s,baz=157,slow=1.7,SNR=4.1							
ZALV	**Zalesovo Beam**	**150.90**	**33**	PKPbc	**PKPbc**	**23 24 23.5**	**0.0**
comp=E,0.7nm,0.4s,baz=308,slow=3.1,SNR=4.4							

*IDC **03** 23:11:55.2±1.4, 26.′12N×92.′56E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.3/28, mbtmp3.5/4, ML3.7/1, Error ellipse: s-maj=71.5km s-min=26.4km az=53.0*

ISC 03 23:11:56.8±1.2, 26.′1N±0.′3×92.′7E±0.′4, h10km, n6, σ3s02/6, mb3.6/3, Northeastern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**0.93**	**236**	*e*PG	Pn	23 12 24.5	+8.3
SHL				*e*SG	Sn	23 12 41.0	+11
IMP	**Imphal**	**1.70**	**140**	*e*P	**Pg**	**23 12 30.0**	**+0.7**
IMP				*e*S	**Sn**	**23 12 44.0**	**-4.4**
CMAR	**Chiang Mai Arr**	**9.53**	**142**	Pn	**Pn**	**23 14 16.8**	**+2.6**
0.2nm,0.3s,baz=315,slow=13,SNR=6.4							
MKAR	**Makanchi Array**	**22.26**	**341**	P	**P**	**23 16 53.3**	**-0.6**
0.3nm,0.5s,baz=152,slow=12,SNR=9.4							
WRA	**Warramunga Arr**	**61.04**	**134**	P	**P**	**23 22 11.2**	**+0.2**
0.5nm,0.9s,baz=332,slow=6.8,SNR=2.5							
TORD	**Torodi Ar. Bea**	**85.24**	**282**	P	**P**	**23 24 33.5**	**-0.8**
0.5nm,0.6s,baz=60,slow=4.0,SNR=9.0							

GUC 03 23:30:24.9±0.5, 23.′52S×67.′10W, h230km, ML4.2, 2C-4D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB04	**Plate Boundary**	**2.53**	**299**	⇓*i*P	Pn	23 31 19.7	+8.6
PB04				*i* S	S	23 32 00.8	+14
PB04				AML	AML	23 32 04.8	
comp=E,309nm,0.1s							
CEN1	**Los Morros**	**2.85**	**272**	⇓*i*P	Pn	23 31 18.2	+3.5
CEN1				*i* S	S	23 31 57.5	+3.9
CEN1				AML	AML	23 31 58.8	
comp=N,134nm,0.3s							
ANCH	**Antofagasta**	**3.04**	**266**	⇓*i*P	Pn	23 31 18.7	+2.1
ANCH				*i* S	S	23 31 59.6	+2.4
ANCH				AML	AML	23 32 02.5	
comp=E,352nm,0.1s							
PB07	**Plate Boundary**	**3.13**	**304**	⇑*i*P	Pn	23 31 19.9	+2.0
PB07				*i* S	S	23 32 02.1	+2.6
PB07				AML	AML	23 32 03.6	
comp=N,335nm,0.2s							
PB10	**Plate Boundary**	**3.17**	**269**	⇑*i*P	Pn	23 31 19.9	+1.8
PB10				*i* S	S	23 32 01.8	+1.9
PB10				AML	AML	23 32 05.9	
comp=N,324nm,0.2s							
PB01	**Plate Boundary**	**3.31**	**318**	⇓*i*P	Pn	23 31 21.8	+1.9
PB01				*i* S	S	23 32 05.7	+2.6
PB01				AML	AML	23 32 09.6	
comp=E,133nm,0.3s							
HMBC	**Humberstone**	**4.14**	**321**	*e*P	Pn	23 31 30.7	+1.0
HMBC				*i* S	S	23 32 22.5	+1.6

*ISCJB **03** 23:41:23.6±0.5, 67.′67N±0.′03×20.′27E±0.′06, h0km, Error ellipse: s-maj=4.8km s-min=3.0km az=164.9*
*CSEM **03** 23:41:26.3±0.2, 67.′79N×20.′35E, h2km, ML1.7, Error ellipse: s-maj=4.9km s-min=3.7km az=96.0, Mining explosion.*
*NAO **03** 23:41:27.2±1.3, 67.′79N×20.′47E, ML2.4*
*IDC **03** 23:41:27.6±1.2, 67.′81N×20.′38E, h0km, mb1 3.1/4, mb1mx3.0/29, mbtmp3.1/4, ML2.5/4, Error ellipse: s-maj=17.7km s-min=8.6km az=115.0*
*HEL **03** 23:41:27.7±0.8, 67.′92N×20.′14E, h0km, ML1.7, Explosion*
*BER **03** 23:41:29.1±4.8, 67.′82N×20.′25E, h0km, MD2.3, ML2.1, ML2.4(NAO), Suspected explosion*

ISC 03 23:41:26.2±0.7, 67.′81N±0.′03×20.′42E±0.′03, h0km, n29, σ1s43/51, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIF	**Kilpisjarvi**	**1.21**	**6**	PG	**Pg**	**23 41 49.6**	**+0.2**
baz=189							
KIF				SG	**Sg**	**23 42 05.1**	**0.0**
KIF				MSG		23 42 05.1	
comp=Z,13nm,0.4s							
KIF				RG	Rg	23 42 08.9	
KIF	**Kilpisjarvi**	**1.21**	**6**	Pg	**Pg**	**23 41 49.6**	**+0.2**
KIF				Sg	**Sg**	**23 42 05.1**	**0.0**
HEF	**Hetta**	**1.36**	**62**	PG	**Pb**	**23 41 52.9**	**+0.4**
baz=242							
HEF				SG	**Sn**	**23 42 11.7**	**+0.6**
HEF				MSG		23 42 11.7	
comp=Z,6.0nm,0.4s							
HEF	**Hetta**	**1.36**	**62**	Pg	**Pb**	**23 41 52.9**	**+0.4**
HEF				Sg	**Sn**	**23 42 11.7**	**+0.6**
STEI	**Steigen**	**1.97**	**276**	*e*P	**Pn**	**23 42 00.8**	**+0.1**
STEI				*e*Sg	**Sn**	**23 42 26.8**	**+0.8**
STEI				AML	AML	23 42 29.9	
comp=Z,18nm,0.4s							
SGF	**Sodankyl**	**2.37**	**96**	PN	**Pb**	**23 42 09.6**	**0.0**
baz=280							
SGF				SG	**Sg**	**23 42 42.5**	**+0.4**
SGF				MSG		23 42 42.5	
comp=Z,2.9nm,0.2s							
RNF	**Rovaniemi**	**2.49**	**116**	PN	**Pb**	**23 42 11.4**	**-0.3**
RNF				SG	**Sg**	**23 42 45.7**	**-0.3**
RNF				MSG		23 42 45.7	
comp=Z,3.0nm,0.1s							
ARA0	**ARCESS Array S**	**2.54**	**45**	Pn	**Pn**	**23 42 10.1**	**+1.4**
baz=233,slow=14							
ARA0				Sn	**Sb**	**23 42 42.9**	**-1.6**
baz=227,slow=28							
ARA0	**ARCESS Array S**	**2.54**	**45**	Pn	**Pn**	**23 42 10.1**	**+1.4**
baz=233,slow=14							
ARA0				Sn	**Sb**	**23 42 42.9**	**-1.6**
baz=227,slow=28							
ARA0	**ARCESS Array S**	**2.54**	**45**	Pn	**Pn**	**23 42 10.1**	**+1.4**
baz=233,slow=14,SNR=50							
ARA0				Sn	**Sb**	**23 42 42.9**	**-1.6**
baz=227,slow=26,SNR=50							
ARCES	**ARCESS Array B**	**2.54**	**45**	Pn	**Pn**	**23 42 10.2**	**+1.5**
comp=Z,1.2nm,0.3s,baz=231,slow=12,SNR=13							
ARCES				Sn	**Sb**	**23 42 43.9**	**-0.6**
comp=Z,2.2nm,0.3s,baz=232,slow=23,SNR=5.8							
MOR8	**Moi Rana**	**2.87**	**238**	*e*Sg	**Sn**	**23 42 50.1**	**+1.8**
MOR8				AML	AML	23 42 52.4	
comp=Z,22nm,0.3s							
FLOS	**Flostrand**	**3.13**	**245**	*e*P	**Pb**	**23 42 22.5**	**-0.1**
FLOS				*e*Sg	**Sb**	**23 43 03.2**	**+1.8**
FLOS				AML	AML	23 43 06.3	
comp=Z,20nm,0.4s							
KONS	**Konsvik**	**3.14**	**249**	*e*Sg	**Sb**	**23 43 03.2**	**+1.7**
KONS				AML	AML	23 43 05.6	
comp=Z,9.7nm,0.4s							
STOK	**Stokkvaagen**	**3.25**	**246**	*e*S	**Sn**	**23 42 59.2**	**+1.4**
STOK				AML	AML	23 43 12.8	
comp=N,13nm,0.3s							
MSF	**Maaselka**	**3.90**	**115**	SG	**Sg**	**23 43 31.6**	**+0.3**
MSF				MSG		23 43 31.6	
comp=Z,1.4nm,0.4s							
MSF	**Maaselka**	**3.90**	**115**	Sg	**Sg**	**23 43 31.6**	**+0.3**
APA0	**Apatity Array**	**4.79**	**87**	Pn	**Pn**	**23 42 40.0**	**+0.5**
baz=291,slow=18							
APA0				Sn	**Sn**	**23 43 34.2**	**-1.5**
baz=275,slow=28							
APA0				Lg	Lg	23 43 55.9	
baz=278,slow=37							
APA0	**Apatity Array**	**4.79**	**87**	Pn	**Pn**	**23 42 40.0**	**+0.5**
baz=291,slow=18							
APA0				Sn	**Sn**	**23 43 34.2**	**-1.5**
baz=275,slow=28							
APA0				Lg	Lg	23 43 55.9	
baz=278,slow=37							
APA0	**Apatity Array**	**4.79**	**87**	Pn	**Pn**	**23 42 40.0**	**+0.5**
baz=291,slow=17,SNR=50							
APA0				Sn	**Sn**	**23 43 34.2**	**-1.5**
baz=275,slow=24,SNR=50							
APA0				Lg	Lg	23 43 55.9	
baz=278,slow=29,SNR=4.3							
FIA0	**FINESS Array S**	**6.83**	**157**	Pn	**Pn**	**23 43 08.7**	**+1.2**
baz=345,slow=14							
FIA0				Sn	**Sn**	**23 44 26.5**	**+0.6**
baz=345,slow=22							
FIA0				Lg	Lg	23 45 01.5	
baz=345,slow=28							
FIA0	**FINESS Array S**	**6.83**	**157**	Pn	**Pn**	**23 43 08.7**	**+1.2**
baz=345,slow=14							
FIA0				Sn	**Sn**	**23 44 26.5**	**+0.6**
baz=345,slow=22							
FIA0				Lg	Lg	23 45 01.5	
baz=345,slow=28							
FIA0	**FINESS Array S**	**6.83**	**157**	Pn	**Pn**	**23 43 08.7**	**+1.2**
baz=345,slow=13,SNR=50							
FIA0				Sn	**Sn**	**23 44 26.5**	**+0.6**
baz=345,slow=21,SNR=50							
FIA0				Lg	Lg	23 45 01.5	
baz=345,slow=26,SNR=2.6							
FINES	**FINESS Array B**	**6.83**	**157**	Pn	**Pn**	**23 43 09.3**	**+1.7**
comp=Z,0.1nm,0.3s,baz=346,slow=13,SNR=7.1							
FINES				Pg	**Pb**	**23 43 25.8**	**+0.2**
comp=Z,0.2nm,0.3s,baz=342,slow=13,SNR=4.9							
FINES				Sn	**Sn**	**23 44 26.5**	**+0.6**
comp=Z,0.2nm,0.3s,baz=345,slow=21,SNR=3.0							
FINES				Lg	Lg	23 45 01.4	
comp=Z,0.4nm,0.3s,baz=346,slow=26,SNR=6.5							
NOA	**NORSAR Array B**	**7.87**	**215**	Pn	**Pn**	**23 43 21.6**	**-0.2**
comp=Z,0.2nm,0.3s,baz=23,slow=11,SNR=3.5							
NOA				Lg	Lg	23 45 34.2	
comp=Z,0.4nm,0.3s,baz=39,slow=20,SNR=4.3							
HFS	**Hagfors**	**8.24**	**204**	Pn	**Pn**	**23 43 25.5**	**-1.4**
baz=26,slow=9.3							
HFS				Sn	**Sn**	**23 44 55.8**	**-4.8**
baz=32,slow=28							
HFS	**Hagfors**	**8.24**	**204**	Pn	**Pn**	**23 43 25.5**	**-1.4**
baz=26,slow=9.3							
HFS				Sn	**Sn**	**23 44 55.8**	**-4.8**
baz=32,slow=28							
HFS	**Hagfors**	**8.24**	**204**	Pn	**Pn**	**23 43 26.6**	**-0.3**
comp=Z,0.1nm,0.3s,baz=22,slow=13,SNR=4.9							
HFS				Lg	Lg	23 45 45.5	
comp=Z,0.2nm,0.3s,baz=20,slow=26,SNR=2.8							
HFS	**Hagfors**	**8.24**	**204**	Pn	**Pn**	**23 43 25.5**	**-1.4**
baz=26,slow=9.3,SNR=50							

**IDC 03 23:57:05.4±2.5,

baz=6.5,SNR=306
MTN S **Sn** **00 30 00.4 -4.1**
baz=6.5,SNR=7.6
KDU Kakadu 6.72 163 P **Pn** **00 28 50.3 -1.5**
baz=6.6,SNR=332
KDU S **Sn** **00 30 01.5 -5.5**
baz=6.6,SNR=8.5
SOEI Soe 7.09 240 P **Sn** **00 30 18.2 +1.9**
2um318nm,0.7s
SOEI Soe 7.09 240 P **Pn** **00 28 57.0 0.0**
SOEI S **Sn** **00 30 15.2 -1.1**
SOEI Soe 7.09 240 P **Pn** **00 28 58.0 +1.0**
baz=7.0,SNR=11
SOEI S **Sn** **00 30 16.0 -0.3**
baz=7.0,SNR=5.3
KNRA Kununurra 9.55 190 P **Pn** **00 29 27.3 -2.6**
baz=9.5,SNR=162
KNRA S Sn 00 31 06.8 -8.7
baz=9.5,SNR=20
MMPI Merauke 10.06 103 P **Pn** **00 29 38.5 +1.5**
baz=10,SNR=3.4
KAPI Kappang 10.75 276 LR LR 00 33 48.2
comp=Z,48nm,19.4s,baz=124,slow=37
FITZ Fitzroy Crossi 12.72 201 P Pn 00 30 07.0 -5.0
3.6nm,0.3s,baz=38,slow=11,SNR=104
FITZ S Sn 00 32 18.8 -13
7.2nm,0.3s,baz=116,slow=9.6,SNR=11
FITZ Fitzroy Crossi 12.72 201 P Pn 00 30 07.1 -4.9
baz=13,SNR=159
FITZ S Sn 00 32 20.4 -12
baz=13,SNR=8.0
WRA Warramunga Arr 14.14 165 P Pn 00 30 26.5 -3.8
2.5nm,0.3s,baz=340,slow=14,SNR=35
WRA S Sn 00 32 54.1 -13
7.1nm,0.3s,baz=351,slow=20,SNR=11
COEN Coen 14.66 123 P **Pn** **00 30 36.0 -0.8**
baz=15,SNR=32
BBKI Banjar Baru 15.83 279 P **P** **00 30 56.1 +3.6**
PMG Port Moresby 16.82 102 P **P** **00 31 03.0 -0.4**
0.7nm,0.3s,baz=299,slow=19,SNR=2.1
ASAR Alice Springs 17.65 170 P **P** **00 31 12.9 +0.3**
0.5nm,0.3s,baz=345,slow=12,SNR=15
ASAR S S 00 34 19.1 -10
1.1nm,0.3s,baz=354,slow=28,SNR=12
MTSU Mount Surprise 17.95 132 P **Pn** **00 31 18.2 +1.1**
baz=18,SNR=11
CTA Charters Tower 20.60 133 P **P** **00 31 46.2 +1.6**
2.2nm,0.3s,baz=240,slow=6.0,SNR=3.5
CISI Cisompet, Garu 22.55 265 P **P** **00 32 04.3 -0.8**
baz=22,SNR=3.2
MEEK Meekatharra 23.25 208 P **P** **00 32 11.7 +0.2**
baz=23,SNR=9.4
MORW Morawa 26.51 209 P **P** **00 32 41.3 +0.2**
baz=26,SNR=4.0
STKA Stephens Creek 27.56 159 P **P** **00 32 50.2 -0.1**
2.4nm,0.8s,baz=334,slow=5.7,SNR=3.5
KLBR Kellerberrin 27.91 204 P **P** **00 32 53.8 +0.2**
baz=28,SNR=12
NWAO Narrogin (SRO) 29.30 203 P **P** **00 33 05.9 +0.1**
25nm,1.2s,baz=55,slow=12,SNR=3.8
PATS Pohnpei 30.65 65 P P 00 33 11.7 -6.2
baz=31,SNR=3.7
PSI Prapat 32.77 285 P **P** **00 33 34.4 -2.4**
5.6nm,0.6s,baz=95,slow=6.0,SNR=3.6
CMAR Chiang Mai Arr 39.61 309 P **P** **00 34 34.9 +0.1**
2.6nm,0.6s,baz=134,slow=7.3,SNR=17
MJAR Matsushiro Arr 43.15 9 P **P** **00 35 02.7 -0.7**
0.8nm,0.3s,baz=186,slow=9.2,SNR=4.8
KSRS Korea Array 43.52 357 P **P** **00 35 06.8 +0.6**
0.6nm,0.4s,baz=220,slow=11,SNR=3.6
USRK Ussuriysk Arra 50.21 1 P **P** **00 35 58.7 +0.6**
1.2nm,0.5s,baz=181,slow=4.8,SNR=4.1
SONM Songino Array 57.86 341 P **P** **00 36 54.7 +0.8**
0.3nm,0.5s,baz=152,slow=6.5,SNR=2.4
PETK Petropavlovsk- 63.44 18 P **P** **00 37 32.5 +1.2**
3.0nm,0.6s,baz=184,slow=7.1,SNR=6.4
MKAR Makanchi Array 67.85 326 P **P** **00 38 00.5 +0.7**
5.1nm,0.5s,baz=113,slow=8.9,SNR=94
ZALV Zalesovo Beam 71.11 333 P **P** **00 38 18.9 -0.8**
1.3nm,0.6s,baz=113,slow=3.9,SNR=6.0
MAW Mawson 75.85 201 P **P** **00 38 48.0 +0.8**
0.6nm,0.4s,baz=78,slow=9.3,SNR=5.9
QSPA South Pole Qui 83.75 180 P **P** **00 39 29.7 -0.3**
1.2nm,0.8s,baz=283,slow=19,SNR=3.6
ILAR Eielson Array 92.44 25 P **P** **00 40 10.0 -1.4**
0.3nm,0.6s,baz=264,slow=4.4,SNR=3.6
TORD Torodi Ar. Bea 129.13 282 PKP **PKPdf** **00 46 09.4 0.0**
0.3nm,0.7s,baz=75,slow=1.6,SNR=4.3
BBTS Babate 146.54 287 PKPbc **PKPab** **00 46 43.5 -0.5**
20nm,0.8s,baz=95,slow=4.5,SNR=3.2

*MOS **04** 00:42:51.7±0.8, 19°.06N×46°.20W, h12km, mb5.2/51, Error ellipse: s-maj=8.3km s-min=5.1km az=48.4*
*IDC **04** 00:42:51.4±0.4, 19°.04N×46°.20W, h0km, mb4.3/35, mb1 4.5/35, mb1mx4.4/39, mbtmp4.3/35, MS3.9/23, Ms1 3.9/23, ms1mx3.7/43, Error ellipse: s-maj=13.9km s-min=10.5km az=127.0*
*ISCJB **04** 00:42:52.4±0.2, 19°.04N±0°.04×46°.16W±0°.02, h15km, mb4.8/146, MS4.0/26, Error ellipse: s-maj=6.1km s-min=2.8km az=176.3*
*SZGRF **04** 00:42:52.2, 18°.30N×46°.47W, h33km, mb4.9, Northern Mid-Atlantic Ridge*
*NEIC **04** 00:42:53.3±0.2, 19°.05N×46°.17W, h10km, mb5.0/98, Error ellipse: s-maj=4.9km s-min=2.9km az=172.0*
ISC 04 00:42:54.0±0.3, 19°.04N±0°.06×46°.17W±0°.05, h15km, n606, σ0994/598, mb4.9/146, MS3.9/26, 137C-135D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPD	**Cerro la Pandu**	**18.75**	**270**	*eP*	**Pn**	**00 47 14.0**	**+1.0**
CPD				pmax	pmax		
	comp=Z,35nm,1.2s						
CPD	**Cerro la Pandu**	**18.75**	**270**	*eP*	**Pn**	**00 47 14.0**	**+1.0**
	comp=Z,35nm,1.2s						
SJG	**San Juan**	**18.96**	**270**	*eP*	**P**	**00 47 12.0**	**-2.9**
	comp=Z,24nm,0.8s						
CELP	**Cerrillos**	**19.37**	**270**	*eP*	**Pn**	**00 47 20.2**	**-0.3**
AOPR	**Arecibo Observ**	**19.51**	**271**	*eP*	**P**	**00 47 21.4**	**+0.5**
	comp=Z,27nm,0.9s						
SDDR	**Presa de Saban**	**23.74**	**274**	*eP*	**P**	**00 48 07.1**	**+1.2**
	comp=Z,343nm,2.5s						
SDV	**Santo Domingo**	**25.76**	**250**	*eP*	**P**	**00 48 24.6**	**-0.1**
	comp=Z,23nm,0.9s						
RCBR	**Riachuelo**	**26.71**	**157**	*eP*	**P**	**00 48 35.6**	**+2.6**
	comp=Z,45nm,1.4s						
BBTS	**Babate**	**28.68**	**94**	LR	LR	00 56 54.6	
	comp=Z,518nm,22.0s,baz=307,slow=29						
ROSC	**El Rosal**	**30.87**	**246**	LR	LR	01 01 42.4	
	comp=Z,55nm,19.7s,baz=19,slow=37						
SAML	**Samuel**	**32.48**	**213**	*eP*	**P**	**00 49 23.4**	**-0.7**
	comp=Z,2.2nm,0.6s						
FRNY	**Flat Rock**	**34.38**	**325**	*eP*	**P**	**00 49 40.0**	**-0.4**
	comp=Z,17nm,1.3s						
BDFB	**Brasilia**	**34.51**	**183**	P	**P**	**00 49 41.7**	**-0.3**
BDFB	**Brasilia**	**34.51**	**183**	P	**P**	**00 49 41.7**	**-0.3**
	comp=Z,13nm,1.0s,baz=1.5,slow=9.6,SNR=12						
BDFB				LR	LR	01 03 01.2	
	comp=Z,91nm,21.1s,baz=214,slow=35						
OTAV	**Otavalo**	**36.76**	**243**	*eP*	**P**	**00 50 03.0**	**+1.1**
	comp=Z,23nm,1.4s						
TKL	**Tuckaleechee C**	**37.01**	**304**	LR	LR	01 02 40.0	
	comp=Z,291nm,19.9s,baz=73,slow=32						
SIV	**San Ignacio**	**37.77**	**204**	P	**P**	**00 50 09.6**	**-0.2**
SIV	**San Ignacio**	**37.77**	**204**	P	**P**	**00 50 09.6**	**-0.2**
	comp=Z,4.5nm,1.1s,baz=59,slow=9.9,SNR=6.5						
PVAQ	**Vaqueiros**	**38.18**	**53**	*e*LR	LR	01 00 14.5	
	comp=Z,125nm,20.0s						
EVOP	**Sao Brissos**	**38.24**	**51**	*eP*	**P**	**00 50 13.1**	**-0.4**
EVOP				pmax	pmax		
	comp=Z,26nm,1.1s						
EVOP	**Sao Brissos**	**38.24**	**51**	*eP*	**P**	**00 50 13.1**	**-0.4**
	comp=Z,26nm,1.1s						
EVO	**Evora**	**38.32**	**51**	*eP*	**P**	**00 50 13.1**	**-1.1**
	comp=Z,26nm,1.1s						
EVO				*e*R			
	comp=Z,205nm,23.0s						
PBAR	**Barrancos**	**38.93**	**52**	*eP*	P	00 50 25.7	+6.3
	comp=Z,211nm,1.6s						
SCHQ	**Schefferville**	**39.05**	**341**	LR	LR	01 04 46.9	
	comp=Z,240nm,19.3s,baz=131,slow=34						
PMRV	**Marv??o**	**39.08**	**50**	*eP*	P	00 50 25.2	+4.6
	comp=Z,29nm,1.8s						
PMRV	**Marv??o**	**39.08**	**50**	*e*LR	LR	01 00 44.5	
	comp=Z,113nm,22.0s						
PCBR	**Castelo Branco**	**39.16**	**50**	*eP*	P	00 50 26.7	+5.4
	comp=Z,26nm,1.6s						
MTE	**Manteigas**	**39.31**	**49**	*e*LR	LR	01 00 55.1	
	comp=Z,80nm,20.0s						
MTE	**Manteigas**	**39.31**	**49**	*eP*	**P**	**00 50 21.7**	**-0.9**
PGAV	**Gavieira, Arco**	**39.40**	**46**	*e*LR	LR	01 00 48.2	
	comp=Z,71nm,20.0s						
TEIG	**Tepich**	**39.60**	**279**	*eP*	**P**	**00 50 26.2**	**+1.1**
	comp=Z,99nm,2.1s						
WCI	**Wyandotte Cave**	**39.69**	**307**	*eP*	**P**	**00 50 25.9**	**+0.2**
WCI				pmax	pmax		
	comp=Z,10.0nm,1.0s						
WCI	**Wyandotte Cave**	**39.69**	**307**	*eP*	**P**	**00 50 25.9**	**+0.2**
	comp=Z,9.8nm,1.0s						
MVO	**Moncorvo**	**39.95**	**48**	*e*LR	LR	01 01 23.0	
	comp=Z,76nm,20.0s						
WVT	**Waverly**	**40.31**	**304**	*eP*	**P**	**00 50 31.8**	**+0.9**
WVT				pmax	pmax		
	comp=Z,12nm,0.7s						
WVT	**Waverly**	**40.31**	**304**	*eP*	**P**	**00 50 31.8**	**+0.9**
	comp=Z,12nm,0.7s						
SFIN	**Scholer Farm**	**40.95**	**310**	⇓P	**P**	**00 50 35.9**	**-0.2**
	baz=41						
ATAH	**Atahualpa**	**41.05**	**234**	P	**P**	**00 50 38.2**	**+0.6**
ATAH	**Atahualpa**	**41.05**	**234**	P	**P**	**00 50 38.2**	**+0.6**
	comp=Z,8.8nm,0.7s,baz=109,slow=4.9,SNR=5.4						
ATAH				LR	LR	01 06 23.1	
	comp=Z,100nm,21.8s,baz=353,slow=34						
OLIL	**Olney**	**41.19**	**307**	*eP*	**P**	**00 50 38.5**	**+0.4**
	comp=Z,38nm,1.2s						
LPAZ	**La Paz**	**41.22**	**213**	*eP*	**P**	**00 50 39.0**	**-0.3**
	comp=Z,12nm,1.1s						
LPAZ	**La Paz**	**41.22**	**213**	P	**P**	**00 50 38.8**	**-0.4**
	comp=Z,4.3nm,0.8s,baz=26,slow=9.5,SNR=15						
LPAZ				LR	LR	01 06 52.5	
	comp=Z,79nm,20.6s,baz=56,slow=35						
ESDC	**Sonseca Array**	**41.67**	**51**	P	**P**	**00 50 41.6**	**-0.5**
ESDC	**Sonseca Array**	**41.67**	**51**	P	**P**	**00 50 41.6**	**-0.5**
	comp=Z,1.4nm,0.7s,baz=243,slow=8.7,SNR=8.1						
ESDC				LR	LR	01 05 39.2	
	comp=Z,99nm,18.7s,baz=275,slow=33						
ES19	**SONSECA Array**	**41.73**	**51**	*eP*	**P**	**00 50 42.5**	**-0.1**
DBIC	**Dimbokro**	**42.00**	**101**	P	**P**	**00 50 44.8**	**-0.3**
DBIC	**Dimbokro**	**42.00**	**101**	P	**P**	**00 50 44.8**	**-0.3**
	comp=Z,4.9nm,0.8s,baz=286,slow=9.3,SNR=4.1						
DBIC				LR	LR	01 04 56.9	
	comp=Z,395nm,20.6s,baz=264,slow=32						
LIC	**Lamto**	**42.00**	**102**	*eP*	**P**	**00 50 46.1**	**+1.0**
LIC				*e*R			
	comp=Z,502nm,21.5s						
LIC	**Lamto**	**42.00**	**102**	*eP*	**P**	**00 50 46.1**	**+1.0**
NNA	**Nana**	**43.18**	**227**	LR	LR	01 08 03.1	
	comp=Z,133nm,19.4s,baz=326,slow=35						
JFWS	**Jewell Farm**	**44.00**	**313**	*eP*	**P**	**00 51 01.5**	**+0.6**
JFWS				pmax	pmax		
	comp=Z,12nm,0.6s						
JFWS	**Jewell Farm**	**44.00**	**313**	*eP*	**P**	**00 51 01.5**	**+0.6**
	comp=Z,12nm,0.6s						
COWI	**Conover**	**44.39**	**317**	*eP*	**P**	**00 51 05.8**	**+1.8**
	comp=Z,12nm,1.2s						
SJPF	**Ste Jean**	**44.67**	**47**	*eP*	**P**	**00 51 06.9**	**+0.6**
	comp=Z,47nm,1.2s						
SJPF	**Ste Jean**	**44.67**	**47**	*eP*	**P**	**00 51 06.9**	**+0.6**
SJPF				pmax	pmax		
	comp=Z,47nm,1.2s						
SJPF	**Ste Jean**	**44.67**	**47**	*eP*	**P**	**00 51 06.9**	**+0.6**
	comp=Z,47nm,1.2s						
ETSF	**Etsaut**	**45.08**	**48**	*eP*	**P**	**00 51 10.4**	**+0.8**
	comp=Z,40nm,1.3s						
ETSF	**Etsaut**	**45.08**	**48**	*eP*	**P**	**00 51 10.4**	**+0.8**
ETSF				pmax	pmax		
	comp=Z,40nm,1.3s						
ETSF	**Etsaut**	**45.08**	**48**	*eP*	**P**	**00 51 10.4**	**+0.8**
	comp=Z,40nm,1.3s						
EPF	**Esparros**	**45.74**	**48**	*eP*	**P**	**00 51 14.6**	**-0.3**
	comp=Z,21nm,1.1s						
EPF	**Esparros**	**45.74**	**48**	*eP*	**P**	**00 51 14.6**	**-0.3**
EPF				pmax	pmax		
	comp=Z,21nm,1.1s						
EPF	**Esparros**	**45.74**	**48**	*eP*	**P**	**00 51 14.6**	**-0.3**
	comp=Z,21nm,1.1s						
TOA0	**Torodi Ar. Sit**	**46.26**	**90**	*eP*	**P**	**00 51 18.1**	**-1.1**
TORD	**Torodi Ar. Bea**	**46.26**	**90**	P	**P**	**00 51 17.1**	**-2.1**
TORD	**Torodi Ar. Bea**	**46.26**	**90**	P	**P**	**00 51 17.1**	**-2.1**
	comp=Z,1.9nm,0.7s,baz=291,slow=9.2,SNR=14						
TORD				LR	LR	01 08 47.3	
	comp=Z,367nm,19.1s,baz=260,slow=34						
CPUP	**Villa Florida**	**46.38**	**194**	*eP*	**P**	**00 51 19.3**	**-0.6**
CPUP	**Villa Florida**	**46.38**	**194**	P	**P**	**00 51 19.1**	**-0.8**
	comp=Z,15nm,0.8s,baz=1.6,slow=7.1,SNR=36						
CPUP				LR	LR	01 09 43.5	
	comp=Z,64nm,19.3s,baz=357,slow=35						
SPMN	**St. Paul**	**46.49**	**315**	*eP*	**P**	**00 51 21.1**	**+0.5**
MFF	**Saint Martin d**	**46.55**	**43**	*eP*	**P**	**00 51 20.1**	**-1.0**
	comp=Z,89nm,1.3s						
MFF	**Saint Martin d**	**46.55**	**43**	*eP*	**P**	**00 51 20.1**	**-1.0**
MFF				pmax	pmax		
	comp=Z,89nm,1.3s						
MFF	**Saint Martin d**	**46.55**	**43**	*eP*	**P**	**00 51 20.1**	**-1.0**
	comp=Z,89nm,1.3s						
EYMN	**Ely**	**46.59**	**319**	*eP*	**P**	**00 51 24.0**	**+2.6**
LFF	**La Frestale**	**46.59**	**46**	*eP*	**P**	**00 51 21.6**	**+0.2**
	comp=Z,109nm,1.5s						
LFF	**La Frestale**	**46.59**	**46**	*eP*	**P**	**00 51 21.6**	**+0.2**
LFF				pmax	pmax		
	comp=Z,109nm,1.5s						
LFF	**La Frestale**	**46.59**	**46**	*eP*	**P**	**00 51 21.6**	**+0.2**
	comp=Z,109nm,1.5s						
GRR	**Gorron**	**46.75**	**41**	*eP*	**P**	**00 51 22.9**	**+0.3**
	comp=Z,57nm,1.3s						
GRR	**Gorron**	**46.75**	**41**	*eP*	**P**	**00 51 22.9**	**+0.3**
GRR				pmax	pmax		
	comp=Z,57nm,1.3s						
GRR	**Gorron**	**46.75**	**41**	*eP*	**P**	**00 51 22.9**	**+0.3**
	comp=Z,57nm,1.3s						
LVC	**Limon Verde**	**46.99**	**209**	*eP*	**P**	**00 51 23.6**	**-1.5**
	comp=Z,31nm,1.1s						
MTLF	**Montolieu**	**47.15**	**48**	*eP*	**P**	**00 51 25.9**	**0.0**
	comp=Z,18nm,1.2s						
MTLF	**Montolieu**	**47.15**	**48**	*eP*	**P**	**00 51 25.9**	**0.0**
MTLF				pmax	pmax		
	comp=Z,18nm,1.2s						
MTLF	**Montolieu**	**47.15**	**48**	*eP*	**P**	**00 51 25.9**	**0.0**
	comp=Z,18nm,1.2s						
FRB	**Frobisher Bay**	**47.20**	**347**	P	**P**	**00 51 26.2**	**+0.4**
FRB	**Frobisher Bay**	**47.20**	**347**	P	**P**	**00 51 26.2**	**+0.4**
	comp=Z,12nm,0.9s,baz=145,slow=8.1,SNR=3.5						
RJF	**Les Rejaudoux**	**47.22**	**45**	*eP*	**P**	**00 51 26.4**	**0.0**
	comp=Z,20nm,1.1s						
RJF				*e*R			
	comp=Z,54nm,19.5s						
RJF	**Les Rejaudoux**	**47.22**	**45**	*eP*	**P**	**00 51 26.4**	**0.0**
RJF				pmax	pmax		
	comp=Z,20nm,1.1s						
RJF	**Les Rejaudoux**	**47.22**	**45**	*eP*	**P**	**00 51 26.4**	**0.0**
	comp=Z,20nm,1.1s						
CAF	**Calviac**	**47.48**	**46**	*eP*	**P**	**00 51 27.5**	**-1.0**
	comp=Z,23nm,1.2s						
CAF	**Calviac**	**47.48**	**46**	*eP*	**P**	**00 51 27.5**	**-1.0**
CAF				pmax	pmax		
	comp=Z,23nm,1.2s						
CAF	**Calviac**	**47.48**	**46**	*eP*	**P**	**00 51 27.5**	**-1.0**
	comp=Z,23nm,1.2s						
WHTX	**Lake Whitney**	**47.64**	**296**	*eP*	**P**	**00 51 30.5**	**+0.7**
WHTX	**Lake Whitney**	**47.64**	**296**	⇓P	**P**	**00 51 29.2**	**-0.6**
	baz=48						
KSU1	**Kansas State U**	**47.74**	**306**	*eP*	**P**	**00 51 29.7**	**-0.8**
	comp=Z,10nm,0.8s						
TCF	**Toulx Ste Croi**	**47.98**	**44**	*eP*	**P**	**00 51 32.5**	**+0.2**
	comp=Z,30nm,1.0s						
TCF	**Toulx Ste Croi**	**47.98**	**44**	*eP*	**P**	**00 51 32.5**	**+0.2**
TCF				pmax	pmax		
	comp=Z,30nm,1.0s						
TCF	**Toulx Ste Croi**	**47.98**	**44**	*eP*	**P**	**00 51 32.5**	**+0.2**
	comp=Z,30nm,1.0s						
SFJD	**Kangerlussuaq**	**48.02**	**358**	LR	LR	01 08 15.7	
	comp=Z,74nm,19.2s,baz=10,slow=32						
TAM	**Tamanrasset**	**48.24**	**76**	*eP*	**P**	**00 51 35.4**	**+0.6**
TAM				pmax	pmax		
	comp=Z,15nm,1.4s						
TAM	**Tamanrasset**	**48.24**	**76**	*eP*	**P**	**00 51 35.4**	**+0.6**
	comp=Z,15nm,1.4s						
BGF	**Bois d'Agland**	**48.49**	**44**	*eP*	**P**	**00 51 36.4**	**+0.2**
	comp=Z,46nm,1.2s						
BGF	**Bois d'Agland**	**48.49**	**44**	*eP*	**P**	**00 51 36.4**	**+0.2**
BGF				pmax	pmax		
	comp=Z,46nm,1.2s						
BGF	**Bois d'Agland**	**48.49**	**44**	*eP*	**P**	**00 51 36.4**	**+0.2**
	comp=Z,46nm,1.2s						
LASF	**Ste Croix**	**48.49**	**48**	*eP*	**P**	**00 51 35.6**	**-0.6**
	comp=Z,22nm,1.1s						
LASF	**Ste Croix**	**48.49**	**48**	*eP*	**P**	**00 51 35.6**	**-0.6**
	comp=Z,22nm,1.1s						
HYF	**Humbligny**	**48.57**	**43**	*eP*	**P**	**00 51 37.2**	**+0.4**
HYF	**Humbligny**	**48.57**	**43**	*eP*	**P**	**00 51 37.2**	**+0.4**
AVF	**Avril sur Loir**	**48.89**	**44**	*eP*	**P**	**00 51 39.4**	**+0.2**
	comp=Z,52nm,1.2s						
AVF	**Avril sur Loir**	**48.89**	**44**	*eP*	**P**	**00 51 39.4**	**+0.2**
AVF				pmax	pmax		
	comp=Z,52nm,1.2s						
AVF	**Avril sur Loir**	**48.89**	**44**	*eP*	**P**	**00 51 39.4**	**+0.2**
	comp=Z,52nm,1.2s						
WMOK	**Wichita Mounta**	**48.92**	**300**	*eP*	**P**	**00 51 39.8**	**0.0**
WMOK				pmax	pmax		
	comp=Z,9.0nm,1.0s						
WMOK	**Wichita Mounta**	**48.92**	**300**	*eP*	**P**	**00 51 39.8**	**0.0**
	comp=Z,8.9nm,1.0s						
SSF	**Saint Saulge**	**49.07**	**44**	*eP*	**P**	**00 51 40.7**	**+0.1**
	comp=Z,30nm,1.2s						
SSF	**Saint Saulge**	**49.07**	**44**	*eP*	**P**	**00 51 40.7**	**+0.1**
SSF				pmax	pmax		
	comp=Z,30nm,1.2s						
SSF	**Saint Saulge**	**49.07**	**44**	*eP*	**P**	**00 51 40.7**	**+0.1**
	comp=Z,30nm,1.2s						
SMF	**Signal de Mont**	**49.17**	**44**	*eP*	**P**	**00 51 41.6**	**+0.2**
	comp=Z,22nm,1.0s						
SMF	**Signal de Mont**	**49.17**	**44**	*eP*	**P**	**00 51 41.6**	**+0.2**
SMF				pmax	pmax		
	comp=Z,22nm,1.0s						
SMF	**Signal de Mont**	**49.17**	**44**	*eP*	**P**	**00 51 41.6**	**+0.2**
	comp=Z,22nm,1.0s						
VIVF	**Saint-Julien-l**	**49.25**	**47**	*eP*	**P**	**00 51 42.9**	**+0.8**
	comp=Z,28nm,1.1s						
VIVF	**Saint-Julien-l**	**49.25**	**47**	*eP*	**P**	**00 51 42.9**	**+0.8**
VIVF				pmax	pmax		
	comp=Z,28nm,1.1s						
VIVF	**Saint-Julien-l**	**49.25**	**47**	*eP*	**P**	**00 51 42.9**	**+0.8**
	comp=Z,28nm,1.1s						
LOR	**Lormes**	**49.36**	**43**	*eP*	**P**	**00 51 42.8**	**-0.1**
	comp=Z,25nm,1.3s						
LOR				*e*R			
	comp=Z,48nm,22.5s						
LOR	**Lormes**	**49.36**	**43**	*eP*	**P**	**00 51 42.8**	**-0.1**
	comp=Z,25nm,1.3s						
Y32A	**R-V Farms, Ver**	**49.42**	**299**	⇑P	**P**	**00 51 43.4**	**-0.1**
	baz=49						
AGMN	**Agassiz Nation**	**49.45**	**318**	*eP*	**P**	**00 51 43.8**	**+0.2**
	comp=Z,8.9nm,0.9s						
232A	**Coleman**	**49.50**	**296**	⇑P	**P**	**00 51 44.2**	**0.0**
	baz=50						
ABTX	**Abilene, Hawle**	**49.52**	**297**	*eP*	**P**	**00 51 44.0**	**-0.3**
ABTX	**Abilene, Hawle**	**49.52**	**297**	⇑P	**P**	**00 51 44.1**	**-0.2**
	baz=50						
332A	**Millersview**	**49.57**	**295**	⇓P	**P**	**00 51 44.5**	**-0.2**
	baz=50						
632A	**Uvalde**	**49.60**	**293**	⇑P	**P**	**00 51 44.6**	**-0.4**
	baz=50						
432A	**Menard**	**49.61**	**295**	⇑P	**P**	**00 51 44.7**	**-0.4**
	baz=50						
JCT	**Junction City**	**49.61**	**294**	*eP*	**P**	**00 51 45.1**	**0.0**
JCT				pmax	pmax		
	comp=Z,12nm,1.0s						
JCT	**Junction City**	**49.61**	**294**	*eP*	**P**	**00 51 45.1**	**0.0**
	comp=Z,12nm,1.0s						
JCT	**Junction City**	**49.61**	**294**	⇑P	**P**	**00 51 44.8**	**-0.3**
	baz=50						
SMRF	**Simiane la Rot**	**49.67**	**48**	*eP*	**P**	**00 51 46.4**	**+1.1**
	comp=Z,24nm,1.1s						
SMRF	**Simiane la Rot**	**49.67**	**48**	*eP*	**P**	**00 51 46.4**	**+1.1**
	comp=Z,24nm,1.1s						
532A	**Rocksprings**	**49.70**	**294**	⇑P	**P**	**00 51 45.4**	**-0.4**
	baz=50						
S31A	**Mullinville**	**49.77**	**303**	⇓P	**P**	**00 51 46.2**	**0.0**
	baz=50						
732A	**Laxson Ranch,**	**49.77**	**292**	⇓P	**P**	**00 51 46.1**	**-0.2**
	baz=50						
T31A	**Randall Ranch,**	**49.86**	**303**	⇑P	**P**	**00 51 47.0**	**+0.1**
	baz=50						
X31A	**McDonald Ranch**	**49.90**	**300**	⇑P	**P**	**00 51 48.7**	**+1.5**
	baz=50						
P31A	**Stockton**	**49.92**	**306**	⇓P	**P**	**00 51 46.8**	**-0.6**
	baz=50						
Z31A	**Sharp Cattle R**	**49.97**	**298**	⇑P	**P**	**00 51 47.7**	**-0.1**
	baz=50						
231A	**Bronte**	**50.07**	**296**	⇓P	**P**	**00 51 48.6**	**0.0**
	baz=50						
ULM	**Lac du Bonnet**	**50.10**	**320**	P	**P**	**00 51 47.7**	**-0.8**
ULM	**Lac du Bonnet**	**50.10**	**320**	P	**P**	**00 51 47.7**	**-0.8**
	comp=Z,4.0nm,0.9s,baz=102,slow=8.3,SNR=4.5						
ULM				LR	LR	01 09 49.0	
	comp=Z,235nm,21.4s,baz=246,slow=32						
131A	**Roby**	**50.15**	**297**	⇑P	**P**	**00 51 48.6**	**-0.6**
	baz=50						
531A	**Rocksprings**	**50.26**	**294**	⇑P	**P**	**00 51 50.0**	**0.0**
	baz=50						
631A	**Perdido Creek**	**50.29**	**293**	⇑P	**P**	**00 51 50.2**	**0.0**
	baz=50						
431A	**Sonora**	**50.31**	**294**	⇑P	**P**	**00 51 50.2**	**-0.2**
	baz=50						
SFTF	**Sexfontaines**	**50.40**	**43**	*eP*	**P**	**00 51 50.7**	**0.0**
	comp=Z,102nm,1.4s						
SFTF	**Sexfontaines**	**50.40**	**43**	*eP*	**P**	**00 51 50.7**	**0.0**
	comp=Z,102nm,1.4s						
BAIF	**Baives**	**50.45**	**40**	*eP*	**P**	**00 51 51.0**	**-0.1**
	comp=Z,36nm,1.2s						
BAIF	**Baives**	**50.45**	**40**	*eP*	**P**	**00 51 51.0**	**-0.1**
BAIF				pmax	pmax		
	comp=Z,36nm,1.2s						
BAIF	**Baives**	**50.45**	**40**	*eP*	**P**	**00 51 51.0**	**-0.1**
	comp=Z,36nm,1.2s						
R30A	**Dighton**	**50.46**	**304**	⇑P	**P**	**00 51 51.3**	**-0.1**
	baz=50						
MEZF	**Maizieres J'vi**	**50.49**	**42**	*eP*	**P**	**00 51 51.5**	**+0.1**
	comp=Z,55nm,1.0s						
MEZF	**Maizieres J'vi**	**50.49**	**42**	*eP*	**P**	**00 51 51.5**	**+0.1**
	comp=Z,55nm,1.0s						
BRSD	**Miller**	**50.

SBF	Sospel	50.96	49	eP	P	00 51 56.1 +1.0
	comp=Z,63nm,1.1s					
K29A	Lazy Trails An	51.14	310	⇑P	P	00 51 56.8 +0.4
	baz=51					
HAU	Haudompre	51.18	43	eP	P	00 51 56.4 -0.3
	comp=Z,16nm,1.0s					
HAU				eR		
	comp=Z,47nm,18.8s					
HAU	Haudompre	51.18	43	eP	P	00 51 56.4 -0.3
HAU				pmax	pmax	
	comp=Z,16nm,1.0s					
HAU	Haudompre	51.18	43	eP	P	00 51 56.4 -0.3
	comp=Z,16nm,1.0s					
Z29A	Hungry Hill Ra	51.27	298	⇑P	P	00 51 57.8 +0.1
	baz=51					
229A	Bryant Ranch,	51.34	296	⇑P	P	00 51 58.6 +0.4
	baz=51					
KEST	Kesra	51.37	59	eP	P	00 51 56.6 -1.7
KEST	Kesra	51.37	59	P	P	00 51 58.1 -0.3
	comp=Z,1.1nm,0.7s,baz=176,slow=15,SNR=4.6					
129A	Stewart Farms,	51.40	297	⇓P	P	00 51 58.4 -0.2
	baz=51					
F29A	Eureka	51.40	314	⇑P	P	00 51 58.6 +0.2
	baz=51					
429A	Davenport Ranc	51.41	294	⇓P	P	00 51 58.6 -0.2
	baz=51					
HINF	Hinteralfeld	51.46	44	eP	P	00 51 58.2 -0.6
	comp=Z,22nm,1.2s					
HINF	Hinteralfeld	51.46	44	eP	P	00 51 58.2 -0.6
HINF				pmax	pmax	
	comp=Z,22nm,1.2s					
HINF	Hinteralfeld	51.46	44	eP	P	00 51 58.2 -0.6
	comp=Z,22nm,1.2s					
329A	Wagon Wheel Ra	51.48	295	⇑P	P	00 51 59.6 +0.3
	baz=51					
S28A	Manter	51.67	303	⇑P	P	00 52 00.6 0.0
	baz=52					
529A	Stev Forest Ra	51.71	294	⇓P	P	00 52 01.2 +0.3
	baz=52					
MEM	Membach	51.72	40	P	P	00 52 00.9 +0.3
A29A	Manning Farm,	51.77	318	⇑P	P	00 52 01.4 +0.3
	baz=52					
T28A	Walsh	51.80	303	⇓P	P	00 52 01.6 0.0
	baz=52					
Z28A	Tucker Farm, M	51.84	298	⇓P	P	00 52 02.0 +0.1
	baz=52					
PGF	Pioggiola	51.85	50	eP	P	00 52 02.6 +0.7
	comp=Z,66nm,1.3s					
PGF	Pioggiola	51.85	50	eP	P	00 52 02.6 +0.7
PGF				pmax	pmax	
	comp=Z,66nm,1.3s					
PGF	Pioggiola	51.85	50	eP	P	00 52 02.6 +0.7
	comp=Z,66nm,1.3s					
CDF	Champ du Feu	51.89	43	eP	P	00 52 01.9 -0.2
	comp=Z,81nm,1.9s					
CDF	Champ du Feu	51.89	43	eP	P	00 52 01.9 -0.2
CDF				pmax	pmax	
	comp=Z,81nm,1.9s					
CDF	Champ du Feu	51.89	43	eP	P	00 52 01.9 -0.2
	comp=Z,81nm,1.9s					
128A	Castleberry Fa	51.92	297	⇓P	P	00 52 02.9 +0.4
	baz=52					
I28A	Midland	51.97	311	⇑P	P	00 52 03.3 +0.7
	baz=52					
G28A	Parade	51.99	313	⇑P	P	00 52 03.2 +0.4
	baz=52					
428A	Kincaid Ranch,	52.09	294	⇑P	P	00 52 04.3 +0.4
	baz=52					
328A	Wristen Ranch,	52.19	295	⇑P	P	00 52 04.6 +0.1
	baz=52					
528A	Cox Ranch, San	52.20	294	⇑P	P	00 52 04.6 0.0
	baz=52					
628A	Black Gap, Mar	52.30	293	⇓P	P	00 52 05.7 +0.3
	baz=52					
R27A	Eads	52.44	304	⇓P	P	00 52 06.7 +0.4
	baz=52					
W27A	Bowe Ranch, En	52.46	300	⇓P	P	00 52 06.7 +0.2
	baz=52					
N27A	Anderson Farm,	52.49	307	⇓P	P	00 52 06.9 +0.2
	baz=52					
Y27A	Causey	52.51	298	⇓P	P	00 52 07.4 +0.5
	baz=52					
Z27A	Tatum	52.54	298	⇓P	P	00 52 07.5 +0.4
	baz=52					
I27A	Quinn	52.61	311	⇑P	P	00 52 08.2 +0.7
	baz=53					
127A	Arkansas Junct	52.65	297	⇑P	P	00 52 08.3 +0.3
	baz=53					
427A	Hayter Ranch,	52.71	295	⇑P	P	00 52 08.6 +0.1
	baz=53					
627A	Terlingua Ranc	52.74	293	⇓P	P	00 52 08.9 +0.2
	baz=53					
527A	Woodward Ranch	52.91	294	⇓P	P	00 52 10.2 +0.2
	baz=53					
F27A	Lemmon	52.91	314	⇑P	P	00 52 10.0 +0.4
	baz=53					
S26A	Kim	52.92	303	⇑P	P	00 52 10.3 +0.3
	baz=53					
C27A	Sayler Ranch,	52.94	316	⇑P	P	00 52 10.1 +0.3
	baz=53					
R26A	Arlington	52.95	304	⇓P	P	00 52 10.4 +0.3
	baz=53,SNR=5.5					
T26A	Comanche Natio	52.99	303	⇓P	P	00 52 10.8 +0.2
	baz=53					
TXAR	Lajitas Array	52.99	293	P	P	00 52 10.2 -0.3
TXAR	Lajitas Array	52.99	293	P	P	00 52 10.2 -0.3
	comp=Z,2.0nm,1.0s,baz=108,slow=8.0,SNR=6.3					
TXAR				LR	LR	01 14 17.6
	comp=Z,159nm,20.4s,baz=90,slow=36					
X26A	CR and CF Fran	53.05	299	⇓P	P	00 52 11.2 +0.3
	baz=53					
Y26A	Elida	53.06	298	⇑P	P	00 52 11.1 +0.1
	baz=53					
U26A	Atchley Ranch,	53.07	302	⇑P	P	00 52 11.3 +0.1
	baz=53,SNR=6.4					
I26A	New Underwood	53.17	311	⇑P	P	00 52 12.2 +0.6
	baz=53					
Z26A	Caprock	53.18	298	⇑P	P	00 52 12.3 +0.4
	baz=53					
G26A	Maurine	53.20	313	⇑P	P	00 52 11.8 0.0
	baz=53,SNR=9.5					
126A	Clayton Basin,	53.21	297	⇓P	P	00 52 12.6 +0.5
	baz=53					
J26A	Sides Ranch, S	53.22	310	⇓P	P	00 52 13.0 +1.0
	baz=53					
426A	McDonald Obser	53.25	294	⇑P	P	00 52 13.2 +0.6
	baz=53					
E26A	Carlson Angus	53.33	314	⇓P	P	00 52 13.2 +0.5
	baz=53					
526A	Mary Lane Ranc	53.33	294	⇑P	P	00 52 13.5 +0.4
	baz=53					
226B	Tecolote Peak,	53.34	296	⇑P	P	00 52 13.3 +0.3
	baz=53					
F26A	Lodgepole	53.35	313	⇓P	P	00 52 13.4 +0.5
	baz=53					
626A	Big Bend Ranch	53.39	293	⇑P	P	00 52 13.5 +0.1
	baz=53					
G27A	Dupree	53.45	313	⇓P	P	00 52 08.7 -4.9
	baz=53,SNR=6.7					
U25A	Circle Dot Ran	53.60	302	⇑P	P	00 52 15.6 +0.5
	baz=54,SNR=7.4					
W25A	X Bar L Ranch,	53.61	300	⇑P	P	00 52 13.9 -1.2
	baz=54					
O25A	Wiggins	53.62	306	⇑P	P	00 52 15.7 +0.6
	baz=54					
S25A	Robets Cordova	53.68	303	⇓P	P	00 52 16.5 +0.9
	baz=54					
SUMG	Summit	53.73	3	eP	P	00 52 15.8 +0.2
SUMG				pmax	pmax	
	comp=Z,21nm,1.3s					
SUMG	Summit	53.73	3	eP	P	00 52 15.8 +0.2
	comp=Z,21nm,1.3s					
125A	Gardner Draw,	53.75	297	⇓P	P	00 52 16.0 -0.1
	baz=54					
G25A	Newell	53.76	312	⇓P	P	00 52 16.1 +0.3
	baz=54,SNR=5.5					
J25A	Sunshine Ranch	53.76	310	⇓P	P	00 52 16.3 +0.4
	baz=54					
Y25A	Mesa, Roswell	53.78	298	⇑P	P	00 52 16.5 +0.2
	baz=54					
H25A	Fruitdale	53.79	312	⇓P	P	00 52 16.3 +0.2
	baz=54					
I25A	Rochford	53.80	311	⇑P	P	00 52 16.8 +0.4
	baz=54					
Z25A	Roswell	53.80	298	⇑P	P	00 52 16.9 +0.5
	baz=54					
225A	Deer Hill, Car	53.90	296	⇓P	P	00 52 17.4 +0.1
	baz=54					
D25A	Fairfield	54.03	315	⇓P	P	00 52 18.4 +0.5
	baz=54					
325A	Bean Ranch, Si	54.04	295	⇓P	P	00 52 19.0 +0.6
	baz=54					
425A	Indio Mountain	54.07	295	⇓P	P	00 52 18.8 +0.3
	baz=54					
C25A	Freed Ranch, W	54.10	316	⇑P	P	00 52 18.4 +0.1
	baz=54					
MOTA	Moosalm	54.16	45	⇑iP	P	00 52 18.8 -0.1
	comp=Z,9.9nm,1.0s					
V24A	Rampart Ranch,	54.28	301	⇓P	P	00 52 20.9 +0.8
	baz=54					
M24A	Cheyenne	54.28	308	⇓P	P	00 52 20.8 +0.8
	baz=54					
Q24A	Divide	54.32	305	⇑P	P	00 52 21.0 +0.6
	baz=54					
Z24A	Sheeppen Canyo	54.34	298	⇓P	P	00 52 21.0 +0.5
	baz=54					
J24A	Dixon Ranch, L	54.37	310	⇓P	P	00 52 21.4 +1.0
	baz=54					
W24A	Lazy 6 Ranch,	54.38	300	⇑P	P	00 52 21.3 +0.5
	baz=54					
MNTX	Cornudas Mount	54.38	296	eP	P	00 52 20.2 -0.4
	comp=Z,9.1nm,1.3s					
Y24A	Capitan	54.40	298	⇑P	P	00 52 21.2 +0.3
	baz=54					
T24B	San Luis	54.41	302	⇓P	P	00 52 21.7 +0.6
	baz=54					
324A	Moseley Ranch,	54.48	295	⇓P	P	00 52 21.5 0.0
	baz=54					
H24A	Dirks Ranch, A	54.48	312	⇑P	P	00 52 21.3 +0.1
	baz=54,SNR=5.2					
224A	Cornudas Mount	54.49	296	⇑P	P	00 52 21.7 +0.2
	baz=54					
WTTA	Wattenberg	54.50	45	⇑iP	P	00 52 21.5 +0.1
	comp=Z,16nm,1.3s					
SDCO	Great Sand Dun	54.53	303	eP	P	00 52 22.0 0.0
	comp=Z,21nm,2.0s					
F24A	Ekalaka	54.57	313	⇑P	P	00 52 23.3 +1.4
	baz=54					
CFAA	Coronel Fontan	54.63	203	P	P	00 52 21.5 -0.8
CFAA	Coronel Fontan	54.63	203	P	P	00 52 21.5 -0.8
	comp=Z,2.1nm,1.0s,baz=12,slow=6.3,SNR=19					
GRF	Grafenberg Arr	54.72	42	eP	P	00 52 23.6 +0.9
	comp=Z,22nm,1.8s					
GRF	Grafenberg Arr	54.72	42	eP	P	00 52 23.6 +0.9
GRF				pmax	pmax	
	comp=Z,22nm,1.8s					
ISCO	Idaho Springs	54.74	306	eP	P	00 52 23.2 -0.3
ISCO				pmax	pmax	
	comp=Z,6.0nm,1.1s					
ISCO	Idaho Springs	54.74	306	eP	P	00 52 23.1 -0.3
	comp=Z,6.1nm,1.1s					
ISCO	Idaho Springs	54.74	306	⇓P	P	00 52 24.8 +1.4
	baz=55					
R23A	Moffat	54.81	304	⇓P	P	00 52 25.4 +1.5
	baz=55					
Q23A	Hartsel	54.85	305	⇓P	P	00 52 25.4 +1.1
	baz=55					
P23A	Jefferson	54.88	305	⇓P	P	00 52 25.4 +0.8
	baz=55					
Y23A	Lovelace Mesa,	54.91	298	⇑P	P	00 52 25.6 +1.0
	baz=55					
L23A	Garrett	55.00	308	⇑P	P	00 52 25.8 +0.7
	baz=55					
X23A	Hourglass Bar	55.02	299	⇓P	P	00 52 26.4 +1.0
	baz=55					
V23A	Ortiz Mt. (NFS	55.02	301	⇑P	P	00 52 26.5 +1.0
	baz=55					
U23A	El Rito	55.04	301	⇓P	P	00 52 27.4 +1.9
	baz=55,SNR=8.8					
Z23A	Rita Site, Whi	55.07	298	⇑P	P	00 52 26.5 +0.8
	baz=55					
FFC	Flin Flon	55.07	324	eP	P	00 52 24.3 -0.9
FFC	Flin Flon	55.07	324	eP	P	00 52 24.3 -0.9
N23A	Red Feather La	55.07	307	⇑P	P	00 52 26.6 +0.8
	baz=55					
G23A	Biddle	55.13	312	⇑P	P	00 52 26.7 +0.8
	baz=55					
F23A	Volborg	55.22	313	⇑P	P	00 52 27.1 +0.6
	baz=55					
E23A	Ismay	55.27	314	⇓P	P	00 52 27.4 +0.6
	baz=55					
D23A	Lindsay	55.31	315	⇓P	P	00 52 27.9 +0.7
	baz=55					
BNM	Barren Site	55.38	299	eP	P	00 52 28.3 +0.2
B23A	Brockton	55.39	316	⇑P	P	00 52 28.1 +0.4
	baz=55					
C23A	Lambert	55.40	315	⇑P	P	00 52 28.1 +0.4
	baz=55					
N22A	Wattenberg Ran	55.45	307	⇓P	P	00 52 29.1 +0.6
	baz=55					
O22A	Kremmling	55.48	306	⇓P	P	00 52 29.4 +0.6
	baz=55					
L22A	Ellis Ranch, M	55.53	308	⇓P	P	00 52 30.3 +1.3
	baz=56					
R22A	Saguache, Gunn	55.54	304	⇑P	P	00 52 30.2 +0.9
	baz=56					
S22A	4UR Ranch, Cre	55.59	303	⇓P	P	00 52 30.3 +0.7
	baz=56,SNR=6.6					
M22A	Cedar Creek Ra	55.60	308	⇓P	P	00 52 31.0 +1.5
	baz=56					
P22A	Eagle	55.61	305	⇑P	P	00 52 30.8 +1.2
	baz=56					
V22A	San Miguel Ran	55.61	301	⇑P	P	00 52 30.9 +1.1
	baz=56,SNR=8.5					
T22A	Edith	55.62	302	⇓P	P	00 52 30.3 +0.5
	baz=56,SNR=7.3					
K22A	Casper	55.66	309	⇑P	P	00 52 30.4 +0.6
	baz=56					
Y22A	Socorro	55.67	299	⇑P	P	00 52 30.7 +0.7
	baz=56					
Z22A	Elephant Butte	55.68	298	⇓P	P	00 52 31.1 +0.9
	baz=56					
Q22A	Crested Butte,	55.69	304	⇓P	P	00 52 31.0 +0.7
	baz=56					
J22A	Midwest	55.70	310	⇑P	P	00 52 30.7 +0.6
	baz=56					
E22A	Miles City	55.70	314	⇓P	P	00 52 30.6 +0.7
	baz=56					
I22A	9 Mile Ranch,	55.75	311	⇑P	P	00 52 31.4 +0.9
	baz=56					
SMCO	Snowmass	55.75	305	eP	P	00 52 31.4 +0.5
	comp=Z,5.2nm,1.1s					
G22A	Birney	55.77	312	⇑P	P	00 52 31.6 +1.1
	baz=56					
LAZ	Ladron	55.80	299	eP	P	00 52 29.3 -1.7
	comp=Z,7.9nm,1.5s					
F22A	Rosebud	55.82	313	⇑P	P	00 52 32.1 +1.3
	baz=56					
C22A	Vida	55.85	315	⇑P	P	00 52 31.9 +0.9
	baz=56,SNR=6.1					
D22A	Cohagen	55.96	314	⇑P	P	00 52 32.8 +1.0
	baz=56,SNR=9.0					
B22A	Reddig Ranch S	56.02	316	⇑P	P	00 52 33.5 +1.3
	baz=56					
A22A	Carney Farms,	56.08	317	⇑P	P	00 52 33.6 +0.9
	baz=56					
RWWY	Rawlins	56.08	308	eP	P	00 52 33.8 +0.7
	comp=Z,20nm,1.1s					
KHC	Kasperske Hory	56.12	43	eP	P	00 52 33.0 +0.2
KHC	Kasperske Hory	56.12	43	eP	P	00 52 33.0 +0.2
KHC				AMS	AMS	00 52 40.0
P21A	Newcastle	56.14	305	⇑P	P	00 52 34.1 +0.7
	baz=56					
GEC2	GERESS Array S	56.15	43	eP	P	00 52 33.7 +0.6
GEC2	GERESS Array S	56.15	43	eP	P	00 52 33.7 +0.6
GEC2	GERESS Array S	56.15	43	eP	P	00 52 33.0 -0.1
GERES	GERESS Array B	56.15	43	P	P	00 52 32.1 -1.0
GERES	GERESS Array B	56.15	43	P	P	00 52 32.1 -1.0
	comp=Z,2.0nm,1.1s,baz=243,slow=5.8,SNR=9.5					
CLL	Collm	56.17	40	eP	P	00 52 33.0 -0.1
CLL	Collm	56.17	40	eP	P	00 52 33.0 -0.1
R21A	Cimarron	56.17	304	⇑P	P	00 52 34.2 +0.5
	baz=56					
K21A	Alcova	56.19	309	⇑P	P	00 52 34.2 +0.6
	baz=56					
M21A	Separation Pea	56.19	308	⇑P	P	00 52 34.4 +0.6
	baz=56					
Q21A	Lamborn Mesa,	56.21	304	⇑P	P	00 52 34.7 +0.8
	baz=56					
L21A	Rawlins	56.22	308	⇑P	P	00 52 34.0 0.0
	baz=56,SNR=8.7					
U21A	Nageezi	56.22	302	⇑P	P	00 52 36.1 +2.1
	baz=56,SNR=5.4					
H21A	Big Horn, Sher	56.23	311	⇓P	P	00 52 34.6 +0.7
	baz=56					
N21A	Black Mountain	56.26	307	⇑P	P	00 52 34.5 +0.2
	baz=56					
Z21A	St. Cloud Mine	56.27	298	⇓P	P	00 52 35.0 +0.6
	baz=56					
I21A	Big Trails, Te	56.32	310	⇓P	P	00 52 34.5 -0.1
	baz=56,SNR=8.2					
X21A	Alamocita Cree	56.34	299	⇓P	P	00 52 35.3 +0.3
	baz=56					
S21A	Coal Bank Pass	56.35	303	⇓P	P	00 52 34.7 -0.3
	baz=56,SNR=6.2					
J21A	Lysite	56.39	310	⇑P	P	00 52 35.3 +0.2
	baz=56					
121A	Cookes Peak, D	56.39	297	⇓P	P	00 52 35.2 -0.1
	baz=56					
G21A	Lodge Grass	56.41	312	⇓P	P	00 52 36.0 +0.9
	baz=56					
E21A	Keefer Ranch,	56.48	314	⇑P	P	00 52 36.6 +1.1
	baz=56					
D21A	La Casta Ranch	56.50	314	⇓P	P	00 52 35.9 +0.2
	baz=56,SNR=6.0					
JMIC	Jan Mayen	56.51	14	LR	LR	01 10 26.3
	comp=Z,73nm,21.0s,baz=271,slow=29					
C21A	Desert Coulee	56.67	315	⇓P	P	00 52 37.7 +0.9
	baz=57					
A21A	Bergtoll Ranch	56.74	317	⇑P	P	00 52 38.3 +1.0
	baz=57					
O20A	White River Ci	56.77	306	⇓P	P	00 52 38.6 +0.7
	baz=57					
S20A	Disappointment	56.80	303	⇑P	P	00 52 39.2 +1.0
	baz=57					
M20A	Sweetwater, Wa	56.80	308	⇑P	P	00 52 39.5 +1.4
	baz=57					
R20A	Redvale	56.82	304	⇓P	P	00 52 39.6 +1.3
	baz=57					
N20A	Spence Gulch,	56.82	307	⇓P	P	00 52 39.2 +1.0
	baz=57					
Y20A	Horse Springs,	56.84	299	⇑P	P	00 52 39.5 +0.9
	baz=57					
J20A	Shoshoni	56.86	310	⇓P	P	00 52 38.2 -0.2
	baz=57,SNR=6.8					
P20A	De Beque	56.87	305	⇑P	P	00 52 39.9 +1.4
	baz=57					
PRU	Pruhonice	56.88	42	eP	P	00 52 38.2 0.0
PRU	Pruhonice	56.88	42	eP	P	00 52 38.2 0.0
PRU				AMS	AMS	00 52 50.0
H20A	Greybull	56.90	311	⇓P	P	00 52 39.8 +1.2
	baz=57					
MVCO	Mesa Verde	56.90	302	⇑P	P	00 52 39.7 +0.7
	baz=57					
W20A	Ramah	56.91	300	⇓P	P	00 52 39.5 +0.5
	baz=57					
U20A	Newcomb	56.92	301	⇓P	P	00 52 40.8 +1.9
	baz=57					
X20A	Quemado	56.92	299	⇓P	P	00 52 39.9 +0.8
	baz=57					
I20A	Worland	56.94	310	⇑P	P	00 52 39.8 +0.9
	baz=57					
L20A	Wamsutter	56.95	308	⇓P	P	00 52 40.0 +0.9
	baz=57					
K20A	Yellowstone Ra	56.99	309	⇑P	P	00 52 40.1 +0.7
	baz=57					
PVCC	Panska Ves	56.99	42	eP	P	00 52 36.6 -2.4
PVCC	Panska Ves	56.99	42	eP	P	00 52 36.6 -2.4
Z20A	Nine Sixteen R	57.05	298	⇓P	P	00 52 40.7 +0.8
	baz=57					
220A	Playas Peak, P	57.05	296	⇓P	P	00 52 41.3 +1.4
	baz=57					
320A	Kipp Ranch, An	57.08	295	⇓P	P	00 52 41.6 +1.4
	baz=57					
120A	U Bar Ranch, L	57.11	297	⇓P	P	00 52 42.0 +1.6
	baz=57					
G20A	Bridger	57.12	312	⇓P	P	00 52 39.9 -0.3
	baz=57,SNR=7.7					
F20A	Billings	57.13	313	⇑P	P	00 52 40.4 +0.1
	baz=57					
E20A	Meyer Farm, Mu	57.20	314	⇓P	P	00 52 41.3 +0.7
	baz=57,SNR=5.2					
C20A	Veseth Ranch,	57.26	315	⇓P	P	00 52 41.6 +0.5
	baz=57,SNR=8.1					
D20A	Manuel Ranch,	57.27	314	⇑P	P	00 52 41.4 +0.2
	baz=57,SNR=10.0					
P19A	Cripple Cowboy	57.33	305	⇑P	P	00 52 42.0 +0.2
	baz=57					
A20A	Cobblestone Ra	57.37	316	⇑P	P	00 52 42.8 +1.0
	baz=57					
K19A	Absolon Red Bu	57.37	309	⇑P	P	00 52 41.8 -0.3
	baz=57,SNR=7.6					
TREC	Trest	57.38	43	eP	P	00 52 41.5 -0.3
TREC	Trest	57.38	43	eP	P	00 52 41.5 -0.3
TREC				AMS	AMS	00 52 50.0
CONA	Conrad Observa	57.43	45	⇓iP	P	00 52 42.0 -0.3
	comp=Z,9.6nm,1.7s					
O19A	Miners Draw (B	57.45	306	⇓P	P	00 52 43.5 +0.8
	baz=57					
J19A	Crowheart	57.55	310	⇑P	P	00 52 43.8 +0.4
	baz=58					
I19A	Meeteetse	57.57	311	⇓P	P	00 52 43.9 +0.4
	baz=58					
H19A	Powell	57.61	311	⇑P	P	00 52 44.5 +0.8
	baz=58					
E19A	Rath Farm, Rou	57.65	313	⇓P	P	00 52 43.9 0.0
	baz=58,SNR=5.9					
F19A	Roth Farm, Mol	57.69	313	⇓P	P	00 52 44.8 +0.6
	baz=58					
L19A	Farson	57.71	308	⇑P	P	00 52 44.9 +0.4
	baz=58					
D19A	Cripps Ranch,	57.79	314	⇓P	P	00 52 45.6 +0.8
	baz=58					
RLMT	Red Lodge	57.85	312	eP	P	00 52 45.4 0.0
	comp=Z,6.4nm,1.0s					
BW06	Boulder Array	57.89	309	eP	P	00 52 45.2 -0.6
	comp=Z,11nm,1.0s					
PDAR	Pinedale Array	57.89	309	P	P	00 52 45.4 -0.4
PDAR	Pinedale Array	57.89	309	P	P	00 52 45.4 -0.4
	comp=Z,5.2nm,1.1s,baz=101,slow=7.7,SNR=16					
PDAR				LR	LR	01 14 59.6
	comp=Z,249nm,21.1s,baz=123,slow=33					
NB2	NORSAR Subarra	57.90	29	P	P	00 52 45.3 0.0
	comp=Z,8.5nm,0.9s,baz=250,slow=7.9					
NOA	NORSAR Array B	57.90	29	P	P	00 52 45.7 +0.5
NOA	NORSAR Array B	57.90	29	P	P	00 52 45.7 +0.5
	comp=Z,3.3nm,0.9s,baz=249,slow=6.9,SNR=3.5					
NOA				LR	LR	01 13 48.3
	comp=Z,42nm,18.3s,baz=0.0,slow=32					
UPC	Upice	57.90	42	eP	P	00 52 46.1 +0.7
UPC	Upice	57.90	42	eP	P	00 52 46.1 +0.7
A19A	Klindworth Far	57.91	316	⇓P	P	00 52 46.7 +1.1
	baz=58					
C19A	Slack Wire Ran	57.97	315	⇓P	P	00 52 46.7 +0.7
	baz=58					
B19A	Brinkman Farms	57.98	316	⇓P	P	00 52 46.9 +0.7
	baz=58					
DPC	Dobruska-Polom	58.07	42	eP	P	00 52 46.9 +0.2
DPC	Dobruska-Polom	58.07	42	eP	P	00 52 46.9 +0.2
DPC				AMS	AMS	00 52 50.0
G18A	Lazy EL Ranch,	58.08	312	⇑P	P	00 52 47.7 +0.8
	baz=58					
H18A	Shoshone NF, C	58.10	311	⇓P	P	00 52 47.7 +0.5
	baz=58					
F18A	Big Timber	58.23	313	⇑P	P	00 52 48.4 +0.5
	baz=58					
D18A	Linhart Farms,	58.42	314	⇑P	P	00 52 49.9 +0.6
	baz=58					
E18A	Harlowton	58.43	313	⇓P	P	00 52 50.0 +0.6
	baz=58					
B18A	Beardsley Farm	58.53	316	⇓P	P	00 52 50.1 +0.2
	baz=58					
M17A	Scullys Gap (B	58.66	307	⇓P	P	00 52 51.4 +0.2
	baz=59					
I17A	Pilgrim Ck.	58.70	310	⇓P	P	00 52 51.6 +0.1
	baz=59					
LOHW	Long Hollow	58.70	310	eP	P	00 52 51.0 -0.4
	comp=Z,11nm,1.2s					
MOOW	Moose Ponds	58.81	310	eP	P	00 52 52.1 -0.1
	comp=Z,11nm,1.5s					
REDW	Red Top Meadow	58.87	310	eP	P	00 52 52.5 -0.1
	comp=Z,9.6nm,1.3s					
F17A	Fitzpatrick Pl	58.89	313	⇓P	P	00 52 53.3 +0.7
	baz=59					
G17A	Pierce Place,	58.90	312	⇑P	P	00 52

DAU	Daniels Canyon	59.09	306	eP	P	00 52 53.8	-0.5
DAU				pmax	pmax		
comp=Z,6.0nm,0.8s							
DAU	Daniels Canyon	59.09	306	eP	P	00 52 53.8	-0.5
comp=Z,5.9nm,0.8s							
C17A	Wharram Farm,	59.11	315	⇑P	P	00 52 54.7	+0.6
baz=59							
PKSM	Moragy	59.14	47	⇓P	P	00 52 55.1	+0.9
PKSM	Moragy	59.14	47	⇓iP	P	00 52 55.0	+0.9
OKC	Ostrava-Krasne	59.17	43	eP	P	00 52 55.5	+1.3
OKC	Ostrava-Krasne	59.17	43	eP	P	00 52 55.5	+1.3
OKC				AMS	AMS	00 53 00.0	
B17A	L&G Farms, Che	59.20	315	⇑P	P	00 52 55.3	+0.7
baz=59							
RRI2	Red Ridge	59.21	310	eP	P	00 52 55.5	+0.4
comp=Z,24nm,1.3s							
H16A	Russell Place,	59.23	311	⇓P	P	00 52 55.8	+0.8
baz=59							
JLU	Jordanelle	59.24	306	eP	P	00 52 54.1	-1.1
comp=Z,12nm,1.2s							
WUAZ	Wupatki	59.25	300	eP	P	00 52 56.6	+1.3
comp=Z,15nm,0.9s							
WUAZ	Wupatki	59.25	300	⇑P	P	00 52 56.2	+0.9
baz=59,SNR=10.0							
HWUT	Hardware Ranch	59.34	308	eP	P	00 52 55.5	-0.3
comp=Z,11nm,1.0s							
VYHS	Vyhne	59.47	44	eP	P	00 52 56.0	-0.4
VYHS				pmax	pmax		
comp=Z,25nm,2.6s							
VYHS	Vyhne	59.47	44	eP	P	00 52 56.0	-0.4
BOZ	Bozeman (W)	59.55	312	eP	P	00 52 56.7	-0.5
BOZ				pmax	pmax		
comp=Z,2.0nm,0.9s							
BOZ	Bozeman (W)	59.55	312	eP	P	00 52 56.6	-0.5
comp=Z,2.0nm,0.9s							
NLU	North Lily Min	59.71	306	eP	P	00 52 56.9	-1.5
comp=Z,12nm,1.3s							
U15A	North Rim	59.96	302	⇓P	P	00 53 01.0	+0.6
baz=60,SNR=8.4							
SPUT	South Promonto	60.00	307	eP	P	00 53 00.4	0.0
comp=Z,19nm,1.0s							
DUG	Dugway	60.28	306	eP	P	00 53 02.5	+0.2
DUG				pmax	pmax		
comp=Z,7.0nm,1.0s							
DUG	Dugway	60.28	306	eP	P	00 53 02.5	+0.2
comp=Z,7.2nm,1.0s							
DUG	Dugway	60.28	306	⇓P	P	00 53 02.9	+0.6
baz=60							
MCMT	McKenzie Canyo	60.37	311	eP	P	00 53 03.9	+1.0
BGU	Big Grassy Mou	60.44	307	eP	P	00 53 03.1	-0.3
comp=Z,11nm,1.1s							
KECS	Kecovo	60.56	45	eP	P	00 53 05.9	+2.0
KECS				pmax	pmax		
comp=Z,3.0nm,1.2s							
KECS	Kecovo	60.56	45	eP	P	00 53 05.9	+2.0
Y14A	Wickenburg	60.68	299	⇑P	P	00 53 06.2	+1.1
baz=61							
CCUT	Cedar City	60.77	303	eP	P	00 53 06.8	+1.0
comp=Z,14nm,1.4s							
BZS	Buzias	61.19	48	⇓P	P	00 53 08.3	+0.1
BZS	Buzias	61.19	48	⇓iP	P	00 53 08.3	+0.1
CRVS	Cervenica-Dubn	61.24	44	eP	P	00 53 09.5	+1.0
CRVS				pmax	pmax		
comp=Z,17nm,1.6s							
CRVS	Cervenica-Dubn	61.24	44	eP	P	00 53 09.5	+1.0
EDM	Edmonton	61.33	321	eP	P	00 53 09.5	+0.4
EDM	Edmonton	61.33	321	eP	P	00 53 09.5	+0.4
RES	Resolute Bay	61.41	347	LR	LR	01 16 55.5	
comp=Z,77nm,20.0s,baz=177,slow=33							
HLID	Hailey	61.47	310	eP	P	00 53 10.2	-0.1
comp=Z,37nm,2.3s							
HLID	Hailey	61.47	310	⇓P	P	00 53 10.8	+0.4
baz=61							
PDMCI	Parker Dam,Lak	61.59	299	⇓P	P	00 53 12.1	+1.0
baz=62							
UZH	Uzhgorod	61.77	44	eP	P	00 53 12.1	+0.1
UZH				e		00 53 19.3	
UZH				e		00 53 47.1	
KOLS	Kolonicke sedl	61.77	44	eP	P	00 53 12.7	+0.6
KOLS				pmax	pmax		
comp=Z,20nm,1.9s							
KOLS	Kolonicke sedl	61.77	44	eP	P	00 53 12.6	+0.5
Y12C	Blythe	61.96	299	⇑P	P	00 53 14.2	+0.6
baz=62							
DRGR		61.98	47	⇑P	P	00 53 13.7	+0.1
DRGR		61.98	47	⇑iP	P	00 53 13.7	+0.1
GZR	Gura Zlata	62.00	48	⇑iP	P	00 53 19.9	+6.2
ELK	Elko	62.12	307	eP	P	00 53 14.8	-0.1
comp=Z,9.4nm,1.1s							
VTS	Vitosha	62.31	51	⇓P	P	00 53 24.0	+8.0
VTS	Vitosha	62.31	51	⇓iP	P	00 53 24.0	+8.0
LDFC	Landfair	62.33	300	eP	P	00 53 16.9	+0.7
comp=Z,9.1nm,0.9s							
IRM	Iron Mountain	62.44	299	⇑P	P	00 53 18.0	+1.1
baz=62							
R11A	Troy Canyon, C	62.49	304	eP	P	00 53 18.3	+1.0
R11A	Troy Canyon, C	62.49	304	⇓P	P	00 53 17.7	+0.4
baz=62,SNR=7.8							
MFID	Camas Ranch	62.50	310	⇓P	P	00 53 16.7	-0.5
baz=62,SNR=7.3							
BC3	Big Chuckawall	62.74	299	⇑P	P	00 53 19.6	+0.7
baz=63							
GMRC	Granite Mounta	62.80	300	⇓P	P	00 53 20.2	+0.8
baz=63							
SWSC	Sam W. Stewart	63.09	298	⇓P	P	00 53 22.1	+0.9
baz=63							
BELC	Belle Mtn. Jos	63.16	299	⇓P	P	00 53 22.5	+0.7
baz=63							
SHOC	Shoshone	63.21	301	⇓P	P	00 53 21.2	-0.8
baz=63							
ARR	Arges	63.30	48	⇓iP	P	00 53 23.0	+0.5
YKA	Yellowknife Ar	63.34	331	P	P	00 53 21.1	-1.2
YKA	Yellowknife Ar	63.34	331	P	P	00 53 21.1	-1.2
comp=Z,1.9nm,0.8s,baz=99,slow=7.8,SNR=10							
YKB5	Yellowknife Ar	63.34	331	eP	P	00 53 20.2	-2.0
HEC	Hector,Ludlow	63.35	300	⇓P	P	00 53 24.0	+1.0
baz=63							
NEW	Newport	63.41	315	eP	P	00 53 22.9	-0.2
comp=Z,17nm,1.1s							
NEW	Newport	63.41	315	⇑P	P	00 53 23.6	+0.5
baz=63							
BMO	Blue Mountains	63.54	311	eP	P	00 53 24.0	-0.1
BMO				pmax	pmax		
comp=Z,5.0nm,1.2s							
BMO	Blue Mountains	63.54	311	eP	P	00 53 24.0	-0.1
comp=Z,5.3nm,1.2s							
VOIR		63.60	48	⇓P	P	00 53 24.6	+0.2
VOIR		63.60	48	⇓iP	P	00 53 24.6	+0.2
MONP	Monument Peak	63.62	298	⇓P	P	00 53 25.6	+0.7
baz=64							
FURC	Furnace Creek,	63.63	302	⇓P	P	00 53 25.7	+1.0
baz=64							
PLCA	Paso Flores	63.64	200	P	P	00 53 24.2	-0.4
PLCA	Paso Flores	63.64	200	P	P	00 53 24.2	-0.4
comp=Z,5.4nm,0.8s,baz=26,slow=6.0,SNR=10							
GSC	Goldstone	63.69	301	eP	P	00 53 26.0	+0.7
GSC				pmax	pmax		
comp=Z,49nm,2.1s							
GSC	Goldstone	63.69	301	eP	P	00 53 26.0	+0.7
comp=Z,49nm,2.1s							
GSC	Goldstone	63.69	301	⇑P	P	00 53 26.0	+0.7
baz=64							
BURAR	Bucovina Array	63.70	46	⇑P	P	00 53 16.0	-9.1
BURAR	Bucovina Array	63.70	46	⇑iP	P	00 53 16.0	-9.1
BAR	Barrett	63.86	298	eP	P	00 53 27.8	+1.5
comp=Z,7.7nm,0.8s							
IDI	Anoyia	64.05	59	eP	P	00 53 28.4	+0.9
comp=Z,34nm,1.1s							
IDI	Anoyia	64.05	59	LR	LR	01 19 09.6	
comp=Z,46nm,21.8s,baz=70,slow=34							
MPMC	Manual Prospec	64.18	301	⇓P	P	00 53 28.0	-0.6
baz=64							
MLR	Muntele Rosu	64.23	48	⇓iP	P	00 53 29.5	+0.9
NVAR	Mina Array Bea	64.61	304	P	P	00 53 30.3	-1.1
NVAR	Mina Array Bea	64.61	304	P	P	00 53 30.3	-1.1
comp=Z,0.5nm,0.7s,baz=88,slow=8.4,SNR=3.8							
D08A	Wollman Farm,	64.63	314	eP	P	00 53 31.4	+0.4
comp=Z,13nm,1.1s							
G08A	Pilot Rock	64.70	312	eP	P	00 53 31.8	+0.1
comp=Z,9.2nm,1.4s							
EDW2	Edwards Air Fo	64.70	300	⇑P	P	00 53 32.7	+0.9
baz=65							
VRI	Vrincioaia	64.77	48	⇓P	P	00 53 33.6	+1.5
VRI	Vrincioaia	64.77	48	⇓iP	P	00 53 33.5	+1.5
FINES	FINESS Array B	64.98	30	P	P	00 53 33.3	+0.3
FINES	FINESS Array B	64.98	30	P	P	00 53 33.3	+0.3
comp=Z,4.5nm,0.8s,baz=253,slow=7.1,SNR=4.7							
FINES				LR	LR	01 19 10.6	
comp=Z,55nm,18.6s,baz=72,slow=34							
ISA	Isabella	65.01	301	⇑P	P	00 53 32.8	-1.1
baz=65							
VES	Vestal, Richgr	65.49	301	⇑P	P	00 53 37.0	+0.2
baz=65							
WAKR	Walker	65.49	304	eP	P	00 53 36.1	-1.0
comp=Z,6.4nm,1.1s							
ARCES	ARCESS Array B	65.91	21	P	P	00 53 38.8	-0.2
ARCES	ARCESS Array B	65.91	21	P	P	00 53 38.8	-0.2
comp=Z,5.2nm,0.8s,baz=260,slow=6.8,SNR=9.5							
K05A	Summer Lake	66.24	309	eP	P	00 53 42.6	+0.8
comp=Z,20nm,1.2s							
AKASG	Malin Array Be	66.30	42	ceP	P	00 53 42.5	+0.7
AKASG				pmax	pmax		
comp=Z,1.0nm,0.4s							
AKASG	Malin Array Be	66.30	42	P	P	00 53 41.7	-0.1
AKASG	Malin Array Be	66.30	42	P	P	00 53 41.7	-0.1
comp=Z,0.7nm,0.4s,baz=284,slow=4.7,SNR=4.7							
H04A	Detroit Lake	67.02	311	eP	P	00 53 47.3	+0.7
comp=Z,56nm,2.0s							
BBB	Bella Bella	70.29	320	LR	LR	01 23 02.0	
comp=Z,140nm,20.7s,baz=102,slow=34							
BR131	Keskin Array S	70.40	54	eP	P	00 54 07.8	0.0
comp=Z,8.7nm,1.0s							
BRTR	Keskin Array B	70.40	54	P	P	00 54 07.5	-0.4
BRTR	Keskin Array B	70.40	54	P	P	00 54 07.5	-0.4
comp=Z,2.8nm,0.8s,baz=257,slow=4.9,SNR=21							
OBN	Obninsk	70.48	37	⇑iP	P	00 54 07.8	-0.1
OBN				iS	S	01 03 23.8	+3.4
OBN				pmax	pmax		
comp=Z,33nm,1.5s							
DLBC	Dease Lake	70.78	326	eP	P	00 54 09.6	-0.2
DLBC	Dease Lake	70.78	326	LR	LR	01 22 57.0	
comp=Z,192nm,20.5s,baz=113,slow=34							
KLMR	Klimovskoe	71.48	31	eP	P	00 54 18.6	+4.8
KLMR				pmax	pmax		
comp=Z,32nm,1.5s							
INK	Inuvik	71.50	337	eP	P	00 54 13.4	-0.4
comp=Z,11nm,1.0s							
MMAI	Mount Meron Ar	73.00	60	P	P	00 54 24.3	+0.7
MMAI	Mount Meron Ar	73.00	60	P	P	00 54 24.3	+0.7
comp=Z,4.4nm,0.8s,baz=298,slow=3.1,SNR=3.9							
TSUM	Tsumeb	73.19	118	P	P	00 54 24.9	0.0
TSUM	Tsumeb	73.19	118	P	P	00 54 24.9	0.0
comp=Z,2.2nm,0.8s,baz=250,slow=2.7,SNR=3.8							
EIL	Elat	73.34	64	P	P	00 54 26.4	+0.9
EIL	Elat	73.34	64	P	P	00 54 26.4	+0.9
comp=Z,3.9nm,0.7s,baz=270,slow=7.1,SNR=3.2							
MALT	Malatya	74.32	54	⇓P	P	00 54 31.6	+0.3
MALT	Malatya	74.32	54	⇓iP	P	00 54 31.6	+0.3
ASF	Jabal al Asfar	74.42	61	P	P	00 54 32.9	+0.9
ASF	Jabal al Asfar	74.42	61	P	P	00 54 32.9	+0.9
comp=Z,1.1nm,0.7s,baz=150,slow=2.7,SNR=5.9							
DAWY	Dawson	74.46	333	eP	P	00 54 31.5	0.0
KIV	Kislovodsk	76.24	48	⇑eP	P	00 54 42.5	+0.3
KIV				e		00 57 33.0	
KIV				eS	S	01 04 41.9	+16
KIV				pmax	pmax		
comp=Z,19nm,1.7s							
KIV				MLR	MLR		
comp=Z,100nm,23.0s							
KBZ	Khabaz	76.44	48	P	P	00 54 43.4	+0.2
KBZ	Khabaz	76.44	48	P	P	00 54 43.4	+0.2
KBZ	Khabaz	76.44	48	P	P	00 54 43.4	+0.2
comp=Z,2.2nm,0.9s,baz=311,slow=9.3,SNR=4.5							
ILAR	Eielson Array	77.43	334	P	P	00 54 48.1	-0.3
ILAR	Eielson Array	77.43	334	P	P	00 54 48.1	-0.3
comp=Z,6.4nm,0.8s,baz=73,slow=4.7,SNR=70							
COLA	College	77.79	335	eP	P	00 54 50.5	+0.2
COLA				pmax	pmax		
comp=Z,16nm,0.9s							
COLA	College	77.79	335	eP	P	00 54 50.5	+0.2
comp=Z,16nm,0.9s							
COLD	Coldfoot	77.91	337	eP	P	00 54 50.9	-0.1
MCK	McKinley	78.61	334	eP	P	00 54 55.2	+0.2
MCK	McKinley	78.61	334	eP	P	00 54 55.2	+0.2
GNI	Garni	78.66	51	eP	P	00 54 55.1	-0.8
GNI	Garni	78.66	51	P	P	00 54 55.4	-0.5
comp=Z,4.5nm,0.8s,baz=13,slow=18,SNR=6.4							
TRF	Thorofare Moun	79.28	334	eP	P	00 54 58.6	-0.2
BPAW	Bear Paw Mtn.	79.33	334	eP	P	00 54 57.8	-1.2
comp=Z,13nm,1.1s							
IMA2	Indian Mountai	79.63	337	eP	P	00 55 01.0	+0.3
IM04	Indian Mountai	79.70	337	eP	P	00 55 00.0	-0.9
SOKR	Solikamsk	80.14	30	eP	P	00 55 04.3	+1.0
SOKR				pmax	pmax		
comp=Z,10.0nm,0.8s							
PPLA	Purkeypile	80.28	333	eP	P	00 55 03.7	-0.6
LSZ	Lusaka	80.72	110	eP	P	00 55 07.8	+0.4
LSZ	Lusaka	80.72	110	P	P	00 55 07.6	+0.1
comp=Z,1.9nm,0.8s,baz=27,slow=12,SNR=4.2							
SPU	Mount Spurr	80.89	332	eP	P	00 55 07.7	+0.2
RSO	Redoubt South	81.49	331	eP	P	00 55 10.5	-0.4
comp=Z,32nm,0.9s							
ARU	Arti	82.18	33	ciP	P	00 55 14.1	-0.2
ARU						00 58 22.1	
ARU				S	S	01 05 27.1	-1.7
ARU				SS	SS	01 10 43.7	-4.2
ARU				pmax	pmax		
comp=Z,18nm,1.7s							
SVE	Sverdlovsk	83.08	32	⇓eP	P	00 55 19.9	+0.9
SVE				pmax	pmax		
comp=Z,19nm,1.2s							
RAYN	Ar Rayn	84.07	67	eP	P	00 55 26.7	+1.9
KMBO	Kilima Mbogo	84.15	93	P	P	00 55 26.8	+1.2
KMBO	Kilima Mbogo	84.15	93	P	P	00 55 26.8	+1.2
comp=Z,0.7nm,0.5s,baz=227,slow=23,SNR=3.9							
AKTO	Aktyubinsk	84.20	39	P	P	00 55 25.8	+0.9
AKTO	Aktyubinsk	84.20	39	P	P	00 55 25.8	+0.9
AKTO	Aktyubinsk	84.20	39	P	P	00 55 25.8	+0.9
comp=Z,4.1nm,0.8s,baz=302,slow=5.5,SNR=14							
ABKAR	Akbulak array	85.82	39	eP	P	00 55 33.6	+0.6
comp=Z,12nm,1.0s							
BRVK	Borovoye	89.76	33	eP	P	00 55 49.7	-2.2
BRVK				pmax	pmax		
comp=Z,6.0nm,1.1s							
BRVK	Borovoye	89.76	33	eP	P	00 55 49.6	-2.2
comp=Z,5.6nm,1.1s							
BVAR	Borovoye Array	89.83	33	P	P	00 55 52.8	+0.6
BVAR	Borovoye Array	89.83	33	P	P	00 55 52.8	+0.6
BVAR	Borovoye Array	89.83	33	P	P	00 55 52.8	+0.6
comp=Z,2.0nm,0.8s,baz=285,slow=2.9,SNR=11							
ZALV	Zalesovo Beam	96.04	27	iP	P	00 56 21.5	+0.7
ZALV	Zalesovo Beam	96.04	27	P	P	00 56 21.0	+0.3
ZALV	Zalesovo Beam	96.04	27	P	P	00 56 21.0	+0.3
comp=Z,0.4nm,0.4s,baz=272,slow=10,SNR=3.6							
KSH	Kashi	100.59	42	eP	Pdif	00 56 40.8	-0.9
KSH				pP	pP	00 56 45.1	-1.7
KSH				PP	PP	01 00 49.9	+1.7
KSH				SKS	SKSac	01 07 17.8	-2.9
KSH				S	Sdif	01 08 12.6	-6.0
KSH				SS	SS	01 15 11.9	-1.9
KSH				pmax	pmax		
comp=Z,63nm,5.4s							
KSH				LR	LR		
comp=N,67nm,5.0s							
KSH				LR	LR		
comp=E,47nm,5.0s							
KSH				LR	LR		
comp=Z,72nm,6.9s							
MDJ	Mudanjiang	116.53	3	ePKPdf	PKPdf	01 01 37.3	-0.3
HHC	Hu-ho-hao-te	116.92	19	ePKP	PKPdf	01 01 37.0	-1.6
HHC				PP	PP	01 02 47.5	+1.2
HHC				PKS	PKSdf	01 05 12.5	-2.9
HHC				SKS	SKSdf	01 08 48.5	-2.0
HHC				SKKS	SKKSac	01 09 42.6	-5.7
HHC				SS	SS	01 18 51.3	-1.4
HHC				AMB	AMB		
comp=Z,140nm,9.4s							
HHC				LR	LR		
comp=N,170nm,19.6s							
HHC				LR	LR		
comp=E,280nm,19.2s							
HHC				LR	LR		
comp=Z,180nm,19.8s							
LZH	Lanzhou	118.26	27	ePKP	PKPdf	01 01 41.4	0.0
LZH				PP	PP	01 02 58.1	+2.2
LZH				SKS	SKSdf	01 08 45.0	-8.4
LZH				SS	SS	01 19 13.5	+2.8
LZH				AMB	AMB		
comp=Z,110nm,6.5s							
LZH				LR	LR		
comp=N,490nm,18.6s							
LZH				LR	LR		
comp=E,410nm,15.4s							
LZH				LR	LR		
comp=Z,610nm,19.8s							
CD2	Chengdu	122.54	31	PKP	PKPdf	01 01 48.9	-0.7
CD2				PP	PP	01 03 29.3	+4.1
CD2				PKS	PKSdf	01 05 24.3	-2.1
CD2				SKS	SKSdf	01 08 55.8	-5.7
CD2				SKKS	SKKSac	01 10 17.3	-8.1
CD2				SS	SS	01 20 04.2	-1.4
CD2				AMB	AMB		
comp=Z,150nm,4.8s							
CD2				LR	LR		
comp=N,350nm,4.3s							
CD2				LR	LR		
comp=Z,150nm,4.8s							
NJ2	Nanjing	127.21	16	ePKP	PKPdf	01 01 56.3	-2.1

ISCJB ***04*** *00:46:28.3±0.2, 11°.40N±0°.05×85°.36W±0°.04, h210km±2km, mb4.4/49, Error ellipse: s-maj=9.0km s-min=3.8km az=33.5*

CASC ***04*** *00:46:28.8±2.0, 11°.30N×85°.58W, h203km±8km, MD4.0, ML4.4*

NEIC ***04*** *00:46:29.1±0.7, 11°.25N×85°.45W, h218km±9km, mb4.8/31, Error ellipse: s-maj=15.5km s-min=6.7km az=215.0*

IDC ***04*** *00:46:31.3±2.9, 11°.43N×85°.28W, h231km±28km, mb3.7/20, mb1 3.9/21, mb1mx3.8/27, mbtmp3.7/21, Error ellipse: s-maj=18.0km s-min=8.1km az=60.0*

ISC 04 00:46:28.7±0.5, 11°.29N±0°.07×85°.51W±0°.06, h212km±4km, n204, σ1§58/230, mb4.7/49, 43C-43D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GB1A	Borinquen Arri	0.48	167	iP		Pn	00 46 57.4	+0.1
BUEV	Buena Vista	0.50	168	iP		Pn	00 46 57.0	-0.3
GBS3	Finca Las Im¨¡	0.51	174	⇑iP		Pn	00 46 56.8	-0.5
GBS3				iS		S	00 47 18.6	-1.0
LAPC	Finca la Perla	0.52	172	iP		Pn	00 46 56.7	-0.6
GPS1	Guardaparques	0.54	163	iP		Pn	00 46 57.5	0.0
GPS3	Bodega del ICE	0.55	165	iP		Pn	00 46 57.2	-0.2
GPS3				iS		S	00 47 19.5	-0.4
GPS2	Hotel Rinc¨‡n	0.56	164	iP		Pn	00 46 57.3	-0.2
GPS2				iS		S	00 47 19.3	-0.7
MESS	Mesas	0.63	150	iP		Pn	00 46 57.9	+0.1
MESS				iS		S	00 47 19.6	-0.8
NY14	Universidad de	0.64	182	⇑iP		Pn	00 46 57.6	-0.2
NY14				iS		S	00 47 19.3	-1.1
LIM1	Limonal	0.64	157	iP		Pn	00 46 57.7	-0.2
GUAB	Guayabo de Bag	0.64	154	iP		Pn	00 46 57.7	-0.2
HORNC	Hornillas	0.66	150	iP		Pn	00 46 58.1	+0.1
COLC	Colonia	0.69	154	iP		Pn	00 46 58.1	0.0
CUI	Cuipilapa	0.71	151	iP		Pn	00 46 58.4	+0.2
JTS	JuntasAbangare	1.13	151	ePn		Pn	00 47 00.5	-0.1
JTS				eS		S	00 47 23.8	-1.6
JCR	Jicaral	1.48	165	eP		Pn	00 47 03.3	-0.1
CGA2	Cerro Gallo 2	1.63	141	eP		Pn	00 47 05.3	+0.5
CGA2				eS		S	00 47 31.5	-1.0
SJS	Escuela Geolog	1.96	133	eP		Pn	00 47 08.5	+0.6
SJS				eS		S	00 47 38.7	+0.6
URSC	Urasca	2.23	130	eP		Pn	00 47 12.6	+1.9
QCR	Quepos	2.28	144	eP		Pn	00 47 12.4	+1.4
QCR				eS		S	00 47 45.3	+1.7
BUS	Buena Vista	2.44	135	eP		Pn	00 47 14.1	+0.9
BUS				eS		S	00 47 49.4	+1.9
CNCH	Conchagua	3.01	311	eP		Pn	00 47 18.8	-0.4
VSM	San Miguel	3.44	309	eP		Pn	00 47 24.0	-0.3
VSM				eS		S	00 48 04.3	-3.4
ACR	Cerro Adams	3.49	138	eP		Pn	00 47 25.7	+0.9
LFRS	El Faro	4.17	304	eP		Pn	00 47 33.1	-0.1
LBRS	Las Brisas	4.22	306	eP		Pn	00 47 34.4	+0.6
SNET	Serv Nac Est T	4.34	304	AML		AML	00 48 30.7	
comp=Z,1μm,0.3s								
SBLS	San Blas	4.75	303	eP		Pn	00 47 41.4	+0.9
SNJE	San Jose	4.75	303	eP		Pn	00 47 41.7	+1.3
RTR	El Retiro	4.80	303	eP		Pn	00 47 42.1	+1.1
IXG	Ixpaco	5.61	301	eP		Pn	00 47 54.0	+2.6
IXG				eS		S	00 48 55.8	-0.7
FUG	Fuego 3	6.07	302	eP		Pn	00 47 59.4	+2.1
FUG				eS		S	00 49 03.9	-3.4
JAT	Jato	6.69	297	eP		Pn	00 48 08.9	+3.8
TEIG	Tepich	9.28	344	ePn		Pn	00 48 40.4	+1.9
CMIG	Matias Romero	10.76	303	P		Pn	00 48 57.7	+0.1
comp=Z,1.1nm,0.3s,baz=139,slow=10.0,SNR=8.2								
CMIG				S		S	00 50 55.1	-3.0
comp=Z,1.6nm,0.3s,baz=82,slow=14,SNR=4.6								
ROSC	El Rosal	12.78	119	ePn		Pn	00 49 23.0	-0.6
ROSC	El Rosal	12.78	119	P		P	00 49 25.8	-0.9
comp=Z,1.6nm,0.3s,baz=273,slow=8.9,SNR=2.2								
SDV	Santo Domingo	14.84	98	ePn		Pn	00 49 49.2	+0.3
SDDR	Presa de Saban	15.71	59	eP		P	00 49 57.1	-1.7
comp=Z,56nm,1.8s								
LRS	Lares	19.33	67	eP		P	00 50 37.2	-1.2
CELP	Cerrillos	19.51	68	eP		P	00 50 40.2	+0.1
TIGA	Tifton	20.13	5	eP		P	00 50 47.1	+0.3
TIGA	Tifton	20.13	5	⇓P		P	00 50 47.0	+0.3
baz=20								
MTP	Monte Pirata	20.45	68	eP		P	00 50 50.8	+0.5
HKT	Hockley	20.91	334	eP		P	00 50 56.5	+1.6
comp=Z,94nm,2.7s								
LRAL	Lakeview Retre	21.69	357	eP		P	00 51 04.7	+1.8
comp=Z,55nm,0.6s								
732A	Laxson Ranch,	22.00	324	⇑P		P	00 51 06.3	+0.4
baz=22,SNR=5.5								
NATX	Nacogdoches	22.06	339	eP		P	00 51 05.5	-1.0
632A	Uvalde	22.49	326	⇑P		P	00 51 11.5	+1.0
baz=23								
631A	Perdido Creek	22.86	324	⇑P		P

TXAR PcP **PcP** 00 55 03.6 +1.7
comp=Z,1.1nm,0.8s,baz=134,slow=5.4,SNR=5.2
TX31 Lajitas Ar. Si 24.68 319 *eP* **P** 00 51 31.6 +1.1
528A Cox Ranch, San 24.71 322 ⇓P **P** 00 51 32.3 +1.5
baz=25
330A Mertzon 24.71 326 ⇓P **P** 00 51 32.2 +1.5
baz=25
WVT Waverly 24.82 356 *eP* **P** 00 51 31.5 0.0
comp=Z,12nm,0.7s
ABTX Abilene, Hawle 24.90 331 *eP* **P** 00 51 36.4 +4.1
428A Kincaid Ranch, 25.06 323 ⇓P **P** 00 51 35.0 +1.1
baz=25
GLAT Glass 25.10 353 *eP* **P** 00 51 32.5 -1.6
626A Big Bend Ranch 25.13 319 ⇓P **P** 00 51 36.2 +1.7
baz=25
527A Woodward Ranch 25.20 321 ⇓P **P** 00 51 36.9 +1.6
baz=25
TZTN Tazewell 25.21 4 *eP* P 00 51 40.2 +5.2
comp=Z,25nm,0.8s
329A Wagon Wheel Ra 25.22 325 ⇓P **P** 00 51 36.6 +1.3
baz=25
Z32A Haskell 25.38 332 ⇓P **P** 00 51 37.7 +1.0
baz=26
526A Mary Lane Ranc 25.44 320 ⇓P **P** 00 51 38.6 +1.2
baz=26
PARMO Parma 25.55 352 *eP* **P** 00 51 38.3 +0.2
328A Wristen Ranch, 25.61 324 ⇑P **P** 00 51 40.4 +1.6
baz=26
Z31A Sharp Cattle R 25.71 331 ⇓P **P** 00 51 41.5 +1.8
baz=26,SNR=9.9
426A McDonald Obser 25.82 321 ⇓P **P** 00 51 42.4 +1.5
baz=26,SNR=10.0
228A UT Block 9, Go 26.03 325 ⇓P **P** 00 51 44.2 +1.5
baz=26
TUL1 Tulsa 26.22 341 ⇓P **P** 00 51 45.0 +0.8
baz=26
Y31A Rekieta Farm, 26.29 331 ⇑P **P** 00 51 46.4 +1.5
baz=26
VWCC Virginia Weste 26.32 10 *eP* **P** 00 51 46.0 +1.0
128A Castleberry Fa 26.35 326 ⇑P **P** 00 51 46.4 +0.9
baz=26
Z29A Hungry Hill Ra 26.44 328 ⇑P **P** 00 51 47.0 +0.8
baz=27
425A Indio Mountain 26.50 320 ⇑P **P** 00 51 48.6 +1.7
baz=27,SNR=12
SIUC Southern Illin 26.52 353 *eP* **P** 00 51 46.2 -0.6
comp=Z,26nm,0.9s
USIN University of 26.63 356 *eP* **P** 00 51 48.0 +0.2
comp=Z,21nm,0.8s
Z28A Tucker Farm, M 26.81 327 ⇑P **P** 00 51 50.6 +1.0
baz=27
WCI Wyandotte Cave 26.84 359 *eP* **P** 00 51 50.3 +0.6
comp=Z,26nm,0.7s
325A Bean Ranch, Si 26.89 321 ⇓P **P** 00 51 51.4 +0.9
baz=27
324A Moseley Ranch, 27.26 320 ⇓P **P** 00 51 54.6 +1.0
baz=27
OLIL Olney 27.43 356 *eP* **P** 00 51 54.6 -0.3
comp=Z,16nm,0.7s
125A Gardner Draw, 27.61 323 ⇑P **P** 00 51 57.7 +0.9
baz=28
Z26A Caprock 27.67 325 ⇑P **P** 00 51 58.6 +1.3
baz=28,SNR=6.6
CBN Corbin 27.77 14 *eP* **P** 00 51 59.2 +1.3
comp=Z,34nm,1.1s
BLO Bloomington 27.78 358 *eP* **P** 00 51 57.6 -0.4
comp=Z,21nm,0.6s
W29A Amraillo 27.89 331 ⇓P **P** 00 52 00.5 +1.3
baz=28
Y26A Elida 28.07 326 ⇑P **P** 00 52 02.0 +1.1
baz=28
124A Stringfield Ra 28.11 322 ⇑P **P** 00 52 03.5 +2.2
baz=28
BBSR BB Station 28.42 39 *eP* **P** 00 52 03.3 -0.4
comp=Z,40nm,0.9s
V29A Stinnett 28.45 332 ⇓P **P** 00 52 05.9 +1.8
baz=29
MCWV Mont Chateau 28.70 9 *eP* **P** 00 52 03.5 -2.6
ACSO Alum Creek Sta 28.91 4 *eP* **P** 00 52 08.5 +0.5
comp=Z,22nm,0.8s
Y24A Capitan 28.97 324 ⇑P **P** 00 52 10.0 +1.1
baz=29
X25A Clemmons Ranch 28.98 326 ⇑P **P** 00 52 09.5 +0.6
baz=29
SFIN Scholer Farm 29.01 358 *eP* **P** 00 52 08.1 -0.7
SFIN Scholer Farm 29.01 358 ⇑P **P** 00 52 08.8 -0.1
baz=29,SNR=7.6
SDMD Soldier's Deli 29.05 14 *eP* P 00 52 04.0 -5.2
comp=Z,108nm,2.1s
Y23A Lovelace Mesa, 29.34 323 ⇑P **P** 00 52 13.3 +1.2
baz=30
HDIL Hopedale 29.34 354 *eP* **P** 00 52 11.8 0.0
comp=Z,29nm,0.8s
Z22A Elephant Butte 29.41 321 ⇓P **P** 00 52 14.1 +1.4
baz=30
Y22A Socorro 29.88 322 ⇑P **P** 00 52 18.6 +1.8
baz=30
SAML Samuel 29.96 131 *eP* **P** 00 52 16.8 -0.8
comp=Z,5.5nm,0.9s
SSPA Standing Stone 30.00 12 *eP* **P** 00 52 17.5 0.0
comp=Z,13nm,0.9s
120A U Bar Ranch, L 30.00 318 ⇓P **P** 00 52 20.1 +2.2
baz=30
X21A Alamocita Cree 30.72 322 ⇓P **P** 00 52 24.9 +0.6
baz=31
JFWS Jewell Farm 31.78 353 *eP* **P** 00 52 32.9 -0.3
comp=Z,12nm,0.6s
SDCO Great Sand Dun 31.86 329 *eP* **P** 00 52 35.8 +1.4
comp=Z,21nm,2.0s
BINY Binghamton 31.90 13 *eP* **P** 00 52 35.7 +1.4
comp=Z,22nm,0.9s
LPAZ La Paz 32.35 148 P **P** 00 52 40.4 +1.2
comp=Z,0.8nm,0.4s,baz=334,slow=1.8,SNR=5.4
W18A Petrified Fore 32.36 321 ⇑P **P** 00 52 40.6 +2.0
baz=32
P25A Willow Gulch B 32.63 333 ⇓P **P** 00 52 43.4 +2.5
baz=33
OGNE Ogallala 32.93 337 ⇓P **P** 00 52 45.6 +2.2
baz=33
X16A Lo Mia Camp, P 33.00 318 ⇑P **P** 00 52 46.5 +2.4
baz=33
MVCO Mesa Verde 33.06 325 *eP* **P** 00 52 41.8 -3.0
comp=Z,111nm,2.8s
ECSD EROS Data Cent 33.73 345 *eP* **P** 00 52 49.3 -0.8
comp=Z,4.7nm,0.8s
Y14A Wickenburg 33.75 316 ⇑P **P** 00 52 51.9 +1.4
baz=34
SADO Sadowa 33.81 8 P **P** 00 52 50.5 -0.2
comp=Z,23nm,0.7s,baz=212,slow=8.4,SNR=28
PTN Potsdam (NY) 34.38 13 *eP* **P** 00 52 56.1 +0.4
comp=Z,55nm,0.8s
SPMN St. Paul 34.39 351 *eP* **P** 00 52 54.4 -1.3
LONY Lake Ozonia 34.52 14 *eP* **P** 00 52 57.0 +0.2
comp=Z,27nm,0.9s
GLA Glamis 34.52 313 ⇑P **P** 00 52 59.5 +2.3
baz=35
Y12C Blythe 34.69 315 ⇑P **P** 00 53 00.5 +2.0
baz=35
PDMCI Parker Dam,Lak 34.73 316 ⇑P **P** 00 53 00.7 +1.9
baz=35
W13A Hualapai Mount 35.01 317 ⇑P **P** 00 53 02.9 +1.4
baz=35
SWSC Sam W. Stewart 35.16 313 ⇑P **P** 00 53 04.7 +2.2
baz=35
BC3 Big Chuckawall 35.29 314 ⇓P **P** 00 53 05.8 +2.0
baz=35
MONP Monument Peak 35.59 312 ⇑P **P** 00 53 08.4 +1.9
baz=36
BELC Belle Mtn. Jos 35.85 314 ⇑P **P** 00 53 10.9 +2.3
baz=36
PFO Pinyon Flat Ob 35.98 313 P **P** 00 53 11.9 +2.2
comp=Z,3.6nm,0.7s,baz=107,slow=6.9,SNR=4.7
PFO Pinyon Flat Ob 35.98 313 ⇑P **P** 00 53 11.7 +2.0
baz=36
H27A Howes 36.15 340 ⇑P **P** 00 53 11.8 +0.9
baz=36
SIV San Ignacio 36.33 138 P **P** 00 53 13.3 +0.7
comp=Z,36nm,0.7s,baz=317,slow=8.2,SNR=94
SIV PcP **PcP** 00 55 33.2 +0.5
comp=Z,1.6nm,0.7s,baz=311,slow=11,SNR=4.1
MURC Murrieta 36.51 313 ⇑P **P** 00 53 16.2 +2.2
baz=37
HEC Hector,Ludlow 36.53 315 ⇑P **P** 00 53 16.3 +2.0
baz=37
TUQ Turquoise Moun 36.58 316 ⇓P **P** 00 53 16.4 +1.7
baz=37
GSC Goldstone 37.11 315 ⇓P **P** 00 53 21.3 +2.1
baz=37
CIS Catalina Islan 37.29 311 ⇓P **P** 00 53 23.2 +2.5
baz=37
PDAR Pinedale Array 37.70 331 P **P** 00 53 24.4 +0.2
comp=Z,0.7nm,0.7s,baz=118,slow=11,SNR=3.9
EDW2 Edwards Air Fo 37.72 314 ⇑P **P** 00 53 26.0 +1.8
baz=38
ARVC Arvin 38.44 314 ⇓P **P** 00 53 32.4 +2.3
baz=38
E24A Baker 38.60 339 ⇓P **P** 00 53 33.3 +1.9
baz=39
B29A Wagenman Farm, 38.83 345 ⇑P **P** 00 53 34.3 +1.2
baz=39
C26A Wahner Farm, P 38.99 342 ⇓P **P** 00 53 36.8 +2.2
baz=39
A29A Manning Farm, 39.22 346 ⇓P **P** 00 53 37.2 +0.8
baz=39
G18A Lazy EL Ranch, 39.66 333 ⇓P **P** 00 53 41.5 +1.2
baz=40
ULM Lac du Bonnet 39.77 350 P **P** 00 53 39.0 -2.0
comp=Z,7.6nm,0.8s,baz=156,slow=7.5,SNR=7.1
NVAR Mina Array Bea 39.82 318 P **P** 00 53 43.1 +1.3
comp=Z,0.6nm,0.3s,baz=143,slow=7.1,SNR=6.7
NVAR PcP **PcP** 00 55 45.0 +1.5
comp=Z,1.2nm,0.7s,baz=136,slow=4.2,SNR=5.9
C23A Lambert 39.97 339 ⇓P **P** 00 53 44.5 +1.8
baz=40
E20A Meyer Farm, Mu 40.00 336 ⇑P **P** 00 53 43.7 +0.7
baz=40
DRLN Deer Lake 44.41 26 *eP* **P** 00 54 18.5 +0.2
comp=Z,39nm,1.1s
BDFB Brasilia 45.76 125 P **P** 00 54 28.5 -1.1
comp=Z,6.4nm,0.6s,baz=286,slow=10,SNR=11
SCHQ Schefferville 45.87 15 *eP* **P** 00 54 28.8 -1.0
comp=Z,12nm,0.4s
SCHQ Schefferville 45.87 15 P **P** 00 54 29.1 -0.7
comp=Z,33nm,0.6s,baz=220,slow=6.3,SNR=80
CPUP Villa Florida 46.36 144 P **P** 00 54 33.1 -0.8
comp=Z,1.7nm,0.6s,baz=325,slow=7.2,SNR=5.6
CPUP PcP **PcP** 00 56 05.5 +0.1
comp=Z,0.9nm,0.4s,baz=40,slow=3.7,SNR=3.2
PLCA Paso Flores 53.58 166 P **P** 00 55 28.9 +0.9
comp=Z,2.0nm,0.7s,baz=328,slow=5.8,SNR=3.9
FRB Frobisher Bay 53.74 9 P **P** 00 55 27.7 -1.0
comp=Z,5.4nm,0.6s,baz=218,slow=8.5,SNR=5.3
YKA Yellowknife Ar 55.23 344 P **P** 00 55 38.6 -0.9
comp=Z,0.8nm,0.5s,baz=134,slow=8.0,SNR=13
YKA pP **pP** 00 56 27.4 +0.5
comp=Z,1.0nm,0.8s,baz=128,slow=8.9,SNR=4.7
ILAR Eielson Array 67.84 336 P **P** 00 57 03.5 -0.4
comp=Z,1.0nm,0.7s,baz=132,slow=4.5,SNR=6.8
ESDC Sonseca Array 76.41 52 P **P** 00 57 54.7 -0.5
comp=Z,1.2nm,0.6s,baz=283,slow=5.4,SNR=9.2
DBIC Dimbokro 79.59 85 P **P** 00 58 12.2 -0.8
comp=Z,3.7nm,0.9s,baz=245,slow=6.3,SNR=3.7
TORD Torodi Ar. Bea 84.81 78 P **P** 00 58 38.2 -1.9
comp=Z,0.8nm,0.5s,baz=290,slow=5.4,SNR=14
ARCES ARCESS Array B 86.66 19 P **P** 00 58 47.6 -0.5
comp=Z,4.9nm,0.9s,baz=297,slow=6.0,SNR=3.8
GERES GERESS Array B 87.58 41 P **P** 00 58 52.0 -1.1
comp=Z,0.3nm,0.7s,baz=285,slow=2.6,SNR=3.8
WMQ Urumqi 124.81 6 *e*PKP **PKPdf** 01 05 05.8 +2.1
HHC Hu-ho-hao-te 125.77 344 *e*PKP **PKPdf** 01 05 01.3 -4.4
HHC sPKP 01 06 22.0
HHC PKS PKSdf 01 08 37.0 -5.4
HHC SKS SKSdf 01 11 49.7 -7.9
HHC AMB AMB
comp=Z,110nm,10.3s
HHC LR LR
comp=N,230nm,20.5s
HHC LR LR
comp=E,250nm,20.4s
HHC LR LR
comp=Z,130nm,19.6s
KSH Kashi 126.60 18 *e*PKP **PKPdf** 01 05 06.1 -1.2
KSH sPKP 01 06 26.2
KSH PP **PP** 01 07 08.6 +3.6
KSH PKS **PKSdf** 01 08 40.6 -3.5
KSH SKS **SKSdf** 01 11 53.8 -5.5
KSH SKKS **SKKSac** 01 13 36.3 -6.5
KSH AMB AMB
comp=Z,93nm,4.7s
KSH LR LR
comp=N,81nm,4.9s
KSH LR LR
comp=E,53nm,5.0s
KSH LR LR
comp=Z,120nm,5.0s
NJ2 Nanjing 131.00 332 *e*PKP **PKPdf** 01 05 14.6 -1.1
LZH Lanzhou 132.06 350 *e*PKP **PKPdf** 01 05 20.2 +2.3
LZH sPKP 01 06 32.0
LZH LR LR
comp=N,230nm,18.0s
LZH LR LR
comp=E,280nm,17.2s
LZH LR LR
comp=Z,300nm,19.0s
CD2 Chengdu 137.11 348 PKP **PKPdf** 01 05 28.6 +1.3
CD2 PP **PP** 01 08 16.8 +4.7
CD2 PKS **PKSdf** 01 09 03.4 -0.3
CD2 SKS **SKSdf** 01 12 18.4 +0.1
CD2 SKKS **SKKSac** 01 14 47.0 -0.1
CD2 SS **SS** 01 26 01.9 +2.2
CD2 AMB AMB
comp=Z,220nm,7.1s
ASAR Alice Springs 140.57 246 PKhKP PKPpre 01 05 27.8
comp=Z,0.8nm,0.5s,baz=118,slow=3.8,SNR=5.6
ASAR PKP **PKPdf** 01 05 34.5 +0.8
comp=Z,2.2nm,0.7s,baz=79,slow=1.6,SNR=4.9
GYA Guiyang 140.66 343 *e*PKP **PKPdf** 01 05 35.0 +1.0
GYA PP **PP** 01 08 38.4 +4.2
GYA AMB AMB
comp=Z,90nm,8.0s
WRA Warramunga Arr 140.75 252 PKhKP PKPpre 01 05 28.5
comp=Z,0.8nm,0.3s,baz=98,slow=5.0,SNR=4.5
WRA PKP **PKPdf** 01 05 35.3 +1.2
comp=Z,3.2nm,0.7s,baz=91,slow=2.1,SNR=4.9
FITZ Fitzroy Crossi 149.15 254 PKPbc **PKPbc** 01 05 52.8 -0.2
comp=Z,4.2nm,0.9s,baz=83,slow=8.1,SNR=3.1
CMAR Chiang Mai Arr 150.12 351 PKP **PKPdf** 01 05 50.2 +0.1
comp=Z,0.4nm,0.3s,baz=330,slow=3.1,SNR=2.6
CMAR PKPbc **PKPbc** 01 05 55.2 -0.1
comp=Z,1.7nm,0.8s,baz=330,slow=3.4,SNR=5.2

*MOS **04** 00:52:05.5±1.0, 6°.13S×104°.88E, h32km, mb5.8/55, Error ellipse: s-maj=9.0km s-min=4.5km az=118.2*
*AUST **04** 00:52:05.3±0.7, 6°.71S×104°.54E, h21km, Error ellipse: s-maj=0.9km s-min=0.5km az=233.0*
*BJI **04** 00:52:06.5, 6°.30S×104°.80E, h38km, mB5.1/32, mb5.5/52, Ms4.7/45, Ms7 4.6/43*
*IDC **04** 00:52:07.6±1.0, 6°.29S×104°.82E, h42km±7km, mb5.0/42, mb1 5.0/44, mb1mx5.0/46, mbtmp5.0/44, ML4.4/2, MS4.3/27, Ms1 4.3/27, ms1mx4.2/40, Error ellipse: s-maj=10.6km s-min=6.7km az=51.0*
*NEIC **04** 00:52:08.1±0.8, 6°.29S×104°.79E, h46km±6km, mb5.4/51, Error ellipse: s-maj=6.1km s-min=3.7km az=217.0*
NEIC Felt [IV] at Liwa and [III] at Tanjungkarang-Telukbetung.
*DJA **04** 00:52:10.2±0.3, 7°.5S±3°.×10°.5E±°, h53km±3km, M5.4/45, mb5.5/45, mB5.8/36, MLv5.7/26, Mw(mB)5.4/36*
*BKK **04** 00:52:10.1±0.3, 7°.5S±3°.×10°.5E±°, h66km±3km, M5.2/45, mB5.5/28, mb5.2/45, MLv5.7/9, Mw(mB)5.0/28*
*ISCJB **04** 00:52:10.3±0.3, 6°.31S±0°.03×104°.80E±0°.02, h77km±2km, mb5.3/150, Error ellipse: s-maj=5.1km s-min=2.6km az=34.2*
*GCMT **04** 00:52:11.8±0.2, 6°.82S×104°.65E, h52km±1km, MW5.1, Moment Tension Solution. s53,c76; s64,c93; Moment tensor: Scale 10^16^Nm; M_{rr}3.70±.19; $M_{\theta\theta}$-4.41±.15; $M_{\phi\phi}$0.71±.18; $M_{r\theta}$1.99±.13; $M_{\theta\phi}$2.95±.12; $M_{\phi r}$-1.77±.14; Best double couple: $M_0$5.50000×10^16^ NP1:ϕ_s129.00000°, δ61.00000°, λ108.00000°. NP2:ϕ_s275.00000°, δ34.00000°, λ60.00000°. Principal axes: T 4.5700, Plg68.0000°, Azm76.0000°; N 1.8300, Plg16.0000°, Azm300.0000°; P -6.4000, Plg14.0000°, Azm206.0000°; Data Used: IU IC II G CN.*

ISC 04 00:52:09.0±0.3, **6°.37S**±0°.03×**104°.72E**±0°.03, **h57**km±2km, **n1050**, σ1°31/1114, **mb5.4**/150, **MS4.5**/41, **56C-24D, Sunda Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KASI	**Kota Agung**	**0.87**	**345**	P	**Pn**	**00 52 26.5**	**+1.2**
KASI				S	**Sn**	**00 52 41.1**	**+3.8**
BLSI	**Bandar Lampung**	**1.13**	**28**	P	**Pn**	**00 52 30.2**	**+1.5**
BLSI				S	**Sn**	**00 52 47.6**	**+4.4**
SBJI	**Serang**	**1.42**	**80**	P	**Pn**	**00 52 33.0**	**+0.4**
KLI	**Kotabumi**	**1.50**	**5**	P	**Pn**	**00 52 36.4**	**+2.7**
TNG	**Tangerang**	**1.92**	**84**	P	**Pn**	**00 52 40.3**	**+0.9**
TNG				S	**Sn**	**00 53 06.0**	**+3.5**
SKJI	**Sukabumi**	**1.93**	**109**	P	**Pn**	**00 52 37.6**	**-1.9**
SKJI				S	**Sn**	**00 53 04.6**	**+1.9**
DBJI	**Dramaga**	**2.02**	**95**	P	**Pn**	**00 52 41.6**	**+0.8**
DBJI				S	**Sn**	**00 53 08.1**	**+3.1**
CBJI	**Citeko**	**2.12**	**91**	P	**Pn**	**00 52 44.7**	**+2.7**
CBJI				S	Sn	00 53 13.4	+6.2
EGSI	**Enggano, Bengk**	**2.63**	**292**	P	**Pn**	**00 52 49.9**	**+0.8**
MNAI	**Manna**	**2.66**	**319**	*e*Pn	**Pn**	**00 52 51.0**	**+1.4**
MNAI	Manna	2.66	319	P	Pn	00 52 52.8	+3.3
MNAI	**Manna**	**2.66**	**319**	P	**Pn**	**00 52 50.9**	**+1.4**
baz=2.8,SNR=159
LEM Lembang 2.91 99 P **Pn** 00 52 55.1 +2.0
LEM Lembang 2.91 99 P **Pn** 00 52 55.4 +2.3
baz=3.1,SNR=27
CISI Cisompet, Garu 3.29 111 P **Pn** 00 52 57.8 -0.4
CISI S **Sn** 00 53 37.8 +1.7
CISI Cisompet, Garu 3.29 111 P **Pn** 00 52 57.5 -0.6
baz=3.4,SNR=90
PMBI Palembang 3.42 1 P Pn 00 53 03.5 +3.6
PMBI Palembang 3.42 1 P Pn 00 53 03.9 +3.9
baz=3.8,SNR=6.1
KSI Kapahiang 3.43 322 P **Pn** 00 53 03.1 +2.9
MASI Maura Aman, Be 4.05 322 P **Pn** 00 53 11.7 +3.1
XMI Christmas Isla 4.16 167 P Pn 00 53 02.8 -7.3
baz=3.9,SNR=32
XMI S Sn 00 53 46.1 -11
baz=3.9,SNR=6.7
XMIS Christmas Isla 4.18 167 *e*Pn Pn 00 53 02.6 -7.8
XMIS *e*Sn Sn 00 53 44.5 -14
XMIS Christmas Isla 4.18 167 P Pn 00 53 02.6 -7.8
baz=3.9,SNR=98
XMIS S Sn 00 53 45.9 -12
baz=3.9,SNR=11
KPJI Karang Pucung 4.29 103 P **Pn** 00 53 13.8 +2.0
TGJI Tegal 4.40 97 P Pn 00 53 16.3 +3.0
PPBI Pangkal Pinang 4.41 19 P Pn 00 53 16.6 +3.1
CLJI Cilicap 4.47 108 P Pn 00 53 19.5 +5.3
TPI Tanjungpandan 4.63 39 P **Pn** 00 53 18.5 +2.0
BJII Banjamegara 5.04 101 P **Pn** 00 53 24.6 +2.4
230nm,1.1s,8μm2.0nm
UGM Wanagama 5.96 105 *e*Pn **Pn** 00 53 36.7 +1.9
UGM *e*Sn **Sn** 00 54 45.3 +3.6
UGM Wanagama 5.96 105 P **Pn** 00 53 37.0 +2.3
689nm,0.8s,10μm3.0nm
UGM Wanagama 5.96 105 P **Pn** 00 53 35.7 +0.9
baz=6.1,SNR=61
PDSI Padang 6.89 322 P **Pn** 00 53 47.2 -0.3
423nm,0.9s,51μm2.7nm
SJI Sawahan 7.12 101 P **Pn** 00 53 53.3 +2.6
228nm,0.6s,17μm1.8nm
PWJI Pagerwojo 7.22 104 P **Pn** 00 53 53.4 +1.5
318nm,1.1s,13μm2.4nm
PPI Padang Panjang 7.29 324 P **Pn** 00 53 55.7 +2.8
110nm,0.9s,2μm1.1nm
PPI Padang Panjang 7.29 324 P **Pn** 00 53 54.0 +1.1
baz=7.5,SNR=7.1
BKNI Bangkinang 7.60 331 P **Pn** 00 53 58.1 +0.9
276nm,0.8s,1.5nm
BTDF Bukit Timah Da 7.74 353 P Pn 00 54 02.8 +3.7
baz=8.1,SNR=15
BTDF P Pn 00 54 02.8 +3.7
baz=8.1,SNR=15
PBKI Pangkalan Bun 7.83 63 P **Pn** 00 54 02.1 +1.8
462nm,0.9s,7μm2.4nm
KRKI Karangkates 7.87 103 P **Pn** 00 54 02.9 +2.0
588nm,0.6s,15μm3.2nm
MYKOM Kota Tinggi 8.15 354 P Pn 00 54 08.3 +3.5
MYKOM Kota Tinggi 8.15 354 P Pn 00 54 08.1 +3.3
190nm,0.8s,2μm
KGM Kluang 8.45 350 P Pn 00 54 12.2 +3.4
GMJI Gumukmas 8.86 103 P **Pn** 00 54 15.7 +1.3
297nm,1.0s,4μm
BLJI Banyuglugur 8.91 99 P Pn 00 54 18.6 +3.4
438nm,0.5s,7μm
KMMI Kalianget 9.21 95 P **Pn** 00 54 19.5 +0.3
168nm,0.6s,2μm
STKI Sintang 9.29 47 P Pn 00 54 23.4 +3.0
266nm,1.0s
ABJI Asem Bagus 9.55 99 P Pn 00 54 27.3 +3.4
3μm,0.7s,21μm
KSM Kuching 9.58 36 *e*Pn **Pn** 00 54 25.7 +1.3
KSM Kuching 9.58 36 P Pn 00 54 28.1 +3.7
KSM Kuching 9.58 36 P Pn 00 54 27.4 +3.0
70nm,1.0s,708nm
KSM Kuching 9.58 36 P Pn 00 54 27.8 +3.4
baz=10.0,SNR=5.3
COCO West Island 9.69 233 Pn **Pn** 00 54 23.2 -2.6
3μm,1.0s,SNR=6.7
COCO West Island 9.69 233 *i* P **Pn** 00 54 23.6 -2.2
COCO West Island 9.69 233 Pn **Pn** 00 54 23.4 -2.4
SNR=5.5
COCO West Island 9.69 233 *e*Pn Pn 00 54 19.1 -6.8
COCO West Island 9.69 233 P **Pn** 00 54 23.2 -2.6
616nm,1.1s,8μm
BYJI Banyuwangi 9.73 101 P **Pn** 00 54 28.4 +2.0
690nm,0.9s,23μm
FRIM Kepong 10.03 342 P **Pn** 00 54 32.5 +1.9
BBKI Banjar Baru 10.49 74 P **Pn** 00 54 38.6 +1.8
87nm,0.9s,6μm
SRBI Singaraja 10.55 100 P **Pn** 00 54 38.6 +1.1
454nm,0.9s,5μm
IGBI Denpasar 10.62 104 P **Pn** 00 54 37.8 -0.7
865nm,0.8s,13μm
DNP Denpasar 10.65 103 P **Pn** 00 54 38.8 -0.1
1μm,0.7s,28μm
PSI Prapat 10.79 327 P Pn 00 54 37.2 -3.9
PSI Prapat 10.79 327 P Pn 00 54 37.2 -3.9
0.8nm,0.3s,baz=153,slow=11,SNR=5.1
PSI LR LR 00 59 38.1
comp=Z,971nm,21.4s,baz=142,slow=42
PSI Prapat 10.79 327 P Pn 00 54 53.1 +12
baz=11,SNR=3.8
IPM Ipoh 11.39 341 *e*Pn **Pn** 00 54 50.6 +1.5
IPM Ipoh 11.39 341 P **Pn** 00 54 51.1 +2.0
IPM Ipoh 11.39 341 P **Pn** 00 54 50.6 +1.5
37nm,0.8s
SBUM Sibu 11.53 41 *e*Pn Pn 00 54 54.9 +4.0
SBUM Sibu 11.53 41 P Pn 00 54 54.1 +3.2
SBUM Sibu 11.53 41 P Pn 00 54 55.3 +4.4
122nm,1.3s,1μm
KTGM Kuala Trenggan 11.73 352 P Pn 00 55 00.3 +6.6
KCSI Kotacane, Aceh 12.03 325 P Pn 00 55 02.2 +4.4
47nm,0.8s,614nm
KULM Kulim 12.28 341 *e*Pn **Pn** 00 55 00.3 -0.8
KULM Kulim 12.28 341 P Pn 00 55 05.5 +4.3
KULM Kulim 12.28 341 P Pn 00 55 06.1 +4.9
22nm,1.0s
BTM Bintulu 12.65 42 P Pn 00 55 10.6 +4.3
SKLT Songkhla 14.06 343 P **P** 00 55 33.0 +1.5
SKLT Songkhla 14.06 343 P **P** 00 55 33.0 +1.5
MMSI Mamuju 14.61 76 P **P** 00 55 37.3 -0.3
KAPI Kappang 15.02 86 Pn **Pn** 00 55 36.5 -1.4
500nm,1.0s,SNR=7.6
KAPI Kappang 15.02 86 *e*Pn **Pn** 00 55 36.8 -1.2
73nm,0.9s
KAPI Kappang 15.02 86 P **Pn** 00 55 38.9 +1.0
92nm,0.9s,796nm
KAPI Kappang 15.02 86 P **Pn** 00 55 36.7 -1.3
6.0nm,0.3s,baz=260,slow=13,SNR=20
KAPI LR LR 01 02 10.4
comp=Z,2μm,19.1s,baz=254,slow=40
LBFI Labuhan Bajo, 15.19 99 P **Pn** 00 55 40.1 0.0
420nm,0.7s
BKSI Bukulumbang 15.36 87 P **Pn** 00 55 43.4 +1.1
493nm,0.9s,3μm
TTSI Tana Toraja 15.40 78 P **P** 00 55 45.7 -0.8
117nm,0.8s,3μm
KRAB Krabi 15.51 339 P **P** 00 55 46.6 -1.0
68nm,0.6s,640nm
SRIT Nakonsritamara 15.72 341 P **P** 00 55 50.8 +0.9
216nm,1.1s,13μm
KKM Kota Kinabalu 16.84 43 *e*Pn **Pn** 00 55 60.0 -1.2
134nm,0.9s
KKM Kota Kinabalu 16.84 43 P **Pn** 00 56 01.7 +0.5
KKM Kota Kinabalu 16.84 43 P P 00 56 07.8 +5.3
KKM Kota Kinabalu 16.84 43 P **P** 00 56 05.5 +3.0
baz=17,SNR=5.3
TSM Tawau 16.87 51 P **P** 00 56 04.0 +1.3
SKSI Soroako, Sulaw 17.00 78 P **P** 00 56 05.3 +1.1

84nm,0.8s,883nm
SDKM Sandakan 17.25 46 P **P 00 56 09.2 +2.2**
MMRI Maumere 17.51 98 *e*Pn **Pn 00 56 06.2 -3.2**
543nm,0.8s
MMRI Maumere 17.51 98 P **P 00 56 09.8 0.0**
723nm,0.7s,7μm
BBSI Bau Bau 17.78 88 P **P 00 56 12.7 -0.1**
200nm,1.2s,2μm
KDM Kudat 17.90 43 P **Pn 00 56 16.6 +2.6**
MYLDM Lahad Datu 17.91 50 P Pn 00 56 19.7 +5.4
MYLDM Lahad Datu 17.91 50 P Pn 00 56 19.0 +4.7
212nm,0.6s
MRSI Marisa 18.48 69 P **Pn 00 56 21.5 +0.3**
228nm,0.7s,2μm
LUWI Luwuk 18.77 74 P **Pn 00 56 25.1 +0.4**
269nm,1.4s,4μm
LUWI Luwuk 18.77 74 P **Pn 00 56 25.0 +0.3**
baz=19,SNR=4.8
GTOI Gorontalo 19.54 70 P **P 00 56 32.4 +0.3**
318nm,0.8s,3μm
SOEI Soe 19.64 101 P **P 00 56 32.5 -0.8**
881nm,0.9s,12μm
SOEI Soe 19.64 101 P **P 00 56 32.5 -0.8**
baz=20,SNR=81
SOEI S **S 01 00 10.2 -2.0**
baz=20,SNR=5.9
PHET Kaeng Krachan 19.81 345 P **P 00 56 35.1 +0.1**
243nm,0.7s
MBWA Marble Bar 20.67 137 *e*P **P 00 56 44.0 -0.4**
31nm,0.7s
CHAI Chaiyaphum 22.30 353 P **P 00 57 01.4 -0.4**
24nm,0.7s,223nm
NLAI Namlea 22.51 83 P **P 00 57 04.5 +0.3**
103nm,0.8s,1μm
SKNT Sakolnakorn 23.21 358 P **P 00 57 14.8 +3.6**
40nm,0.9s
PANO Nakornpanom 23.37 360 P **P 00 57 11.9 -0.8**
270nm,0.9s,30μm
LBMI Labuha 23.43 77 P **P 00 57 14.3 +0.9**
665nm,0.9s,5μm
FITZ Fitzroy Crossi 23.50 122 *e*P **P 00 57 13.7 -0.3**
FITZ S **S 01 01 27.3 +3.6**
FITZ Fitzroy Crossi 23.50 122 P **P 00 57 12.9 -1.1**
35nm,0.7s,baz=305,slow=6.8,SNR=75
FITZ S **S 01 01 27.3 +3.6**
6.7nm,0.9s,baz=3.4,slow=15,SNR=2.2
FITZ LR LR 01 06 23.9
comp=Z,708nm,19.9s,baz=303,slow=36
FITZ Fitzroy Crossi 23.50 122 P **P 00 57 13.1 -0.9**
baz=24,SNR=52
TNTI Ternate 23.69 73 *e*P **P 00 57 15.8 0.0**
396nm,1.0s
TNTI Ternate 23.69 73 P **P 00 57 16.2 +0.4**
523nm,1.0s,6μm
LOEI Loei 23.97 352 P **P 00 57 15.9 -2.4**
30nm,1.0s
MEEK Meekatharra 24.11 148 P **P 00 57 21.0 +1.4**
baz=24,SNR=6.3
MEEK S S 01 01 50.4 +17
baz=24,SNR=4.1
DAV Davao City (W) 24.73 58 *e*P **P 00 57 27.4 +2.2**
MORW Morawa 24.98 156 P **P 00 57 29.9 +2.5**
baz=25,SNR=3.0
MORW S S 01 02 09.5 +22
baz=25,SNR=3.6
KNRA Kununurra 25.32 113 P **P 00 57 29.5 -1.1**
baz=25,SNR=59
KNRA S **S 01 01 58.9 +6.0**
baz=25,SNR=6.5
CM31 Chiang Mai Arr 25.32 347 *e*P **P 00 57 29.0 -1.6**
46nm,0.7s
CMAR Chiang Mai Arr 25.32 347 P **P 00 57 28.8 -1.8**
CMAR PcP **PcP 01 01 03.8 +1.4**
CMAR S **S 01 01 54.0 +1.1**
CMAR ScP **ScP 01 04 38.5 +1.5**
CMAR Chiang Mai Arr 25.32 347 P **P 00 57 28.8 -1.8**
44nm,0.7s,baz=181,slow=8.6,SNR=56
CMAR PcP **PcP 01 01 03.8 +1.4**
3.2nm,0.6s,baz=200,slow=3.3,SNR=4.9
CMAR S **S 01 01 54.0 +1.1**
0.7nm,0.3s,baz=188,slow=13,SNR=2.8
CMAR ScP **ScP 01 04 38.5 +1.5**
1.6nm,0.8s,baz=205,slow=3.0,SNR=5.4
CMAR LR LR 01 08 47.1
comp=Z,737nm,18.1s,baz=173,slow=40
CHTO Chiang Mai 25.67 347 *e*P **P 00 57 31.8 -1.9**
CHTO pmax pmax
comp=Z,54nm,0.7s
CHTO Chiang Mai 25.67 347 P **P 00 57 32.5 -1.2**
SNR=9.0
CHTO Chiang Mai 25.67 347 *e*P **P 00 57 31.8 -1.9**
comp=Z,54nm,0.7s
CHTO Chiang Mai 25.67 347 P **P 00 57 32.0 -1.7**
comp=Z,37nm,0.9s,comp=Z,817nm
QIZ Qiongzhong 25.74 11 P **P 00 57 36.0 +1.6**
QIZ S **S 01 02 04.6 +5.1**
QIZ LR LR
comp=N,1μm,16.9s
QIZ LR LR
comp=E,270nm,18.1s
QIZ LR LR
comp=Z,2μm,18.3s
CMAI Chiengmai2 26.73 348 P **P 00 57 43.0 -0.5**
comp=Z,44nm,0.9s
CRAI Chiangrai 26.78 351 P **P 00 57 40.3 -3.4**
comp=Z,28nm,1.0s,comp=Z,548nm
MTN Manton Dam 26.81 106 P **P 00 57 43.3 -0.8**
baz=27,SNR=40
SWI Sorong 27.04 79 P **P 00 57 46.1 -0.1**
baz=27,SNR=3.8
FAKI Fak Fak 27.65 84 P **P 00 57 50.6 -1.1**
baz=28,SNR=4.4
FAKI S **S 01 02 26.1 -3.7**
baz=28,SNR=6.4
KDU Kakadu 28.06 105 P **P 00 57 53.8 -1.5**
baz=28,SNR=76
NWAO Narrogin (SRO) 28.87 158 LR LR 01 08 04.1
comp=Z,1μm,21.7s,baz=148,slow=33
KMI Kunming 31.36 357 P **P 00 58 26.8 +2.1**
KMI pP **pP 00 58 38.4 -0.7**
KMI PP **PP 00 59 33.5 -3.0**
KMI S **S 01 03 26.7 -1.5**
KMI sS sS 01 03 47.3 -5.3
KMI pmax pmax
comp=Z,24nm,0.5s
KMI LR LR
comp=N,2μm,16.1s
KMI LR LR
comp=E,960nm,15.5s
KMI LR LR
comp=Z,2μm,17.0s
WRA Warramunga Arr 31.76 118 P **P 00 58 27.5 -0.6**
WRA PcP **PcP 01 01 19.0 +0.5**
WRA Warramunga Arr 31.76 118 P **P 00 58 27.5 -0.6**
comp=Z,63nm,0.7s,baz=290,slow=9.9,SNR=241
WRA PcP **PcP 01 01 19.0 +0.5**
comp=Z,11nm,0.7s,baz=302,slow=2.2,SNR=6.8
WRA LR LR 01 11 58.3
comp=Z,370nm,20.4s,baz=290,slow=38
WRAB Tennant Creek 31.77 118 P **P 00 58 27.0 -1.1**
comp=Z,651nm,0.7s,SNR=33
WRAB Tennant Creek 31.77 118 *e*P **P 00 58 27.5 -0.6**
WRAB pmax pmax
comp=Z,84nm,0.8s
WRAB Tennant Creek 31.77 118 *e*P **P 00 58 27.5 -0.6**
comp=Z,84nm,0.8s
PALU Palau 32.66 66 P pP 00 58 50.8 +0.4
baz=33,SNR=4.0
GYA Guiyang 32.69 3⇑ *i*P P 00 58 40.2 +4.0
GYA PcP **PcP 01 01 22.0 +1.0**
GYA S S 01 03 55.4 +6.7
GYA ScP **ScP 01 05 01.5 +1.2**
GYA pmax pmax
comp=Z,30nm,0.8s
GYA pmax pmax
comp=Z,150nm,5.0s
GYA LR LR
comp=N,930nm,17.4s
GYA LR LR
comp=E,740nm,17.8s
GYA LR LR
comp=Z,880nm,17.6s
AS31 Alice Springs 32.90 125 *e*P **P 00 58 37.8 -0.3**
ASAR Alice Springs 32.90 125 P **P 00 58 37.8 -0.2**
ASAR PcP **PcP 01 01 22.4 +0.8**
ASAR S **S 01 03 50.2 -1.8**
ASAR ScP **ScP 01 05 02.6 +1.5**
ASAR Alice Springs 32.90 125 P **P 00 58 37.8 -0.2**
comp=Z,21nm,0.8s,baz=301,slow=8.0,SNR=120
ASAR PcP **PcP 01 01 22.4 +0.8**
comp=Z,13nm,0.8s,baz=309,slow=2.4,SNR=15
ASAR S **S 01 03 50.2 -1.8**
comp=Z,4.1nm,0.8s,baz=294,slow=14,SNR=7.3
ASAR ScP **ScP 01 05 02.6 +1.5**
comp=Z,1.6nm,0.9s,baz=294,slow=2.9,SNR=2.7
ASAR LR LR 01 11 57.1
comp=Z,767nm,21.4s,baz=296,slow=36
TPUB Ta-pu 33.34 27 *e*P **P 00 58 42.4 +0.6**
comp=Z,31nm,0.8s
YULB Yu-li 33.73 28 *e*P **P 00 58 45.1 -0.1**
comp=Z,30nm,0.8s
SSLB Suanglung 33.91 27 *e*P **P 00 58 47.5 +0.7**
NACB Ninganchiao 34.53 28 *e*P **P 00 58 51.9 -0.2**
comp=Z,40nm,1.1s
YHNB Yeheng 34.86 27 *e*P **P 00 58 55.1 +0.1**
comp=Z,28nm,0.6s
HYB Hyderabad 35.03 313 *i*P **P 00 58 56.0 -0.5**
ENH Enshi 36.72 7 *e*P **P 00 59 09.9 -1.0**
comp=Z,23nm,0.7s
ODAN Odare 37.06 334 *e*P **P 00 59 13.2 -0.8**
comp=Z,117nm,0.5s
CD2 Chengdu 37.08 359 P P 00 59 18.0 +4.1
CD2 S S 01 05 04.0 +8.0
CD2 pmax pmax
comp=Z,30nm,0.6s
CD2 pmax pmax
comp=Z,150nm,3.9s
CD2 LR LR
comp=N,770nm,13.7s
CD2 LR LR
comp=Z,840nm,16.1s
TAPN Taplejung 37.35 335 *e*P **P 00 59 15.9 -0.6**
comp=Z,166nm,0.7s
RAMN Ramite 37.49 333 *e*P **P 00 59 17.3 -0.3**
comp=Z,81nm,0.4s
WHN Wuhan 37.85 14 P **P 00 59 22.0 +1.7**
LSA Lhasa 38.16 341 P **P 00 59 22.9 -0.7**
LSA Lhasa 38.16 341 *e*P **P 00 59 22.6 -0.9**
LSA pmax pmax
comp=Z,83nm,0.9s
LSA Lhasa 38.16 341 *e*P **P 00 59 22.6 -0.9**
comp=Z,83nm,0.9s
JIRN Jiri 38.28 333 *e*P **P 00 59 23.7 -0.8**
comp=Z,264nm,0.7s
COEN Coen 38.55 104 *e*P **P 00 59 24.9 -1.6**
comp=Z,255nm,0.6s
COEN Coen 38.55 104 P **P 00 59 25.3 -1.2**
baz=39,SNR=26
PKI Pulchoki 38.57 332 *e*P **P 00 59 25.8 -1.0**
PKIN Phulchoki 38.58 332 *e*P **P 00 59 26.6 -0.2**
comp=Z,19nm,0.4s
GUN Gumba 38.64 333 *e*P **P 00 59 26.8 -0.6**
comp=Z,112nm,0.3s
DMN Daman 38.74 332 *e*P **P 00 59 27.5 -0.7**
KKN Kakani 38.81 332 *e*P **P 00 59 27.9 -0.8**
KOLN Koldanda 39.61 330 *e*P **P 00 59 34.8 -0.6**
comp=Z,288nm,0.7s
DANN Dangsing 40.01 331 *e*P **P 00 59 38.1 -0.7**
comp=Z,420nm,0.7s
PYUN Piuthan 40.18 330 *e*P **P 00 59 39.6 -0.6**
comp=Z,282nm,0.6s
MTSU Mount Surprise 40.32 111 P **P 00 59 41.4 +0.1**
baz=40,SNR=30
XAN Xi'an 40.39 5 P **P 00 59 40.3 -1.2**
XAN pP **pP 00 59 55.6 -0.7**
XAN sP **sP 01 00 02.8 -0.2**
XAN PP **PnPn 01 01 18.0 -1.7**
XAN S **S 01 05 43.8 -2.0**
XAN sS **sS 01 06 10.0 -0.6**
XAN pmax pmax
comp=Z,5.0nm,0.7s
XAN LR LR
comp=N,400nm,18.7s
XAN LR LR
comp=E,160nm,19.2s
XAN LR LR
comp=Z,260nm,18.2s
NJ2 Nanjing 40.52 19 *e*P **P 00 59 44.1 +1.5**
NJ2 pP **pP 00 59 58.6 +1.3**
NJ2 PP **PnPn 01 01 20.5 -0.7**
NJ2 S S 01 05 56.0 +8.4
NJ2 pmax pmax
comp=Z,30nm,1.0s
NJ2 pmax pmax
comp=Z,230nm,3.7s
NJ2 LR LR
comp=N,450nm,17.3s
NJ2 LR LR
comp=E,490nm,14.4s
NJ2 LR LR
comp=Z,680nm,25.3s
PMG Port Moresby 42.13 97 *e*P **P 00 59 56.1 0.0**
comp=Z,208nm,0.8s
PMG Port Moresby 42.13 97 P **P 00 59 55.7 -0.4**
baz=261,slow=8.7
PMG LR LR 01 20 37.4
comp=Z,207nm,20.6s,baz=246,slow=41
LZH Lanzhou 42.24 359 *e*P P 01 00 01.6 +4.7
LZH pP pP 01 00 09.3 -2.4
LZH sP sP 01 00 14.0 -4.3
LZH PP PcP 01 01 43.2 -6.8
LZH *e*S **S 01 06 17.5 +4.1**
LZH sS sS 01 06 35.0 -3.4
LZH pmax pmax
comp=Z,37nm,1.0s
LZH pmax pmax
comp=Z,220nm,6.1s
LZH LR LR
comp=N,930nm,14.6s
LZH LR LR
comp=E,710nm,15.4s
LZH LR LR
comp=Z,1μm,17.7s
CTAO Charters Tower 42.53 113 *e*P **P 00 59 59.6 +0.3**
CTAO Charters Tower 42.53 113 *e*P **P 00 59 59.6 +0.3**
STKA Stephens Creek 42.75 131 *e*P **P 01 00 01.2 +0.4**
STKA Stephens Creek 42.75 131 P **P 01 00 01.3 +0.4**
comp=Z,55nm,0.8s,baz=306,slow=7.9,SNR=57
STKA LR LR 01 19 07.5
comp=Z,671nm,19.9s,baz=114,slow=38
STKA Stephens Creek 42.75 131 P **P 01 00 01.4 +0.4**
baz=43,SNR=44
NDI New Delhi 43.78 324 *e*P **P 01 00 07.0 -2.3**
NDI *e*S **S 01 06 34.0 -2.0**
GUMO Guam 44.52 63 *e*P **P 01 00 13.0 -2.4**
comp=Z,109nm,0.6s
CMSA Cobar Meteorol 45.72 129 P **P 01 00 25.6 +0.9**
baz=46,SNR=20
GTA Gaotai 45.78 355⇑ P **P 01 00 25.1 0.0**
GTA pP **pP 01 00 39.5 -0.6**
GTA sP **sP 01 00 46.8 +0.1**
GTA PcS **PcS 01 05 55.1 -1.2**
GTA S **S 01 07 06.0 +1.2**
GTA ScS **ScS 01 10 15.2 -1.0**
GTA SS **SS 01 10 24.3 -5.9**
GTA pmax pmax
comp=Z,18nm,0.8s
GTA pmax pmax
comp=Z,80nm,5.1s
GTA LR LR
comp=N,570nm,21.2s
GTA LR LR
comp=E,530nm,20.2s
GTA LR LR
comp=Z,560nm,22.9s
RMQ Roma 46.43 121 P **P 01 00 31.6 +1.3**
baz=46,SNR=4.3
JNU Nakatsue 46.47 31 *e*P **P 01 00 30.6 0.0**
comp=Z,27nm,1.1s
JNU Nakatsue 46.47 31 P **P 01 00 29.9 -0.6**
comp=Z,27nm,0.5s,baz=269,slow=2.2
JNU LR LR 01 19 25.0
comp=Z,207nm,18.0s,baz=14,slow=35
BJT Baijiatuau 47.35 12 *e*P **P 01 00 37.1 -0.1**
comp=Z,76nm,0.6s
BJI Beijing 47.38 12 P **P 01 00 36.8 -0.6**
BJI pmax pmax
comp=Z,110nm,0.7s
BJI LR LR
comp=N,410nm,19.6s
BJI LR LR
comp=E,320nm,19.6s
BJI LR LR
comp=Z,380nm,22.1s
HHC Hu-ho-hao-te 47.41 7 *e*P **P 01 00 39.0 +1.2**
HHC sP sP 01 00 53.0 -6.5
HHC PcP **PcP 01 02 08.4 +0.7**
HHC PP **PP 01 02 29.8 +0.1**
HHC S **S 01 07 30.7 +2.7**
HHC sS sS 01 07 47.4 -5.9
HHC ScS **ScS 01 10 26.8 +0.1**
HHC SS **SS 01 10 52.9 -3.7**
HHC pmax pmax
comp=Z,89nm,0.8s
HHC pmax pmax
comp=Z,170nm,4.5s
HHC LR LR
comp=N,1μm,21.4s
HHC LR LR
comp=E,1μm,20.0s
HHC LR LR
comp=Z,1μm,21.4s
THN Thein Dam 47.45 326 *e*P **P 01 00 35.4 -2.7**
EIDS Eidsvold 48.13 118 *e*P **P 01 00 44.1 +0.5**
comp=Z,32nm,1.3s
EIDS Eidsvold 48.13 118 P **P 01 00 44.0 +0.5**
baz=48,SNR=4.2
KSAR Wonju Array Be 48.66 25 P **P 01 00 47.8 +0.4**
KSAR PcP **PcP 01 02 12.9 +0.9**
KSAR ScP **ScP 01 06 04.5 +2.2**
KSRS Korea Array 48.68 25 P **P 01 00 47.8 +0.2**
comp=Z,12nm,0.6s,baz=220,slow=7.7,SNR=51
KSRS PcP **PcP 01 02 12.9 +0.8**
comp=Z,11nm,1.0s,baz=207,slow=3.7,SNR=13
KSRS ScP **ScP 01 06 04.5 +2.1**
comp=Z,0.7nm,0.4s,baz=193,slow=5.0,SNR=3.5
YNG Young 48.93 131 P **P 01 00 50.7 +1.0**
baz=49,SNR=7.0
CBIJ Chichi jima 49.21 46 P **P 01 00 49.2 -2.6**
CBIJ Chichi jima 49.21 46 P **P 01 00 49.2 -2.6**
comp=Z,133nm,0.8s,baz=294,slow=20,SNR=4.3
ARMA Armidale 50.05 125 *e*P **P 01 01 00.9 +2.5**
comp=Z,149nm,2.1s
ARMA Armidale 50.05 125 P **P 01 01 00.9 +2.5**
baz=50,SNR=5.2
WMQ Urumqi 52.28 344 P **P 01 01 16.0 +1.3**
WMQ pP **pP 01 01 31.8 +1.9**
WMQ PcP **PcP 01 02 26.0 +0.6**
WMQ PP **PP 01 03 17.0 +3.1**
WMQ S **S 01 08 36.4 +0.6**
WMQ ScS **ScS 01 10 56.8 -2.8**
WMQ SS **SS 01 12 13.2 -1.1**
WMQ pmax pmax
comp=Z,150nm,0.9s
WMQ pmax pmax
comp=Z,120nm,3.5s
WMQ LR LR
comp=N,230nm,19.2s
WMQ LR LR
comp=E,140nm,19.2s
WMQ LR LR
comp=Z,200nm,24.0s
KBL Kabul 52.83 323 *e*P **P 01 01 18.5 -0.6**
KBL pmax pmax
comp=Z,29nm,0.8s
KBL Kabul 52.83 323 *e*P **P 01 01 18.5 -0.6**
comp=Z,29nm,0.8s
KBL Kabul 52.83 323 P **P 01 01 19.1 -0.1**
baz=53,SNR=8.4
KSH Kashi 52.83 332⇑ *i*P **P 01 01 17.4 -1.6**
KSH pP pP 01 01 28.3 -5.9
KSH PP **PP 01 03 18.0 -1.0**
KSH PcS **PcS 01 06 25.3 -1.1**
KSH S **S 01 08 39.6 -4.0**
KSH pmax pmax
comp=Z,130nm,0.6s
KSH pmax pmax
comp=Z,270nm,2.0s
KSH LR LR
comp=N,110nm,5.3s
KSH LR LR
comp=E,77nm,4.5s
KSH LR LR
comp=Z,110nm,7.8s
MAT Matsushiro 52.97 34 P **P 01 01 17.8 -2.1**
MAT S **S 01 08 45.8 +0.4**
MJAR Matsushiro Arr 52.97 34 P **P 01 01 18.2 -1.7**
MJAR PcP **PcP 01 02 28.9 +0.8**
MJAR ScP **ScP 01 06 22.5 +1.6**
MJAR Matsushiro Arr 52.97 34 P **P 01 01 18.2 -1.7**
comp=Z,38nm,0.6s,baz=213,slow=8.3,SNR=96
MJAR PcP **PcP 01 02 28.9 +0.8**
comp=Z,16nm,0.7s,baz=208,slow=4.6,SNR=12
MJAR ScP **ScP 01 06 22.5 +1.6**
comp=Z,0.8nm,0.3s,baz=194,slow=4.6,SNR=4.2
WBK Wadi Bani Khal 53.22 304 P **P 01 01 24.6 +2.5**
SNR=6.8
CN2 Changchun 53.34 19⇑ P **P 01 01 21.7 -0.8**
CN2 pmax pmax
comp=Z,50nm,1.0s
CN2 LR LR
comp=N,300nm,17.0s
CN2 LR LR
comp=E,300nm,17.0s
CN2 LR LR
comp=Z,300nm,19.0s
SONM Songino Array 53.99 1 P **P 01 01 27.6 +0.2**
SONM PcP **PcP 01 02 32.0 +0.1**
SONM ScP **ScP 01 06 28.8 +3.6**
SONM Songino Array 53.99 1 P **P 01 01 27.6 +0.2**
comp=Z,13nm,0.8s,baz=180,slow=8.9,SNR=80
SONM PcP **PcP 01 02 32.0 +0.1**
comp=Z,9.7nm,0.6s,baz=184,slow=3.6,SNR=16
SONM ScP **ScP 01 06 28.8 +3.6**
comp=Z,1.2nm,0.6s,baz=175,slow=4.1,SNR=5.4
SONM LR LR 01 27 40.7
comp=Z,406nm,18.2s,baz=46,slow=40
ULN Ulaanbaatar 54.04 2 P **P 01 01 28.2 +0.5**
SNR=6.4
ULN Ulaanbaatar 54.04 2 *e*P **P 01 01 27.6 -0.1**
comp=Z,19nm,0.8s
ULN *e*PcP **PcP 01 02 32.4 +0.3**
SMDO Samad 54.18 304 P **P 01 01 31.5 +2.4**
SNR=11
BSY Bisya 54.74 304 P **P 01 01 35.6 +2.5**
SNR=5.6
HNR Honiara 54.74 97 P **P 01 01 32.4 -0.9**
HNR Honiara 54.74 97 P **P 01 01 32.3 -0.9**
comp=Z,192nm,0.7s,baz=39,slow=1.2,SNR=8.2
ULHL Ulahol 54.91 334 *i*P **P 01 01 34.3 +0.1**
ULHL Ulahol 54.91 334 P **P 01 01 34.2 +0.1**
SNR=7.6
HOQ Hogain 55.02 304 P **P 01 01 37.1 +2.0**
SNR=16
KZA Kyzart 55.21 334 *i*P **P 01 01 36.9 +0.3**
KZA Kyzart 55.21 334 P **P 01 01 37.0 +0.3**
SNR=9.7
MDJ Mudanjiang 55.47 21 pP pP 01 01 46.6 -6.7
MDJ sP sP 01 01 51.3 -8.5
MDJ PP **PP 01 03 41.2 -1.3**
MDJ PcS **PcS 01 06 36.7 -0.8**
MDJ S **S 01 09 18.5 -0.2**
MDJ sS sS 01 09 35.1 -9.5
MDJ pmax pmax
comp=Z,27nm,0.8s
MDJ pmax pmax
comp=Z,58nm,7.1s
MDJ LR LR
comp=N,250nm,12.9s
MDJ LR LR
comp=E,49nm,8.0s
MDJ LR LR
comp=Z,260nm,11.7s
ARQ Araqi 55.56 304 P **P 01 01 41.0 +1.9**
SNR=7.8
UCH Uchtor 55.66 333 *i*P **P 01 01 40.2 +0.3**
UCH Uchtor 55.66 333 P **P 01 01 40.2 +0.3**
SNR=8.1
TKM2 Tokmak 2 55.74 334 *i*P **P 01 01 39.7 -0.4**
TKM2 Tokmak 2 55.74 334 P **P 01 01 39.8 -0.4**
SNR=172
TKM2 Tokmak 2 55.74 334 *e*P **P 01 01 39.6 -0.4**
comp=Z,138nm,0.6s
KBK Karagaybulak 55.81 334 *i*P **P 01 01 40.9 +0.3**
KBK Karagaybulak 55.81 334 P **P 01 01 40.9 +0.3**
SNR=35
AML Almayashu 55.95 332 *i*P **P 01 01 42.4 +0.4**
AML Almayashu 55.95 332 P **P 01 01 42.4 +0.4**
SNR=5.6

AAK Ala-Archa 55.99 333 P **P** **01 01 41.2 -0.7**
comp=Z,189nm,0.7s,SNR=14
AAK Ala-Archa 55.99 333 *e*P **P** **01 01 41.7 -0.2**
AAK pmax pmax
comp=Z,33nm,0.9s
AAK Ala-Archa 55.99 333 P **P** **01 01 42.1 +0.1**
SNR=15
AAK Ala-Archa 55.99 333 P **P** **01 01 42.0 +0.1**
SNR=21
AAK Ala-Archa 55.99 333 *e*P **P** **01 01 41.6 -0.2**
comp=Z,33nm,0.9s
AAK Ala-Archa 55.99 333 P **P** **01 01 41.2 -0.7**
comp=Z,20nm,0.7s,baz=141,slow=5.8,SNR=41
USRK Ussuriysk Arra 56.02 23 P **P** **01 01 41.7 -0.2**
comp=Z,90nm,0.5s,baz=214,slow=6.3,SNR=284
USRK PcP **PcP** **01 02 40.1 +0.5**
comp=Z,2.2nm,0.6s,baz=221,slow=4.6,SNR=1.0
USRK LR LR 01 28 03.4
comp=Z,207nm,19.1s,baz=221,slow=39
CHMS Chumysh 56.17 334 *i* P **P** **01 01 42.8 -0.2**
CHMS Chumysh 56.17 334 P **P** **01 01 42.8 -0.2**
SNR=11
EKS2 Erkin-Say 56.33 333 *e*P **P** **01 01 44.4 +0.1**
EKS2 pmax pmax
comp=Z,134nm,0.8s
EKS2 Erkin-Say 56.33 333 P **P** **01 01 44.7 +0.4**
SNR=11
EKS2 Erkin-Say 56.33 333 *e*P **P** **01 01 44.4 +0.1**
comp=Z,134nm,0.8s
USP Ospenovka 56.49 334 P **P** **01 01 45.4 0.0**
SNR=6.0
UOSS Wadi Hilu 56.54 305 P **P** **01 01 46.4 +0.5**
comp=Z,146nm,0.8s,SNR=8.8
ZAK Zakamensk 56.54 359⇑ *i*P **P** **01 01 45.6 0.0**
ZAK *e* 01 02 41.9
ZAK pmax pmax
comp=Z,16nm,0.8s
ASHO Ashiyiah 56.54 305 P **P** **01 01 47.9 +1.9**
SNR=7.6
HATD Hatta, Dubai 56.54 305 P **P** **01 01 48.0 +2.0**
SNR=8.7
MK31 Makanchi Array 56.56 342 *e*P **P** **01 01 45.0 -0.7**
MK31 pmax pmax
comp=Z,52nm,0.5s
MK31 Makanchi Array 56.56 342 *e*P **P** **01 01 44.9 -0.8**
MKAR Makanchi Array 56.56 342 P **P** **01 01 45.0 -0.7**
MKAR S **S** **01 09 33.1 -0.1**
MKAR Makanchi Array 56.56 342 P **P** **01 01 45.0 -0.7**
MKAR S **S** **01 09 33.0 -0.1**
MKAR Makanchi Array 56.56 342 P **P** **01 01 45.0 -0.7**
comp=Z,83nm,0.6s,baz=153,slow=8.6,SNR=638
MKAR S **S** **01 09 33.0 -0.1**
comp=Z,0.8nm,0.8s,baz=154,slow=18,SNR=2.6
HIA Hailar 56.94 12 *e*P **P** **01 01 47.8 -0.6**
comp=Z,35nm,0.9s
NAZ Nazwa, Dubai 56.99 305 P **P** **01 01 50.8 +1.6**
SNR=9.2
ASUD Al Ashush, Dub 57.11 305 P **P** **01 01 52.0 +2.0**
SNR=7.3
TLY Talaya 57.83 359 *e*P **P** **01 01 54.9 +0.3**
TLY *e*S S 01 10 01.2 +11
TLY pmax pmax
comp=Z,35nm,0.9s
TLY MLR MLR
comp=Z,514nm,18.0s
TLY Talaya 57.83 359 P **P** **01 01 55.6 +1.0**
comp=Z,240nm,0.8s,SNR=7.9
MOY Mondy 57.90 357 *e*P **P** **01 01 55.1 -0.1**
HVS Khovu-Aksy 58.06 352*d* *i*P **P** **01 01 55.6 -0.7**
HVS pmax pmax
comp=Z,38nm,0.7s
KK31 Karatay Array 58.20 331 *i* P **P** **01 01 56.5 -0.8**
KK31 pmax pmax
comp=Z,4.0nm,0.3s
KKAR Karatay Array 58.20 331 *e*P **P** **01 01 56.3 -1.1**
KKAR pmax pmax
comp=Z,11nm,0.5s
KKAR Karatay Array 58.20 331 *e*P **P** **01 01 56.2 -1.1**
comp=Z,11nm,0.5s
ERM Erimo 59.56 33 P **P** **01 02 06.1 -0.6**
comp=Z,356nm,0.9s,SNR=11
ERM Erimo 59.56 33*ce*P **P** **01 02 06.8 +0.1**
ERM pmax pmax
comp=Z,31nm,1.0s
KLR Kul'dur 60.19 20⇓ *i*P P 01 02 07.2 -3.7
KLR pmax pmax
comp=E,36nm,0.9s
KLR pmax pmax
comp=Z,100nm,0.9s
ASAJ Asahikawa 60.75 30 *e*P **P** **01 02 14.0 -0.8**
comp=Z,22nm,0.8s
ASAJ Asahikawa 60.75 30 P **P** **01 02 14.2 -0.6**
comp=Z,40nm,0.5s,baz=232,slow=9.8,SNR=26
ASAJ LR LR 01 26 16.6
comp=Z,285nm,21.7s,baz=356,slow=34
KURBB Kurchatov Arra 61.11 341 P **P** **01 02 16.6 -0.5**
comp=Z,65nm,0.8s,baz=152,slow=6.6,SNR=266
KURBB PcP **PcP** **01 02 59.8 +0.2**
comp=Z,9.9nm,0.6s,baz=159,slow=2.9,SNR=7.5
KURK Kurchatov 61.16 341 P **P** **01 02 16.7 -0.8**
KURK 01 02 59.8
KURK Kurchatov 61.16 341 P **P** **01 02 16.6 -0.8**
KURK PcP **PcP** **01 02 59.8 0.0**
DZM Mont Dzumac 61.45 112 *e*P P 01 02 24.9 +4.7
comp=Z,76nm,1.2s
DZM Mont Dzumac 61.45 112 *e*LR LR 01 20 38.6
comp=Z,583nm,25.1s
DZM Mont Dzumac 61.45 112 P **P** **01 02 19.8 -0.4**
DZM Mont Dzumac 61.45 112 P **P** **01 02 19.8 -0.4**
comp=Z,16nm,1.0s,baz=270,slow=20,SNR=8.1
ZAA0 Zalesovo Array 62.39 347 *e*P **P** **01 02 24.6 -1.1**
ZAA0 *e*PcP **PcP** **01 03 03.9 -0.9**
ZALV Zalesovo Beam 62.39 347 *i*P **P** **01 02 24.7 -1.0**
ZALV pmax pmax
comp=Z,68nm,0.4s
ZALV Zalesovo Beam 62.39 347 P **P** **01 02 24.7 -1.0**
ZALV PcP **PcP** **01 03 04.1 -0.6**
ZALV Zalesovo Beam 62.39 347 P **P** **01 02 24.7 -1.0**
comp=Z,68nm,0.4s,baz=154,slow=5.1,SNR=276
ZALV PcP **PcP** **01 03 04.1 -0.6**
comp=Z,13nm,0.6s,baz=165,slow=4.3,SNR=4.3
ZALV LR LR 01 32 11.7
comp=Z,506nm,19.5s,baz=75,slow=39
NVS Novosibirsk 63.58 346⇑ *i*P **P** **01 02 30.8 -2.7**
NVS *e* 01 03 06.8
NVS *e*S **S** **01 10 57.6 -5.2**
NVS pmax pmax
comp=Z,37nm,1.2s
NVS pmax pmax
comp=N,25nm,1.4s
NVS pmax pmax
comp=E,19nm,1.3s
NVS smax smax
comp=N,3.0nm,0.7s
NVS smax smax
comp=E,6.0nm,0.7s
UGL Uglegorsk 64.12 26 *e*P **P** **01 02 37.1 -0.1**
UGL pmax pmax
comp=Z,110nm,0.8s
KUR Kuril'sk 64.25 32⇑ *i*P **P** **01 02 37.8 -0.4**
KUR S **S** **01 11 11.4 -0.2**
KUR pmax pmax
comp=Z,146nm,0.8s
QRN Al-Qurain 64.84 306 *e*P **P** **01 02 42.9 +0.5**
QRN AMb AMB 01 02 44.3
comp=Z,208nm,1.2s
DRV Dumont d'Urvil 64.89 165 S S 01 10 57.0 -22
RAYN Ar Rayn 64.97 300 P **P** **01 02 44.0 +0.6**
comp=Z,86nm,0.7s,SNR=8.6
KBD Kabd 65.19 306 *e*P **P** **01 02 45.4 +0.7**
KBD AMb AMB 01 02 47.2
comp=Z,82nm,0.9s
RDF Al-Radifah 65.21 306 *e*P **P** **01 02 46.1 +1.3**
RDF AMb AMB 01 02 47.5
comp=Z,174nm,0.9s
UMR Umm Al-Rimmam 65.32 306 *e*P **P** **01 02 46.3 +0.8**
UMR AMb AMB 01 02 47.2
comp=Z,267nm,0.6s
VOSK Vostochnaya 65.47 338 P **P** **01 02 45.0 -1.0**
VOSK pmax pmax
comp=Z,41nm,0.7s
NAY Al-Naaiem 65.58 306 *e*P **P** **01 02 47.6 +0.4**
NAY AMb AMB 01 02 48.9
comp=Z,4.9nm,0.9s
MIB Mutribah 65.72 307 *e*P **P** **01 02 48.5 +0.4**
MIB AMb AMB 01 02 50.1
comp=Z,162nm,1.0s
RST Umm Al-Ruwaisa 65.88 306 *e*P **P** **01 02 49.4 +0.3**
RST AMb AMB 01 02 50.7
comp=Z,2μm,0.8s
BVA0 Borovoye Array 65.93 338 P **P** **01 02 48.5 -0.4**
BVA0 pmax pmax
comp=Z,81nm,0.8s
BVAR Borovoye Array 65.93 338 P **P** **01 02 48.4 -0.5**
BVAR Borovoye Array 65.93 338 P **P** **01 02 48.4 -0.5**
BVAR Borovoye Array 65.93 338 P **P** **01 02 48.4 -0.5**
comp=Z,76nm,0.6s,baz=140,slow=9.4,SNR=419
BRVK Borovoye 65.99 338 P **P** **01 02 48.0 -1.3**
comp=Z,652nm,0.6s,SNR=30
BRVK Borovoye 65.99 338 P **P** **01 02 48.7 -0.6**
BRVK pmax pmax
comp=Z,92nm,0.7s
BRVK Borovoye 65.99 338 P **P** **01 02 49.1 -0.2**
SNR=21
BRVK Borovoye 65.99 338 *e*P **P** **01 02 48.5 -0.8**
comp=Z,73nm,0.7s
MAW Mawson 67.32 196 P **P** **01 02 58.4 +0.8**
MAW Mawson 67.32 196 P **P** **01 02 58.4 +0.8**
comp=Z,4.1nm,0.8s,baz=76,slow=7.5,SNR=12
MAW LR LR 01 26 45.4
comp=Z,346nm,19.7s,baz=13,slow=31
KMBO Kilima Mbogo 67.48 271 LR LR 01 27 52.3
comp=Z,244nm,21.8s,baz=94,slow=32
AB31 Akbulak array 67.73 330 *i*P **P** **01 03 00.2 -0.2**
AB31 pmax pmax
comp=Z,117nm,0.8s
ABKAR Akbulak array 67.73 330 *e*P **P** **01 03 00.2 -0.2**
comp=Z,81nm,0.7s
RPZ Rata Peaks 68.58 134 *e*P **P** **01 03 04.9 -1.1**
comp=Z,78nm,1.2s
RPZ Rata Peaks 68.58 134 P **P** **01 03 05.6 -0.4**
comp=Z,24nm,0.6s,baz=38,slow=1.8,SNR=19
AKTO Aktyubinsk 69.44 330 P **P** **01 03 10.9 -0.2**
AKTO S **S** **01 12 10.6 -3.5**
AKTO Aktyubinsk 69.44 330 P **P** **01 03 10.9 -0.2**
AKTO S **S** **01 12 10.6 -3.5**
AKTO Aktyubinsk 69.44 330 P **P** **01 03 10.9 -0.2**
comp=Z,17nm,0.5s,baz=124,slow=8.2,SNR=46
AKTO S **S** **01 12 10.6 -3.5**
comp=Z,0.6nm,0.7s,baz=162,slow=18,SNR=3.3
YAK Yakutsk 70.88 12*c* *i*P **P** **01 03 18.6 -1.0**
YAK pmax pmax
comp=Z,140nm,0.8s
YAK pmax pmax
comp=E,27nm,1.1s
YAK pmax pmax
comp=N,45nm,1.0s
HAKT HAKKARI 71.59 313 *i*P **P** **01 03 25.1 +0.3**
GNI Garni 71.92 316 P **P** **01 03 27.9 +1.2**
SNR=7.7
GNI Garni 71.92 316 *e*P **P** **01 03 26.8 +0.2**
comp=N,27nm,0.9s
GNI *e*PP **PP** **01 06 07.3 +0.2**
GNI Garni 71.92 316 P **P** **01 03 26.6 0.0**
comp=N,20nm,0.8s,baz=102,slow=4.0,SNR=14
DGRG David-gareji 72.05 317 P **P** **01 03 29.0 +1.8**
MSVF Nonsavu 72.23 107 *e*P **P** **01 03 29.0 +0.1**
MSVF pmax pmax
comp=Z,29nm,1.0s
MSVF Nonsavu 72.23 107 *e*P **P** **01 03 29.0 +0.1**
comp=Z,29nm,1.0s
URZ Urewera 72.26 128 LR LR 01 33 54.7
comp=Z,433nm,21.8s,baz=272,slow=35
SVE Sverdlovsk 72.52 336*de*P **P** **01 03 30.1 +0.5**
SVE pmax pmax
comp=Z,213nm,1.2s
TBLG Delisi 72.60 317 *e*P **P** **01 03 31.3 +0.8**
TBLG Delisi 72.60 317 P **P** **01 03 31.3 +0.8**
DUS Dusheti 72.78 318 P **P** **01 03 33.0 +1.4**
TUTA Tutak 72.97 314 *i*P **P** **01 03 33.9 +1.0**
GUDG Gudauri 73.09 318 P **P** **01 03 34.0 +0.4**
ARU Arti 73.09 335*c* *i*P **P** **01 03 32.2 -0.8**
ARU S **SKiKP** **01 12 59.0 -1.4**
ARU SS **SS** **01 17 37.9 -0.4**
ARU pmax pmax
comp=Z,107nm,1.0s
ARU Arti 73.09 335 P **P** **01 03 33.7 +0.7**
comp=Z,566nm,1.0s,SNR=34
MZRK Al-Mazaregh 73.20 310 *e*P **P** **01 03 35.4 +1.2**
AKH Akhalkalaki 73.31 317 P P 01 03 38.3 +3.4
BEST Besiri 73.50 312 *i*P **P** **01 03 37.2 +1.2**
ZEI Tsey 73.61 318 *e*P **P** **01 03 36.8 +0.1**
ZEI pmax pmax
comp=Z,27nm,0.5s
ONI Oni 73.83 318 P **P** **01 03 38.8 +1.0**
HOMI Horasan 73.86 315 *i*P **P** **01 03 39.5 +1.3**
MBAR Mbarara 74.02 271 P **P** **01 03 40.4 +0.9**
MBAR Mbarara 74.02 271 P **P** **01 03 40.4 +0.9**
comp=Z,2.1nm,0.6s,baz=162,slow=20,SNR=3.1
PETK Petropavlovsk- 74.17 30 P **P** **01 03 38.9 -0.5**
PETK Petropavlovsk- 74.17 30 P **P** **01 03 38.9 -0.5**
PETK Petropavlovsk- 74.17 30 P **P** **01 03 38.9 -0.5**
comp=Z,38nm,0.7s,baz=224,slow=4.1,SNR=4.9
PETK LR LR 01 35 58.3
comp=Z,82nm,19.4s,baz=154,slow=36
ERZM Erzurum 74.19 314 *i*P **P** **01 03 42.5 +2.3**
DAGI Agillar 74.26 316 *i*P **P** **01 03 41.4 +1.0**
ARTV Artvin 74.30 316 *i*P **P** **01 03 41.4 +0.7**
DBOC Borcka 74.54 316 *i*P **P** **01 03 42.6 +0.7**
PET Petropavlovsk 74.60 30 *i*P **P** **01 03 41.4 -0.5**
PET pmax pmax
comp=Z,400nm,1.4s
PET pmax pmax
comp=Z,352nm,0.6s
KBZ Khabaz 74.68 319 P **P** **01 03 43.2 +0.7**
KBZ Khabaz 74.68 319 P **P** **01 03 43.2 +0.7**
KBZ Khabaz 74.68 319 P **P** **01 03 43.2 +0.7**
comp=Z,30nm,0.9s,baz=112,slow=4.9,SNR=44
KOPT Kop Dagi 74.85 314 *i*P **P** **01 03 45.6 +1.6**
KIV Kislovodsk 74.91 319⇑ *e*P **P** **01 03 44.3 +0.3**
KIV *e* 01 06 34.1
KIV *i*S **S** **01 13 16.6 -0.6**
KIV pmax pmax
comp=Z,31nm,1.0s
KIV Kislovodsk 74.91 319 P **P** **01 03 44.5 +0.5**
comp=Z,183nm,0.7s,SNR=7.5
ASF Jabal al Asfar 74.95 306 P **P** **01 03 46.4 +1.9**
ASF Jabal al Asfar 74.95 306 P **P** **01 03 46.4 +1.9**
comp=Z,17nm,1.0s,baz=56,slow=3.0,SNR=23
SALA Sala 75.24 306 *e*P **P** **01 03 44.0 -2.3**
EUZM Uzumlu 75.31 314 *i*P **P** **01 03 47.8 +1.3**
SYO Syowa Base 75.32 200⇑ *e*P **P** **01 03 48.6 +2.8**
SYO Syowa Base 75.32 200⇓ *es*P sP 01 04 02.6 -5.6
LSZ Lusaka 75.39 256 *e*P **P** **01 03 48.2 +0.8**
comp=Z,38nm,1.8s
LSZ Lusaka 75.39 256 P **P** **01 03 48.7 +1.3**
comp=Z,1.8nm,0.7s,baz=62,slow=5.5,SNR=5.6
ATAB Bozova 75.55 311 *i*P **P** **01 03 49.2 +1.4**
MALT Malatya 75.74 312⇑ *i*P **P** **01 03 50.1 +1.1**
MALT Malatya 75.74 312⇑ *i*P **P** **01 03 50.1 +1.1**
KELT Kelkit 75.79 314 *i*P **P** **01 03 50.3 +1.0**
EIL Elat 75.83 303 P **P** **01 03 50.7 +1.2**
EIL Elat 75.83 303 P **P** **01 03 50.7 +1.2**
comp=Z,14nm,0.8s,baz=218,slow=1.7,SNR=15
EIL Elat 75.83 303 P **P** **01 03 51.0 +1.5**
baz=76,SNR=9.6
SOKR Solikamsk 75.89 337*c* *i*P **P** **01 03 49.6 +0.5**
SOKR pmax pmax
comp=Z,110nm,1.0s
SOKR MLR MLR
comp=Z,310nm,28.0s
KEMA Kemaliye 76.02 313 *i*P **P** **01 03 52.0 +1.5**
GZT Gaziantep 76.06 311 *i*P **P** **01 03 52.2 +1.4**
AKCD Akcadag 76.11 312 *i*P **P** **01 03 52.2 +1.1**
MMAI Mount Meron Ar 76.40 306 P **P** **01 03 54.7 +1.9**
MMAI Mount Meron Ar 76.40 306 P **P** **01 03 54.7 +1.9**
comp=Z,17nm,0.9s,baz=102,slow=7.8,SNR=20
BTCH Batrach 76.48 309 *e*P **P** **01 03 51.7 -1.5**
DRWC Darouich 76.50 310 *e*P **P** **01 03 51.4 -2.0**
SUSE Susehri 76.56 314 *i*P **P** **01 03 55.0 +1.4**
YAYL Yayladag 76.75 309 *i*P **P** **01 03 56.0 +1.3**
ARNB Al Arnab 76.80 309 *e*P P 01 03 50.8 -4.2
VNDA Vanda 77.00 169 *e*P **P** **01 03 55.6 +0.4**
comp=Z,7.2nm,0.9s
VNDA Vanda 77.00 169 P **P** **01 03 55.9 +0.7**
comp=Z,6.1nm,0.9s,baz=303,slow=5.2,SNR=8.2
VNDA LR LR 01 32 22.9
comp=Z,259nm,21.7s,baz=339,slow=31
ANDN Andirin 77.05 311 *i*P **P** **01 03 57.6 +1.2**
SCER sogukcermik 77.22 313 *i*P **P** **01 03 55.8 -1.5**
YURE YUREGIR 77.36 310 *i*P **P** **01 03 58.9 +0.9**
PINB Pinarbasi 77.36 312 *i*P **P** **01 03 59.1 +0.8**
BOSA Boshof 77.74 242 P **P** **01 04 00.5 -0.1**
BOSA Boshof 77.74 242 P **P** **01 04 00.5 -0.1**
comp=Z,3.8nm,1.0s,baz=92,slow=5.1,SNR=9.9
BOSA LR LR 01 31 43.2
comp=Z,203nm,19.4s,baz=14,slow=30
ERBA Erbaa 77.76 314 *i*P **P** **01 04 01.0 +0.8**
SEY Seymchan 77.98 20*c* *i*P **P** **01 04 00.8 -0.1**
SBA Scott Base 78.08 169 *e*P **P** **01 04 02.6 +1.3**
SBA pmax pmax
comp=Z,7.0nm,0.9s
SBA Scott Base 78.08 169 *e*P **P** **01 04 02.5 +1.3**
comp=Z,7.4nm,0.9s
GULE Gulek 78.15 310 *i*P **P** **01 04 03.8 +1.1**
AVNT Avonos 78.54 312 *i*P **P** **01 04 05.4 +0.7**
VRHR Novokhopersk 78.58 325 *e*P **P** **01 04 04.3 -0.1**
VRHR pmax pmax
comp=Z,100nm,0.7s
VRHR pmax pmax
comp=N,20nm,0.6s
VRHR pmax pmax
comp=E,50nm,0.7s
CSS Prodhromos 78.60 307 P **P** **01 04 06.1 +1.1**
CSS Prodhromos 78.60 307 *e*P **P** **01 04 05.8 +0.9**
comp=E,75nm,1.0s
ERMK Ermenek 79.39 309 *i*P **P** **01 04 10.8 +1.3**
TIXI Tiksi 79.47 8*c* *i*P **P** **01 04 07.6 -1.3**
TIXI pmax pmax
comp=Z,44nm,1.0s
BR131 Keskin Array S 79.73 312 *e*P **P** **01 04 11.0 -0.2**
comp=Z,28nm,0.8s
BRTR Keskin Array B 79.73 312 P **P** **01 04 11.2 0.0**
BRTR PKKPbc **PKKPbc** **01 22 58.0 -1.6**
BRTR Keskin Array B 79.73 312 P **P** **01 04 11.2 0.0**
comp=Z,32nm,0.7s,baz=134,slow=7.1,SNR=198
BRTR PKKPbc **PKKPbc** **01 22 58.0 -1.6**
comp=Z,0.2nm,0.4s,baz=29,slow=3.3,SNR=3.6
BRTR LR LR 01 40 46.5
comp=Z,95nm,21.0s,baz=103,slow=37
GAZI Gazipasa 79.75 308 *i*P **P** **01 04 11.8 +0.6**
VORD Divnogorie 79.87 324 *e*P **P** **01 04 11.0 -0.4**
VORD pmax pmax
comp=Z,30nm,0.8s
VORD pmax pmax
comp=N,20nm,1.1s
VORD pmax pmax
comp=E,40nm,0.9s
VSR Storozhevoye 80.04 324 *e*P **P** **01 04 11.9 -0.5**
VSR pmax pmax
comp=N,10.0nm,0.7s
VSR pmax pmax
comp=Z,80nm,0.7s
VSR pmax pmax
comp=E,40nm,0.9s
BBAL Bala 80.06 312 *i*P **P** **01 04 13.7 +0.7**
ANTO Ankara 80.39 312 *e*P **P** **01 04 14.4 -0.3**
ANTO pmax pmax
comp=Z,22nm,0.8s
ANTO Ankara 80.39 312 P **P** **01 04 15.6 +1.0**
SNR=13
ANTO Ankara 80.39 312 *e*P **P** **01 04 14.4 -0.3**
comp=Z,22nm,0.8s
ANTO Ankara 80.39 312⇑ *i*P **P** **01 04 15.1 +0.4**
KDHN Kadinhani 80.52 311 *i*P **P** **01 04 15.7 +0.3**
SIM Simferopol' 80.98 317*c* *i*P **P** **01 04 18.3 +0.7**
SIM *e* 01 04 28.0
SIM pmax pmax
comp=Z,63nm,0.7s
SIM pmax pmax
comp=Z,30nm,9.4s
BOLV Bolvadin 81.45 311 *i*P **P** **01 04 20.9 +0.5**
KORT Korkueli 81.47 309 *i*P **P** **01 04 21.1 +0.6**
SUR Sutherland 81.49 238 P **P** **01 04 21.5 +0.7**
SUR Sutherland 81.49 238 P **P** **01 04 21.5 +0.7**
comp=Z,12nm,1.1s,baz=59,slow=5.9,SNR=3.7
SUR LR LR 01 34 03.6
comp=Z,262nm,18.2s,baz=24,slow=31
AKAS Kas 81.86 308 *i*P **P** **01 04 22.1 -0.6**
GOLH Golhisar 82.14 309 *i*P **P** **01 04 24.4 +0.4**
FX1 Attu Island--F 82.32 35 P **P** **01 04 23.8 -0.7**
FX1 Attu Island--F 82.32 35 P **P** **01 04 23.8 -0.7**
comp=Z,23nm,0.7s,baz=199,slow=17,SNR=3.6
GDZ Gediz 82.66 311 *i*P **P** **01 04 27.2 +0.5**
MOS Moscow 82.66 328 *e*P **P** **01 04 26.2 +0.1**
MOS pmax pmax
comp=Z,75nm,0.7s
OBN Obninsk 82.98 328⇑ *i*P **P** **01 04 28.0 +0.2**
OBN *e* 01 07 35.7
OBN *i*S **S** **01 14 44.2 +1.9**
OBN pmax pmax
comp=Z,111nm,1.4s
OBN Obninsk 82.98 328 P **P** **01 04 28.9 +1.1**
comp=Z,429nm,0.9s,SNR=13
ULDT Uludag 83.17 312 *i*P **P** **01 04 30.7 +1.2**
MANT Manisa 83.21 310 *i*P **P** **01 04 30.7 +0.9**
DURS Dursunbey 83.54 311 *i*P **P** **01 04 32.1 +0.9**
AYDN Tasoluk 83.54 309 *i*P **P** **01 04 32.9 +1.7**
QSPA South Pole Qui 83.61 180 *e*P **P** **01 04 31.1 0.0**
comp=Z,17nm,1.0s
QSPA PKKPbc **PKKPbc** **01 22 48.4 -3.6**
QSPA South Pole Qui 83.61 180 P **P** **01 04 30.6 -0.5**
comp=Z,3.6nm,0.9s,baz=301,slow=2.4,SNR=10
QSPA PKKPbc **PKKPbc** **01 22 48.4 -3.6**
comp=Z,0.7nm,0.6s,baz=159,slow=3.8,SNR=5.4
KARP Karpathos 83.64 307 *e*P **P** **01 04 32.1 +0.3**
BDRM Kayabasi 83.75 308 *i*P **P** **01 04 32.6 +0.3**
KLMR Klimovskoe 83.80 333 *e*P **P** **01 04 31.3 -0.6**
KLMR pmax pmax
comp=Z,77nm,1.1s
BALY Balya 84.21 311 *i*P **P** **01 04 35.5 +0.9**
SMG Samos 84.36 309 *e*P **P** **01 04 36.3 +1.0**
TLCR 84.65 316⇑ *i*P **P** **01 04 37.8 +1.2**
TLCR 84.65 316⇑ *i*P **P** **01 04 37.8 +1.2**
TIRR Tirgusor 84.75 316 *e*P **P** **01 04 37.5 +0.4**
TIRR pmax pmax
comp=Z,28nm,0.9s
TIRR Tirgusor 84.75 316 *e*P **P** **01 04 37.5 +0.4**
comp=Z,28nm,0.9s
TIRR Tirgusor 84.75 316⇑ *i*P **P** **01 04 38.0 +0.9**
NPS Neapolis 84.82 306 *e*P P 01 04 32.6 -5.1
LAST Lasithi 84.91 306 *e*P **P** **01 04 39.5 +1.3**
TLB Topalu 85.04 316 ⇑ *i*P **P** **01 04 39.4 +0.9**
TLB Topalu 85.04 316⇑ *i*P **P** **01 04 39.4 +0.9**
CHOS Chios island 85.11 309 P **P** **01 04 40.6 +1.4**
CHOS Chios island 85.11 309 *e*P P 01 04 35.2 -4.0
CHOS Chios island 85.11 309 P **P** **01 04 40.6 +1.4**
KIS Kishinev 85.11 318 *e*P **P** **01 04 38.0 -0.8**
KIS Kishinev 85.11 318 *e*P **P** **01 04 38.0 -0.8**
CFR Carcaliu 85.11 316 ⇓ *i*P **P** **01 04 39.8 +0.9**
CFR Carcaliu 85.11 316⇓ *i*P **P** **01 04 39.8 +0.9**
PRK Paraskevi 85.12 310 P **P** **01 04 40.1 +1.0**
PRK Paraskevi 85.12 310 P **P** **01 04 40.1 +1.0**
PRK Paraskevi 85.12 310 P **P** **01 04 40.1 +1.0**
PRD Provadia 85.16 314 P **P** **01 04 40.4 +1.2**
APE Apeiranthos 85.24 308 ⇓ *i*P **P** **01 04 40.3 +0.5**
APE Apeiranthos 85.24 308⇓ *i*P **P** **01 04 40.3 +0.5**
LEOM Leova 85.36 318 ⇑ *i*P **P** **01 04 41.3 +1.2**
LEOM Leova 85.36 318⇑ *i*P **P** **01 04 41.3 +1.2**
IDI Anoyia 85.40 306 *e*P **P** **01 04 42.2 +1.5**
IDI Anoyia 85.40 306 *e*P **P** **01 04 41.7 +1.0**
comp=Z,17nm,0.7s
IDI Anoyia 85.40 306 P **P** **01 04 41.5 +0.8**
comp=Z,17nm,0.8s,baz=82,slow=6.5,SNR=20
SIVA Sivas 85.42 306 *e*P **P** **01 04 39.8 -0.9**
JMB Yambol 85.58 313 P **P** **01 04 43.1 +1.8**
TMCR Tamitsa 85.80 336 *e*P **P** **01 04 42.5 +0.6**
TMCR *e* 01 08 05.4
TMCR pmax pmax
comp=Z,54nm,0.8s
AKASG Malin Array Be 85.80 322 P **P** **01 04 41.9 -0.3**
AKASG 01 08 00.0
AKASG Malin Array Be 85.80 322 P **P** **01 04 41.9 -0.3**
AKASG PP **PP** **01 07 60.0 -2.4**
AKASG Malin Array Be 85.80 322 P **P** **01 04 41.9 -0.3**
comp=Z,13nm,0.8s,baz=84,slow=5.0,SNR=34
AKASG PP **PP** **01 07 60.0 -2.4**
comp=Z,4.2nm,0.7s,baz=86,slow=7.3,SNR=5.6
AKASG LR LR 01 52 33.1
comp=Z,75nm,18.6s,baz=225,slow=42
KIEV Kiev 85.81 322 *e*P **P** **01 04 42.0 -0.3**
KIEV pmax pmax
comp=Z,16nm,0.8s
KIEV Kiev 85.81 322 *e*P **P** **01 04 42.0 -0.3**
comp=Z,16nm,0.8s

GHRR		85.82 317⇑	iP	P		01 04 44.2 +1.8
SMTH	Samothraki Isl	85.93 311	P	P		01 04 43.7 +0.6
SMTH	Samothraki Isl	85.93 311	eP	P		01 04 43.5 +0.4
SMTH	Samothraki Isl	85.93 311	P	P		01 04 43.7 +0.6
GRER		85.96 316⇑	iP	P		01 04 45.9 +2.8
VAM	Vamos	85.98 306	eP	P		01 04 45.3 +1.8
KARN	Karanos	86.20 306	eP	P		01 04 46.1 +1.5
SZH	Strazhica	86.22 314	P	P		01 04 45.1 +0.6
VRI	Vrincioaia	86.24 317	⇓P	P		01 04 46.1 +1.6
VRI	Vrincioaia	86.24 317	⇓iP	P		01 04 46.1 +1.6
DIM	Dimitrovgrad	86.26 313	P	P		01 04 45.8 +1.1
KDZ	Kurdzhali	86.26 312	P	P		01 04 45.5 +0.8
PLOR	Plostina	86.29 317	⇑P	P		01 04 46.3 +1.5
PLOR	Plostina	86.29 317	⇑iP	P		01 04 46.3 +1.5
TESR	Tescani	86.44 317	⇑iP	P		01 04 46.7 +1.2
SECR		86.51 316	⇑iP	P		01 04 47.4 +1.5
PVL	Pavlikeni	86.64 314	P	P		01 04 48.2 +1.7
MLR	Muntele Rosu	86.69 316	⇑iP	P		01 04 48.3 +1.4
RZN	Rozhen	86.78 312	P	P		01 04 48.5 +1.0
ANKY	Antikythira Is	86.78 306	eP	P		01 04 49.0 +1.6
PLD	Plovdiv	86.87 313	P	P		01 04 48.5 +0.8
PRAR	RASCA	86.91 318	⇓iP	P		01 04 48.8 +1.0
NAIG	Nisos Aigina	86.97 308	eP	P		01 04 48.2 -0.1
KYTH	Kithira	87.06 307	eP	P		01 04 52.6 +3.8
DID	Didima	87.12 308	P	P		01 04 49.1 0.0
DID	Didima	87.12 308	P	P		01 04 49.1 0.0
DIDY	Didyma	87.14 308	P	P		01 04 49.0 -0.2
PAIG	Paliouri	87.22 310	eP	P		01 04 46.2 -3.2
VLI	Veliai	87.22 307	eP	P		01 04 49.3 -0.2
MTUR	Matau	87.24 316	⇓P	P		01 04 51.1 +1.5
MTUR	Matau	87.24 316	⇓iP	P		01 04 51.1 +1.5
VOIR		87.30 316	⇑P	P		01 04 50.2 +0.4
VOIR		87.30 316	⇑iP	P		01 04 50.2 +0.4
NVR	Nevrokopi	87.34 312	eP	P		01 04 50.2 +0.1
PGB	Panagyurishte	87.35 313	P	P		01 04 50.3 +0.2
MMB	Musomiste	87.49 312	P	P		01 04 51.1 +0.3
MICGM	Minsk	87.57 325	eP	P		01 04 49.0 -1.7
ARR	Arges	87.57 316	⇑iP	P		01 04 51.9 +0.8
MNK	Minsk	87.59 325	eP	P		01 04 49.0 -1.9
SOH	Sokhos	87.62 311	eP	P		01 04 50.5 -0.9
BURAR	Bucovina Array	87.63 318	⇓P	P		01 04 53.2 +1.8
BURAR	Bucovina Array	87.63 318	⇓iP	P		01 04 53.2 +1.8
BUR08	Bucovina Ar. S	87.65 318	eP	P		01 04 53.2 +1.7
DYR	Agios Nikonas	87.70 307	eP	P		01 04 52.5 +0.6
VLX	Vlachokerasia	87.77 308	P	P		01 04 52.9 +0.6
VLX	Vlachokerasia	87.77 308	P	P		01 04 52.9 +0.6
MPEP	Malo Peshtene	87.81 314	P	P		01 04 53.1 +0.9
GUR	Goura	87.89 308	P	P		01 04 53.7 +0.8
GUR	Goura	87.89 308	P	P		01 04 53.7 +0.8
ADK	Adak	87.98 37	eP	P		01 04 50.9 -1.9
ADK			pmax	pmax		
	comp=Z,212nm,1.3s					
ADK	Adak	87.98 37	eP	P		01 04 50.9 -1.9
	comp=Z,212nm,1.3s					
KKB	Krupnik	88.01 312	P	P		01 04 50.4 -2.8
KNT	Kendrikon	88.03 312	P	P		01 04 53.6 +0.3
KNT	Kendrikon	88.03 312	P	P		01 04 53.6 +0.3
KNT	Kendrikon	88.03 312	P	P		01 04 53.6 +0.3
VTS	Vitosha	88.05 313	P	P		01 04 54.3 +0.7
VTS	Vitosha	88.05 313	P	P		01 04 54.3 +0.7
VTS	Vitosha	88.05 313	P	P		01 04 54.3 +0.7
VTS	Vitosha	88.05 313	⇑iP	P		01 04 54.1 +0.5
VTS	Vitosha	88.05 313	P	P		01 04 53.6 0.0
KLV	Kalavryta, Ach	88.06 308	P	P		01 04 54.2 +0.6
KLV	Kalavryta, Ach	88.06 308	eP	P		01 04 54.1 +0.5
KLV	Kalavryta, Ach	88.06 308	P	P		01 04 54.2 +0.6
AGG	Agios Georgios	88.09 309	P	P		01 04 53.6 -0.1
AGG	Agios Georgios	88.09 309	P	P		01 04 53.6 -0.1
AGG	Agios Georgios	88.09 309	eP	P		01 04 53.2 -0.5
AGG	Agios Georgios	88.09 309	P	P		01 04 53.6 -0.1
ITM	Ithomi	88.09 308	eP	P		01 04 48.5 -5.2
ARCR	ARCALIA	88.10 318	⇑iP	P		01 04 55.3 +1.8
KALE	Kalithea	88.13 309	eP	P		01 04 54.6 +0.7
LIT	Litokhoron	88.15 311	P	P		01 04 54.2 +0.3
LIT	Litokhoron	88.15 311	P	P		01 04 54.2 +0.3
LIT	Litokhoron	88.15 311	eP	P		01 04 54.2 +0.3
LIT	Litokhoron	88.15 311	P	P		01 04 54.2 +0.3
JOF	Joensuu	88.17 334	eP	P		01 04 54.3 +0.9
JOF			pmax	pmax		
	comp=Z,62nm,0.7s					
JOF	Joensuu	88.17 334	ep	P		01 04 54.3 +0.9
	comp=Z,62nm,0.7s					
TRIZ	Trizonia	88.18 309	eP	P		01 04 55.2 +1.2
LOT	Lotru	88.18 316	⇑iP	P		01 04 54.9 +0.8
LAKA	Lakka	88.23 309	eP	P		01 04 54.2 -0.1
NACGM	Naroch	88.28 326	eP	P		01 04 52.0 -2.1
EFP	Efpalio	88.31 309	eP	P		01 04 55.1 +0.4
AMT	Artemida-Makis	88.32 308	eP	P		01 04 56.0 +1.2
THL	Klokotos Trika	88.42 310	P	P		01 04 55.8 +0.7
THL	Klokotos Trika	88.42 310	eP	P		01 04 55.9 +0.8
EVR	Evrytania	88.47 309	P	P		01 04 56.3 +0.7
EVR	Evrytania	88.47 309	eP	P		01 04 56.3 +0.7
EVR	Evrytania	88.47 309	P	P		01 04 56.3 +0.7
LVZ	Lovozero	88.50 339	⇓iP	P		01 04 54.0 -1.0
LVZ			pmax	pmax		
	comp=Z,46nm,0.8s					
CJR	Cluj-Napoca	88.54 317	⇑P	P		01 04 57.6 +2.0
CJR	Cluj-Napoca	88.54 317	⇑iP	P		01 04 57.6 +2.0
RLS	Riolos of Patr	88.60 308	eP	P		01 04 57.1 +1.1
AXS	Araxos	88.69 308	P	P		01 04 57.8 +1.3
APA	Apatity	88.83 339	⇓iP	P		01 04 57.5 +1.0
APA			pmax	pmax		
	comp=Z,16nm,1.0s					
APA			MLR	MLR		
	comp=Z,600nm,10.0s					
LVV	L'vov	88.84 320	eP	P		01 04 57.3 +0.4
DEV	Deva	88.86 316	⇑P	P		01 04 58.9 +1.8
DEV	Deva	88.86 316	⇑iP	P		01 04 58.9 +1.8
DRGR		89.15 317	⇓P	P		01 04 59.7 +1.2
DRGR		89.15 317	⇓iP	P		01 04 59.7 +1.2
BIA	Bitola	89.17 311	eP	P		01 04 58.6 -0.2
NEST	Nestorio	89.29 311	P	P		01 04 59.9 +0.5
VLS	Valsamata	89.30 308	eP	P		01 05 00.3 +0.9
JAN	Janina	89.32 310	eP	P		01 04 59.1 -0.4
LKD2	Lefkada island	89.34 309	P	P		01 05 00.9 +1.4
LKD2	Lefkada island	89.34 309	eP	P		01 05 01.0 +1.4
LKD2	Lefkada island	89.34 309	P	P		01 05 00.9 +1.4
SNAA	Sanae	89.44 198	P	P		01 05 00.5 +1.1
SNAA	Sanae	89.44 198	P	P		01 05 00.5 +1.1
	comp=Z,3.0nm,1.1s,baz=144,slow=4.1,SNR=6.5					
TRPA	Tarpa	89.50 318	⇑iP	P		01 05 00.7 +0.7
KWP	Kalwaria Pacla	89.65 320	eP	P		01 05 01.4 +0.6
KWP			pmax	pmax		
	comp=Z,29nm,0.8s					
KWP	Kalwaria Pacla	89.65 320	eP	P		01 05 01.4 +0.6
	comp=Z,29nm,0.8s					
KWP	Kalwaria Pacla	89.65 320	⇓iP	P		01 05 01.8 +1.0
KWP	Kalwaria Pacla	89.65 320	eP	P		01 05 01.7 +1.0
IGT	Igoumenitsa	89.70 310	P	P		01 05 02.1 +0.9
IGT	Igoumenitsa	89.70 310	P	P		01 05 02.1 +0.9
IGT	Igoumenitsa	89.70 310	P	P		01 05 02.1 +0.9
BZS	Buzias	89.70 316	⇑P	P		01 05 02.0 +1.0
BZS	Buzias	89.70 316	⇑iP	P		01 05 02.0 +1.0
UZH	Uzhgorod	89.75 319	eP	P		01 05 03.1 +1.9
UZH			i			01 05 11.7
UZH			i			01 05 18.3
KOLS	Kolonicke sedl	89.81 319	eP	P		01 05 03.2 +1.7
KOLS			pmax	pmax		
	comp=Z,33nm,0.9s					
KOLS	Kolonicke sedl	89.81 319	eP	P		01 05 03.2 +1.7
SRN	Sarande	90.00 310	P	P		01 05 03.6 +1.0
SRN	Sarande	90.00 310	P	P		01 05 03.6 +1.0
KEK	Kerkira	90.13 310	P	P		01 05 04.4 +1.2
KEK	Kerkira	90.13 310	eP	P		01 05 04.0 +0.8
KEK	Kerkira	90.13 310	P	P		01 05 04.4 +1.2
FIA1	FINESS Array S	90.15 332	eP	P		01 05 02.5 -0.2
FINES	FINESS Array B	90.15 332	P	P		01 05 03.2 +0.5
FINES	FINESS Array B	90.15 332	P	P		01 05 03.2 +0.5
	comp=Z,22nm,0.7s,baz=106,slow=6.9,SNR=55					
FINES			LR	LR		01 51 03.9
	comp=Z,108nm,18.9s,baz=201,slow=39					
SUW	Suwalki	90.16 324	eP	P		01 05 03.1 +0.1
SUW			pmax	pmax		
	comp=Z,64nm,0.9s					
SUW	Suwalki	90.16 324	eP	P		01 05 03.0 +0.1
	comp=Z,64nm,0.9s					
SUW	Suwalki	90.16 324	eP	P		01 05 03.2 +0.3
KAF	Kangasniemi	90.20 333	eP	P		01 05 03.4 +0.4
KAF			pmax	pmax		
	comp=Z,61nm,0.8s					
KAF	Kangasniemi	90.20 333	ep	P		01 05 03.4 +0.4
	comp=Z,61nm,0.8s					
TIR	Tirane	90.31 311	eP	P		01 05 03.5 -0.5
TIR			pmax	pmax		
	comp=Z,21nm,0.8s					
TIR	Tirane	90.31 311	eP	P		01 05 03.5 -0.5
	comp=Z,21nm,0.8s					
CRVS	Cervenica-Dubn	90.34 319	eP	P		01 05 05.3 +1.3
CRVS			pmax	pmax		
	comp=Z,9.0nm,1.1s					
CRVS	Cervenica-Dubn	90.34 319	eP	P		01 05 05.3 +1.3
STHS	Stebnicka Huta	90.56 320	eP	P		01 05 06.4 +1.4
STHS			pmax	pmax		
	comp=Z,14nm,0.7s					
STHS	Stebnicka Huta	90.56 320	eP	P		01 05 06.4 +1.4
KECS	Kecovo	90.91 319	eP	P		01 05 07.7 +1.1
KECS			pmax	pmax		
	comp=Z,7.0nm,0.8s					
KECS	Kecovo	90.91 319	eP	P		01 05 07.7 +1.1
VNA2	Neumayer--Watz	91.08 198	eP	P		01 05 09.5 +2.5
VNA2	Neumayer--Watz	91.08 198	el	P		01 05 14.1 +7.1
VNA2	Neumayer--Watz	91.08 198	el	pP		01 05 24.6 +1.2
BEL	Belsk	91.22 322	eP	P		01 05 09.0 +1.1
PSZ	Piszkesteto	91.22 318	⇓P	P		01 05 09.2 +1.0
PSZ	Piszkesteto	91.22 318	⇓iP	P		01 05 09.2 +1.0
PSZ	Piszkesteto	91.22 318	⇓eP	P		01 05 08.9 +0.7
VNA1	Neumayer--Stat	91.46 198	eP	P		01 05 13.0 +4.3
VNA1	Neumayer--Stat	91.46 198	el	P		01 05 15.9 +7.2
VNA1	Neumayer--Stat	91.46 198	el	pP		01 05 28.1 +3.0
PKSM	Moragy	91.84 316	⇑P	P		01 05 11.7 +0.8
PKSM	Moragy	91.84 316	⇑iP	P		01 05 11.7 +0.8
PKSM	Moragy	91.84 316	⇑eP	P		01 05 11.8 +0.8
VYHS	Vyhne	92.00 318	eP	P		01 05 12.8 +1.1
VYHS			pmax	pmax		
	comp=Z,5.0nm,1.3s					
VYHS	Vyhne	92.00 318	eP	P		01 05 12.8 +1.1
PKSG		92.16 317	⇑eP	P		01 05 13.3 +0.9
ARCES	ARCESS Array B	92.17 340	P	P		01 05 12.0 0.0
ARCES			PP	PP		01 08 51.8 -0.9
ARCES	ARCESS Array B	92.17 340	P	P		01 05 12.0 0.0
	comp=Z,22nm,0.6s,baz=96,slow=5.3,SNR=92					
ARCES			PP	PP		01 08 51.8 -0.9
	comp=Z,4.0nm,0.8s,baz=90,slow=6.1,SNR=3.5					
ARCES			LR	LR		01 52 42.9
	comp=Z,161nm,20.1s,baz=98,slow=40					
CSKK	Cs˘tkako	92.24 317	⇑eP	P		01 05 13.9 +1.1
PKST	T¨s	92.38 317	⇑eP	P		01 05 14.2 +0.7
OKC	Ostrava-Krasne	92.61 320	iP	P		01 05 15.5 +1.1
OKC			e			01 08 57.4
OKC	Ostrava-Krasne	92.61 320	iP	P		01 05 15.5 +1.1
OKC			ex	x		01 05 19.5
OKC			ePP	PP		01 08 57.4 +0.7
SMOL	Smolenice	92.93 318	eP	P		01 05 17.3 +1.3
SMOL	Smolenice	92.93 318	eP	P		01 05 17.3 +1.3
MORC	Moravsky Berou	92.99 320	eP	P		01 05 16.9 +0.6
MORC			e			01 08 57.9
MORC			pmax	pmax		
	comp=Z,6.0nm,0.8s					
MORC	Moravsky Berou	92.99 320	eP	P		01 05 16.9 +0.6
	comp=Z,5.6nm,0.8s					
MORC			ePP	PP		01 08 57.9 -1.9
BEHE	Becsehely	93.16 316	⇑eP	P		01 05 18.7 +1.6
DPC	Dobruska-Polom	93.83 320	iP	P		01 05 21.4 +1.2
DPC			e			01 09 07.0
DPC	Dobruska-Polom	93.83 320	iP	P		01 05 21.4 +1.2
DPC			ePP	PP		01 09 07.0 +0.7
UPC	Upice	94.05 320	iP	P		01 05 22.0 +0.9
UPC			e			01 09 08.4
UPC	Upice	94.05 320	iP	P		01 05 22.0 +0.9
UPC			ePP	PP		01 09 08.4 +0.5
TREC	Trest	94.28 319	iP	P		01 05 23.2 +1.0
TREC	Trest	94.28 319	iP	P		01 05 23.2 +1.0
SOKA	Soboth	94.37 316	⇓iP	P		01 05 22.3 -0.5
	comp=Z,9.2nm,1.0s					
OBKA	Obir	94.69 316	⇑iP	P		01 05 24.3 +0.1
	comp=Z,11nm,1.2s					
PRU	Pruhonice	94.94 320	eP	P		01 05 25.8 +0.6
PRU			e			01 09 14.1
PRU	Pruhonice	94.94 320	eP	P		01 05 25.8 +0.6
PRU			ePP	PP		01 09 14.1 -0.8
PVCC	Panska Ves	94.97 320	eP	P		01 05 20.8 -4.5
PVCC	Panska Ves	94.97 320	eP	P		01 05 20.8 -4.5
PRA	Prague	95.02 320	P	P		01 05 26.0 +0.5
BRG	Berggiesshubel	95.39 320	eP	P		01 05 27.9 +0.7
	comp=Z,13nm,1.4s					
BRG	Berggiesshubel	95.39 320	eP	P		01 05 27.9 +0.7
BRG			pmax	pmax		
	comp=Z,13nm,1.4s					
GERES	GERESS Array B	95.42 318	P	P		01 05 28.0 +0.5
GERES			PP	PP		01 09 18.6 -0.2
GERES	GERESS Array B	95.42 318	P	P		01 05 28.0 +0.5
	comp=Z,2.1nm,0.7s,baz=104,slow=3.5,SNR=21					
GERES			PP	PP		01 09 18.6 -0.2
	comp=Z,1.7nm,0.8s,baz=97,slow=5.4,SNR=7.1					
GERES			LR	LR		01 58 01.1
	comp=Z,67nm,18.5s,baz=104,slow=41					
KHC	Kasperske Hory	95.52 319	iP	P		01 05 28.3 +0.4
KHC	Kasperske Hory	95.52 319	iP	P		01 05 28.3 +0.4
SPITS	Spitsbergen Ar	95.85 348	P	P		01 05 28.1 -0.7
SPITS	Spitsbergen Ar	95.85 348	P	P		01 05 28.1 -0.7
	comp=Z,38nm,0.9s,baz=101,slow=7.5,SNR=7.2					
NB2	NORSAR Subarra	97.23 331	P	P		01 05 34.1 -1.3
	comp=Z,3.0nm,0.8s,baz=92,slow=4.6					
NOA	NORSAR Array B	97.23 331	P	P		01 05 34.5 -0.9
NOA			PP	PP		01 09 33.5 +1.2
NOA	NORSAR Array B	97.23 331	P	P		01 05 34.5 -0.9
	comp=Z,2.0nm,0.8s,baz=90,slow=4.5,SNR=4.9					
NOA			PP	PP		01 09 33.5 +1.2
	comp=Z,4.3nm,0.8s,baz=88,slow=7.8,SNR=7.1					
NOA			LR	LR		01 55 14.4
	comp=Z,85nm,19.9s,baz=95,slow=39					
DAVA	Damuels	97.92 317	⇓iPcP	Pdif		01 05 39.1 +0.1
	comp=Z,12nm,1.2s					
LPG	La Plagne	100.09 315	ePP	PP		01 09 53.3 -1.7
	comp=Z,41nm,1.4s					
LPL	La Plagne	100.11 315	ePP	PP		01 09 53.9 -1.1
	comp=Z,14nm,0.9s					
IMA2	Indian Mountai	100.49 24	eP	Pdif		01 05 49.8 -0.2
IMA2			ePKPdf	PKiKP		01 10 16.8 +0.5
BPAW	Bear Paw Mtn.	101.94 26	ePdif	Pdif		01 05 55.7 -0.6
	comp=Z,5.3nm,0.9s					
MCK	McKinley	102.90 26	eP	Pdif		01 06 00.0 -0.6
MCK			pmax	pmax		
	comp=Z,10.0nm,1.1s					
MCK	McKinley	102.90 26	ePdif	Pdif		01 06 00.0 -0.6
	comp=Z,9.9nm,1.1s					
PPT2	Papeete2	102.91 110	eLR	LR		01 39 57.5
	comp=Z,232nm,22.5s					
ILAR	Eielson Array	103.53 25	Pdif	Pdif		01 06 01.6 -1.7
ILAR			PKiKP	PKiKP		01 10 21.1 -0.6
ILAR	Eielson Array	103.53 25	Pdiff	Pdif		01 06 01.6 -1.7
	comp=Z,0.4nm,0.6s,baz=286,slow=3.9,SNR=6.2					
ILAR			PKiKP	PKiKP		01 10 21.1 -0.6
	comp=Z,0.9nm,0.6s,baz=281,slow=3.3,SNR=6.0					
SML	Sawmill	103.57 28	eP	Pdif		01 06 02.4 -1.2
SML			pmax	pmax		
	comp=Z,2.0nm,0.9s					
SML	Sawmill	103.57 28	ePdif	Pdif		01 06 02.4 -1.2
	comp=Z,2.0nm,0.9s					
TORD	Torodi Ar. Bea	104.07 282	PKiKP	PKiKP		01 10 23.9 -0.2
TORD			PKKPbc	PKKPbc		01 21 55.5 -0.1
TORD			PKKPab	PKKPab		01 22 14.4 -0.5
TORD	Torodi Ar. Bea	104.07 282	PKiKP	PKiKP		01 10 23.9 -0.2
	comp=Z,0.9nm,0.7s,baz=61,slow=2.4,SNR=6.4					
TORD			PKKPbc	PKKPbc		01 21 55.5 -0.1
	comp=Z,0.3nm,0.6s,baz=304,slow=3.4,SNR=3.8					
TORD			PKKPab	PKKPab		01 22 14.4 -0.5
	comp=Z,0.7nm,0.7s,baz=294,slow=4.4,SNR=5.5					
ESDC	Sonseca Array	108.41 310	PP	PP		01 10 54.7 -1.9
ESDC	Sonseca Array	108.41 310	PP	PP		01 10 54.7 -1.9
	comp=Z,0.8nm,0.8s,baz=77,slow=8.5,SNR=3.7					
YKA	Yellowknife Ar	117.04 19	PKP	PKPdf		01 10 46.7 -0.5
YKA			PKKPbc	PKKPab		01 21 18.0 +1.5
YKA	Yellowknife Ar	117.04 19	PKP	PKPdf		01 10 46.7 -0.5
	comp=Z,2.7nm,0.7s,baz=334,slow=2.2,SNR=21					
YKA			PKKPbc	PKKPab		01 21 18.0 +1.5
	comp=Z,0.4nm,0.7s,baz=116,slow=4.4,SNR=3.3					
HDW	Hoodsport	122.20 36	P	PKPdf		01 10 59.3 +1.6
JCW	Jim Creek	122.58 35	P	PKPdf		01 10 59.5 +1.2
GSM	Grass Mountain	123.16 36	PKiKP	PKPdf		01 11 00.4 +0.8
GSM	Grass Mountain	123.16 36	P	PKPdf		01 11 00.4 +0.8
FL2	Flat Top 2	123.33 37	P	PKPdf		01 11 01.4 +1.4
TDL	Tradedollar La	123.34 37	P	PKPdf		01 11 01.2 +1.2
LON	Longmire	123.38 37	ePKiKP	PKPdf		01 10 59.4 -0.6
LON	Longmire	123.38 37	ePKPdf	PKPdf		01 10 59.4 -0.6
WPW	White Pass	123.56 37	P	PKPdf		01 11 01.4 +1.1
TWW	Teanaway	123.74 36	P	PKPdf		01 11 02.0 +1.3
VLL	Laurance Lake	124.10 38	P	PKPdf		01 11 03.0 +1.6
BROR	Big Rock Looko	124.20 40	P	PKPdf		01 11 02.4 +0.9
IRO	Indian Ridge	124.45 40	P	PKPdf		01 11 03.0 +0.8
KRMB	Red Mountain	124.48 43	ePKPdf	PKPdf		01 11 03.4 +1.1
HUMO	Hull Mountain	124.64 42	ePKPdf	PKPdf		01 11 03.4 +1.0
OD2	Odessa Site #2	124.84 35	P	PKPdf		01 11 03.4 +0.7
KHMM	Horse Mountain	124.87 44	ePKPdf	PKPdf		01 11 04.2 +1.1
YBH	Yreka Blue Hor	125.19 42	ePKPdf	PKPdf		01 11 03.6 -0.1
YBH			PKP	PKPdf		01 11 04.0 +0.4
YBH			PP	PP		01 12 51.8 -1.7
YBH	Yreka Blue Hor	125.19 42	PKP	PKPdf		01 11 04.0 +0.4
	comp=Z,2.4nm,0.7s,baz=323,slow=2.7,SNR=8.5					
YBH			PP	PP		01 12 51.8 -1.7
	comp=Z,0.4nm,0.4s,baz=229,slow=9.3,SNR=2.7					
NEW	Newport	125.22 33	ePKPdf	PKPdf		01 11 04.1 +0.7
NEW	Newport	125.22 33	P	PKPdf		01 11 04.1 +0.7
	baz=125					
WDC	Whiskeytown Da	125.82 44	ePKIKP	PKPdf		01 11 04.5 -0.2
WDC	Whiskeytown Da	125.82 44	ePKPdf	PKPdf		01 11 04.5 -0.2
BSMT	Bassoo Peak	126.72 32	ePKPdf	PKPdf		01 11 07.2 +0.7
BMO	Blue Mountains	127.06 37	ePKIKP	PKPdf		01 11 06.9 -0.2
BMO	Blue Mountains	127.06 37	ePKPdf	PKPdf		01 11 06.9 -0.2
SWMT	Swartz Lake	127.36 32	ePKPdf	PKPdf		01 11 07.9 +0.3
BEKR	Beckworth	127.63 43	ePKPdf	PKPdf		01 11 09.3 +0.8
SLMT	Seeley Lake	127.79 32	ePKPdf	PKPdf		01 11 08.8 +0.3
MSO	Missoula	127.81 33	P	PKPdf		01 11 08.5 0.0
	baz=128					
PAHR	Pah Rah Range	128.37 43	ePKPdf	PKPdf		01 11 10.9 +1.0
B17A	L&G Farms, Che	128.48 30	P	PKPdf		01 11 09.9 +0.2
	baz=128					
MFID	Camas Ranch	128.74 37	P	PKPdf		01 11 11.2 +0.8
	baz=129					
B18A	Beardsley Farm	128.91 29	P	PKPdf		01 11 11.5 +1.0
	baz=129					
C17A	Wharram Farm,	128.95 30	P	PKPdf		01 11 11.4 +0.8
	baz=129					
EGMT	Eagleton	129.18 29	ePKPdf	PKPdf		01 11 11.4 +0.4
EGMT	Eagleton	129.18 29	P	PKPdf		01 11 11.8 +0.8
	baz=129					
D17A	Six Diamond Ra	129.31 31	P	PKPdf		01 11 11.8 +0.4
	baz=129					
DLMT	Dillon	129.45 34	ePKPdf	PKPdf		01 11 12.1 +0.4
HLID	Hailey	129.50 36	ePKPdf	PKPdf		01 11 13.3 +1.4
HLID	Hailey	129.50 36	P	PKPdf		01 11 13.8 +1.8
	baz=129					
MCMT	McKenzie Canyo	129.65 34	ePKPdf	PKPdf		01 11 13.5 +1.2
E17A	Martinsdale	129.68 32	P	PKPdf		01 11 12.7 +0.6
	baz=130					
MLAC	Mammoth Lakes	129.71 45	P	PKPdf		01 11 12.0 -0.6
	baz=130					
NVAR	Mina Array Bea	129.71 44	PKP	PKPdf		01 11 13.6 +1.0
NVAR			PP	PP		01 13 17.9 -5.6
NVAR			SKPbc	SKPbc		01 14 32.4 +2.3
NVAR	Mina Array Bea	129.71 44	PKP	PKPdf		01 11 13.6 +1.0
	comp=Z,3.1nm,0.6s,baz=299,slow=2.3,SNR=6.0					
NVAR			PP	PP		01 13 17.9 -5.6
	comp=Z,1.7nm,0.9s,baz=267,slow=5.6,SNR=4.4					
NVAR			SKPbc	SKPbc		01 14 32.4 +2.3
	comp=Z,0.6nm,0.6s,baz=256,slow=3.8,SNR=3.8					
B20A	Solberg Farm,	129.71 28	P	PKPdf		01 11 12.8 +0.7
	baz=130					
C19A	Slack Wire Ran	129.72 29	P	PKPdf		01 11 12.8 +0.7
	baz=130					
D18A	Linhart Farms,	129.72 30	P	PKPdf		01 11 13.1 +0.9
	baz=130					
BOZ	Bozeman (W)	129.80 33	ePKIKP	PKPdf		01 11 12.9 +0.5
BOZ	Bozeman (W)	129.80 33	ePKPdf	PKPdf		01 11 12.9 +0.5
A21A	Bergtoll Ranch	129.81 27	P	PKPdf		01 11 12.3 +0.2
	baz=130					
NV11	Mina Array Sit	129.81 44	ePKPdf	PKPdf		01 11 14.5 +1.9
E18A	Harlowton	130.09 31	P	PKPdf		01 11 13.2 +0.3
	baz=130					
F17A	Fitzpatrick Pl	130.15 32	P	PKPdf		01 11 13.8 +0.7
	baz=130					
D19A	Cripps Ranch,	130.20 30	P	PKPdf		01 11 13.6 +0.6
	baz=130					
C20A	Veseth Ranch,	130.24 29	P	PKPdf		01 11 13.5 +0.4
	baz=130					
A22A	Carney Farms,	130.26 26	P	PKPdf		01 11 13.9 +0.9
	baz=130					
QLMT	Earthquake Lak	130.43 33	ePKPdf	PKPdf		01 11 14.4 +0.7
ELK	Elko	130.58 40	ePKPdf	PKPdf		01 11 14.4 +0.3
C21A	Desert Coulee	130.58 28	P	PKPdf		01 11 14.2 +0.6
	baz=130					
F18A	Big Timber	130.64 31	P	PKPdf		01 11 15.0 +1.0
	baz=130					
GCMT	Greycliff	130.74 31	ePKPdf	PKPdf		01 11 14.2 0.0

DUG	Dugway	132.42	39	P	PKPdf	01 11 18.5	+1.0
	baz=132						
F22A	Rosebud	132.46	29	P	PKPdf	01 11 17.4	+0.1
	baz=132						
H20A	Greybull	132.49	32	P	PKPdf	01 11 17.1	-0.3
	baz=132						
J19A	Crowheart	132.75	34	P	PKPdf	01 11 18.3	+0.2
	baz=133						
C26A	Wahner Farm, P	132.78	24	P	PKPdf	01 11 18.7	+0.9
	baz=133						
D25A	Fairfield	132.79	26	P	PKPdf	01 11 18.9	+1.0
	baz=133						
I20A	Worland	132.79	32	P	PKPdf	01 11 18.4	+0.3
	baz=133						
PDAR	Pinedale Array	132.79	34	PKP	PKPdf	01 11 18.6	+0.4
PDAR				PP	PP	01 13 32.2	-11
PDAR				SKPbc	SKPab	01 14 42.3	-0.2
PDAR	Pinedale Array	132.79	34	PKP	PKPdf	01 11 18.6	+0.4
	comp=Z,3.0nm,0.6s,baz=84,slow=1.1,SNR=14						
PDAR				PP	PP	01 13 32.2	-11
	comp=Z,1.2nm,1.0s,baz=307,slow=3.3,SNR=3.7						
PDAR				SKPbc	SKPab	01 14 42.3	-0.2
	comp=Z,2.0nm,0.6s,baz=349,slow=1.5,SNR=7.0						
E24A	Baker	132.80	27	P	PKPdf	01 11 17.8	-0.1
	baz=133						
SHPR	Sheep Range	132.83	45	*e*PKPdf	PKPdf	01 11 18.8	+0.3
SHPR				*e*SKPbc	SKPab	01 14 43.9	+1.1
G22A	Birney	132.85	30	P	PKPdf	01 11 18.3	+0.2
	baz=133						
H21A	Big Horn, Sher	132.89	31	P	PKPdf	01 11 17.6	-0.7
	baz=133						
M17A	Scullys Gap (B	132.97	36	P	PKPdf	01 11 18.1	-0.6
	baz=133						
ULM	Lac du Bonnet	132.99	18	PKP	PKPdf	01 11 17.9	-0.1
ULM				SKPab	SKPbc	01 14 41.3	+0.3
ULM	Lac du Bonnet	132.99	18	PKP	PKPdf	01 11 17.9	-0.1
	comp=Z,9.2nm,0.8s,baz=335,slow=3.6,SNR=12						
ULM				SKPab	SKPbc	01 14 41.3	+0.3
	comp=Z,14nm,0.9s,baz=318,slow=7.1,SNR=5.0						
A29A	Manning Farm,	133.00	21	P	PKPdf	01 11 18.1	-0.1
	baz=133						
L18A	Fontenelle, Gr	133.06	36	P	PKPdf	01 11 19.7	+0.9
	baz=133						
C27A	Sayler Ranch,	133.11	24	P	PKPdf	01 11 19.3	+0.9
	baz=133						
K19A	Absolon Red Bu	133.15	34	P	PKPdf	01 11 19.0	+0.1
	baz=133						
J20A	Shoshoni	133.22	33	P	PKPdf	01 11 19.2	+0.3
	baz=133						
PFO	Pinyon Flat Ob	133.24	49	PKP	PKPdf	01 11 19.8	+0.6
PFO				SKP		01 14 50.2	
PFO	Pinyon Flat Ob	133.24	49	PKP	PKPdf	01 11 19.8	+0.6
	comp=Z,3.7nm,0.8s,baz=358,slow=3.3,SNR=5.3						
PFO				SKP		01 14 50.2	
	comp=Z,6.6nm,1.1s,baz=324,slow=1.2,SNR=5.0						
E25A	Miller Ranch,	133.25	27	P	PKPdf	01 11 19.9	+1.1
	baz=133						
DAU	Daniels Canyon	133.26	38	*e*SKPbc	SKPab	01 14 47.4	+2.7
F24A	Ekalaka	133.28	28	P	PKPdf	01 11 19.2	+0.3
	baz=133						
GMRC	Granite Mounta	133.30	47	P	PKPdf	01 11 20.8	+1.5
	baz=133						
G23A	Biddle	133.30	29	P	PKPdf	01 11 18.9	0.0
	baz=133						
I21A	Big Trails, Te	133.33	32	P	PKPdf	01 11 19.0	-0.1
	baz=133						
L19A	Farson	133.34	35	P	PKPdf	01 11 19.4	+0.1
	baz=133						
BELC	Belle Mtn. Jos	133.41	48	P	PKPdf	01 11 20.0	+0.4
	baz=133						
CCUT	Cedar City	133.53	43	*e*PKPdf	PKPdf	01 11 21.0	+1.2
CCUT				*e*PP	PP	01 13 44.2	-3.8
C28A	Hausauer Farms	133.56	23	P	PKPdf	01 11 19.6	+0.4
	baz=133						
LDFC	Landfair	133.56	46	*e*PKPdf	PKPdf	01 11 20.8	+1.0
J21A	Lysite	133.56	32	P	PKPdf	01 11 19.8	+0.1
	baz=133						
I22A	9 Mile Ranch,	133.69	31	P	PKPdf	01 11 19.5	-0.3
	baz=134						
MDND	Maddock	133.75	23	*e*PKPdf	PKPdf	01 11 19.7	+0.1
MDND				*e*SKPbc	SKPbc	01 14 44.0	+0.3
MDND	Maddock	133.75	23	P	PKPdf	01 11 19.8	+0.2
	baz=134						
TMUT	Trail Mountain	133.95	39	*e*PKPdf	PKPdf	01 11 21.7	+1.0
J22A	Midwest	134.03	32	P	PKPdf	01 11 20.2	-0.3
	baz=134						
SWSC	Sam W. Stewart	134.03	49	P	PKPdf	01 11 21.1	+0.6
	baz=134						
H24A	Dirks Ranch, A	134.04	29	P	PKPdf	01 11 20.3	0.0
	baz=134						
F26A	Lodgepole	134.08	27	P	PKPdf	01 11 20.0	-0.4
	baz=134						
E27A	Carson	134.11	25	P	PKPdf	01 11 20.4	0.0
	baz=134						
K21A	Alcova	134.16	33	P	PKPdf	01 11 20.7	-0.1
	baz=134						
Q16A	Castle Valley	134.19	40	*e*PKPdf	PKPdf	01 11 22.3	+1.3
G27A	Dupree	134.32	27	P	PKPdf	01 11 21.5	+0.7
	baz=135						
W13A	Hualapai Mount	134.43	46	P	PKPdf	01 11 20.8	-0.7
	baz=134						
SRU	San Rafael	134.49	39	*e*PKIKP	PKPdf	01 11 21.6	+0.1
SRU	San Rafael	134.49	39	*e*PKPdf	PKPdf	01 11 21.6	+0.1
SRU				*e*SKPbc	SKiKP	01 14 52.2	-2.0
K22A	Casper	134.53	32	P	PKPdf	01 11 21.1	-0.4
	baz=134						
L21A	Rawlins	134.54	34	P	PKPdf	01 11 21.3	-0.3
	baz=134						
Y12C	Blythe	134.61	48	P	PKPdf	01 11 20.6	-1.0
	baz=134						
O19A	Miners Draw (B	134.62	37	P	PKPdf	01 11 21.8	+0.1
	baz=134						
I24A	Kuemmerle Ranc	134.65	30	P	PKPdf	01 11 21.0	-0.6
	baz=134						
D30A	Buchanan	134.69	23	P	PKPdf	01 11 21.6	+0.2
	baz=134						
GLA	Glamis	134.71	49	P	PKPdf	01 11 21.6	-0.3
	baz=135						
N20A	Spence Gulch,	134.78	36	P	PKPdf	01 11 21.2	-0.9
	baz=135						
M21A	Separation Pea	134.78	34	P	PKPdf	01 11 21.5	-0.5
	baz=135						
RWWY	Rawlins	134.81	34	*e*PKPdf	PKPdf	01 11 21.8	-0.4
U15A	North Rim	134.85	43	P	PKPdf	01 11 23.7	+1.3
	baz=135						
I25A	Rochford	134.97	29	P	PKPdf	01 11 22.4	+0.1
	baz=135						
L22A	Ellis Ranch, M	135.01	33	P	PKPdf	01 11 22.2	-0.2
	baz=135						
P19A	Cripple Cowboy	135.12	37	P	PKPdf	01 11 23.0	+0.2
	baz=135						
E30A	Jud	135.13	23	P	PKPdf	01 11 22.3	0.0
	baz=135						
O20A	White River Ci	135.24	36	*e*PKPdf	PKPdf	01 11 23.7	+0.8
O20A				*e*SKPbc	SKPbc	01 14 50.0	+0.9
O20A	White River Ci	135.24	36	P	PKPdf	01 11 23.3	+0.4
	baz=135						
N21A	Black Mountain	135.26	35	P	PKPdf	01 11 23.5	+0.5
	baz=135						
H27A	Howes	135.28	27	P	PKPdf	01 11 22.7	0.0
	baz=135						
L23A	Garrett	135.34	32	P	PKPdf	01 11 22.4	-0.7
	baz=135						
J25A	Sunshine Ranch	135.40	30	P	PKPdf	01 11 22.7	-0.3
	baz=135						
P20A	De Beque	135.56	37	P	PKPdf	01 11 24.2	+0.8
	baz=135						
I27A	Quinn	135.73	28	P	PKPdf	01 11 23.0	-0.5
	baz=136						
M23A	Laramie	135.78	33	P	PKPdf	01 11 24.0	+0.1
	baz=136						
J26A	Sides Ranch, S	135.82	29	P	PKPdf	01 11 24.0	+0.3
	baz=136						
K25A	Mack Ranch, Ha	135.94	31	P	PKPdf	01 11 24.6	+0.6
	baz=136						
WUAZ	Wupatki	135.97	44	*e*PKPdf	PKPdf	01 11 25.7	+1.3
N23A	Red Feather La	136.06	34	P	PKPdf	01 11 23.6	-0.8
	baz=136						
I28A	Midland	136.19	27	P	PKPdf	01 11 24.2	-0.1
	baz=136						
R20A	Redvale	136.38	39	P	PKPdf	01 11 26.1	+1.0
	baz=136						
Q21A	Lamborn Mesa,	136.47	37	P	PKPdf	01 11 25.6	+0.4
	baz=136						
R21A	Cimarron	136.78	38	P	PKPdf	01 11 25.9	0.0
	baz=137						
Q22A	Crested Butte,	136.85	37	P	PKPdf	01 11 26.6	+0.5
	baz=137						
S21A	Coal Bank Pass	137.07	39	P	PKPdf	01 11 27.1	+0.6
	baz=137						
Q23A	Hartsel	137.46	36	P	PKPdf	01 11 26.7	-0.5
	baz=137						
V20A	Brimhall	137.76	41	P	PKPdf	01 11 27.8	+0.1
	baz=138						
U21A	Nageezi	137.91	40	P	PKPdf	01 11 28.2	+0.2
	baz=138						
W20A	Ramah	138.13	42	P	PKPdf	01 11 28.8	+0.4
	baz=138						
ECSD	EROS Data Cent	138.33	23	*e*PKPdf	PKPdf	01 11 27.7	-0.5
P26A	Davis Ranch, A	138.41	33	P	PKPdf	01 11 28.3	-0.4
	baz=138						
SDCO	Great Sand Dun	138.42	37	*e*PKPdf	PKPdf	01 11 29.4	+0.4
O27A	Beecher Island	138.42	32	P	PKPdf	01 11 28.4	-0.2
	baz=138						
X20A	Quemado	138.47	43	P	PKPdf	01 11 29.1	0.0
	baz=138						
N28A	Pribbeno Ranch	138.54	31	P	PKPdf	01 11 29.1	+0.3
	baz=138						
U23A	El Rito	138.91	39	P	PKPdf	01 11 29.6	-0.2
	baz=139						
Y20A	Horse Springs,	138.91	44	P	PKPdf	01 11 29.1	-0.8
	baz=139						
T24B	San Luis	138.94	38	P	PKPdf	01 11 29.2	-0.8
	baz=139						
S25A	Robles Cordova	139.11	36	P	PKPdf	01 11 30.0	-0.1
	baz=139						
Z20A	Nine Sixteen R	139.20	45	P	PKPdf	01 11 29.5	-0.9
	baz=139						
R26A	Arlington	139.24	35	P	PKPdf	01 11 29.6	-0.7
	baz=139						
Y21A	Point of Rocks	139.33	43	P	PKPdf	01 11 29.8	-0.9
	baz=139						
LAZ	Ladron	139.47	42	*e*PKPdf	PKPdf	01 11 31.4	+0.5
T25A	Trinidad	139.47	37	P	PKPdf	01 11 30.3	-0.5
	baz=139						
120A	U Bar Ranch, L	139.48	46	P	PKPdf	01 11 30.4	-0.5
	baz=139						
X22A	Bernardo	139.49	42	P	PKPdf	01 11 30.3	-0.6
	baz=139						
X23A	Hourglass Bar	139.99	41	P	PKPdf	01 11 30.9	-0.9
	baz=140						
R28A	Tribune	140.12	33	P	PKPdf	01 11 31.6	-0.2
	baz=140						
Q29A	Oakley	140.16	32	P	PKPdf	01 11 32.3	+0.5
	baz=140						
Z22A	Elephant Butte	140.25	43	P	PKPdf	01 11 30.6	-1.7
	baz=140						
U26A	Atchley Ranch,	140.36	37	P	PKPdf	01 11 30.9	-1.5
	baz=140						
W25A	X Bar L Ranch,	140.70	39	P	PKPdf	01 11 32.1	-0.9
	baz=140						
V26A	Tequesquite Ra	140.74	38	P	PKPdf	01 11 32.1	-0.9
	baz=141						
222A	Williams Famil	140.81	45	P	PKPdf	01 11 32.3	-1.0
	baz=141						
Y24A	Capitan	140.88	41	P	PKPdf	01 11 32.1	-1.4
	baz=141						
U27A	Thompson Grove	140.89	36	P	PKPdf	01 11 32.3	-1.0
	baz=141						
R30A	Dighton	140.98	32	P	PKPdf	01 11 33.0	-0.3
	baz=141						
W26A	Owens Ranch, T	141.21	39	P	PKPdf	01 11 32.0	-1.9
	baz=141						
Y25A	Mesa, Roswell	141.37	41	P	PKPdf	01 11 31.7	-2.5
	baz=141						
124A	Stringfield Ra	141.60	43	P	PKPdf	01 11 31.9	-2.9
	baz=142						
W27A	Bowe Ranch, En	141.66	38	P	PKPdf	01 11 29.7	-5.1
	baz=142						
Z25A	Roswell	141.75	42	P	PKPdf	01 11 30.4	-4.5
	baz=142						
Y26A	Elida	141.93	40	P	PKPdf	01 11 31.3	-3.9
	baz=142						
KSU1	Kansas State U	142.15	27	*e*PKPdf	PKPdf	01 11 30.2	-5.1
125A	Gardner Draw,	142.17	42	P	PKPdf	01 11 31.6	-4.1
	baz=142						
T31A	Randall Ranch,	142.18	33	P	PKPdf	01 11 31.1	-4.4
	baz=142						
Z26A	Caprock	142.24	41	P	PKPdf	01 11 31.0	-4.8
	baz=142						
MNTX	Cornudas Mount	142.24	44	*e*PKPdf	PKPdf	01 11 32.4	-3.3
225A	Deer Hill, Car	142.38	43	P	PKPdf	01 11 32.6	-3.6
	baz=142						
MDV	Middlebury	142.48	358	*e*PKPdf	PKPdf	01 11 31.9	-3.8
NCB	Newcomb	142.54	359	*e*PKPdf	PKPdf	01 11 30.9	-4.9
MSTX	Muleshoe	142.56	39	*e*PKPdf	PKPdf	01 11 33.2	-3.1
126A	Clayton Basin,	142.60	42	P	PKPdf	01 11 33.0	-3.4
	baz=142						
Z27A	Tatum	142.71	40	P	PKPdf	01 11 32.8	-3.8
	baz=143						
325A	Bean Ranch, Si	142.72	44	P	PKPdf	01 11 33.6	-3.2
	baz=143						
226B	Tecolote Peak,	142.85	43	P	PKPdf	01 11 33.9	-3.0
	baz=143						
X29A	Tulia	142.91	38	P	PKPdf	01 11 33.9	-3.0
	baz=143						
Y28A	McKinney Farm,	142.93	39	P	PKPdf	01 11 33.8	-3.2
	baz=143						
127A	Arkansas Junct	143.02	41	P	PKPdf	01 11 34.1	-3.0
	baz=143						
425A	Indio Mountain	143.04	45	P	PKPbc	01 11 34.8	+0.6
	baz=143						
V31A	Spring Creek L	143.06	34	P	PKPbc	01 11 34.3	+0.3
	baz=143						
ACCN	Adirondack Com	143.11	358	*e*PKPdf	PKPab	01 11 32.4	+0.1
CPUP	Villa Florida	143.12	207	PKP	PKPdf	01 11 38.1	+0.7
CPUP	Villa Florida	143.12	207	PKP	PKPdf	01 11 38.1	+0.7
	comp=Z,3.5nm,0.8s,baz=84,slow=4.5,SNR=6.0						
Z28A	Tucker Farm, M	143.25	40	P	PKPbc	01 11 34.6	0.0
	baz=143						
X30A	Coker Ranch, T	143.40	37	P	PKPbc	01 11 34.6	-0.4
	baz=143						
W31A	Holland Ranch,	143.43	35	P	PKPbc	01 11 35.5	+0.5
	baz=143						
326A	Caldwell Ranch	143.43	44	P	PKPbc	01 11 35.2	0.0
	baz=143						
128A	Castleberry Fa	143.62	41	P	PKPbc	01 11 35.7	0.0
	baz=144						
Z29A	Hungry Hill Ra	143.70	39	P	PKPbc	01 11 36.1	+0.2
	baz=144						
327A	Balmorhea Ranc	143.73	43	P	PKPbc	01 11 36.2	+0.2
	baz=144						
426A	McDonald Obser	143.78	45	P	PKPbc	01 11 36.7	+0.3
	baz=144						
Y30A	Stafford Cattl	143.78	38	P	PKPbc	01 11 36.3	+0.2
	baz=144						
X31A	McDonald Ranch	143.80	36	P	PKPbc	01 11 36.3	+0.2
	baz=144						
HRV	Adam Dziewonsk	143.86	355	*e*PKPdf	PKPab	01 11 34.0	-1.3
228A	UT Block 9, Go	143.87	41	P	PKPbc	01 11 37.1	+0.6
	baz=144						
129A	Stewart Farms,	144.01	40	P	PKPbc	01 11 37.3	+0.4
	baz=144						
Z30A	Sanderson Ranc	144.04	38	P	PKPbc	01 11 36.9	0.0
	baz=144						
526A	Mary Lane Ranc	144.09	45	P	PKPbc	01 11 37.8	+0.6
	baz=144						
Y31A	Rekieta Farm,	144.10	37	P	PKPbc	01 11 36.9	-0.1
	baz=144						
427A	Hayter Ranch,	144.11	44	P	PKPbc	01 11 37.6	+0.4
	baz=144						
QUA2	Belchertown	144.15	356	*e*PKPdf	PKPbc	01 11 36.6	-0.2
328A	Wristen Ranch,	144.19	42	P	PKPbc	01 11 37.7	+0.2
	baz=144						
BINY	Binghamton	144.32	1	*e*PKPdf	PKPab	01 11 36.7	-0.3
626A	Big Bend Ranch	144.35	46	P	PKPbc	01 11 38.5	+0.5
	baz=144						
527A	Woodward Ranch	144.38	45	P	PKPbc	01 11 38.4	+0.2
	baz=144						
WMOK	Wichita Mounta	144.41	34	*e*PKIKP	PKPab	01 11 37.6	-0.1
WMOK	Wichita Mounta	144.41	34	*e*PKPdf	PKPab	01 11 37.6	-0.1
BRYW	Bryant College	144.45	355	*e*PKPdf	PKPab	01 11 37.4	-0.1
229A	Bryant Ranch,	144.48	41	P	PKPbc	01 11 38.3	0.0
	baz=144						
SFIN	Scholer Farm	144.52	16	*e*PKPdf	PKPab	01 11 37.7	-0.1
SFIN	Scholer Farm	144.52	16	P	PKPab	01 11 37.7	-0.1
	baz=144						
Y32A	R-V Farms, Ver	144.56	36	P	PKPbc	01 11 38.4	0.0
	baz=144						
ALLY	Alegheny Colle	144.60	6	*e*PKPdf	PKPab	01 11 37.6	-0.5
130A	Snyder	144.61	39	P	PKPbc	01 11 38.8	+0.2
	baz=144						
Z31A	Sharp Cattle R	144.62	37	P	PKPbc	01 11 39.1	+0.4
	baz=144						
329A	Wagon Wheel Ra	144.67	42	P	PKPbc	01 11 39.4	+0.4
	baz=144						
428A	Kincaid Ranch,	144.67	43	P	PKPdf	01 11 40.1	0.0
	baz=144						
TXAR	Lajitas Array	144.81	46	PKP	PKPdf	01 11 40.4	0.0
TXAR				SKPbc	SKiKP	01 15 16.3	+0.6
TXAR	Lajitas Array	144.81	46	PKP	PKPdf	01 11 40.4	0.0
	comp=Z,50nm,0.6s,baz=278,slow=1.3,SNR=678						
TXAR				SKPbc	SKiKP	01 15 16.3	+0.6
	comp=Z,2.0nm,0.8s,baz=342,slow=1.6,SNR=3.8						
131A	Roby	144.91	39	P	PKPdf	01 11 40.2	-0.2
	baz=145						
627A	Terlingua Ranc	144.94	46	P	PKPdf	01 11 40.6	-0.1
	baz=145						
528A	Cox Ranch, San	144.94	44	P	PKPdf	01 11 40.7	+0.1
	baz=145						
230A	Sterling City	144.98	40	P	PKPdf	01 11 40.4	-0.1
	baz=145						
Z32A	Haskell	145.03	37	P	PKPdf	01 11 40.4	-0.1
	baz=145						
TUL1	Tulsa	145.09	30	*e*PKPdf	PKPbc	01 11 39.8	-0.2
TUL1	Tulsa	145.09	30	P	PKPbc	01 11 39.9	-0.1
	baz=145						
SLM	Saint Louis	145.14	21	*e*PKIKP	PKPbc	01 11 39.4	-0.7
SLM	Saint Louis	145.14	21	*e*PKPdf	PKPbc	01 11 39.4	-0.7
BDFB	Brasilia	145.25	231	PKPbc	PKPdf	01 11 42.6	+1.2
BDFB				SKPbc	SKiKP	01 15 16.7	-0.3
BDFB	Brasilia	145.25	231	PKPbc	PKPdf	01 11 42.6	+1.2
	comp=Z,20nm,0.8s,baz=111,slow=3.4,SNR=26						
BDFB				SKPbc	SKiKP	01 15 16.7	-0.3
	comp=Z,3.0nm,0.7s,baz=186,slow=9.2,SNR=3.7						
330A	Mertzon	145.25	41	P	PKPab	01 11 40.9	0.0
	baz=145						
429A	Davenport Ranc	145.27	43	P	PKPdf	01 11 41.3	+0.2
	baz=145						
628A	Black Gap, Mar	145.27	45	P	PKPdf	01 11 41.8	+0.7
	baz=145						
529A	Stev Forest Ra	145.36	44	P	PKPab	01 11 41.7	+0.4
	baz=145						
ABTX	Abilene, Hawle	145.41	38	*e*PKPdf	PKPab	01 11 41.5	+0.1
ABTX	Abilene, Hawle	145.41	38	P	PKPab	01 11 41.7	+0.3
	baz=145						
231A	Bronte	145.46	39	P	PKPab	01 11 41.7	+0.1
	baz=145						
ACSO	Alum Creek Sta	145.59	10	*e*PKPdf	PKPdf	01 11 40.9	-0.4
430A	Baggett Ranch,	145.61	42	P	PKPab	01 11 42.4	+0.1
	baz=146						
CPNY	Central Park	145.71	358	*e*PKPdf	PKPdf	01 11 41.2	-0.3
OLIL	Olney	145.76	18	*e*PKPdf	PKPbc	01 11 41.9	-0.2
331A	San Ángelo	145.80	40	P	PKPab	01 11 42.9	0.0
	baz=146						
BLO	Bloomington	145.80	16	*e*PKP2	PKPdf	01 11 41.9	+0.3
BLO	Bloomington	145.80	16	*e*PKPdf	PKPdf	01 11 41.9	+0.3
SSPA	Standing Stone	145.80	4	*e*PKPdf	PKPdf	01 11 41.7	+0.1
BRNJ	Basking Ridge	145.83	359	*e*PKPdf	PKPab	01 11 42.7	0.0
232A	Coleman	145.91	39	P	PKPab	01 11 43.4	0.0
	baz=146						
530A	J-C Ranch, Com	145.94	43	P	PKPab	01 11 44.1	+0.6
	baz=146						
431A	Sonora	146.09	41	P	PKPab	01 11 43.8	-0.2
	baz=146						
332A	Millersview	146.19	40	P	PKPab	01 11 44.3	-0.1
	baz=146						
SIUC	Southern Illin	146.32	20	*e*PKPdf	PKPdf	01 11 43.2	+0.6
531A	Rocksprings	146.46	42	P	PKPab	01 11 45.2	-0.3
	baz=146						
432A	Menard	146.49	40	P	PKPbc	01 11 44.9	+0.3
	baz=146						
USIN	University of	146.60	18	*e*PKPdf	PKPdf	01 11 43.2	+0.2
MCWV	Mont Chateau	146.61	6	*e*PKPdf	PKPbc	01 11 44.4	-0.2
JCT	Junction City	146.75	41	*e*PKP2	PKPbc	01 11 44.7	-0.7
JCT	Junction City	146.75	41	*e*PKPdf	PKPbc	01 11 44.6	-0.7
JCT				*e*PKPbc	PKPab	01 11 46.3	-0.3
JCT	Junction City	146.75	41	P	PKPbc	01 11 45.7	+0.3
	baz=147						
WCI	Wyandotte Cave	146.75	16	*e*PKP2	PKPbc	01 11 44.4	-0.7
WCI	Wyandotte Cave	146.75	16	*e*PKPdf	PKPbc	01 11 44.4	-0.7
532A	Rocksprings	146.91	41	P	PKPbc	01 11 46.1	+0.2
	baz=147						
631A	Perdido Creek	146.92	43	P	PKPbc	01 11 46.2	+0.4
	baz=147						
PARMO	Parma	147.07	22	*e*PKPbc	PKPbc	01 11 45.9	-0.1
SDMD	Soldier's Deli	147.08	2	*e*PKPdf	PKPbc	01 11 45.5	-0.4
WHTX	Lake Whitney	147.16	36	*e*PKPbc	PKPbc	01 11 47.0	+0.6
WHTX	Lake Whitney	147.16	36	P	PKPbc	01 11 46.9	+0.6
	baz=147						
MIAR	Mount Ida	147.26	29	*e*PKP2	PKPdf	01 11 45.2	+0.9
MIAR	Mount Ida	147.26	29	*e*PKPdf	PKPdf	01 11 45.2	+0.9
632A	Uvalde	147.39	42	P	PKPbc	01 11 47.8	+0.6
	baz=147						
GLAT	Glass	147.59	21	*e*PKPdf	PKPbc	01 11 46.2	-1.2
UALR	University of	147.65	27	*e*PKPdf	PKPdf	01 11 45.1	+0.2
HBAR	Harrisburg	147.70	24	*e*PKPbc	PKPbc	01 11 47.9	+0.2
732A	Laxson Ranch,	147.76	43	P	PKPbc	01 11 48.7	+0.6
	baz=148						
WVT	Waverly	148.22	20	*e*PKIKP	PKPdf	01 11 45.7	-0.1
WVT				*e*		01 11 49.1	
WVT	Waverly	148.22	20	*e*PKPdf	PKPdf	01 11 45.7	-0.1
WVT				*e*PKPbc	PKPbc	01 11 49.1	0.0
NATX	Nacogdoches	148.92	33	*e*PKPdf	PKPdf	01 11 48.5	+1.4
NATX				*e*PKPbc	PKiKP	01 11 51.8	-0.6
BLA	Blacksburg	148.95	8	*e*PKIKP	PKPdf	01 11 48.5	+1.5
BLA	Blacksburg	148.95	8	*e*PKPdf	PKPdf	01 11 48.5	+1.5
VWCC	Virginia Weste	148.97	7	*e*PKPdf	PKPdf	01 11 45.6	-1.5
TZTN	Tazewell	149.03	13	*e*PKPdf	PKPdf	01 11 47.1	0.0
TZTN				*e*PKPbc	PKPbc	01 11 51.2	0.0
OXF	Oxford	149.10	23	*e*PKP2	PKPbc	01 11 50.5	-0.9
OXF	Oxford	149.10	23	*e*PKPbc	PKPbc	01 11 50.5	-0.9
HKT	Hockley	149.59	37	*e*PKPdf	PKPdf	01 11 49.1	+1.0
HKT	

NAZ	**Nazwa, Dubai**	**1.76 186**	P	**Pg**	**00 55 50.7**	**-0.5**
HATD	**Hatta, Dubai**	**1.92 173**	P	**Pb**	**00 55 52.7**	**+0.1**
FAQ	**Al Faqa, Dubai**	**2.01 187**	P	**Pb**	**00 55 53.6**	**-0.4**
ASHO	**Ashiyiah**	**2.06 175**	P	**Pb**	**00 55 54.9**	**0.0**
	SNR=31					
ASHO	**Ashiyiah**	**2.06 175**	P	**Pb**	**00 55 54.9**	**0.0**
	SNR=31					
ASUD	**Al Ashush, Dub**	**2.17 193**	P	**Pb**	**00 55 56.9**	**+0.1**
	SNR=19					
ASUD	**Al Ashush, Dub**	**2.17 193**	P	**Pb**	**00 55 56.7**	**0.0**
GHIR	**Ghir-Karzin**	**2.99 302**	*e*Pn	**Pn**	**00 56 07.1**	**+2.1**
KRBR	**Kerman**	**3.32 13**	*e*Pn	**Pn**	**00 56 09.7**	**0.0**
ISRV	**Sarvestan**	**3.59 318**	*e*Pn	**Pn**	**00 56 15.3**	**+1.9**
ISRV			*e*		00 57 39.2	
	comp=Z,1μm,0.5s					
ISRV	**Sarvestan**	**3.59 318**	*e*Pn	**Pn**	**00 56 15.3**	**+1.9**
IPAR	**Pars**	**3.97 322**	*e*Pn	**Pn**	**00 56 20.8**	**+2.2**
IPAR			*e*		00 57 10.2	
	comp=Z,953nm,0.4s					
IPAR	**Pars**	**3.97 322**	*e*Pn	**Pn**	**00 56 20.8**	**+2.2**
IMEH	**Mehriz**	**4.76 347**	*e*Pn	**Pn**	**00 56 30.9**	**+1.4**
IMEH			*e*		00 56 34.1	
	comp=Z,290nm,0.1s					
IMEH	**Mehriz**	**4.76 347**	*e*Pn	**Pn**	**00 56 30.9**	**+1.4**
IBAF	**Bafgh**	**4.84 357**	*e*Pn	**Pn**	**00 56 32.1**	**+1.7**
IBAF			*e*		00 56 41.5	
	comp=Z,180nm,0.1s					
IBAF	**Bafgh**	**4.84 357**	*e*Pn	**Pn**	**00 56 32.1**	**+1.7**
WBK	**Wadi Bani Khal**	**4.99 145**	P	**Pn**	**00 56 34.1**	**+1.8**
	SNR=14					
WBK	**Wadi Bani Khal**	**4.99 145**	P	**Pn**	**00 56 34.2**	**+1.8**
	SNR=14					
ISAD	**Sadrabad**	**5.50 340**	*e*Pn	**Pn**	**00 56 41.3**	**+1.7**
ISAD			*e*		00 57 47.5	
	comp=Z,281nm,0.2s					
ISAD	**Sadrabad**	**5.50 340**	*e*Pn	**Pn**	**00 56 41.3**	**+1.7**
ICHK	**Chekchek**	**5.63 347**	*e*Pn	**Pn**	**00 56 42.8**	**+1.4**
ICHK			*e*		00 56 44.3	
	comp=Z,149nm,0.1s					
ICHK	**Chekchek**	**5.63 347**	*e*Pn	**Pn**	**00 56 42.8**	**+1.4**
IKOO	**Kooshah**	**6.28 25**	*e*Pn	**Pn**	**00 56 52.8**	**+2.4**
IKOO			*e*		00 57 11.8	
	comp=N,66nm,0.1s					
IKOO	**Kooshah**	**6.28 25**	*e*Pn	**Pn**	**00 56 52.8**	**+2.4**
IGAR	**Gharneh**	**6.55 330**	*e*Pn	**Pn**	**00 56 55.5**	**+1.4**
IGAR			*e*		00 57 01.3	
	comp=Z,520nm,0.1s					
NASN	**Na'in**	**6.60 337**	*e*Pn	**Pn**	**00 56 55.4**	**+0.6**
IZEF	**Zefreh**	**6.86 334**	*e*Pn	**Pn**	**00 56 58.4**	**+0.1**
IZEF			*e*		00 56 59.5	
	comp=Z,141nm,0.2s					
IZEF	**Zefreh**	**6.86 334**	*e*Pn	**Pn**	**00 56 58.4**	**+0.1**
QRN	**Al-Qurain**	**7.33 288**	*e*Pn	**Pn**	**00 57 04.9**	**+0.4**
QRN			AML	AML	00 58 27.9	
	comp=Z,36nm,0.3s					
IPIR	**Pirpir**	**7.34 325**	*e*Pn	**Pn**	**00 57 05.7**	**+0.8**
IPIR			*e*		00 58 30.2	
	comp=Z,294nm,0.4s					
IPIR	**Pirpir**	**7.34 325**	*e*Pn	**Pn**	**00 57 05.7**	**+0.8**
IKLH	**Kolahrood**	**7.54 331**	*e*		00 57 12.2	
	comp=Z,152nm,0.1s					
IKLH			*e*Pn	**Pn**	**00 57 08.5**	**+0.9**
KBD	**Kabd**	**7.63 290**	*e*P	**Pn**	**00 57 09.0**	**+0.3**
KBD	**Kabd**	**7.63 290**	*e*P	**Pn**	**00 57 09.0**	**+0.3**
RDF	**Al-Radifah**	**7.69 288**	*e*P	**Pn**	**00 57 09.1**	**-0.3**
RDF			AML	AML	00 58 35.4	
	comp=Z,14nm,0.3s					
RDF	**Al-Radifah**	**7.69 288**	*e*P	**Pn**	**00 57 09.1**	**-0.3**
UMR	**Umm Al-Rimmam**	**7.73 293**	*e*P	**Pn**	**00 57 09.8**	**-0.2**
UMR	**Umm Al-Rimmam**	**7.73 293**	*e*P	**Pn**	**00 57 09.8**	**-0.2**
NAY	**Al-Naaiem**	**8.03 290**	*e*P	**Pn**	**00 57 14.3**	**+0.2**
NAY			AML	AML	00 58 42.0	
	comp=Z,0.5nm,0.6s					
NAY	**Al-Naaiem**	**8.03 290**	*e*P	**Pn**	**00 57 14.3**	**+0.2**
MIB	**Mutribah**	**8.12 294**	*e*P	**Pn**	**00 57 15.5**	**+0.1**
MIB			AML	AML	00 58 44.5	
	comp=Z,12nm,0.6s					
MIB	**Mutribah**	**8.12 294**	*e*P	**Pn**	**00 57 15.5**	**+0.1**
GNI	**Garni**	**16.26 328**	Pn	**P**	**00 59 10.3**	**+1.1**
	comp=Z,0.6nm,0.3s,baz=168,slow=9.3,SNR=3.2					
MMAI	**Mount Meron Ar**	**18.81 294**	P	**P**	**00 59 36.5**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=108,slow=17,SNR=3.1					
KBZ	**Khabaz**	**19.95 331**	P	**P**	**00 59 50.4**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=164,slow=9.7,SNR=8.6					
BRTR	**Keskin Array B**	**22.59 311**	P	**P**	**01 00 16.9**	**-1.3**
	comp=Z,0.6nm,0.6s,baz=122,slow=13,SNR=4.7					
AKTO	**Aktyubinsk**	**23.71 3**	P	**P**	**01 00 30.0**	**+0.6**
	comp=Z,0.9nm,0.6s,baz=186,slow=14,SNR=3.2					
IDI	**Anoyia**	**27.80 295**	P	**P**	**01 01 06.9**	**+0.1**
	comp=Z,3.6nm,0.8s,baz=143,slow=20,SNR=3.8					
BVAR	**Borovoye Array**	**28.40 19**	P	**P**	**01 01 12.1**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=202,slow=15,SNR=3.7					
AKASG	**Malin Array Be**	**31.39 327**	P	**P**	**01 01 37.3**	**-1.0**
	comp=Z,0.6nm,0.3s,baz=101,slow=9.9,SNR=4.1					
ZALV	**Zalesovo Beam**	**34.55 30**	P	**P**	**01 02 06.1**	**+0.1**
	comp=Z,1.1nm,0.3s,baz=257,slow=10,SNR=7.5					
GERES	**GERESS Array B**	**39.30 316**	P	**P**	**01 02 45.5**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=110,slow=7.8,SNR=4.7					
JOF	**Joensuu**	**39.63 343**	*e*p	**P**	**01 02 48.7**	**-0.2**
	comp=Z,0.8nm,0.3s					
FINES	**FINESS Array B**	**40.06 338**	P	**P**	**01 02 51.9**	**-0.6**
	comp=Z,1.7nm,0.5s,baz=145,slow=10,SNR=14					
KAF	**Kangasniemi**	**40.47 339**	*e*p	**P**	**01 02 55.1**	**-0.9**
	comp=Z,0.4nm,0.3s					
OPO	**Ambohidratompo**	**45.83 192**	LR	LR	01 18 36.8	
	comp=Z,55nm,21.4s,baz=118,slow=31					
ARCES	**ARCESS Array B**	**46.34 346**	P	**P**	**01 03 43.0**	**-0.2**
	comp=Z,2.3nm,0.9s,baz=142,slow=8.9,SNR=9.2					
ESDC	**Sonseca Array**	**50.85 301**	P	**P**	**01 04 17.8**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=63,slow=6.9,SNR=7.5					
TORD	**Torodi Ar. Bea**	**52.34 266**	P	**P**	**01 04 28.9**	**-0.9**
	comp=Z,0.6nm,0.6s,baz=62,slow=7.4,SNR=12					
TORD			LR	LR	01 28 57.9	
	comp=Z,134nm,20.4s,baz=105,slow=39					

ISCJB ***04*** *01:00:02.1±0.6, 49.°5N±0.°1×154.°3E±0.°1, h10km, mb3.9/11, Error ellipse: s-maj=18.8km s-min=7.4km az=146.5*
IDC ***04*** *01:00:02.4±0.8, 49.°54N×154.°11E, h0km, mb3.8/10, mb1 4.1/13, mb1mx3.9/30, mbtmp3.9/13, ML3.8/3, MS2.9/2, Ms1 2.9/2, ms1mx2.7/45, Error ellipse: s-maj=27.8km s-min=13.8km az=155.0*
MOS ***04*** *01:00:04.0±1.8, 49.°56N×154.°30E, h27km, mb4.0/7, Error ellipse: s-maj=29.4km s-min=13.4km az=57.4*

ISC 04 01:00:03.9±0.8, 49.°6N±0.°1×154.°3E±0.°1, h10km, n20, σ1§92/21, mb4.0/11, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.61**	**46**	*e*PN	Pn	01 00 27.6	-4.8
SKR				*i* S	**Sn**	**01 00 52.0**	**-1.3**
SKR				pmax	pmax		
	comp=N,310nm,0.5s						
SKR				pmax	pmax		
	comp=E,90nm,0.5s						
SKR				pmax	pmax		
	comp=Z,600nm,0.5s						
SKR				pmax	pmax		
	comp=N,1μm,2.0s						
SKR				pmax	pmax		
	comp=E,1μm,2.0s						
SKR				pmax	pmax		
	comp=Z,2μm,2.0s						
SKR				smax	smax		
	comp=N,1μm,0.5s						
SKR				smax	smax		
	comp=E,3μm,0.5s						
SKR				smax	smax		
	comp=N,3μm,2.0s						
SKR				smax	smax		
	comp=E,4μm,2.0s						
PETK	**Petropavlovsk-**	**4.13**	**30**	PN	**Pn**	**01 01 09.3**	**+2.3**
PETK				pmax	pmax		
	comp=Z,4.0nm,0.3s						
PETK				pmax	pmax		
	comp=Z,8.0nm,0.3s						
PETK				MLR	MLR		
	comp=Z,147nm,19.7s						
PETK	**Petropavlovsk-**	**4.13**	**30**	Pn	**Pn**	**01 01 09.2**	**+2.3**
	comp=Z,4.4nm,0.3s,baz=198,slow=15,SNR=60						
PETK				Pg	**Pb**	**01 01 19.3**	**+2.6**
	comp=Z,7.9nm,0.3s,baz=184,slow=14,SNR=17						
PETK				Lg	Lg	01 02 21.0	
	comp=Z,1.4nm,0.3s,baz=194,slow=29,SNR=2.7						
PETK				LR	LR	01 03 05.1	
	comp=Z,146nm,19.7s,baz=201,slow=43						
PET	**Petropavlovsk**	**4.41**	**37**	*e*PN	**Pb**	**01 01 18.9**	**-2.4**
PET				*e*S	**Sb**	**01 02 09.9**	**-4.5**
PET				pmax	pmax		
	comp=Z,31nm,0.6s						
PET				smax	smax		
	comp=E,188nm,0.7s						
PET				smax	smax		
	comp=N,133nm,0.6s						
PET				MLR	MLR		
	comp=Z,400nm,12.0s						
PET				MLR	MLR		
	comp=Z,800nm,14.0s						
ASAJ	**Asahikawa**	**9.69**	**240**	LR	LR	01 05 33.8	
	comp=Z,92nm,21.0s,baz=157,slow=35						
FX1	**Attu Island--F**	**12.28**	**67**	Pn	**Pn**	**01 02 59.0**	**+0.3**
	comp=Z,2.9nm,0.3s,baz=76,slow=20,SNR=6.1						
FX1				Sn	Sn	01 05 09.7	-5.8
	comp=Z,2.1nm,0.3s,baz=217,slow=20,SNR=5.1						
MJAR	**Matsushiro Arr**	**17.50**	**228**	P	**P**	**01 04 06.7**	**-2.4**
	comp=Z,0.1nm,0.3s,baz=28,slow=11,SNR=5.3						
KSRS	**Korea Array**	**22.51**	**247**	P	**P**	**01 05 03.8**	**+0.3**
	comp=Z,0.5nm,0.3s,baz=50,slow=11,SNR=4.1						
ILAR	**Eielson Array**	**33.87**	**41**	P	**P**	**01 06 46.6**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=267,slow=8.7,SNR=5.9						
ZALV	**Zalesovo Beam**	**41.65**	**304**	P	**P**	**01 07 51.0**	**-1.0**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ZALV	**Zalesovo Beam**	**41.65**	**304**	P	**P**	**01 07 51.0**	**-1.0**
	comp=Z,0.8nm,0.6s,baz=63,slow=6.6,SNR=2.9						
MKAR	**Makanchi Array**	**46.38**	**296**	P	**P**	**01 08 28.5**	**-1.7**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR	**Makanchi Array**	**46.38**	**296**	P	**P**	**01 08 28.4**	**-1.7**
	comp=Z,1.4nm,0.8s,baz=57,slow=8.8,SNR=4.7						
KURK	**Kurchatov**	**46.49**	**302**	P	**P**	**01 08 31.5**	**+0.6**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KURBB	**Kurchatov Arra**	**46.59**	**302**	P	**P**	**01 08 31.5**	**-0.2**
	comp=Z,1.7nm,0.6s,baz=70,slow=8.8,SNR=5.3						
YKA	**Yellowknife Ar**	**48.20**	**39**	P	**P**	**01 08 44.5**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=301,slow=7.8,SNR=3.4						
YBH	**Yreka Blue Hor**	**55.75**	**64**	P	**P**	**01 09 42.2**	**+1.5**
	comp=Z,1.3nm,0.8s,baz=210,slow=5.7,SNR=4.1						
NVAR	**Mina Array Bea**	**60.46**	**64**	P	**P**	**01 10 15.6**	**+1.7**
	comp=Z,0.9nm,0.7s,baz=282,slow=7.6,SNR=6.5						
PDAR	**Pinedale Array**	**62.47**	**56**	P	**P**	**01 10 28.4**	**+1.0**
	comp=Z,1.3nm,0.9s,baz=306,slow=3.5,SNR=7.7						
ASAR	**Alice Springs**	**75.14**	**199**	P	**P**	**01 11 45.3**	**-0.9**
	comp=Z,0.7nm,0.7s,baz=17,slow=4.4,SNR=6.5						

NIED ***04*** *01:18:00, 34.°30N×140.°90E, h47km, Mw4.3 Best double couple: M0:3.71000×10^15 NP1:φs265.00000°, δ74.00000°, λ-100.00000°. NP2:φs118.00000°, δ18.00000°, λ-59.00000°.*
BJI ***04*** *01:18:12.6, 34.°34N×140.°93E, h35km, mB4.8/16, mb4.5/23, Ms4.1/13, Ms7 3.9/13*
MOS ***04*** *01:18:13.8±0.9, 34.°21N×140.°65E, h35km, mb4.6/37, Error ellipse: s-maj=11.6km s-min=7.3km az=106.6*
ISCJB ***04*** *01:18:15.0±0.6, 34.°18N±0.°04×140.°67E±0.°04, h44km±4km, mb4.4/71, MS4.0/5, Error ellipse: s-maj=6.2km s-min=5.5km az=26.9*
JMA ***04*** *01:18:14.5±0.2, 34.°26N×140.°85E, h51km±2km, M4.5*
JMA Felt I J1.
NEIC ***04*** *01:18:16.9±0.8, 34.°24N×140.°67E, h45km±7km, mb4.5/37, MW4.3(NIED), Error ellipse: s-maj=4.8km s-min=4.4km az=217.0*
NEIC Recorded [1 JMA] in Chiba.
IDC ***04*** *01:18:17.5±2.0, 34.°22N×140.°66E, h54km±17km, mb4.0/19, mb1 4.2/22, mb1mx4.2/28, mbtmp4.0/22, ML4.3/1, MS3.7/3, Ms1 3.8/3, ms1mx3.0/40, Error ellipse: s-maj=16.7km s-min=12.2km az=65.0*

ISC 04 01:18:15.2±0.5, 34.°19N±0.°04×140.°75E±0.°05, h34km±1km, n179, σ1§24/199, mb4.5/71, MS4.0/5, 2C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.50**	**22**	P	**Pb**	**01 18 24.7**	**-0.7**
BSO3	**Boso 3**	**0.64**	**342**	⇑P	**Pn**	**01 18 27.3**	**-0.2**
BSO3				*e*S	**Sb**	**01 18 36.0**	**-0.6**
BSO4	**Boso 4**	**0.86**	**337**	⇑P	**Pn**	**01 18 30.7**	**-0.2**
BSO4				*e*S	**Sb**	**01 18 42.9**	**-0.1**
KTR	**Katsuura**	**1.02**	**339**	P	**Pn**	**01 18 32.5**	**-0.5**
KTR				S	**Sn**	**01 18 45.8**	**-0.3**
TATJ	**Tateyama 2**	**1.10**	**320**	P	**Pn**	**01 18 34.5**	**+0.4**
TATJ				S	**Sn**	**01 18 48.1**	**0.0**
JIM2	**Oshima 3**	**1.21**	**296**	P	**Pn**	**01 18 35.8**	**+0.1**
JIM2				*e*S	**Sn**	**01 18 50.1**	**-0.8**
JCN	**Nagara**	**1.30**	**340**	P	**Pn**	**01 18 36.9**	**-0.1**
JCN				*e*S	**Sn**	**01 18 54.0**	**+0.8**
JYO	**Yokosk**	**1.36**	**319**	⇓P	**Pn**	**01 18 38.3**	**+0.5**
JYO				*e*S	**Sb**	**01 18 55.6**	**-1.7**
MJAR	**Matsushiro Arr**	**3.13**	**319**	P	**Pn**	**01 19 03.0**	**+0.8**
MJAR				S	**Sn**	**01 19 38.8**	**+0.4**
MJAR	**Matsushiro Arr**	**3.13**	**319**	P	**Pn**	**01 19 03.0**	**+0.8**
	35nm,0.3s,baz=150,slow=13,SNR=121						
MJAR				S	**Sn**	**01 19 38.8**	**+0.4**
	42nm,0.3s,baz=152,slow=21,SNR=10						
MJAR				LR	LR	01 20 24.8	
	comp=Z,397nm,21.8s,baz=120,slow=42						
MAT	**Matsushiro**	**3.13**	**319**	P	**Pn**	**01 19 02.6**	**+0.4**
MAT				S	**Sn**	**01 19 38.8**	**+0.4**
CBIJ	**Chichi jima**	**7.18**	**170**	P	**Pn**	**01 19 58.8**	**+1.0**
CBIJ				S	**Sn**	**01 21 14.5**	**-3.7**
CBIJ	**Chichi jima**	**7.18**	**170**	P	**Pn**	**01 19 58.8**	**+1.0**
	22nm,0.3s,baz=158,slow=23,SNR=11						
CBIJ				S	**Sn**	**01 21 14.5**	**-3.7**
	10nm,0.3s,baz=287,slow=19,SNR=2.1						
ERM	**Erimo**	**8.04**	**13**	*e*P	**Pn**	**01 20 06.8**	**-2.6**
ERM	**Erimo**	**8.04**	**13**	*e*Pn	**Pn**	**01 20 06.8**	**-2.6**
ERM				*e*Sn	Sn	01 21 24.0	-15
JNU	**Nakatsue**	**8.30**	**265**	P	Pn	01 20 06.9	-6.3
JNU	**Nakatsue**	**8.30**	**265**	P	Pn	01 20 06.9	-6.3
	0.7nm,0.3s,baz=66,slow=20,SNR=3.7						
ASAJ	**Asahikawa**	**10.01**	**8**	*e*Pn	Pn	01 20 32.8	-3.7
ASAJ				*e*Sn	Sn	01 22 20.1	-7.5
ASAJ	**Asahikawa**	**10.01**	**8**	P	Pn	01 20 32.9	-3.7
	7.4nm,0.3s,baz=220,slow=11,SNR=27						
ASAJ				S	Sn	01 22 17.5	-10
	2.2nm,0.3s,baz=270,slow=19,SNR=3.3						
YUK	**Yuzh-Kuril'sk**	**10.60**	**20**	*d i* P	**Pn**	**01 20 45.0**	**+0.5**
YUK				pmax	pmax		
	comp=N,19nm,0.2s						
YUK				pmax	pmax		
	comp=E,17nm,0.2s						
YUK				pmax	pmax		
	comp=Z,58nm,0.2s						
KSRS	**Korea Array**	**10.91**	**291**	P	Pn	01 20 55.4	+6.6
	comp=Z,0.3nm,0.3s,baz=106,slow=14,SNR=11						
KSAR	**Wonju Array Be**	**10.94**	**291**	P	Pn	01 20 55.5	+6.2
USRK	**Ussuriysk Arra**	**12.08**	**328**	P	**Pn**	**01 21 05.9**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=138,slow=12,SNR=18						
YSS	**Yuzh-Sakhalins**	**12.84**	**6**	*e*P	**Pn**	**01 21 12.0**	**-3.1**
YSS				pmax	pmax		
	comp=Z,21nm,0.7s						
MDJ	**Mudanjiang**	**13.51**	**324**	P	**P**	**01 21 31.7**	**-1.3**
MDJ				pmax	pmax		
	comp=Z,14nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,110nm,5.1s						
CN2	**Changchun**	**15.26**	**313**	*e*P	**Pn**	**01 21 48.0**	**0.0**
KLR	**Kul'dur**	**16.44**	**339**	*e*P	Pn	01 21 57.3	-5.8
NJ2	**Nanjing**	**18.46**	**269**	*e*P	**P**	**01 22 27.6**	**-0.4**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PETK	**Petropavlovsk-**	**22.43**	**27**	P	**P**	**01 23 13.1**	**+2.2**
PETK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
PETK	**Petropavlovsk-**	**22.43**	**27**	P	**P**	**01 23 13.1**	**+2.2**
PETK	**Petropavlovsk-**	**22.43**	**27**	P	**P**	**01 23 13.1**	**+2.2**
	comp=Z,0.9nm,0.3s,baz=179,slow=7.2,SNR=10						
PET	**Petropavlovsk**	**22.74**	**29**	*e*P	**P**	**01 23 14.1**	**0.0**
PET				pmax	pmax		
	comp=Z,16nm,1.7s						
HHC	**Hu-ho-hao-te**	**24.01**	**295**	*e*P	**P**	**01 23 24.6**	**-2.3**
HHC				pP	**pP**	**01 23 34.0**	**-2.6**
HHC				sP	**sP**	**01 23 37.9**	**-2.9**
HHC				PP	**PnPn**	**01 24 01.3**	**+5.0**
HHC				S	**S**	**01 27 35.5**	**-6.3**
HHC				sS	sS	01 27 49.8	-8.0
HHC				pmax	pmax		
	comp=Z,45nm,0.9s						
HHC				pmax	pmax		
	comp=Z,760nm,6.9s						
HHC				LR	LR		
	comp=N,210nm,12.5s						
HHC				LR	LR		
	comp=E,300nm,10.2s						
HHC				LR	LR		
	comp=Z,280nm,11.8s						
XAN	**Xi'an**	**26.30**	**279**	P	**P**	**01 23 47.4**	**-0.3**
XAN				pmax	pmax		
	comp=Z,2.0nm,1.4s						
XAN				pmax	pmax		
	comp=Z,53nm,9.6s						
ULN	**Ulaanbaatar**	**28.61**	**309**	*e*P	**P**	**01 24 09.2**	**+0.8**
	comp=Z,7.6nm,0.9s						
SONM	**Songino Array**	**29.02**	**308**	P	**P**	**01 24 12.0**	**0.0**
SONM	**Songino Array**	**29.02**	**308**	P	**P**	**01 24 12.0**	**0.0**
	comp=Z,2.8nm,0.9s,baz=113,slow=9.8,SNR=13						
LZH	**Lanzhou**	**30.13**	**284**	*e*P	**P**	**01 24 21.1**	**-0.9**
LZH				pP	**pP**	**01 24 30.3**	**-1.5**
LZH				sP	**sP**	**01 24 33.7**	**-2.2**
LZH				*e*S	**S**	**01 29 14.1**	**-4.6**
LZH				pmax	pmax		
	comp=Z,15nm,1.0s						
LZH				pmax	pmax		
	comp=Z,42nm,4.0s						
LZH				LR	LR		
	comp=N,230nm,10.9s						
LZH				LR	LR		
	comp=E,220nm,11.1s						
LZH				LR	LR		
	comp=Z,390nm,12.8s						
GYA	**Guiyang**	**30.31**	**265**	*e*P	**P**	**01 24 22.2**	**-1.4**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CD2	**Chengdu**	**31.24**	**274**	P	**P**	**01 24 33.5**	**+1.8**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
TLY	**Talaya**	**31.86**	**315**	*e*P	P	01 24 40.6	+3.7
TLY				pmax	pmax		
	comp=Z,11nm,1.5s						
KMI	**Kunming**	**34.09**	**265**	P	**P**	**01 24 59.0**	**+2.2**
KMI				pP	**pP**	**01 25 08.3**	**+1.6**
KMI				PP	**PP**	**01 26 13.5**	**-0.8**
KMI				S	S	01 30 12.8	-7.9
KMI				pmax	pmax		
	comp=Z,5.0nm,0.6s						
KMI				LR	LR		
	comp=N,150nm,5.0s						
KMI				LR	LR		
	comp=E,150nm,4.7s						
KMI				LR	LR		
	comp=Z,85nm,5.2s						
WMQ	**Urumqi**	**41.70**	**300**	P	**P**	**01 26 02.4**	**+1.6**
WMQ				pP	**pP**	**01 26 12.2**	**+1.4**
WMQ				sP	**sP**	**01 26 16.2**	**+1.3**
WMQ				PP	**PnPn**	**01 27 42.4**	**0.0**
WMQ				pmax	pmax		
	comp=Z,11nm,0.8s						
WMQ				pmax	pmax		
	comp=Z,180nm,6.8s						
WMQ				LR	LR		
	comp=N,76nm,22.3s						
WMQ				LR	LR		
	comp=E,35nm,21.7s						
WMQ				LR	LR		
	comp=Z,65nm,22.3s						
ZAA0	**Zalesovo Array**	**43.48**	**315**	*e*P	**P**	**01 26 14.3**	**-0.6**
ZALV	**Zalesovo Beam**	**43.48**	**315**	P	**P**	**01 26 14.5**	**-0.4**
ZALV				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ZALV	**Zalesovo Beam**	**43.48**	**315**	P	**P**	**01 26 14.5**	**-0.4**
ZALV	**Zalesovo Beam**	**43.48**	**315**	P	**P**	**01 26 14.5**	**-0.4**
	comp=Z,4.2nm,0.9s,baz=93,slow=7.4,SNR=11						
PMG	**Port Moresby**	**43.78**	**171**	*e*P	**P**	**01 26 19.2**	**+1.5**
	comp=Z,22nm,1.0s						
NVS	**Novosibirsk**	**44.45**	**316**	*e*P	**P**	**01 26 21.1**	**-1.6**
MK31	**Makanchi Array**	**45.22**	**304**	*e*P	**P**	**01 26 29.0**	**0.0**
MK31	**Makanchi Array**	**45.22**	**304**	*e*P	**P**	**01 26 29.0**	**0.0**
MKAR	**Makanchi Array**	**45.22**	**304**	P	**P**	**01 26 28.9**	**-0.1**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MKAR	**Makanchi Array**	**45.22**	**304**	*e*P	**P**	**01 26 29.2**	**+0.2**
MKAR	**Makanchi Array**	**45.22**	**304**	P	**P**	**01 26 28.9**	**-0.1**
	comp=Z,3.6nm,0.7s,baz=83,slow=9.4,SNR=22						
KULM	**Kulim**	**46.95**	**241**	*e*P	**P**	**01 26 44.2**	**+1.3**
	comp=Z,6.7nm,0.9s						
KDU	**Kakadu**	**47.28**	**191**	P	**P**	**01 26 46.3**	**+1.0**
	baz=1.8,SNR=3.9						
MTN	**Manton Dam**	**47.66**	**193**	P	**P**	**01 26 48.8**	**+0.5**
	baz=2.2,SNR=6.6						
TKM2	**Tokmak 2**	**50.55**	**300**	*e*P	**P**	**01 27 11.3**	**+0.7**
TKM2				pmax	pmax		
	comp=Z,17nm,1.5s						
TKM2	**Tokmak 2**	**50.55**	**300**	*e*P	**P**	**01 27 11.3**	**+0.7**
	comp=Z,17nm,1.5s						
KNRA	**Kununurra**	**50.89**	**195**	P	**P**	**01 27 14.7**	**+1.8**
	baz=3.9,SNR=3.5						
KSH	**Kashi**	**51.12**	**296**	*e*P	**P**	**01 27 16.3**	**+1.6**
KSH				pP	**pP**	**01 27 26.9**	**+1.9**
KSH				PP	**PP**	**01 29 13.8**	**+2.4**
KSH				PcS	**PcS**	**01 32 28.0**	**+0.1**
KSH				S	**S**	**01 34 30.8**	**+0.4**
KSH				pmax	pmax		
	comp=Z,52nm,4.8s						
KSH				LR	LR		
	comp=N,84nm,4.1s						
KSH				LR	LR		
	comp=E,62nm,5.3s						
KSH				LR	LR		
	comp=Z,88nm,5.2s						
AAK	**Ala-Archa**	**51.41**	**300**	*e*P	**P**	**01 27 17.1**	**+0.2**

comp=Z,2.1nm,0.8s,baz=51,slow=9.6,SNR=4.5
YKW3 Yellowknife Ar 66.50 29 *e*P **P 01 29 01.2 +0.2**
YKA Yellowknife Ar 66.54 29 P **P 01 29 00.7 -0.6**
YKA Yellowknife Ar 66.54 29 P **P 01 29 00.7 -0.6**
comp=Z,1.5nm,0.8s,baz=300,slow=6.3,SNR=7.3
JOF Joensuu 68.22 332 *e*P **P 01 29 11.7 -0.2**
JOF pmax pmax
comp=Z,1.0nm,0.4s
JOF Joensuu 68.22 332 *e*p **P 01 29 11.7 -0.2**
comp=Z,0.8nm,0.4s
OBN Obninsk 70.05 324 *i* P **P 01 29 23.6 +0.2**
FINES FINESS Array B 71.08 333 P **P 01 29 28.5 -1.0**
FINES FINESS Array B 71.08 333 P **P 01 29 28.5 -1.0**
comp=Z,2.4nm,0.7s,baz=29,slow=3.2,SNR=6.1
KBZ Khabaz 72.35 311 P **P 01 29 37.2 -0.3**
KBZ pmax pmax
comp=Z,6.0nm,1.0s
KBZ Khabaz 72.35 311 P **P 01 29 37.1 -0.3**
KBZ Khabaz 72.35 311 P **P 01 29 37.1 -0.3**
comp=Z,5.9nm,1.0s,baz=45,slow=2.8,SNR=8.9
KIV Kislovodsk 72.36 311 ⇓*i*P **P 01 29 38.9 +1.1**
KIV *e* 01 32 18.9
KIV *e*SS SS 01 43 31.6 -5.3
KIV pmax pmax
comp=Z,14nm,1.0s
NEW Newport 72.55 43 *e*P **P 01 29 38.9 +0.2**
comp=Z,4.5nm,1.1s
K05A Summer Lake 73.18 50 *e*P **P 01 29 44.3 +1.5**
comp=Z,21nm,1.5s
WVOR Wild Horse Val 74.75 49 *e*P **P 01 29 52.2 +0.3**
WVOR pmax pmax
comp=Z,5.0nm,1.3s
WVOR Wild Horse Val 74.75 49 *e*P **P 01 29 52.2 +0.3**
comp=Z,5.4nm,1.3s
BEKR Beckworth 75.02 52 *e*P **P 01 29 54.0 +0.5**
comp=Z,1.5nm,0.8s
CMB Columbia Colle 75.97 54 *e*P **P 01 30 00.3 +1.5**
CMB pmax pmax
comp=Z,4.0nm,0.9s
CMB Columbia Colle 75.97 54 *e*P **P 01 30 00.3 +1.5**
comp=Z,3.8nm,0.9s
AKASG Malin Array Be 76.21 322 P **P 01 29 59.1 -0.8**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG Malin Array Be 76.21 322 P **P 01 29 59.1 -0.8**
AKASG Malin Array Be 76.21 322 P **P 01 29 59.1 -0.8**
comp=Z,2.4nm,0.5s,baz=46,slow=6.1,SNR=9.3
KIEV Kiev 76.22 322 *e*P **P 01 29 59.1 -0.9**
KIEV pmax pmax
comp=Z,5.0nm,0.8s
KIEV Kiev 76.22 322 *e*P **P 01 29 59.1 -0.9**
comp=Z,5.3nm,0.8s
FFC Flin Flon 76.39 32 *e*P **P 01 30 00.6 -0.3**
FFC pmax pmax
comp=Z,18nm,1.1s
FFC Flin Flon 76.39 32 *e*P **P 01 30 00.6 -0.3**
comp=Z,18nm,1.1s
MIB Mutribah 76.48 297 *e*P **P 01 30 00.5 -1.3**
MIB AMb AMB 01 30 02.3
comp=Z,20nm,1.3s
LRM Limekiln Ridge 76.56 43 *e*P **P 01 30 02.5 +0.2**
NB2 NORSAR Subarra 76.59 337 P **P 01 30 01.3 -0.6**
comp=Z,8.4nm,1.1s,baz=43,slow=5.9
NOA NORSAR Array B 76.59 337 P **P 01 30 01.6 -0.3**
NOA NORSAR Array B 76.59 337 P **P 01 30 01.6 -0.3**
comp=Z,2.4nm,0.8s,baz=40,slow=5.7,SNR=6.2
HLID Hailey 76.71 46 *e*P **P 01 30 03.3 +0.2**
comp=Z,2.3nm,1.0s
RDF Al-Radifah 76.78 296 *e*P **P 01 30 03.0 -0.6**
RDF AMb AMB 01 30 09.2
comp=Z,56nm,1.3s
NAY Al-Naaiem 76.84 296 *e*P **P 01 30 03.0 -0.8**
NAY AMb AMB 01 30 06.3
comp=Z,0.6nm,0.9s
RST Umm Al-Ruwaisa 76.89 297 *e*P **P 01 30 03.1 -1.1**
RST AMb AMB 01 30 04.5
comp=Z,136nm,0.9s
BOZ Bozeman (W) 77.13 43 *e*P **P 01 30 06.0 +0.5**
BOZ pmax pmax
comp=Z,2.0nm,1.0s
BOZ Bozeman (W) 77.13 43 *e*P **P 01 30 06.0 +0.5**
comp=Z,2.3nm,1.0s
NVAR Mina Array Bea 77.14 52 P **P 01 30 06.6 +0.9**
NVAR Mina Array Bea 77.14 52 P **P 01 30 06.6 +0.9**
comp=Z,3.8nm,0.8s,baz=281,slow=6.2,SNR=23
ELK Elko 77.81 49 *e*P **P 01 30 10.3 +0.9**
comp=Z,5.0nm,1.0s
IMW Indian Meadow 78.56 44 *e*P **P 01 30 14.7 +1.1**
comp=Z,3.8nm,1.0s
MOOW Moose Ponds 78.77 44 *e*P **P 01 30 15.4 +0.8**
comp=Z,1.8nm,0.9s
TPAW Teton Pass 78.80 45 *e*P **P 01 30 15.5 +0.6**
comp=Z,4.2nm,1.0s
LOHW Long Hollow 78.93 45 *e*P **P 01 30 15.9 +0.4**
R11A Troy Canyon, C 78.95 51 *e*P **P 01 30 16.2 +0.5**
BGU Big Grassy Mou 79.07 48 *e*P **P 01 30 17.6 +1.3**
comp=Z,32nm,2.5s
HWUT Hardware Ranch 79.56 47 *e*P **P 01 30 19.5 +0.6**
comp=Z,2.9nm,1.1s
DUG Dugway 79.63 48 *e*P **P 01 30 20.3 +1.0**
DUG pmax pmax
comp=Z,5.0nm,0.8s
DUG Dugway 79.63 48 *e*P **P 01 30 20.3 +1.0**
comp=Z,5.4nm,0.8s
BW06 Boulder Array 80.05 45 *e*P **P 01 30 21.9 +0.2**
comp=Z,2.0nm,0.9s
PDAR Pinedale Array 80.05 45 P **P 01 30 21.8 +0.1**
PDAR Pinedale Array 80.05 45 P **P 01 30 21.8 +0.1**
comp=Z,1.4nm,0.7s,baz=274,slow=2.4,SNR=11
PDAR LR LR 02 03 32.1
comp=Z,74nm,21.2s,baz=340,slow=34
BUR08 Bucovina Ar. S 80.19 322 *e*P **P 01 30 21.7 -0.4**
SHPR Sheep Range 80.28 52 *e*P **P 01 30 24.1 +1.2**
BR131 Keskin Array S 80.33 312 *e*P **P 01 30 23.1 0.0**
comp=Z,1.3nm,0.7s
BRTR Keskin Array B 80.33 312 P **P 01 30 23.4 +0.3**
BRTR Keskin Array B 80.33 312 P **P 01 30 23.4 +0.3**
comp=Z,1.7nm,0.9s,baz=116,slow=3.7,SNR=7.2
KOLS Kolonicke sedl 80.80 324 *e*P **P 01 30 24.1 -1.2**
KOLS Kolonicke sedl 80.80 324 *e*P **P 01 30 24.1 -1.2**
CCUT Cedar City 80.84 51 *e*P **P 01 30 27.4 +1.4**
PFO Pinyon Flat Ob 81.08 55 *e*P **P 01 30 27.8 +0.5**
comp=Z,5.6nm,1.0s
CRVS Cervenica-Dubn 81.21 324 *e*P **P 01 30 25.8 -1.7**
CRVS Cervenica-Dubn 81.21 324 *e*P **P 01 30 25.8 -1.7**
RAYN Ar Rayn 81.23 292 *e*P **P 01 30 28.2 +0.1**
comp=Z,13nm,1.4s
SRU San Rafael 81.70 48 *e*P **P 01 30 31.2 +0.8**
SRU pmax pmax
comp=Z,6.0nm,0.9s
SRU San Rafael 81.70 48 *e*P **P 01 30 31.2 +0.8**
comp=Z,6.3nm,0.9s
KECS Kecovo 81.97 325 *e*P **P 01 30 31.1 -0.4**
KECS Kecovo 81.97 325 *e*P **P 01 30 31.1 -0.4**
ULM Lac du Bonnet 82.17 33 P **P 01 30 32.2 -0.3**
ULM Lac du Bonnet 82.17 33 P **P 01 30 32.2 -0.3**
comp=Z,1.6nm,0.4s,baz=328,slow=1.0,SNR=3.2
GLA Glamis 82.52 55 *e*P **P 01 30 35.5 +0.8**
GLA Glamis 82.52 55 *e*P **P 01 30 35.5 +0.8**
VYHS Vyhne 82.75 325 *e*P **P 01 30 35.6 0.0**
VYHS Vyhne 82.75 325 *e*P **P 01 30 35.6 0.0**
GERES GERESS Array B 84.83 328 P **P 01 30 45.8 -0.5**
GERES GERESS Array B 84.83 328 P **P 01 30 45.8 -0.5**
comp=Z,0.9nm,0.6s,baz=39,slow=5.3,SNR=10
SCHQ Schefferville 88.21 16 LR LR 02 15 25.9
comp=Z,112nm,20.3s,baz=31,slow=39
AQU L'Aquila 89.84 324 *e*P **P 01 31 10.6 0.0**
comp=Z,31nm,1.4s
BNI Bardonecchia 90.81 329 *e*P **P 01 31 15.4 +0.3**
BNI pmax pmax
comp=Z,5.0nm,0.9s
BNI Bardonecchia 90.81 329 *e*P **P 01 31 15.4 +0.3**
comp=Z,5.0nm,0.9s
WMOK Wichita Mounta 91.65 45 *e*P **P 01 31 19.4 +0.3**
WMOK pmax pmax
comp=Z,1.0nm,0.6s
WMOK Wichita Mounta 91.65 45 *e*P **P 01 31 19.4 +0.3**
comp=Z,1.3nm,0.6s
TXAR Lajitas Array 92.28 52 P **P 01 31 22.6 +0.4**
TXAR Lajitas Array 92.28 52 P **P 01 31 22.6 +0.4**
comp=Z,1.3nm,0.8s,baz=300,slow=3.2,SNR=14
TORD Torodi Ar. Bea 118.91 313 PKP **PKPdf 01 36 59.4 -1.4**
TORD Torodi Ar. Bea 118.91 313 PKP **PKPdf 01 36 59.4 -1.4**
comp=Z,0.3nm,0.5s,baz=24,slow=2.3,SNR=5.6
SAML Samuel 146.61 47 *e*PKPbc **PKPbc 01 37 53.1 -0.7**
LPAZ La Paz 148.53 63 *e*PKPbc **PKPbc 01 38 00.0 +0.3**
LPAZ La Paz 148.53 63 PKPbc **PKPbc 01 38 00.1 +0.4**
comp=Z,2.6nm,0.8s,baz=351,slow=5.3,SNR=11
LCO Las Campanas 152.78 88 *e*PKPbc **PKPbc 01 38 09.5 +0.4**

IDC 04 01:36:32.1±2.7, 22°.43S×179°.92E, h0km, mb4.0/3, mb1 4.4/3, mb1mx3.8/18, mbtmp4.0/3, Error ellipse: s-maj=212.2km s-min=31.1km az=162.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.22**	**259**	P	P	01 44 26.2	-1.0
	0.9nm,0.3s,baz=93,slow=6.3,SNR=19						
WRA	**Warramunga Arr**	**42.45**	**265**	P	P	01 44 29.6	+0.4
	2.4nm,0.3s,baz=99,slow=6.8,SNR=42						
TXAR	**Lajitas Array**	**89.72**	**58**	P	P	01 49 32.5	-0.2
	0.2nm,0.7s,baz=226,slow=4.7,SNR=2.8						
BRTR	**Keskin Array B**	**146.62**	**309**	PKPbc	PKPbc	01 56 15.9	-0.2
	0.4nm,0.6s,baz=60,slow=3.5,SNR=3.4						

NNC ***04*** *01:37:57.9±7.7, 36°.83N×70°.55E, h178km±84km, mb2.9, mpv3.9, Error ellipse: s-maj=64.9km s-min=42.4km az=22.0*

ISC 04 01:37:53.5±3.0, 36°.6N±0°.2×70°.4E±0°.1, h88km, n11, σ2§02/14, 3C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.07**	**24**	P	**Pn**	**01 39 21.9**	**+1.0**
	SNR=55						
DLH	**Dalhousie**	**6.15**	**130**	*e*P	Px	01 40 20.0	
KK31	**Karatay Array**	**6.47**	**1**	⇓P	**Pn**	**01 39 28.8**	**+2.7**
	5.7nm,0.3s,baz=174,slow=12,SNR=139						
KK31				S	**Sn**	**01 40 41.2**	**+2.8**
	2.1nm,0.3s,baz=184,slow=22,SNR=11						
EKS2	**Erkin-Say**	**6.57**	**22**	P	**Pn**	**01 39 29.1**	**+1.5**
	SNR=11						
KZA	**Kyzart**	**6.63**	**33**	P	**Pn**	**01 39 27.8**	**-0.8**
	SNR=6.3						
AAK	**Ala-Archa**	**6.79**	**27**	P	**Pn**	**01 39 31.6**	**+1.0**
	SNR=7.6						
USP	**Ospenovka**	**7.35**	**24**	P	**Pn**	**01 39 39.0**	**+1.0**
	SNR=11						
TKM2	**Tokmak 2**	**7.46**	**31**	⇑P	**Pn**	**01 39 39.3**	**-0.4**
	3.1nm,0.6s						
TKM2				⇓S	**Sn**	**01 41 02.3**	**-0.6**
	4.7nm,0.8s						
TKM2	**Tokmak 2**	**7.46**	**31**	P	**Pn**	**01 39 40.2**	**+0.5**
	SNR=7.0						
AB31	**Akbulak array**	**14.73**	**332**	P	**Pn**	**01 41 17.4**	**+0.2**
	0.3nm,0.3s,baz=149,slow=11,SNR=21						
AB31				⇑S	**Sn**	**01 43 55.4**	**-3.9**
	1.0nm,0.6s,baz=150,slow=23,SNR=4.1						
AKTO	**Aktyubinsk**	**16.42**	**331**	⇑P	**P**	**01 41 39.4**	**-0.2**
	1.8nm,1.0s						
AKTO				⇓S	**Sn**	**01 44 37.4**	**-2.8**
	2.5nm,1.4s						

NIED ***04*** *01:42:00, 41°.00N×142°.20E, h41km, Mw3.8 Best double couple: M0:5.84000×10^14 NP1:φ=4.00000°, δ=74.00000°, λ=88.00000°. NP2:φ=193.00000°, δ=16.00000°, λ=99.00000°.*
ISCJB ***04*** *01:42:10.3±0.5, 41°.02N±0°.03×142°.23E±0°.06, h63km±5km, mb3.9/8, Error ellipse: s-maj=7.8km s-min=4.2km az=23.1*
JMA ***04*** *01:42:10.3±0.1, 41°.01N×142°.29E, h47km±4km, M3.9*
JMA Felt I J1.
IDC ***04*** *01:42:12.4±2.4, 41°.03N×142°.35E, h70km±21km, mb3.6/7, mb1 3.7/11, mb1mx3.5/29, mbtmp3.6/11, MS2.7/1, Ms1 2.7/1, ms1mx2.3/32, Error ellipse: s-maj=26.4km s-min=19.8km az=109.0*

ISC 04 01:42:11.1±1.1, 41°.03N±0°.04×142°.22E±0°.05, h54km±10km, n29, σ0§80/40, mb4.1/8, 4D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JANG	**Nango**	**0.84**	**220**	P	**Pn**	**01 42 26.4**	**-0.5**
JANG				S	**Sn**	**01 42 37.9**	**-0.5**
JTM	**Tenmabayashi**	**0.90**	**255**	⇓P	**Pn**	**01 42 27.6**	**-0.1**
JTM				*e*S	**Sn**	**01 42 40.4**	**+0.6**
JOT	**Ohata**	**0.95**	**292**	⇓P	**Pn**	**01 42 27.9**	**-0.4**
JOT				*e*S	**Sn**	**01 42 40.4**	**-0.6**
JEM	**Erimo**	**1.22**	**35**	P	**Pn**	**01 42 31.6**	**-0.2**
JEM				*e*S	**Sn**	**01 42 47.2**	**0.0**
JKB	**Kayabe**	**1.24**	**314**	⇓P	**Pn**	**01 42 31.6**	**-0.5**
JKB				*e*S	**Sn**	**01 42 47.6**	**-0.2**
JNBK	**Urakawa-nobuka**	**1.32**	**18**	P	**Pn**	**01 42 33.5**	**+0.3**
JSR	**Shiriuchi**	**1.45**	**291**	⇓P	**Pn**	**01 42 35.1**	**+0.2**
JSR				*e*S	**Sn**	**01 42 53.3**	**+0.5**
JAH	**Hinai**	**1.47**	**236**	P	**Pn**	**01 42 35.6**	**+0.4**
JAH				*e*S	**Sn**	**01 42 54.1**	**+0.8**
JNB	**Noboribetsu**	**1.69**	**329**	P	**Pn**	**01 42 37.8**	**-0.5**
JNB				S	**Sn**	**01 42 58.7**	**-0.1**
JOM	**Ohasama**	**1.71**	**205**	P	**Pn**	**01 42 38.4**	**-0.1**
JOM				*e*S	**Sn**	**01 42 59.2**	**+0.1**
JIW	**Iwasaki**	**1.73**	**256**	P	**Pn**	**01 42 39.2**	**+0.3**
JBT2	**Biratori 2**	**1.75**	**4**	P	**Pn**	**01 42 39.4**	**+0.3**
JBT2				*e*S	**Sn**	**01 43 00.7**	**+0.3**
JYM2	**Yakumo 2**	**1.76**	**309**	P	**Pn**	**01 42 39.6**	**+0.3**
JCH	**Churui**	**1.80**	**28**	P	**Pn**	**01 42 40.1**	**+0.3**
JEW	**Eniwo**	**1.90**	**343**	P	**Pn**	**01 42 41.5**	**+0.4**
JEW				*e*S	**Sn**	**01 43 05.4**	**+1.5**
ASAJ	**Asahikawa**	**3.10**	**5**	P	**Pn**	**01 42 58.4**	**+0.8**
	9.8nm,0.3s,baz=212,slow=7.8,SNR=14						
MAT	**Matsushiro**	**5.46**	**216**	P	**Pn**	**01 43 31.8**	**+1.8**
MAT				*e*S	**Sn**	**01 44 32.2**	**+0.7**
MJAR	**Matsushiro Arr**	**5.46**	**216**	P	**Pn**	**01 43 32.5**	**+2.5**
	1.2nm,0.3s,baz=35,slow=12,SNR=6.7						
USRK	**Ussuriysk Arra**	**8.18**	**296**	P	**Pn**	**01 44 09.2**	**+2.1**
	0.7nm,0.3s,baz=98,slow=14,SNR=9.5						
KSRS	**Korea Array**	**11.64**	**257**	P	Pn	01 44 58.2	+3.8
	0.4nm,0.3s,baz=72,slow=13,SNR=4.8						
KSRS				LR	LR	01 48 59.5	
	comp=Z,38nm,19.8s,baz=55,slow=35						
ZALV	**Zalesovo Beam**	**39.79**	**309**	P	**P**	**01 49 39.0**	**+0.4**
	1.3nm,0.4s,baz=88,slow=8.3,SNR=3.0						
MKAR	**Makanchi Array**	**42.64**	**299**	P	**P**	**01 50 02.1**	**+0.1**
	1.6nm,0.5s,baz=85,slow=10.0,SNR=27						
KURBB	**Kurchatov Arra**	**44.14**	**305**	P	**P**	**01 50 13.8**	**-0.2**
	1.1nm,0.3s,baz=80,slow=9.0,SNR=11						
ILAR	**Eielson Array**	**45.82**	**34**	P	**P**	**01 50 26.5**	**-0.7**
	0.3nm,0.7s,baz=264,slow=6.3,SNR=4.1						
WRA	**Warramunga Arr**	**61.09**	**188**	P	**P**	**01 52 18.7**	**-0.8**
	0.5nm,0.5s,baz=6.2,slow=6.9,SNR=4.6						
JOF	**Joensuu**	**62.75**	**331**	*e*p	**P**	**01 52 30.4**	**+0.2**
	1.1nm,0.4s						
KAF	**Kangasniemi**	**65.06**	**332**	*e*p	**P**	**01 52 44.8**	**-0.5**
FINES	**FINESS Array B**	**65.59**	**332**	P	**P**	**01 52 48.7**	**-0.1**
	1.5nm,0.5s,baz=51,slow=8.8,SNR=12						
GERES	**GERESS Array B**	**79.65**	**328**	P	**P**	**01 54 12.9**	**+0.3**
	0.3nm,0.4s,baz=46,slow=7.6,SNR=4.9						

ISCJB ***04*** *01:46:34.9±0.5, 27°.60N±0°.06×140°.4E±0°.1, h500km, mb3.6/5, Error ellipse: s-maj=16.8km s-min=6.9km az=169.3*
IDC ***04*** *01:46:35.2±0.6, 27°.53N×140°.16E, h484km±17km, mb3.3/5, mb1 3.3/7, mb1mx2.9/26, mbtmp3.2/7, Error ellipse: s-maj=46.9km s-min=13.1km az=78.0*
JMA ***04*** *01:46:36.3±0.1, 27°.77N×140°.63E, h498km, M3.7*

ISC 04 01:46:35.6±0.8, 27°.65N±0°.08×140°.5E±0°.2, h500km, n17, σ1§49/23, mb3.8/5, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.58**	**110**	P	**P**	**01 47 39.5**	**+0.7**
CBIJ				*e*S	**S**	**01 48 28.9**	**-1.2**
CBIJ	**Chichi jima**	**1.58**	**110**	P	**P**	**01 47 39.5**	**+0.7**
	baz=284,slow=19						
CBIJ				S	**S**	**01 48 29.3**	**-0.8**
	31nm,0.3s,baz=308,slow=20,SNR=13						
JHHJ	**Haha-jima-NKT**	**1.79**	**124**	P	**P**	**01 47 40.8**	**+1.1**
JHHJ				S	**S**	**01 48 32.1**	**+0.4**
BSO3	**Boso 3**	**7.13**	**360**	*e*S	**S**	**01 49 48.7**	**-1.7**
BSO4	**Boso 4**	**7.32**	**359**	P	**P**	**01 48 26.9**	**+2.2**
BSO4				*e*S	**S**	**01 49 52.9**	**-1.3**
JIE	**Ise**	**7.47**	**335**	P	**P**	**01 48 27.5**	**+1.1**
JNY	**Yasuok**	**8.01**	**344**	P	**P**	**01 48 33.9**	**+1.9**
JEG	**Eigenji**	**8.25**	**336**	P	**P**	**01 48 36.7**	**+2.2**
JRY	**Ryogami san**	**8.45**	**351**	P	**P**	**01 48 37.8**	**+1.3**
JAG	**Ashikaga**	**8.79**	**354**	P	**P**	**01 48 39.8**	**-0.2**
JAG				*e*S	**S**	**01 50 18.8**	**-3.6**
MJAR	**Matsushiro Arr**	**9.08**	**348**	P	**P**	**01 48 43.9**	**+0.9**
	0.8nm,0.3s,baz=173,slow=12,SNR=5.5						
MJAR				S	**S**	**01 50 29.2**	**+1.3**
	0.4nm,0.3s,baz=180,slow=27,SNR=3.3						
USRK	**Ussuriysk Arra**	**17.88**	**340**	P	**P**	**01 50 14.9**	**+0.3**
	0.3nm,0.3s,baz=149,slow=7.4,SNR=4.9						
PSI	**Prapat**	**46.77**	**246**	P	**P**	**01 54 18.2**	**-1.5**
	1.5nm,0.3s,baz=111,slow=17,SNR=3.4						
WRA	**Warramunga Arr**	**47.69**	**188**	P	**P**	**01 54 25.8**	**-0.6**
	1.3nm,0.3s,baz=6.9,slow=7.7,SNR=12						
ZALV	**Zalesovo Beam**	**48.10**	**319**	P	**P**	**01 54 28.4**	**-0.5**
	0.5nm,0.3s,baz=74,slow=6.2,SNR=2.4						
ASAR	**Alice Springs**	**51.42**	**188**	P	**P**	**01 54 53.5**	**-0.4**
	0.7nm,0.4s,baz=359,slow=5.0,SNR=12						
FINES	**FINESS Array B**	**76.79**	**333**	P	**P**	**01 57 35.7**	**+0.8**
	4.2nm,0.9s,baz=90,slow=4.7,SNR=3.6						

IDC 04 01:51:12.6±7.8, 12°.97N×92°.80E, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.4/27, mbtmp3.6/3, ML3.9/1, Error ellipse: s-maj=163.3km s-min=47.2km az=104.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.04**	**47**	Pn	Pn	01 53 10.7	-0.2
	0.4nm,0.3s,baz=237,slow=16,SNR=6.5						
WRA	**Warramunga Arr**	**52.35**	**128**	P	P	02 00 26.8	+0.1
	1.0nm,1.1s,baz=314,slow=8.4,SNR=3.8						
ASAR	**Alice Springs**	**54.23**	**132**	P	P	02 00 40.4	-0.2
	0.4nm,0.4s,baz=294,slow=7.7,SNR=4.9						

KRSC 04 01:57:10.5±0.6, 50°.54N×157°.60E, h65km±5km, ML3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.96**	**279**	*e*P	Pn	01 57 26.6	-1.5
SKR				*i* S	Sn	01 57 38.4	-2.8
PAU	**Pauzhetka**	**1.05**	**332**	*e*P	Pn	01 57 29.5	+0.1
PAU				*i* S	Sn	01 57 43.6	+0.1
MIPR	**Malaya Ipel'ka**	**1.82**	**343**	P	Pn	01 57 41.2	+1.6
ASAK	**Asacha**	**1.85**	**6**	*e*P	Pn	01 57 41.1	+0.9
ASAK				*i* S	Sn	01 58 02.9	+0.2
MTVR	**Mutnovka**	**1.98**	**10**	*e*P	Pn	01 57 43.3	+1.4
MTVR				*i* S	Sn	01 58 07.1	+1.3
RUS	**Russkaya**	**1.98**	**16**	P	Pn	01 57 42.1	+0.4
RUS				*i* S	Sn	01 58 04.8	-0.7
GRL	**Gorelyy**	**2.04**	**8**	*e*P	Pn	01 57 44.4	+1.7
GRL				*i* S	Sn	01 58 09.7	+2.5
APC	**Apacha**	**2.40**	**354**	*e*P	Pn	01 57 49.5	+2.0
UGLR	**Uglovaya**	**2.78**	**15**	*e*P	Pn	01 57 53.5	+0.8
UGLR				*i* S	Sn	01 58 24.6	-0.6
AVH	**Avacha**	**2.82**	**14**	*e*P	Pn	01 57 55.2	+2.0
AVH				*i* S	Sn	01 58 27.4	+1.3
SDLR	**Sedlovina**	**2.85**	**16**	P	Pn	01 57 55.5	+1.7
SDLR				*i* S	Sn	01 58 28.1	+1.0
SPN	**Mys Shipunski**	**2.97**	**29**	*e*P	Pn	01 57 57.3	+2.1
SPN				*i* S	Sn	01 58 31.4	+1.8
GNL	**Ganaly**	**3.17**	**4**	*e*P	Pn	01 57 57.4	-0.6
MKZ	**Mys Kozlova**	**4.75**	**30**	*e*P	Pn	01 58 21.2	+1.8
KBTR	**Krutoberegovo**	**6.48**	**27**	*e*P	Pn	01 58 45.2	+2.1

IDC 04 02:22:47.4±3.6, 5°.66S×148°.50E, h0km, mb3.5/2, mb1 3.9/4, mb1mx3.6/19, mbtmp3.8/4, ML2.8/1, Error ellipse: s-maj=95.9km s-min=40.8km az=105.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.96**	**200**	Pn	Pn	02 23 50.3	+0.9
	4.7nm,0.3s,baz=21,slow=8.6,SNR=9.3						
PMG				Sn	Sn	02 24 33.8	-2.8
	13nm,0.3s,baz=342,slow=20,SNR=10						
WRA	**Warramunga Arr**	**19.78**	**223**	P	P	02 27 19.4	0.0
	0.5nm,0.3s,baz=48,slow=11,SNR=9.8						
ASAR	**Alice Springs**	**22.77**	**217**	P	P	02 27 51.0	-0.5
	0.7nm,0.4s,baz=53,slow=9.5,SNR=9.6						
FITZ	**Fitzroy Crossi**	**25.52**	**239**	P	P	02 28 17.6	-0.2
	1.6nm,0.8s,baz=59,slow=12,SNR=5.1						
TORD	**Torodi Ar. Bea**	**146.45**	**285**	PKPbc	PKPbc	02 42 31.0	-0.5
	0.4nm,0.7s,baz=85,slow=2.6,SNR=4.2						

ISCJB ***04*** *02:23:56.1±0.4, 31°.41N±0°.05×140°.15E±0°.07, h33km, mb4.4/40, MS4.0/5, Error ellipse: s-maj=8.9km s-min=6.9km az=4.3*
BKK ***04*** *02:23:56.4±5.9, 32°N±43°×14°0E±7°2, h10km, M4.9/16, mb4.9/16*
NEIC ***04*** *02:23:59.8±1.0, 31°.43N×140°.05E, h52km±8km, mb4.9/12, Error ellipse: s-maj=9.0km s-min=6.9km az=92.0*
IDC ***04*** *02:23:59.8±2.2, 31°.42N×140°.07E, h52km±20km, mb3.8/18, mb1 4.0/22, mb1mx3.9/29, mbtmp3.8/22, ML3.5/4, MS3.7/8, Ms1 3.7/8, ms1mx3.3/40, Error ellipse: s-maj=17.2km s-min=13.1km az=85.0*

ISC 04 02:23:58.2±0.5, 31°.45N±0°.07×140°.03E±0°.08, h35km, n76, σ1§09/70, mb4.5/40, MS4.0/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**4.73**	**156**	P	**Pn**	**02 25 07.1**	**+0.1**
CBIJ	**Chichi jima**	**4.73**	**156**	P	**Pn**	**02 25 07.1**	**+0.1**
	4.5nm,0.3s,baz=275,slow=18,SNR=3.3						
CBIJ				LR	LR	02 26 20.6	
	comp=Z,644nm,21.3s,baz=69,slow=30						
MJAR	**Matsushiro Arr**	**5.30**	**344**	P	**Pn**	**02 25 16.6**	**+1.8**
MJAR	**Matsushiro Arr**	**5.30**	**344**	P	**Pn**	**02 25 16.6**	**+1.8**
	4.0nm,0.3s,baz=159,slow=10,SNR=42						
MAT	**Matsushiro**	**5.30**	**344**	P	**Pn**	**02 25 16.3**	**+1.5**
JNU	**Nakatsue**	**7.92**	**285**	P	**Pn**	**02 25 52.1**	**+1.3**
JNU	**Nakatsue**	**7.92**	**285**	P	**Pn**	**02 25 52.1**	**+1.3**
	0.4nm,0.3s,baz=30,slow=20,SNR=2.5						
JNU				LR	LR	02 29 09.4	
	comp=Z,106nm,18.1s,baz=131,slow=39						
KSRS	**Korea Array**	**11.64**	**304**	P	Pn	02 26 46.0	+4.3
	0.2nm,0.3s,baz=118,slow=14,SNR=6.3						
KSAR	**Wonju Array Be**	**11.66**	**304**	P	Pn	02 26 46.0	+4.0
USRK	**Ussuriysk Arra**	**14.21**	**336**	P	**P**	**02 27 21.9**	**-1.9**
	0.2nm,0.3s,baz=151,slow=13,SNR=3.9						
USRK				LR	LR	02 32 37.0	
	comp=Z,292nm,18.6s,baz=143,slow=36						
PETK	**Petropavlovsk-**	**25.15**	**26**	P	**P**	**02 29 20.4**	**+0.5**
PETK	**Petropavlovsk-**	**25.15**	**26**	P	**P**	**02 29 20.4**	**+0.5**
	6.1nm,1.0s,baz=217,slow=6.5,SNR=5.7						
ENH	**Enshi**	**26.20**	**275**	*e*P	**P**	**02 29 27.8**	**-1.9**
	18nm,0.9s						
SONM	**Songino Array**	**30.33**	**312**	P	**P**	**02 30 08.4**	**+2.0**

IPM	**Ipoh**	**45.38**	**242**	*eP*	**P**	**02 32 13.0**	**-0.4**
	49nm,1.2s						
MKAR	**Makanchi Array**	**46.31**	**307**	P	**P**	**02 32 19.9**	**-0.6**
MKAR	**Makanchi Array**	**46.31**	**307**	P	**P**	**02 32 19.9**	**-0.6**
	1.5nm,0.7s,baz=89,slow=10.0,SNR=9.5						
FITZ	**Fitzroy Crossi**	**51.17**	**198**	P	**P**	**02 32 58.1**	**+0.2**
FITZ	**Fitzroy Crossi**	**51.17**	**198**	P	**P**	**02 32 58.1**	**+0.2**
	0.9nm,0.6s,baz=20,slow=17,SNR=3.4						
WRAB	**Tennant Creek**	**51.38**	**187**	*eP*	**P**	**02 33 00.5**	**+1.1**
	8.8nm,1.1s						
WRA	**Warramunga Arr**	**51.39**	**187**	P	**P**	**02 32 58.0**	**-1.5**
WRA	**Warramunga Arr**	**51.39**	**187**	P	**P**	**02 32 58.0**	**-1.5**
	1.6nm,0.6s,baz=3.3,slow=7.4,SNR=16						
TKM2	**Tokmak 2**	**51.45**	**302**	*eP*	**P**	**02 32 59.4**	**-0.7**
	2.0nm,0.9s						
MCK	**McKinley**	**53.95**	**31**	*eP*	**P**	**02 33 18.6**	**+0.5**
	21nm,1.4s						
ILAR	**Eielson Array**	**54.85**	**30**	P	**P**	**02 33 24.1**	**-0.5**
ILAR	**Eielson Array**	**54.85**	**30**	P	**P**	**02 33 24.1**	**-0.5**
	1.9nm,0.8s,baz=268,slow=5.1,SNR=16						
ASAR	**Alice Springs**	**55.12**	**187**	P	**P**	**02 33 26.2**	**-0.8**
ASAR	**Alice Springs**	**55.12**	**187**	P	**P**	**02 33 26.2**	**-0.8**
	0.4nm,0.6s,baz=358,slow=6.7,SNR=3.8						
MBWA	**Marble Bar**	**55.81**	**203**	*eP*	**P**	**02 33 33.0**	**+1.0**
	22nm,1.3s						
INK	**Inuvik**	**59.89**	**25**	*eP*	**P**	**02 33 59.8**	**-0.2**
	11nm,1.5s						
ABKAR	**Akbulak array**	**60.75**	**312**	*eP*	**P**	**02 34 04.8**	**-1.4**
	8.6nm,1.1s						
ARCES	**ARCESS Array B**	**68.82**	**340**	P	**P**	**02 34 58.3**	**-0.2**
ARCES	**ARCESS Array B**	**68.82**	**340**	P	**P**	**02 34 58.3**	**-0.2**
	3.7nm,0.8s,baz=81,slow=7.5,SNR=5.0						
ARCES				LR	LR	03 08 56.1	
	comp=Z,105nm,19.4s,baz=266,slow=39						
YKA	**Yellowknife Ar**	**69.23**	**29**	P	**P**	**02 35 00.9**	**-0.2**
YKA	**Yellowknife Ar**	**69.23**	**29**	P	**P**	**02 35 00.9**	**-0.2**
	0.8nm,0.8s,baz=296,slow=6.7,SNR=5.7						
JOF	**Joensuu**	**70.36**	**333**	*ep*	P	02 35 11.8	+3.8
	2.0nm,0.3s						
FINES	**FINESS Array B**	**73.22**	**333**	P	**P**	**02 35 24.8**	**-0.5**
FINES	**FINESS Array B**	**73.22**	**333**	P	**P**	**02 35 24.8**	**-0.5**
	2.1nm,0.8s,baz=114,slow=9.6,SNR=8.2						
KBZ	**Khabaz**	**73.69**	**311**	P	**P**	**02 35 28.0**	**-0.3**
KBZ	**Khabaz**	**73.69**	**311**	P	**P**	**02 35 28.0**	**-0.3**
	3.6nm,0.8s,baz=54,slow=3.6,SNR=7.8						
KBZ				LR	LR	03 11 56.7	
	comp=Z,69nm,19.9s,baz=166,slow=39						
AKASG	**Malin Array Be**	**78.01**	**323**	P	**P**	**02 35 51.6**	**-1.3**
AKASG	**Malin Array Be**	**78.01**	**323**	P	**P**	**02 35 51.6**	**-1.3**
	1.8nm,0.6s,baz=48,slow=6.4,SNR=6.1						
NB2	**NORSAR Subarra**	**78.88**	**337**	P	**P**	**02 35 56.8**	**-0.7**
	comp=Z,1.0nm,0.7s,baz=42,slow=5.3						
NOA	**NORSAR Array B**	**78.88**	**337**	P	**P**	**02 35 56.6**	**-0.9**
NOA	**NORSAR Array B**	**78.88**	**337**	P	**P**	**02 35 56.6**	**-0.9**
	comp=Z,1.8nm,0.8s,baz=43,slow=5.4,SNR=4.4						
NOA				LR	LR	03 14 44.8	
	comp=Z,69nm,18.3s,baz=5.0,slow=39						
NVAR	**Mina Array Bea**	**79.30**	**52**	P	**P**	**02 36 00.6**	**0.0**
NVAR	**Mina Array Bea**	**79.30**	**52**	P	**P**	**02 36 00.6**	**0.0**
	comp=Z,0.4nm,0.8s,baz=257,slow=5.8,SNR=3.5						
BRTR	**Keskin Array B**	**81.69**	**312**	P	**P**	**02 36 12.9**	**-0.3**
BRTR	**Keskin Array B**	**81.69**	**312**	P	**P**	**02 36 12.9**	**-0.3**
	comp=Z,1.3nm,0.8s,baz=99,slow=4.4,SNR=8.8						
BRTR				LR	LR	03 17 53.5	
	comp=Z,22nm,20.0s,baz=219,slow=40						
CLL	**Collm**	**85.34**	**330**	*eP*	**P**	**02 36 32.0**	**+0.5**
GERES	**GERESS Array B**	**86.83**	**328**	LR	LR	03 18 44.1	
	comp=Z,98nm,19.8s,baz=112,slow=38						
TXAR	**Lajitas Array**	**94.45**	**52**	P	**P**	**02 37 15.9**	**+0.8**
TXAR	**Lajitas Array**	**94.45**	**52**	P	**P**	**02 37 15.9**	**+0.8**
	comp=Z,0.5nm,0.8s,baz=296,slow=3.3,SNR=6.8						
TORD	**Torodi Ar. Bea**	**120.30**	**311**	PKP	**PKPdf**	**02 42 46.2**	**-0.1**
TORD	**Torodi Ar. Bea**	**120.30**	**311**	PKP	**PKPdf**	**02 42 46.2**	**-0.1**
	comp=Z,0.5nm,1.1s,baz=45,slow=3.7,SNR=3.0						
LPAZ	**La Paz**	**150.27**	**66**	PKPbc	**PKPbc**	**02 43 47.5**	**+0.6**
LPAZ	**La Paz**	**150.27**	**66**	PKPbc	**PKPbc**	**02 43 47.5**	**+0.6**
	comp=Z,1.4nm,0.8s,baz=6.6,slow=4.0,SNR=6.8						

NNC ***04*** *02:28:27.7±12.0, 37°.32N×71°.45E, h150km±219km, mb3.1, mpv4.1, Error ellipse: s-maj=166.9km s-min=67.3km az=40.0*

ISC 04 02:28:24.6±3.9, 37°.1N±0°.3×71°.3E±0°.2, h106km, n11, σ0°75/12, 3C, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.34**	**19**	P	**Pn**	**02 29 42.9**	**+0.6**
	SNR=95						
KZA	**Kyzart**	**5.81**	**30**	P	**Pn**	**02 29 48.8**	**+0.1**
	SNR=14						
EKS2	**Erkin-Say**	**5.86**	**18**	P	**Pn**	**02 29 50.0**	**+0.9**
	SNR=9.2						
KK31	**Karatay Array**	**6.03**	**354**	P	**Pn**	**02 29 52.3**	**+1.0**
	6.5nm,0.3s,baz=180,slow=13,SNR=191						
KK31				⇑S	**Sn**	**02 30 58.3**	**-0.6**
	9.0nm,0.6s,baz=176,slow=25,SNR=8.4						
AAK	**Ala-Archa**	**6.03**	**23**	P	**Pn**	**02 29 52.4**	**+1.0**
	SNR=22						
ULHL	**Ulahol**	**6.38**	**35**	P	**Pn**	**02 29 56.6**	**+0.5**
	SNR=5.9						
CHMS	**Chumysh**	**6.44**	**23**	P	**Pn**	**02 29 57.5**	**+0.6**
	SNR=7.8						
USP	**Ospenovka**	**6.61**	**20**	P	**Pn**	**02 29 59.8**	**+0.6**
	SNR=14						
TKM2	**Tokmak 2**	**6.66**	**28**	⇑P	**Pn**	**02 29 59.9**	**-0.2**
	7.6nm,0.5s						
TKM2	**Tokmak 2**	**6.66**	**28**	P	**Pn**	**02 30 00.5**	**+0.4**
	SNR=19						
AB31	**Akbulak array**	**14.70**	**329**	⇑P	**Pn**	**02 31 46.4**	**-0.7**
	0.2nm,0.2s,baz=212,slow=7.4,SNR=12						

JMA 04 02:29:51.9±0.1, 28°.07N×129°.45E, h38km, M3.7, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAMN	**Amaminishikomi**	**0.30**	**305**	P	Pn	02 29 59.9	-0.2
JAMN				S	Sn	02 30 05.8	-1.2
JAM	**Amami Oshima**	**0.37**	**22**	P	Pn	02 30 00.4	-0.2
JAM				S	Sn	02 30 06.4	-0.9
JZK	**Kikaishima**	**0.52**	**62**	P	Pn	02 30 03.0	+0.1
JZK				S	Sn	02 30 11.9	+1.3
JTK	**Tokunoshima**	**0.53**	**237**	P	Pn	02 30 02.5	-0.5
JTK				S	Sn	02 30 09.8	-0.9
JOW	**Kunigami**	**1.62**	**221**	P	Pn	02 30 19.1	+1.2
JOW				*e*S	Sn	02 30 39.1	+1.6
JIH	**Iheya**	**1.67**	**232**	P	Pn	02 30 20.5	+1.9
JIH				*e*S	Sn	02 30 41.9	+3.1
JNN	**Nakanoshima**	**1.80**	**12**	P	Pn	02 30 22.4	+1.9
JNN				*e*S	Sn	02 30 43.9	+1.8
JJT2	**Tamagusuku 2**	**2.45**	**219**	P	Pn	02 30 30.6	+1.3
JAGN	**Aguni-jima**	**2.46**	**234**	P	Pn	02 30 31.4	+2.0
JTN	**Tanegashima 3**	**2.90**	**27**	P	Pn	02 30 38.0	+2.5
JKE	**Kume jima 2**	**2.94**	**234**	P	Pn	02 30 37.5	+1.4

NIED ***04*** *02:30:00, 35°.80N×140°.10E, h65km, Mw4.7 Best double couple: M0 1.21000×10^16 NP1:φs352.00000°, δ65.00000°, λ85.00000°. NP2:φs184.00000°, δ25.00000°, λ101.00000°.*
BJI ***04*** *02:30:23.4, 35°.53N×140°.59E, h41km, mB4.9/30, mb4.8/47, Ms4.3/25, Ms7 4.0/27*
DJA ***04*** *02:30:25.0±1.2, 36°N±12°×14°.0E±2°.6, h10km, M5.1/9, mb5.1/9*
SZGRF ***04*** *02:30:29.8, 35°.98N×140°.51E, h33km, mb5.3, Near east coast of eastern Honshu, Japan*
MOS ***04*** *02:30:30.3±1.1, 35°.80N×140°.10E, h62km, mb5.1/56, Error ellipse: s-maj=8.7km s-min=5.0km az=116.8*
NEIC ***04*** *02:30:30.4±0.6, 35°.66N×139°.98E, h49km±5km, mb4.8/41, MW4.7(NIED), Error ellipse: s-maj=5.1km s-min=4.3km az=123.0*
NEIC Felt in the Tokyo-Yokohama area. Recorded [3 JMA] in Kanagawa and Tokyo; [2 JMA] in Chiba, Ibaraki, Saitama and Tochigi; [1 JMA] in Fukushima, Gumma, Nagano, Shizuoka and Yamanashi.
ISCJB ***04*** *02:30:31.7±0.3, 35°.70N±0°.03×140°.05E±0°.03, h75km±2km, mb4.6/110, Error ellipse: s-maj=5.5km s-min=4.6km az=163.2*
JMA ***04*** *02:30:32.1±0.2, 35°.81N×140°.09E, h67km±2km, M4.5 Broadband fault plane solution: P waves. NP1: φs6.00000°, δ67.00000°, λ81.00000°. NP2:φs208.00000°, δ25.00000°, λ111.00000°. Principal axes: T Plg67.0000°, Azm259.0000°; N Plg9.0000°, Azm10.0000°; P Plg21.0000°, Azm103.0000°;*
JMA Felt III J1.
IDC ***04*** *02:30:33.7±1.6, 35°.70N×139°.96E, h78km±12km, mb4.3/27, mb1 4.4/29, mb1mx4.3/33, mbtmp4.3/29, MS3.7/9, Ms1 3.7/9, ms1mx3.4/35 Error ellipse: s-maj=13.4km s-min=10.4km az=92.0*
GCMT ***04*** *02:30:35.9±0.4, 35°.75N×140°.23E, h61km±2km, MW4.8, Moment Tensor Solution. s30,c34; s62,c77; Moment tensor: Scale 10^16Nm; Mrr2.23±.16; Mθθ-0.11±.11; Mφφ-2.13±.10; Mrθ0.05±.08; Mθφ-0.13±.08; Mφr0.83±.08; Best double couple: M0 2.30000×10^16 NP1:φs4.00000°, δ55.00000°, λ90.00000°. NP2:φs184.00000°, δ35.00000°, λ90.00000°. Principal axes: T 2.3800, Plg80.0000°, Azm274.0000°; N -0.1000, Plg0.0000°, Azm184.0000°; P -2.2900, Plg10.0000°, Azm94.0000°; Data Used: II IU IC G CN.*

ISC 04 02:30:31.7±0.5, 35°.83N±0°.04×140°.06E±0°.04, h60km±3km, h60km: pP-P, n294, σ1§42/329, mb4.8/110, 17C-24D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOK	**Tokyo**	**0.28**	**240**	P	**Pn**	**02 30 43.8**	**+2.1**
TOK				S	**Sn**	**02 30 52.9**	**+4.0**
JYT	**Yasato**	**0.41**	**15**	⇑P	**Pn**	**02 30 44.0**	**+1.2**
JYT				S	**Sn**	**02 30 52.5**	**+1.6**
JCN	**Nagara**	**0.42**	**164**	⇑P	**Pn**	**02 30 44.4**	**+1.5**
JCN				S	**Sn**	**02 30 53.9**	**+2.9**
JAG	**Ashikaga**	**0.77**	**321**	⇓P	**Pn**	**02 30 48.5**	**+1.6**
JAG				S	**Sn**	**02 31 00.6**	**+2.6**
JRY	**Ryogami san**	**0.96**	**282**	⇓P	**Pn**	**02 30 51.2**	**+1.9**
JRY				S	**Sn**	**02 31 06.2**	**+3.9**
JOD2	**Odawara 2**	**0.97**	**235**	⇓P	**Pn**	**02 30 49.9**	**+0.4**
JOD2				S	**Sn**	**02 31 02.6**	**0.0**
JKT	**Katashina**	**1.14**	**325**	P	**Pn**	**02 30 53.5**	**+1.7**
JYN	**Shimob**	**1.28**	**256**	⇓P	**Pn**	**02 30 54.5**	**+1.0**
MJAR	**Matsushiro Arr**	**1.66**	**296**	P	**Pn**	**02 31 00.4**	**+1.8**
MJAR				S	**Sn**	**02 31 20.6**	**+1.7**
MJAR	**Matsushiro Arr**	**1.66**	**296**	P	**Pn**	**02 31 00.4**	**+1.8**
	236nm,0.3s,baz=99,slow=13,SNR=1417						
MJAR				S	**Sn**	**02 31 20.6**	**+1.7**
	127nm,0.3s,baz=119,slow=10,SNR=8.5						
MJAR				LR	LR	02 31 39.7	
	comp=Z,2μm,19.9s,baz=145,slow=41						
MAT	**Matsushiro**	**1.66**	**296**	P	**Pn**	**02 31 00.5**	**+1.9**
MAT				S	**Sn**	**02 31 22.1**	**+3.2**
ERM	**Erimo**	**6.63**	**20**	*eP*	**Pn**	**02 32 06.2**	**-0.3**
ERM				*e*		02 33 18.3	
ERM	**Erimo**	**6.63**	**20**	*eP*n	**Pn**	**02 32 06.2**	**-0.3**
ERM				*e*Sn	**Sn**	**02 33 18.3**	**-2.3**
JNU	**Nakatsue**	**8.05**	**253**	*eP*n	Pn	02 32 22.1	-3.9
JNU	**Nakatsue**	**8.05**	**253**	P	**Pn**	**02 32 27.8**	**+1.8**
	0.8nm,0.3s,baz=74,slow=6.4,SNR=6.2						
ASAJ	**Asahikawa**	**8.50**	**12**	*eP*n	**Pn**	**02 32 32.1**	**0.0**
ASAJ				*e*Sn	**Sn**	**02 34 03.1**	**-3.5**
ASAJ	**Asahikawa**	**8.50**	**12**	P	**Pn**	**02 32 31.6**	**-0.6**
	3.3nm,0.3s,baz=191,slow=14,SNR=10						
ASAJ				S	**Sn**	**02 34 02.5**	**-4.1**
	0.9nm,0.3s,baz=139,slow=20,SNR=2.9						
CBIJ	**Chichi jima**	**8.89**	**168**	P	Pn	02 32 33.1	-4.4
CBIJ				S	Sn	02 34 04.2	-12
CBIJ	**Chichi jima**	**8.89**	**168**	P	Pn	02 32 33.1	-4.4
	42nm,0.3s,baz=299,slow=22,SNR=21						
CBIJ				S	Sn	02 34 04.2	-12
	baz=300,slow=20						
YUK	**Yuzh-Kuril'sk**	**9.32**	**27**	*i* P	**Pn**	**02 32 44.2**	**+0.9**
YUK				*i* S	Sn	02 34 20.3	-6.3
YUK				pmax	pmax		
	comp=N,28nm,0.2s						
YUK				pmax	pmax		
	comp=E,19nm,0.2s						
YUK				pmax	pmax		
	comp=Z,48nm,0.3s						
YUK				MLR	MLR		
	comp=N,104nm,10.0s						
YUK				MLR	MLR		
	comp=Z,142nm,10.0s						
YUK				MLR	MLR		
	comp=E,88nm,9.0s						
KSRS	**Korea Array**	**9.89**	**283**	P	Pn	02 32 55.4	+4.4
	comp=E,1.7nm,0.3s,baz=97,slow=14,SNR=69						
KSAR	**Wonju Array Be**	**9.92**	**283**	P	Pn	02 32 55.4	+3.9
TJN	**Taejon**	**10.29**	**277**	*i* P	Pn	02 32 59.9	+3.3
USRK	**Ussuriysk Arra**	**10.40**	**326**	P	Pn	02 33 01.9	+3.9
	comp=E,0.6nm,0.3s,baz=138,slow=12,SNR=30						
YSS	**Yuzh-Sakhalins**	**11.30**	**9**	*eP*	**Pn**	**02 33 10.3**	**+0.1**
YSS				pmax	pmax		
	comp=Z,31nm,1.7s						
MDJ	**Mudanjiang**	**11.87**	**321**	P	**Pn**	**02 33 18.4**	**+0.3**
MDJ				pmax	pmax		
	comp=Z,10.0nm,0.7s						
MDJ				pmax	pmax		
	comp=Z,160nm,6.5s						
MDJ	**Mudanjiang**	**11.87**	**321**	*e*Pn	Pn	02 33 22.6	+4.5
	comp=Z,37nm,1.0s						
HABR	**Khabarovsk**	**13.17**	**345**	*eP*	P	02 33 54.6	+11
HABR				S	**Sn**	**02 36 00.1**	**-0.2**
HABR				pmax	pmax		
	comp=E,28nm,1.3s						
HABR				MLR	MLR		
	comp=Z,84nm,17.0s						
CN2	**Changchun**	**13.76**	**310**	*eP*	**P**	**02 33 48.4**	**-2.0**
CN2				pmax	pmax		
	comp=Z,20nm,1.0s						
SNY	**Shenyang**	**14.17**	**300**	⇓P	**P**	**02 33 56.7**	**+1.7**
SNY				S	**S**	**02 36 39.8**	**-2.7**
SNY				pmax	pmax		
	comp=Z,30nm,0.9s						
SNY				pmax	pmax		
	comp=Z,390nm,12.0s						
SNY				LR	LR		
	comp=N,280nm,9.2s						
SNY				LR	LR		
	comp=E,310nm,11.6s						
SNY				LR	LR		
	comp=Z,280nm,14.1s						
KLR	**Kul'dur**	**14.71**	**338**	*eP*	**Pn**	**02 33 55.0**	**-1.3**
DL2	**Dalian**	**14.98**	**287**	P	**P**	**02 34 03.2**	**-0.8**
DL2				pmax	pmax		
	comp=Z,29nm,1.0s						
NJ2	**Nanjing**	**17.99**	**264**	*eP*	**P**	**02 34 35.7**	**-1.7**
NJ2				pmax	pmax		
	comp=Z,20nm,0.7s						
BJI	**Beijing**	**19.29**	**290**	P	**P**	**02 34 52.1**	**+0.6**
BJI				S	**S**	**02 38 25.7**	**-1.0**
BJI				pmax	pmax		
	comp=Z,26nm,1.0s						
BJI				pmax	pmax		
	comp=Z,190nm,4.8s						
BJI				LR	LR		
	comp=N,240nm,12.2s						
BJI				LR	LR		
	comp=E,220nm,15.4s						
BJI				LR	LR		
	comp=Z,230nm,32.6s						
BJT	**Baijiatuan**	**19.29**	**290**	*eP*	**P**	**02 34 51.9**	**+0.3**
	comp=Z,37nm,0.8s						
PETK	**Petropavlovsk-**	**21.27**	**30**	P	**P**	**02 35 15.4**	**+2.5**
PETK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
PETK	**Petropavlovsk-**	**21.27**	**30**	P	**P**	**02 35 15.4**	**+2.5**
PETK	**Petropavlovsk-**	**21.27**	**30**	P	**P**	**02 35 15.4**	**+2.5**
	comp=Z,1.5nm,0.6s,baz=209,slow=12,SNR=5.2						
WHN	**Wuhan**	**22.13**	**264**	⇑P	**P**	**02 35 23.0**	**+0.8**
WHN				S	**S**	**02 39 16.1**	**-6.4**
WHN				pmax	pmax		
	comp=Z,74nm,0.6s						
WHN				LR	LR		
	comp=Z,680nm,14.0s						
HHC	**Hu-ho-hao-te**	**22.86**	**291**	*eP*	**P**	**02 35 27.9**	**-2.2**
HHC				pP	pP	02 35 37.1	-6.2
HHC				sP	sP	02 35 41.3	-10
HHC				PP	**PnPn**	**02 35 57.4**	**+0.8**
HHC				S	**S**	**02 39 30.8**	**-4.3**
HHC				pmax	pmax		
	comp=Z,48nm,0.8s						
HHC				pmax	pmax		
	comp=Z,360nm,5.6s						
HHC				LR	LR		
	comp=N,370nm,11.2s						
HHC				LR	LR		
	comp=E,380nm,11.6s						
HHC				LR	LR		
	comp=Z,370nm,11.0s						
CLNS	**Chul'man**	**23.38**	**339**	*eP*	**P**	**02 35 36.0**	**+1.1**
CLNS				pmax	pmax		
	comp=Z,26nm,1.1s						
CLNS				pmax	pmax		
	comp=N,12nm,1.1s						
CLNS				pmax	pmax		
	comp=E,12nm,1.1s						
XAN	**Xi'an**	**25.54**	**275**	P	**P**	**02 35 53.3**	**-1.6**
XAN				pmax	pmax		
	comp=Z,2.0nm,0.8s						
XAN				pmax	pmax		
	comp=Z,17nm,4.7s						
ENH	**Enshi**	**26.16**	**267**	*eP*	**P**	**02 35 59.4**	**-1.0**
	comp=Z,49nm,0.6s						
YAK	**Yakutsk**	**27.03**	**349**	*eP*	**P**	**02 36 07.7**	**-0.2**
YAK				pmax	pmax		
	comp=N,34nm,1.5s						
YAK				pmax	pmax		
	comp=Z,35nm,1.0s						
YAK				pmax	pmax		
	comp=E,6.0nm,1.4s						
ULN	**Ulaanbaatar**	**27.16**	**307**	*eP*	**P**	**02 36 08.1**	**-1.4**
	comp=E,13nm,1.4s						
ULN	**Ulaanbaatar**	**27.16**	**307**	P	**P**	**02 36 08.5**	**-1.0**
	comp=E,7.2nm,1.4s						
SONM	**Songino Array**	**27.59**	**306**	P	**P**	**02 36 12.8**	**-0.5**
SONM	**Songino Array**	**27.59**	**306**	P	**P**	**02 36 12.8**	**-0.5**
	comp=E,1.7nm,0.8s,baz=110,slow=8.1,SNR=10						
LZH	**Lanzhou**	**29.21**	**281**	*eP*	**P**	**02 36 27.4**	**-0.5**
LZH				pP	pP	02 36 37.3	-5.4
LZH				sP	sP	02 36 42.5	-7.3
LZH				PP	**PnPn**	**02 37 24.2**	**+0.9**
LZH				*e*S	**S**	**02 41 14.0**	**-2.3**
LZH				pmax	pmax		
	comp=Z,19nm,1.0s						
LZH				pmax	pmax		
	comp=Z,90nm,6.1s						
LZH				LR	LR		
	comp=N,330nm,14.3s						
LZH				LR	LR		
	comp=E,310nm,10.0s						
LZH				LR	LR		
	comp=E,480nm,15.0s						
GYA	**Guiyang**	**29.95**	**261**	P	**P**	**02 36 32.9**	**-1.6**
GYA				pP	pP	02 36 44.8	-4.5
GYA				PP	**PnPn**	**02 37 30.2**	**-2.9**
GYA				PcP	**PcP**	**02 39 37.8**	**+2.0**
GYA				S	**S**	**02 41 23.5**	**-4.5**
GYA				sS	sS	02 41 43.8	-9.5
GYA				ScP	**ScP**	**02 43 14.0**	**+1.3**
GYA				ScS	**ScS**	**02 47 08.9**	**+0.5**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,100nm,5.8s						
GYA				LR	LR		
	comp=N,470nm,15.6s						
GYA				LR	LR		
	comp=E,380nm,16.8s						
GYA				LR	LR		
	comp=Z,470nm,16.3s						
ZAK	**Zakamensk**	**30.19**	**310**	*eP*	P	02 36 27.7	-8.6
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.6s						
CD2	**Chengdu**	**30.60**	**271**	P	**P**	**02 36 40.3**	**+0.3**
CD2				pP	pP	02 36 50.5	-4.4
CD2				sP	sP	02 36 54.7	-7.3
CD2				PP	**PnPn**	**02 37 40.9**	**-0.5**
CD2				S	**S**	**02 41 38.1**	**+0.2**
CD2				sS	sS	02 41 54.7	-8.5
CD2				pmax	pmax		
	comp=Z,20nm,0.6s						
CD2				pmax	pmax		
	comp=Z,140nm,5.1s						
CD2				LR	LR		
	comp=N,240nm,5.3s						
CD2				LR	LR		
	comp=Z,130nm,9.5s						
QIZ	**Qiongzhong**	**31.44**	**246**	P	**P**	**02 36 46.1**	**-1.4**
QIZ				S	**S**	**02 41 50.9**	**-0.2**
QIZ				pmax	pmax		
	comp=Z,170nm,3.6s						
GTA	**Gaotai**	**31.90**	**289**	*eP*	**P**	**02 36 51.7**	**+0.2**
GTA				pP	**pP**	**02 37 03.6**	**-2.8**
GTA				sP	sP	02 37 08.9	-4.6
GTA				PcP	**PcP**	**02 39 41.6**	**+0.8**
GTA				S	**S**	**02 42 01.7**	**+3.5**
GTA				sS	**sS**	**02 42 21.9**	**-1.6**
GTA				SS	**SnSn**	**02 43 59.0**	**+7.7**
GTA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
GTA				pmax	pmax		
	comp=Z,88nm,9.5s						
GTA				LR	LR		
	comp=N,170nm,14.9s						
GTA				LR	LR		
	comp=E,220nm,16.5s						
GTA				LR	LR		
	comp=Z,200nm,28.0s						
KMI	**Kunming**	**33.71**	**262**	P	**P**	**02 37 07.9**	**+0.3**
KMI				pP	**pP**	**02 37 19.7**	**-2.8**
KMI				PP	**PnPn**	**02 38 21.5**	**+0.2**
KMI				pmax	pmax		
	comp=Z,16nm,0.7s						
KMI				LR	LR		
	comp=N,180nm,6.2s						
KMI				LR	LR		
	comp=E,130nm,4.1s						
KMI				LR	LR		
	comp=Z,170nm,5.6s						
NONG	**Nongkai**	**37.09**	**251**	P	**P**	**02 37 35.9**	**-0.5**
	comp=Z,68nm,0.8s,comp=Z,22μm						
CRAI	**Chiangrai**	**38.04**	**257**	P	**P**	**02 37 44.4**	**0.0**
	comp=Z,11nm,0.8s,comp=Z,2μm						
LOEI	**Loei**	**38.87**	**252**	P	P	02 37 47.7	-3.6
	comp=Z,26nm,0.9s						
CHAI	**Chaiyaphum**	**39.27**	**250**	P	**P**	**02 37 53.3**	**-1.4**
	comp=Z,16nm,1.0s,comp=Z,142nm						
CMAR	**Chiang Mai Arr**	**40.14**	**256**	P	**P**	**02 38 01.4**	**-0.6**
CMAR				PcP	**PcP**	**02 40 06.0**	**+0.6**
CMAR	**Chiang Mai Arr**	**40.14**	**256**	P	**P**	**02 38 01.4**	**-0.6**
	comp=Z,2.7nm,0.8s,baz=48,slow=7.4,SNR=11						
CMAR				PcP	**PcP**	**02 40 06.0**	**+0.6**
	comp=Z,1.1nm,0.3s,baz=10,slow=0.8,SNR=7.1						
CMAR				LR	LR	02 54 55.6	
	comp=Z,72nm,21.2s,baz=256,slow=36						
WMQ	**Urumqi**	**40.42**	**298**	P	**P**	**02 38 04.3**	**+0.2**
WMQ				pP	**pP**	**02 38 16.6**	**-2.8**
WMQ				sP	sP	02 38 22.0	-4.4
WMQ				PP	**PnPn**	**02 39 42.3**	**+0.1**
WMQ				PcP	**PcP**	**02 40 07.4**	**+1.4**
WMQ				*e*S	**S**	**02 44 09.3**	**+1.1**
WMQ				ScS	**ScS**	**02 48 04.4**	**+0.1**
WMQ				pmax	pmax		
	comp=Z,21nm,0.8s						

MK31 Makanchi Array 43.85 303 *i* P **P 02 38 32.1 +0.2**
MK31 pmax pmax
comp=Z,35nm,1.0s
MKAR Makanchi Array 43.85 303 P **P 02 38 32.1 +0.2**
MKAR 02 40 17.0
MKAR pmax pmax
comp=Z,25nm,1.1s
MKAR pmax pmax
comp=Z,3.0nm,0.8s
MKAR Makanchi Array 43.85 303 P **P 02 38 32.0 +0.2**
MKAR PcP **PcP 02 40 17.0 -0.3**
MKAR Makanchi Array 43.85 303 P **P 02 38 32.0 +0.2**
comp=Z,25nm,1.1s,baz=89,slow=9.9,SNR=55
MKAR PcP **PcP 02 40 17.0 -0.3**
comp=Z,3.0nm,0.8s,baz=69,slow=4.7,SNR=4.4
KAPI Kappang 44.88 209 *e*P **P 02 38 38.5 -1.9**
comp=Z,26nm,1.2s
KAPI Kappang 44.88 209 P **P 02 38 38.2 -2.1**
comp=Z,5.8nm,0.7s,baz=105,slow=20,SNR=3.5
TAPN Taplejung 44.94 274 *e*P **P 02 38 41.3 +0.1**
ODAN Odare 45.41 274 *e*P **P 02 38 44.4 -0.4**
comp=Z,28nm,0.7s
KURK Kurchatov 45.83 309 P **P 02 38 48.6 +1.1**
KURK pmax pmax
comp=Z,15nm,0.5s
KURK Kurchatov 45.83 309 P **P 02 38 48.6 +1.1**
KURBB Kurchatov Arra 45.89 309 P **P 02 38 48.6 +0.5**
comp=Z,15nm,0.5s,baz=86,slow=8.5,SNR=30
RAMN Ramite 46.01 275 *e*P **P 02 38 49.3 -0.3**
comp=Z,96nm,0.7s
JIRN Jiri 46.05 276 *e*P **P 02 38 50.3 +0.3**
comp=Z,63nm,0.8s
GUN Gumba 46.19 276 *e*P **P 02 38 51.5 +0.4**
PKI Pulchoki 46.71 276 *e*P **P 02 38 54.8 -0.4**
KKN Kakani 46.73 276 *e*P **P 02 38 55.3 +0.1**
IPM Ipoh 47.58 238 *e*P **P 02 38 59.6 -2.1**
comp=Z,21nm,0.9s
IPM Ipoh 47.58 238 P **P 02 39 00.0 -1.7**
comp=Z,21nm,1.0s
DANN Dangsing 47.73 278 *e*P **P 02 39 03.3 +0.3**
comp=Z,109nm,0.9s
KOLN Koldanda 48.09 277 *e*P **P 02 39 05.7 -0.1**
comp=Z,14nm,0.7s
PYUN Piuthan 48.45 278 *e*P **P 02 39 08.1 -0.4**
CAST Castle Rocks 48.83 34 *e*P P 02 39 14.0 +3.2
TKM2 Tokmak 2 49.25 299 *e*P **P 02 39 15.5 +1.0**
TKM2 pmax pmax
comp=Z,18nm,0.8s
TKM2 Tokmak 2 49.25 299 P **P 02 39 15.4 +1.0**
SNR=20
TKM2 Tokmak 2 49.25 299 *e*P **P 02 39 15.5 +1.0**
comp=Z,18nm,0.8s
COEN Coen 49.60 176 *e*P **P 02 39 16.5 -0.6**
KBK Karagaybulak 49.78 299 P **P 02 39 19.5 +1.0**
SNR=14
KSH Kashi 49.91 295 P P 02 39 22.8 +3.4
KSH pP pP 02 39 33.0 -2.1
KSH PP **PP 02 41 19.5 +5.0**
KSH PcS **PcS 02 44 38.4 +2.3**
KSH S S 02 46 30.7 +5.4
KSH pmax pmax
comp=Z,9.0nm,0.9s
KSH pmax pmax
comp=Z,67nm,4.3s
KSH LR LR
comp=N,91nm,6.1s
KSH LR LR
comp=E,100nm,5.3s
KSH LR LR
comp=Z,120nm,7.9s
USP Ospenovka 49.94 300 P **P 02 39 20.1 +0.6**
SNR=12
AAK Ala-Archa 50.11 299 *e*P **P 02 39 21.7 +0.8**
AAK pmax pmax
comp=Z,12nm,1.1s
AAK Ala-Archa 50.11 299 P **P 02 39 21.8 +0.8**
SNR=6.5
AAK Ala-Archa 50.11 299 *e*P **P 02 39 21.7 +0.8**
comp=Z,12nm,1.1s
AAK Ala-Archa 50.11 299 P **P 02 39 21.3 +0.3**
comp=Z,5.3nm,0.5s,baz=92,slow=3.0,SNR=7.8
MCK McKinley 50.24 33 *e*P **P 02 39 23.2 +1.8**
MCK pmax pmax
comp=Z,4.0nm,0.8s
MCK McKinley 50.24 33 *e*P **P 02 39 23.2 +1.8**
comp=Z,3.6nm,0.8s
VOSK Vostochnaya 50.28 312 P **P 02 39 21.6 -0.3**
VOSK pmax pmax
comp=Z,22nm,1.0s
BVA0 Borovoye Array 50.58 313 *i* P **P 02 39 25.2 +1.0**
BVA0 pmax pmax
comp=Z,13nm,1.3s
EKS2 Erkin-Say 50.61 299 *e*P **P 02 39 25.5 +0.8**
EKS2 pmax pmax
comp=Z,10.0nm,1.0s
EKS2 Erkin-Say 50.61 299 *e*P **P 02 39 25.5 +0.8**
comp=Z,10nm,1.0s
BRVK Borovoye 50.64 313 *ce*P **P 02 39 26.1 +1.5**
BRVK pmax pmax
comp=Z,18nm,1.2s
BRVK Borovoye 50.64 313 *e*P **P 02 39 24.9 +0.3**
comp=Z,15nm,1.0s
COLA College 50.68 32 *e*P **P 02 39 26.9 +2.3**
COLA pmax pmax
comp=Z,13nm,0.7s
COLA College 50.68 32 *e*P **P 02 39 26.9 +2.3**
comp=Z,13nm,0.7s
AML Almayashu 50.82 298 *i* P **P 02 39 27.3 +0.8**
AML Almayashu 50.82 298 P **P 02 39 27.3 +0.8**
SNR=19
ILAR Eielson Array 51.09 32 P **P 02 39 28.6 +0.8**
ILAR Eielson Array 51.09 32 P **P 02 39 28.6 +0.8**
comp=Z,1.8nm,1.0s,baz=270,slow=6.5,SNR=12
KK31 Karatay Array 52.79 300 *i* P **P 02 39 40.9 +0.1**
KK31 pmax pmax
comp=Z,12nm,0.8s
KKAR Karatay Array 52.79 300 *e*P **P 02 39 41.3 +0.5**
KKAR pmax pmax
comp=Z,38nm,1.2s
KKAR Karatay Array 52.79 300 *e*P **P 02 39 41.3 +0.5**
comp=Z,38nm,1.2s
EGAK Eagle 53.54 32 *e*P **P 02 39 46.9 +1.0**
comp=Z,3.7nm,0.9s
SVE Sverdlovsk 55.33 319 *e*P **P 02 39 59.7 +0.7**
SVE pmax pmax
comp=Z,16nm,0.9s
FITZ Fitzroy Crossi 55.35 197 P **P 02 39 58.6 -0.9**
FITZ Fitzroy Crossi 55.35 197 P **P 02 39 58.6 -0.9**
comp=Z,20nm,0.7s,baz=13,slow=7.2,SNR=51
WRAB Tennant Creek 55.72 187 *e*P **P 02 40 00.2 -1.9**
WRAB pmax pmax
comp=Z,19nm,0.8s
WRAB Tennant Creek 55.72 187 *e*P **P 02 40 00.2 -1.9**
comp=Z,19nm,0.8s
WRA Warramunga Arr 55.73 187 P **P 02 40 00.5 -1.8**
WRA Warramunga Arr 55.73 187 P **P 02 40 00.5 -1.8**
comp=Z,14nm,0.6s,baz=0.6,slow=7.6,SNR=123
HYT Haines Junctio 55.91 36 *e*P P 02 40 06.1 +2.8
INK Inuvik 55.95 27 *e*P **P 02 40 04.6 +1.3**
comp=Z,3.4nm,0.9s
INK Inuvik 55.95 27 P **P 02 40 04.5 +1.3**
comp=Z,1.5nm,0.7s,baz=295,slow=3.9,SNR=3.5
ARU Arti 56.54 319 *c i* P **P 02 40 07.6 -0.1**
ARU 02 41 01.1
ARU 02 42 11.3
ARU S **S 02 47 55.6 +1.0**
ARU SS **SS 02 51 36.0 -6.1**
ARU pmax pmax
comp=Z,15nm,0.7s
KBL Kabul 56.83 291 *e*P **P 02 40 09.8 -0.6**
KBL pmax pmax
comp=Z,8.0nm,0.8s
KBL Kabul 56.83 291 *e*P **P 02 40 09.8 -0.6**
comp=Z,7.8nm,0.8s
AB31 Akbulak array 57.88 310 *i* P **P 02 40 17.3 0.0**
AB31 pmax pmax
comp=Z,5.0nm,0.6s
ABKAR Akbulak array 57.88 310 *e*P **P 02 40 17.5 +0.3**
comp=Z,16nm,0.9s
AS31 Alice Springs 59.46 187 *e*P **P 02 40 27.9 -0.5**
ASAR Alice Springs 59.46 187 P **P 02 40 27.2 -1.1**
ASAR Alice Springs 59.46 187 P **P 02 40 27.2 -1.1**
comp=Z,2.7nm,0.7s,baz=18,slow=9.2,SNR=20
MBWA Marble Bar 59.86 202 *e*P **P 02 40 29.4 -1.7**
comp=Z,29nm,0.7s
PALK Pallekele 61.04 257 *e*P **P 02 40 39.7 +0.1**
comp=Z,20nm,0.9s
TMCR Tamitsa 63.28 331 *e*P **P 02 40 54.1 +0.4**
TMCR pmax pmax
comp=Z,8.0nm,0.4s
BBB Bella Bella 63.69 43 LR LR 03 08 13.8
comp=Z,30nm,18.2s,baz=268,slow=35
KLMR Klimovskoe 64.19 328 *e*P **P 02 40 58.4 -1.4**
KLMR pmax pmax
comp=Z,16nm,0.9s
ARCES ARCESS Array B 64.74 339 P **P 02 41 03.6 +0.4**
ARCES ARCESS Array B 64.74 339 P **P 02 41 03.6 +0.4**
comp=Z,6.9nm,0.7s,baz=58,slow=6.6,SNR=17
YKA Yellowknife Ar 65.39 30 P **P 02 41 08.0 +0.4**
YKA Yellowknife Ar 65.39 30 P **P 02 41 07.9 +0.4**
comp=Z,1.1nm,0.9s,baz=300,slow=6.5,SNR=4.5
JOF Joensuu 66.51 332 *e*P **P 02 41 15.0 +0.3**
JOF pmax pmax
comp=Z,7.0nm,0.4s
JOF Joensuu 66.51 332 *ep* **P 02 41 15.0 +0.3**
comp=Z,7.3nm,0.4s
FORT Forrest 67.21 191 *e*P **P 02 41 18.2 -1.2**
comp=Z,52nm,0.6s
AFI Afiamalu 67.22 128 LR LR 03 07 38.6
comp=Z,85nm,21.3s,baz=152,slow=33
STKA Stephens Creek 67.36 179 P **P 02 41 19.9 -0.5**
STKA Stephens Creek 67.36 179 P **P 02 41 19.9 -0.5**
comp=Z,5.6nm,1.0s,baz=10,slow=11,SNR=3.1
VRHR Novokhopersk 67.84 318 *e*P **P 02 41 22.0 -1.4**
VRHR pmax pmax
comp=Z,10.0nm,0.6s
VRHR pmax pmax
comp=N,10.0nm,1.4s
VRHR pmax pmax
comp=E,9.0nm,0.6s
OBN Obninsk 68.41 323 ⇓ *e*P **P 02 41 26.5 -0.3**
OBN *e**PP **pP 02 41 46.4 +3.2**
OBN *e*S S 02 50 31.5 +8.1
OBN pmax pmax
comp=Z,18nm,0.9s
KAF Kangasniemi 68.88 333 *e*P **P 02 41 29.3 -0.3**
KAF pmax pmax
comp=Z,10.0nm,0.5s
KAF Kangasniemi 68.88 333 *ep* **P 02 41 29.3 -0.3**
comp=Z,9.7nm,0.5s
VSR Storozhevoye 69.12 319 *e*P **P 02 41 30.9 -0.4**
VSR pmax pmax
comp=Z,20nm,0.9s
VSR pmax pmax
comp=N,10.0nm,0.8s
VSR pmax pmax
comp=E,10.0nm,0.8s
VORD Divnogorie 69.18 318 *e*P **P 02 41 30.5 -1.2**
VORD pmax pmax
comp=N,90nm,0.6s
VORD pmax pmax
comp=E,180nm,0.6s
VORD pmax pmax
comp=Z,10.0nm,0.6s
FINES FINESS Array B 69.37 332 P **P 02 41 32.7 0.0**
FINES FINESS Array B 69.37 332 P **P 02 41 32.7 0.0**
comp=Z,12nm,0.7s,baz=73,slow=6.4,SNR=23
FINES LR LR 03 10 56.2
comp=Z,61nm,20.8s,baz=197,slow=35
KBZ Khabaz 70.86 310 P **P 02 41 42.2 +0.1**
KBZ pmax pmax
comp=Z,11nm,0.9s
KBZ Khabaz 70.86 310 P **P 02 41 42.2 +0.1**
KBZ Khabaz 70.86 310 P **P 02 41 42.2 +0.1**
comp=Z,11nm,0.9s,baz=68,slow=3.7,SNR=16
KIV Kislovodsk 70.87 311 ⇓ *e*P **P 02 41 42.8 +0.5**
KIV *e* 02 44 20.8
KIV *e*S S 02 50 58.8 +5.8
KIV pmax pmax
comp=Z,29nm,1.0s
GNI Garni 71.55 306 *e*P **P 02 41 46.3 -0.3**
comp=Z,9.1nm,1.0s
GNI Garni 71.55 306 P **P 02 41 46.6 0.0**
comp=Z,2.2nm,0.5s,baz=38,slow=15,SNR=4.3
SUMG Summit 71.88 360 *e*P **P 02 41 49.4 +1.1**
SUMG *e**PP **pP 02 42 02.0 -2.8**
SUMG pmax pmax
comp=Z,9.0nm,0.8s
SUMG Summit 71.88 360 *i* P **P 02 41 49.6 +1.3**
comp=Z,9.0nm,0.8s
SUMG Summit 71.88 360 *e*P **P 02 41 49.4 +1.1**
comp=Z,8.8nm,0.8s
SUMG *e*pP **pP 02 42 02.0 -2.8**
SLMT Seeley Lake 74.35 43 *e*P **P 02 42 03.9 +0.9**
comp=Z,3.9nm,0.8s
AKASG Malin Array Be 74.58 322 P **P 02 42 03.8 -0.2**
AKASG pmax pmax
comp=Z,7.0nm,0.4s
AKASG Malin Array Be 74.58 322 P **P 02 42 03.8 -0.2**
AKASG Malin Array Be 74.58 322 P **P 02 42 03.8 -0.2**
comp=Z,6.8nm,0.4s,baz=47,slow=6.7,SNR=22
KIEV Kiev 74.59 322 *e*P **P 02 42 03.3 -0.8**
KIEV pmax pmax
comp=Z,14nm,0.9s
KIEV Kiev 74.59 322 *e*P **P 02 42 03.3 -0.8**
comp=Z,14nm,0.9s
HFS Hagfors 74.73 335 LR LR 03 15 21.7
comp=Z,76nm,20.8s,baz=33,slow=36
NB2 NORSAR Subarra 74.87 337 P **P 02 42 05.7 +0.1**
comp=Z,12nm,0.9s,baz=41,slow=5.9
NOA NORSAR Array B 74.87 337 P **P 02 42 06.0 +0.3**
NOA NORSAR Array B 74.87 337 P **P 02 42 06.0 +0.3**
comp=Z,8.0nm,0.8s,baz=39,slow=5.8,SNR=21
NAO01 NORSAR Array S 75.12 337 *e*P **P 02 42 07.2 +0.2**
comp=Z,9.8nm,0.9s
FFC Flin Flon 75.31 32 *e*P **P 02 42 08.9 +0.7**
FFC pmax pmax
comp=Z,20nm,1.1s
FFC Flin Flon 75.31 32 *e*P **P 02 42 08.9 +0.7**
comp=Z,20nm,1.1s
HRY Holter Researc 75.58 42 *e*P **P 02 42 11.3 +1.2**
comp=Z,2.4nm,0.7s
LRM Limekiln Ridge 75.77 43 *e*P **P 02 42 12.0 +0.7**
comp=Z,42nm,0.9s
HLID Hailey 75.99 46 *e*P **P 02 42 13.2 +0.6**
comp=Z,1.1nm,0.7s
NVAR Mina Array Bea 76.58 52 P **P 02 42 17.6 +1.5**
NVAR Mina Array Bea 76.58 52 P **P 02 42 17.6 +1.5**
comp=Z,1.0nm,0.8s,baz=281,slow=5.3,SNR=7.6
MALT Malatya 76.65 308 ⇓ P **P 02 42 17.7 +1.4**
MALT Malatya 76.65 308 ⇓ *i* P **P 02 42 17.7 +1.4**
LVV L'vov 77.70 323 *e*P **P 02 42 21.7 -0.1**
IMW Indian Meadow 77.80 44 *e*P **P 02 42 24.7 +1.8**
comp=Z,1.4nm,0.7s
MOOW Moose Ponds 78.00 44 *e*P **P 02 42 24.6 +0.7**
comp=Z,1.6nm,0.9s
TPAW Teton Pass 78.04 45 *e*P **P 02 42 25.6 +1.4**
comp=Z,2.3nm,0.7s
LOHW Long Hollow 78.16 44 *e*P **P 02 42 26.0 +1.2**
comp=Z,0.9nm,0.8s
KWP Kalwaria Pacla 78.47 324 *e*P **P 02 42 26.7 +0.6**
KWP pmax pmax
comp=Z,41nm,0.9s
KWP Kalwaria Pacla 78.47 324 *e*P **P 02 42 26.7 +0.6**
comp=Z,41nm,0.9s
KWP Kalwaria Pacla 78.47 324 ⇓ *i* P **P 02 42 27.2 +1.1**
KWP Kalwaria Pacla 78.47 324 *e*P **P 02 42 26.6 +0.5**
TESR Tescani 78.55 320 ⇓ *i* P **P 02 42 27.0 +0.4**
BUR08 Bucovina Ar. S 78.56 321 *e*P **P 02 42 27.2 +0.4**
BURAR Bucovina Array 78.57 321 ⇓ P **P 02 42 27.2 +0.4**
BURAR Bucovina Array 78.57 321 ⇓ *i* P **P 02 42 27.2 +0.4**
CFR Carcaliu 78.62 318 ⇓ P **P 02 42 27.1 +0.2**
CFR Carcaliu 78.62 318 ⇓ *i* P **P 02 42 27.1 +0.2**
BR131 Keskin Array S 78.83 311 *e*P **P 02 42 28.5 +0.1**
comp=Z,3.1nm,0.8s
BRTR Keskin Array B 78.83 311 P **P 02 42 28.6 +0.1**
BRTR Keskin Array B 78.83 311 P **P 02 42 28.6 +0.1**
comp=Z,3.5nm,0.8s,baz=96,slow=5.8,SNR=18
TIRR Tirgusor 78.93 317 ⇑ P **P 02 42 29.3 +0.6**
TIRR Tirgusor 78.93 317 ⇑ *i* P **P 02 42 29.3 +0.6**
VRI Vrincioaia 78.93 319 ⇓ P **P 02 42 30.3 +1.6**
VRI Vrincioaia 78.93 319 ⇓ *i* P **P 02 42 30.3 +1.6**
TLB Topalu 79.05 318 ⇓ P **P 02 42 29.7 +0.4**
TLB Topalu 79.05 318 ⇓ *i* P **P 02 42 29.7 +0.4**
KOLS Kolonicke sedl 79.15 324 *e*P **P 02 42 30.1 +0.3**
KOLS pmax pmax
comp=Z,6.0nm,1.2s
KOLS Kolonicke sedl 79.15 324 *e*P **P 02 42 30.1 +0.3**
PDAR Pinedale Array 79.29 45 P **P 02 42 31.5 +0.5**
PDAR Pinedale Array 79.29 45 P **P 02 42 31.5 +0.5**
comp=Z,0.9nm,0.6s,baz=259,slow=1.0,SNR=8.3
STHS Stebnicka Huta 79.31 324 *e*P **P 02 42 31.7 +1.0**
STHS pmax pmax
comp=Z,6.0nm,0.8s
STHS Stebnicka Huta 79.31 324 *e*P **P 02 42 31.7 +1.0**
CRVS Cervenica-Dubn 79.56 324 *e*P **P 02 42 31.8 -0.3**
CRVS pmax pmax
comp=Z,6.0nm,1.1s
CRVS Cervenica-Dubn 79.56 324 *e*P **P 02 42 31.8 -0.3**
TRPA Tarpa 79.57 323 ⇓ *i* P **P 02 42 33.1 +1.0**
MLR Muntele Rosu 79.59 319 ⇑ *i* P **P 02 42 33.3 +0.8**
KECS Kecovo 80.32 324 *e*P **P 02 42 36.4 +0.2**
KECS pmax pmax
comp=Z,2.0nm,1.0s
KECS Kecovo 80.32 324 *e*P **P 02 42 36.4 +0.2**
ARR Arges 80.37 320 ⇓ *i* P **P 02 42 38.0 +1.4**
DRGR 80.39 322 ⇑ P **P 02 42 37.6 +0.8**
DRGR 80.39 322 ⇑ *i* P **P 02 42 37.5 +0.8**
OKC Ostrava-Krasne 80.45 326 *i* P **P 02 42 37.5 +0.7**
OKC Ostrava-Krasne 80.45 326 *i* P **P 02 42 37.5 +0.7**
MORC Moravsky Berou 80.76 326 *e*P **P 02 42 38.9 +0.3**
MORC pmax pmax
comp=Z,5.0nm,1.1s
MORC Moravsky Berou 80.76 326 *e*P **P 02 42 38.9 +0.3**
comp=Z,5.2nm,1.1s
DPC Dobruska-Polom 80.89 327 *i* P **P 02 42 39.8 +0.5**
DPC Dobruska-Polom 80.89 327 *i* P **P 02 42 39.8 +0.5**
PSZ Piszkesteto 81.00 324 *e*P **P 02 42 39.0 -0.9**
PSZ pmax pmax
comp=Z,7.0nm,1.0s
PSZ Piszkesteto 81.00 324 *e*P **P 02 42 39.0 -0.9**
comp=Z,7.2nm,1.0s
PSZ Piszkesteto 81.00 324 ⇓ *i* P **P 02 42 41.1 +1.2**
SRU San Rafael 81.03 48 *e*P **P 02 42 41.5 +1.1**
SRU pmax pmax
comp=Z,2.0nm,0.6s
SRU San Rafael 81.03 48 *e*P **P 02 42 41.5 +1.1**
comp=Z,2.1nm,0.6s
VYHS Vyhne 81.09 325 *e*P **P 02 42 41.1 +0.8**
VYHS pmax pmax
comp=Z,7.0nm,1.3s
VYHS Vyhne 81.09 325 *e*P **P 02 42 41.1 +0.8**
PVCC Panska Ves 81.52 328 *i* P **P 02 42 43.3 +0.8**
PVCC Panska Ves 81.52 328 *i* P **P 02 42 43.3 +0.8**
BRG Berggiesshubel 81.53 329 *e*P **P 02 42 42.6 0.0**
comp=Z,7.7nm,1.0s
BRG Berggiesshubel 81.53 329 *e*P **P 02 42 42.6 0.0**
BRG pmax pmax
comp=Z,8.0nm,1.0s
CLL Collm 81.59 330 ⇑ *i* P **P 02 42 42.6 -0.3**
CLL pmax pmax
comp=Z,13nm,0.8s
CLL Collm 81.59 330 ⇑ *i* P **P 02 42 42.6 -0.3**
comp=Z,13nm,0.8s
CLL *i* PcP **PcP 02 42 48.0 -0.6**
SMOL Smolenice 81.73 326 *e*P **P 02 42 44.9 +1.2**
SMOL Smolenice 81.73 326 *e*P **P 02 42 44.9 +1.2**
MMAI Mount Meron Ar 81.76 305 P **P 02 42 45.2 +1.0**
MMAI Mount Meron Ar 81.76 305 P **P 02 42 45.2 +1.0**
comp=Z,6.2nm,0.8s,baz=38,slow=7.3,SNR=9.4
PRU Pruhonice 81.93 328 *i* P **P 02 42 45.3 +0.6**
PRU Pruhonice 81.93 328 *i* P **P 02 42 45.3 +0.6**
CSS Prodhromos 81.94 307 *e*P **P 02 42 44.9 -0.2**
comp=Z,8.5nm,0.7s
TREC Trest 82.03 327 *e*P **P 02 42 45.8 +0.5**
TREC Trest 82.03 327 *e*P **P 02 42 45.8 +0.5**
PKSM Moragy 82.81 323 ⇓ P **P 02 42 49.4 +0.1**
PKSM Moragy 82.81 323 ⇓ *i* P **P 02 42 49.4 +0.1**
CSNA Conrad Observa 82.87 326 ⇑ *i* P **P 02 42 50.3 +0.5**
comp=Z,8.8nm,1.4s
KHC Kasperske Hory 82.99 328 *i* P **P 02 42 50.0 -0.3**
KHC Kasperske Hory 82.99 328 *i* P **P 02 42 50.0 -0.3**
VTS Vitosha 83.00 318 ⇑ P **P 02 42 50.9 +0.3**
VTS Vitosha 83.00 318 ⇑ *i* P **P 02 42 50.9 +0.3**
GERES GERESS Array B 83.15 328 P **P 02 42 51.3 +0.1**
GERES GERESS Array B 83.15 328 P **P 02 42 51.3 +0.1**
comp=Z,1.5nm,0.6s,baz=40,slow=7.0,SNR=12
GRF Grafenberg Arr 83.56 329 *e*P **P 02 42 53.7 +0.5**
comp=Z,28nm,1.3s
GRF Grafenberg Arr 83.56 329 *e*P **P 02 42 53.7 +0.5**
GRF pmax pmax
comp=Z,28nm,1.3s
EIL Elat 84.11 302 P **P 02 42 56.4 0.0**
EIL Elat 84.11 302 P **P 02 42 56.4 0.0**
comp=Z,12nm,0.8s,baz=16,slow=6.0,SNR=13
SOKA Soboth 84.18 325 ⇑ *i* P **P 02 42 56.7 +0.2**
comp=Z,17nm,1.0s,SNR=12
PPT Papeete 85.08 116 LR LR 03 18 07.0
comp=Z,156nm,18.6s,baz=320,slow=34
STU Stuttgart 85.11 330 *e*P **P 02 43 01.3 +0.3**
STU Stuttgart 85.11 330 *e*P **P 02 43 01.3 +0.3**
RETA Reutte 85.46 328 ⇑ *i* P **P 02 43 02.8 -0.1**
comp=Z,8.1nm,1.1s
SCHQ Schefferville 86.79 15 P **P 02 43 09.9 +0.7**
SCHQ Schefferville 86.79 15 P **P 02 43 09.9 +0.7**
comp=Z,4.1nm,0.8s,baz=304,slow=4.8,SNR=3.9
AQU L'Aquila 88.19 323 *e*P **P 02 43 16.2 0.0**
comp=Z,12nm,0.8s
MNTX Cornudas Mount 89.03 51 *e*P **P 02 43 21.6 +1.3**
BNI Bardonecchia 89.12 329 *e*P **P 02 43 21.7 +1.1**
BNI pmax pmax
comp=Z,16nm,1.3s
BNI Bardonecchia 89.12 329 *e*P **P 02 43 21.7 +1.1**
comp=Z,16nm,1.3s
LPIG La Paz 90.73 59 LR LR 03 15 22.6
comp=Z,18nm,20.0s,baz=246,slow=30
TXAR Lajitas Array 91.72 52 P **P 02 43 33.8 +0.7**
TXAR Lajitas Array 91.72 52 P **P 02 43 33.8 +0.7**
comp=Z,1.0nm,0.8s,baz=296,slow=3.6,SNR=12
TXAR LR LR 03 23 13.7
comp=Z,25nm,18.1s,baz=175,slow=34
KEST Kesra 95.31 322 LR LR 03 29 20.2
comp=Z,37nm,18.2s,baz=317,slow=37
TORD Torodi Ar. Bea 117.38 313 PKP **PKPdf 02 49 10.2 -0.8**
TORD Torodi Ar. Bea 117.38 313 PKP **PKPdf 02 49 10.2 -0.8**
comp=Z,1.4nm,0.6s,baz=23,slow=1.3,SNR=24
LBTB Lobatse 123.39 262 *e*PKPdf **PKPdf 02 49 22.1 -0.3**
QSPA South Pole Qui 125.57 180 *e*PKPdf **PKPdf 02 49 24.6 -0.6**
DBIC Dimbokro 126.39 315 PKP **PKPdf 02 49 27.4 -1.0**
DBIC *e*PKPdf **PkiKP 02 49 28.1 -0.7**
DBIC Dimbokro 126.39 315 PKP **PKPdf 02 49 27.4 -1.0**
comp=Z,3.1nm,0.7s,baz=77,slow=6.3,SNR=7.7
SAML Samuel 145.87 44 *e*PKPbc **PKPbc 02 50 04.4 -0.5**
LPAZ La Paz 148.24 60 *e*PKPbc **PKPbc 02 50 12.4 +0.1**
LPAZ La Paz 148.24 60 PKPbc **PKPbc 02 50 11.8 -0.5**
comp=Z,2.3nm,0.8s,baz=9.3,slow=12,SNR=9.4
LVC Limon Verde 151.61 70 *e*PKPbc **PKPbc 02 50 20.5 +0.6**
CPUP Villa Florida 162.37 62 *e*PKPdf **PKPdf 02 50 26.5 -0.3**

MEX 04 02:50:36.5±0.5, 16°.26N×91°.28W, h11km±9km, MD3.7,
Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**0.82**	**271**	*e*P	Pg	02 50 49.6	-3.0
CCIG				*i* S	Sg	02 51 00.9	-2.6
THIG		**1.65**	**215**	*i* P	Pn	02 51 01.6	-3.8
THIG				*i* S	Sn	02 51 21.5	-5.0
TGIG		**1.84**	**286**	*e*P	Pn	02 51 04.6	-3.5
TGIG				*i* S	Sn	02 51 27.0	-4.4
PCIG		**1.94**	**254**	*e*P	Pn	02 51 06.6	-2.8
PCIG				*i* S	Sn	02 51 28.5	-5.4
CMIG	**Matias Romero**	**3.55**	**284**	*e*P	Pn	02 51 29.2	-2.4
CMIG				*i* S	Sn	02 52 10.0	-3.5
HUIG	**Huatulco**	**4.67**	**265**	*i* P	Pn	02 51 45.0	-2.0
HUIG				*i* S	Sn	02 52 37.5	-3.6
TEIG	**Tepich**	**4.87**	**35**	*e*P	Pn	02 51 48.3	-1.4
TEIG				*i* S	Sn	02 52 42.6	-3.5
VHO	**Vista Hermosa**	**5.28**	**280**	*i* P	Pn	02 51 52.9	-2.8
VHO				*i* S	Sn	02 52 53.1	-3.7

IDC 04 02:58:57.5±1.1, 8°.27N×38°.12W, h0km, mb3.9/5,
mb1 4.1/5, mb1mx3.7/25, mbtmp3.9/5, MS3.3/4, Ms1 3.4/4,
ms1mx3.0/29, Error ellipse: s-maj=40.8km
s-min=23.1km az=149.0, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDFB	**Brasilia**	**25.70**	**202**	P	P	03 04 29.9	+0.2
	4.0nm,0.6s,baz=16,slow=7.4,SNR=6.8						
LPAZ	**La Paz**	**38.44**	**231**	P	P	03 06 21.6	-0.4
	1.6nm,0.8s,baz=43,slow=8.9,SNR=3.4						
LPAZ				LR	LR	03 20 31.7	
	comp=Z,44nm,21.6s,baz=266,slow=34						

CPUP	Villa Florida	39.13	208	LR	LR	03 22 37.0		
	comp=Z,44nm,19.6s,baz=172,slow=36							
TORD	Torodi Ar. Bea	39.39	79	P	P	03 06 29.0	-0.4	
	2.6nm,0.7s,baz=274,slow=7.0,SNR=23							
NOA	NORSAR Array B	63.98	24	LR	LR	03 31 33.9		
	comp=Z,20nm,19.4s,baz=210,slow=31							
TXAR	Lajitas Array	64.69	298	P	P	03 09 37.9	-0.1	
	0.2nm,0.5s,baz=97,slow=7.2,SNR=4.6							
BRTR	Keskin Array B	70.74	51	P	P	03 10 16.3	+0.4	
	0.6nm,0.8s,baz=274,slow=6.7,SNR=3.8							
PDAR	Pinedale Array	70.81	312	LR	LR	03 36 15.6		
	comp=Z,29nm,19.3s,baz=247,slow=32							

*IDC **04** 03:09:53.9±1.5,2°.43N×95°.67E,h0km,mb4.0/9, mb1 4.1/11,mb1mx3.8/29,mbtmp4.0/11,ML4.0/2,MS2.9/1, Ms1 2.9/1,ms1mx2.4/37,Error ellipse: s-maj=46.7km s-min=18.3km az=51.0*

*ISCJB **04** 03:09:55.2±0.8,2°.39N±0°.09×95°.61E±0°.05,h25km, mb4.0/9,Error ellipse: s-maj=12.8km s-min=7.4km az=12.8*

*DJA **04** 03:09:55.3±1.4,2°N±8°×9°.6E±°,h16km±8km,M4.4/6, mb4.6/4,mB4.8/2,MLv4.4/6,Mw(mB)4.0/2*

ISC 04 03:09:57.7±1.0,2°.49N±0°.09×95°.75E±0°.08,h25km,n18, σ0°76/20,mb4.0/9,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	Sinabang, Aceh	0.59	98	P	Pb	03 10 09.5	+0.1
SNSI				S	Sn	03 10 19.1	-0.2
KCSI	Kotacane, Aceh	2.27	63	P	Pn	03 10 33.8	+0.1
KCSI				S	Sb	03 11 05.1	-0.6
TSI	Tuntungan	2.99	70	P	Pn	03 10 46.1	+2.5
PSI	Prapat	3.19	84	Pn	Pn	03 10 46.8	+0.3
	4.0nm,0.3s,baz=286,slow=7.7,SNR=20						
PSI				LR	LR	03 12 20.9	
	comp=Z,199nm,20.2s,baz=262,slow=45						
PPI	Padang Panjang	5.50	122	P	Pn	03 11 17.9	-0.1
	23nm,1.1s,0.1nm						
KULM	Kulim	5.63	60	P	Pn	03 11 20.2	+0.3
	80nm,0.9s,689nm0.3nm						
IPM	Ipoh	5.63	69	P	Pn	03 11 20.2	+0.3
	53nm,0.5s,822nm0.3nm						
SKLT	Songkhla	6.72	46	P	Pn	03 11 35.0	+0.1
CMAR	Chiang Mai Arr	16.18	11	Pn	P	03 13 45.3	-1.2
	0.6nm,0.3s,baz=202,slow=11,SNR=12						
WRA	Warramunga Arr	43.95	122	P	P	03 18 03.2	+0.1
	0.9nm,0.5s,baz=298,slow=9.4,SNR=8.5						
ASAR	Alice Springs	45.33	127	P	P	03 18 14.3	+0.2
	0.6nm,0.5s,baz=302,slow=8.0,SNR=7.9						
KSRS	Korea Array	45.65	36	P	P	03 18 15.8	-0.5
	1.4nm,0.6s,baz=225,slow=9.8,SNR=3.2						
MKAR	Makanchi Array	45.66	347	P	P	03 18 16.9	+0.6
	2.1nm,0.5s,baz=157,slow=8.9,SNR=20						
SONM	Songino Array	46.10	10	P	P	03 18 20.0	0.0
	0.8nm,0.6s,baz=200,slow=10,SNR=4.8						
KURBB	Kurchatov Arra	50.12	346	P	P	03 18 51.6	+0.8
	0.7nm,0.3s,baz=170,slow=6.6,SNR=4.7						
ZALV	Zalesovo Beam	52.07	352	P	P	03 19 05.5	+0.1
	1.9nm,0.5s,baz=174,slow=6.0,SNR=9.8						
BVAR	Borovoye Array	54.57	341	P	P	03 19 23.9	+0.1
	1.7nm,0.7s,baz=146,slow=9.0,SNR=7.2						
ARCES	ARCESS Array B	80.84	340	P	P	03 22 09.1	0.0
	1.2nm,0.7s,baz=71,slow=6.8,SNR=5.8						

IDC 04 03:24:14.6±4.5,22°.19S×148°.26E,h0km,mb1 3.4/4, mb1mx3.3/16,mbtmp3.2/4,ML3.1/4,Error ellipse: s-maj=44.3km s-min=23.8km az=75.0,Queensland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	2.81	318	Pn	Pn	03 25 02.6	+1.8
	1.3nm,0.3s,baz=140,slow=16,SNR=10						
CTA				Lg	Lg	03 25 44.1	
	7.8nm,0.3s,baz=60,slow=20,SNR=11						
STKA	Stephens Creek	11.33	210	Pn	Pn	03 26 56.7	-1.1
	0.3nm,0.3s,baz=29,slow=10,SNR=4.1						
WRA	Warramunga Arr	13.19	277	Pn	Pn	03 27 21.6	-1.7
	0.1nm,0.3s,baz=96,slow=12,SNR=3.6						
WRA				Lg	Lg	03 31 12.8	
	0.2nm,0.3s,baz=103,slow=29,SNR=6.7						
ASAR	Alice Springs	13.31	261	Pn	Pn	03 27 24.3	-0.7
	0.0nm,0.3s,baz=82,slow=14,SNR=3.3						
ASAR				Lg	Lg	03 31 18.5	
	0.1nm,0.3s,baz=85,slow=24,SNR=4.9						

MEX 04 03:44:10.7±1.1,16°.08N×94°.73W,h22km±226km,MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	1.01	351	eP	Pb	03 44 26.2	-3.5
CMIG				i S	Sb	03 44 39.3	-3.3
HUIG	Huatulco	1.36	257	i P	Pn	03 44 31.0	-3.4
HUIG				i S	Sn	03 44 48.6	-3.3
PCIG		1.50	104	i P	Pn	03 44 33.2	-3.1
PCIG				i S	Sn	03 44 51.8	-3.4
VHO	Vista Hermosa	2.16	297	i P	Pn	03 44 43.8	-1.9
VHO				i S	Sn	03 45 09.4	-2.6
PNIG	Pinotepa	3.28	276	i P	Pn	03 44 58.9	-2.0
PNIG				i S	Sn	03 45 35.3	-3.9

*MOS **04** 03:51:58.0±2.0,50°.09N×157°.13E,h73km,mb4.2/1,Error ellipse: s-maj=59.5km s-min=13.7km az=77.8*

*KRSC **04** 03:52:01.2±0.8,50°.24N×157°.48E,h55km±55km,ML4.0*

ISC 04 03:51:60.0±3.0,50°.1N±0°.2×157°.34E±0°.08,h31km±24km, n32,σ1°25/44,1D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	0.99	308	⇓iPN	Pn	03 52 12.0	-5.8
SKR				i S	Sn	03 52 23.7	-7.0
SKR				pmax	pmax		
	comp=N,130nm,0.4s						
SKR				pmax	pmax		
	comp=E,80nm,0.4s						
SKR				pmax	pmax		
	comp=Z,240nm,0.4s						
SKR				smax	smax		
	comp=N,2μm,0.3s						
SKR				smax	smax		
	comp=E,2μm,0.3s						
SKR	Severo-Kuril's	0.99	308	eP	Pb	03 52 18.2	-0.4
SKR				eS	Sn	03 52 29.9	-0.8
PAU	Pauzhetka	1.43	347	PN	Pn	03 52 24.4	+0.6
PAU				S	Sn	03 52 41.2	-0.4
PAU	Pauzhetka	1.43	347	eP	Pn	03 52 24.4	+0.6
PAU				eS	Sn	03 52 41.2	-0.4
MIPR	Malaya Ipel'ka	2.23	351	eP	Pn	03 52 34.8	-0.1
ASAK	Asacha	2.34	8	eP	Pn	03 52 37.3	+1.0
ASAK				eS	Sn	03 53 04.2	+0.2
MTVR	Mutnovka	2.47	12	eP	Pn	03 52 39.5	+1.3
MTVR				eS	Sn	03 53 06.9	-0.4
RUS	Russkaya	2.47	17	PN	Pn	03 52 38.9	+0.8
RUS				S	Sn	03 53 06.1	-1.1
RUS	Russkaya	2.47	17	eP	Pn	03 52 38.9	+0.8
RUS				eS	Sn	03 53 06.1	-1.1
GRL	Gorelyy	2.52	10	eP	Pn	03 52 40.5	+1.6
GRL				eS	Sn	03 53 09.1	+0.5
PET	Petropavlovsk	3.06	15	eS	Sn	03 53 21.6	-0.2
UGLR	Uglovaya	3.27	16	eP	Pn	03 52 50.9	+1.7
AVH	Avacha	3.31	15	eP	Pn	03 52 51.8	+2.1
AVH				eS	Sn	03 53 28.9	+0.9
SMAR	Somma	3.32	15	eP	Pn	03 52 51.8	+1.9
KOK	Koryaka	3.32	14	eP	Pn	03 52 52.0	+2.2
NLC	Nalytchevo	3.34	21	PN	Pn	03 52 50.2	+0.2
NLC				S	Sn	03 53 26.1	-2.5
NLC	Nalytchevo	3.34	21	eP	Pn	03 52 50.2	+0.2
NLC				eS	Sn	03 53 26.1	-2.5
SDLR	Sedlovina	3.35	16	eP	Pn	03 52 51.4	+1.2
KRER	Koryakskii	3.35	15	eP	Pn	03 52 52.3	+2.0
KRER				eS	Sn	03 53 29.1	0.0
KRX	Arik	3.39	13	eP	Pn	03 52 52.5	+1.7
SPN	Mys Shipunski	3.46	28	PN	Pn	03 52 53.2	+1.6
SPN				S	Sn	03 53 30.5	-1.0
SPN	Mys Shipunski	3.46	28	eP	Pn	03 52 53.2	+1.6
SPN				eS	Sn	03 53 30.5	-1.0
GNL	Ganaly	3.64	6	eP	Pn	03 52 55.0	+0.7
KII	Karymskiy	4.17	17	eP	Pn	03 53 03.7	+2.1
MKZ	Mys Kozlova	5.23	29	PN	Pn	03 53 16.0	0.0
MKZ	Mys Kozlova	5.23	29	eP	Pn	03 53 16.0	0.0
TUMR	Tumrok	5.49	17	eP	Pn	03 53 23.1	+3.5
KMNR	Kamenistaya	5.95	16	P	Pn	03 53 26.1	+0.1
BZMR	Bezymyannaya	6.17	17	P	Pn	03 53 30.1	+1.1
BZWR	Bezymyannyi-We	6.20	17	P	Pn	03 53 30.3	+0.9
KBTR	Krutoberegovo	6.97	26	PN	Pn	03 53 39.9	+0.1
KBTR	Krutoberegovo	6.97	26	eP	Pn	03 53 39.9	+0.1

NNC 04 04:01:24.4±3.2,39°.54N×71°.49E,h0km,mb3.8,mpv3.4, 7C-2D,Error ellipse: s-maj=24.9km s-min=14.8km az=14.0,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	3.63	349	⇑Pn	Pn	04 02 24.6	+2.7
	9.8nm,0.5s,baz=154,slow=12,SNR=93						
KK31				⇑Pg	Pg	04 02 34.2	+0.1
	5.3nm,0.5s,baz=170,slow=15,SNR=9.2						
KK31				⇓Sn	Sb	04 03 11.6	-2.5
	1.5nm,0.2s,baz=169,slow=23,SNR=4.1						
KK31				⇑Lg	Lg	04 03 21.0	
	12nm,0.6s,baz=166,slow=31,SNR=7.2						
TKM2	Tokmak 2	4.58	41	Pn	Pn	04 02 35.6	+0.5
	2.8nm,0.6s						
TKM2				⇓Pg	Pb	04 02 47.4	+1.6
	3.3nm,0.8s						
TKM2				⇑Sn	Sn	04 03 29.8	+0.6
	3.1nm,0.6s						
TKM2				⇑Lg	Lg	04 03 47.5	
	6.8nm,0.8s						
AB31	Akbulak array	12.73	323	⇑Pn	Pn	04 04 23.2	-3.4
	0.9nm,0.6s,baz=129,slow=12,SNR=11						
AB31				⇑Sn	Sn	04 06 46.5	-2.5
	0.8nm,0.6s,baz=134,slow=25,SNR=3.6						

*NEIC **04** 04:04:06.7,58°.98N×137°.37W,h0km,ML3.6(AEIC),After AEIC.*

*IDC **04** 04:04:07.9±1.1,58°.94N×137°.23W,h0km,mb2.9/2, mb1 3.8/7,mb1mx3.5/28,mbtmp3.5/7,ML3.6/5,MS3.2/13, Ms1 3.2/13,ms1mx3.1/31,Error ellipse: s-maj=19.0km s-min=10.3km az=27.0*

*PGC **04** 04:04:08.8±6.6,59°.04N×137°.29W,h1km,ML3.9/4, 117km west of Haines, Ak Southeastern Alaska*

ISC 04 04:04:07.8±1.3,59°.01N±0°.03×137°.29W±0°.03,h0km±9km, n69,σ1°41/85,mb3.2/3,MS3.4/8,4D,Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKAG	Skagway	1.10	65	P	Pb	04 04 28.2	-1.5
SKAG				S	Sn	04 04 44.2	-2.1
PNL	Peninsula	1.26	302	P	Pn	04 04 29.0	-3.7
BESE	Bessie Mountai	1.34	108	P	Pn	04 04 32.5	-1.3
BESE				S	Sg	04 04 53.2	+2.3
HYT	Haines Junctio	1.82	357	P	Pn	04 04 39.9	-0.6
HYT	Haines Junctio	1.82	357	⇓Pn	Pn	04 04 39.8	-0.6
HYT				⇓Sn	Sb	04 05 04.8	-0.6
WHY	Whitehorse	2.05	35	P	Pn	04 04 43.8	+0.2
WHY				S	Sg	04 05 12.3	-1.3
WHY	Whitehorse	2.05	35	⇓Pn	Pn	04 04 43.5	-0.1
WHY				⇑Sg	Sb	04 05 11.5	-0.5
SIT	Sitka	2.22	151	P	Pn	04 04 45.7	-0.1
SIT				S	Sb	04 05 15.0	-1.8
TABL	Table Mountain	2.42	308	P	Pn	04 04 47.9	-0.9
YAH	Yahtse	2.63	303	P	Pn	04 04 51.3	-0.4
GRNC	Granite Creek	2.83	309	P	Pn	04 04 53.3	-1.2
BAGL	Bagley Icefiel	2.84	303	P	Pn	04 04 54.1	-0.3
BAGL				S	Sn	04 05 30.4	+1.1
BARK	Barkley Ridge	2.98	300	P	Pn	04 04 55.0	-1.3
BARN	Barnard Glacie	3.00	315	P	Pn	04 04 56.7	-0.1
ISLE	Juniper Island	3.01	304	P	Pn	04 04 56.4	-0.4
KIAG	Kiagna River	3.19	309	P	Pn	04 04 58.7	-0.6
BALM	Baldy	3.25	311	P	Pn	04 04 58.9	-1.2
KHIT	Khitrov Hills	3.34	298	P	Pn	04 04 60.0	-1.3
PTPK	Patty Peak	3.39	312	P	Pn	04 05 02.3	+0.2
WRAK	Wrangell Islan	3.71	132	ePn	Pn	04 05 06.3	0.0
WRAK				ePb	Pb	04 05 15.4	+1.2
WRAK				ePg	Pg	04 05 19.4	+0.5
WRAK				eSn	Sb	04 05 54.5	-5.2
WRAK				eSg	Sg	04 06 05.8	-1.2
MCARA	McCarthy VSAT	3.72	312	P	Pn	04 05 05.6	-0.8
DLBC	Dease Lake	3.83	96	P	Pn	04 05 08.0	0.0
DLBC	Dease Lake	3.83	96	⇑Pn	Pn	04 05 08.0	0.0
DLBC				⇓Pg	Pb	04 05 17.9	+1.7
DLBC				⇑Sn	Sn	04 05 52.8	-0.9
DLBC	Dease Lake	3.83	96	Pn	Pn	04 05 08.0	0.0
	5.7nm,0.3s,baz=267,slow=9.4,SNR=66						
DLBC				Pg	Pb	04 05 18.3	+2.1
	21nm,0.3s,baz=280,slow=15,SNR=38						
DLBC				Lg	Lg	04 06 07.0	
	16nm,0.3s,baz=210,slow=8.1,SNR=5.0						
GOAT	Goat Mountain	4.07	296	P	Pn	04 05 10.1	-1.2
BMRM	Bremner River	4.16	301	P	Pn	04 05 12.0	-0.5
CRAG	Craig	4.21	146	ePn	Pn	04 05 11.7	-1.4
CRAG				ePg	Pb	04 05 22.6	0.0
CRAG				eSg	Sb	04 06 17.3	+3.3
BCA3	Beaver Creek A	4.62	334	P	Pn	04 05 18.9	+0.1
DIV	Divide	4.75	300	ePn	Pn	04 05 20.8	+0.2
DIV				ePg	Pb	04 05 34.7	+2.9
DIV				eSg	Sb	04 06 31.8	+2.3
KLU	Klutina	4.96	304	P	Pn	04 05 24.1	+0.6
JPK	Jack Peak	5.10	298	P	Pn	04 05 24.6	-0.7
DAWY	Dawson	5.17	350	P	Pn	04 05 27.2	+0.9
DAWY	Dawson	5.17	350	⇑Pn	Pn	04 05 26.6	+0.3
DAWY				⇑Sn	Sn	04 06 24.9	-1.7
GLI	Glacier Island	5.27	295	P	Pn	04 05 27.6	-0.1
SCM	Sheep Creek Mo	5.72	304	P	Pn	04 05 33.9	0.0
SCRK	Sand Creek	5.92	330	P	Pn	04 05 35.9	-0.9
EGAK	Eagle	6.07	344	ePn	Pn	04 05 38.6	0.0
	25nm,0.5s						
EGAK				eSg	Sg	04 07 17.8	-4.6
SML	Sawmill	6.15	302	ePn	Pn	04 05 38.9	-0.8
	4.3nm,0.8s						
SML				ePg	Pb	04 05 57.9	+2.2
SML				eSn	Sn	04 06 48.6	-2.0
SML				eSg	Sb	04 07 11.6	+2.0
PMR	Palmer	6.43	299	ePn	Pn	04 05 42.8	-0.8
	9.6nm,0.5s						
PMR				ePg	Pb	04 06 01.2	+0.8
PMR				eSn	Sn	04 06 56.2	-1.2
PMR				eSg	Sg	04 07 25.3	-8.7
SUA	Susitna One	7.13	296	P	Pn	04 05 52.0	-1.4
MCK	McKinley	7.32	315	ePn	Pn	04 05 57.3	+1.4
	9.1nm,0.8s						
MCK				ePg	Pb	04 06 17.8	+2.2
ILAR	Eielson Array	7.34	326	Pn	Pn	04 05 56.7	+0.7
	0.2nm,0.3s,baz=153,slow=12,SNR=18						
ILAR				Pg	Pb	04 06 20.1	+4.3
	0.2nm,0.3s,baz=139,slow=15,SNR=7.5						
ILAR				Lg	Lg	04 08 04.1	
	0.4nm,0.3s,baz=129,slow=27,SNR=10						
ILAR				LR	LR	04 09 10.2	
	comp=Z,70nm,20.7s,baz=153,slow=41						
TRF	Thorofare Moun	7.68	311	ePn	Pn	04 06 00.8	-0.1
	19nm,0.7s						
TRF				ePg	Pb	04 06 23.5	+1.7
TRF				eSg	Sb	04 07 55.4	+1.5
RSO	Redoubt South	7.95	287	ePn	Pn	04 06 03.6	-0.9
	37nm,0.6s						
RSO				eSn	Sn	04 07 32.9	-2.2
KDAK	Kodiak Island	8.13	268	Pn	Pn	04 06 05.1	-1.8
	0.6nm,0.3s,baz=77,slow=15,SNR=3.7						
KDAK				LR	LR	04 08 55.5	
	comp=Z,97nm,21.8s,baz=133,slow=35						
PPLA	Purkeypile	8.22	305	ePn	Pn	04 06 09.6	+1.3
	12nm,0.9s						
PPLA				eSg	Sb	04 08 19.4	+10
BPAW	Bear Paw Mtn.	8.28	314	P	Pn	04 06 08.2	-0.8
BBB	Bella Bella	8.59	139	LR	LR	04 09 23.0	
	comp=Z,145nm,20.5s,baz=297,slow=37						
INK	Inuvik	9.48	9	ePn	Pn	04 06 26.8	+1.5
	4.7nm,0.7s						
INK				eLg	Lg	04 09 08.0	
INK	Inuvik	9.48	9	Pn	Pn	04 06 25.9	+0.6
	0.4nm,0.3s,baz=144,slow=15,SNR=11						
INK				Lg	Lg	04 09 08.7	
	0.0nm,0.3s,baz=285,slow=27,SNR=4.1						
IM04	Indian Mountai	10.31	319	ePn	Pn	04 06 36.6	-0.1
IMA2	Indian Mountai	10.33	320	ePn	Pn	04 06 37.0	-0.1
YKA	Yellowknife Ar	11.60	63	Pn	Pn	04 06 53.5	-0.9
	0.3nm,0.3s,baz=261,slow=12,SNR=19						
YKA				Lg	Lg	04 10 09.8	
	0.0nm,0.3s,baz=255,slow=28,SNR=3.8						
EDM	Edmonton	14.51	103	ePn	Pn	04 07 34.7	+0.6
NEW	Newport	16.02	123	LR	LR	04 14 55.6	
	comp=Z,65nm,18.3s,baz=319,slow=41						
YBH	Yreka Blue Hor	19.56	146	LR	LR	04 15 04.9	
	comp=Z,96nm,19.6s,baz=339,slow=34						
RES	Resolute Bay	22.10	28	LR	LR	04 18 19.6	
	comp=Z,154nm,19.9s,baz=276,slow=38						
IMW	Indian Meadow	22.11	122	eP	P	04 09 05.5	+0.7
PDAR	Pinedale Array	23.62	121	P	P	04 09 21.3	+0.9
	0.2nm,0.5s,baz=322,slow=7.0,SNR=2.3						
NVAR	Mina Array Bea	23.94	141	P	P	04 09 23.7	+0.1
	0.3nm,0.5s,baz=322,slow=8.6,SNR=2.5						
ULM	Lac du Bonnet	25.15	92	LR	LR	04 20 01.5	
	comp=Z,59nm,21.1s,baz=108,slow=38						
TXAR	Lajitas Array	37.51	127	ScP	ScP	04 17 30.2	+0.8
	0.3nm,1.0s,baz=297,slow=1.1,SNR=3.4						
NOA	NORSAR Array B	57.80	17	LR	LR	04 39 12.3	
	comp=Z,30nm,21.1s,baz=350,slow=36						
FINES	FINESS Array B	59.18	9	LR	LR	04 38 22.3	
	comp=Z,28nm,21.5s,baz=309,slow=35						
ZALV	Zalesovo Beam	62.40	333	LR	LR	04 42 19.9	
	comp=Z,22nm,20.9s,baz=250,slow=37						
GERES	GERESS Array B	69.91	20	LR	LR	04 46 41.6	
	comp=Z,18nm,18.7s,baz=71,slow=36						
AAK	Ala-Archa	75.35	336	LR	LR	04 56 42.9	
	comp=Z,20nm,18.7s,baz=265,slow=42						
BRTR	Keskin Array B	81.33	7	LR	LR	04 57 24.8	
	comp=Z,15nm,19.3s,baz=239,slow=39						
CMAR	Chiang Mai Arr	90.21	308	P	P	04 17 10.7	+0.6
	1.0nm,0.3s,baz=13,slow=5.3,SNR=6.6						

*IDC **04** 04:49:07.3±0.6,7°.23N×117°.14E,h0km,mb4.1/17, mb1 4.2/19,mb1mx4.1/29,mbtmp4.1/19,ML3.6/1,MS3.7/21, Ms1 3.7/21,ms1mx3.6/37,Error ellipse: s-maj=24.9km s-min=13.1km az=65.0*

*ISCJB **04** 04:49:08.2±0.3,7°.38N±0°.03×117°.07E±0°.04,h10km, mb4.3/26,MS3.8/21,Error ellipse: s-maj=6.4km s-min=4.5km az=2.1*

*NEIC **04** 04:49:12.6±0.3,7°.19N×117°.12E,h35km,mb4.5/11,Error ellipse: s-maj=7.8km s-min=5.4km az=80.0*

*DJA **04** 04:49:13.2±2.0,7°N±5°×11°7E±°,h10km,M4.3/5,mB5.2/1, mb4.5/5,MLv4.3/3,Mw(mB)4.6/1*

ISC 04 04:49:08.7±0.5,7°.20N±0°.05×117°.18E±0°.06,h10km,n79, σ0°76/62,mb4.3/27,MS3.8/21,1C,Borneo

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDM	Kudat	0.44	231	P	Pn	04 49 21.0	-0.1
KKM	Kota Kinabalu	1.49	220	ePn	Pg	04 49 36.3	-1.1
KKM				eSn	Sg	04 49 55.7	-1.1
KKM	Kota Kinabalu	1.49	220	P	Pg	04 49 43.9	+6.5
KKM	Kota Kinabalu	1.49	220	P	Pg	04 49 37.1	-0.3
KKM				S	Sg	04 49 57.7	+0.9
SDKM	Sandakan	1.54	179	P	Pg	04 49 40.8	+2.4
MYLDM	Lahad Datu	2.40	147	P	Pb	04 49 51.7	-0.3
MYLDM	Lahad Datu	2.40	147	P	Pb	04 49 51.1	-0.8
MYLDM				S	Sg	04 50 24.4	-1.3
TSM	Tawau	2.96	166	P	Pb	04 50 01.0	-0.6
PPR	Puerto Princes	2.99	31⇑	eP	Pg	04 50 08.5	+2.5
MRSI	Marisa	8.19	144	P	Pn	04 51 14.6	+6.9
	54nm,1.1s						
GTOI	Gorontalo	8.73	138	P	Pn	04 51 19.6	+4.4
	81nm,1.4s,1μm						
KSM	Kuching	8.90	231	ePn	Pn	04 51 18.1	+0.6
	12nm,0.8s						
KSM	Kuching	8.90	231	P	Pn	04 51 18.5	+1.0
KSM	Kuching	8.90	231	P	Pn	04 51 19.2	+1.7
	21nm,1.2s,0.1nm						
TTSI	Tana Toraja	10.51	165	P	Pn	04 51 49.9	+10
KAPI	Kappang	12.40	168	ePn	Pn	04 52 05.8	+0.4
	14nm,1.0s						
KAPI	Kappang	12.40	168	Pn	Pn	04 52 07.0	+1.6
	baz=21,slow=13,SNR=2.1						
MYKOM	Kota Tinggi	14.33	249	P	Pn	04 52 31.3	-0.5
KGM	Kluang	14.74	250	P	P	04 52 39.1	-4.4
PSI	Prapat	18.70	257	P	Pn	04 53 28.8	+0.8
PSI	Prapat	18.70	257	P	Pn	04 53 28.8	+0.8
	0.2nm,0.3s,baz=21,slow=19,SNR=2.6						
KCSI	Kotacane, Aceh	19.66	260	P	Pn	04 53 42.1	+2.7
	20nm,1.9s						
CMAR	Chiang Mai Arr	20.98	304	P	Pn	04 53 52.7	-2.3
CMAR	Chiang Mai Arr	20.98	304	P	Pn	04 53 52.7	-2.3
	2.0nm,0.3s,baz=116,slow=8.1,SNR=5.8						
CHTO	Chiang Mai	21.16	305	eP	P	04 53 55.6	+1.3
	21nm,1.1s						
CHTO	Chiang Mai	21.16	305	P	P	04 53 58.9	+4.6
FITZ	Fitzroy Crossi	26.49	162	LR	LR	05 06 22.4	
	comp=Z,112nm,21.7s,baz=328,slow=39						
JNU	Nakatsue	28.76	24	LR	LR	05 07 32.3	
	comp=Z,102nm,18.1s,baz=61,slow=38						
KSAR	Wonju Array Be	31.64	16	P	P	04 55 33.7	+1.6
KSRS	Korea Array	31.67	16	P	P	04 55 33.7	+1.5
	0.4nm,0.3s,baz=186,slow=6.3,SNR=5.2						
KSRS				LR	LR	05 09 08.5	
	comp=Z,92nm,18.7s,baz=66,slow=38						
WRAB	Tennant Creek	31.82	148	eP	P	04 55 35.3	+1.5
	3.1nm,0.8s						
WRA	Warramunga Arr	31.82	148	P	P	04 55 33.9	+0.1
WRA				PcP	PcP	04 58 25.0	0.0
WRA	Warramunga Arr	31.82	148	P	P	04 55 33.9	+0.1
	1.9nm,0.9s,baz=331,slow=9.6,SNR=18						
WRA				PcP	PcP	04 58 25.0	0.0
	0.4nm,0.8s,baz=335,slow=2.7,SNR=3.3						
ASAR	Alice Springs	34.75	152	P	P	04 56 00.4	+0.9
ASAR				PcP	PcP	04 58 32.3	-0.9
ASAR	Alice Springs	34.75	152

comp=Z,75nm,21.2s,baz=196,slow=38
GNI Garni 71.98 310 *eP* **P 05 00 32.4 -0.7**
4.7nm,0.6s
GNI Garni 71.98 310 LR LR 05 36 48.2
comp=Z,31nm,18.7s,baz=198,slow=40
KBZ Khabaz 73.70 313 LR LR 05 36 55.9
comp=Z,94nm,21.7s,baz=160,slow=39
ASF Jabal al Asfar 78.00 301 LR LR 05 40 59.7
comp=Z,27nm,18.7s,baz=139,slow=40
MMAI Mount Meron Ar 79.24 302 LR LR 05 40 26.2
comp=Z,44nm,20.1s,baz=115,slow=39
BRTR Keskin Array B 80.48 309 P **P 05 01 21.1 -0.4**
BRTR Keskin Array B 80.48 309 P **P 05 01 21.1 -0.4**
0.4nm,0.4s,baz=134,slow=5.3,SNR=3.6
BRTR LR LR 05 40 58.4
comp=Z,20nm,19.3s,baz=101,slow=39
AKASG Malin Array Be 83.19 320 LR LR 05 42 02.2
comp=Z,74nm,21.1s,baz=175,slow=38
KIEV Kiev 83.20 320 *eP* **P 05 01 34.2 -1.1**
2.6nm,0.8s
ARCES ARCESS Array B 83.90 339 P **P 05 01 38.9 +0.4**
ARCES ARCESS Array B 83.90 339 P **P 05 01 38.9 +0.4**
3.8nm,0.9s,baz=75,slow=5.1,SNR=6.0
ARCES LR LR 05 43 03.6
comp=Z,71nm,20.6s,baz=349,slow=39
FINES FINESS Array B 84.26 331 P **P 05 01 39.1 -1.4**
FINES FINESS Array B 84.26 331 P **P 05 01 39.1 -1.4**
3.5nm,0.9s,baz=56,slow=8.6,SNR=4.7
MCK McKinley 85.33 26 *eP* **P 05 01 46.6 +0.8**
26nm,1.4s
COLA College 85.65 25 *eP* P 05 01 48.9 +1.5
14nm,0.9s
BUR08 Bucovina Ar. S 86.07 317 *eP* **P 05 01 50.6 +0.6**
ILAR Eielson Array 86.08 25 P **P 05 01 49.2 -0.3**
ILAR Eielson Array 86.08 25 P **P 05 01 49.2 -0.3**
3.1nm,1.2s,baz=255,slow=3.2,SNR=7.6
NOA NORSAR Array B 91.38 332 LR LR 05 47 43.8
comp=Z,75nm,20.0s,baz=65,slow=38
GERES GERESS Array B 93.40 320 LR LR 05 47 47.2
comp=Z,66nm,21.1s,baz=145,slow=38
QSPA South Pole Qui 97.08 180 LR LR 05 42 37.0
comp=Z,52nm,18.4s,baz=30,slow=33

*IDC **04** 05:24:39.6±0.8, 1°.11S×100°.34E, h0km, mb4.2/14, mb1 4.3/16, mb1mx4.1/29, mbtmp4.2/16, ML4.4/2, MS3.6/8, Ms1 3.6/8, ms1mx3.2/36, Error ellipse: s-maj=33.6km s-min=13.6km az=58.0*
*DJA **04** 05:24:43.4±0.4, 1°.S±2°×10°.0E±°, h10km, M4.8/10, mb4.8/1, mB5.0/1, MLv4.7/10, Mw(mB)4.3/1*
*AUST **04** 05:24:43.0±0.1, 1°.11S×100°.25E, h0km, Error ellipse: s-maj=2.5km s-min=1.1km az=256.0*
*NEIC **04** 05:24:46.3±1.5, 1°.03S×100°.44E, h46km±12km, mb4.7/5, Error ellipse: s-maj=20.6km s-min=6.9km az=54.0*
ISC 04 05:24:40.7±1.9, **1°.19S**±0°.05×**100°.11E**±0°.06, **h8**km±11km, **n71**, σ1°**27**/73, **mb4.3**/18, **MS3.7**/6, **Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**0.45**	**52**	P	**Pg**	**05 24 49.4**	**0.0**
PDSI				S	**Sg**	**05 24 55.4**	**+0.1**
PPI	**Padang Panjang**	**0.78**	**22**	P	**Pg**	**05 24 55.2**	**-0.5**
PPI				S	**Sb**	**05 25 07.1**	**-0.2**
PPI	**Padang Panjang**	**0.78**	**22**	P	**Pg**	**05 24 55.4**	**-0.4**
baz=0.7,SNR=79
SDSI	**Sungai Dareh**	**1.34**	**79**	P	**Pn**	**05 25 05.7**	**-0.1**
SDSI				S	**Sn**	**05 25 24.2**	**+0.3**
BKNI	**Bangkinang**	**1.77**	**32**	P	**Pb**	**05 25 13.9**	**+0.5**
BKNI				S	**Sg**	**05 25 37.7**	**+0.1**
BKNI	**Bangkinang**	**1.77**	**32**	P	**Pb**	**05 25 13.5**	**+0.1**
baz=1.6,SNR=19
BKNI				S	**Sg**	**05 25 37.8**	**+0.2**
baz=1.6,SNR=5.0
RGRI	**Rengat**	**2.38**	**70**	P	**Pb**	**05 25 22.2**	**-1.6**
MASI	**Maura Aman, Be**	**2.88**	**132**	P	**Pn**	**05 25 28.7**	**+1.6**
MASI				S	**Sn**	**05 26 03.2**	**+1.2**
KSI	**Kapahiang**	**3.49**	**135**	P	**Pn**	**05 25 38.2**	**+2.8**
KSI				S	**Sn**	**05 26 17.6**	**+0.6**
PSI	**Prapat**	**4.13**	**343**	Pn	**Pn**	**05 25 45.4**	**+1.1**
PSI	**Prapat**	**4.13**	**343**	Pn	**Pn**	**05 25 45.4**	**+1.1**
5.0nm,0.3s,baz=154,slow=10,SNR=11
PSI				LR	LR	05 27 36.7	
comp=Z,944nm,18.1s,baz=160,slow=44
PSI	**Prapat**	**4.13**	**343**	P	**Pn**	**05 25 46.0**	**+1.7**
baz=4.0,SNR=7.5
MNAI	**Manna**	**4.25**	**138**	P	**Pn**	**05 25 47.3**	**+1.5**
MNAI	**Manna**	**4.25**	**138**	P	**Pn**	**05 25 48.4**	**+2.6**
baz=4.2,SNR=3.9
KGM	**Kluang**	**4.52**	**45**	P	**Pn**	**05 25 51.5**	**+1.9**
FRIM	**Kepong**	**4.65**	**19**	P	**Pn**	**05 25 53.4**	**+2.1**
EGSI	**Enggano, Bengk**	**4.67**	**152**	P	**Pn**	**05 25 52.0**	**+0.4**
MYKOM	**Kota Tinggi**	**4.77**	**52**	P	**Pn**	**05 25 55.6**	**+2.6**
MYKOM	**Kota Tinggi**	**4.77**	**52**	P	**Pn**	**05 25 53.9**	**+0.9**
TSI	**Tuntungan**	**4.90**	**342**	P	Pb	05 26 01.8	-5.1
KCSI	**Kotacane, Aceh**	**5.23**	**333**	P	**Pn**	**05 25 59.7**	**+0.4**
IPM	**Ipoh**	**5.70**	**9**	*e*Pn	**Pn**	**05 26 06.6**	**+0.7**
34nm,0.6s
KULM	**Kulim**	**6.46**	**5**	*e*Pn	**Pn**	**05 26 16.9**	**+0.7**
26nm,0.9s
KULM	**Kulim**	**6.46**	**5**	P	Pn	05 26 19.8	+3.6
KTGM	**Kuala Trenggan**	**7.14**	**25**	P	**Pn**	**05 26 28.5**	**+2.9**
MYLDM	**Lahad Datu**	**19.43**	**71**	P	**Pn**	**05 29 11.6**	**+2.6**
CMAR	**Chiang Mai Arr**	**19.55**	**357**	P	**P**	**05 29 09.6**	**+0.5**
CMAR	**Chiang Mai Arr**	**19.55**	**357**	P	**P**	**05 29 09.6**	**+0.5**
0.3nm,0.3s,baz=188,slow=10,SNR=7.4
CMAR				LR	LR	05 36 58.3	
comp=Z,105nm,19.2s,baz=341,slow=38
KAPI	**Kappang**	**19.98**	**101**	P	**P**	**05 29 12.3**	**-1.5**
KAPI	**Kappang**	**19.98**	**101**	P	**P**	**05 29 12.3**	**-1.5**
2.2nm,0.3s,baz=198,slow=9.9,SNR=3.8
FITZ	**Fitzroy Crossi**	**30.18**	**125**	P	**P**	**05 30 50.2**	**-1.7**
FITZ	**Fitzroy Crossi**	**30.18**	**125**	P	**P**	**05 30 50.2**	**-1.7**
0.9nm,0.7s,baz=284,slow=7.0,SNR=3.6
NWAO	**Narrogin (SRO)**	**35.44**	**155**	LR	LR	05 43 40.0	
comp=Z,176nm,21.0s,baz=209,slow=32
WRA	**Warramunga Arr**	**38.32**	**121**	P	**P**	**05 31 60.0**	**-2.4**
WRA	**Warramunga Arr**	**38.32**	**121**	P	**P**	**05 31 60.0**	**-2.4**
1.4nm,0.7s,baz=300,slow=9.0,SNR=15
WRAB	**Tennant Creek**	**38.32**	**121**	*e*P	**P**	**05 32 00.7**	**-1.7**
24nm,1.8s
FORT	**Forrest**	**39.60**	**141**	*e*P	**P**	**05 32 13.9**	**+1.0**
73nm,1.4s
ASAR	**Alice Springs**	**39.65**	**127**	P	**P**	**05 32 12.1**	**-1.4**
ASAR				PcP	**PcP**	**05 34 20.6**	**0.0**
ASAR	**Alice Springs**	**39.65**	**127**	P	**P**	**05 32 12.1**	**-1.4**
1.9nm,0.7s,baz=303,slow=8.1,SNR=17
ASAR				PcP	**PcP**	**05 34 20.6**	**0.0**
0.6nm,0.8s,baz=298,slow=5.3,SNR=4.1
KSAR	**Wonju Array Be**	**46.24**	**31**	P	**P**	**05 33 05.2**	**-1.4**
KSRS	**Korea Array**	**46.27**	**31**	P	**P**	**05 33 05.2**	**-1.6**
0.8nm,0.4s,baz=228,slow=8.3,SNR=5.3
SONM	**Songino Array**	**49.13**	**6**	P	**P**	**05 33 29.0**	**-0.1**
SONM	**Songino Array**	**49.13**	**6**	P	**P**	**05 33 29.0**	**-0.1**
0.7nm,0.8s,baz=184,slow=5.8,SNR=3.5
TKM2	**Tokmak 2**	**49.13**	**336**	*e*P	**P**	**05 33 30.1**	**+0.8**
2.7nm,0.4s
AAK	**Ala-Archa**	**49.35**	**335**	P	**P**	**05 33 31.6**	**+0.7**
AAK	**Ala-Archa**	**49.35**	**335**	P	**P**	**05 33 31.6**	**+0.7**
1.5nm,0.4s,baz=135,slow=7.1,SNR=3.5
STKA	**Stephens Creek**	**49.61**	**132**	*e*P	**P**	**05 33 32.4**	**-0.5**
3.4nm,1.3s
STKA	**Stephens Creek**	**49.61**	**132**	P	**P**	**05 33 32.1**	**-0.8**
5.1nm,0.8s,baz=297,slow=23,SNR=6.3
STKA				LR	LR	05 54 07.9	
comp=Z,123nm,20.3s,baz=303,slow=36
MK31	**Makanchi Array**	**50.28**	**344**	*e*P	**P**	**05 33 37.0**	**-0.7**
MKAR	**Makanchi Array**	**50.28**	**344**	P	**P**	**05 33 37.6**	**-0.1**
MKAR	**Makanchi Array**	**50.28**	**344**	P	**P**	**05 33 37.6**	**-0.1**
2.3nm,0.5s,baz=150,slow=7.9,SNR=19
MJAR	**Matsushiro Arr**	**51.58**	**39**	LR	LR	05 54 24.3	
comp=Z,36nm,20.9s,baz=265,slow=35
USRK	**Ussuriysk Arra**	**53.39**	**28**	P	**P**	**05 34 00.5**	**-0.5**
1.7nm,0.6s,baz=233,slow=6.7,SNR=4.4
USRK				LR	LR	06 01 00.5	
comp=Z,71nm,18.7s,baz=25,slow=41
ZALV	**Zalesovo Beam**	**56.39**	**349**	P	**P**	**05 34 21.9**	**-0.6**
ZALV	**Zalesovo Beam**	**56.39**	**349**	P	**P**	**05 34 21.9**	**-0.6**
2.3nm,0.6s,baz=165,slow=6.2,SNR=7.5
BVAR	**Borovoye Array**	**59.46**	**340**	P	**P**	**05 34 43.5**	**-0.6**
BVAR	**Borovoye Array**	**59.46**	**340**	P	**P**	**05 34 43.5**	**-0.6**
3.7nm,0.7s,baz=134,slow=8.5,SNR=14
BVAR				LR	LR	06 04 21.6	
comp=Z,30nm,18.4s,baz=292,slow=40
ABKAR	**Akbulak array**	**60.98**	**331**	*e*P	**P**	**05 34 53.9**	**-0.7**
4.0nm,0.8s
MAW	**Mawson**	**71.09**	**194**	LR	LR	06 00 33.8	
comp=Z,42nm,21.6s,baz=106,slow=30
FINES	**FINESS Array B**	**83.45**	**332**	P	**P**	**05 37 07.6**	**-1.1**
FINES	**FINESS Array B**	**83.45**	**332**	P	**P**	**05 37 07.6**	**-1.1**
1.8nm,0.9s,baz=73,slow=4.8,SNR=3.1
ARCES	**ARCESS Array B**	**85.75**	**340**	P	**P**	**05 37 19.9**	**-0.3**
ARCES	**ARCESS Array B**	**85.75**	**340**	P	**P**	**05 37 19.9**	**-0.3**
3.0nm,0.9s,baz=90,slow=3.7,SNR=5.0
QSPA	**South Pole Qui**	**88.77**	**180**	P	**P**	**05 37 36.1**	**+1.1**
QSPA	**South Pole Qui**	**88.77**	**180**	P	**P**	**05 37 36.1**	**+1.1**
1.0nm,1.0s,baz=261,slow=1.5,SNR=3.2
TXAR	**Lajitas Array**	**143.99**	**37**	PKP	PKPbc	05 44 16.4	+0.7
TXAR	**Lajitas Array**	**143.99**	**37**	PKP	PKPbc	05 44 16.4	+0.7
1.4nm,1.1s,baz=287,slow=1.4,SNR=5.3
MIAR	**Mount Ida**	**144.44**	**20**	*e*PKPdf	**PKPdf**	**05 44 18.2**	**-0.1**
CPUP	**Villa Florida**	**145.03**	**217**	PKPbc	**PKPdf**	**05 44 20.8**	**+1.2**
CPUP	**Villa Florida**	**145.03**	**217**	PKPbc	**PKPdf**	**05 44 20.8**	**+1.2**
2.1nm,0.8s,baz=89,slow=5.1,SNR=3.1
JCT	**Junction City**	**145.28**	**31**	*e*PKPdf	**PKPdf**	**05 44 21.6**	**+1.6**

*NEIC **04** 05:41:51.5, 19°.24N×64°.79W, h50km, MD3.5(RSPR), After RSPR.*
RSPR 04 05:41:51.5, 19°.24N×64°.79W, h50km±4km, **MD3.5**/11, **32C, Virgin Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABV	**Anegada**	**0.67**	**140**	*e*S	Sn	05 42 14.1	-0.4
ABV	**Anegada**	**0.67**	**140**	*e*P	Pn	05 42 03.9	-1.0
ABV	**Anegada**	**0.67**	**140**	*e*P	Pn	05 42 03.9	-1.0
ABV				*e*S	Sn	05 42 14.1	-0.4
ABVI	**Anegada Island**	**0.67**	**140**	*e*P	Pn	05 42 03.9	-1.0
ABVI				*e*S	Sn	05 42 14.1	-0.4
TBVI	**Tortola**	**0.84**	**169**	*e*P	Pn	05 42 05.9	-1.2
TBVI	**Tortola**	**0.84**	**169**	*e*P	Pn	05 42 05.9	-1.2
TBVI	**Tortola**	**0.84**	**169**	*e*P	Pn	05 42 05.9	-1.2
STVI	**Saint Thomas**	**0.90**	**190**	*e*S	Sn	05 42 18.0	-1.9
STVI	**Saint Thomas**	**0.90**	**190**	*e*P	Pn	05 42 06.3	-1.6
STVI	**Saint Thomas**	**0.90**	**190**	*e*P	Pn	05 42 06.3	-1.6
STVI				*e*S	Sn	05 42 18.0	-1.9
STVI	**Saint Thomas**	**0.90**	**190**	*e*P	Pn	05 42 06.3	-1.6
STVI				*e*S	Sn	05 42 18.0	-1.9
MTP	**Monte Pirata**	**1.35**	**213**	*e*P	Pn	05 42 13.3	-0.7
MTP	**Monte Pirata**	**1.35**	**213**	*e*S	Sn	05 42 30.0	-0.8
MTP	**Monte Pirata**	**1.35**	**213**	*e*P	Pn	05 42 13.3	-0.7
MTP				*e*S	Sn	05 42 30.0	-0.5
MTP	**Monte Pirata**	**1.35**	**213**	*e*P	Pn	05 42 13.3	-0.7
MTP				*e*S	Sn	05 42 30.0	-0.8
CBYP	**Canovanas**	**1.40**	**226**	*e*P	Pn	05 42 13.5	-1.3
CBYP	**Canovanas**	**1.40**	**226**	*e*S	Sn	05 42 30.8	-1.3
CBYP	**Canovanas**	**1.40**	**226**	*e*P	Pn	05 42 13.5	-1.3
CBYP				*e*S	Sn	05 42 30.8	-1.3
CBYP	**Canovanas**	**1.40**	**226**	*e*P	Pn	05 42 13.5	-1.3
CBYP				*e*S	Sn	05 42 30.8	-1.3
CDVI	**St. Croix**	**1.48**	**179**	*e*P	Pn	05 42 16.0	+0.2
CDVI	**St. Croix**	**1.48**	**179**	*e*S	Sn	05 42 33.2	-0.9
CDVI	**St. Croix**	**1.48**	**179**	*e*P	Pn	05 42 16.2	+0.4
CDVI				*e*S	Sn	05 42 33.2	-0.9
CDVI	**St. Croix**	**1.48**	**179**	*e*P	Pn	05 42 16.0	+0.2
CDVI				*e*S	Sn	05 42 33.2	-0.9
HUMP	**Col San Antoni**	**1.49**	**223**	*e*P	Pn	05 42 14.8	-1.1
HUMP	**Col San Antoni**	**1.49**	**223**	*e*S	Sn	05 42 33.3	-0.8
HUMP	**Col San Antoni**	**1.49**	**223**	*e*P	Pn	05 42 14.8	-1.1
HUMP				*e*S	Sn	05 42 33.3	-0.8
HUMP	**Col San Antoni**	**1.49**	**223**	*e*P	Pn	05 42 14.8	-1.1
HUMP				*e*S	Sn	05 42 33.3	-0.8
CPD	**Cerro la Pandu**	**1.61**	**222**	*e*P	Pn	05 42 16.9	-0.7
CPD	**Cerro la Pandu**	**1.61**	**222**	*e*S	Sn	05 42 36.1	-1.1
CPD	**Cerro la Pandu**	**1.61**	**222**	*e*P	Pn	05 42 16.9	-0.7
CPD				*e*S	Sn	05 42 36.6	-0.6
CPD	**Cerro la Pandu**	**1.61**	**222**	*e*P	Pn	05 42 16.9	-0.7
CPD				*e*S	Sn	05 42 36.1	-1.1
SJG	**San Juan**	**1.71**	**229**	*e*P	Pn	05 42 18.2	-0.8
SJG	**San Juan**	**1.71**	**229**	*e*S	Sn	05 42 38.7	-1.0
SJG	**San Juan**	**1.71**	**229**	*e*P	Pn	05 42 18.1	-0.8
SJG	**San Juan**	**1.71**	**229**	*e*P	Pn	05 42 18.1	-0.8
SJG	**San Juan**	**1.71**	**229**	*e*P	Pn	05 42 18.2	-0.8
SJG				*e*S	Sn	05 42 38.7	-1.0
SJG	**San Juan**	**1.71**	**229**	*e*P	Pn	05 42 18.1	-0.8
SJG				*e*S	Sn	05 42 38.7	-1.0
AOPR	**Arecibo Observ**	**2.06**	**245**	*e*P	Pn	05 42 23.2	-0.6
AOPR	**Arecibo Observ**	**2.06**	**245**	*e*P	Pn	05 42 23.2	-0.6
AOPR	**Arecibo Observ**	**2.06**	**245**	*e*P	Pn	05 42 23.2	-0.6

*ISK **04** 05:43:38.8, 40°.33N×27°.04E, h12km, MD2.8*
*DDA **04** 05:43:38.6, 40°.32N×27°.05E, h18km, MD3.0*
*ISCJB **04** 05:43:39.1±0.4, 40°.33N±0°.02×27°.06E±0°.02, h7km±3km, Error ellipse: s-maj=3.2km s-min=2.7km az=168.6*
*CSEM **04** 05:43:39.3±0.1, 40°.33N×27°.05E, h8km, MD2.8, Error ellipse: s-maj=1.7km s-min=1.5km az=161.0*
*THE **04** 05:43:39.4, 40°.33N×27°.01E, h4km±2km, ML2.7/5, Error ellipse: s-maj=2.7km s-min=1.1km az=272.0*
ISC 04 05:43:39.5±0.8, **40°.33N**±0°.02×**27°.05E**±0°.02, **h13**km±6km, **n85**, σ0°**49**/117, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBG	**Karabiga-Canak**	**0.20**	**71**	*e*PG	**Pg**	**05 43 43.8**	**-0.2**
KRBG				*e*SG	**Sg**	**05 43 47.1**	**+0.1**
KRBG	**Karabiga-Canak**	**0.20**	**71**	*e*Pg	**Pg**	**05 43 43.8**	**-0.2**
KRBG				*e*Sg	**Sg**	**05 43 47.1**	**+0.1**
LPK	**Lapseki**	**0.22**	**282**	*e*PG	**Pg**	**05 43 44.5**	**+0.2**
LPK				*e*SG	**Sg**	**05 43 47.4**	**-0.2**
LPK	**Lapseki**	**0.22**	**282**	*e*Pg	**Pg**	**05 43 44.5**	**+0.2**
LPK				*e*Sg	**Sg**	**05 43 47.4**	**-0.2**
RKY	**Sarkoy-Tekirda**	**0.38**	**16**	*e*PG	**Pg**	**05 43 46.9**	**-0.2**
RKY	**Sarkoy-Tekirda**	**0.38**	**16**	*e*Pg	**Pg**	**05 43 46.9**	**-0.2**
RKY				*e*Sg	**Sg**	**05 43 52.5**	**+0.4**
SART	**Tekirdag**	**0.38**	**16**	*i* P	**Pg**	**05 43 46.9**	**-0.2**
SART				*i* S	**Sg**	**05 43 52.1**	**-0.1**
SART	**Tekirdag**	**0.38**	**16**	*i* P	**Pg**	**05 43 46.9**	**-0.2**
SART				*i* S	**Sg**	**05 43 52.1**	**-0.1**
GELI	**Tayfur-Gelibol**	**0.44**	**280**	*e*PG	**Pg**	**05 43 48.2**	**0.0**
GELI				*e*SG	**Sg**	**05 43 54.1**	**-0.1**
GELI	**Tayfur-Gelibol**	**0.44**	**280**	*e*Pg	**Pg**	**05 43 48.2**	**0.0**
GELI				*e*Sg	**Sg**	**05 43 54.1**	**-0.1**
MFT	**Murefte**	**0.49**	**21**	*e*PG	**Pg**	**05 43 49.0**	**-0.2**
MFT	**Murefte**	**0.49**	**21**	*e*Pg	**Pg**	**05 43 49.0**	**-0.2**
GONE	**Gonen-Balikesi**	**0.56**	**119**	*e*PG	**Pg**	**05 43 50.3**	**-0.2**
GONE	**Gonen-Balikesi**	**0.56**	**119**	*e*Pg	**Pg**	**05 43 50.3**	**-0.2**
BNT	**Bandirma**	**0.67**	**87**	*e*PG	**Pg**	**05 43 51.5**	**-1.0**
BNT	**Bandirma**	**0.67**	**87**	*e*Pg	**Pg**	**05 43 51.5**	**-1.0**
BALY	**Balya**	**0.73**	**143**	*i* P	**Pg**	**05 43 53.5**	**-0.2**
BALY				*i* S	**Sg**	**05 44 03.6**	**+0.2**
BALY	**Balya**	**0.73**	**143**	*i* P	**Pg**	**05 43 53.5**	**-0.2**
BALY				*i* S	**Sg**	**05 44 03.6**	**+0.2**
EZN	**Ezine**	**0.74**	**228**	*e*PG	**Pg**	**05 43 53.6**	**-0.3**
EZN	**Ezine**	**0.74**	**228**	*e*Pg	**Pg**	**05 43 53.6**	**-0.3**
TKR	**Tekirdag**	**0.76**	**29**	*e*PG	**Pg**	**05 43 53.5**	**-0.8**
TKR	**Tekirdag**	**0.76**	**29**	*e*Pg	**Pg**	**05 43 53.5**	**-0.8**
BOZC	**Bozcaada**	**0.90**	**238**	*i* P	**Pg**	**05 43 56.3**	**-0.6**
BOZC				*i* S	**Sg**	**05 44 08.7**	**0.0**
BALB	**Balikesir**	**0.94**	**137**	*e*PG	**Pg**	**05 43 57.3**	**-0.3**
BALB	**Balikesir**	**0.94**	**137**	*e*Pg	**Pg**	**05 43 57.3**	**-0.3**
ALN	**Alexandroupoli**	**0.95**	**307**	P	**Pg**	**05 43 57.5**	**-0.4**
ALN				S	**Sb**	**05 44 10.9**	**+0.5**
ALN	**Alexandroupoli**	**0.95**	**307**	P	**Pg**	**05 43 57.5**	**-0.4**
ALN				S	**Sb**	**05 44 10.9**	**+0.5**
KCTX	**Karacabey (Bur**	**1.00**	**93**	*e*PG	**Pb**	**05 43 58.6**	**-0.2**
KCTX	**Karacabey (Bur**	**1.00**	**93**	*e*Pg	**Pb**	**05 43 58.6**	**-0.2**
AYVA	**Ayvalik**	**1.05**	**195**	*e*P	**Pb**	**05 43 58.5**	**-1.1**
AYVA				*e*S	**Sb**	**05 44 12.7**	**-0.6**
AYVA	**Ayvalik**	**1.05**	**195**	*e*P	**Pb**	**05 43 58.5**	**-1.1**
AYVA				*e*S	**Sb**	**05 44 12.7**	**-0.6**
SMTH	**Samothraki Isl**	**1.17**	**278**	P	**Pb**	**05 44 00.8**	**-0.7**
SMTH				S	**Sb**	**05 44 16.6**	**0.0**
SMTH	**Samothraki Isl**	**1.17**	**278**	P	**Pb**	**05 44 00.8**	**-0.7**
SMTH				S	**Sb**	**05 44 16.6**	**0.0**
PRK	**Paraskevi**	**1.23**	**209**	P	**Pb**	**05 44 02.7**	**+0.1**
PRK				S	**Sg**	**05 44 19.6**	**+0.4**
PRK	**Paraskevi**	**1.23**	**209**	P	**Pb**	**05 44 02.7**	**+0.1**
PRK				S	**Sg**	**05 44 19.6**	**+0.4**
SLVT	**Silivri**	**1.26**	**44**	*e*PN	**Pn**	**05 44 02.8**	**-0.1**
SLVT	**Silivri**	**1.26**	**44**	*e*Pn	**Pn**	**05 44 02.8**	**-0.1**
DURS	**Dursunbey**	**1.31**	**123**	*i* P	**Pn**	**05 44 03.7**	**0.0**
DURS				*i* S	**Sn**	**05 44 21.3**	**+0.2**
DURS	**Dursunbey**	**1.31**	**123**	*i* P	**Pn**	**05 44 03.7**	**0.0**
DURS				*i* S	**Sn**	**05 44 21.3**	**+0.2**
MDNY	**Mudanya-Bursa**	**1.41**	**88**	*e*PN	**Pb**	**05 44 05.1**	**-0.5**
MDNY	**Mudanya-Bursa**	**1.41**	**88**	*e*Pn	**Pb**	**05 44 05.1**	**-0.5**
ARMT	**Armutlu**	**1.41**	**80**	*e*PN	**Pn**	**05 44 04.4**	**-0.5**
ARMT	**Armutlu**	**1.41**	**80**	*e*Pn	**Pn**	**05 44 04.4**	**-0.5**
CTKS	**Kestanelik-??a**	**1.44**	**50**	*e*PN	**Pn**	**05 44 04.6**	**-0.6**
CTKS	**Kestanelik-??a**	**1.44**	**50**	*e*Pn	**Pn**	**05 44 04.6**	**-0.6**
ORLT	**Orhaneli**	**1.45**	**101**	*e*PN	**Pb**	**05 44 06.3**	**0.0**
ORLT	**Orhaneli**	**1.45**	**101**	*e*Pn	**Pb**	**05 44 06.3**	**0.0**
LIA	**Limnos Island**	**1.49**	**254**	P	**Pb**	**05 44 06.6**	**-0.4**
LIA				S	**Sg**	**05 44 26.9**	**-0.6**
LIA	**Limnos Island**	**1.49**	**254**	P	**Pb**	**05 44 06.6**	**-0.4**
LIA				S	**Sg**	**05 44 26.9**	**-0.6**
EDRB	**Edirne**	**1.54**	**352**	*e*PN	**Pn**	**05 44 06.3**	**-0.4**
EDRB	**Edirne**	**1.54**	**352**	P	**Pb**	**05 44 08.1**	**+0.3**
EDRB				S	**Sb**	**05 44 27.1**	**-0.1**
EDRB	**Edirne**	**1.54**	**352**	*e*Pn	**Pn**	**05 44 06.3**	**-0.4**
EDRB	**Edirne**	**1.54**	**352**	P	**Pb**	**05 44 08.1**	**+0.3**
EDRB				S	**Sb**	**05 44 27.1**	**-0.1**
AKS	**Akhisar**	**1.56**	**157**	*e*PN	**Pn**	**05 44 07.1**	**+0.1**
AKS	**Akhisar**	**1.56**	**157**	*e*Pn	**Pn**	**05 44 07.1**	**+0.1**
AKHS	**Akhisar**	**1.56**	**157**	*e*P	**Pn**	**05 44 07.2**	**+0.2**
AKHS				*e*S	**Sg**	**05 44 28.9**	**-0.9**
AKHS	**Akhisar**	**1.56**	**157**	*e*P	**Pn**	**05 44 07.2**	**+0.2**
AKHS				*e*S	**Sg**	**05 44 28.9**	**-0.9**
BGKT	**Bogazkoy**	**1.57**	**56**	*e*PN	**Pn**	**05 44 06.5**	**-0.6**
BGKT	**Bogazkoy**	**1.57**	**56**	*e*Pn	**Pn**	**05 44 06.5**	**-0.6**
BUY	**Buyukada**	**1.66**	**71**	*e*PN	**Pn**	**05 44 08.6**	**+0.2**
BUY	**Buyukada**	**1.66**	**71**	*e*Pn	**Pn**	**05 44 08.6**	**+0.2**
ISK	**Istanbul-Kandi**	**1.70**	**64**	*e*PN	**Pn**	**05 44 08.9**	**+0.1**
ISK	**Istanbul-Kandi**	**1.70**	**64**	P	**Pn**	**05 44 09.5**	**+0.6**
ISK				S	**Sb**	**05 44 32.6**	**+0.7**
ISK	**Istanbul-Kandi**	**1.70**	**64**	*e*Pn	**Pn**	**05 44 09.0**	**+0.1**
ISK	**Istanbul-Kandi**	**1.70**	**64**	P	**Pn**	**05 44 09.5**	**+0.6**
ISK				S	**Sb**	**05 44 32.6**	**+0.7**
KLYT	**Kilyos**	**1.78**	**58**	*e*PN	**Pn**	**05 44 10.1**	**+0.2**
KLYT	**Kilyos**	**1.78**	**58**	*e*Pn	**Pn**	**05 44 10.1**	**+0.2**
YLV	**Yalova**	**1.79**	**82**	*e*PN	**Pn**	**05 44 10.6**	**+0.3**
YLV	**Yalova**	**1.79**	**82**	*e*Pn	**Pn**	**05 44 10.6**	**+0.3**
IZM	**Izmir**	**1.93**	**175**	*e*PN	**Pn**	**05 44 13.0**	**+0.8**
IZM	**Izmir**	**1.93**	**175**	*e*Pn	**Pn**	**05 44 13.0**	**+0.8**
HRT	**Hereke**	**2.06**	**75**	*e*PN	**Pn**	**05 44 14.3**	**+0.4**
HRT	**Hereke**	**2.06**	**75**	*e*Pn	**Pn**	**05 44 14.3**	**+0.4**
ADVT	**Abdulvahap**	**2.06**	**86**	*e*PN	**Pn**	**05 44 14.5**	**+0.7**
ADVT	**Abdulvahap**	**2.06**	**86**	*e*Pn	**Pn**	**05 44 14.5**	**+0.7**
CHOS	**Chios island**	**2.08**	**202**	P	**Pn**	**05 44 14.3**	**+0.1**
CHOS				S	**Sn**	**05 44 41.3**	**+1.2**
CHOS	**Chios island**	**2.08**	**202**	P	**Pn**	**05 44 14.3**	**+0.1**
CHOS				S	**Sn**	**05 44 41.3**	**+1.2**
SILT	**Sile**	**2.14**	**66**	*e*PN	**Pn**	**05 44 15.4**	**+0.5**
SILT	**Sile**	**2.14**	**66**	*e*Pn	**Pn**	**05 44 15.4**	**+0.5**
CAVI	**Cavuskoy**	**2.14**	**92**	*e*PN	**Pn**	**05 44 15.6**	**+0.6**
CAVI	**Cavuskoy**	**2.14**	**92**	*e*Pn	**Pn**	**05 44 15.6**	**+0.6**
KULA	**Kula-Manisa**	**2.20**	**145**	*e*PN	**Pn**	**05 44 16.8**	**+1.0**
KULA	**Kula-Manisa**	**2.20**	**145**	*e*

ASAR Alice Springs 54.68 133 P P 06 22 59.0 0.0
ASAR pP **pP** **06 23 08.1 -0.4**
ASAR PcP **PcP** **06 24 02.7 +1.1**
ASAR Alice Springs 54.68 133 P P 06 22 59.0 0.0
1.5nm,0.5s,baz=308,slow=7.0,SNR=20
ASAR pP **pP** **06 23 08.1 -0.4**
1.0nm,0.5s,baz=308,slow=6.8,SNR=5.1
ASAR PcP **PcP** **06 24 02.7 +1.1**
1.0nm,1.1s,baz=323,slow=4.3,SNR=4.6
BRTR Keskin Array B 57.79 308 P P 06 23 20.4 -0.9
BRTR pP **pP** **06 23 30.8 +0.1**
BRTR Keskin Array B 57.79 308 P P 06 23 20.4 -0.9
2.4nm,0.8s,baz=116,slow=8.4,SNR=12
BRTR pP **pP** **06 23 30.8 +0.1**
1.2nm,0.8s,baz=115,slow=6.6,SNR=5.1
FINES FINESS Array B 66.90 331 P P 06 24 20.9 -0.7
FINES pP **pP** **06 24 31.0 -0.2**
FINES FINESS Array B 66.90 331 P P 06 24 20.9 -0.7
1.5nm,0.6s,baz=103,slow=6.0,SNR=6.8
FINES pP **pP** **06 24 31.0 -0.2**
2.5nm,0.8s,baz=120,slow=8.2,SNR=2.5
ARCES ARCESS Array B 69.23 340 LR LR 06 58 10.8
comp=Z,38nm,18.6s,baz=172,slow=39
GERES GERESS Array B 72.67 317 P P 06 24 57.2 -0.3
GERES pP **pP** **06 25 07.9 +0.7**
GERES GERESS Array B 72.67 317 P P 06 24 57.2 -0.3
1.1nm,0.6s,baz=72,slow=6.3,SNR=8.7
GERES pP **pP** **06 25 07.9 +0.7**
1.4nm,0.7s,baz=88,slow=6.4,SNR=4.5
TORD Torodi Ar. Bea 88.23 283 P P 06 26 21.9 +0.4
TORD Torodi Ar. Bea 88.23 283 P P 06 26 21.9 +0.4
1.9nm,0.9s,baz=76,slow=5.2,SNR=10
ILAR Eielson Array 89.51 22 P P 06 26 26.1 -0.5
ILAR pP **pP** **06 26 35.2 -1.2**
ILAR Eielson Array 89.51 22 P P 06 26 26.1 -0.5
0.5nm,0.8s,baz=304,slow=5.3,SNR=5.9
ILAR pP **pP** **06 26 35.2 -1.2**
0.4nm,0.8s,baz=309,slow=4.5,SNR=3.6

DJA 04 06:22:55.3±1.0, 8°S±6°×10°7E±°, h14km, M3.7/6, MLv3.7/6, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.74**	**44**	P	Pg	06 23 09.3	-0.4
CISI				S	Sg	06 23 18.9	-0.6
LEM	**Lembang**	**1.29**	**14**	P	Pn	06 23 18.5	-0.7
LEM				S	Sb	06 23 35.9	-0.4
SKJI	**Sukabumi**	**1.31**	**326**	P	Pn	06 23 17.1	-2.0
SKJI				S	Sb	06 23 34.5	-1.8
DBJI	**Dramaga**	**1.62**	**340**	P	Pn	06 23 23.0	-0.5
KPJI	**Karang Pucung**	**1.78**	**65**	P	Pn	06 23 24.8	-0.9

DJA 04 06:38:44.0±0.5, 1°S±5°×12°2E±°, h10km, M3.7/5, MLv3.7/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**1.12**	**18**	P	Pb	06 39 04.7	-0.7
LUWI	**Luwuk**	**1.26**	**111**	P	Pn	06 39 07.0	-0.7
GTOI	**Gorontalo**	**1.87**	**49**	P	Pg	06 39 19.9	0.0
SKSI	**Soroako, Sulaw**	**1.94**	**188**	P	Pn	06 39 18.2	+1.0
TTSI	**Tana Toraja**	**3.01**	**216**	P	Pn	06 39 32.7	+0.9
MMSI	**Mamuju**	**3.40**	**232**	P	Pn	06 39 37.9	+0.8

*ISCJB **04** 06:43:47.5±0.4, 24°.30N±0°.05×141°.99E±0°.10, h33km, mb4.3/26, MS3.3/3, Error ellipse: s-maj=12.7km s-min=7.8km az=176.7*
*NEIC **04** 06:43:50.6±1.6, 24°.37N×142°.04E, h44km±14km, mb4.4/12, Error ellipse: s-maj=13.1km s-min=9.8km az=100.0*
*IDC **04** 06:43:53.1±2.1, 24°.44N×141°.83E, h67km±18km, mb3.9/15, mb1 4.1/18, mb1mx3.9/27, mbtmp3.9/18, MS3.2/4, Ms1 3.3/4, ms1mx2.7/51, Error ellipse: s-maj=20.5km s-min=12.9km az=94.0*

ISC 04 06:43:49.5±0.5, 24°.30N±0°.06×142°.1E±0°.1, h35km, n59, σ1°20/61, mb4.3/25, MS3.2/3, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.78**	**2**	P	**Pn**	06 44 32.1	+0.5
CBIJ				S	**Sn**	06 45 06.4	+2.4
CBIJ	**Chichi jima**	**2.78**	**2**	P	**Pn**	06 44 32.1	+0.5
baz=238,slow=9.5
CBIJ S **Sn** **06 45 06.4 +2.4**
baz=255,slow=20
MJAR Matsushiro Arr 12.64 346 P **Pn** 06 46 45.6 -1.2
MJAR Matsushiro Arr 12.64 346 P **Pn** 06 46 45.6 -1.2
0.4nm,0.3s,baz=156,slow=10,SNR=3.6
KSRS Korea Array 17.84 321 P P 06 47 55.6 +0.3
1.1nm,0.3s,baz=156,slow=40,SNR=20
KSAR Wonju Array Be 17.85 321 P P 06 47 55.6 +0.1
ASAJ Asahikawa 19.77 1 *eP* P 06 48 17.0 +0.5
3.9nm,0.8s
ASAJ Asahikawa 19.77 1 P **Pn** 06 48 18.9 +0.6
0.8nm,0.3s,baz=267,slow=24,SNR=3.1
ASAJ LR LR 06 55 10.6
comp=Z,43nm,21.6s,baz=178,slow=34
USRK Ussuriysk Arra 21.49 340 P P 06 48 34.8 -0.3
1.1nm,0.6s,baz=123,slow=10,SNR=4.5
PETK Petropavlovsk- 31.10 18 LR LR 07 00 27.1
comp=Z,23nm,20.4s,baz=78,slow=32
CMAR Chiang Mai Arr 40.45 270 P P 06 51 27.3 +2.3
CMAR Chiang Mai Arr 40.45 270 P P 06 51 27.3 +2.3
2.0nm,0.4s,baz=64,slow=6.9,SNR=7.4
CMAR LR LR 07 06 47.5
comp=Z,36nm,19.1s,baz=115,slow=34
WRAB Tennant Creek 44.61 190 *eP* P 06 51 59.2 +0.6
11nm,0.6s
WRA Warramunga Arr 44.62 190 P P 06 51 59.5 +0.8
WRA PcP **PcP** **06 53 41.8 +0.6**
WRA Warramunga Arr 44.62 190 P P 06 51 59.5 +0.8
8.8nm,0.6s,baz=8.5,slow=8.6,SNR=56
WRA PcP **PcP** **06 53 41.8 +0.6**
2.0nm,0.8s,baz=2.8,slow=3.5,SNR=5.8
ASAR Alice Springs 48.34 190 P P 06 52 28.1 +0.3
ASAR PcP **PcP** **06 53 55.7 +1.5**
ASAR Alice Springs 48.34 190 P P 06 52 28.1 +0.3
1.0nm,0.7s,baz=14,slow=10,SNR=19
ASAR PcP **PcP** **06 53 55.7 +1.5**
0.9nm,0.8s,baz=1.7,slow=3.7,SNR=6.4
EIDS Eidsvold 50.14 169 *eP* P 06 52 39.5 -2.1
24nm,1.4s
MKAR Makanchi Array 52.20 311 P P 06 52 55.3 -1.6
MKAR Makanchi Array 52.20 311 P P 06 52 55.3 -1.6
0.8nm,0.5s,baz=88,slow=7.7,SNR=7.3
KURK Kurchatov 54.88 316 P P 06 53 14.4 -2.0
KURBB Kurchatov Arra 54.94 316 P P 06 53 14.5 -2.4
1.7nm,0.5s,baz=93,slow=7.9,SNR=17
STKA Stephens Creek 55.87 180 *eP* P 06 53 25.5 +1.8
1.1nm,1.0s
STKA Stephens Creek 55.87 180 P P 06 53 24.9 +1.3
2.6nm,0.7s,baz=340,slow=6.6,SNR=7.3
KDAK Kodiak Island 56.67 36 LR LR 07 13 59.6
comp=Z,75nm,19.9s,baz=288,slow=32
PMR Palmer 58.86 31 *eP* P 06 53 44.1 -0.3
3.6nm,0.7s
SML Sawmill 59.26 31 *eP* P 06 53 46.8 -0.5
1.8nm,0.9s
ILAR Eielson Array 60.21 28 P P 06 53 52.9 -0.9
ILAR Eielson Array 60.21 28 P P 06 53 52.9 -0.9
3.2nm,0.8s,baz=260,slow=5.6,SNR=37
KKAR Karatay Array 60.65 307 *eP* P 06 53 58.3 +1.2
2.9nm,0.7s
KBL Kabul 63.20 298 *eP* P 06 54 15.5 +0.8
6.2nm,0.8s
INK Inuvik 65.61 24 *eP* P 06 54 29.4 -0.2
3.3nm,0.8s
YKA Yellowknife Ar 74.64 28 P P 06 55 24.8 -0.2
YKA Yellowknife Ar 74.64 28 P P 06 55 24.8 -0.2
3.1nm,0.6s,baz=293,slow=5.7,SNR=11
ARCES ARCESS Array B 76.14 341 P P 06 55 32.2 -1.2
ARCES ARCESS Array B 76.14 341 P P 06 55 32.2 -1.2
2.2nm,0.8s,baz=70,slow=5.8,SNR=5.3
KBZ Khabaz 79.83 313 P P 06 55 53.6 -0.9
KBZ Khabaz 79.83 313 P P 06 55 53.6 -0.9
3.1nm,0.7s,baz=108,slow=6.4,SNR=6.9
FINES FINESS Array B 80.40 334 P P 06 55 55.0 -2.1
FINES FINESS Array B 80.40 334 P P 06 55 55.0 -2.1
2.3nm,0.7s,baz=57,slow=5.1,SNR=4.0
CMB Columbia Colle 81.00 52 *eP* P 06 56 01.9 +1.0
2.4nm,0.8s
NVAR Mina Array Bea 82.33 51 P P 06 56 08.2 0.0

NVAR Mina Array Bea 82.33 51 P P 06 56 08.2 0.0
1.2nm,0.6s,baz=287,slow=6.2,SNR=9.8
RRI2 Red Ridge 84.86 45 *eP* P 06 56 21.9 +0.8
1.7nm,0.7s
DUG Dugway 85.37 48 *eP* P 06 56 23.7 +0.1
5.1nm,1.1s
PDAR Pinedale Array 86.27 44 P P 06 56 28.3 +0.2
PDAR Pinedale Array 86.27 44 P P 06 56 28.3 +0.2
0.5nm,0.8s,baz=235,slow=3.2,SNR=4.2
BRTR Keskin Array B 87.82 313 P P 06 56 34.9 -0.7
BRTR Keskin Array B 87.82 313 P P 06 56 34.9 -0.7
0.4nm,0.5s,baz=123,slow=5.3,SNR=2.8
TXAR Lajitas Array 97.35 53 P Pdif 06 57 20.6 +0.8
TXAR Lajitas Array 97.35 53 P Pdif 06 57 20.6 +0.8
0.2nm,0.6s,baz=297,slow=4.0,SNR=4.2
TORD Torodi Ar. Bea 126.30 310 PKP **PKPdf** **07 02 47.9 -1.5**
TORD Torodi Ar. Bea 126.30 310 PKP **PKPdf** **07 02 47.9 -1.5**
0.3nm,0.6s,baz=17,slow=1.4,SNR=3.1
PLCA Paso Flores 148.22 129 PKPbc **PKPbc** **07 03 32.5 +0.5**
PLCA Paso Flores 148.22 129 PKPbc **PKPbc** **07 03 32.5 +0.5**
1.4nm,0.6s,baz=189,slow=2.3,SNR=4.6
LPAZ La Paz 150.63 80 *e*PKPbc **PKPbc** **07 03 39.7 +0.3**
LPAZ La Paz 150.63 80 PKPbc **PKPbc** **07 03 39.7 +0.3**
1.6nm,0.6s,baz=318,slow=3.0,SNR=11
CFAA Coronel Fontan 152.32 112 PKPbc **PKPbc** **07 03 42.1 -0.1**
CFAA Coronel Fontan 152.32 112 PKPbc **PKPbc** **07 03 42.1 -0.1**
0.1nm,0.3s,baz=229,slow=10.0,SNR=3.9

*NEIC **04** 06:48:42.7, 19°.74N×67°.77W, h46km, MD3.5(RSPR), After RSPR.*
RSPR 04 06:48:42.7, 19°.74N×67°.77W, h46km±15km, MD3.5/4, 8C-2D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**1.41**	**154**	*eP*	Pn	06 49 02.8	-3.2
AGPR	**Aguadilla, PR**	**1.41**	**154**	*eP*	Pn	06 49 02.8	-3.2
AGPR				*eS*	Sn	06 49 22.0	-1.3
DR12	**Loma Pena Alta**	**1.79**	**239**	*eP*	Pn	06 49 10.1	-1.2
DR12				*eS*	Sn	06 49 32.1	-0.9
DR12	**Loma Pena Alta**	**1.79**	**239**	*eP*	Pn	06 49 10.1	-1.2
DR12				*eS*	Sn	06 49 32.1	-0.9
CRPR	**Cabo Rojo, PR**	**1.83**	**160**	*eP*	Pn	06 49 10.6	-1.1
CRPR	**Cabo Rojo, PR**	**1.83**	**160**	*eP*	Pn	06 49 10.6	-1.1
CRPR				*eS*	Sn	06 49 33.0	-0.7
CBYP	**Canovanas**	**2.32**	**129**	*eP*	Pn	06 49 18.0	-0.5
CBYP	**Canovanas**	**2.32**	**129**	*eP*	Pn	06 49 18.0	-0.5
HUMP	**Col San Antoni**	**2.41**	**131**	*eP*	Pn	06 49 19.0	-0.7
HUMP	**Col San Antoni**	**2.41**	**131**	*eP*	Pn	06 49 19.0	-0.7

*IDC **04** 06:57:47.0±0.7, 13°.89N×93°.04E, h0km, mb4.0/14, mb1 4.1/15, mb1mx3.9/30, mbtmp4.0/15, ML4.0/1, MS3.3/1, Ms1 3.3/1, ms1mx2.3/41, Error ellipse: s-maj=30.1km s-min=14.7km az=53.0*
*ISCJB **04** 06:57:50.2±0.6, 14°.00N±0°.07×93°.23E±0°.06, h32km, mb4.0/16, Error ellipse: s-maj=10.8km s-min=7.8km az=151.6*
*NEIC **04** 06:57:52.4±0.4, 13°.94N×93°.12E, h35km, mb4.3/2, Error ellipse: s-maj=10.3km s-min=7.6km az=46.0*
ISC 04 06:57:52.1±0.8, 14°.0N±0°.1×93°.15E±0°.09, h32km, n35, σ0°67/39, mb4.1/16, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.12**	**51**	Pn	**Pn**	06 59 35.4	+1.3
CMAR				Sn	**Sn**	07 00 53.1	-0.9
CMAR	**Chiang Mai Arr**	**7.12**	**51**	Pn	**Pn**	06 59 35.4	+1.3
0.6nm,0.3s,baz=237,slow=15,SNR=7.8
CMAR Sn **Sn** **07 00 53.1 -0.9**
0.6nm,0.3s,baz=239,slow=28,SNR=5.2
CHTO Chiang Mai 7.34 48 *e*Pn **Pn** **06 59 37.3 0.0**
CHTO *e*Sn **Sn** **07 00 58.9 -0.6**
PSI Prapat 12.49 152 LR LR 07 06 29.0
comp=Z,111nm,18.0s,baz=182,slow=42
MK31 Makanchi Array 33.95 347 *eP* P 07 04 32.9 +0.4
MKAR Makanchi Array 33.95 347 P P 07 04 33.2 +0.7
MKAR Makanchi Array 33.95 347 P P 07 04 33.2 +0.7
2.7nm,0.8s,baz=158,slow=8.9,SNR=21
SONM Songino Array 35.50 15 P P 07 04 46.6 +0.6
SONM Songino Array 35.50 15 P P 07 04 46.6 +0.6
0.5nm,0.6s,baz=201,slow=7.6,SNR=4.2
KURBB Kurchatov Arra 38.42 345 P P 07 05 11.0 +0.4
2.9nm,0.8s,baz=161,slow=8.0,SNR=24
KURK Kurchatov 38.48 345 P P 07 05 11.0 -0.1
ZALV Zalesovo Beam 40.41 352 P P 07 05 27.4 +0.2
ZALV Zalesovo Beam 40.41 352 P P 07 05 27.4 +0.2
2.4nm,0.5s,baz=177,slow=8.7,SNR=11
ABKAR Akbulak array 44.47 329 *eP* P 07 06 01.1 +0.9
0.9nm,0.6s
FITZ Fitzroy Crossi 45.20 134 P P 07 06 05.8 -0.7
FITZ Fitzroy Crossi 45.20 134 P P 07 06 05.8 -0.7
1.8nm,1.0s,baz=329,slow=5.9,SNR=5.2
AKTO Aktyubinsk 46.19 329 P P 07 06 12.3 -1.6
AKTO Aktyubinsk 46.19 329 P P 07 06 12.3 -1.6
0.9nm,0.5s,baz=110,slow=7.8,SNR=4.0
WRA Warramunga Arr 52.71 129 P P 07 07 03.7 -0.4
WRA PcP **PcP** **07 08 14.1 +0.5**
WRA Warramunga Arr 52.71 129 P P 07 07 03.7 -0.4
0.8nm,0.8s,baz=306,slow=8.3,SNR=4.1
WRA PcP **PcP** **07 08 14.1 +0.5**
0.2nm,0.5s,baz=321,slow=2.9,SNR=5.1
WRAB Tennant Creek 52.72 129 *eP* P 07 07 04.5 +0.4
14nm,1.6s
ASAR Alice Springs 54.66 133 P P 07 07 18.1 -0.3
ASAR Alice Springs 54.66 133 P P 07 07 18.1 -0.3
1.0nm,0.7s,baz=306,slow=6.6,SNR=11
BRTR Keskin Array B 57.81 308 P P 07 07 40.5 -0.4
BRTR Keskin Array B 57.81 308 P P 07 07 40.5 -0.4
2.0nm,0.7s,baz=111,slow=8.2,SNR=10
FINES FINESS Array B 66.90 331 P P 07 08 40.8 -0.2
FINES FINESS Array B 66.90 331 P P 07 08 40.8 -0.2
2.0nm,0.7s,baz=210,slow=15,SNR=3.2
GERES GERESS Array B 72.68 317 P P 07 09 17.0 0.0
GERES GERESS Array B 72.68 317 P P 07 09 17.0 0.0
1.6nm,0.8s,baz=92,slow=5.9,SNR=9.0
NOA NORSAR Array B 73.97 330 P P 07 09 24.0 -0.3
NOA NORSAR Array B 73.97 330 P P 07 09 24.0 -0.3
1.7nm,0.8s,baz=88,slow=5.9,SNR=3.2
TORD Torodi Ar. Bea 88.27 283 P P 07 10 41.5 +0.4
TORD Torodi Ar. Bea 88.27 283 P P 07 10 41.5 +0.4
1.4nm,0.9s,baz=87,slow=4.9,SNR=8.1
ILAR Eielson Array 89.47 22 P P 07 10 45.5 -0.3
ILAR Eielson Array 89.47 22 P P 07 10 45.5 -0.3
0.4nm,0.7s,baz=294,slow=4.0,SNR=6.4

*NIED **04** 07:02:00.33°.90N×140°.20E, h50km, Mw3.5 Best double couple: M₀1.73000×10¹⁴ NP1:φ₀s77.00000°, δ68.00000°, λ73.00000°. NP2:φ₀s296.00000°, δ28.00000°, λ125.00000°.*
JMA 04 07:02:45.0±0.1, 33°.95N×140°.25E, h48km±2km, M3.7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMY	**Miyakejima3**	**0.62**	**281**	P	Pn	07 02 57.9	+0.2
JMY				*eS*	Sn	07 03 07.7	+0.8
BSO3	**Boso 3**	**0.88**	**14**	P	Pn	07 03 01.5	+0.8
BSO3				S	Sn	07 03 14.2	+2.0
BSO2	**Boso 2**	**0.90**	**27**	*eS*	Sn	07 03 14.7	+2.0
JHJ2	**Mitsune**	**0.91**	**204**	P	Pn	07 03 01.4	-0.1
JHJ2				*eS*	Sn	07 03 12.9	-0.6
BSO1	**Boso 1**	**0.93**	**40**	P	Pn	07 03 01.4	+0.4
BSO1				S	Sn	07 03 14.0	+1.3
JKO	**Kozu shima**	**0.95**	**285**	P	Pn	07 03 02.2	+0.1
JKO				*eS*	Sn	07 03 14.4	-0.2
JIM2	**Oshima 3**	**1.02**	**319**	P	Pn	07 03 03.1	+0.1
JIM2				S	Sn	07 03 15.7	-0.6
BSO4	**Boso 4**	**1.04**	**4**	P	Pn	07 03 04.2	+1.1
JIZS	**Izushimoda**	**1.37**	**304**	P	Pn	07 03 08.5	+0.8
JIZS				S	Sn	07 03 25.6	+0.9
KTJJ	**Kamata 2**	**1.38**	**315**	P	Pn	07 03 08.2	+0.3
KTJJ				S	Sn	07 03 24.4	-0.6
JOD2	**Odawara 2**	**1.62**	**324**	P	Pn	07 03 11.6	+0.4
JOD2				S	Sn	07 03 30.5	-0.5
MAT	**Matsushiro**	**3.08**	**328**	P	Pn	07 03 33.6	+2.4
MAT				S	Sn	07 04 08.4	+1.6

*MOS **04** 07:07:21.8±1.2, 6°.18S×130°.74E, h42km, mb5.7/32, Error ellipse: s-maj=12.2km s-min=5.5km az=113.4*

*BJI **04** 07:07:27.3, 6°.31S×130°.96E, h104km, mB5.2/33, mb5.6/56*
*ISCJB **04** 07:07:29.8±0.3, 6°.25S±0°.02×130°.84E±0°.02, h116km±2km, mb5.4/134, Error ellipse: s-maj=3.5km s-min=3.0km az=138.9*
*GCMT **04** 07:07:30.9±0.2, 6°.22S×130°.67E, h111km±2km, MW5.2, Moment Tensor Solution. s52,c67; s82,c140; Moment tensor: Scale 10¹⁶Nm; M_rr1.37±.15; M_θθ-6.53±.16; M_φφ5.16±.19; M_rθ1.59±.11; M_θφ-0.50±.17; M_φr2.96±.12; Best double couple: M₀6.90000×10¹⁶ NP1:φ₀s46.00000°, δ79.00000°, λ30.00000°. NP2:φ₀s310.00000°, δ60.00000°, λ167.00000°. Principal axes: T 6.7900, Plg29.0000°, Azm272.0000°; N 0.1500, Plg58.0000°, Azm64.0000°; P -6.9400, Plg13.0000°, Azm174.0000°; Data Used: II IU IC G CN.*
*AUST **04** 07:07:30.8±0.1, 6°.33S×130°.76E, h105km Error ellipse: s-maj=0.6km s-min=0.4km az=39.0*
*BKK **04** 07:07:30.9±0.4, 6°S±3°×13°1E±°, h102km±5km, M5.2/43, mB5.6/28, mb5.6/43, MLv5.8/2, Mw(mB)5.1/28*
*TEH **04** 07:07:31.0, 6°.21S×130°.73E, h110km, ML5.4*
*NEIC **04** 07:07:31.6±0.9, 6°.22S×130°.74E, h117km±7km, mb5.4/45, Error ellipse: s-maj=7.1km s-min=4.5km az=59.0*
NEIC Felt [II] at Saumlaki, Indonesia.
*DJA **04** 07:07:32.1±0.2, 6°S±2°×13°1E±°, h114km±3km, M5.4/77, mb5.6/77, mB5.7/44, MLv6.1/11, Mw(mB)5.3/44*
*IDC **04** 07:07:34.3±0.6, 6°.19S×130°.80E, h136km±4km, mb4.8/31, mb1 4.8/33, mb1mx4.8/34, mbtmp4.8/33, MS3.8/21, Ms1 3.8/21, ms1mx3.7/32, Error ellipse: s-maj=12.3km s-min=7.2km az=72.0*

ISC 04 07:07:30.7±0.3, 6°.18S±0°.03×130°.79E±0°.04, h109km±1km, h109km:pP-P, n740, σ1°33/803, mb5.4/133, 14C-8D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.86**	**164**	P	**Pn**	07 08 01.9	-0.1
SAUI				S	**Sn**	07 08 23.1	-2.7
BNDI	**Bandanaira**	**1.86**	**332**	P	**Pn**	07 08 03.2	+1.2
BNDI	**Bandanaira**	**1.86**	**332**	P	**Pn**	07 08 03.5	+1.5
baz=2.0,SNR=240
TLE Tual 2.02 75 P **Pn** 07 08 05.1 +1.2
TLE S **Sn** 07 08 30.7 +1.5
TLE Tual 2.02 75 P **Pn** 07 08 05.1 +1.2
baz=2.1,SNR=1000
TLE S **Sn** 07 08 30.8 +1.5
baz=2.1,SNR=8.3
FAKI Fak Fak 3.55 24 P **Pn** 07 08 22.9 -1.2
FAKI S **Sn** 07 09 02.3 -3.1
FAKI Fak Fak 3.55 24 P **Pn** 07 08 23.2 -0.9
baz=3.7,SNR=631
FAKI S **Sn** 07 09 03.2 -2.2
baz=3.7,SNR=34
AAI Ambon 3.58 314 P **Pn** 07 08 26.4 +2.0
AAI Ambon 3.58 314 P **Pn** 07 08 26.6 +2.2
baz=3.7,SNR=63
KMPI Kaimana, Papua 3.84 49 P **Pn** 07 08 27.3 -0.6
NLAI Namlea 4.69 308 P **Pn** 07 08 42.5 +3.1
SWI Sorong 5.30 5 P **Pn** 07 08 46.4 -1.3
SWI Sorong 5.30 5 P **Pn** 07 08 46.6 -1.1
baz=5.5,SNR=615
SWI S **Sn** **07 09 43.3 -4.3**
baz=5.5,SNR=8.1
RKPI Ransiki, Papua 5.74 36 P **Pn** 07 08 53.5 -0.1
6μm,0.7s,213μm88nm
LBMI Labuha 6.41 329 P **Pn** 07 09 03.7 +1.0
2μm,1.1s,34μm14nm
MTN Manton Dam 6.63 177 P **Pn** 07 09 03.2 -2.5
baz=6.5,SNR=1000
MTN S **Sn** 07 10 15.9 -3.9
baz=6.5,SNR=12
KDU Kakadu 6.68 166 P **Pn** 07 09 03.3 -3.0
baz=6.6,SNR=1000
SRPI Serui, Papua 6.92 52 P **Pn** 07 09 11.5 +1.8
617nm,0.6s,41μm15nm
BAKI Biak 7.26 47 P **Pn** 07 09 13.8 -0.5
2μm,0.8s,21μm9.0nm
SOEI Soe 7.37 241 P **Pn** 07 09 16.1 +0.3
1μm,1.0s,23μm8.2nm
SOEI Soe 7.37 241 P **Pn** 07 09 16.3 +0.5
baz=7.3,SNR=80
SOEI S **Sn** 07 10 37.7 -0.2
baz=7.3,SNR=8.3
TNTI Ternate 7.70 334 *e*Pn **Pn** 07 09 20.6 +0.3
TNTI Ternate 7.70 334 P **Pn** 07 09 20.6 +0.3
656nm,0.7s,5μm2.1nm
BBSI Bau Bau 8.20 274 P Pn 07 09 31.6 +4.6
WAMI Wamena 8.22 74 P **Pn** 07 09 29.6 +2.4
2μm,0.8s,14μm
MMRI Maumere 8.82 253 *e*Pn **Pn** 07 09 36.5 +1.0
MMRI Maumere 8.82 253 P **Pn** 07 09 37.9 +2.5
324nm,1.3s,4μm
KKSI Kolaka, Sulawe 9.31 282 P Pn 07 09 45.3 +3.2
317nm,1.2s,4μm
LUWI Luwuk 9.48 302 P Pn 07 09 47.6 +3.2
449nm,1.0s,4μm
KNRA Kununurra 9.64 192 P Pn 07 09 43.0 -3.5
baz=9.5,SNR=1000
KNRA S Sn 07 11 23.5 -10
baz=9.5,SNR=12
MMPI Merauke 9.79 104 P **Pn** 07 09 47.0 -1.5
3μm,0.6s,36μm
MMPI Merauke 9.79 104 P **Pn** 07 09 47.2 -1.3
baz=9.8,SNR=4.3
MMPI S Sn 07 11 29.6 -7.1
baz=9.8,SNR=13
SKSI Soroako, Sulaw 10.10 291 P Pn 07 09 56.0 +3.2
296nm,0.8s,3μm
APSI Ampana 10.51 300 P Pn 07 10 01.5 +3.1
78μm,0.9s
JAY Jayapura 10.54 70 P **Pn** 07 09 58.7 -0.1
166nm,0.8s,11μm
BKSI Bulukumba 10.64 274 P **Pn** 07 10 01.9 +1.7
155nm,0.9s,1μm
MRSI Marisa 11.03 307 P **Pn** 07 10 07.1 +1.7
267nm,0.7s,2μm
KAPI Kappang 11.04 275 Pn **Pn** 07 10 07.7 +2.2
728nm,0.9s,SNR=7.1
KAPI Kappang 11.04 275 Pn **Pn** 07 10 07.5 +1.9
SNR=9.5
KAPI Kappang 11.04 275 *e*Pn **Pn** 07 10 06.5 +1.0
KAPI Kappang 11.04 275 P **Pn** 07 10 07.3 +1.8
102nm,1.4s,2μm
KAPI Kappang 11.04 275 P **Pn** 07 10 07.0 +1.5
0.8nm,0.3s,baz=113,slow=6.4,SNR=13
LBFI Labuhan Bajo, 11.04 257 P **Pn** 07 10 06.3 +0.7
286nm,0.7s
TTSI Tana Toraja 11.36 285 P P 07 10 15.1 -4.3
MMSI Mamuju 12.34 286 P Pn 07 10 26.1 +3.3
FITZ Fitzroy Crossi 12.87 203 *e*Pn Pn 07 10 23.8 -5.9
FITZ S Sn 07 12 35.1 -16
FITZ Fitzroy Crossi 12.87 203 P Pn 07 10 23.8 -5.9
66nm,0.3s,baz=34,slow=13,SNR=428
FITZ S Sn 07 12 35.1 -16
51nm,0.3s,baz=54,slow=18,SNR=6.6
FITZ LR LR 07 16 19.5
comp=Z,773nm,18.5s,baz=28,slow=41
FITZ Fitzroy Crossi 12.87 203 P Pn 07 10 23.9 -5.9
baz=13,SNR=538
FITZ S Sn 07 12 37.4 -14
baz=13,SNR=6.6
PALU Palau 13.93 15 P **Pn** **07 10 44.3 +0.8**
baz=14,SNR=4.6
WRAB Tennant Creek 14.10 166 Pn Pn 07 10 39.0 -6.8
5μm,0.6s
WRAB Tennant Creek 14.10 166 *e*P Pn 07 10 38.9 -6.8
WRAB pmax pmax
comp=Z,454nm,0.6s
WRAB Tennant Creek 14.10 166 *e*Pn Pn 07 10 38.9 -6.8
comp=Z,454nm,0.6s
WRA Warramunga Arr 14.11 166 P Pn 07 10 38.7 -7.1
WRA S Sn 07 13 06.7 -15
WRA *e* 07 46 34.0
WRA Warramunga Arr 14.11 166 P Pn 07 10 38.7 -7.1
comp=Z,33nm,0.3s,baz=347,slow=13,SNR=201
WRA S Sn 07 13 06.6 -15
comp=Z,60nm,0.3s,baz=348,slow=22,SNR=13
WRA P3KPbc 07 46 34.0
comp=Z,0.0nm,0.3s,baz=164,slow=4.3,SNR=5.7
COEN Coen 14.43 123 *e*Pn Pn 07 10 46.1 -3.9
COEN *e*Sn Sn 07 13 16.9 -12
COEN Coen 14.43 123 P Pn 07 10 46.1 -3.9
baz=14,SNR=208
COEN S Sn 07 13 13.0 -16

baz=14,SNR=7.4
BKB Balikpapan 14.69 289 P **P 07 10 58.4 +1.9**
MTNI Mataram 14.70 260 P **Pn 07 10 53.5 +0.2**
comp=Z,181nm,0.7s,comp=Z,2µm
SMKI Samarinda 14.70 292 P P 07 11 00.9 +4.3
CTBH Cotabato--PC H 14.82 334⇑*i*P **Pn 07 10 55.0 0.0**
BUKP Musuan 15.09 338 *e*P **Pn 07 10 59.5 +1.2**
BUKP *e*S pP 07 11 15.2 -5.7
SRBI Singaraja 15.57 262 P **Pn 07 11 04.5 +0.2**
comp=Z,315nm,0.9s,comp=Z,2µm
IGBI Denpasar 15.72 259 P **P 07 11 09.5 +1.5**
PAGZ Pagadian 15.77 332 *e*P **P 07 11 11.3 +2.8**
PAGZ *e*S **pP 07 11 24.0 -4.3**
BBKI Banjar Baru 16.11 279 P **P 07 11 14.5 +2.2**
BYJI Banyuwangi 16.42 262 P **P 07 11 15.8 0.0**
comp=Z,889nm,0.9s
ABJI Asem Bagus 16.51 263 P **P 07 11 17.2 +0.5**
comp=Z,383nm,0.9s,comp=Z,3µm
PMG Port Moresby 16.54 102 *e*P **P 07 11 17.1 +0.1**
comp=Z,191nm,0.7s
PMG *e*S **Sn 07 14 13.4 -6.6**
PMG Port Moresby 16.54 102 P **Pn 07 11 16.2 -0.1**
comp=Z,296nm,0.8s,comp=Z,2µm
PMG Port Moresby 16.54 102 P **P 07 11 16.7 -0.3**
comp=Z,16nm,0.3s,baz=282,slow=12,SNR=38
TSM Tawau 16.57 309 P **P 07 11 17.7 +0.4**
JAGI Jajag, Banyuwa 16.65 261 P **Pn 07 11 15.7 -2.1**
baz=17,SNR=21
MYLDM Lahad Datu 16.67 312 P **P 07 11 19.1 +0.6**
MYLDM Lahad Datu 16.67 312 P **P 07 11 20.5 +2.1**
comp=Z,210nm,1.3s,comp=Z,3µm
MTKI Muara Teweh, K 16.68 288 P **P 07 11 20.4 +1.7**
comp=Z,513nm,0.9s,comp=Z,6µm
KMMI Kalianget 16.73 266 P **P 07 11 21.5 +2.4**
comp=Z,563nm,0.7s,comp=Z,5µm
BLJI Banyuglugur 17.13 264 P **Pn 07 11 24.1 +0.5**
comp=Z,780nm,0.8s
GMJI Gumukmas 17.33 262 P **P 07 11 24.6 -1.1**
comp=Z,162nm,1.2s
AS31 Alice Springs 17.64 171 *e*P **P 07 11 26.3 -2.8**
AS31 *e*S Sn 07 14 36.3 -10
ASAR Alice Springs 17.64 171 P **P 07 11 27.3 -1.9**
ASAR S Sn 07 14 33.8 -13
ASAR Alice Springs 17.64 171 P **P 07 11 27.3 -1.9**
comp=Z,23nm,0.3s,baz=348,slow=9.6,SNR=887
ASAR S Sn 07 14 33.8 -13
comp=Z,17nm,0.3s,baz=355,slow=28,SNR=7.4
ASAR LR LR 07 19 24.3
comp=Z,306nm,18.3s,baz=346,slow=40
MTSU Mount Surprise 17.76 133 P **P 07 11 28.4 -2.1**
baz=18,SNR=234
SDKM Sandakan 17.94 311 P **Pn 07 11 34.8 +1.3**
KRKI Karangkates 18.30 263 P **Pn 07 11 38.0 +0.4**
comp=Z,560nm,0.7s
MBWA Marble Bar 18.34 215 P **P 07 11 36.7 -0.1**
SNR=12
MBWA Marble Bar 18.34 215 *e*P **P 07 11 36.2 -0.7**
comp=Z,199nm,1.0s
MBWA *e*S S 07 14 49.5 -12
PWJI Pagerwojo 18.92 263 P **P 07 11 41.3 -1.9**
SJI Sawahan 18.94 264 P **P 07 11 43.6 +0.1**
comp=Z,216nm,1.2s,comp=Z,8µm
KKM Kota Kinabalu 18.95 310 *e*P **P 07 11 44.5 +1.0**
comp=Z,214nm,0.6s
KKM Kota Kinabalu 18.95 310 P **Pn 07 11 45.0 -0.5**
KKM Kota Kinabalu 18.95 310 P **P 07 11 44.6 +1.0**
comp=Z,358nm,1.0s,comp=Z,4µm
KKM Kota Kinabalu 18.95 310 P **Pn 07 11 44.7 -0.7**
baz=19,SNR=38
KDM Kudat 19.05 313 P **P 07 11 45.3 +0.7**
RCP Roxas 19.35 336‖*e*P **Pn 07 11 49.6 -0.5**
PBKI Pangkalan Bun 19.36 279 P **Pn 07 11 49.7 -0.6**
comp=Z,972nm,1.0s,comp=Z,8µm
BTM Bintulu 19.98 297 P **Pn 07 11 56.4 -1.1**
UGM Wanagama 20.18 264 P Pn 07 11 58.8 -1.0
comp=Z,282nm,1.1s
UGM Wanagama 20.18 264 P **P 07 11 55.3 -1.7**
baz=20,SNR=9.7
STKI Sintang 20.25 287 P Pn 07 11 59.6 -0.9
comp=Z,197nm,1.2s,comp=Z,22µm
YOGI Yogyakarta 20.40 264 P Pn 07 12 01.2 -1.2
comp=Z,348nm,1.5s
CTA Charters Tower 20.42 134 P **P 07 11 59.9 +0.5**
CTA S Sn 07 15 49.4 -3.8
CTA Charters Tower 20.42 134 P **P 07 11 59.9 +0.5**
comp=Z,125nm,0.8s,baz=307,slow=13,SNR=115
CTA S Sn 07 15 49.4 -3.8
comp=Z,35nm,0.8s,baz=30,slow=20,SNR=3.3
CTAO Charters Tower 20.42 134 *e*P **P 07 12 00.3 +0.9**
CTAO pmax pmax
comp=Z,181nm,0.9s
CTAO Charters Tower 20.42 134 *e*P **P 07 12 00.3 +0.9**
comp=Z,181nm,0.9s
SBUM Sibu 20.42 294 *e*P **P 07 11 59.0 -0.5**
comp=Z,207nm,1.0s
SBUM Sibu 20.42 294 P **P 07 12 00.9 +1.4**
SBUM Sibu 20.42 294 P **P 07 12 00.1 +0.6**
comp=Z,239nm,1.2s,comp=Z,2µm
BJII Banjamegara 20.96 266 P **P 07 12 04.3 -1.1**
TGJI Tegal 21.53 267 P **P 07 12 13.2 +1.8**
comp=Z,167nm,0.8s,comp=Z,2µm
KPJI Karang Pucung 21.73 266 P **P 07 12 12.0 -1.5**
KSM Kuching 21.81 290 *e*P **P 07 12 13.6 -0.8**
comp=Z,135nm,0.9s
KSM Kuching 21.81 290 P **P 07 12 14.8 +0.4**
KSM Kuching 21.81 290 P **P 07 12 13.7 -0.6**
comp=Z,160nm,1.1s,comp=Z,1µm
KSM Kuching 21.81 290 P **P 07 12 13.8 -0.6**
baz=22,SNR=20
TGY Tagaytay City 22.39 334 P **P 07 12 22.1 +1.6**
TGY Tagaytay City 22.39 334 P **P 07 12 22.1 +1.6**
comp=Z,528nm,0.5s,baz=176,slow=13,SNR=14
CISI Cisompet, Garu 22.84 265 P **P 07 12 23.5 -1.5**
CISI Cisompet, Garu 22.84 265 P **P 07 12 24.8 -0.2**
baz=23,SNR=14
LEM Lembang 23.03 267 P **P 07 12 26.2 -0.7**
comp=Z,405nm,0.9s,comp=Z,4µm
LEM Lembang 23.03 267 P **P 07 12 26.6 -0.3**
baz=23,SNR=7.7
TPI Tanjungpandan 23.31 277 P **P 07 12 29.1 -0.2**
comp=Z,73nm,0.8s,comp=Z,644nm
MEEK Meekatharra 23.42 208 P **P 07 12 29.8 -0.5**
baz=23,SNR=35
CBJI Citeko 23.79 268 P **P 07 12 33.9 +0.2**
comp=Z,2µm,0.8s
DBJI Dramaga 23.89 268 P **P 07 12 35.4 +0.8**
comp=Z,291nm,1.1s,comp=Z,5µm
SKJI Sukabumi 24.08 267 P **P 07 12 37.4 +1.0**
comp=Z,746nm,0.8s
FORT Forrest 24.61 186 *e*P **P 07 12 40.3 -0.5**
comp=Z,338nm,0.6s
FORT Forrest 24.61 186 P **P 07 12 40.4 -0.5**
baz=25,SNR=140
FORT S S 07 17 12.8 +18
baz=25,SNR=5.3
PPBI Pangkal Pinang 24.90 278 P **P 07 12 46.2 +2.4**
comp=Z,156nm,0.9s
XMI Christmas Isla 25.18 259 P **P 07 12 46.8 +0.4**
baz=25,SNR=4.6
XMIS Christmas Isla 25.23 259 *e*P **P 07 12 46.5 -0.3**
comp=Z,946nm,0.8s
XMIS Christmas Isla 25.23 259 P **P 07 12 47.0 +0.2**
baz=25,SNR=8.0
KASI Kota Agung 26.16 270 P **P 07 12 56.3 +1.1**
comp=Z,95nm,0.9s
RMQ Roma 26.49 142 P **P 07 12 58.2 +0.2**
baz=26,SNR=8.1
MORW Morawa 26.69 210 P **P 07 12 59.8 0.0**
baz=27,SNR=6.1
BBOO Buckleboo 26.95 170 *e*P **P 07 13 01.3 -0.8**
comp=Z,2µm,0.8s
BBOO Buckleboo 26.95 170 P **P 07 13 01.2 -0.8**
baz=27,SNR=64
EIDS Eidsvold 27.23 137 *e*P **P 07 13 04.3 -0.4**
comp=Z,68nm,1.2s
EIDS Eidsvold 27.23 137 P **P 07 13 04.2 -0.4**
baz=27,SNR=4.9
STKA Stephens Creek 27.49 160 *e*P **P 07 13 06.6 -0.4**
comp=Z,15nm,0.5s
STKA Stephens Creek 27.49 160 P **P 07 13 06.5 -0.4**
comp=Z,93nm,0.6s,baz=334,slow=10,SNR=217
STKA LR LR 07 24 02.6
comp=Z,308nm,20.5s,baz=124,slow=36
STKA Stephens Creek 27.49 160 P **P 07 13 06.5 -0.4**
baz=28,SNR=141
BLDU Ballidu 27.67 207 P **P 07 13 08.5 -0.1**
baz=28,SNR=22

MYKOM Kota Tinggi 28.03 286 P **P 07 13 12.1 +0.1**
MYKOM Kota Tinggi 28.03 286 P **P 07 13 11.8 -0.2**
comp=Z,96nm,0.7s,comp=Z,962nm
KLBR Kellerberrin 28.07 204 P **P 07 13 12.1 0.0**
baz=28,SNR=36
KGM Kluang 28.61 286 P **P 07 13 16.8 -0.3**
CMSA Cobar Meteorol 28.83 153 P **P 07 13 18.8 -0.1**
baz=29,SNR=119
NWAO Narrogin (SRO) 29.45 204 *e*P **P 07 13 24.0 -0.4**
comp=Z,63nm,0.9s
NWAO Narrogin (SRO) 29.45 204 P **P 07 13 24.2 -0.2**
comp=Z,13nm,0.4s,baz=28,slow=9.7,SNR=24
NWAO LR LR 07 25 20.8
comp=Z,400nm,18.4s,baz=42,slow=36
KTGM Kuala Trenggan 29.88 292 P **P 07 13 28.3 -0.1**
BKNI Bangkinang 30.39 281 P P 07 13 37.2 +4.4
FRIM Kepong 30.58 287 P **P 07 13 34.2 -0.4**
PDSI Padang 30.70 279 P **P 07 13 35.3 -0.4**
comp=Z,75nm,1.0s
PPI Padang Panjang 30.85 279 P **P 07 13 35.1 -1.8**
PPI Padang Panjang 30.85 279 P **P 07 13 35.2 -1.7**
baz=31,SNR=5.9
RKGY Rocky Gully 31.04 202 P **P 07 13 39.9 +1.6**
baz=31,SNR=9.5
ARMA Armidale 31.07 143 *e*P **P 07 13 39.5 +0.7**
comp=Z,83nm,1.4s
ARMA Armidale 31.07 143 P **P 07 13 39.5 +0.7**
baz=31,SNR=14
SSLB Suanglung 31.29 342 *e*P **P 07 13 39.4 -1.3**
comp=Z,27nm,0.7s
IPM Ipoh 31.54 289 *e*P **P 07 13 42.2 -0.8**
comp=Z,31nm,0.7s
IPM Ipoh 31.54 289 P **P 07 13 42.5 -0.6**
IPM Ipoh 31.54 289 P **P 07 13 44.5 +1.5**
comp=Z,48nm,0.7s
YHNB Yeheng 32.00 344 *e*P **P 07 13 46.2 -0.7**
comp=Z,24nm,0.6s
ARPS Mount Arapiles 32.08 163 P **P 07 13 47.9 +0.4**
baz=32,SNR=36
KULM Kulim 32.17 290 *e*P **P 07 13 47.4 -1.1**
comp=Z,51nm,0.8s
KULM Kulim 32.17 290 P **P 07 13 47.6 -0.9**
KULM Kulim 32.17 290 P **P 07 13 47.2 -1.3**
YNG Young 32.38 152 P **P 07 13 50.6 +0.5**
baz=32,SNR=61
QIZ Qiongzhong 32.46 321 P **P 07 13 52.7 +1.8**
QIZ S **S 07 19 01.4 +3.5**
QIZ pmax pmax
comp=Z,44nm,1.1s
QIZ pmax pmax
comp=Z,200nm,3.9s
MGCD Mangrove Creek 32.87 148 P **P 07 13 55.6 +1.3**
baz=33,SNR=16
JOW Kunigami 32.91 356 *e*P **P 07 13 56.2 +1.5**
comp=Z,42nm,0.9s
UBPT Khong Chiam 32.92 311 P **P 07 13 55.2 +0.2**
comp=Z,128nm,1.3s
PSI Prapat 33.04 285 P **P 07 13 54.0 -2.3**
PSI Prapat 33.04 285 P **P 07 13 54.0 -2.3**
comp=Z,170nm,0.8s,baz=121,slow=5.9,SNR=30
PSI LR LR 07 29 52.6
comp=Z,207nm,18.0s,baz=344,slow=40
PSI Prapat 33.04 285 P **P 07 13 54.5 -1.8**
baz=33,SNR=14
QZH Quanzhou 33.13 339⇑*i*P **P 07 13 55.0 -1.7**
QZH pmax pmax
comp=Z,150nm,0.6s
CAN Canberra 33.50 152 *e*P **P 07 14 00.5 +0.6**
CAN pmax pmax
comp=Z,91nm,0.7s
CAN Canberra 33.50 152 *e*P **P 07 14 00.5 +0.6**
comp=Z,92nm,0.7s
CNB Canberra Magne 33.66 152 P **P 07 14 02.0 +0.6**
baz=34,SNR=36
TOO Toolangi 34.00 159 P **P 07 14 05.5 +1.3**
baz=34,SNR=56
KCSI Kotacane, Aceh 34.34 285 P **P 07 14 05.3 -2.2**
SURA Surathani 34.59 296 P **P 07 14 11.5 +2.0**
comp=Z,44nm,1.4s
KRAB Krabi 34.60 294 P P 07 14 14.7 +5.1
comp=Z,40nm,0.9s
PANO Nakornpanom 34.73 312 P **P 07 14 12.0 +1.3**
comp=Z,185nm,1.3s
CBIJ Chichi jima 34.87 18 P **P 07 14 11.8 0.0**
CBIJ Chichi jima 34.87 18 P **P 07 14 11.8 0.0**
comp=Z,77nm,0.9s,baz=217,slow=20,SNR=4.6
MILA Mila 35.01 154 P **P 07 14 13.3 +0.4**
baz=35,SNR=4.9
SKNT Sakolnakorn 35.09 311 P **P 07 14 15.0 +1.2**
comp=Z,100nm,0.7s
CHAI Chaiyaphum 35.98 308 P **P 07 14 21.2 -0.2**
comp=Z,45nm,0.8s,comp=Z,2µm
PHET Kaeng Krachan 36.30 302 P **P 07 14 24.5 +0.3**
comp=Z,197nm,0.9s
NONG Nongkai 36.39 312 P **P 07 14 24.8 -0.1**
comp=Z,129nm,0.9s
LOEI Loei 37.47 309 P **P 07 14 31.8 -2.3**
comp=Z,117nm,1.2s,comp=Z,1µm
UTHA Uthaitani 37.82 305 P **P 07 14 37.1 +0.1**
comp=Z,52nm,0.8s,comp=Z,414nm
DZM Mont Dzumac 37.88 118 P **P 07 14 37.2 -0.4**
DZM Mont Dzumac 37.88 118 P **P 07 14 37.2 -0.4**
comp=Z,16nm,0.6s,baz=300,slow=15,SNR=11
SSE Sheshan 38.19 347 *e*P **P 07 14 41.0 +1.2**
SSE S **S 07 20 29.3 +4.0**
SSE pmax pmax
comp=Z,47nm,0.7s
SSE pmax pmax
comp=Z,120nm,5.1s
SSE LR LR
comp=N,62nm,22.9s
SSE LR LR
comp=E,76nm,23.0s
SSE LR LR
comp=Z,110nm,27.8s
MOO Moorlands 38.93 161 P **P 07 14 47.1 +1.1**
baz=39,SNR=18
JNU Nakatsue 39.09 0 *e*P **P 07 14 47.8 +0.4**
comp=Z,22nm,1.1s
JNU Nakatsue 39.09 0 P **P 07 14 47.2 -0.2**
comp=Z,13nm,0.9s,baz=188,slow=7.1,SNR=5.6
JNU LR LR 07 32 03.7
comp=Z,147nm,18.0s,baz=219,slow=38
LAMP Lampang 39.32 309 P **P 07 14 50.3 +0.7**
comp=Z,38nm,0.9s,comp=Z,290nm
TAU Tasmania Unive 39.39 161 *e*P **P 07 14 50.7 +0.9**
TAU pmax pmax
comp=Z,41nm,0.7s
TAU Tasmania Unive 39.39 161 *e*P **P 07 14 50.6 +0.9**
comp=Z,41nm,0.7s
PAYA Payao 39.63 310 P **P 07 14 52.7 +0.5**
comp=Z,28nm,1.1s,comp=Z,254nm
NJ2 Nanjing 39.68 344 *e*P **P 07 14 53.5 +1.2**
NJ2 pmax pmax
comp=Z,50nm,0.8s
WHN Wuhan 39.77 338⇑P **P 07 14 54.5 +1.5**
WHN S **S 07 20 47.8 -1.3**
WHN pmax pmax
comp=Z,190nm,0.8s
CRAI Chiangrai 39.78 312 P **P 07 14 51.8 -1.6**
comp=Z,48nm,1.4s
CM31 Chiang Mai Arr 39.82 309 *e*P **P 07 14 54.5 +0.8**
comp=Z,125nm,1.1s
CMAR Chiang Mai Arr 39.82 309 P **P 07 14 54.1 +0.4**
CMAR Chiang Mai Arr 39.82 309 P **P 07 14 54.1 +0.4**
comp=Z,43nm,0.9s,baz=136,slow=6.6,SNR=93
CMAR LR LR 07 30 48.4
comp=Z,83nm,21.2s,baz=145,slow=35
GYA Guiyang 40.00 325⇑*i*P **P 07 14 55.6 +0.4**
GYA pP **pP 07 15 21.0 +1.0**
GYA sP **sP 07 15 34.1 +1.7**
GYA PP **PnPn 07 16 33.2 -0.6**
GYA PcP **PcP 07 16 59.5 +1.1**
GYA ScP **ScP 07 20 38.6 +0.9**
GYA PcS **PcS 07 20 50.0 +1.0**
GYA S **S 07 20 52.5 -0.4**
GYA sS **sS 07 21 36.8 +0.9**
GYA ScS **ScS 07 24 50.4 -1.0**
GYA pmax pmax
comp=Z,60nm,0.9s
GYA pmax pmax
comp=Z,230nm,6.8s
CHTO Chiang Mai 40.02 309 *e*P **P 07 14 55.9 +0.5**
CHTO pmax pmax
comp=Z,202nm,1.1s
CHTO Chiang Mai 40.02 309 P **P 07 14 56.3 +1.0**

SNR=23
CHTO Chiang Mai 40.02 309 *e*P **P 07 14 55.9 +0.5**
comp=Z,202nm,1.1s
CHTO Chiang Mai 40.02 309 P **P 07 14 55.8 +0.4**
comp=Z,175nm,1.1s,comp=Z,2µm
CHTO Chiang Mai 40.02 309 P **P 07 14 55.8 +0.4**
comp=Z,175nm,1.1s,comp=Z,2µm
CMAI Chiengmai2 40.60 310 P **P 07 15 00.9 +0.6**
comp=Z,128nm,0.8s
KMI Kunming 41.38 320 P **P 07 15 07.9 +1.2**
KMI pP **pP 07 15 32.5 +0.8**
KMI sP **sP 07 15 42.0 -2.0**
KMI S **S 07 21 10.3 -3.5**
KMI sS **sS 07 21 52.9 -4.0**
KMI pmax pmax
comp=Z,50nm,1.2s
KMI LR LR
comp=Z,83nm,21.6s
ENH Enshi 41.60 332 *e*P **P 07 15 08.2 0.0**
comp=Z,100nm,0.7s
MJAR Matsushiro Arr 43.06 9 P **P 07 15 19.0 -0.9**
MJAR Matsushiro Arr 43.06 9 P **P 07 15 19.0 -0.9**
comp=Z,8.9nm,0.8s,baz=194,slow=11,SNR=15
MJAR LR LR 07 31 51.6
comp=Z,186nm,21.4s,baz=210,slow=34
MAT Matsushiro 43.06 9 P **P 07 15 18.9 -1.0**
MAT *e*S **S 07 21 36.2 -1.6**
KSAR Wonju Array Be 43.48 357 P **P 07 15 23.9 +0.6**
KSAR PcP **PcP 07 17 09.6 +0.1**
KSRS Korea Array 43.49 357 P **P 07 15 23.9 +0.6**
comp=Z,6.4nm,0.6s,baz=172,slow=8.9,SNR=29
KSRS PcP **PcP 07 17 09.6 +0.1**
comp=Z,3.5nm,0.8s,baz=189,slow=3.6,SNR=4.3
KSRS LR LR 07 30 59.3
comp=Z,86nm,21.9s,baz=178,slow=32
XAN Xi'an 45.04 334 P **P 07 15 35.7 -0.1**
XAN pP **pP 07 16 01.3 +0.2**
XAN PP **PP 07 17 20.0 -3.2**
XAN S **S 07 22 03.8 -2.8**
XAN sS **sS 07 22 48.8 -1.4**
XAN pmax pmax
comp=Z,36nm,0.7s
XAN pmax pmax
comp=Z,19nm,5.4s
CD2 Chengdu 45.04 327 P **P 07 15 35.8 -0.1**
CD2 pP **pP 07 16 00.7 -0.5**
CD2 sP **sP 07 16 13.3 -0.1**
CD2 PP **PP 07 17 24.0 +0.7**
CD2 PcS **PcS 07 21 07.2 -1.9**
CD2 S **S 07 22 06.9 +0.1**
CD2 sS **sS 07 22 50.6 +0.2**
CD2 SS **ScS 07 25 23.3 +1.0**
CD2 pmax pmax
comp=Z,110nm,0.9s
CD2 pmax pmax
comp=Z,210nm,5.3s
CD2 LR LR
comp=N,340nm,5.7s
CD2 LR LR
comp=Z,270nm,5.1s
BJT Baijiatuau 47.91 345 *e*P **P 07 15 58.2 +0.2**
comp=Z,71nm,0.7s
BJI Beijing 47.92 345 P **P 07 15 58.5 +0.4**
BJI pP **pP 07 16 25.1 +1.4**
BJI sP **sP 07 16 35.4 -0.5**
BJI S **S 07 22 49.7 +2.2**
BJI sS **sS 07 23 28.9 -2.5**
BJI pmax pmax
comp=Z,100nm,0.8s
BJI LR LR
comp=N,380nm,8.9s
BJI LR LR
comp=E,190nm,9.6s
BJI LR LR
comp=Z,74nm,19.8s
LZH Lanzhou 49.06 331⇑P **P 07 16 08.5 +1.3**
LZH pP **pP 07 16 32.1 -0.7**
LZH sP **sP 07 16 42.6 -2.4**
LZH PP **PP 07 18 00.3 -1.6**
LZH S **S 07 23 02.3 -1.7**
LZH sS **sS 07 23 43.6 -4.5**
LZH SS **SS 07 26 31.0 -5.7**
LZH pmax pmax
comp=Z,100nm,1.2s
LZH pmax pmax
comp=Z,1µm,5.8s
LZH LR LR
comp=N,500nm,10.0s
LZH LR LR
comp=E,440nm,9.6s
LZH LR LR
comp=Z,630nm,11.8s
CN2 Changchun 49.98 355 *e*P **P 07 16 16.0 +2.2**
HHC Hu-ho-hao-te 50.02 341⇑P **P 07 16 15.5 +1.2**
HHC pP **pP 07 16 42.0 +2.0**
HHC sP **sP 07 16 54.4 +2.2**
HHC PP **PP 07 18 13.9 +3.5**
HHC S **S 07 23 18.4 +1.3**
HHC sS **sS 07 24 03.1 +1.8**
HHC SS **SS 07 26 49.3 -2.4**
HHC pmax pmax
comp=Z,97nm,1.0s
HHC pmax pmax
comp=Z,290nm,4.9s
HHC LR LR
comp=N,1µm,14.9s
HHC LR LR
comp=E,740nm,14.1s
HHC LR LR
comp=Z,740nm,12.7s
USRK Ussuriysk Arra 50.16 1 P **P 07 16 15.6 +0.5**
comp=Z,7.9nm,0.6s,baz=178,slow=7.1,SNR=31
USRK pP pP 07 16 48.0 +7.2
comp=Z,18nm,0.6s,baz=183,slow=7.6,SNR=8.1
MDJ Mudanjiang 50.57 359 P **P 07 16 19.1 +0.9**
MDJ pP **pP 07 16 42.8 -1.2**
MDJ sP **sP 07 16 52.2 -4.0**
MDJ PP **PP 07 18 15.7 +0.5**
MDJ S **S 07 23 24.3 -0.1**
MDJ sS **sS 07 24 07.8 -0.9**
MDJ pmax pmax
comp=Z,15nm,1.0s
MDJ pmax pmax
comp=Z,64nm,5.1s
MDJ LR LR
comp=N,80nm,4.9s
MDJ LR LR
comp=E,30nm,4.2s
MDJ LR LR
comp=Z,85nm,5.6s
ASAJ Asahikawa 51.19 11 *e*P **P 07 16 23.4 +0.6**
comp=Z,5.4nm,0.6s
ASAJ Asahikawa 51.19 11 P **P 07 16 23.6 +0.8**
comp=Z,11nm,0.5s,baz=315,slow=5.7,SNR=9.6
ASAJ pP pP 07 16 56.0 +7.3
comp=Z,11nm,0.5s,baz=207,slow=4.5,SNR=3.5
ASAJ LR LR 07 37 07.5
comp=Z,95nm,20.0s,baz=34,slow=35
RPZ Rata Peaks 51.41 143 *e*P **P 07 16 24.7 +0.1**
comp=Z,64nm,1.3s
RPZ Rata Peaks 51.41 143 P **P 07 16 25.9 +1.2**
comp=Z,20nm,0.5s,baz=58,slow=2.0,SNR=12
RPZ pP pP 07 16 57.5 +7.0
comp=Z,20nm,0.8s,baz=49,slow=2.4,SNR=3.2
PALK Pallekele 51.72 284 *e*P **P 07 16 26.3 -1.2**
comp=Z,52nm,0.9s
LSA Lhasa 52.16 315 P **P 07 16 31.8 +0.9**
LSA pmax pmax
comp=Z,90nm,0.7s
LSA Lhasa 52.16 315 *e*P **P 07 16 31.9 +1.0**
LSA pmax pmax
comp=Z,92nm,0.8s
LSA Lhasa 52.16 315 *e*P **P 07 16 31.9 +1.0**
comp=Z,92nm,0.8s
URZ Urewera 52.67 134 P **P 07 16 33.4 -0.6**
URZ Urewera 52.67 134 P **P 07 16 33.4 -0.6**
comp=Z,11nm,0.7s,baz=286,slow=8.3,SNR=7.9
ODAN Odare 53.32 310 *e*P **P 07 16 39.5 +0.2**
comp=Z,242nm,0.8s
TAPN Taplejung 53.34 311 *e*P **P 07 16 39.8 +0.4**
GTA Gaotai 53.64 330⇑P **P 07 16 42.5 +1.2**
GTA pP **pP 07 17 06.2 -1.1**
GTA sP **sP 07 17 17.4 -2.0**
GTA PcP **PcP 07 17 47.8 +1.5**
GTA PcS **PcS 07 21 46.2 +0.6**

GTA S **S** **07 24 06.6 -0.2**
GTA sS **sS** **07 24 46.7 -4.9**
GTA ScS **ScS** **07 26 18.9 -1.4**
GTA SS **SS** **07 27 49.3 +0.2**
GTA pmax pmax
comp=Z,110nm,0.8s
GTA pmax pmax
comp=Z,310nm,5.7s
GTA LR LR
comp=N,200nm,13.3s
GTA LR LR
comp=E,280nm,12.1s
GTA LR LR
comp=Z,220nm,10.6s
YSS Yuzh-Sakhalins 53.96 10 ǁ *i*P **P** **07 16 44.3 +1.1**
RAMN Ramite 53.97 310 *e*P **P** **07 16 44.6 +0.6**
comp=Z,558nm,0.7s
JIRN Jiri 54.65 310 *e*P **P** **07 16 49.3 +0.2**
comp=Z,236nm,0.7s
GUN Gumba 55.01 310 *e*P **P** **07 16 51.9 +0.2**
comp=Z,475nm,0.7s
KLR Kul'dur 55.19 1 *e*P **P** **07 16 50.8 -1.3**
KLR pmax pmax
comp=E,30nm,1.6s
KLR pmax pmax
comp=Z,68nm,1.6s
PKI Pulchoki 55.20 310 *e*P **P** **07 16 52.9 -0.1**
comp=Z,158nm,0.7s
PKIN Phulchoki 55.21 310 *e*P **P** **07 16 53.0 0.0**
comp=Z,56nm,0.7s
KKN Kakani 55.41 310 *e*P **P** **07 16 54.5 +0.2**
comp=Z,191nm,0.8s
DMN Daman 55.45 310 *e*P **P** **07 16 54.8 +0.1**
comp=Z,235nm,0.8s
HYB Hyderabad 56.66 295 *i*P **P** **07 17 01.0 -2.2**
KOLN Koldanda 56.69 309 *e*P **P** **07 17 03.8 +0.3**
comp=Z,210nm,0.8s
DANN Dangsing 56.85 310 *e*P **P** **07 17 04.8 +0.1**
comp=Z,187nm,0.7s
PYUN Piuthan 57.32 309 *e*P **P** **07 17 08.3 +0.4**
comp=Z,813nm,0.9s
JBP Jabalpur 57.56 302⇑ *i*P **P** **07 17 08.8 -0.6**
JBP *i* x x 07 17 11.2
comp=Z,144nm,1.2s
JBP *e*x x 07 17 30.6
ULN Ulaanbaatar 57.74 341 P **P** **07 17 12.2 +1.8**
SNR=19
ULN Ulaanbaatar 57.74 341 *e*P **P** **07 17 11.7 +1.3**
comp=Z,68nm,0.8s
ULN Ulaanbaatar 57.74 341 P **P** **07 17 11.6 +1.2**
comp=Z,98nm,0.8s,comp=Z,677nm
SONM Songino Array 57.92 341 P **P** **07 17 12.7 +1.0**
SONM pP pP 07 17 45.5 +7.4
SONM Songino Array 57.92 341 P **P** **07 17 12.7 +1.0**
comp=Z,15nm,0.8s,baz=168,slow=5.8,SNR=79
SONM pP pP 07 17 45.5 +7.4
comp=Z,4.5nm,0.7s,baz=166,slow=5.6,SNR=3.0
KAD Karad 60.58 294 *e*P **P** **07 17 29.7 -0.7**
DRV Dumont d'Urvil 60.72 176 S S 07 25 19.0 -20
DRV L L 07 33 00.0
DRV R 07 36 00.0
AGRA Agra 60.92 306 *e*P **P** **07 17 31.1 -1.4**
AGRA AMB AMB 07 17 31.7
comp=Z,60nm,0.7s
ZAK Zakamensk 61.16 340⇑ *i*P **P** **07 17 34.7 +0.9**
ZAK *e* 07 18 13.8
ZAK pmax pmax
comp=Z,13nm,1.0s
POO Poona 61.26 295⇑ *i*P **P** **07 17 32.0 -3.0**
comp=Z,120nm,1.0s
SONA Sohna 62.04 306 *e*P **P** **07 17 39.4 -0.6**
SONA AMB AMB 07 17 39.8
comp=Z,116nm,0.5s
AYAN Aya Nagar 62.10 307 *e*P **P** **07 17 39.4 -1.0**
AYAN AMB AMB 07 17 39.8
comp=Z,65nm,1.0s
NDI New Delhi 62.11 307 *ex* P 07 17 37.0 -3.5
TLY Talaya 62.15 341 *e*P **P** **07 17 42.2 +1.9**
TLY *e*S **S** **07 26 00.6 +3.5**
TLY *e*SS **SS** **07 30 05.8 +3.6**
TLY pmax pmax
comp=Z,21nm,0.9s
BHGR Bahadurgarh 62.34 307 *e*P **P** **07 17 41.2 -0.7**
BHGR AMB AMB 07 17 42.3
comp=Z,198nm,1.0s
KKR Kurukshetra 62.97 308 *e*P **P** **07 17 46.1 -0.1**
CLNS Chul'man 62.98 356 *e*P **P** **07 17 47.0 +1.2**
CLNS pmax pmax
comp=Z,12nm,1.0s
CLNS pmax pmax
comp=E,5.0nm,0.9s
CLNS pmax pmax
comp=N,9.0nm,0.9s
KHET Khetri 62.99 306 *e*P **P** **07 17 45.2 -1.2**
KHET AMB AMB 07 17 46.6
comp=Z,34nm,1.6s
MOY Mondy 63.02 340 *e*P **P** **07 17 48.1 +1.9**
MOY pmax pmax
comp=Z,65nm,2.1s
WMQ Urumqi 63.14 326 P **P** **07 17 48.0 +0.8**
WMQ pP **pP** **07 18 15.2 +1.3**
WMQ sP **sP** **07 18 27.6 +1.8**
WMQ PP **PP** **07 20 09.5 +2.1**
WMQ *e*S **S** **07 26 08.4 -1.5**
WMQ ScS **SKSac** **07 27 25.4 -4.6**
WMQ pmax pmax
comp=Z,260nm,0.8s
WMQ pmax pmax
comp=Z,140nm,4.3s
WMQ LR LR
comp=N,160nm,32.0s
WMQ LR LR
comp=E,140nm,23.0s
WMQ LR LR
comp=Z,66nm,22.5s
PEA0B Petropavlovsk- 63.31 18 *e*P **P** **07 17 49.0 +1.0**
PETK Petropavlovsk- 63.31 18 P **P** **07 17 48.9 +0.9**
PETK *PP **PcP** **07 18 23.0 -1.2**
PETK Petropavlovsk- 63.31 18 P **P** **07 17 48.9 +0.9**
PETK pP **PcP** **07 18 23.0 -1.2**
PETK Petropavlovsk- 63.31 18 P **P** **07 17 48.9 +0.9**
comp=Z,11nm,0.7s,baz=188,slow=5.5,SNR=34
PETK pP **PcP** **07 18 23.0 -1.2**
comp=Z,13nm,0.7s,baz=169,slow=4.9,SNR=4.9
PETK LR LR 07 41 35.0
comp=Z,47nm,21.5s,baz=127,slow=32
SDNR Sundarnagar 63.52 310 *e*P **P** **07 17 50.5 +0.6**
THN Thein Dam 64.89 310 *ex* **P** **07 17 55.6 -3.1**
KSH Kashi 67.95 317⇑ *i*P **P** **07 18 20.0 +1.7**
KSH PcP **pP** **07 18 45.8 +0.4**
KSH sP **sP** **07 19 00.2 +3.0**
KSH PP **PP** **07 20 53.6 +4.0**
KSH S **S** **07 27 07.2 -1.6**
KSH sS **sS** **07 27 56.5 +1.2**
KSH pmax pmax
comp=Z,93nm,0.7s
KSH LR LR
comp=N,120nm,4.9s
KSH LR LR
comp=E,96nm,5.6s
KSH LR LR
comp=Z,120nm,6.6s
MK31 Makanchi Array 67.98 326 *e*P **P** **07 18 18.9 +0.8**
MK31 pmax pmax
comp=Z,155nm,0.6s
MK31 Makanchi Array 67.98 326 *e*P **P** **07 18 19.2 +1.1**
MKAR Makanchi Array 67.98 326 *ce*P **P** **07 18 19.3 +1.2**
MKAR pmax pmax
comp=Z,230nm,0.7s
MKAR Makanchi Array 67.98 326 P **P** **07 18 19.4 +1.2**
MKAR Makanchi Array 67.98 326 P **P** **07 18 19.4 +1.2**
comp=Z,230nm,0.7s,baz=115,slow=7.4,SNR=1193
MKAR LR LR 07 48 49.7
comp=Z,40nm,19.6s,baz=153,slow=36
YAK Yakutsk 68.02 359 *c i*P **P** **07 18 18.4 +0.4**
YAK *e* 07 18 44.7
YAK *e*S **S** **07 27 07.5 -0.9**
YAK *e* 07 28 04.5
YAK *e*SS **SS** **07 31 30.3 -2.6**
YAK pmax pmax
comp=Z,76nm,0.8s
YAK pmax pmax
comp=E,7.0nm,1.4s
YAK pmax pmax
comp=N,20nm,0.9s
YAK smax smax
comp=E,141nm,5.3s
YAK smax smax
comp=N,254nm,5.7s
FX1 Attu Island--F 68.90 26 P **P** **07 18 24.6 +0.9**
FX1 Attu Island--F 68.90 26 P **P** **07 18 24.6 +0.9**
comp=N,22nm,0.6s,baz=40,slow=7.9,SNR=7.9
ULHL Ulahol 69.11 320 *i*P **P** **07 18 27.0 +1.5**
ULHL Ulahol 69.11 320 P **P** **07 18 27.0 +1.5**
SNR=8.3
KZA Kyzart 69.67 319 *i*P **P** **07 18 31.2 +2.0**
KZA Kyzart 69.67 319 P **P** **07 18 31.2 +2.0**
SNR=54
TKM2 Tokmak 2 69.86 320 *e*P **P** **07 18 31.3 +1.2**
TKM2 pmax pmax
comp=Z,119nm,0.6s
TKM2 Tokmak 2 69.86 320 P **P** **07 18 31.5 +1.4**
SNR=14
TKM2 Tokmak 2 69.86 320 *e*P **P** **07 18 31.3 +1.2**
comp=Z,119nm,0.6s
KBK Karagaybulak 70.14 320 P **P** **07 18 33.5 +1.6**
SNR=45
UCH Uchtor 70.22 319 *i*P **P** **07 18 34.4 +1.8**
UCH Uchtor 70.22 319 P **P** **07 18 34.5 +1.8**
SNR=26
AAK Ala-Archa 70.42 319 P **P** **07 18 35.0 +1.5**
comp=Z,657nm,0.5s,SNR=42
AAK Ala-Archa 70.42 319 *i*P **P** **07 18 35.1 +1.5**
AAK *i* *PP **pP** **07 19 01.9 +1.1**
AAK Ala-Archa 70.42 319 P **P** **07 18 35.3 +1.8**
SNR=36
AAK Ala-Archa 70.42 319 P **P** **07 18 35.2 +1.6**
SNR=69
AAK Ala-Archa 70.42 319 *e*P **P** **07 18 34.9 +1.3**
comp=Z,122nm,1.0s
AAK Ala-Archa 70.42 319 P **P** **07 18 35.1 +1.5**
comp=Z,144nm,1.1s,baz=129,slow=6.9,SNR=119
CHMS Chumysh 70.44 320 *i*P **P** **07 18 34.5 +1.1**
CHMS Chumysh 70.44 320 P **P** **07 18 34.5 +1.1**
SNR=29
FRU Bishkek 70.44 320 *e*P **P** **07 18 34.0 +0.5**
FRU *i* 07 18 57.0
FRU pmax pmax
comp=Z,64nm,1.8s
AML Almayashu 70.71 319 *i*P **P** **07 18 37.4 +1.8**
AML Almayashu 70.71 319 P **P** **07 18 37.4 +1.8**
SNR=55
USP Ospenovka 70.73 320 P **P** **07 18 36.5 +1.3**
SNR=16
KBL Kabul 70.84 310 *e*P **P** **07 18 36.7 +0.4**
KBL pmax pmax
comp=Z,133nm,0.9s
KBL Kabul 70.84 310 *e*P **P** **07 18 36.7 +0.4**
comp=Z,133nm,0.9s
KBL Kabul 70.84 310 P **P** **07 18 36.9 +0.7**
baz=71,SNR=30
EKS2 Erkin-Say 70.90 319 *e*P **P** **07 18 38.0 +1.6**
EKS2 pmax pmax
comp=Z,119nm,0.8s
EKS2 Erkin-Say 70.90 319 P **P** **07 18 38.2 +1.8**
SNR=78
EKS2 Erkin-Say 70.90 319 *e*P **P** **07 18 38.0 +1.6**
comp=Z,119nm,0.8s
ZAA0 Zalesovo Array 71.20 333 *e*P **P** **07 18 37.4 -0.3**
ZALV Zalesovo Beam 71.20 333 *i*P **P** **07 18 37.7 0.0**
ZALV pmax pmax
comp=Z,39nm,0.8s
ZALV Zalesovo Beam 71.20 333 P **P** **07 18 37.5 -0.2**
ZALV Zalesovo Beam 71.20 333 P **P** **07 18 37.5 -0.2**
comp=Z,39nm,0.8s,baz=130,slow=5.3,SNR=39
ZALV LR LR 07 51 41.1
comp=Z,40nm,18.1s,baz=242,slow=37
KURBB Kurchatov Arra 72.23 328 P **P** **07 18 44.5 +0.5**
comp=Z,50nm,0.7s,baz=125,slow=4.9,SNR=440
KURK Kurchatov 72.23 328 P **P** **07 18 44.5 +0.5**
KURK Kurchatov 72.23 328 P **P** **07 18 44.5 +0.5**
NVS Novosibirsk 72.49 333 *i*P **P** **07 18 43.5 -1.9**
NVS *e*S **S** **07 27 57.9 -2.8**
NVS pmax pmax
comp=Z,61nm,1.4s
NVS pmax pmax
comp=N,27nm,1.3s
NVS pmax pmax
comp=E,26nm,1.1s
NVS smax smax
comp=E,32nm,1.6s
VNDA Vanda 73.16 173 *e*P **P** **07 18 49.6 +0.5**
comp=E,7.2nm,0.8s
VNDA Vanda 73.16 173 P **P** **07 18 49.4 +0.3**
comp=E,5.8nm,0.6s,baz=330,slow=7.2,SNR=13
VNDA LR LR 07 48 24.8
comp=E,104nm,18.3s,baz=356,slow=34
KK31 Karatay Array 73.25 318 *i*P **P** **07 18 50.3 +0.1**
KK31 pmax pmax
comp=Z,93nm,1.1s
KKAR Karatay Array 73.25 318 *e*P **P** **07 18 51.0 +0.8**
KKAR pmax pmax
comp=Z,60nm,0.9s
KKAR Karatay Array 73.25 318 *e*P **P** **07 18 51.0 +0.8**
comp=Z,60nm,0.9s
SBA Scott Base 74.04 173 *e*P **P** **07 18 55.8 +1.6**
SBA pmax pmax
comp=Z,25nm,1.5s
SBA Scott Base 74.04 173 *e*P **P** **07 18 55.8 +1.6**
comp=Z,25nm,1.5s
WBK Wadi Bani Khal 75.77 295 P **P** **07 19 06.6 +1.4**
SNR=6.6
MAW Mawson 75.99 201 *e*P **P** **07 19 06.4 +0.8**
comp=Z,2.3nm,0.8s
MAW Mawson 75.99 201 P **P** **07 19 06.6 +1.0**
comp=Z,5.2nm,0.6s,baz=66,slow=6.6,SNR=17
MAW LR LR 07 48 57.5
comp=Z,159nm,19.4s,baz=244,slow=33
MAW Mawson 75.99 201 P **P** **07 19 06.8 +1.2**
baz=76,SNR=11
JMDO Jabal Madar 76.50 295 P **P** **07 19 10.3 +1.0**
SNR=6.3
SMDO Samad 76.69 295 P **P** **07 19 11.1 +0.5**
SNR=23
VOSK Vostochnaya 77.33 327 P **P** **07 19 13.1 -0.3**
VOSK pmax pmax
comp=Z,39nm,0.6s
BSY Bisya 77.39 295 P **P** **07 19 14.9 +0.5**
SNR=6.0
HOQ Hoqain 77.47 296 P **P** **07 19 16.0 +1.2**
SNR=15
IDAH Dahanechah 77.50 305 *e*P **P** **07 19 16.3 +1.2**
TIXI Tiksi 77.68 359ǁ *i*P **P** **07 19 15.4 +0.5**
TIXI pmax pmax
comp=Z,14nm,0.6s
BVA0 Borovoye Array 77.79 327 *i*P **P** **07 19 15.7 -0.2**
BVA0 pmax pmax
comp=Z,64nm,1.1s
BVAR Borovoye Array 77.79 327 P **P** **07 19 16.1 +0.2**
BVAR Borovoye Array 77.79 327 P **P** **07 19 16.1 +0.2**
BVAR Borovoye Array 77.79 327 P **P** **07 19 16.1 +0.2**
comp=Z,32nm,0.7s,baz=72,slow=4.7,SNR=125
BRVK Borovoye 77.86 327 P **P** **07 19 16.3 0.0**
comp=Z,410nm,0.9s,SNR=20
BRVK Borovoye 77.86 327 *e*P **P** **07 19 16.8 +0.5**
BRVK pmax pmax
comp=Z,53nm,0.8s
BRVK Borovoye 77.86 327 P **P** **07 19 17.1 +0.7**
SNR=18
BRVK Borovoye 77.86 327 *e*P **P** **07 19 16.8 +0.5**
comp=Z,53nm,0.8s
IKOO Kooshah 78.12 305 *e*P **P** **07 19 19.7 +1.1**
ARQ Araqi 78.13 295 P **P** **07 19 19.4 +0.9**
SNR=9.6
IMYA Miami 78.32 309 *e*P **P** **07 19 20.4 +0.9**
UOSS Wadi Hilu 78.75 297 P **P** **07 19 21.5 -0.3**
comp=Z,301nm,0.8s,SNR=13
HATD Hatta, Dubai 78.79 297 P **P** **07 19 23.0 +1.0**
SNR=5.3
ISRO Mashad 78.80 309 *e*P **P** **07 19 22.6 +0.6**
ASHO Ashiyiah 78.82 297 P **P** **07 19 23.5 +1.2**
SNR=5.6
IMOG Moghan 78.84 309 *e*P **P** **07 19 23.0 +0.5**
BANOM Banah 78.87 298 P **P** **07 19 24.3 +1.7**
SNR=9.4
NAZ Nazwa, Dubai 79.24 297 P **P** **07 19 25.1 +0.6**
SNR=6.8
IAKL Akhelmad 79.43 309 *e*P **P** **07 19 25.9 +0.2**
IKRD Kardeh 79.67 309 *e*P **P** **07 19 23.8 -3.1**
ISFR Sfrayin 80.14 309 *e*P **P** **07 19 30.4 +0.9**
IBAF Bafgh 80.75 303 *e*P **P** **07 19 32.9 +0.2**
OPO Ambohidratompo 82.01 252 P **P** **07 19 39.4 -0.2**
OPO Ambohidratompo 82.01 252 P **P** **07 19 39.4 -0.2**
comp=Z,16nm,0.7s,baz=84,slow=3.6,SNR=15
ISRV Sarvestan 82.35 301 *e*P **P** **07 19 41.4 0.0**
AB31 Akbulak array 82.36 321 *i*P **P** **07 19 40.2 -0.4**
AB31 pmax pmax
comp=Z,6.0nm,0.5s
ABKAR Akbulak array 82.36 321 *e*P **P** **07 19 40.5 -0.1**
comp=Z,12nm,0.7s
IPAR Pars 82.50 301 *e*P **P** **07 19 42.5 +0.4**
IANJ Anjilo 82.96 307 *e*P **P** **07 19 44.3 0.0**
IKAZ Kazeroun 83.52 301 *e*P **P** **07 19 47.2 -0.2**
ISHM Shahmirzad 83.53 307 *e*P **P** **07 19 47.8 +0.5**
QSPA South Pole Qui 83.79 180 P **P** **07 19 48.0 +0.2**
QSPA South Pole Qui 83.79 180 P **P** **07 19 48.0 +0.2**
comp=Z,6.4nm,0.7s,baz=282,slow=1.7,SNR=50
AKTO Aktyubinsk 83.91 322 P **P** **07 19 48.8 +0.3**
AKTO Aktyubinsk 83.91 322 P **P** **07 19 48.8 +0.3**
AKTO Aktyubinsk 83.91 322 P **P** **07 19 48.8 +0.3**
comp=Z,23nm,0.9s,baz=98,slow=6.5,SNR=58
AKTO LR LR 07 57 33.1
comp=Z,30nm,19.5s,baz=120,slow=36
ISFB Sefidab 84.07 305 *e*P **P** **07 19 50.2 +0.4**
SVE Sverdlovsk 84.47 329 *de*P **P** **07 19 51.7 +0.5**
SVE pmax pmax
comp=Z,67nm,0.8s
IVRN Varamin 84.61 306 *e*P **P** **07 19 53.2 +0.7**
SYO Syowa Base 84.70 201ǁ *e*P **P** **07 19 51.0 -1.2**
SYO Syowa Base 84.70 201ǁ *e*PcP **PcP** **07 19 55.0 -0.4**
IPIR Pirpir 84.86 304 *e*P **P** **07 19 54.7 +0.6**
IR3 Iran Long-Peri 85.27 306 *e*P **P** **07 19 56.3 +0.5**
ARU Arti 85.43 328 *c i*P **P** **07 19 55.4 -0.6**
ARU 07 23 10.3
ARU S S 07 30 08.2 -10
ARU pmax pmax
comp=Z,34nm,1.0s
ARU Arti 85.43 328 P **P** **07 19 55.3 -0.7**
comp=Z,210nm,0.6s,SNR=6.6
IR5 Iran Long-Peri 85.58 306 *e*P **P** **07 19 58.1 +0.7**
IMHD Mahdasht 85.59 306 *e*P **P** **07 19 58.1 +0.6**
IRAZ Razeghan 86.14 306 *e*P **P** **07 20 00.6 +0.3**
MIB Mutribah 87.38 300 *e*P **P** **07 20 05.8 -0.3**
MIB AMb AMB 07 20 08.5
comp=Z,101nm,1.5s
NAY Al-Naaiem 87.38 300 *e*P **P** **07 20 05.6 -0.6**
NAY AMb AMB 07 20 06.5
comp=Z,2.4nm,0.9s
RST Umm Al-Ruwaisa 87.63 300 *e*P **P** **07 20 06.9 -0.5**
RST AMb AMB 07 20 10.3
comp=Z,714nm,0.8s
KDAK Kodiak Island 88.12 31 P **P** **07 20 09.6 +0.6**
KDAK Kodiak Island 88.12 31 P **P** **07 20 09.6 +0.6**
comp=Z,16nm,0.8s,baz=237,slow=3.4,SNR=6.8
RAYN Ar Rayn 88.13 294 P **P** **07 20 10.0 +0.1**
comp=Z,279nm,0.9s,SNR=29
IHRS Heris 88.90 309 *e*P **P** **07 20 13.4 -0.1**
IMA2 Indian Mountai 89.79 23 *e*P **P** **07 20 16.6 -0.3**
PMR Palmer 90.69 28 *e*P **P** **07 20 21.5 +0.5**
PMR pmax pmax
comp=Z,6.0nm,0.6s
PMR Palmer 90.69 28 *e*P **P** **07 20 21.5 +0.5**
comp=Z,6.3nm,0.6s
MCK McKinley 91.21 26 *e*P **P** **07 20 22.4 -1.0**
MCK pmax pmax
comp=Z,6.0nm,0.7s
MCK McKinley 91.21 26 *e*P **P** **07 20 22.4 -1.0**
comp=Z,5.9nm,0.7s
COLD Coldfoot 91.42 22 *e*P **P** **07 20 24.3 +0.1**
comp=Z,14nm,0.9s
COLA College 91.89 25 *e*P **P** **07 20 25.5 -0.9**
COLA pmax pmax
comp=Z,17nm,0.8s
COLA College 91.89 25 *e*P **P** **07 20 25.5 -0.9**
comp=Z,17nm,0.8s
ILAR Eielson Array 92.28 25 P **P** **07 20 26.9 -1.4**
ILAR Eielson Array 92.28 25 P **P** **07 20 26.8 -1.4**
comp=Z,5.9nm,0.7s,baz=267,slow=4.3,SNR=55
ILAR LR LR 08 04 59.8
comp=Z,29nm,19.1s,baz=301,slow=37
KBZ Khabaz 92.70 314 P **P** **07 20 31.1 +0.4**
KBZ Khabaz 92.70 314 P **P** **07 20 31.1 +0.4**
KBZ Khabaz 92.70 314 P **P** **07 20 31.1 +0.4**
comp=Z,1.9nm,0.7s,baz=170,slow=6.1,SNR=3.9
KBZ LR LR 08 04 38.1
comp=Z,24nm,18.6s,baz=149,slow=37
KMBO Kilima Mbogo 93.39 269 P **P** **07 20 35.9 +1.0**
SNR=6.2
KMBO Kilima Mbogo 93.39 269 *e*P **P** **07 20 35.5 +0.6**
comp=Z,22nm,1.4s
KMBO Kilima Mbogo 93.39 269 P **P** **07 20 35.4 +0.6**
comp=Z,8.6nm,0.9s,baz=62,slow=4.8,SNR=18
EGAK Eagle 94.71 25 *e*P **P** **07 20 39.6 +0.1**
comp=Z,10nm,0.9s
DAWY Dawson 95.43 26 *e*P **P** **07 20 42.9 0.0**
KLMR Klimovskoe 95.97 331 *e*P **P** **07 20 42.6 -2.7**
KLMR *e* 07 24 35.2
KLMR pmax pmax
comp=Z,12nm,0.5s
ASF Jabal al Asfar 96.54 302 LR LR 08 09 03.3
comp=Z,34nm,18.8s,baz=240,slow=38
OBN Obninsk 97.44 325ǁ *e*P **P** **07 20 49.8 -2.2**
OBN *e* 07 24 45.9
OBN *i*S **SKSac** **07 31 17.3 -1.9**
OBN pmax pmax
comp=Z,27nm,1.3s
OBN MLR MLR
comp=Z,100nm,18.0s
INK Inuvik 97.81 22 P **P** **07 20 52.5 -1.0**
INK Inuvik 97.81 22 P **P** **07 20 52.5 -1.0**
comp=Z,3.4nm,0.6s,baz=290,slow=5.6,SNR=13
MMAI Mount Meron Ar 97.84 302 LR LR 08 13 50.6
comp=Z,31nm,18.4s,baz=265,slow=41
APA Apatity 98.50 337ǁ *e*P **P** 07 20 48.4 -8.1
APA *e**PP pP 07 21 08.0 -17
APA MLR MLR
comp=Z,700nm,16.0s
BRTR Keskin Array B 99.41 309 P **Pdif** **07 21 00.1 -1.3**
BRTR PP PP 07 25 00.7 -5.5
BRTR Keskin Array B 99.41 309 P **Pdif** **07 21 00.1 -1.3**
comp=Z,1.7nm,0.8s,baz=114,slow=2.4,SNR=8.1
BRTR PP PP 07 25 00.7 -5.5
comp=Z,1.1nm,0.7s,baz=91,slow=7.2,SNR=3.9
BRTR LR LR 08 14 36.1
comp=Z,16nm,18.4s,baz=222,slow=40
LSZ Lusaka 100.44 253 *e*Pdif **Pdif** **07 21 06.4 -0.1**
BOSA Boshof 100.55 240 P **Pdif** **07 21 06.5 -0.4**
BOSA Boshof 100.55 240 P **Pdif** **07 21 06.5 -0.4**
comp=Z,3.9nm,0.8s,baz=89,slow=5.1,SNR=5.4
SPITS Spitsbergen Ar 100.92 349 P **Pdif** **07 21 06.0 -1.2**
SPITS Spitsbergen Ar 100.92 349 P **Pdif** **07 21 06.0 -1.2**
comp=Z,14nm,0.9s,baz=101,slow=7.5,SNR=4.8
LBTB Lobatse 101.03 243 *e*Pdif **Pdif** **07 21 09.0 0.0**
ARCES ARCESS Array B 101.08 340 P **Pdif** **07 21 06.6 -1.5**
ARCES ARCESS Array B 101.08 340 P **Pdif** **07 21 06.6 -1.5**
comp=Z,5.9nm,0.8s,baz=72,slow=6.0,SNR=11
FINES FINESS Array B 102.42 332 P **Pdif** **07 21 12.5 -1.6**
FINES FINESS Array B 102.42 332 P **Pdif** **07 21 12.5 -1.6**
comp=Z,5.4nm,0.9s,baz=72,slow=4.5,SNR=6.1
BUR08 Bucovina Ar. S 105.03 318 *e*Pdif **Pdif** **07 21 26.2 -0.1**
YKA Yellowknife Ar 106.68 26 PKiKP **PKiKP** **07 25 42.6 -0.3**
YKA Yellowknife Ar 106.68 26 PKiKP **PKiKP** **07 25 42.6 -0.3**
comp=Z,1.6nm,0.6s,baz=295,slow=2.0,SNR=6.9
CRVS Cervenica-Dubn 107.30 319 *i*P **Pdif** **07 21 39.1 +2.9**
CRVS Cervenica-Dubn 107.30 319 PDIF **Pdif** **07 21 39.0 +2.9**
NOA NORSAR Array B 109.40 333 Pdif **Pdif** **07 21 44.2 -1.1**
NOA NORSAR Array B 109.40 333 Pdiff **Pdif** **07 21 44.2 -1.1**
comp=Z,1.3nm,0.6s,baz=67,slow=4.6,SNR=3.2
NVAR Mina Array Bea 110.18 51 PKiKP **PKiKP** **07 25 50.1 -0.4**
NVAR Mina Array Bea 110.18 51 PKiKP **PKiKP** **07 25 50.1 -0.4**
comp=Z,0.5nm,0.6s,baz=222,slow=1.2,SNR=4.1
HLID Hailey 112.12 45 *e*PKPdf **PKiKP** **07 25 55.0 +1.1**
HLID Hailey 112.12 45 P **PKiKP** **07 25 54.0 0.0**
baz=112
GERES GERESS Array B 112.29 321 PKiKP **PKiKP** **07 25 53.5 -0.6**
GERES GERESS Array B 112.29 321 PKiKP **PKiKP** **07 25 53.5 -0.6**
comp=Z,1.0nm,0.5s,baz=85,slow=2.1,SNR=7.1
C17A Wharram Farm, 113.53 40 P **PKiKP** **07 25 56.4 0.0**
baz=114
D17A Six Diamond Ra 113.72 41 P **PKiKP** **07 25 56.7 -0.1**
baz=114
DUG Dugway 114.04 49 *e*PKIKP PKPdf 07 25 58.4 +0.7
DUG Dugway 114.04 49 *e*PKPdf PKPdf 07 25 58.4 +0.7
DUG Dugway 114.04 49 P PKPdf 07 25 58.0 +0.3
baz=114
F17A Fitzpatrick Pl 114.11 42 P PKPdf 07 25 58.0 +0.3

baz=114
A19A **Klindworth Far** 114.39 39 P PKPdf 07 25 57.9 -0.1
baz=114
HWUT **Hardware Ranch** 114.63 47 *e*PKPdf PKPdf 07 25 59.5 +0.6
REDW **Red Top Meadow** 114.69 45 *e*PKPdf PKPdf 07 25 60.0 +1.0
SNOW **Snow King Moun** 114.73 45 *e*PKPdf PKPdf 07 25 59.9 +0.8
F18A **Big Timber** 114.73 42 P PKPdf 07 25 58.9 0.0
baz=115
LOHW **Long Hollow** 114.79 45 *e*PKPdf PKPdf 07 25 59.7 +0.6
D19A **Cripps Ranch,** 114.89 40 P PKPdf 07 25 59.0 0.0
baz=115
B20A **Solberg Farm,** 115.00 39 P **PKPdf** **07 25 59.5 +0.3**
baz=115
C20A **Veseth Ranch,** 115.27 40 P **PKPdf** **07 26 00.1 +0.4**
baz=115
B21A **Ellsworth Farm** 115.64 39 P **PKPdf** **07 26 00.8 +0.4**
baz=116
PDAR **Pinedale Array** 115.76 45 PKP **PKPdf** **07 26 01.0 -0.1**
PDAR PKKPbc **PKKPbc** **07 36 33.5 -1.2**
PDAR **Pinedale Array** 115.76 45 PKP **PKPdf** **07 26 01.0 -0.1**
comp=Z,1.0nm,0.7s,baz=194,slow=0.7,SNR=8.9
PDAR PKKPbc **PKKPbc** **07 36 33.5 -1.2**
comp=Z,1.2nm,0.9s,baz=121,slow=5.0,SNR=7.1
C21A **Desert Coulee** 115.80 39 P **PKPdf** **07 26 00.7 0.0**
baz=116
G20A **Bridger** 115.95 42 P **PKPdf** **07 26 01.3 +0.1**
baz=116
K19A **Absolon Red Bu** 116.25 45 P **PKPdf** **07 26 01.8 -0.1**
baz=116
B22A **Reddig Ranch S** 116.31 39 P **PKPdf** **07 26 02.2 +0.5**
baz=116
H20A **Greybull** 116.33 43 P **PKPdf** **07 26 02.2 +0.3**
baz=116
I20A **Worland** 116.41 44 P **PKPdf** **07 26 02.3 +0.2**
baz=116
C22A **Vida** 116.59 39 P **PKPdf** **07 26 02.6 +0.4**
baz=117
J20A **Shoshoni** 116.62 44 P **PKPdf** **07 26 02.9 +0.3**
baz=117
D22A **Cohagen** 116.62 40 P **PKPdf** **07 26 02.8 +0.4**
baz=117
K20A **Yellowstone Ra** 116.65 45 P **PKPdf** **07 26 02.8 +0.1**
baz=117
O19A **Miners Draw (B** 116.75 48 P **PKPdf** **07 26 03.3 +0.3**
baz=117
L20A **Wamsutter** 116.84 46 P **PKPdf** **07 26 03.3 +0.1**
baz=117
B23A **Brockton** 116.87 38 P **PKPdf** **07 26 03.0 +0.3**
baz=117
H21A **Big Horn, Sher** 116.93 43 P **PKPdf** **07 26 03.0 -0.1**
baz=117
HINF **Hinteralfeld** 116.94 321 *e*PKIKP **PKPdf** **07 26 01.4 -1.5**
HINF **Hinteralfeld** 116.94 321 *e*PKIKP **PKPdf** **07 26 01.4 -1.5**
HINF **Hinteralfeld** 116.94 321 *e*PKPdf **PKPdf** **07 26 01.4 -1.5**
I21A **Big Trails, Te** 117.03 44 P **PKPdf** **07 26 03.3 -0.1**
baz=117
J21A **Lysite** 117.07 44 P **PKPdf** **07 26 03.6 +0.1**
baz=117
D23A **Lindsay** 117.23 39 P **PKPdf** **07 26 04.2 +0.6**
baz=117
G22A **Birney** 117.23 42 P **PKPdf** **07 26 03.8 +0.2**
baz=117
N20A **Spence Gulch,** 117.24 47 P **PKPdf** **07 26 04.4 +0.5**
baz=117
A24A **Westby** 117.29 37 P **PKPdf** **07 26 03.8 +0.2**
baz=117
H22A **Clearmont** 117.41 43 P **PKPdf** **07 26 04.6 +0.6**
baz=117
E23A **Ismay** 117.42 40 P **PKPdf** **07 26 04.3 +0.4**
baz=117
K21A **Alcova** 117.43 45 P **PKPdf** **07 26 04.2 0.0**
baz=118
O20A **White River Ci** 117.45 48 *e*PKPdf **PKPdf** **07 26 05.0 +0.7**
O20A **White River Ci** 117.45 48 P **PKPdf** **07 26 05.3 +1.0**
baz=118
P20A **De Beque** 117.51 49 P **PKPdf** **07 26 04.7 +0.3**
baz=118
I22A **9 Mile Ranch,** 117.55 43 P **PKPdf** **07 26 04.0 -0.3**
baz=118
C24A **Savage** 117.59 39 P **PKPdf** **07 26 04.6 +0.4**
baz=118
F23A **Volborg** 117.64 41 P **PKPdf** **07 26 04.5 +0.1**
baz=118
M21A **Separation Pea** 117.66 46 P **PKPdf** **07 26 04.7 0.0**
baz=118
J22A **Midwest** 117.71 44 P **PKPdf** **07 26 04.3 -0.4**
baz=118
PV01 **Paradox Valley** 117.74 50 *e*PKPdf **PKPdf** **07 26 05.5 +0.5**
N21A **Black Mountain** 117.80 47 P **PKPdf** **07 26 04.9 -0.2**
baz=118
D24A **Glendive** 117.81 39 P **PKPdf** **07 26 05.1 +0.5**
baz=118
A25A **Svangstu Ranch** 117.82 37 P **PKPdf** **07 26 05.1 +0.5**
baz=118
G23A **Biddle** 117.83 42 P **PKPdf** **07 26 05.0 +0.2**
baz=118
LPG **La Plagne** 117.87 319 *e*PKIKP **PKPdf** **07 26 02.7 -2.4**
comp=Z,6.9nm,0.6s
LPG **La Plagne** 117.87 319 *e*PKIKP **PKPdf** **07 26 02.7 -2.4**
LPG **La Plagne** 117.87 319 *e*PKPdf **PKPdf** **07 26 02.7 -2.4**
CABF **La Chapelle** 117.88 320 *e*PKIKP **PKPdf** **07 26 02.7 -2.1**
CABF **La Chapelle** 117.88 320 *e*PKIKP **PKPdf** **07 26 02.7 -2.1**
CABF **La Chapelle** 117.88 320 *e*PKPdf **PKPdf** **07 26 02.7 -2.1**
K22A **Casper** 117.93 45 P **PKPdf** **07 26 05.0 -0.1**
baz=118
B25A **Knox Farm, Ray** 118.07 38 P **PKPdf** **07 26 05.4 +0.3**
baz=118
F24A **Ekalaka** 118.22 41 P **PKPdf** **07 26 05.6 +0.1**
baz=118
G24A **Alzada** 118.43 41 P **PKPdf** **07 26 05.9 0.0**
baz=118
S21A **Coal Bank Pass** 118.45 50 P **PKPdf** **07 26 07.8 +1.3**
baz=118
A26A **Wade Farm, Ken** 118.48 37 P **PKPdf** **07 26 06.3 +0.5**
baz=118
W20A **Ramah** 118.52 53 P **PKPdf** **07 26 07.3 +0.7**
baz=119
H24A **Dirks Ranch, A** 118.55 42 P **PKPdf** **07 26 05.8 -0.4**
baz=119
319A **Douglas** 118.67 58 P **PKPdf** **07 26 07.8 +1.0**
baz=119
L23A **Garrett** 118.68 45 P **PKPdf** **07 26 06.4 -0.3**
baz=119
O22A **Kremmling** 118.68 47 P **PKPdf** **07 26 07.0 +0.2**
baz=119
Q22A **Crested Butte,** 118.79 49 P **PKPdf** **07 26 08.4 +1.3**
baz=119
M23A **Laramie** 118.87 46 P **PKPdf** **07 26 07.2 +0.1**
baz=119
U21A **Nageezi** 118.87 52 P **PKPdf** **07 26 08.0 +0.8**
baz=119
Z20A **Nine Sixteen R** 118.89 56 P **PKPdf** **07 26 08.3 +1.0**
baz=119
KEST **Kesra** 118.95 308 PKP **PKPdf** **07 26 07.8 +0.6**
KEST **Kesra** 118.95 308 PKP **PKPdf** **07 26 07.8 +0.6**
comp=Z,1.8nm,0.9s,baz=315,slow=1.4,SNR=4.2
LOR **Lormes** 119.02 321 *e*PKIKP **PKPdf** **07 26 04.6 -2.3**
comp=Z,23nm,1.1s
LOR **Lormes** 119.02 321 *e*PKPdf **PKPdf** **07 26 04.6 -2.3**
D26A **Manning** 119.03 39 P **PKPdf** **07 26 07.2 +0.3**
baz=119
V21A **Milan** 119.05 52 P **PKPdf** **07 26 08.0 +0.4**
baz=119
R22A **Saguache, Gunn** 119.09 50 P **PKPdf** **07 26 07.9 +0.2**
baz=119
RSSD **Black Hills** 119.13 42 *e*PKIKP **PKPdf** **07 26 06.7 -0.8**
RSSD **Black Hills** 119.13 42 *e*PKPdf **PKPdf** **07 26 06.7 -0.8**
G25A **Newell** 119.13 41 P **PKPdf** **07 26 07.0 -0.3**
baz=119
S22A **4UR Ranch, Cre** 119.17 50 P **PKPdf** **07 26 08.5 +0.7**
baz=119
220A **Playas Peak, P** 119.20 57 P **PKPdf** **07 26 08.2 +0.3**
baz=119
SMRF **Simiane la Rot** 119.20 317 *e*PKIKP **PKPdf** **07 26 04.7 -2.7**
comp=Z,14nm,0.9s
SMRF **Simiane la Rot** 119.20 317 *e*PKPdf **PKPdf** **07 26 04.7 -2.7**
E26A **Carlson Angus** 119.24 39 P **PKPdf** **07 26 07.6 +0.2**
baz=119
X21A **Alamocita Cree** 119.25 54 P **PKPdf** **07 26 08.7 +0.6**
baz=119
C27A **Sayler Ranch,** 119.31 38 P **PKPdf** **07 26 08.0 +0.5**
baz=119
SSF **Saint Saulge** 119.33 321 *e*PKIKP **PKPdf** **07 26 05.3 -2.2**
comp=Z,13nm,0.8s
SSF **Saint Saulge** 119.33 321 *e*PKIKP **PKPdf** **07 26 05.3 -2.2**
SSF **Saint Saulge** 119.33 321 *e*PKPdf **PKPdf** **07 26 05.3 -2.2**
F26A **Lodgepole** 119.36 40 P **PKPdf** **07 26 07.9 +0.2**
baz=119
I25A **Rochford** 119.37 42 P **PKPdf** **07 26 07.6 -0.3**
baz=119
G27A **Dupree** 119.38 41 P **PKPdf** **07 26 08.7 +1.0**
baz=120
VIVF **Saint-Julien-l** 119.47 319 *e*PKIKP **PKPdf** **07 26 05.5 -2.4**
VIVF **Saint-Julien-l** 119.47 319 *e*PKIKP **PKPdf** **07 26 05.5 -2.4**
VIVF **Saint-Julien-l** 119.47 319 *e*PKPdf **PKPdf** **07 26 05.5 -2.4**
AVF **Avril sur Loir** 119.53 321 *e*PKIKP **PKPdf** **07 26 05.0 -2.9**
comp=Z,6.9nm,0.8s
AVF **Avril sur Loir** 119.53 321 *e*PKIKP **PKPdf** **07 26 05.0 -2.9**
AVF **Avril sur Loir** 119.53 321 *e*PKPdf **PKPdf** **07 26 05.0 -2.9**
Q23A **Hartsel** 119.59 49 P **PKPdf** **07 26 09.3 +0.6**
baz=120
V22A **San Miguel Ran** 119.59 52 P **PKPdf** **07 26 08.9 +0.3**
baz=120
G26A **Maurine** 119.63 41 P **PKPdf** **07 26 08.3 +0.1**
baz=120
R23A **Moffat** 119.80 49 P **PKPdf** **07 26 09.7 +0.7**
baz=120
E27A **Carson** 119.82 39 P **PKPdf** **07 26 09.0 +0.5**
baz=120
T23A **Casias Ranch,** 119.97 51 P **PKPdf** **07 26 10.5 +1.1**
baz=120
Y22A **Socorro** 120.03 54 P **PKPdf** **07 26 10.5 +1.0**
baz=120
U23A **El Rito** 120.04 51 P **PKPdf** **07 26 10.8 +1.3**
baz=120
J26A **Sides Ranch, S** 120.07 43 P **PKPdf** **07 26 08.7 -0.4**
baz=120
A29A **Manning Farm,** 120.12 36 P **PKPdf** **07 26 09.0 +0.1**
baz=120
SDCO **Great Sand Dun** 120.18 50 *e*PKPdf **PKPdf** **07 26 10.7 +0.9**
ANMO **Albuquerque** 120.19 53 *e*PKPdf **PKPdf** **07 26 10.2 +0.4**
Z22A **Elephant Butte** 120.19 55 P **PKPdf** **07 26 10.8 +1.0**
baz=120
H27A **Howes** 120.23 41 P **PKPdf** **07 26 09.6 +0.2**
baz=120
BNM **Barren Site** 120.25 54 *e*PKPdf **PKPdf** **07 26 10.1 +0.2**
LASF **Ste Croix** 120.31 318 *e*PKIKP **PKPdf** **07 26 07.4 -2.1**
LASF **Ste Croix** 120.31 318 *e*PKPdf **PKPdf** **07 26 07.4 -2.1**
MDND **Maddock** 120.40 37 P **PKPdf** **07 26 09.7 +0.2**
baz=120
TCF **Toulx Ste Croi** 120.46 321 *e*PKIKP **PKPdf** **07 26 07.6 -2.1**
comp=Z,16nm,0.9s
TCF **Toulx Ste Croi** 120.46 321 *e*PKIKP **PKPdf** **07 26 07.6 -2.1**
TCF **Toulx Ste Croi** 120.46 321 *e*PKPdf **PKPdf** **07 26 07.6 -2.1**
T24B **San Luis** 120.46 50 P **PKPdf** **07 26 10.8 +0.4**
baz=120
O25A **Wiggins** 120.47 47 P **PKPdf** **07 26 10.3 +0.2**
baz=120
I27A **Quinn** 120.47 42 P **PKPdf** **07 26 09.8 -0.1**
baz=120
F28A **McLaughlin** 120.55 39 P **PKPdf** **07 26 10.4 +0.5**
baz=121
P25A **Willow Gulch B** 120.63 47 P **PKPdf** **07 26 11.5 +1.0**
baz=121
Q25A **Bedland, Calha** 120.76 48 P **PKPdf** **07 26 11.3 +0.5**
baz=121
G28A **Parade** 120.80 40 P **PKPdf** **07 26 10.7 +0.3**
baz=121
J27A **Elkhorn Farm,** 120.82 43 P **PKPdf** **07 26 11.2 +0.6**
baz=121
N26A **Koester Ranch,** 120.87 46 P **PKPdf** **07 26 10.6 -0.2**
baz=121
B30A **Myrvik Farm, E** 120.87 36 P **PKPdf** **07 26 10.1 -0.3**
baz=121
H28A **Mission Ridge** 120.90 41 P **PKPdf** **07 26 10.5 -0.1**
baz=121
V24A **Rampart Ranch,** 120.92 52 P **PKPdf** **07 26 11.8 +0.6**
baz=121
W24A **Lazy 6 Ranch,** 120.96 53 P **PKPdf** **07 26 12.1 +0.9**
baz=121
R25A **Fountain Ranch** 120.97 49 P **PKPdf** **07 26 11.6 +0.5**
baz=121
O26A **Horse Wrangler** 121.00 46 P **PKPdf** **07 26 11.2 +0.1**
baz=121
S25A **Robets Cordova** 121.01 50 P **PKPdf** **07 26 12.1 +0.8**
baz=121
I28A **Midland** 121.08 42 P **PKPdf** **07 26 10.9 -0.1**
baz=121
CAF **Calviac** 121.14 320 *e*PKIKP **PKPdf** **07 26 10.0 -1.1**
CAF **Calviac** 121.14 320 *e*PKIKP **PKPdf** **07 26 10.0 -1.1**
CAF **Calviac** 121.14 320 *e*PKPdf **PKPdf** **07 26 10.0 -1.1**
C30A **Mose, Pekin** 121.14 37 P **PKPdf** **07 26 10.8 -0.1**
baz=121
F29A **Eureka** 121.17 39 P **PKPdf** **07 26 10.9 -0.2**
baz=121
T25A **Trinidad** 121.18 50 P **PKPdf** **07 26 11.0 -0.6**
baz=121
P26A **Davis Ranch, A** 121.21 47 P **PKPdf** **07 26 11.5 0.0**
baz=121
D30A **Buchanan** 121.25 37 P **PKPdf** **07 26 11.0 -0.2**
baz=121
J28A **Allard Ranch,** 121.27 42 P **PKPdf** **07 26 11.2 -0.3**
baz=121
Y24A **Capitan** 121.27 54 P **PKPdf** **07 26 12.7 +0.8**
baz=121
ULM **Lac du Bonnet** 121.34 33 PKP **PKPdf** **07 26 10.4 -0.8**
ULM **Lac du Bonnet** 121.34 33 PKP **PKPdf** **07 26 10.4 -0.8**
comp=Z,3.7nm,0.6s,baz=294,slow=1.7,SNR=6.2
U25A **Circle Dot Ran** 121.40 51 P **PKPdf** **07 26 12.4 +0.3**
baz=121
Z24A **Sheeppen Canyo** 121.48 55 P **PKPdf** **07 26 13.2 +0.9**
baz=122
R26A **Arlington** 121.55 49 P **PKPdf** **07 26 12.9 +0.7**
baz=122
124A **Stringfield Ra** 121.56 55 P **PKPdf** **07 26 13.0 +0.5**
baz=122
O27A **Beecher Island** 121.62 46 P **PKPdf** **07 26 12.9 +0.6**
baz=122
224A **Cornudas Mount** 121.65 56 P **PKPdf** **07 26 13.4 +0.8**
baz=122
MTLF **Montolieu** 121.69 318 *e*PKIKP **PKPdf** **07 26 10.9 -1.2**
comp=Z,7.8nm,0.9s
MTLF **Montolieu** 121.69 318 *e*PKIKP **PKPdf** **07 26 10.9 -1.2**
MTLF **Montolieu** 121.69 318 *e*PKPdf **PKPdf** **07 26 10.9 -1.2**
W25A **X Bar L Ranch,** 121.70 52 P **PKPdf** **07 26 13.2 +0.6**
baz=122
X25A **Clemmons Ranch** 121.73 53 P **PKPdf** **07 26 13.3 +0.6**
baz=122
S26A **Kim** 121.75 49 P **PKPdf** **07 26 13.1 +0.5**
baz=122
P27A **Ficken Ranch,** 121.77 47 P **PKPdf** **07 26 13.0 +0.5**
baz=122
MFF **Saint Martin d** 121.78 322 *e*PKIKP **PKPdf** **07 26 09.9 -2.3**
comp=Z,52nm,1.1s
MFF **Saint Martin d** 121.78 322 *e*PKIKP **PKPdf** **07 26 09.9 -2.3**
MFF **Saint Martin d** 121.78 322 *e*PKPdf **PKPdf** **07 26 09.9 -2.3**
T26A **Comanche Natio** 121.80 50 P **PKPdf** **07 26 13.3 +0.5**
baz=122
324A **Moseley Ranch,** 121.83 57 P **PKPdf** **07 26 13.5 +0.6**
baz=122
MNTX **Cornudas Mount** 121.86 56 *e*PKPdf **PKPdf** **07 26 13.6 +0.7**
Y25A **Mesa, Roswell** 121.87 54 P **PKPdf** **07 26 13.4 +0.5**
baz=122
R27A **Eads** 122.04 48 P **PKPdf** **07 26 13.1 0.0**
baz=122
K29A **Lazy Trails An** 122.15 43 P **PKPdf** **07 26 13.2 +0.1**
baz=122
125A **Gardner Draw,** 122.22 55 P **PKPdf** **07 26 13.9 +0.3**
baz=122
325A **Bean Ranch, Si** 122.27 57 P **PKPdf** **07 26 14.3 +0.4**
baz=122
W26A **Owens Ranch, T** 122.28 52 P **PKPdf** **07 26 14.3 +0.6**
baz=122
P28A **Saint Francis** 122.36 47 P **PKPdf** **07 26 13.9 +0.3**
baz=122
425A **Indio Mountain** 122.40 57 P **PKPdf** **07 26 14.4 +0.4**
baz=122
Q28A **Sharon Springs** 122.49 47 P **PKPdf** **07 26 14.5 +0.6**
baz=122
U27A **Thompson Grove** 122.62 50 P **PKPdf** **07 26 14.5 +0.2**
baz=123
R28A **Tribune** 122.75 48 P **PKPdf** **07 26 14.6 +0.2**
baz=123
226B **Tecolote Peak,** 122.77 56 P **PKPdf** **07 26 14.8 +0.1**
baz=123
T28A **Walsh** 122.93 49 P **PKPdf** **07 26 15.4 +0.5**
baz=123
S28A **Manter** 122.94 49 P **PKPdf** **07 26 15.3 +0.4**
baz=123
P29A **Atwood** 122.94 46 P **PKPdf** **07 26 14.9 +0.1**
baz=123
Y27A **Causey** 123.10 53 P **PKPdf** **07 26 15.4 +0.1**
baz=123
326A **Caldwell Ranch** 123.11 57 P **PKPdf** **07 26 15.6 +0.2**
baz=123
Q29A **Oakley** 123.17 47 P **PKPdf** **07 26 15.8 +0.6**
baz=123
426A **McDonald Obser** 123.22 57 P **PKPdf** **07 26 16.0 +0.3**
baz=123
127A **Arkansas Junct** 123.28 55 P **PKPdf** **07 26 16.0 +0.4**
baz=123
526A **Mary Lane Ranc** 123.32 58 P **PKPdf** **07 26 16.3 +0.5**
baz=123
MSTX **Muleshoe** 123.39 53 P **PKPdf** **07 26 16.2 +0.4**
baz=123
626A **Big Bend Ranch** 123.39 59 P **PKPdf** **07 26 16.0 +0.1**
baz=123
S29A **Ulysses** 123.51 49 P **PKPdf** **07 26 16.3 +0.4**
baz=124
T29A **Hugoton** 123.54 49 P **PKPdf** **07 26 16.6 +0.6**
baz=124
X28A **Dimmitt** 123.68 52 P **PKPdf** **07 26 16.8 +0.5**
baz=124
Q30A **Quinter** 123.69 47 P **PKPdf** **07 26 16.7 +0.5**
baz=124
527A **Woodward Ranch** 123.70 58 P **PKPdf** **07 26 16.9 +0.4**
baz=124
427A **Hayter Ranch,** 123.70 57 P **PKPdf** **07 26 17.2 +0.7**
baz=124
ETSF **Etsaut** 123.72 318 *e*PKIKP **PKPdf** **07 26 15.6 -0.5**
comp=Z,27nm,1.2s
ETSF **Etsaut** 123.72 318 *e*PKIKP **PKPdf** **07 26 15.6 -0.5**
ETSF **Etsaut** 123.72 318 *e*PKPdf **PKPdf** **07 26 15.6 -0.5**
TXAR **Lajitas Array** 123.84 59 PKP **PKPdf** **07 26 17.3 +0.5**
TXAR pPKP **pPKPdf** **07 26 51.5 +5.1**
TXAR PKKPab **PKKPbc** **07 36 05.3 +1.1**
TXAR **Lajitas Array** 123.84 59 PKP **PKPdf** **07 26 17.3 +0.5**
comp=Z,1.5nm,0.9s,baz=262,slow=1.4,SNR=16
TXAR pPKP **pPKPdf** **07 26 51.5 +5.1**
comp=Z,1.3nm,0.9s,baz=210,slow=1.1,SNR=4.8
TXAR PKKPab **PKKPbc** **07 36 05.3 +1.1**
comp=Z,0.7nm,0.8s,baz=108,slow=5.7,SNR=8.6
627A **Terlingua Ranc** 124.05 59 P **PKPdf** **07 26 17.0 -0.3**
baz=124
328A **Wristen Ranch,** 124.06 56 P **PKPdf** **07 26 17.1 -0.1**
baz=124
P31A **Stockton** 124.09 46 P **PKPdf** **07 26 17.0 +0.1**
baz=124
ECSD **EROS Data Cent** 124.16 40 *e*PKPdf **PKPdf** **07 26 16.1 -0.8**
BGNE **Belgrade** 124.18 43 P **PKPdf** **07 26 17.2 +0.2**
baz=124
U30A **WK&E Inc. Balk** 124.24 50 P **PKPdf** **07 26 17.2 -0.2**
baz=124
428A **Kincaid Ranch,** 124.33 57 P **PKPdf** **07 26 18.7 +1.0**
baz=124
528A **Cox Ranch, San** 124.39 58 P **PKPdf** **07 26 18.2 +0.3**
baz=124
R31A **Burdett** 124.45 47 P **PKPdf** **07 26 18.1 +0.4**
baz=124
628A **Black Gap, Mar** 124.47 58 P **PKPdf** **07 26 18.2 +0.3**
baz=124
129A **Stewart Farms,** 124.50 54 P **PKPdf** **07 26 18.2 +0.3**
baz=124
329A **Wagon Wheel Ra** 124.72 56 P **PKPdf** **07 26 18.5 +0.1**
baz=125
529A **Stev Forest Ra** 124.87 58 P **PKPdf** **07 26 18.8 +0.1**
baz=125
Z30A **Sanderson Ranc** 124.90 53 P **PKPdf** **07 26 18.9 +0.2**
baz=125
EYMN **Ely** 125.01 34 *e*PKPdf **PKPdf** **07 26 17.8 -0.6**
429A **Davenport Ranc** 125.02 57 P **PKPdf** **07 26 19.1 +0.1**
baz=125
V31A **Spring Creek L** 125.11 50 P **PKPdf** **07 26 19.5 +0.5**
baz=125
W31A **Holland Ranch,** 125.23 51 P **PKPdf** **07 26 19.8 +0.5**
baz=125
330A **Mertzon** 125.40 56 P **PKPdf** **07 26 19.7 0.0**
baz=125
430A **Baggett Ranch,** 125.52 56 P **PKPdf** **07 26 20.3 +0.3**
baz=126
530A **J-C Ranch, Com** 125.61 57 P **PKPdf** **07 26 20.6 +0.5**
baz=126
231A **Bronte** 125.95 55 P **PKPdf** **07 26 20.9 +0.2**
baz=126
331A **San Angelo** 126.05 56 P **PKPdf** **07 26 21.0 +0.1**
baz=126
431A **Sonora** 126.07 56 P **PKPdf** **07 26 21.3 +0.4**
baz=126
Z32A **Haskell** 126.21 53 P **PKPdf** **07 26 21.5 +0.4**
baz=126
531A **Rocksprings** 126.26 57 P **PKPdf** **07 26 21.9 +0.6**
baz=126
ABTX **Abilene, Hawle** 126.29 54 P **PKPdf** **07 26 21.9 +0.6**
baz=126
232A **Coleman** 126.51 55 P **PKPdf** **07 26 22.2 +0.4**
baz=126
332A **Millersview** 126.58 55 P **PKPdf** **07 26 21.9 0.0**
baz=127
432A **Menard** 126.69 56 P **PKPdf** **07 26 22.3 +0.2**
baz=127
JCT **Junction City** 126.79 56 *e*PKIKP **PKPdf** **07 26 22.8 +0.4**
JCT **Junction City** 126.79 56 *e*PKPdf **PKPdf** **07 26 22.8 +0.4**
JCT **Junction City** 126.79 56 P **PKPdf** **07 26 22.4 +0.1**
baz=127
532A **Rocksprings** 126.81 57 P **PKPdf** **07 26 22.8 +0.4**
baz=127
632A **Uvalde** 127.08 58 P **PKPdf** **07 26 23.7 +0.8**
baz=127
TUL1 **Tulsa** 128.12 49 P **PKPdf** **07 26 25.4 +0.7**
baz=128
PLCA **Paso Flores** 129.37 159 PKP **PKPdf** **07 26 28.4 +1.3**
PLCA SKP 07 29 38.5
PLCA **Paso Flores** 129.37 159 PKP **PKPdf** **07 26 28.4 +1.3**
comp=Z,2.8nm,0.7s,baz=265,slow=1.7,SNR=5.2
PLCA SKP 07 29 38.5
comp=Z,7.1nm,0.8s,baz=214,slow=3.7,SNR=12
TORD **Torodi Ar. Bea** 129.41 282 PKP **PKPdf** **07 26 27.6 -0.1**
TORD pPKP **pPKPdf** **07 27 03.1 +5.8**
TORD SKP 07 29 39.2
TORD **Torodi Ar. Bea** 129.41 282 PKP **PKPdf** **07 26 27.6 -0.1**
comp=Z,6.6nm,0.7s,baz=78,slow=1.9,SNR=34
TORD pPKP **pPKPdf** **07 27 03.1 +5.8**
comp=Z,1.8nm,0.6s,baz=86,slow=2.2,SNR=3.3
TORD SKP 07 29 39.2
comp=Z,7.0nm,0.9s,baz=74,slow=3.1,SNR=9.9
PVIS **Viseu** 129.57 319 *e*SKP SKPab 07 29 39.9 +0.9
PMRV **Marv??o** 129.90 318 *e*SKP SKPab 07 29 40.8 +0.4
PBAR **Barrancos** 130.28 316 *e*SKP **SKPab** **07 29 41.9 -0.2**
PTOM **Tomar** 130.48 318 *e*SKP **SKPab** **07 29 43.4 +0.5**
PMTG **Montargil** 130.64 318 *e*SKP **SKPab** **07 29 43.6 0.0**
EVO **Evora** 130.77 317 *e*SKP **SKPab** **07 29 44.4 +0.3**
PBEJ **Beja** 130.92 316 *e*SKP **SKPab** **07 29 45.2 +0.4**
PVAQ **Vaqueiros** 131.12 316 *e*SKP **SKPab** **07 29 45.7 0.0**
PNCL **Nicolau / Gran** 131.33 317 *e*SKP **SKPab** **07 29 46.3 -0.2**
PBDV **Barranco-do-Ve** 131.35 315 *e*SKP **SKPab** **07 29 47.1 +0.4**
BLO **Bloomington** 133.00 40 *e*PKIKP **PKPdf** **07 26 35.0 +1.2**
BLO **Bloomington** 133.00 40 *e*PKPdf **PKPdf** **07 26 35.0 +1.2**
SADO **Sadowa** 133.54 29 PKP **PKPdf** **07 26 34.2 -0.4**
SADO **Sadowa** 133.54 29 PKP **PKPdf** **07 26 34.2 -0.4**
comp=Z,0.9nm,0.4s,baz=292,slow=2.7,SNR=3.6
KIC **Kosan Boka** 135.80 273 *e*PKIKP **PKPdf** **07 26 41.6 +1.8**
comp=Z,20nm,0.8s
DBIC **Dimbokro** 135.93 273 PKP **PKPdf** **07 26 40.4 +0.4**
DBIC *e*PKPdf **PKiKP** **07 26 41.4 -0.3**
DBIC SKPbc **SKPbc** **07 30 00.6 -1.5**
DBIC **Dimbokro** 135.93 273 PKP **PKPdf** **07 26 40.4 +0.4**
comp=Z,6.7nm,0.7s,baz=112,slow=3.6,SNR=6.6
DBIC SKPbc **SKPbc** **07 30 00.6 -1.5**
comp=Z,7.0nm,0.7s,baz=93,slow=3.4,SNR=8.8
LIC **Lamto** 136.08 273 *e*PKIKP PKPdf 07 26 31.9 -8.4
comp=Z,20nm,0.7s
LIC **Lamto** 136.08 273 *e*PKIKP **PKPdf** **07 26 42.1 +1.8**
comp=Z,32nm,0.7s
TIC **Toumodi** 136.09 273 *e*PKIKP **PKPdf** **07 26 42.1 +1.8**
comp=Z,4.7nm,0.2s
TEIG **Tepich** 139.62 66 PKP **PKPdf** **07 26 46.9 +0.3**
TEIG **Tepich** 139.62 66 PKP **PKPdf** **07 26 46.9 +0.3**
comp=Z,5.3nm,0.9s,baz=270,slow=1.0,SNR=3.9
JTS **JuntasAbangare** 144.41 81 *e*PKPdf **PKPdf** **07 26 54.8 -0.5**
LVC **Limon Verde** 145.50 147 *e*PKPdf **PKPab** **07 26 59.4 +1.5**
CPUP **Villa Florida** 146.74 167 *e*PKPdf **PKPdf** **07 26 59.3 +0.3**
CPUP PKPbc **PKPdf** **07 26 59.6 +0.6**
CPUP SKPbc **SKPbc** **07 30 29.0 -0.7**
CPUP **Villa Florida** 146.74 167 PKPbc **PKPdf** **07 26 59.6 +0.6**
comp=Z,3.9nm,0.6s,baz=185,slow=2.7,SNR=13
CPUP SKPbc **SKPbc** **07 30 29.0 -0.7**
comp=Z,3.2nm,0.7s,baz=233,slow=2.3,SNR=4.1
BBTS **Babate** 146.81 287 PKPbc **PKPbc** **07 27 01.0 -0.3**
BBTS **Babate** 146.81 287 PKPbc **PKPbc** **07 27 01.0 -0.3**
comp=Z,61nm,0.9s,baz=218,slow=2.1,SNR=3.7

ATAH	**Atahualpa**	**148.02 114**	PKPbc	**PKPab**	**07 27 06.8**	**-1.3**
ATAH	**Atahualpa**	**148.02 114**	PKPbc	**PKPab**	**07 27 06.8**	**-1.3**
	comp=Z,20nm,0.8s,baz=278,slow=3.0,SNR=11					
OTAV	**Otavalo**	**150.23 100**	*e*PKPdf	**PKPdf**	**07 27 07.4**	**+1.8**
LPAZ	**La Paz**	**150.87 140**	*e*PKPdf	**PKPdf**	**07 27 08.0**	**+1.3**
LPAZ			*e*PKPbc	**PKPbc**	**07 27 13.5**	**+1.1**
LPAZ	**La Paz**	**150.87 140**	PKPbc	**PKPbc**	**07 27 13.4**	**+1.1**
	comp=Z,9.1nm,0.4s,baz=23,slow=4.1,SNR=24					
SIV	**San Ignacio**	**155.04 152**	PKP	**PKPdf**	**07 27 13.3**	**+1.2**
SIV			PKPab	**PKPab**	**07 27 37.6**	**+0.9**
SIV	**San Ignacio**	**155.04 152**	PKP	**PKPdf**	**07 27 13.3**	**+1.2**
	comp=Z,1.8nm,0.8s,baz=269,slow=2.7,SNR=5.9					
SIV			PKPab	**PKPab**	**07 27 37.6**	**+0.9**
	comp=Z,2.9nm,0.8s,baz=236,slow=4.6,SNR=7.0					
BDFB	**Brasilia**	**158.29 183**	PKP	**PKPdf**	**07 27 16.3**	**0.0**
BDFB	**Brasilia**	**158.29 183**	PKP	**PKPdf**	**07 27 16.3**	**0.0**
	comp=Z,5.0nm,1.0s,baz=181,slow=9.2,SNR=5.0					

*ISCJB **04** 07:09:35.0±0.8, 59°.75N±0°.07×22°.28E±0°.06, h0km, Error ellipse: s-maj=9.7km s-min=4.5km az=1.2*
*HEL **04** 07:09:37.7±0.5, 59°.72N×22°.38E, h0km, ML1.7, Explosion*
*IDC **04** 07:09:38.9±1.9, 59°.90N×22°.27E, h0km, mb1 3.2/3, mb1mx3.0/28, mbtmp3.0/3, ML2.5/3, Error ellipse: s-maj=24.8km s-min=12.5km az=161.0*
ISC 04 07:09:36.0±1.0, 59°.76N±0°.05×22°.28E±0°.03, h0km, n12, σ1§07/21, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**1.16**	**66**	PG	**Pg**	**07 09 58.0**	**-0.2**
MEF				SG	**Sb**	**07 10 14.3**	**-0.1**
MEF				MSG		07 10 14.3	
	comp=Z,5.9nm,0.4s						
MEF				RG	Rg	07 10 20.9	
AAL	**Aland**	**1.22**	**291**	PG	**Pb**	**07 09 59.4**	**-0.5**
AAL				SG	**Sb**	**07 10 16.0**	**-0.2**
AAL				RG	Rg	07 10 26.4	
RAF	**Rauma**	**1.29**	**349**	PG	**Pg**	**07 10 00.7**	**0.0**
	baz=175						
RAF				SG	**Sn**	**07 10 20.9**	**+1.7**
RAF				MSG		07 10 20.9	
	comp=Z,4.9nm,0.2s						
RAF				RG	Rg	07 10 27.9	
MTSE	**Matsula**	**1.31**	**142**	PG	**Pg**	**07 10 00.7**	**-0.3**
PVF	**Pernaja**	**1.96**	**65**	PN	**Pb**	**07 10 12.0**	**-0.5**
PVF				SG	**Sb**	**07 10 38.2**	**+0.8**
PVF				MSG		07 10 38.2	
	comp=Z,3.6nm,0.4s						
FIA0	**FINESS Array S**	**2.52**	**46**	PN	**Pb**	**07 10 21.2**	**-0.9**
	baz=229						
FIA0				SG	**Sb**	**07 10 53.0**	**-0.7**
FIA0				MSG		07 10 53.0	
	comp=Z,6.0nm,0.5s						
FINES	**FINESS Array B**	**2.52**	**46**	Pn	**Pb**	**07 10 20.5**	**-1.6**
	comp=Z,0.8nm,0.3s,baz=234,slow=14,SNR=21						
FINES				Sn	**Sb**	**07 10 53.5**	**-0.1**
	comp=Z,1.7nm,0.3s,baz=236,slow=25,SNR=21						
KEF	**Keuruu**	**2.73**	**27**	PN	**Pb**	**07 10 24.9**	**-0.6**
KEF				SG	**Sb**	**07 11 00.5**	**+1.0**
KEF				MSG		07 11 00.5	
	comp=Z,2.3nm,0.2s						
VJF	**Virojoki**	**2.75**	**71**	PN	**Pn**	**07 10 22.3**	**+1.1**
VJF				SG	**Sn**	**07 10 57.5**	**+2.3**
VJF				MSG		07 10 57.5	
	comp=Z,2.7nm,0.4s						
KAF	**Kangasniemi**	**3.07**	**38**	PN	**Pb**	**07 10 29.9**	**-1.5**
KAF				SG	**Sb**	**07 11 08.5**	**-0.9**
KAF				MSG		07 11 08.5	
	comp=Z,1.6nm,0.4s						
NOA	**NORSAR Array B**	**5.63**	**288**	Pn	**Pn**	**07 11 01.5**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=98,slow=13,SNR=2.3						
ARCES	**ARCESS Array B**	**9.91**	**7**	Pn	**Pn**	**07 11 58.4**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=184,slow=13,SNR=5.1						
ARCES				Sn	Sn	07 13 42.8	-8.4
	comp=Z,0.1nm,0.3s,baz=194,slow=22,SNR=4.0						

IDC 04 07:25:41.3±1.4, 14°.06N×93°.12E, h34km±8km, mb3.7/8, mb1 3.9/8, mb1mx3.6/27, mbtmp3.7/8, MS3.7/4, Ms1 3.7/4, ms1mx2.9/43, Error ellipse: s-maj=50.3km s-min=17.8km az=56.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**33.87**	**347**	P	P	07 32 20.3	-0.4
	1.5nm,0.7s,baz=166,slow=9.6,SNR=9.5						
MKAR				pP	pP	07 32 31.3	+0.7
	1.2nm,0.7s,baz=160,slow=8.8,SNR=7.7						
KURBB	**Kurchatov Arra**	**38.34**	**345**	P	P	07 32 58.4	-0.4
	1.5nm,0.7s,baz=159,slow=7.5,SNR=12						
KURBB				pP	pP	07 33 08.4	-0.4
	1.0nm,0.6s,baz=168,slow=8.4,SNR=7.3						
ZALV	**Zalesovo Beam**	**40.33**	**352**	P	P	07 33 15.9	+0.6
	1.6nm,0.6s,baz=180,slow=7.8,SNR=6.4						
ZALV				pP	pP	07 33 24.8	-0.6
	1.0nm,0.5s,baz=173,slow=8.2,SNR=2.8						
WRA	**Warramunga Arr**	**52.78**	**129**	P	P	07 34 53.0	-0.4
	1.2nm,0.8s,baz=299,slow=9.5,SNR=9.9						
ASAR	**Alice Springs**	**54.74**	**133**	P	P	07 35 07.9	+0.2
	1.2nm,0.4s,baz=310,slow=6.9,SNR=31						
BRTR	**Keskin Array B**	**57.74**	**308**	P	P	07 35 28.8	-0.3
	0.7nm,0.7s,baz=118,slow=6.7,SNR=4.2						
FINES	**FINESS Array B**	**66.82**	**331**	LR	LR	08 09 07.2	
	comp=Z,59nm,19.5s,baz=8.3,slow=39						
ARCES	**ARCESS Array B**	**69.15**	**340**	LR	LR	08 12 03.3	
	comp=Z,50nm,19.3s,baz=64,slow=40						
HFS	**Hagfors**	**72.65**	**329**	LR	LR	08 12 07.2	
	comp=Z,52nm,19.3s,baz=228,slow=38						
NOA	**NORSAR Array B**	**73.89**	**330**	LR	LR	08 11 37.0	
	comp=Z,30nm,19.9s,baz=50,slow=37						
TORD	**Torodi Ar. Bea**	**88.22**	**283**	P	P	07 38 29.9	+0.2
	0.5nm,0.6s,baz=61,slow=4.7,SNR=3.2						
ILAR	**Eielson Array**	**89.41**	**22**	P	P	07 38 34.1	-0.1
	0.4nm,0.8s,baz=303,slow=5.3,SNR=4.5						

*ISCJB **04** 07:35:13.0±0.4, 59°.87N±0°.03×22°.23E±0°.05, h0km, Error ellipse: s-maj=4.5km s-min=3.1km az=158.6*
*IDC **04** 07:35:13.8±1.8, 59°.80N×22°.41E, h0km, mb1 3.3/3, mb1mx3.0/28, mbtmp3.2/3, ML3.0/3, Error ellipse: s-maj=23.3km s-min=6.2km az=157.0*
*CSEM **04** 07:35:13.9±0.2, 59°.89N×22°.22E, h2km, ML1.8, Error ellipse: s-maj=5.3km s-min=3.0km az=168.0, Mining explosion.*
*NAO **04** 07:35:13.0±1.3, 59°.79N×22°.32E, ML2.2*
*HEL **04** 07:35:13.3±0.2, 59°.71N×22°.26E, h0km, ML2.1, ML1.8(UPP), Explosion*
*UPP **04** 07:35:14.9, 59°.70N×21°.91E, h0km, ML1.8, Mining explosion.*
*BER **04** 07:35:14.0±5.0, 59°.77N×22°.40E, h0km, ML2.2(NAO), Suspected explosion*
ISC 04 07:35:13.3±0.8, 59°.83N±0°.04×22°.25E±0°.02, h0km, n50, σ1§28/73, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**1.15**	**69**	*e*P	**Pg**	**07 35 33.6**	**-1.6**
MEF				*e*S	**Sg**	**07 35 49.2**	**-0.8**
MEF				MSG		07 35 49.2	
	comp=Z,12nm,0.4s						
MEF				*e*RG	Rg	07 35 57.0	
MEF	**Metsahovi**	**1.15**	**69**	*e*P	**Pg**	**07 35 35.6**	**+0.4**
	SNR=90						
MEF				*e*S	**Sb**	**07 35 52.2**	**+0.9**
	comp=Z,62nm,0.5s,SNR=90						
AAL	**Aland**	**1.19**	**288**	*e*P	**Pg**	**07 35 34.9**	**-1.1**
AAL	**Aland**	**1.19**	**288**	P	**Pg**	**07 35 34.9**	**-1.1**
	baz=120						
RAF	**Rauma**	**1.22**	**349**	*e*P	**Pg**	**07 35 36.4**	**-0.3**
RAF				*e*S	**Sn**	**07 35 55.1**	**+0.3**
RAF				*e*RG	Rg	07 36 04.1	
RAF	**Rauma**	**1.22**	**349**	*e*P	**Pg**	**07 35 36.3**	**-0.3**
	SNR=90						
RAF				*e*S	**Sn**	**07 35 55.0**	**+0.3**
	comp=Z,47nm,0.7s,SNR=90						
MTSE	**Matsula**	**1.38**	**144**	*e*P	Pg	07 35 36.3	-3.4
NRTU	**Norrtaelje**	**1.84**	**267**	*e*P	**Pn**	**07 35 45.5**	**-0.6**
NRTU	**Norrtaelje**	**1.84**	**267**	P	**Pn**	**07 35 45.5**	**-0.6**
PVF	**Pernaja**	**1.94**	**67**	*e*P	**Pn**	**07 35 47.7**	**+0.2**
PVF				*e*SG	**Sb**	**07 36 14.4**	**+0.2**
PVF				MSG		07 36 14.4	
	comp=Z,6.3nm,0.4s						
PVF	**Pernaja**	**1.94**	**67**	P	**Pn**	**07 35 47.6**	**+0.2**
PVF				Sg	**Sb**	**07 36 14.4**	**+0.2**
	comp=Z,6.3nm,0.4s						
FORU	**Forsmark**	**2.11**	**287**	*e*P	**Pn**	**07 35 50.3**	**+0.5**
FORU	**Forsmark**	**2.11**	**287**	P	**Pn**	**07 35 50.3**	**+0.5**
	baz=124						
SLIT	**Slitere, Latvi**	**2.21**	**179**	*e*P	**Pn**	**07 35 51.1**	**-0.1**
	SNR=50						
SLIT				*e*S	**Sb**	**07 36 21.4**	**-0.6**
	comp=Z,95nm,0.5s,SNR=50						
FLYU	**Flymyra**	**2.21**	**280**	*e*P	**Pn**	**07 35 51.1**	**-0.1**
FLYU	**Flymyra**	**2.21**	**280**	P	**Pn**	**07 35 51.1**	**-0.1**
NYNU	**Nynaeshamn**	**2.32**	**251**	*e*P	**Pn**	**07 35 53.4**	**+0.7**
NYNU	**Nynaeshamn**	**2.32**	**251**	P	**Pn**	**07 35 53.4**	**+0.7**
	baz=79						
FIA0	**FINESS Array S**	**2.48**	**48**	Pn	**Pn**	**07 35 56.7**	**+1.7**
	baz=211,slow=11						
FIA0				Lg	Lg	07 36 29.3	
	baz=241,slow=28						
FIA0	**FINESS Array S**	**2.48**	**48**	Pn	**Pn**	**07 35 56.7**	**+1.7**
	baz=211,slow=11						
FIA0				Lg	Lg	07 36 29.3	
	baz=241,slow=28						
FIA0	**FINESS Array S**	**2.48**	**48**	*e*P	**Pn**	**07 35 56.9**	**+1.9**
	baz=228						
FIA0				*e*S	**Sb**	**07 36 28.9**	**-0.9**
FIA0				MSG		07 36 28.9	
	comp=Z,10nm,0.5s						
FIA0	**FINESS Array S**	**2.48**	**48**	Pn	**Pn**	**07 35 56.7**	**+1.7**
	baz=211,slow=11,SNR=50						
FIA0				S	**Sb**	**07 36 28.9**	**-0.9**
	comp=Z,10nm,0.5s						
FIA0				Lg	Lg	07 36 29.3	
	baz=241,slow=25						
FINES	**FINESS Array B**	**2.48**	**48**	Pg	**Pn**	**07 35 56.8**	**+1.9**
	comp=Z,1.8nm,0.3s,baz=226,slow=14,SNR=29						
FINES				Lg	Lg	07 36 29.2	
	comp=Z,4.9nm,0.3s,baz=230,slow=25,SNR=30						
BACU	**Backbrunna**	**2.59**	**273**	*e*P	**Pn**	**07 35 56.7**	**+0.2**
BACU	**Backbrunna**	**2.59**	**273**	P	**Pn**	**07 35 56.6**	**+0.2**
IGGU	**Iggoen**	**2.66**	**295**	*e*P	**Pn**	**07 35 58.0**	**+0.6**
IGGU	**Iggoen**	**2.66**	**295**	P	**Pn**	**07 35 58.0**	**+0.6**
	baz=104						
KEF	**Keuruu**	**2.67**	**27**	*e*PB	**Pb**	**07 36 00.7**	**-1.2**
KEF				*e*SB	**Sb**	**07 36 35.6**	**+0.5**
KEF				MSG		07 36 35.6	
	comp=Z,7.6nm,0.4s						
VSU	**Vasula**	**2.69**	**119**	*e*S	**Sn**	**07 36 32.9**	**+1.9**
	comp=Z,244nm,0.5s,SNR=50						
VSU				Lg	Lg	07 36 33.2	
	SNR=29						
VJF	**Virojoki**	**2.74**	**73**	*e*P	**Pn**	**07 35 58.5**	**0.0**
VJF				MSG	**Sn**	**07 36 33.5**	**+1.2**
	comp=Z,14nm,0.4s						
VJF				*e*S	**Sn**	**07 36 33.5**	**+1.2**
VJF	**Virojoki**	**2.74**	**73**	P	**Pn**	**07 35 58.5**	**0.0**
VJF				S	**Sn**	**07 36 33.5**	**+1.2**
KAF	**Kangasniemi**	**3.02**	**39**	*e*P	**Pb**	**07 36 05.4**	**-2.5**
KAF				MSG	**Sb**	**07 36 44.1**	**-1.2**
	comp=Z,3.8nm,0.4s						
KAF				*e*SB	**Sb**	**07 36 44.1**	**-1.2**
ESKU	**Eskilstuna**	**3.04**	**261**	*e*P	**Pn**	**07 36 05.2**	**+2.5**
ESKU	**Eskilstuna**	**3.04**	**261**	P	**Pn**	**07 36 05.1**	**+2.5**
VAF	**Ylistaro**	**3.23**	**3**	MSG	**Sg**	**07 36 59.0**	**+2.1**
	comp=Z,2.9nm,0.4s						
VAF				*e*SG	**Sg**	**07 36 59.0**	**+2.1**
FALU	**Falun**	**3.27**	**284**	*e*P	**Pn**	**07 36 06.6**	**+0.8**
FALU	**Falun**	**3.27**	**284**	P	**Pn**	**07 36 06.6**	**+0.8**
	baz=94						
SUF	**Sumiainen**	**3.45**	**31**	*e*P	**Pn**	**07 36 11.2**	**+3.0**
SUF				*e*SG	**Sg**	**07 37 04.0**	**-0.1**
SUF				MSG		07 37 04.0	
	comp=Z,2.7nm,0.4s						
HFS	**Hagfors**	**4.31**	**278**	Pn	**Pn**	**07 36 19.9**	**-0.1**
	baz=95,slow=11						
HFS				Sn	**Sn**	**07 37 10.0**	**-0.9**
	baz=96,slow=22						
HFS				Lg	Lg	07 37 26.2	
	baz=96,slow=37						
HFS	**Hagfors**	**4.31**	**278**	Pn	**Pn**	**07 36 19.9**	**-0.1**
	baz=95,slow=11						
HFS				Sn	**Sn**	**07 37 10.0**	**-0.9**
	baz=96,slow=22						
HFS				Lg	Lg	07 37 26.2	
	baz=96,slow=37						
HFS	**Hagfors**	**4.31**	**278**	Pn	**Pn**	**07 36 20.9**	**+0.9**
	comp=Z,0.9nm,0.3s,baz=96,slow=13,SNR=15						
HFS				Pg	**Pb**	**07 36 29.7**	**-0.1**
	comp=Z,0.6nm,0.3s,baz=92,slow=15,SNR=6.1						
HFS				Sn	**Sn**	**07 37 11.5**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=86,slow=20,SNR=5.2						
HFS				Lg	Lg	07 37 28.7	
	comp=Z,2.0nm,0.3s,baz=92,slow=35,SNR=10						
HFS	**Hagfors**	**4.31**	**278**	Pn	**Pn**	**07 36 19.9**	**-0.1**
	baz=95,slow=11,SNR=50						
HFS				Sn	**Sn**	**07 37 10.0**	**-0.9**
	baz=96,slow=20,SNR=50						
HFS				Lg	Lg	07 37 26.2	
	baz=96,slow=35,SNR=7.6						
NB2	**NORSAR Subarra**	**5.60**	**287**	Pn	**Pn**	**07 36 37.5**	**-0.3**
	baz=94,slow=12						
NB2				Sn	**Sn**	**07 37 46.0**	**+3.4**
NB2				Lg	Lg	07 38 07.0	
	baz=100,slow=37						
NB2	**NORSAR Subarra**	**5.60**	**287**	Pn	**Pn**	**07 36 37.5**	**-0.3**
	baz=94,slow=12						
NB2				Sn	**Sn**	**07 37 46.0**	**+3.4**
NB2				Lg	Lg	07 38 07.0	
	baz=100,slow=37						
NB2	**NORSAR Subarra**	**5.60**	**287**	Pn	**Pn**	**07 36 37.5**	**-0.3**
	baz=94,slow=12,SNR=50						
NB2				Lg	Lg	07 38 07.0	
	baz=100,slow=32,SNR=3.5						
NOA	**NORSAR Array B**	**5.60**	**287**	Pn	**Pn**	**07 36 37.3**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=98,slow=13,SNR=2.9						
NOA				Lg	Lg	07 38 03.9	
	comp=Z,1.0nm,0.3s,baz=131,slow=23,SNR=7.9						
ARA0	**ARCESS Array S**	**9.84**	**7**	Pn	**Pn**	**07 37 34.3**	**-1.5**
	baz=189,slow=12						
ARA0				Sn	Sn	07 39 20.5	-6.3
	baz=189,slow=22						
ARA0	**ARCESS Array S**	**9.84**	**7**	Pn	**Pn**	**07 37 34.3**	**-1.5**
	baz=189,slow=12						
ARA0				Sn	Sn	07 39 20.5	-6.3
	baz=189,slow=22						
ARA0	**ARCESS Array S**	**9.84**	**7**	Pn	**Pn**	**07 37 34.3**	**-1.5**
	baz=189,slow=12,SNR=50						
ARCES	**ARCESS Array B**	**9.84**	**7**	Pn	**Pn**	**07 37 34.9**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=191,slow=13,SNR=9.4						
ARCES				Sn	Sn	07 39 20.9	-5.9
	comp=Z,0.3nm,0.3s,baz=190,slow=20,SNR=7.5						

MEX 04 07:59:06.4±0.7, 15°.73N×95°.33W, h27km±14km, MD3.5, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.75**	**273**	*e*P	Pb	07 59 18.8	-2.1
HUIG				*i* S	Sb	07 59 27.6	-3.1
CMIG	**Matias Romero**	**1.42**	**18**	*e*P	Pn	07 59 28.1	-2.4
CMIG				*i* S	Sn	07 59 44.9	-3.4
VHO	**Vista Hermosa**	**1.89**	**315**	*i* P	Pn	07 59 35.7	-1.5
VHO				*i* S	Sn	07 59 57.5	-2.8
PNIG	**Pinotepa**	**2.77**	**284**	*e*P	Pn	07 59 46.5	-2.5
PNIG				*i* S	Sn	08 00 18.1	-3.4

*IDC **04** 08:12:55.0±0.7, 37°.69N×95°.88E, h0km, mb3.9/13, mb1 4.1/17, mb1mx4.0/32, mbtmp4.0/17, ML4.3/4, MS3.2/8, Ms1 3.3/8, ms1mx3.0/40, Error ellipse: s-maj=24.8km s-min=13.8km az=47.0*
*ISCJB **04** 08:12:55.0±0.2, 37°.59N±0°.03×95°.74E±0°.03, h10km, mb4.1/29, MS3.4/8, Error ellipse: s-maj=4.5km s-min=3.2km az=29.7*
*BJI **04** 08:12:56.5, 37°.63N×95°.83E, h8km, mB4.7/14, mb4.6/19, ML4.4/10, Ms4.2/25, Ms7 3.8/23*
*NEIC **04** 08:12:57.0±0.4, 37°.64N×95°.74E, h10km, mb4.3/13, Error ellipse: s-maj=8.4km s-min=6.3km az=49.0*
*MOS **04** 08:12:57.0±1.4, 37°.64N×95°.79E, h23km, mb4.4/23, Error ellipse: s-maj=10.2km s-min=6.6km az=116.1*
*NNC **04** 08:13:04.6±1.9, 38°.30N×95°.07E, h0km, mb4.3, Error ellipse: s-maj=69.5km s-min=18.6km az=51.0*
ISC 04 08:12:56.9±0.4, 37°.61N±0°.04×95°.65E±0°.04, h10km, n118, σ1§66/136, mb4.2/29, MS3.4/8, 8C-3D, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**3.73**	**60**	Pn	**Pn**	**08 13 55.3**	**+0.7**
GTA				Pg	**Pb**	**08 14 02.8**	**-0.1**
GTA				Sn	**Sn**	**08 14 38.7**	**+0.1**
GTA				Sg	**Sb**	**08 14 49.5**	**+1.4**
GTA				smax	smax		
	comp=N,500nm,1.3s						
GTA				smax	smax		
	comp=E,260nm,1.0s						
GTA				LR	LR		
	comp=N,3μm,6.4s						
GTA				LR	LR		
	comp=E,1μm,3.0s						
GTA				LR	LR		
	comp=Z,440nm,5.5s						
LZH	**Lanzhou**	**6.74**	**101**	Pn	**Pn**	**08 14 35.1**	**-0.9**
LZH				Pg	**Pb**	**08 14 55.1**	**+0.9**
LZH				Sn	**Sn**	**08 15 49.7**	**-3.3**
LZH				Sg	Sb	08 16 22.6	+7.7
LZH				smax	smax		
	comp=N,300nm,0.7s						
LZH				smax	smax		
	comp=E,340nm,0.8s						
LZH				LR	LR		
	comp=N,780nm,8.2s						
LZH				LR	LR		
	comp=E,620nm,7.3s						
LZH				LR	LR		
	comp=Z,1μm,9.1s						
WMQ	**Urumqi**	**8.66**	**318**	P	**Pn**	**08 15 03.4**	**+1.2**
WMQ				pP	pP	08 15 06.6	
WMQ				sP		08 15 09.4	
WMQ				S	**Sn**	**08 16 42.5**	**+2.6**
WMQ				pmax	pmax		
	comp=Z,71nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,160nm,3.6s						
WMQ				LR	LR		
	comp=N,1μm,12.7s						
WMQ				LR	LR		
	comp=E,1μm,10.4s						
WMQ				LR	LR		
	comp=Z,630nm,6.0s						
LSA	**Lhasa**	**8.73**	**207**	*e*P	Pn	08 15 07.5	+3.8
LSA				pmax	pmax		
	comp=Z,15nm,0.8s						
LSA	**Lhasa**	**8.73**	**207**	*e*Pn	Pn	08 15 07.5	+3.8
	comp=Z,15nm,0.8s						
CD2	**Chengdu**	**9.46**	**133**	P	**Pn**	**08 15 15.7**	**+2.4**
CD2				pP		08 15 19.5	
CD2				sP		08 15 22.3	
CD2				PP	**PnPn**	**08 15 24.2**	**+3.3**
CD2				S	**Sn**	**08 17 03.9**	**+4.1**
CD2				SS	**SnSn**	**08 17 16.6**	**+5.2**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,60nm,4.5s						
CD2				LR	LR		
	comp=E,2μm,13.7s						
CD2				LR	LR		
	comp=Z,610nm,7.7s						
XAN	**Xi'an**	**11.35**	**104**	P	**Pn**	**08 15 38.0**	**-1.0**
XAN				LR	LR		
	comp=N,440nm,11.3s						
XAN				LR	LR		
	comp=E,150nm,12.1s						
XAN				LR	LR		
	comp=Z,74nm,11.3s						
HHC	**Hu-ho-hao-te**	**12.76**	**70**	*e*P	**Pn**	**08 15 58.0**	**-0.3**
HHC				pP	pP	08 16 01.3	
HHC				sP		08 16 04.6	
HHC				PP	**PnPn**	**08 16 08.7**	**+2.6**
HHC				S	**Sn**	**08 18 21.9**	**+1.5**
HHC				sS		08 18 26.6	
HHC				SS	**SnSn**	**08 18 36.5**	**+4.1**
HHC				pmax	pmax		
	comp=Z,45nm,0.9s						
HHC				pmax	pmax		
	comp=Z,290nm,5.7s						
HHC				LR	LR		
	comp=N,390nm,8.3s						
HHC				LR	LR		
	comp=E,580nm,8.2s						
HHC				LR	LR		
	comp=Z,330nm,7.8s						
SONM	**Songino Array**	**12.90**	**34**	Pn	**Pn**	**08 16 00.8**	**+0.5**
SONM				Lg	Lg	08 19 33.2	
SONM	**Songino Array**	**12.90**	**34**	Pn	**Pn**	**08 16 00.8**	**+0.5**
	comp=Z,0.8nm,0.3s,baz=217,slow=14,SNR=14						
SONM				Lg	Lg	08 19 33.2	
	comp=Z,0.2nm,0.3s,baz=358,slow=26,SNR=3.8						
SONA1	**Songino Array**	**12.91**	**34**	*e*Pn	**Pn**	**08 16 02.0**	**+1.5**
ULN	**Ulaanbaatar**	**13.22**	**36**	*e*Pn	**Pn**	**08 16 05.2**	**+0.5**
MK01	**Makanchi Array**	**13.47**	**317**	*e*Pn	**Pn**	**08 16 06.4**	**-1.5**
MK31	**Makanchi Array**	**13.49**	**317**	Pn	**Pn**	**08 16 07.1**	**-1.1**
	comp=Z,6.4nm,0.5s,baz=126,slow=14,SNR=192						
MK31				↑↑Sn	**Sn**	**08 18 34.7**	**-3.4**
	comp=Z,22nm,0.8s						
MK31	**Makanchi Array**	**13.49**	**317**	*e*P	**Pn**	**08 16 07.3**	**-0.9**
MK31				*e*		08 18 38.1	
MK31	**Makanchi Array**	**13.49**	**317**	*e*Pn	**Pn**	**08 16 07.3**	**-0.9**
MK31				*e*Sn	**Sn**	**08 18 38.1**	**0.0**
MKAR	**Makanchi Array**	**13.49**	**317**	*e*P	**Pn**	**08 16 07.4**	**-0.8**
MKAR						08 18 36.7	
MKAR	**Makanchi Array**	**13.49**	**317**	*e*Pn	**Pn**	**08 16 07.4**	**-0.8**
MKAR				Sn	**Sn**	**08 18 36.7**	**-1.4**
MKAR	**Makanchi Array**	**13.49**	**317**	Pn	**Pn**	**08 16 06.9**	**-1.3**
	comp=Z,2.9nm,0.3s,baz=128,slow=12,SNR=59						
MKAR				Sn	**Sn**	**08 18 36.7**	**-1.4**
	comp=Z,1.2nm,0.3s,baz=128,slow=26,SNR=8.2						
HVS	**Khovu-Aksy**	**13.60**	**355**	*e*P	P	08 16 15.6	-3.2
HVS				pmax	pmax		
	comp=Z,33nm,1.2s						
ENH	**Enshi**	**13.61**	**118**	*e*Pn	**Pn**	**08 16 08.4**	**-1.6**
	comp=Z,24nm,0.9s						
KMI	**Kunming**	**13.83**	**152**	P	**Pn**	**08 16 11.5**	**-1.7**
KMI				PP	P	08 16 26.1	+4.4
KMI				S	**Sn**	**08 18 46.1**	**-1.0**
KMI				SS	**SnSn**	**08 19 04.3**	**+4.8**
KMI				pmax	pmax		
	comp=Z,16nm,0.5s						
KMI				LR	LR		
	comp=N,300nm,10.1s						
KMI				LR	LR		
	comp=E,450nm,9.2s						
KMI				LR	LR		
	comp=Z,190nm,6.5s						
ZAK	**Zakamensk**	**13.89**	**21**	*e*P	**P**	**08 16 20.8**	**-1.3**
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.0s	

comp=Z,19nm,1.2s
BJI LR LR
comp=N,210nm,10.4s
BJI LR LR
comp=E,310nm,9.2s
BJI LR LR
comp=Z,110nm,22.0s
TKM2 Tokmak 2 16.19 295 ⇑P **Pn 08 16 43.9 -0.7**
comp=Z,17nm,0.7s
TKM2 Tokmak 2 16.19 295 *e*P **Pn 08 16 44.7 +0.1**
TKM2 pmax pmax
comp=Z,20nm,0.8s
TKM2 Tokmak 2 16.19 295 *e*P **Pn 08 16 44.7 +0.1**
comp=Z,20nm,0.8s
SMLA Simla 16.56 253 *e*P **P 08 16 51.4 -0.3**
SMLA AMB AMB 08 16 56.7
comp=Z,11nm,0.6s
DHRM DHARAMSHALA 16.74 257 *e*P **P 08 16 53.3 -0.6**
DHRM AMB AMB 08 17 03.6
comp=Z,22nm,2.0s
AAK Ala-Archa 16.93 294 *e*P **P 08 16 56.0 +0.1**
AAK pmax pmax
comp=Z,28nm,1.2s
AAK Ala-Archa 16.93 294 *e*P **P 08 16 55.9 -0.1**
comp=Z,8.8nm,0.8s
AAK Ala-Archa 16.93 294 P **P 08 16 56.2 +0.3**
comp=Z,0.9nm,0.3s,baz=83,slow=12,SNR=7.9
AAK LR LR 08 23 39.6
comp=Z,202nm,21.7s,baz=90,slow=38
WHN Wuhan 17.00 109 *e*P **Pn 08 16 53.6 -1.2**
KURBB Kurchatov Arra 17.84 322 P **Pn 08 17 04.0 -1.0**
comp=Z,0.9nm,0.3s,baz=135,slow=13,SNR=16
KURK Kurchatov 17.86 323 P **Pn 08 17 04.0 -1.2**
KURK pmax pmax
comp=Z,1.0nm,0.3s
KURK Kurchatov 17.86 323 P **Pn 08 17 04.0 -1.2**
ZAA0 Zalesovo Array 17.97 339 *e*P **Pn 08 17 05.8 -0.8**
ZALV Zalesovo Beam 17.97 339 *i* P **Pn 08 17 06.4 -0.2**
ZALV pmax pmax
comp=Z,2.0nm,0.4s
ZALV Zalesovo Beam 17.97 339 P **Pn 08 17 06.0 -0.6**
ZALV Zalesovo Beam 17.97 339 P **Pn 08 17 06.0 -0.6**
comp=Z,0.3nm,0.3s,baz=146,slow=10,SNR=14
ZALV LR LR 08 24 16.8
comp=Z,38nm,20.7s,baz=77,slow=38
CHTO Chiang Mai 18.95 170 *e*P **P 08 17 18.3 +0.1**
CHTO pmax pmax
comp=Z,9.0nm,1.2s
CHTO Chiang Mai 18.95 170 *e*P **P 08 17 18.2 +0.1**
comp=Z,9.2nm,1.2s
NVS Novosibirsk 19.20 338 *e*P **P 08 17 19.4 -1.3**
NVS pmax pmax
comp=Z,18nm,1.3s
NVS pmax pmax
comp=N,19nm,1.6s
NVS pmax pmax
comp=E,15nm,1.3s
CM31 Chiang Mai Arr 19.30 171 *e*P **Pn 08 17 23.0 0.0**
comp=E,4.5nm,0.4s
CMAR Chiang Mai Arr 19.30 171 P **Pn 08 17 22.9 -0.1**
CMAR Chiang Mai Arr 19.30 171 P **Pn 08 17 22.9 -0.1**
comp=E,0.5nm,0.3s,baz=343,slow=9.9,SNR=16
CMAR LR LR 08 25 36.0
comp=E,41nm,18.3s,baz=270,slow=39
CM01 Chiang Mai Arr 19.34 170 *e*Pn **Pn 08 17 23.1 -0.3**
KK31 Karatay Array 19.89 294 ⇑P **Pn 08 17 30.2 +0.1**
comp=E,1.0nm,0.5s,baz=86,slow=18,SNR=22
KK31 Karatay Array 19.89 294 *e*P **Pn 08 17 30.1 +0.1**
KK31 pmax pmax
comp=Z,3.0nm,0.6s
KKAR Karatay Array 19.89 294 *e*P **P 08 17 29.4 +1.0**
KKAR pmax pmax
comp=Z,3.0nm,0.6s
KKAR Karatay Array 19.89 294 *e*P **P 08 17 29.4 +1.0**
comp=Z,2.8nm,0.6s
BHPL Bhopal 21.21 233 *e*P **P 08 17 43.4 +0.6**
BHPL AMB AMB 08 17 46.7
comp=Z,22nm,2.8s
KBL Kabul 21.70 270 *e*P **P 08 17 50.0 +1.8**
KBL pmax pmax
comp=Z,9.0nm,0.6s
KBL Kabul 21.70 270 *e*P **P 08 17 50.0 +1.8**
comp=Z,9.2nm,0.6s
VOSK Vostochnaya 22.88 319 ⇑P **P 08 18 01.2 +0.8**
comp=Z,23nm,1.1s
VOSK Vostochnaya 22.88 319 P **P 08 18 01.1 +0.7**
VOSK pmax pmax
comp=Z,23nm,1.2s
VOSK Vostochnaya 22.88 319 *e*P **P 08 18 01.8 +1.3**
comp=Z,24nm,1.1s
CN2 Changchun 23.34 65 *e*P **P 08 18 05.5 +0.3**
CN2 *e*S **S 08 22 13.8 -4.1**
CN2 LR LR
comp=N,200nm,10.0s
CN2 LR LR
comp=E,200nm,10.0s
CN2 LR LR
comp=Z,200nm,10.0s
BVA0 Borovoye Array 23.34 319 ⇓P **P 08 18 07.2 +2.0**
comp=Z,9.7nm,1.1s,baz=119,slow=10,SNR=11
BVA0 Borovoye Array 23.34 319 *i* P **P 08 18 07.2 +2.0**
BVA0 pmax pmax
comp=Z,10.0nm,1.2s
BVAR Borovoye Array 23.34 319 P **P 08 18 05.5 +0.4**
BVAR pmax pmax
comp=Z,3.0nm,0.5s
BVAR Borovoye Array 23.34 319 P **P 08 18 05.5 +0.4**
BVAR Borovoye Array 23.34 319 P **P 08 18 05.5 +0.4**
comp=Z,2.8nm,0.5s,baz=124,slow=11,SNR=6.7
AKL Akola 23.35 229 *e*P **P 08 18 05.8 +0.4**
AKL AMB AMB 08 18 12.7
comp=Z,24nm,2.0s
BRVK Borovoye 23.42 319 ⇑P **P 08 18 07.2 +1.3**
comp=Z,28nm,1.3s
BRVK Borovoye 23.42 319 *e*P **P 08 18 07.4 +1.6**
BRVK pmax pmax
comp=Z,3.0nm,0.4s
BRVK Borovoye 23.42 319 *e*P **P 08 18 07.4 +1.6**
comp=Z,9.7nm,0.8s
HYB Hyderabad 25.11 221 *e*P **P 08 18 20.6 -1.3**
LATR Latur 25.40 226 *e*P **P 08 18 24.7 +0.2**
LATR AMB AMB 08 18 51.1
comp=Z,43nm,4.0s
KSAR Wonju Array Be 25.50 80 P **P 08 18 24.1 -1.2**
KS01 Wonju Array Si 25.50 80 *e*P **P 08 18 23.9 -1.4**
KSRS Korea Array 25.53 80 P **P 08 18 24.1 -1.4**
comp=Z,5.7nm,0.9s,baz=284,slow=8.8,SNR=11
KSRS LR LR 08 29 57.9
comp=Z,34nm,18.6s,baz=230,slow=40
USRK Ussuriysk Arra 28.07 65 LR LR 08 31 06.0
comp=Z,84nm,21.0s,baz=272,slow=39
AB31 Akbulak array 28.16 306 ⇑P **P 08 18 52.2 +2.9**
comp=Z,1.1nm,0.7s,baz=96,slow=8.8,SNR=9.1
AB31 Akbulak array 28.16 306 *i* P **P 08 18 52.1 +2.9**
ABKAR Akbulak array 28.16 306 *e*P **P 08 18 51.8 +2.6**
comp=Z,1.3nm,0.6s
AKTO Aktyubinsk 29.61 308 ⇑P **P 08 19 04.1 +2.1**
comp=Z,6.1nm,1.1s
AKTO Aktyubinsk 29.61 308 P **P 08 19 04.2 +2.1**
AKTO pmax pmax
comp=Z,3.0nm,0.8s
AKTO MLR MLR
comp=Z,34nm,19.5s
AKTO Aktyubinsk 29.61 308 P **P 08 19 04.2 +2.1**
AKTO Aktyubinsk 29.61 308 P **P 08 19 04.2 +2.1**
comp=Z,3.2nm,0.8s,baz=97,slow=14,SNR=8.2
AKTO LR LR 08 32 36.3
comp=Z,34nm,19.5s,baz=281,slow=40
ARU Arti 30.99 319*d i*P **P 08 19 15.0 +0.8**
ARU 08 20 14.9
ARU S **S 08 24 18.1 -0.6**
ARU pmax pmax
comp=Z,15nm,2.5s
YAK Yakutsk 32.20 30 *e*P P 08 19 28.1 +3.4
YAK pmax pmax
comp=Z,6.0nm,0.7s
KBZ Khabaz 39.91 296 LR LR 08 39 05.1
comp=Z,56nm,19.6s,baz=231,slow=39
KIV Kislovodsk 40.02 296⇑*e*P **P 08 20 33.3 +1.3**
KIV *e*S **S 08 26 35.3 -2.4**
KIV pmax pmax
comp=Z,5.0nm,1.0s
KIV MLR MLR
comp=Z,100nm,16.0s
KLMR Klimovskoe 41.71 322 *e*P P 08 20 50.5 +5.0
KLMR pmax pmax
comp=Z,18nm,1.6s
OBN Obninsk 42.96 314⇓*e*P **P 08 20 56.7 +0.9**
OBN *e*S **S 08 27 19.5 -1.2**
OBN *e*SS SS 08 30 24.6 -7.5
OBN pmax pmax
comp=Z,7.0nm,1.2s
OBN MLR MLR
comp=Z,100nm,16.0s
PETK Petropavlovsk- 44.83 49 P **P 08 21 07.8 -3.0**
PETK pmax pmax
comp=Z,1.0nm,0.3s
PETK Petropavlovsk- 44.83 49 P **P 08 21 07.8 -3.0**
PETK Petropavlovsk- 44.83 49 P **P 08 21 07.8 -3.0**
comp=Z,0.4nm,0.4s,baz=346,slow=3.7,SNR=2.9
FINES FINESS Array B 48.23 323 P **P 08 21 37.2 -0.2**
FINES FINESS Array B 48.23 323 P **P 08 21 37.2 -0.2**
comp=Z,1.3nm,0.7s,baz=97,slow=4.8,SNR=4.5
ARCES ARCESS Array B 48.41 334 P **P 08 21 38.2 -0.5**
ARCES ARCESS Array B 48.41 334 P **P 08 21 38.2 -0.5**
comp=Z,2.2nm,0.8s,baz=96,slow=7.3,SNR=6.1
NOA NORSAR Array B 55.37 324 P **P 08 22 29.4 -1.3**
NOA NORSAR Array B 55.37 324 P **P 08 22 29.4 -1.3**
comp=Z,0.6nm,0.5s,baz=74,slow=6.5,SNR=2.0
NOA LR LR 08 46 16.4
comp=Z,30nm,18.9s,baz=75,slow=36
ILAR Eielson Array 66.92 24 P **P 08 23 49.3 +0.4**
ILAR Eielson Array 66.92 24 P **P 08 23 49.3 +0.4**
comp=Z,1.0nm,0.8s,baz=297,slow=5.9,SNR=6.5
WRAB Tennant Creek 67.84 141 *e*P **P 08 23 53.5 -1.8**
WRAB pmax pmax
comp=Z,3.0nm,0.8s
WRAB Tennant Creek 67.84 141 *e*P **P 08 23 53.5 -1.8**
comp=Z,3.1nm,0.8s
WRA Warramunga Arr 67.84 141 P **P 08 23 54.9 -0.5**
WRA Warramunga Arr 67.84 141 P **P 08 23 54.9 -0.5**
comp=Z,0.4nm,0.5s,baz=334,slow=5.9,SNR=6.6
INK Inuvik 68.22 18 *e*P **P 08 23 58.8 +1.8**
comp=Z,2.6nm,0.7s
SML Sawmill 68.32 27 *e*P **P 08 23 57.7 -0.2**
SML pmax pmax
comp=Z,2.0nm,0.9s
SML Sawmill 68.32 27 *e*P **P 08 23 57.7 -0.2**
comp=Z,2.4nm,0.9s
ASAR Alice Springs 70.78 143 P **P 08 24 13.1 -0.4**
ASAR Alice Springs 70.78 143 P **P 08 24 13.1 -0.4**
comp=Z,0.5nm,0.6s,baz=333,slow=6.3,SNR=8.7
ESDC Sonseca Array 73.50 307 P **P 08 24 30.6 +0.8**
ESDC Sonseca Array 73.50 307 P **P 08 24 30.6 +0.8**
comp=Z,0.8nm,0.6s,baz=54,slow=6.5,SNR=4.4
STKA Stephens Creek 81.35 142 P **P 08 25 12.3 -1.2**
STKA Stephens Creek 81.35 142 P **P 08 25 12.3 -1.2**
comp=Z,1.9nm,0.7s,baz=336,slow=5.7,SNR=5.1
TORD Torodi Ar. Bea 85.18 283 P **P 08 25 34.0 +0.2**
TORD Torodi Ar. Bea 85.18 283 P **P 08 25 34.0 +0.2**
comp=Z,0.2nm,0.4s,baz=43,slow=5.3,SNR=4.9
PLCA Paso Flores 168.84 250 PKP **PKPdf 08 33 02.6 -1.4**
PLCA *e*PKPdf PKPdf 08 33 03.9 -0.1
PLCA Paso Flores 168.84 250 PKP **PKPdf 08 33 02.6 -1.4**
comp=Z,4.0nm,0.7s,baz=197,slow=14,SNR=9.9

IDC 04 08:18:14.8±0.9, 15°.06S×173°.70W, h0km, mb3.8/6, mb1 4.1/6, mb1mx3.9/19, mbtmp3.8/6, Error ellipse: s-maj=42.0km s-min=23.3km az=135.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.18**	**59**	Pn	Pn	08 18 44.8	-7.6
48nm,0.3s,baz=320,slow=1.0,SNR=40							
AFI				Sn	Sn	08 19 04.7	-16
44nm,0.3s,baz=76,slow=22,SNR=11							
WRA	**Warramunga Arr**	**49.64**	**257**	P	P	08 27 08.2	-0.4
0.3nm,0.5s,baz=90,slow=7.5,SNR=4.8							
ASAR	**Alice Springs**	**49.95**	**252**	P	P	08 27 10.2	-0.7
1.6nm,0.5s,baz=88,slow=7.9,SNR=24							
VNDA	**Vanda**	**63.68**	**186**	P	P	08 28 47.7	+0.2
2.1nm,0.4s,baz=324,slow=2.5,SNR=13							
NVAR	**Mina Array Bea**	**74.27**	**42**	P	P	08 29 53.3	-1.0
0.5nm,0.7s,baz=221,slow=9.5,SNR=5.3							
ILAR	**Eielson Array**	**82.17**	**11**	P	P	08 30 37.2	+0.1
0.3nm,0.8s,baz=204,slow=5.9,SNR=4.1							
PDAR	**Pinedale Array**	**82.20**	**42**	P	P	08 30 38.5	+0.3
0.2nm,0.5s,baz=186,slow=5.4,SNR=3.6							
BRTR	**Keskin Array B**	**145.72**	**321**	PKPbc	PKPab	08 37 57.0	+0.5
0.7nm,0.6s,baz=108,slow=3.2,SNR=3.1							

IDC 04 08:20:43.9±24.0, 4°.51S×151°.23E, h334km±224km, mb3.2/6, mb1 3.3/6, mb1mx3.1/20, mbtmp3.2/6, Error ellipse: s-maj=125.6km s-min=33.3km az=65.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.50**	**226**	P	P	08 25 14.6	-1.4
1.0nm,0.3s,baz=52,slow=9.8,SNR=19							
ASAR	**Alice Springs**	**25.34**	**220**	P	P	08 25 43.0	+1.3
0.3nm,0.4s,baz=53,slow=8.8,SNR=5.1							
FITZ	**Fitzroy Crossi**	**28.44**	**240**	P	P	08 26 09.9	+0.7
0.6nm,0.3s,baz=66,slow=8.5,SNR=4.8							
VNDA	**Vanda**	**73.18**	**178**	P	P	08 31 38.8	+0.4
0.7nm,0.5s,baz=7.4,slow=5.6,SNR=3.9							
MKAR	**Makanchi Array**	**79.08**	**319**	P	P	08 32 12.7	+0.8
0.4nm,0.5s,baz=105,slow=7.6,SNR=5.6							
BVAR	**Borovoye Array**	**88.07**	**323**	P	P	08 32 55.9	-1.2
0.4nm,0.5s,baz=109,slow=8.1,SNR=3.7							
TORD	**Torodi Ar. Bea**	**148.73**	**288**	PKPbc	PKPbc	08 39 52.2	-1.0
0.5nm,0.7s,baz=66,slow=3.0,SNR=3.0							

IDC 04 08:23:12.1±3.9, 15°.25S×173°.41W, h0km, mb3.5/3, mb1 3.9/4, mb1mx3.7/21, mbtmp3.6/4, Error ellipse: s-maj=198.2km s-min=23.7km az=146.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.07**	**50**	Pn	Pn	08 23 47.9	-0.2
82nm,0.3s,baz=206,slow=2.4,SNR=75							
AFI				Sn	Sn	08 24 07.7	-7.0
120nm,0.3s,baz=49,slow=22,SNR=9.3							
WRA	**Warramunga Arr**	**49.87**	**257**	P	P	08 32 07.2	-0.4
0.2nm,0.3s,baz=92,slow=6.7,SNR=9.0							
ASAR	**Alice Springs**	**50.15**	**252**	P	P	08 32 09.7	-0.1
0.5nm,0.4s,baz=86,slow=8.0,SNR=13							
ILAR	**Eielson Array**	**82.30**	**11**	P	P	08 35 35.1	0.0
0.3nm,0.7s,baz=222,slow=6.9,SNR=5.0							
BRTR	**Keskin Array B**	**146.04**	**321**	PKPbc	PKPbc	08 42 54.1	-0.3
0.5nm,0.4s,baz=80,slow=3.0,SNR=4.1							

CASC 04 08:26:39.9±1.7, 13°.97N×91°.45W, h37km±26km, MD3.6, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.39**	**332**	*e*P	Pn	08 26 49.5	+0.8
JAT				*e*S	Sn	08 26 55.8	+0.3
FUG	**Fuego 3**	**0.76**	**51**	*e*P	Pn	08 26 54.9	+0.6
NBG	**Las Nubes**	**1.23**	**60**	*e*P	Pn	08 27 02.9	+1.9
NBG				*e*S	Sn	08 27 17.3	+0.6
RBDL	**Robledal**	**1.72**	**85**	*e*P	Pn	08 27 08.0	+0.5
RBDL				*e*S	Sn	08 27 30.9	+2.5
RTR	**El Retiro**	**1.75**	**92**	*e*P	Pn	08 27 08.2	+0.2
RTR				*e*S	Sn	08 27 30.3	+1.0
SBLS	**San Blas**	**1.78**	**94**	*e*P	Pn	08 27 08.3	-0.1
SBLS				*e*S	Sn	08 27 30.1	0.0
SNJE	**San Jose**	**1.80**	**93**	*e*P	Pn	08 27 08.2	-0.4
SNJE				*e*S	Sn	08 27 30.7	+0.3
MRL	**Marmol**	**2.02**	**57**	*e*P	Pn	08 27 13.1	+1.4
BOQS	**Boqueron**	**2.12**	**96**	*e*P	Pn	08 27 13.3	+0.2
BOQS				*e*S	Sn	08 27 39.5	+1.0
LFRS	**El Faro**	**2.35**	**98**	*e*P	Pn	08 27 16.6	+0.5
LFRS				*e*S	Sn	08 27 45.0	+1.2
LBRS	**Las Brisas**	**2.35**	**95**	*e*P	Pn	08 27 16.9	+0.8

IDC 04 08:40:21.1±1.9, 3°.87S×148°.36E, h0km, mb3.4/4, mb1 3.7/4, mb1mx3.4/18, mbtmp3.4/4, Error ellipse: s-maj=140.4km s-min=26.5km az=126.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.03**	**219**	P	P	08 45 06.1	-0.6
0.6nm,0.4s,baz=37,slow=11,SNR=25							
ASAR	**Alice Springs**	**24.13**	**214**	P	P	08 45 39.3	+0.2
0.2nm,0.4s,baz=49,slow=8.4,SNR=3.2							
FITZ	**Fitzroy Crossi**	**26.36**	**236**	P	P	08 45 59.5	+0.2
1.3nm,0.8s,baz=63,slow=6.8,SNR=4.8							
ILAR	**Eielson Array**	**83.00**	**23**	P	P	08 52 48.0	0.0
0.2nm,0.5s,baz=264,slow=4.2,SNR=2.8							

*IDC **04** 08:47:26.3±0.6, 1°.37S×99°.48E, h0km, mb4.3/16, mb1 4.4/18, mb1mx4.2/28, mbtmp4.3/18, ML3.2/1, MS3.3/4, Ms1 3.3/4, ms1mx2.9/32, Error ellipse: s-maj=22.6km s-min=13.2km az=46.0*
*NEIC **04** 08:47:27.7±0.3, 1°.47S×99°.38E, h10km, mb4.6/8, Error ellipse: s-maj=12.1km s-min=6.2km az=54.0*
*BJI **04** 08:47:28.3, 1°.56S×99°.04E, h19km, mB4.8/12, mb4.7/14, Ms4.6/10, Ms7 4.3/10*
*ISCJB **04** 08:47:29.1±0.4, 1°.49S±0°.04×99°.35E±0°.04, h30km, mb4.5/29, MS3.9/6, Error ellipse: s-maj=7.3km s-min=5.4km az=135.2*
*DJA **04** 08:47:29.0±3.5, 1°.S±4°×9°.9E±°, h7km±33km, M4.8/6, mb4.6/5, mB4.9/1, MLv4.9/6, Mw(mB)4.2/1*
ISC 04 08:47:31.5±0.5, 1°.44S±0°.05×99°.39E±0°.07, h30km, n80, σ19°57/100, mb4.5/29, MS3.6/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.20**	**64**	P	**Pn**	**08 47 50.4**	**-1.9**
PDSI				S	**Sn**	**08 48 07.5**	**-0.1**
PPI	**Padang Panjang**	**1.41**	**46**	P	**Pn**	**08 47 53.6**	**-1.6**
BKNI	**Bangkinang**	**2.41**	**43**	P	**Pn**	**08 48 08.4**	**-0.6**
MASI	**Maura Aman, Be**	**3.31**	**121**	P	**Pn**	**08 48 22.4**	**+1.0**
PSI	**Prapat**	**4.24**	**354**	Pn	**Pn**	**08 48 31.1**	**-3.2**
PSI	**Prapat**	**4.24**	**354**	Pn	**Pn**	**08 48 31.1**	**-3.2**
1.6nm,0.3s,baz=179,slow=15,SNR=4.1							
PSI				LR	LR	08 49 31.0	
comp=Z,152nm,20.4s,baz=346,slow=31							
MNAI	**Manna**	**4.59**	**129**	*e*Pn	**Pn**	**08 48 39.7**	**+0.7**
MNAI	**Manna**	**4.59**	**129**	P	**Pn**	**08 48 39.5**	**+0.5**
KCSI	**Kotacane, Aceh**	**5.19**	**342**	P	**Pn**	**08 48 46.6**	**-0.6**
58nm,0.8s,1μm0.3nm							
MYKOM	**Kota Tinggi**	**5.50**	**54**	P	**Pn**	**08 48 52.2**	**+0.7**
41nm,0.8s							
IPM	**Ipoh**	**6.11**	**16**	*e*Pn	**Pn**	**08 49 01.3**	**+1.5**
IPM	**Ipoh**	**6.11**	**16**	P	**Pn**	**08 49 00.5**	**+0.7**
33nm,0.7s							
KASI	**Kota Agung**	**6.51**	**129**	P	**Pn**	**08 49 04.9**	**-0.5**
79nm,0.7s							
KULM	**Kulim**	**6.81**	**11**	*e*Pn	**Pn**	**08 49 10.1**	**+0.6**
KULM	**Kulim**	**6.81**	**11**	P	**Pn**	**08 49 07.1**	**-2.3**
CMAR	**Chiang Mai Arr**	**19.78**	**359**	P	**P**	**08 51 58.3**	**-1.2**
CMAR	**Chiang Mai Arr**	**19.78**	**359**	P	**P**	**08 51 58.3**	**-1.2**
baz=181,slow=10,SNR=5.1							
KAPI	**Kappang**	**20.64**	**100**	P	**P**	**08 52 07.5**	**-1.4**
KAPI	**Kappang**	**20.64**	**100**	P	**P**	**08 52 07.5**	**-1.4**
9.0nm,0.5s,baz=303,slow=14,SNR=3.8							
QIZ	**Qiongzhong**	**22.79**	**26**	P	**P**	**08 52 32.9**	**+1.0**
QIZ				S	**S**	**08 56 41.3**	**+2.0**
QIZ				pmax	pmax		
comp=Z,140nm,4.6s							
KMI	**Kunming**	**26.61**	**7**	P	**P**	**08 53 09.6**	**+1.9**
KMI				pP	**pP**	**08 53 20.1**	**+3.7**
KMI				PP	PnPn	08 53 56.4	+7.4
KMI				S	**S**	**08 57 38.0**	**-3.0**
KMI				pmax	pmax		
comp=Z,9.0nm,0.5s							
KMI				LR	LR		
comp=N,180nm,4.2s							
KMI				LR	LR		
comp=E,170nm,4.6s							
KMI				LR	LR		
comp=Z,92nm,5.8s							
GYA	**Guiyang**	**28.61**	**14**	*e*P	**P**	**08 53 27.8**	**+2.2**
GYA				pmax	pmax		
comp=Z,10.0nm,0.8s							
FITZ	**Fitzroy Crossi**	**30.63**	**124**	P	**P**	**08 53 41.7**	**-1.7**
FITZ	**Fitzroy Crossi**	**30.63**	**124**	P	**P**	**08 53 41.7**	**-1.7**
comp=Z,4.5nm,0.9s,baz=292,slow=8.0,SNR=6.7							
XAN	**Xi'an**	**36.42**	**13**	P	P	08 54 26.6	-7.0
XAN				pmax	pmax		
comp=Z,1.0nm,1.0s							
XAN				pmax	pmax		
comp=Z,16nm,4.1s							
LZH	**Lanzhou**	**37.57**	**6**	*e*P	**P**	**08 54 44.1**	**+0.6**
LZH				pP	**pP**	**08 54 52.7**	**+0.3**
LZH				sP	**sP**	**08 54 55.1**	**-0.9**
LZH				PP	**PnPn**	**08 56 12.6**	**+2.0**
LZH				*e*S	**S**	**09 00 32.2**	**+1.1**
LZH				sS	**ScP**	**09 00 48.9**	**+2.3**
LZH				SS	**SnSn**	**09 03 08.0**	**-3.0**
LZH				pmax	pmax		
comp=Z,14nm,1.0s							
LZH				pmax	pmax		
comp=Z,75nm,4.5s							
LZH				LR	LR		
comp=N,400nm,11.6s							
LZH				LR	LR		
comp=E,380nm,12.5s							
LZH				LR	LR		
comp=Z,580nm,13.9s							
NJ2	**Nanjing**	**38.08**	**27**	*e*P	P	08 54 51.8	+4.1
NJ2				pmax	pmax		
comp=Z,20nm,0.5s							
WRA	**Warramunga Arr**	**38.80**	**121**	P	**P**	**08 54 52.4**	**-1.7**
WRA				PcP	**PcP**	**08 57 04.5**	**-0.6**
WRA	**Warramunga Arr**	**38.80**	**121**	P	**P**	**08 54 52.4**	**-1.7**
comp=Z,3.1nm,0.5s,baz=302,slow=9.1,SNR=23							
WRA				PcP	**PcP**	**08 57 04.5**	**-0.6**
comp=Z,0.3nm,0.6s,baz=310,slow=2.6,SNR=3.5							
WRAB	**Tennant Creek**	**38.81**	**121**	*e*P	**P**	**08 54 52.7**	**-1.3**
comp=Z,7.8nm,0.5s							
AS31	**Alice Springs**	**40.08**	**126**	*e*P	**P**	**08 55 04.5**	**-0.1**
ASAR	**Alice Springs**	**40.08**	**126**	P	**P**	**08 55 03.9**	**-0.8**
ASAR	**Alice Springs**	**40.08**	**126**	P	**P**	**08 55 03.9**	**-0.8**
comp=Z,2.3nm,0.6s,baz=299,slow=7.6,SNR=27							
ASAR				LR	LR	09 13 43.3	
comp=Z,69nm,19.5s,baz=99,slow=39							
AS01	**Alice Springs**	**40.11**	**126**	*e*P	**P**	**08 55 03.7**	**-1.2**
HHC	**Hu-ho-hao-te**	**43.53**	**13**	*e*P	**P**	**08 55 33.4**	**+0.7**
HHC				pP	**pP**	**08 55 43.4**	**+1.8**
HHC				sP	**sP**	**08 55 47.2**	**+1.9**
HHC				PP	**PP**	**08 57 16.9**	**+2.6**
HHC				S	**S**	**09 02 02.2**	**+2.4**
HHC				sS	**sS**	**09 02 17.8**	**+3.2**
HHC				SS	**SS**	**09 05 10.0**	**-5.2**
HHC				pmax	pmax		
comp=Z,37nm,0.9s							
HHC				pmax	pmax		
comp=Z,190nm,5.9s							
HHC				LR	LR		
comp=N,320nm,15.3s							
HHC				LR	LR		
comp=E,300nm,15.0s							
HHC				LR	LR		
comp=Z,270nm,16.4s							
BJI	**Beijing**	**44.05**	**19**	P	**P**	**08 55 38.0**	**+1.3**
BJI				pmax	pmax		
comp=Z,8.0nm,0.6s							
JNU	**Nakatsue**	**45.43**	**38**	P	**P**	**08 55 44.9**	**-3.0**
JNU	**Nakatsue**	**45.43**	**38**	P	**P**	**08 55 44.9**	**-3.0**
comp=Z,11nm,1.0s,baz=162,slow=6.4,SNR=2.8							
KSH	**Kashi**	**46.07**	**335**	*e*P	**P**	**08 55 54.1**	**+1.1**
KSH				pP	**pP**	**08 56 03.0**	**+1.0**
KSH				PP	**PP**	**08 57 41.9**	**+0.5**
KSH				PcS	**PcS**	**09 01 24.0**	**+0.5**
KSH				S	**S**	**09 02 36.0**	**-0.8**
KSH				sS	**sS**	**09 02 52.6**	**+1.0**
KSH				LR	LR		
comp=N,97nm,4.5s							
KSH				LR	LR		
comp=E,93nm,5.3s							
KSH				LR	LR		
comp=Z,100nm,5.8s							
WMQ	**Urumqi**	**46.27**	**348**	P	**P**	**08 55 55.4**	**+1.1**
WMQ				pP	**pP**	**08 56 05.4**	**+2.0**
WMQ				sP	**sP**	**08 56 09.4**	**+2.4**
WMQ				PP	**PP**	**08 57 43.4**	**0.0**
WMQ				pmax	pmax		
comp=Z,14nm,0.9s							
WMQ				pmax	pmax		
comp=Z,120nm,4.8s							
WMQ				LR	LR		
comp=N,130nm,17.8s							
WMQ				LR	LR		
comp=E,81nm,14.5s							
WMQ				LR	LR		

comp=Z,40nm,20.1s
KSAR Wonju Array Be 46.83 31 P P 08 55 57.0 -1.8
KSRS Korea Array 46.86 31 P P 08 55 57.0 -2.0
comp=E,0.8nm,0.5s,baz=222,slow=8.4,SNR=3.2
TKM2 Tokmak 2 49.08 337 eP P 08 56 16.3 -0.1
comp=Z,4.1nm,0.7s
AAK Ala-Archa 49.28 336 LR LR 09 19 32.4
comp=Z,36nm,18.4s,baz=71,slow=39
EKS2 Erkin-Say 49.60 335 eP P 08 56 20.4 +0.1
comp=Z,7.6nm,0.8s
STKA Stephens Creek 49.98 132 eP P 08 56 22.9 -0.3
comp=Z,1.5nm,0.7s
STKA Stephens Creek 49.98 132 P P 08 56 23.2 0.0
comp=Z,2.9nm,0.8s,baz=312,slow=8.5,SNR=6.9
MK01 Makanchi Array 50.31 345 eP P 08 56 25.0 -0.4
MK31 Makanchi Array 50.33 345 eP P 08 56 24.8 -0.8
MKAR Makanchi Array 50.33 345 eP P 08 56 24.6 -1.0
MKAR Makanchi Array 50.33 345 P P 08 56 25.2 -0.4
comp=Z,6.4nm,0.6s,baz=153,slow=8.5,SNR=68
MKAR LR LR 09 21 44.6
comp=Z,44nm,21.3s,baz=353,slow=41
CN2 Changchun 50.73 24 eP P 08 56 32.7 +4.1
USRK Ussuriysk Arra 53.96 29 P P 08 56 51.5 -1.1
comp=Z,1.6nm,0.7s,baz=212,slow=5.1,SNR=6.5
ZAA0 Zalesovo Array 56.51 350 eP P 08 57 10.2 -0.7
ZALV Zalesovo Beam 56.51 350 P P 08 57 09.9 -0.9
ZALV Zalesovo Beam 56.51 350 P P 08 57 09.9 -0.9
comp=Z,7.6nm,0.8s,baz=182,slow=6.2,SNR=22
RAYN Ar Rayn 57.93 299 eP P 08 57 20.7 -0.8
comp=Z,3.3nm,0.8s
VOSK Vostochnaya 59.00 340 eP P 08 57 27.3 -1.1
comp=Z,2.6nm,0.6s
ABKAR Akbulak array 60.86 332 eP P 08 57 40.1 -1.1
comp=Z,3.1nm,0.7s
KMBO Kilima Mbogo 62.12 269 eP P 08 57 51.3 +0.6
comp=Z,3.3nm,0.7s
KMBO Kilima Mbogo 62.12 269 P P 08 57 51.4 +0.8
comp=Z,3.1nm,0.8s,baz=56,slow=13,SNR=8.8
KBZ Khabaz 67.49 319 P P 08 58 24.2 -0.6
KBZ Khabaz 67.49 319 P P 08 58 24.2 -0.6
comp=Z,5.1nm,0.8s,baz=135,slow=8.3,SNR=8.6
BRTR Keskin Array B 72.50 312 P P 08 58 53.8 -2.0
BRTR Keskin Array B 72.50 312 P P 08 58 53.8 -2.0
comp=Z,1.3nm,0.7s,baz=129,slow=6.2,SNR=7.7
BUR04 Bucovina Ar. S 80.44 319 eP P 08 59 40.9 +0.2
BUR08 Bucovina Ar. S 80.46 319 eP P 08 59 41.0 +0.2
FINES FINESS Array B 83.34 332 P P 08 59 55.0 -0.4
FINES FINESS Array B 83.34 332 P P 08 59 55.0 -0.4
comp=Z,3.0nm,0.8s,baz=124,slow=6.9,SNR=6.7
GERES GERESS Array B 88.23 319 P P 09 00 20.1 0.0
GERES GERESS Array B 88.23 319 P P 09 00 20.1 0.0
comp=Z,0.7nm,0.6s,baz=99,slow=6.1,SNR=5.9
KEST Kesra 90.86 306 P P 09 00 32.8 0.0
KEST Kesra 90.86 306 P P 09 00 32.8 0.0
comp=Z,1.7nm,0.8s,baz=90,slow=7.1,SNR=5.2
CPUP Villa Florida 144.39 218 PKP PKPab 09 07 03.6 -0.2
CPUP ePKPdf PKPbc 09 07 03.8 -0.3
CPUP Villa Florida 144.39 218 PKP PKPab 09 07 03.6 -0.2
comp=Z,4.6nm,0.7s,baz=108,slow=3.2,SNR=14
TXAR Lajitas Array 144.63 36 PKP PKPbc 09 07 04.8 -0.1
TXAR Lajitas Array 144.63 36 PKP PKPbc 09 07 04.8 -0.1
comp=Z,0.9nm,0.5s,baz=205,slow=0.5,SNR=24
MIAR Mount Ida 144.91 19 ePKPdf PKPab 09 07 04.6 -0.9
TZTN Tazewell 144.97 4 ePKPdf PKPab 09 07 04.2 -1.4
JCT Junction City 145.86 30 ePKPdf PKPdf 09 07 08.2 0.0

*ISK **04** 08:51:34.8, 35°.92N×26°.93E, h14km, MD3.1*
*ISCJB **04** 08:51:34.7±0.7, 35°.91N±0°.02×26°.93E±0°.02, h7km±5km, Error ellipse: s-maj=3.9km s-min=2.7km az=140.7*
*ATH **04** 08:51:34.5, 35°.90N×26°.95E, h25km±1km, MD3.5/10*
*THE **04** 08:51:35.7, 35°.89N×26°.98E, h6km±2km, ML2.6/1, Error ellipse: s-maj=3.1km s-min=0.9km az=127.0*
*DDA **04** 08:51:35.1, 35°.90N×27°.13E, h4km, ML3.2*
*CSEM **04** 08:51:35.2±0.1, 35°.90N×26°.96E, h10km, ML2.6/1, Error ellipse: s-maj=3.1km s-min=1.9km az=145.0*

ISC 04 08:51:34.9±1.1, 35°.90N±0°.02×26°.95E±0°.02, h9km±9km, n73, σ0°61/115, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.39	154	P	Pg	08 51 42.7	+0.2
KARP				S	Sb	08 51 49.3	-0.9
KARP	Karpathos	0.39	154	ePB	Pg	08 51 42.8	+0.2
KARP				eSB	Sb	08 51 49.1	-1.1
KARP	Karpathos	0.39	154	ePb	Pg	08 51 42.8	+0.2
KARP				S	Sb	08 51 49.3	-0.9
DAT	Datca	0.97	31	ePG	Pg	08 51 53.8	+0.3
DAT				eSG	Sb	08 52 07.8	+0.9
DAT	Datca	0.97	31	ePg	Pg	08 51 53.8	+0.3
DAT				eSg	Sb	08 52 07.8	+0.9
ZKR	Zakros	0.99	218	P	Pg	08 51 53.5	-0.3
ZKR				S	Sb	08 52 08.1	+0.8
ZKR	Zakros	0.99	218	ePN	Pg	08 51 53.6	-0.3
ZKR				eSN	Sb	08 52 07.5	+0.2
ZKR	Zakros	0.99	218	P	Pg	08 51 53.5	-0.3
ZKR				eSn	Sb	08 52 07.5	+0.2
ZKR				S	Sb	08 52 08.1	+0.8
ARG	Arkhangelos	1.00	71	P	Pb	08 51 54.7	+0.3
ARG				S	Sb	08 52 08.0	+0.2
ARG	Arkhangelos	1.00	71	ePN	Pg	08 51 54.2	+0.1
ARG				eSN	Sb	08 52 07.9	+0.2
ARG	Arkhangelos	1.00	71	ePn	Pg	08 51 54.2	+0.1
ARG	Arkhangelos	1.00	71	P	Pb	08 51 54.7	+0.3
ARG				eSn	Sb	08 52 07.9	+0.2
BODT	Bodrum	1.19	14	ePN	Pb	08 51 57.4	-0.3
BODT				eSN	Sn	08 52 13.9	-0.3
BODT	Bodrum	1.19	14	ePn	Pb	08 51 57.4	-0.3
BODT				eSn	Sn	08 52 13.9	-0.3
BDRM	Kayabasi	1.23	19	iP	Pn	08 51 57.6	-0.7
BDRM				iS	Sg	08 52 14.5	+0.1
BDRM	Kayabasi	1.23	19	iP	Pn	08 51 57.6	-0.7
BDRM				iS	Sg	08 52 14.5	+0.1
NPS	Neapolis	1.27	240	P	Pn	08 51 58.3	-0.5
NPS				S	Sn	08 52 16.3	+0.4
NPS	Neapolis	1.27	240	ePN	Pn	08 51 58.4	-0.4
NPS				eSN	Sb	08 52 15.5	+0.2
NPS	Neapolis	1.27	240	ePn	Pn	08 51 58.4	-0.4
NPS				eSn	Sb	08 52 15.5	+0.2
NPS				S	Sn	08 52 16.3	+0.4
SANT	Santorini	1.30	292	ePN	Pn	08 51 58.7	-0.6
SANT				eSN	Sg	08 52 16.6	0.0
SANT	Santorini	1.30	292	ePn	Pn	08 51 58.7	-0.6
SANT				eSn	Sg	08 52 16.6	0.0
THR3	Thira Island,	1.35	292	P	Pn	08 52 00.0	0.0
LAST	Lasithi	1.41	239	P	Pn	08 52 00.7	-0.2
LAST				S	Sg	08 52 20.4	+0.1
LAST	Lasithi	1.41	239	ePN	Pn	08 52 00.9	0.0
LAST				eSN	Sb	08 52 19.4	-0.2
LAST	Lasithi	1.41	239	ePn	Pn	08 52 00.9	0.0
LAST				eSn	Sb	08 52 19.4	-0.2
LAST				S	Sg	08 52 20.4	+0.1
MLSB	Milas	1.54	25	ePN	Pn	08 52 02.4	-0.2
MLSB	Milas	1.54	25	ePn	Pn	08 52 02.4	-0.2
YER	Yerkesik	1.63	41	ePN	Pn	08 52 04.0	+0.2
YER	Yerkesik	1.63	41	ePn	Pn	08 52 04.1	+0.2
APE	Apeiranthos	1.64	316	ePN	Pn	08 52 03.6	-0.3
APE	Apeiranthos	1.64	316	P	Pn	08 52 03.4	-0.5
APE				S	Sn	08 52 25.7	+0.6
APE	Apeiranthos	1.64	316	ePN	Pn	08 52 03.6	-0.3
APE				eSN	Sn	08 52 25.3	+0.2
APE	Apeiranthos	1.64	316	ePn	Pn	08 52 03.6	-0.3
APE				eSn	Sn	08 52 25.3	+0.2
DALY	Dalyan (Mu¨la	1.65	56	ePN	Pn	08 52 04.4	+0.3
DALY	Dalyan (Mu¨la	1.65	56	ePn	Pn	08 52 04.4	+0.3
IDI	Anoyia	1.79	251	P	Pn	08 52 06.1	+0.1
IDI				S	Sn	08 52 29.6	+0.7
IDI	Anoyia	1.79	251	ePN	Pn	08 52 05.9	-0.1
IDI				eSN	Sn	08 52 28.6	-0.3
IDI	Anoyia	1.79	251	P	Pn	08 52 06.1	+0.1
IDI				eSn	Sn	08 52 28.6	-0.3
IDI				S	Sn	08 52 29.6	+0.7
SMG	Samos	1.81	357	P	Pn	08 52 05.7	-0.5
SMG				S	Sn	08 52 29.6	+0.3
SMG	Samos	1.81	357	ePN	Pn	08 52 06.1	-0.1
SMG				eSN	Sn	08 52 29.3	0.0
SMG	Samos	1.81	357	P	Pn	08 52 05.7	-0.5
SMG	Samos	1.81	357	ePn	Pn	08 52 06.1	-0.1
SMG				eSn	Sn	08 52 29.3	0.0
FETY	Fethiye	1.87	66	ePN	Pn	08 52 07.3	+0.2
FETY	Fethiye	1.87	66	ePn	Pn	08 52 07.3	+0.2
AYDN	Tasoluk	1.91	23	iP	Pg	08 52 11.7	+0.2
AYDN				iS	Sg	08 52 36.6	+0.4
AYDN	Tasoluk	1.91	23	iP	Pg	08 52 11.7	+0.2
AKAS	Kas	2.17	80	iP	Pn	08 52 12.7	+1.3
AKAS				iS	Sb	08 52 41.5	-0.1
AKAS	Kas	2.17	80	iP	Pn	08 52 12.7	+1.3
VAM	Vamos	2.30	258	ePB	Pn	08 52 13.6	+0.6
VAM				eSN	Sn	08 52 41.2	-0.2
VAM	Vamos	2.30	258	ePb	Pn	08 52 13.6	+0.6
VAM				eSn	Sn	08 52 41.2	-0.2
GOLH	Golhisar	2.49	57	iP	Pb	08 52 18.2	-1.6
GOLH				iS	Sb	08 52 48.9	-1.7
GOLH	Golhisar	2.49	57	iP	Pb	08 52 18.2	-1.6
GOLH				iS	Sb	08 52 48.9	-1.7
KARN	Karanos	2.52	259	ePN	Pn	08 52 16.0	-0.1
KARN	Karanos	2.52	259	ePn	Pn	08 52 16.0	-0.1
ELL	Elmali	2.53	70	ePN	Pn	08 52 17.0	+0.7
ELL	Elmali	2.53	70	ePn	Pn	08 52 17.0	+0.7
KULA	Kula-Manisa	2.94	27	ePN	Pn	08 52 21.9	0.0
KULA	Kula-Manisa	2.94	27	ePn	Pn	08 52 21.9	0.0
ANKY	Antikythira Is	2.97	270	ePN	Pn	08 52 22.8	+0.6
ANKY	Antikythira Is	2.97	270	ePn	Pn	08 52 22.8	+0.6
KHL	Karahalli	3.17	40	ePN	Pn	08 52 26.1	+1.0
KHL	Karahalli	3.17	40	ePn	Pn	08 52 26.1	+1.0
KYTH	Kithira	3.19	278	P	Pn	08 52 26.2	+0.9
KYTH	Kithira	3.19	278	ePN	Pn	08 52 26.2	+0.9
KYTH	Kithira	3.19	278	P	Pn	08 52 26.2	+0.9
VLI	Veliai	3.34	285	P	Pn	08 52 28.6	+1.2
VLI	Veliai	3.34	285	ePN	Pn	08 52 28.0	+0.6
VLI	Veliai	3.34	285	ePn	Pn	08 52 28.0	+0.6
VLI	Veliai	3.34	285	P	Pn	08 52 28.6	+1.2
DID	Didima	3.39	299	ePN	Pn	08 52 28.8	+0.8
DID	Didima	3.39	299	ePn	Pn	08 52 28.8	+0.8
DYR	Agios Nikonas	3.83	284	ePN	Pn	08 52 35.0	+1.0
DYR	Agios Nikonas	3.83	284	ePn	Pn	08 52 35.0	+1.0

AUST 04 09:06:09.6, 5°.98S×130°.03E, h30km, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLE	Tual	2.72	83	P	Pn	09 06 52.3	+1.1
	baz=2.7,SNR=4.2						
TLE				S	Sn	09 07 20.0	-3.1
	baz=2.7,SNR=8.2						
FAKI	Fak Fak	3.76	36	P	Pn	09 07 07.9	+2.3
	baz=3.8,SNR=40						
FAKI				S	Sn	09 07 48.3	-0.6
	baz=3.8,SNR=4.3						
SWI	Sorong	5.23	14	P	Pn	09 07 30.6	+4.8
	baz=5.3,SNR=7.1						
SWI				S	Sn	09 08 18.5	-6.6
	baz=5.3,SNR=10						
MTN	Manton Dam	6.91	171	P	Pn	09 07 49.4	+0.5
	baz=6.9,SNR=21						
MTN				S	Sn	09 09 01.4	-5.1
	baz=6.9,SNR=9.5						
KDU	Kakadu	7.09	160	P	Pn	09 07 49.7	-1.6
	baz=7.1,SNR=26						
KDU				S	Sn	09 09 01.5	-9.4
	baz=7.1,SNR=13						
KNRA	Kununurra	9.72	187	P	Pn	09 08 28.0	+0.6
	baz=9.8,SNR=14						
KNRA				S	Sn	09 10 08.7	-6.9
	baz=9.8,SNR=5.3						
MMPI	Merauke	10.56	104	S	Sn	09 10 16.4	-20
	baz=11,SNR=3.5						
FITZ	Fitzroy Crossi	12.79	199	P	Pn	09 09 09.0	-0.5
	baz=13,SNR=20						
COEN	Coen	15.17	122	P	Pn	09 09 38.0	-4.0
	baz=15,SNR=4.0						
BKNI	Bangkinang	29.61	281	S	S	09 17 27.9	+22
	baz=30,SNR=3.2						

*BJI **04** 09:12:42.7, 37°.66N×95°.95E, h9km, mb4.6/5, ML4.3/6, Ms3.9/9, Ms7 3.7/6*
*ISCJB **04** 09:12:43.1±0.4, 37°.66N±0°.06×95°.87E±0°.05, h12km, mb3.9/12, MS3.1/1, Error ellipse: s-maj=8.9km s-min=4.6km az=21.8*
*IDC **04** 09:12:43.5±0.8, 37°.61N×95°.90E, h0km, mb3.9/8, mb1 4.1/13, mb1mx3.9/32, mbtmp4.0/13, ML4.1/4, MS3.2/1, Ms1 3.2/1, ms1mx2.3/35, Error ellipse: s-maj=26.0km s-min=15.9km az=48.0*
*NEIC **04** 09:12:44.9±0.5, 37°.66N×95°.88E, h10km, mb4.1/4, Error ellipse: s-maj=12.4km s-min=7.3km az=217.0*
*NNC **04** 09:12:50.6±3.8, 38°.28N×95°.24E, h0km, mb4.1, Error ellipse: s-maj=120.4km s-min=42.0km az=46.0*

ISC 04 09:12:45.0±0.6, 37°.63N±0°.07×95°.83E±0°.05, h12km, n43, σ1°21/52, mb4.0/12, 3C-3D, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	Gaotai	3.59	59	Pn	Pn	09 13 42.0	+1.3
GTA				Pg	Pb	09 13 48.4	-0.2
GTA				Sn	Sn	09 14 22.0	-1.1
GTA				Sg	Sb	09 14 32.9	+0.7
GTA				LR	LR		
	comp=N,650nm,8.0s						
GTA				LR	LR		
	comp=E,680nm,9.0s						
GTA				LR	LR		
	comp=Z,830nm,7.6s						
LZH	Lanzhou	6.60	101	Pn	Pn	09 14 20.4	-1.7
LZH				Pg	Pb	09 14 39.7	-0.2
LZH				Sn	Sn	09 15 37.3	-0.1
LZH				Sg	Sb	09 16 07.8	+9.0
LZH				smax	smax		
	comp=N,230nm,1.0s						
LZH				smax	smax		
	comp=E,210nm,0.8s						
LZH				LR	LR		
	comp=N,610nm,8.3s						
LZH				LR	LR		
	comp=E,530nm,5.7s						
LZH				LR	LR		
	comp=Z,910nm,8.4s						
WMQ	Urumqi	8.74	318	P	Pn	09 14 52.0	+0.7
WMQ				smax	smax		
	comp=N,54nm,0.7s						
WMQ				smax	smax		
	comp=E,79nm,0.9s						
SONM	Songino Array	12.80	34	Pn	Pn	09 15 47.8	+0.9
SONM	Songino Array	12.80	34	Pn	Pn	09 15 47.8	+0.9
	comp=E,0.8nm,0.3s,baz=220,slow=18,SNR=6.5						
ENH	Enshi	13.49	119	ePn	Pn	09 15 54.9	-1.4
	comp=E,10nm,0.7s						
MK31	Makanchi Array	13.57	317	⇓Pn	Pn	09 15 54.5	-2.8
	comp=E,3.7nm,0.5s,baz=124,slow=14,SNR=63						
MK31				⇓Sn	Sn	09 18 23.4	-4.5
	comp=E,3.1nm,0.6s,baz=135,slow=24,SNR=4.5						
MK31	Makanchi Array	13.57	317	ePn	Pn	09 15 56.0	-1.2
MK31				eSn	Sn	09 18 27.9	0.0
MKAR	Makanchi Array	13.57	317	Pn	Pn	09 15 56.8	-0.5
MKAR				Sn	Sn	09 18 27.8	-0.2
MKAR	Makanchi Array	13.57	317	Pn	Pn	09 15 56.8	-0.5
	comp=E,1.9nm,0.3s,baz=125,slow=14,SNR=67						
MKAR				Sn	Sn	09 18 27.8	-0.2
	comp=E,0.4nm,0.3s,baz=135,slow=25,SNR=4.8						
TKM2	Tokmak 2	16.31	295	⇑P	Pn	09 16 33.0	-1.1
	comp=E,12nm,0.8s						
TKM2	Tokmak 2	16.31	295	ePn	Pn	09 16 33.2	-0.9
	comp=E,10nm,0.7s						
AAK	Ala-Archa	17.05	294	ePn	P	09 16 44.8	-0.5
AAK	Ala-Archa	17.05	294	P	Pn	09 16 43.4	-0.1
	comp=E,0.4nm,0.3s,baz=72,slow=7.7,SNR=7.9						
KURBB	Kurchatov Arra	17.91	322	P	Pn	09 16 52.7	-1.1
	comp=E,0.7nm,0.3s,baz=134,slow=11,SNR=24						
KURK	Kurchatov	17.93	322	P	Pn	09 16 52.7	-1.3
ZALV	Zalesovo Beam	18.00	339	P	Pn	09 16 54.7	-0.2
ZALV	Zalesovo Beam	18.00	339	P	Pn	09 16 54.7	-0.2
	comp=E,0.3nm,0.3s,baz=150,slow=12,SNR=4.7						
CMAR	Chiang Mai Arr	19.30	171	P	Pn	09 17 11.4	+0.6
CMAR	Chiang Mai Arr	19.30	171	P	Pn	09 17 11.4	+0.6
	baz=345,slow=10,SNR=6.3						
KK31	Karatay Array	20.02	294	⇑P	P	09 17 17.8	+0.1
	comp=E,7.9nm,1.4s,baz=101,slow=14,SNR=15						
KKAR	Karatay Array	20.02	294	eP	P	09 17 18.5	+0.8
	comp=E,2.2nm,0.6s						
KBL	Kabul	21.84	270	eP	P	09 17 38.6	+1.0
	comp=E,6.5nm,0.6s						
VOSK	Vostochnaya	22.96	319	⇑P	P	09 17 49.8	+0.6
	comp=E,6.3nm,1.1s						
BVA0	Borovoye Array	23.42	319	P	P	09 17 53.0	-0.9
	comp=E,2.4nm,0.8s,baz=239,slow=38,SNR=13						
BVAR	Borovoye Array	23.42	319	P	P	09 17 56.0	+2.2
BVAR	Borovoye Array	23.42	319	P	P	09 17 56.0	+2.2
	comp=E,2.6nm,0.6s,baz=118,slow=12,SNR=9.9						
BRVK	Borovoye	23.50	319	⇓P	P	09 17 53.4	-1.2
	comp=E,7.2nm,0.8s						
BRVK	Borovoye	23.50	319	eP	P	09 17 55.3	+0.8
	comp=E,4.0nm,0.7s						
KSAR	Wonju Array Be	25.35	81	P	P	09 18 11.3	-0.5
KSRS	Korea Array	25.38	80	P	P	09 18 11.3	-0.8
	comp=E,6.1nm,0.5s,baz=276,slow=9.8,SNR=31						
KSRS				LR	LR	09 29 12.8	
	comp=E,59nm,20.2s,baz=275,slow=39						
BRTR	Keskin Array B	47.73	293	P	P	09 21 22.5	+0.6
BRTR	Keskin Array B	47.73	293	P	P	09 21 22.5	+0.6
	comp=E,0.9nm,0.6s,baz=83,slow=7.7,SNR=4.9						
ARCES	ARCESS Array B	48.46	334	P	P	09 21 26.4	-0.5
ARCES	ARCESS Array B	48.46	334	P	P	09 21 26.4	-0.5
	comp=E,2.2nm,0.9s,baz=89,slow=8.2,SNR=3.7						
ILAR	Eielson Array	66.84	24	P	P	09 23 37.5	+1.2
ILAR	Eielson Array	66.84	24	P	P	09 23 37.5	+1.2
	comp=E,0.4nm,0.8s,baz=289,slow=6.1,SNR=5.6						
WRA	Warramunga Arr	67.77	141	P	P	09 23 41.5	-1.2
WRA	Warramunga Arr	67.77	141	P	P	09 23 41.5	-1.2
	comp=E,0.8nm,0.8s,baz=336,slow=6.2,SNR=8.2						
ASAR	Alice Springs	70.71	143	P	P	09 24 01.5	+0.6
ASAR	Alice Springs	70.71	143	P	P	09 24 01.5	+0.6
	comp=E,1.3nm,1.0s,baz=329,slow=6.2,SNR=10.0						
TORD	Torodi Ar. Bea	85.32	283	P	P	09 25 23.1	+0.8
TORD	Torodi Ar. Bea	85.32	283	P	P	09 25 23.1	+0.8
	comp=E,0.3nm,0.6s,baz=49,slow=5.6,SNR=3.6						

*MOS **04** 09:30:33.5±0.8, 56°.26N×153°.49W, h11km, mb5.1/44, Error ellipse: s-maj=10.9km s-min=4.6km az=85.4*
*ISCJB **04** 09:30:34.5±0.9, 56°.30N±0°.02×153°.33W±0°.03, h14km±5km, mb4.6/10, MS4.0/21, Error ellipse: s-maj=3.4km s-min=2.3km az=38.4*
*NEIC **04** 09:30:34.4, 56°.04N×153°.33W, h4km, mb4.7/59, ML4.3(AEIC), After AEIC.*
*IDC **04** 09:30:36.9±0.6, 56°.17N×153°.46W, h25km±2km, mb4.4/26, mb1 4.5/29, mb1mx4.5/33, mbtmp4.4/29, ML4.2/3, MS4.0/20, Ms1 3.9/20, ms1mx3.7/54, Error ellipse: s-maj=15.0km s-min=8.7km az=17.0*
*BJI **04** 09:30:39.6, 56°.84N×154°.30W, h30km, mB5.0/10, mb4.8/14, Ms4.7/4, Ms7 4.2/3*

ISC 04 09:30:36.9±0.4, 56°.17N±0°.05×153°.44W±0°.04, h27km±2km, h27km:pP-P, n728, σ1°00/795, mb4.8/114, MS4.1/21, 170C-173D, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	Old Harbor	1.06	4	P	Pn	09 30 55.3	-0.7
KDAK	Kodiak Island	1.69	16	P	Pn	09 31 04.0	-0.6
KDAK				Sn	Sn	09 31 23.2	-2.1
KDAK	Kodiak Island	1.69	16	Pn	Pn	09 31 04.0	-0.6
	440nm,0.3s,baz=206,slow=6.8,SNR=2613						
KDAK				Sn	Sn	09 31 23.2	-2.1
	130nm,0.3s,baz=114,slow=20,SNR=12						
KABR	Katmai Barrier	2.14	338	P	Pn	09 31 10.8	-0.1
CAHL	Cahill	2.15	333	P	Pn	09 31 11.0	0.0
PLK3	Peulik 3	2.18	316	P	Pn	09 31 11.7	+0.3
KJL	Kejulik	2.22	329	P	Pn	09 31 12.3	+0.3
KAKN	Katmai Knife C	2.31	338	P	Pn	09 31 13.5	+0.3
KCG	Knife Ck. Glac	2.33	338	P	Pn	09 31 13.8	+0.3
PLK1	Peulik 1	2.39	315	P	Pn	09 31 14.7	+0.5
KAPH	Katmai Pasha	2.49	349	P	Pn	09 31 16.3	+0.6
KELA	Mount Kelaz	2.60	332	P	Pn	09 31 17.3	0.0
ANPB	Aniakchak Plen	2.76	285	P	Pn	09 31 18.8	-0.7
ANNW	Aniakchak Nort	2.76	289	P	Pn	09 31 19.4	-0.1
CHGN	Chignik	2.78	275	ePn	Pn	09 31 18.1	-1.5
MCNL	McNeil River	3.07	351	P	Pn	09 31 24.3	+0.7
AUI	Augustine Isla	3.18	0	P	Pn	09 31 26.2	+1.1
VNHG	Veniaminof 1	3.20	273	P	Pn	09 31 25.3	-0.1
AUE	Augustine Isla	3.20	1	P	Pn	09 31 26.8	+1.4
AUL	Augustine Lava	3.23	0	P	Pn	09 31 27.1	+1.3
VNWF	Veniaminof 8	3.43	272	P	Pn	09 31 28.8	+0.2
OPT	Oil Point	3.50	2	P	Pn	09 31 30.4	+0.8
HOM	Homer	3.63	15	P	Pn	09 31 31.9	+0.6
BRLK	Bradley Lake	3.86	20	P	Pn	09 31 33.5	-0.9
ILW	Iliamna West	3.91	2	P	Pn	09 31 35.6	+0.3
ILIM	Iliamna	3.94	3	P	Pn	09 31 36.2	+0.7
SDPT	Sand Point	4.06	261	P	Pn	09 31 35.4	-1.8
SDPT				S	Sn	09 32 22.1	-1.7
NCT	North Crescent	4.42	3	P	Pn	09 31 42.7	+0.5
RDT	Redoubt	4.46	7	P	Pn	09 31 43.3	+0.6
DFR	Drift River	4.46	5	P	Pn	09 31 43.4	+0.7
PS4A	Pavlof South-4	4.83	264	P	Pn	09 31 45.8	-1.9
SVW2	Sparrevohn	5.07	348	P	Pn	09 31 51.3	+0.2
CKL	Chakachamna La	5.08	6	P	Pn	09 31 52.0	+0.7
SPU	Mount Spurr	5.08	8	P	Pn	09 31 51.2	-0.1
DTNA	Dutton South F	5.09	262	P	Pn	09 31 49.3	-2.1
DT1	Dutton Round H	5.12	262	P	Pn	09 31 49.8	-2.0
SPBG	Spurr Blockage	5.14	6	P	Pn	09 31 52.9	+0.8
BGL	Barrier Glacie	5.14	6	P	Pn	09 31 53.0	+0.8
FIB	Fire Island	5.30	17	P	Pn	09 31 54.0	-0.1
FIB				S	Sn	09 32 57.3	+3.2
FIB	Fire Island	5.30	17	P	Pn	09 31 54.0	-0.1
FIB				S	Sn	09 32 57.3	+3.2
STLK	Strandline Lak	5.41	8	P	Pn	09 31 56.2	+0.3
SUA	Susitna One	5.50	14	P	Pn	09 31 56.5	-0.5
GLI	Glacier Island	5.78	32	P	Pn	09 31 58.6	-2.2
FALS	False Pass	5.82	261	P	Pn	09 31 59.7	-1.7
FALS				S	Sn	09 33 05.6	-1.5
PMR	Palmer	5.88	21	P	Pn	09 32 00.6	-1.5
PMR	Palmer	5.88	21	P	Pn	09 32 00.6	-1.5
EYAK	Cordova Ski Ar	5.97	39	P	Pn	09 32 01.7	-1.8
EYAK				S	Sn	09 33 08.0	-2.9
JPK	Jack Peak	6.07	33	P	Pn	09 32 02

PAX eSn Sn 09 33 57.7 -1.4
BPAW Bear Paw Mtn. 8.05 8 P Pn 09 32 30.7 -1.3
PNL Peninsula 8.26 59 P Pn 09 32 32.5 -2.2
WRH Wood River Hil 8.74 15 P Pn 09 32 40.5 -0.9
CCB Clear Creek Bu 8.95 16 P Pn 09 32 43.5 -0.7
MLY Manley 8.99 7 P Pn 09 32 43.9 -1.0
BCA3 Beaver Creek A 9.08 36 P Pn 09 32 43.0 -3.1
COLA College 9.16 15 P Pn 09 32 46.0 -1.0
COLA College 9.16 15 P Pn 09 32 46.0 -1.0
MDM Murphy Dome 9.18 14 P Pn 09 32 46.0 -1.4
IL1 Eielson Array 9.21 18 P Pn 09 32 47.6 -0.2
ILAR Eielson Array 9.21 18 Pn Pn 09 32 47.0 -0.8
ILAR Sn Sn 09 34 26.1 -4.4
ILAR Eielson Array 9.21 18 Pn Pn 09 32 47.0 -0.8
comp=Z,2.7nm,0.3s,baz=205,slow=14,SNR=125
ILAR Sn Sn 09 34 26.1 -4.4
comp=Z,1.0nm,0.3s,baz=206,slow=20,SNR=4.3
HYT Haines Junctio 9.55 54 P Pn 09 32 51.4 -1.2
IM04 Indian Mountai 9.85 359 ePn Pn 09 32 55.8 -0.7
IM3 Indian Mountai 9.85 359 P Pn 09 32 56.1 -0.5
IMA2 Indian Mountai 9.94 359 ePn Pn 09 32 56.6 -1.3
SIT Sitka 10.02 77 P Pn 09 32 55.2 -3.7
SIT Sitka 10.02 77 P Pn 09 32 55.2 -3.7
SKAG Skagway 10.20 64 ePn Pn 09 33 01.4 +0.1
comp=Z,32nm,0.8s
SKAG eSn Sn 09 34 54.1 -0.6
EGAK Eagle 10.53 30 ePn Pn 09 33 05.7 -0.1
comp=Z,16nm,0.8s
DAWY Dawson 10.55 36 ePn Pn 09 33 06.1 -0.1
COLD Coldfoot 11.21 6 ePn Pn 09 33 14.9 -0.2
comp=Z,13nm,1.0s
TNA Tin City 11.74 329 ePn Pn 09 33 24.1 +1.8
comp=Z,55nm,1.4s
DIB Dawson Inlet, 12.47 95 T T 09 45 59.2
SNR=48
DLBC Dease Lake 12.84 70 ePn Pn 09 33 38.9 +1.4
DLBC Dease Lake 12.84 70 Pn Pn 09 33 37.5 0.0
comp=Z,0.4nm,0.3s,baz=252,slow=10,SNR=11
DLBC LR LR 09 38 00.7
comp=Z,574nm,19.7s,baz=290,slow=34
INK Inuvik 15.20 29 ePn Pn 09 34 09.4 +0.1
comp=Z,33nm,0.8s
INK Inuvik 15.20 29 Pn Pn 09 34 09.8 +0.4
comp=Z,1.0nm,0.3s,baz=236,slow=9.6,SNR=31
INK LR LR 09 41 37.5
comp=Z,557nm,19.6s,baz=236,slow=44
BBB Bella Bella 15.32 94 LR LR 09 38 37.1
comp=Z,359nm,19.7s,baz=98,slow=31
FX1 Attu Island--F 19.55 274 P P 09 35 02.6 +0.4
FX1 Attu Island--F 19.55 274 P P 09 35 02.6 +0.4
comp=Z,3.1nm,0.3s,baz=218,slow=12,SNR=5.0
FX1 LR LR 09 42 55.4
comp=Z,311nm,18.7s,baz=95,slow=38
YKW3 Yellowknife Ar 20.53 56 eP P 09 35 13.4 +0.7
comp=Z,0.8nm,0.9s
YKA Yellowknife Ar 20.53 56 P P 09 35 12.9 +0.1
YKA PcP PcP 09 39 22.6 -0.4
YKA Yellowknife Ar 20.53 56 P P 09 35 12.9 +0.1
comp=Z,26nm,0.9s,baz=270,slow=9.6,SNR=46
YKA PcP PcP 09 39 22.5 -0.4
comp=Z,1.4nm,0.7s,baz=267,slow=2.0,SNR=3.8
LON Longmire 21.66 102 eP P 09 35 25.9 +0.7
LON pmax pmax
comp=Z,6.0nm,0.8s
LON Longmire 21.66 102 eP P 09 35 25.9 +0.7
comp=Z,5.7nm,0.8s
WPW White Pass 21.84 102 P P 09 35 27.9 +0.8
ETW Entiat 21.97 99 P P 09 35 29.5 +0.9
ASR Mount Adams--S 22.15 103 P P 09 35 31.6 +1.1
VFP Flag Point 22.75 105 P P 09 35 37.3 +0.4
KEBM Edson Butte 22.89 113 eP P 09 35 39.6 +1.3
OD2 Odessa Site #2 22.99 98 P P 09 35 39.6 +0.4
EDM Edmonton 23.12 80 eP P 09 35 41.2 +0.6
EDM Edmonton 23.12 80 eP P 09 35 41.2 +0.6
NEW Newport 23.38 94 eP P 09 35 44.1 +0.9
comp=Z,10nm,0.9s
NEW Newport 23.38 94 P P 09 35 43.6 +0.4
comp=Z,4.0nm,0.8s,baz=302,slow=8.8,SNR=11
NEW LR LR 09 43 18.0
comp=Z,189nm,21.1s,baz=293,slow=32
NEW Newport 23.38 94 ⇓P P 09 35 43.7 +0.5
baz=23
BBOR Butler Butte 23.74 111 P P 09 35 48.6 +1.7
HUMO Hull Mountain 23.79 112 eP P 09 35 48.8 +1.6
comp=Z,11nm,1.0s
YBH Yreka Blue Hor 24.55 113 eP P 09 35 56.2 +1.9
comp=Z,6.5nm,1.0s
YBH Yreka Blue Hor 24.55 113 P P 09 35 55.4 +1.1
comp=Z,4.5nm,0.8s,baz=293,slow=6.6,SNR=19
YBH LR LR 09 43 42.2
comp=Z,180nm,18.3s,baz=317,slow=32
WALA Waterton Lakes 24.75 90 eP P 09 35 57.5 +1.4
comp=Z,0.2nm,0.9s
BSMT Bassoo Peak 24.91 93 P P 09 35 58.2 +0.6
JTMT Jette 25.25 93 eP P 09 36 01.4 +0.7
comp=Z,9.8nm,1.0s
BMO Blue Mountains 25.31 101 eP P 09 36 02.3 +1.2
comp=Z,15nm,1.5s
SWMT Swartz Lake 25.55 93 eP P 09 36 04.0 +0.7
comp=Z,7.6nm,1.0s
LTIM Timbered Crate 25.58 112 P P 09 36 05.6 +1.9
MSO Missoula 25.97 94 ⇑P P 09 36 07.6 +0.5
baz=26
SLMT Seeley Lake 25.98 93 eP P 09 36 07.2 -0.1
comp=Z,9.6nm,1.3s
WVOR Wild Horse Val 26.19 107 eP P 09 36 10.5 +1.3
WVOR pmax pmax
comp=Z,14nm,1.0s
WVOR Wild Horse Val 26.19 107 eP P 09 36 10.5 +1.3
comp=Z,14nm,1.0s
B17A L&G Farms, Che 26.90 89 ⇓P P 09 36 15.9 +0.5
baz=27
MFID Camas Ranch 27.05 102 ⇓P P 09 36 17.1 +0.2
baz=27
BEKR Beckworth 27.13 113 eP P 09 36 18.5 +0.8
comp=Z,4.3nm,1.2s
HRY Holter Researc 27.22 93 eP P 09 36 19.0 +0.6
comp=Z,5.0nm,0.8s
C17A Wharram Farm, 27.29 90 ⇑P P 09 36 19.4 +0.4
baz=27
B18A Beardsley Farm 27.42 88 ⇑P P 09 36 20.5 +0.5
baz=27
D17A Six Diamond Ra 27.60 91 ⇓P P 09 36 22.0 +0.2
baz=27
EGMT Eagleton 27.63 88 eP P 09 36 22.4 +0.4
comp=Z,4.2nm,0.9s
EGMT Eagleton 27.63 88 ⇓P P 09 36 22.2 +0.2
baz=28
A19A Klindworth Far 27.71 86 ⇑P P 09 36 23.1 +0.5
baz=28
HLID Hailey 27.73 100 eP P 09 36 24.1 +1.1
comp=Z,3.0nm,1.0s
HLID Hailey 27.73 100 ⇓P P 09 36 23.2 +0.1
baz=28
MCMT McKenzie Canyo 27.79 97 eP P 09 36 24.3 +0.7
comp=Z,2.1nm,1.0s
B19A Brinkman Farms 27.85 87 ⇓P P 09 36 24.4 +0.5
baz=28
E17A Martinsdale 27.91 92 ⇓P P 09 36 24.8 +0.2
baz=28
PETK Petropavlovsk- 27.97 285 P P 09 36 24.9 0.0
PETK Petropavlovsk- 27.97 285 P P 09 36 24.9 0.0
PETK Petropavlovsk- 27.97 285 P P 09 36 24.9 0.0
comp=Z,3.3nm,0.6s,baz=84,slow=12,SNR=8.0
PETK LR LR 09 48 30.4
comp=Z,215nm,19.9s,baz=78,slow=38
D18A Linhart Farms, 28.07 90 ⇓P P 09 36 26.6 +0.6
baz=28,SNR=5.7
A20A Cobblestone Ra 28.19 86 ⇑P P 09 36 27.2 +0.2
baz=28,SNR=8.6
C19A Slack Wire Ran 28.19 88 ⇑P P 09 36 27.8 +0.8
baz=28,SNR=7.2
F17A Fitzpatrick Pl 28.35 93 ⇓P P 09 36 29.0 +0.4
baz=28
B20A Solberg Farm, 28.37 86 ⇓P P 09 36 29.4 +0.9
baz=28
E18A Harlowton 28.37 91 ⇑P P 09 36 29.6 +0.8
baz=28
D19A Cripps Ranch, 28.61 89 ⇑P P 09 36 31.4 +0.7
baz=28
G17A Pierce Place, 28.66 94 ⇓P P 09 36 32.1 +0.8
baz=28
A21A Bergtoll Ranch 28.69 85 ⇑P P 09 36 32.1 +0.7
baz=28
RES Resolute Bay 28.75 28 LR LR 09 50 12.3
comp=Z,264nm,18.9s,baz=274,slow=41

H16A Russell Place, 28.76 95 ⇓P P 09 36 32.3 +0.1
baz=29,SNR=5.4
C20A Veseth Ranch, 28.78 88 ⇓P P 09 36 32.8 +0.6
baz=29
F18A Big Timber 28.88 92 ⇓P P 09 36 33.8 +0.6
baz=29
B21A Ellsworth Farm 28.94 86 ⇓P P 09 36 34.3 +0.8
baz=29
GCMT Greycliff 28.97 92 eP P 09 36 36.3 +2.2
comp=Z,2.1nm,0.9s
D20A Manuel Ranch, 29.06 89 ⇑P P 09 36 35.8 +1.1
baz=29
E19A Rath Farm, Rou 29.07 90 ⇑P P 09 36 35.6 +0.8
baz=29
I16A Newdale 29.15 97 ⇓P P 09 36 36.4 +0.8
baz=29
ELK Elko 29.20 106 eP P 09 36 36.2 0.0
comp=Z,1.4nm,0.8s
C21A Desert Coulee 29.23 87 ⇑P P 09 36 37.0 +0.8
baz=29
A22A Carney Farms, 29.25 84 ⇑P P 09 36 37.2 +0.9
baz=29
NVAR Mina Array Bea 29.26 112 P P 09 36 37.3 +0.5
NVAR pP pP 09 36 44.7 0.0
NVAR PcP PcP 09 39 42.9 -0.1
NVAR Mina Array Bea 29.26 112 P P 09 36 37.3 +0.5
comp=Z,3.5nm,0.7s,baz=305,slow=8.6,SNR=33
NVAR pP pP 09 36 44.7 0.0
comp=Z,3.5nm,0.7s,baz=304,slow=8.3,SNR=15
NVAR PcP PcP 09 39 42.9 -0.1
comp=Z,1.2nm,0.7s,baz=306,slow=2.0,SNR=8.1
G18A Lazy EL Ranch, 29.32 93 ⇑P P 09 36 37.8 +0.7
baz=29
H17A Grant Village 29.32 95 eP P 09 36 39.8 +2.4
H17A Grant Village 29.32 95 ⇑P P 09 36 38.7 +1.4
baz=29
NV11 Mina Array Sit 29.34 112 eP P 09 36 38.5 +1.2
F19A Roth Farm, Mol 29.34 92 ⇓P P 09 36 38.4 +1.1
baz=29
E20A Meyer Farm, Mu 29.41 90 ⇓P P 09 36 39.1 +1.3
baz=29
IMW Indian Meadow 29.44 96 eP P 09 36 39.6 +1.2
comp=Z,2.9nm,1.2s
B22A Reddig Ranch S 29.58 85 ⇓P P 09 36 40.4 +1.1
baz=29
H18A Shoshone NF, C 29.66 94 ⇓P P 09 36 41.0 +0.8
baz=30
D21A La Casta Ranch 29.72 88 ⇑P P 09 36 41.6 +1.0
baz=30
F20A Billings 29.82 91 ⇑P P 09 36 42.5 +1.0
baz=30
C22A Vida 29.95 86 ⇑P P 09 36 43.8 +1.2
baz=30
E21A Keefer Ranch, 29.98 89 ⇓P P 09 36 43.9 +1.1
baz=30
H19A Powell 30.04 93 ⇑P P 09 36 44.3 +0.8
baz=30
B23A Brockton 30.05 84 ⇓P P 09 36 44.3 +0.9
baz=30
D22A Cohagen 30.12 87 ⇑P P 09 36 45.2 +1.1
baz=30
G20A Bridger 30.13 92 ⇑P P 09 36 45.2 +0.9
baz=30
I18A Diamond G Ranc 30.19 96 ⇑P P 09 36 45.6 +0.7
baz=30
C23A Lambert 30.31 85 ⇑P P 09 36 46.6 +0.8
baz=30,SNR=6.8
A24A Westby 30.35 83 ⇑P P 09 36 46.9 +0.9
baz=30
I19A Meeteetse 30.43 94 ⇓P P 09 36 48.1 +1.1
baz=30
DGMT Dagmar 30.49 84 ⇑P P 09 36 48.3 +1.0
baz=30
E22A Miles City 30.67 88 ⇑P P 09 36 49.7 +0.8
baz=30
G21A Lodge Grass 30.69 91 ⇑P P 09 36 49.8 +0.6
baz=30
H20A Greybull 30.70 93 ⇑P P 09 36 49.8 +0.4
baz=30
R11A Troy Canyon, C 30.74 109 eP P 09 36 50.2 +0.4
R11A Troy Canyon, C 30.74 109 ⇓P P 09 36 50.4 +0.6
baz=31,SNR=10
SMMC Simmler 30.82 118 ⇓P P 09 36 51.2 +0.8
baz=31
GRAC Grapevine Rang 30.83 113 ⇑P P 09 36 51.5 +1.1
baz=31
C24A Savage 30.89 85 ⇓P P 09 36 51.9 +1.1
baz=31,SNR=6.3
F22A Rosebud 30.89 89 ⇓P P 09 36 52.0 +1.1
baz=31
J19A Crowheart 30.89 96 ⇑P P 09 36 52.3 +1.2
baz=31
DUG Dugway 30.90 104 ⇑P P 09 36 51.7 +0.6
baz=31
PDAR Pinedale Array 30.94 97 P P 09 36 51.3 -0.3
PDAR pP pP 09 36 59.0 -0.6
PDAR Pinedale Array 30.94 97 P P 09 36 51.3 -0.3
comp=Z,1.8nm,0.7s,baz=310,slow=5.7,SNR=16
PDAR pP pP 09 36 59.0 -0.6
comp=Z,1.8nm,0.8s,baz=318,slow=5.3,SNR=9.4
I20A Worland 30.97 94 ⇓P P 09 36 52.4 +0.7
baz=31
E23A Ismay 30.99 88 ⇑P P 09 36 52.9 +1.2
baz=31
B25A Knox Farm, Ray 31.17 83 ⇑P P 09 36 54.7 +1.3
baz=31
D24A Glendive 31.18 86 ⇑P P 09 36 54.8 +1.4
baz=31,SNR=6.2
G22A Birney 31.21 90 ⇑P P 09 36 54.7 +1.0
baz=31
ISA Isabella 31.30 116 ⇓P P 09 36 55.8 +1.1
baz=31
J20A Shoshoni 31.38 95 ⇓P P 09 36 56.4 +1.1
baz=31,SNR=10
F23A Volborg 31.40 89 ⇑P P 09 36 56.5 +1.1
baz=31
C25A Freed Ranch, W 31.43 84 ⇑P P 09 36 57.0 +1.3
baz=31
A26A Wade Farm, Ken 31.45 81 ⇑P P 09 36 56.5 +0.7
baz=31,SNR=8.0
L19A Farson 31.49 98 ⇑P P 09 36 56.9 +0.5
baz=31
MPMC Manual Prospec 31.49 114 ⇓P P 09 36 57.4 +1.0
baz=31
FURC Furnace Creek, 31.50 113 ⇓P P 09 36 57.3 +1.1
baz=31
I21A Big Trails, Te 31.52 93 ⇓P P 09 36 57.1 +0.5
baz=31
B26A Jensen Ranch, 31.63 82 ⇑P P 09 36 58.7 +1.3
baz=32
SBC Santa Barbara 31.66 119 ⇑P P 09 36 58.3 +0.6
baz=32
K20A Yellowstone Ra 31.69 96 ⇓P P 09 36 58.7 +0.6
baz=32
D25A Fairfield 31.72 85 ⇓P P 09 36 58.6 +0.4
baz=32
G23A Biddle 31.72 90 ⇓P P 09 36 58.7 +0.5
baz=32
J21A Lysite 31.74 94 ⇓P P 09 36 59.2 +0.7
baz=32,SNR=7.6
LRMC Laurel Mountai 31.84 115 ⇑P P 09 36 59.8 +0.3
baz=32
A27A Ledoux Ranch, 31.86 81 ⇓P P 09 37 00.3 +1.0
baz=32
F24A Ekalaka 31.86 88 ⇓P P 09 37 00.3 +0.8
baz=32,SNR=5.9
I22A 9 Mile Ranch, 31.93 92 ⇓P P 09 37 01.0 +0.9
baz=32
C26A Wahner Farm, P 32.01 83 ⇓P P 09 37 01.6 +0.8
baz=32
E25A Miller Ranch, 32.05 86 ⇑P P 09 37 02.0 +0.9
baz=32
L20A Wamsutter 32.12 97 ⇓P P 09 37 02.9 +1.0
baz=32
B27A Peters Farms, 32.15 82 ⇓P P 09 37 03.0 +1.1
baz=32
G24A Alzada 32.19 89 ⇑P P 09 37 03.2 +0.8
baz=32
J22A Midwest 32.23 93 ⇑P P 09 37 03.6 +0.7
baz=32,SNR=8.0
K21A Alcova 32.31 95 ⇓P P 09 37 03.7 +0.2
baz=32,SNR=5.8
C27A Sayler Ranch, 32.41 83 ⇓P P 09 37 05.2 +1.1
baz=32
A28A Rude Farm, Bot 32.42 80 ⇓P P 09 37 05.2 +1.0
baz=32
GSC Goldstone 32.43 114 ⇓P P 09 37 05.4 +0.8
baz=32

H24A Dirks Ranch, A 32.47 90 ⇑P P 09 37 05.3 +0.4
baz=32
M20A Sweetwater, Wa 32.55 97 ⇓P P 09 37 06.5 +0.7
baz=32
E26A Carlson Angus 32.59 85 ⇓P P 09 37 06.9 +1.0
baz=32
B28A Dugan Ranch, T 32.62 81 ⇓P P 09 37 07.1 +1.1
baz=32,SNR=7.4
RRX Edison Barstow 32.66 115 ⇓P P 09 37 07.6 +1.1
baz=32
G25A Newell 32.83 88 ⇑P P 09 37 08.9 +1.0
baz=33
O19A Miners Draw (B 32.84 100 ⇓P P 09 37 09.1 +0.8
baz=33
F26A Lodgepole 32.85 86 ⇓P P 09 37 09.1 +1.0
baz=33,SNR=6.2
SRU San Rafael 32.91 103 eP P 09 37 10.3 +1.4
SRU pmax pmax
comp=Z,9.0nm,0.9s
SRU San Rafael 32.91 103 eP P 09 37 10.2 +1.4
comp=Z,9.4nm,0.9s
M21A Separation Pea 32.93 96 ⇑P P 09 37 09.8 +0.7
baz=33
N20A Spence Gulch, 32.95 98 ⇑P P 09 37 10.4 +1.1
baz=33
RWWY Rawlins 32.96 96 eP P 09 37 09.9 +0.6
comp=Z,9.7nm,0.8s
A29A Manning Farm, 32.98 79 ⇓P P 09 37 10.0 +0.8
baz=33,SNR=9.7
I24A Kuemmerle Ranc 32.98 91 ⇓P P 09 37 10.4 +1.0
baz=33
G27A Dupree 32.99 87 ⇓P P 09 37 14.8 +5.5
baz=33,SNR=7.1
C28A Hausauer Farms 33.02 82 ⇑P P 09 37 11.1 +1.6
baz=33
H25A Fruitdale 33.08 89 ⇓P P 09 37 11.0 +0.8
baz=33,SNR=5.0
E27A Carson 33.12 85 ⇑P P 09 37 11.3 +0.9
baz=33
K23A Bowen Ranch, D 33.14 93 ⇓P P 09 37 11.8 +1.1
baz=33
RSSD Black Hills 33.15 90 eP P 09 37 11.4 +0.4
RSSD pmax pmax
comp=Z,5.0nm,0.9s
RSSD Black Hills 33.15 90 eP P 09 37 11.3 +0.4
comp=Z,5.4nm,0.9s
L22A Ellis Ranch, M 33.16 95 ⇑P P 09 37 12.1 +1.0
baz=33
B29A Wagenman Farm, 33.17 80 ⇓P P 09 37 11.5 +0.7
baz=33,SNR=8.8
F27A Lemmon 33.20 86 ⇑P P 09 37 12.0 +0.9
baz=33
G26A Maurine 33.23 87 ⇓P P 09 37 12.2 +0.8
baz=33,SNR=6.1
MDND Maddock 33.38 81 eP P 09 37 13.9 +1.2
MDND Maddock 33.38 81 ⇑P P 09 37 13.5 +0.8
baz=33
I25A Rochford 33.38 90 ⇓P P 09 37 13.2 +0.3
baz=33
P19A Cripple Cowboy 33.39 101 ⇑P P 09 37 13.7 +0.6
baz=33,SNR=5.7
N21A Black Mountain 33.41 98 ⇑P P 09 37 13.9 +0.6
baz=33
GMRC Granite Mounta 33.42 114 ⇑P P 09 37 14.2 +0.9
baz=33
O20A White River Ci 33.45 99 ⇑P P 09 37 14.3 +0.8
baz=33
LDFC Landfair 33.47 113 eP P 09 37 14.4 +0.7
comp=Z,17nm,1.0s
A30A Hoffart Farm, 33.48 79 ⇑P P 09 37 13.9 +0.3
baz=33,SNR=11
M22A Cedar Creek Ra 33.49 96 ⇓P P 09 37 14.4 +0.4
baz=33
L23A Garrett 33.52 94 ⇑P P 09 37 14.5 +0.4
baz=33,SNR=13
E28A Huff 33.52 84 ⇓P P 09 37 14.9 +1.0
baz=33
B30A Myrvik Farm, E 33.74 79 ⇑P P 09 37 16.4 +0.6
baz=34,SNR=22
P20A De Beque 33.80 100 ⇑P P 09 37 17.2 +0.5
baz=34
O21A Pagoda 33.82 98 ⇑P P 09 37 17.2 +0.4
baz=34
D29A Pettibone, Tap 33.84 82 ⇓P P 09 37 17.5 +0.8
baz=34
BELC Belle Mtn. Jos 33.86 115 ⇑P P 09 37 17.9 +0.8
baz=34
I26A New Underwood 33.87 89 ⇑P P 09 37 17.8 +0.8
baz=34
F28A McLaughlin 33.89 85 ⇓P P 09 37 17.8 +0.6
baz=34,SNR=5.2
U15A North Rim 33.92 108 ⇑P P 09 37 18.6 +0.8
baz=34,SNR=5.2
H27A Howes 33.92 88 ⇓P P 09 37 18.4 +1.0
baz=34
M23A Laramie 33.93 95 ⇓P P 09 37 18.3 +0.5
baz=34
N22A Wattenberg Ran 33.98 97 ⇑P P 09 37 18.8 +0.5
baz=34,SNR=5.5
C30A Mose, Pekin 34.09 81 ⇓P P 09 37 19.8 +1.0
baz=34
ULM Lac du Bonnet 34.09 75 eP P 09 37 19.3 +0.5
comp=Z,4.8nm,1.0s
ULM Lac du Bonnet 34.09 75 P P 09 37 18.8 0.0
comp=Z,8.1nm,0.8s,baz=297,slow=9.0,SNR=9.6
ULM LR LR 09 50 57.1
comp=Z,247nm,19.6s,baz=278,slow=36
W13A Hualapai Mount 34.09 111 ⇓P P 09 37 20.1 +0.9
baz=34
E29A Napoleon 34.11 83 ⇑P P 09 37 19.8 +0.8
baz=34
IRM Iron Mountain 34.17 114 ⇑P P 09 37 20.7 +1.0
baz=34,SNR=7.1
N23A Red Feather La 34.20 96 ⇓P P 09 37 20.4 +0.3
baz=34
J26A Sides Ranch, S 34.20 90 ⇑P P 09 37 20.6 +0.7
baz=34
Q20A Ridgley Place, 34.24 101 ⇑P P 09 37 21.2 +0.8
baz=34
D30A Buchanan 34.28 82 ⇓P P 09 37 21.1 +0.7
baz=34,SNR=8.3
I27A Quinn 34.29 88 ⇓P P 09 37 21.6 +0.9
baz=34
P21A Newcastle 34.31 99 ⇑P P 09 37 21.6 +0.6
baz=34
O22A Kremmling 34.36 98 ⇓P P 09 37 22.1 +0.5
baz=34
BC3 Big Chuckawall 34.41 115 ⇑P P 09 37 22.7 +0.8
baz=34
F29A Eureka 34.44 84 ⇑P P 09 37 22.9 +1.0
baz=34
L25A Engebretsen Ra 34.46 93 ⇑P P 09 37 23.4 +1.2
baz=34
H28A Mission Ridge 34.49 87 ⇓P P 09 37 23.6 +1.2
baz=34
TIXI Tiksi 34.51 327 eP P 09 37 21.8 -0.4
TIXI pmax pmax
comp=Z,27nm,1.7s
MONP Monument Peak 34.53 117 ⇓P P 09 37 23.7 +0.7
baz=34
K26A Motz Farm, Whi 34.54 91 ⇑P P 09 37 23.6 +0.7
baz=34
PDMCI Parker Dam,Lak 34.58 113 ⇓P P 09 37 24.2 +1.0
baz=34
PV01 Paradox Valley 34.68 102 eP P 09 37 25.2 +1.0
comp=Z,166nm,0.9s
O23A Lake Granby, G 34.68 97 ⇑P P 09 37 25.1 +0.7
baz=34
Q21A Lamborn Mesa, 34.72 100 ⇓P P 09 37 25.7 +1.1
baz=34
R20A Redvale 34.74 102 ⇑P P 09 37 25.5 +0.7
baz=35
I28A Midland 34.83 88 ⇓P P 09 37 26.1 +0.8
baz=35
N24A Carr 34.83 95 ⇑P P 09 37 26.2 +0.6
baz=35
J27A Elkhorn Farm, 34.84 90 ⇓P P 09 37 26.2 +0.8
baz=35
S20A Disappointment 35.01 102 ⇑P P 09 37 27.7 +0.5
baz=35
R21A Cimarron 35.07 101 ⇑P P 09 37 28.5 +0.8
baz=35
WUAZ Wupatki 35.10 108 eP P 09 37 29.1 +1.3
comp=Z,6.9nm,1.0s
WUAZ Wupatki 35.10 108 ⇓P P 09 37 28.9 +1.1
baz=35
ISCO Idaho Springs 35.13 97 ⇑P P 09 37 29.0 +0.7
baz=35

J28A	Allard Ranch,	35.16	89	⇓P	P	09 37 28.8	+0.7
	baz=35						
AGMN	Agassiz Nation	35.18	78	eP	P	09 37 28.6	+0.3
	comp=Z,18nm,0.8s						
GLA	Glamis	35.21	115	⇓P	P	09 37 29.8	+1.1
	baz=35						
P23A	Jefferson	35.30	98	⇓P	P	09 37 30.6	+0.8
	baz=35						
M26A	McRoberts Ranc	35.37	93	⇑P	P	09 37 30.9	+0.8
	baz=35						
MVCO	Mesa Verde	35.39	103	⇑P	P	09 37 31.1	+0.7
	baz=35						
S21A	Coal Bank Pass	35.44	102	⇓P	P	09 37 31.6	+0.6
	baz=35						
Y14A	Wickenburg	35.45	112	⇓P	P	09 37 31.8	+1.1
	baz=35						
R22A	Saguache, Gunn	35.60	100	⇑P	P	09 37 32.8	+0.5
	baz=35						
BRSD	Miller	35.79	86	eP	P	09 37 33.0	-0.5
X16A	Lo Mia Camp, P	35.90	109	⇑P	P	09 37 36.0	+1.3
	baz=36,SNR=9.5						
S22A	4UR Ranch, Cre	35.91	101	⇓P	P	09 37 35.9	+1.0
	baz=36						
Q24A	Divide	35.97	98	⇓P	P	09 37 36.1	+0.6
	baz=36						
113A	Mohawk Valley,	35.98	114	⇓P	P	09 37 35.9	+0.7
	baz=36						
O26A	Horse Wrangler	36.11	95	⇑P	P	09 37 37.5	+1.0
	baz=36						
P25A	Willow Gulch B	36.13	96	⇓P	P	09 37 38.2	+1.5
	baz=36,SNR=5.2						
N27A	Anderson Farm,	36.16	93	⇓P	P	09 37 37.9	+1.1
	baz=36						
OGNE	Ogallala	36.34	93	⇓P	P	09 37 39.7	+1.3
	baz=36						
S23A	Nye Farm, Mont	36.40	100	⇑P	P	09 37 40.3	+1.3
	baz=36						
T22A	Edith	36.40	102	⇑P	P	09 37 40.1	+1.1
	baz=36						
U21A	Nageezi	36.42	103	⇑P	P	09 37 40.3	+1.1
	baz=36						
V20A	Brimhall	36.44	105	⇑P	P	09 37 40.0	+0.6
	baz=36						
L29A	Maesberg Ranch	36.47	90	⇑P	P	09 37 40.2	+0.8
	baz=36						
Q25A	Bedland, Calha	36.51	97	⇓P	P	09 37 40.8	+0.8
	baz=36						
R24A	Sanders Place,	36.51	99	⇓P	P	09 37 41.1	+1.1
	baz=36						
P26A	Davis Ranch, A	36.56	95	⇑P	P	09 37 41.4	+1.1
	baz=36,SNR=6.1						
X18A	Snowflake	36.60	108	⇓P	P	09 37 42.2	+1.4
	baz=36						
O27A	Beecher Island	36.61	94	⇑P	P	09 37 42.2	+1.6
	baz=36						
N28A	Pribbeno Ranch	36.79	92	⇑P	P	09 37 43.9	+1.7
	baz=37						
T23A	Casias Ranch,	36.86	101	⇑P	P	09 37 44.3	+1.3
	baz=37						
S24A	Houchin Ranch,	36.88	99	⇓P	P	09 37 44.6	+1.3
	baz=37						
W20A	Ramah	36.93	106	⇓P	P	09 37 44.4	+0.8
	baz=37,SNR=5.4						
P27A	Ficken Ranch,	36.99	95	⇓P	P	09 37 45.1	+1.2
	baz=37						
R25A	Fountain Ranch	37.03	98	⇓P	P	09 37 45.1	+0.8
	baz=37						
O28A	Krutsinger Ran	37.05	93	⇑P	P	09 37 45.3	+1.0
	baz=37						
214A	Organ Pipe Nat	37.11	113	⇓P	P	09 37 46.3	+1.4
	baz=37						
T24B	San Luis	37.20	100	⇑P	P	09 37 47.2	+1.2
	baz=37						
V22A	San Miguel Ran	37.20	103	⇑P	P	09 37 46.7	+0.8
	baz=37,SNR=5.9						
U23A	El Rito	37.29	102	⇓P	P	09 37 48.0	+1.3
	baz=37,SNR=10						
S25A	Robets Cordova	37.29	99	⇑P	P	09 37 47.5	+0.9
	baz=37						
KSCO	Kaye Shedlock'	37.34	95	eP	P	09 37 48.3	+1.3
KSCO	Kaye Shedlock'	37.34	95	⇑P	P	09 37 48.1	+1.2
	baz=37,SNR=5.9						
X20A	Quemado	37.37	106	⇓P	P	09 37 48.3	+1.0
	baz=37						
R26A	Arlington	37.38	97	⇓P	P	09 37 48.1	+0.8
	baz=37						
W21A	San Fidel	37.40	105	⇑P	P	09 37 48.3	+0.7
	baz=37						
O29A	4D Ranch, Culb	37.59	92	⇓P	P	09 37 49.8	+0.9
	baz=37						
T25A	Trinidad	37.68	99	⇑P	P	09 37 51.0	+1.1
	baz=38						
V23A	Ortiz Mt. (NFS	37.73	102	⇓P	P	09 37 51.8	+1.5
	baz=38						
U24A	Moreno Valley	37.73	101	⇑P	P	09 37 51.7	+1.2
	baz=38						
YAK	Yakutsk	37.73	311	eP	P	09 37 48.2	-1.6
YAK				pmax	pmax		
	comp=E,13nm,1.3s						
YAK				pmax	pmax		
	comp=N,11nm,1.6s						
YAK				pmax	pmax		
	comp=Z,49nm,1.1s						
YAK				MLR	MLR		
	comp=Z,458nm,19.0s						
YAK				MLR	MLR		
	comp=E,305nm,20.0s						
YAK				MLR	MLR		
	comp=N,340nm,19.0s						
Q28A	Sharon Springs	37.75	95	⇓P	P	09 37 51.8	+1.4
	baz=38						
R27A	Eads	37.76	96	⇑P	P	09 37 51.7	+1.3
	baz=38						
EYMN	Ely	37.77	76	eP	P	09 37 50.8	+0.5
	comp=N,15nm,0.8s						
X21A	Alamocita Cree	37.83	106	⇓P	P	09 37 52.5	+1.3
	baz=38,SNR=14						
S26A	Kim	37.85	98	⇓P	P	09 37 52.3	+1.0
	baz=38						
P29A	Atwood	37.88	93	⇑P	P	09 37 52.6	+1.2
	baz=38						
Y20A	Horse Springs,	37.92	107	⇑P	P	09 37 53.4	+1.5
	baz=38						
O30A	MW Ranch, Wils	37.97	92	⇓P	P	09 37 53.8	+1.6
	baz=38						
T26A	Comanche Natio	38.11	98	⇓P	P	09 37 55.1	+1.6
	baz=38						
W23A	Werner Place,	38.18	103	⇓P	P	09 37 55.5	+1.3
	baz=38						
X22A	Bernardo	38.20	105	⇓P	P	09 37 56.2	+1.9
	baz=38						
BGNE	Belgrade	38.20	89	⇑P	P	09 37 55.4	+1.3
	baz=38						
U25A	Circle Dot Ran	38.22	100	⇑P	P	09 37 55.3	+0.8
	baz=38,SNR=5.8						
Y21A	Point of Rocks	38.22	106	⇓P	P	09 37 55.8	+1.3
	baz=38						
V24A	Rampart Ranch,	38.24	102	⇓P	P	09 37 55.7	+1.1
	baz=38						
R28A	Tribune	38.27	95	⇑P	P	09 37 55.9	+1.2
	baz=38						
P30A	Selden	38.30	93	⇑P	P	09 37 56.4	+1.5
	baz=38						
Z20A	Nine Sixteen R	38.41	108	⇑P	P	09 37 57.1	+1.1
	baz=38						
KULLO	Kullorsuaq	38.51	25	iP	P	09 37 57.4	+1.2
KULLO				pmax	pmax		
	comp=Z,24nm,0.8s						
W24A	Lazy 6 Ranch,	38.55	102	⇑P	P	09 37 58.3	+1.1
	baz=38,SNR=6.6						
R29A	Marienthal	38.58	95	⇓P	P	09 37 58.4	+1.1
	baz=38						
U26A	Atchley Ranch,	38.59	99	⇑P	P	09 37 58.6	+1.1
	baz=38,SNR=8.1						
Q30A	Quinter	38.71	93	⇑P	P	09 37 59.2	+0.9
	baz=38						
SPMN	St. Paul	38.71	80	eP	P	09 37 58.5	+0.3
SPMN	St. Paul	38.71	80	⇓P	P	09 37 59.0	+0.7
	baz=38						
S28A	Manter	38.75	96	⇑P	P	09 38 00.1	+1.3
	baz=39						
Z21A	St. Cloud Mine	38.75	107	⇑P	P	09 38 00.4	+1.4
	baz=39						
T28A	Walsh	38.97	97	⇓P	P	09 38 01.8	+1.2
	baz=39						
V26A	Tequesquite Ra	39.00	100	⇑P	P	09 38 02.0	+1.0
	baz=39,SNR=9.7						
W25A	X Bar L Ranch,	39.06	101	⇓P	P	09 38 02.4	+0.9
	baz=39						
U27A	Thompson Grove	39.08	99	⇓P	P	09 38 02.6	+1.0
	baz=39						
Q31A	Ellis	39.15	93	⇑P	P	09 38 03.2	+1.1
	baz=39						
Y23A	Lovelace Mesa,	39.15	104	⇓P	P	09 38 03.4	+1.1
	baz=39,SNR=5.7						
R30A	Dighton	39.16	94	⇓P	P	09 38 03.3	+1.1
	baz=39						
S29A	Ulysses	39.16	96	⇓P	P	09 38 03.4	+1.2
	baz=39						
Z22A	Elephant Butte	39.17	106	⇓P	P	09 38 03.6	+1.2
	baz=39,SNR=8.2						
121A	Cookes Peak, D	39.29	107	⇓P	P	09 38 04.9	+1.4
	baz=39						
220A	Playas Peak, P	39.38	109	⇑P	P	09 38 05.5	+1.4
	baz=39						
T29A	Hugoton	39.40	96	⇑P	P	09 38 05.4	+1.2
	baz=39						
U28A	Mallet	39.44	98	⇓P	P	09 38 05.9	+1.3
	baz=39						
X25A	Clemmons Ranch	39.46	102	⇓P	P	09 38 05.9	+1.0
	baz=39						
Y24A	Capitan	39.49	104	⇓P	P	09 38 05.8	+0.6
	baz=39						
S30A	Montezuma	39.51	95	⇓P	P	09 38 06.0	+0.9
	baz=39						
W26A	Owens Ranch, T	39.53	101	⇑P	P	09 38 06.2	+0.8
	baz=39						
V27A	Dan Oppiter Fa	39.55	99	⇓P	P	09 38 06.5	+0.9
	baz=39						
R31A	Burdett	39.58	94	⇑P	P	09 38 06.6	+1.0
	baz=39						
320A	Kipp Ranch, An	39.83	109	⇑P	P	09 38 09.5	+1.6
	baz=40						
V28A	Channing	39.90	99	⇑P	P	09 38 09.1	+0.7
	baz=40						
Y25A	Mesa, Roswell	39.90	103	⇑P	P	09 38 09.4	+0.9
	baz=40,SNR=11						
X26A	CR and CF Fran	39.91	101	⇑P	P	09 38 09.5	+0.9
	baz=40						
Z24A	Sheeppen Canyo	39.98	104	⇑P	P	09 38 09.8	+0.6
	baz=40						
123A	Bell Site, Whi	40.03	106	⇓P	P	09 38 10.6	+1.1
	baz=40						
S31A	Mullinville	40.07	94	⇑P	P	09 38 10.3	+0.5
	baz=40						
U30A	WK&E Inc. Balk	40.20	96	⇓P	P	09 38 11.6	+0.7
	baz=40						
X27A	F and S Farms,	40.23	101	⇓P	P	09 38 12.0	+0.8
	baz=40						
W28A	Vega	40.27	99	⇑P	P	09 38 12.2	+0.7
	baz=40						
T31A	Randall Ranch,	40.34	95	⇑P	P	09 38 12.5	+0.5
	baz=40						
Z25A	Roswell	40.37	104	⇑P	P	09 38 13.1	+0.7
	baz=40						
124A	Stringfield Ra	40.41	105	⇓P	P	09 38 13.4	+0.6
	baz=40						
KSU1	Kansas State U	40.64	90	eP	P	09 38 15.0	+0.6
U31A	Nine Bar Ranch	40.76	96	⇓P	P	09 38 16.4	+0.9
	baz=41						
Y27A	Causey	40.76	102	⇓P	P	09 38 16.3	+0.7
	baz=41,SNR=11						
Z26A	Caprock	40.78	103	⇑P	P	09 38 16.3	+0.6
	baz=41						
X28A	Dimmitt	40.82	100	⇓P	P	09 38 16.5	+0.5
	baz=41						
224A	Cornudas Mount	40.86	106	⇓P	P	09 38 16.9	+0.5
	baz=41,SNR=6.2						
125A	Gardner Draw,	40.88	104	⇓P	P	09 38 17.4	+0.9
	baz=41						
MSTX	Muleshoe	40.91	101	eP	P	09 38 17.4	+0.6
MSTX	Muleshoe	40.91	101	⇓P	P	09 38 17.3	+0.5
	baz=41,SNR=5.3						
X29A	Tulia	41.15	100	⇑P	P	09 38 19.2	+0.5
	baz=41						
Z27A	Tatum	41.16	102	⇑P	P	09 38 19.9	+1.0
	baz=41						
V31A	Spring Creek L	41.20	96	⇓P	P	09 38 20.1	+1.0
	baz=41						
225A	Deer Hill, Car	41.21	105	⇓P	P	09 38 20.2	+0.9
	baz=41						
MNTX	Cornudas Mount	41.22	106	eP	P	09 38 20.6	+1.3
	comp=Z,7.7nm,1.4s						
126A	Clayton Basin,	41.23	104	⇓P	P	09 38 20.7	+1.3
	baz=41						
Y28A	McKinney Farm,	41.25	101	⇓P	P	09 38 20.8	+1.2
	baz=41						
ASAJ	Asahikawa	41.25	281	eP	P	09 38 19.4	+0.1
	comp=Z,3.7nm,0.8s						
ASAJ				epP	pP	09 38 29.6	+2.1
ASAJ	Asahikawa	41.25	281	LR	LR	09 53 07.0	
	comp=Z,134nm,21.7s,baz=257,slow=33						
324A	Moseley Ranch,	41.37	106	⇑P	P	09 38 21.7	+1.1
	baz=41						
127A	Arkansas Junct	41.57	103	⇑P	P	09 38 23.2	+1.0
	baz=41						
W31A	Holland Ranch,	41.58	97	⇑P	P	09 38 23.3	+1.2
	baz=41						
226B	Tecolote Peak,	41.59	104	⇑P	P	09 38 23.0	+0.7
	baz=41						
Y29A	Porterfield Fa	41.60	100	⇓P	P	09 38 22.9	+0.5
	baz=41,SNR=9.5						
X30A	Coker Ranch, T	41.60	99	⇑P	P	09 38 22.9	+0.5
	baz=41						
Z28A	Tucker Farm, M	41.64	101	⇓P	P	09 38 22.7	0.0
	baz=42						
325A	Bean Ranch, Si	41.70	106	⇓P	P	09 38 24.4	+1.1
	baz=42,SNR=5.6						
X31A	McDonald Ranch	41.96	98	⇑P	P	09 38 26.2	+0.9
	baz=42						
Z29A	Hungry Hill Ra	42.03	101	⇓P	P	09 38 26.7	+0.8
	baz=42						
128A	Castleberry Fa	42.09	102	⇑P	P	09 38 26.9	+0.5
	baz=42						
227A	Bennet, Jal	42.11	103	⇓P	P	09 38 27.4	+0.8
	baz=42						
425A	Indio Mountain	42.14	106	⇑P	P	09 38 28.1	+1.1
	baz=42,SNR=5.8						
326A	Caldwell Ranch	42.28	105	⇑P	P	09 38 28.9	+0.9
	baz=42,SNR=6.8						
Y31A	Rekieta Farm,	42.30	99	⇓P	P	09 38 28.2	+0.1
	baz=42						
Z30A	Sanderson Ranc	42.33	100	⇑P	P	09 38 28.4	+0.1
	baz=42						
228A	UT Block 9, Go	42.41	103	⇑P	P	09 38 30.0	+0.9
	baz=42						
129A	Stewart Farms,	42.42	102	⇑P	P	09 38 29.8	+0.7
	baz=42						
WMOK	Wichita Mounta	42.55	97	eP	P	09 38 30.7	+0.6
WMOK				e*PP	pP	09 38 38.2	0.0
WMOK				pmax	pmax		
	comp=Z,11nm,1.0s						
WMOK	Wichita Mounta	42.55	97	eP	P	09 38 30.7	+0.6
	comp=Z,11nm,1.0s						
WMOK				epP	pP	09 38 38.2	0.0
Y32A	R-V Farms, Ver	42.73	98	⇓P	P	09 38 32.1	+0.6
	baz=42						
426A	McDonald Obser	42.75	105	⇑P	P	09 38 32.3	+0.3
	baz=43						
Z31A	Sharp Cattle R	42.85	99	⇑P	P	09 38 32.5	0.0
	baz=43						
328A	Wristen Ranch,	42.86	104	⇓P	P	09 38 32.4	-0.3
	baz=43						
427A	Hayter Ranch,	42.95	105	⇑P	P	09 38 34.0	+0.5
	baz=43						
229A	Bryant Ranch,	42.96	102	⇑P	P	09 38 34.0	+0.6
	baz=43						
526A	Mary Lane Ranc	43.19	106	⇓P	P	09 38 35.9	+0.4
	baz=43						
131A	Roby	43.20	100	⇓P	P	09 38 35.8	+0.4
	baz=43						
Z32A	Haskell	43.23	99	⇑P	P	09 38 35.7	+0.1
	baz=43						
329A	Wagon Wheel Ra	43.23	103	⇑P	P	09 38 36.1	+0.4
	baz=43,SNR=10						
TUL1	Tulsa	43.36	93	⇑P	P	09 38 36.7	+0.1
	baz=43						
527A	Woodward Ranch	43.38	106	⇓P	P	09 38 37.5	+0.5
	baz=43,SNR=5.8						
230A	Sterling City	43.40	101	⇓P	P	09 38 37.5	+0.4
	baz=43,SNR=10						
428A	Kincaid Ranch,	43.43	104	⇑P	P	09 38 38.5	+1.2
	baz=43,SNR=11						
626A	Big Bend Ranch	43.57	107	⇓P	P	09 38 39.0	+0.6
	baz=43,SNR=8.1						
ABTX	Abilene, Hawle	43.65	99	eP	P	09 38 39.1	+0.1
ABTX				epP	pP	09 38 46.6	-0.5
ABTX	Abilene, Hawle	43.65	99	⇑P	P	09 38 39.1	+0.1
	baz=44						
330A	Mertzon	43.73	102	⇓P	P	09 38 39.8	+0.1
	baz=44,SNR=11						
KLR	Kul'dur	43.78	294	eP	P	09 38 36.0	-3.8
231A	Bronte	43.80	101	⇓P	P	09 38 40.2	0.0
	baz=44,SNR=5.2						
528A	Cox Ranch, San	43.81	105	⇓P	P	09 38 41.2	+0.8
	baz=44,SNR=7.8						
429A	Davenport Ranc	43.94	103	⇑P	P	09 38 41.5	+0.1
	baz=44,SNR=8.1						
TXAR	Lajitas Array	43.99	106	P	P	09 38 42.3	+0.4
TXAR				pP	pP	09 38 50.2	+0.2
TXAR				PcP	PcP	09 40 26.8	-0.4
TXAR	Lajitas Array	43.99	106	P	P	09 38 42.3	+0.4
	comp=Z,4.6nm,0.8s,baz=317,slow=5.2,SNR=59						
TXAR				pP	pP	09 38 50.2	+0.2
	comp=Z,4.6nm,0.9s,baz=311,slow=5.5,SNR=14						
TXAR				PcP	PcP	09 40 26.8	-0.4
	comp=Z,1.3nm,0.8s,baz=270,slow=1.8,SNR=11						
SUMG	Summit	44.01	23	eP	P	09 38 42.7	+0.9
SUMG				pmax	pmax		
	comp=Z,35nm,1.0s						
SUMG	Summit	44.01	23	⇑iP	P	09 38 42.7	+0.9
	comp=Z,19nm,0.9s						
SUMG	Summit	44.01	23	eP	P	09 38 42.7	+0.9
	comp=Z,35nm,1.0s						
627A	Terlingua Ranc	44.05	106	⇓P	P	09 38 43.0	+0.7
	baz=44,SNR=7.8						
529A	Stev Forest Ra	44.15	104	⇑P	P	09 38 43.8	+0.7
	baz=44,SNR=13						
430A	Baggett Ranch,	44.17	103	⇑P	P	09 38 43.7	+0.5
	baz=44,SNR=7.0						
232A	Coleman	44.20	100	⇓P	P	09 38 43.4	0.0
	baz=44						
331A	San Angelo	44.22	101	⇑P	P	09 38 43.6	0.0
	baz=44						
628A	Black Gap, Mar	44.29	105	⇑P	P	09 38 45.1	+0.9
	baz=44,SNR=11						
SFJD	Kangerlussuaq	44.48	33	iP	P	09 38 46.2	+1.0
	comp=Z,7.4nm,1.0s						
SFJD	Kangerlussuaq	44.48	33	LR	LR	09 59 31.9	
	comp=Z,290nm,18.5s,baz=314,slow=39						
332A	Millersview	44.54	101	⇑P	P	09 38 46.5	+0.4
	baz=44						
431A	Sonora	44.60	102	⇓P	P	09 38 47.0	+0.3
	baz=44,SNR=5.9						
530A	J-C Ranch, Com	44.61	103	⇓P	P	09 38 46.9	+0.1
	baz=44						
432A	Menard	44.90	101	⇓P	P	09 38 49.0	0.0
	baz=45,SNR=5.2						
531A	Rocksprings	45.03	103	⇓P	P	09 38 50.5	+0.4
	baz=45,SNR=10.0						
SFIN	Scholer Farm	45.06	81	⇓P	P	09 38 49.6	-0.5
	baz=45						
JCT	Junction City	45.20	102	eP	P	09 38 51.8	+0.4
JCT				e*PP	pP	09 38 59.2	-0.4
JCT				pmax	pmax		
	comp=Z,21nm,1.0s						
JCT	Junction City	45.20	102	eP	P	09 38 51.8	+0.4
	comp=Z,21nm,1.0s						
JCT				epP	pP	09 38 59.2	-0.4
JCT	Junction City	45.20	102	⇑P	P	09 38 51.6	+0.2
	baz=45,SNR=7.9						
532A	Rocksprings	45.41	102	⇓P	P	09 38 52.9	-0.3
	baz=45						
MIAR	Mount Ida	45.59	92	eP	P	09 38 54.7	+0.3
MIAR				e*PP	pP	09 39 02.2	-0.5
MIAR				pmax	pmax		
	comp=Z,17nm,1.0s						
MIAR	Mount Ida	45.59	92	eP	P	09 38 54.7	+0.3
	comp=Z,17nm,1.0s						
MIAR				epP	pP	09 39 02.2	-0.5
631A	Perdido Creek	45.60	103	⇓P	P	09 38 54.4	-0.2
	baz=45,SNR=10.0						
SCHQ	Schefferville	45.95	53	eP	P	09 38 57.3	+0.2
	comp=Z,13nm,0.7s						
SCHQ				pP	pP	09 39 05.0	-0.3
SCHQ	Schefferville	45.95	53	P	P	09 38 57.1	+0.1
	comp=Z,13nm,0.8s,baz=311,slow=9.5,SNR=12						
SCHQ				pP	pP	09 39 05.0	-0.3
	comp=Z,12nm,0.7s,baz=314,slow=10,SNR=9.5						
632A	Uvalde	45.96	102	⇓P	P	09 38 57.3	-0.1
	baz=46,SNR=7.1						
USRK	Ussuriysk Arra	46.93	288	P	P	09 39 03.5	-1.3
	comp=Z,2.2nm,0.8s,baz=57,slow=10,SNR=5.9						
WVT	Waverly	47.65	86	eP	P	09 39 10.6	+0.1
WVT				e*PP	pP	09 39 18.0	-0.8
WVT				pmax	pmax		
	comp=Z,6.0nm,0.9s						
WVT	Waverly	47.65	86	eP	P	09 39 10.6	+0.1
	comp=Z,5.7nm,0.9s						
WVT				epP	pP	09 39 18.0	-0.8
HKT	Hockley	47.79	98	eP	P	09 39 12.8	+1.2
HKT				e*PP	pP	09 39 20.2	+0.4
HKT				pmax	pmax		
	comp=Z,17nm,1.4s						
HKT	Hockley	47.79	98	eP	P	09 39 12.8	+1.2
	comp=Z,17nm,1.4s						
HKT				epP	pP	09 39 20.2	+0.4
ALLY	Alegheny Colle	47.98	75	eP	P	09 39 13.1	0.0
	comp=Z,13nm,0.9s						
ALLY				epP	pP	09 39 21.2	-0.2
MJAR	Matsushiro Arr	48.88	277	P	P	09 39 19.6	-0.5
MJAR	Matsushiro Arr	48.88	277	P	P	09 39 19.6	-0.5
	comp=Z,1.5nm,0.5s,baz=39,slow=6.6,SNR=7.1						
MAT	Matsushiro	48.89	277	P	P	09 39 19.3	-0.8
NCB	Newcomb	49.53	69	eP	P	09 39 25.0	+0.1
	comp=Z,14nm,1.0s						
NCB				epP	pP	09 39 32.6	-0.6
BINY	Binghamton	49.83	72	eP	P	09 39 27.3	+0.1
	comp=Z,27nm,1.0s						
BINY				epP	pP	09 39 35.1	-0.4
ACCN	Adirondack Com	50.22	69	eP	P	09 39 30.1	-0.1
	comp=Z,12nm,1.1s						
ACCN				epP	pP	09 39 38.3	-0.1
CN2	Changchun	50.63	292	eP	P	09 39 33.3	+0.1
CN2				epP	pP	09 39 40.8	-0.7
CN2				eS	S	09 46 43.8	-2.2
CN2				pmax	pmax		
	comp=Z,20nm,0.9s						
CN2				LR	LR		
	comp=N,400nm,16.0s						
CN2				LR	LR		
	comp=E,200nm,16.0s						
CN2				LR	LR		
	comp=Z,200nm,18.0s						
KMSC	Kings Mountain	51.99	82	⇓P	P	09 39 43.1	-0.4
	baz=52						
WES	Weston	52.15	68	eP	P	09 39 44.9	+0.3
WES				e*PP	pP	09 39 52.7	-0.2
WES	Weston	52.15	68	eP	P	09 39 44.9	+0.3
WES				epP	pP	09 39 52.7	-0.2
KSRS	Korea Array	53.87	285	P	P	09 39 57.7	+0.4
	comp=Z,4.2nm,0.7s,baz=45,slow=7.0,SNR=20						
KSRS				LR	LR	10 03 53.1	
	comp=Z,51nm,18.1s,baz=153,slow=37						
KSAR	Wonju Array Be	53.90	285	P	P	09 39 57.7	+0.1
BORG	Borgarnes	53.99	23	LR	LR	10 05 05.6	
	comp=Z,134nm,18.3s,baz=110,slow=38						
ARCES	ARCESS Array B	54.60	0	P	P	09 40 02.5	+0.2
ARCES				pP	pP	09 40 10.1	-0.5
ARCES	ARCESS Array B	54.60	0	P	P	09 40 02.5	+0.2
	comp=Z,4.5nm,0.6s,baz=7.6,slow=7.5,SNR=32						
ARCES				pP	pP	09 40 10.1	-0.5
	comp=Z,3.5nm,0.6s,baz=2.5,slow=8.1,SNR=3.5			

SONM pP **pP** **09 40 27.8 +0.2**
comp=Z,12nm,0.8s,baz=52,slow=7.5,SNR=11
SONM PcP **PcP** **09 41 15.4 +1.0**
comp=Z,5.1nm,0.8s,baz=47,slow=2.8,SNR=3.6
SONM LR LR 10 08 45.6
comp=Z,140nm,19.4s,baz=255,slow=40
HVS Khovu-Aksy 59.55 318 *eP* **P** **09 40 38.7 +1.1**
NVS Novosibirsk 60.11 326 *eP* **P** **09 40 40.0 -1.2**
ZAA0 Zalesovo Array 60.35 325 *eP* **P** **09 40 43.8 +0.9**
ZAA0 *ep*P **pP** **09 40 51.5 +0.1**
ZALV Zalesovo Beam 60.35 325 P **P** **09 40 43.3 +0.3**
ZALV *PP **pP** **09 40 50.8 -0.6**
ZALV Zalesovo Beam 60.35 325 P **P** **09 40 43.3 +0.3**
ZALV pP **pP** **09 40 50.8 -0.6**
ZALV Zalesovo Beam 60.35 325 P **P** **09 40 43.3 +0.3**
comp=Z,9.7nm,0.8s,baz=36,slow=6.9,SNR=31
ZALV pP **pP** **09 40 50.8 -0.6**
comp=Z,8.7nm,0.7s,baz=33,slow=7.1,SNR=13
ZALV LR LR 10 09 55.2
comp=Z,176nm,19.3s,baz=65,slow=39
JOF Joensuu 61.19 358 *eP* **P** **09 40 49.4 +0.9**
JOF Joensuu 61.19 358 *ep* **P** **09 40 49.4 +0.9**
KAF Kangasniemi 62.06 0 *eP* **P** **09 40 54.8 +0.4**
KAF Kangasniemi 62.06 0 *ep* **P** **09 40 54.8 +0.4**
SOKR Solikamsk 62.11 343 *eP* **P** **09 40 54.9 +0.2**
SOKR pmax pmax
comp=Z,20nm,0.9s
SOKR MLR MLR
comp=Z,160nm,19.0s
NB2 NORSAR Subarra 62.51 8 P **P** **09 40 57.9 +0.4**
comp=Z,3.5nm,0.5s,baz=350,slow=6.9
NOA NORSAR Array B 62.51 8 P **P** **09 40 57.8 +0.4**
NOA NORSAR Array B 62.51 8 P **P** **09 40 57.8 +0.4**
comp=Z,7.5nm,0.8s,baz=350,slow=6.7,SNR=14
FINES FINESS Array B 62.73 0 P **P** **09 40 59.0 +0.2**
FINES FINESS Array B 62.73 0 P **P** **09 40 59.0 +0.2**
comp=Z,8.0nm,0.9s,baz=12,slow=7.5,SNR=15
KLMR Klimovskoe 62.88 353 *eP* **P** **09 40 59.1 -0.7**
KLMR pmax pmax
comp=Z,19nm,1.0s
ARU Arti 64.81 341 *c iP* **P** **09 41 12.6 0.0**
ARU S **S** **09 49 51.5 +0.2**
ARU pmax pmax
comp=Z,18nm,1.2s
BRVK Borovoye 65.36 333 *eP* **P** **09 41 16.7 +0.4**
BRVK *e**PP **pP** **09 41 24.5 -0.3**
BRVK pmax pmax
comp=Z,11nm,0.8s
BRVK Borovoye 65.36 333 *eP* **P** **09 41 16.7 +0.4**
comp=Z,11nm,0.8s
BRVK *ep*P **pP** **09 41 24.5 -0.3**
GTA Gaotai 66.47 306 *eP* **P** **09 41 23.9 +0.1**
GTA pmax pmax
comp=Z,6.0nm,1.0s
MK31 Makanchi Array 67.30 322 *eP* **P** **09 41 29.1 +0.3**
MK31 *e**PP **pP** **09 41 36.9 -0.5**
MK31 Makanchi Array 67.30 322 *eP* **P** **09 41 29.1 +0.3**
MK31 *ep*P **pP** **09 41 36.9 -0.5**
MKAR Makanchi Array 67.30 322 P **P** **09 41 28.7 -0.2**
MKAR Makanchi Array 67.30 322 P **P** **09 41 28.7 -0.2**
MKAR Makanchi Array 67.30 322 P **P** **09 41 28.7 -0.2**
comp=Z,2.6nm,0.8s,baz=32,slow=6.2,SNR=13
MKAR LR LR 10 13 39.8
comp=Z,145nm,18.9s,baz=207,slow=38
OBN Obninsk 68.78 354 ||*iP* **P** **09 41 37.5 -0.4**
OBN *e* 09 44 11.0
OBN *eS* **S** **09 50 36.6 -2.6**
OBN pmax pmax
comp=Z,27nm,1.7s
OBN MLR MLR
comp=Z,100nm,19.0s
AKTO Aktyubinsk 70.60 339 P **P** **09 41 49.3 0.0**
AKTO Aktyubinsk 70.60 339 P **P** **09 41 49.3 0.0**
AKTO Aktyubinsk 70.60 339 P **P** **09 41 49.3 0.0**
comp=Z,6.0nm,0.6s,baz=20,slow=7.1,SNR=20
ABKAR Akbulak array 71.33 338 *eP* **P** **09 41 54.0 +0.4**
comp=Z,5.6nm,0.6s
ABKAR *ep*P **pP** **09 42 02.4 +0.1**
CLL Collm 72.31 9 *eP* **P** **09 42 00.0 +0.5**
CLL *i* 09 42 08.5
CLL pmax pmax
comp=Z,8.0nm,1.2s
CLL Collm 72.31 9 *eP* **P** **09 42 00.0 +0.5**
comp=Z,8.0nm,1.2s
CLL *i* 09 42 08.5
CLL LmV 10 20 00.0
comp=Z,100nm,19.2s
VRHR Novokhopersk 72.38 350 *eP* **P** **09 41 57.9 -2.0**
VRHR pmax pmax
comp=Z,7.0nm,0.9s
VRHR pmax pmax
comp=N,20nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.7s
VORD Divnogorie 72.71 352 *eP* **P** **09 42 01.7 -0.2**
VORD pmax pmax
comp=Z,20nm,1.1s
VORD pmax pmax
comp=N,20nm,0.8s
VORD pmax pmax
comp=E,7.0nm,0.5s
TKM2 Tokmak 2 72.96 325 *eP* **P** **09 42 05.1 +1.3**
TKM2 *e**PP **pP** **09 42 13.2 +0.8**
TKM2 pmax pmax
comp=Z,4.0nm,1.0s
TKM2 Tokmak 2 72.96 325 *eP* **P** **09 42 05.1 +1.3**
comp=Z,3.8nm,1.0s
TKM2 *ep*P **pP** **09 42 13.2 +0.8**
AKASG Malin Array Be 73.48 358 P **P** **09 42 05.8 -0.6**
AKASG Malin Array Be 73.48 358 P **P** **09 42 05.8 -0.6**
AKASG Malin Array Be 73.48 358 P **P** **09 42 05.8 -0.6**
comp=Z,5.7nm,0.6s,baz=3.4,slow=5.7,SNR=12
KIEV Kiev 73.48 358 *eP* **P** **09 42 06.4 -0.1**
KIEV pmax pmax
comp=Z,9.0nm,0.9s
KIEV Kiev 73.48 358 *eP* **P** **09 42 06.4 -0.1**
comp=Z,8.9nm,0.9s
AAK Ala-Archa 73.57 325 LR LR 10 17 11.1
comp=Z,109nm,18.6s,baz=8.9,slow=38
EKS2 Erkin-Say 73.78 326 *eP* **P** **09 42 10.0 +1.5**
EKS2 pmax pmax
comp=Z,4.0nm,0.9s
EKS2 Erkin-Say 73.78 326 *eP* **P** **09 42 10.0 +1.5**
comp=Z,4.2nm,0.9s
PAGF Fort de Pagny 74.21 14 *eP* **P** **09 42 11.9 +1.1**
comp=Z,2.5nm,0.5s
PAGF Fort de Pagny 74.21 14 *eP* **P** **09 42 11.9 +1.1**
comp=Z,2.5nm,0.5s
KKAR Karatay Array 74.37 328 *eP* **P** **09 42 12.4 +0.5**
KKAR *e**PP **pP** **09 42 20.8 +0.3**
KKAR pmax pmax
comp=Z,3.0nm,0.6s
KKAR Karatay Array 74.37 328 *eP* **P** **09 42 12.3 +0.5**
comp=Z,2.9nm,0.6s
KKAR *ep*P **pP** **09 42 20.8 +0.3**
KHC Kasperske Hory 74.52 9 *eP* **P** **09 42 14.0 +1.4**
KHC *e**PP **pP** **09 42 22.2 +1.0**
KHC pmax pmax
comp=Z,5.0nm,0.8s
KHC Kasperske Hory 74.52 9 *eP* **P** **09 42 12.0 -0.6**
KHC Kasperske Hory 74.52 9 *eP* **P** **09 42 13.9 +1.4**
comp=Z,4.8nm,0.8s
KHC *ep*P **pP** **09 42 22.2 +1.0**
STHS Stebnicka Huta 74.69 4 *eP* **P** **09 42 15.1 +1.5**
STHS pmax pmax
comp=Z,7.0nm,0.9s
STHS Stebnicka Huta 74.69 4 *eP* **P** **09 42 15.1 +1.5**
GERES GERESS Array B 74.81 9 P **P** **09 42 14.8 +0.4**
GERES GERESS Array B 74.81 9 P **P** **09 42 14.8 +0.4**
comp=Z,2.8nm,0.7s,baz=350,slow=5.0,SNR=19
HAU Haudompre 74.83 14 *eP* **P** **09 42 15.1 +0.7**
HAU *eR*
comp=Z,260nm,21.2s
HAU Haudompre 74.83 14 *eP* **P** **09 42 15.1 +0.7**
HAU Haudompre 74.83 14 *eP* **P** **09 42 15.1 +0.7**
HYF Humbligny 75.00 17 *eP* **P** **09 42 16.4 +1.0**
HYF Humbligny 75.00 17 *eP* **P** **09 42 16.4 +1.0**
MFF Saint Martin d 75.18 19 *eP* **P** **09 42 17.2 +0.8**
comp=Z,17nm,0.7s
MFF Saint Martin d 75.18 19 *eP* **P** **09 42 17.2 +0.8**
MFF pmax pmax
comp=Z,17nm,0.7s
MFF Saint Martin d 75.18 19 *eP* **P** **09 42 17.2 +0.8**
comp=Z,17nm,0.7s
LOR Lormes 75.19 16 *eP* **P** **09 42 17.3 +0.8**
comp=Z,17nm,0.8s
LOR *eR*
comp=Z,219nm,19.0s
LOR Lormes 75.19 16 *eP* **P** **09 42 17.3 +0.8**
comp=Z,17nm,0.8s
KOLS Kolonicke sedl 75.21 3 *eP* **P** **09 42 17.5 +0.9**
KOLS Kolonicke sedl 75.21 3 *eP* **P** **09 42 17.5 +0.9**
CRVS Cervenica-Dubn 75.22 3 *eP* **P** **09 42 17.8 +1.2**
CRVS Cervenica-Dubn 75.22 3 *eP* **P** **09 42 17.8 +1.2**
SSF Saint Saulge 75.34 16 *eP* **P** **09 42 18.1 +0.7**
comp=Z,16nm,0.7s
SSF Saint Saulge 75.34 16 *eP* **P** **09 42 18.1 +0.7**
SSF pmax pmax
comp=Z,16nm,0.7s
SSF Saint Saulge 75.34 16 *eP* **P** **09 42 18.1 +0.7**
comp=Z,16nm,0.7s
VYHS Vyhne 75.51 5 *eP* **P** **09 42 19.1 +0.8**
VYHS pmax pmax
comp=Z,3.0nm,1.2s
VYHS Vyhne 75.51 5 *eP* **P** **09 42 19.1 +0.8**
AVF Avril sur Loir 75.58 16 *eP* **P** **09 42 19.2 +0.5**
comp=Z,11nm,0.6s
AVF Avril sur Loir 75.58 16 *eP* **P** **09 42 19.2 +0.5**
AVF pmax pmax
comp=Z,11nm,0.6s
AVF Avril sur Loir 75.58 16 *eP* **P** **09 42 19.2 +0.5**
comp=Z,11nm,0.6s
KECS Kecovo 75.60 4 *eP* **P** **09 42 19.6 +0.8**
KECS Kecovo 75.60 4 *eP* **P** **09 42 19.6 +0.8**
BGF Bois d'Agland 75.73 17 *eP* **P** **09 42 20.2 +0.6**
comp=Z,17nm,0.7s
BGF Bois d'Agland 75.73 17 *eP* **P** **09 42 20.2 +0.6**
BGF pmax pmax
comp=Z,17nm,0.7s
BGF Bois d'Agland 75.73 17 *eP* **P** **09 42 20.2 +0.6**
comp=Z,17nm,0.7s
SMF Signal de Mont 75.80 16 *eP* **P** **09 42 20.4 +0.4**
comp=Z,12nm,0.7s
SMF Signal de Mont 75.80 16 *eP* **P** **09 42 20.4 +0.4**
SMF pmax pmax
comp=Z,12nm,0.6s
SMF Signal de Mont 75.80 16 *eP* **P** **09 42 20.4 +0.4**
comp=Z,12nm,0.6s
TCF Toulx Ste Croi 75.89 17 *eP* **P** **09 42 21.0 +0.5**
comp=Z,9.1nm,0.7s
TCF Toulx Ste Croi 75.89 17 *eP* **P** **09 42 21.0 +0.5**
TCF pmax pmax
comp=Z,9.0nm,0.7s
TCF Toulx Ste Croi 75.89 17 *eP* **P** **09 42 21.0 +0.5**
comp=Z,9.1nm,0.7s
KSH Kashi 75.89 323 P P 09 42 24.6 +3.8
KSH sP sP 09 42 35.4 +2.8
KSH PP PP 09 45 17.0 +6.5
KSH S **S** **09 52 05.5 +4.1**
KSH sS sS 09 52 18.1 +2.4
KSH SKS **SKSac** **09 52 28.1 -1.2**
KSH pmax pmax
comp=Z,7.0nm,1.0s
KSH pmax pmax
comp=Z,61nm,4.3s
KSH LR LR
comp=N,62nm,5.4s
KSH LR LR
comp=E,120nm,5.4s
KSH LR LR
comp=Z,120nm,7.2s
CONA Conrad Observa 75.89 7⇑*iP* **P** **09 42 22.2 +1.6**
comp=Z,9.0nm,1.6s
MOTA Moosalm 76.05 11 ||*iP* **P** **09 42 22.5 +0.9**
comp=Z,12nm,1.2s
CABF La Chapelle 76.16 14 *eP* **P** **09 42 23.0 +0.8**
comp=Z,8.2nm,0.5s
CABF La Chapelle 76.16 14 *eP* **P** **09 42 23.0 +0.8**
CABF pmax pmax
comp=Z,8.0nm,0.5s
CABF La Chapelle 76.16 14 *eP* **P** **09 42 23.0 +0.8**
comp=Z,8.2nm,0.5s
WTTA Wattenberg 76.18 10⇑*iP* **P** **09 42 23.6 +1.2**
comp=Z,17nm,1.3s
FETA Feichten 76.33 11⇑*iP* **P** **09 42 24.3 +1.1**
comp=Z,12nm,1.1s
BUR08 Bucovina Ar. S 76.55 1 *eP* **P** **09 42 25.2 +0.8**
BUR08 *ep*P **pP** **09 42 33.4 +0.3**
RJF Les Rejaudoux 76.72 18 *eP* **P** **09 42 25.5 +0.2**
comp=Z,17nm,0.9s
RJF *eR*
comp=Z,178nm,20.2s
RJF Les Rejaudoux 76.72 18 *eP* **P** **09 42 25.5 +0.2**
RJF pmax pmax
comp=Z,17nm,0.9s
RJF Les Rejaudoux 76.72 18 *eP* **P** **09 42 25.5 +0.2**
comp=Z,17nm,0.9s
LFF La Frestale 76.94 19 *eP* **P** **09 42 27.3 +0.8**
comp=Z,15nm,0.6s
LFF La Frestale 76.94 19 *eP* **P** **09 42 27.3 +0.8**
LFF pmax pmax
comp=Z,15nm,0.6s
LFF La Frestale 76.94 19 *eP* **P** **09 42 27.3 +0.8**
comp=Z,15nm,0.6s
SOKA Soboth 77.07 8⇑*iP* **P** **09 42 27.7 +0.4**
comp=Z,11nm,1.2s
CAF Calviac 77.19 18 *eP* **P** **09 42 28.5 +0.6**
comp=Z,11nm,0.7s
CAF Calviac 77.19 18 *eP* **P** **09 42 28.5 +0.6**
CAF pmax pmax
comp=Z,11nm,0.7s
CAF Calviac 77.19 18 *eP* **P** **09 42 28.5 +0.6**
comp=Z,11nm,0.7s
KIS Kishinev 77.19 358 *eP* **P** **09 42 27.0 -0.8**
KIS Kishinev 77.19 358 *eP* **P** **09 42 27.0 -0.8**
OBKA Obir 77.20 8⇑*iP* **P** **09 42 28.7 +0.6**
comp=Z,14nm,0.8s
VIVF Saint-Julien-l 77.67 16 *eP* **P** **09 42 31.4 +0.8**
comp=Z,14nm,0.8s
VIVF Saint-Julien-l 77.67 16 *eP* **P** **09 42 31.4 +0.8**
VIVF pmax pmax
comp=Z,14nm,0.8s
VIVF Saint-Julien-l 77.67 16 *eP* **P** **09 42 31.4 +0.8**
comp=Z,14nm,0.8s
ORIF Oris-en-Rattie 77.79 15 *eP* **P** **09 42 32.2 +0.8**
comp=Z,19nm,0.8s
ORIF *eR*
comp=Z,159nm,22.2s
ORIF Oris-en-Rattie 77.79 15 *eP* **P** **09 42 32.2 +0.8**
ORIF pmax pmax
comp=Z,19nm,0.8s
ORIF Oris-en-Rattie 77.79 15 *eP* **P** **09 42 32.2 +0.8**
comp=Z,19nm,0.8s
SMRF Simiane la Rot 78.67 15 *eP* **P** **09 42 37.6 +1.4**
comp=Z,11nm,0.7s
SMRF Simiane la Rot 78.67 15 *eP* **P** **09 42 37.6 +1.4**
comp=Z,11nm,0.7s
ETSF Etsaut 78.68 20 *eP* **P** **09 42 37.5 +1.2**
comp=Z,21nm,0.8s
ETSF Etsaut 78.68 20 *eP* **P** **09 42 37.5 +1.2**
ETSF pmax pmax
comp=Z,21nm,0.8s
ETSF Etsaut 78.68 20 *eP* **P** **09 42 37.5 +1.2**
comp=Z,21nm,0.8s
MTLF Montolieu 78.75 18 *eP* **P** **09 42 37.3 +0.7**
comp=Z,9.1nm,0.7s
MTLF Montolieu 78.75 18 *eP* **P** **09 42 37.3 +0.7**
MTLF pmax pmax
comp=Z,9.0nm,0.7s
MTLF Montolieu 78.75 18 *eP* **P** **09 42 37.3 +0.7**
comp=Z,9.1nm,0.7s
KIV Kislovodsk 79.33 348 ||*eP* **P** **09 42 40.7 +0.9**
KIV *e* 09 45 36.9
KIV *eS* **S** **09 52 33.0 -5.3**
KIV pmax pmax
comp=Z,10.0nm,1.0s
LMR La Mourre 79.43 15 *eP* **P** **09 42 41.1 +0.8**
LMR La Mourre 79.43 15 *eP* **P** **09 42 41.1 +0.8**
LMR La Mourre 79.43 15 *eP* **P** **09 42 41.1 +0.8**
KBZ Khabaz 79.52 348 P **P** **09 42 41.9 +1.1**
KBZ Khabaz 79.52 348 P **P** **09 42 41.9 +1.1**
KBZ Khabaz 79.52 348 P **P** **09 42 41.9 +1.1**
comp=Z,8.3nm,0.9s,baz=317,slow=3.9,SNR=14
ESDC Sonseca Array 81.07 23 P **P** **09 42 50.0 +0.7**
ESDC pP **pP** **09 42 58.0 0.0**
ESDC Sonseca Array 81.07 23 P **P** **09 42 50.0 +0.7**
comp=Z,4.5nm,0.7s,baz=340,slow=5.2,SNR=17
ESDC pP **pP** **09 42 58.0 0.0**
comp=Z,2.2nm,0.7s,baz=347,slow=4.9,SNR=4.2
EVOP Sao Brissos 81.17 27 *eP* **P** **09 42 50.2 +0.5**
EVOP pmax pmax
comp=Z,19nm,1.1s
EVOP Sao Brissos 81.17 27 *eP* **P** **09 42 50.2 +0.5**
comp=Z,19nm,1.1s
EVO Evora 81.20 27 *eP* **P** **09 42 50.2 +0.3**
comp=Z,19nm,1.1s
EVO *eR*
comp=Z,312nm,19.5s
TAPN Taplejung 82.03 308 *eP* **P** **09 42 55.2 +0.4**
comp=Z,30nm,0.7s
GUN Gumba 82.34 310 *eP* **P** **09 42 57.3 +0.8**
comp=Z,31nm,0.8s
JIRN Jiri 82.42 309 *eP* **P** **09 42 57.9 +0.9**
comp=Z,45nm,0.7s
KKN Kakani 82.70 310 *eP* **P** **09 42 58.6 +0.4**
PKI Pulchoki 82.83 310 *eP* **P** **09 42 59.6 +0.5**
PKIN Phulchoki 82.83 310 *eP* **P** **09 43 00.3 +1.3**
comp=Z,11nm,0.7s
DANN Dangsing 82.85 312 *eP* **P** **09 43 00.2 +1.1**
comp=Z,89nm,0.8s
RAMN Ramite 82.86 309 *eP* **P** **09 42 59.5 +0.4**
comp=Z,52nm,0.9s
DMN Daman 82.93 310 *eP* **P** **09 43 00.1 +0.6**
PYUN Piuthan 83.39 312 *eP* **P** **09 43 02.5 +0.7**
KOLN Koldanda 83.43 312 *eP* **P** **09 43 02.5 +0.5**
CM31 Chiang Mai Arr 84.25 295 *eP* **P** **09 43 06.4 +0.3**
comp=Z,4.5nm,0.5s
CMAR Chiang Mai Arr 84.25 295 P **P** **09 43 06.0 -0.1**
CMAR Chiang Mai Arr 84.25 295 P **P** **09 43 06.0 -0.1**
comp=Z,9.3nm,0.8s,baz=19,slow=4.6,SNR=37
BR131 Keskin Array S 84.29 355 *eP* **P** **09 43 07.0 +0.9**
comp=Z,0.8nm,0.6s
BR131 *ep*P **pP** **09 43 14.5 -0.3**
BRTR Keskin Array B 84.29 355 P **P** **09 43 06.4 +0.3**
BRTR pP **pP** **09 43 14.0 -0.9**
BRTR Keskin Array B 84.29 355 P **P** **09 43 06.4 +0.3**
comp=Z,1.9nm,0.8s,baz=0.0,slow=2.0,SNR=11
BRTR pP **pP** **09 43 14.0 -0.9**
comp=Z,2.6nm,0.8s,baz=350,slow=3.7,SNR=9.9
MMAI Mount Meron Ar 90.85 353 LR LR 10 31 27.5
comp=Z,41nm,19.1s,baz=325,slow=40
ASF Jabal al Asfar 91.57 351 LR LR 10 29 33.6
comp=Z,42nm,19.9s,baz=174,slow=39
KAPI Kappang 92.35 265 LR LR 10 26 03.2
comp=Z,217nm,19.8s,baz=17,slow=36
BOSA Boshof 152.45 2 PKPbc **PKPbc** **09 50 29.6 -0.6**
BOSA Boshof 152.45 2 PKPbc **PKPbc** **09 50 29.6 -0.6**
comp=Z,4.5nm,0.7s,baz=342,slow=2.6,SNR=9.4

IDC 04 09:38:40.2±24.0, 15°.88S×173°.36W, h0km, mb4.4/4, mb1 4.6/4, mb1mx3.9/22, mbtmp4.4/4, Error ellipse: s-maj=449.7km s-min=154.6km az=71.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**38.57**	**258**	P	P	09 46 05.3	+0.1
	1.5nm,0.4s,baz=111,slow=8.6,SNR=4.1						
STKA	**Stephens Creek**	**43.83**	**240**	P	P	09 46 48.5	+0.3
	3.2nm,0.8s,baz=76,slow=10,SNR=6.3						
WRA	**Warramunga Arr**	**49.77**	**257**	P	P	09 47 34.6	-0.5
	1.4nm,0.4s,baz=95,slow=7.0,SNR=64						
ASAR	**Alice Springs**	**50.00**	**252**	P	P	09 47 36.5	-0.2
	11nm,0.5s,baz=87,slow=8.5,SNR=249						

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*IDC **04** 09:45:08.4±0.5, 19°.84N×71°.44W, h0km, mb4.1/21, mb1 4.2/23, mb1mx4.2/30, mbtmp4.1/23, ML3.7/2, MS4.1/16, Ms1 4.1/16, ms1mx3.9/31, Error ellipse: s-maj=18.4km s-min=12.0km az=57.0*

*ISCJB **04** 09:45:12.1±0.5, 19°.83N±0°.03×71°.44W±0°.02, h33km±5km, mb4.3/56, MS4.1/13, Error ellipse: s-maj=4.9km s-min=3.4km az=22.5*

*NEIC **04** 09:45:14.2±0.2, 19°.87N×71°.41W, h35km, mb4.4/38, Error ellipse: s-maj=6.0km s-min=3.5km az=220.0*

*GCMT **04** 09:45:15.2±0.3, 20°.04N×71°.47W, h16km±1km, MW4.8, Moment Tensor Solution. s22,c22; s66,c98; Moment tensor: Scale 10^{16}Nm; M_{rr}1.93±.15; $M_{\theta\theta}$-1.85±.11; $M_{\phi\phi}$-0.08±.09; $M_{r\theta}$-0.70±.26; $M_{\theta\phi}$0.45±.06; $M_{\phi r}$-0.06±.30; Best double couple: $M_0$2.10000×10^{16} NP1:ϕ_s277.00000°, δ55.00000°, λ83.00000°. NP2:ϕ_s110.00000°, δ36.00000°, λ100.00000°. Principal axes: T 2.0700, Plg79.0000°, Azm160.0000°; N 0.0100, Plg6.0000°, Azm282.0000°; P -2.0700, Plg10.0000°, Azm13.0000°; Data Used: IU II G IC CN.*

ISC 04 09:45:14.2±0.4, 19°.85N±0°.04×71°.45W±0°.04, h39km±4km, n339, σ0°.84/346, mb4.3/56, MS4.2/13, 100C-112D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDDR	**Presa de Saban**	**0.87**	**170**	*e*Pg	**Pn**	**09 45 27.9**	**-2.2**
SDDR				*e*Sg	**Sn**	**09 45 42.6**	**+1.0**
GRTK	**Grand Turk**	**1.68**	**10**	*e*Pn	**Pn**	**09 45 38.5**	**-2.6**
GRTK				*e*Sn	**Sn**	**09 46 02.5**	**+1.1**
GTBY	**Guantanamo Bay**	**3.45**	**272**	*e*Pn	**Pn**	**09 46 02.6**	**-2.7**
GTBY				*e*Sn	**Sn**	**09 46 46.1**	**+1.1**
AGP	**Aguadilla**	**4.32**	**109**	*e*Pg	**Pn**	**09 46 18.0**	**+0.6**
AGPR	**Aguadilla, PR**	**4.32**	**108**	*e*Pn	**Pn**	**09 46 17.3**	**-0.1**
AGPR				*e*Sn	**Sn**	**09 47 07.3**	**+0.6**
LSP	**Las Mesas**	**4.45**	**111**	*e*Pn	**Pn**	**09 46 19.9**	**+0.7**
CRPR	**Cabo Rojo, PR**	**4.50**	**113**	*e*Pn	**Pn**	**09 46 20.8**	**+1.0**
CRPR				*e*Sn	Sn	09 47 19.7	+8.8
LRS	**Lares**	**4.62**	**109**	*e*Pn	**Pn**	**09 46 21.9**	**+0.3**
AOPR	**Arecibo Observ**	**4.68**	**108**	*e*Pn	**Pn**	**09 46 22.0**	**-0.4**
OBIP	**Obispado Ponce**	**4.92**	**111**	*e*Pn	**Pn**	**09 46 27.6**	**+1.9**
OBIP				*e*Sn	**Sn**	**09 47 20.3**	**-1.1**
CELP	**Cerrillos**	**4.93**	**110**	*e*Pn	**Pn**	**09 46 26.1**	**+0.3**
CELP				*e*Sn	Sn	09 47 31.1	+9.4
SJG	**San Juan**	**5.30**	**108**	*e*Pn	**Pn**	**09 46 30.2**	**-0.7**
SJG				*e*Sn	**Sn**	**09 47 33.1**	**+2.4**
CBYP	**Canovanas**	**5.52**	**106**	*e*Pn	**Pn**	**09 46 32.4**	**-1.5**
	72nm,0.5s						
CBYP				*e*Sn	**Sn**	**09 47 36.6**	**+0.5**
HUMP	**Col San Antoni**	**5.56**	**107**	*e*Pn	**Pn**	**09 46 34.0**	**-0.5**
MTP	**Monte Pirata**	**5.84**	**106**	*e*Pn	**Pn**	**09 46 38.0**	**-0.3**
	143nm,0.8s						
MTP				*e*Sn	**Sn**	**09 47 44.0**	**-0.2**
MTDJ	**Mount Denham**	**5.98**	**255**	*e*Pn	**Pn**	**09 46 38.5**	**-1.7**
MTDJ				*e*Sn	**Sn**	**09 47 50.0**	**+2.5**
STVI	**Saint Thomas**	**6.32**	**103**	*e*Pn	**Pn**	**09 46 43.1**	**-1.8**
STVI				*e*Sn	**Sn**	**09 47 55.8**	**0.0**
SDV	**Santo Domingo**	**10.93**	**176**	*e*Pn	**Pn**	**09 47 50.1**	**+1.9**
SDV				*e*Sn	**Sn**	**09 49 48.1**	**-1.3**
BBSR	**BB Station**	**13.86**	**25**	*e*Pn	Pn	09 48 23.9	-4.2
ROSC	**El Rosal**	**15.16**	**191**	*e*Pn	**P**	**09 48 48.8**	**-1.9**
ROSC				*e*Sn	**Sn**	**09 51 33.7**	**+0.6**
ROSC	**El Rosal**	**15.16**	**191**	Pn	**Pn**	**09 48 47.1**	**+1.0**
	0.4nm,0.3s,baz=54,slow=11,SNR=7.4						
ROSC				LR	LR	09 54 41.0	
	comp=Z,269nm,19.8s,baz=359,slow=38						
TEIG	**Tepich**	**15.82**	**274**	*e*P	**P**	**09 48 57.9**	**+0.5**
TEIG				Sn	Sn	09 51 33.8	-15
TEIG	**Tepich**	**15.82**	**274**	Pn	**Pn**	**09 48 53.2**	**-1.0**
	0.2nm,0.3s,baz=83,slow=8.1,SNR=2.7						
TEIG				Sn	Sn	09 51 33.7	-15
	0.5nm,0.3s,baz=55,slow=19,SNR=4.7						
TEIG				LR	LR	09 55 25.6	
	comp=Z,487nm,19.4s,baz=126,slow=39						
TIGA	**Tifton**	**15.89**	**319**	*e*P	**P**	**09 48 59.4**	**+1.1**
JTS	**JuntasAbangare**	**16.12**	**236**	*e*P	**P**	**09 49 01.2**	**+0.3**
	364nm,1.2s						
GOGA	**Godfrey**	**17.24**	**324**	*e*P	**P**	**09 49 14.9**	**+1.8**
	25nm,1.3s						
KMSC	**Kings Mountain**	**17.56**	**332**	*e*P	**P**	**09 49 16.6**	**0.0**
KMSC	**Kings Mountain**	**17.56**	**332**	⇑P	**Pn**	**09 49 15.8**	**-0.2**
	baz=18						
JSRW	**J. Sargeant Re**	**18.64**	**344**	*e*P	**P**	**09 49 26.7**	**-1.9**
BLA	**Blacksburg**	**18.99**	**338**	*e*P	**P**	**09 49 32.3**	**-0.2**
	21nm,0.8s						
TKL	**Tuckaleechee C**	**19.13**	**328**	*e*P	**P**	**09 49 33.4**	**-0.5**
TKL	**Tuckaleechee C**	**19.13**	**328**	P	**P**	**09 49 33.2**	**-0.7**
	0.3nm,0.3s,baz=136,slow=13,SNR=10.0						
TKL				LR	LR	09 57 56.3	
	comp=Z,636nm,18.1s,baz=6.8,slow=40						
CPCT	**Cooper Cave**	**19.35**	**326**	*e*Pn	**P**	**09 49 36.7**	**+0.3**
SDMD	**Soldier's Deli**	**20.04**	**348**	*e*P	**P**	**09 49 44.3**	**+0.4**
	300nm,2.5s						
OTAV	**Otavalo**	**20.66**	**200**	*e*P	Pn	09 49 53.2	-0.7
	61nm,1.4s						
PLAL	**Pickwick Lake**	**21.05**	**319**	*e*P	**P**	**09 49 55.0**	**+0.1**
	16nm,1.0s						
SSPA	**Standing Stone**	**21.44**	**346**	*e*P	**P**	**09 49 59.5**	**+0.5**

206nm,2.8s
WVT Waverly 21.68 322 eP P 09 50 01.0 -0.6
7.6nm,0.7s
QUA2 Belchertown 22.38 358 eP P 09 50 09.7 +0.7
WCI Wyandotte Cave 22.39 328 eP P 09 50 10.1 +0.8
9.6nm,0.8s
WES Weston 22.47 0 eP P 09 50 11.1 +1.1
27nm,0.7s
HRV Adam Dziewonsk 22.59 360 eP P 09 50 11.2 -0.1
18nm,0.7s
ACSO Alum Creek Sta 22.60 337 eP P 09 50 11.3 0.0
20nm,1.0s
ACCN Adirondack Com 23.54 356 eP P 09 50 21.4 +0.5
7.7nm,0.4s
OLIL Olney 23.70 326 eP P 09 50 24.8 +2.4
15nm,0.8s
NATX Nacogdoches 23.97 304 eP P 09 50 27.0 +1.9
16nm,0.4s
MDV Middlebury 24.13 357 eP P 09 50 27.2 +0.9
50µm,0.5s
NCB Newcomb 24.17 355 eP P 09 50 27.6 +0.8
18nm,1.2s
HKT Hockley 24.25 299 eP P 09 50 28.8 +1.2
11nm,1.2s
SFIN Scholer Farm 24.46 330 eP P 09 50 31.0 +1.5
SFIN Scholer Farm 24.46 330 ⇑P P 09 50 31.1 +1.7
baz=24
FRNY Flat Rock 24.98 356 eP P 09 50 35.1 +1.0
110nm,2.6s
SADO Sadowa 25.66 347 P P 09 50 39.9 -0.4
SADO Sadowa 25.66 347 P P 09 50 39.9 -0.4
5.8nm,0.8s,baz=198,slow=9.2,SNR=7.7
SADO LR LR 10 00 38.7
comp=Z,519nm,18.6s,baz=199,slow=36
WHTX Lake Whitney 26.26 303 eP P 09 50 44.6 -1.3
TUL1 Tulsa 26.71 312 eP P 09 50 50.5 +0.7
TUL1 Tulsa 26.71 312 ⇓P P 09 50 50.7 +0.9
baz=27
532A Rocksprings 27.68 297 ⇑P P 09 50 59.8 +1.1
baz=28
432A Menard 27.79 299 ⇓P P 09 51 00.1 +0.4
baz=28
332A Millersview 27.90 300 ⇓P P 09 51 01.0 +0.4
baz=28
JFWS Jewell Farm 27.92 330 eP P 09 51 02.1 +1.5
ABTX Abilene, Hawle 28.21 303 ⇓P P 09 51 04.0 +0.6
baz=28
531A Rocksprings 28.23 297 ⇓P P 09 51 04.0 +0.4
baz=28
Z32A Haskell 28.32 304 ⇑P P 09 51 04.9 +0.5
baz=28
WMOK Wichita Mounta 28.34 307 eP P 09 51 04.6 0.0
4.3nm,0.7s
431A Sonora 28.41 298 ⇓P P 09 51 05.7 +0.5
baz=28
331A San Angelo 28.43 299 ⇓P P 09 51 05.8 +0.4
baz=28
231A Bronte 28.53 301 ⇓P P 09 51 06.2 -0.1
baz=28
530A J-C Ranch, Com 28.89 297 ⇓P P 09 51 09.6 +0.1
baz=29
430A Baggett Ranch, 28.96 298 ⇑P P 09 51 10.0 -0.1
baz=29
330A Mertzon 29.08 299 ⇑P P 09 51 11.3 +0.2
baz=29
230A Sterling City 29.16 300 ⇑P P 09 51 11.9 0.0
baz=29
Y31A Rekieta Farm, 29.17 305 ⇓P P 09 51 12.1 +0.2
baz=29
X31A McDonald Ranch 29.20 306 ⇑P P 09 51 12.2 0.0
baz=29
W31A Holland Ranch, 29.40 307 ⇑P P 09 51 14.0 +0.1
baz=29
429A Davenport Ranc 29.47 297 ⇑P P 09 51 14.5 -0.1
baz=30
V31A Spring Creek L 29.56 308 ⇓P P 09 51 15.8 +0.4
baz=30
Z30A Sanderson Ranc 29.61 303 ⇑P P 09 51 16.1 +0.2
baz=30,SNR=5.1
529A Stev Forest Ra 29.63 296 ⇑P P 09 51 15.9 -0.1
baz=30
SAML Samuel 29.75 163 eP P 09 51 15.8 -1.3
6.0nm,0.6s
229A Bryant Ranch, 29.75 300 ⇓P P 09 51 17.1 -0.1
baz=30
329A Wagon Wheel Ra 29.76 299 ⇓P P 09 51 17.3 0.0
baz=30,SNR=5.5
X30A Coker Ranch, T 29.82 305 ⇑P P 09 51 18.0 +0.3
baz=30
628A Black Gap, Mar 30.06 295 ⇓P P 09 51 20.3 +0.4
baz=30
Z29A Hungry Hill Ra 30.06 303 ⇓P P 09 51 20.3 +0.4
baz=30
528A Cox Ranch, San 30.11 296 ⇑P P 09 51 21.0 +0.6
baz=30
S31A Mullinville 30.13 312 ⇓P P 09 51 21.0 +0.7
baz=30
428A Kincaid Ranch, 30.15 297 ⇑P P 09 51 21.5 +0.7
baz=30,SNR=6.9
Y29A Porterfield Fa 30.23 304 ⇑P P 09 51 22.0 +0.6
baz=30
328A Wristen Ranch, 30.42 298 ⇑P P 09 51 22.9 -0.1
baz=30
228A UT Block 9, Go 30.43 300 ⇑P P 09 51 23.1 -0.1
baz=30
X29A Tulia 30.45 305 ⇑P P 09 51 23.9 +0.5
baz=30
U30A WK&E Inc. Balk 30.48 309 ⇓P P 09 51 24.1 +0.7
baz=30
R31A Burdett 30.48 313 ⇓P P 09 51 24.1 +0.6
baz=30
627A Terlingua Ranc 30.48 295 ⇑P P 09 51 24.2 +0.6
baz=30
Z28A Tucker Farm, M 30.61 302 ⇑P P 09 51 24.9 +0.2
baz=31
W29A Amraillo 30.66 306 ⇓P P 09 51 25.7 +0.5
baz=31
TXAR Lajitas Array 30.70 294 P P 09 51 25.8 +0.2
TXAR PcP PcP 09 54 23.7 +0.8
TXAR Lajitas Array 30.70 294 P P 09 51 25.8 +0.2
0.6nm,0.7s,baz=100,slow=10,SNR=10
TXAR PcP PcP 09 54 23.7 +0.8
0.6nm,0.7s,baz=102,slow=3.8,SNR=5.4
TXAR LR LR 10 06 24.8
comp=Z,259nm,18.7s,baz=5.0,slow=42
Y28A McKinney Farm, 30.70 303 ⇑P P 09 51 25.7 +0.2
baz=31
Q31A Ellis 30.74 314 ⇑P P 09 51 26.5 +0.7
baz=31
527A Woodward Ranch 30.81 296 ⇓P P 09 51 27.2 +0.7
baz=31
S30A Montezuma 30.83 311 ⇓P P 09 51 27.2 +0.6
baz=31
U29A Oasis Ranch, S 30.90 309 ⇑P P 09 51 27.7 +0.5
baz=31
R30A Dighton 30.99 313 ⇓P P 09 51 28.5 +0.4
baz=31,SNR=7.1
P31A Stockton 31.00 315 ⇑P P 09 51 28.5 +0.5
baz=31
MSTX Muleshoe 31.13 303 eP P 09 51 29.5 +0.2
MSTX Muleshoe 31.13 303 ⇓P P 09 51 29.7 +0.3
baz=31
526A Mary Lane Ranc 31.20 295 ⇓P P 09 51 30.9 +0.9
baz=31
127A Arkansas Junct 31.21 301 ⇑P P 09 51 30.4 +0.4
baz=31
426A McDonald Obser 31.27 297 ⇑P P 09 51 31.2 +0.5
baz=31
S29A Ulysses 31.28 311 ⇑P P 09 51 31.3 +0.7
baz=31
Q30A Quinter 31.29 314 ⇑P P 09 51 31.2 +0.6
baz=31,SNR=11
P30A Selden 31.59 315 ⇓P P 09 51 33.9 +0.7
baz=32
X27A F and S Farms, 31.61 304 ⇓P P 09 51 34.1 +0.6
baz=32
R29A Marienthal 31.66 312 ⇓P P 09 51 34.7 +0.8
baz=32
226B Tecolote Peak, 31.71 299 ⇓P P 09 51 35.2 +0.8
baz=32
126A Clayton Basin, 31.74 300 ⇓P P 09 51 34.9 +0.1
baz=32
ECSD EROS Data Cent 31.78 324 eP P 09 51 34.4 -0.4
4.4nm,0.8s
T28A Walsh 31.79 309 ⇑P P 09 51 35.2 +0.1
baz=32
S28A Manter 31.83 310 ⇓P P 09 51 35.7 +0.3
baz=32

U27A Thompson Grove 32.03 308 ⇓P P 09 51 37.5 +0.2
baz=32,SNR=6.7
P29A Atwood 32.07 314 ⇑P P 09 51 38.2 +0.6
baz=32
R28A Tribune 32.09 312 ⇓P P 09 51 38.2 +0.5
baz=32,SNR=5.1
425A Indio Mountain 32.10 297 ⇑P P 09 51 38.4 +0.4
baz=32
X26A CR and CF Fran 32.13 304 ⇓P P 09 51 38.7 +0.5
baz=32
T27A Campo 32.21 309 ⇑P P 09 51 39.3 +0.5
baz=32
325A Bean Ranch, Si 32.21 298 ⇑P P 09 51 40.0 +1.0
baz=32,SNR=5.4
225A Deer Hill, Car 32.26 299 ⇑P P 09 51 40.2 +0.8
baz=32,SNR=7.1
125A Gardner Draw, 32.26 300 ⇑P P 09 51 39.6 +0.2
baz=32
W26A Owens Ranch, T 32.27 305 ⇑P P 09 51 39.7 +0.3
baz=32
Q28A Sharon Springs 32.43 313 ⇑P P 09 51 41.0 +0.3
baz=32
Z25A Roswell 32.48 301 ⇓P P 09 51 40.8 -0.4
baz=32
N29A Votaw Ranch, W 32.48 316 ⇑P P 09 51 41.1 0.0
baz=32
V26A Tequesquite Ra 32.53 306 ⇑P P 09 51 41.5 -0.1
baz=32
MNTX Cornudas Mount 32.63 298 eP P 09 51 42.9 +0.5
3.5nm,0.8s
Y25A Mesa, Roswell 32.64 302 ⇓P P 09 51 42.7 +0.1
baz=33
324A Moseley Ranch, 32.65 298 ⇑P P 09 51 43.4 +0.5
baz=33,SNR=8.2
U26A Atchley Ranch, 32.71 307 ⇓P P 09 51 43.8 +0.4
baz=33
R27A Eads 32.77 311 ⇓P P 09 51 44.2 +0.6
baz=33
224A Cornudas Mount 32.83 299 ⇓P P 09 51 45.0 +0.7
baz=33,SNR=9.1
W25A X Bar L Ranch, 32.85 305 ⇓P P 09 51 45.2 +0.7
baz=33
T26A Comanche Natio 32.89 309 ⇑P P 09 51 45.0 +0.1
baz=33
124A Stringfield Ra 32.92 300 ⇓P P 09 51 46.3 +1.1
baz=33,SNR=6.3
KSCO Kaye Shedlock' 32.96 312 ⇓P P 09 51 45.9 +0.5
baz=33
Z24A Sheeppen Canyo 33.01 301 ⇑P P 09 51 47.0 +1.0
baz=33,SNR=9.7
P27A Ficken Ranch, 33.17 313 ⇓P P 09 51 48.2 +1.0
baz=33
U25A Circle Dot Ran 33.21 307 ⇑P P 09 51 48.1 +0.4
baz=33
Y24A Capitan 33.23 302 ⇓P P 09 51 48.3 +0.4
baz=33
M28A Bar X Bar Ranc 33.27 317 ⇓P P 09 51 48.6 +0.6
baz=33
OGNE Ogallala 33.47 316 ⇓P P 09 51 50.4 +0.7
baz=34
T25A Trinidad 33.48 308 ⇓P P 09 51 50.4 +0.3
baz=34
Z23A Rita Site, Whi 33.70 301 ⇑P P 09 51 52.5 +0.6
baz=34
S25A Robets Cordova 33.70 309 ⇑P P 09 51 52.5 +0.6
baz=34
Y23A Lovelace Mesa, 33.73 302 ⇑P P 09 51 52.5 +0.3
baz=34
W23A Werner Place, 34.15 304 ⇓P P 09 51 56.7 +0.8
baz=34
T24B San Luis 34.18 307 ⇑P P 09 51 57.0 +0.8
baz=34
122A Conniff Cattle 34.19 299 ⇓P P 09 51 57.1 +1.0
baz=34
BNM Barren Site 34.24 302 eP P 09 51 58.1 +1.4
4.6nm,0.9s
P25A Willow Gulch B 34.26 312 ⇓P P 09 51 57.1 +0.4
baz=34
Z22A Elephant Butte 34.29 300 ⇓P P 09 51 57.6 +0.6
baz=34
R24A Sanders Place, 34.41 309 ⇑P P 09 51 58.8 +0.8
baz=34
Y22A Socorro 34.46 301 ⇑P P 09 51 59.2 +0.7
baz=34
O25A Wiggins 34.48 313 ⇓P P 09 51 59.9 +1.3
baz=34
SDCO Great Sand Dun 34.51 308 eP P 09 52 00.1 +1.0
2.1nm,0.6s
U23A El Rito 34.54 306 ⇑P P 09 52 00.7 +1.4
baz=34
LAZ Ladron 34.72 302 eP P 09 52 02.2 +1.5
P24A Kohler Place, 34.78 312 ⇓P P 09 52 02.0 +0.8
baz=35
121A Cookes Peak, D 34.80 299 ⇓P P 09 52 02.4 +0.9
baz=35
H28A Mission Ridge 34.85 322 ⇓P P 09 52 01.6 0.0
baz=35
R23A Moffat 34.92 309 ⇓P P 09 52 03.0 +0.4
baz=35
G28A Parade 35.03 323 ⇓P P 09 52 03.1 -0.1
baz=35,SNR=5.1
Y21A Point of Rocks 35.05 301 ⇑P P 09 52 05.0 +1.4
baz=35,SNR=5.7
SCHQ Schefferville 35.10 5 P P 09 52 02.9 -0.7
SCHQ Schefferville 35.10 5 P P 09 52 02.9 -0.7
5.4nm,0.9s,baz=200,slow=13,SNR=4.2
E29A Napoleon 35.24 326 ⇓P P 09 52 05.8 +0.9
baz=35
X21A Alamocita Cree 35.24 302 ⇑P P 09 52 07.0 +1.6
baz=35
220A Playas Peak, P 35.29 297 ⇓P P 09 52 06.5 +0.8
baz=35
T22A Edith 35.31 307 ⇓P P 09 52 06.5 +0.6
baz=35
N24A Carr 35.32 314 ⇓P P 09 52 06.6 +0.8
baz=35
J26A Sides Ranch, S 35.34 319 ⇑P P 09 52 06.1 +0.3
baz=35
P23A Jefferson 35.38 311 ⇓P P 09 52 07.1 +0.6
baz=35
ISCO Idaho Springs 35.39 312 eP P 09 52 07.7 +1.0
26nm,2.2s
ISCO Idaho Springs 35.39 312 ⇑P P 09 52 07.3 +0.6
baz=35,SNR=5.3
S22A 4UR Ranch, Cre 35.50 308 ⇓P P 09 52 08.1 +0.5
baz=36
M24A Cheyenne 35.57 315 ⇓P P 09 52 08.8 +0.8
baz=36
Y20A Horse Springs, 35.59 301 ⇑P P 09 52 08.7 +0.4
baz=36
U21A Nageezi 35.70 305 ⇑P P 09 52 10.4 +1.1
baz=36
O23A Lake Granby, G 35.77 312 ⇓P P 09 52 10.7 +0.8
baz=36
E28A Huff 35.81 325 ⇓P P 09 52 10.1 +0.2
baz=36
B30A Myrvik Farm, E 35.82 329 ⇓P P 09 52 11.0 +1.2
baz=36
Q22A Crested Butte, 35.95 310 ⇓P P 09 52 11.9 +0.4
baz=36
ULM Lac du Bonnet 36.00 333 LR LR 10 07 04.6
comp=Z,248nm,18.1s,baz=31,slow=36
LPAZ La Paz 36.06 175 eP P 09 52 14.0 +1.2
LPAZ La Paz 36.06 175 P P 09 52 13.6 +0.7
1.1nm,0.5s,baz=296,slow=4.6,SNR=12
LPAZ LR LR 10 08 09.2
comp=Z,609nm,18.7s,baz=351,slow=38
N23A Red Feather La 36.08 313 ⇑P P 09 52 12.6 +0.1
baz=36
F27A Lemmon 36.13 323 ⇓P P 09 52 13.1 +0.6
baz=36,SNR=6.4
G26A Maurine 36.13 322 ⇑P P 09 52 12.2 -0.4
baz=36
A30A Hoffart Farm, 36.15 330 ⇑P P 09 52 13.0 +0.3
baz=36
S21A Coal Bank Pass 36.19 307 ⇑P P 09 52 13.4 -0.1
baz=36
O22A Kremmling 36.19 312 ⇓P P 09 52 12.4 -1.1
baz=36
E27A Carson 36.20 324 ⇑P P 09 52 13.7 +0.5
baz=36,SNR=5.8
H25A Fruitdale 36.35 320 ⇓P P 09 52 14.5 0.0
baz=36
G27A Dupree 36.37 322 ⇓P P 09 52 09.8 -4.8
baz=36,SNR=15
Q21A Lamborn Mesa, 36.43 309 ⇑P P 09 52 14.7 -0.7
baz=36
L23A Garrett 36.45 315 ⇑P P 09 52 16.0 +0.4
baz=36

F26A Lodgepole 36.48 322 ⇑P P 09 52 15.9 +0.3
baz=36,SNR=5.2
G25A Newell 36.55 321 ⇓P P 09 52 16.3 +0.1
baz=37
A29A Manning Farm, 36.59 329 ⇑P P 09 52 16.8 +0.4
baz=37
I24A Kuemmerle Ranc 36.59 318 ⇓P P 09 52 15.5 -1.1
baz=37
E26A Carlson Angus 36.73 323 ⇑P P 09 52 17.8 +0.1
baz=37,SNR=5.8
B28A Dugan Ranch, T 36.83 328 ⇑P P 09 52 19.0 +0.6
baz=37
PV01 Paradox Valley 36.92 308 eP P 09 52 18.5 -1.2
D26A Manning 37.04 324 ⇓P P 09 52 20.5 +0.2
baz=37
SIV San Ignacio 37.05 163 P P 09 52 19.3 -1.3
SIV San Ignacio 37.05 163 P P 09 52 19.3 -1.3
4.8nm,0.6s,baz=6.8,slow=7.5,SNR=13
A28A Rude Farm, Bot 37.08 328 ⇓P P 09 52 21.4 +0.7
baz=37
N21A Black Mountain 37.11 312 ⇓P P 09 52 20.5 -0.7
baz=37
I23A Meade Ranch, G 37.16 318 ⇑P P 09 52 21.7 +0.2
baz=37
K22A Casper 37.23 316 ⇓P P 09 52 22.8 +0.6
baz=37
M21A Separation Pea 37.35 314 ⇓P P 09 52 24.1 +0.8
baz=37
O20A White River Ci 37.38 311 ⇑P P 09 52 24.1 +0.6
baz=37
F24A Ekalaka 37.51 321 ⇓P P 09 52 24.9 +0.4
baz=38
J22A Midwest 37.55 317 ⇓P P 09 52 24.7 -0.1
baz=38,SNR=6.0
A27A Ledoux Ranch, 37.60 328 ⇑P P 09 52 26.5 +1.5
baz=38
D25A Fairfield 37.60 324 ⇑P P 09 52 26.2 +1.1
baz=38
N20A Spence Gulch, 37.66 312 ⇑P P 09 52 26.3 +0.4
baz=38
K21A Alcova 37.71 315 ⇓P P 09 52 26.8 +0.6
baz=38,SNR=8.1
I22A 9 Mile Ranch, 37.78 317 ⇑P P 09 52 27.4 +0.7
baz=38
F23A Volborg 38.02 321 ⇓P P 09 52 28.6 -0.1
baz=38
D24A Glendive 38.15 323 ⇑P P 09 52 30.9 +1.3
baz=38
J21A Lysite 38.15 316 ⇑P P 09 52 30.2 +0.3
baz=38,SNR=8.2
B25A Knox Farm, Ray 38.18 325 ⇑P P 09 52 31.1 +1.2
baz=38
L20A Wamsutter 38.18 314 ⇓P P 09 52 30.8 +0.6
baz=38
I21A Big Trails, Te 38.26 317 ⇑P P 09 52 30.9 +0.1
baz=38
G22A Birney 38.30 319 ⇑P P 09 52 31.6 +0.6
baz=38
C24A Savage 38.43 324 ⇑P P 09 52 32.8 +0.7
baz=38
K20A Yellowstone Ra 38.45 315 ⇓P P 09 52 32.5 +0.1
baz=38
A25A Svangstu Ranch 38.55 326 ⇑P P 09 52 33.2 +0.1
baz=39
F22A Rosebud 38.56 320 ⇑P P 09 52 32.9 -0.3
baz=39
E22A Miles City 38.71 321 ⇓P P 09 52 34.5 0.0
baz=39
DGMT Dagmar 38.85 325 ⇓P P 09 52 35.8 +0.3
baz=39
K19A Absolon Red Bu 38.85 315 ⇓P P 09 52 35.3 -0.5
baz=39
L19A Farson 38.91 313 ⇓P P 09 52 36.0 -0.3
baz=39
C23A Lambert 39.01 324 ⇓P P 09 52 37.4 +0.4
baz=39
A24A Westby 39.01 326 ⇑P P 09 52 37.6 +0.7
baz=39
H20A Greybull 39.02 317 ⇓P P 09 52 36.9 -0.3
baz=39
J19A Crowheart 39.17 315 ⇑P P 09 52 38.9 +0.4
baz=39
D22A Cohagen 39.22 322 ⇑P P 09 52 39.8 +1.1
baz=39
PDAR Pinedale Array 39.31 314 P P 09 52 40.1 +0.4
PDAR Pinedale Array 39.31 314 P P 09 52 40.1 +0.4
0.7nm,0.7s,baz=114,slow=11,SNR=6.5
PDAR LR LR 10 11 21.5
comp=Z,220nm,19.7s,baz=228,slow=40
L18A Fontenelle, Gr 39.31 313 ⇑P P 09 52 40.1 +0.4
baz=39
I19A Meeteetse 39.46 316 ⇓P P 09 52 41.5 +0.6
baz=40
A23A Redstone 39.50 325 ⇓P P 09 52 42.2 +1.2
baz=40
DAU Daniels Canyon 39.64 310 eP P 09 52 43.9 +1.3
D21A La Casta Ranch 39.65 321 ⇑P P 09 52 43.4 +1.0
baz=40
H19A Powell 39.73 317 ⇓P P 09 52 43.9 +0.8
baz=40
B22A Reddig Ranch S 39.74 324 ⇑P P 09 52 44.1 +1.1
baz=40
JLU Jordanelle 39.84 310 eP P 09 52 45.4 +1.2
I18A Diamond G Ranc 39.86 315 ⇑P P 09 52 44.8 +0.5
baz=40,SNR=6.2
E20A Meyer Farm, Mu 40.05 320 ⇓P P 09 52 46.2 +0.6
baz=40,SNR=5.1
A22A Carney Farms, 40.08 325 ⇑P P 09 52 47.0 +1.1
baz=40,SNR=6.1
H18A Shoshoone NF, C 40.17 317 ⇓P P 09 52 46.3 -0.5
baz=40,SNR=7.1
F19A Roth Farm, Mol 40.24 319 ⇓P P 09 52 47.0 -0.3
baz=40
HWUT Hardware Ranch 40.26 312 eP P 09 52 47.9 +0.3
3.9nm,0.8s
W13A Hualapai Mount 40.28 301 ⇓P P 09 52 47.2 -0.7
baz=40
LOHW Long Hollow 40.34 315 eP P 09 52 48.6 +0.3
3.8nm,0.6s
G18A Lazy EL Ranch, 40.38 318 ⇑P P 09 52 48.9 +0.3
baz=40
SNOW Snow King Moun 40.39 315 eP P 09 52 49.3 +0.6
14nm,1.5s
REDW Red Top Meadow 40.41 314 eP P 09 52 49.5 +0.6
6.7nm,1.0s
E19A Rath Farm, Rou 40.43 320 ⇑P P 09 52 49.4 +0.7
baz=40,SNR=5.6
MOOW Moose Ponds 40.49 315 eP P 09 52 50.3 +0.8
3.3nm,0.8s
TPAW Teton Pass 40.53 315 eP P 09 52 50.7 +0.8
3.8nm,0.9s
C20A Veseth Ranch, 40.58 322 ⇓P P 09 52 51.0 +1.1
baz=41
A21A Bergtoll Ranch 40.64 324 ⇓P P 09 52 51.7 +1.3
baz=41,SNR=7.0
H17A Grant Village 40.64 316 ⇑P P 09 52 51.2 +0.4
baz=41
DUG Dugway 40.70 309 eP P 09 52 52.5 +1.2
3.2nm,0.8s
DUG Dugway 40.70 309 ⇓P P 09 52 51.8 +0.6
baz=41,SNR=5.2
RRI2 Red Ridge 40.72 314 eP P 09 52 52.1 +0.6
4.6nm,0.8s
F18A Big Timber 40.74 319 ⇑P P 09 52 52.0 +0.6
baz=41
D19A Cripps Ranch, 40.82 321 ⇑P P 09 52 52.8 +0.8
baz=41
I16A Newdale 41.04 315 ⇓P P 09 52 54.5 +0.6
baz=41
BGU Big Grassy Mou 41.08 310 eP P 09 52 55.1 +0.7
5.7nm,0.7s
A20A Cobblestone Ra 41.13 323 ⇑P P 09 52 56.0 +1.5
baz=41,SNR=6.5
G17A Pierce Place, 41.13 317 ⇓P P 09 52 55.4 +0.7
baz=41
E18A Harlowton 41.16 319 ⇑P P 09 52 55.9 +1.0
baz=41
F17A Fitzpatrick Pl 41.33 318 ⇓P P 09 52 57.5 +1.2
baz=41
B19A Brinkman Farms 41.49 322 ⇓P P 09 52 58.9 +1.4
baz=42
E17A Martinsdale 41.70 319 ⇓P P 09 52 59.9 +0.5
baz=42,SNR=7.9
EGMT Eagleton 41.75 321 eP P 09 53 00.3 +0.6
EGMT Eagleton 41.75 321 ⇑P P 09 53 01.1 +1.4
baz=42
BELC Belle Mtn. Jos 41.83 299 ⇓P P 09 53 00.6 0.0

baz=42
D17A Six Diamond Ra 41.90 320 ⇑P **P 09 53 01.6 +0.7**
baz=42,SNR=8.0
B18A Beardsley Farm 41.95 322 ⇓P **P 09 53 02.1 +0.9**
baz=42
MONP Monument Peak 42.04 297 ⇓P **P 09 53 03.2 +0.8**
baz=42
BDFB Brasilia 42.13 145 P **P 09 53 03.0 0.0**
BDFB Brasilia 42.13 145 P **P 09 53 03.0 0.0**
1.2nm,0.3s,baz=216,slow=8.7,SNR=3.9
BDFB LR LR 10 11 28.3
comp=Z,326nm,18.5s,baz=124,slow=38
C17A Wharram Farm, 42.17 320 ⇓P **P 09 53 03.8 +0.8**
baz=42,SNR=8.2
MCMT McKenzie Canyo 42.30 316 *e*P **P 09 53 05.8 +1.4**
1.2nm,0.8s
HRY Holter Researc 42.41 319 *e*P **P 09 53 05.9 +0.8**
3.3nm,0.6s
B17A L&G Farms, Che 42.50 321 ⇓P **P 09 53 06.5 +0.9**
baz=42
ELK Elko 42.63 309 *e*P **P 09 53 08.3 +1.2**
2.1nm,0.9s
MURC Murrieta 42.77 298 ⇓P **P 09 53 09.1 +1.0**
baz=43
BFSC Mount Baldy Ra 43.22 299 ⇓P **P 09 53 12.7 +0.8**
baz=43
SCI San Clemente I 43.83 297 ⇑P **P 09 53 16.1 -0.5**
baz=44
NVAR Mina Array Bea 44.40 305 P **P 09 53 21.5 +0.1**
NVAR Mina Array Bea 44.40 305 P **P 09 53 21.5 +0.1**
0.9nm,0.8s,baz=95,slow=9.1,SNR=8.0
WVOR Wild Horse Val 45.53 310 *e*P **P 09 53 31.0 +0.7**
11nm,1.6s
EDM Edmonton 46.29 326 *e*P **P 09 53 35.9 0.0**
NEW Newport 46.32 319 *e*P **P 09 53 36.3 +0.1**
NEW Newport 46.32 319 P **P 09 53 36.0 -0.2**
3.9nm,0.8s,baz=120,slow=9.8,SNR=10
CPUP Villa Florida 47.91 163 P **P 09 53 46.9 -1.7**
CPUP Villa Florida 47.91 163 P **P 09 53 46.9 -1.7**
0.9nm,0.5s,baz=334,slow=8.4,SNR=4.0
CPUP LR LR 10 14 11.2
comp=Z,153nm,20.2s,baz=333,slow=36
YBH Yreka Blue Hor 48.34 309 P **P 09 53 50.7 -1.4**
YBH Yreka Blue Hor 48.34 309 P **P 09 53 50.7 -1.4**
1.1nm,0.8s,baz=78,slow=9.1,SNR=5.6
YKA Yellowknife Ar 51.85 336 P **P 09 54 17.2 -1.0**
YKA Yellowknife Ar 51.85 336 P **P 09 54 17.2 -1.0**
1.6nm,0.8s,baz=114,slow=7.1,SNR=4.1
SUMG Summit 55.97 11 *i* P **P 09 54 49.2 +0.6**
4.0nm,0.8s
PLCA Paso Flores 60.27 179 P **P 09 55 18.7 0.0**
PLCA Paso Flores 60.27 179 P **P 09 55 18.7 0.0**
2.6nm,0.9s,baz=9.9,slow=5.8,SNR=4.2
ESDC Sonseca Array 60.48 55 P **P 09 55 20.2 -0.1**
ESDC Sonseca Array 60.48 55 P **P 09 55 20.2 -0.1**
0.7nm,0.5s,baz=281,slow=6.6,SNR=4.0
DBIC Dimbokro 65.77 92 P **P 09 55 56.5 +0.8**
DBIC Dimbokro 65.77 92 P **P 09 55 56.5 +0.8**
2.0nm,0.7s,baz=277,slow=8.3,SNR=3.1
ILAR Eielson Array 66.02 333 P **P 09 55 56.5 0.0**
ILAR Eielson Array 66.02 333 P **P 09 55 56.5 0.0**
0.8nm,0.8s,baz=86,slow=5.5,SNR=11
NOA NORSAR Array B 69.31 31 LR LR 10 22 38.6
comp=Z,56nm,20.4s,baz=275,slow=32
TORD Torodi Ar. Bea 69.99 83 P **P 09 56 22.3 0.0**
TORD Torodi Ar. Bea 69.99 83 P **P 09 56 22.3 0.0**
0.9nm,0.7s,baz=294,slow=6.5,SNR=8.9
TORD LR LR 10 23 41.5
comp=Z,154nm,19.5s,baz=275,slow=33
KEST Kesra 71.41 58 P **P 09 56 30.2 -0.6**
KEST Kesra 71.41 58 P **P 09 56 30.2 -0.6**
1.1nm,0.7s,baz=277,slow=5.7,SNR=4.0
GERES GERESS Array B 72.19 44 LR LR 10 21 31.0
comp=Z,195nm,21.3s,baz=156,slow=30
ARCES ARCESS Array B 73.99 21 P **P 09 56 47.0 +1.6**
ARCES ARCESS Array B 73.99 21 P **P 09 56 47.0 +1.6**
4.1nm,1.0s,baz=293,slow=7.6,SNR=4.6
ARCES LR LR 10 23 30.9
comp=Z,118nm,21.3s,baz=65,slow=31
FINES FINESS Array B 76.31 29 P **P 09 56 59.4 +0.6**
FINES FINESS Array B 76.31 29 P **P 09 56 59.4 +0.6**
2.1nm,0.7s,baz=274,slow=4.0,SNR=10
FINES LR LR 10 23 23.5
comp=Z,124nm,21.5s,baz=186,slow=30
PPT Papeete 85.21 250 LR LR 10 27 35.1
comp=Z,187nm,19.1s,baz=192,slow=30
BRTR Keskin Array B 88.52 48 P **P 09 58 03.2 +0.1**
BRTR Keskin Array B 88.52 48 P **P 09 58 03.2 +0.1**
0.9nm,0.9s,baz=297,slow=7.9,SNR=5.1

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*MOS **04** 09:59:36.9±1.1,4.°75S×153.°29E,h39km,mb5.3/11,Error ellipse: s-maj=11.4km s-min=9.1km az=104.3*
*AUST **04** 09:59:37.3±0.5,4.°79S×153.°56E,h45km,Error ellipse: s-maj=1.2km s-min=1.0km az=268.0*
*IDC **04** 09:59:38.4±2.1,4.°78S×153.°33E,h47km±20km,mb4.4/21, mb1 4.5/24,mb1mx4.4/29,mbtmp4.4/24,ML4.2/3,MS4.1/11, Ms1 4.2/11,ms1mx3.9/19,Error ellipse: s-maj=16.0km s-min=10.7km az=99.0*
*NEIC **04** 09:59:40.2±1.5,4.°78S×153.°24E,h59km±14km,mb5.1/16, Error ellipse: s-maj=10.2km s-min=9.0km az=73.0*
*ISCJB **04** 09:59:41.3±0.7,4.°85S±0.°04×153.°17E±0.°05,h80km±6km, mb4.8/53,Error ellipse: s-maj=8.2km s-min=5.8km az=153.6*
*GCMT **04** 09:59:42.1±0.2,4.°89S×153.°26E,h43km±1km,MW5.0, Moment Tensor Solution. s32,c40; s73,c109; Moment tensor: Scale 10^16^Nm; Mrr-1.24±.17; Mθθ1.23±.13; Mφφ0.01±.12; Mrθ-0.07±.12; Mθφ-2.84±.10; Mφr-2.78±.15; Best double couple: M0:4.20000×10^16^ NP1:φ=348.00000°, δ78.00000°,λ-46.00000°. NP2:φ=90.00000°,δ46.00000°, λ-163.00000°. Principal axes: T 4.1500, Plg20.0000°, Azm46.0000°; N 0.0300, Plg43.0000°, Azm156.0000°; P -4.1800, Plg40.0000°, Azm298.0000°; Data Used: II IU IC G CN.*
*BJI **04** 09:59:42.4,4.°61S×153.°27E,h88km,mB5.1/26,mb4.8/40, Ms4.9/19,Ms7 4.4/22*
ISC 04 09:59:42.6±0.5,4.°83S±0.°04×153.°22E±0.°05,h82km±4km, n157,σ1=66/175,mb4.8/53,3C-1D,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.23**	**301**	P	**Pn**	**10 00 01.7**	**-2.9**
RABL	baz=1.5,SNR=146			S	**Sn**	**10 00 20.7**	**-0.4**
MANU	**Manus Island**	**6.47**	**295**	P	Pn	10 01 18.2	+3.0
PMG	**Port Moresby**	**7.54**	**233**	*e*Pn	**Pn**	**10 01 29.2**	**-0.7**
PMG	baz=6.8,SNR=10.0			*e*Sn	**Sn**	**10 02 52.8**	**-1.1**
PMG	**Port Moresby**	**7.54**	**233**	P	**Pn**	**10 01 29.1**	**-0.8**
PMG	8.1nm,0.3s,baz=57,slow=11,SNR=30			S	**Sn**	**10 02 50.4**	**-3.5**
HNR	**Honiara**	**8.09**	**125**	P	**Pn**	**10 01 34.3**	**-3.1**
HNR	21nm,0.3s,baz=146,slow=18,SNR=17			S	**Sn**	**10 03 08.9**	**+1.7**
HNR	**Honiara**	**8.09**	**125**	P	**Pn**	**10 01 34.3**	**-3.1**
HNR	15nm,0.3s,baz=220,slow=3.8,SNR=7.6			S	**Sn**	**10 03 08.9**	**+1.7**
PATS	**Pohnpei**	**12.65**	**24**	P	Pn	10 02 35.5	-4.1
MTSU	**Mount Surprise**	**15.83**	**213**	P	**P**	**10 03 24.1**	**+1.1**
CTA	**Charters Tower**	**16.61**	**204**	P	**Pn**	**10 03 29.3**	**-1.3**
CTA	**Charters Tower**	**16.61**	**204**	P	**Pn**	**10 03 29.3**	**-1.3**
EIDS	**Eidsvold**	**20.53**	**186**	*e*P	Pn	10 04 17.0	-0.3
EIDS	**Eidsvold**	**20.53**	**186**	P	Pn	10 04 17.0	-0.3
TARA	**Tarawa**	**20.62**	**73**	*e*P	Pn	10 04 20.0	+1.5
FAKI	**Fak Fak**	**21.01**	**274**	P	**P**	**10 04 19.1**	**-0.6**
DZM	**Mont Dzumac**	**21.40**	**144**	*e*P	**P**	**10 04 21.9**	**-2.0**
DZM	2μm,23.6s			*e*LR	LR	10 09 37.5	
DZM	**Mont Dzumac**	**21.40**	**144**	P	**P**	**10 04 22.2**	**-1.7**
DZM	**Mont Dzumac**	**21.40**	**144**	P	**P**	**10 04 22.2**	**-1.7**
KDU	**Kakadu**	**21.93**	**248**	P	**P**	**10 04 27.9**	**-1.6**
KDU	baz=22,SNR=45			S	**S**	**10 08 26.1**	**-1.0**
RMQ	**Roma**	**21.95**	**191**	P	**P**	**10 04 30.2**	**+0.6**
MTN	**Manton Dam**	**23.22**	**248**	P	**P**	**10 04 43.0**	**+0.2**
MTN	baz=24,SNR=4.9			S	**S**	**10 08 52.5**	**+3.9**
WRAB	**Tennant Creek**	**23.73**	**229**	P	**P**	**10 04 47.0**	**-0.5**
WRAB	**Tennant Creek**	**23.73**	**229**	*e*P	**P**	**10 04 47.0**	**-0.5**
WRAB	**Tennant Creek**	**23.73**	**229**	*e*P	**P**	**10 04 47.0**	**-0.5**
WRA	**Warramunga Arr**	**23.74**	**229**	P	**P**	**10 04 46.6**	**-1.0**
WRA	comp=Z,12nm,0.5s,baz=51,slow=10.0,SNR=139			S	**S**	**10 09 03.1**	**+6.1**
WRA	**Warramunga Arr**	**23.74**	**229**	P	**P**	**10 04 46.6**	**-1.0**
WRA	comp=Z,4.7nm,1.0s,baz=53,slow=19,SNR=5.6			S	**S**	**10 09 03.1**	**+6.1**
WRA	comp=Z,563nm,21.8s,baz=60,slow=35			LR	LR	10 13 41.5	
ARMA	**Armidale**	**25.50**	**183**	*e*P	**P**	**10 05 04.8**	**+1.3**
ARMA	**Armidale**	**25.50**	**183**	P	**P**	**10 05 04.5**	**+1.0**
KNRA	**Kununurra**	**26.34**	**244**	P	**P**	**10 05 10.4**	**-0.7**
KNRA	baz=27,SNR=24			S	S	10 09 52.0	+14
AS31	**Alice Springs**	**26.41**	**223**	*e*P	**P**	**10 05 10.8**	**-1.0**
ASAR	**Alice Springs**	**26.41**	**223**	P	**P**	**10 05 10.6**	**-1.2**
ASAR	baz=27,SNR=7.9			S	S	10 09 50.5	+11
ASAR	**Alice Springs**	**26.41**	**223**	P	**P**	**10 05 10.6**	**-1.2**
ASAR	comp=Z,2.5nm,0.4s,baz=54,slow=9.0,SNR=46			S	S	10 09 50.6	+11
ASAR	comp=Z,0.6nm,0.9s,baz=43,slow=22,SNR=2.4			LR	LR	10 15 21.7	
LHI	**Lord Howe Isla**	**27.11**	**169**	S	S	10 09 42.8	-7.4
CMSA	**Cobar Meteorol**	**27.50**	**194**	P	P	10 05 36.8	+15
STKA	**Stephens Creek**	**29.03**	**201**	*e*P	P	10 05 38.4	+3.3
STKA	**Stephens Creek**	**29.03**	**201**	P	**P**	**10 05 34.5**	**-0.6**
STKA	comp=Z,2.9nm,0.6s,baz=41,slow=9.4,SNR=3.1			LR	LR	10 16 26.3	
FITZ	**Fitzroy Crossi**	**30.02**	**242**	*e*P	**P**	**10 05 42.9**	**-1.0**
FITZ	**Fitzroy Crossi**	**30.02**	**242**	P	**P**	**10 05 42.4**	**-1.5**
FITZ	comp=Z,26nm,0.7s,baz=60,slow=8.2,SNR=56			LR	LR	10 19 21.7	
FORT	**Forrest**	**35.03**	**220**	*e*P	**P**	**10 06 26.6**	**-1.0**
FORT	**Forrest**	**35.03**	**220**	P	**P**	**10 06 26.6**	**-1.0**
MBWA	**Marble Bar**	**36.32**	**240**	*e*P	**P**	**10 06 37.9**	**-0.9**
JAGI	**Jajag, Banyuwa**	**38.96**	**263**	P	P	10 07 06.0	+4.9
MEEK	**Meekatharra**	**39.52**	**233**	P	**P**	**10 07 04.9**	**-0.8**
URZ	**Urewera**	**39.75**	**150**	*e*P	**P**	**10 07 09.4**	**+2.1**
SBUM	**Sibu**	**41.60**	**279**	*e*P	**P**	**10 07 23.3**	**+0.4**
RPZ	**Rata Peaks**	**41.80**	**161**	*e*P	**P**	**10 07 24.8**	**+0.6**
RPZ	**Rata Peaks**	**41.80**	**161**	P	**P**	**10 07 24.1**	**-0.1**
KLBR	**Kellerberrin**	**42.59**	**227**	P	**P**	**10 07 29.2**	**-1.5**
MORW	**Morawa**	**42.66**	**231**	P	**P**	**10 07 33.1**	**+1.8**
BLDU	**Ballidu**	**42.88**	**229**	P	P	10 07 36.8	+3.7
JNU	**Nakatsue**	**43.28**	**332**	P	**P**	**10 07 35.3**	**-1.0**
JNU	**Nakatsue**	**43.28**	**332**	P	**P**	**10 07 35.3**	**-1.0**
KSM	**Kuching**	**43.33**	**277**	*e*P	**P**	**10 07 37.2**	**+0.2**
KSM	**Kuching**	**43.33**	**277**	P	**P**	**10 07 37.2**	**+0.2**
KSM	baz=44,SNR=3.4			S	S	10 14 08.9	+10
MJAR	**Matsushiro Arr**	**43.49**	**342**	LR	LR	10 24 41.2	
TJN	**Taejon**	**47.60**	**332**	*e*P	**P**	**10 08 12.6**	**+2.3**
KSRS	**Korea Array**	**48.22**	**333**	P	**P**	**10 08 14.8**	**-0.2**
KSRS	comp=Z,2.5nm,0.7s,baz=149,slow=8.0,SNR=14			LR	LR	10 27 04.0	
KSAR	**Wonju Array Be**	**48.22**	**333**	P	**P**	**10 08 14.8**	**-0.2**
QIZ	**Qiongzhong**	**48.85**	**300**	P	**P**	**10 08 20.1**	**-0.1**
QIZ				S	**S**	**10 15 16.7**	**-1.1**
QIZ	comp=Z,100nm,4.2s			pmax	pmax		
NJ2	**Nanjing**	**49.13**	**321**	*e*P	**P**	**10 08 23.4**	**+1.2**
NJ2	comp=Z,20nm,0.5s			pmax	pmax		
ASAJ	**Asahikawa**	**49.65**	**350**	P	**P**	**10 08 26.3**	**+0.4**
ASAJ	**Asahikawa**	**49.65**	**350**	P	**P**	**10 08 26.3**	**+0.4**
USRK	**Ussuriysk Arra**	**52.41**	**341**	P	**P**	**10 08 46.7**	**+0.1**
USRK	comp=Z,3.2nm,0.6s,baz=165,slow=7.4,SNR=12			LR	LR	10 26 48.8	
MDJ	**Mudanjiang**	**53.60**	**339**	P	**P**	**10 08 55.4**	**+0.1**
MDJ	comp=Z,7.0nm,1.1s			pmax	pmax		
MDJ	comp=Z,80nm,5.0s			pmax	pmax		
ENH	**Enshi**	**54.48**	**313**	*e*P	**P**	**10 09 02.8**	**+0.7**
CN2	**Changchun**	**54.50**	**336**	*e*P	P	10 09 05.7	+3.8
CN2	comp=Z,10.0nm,0.5s			pmax	pmax		
GYA	**Guiyang**	**54.75**	**307**	P	**P**	**10 09 06.0**	**+1.8**
GYA				pP	pP	10 09 28.8	+4.1
GYA				sP	sP	10 09 40.2	+6.2
GYA				PcP	**PcP**	**10 10 07.3**	**+1.4**
GYA				PP	PP	10 11 15.0	+7.3
GYA				ScP	**ScP**	**10 13 54.2**	**-3.0**
GYA				PcS	**PcS**	**10 14 06.5**	**+0.5**
GYA				S	**S**	**10 16 35.7**	**-3.2**
GYA				sS	**sS**	**10 17 15.0**	**+1.0**
GYA				ScS	**ScS**	**10 18 42.4**	**-3.8**
GYA				SS	**SS**	**10 20 20.5**	**-2.8**
GYA	comp=Z,20nm,1.0s			pmax	pmax		
GYA	comp=Z,120nm,5.8s			pmax	pmax		
GYA	comp=N,760nm,19.0s			LR	LR		
GYA	comp=E,650nm,20.4s			LR	LR		
GYA	comp=Z,710nm,18.6s			LR	LR		
BJI	**Beijing**	**56.15**	**326**	P	**P**	**10 09 14.7**	**+0.9**
BJI				S	**S**	**10 16 58.4**	**+1.5**
BJI	comp=Z,8.0nm,0.9s			pmax	pmax		
BJI	comp=N,150nm,15.9s			LR	LR		
BJI	comp=E,210nm,19.2s			LR	LR		
BJI	comp=Z,140nm,24.8s			LR	LR		
XAN	**Xi'an**	**56.93**	**316**	P	**P**	**10 09 19.5**	**-0.1**
XAN	comp=Z,2.0nm,0.9s			pmax	pmax		
XAN	comp=Z,16nm,5.6s			pmax	pmax		
KLR	**Kul'dur**	**56.99**	**343**	*e*P	P	10 09 15.2	-4.4
PPT2	**Papeete2**	**57.32**	**108**	*e*LR	LR	10 26 19.8	
KMI	**Kunming**	**57.35**	**304**	P	**P**	**10 09 24.0**	**+1.1**
KMI	comp=Z,10.0nm,0.8s			pmax	pmax		
PETK	**Petropavlovsk-**	**57.84**	**3**	P	**P**	**10 09 25.8**	**+0.2**
PETK	**Petropavlovsk-**	**57.84**	**3**	P	**P**	**10 09 25.8**	**+0.2**
PETK	**Petropavlovsk-**	**57.84**	**3**	P	**P**	**10 09 25.8**	**+0.2**
	comp=Z,2.2nm,0.5s,baz=172,slow=7.3,SNR=11						
TBI	**Tubuai**	**58.16**	**114**	*e*LR	LR	10 26 53.8	
	comp=Z,748nm,33.2s						
CMAR	**Chiang Mai Arr**	**58.27**	**295**	P	**P**	**10 09 29.8**	**+0.6**
CMAR	**Chiang Mai Arr**	**58.27**	**295**	P	**P**	**10 09 29.8**	**+0.6**
	comp=Z,2.7nm,0.5s,baz=111,slow=5.1,SNR=15						
CMAR				LR	LR	10 32 33.8	
	comp=Z,120nm,18.2s,baz=323,slow=34						
CD2	**Chengdu**	**59.08**	**310**	P	**P**	**10 09 35.2**	**+0.6**
CD2				pP	pP	10 09 58.5	+3.1
CD2				sP	sP	10 10 09.2	+4.6
CD2				PcP	**PcP**	**10 10 22.9**	**+0.2**
CD2				PP	**PP**	**10 11 48.4**	**+2.3**
CD2				S	**S**	**10 17 32.6**	**-3.1**
CD2				sS	sS	10 18 13.0	+1.9
CD2				SS	**SS**	**10 21 29.6**	**-1.6**
CD2	comp=Z,20nm,0.5s			pmax	pmax		
CD2	comp=Z,190nm,5.3s			pmax	pmax		
CD2	comp=E,470nm,18.4s			LR	LR		
CD2	comp=Z,370nm,20.8s			LR	LR		
HHC	**Hu-ho-hao-te**	**59.32**	**324**	*e*P	**P**	**10 09 36.9**	**+0.7**
HHC				pP	pP	10 10 01.2	+4.2
HHC				sP	sP	10 10 12.1	+5.9
HHC				PP	**PP**	**10 11 51.3**	**+3.2**
HHC				S	**S**	**10 17 36.6**	**-1.9**
HHC				sS	sS	10 18 18.4	+4.4
HHC				SS	**SS**	**10 21 34.5**	**-0.2**
HHC	comp=Z,51nm,0.9s			pmax	pmax		
HHC	comp=Z,290nm,5.8s			pmax	pmax		
HHC	comp=N,330nm,16.3s			LR	LR		
HHC	comp=E,380nm,16.5s			LR	LR		
HHC	comp=Z,390nm,15.9s			LR	LR		
LZH	**Lanzhou**	**61.54**	**316**	*e*P	**P**	**10 09 53.2**	**+1.7**
LZH				pP	**pP**	**10 10 14.8**	**+2.3**
LZH				sP	sP	10 10 26.3	+4.7
LZH				PP	**PP**	**10 12 08.0**	**0.0**
LZH				*e*S	**S**	**10 18 04.1**	**-3.2**
LZH				sS	**sS**	**10 18 44.1**	**+1.1**
LZH				SS	**SS**	**10 22 07.2**	**-2.8**
LZH	comp=Z,39nm,1.3s			pmax	pmax		
LZH	comp=Z,170nm,5.5s			pmax	pmax		
LZH	comp=N,340nm,14.1s			LR	LR		
LZH	comp=E,310nm,13.0s			LR	LR		
LZH	comp=Z,420nm,15.3s			LR	LR		
GTA	**Gaotai**	**65.96**	**317**	*e*P	**P**	**10 10 21.5**	**+1.0**
GTA				pP	**PcP**	**10 10 46.0**	**-4.6**
GTA				sP	sP	10 10 57.1	+6.4
GTA				S	**S**	**10 19 01.8**	**-0.1**
GTA	comp=Z,11nm,1.1s			pmax	pmax		
GTA	comp=Z,180nm,5.9s			pmax	pmax		
GTA	comp=N,230nm,15.3s			LR	LR		
GTA	comp=E,360nm,21.6s			LR	LR		
GTA	comp=Z,190nm,18.0s			LR	LR		
SONM	**Songino Array**	**66.57**	**328**	LR	LR	10 40 54.0	
	comp=Z,83nm,19.6s,baz=238,slow=37						
ZAK	**Zakamensk**	**69.74**	**329**	*e*P	**P**	**10 10 43.9**	**0.0**
ZAK	comp=Z,4.0nm,1.2s			pmax	pmax		
VNDA	**Vanda**	**72.79**	**178**	*e*P	**P**	**10 11 02.5**	**+0.8**
VNDA				*e*PcP	**PcP**	**10 11 19.4**	**+0.9**
VNDA	**Vanda**	**72.79**	**178**	P	**P**	**10 11 02.4**	**+0.7**
	comp=Z,5.0nm,0.9s,baz=333,slow=5.4,SNR=12						
SBA	**Scott Base**	**73.33**	**177**	*e*P	**P**	**10 11 07.1**	**+2.2**
SBA	comp=Z,36nm,1.1s			pmax	pmax		
SBA	**Scott Base**	**73.33**	**177**	*e*P	**P**	**10 11 07.1**	**+2.2**
	comp=Z,36nm,1.1s						
MIR	**Mirnyy**	**74.05**	**201**	*e*P	**pP**	**10 11 29.0**	**-1.8**
MIR				*e*		10 11 43.0	
MIR	comp=Z,66nm,1.2s			pmax	pmax		
HVS	**Khovu-Aksy**	**75.31**	**326**	*e*P	**P**	**10 11 18.1**	**+1.1**
HVS	comp=Z,47nm,1.2s			pmax	pmax		
WMQ	**Urumqi**	**76.05**	**317**	P	**P**	**10 11 22.6**	**+1.3**
WMQ				PcP	**PcP**	**10 11 35.0**	**+1.7**
WMQ				pP	pP	10 11 47.6	+4.6
WMQ				sP	sP	10 11 58.6	+6.6
WMQ	comp=Z,22nm,1.0s			pmax	pmax		
WMQ	comp=Z,170nm,5.2s			pmax	pmax		
WMQ	comp=N,97nm,22.1s			LR	LR		
WMQ	comp=E,100nm,17.7s			LR	LR		
WMQ	comp=Z,110nm,26.3s			LR	LR		
HYB	**Hyderabad**	**76.90**	**289**	*i* P	**P**	**10 11 26.0**	**-0.6**
CAST	**Castle Rocks**	**79.37**	**22**	*e*P	**P**	**10 11 41.7**	**+2.3**
	comp=Z,57nm,2.2s						
MK31	**Makanchi Array**	**80.62**	**319**	*e*P	**P**	**10 11 46.9**	**+0.4**
MK31	**Makanchi Array**	**80.62**	**319**	*e*P	**P**	**10 11 46.9**	**+0.4**
MKAR	**Makanchi Array**	**80.62**	**319**	*c*e*P	**P**	**10 11 46.9**	**+0.4**
MKAR	comp=Z,5.0nm,0.5s			pmax	pmax		
MKAR	**Makanchi Array**	**80.62**	**319**	P	**P**	**10 11 46.9**	**+0.4**
MKAR	**Makanchi Array**	**80.62**	**319**	P	**P**	**10 11 46.9**	**+0.4**
	comp=Z,5.9nm,0.6s,baz=95,slow=7.1,SNR=82						
ZALV	**Zalesovo Beam**	**81.41**	**326**	*i* P	**P**	**10 11 49.7**	**-0.7**
ZALV	comp=Z,4.0nm,0.5s			pmax	pmax		
ZALV	**Zalesovo Beam**	**81.41**	**326**	P	**P**	**10 11 49.6**	**-0.8**
ZALV	**Zalesovo Beam**	**81.41**	**326**	P	**P**	**10 11 49.6**	**-0.8**
	comp=Z,4.1nm,0.5s,baz=112,slow=5.6,SNR=18						
ILAR	**Eielson Array**	**82.03**	**22**	P	**P**	**10 11 51.4**	**-2.0**
ILAR	**Eielson Array**	**82.03**	**22**	P	**P**	**10 11 51.4**	**-2.0**
	comp=Z,1.5nm,0.6s,baz=251,slow=5.5,SNR=15						
ILAR				LR	LR	10 40 42.0	
	comp=Z,184nm,22.0s,baz=129,slow=30						
NVS	**Novosibirsk**	**82.58**	**327**	⇑*i*P	**P**	**10 11 55.4**	**-1.1**
NVS	comp=Z,22nm,1.7s			pmax	pmax		
NVS	comp=N,9.0nm,1.6s			pmax	pmax		
NVS	comp=E,11nm,1.6s			pmax	pmax		
KSH	**Kashi**	**83.27**	**311**	P	**P**	**10 12 02.9**	**+2.3**
KSH				pP	pP	10 12 28.3	+5.7
KSH				PP	**PP**	**10 15 18.0**	**+4.7**
KSH				S	**S**	**10 22 14.5**	**-0.4**
KSH				sS	sS	10 22 58.5	+6.1
KSH				SS	**SS**	**10 27 45.2**	**+3.6**
KSH	comp=Z,13nm,1.3s			pmax	pmax		
KSH	comp=N,170nm,7.6s			LR	LR		
KSH	comp=E,120nm,5.9s			LR	LR		
KSH	comp=Z,120nm,5.0s			LR	LR		
KURK	**Kurchatov**	**84.05**	**322**	P	**P**	**10 12 04.1**	**-0.1**
KURK	**Kurchatov**	**84.05**	**322**	P	**P**	**10 12 04.1**	**-0.1**
KURBB	**Kurchatov Arra**	**84.08**	**322**	P	**P**	**10 12 04.1**	**-0.2**
	comp=Z,5.1nm,1.0s,baz=96,slow=5.7,SNR=27						
TKM2	**Tokmak 2**	**84.25**	**314**	*e*P	**P**	**10 12 06.5**	**+0.8**
TKM2	comp=Z,10.0nm,0.8s			pmax	pmax		
TKM2	**Tokmak 2**	**84.25**	**314**	P	**P**	**10 12 06.4**	**+0.7**
	SNR=9.1						
TKM2	**Tokmak 2**	**84.25**	**314**	*e*P	**P**	**10 12 06.5**	**+0.8**
	comp=Z,10nm,0.8s						
KZA	**Kyzart**	**84.33**	**313**	*i* P	**P**	**10 12 08.3**	**+2.0**
KZA	**Kyzart**	**84.33**	**313**	P	**P**	**10 12 08.3**	**+2.0**
	SNR=5.6						
DAWY	**Dawson**	**84.64**	**24**	*e*P	P	10 12 11.0	+4.0
CHMS	**Chumysh**	**84.88**	**314**	*i* P	**P**	**10 12 09.8**	**+1.2**
CHMS	**Chumysh**	**84.88**	**314**	P	**P**	**10 12 09.8**	**+1.2**

SNR=6.0
AAK Ala-Archa 84.99 313 *i* P **P 10 12 10.4 +1.1**
AAK pmax pmax
comp=Z,49nm,1.5s
AAK Ala-Archa 84.99 313 P **P 10 12 10.8 +1.5**
SNR=5.4
AAK Ala-Archa 84.99 313 *e*P **P 10 12 10.2 +0.8**
AAK Ala-Archa 84.99 313 P **P 10 12 10.1 +0.8**
comp=Z,6.1nm,0.6s,baz=120,slow=6.2,SNR=12
USP Ospenovka 85.11 314 *i* P **P 10 12 10.8 +1.0**
USP Ospenovka 85.11 314 P **P 10 12 10.8 +1.0**
SNR=14
AML Almayashu 85.48 313 *i* P **P 10 12 14.0 +1.9**
AML Almayashu 85.48 313 P **P 10 12 14.0 +1.9**
SNR=5.1
EKS2 Erkin-Say 85.52 313 *e*P **P 10 12 13.4 +1.5**
EKS2 pmax pmax
comp=Z,19nm,1.0s
EKS2 Erkin-Say 85.52 313 P **P 10 12 13.5 +1.6**
SNR=7.6
EKS2 Erkin-Say 85.52 313 *e*P **P 10 12 13.4 +1.5**
comp=Z,19nm,1.0s
MAW Mawson 85.70 203 P **P 10 12 13.7 +1.6**
MAW Mawson 85.70 203 P **P 10 12 13.7 +1.6**
comp=Z,1.9nm,0.3s,baz=129,slow=6.5,SNR=5.1
MAW Mawson 85.70 203 P pP 10 12 30.5 -3.7
baz=86,SNR=5.3
KKAR Karatay Array 87.96 313 *e*P **P 10 12 24.0 +0.3**
KKAR pmax pmax
comp=Z,4.0nm,0.8s
KKAR Karatay Array 87.96 313 *e*P **P 10 12 24.0 +0.3**
comp=Z,4.2nm,0.8s
BVAR Borovoye Array 89.52 323 P **P 10 12 30.2 -0.5**
BVAR Borovoye Array 89.52 323 P **P 10 12 30.2 -0.5**
BVAR Borovoye Array 89.52 323 P **P 10 12 30.2 -0.5**
comp=Z,8.6nm,0.7s,baz=106,slow=6.0,SNR=34
BRVK Borovoye 89.58 323 *e*P **P 10 12 30.9 -0.1**
BRVK pmax pmax
comp=Z,9.0nm,0.8s
BRVK Borovoye 89.58 323 *e*P **P 10 12 30.9 -0.1**
comp=Z,8.9nm,0.8s
NVAR Mina Array Bea 91.77 52 P **P 10 12 40.2 -1.6**
NVAR Mina Array Bea 91.77 52 P **P 10 12 40.2 -1.6**
comp=Z,0.1nm,0.4s,baz=244,slow=7.9,SNR=2.5
SYO Syowa Base 93.78 199⇑ *e*P pP 10 13 06.1 -6.3
ABKAR Akbulak array 95.77 319 *e*P **P 10 12 58.8 -0.8**
comp=Z,1.5nm,0.7s
ARU Arti 96.58 326 *d iP* **P 10 13 02.5 -0.6**
ARU 10 16 58.0
ARU S **SKSac 10 23 30.7 -1.7**
ARU pmax pmax
comp=Z,7.0nm,1.7s
PDAR Pinedale Array 98.56 48 LR LR 10 53 34.4
comp=Z,205nm,18.5s,baz=270,slow=33
KOLS Kolonicke sedl 119.57 325 *e*PKIKP **PKPdf 10 18 24.4 +1.4**
KOLS Kolonicke sedl 119.57 325 *e*PKP **PKPdf 10 18 24.4 +1.4**
STHS Stebnicka Huta 119.91 326 *e*PKIKP **PKPdf 10 18 24.9 +1.2**
STHS Stebnicka Huta 119.91 326 *e*PKP **PKPdf 10 18 24.9 +1.2**
CLL Collm 123.08 331 *e*PKIKP **PKPdf 10 18 31.0 +1.3**
CLL Collm 123.08 331 *e*PKPdf **PKPdf 10 18 31.0 +1.3**
GERES GERESS Array B 124.30 329 PKP **PKPdf 10 18 32.6 +0.3**
GERES GERESS Array B 124.30 329 PKP **PKPdf 10 18 32.6 +0.3**
comp=Z,1.1nm,0.6s,baz=42,slow=1.6,SNR=9.6
TAM Tamanrasset 144.05 303 *e*PKIKP **PKPdf 10 19 09.7 -0.1**
TAM Tamanrasset 144.05 303 *e*PKPdf **PKPdf 10 19 09.7 -0.1**
TORD Torodi Ar. Bea 150.72 288 PKPbc **PKPbc 10 19 26.1 -0.3**
TORD Torodi Ar. Bea 150.72 288 PKPbc **PKPbc 10 19 26.1 -0.3**
comp=Z,4.8nm,0.8s,baz=64,slow=2.3,SNR=34
BDFB Brasilia 150.75 134 PKPbc **PKPbc 10 19 25.5 -1.1**
BDFB Brasilia 150.75 134 PKPbc **PKPbc 10 19 25.5 -1.1**
comp=Z,3.3nm,0.5s,baz=214,slow=3.6,SNR=4.3

DJA 04 10:05:26.4±0.9, 8°S±6°×10°7E±°, h10km, M3.7/7, MLv3.7/7, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.75**	**43**	P	Pg	10 05 40.4	-0.6
CISI				S	Sg	10 05 50.2	-0.7
LEM	**Lembang**	**1.31**	**14**	P	Pn	10 05 49.8	-1.2
LEM				S	Sb	10 06 08.3	-0.2
SKJI	**Sukabumi**	**1.32**	**326**	P	Pn	10 05 48.4	-2.6
DBJI	**Dramaga**	**1.64**	**341**	P	Pn	10 05 54.3	-1.0
KPJI	**Karang Pucung**	**1.79**	**65**	P	Pn	10 05 56.4	-1.0
BJII	**Banjamegara**	**2.51**	**72**	P	Pn	10 06 08.1	+0.7

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*CSEM **04** 10:29:53.5, 12°.04N×43°.73E, h7km, ML3.8, After DHMR*
DHMR 04 10:29:53.5±1.3, 12°.04N×43°.73E, h8km±9km, ML3.8, 3C, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.24**	**18**	*i* P	Pn	10 30 16.7	-0.8
TRBA				*i* S	Sg	10 30 34.2	+0.2
TRBA				AML	AML	10 30 35.9	
comp=E,1μm,0.2s							
ADEN	**Aden**	**1.43**	**59**⇑	*i* P	Pn	10 30 19.9	+0.2
ADEN				*i* S	Sg	10 30 39.6	+0.2
ADEN				AML	AML	10 30 49.9	
comp=E,1μm,0.3s							
ADEN	**Aden**	**1.43**	**59**⇑	*i* P	Pn	10 30 19.9	+0.1
ADEN				*i* S	Sg	10 30 39.6	+0.1
comp=E,644nm,0.3s							
UDYN	**Al 'Udayn**	**1.93**	**7**	*i* P	Pn	10 30 27.8	+0.9
UDYN				*i* S	Sb	10 30 54.3	+0.7
UDYN				AML	AML	10 31 00.2	
comp=E,2μm,0.3s							
UDYN	**Al 'Udayn**	**1.93**	**7**	*i* P	Pn	10 30 27.8	+0.9
UDYN				*i* S	Sb	10 30 54.3	+0.7
comp=E,798nm,0.3s							
DHBB	**Dhamar BB**	**2.59**	**14**	*i* P	Pb	10 30 39.3	-1.5
DHBB				*i* S	Sb	10 31 13.8	+0.7
BDHA	**Al Bayda'**	**2.63**	**43**	*i* P	Pn	10 30 38.2	+1.5
BDHA				*i* S	Sb	10 31 15.2	+1.3
BDHA	**Al Bayda'**	**2.63**	**43**	*i* P	Pn	10 30 38.2	+1.6
BDHA				*i* S	Sb	10 31 15.2	+1.3
HAJJ	**Hajjah**	**3.64**	**358**	*i* P	Pn	10 30 52.5	+2.0
HAJJ				*i* S	Sb	10 31 39.2	-3.6
HAJJ	**Hajjah**	**3.64**	**358**	*i* P	Pn	10 30 52.5	+2.0
HAJJ				*i* S	Sb	10 31 39.2	-3.7

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*ISCJB **04** 10:44:08.0±1.1, 8°.2S±0°.1×107°.3E±0°.1, h62km, Error ellipse: s-maj=17.5km s-min=10.8km az=44.4*
*DJA **04** 10:44:09.0±1.8, 8°S±13°×10°7E±°, h16km±13km, M3.9/6, MLv3.9/6*
ISC 04 10:44:08.2±1.6, 8°.14S±0°.08×107°.31E±0°.08, h62km, n8, σ1§25/9, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.77**	**41**	P	**Pn**	**10 44 23.1**	**-0.4**
CISI				S	**Sn**	**10 44 33.0**	**-1.7**
CISI	**Cisompet, Garu**	**0.77**	**41**	P	**Pn**	**10 44 23.1**	**-0.4**
baz=27,SNR=290							
LEM	**Lembang**	**1.34**	**13**	P	**Pn**	**10 44 32.3**	**+1.3**
LEM	**Lembang**	**1.34**	**13**	P	**Pn**	**10 44 32.1**	**+1.1**
baz=28,SNR=28							
SKJI	**Sukabumi**	**1.35**	**326**	P	**Pn**	**10 44 30.7**	**-0.4**
DBJI	**Dramaga**	**1.67**	**340**	P	**Pn**	**10 44 36.5**	**+1.1**
KPJI	**Karang Pucung**	**1.79**	**64**	P	**Pn**	**10 44 38.3**	**+1.4**
XMIS	**Christmas Isla**	**2.84**	**215**	P	**Pn**	**10 44 51.6**	**+0.4**
baz=30,SNR=5.7							

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*ISCJB **04** 11:21:14.7±0.7, 28°.91S±0°.04×68°.40W±0°.07, h94km±10km, mb3.4/4, Error ellipse: s-maj=10.5km s-min=6.7km az=158.0*
*IDC **04** 11:21:16.6±0.8, 29°.01S×68°.44W, h101km±7km, mb3.3/4, mb1 3.6/7, mb1mx3.5/19, mbtmp3.3/7, Error ellipse: s-maj=27.8km s-min=11.0km az=88.0*
*GUC **04** 11:21:16.0±1.0, 28°.94S×68°.77W, h156km±80km, ML4.1*
ISC 04 11:21:16.2±0.7, 28°.92S±0°.05×68°.45W±0°.07, h98km±7km, n17, σ0§97/28, mb3.4/4, 2C-1D, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**1.98**	**267**⇑	*i* P	**Pn**	**11 21 49.0**	**+0.3**
LCO				*i* S	**Sn**	**11 22 13.7**	**+0.3**
VACH	**Vallenar**	**2.06**	**279**⇓	*i* P	**Pn**	**11 21 49.7**	**+0.2**
VACH				*i* S	**Sn**	**11 22 15.1**	**+0.1**
VACH				AML	AML	11 22 16.6	
comp=E,2μm,0.1s							
CPCH Copiapo 2.29 312 *e*P **Pn 11 21 50.1 -2.4**							
CPCH				*i* S	**Sn**	**11 22 18.7**	**-1.6**
CPCH				AML	AML	11 22 24.7	
comp=N,2μm,0.1s							
TLL Tololo Astrono 2.40 238⇑ *i* P **Pn 11 21 54.3 +0.1**							
TLL				*i* S	**Sn**	**11 22 23.4**	**+0.1**
TLL				AML	AML	11 22 27.2	
comp=N,578nm,0.7s							
CFAA Coronel Fontan 2.68 176 P **Pn 11 21 57.5 -0.2**							
comp=N,11nm,0.3s,baz=356,slow=14,SNR=361							
CFAA				S	**Sn**	**11 22 28.5**	**-1.1**
comp=N,17nm,0.3s,baz=290,slow=15,SNR=10							
CDCH Caldera 2.79 311 *e*P **Pn 11 21 59.3 +0.1**							
CDCH				*i* S	**Sn**	**11 22 31.2**	**-1.0**
CDCH				AML	AML	11 22 39.8	
comp=N,183nm,0.5s							
CMCH Combarbala 3.15 224 *e*P **Pn 11 22 02.7 -1.4**							
CMCH				*i* S	**Sn**	**11 22 39.4**	**-1.6**
CMCH				AML	AML	11 22 44.5	
comp=E,1μm,0.6s							
CPUP Villa Florida 10.19 78 P **Pn 11 23 39.1 -0.4**							
comp=E,1.0nm,0.3s,baz=246,slow=11,SNR=5.3							
LPAZ La Paz 12.58 1 P **Pn 11 24 12.6 +0.4**							
comp=E,0.3nm,0.3s,baz=192,slow=4.7,SNR=7.1							
TXAR Lajitas Array 66.99 327 P **P 11 31 59.0 +0.4**							
comp=E,0.3nm,0.7s,baz=148,slow=6.8,SNR=4.4							
TORD Torodi Ar. Bea 79.55 69 P **P 11 33 13.1 +0.4**							
comp=E,1.0nm,0.6s,baz=276,slow=5.8,SNR=7.7							
TORD				pP	**pP**	**11 33 39.3**	**+1.1**
comp=E,0.8nm,0.7s,baz=224,slow=4.0,SNR=4.2							
PDAR Pinedale Array 80.74 331 P **P 11 33 19.1 +0.3**							
comp=E,0.5nm,0.7s,baz=116,slow=6.8,SNR=4.0							
NVAR Mina Array Bea 81.60 323 P **P 11 33 24.6 +1.2**							
comp=E,0.2nm,0.6s,baz=115,slow=8.0,SNR=2.8							
ASAR Alice Springs 123.46 205 PKP **PKPdf 11 40 01.1 -1.4**							
comp=E,0.2nm,0.4s,baz=138,slow=1.8,SNR=6.7							
ASAR				pPKP	**pPKPdf**	**11 40 29.6**	**0.0**
comp=E,0.2nm,0.7s,baz=132,slow=1.4,SNR=1.2							
WRA Warramunga Arr 126.67 207 PKP **PKPdf 11 40 07.9 -0.9**							
comp=E,0.5nm,0.4s,baz=158,slow=1.9,SNR=14							
WRA				pPKP	**pPKPdf**	**11 40 36.0**	**+0.1**
comp=E,0.4nm,0.8s,baz=173,slow=1.9,SNR=1.8							
ZALV Zalesovo Beam 148.31 30 PKPbc **PKPbc 11 40 50.9 +0.3**							
comp=E,2.9nm,0.4s,baz=302,slow=3.4,SNR=9.6							
MKAR Makanchi Array 151.05 44 PKPbc **PKPbc 11 40 57.6 +0.1**							
comp=E,1.3nm,0.6s,baz=294,slow=2.3,SNR=13							
MKAR				pPKPbc	**pPKPbc**	**11 41 25.3**	**+0.8**
comp=E,1.0nm,0.8s,baz=337,slow=2.8,SNR=4.0							

IDC 04 11:22:23.0±48.0, 21°.82S×168°.94W, h0km, mb3.9/3, mb1 4.0/3, mb1mx3.6/20, mbtmp3.9/3, MS3.8/3, Ms1 3.8/3, ms1mx3.0/33, Error ellipse: s-maj=956.8km s-min=201.9km az=87.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**10.97**	**226**	LR	LR	11 28 05.5	
comp=Z,1μm,19.6s,baz=167,slow=31							
STKA	**Stephens Creek**	**44.93**	**246**	P	P	11 30 38.1	-1.8
0.9nm,0.4s,baz=90,slow=11,SNR=3.6							
ASAR	**Alice Springs**	**52.44**	**256**	P	P	11 31 38.0	+0.1
0.3nm,0.4s,baz=90,slow=6.3,SNR=9.0							
WRA	**Warramunga Arr**	**52.78**	**261**	P	P	11 31 41.1	+0.7
0.9nm,0.4s,baz=99,slow=6.8,SNR=37							
DLBC	**Dease Lake**	**86.22**	**19**	LR	LR	12 04 27.8	
comp=Z,35nm,21.4s,baz=179,slow=29							
TKL	**Tuckaleechee C**	**98.67**	**55**	LR	LR	12 14 38.1	
comp=Z,32nm,20.5s,baz=291,slow=32							

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*CSEM **04** 11:22:27.4, 46°.31N×14°.18E, h0km, ML0.6, Mining explosion. After LJU*
LJU 04 11:22:27.4, 46°.31N×14°.18E, h0km, ML0.6 Artificial, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GORS Gorjuse 0.13 274 *i* Pg Pg 11 22 29.1 -1.0							
GORS				*i* Sg	Sg	11 22 31.9	0.0
comp=Z,30nm,0.1s							
GORS Gorjuse 0.13 274 *i* Pg Pg 11 22 29.1 -1.0							
GORS				*i* Sg	Sg	11 22 31.9	0.0
comp=Z,30nm,0.1s							
MOZS Mozjanca 0.18 94 *i* Pg Pg 11 22 31.1 +0.1							
MOZS				*i* Sg	Sg	11 22 34.9	+1.5
MOZS							
comp=Z,4.0nm,0.1s							
MOZS Mozjanca 0.18 94 *i* Pg Pg 11 22 31.0 0.0							
MOZS				*i* Sg	Sg	11 22 34.9	+1.5
comp=Z,4.0nm,0.1s							
CRNS Crni Vrh 0.23 166 *i* Pg Pg 11 22 31.0 -0.9							
CRNS				*i* Sg	Sg	11 22 36.2	+1.1
CRNS							
comp=Z,7.0nm,0.1s							
CADS Cadrg 0.32 256 *i* Pg Pg 11 22 32.7 -0.9							
CADS				*i* Sg	Sg	11 22 38.5	+0.7
CADS							
comp=Z,9.0nm,0.2s							
CADS Cadrg 0.32 256 *i* Pg Pg 11 22 32.7 -0.9							
CADS				*i* Sg	Sg	11 22 38.5	+0.7
comp=Z,9.0nm,0.2s							
VOJS Vojsko 0.34 217 *i* Pg Pg 11 22 33.0 -1.1							
VOJS							
comp=Z,3.0nm,0.1s							
VOJS Vojsko 0.34 217 *i* Pg Pg 11 22 33.0 -1.2							
comp=Z,3.0nm,0.1s							

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*CSEM **04** 11:23:40.5, 44°.60N×21°.77E, h0km, ML1.7, After BEO*
BEO 04 11:23:40.5±0.2, 44°.60N×21°.77E, h0km±4km, ML1.7/6, 1C-1D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVIS Svilajnac 0.52 230 *e*Sg Sg 11 23 57.1 -0.1							
BOLS Boljevac 0.78 170 *e*Sg Sg 11 24 05.8 +0.1							
BOLS Boljevac 0.78 170 *e*Sg Sg 11 24 05.8 +0.1							
BZS Buzias 1.02 354⇓ *i*P Pg 11 23 59.0 -1.1							
BZS Buzias 1.02 354 S Sg 11 24 12.7 -0.7							
BZS Buzias 1.02 354 *e*Pg Pg 11 23 58.8 -1.3							
BZS				*e*Sg	Sg	11 24 12.7	-0.7
BZS Buzias 1.02 354 *e*Pg Pg 11 23 58.8 -1.3							
BZS				*e*Sg	Sg	11 24 12.7	-0.7
GRUS Gruza 1.04 227 *e*Pg Pg 11 24 00.0 -0.5							
GRUS				*e*Sg	Sg	11 24 14.3	+0.4
GRUS Gruza 1.04 227 *e*Pg Pg 11 24 00.0 -0.5							
GRUS				*e*Sg	Sg	11 24 14.3	+0.4
TRUS Trudelj 1.05 249 *e*Pg Pg 11 23 58.1 -2.5							
TRUS				*e*Sg	Sg	11 24 13.6	-0.6
TRUS Trudelj 1.05 249 *e*Pg Pg 11 23 58.1 -2.5							
TRUS				*e*Sg	Sg	11 24 13.6	-0.6
GZR Gura Zlata 1.07 42⇑ *i*P Pg 11 23 59.7 -1.4							
GZR Gura Zlata 1.07 42 S Sg 11 24 13.7 -1.3							
GZR Gura Zlata 1.07 42 *e*Pg Pg 11 23 59.4 -1.7							
GZR				*e*Sg	Sg	11 24 13.9	-1.1
GZR Gura Zlata 1.07 42 *e*Pg Pg 11 23 59.4 -1.7							
GZR				*e*Sg	Sg	11 24 13.9	-1.1
DIVS Divibare 1.37 249 *e*Pg Pg 11 24 06.1 -0.8							
DIVS				*e*Sg	Sg	11 24 24.0	-0.8
DIVS Divibare 1.37 249 *e*Pg Pg 11 24 06.1 -0.8							
DIVS				*e*Sg	Sg	11 24 24.0	-0.8
SELS Selova 1.46 199 *e*Pg Pn 11 24 06.4 -1.7							
SELS				*e*Sg	Sg	11 24 26.7	-0.8
ZAPS Zavoj 1.47 155 *e*Pg Pn 11 24 07.8 -0.5							
ZAPS				*e*Sg	Sn	11 24 28.1	-0.1
BARS Barje 1.78 179 *e*Pn Pn 11 24 11.0 -1.6							
BARS				*e*Sg	Sn	11 24 36.2	+0.2
BARS Barje 1.78 179 *e*Pn Pn 11 24 11.0 -1.6							
BARS				*e*Sg	Sn	11 24 36.2	+0.2
DRGR 2.29 16 *e*Sn Sn 11 24 49.3 +0.7							
DRGR 2.29 16 *e*Sn Sn 11 24 49.3 +0.7							

IDC 04 11:38:57.0±4.3, 19°.28N×108°.66W, h0km, mb2.9/3, mb1 3.6/6, mb1mx3.5/24, mbtmp3.3/6, ML3.1/3, MS3.3/5, Ms1 3.3/5, ms1mx3.0/13, Error ellipse: s-maj=74.5km s-min=41.6km az=28.0, Revilla Gigedo Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG La Paz 5.03 343 LR LR 11 41 57.6							
comp=Z,333nm,19.6s,baz=141,slow=36							
TXAR Lajitas Array 10.99 23 Pn Pn 11 41 34.9 -0.9							
0.0nm,0.3s,baz=204,slow=16,SNR=3.0							
CMIG Matias Romero 13.27 97 Pn Pn 11 42 07.9 +1.0							
0.1nm,0.3s,baz=296,slow=12,SNR=4.3							
CMIG				LR	LR	11 46 49.9	
comp=Z,106nm,19.9s,baz=269,slow=36							
ANMO Albuquerque 15.72 7 Pn Pn 11 42 41.4 +1.2							
0.1nm,0.3s,baz=179,slow=11,SNR=2.5							
PFO Pinyon Flat Ob 15.87 336 LR LR 11 47 53.3							
comp=Z,174nm,21.3s,baz=170,slow=34							
NVAR Mina Array Bea 20.84 338 P P 11 43 41.8 +1.1							
0.4nm,0.8s,baz=167,slow=8.2,SNR=3.3							
PDAR Pinedale Array 23.42 358 P P 11 44 08.9 +0.8							
0.1nm,0.4s,baz=201,slow=4.8,SNR=2.5							
YBH Yreka Blue Hor 25.37 335 LR LR 11 54 04.9							
comp=Z,42nm,18.8s,baz=267,slow=36							
BBB Bella Bella 36.19 340 LR LR 12 02 17.5							
comp=Z,33nm,19.5s,baz=206,slow=39							
RKT Rikitea 49.35 213 *e*T T 12 40 40.5							
1.3nm,0.2s							
ILAR Eielson Array 52.08 340 P P 11 48 07.2 -1.2							
0.4nm,0.8s,baz=146,slow=6.1,SNR=4.8							
PPT2 Papeete2 54.39 230 *e*LR LR 12 03 48.8							
82nm,27.5s							
DZM Mont Dzumac 92.56 248 *e*LR LR 12 21 44.6							
201nm,33.8s							

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*IDC **04** 11:47:52.6±0.9, 36°.56N×112°.88W, h0km, mb1 3.3/5, mb1mx3.2/30, mbtmp2.9/5, ML3.1/5, Error ellipse: s-maj=10.2km s-min=9.0km az=9.0*
*NEIC **04** 11:47:54.0±0.3, 36°.65N×112°.96W, h5km, ML3.0, Error ellipse: s-maj=4.6km s-min=4.0km az=189.0*
ISC 04 11:47:53.4±1.2, 36°.63N±0°.02×112°.99W±0°.03, h0km±11km, n40, σ1§75/67, Western Arizona

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCUT Cedar City 0.96 342 *e*Pg **Pg 11 48 11.8 0.0**							
CCUT				*e*Sg	**Sg**	**11 48 24.2**	**-0.1**
ARUT Antelope Range 1.21 343 *e*Pg **Pn 11 48 16.1 -1.6**							
ARUT				*e*Sg	**Sb**	**11 48 31.5**	**-1.9**
WUAZ Wupatki 1.72 130 *e*Pn **Pn 11 48 23.7 -1.0**							
WUAZ				*e*Sn	**Sb**	**11 48 46.0**	**-2.1**
SHPR Sheep Range 1.75 266 *e*Pn **Pb 11 48 25.8 -0.6**							
SHPR				*e*Sn	**Sg**	**11 48 52.3**	**+2.7**
LDFC Landfair 2.32 229 *e*Pn **Pn 11 48 34.0 +1.2**							
LDFC				*e*Sn	**Sn**	**11 49 00.6**	**-1.5**
R11A Troy Canyon, C 2.68 310 *e*Pn **Pn 11 48 37.6 -0.3**							
R11A				*e*Sn	**Sn**	**11 49 12.2**	**+1.0**
Q16A Castle Valley 2.70 32 *e*Pn **Pn 11 48 39.2 +1.0**							
Q16A				*e*Sn	**Sb**	**11 49 17.6**	**+1.2**
TMUT Trail Mountain 3.01 27 *e*Pn **Pb 11 48 45.6 -2.4**							
TMUT				*e*Sn	**Sb**	**11 49 26.9**	**+1.5**
W18A Petrified Fore 3.05 119 *e*Pn **Pn 11 48 42.8 -0.2**							
W18A				*e*Sn	**Sb**	**11 49 26.9**	**+0.5**
SRU San Rafael 3.15 38 *e*Pn **Pn 11 48 46.4 +1.9**							
SRU				*e*Sn	**Sb**	**11 49 30.4**	**+1.1**
GSC Goldstone 3.37 248 *e*Pn **Pn 11 48 48.2 +0.9**							
GSC				*e*Pg	**Pg**	**11 48 57.6**	**-0.3**
NLU North Lily Min 3.39 12 *e*Pn **Pn 11 48 50.2 +2.5**							
NLU				*e*Sn	**Sb**	**11 49 32.5**	**-3.9**
MPU Maple Canyon 3.54 17 *e*Pn **Pb 11 48 57.3 +0.2**							
MPU				*e*Sn	**Sb**	**11 49 36.6**	**-4.0**
DUG Dugway 3.56 2 *e*Pn **Pb 11 48 56.3 -1.0**							
DUG				*e*Sn	**Sb**	**11 49 37.3**	**-3.7**
MVCO Mesa Verde 3.65 80 *e*Pn **Pn 11 48 51.6 +0.3**							
MVCO				*e*Sn	**Sb**	**11 49 43.4**	**-0.3**
PV04 Paradox Valley 3.69 60 *e*Pn **Pn 11 48 52.0 +0.1**							
PV04				*e*Sn	**Sb**	**11 49 44.0**	**-1.0**
PV01 Paradox Valley 3.83 66 *e*Pn **Pn 11 48 53.8 0.0**							
PV01				*e*Sn	**Sb**	**11 49 44.8**	**-4.1**
GLA Glamis 3.88 203 *e*Pn **Pn 11 48 55.0 +0.7**							
GLA				*e*Sg	**Sg**	**11 49 57.3**	**-0.7**
DAU Daniels Canyon 4.01 19 *e*Pn Pn 11 49 00.4 +4.1							
DAU				*e*Sn	**Sb**	**11 49 53.4**	**-0.9**
JLU Jordanelle 4.14 16 *e*Pg **Pb 11 49 10.0 +2.7**							
PFO Pinyon Flat Ob 4.14 224 *e*Pn **Pn 11 48 57.7 -0.3**							
PFO				Sn	**Sn**	**11 49 48.8**	**+1.7**
PFO				*e*Sg	**Sg**	**11 50 05.7**	**-0.8**
PFO				Lg	Lg	11 50 07.0	
PFO Pinyon Flat Ob 4.14 224 Pn **Pn 11 48 59.0 +1.0**							
0.9nm,0.3s,baz=36,slow=12,SNR=15							
PFO				Sn	**Sn**	**11 49 48.8**	**+1.7**
0.2nm,0.3s,baz=53,slow=20,SNR=2.3							
PFO				Lg	Lg	11 50 07.0	
1.2nm,0.3s,baz=153,slow=18,SNR=8.1							
ELK Elko 4.46 338 Pn **Pn 11 49 02.2 -0.3**							
ELK				*e*Sg	**Sg**	**11 50 20.9**	**+4.1**
NV11 Mina Array Sit 4.48 295 *e*Pn **Pn 11 49 02.8 +0.2**							
NV11				*e*Sg	**Sg**	**11 50 17.3**	**0.0**
NVAR Mina Array Bea 4.59 295 Pn **Pn 11 49 05.0 +0.9**							
NVAR				Pg	**Pg**	**11 49 20.6**	**-0.7**
NVAR				Sn	**Sn**	**11 49 58.9**	**+0.6**
NVAR				Lg	Lg	11 50 21.6	
NVAR Mina Array Bea 4.59 295 Pn **Pn 11 49 05.0 +0.9**							
1.2nm,0.3s,baz=124,slow=14,SNR=57							
NVAR				Pg	**Pg**	**11 49 20.6**	**-0.7**
4.8nm,0.3s,baz=118,slow=17,SNR=25							
NVAR				Sn	**Sn**	**11 49 58.9**	**+0.6**
0.9nm,0.3s,baz=127,slow=17,SNR=2.6							
NVAR				Lg	Lg	11 50 21.6	
3.7nm,0.3s,baz=130,slow=30,SNR=7.6							
TUC Tucson 4.68 156 *e*Pn **Pn 11 49 05.1 -0.3**							
TUC				*e*Sn	**Sn**	**11 50 02.2**	**+1.7**
BAR Barrett 4.97 219 *e*Pn **Pn 11 49 10.3 +1.0**							
9.5nm,0.3s							
BAR				*e*Sn	**Sn**	**11 50 10.3**	**+2.8**
HWUT Hardware Ranch 5.09 12 *e*Pn Pn 11 49 13.8 +2.7							
O20A White River Ci 5.11 45 *e*Pn **Pn 11 49 12.2 +0.9**							
O20A				*e*Sg	Sg	11 50 47.0	+9.3
SMCO Snowmass 5.39 60 *e*Pn **Pn 11 49 14.9 -0.6**							
SMCO				*e*Sn	**Sb**	**11 50 29.8**	**-4.4**
**LENM Lemitar 5

GTA				smax	smax		
	comp=N,38nm,0.7s						
GTA				smax	smax		
	comp=E,39nm,1.0s						
GTA				LR	LR		
	comp=N,440nm,9.9s						
GTA				LR	LR		
	comp=E,380nm,7.1s						
GTA				LR	LR		
	comp=Z,350nm,8.2s						
LZH	**Lanzhou**	**6.85**	**100**	*e*Pg	**Pg**	**12 36 35.7**	**-0.2**
LZH				Sg	**Sg**	**12 38 03.5**	**-1.1**
LZH				smax	smax		
	comp=N,190nm,0.9s						
LZH				smax	smax		
	comp=E,160nm,0.7s						
LZH				LR	LR		
	comp=N,560nm,8.4s						
LZH				LR	LR		
	comp=E,210nm,4.8s						
LZH				LR	LR		
	comp=Z,320nm,5.3s						
WMQ	**Urumqi**	**8.60**	**319**	P	**Pn**	**12 36 30.8**	**+1.5**
WMQ				smax	smax		
	comp=N,35nm,0.7s						
WMQ				smax	smax		
	comp=E,47nm,1.0s						
SONM	**Songino Array**	**12.98**	**34**	Pn	**Pn**	**12 37 30.4**	**+1.0**
	comp=E,0.3nm,0.3s,baz=220,slow=15,SNR=5.2						
SONM				LR	LR	12 42 43.4	
	comp=E,76nm,19.6s,baz=270,slow=39						
MK31	**Makanchi Array**	**13.43**	**317**	⇓Pn	**Pn**	**12 37 33.9**	**-1.4**
	comp=E,1.0nm,0.4s,baz=122,slow=12,SNR=23						
MK31				⇑Sn	**Sn**	**12 40 02.1**	**-2.5**
	comp=E,4.7nm,0.8s,baz=126,slow=26,SNR=11						
MKAR	**Makanchi Array**	**13.43**	**317**	Pn	**Pn**	**12 37 34.6**	**-0.7**
	comp=E,0.7nm,0.3s,baz=131,slow=14,SNR=14						
MKAR				Sn	**Sn**	**12 40 04.5**	**-0.1**
	comp=E,0.3nm,0.3s,baz=124,slow=25,SNR=10						
TKM2	**Tokmak 2**	**16.10**	**296**	⇓P	**Pn**	**12 38 07.8**	**-3.5**
	comp=E,12nm,1.4s						
AAK	**Ala-Archa**	**16.84**	**294**	Pn	**P**	**12 38 23.6**	**+0.8**
	comp=E,0.2nm,0.3s,baz=100,slow=6.1,SNR=5.5						
KURBB	**Kurchatov Arra**	**17.79**	**322**	P	**P**	**12 38 33.1**	**0.0**
	comp=E,0.3nm,0.3s,baz=130,slow=12,SNR=9.8						
KURBB				S	Sn	12 41 38.0	-12
	comp=E,0.1nm,0.3s,baz=53,slow=34,SNR=5.8						
ZALV	**Zalesovo Beam**	**17.95**	**339**	P	**P**	**12 38 37.0**	**+2.2**
	comp=E,3.6nm,0.3s,baz=147,slow=8.6,SNR=34						
CMAR	**Chiang Mai Arr**	**19.30**	**170**	P	**P**	**12 38 51.3**	**+1.4**
	comp=E,0.2nm,0.3s,baz=340,slow=10.0,SNR=5.0						
VOSK	**Vostochnaya**	**22.82**	**319**	⇓P	**P**	**12 39 27.6**	**-0.2**
	comp=E,4.2nm,1.2s						
BVAR	**Borovoye Array**	**23.29**	**320**	P	**P**	**12 39 33.0**	**+0.5**
	comp=E,0.7nm,0.5s,baz=108,slow=9.4,SNR=3.0						
KSRS	**Korea Array**	**25.64**	**80**	P	**P**	**12 39 53.6**	**-0.9**
	comp=E,1.3nm,0.8s,baz=284,slow=8.7,SNR=4.3						
ILAR	**Eielson Array**	**66.98**	**24**	P	**P**	**12 45 18.1**	**+0.8**
	comp=E,0.3nm,0.8s,baz=303,slow=4.8,SNR=4.8						
WRA	**Warramunga Arr**	**67.90**	**140**	P	**P**	**12 45 23.5**	**-0.1**
	comp=E,0.5nm,0.9s,baz=323,slow=8.4,SNR=3.3						
ASAR	**Alice Springs**	**70.83**	**143**	P	**P**	**12 45 42.1**	**+0.4**
	comp=E,0.3nm,0.6s,baz=333,slow=6.0,SNR=5.9						

IDC 04 13:03:04.2±0.9, 27°.80S×65°.32E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.7/26, mbtmp3.8/8, MS3.4/5, Ms1 3.4/5, ms1mx3.0/39, Error ellipse: s-maj=31.1km s-min=21.9km az=95.0, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAW	**Mawson**	**39.85**	**181**	LR	LR	13 24 08.4	
	comp=Z,66nm,21.7s,baz=93,slow=32						
CMAR	**Chiang Mai Arr**	**56.35**	**39**	P	P	13 12 47.8	+0.6
	1.0nm,0.7s,baz=223,slow=7.4,SNR=7.8						
SNAA	**Sanae**	**57.02**	**200**	P	P	13 12 51.1	-0.3
	0.3nm,0.9s,baz=37,slow=10,SNR=3.1						
ASAR	**Alice Springs**	**61.20**	**103**	P	P	13 13 21.1	0.0
	1.5nm,0.8s,baz=251,slow=6.1,SNR=20						
QSPA	**South Pole Qui**	**62.34**	**180**	P	P	13 13 28.6	+0.3
	1.8nm,0.8s,baz=246,slow=2.0,SNR=7.5						
WRA	**Warramunga Arr**	**62.89**	**99**	P	P	13 13 32.2	-0.4
	1.3nm,0.9s,baz=246,slow=6.2,SNR=5.5						
VNDA	**Vanda**	**64.47**	**166**	LR	LR	13 39 39.2	
	comp=Z,55nm,19.2s,baz=337,slow=34						
ASF	**Jabal al Asfar**	**65.49**	**334**	LR	LR	13 39 22.7	
	comp=Z,21nm,20.2s,baz=308,slow=33						
GNI	**Garni**	**70.26**	**343**	LR	LR	13 42 16.6	
	comp=Z,21nm,20.5s,baz=89,slow=34						
BRTR	**Keskin Array B**	**73.38**	**335**	P	P	13 14 38.2	+0.2
	0.4nm,0.6s,baz=151,slow=3.3,SNR=3.1						
TORD	**Torodi Ar. Bea**	**73.83**	**295**	LR	LR	13 49 38.9	
	comp=Z,18nm,19.3s,baz=195,slow=38						
MKAR	**Makanchi Array**	**75.82**	**12**	P	P	13 14 51.3	-0.5
	0.5nm,0.8s,baz=210,slow=7.5,SNR=3.8						
ZALV	**Zalesovo Beam**	**83.14**	**11**	P	P	13 15 31.3	-0.3
	1.0nm,0.6s,baz=193,slow=4.6,SNR=5.1						

*AUST **04** 13:05:11.0±0.0, 6°.29S×128°.22E, h261km, Error ellipse: s-maj=1.5km s-min=1.0km az=324.0*
*IDC **04** 13:05:33.4±7.8, 8°.00S×129°.20E, h360km±107km, mb2.5/1, mb1 2.8/5, mb1mx2.6/21, mbtmp2.7/5, Error ellipse: s-maj=62.4km s-min=29.2km az=167.0*
ISC 04 13:05:30.0±4.2, 7°.9S±0°.4×129°.2E±0°.2, h300km, n10, σ1§33/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTN	**Manton Dam**	**5.30**	**159**	P	**Pn**	**13 06 52.0**	**+1.0**
	baz=7.2,SNR=4.8						
KDU	**Kakadu**	**5.78**	**146**	P	**Pn**	**13 06 58.5**	**+1.7**
	baz=7.6,SNR=4.3						
KNRA	**Kununurra**	**7.75**	**183**	P	**Pn**	**13 07 19.9**	**-0.7**
	baz=9.4,SNR=6.3						
WSI	**Waingapu**	**8.93**	**258**	S	S	13 08 53.5	-23
	baz=8.5,SNR=5.0						
FITZ	**Fitzroy Crossi**	**10.71**	**198**	P	**Pn**	**13 07 58.2**	**+1.3**
	0.1nm,0.3s,baz=25,slow=12,SNR=8.7						
FITZ				S	S	13 10 09.9	+13
	0.1nm,0.3s,baz=356,slow=19,SNR=2.4						
FITZ	**Fitzroy Crossi**	**10.71**	**198**	P	**Pn**	**13 07 57.9**	**+1.0**
	baz=12,SNR=3.9						
WRA	**Warramunga Arr**	**12.99**	**158**	P	**Pn**	**13 08 24.6**	**-0.1**
	0.1nm,0.3s,baz=336,slow=12,SNR=5.5						
WRA				S	S	13 10 59.1	+10
	0.0nm,0.3s,baz=338,slow=19,SNR=2.8						
ASAR	**Alice Springs**	**16.34**	**164**	P	**P**	**13 09 00.7**	**-1.1**
	0.1nm,0.3s,baz=347,slow=12,SNR=9.9						
PMG	**Port Moresby**	**17.87**	**96**	P	**P**	**13 09 17.8**	**-0.6**
	1.3nm,0.3s,baz=233,slow=10,SNR=4.8						
MKAR	**Makanchi Array**	**68.51**	**327**	P	P	13 15 58.7	-1.8
	0.1nm,0.5s,baz=97,slow=4.8,SNR=1.9						

DJA 04 13:10:45.7±0.4, 7°S±4°×10°8E±°, h23km±5km, M3.6/7, MLv3.6/7, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.37**	**133**	P	Pb	13 10 53.1	-0.7
CISI				S	Sn	13 11 03.0	+0.6
LEM	**Lembang**	**0.48**	**9**	P	Pn	13 11 02.0	+4.6
LEM				S	Sb	13 11 02.8	+0.3
SKJI	**Sukabumi**	**1.02**	**287**	P	Pn	13 11 00.5	-4.1
SKJI				S	Sb	13 11 17.2	-0.5
DBJI	**Dramaga**	**1.08**	**313**	P	Pb	13 11 06.2	+0.5
KPJI	**Karang Pucung**	**1.38**	**91**	P	Pn	13 11 08.3	-1.3
TGJI	**Tegal**	**1.63**	**75**	P	Pb	13 11 14.4	-0.6
BJII	**Banjamegara**	**2.15**	**91**	P	Pn	13 11 19.3	-1.0

KRSC 04 13:11:16.6±0.6, 52°.93N×160°.00E, h44km±24km, ML3.9, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.17**	**5**	P	Pn	13 11 24.3	+0.2
SPN				*i* S	Sn	13 11 29.9	+0.6
SDLR	**Sedlovina**	**0.76**	**298**	P	Pn	13 11 30.8	-0.3
SDLR				*i* S	Sn	13 11 41.7	+0.1
UGLR	**Uglovaya**	**0.76**	**292**	P	Pn	13 11 30.9	-0.2
UGLR				*i* S	Sn	13 11 42.5	+0.9
SMAR	**Somma**	**0.80**	**295**	P	Pn	13 11 31.5	-0.2
SMAR				*i* S	Sn	13 11 42.6	-0.1
PET	**Petropavlovsk**	**0.82**	**277**	*e*P	Pn	13 11 31.2	-0.5
PET				*i* S	Sn	13 11 42.2	-0.5
AVH	**Avacha**	**0.83**	**294**	P	Pn	13 11 32.0	0.0
AVH				*i* S	Sn	13 11 44.1	+0.9
KRER	**Koryakskii**	**0.84**	**297**	P	Pn	13 11 32.3	0.0
KRER				*i* S	Sn	13 11 44.1	+0.3
KOK	**Koryaka**	**0.90**	**294**	P	Pn	13 11 32.8	-0.2
KOK				*i* S	Sn	13 11 44.9	0.0
KRX	**Arik**	**0.92**	**298**	P	Pn	13 11 33.0	-0.3
KRX				*i* S	Sn	13 11 44.8	-0.7
RUS	**Russkaya**	**1.03**	**242**	P	Pn	13 11 34.3	-0.3
RUS				*i* S	Sn	13 11 47.5	-0.4
KII	**Karymskiy**	**1.16**	**344**	*e*P	Pn	13 11 36.2	-0.2
KII				*i* S	Sn	13 11 51.1	0.0
MTVR	**Mutnovka**	**1.19**	**249**	*e*P	Pn	13 11 37.2	+0.2
MTVR				*i* S	Sn	13 11 52.5	+0.3
GRL	**Gorelyy**	**1.23**	**253**	P	Pn	13 11 38.1	+0.6
GRL				*i* S	Sn	13 11 53.7	+0.6
ASAK	**Asacha**	**1.39**	**248**	P	Pn	13 11 40.1	+0.4
ASAK				*i* S	Sn	13 11 57.9	+1.0
GNL	**Ganaly**	**1.45**	**303**	P	Pn	13 11 41.0	+0.5
GNL				*i* S	Sn	13 11 59.5	+1.0
APC	**Apacha**	**1.72**	**271**	*e*P	Pn	13 11 45.4	+1.4
APC				*i* S	Sn	13 12 06.7	+1.9
MKZ	**Mys Kozlova**	**1.93**	**32**	P	Pn	13 11 46.2	-0.6
MKZ				*i* S	Sn	13 12 07.3	-2.5
MIPR	**Malaya Ipel'ka**	**2.08**	**253**	*e*P	Pn	13 11 49.9	+0.9
TUMR	**Tumrok**	**2.36**	**2**	*e*P	Pn	13 11 54.2	+1.2
PAU	**Pauzhetka**	**2.45**	**235**	*e*P	Pn	13 11 55.2	+1.2
PAU				*i* S	Sn	13 12 24.1	+1.4
KMNR	**Kamenistaya**	**2.83**	**3**	*e*P	Pn	13 12 01.3	+1.8
BZMR	**Bezymyannaya**	**3.02**	**5**	*e*P	Pn	13 12 03.9	+1.8
KIRR	**Kirishev**	**3.04**	**4**	*e*P	Pn	13 12 04.2	+1.9
BZGR	**Bezymyannyi-Gr**	**3.04**	**7**	*e*P	Pn	13 12 04.3	+2.0
KPT	**Kopyto**	**3.04**	**2**	*e*P	Pn	13 12 04.6	+2.3
BZWR	**Bezymyannyi-We**	**3.05**	**5**	*e*P	Pn	13 12 04.7	+2.1
ESO	**Esso**	**3.10**	**346**	*e*P	Pn	13 12 03.9	+1.0
ZLN	**Zelenaya**	**3.13**	**8**	*e*P	Pn	13 12 05.4	+1.9
KOZ	**Kozyrevsk**	**3.14**	**359**	P	Pn	13 12 04.9	+1.4
LGNR	**Loginova**	**3.19**	**7**	*e*P	Pn	13 12 06.1	+1.6
CIRR	**Tsirk**	**3.22**	**7**	*e*P	Pn	13 12 06.8	+2.0
SKR	**Severo-Kuril's**	**3.30**	**229**	*e*P	Pn	13 12 06.5	+0.9
SKR				*i* S	Sn	13 12 43.9	+0.4
KRSR	**Krestovskiy**	**3.31**	**5**	P	Pn	13 12 08.0	+2.0
SRDR	**Sredinnyy**	**3.40**	**357**	P	Pn	13 12 07.8	+0.7
KLY	**Klyuchi**	**3.41**	**6**	*e*P	Pn	13 12 09.4	+2.2
KBTR	**Krutoberegovo**	**3.67**	**25**	*e*P	Pn	13 12 12.6	+1.8
BDR	**Baidarnaya**	**3.71**	**10**	P	Pn	13 12 13.8	+2.3
SMKR	**Semkarok**	**3.76**	**12**	P	Pn	13 12 14.3	+2.2
SRKR	**Sorokina**	**3.79**	**10**	P	Pn	13 12 15.1	+2.5
BKI	**Bering**	**4.19**	**55**	P	Pn	13 12 17.3	-0.6
BKI				*i* S	Sn	13 13 01.3	-4.2

IDC 04 13:15:59.6±2.3, 48°.30N×152°.81E, h178km±22km, mb3.2/8, mb1 3.4/10, mb1mx3.2/25, mbtmp3.1/10, Error ellipse: s-maj=23.2km s-min=14.8km az=128.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**5.72**	**31**	P	Pn	13 17 22.2	-0.6
	0.4nm,0.3s,baz=201,slow=15,SNR=9.9						
ASAJ	**Asahikawa**	**8.23**	**243**	P	Pn	13 17 55.7	-0.1
	0.5nm,0.3s,baz=74,slow=15,SNR=7.3						
KSRS	**Korea Array**	**21.13**	**248**	P	P	13 20 32.0	+1.8
	0.9nm,0.5s,baz=45,slow=10,SNR=7.0						
MKAR	**Makanchi Array**	**46.06**	**296**	P	P	13 24 05.0	-0.2
	0.3nm,0.4s,baz=63,slow=8.8,SNR=4.1						
ARCES	**ARCESS Array B**	**56.32**	**340**	P	P	13 25 21.0	-0.2
	1.6nm,0.8s,baz=27,slow=8.1,SNR=3.7						
FINES	**FINESS Array B**	**62.55**	**334**	P	P	13 26 03.3	-0.6
	3.6nm,0.9s,baz=44,slow=8.2,SNR=4.4						
PDAR	**Pinedale Array**	**64.00**	**54**	P	P	13 26 14.8	+0.8
	0.3nm,0.6s,baz=225,slow=1.5,SNR=3.8						
WRA	**Warramunga Arr**	**69.92**	**199**	P	P	13 26 50.3	-0.9
	0.7nm,0.7s,baz=23,slow=6.7,SNR=4.4						
ASAR	**Alice Springs**	**73.62**	**198**	P	P	13 27 13.3	+0.2
	0.2nm,0.6s,baz=12,slow=6.4,SNR=6.2						
TXAR	**Lajitas Array**	**76.91**	**61**	P	P	13 27 32.5	+0.4
	0.3nm,0.6s,baz=297,slow=5.3,SNR=6.4						

IDC 04 13:20:15.1±12.0, 15°.00S×166°.09E, h0km, mb4.0/4, mb1 4.1/5, mb1mx3.8/19, mbtmp4.0/5, ML3.7/1, Error ellipse: s-maj=222.4km s-min=35.3km az=59.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.04**	**177**	Pn	Pn	13 22 00.1	+0.4
	1.2nm,0.3s,baz=148,slow=23,SNR=26						
DZM				Sn	Sn	13 23 20.2	-0.3
	1.8nm,0.3s,baz=159,slow=23,SNR=7.3						
STKA	**Stephens Creek**	**27.95**	**229**	P	P	13 26 06.9	-0.5
	1.2nm,0.3s,baz=63,slow=9.7,SNR=3.6						
WRA	**Warramunga Arr**	**30.65**	**256**	P	P	13 26 31.3	-0.2
	0.9nm,1.1s,baz=84,slow=8.1,SNR=6.6						
ASAR	**Alice Springs**	**31.51**	**249**	P	P	13 26 39.0	-0.1
	1.0nm,0.4s,baz=76,slow=9.2,SNR=50						
FITZ	**Fitzroy Crossi**	**38.84**	**260**	P	P	13 27 42.9	+0.6
	1.5nm,0.7s,baz=85,slow=9.7,SNR=4.0						

*ISCJB **04** 13:24:37.0±0.5, 18°.6S±0°.1×177°.8W±0°.1, h600km, mb3.9/13, Error ellipse: s-maj=20.3km s-min=9.3km az=145.2*
*AUST **04** 13:24:38.3±0.0, 18°.71S×177°.42W, h624km, Error ellipse: s-maj=2.2km s-min=2.1km az=328.0*
*IDC **04** 13:24:39.1±1.2, 18°.55S×177°.81W, h616km±16km, mb3.4/13, mb1 3.6/15, mb1mx3.4/24, mbtmp3.4/15, Error ellipse: s-maj=23.1km s-min=9.6km az=146.0*
ISC 04 13:24:38.1±0.6, 18°.5S±0°.2×177°.8W±0°.1, h600km, n30, σ1§12/32, mb4.0/13, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.40**	**53**	P	**P**	**13 26 32.3**	**+0.3**
	6.9nm,0.3s,baz=247,slow=13,SNR=15						
AFI				S	**S**	**13 28 06.8**	**+1.7**
	1.8nm,0.3s,baz=232,slow=19,SNR=3.4						
DZM	**Mont Dzumac**	**15.17**	**254**	P	**P**	**13 27 50.3**	**+2.3**
	0.4nm,0.3s,baz=73,slow=20,SNR=4.0						
RPZ	**Rata Peaks**	**26.80**	**198**	P	**P**	**13 29 30.9**	**-1.0**
	4.7nm,0.5s,baz=324,slow=8.7,SNR=4.3						
ARMA	**Armidale**	**30.12**	**241**	P	**P**	**13 30 01.9**	**+1.0**
	baz=30,SNR=5.0						
MGCD	**Mangrove Creek**	**31.40**	**236**	P	**P**	**13 30 13.8**	**+2.1**
	baz=32,SNR=6.5						
CNB	**Canberra Magne**	**33.50**	**233**	P	**P**	**13 30 30.0**	**+0.5**
	baz=34,SNR=33						
CTA	**Charters Tower**	**33.90**	**261**	P	**P**	**13 30 33.9**	**+0.9**
	4.4nm,0.4s,baz=93,slow=9.6,SNR=14						
CMSA	**Cobar Meteorol**	**35.34**	**241**	P	**P**	**13 30 45.0**	**+0.3**
	baz=36,SNR=23						
MTSU	**Mount Surprise**	**35.90**	**264**	P	**P**	**13 30 50.5**	**+0.9**
	baz=36,SNR=5.7						
TOO	**Toolangi**	**37.22**	**232**	P	**P**	**13 31 00.7**	**+0.5**
	baz=37,SNR=6.6						
COEN	**Coen**	**37.67**	**271**	P	**P**	**13 31 05.9**	**+1.8**
	baz=38,SNR=7.4						
STKA	**Stephens Creek**	**38.82**	**242**	P	**P**	**13 31 13.7**	**+0.5**
	3.1nm,0.5s,baz=99,slow=7.4,SNR=7.2						
WRA	**Warramunga Arr**	**45.07**	**260**	P	**P**	**13 32 02.1**	**-0.1**
	3.0nm,0.4s,baz=97,slow=7.7,SNR=111						
WRA				S	S	13 37 52.5	-6.5
	0.6nm,1.0s,baz=123,slow=14,SNR=6.3						
ASAR	**Alice Springs**	**45.16**	**255**	P	**P**	**13 32 02.9**	**-0.1**
	6.4nm,0.7s,baz=88,slow=8.0,SNR=135						
ASAR				S	**S**	**13 37 58.0**	**-2.1**
	0.7nm,0.6s,baz=92,slow=16,SNR=7.1						
KNRA	**Kununurra**	**50.98**	**265**	P	**P**	**13 32 46.1**	**0.0**
	baz=51,SNR=3.4						
FITZ	**Fitzroy Crossi**	**53.48**	**261**	P	**P**	**13 33 04.1**	**+0.2**
	0.8nm,0.3s,baz=112,slow=3.4,SNR=4.2						
MEEK	**Meekatharra**	**58.74**	**250**	P	**P**	**13 33 39.1**	**-1.0**
	baz=59,SNR=4.2						
NWAO	**Narrogin (SRO)**	**59.41**	**242**	P	**P**	**13 33 43.9**	**-0.5**
	16nm,1.2s,baz=63,slow=9.0,SNR=2.6						
VNDA	**Vanda**	**59.88**	**185**	P	**P**	**13 33 47.0**	**+0.4**
	1.6nm,0.9s,baz=42,slow=8.0,SNR=3.0						
PETK	**Petropavlovsk-**	**74.42**	**345**	P	**P**	**13 35 15.7**	**-0.1**
	1.9nm,0.6s,baz=134,slow=9.4,SNR=11						
YBH	**Yreka Blue Hor**	**78.66**	**39**	P	**P**	**13 35 39.8**	**+0.5**
	2.0nm,0.7s,baz=190,slow=1.7,SNR=8.1						
TXAR	**Lajitas Array**	**85.86**	**57**	P	**P**	**13 36 16.2**	**+0.4**
	2.3nm,0.8s,baz=220,slow=6.7,SNR=29						
ILAR	**Eielson Array**	**86.36**	**13**	P	**P**	**13 36 15.8**	**-1.4**
	1.1nm,0.7s,baz=229,slow=5.0,SNR=21						
PDAR	**Pinedale Array**	**87.42**	**43**	P	**P**	**13 36 22.3**	**-0.7**
	1.2nm,0.8s,baz=181,slow=3.6,SNR=7.3						
MKAR	**Makanchi Array**	**109.96**	**314**	PKiKP	**PKiKP**	**13 42 00.3**	**-1.9**
	0.3nm,0.5s,baz=172,slow=0.7,SNR=5.2						
ARCES	**ARCESS Array B**	**127.02**	**350**	PKP	**PKPdf**	**13 42 33.0**	**-1.3**
	0.6nm,0.4s,baz=274,slow=2.1,SNR=7.5						
FINES	**FINESS Array B**	**133.93**	**344**	PKP	**PKPdf**	**13 42 46.9**	**-0.6**
	1.6nm,0.7s,baz=155,slow=6.3,SNR=4.6						
BRTR	**Keskin Array B**	**145.61**	**315**	PKPbc	**PKPdf**	**13 43 10.2**	**+0.7**
	1.1nm,0.6s,baz=139,slow=3.6,SNR=6.1						
GERES	**GERESS Array B**	**148.35**	**345**	PKPbc	**PKPbc**	**13 43 17.3**	**-0.6**
	1.0nm,0.7s,baz=48,slow=2.0,SNR=7.6						
DAVOX	**Davos/Dischmat**	**151.12**	**349**	PKPbc	**PKPbc**	**13 43 23.7**	**-1.0**
	6.0nm,0.4s,baz=310,slow=4.1,SNR=7.8						

*ISCJB **04** 13:27:15.6±0.5, 59°.77N±0°.03×24°.47E±0°.06, h0km, Error ellipse: s-maj=4.4km s-min=3.7km az=40.5*
*IDC **04** 13:27:17.3±2.9, 59°.52N×24°.97E, h0km, mb1 3.2/4, mb1mx3.0/26, mbtmp3.1/4, ML3.0/3, Error ellipse: s-maj=34.6km s-min=10.1km az=151.0*
*CSEM **04** 13:27:17.8±0.2, 59°.69N×24°.63E, h1km, ML2.3, Error ellipse: s-maj=4.2km s-min=3.5km az=108.0, Mining explosion.*
*NAO **04** 13:27:19.0±1.0, 59°.71N×24°.58E, ML2.1*
*BER **04** 13:27:19.2±5.4, 59°.69N×24°.59E, h0km, ML2.1(NAO), Suspected explosion*
*HEL **04** 13:27:19.5±0.2, 59°.70N×24°.52E, h0km, ML1.9, Explosion*
ISC 04 13:27:17.9±0.7, 59°.70N±0°.03×24°.51E±0°.03, h0km, n37, σ0§83/60, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**0.52**	**354**	PG	**Pg**	**13 27 28.6**	**+0.6**
MEF				SG	**Sg**	**13 27 35.5**	**+0.9**
MEF				RG	Rg	13 27 39.4	
MEF	**Metsahovi**	**0.52**	**354**	Pg	**Pg**	**13 27 28.5**	**+0.6**
MEF	**Metsahovi**	**0.52**	**354**	*e*P	**Pg**	**13 27 28.8**	**+0.9**
	SNR=90						
MEF				Sg	**Sg**	**13 27 35.5**	**+0.9**
MEF				*e*S	**Sb**	**13 27 35.8**	**-2.2**
	26nm,0.4s,SNR=90						
MTSE	**Matsula**	**1.05**	**200**	PG	**Pg**	**13 27 38.1**	**+0.1**
MTSE				SG	**Sg**	**13 27 52.2**	**+0.6**
MTSE	**Matsula**	**1.05**	**200**	Pg	**Pg**	**13 27 38.1**	**+0.1**
MTSE				Sg	**Sg**	**13 27 52.2**	**+0.6**
PVF	**Pernaja**	**1.08**	**38**	PG	**Pg**	**13 27 38.7**	**0.0**
PVF				RG	Rg	13 28 00.3	
PVF	**Pernaja**	**1.08**	**38**	Pg	**Pg**	**13 27 38.6**	**0.0**
VSU	**Vasula**	**1.69**	**136**	Pg	**Pn**	**13 27 49.1**	**+0.5**
VSU				Lg	Lg	13 28 10.7	
VSU	**Vasula**	**1.69**	**136**	Pg	**Pn**	**13 27 49.1**	**+0.5**
VSU				Lg	Lg	13 28 10.7	
VSU	**Vasula**	**1.69**	**136**	Pg	**Pn**	**13 27 49.1**	**+0.5**
	SNR=90						
VSU				*e*S	**Sn**	**13 28 10.4**	**-0.5**
	71nm,0.2s,SNR=50						
VSU				Lg	Lg	13 28 10.7	
	SNR=90						
VJF	**Virojoki**	**1.74**	**60**	PG	**Pn**	**13 27 49.9**	**+0.5**
VJF				SG	**Sb**	**13 28 13.4**	**+0.4**
VJF				MSG		13 28 13.4	
	comp=Z,5.0nm,0.1s						
VJF	**Virojoki**	**1.74**	**60**	Pg	**Pn**	**13 27 49.8**	**+0.5**
VJF				Sg	**Sb**	**13 28 13.4**	**+0.4**
FIA0	**FINESS Array S**	**1.91**	**23**	Pg	**Pb**	**13 27 53.3**	**-0.3**
	baz=196,slow=18						
FIA0				Lg	Lg	13 28 17.6	
	baz=188,slow=37						
FIA0	**FINESS Array S**	**1.91**	**23**	Pg	**Pb**	**13 27 53.3**	**-0.3**
	baz=196,slow=18						
FIA0				Lg	Lg	13 28 17.6	
	baz=188,slow=37						
FIA0	**FINESS Array S**	**1.91**	**23**	PN	**Pb**	**13 27 53.2**	**-0.3**
FIA0				SG	**Sn**	**13 28 16.6**	**+0.2**
FIA0				MSG		13 28 16.6	
	comp=Z,6.7nm,0.2s						
FIA0	**FINESS Array S**	**1.91**	**23**	Pg	**Pb**	**13 27 53.3**	**-0.3**
	baz=196,slow=17,SNR=90						
FIA0				Sg	**Sn**	**13 28 16.6**	**+0.2**
FIA0				Lg	Lg	13 28 17.5	
	baz=188,slow=32,SNR=6.9						
FINES	**FINESS Array B**	**1.91**	**23**	Pn	**Pb**	**13 27 53.4**	**-0.3**
	comp=Z,3.8nm,0.3s,baz=195,slow=17,SNR=158						
FINES				Sn	**Sb**	**13 28 18.5**	**+0.5**
	comp=Z,5.9nm,0.3s,baz=208,slow=24,SNR=28						
AAL	**Aland**	**2.33**	**284**	PN	**P

az=139.4
*IDC **04** 13:47:11.0±5.8, 2°20S×134°08E, h223km±63km, mb3.3/3, mb1 3.5/4, mb1mx3.1/18, mbtmp3.3/4, Error ellipse: s-maj=109.1km s-min=17.1km az=81.0*
ISC 04 13:46:50.1±0.7, 1°87S±0°05×133°80E±0°04, h25km, n17, σ2°55/25, mb4.0/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKPI	**Ransiki, Papua**	**0.52**	**47**	P	**Pb**	**13 46 57.7**	**-3.1**
RKPI				S	**Sb**	**13 47 05.1**	**-2.9**
FAKI	**Fak Fak**	**1.86**	**236**	P	**Pb**	**13 47 22.4**	**-1.1**
FAKI	**Fak Fak**	**1.86**	**236**	P	**Pb**	**13 47 21.7**	**-1.9**
	baz=2.0,SNR=557						
BAKI	**Biak**	**2.41**	**74**	P	**Pn**	**13 47 29.4**	**+1.4**
SRPI	**Serui, Papua**	**2.44**	**90**	S	**Sb**	**13 48 02.9**	**-0.2**
SWI	**Sorong**	**2.72**	**291**	P	**Pn**	**13 47 30.9**	**-1.4**
SWI				S	**Sn**	**13 48 04.2**	**-0.3**
SWI	**Sorong**	**2.72**	**291**	P	**Pn**	**13 47 30.7**	**-1.6**
	baz=3.0,SNR=40						
SWI				S	**Sb**	**13 48 13.6**	**+2.4**
	baz=3.0,SNR=5.5						
TLE	**Tual**	**3.89**	**196**	P	Pb	13 47 52.5	-5.6
	baz=3.9,SNR=3.3						
TLE				S	**Sb**	**13 48 42.8**	**-1.9**
	baz=3.9,SNR=3.6						
KDU	**Kakadu**	**10.83**	**187**	P	**Pn**	**13 49 25.4**	**+1.7**
	baz=11,SNR=9.5						
KDU				S	**Sn**	**13 51 22.5**	**-1.6**
	baz=11,SNR=7.8						
MTN	**Manton Dam**	**11.22**	**193**	P	**Pn**	**13 49 30.9**	**+1.9**
	baz=11,SNR=11						
MTN				S	**Sn**	**13 51 32.0**	**-1.7**
	baz=11,SNR=6.6						
KNRA	**Kununurra**	**14.59**	**200**	P	**Pn**	**13 50 14.5**	**-0.6**
	baz=15,SNR=11						
KNRA				S	**Sn**	**13 52 50.3**	**-5.8**
	baz=15,SNR=8.8						
WRA	**Warramunga Arr**	**17.97**	**178**	P	**P**	**13 51 01.2**	**+2.4**
	0.4nm,0.3s,baz=359,slow=12,SNR=28						
WRA				S	**Sn**	**13 54 12.7**	**-5.6**
	0.1nm,0.3s,baz=360,slow=23,SNR=4.7						
FITZ	**Fitzroy Crossi**	**18.01**	**206**	P	**P**	**13 50 59.9**	**+0.7**
	baz=18,SNR=7.2						
FITZ				S	Sn	13 54 07.6	-12
	baz=18,SNR=4.5						
MTSU	**Mount Surprise**	**19.18**	**148**	P	**Pn**	**13 51 15.7**	**+2.5**
	baz=19,SNR=4.9						
ASAR	**Alice Springs**	**21.67**	**180**	P	**P**	**13 51 41.5**	**+2.4**
	3.6nm,0.6s,baz=7.2,slow=12,SNR=32						
ASAR				S	**S**	**13 55 39.9**	**+1.9**
	1.5nm,0.9s,baz=5.6,slow=25,SNR=6.4						
MKAR	**Makanchi Array**	**66.18**	**324**	P	**P**	**13 57 37.0**	**+1.3**
	1.2nm,0.7s,baz=114,slow=7.3,SNR=11						
ZALV	**Zalesovo Beam**	**68.80**	**331**	P	**P**	**13 57 54.0**	**+1.9**
	0.3nm,0.4s,baz=106,slow=11,SNR=2.2						

*CSEM **04** 13:48:42.0, 11°99N×43°68E, h9km, ML3.9, After DHMR*
DHMR 04 13:48:42.0±1.3, 11°99N×43°68E, h9km±8km, ML3.9, 3C, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.31**	**19**	⇑*i*P	Pn	13 49 06.9	+0.1
TRBA				*i* S	Sg	13 49 24.7	0.0
TRBA				AML	AML	13 49 29.2	
	comp=E,2μm,0.5s						
ADEN	**Aden**	**1.50**	**58**	*i* P	Pn	13 49 09.2	+0.1
ADEN				*i* S	Sg	13 49 29.9	-0.3
ADEN				AML	AML	13 49 41.3	
	comp=E,2μm,0.7s						
ADEN	**Aden**	**1.50**	**58**	*i* P	Pn	13 49 09.2	+0.2
ADEN				*i* S	Sg	13 49 29.9	-0.3
	comp=E,1μm,0.7s						
UDYN	**Al 'Udayn**	**1.99**	**8**	*i* P	Pb	13 49 17.5	-1.1
UDYN				*i* S	Sb	13 49 44.6	+1.0
UDYN				AML	AML	13 49 49.8	
	comp=E,1μm,0.6s						
UDYN	**Al 'Udayn**	**1.99**	**8**	*i* P	Pb	13 49 17.5	-1.1
UDYN				*i* S	Sb	13 49 44.6	+1.0
	comp=E,712nm,0.6s						
DHBB	**Dhamar BB**	**2.66**	**15**	*i* P	Pb	13 49 28.1	-2.1
DHBB				*i* S	Sb	13 50 03.8	+0.5
DHBB	**Dhamar BB**	**2.66**	**15**	*i* P	Pb	13 49 28.1	-2.1
DHBB				*i* S	Sb	13 50 03.8	+0.5
BDHA	**Al Bayda'**	**2.70**	**43**	*i* P	Pb	13 49 28.4	-2.4
BDHA				*i* S	Sb	13 50 05.7	+1.3
BDHA	**Al Bayda'**	**2.70**	**43**	*i* P	Pb	13 49 28.4	-2.5
BDHA				*i* S	Sb	13 50 05.7	+1.4
HAJJ	**Hajjah**	**3.69**	**359**	⇑*i*P	Pn	13 49 41.1	+1.6
HAJJ				*i* S	Sb	13 50 28.7	-4.0
HAJJ	**Hajjah**	**3.69**	**359**	⇑*i*P	Pn	13 49 41.1	+1.6
HAJJ				*i* S	Sb	13 50 28.7	-4.0

*IDC **04** 14:05:27.0±3.3, 21°57S×68°44W, h71km±29km, mb3.3/6, mb1 3.6/8, mb1mx3.4/19, mbtmp3.3/8, Error ellipse: s-maj=28.8km s-min=17.8km az=94.0*
*GUC **04** 14:05:29.5±0.5, 21°66S×68°63W, h105km, ML3.9*
*ISCJB **04** 14:05:30.3±0.6, 21°47S±0°06×68°28W±0°07, h118km, mb3.6/6, Error ellipse: s-maj=9.3km s-min=8.7km az=147.0*
ISC 04 14:05:31.9±0.7, 21°41S±0°08×68°32W±0°08, h118km, n17, σ1°77/17, mb3.4/6, 3C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**Plate Boundary**	**0.94**	**246**	AML	AML	14 06 05.3	
	comp=E,4μm,0.4s						
PB04	**Plate Boundary**	**1.38**	**232**	⇑*i*P	Pn	14 05 59.2	+1.4
PB04				*i* S	**Sn**	**14 06 20.6**	**+3.1**
PB04				AML	AML	14 06 22.2	
	comp=E,422nm,0.6s						
HMBC	**Humberstone**	**1.85**	**307**	⇑*i*P	**Pn**	**14 06 01.1**	**-2.5**
HMBC				*i* S	**Sn**	**14 06 24.5**	**-3.2**
HMBC				AML	AML	14 06 25.1	
	comp=N,3μm,0.5s						
MNMC	**Minimini**	**2.56**	**332**	⇑*i*P	**Pn**	**14 06 12.3**	**-0.5**
MNMC				*i* S	**Sn**	**14 06 45.4**	**+1.3**
MNMC				AML	AML	14 06 47.4	
	comp=E,1μm,0.2s						
CEN1	**Los Morros**	**2.63**	**221**	*e*P	Pn	14 06 09.4	-4.0
CEN1				AML	AML	14 06 46.6	
	comp=N,324nm,0.6s						
LPAZ	**La Paz**	**5.10**	**2**	P	**Pn**	**14 06 49.9**	**+3.0**
	comp=N,4.8nm,0.3s,baz=210,slow=7.5,SNR=102						
SIV	**San Ignacio**	**8.73**	**53**	P	**Pn**	**14 07 35.0**	**-0.3**
	comp=N,0.9nm,0.3s,baz=263,slow=12,SNR=9.0						
SIV				S	**Sn**	**14 09 11.2**	**-0.9**
	comp=N,0.1nm,0.3s,baz=150,slow=20,SNR=5.1						
CFAA	**Coronel Fontan**	**10.15**	**180**	P	Pn	14 07 46.7	-7.9
	comp=N,0.1nm,0.3s,baz=355,slow=12,SNR=6.2						
TXAR	**Lajitas Array**	**60.87**	**325**	P	**P**	**14 15 32.6**	**+0.4**
	comp=N,0.2nm,0.5s,baz=146,slow=8.8,SNR=4.4						
SNAA	**Sanae**	**62.18**	**161**	P	**P**	**14 15 39.7**	**-0.8**
	comp=N,0.4nm,0.9s,baz=297,slow=11,SNR=3.7						
QSPA	**South Pole Qui**	**68.78**	**180**	P	**P**	**14 16 23.2**	**+0.1**
	comp=N,4.4nm,1.3s,baz=208,slow=9.3,SNR=6.5						
PDAR	**Pinedale Array**	**74.31**	**330**	P	**P**	**14 16 57.7**	**+1.0**
	comp=N,0.2nm,0.4s,baz=121,slow=8.5,SNR=2.2						
TORD	**Torodi Ar. Bea**	**76.81**	**70**	P	**P**	**14 17 11.9**	**+0.8**
	comp=N,0.4nm,0.5s,baz=250,slow=5.4,SNR=4.4						
YKA	**Yellowknife Ar**	**91.29**	**340**	P	**P**	**14 18 24.0**	**+0.5**
	comp=N,0.7nm,0.5s,baz=134,slow=4.5,SNR=6.0						
ASAR	**Alice Springs**	**130.25**	**207**	PKP	**PKPdf**	**14 24 28.4**	**-0.7**
	comp=N,0.3nm,0.7s,baz=122,slow=1.7,SNR=5.6						
WRA	**Warramunga Arr**	**133.31**	**210**	PKP	**PKPdf**	**14 24 35.1**	**+0.2**
	comp=N,0.3nm,0.6s,baz=160,slow=1.8,SNR=3.8						
MKAR	**Makanchi Array**	**145.24**	**36**	PKPbc	**PKPab**	**14 24 57.2**	**+1.4**
	comp=N,0.6nm,0.6s,baz=316,slow=4.8,SNR=6.2						

*IDC **04** 14:39:18.6±0.9, 1°69S×99°17E, h0km, mb4.2/13, mb1 4.3/14, mb1mx4.1/26, mbtmp4.2/14, ML3.7/1, MS3.2/5, Ms1 3.2/5, ms1mx3.0/32, Error ellipse: s-maj=33.4km s-min=14.0km az=66.0*
*ISCJB **04** 14:39:21.4±0.6, 1°60S±0°04×99°19E±0°05, h30km, mb4.2/13, MS3.1/4, Error ellipse: s-maj=8.0km s-min=5.6km az=158.0*
*DJA **04** 14:39:24.1±0.6, 1°S±4°×9°9E±°, h10km, M4.6/10, mb4.5/4, mB4.8/1, MLv4.7/10, Mw(mB)4.1/1*
*AUST **04** 14:39:26.6, 1°41S×99°99E, h0km*

ISC 04 14:39:23.8±0.8, 1°58S±0°06×99°35E±0°08, h30km, n41, σ1°70/41, mb4.3/13, MS3.1/4, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.30**	**59**	P	**Pn**	**14 39 44.8**	**-1.1**
PDSI				S	**Sn**	**14 40 02.0**	**-0.2**
PPI	**Padang Panjang**	**1.53**	**43**	P	**Pn**	**14 39 48.1**	**-1.0**
PPI				S	**Sb**	**14 40 09.7**	**-0.8**
PPI	**Padang Panjang**	**1.53**	**43**	P	**Pn**	**14 39 48.0**	**-1.0**
	baz=1.0,SNR=369						
BKNI	**Bangkinang**	**2.54**	**42**	P	**Pn**	**14 40 04.4**	**+1.5**
BKNI	**Bangkinang**	**2.54**	**42**	P	**Pn**	**14 40 03.1**	**+0.2**
	baz=2.0,SNR=8.4						
RGRI	**Rengat**	**3.23**	**68**	P	**Pn**	**14 40 14.0**	**+1.6**
MASI	**Maura Aman, Be**	**3.29**	**118**	P	**Pn**	**14 40 15.4**	**+2.1**
KSI	**Kapahiang**	**3.84**	**123**	P	**Pn**	**14 40 24.0**	**+3.0**
PSI	**Prapat**	**4.37**	**354**	Pn	**Pn**	**14 40 26.9**	**-1.3**
	3.7nm,0.3s,baz=253,slow=2.9,SNR=8.8						
PSI				LR	LR	14 42 31.9	
	comp=Z,965nm,18.3s,baz=270,slow=44						
PSI	**Prapat**	**4.37**	**354**	P	Pn	14 40 34.1	+5.9
	baz=4.2,SNR=4.8						
MNAI	**Manna**	**4.54**	**128**	P	**Pn**	**14 40 32.0**	**+1.4**
	baz=4.2,SNR=22						
MNAI				S	**Sn**	**14 41 26.0**	**+3.6**
	baz=4.2,SNR=4.4						
FRIM	**Kepong**	**5.29**	**25**	P	**Pn**	**14 40 42.2**	**+1.4**
FRIM	**Kepong**	**5.29**	**25**	P	**Pn**	**14 40 42.3**	**+1.4**
KCSI	**Kotacane, Aceh**	**5.30**	**343**	P	**Pn**	**14 40 42.4**	**+1.4**
	34nm,0.9s,951nm0.3nm						
KGM	**Kluang**	**5.34**	**48**	P	**Pn**	**14 40 43.9**	**+2.4**
MYKOM	**Kota Tinggi**	**5.61**	**53**	P	Pn	14 40 48.1	+2.9
IPM	**Ipoh**	**6.24**	**16**	P	**Pn**	**14 40 56.1**	**+2.1**
IPM	**Ipoh**	**6.24**	**16**	P	**Pn**	**14 40 55.1**	**+1.2**
	30nm,1.0s,0.2nm						
KASI	**Kota Agung**	**6.47**	**127**	P	**Pn**	**14 40 58.6**	**+1.6**
	82nm,0.9s,0.3nm						
KULM	**Kulim**	**6.94**	**11**	P	**Pn**	**14 41 03.8**	**+0.3**
KULM	**Kulim**	**6.94**	**11**	P	**Pn**	**14 41 05.5**	**+2.0**
KULM	**Kulim**	**6.94**	**11**	P	**Pn**	**14 41 03.8**	**+0.3**
KTGM	**Kuala Trenggan**	**7.83**	**29**	P	**Pn**	**14 41 17.2**	**+1.5**
CISI	**Cisompet, Garu**	**10.32**	**125**	P	**Pn**	**14 41 48.1**	**-1.9**
	baz=9.9,SNR=4.2						
CISI				S	**Sn**	**14 43 40.7**	**-4.1**
	baz=9.9,SNR=3.4						
CMAR	**Chiang Mai Arr**	**19.91**	**359**	P	**P**	**14 43 53.0**	**-0.1**
	2.6nm,0.7s,baz=187,slow=9.7,SNR=20						
WRA	**Warramunga Arr**	**38.77**	**121**	P	**P**	**14 46 45.6**	**-0.4**
	4.9nm,0.8s,baz=296,slow=9.3,SNR=27						
WRA				PcP	**PcP**	**14 48 58.1**	**+0.8**
	0.6nm,0.8s,baz=296,slow=4.0,SNR=3.2						
ASAR	**Alice Springs**	**40.03**	**126**	P	**P**	**14 46 56.7**	**+0.2**
	1.5nm,0.7s,baz=300,slow=7.9,SNR=20						
ASAR				PcP	**PcP**	**14 49 02.8**	**+1.6**
	0.8nm,0.8s,baz=295,slow=3.3,SNR=5.0						
ASAR				S	**S**	**14 52 58.0**	**-2.7**
	0.6nm,0.8s,baz=295,slow=15,SNR=5.2						
GTA	**Gaotai**	**40.79**	**1**	*e*P	P	14 47 11.4	+8.8
GTA				pP	pP	14 47 18.6	+7.1
GTA				sP	sP	14 47 22.4	+7.3
GTA				pmax	pmax		
	comp=Z,4.0nm,1.3s						
JNU	**Nakatsue**	**45.56**	**38**	P	**P**	**14 47 43.3**	**+2.2**
	comp=Z,4.3nm,0.7s,baz=129,slow=6.5,SNR=4.5						
KSRS	**Korea Array**	**46.99**	**31**	P	**P**	**14 47 51.7**	**-0.6**
	comp=Z,1.1nm,0.7s,baz=226,slow=7.7,SNR=5.7						
KSRS				LR	LR	15 07 57.3	
	comp=Z,13nm,19.2s,baz=209,slow=36						
CTA	**Charters Tower**	**49.37**	**115**	P	**P**	**14 48 09.0**	**-2.0**
	comp=Z,2.1nm,0.4s,baz=198,slow=3.2,SNR=5.1						
SONM	**Songino Array**	**49.59**	**6**	P	**P**	**14 48 13.0**	**+0.7**
	comp=Z,0.6nm,0.4s,baz=184,slow=7.1,SNR=4.3						
STKA	**Stephens Creek**	**49.92**	**132**	P	**P**	**14 48 16.1**	**+1.1**
	comp=Z,4.8nm,0.7s,baz=306,slow=11,SNR=10						
MKAR	**Makanchi Array**	**50.45**	**345**	P	**P**	**14 48 19.4**	**+0.7**
	comp=Z,2.8nm,0.5s,baz=154,slow=8.7,SNR=25						
MKAR				LR	LR	15 10 57.0	
	comp=Z,17nm,19.4s,baz=356,slow=38						
USRK	**Ussuriysk Arra**	**54.10**	**29**	P	**P**	**14 48 44.7**	**-1.1**
	comp=Z,2.1nm,0.6s,baz=250,slow=5.7,SNR=5.9						
ZALV	**Zalesovo Beam**	**56.63**	**350**	P	**P**	**14 49 04.0**	**0.0**
	comp=Z,4.2nm,0.7s,baz=172,slow=5.7,SNR=13						
ZALV				LR	LR	15 16 17.8	
	comp=Z,18nm,20.5s,baz=254,slow=39						
KBZ	**Khabaz**	**67.56**	**319**	P	**P**	**14 50 15.9**	**-1.5**
	comp=Z,1.6nm,0.8s,baz=108,slow=6.2,SNR=3.7						
VNDA	**Vanda**	**82.70**	**169**	P	P	14 51 41.5	-2.6
	comp=Z,0.7nm,0.8s,baz=333,slow=4.5,SNR=2.6						
FINES	**FINESS Array B**	**83.43**	**332**	LR	LR	15 35 39.3	
	comp=Z,21nm,19.5s,baz=166,slow=40						
CPUP	**Villa Florida**	**144.26**	**217**	PKP	PKPbc	14 58 57.5	+1.7
	comp=Z,3.0nm,0.7s,baz=272,slow=19,SNR=7.0						
TXAR	**Lajitas Array**	**144.76**	**36**	PKP	PKPbc	14 58 58.5	+1.0
	comp=Z,1.5nm,0.6s,baz=286,slow=1.6,SNR=25						

MEX 04 15:03:12.4±1.3, 16°84N×94°84W, h121km±11km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.25**	**350**	*e*P	Pn	15 03 27.9	-1.4
CMIG				*i* S	Sn	15 03 39.7	-2.4
HUIG	**Huatulco**	**1.62**	**229**	*i* P	Pn	15 03 39.4	-1.9
HUIG				*i* S	Sn	15 04 02.3	-1.0
TGIG		**1.65**	**92**	*i* P	Pn	15 03 40.8	-0.9
TGIG				*i* S	Sn	15 04 02.3	-1.7
VHO	**Vista Hermosa**	**1.83**	**278**	*e*P	Pn	15 03 43.5	-0.5
VHO				*i* S	Sn	15 04 06.7	-1.5
PCIG		**1.92**	**126**	*i* P	Pn	15 03 46.7	+1.8
PCIG				*i* S	Sn	15 04 11.3	+1.5
PNIG	**Pinotepa**	**3.18**	**262**	*i* P	Pn	15 03 59.0	-2.1
PNIG				*i* S	Sn	15 04 36.6	-2.2

IDC 04 15:03:44.0±2.6, 4°10S×126°50E, h0km, mb3.4/2, mb1 3.9/3, mb1mx3.5/22, mbtmp3.6/3, ML3.8/1, Error ellipse: s-maj=346.9km s-min=28.5km az=64.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**6.04**	**201**	P	Sg	15 06 55.6	-2.7
	baz=6.0,SNR=9.2						
MTN	**Manton Dam**	**9.82**	**153**	P	Pn	15 06 18.6	+12
	baz=3.6,SNR=4.8						
KDU	**Kakadu**	**10.38**	**146**	P	Pn	15 06 27.4	+13
	baz=3.9,SNR=3.4						
WRA	**Warramunga Arr**	**17.50**	**155**	P	Pn	15 07 49.8	+0.2
	0.3nm,0.3s,baz=330,slow=12,SNR=10						
ASAR	**Alice Springs**	**20.73**	**161**	P	P	15 08 26.1	-0.1
	0.9nm,0.4s,baz=345,slow=12,SNR=15						
MANU	**Manus Island**	**20.93**	**85**	S	Sn	15 13 05.4	+37
	baz=18,SNR=8.5						
MKAR	**Makanchi Array**	**63.92**	**328**	P	P	15 14 18.8	0.0
	0.4nm,0.7s,baz=110,slow=7.8,SNR=3.9						

MAN 04 15:04:49, 7°92N×127°62E, h95km, mb4.4, ML3.2, MS3.1, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**2.23**	**298**	*e*P	Pn	15 05 26.0	+1.6
BUTP				*e*S	Sn	15 05 52.1	+0.5
BUKP	**Musuan**	**2.53**	**269**	*e*P	Pn	15 05 29.4	+0.9
CGP	**Cagayan de Oro**	**2.94**	**281**	⇓*e*P	Pn	15 05 35.2	+1.4
CGP				*e*S	Sn	15 06 10.2	+1.8
CTBH	**Cotabato--PC H**	**3.41**	**259**	⇑*i*P	Pn	15 05 41.6	+1.4
PAGZ	**Pagadian**	**4.20**	**269**	*e*P	Pn	15 05 53.0	+2.2

*AUST **04** 15:07:39.8±0.6, 46°33S×166°30E, h2km, Error ellipse: s-maj=0.8km s-min=0.8km az=321.0*
*ISCJB **04** 15:07:40.6±0.8, 46°29S±0°03×166°24E±0°04, h26km±6km, mb4.4/10, MS4.1/15, Error ellipse: s-maj=5.7km s-min=4.9km az=166.0*
*WEL **04** 15:07:42.6±0.3, 46°26S×166°30E, h34km±9km, ML4.9/28, Error ellipse: s-maj=3.5km s-min=1.6km az=90.0*
WEL Felt in the Southland region, maximum reported intensity MM 4.
*NEIC **04** 15:07:42.4, 46°31S×166°32E, h12km, mb4.6/3, ML4.9(WEL), After WEL.*

*IDC **04** 15:07:43.2±5.5, 46°23S×166°35E, h32km±41km, mb4.1/8, mb1 4.3/10, mb1mx4.1/19, mbtmp4.2/10, ML4.4/2, MS4.1/15, Ms1 4.1/15, ms1mx3.9/25, Error ellipse: s-maj=23.2km s-min=17.3km az=62.0*
ISC 04 15:07:42.5±1.4, 46°29S±0°05×166°37E±0°05, h29km±10km, n132, σ1°49/126, mb4.4/10, MS4.1/15, 2C-3D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.97**	**34**	PN	**Pb**	**15 07 59.7**	**-1.0**
DCZ				SN	**Sb**	**15 08 12.8**	**-0.5**
DCZ				AML	AML	15 08 13.7	
DCZ				AML	AML	15 08 14.2	
DCZ				AML	AML	15 08 14.2	
DCZ	**Deep Cove**	**0.97**	**34**	P*	**Pb**	**15 07 59.8**	**-1.0**
DCZ				S*	**Sb**	**15 08 12.8**	**-0.5**
WHZ	**Wether Hill Ro**	**1.16**	**71**	⇓PN	**Pb**	**15 08 04.2**	**+0.2**
WHZ				SN	**Sb**	**15 08 21.4**	**+2.7**
WHZ				AML	AML	15 08 22.5	
WHZ	**Wether Hill Ro**	**1.16**	**71**	P*	**Pb**	**15 08 04.2**	**+0.2**
WHZ				S*	**Sb**	**15 08 21.4**	**+2.7**
APZ	**The Paps**	**1.24**	**117**	PN	**Pn**	**15 08 04.2**	**+0.3**
APZ				SN	**Sn**	**15 08 20.4**	**+0.7**
APZ	**The Paps**	**1.24**	**117**	P*	**Pn**	**15 08 04.2**	**+0.3**
APZ				S*	**Sn**	**15 08 20.4**	**+0.7**
MLZ	**Mavora Lakes**	**1.57**	**54**	⇓PN	**Pb**	**15 08 10.3**	**-0.5**
MLZ				AML	AML	15 08 41.3	
MLZ				AML	AML	15 08 46.6	
MLZ	**Mavora Lakes**	**1.57**	**54**	Pn	**Pb**	**15 08 10.3**	**-0.5**
SYZ	**Scrubby Hill**	**1.93**	**99**	PN	**Pn**	**15 08 14.6**	**+1.3**
SYZ				SN	**Sb**	**15 08 39.3**	**-1.3**
MSZ	**Milford Sound**	**1.95**	**35**	PN	**Pn**	**15 08 14.5**	**+0.9**
MSZ				AML	AML	15 08 58.1	
MSZ				AML	AML	15 08 58.2	
MSZ				AML	AML	15 09 02.1	
MSZ				AML	AML	15 09 02.2	
MSZ	**Milford Sound**	**1.95**	**35**	Pn	**Pn**	**15 08 14.5**	**+0.9**
TUZ	**Tuapeka**	**2.29**	**83**	PN	**Pn**	**15 08 19.6**	**+1.3**
TUZ				AML	AML	15 08 50.3	
TUZ				AML	AML	15 08 57.9	
TUZ	**Tuapeka**	**2.29**	**83**	Pn	**Pn**	**15 08 19.6**	**+1.3**
EAZ	**Earnscleugh**	**2.31**	**64**	⇑PN	**Pn**	**15 08 20.7**	**+2.2**
EAZ				AML	AML	15 08 51.9	
EAZ				AML	AML	15 08 52.0	
EAZ				AML	AML	15 08 58.8	
EAZ				AML	AML	15 08 58.9	
EAZ	**Earnscleugh**	**2.31**	**64**	Pn	**Pn**	**15 08 20.8**	**+2.2**
WKZ	**Wanaka**	**2.36**	**53**	PN	**Pb**	**15 08 22.7**	**-1.7**
WKZ				AML	AML	15 08 57.9	
WKZ				AML	AML	15 08 59.3	
WKZ	**Wanaka**	**2.36**	**53**	Pn	**Pb**	**15 08 22.7**	**-1.7**
JCZ	**Jackson Bay**	**2.78**	**38**	PN	**Pn**	**15 08 28.3**	**+3.2**
JCZ				AML	AML	15 09 18.3	
JCZ				AML	AML	15 09 19.7	
JCZ	**Jackson Bay**	**2.78**	**38**	Pn	**Pn**	**15 08 28.3**	**+3.2**
HHSZ	**Highcliff Hill**	**2.97**	**84**	PN	**Pn**	**15 08 29.1**	**+1.5**
ODZ	**Otahua Downs**	**3.24**	**69**	⇓PN	**Pn**	**15 08 31.6**	**+0.3**
ODZ	**Otahua Downs**	**3.24**	**69**	Pn	**Pn**	**15 08 31.6**	**+0.3**
LBZ	**Lake Benmore**	**3.29**	**56**	PN	**Pn**	**15 08 32.8**	**+0.8**
LBZ				AML	AML	15 09 17.8	
LBZ				AML	AML	15 09 17.8	
LBZ				AML	AML	15 09 38.5	
LBZ				AML	AML	15 09 38.6	
LBZ	**Lake Benmore**	**3.29**	**56**	Pn	**Pn**	**15 08 32.8**	**+0.8**
FOZ	**Fox Glacier**	**3.60**	**42**	PN	Pn	15 08 39.7	+3.5
FOZ				AML	AML	15 09 51.5	
FOZ				AML	AML	15 09 51.5	
FOZ				AML	AML	15 10 11.2	
FOZ	**Fox Glacier**	**3.60**	**42**	Pn	Pn	15 08 39.7	+3.5
RPZ	**Rata Peaks**	**4.20**	**54**	PN	**Pn**	**15 08 44.3**	**-0.2**
RPZ				AML	AML	15 10 12.8	
RPZ				AML	AML	15 10 13.8	
RPZ	**Rata Peaks**	**4.20**	**54**	*e*Pn	**Pn**	**15 08 44.5**	**-0.1**
RPZ				*e*Sn	**Sn**	**15 09 29.5**	**-3.1**
RPZ	**Rata Peaks**	**4.20**	**54**	Pn	**Pn**	**15 08 45.2**	**+0.6**
	26nm,0.3s,baz=218,slow=5.8,SNR=65						
RPZ				Sn	**Sn**	**15 09 34.2**	**+1.6**
	52nm,0.3s,baz=37,slow=19,SNR=8.4						
WVZ	**Waitaha Valley**	**4.47**	**46**	PN	**Pn**	**15 08 50.6**	**+2.3**
WVZ				AML	AML	15 09 47.6	
WVZ				AML	AML	15 09 52.0	
WVZ	**Waitaha Valley**	**4.47**	**46**	Pn	**Pn**	**15 08 50.6**	**+2.3**
OXZ	**Oxford**	**5.00**	**56**	PN	**Pn**	**15 08 56.2**	**+0.7**
MQZ	**McQueen's Vall**	**5.14**	**62**	PN	**Pn**	**15 08 57.7**	**+0.2**
MQZ	**McQueen's Vall**	**5.14**	**62**	Pn	**Pn**	**15 08 57.8**	**+0.3**
CRLZ	**Canterbury Las**	**5.20**	**61**	PN	**Pn**	**15 08 59.0**	**+0.8**
CRLZ				AML	AML	15 10 49.2	
CRLZ				AML	AML	15 10 52.9	
CRLZ	**Canterbury Las**	**5.20**	**61**	Pn	**Pn**	**15 08 59.0**	**+0.8**
LTZ	**Lake Taylor**	**5.48**	**52**	PN	**Pn**	**15 09 02.9**	**+0.7**
LTZ				AML	AML	15 10 08.3	
LTZ				AML	AML	15 10 08.8	
LTZ	**Lake Taylor**	**5.48**	**52**	Pn	**Pn**	**15 09 02.9**	**+0.7**
DSZ	**Denniston Nort**	**5.99**	**43**	PN	**Pn**	**15 09 10.3**	**+1.1**
DSZ				AML	AML	15 10 22.4	
DSZ

TOO	**Toolangi**	**17.77 292**	P	**P**	**15 11 47.8**	**-0.4**
	baz=18,SNR=34					
TOO			S	Sn	15 14 53.5	-11
	baz=18,SNR=3.5					
YNG	**Young**	**18.16 305**	P	**P**	**15 11 54.7**	**+2.2**
	baz=18,SNR=6.6					
RAO	**Raoul Island**	**20.99 41**	LR	LR	15 20 23.8	
	comp=Z,1000nm,20.0s,baz=165,slow=36					
CMSA	**Cobar Meteorol**	**21.72 305**	P	**P**	**15 12 34.1**	**+2.8**
	baz=22,SNR=8.0					
STKA	**Stephens Creek**	**23.89 298**	P	**P**	**15 12 55.1**	**+1.6**
STKA	**Stephens Creek**	**23.89 298**	P	**P**	**15 12 55.1**	**+1.6**
	6.4nm,1.1s,baz=140,slow=8.3,SNR=5.9					
STKA			LR	LR	15 21 44.0	
	comp=Z,456nm,18.1s,baz=300,slow=35					
DZM	**Mont Dzumac**	**24.16 0**	*e*LR	LR	15 19 14.8	
	214nm,27.1s					
VNDA	**Vanda**	**31.39 182**	LR	LR	15 24 22.9	
	comp=Z,312nm,18.9s,baz=19,slow=32					
AS31	**Alice Springs**	**34.51 300**	*e*P	**P**	**15 14 27.1**	**-1.0**
ASAR	**Alice Springs**	**34.51 300**	P	**P**	**15 14 27.5**	**-0.6**
ASAR			PcP	**PcP**	**15 17 01.9**	**-0.9**
ASAR	**Alice Springs**	**34.51 300**	P	**P**	**15 14 27.5**	**-0.6**
	6.1nm,0.5s,baz=135,slow=7.9,SNR=141					
ASAR			PcP	**PcP**	**15 17 01.9**	**-0.9**
	0.8nm,0.9s,baz=136,slow=3.8,SNR=6.1					
ASAR			LR	LR	15 28 19.0	
	comp=Z,346nm,20.5s,baz=141,slow=36					
CASY	**Casey**	**35.27 215**	*e*P	**P**	**15 14 34.5**	**+0.3**
	9.5nm,1.1s					
WRA	**Warramunga Arr**	**37.12 304**	P	**P**	**15 14 49.5**	**-1.0**
WRA	**Warramunga Arr**	**37.12 304**	P	**P**	**15 14 49.5**	**-1.0**
	3.9nm,0.5s,baz=139,slow=7.6,SNR=37					
WRA			LR	LR	15 29 29.0	
	comp=Z,315nm,18.2s,baz=150,slow=35					
WRAB	**Tennant Creek**	**37.12 304**	*e*P	**P**	**15 14 49.4**	**-1.1**
	5.6nm,0.6s					
HNR	**Honiara**	**37.13 349**	LR	LR	15 28 32.5	
	comp=Z,306nm,19.1s,baz=211,slow=34					
NWAO	**Narrogin (SRO)**	**39.53 272**	LR	LR	15 28 20.8	
	comp=Z,220nm,18.1s,baz=187,slow=31					
PMG	**Port Moresby**	**40.26 330**	LR	LR	15 29 29.1	
	comp=Z,64nm,20.6s,baz=169,slow=32					
TBI	**Tubuai**	**42.17 73**	*e*LR	LR	15 27 28.6	
	381nm,31.0s					
FITZ	**Fitzroy Crossi**	**43.76 296**	P	**P**	**15 15 45.1**	**-0.3**
FITZ	**Fitzroy Crossi**	**43.76 296**	P	**P**	**15 15 45.1**	**-0.3**
	1.4nm,0.5s,baz=154,slow=8.8,SNR=12					
FITZ			LR	LR	15 33 36.0	
	comp=Z,271nm,18.8s,baz=146,slow=36					
QSPA	**South Pole Qui**	**43.84 180**	P	**P**	**15 15 46.6**	**+0.9**
QSPA	**South Pole Qui**	**43.84 180**	P	**P**	**15 15 46.6**	**+0.9**
	6.8nm,1.0s,baz=360,slow=3.0,SNR=14					
QSPA			LR	LR	15 31 35.6	
	comp=Z,147nm,20.1s,baz=221,slow=33					
MTN	**Manton Dam**	**44.64 307**	P	**P**	**15 15 52.5**	**0.0**
	baz=45,SNR=9.0					
PPT2	**Papeete2**	**46.23 67**	*e*LR	LR	15 29 14.4	
	261nm,22.5s					
PPT	**Papeete**	**46.24 67**	LR	LR	15 31 44.1	
	comp=Z,272nm,18.4s,baz=339,slow=31					
RKT	**Rikitea**	**52.16 85**	*e*LR	LR	15 32 13.6	
	513nm,28.0s					
MAW	**Mawson**	**52.88 208**	P	**P**	**15 16 55.9**	**+0.8**
MAW	**Mawson**	**52.88 208**	P	**P**	**15 16 55.9**	**+0.8**
	2.5nm,1.0s,baz=34,slow=3.6,SNR=3.6					
MAW			LR	LR	15 37 49.6	
	comp=Z,345nm,18.5s,baz=99,slow=34					
SNAA	**Sanae**	**62.10 184**	*e*P	**P**	**15 17 59.9**	**-0.2**
	12nm,1.1s					
SNAA	**Sanae**	**62.10 184**	P	**P**	**15 18 00.5**	**+0.4**
	2.6nm,1.0s,baz=183,slow=7.7,SNR=19					
VNA3	**Neumayer Olymp**	**62.75 181**	*e*P	**P**	**15 18 05.0**	**+0.7**
VNA3	**Neumayer Olymp**	**62.75 181**	*e*I		15 18 14.6	
VNA2	**Neumayer--Watz**	**63.01 182**	*e*P	**P**	**15 18 06.7**	**+0.6**
VNA2	**Neumayer--Watz**	**63.01 182**	*e*I		15 18 16.6	
CMAR	**Chiang Mai Arr**	**88.52 299**	P	**P**	**15 20 33.4**	**+1.1**
CMAR	**Chiang Mai Arr**	**88.52 299**	P	**P**	**15 20 33.4**	**+1.1**
	1.6nm,0.8s,baz=160,slow=3.2,SNR=7.1					
CMAR			LR	LR	15 59 36.3	
	comp=Z,60nm,20.4s,baz=342,slow=35					
BOSA	**Boshof**	**97.55 214**	LR	LR	15 58 34.4	
	comp=Z,105nm,18.3s,baz=157,slow=31					
CPUP	**Villa Florida**	**97.59 141**	LR	LR	16 02 53.1	
	comp=Z,50nm,18.6s,baz=355,slow=34					
MKAR	**Makanchi Array**	**118.32 309**	PKP	**PKPdf**	**15 26 24.8**	**-1.5**
MKAR	**Makanchi Array**	**118.32 309**	PKP	**PKPdf**	**15 26 24.8**	**-1.5**
	0.6nm,0.8s,baz=146,slow=2.8,SNR=3.3					
TORD	**Torodi Ar. Bea**	**144.52 206**	PKP	**PKPab**	**15 27 14.5**	**-0.1**
TORD	**Torodi Ar. Bea**	**144.52 206**	PKP	**PKPab**	**15 27 14.5**	**-0.1**
	2.4nm,0.8s,baz=166,slow=1.6,SNR=13					
BRTR	**Keskin Array B**	**145.24 276**	PKPbc	**PKPbc**	**15 27 16.5**	**-0.2**
BRTR	**Keskin Array B**	**145.24 276**	PKPbc	**PKPbc**	**15 27 16.5**	**-0.2**
	3.5nm,0.8s,baz=144,slow=4.4,SNR=18					
BR131	**Keskin Array S**	**145.24 276**	*e*PKPdf	**PKPbc**	**15 27 16.6**	**-0.2**
ARCES	**ARCESS Array B**	**149.73 334**	PKPbc	**PKPbc**	**15 27 28.4**	**+0.3**
ARCES	**ARCESS Array B**	**149.73 334**	PKPbc	**PKPbc**	**15 27 28.4**	**+0.3**
	6.8nm,0.8s,baz=73,slow=4.2,SNR=11					
AKASG	**Malin Array Be**	**151.56 295**	PKPbc	**PKPbc**	**15 27 34.1**	**+1.2**
AKASG	**Malin Array Be**	**151.56 295**	PKPbc	**PKPbc**	**15 27 34.1**	**+1.2**
	3.3nm,0.6s,baz=72,slow=2.9,SNR=5.8					
FINES	**FINESS Array B**	**152.65 318**	PKPbc	**PKPbc**	**15 27 35.1**	**+0.1**
FINES	**FINESS Array B**	**152.65 318**	PKPbc	**PKPbc**	**15 27 35.1**	**+0.1**
	2.8nm,0.8s,baz=90,slow=2.3,SNR=9.1					
KEST	**Kesra**	**159.78 247**	PKPab	**PKPab**	**15 28 15.8**	**-1.5**
KEST	**Kesra**	**159.78 247**	PKPab	**PKPab**	**15 28 15.8**	**-1.5**
	0.9nm,0.7s,baz=87,slow=0.5,SNR=2.3					
GERES	**GERESS Array B**	**161.42 288**	PKPab	**PKPab**	**15 28 23.4**	**-0.9**
GERES	**GERESS Array B**	**161.42 288**	PKPab	**PKPab**	**15 28 23.4**	**-0.9**
	0.6nm,0.7s,baz=120,slow=5.8,SNR=3.7					

*ISCJB **04** 15:16:12.4±0.4,8.˚58S±0.˚06×118.˚34E±0.˚04,h152km, mb3.7/5,Error ellipse: s-maj=8.9km s-min=5.1km az=13.9*
*AUST **04** 15:16:13.2±0.0,8.˚81S×118.˚40E,h53km,Error ellipse: s-maj=1.4km s-min=0.8km az=2.0*
*IDC **04** 15:16:13.3±2.6,8.˚53S×118.˚40E,h138km±21km,mb3.5/5, mb1 3.6/8,mb1mx3.4/24,mbtmp3.5/8,Error ellipse: s-maj=36.5km s-min=10.4km az=57.0*
*DJA **04** 15:16:14.6±0.9,9.˚S±7.˚×11.˚8E±.˚,h125km±16km,M4.4/7, mb4.5/1,MLv4.3/7*

ISC 04 15:16:14.1±0.6,8.˚57S±0.˚06×118.˚37E±0.˚05,h152km,n29, σ1§53/34,mb3.7/5,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBFI	**Labuhan Bajo,**	**1.50**	**87**	P	**Pn**	**15 16 42.0**	**-1.9**
MTNI	**Mataram**	**2.18**	**268**	P	**Pn**	**15 16 51.1**	**-0.4**
WSI	**Waingapu**	**2.19**	**120**	P	**Pn**	**15 16 52.0**	**+0.4**
WSI				S	**Sn**	**15 17 20.4**	**-0.1**
WSI	**Waingapu**	**2.19**	**120**	P	**Pn**	**15 16 49.8**	**-1.8**
	baz=54,SNR=15						
WSI	**Waingapu**	**2.19**	**120**	P	**Pn**	**15 16 49.8**	**-1.8**
	baz=2.1,SNR=15						
SRBI	**Singaraja**	**3.16**	**279**	P	**Pn**	**15 17 02.2**	**-1.4**
IGBI	**Denpasar**	**3.20**	**265**	P	**Pn**	**15 17 03.7**	**-0.4**
BKSI	**Bulukumba**	**3.66**	**28**	P	**Pn**	**15 17 10.0**	**-0.1**
KAPI	**Kappang**	**3.79**	**21**	P	**Pn**	**15 17 11.2**	**-0.5**
	3.2nm,0.3s,baz=204,slow=9.7,SNR=9.2						
MMRI	**Maumere**	**3.82**	**91**	P	**Pn**	**15 17 12.3**	**+0.2**
JAGI	**Jajag, Banyuwa**	**4.18**	**271**	P	**Pn**	**15 17 14.8**	**-1.9**
	baz=4.2,SNR=13						
JAGI				S	**Sn**	**15 18 03.2**	**-2.2**
	baz=4.2,SNR=5.9						
SOEI	**Soe**	**5.94**	**102**	P	**Pn**	**15 17 39.5**	**-0.7**
SOEI	**Soe**	**5.94**	**102**	P	**Pn**	**15 17 39.4**	**-0.7**
	baz=5.9,SNR=11						
UGM	**Wanagama**	**7.80**	**274**	S	**Sn**	**15 19 34.9**	**+3.0**
	baz=7.8,SNR=3.0						
FITZ	**Fitzroy Crossi**	**11.82**	**144**	P	**Pn**	**15 18 56.4**	**-1.6**
	0.6nm,0.3s,baz=338,slow=7.6,SNR=20						
FITZ				S	Sn	15 20 59.4	-9.4
	1.1nm,0.3s,baz=172,slow=19,SNR=9.1						
FITZ	**Fitzroy Crossi**	**11.82**	**144**	P	**Pn**	**15 18 56.8**	**-1.2**
	baz=12,SNR=7.1						
FITZ				S	Sn	15 20 56.5	-12
	baz=12,SNR=5.0						
KNRA	**Kununurra**	**12.37**	**126**	P	**Pn**	**15 19 03.5**	**-1.6**
	baz=12,SNR=7.2						
MTN	**Manton Dam**	**13.24**	**110**	P	**Pn**	**15 19 14.3**	**-2.0**
	baz=13,SNR=22						
MTN				S	Sn	15 21 32.5	-10
	baz=13,SNR=4.0						
KDU	**Kakadu**	**14.45**	**108**	P	**Pn**	**15 19 30.8**	**-0.8**
	baz=14,SNR=10.0						
KDU				S	Sn	15 22 01.3	-11
	baz=14,SNR=3.5						
FAKI	**Fak Fak**	**14.90**	**69**	P	**P**	**15 19 38.3**	**-0.9**
	baz=15,SNR=4.5						
MEEK	**Meekatharra**	**17.97**	**179**	P	**Pn**	**15 20 14.9**	**+0.3**
	baz=18,SNR=4.6						
MEEK				S	S	15 23 15.2	-16
	baz=18,SNR=6.8						
WRA	**Warramunga Arr**	**19.14**	**128**	P	**P**	**15 20 25.6**	**-0.2**
	0.3nm,0.3s,baz=300,slow=13,SNR=18						
WRA				S	**S**	**15 23 54.3**	**-0.6**
	0.2nm,0.3s,baz=303,slow=22,SNR=4.7						
MORW	**Morawa**	**20.51**	**186**	S	**S**	**15 24 21.7**	**+0.1**
	baz=20,SNR=13						
ASAR	**Alice Springs**	**21.13**	**137**	P	**P**	**15 20 48.3**	**+1.1**
	1.0nm,0.5s,baz=308,slow=9.2,SNR=80						
ASAR				S	**S**	**15 24 37.8**	**+4.1**
	0.4nm,0.8s,baz=318,slow=21,SNR=5.3						
STKA	**Stephens Creek**	**31.68**	**140**	P	**P**	**15 22 23.5**	**+0.3**
	2.8nm,1.1s,baz=299,slow=10,SNR=2.9						
STKA				PcP	**PcP**	**15 25 13.7**	**+2.1**
	1.1nm,0.7s,baz=14,slow=4.2,SNR=3.5						
KSRS	**Korea Array**	**46.65**	**10**	P	**P**	**15 24 26.6**	**-0.6**
	1.2nm,0.9s,baz=187,slow=8.5,SNR=4.2						
ZALV	**Zalesovo Beam**	**68.42**	**339**	P	**P**	**15 26 58.3**	**-1.0**
	0.6nm,0.5s,baz=141,slow=4.8,SNR=3.3						
PETK	**Petropavlovsk-**	**69.93**	**24**	P	**P**	**15 27 10.4**	**+1.7**
	1.9nm,0.7s,baz=181,slow=3.6,SNR=7.7						
TORD	**Torodi Ar. Bea**	**117.78**	**280**	PKP	**PKPdf**	**15 34 44.5**	**+1.1**
	0.5nm,0.5s,baz=85,slow=1.7,SNR=6.1						

*ISCJB **04** 15:24:26.8±1.2,43.˚55N±0.˚10×106.˚4E±0.˚2,h10km, mb3.5/2,MS3.2/1,Error ellipse: s-maj=23.5km s-min=12.3km az=157.9*
*IDC **04** 15:24:27.1±1.5,43.˚56N×106.˚37E,h0km,mb3.5/2, mb1 3.8/4,mb1mx3.5/25,mbtmp3.6/4,ML3.8/2,MS3.2/1, Ms1 3.2/1,ms1mx2.2/35,Error ellipse: s-maj=44.4km s-min=19.2km az=84.0*
*MOS **04** 15:24:29.6±2.4,43.˚45N×106.˚21E,h33km,mb4.0/1,Error ellipse: s-maj=53.3km s-min=18.8km az=101.2*

ISC 04 15:24:28.3±1.3,43.˚5N±0.˚1×106.˚3E±0.˚2,h10km,n8, σ0§66/8,Mongolia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**4.38**	**1**	Pn	**Pn**	**15 25 34.6**	**-0.4**
	4.1nm,0.3s,baz=181,slow=13,SNR=50						
SONM				Pg	**Pb**	**15 25 45.5**	**+0.1**
	33nm,0.3s,baz=182,slow=18,SNR=54						
SONM				Lg	Lg	15 26 40.8	
	61nm,0.3s,baz=184,slow=32,SNR=13						
ZAK	**Zakamensk**	**7.22**	**345**	*e*P	**Pn**	**15 26 13.4**	**-0.6**
ZAK				*e*		15 27 45.7	
ZAK				smax	smax		
	comp=E,168nm,1.5s						
MOY	**Mondy**	**8.95**	**338**	*e*P	Pn	15 26 43.4	+5.7
MOY				*e*S	**Sn**	**15 28 19.6**	**+1.0**
MOY				pmax	pmax		
	comp=Z,8.0nm,0.5s						
MOY				pmax	pmax		
	comp=E,428nm,1.2s						
MKAR	**Makanchi Array**	**17.22**	**290**	P	**P**	**15 28 30.1**	**-0.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR	**Makanchi Array**	**17.22**	**290**	P	**P**	**15 28 30.1**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=91,slow=14,SNR=21						
EIL	**Elat**	**57.27**	**281**	LR	LR	16 00 53.9	
	comp=Z,18nm,19.8s,slow=38						
ILAR	**Eielson Array**	**58.08**	**29**	P	**P**	**15 34 20.9**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=288,slow=5.5,SNR=7.4						
ASAR	**Alice Springs**	**71.46**	**153**	P	**P**	**15 35 49.5**	**+0.6**
	comp=Z,0.2nm,0.7s,baz=347,slow=7.6,SNR=2.8						

*ISCJB **04** 15:36:17.8±0.4,15.˚15S±0.˚10×178.˚33W±0.˚08,h390km, mb4.0/17,Error ellipse: s-maj=14.2km s-min=9.6km az=148.8*
*IDC **04** 15:36:17.8±1.6,15.˚19S×178.˚30W,h377km±16km, mb3.7/16,mb1 3.9/17,mb1mx3.8/23,mbtmp3.7/17,Error ellipse: s-maj=15.2km s-min=10.4km az=136.0*
*AUST **04** 15:36:20.4±3.3,15.˚22S×178.˚04W,h402km±1km,Error ellipse: s-maj=2.9km s-min=2.1km az=32.0*

ISC 04 15:36:18.7±0.5,15.˚2S±0.˚1×178.˚33W±0.˚09,h390km,n39, σ1§33/38,mb4.1/17,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.47**	**80**	P	**Pn**	**15 37 54.1**	**-2.2**
	5.3nm,0.3s,baz=290,slow=1.5,SNR=13						
URZ	**Urewera**	**23.34**	**189**	P	**P**	**15 40 53.4**	**-0.6**
	14nm,0.8s,baz=358,slow=7.1,SNR=12						
ARMA	**Armidale**	**31.45**	**236**	P	P	15 42 09.1	+3.2
	baz=32,SNR=4.3						
RMQ	**Roma**	**32.66**	**244**	P	**P**	**15 42 17.6**	**+1.3**
	baz=33,SNR=5.5						
CTA	**Charters Tower**	**34.06**	**257**	P	**P**	**15 42 29.4**	**+1.0**
	2.5nm,0.3s,baz=86,slow=9.8,SNR=14						
MTSU	**Mount Surprise**	**35.87**	**260**	P	**P**	**15 42 44.8**	**+1.1**
	baz=36,SNR=13						
MANU	**Manus Island**	**36.26**	**288**	S	S	15 47 35.9	-23
	baz=37,SNR=20						
CMSA	**Cobar Meteorol**	**36.62**	**237**	P	P	15 42 52.3	+2.5
	baz=37,SNR=6.9						
STKA	**Stephens Creek**	**40.06**	**238**	P	**P**	**15 43 18.9**	**+0.9**
	7.1nm,0.8s,baz=62,slow=7.9,SNR=7.1						
STKA				PcP	**PcP**	**15 45 11.3**	**-2.7**
	1.2nm,0.5s,baz=106,slow=7.4,SNR=2.9						
STKA	**Stephens Creek**	**40.06**	**238**	P	**P**	**15 43 19.1**	**+1.0**
	baz=40,SNR=4.2						
WRA	**Warramunga Arr**	**45.26**	**257**	P	**P**	**15 43 59.3**	**-0.2**
	1.3nm,0.4s,baz=95,slow=11,SNR=49						
WRA				ScP	**ScP**	**15 48 48.3**	**+1.6**
	0.7nm,0.8s,baz=90,slow=4.1,SNR=5.0						
WRA				S	**S**	**15 50 07.7**	**-2.4**
	0.3nm,0.7s,baz=94,slow=16,SNR=4.6						
ASAR	**Alice Springs**	**45.66**	**252**	P	**P**	**15 44 03.1**	**+0.5**
	52nm,0.4s,baz=84,slow=8.5,SNR=2723						
ASAR				ScP	**ScP**	**15 48 50.0**	**+1.7**
	0.4nm,0.6s,baz=101,slow=4.2,SNR=5.6						
ASAR				S	**S**	**15 50 12.2**	**-3.5**
	1.4nm,0.9s,baz=88,slow=15,SNR=8.0						
KDU	**Kakadu**	**47.74**	**267**	S	S	15 50 21.9	-23
	baz=48,SNR=4.4						
MTN	**Manton Dam**	**49.00**	**266**	P	**P**	**15 44 28.9**	**+0.8**
	baz=49,SNR=3.3						
FORT	**Forrest**	**51.28**	**243**	P	**P**	**15 44 44.9**	**+0.1**
	baz=52,SNR=17						
FITZ	**Fitzroy Crossi**	**53.59**	**259**	P	**P**	**15 45 02.2**	**+0.5**
	2.0nm,0.8s,baz=102,slow=9.3,SNR=4.2						
FITZ	**Fitzroy Crossi**	**53.59**	**259**	P	**P**	**15 45 02.5**	**+0.8**
	baz=54,SNR=3.5						
MEEK	**Meekatharra**	**59.49**	**248**	P	**P**	**15 45 42.6**	**-0.1**
	baz=60,SNR=9.2						
WSI	**Waingapu**	**60.03**	**267**	P	P	15 46 02.0	+16
	baz=60,SNR=3.7						
MORW	**Morawa**	**61.67**	**245**	P	P	15 46 01.3	+4.1
	baz=62,SNR=3.8						
VNDA	**Vanda**	**63.16**	**185**	P	**P**	**15 46 06.2**	**+0.2**
	1.0nm,0.8s,baz=10,slow=11,SNR=2.7						
MJAR	**Matsushiro Arr**	**65.78**	**323**	P	**P**	**15 46 23.4**	**-0.1**
	2.7nm,0.7s,baz=159,slow=6.7,SNR=7.3						
JNU	**Nakatsue**	**68.24**	**316**	P	**P**	**15 46 38.9**	**+0.1**
	6.6nm,0.8s,baz=112,slow=5.4,SNR=3.3						
PETK	**Petropavlovsk-**	**71.08**	**345**	P	**P**	**15 46 55.9**	**+0.4**
	8.3nm,0.7s,baz=144,slow=9.2,SNR=23						
KSRS	**Korea Array**	**72.73**	**318**	P	**P**	**15 47 07.0**	**+1.4**
	1.1nm,0.6s,baz=128,slow=5.9,SNR=7.4						
LEM	**Lembang**	**72.89**	**267**	P	**P**	**15 47 05.3**	**-1.9**
	baz=73,SNR=4.1						
NVAR	**Mina Array Bea**	**77.42**	**44**	P	**P**	**15 47 33.2**	**+0.9**
	3.6nm,0.8s,baz=228,slow=9.7,SNR=22						
ILAR	**Eielson Array**	**83.23**	**13**	P	**P**	**15 48 01.5**	**-0.5**
	6.1nm,0.8s,baz=234,slow=6.2,SNR=51						
TXAR	**Lajitas Array**	**84.48**	**58**	P	**P**	**15 48 10.9**	**+1.7**
	1.7nm,0.8s,baz=221,slow=6.2,SNR=16						
PDAR	**Pinedale Array**	**85.33**	**44**	P	**P**	**15 48 13.7**	**+0.3**
	1.9nm,0.6s,baz=206,slow=2.9,SNR=15						
MAW	**Mawson**	**86.44**	**200**	P	**P**	**15 48 18.7**	**+0.9**
	6.1nm,0.6s,baz=117,slow=6.1,SNR=25						
MAW	**Mawson**	**86.44**	**200**	P	**P**	**15 48 18.8**	**+0.9**
	baz=86,SNR=13						
SONM	**Songino Array**	**91.54**	**319**	P	**P**	**15 48 42.9**	**+0.6**
	0.2nm,0.3s,baz=127,slow=3.8,SNR=2.8						
VNA3	**Neumayer Olymp**	**93.44**	**176**	*e*P	**P**	**15 48 51.3**	**+0.8**
VNA2	**Neumayer--Watz**	**93.88**	**177**	*e*P	**P**	**15 48 53.2**	**+0.7**
ARCES	**ARCESS Array B**	**123.66**	**350**	PKP	**PKPdf**	**15 54 29.7**	**-0.3**
	2.6nm,0.8s,baz=23,slow=2.9,SNR=5.6						
BRTR	**Keskin Array B**	**142.88**	**317**	PKP	**PKPdf**	**15 55 04.8**	**-2.1**
	2.0nm,0.9s,baz=343,slow=1.3,SNR=5.8						
KHC	**Kasperske Hory**	**144.76**	**346**	*e*P	**PKPab**	**15 55 09.5**	**-0.5**
GERES	**GERESS Array B**	**145.00**	**346**	PKPbc	**PKPab**	**15 55 10.4**	**-0.6**
	2.0nm,0.6s,baz=24,slow=3.4,SNR=13						

MAN 04 15:45:53.6˚50N×126˚60E,h14km,mb4.3,ML3.2,MS3.0, 2C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.56**	**323**	*e*P	Pb	15 46 05.2	+0.5
MATI				*e*S	Sn	15 46 14.6	-1.2
DMPH	**Davao City--Mi**	**1.23**	**298⇑**	*e*P	Pg	15 46 17.5	+0.7
DMPH				*e*S	Sb	15 46 30.1	-1.8
BUKP	**Musuan**	**2.05**	**312**	*e*P	Pn	15 46 27.9	+0.7
CTBH	**Cotabato--PC H**	**2.45**	**287⇑**	*e*P	Pn	15 46 33.4	+0.8
CGP	**Cagayan de Oro**	**2.71**	**316⇓**	*e*P	Pn	15 46 37.5	+1.3
CGP				*e*S	Sn	15 47 11.3	+2.5
PAGZ	**Pagadian**	**3.46**	**293**	*e*P	Pn	15 46 48.4	+1.8

*ISCJB **04** 15:50:09.7±0.8,12.˚55S±0.˚08×166.˚75E±0.˚09,h59km, mb4.4/13,MS3.6/6,Error ellipse: s-maj=14.1km s-min=8.4km az=142.7*
*IDC **04** 15:50:14.2±3.0,12.˚64S×166.˚71E,h86km±24km,mb4.2/13, mb1 4.3/15,mb1mx4.0/27,mbtmp4.3/15,MS3.5/6, Ms1 3.5/6,ms1mx3.0/29,Error ellipse: s-maj=21.9km s-min=13.1km az=59.0*
*AUST **04** 15:50:23.1±7.5,11.˚87S×166.˚39E,h183km,Error ellipse: s-maj=2.4km s-min=1.4km az=247.0*

ISC 04 15:50:12.0±1.0,12.˚57S±0.˚09×166.˚7E±0.˚1,h59km,n41, σ1§10/31,mb4.4/13,MS3.6/6,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.34**	**294**	P	Pn	15 52 00.8	+4.1
	44nm,0.3s,baz=153,slow=8.3,SNR=37						
HNR				S	**Sn**	**15 53 19.1**	**+0.5**
	49nm,0.3s,baz=8.3,slow=23,SNR=13						
DZM	**Mont Dzumac**	**9.45**	**182**	*e*Pn	**Pn**	**15 52 28.5**	**+2.9**
	41nm,0.3s						
DZM				*e*Sn	**Sn**	**15 54 08.4**	**-2.1**
	22nm,0.3s						
DZM				*e*LR	LR	15 54 46.4	
	98nm,28.6s						
DZM	**Mont Dzumac**	**9.45**	**182**	P	**Pn**	**15 52 27.2**	**+1.6**
	14nm,0.3s,baz=302,slow=18,SNR=39						
DZM				S	**Sn**	**15 54 08.9**	**-1.5**
	baz=288,slow=20,SNR=1.9						
PMG	**Port Moresby**	**19.46**	**277**	LR	LR	16 00 52.9	
	comp=Z,101nm,21.5s,baz=209,slow=33						
EIDS	**Eidsvold**	**19.49**	**227**	P	**P**	**15 54 35.8**	**+1.5**
	baz=20,SNR=11						
AFI	**Afiamalu**	**20.97**	**96**	LR	LR	16 00 33.1	
	comp=Z,66nm,20.8s,baz=314,slow=30						
CTA	**Charters Tower**	**21.00**	**246**	P	**P**	**15 54 51.3**	**+0.5**
	7.3nm,0.7s,baz=84,slow=14,SNR=9.0						
RMQ	**Roma**	**21.83**	**228**	P	**P**	**15 55 00.5**	**+0.9**
	baz=22,SNR=25						
RAO	**Raoul Island**	**21.90**	**142**	LR	LR	16 01 36.4	
	comp=Z,2μm,19.9s,baz=176,slow=31						
MTSU	**Mount Surprise**	**22.29**	**253**	P	**P**	**15 55 05.2**	**+0.6**
	baz=22,SNR=4.1						
ARMA	**Armidale**	**22.59**	**216**	P	**P**	**15 55 08.4**	**+0.5**
	baz=23,SNR=4.9						
URZ	**Urewera**	**27.21**	**162**	P	**P**	**15 55 50.2**	**0.0**
	4.9nm,0.5s,baz=329,slow=5.9,SNR=6.9						
STKA	**Stephens Creek**	**30.04**	**226**	P	**P**	**15 56 15.5**	**-0.1**
	9.3nm,0.7s,baz=35,slow=8.9,SNR=21						
STKA				LR	LR	16 06 08.1	
	comp=Z,100nm,19.3s,baz=24,slow=32						
STKA	**Stephens Creek**	**30.04**	**226**	P	**P**	**15 56 15.4**	**-0.1**
	baz=30,SNR=14						
RPZ	**Rata Peaks**	**31.26**	**174**	P	**P**	**15 56 25.9**	**-0.3**
	8.9nm,0.8s,baz=83,slow=3.7,SNR=6.4						
WRA	**Warramunga Arr**	**31.90**	**252**	P	P	15 56 30.6	-1.5
	4.0nm,0.8s,baz=84,slow=8.8,SNR=30						
ASAR	**Alice Springs**	**33.00**	**246**	P	P	15 56 40.1	-1.7
	5.9nm,0.7s,baz=69,slow=9.5,SNR=133						
ASAR				LR	LR	16 09 08.3	
	comp

0.1nm,0.4s,baz=75,slow=1.8,SNR=4.1
AKASG **Malin Array Be 147.93 324** PKPbc PKPbc 16 12 50.3 -0.9
0.6nm,0.3s,baz=45,slow=4.0,SNR=5.0
BRTR **Keskin Array B 149.69 303** PKPbc PKPbc 16 12 56.0 -0.1
0.5nm,0.8s,baz=108,slow=4.7,SNR=3.2
BRTR PKPab PKPab 16 13 03.5 +0.4
0.4nm,0.6s,baz=140,slow=1.1,SNR=3.6
TORD **Torodi Ar. Bea 165.78 186** PKPab PKPab 16 14 11.7 -1.0
0.2nm,0.8s,baz=155,slow=1.6,SNR=4.0

DJA 04 15:55:00.8±0.8, 8°S±5°×10°7E±°, h19km±7km, M4.0/9, MLv4.0/9, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.79**	**42**	P	Pb	15 55 15.5	-0.5
CISI				S	Sb	15 55 25.5	-0.8
SKJI	**Sukabumi**	**1.34**	**327**	P	Pn	15 55 22.6	-1.9
SKJI				S	Sn	15 55 39.9	-1.8
LEM	**Lembang**	**1.35**	**14**	P	Pn	15 55 24.6	-0.2
LEM				S	Sg	15 55 43.8	-1.1
DBJI	**Dramaga**	**1.66**	**342**	P	Pn	15 55 29.1	+0.1
DBJI				S	Sn	15 55 49.4	-0.4
KPJI	**Karang Pucung**	**1.82**	**64**	P	Pn	15 55 30.8	-0.3
TGJI	**Tegal**	**2.22**	**55**	P	Pn	15 55 36.9	+0.3
TGJI				S	Sn	15 56 03.3	-0.3
SJI	**Sawahan**	**4.46**	**85**	P	Pn	15 56 08.3	+0.7
PWJI	**Pagerwojo**	**4.48**	**89**	P	Pn	15 56 07.3	-0.4

*IDC **04** 15:58:48.4±1.5, 30°.20N×103°.80E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.5/25, mbtmp3.7/5, MS2.7/1, Ms1 2.7/1, ms1mx2.3/42, Error ellipse: s-maj=41.5km s-min=37.2km az=47.0*

ISC 04 15:58:49.3±1.2, 30°.24N±0°.08×103°.7E±0°.1, h10km, n10, σ1§78/9, mb3.7/5, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**0.67**	**6**	Pg	Pg	15 58 54.2	-8.2
CD2				Sg	Sg	15 59 01.9	-9.4
CD2				smax	smax		
	comp=N,9μm,0.4s						
CD2				smax	smax		
	comp=E,2μm,0.3s						
GYA	**Guiyang**	**4.60**	**144**	Pg	Pg	16 00 25.6	+8.0
GYA				Sg	**Sb**	**16 01 06.2**	**+0.5**
GYA				smax	smax		
	comp=N,40nm,0.6s						
GYA				smax	smax		
	comp=E,40nm,0.6s						
LZH	**Lanzhou**	**5.83**	**1**	*e*P	Pb	16 00 25.5	-5.8
LZH				pP	pP	16 00 35.7	
LZH				sP	sP	16 00 41.2	
LZH				pmax	pmax		
	comp=Z,13nm,1.0s						
XAN	**Xi'an**	**5.85**	**48**	Pn	**Pn**	**16 00 14.0**	**-2.1**
XAN				Pg	**Pb**	**16 00 31.2**	**-0.2**
XAN				Sn	**Sn**	**16 01 26.4**	**+3.1**
XAN				Sg	Sb	16 01 45.7	+4.1
XAN				smax	smax		
	comp=N,31nm,0.8s						
XAN				smax	smax		
	comp=E,16nm,0.9s						
SONM	**Songino Array**	**17.70**	**6**	LR	LR	16 10 07.5	
	comp=E,28nm,21.8s,baz=250,slow=38						
KSRS	**Korea Array**	**21.36**	**64**	P	**P**	**16 03 36.0**	**-0.7**
	comp=E,1.3nm,0.8s,baz=252,slow=9.6,SNR=6.6						
WRA	**Warramunga Arr**	**57.97**	**146**	P	**P**	**16 08 42.9**	**+0.7**
	comp=E,0.5nm,0.4s,baz=336,slow=7.4,SNR=14						
ASAR	**Alice Springs**	**60.95**	**148**	P	**P**	**16 09 03.2**	**+0.5**
	comp=E,0.3nm,0.5s,baz=332,slow=7.0,SNR=11						
STKA	**Stephens Creek**	**71.49**	**147**	P	**P**	**16 10 09.0**	**-1.2**
	comp=E,2.5nm,1.0s,baz=319,slow=11,SNR=2.9						
TORD	**Torodi Ar. Bea**	**93.54**	**287**	P	**P**	**16 12 07.3**	**+1.3**
	comp=E,0.3nm,0.9s,baz=74,slow=5.7,SNR=2.4						

IDC 04 16:06:37.6±1.2, 7°.89N×136°.72E, h0km, mb3.9/9, mb1 4.0/9, mb1mx3.8/26, mbtmp3.9/9, MS3.2/2, Ms1 3.2/2, ms1mx2.6/41, Error ellipse: s-maj=53.9km s-min=18.5km az=84.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**20.08**	**149**	LR	LR	16 18 55.0	
	comp=Z,63nm,20.9s,baz=172,slow=37						
WRA	**Warramunga Arr**	**27.76**	**185**	P	P	16 12 29.5	+1.3
	0.4nm,0.9s,baz=19,slow=10,SNR=3.3						
MJAR	**Matsushiro Arr**	**28.55**	**3**	P	P	16 12 33.7	-1.5
	1.1nm,0.7s,baz=184,slow=12,SNR=4.8						
MJAR				LR	LR	16 22 33.2	
	comp=Z,57nm,19.4s,baz=195,slow=34						
ASAR	**Alice Springs**	**31.48**	**185**	P	P	16 12 60.0	-1.4
	0.2nm,0.8s,baz=28,slow=10,SNR=3.2						
SONM	**Songino Array**	**47.40**	**332**	P	P	16 15 15.4	+1.5
	0.9nm,0.5s,baz=116,slow=10,SNR=5.4						
PETK	**Petropavlovsk-**	**48.20**	**17**	P	P	16 15 20.7	+0.9
	1.8nm,0.9s,baz=221,slow=5.7,SNR=3.8						
MKAR	**Makanchi Array**	**60.33**	**320**	P	P	16 16 49.0	+0.6
	3.6nm,0.6s,baz=106,slow=8.6,SNR=37						
ZALV	**Zalesovo Beam**	**61.88**	**328**	P	P	16 16 58.2	-0.6
	1.0nm,0.5s,baz=100,slow=5.1,SNR=4.9						
KURBB	**Kurchatov Arra**	**64.04**	**323**	P	P	16 17 12.1	-1.1
	1.7nm,0.5s,baz=116,slow=5.4,SNR=22						
BVAR	**Borovoye Array**	**69.58**	**324**	P	P	16 17 48.7	+0.2
	2.0nm,0.8s,baz=112,slow=7.0,SNR=10						

*AUST **04** 16:14:37.8±1.1, 8°.20S×107°.14E, h6km, Error ellipse: s-maj=2.0km s-min=0.9km az=316.0*
*ISCJB **04** 16:14:38.4±1.2, 8°.24S±0°.04×107°.19E±0°.05, h22km±12km, Error ellipse: s-maj=8.9km s-min=5.4km az=37.7*
*DJA **04** 16:14:39.6±0.7, 8°S±3°×10°7E±°, h20km±8km, M3.8/9, MLv3.8/9*

ISC 04 16:14:37.7±2.0, 8°.18S±0°.05×107°.16E±0°.05, h11km±15km, n13, σ1§10/21, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.90**	**47**	P	**Pb**	**16 14 55.8**	**+0.4**
CISI				S	**Sg**	**16 15 06.0**	**-0.9**
CISI	**Cisompet, Garu**	**0.90**	**47**	P	**Pb**	**16 14 55.5**	**+0.1**
	baz=0.9,SNR=214						
CISI				S	**Sg**	**16 15 06.1**	**-0.8**
	baz=0.9,SNR=16						
SKJI	**Sukabumi**	**1.31**	**333**	P	**Pn**	**16 15 02.6**	**+0.6**
SKJI				S	**Sb**	**16 15 19.2**	**0.0**
LEM	**Lembang**	**1.42**	**19**	P	**Pb**	**16 15 04.5**	**+0.2**
LEM				S	**Sb**	**16 15 23.5**	**+1.0**
LEM	**Lembang**	**1.42**	**19**	P	**Pb**	**16 15 04.7**	**+0.3**
	baz=1.4,SNR=33						
DBJI	**Dramaga**	**1.67**	**346**	P	**Pb**	**16 15 08.4**	**0.0**
KPJI	**Karang Pucung**	**1.95**	**65**	P	**Pn**	**16 15 11.1**	**+0.3**
KPJI				S	**Sn**	**16 15 35.1**	**-0.2**
TGJI	**Tegal**	**2.34**	**56**	P	**Pn**	**16 15 16.7**	**+0.5**
TGJI				S	**Sn**	**16 15 44.3**	**-0.7**
BJII	**Banjamegara**	**2.67**	**72**	P	**Pn**	**16 15 20.4**	**-0.3**
XMI	**Christmas Isla**	**2.68**	**213**	P	**Pn**	**16 15 22.3**	**+1.5**
	baz=2.7,SNR=4.7						
XMI				S	**Sn**	**16 15 51.9**	**-1.5**
	baz=2.7,SNR=5.8						
XMIS	**Christmas Isla**	**2.73**	**213**	P	**Pn**	**16 15 22.8**	**+1.3**
	baz=2.7,SNR=7.6						
XMIS				S	**Sn**	**16 15 51.9**	**-2.6**
	baz=2.7,SNR=5.0						
UGM	**Wanagama**	**3.35**	**86**	P	**Pn**	**16 15 29.9**	**-0.2**
	baz=3.4,SNR=11						
JAGI	**Jajag, Banyuwa**	**6.93**	**93**	P	**Pn**	**16 16 21.2**	**+1.9**
	baz=6.9,SNR=6.2						

*ISCJB **04** 16:16:54.3±0.2, 37°.46N±0°.02×72°.19E±0°.04, h176km, mb4.1/30, Error ellipse: s-maj=4.8km s-min=2.6km az=166.8*
*IDC **04** 16:16:55.9±2.5, 37°.35N×72°.31E, h191km±23km, mb3.7/14, mb1 3.9/20, mb1mx3.8/29, mbtmp3.8/20, Error ellipse: s-maj=16.5km s-min=10.8km az=179.0*
*BJI **04** 16:16:57.8, 37°.69N×72°.45E, h193km, mB4.7/3, mb4.5/7*
*NNC **04** 16:17:00.7±1.7, 37°.94N×72°.16E, h197km±13km, mb3.6, mpv4.2, Error ellipse: s-maj=14.8km s-min=11.2km az=17.0*

*MOS **04** 16:17:01.3±1.1, 37°.93N×72°.43E, h221km, mb4.2/19, Error ellipse: s-maj=11.7km s-min=5.1km az=79.4*

ISC 04 16:16:55.1±0.4, 37°.50N±0°.04×72°.30E±0°.05, h176km, n108, σ1§92/121, mb4.1/30, 13C-5D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**3.51**	**54**	P	**Pn**	**16 17 47.8**	**-2.2**
KSH				S	Sn	16 18 24.6	-8.2
KSH				smax	smax		
	comp=N,800nm,0.5s						
KSH				smax	smax		
	comp=E,660nm,0.3s						
CEP	**Cherat**	**3.69**	**185**	⇑P	**Pn**	**16 17 53.8**	**+1.5**
CEP				S	**Sn**	**16 18 35.0**	**-1.8**
CHCP	**Chirah Chowk**	**3.92**	**168**	⇑P	**Pn**	**16 17 57.5**	**+2.4**
THW	**Thamme Wali**	**4.72**	**186**	⇑P	**Pn**	**16 18 06.3**	**+0.9**
AML	**Almayashu**	**4.74**	**13**	*i* PN	**Pn**	**16 18 07.9**	**+1.9**
AML	**Almayashu**	**4.74**	**13**	P	**Pn**	**16 18 07.9**	**+1.9**
	SNR=357						
UCH	**Uchtor**	**5.01**	**19**	*i* PN	**Pn**	**16 18 11.6**	**+2.1**
UCH	**Uchtor**	**5.01**	**19**	P	**Pn**	**16 18 11.6**	**+2.1**
	SNR=19						
KZA	**Kyzart**	**5.10**	**26**	*i* PN	**Pn**	**16 18 12.1**	**+1.5**
KZA	**Kyzart**	**5.10**	**26**	P	**Pn**	**16 18 12.1**	**+1.5**
	SNR=44						
JMU	**Jammu**	**5.23**	**155**	*e*4	**Sn**	**16 19 10.5**	**-1.8**
EKS2	**Erkin-Say**	**5.27**	**12**	*i* PN	**Pn**	**16 18 14.7**	**+2.1**
EKS2	**Erkin-Say**	**5.27**	**12**	P	**Pn**	**16 18 14.7**	**+2.1**
	SNR=58						
AAK	**Ala-Archa**	**5.39**	**17**	PN	**Pn**	**16 18 16.6**	**+2.5**
AAK				S	**Sn**	**16 19 16.9**	**+0.6**
AAK				pmax	pmax		
	comp=Z,18nm,0.3s						
AAK				smax	smax		
	comp=N,20nm,0.3s						
AAK	**Ala-Archa**	**5.39**	**17**	P	**Pn**	**16 18 16.6**	**+2.5**
	SNR=39						
AAK	**Ala-Archa**	**5.39**	**17**	P	**Pn**	**16 18 16.6**	**+2.5**
	comp=N,18nm,0.3s,baz=174,slow=5.1,SNR=163						
AAK				S	**Sn**	**16 19 16.9**	**+0.6**
	comp=N,20nm,0.3s,baz=337,slow=22,SNR=26						
KBK	**Karagaybulak**	**5.53**	**21**	*i* PN	**Pn**	**16 18 18.1**	**+2.1**
KBK	**Karagaybulak**	**5.53**	**21**	P	**Pn**	**16 18 18.1**	**+2.1**
	SNR=23						
SARP	**Sargodha**	**5.58**	**177**	P	**Pn**	**16 18 16.8**	**+0.3**
FRU	**Bishkek**	**5.61**	**18**	*e*PN	**Pn**	**16 18 19.0**	**+2.1**
FRU				*e*S	**Sn**	**16 19 22.0**	**+0.8**
FRU				pmax	pmax		
	comp=Z,46nm,1.2s						
FRU				smax	smax		
	comp=E,480nm,1.6s						
ULHL	**Ulahol**	**5.62**	**31**	*i* PN	**Pn**	**16 18 18.8**	**+1.6**
ULHL	**Ulahol**	**5.62**	**31**	P	**Pn**	**16 18 18.9**	**+1.6**
	SNR=66						
KK31	**Karatay Array**	**5.76**	**347**	P	**Pn**	**16 18 19.8**	**+1.0**
	comp=E,5.3nm,0.2s,baz=167,slow=13,SNR=165						
KK31				⇑S	**Sn**	**16 19 21.2**	**-3.4**
	comp=E,77nm,0.3s,baz=173,slow=22,SNR=22						
THN	**Thein Dam**	**5.78**	**150**	*e*P	**Pn**	**16 18 18.0**	**-1.2**
THN				*e*S	**Sn**	**16 19 22.5**	**-2.8**
DLH	**Dalhousie**	**5.79**	**148**	*e*P	**Pn**	**16 18 20.0**	**+0.5**
DLH				*e*S	**Sn**	**16 19 25.0**	**-0.9**
CHMS	**Chumysh**	**5.80**	**18**	*i* PN	**Pn**	**16 18 21.2**	**+1.8**
CHMS	**Chumysh**	**5.80**	**18**	P	**Pn**	**16 18 21.2**	**+1.8**
	SNR=39						
TKM2	**Tokmak 2**	**5.97**	**24**	⇑P	**Pn**	**16 18 23.2**	**+1.4**
	comp=E,29nm,0.8s						
TKM2				⇑S	**Sn**	**16 19 28.7**	**-1.2**
	comp=E,74nm,1.1s						
TKM2	**Tokmak 2**	**5.97**	**24**	*i* PN	**Pn**	**16 18 23.6**	**+1.9**
TKM2	**Tokmak 2**	**5.97**	**24**	P	**Pn**	**16 18 23.7**	**+1.9**
	SNR=17						
USP	**Ospenovka**	**6.00**	**16**	*i* PN	**Pn**	**16 18 23.4**	**+1.5**
USP	**Ospenovka**	**6.00**	**16**	P	**Pn**	**16 18 23.4**	**+1.5**
	SNR=16						
DHRM	**DHARAMSHALA**	**6.19**	**147**	*e*P	**Pn**	**16 18 25.2**	**+0.5**
DHRM				*e*S	**Sn**	**16 19 32.0**	**-3.2**
DHRM				AML	AML	16 19 35.4	
	comp=N,642nm,0.7s						
DHRM				AML	AML	16 19 36.4	
	comp=E,783nm,0.7s						
BHK	**Bhakra**	**6.96**	**150**	*e*S	**Sn**	**16 19 49.4**	**-3.8**
SDNR	**Sundarnagar**	**7.12**	**146**	*e*P	**Pn**	**16 18 36.0**	**-0.8**
SDNR				*e*S	**Sn**	**16 19 54.0**	**-3.1**
SMLA	**Simla**	**7.53**	**146**	*i* P	**Pn**	**16 18 42.4**	**+0.3**
SMLA				*i* x	x	16 20 01.2	
SMLA				AML	AML	16 20 06.0	
	comp=N,286nm,0.7s						
SMLA				AML	AML	16 20 06.8	
	comp=E,268nm,0.5s						
DDI	**Dehra Dun**	**8.61**	**145**	*e*4	**Sn**	**16 20 28.5**	**-4.3**
DDI				AML	AML	16 20 32.4	
	comp=E,608nm,0.4s						
DDI				AML	AML	16 20 32.8	
	comp=N,574nm,0.4s						
NDI	**New Delhi**	**9.71**	**153**	*ex*	Sn	16 20 52.0	-7.1
MK31	**Makanchi Array**	**11.87**	**35**	P	**Pn**	**16 19 39.6**	**+0.8**
	comp=N,4.3nm,0.5s,baz=223,slow=14,SNR=85						
MKAR	**Makanchi Array**	**11.87**	**35**	P	**Pn**	**16 19 39.8**	**+1.0**
MKAR	**Makanchi Array**	**11.87**	**35**	P	**Pn**	**16 19 39.8**	**+1.0**
	comp=N,0.3nm,0.3s,baz=198,slow=7.0,SNR=13						
KOLN	**Koldanda**	**13.59**	**132**	*e*P	**Pn**	**16 20 01.3**	**+0.3**
	comp=N,7.0nm,0.3s						
KURBB	**Kurchatov Arra**	**13.85**	**17**	P	**P**	**16 20 06.9**	**+0.4**
	comp=N,2.6nm,0.3s,baz=206,slow=11,SNR=77						
KURK	**Kurchatov**	**13.96**	**17**	P	**P**	**16 20 06.9**	**-0.8**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.3s						
KKN	**Kakani**	**14.59**	**128**	*e*P	**P**	**16 20 14.5**	**-0.7**
	comp=Z,12nm,0.5s						
DMN	**Daman**	**14.61**	**129**	*e*P	**P**	**16 20 16.3**	**+0.8**
	comp=Z,22nm,0.6s						
AB31	**Akbulak array**	**14.76**	**327**	⇑P	**Pn**	**16 20 14.5**	**-0.7**
	comp=Z,18nm,0.7s,baz=140,slow=12,SNR=167						
AB31				⇑S	Sn	16 22 52.0	-7.6
	comp=Z,15nm,0.9s,baz=148,slow=22,SNR=10						
PKIN	**Phulchoki**	**14.82**	**128**	*e*P	**P**	**16 20 17.9**	**+0.1**
PKI	**Pulchoki**	**14.83**	**128**	*e*P	**P**	**16 20 18.0**	**0.0**
	comp=Z,13nm,0.5s						
BHPL	**Bhopal**	**14.88**	**161**	*e*S	Sn	16 22 52.7	-10
VOSK	**Vostochnaya**	**15.25**	**357**	⇑P	**Pn**	**16 20 20.1**	**-1.0**
	comp=Z,12nm,1.3s						
VOSK				⇓S	**Sn**	**16 23 06.6**	**-4.6**
	comp=Z,5.6nm,1.0s						
JIRN	**Jiri**	**15.26**	**126**	*e*P	**P**	**16 20 23.7**	**+0.9**
	comp=Z,28nm,0.6s						
BVA0	**Borovoye Array**	**15.58**	**356**	P	**Pn**	**16 20 25.0**	**-0.2**
	comp=Z,18nm,0.8s,baz=158,slow=12,SNR=85						
BVA0				⇓S	**S**	**16 23 15.0**	**-4.0**
	comp=Z,10.0nm,1.1s,baz=171,slow=20,SNR=11						
BVAR	**Borovoye Array**	**15.58**	**356**	P	**Pn**	**16 20 25.1**	**-0.1**
BVAR				S	**S**	**16 23 15.2**	**-3.8**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
BVAR	**Borovoye Array**	**15.58**	**356**	P	**Pn**	**16 20 25.1**	**-0.1**
	comp=Z,2.1nm,0.3s,baz=162,slow=12,SNR=68						
BVAR				S	**S**	**16 23 15.2**	**-3.8**
	comp=Z,0.4nm,0.3s,baz=165,slow=25,SNR=12						
BRVK	**Borovoye**	**15.62**	**355**	⇑P	**Pn**	**16 20 25.1**	**-0.5**
	comp=Z,40nm,1.0s						
BRVK				⇑S	**S**	**16 23 15.0**	**-4.8**
	comp=Z,8.2nm,1.0s						
BRVK	**Borovoye**	**15.62**	**355**	*e*P	**Pn**	**16 20 25.6**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,27nm,1.0s						
TAPN	**Taplejung**	**16.46**	**123**	*e*P	**Pn**	**16 20 39.0**	**+2.5**
AKTO	**Aktyubinsk**	**16.48**	**326**	⇑P	**P**	**16 20 36.0**	**+0.4**
	comp=Z,12nm,0.5s						
AKTO				⇑S	S	16 23 32.1	-5.9
	comp=Z,22nm,1.4s						
AKTO	**Aktyubinsk**	**16.48**	**326**	P	**P**	**16 20 36.6**	**+1.0**
AKTO				S	S	16 23 31.0	-7.0
AKTO				pmax	pmax		
	comp=Z,4.0nm,0.3s						
AKTO	**Aktyubinsk**	**16.48**	**326**	P	**P**	**16 20 36.6**	**+1.0**
	comp=Z,4.4nm,0.3s,baz=118,slow=11,SNR=57						
AKTO				S	S	16 23 31.0	-7.0
	comp=Z,0.4nm,0.3s,baz=156,slow=18,SNR=5.0						
ODAN	**Odare**	**16.59**	**125**	*e*P	**Pn**	**16 20 40.1**	**+2.2**
ZALV	**Zalesovo Beam**	**18.57**	**24**	P	**P**	**16 20 59.5**	**+1.0**
ZALV				pmax	pmax		
	comp=Z,12nm,0.3s						
ZALV	**Zalesovo Beam**	**18.57**	**24**	P	**P**	**16 20 59.5**	**+1.0**
	comp=Z,12nm,0.3s,baz=222,slow=9.9,SNR=352						
NVS	**Novosibirsk**	**18.88**	**20**	⇓*i* P	**P**	**16 21 01.4**	**-0.4**
NVS				*i* S	**S**	**16 24 24.1**	**-2.7**
NVS				pmax	pmax		
	comp=Z,54nm,1.0s						
NVS				pmax	pmax		
	comp=N,30nm,0.7s						
NVS				pmax	pmax		
	comp=E,6.0nm,0.6s						
NVS				smax	smax		
	comp=N,13nm,1.6s						
NVS				smax	smax		
	comp=E,24nm,3.0s						
HVS	**Khovu-Aksy**	**20.40**	**41**	*e*P	**P**	**16 21 19.7**	**+1.4**
SVE	**Sverdlovsk**	**20.84**	**342**	*e*P	**P**	**16 21 23.3**	**+0.5**
SVE				pmax	pmax		
	comp=Z,39nm,0.9s						
ARU	**Arti**	**21.05**	**338**	*d i* P	**P**	**16 21 25.7**	**+0.7**
ARU						16 21 53.5	
ARU				S	**S**	**16 25 05.3**	**-3.7**
ARU				pmax	pmax		
	comp=Z,39nm,1.2s						
GTA	**Gaotai**	**21.60**	**76**	*e*P	**P**	**16 21 33.2**	**+2.0**
GTA				PP	pP	16 22 10.0	+8.3
GTA				pmax	pmax		
	comp=Z,17nm,1.1s						
MIB	**Mutribah**	**22.11**	**257**	*e*P	**P**	**16 21 35.6**	**-0.7**
MIB				AMb	AMB	16 21 39.5	
	comp=Z,21nm,1.2s						
RDF	**Al-Radifah**	**22.36**	**255**	*e*P	**P**	**16 21 38.8**	**+0.2**
RDF				AMb	AMB	16 21 39.8	
	comp=Z,55nm,1.5s						
RST	**Umm Al-Ruwaisa**	**22.51**	**257**	*e*P	**P**	**16 21 39.6**	**-0.4**
RST				AMb	AMB	16 21 40.7	
	comp=Z,132nm,0.9s						
KBZ	**Khabaz**	**23.09**	**295**	P	**P**	**16 21 49.1**	**+3.9**
KBZ				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KBZ	**Khabaz**	**23.09**	**295**	P	**P**	**16 21 49.0**	**+3.9**
	comp=Z,1.3nm,0.6s,baz=134,slow=10,SNR=3.7						
SOKR	**Solikamsk**	**24.25**	**341**	*e*P	**P**	**16 21 57.4**	**+1.9**
SOKR				pmax	pmax		
	comp=Z,20nm,1.5s						
MOY	**Mondy**	**24.66**	**46**	*e*P	**P**	**16 22 01.9**	**+2.4**
SOC	**Sochi**	**25.39**	**294**	*e*P	**P**	**16 22 05.9**	**-0.1**
SOC				*e**PP	pP	16 22 53.4	+12
SOC				*e**SP	sP	16 23 11.7	+9.4
SOC				*e*S	**S**	**16 26 14.4**	**-4.9**
SOC				*e**SS	sS	16 27 33.0	+10
ZAK	**Zakamensk**	**25.55**	**50**	*e*P	**P**	**16 22 08.4**	**+0.9**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
SONM	**Songino Array**	**26.91**	**57**	P	**P**	**16 22 21.9**	**+2.1**
	comp=Z,2.6nm,0.6s,baz=255,slow=10,SNR=11						
BRTR	**Keskin Array B**	**30.14**	**286**	P	**P**	**16 22 49.7**	**+1.2**
	comp=Z,1.1nm,0.4s,baz=99,slow=7.5,SNR=9.1						
AKASG	**Malin Array Be**	**33.15**	**307**	P	P	16 23 20.3	+5.9
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.4s						
AKASG	**Malin Array Be**	**33.15**	**307**	P	P	16 23 20.3	+5.9
	comp=Z,2.0nm,0.4s,baz=78,slow=8.9,SNR=5.3						
KIS	**Kishinev**	**33.18**	**301**	*e*P	**P**	**16 23 18.0**	**+3.2**
KIS	**Kishinev**	**33.18**	**301**	*e*P	**P**	**16 23 18.0**	**+3.2**
JOF	**Joensuu**	**35.53**	**329**	*e*P	**P**	**16 23 35.3**	**+0.5**
JOF				pmax	pmax		
	comp=Z,7.0nm,0.4s						
JOF	**Joensuu**	**35.53**	**329**	*e*p	**P**	**16 23 35.3**	**+0.5**
	comp=Z,6.5nm,0.4s						
FINES	**FINESS Array B**	**37.25**	**325**	P	**P**	**16 23 49.9**	**+0.6**
	comp=Z,2.0nm,0.3s,baz=120,slow=8.2,SNR=22						
KAF	**Kangasniemi**	**37.36**	**326**	*e*P	**P**	**16 23 50.8**	**+0.5**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KAF	**Kangasniemi**	**37.36**	**326**	*e*p	**P**	**16 23 50.8**	**+0.5**
	comp=Z,0.9nm,0.3s						
ARCES	**ARCESS Array B**	**40.62**	**337**	P	**P**	**16 24 18.2**	**+0.9**
	comp=Z,8.1nm,0.6s,baz=112,slow=8.2,SNR=69						
YAK	**Yakutsk**	**42.55**	**36**	*e*P	**P**	**16 24 33.0**	**+0.1**
YAK				pmax	pmax		
	comp=Z,15nm,1.0s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.3s						
YAK				pmax	pmax		
	comp=N,4.0nm,1.0s						
KSRS	**Korea Array**	**43.58**	**72**	P	**P**	**16 24 41.1**	**-0.4**
	comp=N,0.7nm,0.5s,baz=277,slow=7.6,SNR=5.6						
NB2	**NORSAR Subarra**	**44.21**	**322**	P	**P**	**16 24 46.2**	**-0.2**
	comp=Z,2.7nm,0.5s,baz=92,slow=7.9						
NOA	**NORSAR Array B**	**44.21**	**322**	P	**P**	**16 24 46.5**	**+0.1**
	comp=Z,3.3nm,0.5s,baz=93,slow=7.7,SNR=11						
TIXI	**Tiksi**	**44.45**	**22**	*d i* P	**P**	**16 24 48.6**	**+0.6**
TIXI				pmax	pmax		
	comp=Z,13nm,0.6s						
TIXI				MLR	MLR		
	comp=Z,1μm,18.0s						
JNU	**Nakatsue**	**47.34**	**77**	P	P	16 25 07.6	-3.7
	comp=Z,3.4nm,0.6s,baz=337,slow=7.7,SNR=4.3						
KMBO	**Kilima Mbogo**	**50.27**	**228**	P	**P**	**16 25 33.0**	**-0.9**
	comp=Z,0.8nm,0.4s,baz=21,slow=11,SNR=3.3						
MJAR	**Matsushiro Arr**	**51.62**	**70**	P	**P**	**16 25 42.8**	**-0.8**
	comp=Z,2.1nm,0.8s,baz=287,slow=10,SNR=7.7						
ESDC	**Sonseca Array**	**57.91**	**298**	P	**P**	**16 26 27.9**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=53,slow=8.4,SNR=3.5						
PETK	**Petropavlovsk-**	**58.52**	**45**	P	**P**	**16 26 32.5**	**-0.2**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
PETK	**Petropavlovsk-**	**58.52**	**45**	P	**P**	**16 26 32.5**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=258,slow=6.8,SNR=5.8						
SUMG	**Summit**	**60.45**	**341**	*i* P	**P**	**16 26 46.6**	**+0.6**
SUMG				pmax	pmax		
	comp=Z,6.0nm,0.8s						
SUMG	**Summit**	**60.45**	**341**	*i* P	**P**	**16 26 46.6**	**+0.6**
	comp=Z,5.7nm,0

JAK	**Akkeshi**	**3.22 265**	P	Pn	16 43 48.3	-0.6
JAK			*e*S	Sn	16 44 22.3	-3.9
JTKR	**Abashiri--Toko**	**3.80 281**	P	Pn	16 43 58.3	+1.5
JOB	**Onbets**	**3.86 265**	P	Pn	16 43 57.2	-0.5
JOB			*e*S	Sn	16 44 39.3	-2.6
JAR	**Ashorobuto**	**3.87 271**	P	Pn	16 43 57.9	+0.1
JAR			*e*S	Sn	16 44 40.3	-1.9
JMP	**Maruseppu**	**4.19 281**	P	Pn	16 44 03.9	+1.6
JCH	**Churui**	**4.25 262**	P	Pn	16 44 02.3	-0.8
JCH			*e*S	Sn	16 44 47.2	-4.5
JKK2	**Kamakawa 2**	**4.62 279**	P	Pn	16 44 10.8	+2.6
JNBK	**Urakawa-nobuka**	**4.77 259**	P	Pn	16 44 09.1	-1.1
JSE	**Soyaes**	**4.94 291**	P	Pn	16 44 14.7	+2.3
JAB	**Ashibetsu**	**4.99 274**	P	Pn	16 44 15.5	+2.3
JKB	**Kayabe**	**6.11 259**	P	Pn	16 44 28.0	-0.5
JKB			*e*S	Sn	16 45 31.3	-6.1
JTM	**Tenmabayashi**	**6.48 249**	*e*S	Sn	16 45 38.6	-8.0
JRG	**Rokugo**	**7.47 241**	*e*S	Sn	16 46 02.2	-8.8

*ISCJB **04** 16:52:08.3±0.6, 43°.33N±0°.03×46°.28E±0°.03, h2km±3km, mb3.4/1, Error ellipse: s-maj=6.1km s-min=3.1km az=24.4*
*CSEM **04** 16:52:09.8±0.2, 43°.26N×46°.24E, h5km, mb4.0, Error ellipse: s-maj=5.4km s-min=3.0km az=23.0*
*TIF **04** 16:52:09.2, 43°.35N×46°.06E, h17km±4km*
*MOS **04** 16:52:12.1±2.2, 43°.09N×46°.10E, h12km, mb4.0/1, Error ellipse: s-maj=11.7km s-min=6.8km az=25.0*

ISC 04 16:52:10.6±1.0, 43°.18N±0°.03×46°.16E±0°.02, h10km±8km, n48, σ0.95/83, 7C-4D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRO	**Groznyy**	**0.33**	**296**	⇓*i*PG	**Pg**	**16 52 16.9**	**-0.3**
GRO	**Groznyy**	**0.33**	**296**	*i* Pg	**Pg**	**16 52 16.9**	**-0.3**
BTLR	**Botlikh**	**0.52**	**175**	⇑*i*PG	**Pg**	**16 52 20.2**	**-0.5**
BTLR				*e*S	**Sg**	**16 52 28.0**	**+0.5**
BTLR				pmax	pmax		
	comp=Z,147nm,0.3s						
BTLR	**Botlikh**	**0.52**	**175**	*i* Pg	**Pg**	**16 52 20.2**	**-0.5**
	comp=Z,147nm,0.3s						
BTLR				*e*Sg	**Sg**	**16 52 28.0**	**+0.5**
KRNR	**Karanay**	**0.65**	**122**	*e*PG	**Pg**	**16 52 23.5**	**+0.2**
KRNR				*i* S	**Sg**	**16 52 32.0**	**+0.1**
KRNR				pmax	pmax		
	comp=Z,57nm,0.2s						
KRNR	**Karanay**	**0.65**	**122**	*e*Pg	**Pg**	**16 52 23.5**	**+0.2**
	comp=Z,57nm,0.2s						
KRNR				*i* Sg	**Sg**	**16 52 32.0**	**+0.1**
BUJR	**Buynaksk**	**0.78**	**116**	PG	**Pn**	**16 52 30.5**	**+2.8**
BUJR				*e*S	**Sn**	**16 52 40.0**	**+0.5**
SNJR	**Sundja**	**0.99**	**264**	*e*PG	**Pn**	**16 52 30.5**	**-0.1**
SNJR				*e*S	**Sn**	**16 52 45.1**	**+0.4**
SNJR	**Sundja**	**0.99**	**264**	*e*Pg	**Pn**	**16 52 30.5**	**-0.1**
SNJR				*e*Sg	**Sn**	**16 52 45.1**	**+0.4**
VLKR	**Vladikavkaz**	**1.09**	**264**	⇑*i*PG	**Pn**	**16 52 32.3**	**+0.3**
VLKR				*i* S	**Sn**	**16 52 48.3**	**+1.1**
VLKR	**Vladikavkaz**	**1.09**	**264**	*i* Pg	**Pn**	**16 52 32.3**	**+0.3**
VLKR				*i* Sg	**Sn**	**16 52 48.3**	**+1.1**
TRKR	**Terskaya**	**1.17**	**298**	*e*PG	**Pg**	**16 52 33.3**	**+0.2**
TRKR				*i* S	**Sn**	**16 52 50.4**	**+1.3**
TRKR	**Terskaya**	**1.17**	**298**	*e*Pg	**Pg**	**16 52 33.3**	**+0.2**
TRKR				*i* Sg	**Sn**	**16 52 50.4**	**+1.3**
BTKR	**Batakoyurt**	**1.20**	**280**	⇑*i*PG	**Pg**	**16 52 33.9**	**+0.3**
BTKR				*e*S	**Sn**	**16 52 51.2**	**+1.5**
BTKR	**Batakoyurt**	**1.20**	**280**	*i* Pg	**Pg**	**16 52 33.9**	**+0.3**
BTKR				*e*Sg	**Sn**	**16 52 51.2**	**+1.5**
KMKR	**Kumukh**	**1.26**	**146**	*e*PG	**Pn**	**16 52 34.2**	**-0.2**
KMKR				*e*S	**Sn**	**16 52 52.0**	**+0.5**
KMKR				pmax	pmax		
	comp=Z,64nm,0.3s						
KMKR	**Kumukh**	**1.26**	**146**	*e*Pg	**Pn**	**16 52 34.2**	**-0.2**
	comp=Z,64nm,0.3s						
KMKR				*e*Sg	**Sn**	**16 52 52.0**	**+0.5**
LACR	**Lac**	**1.41**	**256**	⇓*i*PG	**Pn**	**16 52 35.7**	**-0.7**
LACR				*i* S	**Sb**	**16 52 55.6**	**+0.5**
LACR	**Lac**	**1.41**	**256**	*i* Sg	**Sb**	**16 52 55.6**	**+0.5**
GUDG	**Gudauri**	**1.43**	**241**	P	**Pn**	**16 52 36.1**	**-0.7**
GUDG				S	**Sn**	**16 52 55.0**	**-0.6**
PRTR	**Priterechnaya**	**1.48**	**293**	⇑*i*PG	**Pb**	**16 52 38.0**	**-0.2**
PRTR				*i* S	**Sg**	**16 52 59.0**	**+0.8**
PRTR	**Priterechnaya**	**1.48**	**293**	*i* Pg	**Pb**	**16 52 38.0**	**-0.2**
PRTR				*i* Sg	**Sg**	**16 52 59.0**	**+0.8**
URKR	**Urkarakh**	**1.49**	**132**	*e*PG	**Pg**	**16 52 39.0**	**-0.1**
URKR				*e*S	**Sg**	**16 53 00.0**	**+1.6**
URKR	**Urkarakh**	**1.49**	**132**	*e*Pg	**Pg**	**16 52 39.0**	**-0.1**
URKR				*e*Sg	**Sg**	**16 53 00.0**	**+1.6**
DUS	**Dusheti**	**1.53**	**225**	P	**Pg**	**16 52 39.9**	**0.0**
DUS				S	**Sg**	**16 53 01.4**	**+1.7**
KORR	**Kora**	**1.53**	**267**	*e*PG	**Pb**	**16 52 38.8**	**-0.3**
KORR				*i* S	**Sg**	**16 53 00.2**	**+0.3**
KORR	**Kora**	**1.53**	**267**	*e*Pg	**Pb**	**16 52 38.8**	**-0.3**
KORR				*i* Sg	**Sg**	**16 53 00.2**	**+0.3**
STDR	**Stavd-Durt**	**1.54**	**278**	⇑*i*PG	**Pg**	**16 52 40.5**	**+0.3**
STDR				*i* S	**Sg**	**16 53 02.2**	**+2.0**
STDR	**Stavd-Durt**	**1.54**	**278**	*i* Pg	**Pg**	**16 52 40.5**	**+0.3**
STDR				*i* Sg	**Sg**	**16 53 02.2**	**+2.0**
ZEI	**Tsey**	**1.70**	**258**	*e*PN	**Pn**	**16 52 40.6**	**+0.1**
ZEI				*i* S	**Sb**	**16 53 03.7**	**+0.1**
ZEI	**Tsey**	**1.70**	**258**	*e*Pn	**Pn**	**16 52 40.6**	**+0.1**
LSNR	**Lesken**	**1.71**	**274**	*e*PN	**Pb**	**16 52 41.7**	**-0.4**
LSNR				*i* S	**Sg**	**16 53 05.2**	**-0.3**
LSNR	**Lesken**	**1.71**	**274**	*e*Pn	**Pb**	**16 52 41.7**	**-0.4**
LSNR				*i* Sg	**Sg**	**16 53 05.2**	**-0.3**
TBLG	**Delisi**	**1.79**	**216**	PN	**Pb**	**16 52 43.4**	**0.0**
TBLG				S	**Sg**	**16 53 08.4**	**+0.3**
TBLG	**Delisi**	**1.79**	**216**	P	**Pb**	**16 52 43.4**	**0.0**
TBLG				S	**Sg**	**16 53 08.4**	**+0.3**
TBLG	**Delisi**	**1.79**	**216**	P	**Pb**	**16 52 43.4**	**0.0**
TBLG				S	**Sg**	**16 53 08.4**	**+0.3**
DGRG	**David-gareji**	**1.82**	**199**	P	**Pg**	**16 52 45.6**	**0.0**
DGRG				S	**Sg**	**16 53 11.7**	**+2.6**
DIGR	**Digorskoe uzhe**	**1.91**	**262**	*e*PN	**Pn**	**16 52 43.9**	**+0.5**
DIGR				*i* S	**Sb**	**16 53 09.6**	**0.0**
DIGR	**Digorskoe uzhe**	**1.91**	**262**	*e*Pn	**Pn**	**16 52 43.9**	**+0.5**
ONI	**Oni**	**2.07**	**254**	P	**Pn**	**16 52 46.3**	**+0.8**
ONI				S	**Sg**	**16 53 16.6**	**-0.6**
KIV	**Kislovodsk**	**2.64**	**288**	*de*PN	**Pg**	**16 53 01.9**	**+0.7**
KIV				pmax	pmax		
	comp=Z,10.0nm,0.6s						
AKH	**Akhalkalaki**	**2.65**	**229**	P	**Sb**	**16 53 30.8**	**-0.1**
AKTO	**Aktyubinsk**	**10.89**	**44**	⇑Pn	**Pn**	**16 54 43.5**	**-2.9**
	comp=Z,3.3nm,1.2s						
AKTO				⇑Sn	Sn	16 56 36.1	-12
	comp=Z,1.4nm,0.8s						
AKTO	**Aktyubinsk**	**10.89**	**44**	Pn	**Pn**	**16 54 43.5**	**-2.9**
	comp=Z,3.3nm,1.2s						
AB31	**Akbulak array**	**11.31**	**53**	Pn	**Pn**	**16 54 50.7**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=237,slow=11,SNR=9.5						
AB31				⇓Sn	Sn	16 56 47.8	-11
	comp=Z,0.3nm,0.3s,baz=244,slow=27,SNR=3.5						
AB31	**Akbulak array**	**11.31**	**53**	Pn	**Pn**	**16 54 50.7**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=237,SNR=9.5						
JOF	**Joensuu**	**21.59**	**341**	*ep*	**P**	**16 57 00.4**	**+0.2**
	comp=Z,0.6nm,0.3s						
JOF	**Joensuu**	**21.59**	**341**	*e*P	**P**	**16 57 00.4**	**+0.2**
	comp=Z,0.6nm,0.3s						

IDC 04 16:53:18.2±1.7, 15°.73S×176°.75E, h0km, mb4.0/6, mb1 4.3/6, mb1mx3.9/19, mbtmp4.0/6, MS3.7/21, Ms1 3.8/21, ms1mx3.6/29, Error ellipse: s-maj=93.6km s-min=24.2km az=147.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**11.24**	**82**	LR	LR	16 58 55.2	
	comp=Z,181nm,21.9s,baz=252,slow=30						
DZM	**Mont Dzumac**	**11.61**	**236**	*e*LR	LR	16 58 43.9	
	500nm,26.8s						
URZ	**Urewera**	**22.44**	**179**	LR	LR	17 05 23.9	
	comp=Z,132nm,20.0s,baz=184,slow=32						
RAR	**Rarotonga**	**22.91**	**107**	LR	LR	17 04 34.5	
	comp=Z,365nm,21.3s,baz=269,slow=30						
RPZ	**Rata Peaks**	**28.31**	**189**	LR	LR	17 08 36.5	
	comp=Z,142nm,18.9s,baz=353,slow=32						
PMG	**Port Moresby**	**29.54**	**279**	LR	LR	17 09 20.4	
	comp=Z,162nm,19.6s,baz=304,slow=33						
PPT	**Papeete**	**32.29**	**98**	LR	LR	17 08 34.3	
	comp=Z,140nm,21.4s,baz=274,slow=28						
PPT2	**Papeete2**	**32.29**	**98**	*e*LQ	LQ	17 06 32.6	
	453nm,26.5s						
PPT2				*e*LR	LR	17 07 56.3	
	416nm,30.2s						
TBI	**Tubuai**	**32.67**	**109**	*e*LQ	LQ	17 06 44.6	
	289nm,24.2s						
TBI				*e*LR	LR	17 08 09.8	
	472nm,29.5s						
STKA	**Stephens Creek**	**35.76**	**237**	P	P	17 00 19.0	0.0
	4.3nm,0.7s,baz=79,slow=12,SNR=11						
STKA				LR	LR	17 13 05.7	
	comp=Z,157nm,20.2s,baz=28,slow=33						
WRA	**Warramunga Arr**	**40.51**	**258**	P	P	17 00 59.4	+0.1
	0.9nm,0.9s,baz=94,slow=8.8,SNR=6.5						
ASAR	**Alice Springs**	**40.98**	**252**	P	P	17 01 03.5	+0.3
	2.3nm,0.8s,baz=86,slow=8.7,SNR=22						
ASAR				LR	LR	17 17 23.7	
	comp=Z,115nm,19.6s,baz=267,slow=35						
RKT	**Rikitea**	**45.95**	**107**	*e*LR	LR	17 14 16.8	
	383nm,28.2s						
FITZ	**Fitzroy Crossi**	**48.83**	**260**	P	P	17 02 05.0	-0.8
	2.2nm,1.0s,baz=159,slow=8.6,SNR=2.3						
FITZ				LR	LR	17 21 42.9	
	comp=Z,99nm,20.9s,baz=87,slow=35						
VNDA	**Vanda**	**62.26**	**184**	LR	LR	17 25 11.4	
	comp=Z,83nm,19.0s,baz=9.7,slow=31						
KSRS	**Korea Array**	**70.04**	**320**	LR	LR	17 30 04.6	
	comp=Z,45nm,20.8s,baz=212,slow=32						
USRK	**Ussuriysk Arra**	**72.27**	**328**	LR	LR	17 30 20.4	
	comp=Z,67nm,21.3s,baz=5.4,slow=31						
YBH	**Yreka Blue Hor**	**79.88**	**41**	LR	LR	17 33 36.1	
	comp=Z,54nm,18.9s,baz=180,slow=30						
PFO	**Pinyon Flat Ob**	**80.32**	**51**	LR	LR	17 34 08.6	
	comp=Z,45nm,18.9s,baz=161,slow=30						
BBB	**Bella Bella**	**82.73**	**31**	LR	LR	17 33 02.2	
	comp=Z,56nm,21.0s,baz=98,slow=29						
CMAR	**Chiang Mai Arr**	**83.79**	**291**	LR	LR	17 41 10.7	
	comp=Z,29nm,18.9s,baz=170,slow=34						
ILAR	**Eielson Array**	**84.90**	**15**	P	P	17 05 54.0	-0.6
	1.9nm,1.1s,baz=231,slow=6.1,SNR=8.3						
ILAR				LR	LR	17 36 06.3	
	comp=Z,49nm,21.6s,baz=95,slow=30						
NEW	**Newport**	**86.56**	**38**	LR	LR	17 39 33.9	
	comp=Z,45nm,19.2s,baz=61,slow=32						
TXAR	**Lajitas Array**	**88.81**	**59**	P	P	17 06 15.3	+0.6
	0.5nm,0.9s,baz=207,slow=5.8,SNR=4.3						
TXAR				LR	LR	17 35 59.0	
	comp=Z,51nm,21.9s,baz=5.0,slow=29						
SONM	**Songino Array**	**88.91**	**321**	LR	LR	17 42 02.5	
	comp=Z,47nm,19.1s,baz=239,slow=33						
PDAR	**Pinedale Array**	**89.04**	**45**	LR	LR	17 39 28.7	
	comp=Z,46nm,18.2s,baz=168,slow=31						

*ISCJB **04** 16:59:05.9±0.6, 2°.69S±0°.07×140°.36E±0°.09, h33km, mb3.8/8, Error ellipse: s-maj=13.0km s-min=9.7km az=19.1*
*IDC **04** 16:59:09.0±3.2, 2°.68S×140°.39E, h44km±32km, mb3.7/9, mb1 4.0/11, mb1mx3.8/22, mbtmp3.9/11, ML3.6/2, Error ellipse: s-maj=24.6km s-min=13.2km az=96.0*
*AUST **04** 16:59:49.8±99.0, 6°.00S×139°.19E, h17km, Error ellipse: s-maj=11.1km s-min=1.9km az=14.0*

ISC 04 16:59:08.2±0.8, 2°.71S±0°.08×140°.3E±0°.1, h35km, n18, σ2.9/02/20, mb3.8/7, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**9.56**	**134**	P	**Pn**	**17 01 24.8**	**+1.3**
	0.4nm,0.3s,baz=328,slow=11,SNR=3.5						
KDU	**Kakadu**	**12.55**	**217**	P	**Pn**	**17 02 04.8**	**+0.4**
	baz=9.4,SNR=14						
MTN	**Manton Dam**	**13.52**	**221**	P	**Pn**	**17 02 19.4**	**+1.7**
	baz=10,SNR=4.5						
MTSU	**Mount Surprise**	**15.84**	**166**	P	**P**	**17 02 54.7**	**+2.6**
	baz=13,SNR=4.1						
KNRA	**Kununurra**	**17.15**	**221**	P	**Pn**	**17 03 06.7**	**+1.5**
	baz=14,SNR=4.2						
WRA	**Warramunga Arr**	**18.07**	**198**	P	**Pn**	**17 03 16.3**	**-0.4**
	0.6nm,0.3s,baz=10,slow=12,SNR=31						
WRA				S	**Sn**	**17 06 31.7**	**-5.8**
	0.1nm,0.3s,baz=14,slow=22,SNR=4.7						
KAPI	**Kappang**	**20.58**	**263**	P	Pn	17 03 50.7	+3.9
	3.4nm,0.2s,baz=66,slow=12,SNR=3.6						
HNR	**Honiara**	**20.68**	**110**	P	**P**	**17 03 43.8**	**-1.6**
	67nm,1.1s,baz=333,slow=3.3,SNR=3.6						
FITZ	**Fitzroy Crossi**	**20.96**	**222**	P	**P**	**17 03 49.3**	**+0.9**
	6.2nm,0.7s,baz=52,slow=10,SNR=13						
FITZ				S	**S**	**17 07 37.8**	**-2.3**
	2.6nm,0.7s,baz=100,slow=18,SNR=3.0						
ASAR	**Alice Springs**	**21.72**	**196**	P	**P**	**17 03 57.3**	**+0.7**
	5.6nm,0.7s,baz=29,slow=9.8,SNR=48						
ASAR				S	**S**	**17 07 56.5**	**+1.3**
	2.2nm,0.9s,baz=18,slow=22,SNR=7.9						
CMAR	**Chiang Mai Arr**	**45.78**	**299**	P	**P**	**17 07 27.1**	**+0.2**
	0.9nm,0.5s,baz=126,slow=6.7,SNR=7.1						
MKAR	**Makanchi Array**	**70.74**	**322**	P	**P**	**17 10 21.4**	**+0.5**
	0.8nm,0.8s,baz=99,slow=8.3,SNR=5.5						
ZALV	**Zalesovo Beam**	**72.72**	**329**	P	**P**	**17 10 31.5**	**-1.1**
	0.4nm,0.5s,baz=114,slow=7.0,SNR=2.6						
KURBB	**Kurchatov Arra**	**74.62**	**324**	P	**P**	**17 10 45.1**	**+1.2**
	0.4nm,0.8s,baz=111,slow=5.1,SNR=4.7						
BVAR	**Borovoye Array**	**80.20**	**325**	P	**P**	**17 11 15.6**	**+0.6**
	0.5nm,0.5s,baz=122,slow=5.2,SNR=3.8						
ILAR	**Eielson Array**	**85.20**	**24**	P	**P**	**17 11 38.1**	**-2.7**
	0.7nm,0.6s,baz=259,slow=5.4,SNR=7.7						
DBIC	**Dimbokro**	**145.01**	**278**	PKPbc	**PKPab**	**17 18 43.2**	**+0.8**
	3.9nm,0.9s,baz=12,slow=1.8,SNR=4.3						
LPAZ	**La Paz**	**146.19**	**125**	PKPbc	**PKPbc**	**17 18 46.5**	**-0.3**
	1.7nm,0.8s,baz=235,slow=3.5,SNR=3.9						

*IDC **04** 17:21:36.2±6.3, 24°.58N×124°.51E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.2/25, mbtmp3.3/3, ML3.2/1, Error ellipse: s-maj=413.1km s-min=38.4km az=93.0*
*ISCJB **04** 17:21:42.7±0.9, 25°.20N±0°.09×124°.59E±0°.07, h85km, mb3.3/2, Error ellipse: s-maj=13.4km s-min=7.0km az=153.3*
*JMA **04** 17:21:43.0±0.1, 25°.20N×124°.59E, h85km±4km, M3.1*

ISC 04 17:21:42.3±1.1, 25°.22N±0°.08×124°.57E±0°.07, h85km, n13, σ0.98/17, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTJ	**Tarama**	**0.59**	**169**	P	**Pn**	**17 21 57.9**	**+0.6**
JTJ				S	**Sn**	**17 22 09.2**	**+0.8**
JMJ	**Miyako jima 2**	**0.77**	**122**	P	**Pn**	**17 21 59.6**	**+0.5**
JMJ				S	**Sn**	**17 22 12.1**	**+0.6**
JOGS	**Gusukube**	**0.88**	**121**	P	**Pn**	**17 22 01.0**	**+0.7**
JOGS				*e*S	**Sn**	**17 22 14.4**	**+0.6**
JIJ	**Ishigaki jima**	**0.94**	**205**	P	**Pn**	**17 22 01.3**	**+0.3**
JIJ				S	**Sn**	**17 22 15.0**	**+0.1**
JKRS	**Kuro-shima**	**1.10**	**208**	P	**Pn**	**17 22 03.6**	**+0.7**
IRIF	**Iriomote-Funau**	**1.17**	**221**	P	**Pn**	**17 22 04.4**	**+0.7**
HATJ	**Hateruma jima**	**1.35**	**211**	P	**Pn**	**17 22 07.1**	**+1.1**
YOJ	**Yonaguni jima**	**1.61**	**242**	P	**Pn**	**17 22 10.8**	**+1.6**
JKE	**Kume jima 2**	**2.28**	**61**	P	**Pn**	**17 22 19.0**	**+1.0**
JAGN	**Aguni-jima**	**2.76**	**60**	P	**Pn**	**17 22 26.1**	**+1.6**
KSRS	**Korea Array**	**12.53**	**12**	Pn	**P**	**17 24 44.1**	**-1.4**
	0.1nm,0.3s,baz=198,slow=11,SNR=6.1						
WRA	**Warramunga Arr**	**45.88**	**167**	P	**P**	**17 29 55.6**	**-0.8**
	0.2nm,0.3s,baz=349,slow=8.6,SNR=9.9						
ASAR	**Alice Springs**	**49.43**	**169**	P	**P**	**17 30 23.4**	**-0.4**
	0.2nm,0.6s,baz=353,slow=12,SNR=8.3						

WEL 04 17:23:45.0±0.9, 34°.80S×177°.66E, h343km±9km, ML3.5/6, Error ellipse: s-maj=42.8km s-min=17.2km az=90.0, North of New Zealand

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**3.48**	**187**	PN	Pn	17 24 47.8	-0.4
URZ				SN	S	17 25 36.9	-2.3
BKZ	**Black Stump Fm**	**4.45**	**192**	PN	Pn	17 24 58.5	+0.2
BKZ				SN	S	17 25 56.5	-1.0
KAHZ	**Kahuranaki**	**5.02**	**187**	PN	Pn	17 25 04.9	+0.4
BFZ	**Birch Farm**	**5.97**	**190**	PN	Pn	17 25 15.6	+0.5
MRZ	**Mangatainoka R**	**6.08**	**195**	PN	Pn	17 25 16.7	+0.3
OGWZ	**Otaki Gorge**	**6.32**	**197**	PN	Pn	17 25 19.9	+0.7
OGWZ				SN	S	17 26 37.9	+2.4
CAW	**Cannon Point**	**6.62**	**197**	PN	Pn	17 25 23.1	+0.5
TUWZ	**Tuamarina**	**7.23**	**203**	PN	Pn	17 25 31.1	+1.2
NNZ	**Nelson**	**7.24**	**207**	PN	Pn	17 25 32.2	+2.3
QRZ	**Quartz Range**	**7.25**	**212**	PN	Pn	17 25 33.6	+3.5
THZ	**Tophouse**	**7.89**	**207**	PN	Pn	17 25 41.7	+4.0
KHZ	**Kahutara**	**8.26**	**202**	PN	P	17 25 44.7	-0.4
LTZ	**Lake Taylor**	**9.01**	**206**	PN	P	17 25 54.2	+0.5

IDC 04 17:28:18.6±28.0, 23°.01S×173°.48W, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.7/19, mbtmp3.9/4, MS3.8/1, Ms1 3.8/1, ms1mx2.8/32, Error ellipse: s-maj=511.7km s-min=149.4km az=78.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**7.38**	**212**	LR	LR	17 32 23.7	
	comp=Z,656nm,20.6s,baz=180,slow=33						
CTA	**Charters Tower**	**37.49**	**267**	P	P	17 35 34.6	+0.3
	1.7nm,0.3s,baz=91,slow=11,SNR=5.9						
STKA	**Stephens Creek**	**40.60**	**247**	P	P	17 36 00.3	0.0
	1.8nm,0.9s,baz=90,slow=9.1,SNR=2.4						
ASAR	**Alice Springs**	**48.08**	**258**	P	P	17 37 00.1	-0.3
	0.3nm,0.5s,baz=94,slow=6.8,SNR=12						
WRA	**Warramunga Arr**	**48.45**	**263**	P	P	17 37 02.9	-0.4
	0.7nm,0.5s,baz=104,slow=8.0,SNR=6.3						

*ISCJB **04** 17:36:59.9±1.0, 38°.29N±0°.05×141°.9E±0°.1, h54km±7km, mb3.8/6, MS3.0/1, Error ellipse: s-maj=14.3km s-min=5.9km az=25.0*
*NIED **04** 17:37:00, 38°.30N×141°.80E, h35km, Mw3.6 Best double couple: M0:2.52000×10^14 NP1:φ±5.00000°, δ72.00000°, λ71.00000°. NP2:φ±233.00000°, δ26.00000°, λ135.00000°.*
*IDC **04** 17:37:00.8±2.7, 38°.32N×142°.18E, h54km±23km, mb3.5/6, mb1 3.5/10, mb1mx3.4/28, mbtmp3.5/10, ML3.1/4, MS2.7/2, Ms1 2.7/2, ms1mx2.3/23, Error ellipse: s-maj=31.4km s-min=15.5km az=96.0*
*JMA **04** 17:37:01.3±0.1, 38°.30N×141°.85E, h47km±1km, M3.7*
JMA Felt I J1.

ISC 04 17:37:00.4±1.8, 38°.28N±0°.07×142°.0E±0°.1, h42km±16km, n22, σ0.96/30, mb3.8/6, 10D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.51**	**290**	⇓P	**Pn**	**17 37 11.5**	**+0.1**
JIO				S	**Sn**	**17 37 18.7**	**-0.4**
OFUJ	**Ofunato**	**0.83**	**344**	⇓P	**Pn**	**17 37 16.1**	**+0.4**
OFUJ				S	**Sn**	**17 37 26.5**	**-0.3**
JMK	**Ichinoseki**	**0.89**	**319**	⇓P	**Pn**	**17 37 16.8**	**+0.4**
JMK				S	**Sn**	**17 37 28.0**	**-0.1**
JMM	**Marumori**	**1.01**	**246**	⇓P	**Pn**	**17 37 17.7**	**-0.4**
JMM				S	**Sn**	**17 37 29.6**	**-1.6**
JOU	**Okura**	**1.02**	**275**	⇓P	**Pn**	**17 37 18.5**	**+0.2**
JOU				S	**Sn**	**17 37 30.7**	**-0.8**
JFK	**Kawauchi**	**1.25**	**224**	P	**Pn**	**17 37 21.5**	**0.0**
JOM	**Ohasama**	**1.30**	**336**	⇓P	**Pn**	**17 37 22.8**	**+0.7**
JYK	**Kaneyama**	**1.41**	**297**	⇓P	**Pn**	**17 37 23.8**	**+0.2**
JFT	**Otama**	**1.50**	**240**	⇓P	**Pn**	**17 37 25.2**	**+0.4**
JFT				*e*S	**Sn**	**17 37 42.8**	**-0.3**
JYS	**Shiratake**	**1.50**	**268**	⇓P	**Pn**	**17 37 24.9**	**+0.1**
JYS				S	**Sn**	**17 37 42.9**	**-0.2**
JRG	**Rokugo**	**1.52**	**317**	⇓P	**Pn**	**17 37 25.8**	**+0.7**
MJAR	**Matsushiro Arr**	**3.46**	**241**	P	**Pn**	**17 37 53.5**	**+1.8**
	1.4nm,0.3s,baz=91,slow=28,SNR=15						
MAT	**Matsushiro**	**3.46**	**241**	P	**Pn**	**17 37 54.7**	**+3.0**
MAT				S	**Sn**	**17 38 32.4**	**+1.0**
ASAJ	**Asahikawa**	**5.85**	**4**	P	**Pn**	**17 38 25.5**	**+0.9**
	1.2nm,0.3s,baz=224,slow=13,SNR=27						
ASAJ				S	**Sn**	**17 39 29.1**	**-1.1**
	0.2nm,0.3s,baz=241,slow=19,SNR=2.5						
USRK	**Ussuriysk Arra**	**9.55**	**311**	P	**Pn**	**17 39 16.9**	**+1.7**
	0.3nm,0.3s,baz=134,slow=14,SNR=6.9						
KSRS	**Korea Array**	**11.13**	**270**	P	Pn	17 39 41.1	+4.2
	0.1nm,0.3s,baz=80,slow=14,SNR=2.5						
KSRS				LR	LR	17 43 21.6	
	comp=Z,22nm,21.4s,baz=100,slow=34						
ZALV	**Zalesovo Beam**	**41.41**	**311**	P	**P**	**17 44 42.6**	**+0.2**
	0.6nm,0.3s,baz=76,slow=8.1,SNR=3.0						
MKAR	**Makanchi Array**	**43.84**	**301**	P	**P**	**17 45 02.1**	**-0.2**
	0.5nm,0.6s,baz=82,slow=8.8,SNR=6.1						
MKAR				LR	LR	18 03 07.4	
	comp=Z,19nm,19.5s,baz=358,slow=36						
KURBB	**Kurchatov Arra**

TXAR	Lajitas Array	76.31	61	P	P	17 53 51.5	+1.4
	comp=Z,1.8nm,0.5s,baz=298,slow=4.6,SNR=37						
CFAA	Coronel Fontan	144.05	79	PKP	PKPab	18 01 33.7	+0.1
	comp=Z,0.2nm,0.3s,baz=270,slow=2.0,SNR=4.0						

DJA 04 17:46:13.9±1.7, 1°S±11°×10°0E±1°2, h36km±8km, M3.5/3, MLv3.5/3, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	Padang Panjang	0.41	64	P	Pn	17 46 24.5	+1.4
PDSI	Padang	0.51	122	P	Pn	17 46 23.2	-1.5
PDSI				S	Sn	17 46 35.8	+3.6
SDSI	Sungai Dareh	1.43	102	P	Pn	17 46 39.2	+1.9
SDSI				S	Sn	17 46 54.5	-0.3

*NEIC **04** 17:59:41.0±0.9, 41°.20S×86°.11W, h10km, mb4.6/15, Error ellipse: s-maj=23.3km s-min=14.8km az=207.0*
*IDC **04** 17:59:42.4±2.1, 40°.76S×86°.01W, h0km, mb3.9/5, mb1 4.3/6, mb1mx4.0/17, mbtmp3.9/6, ML3.6/1, MS4.5/22, Ms1 4.5/22, ms1mx4.4/28, Error ellipse: s-maj=62.3km s-min=29.5km az=12.0*
*GCMT **04** 17:59:43.0±0.1, 41°.43S×86°.30W, h13km±1km, MW5.4, Moment Tensor Solution. s80,c123; s99,c197; Moment tensor: Scale 10^{17}Nm; M_{rr}-0.03±.02; $M_{\theta\theta}$0.27±.02; $M_{\phi\phi}$-0.24±.02; $M_{r\theta}$0.06±.04; $M_{\theta\phi}$-1.38±.02; $M_{\phi r}$-0.03±.04; Best double couple: $M_0$1.40000×10^{17} NP1:ϕ_s85.00000°, δ89.00000°, λ178.00000°. NP2:ϕ_s175.00000°, δ88.00000°, λ1.00000°. Principal axes: T 1.4200, Plg3.0000°, Azm40.0000°; N -0.0300, Plg87.0000°, Azm235.0000°; P -1.3900, Plg1.0000°, Azm130.0000°; Data Used: II IU IC G CN. Surface waves from 102 sta.*

ISC 04 17:59:41.7±0.9, 41°.15S±0°.2×86°.30W±0°.07, h10km, n62, σ1°48/35, mb4.5/18, MS4.5/19, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	11.93	94	Pn	Pn	18 02 31.1	-0.7
PLCA				eSn	Sn	18 04 45.6	+0.7
PLCA	Paso Flores	11.93	94	Pn	Pn	18 02 31.1	-0.7
	0.1nm,0.3s,baz=258,slow=12,SNR=1.9						
PLCA				LR	LR	18 06 05.1	
	comp=Z,4μm,21.2s,baz=302,slow=33						
CFAA	Coronel Fontan	17.32	63	LR	LR	18 09 04.8	
	comp=Z,560nm,19.5s,baz=229,slow=33						
LCO	Las Campanas	17.51	52	Pn	P	18 03 48.2	+0.9
	92nm,1.8s						
USHA	Ushuaia	18.18	145	LR	LR	18 09 20.7	
	comp=Z,3μm,19.5s,baz=112,slow=32						
TRQA	Tornquist	18.98	89	eP	P	18 04 03.2	0.0
	31nm,1.2s						
LVC	Limon Verde	23.51	44	P	P	18 04 49.2	-2.9
	80nm,1.8s						
PMSA	Palmer Station	26.98	159	LR	LR	18 12 58.0	
	comp=Z,791nm,18.2s,baz=53,slow=29						
CPUP	Villa Florida	28.07	67	P	P	18 05 30.9	-2.4
	28nm,1.2s						
CPUP	Villa Florida	28.07	67	P	P	18 05 31.4	-1.9
	0.7nm,0.5s,baz=224,slow=10,SNR=3.0						
LPAZ	La Paz	29.26	38	P	P	18 05 44.8	+0.1
LPAZ	La Paz	29.26	38	P	P	18 05 44.8	+0.1
	2.4nm,0.8s,baz=176,slow=3.3,SNR=8.9						
LPAZ				LR	LR	18 15 22.6	
	comp=Z,853nm,19.3s,baz=191,slow=32						
NNA	Nana	30.13	19	LR	LR	18 15 00.9	
	comp=Z,1μm,18.9s,baz=185,slow=31						
ATAH	Atahualpa	34.51	14	LR	LR	18 16 03.5	
	comp=Z,603nm,20.6s,baz=203,slow=29						
SAML	Samuel	37.98	39	eP	P	18 06 57.8	-2.0
	4.5nm,1.1s						
PAYG	Puerto Ayora	40.36	354	P	P	18 07 20.1	+0.4
	107nm,1.2s						
OTAV	Otavalo	41.72	12	P	P	18 07 30.6	-0.7
	4.1nm,0.9s						
RKT	Rikitea	44.34	278	eS	S	18 14 25.9	-0.4
	319nm,28.0s						
RKT				eLQ	LQ	18 18 06.3	
	1μm,29.2s						
RKT				eLR	LR	18 20 20.9	
	1μm,28.5s,baz=127						
VNA3	Neumayer Olymp	47.49	155	eP	P	18 08 12.1	-4.3
VNA3	Neumayer Olymp	47.49	155	el	Px	18 08 23.0	
VNA1	Neumayer--Stat	48.00	154	el	Px	18 08 34.2	
VNA2	Neumayer--Watz	48.26	154	eP	P	18 08 18.2	-4.1
VNA2	Neumayer--Watz	48.26	154	el	Px	18 08 29.1	
SNAA	Sanae	49.61	156	eP	P	18 08 27.8	-5.0
	19nm,1.5s						
SDV	Santo Domingo	51.75	20	P	P	18 08 45.7	-3.9
	9.9nm,1.3s						
VNDA	Vanda	54.73	194	LR	LR	18 27 31.9	
	comp=Z,803nm,21.0s,baz=122,slow=30						
TBI	Tubuai	55.13	268	eS	S	18 16 55.4	-1.8
	260nm,29.8s						
TBI				eLQ	LQ	18 22 56.2	
	949nm,31.2s						
TBI				eLR	LR	18 24 59.3	
	504nm,26.5s						
PPT2	Papeete2	58.61	274	eS	S	18 17 40.1	-3.3
	556nm,26.0s						
PPT2				eLQ	LQ	18 24 17.9	
	1μm,30.2s						
PPT2				eLR	LR	18 26 44.8	
	844nm,27.2s						
PPT	Papeete	58.62	274	LR	LR	18 29 22.6	
	comp=Z,304nm,18.9s,baz=126,slow=30						
TEIG	Tepich	61.00	358	LR	LR	18 30 55.3	
	comp=Z,340nm,21.8s,baz=252,slow=31						
MAW	Mawson	69.17	168	LR	LR	18 40 44.9	
	comp=Z,310nm,18.6s,baz=205,slow=36						
TXAR	Lajitas Array	71.86	344	P	P	18 11 05.6	+0.9
TXAR	Lajitas Array	71.86	344	P	P	18 11 05.6	+0.9
	0.8nm,0.7s,baz=159,slow=7.7,SNR=8.2						
TXAR				LR	LR	18 37 50.9	
	comp=Z,298nm,18.1s,baz=110,slow=32						
MSTX	Muleshoe	76.19	346	P	P	18 11 29.4	-0.5
TKL	Tuckaleechee C	76.38	2	LR	LR	18 39 56.6	
	comp=Z,227nm,20.1s,baz=78,slow=32						
ANMO	Albuquerque	77.87	343	eP	P	18 11 40.6	+1.1
	5.0nm,1.0s						
PFO	Pinyon Flat Ob	79.33	335	LR	LR	18 38 58.6	
	comp=Z,165nm,21.5s,baz=324,slow=30						
SDCO	Great Sand Dun	80.37	345	P	P	18 11 53.9	+0.7
	3.2nm,1.2s						
PV01	Paradox Valley	81.40	342	eP	P	18 11 59.6	+0.9
	631nm,1.4s						
R11A	Troy Canyon, C	83.44	337	eP	P	18 12 09.5	+0.3
NVAR	Mina Array Bea	84.34	335	P	P	18 12 15.1	+1.2
NVAR	Mina Array Bea	84.34	335	P	P	18 12 15.1	+1.2
	0.2nm,0.2s,baz=120,slow=5.3,SNR=3.8						
ECSD	EROS Data Cent	84.92	353	P	P	18 12 17.9	+1.5
	12nm,1.3s						
K22A	Casper	85.31	345	eP	P	18 12 25.4	+6.8
ELK	Elko	85.56	338	P	P	18 12 24.6	+4.6
	3.6nm,1.0s						
SADO	Sadowa	85.69	5	LR	LR	18 45 04.7	
	comp=Z,77nm,19.2s,baz=0.0,slow=32						
BW06	Boulder Array	86.05	343	P	P	18 12 26.2	+3.9
	2.4nm,0.9s						
PDAR	Pinedale Array	86.05	343	P	P	18 12 23.3	+1.0
PDAR	Pinedale Array	86.05	343	P	P	18 12 23.3	+1.0
	0.4nm,0.8s,baz=165,slow=7.1,SNR=2.6						
PDAR				LR	LR	18 46 30.7	
	comp=Z,164nm,18.3s,baz=353,slow=33						
BOSA	Boshof	86.13	125	LR	LR	18 45 21.0	
	comp=Z,389nm,19.0s,baz=165,slow=32						
DZM	Mont Dzumac	87.91	242	eLQ	LQ	18 36 49.9	
	867nm,29.4s						
DZM				eLR	LR	18 40 30.9	
	1μm,29.3s						
DBIC	Dimbokro	87.92	79	LR	LR	18 50 04.8	
	comp=Z,213nm,19.4s,baz=202,slow=34						
HLID	Hailey	87.96	340	P	P	18 12 30.8	-0.7
	5.1nm,1.1s						
ULM	Lac du Bonnet	91.32	354	LR	LR	18 52 31.8	
	comp=Z,144nm,20.2s,baz=178,slow=35						
STKA	Stephens Creek	95.02	219	LR	LR	18 46 50.6	
	comp=Z,374nm,20.3s,baz=303,slow=30						
SCHQ	Schefferville	96.96	11	LR	LR	18 54 32.4	
	comp=Z,198nm,21.3s,baz=301,slow=34						
TORD	Torodi Ar. Bea	97.02	79	LR	LR	18 56 00.8	
	comp=Z,224nm,20.1s,baz=220,slow=35						
GERES	GERESS Array B	125.31	53	PKP	PKPdf	18 18 45.1	+3.0
GERES	GERESS Array B	125.31	53	PKP	PKPdf	18 18 45.1	+3.0
	0.4nm,0.7s,baz=343,slow=3.1,SNR=2.1						
BRTR	Keskin Array B	135.04	71	PKP	PKPdf	18 19 01.6	+0.7
BRTR	Keskin Array B	135.04	71	PKP	PKPdf	18 19 01.6	+0.7
	0.3nm,0.6s,baz=245,slow=3.0,SNR=2.3						
ABKAR	Akbulak array	154.99	59	PKPdf	PKPdf	18 19 34.5	+0.3
ABKAR				ePKPbc	PKiKP	18 19 43.3	+0.4

DJA 04 18:12:42.8±1.0, 8°S±6°×107°E±°, h10km, M3.7/5, MLv3.7/5, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	Cisompet, Garu	0.73	50	P	Pg	18 12 55.9	-1.2
CISI				S	Sg	18 13 06.2	-0.5
SKJI	Sukabumi	1.23	326	P	Pn	18 13 04.1	-2.0
SKJI				S	Sb	18 13 20.2	-1.9
LEM	Lembang	1.25	17	P	Pg	18 13 07.0	-0.1
LEM				S	Sb	18 13 22.9	-0.1
DBJI	Dramaga	1.55	341	P	Pn	18 13 09.8	-0.7
KPJI	Karang Pucung	1.80	68	P	Pn	18 13 13.7	-0.3

*IDC **04** 18:17:36.9±3.7, 13°.40N×120°.45E, h167km±36km, mb3.3/3, mb1 3.5/3, mb1mx3.0/25, mbtmp3.3/3, Error ellipse: s-maj=183.8km s-min=23.7km az=71.0*
*MAN **04** 18:17:40, 13°.55N×120°.72E, h150km, mb4.7, ML3.6, MS3.5*
*ISCJB **04** 18:17:41.1±0.9, 13°.48N±0°.09×120°.7E±0°.1, h150km, mb3.5/3, Error ellipse: s-maj=18.8km s-min=12.0km az=11.7*

ISC 04 18:17:41.6±1.5, 13°.49N±0°.08×120°.8E±0°.1, h150km, n11, σ0°99/9, mb3.6/3, 2C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	Puerto Galera	0.19	87	eP	Pn	18 17 50.7	-11
TGY	Tagaytay City	0.63	16	⇑P	Pn	18 18 02.9	-0.9
TGY	Tagaytay City	0.63	16	P	Pn	18 18 02.9	-0.9
	422nm,0.3s,baz=240,slow=1.3,SNR=43						
TGY				S	Sn	18 18 22.1	+1.4
	202nm,0.3s,baz=161,slow=23,SNR=5.9						
SJMP	San Jose	1.08	161	eP	Pn	18 18 06.5	-0.6
SJMP				eS	Sn	18 18 27.3	+0.7
BUSP	Coron	1.57	200	eP	Pn	18 18 11.7	-0.3
OTRP	Odiongan	1.67	132	eP	Pn	18 18 11.8	-1.2
AUQP	San Andres	1.88	95	eP	Pn	18 18 15.5	+0.2
ENPP	El Nido	2.62	210	eP	Pn	18 18 24.0	-0.2
WRA	Warramunga Arr	35.81	158	P	P	18 24 20.0	-6.8
	0.4nm,0.3s,baz=331,slow=9.9,SNR=8.8						
ASAR	Alice Springs	39.10	161	P	P	18 24 48.5	-6.0
	0.3nm,0.4s,baz=336,slow=7.0,SNR=23						
ARCES	ARCESS Array B	79.30	339	P	P	18 29 23.3	-6.8
	2.2nm,1.0s,baz=63,slow=5.6,SNR=3.7						

*ISCJB **04** 18:22:45.8±0.2, 43°.97N±0°.02×105°.31W±0°.02, h0km, Error ellipse: s-maj=2.6km s-min=2.4km az=150.7*
*NEIC **04** 18:22:46.6±0.5, 43°.94N×105°.17W, h0km, ML3.4, Error ellipse: s-maj=6.5km s-min=6.3km az=134.0, Suspected Mining explosion.*
NEIC 45 km [30 miles] SE of Gillette.
*IDC **04** 18:22:47.2±1.0, 44°.35N×105°.85W, h0km, mb1 3.6/4, mb1mx3.3/30, mbtmp3.2/4, ML3.2/4, Error ellipse: s-maj=26.3km s-min=8.6km az=145.0*

ISC 04 18:22:46.5±0.7, 43°.96N±0°.02×105°.30W±0°.02, h0km, n124, σ0°84/122, 36C-26D, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I23A	Meade Ranch, G	0.12	270	⇑P	Pg	18 22 49.7	+0.9
	baz=0.2,SNR=1000						
I24A	Kuemmerle Ranc	0.49	102	⇑P	Pg	18 22 55.9	0.0
	baz=0.4,SNR=152						
J23A	Dilts Ranch, B	0.59	198	⇑P	Pg	18 22 57.5	-0.3
	baz=0.6,SNR=79						
J23A	Dilts Ranch, B	0.59	198	⇑P	Pn	18 23 03.5	+1.3
	baz=0.1						
H23A	Clabaugh Cattl	0.60	353	⇑P	Pg	18 22 58.4	+0.2
	baz=0.6,SNR=33						
J24A	Dixon Ranch, L	0.78	144	P	Pg	18 23 01.1	-0.3
	baz=0.7,SNR=263						
I22A	9 Mile Ranch,	0.86	266	P	Pg	18 23 02.9	-0.1
	baz=1.0,SNR=150						
RSSD	Black Hills	0.92	80	ePg	Pg	18 23 03.4	-0.8
H24A	Dirks Ranch, A	0.95	34	⇓P	Pg	18 23 04.2	-0.6
	baz=0.9,SNR=382						
H22A	Clearmont	0.99	310	⇑P	Pg	18 23 05.6	+0.1
	baz=1.1,SNR=276						
J22A	Midwest	1.02	238	P	Pg	18 23 05.0	-1.0
	baz=1.1,SNR=211						
I25A	Rochford	1.13	87	⇑P	Pg	18 23 07.5	-0.6
	baz=1.0,SNR=262						
J25A	Sunshine Ranch	1.23	117	P	Pg	18 23 08.9	-1.1
	baz=1.1						
K23A	Bowen Ranch, D	1.23	191	⇑P	Pg	18 23 09.7	-0.4
	baz=1.2,SNR=27						
G23A	Biddle	1.24	357	⇑P	Pg	18 23 09.7	-0.6
	baz=1.3,SNR=445						
K24A	Anderson Ranch	1.29	164	P	Pg	18 23 09.9	-1.3
	baz=1.2,SNR=149						
H25A	Fruitdale	1.39	61	⇑P	Pg	18 23 12.2	-0.9
	baz=1.3,SNR=33						
H25A				⇓S	Sb	18 23 32.1	+0.4
	baz=1.3						
H21A	Big Horn, Sher	1.42	299	⇓P	Pn	18 23 13.1	-0.6
	baz=1.5,SNR=143						
G22A	Birney	1.45	331	⇑P	Pn	18 23 13.2	-0.8
	baz=1.5,SNR=57						
I21A	Big Trails, Te	1.45	265	⇑P	Pn	18 23 12.6	-1.5
	baz=1.5,SNR=456						
G24A	Alzada	1.50	24	P	Pn	18 23 14.5	-0.3
	baz=1.5,SNR=141						
K22A	Casper	1.59	215	P	Pn	18 23 15.2	-0.8
	baz=1.6,SNR=1000						
K22A	Casper	1.59	215	⇑S	Sg	18 23 39.0	+1.5
	baz=1.1						
J21A	Lysite	1.68	249	P	Pn	18 23 16.4	-0.9
	baz=1.8,SNR=155						
K25A	Mack Ranch, Ha	1.70	142	⇓P	Pn	18 23 17.5	-0.1
	baz=1.6,SNR=66						
J26A	Sides Ranch, S	1.74	111	⇓P	Pn	18 23 17.9	-0.2
	baz=1.6,SNR=76						
I26A	New Underwood	1.76	87	⇓Pb	Pn	18 23 19.2	+0.9
	baz=1.7,SNR=68						
F23A	Volborg	1.76	358	⇓P	Pn	18 23 18.6	+0.2
	baz=1.8,SNR=263						
G25A	Newell	1.82	47	⇓Pb	Pb	18 23 20.1	-0.6
	baz=1.8,SNR=52						
G21A	Lodge Grass	1.86	313	⇑P	Pn	18 23 20.0	+0.2
	baz=1.9,SNR=84						
L23A	Garrett	1.87	189	P	Pn	18 23 19.4	-0.5
	baz=1.9,SNR=115						
L23A	Garrett	1.87	189	⇓S	Sb	18 23 46.6	+0.9
	baz=1.4						
L24A	Wheatland	1.94	172	⇑P	Pn	18 23 21.0	+0.1
	baz=1.9,SNR=18						
F22A	Rosebud	1.94	340	⇑P	Pn	18 23 20.5	-0.3
	baz=2.0,SNR=235						
K21A	Alcova	1.95	228	⇑P	Pn	18 23 21.1	+0.1
	baz=2.0,SNR=709						
F24A	Ekalaka	1.98	18	⇑P	Pn	18 23 21.4	+0.1
	baz=2.0						
K26A	Motz Farm, Whi	1.99	128	⇑P	Pn	18 23 21.6	0.0
	baz=1.9,SNR=38						
H20A	Greybull	2.01	286	⇓P	Pn	18 23 21.8	0.0
	baz=2.1,SNR=48						
I20A	Worland	2.04	271	⇓P	Pn	18 23 22.5	+0.2
	baz=2.1,SNR=180						
L25A	Engebretsen Ra	2.05	151	⇑P	Pn	18 23 22.8	+0.3
	baz=2.0,SNR=38						
L22A	Ellis Ranch, M	2.10	204	⇓P	Pn	18 23 23.4	+0.2
	baz=2.1,SNR=19						
I27A	Quinn	2.34	86	⇑Sb	Sb	18 24 00.7	+1.5
	baz=2.2						
G20A	Bridger	2.44	302	P	Pn	18 23 27.3	-0.4
	baz=2.5,SNR=242						
L21A	Rawlins	2.51	218	⇑P	Pn	18 23 29.1	+0.3
	baz=2.6,SNR=30						
L21A	Rawlins	2.51	218	⇑S	Sb	18 24 04.5	+0.4
	baz=2.0						
M23A	Laramie	2.51	187	⇓P	Pn	18 23 28.8	0.0
	baz=2.5,SNR=43						
M23A	Laramie	2.51	187	⇑S	Sb	18 24 03.7	-0.4
M24A	Cheyenne	2.52	172	⇑Pb	Pb	18 23 31.9	-0.8
	baz=2.5,SNR=88						
E22A	Miles City	2.52	350	P	Pn	18 23 28.5	-0.2
	baz=2.6,SNR=20						
E23A	Ismay	2.54	360	P	Pn	18 23 29.2	+0.2
	baz=2.6,SNR=103						
PHWY	Pilot Hill	2.66	183	ePn	Pn	18 23 30.9	-0.1
I19A	Meeteetse	2.67	273	⇓P	Pn	18 23 31.8	+0.8
	baz=2.8,SNR=24						
RWWY	Rawlins	2.67	212	ePn	Pn	18 23 32.1	+1.0
E24A	Baker	2.69	15	⇓P	Pn	18 23 31.6	+0.4
	baz=2.7,SNR=32						
F20A	Billings	2.74	313	P	Pn	18 23 31.4	-0.4
	baz=2.8						
H19A	Powell	2.74	286	⇓P	Pn	18 23 31.8	-0.1
	baz=2.8,SNR=9.3						
LAO	LASA Array	2.80	347	ePn	Pn	18 23 33.8	+1.1
I28A	Midland	2.98	88	Pb	Pb	18 23 39.6	-0.8
	baz=2.9						
RLMT	Red Lodge	3.07	294	ePn	Pn	18 23 36.7	+0.3
N23A	Red Feather La	3.10	189	⇓P	Pn	18 23 37.5	+0.5
	baz=3.1,SNR=27						
F19A	Roth Farm, Mol	3.21	307	⇑P	Pn	18 23 38.5	+0.2
	baz=3.3,SNR=111						
H18A	Shoshone NF, C	3.21	284	⇑P	Pn	18 23 38.5	0.0
	baz=3.3,SNR=14						
N22A	Wattenberg Ran	3.27	196	⇑P	Pn	18 23 40.2	+0.9
	baz=3.3,SNR=11						
D21A	La Casta Ranch	3.33	340	⇓P	Pn	18 23 39.5	-0.4
	baz=3.4,SNR=10.0						
BW06	Boulder Array	3.33	250	ePn	Pn	18 23 40.7	+0.6
PDAR	Pinedale Array	3.33	250	Pn	Pn	18 23 40.8	+0.7
PDAR				Pg	Pb	18 23 45.8	-0.8
PDAR				Lg	Lg	18 24 26.1	
PDAR	Pinedale Array	3.33	250	Pn	Pn	18 23 40.8	+0.7
	2.2nm,0.3s,baz=69,slow=16,SNR=32						
PDAR				Pg	Pb	18 23 45.8	-0.8
	4.2nm,0.3s,baz=69,slow=19,SNR=51						
PDAR				Lg	Lg	18 24 26.1	
	6.6nm,0.3s,baz=73,slow=32,SNR=4.1						
G18A	Lazy EL Ranch,	3.33	295	⇑P	Pn	18 23 40.2	+0.1
	baz=3.4,SNR=49						
E19A	Rath Farm, Rou	3.51	317	⇑P	Pn	18 23 41.8	-0.6
	baz=3.6,SNR=39						
GCMT	Greycliff	3.60	302	ePn	Pn	18 23 44.4	+0.6
F18A	Big Timber	3.69	303	⇑P	Pn	18 23 45.3	+0.4
	baz=3.8,SNR=7.8						
N27A	Anderson Farm,	3.76	146	⇑P	Pn	18 23 45.8	0.0
	baz=3.7,SNR=12						
N20A	Spence Gulch,	3.82	216	⇑P	Pn	18 23 47.2	+0.4
	baz=3.9,SNR=27						
LOHW	Long Hollow	3.86	267	ePn	Pn	18 23 50.9	+3.5
OGNE	Ogallala	3.86	140	ePn	Pn	18 23 47.1	-0.1
OGNE	Ogallala	3.86	140	⇓P	Pn	18 23 47.1	-0.1
	baz=3.8,SNR=16						
M28A	Bar X Bar Ranc	3.87	130	⇓P	Pn	18 23 47.2	-0.1
	baz=3.8,SNR=6.8						
FLWY	Flagg Ranch	3.90	274	ePn	Pb	18 23 52.9	-3.3
O22A	Kremmling	3.91	194	⇑P	Pn	18 23 48.4	+0.3
	baz=3.9,SNR=12						
MOOW	Moose Ponds	3.95	269	ePn	Pn	18 23 49.7	+1.2
SNOW	Snow King Moun	3.99	265	ePn	Pn	18 23 47.8	-1.4
IMW	Indian Meadow	4.08	271	ePn	Pn	18 23 50.5	+0.1
TPAW	Teton Pass	4.13	265	ePn	Pn	18 23 48.7	-2.4
ISCO	Idaho Springs	4.17	183	ePn	Pn	18 23 52.3	+0.7
E18A	Harlowton	4.17	310	⇑P	Pn	18 23 52.0	+0.5
	baz=4.2,SNR=20						
O27A	Beecher Island	4.31	150	P	Pn	18 23 53.7	+0.3
	baz=4.2,SNR=15						
O20A	White River Ci	4.41	211	ePn	Pn	18 23 55.9	+1.0
O20A	White River Ci	4.41	211	⇓P	Pn	18 23 55.7	+0.8
	baz=4.4,SNR=10						
RRI2	Red Ridge	4.41	264	ePn	Pn	18 23 56.0	+1.0
B23A	Brockton	4.51	3	⇑P	Pn	18 23 56.9	+0.8
	baz=4.5,SNR=7.0						
P25A	Willow Gulch B	4.53	169	⇓P	Pn	18 23 56.6	+0.1
	baz=4.5,SNR=12						
DGMT	Dagmar	4.57	9	ePn	Pn	18 23 58.2	+1.2
P26A	Davis Ranch, A	4.63	161	P	Pn	18 23 58.6	+0.7
	baz=4.6,SNR=22						
BOZ	Bozeman (W)	4.81	293	ePn	Pn	18 24 00.7	+0.3
SMCO	Snowmass	4.94	195	ePn	Pn	18 24 02.9	+0.5
D17A	Six Diamond Ra	4.95	312	⇓P	Pn	18 24 02.4	+0.1
	baz=5.0,SNR=63						
EGMT	Eagleton	5.11	324	ePn	Pn	18 24 02.5	-1.9
	14nm,0.5s						
C17A	Wharram Farm,	5.30	316	⇓P	Pn	18 24 07.0	0.0
	baz=5.4,SNR=11						
HRY	Holter Researc	5.36	303	ePn	Pn	18 24 07.9	0.0
	12nm,0.4s						
LRM	Limekiln Ridge	5.41	293	Pn	Pn	18 24 07.7	-1.0
	28nm,0.4s						
Q28A	Sharon Springs	5.54	151	⇓P	Pn	18 24 10.1	-0.3
	baz=5.5,SNR=5.8						
DAU	Daniels Canyon	5.67	233	ePn	Pn	18 24 13.3	+0.9
	12nm,0.4s						
R26A	Arlington	5.83	166	P	Pn	18 24 14.0	-0.2
	baz=5.8,SNR=15						
SPUT	South Promonto	5.90	246	Pn	Pn	18 24 18.9	+3.5
	5.7nm,0.5s						
HVU	Hansel Valley	5.91	251	ePn	Pn	18 24 17.4	+1.9
	5.8nm,0.5s						
MPU	Maple Canyon	6.15	232	ePg	Pg	18 24 42.0	-2.4
	11nm,0.5s						
PV04	Paradox Valley	6.19	207	ePn	Pn	18 24 20.4	+1.1
R28A	Tribune	6.20	154	P	Pn	18 24 18.7	-0.7
	baz=6.1,SNR=6.5						
SDCO	Great Sand Dun	6.21	182	Pn	Pn	18 24 16.1	-3.7
	2.7nm,0.6s						
SRU	San Rafael	6.23	221	ePn	Pn	18 24 19.6	-0.4
	17nm,0.6s						
ECSD	EROS Data Cent	6.28	89	Pn	Pn	18 24 18.2	-2.2
	9.8nm,0.5s						
PV01	Paradox Valley	6.33	204	ePn	Pn	18 24 21.2	0.0
	568nm,0.6s						
CHMT	Chamberlain Mo	6.33	301	ePn	Pn	18 24 21.0	-0.2
	2.6nm,0.3s						
TMUT	Trail Mountain	6.43	226	ePn	Pn	18 24 23.5	+0.7
	3.3nm,0.5s						
HLID	Hailey	6.62	270	Pn	Pn	18 24 32.2	+7.

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALP	**Palanan**	**0.25**	**35**	*e*P	Pn	19 09 33.2	+1.5
PALP				*e*S	Sn	19 09 42.4	+4.5
CAUP	**Cauayan**	**0.44**	**281**	*e*P	Pn	19 09 35.8	+2.2
CAUP				*e*S	Sn	19 09 45.1	+3.9
BALP	**Baler**	**1.30**	**211**	*e*P	Pn	19 09 46.8	+2.0
SGCP	**Mt. Cagua**	**1.39**	**351**	*e*P	Pn	19 09 47.2	+1.2
APYP	**Conner**	**1.40**	**315**	*e*P	Pn	19 09 48.4	+2.2
ABRA	**Dolores**	**1.69**	**298**	*e*P	Pn	19 09 52.3	+2.2

NIED ***04*** *19:33:00, 45˚.80N×143˚.00E, h320km, Mw4.7 Best double couple: M0=1.09000×10^16 NP1:φ=344.00000°, δ=81.00000°, λ=-62.00000°. NP2:φ=91.00000°, δ=29.00000°, λ=-161.00000°.*
SKHL ***04*** *19:33:31.9±0.8, 45˚.81N×142˚.97E, h323km±7km, mb4.7/1, msh4.9/2*
IDC ***04*** *19:33:31.8±0.5, 45˚.98N×142˚.94E, h319km±5km, mb3.6/28, mb1 3.8/33, mb1mx3.8/37, mbtmp3.6/33, Error ellipse: s-maj=10.4km s-min=7.9km az=157.0*
MOS ***04*** *19:33:31.2±0.9, 45˚.94N×142˚.92E, h331km, mb4.0/29, Error ellipse: s-maj=10.4km s-min=7.1km az=101.0*
ISCJB ***04*** *19:33:31.5±0.2, 45˚.83N±0˚.03×142˚.97E±0˚.04, h330km±1km, mb4.0/58, Error ellipse: s-maj=4.3km s-min=4.2km az=151.8*
BJI ***04*** *19:33:31.5, 46˚.10N×142˚.95E, h335km, mB4.5/11, mb4.4/25*
JMA ***04*** *19:33:32.0±0.2, 45˚.77N×143˚.03E, h330km±2km, M4.0*
ISC 04 19:33:31.7±0.5, 45˚.81N±0˚.04×142˚.95E±0˚.04, h324km±4km, n171, σ1°38/218, mb4.1/58, 27C-6D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSE	**Soyaes**	**0.89**	**197**	⇑P	Pn	19 34 15.0	+0.7
JSE				*e*S	S	19 34 48.3	0.0
JWK2	**Keihoku**	**0.89**	**237**	⇑P	Pn	19 34 15.6	+1.3
JWK2				*e*S	S	19 34 49.1	+0.9
YSS	**Yuzh-Sakhalins**	**1.15**	**353**	α *i*PN	Pn	19 34 16.7	+1.4
YSS				*i* S	S	19 34 50.9	+0.8
YSS	comp=N,110nm,0.7s			pmax	pmax		
YSS	comp=Z,270nm,0.7s			pmax	pmax		
YSS	comp=Z,400nm,3.0s			pmax	pmax		
YSS	comp=E,390nm,0.7s			smax	smax		
YSS	comp=N,1μm,3.0s			smax	smax		
YSS	**Yuzh-Sakhalins**	**1.15**	**353**	⇑*i*P	Pn	19 34 16.7	+1.4
YSS				⇑*i*P	Pn	19 34 16.7	+1.4
YSS	comp=N,110nm,0.7s			AMB	AMB	19 34 17.5	
YSS	comp=N,270nm,0.7s			AMB	AMB	19 34 17.5	
YSS	comp=N,400nm,3.0s			AMB	AMB	19 34 18.4	
YSS				*i* S	S	19 34 50.9	+0.8
YSS	comp=N,390nm,0.7s			A	A	19 34 54.0	
YSS	comp=N,1μm,3.0s			A	A	19 34 54.0	
YSS	**Yuzh-Sakhalins**	**1.15**	**353**	⇑*i*P	Pn	19 34 17.0	+1.7
YSS				⇑*i*P	Pn	19 34 17.0	+1.7
YSS	comp=N,110nm,0.7s			AMB	AMB	19 34 17.5	
YSS	comp=N,270nm,0.7s			AMB	AMB	19 34 17.5	
YSS	comp=N,400nm,3.0s			AMB	AMB	19 34 18.4	
YSS				*i* S	S	19 34 50.9	+0.8
YSS	comp=N,390nm,0.7s			A	A	19 34 54.0	
YSS	comp=N,1μm,3.0s			A	A	19 34 54.0	
JRR	**Rishiri**	**1.34**	**240**	⇑P	Pn	19 34 17.5	+1.2
JRR				*e*S	S	19 34 53.5	+1.5
JSS	**Shosan**	**1.61**	**209**	⇑P	Pn	19 34 19.1	+1.1
ASAJ	**Asahikawa**	**1.71**	**189**	⇑P	Pn	19 34 19.8	+1.1
ASAJ				*e*S	S	19 34 57.4	+1.1
ASAJ	**Asahikawa**	**1.71**	**189**	P	Pn	19 34 19.9	+1.1
ASAJ	comp=N,19nm,0.3s,baz=7.5,slow=6.1,SNR=358			S	S	19 34 57.7	+1.5
	comp=N,3.9nm,0.3s,baz=147,slow=31,SNR=17						
JYG	**Yagishiri**	**1.76**	**219**	⇑P	Pn	19 34 19.9	+1.0
JYG				*e*S	S	19 34 57.5	+0.8
JMP	**Maruseppu**	**1.83**	**171**	⇑P	Pn	19 34 20.3	+0.8
JMP				*e*S	S	19 34 57.9	+0.2
JKK2	**Kamakawa 2**	**1.94**	**184**	⇑P	Pn	19 34 21.4	+1.1
JKK2				*e*S	S	19 35 00.1	+0.9
JTKR	**Abashiri--Toko**	**1.96**	**159**	⇓P	Pn	19 34 21.2	+0.8
JTKR				*e*S	S	19 34 59.8	+0.5
JHR	**Hokuryu**	**2.25**	**203**	P	Pn	19 34 23.6	+1.0
JRA	**Rausu**	**2.43**	**140**	⇓P	Pn	19 34 24.9	+0.8
JRA				*e*S	S	19 35 07.1	+1.2
JAR	**Ashorobuto**	**2.58**	**167**	⇓P	Pn	19 34 26.3	+0.9
JAR				*e*S	S	19 35 07.8	-0.6
JFR	**Furan**	**2.66**	**186**	⇑P	Pn	19 34 26.8	+0.6
JFR				*e*S	S	19 35 10.0	+0.3
YUK	**Yuzh-Kuril'sk**	**2.73**	**130**	*i* PN	Pn	19 34 28.5	+1.9
YUK				*i* S	S	19 35 10.9	+0.3
YUK	comp=E,30nm,0.3s			pmax	pmax		
YUK	comp=N,23nm,0.3s			pmax	pmax		
YUK	comp=Z,63nm,0.3s			pmax	pmax		
YUK	comp=N,48nm,0.6s			smax	smax		
YUK	comp=E,107nm,0.6s			smax	smax		
YUK	**Yuzh-Kuril'sk**	**2.73**	**130**	*i* P	Pn	19 34 28.5	+1.9
YUK				AMB	AMB	19 34 38.1	
YUK	comp=E,23nm,0.3s			AMB	AMB	19 34 38.1	
YUK	comp=E,30nm,0.3s			AMB	AMB	19 34 38.1	
YUK	comp=E,63nm,0.3s			*i* S	S	19 35 10.9	+0.3
YUK				A	A	19 35 16.5	
YUK	comp=E,48nm,0.6s			A	A	19 35 16.5	
YUK	comp=E,107nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**2.73**	**130**	⇑*i*P	Pn	19 34 28.6	+1.9
YUK				AMB	AMB	19 34 38.2	
YUK	comp=E,23nm,0.3s			AMB	AMB	19 34 38.2	
YUK	comp=E,30nm,0.3s			AMB	AMB	19 34 38.2	
YUK	comp=E,63nm,0.3s			*i* S	S	19 35 10.9	+0.3
YUK				A	A	19 35 16.5	
YUK	comp=E,48nm,0.6s			A	A	19 35 16.5	
YUK	comp=E,107nm,0.6s			A	A	19 35 22.3	
JSK	**Shakotan**	**3.03**	**217**	⇑P	Pn	19 34 30.6	+1.1
JAK	**Akkeshi**	**3.08**	**155**	P	Pn	19 34 29.8	-0.2
JAK				*e*S	S	19 35 14.3	-2.3
NEM2	**Nemuro 2**	**3.15**	**140**	P	Pn	19 34 28.8	-1.9
NEM2				*e*S	S	19 35 13.2	-4.7
JEW	**Eniwo**	**3.16**	**200**	⇑P	Pn	19 34 32.0	+1.2
JEW				*e*S	S	19 35 17.5	-0.6
JCH	**Churui**	**3.21**	**175**	P	Pn	19 34 30.4	-0.8
JCH				*e*S	S	19 35 14.9	-4.1
UGL	**Uglegorsk**	**3.32**	**350**	*e*PN	Pn	19 34 33.0	+0.9
UGL				*i* S	S	19 35 21.0	+0.4
UGL	comp=Z,240nm,0.7s			pmax	pmax		
UGL	comp=N,71nm,0.6s			pmax	pmax		
UGL	comp=E,130nm,0.7s			pmax	pmax		
UGL	comp=N,130nm,1.0s			smax	smax		
UGL	comp=E,74nm,0.7s			smax	smax		
UGL	comp=N,1μm,4.0s			smax	smax		
UGL	comp=E,2μm,5.0s			smax	smax		
UGL	**Uglegorsk**	**3.32**	**350**	*e*P	Pn	19 34 33.0	+0.9
UGL				AMB	AMB	19 34 35.5	
UGL	comp=E,710nm,0.7s			AMB	AMB	19 34 35.5	
UGL	comp=E,130nm,0.7s			AMB	AMB	19 34 35.5	
UGL	comp=E,240nm,0.7s			*i* S	S	19 35 21.0	+0.4
UGL				A	A	19 35 23.0	
UGL	comp=E,130nm,1.0s			A	A	19 35 23.0	
UGL	comp=E,74nm,1.0s			A	A	19 35 24.0	
UGL	comp=E,1μm,4.0s			A	A	19 35 24.0	
UGL	comp=E,5μm,4.0s						
UGL	**Uglegorsk**	**3.32**	**350**	*e*P	Pn	19 34 33.0	+0.9
UGL				AMB	AMB	19 34 35.5	
UGL	comp=E,71nm,0.6s			AMB	AMB	19 34 35.5	
UGL	comp=E,130nm,0.6s			AMB	AMB	19 34 35.5	
UGL	comp=E,240nm,0.6s			*e*S	S	19 35 21.0	+0.4
UGL				*i* S	S	19 35 21.0	+0.4
UGL	comp=E,130nm,0.7s			A	A	19 35 23.0	
UGL	comp=E,74nm,0.7s			A	A	19 35 23.0	
UGL	comp=E,1μm,4.0s			A	A	19 35 24.0	
UGL	comp=E,2μm,4.0s			A	A	19 35 24.0	
UGL	comp=E,800nm,4.0s			A	A	19 35 24.0	
KUR	**Kuril'sk**	**3.50**	**98**	⇑*i*PN	Pn	19 34 34.5	+0.5
KUR				*i* S	S	19 35 25.8	+1.8
KUR	comp=N,8.0nm,0.3s			pmax	pmax		
KUR	comp=Z,33nm,0.6s			pmax	pmax		
KUR	comp=E,10.0nm,0.6s			pmax	pmax		
KUR	comp=E,24nm,0.9s			smax	smax		
KUR	comp=N,15nm,0.8s			smax	smax		
KUR	**Kuril'sk**	**3.50**	**98**	*i* P	Pn	19 34 34.5	+0.5
KUR				AMB	AMB	19 34 36.7	
KUR	comp=N,8.0nm,0.3s			AMB	AMB	19 34 36.7	
KUR	comp=N,10.0nm,0.3s			AMB	AMB	19 34 36.7	
KUR	comp=N,33nm,0.3s			*i* S	S	19 35 25.8	+1.8
KUR				A	A	19 35 28.8	
KUR	comp=N,15nm,0.9s			A	A	19 35 28.8	
KUR	comp=N,24nm,0.9s						
KUR	**Kuril'sk**	**3.50**	**98**	⇑*i*P	Pn	19 34 34.5	+0.5
KUR				AMB	AMB	19 34 36.3	
KUR	comp=N,80nm,0.5s			AMB	AMB	19 34 36.7	
KUR	comp=N,8.0nm,0.3s			AMB	AMB	19 34 36.8	
KUR	comp=N,10.0nm,0.6s			AMB	AMB	19 34 36.8	
KUR	comp=N,33nm,0.6s			*i* S	S	19 35 25.4	+1.4
KUR				A	A	19 35 28.3	
KUR	comp=N,90nm,0.9s			A	A	19 35 28.3	
KUR	comp=N,140nm,0.9s			A	A	19 35 29.0	
KUR	comp=N,15nm,0.9s			A	A	19 35 29.0	
KUR	comp=N,34nm,0.9s						
JNBK	**Urakawa-nobuka**	**3.53**	**182**	P	Pn	19 34 34.4	0.0
ERM	**Erimo**	**3.80**	**178**	*d* PN	Pn	19 34 38.0	+0.8
ERM	**Erimo**	**3.80**	**178**	*e*P	Pn	19 34 38.0	+0.8
JKB	**Kayabe**	**4.16**	**200**	P	Pn	19 34 40.4	-0.6
JKB				*e*S	S	19 35 31.9	-4.8
JOSM	**Okushiri--Mats**	**4.49**	**215**	P	Pn	19 34 44.7	+0.1
JOSM				*e*S	S	19 35 42.4	-0.8
JOT	**Ohata**	**4.64**	**198**	P	Pn	19 34 45.3	-0.9
TYV	**Tymovskoe**	**5.06**	**358**	*e*P	Pn	19 34 51.3	+0.6
TYV				AMB	AMB	19 34 53.2	
TYV	comp=N,22nm,0.8s			AMB	AMB	19 34 53.2	
TYV	comp=N,29nm,0.8s			AMB	AMB	19 34 53.2	
TYV	comp=N,106nm,0.8s			*e*S	S	19 35 54.5	+0.1
TYV				A	A	19 35 56.0	
TYV	comp=N,15nm,0.8s			A	A	19 35 56.0	
TYV	comp=N,13nm,0.8s						
HABR	**Khabarovsk**	**6.01**	**299**	*ce*PN	Pn	19 35 00.8	-0.9
HABR				*e*S	S	19 36 14.0	-0.4
HABR	comp=N,29nm,2.2s			pmax	pmax		
HABR	comp=Z,69nm,1.5s			pmax	pmax		
HABR	comp=E,27nm,1.1s			AMB	AMB	19 35 10.0	
GRNR	**Gornyy**	**6.60**	**321**	*e*P	Pn	19 35 09.0	+0.4
GRNR				AMB	AMB	19 35 10.0	
GRNR	comp=E,24nm,0.6s						
USRK	**Ussuriysk Arra**	**7.93**	**262**	P	Pn	19 35 26.1	+1.6
USRK	comp=E,5.5nm,0.3s,baz=72,slow=12,SNR=75			S	S	19 36 57.6	+1.2
	baz=74,slow=20,SNR=10						
KLR	**Kul'dur**	**8.32**	**298**	*e*PN	Pn	19 35 26.2	-3.0
KLR				*e*S	S	19 37 04.2	-0.7
VLA	**Vladivostok**	**8.36**	**255**	⇑*i*PN	Pn	19 35 30.8	+1.1
VLA				*i* S	S	19 37 03.0	-2.8
VLA	**Vladivostok**	**8.36**	**255**	*e*P	Pn	19 35 31.1	+1.4
MDJ	**Mudanjiang**	**9.51**	**268**	P	Pn	19 35 44.7	+1.0
MDJ	comp=Z,57nm,1.0s			pmax	pmax		
MDJ	comp=Z,49nm,4.0s			pmax	pmax		
EKMR	**Ekimchan**	**9.75**	**322**	*e*P	Pn	19 35 43.0	-3.5
EKMR				AMB	AMB	19 35 44.5	
EKMR	comp=Z,19nm,0.5s						
MAT	**Matsushiro**	**9.92**	**203**	P	Pn	19 35 48.7	-0.2
MAT				*e*S	S	19 37 44.8	+3.7
MJAR	**Matsushiro Arr**	**9.92**	**203**	P	P	19 35 49.9	-1.6
MJAR	comp=Z,12nm,0.3s,baz=31,slow=11,SNR=182			S	S	19 37 50.3	+9.2
	baz=42,slow=8.4,SNR=4.0						
SKR	**Severo-Kuril's**	**10.04**	**56**	*e*PN	Pn	19 35 44.5	-5.5
SKR				pmax	pmax		
SKR	comp=N,80nm,0.5s			pmax	pmax		
SKR	comp=E,60nm,0.5s			pmax	pmax		
SKR	comp=Z,180nm,0.5s						
SKR	**Severo-Kuril's**	**10.04**	**56**	*e*P	Pn	19 35 44.5	-5.5
SKR				AMB	AMB	19 35 47.0	
SKR	comp=Z,80nm,0.5s			AMB	AMB	19 35 47.0	
SKR	comp=Z,60nm,0.5s			AMB	AMB	19 35 47.0	
SKR	comp=Z,180nm,0.5s						
PETK	**Petropavlovsk-**	**12.04**	**47**	PN	P	19 36 14.3	-0.4
PETK				pmax	pmax		
PETK	comp=Z,1.0nm,0.3s						
PETK	**Petropavlovsk-**	**12.04**	**47**	P	P	19 36 14.3	-0.4
PETK	comp=Z,0.6nm,0.3s,baz=216,slow=12,SNR=11						
CN2	**Changchun**	**12.60**	**267**	*e*P	Pn	19 36 20.7	-0.1
CN2				*es*P		19 37 38.7	
CN2				*e*S	S	19 38 35.5	-4.7
CN2	comp=Z,40nm,0.8s			pmax	pmax		
BMKR	**Bomnak**	**12.66**	**320**	*e*P	P	19 36 18.8	-2.7
BMKR				AMB	AMB	19 36 19.8	
BMKR	comp=Z,18nm,0.5s						
ZEA	**Zeya**	**12.86**	**314**	*e*P	Pn	19 36 24.5	+0.6
ZEA				AMB	AMB	19 36 25.9	
ZEA	comp=Z,49nm,0.5s			AMB	AMB	19 36 25.9	
ZEA	comp=Z,73nm,0.5s			AMB	AMB	19 36 26.0	
ZEA	comp=Z,400nm,2.0s						
ZEA				*e*S	S	19 38 43.0	-2.6
ZEA				A	A	19 38 54.0	
ZEA	comp=Z,400nm,10.0s						
KROS	**Kirovskiy**	**13.37**	**316**	*e*P	P	19 36 27.0	-2.4
KROS				AMB	AMB	19 36 28.4	
KROS	comp=Z,13nm,0.6s						
KROS	comp=Z,9.0nm,0.6s			AMB	AMB	19 36 28.4	
KROS	comp=Z,18nm,0.6s			AMB	AMB	19 36 28.4	
KSRS	**Korea Array**	**13.98**	**239**	P	Pn	19 36 38.9	+1.5
KSRS	comp=Z,0.7nm,0.3s,baz=52,slow=10,SNR=61			S	S	19 39 14.1	+4.5
	baz=63,slow=21,SNR=6.6						
TJN	**Taejon**	**15.04**	**237**	*e*P	Pn	19 36 49.8	0.0
JNU	**Nakatsue**	**15.71**	**220**	P	Pn	19 36 57.4	-0.2
	comp=Z,1.5nm,0.3s,baz=56,slow=5.1,SNR=14						
YAK	**Yakutsk**	**17.97**	**339**	*e*P	P	19 37 17.0	-2.3
YAK				*e*S	S	19 40 23.6	-4.4
YAK	comp=Z,8.0nm,0.8s			pmax	pmax		
YAK	comp=N,594nm,4.1s			smax	smax		
YAK	comp=E,171nm,2.5s			smax	smax		
YAK	**Yakutsk**	**17.97**	**339**	*e*P	P	19 37 19.2	-0.1
SEY	**Seymchan**	**17.98**	**14**	⇑*i*P	P	19 37 19.3	-0.1
SEY	**Seymchan**	**17.98**	**14**	*e*P	P	19 37 19.3	-0.1
BTO	**Baotou**	**24.45**	**270**	*e*P	P	19 38 25.7	+3.7
ULN	**Ulaanbaatar**	**24.51**	**288**	*e*P	P	19 38 22.7	+0.2
SONM	**Songino Array**	**24.95**	**288**	P	P	19 38 26.7	+0.2
	comp=E,2.5nm,0.4s,baz=89,slow=7.8,SNR=33						
SONM				ScP	ScP	19 45 00.0	+0.8
	comp=E,0.8nm,0.7s,baz=126,slow=2.2,SNR=6.2						
LZH	**Lanzhou**	**30.83**	**266**	*e*P	P	19 39 17.7	-0.8
LZH	comp=Z,10.0nm,1.0s			pmax	pmax		
GTA	**Gaotai**	**32.08**	**274**	*e*P	P	19 39 31.0	+1.7
GTA				pmax	pmax		
	comp=Z,9.0nm,0.5s						
HVS	**Khovu-Aksy**	**32.58**	**298**	*e*P	P	19 39 34.4	+1.0
HVS				pmax	pmax		
	comp=Z,28nm,1.6s						
ZALV	**Zalesovo Beam**	**37.37**	**304**	P	P	19 40 12.9	-1.0
ZALV						19 42 25.8	
ZALV	comp=Z,1.0nm,0.4s			pmax	pmax		
ZALV	comp=Z,1.0nm,0.6s			pmax	pmax		
ZALV	**Zalesovo Beam**	**37.37**	**304**	P	P	19 40 12.9	-1.0
	comp=Z,1.4nm,0.4s,baz=73,slow=9.4,SNR=12						
ZALV				PcP	PcP	19 42 25.8	+0.8
	comp=Z,0.9nm,0.6s,baz=70,slow=4.9,SNR=3.8						
NVS	**Novosibirsk**	**38.09**	**306**	*e*P	P	19 40 18.8	-1.0
NVS	comp=Z,18nm,2.0s			pmax	pmax		
NVS	comp=N,24nm,3.3s			pmax	pmax		
NVS	comp=E,11nm,2.1s			pmax	pmax		
KMI	**Kunming**	**38.19**	**251**	P	P	19 40 23.3	+2.0
KMI				pmax	pmax		
	comp=Z,14nm,1.0s						
KDAK	**Kodiak Island**	**40.09**	**49**	*e*P	P	19 40 35.9	-0.3
KDAK	**Kodiak Island**	**40.09**	**49**	P	P	19 40 35.5	-0.7
	comp=Z,2.5nm,0.4s,baz=252,slow=6.2,SNR=6.0						
MKAR	**Makanchi Array**	**41.00**	**294**	P	P	19 40 43.9	+0.1
MKAR	comp=Z,3.0nm,0.5s			pmax	pmax		
MKAR	comp=N,1.0nm,1.0s			pmax	pmax		
MKAR	**Makanchi Array**	**41.00**	**294**	P	P	19 40 43.9	+0.1
	comp=N,2.6nm,0.5s,baz=78,slow=9.0,SNR=80						
MKAR				ScP	ScP	19 45 55.1	+0.3
	comp=N,0.9nm,1.0s,baz=56,slow=4.2,SNR=4.3						
COLA	**College**	**41.21**	**37**	*e*P	P	19 40 44.9	-0.2
COLA	comp=Z,32nm,1.2s			pmax	pmax		
COLA	**College**	**41.21**	**37**	*e*P	P	19 40 44.9	-0.2
ILAR	**Eielson Array**	**41.63**	**37**	P	P	19 40 47.5	-1.1
	comp=Z,1.3nm,0.6s,baz=259,slow=6.3,SNR=20						
ILAR				PcP	PcP	19 42 36.2	-2.2
	comp=Z,0.4nm,0.6s,baz=290,slow=3.5,SNR=4.3						
KURK	**Kurchatov**	**41.90**	**301**	P	P	19 40 50.0	-0.9
KURK						19 42 40.3	
KURK	comp=Z,5.0nm,0.4s			pmax	pmax		
KURK	comp=Z,1.0nm,0.5s			pmax	pmax		
KURBB	**Kurchatov Arra**	**41.99**	**301**	P	P	19 40 50.0	-1.7
	comp=Z,4.6nm,0.3s,baz=75,slow=8.2,SNR=79						
KURBB				PcP	PcP	19 42 40.2	+0.3
	comp=Z,0.5nm,0.5s,baz=79,slow=3.4,SNR=4.5						
CMAR	**Chiang Mai Arr**	**45.38**	**248**	*e*P	P	19 41 20.1	+1.3
CMAR	**Chiang Mai Arr**	**45.38**	**248**	P	P	19 41 20.4	+1.5
	comp=Z,1.9nm,0.9s,baz=29,slow=7.0,SNR=8.5						
BVAR	**Borovoye Array**	**45.88**	**307**	P	P	19 41 21.9	-0.4
BVAR	comp=Z,3.0nm,0.4s			pmax	pmax		
BVAR	**Borovoye Array**	**45.88**	**307**	P	P	19 41 21.9	-0.4
	comp=Z,2.4nm,0.4s,baz=79,slow=9.4,SNR=14						
BRVK	**Borovoye**	**45.93**	**307**	⇓*e*P	P	19 41 22.8	+0.2
BRVK	comp=Z,13nm,2.5s			pmax	pmax		
BRVK	**Borovoye**	**45.93**	**307**	*e*P	P	19 41 22.8	+0.2
INK	**Inuvik**	**46.15**	**31**	P	P	19 41 23.0	-1.1
	comp=Z,2.7nm,0.4s,baz=1.3,slow=5.0,SNR=6.5						
AAK	**Ala-Archa**	**47.79**	**292**	⇓*e*P	P	19 41 37.8	+0.5
AAK	comp=Z,20nm,1.7s			pmax	pmax		
AAK	**Ala-Archa**	**47.79**	**292**	*e*P	P	19 41 37.8	+0.5
AAK	**Ala-Archa**	**47.79**	**292**	P	P	19 41 37.3	0.0
	comp=Z,2.7nm,0.4s,baz=98,slow=6.1,SNR=7.5						
JIRN	**Jiri**	**47.93**	**268**	*e*P	P	19 41 39.7	+0.9
	comp=Z,12nm,0.3s						
GUN	**Gumba**	**47.99**	**269**	*e*P	P	19 41 40.5	+1.3
	comp=Z,16nm,0.4s						
RAMN	**Ramite**	**48.08**	**267**	*e*P	P	19 41 40.8	+1.0
	comp=Z,12nm,0.4s						
KKN	**Kakani**	**48.48**	**269**	*e*P	P	19 41 44.0	+1.2
PKI	**Pulchoki**	**48.53**	**269**	*e*P	P	19 41 44.3	+1.0
	comp=Z,4.7nm,0.3s						
PKIN	**Phulchoki**	**48.53**	**269**	*e*P	P	19 41 44.1	+0.8
	comp=Z,2.3nm,0.3s						
DMN	**Daman**	**48.72**	**269**	*e*P	P	19 41 46.1	+1.5
DANN	**Dangsing**	**49.21**	**271**	*e*P	P	19 41 50.3	+2.0
	comp=Z,19nm,0.4s						
KOLN	**Koldanda**	**49.67**	**270**	*e*P	P	19 41 52.8	+1.1
	comp=Z,8.5nm,0.3s						
ARU	**Arti**	**50.78**	**314**	*c i*P	P	19 41 59.1	-0.2
ARU				*PP	pP	19 43 06.1	-0.7
ARU						19 43 11.0	
ARU						19 43 56.8	
ARU				S	S	19 48 48.8	-0.4
ARU				SS	SS	19 52 19.8	-7.9
ARU	comp=Z,15nm,2.5s			pmax	pmax		
ARU	**Arti**	**50.78**	**314**	*e*P	P	19 41 59.1	-0.2
SPITS	**Spitsbergen Ar**	**52.16**	**348**	P	P	19 42 07.5	-1.7
	comp=Z,4.9nm,1.0s,baz=66,slow=10,SNR=5.5						
AKTO	**Aktyubinsk**	**53.92**	**308**	P	P	19 42 21.4	-0.9
AKTO	comp=Z,1.0nm,0.4s			pmax	pmax		
AKTO	**Aktyubinsk**	**53.92**	**308**	P	P	19 42 21.4	-0.9
	comp=Z,1.4nm,0.4s,baz=82,slow=12,SNR=8.6						
YKA	**Yellowknife Ar**	**55.73**	**33**	*e*P	P	19 42 34.5	-0.4
YKA	**Yellowknife Ar**	**55.73**	**33**	P	P	19 42 34.5	-0.4
	comp=Z,3.2nm,0.6s,baz=308,slow=7.1,SNR=21						
ARCES	**ARCESS Array B**	**56.24**	**338**	P	P	19 42 38.5	0.0
	comp=Z,2.0nm,0.9s,baz=31,slow=5.9,SNR=5.2						
PSI	**Prapat**	**57.52**	**235**	P	P	19 42 50.1	+1.9
JOF	**Joensuu**	**58.84**	**330**	*e*P	P	19 42 55.2	-1.3
JOF	comp=Z,5.0nm,0.4s			pmax	pmax		
JOF	**Joensuu**	**58.84**	**330**	*ep*	P	19 42 55.2	-1.3
	comp=Z,4.6nm,0.4s						
KAF	**Kangasniemi**	**61.10**	**331**	*e*P	P	19 43 10.7	-1.0
KAF	comp=Z,5.0nm,0.4s			pmax	pmax		
KAF	**Kangasniemi**	**61.10**	**331**	*ep*	P	19 43 10.7	-1.0
	comp=Z,4.8nm,0.4s						
FINES	**FINESS Array B**	**61.65**	**331**	P	P	19 43 15.0	-0.4
	comp=Z,3.1nm,0.6s,baz=46,slow=8.0,SNR=3.6						
OBN	**Obninsk**	**61.86**	**321**	⇓*e*P	P	19 43 17.1	+0.3
OBN				*e*		19 45 34.2	
OBN				*e*S	S	19 51 17.5	+3.8
OBN				pmax	pmax		

comp=Z,14nm,1.7s
OBN **Obninsk** 61.86 321 *e*P P 19 43 17.1 +0.3
WRA **Warramunga Arr** 65.91 189 P P 19 43 44.2 +0.8
comp=Z,0.4nm,0.5s,baz=5.7,slow=6.6,SNR=6.8
KIV **Kislovodsk** 66.15 309⇑*e*P P 19 43 46.3 +1.4
KIV *e* 19 46 16.1
KIV *e*S S 19 52 04.1 -2.7
KIV pmax pmax
comp=Z,20nm,1.3s
KBZ **Khabaz** 66.19 309 P P 19 43 45.5 +0.5
KBZ pmax pmax
comp=Z,1.0nm,0.5s
KBZ **Khabaz** 66.19 309 P P 19 43 45.5 +0.5
comp=Z,1.4nm,0.5s,baz=55,slow=7.4,SNR=6.7
NB2 **NORSAR Subarra** 66.56 337 P P 19 43 46.9 -0.2
comp=Z,2.1nm,0.5s,baz=32,slow=6.5
NOA **NORSAR Array B** 66.56 337 P P 19 43 47.0 -0.1
comp=Z,1.9nm,0.5s,baz=35,slow=6.3,SNR=8.0
AKASG **Malin Array Be** 68.12 321 P P 19 43 56.8 -0.2
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKASG **Malin Array Be** 68.12 321 P P 19 43 56.8 -0.2
comp=Z,1.3nm,0.4s,baz=40,slow=6.5,SNR=6.5
NVAR **Mina Array Bea** 68.97 56 P P 19 44 03.9 +1.2
comp=Z,2.4nm,0.7s,baz=299,slow=6.3,SNR=21
ASAR **Alice Springs** 69.63 189 P P 19 44 08.0 +1.5
comp=Z,1.2nm,0.5s,baz=5.4,slow=5.6,SNR=36
PDAR **Pinedale Array** 70.81 48 P P 19 44 14.1 +0.3
comp=Z,2.4nm,0.6s,baz=283,slow=1.9,SNR=22
ULM **Lac du Bonnet** 71.61 35 P P 19 44 16.3 -1.7
comp=Z,3.1nm,0.5s,baz=320,slow=7.5,SNR=3.7
UMR **Umm Al-Rimmam** 72.84 295 *e*P P 19 44 25.5 -0.1
UMR AMb AMB 19 44 26.4
comp=Z,19nm,0.4s
MIB **Mutribah** 72.91 295 *e*P P 19 44 25.8 -0.3
MIB AMb AMB 19 44 27.0
comp=Z,13nm,0.5s
QRN **Al-Qurain** 73.26 294 *e*P P 19 44 28.2 +0.1
RDF **Al-Radifah** 73.37 294 *e*P P 19 44 29.3 +0.6
RDF AMb AMB 19 44 31.4
comp=Z,28nm,1.4s
BRTR **Keskin Array B** 73.95 311 P P 19 44 32.6 +0.6
comp=Z,1.1nm,0.4s,baz=112,slow=2.0,SNR=17
CLL **Collm** 74.07 330 *e*P P 19 44 33.0 +0.6
CLL **Collm** 74.07 330 *e*P P 19 44 33.0 +0.6
ESK **Eskdalemuir** 75.27 341 *i*P P 19 44 37.2 -1.9
KHC **Kasperske Hory** 75.67 328 *e*P P 19 44 42.5 +0.9
GERES **GERESS Array B** 75.86 328 P P 19 44 43.5 +0.7
comp=Z,0.5nm,0.4s,baz=354,slow=4.9,SNR=2.7
CDF **Champ du Feu** 78.49 332 *e*P P 19 44 58.1 +0.9
PAGF **Fort de Pagny** 78.87 333⇑*i*P P 19 45 00.4 +1.2
comp=Z,3.2nm,0.5s
MEZF **Maizieres J'vi** 79.13 333 *e*P P 19 45 01.1 +0.5
HINF **Hinteralfeld** 79.14 332 *e*P P 19 45 01.2 +0.5
comp=Z,3.2nm,0.5s
SFTF **Sexfontaines** 79.40 333 *e*P P 19 45 02.4 +0.4
comp=Z,5.9nm,0.4s
FLN **La Foliniere** 80.55 336 *e*P P 19 45 08.7 +0.6
comp=Z,9.8nm,0.6s
LOR **Lormes** 80.60 333 *e*P P 19 45 08.7 +0.3
comp=Z,1.1nm,0.7s
LDF **La Druitiere** 80.60 336 *e*P P 19 45 09.0 +0.6
SSF **Saint Saulge** 80.89 333 *e*P P 19 45 10.2 +0.2
comp=Z,3.0nm,0.5s
GRR **Gorron** 81.00 337 *e*P P 19 45 11.3 +0.9
SMF **Signal de Mont** 81.16 333 *e*P P 19 45 11.7 +0.3
comp=Z,6.1nm,0.5s
AVF **Avril sur Loir** 81.18 333 *e*P P 19 45 11.8 +0.3
LPL **La Plagne** 81.19 331 *e*P P 19 45 13.1 +1.3
comp=Z,4.8nm,0.6s
LPG **La Plagne** 81.20 330 *e*P P 19 45 13.3 +1.3
BGF **Bois d'Agland** 81.55 333 *e*P P 19 45 14.9 +1.5
SGMF **Saint Gilles** 81.58 338 *e*P P 19 45 14.2 +0.7
IDI **Anoyia** 81.84 313 P P 19 45 14.5 -0.7
comp=Z,2.7nm,0.4s,baz=180,slow=2.0,SNR=7.8
MBDF **Montbardon** 81.86 330 *e*P P 19 45 15.7 +0.4
comp=Z,5.6nm,0.6s
TCF **Toulx Ste Croi** 81.99 334 *e*P P 19 45 16.2 +0.5
ORIF **Oris-en-Rattie** 82.00 331 *e*P P 19 45 17.1 +1.2
comp=Z,5.9nm,0.6s
MFF **Saint Martin d** 82.41 335 *e*P P 19 45 19.2 +1.4
VIVF **Saint-Julien-l** 82.47 331 *e*P P 19 45 18.9 +0.7
comp=Z,4.3nm,0.6s
RJF **Les Rejaudoux** 83.08 334 *e*P P 19 45 22.0 +0.7
CAF **Calviac** 83.25 333 *e*P P 19 45 23.9 +1.7
comp=Z,7.6nm,0.7s
TXAR **Lajitas Array** 83.92 54 P P 19 45 26.8 +0.9
comp=Z,1.5nm,0.6s,baz=294,slow=3.9,SNR=15
EPF **Esparros** 85.50 333 *e*P P 19 45 35.9 +2.4
ETSF **Etsaut** 85.90 334 *e*P P 19 45 37.3 +1.9
comp=Z,8.4nm,0.7s
ESDC **Sonseca Array** 89.88 335 P P 19 45 54.5 +0.3
comp=Z,0.2nm,0.4s,baz=17,slow=3.8,SNR=4.0
EVO **Evora** 92.08 338 *e*P P 19 46 04.4 0.0
comp=Z,24nm,1.3s
TORD **Torodi Ar. Bea** 111.71 319 PKiKP **PKiKP** 19 51 27.2 -1.1
comp=Z,0.2nm,0.6s,baz=2.8,slow=2.4,SNR=4.3
LIC **Lamto** 120.84 322 *e*P PKPdf 19 51 40.1 -5.8
comp=Z,7.4nm,0.8s
QSPA **South Pole Qui** 135.55 180 PKP **PKPdf** 19 52 13.6 +1.4
comp=Z,1.3nm,1.1s,baz=341,slow=3.3,SNR=3.1

*ISCJB **04** 19:42:28.2±0.8, 37°.14N±0°.06×72°.0E±0°.1, h142km, mb3.5/4, Error ellipse: s-maj=14.4km s-min=9.0km az=172.6*
*IDC **04** 19:42:32.9±4.9, 37°.28N×72°.07E, h176km±40km, mb3.3/4, mb1 3.3/8, mb1mx3.0/30, mbtmp3.3/8, Error ellipse: s-maj=41.6km s-min=23.8km az=172.0*
*NNC **04** 19:42:44.0±5.0, 38°.21N×72°.41E, h264km±53km, mb2.5, mpv3.3, Error ellipse: s-maj=55.5km s-min=27.6km az=11.0*

ISC 04 19:42:30.2±0.8, 37°23N±0°.07×72°0E±0°.1, h142km, n15, σ2°10/16, mb3.6/4, 3C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**5.70**	**146**	*e*P	**Pn**	**19 43 51.0**	**-1.7**
THN				*e*S	**Sn**	**19 45 01.4**	**+4.2**
AAK	**Ala-Archa**	**5.73**	**19**	P	Pn	19 43 57.3	+4.0
1.3nm,0.3s,baz=182,slow=4.6,SNR=9.9							
AAK				S	**Sn**	**19 44 59.2**	**+1.0**
2.7nm,0.3s,baz=315,slow=22,SNR=16							
KK31	**Karatay Array**	**5.97**	**350**	P	Pn	19 44 00.1	+3.9
1.6nm,0.3s,baz=159,slow=12,SNR=46							
KK31				S	**Sn**	**19 45 04.0**	**+0.4**
12nm,0.5s,baz=150,slow=20,SNR=16							
TKM2	**Tokmak 2**	**6.33**	**25**	⇑P	**Pn**	**19 44 04.1**	**+2.9**
3.3nm,0.9s							
TKM2				⇑S	**Sn**	**19 45 08.4**	**-4.1**
5.7nm,1.1s							
KHET	**Khetri**	**9.69**	**159**	*ex*	x	19 45 15.2	
SONA	**Sohna**	**9.94**	**153**	*ex*	**Sn**	**19 46 39.0**	**-0.5**
AB31	**Akbulak array**	**14.84**	**328**	P	**P**	**19 45 54.5**	**-0.5**
1.7nm,0.6s,baz=130,slow=13,SNR=25							
AB31				⇓S	Sn	19 48 28.5	-8.8
1.8nm,0.7s,baz=154,slow=23,SNR=11							
BVAR	**Borovoye Array**	**15.83**	**357**	P	**P**	**19 46 05.6**	**-0.2**
0.3nm,0.3s,baz=150,slow=11,SNR=4.3							
AKTO	**Aktyubinsk**	**16.55**	**327**	⇑P	**P**	**19 46 15.7**	**+1.8**
4.4nm,0.5s							
AKTO	**Aktyubinsk**	**16.55**	**327**	P	**P**	**19 46 15.7**	**+1.8**
1.0nm,0.3s,baz=126,slow=11,SNR=22							
ZALV	**Zalesovo Beam**	**18.93**	**24**	P	**P**	**19 46 39.0**	**-0.9**
0.5nm,0.3s,baz=217,slow=10,SNR=7.5							
SONM	**Songino Array**	**27.29**	**56**	P	**P**	**19 48 00.4**	**-0.9**
0.2nm,0.3s,baz=273,slow=7.9,SNR=2.9							
FINES	**FINESS Array B**	**37.31**	**325**	P	**P**	**19 49 28.1**	**0.0**
2.0nm,0.8s,baz=123,slow=10,SNR=4.7							
ARCES	**ARCESS Array B**	**40.77**	**337**	P	**P**	**19 49 56.3**	**-0.5**
1.9nm,0.9s,baz=114,slow=8.3,SNR=6.5							
TORD	**Torodi Ar. Bea**	**66.50**	**269**	P	**P**	**19 53 04.0**	**-0.9**
0.2nm,0.4s,baz=49,slow=5.5,SNR=9.6							

*IDC **04** 19:48:19.8±0.7, 52°.32N×168°.82W, h0km, mb4.0/23, mb1 4.2/24, mb1mx4.1/35, mbtmp4.0/24, ML3.7/1, MS3.4/3, Ms1 3.4/3, ms1mx2.8/49, Error ellipse: s-maj=20.5km s-min=12.9km az=171.0*
*ISCJB **04** 19:48:22.3±0.4, 52°.18N±0°.05×168°.73W±0°.06, h29km, mb4.1/31, MS3.4/3, Error ellipse: s-maj=8.2km s-min=4.0km az=153.9*

*NEIC **04** 19:48:26.2±0.7, 52°.36N×168°.73W, h45km±5km, mb4.2/9, ML3.7(AEIC), Error ellipse: s-maj=10.4km s-min=4.2km az=165.0*

ISC 04 19:48:24.3±0.6, 52°32N±0°.09×168°69W±0°.05, h29km, n90, σ1°14/91, mb4.1/31, MS3.3/3, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKSP	**Okmok Steeple**	**0.97**	**14**	P	**Pn**	**19 48 42.1**	**+0.1**
OKCE	**Okmok Cone E**	**1.16**	**16**	P	**Pn**	**19 48 44.8**	**+0.3**
OKFG	**Magazine Ridge**	**1.19**	**23**	P	**Pn**	**19 48 45.2**	**+0.2**
OKFG				S	**Sb**	**19 49 02.7**	**+1.4**
MSOM	**Makushin Julie**	**1.83**	**34**	P	**Pn**	**19 48 53.9**	**+0.2**
MCIR	**Makushin Cirqu**	**1.96**	**33**	P	**Pn**	**19 48 56.6**	**+1.0**
MSW	**Makushin Switc**	**1.97**	**35**	P	**Pn**	**19 48 56.2**	**+0.6**
MTBL	**Makushin Table**	**2.05**	**35**	P	**Pn**	**19 48 57.6**	**+0.7**
AKRB	**Akutan Reef Bi**	**2.41**	**40**	P	**Pn**	**19 49 03.0**	**+1.3**
AKRB				S	**Sb**	**19 49 35.8**	**-0.2**
ZRO	**Akutan Zero**	**2.41**	**42**	P	**Pn**	**19 49 02.7**	**+0.9**
LVA	**Lava Point**	**2.44**	**40**	P	**Pn**	**19 49 04.5**	**+2.3**
AKGG	**Akutan Green G**	**2.49**	**40**	P	**Pn**	**19 49 05.3**	**+2.6**
AKGG				S	**Sb**	**19 49 37.9**	**-0.4**
AKUT	**Akutan**	**2.53**	**43**	*e*Pn	**Pn**	**19 49 03.8**	**+0.5**
AKSA	**Akutan Strait**	**2.56**	**44**	P	**Pn**	**19 49 05.5**	**+1.8**
ATKA	**Atka Island**	**3.38**	**270**	P	**Pn**	**19 49 16.2**	**+1.1**
ATKA				S	**Sn**	**19 49 56.5**	**+2.3**
GSMY	**Great Sitkin M**	**4.54**	**269**	P	**Pn**	**19 49 32.4**	**+1.5**
GSCK	**Great Sitkin C**	**4.61**	**269**	P	**Pn**	**19 49 33.3**	**+1.4**
DTNA	**Dutton South F**	**4.76**	**51**	P	**Pn**	**19 49 36.8**	**+2.8**
ADK	**Adak**	**4.95**	**268**	P	**Pn**	**19 49 37.6**	**+1.1**
SPIA	**Saint Paul Isl**	**4.95**	**350**	P	**Pn**	**19 49 37.9**	**+1.3**
SDPT	**Sand Point**	**5.73**	**55**	P	**Pn**	**19 49 48.5**	**+1.2**
VNHG	**Veniaminof 1**	**6.81**	**51**	P	**Pn**	**19 50 04.1**	**+1.9**
KDAK	**Kodiak Island**	**10.73**	**53**	Pn	**Pn**	**19 50 54.2**	**-1.6**
KDAK	**Kodiak Island**	**10.73**	**53**	Pn	**Pn**	**19 50 54.2**	**-1.6**
1.6nm,0.3s,baz=236,slow=7.4,SNR=12							
PPLA	**Purkeypile**	**13.76**	**33**	*e*Pn	P	19 51 42.6	-2.9
33nm,1.4s							
BPAW	**Bear Paw Mtn.**	**14.98**	**31**	*e*Pn	**Pn**	**19 51 56.1**	**+2.4**
6.1nm,0.8s							
IMA2	**Indian Mountai**	**15.71**	**23**	*e*Pn	**P**	**19 52 06.2**	**-1.0**
BMRM	**Bremner River**	**15.74**	**47**	*e*Pn	**Pn**	**19 52 01.3**	**-2.4**
6.1nm,0.6s							
ILAR	**Eielson Array**	**16.76**	**34**	Pn	**Pn**	**19 52 15.4**	**-1.2**
ILAR	**Eielson Array**	**16.76**	**34**	Pn	**Pn**	**19 52 15.4**	**-1.2**
0.1nm,0.3s,baz=230,slow=10,SNR=5.9							
HYT	**Haines Junctio**	**19.01**	**51**	*e*P	**Pn**	**19 52 45.2**	**+0.9**
SKAG	**Skagway**	**19.86**	**56**	*e*P	**P**	**19 52 52.3**	**-0.3**
5.1nm,0.6s							
PEA0B	**Petropavlovsk-**	**20.27**	**286**	*e*P	**P**	**19 52 57.0**	**-0.2**
PETK	**Petropavlovsk-**	**20.27**	**286**	P	**P**	**19 52 57.3**	**+0.1**
PETK	**Petropavlovsk-**	**20.27**	**286**	P	**P**	**19 52 57.3**	**+0.1**
5.3nm,0.5s,baz=90,slow=13,SNR=20							
DLBC	**Dease Lake**	**22.56**	**59**	P	**P**	**19 53 23.8**	**+2.0**
DLBC	**Dease Lake**	**22.56**	**59**	P	**P**	**19 53 23.8**	**+2.0**
1.4nm,0.2s,baz=266,slow=13,SNR=3.3							
INK	**Inuvik**	**23.16**	**33**	*e*P	**P**	**19 53 25.6**	**-2.3**
INK	**Inuvik**	**23.16**	**33**	P	**P**	**19 53 26.3**	**-1.6**
3.5nm,0.5s,baz=300,slow=6.1,SNR=5.8							
YKA	**Yellowknife Ar**	**29.96**	**49**	P	**P**	**19 54 29.8**	**+0.2**
YKA	**Yellowknife Ar**	**29.96**	**49**	P	**P**	**19 54 29.7**	**+0.2**
0.9nm,0.5s,baz=272,slow=7.7,SNR=8.9							
ASAJ	**Asahikawa**	**32.93**	**275**	LR	LR	20 06 51.4	
comp=Z,54nm,18.3s,baz=157,slow=34							
MCMT	**McKenzie Canyo**	**36.88**	**79**	*e*P	**P**	**19 55 30.4**	**+0.2**
2.3nm,0.6s							
NVAR	**Mina Array Bea**	**37.25**	**91**	P	**P**	**19 55 35.1**	**+1.7**
NVAR	**Mina Array Bea**	**37.25**	**91**	P	**P**	**19 55 35.1**	**+1.7**
0.4nm,0.6s,baz=295,slow=9.7,SNR=4.4							
IMW	**Indian Meadow**	**38.54**	**79**	*e*P	**P**	**19 55 44.5**	**+0.2**
2.9nm,0.9s							
RRI2	**Red Ridge**	**38.61**	**80**	*e*P	**P**	**19 55 46.2**	**+1.2**
4.3nm,0.8s							
BW06	**Boulder Array**	**40.01**	**80**	*e*P	**P**	**19 55 56.4**	**-0.1**
4.1nm,0.8s							
PDAR	**Pinedale Array**	**40.01**	**80**	P	**P**	**19 55 57.2**	**+0.7**
PDAR	**Pinedale Array**	**40.01**	**80**	P	**P**	**19 55 57.2**	**+0.7**
4.2nm,0.7s,baz=304,slow=4.1,SNR=34							
O20A	**White River Ci**	**42.36**	**82**	*e*P	**P**	**19 56 15.1**	**-0.8**
KSRS	**Korea Array**	**45.82**	**277**	P	**P**	**19 56 43.8**	**+0.5**
1.4nm,0.5s,baz=58,slow=7.4,SNR=8.6							
KSRS				LR	LR	20 16 29.7	
comp=Z,22nm,18.8s,baz=95,slow=37							
KSAR	**Wonju Array Be**	**45.85**	**277**	P	**P**	**19 56 43.8**	**+0.2**
ULN	**Ulaanbaatar**	**51.32**	**301**	*e*P	**P**	**19 57 24.8**	**-0.9**
1.5nm,0.4s							
WMOK	**Wichita Mounta**	**51.58**	**81**	*e*P	**P**	**19 57 27.4**	**-0.3**
2.4nm,0.7s							
SONM	**Songino Array**	**51.68**	**301**	P	**P**	**19 57 28.8**	**+0.4**
SONM	**Songino Array**	**51.68**	**301**	P	**P**	**19 57 28.8**	**+0.4**
1.0nm,0.5s,baz=62,slow=6.5,SNR=10							
TXAR	**Lajitas Array**	**52.33**	**89**	P	**P**	**19 57 33.6**	**+0.2**
TXAR	**Lajitas Array**	**52.33**	**89**	P	**P**	**19 57 33.6**	**+0.2**
1.0nm,0.6s,baz=298,slow=5.8,SNR=16							
ARCES	**ARCESS Array B**	**58.02**	**354**	P	**P**	**19 58 12.8**	**-0.9**
ARCES	**ARCESS Array B**	**58.02**	**354**	P	**P**	**19 58 12.8**	**-0.9**
1.2nm,0.7s,baz=25,slow=9.3,SNR=6.2							
KURK	**Kurchatov**	**62.69**	**319**	P	**P**	**19 58 46.7**	**+0.9**
KURBB	**Kurchatov Arra**	**62.79**	**319**	P	**P**	**19 58 46.7**	**+0.1**
0.3nm,0.3s,baz=47,slow=7.9,SNR=9.4							
BVAR	**Borovoye Array**	**63.98**	**325**	P	**P**	**19 58 54.5**	**+0.1**
BVAR	**Borovoye Array**	**63.98**	**325**	P	**P**	**19 58 54.5**	**+0.1**
1.7nm,0.5s,baz=65,slow=7.3,SNR=22							
JOF	**Joensuu**	**64.03**	**350**	*ep*	**P**	**19 58 53.9**	**-0.7**
1.1nm,0.5s							
MKAR	**Makanchi Array**	**64.14**	**314**	P	**P**	**19 58 55.0**	**-0.7**
MKAR	**Makanchi Array**	**64.14**	**314**	P	**P**	**19 58 55.0**	**-0.7**
0.4nm,0.3s,baz=51,slow=6.7,SNR=15							
KAF	**Kangasniemi**	**65.30**	**352**	*ep*	**P**	**19 59 02.5**	**-0.3**
4.2nm,0.5s							
FINES	**FINESS Array B**	**65.98**	**352**	P	**P**	**19 59 06.8**	**-0.4**
FINES	**FINESS Array B**	**65.98**	**352**	P	**P**	**19 59 06.8**	**-0.4**
2.2nm,0.5s,baz=15,slow=7.8,SNR=34							
NOA	**NORSAR Array B**	**66.99**	**0**	P	**P**	**19 59 13.4**	**-0.4**
NOA	**NORSAR Array B**	**66.99**	**0**	P	**P**	**19 59 13.4**	**-0.4**
0.8nm,0.6s,baz=357,slow=6.2,SNR=3.2							
HNR	**Honiara**	**67.13**	**214**	LR	LR	20 25 15.6	
comp=Z,70nm,18.3s,baz=169,slow=33							
AKTO	**Aktyubinsk**	**70.26**	**330**	P	**P**	**19 59 33.2**	**-1.1**
AKTO	**Aktyubinsk**	**70.26**	**330**	P	**P**	**19 59 33.2**	**-1.1**
0.7nm,0.5s,baz=42,slow=14,SNR=3.6							
ABKAR	**Akbulak array**	**70.69**	**329**	*e*P	**P**	**19 59 36.7**	**-0.2**
0.9nm,0.4s							
AKASG	**Malin Array Be**	**76.24**	**348**	P	**P**	**20 00 08.7**	**-0.9**
AKASG	**Malin Array Be**	**76.24**	**348**	P	**P**	**20 00 08.7**	**-0.9**
1.6nm,0.5s,baz=14,slow=5.0,SNR=3.7							
CMAR	**Chiang Mai Arr**	**77.03**	**283**	P	**P**	**20 00 15.2**	**+0.7**
CMAR	**Chiang Mai Arr**	**77.03**	**283**	P	**P**	**20 00 15.2**	**+0.7**
0.8nm,0.5s,baz=24,slow=6.5,SNR=10							
BRTR	**Keskin Array B**	**86.30**	**343**	P	**P**	**20 01 03.5**	**+0.3**
BRTR	**Keskin Array B**	**86.30**	**343**	P	**P**	**20 01 03.5**	**+0.3**
0.3nm,0.5s,baz=44,slow=2.5,SNR=3.1							
WRA	**Warramunga Arr**	**87.30**	**232**	P	**P**	**20 01 06.8**	**-1.3**
WRA	**Warramunga Arr**	**87.30**	**232**	P	**P**	**20 01 06.8**	**-1.3**
0.6nm,0.8s,baz=35,slow=5.5,SNR=3.7							
ESDC	**Sonseca Array**	**87.42**	**12**	P	**P**	**20 01 08.9**	**+0.3**
ESDC	**Sonseca Array**	**87.42**	**12**	P	**P**	**20 01 08.9**	**+0.3**
0.9nm,0.6s,baz=345,slow=5.0,SNR=8.0							
FITZ	**Fitzroy Crossi**	**90.19**	**240**	P	**P**	**20 01 20.0**	**-1.7**
FITZ	**Fitzroy Crossi**	**90.19**	**240**	P	**P**	**20 01 20.0**	**-1.7**
2.7nm,0.9s,baz=23,slow=7.7,SNR=3.3							
ASAR	**Alice Springs**	**90.68**	**231**	P	**P**	**20 01 23.9**	**-0.1**
ASAR	**Alice Springs**	**90.68**	**231**	P	**P**	**20 01 23.9**	**-0.1**
0.7nm,0.6s,baz=31,slow=4.3,SNR=17							

*IDC **04** 19:51:50.2±10.0, 1°.76N×124°.59E, h204km±97km, mb3.4/4, mb1 3.5/5, mb1mx3.1/24, mbtmp3.3/5, Error ellipse: s-maj=110.6km s-min=22.6km az=60.0*
*ISCJB **04** 19:51:58.4±1.2, 1°.1N±0°.2×124°.50E±0°.07, h250km, mb3.7/4, Error ellipse: s-maj=22.7km s-min=8.6km az=168.5*
*DJA **04** 19:52:00.0±1.2, 1°N±10°×12°4E±°, h231km±14km, M3.8/6, MLv3.8/6*

ISC 04 19:51:58.3±1.6, 1°2N±0°.2×124°47E±0°.08, h250km, n11, σ0°91/13, mb3.7/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**1.55**	**250**	P	**Pn**	**19 52 37.5**	**+0.5**
MRSI	**Marisa**	**2.62**	**255**	P	**Pn**	**19 52 47.2**	**+0.5**
LUWI	**Luwuk**	**2.77**	**218**	P	**Pn**	**19 52 48.4**	**+0.1**
LUWI				S	**S**	**19 53 26.7**	**-1.2**
TNTI	**Ternate**	**2.92**	**97**	P	**Pn**	**19 52 50.1**	**+0.1**
TNTI				S	**S**	**19 53 30.2**	**-0.7**
APSI	**Ampana**	**3.49**	**234**	P	**Pn**	**19 52 56.3**	**+0.1**
SKSI	**Soroako, Sulaw**	**4.82**	**221**	P	**Pn**	**19 53 11.9**	**-0.1**
FITZ	**Fitzroy Crossi**	**19.17**	**177**	P	**P**	**19 56 04.8**	**+1.2**
0.2nm,0.3s,baz=5.8,slow=9.5,SNR=6.6							
WRA	**Warramunga Arr**	**23.10**	**156**	P	**P**	**19 56 42.7**	**+0.2**
4.1nm,0.4s,baz=336,slow=9.5,SNR=77							
ASAR	**Alice Springs**	**26.33**	**160**	P	**P**	**19 57 12.1**	**+0.5**
0.6nm,0.3s,baz=338,slow=7.3,SNR=24							
ASAR				PcP	**PcP**	**20 00 28.9**	**-1.9**
0.2nm,0.3s,baz=345,slow=2.0,SNR=6.6							
STKA	**Stephens Creek**	**36.65**	**155**	P	**P**	**19 58 42.0**	**+0.7**
0.8nm,0.3s,baz=331,slow=7.8,SNR=6.2							
MKAR	**Makanchi Array**	**58.42**	**327**	P	P	20 01 21.6	-6.4
0.4nm,0.6s,baz=128,slow=7.9,SNR=5.2							

*IDC **04** 20:03:22.2±2.0, 4°.10S×128°.27E, h0km, mb3.5/2, mb1 3.9/5, mb1mx3.6/24, mbtmp3.7/5, ML3.4/3, Error ellipse: s-maj=53.0km s-min=26.8km az=65.0*
*AUST **04** 20:03:25.2±2.3, 4°.11S×128°.03E, h0km, Error ellipse: s-maj=1.2km s-min=0.9km az=311.0*
*ISCJB **04** 20:03:26.8±0.5, 4°.23S±0°.04×127°.99E±0°.05, h30km, mb3.8/2, Error ellipse: s-maj=7.6km s-min=6.0km az=17.0*
*DJA **04** 20:03:28.8±0.4, 4°S±3°×12°8E±°, h20km, M4.3/10, mb4.6/1, MLv4.2/10*

ISC 04 20:03:27.9±0.8, 4°12S±0°.05×127°99E±0°.07, h30km, n25, σ1°71/24, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.47**	**25**	P	**Pb**	**20 03 37.4**	**-0.5**
AAI				S	**Sn**	**20 03 45.5**	**-0.4**
AAI	**Ambon**	**0.47**	**25**	S	**Pb**	**20 03 37.3**	**-0.6**
baz=0.5,SNR=278							
BNDI	**Bandanaira**	**1.95**	**102**	P	**Pn**	**20 03 57.2**	**-1.8**
BNDI	**Bandanaira**	**1.95**	**102**	P	**Pn**	**20 03 57.2**	**-1.8**
baz=1.9,SNR=3.6							
LBMI	**Labuha**	**3.49**	**352**	P	Pn	20 04 24.0	+3.8
LBMI				S	**Sb**	**20 05 07.2**	**-3.8**
FAKI	**Fak Fak**	**4.41**	**75**	P	**Pn**	**20 04 34.7**	**+1.8**
FAKI	**Fak Fak**	**4.41**	**75**	P	**Pn**	**20 04 34.7**	**+1.8**
baz=4.4,SNR=52							
SWI	**Sorong**	**4.59**	**45**	P	**Pn**	**20 04 37.3**	**+2.0**
SWI	**Sorong**	**4.59**	**45**	P	**Pn**	**20 04 37.3**	**+2.0**
baz=4.6,SNR=25							
SWI				S	**Sn**	**20 05 30.1**	**+2.4**
baz=4.6,SNR=8.5							
TNTI	**Ternate**	**4.89**	**353**	P	Pn	20 04 43.8	+4.3
TLE	**Tual**	**4.96**	**108**	P	**Pn**	**20 04 42.3**	**+1.8**
TLE	**Tual**	**4.96**	**108**	P	**Pn**	**20 04 42.1**	**+1.6**
baz=4.9,SNR=5.2							
SAUI	**Saumlaki**	**5.06**	**140**	P	**Pn**	**20 04 42.2**	**+0.5**
RKPI	**Ransiki, Papua**	**6.70**	**67**	P	**Sn**	**20 06 19.4**	**-0.3**
BKSI	**Bulukumba**	**7.93**	**261**	P	**Pn**	**20 05 23.1**	**+1.8**
KAPI	**Kappang**	**8.26**	**263**	Pn	**Pn**	**20 05 26.9**	**+1.2**
1.5nm,0.3s,baz=70,slow=6.8,SNR=12							
KNRA	**Kununurra**	**11.52**	**176**	P	**Pn**	**20 06 12.2**	**+1.8**
baz=12,SNR=4.0							
FITZ	**Fitzroy Crossi**	**14.09**	**189**	Pn	**Pn**	**20 06 43.7**	**-1.9**
0.1nm,0.3s,baz=4.1,slow=14,SNR=3.2							
WRA	**Warramunga Arr**	**16.91**	**159**	Pn	Pn	20 07 17.2	-5.2
0.1nm,0.3s,baz=340,slow=12,SNR=7.6							
COEN	**Coen**	**17.89**	**124**	P	**P**	**20 07 35.2**	**+0.2**
baz=18,SNR=5.5							
MANU	**Manus Island**	**19.45**	**85**	S	**Sn**	**20 11 32.0**	**+0.7**
baz=19,SNR=6.6							
ASAR	**Alice Springs**	**20.26**	**164**	P	**P**	**20 07 59.9**	**-1.2**
3.2nm,0.7s,baz=342,slow=10,SNR=51							
CTA	**Charters Tower**	**23.85**	**133**	P	**P**	**20 08 38.4**	**-0.3**
1.6nm,0.6s,baz=306,slow=14,SNR=4.3							
LHI	**Lord Howe Isla**	**39.94**	**137**	S	S	20 17 27.6	+24
baz=40,SNR=4.0							
MKAR	**Makanchi Array**	**64.73**	**327**	P	**P**	**20 14 03.4**	**-0.1**
0.5nm,0.4s,baz=118,slow=8.4,SNR=4.3							

IDC 04 21:09:33.1±2.7, 11°88S×167°41E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.6/19, mbtmp3.8/4, Error ellipse: s-maj=101.4km s-min=37.5km az=129.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**31.00**	**226**	P	P	21 15 53.1	+0.6
0.3nm,0.3s,baz=56,slow=13,SNR=2.2							
WRA	**Warramunga Arr**	**32.75**	**252**	P	P	21 16 07.9	-0.1
1.1nm,0.8s,baz=83,slow=9.0,SNR=5.5							
ASAR	**Alice Springs**	**33.90

0.7nm,0.9s,baz=107,slow=9.0,SNR=2.8
ILAR Eielson Array 85.90 25 P P 21 55 08.8 +1.5
0.4nm,0.7s,baz=273,slow=4.1,SNR=4.1

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*IDC **04** 21:52:44.3±2.8, 9°.17S×107°.04E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.6/23, mbtmp3.7/6, Error ellipse: s-maj=123.7km s-min=19.3km az=52.0*
*ISCJB **04** 21:52:47.4±1.0, 9°.22S±0°.06×107°.1E±0°.1, h33km, mb3.6/5, Error ellipse: s-maj=15.5km s-min=8.9km az=167.5*
*DJA **04** 21:52:48.4±1.0, 9°.S±7°×10°7E±°, h10km, M3.8/7, MLv3.8/7*
ISC 04 21:52:49.8±1.1, 9°.14S±0°.10×107°.1E±0°.1, h35km, n13, σ1§02/14, mb3.7/5, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**1.71**	**23**	P	**Pn**	**21 53 15.9**	**-1.2**
CISI				S	**Sn**	**21 53 38.0**	**+0.2**
SKJI	**Sukabumi**	**2.20**	**345**	P	**Pn**	**21 53 22.7**	**-1.1**
LEM	**Lembang**	**2.34**	**12**	P	**Pn**	**21 53 26.5**	**+0.5**
KPJI	**Karang Pucung**	**2.52**	**45**	P	**Pn**	**21 53 28.5**	**+0.2**
DBJI	**Dramaga**	**2.60**	**351**	P	**Pn**	**21 53 30.6**	**+1.3**
TGJI	**Tegal**	**2.99**	**41**	P	**Pn**	**21 53 34.6**	**-0.1**
SJI	**Sawahan**	**4.79**	**73**	P	**Pn**	**21 53 59.4**	**-0.1**
FITZ	**Fitzroy Crossi**	**20.05**	**118**	P	**P**	**21 57 20.6**	**+0.6**
	1.8nm,0.7s,baz=276,slow=10,SNR=4.1						
WRA	**Warramunga Arr**	**28.39**	**115**	P	**P**	**21 58 40.3**	**-0.8**
	0.2nm,0.6s,baz=289,slow=10,SNR=3.4						
ASAR	**Alice Springs**	**29.38**	**123**	P	**P**	**21 58 52.0**	**+2.1**
	0.4nm,0.5s,baz=291,slow=9.2,SNR=6.5						
STKA	**Stephens Creek**	**39.14**	**130**	P	**P**	**22 00 12.9**	**-1.2**
	3.4nm,0.8s,baz=316,slow=5.7,SNR=7.1						
SONM	**Songino Array**	**56.73**	**359**	P	**P**	**22 02 30.1**	**0.0**
	0.3nm,0.4s,baz=182,slow=10,SNR=3.1						
MKAR	**Makanchi Array**	**59.93**	**341**	P	**P**	**22 02 52.4**	**0.0**
	0.7nm,0.5s,baz=150,slow=8.3,SNR=16						

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*IDC **04** 22:16:45.9±0.4, 48°.34S×31°.69E, h0km, mb4.9/19, mb1 5.1/19, mb1mx5.0/21, mbtmp4.9/19, MS4.5/21, Ms1 4.5/21, ms1mx4.4/24, Error ellipse: s-maj=17.3km s-min=13.3km az=68.0*
*MOS **04** 22:16:46.9±1.1, 48°.29S×31°.71E, h10km, mb5.4/20, Error ellipse: s-maj=21.5km s-min=9.3km az=93.3*
*ISCJB **04** 22:16:47.4±0.2, 48°.33S±0°.03×31°.50E±0°.09, h18km, mb5.2/57, MS4.6/26, Error ellipse: s-maj=9.0km s-min=4.9km az=172.9*
*NEIC **04** 22:16:47.5±0.1, 48°.30S×31°.67E, h10km, mb5.4/27, Error ellipse: s-maj=7.9km s-min=5.8km az=84.0*
*DJA **04** 22:16:48.7±0.5, 48°S±7°×3°2E±1°2, h10km, M5.1/11, mB5.5/5, mb5.2/11, Mw(mB)5.0/5*
*BJI **04** 22:16:48.6, 47°.71S×31°.85E, h10km, mB5.8/10, mb5.7/8, Ms5.3/7, Ms7 4.8/8*
*GCMT **04** 22:16:49.5±0.1, 48°.34S×31°.60E, h12km, MW5.3, Moment Tensor Solution. s72,c124; s87,c153; Moment tensor: Scale 10^{17}Nm; M_{rr}-0.43±.02; $M_{\theta\theta}$0.51±.02; $M_{\phi\phi}$-0.08±.02; $M_{r\theta}$0.17±.04; $M_{\theta\phi}$1.09±.02; $M_{\phi r}$-0.12±.04; Best double couple: $M_0$1.20000×10^{17} NP1:ϕ_s276.00000°,δ77.00000°, λ-16.00000°. NP2:ϕ_s9.00000°,δ74.00000°,λ-167.00000°. Principal axes: T 1.3500, Plg2.0000°, Azm323.0000°; N -0.3600, Plg70.0000°, Azm58.0000°; P -0.9900, Plg20.0000°, Azm232.0000°; Data Used: II IU G CN IC.*
ISC 04 22:16:48.9±0.2, 48°.36S±0°.05×31°.56E±0°.07, h18km, n677, σ0§93/688, mb5.3/57, MS4.6/27, 213C-209D, South of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUFB	**Buffelsbos**	**15.08**	**338**	*e*P	Pn	22 20 15.3	-5.7
BUFB				AMB	AMB	22 20 17.6	
	comp=Z,31nm,2.4s						
GRM	**Grahamstown**	**15.50**	**344**	*e*P	Pn	22 20 21.2	-5.4
GRM				AMB	AMB	22 20 32.8	
	comp=Z,400nm,1.0s						
SOE	**Somerset East**	**16.27**	**342**	*e*P	**Pn**	**22 20 32.1**	**-4.4**
SOE				AMB	AMB	22 20 38.9	
	comp=Z,203nm,4.1s						
ELIM	**Elim**	**16.32**	**323**	*e*P	**Pn**	**22 20 33.3**	**-3.8**
ELIM				AMB	AMB	22 20 35.4	
	comp=Z,231nm,1.6s						
KSD	**Kokstad**	**17.87**	**354**	*e*P	**Pn**	**22 20 55.5**	**-1.2**
KSD				AMB	AMB	22 20 58.8	
	comp=Z,326nm,1.2s						
SUR	**Sutherland**	**17.91**	**329**	*e*P	**Pn**	**22 20 56.2**	**-0.9**
SUR				AMB	AMB	22 21 01.9	
	comp=Z,146nm,1.2s						
SUR	**Sutherland**	**17.91**	**329**	Pn	**Pn**	**22 20 56.3**	**-0.9**
	comp=Z,2μm,1.3s,SNR=21						
SUR	**Sutherland**	**17.91**	**329**	*e*Pn	**Pn**	**22 20 55.5**	**-1.7**
	comp=Z,348nm,1.1s						
SUR				S	Sn	22 24 03.3	-13
SUR	**Sutherland**	**17.91**	**329**	P	**Pn**	**22 20 54.5**	**-2.6**
	comp=Z,11nm,0.3s,baz=146,slow=10,SNR=67						
SUR				S	Sn	22 24 03.3	-13
	comp=Z,1.5nm,0.3s,baz=90,slow=20,SNR=3.8						
SUR				LR	LR	22 26 33.2	
	comp=Z,3μm,20.0s,baz=160,slow=33						
HVD	**Gariep Dam**	**18.33**	**343**	↑*i*P	**Pn**	**22 21 00.7**	**-1.6**
HVD				AMB	AMB	22 21 02.4	
	comp=Z,397nm,2.3s						
CVNA	**Calvinia**	**19.09**	**328**	↑*i*P	**P**	**22 21 10.8**	**+0.2**
CVNA				AMB	AMB	22 21 12.9	
	comp=Z,559nm,1.9s						
SEK	**Senekal**	**20.24**	**350**	↑*i*P	**P**	**22 21 23.5**	**+0.3**
SEK				AMB	AMB	22 21 27.3	
	comp=Z,197nm,2.9s						
BOSA	**Boshof**	**20.31**	**344**	↑*i*P	**P**	**22 21 23.2**	**-0.8**
BOSA				AMB	AMB	22 21 26.1	
	comp=Z,276nm,3.2s						
BOSA	**Boshof**	**20.31**	**344**	*e*P	**P**	**22 21 23.5**	**-0.4**
	comp=Z,188nm,1.1s						
BOSA				S	S	22 24 57.8	-13
BOSA	**Boshof**	**20.31**	**344**	P	**P**	**22 21 23.4**	**-0.5**
	comp=Z,118nm,0.9s,baz=172,slow=11,SNR=83						
BOSA				S	S	22 24 57.8	-13
	comp=Z,10nm,0.8s,baz=261,slow=19,SNR=2.8						
BOSA				LR	LR	22 27 32.9	
	comp=Z,2μm,19.3s,baz=167,slow=32						
POGA	**Pongola**	**20.95**	**0**	*e*P	**P**	**22 21 30.6**	**-0.3**
POGA				AMB	AMB	22 21 42.4	
	comp=Z,75nm,1.1s						
SYO	**Syowa Base**	**21.09**	**172**	⇓*e*P	**P**	**22 21 30.3**	**-1.6**
SYO	**Syowa Base**	**21.09**	**172**	↑*i*Pn	**P**	**22 21 33.6**	**+1.7**
PRYS	**Parys**	**21.65**	**350**	↑*i*P	**P**	**22 21 38.1**	**-0.3**
PRYS				AMB	AMB	22 21 39.4	
	comp=Z,93nm,1.3s						
SWZ	**Schweizer**	**21.69**	**345**	↑*i*P	**P**	**22 21 38.1**	**-0.8**
SWZ				AMB	AMB	22 21 42.5	
	comp=Z,381nm,1.5s						
ERPM	**east rand prop**	**22.13**	**352**	*e*P	**P**	**22 21 44.0**	**+0.3**
ERPM				AMB	AMB	22 21 47.2	
	comp=Z,147nm,1.5s						
SLR	**Silverton**	**22.73**	**352**	↑*i*P	**P**	**22 21 49.2**	**-0.8**
SLR				AMB	AMB	22 21 51.7	
	comp=Z,443nm,1.4s						
KSR	**Koster**	**22.76**	**349**	↑*i*P	**P**	**22 21 49.6**	**-0.8**
KSR				AMB	AMB	22 21 52.1	
	comp=Z,141nm,1.1s						
LBTB	**Lobatse**	**23.77**	**346**	↑*i*P	**P**	**22 21 59.4**	**-1.1**
LBTB				AMB	AMB	22 22 01.0	
	comp=Z,155nm,1.5s						
LBTB	**Lobatse**	**23.77**	**346**	*e*P	**P**	**22 21 59.2**	**-1.2**
	comp=Z,701nm,2.0s						
MAIT	**Maitri**	**24.37**	**196**	*e*P	**P**	**22 22 03.6**	**-2.0**
MAW	**Mawson**	**24.96**	**152**	*e*P	**P**	**22 22 11.6**	**+0.7**
	comp=Z,45nm,1.0s						
MAW				S	S	22 26 44.3	+11
MAW	**Mawson**	**24.96**	**152**	P	**P**	**22 22 11.5**	**+0.6**
	comp=Z,149nm,1.0s,baz=304,slow=10.0,SNR=176						
MAW				S	S	22 26 44.3	+11
	comp=Z,3.6nm,0.3s,baz=42,slow=16,SNR=6.5						
MAW				LR	LR	22 29 41.3	
	comp=Z,1μm,21.2s,baz=318,slow=31						
MSNA	**Messina**	**25.99**	**357**	↑*i*P	**P**	**22 22 20.3**	**-0.3**
MSNA				AMB	AMB	22 22 23.6	
	comp=Z,134nm,1.4s						
SNAA	**Sanae**	**28.24**	**202**	P	**P**	**22 22 40.8**	**+0.3**
SNAA	**Sanae**	**28.24**	**202**	P	**P**	**22 22 40.8**	**+0.3**
	comp=Z,7.2nm,1.1s,baz=89,slow=6.7,SNR=44						
VNA2	**Neumayer--Watz**	**29.05**	**205**	*e*P	**P**	**22 22 48.6**	**+1.0**
VNA2	**Neumayer--Watz**	**29.05**	**205**	*e*pP	pP	22 22 51.3	-1.8
VNA1	**Neumayer--Stat**	**29.16**	**206**	*e*P	**P**	**22 22 50.0**	**+1.4**
VNA1	**Neumayer--Stat**	**29.16**	**206**	*e*pP	pP	22 22 53.5	-0.6
TSUM	**Tsumeb**	**31.21**	**334**	↑*i*P	**P**	**22 23 06.5**	**-0.8**
TSUM	**Tsumeb**	**31.21**	**334**	*e*P	**P**	**22 23 07.0**	**-0.4**
	comp=Z,55nm,1.0s						
ABPO	**Ambohimpanom**	**31.91**	**29**	*e*P	**P**	**22 23 13.0**	**-0.5**
ABPO				pmax	pmax		
	comp=Z,58nm,0.9s						
ABPO	**Ambohimpanom**	**31.91**	**29**	*e*P	**P**	**22 23 12.9**	**-0.5**
	comp=Z,58nm,0.9s						
LSZ	**Lusaka**	**33.11**	**354**	↑*i*P	**P**	**22 23 23.6**	**-0.3**
LSZ	**Lusaka**	**33.11**	**354**	*e*P	**P**	**22 23 23.2**	**-0.7**
	comp=Z,38nm,0.8s						
MIR	**Mirnyy**	**35.87**	**143**	↑*i*P	**P**	**22 23 48.5**	**+1.3**
MIR				pmax	pmax		
	comp=Z,81nm,1.5s						
HOPE	**Hope Point**	**41.43**	**235**	*e*P	**P**	**22 24 34.8**	**+0.8**
	comp=Z,374nm,1.1s						
QSPA	**South Pole Qui**	**41.86**	**180**	P	**P**	**22 24 37.2**	**-0.5**
QSPA				S	**S**	**22 30 51.5**	**-3.0**
QSPA	**South Pole Qui**	**41.86**	**180**	P	**P**	**22 24 37.2**	**-0.5**
	comp=Z,99nm,0.7s,baz=252,slow=3.1,SNR=468						
QSPA				S	**S**	**22 30 51.4**	**-3.0**
	comp=Z,4.4nm,1.2s,baz=344,slow=23,SNR=3.2						
CASY	**Casey**	**42.86**	**144**	*e*P	**P**	**22 24 45.1**	**-0.5**
	comp=Z,41nm,1.0s						
KMBO	**Kilima Mbogo**	**47.31**	**8**	*e*P	**P**	**22 25 24.1**	**+2.4**
KMBO	**Kilima Mbogo**	**47.31**	**8**	*e*P	**P**	**22 25 20.9**	**-0.7**
	comp=Z,14nm,1.1s						
KMBO	**Kilima Mbogo**	**47.31**	**8**	P	**P**	**22 25 23.9**	**+2.2**
	comp=Z,0.8nm,0.5s,baz=180,slow=13,SNR=3.7						
KMBO				LR	LR	22 43 38.2	
	comp=Z,1μm,18.1s,baz=277,slow=34						
MBAR	**Mbarara**	**47.58**	**359**	*e*P	**P**	**22 25 23.8**	**+0.2**
	comp=Z,77nm,1.5s						
MSKU	**Masuku**	**49.03**	**336**	*e*P	**P**	**22 25 32.4**	**-2.4**
	comp=Z,8.1nm,1.1s						
PMSA	**Palmer Station**	**49.81**	**214**	*e*P	**P**	**22 25 40.1**	**0.0**
	comp=Z,33nm,0.9s						
PMSA	**Palmer Station**	**49.81**	**214**	P	**P**	**22 25 40.4**	**+0.3**
	comp=Z,14nm,0.9s,baz=114,slow=1.2,SNR=4.6						
VNDA	**Vanda**	**50.70**	**168**	*e*P	**P**	**22 25 46.8**	**+0.1**
	comp=Z,26nm,0.8s						
VNDA	**Vanda**	**50.70**	**168**	P	**P**	**22 25 46.8**	**+0.1**
	comp=Z,24nm,0.7s,baz=243,slow=7.6,SNR=72						
VNDA				LR	LR	22 46 17.0	
	comp=Z,1μm,18.1s,baz=214,slow=35						
SBA	**Scott Base**	**51.10**	**169**	*e*P	**P**	**22 25 51.1**	**+1.4**
SBA				pmax	pmax		
	comp=Z,62nm,1.1s						
SBA	**Scott Base**	**51.10**	**169**	*e*P	**P**	**22 25 51.1**	**+1.4**
	comp=Z,62nm,1.1s						
DRV	**Dumont d'Urvil**	**53.18**	**152**	PP	PP	22 28 03.0	-1.9
DRV				S	S	22 33 21.0	-14
DRV				L	L	22 39 00.0	
DRV				R		22 42 00.0	
KIC	**Kosan Boka**	**63.11**	**319**	*e*P	**P**	**22 27 15.1**	**-0.3**
	comp=Z,81nm,1.1s						
LIC	**Lamto**	**63.12**	**318**	*e*P	**P**	**22 27 14.9**	**-0.5**
	comp=Z,74nm,0.8s						
DBIC	**Dimbokro**	**63.44**	**319**	↑*i*P	**P**	**22 27 17.4**	**-0.2**
DBIC	**Dimbokro**	**63.44**	**319**	*e*P	**P**	**22 27 17.4**	**-0.2**
	comp=Z,56nm,0.9s						
DBIC	**Dimbokro**	**63.44**	**319**	P	**P**	**22 27 17.4**	**-0.2**
	comp=Z,43nm,0.8s,baz=136,slow=8.0,SNR=56						
DBIC				LR	LR	22 50 01.3	
	comp=Z,478nm,20.7s,baz=124,slow=31						
TIC	**Toumodi**	**63.49**	**319**	*e*P	**P**	**22 27 17.6**	**-0.3**
	comp=Z,142nm,0.9s						
TRQA	**Tornquist**	**64.85**	**241**	*e*P	**P**	**22 27 26.9**	**+0.1**
	comp=Z,39nm,1.1s						
TOA0	**Torodi Ar. Sit**	**66.73**	**328**	*e*P	**P**	**22 27 38.9**	**0.0**
TORD	**Torodi Ar. Bea**	**66.73**	**328**	P	**P**	**22 27 39.2**	**+0.3**
TORD	**Torodi Ar. Bea**	**66.73**	**328**	P	**P**	**22 27 39.2**	**+0.3**
	comp=Z,7.6nm,0.6s,baz=165,slow=5.1,SNR=90						
TORD				LR	LR	22 52 57.2	
	comp=Z,422nm,21.4s,baz=155,slow=32						
PLCA	**Paso Flores**	**67.79**	**233**	P	**P**	**22 27 45.7**	**+0.1**
PLCA	**Paso Flores**	**67.79**	**233**	P	**P**	**22 27 45.7**	**+0.1**
	comp=Z,3.1nm,0.6s,baz=110,slow=8.0,SNR=6.5						
PLCA				LR	LR	22 52 23.0	
	comp=Z,240nm,18.2s,baz=315,slow=32						
CPUP	**Villa Florida**	**70.10**	**253**	*e*P	**P**	**22 28 00.3**	**+0.3**
CPUP	**Villa Florida**	**70.10**	**253**	P	**P**	**22 28 00.2**	**+0.2**
	comp=Z,18nm,0.9s,baz=181,slow=20,SNR=14						
CPUP				LR	LR	22 49 51.5	
	comp=Z,103nm,21.9s,baz=127,slow=28						
BDFB	**Brasilia**	**71.58**	**267**	P	**P**	**22 28 10.4**	**+1.1**
BDFB	**Brasilia**	**71.58**	**267**	P	**P**	**22 28 10.4**	**+1.1**
	comp=Z,14nm,1.1s,baz=107,slow=5.6,SNR=10						
BDFB				LR	LR	22 52 39.4	
	comp=Z,312nm,20.7s,baz=310,slow=30						
TAM	**Tamanrasset**	**74.57**	**335**	*e*P	**P**	**22 28 27.4**	**+0.7**
TAM				pmax	pmax		
	comp=Z,31nm,1.6s						
TAM	**Tamanrasset**	**74.57**	**335**	*e*P	**P**	**22 28 27.4**	**+0.7**
	comp=Z,31nm,1.6s						
LCO	**Las Campanas**	**76.38**	**242**	*e*P	**P**	**22 28 37.5**	**+0.1**
	comp=Z,57nm,1.1s						
RDF	**Al-Radifah**	**78.26**	**14**	*e*P	**P**	**22 28 47.9**	**+0.6**
RDF				AMb	AMB	22 28 50.9	
	comp=Z,60nm,1.0s						
STKA	**Stephens Creek**	**78.63**	**125**	*e*P	**P**	**22 28 49.7**	**0.0**
	comp=Z,8.1nm,1.4s						
STKA	**Stephens Creek**	**78.63**	**125**	P	**P**	**22 28 49.4**	**-0.3**
	comp=Z,18nm,1.0s,baz=193,slow=4.4,SNR=15						
STKA				LR	LR	22 55 50.0	
	comp=Z,509nm,19.8s,baz=207,slow=30						
RST	**Umm Al-Ruwaisa**	**78.73**	**14**	*e*P	**P**	**22 28 50.5**	**+0.6**
RST				AMb	AMB	22 28 54.2	
	comp=Z,340nm,0.9s						
MIB	**Mutribah**	**79.08**	**14**	*e*P	**P**	**22 28 52.6**	**+0.8**
MIB				AMb	AMB	22 28 54.6	
	comp=Z,37nm,1.1s						
LVC	**Limon Verde**	**80.04**	**247**	*e*P	**P**	**22 28 58.6**	**+0.9**
	comp=Z,58nm,1.2s						
ASAR	**Alice Springs**	**80.41**	**115**	P	**P**	**22 28 58.5**	**-1.0**
ASAR	**Alice Springs**	**80.41**	**115**	P	**P**	**22 28 58.5**	**-1.0**
	comp=Z,12nm,0.9s,baz=214,slow=5.3,SNR=64						
ASAR				LR	LR	22 58 30.9	
	comp=Z,244nm,18.5s,baz=214,slow=31						
AS31	**Alice Springs**	**80.41**	**115**	*e*P	**P**	**22 28 58.2**	**-1.3**
AS01	**Alice Springs**	**80.44**	**115**	*e*P	**P**	**22 28 58.4**	**-1.3**
WRA	**Warramunga Arr**	**83.47**	**113**	P	**P**	**22 29 14.4**	**-1.2**
WRA	**Warramunga Arr**	**83.47**	**113**	P	**P**	**22 29 14.4**	**-1.2**
	comp=Z,9.4nm,1.0s,baz=217,slow=4.1,SNR=34						
WRA				LR	LR	23 03 30.4	
	comp=Z,212nm,18.5s,baz=240,slow=34						
WRAB	**Tennant Creek**	**83.48**	**113**	P	**P**	**22 29 15.0**	**-0.6**
	comp=Z,85nm,0.9s,SNR=5.1						
WRAB	**Tennant Creek**	**83.48**	**113**	*e*P	**P**	**22 29 14.2**	**-1.5**
WRAB				pmax	pmax		
	comp=Z,32nm,1.3s						
WRAB	**Tennant Creek**	**83.48**	**113**	*e*P	**P**	**22 29 14.2**	**-1.5**
	comp=Z,32nm,1.3s						
LPAZ	**La Paz**	**84.27**	**252**	*e*P	**P**	**22 29 20.9**	**+0.5**
LPAZ	**La Paz**	**84.27**	**252**	P	**P**	**22 29 20.9**	**+0.5**
	comp=Z,6.0nm,0.9s,baz=132,slow=4.0,SNR=19						
LPAZ				LR	LR	23 04 21.3	
	comp=Z,277nm,18.1s,baz=298,slow=34						
APE	**Apeiranthos**	**85.22**	**355**	*e*P	P	22 29 29.5	+5.6
APE				pmax	pmax		
	comp=Z,13nm,1.6s						
KEST	**Kesra**	**86.03**	**342**	*e*P	**P**	**22 29 28.3**	**+0.3**
KEST				PP	**PP**	**22 32 48.9**	**+0.1**
KEST	**Kesra**	**86.03**	**342**	P	**P**	**22 29 30.6**	**+2.6**
	comp=Z,3.0nm,1.1s,baz=90,slow=2.7,SNR=6.1						
KEST				PP	**PP**	**22 32 48.9**	**+0.1**
	comp=Z,4.2nm,1.2s,baz=112,slow=4.9,SNR=5.8						
KEST				LR	LR	23 05 50.3	
	comp=Z,183nm,21.1s,baz=155,slow=34						
MALT	**Malatya**	**86.51**	**5**	⇓*i*P	**P**	**22 29 32.1**	**+1.8**
SAML	**Samuel**	**86.52**	**261**	*e*P	**P**	**22 29 30.8**	**-0.2**
	comp=Z,33nm,1.3s						
CEL	**Celeste**	**87.36**	**348**	*e*P	**P**	**22 29 34.0**	**-0.3**
	comp=Z,53nm,1.6s						
BR131	**Keskin Array S**	**87.72**	**2**	*e*P	**P**	**22 29 36.0**	**-0.2**
	comp=Z,1.6nm,0.7s						
BRTR	**Keskin Array B**	**87.72**	**2**	P	**P**	**22 29 36.9**	**+0.7**
BRTR	**Keskin Array B**	**87.72**	**2**	P	**P**	**22 29 36.9**	**+0.7**
	comp=Z,2.0nm,0.7s,baz=174,slow=7.8,SNR=22						
BRTR				LR	LR	23 10 46.8	
	comp=Z,125nm,18.5s,baz=349,slow=37						
CMAR	**Chiang Mai Arr**	**89.49**	**61**	P	**P**	**22 29 45.0**	**+0.1**
CMAR	**Chiang Mai Arr**	**89.49**	**61**	P	**P**	**22 29 45.0**	**+0.1**
	comp=Z,0.9nm,0.3s,baz=231,slow=4.1,SNR=8.6						
CMAR				LR	LR	23 03 10.8	
	comp=Z,185nm,18.2s,baz=47,slow=31						
CHTO	**Chiang Mai**	**89.77**	**61**	*e*P	**P**	**22 29 46.7**	**+0.5**
CHTO	**Chiang Mai**	**89.77**	**61**	*e*P	**P**	**22 29 46.7**	**+0.5**
ZEI	**Tsey**	**91.42**	**9**	*e*P	**P**	**22 29 54.4**	**+0.9**
ZEI				pmax	pmax		
	comp=Z,18nm,1.2s						
KBZ	**Khabaz**	**92.25**	**8**	P	**P**	**22 29 57.6**	**+0.6**
KBZ	**Khabaz**	**92.25**	**8**	P	**P**	**22 29 57.6**	**+0.6**
KBZ	**Khabaz**	**92.25**	**8**	P	**P**	**22 29 57.6**	**+0.6**
	comp=Z,3.6nm,0.9s,baz=217,slow=2.6,SNR=6.1						
KBZ				LR	LR	23 15 10.9	
	comp=Z,131nm,18.2s,baz=20,slow=38						
KIV	**Kislovodsk**	**92.45**	**8**	⇓*e*P	**P**	**22 29 59.6**	**+1.5**
KIV				*e*S	**SKSac**	**22 40 33.2**	**+3.0**
KIV				*i* SS	SS	22 47 28.0	+15
KIV				pmax	pmax		
	comp=Z,7.0nm,1.3s						
KIV				MLR	MLR		
	comp=Z,100nm,16.0s						
GOLR		**93.00**	**355**	⇓*i*P	P	22 30 09.8	+9.3
ESDC	**Sonseca Array**	**93.14**	**333**	P	**P**	**22 30 02.5**	**+1.1**
ESDC	**Sonseca Array**	**93.14**	**333**	P	**P**	**22 30 02.5**	**+1.1**
	comp=Z,0.6nm,0.6s,baz=163,slow=5.6,SNR=4.8						
ESDC				LR	LR	23 12 46.3	
	comp=Z,387nm,18.1s,baz=135,slow=36						
ARR	**Arges**	**93.54**	**355**	⇑*i*P	**P**	**22 30 04.3**	**+1.2**
VOIR		**93.59**	**355**	⇑P	**P**	**22 30 04.1**	**+0.8**
VOIR		**93.59**	**355**	⇑*i*P	**P**	**22 30 04.1**	**+0.8**
MLR	**Muntele Rosu**	**93.60**	**356**	⇑*i*P	**P**	**22 30 03.7**	**+0.3**
PLOR	**Plostina**	**93.92**	**357**	⇓P	**P**	**22 30 05.9**	**+1.1**
PLOR	**Plostina**	**93.92**	**357**	⇓*i*P	**P**	**22 30 05.9**	**+1.1**
VRI	**Vrincioaia**	**93.94**	**357**	⇑P	**P**	**22 30 06.1**	**+1.3**
VRI	**Vrincioaia**	**93.94**	**357**	⇑*i*P	**P**	**22 30 06.1**	**+1.3**
LSA	**Lhasa**	**94.22**	**49**	*e*P	**P**	**22 30 06.7**	**-0.5**
LSA				pmax	pmax		
	comp=Z,21nm,1.4s						
LSA	**Lhasa**	**94.22**	**49**	*e*P	**P**	**22 30 06.7**	**-0.5**
	comp=Z,22nm,1.4s						
KIS	**Kishinev**	**95.00**	**358**	*e*P	P	22 30 13.0	+3.3
KIS				*e*L	L	23 11 28.0	
KIS	**Kishinev**	**95.00**	**358**	*e*P	P	22 30 13.0	+3.3
DRGR		**95.08**	**354**	⇓*i*P	P	22 30 21.9	+12
KSH	**Kashi**	**95.95**	**33**	*e*P	**P**	**22 30 13.1**	**-1.3**
KSH				sP	**sP**	**22 30 20.0**	**-2.6**
KSH				PP	**PP**	**22 34 05.7**	**-1.7**
KSH				SKS	**SKSac**	**22 40 46.7**	**-2.8**
KSH				S	S	22 41 24.3	-7.4
KSH				sS	**ScS**	**22 41 33.9**	**+1.6**
KSH				pmax	pmax		
	comp=Z,150nm,4.4s						
KSH				LR	LR		
	comp=N,100nm,6.1s						
KSH				LR	LR		
	comp=E,91nm,4.9s						
KSH				LR	LR		
	comp=Z,160nm,6.8s						
QIZ	**Qiongzhong**	**96.51**	**69**	P	**P**	**22 30 17.1**	**-0.2**
QIZ				S	**S**	**22 41 38.8**	**+1.7**
QIZ				pmax	pmax		
	comp=Z,14nm,1.8s						
QIZ				pmax	pmax		
	comp=Z,130nm,3.8s						
KMI	**Kunming**	**96.87**	**60**	P	**P**	**22 30 20.7**	**+1.6**
KMI				pmax	pmax		
	comp=Z,6.0nm,1.2s						
KMI				LR	LR		
	comp=Z,140nm,33.9s						
KKAR	**Karatay Array**	**97.32**	**28**	*e*P	Pdif	22 30 20.5	0.0
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KKAR	**Karatay Array**	**97.32**	**28**	*e*P	Pdif	22 30 20.5	0.0
	comp=Z,2.0nm,0.9s						
GERES	**GERESS Array B**	**98.05**	**348**	LR	LR	23 18 53.5	
	comp=Z,223nm,18.5s,baz=316,slow=38						
AAK	**Ala-Archa**	**98.19**	**31**	P	Pdif	22 30 29.0	+4.5
AAK				pmax	pmax		
	comp=Z,17nm,1.6s						
TREC	**Trest**	**98.26**	**349**	AMS	AMS	23 12 00.0	
	comp=Z,400nm,18.5s						
KHC	**Kasperske Hory**	**98.34**	**348**	*e*PP	PP	22 34 28.0	+2.4
KHC				*e*SP	SP	22 43 15.4	-0.9
KHC				*e*SS	SS	22 48 44.4	+7.7
KHC				AMS	AMS	23 12 40.0	
	comp=Z,300nm,21.5s						
OKC	**Ostrava-Krasne**	**98.50**	**351**	AMS	AMS	23 16 30.0	
	comp=Z,200nm,23.7s						
AKASG	**Malin Array Be**	**98.70**	**359**	LR	LR	23 13 36.3	
	comp=Z,128nm,21.6s,baz=210,slow=35						
PRU	**Pruhonice**	**99.06**	**349**	*e*SP	SP	22 43 28.7	+4.8
PRU				*e

comp=Z,454nm,25.8s
SONM Songino Array 115.66 46 PKP PKPdf 22 35 27.9 -1.4
SONM PKKPbc PKKPbc 22 46 01.4 -0.2
SONM Songino Array 115.66 46 PKP PKPdf 22 35 27.9 -1.4
comp=Z,0.6nm,0.9s,baz=145,slow=3.0,SNR=3.0
SONM PKKPbc PKKPbc 22 46 01.4 -0.2
comp=Z,1.6nm,0.9s,baz=63,slow=0.6,SNR=7.5
TLY Talaya 117.09 42 *i* PKIKP PKPdf 22 35 34.2 +2.4
ARCES ARCESS Array B 117.66 358 PKP PKPdf 22 35 31.8 -0.6
ARCES ARCESS Array B 117.66 358 PKP PKPdf 22 35 31.8 -0.6
comp=Z,5.2nm,1.1s,baz=57,slow=3.3,SNR=4.8
YAK Yakutsk 134.55 41 PKIKP PKPdf 22 36 10.4 +5.7
OXF Oxford 134.72 275 *e*PKIKP PKPdf 22 36 04.7 -1.3
OXF Oxford 134.72 275 *e*PKPdf PKPdf 22 36 04.7 -1.3
TIXI Tiksi 137.19 28⇑*i*PKIKP PKPdf 22 36 16.9 +7.5
TIXI pmax pmax
comp=Z,15nm,1.7s
632A Uvalde 138.52 261 ⇑PKiKP PKPdf 22 36 13.9 +0.7
baz=139
WHTX Lake Whitney 138.55 266 ⇓PKiKP PKPdf 22 36 13.7 +0.5
baz=139
631A Perdido Creek 138.97 260 ⇑PKiKP PKPdf 22 36 14.6 +0.6
baz=139
532A Rocksprings 139.00 262 ⇑PKiKP PKPdf 22 36 14.7 +0.5
baz=139
JCT Junction City 139.16 262 ⇑PKiKP PKPdf 22 36 14.7 +0.3
baz=139
432A Menard 139.40 263 ⇓PKiKP PKPdf 22 36 15.2 +0.4
baz=140
531A Rocksprings 139.44 261 ⇓PKiKP PKPdf 22 36 15.1 +0.2
baz=140
332A Millersview 139.69 263 ⇓PKiKP PKPdf 22 36 15.7 +0.3
baz=140
TUL1 Tulsa 139.78 272 ⇓PKiKP PKPdf 22 36 16.4 +1.1
baz=140
431A Sonora 139.82 262 ⇑PKiKP PKPdf 22 36 16.2 +0.6
baz=140
232A Coleman 139.94 264 ⇑PKiKP PKPdf 22 36 16.3 +0.5
baz=140
530A J-C Ranch, Com 139.96 261 ⇓PKiKP PKPdf 22 36 16.6 +0.7
baz=140
331A San Angelo 140.10 263 ⇑PKiKP PKPdf 22 36 16.7 +0.6
baz=140
430A Baggett Ranch, 140.30 261 ⇓PKiKP PKPdf 22 36 16.9 +0.4
baz=140
ABTX Abilene, Hawle 140.40 265 *e*PKPdf PKPpre 22 36 08.4
ABTX Abilene, Hawle 140.40 265 ⇓PKiKP PKPdf 22 36 17.2 +0.6
baz=141
231A Bronte 140.42 264 ⇑PKiKP PKPdf 22 36 17.2 +0.6
baz=141
529A Stev Forest Ra 140.52 260 ⇓PKiKP PKPdf 22 36 17.6 +0.7
baz=141
COWI Conover 140.54 290 *e*PKPdf PKPdf 22 36 15.8 -0.6
628A Black Gap, Mar 140.54 258 ⇑PKiKP PKPdf 22 36 17.6 +0.6
baz=141
429A Davenport Ranc 140.63 261 ⇓PKiKP PKPdf 22 36 17.6 +0.5
baz=141
330A Mertzon 140.65 262 ⇓PKiKP PKPdf 22 36 17.7 +0.6
baz=141
Z32A Haskell 140.71 266 ⇓PKiKP PKPdf 22 36 17.8 +0.7
baz=141
627A Terlingua Ranc 140.84 258 ⇓PKiKP PKPdf 22 36 18.1 +0.5
baz=141
230A Sterling City 140.92 263 ⇑PKiKP PKPdf 22 36 17.9 +0.3
baz=141
131A Roby 140.92 264 ⇓PKiKP PKPdf 22 36 18.0 +0.5
baz=141
TXAR Lajitas Array 140.94 257 PKPpre PKPpre 22 36 11.7
TXAR Lajitas Array 140.94 257 PKhKP PKPpre 22 36 11.7
comp=Z,2.2nm,0.7s,baz=152,slow=5.5,SNR=19
WMOK Wichita Mounta 141.09 268 *e*PKHKP PKPpre 22 36 10.7
WMOK Wichita Mounta 141.09 268 *e*PKPdf PKPpre 22 36 10.7
Z31A Sharp Cattle R 141.16 265 ⇑PKiKP PKPdf 22 36 18.7 +0.8
baz=141
428A Kincaid Ranch, 141.21 260 ⇓PKiKP PKPdf 22 36 19.0 +0.8
baz=141
130A Snyder 141.26 264 ⇓PKiKP PKPdf 22 36 19.0 +0.8
baz=141
229A Bryant Ranch, 141.43 262 ⇓PKiKP PKPdf 22 36 19.0 +0.5
baz=142
527A Woodward Ranch 141.44 258 ⇑PKiKP PKPdf 22 36 19.1 +0.4
baz=142
Y31A Rekieta Farm, 141.62 266 ⇓PKiKP PKPdf 22 36 19.2 +0.5
baz=142
526A Mary Lane Ranc 141.70 258 ⇓PKiKP PKPdf 22 36 20.0 +0.8
baz=142
328A Wristen Ranch, 141.72 261 ⇓PKiKP PKPdf 22 36 19.4 +0.4
baz=142
427A Hayter Ranch, 141.76 260 ⇓PKiKP PKPdf 22 36 19.7 +0.5
baz=142
Z30A Sanderson Ranc 141.79 265 ⇓PKiKP PKPdf 22 36 19.8 +0.7
baz=142
129A Stewart Farms, 141.88 263 ⇓PKiKP PKPdf 22 36 19.8 +0.5
baz=142
Y30A Stafford Cattl 141.99 265 ⇓PKiKP PKPdf 22 36 20.2 +0.7
baz=142
228A UT Block 9, Go 142.04 262 ⇓PKiKP PKPdf 22 36 20.2 +0.6
baz=142
426A McDonald Obser 142.06 259 ⇓PKiKP PKPdf 22 36 20.3 +0.4
baz=142
KSU1 Kansas State U 142.06 276 *e*PKPdf PKPpre 22 36 13.8
W31A Holland Ranch, 142.13 268 ⇓PKiKP PKPdf 22 36 20.4 +0.7
baz=142
Z29A Hungry Hill Ra 142.16 264 ⇓PKiKP PKPdf 22 36 20.5 +0.7
baz=142
128A Castleberry Fa 142.28 263 ⇓PKiKP PKPdf 22 36 20.7 +0.7
baz=142
X30A Coker Ranch, T 142.32 266 ⇑PKiKP PKPdf 22 36 20.5 +0.5
baz=142
V31A Spring Creek L 142.40 269 ⇑PKiKP PKPdf 22 36 20.8 +0.7
baz=143
326A Caldwell Ranch 142.44 260 ⇑PKiKP PKPdf 22 36 21.0 +0.6
baz=143
Z28A Tucker Farm, M 142.62 263 ⇓PKiKP PKPdf 22 36 21.0 +0.4
baz=143
425A Indio Mountain 142.76 258 ⇓PKiKP PKPdf 22 36 21.5 +0.5
baz=143
Y28A McKinney Farm, 142.91 264 ⇑PKiKP PKPdf 22 36 21.6 +0.5
baz=143
V30A Spur Ranch, Mi 142.96 268 ⇓PKiKP PKPdf 22 36 22.2 +1.0
baz=143
226B Tecolote Peak, 143.05 260 ⇓PKiKP PKPdf 22 36 22.1 +0.7
baz=143
325A Bean Ranch, Si 143.13 259 ⇓PKiKP PKPdf 22 36 22.2 +0.5
baz=143
X28A Dimmitt 143.24 265 ⇓PKiKP PKPdf 22 36 22.6 +0.8
baz=143
MSTX Muleshoe 143.29 264 *e*PKPdf PKPab 22 36 18.1 +0.4
MSTX Muleshoe 143.29 264 ⇑PKiKP PKPdf 22 36 22.7 +0.8
baz=144
126A Clayton Basin, 143.31 261 ⇑PKiKP PKPdf 22 36 22.7 +0.8
baz=144
U30A WK&E Inc. Balk 143.37 269 ⇑PKiKP PKPdf 22 36 22.5 +0.7
baz=144
Y27A Causey 143.50 264 ⇑PKiKP PKPdf 22 36 22.7 +0.5
baz=144
225A Deer Hill, Car 143.50 260 ⇓PKiKP PKPdf 22 36 23.0 +0.7
baz=144
324A Moseley Ranch, 143.51 258 ⇑PKiKP PKPdf 22 36 22.9 +0.6
baz=144
T30A Plains 143.57 270 ⇓PKPdf PKPbc 22 36 20.5 +0.9
baz=144
R31A Burdett 143.58 273 ⇑PKPdf PKPbc 22 36 20.0 +0.5
baz=144
MNTX Cornudas Mount 143.61 259 *e*PKPdf PKPab 22 36 18.2 -0.7
Z26A Caprock 143.67 262 ⇑PKPdf PKPbc 22 36 20.3 +0.2
baz=144
W28A Vega 143.68 266 ⇑PKPdf PKPbc 22 36 20.6 +0.5
baz=144
125A Gardner Draw, 143.74 261 ⇑PKPdf PKPbc 22 36 20.5 +0.2
baz=144
S30A Montezuma 143.85 271 ⇓PKPdf PKPbc 22 36 21.0 +0.6
baz=144
Q31A Ellis 143.87 274 ⇓PKPdf PKPbc 22 36 20.8 +0.4
baz=144
X27A F and S Farms, 143.91 265 ⇑PKPdf PKPbc 22 36 21.1 +0.3
baz=144
Y26A Elida 143.96 263 ⇓PKPdf PKPbc 22 36 21.4 +0.5
baz=144
V28A Channing 143.97 267 ⇑PKPdf PKPbc 22 36 21.3 +0.4
baz=144
R30A Dighton 144.07 272 ⇑PKPdf PKPbc 22 36 21.4 +0.3
baz=144
P31A Stockton 144.12 274 ⇓PKPdf PKPbc 22 36 21.7 +0.6
baz=144
W27A Bowe Ranch, En 144.13 265 ⇑PKPdf PKPbc 22 36 21.7 +0.3
baz=144
T29A Hugoton 144.14 270 ⇑PKPdf PKPbc 22 36 22.0 +0.7
baz=144
Z25A Roswell 144.16 261 ⇓PKPdf PKPbc 22 36 21.6 +0.1
baz=144
BGNE Belgrade 144.24 278 *e*PKPdf PKPab 22 36 20.9 -0.1
BGNE Belgrade 144.24 278 ⇑PKPdf PKPbc 22 36 21.9 +0.5
baz=144
S29A Ulysses 144.28 270 ⇓PKPdf PKPdf 22 36 22.6 -0.8
baz=144
124A Stringfield Ra 144.29 260 ⇑PKPdf PKPdf 22 36 23.0 -0.8
baz=144
ECSD EROS Data Cent 144.30 282 *e*PKPdf PKPbc 22 36 21.5 -0.1
X26A CR and CF Fran 144.33 264 ⇓PKPdf PKPbc 22 36 22.7 +0.6
baz=144
U28A Mallet 144.33 268 ⇓PKPdf PKPdf 22 36 22.8 -0.8
baz=144
V27A Dan Oppiter Fa 144.39 266 ⇑PKPdf PKPbc 22 36 22.3 +0.1
baz=145
Q30A Quinter 144.40 273 ⇓PKPdf PKPbc 22 36 22.3 +0.3
baz=145
223A Chaparral, Ant 144.49 258 ⇑PKPdf PKPbc 22 36 22.7 +0.1
baz=145
Y25A Mesa, Roswell 144.54 262 ⇑PKPdf PKPbc 22 36 22.7 0.0
baz=145
W26A Owens Ranch, T 144.62 265 ⇓PKPdf PKPbc 22 36 23.2 +0.2
baz=145
Z24A Sheeppen Canyo 144.62 261 ⇑PKPdf PKPbc 22 36 23.2 +0.1
baz=145
SKR Severo-Kuril's 144.65 65 *e*PKHKP PKPpre 22 36 13.5
T28A Walsh 144.67 269 ⇑PKPdf PKPbc 22 36 23.1 0.0
baz=145
P30A Selden 144.71 274 ⇓PKPdf PKPbc 22 36 23.3 +0.3
baz=145
R29A Marienthal 144.72 272 ⇑PKPdf PKPbc 22 36 23.5 +0.4
baz=145
U27A Thompson Grove 144.75 267 ⇑PKPdf PKPbc 22 36 23.6 +0.3
baz=145
123A Bell Site, Whi 144.78 259 ⇑PKPdf PKPdf 22 36 24.3 -0.2
baz=145
S28A Manter 144.78 270 ⇓PKPdf PKPdf 22 36 24.0 -0.3
baz=145
X25A Clemmons Ranch 144.88 263 ⇓PKPdf PKPbc 22 36 23.8 0.0
baz=145
O30A MW Ranch, Wils 144.90 275 ⇓PKPdf PKPbc 22 36 23.9 +0.3
baz=145
SEY Seymchan 144.98 43 PKIKP PKPdf 22 36 24.9 +1.3
SEY *i* 22 36 31.4
222A Williams Famil 144.99 258 ⇓PKPdf PKPdf 22 36 25.2 +0.3
baz=145
Y24A Capitan 145.03 262 ⇑PKPdf PKPab 22 36 24.7 +0.3
baz=145
V26A Tequesquite Ra 145.04 266 ⇑PKPdf PKPab 22 36 24.5 +0.2
baz=145
T27A Campo 145.04 268 ⇓PKPdf PKPdf 22 36 24.7 -0.2
baz=145
R28A Tribune 145.13 271 ⇓PKPdf PKPdf 22 36 24.8 0.0
baz=145
Z23A Wild Site, Whi 145.15 260 ⇓PKPdf PKPdf 22 36 25.8 +0.7
baz=145
W25A X Bar L Ranch, 145.15 264 ⇓PKPdf PKPdf 22 36 25.1 0.0
baz=145
N30A Hueftle Ranch, 145.23 276 ⇓PKPdf PKPdf 22 36 25.2 +0.2
baz=145
122A Conniff Cattle 145.30 259 ⇓PKPdf PKPdf 22 36 26.6 +1.2
baz=146
U26A Atchley Ranch, 145.35 267 ⇓PKPdf PKPdf 22 36 25.4 0.0
baz=146
221A Mesquite Ranch 145.37 257 ⇑PKPdf PKPab 22 36 26.6 +0.9
baz=146
O29A 4D Ranch, Culb 145.37 274 ⇑PKPdf PKPab 22 36 25.5 +0.2
baz=146
X24A Lazy VL Ranch, 145.41 263 ⇓PKPdf PKPdf 22 36 25.7 +0.1
baz=146
320A Kipp Ranch, An 145.42 255 ⇓PKPdf PKPab 22 36 26.7 +0.9
baz=146
M30A Dale-Ortello V 145.44 277 ⇑PKPdf PKPab 22 36 25.8 +0.3
baz=146
Y23A Lovelace Mesa, 145.44 261 ⇓PKPdf PKPab 22 36 26.4 +0.5
baz=146
S27A Las Animas 145.50 269 ⇓PKPdf PKPab 22 36 26.2 +0.2
baz=146
Q28A Sharon Springs 145.52 272 ⇑PKPdf PKPab 22 36 26.1 +0.2
baz=146
N29A Votaw Ranch, W 145.59 276 ⇑PKPdf PKPab 22 36 26.4 +0.3
baz=146
AGMN Agassiz Nation 145.61 290 *e*PKPdf PKPdf 22 36 24.6 -0.6
Z22A Elephant Butte 145.62 259 ⇑PKPdf PKPab 22 36 27.1 +0.5
baz=146
T26A Comanche Natio 145.69 268 ⇑PKPdf PKPab 22 36 26.9 +0.2
baz=146
121A Cookes Peak, D 145.71 258 ⇑PKPdf PKPab 22 36 27.4 +0.5
baz=146
P28A Saint Francis 145.73 273 ⇑PKPdf PKPab 22 36 27.1 +0.4
baz=146
R27A Eads 145.76 270 ⇓PKPdf PKPab 22 36 27.0 +0.1
baz=146
W24A Lazy 6 Ranch, 145.78 264 ⇑PKPdf PKPab 22 36 27.4 +0.2
baz=146
220A Playas Peak, P 145.79 256 ⇓PKPdf PKPab 22 36 27.5 +0.3
baz=146
U25A Circle Dot Ran 145.80 266 ⇓PKPdf PKPab 22 36 27.2 0.0
baz=146
X23A Hourglass Bar 145.92 262 ⇓PKPdf PKPab 22 36 27.9 +0.2
baz=146
319A Douglas 145.93 255 ⇑PKPdf PKPab 22 36 27.9 +0.1
baz=146
M29A Burnside Ranch 145.94 276 ⇑PKPdf PKPab 22 36 27.5 +0.1
baz=146
BNM Barren Site 145.95 261 *e*PKPdf PKPab 22 36 27.9 0.0
V24A Rampart Ranch, 145.99 264 ⇓PKPdf PKPab 22 36 28.1 +0.1
baz=146
O28A Krutsinger Ran 146.02 274 ⇑PKPdf PKPab 22 36 27.7 -0.1
baz=146
KSCO Kaye Shedlock' 146.02 271 *e*PKPdf PKPdf 22 36 25.3 -1.1
KSCO Kaye Shedlock' 146.02 271 ⇑PKPdf PKPab 22 36 27.8 -0.1
baz=146
Y22A Socorro 146.04 260 ⇑PKPdf PKPab 22 36 28.1 -0.1
baz=146
LPM Los Pinos Moun 146.05 261 *e*PKPdf PKPbc 22 36 27.7 +0.1
Y22D IRIS PASSCAL I 146.10 261 ⇑PKPdf PKPab 22 36 28.1 -0.2
baz=146
Z21A St. Cloud Mine 146.12 259 ⇑PKPdf PKPab 22 36 28.2 -0.3
baz=146
BRSD Miller 146.13 282 ⇓PKPdf PKPab 22 36 27.8 -0.1
baz=146
N28A Pribbeno Ranch 146.14 275 ⇑PKPdf PKPab 22 36 27.9 -0.3
baz=146
LENM Lemitar 146.19 261 *e*PKPdf PKPdf 22 36 26.7 -0.3
R26A Arlington 146.20 270 ⇓PKPdf PKPab 22 36 28.3 -0.2
baz=146
T25A Trinidad 146.21 267 ⇑PKPdf PKPab 22 36 28.5 -0.2
baz=146
W23A Werner Place, 146.24 263 ⇓PKPdf PKPab 22 36 29.0 +0.1
baz=146
ULM Lac du Bonnet 146.25 293 *e*PKPdf PKPdf 22 36 25.3 -0.9
ULM PKPbc PKPbc 22 36 27.1 -0.4
ULM Lac du Bonnet 146.25 293 PKPbc PKPbc 22 36 27.1 -0.4
comp=Z,25nm,0.9s,baz=63,slow=2.0,SNR=20
PETK Petropavlovsk- 146.27 61 PKP2 PKPdf 22 36 26.2 0.0
PETK Petropavlovsk- 146.27 61 PKPbc PKPdf 22 36 26.2 0.0
PETK Petropavlovsk- 146.27 61 PKPbc PKPdf 22 36 26.2 0.0
comp=Z,2.6nm,0.9s,baz=187,slow=6.0,SNR=6.0
120A U Bar Ranch, L 146.27 257 ⇑PKPdf PKPdf 22 36 27.3 +0.2
baz=146
P27A Ficken Ranch, 146.27 272 ⇑PKPdf PKPdf 22 36 27.3 +0.5
baz=146
K29A Lazy Trails An 146.29 279 ⇑PKPdf PKPbc 22 36 27.4 -0.5
baz=146
ANMO Albuquerque 146.32 262 *e*PKPdf PKPdf 22 36 26.4 -0.7
U24A Moreno Valley 146.38 265 ⇓PKPdf PKPdf 22 36 27.9 +0.5
baz=147
X22A Bernardo 146.42 261 ⇑PKPdf PKPdf 22 36 27.7 +0.4
baz=147
LAZ Ladron 146.44 261 *e*PKPbc PKPab 22 36 29.5 -0.2
S25A Robets Cordova 146.51 268 ⇑PKPdf PKPdf 22 36 28.0 +0.6
baz=147
Y21A Point of Rocks 146.55 260 ⇓PKPdf PKPdf 22 36 28.0 +0.4
baz=147
Q26A Hugo 146.57 271 ⇑PKPdf PKPdf 22 36 27.7 +0.3
baz=147
OGNE Ogallala 146.59 275 *e*PKPdf PKPdf 22 36 27.7 +0.5
OGNE Ogallala 146.59 275 ⇓PKPdf PKPdf 22 36 27.6 +0.3
baz=147
Z20A Nine Sixteen R 146.60 258 ⇑PKPdf PKPdf 22 36 28.1 +0.5
baz=147
V23A Ortiz Mt. (NFS 146.60 264 ⇓PKPdf PKPdf 22 36 27.7 +0.1
baz=147
W22A Albuquerque 146.66 262 ⇓PKPdf PKPdf 22 36 28.0 +0.2
baz=147
R25A Fountain Ranch 146.67 269 ⇑PKPdf PKPdf 22 36 28.4 +0.8
baz=147
L28A Connealy Angus 146.75 277 ⇑PKPdf PKPdf 22 36 28.4 +0.8
P26A Davis Ranch, A 146.78 272 ⇑PKPdf PKPdf 22 36 28.5 +0.8
baz=147
PET Petropavlovsk 146.81 62 *e*PKP2 PKPab 22 36 32.3 +2.1
PET pmax pmax
comp=Z,28nm,0.9s
T24B San Luis 146.82 266 ⇑PKPdf PKPdf 22 36 28.5 +0.4
baz=147
N27A Anderson Farm, 146.86 274 ⇑PKPdf PKPdf 22 36 27.9 +0.2
baz=147
X21A Alamocita Cree 146.89 260 ⇓PKPdf PKPdf 22 36 28.2 0.0
baz=147
E30A Jud 146.90 286 ⇓PKPdf PKPbc 22 36 29.0 -0.5
baz=147
U23A El Rito 146.94 265 ⇑PKPdf PKPbc 22 36 30.0 -0.1
baz=147
Y20A Horse Springs, 146.95 259 ⇓PKPdf PKPdf 22 36 29.1 +0.7
baz=147
K28A Ten Mile Ranch 146.97 278 ⇓PKPdf PKPdf 22 36 28.2 +0.4
baz=147
FCC Fort Churchill 146.98 309 *e*PKIKP PKPdf 22 36 27.0 -0.1
FCC Fort Churchill 146.98 309 *e*PKPdf PKPdf 22 36 27.0 -0.1
S24A Houchin Ranch, 147.02 267 ⇓PKPdf PKPdf 22 36 28.7 +0.3
baz=147
D30A Buchanan 147.03 287 ⇓PKPdf PKPdf 22 36 28.4 +0.7
baz=147
Q25A Bedland, Calha 147.05 270 ⇑PKPdf PKPdf 22 36 28.8 +0.5
baz=147
C30A Mose, Pekin 147.06 288 ⇓PKPdf PKPdf 22 36 28.6 +0.9
baz=147
O26A Horse Wrangler 147.10 273 ⇑PKPdf PKPdf 22 36 29.3 +1.1
baz=147
V22A San Miguel Ran 147.18 263 ⇓PKPdf PKPdf 22 36 29.2 +0.6
baz=147
J28A Allard Ranch, 147.19 279 ⇑PKPdf PKPdf 22 36 28.4 +0.3
baz=147
W21A San Fidel 147.20 261 ⇓PKPdf PKPdf 22 36 28.8 +0.1
baz=147
B30A Myrvik Farm, E 147.21 289 ⇓PKPdf PKPdf 22 36 29.0 +1.0
baz=147
T23A Casias Ranch, 147.24 266 ⇑PKPdf PKPdf 22 36 29.2 +0.5
baz=147
F29A Eureka 147.25 284 ⇑PKPdf PKPdf 22 36 29.1 +1.0
baz=147
R24A Sanders Place, 147.27 268 ⇓PKPdf PKPdf 22 36 29.0 +0.3
baz=147
SDCO Great Sand Dun 147.27 267 *e*PKPdf PKPdf 22 36 28.7 -0.1
SDCO *e*PKPbc PKPbc 22 36 31.5 +0.4
P25A Willow Gulch B 147.31 271 ⇑PKPdf PKPdf 22 36 29.2 +0.5
baz=148
N26A Koester Ranch, 147.32 274 ⇑PKPdf PKPdf 22 36 29.1 +0.5
baz=148
A30A Hoffart Farm, 147.35 290 ⇑PKPdf PKPdf 22 36 29.1 +0.9
baz=148
I28A Midland 147.39 280 ⇓PKPdf PKPdf 22 36 29.2 +0.7
baz=148
U22A Llaves 147.41 264 ⇑PKiKP PKPbc 22 36 31.8 +0.3
baz=148
X20A Quemado 147.42 260 ⇑PKiKP PKPbc 22 36 31.7 +0.1
baz=148
TUC Tucson 147.50 254 *e*PKIKP PKPdf 22 36 29.8 +0.7
TUC Tucson 147.50 254 *e*PKPdf PKPdf 22 36 29.8 +0.7
H28A Mission Ridge 147.57 282 ⇑PKiKP PKPbc 22 36 31.8 +0.4
baz=148
M26A McRoberts Ranc 147.57 275 ⇑PKiKP PKPbc 22 36 32.1 +0.4
baz=148
O25A Wiggins 147.57 272 ⇑PKiKP PKPbc 22 36 31.9 +0.2
baz=148
V21A Milan 147.60 262 ⇑PKiKP PKPbc 22 36 32.1 +0.1
baz=148
J27A Elkhorn Farm, 147.62 279 ⇑PKiKP PKPbc 22 36 32.0 +0.4
baz=148
G28A Parade 147.66 282 ⇑PKiKP PKPbc 22 36 32.0 +0.3
baz=148
Q24A Divide 147.68 269 ⇓PKiKP PKPbc 22 36 32.6 +0.3
baz=148
R23A Moffat 147.72 268 ⇑PKiKP PKPbc 22 36 32.7 +0.4
baz=148
W20A Ramah 147.77 261 ⇑PKiKP PKPbc 22 36 32.9 +0.4
baz=148
L26A Underwood Farm 147.79 276 ⇑PKiKP PKPbc 22 36 32.7 +0.5
baz=148
P24A Kohler Place, 147.80 271 ⇑PKiKP PKPbc 22 36 32.5 +0.1
baz=148
T22A Edith 147.80 265 ⇑PKiKP PKPbc 22 36 33.3 +0.7
baz=148
MDND Maddock 147.82 288 ⇓PKiKP PKPbc 22 36 31.6 -0.3
baz=148
B29A Wagenman Farm, 147.86 289 ⇑PKiKP PKPbc 22 36 31.7 -0.3
baz=148
F28A McLaughlin 147.88 284 ⇑PKiKP PKPbc 22 36 32.4 +0.2
baz=148
N25A Grover 147.89 273 ⇓PKiKP PKPbc 22 36 33.0 +0.4
baz=148
A29A Manning Farm, 147.93 290 ⇑PKiKP PKPbc 22 36 32.3 +0.1
baz=148
U21A Nageezi 147.97 263 ⇑PKiKP PKPbc 22 36 33.4 +0.4
baz=148
I27A Quinn 148.00 280 ⇓PKiKP PKPbc 22 36 32.9 +0.2
baz=148
E28A Huff 148.08 285 ⇓PKiKP PKiKP 22 36 33.7 -0.7
baz=148
Q23A Hartsel 148.10 269 ⇓PKiKP PKPbc 22 36 33.3 -0.1
baz=148
V20A Brimhall 148.15 262 ⇑PKiKP PKPbc 22 36 33.9 +0.4
baz=148
S22A 4UR Ranch, Cre 148.15 266 ⇓PKiKP PKPbc 22 36 34.2 +0.6
baz=148
M25A Palm-Egli Farm 148.17 274 ⇑PKiKP PKPbc 22 36 33.7 +0.5
baz=148
T21A Navajo Lake 148.21 264 ⇑PKiKP PKPbc 22 36 33.7 +0.1
baz=148
O24A Longmont 148.21 271 ⇑PKiKP PKPbc 22 36 34.0 +0.5
baz=148
D28A Regan 148.22 286 ⇑PKiKP PKiKP 22 36 34.0 -0.8
baz=148
H27A Howes 148.24 281 ⇓PKiKP PKPbc 22 36 33.2 0.0
baz=148
C28A Hausauer Farms 148.28 287 ⇑PKiKP PKPbc 22 36 33.0 -0.2
baz=148
P23A Jefferson 148.35 270 ⇑PKiKP PKiKP 22 36 35.0 -0.7
baz=148
J26A Sides Ranch, S 148.35 278 ⇓PKiKP PKPbc 22 36 33.6 0.0
baz=148
X18A Snowflake 148.36 258 ⇑PKiKP PKPbc 22 36 34.7 +0.6
baz=148
R22A Saguache, Gunn 148.37 267 ⇑PKiKP PKiKP 22 36 35.3 -0.4
baz=148
ISCO Idaho Springs 148.41 270 *e*PKIKP PKPdf 22 36 31.0 +0.3
ISCO Idaho Springs 148.41 270 *e*PKPdf PKPdf 22 36 30.9 +0.3
ISCO Idaho Springs 148.41 270 ⇓PKiKP PKPbc 22 36 34.6 +0.4
baz=149
N24A Carr 148.43 273 ⇑PKiKP PKPbc 22 36 34.5 +0.5
baz=149
L25A Engebretsen Ra 148.44 276 ⇓PKiKP PKiKP 22 36 34.8 -0.7
baz=149
B28A Dugan Ranch, T 148.50 289 ⇑PKiKP PKPbc 22 36 33.6 0.0
baz=149
I26A New Underwood 148.51 279 ⇓PKiKP PKPbc 22 36 34.0 0.0
baz=149
U20A Newcomb 148.51 263 ⇑PKiKP PKPbc 22 36 34.9 +0.6
baz=149
214A Organ Pipe Nat 148.56 252 ⇑PKiKP PKPbc 22 36 34.5 +0.1
baz=149
A28A Rude Farm, Bot 148.58 289 ⇓PKiKP PKPbc 22 36 33.9 0.0
baz=149
K25A Mack Ranch, Ha 148.58 276 ⇑PKiKP PKPbc 22 36 34.4 +0.1
baz=149
W18A Petrified Fore 148.58 260 *e*PKPbc PKPbc 22 36 34.5 0.0
W18A Petrified Fore 148.58 260 ⇑PKiKP PKPbc 22 36 34.7 +0.1
baz=149
E27A Carson 148.59 284 ⇓PKiKP PKPbc 22 36 34.1 +0.1
baz=149
F27A Lemmon 148.68 283 ⇑PKiKP PKPbc 22 36 34.3 -0.1
baz=149
M24A Cheyenne 148.69 274 ⇓PKiKP PKPbc 22 36 34.6 -0.1
baz=149
S21A Coal Bank Pass 148.75 265 ⇓PKiKP PKiKP 22 36 36.1 -0.4
baz=149
D27A Center 148.80 286 ⇑PKiKP PKPbc 22 36 34.8 +0.3
baz=149
Q22A Crested Butte, 148.80 268 ⇓PKiKP PKiKP 22 36 36.0 -0.6
baz=149
O23A Lake Granby, G 148.82 271 ⇓PKiKP PKPbc 22 36 35.7 +0.5
baz=149

G26A	Maurine	148.84	282	⇑PKiKP	PKPbc	22 36 34.9 +0.1
	baz=149					
R21A	Cimarron	148.97	267	⇑PKiKP	PKiKP	22 36 36.3 -0.6
	baz=149					
MVCO	Mesa Verde	148.97	264	*e*PKPdf	PKPdf	22 36 32.6 +1.1
MVCO	Mesa Verde	148.97	264	⇓PKiKP	PKiKP	22 36 36.3 -0.6
	baz=149					
C27A	Sayler Ranch,	148.99	287	⇓PKiKP	PKPbc	22 36 35.2 +0.2
	baz=149					
SMCO	Snowmass	149.01	268	*e*PKPdf	PKPdf	22 36 32.2 +0.5
L24A	Wheatland	149.03	275	⇓PKiKP	PKiKP	22 36 36.1 -0.6
	baz=149					
PHWY	Pilot Hill	149.04	273	*e*PKPdf	PKPdf	22 36 30.3 -1.3
PHWY				*e*PKPbc	PKPbc	22 36 35.2 -0.5
B27A	Peters Farms,	149.05	288	⇑PKiKP	PKPbc	22 36 35.3 +0.2
	baz=149					
P22A	Eagle	149.08	269	⇓PKiKP	PKPbc	22 36 36.1 +0.4
	baz=149					
I25A	Rochford	149.08	279	⇓PKiKP	PKPbc	22 36 35.9 +0.3
	baz=149					
G27A	Dupree	149.09	282	⇑PKiKP	PKPbc	22 36 33.7 -1.6
	baz=149					
N23A	Red Feather La	149.17	272	⇓PKiKP	PKPbc	22 36 36.2 +0.2
	baz=149					
E26A	Carlson Angus	149.18	284	⇓PKiKP	PKPbc	22 36 35.8 +0.2
	baz=149					
A27A	Ledoux Ranch,	149.20	289	⇓PKiKP	PKPbc	22 36 35.6 +0.1
	baz=149					
O22A	Kremmling	149.22	270	⇑PKiKP	PKPbc	22 36 36.2 0.0
	baz=149					
S20A	Disappointment	149.22	265	⇓PKiKP	PKiKP	22 36 37.1 -0.3
	baz=149					
Q21A	Lamborn Mesa,	149.23	267	⇑PKiKP	PKiKP	22 36 36.9 -0.4
	baz=149					
H25A	Fruitdale	149.24	280	⇑PKiKP	PKPbc	22 36 36.0 +0.2
	baz=149					
K24A	Anderson Ranch	149.25	276	⇓PKiKP	PKPbc	22 36 35.8 -0.2
	baz=149					
X16A	Lo Mia Camp, P	149.26	257	⇑PKiKP	PKiKP	22 36 37.2 -0.4
	baz=149					
M23A	Laramie	149.29	273	⇓PKiKP	PKPbc	22 36 36.0 -0.2
	baz=150					
RSSD	Black Hills	149.32	279	*e*PKPdf	PKPdf	22 36 32.0 +0.2
G25A	Newell	149.34	281	⇑PKiKP	PKPbc	22 36 36.1 0.0
	baz=150					
D26A	Manning	149.36	285	⇓PKiKP	PKiKP	22 36 37.0 -0.1
	baz=150					
J24A	Dixon Ranch, L	149.41	277	⇓PKiKP	PKPbc	22 36 36.4 +0.1
	baz=150					
R20A	Redvale	149.42	266	⇑PKiKP	PKiKP	22 36 37.6 -0.1
	baz=150					
N22A	Wattenberg Ran	149.47	272	⇑PKiKP	PKPbc	22 36 37.2 +0.5
	baz=150					
P21A	Newcastle	149.50	269	⇓PKiKP	PKiKP	22 36 37.7 -0.2
	baz=150					
PV01	Paradox Valley	149.52	265	*e*PKPbc	PKPbc	22 36 37.7 +0.8
L23A	Garrett	149.57	274	⇑PKiKP	PKPbc	22 36 36.7 -0.2
	baz=150					
Z14A	Wintersburg	149.57	254	⇓PKiKP	PKiKP	22 36 37.4 -0.5
	baz=150					
I24A	Kuemmerle Ranc	149.61	278	⇑PKiKP	PKPbc	22 36 36.9 +0.2
	baz=150					
F25A	Bowman	149.63	283	⇓PKiKP	PKPbc	22 36 36.8 +0.1
	baz=150					
B26A	Jensen Ranch,	149.66	288	⇓PKiKP	PKiKP	22 36 38.0 +0.3
	baz=150					
A26A	Wade Farm, Ken	149.69	289	⇑PKiKP	PKiKP	22 36 38.1 +0.4
	baz=150					
113A	Mohawk Valley,	149.71	252	⇓PKiKP	PKiKP	22 36 37.7 -0.5
	baz=150					
Q20A	Ridgley Place,	149.77	267	⇓PKiKP	PKiKP	22 36 38.1 -0.3
	baz=150					
E25A	Miller Ranch,	149.80	284	⇑PKiKP	PKPbc	22 36 37.2 +0.1
	baz=150					
K23A	Bowen Ranch, D	149.80	276	⇑PKiKP	PKiKP	22 36 38.0 -0.3
	baz=150					
M22A	Cedar Creek Ra	149.84	272	⇓PKiKP	PKPbc	22 36 37.6 0.0
	baz=150					
O21A	Pagoda	149.86	270	⇓PKiKP	PKPbc	22 36 38.0 +0.2
	baz=150					
PV04	Paradox Valley	149.88	266	*e*PKPdf	PKPdf	22 36 34.4 +1.5
PV04				*e*PKPbc	PKPbc	22 36 37.7 0.0
WUAZ	Wupatki	149.89	259	*e*PKPdf	PKPdf	22 36 34.4 +1.4
WUAZ				*e*PKPbc	PKiKP	22 36 38.5 -0.3
WUAZ	Wupatki	149.89	259	⇓PKiKP	PKiKP	22 36 38.3 -0.4
	baz=150					
H24A	Dirks Ranch, A	149.91	280	⇓PKiKP	PKPbc	22 36 37.6 +0.1
	baz=150					
D25A	Fairfield	149.97	285	⇓PKiKP	PKiKP	22 36 38.0 -0.4
	baz=150					
Y14A	Wickenburg	149.98	254	⇓PKiKP	PKiKP	22 36 38.6 -0.2
	baz=150					
L22A	Ellis Ranch, M	150.02	274	⇑PKiKP	PKPbc	22 36 37.9 -0.1
	baz=150					
J23A	Dilts Ranch, B	150.03	277	⇓PKiKP	PKPbc	22 36 37.1 -0.7
	baz=150					
G24A	Alzada	150.04	281	⇓PKiKP	PKPbc	22 36 37.3 -0.5
	baz=150					
C25A	Freed Ranch, W	150.11	286	⇑PKiKP	PKiKP	22 36 38.3 -0.3
	baz=150					
N21A	Black Mountain	150.16	271	⇑PKiKP	PKPbc	22 36 38.4 0.0
	baz=150					
I23A	Meade Ranch, G	150.20	278	⇑PKiKP	PKPbc	22 36 38.3 +0.1
	baz=150					
B25A	Knox Farm, Ray	150.22	287	⇑PKiKP	PKiKP	22 36 38.5 -0.3
	baz=150					
F24A	Ekalaka	150.25	282	⇑PKiKP	PKPbc	22 36 38.2 0.0
	baz=150					
O20A	White River Ci	150.33	269	*e*PKPbc	PKPbc	22 36 38.4 -0.3
O20A	White River Ci	150.33	269	⇓PKiKP	PKPbc	22 36 38.5 -0.2
	baz=150					
K22A	Casper	150.35	275	⇓PKiKP	PKPbc	22 36 38.3 -0.4
	baz=150					
A25A	Svangstu Ranch	150.38	288	⇓PKiKP	PKiKP	22 36 39.5 +0.3
	baz=151					
RWWY	Rawlins	150.38	273	*e*PKPdf	PKPdf	22 36 33.4 -0.3
RWWY				*e*PKPbc	PKPbc	22 36 38.3 -0.7
RWWY				*e*PKPab	PKPab	22 36 45.0 -0.4
E24A	Baker	150.41	283	⇓PKiKP	PKiKP	22 36 38.9 -0.4
	baz=151					
M21A	Separation Pea	150.45	272	⇓PKiKP	PKPbc	22 36 38.9 -0.2
	baz=151					
GLA	Glamis	150.56	251	*e*PKIKP	PKPbc	22 36 39.8 +0.4
GLA				*e*		22 36 46.5
GLA	Glamis	150.56	251	*e*PKPbc	PKPbc	22 36 39.8 +0.4
GLA				*e*PKPab	PKPab	22 36 46.5 +0.4
GLA	Glamis	150.56	251	⇓PKiKP	PKiKP	22 36 40.2 +0.1
	baz=151					
P19A	Cripple Cowboy	150.58	268	⇓PKiKP	PKiKP	22 36 40.0 -0.1
	baz=151					
D24A	Glendive	150.61	284	⇓PKiKP	PKPbc	22 36 39.2 +0.3
	baz=151					
L21A	Rawlins	150.61	273	⇑PKiKP	PKPbc	22 36 39.1 -0.3
	baz=151					
G23A	Biddle	150.63	280	⇑PKiKP	PKPbc	22 36 38.8 -0.3
	baz=151					
J22A	Midwest	150.65	276	⇓PKiKP	PKPbc	22 36 38.9 -0.5
	baz=151					
N20A	Spence Gulch,	150.69	270	⇑PKiKP	PKPbc	22 36 39.7 0.0
	baz=151					
C24A	Savage	150.80	285	⇑PKiKP	PKiKP	22 36 40.3 +0.3
	baz=151					
Y12C	Blythe	150.83	253	⇑PKiKP	PKiKP	22 36 40.4 -0.1
	baz=151					
K21A	Alcova	150.83	274	⇑PKiKP	PKPbc	22 36 39.6 -0.3
	baz=151					
F23A	Volborg	150.83	281	⇓PKiKP	PKPbc	22 36 39.1 -0.5
	baz=151					
I22A	9 Mile Ranch,	150.85	277	⇓PKiKP	PKPbc	22 36 39.5 -0.3
	baz=151					
FFC	Flin Flon	150.86	300	*e*PKIKP	PKPbc	22 36 38.9 -0.4
FFC	Flin Flon	150.86	300	*e*PKPbc	PKPbc	22 36 38.9 -0.4
PDMCI	Parker Dam,Lak	150.93	254	⇓PKiKP	PKiKP	22 36 40.9 +0.2
	baz=151					
DGMT	Dagmar	150.94	287	⇑PKiKP	PKiKP	22 36 40.0 -0.2
	baz=151					
M20A	Sweetwater, Wa	150.94	272	⇑PKiKP	PKPbc	22 36 40.4 +0.1
	baz=151					
O19A	Miners Draw (B	151.00	269	⇓PKiKP	PKiKP	22 36 41.0 +0.1
	baz=151					
U15A	North Rim	151.03	259	⇓PKiKP	PKiKP	22 36 41.1 -0.1
	baz=151					
E23A	Ismay	151.04	283	⇑PKiKP	PKiKP	22 36 40.7 +0.1
	baz=151					
H22A	Clearmont	151.04	279	⇑PKiKP	PKPbc	22 36 40.1 -0.1
	baz=151					
SWSC	Sam W. Stewart	151.10	250	⇓PKiKP	PKiKP	22 36 41.2 +0.1
	baz=151					
DVTC	Desert V Tower	151.10	249	⇑PKiKP	PKiKP	22 36 41.6 +0.3
	baz=151					
D23A	Lindsay	151.19	284	⇓PKiKP	PKPbc	22 36 40.4 +0.1
	baz=151					
G22A	Birney	151.23	280	⇑PKiKP	PKPbc	22 36 40.2 -0.4
	baz=151					
J21A	Lysite	151.26	275	⇑PKiKP	PKPbc	22 36 40.9 0.0
	baz=151					
W13A	Hualapai Mount	151.27	255	⇓PKiKP	PKiKP	22 36 41.5 -0.2
	baz=151					
L20A	Wamsutter	151.28	272	⇓PKiKP	PKPbc	22 36 40.7 -0.2
	baz=151					
SRU	San Rafael	151.34	265	*e*PKIKP	PKPdf	22 36 35.1 0.0
SRU				*e*		22 36 40.5
SRU	San Rafael	151.34	265	*e*PKPdf	PKPdf	22 36 35.1 0.0
SRU				*e*PKPbc	PKPbc	22 36 40.5 -0.7
I21A	Big Trails, Te	151.35	276	⇑PKiKP	PKPbc	22 36 40.2 -0.8
	baz=152					
BC3	Big Chuckawall	151.35	251	⇓PKiKP	PKPbc	22 36 40.8 -0.4
	baz=152					
C23A	Lambert	151.37	285	⇑PKiKP	PKiKP	22 36 41.0 -0.2
	baz=152					
F22A	Rosebud	151.41	281	⇑PKiKP	PKPbc	22 36 40.5 -0.5
	baz=152					
E22A	Miles City	151.44	282	⇑PKiKP	PKPbc	22 36 40.7 -0.3
	baz=152					
B23A	Brockton	151.44	287	⇓PKiKP	PKPbc	22 36 40.7 -0.2
	baz=152					
MONP	Monument Peak	151.46	249	⇑PKiKP	PKiKP	22 36 42.2 +0.1
	baz=152					
BAR	Barrett	151.47	248	*e*PKPbc	PKPbc	22 36 41.7 +0.2
BAR				*e*PKPab	PKPab	22 36 50.6 +0.8
IRM	Iron Mountain	151.49	252	⇑PKiKP	PKiKP	22 36 42.1 +0.2
	baz=152					
H21A	Big Horn, Sher	151.50	278	⇑PKiKP	PKPbc	22 36 40.9 -0.4
	baz=152					
K20A	Yellowstone Ra	151.57	274	⇑PKiKP	PKPbc	22 36 40.9 -0.7
	baz=152					
M19A	Rock Springs	151.60	271	⇓PKiKP	PKPbc	22 36 41.8 +0.1
	baz=152					
Q16A	Castle Valley	151.67	265	*e*PKPbc	PKPbc	22 36 41.5 -0.5
Q16A	Castle Valley	151.67	265	⇑PKiKP	PKPbc	22 36 41.5 -0.5
	baz=152					
J20A	Shoshoni	151.69	275	⇑PKiKP	PKPbc	22 36 41.4 -0.4
	baz=152					
LAO	LASA Array	151.70	283	*e*PKPbc	PKPbc	22 36 41.5 -0.1
C22A	Vida	151.81	285	⇓PKiKP	PKPbc	22 36 41.7 -0.1
	baz=152					
D22A	Cohagen	151.82	284	⇓PKiKP	PKPbc	22 36 42.0 +0.2
	baz=152					
G21A	Lodge Grass	151.84	279	⇑PKiKP	PKPbc	22 36 41.7 -0.3
	baz=152					
109C	Camp Elliot, M	151.88	248	⇑PKiKP	PKiKP	22 36 43.3 +0.6
	baz=152					
TMUT	Trail Mountain	151.89	265	*e*PKPdf	PKPdf	22 36 37.0 +0.9
TMUT				*e*PKPbc	PKiKP	22 36 42.8 -0.2
BELC	Belle Mtn. Jos	151.92	251	⇓PKiKP	PKiKP	22 36 43.0 0.0
	baz=152					
PFO	Pinyon Flat Ob	151.96	250	*e*PKPdf	PKPdf	22 36 36.5 +0.4
PFO				*e*PKPbc	PKiKP	22 36 43.2 +0.1
PFO				*e*PKPab	PKPab	22 36 52.7 +0.6
PFO	Pinyon Flat Ob	151.96	250	⇑PKiKP	PKiKP	22 36 43.0 0.0
	baz=152					
I20A	Worland	151.96	276	⇑PKiKP	PKPbc	22 36 41.9 -0.4
	baz=152					
K19A	Absolon Red Bu	151.97	274	⇓PKiKP	PKPbc	22 36 41.8 -0.7
	baz=152					
L19A	Farson	152.00	272	⇑PKiKP	PKPbc	22 36 42.3 -0.3
	baz=152					
B22A	Reddig Ranch S	152.04	286	⇓PKiKP	PKiKP	22 36 42.6 0.0
	baz=152					
LDFC	Landfair	152.04	254	*e*PKPab	PKPab	22 36 52.4 +0.1
H20A	Greybull	152.08	277	⇑PKiKP	PKPbc	22 36 41.8 -0.8
	baz=152					
A22A	Carney Farms,	152.17	287	⇓PKiKP	PKiKP	22 36 42.8 -0.1
	baz=152					
E21A	Keefer Ranch,	152.20	282	⇑PKiKP	PKPbc	22 36 42.6 -0.1
	baz=152					
GMRC	Granite Mounta	152.21	253	⇓PKiKP	PKiKP	22 36 43.7 +0.2
	baz=152					
J19A	Crowheart	152.30	274	⇑PKiKP	PKPbc	22 36 42.8 -0.4
	baz=152					
D21A	La Casta Ranch	152.32	283	⇓PKiKP	PKiKP	22 36 43.1 -0.1
	baz=152					
CCUT	Cedar City	152.37	260	*e*PKPdf	PKPdf	22 36 38.0 +1.2
CCUT				*e*PKPbc	PKiKP	22 36 44.6 +0.7
L18A	Fontenelle, Gr	152.37	271	⇑PKiKP	PKPbc	22 36 43.5 0.0
	baz=152					
MURC	Murrieta	152.41	249	⇓PKiKP	PKPbc	22 36 43.3 -0.2
	baz=153					
BW06	Boulder Array	152.42	273	*e*PKPdf	PKPdf	22 36 36.7 0.0
BW06				*e*PKPbc	PKPbc	22 36 42.4 -1.1
BW06				*e*PKPab	PKPab	22 36 54.2 +0.3
PDAR	Pinedale Array	152.42	273	PKP	PKPdf	22 36 36.6 -0.1
PDAR				PKPbc	PKPbc	22 36 42.8 -0.8
PDAR				PKPab	PKPab	22 36 54.0 +0.2
PDAR	Pinedale Array	152.42	273	PKP	PKPdf	22 36 36.6 -0.1
	comp=Z,2.3nm,0.9s,baz=131,slow=2.0,SNR=14					
PDAR				PKPbc	PKPbc	22 36 42.8 -0.8
	comp=Z,15nm,0.9s,baz=117,slow=3.1,SNR=59					
PDAR				PKPab	PKPab	22 36 54.0 +0.2
	comp=Z,14nm,0.9s,baz=112,slow=3.5,SNR=11					
DAU	Daniels Canyon	152.48	267	*e*PKIKP	PKPdf	22 36 38.0 +1.1
DAU				*e*		22 36 44.6
DAU	Daniels Canyon	152.48	267	*e*PKPdf	PKPdf	22 36 38.0 +1.1
DAU				*e*PKPbc	PKiKP	22 36 44.6 +0.5
G20A	Bridger	152.50	279	⇓PKiKP	PKPbc	22 36 43.3 -0.3
	baz=153					
MPU	Maple Canyon	152.53	266	*e*PKPdf	PKPdf	22 36 38.5 +1.6
MPU				*e*PKPbc	PKiKP	22 36 44.1 0.0
MPU				*e*PKPab	PKPab	22 36 54.2 -0.2
ARUT	Antelope Range	152.56	260	*e*PKIKP	PKPdf	22 36 38.3 +1.3
ARUT				*e*		22 36 44.8
ARUT	Antelope Range	152.56	260	*e*PKPdf	PKPdf	22 36 38.3 +1.3
ARUT				*e*PKPbc	PKiKP	22 36 44.8 +0.6
I19A	Meeteetse	152.57	276	⇑PKiKP	PKPbc	22 36 43.5 -0.3
	baz=153					
M17A	Scullys Gap (B	152.59	270	⇑PKiKP	PKPbc	22 36 43.6 -0.4
	baz=153					
C21A	Desert Coulee	152.61	285	⇓PKiKP	PKPbc	22 36 43.4 -0.2
	baz=153					
F20A	Billings	152.66	280	⇓PKiKP	PKPbc	22 36 43.5 -0.4
	baz=153					
HEC	Hector,Ludlow	152.66	252	⇑PKiKP	PKiKP	22 36 44.7 +0.3
	baz=153					
BBRC	Big Bear Solar	152.68	251	⇓PKiKP	PKPbc	22 36 43.8 -0.6
	baz=153					
JLU	Jordanelle	152.70	267	*e*PKPbc	PKPbc	22 36 44.4 +0.2
JLU				*e*PKPab	PKPab	22 36 55.6 +0.5
B21A	Ellsworth Farm	152.73	286	⇑PKiKP	PKiKP	22 36 44.2 +0.2
	baz=153					
TUQ	Turquoise Moun	152.79	254	⇑PKiKP	PKPbc	22 36 44.3 -0.2
	baz=153					
NLU	North Lily Min	152.80	266	*e*PKPdf	PKPdf	22 36 38.1 +0.8
NLU				*e*PKPbc	PKiKP	22 36 44.9 +0.3
H19A	Powell	152.81	277	⇓PKiKP	PKiKP	22 36 44.3 -0.1
	baz=153					
A21A	Bergtoll Ranch	152.82	287	⇓PKiKP	PKiKP	22 36 44.1 -0.1
	baz=153					
SCI	San Clemente I	152.83	247	⇓PKiKP	PKPbc	22 36 44.5 +0.1
	baz=153					
E20A	Meyer Farm, Mu	152.88	281	⇓PKiKP	PKiKP	22 36 44.4 0.0
	baz=153					
SHPR	Sheep Range	152.94	256	*e*PKPdf	PKPdf	22 36 37.7 +0.1
SHPR				*e*PKPbc	PKiKP	22 36 45.9 +0.9
CTU	Camp Tracy	152.94	267	*e*PKPbc	PKPbc	22 36 45.0 +0.3
CTU				*e*PKPab	PKPab	22 36 55.6 -0.5
I18A	Diamond G Ranc	152.98	275	⇓PKiKP	PKPbc	22 36 44.7 -0.1
	baz=153					
CIS	Catalina Islan	153.03	247	⇑PKiKP	PKiKP	22 36 45.4 +0.3
	baz=153					
D20A	Manuel Ranch,	153.07	283	⇓PKiKP	PKPbc	22 36 44.7 0.0
	baz=153					
BFSC	Mount Baldy Ra	153.12	250	⇓PKiKP	PKiKP	22 36 45.3 -0.1
	baz=153					
RLMT	Red Lodge	153.16	278	*e*PKPdf	PKPdf	22 36 38.3 +0.6
RLMT				*e*PKPbc	PKPbc	22 36 45.0 -0.1
C20A	Veseth Ranch,	153.17	284	⇑PKiKP	PKPbc	22 36 44.6 -0.2
	baz=153					
F19A	Roth Farm, Mol	153.20	280	⇓PKiKP	PKiKP	22 36 45.4 +0.3
	baz=153					
HWUT	Hardware Ranch	153.25	269	*e*PKPdf	PKPdf	22 36 37.5 -0.4
HWUT				*e*PKPbc	PKPbc	22 36 44.7 -0.6
H18A	Shoshone NF, C	153.26	277	⇓PKiKP	PKPbc	22 36 45.1 -0.3
	baz=153					
GSC	Goldstone	153.26	253	*e*PKIKP	PKPdf	22 36 39.5 +1.5
GSC				*e*		22 36 46.1
GSC	Goldstone	153.26	253	*e*PKPdf	PKPdf	22 36 39.5 +1.5
GSC				*e*PKPbc	PKiKP	22 36 46.1 +0.5
GSC	Goldstone	153.26	253	⇑PKiKP	PKiKP	22 36 45.6 -0.1
	baz=153					
E19A	Rath Farm, Rou	153.30	281	⇓PKiKP	PKiKP	22 36 45.4 +0.1
	baz=154					
MWC	Mount Wilson	153.36	249	*e*PKP2	PKPab	22 36 58.4 +0.4
MWC	Mount Wilson	153.36	249	*e*PKPab	PKPab	22 36 58.4 +0.4
B20A	Solberg Farm,	153.38	286	⇑PKiKP	PKiKP	22 36 45.5 +0.1
	baz=154					
PASC	Pasadena Art C	153.41	249	*e*PKPab	PKPab	22 36 58.5 +0.6
DUG	Dugway	153.41	265	*e*PKIKP	PKPdf	22 36 39.0 +0.9
DUG				*e*		22 36 45.5
DUG	Dugway	153.41	265	*e*PKPdf	PKPdf	22 36 39.0 +0.9
DUG				*e*PKPbc	PKPbc	22 36 45.5 -0.2
DUG	Dugway	153.41	265	⇑PKiKP	PKiKP	22 36 45.9 +0.1
	baz=154					
G18A	Lazy EL Ranch,	153.42	278	⇑PKiKP	PKiKP	22 36 45.8 0.0
	baz=154					
A20A	Cobblestone Ra	153.43	287	⇑PKiKP	PKiKP	22 36 45.6 +0.1
	baz=154					
AHID	Auburn Hatcher	153.45	272	*e*PKPbc	PKPbc	22 36 45.7 -0.1
AHID				*e*PKPab	PKPab	22 36 57.1 -1.1
LOHW	Long Hollow	153.47	274	*e*PKPdf	PKPdf	22 36 38.5 +0.3
LOHW				*e*PKPbc	PKPbc	22 36 45.0 -0.8
LOHW				*e*PKPab	PKPab	22 36 57.0 -1.3
SNOW	Snow King Moun	153.51	274	*e*PKPbc	PKPbc	22 36 45.7 -0.2
SNOW				*e*PKPab	PKPab	22 36 57.6 -0.8
REDW	Red Top Meadow	153.53	273	*e*PKPdf	PKPdf	22 36 40.0 +1.8
REDW				*e*PKPbc	PKPbc	22 36 45.5 -0.5
DECC	Green Verdugo	153.55	249	⇓PKiKP	PKPbc	22 36 46.1 0.0
	baz=154					
I17A	Pilgrim Ck.	153.57	275	⇑PKiKP	PKiKP	22 36 46.2 0.0
	baz=154					
D19A	Cripps Ranch,	153.57	282	⇓PKiKP	PKiKP	22 36 45.9 0.0
	baz=154					
MOOW	Moose Ponds	153.62	274	*e*PKPdf	PKPdf	22 36 39.0 +0.7
MOOW				*e*PKPbc	PKPbc	22 36 45.4 -0.8
TPAW	Teton Pass	153.65	274	*e*PKPdf	PKPdf	22 36 39.1 +0.6
TPAW				*e*PKPbc	PKiKP	22 36 46.4 0.0
GCMT	Greycliff	153.66	279	*e*PKPdf	PKPdf	22 36 38.4 +0.1
GCMT				*e*PKPbc	PKPbc	22 36 45.9 -0.1
SPUT	South Promonto	153.70	268	*e*PKPdf	PKPdf	22 36 37.6 -0.9
SPUT				*e*PKPbc	PKPbc	22 36 46.0 -0.3
F18A	Big Timber	153.72	279	⇓PKiKP	PKiKP	22 36 46.6 +0.3
	baz=154					
H17A	Grant Village	153.76	276	⇓PKiKP	PKPbc	22 36 46.4 -0.1
	baz=154					
IMW	Indian Meadow	153.81	274	*e*PKPdf	PKPdf	22 36 37.3 -1.4
IMW				*e*PKPbc	PKPbc	22 36 46.5 -0.1
RRI2	Red Ridge	153.84	273	*e*PKPbc	PKPbc	22 36 46.4 -0.3
C19A	Slack Wire Ran	153.85	284	⇓PKiKP	PKiKP	22 36 46.6 +0.2
	baz=154					
BGU	Big Grassy Mou	153.91	267	*e*PKPdf	PKPdf	22 36 39.1 +0.3
BGU				*e*PKPbc	PKiKP	22 36 46.8 0.0
BLG	Laguna Peak	153.91	248	⇑PKiKP	PKiKP	22 36 47.1 +0.2
	baz=154					
LRMC	Laurel Mountai	153.94	252	⇓PKiKP	PKiKP	22 36 47.2 +0.2
	baz=154					
YFT	Old Faithful	153.95	276	*e*PKPbc	PKPbc	22 36 48.2 +1.3
B19A	Brinkman Farms	153.97	285	⇑PKiKP	PKiKP	22 36 47.1 +0.5
	baz=154					
FURC	Furnace Creek,	154.02	255	⇓PKiKP	PKiKP	22 36 47.9 +1.0
	baz=154					
E18A	Harlowton	154.07	281	⇓PKiKP	PKiKP	22 36 47.3 +0.3
	baz=154					
HVU	Hansel Valley	154.13	269	*e*PKIKP	PKPdf	22 36 39.2 +0.1
HVU				*e*		22 36 47.0
HVU	Hansel Valley	154.13	269	*e*PKPdf	PKPdf	22 36 39.2 +0.1
HVU				*e*PKPbc	PKPbc	22 36 47.0 -0.2
I16A	Newdale	154.16	274	⇑PKiKP	PKiKP	22 36 47.7 +0.4
	baz=154					
MPMC	Manual Prospec	154.17	253	⇑PKiKP	PKiKP	22 36 48.2 +0.6
	baz=154					
G17A	Pierce Place,	154.20	277	⇑PKiKP	PKiKP	22 36 48.3 +1.0
	baz=154					
R11A	Troy Canyon, C	154.28	259	*e*PKPdf	PKPdf	22 36 40.0 +0.5
R11A				*e*PKPbc	PKPbc	22 36 47.5 -0.2
R11A	Troy Canyon, C	154.28	259	⇓PKiKP	PKiKP	22 36 48.4 +0.6
	baz=154					
H16A	Russell Place,	154.32	276	⇑PKiKP	PKiKP	22 36 48.5 +0.8
	baz=154					
F17A	Fitzpatrick Pl	154.35	279	⇓PKiKP	PKiKP	22 36 48.3 +0.8
	baz=154					
EGMT	Eagleton	154.38	284	*e*PKPdf	PKPdf	22 36 36.4 -2.7
EGMT				*e*PKPbc	PKiKP	22 36 47.8 +0.3
EGMT				*e*PKPab	PKPab	22 37 02.7 +0.9
EGMT	Eagleton	154.38	284	⇓PKiKP	PKiKP	22 36 48.0 +0.5
	baz=154					
ARVC	Arvin	154.43	250	⇓PKiKP	PKiKP	22 36 49.0 +1.1
	baz=155					

comp=Z,0.5nm,1.0s,baz=308,slow=4.4,SNR=2.7
ILAR PKPab **PKPab 22 37 41.0 +0.2**
comp=Z,2.4nm,1.1s,baz=332,slow=3.1,SNR=5.2

NNC 04 23:04:42.5±6.2, 40.°11N×76.°98E, h0km, mb3.6, mpv3.2, 3C-3D, Error ellipse: s-maj=64.8km s-min=45.4km az=117.0, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKM2	**Tokmak 2**	**3.00**	**340**	⇓Pn	Pn	23 05 29.1	-2.5
	3.1nm,0.5s						
TKM2				⇑Lg	Lg	23 06 18.4	
	21nm,0.7s						
KNDC	**Almaty**	**3.11**	**360**	⇓Pn	Pn	23 05 33.7	+0.8
	28nm,0.9s						
KNDC				⇑Lg	Lg	23 06 23.5	
	98nm,0.9s						
KK31	**Karatay Array**	**5.70**	**304**	⇓Pn	Pn	23 06 12.6	+4.1
	1.1nm,0.8s,baz=133,slow=15,SNR=4.3						
KK31				⇑Lg	Lg	23 07 36.9	
	14nm,1.1s,baz=127,slow=28,SNR=4.9						

IDC 05 00:07:04.2±7.4, 7.°19N×94.°73E, h283km±72km, mb3.2/5, mb1 3.4/6, mb1mx3.0/27, mbtmp3.2/6, Error ellipse: s-maj=54.1km s-min=19.1km az=53.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.93**	**20**	P	Pn	00 09 46.4	+0.1
	0.9nm,0.3s,baz=209,slow=13,SNR=4.8						
MKAR	**Makanchi Array**	**40.88**	**347**	P	P	00 14 18.7	-0.4
	1.1nm,0.3s,baz=160,slow=9.7,SNR=35						
SONM	**Songino Array**	**41.7**	**12**	P	P	00 14 25.7	-0.2
	0.8nm,0.7s,baz=188,slow=9.0,SNR=5.1						
ZALV	**Zalesovo Beam**	**47.31**	**352**	P	P	00 15 10.0	+0.3
	2.1nm,0.3s,baz=164,slow=7.1,SNR=6.5						
WRA	**Warramunga Arr**	**47.39**	**125**	P	P	00 15 10.8	-0.1
	0.7nm,1.0s,baz=305,slow=8.6,SNR=3.1						
BRTR	**Keskin Array B**	**63.31**	**311**	P	P	00 17 03.8	0.0
	0.4nm,0.7s,baz=123,slow=7.2,SNR=3.0						

IDC 05 00:09:30.9±63.0, 23.°22S×178.°46W, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.6/18, mbtmp3.8/3, Error ellipse: s-maj=1149.0km s-min=160.1km az=87.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.28**	**247**	P	P	00 16 35.9	-0.4
	2.4nm,1.0s,baz=63,slow=9.0,SNR=3.4						
ASAR	**Alice Springs**	**43.54**	**260**	P	P	00 17 36.5	-0.3
	0.2nm,0.3s,baz=96,slow=7.6,SNR=5.8						
WRA	**Warramunga Arr**	**43.86**	**265**	P	P	00 17 39.7	+0.3
	0.7nm,0.4s,baz=102,slow=8.4,SNR=5.8						

BJI ***05*** *00:47:19.1, 36.°42N×13.°10W, h5km, mB5.1/6, mb4.9/7, Ms4.8/3, Ms7 4.7/2*
IDC ***05*** *00:47:24.4±1.4, 36.°56N×12.°65W, h0km, mb3.9/11, mb1 4.0/13, mb1mx3.7/35, mbtmp3.8/13, ML3.7/1, MS3.0/1, Ms1 3.0/1, ms1mx2.2/36, Error ellipse: s-maj=28.0km s-min=23.4km az=82.0*
SFS ***05*** *00:47:25.0, 36.°63N×12.°50W, h10km, ML4.4*
NEIC ***05*** *00:47:27.3±0.7, 36.°75N×12.°44W, h10km, ML4.4, Error ellipse: s-maj=8.6km s-min=5.1km az=55.0*
MDD ***05*** *00:47:30.0±1.0, 36.°82N×12.°21W, h0km, mb5.2/46, Error ellipse: s-maj=9.2km s-min=6.7km az=68.0, PRXIMO*
LDG ***05*** *00:47:30.1±0.5, 36.°66N×12.°13W, h30km, Ml4.4/17, Error ellipse: s-maj=11.5km s-min=6.8km az=79.0*
IGIL ***05*** *00:47:30.4, 36.°84N×12.°31W, h2km, ML4.4*
CSEM ***05*** *00:47:32.7±0.3, 36.°94N×11.°98W, h10km, ML5.0/10, Error ellipse: s-maj=5.0km s-min=3.6km az=59.0*
INMG ***05*** *00:47:32.4±1.3, 36.°67N×12.°53W, h10km±12km, MD3.7, ML4.2, Error ellipse: s-maj=3.9km s-min=3.8km az=113.0*
CNRM ***05*** *00:47:40.2, 36.°08N×11.°70W, h30km, MD3.8*
ISC 05 00:47:31.2±0.5, 36.°93N±0.°03×12.°07W±0.°03, h12km±3km, n439, σ1$45/650, mb4.1/17, 16C-7D, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**2.60**	**84**	*i* Pn	**Pn**	**00 48 14.2**	**+1.2**
PFVI				*e*Sn	**Sn**	**00 48 45.3**	**+0.8**
PFVI				A	A	00 48 47.8	
	634nm,0.2s						
PFVI	**Vila Bisbo**	**2.60**	**84**	⇑P	**Pn**	**00 48 14.1**	**+1.1**
	299nm,0.2s,SNR=18						
PFVI				S	**Sn**	**00 48 45.6**	**+1.2**
	410nm,0.3s,SNR=13						
PFVI	**Vila Bisbo**	**2.60**	**84**	P	**Pn**	**00 48 14.1**	**+1.1**
PFVI				S	**Sn**	**00 48 45.6**	**+1.2**
PFVI	**Vila Bisbo**	**2.60**	**84**	P	**Pn**	**00 48 14.1**	**+1.1**
	299nm,0.2s,SNR=18						
PFVI				*e*Sn	**Sn**	**00 48 45.3**	**+0.8**
	634nm,0.2s						
PFVI				S	**Sn**	**00 48 45.6**	**+1.2**
	410nm,0.3s,SNR=13						
PTEO	**Sao Teotonio**	**2.74**	**76**	*i* Pn	**Pn**	**00 48 16.3**	**+1.4**
PTEO				*e*Sn	**Sn**	**00 48 48.9**	**+1.1**
PTEO				A	A	00 48 56.4	
	520nm,0.4s						
PTEO	**Sao Teotonio**	**2.74**	**76**	⇑P	**Pn**	**00 48 16.3**	**+1.4**
PTEO				S	**Sn**	**00 48 48.9**	**+1.1**
	260nm,0.4s						
PTEO	**Sao Teotonio**	**2.74**	**76**	P	**Pn**	**00 48 16.3**	**+1.4**
PTEO				S	**Sn**	**00 48 48.9**	**+1.1**
	260nm,0.4s						
MORF	**Marmelete**	**2.76**	**81**	*i* Pn	**Pn**	**00 48 16.4**	**+1.3**
MORF				*e*Sn	**Sn**	**00 48 49.5**	**+1.1**
MORF				A	A	00 48 51.3	
	784nm,0.1s						
MORF	**Marmelete**	**2.76**	**81**	P	**Pn**	**00 48 16.4**	**+1.3**
MORF				S	**Sn**	**00 48 49.9**	**+1.5**
MORF	**Marmelete**	**2.76**	**81**	*e*P	**Pn**	**00 48 16.5**	**+1.3**
MORF				*e*S	**Sn**	**00 48 50.4**	**+2.0**
MORF	**Marmelete**	**2.76**	**81**	*e*P	**Pn**	**00 48 16.5**	**+1.3**
MORF				*e*Sn	**Sn**	**00 48 49.5**	**+1.1**
	784nm,0.1s						
MORF				S	**Sn**	**00 48 49.9**	**+1.5**
PMST	**Lisbon--Monsan**	**2.91**	**51**	*e*Pn	**Pn**	**00 48 19.3**	**+2.0**
PMST				*e*Sn	**Sn**	**00 48 54.7**	**+2.6**
PMST				A	A	00 48 55.9	
	916nm,0.3s						
LIS	**Lisbon**	**2.92**	**51**	*e*P	**Pn**	**00 48 19.4**	**+2.1**
LIS				*e*S	**Sn**	**00 48 54.7**	**+2.4**
LIS				AML	AML	00 48 56.9	
	comp=N,2μm,0.3s						
LIS	**Lisbon**	**2.92**	**51**	*e*P	**Pn**	**00 48 19.4**	**+2.1**
LIS				*e*S	**Sn**	**00 48 54.7**	**+2.4**
LIS	**Lisbon**	**2.92**	**51**	P	**Pn**	**00 48 19.4**	**+2.1**
LIS				S	**Sn**	**00 48 54.7**	**+2.4**
LIS	**Lisbon**	**2.92**	**51**	*e*P	**Pn**	**00 48 19.4**	**+2.1**
LIS				*e*S	**Sn**	**00 48 54.7**	**+2.4**
INMG	**Instituto de M**	**2.97**	**51**	*e*Pn	**Pn**	**00 48 20.4**	**+2.4**
INMG				*e*Sn	**Sn**	**00 48 56.8**	**+3.2**
INMG	**Instituto de M**	**2.97**	**51**	P	**Pn**	**00 48 20.4**	**+2.4**
INMG				S	**Sn**	**00 48 56.8**	**+3.2**
INMG	**Instituto de M**	**2.97**	**51**	P	**Pn**	**00 48 20.4**	**+2.4**
INMG				S	**Sn**	**00 48 56.8**	**+3.2**
PMAFR	**Mafra**	**2.99**	**47**	*i* Pn	**Pn**	**00 48 20.5**	**+2.1**
PMAFR				*e*Sn	**Sn**	**00 48 56.5**	**+2.4**
PMAFR				A	A	00 48 58.2	
	comp=N,3μm,0.3s						
PMAFR	**Mafra**	**2.99**	**47**	⇑P	**Pn**	**00 48 20.5**	**+2.1**
	comp=N,320nm,0.3s,SNR=18						
PMAFR				S	**Sn**	**00 48 56.9**	**+2.8**
	comp=N,2μm,0.3s,SNR=66						
PMAFR	**Mafra**	**2.99**	**47**	P	**Pn**	**00 48 20.5**	**+2.1**
PMAFR				S	**Sn**	**00 48 56.9**	**+2.8**
PMAFR	**Mafra**	**2.99**	**47**	P	**Pn**	**00 48 20.5**	**+2.1**
	comp=N,320nm,0.3s,SNR=18						
PMAFR				*e*Sn	**Sn**	**00 48 56.5**	**+2.4**
	comp=N,3μm,0.3s						
PMAFR				S	**Sn**	**00 48 56.9**	**+2.8**
	comp=N,2μm,0.3s,SNR=66						
PNCL	**Nicolau / Gran**	**3.05**	**66**	*e*Pn	**Pn**	**00 48 20.9**	**+1.7**
PNCL				*e*Sn	**Sn**	**00 48 57.9**	**+2.3**
PNCL				A	A	00 48 58.8	
	comp=N,373nm,0.3s						
PNCL	**Nicolau / Gran**	**3.05**	**66**	*e*Pn	**Pn**	**00 48 20.9**	**+1.7**
PNCL				*e*Sn	**Sn**	**00 48 57.9**	**+2.3**
	comp=N,373nm,0.3s						
PACT	**Alcochete**	**3.15**	**53**	*i* Pn	**Pn**	**00 48 23.0**	**+2.5**
PACT				*e*Sn	**Sn**	**00 49 01.2**	**+3.2**
PACT	**Alcochete**	**3.15**	**53**	*e*P	**Pn**	**00 48 23.1**	**+2.5**
PACT				*e*S	**Sn**	**00 49 02.0**	**+4.0**
PACT	**Alcochete**	**3.15**	**53**	*e*P	**Pn**	**00 48 23.1**	**+2.5**
PACT				*e*Sn	**Sn**	**00 49 01.2**	**+3.2**
PACT				*e*S	**Sn**	**00 49 02.0**	**+4.0**
PBDV	**Barranco-do-Ve**	**3.32**	**83**	*e*Pn	**Pn**	**00 48 24.4**	**+1.5**
PBDV				*e*Sn	**Sn**	**00 49 03.6**	**+1.3**
PBDV				A	A	00 49 12.3	
	comp=N,244nm,0.2s						
PBDV	**Barranco-do-Ve**	**3.32**	**83**	P	**Pn**	**00 48 24.4**	**+1.5**
PBDV				S	**Sn**	**00 49 03.6**	**+1.3**
	comp=N,244nm,0.2s						
PBDV	**Barranco-do-Ve**	**3.32**	**83**	P	**Pn**	**00 48 24.4**	**+1.5**
PBDV				S	**Sn**	**00 49 03.6**	**+1.3**
	comp=N,244nm,0.2s						
MOE	**Montemor**	**3.35**	**60**	*e*Pn	**Pn**	**00 48 25.2**	**+1.9**
MOE				*e*Sn	**Sn**	**00 49 04.6**	**+1.6**
MOE	**Montemor**	**3.35**	**60**	P	**Pn**	**00 48 25.2**	**+1.9**
MOE				S	**Sn**	**00 49 04.6**	**+1.6**
MOE	**Montemor**	**3.35**	**60**	*e*S	**Sn**	**00 49 05.0**	**+2.1**
MOE	**Montemor**	**3.35**	**60**	P	**Pn**	**00 48 25.2**	**+1.9**
MOE				S	**Sn**	**00 49 04.6**	**+1.6**
PVAQ	**Vaqueiros**	**3.51**	**81**	*e*Pn	**Pn**	**00 48 27.0**	**+1.6**
PVAQ				*e*Sn	**Sn**	**00 49 07.9**	**+1.1**
PVAQ				A	A	00 49 11.3	
	comp=N,357nm,0.1s						
PVAQ	**Vaqueiros**	**3.51**	**81**	⇑P	**Pn**	**00 48 27.0**	**+1.6**
PVAQ				S	**Sn**	**00 49 07.9**	**+1.1**
	comp=N,357nm,0.1s						
PVAQ	**Vaqueiros**	**3.51**	**81**	P	**Pn**	**00 48 27.0**	**+1.6**
PVAQ				S	**Sn**	**00 49 07.9**	**+1.1**
	comp=N,357nm,0.1s						
EVOP	**Sao Brissos**	**3.51**	**62**	*e*P	**Pn**	**00 48 26.9**	**+1.4**
EVOP				*e*Sn	**Sn**	**00 49 06.7**	**-0.2**
EVOP	**Sao Brissos**	**3.51**	**62**	*e*P	**Pn**	**00 48 26.9**	**+1.4**
EVOP				*e*Sn	**Sn**	**00 49 06.7**	**-0.2**
	comp=N,182nm,0.3s						
PBEJ	**Beja**	**3.52**	**71**	*e*Pn	**Pn**	**00 48 26.8**	**+1.2**
PBEJ				*e*Sn	**Sn**	**00 49 07.6**	**+0.5**
PBEJ				A	A	00 49 11.0	
	comp=N,262nm,0.3s						
PBEJ	**Beja**	**3.52**	**71**	P	**Pn**	**00 48 26.8**	**+1.2**
PBEJ				S	**Sn**	**00 49 07.6**	**+0.5**
	comp=N,131nm,0.3s						
PBEJ	**Beja**	**3.52**	**71**	P	**Pn**	**00 48 26.8**	**+1.2**
PBEJ				S	**Sn**	**00 49 07.6**	**+0.5**
	comp=N,131nm,0.3s						
ALMR	**Almeirim**	**3.54**	**50**	*e*P	**Pn**	**00 48 27.9**	**+2.0**
ALMR				*e*S	**Sn**	**00 49 09.0**	**+1.3**
ALMR				AML	AML	00 49 11.1	
	comp=N,678nm,0.5s						
ALMR	**Almeirim**	**3.54**	**50**	*e*P	**Pn**	**00 48 27.9**	**+2.0**
ALMR				*e*S	**Sn**	**00 49 09.0**	**+1.3**
ALMR	**Almeirim**	**3.54**	**50**	P	**Pn**	**00 48 27.9**	**+2.0**
ALMR				S	**Sn**	**00 49 09.0**	**+1.3**
ALMR	**Almeirim**	**3.54**	**50**	P	**Pn**	**00 48 27.9**	**+2.0**
ALMR				S	**Sn**	**00 49 09.0**	**+1.3**
EVO	**Evora**	**3.59**	**62**	*e*P	**Pn**	**00 48 26.9**	**+0.3**
EVO				*e*Sn	**Sn**	**00 49 06.7**	**-2.2**
	comp=N,365nm,0.3s						
EVO	**Evora**	**3.59**	**62**	*e*Pn	**Pn**	**00 48 28.2**	**+1.6**
EVO				*e*Sn	**Sn**	**00 49 10.5**	**+1.6**
EVO				A	A	00 49 17.9	
	comp=N,292nm,0.1s						
EVO	**Evora**	**3.59**	**62**	P	**Pn**	**00 48 28.2**	**+1.6**
EVO				S	**Sn**	**00 49 10.5**	**+1.6**
	comp=N,292nm,0.1s						
EVO	**Evora**	**3.59**	**62**	*e*S	**Sn**	**00 49 11.0**	**+2.1**
EVO	**Evora**	**3.59**	**62**	P	**Pn**	**00 48 28.2**	**+1.6**
EVO				S	**Sn**	**00 49 10.5**	**+1.6**
	comp=N,292nm,0.1s						
EGRO	**El Granado**	**3.71**	**79**	⇑P	**Pn**	**00 48 29.5**	**+1.3**
	comp=N,61nm,0.3s,SNR=18						
EGRO				S	**Sn**	**00 49 13.0**	**+1.3**
	comp=N,121nm,0.3s,SNR=5.1						
EGRO	**El Granado**	**3.71**	**79**	P	**Pn**	**00 48 29.4**	**+1.3**
EGRO				S	**Sn**	**00 49 13.0**	**+1.3**
EGRO	**El Granado**	**3.71**	**79**	P	**Pn**	**00 48 29.5**	**+1.3**
	comp=N,61nm,0.3s,SNR=18						
EGRO				S	**Sn**	**00 49 13.0**	**+1.3**
	comp=N,121nm,0.3s,SNR=5.1						
PMTG	**Montargil**	**3.71**	**54**	*e*Pn	**Pn**	**00 48 29.9**	**+1.6**
PMTG				*e*Sn	**Sn**	**00 49 13.3**	**+1.4**
PMTG				A	A	00 49 18.1	
	comp=N,134nm,0.1s						
PTOM	**Tomar**	**3.94**	**46**	*e*Pn	**Pn**	**00 48 33.3**	**+2.0**
PTOM				*e*Sn	**Sn**	**00 49 19.1**	**+1.7**
PTOM				A	A	00 49 23.2	
	comp=N,286nm,0.3s						
PTOM	**Tomar**	**3.94**	**46**	P	**Pn**	**00 48 33.3**	**+2.0**
PTOM				S	**Sn**	**00 49 19.1**	**+1.7**
	comp=N,143nm,0.3s						
PTOM	**Tomar**	**3.94**	**46**	P	**Pn**	**00 48 33.3**	**+2.0**
PTOM				S	**Sn**	**00 49 19.1**	**+1.7**
	comp=N,143nm,0.3s						
PESTR	**Estremoz**	**4.04**	**60**	*e*Pn	**Pn**	**00 48 34.0**	**+1.3**
PESTR				*e*Sn	**Sn**	**00 49 20.5**	**+0.6**
PESTR				A	A	00 49 32.7	
	comp=N,94nm,0.5s						
PESTR	**Estremoz**	**4.04**	**60**	⇑P	**Pn**	**00 48 34.0**	**+1.3**
PESTR				S	**Sn**	**00 49 20.5**	**+0.6**
	comp=N,47nm,0.5s						
PESTR	**Estremoz**	**4.04**	**60**	*e*P	**Pn**	**00 48 34.0**	**+1.3**
PESTR				*e*S	**Sn**	**00 49 22.4**	**+2.5**
PESTR	**Estremoz**	**4.04**	**60**	P	**Pn**	**00 48 34.0**	**+1.3**
PESTR				S	**Sn**	**00 49 20.5**	**+0.6**
	comp=N,47nm,0.5s						
PBAR	**Barrancos**	**4.18**	**71**	*e*Pn	**Pn**	**00 48 36.1**	**+1.3**
PBAR				*e*Sn	**Sn**	**00 49 23.7**	**+0.1**
PBAR				A	A	00 49 27.6	
	comp=N,195nm,0.1s						
PBAR	**Barrancos**	**4.18**	**71**	P	**Pn**	**00 48 36.1**	**+1.3**
PBAR				S	**Sn**	**00 49 23.7**	**+0.1**
	comp=N,195nm,0.1s						
PBAR	**Barrancos**	**4.18**	**71**	P	**Pn**	**00 48 36.1**	**+1.3**
PBAR				S	**Sn**	**00 49 23.7**	**+0.1**
	comp=N,195nm,0.1s						
PCAS	**Casmilo, Conde**	**4.19**	**41**	*e*Pn	**Pn**	**00 48 36.7**	**+1.8**
PCAS				*e*Sn	**Sn**	**00 49 24.8**	**+1.0**
PCAS				A	A	00 49 26.6	
	comp=N,207nm,0.4s						
PCAS	**Casmilo, Conde**	**4.19**	**41**	*e*Pn	**Pn**	**00 48 36.7**	**+1.8**
PCAS				*e*Sn	**Sn**	**00 49 24.8**	**+1.0**
	comp=N,207nm,0.4s						
EMIN	**Mina Concepcio**	**4.38**	**77**	⇑P	**Pn**	**00 48 38.4**	**+1.0**
	comp=N,52nm,0.3s,SNR=18						
EMIN				S	**Sn**	**00 49 27.6**	**-0.7**
	comp=N,163nm,0.3s,SNR=13						
EMIN	**Mina Concepcio**	**4.38**	**77**	P	**Pn**	**00 48 38.4**	**+1.0**
EMIN				S	**Sn**	**00 49 28.5**	**+0.1**
EMIN	**Mina Concepcio**	**4.38**	**77**	P	**Pn**	**00 48 38.4**	**+1.0**
	comp=N,52nm,0.3s,SNR=18						
EMIN				S	**Sn**	**00 49 28.5**	**+0.1**
EBAD	**Badajoz**	**4.40**	**64**	P	**Pn**	**00 48 38.9**	**+1.2**
	comp=N,95nm,0.3s,SNR=483						
EBAD				S	**Sn**	**00 49 29.7**	**+1.0**
	comp=N,344nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**4.40**	**64**	P	**Pn**	**00 48 38.9**	**+1.2**
EBAD				S	**Sn**	**00 49 29.7**	**+1.0**
EBAD	**Badajoz**	**4.40**	**64**	P	**Pn**	**00 48 38.9**	**+1.2**
	comp=N,95nm,0.3s,SNR=483						
EBAD				S	**Sn**	**00 49 29.7**	**+1.0**
	comp=N,344nm,0.2s,SNR=7.9						
PMRV	**Marv??o**	**4.45**	**54**	*e*Pn	**Pn**	**00 48 39.9**	**+1.5**
PMRV				*e*Sn	**Sn**	**00 49 30.7**	**+0.6**
PMRV				A	A	00 49 39.1	
	comp=N,126nm,0.2s						
PMRV	**Marv??o**	**4.45**	**54**	P	**Pn**	**00 48 39.9**	**+1.5**
PMRV				S	**Sn**	**00 49 30.7**	**+0.6**
	comp=N,126nm,0.2s						
PMRV	**Marv??o**	**4.45**	**54**	*e*P	**Pn**	**00 48 39.8**	**+1.4**
PMRV				*e*S	**Sn**	**00 49 30.9**	**+0.8**
PMRV	**Marv??o**	**4.45**	**54**	*e*P	**Pn**	**00 48 39.8**	**+1.4**
PMRV				S	**Sn**	**00 49 30.7**	**+0.6**
	comp=N,126nm,0.2s						
SFS	**San Fernando**	**4.73**	**94**	S	**Sn**	**00 49 37.9**	**+0.9**
SFS	**San Fernando**	**4.73**	**94**	S	**Sn**	**00 49 37.9**	**+0.9**
CNIL	**Conil**	**4.87**	**95**	P	**Pn**	**00 48 45.0**	**+0.9**
CNIL				S	**Sn**	**00 49 42.2**	**+1.9**
CNIL	**Conil**	**4.87**	**95**	P	**Pn**	**00 48 45.0**	**+0.9**
CNIL				S	**Sn**	**00 49 42.2**	**+1.9**
MTE	**Manteigas**	**4.96**	**44**	*e*Pn	**Pn**	**00 48 47.2**	**+1.8**
MTE				*e*Sn	**Sn**	**00 49 43.0**	**+0.4**
MTE				A	A	00 49 45.8	
	comp=N,336nm,0.6s						
MTE	**Manteigas**	**4.96**	**44**	P	**Pn**	**00 48 47.2**	**+1.8**
MTE				S	**Sn**	**00 49 43.0**	**+0.4**
	comp=N,168nm,0.6s						
MTE	**Manteigas**	**4.96**	**44**	*e*Pn	**Pn**	**00 48 46.4**	**+0.9**
MTE				*e*Sn	**Sn**	**00 49 43.0**	**+0.4**
MTE	**Manteigas**	**4.96**	**44**	P	**Pn**	**00 48 47.2**	**+1.8**
MTE				S	**Sn**	**00 49 43.0**	**+0.4**
	comp=N,168nm,0.6s						
ESPR	**Espera**	**4.98**	**89**	⇑P	**Pn**	**00 48 46.6**	**+1.0**
	comp=N,80nm,0.3s,SNR=18						
ESPR				S	**Sn**	**00 49 43.5**	**+0.4**
	comp=N,1μm,0.3s,SNR=7.9						
ESPR	**Espera**	**4.98**	**89**	P	**Pn**	**00 48 46.6**	**+1.0**
ESPR				S	**Sn**	**00 49 43.5**	**+0.4**
ESPR	**Espera**	**4.98**	**89**	P	**Pn**	**00 48 46.6**	**+1.0**
	comp=N,80nm,0.3s,SNR=18						
ESPR				S	**Sn**	**00 49 43.5**	**+0.4**
	comp=N,1μm,0.3s,SNR=7.9						
PVIS	**Viseu**	**4.99**	**39**	*e*Pn	**Pn**	**00 48 47.3**	**+1.4**
PVIS				*e*Sn	**Sn**	**00 49 43.5**	**-0.1**
PVIS				A	A	00 49 46.3	
	comp=N,315nm,0.2s						
PVIS	**Viseu**	**4.99**	**39**	P	**Pn**	**00 48 47.3**	**+1.4**
PVIS				S	**Sn**	**00 49 43.5**	**-0.1**
	comp=N,158nm,0.2s						
PVIS	**Viseu**	**4.99**	**39**	P	**Pn**	**00 48 47.3**	**+1.4**
PVIS				S	**Sn**	**00 49 43.5**	**-0.1**
	comp=N,158nm,0.2s						
PTO	**Porto**	**5.00**	**32**	*e*Pn	**Pn**	**00 48 47.2**	**+1.3**
PTO				*e*Sn	**Sn**	**00 49 43.0**	**-0.5**
PTO				A	A	00 49 44.7	
	comp=N,565nm,0.3s						
PTO	**Porto**	**5.00**	**32**	P	**Pn**	**00 48 47.2**	**+1.3**
PTO				S	**Sn**	**00 49 43.0**	**-0.5**
	comp=N,282nm,0.3s						
PTO	**Porto**	**5.00**	**32**	P	**Pn**	**00 48 47.2**	**+1.3**
PTO				S	**Sn**	**00 49 43.0**	**-0.5**
	comp=N,282nm,0.3s						
RTC	**Rabat Centre**	**5.16**	**123**	P	**Pn**	**00 48 47.0**	**-1.2**
RTC				S	Sn	00 49 35.0	-13
RTC	**Rabat Centre**	**5.16**	**123**	*e*Pn	Pn	00 48 42.7	-5.5
RTC				*e*Sn	Sn	00 49 39.3	-8.4
RTC	**Rabat Centre**	**5.16**	**123**	P	**Pn**	**00 48 47.0**	**-1.2**
PMPST	**Porto Santo, M**	**5.20**	**224**	*e*Pn	Pn	00 48 37.0	-12
PMPST				*e*Sn	Sn	00 49 25.0	-24
PMPST				A	A	00 49 31.3	
	comp=N,229nm,0.4s						
PMPS	**Porto Santo**	**5.21**	**223**	*e*Pn	Pn	00 48 37.2	-12
PMPS				*e*Sn	Sn	00 49 25.2	-24
PMPS				A	A	00 49 30.1	
	comp=N,191nm,0.2s						
PMPS	**Porto Santo**	**5.21**	**223**	P	Pn	00 48 37.0	-12
PMPS				S	Sn	00 49 25.0	-24
	comp=N,115nm,0.4s						
EJIF	**Jimena Fronter**	**5.32**	**93**	P	**Pn**	**00 48 51.3**	**+0.9**
	comp=N,20nm,0.2s,SNR=7.9						
EJIF				S	**Sn**	**00 49 51.0**	**-0.6**
	comp=N,24nm,0.2s,SNR=7.9						
EJIF	**Jimena Fronter**	**5.32**	**93**	P	**Pn**	**00 48 51.6**	**+1.2**
EJIF				S	**Sn**	**00 49 51.0**	**-0.6**
EJIF	**Jimena Fronter**	**5.32**	**93**	P	**Pn**	**00 48 51.6**	**+1.2**
EJIF				S	**Sn**	**00 49 51.0**	**-0.6**
	comp=N,24nm,0.2s,SNR=7.9						
LIJA	**Lijar**	**5.34**	**88**	P	**Pn**	**00 48 51.0**	**+0.3**
LIJA				S	Sn	00 49 48.0	-4.1
LIJA	**Lijar**	**5.34**	**88**	P	**Pn**	**00 48 51.0**	**+0.3**
LIJA				*i* S	Sn	00 49 48.0	-4.1
ECAB	**El Cabril**	**5.41**	**76**	⇑P	**Pn**	**00 48 52.6**	**+1.0**
	comp=N,81nm,0.3s,SNR=18						
ECAB				S	**Sn**	**00 49 53.2**	**-0.5**
	comp=N,120nm,0.2s,SNR=9.0						
ECAB	**El Cabril**	**5.41**	**76**	P	**Pn**	**00 48 52.6**	**+1.0**
ECAB				S	**Sn**	**00 49 53.5**	**-0.3**
ECAB	**El Cabril**	**5.41**	**76**	P	**Pn**	**00 48 52.6**	**+1.0**
	comp=N,81nm,0.3s,SNR=18						
ECAB				S	**Sn**	**00 49 53.5**	**-0.3**
RSA	**Sarsar**	**5.46**	**110**	P	**Pn**	**00 48 51.0**	**-1.3**
RSA				S	Sn	00 49 46.0	-9.1
RSA	**Sarsar**	**5.46**	**110**	P	**Pn**	**00 48 51.0**	**-1.3**
ECEU	**Ceuta**	**5.49**	**99**	P	**Pn**	**00 48 53.6**	**+0.9**
	comp=N,14nm,0.2s,SNR=25						
ECEU				S	**Sn**	**00 49 54.7**	**-1.1**
	comp=N,126nm,0.6s,SNR=7.9						
ECEU	**Ceuta**	**5.49**	**99**	P	**Pn**	**00 48 53.6**	**+0.9**
	comp=N,14nm,0.2s,SNR=25						
ECEU				S	**Sn**	**00 49 54.7**	**-1.1**
	comp=N,126nm,0.6s,SNR=7.9						
PVRL	**Vila Real**	**5.50**	**37**	*e*Pn	**Pn**	**00 48 54.1**	**+1.2**
PVRL				*e*Sn	**Sn**	**00 49 55.1**	**-1.1**
PVRL				A	A	00 49 58.1	
	comp=N,177nm,0.3s						
PVRL	**Vila Real**	**5.50**	**37**	P	**Pn**	**00 48 54.1**	**+1.2**
PVRL				S	**S

comp=N,46nm,0.2s,SNR=7.9
ELOB S **Sn** **00 50 02.3 -1.9**
comp=N,99nm,0.1s,SNR=7.9
ELOB Lobios 5.83 31 P **Pn** **00 48 58.3 +0.9**
ELOB S **Sn** **00 50 03.5 -0.7**
ELOB Lobios 5.83 31 P **Pn** **00 48 58.3 +0.9**
comp=N,46nm,0.2s,SNR=7.9
ELOB S **Sn** **00 50 03.5 -0.7**
FUL Funchal 5.83 224 *e*Pn Pn 00 48 45.7 -12
FUL *e*Sn Sn 00 49 40.2 -24
FUL A A 00 49 52.1
comp=N,218nm,0.2s
FUL Funchal 5.83 224 P Pn 00 48 45.7 -12
FUL S Sn 00 49 40.2 -24
comp=N,109nm,0.2s
EZAM Zamans 5.83 25 P **Pn** **00 48 57.6 +0.2**
comp=N,26nm,0.2s,SNR=7.9
EZAM S **Sn** **00 50 01.8 -2.3**
comp=N,237nm,0.3s,SNR=7.9
EZAM Zamans 5.83 25 P **Pn** **00 48 57.6 +0.2**
EZAM S **Sn** **00 50 01.8 -2.3**
EZAM Zamans 5.83 25 P **Pn** **00 48 57.6 +0.2**
comp=N,26nm,0.2s,SNR=7.9
EZAM S **Sn** **00 50 01.8 -2.3**
comp=N,237nm,0.3s,SNR=7.9
EMIJ Mijas 5.87 91 ⇑P **Pn** **00 48 58.2 +0.2**
comp=N,22nm,0.4s,SNR=18
EMIJ S **Sn** **00 50 02.4 -2.7**
comp=N,69nm,0.3s,SNR=7.9
EMIJ Mijas 5.87 91 P **Pn** **00 48 58.1 +0.2**
EMIJ S **Sn** **00 50 04.7 -0.4**
EMIJ Mijas 5.87 91 P **Pn** **00 48 58.2 +0.2**
comp=N,22nm,0.4s,SNR=18
EMIJ S **Sn** **00 50 04.7 -0.4**
PMOZ Porto Moniz, M 5.88 227 *e*Pn Pn 00 48 46.9 -11
PMOZ *e*Sn Sn 00 49 43.4 -22
PMOZ A A 00 49 45.7
comp=N,336nm,0.4s
CIA Chichaoua 6.01 152 P Pn 00 48 55.0 -4.9
CIA S Sn 00 49 50.0 -19
EADA Adamuz 6.08 76 ⇑P **Pn** **00 49 01.6 +0.8**
comp=N,66nm,0.3s,SNR=18
EADA S **Sn** **00 50 08.9 -1.4**
comp=N,233nm,0.4s,SNR=7.9
EADA Adamuz 6.08 76 P **Pn** **00 49 01.6 +0.8**
EADA S **Sn** **00 50 09.9 -0.4**
EADA Adamuz 6.08 76 P **Pn** **00 49 01.6 +0.8**
comp=N,66nm,0.3s,SNR=18
EADA S **Sn** **00 50 09.9 -0.4**
EMAL Malaga-Limoner 6.13 89 P **Pn** **00 49 03.0 +1.6**
EMAL S **Sn** **00 50 09.3 -2.1**
EMAL Malaga-Limoner 6.13 89 P **Pn** **00 49 03.0 +1.6**
EMAL S **Sn** **00 50 09.3 -2.1**
ELUQ Luque 6.25 82 ⇓P **Pn** **00 49 04.2 +0.9**
comp=N,16nm,0.2s,SNR=18
ELUQ S **Sn** **00 50 12.8 -1.8**
comp=N,46nm,0.2s,SNR=7.9
ELUQ Luque 6.25 82 P **Pn** **00 49 04.2 +0.9**
ELUQ S **Sn** **00 50 15.0 +0.3**
ELUQ Luque 6.25 82 P **Pn** **00 49 04.2 +0.9**
comp=N,16nm,0.2s,SNR=18
ELUQ S **Sn** **00 50 15.0 +0.3**
ELOJ Sierra Loja 6.33 86 P **Pn** **00 49 05.2 +0.8**
comp=N,16nm,0.3s,SNR=18
ELOJ S **Sn** **00 50 13.8 -2.9**
comp=N,17nm,0.2s,SNR=7.9
ELOJ Sierra Loja 6.33 86 P **Pn** **00 49 05.6 +1.2**
ELOJ S **Sn** **00 50 17.1 +0.4**
ELOJ Sierra Loja 6.33 86 P **Pn** **00 49 05.6 +1.2**
ELOJ S **Sn** **00 50 17.1 +0.4**
PBRG Braganca 6.38 39 *e*Pn **Pn** **00 49 06.3 +1.3**
PBRG *e*Sn **Sn** **00 50 15.9 -1.9**
PBRG A A 00 50 17.9
comp=N,89nm,0.5s
PBRG Braganca 6.38 39 P **Pn** **00 49 06.3 +1.3**
PBRG S **Sn** **00 50 15.9 -1.9**
comp=N,44nm,0.5s
PBRG Braganca 6.38 39 *e*P **Pn** **00 49 06.4 +1.3**
PBRG Braganca 6.38 39 P **Pn** **00 49 06.3 +1.3**
PBRG S **Sn** **00 50 15.9 -1.9**
comp=N,44nm,0.5s
TGT Taghat 6.39 114 P **Pn** **00 49 04.0 -1.1**
TGT S Sn 00 50 05.0 -13
TGT Taghat 6.39 114 P **Pn** **00 49 04.0 -1.1**
EMAZ Mazaricos 6.47 21 P **Pn** **00 49 06.5 +0.5**
comp=N,21nm,0.1s,SNR=41
EMAZ S Sn 00 50 14.7 -5.1
comp=N,464nm,0.1s,SNR=7.9
EMAZ Mazaricos 6.47 21 P **Pn** **00 49 06.5 +0.5**
EMAZ S Sn 00 50 14.9 -4.9
EMAZ Mazaricos 6.47 21 P **Pn** **00 49 06.6 +0.5**
comp=N,21nm,0.1s,SNR=41
ECAL Calabor 6.49 38 ⇑P **Pn** **00 49 07.6 +1.2**
comp=N,146nm,0.4s,SNR=18
ECAL S **Sn** **00 50 19.0 -1.4**
comp=N,155nm,0.3s,SNR=7.9
ECAL Calabor 6.49 38 P **Pn** **00 49 07.6 +1.2**
ECAL S **Sn** **00 50 19.0 -1.4**
ECAL Calabor 6.49 38 P **Pn** **00 49 07.6 +1.2**
comp=N,146nm,0.4s,SNR=18
ECAL S **Sn** **00 50 19.0 -1.4**
comp=N,155nm,0.3s,SNR=7.9
STS Santiago 6.54 23 P **Pn** **00 49 07.7 +0.6**
comp=N,24nm,0.3s,SNR=21
STS S Sn 00 50 17.5 -4.0
comp=N,68nm,0.3s,SNR=7.5
STS Santiago 6.54 23 P **Pn** **00 49 08.2 +1.1**
STS S **Sn** **00 50 17.8 -3.7**
STS Santiago 6.54 23 P **Pn** **00 49 08.2 +1.1**
KIB El Ksiba 6.59 129 P Pn 00 49 05.0 -2.9
KIB S Sn 00 50 08.0 -15
ERON Agron 6.61 87 ⇑P **Pn** **00 49 09.3 +1.0**
comp=N,12nm,0.3s,SNR=18
ERON S Sn 00 50 18.3 -5.3
comp=N,22nm,0.3s,SNR=7.9
ERON Agron 6.61 87 P **Pn** **00 49 09.3 +1.0**
ERON S **Sn** **00 50 24.7 +1.1**
ERON Agron 6.61 87 P **Pn** **00 49 09.3 +1.0**
comp=N,12nm,0.3s,SNR=18
ERON S **Sn** **00 50 24.7 +1.1**
PAB San Pablo 6.61 64 *e*Pn **Pn** **00 49 08.8 +0.6**
PAB *e*Sn **Sn** **00 50 23.3 -0.2**
PAB San Pablo 6.61 64 *e*Pn **Pn** **00 49 08.8 +0.6**
PAB *e*Sn **Sn** **00 50 23.3 -0.2**
TZC Tazercounte 6.62 134 P Pn 00 49 04.0 -4.5
TZC S Sn 00 50 07.0 -17
OUK Oukaimeden 6.68 147 P Pn 00 49 04.0 -5.4
OUK S Sn 00 50 05.0 -21
EBAN Banos Encina 6.69 77 P **Pn** **00 49 09.5 +0.3**
comp=N,49nm,0.2s,SNR=88
EBAN S Sn 00 50 21.7 -3.8
comp=N,63nm,0.3s,SNR=8.0
EBAN Banos Encina 6.69 77 P **Pn** **00 49 09.8 +0.5**
EBAN S **Sn** **00 50 25.3 -0.1**
EBAN Banos Encina 6.69 77 P **Pn** **00 49 09.8 +0.5**
EBAN S **Sn** **00 50 25.3 -0.1**
ECOG Cogollos-Vega 6.80 84 ⇑P **Pn** **00 49 11.8 +1.0**
comp=N,21nm,0.4s,SNR=18
ECOG S **Sn** **00 50 24.7 -3.5**
comp=N,27nm,0.2s,SNR=7.9
ECOG Cogollos-Vega 6.80 84 P **Pn** **00 49 11.8 +1.0**
ECOG S **Sn** **00 50 28.9 +0.7**
ECOG Cogollos-Vega 6.80 84 P **Pn** **00 49 11.8 +1.0**
comp=N,21nm,0.4s,SNR=18
ECOG S **Sn** **00 50 28.9 +0.7**
EGUA Guajares 6.81 88 P **Pn** **00 49 12.3 +1.4**
comp=N,70nm,0.4s,SNR=7.9
EGUA S **Sn** **00 50 27.8 -0.6**
comp=N,56nm,0.2s,SNR=7.9
EGUA Guajares 6.81 88 P **Pn** **00 49 12.3 +1.4**
EGUA S **Sn** **00 50 28.9 +0.5**
EGUA Guajares 6.81 88 P **Pn** **00 49 12.3 +1.4**
comp=N,70nm,0.4s,SNR=7.9
EGUA S **Sn** **00 50 27.8 -0.6**
comp=N,56nm,0.2s,SNR=7.9
EQUE Quentar 6.90 85 P **Pn** **00 49 13.4 +1.2**
comp=N,17nm,0.4s,SNR=18
EQUE S **Sn** **00 50 30.7 0.0**
comp=N,12nm,0.2s,SNR=7.9
EQUE Quentar 6.90 85 P **Pn** **00 49 13.4 +1.2**
comp=N,17nm,0.4s,SNR=18
EQUE S **Sn** **00 50 30.7 0.0**
comp=N,12nm,0.2s,SNR=7.9
ESDC Sonseca Array 6.94 64 P **Pn** **00 49 13.3 +0.7**
comp=N,38nm,0.3s,baz=251,slow=13,SNR=295
ESDC S **Sn** **00 50 30.2 -1.3**
comp=N,14nm,0.3s,baz=246,slow=23,SNR=6.7
ESDC Sonseca Array 6.94 64 P **Pn** **00 49 13.3 +0.7**
ESDC Sn **Sn** **00 50 29.4 -2.1**
ESDC S **Sn** **00 50 31.6 +0.2**
ESDC Sonseca Array 6.94 64 Pn **Pn** **00 49 13.3 +0.7**
comp=N,50nm,0.3s,baz=251,slow=13,SNR=420
ESDC Sn **Sn** **00 50 29.4 -2.1**
comp=N,27nm,0.3s,baz=246,slow=23,SNR=9.8
ESDC Sonseca Array 6.94 64 P **Pn** **00 49 13.3 +0.7**
comp=N,38nm,0.3s,slow=13,SNR=295
ESDC Sn **Sn** **00 50 29.4 -2.1**
ESDC S **Sn** **00 50 30.2 -1.3**
comp=N,14nm,0.3s,slow=23,SNR=6.7
ESLA Sonseca Array 6.94 64 *e*Pn **Pn** **00 49 13.4 +0.8**
ESLA *e*Sn **Sn** **00 50 30.3 -1.2**
ESLA Sonseca Array 6.94 64 *e*Pn **Pn** **00 49 13.4 +0.8**
ESLA *e*Sn **Sn** **00 50 30.3 -1.2**
CZD Col de Zad 6.95 122 P **Pn** **00 49 11.0 -2.0**
CZD S Sn 00 50 16.0 -16
ES19 SONSECA Array 6.99 64 *e*Pn **Pn** **00 49 12.7 -0.6**
ES19 SONSECA Array 6.99 64 *e*Pn **Pn** **00 49 12.8 -0.6**
ES19 *e*Sn **Sn** **00 50 30.4 -2.4**
ES19 SONSECA Array 6.99 64 *e*Pn **Pn** **00 49 12.8 -0.6**
ES19 *e*Sn **Sn** **00 50 30.4 -2.4**
TZK Tazeka 7.02 111 P **Pn** **00 49 12.0 -2.0**
TZK S Sn 00 50 20.0 -14
GUD Guadarrama 7.21 57 ⇓P **Pn** **00 49 17.6 +1.2**
comp=N,39nm,0.2s,SNR=18
GUD S Sn 00 50 35.1 -3.2
comp=N,17nm,0.2s,SNR=7.9
GUD Guadarrama 7.21 57 P **Pn** **00 49 17.6 +1.2**
GUD S **Sn** **00 50 37.7 -0.5**
GUD Guadarrama 7.21 57 P **Pn** **00 49 17.6 +1.2**
comp=N,39nm,0.2s,SNR=18
GUD S **Sn** **00 50 37.7 -0.5**
EQES Quesada 7.22 80 P **Pn** **00 49 16.8 +0.3**
comp=N,14nm,0.2s,SNR=164
EQES S **Sn** **00 50 36.7 -1.8**
comp=N,44nm,0.2s,SNR=7.9
EQES Quesada 7.22 80 P **Pn** **00 49 16.8 +0.3**
EQES S **Sn** **00 50 38.1 -0.3**
EQES Quesada 7.22 80 P **Pn** **00 49 16.8 +0.3**
comp=N,14nm,0.2s,SNR=164
EQES S **Sn** **00 50 38.1 -0.3**
EALB Alboran 7.35 95 P **Pn** **00 49 18.1 -0.1**
comp=N,1.6nm,0.1s,SNR=7.9
EALB S Sn 00 50 37.0 -4.4
comp=N,57nm,0.4s,SNR=7.9
EALB Alboran 7.35 95 P **Pn** **00 49 19.7 +1.5**
EALB S **Sn** **00 50 38.3 -3.2**
EALB Alboran 7.35 95 P **Pn** **00 49 19.7 +1.5**
EBER Berja 7.35 87 ⇓P **Pn** **00 49 19.8 +1.4**
comp=N,11nm,0.4s,SNR=18
EBER S **Sn** **00 50 39.3 -2.6**
comp=N,69nm,0.6s,SNR=7.9
EBER Berja 7.35 87 P **Pn** **00 49 19.8 +1.4**
EBER S **Sn** **00 50 42.1 +0.2**
EBER Berja 7.35 87 P **Pn** **00 49 19.8 +1.4**
comp=N,11nm,0.4s,SNR=18
EBER S **Sn** **00 50 42.1 +0.2**
YBT Youssef Ben Ta 7.38 162 P Pn 00 49 12.0 -6.7
YBT S Sn 00 50 22.0 -20
EPON Pontenova 7.42 29 P **Pn** **00 49 19.7 +0.5**
comp=N,30nm,0.3s,SNR=61
EPON S **Sn** **00 50 40.4 -2.9**
comp=N,63nm,0.3s,SNR=7.9
EPON Pontenova 7.42 29 P **Pn** **00 49 19.7 +0.5**
EPON S **Sn** **00 50 40.4 -2.9**
EPON Pontenova 7.42 29 P **Pn** **00 49 19.7 +0.5**
comp=N,30nm,0.3s,SNR=61
EMEL Melilla 7.55 100 S Sn 00 50 40.6 -5.8
comp=N,196nm,0.3s,SNR=7.9
EHUE Huescar 7.60 80 P **Pn** **00 49 22.5 +0.8**
comp=N,4.6nm,0.1s,SNR=7.9
EHUE S **Sn** **00 50 46.3 -1.5**
comp=N,25nm,0.2s,SNR=7.9
EHUE Huescar 7.60 80 P **Pn** **00 49 22.4 +0.8**
EHUE S **Sn** **00 50 47.8 0.0**
EHUE Huescar 7.60 80 P **Pn** **00 49 22.5 +0.8**
comp=N,4.6nm,0.1s,SNR=7.9
EHUE S **Sn** **00 50 47.8 0.0**
EVIA Vianos 7.76 74 ⇓P **Pn** **00 49 24.0 0.0**
comp=N,65nm,0.3s,SNR=18
EVIA S **Sn** **00 50 49.2 -2.7**
EVIA Vianos 7.76 74 P **Pn** **00 49 24.0 0.0**
EVIA S **Sn** **00 50 50.5 -1.4**
EVIA Vianos 7.76 74 P **Pn** **00 49 24.0 0.0**
comp=N,65nm,0.3s,SNR=18
EVIA S **Sn** **00 50 50.5 -1.4**
EFAM Famara 7.87 189 P Pn 00 49 10.8 -15
comp=N,9.7nm,0.3s,SNR=7.9
EFAM S Sn 00 50 32.2 -22
comp=N,70nm,0.4s,SNR=7.9
ENIJ Nijar 7.89 87 P **Pn** **00 49 26.3 +0.6**
comp=N,11nm,0.3s,SNR=7.9
ENIJ S **Sn** **00 50 52.0 -3.0**
comp=N,16nm,0.4s,SNR=7.9
ENIJ Nijar 7.89 87 P **Pn** **00 49 26.3 +0.6**
ENIJ S **Sn** **00 50 53.9 -1.1**
ENIJ Nijar 7.89 87 P **Pn** **00 49 26.3 +0.6**
comp=N,11nm,0.3s,SNR=7.9
ENIJ S **Sn** **00 50 53.9 -1.1**
EARI Arriondas 8.25 37 P **Pn** **00 49 32.8 +2.2**
comp=N,10nm,0.3s,SNR=40
EARI S **Sn** **00 51 01.9 -1.9**
comp=N,11nm,0.2s,SNR=7.9
EARI Arriondas 8.25 37 P **Pn** **00 49 32.8 +2.2**
EARI S **Sn** **00 51 02.9 -0.9**
EARI Arriondas 8.25 37 P **Pn** **00 49 32.8 +2.2**
comp=N,10nm,0.3s,SNR=40
EARI S **Sn** **00 51 02.8 -0.9**
CFUE Fuerteventura 8.40 191 P Pn 00 49 20.9 -12
comp=N,9.0nm,0.2s,SNR=7.9
CFUE S Sn 00 50 43.2 -24
comp=N,216nm,0.4s,SNR=7.9
ETOB Tobarra 8.50 75 P **Pn** **00 49 34.1 -0.1**
comp=N,9.8nm,0.3s,SNR=111
ETOB S **Sn** **00 51 07.5 -2.6**
comp=N,18nm,0.3s,SNR=7.9
ETOB Tobarra 8.50 75 P **Pn** **00 49 34.2 +0.1**
ETOB S **Sn** **00 51 08.7 -1.3**
ETOB Tobarra 8.50 75 P **Pn** **00 49 34.2 +0.1**
ETOB S **Sn** **00 51 08.7 -1.3**
EMUR La Murta 8.67 81 P **Pn** **00 49 37.1 +0.7**
comp=N,6.8nm,0.3s,SNR=15
EMUR S **Sn** **00 51 12.8 -1.2**
comp=N,18nm,0.4s,SNR=7.9
EMUR La Murta 8.67 81 P **Pn** **00 49 37.0 +0.7**
EMUR S **Sn** **00 51 12.8 -1.2**
EMUR La Murta 8.67 81 P **Pn** **00 49 37.1 +0.7**
comp=N,6.8nm,0.3s,SNR=15
EMUR S **Sn** **00 51 12.8 -1.2**
comp=N,18nm,0.4s,SNR=7.9
CART Cartagena 8.85 82 P **Pn** **00 49 38.6 -0.2**
CART S **Sn** **00 51 15.2 -3.2**
CART Cartagena 8.85 82 P **Pn** **00 49 38.6 -0.2**
EBAJ Bajamar 9.10 205 P Pn 00 49 28.4 -14
comp=N,2.2nm,0.3s,SNR=7.9
EBAJ S Sn 00 50 58.3 -26
comp=N,12nm,0.2s,SNR=7.9
ELAN Lanestosa 9.13 44 P **Pn** **00 49 44.1 +1.5**
comp=N,5.1nm,0.1s,SNR=42
ELAN S **Sn** **00 51 22.7 -2.6**
comp=N,16nm,0.2s,SNR=7.9
ELAN Lanestosa 9.13 44 P **Pn** **00 49 44.1 +1.5**
ELAN S **Sn** **00 51 24.2 -1.0**
ELAN Lanestosa 9.13 44 P **Pn** **00 49 44.1 +1.5**
comp=N,5.1nm,0.1s,SNR=42
ELAN S **Sn** **00 51 24.2 -1.0**
EOSO Osorio 9.30 199 S Sn 00 51 03.2 -27
comp=N,21nm,0.2s,SNR=7.9
EBEN Beniarda 9.54 76 P **Pn** **00 49 48.7 +0.4**
comp=N,7.6nm,0.6s,SNR=13
EBEN S **Sn** **00 51 32.7 -2.7**
comp=N,22nm,0.5s,SNR=7.9
EBEN Beniarda 9.54 76 P **Pn** **00 49 48.9 +0.6**
EBEN S **Sn** **00 51 35.8 +0.4**
EBEN Beniarda 9.54 76 P **Pn** **00 49 48.9 +0.6**
EBEN S **Sn** **00 51 35.8 +0.4**
EMOS Mosqueruela 9.70 66 P **Pn** **00 49 52.6 +2.0**
comp=N,9.7nm,0.3s,SNR=29
EMOS S Sn 00 51 35.4 -4.1
comp=N,12nm,0.2s,SNR=7.9
EMOS Mosqueruela 9.70 66 P **Pn** **00 49 52.6 +2.0**
EMOS S **Sn** **00 51 38.5 -1.0**
EMOS Mosqueruela 9.70 66 P **Pn** **00 49 52.6 +2.0**
comp=N,9.7nm,0.3s,SNR=29
EMOS S **Sn** **00 51 38.5 -1.0**
EGOM La Gomera 9.76 208 P Pn 00 49 35.9 -15
comp=N,4.0nm,0.2s,SNR=7.9
EGOM S Sn 00 51 12.0 -29
comp=N,90nm,0.5s,SNR=7.9
EARA Aranguren 9.95 51 P **Pn** **00 49 55.7 +1.8**
comp=N,24nm,0.3s,SNR=9.3
EARA S **Sn** **00 51 42.6 -2.9**
comp=N,4.7nm,0.1s,SNR=7.9
EARA Aranguren 9.95 51 P **Pn** **00 49 55.7 +1.8**
comp=N,24nm,0.3s,SNR=9.3
EARA S **Sn** **00 51 42.6 -2.9**
comp=N,4.7nm,0.1s,SNR=7.9
IUNC Unciti 9.99 51 ⇓P **Pn** **00 49 56.4 +1.8**
comp=N,16nm,0.2s,SNR=18
IUNC S **Sn** **00 51 45.7 -0.9**
comp=N,15nm,0.3s,SNR=7.9
IUNC Unciti 9.99 51 P **Pn** **00 49 56.3 +1.8**
comp=N,16nm,0.2s,SNR=18
IUNC S **Sn** **00 51 45.7 -0.9**
comp=N,15nm,0.3s,SNR=7.9
IUSE Utxeti 10.06 50 P **Pn** **00 49 57.6 +2.1**
comp=N,18nm,0.2s,SNR=7.9
IUSE S **Sn** **00 51 46.7 -1.6**
comp=N,8.3nm,0.3s,SNR=7.9
IUSE Utxeti 10.06 50 P **Pn** **00 49 57.6 +2.1**
comp=N,18nm,0.2s,SNR=7.9
IUSE S **Sn** **00 51 46.7 -1.6**
comp=N,8.3nm,0.3s,SNR=7.9
IZUN Zunzarren 10.07 51 P **Pn** **00 49 57.7 +2.1**
comp=N,6.2nm,0.1s,SNR=7.9
IZUN S Sn 00 51 45.2 -3.3
comp=N,12nm,0.5s,SNR=7.9
IZUN Zunzarren 10.07 51 P **Pn** **00 49 57.7 +2.1**
comp=N,6.2nm,0.1s,SNR=7.9
IEPA Eparoz 10.15 52 ⇓P **Pn** **00 49 58.5 +1.8**
comp=N,24nm,0.3s,SNR=18
IEPA S **Sn** **00 51 49.4 -1.0**
comp=N,24nm,0.6s,SNR=7.9
IEPA Eparoz 10.15 52 P **Pn** **00 49 58.5 +1.8**
comp=N,24nm,0.3s,SNR=18
IEPA S **Sn** **00 51 49.4 -1.0**
comp=N,24nm,0.6s,SNR=7.9
ESAC San Caprasio 10.18 58 P **Pn** **00 49 58.9 +1.8**
comp=N,36nm,0.3s,SNR=7.9
ESAC S **Sn** **00 51 50.4 -0.7**
comp=N,71nm,0.3s,SNR=7.9
ESAC San Caprasio 10.18 58 P **Pn** **00 49 58.9 +1.8**
ESAC S **Sn** **00 51 52.6 +1.5**
ESAC San Caprasio 10.18 58 P **Pn** **00 49 58.9 +1.8**
comp=N,36nm,0.3s,SNR=7.9
ESAC S **Sn** **00 51 50.4 -0.7**
comp=N,71nm,0.3s,SNR=7.9
ELIZ Elizondo 10.20 49 ⇓P **Pn** **00 49 58.7 +1.4**
comp=N,42nm,0.3s,SNR=18
ELIZ S Sn 00 51 48.2 -3.3
comp=N,11nm,0.4s,SNR=7.9
ELIZ Elizondo 10.20 49 P **Pn** **00 49 58.7 +1.4**
ELIZ S **Sn** **00 51 51.4 -0.1**
ELIZ Elizondo 10.20 49 P **Pn** **00 49 58.7 +1.4**
comp=N,42nm,0.3s,SNR=18
ELIZ S **Sn** **00 51 51.4 -0.1**
IELO Elcoad 10.20 51 P **Pn** **00 49 59.0 +1.6**
comp=N,13nm,0.2s,SNR=7.9
IELO S **Sn** **00 51 48.9 -2.8**
comp=N,15nm,0.3s,SNR=7.9
IELO Elcoad 10.20 51 P **Pn** **00 49 59.0 +1.6**
comp=N,13nm,0.2s,SNR=7.9
IELO S **Sn** **00 51 48.9 -2.8**
comp=N,15nm,0.3s,SNR=7.9
EALK Alkurruntz 10.24 49 P **Pn** **00 49 59.7 +1.8**
comp=N,29nm,0.4s,SNR=53
EALK S **Sn** **00 51 49.7 -2.8**
comp=N,19nm,0.5s,SNR=7.9
EALK Alkurruntz 10.24 49 P **Pn** **00 49 59.7 +1.8**
EALK S **Sn** **00 51 51.2 -1.3**
EALK Alkurruntz 10.24 49 P **Pn** **00 49 59.7 +1.8**
comp=N,29nm,0.4s,SNR=53
EALK S **Sn** **00 51 51.2 -1.3**
SJPF Ste Jean 10.35 50 *e*P **Pn** **00 50 01.1 +1.7**
SNR=1.0
SJPF *e*Sn Sn 00 51 48.3 -7.1
comp=N,25nm,0.5s
SJPF Ste Jean 10.35 50 Pn **Pn** **00 50 01.3 +1.9**
SJPF *e*Sn Sn 00 51 48.3 -7.1
SJPF Ste Jean 10.35 50 P **Pn** **00 50 01.1 +1.7**
CTIG El Hierro 10.37 210 S Sn 00 51 26.2 -29
comp=N,14nm,0.2s,SNR=7.9
OSSF Osses 10.41 49 *e*P **Pn** **00 50 01.6 +1.4**
OSSF Osses 10.41 49 *e*P **Pn** **00 50 01.6 +1.4**
LARF Larrau 10.46 51 *e*P **Pn** **00 50 02.6 +1.7**
LARF Larrau 10.46 51 *e*P **Pn** **00 50 02.6 +1.7**
ERTA Horta de San J 10.46 64 P **Pn** **00 50 02.2 +1.3**
comp=N,14nm,0.8s,SNR=24
ERTA S Sn 00 51 54.7 -3.3
comp=N,16nm,0.4s,SNR=7.9
ERTA Horta de San J 10.46 64 P **Pn** **00 50 02.2 +1.3**
ERTA S **Sn** **00 51 55.8 -2.2**
ERTA Horta de San J 10.46 64 P **Pn** **00 50 02.2 +1.3**
comp=N,14nm,0.8s,SNR=24
ERTA S **Sn** **00 51 55.8 -2.2**
ORDF Ordiarp 10.59 50 *e*P **Pn** **00 50 04.1 +1.5**
ORDF Ordiarp 10.59 50 *e*P **Pn** **00 50 04.1 +1.5**
ETSF Etsaut 10.66 52 *e*P **Pn** **00 50 05.2 +1.6**
SNR=1.0
ETSF *e*Sn Sn 00 51 56.4 -6.5
comp=N,17nm,0.5s,SNR=1.0
ETSF Etsaut 10.66 52 *e*P **Pn** **00 50 05.2 +1.6**
ETSF *e*Sn Sn 00 51 56.4 -6.5
ETSF Etsaut 10.66 52 P **Pn** **00 50 05.2 +1.6**
ATE Arette 10.66 51 *e*P **Pn** **00 50 05.5 +1.8**
ATE Arette 10.66 51 *e*P **Pn** **00 50 05.5 +1.8**
REYF Montagne du Re 10.85 52 *e*P **Pn** **00 50 08.1 +1.8**
REYF Montagne du Re 10.85 52 *e*P **Pn** **00 50 08.1 +1.8**
EBIE Bielsa 11.01 55 P **Pn** **00 50 09.5 +0.9**
comp=N,19nm,0.3s,SNR=102
EBIE S Sn 00 52 07.7 -4.0
comp=N,8.4nm,0.4s,SNR=7.9
EBIE Bielsa 11.01 55 P **Pn** **00 50 09.5 +0.9**
EBIE Bielsa 11.01 55 P **Pn** **00 50 09.5 +0.9**
comp=N,19nm,0.3s,SNR=102
VIEF Viey 11.02 54 *e*P **Pn** **00 50 10.8 +2.1**
VIEF Viey 11.02 54 *e*P **Pn** **00 50 10.8 +2.1**
EPOB Poblet 11.12 63 P **Pn** **00 50 10.3 +0.3**
comp=N,6.3nm,0.4s,SNR=20
EPOB S Sn 00 52 09.4 -4.9
comp=N,3.1nm,0.4s,SNR=7.9
EPOB Poblet 11.12 63 P **Pn** **00 50 10.3 +0.3**
EPOB Poblet 11.12 63 P **Pn** **00 50 10.3 +0.3**
comp=N,6.3nm,0.4s,SNR=20
LABF Labassere 11.13 53 *e*P **Pn** **00 50 11.5 +1.4**
LABF Labassere 11.13 53 *e*P **Pn** **00 50 11.5 +1.4**
RESF Ens 11.19 55 *e*P **Pn** **00 50 12.9 +1.9**
RESF Ens 11.19 55 *e*P **Pn** **00 50 12.9 +1.9**
EPF Esparros 11.30 54 *e*P **Pn** **00 50 13.7 +1.3**
SNR=1.0
EPF *e*Sn Sn 00 52 10.7 -7.8
comp=N,8.4nm,0.3s,SNR=1.0
EPF Esparros 11.30 54 Pn **Pn** **00 50 14.9 +2.5**
EPF *e*Sn Sn 00 52 10.7 -7.8
EPF Esparros 11.30 54 P **Pn** **00 50 13.7 +1.3**
EPF Esparros 11.30 54 Pn **Pn** **00 50 14.9 +2.5**
MELF Melles 11.50 55 *e*P **Pn** **00 50 16.9 +1.8**
MELF Melles 11.50 55 *e*P **Pn** **00 50 16.9 +1.8**
CSOR Sort 11.54 58 P **Pn** **00 50 15.9 +0.2**
comp=N,15nm,0.7s,SNR=29
CSOR S Sn 00 52 20.2 -4.2
comp=N,13nm,0.6s,SNR=7.9
CSOR Sort 11.54 58 P **Pn** **00 50 15.9 +0.2**
CSOR Sort 11.54 58 P **Pn** **00 50 15.9 +0.2**
comp=N,15nm,0.7s,SNR=29
EMIR Miracle 11.63 60 P **Pn** **00 50 17.9 +1.0**
comp=N,15nm,0.4s,SNR=19
EMIR S **Sn** **00 52 25.5 -1.2**
comp=N,7.1nm,0.3s,SNR=7.9
EMIR Miracle 11.63 60 P **Pn** **00 50 17.9 +1.0**
EMIR Miracle 11.63 60 P **Pn** **00 50 17.9 +1.0**
comp=N,15nm,0.4s,SNR=19
EMIR S **Sn** **00 52 25.5 -1.2**
comp=N,7.1nm,0.3s,SNR=7.9
CLLI Llivia 12.15 59 P **Pn** **00 50 25.7 +1.6**
comp=N,10.0nm,0.4s,SNR=32

CLLI				S	Sn	00 52 34.8	-4.6
	comp=N,3.0nm,0.2s,SNR=7.9						
CLLI	**Llivia**	**12.15**	**59**	P	**Pn**	**00 50 25.7**	**+1.6**
CLLI	**Llivia**	**12.15**	**59**	P	**Pn**	**00 50 25.7**	**+1.6**
	comp=N,10.0nm,0.4s,SNR=32						
VALF	**Valcebollere**	**12.15**	**59**	*e*P	**Pn**	**00 50 26.6**	**+2.5**
VALF	**Valcebollere**	**12.15**	**59**	*e*P	**Pn**	**00 50 26.6**	**+2.5**
CFON	**Fontmartina**	**12.22**	**62**	P	**Pn**	**00 50 25.6**	**+0.6**
	comp=N,9.1nm,0.3s,SNR=30						
CFON				S	**Sn**	**00 52 40.5**	**-0.6**
	comp=N,6.8nm,0.3s,SNR=7.9						
CFON	**Fontmartina**	**12.22**	**62**	P	**Pn**	**00 50 25.6**	**+0.6**
CFON	**Fontmartina**	**12.22**	**62**	P	**Pn**	**00 50 25.6**	**+0.6**
	comp=N,9.1nm,0.3s,SNR=30						
CFON				S	**Sn**	**00 52 40.5**	**-0.6**
	comp=N,6.8nm,0.3s,SNR=7.9						
CARF	**Carcanieres**	**12.33**	**58**	*e*P	**Pn**	**00 50 28.4**	**+1.9**
CARF	**Carcanieres**	**12.33**	**58**	*e*P	**Pn**	**00 50 28.4**	**+1.9**
LFF	**La Frestale**	**12.55**	**46**	*e*Pn	**Pn**	**00 50 29.8**	**+0.3**
	SNR=1.0						
LFF				*e*Sn	Sn	00 52 40.9	-8.2
	comp=N,12nm,0.5s						
LFF	**La Frestale**	**12.55**	**46**	*e*Pn	**Pn**	**00 50 29.8**	**+0.3**
LFF				*e*Sn	Sn	00 52 40.9	-8.2
LFF	**La Frestale**	**12.55**	**46**	P	**Pn**	**00 50 29.8**	**+0.3**
MTLF	**Montolieu**	**12.66**	**55**	*e*Pn	**Pn**	**00 50 32.0**	**+1.0**
	SNR=1.0						
MTLF	**Montolieu**	**12.66**	**55**	*e*Pn	**Pn**	**00 50 32.0**	**+1.0**
MTLF	**Montolieu**	**12.66**	**55**	P	**Pn**	**00 50 32.0**	**+1.0**
EJON	**La Jonquera**	**12.77**	**60**	P	**Pn**	**00 50 32.5**	**+0.1**
	comp=N,7.6nm,0.4s,SNR=10						
EJON				S	Sn	00 52 49.7	-4.7
	comp=N,68nm,1.5s,SNR=7.9						
EJON	**La Jonquera**	**12.77**	**60**	P	**Pn**	**00 50 32.5**	**+0.1**
EJON	**La Jonquera**	**12.77**	**60**	P	**Pn**	**00 50 32.5**	**+0.1**
	comp=N,7.6nm,0.4s,SNR=10						
QUIF	**Quistinic**	**12.79**	**28**	*e*Pn	**Pn**	**00 50 33.7**	**+1.0**
	SNR=1.0						
QUIF				*e*Sn	Sn	00 52 46.9	-8.0
	comp=N,14nm,0.3s,SNR=1.0						
QUIF	**Quistinic**	**12.79**	**28**	*e*Pn	**Pn**	**00 50 33.7**	**+1.0**
QUIF	**Quistinic**	**12.79**	**28**	P	**Pn**	**00 50 33.7**	**+1.0**
ROSF	**Rostrenen**	**13.10**	**27**	*e*Pn	**Pn**	**00 50 36.6**	**-0.3**
	SNR=1.0						
ROSF				*e*Sn	Sn	00 52 54.4	-8.1
	comp=N,28nm,0.6s,SNR=1.0						
ROSF	**Rostrenen**	**13.10**	**27**	*e*Pn	**Pn**	**00 50 36.6**	**-0.3**
ROSF	**Rostrenen**	**13.10**	**27**	P	**Pn**	**00 50 36.6**	**-0.3**
MFF	**Saint Martin d**	**13.12**	**39**	*e*Pn	**Pn**	**00 50 37.4**	**+0.1**
	SNR=1.0						
MFF				*e*Sn	Sn	00 52 55.1	-8.0
	comp=N,12nm,0.5s						
MFF	**Saint Martin d**	**13.12**	**39**	*e*Pn	**Pn**	**00 50 37.4**	**+0.1**
MFF				*e*Sn	Sn	00 52 55.1	-8.0
MFF	**Saint Martin d**	**13.12**	**39**	P	**Pn**	**00 50 37.4**	**+0.1**
RJF	**Les Rejaudoux**	**13.21**	**46**	*e*Pn	**Pn**	**00 50 38.3**	**-0.2**
	SNR=1.0						
RJF				*e*Sn	Sn	00 52 56.9	-8.4
	comp=N,6.6nm,0.3s						
RJF	**Les Rejaudoux**	**13.21**	**46**	*e*Pn	**Pn**	**00 50 38.3**	**-0.2**
RJF				*e*Sn	Sn	00 52 56.9	-8.4
RJF	**Les Rejaudoux**	**13.21**	**46**	P	**Pn**	**00 50 38.3**	**-0.2**
SGMF	**Saint Gilles**	**13.30**	**29**	*e*Pn	**Pn**	**00 50 40.1**	**+0.5**
	SNR=1.0						
SGMF				*e*Sn	Sn	00 52 58.8	-8.5
	comp=N,7.3nm,0.4s						
SGMF	**Saint Gilles**	**13.30**	**29**	*e*Pn	**Pn**	**00 50 40.1**	**+0.5**
SGMF				*e*Sn	Sn	00 52 58.8	-8.5
SGMF	**Saint Gilles**	**13.30**	**29**	P	**Pn**	**00 50 40.1**	**+0.5**
CAF	**Calviac**	**13.33**	**49**	*e*Pn	**Pn**	**00 50 39.9**	**-0.2**
	SNR=1.0						
CAF				*e*Sn	Sn	00 52 59.8	-8.4
	comp=N,2.9nm,0.3s						
CAF	**Calviac**	**13.33**	**49**	*e*Pn	**Pn**	**00 50 39.9**	**-0.2**
CAF				*e*Sn	Sn	00 52 59.8	-8.4
CAF	**Calviac**	**13.33**	**49**	*e*Pn	**Pn**	**00 50 39.9**	**-0.2**
	SNR=1.0						
LASF	**Ste Croix**	**14.05**	**55**	*e*Pn	**Pn**	**00 50 49.0**	**-1.0**
	SNR=1.0						
LASF	**Ste Croix**	**14.05**	**55**	*e*Pn	**Pn**	**00 50 49.0**	**-1.0**
LASF	**Ste Croix**	**14.05**	**55**	*e*Pn	**Pn**	**00 50 49.0**	**-1.0**
	SNR=1.0						
GRR	**Gorron**	**14.10**	**32**	*e*Pn	**Pn**	**00 50 50.4**	**-0.1**
	SNR=1.0						
GRR				*e*Sn	Sn	00 53 18.0	-8.8
	comp=N,5.6nm,0.3s						
GRR	**Gorron**	**14.10**	**32**	*e*Pn	**Pn**	**00 50 50.4**	**-0.1**
GRR				*e*Sn	Sn	00 53 18.0	-8.8
GRR	**Gorron**	**14.10**	**32**	*e*Pn	**Pn**	**00 50 50.4**	**-0.1**
	SNR=1.0						
TCF	**Toulx Ste Croi**	**14.18**	**44**	*e*Pn	**Pn**	**00 50 51.8**	**+0.1**
	SNR=1.0						
TCF				*e*Sn	Sn	00 53 20.7	-8.2
	comp=N,12nm,0.6s						
TCF	**Toulx Ste Croi**	**14.18**	**44**	*e*Pn	**Pn**	**00 50 51.8**	**+0.1**
TCF				*e*Sn	Sn	00 53 20.7	-8.2
TCF	**Toulx Ste Croi**	**14.18**	**44**	*e*Pn	**Pn**	**00 50 51.8**	**+0.1**
	SNR=1.0						
PYM	**Petit Puy Mans**	**14.33**	**47**	*e*P	**Pn**	**00 50 54.0**	**+0.1**
FLN	**La Foliniere**	**14.54**	**32**	*e*Pn	**Pn**	**00 50 55.3**	**-1.3**
	baz=208,SNR=1.0						
FLN				*e*Sn	Sn	00 53 29.6	-8.1
	comp=N,5.9nm,0.4s						
FLN	**La Foliniere**	**14.54**	**32**	*e*Pn	**Pn**	**00 50 55.3**	**-1.3**
FLN				*e*Sn	Sn	00 53 29.6	-8.1
FLN	**La Foliniere**	**14.54**	**32**	*e*Pn	**Pn**	**00 50 55.3**	**-1.3**
	baz=208,SNR=1.0						
AGO	**Saint Agoulin**	**14.57**	**47**	*e*P	**Pn**	**00 50 57.1**	**+0.1**
LDF	**La Druitiere**	**14.57**	**33**	*e*Pn	**Pn**	**00 50 57.8**	**+0.8**
	SNR=1.0						
LDF				*e*Sn	Sn	00 53 30.0	-8.3
	comp=N,10nm,0.7s						
LDF	**La Druitiere**	**14.57**	**33**	*e*Pn	**Pn**	**00 50 57.8**	**+0.8**
LDF				*e*Sn	Sn	00 53 30.0	-8.3
LDF	**La Druitiere**	**14.57**	**33**	*e*Pn	**Pn**	**00 50 57.8**	**+0.8**
	SNR=1.0						
BGF	**Bois d'Agland**	**14.69**	**44**	*e*Pn	**Pn**	**00 50 58.5**	**-0.2**
	SNR=1.0						
BGF				*e*Sn	Sn	00 53 32.2	-9.2
	comp=N,20nm,0.6s						
BGF	**Bois d'Agland**	**14.69**	**44**	*e*Pn	**Pn**	**00 50 58.5**	**-0.2**
BGF				*e*Sn	Sn	00 53 32.2	-9.2
BGF	**Bois d'Agland**	**14.69**	**44**	*e*Pn	**Pn**	**00 50 58.5**	**-0.2**
	SNR=1.0						
VIVF	**Saint-Julien-l**	**14.92**	**53**	*e*Pn	**Pn**	**00 50 58.8**	**-3.0**
	SNR=1.0						
VIVF	**Saint-Julien-l**	**14.92**	**53**	*e*Pn	**Pn**	**00 50 58.8**	**-3.0**
VIVF	**Saint-Julien-l**	**14.92**	**53**	*e*Pn	**Pn**	**00 50 58.8**	**-3.0**
	SNR=1.0						
AVF	**Avril sur Loir**	**15.11**	**44**	*e*Pn	**Pn**	**00 51 04.4**	**+0.1**
	SNR=1.0						
AVF	**Avril sur Loir**	**15.11**	**44**	Pn	**Pn**	**00 51 05.1**	**+0.8**
AVF	**Avril sur Loir**	**15.11**	**44**	*e*Pn	**Pn**	**00 51 04.4**	**+0.1**
	SNR=1.0						
SMF	**Signal de Mont**	**15.31**	**46**	*e*Pn	**Pn**	**00 51 06.8**	**-0.1**
SMF	**Signal de Mont**	**15.31**	**46**	*e*Pn	**Pn**	**00 51 06.8**	**-0.1**
SMF	**Signal de Mont**	**15.31**	**46**	P	**Pn**	**00 51 06.8**	**-0.1**
SSF	**Saint Saulge**	**15.35**	**44**	*e*Pn	**Pn**	**00 51 07.8**	**+0.3**
	SNR=1.0						
SSF	**Saint Saulge**	**15.35**	**44**	*e*Pn	**Pn**	**00 51 07.8**	**+0.3**
SSF	**Saint Saulge**	**15.35**	**44**	P	**Pn**	**00 51 07.8**	**+0.3**
LOR	**Lormes**	**15.67**	**44**	*e*Pn	**Pn**	**00 51 12.1**	**+0.4**
	baz=222,SNR=1.0						
LOR	**Lormes**	**15.67**	**44**	*e*Pn	**Pn**	**00 51 12.1**	**+0.4**
LOR	**Lormes**	**15.67**	**44**	P	**Pn**	**00 51 12.1**	**+0.4**
ORIF	**Oris-en-Rattie**	**15.72**	**54**	*e*P	**P**	**00 51 14.1**	**-2.3**
	SNR=1.0						
ORIF	**Oris-en-Rattie**	**15.72**	**54**	*e*P	**P**	**00 51 14.1**	**-2.3**
ORIF	**Oris-en-Rattie**	**15.72**	**54**	P	**P**	**00 51 14.1**	**-2.3**
FRF	**La Foret Royal**	**15.73**	**59**	*e*P	**P**	**00 51 14.2**	**-2.3**
FRF	**La Foret Royal**	**15.73**	**59**	*e*P	**P**	**00 51 14.2**	**-2.3**
FRF	**La Foret Royal**	**15.73**	**59**	P	**P**	**00 51 14.2**	**-2.3**
KEST	**Kesra**	**17.30**	**88**	P	**P**	**00 51 35.1**	**+1.2**
KEST	**Kesra**	**17.30**	**88**	P	**P**	**00 51 35.1**	**+1.2**
	comp=N,0.1nm,0.3s,baz=229,slow=2.2,SNR=3.5						
BAIF	**Baives**	**17.60**	**37**	*e*P	**P**	**00 51 38.5**	**+1.4**
	SNR=1.0						
BAIF	**Baives**	**17.60**	**37**	*e*P	**P**	**00 51 38.5**	**+1.4**
DOU	**Dourbes**	**17.82**	**37**	P	**P**	**00 51 40.6**	**+1.2**
EKA	**Eskdalemuir Ar**	**19.39**	**15**	P	**Pn**	**00 51 57.8**	**0.0**
EKA	**Eskdalemuir Ar**	**19.39**	**15**	P	**Pn**	**00 51 57.8**	**0.0**
	baz=189,slow=8.6,SNR=2.9						
GERES	**GERESS Array B**	**22.21**	**49**	P	**P**	**00 52 29.1**	**+1.7**
GERES	**GERESS Array B**	**22.21**	**49**	P	**P**	**00 52 29.1**	**+1.7**
	comp=N,1.2nm,0.6s,baz=246,slow=10.0,SNR=5.9						
VRAC	**Vranov**	**24.15**	**50**	P	**P**	**00 52 46.3**	**-0.6**
VRAC	**Vranov**	**24.15**	**50**	P	**P**	**00 52 46.3**	**-0.6**
	comp=N,1.8nm,0.5s,baz=249,slow=10.0,SNR=5.2						
VRAC				LR	LR	01 01 49.2	
	comp=N,29nm,18.4s,baz=338,slow=35						
VYHS	**Vyhne**	**25.30**	**53**	*e*P	**P**	**00 52 57.2**	**-0.2**
TORD	**Torodi Ar. Bea**	**26.70**	**149**	P	P	00 53 04.5	-5.7
TORD	**Torodi Ar. Bea**	**26.70**	**149**	P	P	00 53 04.5	-5.7
	comp=N,2.8nm,0.8s,baz=324,slow=8.8,SNR=26						
STHS	**Stebnicka Huta**	**27.08**	**52**	*e*P	**P**	**00 53 16.2**	**+2.7**
CRVS	**Cervenica-Dubn**	**27.09**	**53**	*e*P	P	00 53 18.8	+5.2
HFS	**Hagfors**	**28.47**	**27**	P	**P**	**00 53 25.6**	**-0.1**
HFS	**Hagfors**	**28.47**	**27**	P	**P**	**00 53 25.6**	**-0.1**
	comp=N,8.7nm,1.1s,baz=231,slow=9.1,SNR=4.4						
FINES	**FINESS Array B**	**34.16**	**32**	P	**P**	**00 54 15.4**	**-0.4**
FINES	**FINESS Array B**	**34.16**	**32**	P	**P**	**00 54 15.4**	**-0.4**
	comp=N,1.9nm,0.7s,baz=258,slow=7.4,SNR=12						
BRTR	**Keskin Array B**	**35.67**	**71**	P	**P**	**00 54 29.1**	**-0.2**
BRTR	**Keskin Array B**	**35.67**	**71**	P	**P**	**00 54 29.1**	**-0.2**
	comp=N,0.5nm,0.9s,baz=256,slow=5.0,SNR=4.6						
ARCES	**ARCESS Array B**	**38.43**	**20**	P	**P**	**00 54 51.4**	**-0.8**
ARCES	**ARCESS Array B**	**38.43**	**20**	P	**P**	**00 54 51.4**	**-0.8**
	comp=N,1.1nm,0.6s,baz=226,slow=8.3,SNR=12						
KBZ	**Khabaz**	**41.79**	**63**	P	**P**	**00 55 21.9**	**+1.5**
KBZ	**Khabaz**	**41.79**	**63**	P	**P**	**00 55 21.9**	**+1.5**
	comp=N,2.2nm,1.0s,baz=304,slow=3.6,SNR=3.0						
AKTO	**Aktyubinsk**	**50.62**	**51**	P	**P**	**00 56 29.3**	**-0.5**
AKTO	**Aktyubinsk**	**50.62**	**51**	P	**P**	**00 56 29.3**	**-0.5**
	comp=N,2.1nm,0.7s,baz=283,slow=4.8,SNR=9.5						
KSH	**Kashi**	**66.40**	**58**	*e*P	**P**	**00 58 17.6**	**-2.6**
KSH				pP	**pP**	**00 58 21.0**	**-3.2**
KSH				PP	**PP**	**01 00 46.1**	**0.0**
KSH				PcS		01 02 50.6	
KSH				S	**S**	**01 07 06.6**	**-3.5**
KSH				pmax	pmax		
	comp=Z,91nm,4.6s						
KSH				LR	LR		
	comp=N,92nm,6.5s						
KSH				LR	LR		
	comp=E,60nm,4.9s						
KSH				LR	LR		
	comp=Z,170nm,6.4s						
MKAR	**Makanchi Array**	**66.87**	**48**	P	**P**	**00 58 21.1**	**-1.9**
MKAR	**Makanchi Array**	**66.87**	**48**	P	**P**	**00 58 21.1**	**-1.9**
	comp=Z,0.4nm,0.6s,baz=306,slow=5.6,SNR=4.0						
WMQ	**Urumqi**	**71.67**	**49**	*e*P	**P**	**00 58 51.3**	**-1.5**
WMQ				pP	**pP**	**00 58 56.3**	**-0.5**
WMQ				sP	**sP**	**00 58 58.3**	**0.0**
WMQ				PcP	**PcP**	**00 59 09.8**	**-2.1**
WMQ				pmax	pmax		
	comp=Z,5.0nm,1.2s						
WMQ				pmax	pmax		
	comp=Z,35nm,5.0s						
WMQ				LR	LR		
	comp=N,21nm,17.0s						
WMQ				LR	LR		
	comp=E,41nm,23.0s						
NVAR	**Mina Array Bea**	**78.80**	**310**	P	P	00 59 28.9	-5.2
NVAR	**Mina Array Bea**	**78.80**	**310**	P	P	00 59 28.9	-5.2
	comp=E,0.5nm,0.5s,baz=38,slow=10,SNR=4.6						
LZH	**Lanzhou**	**86.15**	**47**	*e*P	P	01 00 08.2	-4.3
LZH				pP	**PcP**	**01 00 13.1**	**-2.0**
LZH				sP	sP	01 00 16.3	-1.7
LZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
HHC	**Hu-ho-hao-te**	**86.96**	**39**	*e*P	P	01 00 11.6	-4.7
HHC				sP	sP	01 00 18.1	-3.7
HHC				PP	**PP**	**01 03 38.4**	**-0.2**
HHC				S	**SKKSac**	**01 10 48.4**	**-3.6**
HHC				SS	**SS**	**01 16 38.3**	**+2.3**
HHC				pmax	pmax		
	comp=Z,30nm,0.9s						
HHC				pmax	pmax		
	comp=Z,200nm,4.4s						
HHC				LR	LR		
	comp=N,300nm,22.6s						
HHC				LR	LR		
	comp=E,710nm,21.4s						
HHC				LR	LR		
	comp=Z,220nm,20.2s						
CD2	**Chengdu**	**89.67**	**51**	P	P	01 00 25.6	-3.7
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
MDJ	**Mudanjiang**	**91.73**	**26**	P	P	01 00 34.1	-4.4
MDJ				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MDJ				pmax	pmax		
	comp=Z,60nm,4.9s						
GYA	**Guiyang**	**94.60**	**52**	*e*P	P	01 00 49.0	-3.2
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
WHN	**Wuhan**	**96.19**	**44**	P	P	01 01 06.7	+7.4

AUST ***05*** *00:59:27.8±5.4, 0.°63S×133.°70E, h0km, Error ellipse: s-maj=1.9km s-min=1.0km az=270.0*
IDC ***05*** *00:59:30.8±2.0, 0.°82S×133.°33E, h0km, mb3.9/3, mb1 4.0/5, mb1mx3.7/22, mbtmp3.9/5, ML3.9/2, MS3.2/3, Ms1 3.2/3, ms1mx2.5/35, Error ellipse: s-maj=82.8km s-min=23.8km az=76.0*
DJA ***05*** *00:59:37.1±0.6, 1.°S±5.°×13.°3E±.°, h10km, M4.5/5, MLv4.5/5*
ISCJB ***05*** *00:59:39.9±0.8, 1.°18S±0.°06×133.°20E±0.°06, h88km±8km, mb3.8/3, Error ellipse: s-maj=10.1km s-min=8.8km az=31.7*

ISC 05 00:59:39.1±1.1, **0.°97S**±0.°06×**133.°21E**±0.°05, **h63**km±12km, **n21**, σ2°**47**/28, **mb3.9**/3, **Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKPI	**Ransiki, Papua**	**1.10**	**119**	P	**Pn**	**00 59 56.3**	**-2.3**
RKPI				S	**Sn**	**01 00 14.6**	**+1.4**
SWI	**Sorong**	**1.95**	**273**	P	**Pn**	**01 00 08.7**	**-1.2**
SWI				S	**Sn**	**01 00 35.3**	**+1.9**
SWI	**Sorong**	**1.95**	**273**	P	**Pn**	**01 00 08.8**	**-1.2**
	baz=2.4,SNR=42						
SWI				S	**Sn**	**01 00 36.3**	**+2.9**
	baz=2.4,SNR=10						
FAKI	**Fak Fak**	**2.16**	**206**	P	**Pn**	**01 00 14.0**	**+1.2**
FAKI				S	**Sn**	**01 00 42.3**	**+3.8**
FAKI	**Fak Fak**	**2.16**	**206**	P	**Pn**	**01 00 12.6**	**-0.2**
	baz=2.7,SNR=114						
FAKI				S	**Sn**	**01 00 43.1**	**+4.6**
	baz=2.7,SNR=6.4						
KMPI	**Kaimana, Papua**	**2.72**	**170**	P	**Pn**	**01 00 20.6**	**+0.2**
BAKI	**Biak**	**2.91**	**94**	P	**Pn**	**01 00 24.9**	**+2.0**
TLE	**Tual**	**4.66**	**186**	P	**Pn**	**01 00 48.5**	**+1.6**
TLE	**Tual**	**4.66**	**186**	P	**Pn**	**01 00 48.9**	**+2.0**
	baz=5.1,SNR=4.4						
TLE				S	**Sn**	**01 01 42.0**	**+2.2**
	baz=5.1,SNR=5.8						
KDU	**Kakadu**	**11.66**	**184**	P	**Pn**	**01 02 21.5**	**-1.2**
	baz=12,SNR=16						
KDU				S	**Sn**	**01 04 27.7**	**-3.7**
	baz=12,SNR=9.5						
MTN	**Manton Dam**	**11.97**	**190**	P	**Pn**	**01 02 25.6**	**-1.4**
	baz=12,SNR=26						
MTN				S	**Sn**	**01 04 34.9**	**-4.1**
	baz=12,SNR=8.7						
KNRA	**Kununurra**	**15.26**	**196**	P	**Pn**	**01 03 09.8**	**-1.0**
	baz=16,SNR=12						
KNRA				S	**Sn**	**01 05 53.4**	**-5.5**
	baz=16,SNR=5.9						
FITZ	**Fitzroy Crossi**	**18.58**	**203**	P	**P**	**01 03 51.3**	**+0.1**
	0.3nm,0.3s,baz=40,slow=14,SNR=10						
FITZ				S	Sn	01 07 06.6	-13
	0.2nm,0.3s,baz=220,slow=5.3,SNR=3.9						
FITZ				LR	LR	01 11 32.6	
	comp=Z,70nm,21.8s,baz=46,slow=38						
FITZ	**Fitzroy Crossi**	**18.58**	**203**	S	Sn	01 07 07.9	-11
	baz=19,SNR=4.8						
WRA	**Warramunga Arr**	**18.89**	**177**	P	**P**	**01 03 54.6**	**+0.1**
	0.4nm,0.3s,baz=356,slow=12,SNR=10						
WRA				S	S	01 07 15.1	-11
	0.1nm,0.3s,baz=347,slow=24,SNR=5.5						
ASAR	**Alice Springs**	**22.57**	**178**	P	**P**	**01 04 35.4**	**+1.0**
	3.8nm,0.7s,baz=2.3,slow=11,SNR=37						
ASAR				S	**S**	**01 08 36.2**	**-1.3**
	0.5nm,0.8s,baz=360,slow=26,SNR=3.5						
PATS	**Pohnpei**	**26.22**	**72**	S	S	01 09 53.7	+17
	baz=26,SNR=4.4						
STKA	**Stephens Creek**	**31.74**	**166**	P	**P**	**01 05 57.0**	**-0.3**
	1.8nm,0.8s,baz=350,slow=6.1,SNR=3.8						
STKA				LR	LR	01 20 10.6	
	comp=Z,94nm,18.8s,baz=25,slow=39						
BLDU	**Ballidu**	**33.38**	**206**	P	**P**	**01 06 13.5**	**+1.9**
	baz=34,SNR=7.2						
KSRS	**Korea Array**	**38.55**	**353**	LR	LR	01 20 42.3	
	comp=Z,13nm,18.9s,baz=225,slow=33						
MKAR	**Makanchi Array**	**65.11**	**324**	P	**P**	**01 10 13.1**	**-0.2**
	0.5nm,0.5s,baz=109,slow=8.3,SNR=6.7						

ISK ***05*** *01:53:14.4, 38.°86N×27.°77E, h6km, ML3.4*
DDA ***05*** *01:53:14.2, 38.°84N×27.°84E, h24km, ML3.5*
ISCJB ***05*** *01:53:15.1±0.3, 38.°86N±0.°01×27.°78E±0.°02, h10km±2km, Error ellipse: s-maj=2.6km s-min=2.3km az=43.9*
CSEM ***05*** *01:53:15.1±0.1, 38.°84N×27.°77E, h5km, ML3.5, Error ellipse: s-maj=2.1km s-min=1.9km az=41.0*
THE ***05*** *01:53:17.4, 38.°87N×27.°83E, h20km±3km, ML3.6/4, Error ellipse: s-maj=3.1km s-min=0.8km az=48.0*

ISC 05 01:53:15.4±0.8, **38.°85N**±0.°02×**27.°79E**±0.°02, **h12**km±4km, **n209**, σ0°**95**/252, **10C-8D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKHS	**Akhisar**	**0.03**	**28**	*i* P	**Pg**	**01 53 17.4**	**-0.2**
AKHS				*i* S	**Sg**	**01 53 19.0**	**-0.2**
AKHS	**Akhisar**	**0.03**	**28**	*i* P	**Pg**	**01 53 17.4**	**-0.2**
AKHS				*i* S	**Sg**	**01 53 19.0**	**-0.2**
AKS	**Akhisar**	**0.03**	**27**	PG	**Pg**	**01 53 17.4**	**-0.2**
AKS	**Akhisar**	**0.03**	**27**	*i* Pg	**Pg**	**01 53 17.4**	**-0.2**
IZM	**Izmir**	**0.61**	**223**	PG	**Pg**	**01 53 26.6**	**-0.8**
IZM				*e*SG	**Sg**	**01 53 35.5**	**+0.1**
IZM	**Izmir**	**0.61**	**223**	*i* Pg	**Pg**	**01 53 26.6**	**-0.8**
IZM				*e*Sg	**Sg**	**01 53 35.5**	**+0.1**
MANT	**Manisa**	**0.70**	**121**	*i* P	**Pg**	**01 53 28.1**	**-0.9**
MANT				*i* S	**Sg**	**01 53 37.4**	**-0.8**
MANT	**Manisa**	**0.70**	**121**	*i* P	**Pg**	**01 53 28.1**	**-0.9**
MANT				*i* S	**Sg**	**01 53 37.4**	**-0.8**
KULA	**Kula-Manisa**	**0.76**	**116**	PG	**Pg**	**01 53 29.3**	**-0.8**
KULA	**Kula-Manisa**	**0.76**	**116**	*i* Pg	**Pg**	**01 53 29.3**	**-0.8**
BALB	**Balikesir**	**0.79**	**5**	*e*PG	**Pg**	**01 53 30.2**	**-0.6**
BALB	**Balikesir**	**0.79**	**5**	*e*Pg	**Pg**	**01 53 30.2**	**-0.6**
BALY	**Balya**	**0.90**	**351**	*i* P	**Pg**	**01 53 32.3**	**-0.5**
BALY				*i* S	**Sb**	**01 53 45.0**	**-0.1**
BALY	**Balya**	**0.90**	**351**	*i* P	**Pg**	**01 53 32.3**	**-0.5**
BALY				*i* S	**Sb**	**01 53 45.0**	**-0.1**
AYVA	**Ayvalik**	**0.97**	**298**	*i* P	**Pg**	**01 53 34.5**	**+0.3**
AYVA				*i* S	**Sn**	**01 53 48.2**	**-0.5**
AYVA	**Ayvalik**	**0.97**	**298**	*i* P	**Pg**	**01 53 34.5**	**+0.3**
AYVA				*i* S	**Sn**	**01 53 48.2**	**-0.5**
DST	**Dursunbey**	**0.99**	**40**	PG	**Pb**	**01 53 33.9**	**-0.7**
DST	**Dursunbey**	**0.99**	**40**	*i* Pg	**Pb**	**01 53 33.9**	**-0.7**
URLA	**Izmir**	**1.06**	**243**	*i* P	**Pb**	**01 53 35.2**	**-0.5**
URLA				*i* S	**Sn**	**01 53 50.9**	**0.0**
URLA	**Izmir**	**1.06**	**243**	*i* P	**Pb**	**01 53 35.2**	**-0.5**
URLA				*i* S	**Sn**	**01 53 50.9**	**0.0**
AYDN	**Tasoluk**	**1.19**	**177**	*i* S	**Sb**	**01 53 53.1**	**-0.2**
AYDN	**Tasoluk**	**1.19**	**177**	*i* S	**Sb**	**01 53 53.1**	**-0.2**
GONE	**Gonen-Balikesi**	**1.20**	**356**	*e*PN	**Pn**	**01 53 37.9**	**-0.2**
GONE	**Gonen-Balikesi**	**1.20**	**356**	*e*Pn	**Pn**	**01 53 37.9**	**-0.2**
GCAM	**G?zelcaml?**	**1.23**	**201**	*i* P	**Pn**	**01 53 36.9**	**-1.5**
GCAM				*i* S	**Sg**	**01 53 55.2**	**+0.2**
GCAM	**G?zelcaml?**	**1.23**	**201**	*i* P	**Pn**	**01 53 36.9**	**-1.5**
GCAM				*i* S	**Sg**	**01 53 55.2**	**+0.2**
PRK	**Paraskevi**	**1.25**	**289**	P	**Pn**	**01 53 38.8**	**0.0**
PRK				S	**Sn**	**01 53 55.4**	**-0.1**
PRK	**Paraskevi**	**1.25**	**289**	P	**Pn**	**01 53 38.8**	**0.0**
PRK				S	**Sn**	**01 53 55.4**	**-0.1**
SMG	**Samos**	**1.36**	**214**	P	**Pn**	**01 53 40.5**	**+0.1**
SMG				S	**Sb**	**01 53 58.6**	**+0.2**
SMG	**Samos**	**1.36**	**214**	P	**Pn**	**01 53 40.5**	**+0.1**
SMG				S	**Sb**	**01 53 58.6**	**+0.2**
KHAL	**Karahalli**	**1.41**	**109**	*i* P	**Pn**	**01 53 41.1**	**0.0**
KHAL				*i*

CTKS	Kestanelik-??a	2.45	13	ePn	Pn	01 53 55.9 +0.7
ALN	Alexandroupoli	2.45	327	P	Pn	01 53 55.3 +0.1
ALN				S	Sn	01 54 24.3 -0.8
ALN	Alexandroupoli	2.45	327	P	Pn	01 53 55.3 +0.1
ALN				S	Sn	01 54 24.3 -0.8
BGKT	Bogazkoy	2.45	18	ePN	Pn	01 53 55.9 +0.7
BGKT	Bogazkoy	2.45	18	ePn	Pn	01 53 55.9 +0.7
ESKT	Eskisehir	2.47	73	ePN	Pn	01 53 56.6 +0.9
ESKT	Eskisehir	2.47	73	ePn	Pn	01 53 56.6 +0.9
APE	Apeiranthos	2.52	226	ePN	Pn	01 53 57.1 +0.8
APE	Apeiranthos	2.52	226	P	Pn	01 53 55.4 -0.9
APE	Apeiranthos	2.52	226	P	Pn	01 53 55.4 -0.9
APE	Apeiranthos	2.52	226	ePn	Pn	01 53 57.1 +0.8
KLYT	Kilyos	2.59	21	ePN	Pn	01 53 57.8 +0.7
KLYT	Kilyos	2.59	21	ePn	Pn	01 53 57.8 +0.7
BCK	Bucak	2.60	121	ePN	Pn	01 53 58.3 +0.9
BCK	Bucak	2.60	121	ePn	Pn	01 53 58.3 +0.9
GULT	Gulveren	2.63	52	ePN	Pn	01 53 58.9 +1.1
GULT	Gulveren	2.63	52	ePn	Pn	01 53 58.9 +1.1
ARG	Arkhangelos	2.64	174	P	Pn	01 53 57.8 -0.1
ARG				S	Sn	01 54 30.1 +0.2
ARG	Arkhangelos	2.64	174	P	Pn	01 53 57.8 -0.1
ARG				S	Sn	01 54 30.1 +0.2
CTYL	Yal??k??y-??at	2.65	8	ePN	Pn	01 53 58.6 +0.7
CTYL	Yal??k??y-??at	2.65	8	ePn	Pn	01 53 58.7 +0.7
SPNC	Sapanca-Adapaz	2.67	46	ePN	Pn	01 53 59.5 +1.2
SPNC	Sapanca-Adapaz	2.67	46	ePn	Pn	01 53 59.5 +1.2
ELL	Elmali	2.68	141	ePN	Pn	01 54 00.1 +1.5
ELL	Elmali	2.68	141	ePn	Pn	01 54 00.1 +1.5
SILT	Sile	2.71	31	ePN	Pn	01 53 59.5 +0.8
SILT	Sile	2.71	31	ePn	Pn	01 53 59.5 +0.8
PHSR	Pinarhisar	2.79	356	ePN	Pn	01 54 00.7 +0.8
PHSR	Pinarhisar	2.79	356	ePn	Pn	01 54 00.7 +0.8
MRMA	Marmari	2.79	255	P	Pn	01 54 01.1 +1.1
MRMA	Marmari	2.79	255	P	Pn	01 54 01.1 +1.1
SUTC	Sutluce-Ispart	2.87	117	ePN	Pn	01 54 03.3 +2.1
SUTC	Sutluce-Ispart	2.87	117	ePn	Pn	01 54 03.3 +2.1
SVRH	Sivrihisar-ESK	2.96	77	ePN	Pn	01 54 03.7 +1.3
SVRH	Sivrihisar-ESK	2.96	77	ePn	Pn	01 54 03.7 +1.3
AOS	Alonnisos	3.07	277	P	Pn	01 54 04.3 +0.6
AOS				S	Sn	01 54 40.7 +0.3
AOS	Alonnisos	3.07	277	P	Pn	01 54 04.3 +0.6
AOS				S	Sn	01 54 40.7 +0.3
MDUB	Mudurnu	3.09	57	ePN	Pn	01 54 05.5 +1.4
MDUB	Mudurnu	3.09	57	ePn	Pn	01 54 05.5 +1.4
SANT	Santorini	3.09	218	P	Pn	01 54 03.8 -0.3
SANT	Santorini	3.09	218	P	Pn	01 54 03.8 -0.3
EDRB	Edirne	3.10	345	ePN	Pn	01 54 05.0 +0.8
EDRB	Edirne	3.10	345	ePn	Pn	01 54 05.0 +0.8
KIZT	Kizilcal	3.19	88	ePN	Pn	01 54 06.7 +1.1
KIZT	Kizilcal	3.19	88	ePn	Pn	01 54 06.7 +1.1
OUR	Ouranopolis	3.30	298	P	Pn	01 54 07.3 +0.4
OUR				S	Sn	01 54 45.9 -0.1
OUR	Ouranopolis	3.30	298	P	Pn	01 54 07.3 +0.4
OUR				S	Sn	01 54 45.9 -0.1
KAVA	Kavala	3.31	311	P	Pn	01 54 07.3 +0.2
KAVA				S	Sn	01 54 45.9 -0.5
KAVA	Kavala	3.31	311	P	Pn	01 54 07.3 +0.2
KAVA				S	Sn	01 54 45.9 -0.5
PAIG	Paliouri	3.37	290	P	Pn	01 54 08.5 +0.7
PAIG	Paliouri	3.37	290	P	Pn	01 54 08.5 +0.7
SKIA	Skiathos	3.39	277	P	Pn	01 54 08.5 +0.3
SKIA				S	Sn	01 54 49.7 +1.4
SKIA	Skiathos	3.39	277	P	Pn	01 54 08.5 +0.3
SKIA				S	Sn	01 54 49.7 +1.4
XOR	Xorichti	3.62	280	P	Pn	01 54 11.8 +0.5
XOR	Xorichti	3.62	280	P	Pn	01 54 11.8 +0.5
PLG	Polygyros	3.69	296	P	Pn	01 54 13.0 +0.7
PLG	Polygyros	3.69	296	P	Pn	01 54 13.0 +0.7
KONT	Konya--Tatoy	3.70	103	ePN	Pn	01 54 14.4 +1.9
KONT	Konya--Tatoy	3.70	103	ePn	Pn	01 54 14.4 +1.9
JMB	Yambol	3.73	346	P	Pn	01 54 13.6 +0.7
JMB	Yambol	3.73	346	P	Pn	01 54 13.6 +0.7
NVR	Nevrokopi	3.92	311	P	Pn	01 54 15.9 +0.4
NVR	Nevrokopi	3.92	311	P	Pn	01 54 15.9 +0.4
SRS	Serrai	3.94	306	P	Pn	01 54 16.1 +0.3
SRS	Serrai	3.94	306	P	Pn	01 54 16.1 +0.3
SOH	Sokhos	3.94	301	P	Pn	01 54 16.6 +0.7
SOH	Sokhos	3.94	301	P	Pn	01 54 16.6 +0.7
LOD	Lodumlu	3.99	73	ePN	Pn	01 54 18.6 +2.1
LOD	Lodumlu	3.99	73	ePn	Pn	01 54 18.6 +2.1
ANTO	Ankara	4.01	74	ePN	Pn	01 54 19.0 +2.3
ANTO	Ankara	4.01	74	ePn	Pn	01 54 19.0 +2.3
PLD	Plovdiv	4.02	325	P	Pn	01 54 17.5 +0.7
PLD	Plovdiv	4.02	325	P	Pn	01 54 17.5 +0.7
AFSR	Af`ar-Bala (A	4.15	80	ePN	Pn	01 54 20.9 +2.2
AFSR	Af`ar-Bala (A	4.15	80	ePn	Pn	01 54 20.9 +2.2
HDMB	Hadim	4.16	115	ePN	Pn	01 54 20.7 +1.7
HDMB	Hadim	4.16	115	ePn	Pn	01 54 20.7 +1.7
KNT	Kendrikon	4.41	303	P	Pn	01 54 23.3 +1.0
KNT	Kendrikon	4.41	303	P	Pn	01 54 23.3 +1.0
SAFT	Safranbolu	4.45	56	ePN	Pn	01 54 25.1 +2.3
SAFT	Safranbolu	4.45	56	ePn	Pn	01 54 25.1 +2.3
CANT	Cankiri	4.82	67	ePN	Pn	01 54 30.2 +2.3
VTS	Vitosha	5.11	318	P	Pn	01 54 32.3 +0.3
VTS	Vitosha	5.11	318	⇓iP	Sg	01 55 57.9 -1.5
VTS	Vitosha	5.11	318	P	Pn	01 54 32.3 +0.3
CORM	Corum	5.45	74	ePN	Pn	01 54 39.1 +2.5
CORM	Corum	5.45	74	ePn	Pn	01 54 39.1 +2.5
TIRR	Tirgusor	5.62	5	⇑iP	Pn	01 54 38.7 -0.2
TIRR	Tirgusor	5.62	5	⇑iP	Pn	01 54 38.7 -0.2
CFR	Carcaliu	6.33	2	⇑iP	Pn	01 54 47.8 -0.7
CFR	Carcaliu	6.33	2	⇑iP	Pn	01 54 47.8 -0.7
TLCR		6.38	7	⇑iP	Pn	01 54 48.3 -0.9
TLCR		6.38	7	⇑iP	Pn	01 54 48.3 -0.9
MLR	Muntele Rosu	6.78	349	⇓iP	Pn	01 54 59.1 +4.2
PLOR	Plostina	7.05	353	⇑iP	Pn	01 55 01.3 +2.8
PLOR	Plostina	7.05	353	⇑iP	Pn	01 55 01.3 +2.8
VRI	Vrincioaia	7.06	354	⇓iP	Pn	01 55 03.0 +4.4
GRUS	Gruza	7.33	316	ePn	Pn	01 55 02.8 +0.6
GZR	Gura Zlata	7.53	332	⇑iP	Pn	01 55 05.6 +0.5
GZR	Gura Zlata	7.53	332	⇑iP	Pn	01 55 05.6 +0.5
TESR	Tescani	7.71	354	⇓iP	Pn	01 55 07.9 +0.5
TESR	Tescani	7.71	354	⇓iP	Pn	01 55 07.9 +0.5
BZS	Buzias	8.17	328	⇓iP	Pn	01 55 13.9 +0.1
BZS	Buzias	8.17	328	⇓iP	Pn	01 55 13.9 +0.1
BURAR	Bucovina Array	8.96	349	⇓iP	Pn	01 55 30.3 +5.5

IDC 05 01:54:50.8±25.0, 5°.53S×151°.03E, h172km±207km, mb3.1/3, mb1 3.3/3, mb1mx3.1/18, mbtmp3.1/3, Error ellipse: s-maj=121.4km s-min=105.6km az=43.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.44	225	S	Sn	01 57 09.0	-3.8
	1.6nm,0.3s,baz=236,slow=15,SNR=3.6						
WRA	Warramunga Arr	21.65	227	P	P	01 59 28.2	+0.3
	0.6nm,0.5s,baz=52,slow=9.8,SNR=9.2						
ASAR	Alice Springs	24.44	221	P	P	01 59 53.9	0.0
	0.5nm,0.7s,baz=59,slow=8.8,SNR=4.8						
FITZ	Fitzroy Crossi	27.77	241	P	P	02 00 23.5	-0.3
	2.6nm,1.0s,baz=75,slow=12,SNR=4.7						
TORD	Torodi Ar. Bea	148.83	286	PKPbc	PKPbc	02 14 18.6	-0.5
	0.1nm,0.4s,baz=82,slow=2.5,SNR=3.5						

IDC 05 01:57:21.4±6.3, 14°.95S×167°.28E, h132km±47km, mb3.6/7, mb1 3.7/8, mb1mx3.5/23, mbtmp3.7/8, Error ellipse: s-maj=49.8km s-min=21.7km az=33.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	7.12	186	P	Pn	01 59 03.5	+0.3
	18nm,0.3s,baz=49,slow=18,SNR=54						
DZM				S	Sn	02 00 21.5	-1.3
	1.0nm,0.3s,baz=323,slow=20,SNR=1.8						
CTA	Charters Tower	20.69	253	P	P	02 01 52.6	+1.5
	4.0nm,0.8s,baz=70,slow=15,SNR=5.8						
URZ	Urewera	24.79	161	P	P	02 02 31.7	+0.7
	9.3nm,0.8s,baz=315,slow=7.1,SNR=4.1						
STKA	Stephens Creek	28.86	230	P	P	02 03 09.2	+1.7
	1.4nm,0.5s,baz=59,slow=10.0,SNR=4.8						
WRA	Warramunga Arr	31.78	256	P	P	02 03 32.4	-1.1
	0.3nm,0.5s,baz=85,slow=9.2,SNR=2.3						
ASAR	Alice Springs	32.61	249	P	P	02 03 40.0	-0.8
	1.2nm,0.7s,baz=77,slow=9.2,SNR=12						
QSPA	South Pole Qui	75.08	180	P	P	02 08 47.9	-0.7
	1.2nm,0.8s,baz=37,slow=1.1,SNR=7.1						
MKAR	Makanchi Array	97.37	316	P	P	02 10 39.8	0.0

2009 SEP

0.4nm,0.7s,baz=86,slow=4.5,SNR=2.1

*ISCJB **05** 01:59:18.1±0.4, 51°.55N±0°.02×16°.05E±0°.02, h0km, Error ellipse: s-maj=3.5km s-min=2.2km az=11.5*
*IPEC **05** 01:59:19.4±0.3, 51°.61N×16°.15E, h0km±1km, ML2.6/3, Error ellipse: s-maj=3.7km s-min=1.8km az=61.0*
*BGR **05** 01:59:20.9±0.4, 51°.56N×16°.04E, h1km, ML3.0/17, Error ellipse: s-maj=4.4km s-min=2.2km az=12.0*
*CSEM **05** 01:59:20.3±0.2, 51°.52N×16°.03E, h2km, ML3.5/8, Error ellipse: s-maj=3.7km s-min=1.8km az=11.0*
*PRU **05** 01:59:21.3, 51°.50N×16°.01E, h0km*
*IDC **05** 01:59:21.2±0.7, 51°.51N×15°.92E, h0km, mb1 3.5/8, mb1mx3.3/30, mbtmp3.3/8, ML3.0/8, Error ellipse: s-maj=10.3km s-min=7.1km az=107.0*
*WAR **05** 01:59:21.5, 51°.55N×16°.13E*
*VIE **05** 01:59:23.2±0.5, 51°.31N×16°.00E, h0km, mb2.6/4, ML3.0/4, Error ellipse: s-maj=3.4km s-min=2.8km az=179.0 74 km WNW of Wroclaw Suspected Mining induced.*

ISC 05 01:59:18.7±0.7, 51°.61N±0°.03×16°.05E±0°.02, h0km, n85, σ1§22/148, 1C-3D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.78	169	ePg	Pb	01 59 34.8	-0.3
KSP				eSg	Sg	01 59 44.9	+1.2
KSP	Ksiaz	0.78	169	ePg	Pg	01 59 34.7	+1.1
KSP				eSg	Sg	01 59 44.9	+1.2
KSP	Ksiaz	0.78	169	Pg	Pb	01 59 34.8	-0.3
KSP				i Sg	Sg	01 59 44.8	+1.1
UPC	Upice	1.10	181	ePG	Pb	01 59 40.5	-0.1
UPC	Upice	1.10	181	Pg	Pb	01 59 40.5	-0.1
DPC	Dobruska-Polom	1.27	172	ePg	Pg	01 59 43.6	+0.5
DPC				eSg	Sg	01 59 59.7	+0.2
DPC	Dobruska-Polom	1.27	172	ePG	Pg	01 59 43.4	+0.4
DPC				eSG	Sg	01 59 58.7	-0.8
DPC	Dobruska-Polom	1.27	172	Pg	Pg	01 59 43.4	+0.4
DPC				Sg	Sg	01 59 58.7	-0.8
PVCC	Panska Ves	1.43	221	ePG	Pb	01 59 46.6	+0.4
PVCC				eSG	Sn	02 00 05.4	+0.1
	136nm,0.2s						
PVCC	Panska Ves	1.43	221	Pg	Pb	01 59 46.6	+0.4
PVCC				Sg	Sn	02 00 05.4	+0.1
	136nm,0.2s						
BRG	Berggiesshubel	1.52	242	PN	Pn	01 59 47.1	+0.1
BRG				PG	Pg	01 59 48.6	+0.9
BRG				SG	Sn	02 00 08.3	+0.9
	137nm,0.4s						
BRG	Berggiesshubel	1.52	242	ePn	Pn	01 59 47.1	+0.1
	SNR=51						
BRG				ePg	Pg	01 59 48.9	+1.2
	SNR=2.3						
BRG				eSg	Sn	02 00 08.5	+1.1
BRG	Berggiesshubel	1.52	242	Pn	Pn	01 59 47.1	+0.1
	SNR=51						
PRA	Prague	1.85	214	PG	Pb	01 59 53.0	-0.3
PRU	Pruhonice	1.88	211	ePn	Pn	01 59 52.6	+0.5
	SNR=31						
PRU				eSg	Sg	02 00 18.9	-0.2
PRU	Pruhonice	1.88	211	ePN	Pn	01 59 52.5	+0.4
PRU				ePG	Pb	01 59 54.3	+0.4
PRU				eSG	Sb	02 00 17.7	-0.3
	29nm,0.2s						
PRU	Pruhonice	1.88	211	Pn	Pn	01 59 52.6	+0.5
	SNR=31						
CLL	Collm	1.93	262	ePn	Pn	01 59 53.2	+0.5
	SNR=33						
CLL				ePg	Pg	01 59 56.0	+0.4
CLL				eSg	Sg	02 00 21.7	+1.0
CLL	Collm	1.93	262	ePn	Pn	01 59 53.0	+0.3
	comp=Z,17nm,0.4s						
CLL				ePg	Pg	01 59 56.0	+0.4
CLL				i		02 00 00.1	
CLL				i Sg	Sg	02 00 21.3	+0.7
	comp=Z,29nm,0.6s						
CLL	Collm	1.93	262	Pn	Pn	01 59 53.2	+0.5
	SNR=33						
RAC	Raciborz	2.04	137	ePg	Pg	01 59 58.3	+0.5
RAC				eSg	Sg	02 00 24.3	0.0
MORC	Moravsky Berou	2.06	152	ePn	Pn	01 59 55.3	+0.6
	SNR=19						
MORC				eSg	Sb	02 00 24.1	+0.9
MORC	Moravsky Berou	2.06	152	Pn	Pn	01 59 55.3	+0.6
	SNR=19						
MORC				Sg	Sb	02 00 24.1	+0.9
OKC	Ostrava-Krasne	2.22	142	ePn	Pn	01 59 56.9	+0.2
	SNR=21						
OKC				ePg	Pg	02 00 01.2	+0.1
	SNR=2.8						
OKC				eSg	Sg	02 00 30.0	+0.1
OKC	Ostrava-Krasne	2.22	142	ePN	Pn	01 59 57.1	+0.4
OKC				ePG	Pg	02 00 01.2	+0.1
OKC				eSG	Sg	02 00 29.4	-0.5
	comp=Z,51nm,0.5s						
OKC	Ostrava-Krasne	2.22	142	Pn	Pn	01 59 57.1	+0.4
OKC	Ostrava-Krasne	2.22	142	Pg	Pg	02 00 01.2	+0.1
	SNR=2.8						
OKC				Sg	Sg	02 00 29.4	-0.5
	comp=Z,51nm,0.5s						
VRAC	Vranov	2.33	171	Pn	Pn	01 59 59.0	+0.8
	comp=Z,3.1nm,0.3s,baz=331,slow=15,SNR=38						
VRAC				Lg	Lg	02 00 32.7	
	comp=Z,3.7nm,0.3s,baz=239,slow=22,SNR=4.8						
VRAC	Vranov	2.33	171	ePn	Pn	01 59 58.9	+0.7
VRAC				eSg	Sb	02 00 32.2	+1.4
	comp=Z,17nm,0.2s,baz=353						
TREC	Trest	2.34	189	ePN	Pn	01 59 59.1	+0.6
TREC				ePG	Pg	02 00 03.4	-0.2
TREC				eSG	Sb	02 00 31.7	+0.4
TREC	Trest	2.34	189	Pn	Pn	01 59 59.1	+0.6
KRUC	Moravsky	2.56	175	ePn	Pn	02 00 02.2	+0.8
	baz=357						
KRUC				eSg	Sg	02 00 39.4	-1.4
	comp=Z,43nm,1.0s,baz=357						
TANN	Tannenbergstha	2.56	244	ePn	Pn	02 00 02.5	+1.0
	SNR=16						
TANN				eSg	Sg	02 00 40.9	-0.1
TANN	Tannenbergstha	2.56	244	Pn	Pn	02 00 02.5	+1.0
	SNR=16						
TANN				Sg	Sg	02 00 40.9	-0.1
WERD	Werda	2.63	245	ePn	Pn	02 00 03.2	+0.8
	SNR=14						
WERD				ePg	Pg	02 00 09.5	+0.4
	SNR=6.5						
WERD				eSg	Sg	02 00 43.1	-0.2
WERD	Werda	2.63	245	Pn	Pn	02 00 03.2	+0.8
	SNR=14						
OJC	Ojcow	2.75	119	ePn	Pn	02 00 03.3	-0.8
	SNR=3.2						
OJC				ePg	Pg	02 00 12.1	+0.7
	SNR=1.8						
OJC				eSg	Sg	02 00 48.7	+1.7
OJC	Ojcow	2.75	119	ePn	Pn	02 00 03.2	-0.8
OJC				ePg	Pg	02 00 12.0	+0.7
OJC				eSg	Sg	02 00 48.6	+1.7
OJC	Ojcow	2.75	119	Pn	Pn	02 00 03.3	-0.8
	SNR=3.2						
KHC	Kasperske Hory	2.94	213	ePn	Pn	02 00 07.4	+0.7
	SNR=13						
KHC	Kasperske Hory	2.94	213	ePN	Pn	02 00 07.1	+0.4
KHC				ePG	Pb	02 00 13.4	+1.4
KHC				eSN	Sn	02 00 42.2	-0.5
KHC				eSG	Sg	02 00 51.3	-1.8
	comp=Z,17nm,0.4s						
KHC	Kasperske Hory	2.94	213	Pn	Pn	02 00 07.1	+0.4
MOX	Moxa	2.96	253	ePn	Pn	02 00 07.5	+0.6
	SNR=6.1						
MOX				ePg	Pg	02 00 16.1	+0.8
	SNR=2.5						
MOX				eSg	Sg	02 00 54.6	+1.0
MOX	Moxa	2.96	253	Pn	Pn	02 00 07.5	+0.6
	SNR=6.1						
MANZ	Manzenberg	2.98	239	ePn	Pn	02 00 08.4	+1.1
	SNR=11						
MANZ				eSg	Sg	02 00 54.6	+0.2
MANZ	Manzenberg	2.98	239	Pn	Pn	02 00 08.4	+1.1
	SNR=11						
MANZ				Sg	Sg	02 00 54.6	+0.2
ROTZ	Rotzenmuhle	3.06	234	ePn	Pn	02 00 09.4	+1.1
	SNR=21						
ROTZ	Rotzenmuhle	3.06	234	Pn	Pn	02 00 09.4	+1.1
	SNR=21						
GEC2	GERESS Array S	3.15	210	ePn	Pn	02 00 09.9	+0.3
	SNR=11						
GEC2	GERESS Array S	3.15	210	Pn	Pn	02 00 09.9	+0.3
	SNR=11						
GERES	GERESS Array B	3.15	210	Pn	Pn	02 00 10.3	+0.7
	comp=Z,1.5nm,0.3s,baz=32,slow=13,SNR=29						
GERES				Pg	Pb	02 00 16.2	+0.6
	comp=Z,3.3nm,0.3s,baz=28,slow=17,SNR=21						
GERES				Sn	Sn	02 00 43.7	-4.3
	comp=Z,1.9nm,0.3s,baz=30,slow=22,SNR=4.3						
GERES				Lg	Lg	02 00 58.4	
	comp=Z,4.5nm,0.3s,baz=32,slow=25,SNR=9.4						
WET	Wettzell	3.19	221	ePn	Pn	02 00 11.1	+0.9
	SNR=8.8						
WET	Wettzell	3.19	221	Pn	Pn	02 00 11.1	+0.9
	SNR=8.8						
ZST	Bratislava	3.48	168	eSG	Sb	02 01 06.9	+2.9
ZST	Bratislava	3.48	168	eSg	Sb	02 01 06.9	+2.9
NIE	Niedzica	3.49	127	eP	Pg	02 00 27.9	+2.3
NIE				eS	Sg	02 01 13.2	+2.4
BSD	Bornholm Skovb	3.58	349	i P	Pn	02 00 15.9	+0.6
BSD				i S	Sn	02 00 55.5	-2.8
BSD	Bornholm Skovb	3.58	349	i P	Pn	02 00 15.9	+0.6
VYHS	Vyhne	3.60	149	ePN	Pn	02 00 16.1	+0.4
VYHS				e		02 00 29.0	
VYHS	Vyhne	3.60	149	eSG	Sg	02 01 12.8	-1.4
VYHS	Vyhne	3.60	149	ePn	Pn	02 00 16.1	+0.4
VYHS				eSg	Sg	02 01 12.8	-1.4
GRA1	Grafenberg Arr	3.62	240	Pn	Pn	02 00 17.5	+1.5
	SNR=3.0						
GRA1				Sg	Sg	02 01 14.6	-0.4
GRF	Grafenberg Arr	3.62	240	ePn	Pn	02 00 17.5	+1.5
	SNR=3.0						
GRF				eSg	Sg	02 01 14.6	-0.4
CONA	Conrad Observa	3.69	182	⇓iPn	Pn	02 00 17.9	+0.9
CONA				⇓iSg	Sg	02 01 15.1	-1.9
	comp=Z,33nm,0.5s						
CONA	Conrad Observa	3.69	182	Pn	Pn	02 00 17.9	+0.9
CONA				Sg	Sg	02 01 15.1	-1.9
	comp=Z,33nm,0.5s						
MOA	Molln	3.94	198	⇓iPn	Pn	02 00 21.4	+1.1
MOA				⇑iSg	Sg	02 01 23.6	-1.4
	comp=Z,15nm,0.5s						
MOA	Molln	3.94	198	Pn	Pn	02 00 21.4	+1.1
MOA				Sg	Sg	02 01 23.6	-1.4
	comp=Z,15nm,0.5s						
STHS	Stebnicka Huta	3.98	121	ePN	Pn	02 00 22.3	+1.4
STHS				e		02 00 36.5	
STHS	Stebnicka Huta	3.98	121	eSG	Sg	02 01 26.2	-0.1
STHS	Stebnicka Huta	3.98	121	ePn	Pn	02 00 22.3	+1.4
STHS				eSg	Sg	02 01 26.2	-0.1
KECS	Kecovo	4.24	136	ePN	Pn	02 00 25.4	+1.0
KECS				e		02 00 40.8	
KECS	Kecovo	4.24	136	eSG	Sg	02 01 33.9	-0.8
KECS	Kecovo	4.24	136	ePn	Pn	02 00 25.4	+1.0
KECS				eSg	Sg	02 01 33.9	-0.8
CRVS	Cervenica-Dubn	4.40	126	ePN	Pn	02 00 27.9	+1.2
CRVS				e		02 00 44.5	
CRVS	Cervenica-Dubn	4.40	126	eSG	Sg	02 01 42.6	+2.6
CRVS	Cervenica-Dubn	4.40	126	ePn	Pn	02 00 27.9	+1.2
CRVS				eSg	Sg	02 01 42.6	+2.6
KOLS	Kolonicke sedl	4.81	121	ePN	Pn	02 00 33.2	+0.9
KOLS				e		02 00 54.0	
KOLS	Kolonicke sedl	4.81	121	eSG	Sg	02 01 54.4	+1.4
KOLS	Kolonicke sedl	4.81	121	ePn	Pn	02 00 33.2	+0.9
KOLS				eSg	Sg	02 01 54.4	+1.4
DAVOX	Davos/Dischmat	6.30	222	Pn	Pn	02 00 53.9	+0.9
	comp=Z,0.3nm,0.3s,baz=16,slow=19,SNR=3.4						
DAVOX				Lg	Lg	02 02 37.4	
	comp=Z,0.2nm,0.3s,baz=346,slow=19,SNR=3.5						
AKASG	Malin Array Be	8.34	91	Pn	Pn	02 01 22.0	+1.3
	comp=Z,1.0nm,0.3s,baz=281,slow=11,SNR=3.0						
AKASG				Sn	Sn	02 02 51.0	-4.4
	comp=Z,0.6nm,0.3s,baz=273,slow=22,SNR=2.2						
HFS	Hagfors	8.65	352	Pn	Pn	02 01 25.0	+0.1
	comp=Z,0.1nm,0.3s,baz=159,slow=13,SNR=3.7						
HFS				Sn	Sn	02 02 57.7	-5.4
	comp=Z,0.0nm,0.3s,baz=146,slow=21,SNR=2.4						
NOA	NORSAR Array B	9.82	346	Pn	Pn	02 01 42.8	+1.8
	comp=Z,0.1nm,0.3s,baz=157,slow=13,SNR=2.4						
FINES	FINESS Array B	11.29	25	Pn	Pn	02 02 00.7	-0.4
	comp=Z,0.1nm,0.3s,baz=218,slow=12,SNR=5.7						
FINES				Sn	Sn	02 03 59.6	-8.2
	comp=Z,0.1nm,0.3s,baz=209,slow=20,SNR=2.8						
EKA	Eskdalemuir Ar	12.03	296	Pn	Pn	02 02 11.1	-0.1
	baz=103,slow=13,SNR=3.2						

*NIED **05** 01:59:00, 37°.00N×140°.20E, h98km, Mw4.4 Best double couple: M0=3.96000×10^15 NP1:φs=169.00000°, δ77.00000°, λ61.00000°. NP2:φs=57.00000°, δ32.00000°, λ155.00000°.*
*BJI **05** 01:59:32.1, 36°.95N×140°.06E, h94km, mB4.9/21, mb4.7/34*
*MOS **05** 01:59:33.9±1.1, 37°.20N×140°.08E, h100km, mb4.4/47, Error ellipse: s-maj=7.9km s-min=5.6km az=85.7*
*JMA **05** 01:59:34.8±0.1, 36°.97N×140°.18E, h100km±1km, M4.2 Broadband fault plane solution: P waves. NP1: φs=163.00000°, δ79.00000°, λ44.00000°. NP2:φs=63.00000°, δ47.00000°, λ165.00000°. Principal axes: T Plg38.0000°, Azm33.0

comp=E,18nm,0.3s
YUK pmax pmax
comp=Z,158nm,0.3s
YUK pmax pmax
comp=N,6.0nm,0.1s
JNU Nakatsue 8.53 245 *e*Pn **Pn 02 01 37.4 +2.0**
JNU Nakatsue 8.53 245 P **Pn 02 01 36.0 +0.6**
comp=N,0.6nm,0.3s,baz=63,slow=8.8,SNR=8.6
USRK Ussuriysk Arra 9.37 322 P **Pn 02 01 49.6 +2.9**
comp=N,4.1nm,0.3s,baz=138,slow=13,SNR=40
KSRS Korea Array 9.70 276 P Pn 02 01 54.8 +3.7
comp=N,1.2nm,0.3s,baz=91,slow=13,SNR=66
KSRS LR LR 02 05 26.2
comp=N,103nm,19.4s,baz=166,slow=36
KSAR Wonju Array Be 9.73 276 P Pn 02 01 54.8 +3.2
KUR Kuril'sk 10.01 33⇑ *i*P **Pn 02 01 54.0 -1.3**
KUR *i*S **Sn 02 03 40.6 -5.0**
KUR pmax pmax
comp=E,10.0nm,0.4s
KUR pmax pmax
comp=Z,57nm,0.4s
KUR pmax pmax
comp=N,16nm,0.4s
KUR smax smax
comp=E,51nm,0.4s
KUR smax smax
comp=N,98nm,0.4s
KUR MLR MLR
comp=N,244nm,5.0s
KUR MLR MLR
comp=Z,155nm,5.0s
KUR MLR MLR
comp=E,271nm,5.0s
YSS Yuzh-Sakhalins 10.03 11 *e*P **Pn 02 01 55.2 -0.4**
YSS pmax pmax
comp=Z,50nm,0.9s
TJN Taejon 10.23 270 *e*P **Pn 02 02 01.4 +2.9**
MDJ Mudanjiang 10.91 317 P Pn 02 02 11.8 +4.2
MDJ S **Sn 02 04 03.9 -3.7**
MDJ pmax pmax
comp=Z,9.0nm,0.9s
MDJ pmax pmax
comp=Z,120nm,6.7s
MDJ LR LR
comp=N,86nm,6.7s
MDJ LR LR
comp=E,93nm,6.7s
MDJ LR LR
comp=Z,87nm,6.7s
HABR Khabarovsk 11.93 344 *e*P **Pn 02 02 18.5 -2.8**
HABR *e*S **Sn 02 04 27.4 -4.9**
HABR pmax pmax
comp=Z,11nm,2.1s
HABR MLR MLR
comp=Z,30nm,15.0s
CN2 Changchun 12.98 305 *e*P **Pn 02 02 34.7 -0.6**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
NJ2 Nanjing 18.18 260 *e*P **Pn 02 03 40.4 -0.3**
NJ2 pmax pmax
comp=Z,17nm,0.5s
BJI Beijing 18.91 286 P **P 02 03 47.3 -0.2**
BJI pmax pmax
comp=Z,18nm,0.8s
PEA0B Petropavlovsk- 20.17 32 *e*P **P 02 04 01.8 +0.7**
PETK Petropavlovsk- 20.17 32 P **P 02 04 02.2 +1.1**
PETK pmax pmax
comp=Z,13nm,0.8s
PETK Petropavlovsk- 20.17 32 P **P 02 04 02.1 +1.1**
PETK Petropavlovsk- 20.17 32 P **P 02 04 02.1 +1.1**
comp=Z,13nm,0.8s,baz=211,slow=10,SNR=27
PET Petropavlovsk 20.52 33 *e*P **P 02 04 06.1 +1.2**
PET pmax pmax
comp=Z,60nm,0.8s
WHN Wuhan 22.32 260 P **P 02 04 23.6 -0.7**
WHN pP **pP 02 04 39.6 -3.7**
HHC Hu-ho-hao-te 22.43 288 *e*P **P 02 04 24.2 -1.3**
HHC pP **pP 02 04 44.8 +0.2**
HHC PP **PnPn 02 04 55.4 +1.8**
HHC sP **sP 02 04 56.9 +0.2**
HHC S S 02 08 17.5 -7.7
HHC sS Sn 02 08 50.8 +5.3
HHC SS **SnSn 02 09 05.1 +1.9**
HHC ScS **ScS 02 15 30.4 -0.1**
HHC pmax pmax
comp=Z,30nm,0.9s
HHC pmax pmax
comp=Z,150nm,7.1s
HHC LR LR
comp=N,270nm,19.0s
HHC LR LR
comp=E,500nm,20.2s
HHC LR LR
comp=Z,210nm,21.4s
XAN Xi'an 25.47 272 P **P 02 04 52.8 -0.9**
XAN pmax pmax
comp=Z,3.0nm,0.6s
XAN pmax pmax
comp=Z,26nm,4.9s
ENH Enshi 26.28 264 *e*P **P 02 05 00.1 -0.9**
comp=Z,19nm,0.4s
ULN Ulaanbaatar 26.43 304 *e*P **P 02 05 03.0 +0.7**
comp=Z,11nm,0.7s
SONM Songino Array 26.86 304 P **P 02 05 05.4 -0.8**
SONM Songino Array 26.86 304 P **P 02 05 05.4 -0.8**
comp=Z,12nm,0.6s,baz=111,slow=8.8,SNR=76
SEY Seymchan 26.93 12⇓ *e*P **P 02 05 07.4 +1.0**
LZH Lanzhou 29.00 279 *e*P **P 02 05 26.1 +0.7**
LZH pP **pP 02 05 48.0 +0.8**
LZH sP **sP 02 05 57.3 -1.2**
LZH PP **PnPn 02 06 18.6 -3.5**
LZH *e*S **S 02 10 08.0 -1.6**
LZH sS **sS 02 10 44.9 -2.5**
LZH SS **SnSn 02 11 42.6 -0.5**
LZH pmax pmax
comp=Z,17nm,1.0s
LZH pmax pmax
comp=Z,100nm,4.7s
LZH LR LR
comp=N,280nm,12.4s
LZH LR LR
comp=E,270nm,14.3s
LZH LR LR
comp=Z,360nm,15.6s
TLY Talaya 29.47 311 *e*P **P 02 05 30.7 +1.4**
TLY pmax pmax
comp=Z,6.0nm,0.7s
GYA Guiyang 30.19 259 P **P 02 05 34.5 -1.4**
GYA pP **pP 02 05 56.2 -1.6**
GYA sP **sP 02 06 10.8 +1.8**
GYA PP **PnPn 02 06 38.4 +0.8**
GYA PcP **PcP 02 08 35.9 +1.1**
GYA S **S 02 10 27.4 -0.9**
GYA sS **sS 02 11 02.0 -4.2**
GYA ScP **ScP 02 12 08.3 +0.1**
GYA ScS **ScS 02 16 02.0 -2.3**
GYA pmax pmax
comp=Z,10.0nm,0.8s
GYA pmax pmax
comp=Z,90nm,4.7s
GYA LR LR
comp=N,460nm,16.6s
GYA LR LR
comp=E,350nm,17.0s
GYA LR LR
comp=Z,410nm,17.9s
CD2 Chengdu 30.61 269 P **P 02 05 41.1 +1.6**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,4.1s
GTA Gaotai 31.52 287 *e*P **P 02 05 46.4 -1.2**
GTA pP **pP 02 06 07.6 -1.9**
GTA sP **sP 02 06 21.4 +0.7**
GTA pmax pmax
comp=Z,2.0nm,0.9s
QIZ Qiongzhong 32.00 244 P **P 02 05 52.1 +0.3**
QIZ pP **pP 02 06 13.0 -0.7**
QIZ sP **sP 02 06 23.3 -1.6**
QIZ S **S 02 10 57.6 +1.2**
QIZ pmax pmax
comp=Z,22nm,2.3s
QIZ pmax pmax
comp=Z,140nm,3.5s
TIXI Tiksi 35.09 354⇓ *e*P **P 02 06 17.8 -0.2**
TIXI pmax pmax
comp=Z,9.0nm,1.2s
WMQ Urumqi 39.85 297 P **P 02 06 59.2 +0.6**
WMQ pP **pP 02 07 21.9 +0.8**
WMQ sP **sP 02 07 33.7 +1.5**
WMQ PP **PnPn 02 08 36.2 +0.1**
WMQ pmax pmax
comp=Z,15nm,1.0s
WMQ pmax pmax
comp=Z,140nm,4.0s
WMQ LR LR
comp=N,14nm,20.4s
WMQ LR LR
comp=E,29nm,25.4s
WMQ LR LR
comp=Z,17nm,21.2s
CMAR Chiang Mai Arr 40.49 254 P **P 02 07 03.5 -0.6**
CMAR Chiang Mai Arr 40.49 254 P **P 02 07 03.5 -0.6**
comp=Z,1.0nm,0.3s,baz=50,slow=8.4,SNR=5.4
ZAA0 Zalesovo Array 41.07 312 *e*P **P 02 07 08.6 +0.2**
ZALV Zalesovo Beam 41.07 312 P **P 02 07 08.6 +0.2**
ZALV pmax pmax
comp=Z,5.0nm,0.5s
ZALV Zalesovo Beam 41.07 312 P **P 02 07 08.6 +0.2**
ZALV Zalesovo Beam 41.07 312 P **P 02 07 08.6 +0.2**
comp=Z,4.4nm,0.5s,baz=89,slow=6.8,SNR=16
NVS Novosibirsk 42.01 314 *i*P **P 02 07 15.2 -0.9**
NVS pmax pmax
comp=Z,9.0nm,1.5s
NVS pmax pmax
comp=N,3.0nm,0.0s
MK31 Makanchi Array 43.17 302 *e*P **P 02 07 26.0 +0.4**
MK31 Makanchi Array 43.17 302 *e*P **P 02 07 26.0 +0.4**
MKAR Makanchi Array 43.17 302 P **P 02 07 25.8 +0.2**
MKAR pmax pmax
comp=Z,3.0nm,0.6s
MKAR MLR MLR
comp=Z,14nm,21.6s
MKAR Makanchi Array 43.17 302 P **P 02 07 25.8 +0.2**
MKAR Makanchi Array 43.17 302 P **P 02 07 25.8 +0.2**
comp=Z,3.1nm,0.6s,baz=87,slow=9.9,SNR=22
MKAR LR LR 02 27 39.5
comp=Z,14nm,21.6s,baz=76,slow=39
TAPN Taplejung 44.87 273 *e*P **P 02 07 40.1 +0.3**
comp=Z,15nm,0.4s
KURK Kurchatov 45.04 308 P **P 02 07 40.6 +0.1**
KURK pmax pmax
comp=Z,17nm,0.6s
KURK Kurchatov 45.04 308 P **P 02 07 40.6 +0.1**
KURBB Kurchatov Arra 45.11 308 P **P 02 07 40.6 -0.4**
comp=Z,17nm,0.6s,baz=84,slow=8.0,SNR=152
RAMN Ramite 45.94 273 *e*P **P 02 07 47.9 -0.2**
comp=Z,68nm,0.8s
JIRN Jiri 45.95 274 *e*P **P 02 07 48.8 +0.4**
comp=Z,32nm,0.5s
KAPI Kappang 46.01 209 *e*P **P 02 07 46.4 -2.0**
comp=Z,20nm,0.9s
GUN Gumba 46.09 275 *e*P **P 02 07 49.6 +0.2**
comp=Z,25nm,0.4s
SVW2 Sparrevohn 46.10 37 *e*P **P 02 07 50.4 +1.7**
PKI Pulchoki 46.61 275 *e*P **P 02 07 53.0 -0.5**
comp=Z,17nm,0.6s
KKN Kakani 46.62 275 *e*P **P 02 07 53.4 0.0**
comp=Z,25nm,0.6s
PKIN Phulchoki 46.62 275 *e*P **P 02 07 53.9 +0.4**
comp=Z,13nm,0.6s
IMA2 Indian Mountai 47.16 31 *e*P **P 02 07 57.9 +0.9**
IMA2 *e*PcP **PcP 02 09 28.2 +1.2**
RSO Redoubt South 47.50 38 *e*P **P 02 08 00.7 +0.9**
comp=Z,18nm,0.8s
DANN Dangsing 47.58 277 *e*P **P 02 08 01.2 +0.2**
comp=Z,98nm,0.8s
PPLA Purkeypile 47.71 35 *e*P **P 02 08 03.1 +1.7**
KDAK Kodiak Island 47.75 42 *e*P **P 02 08 02.3 +0.8**
comp=Z,17nm,0.8s
KULM Kulim 47.95 238 *e*P **P 02 08 02.4 -1.1**
comp=Z,3.4nm,0.3s
KOLN Koldanda 47.96 276 *e*P **P 02 08 03.2 -0.7**
IPM Ipoh 48.28 237 *e*P **P 02 08 04.7 -1.4**
comp=Z,6.5nm,0.6s
TRF Thorofare Moun 48.56 34 *e*P **P 02 08 09.6 +1.6**
comp=Z,6.7nm,0.8s
TKM2 Tokmak 2 48.65 298 *e*P **P 02 08 09.7 +0.7**
TKM2 pmax pmax
comp=Z,17nm,1.0s
TKM2 Tokmak 2 48.65 298 *e*P **P 02 08 09.7 +0.7**
comp=Z,17nm,1.0s
RC01 Rabbit Creek A 48.94 37 *e*P **P 02 08 11.5 +0.9**
comp=Z,9.6nm,0.7s
MCK McKinley 49.16 34 *e*P **P 02 08 12.7 +0.4**
MCK pmax pmax
comp=Z,7.0nm,0.8s
MCK McKinley 49.16 34 *e*P **P 02 08 12.7 +0.4**
comp=Z,6.6nm,0.8s
PMR Palmer 49.20 37 *e*P **P 02 08 13.3 +0.8**
PMR pmax pmax
comp=Z,7.0nm,0.6s
PMR Palmer 49.20 37 *e*P **P 02 08 13.3 +0.8**
comp=Z,7.4nm,0.6s
KSH Kashi 49.40 294 *e*P **P 02 08 17.1 +2.5**
KSH pP **pP 02 08 40.5 +2.6**
KSH PP **PP 02 10 13.8 +4.5**
KSH PcS **PcS 02 13 33.3 +0.9**
KSH S **S 02 15 15.5 +1.2**
KSH sS **sS 02 15 55.6 +1.4**
KSH pmax pmax
comp=Z,100nm,4.7s
KSH LR LR
comp=N,85nm,4.3s
KSH LR LR
comp=E,51nm,4.4s
KSH LR LR
comp=Z,120nm,5.8s
AAK Ala-Archa 49.51 298⇑ *i*P **P 02 08 16.1 +0.6**
AAK pmax pmax
comp=Z,14nm,0.8s
AAK Ala-Archa 49.51 298 *e*P **P 02 08 16.0 +0.5**
comp=Z,6.4nm,1.0s
SML Sawmill 49.56 36 *e*P **P 02 08 15.7 +0.3**
SML pmax pmax
comp=Z,3.0nm,0.8s
SML Sawmill 49.56 36 *e*P **P 02 08 15.7 +0.3**
comp=Z,3.4nm,0.8s
COLA College 49.58 32 *e*P **P 02 08 16.5 +1.1**
COLA pmax pmax
comp=Z,20nm,0.7s
COLA College 49.58 32 *e*P **P 02 08 16.5 +1.1**
comp=Z,20nm,0.7s
BRVK Borovoye 49.78 312⇓ *i*P **P 02 08 17.5 +0.3**
BRVK pmax pmax
comp=Z,6.0nm,0.8s
BRVK Borovoye 49.78 312 *e*P **P 02 08 17.5 +0.3**
comp=Z,6.5nm,0.9s
ILAR Eielson Array 49.99 32 P **P 02 08 19.0 +0.4**
ILAR Eielson Array 49.99 32 P **P 02 08 19.0 +0.4**
comp=Z,4.8nm,0.7s,baz=272,slow=6.5,SNR=54
EKS2 Erkin-Say 50.01 298 *e*P **P 02 08 19.1 -0.1**
EKS2 pmax pmax
comp=Z,5.0nm,0.8s
EKS2 Erkin-Say 50.01 298 *e*P **P 02 08 19.1 -0.1**
comp=Z,5.4nm,0.8s
COEN Coen 50.88 176 *e*P **P 02 08 28.5 +2.7**
PSI Prapat 50.93 238 P **P 02 08 25.8 -0.6**
PSI Prapat 50.93 238 P **P 02 08 25.8 -0.6**
comp=Z,4.8nm,0.6s,baz=4.8,slow=12,SNR=3.7
BMRM Bremner River 51.44 37 *e*P **P 02 08 30.8 +1.2**
comp=Z,11nm,0.9s
KKAR Karatay Array 52.16 300 *e*P **P 02 08 34.3 -0.9**
KKAR pmax pmax
comp=Z,2.0nm,0.6s
KKAR Karatay Array 52.16 300 *e*P **P 02 08 34.3 -0.9**
comp=Z,2.1nm,0.6s
EGAK Eagle 52.44 32 *e*P **P 02 08 37.4 +0.6**
comp=Z,4.7nm,0.6s
SVE Sverdlovsk 54.38 318⇓ *e*P **P 02 08 51.9 +0.8**
SVE pmax pmax
comp=Z,8.0nm,0.8s
INK Inuvik 54.80 27 *e*P **P 02 08 54.8 +0.9**
comp=Z,8.5nm,0.6s
HYT Haines Junctio 54.87 36 *e*P **P 02 08 56.6 +1.8**
ARU Arti 55.59 318 *d i*P **P 02 09 00.6 +0.7**
ARU S **S 02 16 38.6 +0.7**
ARU pmax pmax
comp=Z,10.0nm,0.8s
KBL Kabul 56.39 290 *e*P **P 02 09 05.7 -0.5**
KBL pmax pmax
comp=Z,5.0nm,0.6s
KBL Kabul 56.39 290 *e*P **P 02 09 05.7 -0.5**
comp=Z,4.7nm,0.6s
FITZ Fitzroy Crossi 56.59 197 P **P 02 09 08.2 +0.9**
FITZ Fitzroy Crossi 56.59 197 P **P 02 09 08.2 +0.9**
comp=Z,2.6nm,0.6s,baz=24,slow=8.6,SNR=12
WRA Warramunga Arr 57.01 186 P **P 02 09 08.9 -1.4**
WRA pP **pP 02 09 33.1 -1.0**
WRA Warramunga Arr 57.01 186 P **P 02 09 08.9 -1.4**
comp=Z,0.7nm,0.4s,baz=3.6,slow=7.3,SNR=26
WRA pP **pP 02 09 33.1 -1.0**
comp=Z,2.2nm,0.5s,baz=1.5,slow=7.5,SNR=7.0
ABKAR Akbulak array 57.07 310 *e*P **P 02 09 10.3 -0.2**
comp=Z,2.3nm,0.4s
AKTO Aktyubinsk 57.83 312 P **P 02 09 15.7 -0.1**
AKTO pmax pmax
comp=Z,3.0nm,0.8s
AKTO Aktyubinsk 57.83 312 P **P 02 09 15.7 -0.1**
AKTO Aktyubinsk 57.83 312 P **P 02 09 15.7 -0.1**
comp=Z,2.7nm,0.8s,baz=82,slow=11,SNR=11
SPITS Spitsbergen Ar 60.23 349 P **P 02 09 32.1 +0.1**
SPITS Spitsbergen Ar 60.23 349 P **P 02 09 32.1 +0.1**
comp=Z,2.2nm,0.8s,baz=54,slow=7.4,SNR=6.1
ASAR Alice Springs 60.74 186 P **P 02 09 35.0 -1.0**
ASAR pP **pP 02 09 58.9 -1.3**
ASAR Alice Springs 60.74 186 P **P 02 09 35.0 -1.0**
comp=Z,0.3nm,0.4s,baz=6.7,slow=5.2,SNR=6.0
ASAR pP **pP 02 09 58.9 -1.3**
comp=Z,0.9nm,0.6s,baz=19,slow=11,SNR=5.8
ARCES ARCESS Array B 63.54 339 P **P 02 09 54.7 +0.4**
ARCES ARCESS Array B 63.54 339 P **P 02 09 54.7 +0.4**
comp=Z,1.6nm,0.8s,baz=38,slow=7.6,SNR=6.7
YKW3 Yellowknife Ar 64.23 30 *e*P **P 02 09 58.7 -0.2**
YKA Yellowknife Ar 64.27 30 P **P 02 09 59.0 -0.1**
YKA pP **pP 02 10 24.1 +0.7**
YKA Yellowknife Ar 64.27 30 P **P 02 09 59.0 -0.1**
comp=Z,1.7nm,0.7s,baz=304,slow=6.9,SNR=12
YKA pP **pP 02 10 24.1 +0.7**
comp=Z,0.8nm,0.7s,baz=306,slow=6.3,SNR=3.9
JOF Joensuu 65.39 332 *e*P **P 02 10 06.0 -0.3**
JOF pmax pmax
comp=Z,2.0nm,0.4s
JOF Joensuu 65.39 332 *e*p **P 02 10 06.0 -0.3**
comp=Z,1.7nm,0.4s
OBN Obninsk 67.39 323 P **P 02 10 18.0 -1.2**
OBN S **S 02 19 07.0 0.0**
OBN pmax pmax
comp=Z,17nm,2.4s
KAF Kangasniemi 67.74 332 *e*P **P 02 10 21.2 -0.2**
KAF pmax pmax
comp=Z,3.0nm,0.5s
KAF Kangasniemi 67.74 332 *e*p **P 02 10 21.2 -0.2**
comp=Z,2.7nm,0.5s
FINES FINESS Array B 68.24 332 P **P 02 10 24.6 +0.1**
FINES FINESS Array B 68.24 332 P **P 02 10 24.6 +0.1**
comp=Z,3.0nm,0.7s,baz=54,slow=5.2,SNR=12
FORT Forrest 68.47 191 *e*P **P 02 10 27.2 +1.0**
comp=Z,21nm,0.8s
STKA Stephens Creek 68.65 179 P **P 02 10 26.5 -0.8**
STKA Stephens Creek 68.65 179 P **P 02 10 26.5 -0.8**
comp=Z,2.8nm,1.0s,baz=342,slow=13,SNR=2.6
KBZ Khabaz 70.04 310 P **P 02 10 35.7 -0.2**
KBZ pmax pmax
comp=Z,2.0nm,0.8s
KBZ Khabaz 70.04 310 P **P 02 10 35.7 -0.2**
KBZ Khabaz 70.04 310 P **P 02 10 35.7 -0.2**
comp=Z,2.0nm,0.8s,baz=53,slow=7.6,SNR=4.9
KIV Kislovodsk 70.04 310⇓ *i*P **P 02 10 37.7 +1.6**
KIV pmax pmax
comp=Z,8.0nm,1.2s
GNI Garni 70.80 306 *e*P **P 02 10 41.3 +0.4**
NEW Newport 70.81 44 P **P 02 10 41.4 +0.8**
NEW Newport 70.81 44 P **P 02 10 41.4 +0.8**
comp=Z,3.8nm,0.7s,baz=298,slow=6.0,SNR=11
NEW Newport 70.81 44 P **P 02 10 41.4 +0.8**
baz=71
YBH Yreka Blue Hor 71.13 52 P **P 02 10 44.2 +1.4**
YBH Yreka Blue Hor 71.13 52 P **P 02 10 44.2 +1.4**
comp=Z,3.6nm,0.8s,baz=11,slow=3.7,SNR=15
WALA Waterton Lakes 72.09 42 *e*P **P 02 10 49.0 +0.6**
BMO Blue Mountains 72.65 47 *e*P **P 02 10 52.6 +0.8**
comp=Z,6.3nm,0.6s
SWMT Swartz Lake 72.96 43 *e*P **P 02 10 54.2 +0.6**
comp=Z,1.2nm,0.6s
WVOR Wild Horse Val 73.25 49 *e*P **P 02 10 56.2 +0.8**
WVOR pmax pmax
comp=Z,13nm,1.6s
WVOR Wild Horse Val 73.25 49 *e*P **P 02 10 56.2 +0.8**
comp=Z,12nm,1.6s
SLMT Seeley Lake 73.39 43 *e*P **P 02 10 57.0 +0.8**
comp=Z,5.6nm,0.6s
MSO Missoula 73.40 44 P **P 02 10 56.7 +0.6**
baz=73
HFS Hagfors 73.57 335 P **P 02 10 57.1 +0.4**
HFS Hagfors 73.57 335 P **P 02 10 57.1 +0.4**
comp=Z,2.3nm,0.8s,baz=60,slow=8.5,SNR=9.8
AKASG Malin Array Be 73.58 322 P **P 02 10 56.8 -0.1**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 73.58 322 P **P 02 10 56.8 -0.1**
AKASG Malin Array Be 73.58 322 P **P 02 10 56.8 -0.1**
comp=Z,1.6nm,0.6s,baz=47,slow=6.6,SNR=5.7
KIEV Kiev 73.59 322 *e*P **P 02 10 56.8 -0.2**
KIEV pmax pmax
comp=Z,4.0nm,0.8s
KIEV Kiev 73.59 322 *e*P **P 02 10 56.8 -0.2**
comp=Z,4.3nm,0.8s
NOA NORSAR Array B 73.69 337 P **P 02 10 57.3 -0.3**
NOA NORSAR Array B 73.69 337 P **P 02 10 57.3 -0.3**
comp=Z,1.0nm,0.7s,baz=38,slow=5.9,SNR=5.6
B17A L&G Farms, Che 74.19 41 P **P 02 11 01.7 +1.0**
baz=74,SNR=7.0
FFC Flin Flon 74.21 32 *e*P **P 02 11 00.5 -0.1**
FFC pmax pmax
comp=Z,16nm,0.9s
FFC Flin Flon 74.21 32 *e*P **P 02 11 00.5 -0.1**
comp=Z,16nm,0.9s
MFID Camas Ranch 74.36 47 P **P 02 11 02.9 +1.1**
baz=74
FCC Fort Churchill 74.40 26 *e*P **P 02 11 01.9 +0.3**
FCC Fort Churchill 74.40 26 *e*P **P 02 11 01.9 +0.3**
HRY Holter Researc 74.62 43 *e*P **P 02 11 04.2 +0.9**
comp=Z,7.4nm,0.7s
C17A Wharram Farm, 74.62 42 P **P 02 11 03.8 +0.6**
baz=74,SNR=5.3
LRM Limekiln Ridge 74.83 44 *e*P **P 02 11 05.2 +0.6**
comp=Z,25nm,0.8s
A19A Klindworth Far 74.86 40 P **P 02 11 05.6 +1.0**
baz=75,SNR=5.5
EGMT Eagleton 74.91 41 *e*P **P 02 11 05.6 +0.7**
comp=Z,15nm,1.0s
EGMT Eagleton 74.91 41 P **P 02 11 05.8 +0.9**
baz=75,SNR=6.6
D17A Six Diamond Ra 74.96 42 P **P 02 11 06.3 +1.0**
baz=75,SNR=5.4
B19A Brinkman Farms 75.06 40 P **P 02 11 06.6 +0.9**
baz=75
HLID Hailey 75.09 46 *e*P **P 02 11 07.0 +0.8**
comp=Z,2.5nm,1.0s
HLID Hailey 75.09 46 P **P 02 11 07.4 +1.2**
baz=75
E17A Martinsdale 75.30 42 P **P 02 11 08.6 +1.3**
baz=75,SNR=5.9
A20A Cobblestone Ra 75.30 39 P **P 02 11 07.8 +0.7**
baz=75
BOZ Bozeman (W) 75.39 43 *e*P **P 02 11 09.0 +1.2**
BOZ pmax pmax
comp=Z,3.0nm,0.7s
BOZ Bozeman (W) 75.39 43 *e*P **P 02 11 09.0 +1.2**
comp=Z,2.9nm,0.7s
D18A Linhart Farms, 75.41 41 P **P 02 11 09.0 +1.3**
baz=75
C19A Slack Wire Ran 75.46 41 P **P 02 11 09.4 +1.3**
baz=75,SNR=12
E18A Harlowton 75.74 42 P **P 02 11 11.1 +1.4**
baz=76,SNR=5.5
F17A Fitzpatrick Pl 75.76 43 P **P 02 11 10.9 +1.1**
baz=76
NVAR Mina Array Bea 75.79 53 P **P 02 11 11.5 +1.2**
NVAR Mina Array Bea 75.79 53 P **P 02 11 11.5 +1.2**
comp=Z,9.3nm,0.8s,baz=287,slow=5.6,SNR=46
D19A Cripps Ranch, 75.91 41 P **P 02 11 11.7 +1.1**
baz=76,SNR=10
C20A Veseth Ranch, 76.01 40 P **P 02 11 12.3 +1.1**
baz=76,SNR=5.5
B21A Ellsworth Farm 76.06 39 P **P 02 11 12.0 +0.6**

	baz=76						
G17A	Pierce Place,	76.08	43	P		P	02 11 13.2 +1.5
	baz=76						
H16A	Russell Place,	76.19	44	P		P	02 11 13.7 +1.3
	baz=76						
A22A	Carney Farms,	76.24	38	P		P	02 11 12.9 +0.5
	baz=76						
F18A	Big Timber	76.27	42	P		P	02 11 14.0 +1.2
	baz=76,SNR=6.3						
D20A	Manuel Ranch,	76.35	41	P		P	02 11 14.3 +1.2
	baz=76,SNR=7.6						
C21A	Desert Coulee	76.41	40	P		P	02 11 14.2 +0.8
	baz=76						
E19A	Rath Farm, Rou	76.41	42	P		P	02 11 14.7 +1.2
	baz=76,SNR=14						
I16A	Newdale	76.57	45	P		P	02 11 16.9 +2.3
	baz=76						
F19A	Roth Farm, Mol	76.72	42	P		P	02 11 16.2 +0.9
	baz=76,SNR=7.5						
E20A	Meyer Farm, Mu	76.73	41	P		P	02 11 16.4 +1.1
	baz=76,SNR=7.5						
H17A	Grant Village	76.75	44	eP		P	02 11 18.5 +2.8
IMW	Indian Meadow	76.87	45	eP		P	02 11 18.1 +1.7
	comp=Z,6.2nm,0.8s						
FLWY	Flagg Ranch	76.88	44	eP		P	02 11 18.0 +1.6
	comp=Z,1.6nm,0.6s						
D21A	La Casta Ranch	76.96	40	P		P	02 11 17.4 +0.9
	baz=77,SNR=5.2						
RRI2	Red Ridge	77.00	45	eP		P	02 11 18.5 +1.4
	comp=Z,3.2nm,0.9s						
RLMT	Red Lodge	77.01	43	eP		P	02 11 18.0 +1.0
	comp=Z,4.5nm,0.6s						
B23A	Brockton	77.05	38	P		P	02 11 17.7 +0.7
	baz=77						
I17A	Pilgrim Ck.	77.06	44	P		P	02 11 19.4 +2.0
	baz=77						
MOOW	Moose Ponds	77.07	45	eP		P	02 11 18.8 +1.4
	comp=Z,4.8nm,1.3s						
C22A	Vida	77.08	39	P		P	02 11 17.5 +0.4
	baz=77						
H18A	Shoshone NF, C	77.08	43	P		P	02 11 18.8 +1.3
	baz=77,SNR=5.5						
TPAW	Teton Pass	77.12	45	eP		P	02 11 19.1 +1.3
	comp=Z,3.0nm,0.7s						
F20A	Billings	77.18	42	P		P	02 11 18.7 +0.9
	baz=77						
A24A	Westby	77.22	37	P		P	02 11 18.4 +0.4
	baz=77						
GRAC	Grapevine Rang	77.23	53	P		P	02 11 19.6 +1.4
	baz=77						
REDW	Red Top Meadow	77.25	45	eP		P	02 11 19.5 +1.0
	comp=Z,2.4nm,0.9s						
D22A	Cohagen	77.32	40	P		P	02 11 19.5 +1.0
	baz=77						
C23A	Lambert	77.39	39	P		P	02 11 19.8 +0.9
	baz=77						
DGMT	Dagmar	77.43	38	P		P	02 11 19.7 +0.6
	baz=77						
H19A	Powell	77.45	43	P		P	02 11 20.6 +1.1
	baz=77						
G20A	Bridger	77.52	42	P		P	02 11 20.1 +0.4
	baz=77						
R11A	Troy Canyon, C	77.55	51	eP		P	02 11 21.0 +0.9
R11A	Troy Canyon, C	77.55	51	P		P	02 11 21.2 +1.1
	baz=77						
BUR08	Bucovina Ar. S	77.57	321	eP		P	02 11 20.3 +0.3
LAO	LASA Array	77.60	40	eP		P	02 11 21.3 +1.2
	comp=Z,2.2nm,0.5s						
A25A	Svangstu Ranch	77.64	37	P		P	02 11 21.1 +0.8
	baz=77						
MPMC	Manual Prospec	77.72	54	P		P	02 11 22.0 +0.8
	baz=78						
D23A	Lindsay	77.80	39	P		P	02 11 22.0 +0.8
	baz=78						
I19A	Meeteetse	77.86	44	P		P	02 11 23.2 +1.4
	baz=78						
E22A	Miles City	77.91	40	P		P	02 11 22.9 +1.0
	baz=78						
HWUT	Hardware Ranch	77.95	47	eP		P	02 11 23.3 +1.0
	comp=Z,30nm,1.8s						
BR131	Keskin Array S	78.00	311	eP		P	02 11 23.2 +0.6
BRTR	Keskin Array B	78.00	311	P		P	02 11 22.8 +0.2
BRTR	Keskin Array B	78.00	311	P		P	02 11 22.8 +0.2
	comp=Z,0.9nm,0.8s,baz=94,slow=2.9,SNR=7.2						
G21A	Lodge Grass	78.05	42	P		P	02 11 23.3 +0.6
	baz=78						
B25A	Knox Farm, Ray	78.07	38	P		P	02 11 23.8 +1.1
	baz=78						
DUG	Dugway	78.10	48	eP		P	02 11 24.2 +1.0
DUG				pmax		pmax	
	comp=Z,2.0nm,0.5s						
DUG	Dugway	78.10	48	eP		P	02 11 24.1 +1.0
	comp=Z,1.9nm,0.5s						
DUG	Dugway	78.10	48	P		P	02 11 24.2 +1.0
	baz=78						
H20A	Greybull	78.11	43	P		P	02 11 24.1 +1.1
	baz=78						
A26A	Wade Farm, Ken	78.18	37	P		P	02 11 24.3 +1.0
	baz=78						
F22A	Rosebud	78.19	41	P		P	02 11 24.2 +0.8
	baz=78						
E23A	Ismay	78.20	40	P		P	02 11 24.5 +1.0
	baz=78						
D24A	Glendive	78.28	39	P		P	02 11 24.9 +1.0
	baz=78						
J19A	Crowheart	78.33	44	P		P	02 11 25.4 +1.1
	baz=78,SNR=8.5						
PDAR	Pinedale Array	78.36	45	P		P	02 11 25.1 +0.5
PDAR	Pinedale Array	78.36	45	P		P	02 11 25.1 +0.5
	comp=Z,2.8nm,0.7s,baz=265,slow=2.4,SNR=26						
I20A	Worland	78.39	43	P		P	02 11 25.8 +1.2
	baz=78						
C25A	Freed Ranch, W	78.41	38	P		P	02 11 25.6 +1.0
	baz=78						
B26A	Jensen Ranch,	78.45	37	P		P	02 11 25.7 +0.9
	baz=78						
A27A	Ledoux Ranch,	78.52	36	P		P	02 11 25.8 +0.7
	baz=78						
H21A	Big Horn, Sher	78.53	42	P		P	02 11 26.3 +0.9
	baz=78,SNR=6.3						
G22A	Birney	78.54	41	P		P	02 11 26.0 +0.6
	baz=78						
GSC	Goldstone	78.62	54	P		P	02 11 27.1 +1.1
	baz=78						
MLR	Muntele Rosu	78.63	319	P		P	02 11 27.0 +1.1
MLR	Muntele Rosu	78.63	319	P		P	02 11 27.0 +1.1
	comp=Z,0.2nm,0.4s,baz=162,slow=3.2,SNR=5.4						
L18A	Fontenelle, Gr	78.63	46	P		P	02 11 27.4 +1.2
	baz=78						
E24A	Baker	78.67	39	P		P	02 11 26.7 +0.7
	baz=78						
F23A	Volborg	78.67	41	P		P	02 11 26.6 +0.6
	baz=78						
D25A	Fairfield	78.76	38	P		P	02 11 27.6 +1.1
	baz=78						
J20A	Shoshoni	78.81	44	P		P	02 11 27.8 +0.9
	baz=79,SNR=5.2						
C26A	Wahner Farm, P	78.90	37	P		P	02 11 27.9 +0.7
	baz=79						
L19A	Farson	78.91	45	P		P	02 11 28.2 +0.6
	baz=79						
H22A	Clearmont	78.93	42	P		P	02 11 28.1 +0.5
	baz=79						
I21A	Big Trails, Te	78.94	43	P		P	02 11 28.4 +0.7
	baz=79,SNR=7.3						
SHPR	Sheep Range	78.94	53	eP		P	02 11 28.8 +1.0
	comp=Z,16nm,1.4s						
A28A	Rude Farm, Bot	79.01	36	P		P	02 11 28.5 +0.7
	baz=79						
G23A	Biddle	79.03	41	P		P	02 11 28.6 +0.5
	baz=79						
TUQ	Turquoise Moun	79.11	54	P		P	02 11 29.6 +0.9
	baz=79						
K20A	Yellowstone Ra	79.12	44	P		P	02 11 29.2 +0.5
	baz=79						
E25A	Miller Ranch,	79.17	39	P		P	02 11 29.5 +0.7
	baz=79						
HEC	Hector,Ludlow	79.22	54	P		P	02 11 30.2 +0.9
	baz=79						
ARUT	Antelope Range	79.22	51	eP		P	02 11 30.1 +0.7
ARUT				pmax		pmax	
	comp=Z,64nm,0.9s						
ARUT	Antelope Range	79.22	51	eP		P	02 11 30.1 +0.7
	comp=Z,64nm,0.9s						
D26A	Manning	79.28	38	P		P	02 11 30.1 +0.7
	baz=79						
B28A	Dugan Ranch, T	79.29	36	P		P	02 11 30.2 +0.9
	baz=79						
I22A	9 Mile Ranch,	79.32	42	P		P	02 11 30.3 +0.6
	baz=79						
G24A	Alzada	79.45	40	P		P	02 11 30.8 +0.4
	baz=79						
A29A	Manning Farm,	79.48	35	P		P	02 11 30.8 +0.4
	baz=79						
L20A	Wamsutter	79.54	45	P		P	02 11 31.9 +0.9
	baz=79						
J22A	Midwest	79.64	43	P		P	02 11 32.1 +0.5
	baz=79,SNR=9.3						
D27A	Center	79.68	38	P		P	02 11 32.5 +1.0
	baz=80						
GMRC	Granite Mounta	79.68	54	P		P	02 11 32.7 +0.9
	baz=80						
K21A	Alcova	79.74	44	P		P	02 11 32.7 +0.5
	baz=80,SNR=7.4						
H24A	Dirks Ranch, A	79.77	41	P		P	02 11 32.5 +0.4
	baz=80						
PFO	Pinyon Flat Ob	79.88	56	P		P	02 11 33.6 +0.7
	baz=80						
Q16A	Castle Valley	79.89	49	P		P	02 11 33.6 +0.6
	baz=80						
BELC	Belle Mtn. Jos	79.94	55	P		P	02 11 34.0 +0.7
	baz=80						
F26A	Lodgepole	79.98	39	P		P	02 11 33.8 +0.6
	baz=80						
ULM	Lac du Bonnet	80.01	33	P		P	02 11 33.2 0.0
ULM	Lac du Bonnet	80.01	33	P		P	02 11 33.2 0.0
	comp=Z,1.5nm,0.5s,baz=297,slow=7.8,SNR=3.4						
MDND	Maddock	80.08	36	P		P	02 11 33.7 +0.1
	baz=80						
L21A	Rawlins	80.11	44	P		P	02 11 34.5 +0.4
	baz=80						
E27A	Carson	80.13	38	P		P	02 11 34.6 +0.7
	baz=80						
SRU	San Rafael	80.16	48	eP		P	02 11 35.1 +0.7
SRU				pmax		pmax	
	comp=Z,11nm,0.8s						
SRU	San Rafael	80.16	48	eP		P	02 11 35.1 +0.7
	comp=Z,11nm,0.8s						
G27A	Dupree	80.18	40	P		P	02 11 37.4 +3.2
	baz=80						
O19A	Miners Draw (B	80.21	47	P		P	02 11 35.2 +0.6
	baz=80						
B30A	Myrvik Farm, E	80.24	35	P		P	02 11 34.8 +0.4
	baz=80						
M21A	Separation Pea	80.36	45	P		P	02 11 35.8 +0.3
	baz=80						
N20A	Spence Gulch,	80.36	46	P		P	02 11 36.4 +0.9
	baz=80,SNR=5.1						
G26A	Maurine	80.41	39	P		P	02 11 36.0 +0.6
	baz=80						
BC3	Big Chuckawall	80.51	55	P		P	02 11 37.3 +1.0
	baz=80						
L22A	Ellis Ranch, M	80.59	44	P		P	02 11 37.3 +0.5
	baz=80						
W13A	Hualapai Mount	80.62	53	P		P	02 11 37.5 +0.4
	baz=80						
I25A	Rochford	80.70	41	P		P	02 11 37.6 +0.4
	baz=80						
P19A	Cripple Cowboy	80.73	47	P		P	02 11 38.4 +0.9
	baz=80,SNR=8.2						
U15A	North Rim	80.79	51	P		P	02 11 39.3 +1.3
	baz=81						
O20A	White River Ci	80.83	46	P		P	02 11 38.6 +0.6
	baz=81						
N21A	Black Mountain	80.83	45	P		P	02 11 38.8 +0.7
	baz=81						
L23A	Garrett	80.94	43	P		P	02 11 38.9 +0.3
	baz=81						
PDMCI	Parker Dam,Lak	80.96	54	P		P	02 11 39.6 +1.1
	baz=81						
D30A	Buchanan	81.01	36	P		P	02 11 38.8 +0.2
	baz=81						
H27A	Howes	81.13	40	P		P	02 11 40.3 +1.0
	baz=81						
I26A	New Underwood	81.15	41	P		P	02 11 40.2 +0.7
	baz=81						
CSS	Prodhromos	81.17	307	eP		P	02 11 38.7 -0.9
	comp=Z,5.7nm,0.9s						
F29A	Eureka	81.41	38	P		P	02 11 41.2 +0.4
	baz=81						
G28A	Parade	81.41	39	P		P	02 11 41.6 +0.8
	baz=81						
J26A	Sides Ranch, S	81.53	41	P		P	02 11 42.2 +0.6
	baz=81						
I27A	Quinn	81.54	40	P		P	02 11 42.1 +0.6
	baz=81						
Q20A	Ridgley Place,	81.57	47	P		P	02 11 42.7 +0.7
	baz=81,SNR=5.6						
N23A	Red Feather La	81.63	44	P		P	02 11 43.3 +1.0
	baz=81						
H28A	Mission Ridge	81.64	39	P		P	02 11 42.9 +0.9
	baz=81						
P21A	Newcastle	81.69	46	P		P	02 11 43.6 +1.0
	baz=82						
O22A	Kremmling	81.78	45	P		P	02 11 43.9 +0.7
	baz=82,SNR=7.2						
WUAZ	Wupatki	81.95	51	eP		P	02 11 44.6 +0.6
	comp=Z,4.5nm,1.0s						
WUAZ	Wupatki	81.95	51	P		P	02 11 44.8 +0.9
	baz=82						
PV01	Paradox Valley	81.95	48	eP		P	02 11 45.5 +1.4
	comp=Z,384nm,0.6s						
R20A	Redvale	82.03	48	P		P	02 11 45.3 +0.9
	baz=82						
P22A	Eagle	82.04	46	P		P	02 11 45.4 +1.0
	baz=82,SNR=11						
I28A	Midland	82.04	40	P		P	02 11 44.8 +0.7
	baz=82						
GERES	GERESS Array B	82.08	328	P		P	02 11 44.6 +0.3
GERES	GERESS Array B	82.08	328	P		P	02 11 44.6 +0.3
	comp=Z,0.3nm,0.3s,baz=54,slow=8.6,SNR=3.4						
O23A	Lake Granby, G	82.10	45	P		P	02 11 46.2 +1.4
	baz=82,SNR=7.0						
S20A	Disappointment	82.28	48	P		P	02 11 46.7 +1.0
	baz=82						
R21A	Cimarron	82.40	47	P		P	02 11 47.6 +1.2
	baz=82						
K27A	Flueckinger Fa	82.40	41	P		P	02 11 47.6 +1.5
	baz=82						
Q22A	Crested Butte,	82.44	46	P		P	02 11 47.7 +1.1
	baz=82,SNR=7.8						
ISCO	Idaho Springs	82.55	45	eP		P	02 11 48.0 +0.8
	comp=Z,1.4nm,0.6s						
ISCO	Idaho Springs	82.55	45	P		P	02 11 48.3 +1.1
	baz=82						
MVCO	Mesa Verde	82.60	49	P		P	02 11 48.4 +1.0
	baz=82						
X16A	Lo Mia Camp, P	82.61	52	P		P	02 11 48.9 +1.4
	baz=82						
P23A	Jefferson	82.71	46	P		P	02 11 49.4 +1.3
	baz=82						
S21A	Coal Bank Pass	82.72	48	P		P	02 11 49.6 +1.4
	baz=82,SNR=5.3						
S22A	4UR Ranch, Cre	83.24	47	P		P	02 11 52.0 +1.2
	baz=83,SNR=5.8						
214A	Organ Pipe Nat	83.30	55	P		P	02 11 52.2 +1.3
	baz=83						
T21A	Navajo Lake	83.32	48	P		P	02 11 52.2 +1.0
	baz=83						
X18A	Snowflake	83.47	51	P		P	02 11 52.8 +0.9
	baz=83						
R23A	Moffat	83.52	46	P		P	02 11 53.5 +1.3
	baz=83,SNR=5.7						
V20A	Brimhall	83.56	50	P		P	02 11 53.2 +0.9
	baz=83						
U21A	Nageezi	83.63	49	P		P	02 11 53.7 +1.0
	baz=83						
T22A	Edith	83.68	48	P		P	02 11 54.4 +1.4
	baz=84						
R24A	Sanders Place,	83.91	46	P		P	02 11 55.3 +1.2
	baz=84,SNR=5.4						
Q25A	Bedland, Calha	83.93	45	P		P	02 11 55.1 +0.9
	baz=84						
V21A	Milan	84.05	49	P		P	02 11 55.7 +0.8
	baz=84						
U22A	Llaves	84.14	48	P		P	02 11 57.0 +1.7
	baz=84						
T23A	Casias Ranch,	84.18	47	P		P	02 11 56.9 +1.3
	baz=84						
S24A	Houchin Ranch,	84.25	46	P		P	02 11 57.1 +1.2
	baz=84						
X20A	Quemado	84.37	51	P		P	02 11 57.9 +1.4
	baz=84,SNR=5.4						
TUC	Tucson	84.39	54	eP		P	02 11 56.8 +0.3
TUC				pmax		pmax	
	comp=Z,12nm,1.4s						
TUC	Tucson	84.39	54	eP		P	02 11 56.8 +0.3
	comp=Z,12nm,1.4s						
V22A	San Miguel Ran	84.42	49	P		P	02 11 57.8 +1.0
	baz=84						
R25A	Fountain Ranch	84.44	46	P		P	02 11 57.1 +0.4
	baz=84						
T24B	San Luis	84.55	47	P		P	02 11 59.2 +1.7
	baz=84						
U23A	El Rito	84.57	48	P		P	02 11 58.8 +1.4
	baz=84,SNR=20						
S25A	Robets Cordova	84.69	46	P		P	02 11 58.6 +0.6
	baz=84						
R26A	Arlington	84.81	45	P		P	02 11 58.9 +0.4
	baz=85						
Y20A	Horse Springs,	84.86	51	P		P	02 12 00.4 +1.4
	baz=85,SNR=8.9						
X21A	Alamocita Cree	84.87	50	P		P	02 12 00.3 +1.3
	baz=85						
V23A	Ortiz Mt. (NFS	84.97	48	P		P	02 12 00.6 +1.1
	baz=85						
U24A	Moreno Valley	85.05	47	P		P	02 12 01.7 +1.7
	baz=85						
T25A	Trinidad	85.06	46	P		P	02 12 00.6 +0.7
	baz=85						
Y21A	Point of Rocks	85.23	50	P		P	02 12 01.7 +0.9
	baz=85						
Z20A	Nine Sixteen R	85.26	52	P		P	02 12 02.0 +1.1
	baz=85,SNR=8.9						
BGNE	Belgrade	85.45	40	P		P	02 12 01.8 +0.3
	baz=85						
T26A	Comanche Natio	85.50	46	P		P	02 12 02.3 +0.2
	baz=85						
V24A	Rampart Ranch,	85.52	48	P		P	02 12 03.9 +1.6
	baz=85,SNR=10						
U25A	Circle Dot Ran	85.57	47	P		P	02 12 03.3 +0.9
	baz=85						
120A	U Bar Ranch, L	85.61	52	P		P	02 12 03.9 +1.3
	baz=85						
Z21A	St. Cloud Mine	85.70	51	P		P	02 12 04.4 +1.2
	baz=86,SNR=6.8						
Y22A	Socorro	85.72	50	P		P	02 12 04.4 +1.2
	baz=86						
W24A	Lazy 6 Ranch,	85.80	48	P		P	02 12 04.9 +1.3
	baz=86,SNR=5.7						
U26A	Atchley Ranch,	85.96	47	P		P	02 12 05.3 +0.9
	baz=86						
319A	Douglas	85.97	53	P		P	02 12 05.6 +1.2
	baz=86						
IDI	Anoyia	86.15	312	P		P	02 12 04.0 -1.1
IDI	Anoyia	86.15	312	P		P	02 12 04.0 -1.1
	comp=Z,6.2nm,1.1s,baz=49,slow=9.3,SNR=3.8						
P31A	Stockton	86.18	42	P		P	02 12 05.0 -0.2
	baz=86						
S28A	Manter	86.18	45	P		P	02 12 05.8 +0.5
	baz=86						
Y23A	Lovelace Mesa,	86.28	50	P		P	02 12 06.7 +0.7
	baz=86						
V26A	Tequesquite Ra	86.35	47	P		P	02 12 06.9 +0.7
	baz=86						
W25A	X Bar L Ranch,	86.35	48	P		P	02 12 07.4 +1.2
	baz=86						
U27A	Thompson Grove	86.47	46	P		P	02 12 07.5 +0.6
	baz=86						
Z23A	Rita Site, Whi	86.62	50	P		P	02 12 08.7 +1.1
	baz=86						
V27A	Dan Oppiter Fa	86.93	46	P		P	02 12 09.4 +0.4
	baz=87						
S30A	Montezuma	86.94	44	P		P	02 12 09.2 +0.3
	baz=87						
X26A	CR and CF Fran	87.20	48	P		P	02 12 11.1 +0.8
	baz=87						
W27A	Bowe Ranch, En	87.28	47	P		P	02 12 11.5 +0.8
	baz=87						
T31A	Randall Ranch,	87.77	44	P		P	02 12 13.4 +0.5
	baz=88						
Z26A	Caprock	87.98	49	P		P	02 12 14.6 +0.5
	baz=88						
X28A	Dimmitt	88.17	47	P		P	02 12 15.3 +0.3
	baz=88						
MSTX	Muleshoe	88.22	48	P		P	02 12 15.6 +0.4
	baz=88						
Z27A	Tatum	88.41	48	P		P	02 12 16.3 +0.1
	baz=88						
Z29A	Hungry Hill Ra	89.35	48	P		P	02 12 21.1 +0.6
	baz=89						
X31A	McDonald Ranch	89.37	46	P		P	02 12 20.9 +0.4
	baz=89						
Z30A	Sanderson Ranc	89.67	47	P		P	02 12 22.2 +0.2
	baz=90						
Y32A	R-V Farms, Ver	90.13	46	P		P	02 12 24.3 +0.2
	baz=90						
526A	Mary Lane Ranc	90.14	51	P		P	02 12 24.8 +0.4
	baz=90						
Z31A	Sharp Cattle R	90.22	47	P		P	02 12 24.9 +0.4
	baz=90						
329A	Wagon Wheel Ra	90.44	49	P		P	02 12 26.2 +0.6
	baz=90						
131A	Roby	90.54	47	P		P	02 12 26.5 +0.5
	baz=90						
428A	Kincaid Ranch,	90.55	50	P		P	02 12 26.9 +0.8
	baz=90						
Z32A	Haskell	90.62	46	P		P	02 12 26.7 +0.4
	baz=90						
230A	Sterling City	90.67	48	P		P	02 12 27.4 +0.7
	baz=90						
TUL1	Tulsa	90.76	42	P		P	02 12 27.2 +0.4
	baz=90						
TXAR	Lajitas Array	90.91	52	P		P	02 12 28.4 +0.5
TXAR				pP		pP	02 12 53.6 +0.1
TXAR	Lajitas Array	90.91	52	P		P	02 12 28.4 +0.5
	comp=Z,1.4nm,0.6s,baz=293,slow=2.9,SNR=27						
TXAR				pP		pP	02 12 53.6 +0.1
	comp=Z,0.2nm,0.5s,baz=286,slow=3.8,SNR=2.0						
232A	Coleman	91.54	47	P		P	02 12 31.1 +0.4
	baz=91						
530A	J-C Ranch, Com	91.78	50	P		P	02 12 32.5 +0.7
	baz=92						
332A	Millersview	91.85	48	P		P	02 12 32.4 +0.3
	baz=92						
432A	Menard	92.19	48	P		P	02 12 34.1 +0.4
	baz=92						
532A	Rocksprings	92.66	49	P		P	02 12 36.0 +0.1
	baz=92						
TORD	Torodi Ar. Bea	116.51	314	PKP		PKPdf	02 18 06.5 -1.2
TORD	Torodi Ar. Bea	116.51	314	PKP		PKPdf	02 18 06.5 -1.2
	comp=Z,0.1nm,0.5s,baz=35,slow=1.7,SNR=2.5						
QSPA	South Pole Qui	126.86	180	PKP		PKPdf	02 18 25.3 -0.7
QSPA	South Pole Qui	126.86	180	PKP		PKPdf	02 18 25.3 -0.7
	comp=Z,0.5nm,0.4s,baz=343,slow=0.2,SNR=5.1						
SAML	Samuel	144.92	43	ePKPdf		PKPab	02 18 59.7 -0.6
LPAZ	La Paz	147.56	58	ePKPbc		PKPbc	02 19 08.7 -0.1
LPAZ	La Paz	147.56	58	PKPbc		PKPbc	02 19 08.6 -0.2
	comp=Z,1.8nm,0.6s,baz=330,slow=4.1,SNR=12						
LVC	Limon Verde	151.14	68	ePKPbc		PKPbc	02 19 17.9 +0.7
LCO	Las Campanas	153.05	82	ePKPbc		PKPbc	02 19 21.3 0.0

IDC ***05*** *02:15:51.5±0.6, 24°.27S×176°.21W, h0km, mb4.3/14, mb1 4.5/15, mb1mx4.4/23, mbtmp4.3/15, ML3.8/1, MS3.8/17, Ms1 3.8/17, ms1mx3.6/33, Error ellipse: s-maj=23.0km s-min=16.8km az=140.0*

ISCJB ***05*** *02:15:54.5±0.4, 24°.39S±0°.05×176°.22W±0°.07, h30km, mb4.6/31, MS3.9/15, Error ellipse: s-maj=10.1km s-min=7.2km az=22.9*

NEIC ***05*** *02:15:56.6±0.3, 24°.34S×176°.19W, h35km, mb4.9/19, Error ellipse: s-maj=9.4km s-min=6.1km az=118.0*

AUST ***05*** *02:15:57.5, 24°.28S×175°.72W, h60km*

ISC 05 02:15:56.0±0.5, 24°.35S±0°.07×176°.2W±0°.1, h30km, n102, σ0.88/82, mb4.7/31, MS3.9/15, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	5.13	197	Sn	Sn	02 18 08.4	-0.6
RAO	Raoul Island	5.13	197	Sn	Sn	02 18 08.4	-0.6
	44nm,0.3s,baz=90,slow=20,SNR=1.8						
NIUE	Niue	7.81	49	P	Pn	02 17 39.6	-8.1
	baz=7.5,SNR=14						
NIUE				S	Sn	02 18 54.7	-21
	baz=7.5,SNR=6.6						
MSVF	Nonsavu	8.52	320	ePn	Pn	02 18 01.0	+3.5
	63nm,0.6s						
AFI	Afiamalu	11.18	23	Pn	Pn	02 18 27.1	-6.8
AFI				Sn	Sn	02 20 22.2	-16
AFI	Afiamalu	11.18	23	Pn	Pn	02 18 27.1	-6.8
	10nm,0.3s,baz=131,slow=9.3,SN

5.6nm,0.3s,baz=49,slow=20,SNR=3.7
URZ Urewera 15.01 201 Pn **Pn 02 19 25.4 -0.6**
URZ Sn Sn 02 22 00.3 -11
URZ Urewera 15.01 201 Pn **Pn 02 19 25.4 -0.6**
0.4nm,0.3s,baz=7.8,slow=8.1,SNR=2.1
URZ Sn Sn 02 22 00.3 -11
0.6nm,0.3s,baz=156,slow=20,SNR=2.9
RAR Rarotonga 15.43 82 *e*Pn Pn 02 19 23.6 -8.0
158nm,0.9s
RAR Rarotonga 15.43 82 Pn Pn 02 19 23.5 -8.2
11nm,0.3s,baz=270,slow=10,SNR=10
RAR LR LR 02 23 19.2
comp=Z,440nm,18.7s,baz=274,slow=29
DZM Mont Dzumac 16.15 275 *e*LR LR 02 23 15.9
661nm,23.6s
DZM Mont Dzumac 16.15 275 LR LR 02 23 46.6
comp=Z,102nm,19.2s,baz=224,slow=30
RPZ Rata Peaks 21.98 205 P **P 02 20 48.3 +0.8**
RPZ Rata Peaks 21.98 205 P **P 02 20 48.3 +0.8**
3.8nm,0.6s,baz=33,slow=18,SNR=2.5
RPZ LR LR 02 28 35.7
comp=Z,456nm,21.2s,baz=33,slow=35
TBI Tubuai 24.43 93 *e*LQ LQ 02 25 48.0
296nm,27.2s
TBI *e*LR LR 02 27 02.8
518nm,27.5s,baz=261
PPT2 Papeete2 25.69 80 *e*LR LR 02 27 35.4
670nm,26.2s,baz=246
PPT Papeete 25.70 80 LR LR 02 29 46.7
comp=Z,142nm,19.0s,baz=190,slow=32
HNR Honiara 27.18 299 LR LR 02 30 19.5
comp=Z,215nm,21.5s,baz=122,slow=32
RMQ Roma 31.70 259 P **P 02 22 19.8 +2.6**
baz=32,SNR=4.1
CTA Charters Tower 34.98 269 P **P 02 22 45.9 -0.1**
CTA Charters Tower 34.98 269 P **P 02 22 45.9 -0.1**
8.4nm,0.4s,baz=97,slow=11,SNR=18
MCQ Macquarie Isla 35.35 205 S S 02 28 00.2 -21
baz=36,SNR=4.8
MTSU Mount Surprise 37.26 272 P **P 02 23 05.8 +0.4**
baz=38,SNR=10
STKA Stephens Creek 37.82 249 P **P 02 23 10.4 +0.3**
STKA Stephens Creek 37.82 249 P **P 02 23 10.4 +0.3**
1.2nm,0.5s,baz=95,slow=12,SNR=5.2
STKA LR LR 02 36 53.0
comp=Z,368nm,18.4s,baz=288,slow=33
PMG Port Moresby 37.97 287 *e*P **P 02 23 10.1 -1.3**
23nm,0.9s
PMG Port Moresby 37.97 287 P **P 02 23 10.5 -0.9**
24nm,0.9s,baz=120,slow=3.2,SNR=5.8
COEN Coen 39.65 278 *e*P **P 02 23 25.5 0.0**
PATS Pohnpei 39.75 318 S S 02 29 54.0 +25
baz=40,SNR=3.2
AS31 Alice Springs 45.42 260 *e*P **P 02 24 11.9 -0.5**
ASAR Alice Springs 45.42 260 P **P 02 24 11.5 -0.9**
ASAR Alice Springs 45.42 260 P **P 02 24 11.5 -0.9**
2.9nm,0.4s,baz=89,slow=7.0,SNR=43
ASAR LR LR 02 42 26.0
comp=Z,212nm,18.3s,baz=143,slow=35
WRAB Tennant Creek 45.86 265 *e*P **P 02 24 14.1 -1.8**
14nm,1.3s
WRA Warramunga Arr 45.87 265 P **P 02 24 14.1 -1.9**
WRA Warramunga Arr 45.87 265 P **P 02 24 14.1 -1.9**
3.2nm,0.5s,baz=98,slow=8.6,SNR=50
WRA LR LR 02 42 37.8
comp=Z,233nm,18.5s,baz=100,slow=35
FORT Forrest 49.44 250 *e*P **P 02 24 43.6 +0.1**
26nm,0.8s
VNDA Vanda 54.26 186 P **P 02 25 19.6 +0.9**
VNDA Vanda 54.26 186 P **P 02 25 19.6 +0.9**
0.9nm,0.6s,baz=37,slow=7.1,SNR=2.4
FITZ Fitzroy Crossi 54.29 265 *e*P **P 02 25 19.1 -0.7**
4.7nm,0.8s
FITZ Fitzroy Crossi 54.29 265 P **P 02 25 19.4 -0.5**
baz=55,SNR=8.7
MEEK Meekatharra 58.34 253 P **P 02 25 47.9 -0.8**
baz=59,SNR=3.2
MBWA Marble Bar 58.74 259 *e*P **P 02 25 51.3 -0.3**
18nm,1.0s
MORW Morawa 60.01 249 P **P 02 25 59.4 -0.8**
baz=60,SNR=3.8
KAPI Kappang 64.36 276 *e*P **P 02 26 29.3 -0.2**
7.6nm,0.8s
QSPA South Pole Qui 65.74 180 *e*P **P 02 26 39.1 +1.3**
7.8nm,1.1s
KKM Kota Kinabalu 72.40 285 *e*P **P 02 27 20.6 +0.6**
92nm,1.4s
FX1 Attu Island--F 77.46 353 LR LR 02 54 39.8
comp=Z,59nm,21.9s,baz=54,slow=30
MAW Mawson 78.53 200 LR LR 03 01 02.6
comp=Z,111nm,18.8s,baz=14,slow=34
PETK Petropavlovsk- 80.41 344 P **P 02 28 04.5 +0.1**
PETK Petropavlovsk- 80.41 344 P **P 02 28 04.5 +0.1**
2.5nm,0.8s,baz=133,slow=10.0,SNR=3.9
PETK LR LR 02 56 34.8
comp=Z,28nm,20.4s,baz=111,slow=30
KSRS Korea Array 80.88 318 LR LR 03 01 55.4
comp=Z,35nm,19.0s,baz=152,slow=34
NVAR Mina Array Bea 82.68 42 P **P 02 28 17.2 +0.2**
NVAR Mina Array Bea 82.68 42 P **P 02 28 17.2 +0.2**
0.9nm,0.8s,baz=219,slow=9.5,SNR=6.5
USRK Ussuriysk Arra 83.08 325 P **P 02 28 19.3 +0.6**
2.1nm,0.8s,baz=188,slow=7.7,SNR=6.1
SNAA Sanae 84.13 178 *e*P **P 02 28 24.3 +0.4**
7.4nm,1.1s
SNAA Sanae 84.13 178 LR LR 03 01 18.7
comp=Z,9.3nm,19.1s,baz=197,slow=32
VNA2 Neumayer--Watz 84.66 176 *e*P **P 02 28 27.3 +0.8**
VNA2 Neumayer--Watz 84.66 176 *e*I pP 02 28 35.6 -0.5
VNA1 Neumayer--Stat 84.88 176 *e*I pP 02 28 36.4 -0.7
KULM Kulim 85.98 278 *e*P **P 02 28 33.9 -0.1**
6.1nm,0.8s
MNTX Cornudas Mount 87.62 54 *e*P **P 02 28 42.0 +0.3**
2.8nm,1.0s
TXAR Lajitas Array 87.72 56 P **P 02 28 42.8 +0.4**
TXAR Lajitas Array 87.72 56 P **P 02 28 42.8 +0.4**
2.5nm,0.9s,baz=211,slow=7.1,SNR=21
TXAR LR LR 03 03 28.0
comp=Z,38nm,18.1s,baz=185,slow=33
TRF Thorofare Moun 89.86 11 *e*P **P 02 28 50.1 -1.5**
8.6nm,0.9s
MCK McKinley 90.36 12 *e*P **P 02 28 53.1 -0.7**
4.4nm,0.8s
LOHW Long Hollow 90.44 41 *e*P **P 02 28 54.6 -0.3**
0.7nm,0.6s
PDAR Pinedale Array 90.61 43 P **P 02 28 55.8 +0.1**
PDAR Pinedale Array 90.61 43 P **P 02 28 55.8 +0.1**
0.5nm,0.9s,baz=224,slow=3.8,SNR=3.4
PDAR LR LR 03 00 33.6
comp=Z,44nm,20.2s,baz=14,slow=30
JCT Junction City 91.22 57 *e*P **P 02 28 58.8 +0.1**
2.2nm,0.6s
COLA College 91.60 12 *e*P **P 02 28 59.0 -0.5**
16nm,0.9s
ILAR Eielson Array 91.69 12 P **P 02 28 59.4 -0.6**
ILAR Eielson Array 91.69 12 P **P 02 28 59.4 -0.6**
0.9nm,0.8s,baz=214,slow=4.7,SNR=7.7
ILAR LR LR 03 08 55.4
comp=Z,35nm,18.4s,baz=212,slow=35
CMAR Chiang Mai Arr 92.98 289 P **P 02 29 08.7 +1.6**
CMAR Chiang Mai Arr 92.98 289 P **P 02 29 08.7 +1.6**
2.2nm,0.5s,baz=131,slow=3.5,SNR=16
CHTO Chiang Mai 93.13 289 *e*P **P 02 29 08.6 +0.9**
4.9nm,0.9s
ATAH Atahualpa 94.11 100 LR LR 03 00 54.6
comp=Z,90nm,20.8s,baz=3.6,slow=29
LVC Limon Verde 95.35 118 *e*P **P 02 29 15.7 -2.5**
5.9nm,1.0s
KURK Kurchatov 117.95 316 PKP **PKPdf 02 34 38.1 -1.3**
KURBB Kurchatov Arra 118.00 316 PKP **PKPdf 02 34 38.1 -1.4**
0.7nm,0.8s,baz=112,slow=1.8,SNR=6.4
EKS2 Erkin-Say 120.51 306 *e*PKPdf **PKPdf 02 34 45.7 +0.8**
ARCES ARCESS Array B 132.99 350 PKP **PKPdf 02 35 07.4 -0.3**
ARCES ARCESS Array B 132.99 350 PKP **PKPdf 02 35 07.4 -0.3**
1.5nm,0.7s,baz=48,slow=1.8,SNR=8.9
FINES FINESS Array B 139.93 344 PKPpre PKPpre 02 35 10.8
FINES FINESS Array B 139.93 344 PKhKP PKPpre 02 35 10.8
2.7nm,1.0s,baz=95,slow=4.5,SNR=3.2
NB2 NORSAR Subarra142.98 354 PKP PKPpre 02 35 21.8
comp=Z,1.7nm,1.0s,baz=16,slow=3.2
NOA NORSAR Array B 142.98 354 PKPpre PKPpre 02 35 21.9
NOA NORSAR Array B 142.98 354 PKhKP PKPpre 02 35 21.9
comp=Z,1.5nm,0.8s,baz=9.3,slow=2.2,SNR=3.8
AKASG Malin Array Be 147.19 330 PKPbc **PKPdf 02 35 34.6 +0.8**
AKASG Malin Array Be 147.19 330 PKPbc **PKPdf 02 35 34.6 +0.8**
comp=Z,4.5nm,0.8s,baz=40,slow=4.2,SNR=6.1
KIEV Kiev 147.20 330 *e*PKPbc **PKPdf 02 35 34.6 +0.8**

BR131 Keskin Array S 150.62 309 *e*PKPbc **PKPbc 02 35 44.9 -0.5**
BRTR Keskin Array B 150.62 309 PKPbc **PKPbc 02 35 44.6 -0.8**
BRTR PKPab **PKPab 02 35 52.4 +0.1**
BRTR Keskin Array B 150.62 309 PKPbc **PKPbc 02 35 44.6 -0.8**
comp=Z,1.5nm,0.7s,baz=134,slow=3.4,SNR=10
BRTR PKPab **PKPab 02 35 52.4 +0.1**
comp=Z,1.1nm,0.5s,baz=106,slow=2.6,SNR=7.1
BUR08 Bucovina Ar. S 151.22 329 *e*PKPdf **PKPdf 02 35 40.6 0.0**
BUR08 *e*PKPbc **PKiKP 02 35 47.2 +0.1**
CLL Collm 152.17 348 *e*PKPbc **PKPbc 02 35 48.0 -0.4**
comp=Z,7.0nm,1.1s
CLL *e*PKPab **PKPab 02 35 59.0 +0.9**
CSS Prodhromos 152.37 299 *e*PKPab **PKPab 02 35 59.8 +0.2**
BRG Berggiesshubel 152.39 346 *e*P **PKPbc 02 35 49.1 +0.2**
comp=Z,7.2nm,1.1s
MORC Moravsky Berou 152.45 341 *e*PKPbc **PKPbc 02 35 49.5 +0.3**
GERES GERESS Array B 154.34 345 PKPab **PKPab 02 36 08.6 +1.1**
GERES GERESS Array B 154.34 345 PKPab **PKPab 02 36 08.6 +1.1**
comp=Z,0.5nm,0.6s,baz=52,slow=6.4,SNR=3.6
TORD Torodi Ar. Bea 168.68 169 PKP **PKPdf 02 36 00.2 -0.6**
TORD PKPab **PKPab 02 37 10.8 +0.3**
TORD Torodi Ar. Bea 168.68 169 PKP **PKPdf 02 36 00.2 -0.6**
comp=Z,0.8nm,1.0s,baz=196,slow=1.1,SNR=3.5
TORD PKPab **PKPab 02 37 10.8 +0.3**

ISCJB ***05*** *02:43:03.9±0.5, 20°.22S×69°.17W, h119km±3km, ML4.1*
IDC ***05*** *02:43:05.3±2.5, 20°.32S×68°.82W, h114km±20km, mb3.6/4, mb1 3.6/7, mb1mx3.4/20, mbtmp3.5/7, MS3.0/1, Ms1 3.0/1, ms1mx2.2/22, Error ellipse: s-maj=41.4km s-min=19.6km az=107.0*
ISC 05 02:43:04.9±0.8, 20°.11S±0°.05×68°.90W±0°.08, h114km±9km, n16, σ1°55/22, 4C-2D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HMBC	**Humberstone**	**0.94**	**260**	⇑*i*P	**Pn**	**02 43 25.5**	**-0.4**
HMBC				*i* S	**Sn**	**02 43 40.5**	**-1.3**
HMBC				AML	AML	02 43 41.8	
comp=E,4μm,0.2s							
PB01	**Plate Boundary**	**1.08**	**211**	⇑*i*P	**Pn**	**02 43 27.1**	**-0.2**
PB01				*i* S	**Sn**	**02 43 43.3**	**-0.9**
PB01				AML	AML	02 43 44.0	
comp=N,10μm,0.3s							
MNMC	**Minimini**	**1.18**	**326**	⇓*i*P	**Pn**	**02 43 30.2**	**+1.6**
MNMC				*i* S	**Sn**	**02 43 48.4**	**+2.1**
MNMC				AML	AML	02 43 49.5	
comp=E,11μm,0.3s							
PSGC	**Pisagua**	**1.26**	**294**	⇑*i*P	**Pn**	**02 43 29.4**	**+0.2**
PSGC				*i* S	**Sn**	**02 43 47.0**	**-0.7**
PSGC				AML	AML	02 43 48.4	
comp=N,3μm,0.5s							
PB09	**Plate Boundary**	**1.71**	**191**	⇑*i*P	**Pn**	**02 43 35.1**	**+0.5**
PB09				*i* S	**Sn**	**02 43 57.2**	**0.0**
PB09				AML	AML	02 43 58.8	
comp=E,4μm,0.6s							
PB07	**Plate Boundary**	**1.85**	**210**	⇓*i*P	**Pn**	**02 43 36.0**	**-0.4**
PB07				*i* S	**Sn**	**02 43 58.8**	**-1.6**
PB07				AML	AML	02 44 03.4	
comp=N,2μm,0.4s							
PB04	**Plate Boundary**	**2.21**	**194**	*e*P	Pn	02 43 44.2	+3.5
PB04				*i* S	**Sn**	**02 44 13.0**	**+4.9**
PB04				AML	AML	02 44 22.2	
comp=E,717nm,0.4s							
MACH	**Maria Elena**	**2.22**	**201**	*i* P	**Pn**	**02 43 41.2**	**+0.1**
LPAZ	**La Paz**	**3.87**	**11**	P	Pn	02 44 07.0	+3.9
comp=E,3.6nm,0.3s,baz=194,slow=5.8,SNR=115							
SIV	**San Ignacio**	**8.50**	**62**	P	**Pn**	**02 45 04.4**	**-0.8**
comp=E,1.7nm,0.3s,baz=264,slow=11,SNR=27							
SIV				S	**Sn**	**02 46 37.7**	**-1.7**
baz=40,slow=17,SNR=2.7							
CFAA	**Coronel Fontan**	**11.46**	**177**	P	Pn	02 45 40.8	-4.3
comp=E,0.0nm,0.3s,baz=351,slow=8.2,SNR=11							
CFAA				S	Sn	02 47 41.0	-10
comp=E,0.0nm,0.3s,baz=292,slow=19,SNR=3.1							
CPUP	**Villa Florida**	**12.30**	**122**	P	**Pn**	**02 45 56.0**	**-0.2**
comp=E,0.6nm,0.3s,baz=277,slow=13,SNR=5.1							
BDFB	**Brasilia**	**20.36**	**81**	P	**P**	**02 47 33.3**	**+0.6**
comp=E,1.9nm,0.5s,baz=240,slow=9.3,SNR=4.3							
PLCA	**Paso Flores**	**20.60**	**184**	P	**P**	**02 47 34.0**	**-1.1**
comp=E,3.5nm,0.8s,baz=344,slow=14,SNR=2.7							
PLCA				LR	LR	02 55 11.3	
comp=E,40nm,20.3s,baz=313,slow=36							
DBIC	**Dimbokro**	**68.34**	**74**	P	**P**	**02 53 54.7**	**+0.2**
comp=E,2.4nm,0.4s,baz=220,slow=8.5,SNR=11							
TORD	**Torodi Ar. Bea**	**76.89**	**71**	P	**P**	**02 54 45.2**	**+0.1**
comp=E,0.5nm,0.4s,baz=256,slow=5.4,SNR=21							
TORD				pP	**pP**	**02 55 14.8**	**+0.9**
comp=E,0.8nm,0.9s,baz=245,slow=5.5,SNR=2.7							

IDC ***05*** *02:51:04.1±0.7, 32°.17S×67°.93W, h0km, mb4.0/9, mb1 4.1/12, mb1mx4.0/20, mbtmp3.9/12, ML3.8/3, MS3.1/2, Ms1 3.0/2, ms1mx2.7/22, Error ellipse: s-maj=22.4km s-min=8.5km az=61.0*
ISCJB ***05*** *02:51:07.9±0.4, 32°.15S±0°.06×67°.72W±0°.09, h38km, mb4.1/20, MS3.0/2, Error ellipse: s-maj=12.3km s-min=6.3km az=149.8*
NEIC ***05*** *02:51:08.2±1.3, 32°.05S×67°.86W, h24km±9km, mb4.3/14, Error ellipse: s-maj=11.0km s-min=7.6km az=65.0*
ISC 05 02:51:09.8±0.5, 32°.13S±0°.07×67°.81W±0°.08, h38km, n55, σ0°67/58, mb4.1/20, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**0.64**	**325**	Pg	Pn	02 51 17.4	-5.1
CFAA				Lg	Lg	02 51 22.8	
CFAA	**Coronel Fontan**	**0.64**	**325**	Pg	Pn	02 51 17.4	-5.1
7.5nm,0.3s,baz=155,slow=18,SNR=547							
CFAA				Lg	Lg	02 51 22.8	
48nm,0.3s,baz=180,slow=20,SNR=63							
LCO	**Las Campanas**	**3.98**	**321**	*e*Pn	**Pn**	**02 52 08.8**	**+0.2**
LCO				*e*Sn	**Sn**	**02 52 53.5**	**-0.7**
LCO				*e*Sg		02 53 06.6	
TRQA	**Tornquist**	**7.60**	**143**	*e*Pn	**Pn**	**02 52 58.3**	**+0.3**
13nm,0.6s							
TRQA				*e*Sn	**Sn**	**02 54 21.4**	**-1.4**
PLCA	**Paso Flores**	**8.86**	**194**	*e*Pn	Pn	02 53 18.8	+3.5
PLCA				Lg	Lg	02 55 40.1	
PLCA	**Paso Flores**	**8.86**	**194**	Pn	**Pn**	**02 53 16.1**	**+0.8**
0.2nm,0.3s,baz=193,slow=8.1,SNR=3.8							
PLCA				Lg	Lg	02 55 40.1	
0.5nm,0.3s,baz=86,slow=19,SNR=3.0							
CPUP	**Villa Florida**	**10.82**	**60**	*e*Pn	**Pn**	**02 53 41.3**	**-0.9**
26nm,0.6s							
CPUP				Lg	Lg	02 56 52.1	
CPUP	**Villa Florida**	**10.82**	**60**	Pn	**Pn**	**02 53 41.3**	**-0.9**
0.8nm,0.3s,baz=216,slow=12,SNR=7.1							
CPUP				Lg	Lg	02 56 52.1	
1.1nm,0.3s,baz=120,slow=20,SNR=2.4							
LPAZ	**La Paz**	**15.78**	**359**	*e*Pn	**P**	**02 54 53.4**	**+0.1**
1.7nm,0.5s							
LPAZ	**La Paz**	**15.78**	**359**	Pn	**Pn**	**02 54 49.4**	**-0.4**
0.1nm,0.3s,baz=185,slow=3.3,SNR=6.8							
SIV	**San Ignacio**	**17.20**	**22**	Pn	**Pn**	**02 55 07.0**	**-0.1**
SIV	**San Ignacio**	**17.20**	**22**	Pn	**Pn**	**02 55 07.0**	**-0.1**
0.1nm,0.3s,baz=231,slow=16,SNR=4.6							
SAML	**Samuel**	**23.46**	**12**	*e*P	**P**	**02 56 16.5**	**+0.5**
5.4nm,1.0s							
BDFB	**Brasilia**	**24.37**	**52**	P	**P**	**02 56 26.6**	**+2.1**
BDFB	**Brasilia**	**24.37**	**52**	P	**P**	**02 56 26.6**	**+2.1**
2.2nm,0.5s,baz=215,slow=12,SNR=3.5							
BDFB				LR	LR	03 07 56.9	
comp=Z,29nm,18.9s,baz=187,slow=41							
ROSC	**El Rosal**	**37.30**	**349**	LR	LR	03 13 16.4	
comp=Z,30nm,18.8s,baz=359,slow=36							
BCIP	**Isla Barro Col**	**42.64**	**342**	*e*P	**P**	**02 59 02.3**	**-0.3**
15nm,0.8s							
SNAA	**Sanae**	**52.00**	**159**	*e*P	**P**	**03 00 14.6**	**-0.3**
4.8nm,1.0s							
SNAA	**Sanae**	**52.00**	**159**	P	**P**	**03 00 14.8**	**-0.2**
0.7nm,0.8s,baz=286,slow=5.4,SNR=13							
TEIG	**Tepich**	**55.63**	**337**	P	**P**	**03 00 41.6**	**-0.3**
TEIG	**Tepich**	**55.63**	**337**	P	**P**	**03 00 41.6**	**-0.3**
2.5nm,0.4s,baz=166,slow=4.2,SNR=7.3							
JCT	**Junction City**	**69.26**	**331**	*e*P	**P**	**03 02 12.2**	**-0.7**
3.1nm,0.7s							
TXAR	**Lajitas Array**	**69.97**	**327**	P	**P**	**03 02 17.6**	**+0.2**
TXAR	**Lajitas Array**	**69.97**	**327**	P	**P**	**03 02 17.6**	**+0.2**
0.4nm,0.7s,baz=155,slow=8.8,SNR=7.0							
WVT	**Waverly**	**70.45**	**343**	*e*P	**P**	**03 02 19.0**	**-1.1**
2.2nm,0.8s							
DBIC	**Dimbokro**	**71.21**	**69**	*e*P	**P**	**03 02 25.5**	**+0.3**
6.9nm,0.9s							
DBIC	**Dimbokro**	**71.21**	**69**	P	**P**	**03 02 25.3**	**+0.1**
4.3nm,0.9s,baz=200,slow=10,SNR=5.0							
MNTX	**Cornudas Mount**	**72.76**	**327**	*e*P	**P**	**03 02 32.7**	**-1.4**
1.7nm,0.9s							
MNTX				*e*pP	pP	03 02 39.4	-6.3
MAW	**Mawson**	**73.92**	**162**	P	**P**	**03 02 40.5**	**0.0**
MAW	**Mawson**	**73.92**	**162**	P	**P**	**03 02 40.5**	**0.0**
1.7nm,0.5s,baz=226,slow=5.6,SNR=5.7							
SDCO	**Great Sand Dun**	**77.90**	**330**	*e*P	**P**	**03 03 04.3**	**+0.4**
1.4nm,0.9s							
TORD	**Torodi Ar. Bea**	**80.23**	**68**	P	**P**	**03 03 16.9**	**+0.1**
TORD	**Torodi Ar. Bea**	**80.23**	**68**	P	**P**	**03 03 16.9**	**+0.1**
1.5nm,0.8s,baz=288,slow=6.0,SNR=11							
DUG	**Dugway**	**83.15**	**327**	*e*P	**P**	**03 03 31.2**	**-0.6**
3.2nm,1.2s							
HWUT	**Hardware Ranch**	**83.72**	**329**	*e*P	**P**	**03 03 34.5**	**-0.2**
1.4nm,0.7s							
PDAR	**Pinedale Array**	**83.80**	**330**	P	**P**	**03 03 35.6**	**+0.4**
PDAR	**Pinedale Array**	**83.80**	**330**	P	**P**	**03 03 35.6**	**+0.4**
0.5nm,0.7s,baz=147,slow=3.5,SNR=3.9							
NVAR	**Mina Array Bea**	**84.47**	**322**	P	**P**	**03 03 39.4**	**+0.7**
NVAR	**Mina Array Bea**	**84.47**	**322**	P	**P**	**03 03 39.4**	**+0.7**
0.7nm,0.8s,baz=188,slow=6.0,SNR=4.6							
ELK	**Elko**	**84.72**	**326**	*e*P	**P**	**03 03 39.8**	**-0.2**
1.8nm,0.9s							
LOHW	**Long Hollow**	**84.93**	**330**	*e*P	**P**	**03 03 40.7**	**-0.2**
HLID	**Hailey**	**86.54**	**328**	*e*P	**P**	**03 03 49.3**	**+0.5**
1.7nm,1.0s							
MCMT	**McKenzie Canyo**	**86.86**	**330**	*e*P	**P**	**03 03 50.8**	**+0.4**
1.0nm,0.8s							
YKW3	**Yellowknife Ar**	**101.54**	**340**	*e*P	**Pdif**	**03 04 57.5**	**+0.5**
WRA	**Warramunga Arr**	**124.04**	**205**	PKP	**PKPdf**	**03 10 03.6**	**-1.0**
WRA	**Warramunga Arr**	**124.04**	**205**	PKP	**PKPdf**	**03 10 03.6**	**-1.0**
0.6nm,0.5s,baz=171,slow=1.6,SNR=4.6							
KAPI	**Kappang**	**142.37**	**192**	*e*PKPdf	**PKPdf**	**03 10 39.5**	**+0.4**
EKS2	**Erkin-Say**	**147.97**	**60**	*e*PKPbc	**PKPbc**	**03 10 50.9**	**-0.2**
ZALV	**Zalesovo Beam**	**150.73**	**34**	PKPbc	**PKPbc**	**03 10 57.8**	**+0.5**
ZALV				PKPab	**PKPab**	**03 11 04.5**	**0.0**
ZALV	**Zalesovo Beam**	**150.73**	**34**	PKPbc	**PKPbc**	**03 10 57.8**	**+0.5**
4.5nm,0.6s,baz=299,slow=2.9,SNR=15							
ZALV				PKPab	**PKPab**	**03 11 04.5**	**0.0**
3.8nm,0.6s,baz=304,slow=2.7,SNR=11							
MK31	**Makanchi Array**	**152.86**	**49**	*e*PKPdf	**PKPdf**	**03 10 55.9**	**+0.6**
MK31				*e*PKPbc	**PKPbc**	**03 11 02.4**	**-0.2**
MKAR	**Makanchi Array**	**152.86**	**49**	PKPbc	**PKPbc**	**03 11 02.5**	**-0.1**
MKAR				PKPab	**PKPab**	**03 11 13.9**	**+0.2**
MKAR	**Makanchi Array**	**152.86**	**49**	PKPbc	**PKPbc**	**03 11 02.5**	**-0.1**
0.6nm,0.6s,baz=296,slow=2.1,SNR=5.6							
MKAR				PKPab	**PKPab**	**03 11 13.9**	**+0.2**
0.5nm,0.7s,baz=281,slow=4.6,SNR=3.3							
SONM	**Songino Array**	**163.71**	**14**	PKPab	**PKPab**	**03 12 01.2**	**+0.7**
SONM	**Songino Array**	**163.71**	**14**	PKPab	**PKPab**	**03 12 01.2**	**+0.7**
0.6nm,0.6s,baz=306,slow=4.8,SNR=3.0							

DJA 05 02:56:34.6±1.8, 8°.S±14°.×10°.7E±°, h18km±14km, M3.9/5, MLv3.9/5, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.74**	**44**	P	Pb	02 56 48.9	-0.2
CISI				S	Sb	02 56 59.0	0.0
LEM	**Lembang**	**1.30**	**15**	P	Pn	02 56 57.6	-0.5
SKJI	**Sukabumi**	**1.30**	**326**	P	Pn	02 56 56.0	-1.9
KPJI	**Karang Pucung**	**1.79**	**65**	P	Pn	02 57 04.3	-0.3

ISCJB ***05*** *03:00:52.0±0.7, 19°.96S±0°.06×133°.92E±0°.08, h12km, mb4.0/2, Error ellipse: s-maj=10.4km s-min=8.0km az=177.3*
AUST ***05*** *03:00:54.8±0.9, 19°.92S×133°.84E, h12km, Error ellipse: s-maj=1.4km s-min=0.9km az=344.0*
IDC ***05*** *03:00:55.1±1.1, 20°.01S×133°.87E, h0km, mb4.2/2, mb1 4.1/5, mb1mx3.8/16, mbtmp4.2/5, ML3.9/2, Error ellipse: s-maj=12.7km s-min=8.9km az=178.0*
ISC 05 03:00:52.8±0.7, 19°.94S±0°.05×134°.00E±0°.05, h12km, n17, σ2°60/18, Northern Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**0.32**	**90**	Pg	**Pn**	**03 01 04.2**	**+0.9**
37nm,0.3s,baz=262,slow=11,SNR=1334							
WRA				Lg	Lg	03 01 09.4	
240nm,0.3s,baz=278,slow=34,SNR=167							
ASAR	**Alice Springs**	**3.71**	**181**	Pn	**Pb**	**03 01 57.5**	**-0.8**
6.9nm,0.3s,baz=354,slow=8.2,SNR=124							
ASAR				Sn	**Sn**	**03 02 32.9**	**-0.7**
4.0nm,0.3s,baz=1.9,slow=30,SNR=6.2							
ASAR				Lg	Lg	03 02 53.1	
15nm,0.3s,baz=357,slow=30,SNR=12							
KNRA	**Kununurra**	**6.55**	**310**	P	**Pn**	**03 02 30.0**	**+1.1**
baz=6.4,SNR=6.0							
KDU	**Kakadu**	**7.36**	**348**	P	**Pn**	**03 02 40.8**	**+0.6**
baz=7.4,SNR=62							
MTN	**Manton Dam**	**7.58**	**338**	S	**Sn**	**03 04 04.5**	**-4.5**
baz=7.5,SNR=4.2							
FITZ	**Fitzroy Crossi**	**8.12**	**282**	Pn	**Pn**	**03 02 51.3**	**+0.8**
1.6nm,0.3s,baz=96,slow=9.5,SNR=41							
FITZ				Sn	Sn	03 04 16.1	-6.2
4.3nm,0.3s,baz=297,slow=13,SNR=9.7							
FITZ				Lg	Lg	03 05 05.4	
2.5nm,0.3s,baz=173,slow=15,SNR=6.2							
FITZ	**Fitzroy Crossi**	**8.12**	**282**	P	**Pn**	**03 02 52.3**	**+1.8**
baz=8.0,SNR=11							
FITZ				S	**Sn**	**03 04 18.4**	**-3.9**
baz=8.0,SNR=5.0							
MTSU	**Mount Surprise**	**9.92**	**81**	P	Pn	03 03 21.2	+5.9
baz=10,SNR=5.6							
COEN	**Coen**	**10.60**	**57**	P	**Pn**	**03 03 26.9**	**+2.3**
baz=11,SNR=6.7							
COEN				S	**Sn**	**03 05 21.8**	**-1.6**
baz=11,SNR=4.0							
CTA	**Charters Tower**	**11.52**	**93**	Sn	**Sn**	**03 05 42.7**	**-3.2**
0.2nm,0.3s,baz=221,slow=20,SNR=2.0							
CTA				Lg	Lg	03 06 58.2	
0.6nm,0.3s,baz=211,slow=13,SNR=3.7							
STKA	**Stephens Creek**	**13.70**	**152**	Pn	**Pn**	**03 04 09.6**	**+2.7**
0.3nm,0.3s,baz=330,slow=14,SNR=4.2							
STKA				Sn	**Sn**	**03 06 34.6**	**-4.6**
0.2nm,0.3s,baz=291,slow=17,SNR=1.6							
MEEK	**Meekatharra**	**15.62**	**242**	P	**Pn**	**03 04 32.6**	**-0.3**
baz=16,SNR=4.3							
KLBR	**Kellerberrin**	**18.64**	**228**	P	**P**	**03 05 10.4**	**-0.1**
baz

RAMN	Ramite	12.59 330	eP	Pn		03 22 08.1	-2.0
JIRN	Jiri	13.38 330	eP	Pn		03 22 19.3	-1.7
PKI	Pulchoki	13.70 327	eP	Pn		03 22 23.1	-2.2
	20nm,0.4s						
PKIN	Phulchoki	13.71 327	eP	Pn		03 22 22.5	-2.9
GUN	Gumba	13.74 330	eP	Pn		03 22 24.4	-1.5
	15nm,0.4s						
DMN	Daman	13.89 326	eP	Pn		03 22 24.5	-3.3
KOLN	Koldanda	14.86 323	eP	Pn		03 22 37.2	-3.7
	10nm,0.2s						
PALK	Pallekele	15.48 237	eP	Pn		03 22 46.8	-2.3
	24nm,1.0s						
ENH	Enshi	20.16 43	eP	P		03 23 44.6	+0.1
	14nm,0.8s						
KKM	Kota Kinabalu	24.25 112	eP	P		03 24 27.4	+0.1
	36nm,1.1s						
EKS2	Erkin-Say	31.43 331	eP	P		03 25 32.2	+1.0
	9.2nm,1.2s						
MK31	Makanchi Array	31.98 345	eP	P		03 25 36.8	+0.9
MKAR	Makanchi Array	31.98 345	P	P		03 25 37.0	+1.1
MKAR	Makanchi Array	31.98 345	P	P		03 25 37.0	+1.1
	1.2nm,0.7s,baz=154,slow=9.7,SNR=8.4						
SONM	Songino Array	33.27 16	P	P		03 25 48.1	+0.8
SONM	Songino Array	33.27 16	P	P		03 25 48.1	+0.8
	1.3nm,0.6s,baz=205,slow=9.5,SNR=9.5						
KURBB	Kurchatov Arra	36.48 344	P	P		03 26 15.5	+0.7
	2.2nm,0.9s,baz=163,slow=8.6,SNR=9.9						
KURK	Kurchatov	36.54 344	P	P		03 26 15.5	+0.2
ZALV	Zalesovo Beam	38.33 352	P	P		03 26 31.0	+0.5
ZALV	Zalesovo Beam	38.33 352	P	P		03 26 31.0	+0.5
	1.7nm,0.5s,baz=180,slow=6.9,SNR=8.1						
BRVK	Borovoye	41.16 339	eP	P		03 26 54.5	+0.5
	2.8nm,0.7s						
ABKAR	Akbulak array	42.90 328	eP	P		03 27 09.2	+1.0
	1.2nm,0.4s						
FITZ	Fitzroy Crossi	46.36 136	P	P		03 27 36.0	-0.3
FITZ	Fitzroy Crossi	46.36 136	P	P		03 27 36.0	-0.3
	1.9nm,0.7s,baz=343,slow=4.3,SNR=6.6						
WRA	Warramunga Arr	53.69 130	P	P		03 28 31.4	-0.6
WRA		PcP	PcP	PcP		03 29 38.2	+0.3
WRA	Warramunga Arr	53.69 130	P	P		03 28 31.4	-0.6
	3.1nm,0.6s,baz=310,slow=7.6,SNR=30						
WRA		PcP	PcP	PcP		03 29 38.2	+0.3
	0.8nm,0.8s,baz=320,slow=3.9,SNR=3.6						
WRAB	Tennant Creek	53.70 130	eP	P		03 28 31.3	-0.6
	6.5nm,0.9s						
AS31	Alice Springs	55.78 134	eP	P		03 28 46.9	-0.1
ASAR	Alice Springs	55.78 134	P	P		03 28 46.8	-0.2
ASAR	Alice Springs	55.78 134	P	P		03 28 46.8	-0.2
	3.1nm,0.5s,baz=312,slow=6.8,SNR=39						
BR131	Keskin Array S	56.90 307	eP	P		03 28 55.1	+0.1
	0.8nm,0.6s						
BRTR	Keskin Array B	56.90 307	P	P		03 28 55.4	+0.3
BRTR	Keskin Array B	56.90 307	P	P		03 28 55.4	+0.3
	0.6nm,0.7s,baz=120,slow=7.3,SNR=4.2						
COEN	Coen	57.33 119	eP	P		03 28 57.7	-0.5
	21nm,0.7s						
KMBO	Kilima Mbogo	58.28 258	eP	P		03 29 04.9	-0.3
FINES	FINESS Array B	65.26 331	P	P		03 29 50.9	-0.2
FINES	FINESS Array B	65.26 331	P	P		03 29 50.9	-0.2
	1.0nm,0.6s,baz=160,slow=6.1,SNR=5.9						
ARCES	ARCESS Array B	67.38 339	P	P		03 30 04.9	+0.4
ARCES	ARCESS Array B	67.38 339	P	P		03 30 04.9	+0.4
	1.5nm,0.9s,baz=88,slow=7.6,SNR=3.2						
LSZ	Lusaka	71.82 248	eP	P		03 30 34.0	+1.0
	8.4nm,1.3s						
KEST	Kesra	76.24 304	eP	P		03 30 58.4	-0.1
KEST	Kesra	76.24 304	P	P		03 30 59.5	+1.0
	0.3nm,0.4s,baz=56,slow=11,SNR=3.9						
BOSA	Boshof	79.71 236	P	P		03 31 18.2	+0.3
BOSA	Boshof	79.71 236	P	P		03 31 18.2	+0.3
	2.2nm,0.6s,baz=69,slow=2.9,SNR=3.6						
COLA	College	86.86 22	eP	P		03 31 53.7	-0.2
	7.5nm,0.7s						
ILAR	Eielson Array	87.27 22	P	P		03 31 55.4	-0.5
ILAR	Eielson Array	87.27 22	P	P		03 31 55.4	-0.5
	0.4nm,0.6s,baz=292,slow=5.6,SNR=8.9						
TORD	Torodi Ar. Bea	88.29 283	P	P		03 32 02.0	+0.2
TORD	Torodi Ar. Bea	88.29 283	P	P		03 32 02.0	+0.2
	0.3nm,0.6s,baz=70,slow=3.6,SNR=7.3						
DBIC	Dimbokro	96.31 279	eP	P		03 32 37.5	-1.4
	16nm,1.5s						
YKW3	Yellowknife Ar	98.44 13	eP		Pdif	03 32 48.9	+1.4
TPAW	Teton Pass	116.48 20	ePKPdf		PKPdf	03 37 55.3	+1.3
NVAR	Mina Array Bea	117.95 28	PKP		PKPdf	03 37 58.4	+1.5
NVAR	Mina Array Bea	117.95 28	PKP		PKPdf	03 37 58.4	+1.5
	0.3nm,0.6s,baz=266,slow=2.5,SNR=3.3						
TXAR	Lajitas Array	131.76 20	PKP		PKPdf	03 38 24.9	+1.5
TXAR	Lajitas Array	131.76 20	PKP		PKPdf	03 38 24.9	+1.5
	0.2nm,0.4s,baz=182,slow=1.3,SNR=4.8						
HKT	Hockley	133.24 11	ePKPdf		PKPdf	03 38 26.0	+0.1

MOS ***05*** *03:58:32.9±1.0, 14°.90S×70°.29W, h155km, mb5.4/85, Error ellipse: s-maj=7.5km s-min=5.4km az=99.7*
ISCJB ***05*** *03:58:34.0±0.8, 15°.18S±0°.03×70°.39W±0°.03, h175km±7km, mb5.2/299, Error ellipse: s-maj=5.8km s-min=3.5km az=37.0*
IDC ***05*** *03:58:36.6±0.6, 15°.24S×70°.42W, h186km±4km, mb5.0/26, mb1 5.1/31, mb1mx5.1/32, mbtmp5.0/31, MS4.7/7, Ms1 4.6/7, ms1mx4.2/32, Error ellipse: s-maj=10.4km s-min=7.3km az=67.0*
IGIL ***05*** *03:58:39.9, 15°.09S×70°.24W, h211km, mb5.4*
LDG ***05*** *03:58:39.1±0.6, 14°.94S×70°.24W, h210km, Mb5.0/37, Ms4.6/12, Error ellipse: s-maj=38.2km s-min=14.8km az=31.0*
NEIC ***05*** *03:58:39.5±0.1, 15°.12S×70°.25W, mb5.2/204, MW5.8, MW5.8, Error ellipse: s-maj=5.0km s-min=3.2km az=47.0, Moment Tensor Solution. s52 Moment tensor: Scale 10^{17}Nm; M_{rr}-3.16; $M_{\theta\theta}$4.61; $M_{\phi\phi}$-1.45; $M_{r\theta}$3.04; $M_{\theta\phi}$-0.80; $M_{\phi r}$-2.89; Best double couple: $M_0$5.90000×10^{17} NP1: ϕ_s305.00000°, δ71.00000°, λ-64.00000°. NP2:ϕ_s68.00000°, δ32.00000°, λ-142.00000°. Principal axes: T 6.0800, Plg21.0000°, Azm14.0000°; N -0.3500, Plg24.0000°, Azm115.0000°; P -5.7300, Plg55.0000°, Azm248.0000°;*
NEIC Felt [III] at Ilo and Mollendo; [II] at Moquegua, Puno and Tacna. Also felt at Dios, Juliaca and Puerto Maldonado. Felt [III] at Alto Hospicio, Camina, Iquique and Pisagua; [II] at Arica, Cuya, Huara, Pica and Pozo Almonte, Chile. Felt at La Paz, Bolivia.
TEH ***05*** *03:58:40.0, 15°.09S×70°.19W, h215km, ML5.2*
GCMT ***05*** *03:58:41.6±0.1, 15°.46S×70°.68W, h210km, MW5.8, Moment Tensor Solution. s103,c203; s60,c69; Moment tensor: Scale 10^{17}Nm; M_{rr}-3.00±.05; $M_{\theta\theta}$3.72±.06; $M_{\phi\phi}$-0.72±.06; $M_{r\theta}$3.40±.05; $M_{\theta\phi}$-0.74±.06; $M_{\phi r}$-2.87±.05; Best double couple: $M_0$5.70000×10^{17} NP1:ϕ_s304.00000°, δ73.00000°, λ-71.00000°. NP2:ϕ_s74.00000°, δ25.00000°, λ-136.00000°. Principal axes: T 5.6900, Plg26.0000°, Azm19.0000°; N -0.0600, Plg18.0000°, Azm118.0000°; P -5.6300, Plg58.0000°, Azm239.0000°; Data Used: II IU CN IC G. Surface waves: sta=112, comp=242, per= 50.*
NEIC ***05*** *03:58:50.0±0.0, 14°.99S×66°.10W, h185km, Moment Tensor Solution. s118 Moment tensor: Scale 10^{17}Nm; M_{rr}-2.51; $M_{\theta\theta}$4.39; $M_{\phi\phi}$-1.88; $M_{r\theta}$2.50; $M_{\theta\phi}$-1.22; $M_{\phi r}$-2.88; Best double couple: $M_0$5.50000×10^{17} NP1:ϕ_s312.00000°, δ73.00000°, λ-56.00000°. NP2:ϕ_s66.00000°, δ36.00000°, λ-150.00000°. Principal axes: T 5.7900, Plg21.0000°, Azm17.0000°; N -0.5700, Plg31.0000°, Azm121.0000°; P -5.2200, Plg50.0000°, Azm258.0000°;*
SZGRF ***05*** *03:59:04.6, 11°.99S×66°.10W, h215km, mb5.6, Northern Bolivia*

ISC 05 03:58:39.1±0.2, 15°.25S±0°.03×70°.38W±0°.04, h209km±1km, h209km;pP-P,n1241,σ1§25/1490, mb5.2/295, 17C-8D, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.40**	**116**	*e*Pn	**Pn**	**03 59 23.3**	**+0.2**
LPAZ				*e*Sn	**S**	**03 59 55.5**	**-1.4**
LPAZ				S	S	03 59 56.5	-0.7
LPAZ	**La Paz**	**2.40**	**116**	P	**Pn**	**03 59 23.4**	**+0.2**
	2μm,0.3s,baz=296,slow=10						
LPAZ				S	**S**	**03 59 56.5**	**-0.4**
	658nm,0.3s,baz=198,slow=24,SNR=11						
LPAZ				LR	LR	04 00 14.4	
	comp=Z,13μm,19.0s,baz=3.8,slow=40						
NNA	**Nana**	**7.07**	**297**	Pn	Pn	04 00 16.0	-4.4
	8μm,0.4s,SNR=78						
NNA	**Nana**	**7.07**	**297**	*e*Pn	Pn	04 00 15.8	-4.6
NNA				*e*Sn	S	04 01 29.1	-12
NNA	**Nana**	**7.07**	**297**	P	Pn	04 00 15.9	-4.4
	132nm,0.3s,baz=127,slow=10,SNR=206						
NNA				S	S	04 01 30.6	-10
	87nm,0.3s,baz=144,slow=12,SNR=3.8						
LVC	**Limon Verde**	**7.45**	**169**	*e*Pn	Pn	04 00 20.6	-5.0
	3μm,0.4s						
LVC				*e*S	S	04 01 38.9	-12
SIV	**San Ignacio**	**9.00**	**96**	P	**Pn**	**04 00 44.9**	**-0.5**
SIV				S	**S**	**04 02 26.4**	**-0.3**
SIV	**San Ignacio**	**9.00**	**96**	P	**Pn**	**04 00 44.9**	**-0.5**
	36nm,0.3s,baz=289,slow=12,SNR=489						
SIV				S	**S**	**04 02 26.4**	**-0.3**
	8.6nm,0.3s,baz=208,slow=17,SNR=5.0						
SAML	**Samuel**	**9.42**	**49**	*e*Pn	**Pn**	**04 00 50.8**	**-0.1**
	751nm,0.9s						
SAML				*e*Sn	**S**	**04 02 35.7**	**-1.0**
ATAH	**Atahualpa**	**11.26**	**315**	P	**Pn**	**04 01 12.8**	**-2.0**
ATAH	**Atahualpa**	**11.26**	**315**	P	**Pn**	**04 01 12.8**	**-2.0**
	2.5nm,0.3s,baz=132,slow=9.6,SNR=64						
LCO	**Las Campanas**	**13.70**	**181**	*e*Pn	Pn	04 01 41.1	-4.1
LCO				*e*S	S	04 04 08.9	-8.4
CFAA	**Coronel Fontan**	**16.40**	**174**	P	**P**	**04 02 15.7**	**-1.1**
CFAA				S	S	04 05 05.5	-13
CFAA				ScP	**ScP**	**04 10 13.5**	**+1.8**
CFAA	**Coronel Fontan**	**16.40**	**174**	P	**P**	**04 02 15.7**	**-1.1**
	2.4nm,0.3s,baz=348,slow=11,SNR=227						
CFAA				S	S	04 05 05.5	-13
	1.0nm,0.3s,baz=243,slow=16,SNR=4.1						
CFAA				ScP	**ScP**	**04 10 13.5**	**+1.8**
	0.0nm,0.3s,baz=298,slow=3.8,SNR=4.6						
CPUP	**Villa Florida**	**16.43**	**134**	*e*P	**P**	**04 02 15.4**	**-1.8**
	687nm,0.8s						
CPUP	**Villa Florida**	**16.43**	**134**	P	**P**	**04 02 15.6**	**-1.6**
	22nm,0.3s,baz=297,slow=11,SNR=196						
OTAV	**Otavalo**	**17.33**	**332**	*e*P	**Pn**	**04 02 29.1**	**-0.4**
ROSC	**El Rosal**	**20.36**	**349**	*e*P	**P**	**04 02 59.1**	**-1.2**
ROSC	**El Rosal**	**20.36**	**349**	P	**P**	**04 02 58.9**	**-1.4**
	12nm,0.3s,baz=125,slow=5.8,SNR=11						
BDFB	**Brasilia**	**21.57**	**94**	*e*P	**P**	**04 03 12.4**	**-0.2**
BDFB	**Brasilia**	**21.57**	**94**	P	**P**	**04 03 12.2**	**-0.5**
	93nm,0.5s,baz=262,slow=12,SNR=184						
LPA	**La Plata**	**22.55**	**152**	*e iP*	**P**	**04 03 21.0**	**-0.6**
LPA				pP	pP	04 04 05.0	+6.8
LPA				sP	**sP**	**04 04 27.0**	**+2.4**
LPA				S	**S**	**04 07 15.0**	**+2.1**
LPA				S(2)		04 07 20.0	
LPA				sS	sS	04 08 27.0	+7.9
LPA				SCS	**ScS**	**04 14 10.0**	**-1.3**
LPA				PKIKS		04 18 27.0	
TRQA	**Tornquist**	**23.90**	**163**	*e*P	**P**	**04 03 31.3**	**-2.6**
	495nm,1.3s						
SDV	**Santo Domingo**	**23.98**	**359**	*e*P	**P**	**04 03 34.4**	**-0.6**
	212nm,0.9s						
PLCA	**Paso Flores**	**25.39**	**180**	*e*P	**P**	**04 03 45.5**	**-1.9**
	328nm,1.0s						
PLCA				pP	**pP**	**04 04 24.5**	**-4.1**
PLCA				ScP	**ScP**	**04 10 36.2**	**+2.7**
PLCA	**Paso Flores**	**25.39**	**180**	P	**P**	**04 03 45.8**	**-1.6**
	117nm,0.5s,baz=354,slow=9.8,SNR=216						
PLCA				pP	**pP**	**04 04 24.5**	**-4.1**
	227nm,1.2s,baz=21,slow=9.6,SNR=4.4						
PLCA				ScP	**ScP**	**04 10 36.2**	**+2.7**
	6.8nm,0.8s,baz=59,slow=1.7,SNR=4.3						
BCIP	**Isla Barro Col**	**26.01**	**338**	*e*P	**P**	**04 03 53.8**	**+0.7**
	1μm,1.9s						
BESB	**Sao Joao Dos P**	**27.66**	**75**	↓*iP*	**P**	**04 04 09.9**	**+2.0**
BESB				*i*		04 04 15.4	
BESB				*i*		04 04 45.2	
BESB				*i*		04 04 53.9	
BESB				*i*		04 04 57.3	
BESB				*i*		04 05 01.2	
BESB				*i*		04 05 18.2	
BESB				*i*		04 05 23.2	
BESB				*i*		04 05 48.0	
JTS	**JuntasAbangare**	**29.20**	**330**	P	**P**	**04 04 23.0**	**+1.5**
	325nm,1.0s,SNR=11						
BBGH	**Gun Hill**	**30.18**	**21**	*e*P	**P**	**04 04 28.8**	**-1.2**
	594nm,1.3s						
CRPR	**Cabo Rojo, PR**	**33.21**	**6**	*e*P	**P**	**04 04 55.2**	**-1.2**
CDVI	**St. Croix**	**33.26**	**10**	*e*P	**P**	**04 04 56.8**	**-0.1**
	216nm,0.6s						
CELP	**Cerrillos**	**33.33**	**7**	*e*P	**P**	**04 04 57.9**	**+0.4**
LSP	**Las Mesas**	**33.38**	**6**	*e*P	**P**	**04 04 57.1**	**-0.9**
MPR	**Mayaguez**	**33.41**	**6**	*e*P	**P**	**04 04 56.8**	**-1.3**
	74nm,0.8s						
SJG	**San Juan**	**33.41**	**7**	*e*P	**P**	**04 04 55.9**	**-2.3**
	49nm,0.7s						
MTP	**Monte Pirata**	**33.48**	**8**	*e*P	**P**	**04 04 56.7**	**-2.1**
	76nm,0.7s						
HUMP	**Col San Antoni**	**33.48**	**8**	*e*P	**P**	**04 04 57.7**	**-1.1**
	55nm,0.6s						
LRS	**Lares**	**33.51**	**6**	*e*P	**P**	**04 04 57.5**	**-1.6**
LRS				*e*PcP	**PcP**	**04 07 35.1**	**0.0**
CBYP	**Canovanas**	**33.61**	**8**	*e*P	**P**	**04 04 57.9**	**-2.2**
	161nm,0.7s						
CBYP				*e*PcP	**PcP**	**04 07 34.8**	**-0.6**
RCBR	**Riachuelo**	**35.12**	**78**	*e*P	**P**	**04 05 13.5**	**+0.4**
	433nm,0.8s						
RCBR				*e*ScP	**ScP**	**04 11 08.0**	**+2.2**
GTBY	**Guantanamo Bay**	**35.27**	**352**	*e*P	**P**	**04 05 12.5**	**-1.6**
	51nm,1.0s						
EFI	**East Falkland**	**37.65**	**167**	P	**P**	**04 05 33.6**	**-0.3**
	2μm,0.8s,SNR=17						
EFI	**East Falkland**	**37.65**	**167**	*e*P	**P**	**04 05 33.0**	**-0.9**
EFI				*e*		04 07 46.8	
EFI				pmax	pmax		
	comp=Z,850nm,1.1s						
EFI	**East Falkland**	**37.65**	**167**	*e*P	**P**	**04 05 33.0**	**-0.9**
	comp=Z,850nm,1.1s						
EFI				*e*PcP	**PcP**	**04 07 46.8**	**0.0**
TEIG	**Tepich**	**39.40**	**333**	*e*P	**P**	**04 05 48.8**	**-0.1**
	comp=Z,226nm,0.7s						
TEIG				*e*ScP	**ScP**	**04 11 23.0**	**+1.4**
TEIG				ScP	**ScP**	**04 11 24.9**	**+3.3**
TEIG	**Tepich**	**39.40**	**333**	P	**P**	**04 05 49.0**	**+0.2**
	comp=Z,210nm,0.6s,baz=168,slow=2.5,SNR=180						
TEIG				ScP	**ScP**	**04 11 24.9**	**+3.3**
	comp=Z,18nm,0.9s,baz=164,slow=2.0,SNR=4.9						
USHA	**Ushuaia**	**39.52**	**178**	P	**P**	**04 05 49.0**	**-0.5**
USHA	**Ushuaia**	**39.52**	**178**	P	**P**	**04 05 49.0**	**-0.5**
	comp=Z,182nm,0.6s,baz=350,slow=5.9,SNR=142						
DWPF	**Disney**	**44.41**	**346**	*e*P	**P**	**04 06 28.6**	**-0.7**
	comp=Z,209nm,0.8s						
TIGA	**Tifton**	**48.12**	**345**	*e*P	**P**	**04 06 57.0**	**-1.1**
TIGA	**Tifton**	**48.12**	**345**	P	**P**	**04 06 57.0**	**-1.1**
	baz=48,SNR=23						
BRAL	**Brewton**	**48.71**	**341**	*e*P	**P**	**04 07 02.7**	**+0.1**
	comp=Z,274nm,0.6s						
PMSA	**Palmer Station**	**49.66**	**176**	*e*P	**P**	**04 07 09.3**	**0.0**
	comp=Z,400nm,1.3s						
PMSA				*e*pP	**pP**	**04 07 55.6**	**+0.5**
PMSA				*e*PcP	**PcP**	**04 08 27.9**	**+0.6**
PMSA	**Palmer Station**	**49.66**	**176**	P	**P**	**04 07 09.5**	**+0.2**
	comp=Z,175nm,1.0s,baz=0.9,slow=5.9,SNR=36						
KVTX	**Kingsville**	**50.22**	**328**	*e*P	**P**	**04 07 15.0**	**+1.0**
	comp=Z,150nm,1.0s						
LRAL	**Lakeview Retre**	**50.57**	**342**	*e*P	**P**	**04 07 14.6**	**-1.9**
	comp=Z,53nm,0.6s						
LRAL				*e*ScP	**ScP**	**04 12 10.1**	**+2.7**
LRAL				*e*S	**S**	**04 14 11.9**	**-2.8**
VBMS	**Vicksburg**	**50.99**	**338**	*e*P	**P**	**04 07 19.2**	**-0.5**
	comp=Z,158nm,0.7s						
KMSC	**Kings Mountain**	**51.18**	**348**	*e*P	**P**	**04 07 19.6**	**-1.5**
KMSC				*e*PcP	**PcP**	**04 08 33.1**	**-0.3**
KMSC	**Kings Mountain**	**51.18**	**348**	P	**P**	**04 07 20.0**	**-1.1**
	baz=51,SNR=28						
HKT	**Hockley**	**51.20**	**331**	*e*P	**P**	**04 07 21.4**	**+0.1**
HKT				*e*S	**S**	**04 14 22.8**	**-0.6**
HKT				pmax	pmax		
	comp=Z,253nm,1.9s						
HKT	**Hockley**	**51.20**	**331**	*e*P	**P**	**04 07 21.4**	**+0.1**
	comp=Z,252nm,1.9s						
HKT				*e*ScP	**ScP**	**04 12 12.9**	**+2.9**
HKT				*e*S	**S**	**04 14 22.8**	**-0.6**
CPCT	**Cooper Cave**	**52.18**	**345**	*e*P	**P**	**04 07 26.9**	**-1.6**
CPCT				*e*PcP	**PcP**	**04 08 37.0**	**-0.2**
CPCT				*e*PP	**PP**	**04 09 28.5**	**-0.8**
CPCT				*e*ScP	**ScP**	**04 12 16.8**	**+2.5**
TKL	**Tuckaleechee C**	**52.20**	**346**	*e*P	**P**	**04 07 27.0**	**-1.7**
NATX	**Nacogdoches**	**52.23**	**334**	*e*P	**P**	**04 07 29.2**	**+0.3**
	comp=Z,341nm,0.8s						
732A	**Laxson Ranch,**	**52.25**	**327**	P	**P**	**04 07 28.7**	**-0.5**
	baz=52,SNR=12						
SWET	**Sewanee**	**52.31**	**344**	*e*P	**P**	**04 07 27.2**	**-2.4**
	comp=Z,89nm,0.7s						
SWET				*e*ScP	**ScP**	**04 12 16.8**	**+1.9**
OXF	**Oxford**	**52.69**	**340**	*e*P	**P**	**04 07 29.8**	**-2.5**
OXF				*e*S	**S**	**04 14 39.0**	**-4.7**
OXF				pmax	pmax		
	comp=Z,50nm,0.4s						
OXF	**Oxford**	**52.69**	**340**	*e*P	**P**	**04 07 29.8**	**-2.5**
	comp=Z,50nm,0.4s						
OXF				*e*ScP	**ScP**	**04 12 16.8**	**+0.3**
OXF				*e*S	**S**	**04 14 39.0**	**-4.7**
632A	**Uvalde**	**52.78**	**327**	P	**P**	**04 07 32.6**	**-0.4**
	baz=53,SNR=90						
TZTN	**Tazewell**	**52.99**	**347**	*e*P	**P**	**04 07 32.6**	**-1.9**
	comp=Z,28nm,0.7s						
TZTN				*e*ScP	**ScP**	**04 12 18.1**	**+0.3**
BLA	**Blacksburg**	**53.03**	**350**	*e*P	**P**	**04 07 33.5**	**-1.2**
BLA				pmax	pmax		
	comp=Z,119nm,1.4s						
BLA	**Blacksburg**	**53.03**	**350**	*e*P	**P**	**04 07 33.5**	**-1.2**
	comp=Z,119nm,1.4s						
BLA				*e*ScP	**ScP**	**04 12 20.9**	**+2.9**
631A	**Perdido Creek**	**53.12**	**327**	P	**P**	**04 07 34.5**	**-1.0**
	baz=53,SNR=176						
JSRW	**J. Sargeant Re**	**53.13**	**353**	*e*P	**P**	**04 07 34.8**	**-0.6**
JSRW				*e*PcP	**PcP**	**04 08 41.0**	**+0.3**
532A	**Rocksprings**	**53.34**	**328**	P	**P**	**04 07 36.7**	**-0.5**
	baz=54,SNR=105						
JCT	**Junction City**	**53.57**	**328**	*e*P	**P**	**04 07 38.0**	**-0.7**
	comp=Z,43nm,0.7s						
JCT	**Junction City**	**53.57**	**328**	P	**P**	**04 07 38.2**	**-0.6**
	baz=54,SNR=42						
CBN	**Corbin**	**53.58**	**353**	*e*P	**P**	**04 07 36.9**	**-1.7**
	comp=Z,23nm,0.4s						
CBN				*e*PcP	**PcP**	**04 08 42.7**	**+0.4**
WHTX	**Lake Whitney**	**53.67**	**331**	*e*P	**P**	**04 07 39.4**	**0.0**
WHTX				*e*pP	**pP**	**04 08 27.2**	**+1.3**
WHTX				*e*ScP	**ScP**	**04 12 24.0**	**+3.2**
WHTX	**Lake Whitney**	**53.67**	**331**	P	**P**	**04 07 39.5**	**0.0**
	baz=54,SNR=61						
531A	**Rocksprings**	**53.70**	**327**	P	**P**	**04 07 39.5**	**-0.3**
	baz=54,SNR=128						
WVT	**Waverly**	**53.70**	**342**	*e*P	**P**	**04 07 37.4**	**-2.2**
WVT				pmax	pmax		
	comp=Z,78nm,0.7s						
WVT	**Waverly**	**53.70**	**342**	*e*P	**P**	**04 07 37.4**	**-2.2**
	comp=Z,78nm,0.7s						
WVT				*e*ScP	**ScP**	**04 12 22.4**	**+1.5**
432A	**Menard**	**53.88**	**328**	P	**P**	**04 07 40.5**	**-0.5**
	baz=54,SNR=85						
UALR	**University of**	**53.95**	**338**	*e*P	**P**	**04 07 40.4**	**-1.0**
	comp=Z,163nm,0.9s						
HALT	**Halls**	**53.96**	**341**	*e*P	**P**	**04 07 38.6**	**-2.8**
HBAR	**Harrisburg**	**54.06**	**340**	*e*P	**P**	**04 07 40.9**	**-1.3**
530A	**J-C Ranch, Com**	**54.10**	**327**	P	**P**	**04 07 41.9**	**-0.8**
	baz=54,SNR=111						
431A	**Sonora**	**54.14**	**328**	P	**P**	**04 07 42.1**	**-0.9**
	baz=54,SNR=155						
MIAR	**Mount Ida**	**54.21**	**336**	*e*P	**P**	**04 07 41.8**	**-1.5**
MIAR				pmax	pmax		
	comp=Z,65nm,0.7s						
MIAR	**Mount Ida**	**54.21**	**336**	*e*P	**P**	**04 07 41.8**	**-1.5**
	comp=Z,65nm,0.7s						
GNAR	**Gosnell**	**54.22**	**340**	*e*P	**P**	**04 07 42.0**	**-1.3**
	comp=Z,616nm,0.7s						
GNAR				*e*ScP	**ScP**	**04 12 26.2**	**+3.1**
332A	**Millersview**	**54.27**	**329**	P	**P**	**04 07 43.2**	**-0.6**
	baz=54,SNR=150						
GLAT	**Glass**	**54.27**	**341**	*e*P	**P**	**04 07 42.1**	**-1.6**
628A	**Black Gap, Mar**	**54.43**	**325**	P	**P**	**04 07 44.8**	**-0.2**
	baz=55,SNR=118						
331A	**San Angelo**	**54.55**	**328**	P	**P**	**04 07 45.1**	**-0.8**
	baz=55,SNR=76						
430A	**Baggett Ranch,**	**54.55**	**327**	P	**P**	**04 07 45.0**	**-0.9**
	baz=55,SNR=94						
529A	**Stev Forest Ra**	**54.56**	**326**	P	**P**	**04 07 45.5**	**-0.5**
	baz=55,SNR=24						
232A	**Coleman**	**54.63**	**329**	P	**P**	**04 07 46.0**	**-0.4**
	baz=55,SNR=44						
627A	**Terlingua Ranc**	**54.68**	**324**	P	**P**	**04 07 46.4**	**-0.6**
	baz=55						
SDMD	**Soldier's Deli**	**54.71**	**354**	*e*P	**P**	**04 07 44.9**	**-1.9**
	comp=Z,17nm,0.9s						
SDMD				*e*PcP	**PcP**	**04 08 46.9**	**+0.2**
TXAR	**Lajitas Array**	**54.75**	**324**	P	**P**	**04 07 46.5**	**-0.9**
TXAR				⇑*e*		04 38 07.6	
TXAR	**Lajitas Array**	**54.75**	**324**	P	**P**	**04 07 46.5**	**-0.9**
	comp=Z,12nm,0.6s,baz=150,slow=8.5,SNR=195						
TXAR				PKP2bc		04 38 07.6	
	comp=Z,1.3nm,1.0s,baz=11,slow=0.9,SNR=8.5						
429A	**Davenport Ranc**	**54.77**	**327**	P	**P**	**04 07 46.9**	**-0.6**
	baz=55,SNR=167						
PARMO	**Parma**	**54.78**	**341**	*e*P	**P**	**04 07

baz=56,SNR=9.9
ACSO **Alum Creek Sta** 56.43 348 *e*P P 04 07 56.7 -2.3
comp=Z,72nm,0.9s
ACSO *e*pP pP 04 08 46.9 +0.9
ACSO *e*PcP PcP 04 08 53.4 0.0
326A **Caldwell Ranch** 56.43 325 P P 04 07 58.5 -0.9
baz=57,SNR=57
Z30A **Sanderson Ranc** 56.49 329 P P 04 07 58.7 -1.0
baz=57,SNR=109
WMOK **Wichita Mounta** 56.57 332 *e*P P 04 07 59.3 -0.8
WMOK *e* 04 08 54.5
WMOK *e*S S 04 15 32.9 -2.5
WMOK pmax pmax
comp=Z,77nm,0.8s
WMOK **Wichita Mounta** 56.57 332 *e*P P 04 07 59.3 -0.8
comp=Z,77nm,0.8s
WMOK *e*PcP PcP 04 08 54.5 +0.3
WMOK *e*S S 04 15 32.9 -2.5
425A **Indio Mountain** 56.59 324 P P 04 07 59.7 -0.9
baz=57,SNR=83
227A **Bennet, Jal** 56.60 326 P P 04 07 59.9 -0.6
baz=57,SNR=46
Y31A **Rekieta Farm,** 56.62 330 P P 04 08 00.0 -0.5
baz=57,SNR=235
128A **Castleberry Fa** 56.65 328 P P 04 07 59.7 -1.1
baz=57,SNR=46
SLM **Saint Louis** 56.74 341 *e*P P 04 07 59.8 -1.4
SLM pmax pmax
comp=Z,78nm,0.9s
SLM **Saint Louis** 56.74 341 *e*P P 04 07 59.8 -1.4
comp=Z,78nm,0.9s
Z29A **Hungry Hill Ra** 56.76 329 P P 04 08 00.4 -1.2
baz=57,SNR=50
Y30A **Stafford Cattl** 56.85 330 P P 04 08 01.1 -1.1
baz=57,SNR=8.9
BRYW **Bryant College** 56.89 359 *e*P P 04 08 00.5 -1.8
comp=Z,55nm,0.8s
BRYW *e*pP pP 04 08 49.0 -0.3
325A **Bean Ranch, Si** 57.02 325 P P 04 08 02.7 -0.9
baz=57,SNR=93
X31A **McDonald Ranch** 57.03 331 P P 04 08 02.6 -0.8
baz=57
CLNB **Carlsbad** 57.11 326 *e*P P 04 08 04.4 +0.3
comp=Z,32nm,0.7s
226B **Tecolote Peak,** 57.12 326 P P 04 08 04.0 -0.2
baz=57,SNR=124
Z28A **Tucker Farm, M** 57.13 328 P P 04 08 02.8 -1.4
baz=57,SNR=44
127A **Arkansas Junct** 57.15 327 P P 04 08 03.4 -1.0
baz=57,SNR=24
Y29A **Porterfield Fa** 57.22 329 P P 04 08 03.9 -0.9
baz=57,SNR=51
X30A **Coker Ranch, T** 57.30 330 P P 04 08 04.4 -0.9
baz=58,SNR=107
GDL2 **Guadalupe Moun** 57.32 326 *e*P P 04 08 05.7 +0.1
comp=Z,33nm,0.8s
ALLY **Alegheny Colle** 57.33 351 *e*P P 04 08 03.6 -1.7
comp=Z,86nm,0.8s
WES **Weston** 57.35 359 *e*P P 04 08 03.5 -1.9
WES *e**PP pP 04 08 51.9 -0.7
WES pmax pmax
comp=Z,20nm,0.9s
WES **Weston** 57.35 359 *e*P P 04 08 03.5 -1.9
comp=Z,20nm,0.9s
WES *e*pP pP 04 08 51.9 -0.7
324A **Moseley Ranch,** 57.37 324 P P 04 08 04.3 -1.6
baz=58,SNR=69
BINY **Binghamton** 57.40 355 *e*P P 04 08 04.3 -1.4
comp=Z,35nm,0.7s
W31A **Holland Ranch,** 57.47 331 P P 04 08 05.9 -0.6
baz=58,SNR=30
126A **Clayton Basin,** 57.48 326 P P 04 08 06.1 -0.6
baz=58,SNR=49
HRV **Adam Dziewonsk** 57.48 359 *e*P P 04 08 04.8 -1.5
HRV pmax pmax
comp=Z,28nm,0.8s
HRV **Adam Dziewonsk** 57.48 359 *e*P P 04 08 04.8 -1.5
comp=Z,28nm,0.8s
SFIN **Scholer Farm** 57.49 345 *e*P P 04 08 03.1 -3.3
SFIN **Scholer Farm** 57.49 345 P P 04 08 03.3 -3.1
baz=58,SNR=22
MNTX **Cornudas Mount** 57.50 325 *e*P P 04 08 05.6 -1.1
comp=Z,18nm,0.8s
MNTX *e*pP pP 04 08 53.9 0.0
225A **Deer Hill, Car** 57.50 325 P P 04 08 06.3 -0.7
baz=58,SNR=88
Y28A **McKinney Farm,** 57.55 329 P P 04 08 06.2 -0.9
baz=58,SNR=16
Z27A **Tatum** 57.57 327 P P 04 08 06.1 -1.2
baz=58,SNR=193
X29A **Tulia** 57.70 329 P P 04 08 07.2 -1.0
baz=58,SNR=54
W30A **Crocket Farms** 57.76 331 P P 04 08 08.4 -0.2
baz=58
125A **Gardner Draw,** 57.83 326 P P 04 08 08.0 -1.1
baz=58,SNR=53
MSTX **Muleshoe** 57.86 328 *e*P P 04 08 08.2 -1.2
MSTX **Muleshoe** 57.86 328 P P 04 08 08.3 -1.0
baz=58,SNR=46
224A **Cornudas Mount** 57.86 325 P P 04 08 08.3 -1.2
baz=58
V31A **Spring Creek L** 57.91 332 P P 04 08 09.5 0.0
baz=58,SNR=143
Z26A **Caprock** 57.94 327 P P 04 08 09.5 -0.3
baz=58,SNR=150
Y27A **Causey** 57.99 328 P P 04 08 09.1 -1.2
baz=58,SNR=138
X28A **Dimmitt** 58.01 329 P P 04 08 09.3 -1.0
baz=58,SNR=60
W29A **Amraillo** 58.22 330 P P 04 08 10.9 -0.9
baz=58,SNR=27
V30A **Spur Ranch, Mi** 58.29 331 P P 04 08 12.3 +0.1
baz=58,SNR=8.6
124A **Stringfield Ra** 58.30 325 P P 04 08 11.8 -0.7
baz=58,SNR=81
Z25A **Roswell** 58.34 326 P P 04 08 11.4 -1.3
baz=58,SNR=110
Y26A **Elida** 58.37 327 P P 04 08 11.8 -1.0
baz=58,SNR=12
U31A **Nine Bar Ranch** 58.41 332 P P 04 08 13.4 +0.5
baz=59,SNR=26
FFD **Franklin Falls** 58.45 359 *e*P P 04 08 11.6 -1.4
comp=Z,27nm,0.8s
X27A **F and S Farms,** 58.56 329 P P 04 08 13.6 -0.6
baz=59,SNR=36
W28A **Vega** 58.60 330 P P 04 08 14.2 -0.3
baz=59,SNR=8.7
123A **Bell Site, Whi** 58.70 325 P P 04 08 14.8 -0.3
baz=59,SNR=6.5
Z24A **Sheeppen Canyo** 58.73 326 P P 04 08 14.7 -0.7
baz=59,SNR=101
V29A **Stinnett** 58.77 331 P P 04 08 15.1 -0.5
baz=59,SNR=11
222A **Williams Famil** 58.78 324 P P 04 08 15.5 -0.3
baz=59,SNR=41
Y25A **Mesa, Roswell** 58.82 327 P P 04 08 15.1 -0.9
baz=59,SNR=50
X26A **CR and CF Fran** 58.85 328 P P 04 08 15.2 -1.0
baz=59,SNR=122
W27A **Bowe Ranch, En** 58.87 329 P P 04 08 15.5 -0.8
baz=59,SNR=49
U30A **WK&E Inc. Balk** 58.90 332 P P 04 08 16.2 -0.2
baz=59,SNR=17
T31A **Randall Ranch,** 58.93 333 P P 04 08 16.6 0.0
baz=59,SNR=82
V28A **Channing** 59.01 330 P P 04 08 16.7 -0.5
baz=59,SNR=61
MDV **Middlebury** 59.02 358 *e*P P 04 08 15.5 -1.4
NCB **Newcomb** 59.04 357 *e*P P 04 08 15.0 -2.1
comp=Z,7.1nm,0.7s
320A **Kipp Ranch, An** 59.05 322 P P 04 08 17.3 -0.3
baz=59,SNR=22
221A **Mesquite Ranch** 59.10 323 P P 04 08 17.8 -0.1
baz=59,SNR=11
U29A **Oasis Ranch, S** 59.12 331 P P 04 08 18.0 +0.1
baz=59,SNR=18
Z23A **Rita Site, Whi** 59.15 325 P P 04 08 17.8 -0.4
baz=59,SNR=52
122A **Conniff Cattle** 59.16 324 P P 04 08 18.5 +0.1
baz=59,SNR=14
Y24A **Capitan** 59.22 326 P P 04 08 18.1 -0.7
baz=59,SNR=21
LBNH **Lisbon** 59.22 359 *e*P P 04 08 17.3 -1.0
LBNH pmax pmax
comp=Z,23nm,0.9s
LBNH **Lisbon** 59.22 359 *e*P P 04 08 17.3 -1.0
comp=Z,22nm,0.9s

W26A **Owens Ranch, T** 59.25 328 P P 04 08 18.6 -0.3
baz=59,SNR=22
X25A **Clemmons Ranch** 59.27 327 P P 04 08 18.3 -0.8
baz=60,SNR=27
T30A **Plains** 59.27 332 P P 04 08 19.1 +0.2
baz=60,SNR=11
S31A **Mullinville** 59.28 333 P P 04 08 19.4 +0.5
baz=60,SNR=8.2
V27A **Dan Oppiter Fa** 59.31 330 P P 04 08 18.6 -0.6
baz=60,SNR=19
KSU1 **Kansas State U** 59.37 336 *e*P P 04 08 18.1 -1.4
comp=Z,272nm,0.7s
220A **Playas Peak, P** 59.46 322 P P 04 08 20.1 -0.3
baz=60,SNR=54
121A **Cookes Peak, D** 59.48 323 P P 04 08 20.8 +0.2
baz=60,SNR=38
U28A **Mallet** 59.51 330 P P 04 08 20.2 -0.5
baz=60,SNR=56
319A **Douglas** 59.53 321 P P 04 08 20.6 -0.2
baz=60,SNR=20
WVL **Waterville** 59.53 1 *e*P P 04 08 19.1 -1.3
comp=Z,24nm,0.6s
Z22A **Elephant Butte** 59.55 325 P P 04 08 20.9 -0.1
baz=60,SNR=76
Y23A **Lovelace Mesa,** 59.56 326 P P 04 08 20.7 -0.4
baz=60,SNR=37
W25A **X Bar L Ranch,** 59.70 328 P P 04 08 21.2 -0.8
baz=60,SNR=123
LONY **Lake Ozonia** 59.70 357 *e*P P 04 08 20.2 -1.5
comp=Z,17nm,0.8s
X24A **Lazy VL Ranch,** 59.70 327 P P 04 08 21.7 -0.5
baz=60,SNR=12
T29A **Hugoton** 59.71 332 P P 04 08 22.2 +0.3
baz=60,SNR=50
S30A **Montezuma** 59.73 333 P P 04 08 22.2 +0.2
baz=60,SNR=13
EMMW **East Machias** 59.73 2 *e*P P 04 08 20.1 -1.6
comp=Z,20nm,0.7s
V26A **Tequesquite Ra** 59.81 329 P P 04 08 22.0 -0.7
baz=60,SNR=132
U27A **Thompson Grove** 59.84 330 P P 04 08 22.7 -0.2
baz=60,SNR=66
R31A **Burdett** 59.86 334 P P 04 08 22.8 -0.1
baz=60,SNR=53
FRNY **Flat Rock** 59.87 357 *e*P P 04 08 21.1 -1.6
comp=Z,17nm,0.8s
FRNY *e*PcP PcP 04 09 06.0 -1.0
FRNY *e*pP pP 04 09 12.3 +2.0
120A **U Bar Ranch, L** 59.98 323 P P 04 08 23.8 -0.2
baz=60,SNR=25
Z21A **St. Cloud Mine** 59.99 324 P P 04 08 24.2 +0.1
baz=60,SNR=72
S29A **Ulysses** 60.01 332 P P 04 08 24.1 +0.1
baz=60,SNR=57
BNM **Barren Site** 60.03 326 *e*P P 04 08 24.0 -0.4
comp=Z,37nm,0.9s
T28A **Walsh** 60.06 331 P P 04 08 24.0 -0.4
baz=60,SNR=68
Y22A **Socorro** 60.06 325 P P 04 08 24.2 -0.3
baz=60,SNR=31
X23A **Hourglass Bar** 60.12 326 P P 04 08 24.4 -0.6
baz=60,SNR=74
LPM **Los Pinos Moun** 60.16 326 *e*P P 04 08 25.0 -0.2
comp=Z,37nm,0.8s
R30A **Dighton** 60.18 333 P P 04 08 25.1 0.0
baz=60,SNR=78
W24A **Lazy 6 Ranch,** 60.19 327 P P 04 08 24.4 -1.0
baz=60,SNR=41
LENM **Lemitar** 60.23 325 *e*P P 04 08 25.8 +0.1
comp=Z,20nm,0.7s
LENM *e*pP pP 04 09 15.4 +2.1
PKME **Peaks-Kenny Pk** 60.23 1 *e*P P 04 08 23.9 -1.2
comp=Z,28nm,0.7s
PKME *e*pP pP 04 09 12.3 -0.5
U26A **Atchley Ranch,** 60.26 329 P P 04 08 25.3 -0.5
baz=60,SNR=61
T27A **Campo** 60.30 330 P P 04 08 25.4 -0.6
baz=60,SNR=34
S28A **Manter** 60.34 331 P P 04 08 25.8 -0.5
baz=60,SNR=75
Z20A **Nine Sixteen R** 60.37 323 P P 04 08 26.7 +0.1
baz=60,SNR=41
Q31A **Ellis** 60.41 334 P P 04 08 26.8 +0.2
baz=61,SNR=46
LAZ **Ladron** 60.50 325 *e*P P 04 08 27.2 -0.3
comp=Z,27nm,0.9s
LAZ *e*pP pP 04 09 15.9 +0.7
Y21A **Point of Rocks** 60.51 325 P P 04 08 28.0 +0.4
baz=61,SNR=100
X22A **Bernardo** 60.51 326 P P 04 08 28.1 +0.6
baz=61,SNR=28
V24A **Rampart Ranch,** 60.51 328 P P 04 08 26.8 -0.8
baz=61,SNR=59
W23A **Werner Place,** 60.54 327 P P 04 08 27.4 -0.4
baz=61,SNR=32
ANMO **Albuquerque** 60.54 326 *e*P P 04 08 27.2 -0.5
comp=Z,24nm,0.6s
U25A **Circle Dot Ran** 60.60 329 P P 04 08 27.7 -0.4
baz=61,SNR=114
SCIA **State Center** 60.65 341 *e*P P 04 08 26.3 -1.9
comp=Z,51nm,0.5s
R29A **Marienthal** 60.68 333 P P 04 08 28.4 -0.1
baz=61,SNR=43
JFWS **Jewell Farm** 60.69 343 *e*P P 04 08 26.3 -2.1
JFWS pmax pmax
comp=Z,94nm,0.7s
JFWS **Jewell Farm** 60.69 343 *e*P P 04 08 26.3 -2.1
comp=Z,94nm,0.7s
JFWS *e*ScP ScP 04 12 54.4 +2.8
Q30A **Quinter** 60.73 334 P P 04 08 29.2 +0.3
baz=61,SNR=154
T26A **Comanche Natio** 60.81 330 P P 04 08 29.4 -0.1
baz=61,SNR=56
Y20A **Horse Springs,** 60.83 324 P P 04 08 29.8 0.0
baz=61,SNR=35
P31A **Stockton** 60.84 335 P P 04 08 29.0 -0.5
baz=61,SNR=75
W22A **Albuquerque** 60.85 326 P P 04 08 29.9 0.0
baz=61,SNR=7.3
X21A **Alamocita Cree** 60.89 325 P P 04 08 30.5 +0.3
baz=61,SNR=77
R28A **Tribune** 60.91 332 P P 04 08 30.0 -0.1
baz=61,SNR=58
BBTS **Babate** 60.97 63 P P 04 08 31.1 +0.4
BBTS **Babate** 60.97 63 P P 04 08 31.1 +0.4
comp=Z,62nm,0.7s,baz=309,slow=0.5,SNR=15
Q29A **Oakley** 60.99 333 P P 04 08 30.4 -0.2
baz=61
V23A **Ortiz Mt. (NFS** 61.00 327 P P 04 08 30.9 +0.1
baz=61,SNR=81
U24A **Moreno Valley** 61.04 328 P P 04 08 31.5 +0.2
baz=61,SNR=28
RKT **Rikitea** 61.09 252 *e*S S 04 16 36.4 +2.2
comp=Z,515nm,29.5s
TUC **Tucson** 61.09 321 *e*P P 04 08 31.2 -0.2
TUC pmax pmax
comp=Z,9.0nm,0.8s
TUC **Tucson** 61.09 321 *e*P P 04 08 31.2 -0.2
comp=Z,8.9nm,0.8s
T25A **Trinidad** 61.18 329 P P 04 08 32.0 -0.1
baz=61,SNR=44
P30A **Selden** 61.22 334 P P 04 08 32.2 +0.2
baz=61,SNR=31
W21A **San Fidel** 61.31 326 P P 04 08 33.1 +0.2
baz=62
R27A **Eads** 61.32 331 P P 04 08 32.3 -0.5
baz=62,SNR=56
X20A **Quemado** 61.36 325 P P 04 08 33.6 +0.3
baz=62,SNR=33
U23A **El Rito** 61.45 327 P P 04 08 33.8 -0.1
baz=62,SNR=42
Q28A **Sharon Springs** 61.51 332 P P 04 08 34.1 0.0
baz=62,SNR=24
V22A **San Miguel Ran** 61.51 327 P P 04 08 34.5 +0.2
baz=62,SNR=132
P29A **Atwood** 61.56 333 P P 04 08 35.4 +1.0
baz=62
S25A **Robets Cordova** 61.60 330 P P 04 08 34.7 -0.2
baz=62,SNR=97
T24B **San Luis** 61.60 329 P P 04 08 35.2 +0.2
baz=62,SNR=37
R26A **Arlington** 61.63 331 P P 04 08 35.0 0.0
baz=62,SNR=131
O30A **MW Ranch, Wils** 61.67 334 P P 04 08 35.4 +0.3
baz=62,SNR=55
PQI **Presque Isle** 61.67 2 *e*P P 04 08 33.7 -1.1
comp=Z,83nm,0.4s
W20A **Ramah** 61.79 325 P P 04 08 36.2 0.0
baz=62,SNR=46
V21A **Milan** 61.82 326 P P 04 08 36.6 +0.3
baz=62,SNR=32
KSCO **Kaye Shedlock'** 61.83 332 *e*P P 04 08 36.5 +0.2
KSCO *e*PcP PcP 04 09 15.2 +0.1
KSCO *e*pP pP 04 09 25.2 +1.1
KSCO **Kaye Shedlock'** 61.83 332 P P 04 08 36.4 +0.2
baz=62,SNR=42
U22A **Llaves** 61.83 327 P P 04 08 36.9 +0.4
baz=62,SNR=29
P28A **Saint Francis** 61.90 333 P P 04 08 37.2 +0.5
baz=62,SNR=24
R25A **Fountain Ranch** 61.91 330 P P 04 08 36.8 0.0
baz=62,SNR=50
T23A **Casias Ranch,** 61.91 328 P P 04 08 37.3 +0.3
baz=62,SNR=42
O29A **4D Ranch, Culb** 61.94 334 P P 04 08 37.3 +0.4
baz=62,SNR=55
BGNE **Belgrade** 61.95 337 *e*P P 04 08 36.0 -0.9
BGNE **Belgrade** 61.95 337 P P 04 08 36.0 -0.9
baz=62,SNR=151
S24A **Houchin Ranch,** 61.97 329 P P 04 08 37.9 +0.4
baz=62,SNR=28
214A **Organ Pipe Nat** 62.10 320 P P 04 08 38.0 0.0
baz=62,SNR=14
Q26A **Hugo** 62.17 331 P P 04 08 39.2 +0.7
baz=62,SNR=42
X18A **Snowflake** 62.17 324 P P 04 08 38.8 +0.1
baz=62,SNR=21
SDCO **Great Sand Dun** 62.19 329 *e*P P 04 08 38.6 -0.3
comp=Z,64nm,0.8s
SDCO *e*pP pP 04 09 28.0 +1.2
N30A **Hueftle Ranch,** 62.21 335 P P 04 08 38.5 -0.1
baz=62
P27A **Ficken Ranch,** 62.25 332 P P 04 08 39.4 +0.4
baz=62,SNR=28
V20A **Brimhall** 62.27 325 P P 04 08 39.7 +0.4
baz=62,SNR=22
U21A **Nageezi** 62.30 327 P P 04 08 40.0 +0.4
baz=62,SNR=41
T22A **Edith** 62.34 327 P P 04 08 40.5 +0.6
baz=62,SNR=56
O28A **Krutsinger Ran** 62.36 333 P P 04 08 40.0 +0.4
baz=62,SNR=69
R24A **Sanders Place,** 62.38 330 P P 04 08 40.5 +0.5
baz=63,SNR=65
S23A **Nye Farm, Mont** 62.41 329 P P 04 08 40.8 +0.5
baz=63,SNR=11
N29A **Votaw Ranch, W** 62.44 334 P P 04 08 40.5 +0.3
baz=63,SNR=57
W18A **Petrified Fore** 62.47 324 *e*P P 04 08 41.2 +0.5
W18A *e*pP pP 04 09 29.3 +0.7
W18A **Petrified Fore** 62.47 324 P P 04 08 40.6 -0.1
baz=63,SNR=10.0
Q25A **Bedland, Calha** 62.50 331 P P 04 08 41.1 +0.2
baz=63,SNR=38
P26A **Davis Ranch, A** 62.60 332 P P 04 08 41.9 +0.5
baz=63,SNR=18
T21A **Navajo Lake** 62.66 327 P P 04 08 41.9 +0.1
baz=63,SNR=12
R23A **Moffat** 62.70 329 P P 04 08 42.7 +0.5
baz=63,SNR=41
N28A **Pribbeno Ranch** 62.72 334 P P 04 08 42.7 +0.7
baz=63,SNR=23
O27A **Beecher Island** 62.72 333 P P 04 08 43.0 +0.9
baz=63,SNR=101
U20A **Newcomb** 62.72 326 P P 04 08 42.5 +0.2
baz=63,SNR=26
M30A **Dale-Ortello V** 62.74 335 P P 04 08 42.0 -0.1
baz=63,SNR=7.8
S22A **4UR Ranch, Cre** 62.86 328 P P 04 08 43.6 +0.2
baz=63,SNR=65
P25A **Willow Gulch B** 62.94 331 P P 04 08 44.5 +0.9
baz=63,SNR=75
X16A **Lo Mia Camp, P** 62.96 322 P P 04 08 44.0 +0.1
baz=63,SNR=49
Q24A **Divide** 62.97 330 P P 04 08 44.0 -0.1
baz=63,SNR=18
M29A **Burnside Ranch** 62.99 335 P P 04 08 44.4 +0.5
baz=63,SNR=21
O26A **Horse Wrangler** 63.13 332 P P 04 08 45.4 +0.5
baz=63,SNR=13
Z14A **Wintersburg** 63.14 321 P P 04 08 44.9 0.0
baz=63,SNR=14
OGNE **Ogallala** 63.14 334 *e*P P 04 08 45.1 +0.3
comp=Z,138nm,0.6s
OGNE **Ogallala** 63.14 334 P P 04 08 45.2 +0.3
baz=63,SNR=28
R22A **Saguache, Gunn** 63.19 328 P P 04 08 45.8 +0.3
baz=63,SNR=26
M28A **Bar X Bar Ranc** 63.23 334 P P 04 08 46.3 +0.8
baz=63,SNR=6.6
113A **Mohawk Valley,** 63.24 320 P P 04 08 45.5 0.0
baz=63,SNR=9.5
N27A **Anderson Farm,** 63.25 333 P P 04 08 45.9 +0.3
baz=63,SNR=20
Q23A **Hartsel** 63.26 330 P P 04 08 46.3 +0.3
baz=63,SNR=63
P24A **Kohler Place,** 63.29 331 P P 04 08 46.6 +0.6
baz=64,SNR=12
S21A **Coal Bank Pass** 63.30 327 P P 04 08 46.3 +0.1
baz=64,SNR=30
MVCO **Mesa Verde** 63.33 327 *e*P P 04 08 46.5 +0.2
comp=Z,69nm,1.0s
MVCO **Mesa Verde** 63.33 327 P P 04 08 46.2 -0.1
baz=64,SNR=45
COWI **Conover** 63.37 346 *e*P P 04 08 44.1 -2.0
comp=Z,20nm,0.8s
COWI *e*PcP PcP 04 09 21.3 +0.2
O25A **Wiggins** 63.40 332 P P 04 08 47.1 +0.5
baz=64
ECSD **EROS Data Cent** 63.41 339 *e*P P 04 08 45.0 -1.5
comp=Z,266nm,1.2s
L29A **Maesberg Ranch** 63.43 335 P P 04 08 47.0 +0.4
baz=64,SNR=65
SPMN **St. Paul** 63.54 342 *e*P P 04 08 45.2 -2.0
SPMN **St. Paul** 63.54 342 P P 04 08 45.4 -1.8
baz=64,SNR=22
Y14A **Wickenburg** 63.56 321 P P 04 08 47.6 -0.1
baz=64,SNR=21
N26A **Koester Ranch,** 63.57 333 P P 04 08 48.3 +0.6
baz=64,SNR=16
P23A **Jefferson** 63.62 330 P P 04 08 49.0 +0.7
baz=64,SNR=31
WUAZ **Wupatki** 63.70 323 *e*P P 04 08 48.8 +0.1
comp=Z,71nm,1.2s
WUAZ *e*pP pP 04 09 37.3 +0.5
WUAZ **Wupatki** 63.70 323 P P 04 08 48.8 +0.1
baz=64,SNR=29
R21A **Cimarron** 63.70 328 P P 04 08 48.6 -0.2
baz=64,SNR=31
S20A **Disappointment** 63.72 327 P P 04 08 49.5 +0.6
baz=64,SNR=51
Q22A **Crested Butte,** 63.76 329 P P 04 08 49.5 +0.3
baz=64,SNR=41
M27A **Reverse DX Ran** 63.77 334 P P 04 08 49.6 +0.6
baz=64,SNR=12
L28A **Connealy Angus** 63.80 335 P P 04 08 49.4 +0.2
baz=64,SNR=50
O24A **Longmont** 63.85 331 P P 04 08 50.0 +0.5
baz=64,SNR=18
ISCO **Idaho Springs** 63.85 330 *e*P P 04 08 49.9 +0.1
ISCO pmax pmax
comp=Z,33nm,0.7s
ISCO **Idaho Springs** 63.85 330 *e*P P 04 08 49.9 +0.1
comp=Z,33nm,0.7s
ISCO *e*pP pP 04 09 38.4 +0.5
ISCO **Idaho Springs** 63.85 330 P P 04 08 49.7 0.0
baz=64,SNR=64
N25A **Grover** 63.94 332 P P 04 08 51.1 +0.9
baz=64
K29A **Lazy Trails An** 63.95 336 P P 04 08 50.4 +0.3
baz=64,SNR=78
R20A **Redvale** 64.00 327 P P 04 08 51.1 +0.4
baz=64,SNR=39
SMCO **Snowmass** 64.03 329 *e*P P 04 08 51.5 +0.4
comp=Z,56nm,0.8s
SMCO *e*PcP PcP 04 09 24.8 +0.2
SMCO *e*pP pP 04 09 40.2 +0.9
M26A **McRoberts Ranc** 64.05 333 P P 04 08 51.3 +0.5
baz=64,SNR=11
PV01 **Paradox Valley** 64.06 327 *e*P P 04 08 51.6 +0.5
comp=Z,5μm,0.7s
PV01 *e*pP pP 04 09 39.9 +0.6
Q21A **Lamborn Mesa,** 64.07 328 P P 04 08 51.2 +0.1
baz=64,SNR=15
GLA **Glamis** 64.10 319 *e*P P 04 08 51.7 +0.5
GLA pmax pmax

comp=Z,10.0nm,0.8s
GLA **Glamis** 64.10 319 *e*P P 04 08 51.7 +0.5
comp=Z,10nm,0.8s
GLA **Glamis** 64.10 319 P P 04 08 51.1 -0.1
baz=64
P22A **Eagle** 64.25 329 P P 04 08 52.7 +0.4
baz=64,SNR=26
N24A **Carr** 64.32 332 P P 04 08 53.5 +0.9
baz=64,SNR=42
O23A **Lake Granby, G** 64.32 330 P P 04 08 53.1 +0.3
baz=64,SNR=97
K28A **Ten Mile Ranch** 64.33 335 P P 04 08 53.2 +0.6
baz=64
Y12C **Blythe** 64.37 320 P P 04 08 53.0 +0.1
baz=64,SNR=9.5
PV04 **Paradox Valley** 64.42 327 *e*P P 04 08 53.4 0.0
M25A **Palm-Egli Farm** 64.43 332 P P 04 08 54.1 +0.8
baz=65,SNR=16
L26A **Underwood Farm** 64.49 334 P P 04 08 54.3 +0.7
baz=65,SNR=10.0
Q20A **Ridgley Place,** 64.53 328 P P 04 08 54.2 +0.2
baz=65,SNR=21
P21A **Newcastle** 64.53 329 P P 04 08 55.0 +0.9
baz=65,SNR=77
O22A **Kremmling** 64.58 330 P P 04 08 54.4 -0.2
baz=65,SNR=96
SWSC **Sam W. Stewart** 64.64 318 P P 04 08 55.1 +0.4
baz=65
DVTC **Desert V Tower** 64.66 318 P P 04 08 55.2 +0.3
baz=65,SNR=5.9
K27A **Flueckinger Fa** 64.68 335 P P 04 08 55.8 +0.9
baz=65,SNR=30
M24A **Cheyenne** 64.80 332 P P 04 08 56.7 +0.9
baz=65,SNR=21
U15A **North Rim** 64.86 323 P P 04 08 56.9 +0.5
baz=65,SNR=54
N23A **Red Feather La** 64.86 331 P P 04 08 56.6 +0.3
baz=65,SNR=28
BRSD **Miller** 64.86 338 *e*P P 04 08 55.2 -0.7
BRSD **Miller** 64.86 338 P P 04 08 55.1 -0.8
baz=65,SNR=65
J28A **Allard Ranch,** 64.87 336 P P 04 08 56.6 +0.6
baz=65,SNR=229
W13A **Hualapai Mount** 64.89 321 P P 04 08 56.8 +0.3
baz=65
BC3 **Big Chuckawall** 64.89 319 P P 04 08 56.5 +0.1
baz=65,SNR=9.5
PHWY **Pilot Hill** 64.96 331 *e*P P 04 08 57.1 +0.1
comp=Z,56nm,0.7s
L25A **Engebretsen Ra** 64.97 333 P P 04 08 57.6 +0.8
baz=65,SNR=8.0
P20A **De Beque** 64.99 328 P P 04 08 57.4 +0.4
baz=65,SNR=9.7
MONP **Monument Peak** 65.01 318 P P 04 08 57.5 +0.2
baz=65,SNR=9.3
IRM **Iron Mountain** 65.03 320 P P 04 08 57.2 0.0
baz=65,SNR=14
N22A **Wattenberg Ran** 65.03 330 P P 04 08 58.0 +0.6
baz=65,SNR=52
BAR **Barrett** 65.04 318 *e*P P 04 08 57.8 +0.5
comp=Z,82nm,1.3s
J27A **Elkhorn Farm,** 65.04 335 P P 04 08 58.3 +1.2
baz=65,SNR=126
O21A **Pagoda** 65.07 329 P P 04 08 58.5 +0.8
baz=65,SNR=15
K26A **Motz Farm, Whi** 65.07 334 P P 04 08 58.7 +1.3
baz=65,SNR=24
M23A **Laramie** 65.21 331 P P 04 08 59.1 +0.6
baz=65,SNR=17
K25A **Mack Ranch, Ha** 65.30 333 P P 04 08 59.7 +0.8
baz=66,SNR=14
I28A **Midland** 65.33 336 P P 04 08 58.8 -0.1
baz=66,SNR=62
P19A **Cripple Cowboy** 65.39 328 P P 04 08 59.7 +0.1
baz=66,SNR=26
O20A **White River Ci** 65.39 329 *e*P P 04 08 59.8 +0.2
O20A *ep*P **pP** 04 09 48.9 +0.9
O20A *e*PP **PP** 04 11 25.1 -1.5
O20A **White River Ci** 65.39 329 P P 04 08 60.0 +0.3
baz=66,SNR=29
109C **Camp Elliot, M** 65.45 318 P P 04 08 59.7 -0.2
baz=66
BELC **Belle Mtn. Jos** 65.46 319 P P 04 09 00.4 +0.3
baz=66,SNR=9.5
PFO **Pinyon Flat Ob** 65.49 319 P P 04 09 01.3 +1.0
comp=Z,110nm,0.7s,SNR=6.5
PFO **Pinyon Flat Ob** 65.49 319 *e*P P 04 09 01.1 +0.8
comp=Z,11nm,0.8s
PFO **Pinyon Flat Ob** 65.49 319 P P 04 09 00.7 +0.4
baz=66,SNR=9.8
N21A **Black Mountain** 65.51 330 P P 04 09 01.1 +0.7
baz=66,SNR=32
J26A **Sides Ranch, S** 65.53 334 P P 04 09 01.1 +0.8
baz=66,SNR=65
M22A **Cedar Creek Ra** 65.57 331 P P 04 09 01.5 +0.7
baz=66,SNR=48
EYMN **Ely** 65.68 345 *e*P P 04 08 59.3 -1.7
comp=Z,48nm,0.7s
L23A **Garrett** 65.71 332 P P 04 09 01.9 +0.2
baz=66,SNR=64
I27A **Quinn** 65.73 335 P P 04 09 02.1 +0.5
baz=66,SNR=124
GMRC **Granite Mounta** 65.75 320 P P 04 09 02.3 +0.4
baz=66,SNR=36
K24A **Anderson Ranch** 65.80 333 P P 04 09 02.8 +0.7
baz=66,SNR=14
SRU **San Rafael** 65.81 327 *e*P P 04 09 02.2 -0.1
SRU pmax pmax
comp=Z,42nm,0.6s
SRU **San Rafael** 65.81 327 *e*P P 04 09 02.2 -0.1
comp=Z,42nm,0.6s
H28A **Mission Ridge** 65.84 337 P P 04 09 02.2 +0.1
baz=66,SNR=89
J25A **Sunshine Ranch** 65.90 334 P P 04 09 03.2 +0.5
baz=66,SNR=42
N20A **Spence Gulch,** 65.93 329 P P 04 09 03.3 +0.2
baz=66,SNR=62
O19A **Miners Draw (B** 65.96 328 P P 04 09 03.6 +0.4
baz=66,SNR=26
MURC **Murrieta** 65.96 318 P P 04 09 03.9 +0.7
baz=66,SNR=5.9
L22A **Ellis Ranch, M** 65.98 331 P P 04 09 04.2 +0.9
baz=66,SNR=24
Q16A **Castle Valley** 66.01 326 *e*P P 04 09 04.0 +0.4
Q16A **Castle Valley** 66.01 326 P P 04 09 04.1 +0.4
baz=66,SNR=16
I26A **New Underwood** 66.03 335 P P 04 09 04.1 +0.6
baz=66
RWWY **Rawlins** 66.08 331 *e*P P 04 09 04.7 +0.6
comp=Z,53nm,0.9s
M21A **Separation Pea** 66.09 330 P P 04 09 04.2 +0.1
baz=66,SNR=22
G28A **Parade** 66.13 337 P P 04 09 04.3 +0.3
baz=66,SNR=47
K23A **Bowen Ranch, D** 66.18 332 P P 04 09 05.0 +0.5
baz=66,SNR=24
HEC **Hector,Ludlow** 66.20 320 P P 04 09 05.2 +0.4
baz=66,SNR=11
H27A **Howes** 66.21 336 P P 04 09 04.7 +0.1
baz=66,SNR=176
J24A **Dixon Ranch, L** 66.22 333 P P 04 09 05.4 +0.6
baz=66,SNR=17
CCUT **Cedar City** 66.26 324 *e*P P 04 09 06.2 +0.9
comp=Z,33nm,0.8s
CCUT *e*PcP **PcP** 04 09 34.2 +0.6
CCUT *ep*P **pP** 04 09 54.3 +0.6
PCED **Cedros** 66.29 35 *ep*P pP 04 09 54.1 +0.5
PCAN **Candelaria** 66.29 35 *e*P P 04 09 06.2 +1.0
comp=Z,83nm,1.3s
TMUT **Trail Mountain** 66.31 326 *e*P P 04 09 06.2 +0.6
comp=Z,30nm,0.6s
TUQ **Turquoise Moun** 66.35 320 P P 04 09 05.8 +0.1
baz=66,SNR=7.5
PICO **Pico** 66.35 35 *ep*P pP 04 09 53.2 -0.9
L21A **Rawlins** 66.37 331 P P 04 09 05.9 +0.1
baz=67,SNR=52
F29A **Eureka** 66.38 338 P P 04 09 05.4 -0.2
baz=67,SNR=64
I25A **Rochford** 66.38 334 P P 04 09 06.1 +0.3
baz=67,SNR=338
M20A **Sweetwater, Wa** 66.40 330 P P 04 09 06.4 +0.4
baz=67,SNR=46
PPNO **Prainha do Nor** 66.42 35 *ep*P pP 04 09 54.1 -0.4
ARUT **Antelope Range** 66.47 324 *e*P P 04 09 07.1 +0.6
ARUT pmax pmax
comp=Z,733nm,0.9s
ARUT **Antelope Range** 66.47 324 *e*P P 04 09 07.1 +0.6
comp=Z,734nm,0.9s
K22A **Casper** 66.51 332 P P 04 09 06.8 +0.2
baz=67,SNR=61
RSSD **Black Hills** 66.59 334 *e*P P 04 09 07.3 +0.1
RSSD pmax pmax
comp=Z,49nm,0.5s
RSSD **Black Hills** 66.59 334 *e*P P 04 09 07.3 +0.1
comp=Z,49nm,0.5s
SHPR **Sheep Range** 66.60 322 *e*P P 04 09 07.6 +0.2
comp=Z,23nm,0.6s
SHPR *e*PcP **PcP** 04 09 35.1 +0.2
SHPR *ep*P **pP** 04 09 58.0 +2.1
ROSA **Rosais** 66.61 35 *e*P P 04 09 08.9 +1.8
comp=Z,82nm,1.5s
ROSA *ep*P **pP** 04 09 55.8 +0.1
VNA1 **Neumayer--Stat** 66.61 161 *e*P P 04 09 07.4 +0.7
VNA1 **Neumayer--Stat** 66.61 161 *ep*P pP 04 10 02.3 +7.1
VNA1 **Neumayer--Stat** 66.61 161 *es*P sP 04 10 19.4 +1.7
VNA1 **Neumayer--Stat** 66.61 161 *e*PP PP 04 11 37.8 +1.8
E30A **Jud** 66.62 339 P P 04 09 06.9 -0.2
baz=67,SNR=8.9
I24A **Kuemmerle Ranc** 66.63 334 P P 04 09 07.8 +0.5
baz=67,SNR=26
PMAN **Manadas** 66.63 35 *e*P P 04 09 06.2 -1.1
comp=Z,40nm,1.2s
PMAN *ep*P **pP** 04 09 56.4 +0.6
BFSC **Mount Baldy Ra** 66.66 318 P P 04 09 08.0 +0.3
baz=67
F28A **McLaughlin** 66.74 337 P P 04 09 08.1 +0.2
baz=67,SNR=138
GSC **Goldstone** 66.81 320 *e*P P 04 09 08.9 +0.3
GSC pmax pmax
comp=Z,73nm,1.4s
GSC **Goldstone** 66.81 320 *e*P P 04 09 08.9 +0.3
comp=Z,73nm,1.4s
GSC **Goldstone** 66.81 320 P P 04 09 08.8 +0.3
baz=67,SNR=22
H25A **Fruitdale** 66.82 335 P P 04 09 08.8 +0.4
baz=67,SNR=32
K21A **Alcova** 66.83 331 P P 04 09 08.9 +0.2
baz=67,SNR=89
L20A **Wamsutter** 66.86 330 P P 04 09 09.1 +0.1
baz=67,SNR=45
M19A **Rock Springs** 66.88 329 P P 04 09 09.2 +0.1
baz=67
MWC **Mount Wilson** 66.91 318 *e*P P 04 09 09.6 +0.2
MWC pmax pmax
comp=Z,84nm,1.4s
MWC **Mount Wilson** 66.91 318 *e*P P 04 09 09.6 +0.2
comp=Z,84nm,1.4s
E29A **Napoleon** 66.94 339 P P 04 09 08.9 -0.2
baz=67,SNR=16
PASC **Pasadena Art C** 66.96 318 *e*P P 04 09 10.2 +0.7
comp=Z,43nm,1.3s
G26A **Maurine** 66.97 336 P P 04 09 09.4 0.0
baz=67,SNR=222
PGRA **Graciosa** 66.97 35 *e*P P 04 09 10.1 +0.7
comp=Z,92nm,0.9s
PGRA *ep*P **pP** 04 09 59.0 +1.0
VNA2 **Neumayer--Watz** 66.98 161 *e*P P 04 09 08.9 -0.1
VNA2 **Neumayer--Watz** 66.98 161 *ep*P pP 04 10 00.1 +2.5
VNA2 **Neumayer--Watz** 66.98 161 *es*P sP 04 10 20.0 -0.1
VNA2 **Neumayer--Watz** 66.98 161 *e*PP PP 04 11 37.6 -1.6
MPU **Maple Canyon** 67.05 327 *e*P P 04 09 10.7 +0.6
comp=Z,26nm,0.7s
MPU *ep*P **pP** 04 09 59.5 +0.8
J22A **Midwest** 67.09 332 P P 04 09 10.3 0.0
baz=67,SNR=50
D30A **Buchanan** 67.10 339 P P 04 09 09.8 -0.2
baz=67,SNR=108
ADH **Angra Heroismo** 67.12 36 *e*P P 04 09 11.2 +0.8
comp=Z,75nm,0.9s
ADH *ep*P **pP** 04 10 00.8 +1.8
DAU **Daniels Canyon** 67.14 327 *e*P P 04 09 11.4 +0.6
DAU pmax pmax
comp=Z,38nm,0.7s
DAU **Daniels Canyon** 67.14 327 *e*P P 04 09 11.4 +0.6
comp=Z,38nm,0.7s
DAU *ep*P **pP** 04 10 00.3 +0.9
G27A **Dupree** 67.17 336 P P 04 09 08.3 -2.3
baz=67,SNR=162
G25A **Newell** 67.21 335 P P 04 09 11.0 +0.1
baz=67,SNR=124
AGMN **Agassiz Nation** 67.22 342 *e*P P 04 09 09.3 -1.4
comp=Z,98nm,0.8s
F27A **Lemmon** 67.22 337 P P 04 09 11.2 +0.3
baz=67,SNR=59
NLU **North Lily Min** 67.24 326 *e*P P 04 09 12.2 +0.8
comp=Z,30nm,1.0s
NLU *ep*P **pP** 04 10 00.4 +0.4
PSMN **Pico do Norte,** 67.25 38 *e*P P 04 09 09.7 -1.5
comp=Z,14nm,0.7s
PSMN *ep*P **pP** 04 09 56.1 -3.8
H24A **Dirks Ranch, A** 67.31 334 P P 04 09 11.6 0.0
baz=68,SNR=88
E28A **Huff** 67.32 338 P P 04 09 11.5 +0.1
baz=68,SNR=185
D29A **Pettibone, Tap** 67.34 339 P P 04 09 11.3 -0.3
baz=68,SNR=6.7
K20A **Yellowstone Ra** 67.36 331 P P 04 09 11.7 -0.3
baz=68,SNR=99
JLU **Jordanelle** 67.38 327 *e*P P 04 09 12.7 +0.5
comp=Z,31nm,0.7s
PDA **Ponta Delgada** 67.40 37 *e*P P 04 09 11.8 -0.3
comp=Z,71nm,0.7s
PSET **Sete Cidades** 67.42 37 *e*P P 04 09 12.1 -0.2
comp=Z,89nm,0.9s
PSET *ep*P **pP** 04 10 00.2 -0.7
L19A **Farson** 67.43 330 P P 04 09 12.8 +0.3
baz=68,SNR=67
F26A **Lodgepole** 67.46 336 P P 04 09 12.8 +0.3
baz=68,SNR=201
I22A **9 Mile Ranch,** 67.47 333 P P 04 09 12.8 +0.2
baz=68,SNR=140
LRMC **Laurel Mountai** 67.47 320 P P 04 09 13.0 +0.2
baz=68,SNR=10
J21A **Lysite** 67.47 332 P P 04 09 13.1 +0.4
baz=68,SNR=26
CMLA **Cha da Macela** 67.49 37 *e*P P 04 09 12.7 0.0
comp=Z,44nm,0.8s
CMLA *ep*P **pP** 04 10 00.2 -1.2
CMLA **Cha da Macela** 67.49 37 *e*P P 04 09 13.3 +0.6
CMLA pmax pmax
comp=Z,40nm,0.7s
CMLA **Cha da Macela** 67.49 37 *e*P P 04 09 13.3 +0.6
comp=Z,40nm,0.7s
C30A **Mose, Pekin** 67.52 340 P P 04 09 12.4 -0.3
baz=68,SNR=58
E27A **Carson** 67.52 337 P P 04 09 13.2 +0.5
baz=68,SNR=116
H23A **Clabaugh Cattl** 67.53 334 P P 04 09 13.2 +0.3
baz=68,SNR=8.7
FURC **Furnace Creek,** 67.60 321 P P 04 09 13.9 +0.5
baz=68,SNR=38
CTU **Camp Tracy** 67.60 327 *e*P P 04 09 13.0 -0.6
comp=Z,21nm,0.7s
M17A **Scullys Gap (B** 67.61 328 P P 04 09 13.5 -0.2
baz=68,SNR=31
L18A **Fontenelle, Gr** 67.63 329 P P 04 09 13.8 0.0
baz=68,SNR=26
BART **Pico Bartolome** 67.71 37 *e*P P 04 09 14.3 +0.1
comp=Z,88nm,0.6s
BART *ep*P **pP** 04 09 59.0 -3.9
MPMC **Manual Prospec** 67.72 320 P P 04 09 14.3 -0.1
baz=68,SNR=28
G24A **Alzada** 67.73 335 P P 04 09 14.4 +0.2
baz=68,SNR=69
K19A **Absolon Red Bu** 67.73 330 P P 04 09 14.1 -0.3
baz=68,SNR=58
I21A **Big Trails, Te** 67.77 332 P P 04 09 14.6 +0.1
baz=68,SNR=146
J20A **Shoshoni** 67.78 331 P P 04 09 14.9 +0.4
baz=68,SNR=50
D28A **Regan** 67.80 338 P P 04 09 14.5 0.0
baz=68,SNR=16
DUG **Dugway** 67.81 326 *e*P P 04 09 15.1 +0.3
DUG pmax pmax
comp=Z,38nm,0.9s
DUG **Dugway** 67.81 326 *e*P P 04 09 15.1 +0.3
comp=Z,38nm,0.9s
DUG *ep*P **pP** 04 10 04.2 +0.6
DUG **Dugway** 67.81 326 P P 04 09 15.2 +0.4
baz=68,SNR=49
F25A **Bowman** 67.83 336 P P 04 09 15.3 +0.6
baz=68,SNR=90
E26A **Carlson Angus** 67.89 337 P P 04 09 15.4 +0.3
baz=68,SNR=128
H22A **Clearmont** 67.96 333 P P 04 09 15.8 +0.1
baz=68,SNR=20
MDND **Maddock** 68.03 339 *e*P P 04 09 15.6 -0.2
MDND **Maddock** 68.03 339 P P 04 09 15.7 -0.2
baz=68,SNR=38
BW06 **Boulder Array** 68.03 330 *e*P P 04 09 15.6 -0.6
comp=Z,16nm,0.5s
PDAR **Pinedale Array** 68.03 330 P P 04 09 15.6 -0.7
PDAR pP **pP** 04 10 01.1 -3.9
PDAR ⇑*e* 04 37 34.1
PDAR **Pinedale Array** 68.03 330 P P 04 09 15.6 -0.7
comp=Z,17nm,0.5s,baz=122,slow=8.0,SNR=182
PDAR pP **pP** 04 10 01.1 -3.9
comp=Z,36nm,1.3s,baz=142,slow=5.1,SNR=2.0
PDAR PKP2bc 04 37 34.1
comp=Z,3.8nm,1.1s,baz=280,slow=1.6,SNR=13
G23A **Biddle** 68.03 334 P P 04 09 16.1 0.0
baz=68,SNR=106
D27A **Center** 68.08 338 P P 04 09 16.5 +0.3
baz=68,SNR=19
ISA **Isabella** 68.08 319 *e*P P 04 09 16.9 +0.4
ISA pmax pmax
comp=Z,23nm,0.8s
ISA **Isabella** 68.08 319 *e*P P 04 09 16.9 +0.4
comp=Z,23nm,0.8s
ISA **Isabella** 68.08 319 P P 04 09 16.9 +0.4
baz=68,SNR=26
R11A **Troy Canyon, C** 68.09 323 *e*P P 04 09 17.1 +0.5
R11A **Troy Canyon, C** 68.09 323 P P 04 09 17.2 +0.6
baz=68,SNR=60
B30A **Myrvik Farm, E** 68.12 340 P P 04 09 15.5 -0.9
baz=68,SNR=42
F24A **Ekalaka** 68.16 335 P P 04 09 16.9 +0.1
baz=68,SNR=208
LIC **Lamto** 68.16 77⇑*i*P P 04 09 16.4 -1.0
comp=Z,152nm,0.7s,baz=257
LIC *ep*P **pP** 04 10 06.8 +0.7
LIC *e*R
comp=Z,1μm,19.5s
LIC **Lamto** 68.16 77 *e*P P 04 09 16.3 -1.1
comp=Z,252nm,0.7s
LIC **Lamto** 68.16 77⇑*i*P P 04 09 16.4 -1.0
comp=Z,152nm,0.7s
LIC *ep*P **pP** 04 10 06.8 +0.7
J19A **Crowheart** 68.16 331 P P 04 09 17.0 -0.1
baz=68,SNR=60
HWUT **Hardware Ranch** 68.17 328 *e*P P 04 09 16.7 -0.5
comp=Z,29nm,0.6s
C28A **Hausauer Farms** 68.18 339 P P 04 09 16.8 0.0
baz=68,SNR=22
I20A **Worland** 68.26 332 P P 04 09 17.3 -0.2
baz=68,SNR=65
E25A **Miller Ranch,** 68.28 336 P P 04 09 18.0 +0.4
baz=68,SNR=105
H21A **Big Horn, Sher** 68.29 333 P P 04 09 17.6 -0.1
baz=68,SNR=40
TIC **Toumodi** 68.31 76 *e*P P 04 09 17.3 -1.0
comp=Z,153nm,0.9s
D26A **Manning** 68.35 337 P P 04 09 17.6 -0.3
baz=68,SNR=19
SPUT **South Promonto** 68.41 327 *e*P P 04 09 19.0 +0.4
comp=Z,139nm,1.6s
G22A **Birney** 68.43 334 P P 04 09 18.2 -0.4
baz=69,SNR=60
BGU **Big Grassy Mou** 68.45 326 *e*P P 04 09 18.8 0.0
comp=Z,22nm,0.9s
F23A **Volborg** 68.46 334 P P 04 09 19.0 +0.4
baz=69,SNR=96
DBIC **Dimbokro** 68.47 76 *e*P P 04 09 18.5 -0.8
comp=Z,125nm,0.6s
DBIC pP **pP** 04 10 07.7 -0.3
DBIC *ep*P **pwP** 04 10 08.7 +0.6
DBIC **Dimbokro** 68.47 76 P P 04 09 18.5 -0.8
comp=Z,147nm,0.7s,baz=232,slow=6.4,SNR=254
DBIC pP **pP** 04 10 07.7 -0.3
comp=Z,93nm,1.0s,baz=234,slow=5.7,SNR=5.6
DBIC LR LR 04 38 29.0
comp=Z,690nm,19.7s,baz=126,slow=35
B29A **Wagenman Farm,** 68.47 340 P P 04 09 18.6 0.0
baz=69,SNR=80
KIC **Kosan Boka** 68.48 77 *e*P P 04 09 18.6 -0.8
comp=Z,365nm,0.6s
A30A **Hoffart Farm,** 68.54 341 P P 04 09 18.3 -0.8
baz=69,SNR=16
C27A **Sayler Ranch,** 68.58 338 P P 04 09 19.3 0.0
baz=69
VES **Vestal, Richgr** 68.58 319 P P 04 09 20.0 +0.5
baz=69,SNR=16
H20A **Greybull** 68.61 332 P P 04 09 19.4 -0.3
baz=69
SNAA **Sanae** 68.61 162 *e*P P 04 09 18.6 -0.6
comp=Z,225nm,0.7s
SNAA ⇑*e* 04 37 30.6
SNAA **Sanae** 68.61 162 P P 04 09 18.7 -0.6
comp=Z,88nm,0.7s,baz=281,slow=6.3,SNR=1020
SNAA PKP2bc 04 37 30.6
comp=Z,2.9nm,1.2s,baz=80,slow=2.3,SNR=6.9
E24A **Baker** 68.69 336 P P 04 09 20.4 +0.4
baz=69,SNR=134
I19A **Meeteetse** 68.72 331 P P 04 09 20.3 -0.2
baz=69,SNR=32
AHID **Auburn Hatcher** 68.78 329 *e*P P 04 09 21.1 +0.1
comp=Z,58nm,0.6s
D25A **Fairfield** 68.79 337 P P 04 09 21.1 +0.5
baz=69,SNR=113
B28A **Dugan Ranch, T** 68.80 339 P P 04 09 20.6 -0.1
baz=69,SNR=56
A29A **Manning Farm,** 68.83 340 P P 04 09 20.3 -0.5
baz=69,SNR=145
G21A **Lodge Grass** 68.83 333 P P 04 09 21.2 +0.1
baz=69,SNR=46
SMMC **Simmler** 68.84 318 P P 04 09 21.7 +0.5
baz=69,SNR=9.1
I18A **Diamond G Ranc** 68.86 330 P P 04 09 21.1 -0.3
baz=69,SNR=90
F22A **Rosebud** 68.86 334 P P 04 09 21.2 0.0
baz=69,SNR=62
C26A **Wahner Farm, P** 68.89 338 P P 04 09 21.4 +0.2
baz=69,SNR=68
HVU **Hansel Valley** 68.92 327 *e*P P 04 09 21.6 -0.1
HVU pmax pmax
comp=Z,30nm,0.7s
HVU **Hansel Valley** 68.92 327 *e*P P 04 09 21.6 -0.1
comp=Z,30nm,0.7s
ULM **Lac du Bonnet** 68.97 343 *e*P P 04 09 19.9 -1.6
comp=Z,96nm,0.8s
ULM ⇑*e* 04 37 29.5
ULM **Lac du Bonnet** 68.97 343 P P 04 09 20.0 -1.6
comp=Z,93nm,0.7s,baz=152,slow=6.0,SNR=72
ULM PKP2bc 04 37 29.5
comp=Z,3.4nm,0.8s,baz=353,slow=4.6,SNR=6.6
ULM LR LR 04 40 47.3
comp=Z,243nm,20.9s,baz=306,slow=37
E23A **Ismay** 69.04 335 P P 04 09 22.1 -0.1
baz=69
B27A **Peters Farms,** 69.08 339 P P 04 09 22.5 +0.2
baz=69,SNR=48
REDW **Red Top Meadow** 69.10 330 *e*P P 04 09 22.5 -0.4
comp=Z,55nm,1.1s
SNOW **Snow King Moun** 69.13 330 *e*P P 04 09 23.1 +0.1
comp=Z,40nm,0.7s
D24A **Glendive** 69.15 336 P P 04 09 23.7 +0.9
baz=69,SNR=53
A28A **Rude Farm, Bot** 69.17 339 P P 04 09 22.6 -0.3
baz=69,SNR=22
LOHW **Long Hollow** 69.17 330 *e*P P 04 09 23.0 -0.3
comp=Z,22nm,0.6s
H19A **Powell** 69.20 332 P P 04 09 23.4 0.0
baz=69,SNR=21
C25A **Freed Ranch, W** 69.23 337 P P 04 09 23.9 +0.6
baz=69,SNR=90
TPAW **Teton Pass** 69.25 330 *e*P P 04 09 23.9 +0.1
comp=Z,36nm,0.7s
TPAW *e*S **S** 04 18 12.1 -1.0
E22A **Miles City** 69.26 335 P P 04 09 23.6 +0.1
baz=69,SNR=43
F21A **Absaloka Mine,** 69.27 333 P P 04 09 24.1 +0.5
baz=69
G20A **Bridger** 69.28 332 P P 04 09 23.6 -0.2
baz=70,SNR=60
RRI2 **Red Ridge** 69.32 329 *e*P P 04 09 24.4 +0.1
comp=Z,92nm,0.7s
RRI2 *ep*P **pP** 04 10 13.9 +0.7
RRI2 *e*S **S** 04 18 15.9 +1.8
MOOW **Moose Ponds** 69.34 330 *e*P P 04 09 24.2 -0.1
comp=Z,21nm,0.8s
MOOW *e*S **S** 04 18 13.1 -1.0
I17A **Pilgrim Ck.** 69.38 330 P P 04 09 25.5 +0.9
baz=70,SNR=14

B26A	Jensen Ranch,	69.40	338	P	P	04 09 24.6 +0.3
	baz=70,SNR=12					
ELK	Elko	69.52	325	eP	P	04 09 25.9 +0.3
	comp=Z,7.3nm,0.6s					
H18A	Shoshone NF, C	69.52	331	P	P	04 09 25.2 -0.2
	baz=70,SNR=154					
C24A	Savage	69.53	336	P	P	04 09 25.9 +0.7
	baz=70,SNR=55					
A27A	Ledoux Ranch,	69.54	339	P	P	04 09 25.5 +0.3
	baz=70,SNR=85					
IMW	Indian Meadow	69.54	330	eP	P	04 09 25.7 0.0
	comp=Z,48nm,0.7s					
IMW				eP	pP	04 10 15.1 +0.5
IMW				eS	S	04 18 19.3 +2.7
D23A	Lindsay	69.55	335	P	P	04 09 26.3 +1.0
	baz=70,SNR=110					
FLWY	Flagg Ranch	69.56	330	eP	P	04 09 26.1 +0.4
	comp=Z,64nm,0.7s					
FLWY				eS	S	04 18 18.5 +1.8
LAO	LASA Array	69.57	335	eP	P	04 09 25.5 0.0
	comp=Z,212nm,1.3s					
B25A	Knox Farm, Ray	69.66	337	P	P	04 09 26.8 +0.9
	baz=70,SNR=18					
NV11	Mina Array Sit	69.66	322	eP	P	04 09 26.9 +0.6
RLMT	Red Lodge	69.68	332	eP	P	04 09 26.5 +0.2
	comp=Z,34nm,0.6s					
RLMT				eS	S	04 18 19.6 +1.6
F20A	Billings	69.70	333	P	P	04 09 26.5 +0.2
	baz=70,SNR=31					
H17A	Grant Village	69.74	330	eP	P	04 09 28.3 +1.5
H17A	Grant Village	69.74	330	P	P	04 09 28.4 +1.5
	baz=70					
NVAR	Mina Array Bea	69.74	322	P	P	04 09 27.5 +0.6
NVAR				⇑e		04 37 29.1
NVAR	Mina Array Bea	69.74	322	P	P	04 09 27.5 +0.6
	comp=Z,6.7nm,0.6s,baz=123,slow=5.8,SNR=51					
NVAR				PKP2bc		04 37 29.1
	comp=Z,1.2nm,0.8s,baz=264,slow=3.3,SNR=5.8					
PMOZ	Porto Moniz, M	69.76	46	eP	P	04 09 27.5 +0.5
	comp=Z,160nm,0.9s					
A26A	Wade Farm, Ken	69.77	338	P	P	04 09 26.7 +0.1
	baz=70,SNR=80					
LKWY	Lake	69.78	331	eP	P	04 09 28.9 +1.9
LKWY				pmax	pmax	
	comp=Z,62nm,0.7s					
LKWY	Lake	69.78	331	eP	P	04 09 28.9 +1.9
	comp=Z,62nm,0.7s					
I16A	Newdale	69.79	330	P	P	04 09 27.5 +0.5
	baz=70,SNR=20					
E21A	Keefer Ranch,	69.81	334	P	P	04 09 27.5 +0.6
	baz=70,SNR=140					
SCHQ	Schefferville	69.87	2	eP	P	04 09 25.3 -1.7
	comp=Z,14nm,0.6s					
SCHQ	Schefferville	69.87	2	P	P	04 09 25.3 -1.7
	comp=Z,13nm,0.6s,baz=196,slow=4.0,SNR=19					
YFT	Old Faithful	69.91	330	eP	P	04 09 29.4 +1.7
	comp=Z,25nm,0.8s					
D22A	Cohagen	69.92	335	P	P	04 09 28.5 +0.9
	baz=70,SNR=183					
G18A	Lazy EL Ranch,	69.96	332	P	P	04 09 28.4 +0.4
	baz=70,SNR=187					
YNR	Norris Junctio	70.03	331	eP	P	04 09 29.9 +1.3
	comp=Z,37nm,0.6s					
C23A	Lambert	70.05	336	P	P	04 09 29.1 +0.8
	baz=70,SNR=52					
F19A	Roth Farm, Mol	70.09	332	P	P	04 09 29.2 +0.5
	baz=70,SNR=33					
YMR	Madison River	70.13	330	eP	P	04 09 30.6 +1.5
	comp=Z,57nm,0.8s					
A25A	Svangstu Ranch	70.19	338	P	P	04 09 29.6 +0.5
	baz=70,SNR=33					
D21A	La Casta Ranch	70.19	334	P	P	04 09 30.0 +0.7
	baz=70,SNR=169					
DGMT	Dagmar	70.21	337	eP	P	04 09 29.8 +0.6
	comp=Z,207nm,0.8s					
DGMT	Dagmar	70.21	337	P	P	04 09 30.0 +0.7
	baz=70,SNR=65					
E20A	Meyer Farm, Mu	70.24	333	P	P	04 09 30.2 +0.7
	baz=70,SNR=123					
C22A	Vida	70.28	335	P	P	04 09 30.4 +0.7
	baz=70,SNR=133					
H16A	Russell Place,	70.29	330	P	P	04 09 31.1 +1.0
	baz=70,SNR=62					
GCMT	Greycliff	70.37	332	eP	P	04 09 31.2 +0.8
	comp=Z,67nm,0.7s					
BMN	Battle Mountai	70.42	324	eP	P	04 09 31.4 +0.5
BMN				pmax	pmax	
	comp=Z,11nm,0.6s					
BMN	Battle Mountai	70.42	324	eP	P	04 09 31.4 +0.5
	comp=Z,11nm,0.6s					
QLMT	Earthquake Lak	70.47	330	eP	P	04 09 32.6 +1.4
	comp=Z,3.3nm,0.6s					
QLMT				epP	pP	04 10 21.1 +0.8
WAKR	Walker	70.47	321	eP	P	04 09 32.2 +0.9
	comp=Z,31nm,1.0s					
F18A	Big Timber	70.48	332	P	P	04 09 31.6 +0.5
	baz=71,SNR=105					
E19A	Rath Farm, Rou	70.49	333	P	P	04 09 31.6 +0.5
	baz=71,SNR=198					
PMPS	Porto Santo	70.49	46	eP	P	04 09 32.1 +0.8
	comp=Z,348nm,1.7s					
PMPS				epP	pP	04 10 22.4 +2.1
PMPST	Porto Santo, M	70.50	46	eP	P	04 09 32.6 +1.2
	comp=Z,397nm,1.6s					
PMPST				epP	pP	04 10 22.7 +2.3
B23A	Brockton	70.51	336	P	P	04 09 32.1 +1.0
	baz=71,SNR=127					
G17A	Pierce Place,	70.51	331	P	P	04 09 32.5 +1.1
	baz=71,SNR=12					
A24A	Westby	70.51	337	P	P	04 09 31.8 +0.7
	baz=71,SNR=100					
D20A	Manuel Ranch,	70.70	334	P	P	04 09 32.6 +0.4
	baz=71,SNR=105					
CMB	Columbia Colle	70.76	320	eP	P	04 09 33.4 +0.5
CMB				pmax	pmax	
	comp=Z,7.0nm,0.8s					
CMB	Columbia Colle	70.76	320	eP	P	04 09 33.4 +0.5
	comp=Z,7.3nm,0.8s					
B22A	Reddig Ranch S	70.77	336	P	P	04 09 33.3 +0.6
	baz=71,SNR=98					
C21A	Desert Coulee	70.84	335	P	P	04 09 33.5 +0.4
	baz=71,SNR=192					
A23A	Redstone	70.87	337	P	P	04 09 34.1 +0.8
	baz=71,SNR=48					
F17A	Fitzpatrick Pl	70.91	331	P	P	04 09 34.3 +0.5
	baz=71,SNR=47					
HLID	Hailey	71.04	328	eP	P	04 09 35.4 +0.8
	comp=Z,19nm,0.7s					
HLID	Hailey	71.04	328	P	P	04 09 35.3 +0.7
	baz=71,SNR=37					
E18A	Harlowton	71.07	332	P	P	04 09 35.4 +0.7
	baz=71,SNR=50					
D19A	Cripps Ranch,	71.07	333	P	P	04 09 35.0 +0.4
	baz=71,SNR=98					
C20A	Veseth Ranch,	71.13	334	P	P	04 09 34.9 +0.1
	baz=71,SNR=56					
MCMT	McKenzie Canyo	71.16	329	eP	P	04 09 36.3 +1.0
	comp=Z,17nm,0.7s					
BOZ	Bozeman (W)	71.17	331	eP	P	04 09 35.3 0.0
BOZ				pmax	pmax	
	comp=Z,18nm,0.7s					
BOZ	Bozeman (W)	71.17	331	eP	P	04 09 35.3 0.0
	comp=Z,18nm,0.7s					
BOZ				epP	pP	04 10 24.6 +0.1
PAHR	Pah Rah Range	71.21	322	eP	P	04 09 36.5 +0.9
	comp=Z,76nm,0.9s					
B21A	Ellsworth Farm	71.28	335	P	P	04 09 36.8 +1.1
	baz=72,SNR=7.7					
A22A	Carney Farms,	71.30	336	P	P	04 09 36.6 +0.7
	baz=72,SNR=59					
E17A	Martinsdale	71.42	332	P	P	04 09 37.3 +0.5
	baz=72,SNR=71					
DLMT	Dillon	71.42	330	eP	P	04 09 37.3 +0.5
	comp=Z,18nm,0.8s					
LCCM	Lewis and Clar	71.43	331	P	P	04 09 37.7 +0.9
D18A	Linhart Farms,	71.50	333	P	P	04 09 37.9 +0.7
	baz=72,SNR=20					
C19A	Slack Wire Ran	71.59	334	P	P	04 09 38.0 +0.4
	baz=72,SNR=108					
MFID	Camas Ranch	71.67	327	P	P	04 09 38.6 +0.3
	baz=72,SNR=56					
LRM	Limekiln Ridge	71.69	330	eP	P	04 09 39.0 +0.5
	comp=Z,136nm,0.7s					
A21A	Bergtoll Ranch	71.69	336	P	P	04 09 38.6 +0.4
	baz=72,SNR=17					
B20A	Solberg Farm,	71.70	335	P	P	04 09 38.5 +0.3
	baz=72,SNR=59					
D17A	Six Diamond Ra	71.86	332	P	P	04 09 39.8 +0.4
	baz=72,SNR=55					
BEKR	Beckworth	71.89	322	eP	P	04 09 40.2 +0.4
	comp=Z,9.1nm,0.9s					
A20A	Cobblestone Ra	72.01	335	P	P	04 09 40.6 +0.5
	baz=72,SNR=99					
HRY	Holter Researc	72.05	331	eP	P	04 09 41.4 +0.9
	comp=Z,35nm,0.6s					
B19A	Brinkman Farms	72.10	334	P	P	04 09 41.1 +0.4
	baz=72,SNR=24					
EGMT	Eagleton	72.11	333	eP	P	04 09 40.7 -0.1
	comp=Z,80nm,0.8s					
EGMT				eS	S	04 18 50.1 +4.5
EGMT	Eagleton	72.11	333	P	P	04 09 40.9 +0.1
	baz=72,SNR=64					
C17A	Wharram Farm,	72.26	333	P	P	04 09 41.7 +0.1
	baz=72,SNR=48					
A19A	Klindworth Far	72.38	335	P	P	04 09 42.6 +0.3
	baz=73,SNR=79					
WVOR	Wild Horse Val	72.54	325	eP	P	04 09 43.6 +0.1
WVOR				pmax	pmax	
	comp=Z,51nm,1.5s					
WVOR	Wild Horse Val	72.54	325	eP	P	04 09 43.6 +0.1
	comp=Z,51nm,1.5s					
B17A	L&G Farms, Che	72.77	333	P	P	04 09 44.7 +0.1
	baz=73,SNR=46					
CHMT	Chamberlain Mo	72.86	331	eP	P	04 09 46.0 +0.6
	comp=Z,33nm,1.3s					
HOPS	Hopland	73.02	320	eP	P	04 09 47.0 +0.8
MAIT	Maitri	73.11	160	eP	P	04 09 44.2 -2.0
MSO	Missoula	73.13	330	P	P	04 09 47.5 +0.7
	baz=73,SNR=23					
SLMT	Seeley Lake	73.22	331	eP	P	04 09 48.0 +0.6
	comp=Z,24nm,0.8s					
BMO	Blue Mountains	73.43	327	eP	P	04 09 48.4 -0.3
	comp=Z,44nm,1.1s					
WDC	Whiskeytown Da	73.64	321	eP	P	04 09 48.5 -1.3
WDC				pmax	pmax	
	comp=Z,16nm,0.6s					
WDC	Whiskeytown Da	73.64	321	eP	P	04 09 48.5 -1.3
	comp=Z,16nm,0.6s					
SWMT	Swartz Lake	73.65	331	eP	P	04 09 50.8 +1.0
	comp=Z,20nm,0.8s					
KCPM	Cahto Peak	73.75	320	eP	P	04 09 52.1 +1.5
	comp=Z,31nm,1.4s					
KIPM	Iron Peak	73.76	320	eP	P	04 09 51.4 +0.7
	comp=Z,15nm,0.7s					
YBMT	Yellow Bay	73.91	331	eP	P	04 09 52.2 +0.9
	comp=Z,23nm,0.5s					
JTMT	Jette	73.95	331	eP	P	04 09 52.5 +0.8
	comp=Z,7.1nm,0.4s					
HOG	Hogback Mounta	74.17	323	P	P	04 09 54.0 +0.9
BLMT	Blacktail Moun	74.18	331	eP	P	04 09 53.9 +0.8
	comp=Z,20nm,0.8s					
BLMT				epP	pP	04 10 42.9 +0.3
BSMT	Bassoo Peak	74.26	331	eP	P	04 09 54.5 +1.0
	comp=Z,38nm,1.3s					
TBI	Tubuai	74.27	250	eS	S	04 19 12.6 +1.8
	comp=Z,371nm,27.2s					
TBI	Tubuai	74.27	250	eLR	LR	04 32 48.5
	comp=Z,2μm,3.5s					
YBH	Yreka Blue Hor	74.44	322	eP	P	04 09 53.2 -1.3
	comp=Z,10nm,0.7s					
KHMM	Horse Mountain	74.54	321	eP	P	04 09 56.0 +0.8
	comp=Z,68nm,1.3s					
FFC	Flin Flon	74.69	342	P	P	04 09 55.0 -0.5
	comp=Z,420nm,0.8s,SNR=20					
FFC	Flin Flon	74.69	342	eP	P	04 09 55.1 -0.5
FFC				pmax	pmax	
	comp=Z,121nm,0.8s					
FFC	Flin Flon	74.69	342	eP	P	04 09 55.1 -0.5
	comp=Z,121nm,0.8s					
WALA	Waterton Lakes	74.73	332	eP	P	04 09 55.7 -0.3
	comp=Z,1.0nm,0.8s					
QSPA	South Pole Qui	74.90	180	eP	P	04 09 56.5 -0.4
	comp=Z,169nm,1.1s					
QSPA				P'P'		04 37 24.7
QSPA	South Pole Qui	74.90	180	PKPPKP	P'P'df	04 37 24.7 +2.0
	comp=Z,2.2nm,0.8s,baz=115,slow=1.6,SNR=5.9					
VIPM	Ingram Point	74.98	325	P	P	04 09 59.1 +1.4
VIPM	Ingram Point	74.98	325	P	P	04 09 59.1 +1.4
KRMB	Red Mountain	75.04	321	eP	P	04 09 58.5 +0.6
	comp=Z,29nm,1.2s					
HUMO	Hull Mountain	75.12	323	eP	P	04 09 57.6 -0.7
	comp=Z,8.2nm,0.6s					
PPT2	Papeete2	75.45	255	eS	S	04 19 24.9 +0.7
	comp=Z,434nm,26.2s					
PPT2	Papeete2	75.45	255	eLR	LR	04 33 29.0
	comp=Z,9μm,87.2s					
PPT	Papeete	75.46	255	P	P	04 10 02.6 +1.8
PPT	Papeete	75.46	255	P	P	04 10 02.6 +1.8
	comp=Z,59nm,0.8s,baz=100,slow=12,SNR=3.6					
HAWA	Hanford	75.62	327	eP	P	04 10 02.1 +1.1
	comp=Z,28nm,0.8s					
KBO	Bosley Butte	75.64	322	eP	P	04 10 02.6 +1.3
	comp=Z,161nm,1.5s					
NEW	Newport	75.67	330	eP	P	04 10 01.4 0.0
	comp=Z,12nm,0.8s					
NEW	Newport	75.67	330	P	P	04 10 01.6 +0.3
	baz=76,SNR=11					
BENWA	Benson Ranch	75.80	327	P	P	04 10 03.7 +1.6
OD2	Odessa Site #2	75.86	328	P	P	04 10 03.7 +1.3
VFP	Flag Point	75.96	326	P	P	04 10 04.7 +1.4
KEBM	Edson Butte	76.09	322	eP	P	04 10 05.2 +1.4
	comp=Z,87nm,1.2s					
KEBM				epP	pP	04 10 55.9 +2.2
VLL	Laurance Lake	76.17	326	P	P	04 10 06.0 +1.7
FCC	Fort Churchill	76.26	348	eP	P	04 10 03.2 -1.1
FCC				e*PP	pP	04 10 55.0 +0.8
FCC	Fort Churchill	76.26	348	eP	P	04 10 03.2 -1.1
	comp=Z,0.7nm,0.6s					
FCC				epP	pP	04 10 55.0 +0.8
NAC	Naches	76.52	327	P	P	04 10 07.8 +1.6
COR	Corvallis	76.53	324	eP	P	04 10 06.9 +0.7
COR				pmax	pmax	
	comp=Z,47nm,0.7s					
COR	Corvallis	76.53	324	eP	P	04 10 06.9 +0.7
	comp=Z,48nm,0.7s					
TBM	Table Mountain	76.69	327	P	P	04 10 08.6 +1.4
TORD	Torodi Ar. Bea	76.69	72	P	P	04 10 06.8 -1.0
TORD				pP	pP	04 10 55.1 -2.5
TORD	Torodi Ar. Bea	76.69	72	P	P	04 10 06.8 -1.0
	comp=Z,228nm,0.6s,baz=262,slow=4.3,SNR=3860					
TORD				pP	pP	04 10 55.1 -2.5
	comp=Z,68nm,1.0s,baz=266,slow=4.5,SNR=3.7					
TORD				LR	LR	04 43 58.1
	comp=Z,918nm,19.6s,baz=250,slow=36					
WTV	Waterville	76.70	328	P	P	04 10 08.3 +1.2
WPW	White Pass	76.88	327	P	P	04 10 09.2 +0.9
FL2	Flat Top 2	77.00	326	P	P	04 10 10.2 +1.2
LON	Longmire	77.06	327	eP	P	04 10 09.5 +0.3
LON				pmax	pmax	
	comp=Z,9.0nm,0.7s					
LON	Longmire	77.06	327	eP	P	04 10 09.4 +0.3
	comp=Z,8.9nm,0.7s					
EDM	Edmonton	77.54	335	eP	P	04 10 10.9 -0.8
EDM	Edmonton	77.54	335	eP	P	04 10 10.9 -0.8
EDM				epP	pP	04 11 00.4 -1.3
PFVI	Vila Bisbo	77.86	46	eP	P	04 10 15.1 +1.3
	comp=Z,135nm,1.5s					
PFVI				epP	pP	04 11 06.4 +2.6
MORF	Marmelete	78.07	46	eP	P	04 10 15.8 +0.8
	comp=Z,114nm,1.8s					
MORF				epP	pP	04 11 04.3 -0.7
MORF	Marmelete	78.07	46	eP	P	04 10 14.9 -0.1
MORF				eS	S	04 19 49.6 -2.1
PTEO	Sao Teotonio	78.14	46	eP	P	04 10 16.9 +1.6
	comp=Z,250nm,1.5s					
PTEO				epP	pP	04 11 07.4 +2.1
LIS	Lisbon	78.43	44	eP	P	04 10 16.2 -0.6
LIS				AMb	AMB	04 10 21.5
	comp=Z,143nm,1.2s					
LIS	Lisbon	78.43	44	eP	P	04 10 16.2 -0.6
	comp=Z,143nm,1.2s					
LIS	Lisbon	78.43	44	eP	P	04 10 16.2 -0.6
PBDV	Barranco-do-Ve	78.54	46	eP	P	04 10 18.5 +1.0
	comp=Z,156nm,1.5s					
PBDV				epP	pP	04 11 09.7 +2.1
PNCL	Nicolau / Gran	78.55	45	eP	P	04 10 18.4 +0.9
	comp=Z,58nm,1.2s					
PNCL				epP	pP	04 11 07.7 +0.1
NLWA	Neilton Lookou	78.56	326	eP	P	04 10 18.2 +0.8
	comp=Z,65nm,1.1s					
NLWA				epP	pP	04 11 11.3 +3.8
PVAQ	Vaqueiros	78.77	46	eP	P	04 10 19.4 +0.7
	comp=Z,72nm,1.5s					
PVAQ				epP	pP	04 11 09.3 +0.4
PBEJ	Beja	78.97	46	eP	P	04 10 21.0 +1.2
	comp=Z,68nm,1.7s					
PBEJ				epP	pP	04 11 10.0 0.0
EVOP	Sao Brissos	79.03	45	eP	P	04 10 20.8 +0.6
EVOP				e*PP	pP	04 11 11.2 +0.9
EVOP				pmax	pmax	
	comp=Z,54nm,0.8s					
EVOP	Sao Brissos	79.03	45	eP	P	04 10 20.8 +0.6
	comp=Z,54nm,0.8s					
EVOP				epP	pP	04 11 11.2 +0.9
PGC	Sidney	79.11	327	eP	P	04 10 21.0 +0.8
	comp=Z,7.7nm,1.6s					
PGC				epP	pP	04 11 11.1 +0.6
EVO	Evora	79.11	45	eP	P	04 10 20.8 +0.2
	comp=Z,54nm,0.8s					
EVO				epP	pP	04 11 11.2 +0.4
EVO				eR		
	comp=Z,617nm,20.8s					
EVO	Evora	79.11	45	eP	P	04 10 21.8 +1.2
	comp=Z,47nm,1.6s					
EVO				epP	pP	04 11 11.5 +0.7
PMTG	Montargil	79.23	44	eP	P	04 10 21.6 +0.4
	comp=Z,104nm,1.7s					
PMTG				epP	pP	04 11 11.5 +0.1
PTOM	Tomar	79.38	44	eP	P	04 10 23.0 +1.0
	comp=Z,117nm,1.4s					
PCAS	Casmilo, Conde	79.54	44	eP	P	04 10 24.1 +1.2
	comp=Z,56nm,1.5s					
PCAS				epP	pP	04 11 13.5 +0.4
PESTR	Estremoz	79.56	45	eP	P	04 10 23.5 +0.4
	comp=Z,98nm,1.7s					
PESTR				epP	pP	04 11 13.2 -0.1
PBAR	Barrancos	79.61	46	eP	P	04 10 24.3 +1.0
	comp=Z,89nm,1.5s					
PBAR				epP	pP	04 11 13.8 +0.3
PMRV	Marv??o	79.97	44	eP	P	04 10 25.7 +0.5
	comp=Z,35nm,1.9s					
PMRV				epP	pP	04 11 17.7 +2.2
PTO	Porto	80.02	43	eP	P	04 10 26.3 +0.9
PCBR	Castelo Branco	80.12	44	eP	P	04 10 26.6 +0.6
	comp=Z,53nm,1.5s					
PCBR				epP	pP	04 11 16.9 +0.7
PVIS	Viseu	80.27	43	eP	P	04 10 27.4 +0.6
	comp=Z,61nm,1.7s					
MTE	Manteigas	80.34	44	eP	P	04 10 28.2 +0.9
	comp=Z,50nm,1.0s					
PGAV	Gavieira, Arco	80.65	42	eP	P	04 10 29.4 +0.5
	comp=Z,67nm,1.7s					
PGAV				epP	pP	04 11 18.9 -0.3
POLO	Lamas de Olo	80.66	43	eP	P	04 10 29.9 +0.9
	comp=Z,21nm,1.2s					
POLO				epP	pP	04 11 19.3 0.0
PVRL	Vila Real	80.66	43	eP	P	04 10 29.7 +0.8
	comp=Z,58nm,1.5s					
PVRL				epP	pP	04 11 19.9 +0.6
PCAB	Cabril	80.68	42	eP	P	04 10 29.7 +0.7
	comp=Z,65nm,1.4s					
MVO	Moncorvo	81.06	43	eP	P	04 10 31.1 +0.1
	comp=Z,55nm,1.8s					
MVO				epP	pP	04 11 21.2 -0.2
PBRG	Braganca	81.56	43	eP	P	04 10 33.7 +0.1
	comp=Z,65nm,1.7s					
PBRG				epP	pP	04 11 26.5 +2.4
SBA	Scott Base	81.69	190	eP	P	04 10 34.5 +0.8
SBA				pmax	pmax	
	comp=Z,67nm,1.2s					
SBA	Scott Base	81.69	190	eP	P	04 10 34.5 +0.8
	comp=Z,67nm,1.2s					
PAB	San Pablo	82.11	46	eP	P	04 10 37.0 +0.4
PAB				e*PP	pP	04 11 29.0 +1.9
PAB				pmax	pmax	
	comp=Z,140nm,0.8s					
PAB	San Pablo	82.11	46	eP	P	04 10 37.0 +0.4
	comp=Z,140nm,0.8s					
PAB				epP	pP	04 11 29.0 +1.9
ESDC	Sonseca Array	82.43	46	P	P	04 10 38.6 +0.3
ESDC				pP	pP	04 11 29.1 +0.3
ESDC	Sonseca Array	82.43	46	P	P	04 10 38.6 +0.3
	comp=Z,15nm,0.7s,baz=255,slow=5.1,SNR=67					
ESDC				pP	pP	04 11 29.1 +0.3
	comp=Z,19nm,1.0s,baz=249,slow=5.9,SNR=5.9					
ESLA	Sonseca Array	82.43	46	eP	P	04 10 38.4 +0.2
	comp=Z,7.6nm,0.9s					
ESLA				epP	pP	04 11 30.6 +1.8
VNDA	Vanda	82.73	190	eP	P	04 10 39.5 +0.4
	comp=Z,188nm,1.8s					
VNDA				pP	pP	04 11 27.6 -2.1
VNDA	Vanda	82.73	190	P	P	04 10 39.6 +0.6
	comp=Z,27nm,0.9s,baz=131,slow=3.9,SNR=47					
VNDA				pP	pP	04 11 27.6 -2.1
	comp=Z,9.9nm,1.1s,baz=140,slow=3.1,SNR=2.4					
SYO	Syowa Base	82.82	160⇑	eP	P	04 10 37.6 -2.0
SYO	Syowa Base	82.82	160⇑	ePcP	P	04 10 40.0 +0.4
SUR	Sutherland	82.97	122	P	P	04 10 43.7 +2.2
	comp=Z,362nm,1.3s,SNR=7.5					
SUR	Sutherland	82.97	122	eP	P	04 10 42.2 +0.7
	comp=Z,123nm,1.4s					
SUR				epP	pP	04 11 35.6 +3.5
SUR	Sutherland	82.97	122	P	P	04 10 42.4 +0.9
	comp=Z,50nm,1.0s,baz=243,slow=3.8,SNR=11					
TSUM	Tsumeb	83.23	108	eP	P	04 10 43.0 +0.1
	comp=Z,144nm,1.1s					
TSUM				epP	pP	04 11 34.7 +1.1
TSUM	Tsumeb	83.23	108	P	P	04 10 43.5 +0.5
	baz=254,slow=6.2					
SFJD	Kangerlussuaq	83.30	8	i P	P	04 10 39.4 -2.5
	comp=Z,8.3nm,0.7s					
TAM	Tamanrasset	83.33	64	eP	P	04 10 43.9 +0.6
TAM				e*PP	pP	04 11 36.8 +2.8
TAM				pmax	pmax	
	comp=Z,29nm,0.6s					
TAM	Tamanrasset	83.33	64	eP	P	04 10 43.9 +0.6
	comp=Z,29nm,0.6s					
TAM				epP	pP	04 11 36.8 +2.8
YKA	Yellowknife Ar	84.86	341	P	P	04 10 49.5 -0.3
YKA				pP	pP	04 11 35.0 -5.8
YKA	Yellowknife Ar	84.86	341	P	P	04 10 49.5 -0.3
	comp=Z,78nm,0.7s,baz=136,slow=5.2,SNR=543					
YKA				pP	pP	04 11 35.0 -5.8
	comp=Z,8.5nm,0.7s,baz=134,slow=4.6,SNR=1.1					
YKW3	Yellowknife Ar	84.91	341	eP	P	04 10 49.8 -0.4
	comp=Z,2.1nm,0.8s					
SJPF	Ste Jean	85.79	43	eP	P	04 10 55.0 0.0
	comp=Z,25nm,0.8s					
SJPF				epP	pP	04 11 46.5 +0.5
SJPF	Ste Jean	85.79	43	eP	P	04 10 55.0 0.0
SJPF				e*PP	pP	04 11 46.5 +0.5
SJPF				pmax	pmax	
	comp=Z,25nm,0.8s					
SJPF	Ste Jean	85.79	43	eP	P	04 10 55.0 0.0
	comp=Z,25nm,0.8s					
SJPF				epP	pP	04 11 46.5 +0.5
ETSF	Etsaut	86.14	44	eP	P	04 10 56.7 -0.1
	comp=Z,17nm,0.8s					
ETSF	Etsaut	86.14	44	eP	P	04 10 56.7 -0.1
ETSF				pmax	pmax	
	comp=Z,17nm,0.8s					
ETSF	Etsaut	86.14	44	eP	P	04 10 56.7 -0.1
	comp=Z,17nm,0.8s					
EPF	Esparros	86.80	44	eP	P	04 10 59.0 -1.0
	comp=Z,19nm,0.8s					
EPF	Esparros	86.80	44	eP	P	04 10 59.0 -1.0
EPF				pmax	pmax	
	comp=Z,19nm,0.8s					
EPF	Esparros	86.80	44	eP	P	04 10 59.0 -1.0
	comp=Z,19nm,0.8s				

MFF *e**PP **pP** **04 11 55.7 -0.9**
MFF pmax pmax
comp=Z,17nm,0.7s
MFF Saint Martin d 87.96 40 *e*P **P** **04 11 04.4 -0.9**
comp=Z,17nm,0.7s
MFF *e*pP **pP** **04 11 55.7 -0.9**
BORG Borgarnes 87.98 19 *e*P **P** **04 11 05.2 +0.2**
BORG Borgarnes 87.98 19 P **P** **04 11 06.2 +1.2**
comp=Z,8.5nm,0.6s,baz=123,slow=6.6,SNR=6.1
WRAK Wrangell Islan 88.01 331 *e*P **P** **04 11 05.4 +0.1**
comp=Z,67nm,1.4s
DLBC Dease Lake 88.04 333 *e*P **P** **04 11 06.2 +0.6**
DLBC *e*pP **pP** **04 11 57.2 +0.5**
DLBC *e*PP **PP** **04 14 37.5 +2.0**
FILF Fillols 88.11 45 *e*P pP 04 11 56.5 -1.0
MTLF Montolieu 88.18 44 *e*P **P** **04 11 05.6 -0.9**
comp=Z,13nm,0.7s
MTLF Montolieu 88.18 44 *e*P **P** **04 11 05.6 -0.9**
MTLF pmax pmax
comp=Z,13nm,0.7s
MTLF Montolieu 88.18 44 *e*P **P** **04 11 05.6 -0.9**
comp=Z,13nm,0.7s
GRR Gorron 88.27 39 *e*P **P** **04 11 05.2 -1.6**
comp=Z,16nm,0.6s
GRR Gorron 88.27 39 *e*P **P** **04 11 05.2 -1.6**
GRR pmax pmax
comp=Z,16nm,0.6s
GRR Gorron 88.27 39 *e*P **P** **04 11 05.2 -1.6**
comp=Z,16nm,0.6s
RJF Les Rejaudoux 88.49 42 *e*P **P** **04 11 06.7 -1.2**
comp=Z,12nm,0.7s
RJF *e*R
comp=Z,617nm,21.8s
RJF Les Rejaudoux 88.49 42 *e*P **P** **04 11 06.7 -1.2**
RJF pmax pmax
comp=Z,12nm,0.7s
RJF Les Rejaudoux 88.49 42 *e*P **P** **04 11 06.7 -1.2**
comp=Z,12nm,0.7s
FLN La Foliniere 88.66 38 *e*P **P** **04 11 07.4 -1.2**
FLN *e*R
comp=Z,298nm,20.2s
FLN La Foliniere 88.66 38 *e*P **P** **04 11 07.4 -1.2**
FLN La Foliniere 88.66 38 *e*P **P** **04 11 07.4 -1.2**
CAF Calviac 88.69 43 *e*P **P** **04 11 08.0 -0.9**
CAF *e*pP **pP** **04 11 59.5 -0.7**
CAF Calviac 88.69 43 *e*P **P** **04 11 08.0 -0.9**
CAF *e**PP **pP** **04 11 59.5 -0.7**
CAF Calviac 88.69 43 *e*P **P** **04 11 08.0 -0.9**
CAF *e*pP **pP** **04 11 59.5 -0.7**
LDF La Druitiere 88.80 39 *e*P **P** **04 11 08.0 -1.2**
comp=Z,41nm,1.0s
LDF *e*pP **pP** **04 11 59.3 -1.3**
LDF La Druitiere 88.80 39 *e*P **P** **04 11 08.0 -1.2**
LDF *e**PP **pP** **04 11 59.3 -1.3**
LDF pmax pmax
comp=Z,41nm,1.0s
LDF La Druitiere 88.80 39 *e*P **P** **04 11 08.0 -1.2**
comp=Z,41nm,1.0s
LDF *e*pP **pP** **04 11 59.3 -1.3**
LBTB Lobatse 88.93 116 *e*P **P** **04 11 10.5 -0.2**
comp=Z,14nm,0.7s
LBTB *e*pP **pP** **04 12 04.7 +2.7**
TCF Toulx Ste Croi 89.32 41 *e*P **P** **04 11 10.4 -1.4**
comp=Z,12nm,0.7s
TCF *e*pP **pP** **04 12 01.8 -1.3**
TCF Toulx Ste Croi 89.32 41 *e*P **P** **04 11 10.4 -1.4**
TCF *e**PP **pP** **04 12 01.8 -1.3**
TCF pmax pmax
comp=Z,12nm,0.7s
TCF Toulx Ste Croi 89.32 41 *e*P **P** **04 11 10.4 -1.4**
comp=Z,12nm,0.7s
TCF *e*pP **pP** **04 12 01.8 -1.3**
LASF Ste Croix 89.56 44 *e*P **P** **04 11 12.4 -0.5**
comp=Z,20nm,0.9s
LASF *e*pP **pP** **04 12 04.0 -0.3**
LASF Ste Croix 89.56 44 *e*P **P** **04 11 12.4 -0.5**
comp=Z,20nm,0.9s
LASF *e*pP **pP** **04 12 04.0 -0.3**
BGF Bois d'Agland 89.83 41 *e*P **P** **04 11 13.0 -1.1**
comp=Z,42nm,0.7s
BGF Bois d'Agland 89.83 41 *e*P **P** **04 11 13.0 -1.1**
BGF pmax pmax
comp=Z,42nm,0.7s
BGF Bois d'Agland 89.83 41 *e*P **P** **04 11 13.0 -1.1**
comp=Z,42nm,0.7s
HYF Humbligny 89.97 41 *e*P **P** **04 11 13.8 -1.0**
HYF Humbligny 89.97 41 *e*P **P** **04 11 13.8 -1.0**
ESK Eskdalemuir 90.03 32 *e*P **P** **04 11 13.6 -1.2**
ESK pmax pmax
comp=Z,34nm,1.1s
ESK Eskdalemuir 90.03 32 *e*P **P** **04 11 13.6 -1.2**
comp=Z,34nm,1.1s
EKA Eskdalemuir Ar 90.06 32 P **P** **04 11 13.6 -1.4**
EKA Eskdalemuir Ar 90.06 32 P **P** **04 11 13.6 -1.4**
comp=Z,1.5nm,0.6s,baz=239,slow=5.3,SNR=9.5
SUMG Summit 90.14 9 *i* P **P** **04 11 15.6 +0.1**
SUMG pmax pmax
comp=Z,15nm,0.8s
SUMG Summit 90.14 9 *i* P **P** **04 11 15.6 +0.1**
comp=Z,15nm,0.8s
SUMG *i* 04 12 05.7
SUMG Summit 90.14 9 *e*P **P** **04 11 14.9 -0.6**
comp=Z,73nm,1.3s
SUMG *e*pP **pP** **04 12 07.5 +0.6**
AVF Avril sur Loir 90.24 41 *e*P **P** **04 11 14.5 -1.5**
comp=Z,12nm,0.7s
AVF Avril sur Loir 90.24 41 *e*P **P** **04 11 14.5 -1.5**
AVF pmax pmax
comp=Z,13nm,0.7s
AVF Avril sur Loir 90.24 41 *e*P **P** **04 11 14.5 -1.5**
comp=Z,12nm,0.7s
VIVF Saint-Julien-l 90.39 43 *e*P **P** **04 11 16.4 -0.4**
comp=Z,12nm,0.8s
VIVF *e*pP **pP** **04 12 07.9 -0.3**
VIVF Saint-Julien-l 90.39 43 *e*P **P** **04 11 16.4 -0.4**
VIVF *e**PP **pP** **04 12 07.9 -0.3**
VIVF pmax pmax
comp=Z,12nm,0.8s
VIVF Saint-Julien-l 90.39 43 *e*P **P** **04 11 16.4 -0.4**
comp=Z,12nm,0.8s
VIVF *e*pP **pP** **04 12 07.9 -0.3**
SSF Saint Saulge 90.44 41 *e*P **P** **04 11 16.0 -0.9**
SSF Saint Saulge 90.44 41 *e*P **P** **04 11 16.0 -0.9**
SSF Saint Saulge 90.44 41 *e*P **P** **04 11 16.0 -0.9**
SSB Saint Sauveur 90.45 43 *e*P **P** **04 11 16.9 -0.2**
SSB *e**PP **pP** **04 12 09.9 +1.4**
SSB pmax pmax
comp=Z,7.0nm,0.7s
SSB Saint Sauveur 90.45 43 *e*P pP 04 12 09.1 +0.6
SSB Saint Sauveur 90.45 43 *e*P **P** **04 11 16.9 -0.2**
comp=Z,7.4nm,0.7s
SSB *e*pP **pP** **04 12 09.9 +1.4**
SMF Signal de Mont 90.50 42 *e*P **P** **04 11 16.1 -1.1**
comp=Z,22nm,0.6s
SMF *e*pP **pP** **04 12 07.5 -1.1**
SMF Signal de Mont 90.50 42 *e*P **P** **04 11 16.1 -1.1**
SMF *e**PP **pP** **04 12 07.5 -1.1**
SMF pmax pmax
comp=Z,22nm,0.6s
SMF Signal de Mont 90.50 42 *e*P **P** **04 11 16.1 -1.1**
comp=Z,22nm,0.6s
SMF *e*pP **pP** **04 12 07.5 -1.1**
SMRF Simiane la Rot 90.68 44 *e*P **P** **04 11 17.1 -1.1**
comp=Z,18nm,0.8s
SMRF Simiane la Rot 90.68 44 *e*P **P** **04 11 17.1 -1.1**
comp=Z,18nm,0.8s
MAW Mawson 90.69 164 P **P** **04 11 18.2 +0.4**
MAW Mawson 90.69 164 P **P** **04 11 18.2 +0.4**
comp=Z,112nm,1.1s,baz=223,slow=5.9,SNR=100
MAW LR LR 04 49 58.5
comp=Z,291nm,21.2s,baz=226,slow=34
KEST Kesra 90.69 53 *e*P **P** **04 11 19.9 +1.5**
KEST Kesra 90.69 53 P **P** **04 11 20.2 +1.7**
comp=Z,1.8nm,0.8s,baz=258,slow=3.1,SNR=12
LOR Lormes 90.74 41 *e*P **P** **04 11 17.3 -1.1**
LOR *e*pP **pP** **04 12 08.3 -1.4**
LOR *e*R
comp=Z,336nm,19.8s
LOR Lormes 90.74 41 *e*P **P** **04 11 17.3 -1.1**
LOR *e*pP **pP** **04 12 08.3 -1.4**
SKAG Skagway 90.92 332 *e*P **P** **04 11 19.6 +0.8**
comp=Z,39nm,1.3s
SKAG *e*pP **pP** **04 12 10.2 0.0**
LMR La Mourre 91.09 45 *e*P **P** **04 11 18.8 -1.2**
comp=Z,37nm,1.0s
LMR La Mourre 91.09 45 *e*P **P** **04 11 18.8 -1.2**
LMR pmax pmax
comp=Z,37nm,1.0s
LMR La Mourre 91.09 45 *e*P **P** **04 11 18.8 -1.2**
comp=Z,37nm,1.0s
ORIF Oris-en-Rattie 91.21 44 *e*P **P** **04 11 20.6 -0.1**
comp=Z,28nm,0.6s
ORIF *e*pP **pP** **04 12 12.1 0.0**
ORIF *e*R
comp=Z,594nm,21.8s
ORIF Oris-en-Rattie 91.21 44 *e*P **P** **04 11 20.6 -0.1**
ORIF *e**PP **pP** **04 12 12.1 0.0**
ORIF pmax pmax
comp=Z,28nm,0.6s
ORIF Oris-en-Rattie 91.21 44 *e*P **P** **04 11 20.6 -0.1**
comp=Z,28nm,0.6s
ORIF *e*pP **pP** **04 12 12.1 0.0**
FRF La Foret Royal 91.26 45 *e*P **P** **04 11 19.2 -1.6**
FRF *e*pP **pP** **04 12 11.9 -0.3**
FRF La Foret Royal 91.26 45 *e*P **P** **04 11 19.2 -1.6**
FRF *e**PP **pP** **04 12 11.9 -0.3**
FRF La Foret Royal 91.26 45 *e*P **P** **04 11 19.2 -1.6**
FRF *e*pP **pP** **04 12 11.9 -0.3**
MBDF Montbardon 91.74 44 *e*P **P** **04 11 22.1 -1.1**
comp=Z,17nm,0.9s
MBDF Montbardon 91.74 44 *e*P **P** **04 11 22.1 -1.1**
MBDF pmax pmax
comp=Z,17nm,0.9s
MBDF Montbardon 91.74 44 *e*P **P** **04 11 22.1 -1.1**
comp=Z,17nm,0.9s
BNI Bardonecchia 91.79 44 *e*P **P** **04 11 22.5 -0.9**
BNI pmax pmax
comp=Z,9.0nm,1.0s
BNI Bardonecchia 91.79 44 *e*P **P** **04 11 22.5 -0.9**
comp=Z,8.7nm,1.0s
SFTF Sexfontaines 91.82 40 *e*P **P** **04 11 22.1 -1.2**
comp=Z,36nm,0.8s
SFTF Sexfontaines 91.82 40 *e*P **P** **04 11 22.1 -1.2**
comp=Z,36nm,0.8s
SBF Sospel 91.90 45 *e*P **P** **04 11 23.0 -0.9**
comp=Z,82nm,0.9s
SBF Sospel 91.90 45 *e*P **P** **04 11 23.0 -0.9**
SBF pmax pmax
comp=Z,82nm,0.9s
SBF Sospel 91.90 45 *e*P **P** **04 11 23.0 -0.9**
comp=Z,82nm,0.9s
CABF La Chapelle 91.93 42 *e*P **P** **04 11 23.6 -0.4**
comp=Z,12nm,0.9s
CABF La Chapelle 91.93 42 *e*P **P** **04 11 23.6 -0.4**
CABF pmax pmax
comp=Z,12nm,0.9s
CABF La Chapelle 91.93 42 *e*P **P** **04 11 23.6 -0.4**
comp=Z,12nm,0.9s
MEZF Maizieres J'vi 91.94 40 *e*P **P** **04 11 23.1 -0.7**
MEZF *e*pP **pP** **04 12 14.3 -0.9**
MEZF Maizieres J'vi 91.94 40 *e*P **P** **04 11 23.1 -0.7**
MEZF *e*pP **pP** **04 12 14.3 -0.9**
RSL Roselend 91.97 43 *e*P pP 04 12 17.4 +1.7
BAIF Baives 91.98 38 *e*P **P** **04 11 23.3 -0.7**
BAIF Baives 91.98 38 *e*P **P** **04 11 23.3 -0.7**
BAIF Baives 91.98 38 *e*P **P** **04 11 23.3 -0.7**
LPL La Plagne 91.98 43 *e*P **P** **04 11 24.2 -0.2**
comp=Z,12nm,0.6s
LPL La Plagne 91.98 43 *e*P **P** **04 11 24.2 -0.2**
LPL pmax pmax
comp=Z,12nm,0.6s
LPL La Plagne 91.98 43 *e*P **P** **04 11 24.2 -0.2**
comp=Z,12nm,0.6s
LPG La Plagne 91.99 43 *e*P **P** **04 11 24.4 -0.1**
comp=Z,18nm,0.7s
LPG *e*pP **pP** **04 12 16.0 +0.1**
LPG La Plagne 91.99 43 *e*P **P** **04 11 24.4 -0.1**
LPG *e**PP **pP** **04 12 16.0 +0.1**
LPG pmax pmax
comp=Z,18nm,0.7s
LPG La Plagne 91.99 43 *e*P **P** **04 11 24.4 -0.1**
comp=Z,18nm,0.7s
LPG *e*pP **pP** **04 12 16.0 +0.1**
SNF Seneffe 92.19 38 P **P** **04 11 25.7 +0.8**
DOU Dourbes 92.23 38 P **P** **04 11 25.3 +0.1**
GIVF Givet 92.37 39 *e*P **P** **04 11 24.8 -1.0**
comp=Z,23nm,0.8s
GIVF *e*pP **pP** **04 12 16.5 -0.7**
GIVF Givet 92.37 39 *e*P **P** **04 11 24.8 -1.0**
GIVF *e**PP **pP** **04 12 16.5 -0.7**
GIVF pmax pmax
comp=Z,23nm,0.8s
GIVF Givet 92.37 39 *e*P **P** **04 11 24.8 -1.0**
comp=Z,23nm,0.8s
GIVF *e*pP **pP** **04 12 16.5 -0.7**
PAGF Fort de Pagny 92.38 40 *e*P **P** **04 11 25.1 -0.8**
comp=Z,7.8nm,0.9s
PAGF *e*pP **pP** **04 12 16.6 -0.7**
PAGF Fort de Pagny 92.38 40 *e*P **P** **04 11 25.1 -0.8**
comp=Z,7.8nm,0.9s
PAGF *e*pP **pP** **04 12 16.6 -0.7**
THEF They Montfort 92.42 41 *e*P pP 04 12 18.6 +1.1
HYT Haines Junctio 92.52 333 *e*P **P** **04 11 26.8 +0.4**
PGF Pioggiola 92.56 47 *e*P **P** **04 11 26.5 -0.5**
comp=Z,31nm,0.9s
PGF Pioggiola 92.56 47 *e*P **P** **04 11 26.5 -0.5**
PGF pmax pmax
comp=Z,31nm,0.9s
PGF Pioggiola 92.56 47 *e*P **P** **04 11 26.5 -0.5**
comp=Z,31nm,0.9s
HAU Haudompre 92.58 41 *e*P **P** **04 11 26.2 -0.6**
comp=Z,13nm,1.0s
HAU *e*R
comp=Z,271nm,20.8s
HAU Haudompre 92.58 41 *e*P **P** **04 11 26.2 -0.6**
HAU pmax pmax
comp=Z,13nm,1.0s
HAU Haudompre 92.58 41 *e*P **P** **04 11 26.2 -0.6**
comp=Z,13nm,1.0s
LOMF Lomont 92.66 42 *e*P pP 04 12 19.3 +0.5
HINF Hinteralfeld 92.83 41 *e*P **P** **04 11 27.1 -1.0**
comp=Z,10nm,0.8s
HINF Hinteralfeld 92.83 41 *e*P **P** **04 11 27.1 -1.0**
HINF pmax pmax
comp=Z,10.0nm,0.8s
HINF Hinteralfeld 92.83 41 *e*P **P** **04 11 27.1 -1.0**
comp=Z,10nm,0.8s
WLF Walferdange 93.02 39 *e*pP pP 04 12 22.4 +2.2
MOF Molkenrain 93.02 41 *e*P pP 04 12 20.2 -0.2
ECH Echery 93.16 41 *e*P **P** **04 11 29.4 -0.1**
ECH *e**PP **pP** **04 12 22.3 +1.3**
ECH pmax pmax
comp=Z,12nm,1.3s
ECH Echery 93.16 41 *e*P pP 04 12 21.3 +0.3
ECH Echery 93.16 41 *e*P **P** **04 11 29.4 -0.1**
comp=Z,12nm,1.3s
ECH *e*pP **pP** **04 12 22.3 +1.3**
CDF Champ du Feu 93.30 41 *e*P **P** **04 11 28.8 -1.4**
comp=Z,8.8nm,0.8s
CDF *e*pP **pP** **04 12 20.6 -1.1**
CDF Champ du Feu 93.30 41 *e*P **P** **04 11 28.8 -1.4**
CDF *e**PP **pP** **04 12 20.6 -1.1**
CDF pmax pmax
comp=Z,9.0nm,0.8s
CDF Champ du Feu 93.30 41 *e*P **P** **04 11 28.8 -1.4**
comp=Z,8.8nm,0.8s
CDF *e*pP **pP** **04 12 20.6 -1.1**
WLS Welschbruch 93.35 41 *e*P pP 04 12 23.3 +1.4
LANF Langenberg 93.81 40 *e*P pP 04 12 25.0 +1.0
BFO Black Forest 93.94 41 *e*pP pP 04 12 25.9 +1.3
LSZ Lusaka 94.04 107 *e*P **P** **04 11 34.8 +0.3**
comp=Z,2.9nm,0.6s
LSZ Lusaka 94.04 107 P **P** **04 11 35.6 +1.2**
comp=Z,2.6nm,0.9s,baz=0.0,slow=5.1,SNR=2.9
BUG Bochum--Univer 94.28 38 *e*pP pP 04 12 28.0 +2.0
DAVOX Davos/Dischmat 94.46 43 P **P** **04 11 35.6 -0.2**
DAVOX pP **pP** **04 12 26.6 -0.7**
DAVOX Davos/Dischmat 94.46 43 P **P** **04 11 35.6 -0.2**
comp=Z,3.9nm,0.6s,baz=185,slow=14,SNR=9.8
DAVOX pP **pP** **04 12 26.6 -0.7**
comp=Z,10nm,0.9s,baz=278,slow=4.0,SNR=4.8
TNS Taunus Mts 94.60 39 *e*pP pP 04 12 29.8 +2.2
INK Inuvik 94.62 341 *e*P **P** **04 11 35.3 -0.4**
comp=Z,75nm,1.4s
STU Stuttgart 94.62 41 *e*pP pP 04 12 29.6 +1.9
STU Stuttgart 94.62 41 *e*P **P** **04 11 34.9 -1.3**
STU *e**PP **pP** **04 12 28.8 +1.2**
STU Stuttgart 94.62 41 *e*P **P** **04 11 34.9 -1.3**
STU *e*pP **pP** **04 12 28.8 +1.2**
IBBN Ibbenburen 94.85 37 *e*pP pP 04 12 31.0 +2.4
DRV Dumont d'Urvil 95.27 192 PP PP 04 15 29.0 -2.1
DRV S **SKSac** **04 22 01.0 +6.7**
DRV SS **SS** **04 29 02.0 -4.4**
MOTA Moosalm 95.42 42 ⇑*i*P **P** **04 11 39.1 -1.0**
comp=Z,7.0nm,0.9s,SNR=7.1
MOTA ⇑*i*pP **pP** **04 12 31.6 +0.1**
comp=Z,48nm,1.5s
AQU L'Aquila 95.63 48 *e*P **P** **04 11 40.6 -0.4**
comp=Z,24nm,0.9s
UBBA Unterbreizbach 95.73 39 *e*pP pP 04 12 34.6 +2.1
EGAK Eagle 95.74 336 *e*P **P** **04 11 40.3 -0.6**
comp=Z,18nm,1.3s
WTTA Wattenberg 95.75 43 ⇑*i*P P 04 11 36.9 -4.7
comp=Z,10nm,0.8s,SNR=12
WTTA ⇑*i*pP pP 04 12 33.5 +0.4
comp=Z,85nm,1.6s
FUR Furstenfeldbru 95.77 42 *e*pP pP 04 12 35.0 +2.0
GRF Grafenberg Arr 96.16 40 *e*P **P** **04 11 44.3 +1.1**
comp=Z,52nm,1.6s
GRF *e*pP **pP** **04 12 37.0 +2.3**
comp=Z,52nm,1.6s
GRF Grafenberg Arr 96.16 40 *e*P **P** **04 11 44.3 +1.1**
GRF *e**PP **pP** **04 12 37.0 +2.3**
GRF pmax pmax
comp=Z,52nm,1.6s
GRF pmax pmax
comp=Z,52nm,1.6s
CLZ Clausthal 96.25 38 *e*pP pP 04 12 37.8 +2.7
NRDL Niedersach Rie 96.28 37 *e*pP pP 04 12 37.9 +2.9
DIV Divide 96.34 332 *e*P **P** **04 11 43.1 -0.7**
comp=Z,6.4nm,0.6s
RJOB Jochberg 96.63 42 *e*pP pP 04 12 39.0 +2.0
MOX Moxa 96.67 39 *e*pP pP 04 12 39.5 +2.5
ROTZ Rotzenmuhle 96.80 40 *e*pP pP 04 12 40.3 +2.7
PAX Paxson 96.84 334 *e*P **P** **04 11 45.0 -1.1**
PAX pmax pmax
comp=Z,6.0nm,0.7s
PAX Paxson 96.84 334 *e*P **P** **04 11 45.0 -1.1**
comp=Z,5.6nm,0.7s
WET Wettzell 97.05 41 *e*pP pP 04 12 40.9 +2.1
TANN Tannenbergstha 97.12 40 *e*pP pP 04 12 41.7 +2.6
KHC Kasperske Hory 97.50 41 *e*P Pdif 04 11 50.9 +1.6
KHC *e**PP pP 04 12 42.4 +1.6
KHC *e* 04 22 07.0
KHC Kasperske Hory 97.50 41 *e*P Pdif 04 11 50.9 +1.6
KHC *e*pP pP 04 12 42.4 +1.6
KHC *e*SKS **SKSac** **04 22 07.0 +0.6**
KHC *e*SP **SP** **04 24 14.7 -4.6**
GEC2 GERESS Array S 97.50 42 *e*pP pP 04 12 42.7 +1.8
GERES GERESS Array B 97.50 42 P **P** **04 11 48.7 -0.7**
GERES pP **pP** **04 12 40.1 -0.8**
GERES GERESS Array B 97.50 42 P **P** **04 11 48.7 -0.7**
comp=Z,2.1nm,0.7s,baz=250,slow=3.8,SNR=8.1
GERES pP **pP** **04 12 40.1 -0.8**
comp=Z,2.4nm,0.9s,baz=228,slow=3.4,SNR=3.9
MOA Molln 97.62 43 ⇑*i*P **P** **04 11 48.0 -1.8**
comp=Z,12nm,1.7s,SNR=5.3
MOA ⇓*i*pP **pP** **04 12 43.4 +2.0**
comp=Z,25nm,1.4s
CLL Collm 97.69 39 *e*pP pP 04 12 44.0 +2.4
CLL Collm 97.69 39 *e*P Pdif 04 11 50.0 0.0
CLL *i* *PP pP 04 12 41.5 -0.1
CLL *e* 04 22 09.0
CLL pmax pmax
comp=Z,12nm,1.5s
CLL Collm 97.69 39 *e*Pdif Pdif 04 11 50.0 0.0
comp=Z,12nm,1.5s
CLL *i* pP pP 04 12 41.5 -0.1
comp=Z,24nm,1.4s
CLL *e*PP **PP** **04 15 50.0 -0.9**
CLL *e*pPP 04 16 35.0
CLL *e*sPPP 04 19 00.0
CLL *e*SKSac **SKSac** **04 22 09.0 +1.8**
CLL *e*SP **SP** **04 24 20.0 -1.2**
CLL *e*PPS PPS 04 25 38.0
CLL *e* 04 28 54.0
CLL *e*SS **SS** **04 29 46.0 +3.4**
CLL *e*sSS 04 31 01.0
CLL *e*SSS SSS 04 33 30.0
SML Sawmill 97.72 332 *e*P **P** **04 11 49.2 -0.8**
SML *e**PP **pP** **04 12 42.1 +0.5**
SML *e* 04 15 48.1
SML pmax pmax
comp=Z,3.0nm,0.5s
SML Sawmill 97.72 332 *e*P **P** **04 11 49.2 -0.8**
comp=Z,2.9nm,0.5s
SML *e*pP **pP** **04 12 42.1 +0.5**
SML *e*PP **PP** **04 15 48.0 -2.9**
ILAR Eielson Array 98.03 335 P **P** **04 11 50.4 -0.9**
ILAR PP PP 04 15 47.4 -5.8
ILAR PKKPbc **PKKPbc** **04 28 22.7 -3.9**
ILAR Eielson Array 98.03 335 P **P** **04 11 50.4 -0.9**
comp=Z,1.1nm,0.5s,baz=138,slow=2.9,SNR=24
ILAR PP PP 04 15 47.4 -5.8
comp=Z,3.8nm,0.8s,baz=109,slow=7.1,SNR=5.6
ILAR PKKPbc **PKKPbc** **04 28 22.7 -3.9**
comp=Z,0.5nm,0.7s,baz=286,slow=3.1,SNR=5.4
BRG Berggiesshubel 98.15 40 *e*PDIF Pdif 04 11 53.1 +1.0
comp=Z,7.3nm,1.2s
BRG pP pP 04 12 42.0 -1.7
BRG *e*sP sP 04 13 13.3 +7.9
comp=Z,13nm,1.4s
BRG PP PP 04 15 39.0 -15
BRG SKS **SKSac** **04 22 12.0 +2.4**
BRG Berggiesshubel 98.15 40 *e*pP pP 04 12 46.1 +2.4
comp=Z,23nm,1.4s
BRG Berggiesshubel 98.15 40 *e*P Pdif 04 11 53.1 +1.0
BRG 04 22 12.0
BRG pmax pmax
comp=Z,7.0nm,1.2s
BRG pmax pmax
comp=N,13nm,1.4s
RC01 Rabbit Creek A 98.15 331 *e*P **P** **04 11 51.2 -0.7**
comp=N,5.7nm,0.5s
PRA Prague 98.26 40 PDIFF Pdif 04 11 58.0 +5.4
PRA pP pP 04 12 47.0 +2.8
PRU Pruhonice 98.31 41 *e*P Pdif 04 11 57.1 +4.3
PRU *e* 04 22 13.8
PRU Pruhonice 98.31 41 *e*PDIFF Pdif 04 11 57.1 +4.3
PRU *e*pP pP 04 12 46.8 +2.4
PRU *e*SKS **SKSac** **04 22 13.8 +3.4**
PRU *e*SP **SP** **04 24 23.4 -4.6**
COLA College 98.45 335 *e*P **P** **04 11 52.5 -0.5**
COLA *e* 04 15 56.1
COLA pmax pmax
comp=Z,28nm,0.8s
COLA College 98.45 335 *e*P **P** **04 11 52.5 -0.5**
comp=Z,28nm,0.8s
COLA *e*pP **pP** **04 12 43.4 -1.3**
COLA *e*PP **PP** **04 15 56.1 -0.2**
PVCC Panska Ves 98.46 40 *e*pP pP 04 12 47.8 +2.7
MCK McKinley 98.56 334 *e*P Pdif 04 11 53.7 0.0
MCK pmax pmax
comp=Z,7.0nm,0.9s
MCK McKinley 98.56 334 *e*P Pdif 04 11 53.7 0.0
comp=Z,6.8nm,0.9s
CASY Casey 98.70 180 *e*P **P** **04 11 54.3 0.0**
comp=Z,6.8nm,0.9s
NAO01 NORSAR Array S 98.99 29 *e*P Pdif 04 11 54.8 -0.8
TRF Thorofare Moun 99.06 333 *e*Pdif **Pdif** **04 11 54.9 -1.2**
comp=Z,5.9nm,0.6s
NOA NORSAR Array B 99.19 29 LR LR 04 55 43.8
comp=Z,179nm,18.2s,baz=250,slow=34
UPC Upice 99.35 40 *e*P **Pdif** **04 11 58.8 +1.3**
UPC *e**PP **pP** **04 12 51.9 +2.8**
UPC Upice 99.35 40 *e*PDIFF **Pdif** **04 11 58.8 +1.3**
UPC *e*pP **pP** **04 12 51.9 +2.8**
RSO Redoubt South 99.42 330 *e*Pdif **Pdif** **04 11 57.0 -0.8**
comp=Z,14nm,0.5s
DPC Dobruska-Polom 99.51 40 *e*P **Pdif** **04 11 59.8 +1.6**
DPC *e**PP **pP** **04 12 52.4 +2.5**
DPC *e* 04 22 18.0
DPC Dobruska-Polom 99.51 40 *e*PDIFF **Pdif** **04 11 59.8 +1.6**
DPC *e*pP **pP** **04 12 52.4 +2.5**
DPC *e*SKS **SKSac** **04 22 18.0 +1.5**
BPAW Bear Paw Mtn. 99.53 334 *e*Pdif **Pdif** **04 11 57.2 -0.8**
comp=Z,7.8nm,0.6s
BPAW *e*pP **pP** **04 12 48.0 -1.6**
BPAW *e*PP PP 04 15 53.0 -12
PPLA Purkeypile 99.75 333 *e*Pdif **Pdif** **04 11 58.5 -0.6**
comp=Z,4.8nm,0.6s
MORC Moravsky Berou 100.16 41 *e*P **Pdif** **04 11 59.4 -1.7**
MORC *e**PP pP 04 12 55.2 +2.4
MORC Moravsky Berou 100.16 41 *e*Pdif **Pdif** **04 11 59.4 -1.7**

MORC				*e*pP	pP	04 12 55.2	+2.4
OKC	**Ostrava-Krasne**	**100.56**	**41**	*e*pP	pP	04 12 57.3	+2.8
OKC				*e*SKS		04 22 24.8	
VYHS	**Vyhne**	**100.75**	**43**	*e*P	**Pdif**	**04 12 02.9**	**-0.8**
VYHS	**Vyhne**	**100.75**	**43**	PDIF	**Pdif**	**04 12 02.9**	**-0.8**
VYHS				pPDIF		04 12 55.6	
IM04	**Indian Mountai**	**101.13**	**336**	*e*Pdif	**Pdif**	**04 12 06.0**	**+0.9**
KECS	**Kecovo**	**101.83**	**43**	PDIF	pPdif	04 13 01.4	+1.3
STHS	**Stebnicka Huta**	**102.47**	**42**	*e*P	**Pdif**	**04 12 14.5**	**+3.1**
STHS	**Stebnicka Huta**	**102.47**	**42**	PDIF	**Pdif**	**04 12 14.5**	**+3.1**
STHS				pPDIF		04 13 03.5	
CRVS	**Cervenica-Dubn**	**102.53**	**43**	*e*P	**Pdif**	**04 12 13.8**	**+2.1**
CRVS	**Cervenica-Dubn**	**102.53**	**43**	PDIF	**Pdif**	**04 12 13.8**	**+2.1**
CRVS				pPDIF		04 13 05.7	
IDI	**Anoyia**	**102.88**	**57**	P	**Pdif**	**04 12 14.1**	**+0.4**
IDI	**Anoyia**	**102.88**	**57**	P	**Pdif**	**04 12 14.1**	**+0.4**
comp=Z,4.5nm,0.7s,baz=304,slow=3.6,SNR=2.3							
UZH	**Uzhgorod**	**103.03**	**43**	*e*P	**Pdif**	**04 12 05.3**	**-8.6**
MLR	**Muntele Rosu**	**105.11**	**46**	Pdif	**Pdif**	**04 12 24.1**	**+0.8**
MLR				PKiKP	**PKiKP**	**04 16 36.6**	**-0.2**
MLR	**Muntele Rosu**	**105.11**	**46**	Pdiff	**Pdif**	**04 12 24.1**	**+0.8**
comp=Z,0.5nm,0.6s,baz=113,slow=2.8,SNR=4.5							
MLR				PKiKP	**PKiKP**	**04 16 36.6**	**-0.2**
comp=Z,1.1nm,1.0s,baz=204,slow=2.0,SNR=5.2							
ARCES	**ARCESS Array B**	**106.23**	**21**	PKKPbc	PKKPbc	04 27 58.7	-3.9
ARCES	**ARCESS Array B**	**106.23**	**21**	PKKPbc	PKKPbc	04 27 58.7	-3.9
comp=Z,2.0nm,0.7s,baz=89,slow=4.5,SNR=10							
FINES	**FINESS Array B**	**106.35**	**30**	PKiKP	**PKiKP**	**04 16 38.4**	**0.0**
FINES	**FINESS Array B**	**106.35**	**30**	PKiKP	**PKiKP**	**04 16 38.4**	**0.0**
comp=Z,2.0nm,0.8s,baz=253,slow=2.0,SNR=4.1							
KIEV	**Kiev**	**107.70**	**41**	*e*PKP	**PKiKP**	**04 16 40.7**	**-0.6**
AKASG	**Malin Array Be**	**107.71**	**41**	PKiKP	**PKiKP**	**04 16 40.6**	**-0.7**
AKASG				PP	**PP**	**04 17 04.3**	**-1.3**
AKASG	**Malin Array Be**	**107.71**	**41**	PKiKP	**PKiKP**	**04 16 40.6**	**-0.7**
comp=Z,1.8nm,0.5s,baz=277,slow=2.6,SNR=5.1							
AKASG				PP	**PP**	**04 17 04.3**	**-1.3**
comp=Z,0.9nm,0.4s,baz=282,slow=4.7,SNR=4.2							
CSS	**Prodhromos**	**109.70**	**58**	*e*PKP	**PKiKP**	**04 16 46.1**	**+0.5**
BR131	**Keskin Array S**	**110.29**	**53**	*e*PKP	**PKiKP**	**04 16 46.8**	**+0.1**
BRTR	**Keskin Array B**	**110.29**	**53**	PKiKP	**PKiKP**	**04 16 47.0**	**+0.4**
BRTR				SKP		04 20 04.0	
BRTR				PKKPab	**PKKPab**	**04 27 59.4**	**+0.7**
BRTR	**Keskin Array B**	**110.29**	**53**	PKiKP	**PKiKP**	**04 16 47.0**	**+0.4**
comp=Z,3.9nm,0.8s,baz=181,slow=3.0,SNR=19							
BRTR				SKP		04 20 04.0	
comp=Z,1.0nm,0.8s,baz=197,slow=3.9,SNR=3.5							
BRTR				PKKPab	**PKKPab**	**04 27 59.4**	**+0.7**
comp=Z,0.9nm,0.9s,baz=131,slow=4.4,SNR=3.9							
EIL	**Elat**	**110.54**	**64**	PKiKP	**PKiKP**	**04 16 48.0**	**+0.7**
EIL	**Elat**	**110.54**	**64**	PKiKP	**PKiKP**	**04 16 48.0**	**+0.7**
comp=Z,7.1nm,0.8s,baz=285,slow=0.8,SNR=6.4							
MMAI	**Mount Meron Ar**	**111.25**	**60**	PKiKP	**PKiKP**	**04 16 49.3**	**+0.7**
MMAI	**Mount Meron Ar**	**111.25**	**60**	PKiKP	**PKiKP**	**04 16 49.3**	**+0.7**
comp=Z,4.1nm,0.5s,baz=5.7,slow=0.8,SNR=8.9							
OBN	**Obninsk**	**112.07**	**36⇓**	*i*PKIKP	**PKiKP**	**04 16 49.2**	**-0.1**
OBN						04 23 23.0	
OBN				SP	SP	04 26 53.0	+5.3
OBN				pmax	pmax		
comp=Z,39nm,1.7s							
OBN				MLR	MLR		
comp=Z,200nm,19.0s							
ASF	**Jabal al Asfar**	**112.44**	**61**	PKiKP	**PKiKP**	**04 16 52.1**	**+1.2**
ASF				SKP		04 20 09.2	
ASF	**Jabal al Asfar**	**112.44**	**61**	PKiKP	**PKiKP**	**04 16 52.1**	**+1.2**
comp=Z,10.0nm,0.8s,baz=206,slow=1.3,SNR=18							
ASF				SKP		04 20 09.2	
comp=Z,1.5nm,0.9s,baz=270,slow=7.1,SNR=4.0							
ANN	**Anapa**	**113.19**	**48**	*i*PKIKP	**PKiKP**	**04 16 50.6**	**-1.2**
ANN				*e*		04 23 15.9	
ANN				pmax	pmax		
comp=Z,30nm,1.0s							
VORD	**Divnogorie**	**114.08**	**41**	*e*PKIKP	PKPdf	04 16 51.3	-2.0
VORD				pmax	pmax		
comp=Z,10.0nm,1.5s							
VORD				pmax	pmax		
comp=N,8.0nm,0.6s							
VORD				pmax	pmax		
comp=E,10.0nm,0.6s							
SOC	**Sochi**	**114.88**	**49**	*i*PKIKP	PKPdf	04 16 55.9	+0.8
SOC				*e*		04 17 49.5	
SOC				*e*		04 18 03.9	
SOC				*e*		04 23 30.0	
SOC				*e*SS	SS	04 33 53.3	+17
SOC				*e*SSS	SSS	04 37 48.5	
SOC				pmax	pmax		
comp=Z,46nm,1.1s							
VRHR	**Novokhopersk**	**115.53**	**40**	*e*PKIKP	**PKPdf**	**04 16 55.6**	**-0.5**
VRHR				pmax	pmax		
comp=Z,10.0nm,0.7s							
VRHR				pmax	pmax		
comp=N,10.0nm,0.6s							
VRHR				pmax	pmax		
comp=E,10.0nm,0.7s							
KIV	**Kislovodsk**	**117.00**	**48⇓**	*i*PKIKP	**PKPdf**	**04 16 59.6**	**+0.3**
KIV				*e*		04 23 37.8	
KIV				*e*PS	PKKPab	04 27 38.8	+10
KIV				*e*SS	SS	04 34 07.2	+3.4
KIV				pmax	pmax		
comp=Z,12nm,0.9s							
KIV				MLR	MLR		
comp=Z,100nm,19.0s							
KBZ	**Khabaz**	**117.17**	**48**	PKIKP	**PKPdf**	**04 17 00.1**	**+0.6**
KBZ				pmax	pmax		
comp=N,7.0nm,0.8s							
KBZ				pmax	pmax		
comp=Z,20nm,0.8s							
KBZ	**Khabaz**	**117.17**	**48**	PKP	**PKPdf**	**04 17 00.1**	**+0.6**
KBZ				SKP		04 20 17.9	
KBZ	**Khabaz**	**117.17**	**48**	PKP	**PKPdf**	**04 17 00.1**	**+0.6**
comp=Z,20nm,0.8s,baz=218,slow=3.6,SNR=41							
KBZ				SKP		04 20 17.9	
comp=Z,7.0nm,0.8s,baz=39,slow=5.3,SNR=7.0							
ZEI	**Tsey**	**117.98**	**49**	*e*PKIKP	**PKPdf**	**04 17 01.6**	**+0.2**
ZEI				pmax	pmax		
comp=Z,21nm,1.1s							
GNI	**Garni**	**118.82**	**52**	*e*PKPdf	**PKPdf**	**04 17 03.7**	**+0.6**
GNI				PKP	**PKPdf**	**04 17 03.9**	**+0.8**
GNI	**Garni**	**118.82**	**52**	PKP	**PKPdf**	**04 17 03.9**	**+0.8**
comp=Z,12nm,0.6s,baz=323,slow=2.7,SNR=12							
RST	**Umm Al-Ruwaisa**	**121.00**	**65**	*e*P	**PKPdf**	**04 17 07.5**	**+0.2**
RST				AMb	AMB	04 17 09.4	
comp=Z,881nm,0.8s							
NAY	**Al-Naaiem**	**121.21**	**65**	*e*P	**PKPdf**	**04 17 07.6**	**-0.2**
NAY				AMb	AMB	04 17 10.2	
comp=Z,1.7nm,0.9s							
MIB	**Mutribah**	**121.30**	**64**	*e*P	**PKPdf**	**04 17 08.1**	**+0.2**
MIB				AMb	AMB	04 17 09.7	
comp=Z,81nm,0.8s							
RDF	**Al-Radifah**	**121.48**	**65**	*e*P	**PKPdf**	**04 17 08.3**	**+0.1**
RDF				AMb	AMB	04 17 10.0	
comp=Z,58nm,1.1s							
UMR	**Umm Al-Rimmam**	**121.63**	**65**	*e*P	**PKPdf**	**04 17 08.8**	**+0.3**
UMR				AMb	AMB	04 17 11.8	
comp=Z,115nm,0.7s							
TIXI	**Tiksi**	**122.45**	**353**	*i*PKIKP	**PKPdf**	**04 17 08.5**	**-0.3**
ARU	**Arti**	**123.67**	**31**	*i*PKIKP	**PKPdf**	**04 17 12.3**	**+0.7**
ARU						04 18 56.0	
ARU						04 23 54.0	
SEY	**Seymchan**	**123.82**	**338⇓**	*i*PKIKP	**PKPdf**	**04 17 12.6**	**+0.9**
STKA	**Stephens Creek**	**124.00**	**213**	PKP	**PKPdf**	**04 17 12.2**	**-0.9**
STKA				SKP		04 20 30.1	
STKA				PKKPab	**PKKPab**	**04 27 01.6**	**+0.4**
STKA	**Stephens Creek**	**124.00**	**213**	PKP	**PKPdf**	**04 17 12.2**	**-0.9**
comp=Z,14nm,0.7s,baz=67,slow=1.0,SNR=34							
STKA				SKP		04 20 30.1	
comp=Z,3.7nm,1.0s,baz=106,slow=7.4,SNR=2.9							
STKA				PKKPab	**PKKPab**	**04 27 01.6**	**+0.4**
comp=Z,1.5nm,0.7s,baz=19,slow=6.8,SNR=3.0							
IPIR	**Pirpir**	**124.27**	**61**	*e*P	**PKPdf**	**04 17 13.6**	**-0.3**
SVE	**Sverdlovsk**	**124.52**	**30**	*e*PKIKP	**PKPdf**	**04 17 14.2**	**+1.0**
SVE				pmax	pmax		
comp=Z,24nm,1.4s							
IVRN	**Varamin**	**124.78**	**58**	*e*P	**PKPdf**	**04 17 15.5**	**+1.0**
IDMV	**Damavand**	**124.97**	**57**	*e*P	**PKPdf**	**04 17 14.5**	**-0.7**
IZEF	**Zefreh**	**125.46**	**60**	*e*P	**PKPdf**	**04 17 14.9**	**-1.2**
ILAS	**Lasjerd**	**125.75**	**57**	*e*P	**PKPdf**	**04 17 17.2**	**+0.6**
AKTO	**Aktyubinsk**	**125.76**	**38**	PKIKP	**PKPdf**	**04 17 16.8**	**+0.9**
AKTO				pmax	pmax		
comp=Z,29nm,0.8s							
AKTO	**Aktyubinsk**	**125.76**	**38**	PKP	**PKPdf**	**04 17 16.8**	**+0.9**
AKTO	**Aktyubinsk**	**125.76**	**38**	PKP	**PKPdf**	**04 17 16.8**	**+0.9**
comp=Z,29nm,0.8s,baz=318,slow=1.6,SNR=77							
ISHM	**Shahmirzad**	**125.97**	**57**	*e*P	**PKPdf**	**04 17 18.9**	**+1.8**
PETK	**Petropavlovsk-**	**126.68**	**326**	PKIKP	**PKPdf**	**04 17 18.0**	**+0.5**
PETK						04 18 10.9	
PETK						04 19 22.1	
PETK				pmax	pmax		
comp=Z,7.0nm,0.8s							
PETK				pmax	pmax		
comp=Z,5.0nm,0.9s							
PETK				pmax	pmax		
comp=Z,3.0nm,0.7s							
PETK	**Petropavlovsk-**	**126.68**	**326**	PKP	**PKPdf**	**04 17 18.0**	**+0.5**
PETK				pPKP	**pPKPdf**	**04 18 10.9**	**-0.5**
PETK				PP	PP	04 19 22.1	+5.3
PETK	**Petropavlovsk-**	**126.68**	**326**	PKP	**PKPdf**	**04 17 18.0**	**+0.5**
comp=Z,6.9nm,0.8s,baz=143,slow=3.3,SNR=17							
PETK				pPKP	**pPKPdf**	**04 18 10.9**	**-0.5**
comp=Z,4.5nm,0.9s,baz=108,slow=3.3,SNR=3.3							
PETK				PP	PP	04 19 22.1	+5.3
comp=Z,3.0nm,0.7s,baz=106,slow=7.9,SNR=3.8							
ABKAR	**Akbulak array**	**127.36**	**39**	*e*PKPdf	**PKPdf**	**04 17 19.7**	**+0.8**
IMEH	**Mehriz**	**127.51**	**62**	*e*P	**PKPdf**	**04 17 18.6**	**-1.5**
IBAF	**Bafgh**	**128.31**	**62**	*e*P	**PKPdf**	**04 17 18.7**	**-2.8**
ASUD	**Al Ashush, Dub**	**128.40**	**71**	PKPdf	**PKPdf**	**04 17 23.6**	**+2.0**
SNR=5.3							
NAZ	**Nazwa, Dubai**	**128.70**	**70**	PKPdf	**PKPdf**	**04 17 23.2**	**+1.0**
SNR=5.3							
NAZ	**Nazwa, Dubai**	**128.70**	**70**	P	SKPdf	04 20 26.3	-11
SNR=10							
ASHO	**Ashiyiah**	**129.06**	**70**	P	SKPbc	04 20 28.8	+4.6
SNR=8.8							
HATD	**Hatta, Dubai**	**129.13**	**70**	PKPdf	**PKPdf**	**04 17 24.1**	**+1.1**
SNR=7.2							
HATD	**Hatta, Dubai**	**129.13**	**70**	P	SKPbc	04 20 28.8	+4.4
SNR=10							
BANOM	**Banah**	**129.27**	**69**	P	SKPbc	04 20 29.1	+4.1
SNR=6.7							
ARQ	**Araqi**	**129.47**	**72**	P	SKPbc	04 20 29.8	+4.0
SNR=16							
CTA	**Charters Tower**	**129.70**	**227**	PKKP	**PKKPdf**	**04 27 28.6**	**+0.9**
comp=Z,1.1nm,0.2s,baz=259,slow=5.2,SNR=4.1							
CTA				SKKPbc	SKKPbc	04 30 13.4	+4.3
comp=Z,2.9nm,0.8s,baz=310,slow=7.9,SNR=3.6							
BSY	**Bisya**	**130.09**	**73**	PKPdf	**PKPdf**	**04 17 25.9**	**+1.0**
SNR=6.1							
BSY	**Bisya**	**130.09**	**73**	P	**SKPab**	**04 20 29.7**	**+1.5**
SNR=22							
HOQ	**Hoqain**	**130.20**	**72**	P	**SKPab**	**04 20 30.0**	**+1.4**
SNR=14							
IAKL	**Akhelmad**	**130.20**	**55**	*e*P	**PKPdf**	**04 17 26.0**	**+0.9**
ITEG	**Tejag**	**130.83**	**60**	*e*P	**PKPdf**	**04 17 27.0**	**+0.7**
SMDO	**Samad**	**130.88**	**73**	PKPdf	**PKPdf**	**04 17 27.6**	**+1.0**
SNR=12							
SMDO	**Samad**	**130.88**	**73**	P	**SKPab**	**04 20 34.5**	**+2.9**
SNR=21							
FORT	**Forrest**	**130.91**	**201**	*e*PKPdf	**PKPdf**	**04 17 25.7**	**-0.7**
JMDO	**Jabal Madar**	**130.92**	**73**	P	**SKPab**	**04 20 35.2**	**+3.6**
SNR=14							
YAK	**Yakutsk**	**131.15**	**348**	*e*PKIKP	**PKPdf**	**04 17 25.2**	**-0.5**
YAK				*e*		04 18 19.7	
YAK				pmax	pmax		
comp=Z,42nm,1.5s							
YAK				pmax	pmax		
comp=N,6.0nm,1.4s							
YAK				pmax	pmax		
comp=E,6.0nm,1.3s							
BRVK	**Borovoye**	**131.23**	**31c**	*i*PKIKP	**PKPdf**	**04 17 27.2**	**+1.1**
BRVK				pmax	pmax		
comp=Z,57nm,1.7s							
BRVK	**Borovoye**	**131.23**	**31**	PKPdf	**PKPdf**	**04 17 27.9**	**+1.7**
SNR=16							
BRVK	**Borovoye**	**131.23**	**31**	P	**SKPab**	**04 20 35.1**	**+3.1**
SNR=12							
BRVK	**Borovoye**	**131.23**	**31**	*e*PKPdf	**PKPdf**	**04 17 27.1**	**+1.0**
BVAR	**Borovoye Array**	**131.30**	**31**	PKIKP	**PKPdf**	**04 17 27.2**	**+0.9**
BVAR				pmax	pmax		
comp=Z,15nm,0.8s							
BVAR				pmax	pmax		
comp=N,10.0nm,0.7s							
BVAR	**Borovoye Array**	**131.30**	**31**	PKP	**PKPdf**	**04 17 27.2**	**+0.9**
BVAR				SKPbc	**SKPab**	**04 20 34.4**	**+2.2**
BVAR	**Borovoye Array**	**131.30**	**31**	PKP	**PKPdf**	**04 17 27.2**	**+0.9**
comp=N,15nm,0.8s,baz=282,slow=1.4,SNR=55							
BVAR				SKPbc	**SKPab**	**04 20 34.4**	**+2.2**
comp=N,9.5nm,0.7s,baz=282,slow=2.7,SNR=15							
WBK	**Wadi Bani Khal**	**131.72**	**73**	PKPdf	**PKPdf**	**04 17 29.7**	**+1.6**
SNR=6.1							
WBK	**Wadi Bani Khal**	**131.72**	**73**	P	**SKPdf**	**04 20 38.0**	**-5.5**
SNR=8.2							
AS31	**Alice Springs**	**134.61**	**212**	*e*PKPdf	**PKPdf**	**04 17 32.9**	**-0.7**
AS31				*e*SKPbc	**SKPbc**	**04 20 43.5**	**-0.5**
ASAR	**Alice Springs**	**134.61**	**212**	PKPpre	PKPpre	04 17 18.6	
ASAR				PKP	**PKPdf**	**04 17 32.6**	**-0.9**
ASAR				PP	**PP**	**04 20 03.9**	**-3.8**
ASAR				SKPbc	**SKPbc**	**04 20 43.8**	**-0.2**
ASAR				PKKP	**PKKPdf**	**04 27 17.9**	**-0.3**
ASAR				SKKPbc	**SKKPbc**	**04 29 45.0**	**-6.5**
ASAR	**Alice Springs**	**134.61**	**212**	PKhKP	PKPpre	04 17 18.6	
comp=N,1.9nm,0.9s,baz=151,slow=2.4,SNR=12							
ASAR				PKP	**PKPdf**	**04 17 32.6**	**-0.9**
comp=N,10.0nm,0.7s,baz=113,slow=1.7,SNR=25							
ASAR				PP	**PP**	**04 20 03.9**	**-3.8**
comp=N,1.8nm,0.9s,baz=147,slow=5.7,SNR=4.2							
ASAR				SKPbc	**SKPbc**	**04 20 43.8**	**-0.2**
comp=N,13nm,0.8s,baz=140,slow=3.6,SNR=17							
ASAR				PKKP	**PKKPdf**	**04 27 17.9**	**-0.3**
comp=N,1.0nm,0.7s,baz=337,slow=1.4,SNR=8.4							
ASAR				SKKPbc	**SKKPbc**	**04 29 45.0**	**-6.5**
comp=N,0.8nm,0.8s,baz=322,slow=4.8,SNR=4.1							
PMG	**Port Moresby**	**135.46**	**239**	*e*PKPdf	**PKPdf**	**04 17 36.0**	**+0.7**
NVS	**Novosibirsk**	**135.51**	**22⇓**	*i*PKIKP	**PKPdf**	**04 17 34.1**	**0.0**
NVS				*e*		04 18 26.6	
NVS				pmax	pmax		
comp=Z,142nm,1.9s							
NVS				pmax	pmax		
comp=N,4.0nm,0.6s							
NVS				pmax	pmax		
comp=E,30nm,1.5s							
COEN	**Coen**	**135.91**	**230**	*e*PKPdf	**PKPdf**	**04 17 36.2**	**+0.1**
KKAR	**Karatay Array**	**136.60**	**42**	*e*PKIKP	**PKPdf**	**04 17 37.1**	**+0.5**
KKAR	**Karatay Array**	**136.60**	**42**	*e*PKPdf	**PKPdf**	**04 17 37.1**	**+0.5**
KKAR				*e*SKP		04 20 52.5	
KURK	**Kurchatov**	**136.70**	**29**	PKIKP	**PKPdf**	**04 17 37.2**	**+0.8**
KURK				pmax	pmax		
comp=Z,17nm,0.7s							
KURK				pmax	pmax		
comp=N,10.0nm,0.7s							
KURK	**Kurchatov**	**136.70**	**29**	PKP	**PKPdf**	**04 17 37.2**	**+0.8**
KURK				SKP		04 20 52.5	
KURK				SKKPbc	SKKPbc	04 29 47.9	+1.6
KURBB	**Kurchatov Arra**	**136.72**	**29**	PKP	**PKPdf**	**04 17 37.2**	**+0.7**
comp=N,16nm,0.7s,baz=310,slow=2.5,SNR=55							
KURBB				SKP		04 20 52.5	
comp=N,10nm,0.7s,baz=312,slow=4.4,SNR=25							
KURBB				SKKPbc	SKKPbc	04 29 47.9	+1.7
comp=N,0.3nm,0.3s,baz=138,slow=4.5,SNR=5.8							
ZAA0	**Zalesovo Array**	**136.79**	**21**	*e*PKPpre	PKPpre	04 17 27.8	
ZAA0				*e*PKPdf	**PKPdf**	**04 17 36.1**	**-0.5**
ZAA0				*ep*PKPdf	pPKPdf	04 18 31.6	+1.2
ZAA0				*e*SKP		04 20 52.3	
ZALV	**Zalesovo Beam**	**136.79**	**21**	PKHKP	PKPpre	04 17 26.3	
ZALV						04 17 37.1	
ZALV				pmax	pmax		
comp=Z,3.0nm,0.6s							
ZALV				pmax	pmax		
comp=Z,98nm,0.9s							
ZALV				pmax	pmax		
comp=N,33nm,0.8s							
ZALV	**Zalesovo Beam**	**136.79**	**21**	PKPpre	PKPpre	04 17 26.3	
ZALV				PKP	**PKPdf**	**04 17 37.0**	**+0.5**
ZALV				SKP		04 20 52.6	
ZALV	**Zalesovo Beam**	**136.79**	**21**	PKHKP	PKPpre	04 17 26.3	
comp=N,2.6nm,0.6s,baz=327,slow=3.6,SNR=7.7							
ZALV				PKP	**PKPdf**	**04 17 37.0**	**+0.5**
comp=N,98nm,0.9s,baz=288,slow=2.1,SNR=98							
ZALV				SKP		04 20 52.6	
comp=N,33nm,0.8s,baz=316,slow=4.1,SNR=17							
WRA	**Warramunga Arr**	**137.41**	**216**	PKPpre	PKPpre	04 17 26.2	
WRA				PKP	**PKPdf**	**04 17 38.4**	**-0.4**
WRA				pPKP	pPKPdf	04 18 28.3	-4.4
WRA				SKPbc	**SKPbc**	**04 20 52.2**	**-0.4**
WRA	**Warramunga Arr**	**137.41**	**216**	PKhKP	PKPpre	04 17 26.2	
comp=N,2.1nm,0.5s,baz=140,slow=3.5,SNR=17							
WRA				PKP	**PKPdf**	**04 17 38.4**	**-0.4**
comp=N,20nm,0.8s,baz=144,slow=1.8,SNR=39							
WRA				pPKP	pPKPdf	04 18 28.3	-4.4
comp=N,4.0nm,0.9s,baz=152,slow=1.7,SNR=1.4							
WRA				SKPbc	**SKPbc**	**04 20 52.2**	**-0.4**
comp=N,16nm,0.8s,baz=144,slow=2.6,SNR=14							
WRAB	**Tennant Creek**	**137.41**	**216**	*e*PKHKP	PKPpre	04 17 27.3	
WRAB				*e*		04 17 38.6	
WRAB	**Tennant Creek**	**137.41**	**216**	*e*PKPpre	PKPpre	04 17 27.3	
WRAB				*e*PKPdf	**PKPdf**	**04 17 38.5**	**-0.2**
YSS	**Yuzh-Sakhalins**	**138.08**	**326**	*i*PKIKP	**PKPdf**	**04 17 40.8**	**+1.7**
YSS				*e*		04 18 33.8	
YSS				*e*SS	SS	04 38 32.0	+8.6
YSS				pmax	pmax		
comp=Z,30nm,1.0s							
KBL	**Kabul**	**138.83**	**55**	*e*PKIKP	**PKPdf**	**04 17 41.8**	**+0.6**
KBL	**Kabul**	**138.83**	**55**	*e*PKPdf	**PKPdf**	**04 17 41.8**	**+0.6**
EKS2	**Erkin-Say**	**138.91**	**41**	*e*PKIKP	**PKPdf**	**04 17 42.3**	**+1.3**
EKS2	**Erkin-Say**	**138.91**	**41**	P	**PKPdf**	**04 17 42.9**	**+1.9**
SNR=30							
EKS2	**Erkin-Say**	**138.91**	**41**	P	**SKPbc**	**04 21 00.6**	**+4.3**
SNR=6.5							
EKS2	**Erkin-Say**	**138.91**	**41**	*e*PKPdf	**PKPdf**	**04 17 42.3**	**+1.3**
EKS2				*e*SKP		04 20 59.5	
USP	**Ospenovka**	**139.05**	**40**	P	**PKPdf**	**04 17 42.5**	**+1.3**
SNR=18							
USP	**Ospenovka**	**139.05**	**40**	P	**SKPbc**	**04 20 59.4**	**+2.9**
SNR=7.3							
AML	**Almayashu**	**139.13**	**42**	P	**PKPdf**	**04 17 43.6**	**+1.9**
SNR=17							
AML	**Almayashu**	**139.13**	**42**	P	**SKPbc**	**04 21 01.0**	**+3.7**
SNR=8.2							
CHMS	**Chumysh**	**139.35**	**40**	P	**PKPdf**	**04 17 43.5**	**+1.8**
SNR=7.9							
CHMS	**Chumysh**	**139.35**	**40**	P	**SKPbc**	**04 21 00.8**	**+3.5**
SNR=9.1							
AAK	**Ala-Archa**	**139.38**	**41**	*e*PKIKP	**PKPdf**	**04 17 43.2**	**+1.3**
AAK	**Ala-Archa**	**139.38**	**41**	PKPdf	**PKPdf**	**04 17 44.4**	**+2.5**
SNR=15							
AAK	**Ala-Archa**	**139.38**	**41**	P	**PKPdf**	**04 17 43.6**	**+1.7**
SNR=24							
AAK	**Ala-Archa**	**139.38**	**41**	P	**SKPbc**	**04 21 01.4**	**+3.8**
SNR=14							
AAK	**Ala-Archa**	**139.38**	**41**	*e*PKPdf	**PKPdf**	**04 17 43.2**	**+1.3**
AAK				*e*SKP		04 21 00.5	
KBK	**Karagaybulak**	**139.65**	**40**	P	**SKPbc**	**04 21 02.2**	**+3.9**
SNR=6.5							
ASAJ	**Asahikawa**	**139.87**	**323**	*e*PKPpre	PKPpre	04 17 37.2	
ASAJ				*e*PKPdf	**PKPdf**	**04 17 43.0**	**+0.5**
ASAJ				*ep*PKPdf	pPKPdf	04 18 36.9	+0.5
ASAJ				*e*SKP		04 21 01.6	
TKM2	**Tokmak 2**	**139.91**	**40**	*e*PKIKP	**PKPdf**	**04 17 44.1**	**+1.2**
TKM2	**Tokmak 2**	**139.91**	**40**	P	**PKPdf**	**04 17 44.6**	**+1.7**
SNR=11							
TKM2	**Tokmak 2**	**139.91**	**40**	*e*PKPdf	**PKPdf**	**04 17 44.1**	**+1.2**
TKM2				*e*SKP		04 21 02.5	
MK31	**Makanchi Array**	**141.18**	**30**	*e*PKHKP	PKPpre	04 17 39.0	
MK31				*e*		04 17 45.0	
MK31	**Makanchi Array**	**141.18**	**30**	*e*PKPpre	PKPpre	04 17 39.0	
MK31				*e*PKPdf	**PKPdf**	**04 17 45.0**	**+0.2**
MKAR	**Makanchi Array**	**141.18**	**30**	PKHKP	PKPpre	04 17 39.1	
MKAR						04 17 45.4	
MKAR				pmax	pmax		
comp=Z,6.0nm,0.6s							
MKAR				pmax	pmax		
comp=Z,12nm,0.8s							
MKAR				pmax	pmax		
comp=N,10.0nm,0.8s							
MKAR				pmax	pmax		
comp=N,1.0nm,1.0s							
MKAR	**Makanchi Array**	**141.18**	**30**	PKPpre	PKPpre	04 17 39.0	
MKAR				PKP	**PKPdf**	**04 17 45.4**	**+0.5**
MKAR				SKPbc	**SKiKP**	**04 21 03.6**	**-0.4**
MKAR				SKKPbc	SKKPab	04 29 20.4	-8.1
MKAR	**Makanchi Array**	**141.18**	**30**	PKhKP	PKPpre	04 17 39.0	
comp=N,5.6nm,0.6s,baz=321,slow=3.1,SNR=49							
MKAR				PKP	**PKPdf

CN2				PP	**PP**	**04 21 36.0**	**+4.4**
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,200nm,20.0s						
CN2				LR	LR		
	comp=E,200nm,20.0s						
CN2				LR	LR		
	comp=Z,300nm,20.0s						
HYB	**Hyderabad**	**150.13**	**82**	*i* PKP	**PKPdf**	**04 18 00.0**	**-0.9**
HYB				*e*		04 18 11.0	
HYB				*e*pPKP	**pPKPdf**	**04 19 00.0**	**+5.1**
PALK	**Pallekele**	**150.58**	**102**	*e*PKPdf	**PKPdf**	**04 18 01.8**	**+0.1**
PALK				*e*PKPbc	**PKPbc**	**04 18 07.4**	**+0.1**
KSRS	**Korea Array**	**152.57**	**327**	PKP	**PKPdf**	**04 18 04.9**	**+0.9**
	comp=Z,15nm,0.9s,baz=84,slow=2.0,SNR=68						
KSRS				PKPbc	**PKiKP**	**04 18 11.8**	**+0.5**
	comp=Z,43nm,0.9s,baz=12,slow=2.1,SNR=42						
KSAR	**Wonju Array Be**	**152.60**	**327**	PKP	**PKPdf**	**04 18 04.9**	**+0.9**
KSAR				PKPbc	**PKiKP**	**04 18 11.8**	**+0.5**
DANN	**Dangsing**	**152.76**	**57**	*e*P	**PKPdf**	**04 18 05.7**	**+0.8**
	comp=Z,326nm,0.6s						
KOLN	**Koldanda**	**152.85**	**58**	*e*P	**PKPdf**	**04 18 05.0**	**+0.1**
	comp=Z,61nm,0.6s						
DMN	**Daman**	**154.14**	**58**	*e*P	**PKPdf**	**04 18 07.1**	**+0.2**
KKN	**Kakani**	**154.21**	**57**	*e*P	**PKPdf**	**04 18 07.2**	**+0.3**
	comp=Z,100nm,0.7s						
PKIN	**Phulchoki**	**154.39**	**57**	*e*P	**PKPdf**	**04 18 07.2**	**0.0**
PKI	**Pulchoki**	**154.40**	**57**	*e*P	**PKPdf**	**04 18 06.6**	**-0.7**
HHC	**Hu-ho-hao-te**	**154.44**	**357**	*e*PKPbc	**PKPdf**	**04 18 08.7**	**+2.0**
HHC				PP	PP	04 22 11.6	+6.4
HHC				SKS	**SKSdf**	**04 24 52.2**	**-1.5**
HHC				SKKS	**SKKSac**	**04 28 34.5**	**-1.1**
HHC				SS	**SS**	**04 41 28.3**	**+1.0**
HHC				AMB	AMB		
	comp=Z,330nm,7.8s						
HHC				LR	LR		
	comp=N,340nm,19.0s						
HHC				LR	LR		
	comp=E,560nm,20.2s						
HHC				LR	LR		
	comp=Z,340nm,20.2s						
GTA	**Gaotai**	**154.44**	**18**	PKPbc	**PKPdf**	**04 18 08.1**	**+1.3**
GTA				PP	**PP**	**04 22 03.6**	**-1.9**
GTA				SKS	**SKSdf**	**04 24 50.8**	**-3.1**
GTA				SKKS	**SKKSac**	**04 28 36.2**	**+0.5**
GTA				SS	**SS**	**04 41 26.3**	**-1.5**
GTA				AMB	AMB		
	comp=Z,270nm,5.2s						
GTA				LR	LR		
	comp=N,210nm,22.8s						
GTA				LR	LR		
	comp=E,170nm,25.2s						
GTA				LR	LR		
	comp=Z,340nm,25.2s						
GUN	**Gumba**	**154.65**	**56**	*e*P	**PKPdf**	**04 18 07.9**	**+0.2**
BJI	**Beijing**	**154.65**	**348**	PKPbc	**PKPdf**	**04 18 07.4**	**+0.6**
BJI				pPKP	**pPKPdf**	**04 19 00.4**	**-0.6**
BJI				sPKP		04 19 20.2	
BJI				PP	**PP**	**04 22 06.0**	**-0.3**
BJI				SS	SS	04 41 27.3	-2.1
BJI				AMB	AMB		
	comp=Z,170nm,14.0s						
BJI				LR	LR		
	comp=N,250nm,20.4s						
BJI				LR	LR		
	comp=E,130nm,14.8s						
BJI				LR	LR		
	comp=Z,200nm,28.8s						
BJT	**Baijiatuau**	**154.67**	**348**	*e*PKPdf	**PKPdf**	**04 18 07.2**	**+0.3**
BJT				*e*PKPbc	**PKPbc**	**04 18 15.3**	**-0.2**
BJT				*e*PKPab	**PKPab**	**04 18 30.1**	**-1.0**
JIRN	**Jiri**	**155.00**	**57**	*e*P	**PKPdf**	**04 18 08.5**	**+0.3**
RAMN	**Ramite**	**155.62**	**58**	*e*P	**PKPdf**	**04 18 09.1**	**+0.2**
	comp=Z,72nm,0.7s						
TAPN	**Taplejung**	**156.35**	**56**	*e*P	**PKPdf**	**04 18 08.7**	**-1.2**
	comp=Z,29nm,0.7s						
KAPI	**Kappang**	**157.50**	**207**	*e*PKPdf	**PKPdf**	**04 18 11.3**	**-0.1**
KAPI				*e*PKPab	**PKPab**	**04 18 43.4**	**-0.6**
KAPI	**Kappang**	**157.50**	**207**	PKP	**PKPdf**	**04 18 11.2**	**-0.1**
	comp=Z,6.9nm,0.7s,baz=71,slow=22,SNR=4.1						
KAPI				PKPab	**PKPab**	**04 18 43.3**	**-0.6**
	comp=Z,60nm,1.0s,baz=167,slow=5.0,SNR=16						
LSA	**Lhasa**	**157.73**	**47**	PKP	**PKPdf**	**04 18 13.7**	**+1.9**
LSA	**Lhasa**	**157.73**	**47**	*e*PKIKP	**PKPdf**	**04 18 13.1**	**+1.3**
LSA	**Lhasa**	**157.73**	**47**	*e*PKPdf	**PKPdf**	**04 18 13.1**	**+1.3**
LSA				*e*PKPab	**PKPab**	**04 18 45.0**	**-0.4**
LZH	**Lanzhou**	**158.62**	**13**	*e*PKP	**PKPdf**	**04 18 14.2**	**+1.9**
LZH				PKPab	**PKPab**	**04 18 50.0**	**+1.6**
LZH				sPKP		04 19 29.2	
LZH				PP	PP	04 22 34.4	+6.0
LZH				SKKS		04 28 58.7	
LZH				SS	**SS**	**04 42 15.3**	**+3.0**
LZH				AMB	AMB		
	comp=Z,230nm,8.6s						
LZH				LR	LR		
	comp=N,210nm,17.0s						
LZH				LR	LR		
	comp=E,260nm,18.6s						
LZH				LR	LR		
	comp=Z,320nm,19.6s						
NJ2	**Nanjing**	**161.28**	**335**	*e*PKP	**PKPdf**	**04 18 14.3**	**-0.8**
XAN	**Xi'an**	**161.28**	**2**	PKP	**PKPdf**	**04 18 16.0**	**+0.8**
XAN				AMB	AMB		
	comp=Z,460nm,10.6s						
CD2	**Chengdu**	**163.52**	**18**	PKP	**PKPdf**	**04 18 18.9**	**+1.4**
CD2				pPKP	**pPKPdf**	**04 19 14.2**	**+2.4**
CD2				PKS	PKSdf	04 21 44.9	-5.7
CD2				PP	**PP**	**04 22 51.6**	**-2.9**
CD2				SKS	**SKSdf**	**04 25 00.7**	**-1.8**
CD2				SKKS	**SKKSac**	**04 29 23.6**	**+0.5**
CD2				SS	**SS**	**04 43 04.3**	**+1.0**
PSI	**Prapat**	**163.75**	**139**	PKPab	**PKPab**	**04 19 11.3**	**-0.1**
PSI	**Prapat**	**163.75**	**139**	PKPab	**PKPab**	**04 19 11.3**	**-0.1**
	comp=Z,32nm,0.9s,baz=209,slow=10,SNR=7.1						
WHN	**Wuhan**	**164.17**	**345**	⇓PKP	**PKPdf**	**04 18 17.3**	**-0.7**
WHN				pPKP	**PKPab**	**04 19 11.3**	**-1.3**
WHN				PP	**PP**	**04 22 57.9**	**+0.1**
WHN				SKKS		04 29 26.7	
ENH	**Enshi**	**165.05**	**0**	*e*PKPdf	**PKPdf**	**04 18 19.6**	**+0.7**
ENH				*e*PKPab	**PKPab**	**04 19 12.8**	**-3.7**
KSM	**Kuching**	**166.29**	**183**	*e*PKPdf	**PKPdf**	**04 18 20.9**	**+0.6**
KSM				*e*PKPab	**PKPab**	**04 19 22.1**	**-0.2**
KSM				*e*PP	**PP**	**04 23 07.8**	**-0.7**
KULM	**Kulim**	**166.75**	**137**	*e*PKPdf	**PKPdf**	**04 18 20.8**	**+0.1**
KULM				*e*PKPab	**PKPab**	**04 19 24.1**	**-0.4**
KMI	**Kunming**	**168.25**	**32**	PKP	**PKPdf**	**04 18 19.5**	**-2.2**
KMI				pPKP	**pPKPdf**	**04 19 15.7**	**-0.3**
GYA	**Guiyang**	**168.51**	**13**	PKP	**PKPdf**	**04 18 22.1**	**+0.4**
GYA				pPKP	**pPKPdf**	**04 19 15.4**	**-0.6**
GYA				PKS	**PKSdf**	**04 21 50.8**	**-3.7**
GYA				PP	**PP**	**04 23 21.5**	**+1.3**
GYA				SKKS		04 29 46.0	
GYA				SS	**SS**	**04 43 55.0**	**+1.2**
GYA				AMB	AMB		
	comp=Z,250nm,8.2s						
GYA				LR	LR		
	comp=N,860nm,23.6s						
GYA				LR	LR		
	comp=E,750nm,24.0s						
GYA				LR	LR		
	comp=Z,910nm,22.9s						
KKM	**Kota Kinabalu**	**168.79**	**216**	*e*PKPab	**PKPab**	**04 19 32.9**	**-0.7**
CMAI	**Chiengmai2**	**168.90**	**64**	P	**PKPab**	**04 19 35.3**	**+1.0**
	comp=Z,16nm,1.1s						
CHTO	**Chiang Mai**	**169.20**	**69**	*e*PKIKP	**PKPdf**	**04 18 21.8**	**-0.4**
CHTO				*e*		04 19 16.1	
CHTO				*e*		04 19 34.8	
CHTO	**Chiang Mai**	**169.20**	**69**	PKPdf	**PKPdf**	**04 18 22.5**	**+0.3**
	SNR=5.2						
CHTO	**Chiang Mai**	**169.20**	**69**	*e*PKPdf	**PKPdf**	**04 18 21.8**	**-0.4**
CHTO				*e*pPKPdf	**pPKPdf**	**04 19 16.1**	**-0.4**
CHTO				*e*PKPab	**PKPab**	**04 19 34.8**	**-0.7**
CMAR	**Chiang Mai Arr**	**169.30**	**71**	PKP	**PKPdf**	**04 18 22.1**	**-0.1**
CMAR				pPKP	**pPKPdf**	**04 19 14.9**	**-1.7**
CMAR				PKPab	**PKPab**	**04 19 35.9**	**-0.1**
CMAR				pPKPab	**pPKPab**	**04 20 27.9**	**+0.3**
CMAR				PP	PP	04 23 32.4	+6.2
CMAR	**Chiang Mai Arr**	**169.30**	**71**	PKP	**PKPdf**	**04 18 22.1**	**-0.1**
	comp=Z,3.0nm,0.7s,baz=291,slow=2.5,SNR=24						
CMAR				pPKP	**pPKPdf**	**04 19 14.9**	**-1.7**
	comp=Z,2.4nm,0.5s,baz=296,slow=2.4,SNR=3.1						
CMAR				PKPab	**PKPab**	**04 19 35.9**	**-0.1**
	comp=Z,7.7nm,0.7s,baz=282,slow=6.0,SNR=19						
CMAR				pPKPab	**pPKPab**	**04 20 27.9**	**+0.3**
	comp=Z,7.9nm,1.0s,baz=277,slow=5.5,SNR=4.2						
CMAR				PP	PP	04 23 32.4	+6.2
	comp=Z,1.2nm,0.6s,baz=259,slow=5.1,SNR=5.0						
LAMP	**Lampang**	**169.91**	**70**	P	**PKPab**	**04 19 39.1**	**+0.5**
	comp=Z,13nm,0.7s						
NONG	**Nongkai**	**173.20**	**65**	P	**PKPab**	**04 19 53.4**	**+0.2**
	comp=Z,73nm,0.7s						
PANO	**Nakornpanom**	**174.84**	**68**	P	**PKPab**	**04 20 01.9**	**+1.4**
QIZ	**Qiongzhong**	**176.24**	**357**	PKP	**PKPdf**	**04 18 24.3**	**-0.8**
QIZ				PP	**PP**	**04 23 58.0**	**+0.3**
QIZ				SS	SS	04 45 06.2	-2.1
QIZ				AMB	AMB		
	comp=Z,160nm,6.4s						

*ISCJB **05** 04:40:19.7±1.1,37°.9N±0°.1×95°.52E±0°.08,h10km,mb3.4/5, Error ellipse: s-maj=16.9km s-min=7.2km az=19.5*
*IDC **05** 04:40:19.8±1.5,37°.72N×95°.51E,h0km,mb3.5/5, mb1 3.7/7,mb1mx3.5/29,mbtmp3.6/7,ML4.0/2,Error ellipse: s-maj=40.6km s-min=24.1km az=52.0*
*BJI **05** 04:40:21.8,37°.65N×95°.65E,h8km,ML3.8/7,Ms3.3/1, Ms7 3.3/1*

ISC 05 04:40:20.8±1.1,37°.7N±0°.1×95°.59E±0°.06,h10km,n12, σ1°34/15,mb3.5/5,1C-1D,Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**3.72**	**62**	Pn	Pb	04 41 22.7	-4.0
GTA				Pg	Pg	04 41 28.5	-3.6
GTA				Sn	**Sn**	**04 42 02.2**	**-0.2**
GTA				Sg	**Sb**	**04 42 11.6**	**-0.3**
GTA				smax	smax		
	comp=N,24nm,0.7s						
GTA				smax	smax		
	comp=E,30nm,0.8s						
LZH	**Lanzhou**	**6.81**	**101**	*e*Pg	**Pg**	**04 42 30.1**	**-1.0**
LZH				Sg	**Sg**	**04 43 57.3**	**-2.0**
LZH				smax	smax		
	comp=N,50nm,0.8s						
LZH				smax	smax		
	comp=E,76nm,0.7s						
LZH				LR	LR		
	comp=N,290nm,6.5s						
LZH				LR	LR		
	comp=E,170nm,5.3s						
LZH				LR	LR		
	comp=Z,340nm,7.6s						
WMQ	**Urumqi**	**8.55**	**318**	*e*Pn	Pn	04 42 20.6	-4.1
WMQ				smax	smax		
	comp=N,36nm,0.9s						
WMQ				smax	smax		
	comp=E,25nm,0.8s						
SONM	**Songino Array**	**12.85**	**35**	Pn	**Pn**	**04 43 25.8**	**+2.3**
	comp=E,0.4nm,0.3s,baz=221,slow=15,SNR=6.4						
MK31	**Makanchi Array**	**13.38**	**317**	⇑Pn	**Pn**	**04 43 29.7**	**-1.0**
	comp=E,0.7nm,0.3s,baz=127,slow=14,SNR=29						
MK31				⇓Sn	**Sn**	**04 45 57.7**	**-1.8**
	comp=E,1.9nm,0.8s,baz=125,slow=26,SNR=4.9						
MKAR	**Makanchi Array**	**13.38**	**317**	Pn	**Pn**	**04 43 29.4**	**-1.4**
	comp=E,1.2nm,0.3s,baz=124,slow=14,SNR=30						
MKAR				Sn	**Sn**	**04 45 58.6**	**-0.9**
	comp=E,0.1nm,0.3s,baz=118,slow=23,SNR=3.6						
ZALV	**Zalesovo Beam**	**17.86**	**339**	P	**P**	**04 44 30.4**	**+0.6**
	comp=E,1.1nm,0.3s,baz=142,slow=7.3,SNR=13						
BVAR	**Borovoye Array**	**23.24**	**319**	P	**P**	**04 45 28.6**	**+0.6**
	comp=E,0.3nm,0.3s,baz=118,slow=12,SNR=2.6						
KSRS	**Korea Array**	**25.56**	**81**	P	**P**	**04 45 51.1**	**+1.4**
	comp=E,1.2nm,0.6s,baz=287,slow=8.8,SNR=5.1						
ILAR	**Eielson Array**	**66.84**	**24**	P	**P**	**04 51 12.3**	**-0.1**
	comp=E,0.2nm,0.6s,baz=311,slow=4.7,SNR=4.2						
ASAR	**Alice Springs**	**70.88**	**143**	P	**P**	**04 51 39.2**	**+1.2**
	comp=E,0.3nm,0.8s,baz=330,slow=6.4,SNR=3.4						
YKA	**Yellowknife Ar**	**77.22**	**14**	P	**P**	**04 52 14.4**	**-0.2**
	comp=E,0.5nm,0.9s,baz=334,slow=5.5,SNR=3.0						

*PGC **05** 04:51:08.5±0.7,47°.92N×120°.13W,h1km,ML2.3/7,168km east of Seattle, Wa Washington*
*NEIC **05** 04:51:08.2,47°.90N×120°.11W,h1km,MD2.5(SEA),After SEA.*
NEIC Felt [III] at Manson.

ISC 05 04:51:07.4±1.2,47°.89N±0°.03×120°.12W±0°.02,h2km±11km, n27,σ1°14/39,14D,Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
B08A	**Colville Reser**	**0.71**	**48**	⇓P	**Pg**	**04 51 20.8**	**-0.2**
B08A				⇑S	**Sg**	**04 51 29.9**	**-0.2**
GPW	**Glacier Peak**	**0.72**	**289**	⇑S	**Sg**	**04 51 30.2**	**-0.4**
LTY	**Liberty**	**0.73**	**211**	⇑P	**Pg**	**04 51 21.7**	**+0.3**
LTY				⇑S	**Sg**	**04 51 31.2**	**+0.3**
RPW	**Rockport**	**1.09**	**302**	⇓S	**Sg**	**04 51 42.0**	**-0.4**
B06A	**Marblemount**	**1.11**	**305**	⇓S	**Sg**	**04 51 42.7**	**-0.3**
JCW	**Jim Creek**	**1.25**	**285**	⇑P	**Pn**	**04 51 30.7**	**-1.3**
JCW				⇑S	**Sb**	**04 51 47.3**	**-1.1**
CMW	**Cultus Mountai**	**1.44**	**293**	⇑S	**Sb**	**04 51 53.8**	**-0.1**
D05A	**Enumclaw**	**1.45**	**242**	⇑Pn	**Pb**	**04 51 35.8**	**+0.7**
D05A				⇓Sg	**Sb**	**04 51 54.5**	**+0.7**
PNT	**Penticton**	**1.47**	**13**	⇓P	**Pn**	**04 51 34.5**	**-0.4**
PNT				⇑S	**Sn**	**04 51 53.3**	**-1.4**
MBW	**Mount Baker**	**1.49**	**308**	⇑Pn	**Pn**	**04 51 34.6**	**-0.7**
MBW				⇓Sg	**Sn**	**04 51 54.4**	**-1.0**
HAWA	**Hanford**	**1.55**	**165**	*e*Pn	**Pn**	**04 51 35.2**	**-0.8**
HAWA				*e*S	**Sb**	**04 51 57.5**	**+0.8**
LON	**Longmire**	**1.62**	**226**	*e*Pn	**Pn**	**04 51 37.5**	**+0.5**
LON				*e*S	**Sn**	**04 51 57.4**	**-1.0**
LON	**Longmire**	**1.62**	**226**	⇑Pn	**Pn**	**04 51 37.8**	**+0.9**
LON				⇑Sg	**Sn**	**04 51 58.1**	**-0.3**
A05A	**Maple Falls**	**1.72**	**311**	⇓Pn	**Pb**	**04 51 39.1**	**-0.5**
HOPB	**Hope**	**1.73**	**331**	⇓Sg	**Sn**	**04 52 00.6**	**-0.5**
VDB	**Vedder Mountai**	**1.75**	**312**	⇓Pn	**Pg**	**04 51 41.0**	**+0.2**
GNW	**Green Mountain**	**1.85**	**261**	⇑Pn	**Pn**	**04 51 40.7**	**+0.6**
GNW				⇑Sg	**Sb**	**04 52 05.7**	**+0.1**
HDW	**Hoodsport**	**1.99**	**264**	⇓Pn	**Pn**	**04 51 43.1**	**+0.9**
HDW				⇑Sg	**Sn**	**04 52 08.1**	**+0.4**
NEW	**Newport**	**2.04**	**78**	*e*Pn	**Pn**	**04 51 41.7**	**-1.1**
NEW				*e*Sg	**Sb**	**04 52 12.0**	**+0.9**
VGZ	**Gonzales**	**2.21**	**285**	⇓Sg	**Sb**	**04 52 15.2**	**-0.5**
CPW	**Capitol Peak**	**2.24**	**247**	⇓Pn	**Pb**	**04 51 48.3**	**-0.3**
WSLR	**Whistler**	**2.90**	**322**	⇑Sg	**Sb**	**04 52 37.1**	**+1.2**
LLLB	**Lillooet**	**2.96**	**338**	⇑Sg	**Sb**	**04 52 39.8**	**+2.4**
SLEB	**Sale Mountain**	**3.53**	**21**	⇓Sg	**Sb**	**04 52 56.6**	**+2.6**
DOWB	**Downie Slide**	**3.78**	**15**	⇓Sg	**Sb**	**04 53 03.2**	**+2.1**
JTMT	**Jette**	**3.94**	**90**	*e*Sg	**Sg**	**04 53 12.7**	**-1.1**
BLBC	**Blue River**	**4.20**	**7**	⇑Sg	**Sb**	**04 53 16.5**	**+3.1**

TRN 05 04:58:01.5,15°.32N×61°.22W,h150km,MD3.4,M3.8(FDF), 3C,Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVN	**Savane Anatole**	**0.48**	**174**	*e*P	Pn	04 58 24.2	+1.3
MGG	**Marie-Galante**	**0.60**	**351**	⇑*i*P	Pn	04 58 24.4	+0.9
TBG	**Guadaloupe-3**	**0.67**	**322**	*e*P	Pn	04 58 24.7	+0.9
PHG	**Guadaloupe-2**	**0.80**	**329**	*e*P	Pn	04 58 25.9	+1.0
HMG	**Houelmont**	**0.80**	**325**	*e*P	Pn	04 58 25.9	+1.1
ECG	**Echelle**	**0.83**	**330**	*e*P	Pn	04 58 26.0	+0.8
SCG	**Saint Claude**	**0.83**	**328**	*e*P	Pn	04 58 26.2	+1.2
TAG	**Tarade**	**0.83**	**329**	*e*P	Pn	04 58 26.4	+1.2
FNG	**Fond-Bernard**	**0.86**	**329**	*e*P	Pn	04 58 26.5	+1.1
SSG	**Sans Toucher**	**0.88**	**330**	*e*P	Pn	04 58 26.8	+1.2
DEG	**La Desirade**	**1.00**	**9**	*e*P	Pn	04 58 27.2	+0.8
SEG	**Port Louis**	**1.11**	**346**	⇑*i*P	Pn	04 58 28.4	+1.1
SLW	**Petit Monier**	**1.32**	**168**	*e*P	Pn	04 58 30.4	+1.0
MCLT	**Moule a Chique**	**1.63**	**170**	*e*P	Pn	04 58 34.7	+2.1
MCLT				*e*S	Sn	04 58 55.7	-0.6
BPA	**Boggy Peak**	**1.82**	**340**	*e*P	Pn	04 58 36.2	+1.5
BPA				*e*S	Sn	04 59 00.6	+0.4
SVB	**Belmont**	**2.04**	**181**	*e*P	Pn	04 58 38.9	+1.7
SVB				*e*S	Sn	04 59 03.9	-0.7
ANWB	**Willy Bob**	**2.39**	**347**	⇑*e*P	Pn	04 58 41.4	0.0
SKI	**Saint Kitts**	**2.47**	**324**	*e*P	Pn	04 58 43.2	+0.8
SKI				*e*S	Sn	04 59 14.6	+0.6

*ISK **05** 05:19:01.5,38°.83N×27°.85E,h11km,ML3.7*
*CSEM **05** 05:19:01.7±0.1,38°.81N×27°.86E,h5km,ML3.6,Error ellipse: s-maj=1.5km s-min=1.5km az=113.0*
*ISCJB **05** 05:19:01.6±0.4,38°.82N±0°.01×27°.85E±0°.02,h9km±2km, Error ellipse: s-maj=2.5km s-min=2.4km az=38.0*
*DDA **05** 05:19:01.3,38°.85N×27°.89E,h16km,ML3.6*
*THE **05** 05:19:02.2,38°.79N×27°.81E,h1km,ML3.6/4,Error ellipse: s-maj=1.5km s-min=0.6km az=78.0*
*ATH **05** 05:19:02.9,38°.88N×27°.89E,h44km±4km,MD3.7/9*

ISC 05 05:19:02.1±0.8,38°.82N±0°.02×27°.85E±0°.02,h9km±5km, n175,σ0°70/230,4C-2D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKHS	**Akhisar**	**0.07**	**334**	*i* P	**Pg**	**05 19 04.1**	**-0.1**
AKHS				*i* S	**Sg**	**05 19 05.9**	**+0.1**
AKHS	**Akhisar**	**0.07**	**334**	*i* P	**Pg**	**05 19 04.1**	**-0.1**
AKHS				*i* S	**Sg**	**05 19 05.9**	**+0.1**
AKS	**Akhisar**	**0.07**	**334**	PG	**Pg**	**05 19 04.1**	**-0.2**
AKS	**Akhisar**	**0.07**	**334**	*i* Pg	**Pg**	**05 19 04.1**	**-0.2**
IZM	**Izmir**	**0.62**	**228**	PG	**Pg**	**05 19 14.2**	**0.0**
IZM	**Izmir**	**0.62**	**228**	*i* Pg	**Pg**	**05 19 14.2**	**0.0**
MANT	**Manisa**	**0.64**	**120**	*i* P	**Pg**	**05 19 14.3**	**-0.3**
MANT				*i* S	**Sg**	**05 19 22.6**	**-0.4**
MANT	**Manisa**	**0.64**	**120**	*i* P	**Pg**	**05 19 14.3**	**-0.3**
MANT				*i* S	**Sg**	**05 19 22.6**	**-0.4**
KULA	**Kula-Manisa**	**0.70**	**115**	*e*PG	**Pg**	**05 19 15.7**	**0.0**
KULA	**Kula-Manisa**	**0.70**	**115**	*e*Pg	**Pg**	**05 19 15.7**	**0.0**
DEMI	**Demirci**	**0.71**	**71**	*i* P	**Pg**	**05 19 14.9**	**-1.0**
DEMI				*i* S	**Sg**	**05 19 25.0**	**-0.2**
DEMI	**Demirci**	**0.71**	**71**	*i* P	**Pg**	**05 19 14.9**	**-1.0**
DEMI				*i* S	**Sg**	**05 19 25.0**	**-0.2**
BALB	**Balikesir**	**0.82**	**2**	*e*PG	**Pg**	**05 19 17.4**	**-0.6**
BALB				*e*SG	**Sg**	**05 19 29.1**	**+0.4**
BALB	**Balikesir**	**0.82**	**2**	*e*Pg	**Pg**	**05 19 17.4**	**-0.6**
BALB				*e*Sg	**Sg**	**05 19 29.1**	**+0.4**
DST	**Dursunbey**	**0.99**	**37**	*e*PG	**Pg**	**05 19 20.7**	**-0.4**
DST	**Dursunbey**	**0.99**	**37**	*e*Pg	**Pg**	**05 19 20.7**	**-0.4**
AYVA	**Ayvalik**	**1.03**	**299**	*i* P	**Pg**	**05 19 21.4**	**-0.5**
AYVA				*i* S	**Sg**	**05 19 35.3**	**0.0**
AYVA	**Ayvalik**	**1.03**	**299**	*i* P	**Pg**	**05 19 21.4**	**-0.5**
AYVA				*i* S	**Sg**	**05 19 35.3**	**0.0**
URLA	**Izmir**	**1.08**	**246**	*i* P	**Pb**	**05 19 22.7**	**-0.4**
URLA				*i* S	**Sn**	**05 19 38.6**	**-0.1**
URLA	**Izmir**	**1.08**	**246**	*i* P	**Pb**	**05 19 22.7**	**-0.4**
URLA				*i* S	**Sn**	**05 19 38.6**	**-0.1**
GCAM	**G?zelcaml?**	**1.22**	**204**	*i* P	**Pn**	**05 19 24.1**	**-1.2**
GCAM				*i* S	**Sn**	**05 19 42.6**	**+0.7**
GCAM	**G?zelcaml?**	**1.22**	**204**	*i* P	**Pn**	**05 19 24.1**	**-1.2**
GCAM				*i* S	**Sn**	**05 19 42.6**	**+0.7**
GONE	**Gonen-Balikesi**	**1.23**	**354**	*e*PN	**Pb**	**05 19 25.6**	**-0.1**
GONE	**Gonen-Balikesi**	**1.23**	**354**	*e*Pn	**Pb**	**05 19 25.6**	**-0.1**
GDZ	**Gediz**	**1.30**	**77**	*i* P	**Pn**	**05 19 25.4**	**-1.2**
GDZ				*i* S	**Sb**	**05 19 42.5**	**-1.1**
GDZ	**Gediz**	**1.30**	**77**	*i* P	**Pn**	**05 19 25.4**	**-1.2**
GDZ				*i* S	**Sb**	**05 19 42.5**	**-1.1**
PRK	**Paraskevi**	**1.30**	**290**	P	**Pn**	**05 19 25.9**	**-0.6**
PRK				S	**Sb**	**05 19 43.8**	**+0.2**
PRK	**Paraskevi**	**1.30**	**290**	*e*P	**Pn**	**05 19 26.1**	**-0.4**
PRK				*e*S	**Sb**	**05 19 42.6**	**-1.0**
PRK	**Paraskevi**	**1.30**	**290**	*e*P	**Pn**	**05 19 26.1**	**-0.4**
PRK				*e*S	**Sb**	**05 19 42.6**	**-1.0**
KHAL	**Karahalli**	**1.36**	**109**	*i* P	**Pn**	**05 19 26.6**	**-0.8**
KHAL				*i* S	**Sb**	**05 19 44.9**	**-0.5**
KHAL	**Karahalli**	**1.36**	**109**	*i* P	**Pn**	**05 19 26.6**	**-0.8**
KHAL				*i* S	**Sb**	**05 19 44.9**	**-0.5**
SMG	**Samos**	**1.36**	**216**	P	**Pn**	**05 19 26.4**	**-1.0**
SMG				S	**Sb**	**05 19 45.5**	**+0.1**
SMG	**Samos**	**1.36**	**216**	*e*P	**Pn**	**05 19 27.7**	**+0.3**
SMG				*e*S	**Sb**	**05 19 45.5**	**+0.1**
SMG	**Samos**	**1.36**	**216**	*e*P	**Pn**	**05 19 27.7**	**+0.3**
SMG				*e*S	**Sb**	**05 19 45.5**	**+0.1**
KHL	**Karahalli**	**1.40**	**110**	*e*PN	**Pn**	**05 19 27.5**	**-0.4**
KHL	**Karahalli**	**1.40**	**110**	*e*Pn	**Pn**	**05 19 27.5**	**-0.4**
DNZL	**Cakiroluk**	**1.47**	**140**	*i* P	**Pn**	**05 19 28.0**	**-1.0**
DNZL				*i* S	**Sg**	**05 19 49.6**	**+0.3**
DNZL	**Cakiroluk**	**1.47**	**140**	*i* P	**Pn**	**05 19 28.0**	**-1.0**
DNZL				*i* S	**Sg**	**05 19 49.6**	**+0.3**
ORLT	**Orhaneli**	**1.47**	**33**	*e*PN	**Pn**	**05 19 29.1**	**+0.2**
ORLT	**Orhaneli**	**1.47**	**33**	*e*Pn	**Pn**	**05 19 29.1**	**+0.2**
CHOS	**Chios island**	**1.47**	**254**	P	**Pn**	**05 19 28.5**	**-0.4**
CHOS				S	**Sn**	**05 19 48.4**	**+0.1**
CHOS

APE	Apeiranthos	2.53	227	ePn	Pn	05 19 43.8 +0.3
APE	Apeiranthos	2.53	227	eP	Pn	05 19 44.1 +0.6
APE				S	Sn	05 20 14.4 -0.1
BCK	Bucak	2.55	121	ePN	Pn	05 19 43.6 -0.1
BCK	Bucak	2.55	121	ePn	Pn	05 19 43.6 -0.1
KLYT	Kilyos	2.60	20	ePN	Pn	05 19 44.0 -0.3
KLYT	Kilyos	2.60	20	ePn	Pn	05 19 44.0 -0.3
ARG	Arkhangelos	2.61	175	P	Pn	05 19 44.0 -0.4
ARG				S	Sn	05 20 16.5 +0.3
ARG	Arkhangelos	2.61	175	P	Pn	05 19 44.0 -0.4
ARG				S	Sn	05 20 16.5 +0.3
GULT	Gulveren	2.61	51	ePN	Pn	05 19 44.4 -0.2
GULT	Gulveren	2.61	51	ePn	Pn	05 19 44.4 -0.2
ELL	Elmali	2.63	141	ePN	Pn	05 19 45.6 +0.7
ELL	Elmali	2.63	141	ePn	Pn	05 19 45.6 +0.7
SPNC	Sapanca-Adapaz	2.66	45	ePN	Pn	05 19 45.6 +0.4
SPNC	Sapanca-Adapaz	2.66	45	ePn	Pn	05 19 45.6 +0.4
CTYL	Yal??k??y-??at	2.68	7	ePN	Pn	05 19 45.6 +0.2
CTYL	Yal??k??y-??at	2.68	7	ePn	Pn	05 19 45.6 +0.2
PHSR	Pinarhisar	2.82	355	ePN	Pn	05 19 47.9 +0.5
PHSR	Pinarhisar	2.82	355	ePn	Pn	05 19 47.9 +0.5
MRMA	Marmari	2.83	256	P	Pn	05 19 47.7 +0.2
MRMA				S	Sn	05 20 21.4 -0.4
MRMA	Marmari	2.83	256	P	Pn	05 19 47.7 +0.2
MRMA				S	Sn	05 20 21.4 -0.4
SVRH	Sivrihisar-ESK	2.92	76	ePN	Pn	05 19 49.1 +0.2
SVRH	Sivrihisar-ESK	2.92	76	ePn	Pn	05 19 49.1 +0.2
SANT	Santorini	3.09	219	P	Pn	05 19 50.7 -0.5
SANT				S	Sn	05 20 28.9 +0.6
SANT	Santorini	3.09	219	P	Pn	05 19 50.7 -0.5
SANT				S	Sn	05 20 28.9 +0.6
AOS	Alonnisos	3.12	278	P	Pn	05 19 51.2 -0.2
AOS				S	Sn	05 20 30.1 +1.3
AOS	Alonnisos	3.12	278	eP	Pn	05 19 51.2 -0.2
AOS	Alonnisos	3.12	278	eP	Pn	05 19 51.2 -0.2
AOS				S	Sn	05 20 30.1 +1.3
EDRB	Edirne	3.14	345	ePN	Pn	05 19 52.6 +0.9
EDRB	Edirne	3.14	345	ePn	Pn	05 19 52.7 +0.9
KIZT	Kizilcal	3.15	88	ePN	Pn	05 19 52.3 +0.3
KIZT	Kizilcal	3.15	88	ePn	Pn	05 19 52.3 +0.3
KARP	Karpathos	3.31	190	P	Pn	05 19 54.2 0.0
KARP				S	Sn	05 20 34.1 +0.5
KARP	Karpathos	3.31	190	P	Pn	05 19 54.2 0.0
KARP				S	Sn	05 20 34.1 +0.5
OUR	Ouranopolis	3.35	298	P	Pn	05 19 54.6 -0.1
OUR	Ouranopolis	3.35	298	P	Pn	05 19 54.6 -0.1
KAVA	Kavala	3.37	311	P	Pn	05 19 54.2 -0.7
KAVA	Kavala	3.37	311	P	Pn	05 19 54.2 -0.7
PAIG	Paliouri	3.42	290	P	Pn	05 19 55.7 +0.1
PAIG	Paliouri	3.42	290	eP	Pn	05 19 55.7 +0.1
PAIG	Paliouri	3.42	290	eP	Pn	05 19 55.7 +0.1
KDZE	Karadeniz Ereo	3.72	47	ePN	Pn	05 20 00.9 +1.2
KDZE	Karadeniz Ereo	3.72	47	ePn	Pn	05 20 00.9 +1.2
PLG	Polygyros	3.74	296	eP	Pn	05 19 59.4 -0.7
PLG	Polygyros	3.74	296	eP	Pn	05 19 59.4 -0.7
JMB	Yambol	3.77	346	P	Pn	05 20 01.6 +1.1
JMB				S	Sn	05 20 47.3 +2.4
JMB	Yambol	3.77	346	P	Pn	05 20 01.6 +1.1
JMB				S	Sn	05 20 47.3 +2.4
ZKR	Zakros	3.92	200	P	Pn	05 20 03.0 +0.5
ZKR	Zakros	3.92	200	P	Pn	05 20 03.0 +0.5
NVR	Nevrokopi	3.97	311	P	Pn	05 20 03.0 -0.2
NVR				S	Sn	05 20 50.4 +0.5
NVR	Nevrokopi	3.97	311	eP	Pn	05 20 03.3 +0.1
NVR	Nevrokopi	3.97	311	eP	Pn	05 20 03.3 +0.1
NVR				S	Sn	05 20 50.4 +0.5
NPS	Neapolis	3.97	207	P	Pn	05 20 02.9 -0.4
NPS	Neapolis	3.97	207	P	Pn	05 20 02.9 -0.4
SRS	Serrai	4.00	306	P	Pn	05 20 03.5 -0.1
SRS	Serrai	4.00	306	P	Pn	05 20 03.5 -0.1
HDMB	Hadim	4.11	115	ePN	Pn	05 20 06.4 +1.1
HDMB	Hadim	4.11	115	ePn	Pn	05 20 06.4 +1.1
LAST	Lasithi	4.11	208	P	Pn	05 20 04.7 -0.6
LAST	Lasithi	4.11	208	P	Pn	05 20 04.7 -0.6
VTS	Vitosha	5.16	318	⇓/P	Pn	05 20 23.3 +3.6
VTS	Vitosha	5.16	318	⇓/P	Pn	05 20 23.3 +3.6
CORM	Corum	5.42	73	ePN	Pn	05 20 24.8 +1.6
CORM	Corum	5.42	73	ePn	Pn	05 20 24.8 +1.6
BARS	Barje	6.08	313	ePn	Pn	05 20 32.3 +0.2
MLR	Muntele Rosu	6.82	349	⇑/P	Pn	05 20 45.0 +2.6
MLR	Muntele Rosu	6.82	349	⇑/P	Pn	05 20 45.0 +2.6
VRI	Vrincioaia	7.09	354	⇑/P	Pn	05 20 46.4 +0.3
VRI	Vrincioaia	7.09	354	⇑/P	Pn	05 20 46.4 +0.3

IGQ 05 05:45:05.5, 0°.96S×79°.23W, h118km±174km, Mb4.1, Ms3.9, 5C-28D, Error ellipse: s-maj=1.4km s-min=0.9km az=2.9, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAMI	Rancho Maria	0.78	69	⇓P	Pn	05 45 26.3	+0.4
IGUA	Igualata	0.79	132	⇓P	Pn	05 45 26.4	+0.3
BNAS	Cotopaxi Volca	0.80	69	⇓P	Pn	05 45 26.4	+0.3
NAS2	Nasa	0.82	67	⇓P	Pn	05 45 26.8	+0.5
MOV1	Cotopaxi Vol s	0.82	73	P	Pn	05 45 26.3	-0.1
BREF	Cotopaxi Volca	0.84	70	⇓P	Pn	05 45 27.0	+0.3
PECV	Mancha de Ca P	0.84	283	P	Pn	05 45 30.0	+4.1
PISA	Pisayambo	0.85	96	⇑P	Pn	05 45 26.6	+0.1
BIL2	Estacion Bilba	0.88	124	⇓P	Pn	05 45 26.9	+0.3
BTAM	Cotopaxi Volca	0.88	71	⇓S	Sn	05 45 43.2	+0.2
BTAM	Cotopaxi Volca	0.88	71	⇓P	Pn	05 45 27.0	+0.2
VC1	Cotopaxi 1	0.88	69	⇓P	Pn	05 45 27.2	+0.3
JUI6	Juive	0.89	121	⇓P	Pn	05 45 26.7	+0.1
PITA	Cotopaxi Volc	0.89	63	⇓P	Pn	05 45 27.0	+0.2
TAMB	Tambo	0.90	73	⇓P	Pn	05 45 27.3	+0.2
RETU	Refugio	0.92	122	⇓P	Pn	05 45 27.5	+0.3
RUN5	Runtun	0.92	119	S	Sn	05 45 43.2	0.0
RUN5	Runtun	0.92	119	P	Pn	05 45 27.1	+0.2
BMAS	Trigal station	0.92	126	⇓P	Pn	05 45 27.2	+0.1
COV1	Cotopaxi Volc	0.93	71	⇓P	Pn	05 45 26.9	-0.6
BRUN	Tungurahua Vol	0.93	119	⇓S	Sn	05 45 43.3	-0.1
BRUN	Tungurahua Vol	0.93	119	⇓P	Pn	05 45 27.1	0.0
ARRY	Arrayan	0.94	125	⇓P	Pn	05 45 27.2	0.0
BULB	Ulba Tungurahu	0.94	120	⇓S	Sn	05 45 42.5	-1.2
BULB	Ulba Tungurahu	0.94	120	⇓P	Pn	05 45 27.4	+0.1
ULBA	Ulba	0.95	121	⇓P	Pn	05 45 27.4	0.0
PAT1	Patacocha	0.96	124	⇓P	Pn	05 45 27.8	+0.2
BPAT	Tungurahua Vol	0.96	124	⇓P	Pn	05 45 27.8	+0.2
JUA2	San Juan 2	0.97	40	P	Pn	05 45 27.7	0.0
RIOE	Riobamba	0.99	143	⇓P	Pn	05 45 27.9	+0.2
TERV	Terraza Guagua	1.00	39	P	Pn	05 45 28.1	+0.1
GGP	Refugio Guagua	1.01	39	⇑P	Pn	05 45 28.2	+0.1
PINO	Pino	1.01	38	P	Pn	05 45 28.1	-0.1
MAG1	Magdalena	1.04	328	⇓P	Pn	05 45 27.9	+0.1
ANTI	Antisana	1.18	64	P	Pn	05 45 30.2	+0.3
JAMA	Jama	1.20	305	⇑P	Pn	05 45 29.2	-0.4
OTAV	Otavalo	1.42	33	⇑S	Sn	05 45 52.1	-0.9
OTAV	Otavalo	1.42	33	⇑P	Pn	05 45 32.5	0.0
COTA	Cotacachi	1.57	35	P	Pn	05 45 34.6	+0.4
COTA	Cotacachi	1.57	35	S	Sn	05 45 56.5	-0.4
CAYA	Cayambe	1.61	50	⇓P	Pn	05 45 35.3	+0.6
MACE	Macas	1.65	141	⇓P	Pn	05 45 35.9	+1.2
CHAR	Charly	1.78	61	⇓P	Pn	05 45 37.6	+0.9
CONE	Cono NE Rev Vo	1.82	61	P	Pn	05 45 37.9	+0.9
LAV4	Lava4-Reventad	1.82	62	P	Pn	05 45 37.0	+0.1
LITE	Lita	1.96	26	S	Sn	05 46 04.1	+0.4
LITE	Lita	1.96	26	P	Pn	05 45 39.1	+0.5

IDC 05 05:59:19.9±1.7, 0°.89N×126°.08E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.4/22, mbtmp3.4/3, Error ellipse: s-maj=166.6km s-min=26.1km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.23	159	P	P	06 04 18.1	-0.3
	1.8nm,0.7s,baz=338,slow=11,SNR=12						
ASAR	Alice Springs	25.56	163	P	P	06 04 51.0	+0.2
	0.3nm,0.4s,baz=337,slow=7.0,SNR=9.0						
ASAR				PcP	PcP	06 08 22.0	-0.4
	0.2nm,0.5s,baz=356,slow=3.7,SNR=4.3						
MKAR	Makanchi Array	59.53	327	P	P	06 09 25.2	0.0
	0.1nm,0.3s,baz=132,slow=7.2,SNR=4.7						

*ISCJB **05** 06:17:14.3±0.5, 74°.75N±0°.04×8°.9E±0°.2, h10km, mb3.5/5, MS3.0/6, Error ellipse: s-maj=8.0km s-min=5.2km az=16.2*
*CSEM **05** 06:17:16.0±0.3, 74°.67N×8°.99E, h10km, ML3.8, Error ellipse: s-maj=7.9km s-min=6.6km az=105.0*
*BER **05** 06:17:17.7±3.0, 74°.63N×9°.19E, h5km±33km, MD2.0, ML2.2, ML3.8(NAO)*
*IDC **05** 06:17:18.5±1.0, 74°.69N×9°.63E, h0km, mb3.6/5, mb1 3.9/9, mb1mx3.6/30, mbtmp3.8/9, ML3.5/2, MS3.0/7, Ms1 3.0/7, ms1mx2.6/40, Error ellipse: s-maj=19.7km s-min=9.3km az=83.0*
*NAO **05** 06:17:23.2±4.8, 74°.72N×10°.29E, h27km±68km, ML3.8*
ISC 05 06:17:16.5±0.8, 74°.70N±0°.05×9°.48E±0°.08, h10km, n39, σ2°.03/44, mb3.6/5, MS3.0/6, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSP	Hornsund	2.76	30	eP	Pn	06 18 01.9	+1.2
HSP				eS	Sn	06 18 30.8	-3.3
SPA0	Spitsbergen Ar	3.86	22	Pn	Pn	06 18 17.9	+2.1
	baz=194,slow=16						
SPA0				Sn	Sn	06 18 59.8	-1.3
	baz=214,slow=22						
SPA0	Spitsbergen Ar	3.86	22	Pn	Pn	06 18 17.9	+2.1
	baz=194,slow=16						
SPA0				Sn	Sn	06 18 59.8	-1.3
	baz=214,slow=22						
SPA0	Spitsbergen Ar	3.86	22	Pn	Pn	06 18 17.9	+2.1
	baz=194,slow=15,SNR=544						
SPA0				Sn	Sn	06 18 59.8	-1.3
	baz=214,slow=21						
SPITS	Spitsbergen Ar	3.86	22	Pn	Pn	06 18 17.6	+1.8
	baz=204,slow=16,SNR=300						
SPITS				Sn	Sn	06 18 59.8	-1.3
	baz=200,slow=17,SNR=1.2						
KBS	Kingsbay	4.29	6	Pn	Pn	06 18 22.3	+0.5
KBS				Sn	Sn	06 19 11.2	-0.6
KBS	Kingsbay	4.29	6	Pn	Pn	06 18 22.3	+0.5
KBS				eS	Sn	06 19 11.6	-0.1
KBS				AML	AML	06 19 13.2	
	comp=Z,9.6nm,0.5s						
KBS	Kingsbay	4.29	6	Pn	Pn	06 18 22.3	+0.5
KBS				Sn	Sn	06 19 11.2	-0.6
KBS				eS	Sb	06 19 11.6	-12
	comp=Z,9.6nm,0.5s,SNR=49						
JNE	Jan Mayen East	6.42	243	eP	Pn	06 18 48.4	-2.5
JNE	Jan Mayen East	6.42	243	eP	Pn	06 18 48.4	-2.5
	SNR=49						
JNW	Jan Mayen West	6.42	244	eP	Pn	06 18 48.7	-2.3
JNW	Jan Mayen West	6.42	244	eP	Pn	06 18 48.7	-2.3
	SNR=47						
JMIC	Jan Mayen	6.47	244	Pn	Pn	06 18 49.4	-2.2
	comp=Z,6.0nm,0.3s,baz=69,slow=11,SNR=9.9						
JMI	Jan Mayen	6.56	244	eP	Pn	06 18 51.0	-1.9
JMI	Jan Mayen	6.56	244	eP	Pn	06 18 51.0	-1.9
	SNR=47						
ARA0	ARCESS Array S	7.13	129	Pn	Pn	06 19 02.5	+1.8
	baz=328,slow=12						
ARA0				Sn	Sn	06 20 17.8	-3.8
	baz=327,slow=22						
ARA0	ARCESS Array S	7.13	129	Pn	Pn	06 19 02.5	+1.8
	baz=328,slow=12						
ARA0				Sn	Sn	06 20 17.8	-3.8
	baz=327,slow=22						
ARA0	ARCESS Array S	7.13	129	Pn	Pn	06 19 02.5	+1.8
	baz=328,slow=12,SNR=250						
ARA0				Sn	Sn	06 20 17.8	-3.8
	baz=327,slow=20,SNR=6.8						
ARCES	ARCESS Array B	7.13	129	Pn	Pn	06 19 02.5	+1.8
	comp=Z,2.8nm,0.3s,baz=326,slow=10,SNR=54						
ARCES				Sn	Sn	06 20 19.4	-2.2
	comp=Z,1.3nm,0.3s,baz=327,slow=19,SNR=5.9						
ARCES				LR	LR	06 21 54.8	
	comp=Z,95nm,20.7s,baz=257,slow=39						
APA0	Apatity Array	10.32	121	Pn	Pn	06 19 44.0	-0.3
	baz=315,slow=11						
APA0	Apatity Array	10.32	121	Pn	Pn	06 19 44.0	-0.3
	baz=315,slow=11						
APA0	Apatity Array	10.32	121	Pn	Pn	06 19 44.0	-0.3
	baz=315,slow=11,SNR=4.1						
KAF	Kangasniemi	13.97	146	ep	Pn	06 20 36.4	+2.1
	comp=Z,16nm,0.7s						
KAF	Kangasniemi	13.97	146	eP	Pn	06 20 36.4	+2.1
	comp=Z,16nm,0.7s						
JOF	Joensuu	14.06	136	ep	Pn	06 20 37.1	+1.6
	comp=Z,2.8nm,0.5s						
JOF	Joensuu	14.06	136	eP	Pn	06 20 37.1	+1.6
	comp=Z,2.8nm,0.5s						
FIA0	FINESS Array S	14.58	147	Pn	Pn	06 20 43.7	+1.2
	baz=347,slow=12						
FIA0	FINESS Array S	14.58	147	Pn	Pn	06 20 43.7	+1.2
	baz=347,slow=12						
FINES	FINESS Array B	14.58	147	Pn	Pn	06 20 44.4	+1.8
	comp=Z,0.3nm,0.3s,baz=353,slow=12,SNR=13						
HFS	Hagfors	14.71	172	Pn	Pn	06 20 47.1	+2.7
	comp=Z,0.1nm,0.3s,baz=357,slow=11,SNR=3.0						
SFJD	Kangerlussuaq	20.19	279	LR	LR	06 28 51.9	
	comp=Z,40nm,19.4s,baz=334,slow=34						
GERES	GERESS Array B	26.00	174	P	P	06 22 51.2	+1.9
	comp=Z,0.4nm,0.4s,baz=13,slow=11,SNR=3.2						
GERES				LR	LR	06 32 53.8	
	comp=Z,25nm,21.9s,baz=334,slow=36						
KBZ	Khabaz	34.43	135	LR	LR	06 39 04.0	
	comp=Z,27nm,19.7s,baz=13,slow=38						
ZALV	Zalesovo Beam	35.18	83	LR	LR	06 43 29.9	
	comp=Z,23nm,18.9s,baz=232,slow=45						
BRTR	Keskin Array B	36.81	148	P	P	06 24 28.9	+4.6
	comp=Z,0.3nm,0.3s,baz=343,slow=4.5,SNR=3.3						
ILAR	Eielson Array	39.94	344	P	P	06 24 53.8	+3.6
	comp=Z,0.7nm,0.8s,baz=5.0,slow=6.8,SNR=8.7						
MKAR	Makanchi Array	41.02	90	P	P	06 25 03.6	+4.2
	comp=Z,0.7nm,0.6s,baz=354,slow=7.8,SNR=5.9						
MKAR				LR	LR	06 44 18.0	
	comp=Z,37nm,19.7s,baz=175,slow=40						
NEW	Newport	52.30	317	LR	LR	06 47 10.9	
	comp=Z,26nm,21.2s,baz=24,slow=34						
TORD	Torodi Ar. Bea	61.69	189	P	P	06 27 36.6	+2.2
	comp=Z,0.3nm,0.5s,baz=355,slow=6.1,SNR=4.3						

DJA 05 06:22:19.6±1.5, 8°.S±13°.×10°.7E±°., h19km±11km, M3.9/5, MLv3.9/5, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	Cisompet, Garu	0.61	56	P	Pb	06 22 31.3	-0.5
CISI				S	Sg	06 22 41.1	+0.8
SKJI	Sukabumi	1.16	320	P	Pn	06 22 39.4	-1.4
SKJI				S	Sb	06 22 54.3	-1.3
DBJI	Dramaga	1.45	338	P	Pn	06 22 44.8	0.0
KPJI	Karang Pucung	1.71	71	P	Pn	06 22 47.8	-0.6

*IDC **05** 06:40:02.1±0.8, 23°.17N×70°.24E, h0km, mb3.9/13, mb1 4.1/14, mb1mx3.9/31, mbtmp3.9/14, ML4.1/1, MS3.1/3, Ms1 3.1/3, ms1mx2.6/36, Error ellipse: s-maj=21.8km s-min=17.7km az=40.0*
*ISCJB **05** 06:40:03.9±0.4, 23°.38N±0°.04×70°.41E±0°.04, h15km, mb3.7/14, MS3.0/3, Error ellipse: s-maj=6.3km s-min=4.8km az=168.1*
*NEIC **05** 06:40:03.6±0.8, 23°.12N×70°.25E, h10km, mb4.0/5, Error ellipse: s-maj=17.0km s-min=13.2km az=67.0*
NEIC Felt at Bhuj and Gandhidham.
*NDI **05** 06:40:08.0±2.2, 23°.19N×70°.25E, h10km, ML4.1, mb4.0(NEIC)*
ISC 05 06:40:05.7±0.5, 23°.42N±0°.05×70°.31E±0°.05, h15km, n60, σ1°.91/54, mb3.8/14, MS3.0/3, Southern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHJ	Bhuj	0.62	255	eP	Pg	06 40 18.1	+0.2
BHJ				eS	Sg	06 40 26.5	+0.3
BHJ				AML	AML	06 40 26.8	
	comp=E,38μm,0.0s						
BHJ				AML	AML	06 40 27.2	
	comp=N,111μm,0.0s						
POO	Poona	5.88	145	eP	Pn	06 41 32.4	0.0
POO				eS	Sn	06 42 34.7	-4.9
POO				AML	AML	06 43 14.6	
	comp=E,119nm,0.3s						
POO				AML	AML	06 43 14.7	
	comp=N,110nm,0.6s						
BHPL	Bhopal	6.54	90	eS	Sn	06 42 54.4	-1.5
BHPL				AML	AML	06 43 10.1	
	comp=N,60nm,0.3s						
BHPL				AML	AML	06 43 11.7	
	comp=E,50nm,0.5s						
KHET	Khetri	6.79	46	eP	Pn	06 41 51.4	+6.6
KHET				ex	Sn	06 43 01.2	-0.6
KAD	Karad	7.08	148	e4	Pn	06 41 54.2	+5.3
LATR	Latur	7.67	129	eP	Pn	06 41 59.1	+2.2
LATR				e4	Sn	06 43 27.1	+3.4
SONA	Sohna	7.77	50	eP	Pn	06 42 04.3	+6.0
SONA				eS	Sn	06 43 25.0	-1.0
SONA				AML	AML	06 43 42.3	
	comp=N,54nm,0.6s						
SONA				AML	AML	06 43 42.6	
	comp=E,52nm,0.4s						
NGP	Nagpur	8.40	104	e4	Pn	06 42 19.3	+12
NGP				e4	Sb	06 44 03.2	-7.7
THW	Thamme Wali	9.43	7	P	Pn	06 42 23.3	+2.3
HYB	Hyderabad	9.76	126	i P	Pn	06 42 30.5	+4.8
HYB				eS	Sn	06 44 19.0	+3.8
SMLA	Simla	9.81	37	eP	Pn	06 42 32.2	+6.0
SMLA				i x	Sn	06 44 11.9	-4.2
SMLA				AML	AML	06 44 16.1	
	comp=E,86nm,0.6s						
SMLA				AML	AML	06 44 17.1	
	comp=N,54nm,0.8s						
THN	Thein Dam	10.17	27	eP	Pn	06 42 36.0	+4.8
THN				ex	x	06 44 29.5	
DHRM	DHARAMSHALA	10.27	30	eP	Pn	06 42 38.2	+5.4
DHRM				eS	Sn	06 44 27.3	-0.5
DHRM				AML	AML	06 45 03.7	
	comp=N,138nm,0.4s						
DHRM				AML	AML	06 45 06.0	
	comp=E,137nm,0.5s						
DLH	Dalhousie	10.37	28	e4	Sn	06 44 25.0	-5.3
DLH				e4	x	06 45 39.0	
CEP	Cherat	10.46	7	P	Pn	06 42 41.0	+5.7
CHCP	Chirah Chowk	10.53	14	P	Pn	06 42 38.6	+2.5
KBL	Kabul	11.14	355	ePn	Pn	06 42 49.6	+5.0
	comp=E,16nm,0.6s						
KOLN	Koldanda	12.75	67	eP	Pn	06 43 07.1	+0.4
	comp=E,6.5nm,0.3s						
DMN	Daman	14.00	70	eP	Pn	06 43 20.5	-3.3
PKI	Pulchoki	14.25	70	eP	Pn	06 43 24.5	-2.8
	comp=E,4.9nm,0.3s						
GUN	Gumba	14.73	69	eP	Pn	06 43 30.9	-3.1
JIRN	Jiri	14.94	70	eP	Pn	06 43 34.3	-2.5
RAMN	Ramite	15.16	73	eP	Pn	06 43 40.7	+1.1
	comp=E,15nm,0.5s						
ODAN	Odare	15.84	74	eP	P	06 43 51.4	-0.9
	comp=E,10nm,0.4s						
EKS2	Erkin-Say	19.41	8	eP	P	06 44 31.9	+0.5
	comp=E,3.8nm,0.6s						
AAK	Ala-Archa	19.48	9	eP	Pn	06 44 35.2	+1.7
	comp=E,11nm,0.8s						
AAK	Ala-Archa	19.48	9	P	Pn	06 44 35.2	+1.7
	comp=E,0.6nm,0.3s,baz=197,slow=7.4,SNR=13						
AAK				S	Sn	06 48 08.1	-3.7
	comp=E,0.3nm,0.3s,baz=323,slow=6.9,SNR=2.6						
KKAR	Karatay Array	19.64	0	eP	P	06 44 35.1	+1.3
	comp=E,4.5nm,0.5s						
TKM2	Tokmak 2	19.94	11	eP	Pn	06 44 39.9	+0.9
	comp=E,3.0nm,0.6s						
MKAR	Makanchi Array	25.24	20	P	P	06 45 31.6	+0.5
MKAR	Makanchi Array	25.24	20	P	P	06 45 31.6	+0.5
	comp=E,1.0nm,0.6s,baz=214,slow=10.0,SNR=9.8						
ABKAR	Akbulak array	27.05	345	eP	P	06 45 49.0	+1.6
	comp=E,3.7nm,0.7s						
CMAR	Chiang Mai Arr	27.17	95	P	P	06 45 47.8	-1.0
CMAR	Chiang Mai Arr	27.17	95	P	P	06 45 47.8	-1.0
	comp=E,1.7nm,0.5s,baz=284,slow=15,SNR=4.7						
GNI	Garni	27.26	314	LR	LR	06 59 26.5	
	comp=E,25nm,18.6s,baz=223,slow=42						
KURBB	Kurchatov Arra	27.90	11	P	P	06 45 54.4	-0.6
	comp=E,0.1nm,0.4s,baz=202,slow=7.0,SNR=3.2						
KURK	Kurchatov	28.01	11	P	P	06 45 54.4	-1.5
BVAR	Borovoye Array	29.56	0	P	P	06 46 11.4	+1.6
BVAR	Borovoye Array	29.56	0	P	P	06 46 11.4	+1.6
	comp=E,0.2nm,0.4s,baz=181,slow=10,SNR=2.5						
ZALV	Zalesovo Beam	32.39	16	P	P	06 46 35.7	+1.1
ZALV	Zalesovo Beam	32.39	16	P	P	06 46 35.7	+1.1
	comp=E,0.4nm,0.3s,baz=219,slow=8.9,SNR=3.1						
SONM	Songino Array	37.61	41	P	P	06 47 21.7	+1.8
SONM	Songino Array	37.61	41	P	P	06 47 21.7	+1.8
	comp=E,0.4nm,0.5s,baz=253,slow=8.4,SNR=3.6						
FINES	FINESS Array B	48.48	333	P	P	06 48 46.7	-0.8
FINES	FINESS Array B	48.48	333	P	P	06 48 46.7	-0.8
	comp=E,5.0nm,1.0s,baz=123,slow=7.0,SNR=6.2						
FINES				LR	LR	07 14 14.4	
	comp=E,31nm,20.4s,baz=231,slow=42						
GERES	GERESS Array B	50.90	315	P	P	06 49 05.8	-0.5
GERES	GERESS Array B	50.90	315	P	P	06 49 05.8	-0.5
	comp=E,0.4nm,0.4s,baz=116,slow=12,SNR=3.8						
ARCES	ARCESS Array B	53.19	342	P	P	06 49 22.5	-0.4
ARCES	ARCESS Array B	53.19	342	P	P	06 49 22.5	-0.4
	comp=E,2.1nm,0.6s,baz=120,slow=7.2,SNR=9.0						
KEST	Kesra	53.66	298	P	P	06 49 27.1	+0.1
KEST	Kesra	53.66	298	P	P	06 49 27.1	+0.1
	comp=E,1.1nm,0.7s,baz=149,slow=8.1,SNR=3.7						
NOA	NORSAR Array B	54.91	329	LR	LR	07 17 10.3	
	comp=E,

BRTR Keskin Array B 144.56 315 PKP PKPdf 07 31 22.6 0.0
1.4nm,0.8s,baz=93,slow=0.6,SNR=6.8
MMAI Mount Meron Ar 145.91 303 PKPbc PKPbc 07 31 26.7 -0.2
3.0nm,0.6s,baz=60,slow=4.9,SNR=4.1
GERES GERESS Array B 147.47 345 PKPbc PKPbc 07 31 30.5 -0.1
1.2nm,0.5s,baz=0.0,slow=1.9,SNR=6.6
DAVOX Davos/Dischmat 150.27 348 PKPbc PKPbc 07 31 38.4 +0.7
1.8nm,0.5s,baz=16,slow=6.2,SNR=5.4

IDC ***05*** *07:28:28.2±0.6, 34°.08N×81°.88E, h0km, mb4.1/20, mb1 4.2/24, mb1mx4.1/34, mbtmp4.1/24, ML3.9/4, MS3.5/19, Ms1 3.5/19, ms1mx3.4/48, Error ellipse: s-maj=17.0km s-min=12.1km az=42.0*
BJI ***05*** *07:28:31.8, 34°.25N×81°.78E, h25km, mB4.5/18, mb4.4/29, ML4.2/4, Ms4.2/22, Ms7 3.9/24*
ISCJB ***05*** *07:28:32.6±0.5, 34°.23N±0°.02×81°.99E±0°.03, h33km±5km, mb4.3/50, MS3.6/22, Error ellipse: s-maj=4.8km s-min=2.7km az=146.2*
MOS ***05*** *07:28:32.3±1.7, 34°.21N×81°.95E, h30km, mb4.5/28, Error ellipse: s-maj=10.0km s-min=5.3km az=111.1*
NDI ***05*** *07:28:34.6±2.9, 34°.32N×82°.04E, h33km, ML3.8, mb3.8(NEIC)*
NEIC ***05*** *07:28:35.6±1.0, 34°.23N×82°.02E, h46km±9km, mb4.8/13, Error ellipse: s-maj=11.4km s-min=6.5km az=219.0*
BKK ***05*** *07:29:02.9±3.9, 32°N±52°×8°4E±3°6, h10km, M4.5/10, mb4.5/10*
ISC 05 07:28:36.3±0.5,**34°.19N**±0°.04×**81°.95E**±0°.03,**h54**km±4km,
n184,σ2**S10**/216,**mb4.4**/50,**MS3.6**/22,**4C-2D**,**Xizang**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SDNR	**Sundarnagar**	**4.98**	**239**	*eP*		**Pn**	**ISC**	**07 29 49.0**	**+0.5**
SDNR				*e4*		**Sn**	**ISC**	**07 30 50.0**	**+5.2**
SMLA	**Simla**	**5.06**	**234**	*i P*		**Pn**	**ISC**	**07 29 49.2**	**-0.4**
SMLA				*i S*		**Sn**	**ISC**	**07 30 45.3**	**-1.5**
SMLA				*eS*				07 30 48.0	
SMLA				*i S*				07 30 50.6	
SMLA				AML		AML		07 30 53.0	
	comp=E,949nm,0.6s								
SMLA				AML		AML		07 30 55.2	
	comp=N,837nm,0.7s								
SMLA	**Simla**	**5.06**	**234**	*eP*		**Pn**		**07 29 49.2**	**-0.4**
SMLA				*eS*		**Sn**		**07 30 45.3**	**-1.5**
DLH	**Dalhousie**	**5.27**	**253**	*eP*		**Pn**		**07 29 54.0**	**+1.3**
DLH				*e4*		**Sn**		**07 30 57.0**	**+4.7**
BHK	**Bhakra**	**5.42**	**241**	*eP*		**Pn**		**07 29 56.2**	**+1.6**
DANN	**Dangsing**	**6.03**	**165**	*ePn*		**Pn**		**07 30 01.8**	**-1.3**
DANN				*eSn*		**Sn**		**07 31 12.3**	**+1.4**
	comp=N,135nm,0.5s								
PYUN	**Piuthan**	**6.14**	**171**	*ePn*		**Pn**		**07 30 02.7**	**-1.9**
PYUN				*eSn*		**Sn**		**07 31 14.0**	**+0.4**
	comp=N,464nm,0.6s								
KOLN	**Koldanda**	**6.55**	**167**	*ePn*		**Pn**		**07 30 08.6**	**-1.7**
KOLN				*eSn*		**Sn**		**07 31 24.6**	**+0.8**
	comp=N,240nm,0.7s								
NDI	**New Delhi**	**6.82**	**218**	*eP*		**Pn**		**07 30 13.0**	**-0.8**
KKN	**Kakani**	**6.99**	**155**	*ePn*		**Pn**		**07 30 16.0**	**-0.3**
KKN				*eSn*		**Sn**		**07 31 35.0**	**+0.4**
	comp=N,230nm,0.9s								
AYAN	**Aya Nagar**	**7.03**	**217**	*eP*		**Pn**		**07 30 17.0**	**+0.4**
AYAN				*ex*		**Sn**		**07 31 37.0**	**+1.8**
DMN	**Daman**	**7.10**	**157**	*ePn*		**Pn**		**07 30 17.0**	**-0.8**
DMN				*eSn*		**Sn**		**07 31 36.8**	**-0.5**
	comp=N,248nm,0.9s								
GUN	**Gumba**	**7.11**	**151**	*ePn*		**Pn**		**07 30 17.2**	**-0.8**
GUN				*eSn*		**Sn**		**07 31 38.1**	**+0.5**
	comp=N,262nm,0.7s								
KSH	**Kashi**	**7.16**	**320**	Pn		**Pn**		**07 30 17.1**	**-1.3**
KSH				Sn		**Sn**		**07 31 35.5**	**-2.9**
KSH				LR		LR			
	comp=N,940nm,7.4s								
KSH				LR		LR			
	comp=E,2μm,8.2s								
KSH				LR		LR			
	comp=Z,750nm,9.0s								
PKIN	**Phulchoki**	**7.23**	**155**	*ePn*		**Pn**		**07 30 19.0**	**-0.6**
PKIN				*eSn*		**Sn**		**07 31 41.0**	**+0.6**
	comp=Z,154nm,0.5s								
PKI	**Pulchoki**	**7.24**	**155**	*ePn*		**Pn**		**07 30 19.3**	**-0.5**
PKI				*eSn*		**Sn**		**07 31 41.2**	**+0.5**
	comp=Z,159nm,0.6s								
SONA	**Sohna**	**7.24**	**216**	*eP*		**Pn**		**07 30 19.3**	**-0.2**
SONA				*ex*		**Sn**		**07 31 39.8**	**-0.6**
JIRN	**Jiri**	**7.46**	**150**	*ePn*		**Pn**		**07 30 21.8**	**-1.0**
JIRN				*eSn*		**Sn**		**07 31 46.1**	**-0.1**
	comp=Z,237nm,0.5s								
KHET	**Khetri**	**8.06**	**222**	*eP*		**Pn**		**07 30 29.8**	**-0.9**
KHET				*ex*		**Sn**		**07 31 58.9**	**-1.6**
KHET				AML		AML		07 32 05.1	
	comp=N,44nm,0.1s								
KHET				AML		AML		07 32 05.1	
	comp=E,47nm,0.2s								
RAMN	**Ramite**	**8.25**	**150**	*ePn*		**Pn**		**07 30 31.7**	**-1.9**
RAMN				*eSn*		**Sn**		**07 32 04.8**	**-0.8**
	comp=E,352nm,0.7s								
CEP	**Cherat**	**8.35**	**270**	P		**Pn**		**07 30 35.3**	**+0.5**
TAPN	**Taplejung**	**8.43**	**142**	*ePn*		**Pn**		**07 30 35.5**	**-0.5**
TAPN				*eSn*		**Sn**		**07 32 09.1**	**-0.8**
	comp=E,143nm,0.8s								
THW	**Thamme Wali**	**8.64**	**264**	P		**Pn**		**07 30 36.6**	**-2.1**
ODAN	**Odare**	**8.68**	**146**	*ePn*		**Pn**		**07 30 37.8**	**-1.7**
ODAN				*eSn*		**Sn**		**07 32 15.3**	**-0.8**
	comp=E,190nm,0.7s								
LSA	**Lhasa**	**9.01**	**117**	P		**Pn**		**07 30 47.0**	**+2.9**
LSA				pmax		pmax			
	comp=Z,10.0nm,0.5s								
LSA	**Lhasa**	**9.01**	**117**	*eP*		**Pn**		**07 30 46.0**	**+1.9**
LSA				pmax		pmax			
	comp=Z,15nm,0.5s								
LSA	**Lhasa**	**9.01**	**117**	*ePn*		**Pn**		**07 30 46.0**	**+1.9**
	comp=Z,15nm,0.5s								
TKM2	**Tokmak 2**	**10.03**	**332**	*eP*		**Pn**		**07 30 58.0**	**+0.1**
TKM2				pmax		pmax			
	comp=Z,13nm,0.7s								
TKM2	**Tokmak 2**	**10.03**	**332**	*ePn*		**Pn**		**07 30 58.0**	**+0.1**
	comp=Z,13nm,0.7s								
AAK	**Ala-Archa**	**10.26**	**327**	*eP*		**Pn**		**07 31 00.3**	**-0.6**
AAK	**Ala-Archa**	**10.26**	**327**	*ePn*		**Pn**		**07 31 00.2**	**-0.6**
AAK	**Ala-Archa**	**10.26**	**327**	Pn		**Pn**		**07 30 60.0**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=156,slow=11,SNR=10								
FRU	**Bishkek**	**10.36**	**329**	*i P*		**Pn**		**07 31 03.0**	**+0.8**
FRU				pmax		pmax			
	comp=Z,80nm,1.6s								
FRU				MLR		MLR			
	comp=Z,500nm,11.0s								
WMQ	**Urumqi**	**10.60**	**23**	P		**Pn**		**07 31 06.9**	**+1.4**
WMQ				PP				07 31 16.0	
WMQ				sP				07 31 21.5	
WMQ				S		**Sn**		**07 33 04.1**	**+1.4**
WMQ				SS		**SnSn**		**07 33 17.9**	**+2.7**
WMQ				PcP		**PcP**		**07 37 08.9**	**+3.6**
WMQ				pmax		pmax			
	comp=Z,35nm,1.0s								
WMQ				pmax		pmax			
	comp=Z,140nm,4.5s								
WMQ				LR		LR			
	comp=N,650nm,11.0s								
WMQ				LR		LR			
	comp=E,320nm,9.0s								
WMQ				LR		LR			
	comp=Z,480nm,13.0s								
EKS2	**Erkin-Say**	**10.61**	**325**	*eP*		**Pn**		**07 31 04.7**	**-1.0**
EKS2				pmax		pmax			
	comp=Z,6.0nm,0.6s								
EKS2	**Erkin-Say**	**10.61**	**325**	*ePn*		**Pn**		**07 31 04.7**	**-1.0**
	comp=Z,5.8nm,0.6s								
KBL	**Kabul**	**10.68**	**276**	*eP*		**Pn**		**07 31 06.4**	**-0.3**
KBL	**Kabul**	**10.68**	**276**	*ePn*		**Pn**		**07 31 06.4**	**-0.3**
MK01	**Makanchi Array**	**12.57**	**1**	*ePn*		**Pn**		**07 31 29.6**	**-2.7**
MK31	**Makanchi Array**	**12.59**	**1**	*i P*		**Pn**		**07 31 29.9**	**-2.7**
MK31				pmax		pmax			
	comp=Z,29nm,0.8s								
MK31	**Makanchi Array**	**12.59**	**1**	*ePn*		**Pn**		**07 31 30.2**	**-2.4**
MKAR	**Makanchi Array**	**12.59**	**1**	P		**Pn**		**07 31 30.2**	**-2.4**
MKAR								07 33 49.2	
MKAR				pmax		pmax			
	comp=Z,2.0nm,0.3s								
MKAR				MLR		MLR			
	comp=Z,216nm,19.0s								
MKAR	**Makanchi Array**	**12.59**	**1**	*ePn*		**Pn**		**07 31 30.5**	**-2.1**
MKAR				Sn		**Sn**		**07 33 49.2**	**-2.0**
MKAR	**Makanchi Array**	**12.59**	**1**	Pn		**Pn**		**07 31 30.2**	**-2.4**
	comp=Z,2.3nm,0.3s,baz=182,slow=13,SNR=70								
MKAR				Sn		**Sn**		**07 33 49.2**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=168,slow=22,SNR=2.0								
MKAR				LR		LR		07 37 10.1	
	comp=Z,216nm,19.0s,baz=180,slow=41								
GTA	**Gaotai**	**15.22**	**65**	*eP*		**Pn**		**07 32 09.8**	**+1.9**
GTA				pP		pP		07 32 13.2	-11
GTA				sP		sP		07 32 16.1	-14
GTA				S		**S**		**07 35 04.5**	**-5.3**
GTA				sS		sS		07 35 09.2	-20
GTA				pmax		pmax			
	comp=Z,3.0nm,0.8s								
GTA				pmax		pmax			
	comp=Z,100nm,5.0s								
GTA				LR		LR			
	comp=N,1μm,14.7s								
GTA				LR		LR			
	comp=E,360nm,11.9s								
GTA				LR		LR			
	comp=Z,320nm,12.8s								
KURBB	**Kurchatov Arra**	**16.61**	**352**	Pn		**Pn**		**07 32 22.2**	**-3.1**
	comp=Z,0.2nm,0.3s,baz=171,slow=11,SNR=15								
KURK	**Kurchatov**	**16.69**	**353**	P		**Pn**		**07 32 22.2**	**-4.2**
KURK	**Kurchatov**	**16.69**	**353**	Pn		**Pn**		**07 32 22.2**	**-4.2**
HYB	**Hyderabad**	**16.98**	**191**	*i* P		Pn		07 32 24.5	-5.7
POO	**Poona**	**17.19**	**207**	*e4*		**Pn**		**07 32 29.0**	**-3.9**
LZH	**Lanzhou**	**18.00**	**78**	*eP*		**P**		**07 32 41.6**	**-1.2**
LZH				pP		Pn		07 32 48.1	+5.2
LZH				sP		sP		07 32 51.5	-10
LZH				*eS*		Sn		07 35 54.5	-8.4
LZH				SS		**SnSn**		**07 36 22.0**	**+5.0**
LZH				pmax		pmax			
	comp=Z,20nm,1.0s								
LZH				pmax		pmax			
	comp=Z,170nm,5.7s								
LZH				LR		LR			
	comp=N,270nm,11.6s								
LZH				LR		LR			
	comp=E,280nm,11.4s								
LZH				LR		LR			
	comp=Z,380nm,12.4s								
CD2	**Chengdu**	**18.67**	**94**	P		**Pn**		**07 32 53.9**	**+3.1**
CD2				pP		**pP**		**07 33 04.1**	**+2.2**
CD2				S		**Sn**		**07 36 16.2**	**-2.6**
CD2				sS		sS		07 36 32.1	-7.0
CD2				SS		**SnSn**		**07 36 42.0**	**+8.9**
CD2				pmax		pmax			
	comp=Z,240nm,4.5s								
CD2				LR		LR			
	comp=N,440nm,8.9s								
CD2				LR		LR			
	comp=Z,340nm,8.9s								
HVS	**Khovu-Aksy**	**18.97**	**23⇑**	*eP*		**Pn**		**07 32 54.7**	**+0.4**
HVS				pmax		pmax			
	comp=Z,25nm,1.0s								
ZAA0	**Zalesovo Array**	**19.86**	**5**	*ePn*		**Pn**		**07 33 04.6**	**0.0**
ZALV	**Zalesovo Beam**	**19.86**	**5**	P		**P**		**07 33 02.4**	**-0.3**
ZALV	**Zalesovo Beam**	**19.86**	**5**	P		**P**		**07 33 02.4**	**-0.3**
ZALV	**Zalesovo Beam**	**19.86**	**5**	P		**P**		**07 33 02.3**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=192,slow=12,SNR=14								
ZALV				LR		LR		07 41 26.1	
	comp=Z,82nm,18.1s,baz=249,slow=39								
VOSK	**Vostochnaya**	**20.12**	**340**	*eP*		**P**		**07 33 05.3**	**-0.3**
VOSK				pmax		pmax			
	comp=Z,16nm,0.8s								
VOSK	**Vostochnaya**	**20.12**	**340**	*eP*		**P**		**07 33 05.3**	**-0.3**
	comp=Z,16nm,0.8s								
KMI	**Kunming**	**20.17**	**111**	P		Pn		07 33 08.1	-0.8
KMI				pP		pP		07 33 20.4	+1.8
KMI				sP		sP		07 33 26.9	+1.5
KMI				PP		**PnPn**		**07 33 29.7**	**+4.9**
KMI				S		**S**		**07 36 45.4**	**-4.9**
KMI				sS		sS		07 37 04.7	-5.1
KMI				SS		**SnSn**		**07 37 17.2**	**+6.8**
KMI				pmax		pmax			
	comp=Z,53nm,0.9s								
KMI				pmax		pmax			
	comp=Z,150nm,3.1s								
KMI				LR		LR			
	comp=N,220nm,5.8s								
KMI				LR		LR			
	comp=E,220nm,8.3s								
KMI				LR		LR			
	comp=Z,210nm,9.6s								
BVA0	**Borovoye Array**	**20.56**	**340**	P		Pn		07 33 12.2	-0.8
BVA0				pmax		pmax			
	comp=Z,50nm,1.3s								
BVAR	**Borovoye Array**	**20.56**	**340**	P		**P**		**07 33 09.4**	**-0.9**
BVAR				pmax		pmax			
	comp=Z,15nm,0.8s								
BVAR				MLR		MLR			
	comp=Z,44nm,21.9s								
BVAR	**Borovoye Array**	**20.56**	**340**	P		**P**		**07 33 09.4**	**-0.9**
BVAR	**Borovoye Array**	**20.56**	**340**	P		**P**		**07 33 09.4**	**-0.9**
	comp=Z,16nm,0.8s,baz=159,slow=13,SNR=51								
BVAR				LR		LR		07 42 56.6	
	comp=Z,44nm,21.9s,baz=322,slow=42								
BRVK	**Borovoye**	**20.61**	**340**	P		**P**		**07 33 10.2**	**-0.7**
BRVK				pmax		pmax			
	comp=Z,65nm,1.1s								
BRVK	**Borovoye**	**20.61**	**340**	*eP*		**P**		**07 33 10.2**	**-0.7**
	comp=Z,42nm,1.1s								
NVS	**Novosibirsk**	**20.67**	**2⇓**	*i P*		**P**		**07 33 09.2**	**-2.2**
NVS				*e*				07 33 43.2	
NVS				*eS*		**S**		**07 37 01.8**	**+2.6**
NVS				pmax		pmax			
	comp=Z,8.0nm,1.0s								
NVS				pmax		pmax			
	comp=N,8.0nm,1.4s								
NVS				pmax		pmax			
	comp=E,5.0nm,1.2s								
NVS				smax		smax			
	comp=E,55nm,2.1s								
CMAI	**Chiengmai2**	**20.77**	**129**	P		**P**		**07 33 12.6**	**-0.5**
	comp=E,42nm,0.9s								
CRAI	**Chiangrai**	**21.44**	**126**	P		**P**		**07 33 20.2**	**+0.1**
	comp=E,18nm,1.0s								
CHTO	**Chiang Mai**	**21.53**	**131**	*eP*		**P**		**07 33 19.5**	**-1.6**
CHTO				pmax		pmax			
	comp=Z,28nm,0.9s								
CHTO	**Chiang Mai**	**21.53**	**131**	*eP*		**P**		**07 33 19.5**	**-1.6**
	comp=Z,28nm,0.9s								
CHTO	**Chiang Mai**	**21.53**	**131**	P		**P**		**07 33 20.1**	**-1.0**
	comp=Z,45nm,0.9s								
PAYA	**Payao**	**21.72**	**128**	P		**P**		**07 33 24.7**	**+1.6**
	comp=Z,14nm,0.9s								
CM31	**Chiang Mai Arr**	**21.80**	**132**	*eP*		**P**		**07 33 23.8**	**-0.2**
	comp=Z,62nm,0.9s								
CMAR	**Chiang Mai Arr**	**21.80**	**132**	P		**P**		**07 33 22.9**	**-1.0**
CMAR	**Chiang Mai Arr**	**21.80**	**132**	P		**P**		**07 33 22.9**	**-1.0**
	comp=Z,59nm,0.8s,baz=310,slow=11,SNR=84								
CMAR				LR		LR		07 42 45.7	
	comp=Z,69nm,21.0s,baz=315,slow=39								
CM01	**Chiang Mai Arr**	**21.84**	**132**	*eP*		**P**		**07 33 23.8**	**-0.5**
AB31	**Akbulak array**	**22.16**	**319**	*i P*		**P**		**07 33 25.6**	**-2.0**
AB31				pmax		pmax			
	comp=Z,6.0nm,0.6s								
ABKAR	**Akbulak array**	**22.16**	**319**	*eP*		**P**		**07 33 25.9**	**-1.7**
	comp=Z,12nm,0.8s								
LAMP	**Lampang**	**22.18**	**130**	P		**P**		**07 33 30.5**	**+2.5**
	comp=Z,9.5nm,0.9s								
XAN	**Xi'an**	**22.31**	**83**	P		**P**		**07 33 31.6**	**+2.2**
XAN				pmax		pmax			
	comp=Z,3.0nm,1.1s								
XAN				pmax		pmax			
	comp=Z,41nm,5.7s								
ZAK	**Zakamensk**	**22.48**	**38**	*eP*		**P**		**07 33 32.2**	**+1.1**
ZAK				pmax		pmax			
	comp=Z,3.0nm,1.1s								
GYA	**Guiyang**	**22.64**	**103⇑**	*i P*		**P**		**07 33 37.5**	**+4.4**
GYA				pP		**pP**		**07 33 48.9**	**+3.7**
GYA				PP		PnPn		07 34 09.0	+10
GYA				PcP		**PcP**		**07 37 24.6**	**+0.4**
GYA				S		**S**		**07 37 31.8**	**-5.6**
GYA				SS		**SnSn**		**07 38 16.1**	**+5.3**
GYA				pmax		pmax			
	comp=Z,10.0nm,0.8s								
GYA				pmax		pmax			
	comp=Z,70nm,4.7s								
GYA				LR		LR			
	comp=N,390nm,15.2s								
GYA				LR		LR			
	comp=E,220nm,16.6s								
GYA				LR		LR			
	comp=Z,340nm,15.0s								
NANT	**Nan**	**22.67**	**128**	P		**P**		**07 33 34.7**	**+1.5**
	comp=Z,67nm,0.9s								
SONM	**Songino Array**	**22.81**	**46**	P		**P**		**07 33 35.3**	**+0.7**
SONM				PcP		**PcP**		**07 37 24.1**	**-0.1**
SONM	**Songino Array**	**22.81**	**46**	P		**P**		**07 33 35.3**	**+0.7**
	comp=Z,1.1nm,0.6s,baz=258,slow=7.4,SNR=6.4								
SONM				PcP		**PcP**		**07 37 24.1**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=217,slow=5.3,SNR=3.3								
SONM				LR		LR		07 42 53.5	
	comp=Z,134nm,20.3s,baz=319,slow=38								
SONA1	**Songino Array**	**22.82**	**46**	*eP*		**P**		**07 33 34.4**	**-0.4**
ENH	**Enshi**	**23.59**	**92**	*eP*		**P**		**07 33 41.5**	**-0.8**
	comp=Z,7.0nm,0.6s								
AKTO	**Aktyubinsk**	**23.86**	**320**	P		**P**		**07 33 43.3**	**-1.3**
AKTO				pmax		pmax			
	comp=Z,7.0nm,0.7s								
AKTO				MLR		MLR			
	comp=Z,84nm,19.8s								
AKTO	**Aktyubinsk**	**23.86**	**320**	P		**P**		**07 33 43.2**	**-1.3**
AKTO	**Aktyubinsk**	**23.86**	**320**	P		**P**		**07 33 43.2**	**-1.3**
	comp=Z,2.3nm,0.6s,baz=111,slow=12,SNR=7.1								
AKTO				LR		LR		07 43 01.4	
	comp=Z,84nm,19.8s,baz=131,slow=36								
LOEI	**Loei**	**23.97**	**129**	P		**P**		**07 33 50.6**	**+4.7**
	comp=Z,19nm,1.2s								
HHC	**Hu-ho-hao-te**	**24.34**	**65**	*eP*		**P**		**07 33 48.3**	**-0.8**
HHC				pP		**pP**		**07 33 59.8**	**-2.8**
HHC				sP		**sP**		**07 34 06.6**	**-2.4**
HHC				PP		**PnPn**		**07 34 24.4**	**+2.9**
HHC				S		**S**		**07 38 00.9**	**-3.9**
HHC				sS		sS		07 38 21.1	-6.3
HHC				SS		**SnSn**		**07 38 55.6**	**+3.7**
HHC				PcS		**PcS**		**07 41 07.6**	**+0.1**
HHC				LR		LR			
	comp=N,310nm,20.2s								
HHC				LR		LR			
	comp=E,750nm,19.0s								
HHC				LR		LR			
	comp=Z,200nm,20.2s								
UTHA	**Uthaitani**	**24.34**	**135**	P		**P**		**07 33 51.9**	**+2.7**
	comp=Z,13nm,1.0s								
CHAI	**Chaiyaphum**	**25.62**	**130**	P		**P**		**07 34 04.5**	**+3.6**
ARU	**Arti**	**27.41**	**331**	*c i P*		**P**		**07 34 20.6**	**+4.0**
ARU								07 34 59.2	
ARU				S		**S**		**07 38 56.1**	**+3.2**
ARU				pmax		pmax			
	comp=Z,8.0nm,1.7s								
WHN	**Wuhan**	**27.54**	**89**	P		**P**		**07 34 18.9**	**+0.8**
BJI	**Beijing**	**27.79**	**68**	P		**P**		**07 34 19.0**	**-1.2**
BJI				pmax		pmax			
	comp=Z,9.0nm,1.0s								
BJI				LR		LR			
	comp=N,520nm,19.9s								
BJI				LR		LR			
	comp=E,170nm,19.9s								
QIZ	**Qiongzhong**	**29.03**	**114**	P		**P**		**07 34 31.2**	**-0.2**
QIZ				S		**S**		**07 39 20.4**	**+1.3**
QIZ				pmax		pmax			
	comp=Z,16nm,1.7s								
NJ2	**Nanjing**	**30.87**	**84**	*eP*		**P**		**07 34 47.3**	**-0.3**
NJ2				pmax		pmax			
	comp=Z,7.0nm,0.5s								
KBZ	**Khabaz**	**31.58**	**299**	LR		LR		07 49 34.3	
	comp=Z,75nm,20.5s,baz=285,slow=40								
CN2	**Changchun**	**34.79**	**61**	*eP*		**P**		**07 35 22.0**	**+0.3**
CN2				*eS*		**S**		**07 40 47.7**	**-0.8**
CN2				pmax		pmax			
	comp=Z,10.0nm,0.6s								
CN2				pmax		pmax			
	comp=Z,200nm,5.0s								
CN2				LR		LR			
	comp=N,200nm,13.0s								
CN2				LR		LR			
	comp=E,200nm,13.0s								
CN2				LR		LR			
	comp=Z,200nm,11.0s								
KSAR	**Wonju Array Be**	**37.11**	**71**	P		**P**		**07 35 40.8**	**-0.8**
KSRS	**Korea Array**	**37.14**	**71**	P		**P**		**07 35 40.8**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=267,slow=9.5,SNR=3.3								
KSRS				LR		LR		07 52 20.7	
	comp=Z,74nm,19.3s,baz=280,slow=38								
OBN	**Obninsk**	**37.60**	**318**	P		P		07 35 51.0	+5.6
OBN				S		S		07 41 42.0	+11
OBN				pmax		pmax			
	comp=Z,10.0nm,0.5s								
OBN				MLR		MLR			
	comp=Z,100nm,14.0s								
MDJ	**Mudanjiang**	**37.77**	**59**	P		**P**		**07 35 45.6**	**-1.5**
MDJ				pP		**pP**		**07 36 00.5**	**-0.5**
MDJ				sP		**sP**		**07 36 05.5**	**-1.7**
MDJ				S		**S**		**07 41 32.1**	**-1.9**
MDJ				SS		**SnSn**		**07 44 13.3**	**-4.8**
MDJ				ScS		**ScS**		**07 45 54.5**	**-0.2**
MDJ				pmax		pmax			
	comp=Z,5.0nm,1.1s								
MDJ				pmax		pmax			
	comp=Z,76nm,5.3s								
MDJ				LR		LR			
	comp=N,99nm,7.0s								
MDJ				LR		LR			
	comp=E,93nm,6.0s								
MDJ				LR		LR			
	comp=Z,150nm,5.3s								
BRTR	**Keskin Array B**	**38.63**	**293**	P		**P**		**07 35 55.0**	**+0.4**
BRTR	**Keskin Array B**	**38.63**	**293**	P		**P**		**07 35 55.0**	**+0.4**
	comp=Z,1.9nm,0.9s,baz=116,slow=8.4,SNR=4.6								
BR231	**Keskin MP Arra**	**39.27**	**293**	*eP*		**P**		**07 36 01.2**	**+1.3**
JOF	**Joensuu**	**42.44**	**328**	*eP*		P		07 36 29.0	+3.5
JOF				pmax		pmax			
	comp=Z,3.0nm,0.5s								
JOF	**Joensuu**	**42.44**	**328**	*ep*		P		07 36 29.0	+3.5
	comp=Z,3.3nm,0.5s								
BUR04	**Bucovina Ar. S**	**43.99**	**305**	*eP*		**P**		**07 36 38.4**	**+0.1**
FINES	**FINESS Array B**	**44.44**	**325**	P		**P**		**07 36 41.2**	**-0.4**
FINES	**FINESS Array B**	**44.44**	**325**	P		**P**		**07 36 41.2**	**-0.4**
	comp=Z,2.4nm,0.6s,baz=98,slow=12,SNR=9.8								
FINES				LR		LR		07 56 00.1	
	comp=Z,138nm,18.3s,baz=143,slow=37								

comp=Z,46nm,19.1s,baz=254,slow=41
HINF Hinteralfeld 56.16 308 *eP* **P 07 38 13.0 +2.5**
comp=Z,11nm,0.8s
HINF Hinteralfeld 56.16 308 *eP* **P 07 38 13.0 +2.5**
HINF pmax pmax
comp=Z,11nm,0.8s
HINF Hinteralfeld 56.16 308 *eP* **P 07 38 13.0 +2.5**
comp=Z,11nm,0.8s
LPG La Plagne 56.87 306 *eP* P 07 38 19.0 +3.1
comp=Z,14nm,0.7s
LPG La Plagne 56.87 306 *eP* P 07 38 19.0 +3.1
LPG pmax pmax
comp=Z,14nm,0.7s
LPG La Plagne 56.87 306 *eP* P 07 38 19.0 +3.1
comp=Z,14nm,0.7s
LPL La Plagne 56.88 306 *eP* P 07 38 18.9 +3.1
comp=Z,13nm,0.5s
LPL La Plagne 56.88 306 *eP* P 07 38 18.9 +3.1
LPL pmax pmax
comp=Z,13nm,0.5s
LPL La Plagne 56.88 306 *eP* P 07 38 18.9 +3.1
comp=Z,13nm,0.5s
MEZF Maizieres J'vi 57.13 310 *eP* P 07 38 20.4 +3.1
comp=Z,9.1nm,0.7s
MEZF Maizieres J'vi 57.13 310 *eP* P 07 38 20.4 +3.1
comp=Z,9.1nm,0.7s
JMIC Jan Mayen 58.24 337 LR LR 08 03 47.4
comp=Z,41nm,21.5s,baz=84,slow=36
LOR Lormes 58.26 308 *eP* **P 07 38 26.6 +1.3**
LOR Lormes 58.26 308 *eP* **P 07 38 26.6 +1.3**
SSF Saint Saulge 58.55 308 *eP* **P 07 38 29.6 +2.3**
SSF Saint Saulge 58.55 308 *eP* **P 07 38 29.6 +2.3**
SSF Saint Saulge 58.55 308 *eP* **P 07 38 29.6 +2.3**
TCF Toulx Ste Croi 59.64 308 *eP* **P 07 38 37.7 +2.8**
comp=Z,6.5nm,0.8s
TCF Toulx Ste Croi 59.64 308 *eP* **P 07 38 37.7 +2.8**
TCF pmax pmax
comp=Z,7.0nm,0.8s
TCF Toulx Ste Croi 59.64 308 *eP* **P 07 38 37.7 +2.8**
comp=Z,6.5nm,0.8s
WRA Warramunga Arr 73.36 129 P **P 07 40 02.0 -0.7**
WRA Warramunga Arr 73.36 129 P **P 07 40 02.0 -0.7**
comp=Z,1.6nm,0.5s,baz=327,slow=5.5,SNR=42
WRAB Tennant Creek 73.36 129 *eP* **P 07 40 02.4 -0.3**
WRAB pmax pmax
comp=Z,3.0nm,0.6s
WRAB Tennant Creek 73.36 129 *eP* **P 07 40 02.4 -0.3**
comp=Z,2.6nm,0.6s
COLA College 73.89 20 *eP* P 07 40 08.4 +3.2
COLA pmax pmax
comp=Z,22nm,1.0s
COLA College 73.89 20 *eP* P 07 40 08.4 +3.2
comp=Z,22nm,1.0s
ILAR Eielson Array 74.24 20 P **P 07 40 06.6 -0.6**
ILAR Eielson Array 74.24 20 P **P 07 40 06.6 -0.6**
comp=Z,1.8nm,0.8s,baz=304,slow=4.6,SNR=21
TORD Torodi Ar. Bea 74.75 276 P **P 07 40 09.5 -1.5**
TORD Torodi Ar. Bea 74.75 276 P **P 07 40 09.5 -1.5**
comp=Z,1.6nm,0.6s,baz=48,slow=4.8,SNR=14
ASAR Alice Springs 75.81 132 P **P 07 40 16.0 -0.8**
ASAR Alice Springs 75.81 132 P **P 07 40 16.0 -0.8**
comp=Z,1.2nm,0.5s,baz=316,slow=5.8,SNR=18
BOSA Boshof 82.32 228 P **P 07 40 51.2 -1.2**
BOSA Boshof 82.32 228 P **P 07 40 51.2 -1.2**
comp=Z,3.0nm,0.5s,baz=192,slow=22,SNR=8.7
YKA Yellowknife Ar 82.73 8 P **P 07 40 53.0 -1.0**
YKA Yellowknife Ar 82.73 8 P **P 07 40 53.0 -1.0**
comp=Z,3.4nm,0.6s,baz=342,slow=5.3,SNR=18
DBIC Dimbokro 83.66 274 P **P 07 40 58.5 -1.1**
DBIC Dimbokro 83.66 274 P **P 07 40 58.5 -1.1**
comp=Z,3.0nm,0.7s,baz=83,slow=4.1,SNR=4.7
LIC Lamto 84.05 273 *eP* **P 07 41 03.7 +2.1**
STKA Stephens Creek 86.42 133 LR LR 08 27 04.7
comp=Z,46nm,18.2s,baz=205,slow=41
BBTS Babate 88.72 287 LR LR 08 29 29.3
comp=Z,43nm,18.7s,baz=239,slow=41
BBB Bella Bella 90.05 18 LR LR 08 25 46.5
comp=Z,49nm,18.5s,baz=257,slow=38
TXAR Lajitas Array 116.59 5 PKP **PKPdf 07 47 13.6 -1.2**
TXAR Lajitas Array 116.59 5 PKP **PKPdf 07 47 13.6 -1.2**
comp=Z,0.1nm,0.5s,baz=180,slow=0.9,SNR=3.8
LPAZ La Paz 147.77 296 *ePKPdf* **PKPdf 07 48 14.4 +0.8**
LPAZ PKPbc **PKPbc 07 48 16.4 0.0**
LPAZ La Paz 147.77 296 PKPbc **PKPbc 07 48 16.4 0.0**
comp=Z,1.0nm,0.6s,baz=323,slow=4.2,SNR=4.2
TRQA Tornquist 150.73 252 *ePKPbc* **PKPbc 07 48 22.5 0.0**

IGQ 05 07:38:26.0, 2°.96S×79°.96W, h12km±171km, Mb4.2, Ms4.0, 2C-4D, Error ellipse: s-maj=5.3km s-min=2.6km az=7.1, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARNL	**Arenillas**	**0.59**	**191**	⇓S	Sg	07 38 45.0	-0.3
ARNL	**Arenillas**	**0.59**	**191**	⇓P	Pg	07 38 37.1	-0.5
RIOE	**Riobamba**	**1.79**	**48**	P	Pn	07 38 57.9	+0.7
MACE	**Macas**	**1.89**	**68**	S	Sb	07 39 25.8	+1.2
MACE	**Macas**	**1.89**	**68**	P	Pb	07 39 00.5	-0.3
IGUA	**Igualata**	**1.97**	**42**	S	Sb	07 39 28.4	+0.8
IGUA	**Igualata**	**1.97**	**42**	P	Pn	07 39 01.1	+1.2
BMAS	**Trigal station**	**2.07**	**46**	P	Pn	07 39 02.4	+1.3
ARRY	**Arrayan**	**2.09**	**46**	S	Sb	07 39 30.4	-0.2
ARRY	**Arrayan**	**2.09**	**46**	P	Pn	07 39 02.6	+1.3
BIL2	**Estacion Bilba**	**2.09**	**44**	P	Pg	07 39 05.5	-1.0
PAT1	**Patacocha**	**2.10**	**46**	P	Pn	07 39 02.9	+1.3
BPAT	**Tungurahua Vol**	**2.10**	**46**	P	Pn	07 39 03.0	+1.3
BPAT	**Tungurahua Vol**	**2.10**	**46**	S	Sb	07 39 32.2	+1.0
RETU	**Refugio**	**2.13**	**45**	P	Pb	07 39 05.0	-0.3
JUI6	**Juive**	**2.13**	**44**	S	Sb	07 39 33.1	+1.4
JUI6	**Juive**	**2.13**	**44**	P	Pb	07 39 04.1	-0.9
ULBA	**Ulba**	**2.16**	**46**	P	Pb	07 39 04.6	-1.0
BULB	**Ulba Tungurahu**	**2.17**	**46**	P	Pb	07 39 04.5	-1.2
RUN5	**Runtun**	**2.17**	**45**	P	Pb	07 39 04.7	-1.0
BRUN	**Tungurahua Vol**	**2.18**	**45**	⇓P	Pb	07 39 04.5	-1.3
PISA	**Pisayambo**	**2.46**	**40**	P	Pb	07 39 09.6	-1.3
CAMI	**Rancho Maria**	**2.70**	**33**	P	Pb	07 39 12.7	-2.2
BNAS	**Cotopaxi Volca**	**2.71**	**33**	P	Pb	07 39 12.8	-2.3
BREF	**Cotopaxi Volca**	**2.74**	**34**	S	Sb	07 39 51.2	+1.3
BREF	**Cotopaxi Volca**	**2.74**	**34**	P	Pb	07 39 13.4	-2.3
BTAM	**Cotopaxi Volca**	**2.76**	**35**	P	Pn	07 39 13.2	+2.4
TAMB	**Tambo**	**2.76**	**35**	P	Pn	07 39 13.3	+2.5
VC1	**Cotopaxi 1**	**2.78**	**34**	P	Pb	07 39 14.2	-2.2
COV1	**Cotopaxi Volc**	**2.80**	**35**	P	Pn	07 39 13.5	+2.1
PITA	**Cotopaxi Volc**	**2.83**	**35**	P	Pb	07 39 14.7	-2.5
JUA2	**San Juan 2**	**3.05**	**26**	P	Pn	07 39 16.9	+2.3
GGP	**Refugio Guagua**	**3.09**	**26**	⇓P	Pn	07 39 17.1	+1.7
PINO	**Pino**	**3.10**	**26**	P	Pn	07 39 18.4	+2.9
OTAV	**Otavalo**	**3.52**	**25**	⇑S	Sb	07 40 07.9	-4.1
OTAV	**Otavalo**	**3.52**	**25**	⇑P	Pn	07 39 22.2	+1.1
COTA	**Cotacachi**	**3.66**	**26**	P	Pb	07 39 28.1	-3.1
LITE	**Lita**	**4.07**	**23**	P	Pn	07 39 30.5	+2.2

*ISCJB **05** 07:47:48.8±0.4, 11°.53S±0°.06×118°.50E±0°.06, h26km, mb4.3/5, Error ellipse: s-maj=10.8km s-min=5.0km az=139.5*
*AUST **05** 07:47:51.1, 11°.49S×118°.43E, h25km*
*NEIC **05** 07:47:52.2±0.8, 11°.54S×118°.28E, h35km, mb4.2/2, Error ellipse: s-maj=24.0km s-min=9.3km az=62.0*
*IDC **05** 07:47:58.8±3.6, 11°.19S×118°.87E, h89km±36km, mb3.8/4, mb1 3.6/7, mb1mx3.5/21, mbtmp3.6/7, MS3.1/1, Ms1 3.1/1, ms1mx2.6/33, Error ellipse: s-maj=50.5km s-min=15.2km az=77.0*
*DJA **05** 07:48:21.5±5.0, 10°S±40°×11°7E±3°0, h101km±32km, M4.3/5, mb4.8/1, MLv4.1/5*
ISC 05 07:47:51.7±0.6, 11°.49S±0°.06×118°.55E±0°.07, h26km, n40, σ2°.21/40, mb4.4/5, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTNI	**Mataram**	**3.68**	**320**	P	**Pn**	**07 48 49.6**	**+2.6**
IGBI	**Denpasar**	**4.28**	**308**	P	**Pn**	**07 48 54.5**	**-0.7**
SRBI	**Singaraja**	**4.72**	**316**	P	**Pn**	**07 49 01.2**	**-0.1**
JAGI	**Jajag, Banyuwa**	**5.27**	**304**	P	**Pn**	**07 49 05.8**	**-3.1**
	baz=5.2,SNR=5.5						
JAGI				S	Sn	07 50 01.5	-7.3
	baz=5.2,SNR=12						
ABJI	**Asem Bagus**	**5.62**	**310**	P	**Pn**	**07 49 12.8**	**-0.9**
GMJI	**Gumukmas**	**5.96**	**302**	P	**Pn**	**07 49 18.5**	**+0.1**
KAPI	**Kappang**	**6.54**	**11**	*e*Pn	**Pn**	**07 49 28.1**	**+1.8**
KAPI				*e*Sn	**Sn**	**07 50 38.1**	**-2.1**
KAPI	**Kappang**	**6.54**	**11**	P	**Pn**	**07 49 28.2**	**+1.8**
	5.2nm,0.3s,baz=187,slow=7.4,SNR=13						
KAPI				S	**Sn**	**07 50 38.0**	**-2.3**
	8.7nm,0.3s,baz=5.8,slow=21,SNR=10.0						
UGM	**Wanagama**	**8.68**	**293**	P	**Pn**	**07 49 54.1**	**-1.6**
UGM	**Wanagama**	**8.68**	**293**	P	**Pn**	**07 49 54.4**	**-1.3**
	baz=8.6,SNR=5.2						
UGM				S	Sn	07 51 25.3	-7.5
	baz=8.6,SNR=4.9						
FITZ	**Fitzroy Crossi**	**9.49**	**135**	*e*Pn	**Pn**	**07 50 08.3**	**+1.4**
FITZ				S	**Sn**	**07 51 47.9**	**-4.9**
FITZ	**Fitzroy Crossi**	**9.49**	**135**	P	**Pn**	**07 50 08.2**	**+1.3**
	1.0nm,0.3s,baz=321,slow=10,SNR=47						
FITZ				S	**Sn**	**07 51 47.9**	**-4.9**
	2.0nm,0.3s,baz=187,slow=19,SNR=7.8						
FITZ	**Fitzroy Crossi**	**9.49**	**135**	P	**Pn**	**07 50 08.0**	**+1.1**
	baz=9.6,SNR=24						
MBWA	**Marble Bar**	**9.68**	**173**	*e*Pn	**Pn**	**07 50 08.7**	**-0.7**
	40nm,0.3s						
MBWA				*e*Sn	Sn	07 51 46.8	-11
KNRA	**Kununurra**	**10.76**	**114**	P	**Pn**	**07 50 27.0**	**+2.7**
	baz=11,SNR=4.5						
MTN	**Manton Dam**	**12.38**	**98**	S	**Sn**	**07 53 01.0**	**-2.4**
	baz=12,SNR=4.8						
KDU	**Kakadu**	**13.67**	**96**	P	Pn	07 51 09.1	+5.1
	baz=14,SNR=5.0						
MEEK	**Meekatharra**	**15.07**	**180**	P	**Pn**	**07 51 21.5**	**-1.5**
	baz=15,SNR=57						
MEEK				S	Sn	07 53 53.2	-16
	baz=15,SNR=10						
PMBI	**Palembang**	**16.09**	**301**	S	Sn	07 54 06.2	-28
	baz=16,SNR=4.6						
WRA	**Warramunga Arr**	**17.36**	**121**	P	**Pn**	**07 51 52.8**	**+0.5**
WRA				S	Sn	07 54 53.3	-12
WRA	**Warramunga Arr**	**17.36**	**121**	P	**Pn**	**07 51 52.8**	**+0.5**
	0.2nm,0.3s,baz=297,slow=13,SNR=16						
WRA				S	Sn	07 54 53.3	-12
	0.4nm,0.3s,baz=298,slow=23,SNR=6.6						
WRA				LR	LR	07 58 10.1	
	comp=Z,60nm,19.0s,baz=240,slow=35						
WRAB	**Tennant Creek**	**17.36**	**121**	*e*P	**P**	**07 51 53.6**	**0.0**
	1.9nm,0.6s						
MORW	**Morawa**	**17.64**	**187**	P	**Pn**	**07 51 54.5**	**-1.3**
	baz=18,SNR=31						
MORW				S	Sn	07 54 55.9	-16
	baz=18,SNR=6.2						
AS31	**Alice Springs**	**18.97**	**132**	*e*P	**Pn**	**07 52 14.7**	**+2.6**
AS31				*e*Sn	Sn	07 55 35.6	-8.4
ASAR	**Alice Springs**	**18.97**	**132**	P	**Pn**	**07 52 13.9**	**+1.8**
ASAR				S	Sn	07 55 35.0	-8.9
ASAR	**Alice Springs**	**18.97**	**132**	P	**Pn**	**07 52 13.9**	**+1.8**
	0.2nm,0.3s,baz=310,slow=11,SNR=15						
ASAR				S	Sn	07 55 35.0	-8.9
	0.3nm,0.3s,baz=306,slow=24,SNR=6.9						
BLDU	**Ballidu**	**19.11**	**185**	P	**Pn**	**07 52 13.4**	**-0.2**
	baz=19,SNR=23						
BTDF	**Bukit Timah Da**	**19.46**	**310**	S	**Sn**	**07 55 59.2**	**+3.4**
	baz=19,SNR=5.6						
BTDF				S	**Sn**	**07 55 59.2**	**+3.4**
	baz=19,SNR=5.6						
KLBR	**Kellerberrin**	**20.02**	**182**	P	**Pn**	**07 52 27.5**	**+3.0**
	baz=20,SNR=4.8						
FORT	**Forrest**	**21.12**	**157**	*e*P	**P**	**07 52 37.9**	**+3.3**
	75nm,1.3s						
NWAO	**Narrogin (SRO)**	**21.37**	**183**	P	P	07 52 42.8	+5.6
NWAO				S	S	07 56 22.8	-11
NWAO	**Narrogin (SRO)**	**21.37**	**183**	P	P	07 52 42.8	+5.6
	6.8nm,0.5s,baz=26,slow=11,SNR=8.4						
NWAO				S	S	07 56 22.8	-11
	23nm,0.9s,baz=37,slow=5.4,SNR=5.1						
LHI	**Lord Howe Isla**	**42.32**	**125**	P	P	07 55 33.7	-10
	baz=42,SNR=3.5						
SONM	**Songino Array**	**60.04**	**351**	P	**P**	**07 57 54.8**	**-1.6**
SONM	**Songino Array**	**60.04**	**351**	P	**P**	**07 57 54.8**	**-1.6**
	0.7nm,0.5s,baz=152,slow=6.5,SNR=2.9						
MK31	**Makanchi Array**	**66.47**	**334**	*e*P	**P**	**07 58 37.9**	**-1.1**
MKAR	**Makanchi Array**	**66.47**	**334**	P	**P**	**07 58 38.2**	**-0.8**
MKAR	**Makanchi Array**	**66.47**	**334**	P	**P**	**07 58 38.2**	**-0.8**
	1.1nm,0.5s,baz=150,slow=7.2,SNR=16						
ZALV	**Zalesovo Beam**	**71.20**	**340**	P	**P**	**07 59 06.2**	**-2.0**
ZALV	**Zalesovo Beam**	**71.20**	**340**	P	**P**	**07 59 06.2**	**-2.0**
	1.2nm,0.3s,baz=155,slow=7.2,SNR=4.7						

IDC 05 08:07:39.4±4.3, 2°.72S×128°.35E, h103km±41km, mb3.4/3, mb1 3.6/5, mb1mx3.3/22, mbtmp3.4/5, Error ellipse: s-maj=83.6km s-min=13.0km az=69.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**15.52**	**190**	P	Pn	08 11 10.7	-1.9
	0.1nm,0.3s,baz=11,slow=11,SNR=4.1						
WRA	**Warramunga Arr**	**18.09**	**162**	P	P	08 11 43.4	+0.2
	0.9nm,0.3s,baz=342,slow=11,SNR=74						
WRA				S	Sn	08 15 06.5	+0.2
	0.0nm,0.3s,baz=341,slow=21,SNR=3.5						
ASAR	**Alice Springs**	**21.50**	**166**	P	P	08 12 20.1	0.0
	1.0nm,0.4s,baz=346,slow=11,SNR=24						
ASAR				S	S	08 16 13.7	+0.8
	0.7nm,0.9s,baz=343,slow=22,SNR=4.2						
STKA	**Stephens Creek**	**31.57**	**158**	P	P	08 13 51.9	-0.4
	2.5nm,1.0s,baz=352,slow=7.1,SNR=2.7						
MKAR	**Makanchi Array**	**63.77**	**327**	P	P	08 18 00.6	+0.2
	0.5nm,0.8s,baz=129,slow=4.6,SNR=4.2						

*IDC **05** 08:18:44.4±0.7, 13°.92N×93°.07E, h0km, mb4.2/15, mb1 4.3/16, mb1mx4.1/29, mbtmp4.1/16, ML4.1/1, Error ellipse: s-maj=30.2km s-min=13.3km az=54.0*
*ISCJB **05** 08:18:47.7±0.5, 14°.04N±0°.07×93°.24E±0°.06, h32km, mb4.1/18, Error ellipse: s-maj=9.7km s-min=8.6km az=165.5*
*NEIC **05** 08:18:49.8±0.4, 13°.93N×93°.15E, h35km, mb4.3/6, Error ellipse: s-maj=11.2km s-min=7.8km az=52.0*
ISC 05 08:18:49.7±0.6, 14°.02N±0°.09×93°.19E±0°.08, h32km, n42, σ0°.67/46, mb4.2/18, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.07**	**51**	Pn	**Pn**	**08 20 31.6**	**+0.6**
CMAR				Sn	**Sn**	**08 21 50.1**	**-0.1**
CMAR	**Chiang Mai Arr**	**7.07**	**51**	Pn	**Pn**	**08 20 31.6**	**+0.6**
	0.9nm,0.3s,baz=244,slow=15,SNR=4.8						
CMAR				Sn	**Sn**	**08 21 50.1**	**-0.1**
	1.2nm,0.3s,baz=239,slow=27,SNR=13						
CHTO	**Chiang Mai**	**7.29**	**48**	*e*Pn	**Pn**	**08 20 34.5**	**+0.5**
CHTO				*e*Sn	**Sn**	**08 21 53.2**	**-2.6**
VIS	**Vishakhapatnam**	**10.18**	**292**	*i* P	Pn	08 21 09.7	-3.9
VIS				*e*S	Sn	08 22 54.6	-12
VIS				*ex*	x	08 23 59.8	
	comp=N,16nm,0.9s						
VIS				*ex*	x	08 24 09.1	
	comp=E,30nm,0.8s						
LSA	**Lhasa**	**15.72**	**353**	*e*P	**P**	**08 22 33.1**	**+0.1**
	comp=E,6.7nm,0.6s						
SDKM	**Sandakan**	**25.05**	**107**	P	**P**	**08 24 12.4**	**+1.0**
MK31	**Makanchi Array**	**33.93**	**347**	*e*P	**P**	**08 25 30.0**	**+0.2**
MKAR	**Makanchi Array**	**33.93**	**347**	P	**P**	**08 25 30.1**	**+0.2**
MKAR	**Makanchi Array**	**33.93**	**347**	P	**P**	**08 25 30.1**	**+0.2**
	comp=E,3.7nm,0.8s,baz=158,slow=8.8,SNR=26						
KKAR	**Karatay Array**	**34.93**	**330**	*e*P	**P**	**08 25 39.0**	**+0.3**
	comp=E,1.2nm,0.6s						
SONM	**Songino Array**	**35.46**	**15**	P	**P**	**08 25 44.3**	**+1.1**
SONM	**Songino Array**	**35.46**	**15**	P	**P**	**08 25 44.3**	**+1.1**
	comp=E,1.6nm,0.9s,baz=198,slow=9.0,SNR=7.8						
ZALV	**Zalesovo Beam**	**40.38**	**352**	P	**P**	**08 26 24.2**	**-0.2**
ZALV	**Zalesovo Beam**	**40.38**	**352**	P	**P**	**08 26 24.2**	**-0.2**
	comp=E,4.1nm,0.7s,baz=178,slow=8.1,SNR=12						
BVAR	**Borovoye Array**	**42.92**	**340**	P	**P**	**08 26 45.0**	**-0.3**
BVAR	**Borovoye Array**	**42.92**	**340**	P	**P**	**08 26 45.0**	**-0.3**
	comp=E,1.1nm,0.8s,baz=134,slow=6.4,SNR=4.3						
ABKAR	**Akbulak array**	**44.46**	**329**	*e*P	**P**	**08 26 58.2**	**+0.4**
	comp=E,3.0nm,0.8s						
FITZ	**Fitzroy Crossi**	**45.20**	**134**	*e*P	**P**	**08 27 03.2**	**-0.7**
	comp=E,3.8nm,0.5s						
FITZ	**Fitzroy Crossi**	**45.20**	**134**	P	**P**	**08 27 03.0**	**-1.0**
	comp=E,2.9nm,0.4s,baz=323,slow=7.3,SNR=26						
WRA	**Warramunga Arr**	**52.70**	**129**	P	**P**	**08 28 00.8**	**-0.8**
WRA				PcP	**PcP**	**08 29 11.1**	**-0.1**
WRA	**Warramunga Arr**	**52.70**	**129**	P	**P**	**08 28 00.8**	**-0.8**
	comp=E,1.7nm,0.6s,baz=312,slow=8.8,SNR=12						
WRA				PcP	**PcP**	**08 29 11.1**	**-0.1**
	comp=E,0.9nm,0.5s,baz=318,slow=3.4,SNR=9.3						
WRAB	**Tennant Creek**	**52.71**	**129**	*e*P	**P**	**08 28 01.7**	**+0.1**
	comp=E,6.2nm,1.1s						
ASAR	**Alice Springs**	**54.66**	**133**	P	**P**	**08 28 15.8**	**-0.1**
ASAR	**Alice Springs**	**54.66**	**133**	P	**P**	**08 28 15.8**	**-0.1**
	comp=E,2.6nm,0.5s,baz=307,slow=6.8,SNR=23						
BR131	**Keskin Array S**	**57.82**	**308**	*e*P	**P**	**08 28 37.8**	**-0.7**
	comp=E,2.5nm,0.8s						
BRTR	**Keskin Array B**	**57.82**	**308**	P	**P**	**08 28 37.5**	**-1.0**
BRTR	**Keskin Array B**	**57.82**	**308**	P	**P**	**08 28 37.5**	**-1.0**
	comp=E,2.0nm,0.7s,baz=124,slow=7.7,SNR=12						
STKA	**Stephens Creek**	**65.06**	**135**	P	**P**	**08 29 27.4**	**+0.2**
STKA	**Stephens Creek**	**65.06**	**135**	P	**P**	**08 29 27.4**	**+0.2**
	comp=E,1.6nm,0.6s,baz=329,slow=6.2,SNR=4.3						
FINES	**FINESS Array B**	**66.89**	**331**	P	**P**	**08 29 38.1**	**-0.4**
FINES	**FINESS Array B**	**66.89**	**331**	P	**P**	**08 29 38.1**	**-0.4**
	comp=E,2.2nm,0.7s,baz=108,slow=4.5,SNR=7.5						
ARCES	**ARCESS Array B**	**69.21**	**340**	P	**P**	**08 29 52.8**	**-0.1**
ARCES	**ARCESS Array B**	**69.21**	**340**	P	**P**	**08 29 52.8**	**-0.1**
	comp=E,2.6nm,1.0s,baz=99,slow=7.5,SNR=4.5						
GERES	**GERESS Array B**	**72.68**	**317**	P	**P**	**08 30 14.6**	**0.0**
GERES	**GERESS Array B**	**72.68**	**317**	P	**P**	**08 30 14.6**	**0.0**
	comp=E,1.1nm,0.6s,baz=107,slow=4.6,SNR=7.0						
NB2	**NORSAR Subarra**	**73.96**	**330**	P	**P**	**08 30 20.9**	**-0.9**
	comp=Z,1.0nm,0.6s,baz=88,slow=5.9						
NOA	**NORSAR Array B**	**73.96**	**330**	P	**P**	**08 30 21.1**	**-0.7**
NOA	**NORSAR Array B**	**73.96**	**330**	P	**P**	**08 30 21.1**	**-0.7**
	comp=Z,1.7nm,0.8s,baz=89,slow=6.1,SNR=5.2						
TORD	**Torodi Ar. Bea**	**88.30**	**283**	P	**P**	**08 31 39.1**	**+0.3**
TORD	**Torodi Ar. Bea**	**88.30**	**283**	P	**P**	**08 31 39.1**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=89,slow=3.6,SNR=6.6						
ILAR	**Eielson Array**	**89.42**	**22**	P	**P**	**08 31 43.2**	**+0.1**
ILAR	**Eielson Array**	**89.42**	**22**	P	**P**	**08 31 43.2**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=298,slow=4.4,SNR=5.2						

*IDC **05** 08:19:30.3±1.0, 1°.05N×97°.06E, h0km, mb4.2/13, mb1 4.2/15, mb1mx4.0/29, mbtmp4.2/15, ML4.1/2, MS3.5/2, Ms1 3.5/2, ms1mx2.7/47, Error ellipse: s-maj=31.1km s-min=14.8km az=60.0*
*ISCJB **05** 08:19:33.0±0.5, 1°.16N±0°.06×97°.08E±0°.06, h25km, mb4.3/17, MS4.1/1, Error ellipse: s-maj=9.1km s-min=7.5km az=44.8*
*DJA **05** 08:19:33.2±2.4, 1°N±6°×9°7E±1°2, h7km±13km, M4.8/5, mb5.1/3, mB6.3/1, MLv4.6/5, Mw(mB)6.0/1*
*NEIC **05** 08:19:36.1±0.4, 1°.13N×97°.19E, h35km, mb4.8/4, Error ellipse: s-maj=10.6km s-min=8.4km az=67.0*
ISC 05 08:19:35.1±0.6, 1°.21N±0°.06×97°.12E±0°.07, h25km, n62, σ1°.04/59, mb4.3/17, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**0.47**	**78**	P	**Pn**	**08 19 45.9**	**-0.3**
GSI				S	**Sn**	**08 19 55.7**	**+2.0**
GSI	**Gunungsitoli**	**0.47**	**78**	P	**Pb**	**08 19 45.2**	**+0.4**
	29μm,0.8s,214μm						
KCSI	**Kotacane, Aceh**	**2.39**	**16**	P	**Pn**	**08 20 13.1**	**+0.4**
PSI	**Prapat**	**2.40**	**49**	Pn	**Pn**	**08 20 13.3**	**+0.3**
PSI				Sn	**Sn**	**08 20 39.5**	**-2.2**
PSI	**Prapat**	**2.40**	**49**	Pn	**Pn**	**08 20 13.3**	**+0.3**
	10nm,0.3s,baz=262,slow=7.9,SNR=29						
PSI				Sn	**Sn**	**08 20 39.5**	**-2.2**
	21nm,0.3s,baz=181,slow=6.8,SNR=8.3						
PSI				LR	LR	08 21 03.0	
	comp=Z,325nm,18.3s,baz=43,slow=37						
PPI	**Padang Panjang**	**3.67**	**117**	P	**Pn**	**08 20 30.4**	**+0.1**
PDSI	**Padang**	**3.95**	**122**	P	Pn	08 20 38.1	+3.9
BKNI	**Bangkinang**	**4.02**	**103**	P	Pb	08 20 40.1	-5.1
IPM	**Ipoh**	**5.08**	**50**	*e*Pn	**Pn**	**08 20 50.5**	**+0.8**
	48nm,0.6s						
IPM	**Ipoh**	**5.08**	**50**	P	**Pn**	**08 20 49.1**	**-0.6**
IPM	**Ipoh**	**5.08**	**50**	P	**Pn**	**08 20 51.2**	**+1.5**
	80nm,0.9s						
KULM	**Kulim**	**5.38**	**41**	*e*Pn	**Pn**	**08 20 54.0**	**+0.2**
	92nm,0.8s						
KULM	**Kulim**	**5.38**	**41**	P	**Pn**	**08 20 54.7**	**+0.9**
KULM	**Kulim**	**5.38**	**41**	P	**Pn**	**08 20 55.3**	**+1.5**
KULM	**Kulim**	**5.38**	**41**	P	**Pn**	**08 20 54.5**	**+0.8**
	114nm,0.7s						
KGM	**Kluang**	**6.25**	**83**	P	**Pn**	**08 21 06.7**	**+0.9**
KTGM	**Kuala Trenggan**	**7.27**	**56**	P	**Pn**	**08 21 20.9**	**+1.1**
CISI	**Cisompet, Garu**	**13.77**	**129**	P	**Pn**	**08 22 50.6**	**+1.7**
SBUM	**Sibu**	**15.15**	**85**	P	**P**	**08 23 14.6**	**+2.1**
BTM	**Bintulu**	**16.08**	**83**	P	**P**	**08 23 22.3**	**-0.5**
CMAR	**Chiang Mai Arr**	**17.24**	**6**	P	**Pn**	**08 23 34.0**	**-0.3**
CMAR	**Chiang Mai Arr**	**17.24**	**6**	P	**Pn**	**08 23 34.0**	**-0.3**
	0.7nm,0.3s,baz=195,slow=13,SNR=2.8						
KKM	**Kota Kinabalu**	**19.65**	**75**	P	P	08 23 54.8	-7.6
ENH	**Enshi**	**31.20**	**21**	*e*P	**P**	**08 25 52.1**	**-0.4**
	5.9nm,0.4s						
FITZ	**Fitzroy Crossi**	**34.00**	**126**	P	**P**	**08 26 15.4**	**-1.8**
FITZ	**Fitzroy Crossi**	**34.00**	**126**	P	**P**	**08 26 15

6.0nm,0.4s,baz=341,slow=9.1,SNR=158
ASAR Alice Springs 31.70 162 P **P 08 45 56.4 +0.3**
4.0nm,0.3s,baz=339,slow=7.4,SNR=174
BBOO Buckleboo 40.93 164 P **P 08 47 11.7 +0.6**
baz=43,SNR=8.5
STKA Stephens Creek 41.91 157 P **P 08 47 19.0 +0.3**
2.5nm,0.4s,baz=330,slow=7.6,SNR=10
STKA Stephens Creek 41.91 157 P **P 08 47 19.8 +1.0**
baz=44,SNR=8.3
MKAR Makanchi Array 53.50 326 P **P 08 48 44.9 +0.5**
2.7nm,0.4s,baz=121,slow=7.8,SNR=52
MKAR PcP **PcP 08 49 40.0 -0.3**
0.5nm,0.5s,baz=122,slow=4.0,SNR=4.2
KURBB Kurchatov Arra 57.71 328 P **P 08 49 13.2 0.0**
2.3nm,0.6s,baz=130,slow=6.3,SNR=23
MCQ Macquarie Isla 67.65 159 P P 08 50 23.9 +7.4
baz=70,SNR=3.1
FINES FINESS Array B 87.89 332 P **P 08 52 04.2 -0.3**
3.6nm,0.9s,baz=84,slow=4.3,SNR=4.0

IDC 05 08:43:12.9±1.5,2°.27S×140°.13E,h0km,mb3.4/3, mb1 3.7/4,mb1mx3.4/17,mbtmp3.4/4,Error ellipse: s-maj=65.6km s-min=25.9km az=98.0,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.45**	**197**	P	Pn	08 47 30.2	-0.1
	baz=20,slow=12,SNR=2.5						
ASAR	**Alice Springs**	**22.11**	**195**	P	P	08 48 09.4	-0.6
	0.6nm,0.5s,baz=28,slow=11,SNR=11						
MKAR	**Makanchi Array**	**70.31**	**322**	P	P	08 54 28.1	-0.3
	0.2nm,0.5s,baz=109,slow=7.3,SNR=2.7						
ILAR	**Eielson Array**	**84.85**	**24**	P	P	08 55 49.9	+0.6
	0.3nm,0.8s,baz=245,slow=5.8,SNR=4.4						

DJA 05 08:50:07.0±1.1,7°.S±6°.×10°.5E±°,h27km±16km,M3.7/5, MLv3.7/5,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	**Sukabumi**	**1.24**	**85**	P	Pb	08 50 30.1	+0.3
SKJI				S	Sn	08 50 44.2	-0.3
SBJI	**Serang**	**1.28**	**39**	P	Pn	08 50 27.6	-1.6
DBJI	**Dramaga**	**1.54**	**69**	P	Pn	08 50 32.5	-0.2
DBJI				S	Sn	08 50 52.0	+0.2
TNG	**Tangerang**	**1.63**	**55**	S	Sb	08 50 56.2	-0.3
CBJI	**Citeko**	**1.68**	**66**	P	Pn	08 50 34.1	-0.5
KASI	**Kota Agung**	**1.78**	**333**	P	Pb	08 50 39.2	+0.2
KASI				S	Sb	08 51 01.6	+0.7
CISI	**Cisompet, Garu**	**2.52**	**100**	P	Pn	08 50 46.9	+0.6
CISI				S	Sn	08 51 17.4	+1.1

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*IDC **05** 08:53:10.1±1.2,26°.50N×126°.48E,h0km,mb3.8/6, mb1 3.9/7,mb1mx3.7/27,mbtmp3.8/7,ML3.4/1,MS2.9/1, Ms1 2.9/1,ms1mx2.0/42,Error ellipse: s-maj=49.8km s-min=19.0km az=69.0*
*ISCJB **05** 08:53:18.6±0.5,26°.84N±0°.06×127°.16E±0°.07,h98km±5km, mb3.7/6,Error ellipse: s-maj=12.8km s-min=6.6km az=45.0*
*JMA **05** 08:53:19.9±0.2,26°.90N×127°.10E,h85km±2km,M3.1*
ISC 05 08:53:19.7±0.9,26°.78N±0°.06×127°.22E±0°.06,h96km±7km, n17,σ1°.41/25,mb3.7/6,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGN	**Aguni-jima**	**0.20**	**174**	P	**Pn**	**08 53 33.1**	**-0.3**
JAGN				*e*S	**Sn**	**08 53 42.7**	**-0.9**
JKE	**Kume jima 2**	**0.60**	**221**	P	**Pn**	**08 53 35.4**	**-0.5**
JKE				*e*S	**Sn**	**08 53 46.7**	**-1.2**
JIH	**Iheya**	**0.71**	**69**	P	**Pn**	**08 53 37.2**	**+0.4**
JIH				*e*S	**Sn**	**08 53 49.3**	**-0.4**
JJT2	**Tamagusuku 2**	**0.80**	**144**	P	**Pn**	**08 53 38.9**	**+1.2**
JJT2				*e*S	**Sn**	**08 53 53.4**	**+2.2**
JOW	**Kunigami**	**0.94**	**87**	P	**Pn**	**08 53 39.9**	**+0.7**
JOW				*e*S	**Sn**	**08 53 54.1**	**+0.2**
JTK	**Tokunoshima**	**1.83**	**57**	P	**Pn**	**08 53 50.2**	**+0.2**
JTK				*e*S	**Sn**	**08 54 12.6**	**-0.4**
JAMN	**Amaminishikomi**	**2.26**	**50**	P	**Pn**	**08 53 55.6**	**+0.1**
JAMN				*e*S	**Sn**	**08 54 21.3**	**-1.7**
JAM	**Amami Oshima**	**2.67**	**52**	P	**Pn**	**08 54 01.2**	**+0.3**
JAM				*e*S	**Sn**	**08 54 31.6**	**-0.9**
JMZ	**Minamidaito 2**	**3.72**	**104**	P	**Pn**	**08 54 15.1**	**+0.1**
JMZ				*e*S	**Sn**	**08 54 53.7**	**-4.1**
JNU	**Nakatsue**	**7.07**	**26**	Pn	**Pn**	**08 55 02.1**	**+1.6**
	0.5nm,0.3s,baz=248,slow=11,SNR=6.1						
CBIJ	**Chichi jima**	**13.35**	**85**	LR	LR	09 01 59.1	
	comp=Z,44nm,18.6s,baz=344,slow=38						
SONM	**Songino Array**	**26.60**	**328**	P	**P**	**08 58 51.1**	**+2.0**
	1.1nm,0.4s,baz=148,slow=11,SNR=8.4						
MKAR	**Makanchi Array**	**40.49**	**312**	P	**P**	**09 00 47.5**	**-1.5**
	0.3nm,0.3s,baz=89,slow=9.8,SNR=8.8						
ZALV	**Zalesovo Beam**	**41.26**	**323**	P	**P**	**09 00 54.6**	**-0.6**
	0.8nm,0.4s,baz=108,slow=9.5,SNR=3.3						
KURBB	**Kurchatov Arra**	**43.83**	**316**	P	**P**	**09 01 14.9**	**-1.1**
	0.4nm,0.4s,baz=106,slow=8.8,SNR=2.8						
WRA	**Warramunga Arr**	**46.96**	**171**	P	**P**	**09 01 41.5**	**+0.4**
	6.1nm,1.4s,baz=353,slow=8.5,SNR=6.4						
ASAR	**Alice Springs**	**50.57**	**172**	P	**P**	**09 02 09.3**	**+0.7**
	0.3nm,0.5s,baz=355,slow=8.1,SNR=7.3						

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*ISCJB **05** 08:55:16.3±0.7,28°.12S±0°.05×69°.09W±0°.09,h99km±10km, mb3.4/3,Error ellipse: s-maj=13.8km s-min=7.2km az=169.3*
*IDC **05** 08:55:18.5±2.9,28°.17S×69°.05W,h103km±24km,mb3.2/3, mb1 3.3/5,mb1mx3.2/19,mbtmp3.1/5,Error ellipse: s-maj=32.0km s-min=21.0km az=95.0*
*GUC **05** 08:55:18.6±0.5,28°.12S×69°.16W,h68km±30km,MD3.8, ML3.7*
ISC 05 08:55:17.3±0.9,28°.11S±0°.05×69°.12W±0°.08,h94km±10km, n14,σ0°.80/21,mb3.4/3,5C-1D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**1.33**	**304**	⇑*i*P	**Pn**	**08 55 41.1**	**0.0**
CPCH				*i* S	**Sn**	**08 55 58.5**	**-0.6**
CPCH				AML	AML	08 55 59.4	
	comp=E,2μm,0.2s						
VACH	**Vallenar**	**1.52**	**252**	⇑*i*P	**Pn**	**08 55 44.1**	**+0.6**
VACH				*i* S	**Sn**	**08 56 03.3**	**0.0**
LCO	**Las Campanas**	**1.66**	**237**	⇑*i*P	**Pn**	**08 55 46.1**	**+0.7**
LCO				*i* S	**Sn**	**08 56 07.2**	**+0.4**
LCO				AML	AML	08 56 09.0	
	comp=E,807nm,0.3s						
CDCH	**Caldera**	**1.84**	**304**	⇓*i*P	**Pn**	**08 55 48.2**	**+0.8**
CDCH				*i* S	**Sn**	**08 56 10.2**	**-0.3**
CDCH				AML	AML	08 56 11.7	
	comp=N,1μm,0.6s						
TLL	**Tololo Astrono**	**2.52**	**215**	⇑*i*P	**Pn**	**08 55 57.2**	**+0.5**
TLL				*i* S	**Sn**	**08 56 27.3**	**+0.3**
TLL				AML	AML	08 56 33.6	
	comp=E,341nm,0.5s						
CMCH	**Combarbala**	**3.46**	**208**	⇑*i*P	**Pn**	**08 56 08.4**	**-0.8**
CMCH				*i* S	**Sn**	**08 56 47.7**	**-1.6**
CFAA	**Coronel Fontan**	**3.56**	**168**	P	**Pn**	**08 56 11.7**	**+1.2**
	comp=E,1.1nm,0.3s,baz=347,slow=13,SNR=116						
CFAA				S	**Sn**	**08 56 51.9**	**+0.3**
	comp=E,3.5nm,0.3s,baz=224,slow=21,SNR=27						
CPUP	**Villa Florida**	**10.64**	**83**	P	**Pn**	**08 57 46.0**	**-0.8**
	comp=E,0.5nm,0.3s,baz=249,slow=9.8,SNR=6.7						
SNAA	**Sanae**	**56.14**	**160**	P	**P**	**09 04 46.7**	**0.0**
	comp=E,0.2nm,0.5s,baz=266,slow=8.0,SNR=13						
TXAR	**Lajitas Array**	**66.00**	**327**	P	**P**	**09 05 54.8**	**+0.9**
	comp=E,0.2nm,0.6s,baz=144,slow=7.8,SNR=2.8						
TORD	**Torodi Ar. Bea**	**79.81**	**69**	P	**P**	**09 07 16.1**	**+0.3**
	comp=E,0.9nm,0.6s,baz=242,slow=4.8,SNR=13						
ASAR	**Alice Springs**	**123.94**	**206**	PKP	**PKPdf**	**09 14 04.0**	**-1.2**
	comp=E,0.3nm,0.5s,baz=135,slow=1.8,SNR=6.5						
WRA	**Warramunga Arr**	**127.11**	**208**	PKP	**PKPdf**	**09 14 10.5**	**-0.8**
	comp=E,0.7nm,1.1s,baz=166,slow=1.6,SNR=8.3						
MKAR	**Makanchi Array**	**150.87**	**42**	PKPbc	**PKPbc**	**09 14 58.9**	**+0.1**
	comp=E,0.7nm,0.7s,baz=276,slow=1.1,SNR=6.6						

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*IDC **05** 08:59:18.9±0.6,37°.58N×95°.99E,h0km,mb4.0/17, mb1 4.2/23,mb1mx4.1/36,mbtmp4.1/23,ML4.1/6,MS3.4/21, Ms1 3.4/21,ms1mx3.3/45,Error ellipse: s-maj=19.9km s-min=12.4km az=39.0*
*BJI **05** 08:59:19.3,37°.67N×95°.80E,h9km,mB4.6/11,mb4.5/20, ML4.4/7,Ms4.2/21,Ms7 4.0/23*
*MOS **05** 08:59:19.7±1.3,37°.62N×95°.92E,h16km,mb4.3/23,Error ellipse: s-maj=10.1km s-min=7.0km az=120.9*
*NEIC **05** 08:59:20.7±0.5,37°.64N×95°.88E,h10km,mb4.2/9,Error ellipse: s-maj=11.5km s-min=8.2km az=201.0*
*ISCJB **05** 08:59:21.2±0.3,37°.84N±0°.04×95°.72E±0°.03,h12km, mb4.1/29,MS3.4/19,Error ellipse: s-maj=6.1km s-min=3.2km az=14.7*
*NNC **05** 08:59:30.9±2.1,38°.31N×94°.74E,h0km,mb4.2,Error ellipse: s-maj=80.1km s-min=20.7km az=52.0*
ISC 05 08:59:21.7±0.4,37°.67N±0°.05×95°.80E±0°.03,h12km,n114, σ1°.79/123,mb4.2/29,MS3.4/19,9C-3D,Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**3.60**	**60**	Pn	**Pn**	**09 00 18.3**	**+0.9**
GTA				Pg	**Pb**	**09 00 25.4**	**0.0**
GTA				Sn	**Sn**	**09 01 01.9**	**+2.0**
GTA				Sg	**Sg**	**09 01 13.4**	**-3.9**
GTA				smax	smax		
	comp=N,330nm,0.9s						
GTA				smax	smax		
	comp=E,240nm,1.6s						
GTA				LR	LR		
	comp=N,4μm,9.5s						
GTA				LR	LR		
	comp=E,2μm,6.7s						
GTA				LR	LR		
	comp=Z,2μm,10.0s						
LZH	**Lanzhou**	**6.64**	**101**	Pn	**Pn**	**09 00 59.0**	**-0.2**
LZH				Pg	Pb	09 01 21.8	+4.6
LZH				Sn	Sn	09 02 20.9	+6.0
LZH				Sg	**Sg**	**09 02 49.2**	**-5.6**
LZH				smax	smax		
	comp=N,190nm,1.0s						
LZH				smax	smax		
	comp=E,240nm,0.8s						
LZH				LR	LR		
	comp=N,1μm,7.2s						
LZH				LR	LR		
	comp=E,1μm,7.1s						
LZH				LR	LR		
	comp=Z,2μm,8.3s						
WMQ	**Urumqi**	**8.69**	**318**	P	**Pn**	**09 01 27.7**	**+0.4**
WMQ				pP	pP	09 01 30.7	
WMQ				sP		09 01 33.7	
WMQ				S	**Sn**	**09 03 04.7**	**-0.5**
WMQ				pmax	pmax		
	comp=Z,35nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,150nm,3.4s						
WMQ				LR	LR		
	comp=N,640nm,16.8s						
WMQ				LR	LR		
	comp=E,460nm,16.3s						
WMQ				LR	LR		
	comp=Z,260nm,14.4s						
LSA	**Lhasa**	**8.84**	**207**	P	**Pn**	**09 01 31.5**	**+1.9**
LSA				pmax	pmax		
	comp=Z,20nm,0.8s						
CD2	**Chengdu**	**9.42**	**133**	P	Pn	09 01 43.1	+5.8
CD2				pP		09 01 46.7	
CD2				sP		09 01 49.5	
CD2				S	Sn	09 03 32.9	+10
CD2				sS		09 03 37.6	
CD2				pmax	pmax		
	comp=Z,20nm,0.6s						
CD2				LR	LR		
	comp=N,1μm,7.7s						
CD2				LR	LR		
	comp=Z,950nm,10.7s						
XAN	**Xi'an**	**11.25**	**105**	P	Pn	09 01 57.5	-4.8
XAN				pmax	pmax		
	comp=Z,2.0nm,0.9s						
XAN				pmax	pmax		
	comp=Z,29nm,7.7s						
XAN				LR	LR		
	comp=N,300nm,7.7s						
XAN				LR	LR		
	comp=E,150nm,9.2s						
XAN				LR	LR		
	comp=Z,140nm,9.9s						
HHC	**Hu-ho-hao-te**	**12.63**	**71**	*e*P	**Pn**	**09 02 23.6**	**+2.4**
HHC				sP		09 02 29.4	
HHC				PP	**P**	**09 02 33.8**	**+1.1**
HHC				S	**Sn**	**09 04 44.8**	**+3.0**
HHC				sS		09 04 49.0	
HHC				SS	**SnSn**	**09 05 00.2**	**+6.5**
HHC				PcP	**PcP**	**09 08 01.0**	**+2.1**
HHC				pmax	pmax		
	comp=Z,160nm,6.0s						
HHC				LR	LR		
	comp=N,550nm,13.1s						
HHC				LR	LR		
	comp=E,660nm,11.9s						
HHC				LR	LR		
	comp=Z,330nm,11.9s						
SONM	**Songino Array**	**12.79**	**34**	Pn	**Pn**	**09 02 21.7**	**-1.7**
SONM				Lg	Lg	09 05 49.3	
SONM	**Songino Array**	**12.79**	**34**	Pn	**Pn**	**09 02 21.7**	**-1.7**
	comp=Z,1.0nm,0.3s,baz=221,slow=14,SNR=13						
SONM				Lg	Lg	09 05 49.3	
	baz=212,slow=27,SNR=4.5						
SONM				LR	LR	09 07 35.2	
	comp=Z,289nm,19.0s,baz=222,slow=39						
ULN	**Ulaanbaatar**	**13.11**	**35**	*e*Pn	**Pn**	**09 02 27.7**	**0.0**
MK31	**Makanchi Array**	**13.52**	**317**	⇑Pn	**Pn**	**09 02 30.8**	**-2.4**
	comp=Z,6.3nm,0.6s,baz=125,slow=14,SNR=101						
MK31				⇑Sn	Sn	09 04 55.9	-7.5
	comp=Z,12nm,1.1s						
MK31	**Makanchi Array**	**13.52**	**317**	*e*P	**Pn**	**09 02 30.9**	**-2.4**
MK31				*e*		09 05 02.4	
MK31	**Makanchi Array**	**13.52**	**317**	*e*Pn	**Pn**	**09 02 30.9**	**-2.4**
MK31				*e*Sn	**Sn**	**09 05 02.4**	**-1.1**
MKAR	**Makanchi Array**	**13.52**	**317**	*e*P	**Pn**	**09 02 31.1**	**-2.2**
MKAR	**Makanchi Array**	**13.52**	**317**	*e*Pn	**Pn**	**09 02 31.1**	**-2.2**
MKAR				Sn	**Sn**	**09 05 00.7**	**-2.7**
MKAR				Lg	Lg	09 06 25.9	
MKAR	**Makanchi Array**	**13.52**	**317**	Pn	**Pn**	**09 02 30.8**	**-2.5**
	comp=Z,1.5nm,0.3s,baz=126,slow=14,SNR=79						
MKAR				Sn	**Sn**	**09 05 00.7**	**-2.7**
	comp=Z,0.4nm,0.3s,baz=120,slow=24,SNR=5.9						
MKAR				Lg	Lg	09 06 25.9	
	baz=142,slow=24,SNR=2.0						
MKAR				LR	LR	09 07 60.0	
	comp=Z,150nm,18.6s,baz=123,slow=38						
HVS	**Khovu-Aksy**	**13.55**	**354**	*de*P	Pn	09 02 29.6	-4.1
ZAK	**Zakamensk**	**13.79**	**20**	*e*P	**P**	**09 02 47.3**	**+1.7**
ZAK				pmax	pmax		
	comp=Z,15nm,1.3s						
GYA	**Guiyang**	**14.47**	**137**	P	**P**	**09 02 50.6**	**-2.6**
GYA				PP	PnPn	09 03 02.9	+8.6
GYA				S	S	09 05 36.0	-11
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GYA				pmax	pmax		
	comp=Z,60nm,4.0s						
GYA				LR	LR		
	comp=N,400nm,13.1s						
GYA				LR	LR		
	comp=E,600nm,11.7s						
GYA				LR	LR		
	comp=Z,740nm,12.5s						
TLY	**Talaya**	**15.07**	**19**	*e*P	**Pn**	**09 02 53.8**	**-0.5**
TLY				pmax	pmax		
	comp=Z,6.0nm,1.1s						
KSH	**Kashi**	**15.61**	**283**	*e*P	**Pn**	**09 03 02.3**	**+0.7**
KSH				PP	**PnPn**	**09 03 14.0**	**+4.1**
KSH				S	**Sn**	**09 05 52.5**	**-2.1**
KSH				pmax	pmax		
	comp=Z,76nm,3.6s						
KSH				LR	LR		
	comp=N,190nm,4.9s						
KSH				LR	LR		
	comp=E,170nm,4.0s						
KSH				LR	LR		
	comp=Z,250nm,5.2s						
BJI	**Beijing**	**16.05**	**75**	P	**P**	**09 03 11.3**	**+0.8**
BJI				S	**Sn**	**09 06 06.5**	**+1.5**
BJI				pmax	pmax		
	comp=Z,21nm,0.9s						
BJI				pmax	pmax		
	comp=Z,140nm,4.7s						
BJI				LR	LR		
	comp=N,660nm,15.8s						
BJI				LR	LR		
	comp=E,230nm,12.5s						
BJI				LR	LR		
	comp=Z,170nm,21.0s						
TKM2	**Tokmak 2**	**16.27**	**295**	⇑Pn	**Pn**	**09 03 07.6**	**-2.6**
	comp=Z,16nm,0.9s						
TKM2	**Tokmak 2**	**16.27**	**295**	*e*P	**Pn**	**09 03 07.6**	**-2.6**
TKM2				pmax	pmax		
	comp=Z,15nm,0.6s						
TKM2	**Tokmak 2**	**16.27**	**295**	*e*P	**Pn**	**09 03 07.6**	**-2.6**
	comp=Z,16nm,0.6s						
WHN	**Wuhan**	**16.91**	**109**	⇑P	**P**	**09 03 19.8**	**-0.4**
WHN				S	**Sn**	**09 06 30.2**	**+4.1**
WHN				LR	LR		
	comp=N,560nm,4.8s						
WHN				LR	LR		
	comp=E,1μm,5.4s						
WHN				LR	LR		
	comp=Z,1μm,8.5s						
AAK	**Ala-Archa**	**17.01**	**294**	P	**Pn**	**09 03 19.4**	**-0.1**
AAK				MLR	MLR		
	comp=Z,79nm,19.4s						
AAK	**Ala-Archa**	**17.01**	**294**	*e*P	**Pn**	**09 03 18.9**	**-0.7**
	comp=Z,8.9nm,0.8s						
AAK	**Ala-Archa**	**17.01**	**294**	P	**Pn**	**09 03 19.4**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=116,slow=3.3,SNR=8.9						
AAK				LR	LR	09 11 28.3	
	comp=Z,79nm,19.4s,baz=80,slow=42						
EKS2	**Erkin-Say**	**17.54**	**293**	*e*P	**Pn**	**09 03 25.4**	**-0.7**
EKS2				pmax	pmax		
	comp=Z,5.0nm,0.8s						
EKS2	**Erkin-Say**	**17.54**	**293**	*e*P	**Pn**	**09 03 25.4**	**-0.7**
	comp=Z,5.5nm,0.8s						
KURBB	**Kurchatov Arra**	**17.87**	**322**	P	**Pn**	**09 03 29.1**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=133,slow=12,SNR=25						
KURK	**Kurchatov**	**17.88**	**322**	P	**Pn**	**09 03 29.1**	**-1.0**
KURK	**Kurchatov**	**17.88**	**322**	P	**Pn**	**09 03 29.1**	**-1.0**
ZAA0	**Zalesovo Array**	**17.96**	**339**	*e*P	**P**	**09 03 31.5**	**0.0**
ZALV	**Zalesovo Beam**	**17.96**	**339**	P	**Pn**	**09 03 31.1**	**+0.1**
ZALV	**Zalesovo Beam**	**17.96**	**339**	P	**Pn**	**09 03 31.1**	**+0.1**
ZALV				Lg	Lg	09 08 48.2	
ZALV	**Zalesovo Beam**	**17.96**	**339**	P	**Pn**	**09 03 31.1**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=144,slow=10,SNR=8.1						
ZALV				Lg	Lg	09 08 48.2	
	comp=Z,0.1nm,0.3s,baz=159,slow=30,SNR=5.5						
CMAR	**Chiang Mai Arr**	**19.34**	**171**	P	**P**	**09 03 46.4**	**-0.5**
CMAR	**Chiang Mai Arr**	**19.34**	**171**	P	**P**	**09 03 46.4**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=340,slow=9.9,SNR=14						
CMAR				LR	LR	09 11 48.1	
	comp=Z,103nm,19.2s,baz=156,slow=39						
KK31	**Karatay Array**	**19.98**	**294**	P	**P**	**09 03 54.3**	**+0.5**
	comp=Z,9.4nm,1.1s,baz=100,slow=13,SNR=23						
KK31	**Karatay Array**	**19.98**	**294**	*i* P	**P**	**09 03 54.3**	**+0.5**
KK31				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KKAR	**Karatay Array**	**19.98**	**294**	*e*P	**P**	**09 03 53.7**	**-0.2**
KKAR	**Karatay Array**	**19.98**	**294**	*e*P	**P**	**09 03 53.6**	**-0.2**
KBL	**Kabul**	**21.81**	**270**	*e*P	**P**	**09 04 16.3**	**+2.4**
KBL				pmax	pmax		
	comp=Z,13nm,0.8s						
KBL	**Kabul**	**21.81**	**270**	*e*P	**P**	**09 04 16.3**	**+2.4**
	comp=Z,13nm,0.8s						
VOSK	**Vostochnaya**	**22.91**	**319**	⇓P	**P**	**09 04 25.9**	**+0.6**
	comp=Z,6.9nm,0.8s						
VOSK	**Vostochnaya**	**22.91**	**319**	*e*P	**P**	**09 04 26.1**	**+0.8**
VOSK				pmax	pmax		
	comp=Z,12nm,1.1s						
VOSK	**Vostochnaya**	**22.91**	**319**	*e*P	**P**	**09 04 26.1**	**+0.8**
	comp=Z,12nm,1.1s						
BVA0	**Borovoye Array**	**23.38**	**319**	⇑P	**P**	**09 04 30.9**	**+0.9**
	comp=Z,2.5nm,0.6s						
BVA0	**Borovoye Array**	**23.38**	**319**	P	**P**	**09 04 29.1**	**-0.9**
BVA0				pmax	pmax		
	comp=Z,4.0nm,0.6s						
BVAR	**Borovoye Array**	**23.38**	**319**	P	**P**	**09 04 30.4**	**+0.4**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BVAR				MLR	MLR		
	comp=Z,151nm,20.5s						
BVAR	**Borovoye Array**	**23.38**	**319**	P	**P**	**09 04 30.4**	**+0.4**
BVAR	**Borovoye Array**	**23.38**	**319**	P	**P**	**09 04 30.4**	**+0.4**
	comp=Z,2.3nm,0.6s,baz=117,slow=10,SNR=11						
BVAR				LR	LR	09 14 14.3	
	comp=Z,150nm,20.5s,baz=115,slow=38						
BRVK	**Borovoye**	**23.45**	**319**	⇑P	**P**	**09 04 31.5**	**+0.8**
	comp=Z,4.7nm,0.6s						
BRVK	**Borovoye**	**23.45**	**319**	⇑*e*P	**P**	**09 04 31.0**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,7.0nm,1.2s						
BRVK	**Borovoye**	**23.45**	**319**	*e*P	**P**	**09 04 32.1**	**+1.4**
	comp=Z,6.5nm,0.9s						
HYB	**Hyderabad**	**25.23**	**222**	*i* P	**P**	**09 04 50.0**	**+2.5**
KSAR	**Wonju Array Be**	**25.38**	**81**	P	**P**	**09 04 47.0**	**-1.7**
KSRS	**Korea Array**	**25.41**	**81**	P	**P**	**09 04 47.0**	**-1.9**
	comp=Z,5.9nm,0.9s,baz=274,slow=9.5,SNR=19						
KSRS				LR	LR	09 15 03.3	
	comp=Z,43nm,19.8s,baz=119,slow=37						
MDJ	**Mudanjiang**	**26.25**	**64**	P	**P**	**09 04 57.2**	**+0.7**
MDJ				pP	**pP**	**09 05 00.1**	**-0.1**
MDJ				sP	**sP**	**09 05 01.8**	**+0.1**
MDJ				PcP	**PcP**	**09 08 23.6**	**+0.8**
MDJ				S	**S**	**09 09 29.9**	**+1.3**
MDJ				sS	**sS**	**09 09 37.1**	**+2.5**
MDJ				ScS	**ScS**	**09 15 49.0**	**-3.2**
MDJ				pmax	pmax		
	comp=Z,4.0nm,0.5s						
MDJ				pmax	pmax		
	comp=Z,93nm,6.1s						
MDJ				LR	LR		
	comp=N,170nm,11.4s						
MDJ				LR	LR		
	comp=E,210nm,9.7s						
MDJ				LR	LR		
	comp=Z,230nm,11.4s						
USRK	**Ussuriysk Arra**	**27.95**	**65**	LR	LR	09 15 58.5	
	comp=Z,51nm,19.9s,baz=275,slow=36						
AB31	**Akbulak array**	**28.22**	**306**	⇑P	**P**	**09 05 16.1**	**+1.8**
	comp=Z,0.6nm,0.6s,baz=98,slow=11,SNR=9.7						
ABKAR	**Akbulak array**	**28.22**	**306**	*e*P	**P**	**09 05 15.1**	**+0.8**
	comp=Z,0.7nm,0.6s						
JNU	**Nakatsue**	**28.85**	**88**	LR	LR	09 16 59.3	
	comp=Z,83nm,20.5s,baz=64,slow=37						
AKTO	**Aktyubinsk**	**29.67**	**308**	⇓P	**P**	**09 05 28.2**	**+1.1**
	comp=Z,4.2nm,0.8s						
AKTO	**Aktyubinsk**	**29.67**	**308**	P	**P**	**09 05 28.4**	**+1.3**
AKTO				pmax	pmax		
	comp=Z,4.0nm,0.8s						
AKTO				MLR	MLR		
	comp=Z,49nm,21.2s						
AKTO	**Aktyubinsk**	**29.67**	**308**	P	**P**	**09 05 28.4**	**+1.3**
AKTO	**Aktyubinsk**	**29.67**	**308**	P	**P**	**09 05 28.4**	**+1.3**
	comp=Z,4.0nm,0.8s,baz=96,slow=11,SNR=13						
AKTO				LR	LR	09 18 02.0	
	comp=Z,49nm,21.1s,baz=279,slow=38						
ARU	**Arti**	**31.02**	**319**	*c i*P	**P**	**09 05 38.5**	**-0.5**
ARU				S	**S**	**09 10 43.1**	**-0.4**
ARU				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MJAR	**Matsushiro Arr**	**33.64**	**79**	LR	LR	09 19 22.8	
	comp=Z,94nm,19.5s,baz=245,slow=36						
ASAJ	**Asahikawa**	**35.57**	**64**	P	**P**	**09 06 18.6**	**-0.1**
**AS

comp=Z,1.7nm,0.7s,baz=90,slow=6.9,SNR=8.6
BRTR LR LR 09 31 17.0
comp=Z,28nm,20.9s,baz=100,slow=40
AKASG Malin Array Be 47.91 308 P **P 09 08 00.4 +0.8**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKASG Malin Array Be 47.91 308 P **P 09 08 00.4 +0.8**
AKASG Malin Array Be 47.91 308 P **P 09 08 00.4 +0.8**
comp=Z,1.6nm,0.6s,baz=66,slow=8.3,SNR=3.5
ASF Jabal al Asfar 47.93 282 LR LR 09 33 08.1
comp=Z,24nm,19.5s,baz=217,slow=42
FINES FINESS Array B 48.26 323 P **P 09 08 03.0 +0.9**
FINES FINESS Array B 48.26 323 P **P 09 08 03.0 +0.9**
comp=Z,2.7nm,0.8s,baz=66,slow=8.2,SNR=3.1
FINES LR LR 09 28 29.5
comp=Z,42nm,18.2s,baz=73,slow=36
ARCES ARCESS Array B 48.41 334 P **P 09 08 04.5 +1.3**
ARCES ARCESS Array B 48.41 334 P **P 09 08 04.5 +1.3**
comp=Z,1.3nm,0.7s,baz=74,slow=9.1,SNR=5.5
EIL Elat 50.49 280 LR LR 09 32 20.4
comp=Z,23nm,18.6s,baz=91,slow=39
MLR Muntele Rosu 51.33 302 P **P 09 08 27.8 +1.9**
MLR Muntele Rosu 51.33 302 P **P 09 08 27.8 +1.9**
comp=Z,0.3nm,0.4s,baz=144,slow=14,SNR=2.8
NOA NORSAR Array B 55.39 324 P **P 09 08 55.8 +0.4**
NOA NORSAR Array B 55.39 324 P **P 09 08 55.8 +0.4**
comp=Z,1.8nm,0.7s,baz=72,slow=7.2,SNR=2.6
NOA LR LR 09 32 39.2
comp=Z,40nm,19.6s,baz=5.0,slow=36
GERES GERESS Array B 58.07 310 LR LR 09 38 58.1
comp=Z,25nm,18.4s,baz=300,slow=41
JMIC Jan Mayen 59.30 338 LR LR 09 36 29.2
comp=Z,33nm,19.0s,baz=257,slow=38
ILAR Eielson Array 66.82 24 P **P 09 10 10.5 -2.3**
ILAR Eielson Array 66.82 24 P **P 09 10 10.5 -2.3**
comp=Z,1.4nm,0.9s,baz=290,slow=5.2,SNR=15
ILAR LR LR 09 40 55.6
comp=Z,41nm,18.4s,baz=16,slow=37
WRA Warramunga Arr 67.81 141 P **P 09 10 17.1 -2.6**
WRA Warramunga Arr 67.81 141 P **P 09 10 17.1 -2.6**
comp=Z,2.0nm,1.1s,baz=336,slow=6.4,SNR=9.0
SML Sawmill 68.22 27 *eP* **P 09 10 20.8 -1.0**
SML pmax pmax
comp=Z,3.0nm,0.9s
SML Sawmill 68.22 27 *eP* **P 09 10 20.8 -1.0**
comp=Z,3.2nm,0.9s
EGAK Eagle 68.63 23 *eP* **P 09 10 23.7 -0.5**
comp=Z,73nm,2.9s
KDAK Kodiak Island 69.07 32 LR LR 09 41 45.6
comp=Z,53nm,19.5s,baz=306,slow=37
ASAR Alice Springs 70.75 143 P **P 09 10 36.0 -1.8**
ASAR Alice Springs 70.75 143 P **P 09 10 36.0 -1.8**
comp=Z,1.6nm,0.7s,baz=330,slow=6.1,SNR=29
DLBC Dease Lake 76.90 23 LR LR 09 49 25.7
comp=Z,35nm,20.6s,baz=114,slow=39
YKA Yellowknife Ar 77.22 14 P **P 09 11 13.3 -1.9**
YKA Yellowknife Ar 77.22 14 P **P 09 11 13.3 -1.9**
comp=Z,0.6nm,0.8s,baz=336,slow=5.1,SNR=4.5
STKA Stephens Creek 81.32 142 P **P 09 11 35.8 -2.1**
STKA Stephens Creek 81.32 142 P **P 09 11 35.8 -2.1**
comp=Z,1.8nm,0.4s,baz=333,slow=8.9,SNR=5.4
TORD Torodi Ar. Bea 85.28 283 P **P 09 11 57.4 -1.4**
TORD Torodi Ar. Bea 85.28 283 P **P 09 11 57.4 -1.4**
comp=Z,0.9nm,0.9s,baz=43,slow=4.6,SNR=4.5

*ISCJB **05** 09:04:38.8±0.4, 59°.65N±0°.02×24°.08E±0°.05, h0km, Error ellipse: s-maj=4.0km s-min=3.1km az=36.4*
*IDC **05** 09:04:39.1±1.8, 59°.54N×24°.36E, h0km, mb1 3.4/4, mb1mx3.1/28, mbtmp3.3/4, ML3.1/4, Error ellipse: s-maj=20.8km s-min=7.0km az=146.0*
*NAO **05** 09:04:40.3±1.0, 59°.69N×24°.07E, ML2.5*
*CSEM **05** 09:04:40.0±0.1, 59°.67N×24°.10E, h2km, ML2.8, Error ellipse: s-maj=4.1km s-min=2.9km az=133.0, Mining explosion.*
*HEL **05** 09:04:40.7±0.1, 59°.65N×24°.10E, h0km, ML2.3, ML2.2(UPP), Explosion*
*BER **05** 09:04:41.3±3.5, 59°.70N×24°.12E, h0km, ML2.5(NAO), Suspected explosion*
*UPP **05** 09:04:46.1, 59°.77N×23°.26E, h0km, ML2.2, Suspected Mining explosion.*

ISC 05 09:04:38.8±0.7, 59°.66N±0°.02×24°.03E±0°.02, h0km, n57, σ1§29/88, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**0.59**	**18**	*eP*	**Pg**	**09 04 50.7**	**+0.6**
MEF				*eS*	**Sg**	**09 04 58.4**	**+0.6**
MEF	**Metsahovi**	**0.59**	**18**	*eP*	**Pg**	**09 04 50.8**	**+0.6**
	SNR=90						
MEF				*eS*	**Sg**	**09 04 58.0**	**+0.2**
	81nm,0.3s,SNR=90						
MTSE	**Matsula**	**0.95**	**187**	*eP*	**Pg**	**09 04 57.9**	**+0.9**
MTSE				*eS*	**Sg**	**09 05 09.4**	**+0.1**
MTSE	**Matsula**	**0.95**	**187**	P	**Pg**	**09 04 57.9**	**+0.9**
MTSE				S	**Sg**	**09 05 09.3**	**+0.1**
PVF	**Pernaja**	**1.28**	**45**	*eP*	**Pg**	**09 05 02.8**	**-0.5**
PVF				*eS*	**Sg**	**09 05 20.0**	**+0.1**
PVF				MSG		09 05 27.9	
	comp=Z,34nm,0.2s						
PVF	**Pernaja**	**1.28**	**45**	P	**Pg**	**09 05 02.8**	**-0.5**
PVF				S	**Sg**	**09 05 19.9**	**+0.1**
RAF	**Rauma**	**1.77**	**322**	*eP*	**Pb**	**09 05 12.6**	**+0.4**
RAF				*eS*	**Sb**	**09 05 36.0**	**+1.1**
RAF				MSG		09 05 42.1	
	comp=Z,32nm,0.1s						
RAF	**Rauma**	**1.77**	**322**	P	**Pb**	**09 05 12.5**	**+0.4**
RAF				S	**Sb**	**09 05 36.0**	**+1.1**
VSU	**Vasula**	**1.84**	**129**	Pg	**Pn**	**09 05 12.8**	**+1.3**
VSU				Lg	Lg	09 05 39.0	
VSU	**Vasula**	**1.84**	**129**	Pg	**Pn**	**09 05 12.8**	**+1.3**
VSU				Lg	Lg	09 05 39.0	
VSU	**Vasula**	**1.84**	**129**	*eP*	**Pn**	**09 05 12.9**	**+1.3**
VSU				*eS*	**Sn**	**09 05 36.0**	**+0.5**
VSU	**Vasula**	**1.84**	**129**	P	**Pn**	**09 05 12.9**	**+1.3**
VSU				*eS*	**Sn**	**09 05 36.1**	**+0.6**
	comp=Z,450nm,0.6s,SNR=50						
VSU				Lg	Lg	09 05 39.0	
	SNR=137						
VJF	**Virojoki**	**1.98**	**62**	*eP*	**Pn**	**09 05 14.0**	**+0.6**
VJF				*eS*	**Sb**	**09 05 40.4**	**-0.3**
VJF	**Virojoki**	**1.98**	**62**	P	**Pn**	**09 05 14.0**	**+0.6**
VJF				S	**Sb**	**09 05 40.3**	**-0.3**
FIA0	**FINESS Array S**	**2.06**	**29**	Pn	**Pn**	**09 05 16.2**	**+1.6**
	baz=206,slow=14						
FIA0				Lg	Lg	09 05 43.7	
	baz=215,slow=28						
FIA0				Rg	Rg	09 05 53.9	
	baz=199,slow=37						
FIA0	**FINESS Array S**	**2.06**	**29**	Pn	**Pn**	**09 05 16.2**	**+1.6**
	baz=206,slow=14						
FIA0				Lg	Lg	09 05 43.7	
	baz=215,slow=28						
FIA0				Rg	Rg	09 05 53.9	
	baz=199,slow=37						
FIA0	**FINESS Array S**	**2.06**	**29**	*eP*	**Pb**	**09 05 16.4**	**-0.5**
FIA0				*eS*	**Sn**	**09 05 42.3**	**+1.4**
FIA0	**FINESS Array S**	**2.06**	**29**	Pn	**Pn**	**09 05 16.2**	**+1.6**
	baz=206,slow=14,SNR=50						
FIA0				S	**Sn**	**09 05 42.3**	**+1.4**
FIA0				Lg	Lg	09 05 43.7	
	baz=215,slow=23,SNR=50						
FINES	**FINESS Array B**	**2.06**	**29**	Pn	**Pn**	**09 05 16.1**	**+1.5**
	comp=Z,6.3nm,0.3s,baz=207,slow=15,SNR=670						
FINES				Pg	**Pb**	**09 05 17.1**	**+0.1**
	comp=Z,6.3nm,0.3s,baz=205,slow=15,SNR=715						
FINES				Sn	**Sn**	**09 05 42.0**	**+1.1**
	comp=Z,2.9nm,0.3s,baz=207,slow=23,SNR=8.1						
FINES				Lg	Lg	09 05 44.4	
	comp=Z,14nm,0.3s,baz=203,slow=27,SNR=28						
FINES				Rg	Rg	09 05 53.6	
	comp=Z,12nm,0.5s,baz=196,slow=24,SNR=5.2						
AAL	**Aland**	**2.10**	**286**	*eP*	**Pb**	**09 05 17.5**	**-0.2**
AAL				*eS*	**Sb**	**09 05 44.9**	**+0.6**
AAL	**Aland**	**2.10**	**286**	P	**Pn**	**09 05 17.2**	**+2.1**
AAL				S	**Sb**	**09 05 44.8**	**+0.6**
SLIT	**Slitere, Latvi**	**2.23**	**205**	*eP*	**Pb**	**09 05 19.9**	**+0.1**
	SNR=50						
KEF	**Keuruu**	**2.55**	**9**	*e*PB	**Pb**	**09 05 24.5**	**-0.9**
KEF				*e*SB	**Sb**	**09 05 57.6**	**+0.2**
KEF	**Keuruu**	**2.55**	**9**	Pb	**Pb**	**09 05 24.5**	**-0.9**
KEF				Sb	**Sb**	**09 05 57.5**	**+0.2**
KAF	**Kangasniemi**	**2.70**	**23**	*eP*	**Pn**	**09 05 25.6**	**+2.2**
KAF				*eS*	**Sn**	**09 05 58.2**	**+1.3**
KAF	**Kangasniemi**	**2.70**	**23**	P	**Pn**	**09 05 25.6**	**+2.2**
KAF				S	**Sn**	**09 05 58.1**	**+1.3**
NRTU	**Norrtaelje**	**2.74**	**273**	P	**Pn**	**09 05 26.1**	**+2.2**
NRTU	**Norrtaelje**	**2.74**	**273**	P	**Pn**	**09 05 26.1**	**+2.2**
	baz=90						
FLYU	**Flymyra**	**3.13**	**281**	P	**Pn**	**09 05 30.8**	**+1.5**
FLYU	**Flymyra**	**3.13**	**281**	P	**Pn**	**09 05 30.8**	**+1.5**
NYNU	**Nynaeshamn**	**3.16**	**261**	P	**Pn**	**09 05 31.9**	**+2.3**
NYNU	**Nynaeshamn**	**3.16**	**261**	P	**Pn**	**09 05 31.9**	**+2.3**
BACU	**Backbrunna**	**3.51**	**276**	P	**Pn**	**09 05 36.3**	**+1.8**
BACU	**Backbrunna**	**3.51**	**276**	P	**Pn**	**09 05 36.3**	**+1.8**
IGGU	**Iggoen**	**3.56**	**293**	P	**Pn**	**09 05 36.9**	**+1.7**
IGGU	**Iggoen**	**3.56**	**293**	P	**Pn**	**09 05 36.9**	**+1.7**
ESKU	**Eskilstuna**	**3.92**	**267**	P	**Pn**	**09 05 42.5**	**+2.3**
ESKU	**Eskilstuna**	**3.92**	**267**	P	**Pn**	**09 05 42.4**	**+2.3**
FALU	**Falun**	**4.19**	**285**	P	**Pn**	**09 05 45.8**	**+1.9**
FALU	**Falun**	**4.19**	**285**	P	**Pn**	**09 05 45.8**	**+1.9**
HFS	**Hagfors**	**5.23**	**280**	Pn	**Pn**	**09 05 59.0**	**+0.9**
	baz=105,slow=12						
HFS				Sn	**Sn**	**09 06 59.7**	**+0.7**
	baz=90,slow=28						
HFS				Lg	Lg	09 07 20.4	
	baz=85,slow=28						
HFS	**Hagfors**	**5.23**	**280**	Pn	**Pn**	**09 05 59.0**	**+0.9**
	baz=105,slow=12						
HFS				Sn	**Sn**	**09 06 59.7**	**+0.7**
	baz=90,slow=28						
HFS				Lg	Lg	09 07 20.4	
	baz=85,slow=28						
HFS	**Hagfors**	**5.23**	**280**	Pn	**Pn**	**09 05 59.0**	**+0.9**
	comp=Z,0.5nm,0.3s,baz=93,slow=16,SNR=35						
HFS				Sn	**Sn**	**09 07 00.6**	**+1.6**
	comp=Z,0.6nm,0.3s,baz=95,slow=23,SNR=4.6						
HFS				Lg	Lg	09 07 21.2	
	comp=Z,1.5nm,0.3s,baz=91,slow=30,SNR=8.1						
HFS	**Hagfors**	**5.23**	**280**	Pn	**Pn**	**09 05 59.0**	**+0.9**
	baz=105,slow=12,SNR=50						
HFS				Sn	**Sn**	**09 06 59.7**	**+0.7**
	baz=90,slow=24,SNR=50						
HFS				Lg	Lg	09 07 20.5	
	baz=85,slow=26,SNR=8.8						
NB2	**NORSAR Subarra**	**6.51**	**288**	Pn	**Pn**	**09 06 15.8**	**+0.1**
	baz=97,slow=14						
NB2				Sn	**Sn**	**09 07 29.8**	**-0.9**
	baz=97,slow=22						
NB2				Lg	Lg	09 08 03.1	
	baz=98,slow=37						
NB2	**NORSAR Subarra**	**6.51**	**288**	Pn	**Pn**	**09 06 15.8**	**+0.1**
	baz=97,slow=14						
NB2				Sn	**Sn**	**09 07 29.8**	**-0.9**
	baz=97,slow=22						
NB2				Lg	Lg	09 08 03.1	
	baz=98,slow=37						
NB2	**NORSAR Subarra**	**6.51**	**288**	Pn	**Pn**	**09 06 15.8**	**+0.1**
	baz=97,slow=13,SNR=50						
NB2				Lg	Lg	09 08 03.1	
	baz=98,slow=31,SNR=3.3						
NOA	**NORSAR Array B**	**6.51**	**288**	Pn	**Pn**	**09 06 16.2**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=101,slow=11,SNR=15						
NOA				Sn	**Sn**	**09 07 29.1**	**-1.6**
	comp=Z,0.6nm,0.3s,baz=121,slow=16,SNR=4.8						
NOA				Lg	Lg	09 08 03.3	
	comp=Z,1.2nm,0.3s,baz=83,slow=16,SNR=6.0						
BSD	**Bornholm Skovb**	**6.71**	**231**	*i* P	**Pn**	**09 06 18.7**	**+0.3**
BSD				*i*		09 06 28.1	
BSD				*i* S	**Sn**	**09 07 32.5**	**-2.9**
BSD	**Bornholm Skovb**	**6.71**	**231**	*eP*	**Pn**	**09 06 18.7**	**+0.3**
APA0	**Apatity Array**	**8.91**	**23**	Pn	**Pn**	**09 06 48.4**	**-0.1**
	baz=210,slow=12						
APA0	**Apatity Array**	**8.91**	**23**	Pn	**Pn**	**09 06 48.4**	**-0.1**
	baz=210,slow=12						
APA0	**Apatity Array**	**8.91**	**23**	Pn	**Pn**	**09 06 48.4**	**-0.1**
	baz=210,slow=11,SNR=50						
ARA0	**ARCESS Array S**	**9.94**	**3**	Pn	**Pn**	**09 07 02.6**	**0.0**
	baz=174,slow=16						
ARA0	**ARCESS Array S**	**9.94**	**3**	Pn	**Pn**	**09 07 02.6**	**0.0**
	baz=174,slow=16						
ARA0	**ARCESS Array S**	**9.94**	**3**	Pn	**Pn**	**09 07 02.7**	**0.0**
	baz=174,slow=15,SNR=50						
ARCES	**ARCESS Array B**	**9.94**	**3**	Pn	**Pn**	**09 07 02.6**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=178,slow=13,SNR=25						
ARCES				Sn	**Sn**	**09 08 50.6**	**-4.2**
	comp=Z,0.3nm,0.3s,baz=189,slow=23,SNR=5.9						
ARCES				Lg	Lg	09 09 47.2	
	comp=Z,0.4nm,0.3s,baz=169,slow=26,SNR=5.4						

KRSC 05 09:30:16.1±1.0, 50°.03N×158°.70E, h52km±52km, ML3.6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.78**	**293**	*eP*	Pn	09 30 44.7	+0.3
SKR				*eS*	Sn	09 31 05.8	0.0
PAU	**Pauzhetka**	**1.87**	**321**	*eS*	Sn	09 31 11.7	+3.6
ASAK	**Asacha**	**2.41**	**348**	*eP*	Pn	09 30 55.7	+2.6
ASAK				*eS*	Sn	09 31 24.6	+3.1
RUS	**Russkaya**	**2.41**	**357**	*eP*	Pn	09 30 55.0	+2.0
RUS				*eS*	Sn	09 31 22.9	+1.6
MTVR	**Mutnovka**	**2.48**	**353**	*eP*	Pn	09 30 56.5	+2.3
MTVR				*eS*	Sn	09 31 25.7	+2.4
MIPR	**Malaya Ipel'ka**	**2.56**	**332**	*eP*	Pn	09 30 58.7	+3.6
MIPR				*eS*	Sn	09 31 29.4	+4.3
PET	**Petropavlovsk**	**3.00**	**359**	*eP*	Pn	09 31 03.4	+2.3
PET				*eS*	Sn	09 31 37.9	+2.2
UGLR	**Uglovaya**	**3.19**	**1**	*eP*	Pn	09 31 07.0	+3.2
UGLR				*eS*	Sn	09 31 44.3	+3.7
AVH	**Avacha**	**3.24**	**0**	*eP*	Pn	09 31 06.9	+2.4
AVH				*eS*	Sn	09 31 43.8	+1.9
SDLR	**Sedlovina**	**3.25**	**2**	*eP*	Pn	09 31 06.6	+1.8
KOK	**Koryaka**	**3.27**	**359**	*eP*	Pn	09 31 08.2	+3.3
KRER	**Koryakskii**	**3.28**	**1**	*eP*	Pn	09 31 07.8	+2.6
KRER				*eS*	Sn	09 31 45.4	+2.3
KRX	**Arik**	**3.33**	**359**	*eP*	Pn	09 31 08.5	+2.6
GNL	**Ganaly**	**3.70**	**353**	*eP*	Pn	09 31 14.5	+3.6
KBTR	**Krutoberegovo**	**6.67**	**20**	*eP*	Pn	09 31 53.4	+2.1

*ISCJB **05** 09:30:25.1±0.3, 51°.47N±0°.02×6°.41E±0°.03, h0km, Error ellipse: s-maj=2.6km s-min=1.9km az=43.8*
*BUG **05** 09:30:26.4, 51°.50N×6°.55E, h1km, ML3.0*
*CSEM **05** 09:30:26.5±0.2, 51°.49N×6°.51E, h1km, ML3.7/26, Error ellipse: s-maj=3.2km s-min=2.5km az=135.0*
*LDG **05** 09:30:26.5±0.1, 51°.56N×6°.65E, h1km, Md3.7/2, Ml3.6/29, Error ellipse: s-maj=2.1km s-min=1.6km az=151.0, Suspected Mining induced.*
*BNS **05** 09:30:27.8±0.9, 51°.48N×6°.58E, h1km±7km, ML2.9*
*BGR **05** 09:30:28.5±0.2, 51°.47N×6°.63E, h1km, ML3.1/11, Error ellipse: s-maj=3.3km s-min=2.2km az=126.0*
*PRU **05** 09:30:29.5, 51°.50N×6°.80E, h1km*
*STR **05** 09:30:31.7±0.5, 51°.26N×6°.54E, h10km, Ml3.0, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 05 09:30:26.3±0.7, 51°.46N±0°.01×6°.48E±0°.02, h0km, n171, σ1§31/285, 1C-1D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRHE	**Rheinberg**	**0.08**	**48**	Pg	**Pg**	**09 30 27.9**	**+0.1**
BRHE				Sg	**Sg**	**09 30 28.7**	**-0.1**
BRHE	**Rheinberg**	**0.08**	**48**	Pg	**Pg**	**09 30 27.9**	**+0.1**
BRHE				Sg	**Sg**	**09 30 28.7**	**-0.1**
LAUG	**Laupendahl**	**0.31**	**111**	*e*Pg	**Pg**	**09 30 32.9**	**+0.6**
LAUG				*e*Sg	**Sg**	**09 30 36.9**	**+0.6**
LAUG	**Laupendahl**	**0.31**	**111**	Pg	**Pg**	**09 30 32.9**	**+0.6**
LAUG				Sg	**Sg**	**09 30 36.9**	**+0.6**
RODG	**Roetgen-Dahlhe**	**0.37**	**210**	*e*Pg	**Pb**	**09 30 36.1**	**+0.4**
RODG				*e*Sg	**Sb**	**09 30 42.1**	**+0.1**
	2μm,0.5s						
RODG	**Roetgen-Dahlhe**	**0.37**	**210**	Pg	**Pb**	**09 30 36.1**	**+0.4**
RODG				Sg	**Sb**	**09 30 42.1**	**+0.1**
	2μm,0.5s						
RWB	**Wassenberg**	**0.42**	**209**	*e*Sg	**Sb**	**09 30 43.9**	**+0.6**
	795nm,0.2s						
RWB	**Wassenberg**	**0.42**	**209**	Sg	**Sb**	**09 30 43.9**	**+0.6**
	795nm,0.2s						
JCK	**Jackerath**	**0.43**	**184**	*e*Pg	**Pb**	**09 30 36.6**	**-0.1**
JCK				*e*Sg	**Sb**	**09 30 43.5**	**-0.2**
	1μm,0.2s						
JCK	**Jackerath**	**0.43**	**184**	Pg	**Pb**	**09 30 36.6**	**-0.1**
JCK				Sg	**Sb**	**09 30 43.5**	**-0.2**
	1μm,0.2s						
OPLO	**Oploo**	**0.43**	**287**	*e*Pg	**Pb**	**09 30 37.8**	**+1.0**
	SNR=3.6						
OPLO				*e*Sg	**Sb**	**09 30 45.2**	**+1.3**
OPLO	**Oploo**	**0.43**	**287**	Pg	**Pb**	**09 30 37.8**	**+1.0**
	SNR=3.6						
BUG	**Bochum--Univer**	**0.50**	**92**	‖*e*Pg	**Pg**	**09 30 35.9**	**+0.2**
BUG				Sg	**Sg**	**09 30 42.9**	**+0.7**
PLH	**Pulheim**	**0.51**	**155**	*e*Pg	**Pg**	**09 30 37.5**	**+1.5**
PLH				*e*Sg	**Sg**	**09 30 44.6**	**+2.0**
	1μm,0.2s						
PLH	**Pulheim**	**0.51**	**155**	Pg	**Pg**	**09 30 37.5**	**+1.5**
PLH				Sg	**Sg**	**09 30 44.6**	**+2.0**
	1μm,0.2s						
WTSB	**Winterswijk**	**0.54**	**22**	*e*Pg	**Pg**	**09 30 37.4**	**+0.7**
	SNR=14						
WTSB				*e*Sg	**Sg**	**09 30 44.6**	**+1.0**
WTSB	**Winterswijk**	**0.54**	**22**	*e*Pg	**Pg**	**09 30 37.3**	**+0.7**
WTSB				*e*Sg	**Sg**	**09 30 44.2**	**+0.6**
WTSB	**Winterswijk**	**0.54**	**22**	Pg	**Pg**	**09 30 37.4**	**+0.7**
	SNR=14						
WTSB				Sg	**Sg**	**09 30 44.6**	**+1.0**
ENTS	**Ennepetalsperr**	**0.63**	**111**	*e*Pg	**Pg**	**09 30 38.7**	**+0.4**
ENTS				*e*Sg	**Sg**	**09 30 46.7**	**+0.4**
ENTS	**Ennepetalsperr**	**0.63**	**111**	Pg	**Pg**	**09 30 38.7**	**+0.4**
ENTS				Sg	**Sg**	**09 30 46.7**	**+0.4**
BNS	**Bensberg**	**0.67**	**139**	*e*Pg	**Pg**	**09 30 40.2**	**+1.2**
BNS				*i* Sg	**Sg**	**09 30 49.6**	**+2.0**
BNS	**Bensberg**	**0.67**	**139**	Pg	**Pg**	**09 30 40.2**	**+1.2**
BNS				Sg	**Sg**	**09 30 49.6**	**+2.0**
HOBG	**Hohbusch**	**0.72**	**131**	*e*Pg	**Pg**	**09 30 41.2**	**+1.1**
HOBG				*e*Sg	**Sg**	**09 30 50.9**	**+1.5**
	706nm,0.4s						
HOBG	**Hohbusch**	**0.72**	**131**	Pg	**Pg**	**09 30 41.2**	**+1.1**
HOBG				Sg	**Sg**	**09 30 50.9**	**+1.5**
	706nm,0.4s						
GSH	**Grosshau**	**0.73**	**185**	*e*Pg	**Pb**	**09 30 42.2**	**+0.3**
GSH				*e*Sg	**Sb**	**09 30 52.9**	**+0.5**
	197nm,0.2s						
GSH	**Grosshau**	**0.73**	**185**	Pg	**Pb**	**09 30 42.2**	**+0.3**
GSH				Sg	**Sb**	**09 30 52.9**	**+0.5**
	197nm,0.2s						
HGN	**Heimansgroeve**	**0.78**	**206**	*e*Pg	**Pb**	**09 30 43.4**	**+0.7**
	SNR=17						
HGN				*e*Sg	**Sb**	**09 30 55.2**	**+1.4**
HGN	**Heimansgroeve**	**0.78**	**206**	*e*Pn	**Pb**	**09 30 43.2**	**+0.5**
	34nm,0.4s						
HGN				*e*Pg	**Pn**	**09 30 44.8**	**+0.3**
	337nm,0.2s						
HGN				*e*Sn	**Sb**	**09 30 54.8**	**+1.0**
HGN				*e*Sg	**Sn**	**09 30 57.6**	**+0.7**
HGN	**Heimansgroeve**	**0.78**	**206**	Pg	**Pb**	**09 30 43.4**	**+0.7**
	SNR=17						
HGN				*e*Sn	**Sb**	**09 30 54.8**	**+1.0**
HGN				Sg	**Sb**	**09 30 55.2**	**+1.4**
DREG	**Dreilaegerbach**	**0.82**	**191**	*e*Pg	**Pb**	**09 30 43.9**	**+0.6**
DREG				*e*Sg	**Sb**	**09 30 56.2**	**+1.3**
	320nm,0.3s						
DREG	**Dreilaegerbach**	**0.82**	**191**	Pg	**Pb**	**09 30 43.9**	**+0.6**
DREG				Sg	**Sb**	**09 30 56.2**	**+1.3**
	320nm,0.3s						
KLL	**Kalltalsperre**	**0.82**	**187**	*e*Pg	**Pb**	**09 30 43.9**	**+0.4**
KLL				*e*Sg	**Sb**	**09 30 56.2**	**+1.1**
	413nm,0.5s						
KLL	**Kalltalsperre**	**0.82**	**187**	Pg	**Pb**	**09 30 43.9**	**+0.4**
KLL				Sg	**Sb**	**09 30 56.2**	**+1.1**
	413nm,0.5s						
WBS	**Wahnbachtalspe**	**0.83**	**142**	*e*Sg	**Sg**	**09 30 54.4**	**+1.5**
	340nm,0.2s						
WBS	**Wahnbachtalspe**	**0.83**	**142**	Sg	**Sg**	**09 30 54.4**	**+1.5**
	340nm,0.2s						
BEBN	**Eben Emael**	**0.84**	**217**	P	**Pn**	**09 30 45.2**	**-0.1**
STB	**Steinbach**	**0.90**	**165**	*e*Pg	**Pb**	**09 30 45.6**	**+0.9**
STB				*e*Sg	**Sb**	**09 30 57.7**	**+0.4**
	385nm,0.4s						
STB	**Steinbach**	**0.90**	**165**	Pg	**Pb**	**09 30 45.6**	**+0.9**
STB				Sg	**Sb**	**09 30 57.7**	**+0.4**
	385nm,0.4s						
MEM	**Membach**	**0.91**	**199**	P	**Pb**	**09 30 45.5**	**+0.6**
MEM	**Membach**	**0.91**	**199**	P	**Pb**	**09 30 45.4**	**+0.6**
TDN	**Todenfeld**	**0.94**	**162**	*e*Sg	**Sb**	**09 30 58.4**	**+0.1**
	154nm,0.1s						
TDN	**Todenfeld**	**0.94**	**162**	Sg	**Sb**	**09 30 58.4**	**+0.1**
	154nm,0.1s						
SORT	**Sorpetalsperre**	**0.94**	**96**	*e*Pg	**Pg**	**09 30 44.0**	**-0.3**
SORT				*e*Sg	**Sg**	**09 30 56.0**	**-0.5**
SORT	**Sorpetalsperre**	**0.94**	**96**	Pg	**Pg**	**09 30 44.0**	**-0.3**
SORT				Sg	**Sg**	**09 30 56.0**	**-0.5**
OLFT	**Oleftalsperre**	**0.97**	**182**	*e*Pg	**Pb**	**09 30 46.6**	**+0.6**
OLFT				*e*Sg	**Sb**	**09 31 00.3**	**+1.0**
	61nm,0.2s						
OLFT	**Oleftalsperre**	**0.97**	**182**	Pg	**Pb**	**09 30 46.6**	**+0.6**
OLFT				Sg	**Sb**	**09 31 00.3**	**+1.0**
	61nm,0.2s						
IBBN	**Ibbenburen**	**1.16**	**43**	*e*Pg	**Pg**	**09 30 48.8**	**+0.3**
	SNR=5.5						
IBBN				*e*Sg	**Sg**	**09 31 03.5**	**+0.1**
IBBN	**Ibbenburen**	**1.16**	**43**	Pg	**Pg**	**09 30 48.8**	**+0.3**
	SNR=5.5						
IBBN				Sg	**Sg**	**09 31 03.5**	**+0.1**
HILG	**Hillesheim**	**1.18**	**174**	*e*Pg	**Pn**	**09 30 50.4**	**+0.3**
HILG				*e*Sg	**Sn**	**09 31 06.8**	**0.0**
HILG	**Hillesheim**	**1.18**	**174**	Pg	**Pn**	**09 30 50.4**	**+0.3**
HILG				Sg	**Sn**	**09 31 06.8**	**0.0**
BHE	**Schloss Buerre**	**1.20**	**158**	*e*Pg	**Pb**	**09 30 50.5**	**+0.7**
BHE	**Schloss Buerre**	**1.20**	**158**	Pg	**Pb**	**09 30 50.5**	**+0.7**

	SNR=3.4							
GTTG				Sg	Sb	09 31 34.5	+0.4	
TOD	**Tromm**	**2.38**	**141**	Pn	Pn	09 31 06.5	0.0	
CLZ	**Clausthal**	**2.46**	**80**	*e*Pn	Pn	09 31 06.3	-1.3	
	SNR=1.7							
CLZ				*e*Pg	Pb	09 31 11.7	+0.5	
	SNR=13							
CLZ	**Clausthal**	**2.46**	**80**	Pn	Pn	09 31 06.3	-1.3	
	SNR=1.7							
LANF	**Langenberg**	**2.63**	**161**	Pn	Pn	09 31 10.7	+0.8	
LANF	**Langenberg**	**2.63**	**161**	Pn	Pn	09 31 10.7	+0.8	
PAGF	**Fort de Pagny**	**2.95**	**190**	*e*Pn	Pn	09 31 14.7	+0.3	
PAGF	**Fort de Pagny**	**2.95**	**190**	*e*Pg	Pg	09 31 23.0	+0.2	
	baz=10							
PAGF				*e*Sg	Sg	09 32 02.7	+1.6	
	22nm,0.5s							
PAGF	**Fort de Pagny**	**2.95**	**190**	*e*Pn	Pn	09 31 14.7	+0.3	
PAGF	**Fort de Pagny**	**2.95**	**190**	*e*Pg	Pg	09 31 23.0	+0.2	
	baz=10							
PAGF				*e*Sg	Sg	09 32 02.7	+1.6	
	11nm,0.5s							
CDF	**Champ du Feu**	**3.10**	**170**	*e*Pn	Pn	09 31 16.4	-0.1	
	SNR=1.0							
CDF				*e*Sn	Sn	09 31 51.7	-2.5	
	SNR=1.0							
CDF				*e*Sg	Sg	09 32 05.6	-0.2	
	46nm,0.6s,SNR=1.0							
CDF	**Champ du Feu**	**3.10**	**170**	*e*Pn	Pn	09 31 16.4	-0.1	
	SNR=1.0							
CDF				*e*Sn	Sn	09 31 51.7	-2.5	
	SNR=1.0							
CDF				*e*Sg	Sg	09 32 05.6	-0.2	
	23nm,0.6s,SNR=1.0							
MEZF	**Maizieres J'vi**	**3.10**	**198**	*e*Pn	Pn	09 31 16.9	+0.4	
	baz=17,SNR=1.0							
MEZF				*e*Sn	Sn	09 31 54.0	-0.2	
	61nm,0.4s,SNR=1.0							
MEZF				*e*Sg	Sg	09 32 08.0	+2.0	
	75nm,0.4s							
MEZF	**Maizieres J'vi**	**3.10**	**198**	*e*Pn	Pn	09 31 16.9	+0.4	
	baz=17,SNR=1.0							
MEZF				*e*Sn	Sn	09 31 54.0	-0.2	
	30nm,0.4s,SNR=1.0							
MEZF				*e*Sg	Sg	09 32 08.0	+2.0	
	37nm,0.4s							
ECH	**Echery**	**3.28**	**172**	*e*Pn	Pn	09 31 19.3	+0.4	
	SNR=4.1							
ECH	**Echery**	**3.28**	**172**	Pn	Pn	09 31 19.3	+0.4	
	SNR=4.1							
MOX	**Moxa**	**3.34**	**102**	*e*Pn	Pn	09 31 19.8	0.0	
	SNR=2.9							
MOX				*e*Sg	Sb	09 32 10.9	+3.3	
MOX	**Moxa**	**3.34**	**102**	Pn	Pn	09 31 19.8	0.0	
	SNR=2.9							
BFO	**Black Forest**	**3.36**	**158**	*e*Pn	Pn	09 31 20.5	+0.5	
	SNR=12							
BFO	**Black Forest**	**3.36**	**158**	Pn	Pn	09 31 20.5	+0.5	
	SNR=12							
SFTF	**Sexfontaines**	**3.39**	**196**	*e*Pg	Pg	09 31 31.4	+0.1	
	baz=24							
SFTF				*e*Sg	Sg	09 32 17.1	+1.9	
	39nm,0.3s							
SFTF	**Sexfontaines**	**3.39**	**196**	*e*Pg	Pg	09 31 31.4	+0.1	
	baz=24							
SFTF				*e*Sg	Sg	09 32 17.1	+1.9	
	20nm,0.3s							
HAU	**Haudompre**	**3.46**	**181**	*e*Pn	Pn	09 31 21.5	+0.1	
HAU				*e*Sg	Sg	09 32 18.3	+0.8	
	33nm,0.3s,SNR=1.0							
HAU	**Haudompre**	**3.46**	**181**	*e*Pn	Pn	09 31 21.5	+0.1	
HAU				*e*Sg	Sg	09 32 18.3	+0.8	
	16nm,0.3s,SNR=1.0							
GRA1	**Grafenberg Arr**	**3.50**	**119**	Pn	Pn	09 31 22.5	+0.5	
	SNR=1.9							
GRA1	**Grafenberg Arr**	**3.50**	**119**	Pg	Pg	09 31 33.6	+0.2	
	SNR=3.6							
GRF	**Grafenberg Arr**	**3.50**	**119**	*e*Pn	Pn	09 31 22.5	+0.5	
	SNR=1.9							
GRF				*e*Pg	Pg	09 31 33.6	+0.2	
	SNR=3.6							
HINF	**Hinteralfeld**	**3.66**	**176**	*e*Pn	Pn	09 31 23.3	-0.8	
	SNR=1.0							
HINF	**Hinteralfeld**	**3.66**	**176**	*e*Pg	Pg	09 31 35.9	-0.5	
HINF				*e*Sg	Sg	09 32 24.0	+0.2	
	26nm,0.5s							
HINF	**Hinteralfeld**	**3.66**	**176**	*e*Pn	Pn	09 31 23.3	-0.8	
	SNR=1.0							
HINF	**Hinteralfeld**	**3.66**	**176**	*e*Pg	Pg	09 31 35.9	-0.5	
HINF				*e*Sg	Sg	09 32 24.0	+0.2	
	13nm,0.5s							
FELD	**Feldberg im Sc**	**3.73**	**164**	Pn	Pn	09 31 25.2	+0.1	
TANN	**Tannenbergstha**	**3.93**	**103**	*e*Pn	Pn	09 31 27.9	+0.1	
	SNR=3.2							
TANN	**Tannenbergstha**	**3.93**	**103**	Pn	Pn	09 31 27.9	+0.1	
	SNR=3.2							
CLL	**Collm**	**4.09**	**90**	*e*Pg	Pb	09 31 42.0	+2.9	
CLL				*e*Sg	Sb	09 32 32.0	+3.0	
CLL	**Collm**	**4.09**	**90**	*e*Pg	Pb	09 31 42.0	+2.9	
CLL				*e*Sg	Sb	09 32 32.0	+3.0	
	comp=Z,17nm,0.7s							
CLF	**Chambon-Foret**	**4.40**	**220**	*e*P	Pn	09 31 36.0	+1.8	
CLF	**Chambon-Foret**	**4.40**	**220**	*e*P	Pn	09 31 36.0	+1.8	
LOR	**Lormes**	**4.54**	**203**	*e*Pn	Pn	09 31 36.4	+0.2	
	baz=32,SNR=1.0							
LOR				*e*Sn	Sn	09 32 28.1	-1.5	
	SNR=1.0							
LOR				*e*Sg	Sg	09 32 52.2	+0.3	
	comp=Z,32nm,0.4s,SNR=1.0							
LOR	**Lormes**	**4.54**	**203**	*e*Pn	Pn	09 31 36.4	+0.2	
	baz=32,SNR=1.0							
LOR				*e*Sn	Sn	09 32 28.1	-1.5	
	SNR=1.0							
LOR				*e*Sg	Sg	09 32 52.2	+0.3	
	comp=Z,16nm,0.4s,SNR=1.0							
BRG	**Berggiesshubel**	**4.74**	**94**	PG	Pg	09 31 54.4	-2.5	
BRG				SG	Sb	09 32 51.6	+4.0	
	comp=Z,25nm,1.3s							
DAVA	**Damuels**	**4.74**	**151**	ⅱ*i*Pn	Pn	09 31 40.6	+1.6	
DAVA	**Damuels**	**4.74**	**151**	Pn	Pn	09 31 40.6	+1.6	
SSF	**Saint Saulge**	**4.82**	**205**	*e*Pn	Pn	09 31 39.9	-0.1	
	SNR=1.0							
SSF				*e*Sn	Sn	09 32 32.6	-3.9	
	comp=Z,14nm,0.4s,SNR=1.0							
SSF				*e*Sg	Sg	09 33 01.3	+0.4	
	comp=Z,36nm,0.4s							
SSF	**Saint Saulge**	**4.82**	**205**	*e*Pn	Pn	09 31 39.9	-0.1	
	SNR=1.0							
SSF				*e*Sn	Sn	09 32 32.6	-3.9	
	comp=Z,6.8nm,0.4s,SNR=1.0							
SSF				*e*Sg	Sg	09 33 01.3	+0.4	
	comp=Z,18nm,0.4s							
CABF	**La Chapelle**	**4.86**	**183**	*e*Pn	Pn	09 31 40.9	+0.2	
	SNR=1.0							
CABF	**La Chapelle**	**4.86**	**183**	*e*Pg	Pg	09 31 58.6	-0.8	
CABF				*e*Sg	Sg	09 33 01.5	-0.9	
	comp=Z,40nm,0.7s							
CABF	**La Chapelle**	**4.86**	**183**	*e*Pn	Pn	09 31 40.9	+0.2	
	SNR=1.0							
CABF	**La Chapelle**	**4.86**	**183**	*e*Pg	Pg	09 31 58.6	-0.8	
CABF				*e*Sg	Sg	09 33 01.5	-0.9	
	comp=Z,20nm,0.7s							
HYF	**Humbligny**	**4.89**	**212**	*e*Pn	Pn	09 31 40.7	-0.3	
HYF				*e*Sn	Sn	09 32 34.8	-3.5	
HYF				*e*Sg	Sg	09 33 04.3	+1.0	
HYF	**Humbligny**	**4.89**	**212**	*e*Pn	Pn	09 31 40.7	-0.3	
HYF				*e*Sn	Sn	09 32 34.8	-3.5	
HYF				*e*Sg	Sg	09 33 04.3	+1.0	
AVF	**Avril sur Loir**	**5.11**	**205**	*e*Pn	Pn	09 31 43.5	-0.5	
	SNR=1.0							
AVF				*e*Sn	Sn	09 32 40.7	-2.9	
	SNR=1.0							
AVF				*e*Sg	Sg	09 33 09.8	-0.4	
	comp=Z,15nm,0.6s,SNR=1.0							
AVF	**Avril sur Loir**	**5.11**	**205**	*e*Pn	Pn	09 31 43.5	-0.5	
	SNR=1.0							
AVF				*e*Sn	Sn	09 32 40.7	-2.9	
	SNR=1.0							
AVF				*e*Sg	Sg	09 33 09.8	-0.4	
	comp=Z,7.7nm,0.6s,SNR=1.0							
KHC	**Kasperske Hory**	**5.12**	**114**	*e*PN	Pn	09 31 43.5	-0.6	
KHC				*e*PG	Pb	09 31 59.0	+2.4	
KHC				*ex*	x	09 32 53.0		
KHC				*e*SG	Sg	09 33 07.1	-3.4	
	comp=Z,14nm,1.1s							
KHC	**Kasperske Hory**	**5.12**	**114**	Pn	Pn	09 31 43.5	-0.6	
KHC				Sg	Sg	09 33 07.1	-3.4	
	comp=Z,14nm,1.1s							
SMF	**Signal de Mont**	**5.12**	**201**	*e*Pn	Pn	09 31 44.1	-0.1	
	SNR=1.0							
SMF	**Signal de Mont**	**5.12**	**201**	*e*Pg	Pg	09 32 03.9	-0.5	
SMF				*e*Sg	Sg	09 33 10.4	-0.4	
	comp=Z,27nm,0.4s,SNR=1.0							
SMF	**Signal de Mont**	**5.12**	**201**	*e*Pn	Pn	09 31 44.1	-0.1	
	SNR=1.0							
SMF	**Signal de Mont**	**5.12**	**201**	*e*Pg	Pg	09 32 03.9	-0.5	
SMF				*e*Sg	Sg	09 33 10.4	-0.4	
	comp=Z,13nm,0.4s,SNR=1.0							
LDF	**La Druitiere**	**5.13**	**239**	*e*Pn	Pn	09 31 43.0	-1.3	
	SNR=1.0							
LDF				*e*Sg	Sg	09 33 09.8	-1.3	
	comp=Z,10nm,0.4s,SNR=1.0							
LDF	**La Druitiere**	**5.13**	**239**	*e*Pn	Pn	09 31 43.0	-1.3	
	SNR=1.0							
LDF				*e*Sg	Sg	09 33 09.8	-1.3	
	comp=Z,5.2nm,0.4s,SNR=1.0							
FLN	**La Foliniere**	**5.23**	**242**	*e*Pn	Pn	09 31 46.3	+0.6	
	baz=58,SNR=1.0							
FLN				*e*Sn	Sn	09 32 43.8	-2.8	
	comp=Z,8.0nm,0.2s							
FLN	**La Foliniere**	**5.23**	**242**	*e*Pn	Pn	09 31 46.3	+0.6	
	baz=58,SNR=1.0							
FLN				*e*Sn	Sn	09 32 43.8	-2.8	
	comp=Z,4.0nm,0.2s							
PRU	**Pruhonice**	**5.33**	**103**	*e*SG	Sg	09 33 13.9	-3.5	
	comp=Z,15nm,1.1s							
PRU	**Pruhonice**	**5.33**	**103**	Sg	Sg	09 33 13.9	-3.5	
	comp=Z,15nm,1.1s							
BGF	**Bois d'Agland**	**5.46**	**207**	*e*Pn	Pn	09 31 48.8	0.0	
	SNR=1.0							
BGF				*e*Sn	Sn	09 32 48.7	-3.6	
	comp=Z,41nm,0.4s,SNR=1.0							
BGF				*e*Sg	Sg	09 33 20.5	-1.1	
	comp=Z,53nm,0.4s							
BGF	**Bois d'Agland**	**5.46**	**207**	*e*Pn	Pn	09 31 48.8	0.0	
	SNR=1.0							
GRR	**Gorron**	**5.65**	**240**	*e*Pn	Pn	09 31 51.1	-0.3	
GRR				*e*Sn	Sn	09 32 52.8	-4.2	
	comp=Z,20nm,0.3s							
GRR	**Gorron**	**5.65**	**240**	*e*Pn	Pn	09 31 51.1	-0.3	
TCF	**Toulx Ste Croi**	**5.89**	**210**	*e*Pn	Pn	09 31 54.5	-0.3	
TCF				*e*Sg	Sg	09 33 34.4	-1.1	
	comp=Z,16nm,0.5s,SNR=1.0							
TCF	**Toulx Ste Croi**	**5.89**	**210**	*e*Pn	Pn	09 31 54.5	-0.3	
LPL	**La Plagne**	**5.96**	**178**	*e*Pn	Pn	09 31 54.9	-0.9	
	SNR=1.0							
LPL	**La Plagne**	**5.96**	**178**	*e*Pn	Pn	09 31 54.9	-0.9	
	SNR=1.0							
DPC	**Dobruska-Polom**	**6.33**	**96**	*e*SG	Sg	09 33 44.7	-4.6	
MFF	**Saint Martin d**	**6.53**	**224**	*e*Pn	Pn	09 32 04.0	+0.5	
	SNR=1.0							
MFF				*e*Sn	Sn	09 33 12.8	-5.8	
	comp=Z,5.3nm,0.4s,SNR=1.0							
MFF	**Saint Martin d**	**6.53**	**224**	*e*Pn	Pn	09 32 04.0	+0.5	
	SNR=1.0							
ORIF	**Oris-en-Rattie**	**6.56**	**184**	*e*Pn	Pn	09 32 03.4	-0.7	
ORIF				*e*Sn	Sn	09 33 15.8	-3.8	
	comp=Z,4.4nm,0.3s,SNR=1.0							
ORIF	**Oris-en-Rattie**	**6.56**	**184**	*e*Pn	Pn	09 32 03.4	-0.7	
SGMF	**Saint Gilles**	**6.67**	**245**	*e*Pn	Pn	09 32 05.5	+0.1	
	SNR=1.0							
SGMF				*e*Sn	Sn	09 33 19.8	-2.2	
	comp=Z,6.1nm,0.5s,SNR=1.0							
SGMF	**Saint Gilles**	**6.67**	**245**	*e*Pn	Pn	09 32 05.5	+0.1	
	SNR=1.0							
RJF	**Les Rejaudoux**	**6.99**	**210**	*e*Pn	Pn	09 32 09.2	-0.7	
RJF				*e*Sn	Sn	09 33 26.8	-3.2	
	comp=Z,3.1nm,0.2s,SNR=1.0							
RJF	**Les Rejaudoux**	**6.99**	**210**	*e*Pn	Pn	09 32 09.2	-0.7	
ROSF	**Rostrenen**	**7.03**	**247**	*e*Pn	Pn	09 32 10.2	-0.2	
ROSF				*e*Sn	Sn	09 33 27.8	-3.2	
	comp=Z,9.2nm,0.7s,SNR=1.0							
ROSF	**Rostrenen**	**7.03**	**247**	*e*Pn	Pn	09 32 10.2	-0.2	
CAF	**Calviac**	**7.17**	**206**	*e*Pn	Pn	09 32 11.8	-0.6	
	SNR=1.0							
CAF	**Calviac**	**7.17**	**206**	*e*Pn	Pn	09 32 11.8	-0.6	
	SNR=1.0							
MTLF	**Montolieu**	**8.62**	**201**	*e*Pn	Pn	09 32 31.3	-0.9	
MTLF	**Montolieu**	**8.62**	**201**	*e*Pn	Pn	09 32 31.3	-0.9	
EPF	**Esparros**	**9.41**	**209**	*e*Pn	Pn	09 32 42.4	-0.7	
EPF	**Esparros**	**9.41**	**209**	*e*Pn	Pn	09 32 42.4	-0.7	

IDC ***05*** *09:42:49.5±1.9,37°.95N×143°.25E,h0km,mb3.3/3, mb1 3.3/6,mb1mx3.2/26,mbtmp3.2/6,ML2.8/2,Error ellipse: s-maj=50.5km s-min=24.6km az=71.0*
JMA ***05*** *09:42:50.1±0.1,38°.33N×142°.88E,h14km±2km,M3.3*
ISC 05 09:42:54.1±1.8,38°.25N±0°.06×142°.7E±0°.1,h22km±11km, n18,σ1§77/23,mb3.5/3,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**1.10**	**281**	P	Pn	09 43 12.1	-2.0
JIO				S	Sb	09 43 27.9	-0.3
OFUJ	**Ofunato**	**1.17**	**315**	P	Pn	09 43 12.3	-2.8
JMK	**Ichinoseki**	**1.37**	**301**	P	Pn	09 43 15.8	-2.0
JMM	**Marumori**	**1.57**	**256**	P	Pn	09 43 19.7	-0.9
JMM				*e*S	Sb	09 43 41.7	-0.1
JOU	**Okura**	**1.62**	**275**	P	Pn	09 43 20.5	-0.8
JOU				*e*S	Sn	09 43 42.3	+0.7
JOM	**Ohasama**	**1.65**	**318**	P	Pn	09 43 19.7	-2.0
JFK	**Kawauchi**	**1.71**	**239**	P	Pn	09 43 21.4	-1.2
JFK				*e*S	Sn	09 43 44.6	+0.9
JYK	**Kaneyama**	**1.97**	**290**	P	Pn	09 43 25.9	-0.2
JYK				*e*S	Sn	09 43 51.7	+1.6
JRG	**Rokugo**	**1.99**	**306**	P	Pn	09 43 25.6	-0.8
JFT	**Otama**	**2.02**	**249**	P	Pn	09 43 27.4	+0.5
JFT				*e*S	Sb	09 43 54.8	-0.1
JYS	**Shiratake**	**2.09**	**270**	P	Pn	09 43 28.3	+0.5
JANG	**Nango**	**2.31**	**337**	P	Pn	09 43 29.6	-1.3
MJAR	**Matsushiro Arr**	**3.98**	**246**	Pn	Pn	09 43 55.0	+1.3
	0.6nm,0.3s,baz=56,slow=12,SNR=7.3						
ASAJ	**Asahikawa**	**5.86**	**359**	Pn	Pn	09 44 21.9	+2.4
	0.2nm,0.3s,baz=216,slow=19,SNR=3.2						
USRK	**Ussuriysk Arra**	**10.03**	**310**	Pn	Pn	09 45 21.9	+5.1
	0.0nm,0.3s,baz=106,slow=15,SNR=2.6						
MKAR	**Makanchi Array**	**44.36**	**301**	P	P	09 51 05.6	+3.0
	0.8nm,1.1s,baz=104,slow=6.1,SNR=3.6						
WRA	**Warramunga Arr**	**58.42**	**189**	P	P	09 52 45.1	-2.9
	0.3nm,0.5s,baz=7.7,slow=6.9,SNR=6.6						
ASAR	**Alice Springs**	**62.15**	**189**	P	P	09 53 11.2	-2.3
	0.2nm,0.6s,baz=20,slow=6.8,SNR=4.5						

IDC 05 09:51:44.3±1.6,52°.37N×176°.37E,h113km±13km, mb3.4/14,mb1 3.6/17,mb1mx3.5/31,mbtmp3.4/17, MS2.7/1,Ms1 2.7/1,ms1mx2.2/26,Error ellipse: s-maj=22.0km s-min=13.1km az=173.0,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FX1	**Attu Island--F**	**2.02**	**286**	P	Pn	09 52 18.1	+0.4
	198nm,0.3s,baz=134,slow=1.8,SNR=492						
FX1				S	Sn	09 52 43.3	+0.2
	374nm,0.3s,baz=165,slow=20,SNR=56						
PETK	**Petropavlovsk-**	**11.35**	**281**	P	Pn	09 54 24.8	+2.0
	0.7nm,0.3s,baz=93,slow=18,SNR=16						
PETK				S	Sn	09 56 24.6	-2.9
	0.7nm,0.3s,baz=67,slow=25,SNR=5.6						
KDAK	**Kodiak Island**	**18.47**	**61**	P	P	09 55 51.0	0.0
	0.7nm,0.3s,baz=214,slow=3.6,SNR=8.8						
ILAR	**Eielson Array**	**22.43**	**42**	P	P	09 56 34.1	+0.7
	0.5nm,0.6s,baz=251,slow=6.7,SNR=10						
INK	**Inuvik**	**28.41**	**37**	LR	LR	10 10 19.0	
	comp=Z,15nm,18.2s,baz=267,slow=39						
YKA	**Yellowknife Ar**	**36.72**	**46**	P	P	09 58 40.7	+0.8
	0.4nm,0.8s,baz=287,slow=7.3,SNR=2.5						
SONM	**Songino Array**	**43.52**	**293**	P	P	09 59 37.5	+1.2
	0.9nm,0.6s,baz=56,slow=8.2,SNR=5.0						
NVAR	**Mina Array Bea**	**46.37**	**80**	P	P	09 59 58.9	-0.3
	0.2nm,0.5s,baz=289,slow=8.5,SNR=2.8						
ARCES	**ARCESS Array B**	**56.56**	**348**	P	P	10 01 14.4	+0.1
	1.1nm,0.6s,baz=20,slow=8.0,SNR=7.1						
MKAR	**Makanchi Array**	**57.05**	**305**	P	P	10 01 18.2	+0.1
	0.3nm,0.4s,baz=50,slow=6.6,SNR=6.7						
SCHQ	**Schefferville**	**61.03**	**36**	P	P	10 01 45.5	+0.1
	2.6nm,0.8s,baz=346,slow=12,SNR=2.9						
TXAR	**Lajitas Array**	**61.42**	**78**	P	P	10 01 47.3	-1.2
	0.2nm,0.5s,baz=287,slow=4.7,SNR=7.1						
FINES	**FINESS Array B**	**64.09**	**345**	P	P	10 02 05.1	-0.5
	1.2nm,0.5s,baz=35,slow=7.0,SNR=7.8						
NOA	**NORSAR Array B**	**66.32**	**352**	P	P	10 02 19.6	-0.5
	1.1nm,0.6s,baz=10,slow=6.4,SNR=5.8						
HFS	**Hagfors**	**66.99**	**351**	P	P	10 02 23.7	-0.6
	1.7nm,0.5s,baz=15,slow=6.2,SNR=11						
AKASG	**Malin Array Be**	**73.61**	**339**	P	P	10 03 04.8	+0.1
	1.7nm,0.4s,baz=22,slow=6.0,SNR=5.3						
WRA	**Warramunga Arr**	**80.76**	**220**	P	P	10 03 44.9	0.0
	0.4nm,0.6s,baz=31,slow=6.6,SNR=5.0						
ASAR	**Alice Springs**	**84.30**	**218**	P	P	10 04 03.5	+0.3
	0.2nm,0.7s,baz=21,slow=5.5,SNR=4.1						

ISCJB ***05*** *10:04:59.8±0.4,59°.66N±0°.02×24°.49E±0°.06,h0km, mb3.5/1,Error ellipse: s-maj=4.1km s-min=3.3km az=4.0*
IDC ***05*** *10:05:00.9±1.4,59°.63N×24°.65E,h0km,mb3.4/1, mb1 3.8/5,mb1mx3.3/27,mbtmp3.7/5,ML3.7/4,Error ellipse: s-maj=17.7km s-min=7.2km az=138.0*
NAO ***05*** *10:05:01.8±0.9,59°.70N×24°.45E,ML2.6*
CSEM ***05*** *10:05:01.3±0.2,59°.67N×24°.51E,h1km,ML3.0,Error ellipse: s-maj=5.2km s-min=4.0km az=116.0,Mining explosion.*
HEL ***05*** *10:05:02.1±0.1,59°.68N×24°.49E,h0km,ML2.7, ML2.4(UPP),Explosion*
BER ***05*** *10:05:02.6±3.6,59°.69N×24°.43E,h0km,ML2.6(NAO), Suspected explosion*
UPP ***05*** *10:05:03.2,59°.62N×24°.29E,h0km,ML2.4,Suspected Mining explosion.*
ISC 05 10:04:59.9±0.6,59°.63N±0°.02×24°.43E±0°.03,h0km,n64, σ1§21/92,Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**0.59**	**359**	*e*P	Pg	10 05 11.9	+0.7
MEF				*e*S	Sg	10 05 18.1	-0.8
MTSE	**Matsula**	**0.97**	**199**	*e*P	Pn	10 05 20.2	-0.5
MTSE				*e*S	Sn	10 05 34.6	-0.6
MTSE	**Matsula**	**0.97**	**199**	P	Pn	10 05 20.1	-0.5
MTSE				S	Sn	10 05 34.5	-0.6
PVF	**Pernaja**	**1.17**	**37**	*e*P	Pg	10 05 22.2	-0.1
PVF				*e*S	Sg	10 05 35.3	-2.1
PVF	**Pernaja**	**1.17**	**37**	P	Pg	10 05 22.1	-0.1
VSU	**Vasula**	**1.67**	**133**	Pg	Pg	10 05 32.1	+0.3
VSU				Lg	Lg	10 05 56.8	
VSU	**Vasula**	**1.67**	**133**	Pg	Pg	10 05 32.1	+0.3
VSU				Lg	Lg	10 05 56.8	
VSU	**Vasula**	**1.67**	**133**	*e*P	Pg	10 05 32.1	+0.3
VSU				*e*S	Sb	10 05 53.3	+0.3
VSU	**Vasula**	**1.67**	**133**	P	Pg	10 05 32.1	+0.3
VSU				S	Sb	10 05 53.3	+0.3
VSU				Lg	Lg	10 05 56.8	
	SNR=91						
VJF	**Virojoki**	**1.81**	**58**	*e*P	Pn	10 05 33.3	+0.9
VJF				*e*S	Sn	10 05 56.2	+0.3
VJF				MSG		10 05 59.6	
	comp=Z,79nm,0.2s						
VJF	**Virojoki**	**1.81**	**58**	P	Pn	10 05 33.2	+0.9
VJF				S	Sn	10 05 56.2	+0.3
RAF	**Rauma**	**1.93**	**318**	*e*P	Pb	10 05 36.1	+0.3
RAF				*e*S	Sb	10 06 00.7	+0.3
RAF				MSG		10 06 05.2	
	comp=Z,70nm,0.2s						
RAF	**Rauma**	**1.93**	**318**	P	Pb	10 05 36.1	+0.3
RAF				S	Sb	10 06 00.6	+0.3
FIA0	**FINESS Array S**	**2.00**	**23**	Pn	Pb	10 05 36.6	-0.4
	baz=198,slow=18						
FIA0				Lg	Lg	10 06 01.9	
	baz=199,slow=28						
FIA0				Rg	Rg	10 06 14.3	
	baz=188,slow=37						
FIA0	**FINESS Array S**	**2.00**	**23**	Pn	Pb	10 05 36.6	-0.4
	baz=198,slow=18						
FIA0				Lg	Lg	10 06 01.9	
	baz=199,slow=28						
FIA0				Rg	Rg	10 06 14.3	
	baz=188,slow=37						
FIA0	**FINESS Array S**	**2.00**	**23**	*e*P	Pb	10 05 37.0	-0.1
FIA0				*e*S	Sn	10 06 00.6	+0.1
FIA0	**FINESS Array S**	**2.00**	**23**	Pn	Pb	10 05 36.6	-0.4
	baz=198,slow=17,SNR=50						
FIA0	**FINESS Array S**	**2.00**	**23**	P	Pb	10 05 36.9	-0.1
FIA0				S	Sn	10 06 00.5	+0.1
FIA0				Lg	Lg	10 06 01.9	
	baz=199,slow=25,SNR=2.6						
FINES	**FINESS Array B**	**2.00**	**23**	Pn	Pb	10 05 36.6	-0.4
	comp=Z,18nm,0.3s,baz=202,slow=14,SNR=1256						
FINES				Lg	Lg	10 06 01.7	
	comp=Z,28nm,0.3s,baz=189,slow=26,SNR=23						
FINES				Rg	Rg	10 06 11.0	
	comp=Z,8.6nm,0.3s,baz=209,slow=23,SNR=2.0						
SLIT	**Siitere, Latvi**	**2.30**	**210**	*e*P	Pb	10 05 42.3	+0.2
	SNR=50						
AAL	**Aland**	**2.30**	**286**	*e*P	Pb	10 05 41.1	-1.1
AAL				*e*S

NOA				Lg	Lg	10 08 26.6	
	comp=Z,1.6nm,0.3s,baz=112,slow=21,SNR=5.7						
BSD	**Bornholm Skovb**	**6.85**	**233**	*i* P	**Pn**	**10 06 41.8**	**+0.4**
BSD				*i* S	**Sn**	**10 07 58.1**	**-1.8**
BSD	**Bornholm Skovb**	**6.85**	**233**	*eP*	**Pn**	**10 06 41.8**	**+0.4**
BSD				*i* S	**Sn**	**10 07 58.1**	**-1.8**
APA0	**Apatity Array**	**8.86**	**22**	Pn	**Pn**	**10 07 09.0**	**+0.1**
	baz=204,slow=14						
APA0	**Apatity Array**	**8.86**	**22**	Pn	**Pn**	**10 07 09.0**	**+0.1**
	baz=204,slow=14						
APA0	**Apatity Array**	**8.86**	**22**	Pn	**Pn**	**10 07 09.0**	**+0.1**
	baz=204,slow=12,SNR=50						
AKASG	**Malin Array Be**	**9.36**	**161**	Pn	**Pn**	**10 07 16.9**	**+1.1**
	comp=Z,1.2nm,0.3s,baz=338,slow=12,SNR=3.2						
ARA0	**ARCESS Array S**	**9.96**	**2**	Pn	**Pn**	**10 07 23.3**	**-0.7**
	baz=173,slow=16						
ARA0				Sn	Sn	10 09 10.5	-5.8
	baz=180,slow=28						
ARA0	**ARCESS Array S**	**9.96**	**2**	Pn	**Pn**	**10 07 23.3**	**-0.7**
	baz=173,slow=16						
ARA0				Sn	Sn	10 09 10.5	-5.8
	baz=180,slow=28						
ARCES	**ARCESS Array B**	**9.96**	**2**	Pn	**Pn**	**10 07 23.2**	**-0.8**
	comp=Z,1.7nm,0.3s,baz=176,slow=15,SNR=50						
ARCES				Sn	Sn	10 09 06.0	-10
	comp=Z,0.4nm,0.3s,baz=181,slow=36,SNR=1.8						
ARCES				Lg	Lg	10 10 05.0	
	comp=Z,0.4nm,0.3s,baz=183,slow=32,SNR=3.1						
SPA0	**Spitsbergen Ar**	**18.82**	**355**	P	**Pn**	**10 09 21.5**	**+0.4**
	baz=163,slow=12						
SPA0	**Spitsbergen Ar**	**18.82**	**355**	P	**Pn**	**10 09 21.5**	**+0.4**
	baz=163,slow=12						
SPA0	**Spitsbergen Ar**	**18.82**	**355**	P	**Pn**	**10 09 21.5**	**+0.4**
	baz=163,slow=11,SNR=47						
SPITS	**Spitsbergen Ar**	**18.82**	**355**	P	**Pn**	**10 09 21.6**	**+0.4**
	baz=133,slow=10.0,SNR=5.3						
TORD	**Torodi Ar. Bea**	**49.37**	**210**	P	**P**	**10 13 51.2**	**+0.2**
	comp=Z,0.5nm,1.0s,baz=3.7,slow=8.6,SNR=4.7						

BJI ***05*** *10:12:29.8,2˝.29S×98˝.79E, h15km, mB5.0/21, mb4.6/27, Ms4.6/19, Ms7 4.3/15*
ISCJB ***05*** *10:12:32.5± 1.0, 1˚.62S± 0˝.03×99˝.20E± 0˝.04, h3km± 6km, mb4.6/58, MS4.1/8, Error ellipse: s-maj=6.6km s-min=4.7km az=140.7*
NEIC ***05*** *10:12:35.2± 0.2, 1˚.54S×99˝.30E, h10km, mb4.7/8, Error ellipse: s-maj=8.7km s-min=4.6km az=58.0*
MOS ***05*** *10:12:36.9± 1.0, 1˚.34S×99˝.54E, h26km, mb4.9/16, Error ellipse: s-maj=15.4km s-min=7.3km az=106.8*
IDC ***05*** *10:12:38.9± 2.4, 1˚.47S×99˝.45E, h30km± 16km, mb4.2/28, mb1 4.2/30, mb1mx4.1/37, mbtmp4.1/30, ML4.0/2, MS3.6/4, Ms1 3.6/4, ms1mx3.0/38, Error ellipse: s-maj=20.0km s-min=9.1km az=53.0*
AUST ***05*** *10:12:43.4, 1˚.40S×99˝.49E, h60km*
DJA ***05*** *10:12:46.8± 1.0, 1˚S± 6˝× 10˝0E± ˚, h31km± 9km, M4.8/7, mb4.9/3, mB5.2/2, MLv4.7/7, Mw(mB)4.6/2*
ISC 05 10:12:37.6±0.5, 1˚.65S±0˝.04×99˝.22E±0˝.06, h25km±2km, n179, σ1°47/224, mb4.7/58, MS4.1/10, 2C-4D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.45**	**60**	P	Pn	10 12 58.6	-3.7
PPI	**Padang Panjang**	**1.67**	**45**	P	Pn	10 13 02.0	-3.4
PPI	**Padang Panjang**	**1.67**	**45**	P	**Pn**	**10 13 02.3**	**-3.1**
	baz=1.3,SNR=141						
PPI				S	**Sn**	**10 13 25.4**	**-0.7**
	baz=1.3,SNR=183						
BKNI	**Bangkinang**	**2.68**	**43**	P	**Pn**	**10 13 17.2**	**-2.1**
BKNI	**Bangkinang**	**2.68**	**43**	P	**Pn**	**10 13 17.3**	**-1.9**
	baz=2.3,SNR=8.7						
GSI	**Gunungsitoli**	**3.36**	**331**	P	Pb	10 13 40.9	+4.3
MASI	**Maura Aman, Be**	**3.37**	**116**	P	**Pn**	**10 13 30.0**	**+1.2**
KSI	**Kapahiang**	**3.92**	**121**	P	**Pb**	**10 13 43.7**	**-2.4**
KSI				S	**Sn**	**10 14 23.0**	**+1.4**
PSI	**Prapat**	**4.43**	**356**	Pn	Pn	10 13 38.8	-4.7
PSI	**Prapat**	**4.43**	**356**	Pn	Pn	10 13 38.8	-4.7
	1.7nm,0.3s,baz=187,slow=13,SNR=3.3						
PSI				LR	LR	10 15 36.8	
	comp=Z,729nm,20.8s,baz=166,slow=43						
PSI	**Prapat**	**4.43**	**356**	P	Pn	10 13 47.0	+3.6
	baz=4.1,SNR=5.6						
MNAI	**Manna**	**4.61**	**126**	*e*Pn	**Pn**	**10 13 46.3**	**+0.5**
MNAI	**Manna**	**4.61**	**126**	P	**Pn**	**10 13 46.9**	**+1.1**
	baz=4.5,SNR=23						
MNAI				S	**Sn**	**10 14 39.8**	**+1.2**
	baz=4.5,SNR=7.7						
EGSI	**Enggano, Bengk**	**4.78**	**140**	P	**Pn**	**10 13 48.7**	**+0.5**
KCSI	**Kotacane, Aceh**	**5.33**	**344**	P	Pb	10 14 04.8	-5.4
	106nm,0.7s,2μm0.6nm						
FRIM	**Kepong**	**5.42**	**26**	P	**Pn**	**10 13 56.9**	**0.0**
KGM	**Kluang**	**5.49**	**48**	P	**Pn**	**10 13 58.0**	**+0.1**
MYKOM	**Kota Tinggi**	**5.76**	**54**	P	**Pn**	**10 14 01.4**	**-0.2**
IPM	**Ipoh**	**6.35**	**17**	*e*Pn	**Pn**	**10 14 09.0**	**-0.8**
IPM				*e*Sg	Sb	10 15 58.6	+15
IPM	**Ipoh**	**6.35**	**17**	P	**Pn**	**10 14 09.3**	**-0.5**
KASI	**Kota Agung**	**6.53**	**126**	P	**Pn**	**10 14 12.7**	**+0.5**
	139nm,1.0s,3μm0.8nm						
KULM	**Kulim**	**7.04**	**12**	*e*Pn	**Pn**	**10 14 16.2**	**-3.0**
KULM	**Kulim**	**7.04**	**12**	P	**Pn**	**10 14 19.1**	**-0.1**
KULM	**Kulim**	**7.04**	**12**	P	**Pn**	**10 14 18.7**	**-0.5**
KTGM	**Kuala Trenggan**	**7.96**	**29**	P	**Pn**	**10 14 32.0**	**+0.2**
CISI	**Cisompet, Garu**	**10.39**	**125**	S	Sn	10 17 20.8	+20
	baz=10,SNR=4.6						
KSM	**Kuching**	**11.52**	**74**	P	**Pn**	**10 15 20.7**	**0.0**
SBUM	**Sibu**	**13.62**	**73**	*e*Pn	**Pn**	**10 15 51.5**	**+2.0**
SBUM	**Sibu**	**13.62**	**73**	P	**Pn**	**10 15 49.4**	**0.0**
SDKM	**Sandakan**	**19.36**	**68**	P	**P**	**10 17 01.6**	**-0.2**
TSM	**Tawau**	**19.56**	**72**	P	**P**	**10 17 03.6**	**-0.3**
CM01	**Chiang Mai Arr**	**19.94**	**359**	*e*Pn	**Pn**	**10 17 13.4**	**+3.6**
CM31	**Chiang Mai Arr**	**19.98**	**359**	P	**P**	**10 17 08.4**	**0.0**
CMAR	**Chiang Mai Arr**	**19.98**	**359**	P	**P**	**10 17 06.0**	**-2.4**
CMAR	**Chiang Mai Arr**	**19.98**	**359**	P	**P**	**10 17 06.0**	**-2.4**
	0.5nm,0.3s,baz=187,slow=9.6,SNR=9.9						
CHTO	**Chiang Mai**	**20.34**	**359**	P	**P**	**10 17 11.1**	**-1.2**
CHTO				pmax	pmax		
	comp=Z,11nm,0.9s						
CHTO	**Chiang Mai**	**20.34**	**359**	P	**P**	**10 17 11.1**	**-1.2**
	comp=Z,11nm,0.9s						
MYLDM	**Lahad Datu**	**20.42**	**70**	P	**P**	**10 17 12.9**	**-0.4**
KAPI	**Kappang**	**20.77**	**100**	*e*P	**P**	**10 17 17.9**	**+0.8**
KAPI	**Kappang**	**20.77**	**100**	P	**P**	**10 17 15.4**	**-1.6**
	comp=Z,5.6nm,0.6s,baz=288,slow=9.6,SNR=3.3						
WSI	**Waingapu**	**22.43**	**112**	S	S	10 21 20.4	-20
	baz=22,SNR=3.8						
KMI	**Kunming**	**26.83**	**7**	P	**P**	**10 18 18.9**	**+2.4**
KMI				pP	**pP**	**10 18 24.9**	**+1.1**
KMI				sP	**sP**	**10 18 27.5**	**+0.6**
KMI				PP	**PnPn**	**10 19 04.9**	**+6.2**
KMI				S	**S**	**10 22 55.7**	**+3.9**
KMI				sS	**sS**	**10 23 04.3**	**+0.4**
KMI				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KMI				LR	LR		
	comp=N,170nm,7.4s						
KMI				LR	LR		
	comp=E,280nm,9.6s						
GYA	**Guiyang**	**28.85**	**14**	*e*P	**P**	**10 18 37.2**	**+2.7**
GYA				pP	**pP**	**10 18 42.0**	**+0.2**
GYA				PP	**PnPn**	**10 19 30.4**	**+4.2**
GYA				PcP	**PcP**	**10 21 43.8**	**0.0**
GYA				S	**S**	**10 23 25.5**	**+2.1**
GYA				ScP	**ScP**	**10 25 23.9**	**0.0**
GYA				ScS	**ScS**	**10 29 15.4**	**-2.4**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,80nm,4.8s						
GYA				LR	LR		
	comp=N,450nm,17.1s						
GYA				LR	LR		
	comp=E,430nm,18.7s						
GYA				LR	LR		
	comp=Z,480nm,17.5s						
FITZ	**Fitzroy Crossi**	**30.66**	**124**	*e*P	**P**	**10 18 49.4**	**-1.0**
	comp=Z,167nm,2.7s						
FITZ	**Fitzroy Crossi**	**30.66**	**124**	P	**P**	**10 18 49.4**	**-1.0**
	baz=31,SNR=5.6						
SWI	**Sorong**	**32.05**	**89**	S	**S**	**10 24 13.4**	**-0.2**
	baz=32,SNR=42						
LSA	**Lhasa**	**32.11**	**347**	*e*P	**P**	**10 19 02.2**	**-1.5**
LSA				pmax	pmax		
	comp=Z,10.0nm,0.6s						
LSA	**Lhasa**	**32.11**	**347**	*e*P	**P**	**10 19 02.1**	**-1.5**
	comp=Z,9.5nm,0.6s						
CD2	**Chengdu**	**32.67**	**7**	P	**P**	**10 19 10.5**	**+2.5**
CD2				pP	**pP**	**10 19 17.1**	**+1.7**
CD2				sP	**sP**	**10 19 20.2**	**+1.8**
CD2				PP	**PP**	**10 20 21.0**	**-1.2**
CD2				PcP	**PcP**	**10 21 55.1**	**+1.4**
CD2				S	**S**	**10 24 25.2**	**+2.3**
CD2				sS	**sS**	**10 24 36.8**	**+1.8**
CD2				pmax	pmax		
	comp=Z,130nm,5.4s						
CD2				LR	LR		
	comp=N,290nm,10.7s						
CD2				LR	LR		
	comp=Z,240nm,12.5s						
WHN	**Wuhan**	**35.11**	**23**	P	P	10 19 34.3	+5.1
LZH	**Lanzhou**	**37.79**	**6**	*e*P	**P**	**10 19 54.9**	**+2.7**
LZH				pP	**pP**	**10 20 00.4**	**+0.8**
LZH				sP	**sP**	**10 20 03.2**	**+0.6**
LZH				PP	**PnPn**	**10 21 23.5**	**+3.5**
LZH				*e*S	**S**	**10 25 45.4**	**+3.6**
LZH				sS	**ScP**	**10 25 57.5**	**+2.6**
LZH				pmax	pmax		
	comp=Z,18nm,1.0s						
LZH				pmax	pmax		
	comp=Z,190nm,4.6s						
LZH				LR	LR		
	comp=N,390nm,14.4s						
LZH				LR	LR		
	comp=E,420nm,16.8s						
LZH				LR	LR		
	comp=Z,460nm,17.6s						
NJ2	**Nanjing**	**38.34**	**27**	*e*P	**P**	**10 19 57.0**	**+0.3**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
WRA	**Warramunga Arr**	**38.85**	**120**	P	**P**	**10 20 00.2**	**-1.0**
WRA				PcP	**PcP**	**10 22 11.3**	**-0.8**
WRA	**Warramunga Arr**	**38.85**	**120**	P	**P**	**10 20 00.2**	**-1.0**
	comp=Z,8.2nm,0.8s,baz=301,slow=9.0,SNR=61						
WRA				PcP	**PcP**	**10 22 11.4**	**-0.8**
	comp=Z,1.2nm,0.8s,baz=309,slow=2.7,SNR=4.9						
WRAB	**Tennant Creek**	**38.85**	**120**	*e*P	**P**	**10 20 00.4**	**-0.9**
WRAB				pmax	pmax		
	comp=Z,10.0nm,0.7s						
WRAB	**Tennant Creek**	**38.85**	**120**	*e*P	**P**	**10 20 00.3**	**-0.9**
	comp=Z,9.6nm,0.7s						
ASAR	**Alice Springs**	**40.09**	**126**	P	**P**	**10 20 11.2**	**-0.4**
ASAR				PcP	**PcP**	**10 22 15.8**	**-0.3**
ASAR				S	**S**	**10 26 15.1**	**-1.5**
ASAR	**Alice Springs**	**40.09**	**126**	P	**P**	**10 20 11.2**	**-0.4**
	comp=Z,2.9nm,0.8s,baz=298,slow=7.7,SNR=34						
ASAR				PcP	**PcP**	**10 22 15.8**	**-0.3**
	comp=Z,1.7nm,0.9s,baz=315,slow=3.2,SNR=6.2						
ASAR				S	**S**	**10 26 15.1**	**-1.5**
	comp=Z,0.8nm,0.9s,baz=285,slow=14,SNR=5.8						
AS31	**Alice Springs**	**40.09**	**126**	*e*P	**P**	**10 20 11.3**	**-0.3**
AS01	**Alice Springs**	**40.13**	**126**	*e*P	**P**	**10 20 11.2**	**-0.7**
GTA	**Gaotai**	**40.86**	**1**	*e*P	**P**	**10 20 17.0**	**-0.8**
GTA				pP	**pP**	**10 20 22.7**	**-2.6**
GTA				sP	**sP**	**10 20 25.8**	**-2.5**
GTA				PcP	**PcP**	**10 22 19.6**	**+1.2**
GTA				S	**S**	**10 26 28.1**	**+0.3**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.4s						
GTA				pmax	pmax		
	comp=Z,82nm,7.8s						
GTA				LR	LR		
	comp=N,130nm,12.8s						
GTA				LR	LR		
	comp=E,110nm,18.5s						
MMPI	**Meraukе**	**41.53**	**101**	P	**P**	**10 20 23.3**	**-0.3**
	baz=41,SNR=4.0						
HHC	**Hu-ho-hao-te**	**43.77**	**14**	*e*P	**P**	**10 20 43.9**	**+2.5**
HHC				pP	**pP**	**10 20 50.8**	**+1.9**
HHC				sP	**sP**	**10 20 53.2**	**+1.3**
HHC				PP	**PcP**	**10 22 28.3**	**+0.4**
HHC				S	**S**	**10 27 13.8**	**+3.2**
HHC				sS	**sS**	**10 27 24.3**	**+1.3**
HHC				SS	**SS**	**10 30 23.8**	**-3.2**
HHC				ScS	**ScS**	**10 30 39.5**	**+0.1**
HHC				pmax	pmax		
	comp=Z,29nm,0.7s						
HHC				pmax	pmax		
	comp=Z,210nm,6.3s						
HHC				LR	LR		
	comp=N,410nm,15.5s						
HHC				LR	LR		
	comp=E,670nm,15.5s						
HHC				LR	LR		
	comp=Z,360nm,14.3s						
BJI	**Beijing**	**44.30**	**19**	P	P	10 20 51.9	+6.4
BJI				S	**S**	**10 27 16.9**	**-1.2**
BJI				pmax	pmax		
	comp=Z,21nm,0.9s						
JNU	**Nakatsue**	**45.70**	**38**	P	**P**	**10 20 55.3**	**-1.6**
JNU	**Nakatsue**	**45.70**	**38**	P	**P**	**10 20 55.3**	**-1.6**
	comp=Z,4.0nm,0.7s,baz=297,slow=4.5,SNR=3.2						
KSH	**Kashi**	**46.18**	**335**	*e*P	**P**	**10 21 01.4**	**+0.7**
KSH				sP	**sP**	**10 21 10.7**	**-0.5**
KSH				PP	**PP**	**10 22 50.3**	**+0.9**
KSH				PcS	**PcS**	**10 26 30.5**	**-0.4**
KSH				S	**S**	**10 27 46.6**	**+0.9**
KSH				SS	SS	10 31 03.6	-7.8
KSH				pmax	pmax		
	comp=Z,40nm,4.5s						
KSH				LR	LR		
	comp=N,110nm,8.9s						
KSH				LR	LR		
	comp=E,130nm,5.7s						
KSH				LR	LR		
	comp=Z,190nm,5.2s						
WMQ	**Urumqi**	**46.43**	**348**	P	**P**	**10 21 03.0**	**+0.5**
WMQ				pP	**pP**	**10 21 09.1**	**-0.9**
WMQ				sP	**sP**	**10 21 12.0**	**-1.0**
WMQ				PcP	**PcP**	**10 22 38.2**	**+1.2**
WMQ				PP	**PP**	**10 22 52.0**	**+0.1**
WMQ				pmax	pmax		
	comp=Z,42nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,220nm,5.0s						
WMQ				LR	LR		
	comp=N,54nm,20.0s						
WMQ				LR	LR		
	comp=E,110nm,28.0s						
KSAR	**Wonju Array Be**	**47.10**	**31**	P	**P**	**10 21 05.9**	**-1.8**
KSRS	**Korea Array**	**47.12**	**31**	P	**P**	**10 21 05.9**	**-2.0**
	comp=E,1.1nm,0.7s,baz=223,slow=8.9,SNR=5.5						
TKM2	**Tokmak 2**	**49.20**	**337**	*e*P	**P**	**10 21 23.4**	**-0.8**
TKM2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
TKM2	**Tokmak 2**	**49.20**	**337**	*e*P	**P**	**10 21 23.4**	**-0.8**
	comp=Z,10nm,0.8s						
AAK	**Ala-Archa**	**49.40**	**336**	P	**P**	**10 21 26.5**	**+0.8**
AAK	**Ala-Archa**	**49.40**	**336**	P	**P**	**10 21 26.5**	**+0.8**
AAK	**Ala-Archa**	**49.40**	**336**	P	**P**	**10 21 26.5**	**+0.8**
	comp=Z,1.2nm,0.3s,baz=194,slow=12,SNR=3.0						
CTA	**Charters Tower**	**49.46**	**115**	P	**P**	**10 21 25.2**	**-1.0**
CTA	**Charters Tower**	**49.46**	**115**	P	**P**	**10 21 25.2**	**-1.0**
	comp=Z,5.4nm,0.8s,baz=301,slow=9.5,SNR=4.8						
SONM	**Songino Array**	**49.68**	**6**	P	**P**	**10 21 27.2**	**-0.4**
SONM				PcP	**PcP**	**10 22 47.0**	**-1.6**
SONM	**Songino Array**	**49.68**	**6**	P	**P**	**10 21 27.2**	**-0.4**
	comp=Z,1.8nm,0.7s,baz=190,slow=9.5,SNR=11						
SONM				PcP	**PcP**	**10 22 47.0**	**-1.6**
	comp=Z,1.6nm,0.7s,baz=182,slow=4.1,SNR=2.9						
SONA1	**Songino Array**	**49.69**	**6**	*e*P	**P**	**10 21 27.0**	**-0.7**
EKS2	**Erkin-Say**	**49.72**	**335**	*e*P	**P**	**10 21 27.8**	**-0.2**
EKS2				pmax	pmax		
	comp=Z,621nm,0.3s						
EKS2	**Erkin-Say**	**49.72**	**335**	*e*P	**P**	**10 21 27.8**	**-0.2**
	comp=Z,621nm,0.3s						
ULN	**Ulaanbaatar**	**49.78**	**7**	*e*P	**P**	**10 21 28.1**	**-0.4**
	comp=Z,5.8nm,0.7s						
STKA	**Stephens Creek**	**49.97**	**132**	P	**P**	**10 21 30.4**	**+0.4**
	comp=Z,1.8nm,0.8s						
STKA	**Stephens Creek**	**49.97**	**132**	P	**P**	**10 21 30.4**	**+0.4**
	comp=Z,8.5nm,0.7s,baz=306,slow=7.3,SNR=16						
STKA	**Stephens Creek**	**49.97**	**132**	P	**P**	**10 21 30.8**	**+0.8**
	baz=50,SNR=12						
MKAR	**Makanchi Array**	**50.48**	**345**	P	**P**	**10 21 33.3**	**-0.3**
MKAR				S	**S**	**10 28 45.3**	**-0.8**
MKAR	**Makanchi Array**	**50.48**	**345**	P	**P**	**10 21 33.3**	**-0.3**
MKAR				S	**S**	**10 28 45.3**	**-0.8**
MKAR	**Makanchi Array**	**50.48**	**345**	P	**P**	**10 21 33.3**	**-0.3**
	comp=Z,6.0nm,0.7s,baz=148,slow=7.9,SNR=16						
MKAR				S	**S**	**10 28 45.3**	**-0.8**
	comp=Z,0.1nm,0.5s,baz=167,slow=13,SNR=2.1						
CN2	**Changchun**	**50.99**	**24**	*e*P	P	10 21 42.3	+4.9
CN2				*es*P	sP	10 21 53.0	+5.0
CN2				*eS*	**S**	**10 28 56.3**	**+3.3**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.3s						
CN2				pmax	pmax		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,200nm,15.0s						
CN2				LR	LR		
	comp=E,200nm,15.0s						
CN2				LR	LR		
	comp=Z,200nm,16.0s						
MJAR	**Matsushiro Arr**	**52.50**	**40**	P	**P**	**10 21 46.4**	**-2.6**
MJAR	**Matsushiro Arr**	**52.50**	**40**	P	**P**	**10 21 46.4**	**-2.6**
	comp=Z,0.4nm,0.6s,baz=116,slow=5.5,SNR=2.9						
HVS	**Khovu-Aksy**	**52.80**	**356**	*e*P	P	10 21 55.9	+5.0
HVS				pmax	pmax		
	comp=Z,37nm,1.7s						
CMSA	**Cobar Meteorol**	**52.94**	**129**	P	**P**	**10 21 53.4**	**+1.1**
	baz=53,SNR=6.5						
MDJ	**Mudanjiang**	**53.42**	**27**	P	**P**	**10 21 55.9**	**+0.4**
MDJ				pP	**pP**	**10 22 02.7**	**-0.5**
MDJ				sP	**sP**	**10 22 04.8**	**-1.4**
MDJ				PcP	**PcP**	**10 23 02.3**	**-0.2**
MDJ				PP	**PP**	**10 23 55.1**	**-1.1**
MDJ				S	**S**	**10 29 29.3**	**+2.8**
MDJ				ScS	**ScS**	**10 31 44.6**	**+1.0**
MDJ				SS	**SKiKP**	**10 33 09.3**	**-1.4**
MDJ				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MDJ				pmax	pmax		
	comp=Z,84nm,6.4s						
MDJ				LR	LR		
	comp=N,50nm,4.7s						
MDJ				LR	LR		
	comp=E,83nm,4.9s						
MDJ				LR	LR		
	comp=Z,210nm,5.4s						
USRK	**Ussuriysk Arra**	**54.22**	**29**	P	**P**	**10 22 00.1**	**-1.2**
	comp=Z,7.2nm,0.7s,baz=230,slow=5.3,SNR=7.6						
KURBB	**Kurchatov Arra**	**54.99**	**344**	P	**P**	**10 22 06.6**	**-0.2**
	comp=Z,2.6nm,0.7s,baz=164,slow=7.6,SNR=6.0						
KURK	**Kurchatov**	**55.05**	**344**	P	**P**	**10 22 06.6**	**-0.7**
KURK	**Kurchatov**	**55.05**	**344**	P	**P**	**10 22 06.6**	**-0.7**
ZAA0	**Zalesovo Array**	**56.68**	**350**	*e*P	**P**	**10 22 18.2**	**-0.7**
ZALV	**Zalesovo Beam**	**56.68**	**350**	P	**P**	**10 22 18.1**	**-0.8**
ZALV				S	**S**	**10 30 08.4**	**-1.4**
ZALV	**Zalesovo Beam**	**56.68**	**350**	P	**P**	**10 22 18.1**	**-0.8**
ZALV				S	**S**	**10 30 08.4**	**-1.4**
ZALV	**Zalesovo Beam**	**56.68**	**350**	P	**P**	**10 22 18.1**	**-0.8**
	comp=Z,8.0nm,0.6s,baz=182,slow=6.1,SNR=22						
ZALV				S	**S**	**10 30 08.4**	**-1.4**
	comp=Z,0.7nm,0.3s,baz=298,slow=38,SNR=1.6						
ZALV				LR	LR	10 51 10.7	
	comp=Z,26nm,18.7s,baz=159,slow=41						
NVS	**Novosibirsk**	**57.82**	**349**	*e*P	P	10 22 33.1	+6.2
NVS				*e*		10 23 14.9	
NVS				pmax	pmax		
	comp=Z,7.0nm,0.7s						
NVS				pmax	pmax		
	comp=N,3.0nm,0.5s						
NVS				pmax	pmax		
	comp=E,3.0nm,0.7s						
KLR	**Kul'dur**	**57.94**	**25**	*e*P	P	10 22 31.8	+4.0
BVAR	**Borovoye Array**	**59.59**	**340**	P	**P**	**10 22 38.0**	**-1.3**
BVAR	**Borovoye Array**	**59.59**	**340**	P	**P**	**10 22 38.0**	**-1.3**
BVAR	**Borovoye Array**	**59.59**	**340**	P	**P**	**10 22 38.0**	**-1.3**
	comp=E,2.1nm,0.7s,baz=135,slow=7.3,SNR=6.6						
BRVK	**Borovoye**	**59.65**	**340**	*d* iP	P	10 22 46.7	+7.0
BRVK				pmax	pmax		
	comp=Z,8.0nm,1.2s						
ASAJ	**Asahikawa**	**59.77**	**35**	P	**P**	**10 22 38.6**	**-2.1**
ASAJ	**Asahikawa**	**59.77**	**35**	P	**P**	**10 22 38.6**	**-2.1**
	comp=Z,1.4nm,0.6s,baz=241,slow=13,SNR=4.3						
ABKAR	**Akbulak array**	**60.96**	**332**	*e*P	**P**	**10 22 47.6**	**-1.1**
	comp=Z,4.4nm,0.8s						
YSS	**Yuzh-Sakhalins**	**61.60**	**32**	*e*P	P	10 22 56.7	+3.6
YSS				pmax	pmax		
	comp=Z,24nm,1.7s						
AKTO	**Aktyubinsk**	**62.68**	**332**	P	**P**	**10 22 59.6**	**-0.7**
AKTO	**Aktyubinsk**	**62.68**	**332**	P	**P**	**10 22 59.6**	**-0.7**
AKTO	**Aktyubinsk**	**62.68**	**332**	P	**P**	**10 22 59.6**	**-0.7**
	comp=Z,1.4nm,0.8s,baz=142,slow=12,SNR=4.6						
SVE	**Sverdlovsk**	**66.06**	**338**	*e*P	**P**	**10 23 22.0**	**-0.3**
SVE				pmax	pmax		
	comp=Z,16nm,1.2s						
ARU	**Arti**	**66.58**	**337**	*d* iP	**P**	**10 23 24.8**	**-0.8**
ARU				S	**S**	**10 32 10.2**	**-4.9**
ARU				pmax	pmax		
	comp=Z,11nm,1.7s						
KBZ	**Khabaz**	**67.53**	**319**	P	**P**	**10 23 32.3**	**+0.4**
KBZ	**Khabaz**	**67.53**	**319**	P	**P**	**10 23 32.3**	**+0.4**
KBZ	**Khabaz**	**67.53**	**319**	P	**P**	**10 23 32.3**	**+0.4**
	comp=Z,4.7nm,0.8s,baz=146,slow=4.9,SNR=9.3						
YAK	**Yakutsk**	**67.61**	**15**	*i* P	P	10 23 39.4	+7.4
YAK				pmax	pmax		
	comp=Z,31nm,1.0s						
EIL	**Elat**	**68.67**	**303**	P	**P**	**10 23 40.9**	**+1.5**
EIL	**Elat**	**68.67**	**303**	P	**P**	**10 23 40.9**	**+1.5**
	comp=Z,6.7nm,0.8s,baz=319,slow=4.3,SNR=5.0						
MMAI	**Mount Meron Ar**	**69.20**	**306**	P	**P**	**10 23 44.0**	**+1.3**
MMAI	**Mount Meron Ar**	**69.20**	**306**	P	**P**	**10 23 44.0**	**+1.3**
	comp=Z,3.7nm,0.7s,baz=91,slow=8.3,SNR=4.1						
LSZ	**Lusaka**	**71.27**	**255**	P	**P**	**10 23 54.7**	**-1.1**
	comp=Z,13nm,0

PDAR	**Pinedale Array**	**131.65**	**28**	PKP	**PKPdf**	**10 31 47.6**	**-1.5**
PDAR	**Pinedale Array**	**131.65**	**28**	PKP	**PKPdf**	**10 31 47.6**	**-1.5**
	comp=Z,0.3nm,0.8s,baz=328,slow=2.6,SNR=2.8						
CPUP	**Villa Florida**	**144.13**	**218**	PKP	**PKPdf**	**10 32 11.6**	**-0.5**
CPUP				*e*PKPdf	PKPbc	10 32 11.8	+1.6
CPUP	**Villa Florida**	**144.13**	**218**	PKP	**PKPdf**	**10 32 11.6**	**-0.5**
	comp=Z,5.6nm,0.7s,baz=114,slow=3.9,SNR=14						
TXAR	**Lajitas Array**	**144.89**	**36**	PKP	**PKPab**	**10 32 12.4**	**-0.2**
TXAR	**Lajitas Array**	**144.89**	**36**	PKP	**PKPab**	**10 32 12.4**	**-0.2**
	comp=Z,5.3nm,0.6s,baz=279,slow=1.4,SNR=100						
WVT	**Waverly**	**145.07**	**10**	*e*PKIKP	**PKPbc**	**10 32 12.3**	**-0.6**
WVT	**Waverly**	**145.07**	**10**	*e*PKPbc	**PKPbc**	**10 32 12.3**	**-0.6**
MIAR	**Mount Ida**	**145.16**	**19**	*e*PKIKP	**PKPbc**	**10 32 13.0**	**-0.2**
MIAR	**Mount Ida**	**145.16**	**19**	*e*PKPbc	**PKPbc**	**10 32 13.0**	**-0.2**
TZTN	**Tazewell**	**145.18**	**4**	*e*PKPbc	**PKPbc**	**10 32 12.5**	**-0.7**
TKL	**Tuckaleechee C**	**146.05**	**4**	*e*PKPbc	**PKPdf**	**10 32 15.3**	**+0.1**
JCT	**Junction City**	**146.13**	**30**	*e*PKP2	**PKPbc**	**10 32 16.4**	**0.0**
JCT	**Junction City**	**146.13**	**30**	*e*PKPbc	**PKPbc**	**10 32 16.4**	**0.0**
CPCT	**Cooper Cave**	**146.19**	**5**	*e*PKPbc	**PKPdf**	**10 32 15.5**	**+0.1**
SWET	**Sewanee**	**146.26**	**8**	*e*PKPbc	**PKPdf**	**10 32 15.6**	**-0.1**
OXF	**Oxford**	**146.33**	**13**	*e*PKP2	**PKPdf**	**10 32 16.0**	**+0.3**
OXF	**Oxford**	**146.33**	**13**	*e*PKPbc	**PKPdf**	**10 32 16.0**	**+0.3**
LRAL	**Lakeview Retre**	**148.24**	**10**	*e*PKPbc	**PKPbc**	**10 32 21.2**	**-1.0**

ISCJB ***05*** *10:17:25.4±0.7,3°.86S±0°.05×34°.68E±0°.05,h10km, Error ellipse: s-maj=8.4km s-min=6.3km az=44.8*
PRE ***05*** *10:17:26.6±3.0,3°.94S×34°.70E,h10km,ML4.0*
BUL ***05*** *10:17:30.5±4.0,4°.17S×35°.27E,h0km±42km,MD3.4*

ISC 05 10:17:24.6±1.0,4°.07S±0°.06×34°.70E±0°.05,h10km,n7, σ1§84/13,Tanzania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DODT	**Dodoma, Tanzan**	**2.35**	**154**	*i* P	**Pb**	**10 18 08.4**	**+1.2**
DODT				*i* S	**Sb**	**10 18 37.5**	**+1.0**
KMBO	**Kilima Mbogo**	**3.88**	**41**	*e*P	**Pn**	**10 18 27.0**	**+2.4**
KMBO				*e*S	**Sn**	**10 19 08.1**	**-2.3**
KMBO	**Kilima Mbogo**	**3.88**	**41**	*i* P	**Pn**	**10 18 24.0**	**-0.6**
KMBO				*i* S	**Sn**	**10 19 08.6**	**-1.8**
KIG	**Kigali**	**5.08**	**294**	*e*P	**Pn**	**10 18 41.8**	**+0.8**
KIG				*e*S	**Sn**	**10 19 38.3**	**-1.5**
KIG				AML	AML	10 20 17.7	
	comp=Z,102nm,0.5s						
MBAR	**Mbarara**	**5.24**	**311**	*e*P	**Pn**	**10 18 44.0**	**+0.8**
MBAR				*e*S	**Sn**	**10 19 44.0**	**+0.1**
MBAR	**Mbarara**	**5.24**	**311**	*i* P	**Pn**	**10 18 44.2**	**+1.0**
MBAR				*i* S	**Sn**	**10 19 44.5**	**+0.6**
LSZ	**Lusaka**	**12.85**	**209**	*e*P	Pn	10 20 35.2	+7.7
LSZ				*e*S	**Sn**	**10 22 47.3**	**-3.5**

IDC 05 10:19:46.4±3.5,16°.91S×175°.02W,h0km,mb4.0/3, mb1 4.1/4,mb1mx3.7/19,mbtmp3.9/4,ML1.5/1,Error ellipse: s-maj=192.5km s-min=26.1km az=144.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.32**	**47**	Pn	Pn	10 20 53.4	-0.1
	1.6nm,0.3s,baz=149,slow=12,SNR=1.5						
AFI				Sn	Sn	10 21 45.9	+1.1
	7.7nm,0.3s,baz=93,slow=17,SNR=3.3						
STKA	**Stephens Creek**	**41.94**	**241**	P	P	10 27 40.0	+0.8
	1.9nm,1.0s,baz=63,slow=9.0,SNR=2.7						
WRA	**Warramunga Arr**	**48.00**	**258**	P	P	10 28 27.4	-0.3
	0.7nm,0.6s,baz=96,slow=8.3,SNR=12						
ASAR	**Alice Springs**	**48.18**	**253**	P	P	10 28 28.4	-0.6
	2.7nm,0.7s,baz=88,slow=8.6,SNR=36						

IDC 05 10:38:58.4±2.3,10°.08N×92°.33E,h0km,mb3.3/3, mb1 3.7/4,mb1mx3.4/27,mbtmp3.5/4,ML3.9/1,Error ellipse: s-maj=73.4km s-min=26.9km az=66.0,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.51**	**37**	Pn	Pn	10 41 30.5	+0.1
	0.2nm,0.3s,baz=228,slow=14,SNR=3.4						
MKAR	**Makanchi Array**	**37.57**	**349**	P	P	10 46 14.4	-0.2
	0.3nm,0.7s,baz=181,slow=9.6,SNR=2.6						
WRA	**Warramunga Arr**	**51.00**	**126**	P	P	10 48 02.0	-0.4
	0.2nm,0.5s,baz=304,slow=8.4,SNR=4.8						
ASAR	**Alice Springs**	**52.70**	**130**	P	P	10 48 15.3	+0.2
	0.3nm,0.7s,baz=309,slow=7.3,SNR=4.6						

IDC 05 10:45:28.4±3.0,12°.97S×171°.82E,h0km,mb3.8/4, mb1 4.1/4,mb1mx3.7/19,mbtmp3.8/4,Error ellipse: s-maj=134.0km s-min=31.4km az=136.0,Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**33.51**	**231**	P	P	10 52 09.8	0.0
	2.2nm,0.3s,baz=51,slow=8.5,SNR=14						
WRA	**Warramunga Arr**	**36.55**	**254**	P	P	10 52 36.5	+0.2
	0.5nm,0.3s,baz=84,slow=7.6,SNR=17						
ASAR	**Alice Springs**	**37.43**	**248**	P	P	10 52 43.1	-0.5
	0.4nm,0.3s,baz=75,slow=9.0,SNR=12						
ILAR	**Eielson Array**	**83.55**	**17**	P	P	10 57 58.0	0.0
	0.1nm,0.4s,baz=238,slow=4.8,SNR=4.9						

WEL 05 11:05:05.4±0.2,46°.20S×165°.76E,h33km,ML3.8/14,1C, Error ellipse: s-maj=2.6km s-min=2.5km az=0.0,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**1.21**	**54**	PN	Pn	11 05 25.4	-0.6
DCZ				SN	Sn	11 05 42.0	+0.8
DCZ				AML	AML	11 05 42.3	
DCZ				AML	AML	11 05 48.9	
DCZ				AML	AML	11 05 48.9	
WHZ	**Wether Hill Ro**	**1.55**	**79**	PN	Pn	11 05 32.0	+1.3
WHZ				AML	AML	11 05 59.6	
WHZ				AML	AML	11 06 04.1	
APZ	**The Paps**	**1.66**	**113**	⇑PN	Pn	11 05 33.8	+1.5
MLZ	**Mavora Lakes**	**1.89**	**64**	PN	Pn	11 05 36.6	+1.3
MLZ				SN	Sn	11 05 59.8	+1.7
MLZ				AML	AML	11 06 16.9	
MSZ	**Milford Sound**	**2.16**	**46**	PN	Pn	11 05 40.2	+1.2
MSZ				AML	AML	11 06 17.3	
MSZ				AML	AML	11 06 29.9	
SYZ	**Scrubby Hill**	**2.36**	**99**	PN	Pn	11 05 44.1	+2.4
SYZ				SN	Sn	11 06 12.7	+3.1
EAZ	**Earnscleugh**	**2.67**	**70**	PN	Pn	11 05 48.8	+2.8
EAZ				AML	AML	11 06 29.5	
EAZ				AML	AML	11 06 36.2	
WKZ	**Wanaka**	**2.67**	**60**	PN	Pn	11 05 48.8	+2.7
WKZ				AML	AML	11 06 30.4	
WKZ				AML	AML	11 06 52.1	
TUZ	**Tuapeka**	**2.70**	**86**	PN	Pn	11 05 48.9	+2.4
TUZ				AML	AML	11 06 26.4	
TUZ				AML	AML	11 06 32.5	
JCZ	**Jackson Bay**	**3.00**	**46**	PN	Pn	11 05 52.9	+2.2
JCZ				AML	AML	11 06 46.7	
JCZ				AML	AML	11 06 51.7	
ODZ	**Otahua Downs**	**3.62**	**73**	PN	Pn	11 05 59.8	+0.8

ATH ***05*** *11:05:10.2,37°.61N×26°.86E,h6km±3km,MD3.2/4*
CSEM ***05*** *11:05:10.4±0.3,37°.63N×26°.75E,h2km,MD3.2,Error ellipse: s-maj=5.6km s-min=5.0km az=145.0*
DDA ***05*** *11:05:11.2,37°.69N×26°.89E,h3km,MD3.0*

ISC 05 11:05:10.7±0.9,37°.63N±0°.03×26°.87E±0°.03,h6km±7km, n22,σ0§62/42,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.09**	**340**	*e*PG	**Pg**	**11 05 12.8**	**+0.1**
SMG				*e*SG	**Sg**	**11 05 13.9**	**-0.2**
SMG	**Samos**	**0.09**	**340**	*e*Pg	**Pg**	**11 05 12.8**	**+0.1**
SMG				*e*Sg	**Sg**	**11 05 13.9**	**-0.2**
GCAM	**G?zelcaml?**	**0.29**	**76**	*i* P	**Pb**	**11 05 17.5**	**-0.9**
GCAM				*i* S	**Sb**	**11 05 22.7**	**-0.8**
GCAM	**G?zelcaml?**	**0.29**	**76**	*i* P	**Pb**	**11 05 17.5**	**-0.9**
GCAM				*i* S	**Sb**	**11 05 22.7**	**-0.8**
BDRM	**Kayabasi**	**0.72**	**141**	*i* P	**Pb**	**11 05 26.0**	**+0.3**
BDRM				*i* S	**Sb**	**11 05 37.1**	**+1.3**
BDRM	**Kayabasi**	**0.72**	**141**	*i* P	**Pb**	**11 05 26.0**	**+0.3**
BDRM				*i* S	**Sb**	**11 05 37.1**	**+1.3**
AYDN	**Tasoluk**	**0.80**	**87**	*i* P	**Pb**	**11 05 26.7**	**-0.3**
AYDN				*i* S	**Sb**	**11 05 37.9**	**-0.2**
AYDN	**Tasoluk**	**0.80**	**87**	*i* P	**Pb**	**11 05 26.7**	**-0.3**
AYDN				*i* S	**Sb**	**11 05 37.9**	**-0.2**
CHOS	**Chios island**	**0.99**	**320**	*e*PN	**Pg**	**11 05 29.4**	**-0.4**
CHOS				*e*SB	**Sg**	**11 05 43.0**	**+0.3**
CHOS	**Chios island**	**0.99**	**320**	*e*Pn	**Pg**	**11 05 29.4**	**-0.4**
CHOS				*e*Sb	**Sg**	**11 05 43.0**	**+0.3**
APE	**Apeiranthos**	**1.21**	**243**	*e*PB	**Pg**	**11 05 33.0**	**-0.8**
APE				*e*SB	**Sg**	**11 05 49.0**	**-0.5**
APE	**Apeiranthos**	**1.21**	**243**	*e*Pb	**Pg**	**11 05 33.0**	**-0.8**
APE				*e*Sb	**Sg**	**11 05 49.0**	**-0.5**
AKHS	**Akhisar**	**1.45**	**30**	*i* P	**Pn**	**11 05 37.1**	**-0.4**
AKHS				*i* S	**Sg**	**11 05 57.6**	**+0.2**
AKHS	**Akhisar**	**1.45**	**30**	*i* P	**Pn**	**11 05 37.1**	**-0.4**
AKHS				*i* S	**Sg**	**11 05 57.6**	**+0.2**
PRK	**Paraskevi**	**1.68**	**344**	*e*PG	**Pb**	**11 05 41.6**	**-0.4**
PRK				*e*SB	**Sg**	**11 06 05.0**	**+0.2**
PRK	**Paraskevi**	**1.68**	**344**	*e*Pg	**Pb**	**11 05 41.6**	**-0.4**
PRK				*e*Sb	**Sg**	**11 06 05.0**	**+0.2**
SANT	**Santorini**	**1.69**	**222**	*e*PG	**Pn**	**11 05 41.2**	**+0.4**
SANT	**Santorini**	**1.69**	**222**	*e*Pg	**Pn**	**11 05 41.2**	**+0.4**
DEMI	**Demirci**	**2.02**	**45**	*i* P	**Pb**	**11 05 48.3**	**+0.4**
DEMI				*i* S	**Sg**	**11 06 15.4**	**-0.3**
DEMI	**Demirci**	**2.02**	**45**	*i* P	**Pb**	**11 05 48.3**	**+0.4**
DEMI				*i* S	**Sg**	**11 06 15.4**	**-0.3**
BALY	**Balya**	**2.19**	**15**	*i* P	**Pn**	**11 05 49.0**	**+1.4**
BALY				*i* S	**Sb**	**11 06 18.4**	**+0.3**
BALY	**Balya**	**2.19**	**15**	*i* P	**Pn**	**11 05 49.0**	**+1.4**
BALY				*i* S	**Sb**	**11 06 18.4**	**+0.3**

IDC 05 11:35:44.6±7.8,32°.18S×179°.66E,h356km±91km,mb2.6/2, mb1 2.9/3,mb1mx2.8/17,mbtmp2.7/3,Error ellipse: s-maj=103.1km s-min=47.5km az=1.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.41**	**198**	P	Pn	11 37 22.2	+1.9
	1.2nm,0.3s,baz=344,slow=19,SNR=16						
URZ				S	S	11 38 36.2	-1.8
	3.0nm,0.3s,baz=281,slow=23,SNR=19						
ASAR	**Alice Springs**	**41.06**	**270**	P	P	11 42 55.0	+0.1
	0.1nm,0.4s,baz=111,slow=7.2,SNR=6.5						
WRA	**Warramunga Arr**	**42.22**	**275**	P	P	11 43 04.0	-0.3
	0.3nm,0.3s,baz=113,slow=8.1,SNR=14						
FINES	**FINESS Array B**	**146.07**	**337**	PKPbc	PKPdf	11 54 41.1	+0.3
	3.2nm,1.0s,baz=318,slow=1.9,SNR=3.3						

KRSC 05 11:41:04.2±7.9,49°.78N×153°.09E,h247km±52km,ML3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.14**	**64**	*e*P	Pn	11 41 45.8	-1.8
MIPR	**Malaya Ipel'ka**	**3.41**	**41**	*e*P	Pn	11 42 01.3	+0.4
MIPR				*i* S	S	11 42 46.4	+0.5
ASAK	**Asacha**	**4.00**	**47**	*e*P	Pn	11 42 08.8	+1.0
MTVR	**Mutnovka**	**4.20**	**48**	*e*P	Pn	11 42 11.1	+0.8
MTVR				*i* S	S	11 43 02.3	-0.4
KOK	**Koryaka**	**4.93**	**42**	*e*P	Pn	11 42 21.1	+2.0
GNL	**Ganaly**	**4.95**	**36**	*e*P	Pn	11 42 19.7	+0.5
UGLR	**Uglovaya**	**4.96**	**44**	*e*P	Pn	11 42 21.2	+1.8
KRX	**Arik**	**4.99**	**42**	*e*P	Pn	11 42 21.2	+1.4
SMAR	**Somma**	**4.99**	**43**	*e*P	Pn	11 42 21.6	+1.7
SDLR	**Sedlovina**	**5.03**	**44**	*e*P	Pn	11 42 21.8	+1.5
MKZ	**Mys Kozlova**	**7.15**	**45**	*e*P	Pn	11 42 45.7	-0.8
MKZ				*i* S	S	11 44 02.3	-6.3
KBTR	**Krutoberegovo**	**8.71**	**39**	*e*P	Pn	11 43 05.8	-0.4

IDC ***05*** *11:45:22.3±0.9,3°.64N×126°.73E,h0km,mb3.7/9, mb1 3.9/9,mb1mx3.7/24,mbtmp3.7/9,MS3.2/1,Ms1 3.2/1, ms1mx2.2/34,Error ellipse: s-maj=50.8km s-min=16.3km az=73.0*
ISCJB ***05*** *11:45:27.0±0.8,3°.6N±0°.1×126°.9E±0°.2,h48km,mb3.7/9, MS3.2/1,Error ellipse: s-maj=36.0km s-min=10.7km az=158.0*

ISC 05 11:45:28.7±1.0,3°.6N±0°.1×126°.9E±0°.3,h48km,n12, σ1§18/11,mb3.7/9,1D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**4.43**	**324**	‖*i* P	**Pn**	**11 46 35.8**	**+2.3**
BUKP	**Musuan**	**4.60**	**337**	*e*P	Pn	11 46 41.9	+6.1
PAGZ	**Pagadian**	**5.45**	**321**	*e*P	**Pn**	**11 46 47.6**	**+0.2**
FITZ	**Fitzroy Crossi**	**21.61**	**183**	P	**P**	**11 50 16.1**	**+1.3**
	0.6nm,0.4s,baz=0.0,slow=12,SNR=3.2						
WRA	**Warramunga Arr**	**24.53**	**163**	P	**P**	**11 50 43.8**	**-0.3**
	2.1nm,0.7s,baz=343,slow=10.0,SNR=14						
ASAR	**Alice Springs**	**27.97**	**166**	P	**P**	**11 51 15.5**	**+0.4**
	0.2nm,0.4s,baz=344,slow=9.8,SNR=9.9						
CMAR	**Chiang Mai Arr**	**31.04**	**300**	P	**P**	**11 51 41.7**	**-0.6**
	0.4nm,0.3s,baz=110,slow=6.8,SNR=3.2						
KSRS	**Korea Array**	**33.70**	**2**	P	**P**	**11 52 06.3**	**+1.0**
	0.4nm,0.4s,baz=185,slow=10,SNR=3.4						
SONM	**Songino Array**	**47.45**	**341**	P	**P**	**11 53 58.2**	**-0.6**
	0.2nm,0.4s,baz=177,slow=8.7,SNR=2.5						
SONM				LR	LR	12 13 24.6	
	comp=Z,28nm,19.8s,baz=242,slow=36						
MKAR	**Makanchi Array**	**57.73**	**325**	P	**P**	**11 55 14.1**	**-0.6**
	0.6nm,0.4s,baz=118,slow=7.8,SNR=9.2						
BRTR	**Keskin Array B**	**90.20**	**310**	P	**P**	**11 58 23.8**	**-0.7**
	0.4nm,0.7s,baz=127,slow=3.8,SNR=3.1						
ARCES	**ARCESS Array B**	**90.60**	**340**	P	**P**	**11 58 24.6**	**-1.0**
	0.8nm,0.7s,baz=76,slow=5.1,SNR=3.9						

MAN 05 11:45:36,12°.26N×125°.48E,h94km,mb4.0,ML2.7,MS2.4, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVCP	**Virac**	**1.86**	**316**	*e*P	Pn	11 46 07.2	+0.8
PVCP				*e*S	Sn	11 46 18.9	-11

CASC 05 12:25:25.6±2.3,8°.20N×83°.02W,h2km±8km,MD3.6,2D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.47**	**342**	*e*P	Pg	12 25 35.5	+0.8
BRU2	**Volcan**	**0.67**	**29**	‖*i*P	Pg	12 25 39.5	+0.7
BRU2				*e*S	Sb	12 25 50.0	-0.2
CTCR	**Cotoan**	**0.74**	**21**	‖*i*P	Pg	12 25 40.4	+0.4
BRU	**Baru**	**0.76**	**37**	*e*P	Pg	12 25 40.9	+0.2
BRU				*e*S	Sb	12 25 54.4	+1.2
CNI	**Changuinola**	**1.31**	**23**	*e*P	Pg	12 25 50.1	-0.6
CNI				*e*S	Sg	12 26 07.5	-0.2
BUS	**Buena Vista**	**1.53**	**332**	*e*P	Pn	12 25 53.6	-0.9
BUS				*e*S	Sg	12 26 16.3	+0.5
QCR	**Quepos**	**1.66**	**317**	*e*P	Pn	12 25 55.1	-0.5
URSC	**Urasca**	**1.79**	**335**	*e*P	Pn	12 25 57.5	-0.2
CGA2	**Cerro Gallo 2**	**2.30**	**322**	*e*P	Pn	12 26 05.2	+0.5
CGA2				*e*S	Sb	12 26 36.8	-0.1
CAO	**Cobano**	**2.54**	**306**	*e*P	Pn	12 26 06.5	-1.3
ZANG	**Zanguenga, Cho**	**3.21**	**76**	*e*P	Pn	12 26 18.1	+1.0
ZANG				*e*S	Sb	12 27 01.8	-1.2
BCIP	**Isla Barro Col**	**3.29**	**73**	*e*P	Pn	12 26 17.4	-0.8
BCIP				*e*S	Sb	12 27 04.1	-1.2
UPA	**Univ. de Panam**	**3.54**	**77**	*e*S	Sn	12 27 08.1	+4.1

CASC 05 12:40:45.3±2.7,8°.18N×83°.02W,h6km±12km,MD3.6,3D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.49**	**343**	*i* P	Pg	12 40 55.4	+0.4
BRU2	**Volcan**	**0.69**	**28**	‖*i*P	Pg	12 40 59.3	+0.4
BRU2				*e*S	Sb	12 41 09.5	-0.5
CTCR	**Cotoan**	**0.76**	**20**	‖*i*P	Pg	12 41 00.3	+0.1
BRU	**Baru**	**0.77**	**36**	‖*i*P	Pg	12 41 00.7	0.0
CNI	**Changuinola**	**1.33**	**22**	*e*P	Pn	12 41 09.8	-0.5
CNI				*e*S	Sn	12 41 29.0	+0.7
BUS	**Buena Vista**	**1.55**	**332**	*e*P	Pn	12 41 13.3	-0.8
BUS				*e*S	Sg	12 41 36.3	+0.1
QCR	**Quepos**	**1.68**	**318**	*e*P	Pn	12 41 14.9	-0.3
QCR				*e*S	Sb	12 41 37.7	-0.3
URSC	**Urasca**	**1.81**	**336**	*e*P	Pn	12 41 17.1	-0.1
CGA2	**Cerro Gallo 2**	**2.32**	**322**	*e*P	Pn	12 41 23.8	-0.5
CGA2				*e*S	Sb	12 41 55.4	-1.4
CAO	**Cobano**	**2.55**	**306**	*e*P	Pn	12 41 25.2	-2.1
BCIP	**Isla Barro Col**	**3.30**	**72**	*e*P	Pn	12 41 37.9	+0.4
BCIP				*e*S	Sb	12 42 24.7	+0.1

IDC 05 12:57:37.4±1.9,14°.26N×55°.44E,h0km,mb3.6/6, mb1 3.7/6,mb1mx3.4/29,mbtmp3.6/6,MS2.9/1,Ms1 2.9/1, ms1mx2.3/34,Error ellipse: s-maj=49.0km s-min=27.8km az=163.0,Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKTO	**Aktyubinsk**	**36.13**	**3**	P	P	13 04 40.0	-1.2
	1.0nm,0.5s,baz=190,slow=9.1,SNR=3.9						
MKAR	**Makanchi Array**	**39.45**	**29**	P	P	13 05 10.4	+1.1
	0.4nm,0.6s,baz=210,slow=7.1,SNR=3.8						
MKAR				LR	LR	13 22 56.9	
	comp=Z,19nm,21.7s,baz=275,slow=38						
KURBB	**Kurchatov Arra**	**40.81**	**22**	P	P	13 05 20.2	-0.3
	0.2nm,0.3s,baz=220,slow=8.0,SNR=3.2						
CMAR	**Chiang Mai Arr**	**41.88**	**78**	P	P	13 05 29.2	-0.6
	0.6nm,0.3s,baz=281,slow=9.1,SNR=2.4						
ZALV	**Zalesovo Beam**	**45.82**	**24**	P	P	13 06 01.0	0.0
	0.7nm,0.6s,baz=234,slow=4.8,SNR=3.4						
TORD	**Torodi Ar. Bea**	**52.13**	**276**	P	P	13 06 50.0	0.0
	0.3nm,0.8s,baz=66,slow=7.0,SNR=3.0						

IDC 05 13:08:05.1±5.3,21°.55N×144°.52E,h171km±50km, mb3.5/16,mb1 3.6/17,mb1mx3.5/31,mbtmp3.4/17,Error ellipse: s-maj=22.9km s-min=11.5km az=91.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**15.92**	**341**	P	Pn	13 11 38.0	-1.8
	0.1nm,0.3s,baz=149,slow=10.0,SNR=4.1						
KSRS	**Korea Array**	**21.39**	**321**	P	P	13 12 40.2	+1.0
	2.5nm,0.6s,baz=147,slow=9.1,SNR=15						
ASAJ	**Asahikawa**	**22.56**	**356**	P	P	13 12 52.0	+1.2
	1.5nm,0.5s,baz=198,slow=6.4,SNR=5.3						
USRK	**Ussuriysk Arra**	**24.86**	**338**	P	P	13 13 12.1	+0.5
	0.8nm,0.5s,baz=140,slow=9.2,SNR=3.3						
SONM	**Songino Array**	**40.25**	**320**	P	P	13 15 24.8	-0.4
	0.5nm,0.6s,baz=116,slow=5.9,SNR=3.6						
WRA	**Warramunga Arr**	**42.42**	**194**	P	P	13 15 42.8	-0.2
	4.1nm,0.5s,baz=14,slow=8.7,SNR=62						
FITZ	**Fitzroy Crossi**	**43.53**	**207**	P	P	13 15 51.7	-0.2
	3.4nm,0.8s,baz=41,slow=3.2,SNR=5.5						
ASAR	**Alice Springs**	**46.12**	**194**	P	P	13 16 12.2	-0.2
	1.4nm,0.6s,baz=16,slow=9.0,SNR=32						
ZALV	**Zalesovo Beam**	**55.10**	**322**	P	P	13 17 18.4	-0.7
	0.4nm,0.3s,baz=99,slow=9.3,SNR=3.7						
MKAR	**Makanchi Array**	**55.71**	**313**	P	P	13 17 24.4	+0.6
	0.3nm,0.5s,baz=94,slow=7.4,SNR=4.3						
KURBB	**Kurchatov Arra**	**58.48**	**317**	P	P	13 17 42.3	-0.7
	1.0nm,0.4s,baz=93,slow=7.6,SNR=6.0						
ILAR	**Eielson Array**	**61.60**	**27**	P	P	13 18 02.7	-1.4
	0.7nm,0.8s,baz=258,slow=5.9,SNR=8.5						
BVAR	**Borovoye Array**	**63.59**	**320**	P	P	13 18 17.8	+0.4
	1.3nm,0.4s,baz=106,slow=9.2,SNR=6.8						
DLBC	**Dease Lake**	**69.55**	**34**	P	P	13 18 56.4	+1.2
	1.3nm,0.9s,baz=234,slow=8.7,SNR=3.8						
YKA	**Yellowknife Ar**	**76.00**	**28**	P	P	13 19 31.9	-1.2
	1.1nm,0.7s,baz=300,slow=6.1,SNR=3.2						
JOF	**Joensuu**	**80.98**	**335**	*ep*	P	13 20 00.5	+0.2
	0.4nm,0.3s						
NVAR	**Mina Array Bea**	**82.26**	**52**	P	P	13 20 08.7	+0.9
	0.6nm,0.6s,baz=281,slow=5.3,SNR=8.4						
FINES	**FINESS Array B**	**83.84**	**335**	P	P	13 20 14.6	-0.5
	1.4nm,0.5s,baz=73,slow=4.0,SNR=14						
LPAZ	**La Paz**	**148.71**	**86**	PKPbc	PKPbc	13 27 33.8	+0.1
	0.5nm,0.4s,baz=348,slow=9.3,SNR=3.5						

IDC 05 13:48:07.7±5.3,26°.38S×112°.25W,h0km,mb3.6/2, mb1 4.1/2,mb1mx3.7/16,mbtmp3.6/2,MS3.5/3,Ms1 3.5/3, ms1mx2.9/28,Error ellipse: s-maj=397.6km s-min=102.3km az=101.0,Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPT	**Papeete**	**35.60**	**277**	LR	LR	14 04 51.0	
	comp=Z,178nm,21.6s,baz=110,slow=28						
PLCA	**Paso Flores**	**37.23**	**123**	LR	LR	14 06 00.8	
	comp=Z,109nm,19.8s,baz=283,slow=29						
ATAH	**Atahualpa**	**37.46**	**65**	LR	LR	14 05 37.9	
	comp=Z,16nm,20.9s,baz=196,slow=28						
NVAR	**Mina Array Bea**	**64.71**	**355**	P	P	13 58 48.1	+0.3
	0.6nm,0.7s,baz=178,slow=8.8,SNR=5.0						
PDAR	**Pinedale Array**	**68.84**	**2**	P	P	13 59 13.7	-0.4
	0.2nm

WRA	**Warramunga Arr**	**45.87 262**	P	P	14 12 46.9	+0.9
	1.0nm,0.4s,baz=91,slow=8.5,SNR=15					

IDC 05 14:13:58.9±3.3, 5°.83S×152°.73E, h0km, mb3.1/2, mb1 3.5/3, mb1mx3.2/19, mbtmp3.3/3, ML2.3/1, Error ellipse: s-maj=142.6km s-min=46.5km az=128.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.56**	**237**	Pn	Pn	14 15 38.1	+1.4
	0.4nm,0.3s,baz=31,slow=18,SNR=2.5						
PMG				Sn	Sn	14 16 47.4	-5.0
	1.8nm,0.3s,baz=338,slow=16,SNR=5.1						
WRA	**Warramunga Arr**	**22.72**	**230**	P	P	14 19 00.7	-1.9
	0.4nm,0.8s,baz=55,slow=10,SNR=3.1						
ASAR	**Alice Springs**	**25.35**	**224**	P	P	14 19 28.5	+0.6
	0.6nm,0.7s,baz=59,slow=8.8,SNR=9.4						
TORD	**Torodi Ar. Bea**	**150.55**	**286**	PKPbc	PKPbc	14 33 53.6	-0.2
	0.2nm,0.4s,baz=76,slow=2.1,SNR=4.3						

DJA 05 14:23:17.3±0.8, 7°.S±6°.×10°.5E±°, h25km, M3.7/9, MLv3.7/9, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	**Sukabumi**	**1.22**	**77**	P	Pn	14 23 38.4	-0.4
SKJI				S	Sn	14 23 54.3	-0.2
SBJI	**Serang**	**1.39**	**33**	P	Pn	14 23 39.5	-1.6
DBJI	**Dramaga**	**1.56**	**62**	P	Pn	14 23 42.9	-0.6
DBJI				S	Sn	14 24 03.6	+0.6
TNG	**Tangerang**	**1.69**	**49**	P	Pn	14 23 45.0	-0.3
TNG				S	Sb	14 24 07.9	-0.8
CBJI	**Citeko**	**1.71**	**60**	P	Pn	14 23 45.2	-0.4
CBJI				S	Sb	14 24 11.5	+2.2
KASI	**Kota Agung**	**1.95**	**334**	P	Pn	14 23 49.3	+0.4
LEM	**Lembang**	**2.29**	**79**	P	Pn	14 23 55.3	+1.6
CISI	**Cisompet, Garu**	**2.45**	**96**	P	Pn	14 23 55.5	-0.3
CISI				S	Sn	14 24 23.9	-1.1
KLI	**Kotabumi**	**2.46**	**348**	P	Pn	14 23 56.7	+0.8

IDC 05 14:23:37.3±3.8, 3°.36S×151°.38E, h0km, mb2.9/2, mb1 3.2/2, mb1mx3.0/18, mbtmp2.9/2, Error ellipse: s-maj=165.3km s-min=46.6km az=115.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.41**	**224**	P	P	14 28 46.8	-1.5
	0.3nm,0.9s,baz=50,slow=9.9,SNR=2.9						
ASAR	**Alice Springs**	**26.32**	**218**	P	P	14 29 16.8	+1.7
	0.2nm,0.7s,baz=51,slow=8.3,SNR=4.0						
TORD	**Torodi Ar. Bea**	**148.50**	**290**	PKPbc	PKPbc	14 43 26.1	-1.1
	0.2nm,0.4s,baz=103,slow=1.6,SNR=3.7						

*ISCJB **05** 14:38:13.1±0.4, 59°.66N±0°.02×24°.11E±0°.05, h0km, Error ellipse: s-maj=4.0km s-min=3.2km az=36.9*
*NAO **05** 14:38:14.7±1.0, 59°.68N×24°.08E, ML2.1*
*CSEM **05** 14:38:14.1±0.2, 59°.64N×24°.16E, h2km, ML2.4, Error ellipse: s-maj=4.0km s-min=3.1km az=145.0, Mining explosion.*
*IDC **05** 14:38:14.1±1.9, 59°.61N×24°.27E, h0km, mb1 3.2/4, mb1mx3.0/27, mbtmp3.1/4, ML2.7/4, Error ellipse: s-maj=22.7km s-min=6.6km az=147.0*
*BER **05** 14:38:15.8±3.6, 59°.67N×24°.07E, h0km, ML2.1(NAO), Suspected explosion*
*HEL **05** 14:38:15.0±0.1, 59°.66N×24°.12E, h0km, ML1.9, ML1.7(UPP), Explosion*
*UPP **05** 14:38:20.7, 59°.76N×23°.24E, h0km, ML1.7, Suspected Mining explosion.*

ISC 05 14:38:13.5±0.7, 59°.67N±0°.03×24°.05E±0°.02, h0km, n59, σ1§12/89, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**0.57**	**17**	*e*P	**Pg**	**14 38 25.0**	**+0.5**
MEF				*e*S	**Sg**	**14 38 31.7**	**-0.1**
MEF	**Metsahovi**	**0.57**	**17**	P	**Pg**	**14 38 24.9**	**+0.5**
MTSE	**Matsula**	**0.97**	**187**	*e*P	**Pg**	**14 38 32.1**	**+0.1**
MTSE				*e*S	**Sg**	**14 38 44.5**	**-0.1**
MTSE	**Matsula**	**0.97**	**187**	P	**Pg**	**14 38 32.1**	**+0.1**
MTSE				S	**Sg**	**14 38 44.4**	**-0.1**
PVF	**Pernaja**	**1.26**	**45**	*e*P	**Pg**	**14 38 37.1**	**-0.5**
PVF				*e*S	**Sg**	**14 38 53.1**	**-0.8**
PVF				MSG		14 38 54.6	
	comp=Z,11nm,0.2s						
PVF	**Pernaja**	**1.26**	**45**	P	**Pg**	**14 38 37.1**	**-0.5**
PVF				S	**Sg**	**14 38 53.1**	**-0.8**
RAF	**Rauma**	**1.77**	**321**	*e*P	**Pb**	**14 38 47.0**	**+0.2**
RAF				*e*S	**Sb**	**14 39 09.7**	**+0.3**
RAF				MSG		14 39 14.2	
	comp=Z,10nm,0.1s						
RAF	**Rauma**	**1.77**	**321**	P	**Pb**	**14 38 46.9**	**+0.2**
RAF				S	**Sb**	**14 39 09.7**	**+0.3**
VSU	**Vasula**	**1.84**	**130**	Pg	**Pn**	**14 38 47.0**	**+0.7**
VSU				Lg	Lg	14 39 13.2	
VSU	**Vasula**	**1.84**	**130**	Pg	**Pn**	**14 38 47.0**	**+0.7**
VSU				Lg	Lg	14 39 13.2	
VSU	**Vasula**	**1.84**	**130**	*e*P	**Pn**	**14 38 47.0**	**+0.7**
VSU				*e*S	**Sn**	**14 39 10.7**	**+0.3**
VSU	**Vasula**	**1.84**	**130**	Pg	**Pn**	**14 38 47.0**	**+0.7**
VSU				S	**Sn**	**14 39 10.6**	**+0.3**
VSU				Lg	Lg	14 39 13.2	
	SNR=91						
VJF	**Virojoki**	**1.96**	**62**	*e*P	**Pn**	**14 38 48.1**	**+0.2**
VJF				*e*S	**Sn**	**14 39 14.3**	**+1.1**
VJF	**Virojoki**	**1.96**	**62**	P	**Pn**	**14 38 48.1**	**+0.2**
VJF				S	**Sn**	**14 39 14.2**	**+1.1**
FIA0	**FINESS Array S**	**2.04**	**29**	Pn	**Pn**	**14 38 50.4**	**+1.4**
	baz=201,slow=16						
FIA0				Lg	Lg	14 39 18.3	
	baz=214,slow=22						
FIA0	**FINESS Array S**	**2.04**	**29**	Pn	**Pn**	**14 38 50.4**	**+1.4**
	baz=201,slow=16						
FIA0				Lg	Lg	14 39 18.3	
	baz=214,slow=22						
FIA0	**FINESS Array S**	**2.04**	**29**	*e*P	**Pb**	**14 38 50.7**	**-0.6**
FIA0				*e*S	**Sb**	**14 39 16.7**	**-0.6**
FIA0	**FINESS Array S**	**2.04**	**29**	Pn	**Pn**	**14 38 50.4**	**+1.4**
	baz=201,slow=14,SNR=50						
FIA0	**FINESS Array S**	**2.04**	**29**	P	**Pb**	**14 38 50.7**	**-0.6**
FIA0				S	**Sb**	**14 39 16.6**	**-0.6**
FIA0				Lg	Lg	14 39 18.3	
	baz=214,slow=22,SNR=90						
FINES	**FINESS Array B**	**2.04**	**29**	Pn	**Pn**	**14 38 50.4**	**+1.4**
	comp=Z,3.3nm,0.3s,baz=211,slow=14,SNR=452						
FINES				Pg	**Pb**	**14 38 51.5**	**+0.2**
	comp=Z,3.3nm,0.3s,baz=207,slow=15,SNR=444						
FINES				Sn	**Sb**	**14 39 16.7**	**-0.6**
	comp=Z,5.3nm,0.3s,baz=202,slow=24,SNR=24						
FINES				Lg	Lg	14 39 18.4	
	comp=Z,5.3nm,0.3s,baz=207,slow=24,SNR=28						
AAL	**Aland**	**2.11**	**286**	*e*P	**Pn**	**14 38 51.8**	**+1.8**
AAL				*e*S	**Sb**	**14 39 19.2**	**+0.1**
AAL	**Aland**	**2.11**	**286**	P	**Pn**	**14 38 51.7**	**+1.8**
AAL				S	**Sb**	**14 39 19.2**	**+0.1**
KEF	**Keuruu**	**2.53**	**9**	*e*PB	**Pb**	**14 38 59.1**	**-0.7**
KEF				*e*SB	**Sb**	**14 39 31.1**	**-0.4**
KEF	**Keuruu**	**2.53**	**9**	Pb	**Pb**	**14 38 59.1**	**-0.7**
KEF				Sb	**Sb**	**14 39 31.0**	**-0.4**
KAF	**Kangasniemi**	**2.68**	**23**	*e*P	**Pn**	**14 38 60.0**	**+2.0**
KAF				*e*SB	**Sb**	**14 39 35.0**	**-0.8**
KAF	**Kangasniemi**	**2.68**	**23**	P	**Pn**	**14 38 59.9**	**+2.0**
KAF				Sb	**Sb**	**14 39 35.0**	**-0.8**
NRTU	**Norrtaelje**	**2.75**	**272**	P	**Pn**	**14 39 00.1**	**+1.3**
NRTU	**Norrtaelje**	**2.75**	**272**	P	**Pn**	**14 39 00.1**	**+1.3**
FLYU	**Flymyra**	**3.14**	**281**	P	**Pn**	**14 39 05.4**	**+1.3**
FLYU	**Flymyra**	**3.14**	**281**	P	**Pn**	**14 39 05.4**	**+1.3**
BACU	**Backbrunna**	**3.52**	**276**	P	**Pn**	**14 39 10.7**	**+1.4**
BACU	**Backbrunna**	**3.52**	**276**	P	**Pn**	**14 39 10.7**	**+1.4**
IGGU	**Iggoen**	**3.56**	**293**	P	**Pn**	**14 39 11.8**	**+1.8**
IGGU	**Iggoen**	**3.56**	**293**	P	**Pn**	**14 39 11.8**	**+1.8**
ARNU	**Arnoeviken**	**3.86**	**305**	P	**Pn**	**14 39 15.6**	**+1.6**
ARNU	**Arnoeviken**	**3.86**	**305**	P	**Pn**	**14 39 15.6**	**+1.6**
ESKU	**Eskilstuna**	**3.94**	**267**	P	**Pn**	**14 39 17.2**	**+2.2**
ESKU	**Eskilstuna**	**3.94**	**267**	P	**Pn**	**14 39 17.2**	**+2.2**
HEMU	**Hemsoen**	**4.19**	**319**	P	**Pn**	**14 39 20.8**	**+2.3**
HEMU	**Hemsoen**	**4.19**	**319**	P	**Pn**	**14 39 20.8**	**+2.3**
FALU	**Falun**	**4.20**	**285**	P	**Pn**	**14 39 19.8**	**+1.1**
FALU	**Falun**	**4.20**	**285**	P	**Pn**	**14 39 19.8**	**+1.1**
NRAU	**Nora**	**4.58**	**273**	P	**Pn**	**14 39 24.9**	**+1.0**
NRAU	**Nora**	**4.58**	**273**	P	**Pn**	**14 39 24.9**	**+1.0**
HFS	**Hagfors**	**5.24**	**280**	Pn	**Pn**	**14 39 33.8**	**+0.9**
	baz=108,slow=12						
HFS				Sn	**Sn**	**14 40 33.5**	**-0.4**
	baz=86,slow=28						
HFS				Lg	Lg	14 40 54.8	
	baz=77,slow=37						
HFS	**Hagfors**	**5.24**	**280**	Pn	**Pn**	**14 39 33.8**	**+0.9**
	baz=108,slow=12						
HFS				Sn	**Sn**	**14 40 33.5**	**-0.4**
	baz=86,slow=28						
HFS				Lg	Lg	14 40 54.8	
	baz=77,slow=37						
HFS	**Hagfors**	**5.24**	**280**	Pn	**Pn**	**14 39 33.9**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=117,slow=13,SNR=22						
HFS				Pg	**Pb**	**14 39 44.6**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=94,slow=14,SNR=8.9						
HFS				Sn	**Sn**	**14 40 33.0**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=225,slow=15,SNR=1.7						
HFS				Lg	Lg	14 40 55.2	
	comp=Z,0.5nm,0.3s,baz=89,slow=31,SNR=6.5						
HFS	**Hagfors**	**5.24**	**280**	Pn	**Pn**	**14 39 33.8**	**+0.9**
	baz=108,slow=12,SNR=50						
HFS				Sn	**Sn**	**14 40 33.5**	**-0.4**
	baz=86,slow=26,SNR=50						
HFS				Lg	Lg	14 40 54.8	
	baz=77,slow=34						
NB2	**NORSAR Subarra**	**6.52**	**288**	Pn	**Pn**	**14 39 50.6**	**+0.1**
	baz=98,slow=12						
NB2				Sn	**Sn**	**14 41 04.0**	**-1.4**
	baz=99,slow=22						
NB2				Lg	Lg	14 41 36.6	
NB2	**NORSAR Subarra**	**6.52**	**288**	Pn	**Pn**	**14 39 50.6**	**+0.1**
	baz=98,slow=12						
NB2				Sn	**Sn**	**14 41 04.0**	**-1.4**
	baz=99,slow=22						
NB2				Lg	Lg	14 41 36.6	
NB2	**NORSAR Subarra**	**6.52**	**288**	Pn	**Pn**	**14 39 50.7**	**+0.1**
	baz=98,slow=12,SNR=50						
NB2				Sn	**Sn**	**14 41 04.1**	**-1.4**
	baz=99,slow=22,SNR=50						
NB2				Lg	Lg	14 41 36.7	
	SNR=50						
NOA	**NORSAR Array B**	**6.52**	**288**	Pn	**Pn**	**14 39 50.2**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=92,slow=13,SNR=9.8						
NOA				Sn	**Sn**	**14 41 04.8**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=122,slow=10,SNR=3.8						
NOA				Lg	Lg	14 41 37.5	
	comp=Z,0.4nm,0.3s,baz=353,slow=13,SNR=1.4						
APA0	**Apatity Array**	**8.89**	**23**	Pn	**Pn**	**14 40 25.1**	**+2.1**
	baz=205,slow=12						
APA0	**Apatity Array**	**8.89**	**23**	Pn	**Pn**	**14 40 25.1**	**+2.1**
	baz=205,slow=12						
APA0	**Apatity Array**	**8.89**	**23**	Pn	**Pn**	**14 40 25.0**	**+2.1**
	baz=205,slow=12,SNR=50						
ARA0	**ARCESS Array S**	**9.92**	**3**	Pn	**Pn**	**14 40 37.0**	**-0.2**
	baz=177,slow=14						
ARA0				Sn	Sn	14 42 22.9	-6.2
	baz=182,slow=28						
ARA0	**ARCESS Array S**	**9.92**	**3**	Pn	**Pn**	**14 40 37.0**	**-0.2**
	baz=177,slow=14						
ARA0				Sn	Sn	14 42 22.9	-6.2
	baz=182,slow=28						
ARA0	**ARCESS Array S**	**9.92**	**3**	Pn	**Pn**	**14 40 37.0**	**-0.2**
	baz=177,slow=13,SNR=50						
ARCES	**ARCESS Array B**	**9.92**	**3**	Pn	**Pn**	**14 40 36.9**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=184,slow=13,SNR=15						

IDC 05 14:39:29.8±6.6, 14°.95S×167°.15E, h222km±68km, mb3.1/4, mb1 3.2/5, mb1mx3.0/20, mbtmp3.1/5, MS4.0/1, Ms1 4.0/1, ms1mx2.9/11, Error ellipse: s-maj=63.6km s-min=38.8km az=152.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.12**	**185**	P	Pn	14 41 11.2	-0.6
	1.6nm,0.3s,baz=90,slow=24,SNR=3.0						
DZM				S	S	14 42 34.3	+1.1
	0.5nm,0.3s,baz=88,slow=24,SNR=2.3						
CTA	**Charters Tower**	**20.56**	**253**	LR	LR	14 50 28.9	
	comp=Z,422nm,21.2s,baz=252,slow=32						
STKA	**Stephens Creek**	**28.76**	**230**	P	P	14 45 07.4	+0.4
	2.0nm,0.6s,baz=59,slow=8.4,SNR=6.8						
WRA	**Warramunga Arr**	**31.66**	**256**	P	P	14 45 32.5	-0.1
	0.2nm,0.5s,baz=86,slow=9.3,SNR=3.7						
ASAR	**Alice Springs**	**32.49**	**249**	P	P	14 45 39.3	-0.6
	0.3nm,0.8s,baz=75,slow=8.8,SNR=6.4						
SONM	**Songino Array**	**82.60**	**324**	P	P	14 51 29.5	+1.2
	2.0nm,0.3s,baz=140,slow=5.6,SNR=2.7						
VNA3	**Neumayer Olymp**	**94.00**	**181**	*e*P	P	14 52 21.1	-1.2
VNA2	**Neumayer--Watz**	**94.26**	**182**	*e*P	P	14 52 23.8	+0.3
ARCES	**ARCESS Array B**	**120.43**	**345**	PKP	PKPdf	14 57 53.1	-1.2
	1.9nm,1.0s,baz=77,slow=1.2,SNR=3.7						

WEL 05 14:53:04.6±0.3, 44°.38S×168°.14E, h12km, ML3.5/11, 4C-2D, Error ellipse: s-maj=2.6km s-min=1.6km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.33**	**208**	⇑P*	Pg	14 53 11.1	-0.2
MSZ				S*	Sg	14 53 15.5	-0.2
MSZ				S*	Sb	14 53 15.6	-2.1
MSZ				AML	AML	14 53 15.7	
MSZ				AML	AML	14 53 17.5	
JCZ	**Jackson Bay**	**0.54**	**55**	⇑P*	Pg	14 53 15.0	-0.3
JCZ				S*	Sg	14 53 22.0	-0.6
JCZ				AML	AML	14 53 23.7	
WKZ	**Wanaka**	**0.77**	**126**	⇓P*	Pg	14 53 19.0	-0.6
WKZ				S*	Sg	14 53 28.0	-1.7
WKZ				AML	AML	14 53 29.4	
WKZ				AML	AML	14 53 29.4	
WKZ				AML	AML	14 53 29.4	
MLZ	**Mavora Lakes**	**0.97**	**179**	⇑P*	Pg	14 53 22.6	-0.8
MLZ				AML	AML	14 53 40.7	
MLZ				AML	AML	14 53 42.9	
EAZ	**Earnscleugh**	**1.19**	**136**	⇑P*	Pn	14 53 26.3	-0.8
EAZ				AML	AML	14 53 44.8	
EAZ				AML	AML	14 53 44.8	
EAZ				AML	AML	14 53 45.7	
EAZ				AML	AML	14 53 45.7	
DCZ	**Deep Cove**	**1.30**	**212**	PN	Pn	14 53 27.4	-1.1
DCZ				AML	AML	14 53 45.7	
DCZ				AML	AML	14 53 45.8	
DCZ				AML	AML	14 53 48.9	
DCZ				AML	AML	14 53 49.1	
FOZ	**Fox Glacier**	**1.38**	**54**	PN	Pg	14 53 31.3	+0.2
FOZ				AML	AML	14 53 53.1	
FOZ				AML	AML	14 53 53.9	
FOZ				AML	AML	14 53 54.2	
FOZ				AML	AML	14 53 54.2	
LBZ	**Lake Benmore**	**1.46**	**91**	PN	Pb	14 53 31.9	+0.1
LBZ				AML	AML	14 53 53.1	
LBZ				AML	AML	14 53 54.1	
WHZ	**Wether Hill Ro**	**1.52**	**185**	⇓PN	Pn	14 53 31.3	-0.3
WHZ				AML	AML	14 53 59.0	
WHZ				AML	AML	14 53 59.8	
TUZ	**Tuapeka**	**1.89**	**147**	PN	Pn	14 53 37.3	+0.6
TUZ				AML	AML	14 54 03.9	
TUZ				AML	AML	14 54 05.2	
ODZ	**Otahua Downs**	**1.90**	**111**	PN	Pn	14 53 37.5	+0.6
RPZ	**Rata Peaks**	**2.20**	**73**	*e*Pn	Pn	14 53 42.2	+1.2
RPZ				AML	AML	14 54 16.1	
RPZ				AML	AML	14 54 17.1	
SYZ	**Scrubby Hill**	**2.27**	**162**	PN	Pn	14 53 42.3	+0.4
WVZ	**Waitaha Valley**	**2.29**	**56**	*e*Pn	Pn	14 53 41.5	-0.6
HHSZ	**Highcliff Hill**	**2.30**	**132**	*e*PN	Pn	14 53 43.6	+1.3
APZ	**The Paps**	**2.45**	**182**	*e*PN	Pn	14 53 44.5	0.0
DSZ	**Denniston Nort**	**3.76**	**47**	*e*PN	Pn	14 54 01.8	-0.6
THZ	**Tophouse**	**4.36**	**55**	*e*PN	Pn	14 54 12.5	+1.8
QRZ	**Quartz Range**	**4.81**	**44**	PN	Pn	14 54 16.7	0.0
NNZ	**Nelson**	**4.98**	**52**	*e*PN	Pn	14 54 20.2	+1.0

IDC 05 14:56:40.2±1.8, 13°.48N×92°.85E, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.4/28, mbtmp3.6/6, ML3.5/1, Error ellipse: s-maj=64.3km s-min=24.1km az=67.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.67**	**49**	Pn	Pn	14 58 33.8	+0.5
	0.2nm,0.3s,baz=238,slow=15,SNR=2.7						
MKAR	**Makanchi Array**	**34.38**	**347**	P	P	15 03 28.7	-0.3
	0.1nm,0.4s,baz=170,slow=5.9,SNR=4.1						
FITZ	**Fitzroy Crossi**	**45.07**	**133**	P	P	15 04 58.1	-0.1
	2.3nm,1.0s,baz=338,slow=5.4,SNR=4.7						
WRA	**Warramunga Arr**	**52.63**	**128**	P	P	15 05 56.1	-0.4
	0.6nm,0.7s,baz=311,slow=7.8,SNR=8.0						
ASAR	**Alice Springs**	**54.54**	**132**	P	P	15 06 10.0	-0.4
	0.3nm,0.4s,baz=314,slow=7.2,SNR=8.4						
STKA	**Stephens Creek**	**64.91**	**135**	P	P	15 07 22.2	+0.5
	1.4nm,0.9s,baz=319,slow=11,SNR=2.5						

IDC 05 15:14:07.9±2.2, 4°.77S×129°.55E, h0km, mb3.5/1, mb1 3.5/4, mb1mx3.3/20, mbtmp3.3/4, ML2.6/3, Error ellipse: s-maj=107.2km s-min=28.0km az=74.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**13.79**	**196**	Pn	Pn	15 17 23.1	-1.7
	0.0nm,0.3s,baz=346,slow=17,SNR=2.4						
WRA	**Warramunga Arr**	**15.79**	**163**	Pn	Pn	15 17 51.1	-0.6
	0.0nm,0.3s,baz=348,slow=13,SNR=2.7						
ASAR	**Alice Springs**	**19.25**	**168**	P	Pn	15 18 35.2	+0.2
	0.0nm,0.3s,baz=352,slow=12,SNR=4.7						
MKAR	**Makanchi Array**	**66.13**	**327**	P	P	15 24 57.1	0.0
	0.3nm,0.5s,baz=116,slow=8.1,SNR=6.6						

IDC 05 15:41:19.5±2.9, 14°.58S×178°.15W, h364km±40km, mb3.0/6, mb1 3.4/7, mb1mx3.1/19, mbtmp3.1/7, Error ellipse: s-maj=89.0km s-min=14.8km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.21**	**85**	P	Pn	15 42 55.3	+1.9
	0.9nm,0.3s,baz=293,slow=15,SNR=4.1						
AFI				S	S	15 44 08.2	-1.4
	2.4nm,0.3s,baz=283,slow=23,SNR=6.3						
STKA	**Stephens Creek**	**40.53**	**238**	P	P	15 48 24.4	-0.4
	1.6nm,0.9s,baz=100,slow=14,SNR=2.4						
WRA	**Warramunga Arr**	**45.57**	**256**	P	P	15 49 04.7	-0.3
	0.4nm,0.6s,baz=88,slow=7.2,SNR=9.7						
ASAR	**Alice Springs**	**46.02**	**251**	P	P	15 49 08.5	+0.1
	2.1nm,0.5s,baz=86,slow=7.8,SNR=43						
NVAR	**Mina Array Bea**	**76.87**	**44**	P	P	15 52 33.0	+0.3
	0.3nm,0.5s,baz=230,slow=8.2,SNR=4.2						
ILAR	**Eielson Array**	**82.61**	**13**	P	P	15 53 01.8	-0.6
	0.3nm,0.6s,baz=229,slow=5.5,SNR=2.7						
TXAR	**Lajitas Array**	**84.02**	**58**	P	P	15 53 11.2	+0.8
	0.4nm,0.8s,baz=215,slow=7.7,SNR=4.0						
BRTR	**Keskin Array B**	**142.56**	**318**	PKP	PKPdf	16 00 08.6	-1.5
	0.8nm,0.6s,baz=64,slow=3.4,SNR=5.5						

*KRSC **05** 16:22:28.1±1.6, 48°.22N×155°.81E, h5km±5km, ML3.9*
*MOS **05** 16:22:28.4±2.8, 48°.41N×154°.56E, h47km, mb4.0/2, Error ellipse: s-maj=32.7km s-min=12.1km az=61.6*
*ISCJB **05** 16:22:29.6±1.4, 48°.4N±0°.1×154°.8E±0°.2, h69km±16km, mb3.4/5, Error ellipse: s-maj=30.5km s-min=9.6km az=39.5*
*IDC **05** 16:22:33.4±3.1, 48°.51N×154°.58E, h82km±31km, mb3.3/5, mb1 3.5/7, mb1mx3.3/26, mbtmp3.4/7, Error ellipse: s-maj=36.9km s-min=28.0km az=133.0*

ISC 05 16:22:29.3±1.8, 48°.3N±0°.1×154°.8E±0°.2, h47km±20km, n24, σ1§52/27, mb3.4/5, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.56**	**19**	*e*PN	Pn	16 23 02.4	-5.9
SKR				*e*S	Sn	16 23 31.9	-6.3
SKR				pmax	pmax		
	comp=Z,60nm,0.5s						
SKR				pmax	pmax		
	comp=N,60nm,0.3s						
SKR				smax	smax		
	comp=N,140nm,0.5s						
SKR				smax	smax		
	comp=E,150nm,0.5s						
SKR	**Severo-Kuril's**	**2.56**	**19**	*e*P	**Pn**	**16 23 08.2**	**-0.1**
SKR				*i* S	**Sn**	**16 23 37.5**	**-0.7**
PAU	**Pauzhetka**	**3.45**	**21**	*e*P	**Pn**	**16 23 21.9**	**+1.4**
PAU				*i* S	**Sn**	**16 24 01.6**	**+1.5**
MIPR	**Malaya Ipel'ka**	**4.20**	**16**	*e*P	**Pn**	**16 23 32.2**	**+1.4**
ASAK	**Asacha**	**4.57**	**24**	*e*P	**Pn**	**16 23 37.3**	**+1.4**
MTVR	**Mutnovka**	**4.74**	**26**	*e*P	**Pn**	**16 23 39.1**	**+0.9**
MTVR				*i* S	**Sn**	**16 24 30.7**	**-1.2**
RUS	**Russkaya**	**4.80**	**28**	*e*P	**Pn**	**16 23 38.5**	**-0.4**
RUS				*i* S	**Sn**	**16 24 29.9**	**-3.2**
PETK	**Petropavlovsk-**	**5.18**	**20**	PN	**Pn**	**16 23 46.2**	**+2.0**
PETK				S	Sn	16 24 50.6	+7.9
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK	**Petropavlovsk-**	**5.18**	**20**	P	**Pn**	**16 23 46.1**	**+2.0**
	comp=Z,1.1nm,0.3s,baz=185,slow=14,SNR=55						
PETK				S	Sn	16 24 50.6	+7.9
	baz=167,slow=20,SNR=2.6						
PET	**Petropavlovsk**	**5.35**	**26**	*e*PN	Pn	16 23 50.5	+4.0
PET				*e*S	**Sn**	**16 24 46.6**	**-0.1**
PET				smax	smax		
	comp=N,33nm,0.6s						
PET	**Petropavlovsk**	**5.35**	**26**	*e*P	**Pn**	**16 23 47.6**	**+1.1**
PET				*i* S	**Sn**	**16 24 46.0**	**-0.7**
SDLR	**Sedlovina**	**5.64**	**26**	*e*P	**Pn**	**16 23 50.6**	**0.0**
GNL	**Ganaly**	**5.78**	**19**	*e*P	**Pn**	**16 23 55.3**	**+2.8**
MKZ	**Mys Kozlova**	**7.63**	**32**	*e*P	**Pn**	**16 24 17.9**	**+0.1**
KBTR	**Krutoberegovo**	**9.34**	**29**	*e*P	**Pn**	**16 24 42.2**	**+1.1**
ASAJ	**Asahikawa**	**9.44**	**248**	P	Pn	16 24 46.2

*ISCJB **05** 16:35:52.0±0.3,59.°66N±0.°02×24.°53E±0.°05,h0km, mb3.3/2,Error ellipse: s-maj=3.5km s-min=2.9km az=33.6*
*IDC **05** 16:35:53.9±1.2,59.°63N×24.°72E,h0km,mb3.3/2, mb1 3.6/5,mb1mx3.3/26,mbtmp3.6/5,ML4.1/2,Error ellipse: s-maj=14.2km s-min=7.3km az=137.0*
*CSEM **05** 16:35:53.6±0.2,59.°69N×24.°57E,h2km,ML2.9,Error ellipse: s-maj=4.3km s-min=2.8km az=127.0,Mining explosion.*
*HEL **05** 16:35:54.3±0.0,59.°67N×24.°52E,h0km,ML2.4, ML1.9(UPP),Explosion*
*NAO **05** 16:35:54.6±1.0,59.°71N×24.°52E,ML2.7*
*BER **05** 16:35:55.1±4.2,59.°70N×24.°53E,h0km±17km, ML2.7(NAO)*
*UPP **05** 16:35:57.6,59.°75N×24.°06E,h0km,ML1.9,Suspected Mining explosion.*

ISC 05 16:35:52.7±0.6,59.°67N±0.°02×24.°50E±0.°03,h0km,n101, σ1§50/129,Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**0.55**	**355**	*eP*	**Pg**	**16 36 04.2**	**+0.9**
MEF				*eS*	**Sg**	**16 36 10.8**	**+0.4**
MEF	**Metsahovi**	**0.55**	**355**	P	**Pg**	**16 36 04.1**	**+0.9**
MEF				S	**Sg**	**16 36 10.8**	**+0.4**
MTSE	**Matsula**	**1.02**	**201**	*eP*	**Pg**	**16 36 12.7**	**+0.5**
MTSE				*eS*	**Sg**	**16 36 25.9**	**+0.5**
MTSE	**Matsula**	**1.02**	**201**	P	**Pg**	**16 36 12.7**	**+0.5**
MTSE				S	**Sg**	**16 36 25.9**	**+0.5**
PVF	**Pernaja**	**1.11**	**37**	*eP*	**Pg**	**16 36 14.1**	**+0.1**
PVF				*eS*	**Sg**	**16 36 28.3**	**-0.1**
PVF				MSG		16 36 35.0	
	comp=Z,44nm,0.2s						
PVF	**Pernaja**	**1.11**	**37**	P	**Pg**	**16 36 14.0**	**+0.1**
PVF				S	**Sg**	**16 36 28.3**	**-0.1**
VSU	**Vasula**	**1.67**	**135**	Pg	**Pn**	**16 36 23.8**	**+0.7**
VSU				Lg	Lg	16 36 48.6	
VSU	**Vasula**	**1.67**	**135**	Pg	**Pn**	**16 36 23.8**	**+0.7**
VSU				Lg	Lg	16 36 48.6	
VSU	**Vasula**	**1.67**	**135**	*eP*	**Pn**	**16 36 24.0**	**+0.8**
VSU				*eS*	**Sn**	**16 36 45.2**	**-0.1**
VSU	**Vasula**	**1.67**	**135**	P	**Pn**	**16 36 24.0**	**+0.8**
VSU				S	**Sn**	**16 36 45.1**	**-0.1**
VSU				Lg	Lg	16 36 48.6	
	SNR=121						
VJF	**Virojoki**	**1.76**	**59**	*eP*	**Pn**	**16 36 25.0**	**+0.6**
VJF				*eS*	**Sn**	**16 36 47.5**	**0.0**
VJF				MSG		16 36 51.2	
	comp=Z,54nm,0.2s						
VJF	**Virojoki**	**1.76**	**59**	P	**Pn**	**16 36 25.0**	**+0.6**
VJF				S	**Sn**	**16 36 47.5**	**0.0**
RAF	**Rauma**	**1.92**	**316**	*eP*	**Pb**	**16 36 28.8**	**+0.2**
RAF				*eS*	**Sn**	**16 36 52.7**	**+1.2**
RAF	**Rauma**	**1.92**	**316**	P	**Pb**	**16 36 28.8**	**+0.2**
RAF				S	**Sn**	**16 36 52.6**	**+1.2**
FIA0	**FINESS Array S**	**1.94**	**23**	Pg	**Pn**	**16 36 28.6**	**+1.7**
	baz=195,slow=18						
FIA0				Lg	Lg	16 36 53.9	
	baz=185,slow=37						
FIA0	**FINESS Array S**	**1.94**	**23**	Pg	**Pn**	**16 36 28.6**	**+1.7**
	baz=195,slow=18						
FIA0				Lg	Lg	16 36 53.9	
	baz=185,slow=37						
FIA0	**FINESS Array S**	**1.94**	**23**	*eP*	**Pn**	**16 36 28.8**	**+1.9**
FIA0				*eS*	**Sn**	**16 36 53.2**	**+1.2**
FIA0	**FINESS Array S**	**1.94**	**23**	Pg	**Pn**	**16 36 28.6**	**+1.7**
	baz=195,slow=17,SNR=90						
FIA0				S	**Sn**	**16 36 53.2**	**+1.2**
FINES	**FINESS Array B**	**1.94**	**23**	Pg	**Pn**	**16 36 28.5**	**+1.6**
	comp=Z,19nm,0.3s,baz=195,slow=16,SNR=812						
FINES				Lg	Lg	16 36 53.4	
	comp=Z,13nm,0.3s,baz=191,slow=28,SNR=6.3						
AAL	**Aland**	**2.33**	**285**	*e*PB	**Pb**	**16 36 35.2**	**-0.3**
AAL				*e*SB	**Sn**	**16 37 04.0**	**+2.5**
AAL	**Aland**	**2.33**	**285**	P	**Pn**	**16 36 34.1**	**+1.9**
AAL	**Aland**	**2.33**	**285**	Pb	**Pb**	**16 36 35.1**	**-0.3**
AAL				Sb	**Sn**	**16 37 03.9**	**+2.5**
SLIT	**Slitere, Latvi**	**2.35**	**210**	*eP*	**Pn**	**16 36 35.1**	**+2.6**
	SNR=50						
KEF	**Keuruu**	**2.51**	**4**	*e*PB	**Pn**	**16 36 37.7**	**+2.9**
KEF				*e*SB	**Sb**	**16 37 09.7**	**-0.4**
KEF	**Keuruu**	**2.51**	**4**	Pb	**Pn**	**16 36 37.6**	**+2.9**
KEF				Sb	**Sb**	**16 37 09.7**	**-0.4**
NRTU	**Norrtaelje**	**2.98**	**273**	P	**Pn**	**16 36 42.6**	**+1.5**
NRTU	**Norrtaelje**	**2.98**	**273**	P	**Pn**	**16 36 42.6**	**+1.5**
FORU	**Forsmark**	**3.25**	**286**	P	**Pn**	**16 36 46.8**	**+1.9**
FORU	**Forsmark**	**3.25**	**286**	P	**Pn**	**16 36 46.7**	**+1.9**
FLYU	**Flymyra**	**3.37**	**281**	P	**Pn**	**16 36 47.4**	**+1.0**
FLYU	**Flymyra**	**3.37**	**281**	P	**Pn**	**16 36 47.4**	**+1.0**
NYNU	**Nynaeshamn**	**3.40**	**261**	P	**Pn**	**16 36 48.1**	**+1.3**
NYNU	**Nynaeshamn**	**3.40**	**261**	P	**Pn**	**16 36 48.1**	**+1.3**
BACU	**Backbrunna**	**3.75**	**276**	P	**Pn**	**16 36 52.9**	**+1.2**
BACU	**Backbrunna**	**3.75**	**276**	P	**Pn**	**16 36 52.8**	**+1.2**
IGGU	**Iggoen**	**3.78**	**292**	P	**Pn**	**16 36 53.3**	**+1.2**
IGGU	**Iggoen**	**3.78**	**292**	P	**Pn**	**16 36 53.3**	**+1.2**
ARNU	**Arnoeviken**	**4.05**	**303**	P	**Pn**	**16 36 57.2**	**+1.4**
ARNU	**Arnoeviken**	**4.05**	**303**	P	**Pn**	**16 36 57.2**	**+1.4**
ESKU	**Eskilstuna**	**4.16**	**267**	P	**Pn**	**16 36 59.5**	**+2.1**
ESKU	**Eskilstuna**	**4.16**	**267**	P	**Pn**	**16 36 59.4**	**+2.1**
HUDU	**Hudiksvall**	**4.18**	**303**	P	**Pn**	**16 36 58.8**	**+1.2**
HUDU	**Hudiksvall**	**4.18**	**303**	P	**Pn**	**16 36 58.8**	**+1.2**
FALU	**Falun**	**4.42**	**285**	P	**Pn**	**16 37 02.1**	**+1.2**
FALU	**Falun**	**4.42**	**285**	P	**Pn**	**16 37 02.1**	**+1.2**
HASU	**Hassela**	**4.59**	**306**	P	**Pn**	**16 37 04.8**	**+1.6**
HASU	**Hassela**	**4.59**	**306**	P	**Pn**	**16 37 04.7**	**+1.6**
VSTU	**Vaestervik**	**4.62**	**248**	P	**Pn**	**16 37 05.5**	**+1.8**
VSTU	**Vaestervik**	**4.62**	**248**	P	**Pn**	**16 37 05.4**	**+1.8**
ASPU	**Aespoe**	**4.71**	**245**	P	**Pn**	**16 37 06.8**	**+1.8**
ASPU	**Aespoe**	**4.71**	**245**	P	**Pn**	**16 37 06.7**	**+1.8**
NRAU	**Nora**	**4.81**	**273**	P	**Pn**	**16 37 07.3**	**+1.1**
NRAU	**Nora**	**4.81**	**273**	P	**Pn**	**16 37 07.3**	**+1.1**
ASKU	**Askersund**	**5.02**	**265**	P	**Pn**	**16 37 10.9**	**+1.7**
ASKU	**Askersund**	**5.02**	**265**	P	**Pn**	**16 37 10.9**	**+1.7**
OSKU	**Oskarshamn**	**5.06**	**244**	P	**Pn**	**16 37 11.0**	**+1.2**
OSKU	**Oskarshamn**	**5.06**	**244**	P	**Pn**	**16 37 11.0**	**+1.2**
EKSU	**Eksjoe**	**5.25**	**250**	P	**Pn**	**16 37 13.3**	**+1.0**
EKSU	**Eksjoe**	**5.25**	**250**	P	**Pn**	**16 37 13.3**	**+1.0**
HFS	**Hagfors**	**5.46**	**280**	Pn	**Pn**	**16 37 16.6**	**+1.4**
	baz=96,slow=12						
HFS				Sn	**Sn**	**16 38 18.8**	**+0.2**
	baz=85,slow=22						
HFS				Lg	Lg	16 38 41.5	
	baz=91,slow=28						
HFS	**Hagfors**	**5.46**	**280**	Pn	**Pn**	**16 37 16.6**	**+1.4**
	baz=96,slow=12						
HFS				Sn	**Sn**	**16 38 18.8**	**+0.2**
	baz=85,slow=22						
HFS				Lg	Lg	16 38 41.5	
	baz=91,slow=28						
HFS	**Hagfors**	**5.46**	**280**	Pn	**Pn**	**16 37 16.8**	**+1.6**
	comp=Z,1.1nm,0.3s,baz=92,slow=13,SNR=72						
HFS				Sn	**Sn**	**16 38 17.5**	**-1.2**
	comp=Z,1.7nm,0.3s,baz=92,slow=27,SNR=9.7						
HFS				Lg	Lg	16 38 39.8	
	comp=Z,1.7nm,0.3s,baz=85,slow=31,SNR=5.3						
HFS	**Hagfors**	**5.46**	**280**	Pn	**Pn**	**16 37 16.6**	**+1.4**
	baz=96,slow=12,SNR=50						
HFS				Sn	**Sn**	**16 38 18.8**	**+0.2**
	baz=85,slow=20,SNR=50						
HFS				Lg	Lg	16 38 41.5	
	baz=91,slow=28,SNR=5.1						
UDD	**Uddeholm**	**5.50**	**279**	P	**Pn**	**16 37 17.2**	**+1.4**
UDD	**Uddeholm**	**5.50**	**279**	P	**Pn**	**16 37 17.2**	**+1.4**
BLEU	**Blekinge**	**5.72**	**238**	P	**Pn**	**16 37 19.8**	**+1.1**
BLEU	**Blekinge**	**5.72**	**238**	P	**Pn**	**16 37 19.8**	**+1.1**
NASU	**Vaermlandsnaes**	**5.85**	**268**	P	**Pn**	**16 37 22.7**	**+2.2**
NASU	**Vaermlandsnaes**	**5.85**	**268**	P	**Pn**	**16 37 22.7**	**+2.2**
NOD	**Norderasen**	**5.96**	**314**	P	**Pn**	**16 37 23.1**	**+1.0**
NOD	**Norderasen**	**5.96**	**314**	P	**Pn**	**16 37 23.1**	**+1.0**
SJUU	**Sjulsmark**	**6.01**	**348**	P	**Pn**	**16 37 24.4**	**+1.7**
SJUU	**Sjulsmark**	**6.01**	**348**	P	**Pn**	**16 37 24.4**	**+1.7**
LILU	**Lilltraesk**	**6.03**	**341**	P	**Pn**	**16 37 24.2**	**+1.1**
LILU	**Lilltraesk**	**6.03**	**341**	P	**Pn**	**16 37 24.2**	**+1.1**
FINU	**Finntorp**	**6.12**	**273**	P	**Pn**	**16 37 24.9**	**+0.7**
FINU	**Finntorp**	**6.12**	**273**	P	**Pn**	**16 37 25.0**	**+0.7**
BORU	**Boraas**	**6.45**	**257**	P	**Pn**	**16 37 30.1**	**+1.3**
BORU	**Boraas**	**6.45**	**257**	P	**Pn**	**16 37 30.1**	**+1.3**
DEL	**Delary**	**6.49**	**245**	P	Pn	16 37 33.1	+3.8
DEL	**Delary**	**6.49**	**245**	P	Pn	16 37 33.1	+3.8
HARU	**Harads**	**6.71**	**348**	P	**Pn**	**16 37 33.9**	**+1.5**
HARU	**Harads**	**6.71**	**348**	P	**Pn**	**16 37 33.8**	**+1.5**
NB2	**NORSAR Subarra**	**6.73**	**287**	Pn	**Pn**	**16 37 32.6**	**-0.1**
	baz=98,slow=12						
NB2				Sn	**Sn**	**16 38 48.0**	**-2.1**
	baz=95,slow=22						
NB2				Lg	Lg	16 39 21.4	
	baz=96,slow=37						
NB2	**NORSAR Subarra**	**6.73**	**287**	Pn	**Pn**	**16 37 32.6**	**-0.1**
	baz=98,slow=12,SNR=50						
NB2				Sn	**Sn**	**16 38 48.0**	**-2.1**
	baz=95,slow=21,SNR=50						
NB2				Lg	Lg	16 39 21.4	
	baz=96,slow=36,SNR=3.1						
NOA	**NORSAR Array B**	**6.73**	**287**	Pn	**Pn**	**16 37 32.8**	**0.0**
	comp=Z,1.2nm,0.3s,baz=91,slow=14,SNR=39						
NOA				Sn	**Sn**	**16 38 47.5**	**-2.6**
	comp=Z,1.2nm,0.3s,baz=118,slow=22,SNR=5.4						
NOA				Lg	Lg	16 39 20.2	
	comp=Z,1.9nm,0.3s,baz=101,slow=18,SNR=6.4						
STRU	**Stroemstad**	**6.84**	**270**	P	**Pn**	**16 37 34.3**	**+0.2**
STRU	**Stroemstad**	**6.84**	**270**	P	**Pn**	**16 37 34.3**	**+0.2**
BSD	**Bornholm Skovb**	**6.90**	**233**	*i* P	**Pn**	**16 37 34.5**	**-0.5**
BSD				*i* S	**Sn**	**16 38 51.0**	**-3.1**
BSD	**Bornholm Skovb**	**6.90**	**233**	*e*P	**Pn**	**16 37 34.5**	**-0.5**
APA0	**Apatity Array**	**8.81**	**22**	Pn	**Pn**	**16 38 02.4**	**+1.4**
	baz=219,slow=14						
APA0	**Apatity Array**	**8.81**	**22**	Pn	**Pn**	**16 38 02.4**	**+1.4**
	baz=219,slow=14						
APA0	**Apatity Array**	**8.81**	**22**	Pn	**Pn**	**16 38 02.4**	**+1.4**
	baz=219,slow=12,SNR=50						
AKASG	**Malin Array Be**	**9.38**	**161**	Pn	**Pn**	**16 38 09.1**	**+0.1**
	comp=Z,1.9nm,0.3s,baz=340,slow=12,SNR=8.6						
ARCES	**ARCESS Array B**	**9.92**	**2**	Pn	**Pn**	**16 38 16.5**	**+0.3**
	comp=Z,2.8nm,0.3s,baz=179,slow=14,SNR=106						
ARCES				Sn	**Sn**	**16 40 04.5**	**-3.7**
	comp=Z,0.6nm,0.3s,baz=187,slow=21,SNR=4.8						
ARA0	**ARCESS Array S**	**9.92**	**2**	Pn	**Pn**	**16 38 15.5**	**-0.8**
	baz=174,slow=16						
ARA0				Sn	**Sn**	**16 40 03.3**	**-4.8**
	baz=182,slow=22						
ARA0	**ARCESS Array S**	**9.92**	**2**	Pn	**Pn**	**16 38 15.5**	**-0.8**
	baz=174,slow=16						
ARA0				Sn	**Sn**	**16 40 03.3**	**-4.8**
	baz=182,slow=22						
ARA0	**ARCESS Array S**	**9.92**	**2**	Pn	**Pn**	**16 38 15.5**	**-0.8**
	baz=174,slow=15,SNR=50						
MKAR	**Makanchi Array**	**35.72**	**85**	P	**P**	**16 42 52.6**	**0.0**
	comp=Z,0.1nm,0.3s,baz=306,slow=6.7,SNR=6.2						
TORD	**Torodi Ar. Bea**	**49.42**	**210**	P	**P**	**16 44 44.3**	**+0.1**
	comp=Z,0.4nm,0.8s,baz=358,slow=8.3,SNR=3.7						

DJA 05 16:40:13.1±1.4,8°S±9°×107°E±°,h10km,M3.8/4,MLv3.8/4, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.71**	**51**	P	Pg	16 40 26.6	-0.4
CISI				S	Sg	16 40 35.9	-0.5
CISI	**Cisompet, Garu**	**0.71**	**51**	S	Pn	16 40 26.4	-3.0
	baz=21,SNR=133						
SKJI	**Sukabumi**	**1.22**	**325**	P	Pn	16 40 34.5	-1.7
LEM	**Lembang**	**1.23**	**17**	P	Pn	16 40 36.1	-0.5
LEM				S	Sg	16 40 53.1	0.0
LEM	**Lembang**	**1.23**	**17**	S	Pn	16 40 36.4	-0.2
	baz=21,SNR=19						
DBJI	**Dramaga**	**1.53**	**341**	P	Pn	16 40 40.4	-0.2

*IDC **05** 16:46:08.9±2.9,37.°31N×143.°24E,h0km,mb3.4/3, mb1 3.5/4,mb1mx3.3/24,mbtmp3.3/4,ML3.2/1,Error ellipse: s-maj=74.9km s-min=31.3km az=55.0*
*ISCJB **05** 16:46:11.4±1.0,37.°30N±0.°04×142.°95E±0.°08,h24km, mb3.4/3,Error ellipse: s-maj=8.6km s-min=6.1km az=3.2*
*JMA **05** 16:46:12.4±0.2,37.°33N×142.°95E,h38km,M3.2*

ISC 05 16:46:12.6±1.4,37.°32N±0.°06×143.°01E±0.°09,h24km,n16, σ1§40/25,mb3.4/3,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.71**	**272**	P	**Pn**	**16 46 40.0**	**-0.9**
JFK				S	**Sn**	**16 46 59.9**	**-2.0**
JIO	**Ouri**	**1.73**	**311**	P	**Pn**	**16 46 40.5**	**-0.7**
JIO				S	**Sn**	**16 47 01.2**	**-1.4**
ONAJ	**Iwakimizuishiy**	**1.78**	**264**	P	**Pn**	**16 46 41.2**	**-0.7**
JMM	**Marumori**	**1.84**	**288**	P	**Pn**	**16 46 41.6**	**-1.1**
JMM				*e*S	**Sn**	**16 47 03.4**	**-1.9**
JFT	**Otama**	**2.14**	**276**	P	**Pn**	**16 46 46.9**	**+0.1**
JFT				*e*S	**Sn**	**16 47 12.6**	**0.0**
JMK	**Ichinoseki**	**2.15**	**320**	P	**Pn**	**16 46 46.8**	**-0.2**
JMK				S	**Sn**	**16 47 12.2**	**-0.7**
JOM	**Ohasama**	**2.54**	**328**	*e*S	**Sn**	**16 47 21.9**	**-0.5**
JYK	**Kaneyama**	**2.63**	**308**	P	**Pn**	**16 46 53.5**	**0.0**
JAG	**Ashikaga**	**2.99**	**254**	P	**Pn**	**16 46 58.5**	**0.0**
JAG				*e*S	**Sn**	**16 47 32.1**	**-1.5**
JANG	**Nango**	**3.26**	**339**	*e*S	**Sn**	**16 47 37.9**	**-2.4**
JRY	**Ryogami san**	**3.55**	**250**	P	**Pn**	**16 47 05.9**	**-0.4**
JRY				*e*S	**Sn**	**16 47 45.7**	**-1.8**
JOD2	**Odawara 2**	**3.78**	**238**	P	**Pn**	**16 47 08.9**	**-0.5**
JOD2				*e*S	**Sn**	**16 47 50.4**	**-2.7**
MJAR	**Matsushiro Arr**	**3.93**	**260**	Pn	**Pn**	**16 47 12.7**	**+1.3**
	1.7nm,0.3s,baz=88,slow=16,SNR=35						
MJAR				Sn	**Sb**	**16 48 10.9**	**+2.7**
	0.4nm,0.3s,baz=111,slow=13,SNR=4.6						
MKAR	**Makanchi Array**	**45.05**	**302**	P	**P**	**16 54 27.5**	**+1.2**
	0.1nm,0.4s,baz=82,slow=10,SNR=3.5						
WRA	**Warramunga Arr**	**57.54**	**190**	P	**P**	**16 55 59.9**	**-0.3**
	0.7nm,0.9s,baz=12,slow=7.2,SNR=4.6						
ASAR	**Alice Springs**	**61.27**	**190**	P	**P**	**16 56 26.3**	**+0.5**
	0.2nm,0.6s,baz=3.9,slow=6.6,SNR=3.5						

IDC 05 16:56:16.1±1.1,13.°75N×92.°55E,h0km,mb3.8/7, mb1 3.8/8,mb1mx3.5/28,mbtmp3.7/8,ML3.2/1,Error ellipse: s-maj=45.6km s-min=19.0km az=52.0,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.72**	**52**	Pn	Pn	16 58 11.4	+1.5
	0.1nm,0.3s,baz=238,slow=15,SNR=2.9						
MKAR	**Makanchi Array**	**34.05**	**347**	P	P	17 03 01.6	-0.4
	0.2nm,0.5s,baz=148,slow=7.9,SNR=3.8						
KURBB	**Kurchatov Arra**	**38.50**	**346**	P	P	17 03 39.6	-0.4
	0.2nm,0.2s,baz=165,slow=7.8,SNR=4.3						
WRA	**Warramunga Arr**	**53.02**	**128**	P	P	17 05 34.7	-0.6
	0.4nm,0.5s,baz=309,slow=7.8,SNR=6.3						
ASAR	**Alice Springs**	**54.93**	**132**	P	P	17 05 49.3	+0.1
	0.5nm,0.5s,baz=308,slow=7.5,SNR=18						
BRTR	**Keskin Array B**	**57.50**	**308**	P	P	17 06 08.7	+1.1
	0.7nm,0.6s,baz=94,slow=6.6,SNR=4.3						
FINES	**FINESS Array B**	**66.83**	**331**	P	P	17 07 09.0	-0.6
	3.0nm,1.0s,baz=156,slow=9.8,SNR=3.6						
ARCES	**ARCESS Array B**	**69.25**	**340**	P	P	17 07 24.6	0.0
	1.9nm,0.9s,baz=72,slow=27,SNR=2.9						

*ISCJB **05** 17:02:35.0±0.5,40.°26N±0.°03×37.°88E±0.°03,h5km±5km, Error ellipse: s-maj=5.1km s-min=3.6km az=172.0*
*ISK **05** 17:02:34.5,40.°27N×37.°91E,h4km,MD3.1*
*DDA **05** 17:02:34.6,40.°26N×37.°83E,h7km,MD3.3,ML3.6*
*CSEM **05** 17:02:35.0±0.1,40.°25N×37.°90E,h2km,ML3.6,Error ellipse: s-maj=4.0km s-min=3.0km az=176.0*

ISC 05 17:02:35.5±0.9,40.°25N±0.°02×37.°88E±0.°02,h15km±8km, n42,σ1§16/57,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUSE	**Susehri**	**0.25**	**99**	*i* P	**Pg**	**17 02 41.3**	**+0.2**
SUSE				*i* S	**Sg**	**17 02 45.8**	**+1.0**
SUSE	**Susehri**	**0.25**	**99**	*i* P	**Pg**	**17 02 41.3**	**+0.2**
RSDY	**Resadiye-TOKAT**	**0.45**	**290**	*e*PG	**Pg**	**17 02 44.2**	**-0.2**
RSDY				*e*SG	**Sb**	**17 02 51.2**	**-0.4**
RSDY	**Resadiye-TOKAT**	**0.45**	**290**	*e*Pg	**Pg**	**17 02 44.2**	**-0.2**
RSDY				*e*Sg	**Sb**	**17 02 51.2**	**-0.4**
SCER	**sogukcermik**	**0.69**	**236**	*i* P	**Pg**	**17 02 47.4**	**-1.6**
SCER				*i* S	**Sg**	**17 02 57.4**	**-0.8**
SCER	**sogukcermik**	**0.69**	**236**	*i* P	**Pg**	**17 02 47.4**	**-1.6**
SCER				*i* S	**Sg**	**17 02 57.4**	**-0.8**
GRSN	**GIRESUNGRSN**	**0.74**	**24**	*i* P	**Pg**	**17 02 49.2**	**-0.6**
GRSN				*i* S	**Sg**	**17 02 59.5**	**-0.1**
GRSN	**GIRESUNGRSN**	**0.74**	**24**	*i* P	**Pg**	**17 02 49.2**	**-0.6**
GRSN				*i* S	**Sg**	**17 02 59.5**	**-0.1**
SVSK	**Karacayir**	**0.75**	**244**	*e*PG	**Pg**	**17 02 49.4**	**-0.7**
SVSK	**Karacayir**	**0.75**	**244**	*e*Pg	**Pg**	**17 02 49.4**	**-0.7**
ESPY	**Espiye-Giresun**	**0.93**	**44**	*e*PG	**Pg**	**17 02 52.7**	**-0.8**
ESPY				*e*SG	**Sb**	**17 03 05.4**	**-0.1**
ESPY	**Espiye-Giresun**	**0.93**	**44**	*e*Pg	**Pg**	**17 02 52.7**	**-0.8**
ESPY				*e*Sg	**Sb**	**17 03 05.4**	**-0.1**
ILIC	**ilic-Erzincan**	**0.96**	**146**	*e*PG	**Pg**	**17 02 53.4**	**-0.6**
ILIC	**ilic-Erzincan**	**0.96**	**146**	*e*Pg	**Pg**	**17 02 53.4**	**-0.6**
ERBA	**Erbaa**	**0.96**	**297**	*i* P	**Pg**	**17 02 52.9**	**-1.2**
ERBA				*i* S	**Sg**	**17 03 06.0**	**-0.7**
ERBA	**Erbaa**	**0.96**	**297**	*i* P	**Pg**	**17 02 52.9**	**-1.2**
ERBA				*i* S	**Sg**	**17 03 06.0**	**-0.7**
KELT	**Kelkit**	**1.06**	**95**	*i* P	**Pg**	**17 02 54.8**	**-1.2**
KELT				*i* S	**Sg**	**17 03 08.7**	**-1.2**
KELT	**Kelkit**	**1.06**	**95**	*i* P	**Pg**	**17 02 54.8**	**-1.2**
KELT				*i* S	**Sg**	**17 03 08.7**	**-1.2**
KEMA	**Kemaliye**	**1.09**	**154**	*i* P	**Pg**	**17 02 55.0**	**-1.5**
KEMA				*i* S	**Sb**	**17 03 11.4**	**+1.3**
KEMA	**Kemaliye**	**1.09**	**154**	*i* P	**Pg**	**17 02 55.0**	**-1.5**
KEMA				*i* S	**Sb**	**17 03 11.4**	**+1.3**
EZC	**Erzincan**	**1.24**	**113**	*e*PN	**Pg**	**17 02 58.5**	**-0.8**
EZC	**Erzincan**	**1.24**	**113**	*e*Pn	**Pg**	**17 02 58.5**	**-0.8**
GUMT	**Gumushane**	**1.24**	**80**	*e*PN	**Pg**	**17 02 58.4**	**-1.0**
GUMT	**Gumushane**	**1.24**	**80**	*e*Pn	**Pg**	**17 02 58.4**	**-1.0**
ERZN	**Erzincan**	**1.56**	**114**	*e*PN	**Pn**	**17 03 03.7**	**+0.8**
KTUT	**Trabzon**	**1.62**	**62**	*e*PN	**Pn**	**17 03 04.4**	**+0.9**
KTUT	**Trabzon**	**1.62**	**62**	*e*Pn	**Pn**	**17 03 04.4**	**+0.9**
DARE	**Darende-Malaty**	**1.70**	**190**	*e*PN	**Pn**	**17 03 05.9**	**+1.2**
BAYT	**Ayd¨–ntepe-Bay**	**1.74**	**84**	*e*PN	**Pn**	**17 03 06.4**	**+1.1**
BAYT	**Ayd¨–ntepe-Bay**	**1.74**	**84**	*e*Pn	**Pn**	**17 03 06.4**	**+1.1**
PTK	**Pertek**	**1.79**	**139**	*e*PN	**Pn**	**17 03 07.4**	**+1.4**
PTK	**Pertek**	**1.79**	**139**	*e*Pn	**Pn**	**17 03 07.4**	**+1.4**
MALT	**Malatya**	**1.98**	**167**	*e*PN	**Pb**	**17 03 10.6**	**-0.6**
MALT	**Malatya**	**1.98**	**167**	*e*Pn	**Pb**	**17 03 10.6**	**-0.6**
YOZ	**Yozgat**	**2.06**	**254**	*e*PN	**Pn**	**17 03 11.8**	**+2.1**
YOZ	**Yozgat**	**2.06**	**254**	*e*Pn	**Pn**	**17 03 11.8**	**+2.1**
BNN	**Bunyan**	**2.10**	**229**	*e*PN	**Pn**	**17 03 12.3**	**+2.1**
BNN	**Bunyan**	**2.10**	**229**	*e*Pn	**Pn**	**17 03 12.3**	**+2.1**
CORM	**Corum**	**2.49**	**269**	*e*PN	**Pn**	**17 03 17.7**	**+2.1**
CORM	**Corum**	**2.49**	**269**	*e*Pn	**Pn**	**17 03 17.7**	**+2.1**
VRTB	**Varto-Mus**	**2.97**	**110**	*e*PN	**Pn**	**17 03 23.2**	**+1.0**
VRTB	**Varto-Mus**	**2.97**	**110**	*e*Pn	**Pn**	**17 03 23.2**	**+1.0**

*IDC **05** 17:07:50.1±1.4,1.°59S×99.°21E,h0km,mb4.0/9, mb1 4.0/11,mb1mx3.8/27,mbtmp3.9/11,ML3.4/2,MS3.5/2, Ms1 3.5/2,ms1mx2.7/41,Error ellipse: s-maj=58.6km s-min=15.2km az=55.0*
*NEIC **05** 17:07:51.7±0.6,1.°56S×99.°31E,h10km,mb4.3/1,Error ellipse: s-maj=16.8km s-min=7.2km az=56.0*
*ISCJB **05** 17:07:55.7±0.6,1.°51S±0.°05×99.°22E±0.°06,h30km, mb4.1/9,MS3.6/2,Error ellipse: s-maj=9.9km s-min=6.6km az=146.4*
*DJA **05** 17:07:52.4±1.1,1.°S±5.°×9.°9E±.°,h10km,M4.7/5,MLv4.7/5*

ISC 05 17:07:55.0±0.8,1.°43S±0.°08×99.°38E±0.°08,h30km,n41, σ1§00/38,mb4.0/9,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.20**	**65**	P	**Pn**	**17 08 15.4**	**-0.4**
PDSI				S	**Sb**	**17 08 34.1**	**+1.7**
PPI	**Padang Panjang**	**1.41**	**46**	P	**Pn**	**17 08 18.4**	**-0.2**
BKNI	**Bangkinang**	**2.41**	**44**	P	**Pn**	**17 08 35.0**	**+2.5**
MASI	**Maura Aman, Be**	**3.33**	**121**	P	**Pn**	**17 08 47.3**	**+2.2**
KSI	**

MTN				S	Sn	17 42 15.8	+1.3	
	baz=5.9,SNR=4.2							
FAKI	**Fak Fak**	**5.99**	**40**	P	**Pn**	**17 41 09.1**	**0.0**	
	baz=5.9,SNR=4.4							
FAKI				S	**Sn**	**17 42 15.5**	**-1.3**	
	baz=5.9,SNR=3.7							
KDU	**Kakadu**	**6.47**	**142**	P	**Pn**	**17 41 16.5**	**+1.0**	
	baz=6.5,SNR=37							
KDU				S	**Sn**	**17 42 25.5**	**-2.9**	
	baz=6.5,SNR=11							
SWI	**Sorong**	**7.23**	**23**	S	**Sn**	**17 42 43.7**	**-3.0**	
	baz=7.2,SNR=72							
KNRA	**Kununurra**	**8.07**	**178**	P	**Pn**	**17 41 37.1**	**+0.2**	
	baz=8.2,SNR=31							
KNRA				S	**Sn**	**17 43 02.5**	**-4.4**	
	baz=8.2,SNR=5.0							
FITZ	**Fitzroy Crossi**	**10.82**	**194**	P	**Pn**	**17 42 11.7**	**-1.7**	
	baz=11,SNR=6.5							
MMPI	**Merauke**	**11.88**	**95**	S	**Sn**	**17 44 42.1**	**+3.3**	
	baz=12,SNR=4.0							
WRA	**Warramunga Arr**	**13.58**	**156**	Pn	**Pn**	**17 42 47.6**	**-1.6**	
	0.3nm,0.3s,baz=339,slow=13,SNR=26							
WRA				Sn	Sn	17 45 10.3	-9.4	
	0.4nm,0.3s,baz=3.3,slow=17,SNR=9.0							
ASAR	**Alice Springs**	**16.86**	**162**	P	**Pn**	**17 43 32.3**	**+2.6**	
	0.2nm,0.3s,baz=342,slow=11,SNR=25							
MKAR	**Makanchi Array**	**67.84**	**328**	P	**P**	**17 50 23.8**	**-0.6**	
	0.1nm,0.4s,baz=128,slow=8.9,SNR=3.0							

MEX 05 17:39:59.5±1.2, 17°.59N×100°.38W, h54km±22km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.55**	**169**	*eP*	Pn	17 40 10.2	-1.4
CAIG				*i* S	Sn	17 40 19.1	-1.4
MEIG	**Mezcala**	**0.80**	**65**	*i* P	Pn	17 40 12.7	-2.2
MEIG				*i* S	Sn	17 40 23.2	-2.8
ZIIG	**Zihuatanejo**	**1.03**	**271**	*i* P	Pn	17 40 15.9	-1.8
ZIIG				*i* S	Sn	17 40 29.5	-1.8
PLIG	**Platanillo**	**1.15**	**46**	*i* P	Pn	17 40 18.7	-0.9
PLIG				*i* S	Sn	17 40 33.1	-1.3
PPM	**Popocatepetl**	**2.22**	**48**	*i* P	Pn	17 40 32.5	-2.1
PPM				*i* S	Sn	17 40 59.3	-2.0
PNIG	**Pinotepa**	**2.47**	**119**	*i* P	Pn	17 40 37.6	+0.3
PNIG				*i* S	Sn	17 41 03.9	-2.4

IDC 05 17:43:57.4±1.1, 14°.55N×55°.08E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.5/27, mbtmp3.6/6, Error ellipse: s-maj=36.9km s-min=27.0km az=175.0, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**39.37**	**30**	P	P	17 51 28.7	+0.1
	0.5nm,0.9s,baz=219,slow=11,SNR=2.9						
CMAR	**Chiang Mai Arr**	**42.16**	**78**	P	P	17 51 53.1	+1.1
	2.0nm,0.8s,baz=275,slow=9.1,SNR=13						
ZALV	**Zalesovo Beam**	**45.70**	**24**	P	P	17 52 18.4	-1.6
	0.9nm,0.7s,baz=223,slow=8.1,SNR=3.8						
TORD	**Torodi Ar. Bea**	**51.76**	**275**	P	P	17 53 07.3	+0.1
	0.8nm,1.0s,baz=107,slow=4.8,SNR=3.8						
WRA	**Warramunga Arr**	**85.11**	**112**	P	P	17 56 35.0	-0.9
	0.5nm,0.8s,baz=292,slow=4.0,SNR=3.2						
ASAR	**Alice Springs**	**85.84**	**116**	P	P	17 56 39.1	-0.4
	0.3nm,0.8s,baz=294,slow=4.3,SNR=5.7						
NVAR	**Mina Array Bea**	**126.93**	**354**	PKP	PKPdf	18 03 04.7	+0.7
	0.2nm,0.4s,baz=114,slow=2.3,SNR=4.1						

IDC 05 17:49:33.8±0.7, 14°.70N×55°.02E, h0km, mb3.9/16, mb1 4.0/16, mb1mx3.8/30, mbtmp3.9/16, MS3.5/19, Ms1 3.5/19, ms1mx3.3/40, Error ellipse: s-maj=19.4km s-min=18.3km az=147.0, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**12.27**	**257**	LR	LR	17 56 01.6	
	comp=Z,285nm,21.2s,baz=76,slow=32						
ASF	**Jabal al Asfar**	**23.99**	**320**	LR	LR	18 05 24.3	
	comp=Z,31nm,19.2s,baz=314,slow=40						
KBZ	**Khabaz**	**30.73**	**343**	LR	LR	18 10 14.3	
	comp=Z,114nm,19.1s,baz=164,slow=40						
AKTO	**Aktyubinsk**	**35.72**	**3**	P	P	17 56 34.3	+0.3
	3.6nm,0.7s,baz=181,slow=10,SNR=10						
MKAR	**Makanchi Array**	**39.27**	**30**	P	P	17 57 05.3	+1.1
	1.6nm,0.6s,baz=219,slow=7.2,SNR=12						
MKAR				LR	LR	18 14 41.7	
	comp=Z,56nm,21.2s,baz=52,slow=38						
BVAR	**Borovoye Array**	**40.13**	**14**	P	P	17 57 11.2	-0.1
	0.5nm,0.6s,baz=191,slow=6.9,SNR=3.3						
BVAR				LR	LR	18 15 58.0	
	comp=Z,62nm,20.9s,baz=113,slow=40						
KURBB	**Kurchatov Arra**	**40.57**	**23**	P	P	17 57 14.5	-0.4
	1.3nm,0.7s,baz=224,slow=8.0,SNR=9.7						
CMAR	**Chiang Mai Arr**	**42.19**	**79**	P	P	17 57 29.2	+0.5
	3.5nm,0.8s,baz=276,slow=9.4,SNR=24						
CMAR				LR	LR	18 16 49.1	
	comp=Z,50nm,18.2s,baz=333,slow=39						
ZALV	**Zalesovo Beam**	**45.59**	**24**	P	P	17 57 55.1	-0.4
	2.6nm,0.6s,baz=234,slow=7.8,SNR=13						
ZALV				LR	LR	18 18 45.5	
	comp=Z,44nm,18.4s,baz=248,slow=38						
GERES	**GERESS Array B**	**47.97**	**324**	P	P	17 58 13.0	-1.4
	0.1nm,0.4s,baz=116,slow=4.6,SNR=2.5						
FINES	**FINESS Array B**	**51.09**	**343**	P	P	17 58 37.5	-0.3
	2.2nm,0.8s,baz=134,slow=11,SNR=5.4						
FINES				LR	LR	18 22 52.7	
	comp=Z,54nm,18.8s,baz=36,slow=39						
TORD	**Torodi Ar. Bea**	**51.68**	**275**	P	P	17 58 43.3	+0.3
	0.9nm,0.8s,baz=78,slow=6.5,SNR=3.9						
TORD				LR	LR	18 20 39.3	
	comp=Z,36nm,19.6s,baz=165,slow=36						
BOSA	**Boshof**	**51.80**	**214**	P	P	17 58 44.5	+0.7
	3.7nm,1.1s,baz=32,slow=13,SNR=4.0						
BOSA				LR	LR	18 22 28.3	
	comp=Z,111nm,19.3s,baz=254,slow=38						
SONM	**Songino Array**	**53.61**	**41**	P	P	17 58 57.8	+0.8
	1.4nm,0.9s,baz=233,slow=6.7,SNR=5.6						
SONM				LR	LR	18 24 29.3	
	comp=Z,34nm,18.5s,baz=51,slow=39						
HFS	**Hagfors**	**54.40**	**336**	LR	LR	18 24 59.8	
	comp=Z,41nm,19.7s,baz=131,slow=39						
NOA	**NORSAR Array B**	**55.93**	**336**	LR	LR	18 26 07.6	
	comp=Z,39nm,20.9s,baz=140,slow=39						
ESDC	**Sonseca Array**	**56.96**	**308**	P	P	17 59 21.3	+0.1
	0.1nm,0.3s,baz=87,slow=6.1,SNR=3.4						
ARCES	**ARCESS Array B**	**57.84**	**348**	P	P	17 59 26.3	-0.6
	2.5nm,1.0s,baz=131,slow=5.5,SNR=6.3						
ARCES				LR	LR	18 27 49.2	
	comp=Z,43nm,19.9s,baz=88,slow=40						
DBIC	**Dimbokro**	**59.23**	**269**	LR	LR	18 24 59.2	
	comp=Z,27nm,18.6s,baz=184,slow=36						
SPITS	**Spitsbergen Ar**	**66.26**	**352**	LR	LR	18 34 15.9	
	comp=Z,46nm,18.2s,baz=275,slow=40						
JMIC	**Jan Mayen**	**67.69**	**342**	LR	LR	18 30 02.0	
	comp=Z,15nm,20.7s,baz=260,slow=36						
KSRS	**Korea Array**	**67.72**	**55**	P	P	18 00 32.4	-0.9
	0.6nm,0.5s,baz=266,slow=7.8,SNR=5.7						
MAW	**Mawson**	**82.28**	**177**	LR	LR	18 30 28.3	
	comp=Z,80nm,20.6s,baz=219,slow=30						
WRA	**Warramunga Arr**	**85.23**	**112**	P	P	18 02 12.4	-0.5
	0.9nm,0.9s,baz=300,slow=3.8,SNR=4.1						
PETK	**Petropavlovsk-**	**85.81**	**36**	LR	LR	18 44 49.3	
	comp=Z,25nm,19.6s,baz=243,slow=39						
ASAR	**Alice Springs**	**85.97**	**116**	P	P	18 02 15.2	-1.3
	0.5nm,0.7s,baz=294,slow=5.0,SNR=8.4						
PDAR	**Pinedale Array**	**121.08**	**347**	PKP	PKPdf	18 08 28.4	-0.7
	0.4nm,0.7s,baz=17,slow=1.5,SNR=4.0						
NVAR	**Mina Array Bea**	**126.78**	**353**	PKP	PKPdf	18 08 41.0	+0.9
	1.0nm,0.7s,baz=65,slow=0.7,SNR=8.7						

TAP ***05*** *18:01:48.7, 24°.54N×122°.82E, h108km±1km, ML3.0, C*
ISCJB ***05*** *18:01:49.2±0.8, 24°.50N±0°.06×122°.87E±0°.02, h88km±9km, Error ellipse: s-maj=10.1km s-min=3.7km az=179.4*
JMA ***05*** *18:01:49.2±0.3, 24°.66N×122°.93E, h92km±3km, M1.4*
ISC 05 18:01:49.4±1.7, 24°.51N±0°.07×122°.88E±0°.03, h90km±14km, n31, σ0s74/48, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.13**	**110**	P	**Pn**	**18 02 02.5**	**+0.3**
IRIF	**Iriomote-Funau**	**0.80**	**102**	P	**Pn**	**18 02 06.7**	**-0.1**
IRIF				*eS*	**Sn**	**18 02 20.3**	**+0.4**
TWC	**Suao**	**0.94**	**276**	*eP*	**Pn**	**18 02 09.4**	**+1.0**
	baz=277						
TWC				S	**Sn**	**18 02 22.3**	**-0.4**
	baz=277						
HATJ	**Hateruma jima**	**0.96**	**118**	*eS*	**Sn**	**18 02 23.9**	**+0.9**
ENA	**Nanau**	**1.04**	**266**	P	**Pn**	**18 02 09.6**	**+0.1**
	baz=259						
JKRS	**Kuro-shima**	**1.07**	**104**	P	**Pn**	**18 02 10.2**	**+0.4**
JKRS				*eS*	**Sn**	**18 02 25.8**	**+0.6**
TWE	**Neicheng**	**1.12**	**281**	*eP*	**Pn**	**18 02 10.5**	**0.0**
	baz=274						
TWE				S	**Sn**	**18 02 26.2**	**-0.1**
	baz=274						
JIJ	**Ishigaki jima**	**1.16**	**97**	P	**Pn**	**18 02 10.8**	**-0.2**
JIJ				*eS*	**Sn**	**18 02 26.5**	**-0.7**
ENTT	**Nioudou**	**1.20**	**277**	P	**Pn**	**18 02 12.0**	**+0.6**
	baz=275						
TWD	**Chiawan**	**1.24**	**250**	*eP*	**Pn**	**18 02 11.3**	**-0.6**
	baz=247						
TWD				S	**Sn**	**18 02 28.5**	**-0.4**
	baz=247						
TWA	**Mucha**	**1.27**	**292**	*eP*	**Pn**	**18 02 10.8**	**-1.4**
	baz=284						
NNS	**Nan Shan**	**1.37**	**268**	*eS*	**Sn**	**18 02 31.6**	**-0.4**
	baz=258						
NSK	**Sanguang**	**1.39**	**277**	*eP*	**Pn**	**18 02 14.3**	**+0.5**
	baz=269						
NSK				*eS*	**Sn**	**18 02 32.2**	**-0.2**
	baz=269						
TWS1	**Kuangyinshan**	**1.45**	**294**	*eP*	**Pn**	**18 02 14.3**	**-0.2**
	baz=267						
ESL	**Shilin**	**1.49**	**243**	*eP*	**Pn**	**18 02 14.4**	**-0.6**
	baz=244						
ESL				S	**Sn**	**18 02 34.0**	**-0.3**
	baz=244						
WHF	**Hehuan Shan**	**1.51**	**257**	P	**Pn**	**18 02 15.5**	**-0.2**
	baz=258						
WHF				S	**Sn**	**18 02 35.0**	**-0.6**
	baz=258						
TWT	**Tachien**	**1.57**	**261**	*eS*	**Sn**	**18 02 36.9**	**+0.3**
	baz=258						
JTJ	**Tarama**	**1.67**	**85**	P	**Pn**	**18 02 16.9**	**-0.4**
JTJ				*eS*	**Sn**	**18 02 38.0**	**-0.4**
NSTT	**Nanjuang**	**1.71**	**275**	*eP*	**Pn**	**18 02 17.9**	**+0.1**
	baz=272						
NSTT				*eS*	**Sn**	**18 02 39.4**	**-0.1**
	baz=272						
EHY	**Hungye**	**1.73**	**235**	*eP*	**Pn**	**18 02 17.5**	**-0.7**
	baz=240						
EHY				*eS*	**Sn**	**18 02 39.0**	**-1.0**
	baz=240						
TWF1	**Yuli**	**1.85**	**232**	P	**Pn**	**18 02 19.2**	**-0.4**
	baz=227						
SMLT	**Sun Moon Lake**	**1.91**	**251**	*eP*	**Pn**	**18 02 21.5**	**+1.0**
	baz=244						
SMLT				*eS*	**Sn**	**18 02 42.9**	**-1.3**
	baz=244						
TYC	**Yuchr**	**1.94**	**252**	*eP*	**Pn**	**18 02 21.6**	**+0.9**
	baz=246						
TYC				*eS*	**Sn**	**18 02 45.5**	**+0.8**
	baz=246						
CHKT	**Chengkung**	**1.97**	**225**	*eP*	**Pn**	**18 02 20.3**	**-0.9**
	baz=219						
WNT	**Mingjian**	**2.10**	**253**	*eP*	**Pn**	**18 02 23.3**	**+0.5**
	baz=249						
WNT				*eS*	**Sn**	**18 02 49.5**	**+1.0**
	baz=249						
ELDTW	**Lidau**	**2.15**	**233**	*eP*	**Pn**	**18 02 23.2**	**-0.4**
	baz=227						
ELDTW				*eS*	**Sn**	**18 02 49.2**	**-0.6**
	baz=227						
CHN5	**Tsauling**	**2.20**	**246**	*eP*	**Pn**	**18 02 25.7**	**+1.4**
	baz=244						
TWG	**Pinlang**	**2.36**	**225**	*eP*	**Pn**	**18 02 26.0**	**-0.3**
	baz=229						
CHN4	**Tsaushan**	**2.38**	**242**	*eP*	**Pn**	**18 02 28.2**	**+1.5**
	baz=247						
CHN4				*eS*	**Sn**	**18 02 54.9**	**-0.4**
	baz=247						
WTP	**Ta-pu**	**2.42**	**239**	*eP*	**Pn**	**18 02 28.4**	**+1.2**
	baz=232						
CHN1	**Nanshi**	**2.52**	**239**	*eP*	**Pn**	**18 02 30.1**	**+1.5**
	baz=246						

NNC 05 18:07:21.2±3.1, 41°.89N×78°.33E, h0km, mb3.5, mpv3.1, 7C-2D, Error ellipse: s-maj=25.5km s-min=13.7km az=1.0, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDC	**Almaty**	**1.66**	**323**	⇑P	Pn	18 07 51.3	-0.5
	21nm,0.3s						
KNDC				⇓S	Sb	18 08 14.5	0.0
	17nm,0.3s						
TKM2	**Tokmak 2**	**2.27**	**298**	⇑Pn	Pn	18 07 59.7	-0.6
	6.8nm,0.5s						
TKM2				⇑Lg	Lg	18 08 29.5	
	52nm,0.5s						
MK31	**Makanchi Array**	**5.67**	**29**	⇑Pn	Pn	18 08 50.6	+3.9
	2.1nm,0.9s,baz=212,slow=13,SNR=8.6						
MK31				⇑Sn	Sn	18 09 57.7	+5.2
	0.7nm,0.5s						
MK31				⇑Lg	Lg	18 10 18.7	
	0.9nm,0.6s,baz=338,slow=21,SNR=4.2						
KK31	**Karatay Array**	**5.90**	**284**	⇑Pg	Pg	18 09 11.0	-3.5
	0.5nm,0.6s,baz=93,slow=16,SNR=6.0						
KK31				⇓Lg	Lg	18 10 20.6	
	1.8nm,0.8s,baz=101,slow=29,SNR=3.5						

IPEC ***05*** *18:07:54.2±0.3, 51°.59N×16°.23E, h0km, ML2.6/3, Error ellipse: s-maj=2.0km s-min=1.5km az=34.0*
ISCJB ***05*** *18:07:54.6±0.6, 51°.42N±0°.03×16°.08E±0°.03, h0km, Error ellipse: s-maj=4.4km s-min=2.8km az=13.3*
CSEM ***05*** *18:07:55.4±0.3, 51°.48N×16°.07E, h2km, ML3.5/10, Error ellipse: s-maj=5.7km s-min=3.8km az=169.0*
WAR ***05*** *18:07:55.7, 51°.54N×16°.09E*
PRU ***05*** *18:07:56.3, 51°.48N×16°.05E, h0km*
VIE ***05*** *18:07:58.3±0.6, 51°.27N×16°.06E, h0km, mb2.4/4, ML2.8/4, Error ellipse: s-maj=3.5km s-min=2.9km az=0.0 69 km WNW of Wroclaw Suspected Mining induced.*
ISC 05 18:07:54.3±0.9, 51°.54N±0°.03×16°.04E±0°.02, h0km, n45, σ1s08/76, 4C-1D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.72**	**167**	*ePg*	**Pg**	**18 08 08.8**	**+0.7**
KSP				*eSg*	**Sg**	**18 08 18.2**	**+0.9**
KSP	**Ksiaz**	**0.72**	**167**	⇓*iPg*	**Pg**	**18 08 08.9**	**+0.8**
KSP				*eSg*	**Sg**	**18 08 18.3**	**+0.9**
UPC	**Upice**	**1.03**	**181**	*ePG*	**Pb**	**18 08 14.8**	**-0.3**
UPC	**Upice**	**1.03**	**181**	Pg	**Pb**	**18 08 14.8**	**-0.3**
DPC	**Dobruska-Polom**	**1.21**	**171**	*ePG*	**Pg**	**18 08 17.6**	**+0.2**
DPC				*eSG*	**Sg**	**18 08 33.0**	**0.0**
DPC	**Dobruska-Polom**	**1.21**	**171**	Pg	**Pg**	**18 08 17.6**	**+0.2**
DPC				Sg	**Sg**	**18 08 33.0**	**0.0**
PVCC	**Panska Ves**	**1.37**	**223**	*ePG*	**Pb**	**18 08 21.4**	**+0.5**
PVCC				*eSG*	**Sn**	**18 08 40.1**	**+0.5**
	203nm,0.2s						
PVCC	**Panska Ves**	**1.37**	**223**	Pg	**Pb**	**18 08 21.4**	**+0.5**
PVCC				Sg	**Sn**	**18 08 40.1**	**+0.5**
	203nm,0.2s						
BRG	**Berggiesshubel**	**1.48**	**244**	PN	**Pn**	**18 08 22.3**	**+0.1**
BRG				PG	**Pb**	**18 08 23.7**	**+1.1**
BRG				SG	**Sn**	**18 08 44.2**	**+2.0**
	153nm,0.4s						
PRA	**Prague**	**1.79**	**215**	PG	**Pb**	**18 08 28.0**	**0.0**
PRA				SG	**Sg**	**18 08 52.0**	**+0.2**
PRU	**Pruhonice**	**1.82**	**212**	*e*PN	**Pn**	**18 08 27.3**	**+0.4**
PRU				*e*PG	**Pg**	**18 08 29.2**	**0.0**
PRU				*e*SG	**Sg**	**18 08 52.6**	**-0.2**
	58nm,0.6s						
PRU	**Pruhonice**	**1.82**	**212**	Pn	**Pn**	**18 08 27.3**	**+0.4**
CLL	**Collm**	**1.91**	**264**	*e*Pn	**Pn**	**18 08 28.0**	**-0.2**
CLL				*e*Pg	**Pg**	**18 08 32.0**	**+1.0**
CLL				*e*		18 08 35.0	
CLL				*i* Sg	**Sg**	**18 08 57.7**	**+1.9**
	comp=Z,37nm,0.7s						
MORC	**Moravsky Berou**	**2.01**	**151**	*e*Pn	**Pn**	**18 08 29.2**	**-0.3**
MORC				*e*Sg	**Sb**	**18 08 56.7**	**-0.6**
	comp=Z,44nm,0.6s,baz=336						
OKC	**Ostrava-Krasne**	**2.17**	**141**	*e*PG	**Pb**	**18 08 34.5**	**0.0**
OKC				*e*SG	**Sg**	**18 09 03.5**	**-0.5**
	comp=Z,29nm,0.5s						
OKC	**Ostrava-Krasne**	**2.17**	**141**	Pg	**Pb**	**18 08 34.5**	**0.0**
OKC				Sg	**Sg**	**18 09 03.5**	**-0.5**
	comp=Z,29nm,0.5s						
VRAC	**Vranov**	**2.26**	**171**	*e*Pn	**Pn**	**18 08 33.3**	**+0.3**
VRAC				*e*Sg	**Sg**	**18 09 06.2**	**-0.8**
	comp=Z,40nm,0.6s,baz=354						
TREC	**Trest**	**2.28**	**189**	*e*PN	**Pn**	**18 08 31.7**	**-1.5**
TREC				*e*PG	**Pg**	**18 08 37.5**	**-0.4**
TREC				*e*SG	**Sg**	**18 09 06.7**	**-0.7**
	comp=Z,28nm,0.2s						
TREC	**Trest**	**2.28**	**189**	Pn	**Pn**	**18 08 31.7**	**-1.5**
KRUC	**Moravsky**	**2.49**	**175**	*e*Pn	**Pn**	**18 08 36.8**	**+0.7**
	baz=358						
KRUC				*e*Sg	**Sg**	**18 09 13.5**	**-0.9**
	comp=Z,14nm,0.4s,baz=358						
OJC	**Ojcow**	**2.73**	**118**	*e*Pg	**Pg**	**18 08 46.9**	**+0.4**
OJC				*e*Sg	**Sg**	**18 09 22.0**	**+0.2**
OJC	**Ojcow**	**2.73**	**118**	*e*Pg	**Pg**	**18 08 46.9**	**+0.4**
OJC				*e*Sg	**Sg**	**18 09 22.0**	**+0.2**
KHC	**Kasperske Hory**	**2.88**	**214**	*e*PN	**Pn**	**18 08 42.2**	**+0.7**
KHC				*e*PG	**Pg**	**18 08 48.3**	**-1.2**
KHC				*e*SG	**Sg**	**18 09 26.1**	**-0.8**
	comp=Z,15nm,0.5s						
KHC	**Kasperske Hory**	**2.88**	**214**	Pn	**Pn**	**18 08 42.2**	**+0.7**
SMOL	**Smolenice**	**3.16**	**163**	*e*SG	**Sg**	**18 09 34.5**	**-1.3**
SMOL	**Smolenice**	**3.16**	**163**	*e*Sg	**Sg**	**18 09 34.5**	**-1.3**
ZST	**Bratislava**	**3.42**	**168**	*e*	**Pg**	**18 08 59.4**	**-0.4**
ZST	**Bratislava**	**3.42**	**168**	*e*SG	**Sg**	**18 09 42.4**	**-1.7**
ZST	**Bratislava**	**3.42**	**168**	*e*Sg	**Sg**	**18 09 42.4**	**-1.7**
VYHS	**Vyhne**	**3.54**	**148**	*e*PN	**Pn**	**18 08 50.1**	**-0.5**
VYHS				*e*		18 09 02.4	
VYHS	**Vyhne**	**3.54**	**148**	*e*SG	**Sg**	**18 09 47.2**	**-0.9**
VYHS	**Vyhne**	**3.54**	**148**	*e*Pn	**Pn**	**18 08 50.1**	**-0.5**
VYHS				*e*Sg	**Sg**	**18 09 47.2**	**-0.9**
CONA	**Conrad Observa**	**3.62**	**182**	⇑*i*Pn	**Pn**	**18 08 52.9**	**+1.2**
CONA				⇑*i*Sg	**Sg**	**18 09 49.1**	**-1.4**
	comp=Z,16nm,0.4s						
CONA	**Conrad Observa**	**3.62**	**182**	Pn	**Pn**	**18 08 52.9**	**+1.2**
CONA				Sg	**Sg**	**18 09 49.1**	**-1.4**
	comp=Z,16nm,0.4s						
BSD	**Bornholm Skovb**	**3.64**	**350**	*i* P	**Pn**	**18 08 51.1**	**-0.8**
BSD				*i* S	**Sn**	**18 09 31.4**	**-4.1**
BSD	**Bornholm Skovb**	**3.64**	**350**	*i* P	**Pn**	**18 08 51.1**	**-0.8**
MOA	**Molln**	**3.87**	**198**	⇑*i*Pn	**Pn**	**18 08 56.2**	**+1.1**
MOA				⇑*i*Sg	**Sg**	**18 09 57.7**	**-0.9**
	comp=Z,20nm,0.5s						
MOA	**Molln**	**3.87**	**198**	Pn	**Pn**	**18 08 56.2**	**+1.1**
MOA				Sg	**Sg**	**18 09 57.7**	**-0.9**
	comp=Z,20nm,0.5s						
STHS	**Stebnicka Huta**	**3.95**	**121**	*e*PN	**Pn**	**18 08 56.4**	**+0.3**
STHS				*e*		18 09 11.7	
STHS	**Stebnicka Huta**	**3.95**	**121**	*e*SG	**Sg**	**18 10 03.9**	**+2.8**
STHS	**Stebnicka Huta**	**3.95**	**121**	*e*Pn	**Pn**	**18 08 56.4**	**+0.3**
STHS				*e*Sg	**Sg**	**18 10 03.9**	**+2.8**
KECS	**Kecovo**	**4.20**	**135**	*e*	**Pg**	**18 09 15.3**	**+0.6**
CRVS	**Cervenica-Dubn**	**4.37**	**125**	*e*	**Pg**	**18 09 19.1**	**+1.0**
KOLS	**Kolonicke sedl**	**4.78**	**121**	*e*PN	**Pn**	**18 09 08.3**	**+0.7**
KOLS				*e*		18 09 26.2	
KOLS	**Kolonicke sedl**	**4.78**	**121**	*e*Pn	**Pn**	**18 09 08.3**	**+0.7**

ISK ***05*** *18:13:19.1, 39°.67N×28°.96E, h5km, ML3.3*
DDA ***05*** *18:13:19.7, 39°.66N×28°.94E, h8km, MD3.4, ML3.7*
CSEM ***05*** *18:13:20.4±0.1, 39°.67N×28°.96E, h2km, ML3.3, Error ellipse: s-maj=2.7km s-min=2.4km az=157.0*
ATH ***05*** *18:13:20.3, 40°.04N×28°.86E, h5km, MD3.6/6*
ISC 05 18:13:19.8±1.0, 39°.67N±0°.02×28°.94E±0°.02, h9km±8km, n133, σ1s16/155, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DST	**Dursunbey**	**0.26**	**254**	*e*PG	**Pg**	**18 13 25.2**	**+0.2**
DST	**Dursunbey**	**0.26**	**254**	*e*Pg	**Pg**	**18 13 25.2**	**+0.2**
DURS	**Dursunbey**	**0.37**	**259**	*i* P	**Pg**	**18 13 27.2**	**+0.1**
DURS				*i* S	**Sg**	**18 13 32.5**	**+0.5**
DURS	**Dursunbey**	**0.37**	**259**	*i* P	**Pg**	**18 13 27.2**	**+0.1**
DURS				*i* S	**Sg**	**18 13 32.5**	**+0.5**
ULDT	**Uludag**	**0.49**	**18**	*i* P	**Pg**	**18 13 29.6**	**+0.2**
ULDT				*i* S	**Sg**	**18 13 36.1**	**+0.1**
ULDT	**Uludag**	**0.49**	**18**	*i* P	**Pg**	**18 13 29.6**	**+0.2**
ULDT				*i* S	**Sg**	**18 13 36.1**	**+0.1**
DEMI	**Demirci**	**0.65**	**195**	*i* P	**Pg**	**18 13 32.3**	**-0.2**
DEMI				*i* S	**Sn**	**18 13 45.9**	**+0.1**
DEMI	**Demirci**	**0.65**	**195**	*i* P	**Pg**	**18 13 32.3**	**-0.2**
DEMI				*i* S	**Sn**	**18 13 45.9**	**+0.1**
MDNY	**Mudanya-Bursa**	**0.69**	**356**	*e*PG	**Pb**	**18 13 33.5**	**-0.6**
MDNY	**Mudanya-Bursa**	**0.69**	**356**	*e*Pg	**Pb**	**18 13 33.5**	**-0.6**
KCTX	**Karacabey (Bur**	**0.74**	**323**	*e*PG	**Pb**	**18 13 35.0**	**0.0**
KCTX				*e*SG	**Sb**	**18 13 46.5**	**+1.3**
KCTX	**Karacabey (Bur**	**0.74**	**323**	*e*Pg	**Pb**	**18 13 35.0**	**0.0**
KCTX				*e*Sg	**Sb**	**18 13 46.5**	**+1.3**
BALB	**Balikesir**	**0.82**	**268**	*e*PG	**Pb**	**18 13 36.4**	**+0.2**
BALB				*e*SG

AYVA			*i* S		**Sg**	18 14 16.7	-0.3
LPK	**Lapseki**	1.81 293	*e*PN		**Pb**	18 13 53.2	0.0
LPK	**Lapseki**	1.81 293	*e*Pn		**Pb**	18 13 53.2	0.0
IZM	**Izmir**	1.82 226	*e*PN		**Pb**	18 13 53.1	-0.3
IZM	**Izmir**	1.82 226	*e*Pn		**Pb**	18 13 53.1	-0.3
CTYL	**Yal??k??y-??at**	1.87 345	*e*PN		**Pb**	18 13 53.8	-0.3
CTYL	**Yal??k??y-??at**	1.87 345	*e*Pn		**Pb**	18 13 53.8	-0.3
MDUB	**Mudurnu**	1.91 65	*e*PN		**Pb**	18 13 54.2	-0.6
MDUB	**Mudurnu**	1.91 65	*e*Pn		**Pb**	18 13 54.2	-0.6
DENT	**Denizli**	1.92 178	*e*PN		**Pb**	18 13 54.3	-0.7
DENT	**Denizli**	1.92 178	*e*Pn		**Pb**	18 13 54.3	-0.7
SVRH	**Sivrihisar-ESK**	2.01 96	*e*PN		**Pb**	18 13 55.6	-1.0
SVRH	**Sivrihisar-ESK**	2.01 96	*e*Pn		**Pb**	18 13 55.6	-1.0
EZN	**Ezine**	2.02 275	*e*PN		**Pb**	18 13 56.1	-0.6
EZN	**Ezine**	2.02 275	*e*Pn		**Pb**	18 13 56.1	-0.6
GELI	**Tayfur-Gelibol**	2.03 292	*e*PN		**Pb**	18 13 56.2	-0.6
GELI	**Tayfur-Gelibol**	2.03 292	*e*Pn		**Pb**	18 13 56.2	-0.6
PRK	**Paraskevi**	2.11 259	*e*PN		**Pg**	18 13 59.4	-0.9
PRK			*e*SN		**Sg**	18 14 28.0	+0.4
PRK	**Paraskevi**	2.11 259	*e*Pn		**Pg**	18 13 59.4	-0.9
PRK			*e*Sn		**Sg**	18 14 28.0	+0.4
PHSR	**Pinarhisar**	2.23 332	*e*PN		**Pb**	18 13 58.9	-1.4
PHSR	**Pinarhisar**	2.23 332	*e*Pn		**Pb**	18 13 58.9	-1.4
KIZT	**Kizilcal**	2.42 108	*e*PN		**Pb**	18 14 01.2	-2.3
KIZT	**Kizilcal**	2.42 108	*e*Pn		**Pb**	18 14 01.2	-2.3
KDZE	**Karadeniz Ereo**	2.51 49	*e*PN		**Pb**	18 14 03.0	-2.2
KDZE	**Karadeniz Ereo**	2.51 49	*e*Pn		**Pb**	18 14 03.0	-2.2
MLSB	**Milas**	2.54 201	*e*PN		**Pb**	18 14 03.5	-2.2
MLSB	**Milas**	2.54 201	*e*Pn		**Pb**	18 14 03.5	-2.2
SMG	**Samos**	2.56 221	*e*PN		**Pg**	18 14 09.0	+0.1
SMG			*e*SN		**Sg**	18 14 44.1	+2.0
CHOS	**Chios island**	2.59 241	*e*PN		**Pg**	18 14 07.8	-1.6
CHOS			*e*SN		**Sg**	18 14 41.8	-1.2
CHOS	**Chios island**	2.59 241	*e*Pn		**Pg**	18 14 07.8	-1.6
SUTC	**Sutluce-Ispart**	2.72 143	*e*PN		**Pn**	18 14 05.5	+1.7
SUTC	**Sutluce-Ispart**	2.72 143	*e*Pn		**Pn**	18 14 05.6	+1.7
SMTH	**Samothraki Isl**	2.73 288	*e*PN		**Pn**	18 14 04.9	+1.0
SMTH	**Samothraki Isl**	2.73 288	*e*Pn		**Pn**	18 14 04.9	+1.0
EDRB	**Edirne**	2.74 323	*e*PN		**Pn**	18 14 06.1	+2.2
EDRB	**Edirne**	2.74 323	*e*Pn		**Pn**	18 14 06.1	+2.2
LIA	**Limnos Island**	2.90 276	*e*PN		**Pb**	18 14 09.0	-2.8
LIA			*e*SN		**Sb**	18 14 44.7	-2.7
LIA	**Limnos Island**	2.90 276	*e*Pn		**Pb**	18 14 09.0	-2.8
LIA			*e*Sn		**Sb**	18 14 44.7	-2.7
BODT	**Bodrum**	2.91 207	*e*PN		**Pn**	18 14 08.4	+2.2
BODT	**Bodrum**	2.91 207	*e*Pn		**Pn**	18 14 08.4	+2.2
LOD	**Lodumlu**	2.95 85	*e*PN		Pb	18 14 09.3	-3.4
LOD	**Lodumlu**	2.95 85	*e*Pn		Pb	18 14 09.3	-3.4
ANTO	**Ankara**	2.98 85	*e*PN		**Pn**	18 14 09.2	+1.9
ANTO	**Ankara**	2.98 85	*e*Pn		**Pn**	18 14 09.2	+1.9
RDO	**Rodhopi**	2.98 301	*e*PN		**Pn**	18 14 08.1	+0.8
RDO	**Rodhopi**	2.98 301	*e*Pn		**Pn**	18 14 08.1	+0.8
ELL	**Elmali**	3.02 165	*e*PN		**Pn**	18 14 09.9	+2.0
ELL	**Elmali**	3.02 165	*e*Pn		**Pn**	18 14 09.9	+2.0
FETY	**Fethiye**	3.04 178	*e*PN		**Pn**	18 14 10.2	+2.1
FETY	**Fethiye**	3.04 178	*e*Pn		**Pn**	18 14 10.2	+2.1
KONT	**Konya--Tatoy**	3.18 122	*e*PN		**Pn**	18 14 12.5	+2.4
KONT	**Konya--Tatoy**	3.18 122	*e*Pn		**Pn**	18 14 12.5	+2.4
AFSR	**Af¨ar-Bala (A**	3.20 93	*e*PN		**Pn**	18 14 12.5	+2.1
AFSR	**Af¨ar-Bala (A**	3.20 93	*e*Pn		**Pn**	18 14 12.5	+2.1
SAFT	**Safranbolu**	3.26 60	*e*PN		**Pn**	18 14 13.3	+2.2
SAFT	**Safranbolu**	3.26 60	*e*Pn		**Pn**	18 14 13.3	+2.2
JMB	**Yambol**	3.31 328	*e*P		**Pn**	18 14 13.8	+2.0
JMB	**Yambol**	3.31 328	*e*P		**Pn**	18 14 13.8	+2.0
KDZ	**Kurdzhali**	3.33 307	*e*P		**Pg**	18 14 22.4	-1.2
PRD	**Provadia**	3.71 342	*e*P		**Pn**	18 14 16.8	-0.4
PRD	**Provadia**	3.71 342	*e*P		**Pn**	18 14 16.8	-0.4
RZN	**Rozhen**	3.79 303	*e*P		**Pg**	18 14 29.6	-2.8

*ISCJB **05** 18:15:14.1±0.4,59°.67N±0°.03×24°.09E±0°.06,h0km, Error ellipse: s-maj=4.3km s-min=3.4km az=34.3*
*UPP **05** 18:15:15.0,59°.68N×24°.15E,h0km,ML1.7,Suspected Mining explosion.*
*CSEM **05** 18:15:15.2±0.1,59°.68N×24°.11E,h2km,ML2.3,Error ellipse: s-maj=3.8km s-min=2.9km az=138.0,Mining explosion.*
*IDC **05** 18:15:15.8±2.1,59°.69N×24°.15E,h0km,mb1 3.0/3, mb1mx2.8/26,mbtmp2.9/3,ML2.9/3,Error ellipse: s-maj=23.1km s-min=6.5km az=146.0*
*HEL **05** 18:15:15.5±0.1,59°.66N×24°.11E,h0km,ML2.1, ML1.7(UPP),Explosion*
*NAO **05** 18:15:16.4±1.2,59°.78N×23°.98E,ML2.0*
*BER **05** 18:15:16.7±4.6,59°.70N×24°.04E,h0km±29km, ML2.0(NAO)*

ISC 05 18:15:13.8±0.7,59°.68N±0°.02×24°.05E±0°.02,h0km,n50, σ1§24/76,Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	**Metsahovi**	0.56	18	*e*P	**Pg**	18 15 25.3	+0.7
MEF				*e*S	**Sg**	18 15 32.9	+0.9
MEF	**Metsahovi**	0.56	18	*e*P	**Pg**	18 15 25.5	+0.9
	SNR=90						
MEF				S	**Sg**	18 15 32.8	+0.9
MTSE	**Matsula**	0.98	187	*e*P	**Pg**	18 15 32.8	+0.3
MTSE				*e*S	**Sg**	18 15 45.1	-0.1
MTSE	**Matsula**	0.98	187	P	**Pg**	18 15 32.8	+0.3
MTSE				S	**Sg**	18 15 45.1	-0.1
PVF	**Pernaja**	1.25	46	*e*P	**Pg**	18 15 37.6	-0.3
PVF				*e*S	**Sb**	18 15 54.6	-0.4
PVF				MSG		18 16 02.3	
	comp=Z,14nm,0.2s						
PVF	**Pernaja**	1.25	46	P	**Pg**	18 15 37.5	-0.3
PVF				S	**Sb**	18 15 54.5	-0.4
RAF	**Rauma**	1.76	321	*e*P	**Pg**	18 15 47.5	0.0
RAF				*e*S	**Sb**	18 16 10.1	+0.6
RAF				MSG		18 16 16.5	
	comp=Z,20nm,0.2s						
RAF	**Rauma**	1.76	321	P	**Pg**	18 15 47.5	0.0
RAF				S	**Sb**	18 16 10.1	+0.6
VSU	**Vasula**	1.85	130	*e*P	**Pb**	18 15 47.8	-0.6
VSU				*e*S	**Sn**	18 16 10.3	-0.5
VSU	**Vasula**	1.85	130	*e*P	**Pb**	18 15 47.8	-0.6
	SNR=50						
VSU				*e*S	**Sb**	18 16 12.1	0.0
	comp=Z,144nm,0.2s,SNR=50						
VJF	**Virojoki**	1.96	62	*e*P	**Pn**	18 15 48.7	+0.5
VJF				*e*S	**Sb**	18 16 14.9	-0.2
VJF	**Virojoki**	1.96	62	P	**Pn**	18 15 48.7	+0.5
VJF				S	**Sb**	18 16 14.9	-0.2
FIA0	**FINESS Array S**	2.03	29	Pn	**Pb**	18 15 51.0	-0.5
	baz=202,slow=16						
FIA0				Lg	Lg	18 16 18.4	
	baz=215,slow=22						
FIA0	**FINESS Array S**	2.03	29	Pn	**Pb**	18 15 51.0	-0.5
	baz=202,slow=16						
FIA0				Lg	Lg	18 16 18.4	
	baz=215,slow=22						
FIA0	**FINESS Array S**	2.03	29	*e*P	**Pb**	18 15 51.1	-0.5
FIA0				*e*S	**Sb**	18 16 17.2	-0.1
FIA0	**FINESS Array S**	2.03	29	Pn	**Pb**	18 15 51.0	-0.5
	baz=202,slow=14,SNR=50						
FIA0				S	**Sb**	18 16 17.2	-0.1
FIA0				Lg	Lg	18 16 18.4	
	baz=215,slow=22,SNR=7.6						
FINES	**FINESS Array B**	2.03	29	Pg	**Pb**	18 15 51.0	-0.5
	comp=Z,3.8nm,0.3s,baz=212,slow=14,SNR=540						
FINES				Lg	Lg	18 16 18.6	
	comp=Z,4.6nm,0.3s,baz=214,slow=25,SNR=26						
AAL	**Aland**	2.10	285	*e*P	**Pb**	18 15 52.1	-0.6
AAL				*e*S	**Sb**	18 16 19.4	0.0
AAL	**Aland**	2.10	285	P	**Pb**	18 15 52.0	-0.7
AAL				S	**Sb**	18 16 19.3	0.0
SLIT	**Slitere, Latvi**	2.25	205	*e*P	**Pb**	18 15 54.9	-0.5
	SNR=50						
KEF	**Keuruu**	2.53	9	*e*PB	**Pb**	18 15 59.7	-0.3
KEF				*e*SB	**Sb**	18 16 31.8	+0.3
KEF	**Keuruu**	2.53	9	Pb	**Pb**	18 15 59.6	-0.3
KEF				Sb	**Sb**	18 16 31.8	+0.3
NRTU	**Norrtaelje**	2.75	272	P	**Pn**	18 16 01.2	+2.1
NRTU	**Norrtaelje**	2.75	272	P	**Pn**	18 16 01.2	+2.1
FLYU	**Flymyra**	3.14	281	P	**Pn**	18 16 05.9	+1.5
FLYU	**Flymyra**	3.14	281	P	**Pn**	18 16 05.9	+1.5
NYNU	**Nynaeshamn**	3.17	260	P	**Pn**	18 16 06.8	+1.9
NYNU	**Nynaeshamn**	3.17	260	P	**Pn**	18 16 06.7	+1.9
BACU	**Backbrunna**	3.51	276	P	**Pn**	18 16 11.2	+1.6
BACU	**Backbrunna**	3.51	276	P	**Pn**	18 16 11.2	+1.6
IGGU	**Iggoen**	3.56	292	P	**Pn**	18 16 12.1	+1.9
IGGU	**Iggoen**	3.56	292	P	**Pn**	18 16 12.1	+1.9
ARNU	**Arnoeviken**	3.85	304	P	**Pn**	18 16 16.1	+1.8
ARNU	**Arnoeviken**	3.85	304	P	**Pn**	18 16 16.0	+1.8
ESKU	**Eskilstuna**	3.93	267	P	**Pn**	18 16 17.4	+2.0
ESKU	**Eskilstuna**	3.93	267	P	**Pn**	18 16 17.3	+2.0
HFS	**Hagfors**	5.23	279	Pn	**Pn**	18 16 34.3	+1.1
	baz=110,slow=14						
HFS				Sn	**Sn**	18 17 33.8	-0.3
	baz=101,slow=28						
HFS				Lg	Lg	18 17 55.4	
	baz=86,slow=37						
HFS	**Hagfors**	5.23	279	Pn	**Pn**	18 16 34.3	+1.1
	baz=110,slow=14						
HFS				Sn	**Sn**	18 17 33.8	-0.3
	baz=101,slow=28						
HFS				Lg	Lg	18 17 55.4	
	baz=86,slow=37						
HFS	**Hagfors**	5.23	279	Pn	**Pn**	18 16 35.2	+2.0
	comp=Z,0.2nm,0.3s,baz=113,slow=13,SNR=23						
HFS				Sn	**Sn**	18 17 34.4	+0.3
	comp=Z,0.2nm,0.3s,baz=86,slow=19,SNR=3.4						
HFS				Lg	Lg	18 17 55.7	
	comp=Z,0.6nm,0.3s,baz=86,slow=30,SNR=7.0						
HFS	**Hagfors**	5.23	279	Pn	**Pn**	18 16 34.3	+1.1
	baz=110,slow=13,SNR=50						
HFS				Sn	**Sn**	18 17 33.8	-0.3
	baz=101,slow=26,SNR=50						
HFS				Lg	Lg	18 17 55.4	
	baz=86,slow=29						
NB2	**NORSAR Subarra**	6.51	288	Pn	**Pn**	18 16 49.6	-1.2
	baz=97,slow=12						
NB2				Sn	**Sn**	18 18 04.3	-1.4
	baz=99,slow=28						
NB2	**NORSAR Subarra**	6.51	288	Pn	**Pn**	18 16 49.6	-1.2
	baz=97,slow=12						
NB2				Sn	**Sn**	18 18 04.3	-1.4
	baz=99,slow=28						
NOA	**NORSAR Array B**	6.51	288	Pn	**Pn**	18 16 49.2	-1.6
	comp=Z,0.2nm,0.3s,baz=149,slow=4.6,SNR=10						
NOA				Sn	**Sn**	18 18 03.9	-1.8
	comp=Z,0.2nm,0.3s,baz=105,slow=18,SNR=3.9						
NOA				Lg	Lg	18 18 40.8	
	comp=Z,0.3nm,0.3s,baz=156,slow=5.6,SNR=4.1						
APA0	**Apatity Array**	8.88	23	Pn	**Pn**	18 17 25.9	+2.7
	baz=211,slow=14						
APA0	**Apatity Array**	8.88	23	Pn	**Pn**	18 17 25.9	+2.7
	baz=211,slow=14						
APA0	**Apatity Array**	8.88	23	Pn	**Pn**	18 17 25.9	+2.7
	baz=211,slow=14,SNR=50						
ARA0	**ARCESS Array S**	9.91	3	Pn	**Pn**	18 17 37.5	+0.2
	baz=176,slow=14						
ARA0	**ARCESS Array S**	9.91	3	Pn	**Pn**	18 17 37.5	+0.2
	baz=176,slow=14						
ARA0	**ARCESS Array S**	9.91	3	Pn	**Pn**	18 17 37.5	+0.2
	baz=176,slow=14,SNR=50						
ARCES	**ARCESS Array B**	9.91	3	Pn	**Pn**	18 17 37.5	+0.2
	comp=Z,0.2nm,0.3s,baz=174,slow=14,SNR=19						
ARCES				Sn	**Sn**	18 19 25.4	-3.7
	comp=Z,0.2nm,0.3s,baz=178,slow=23,SNR=3.3						

GUC 05 18:43:50.9±0.6,22°.05S×70°.06W,h50km±2km,ML3.7, 4C-4D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MACH	**Maria Elena**	0.32	118	⇑*i*P	Pn	18 44 00.8	+0.3
MACH				*i* S	Sn	18 44 08.1	+0.7
PB07	**Plate Boundary**	0.36	27	⇑*i*P	Pn	18 44 01.0	+0.2
PB07				*i* S	Sn	18 44 08.4	+0.5
PB07				AML	AML	18 44 08.6	
	comp=N,10μm,0.3s						
PB04	**Plate Boundary**	0.57	112	⇓*i*P	Pn	18 44 00.6	-2.4
PB04				*i* S	Sn	18 44 07.9	-3.9
PB04				AML	AML	18 44 09.0	
	comp=N,7μm,0.1s						
PB09	**Plate Boundary**	0.80	72	⇑*i*P	Pn	18 44 06.9	+0.7
PB09				*i* S	Sn	18 44 18.6	+1.2
PB09				AML	AML	18 44 19.1	
	comp=E,10μm,0.2s						
PB01	**Plate Boundary**	1.13	28	⇓*i*P	Pn	18 44 11.0	+0.4
PB01				AML	AML	18 44 26.1	
	comp=E,4μm,0.3s						
PB01				*i* S	Sn	18 44 26.4	+1.3
CEN1	**Los Morros**	1.34	185	⇑*i*P	Pn	18 44 16.7	+3.2
CEN1				*i* S	Sn	18 44 36.3	+6.0
ANCH	**Antofagasta**	1.66	191	⇓*i*P	Pn	18 44 17.4	-0.1
ANCH				*i* S	Sn	18 44 38.1	+0.4
HMBC	**Humberstone**	1.77	5	⇓*i*P	Pn	18 44 18.8	-0.5
HMBC				*i* S	Sn	18 44 41.1	+0.4
PSGC	**Pisagua**	2.44	359	AML	AML	18 45 12.0	
	comp=N,183nm,0.4s						
MNMC	**Minimini**	2.93	9	AML	AML	18 45 34.5	
	comp=N,443nm,0.6s						

*IDC **05** 18:54:56.1±0.9,39°.03N×71°.72E,h0km,mb3.6/6, mb1 3.7/12,mb1mx3.5/32,mbtmp3.5/12,ML3.5/6,Error ellipse: s-maj=18.7km s-min=11.5km az=130.0*
*ISCJB **05** 18:54:59.5±0.8,39°.01N±0°.06×71°.27E±0°.08,h34km, mb3.5/6,Error ellipse: s-maj=9.5km s-min=8.1km az=152.8*
*NNC **05** 18:55:02.3±4.1,39°.39N×71°.32E,h11km±21km,mb4.3, mpv4.0,Error ellipse: s-maj=34.5km s-min=28.1km az=52.0*

ISC 05 18:55:01.7±1.0,39°.07N±0°.09×71°.33E±0°.08,h34km,n25, σ1§75/27,mb3.6/6,4C-4D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	3.55	30	P	**Pn**	18 55 55.0	+0.2
	SNR=58						
EKS2	**Erkin-Say**	4.04	27	P	**Pn**	18 56 01.7	+0.4
	SNR=7.3						
KK31	**Karatay Array**	4.08	352	⇓Pn	**Pn**	18 56 03.1	+1.4
	26nm,0.4s,baz=176,slow=12,SNR=562						
KK31				⇑Sn	**Sn**	18 56 51.1	+2.9
	38nm,0.7s						
KK31				⇑Lg	Lg	18 57 04.5	
	218nm,0.9s						
KZA	**Kyzart**	4.24	44	P	**Pn**	18 56 05.5	+1.3
	SNR=16						
AAK	**Ala-Archa**	4.30	33	P	**Pn**	18 56 05.2	+0.4
	SNR=20						
AAK	**Ala-Archa**	4.30	33	Pn	**Pn**	18 56 05.7	+0.9
	7.1nm,0.3s,baz=194,slow=3.4,SNR=49						
AAK				Sn	**Sn**	18 56 56.1	+2.3
	2.7nm,0.3s,baz=323,slow=20,SNR=5.9						
AAK				Lg	Lg	18 57 05.8	
	6.8nm,0.3s,baz=26,slow=16,SNR=6.8						
KBK	**Karagaybulak**	4.51	36	P	**Pn**	18 56 09.6	+1.8
	SNR=11						
CHMS	**Chumysh**	4.70	32	P	**Pn**	18 56 10.7	+0.4
	SNR=26						
USP	**Ospenovka**	4.83	29	P	**Pn**	18 56 12.2	+0.2
	SNR=11						
ULHL	**Ulahol**	4.90	48	P	**Pn**	18 56 13.2	0.0
	SNR=8.3						
TKM2	**Tokmak 2**	5.03	39	⇓Pn	**Pn**	18 56 15.2	+0.4
	8.4nm,0.6s						
TKM2				⇑Lg	Lg	18 57 28.8	
	12nm,0.5s						
TKM2	**Tokmak 2**	5.03	39	P	**Pn**	18 56 15.6	+0.7
	SNR=9.0						
MKAR	**Makanchi Array**	11.14	43	Pn	**Pn**	18 57 36.9	-1.6
	0.1nm,0.3s,baz=235,slow=14,SNR=3.1						
KURBB	**Kurchatov Arra**	12.62	21	Pn	Pn	18 57 53.8	-5.0
	0.1nm,0.3s,baz=216,slow=13,SNR=6.8						
KURBB				Lg	Lg	19 01 32.8	
	0.1nm,0.3s,baz=225,slow=30,SNR=4.6						
AB31	**Akbulak array**	13.04	325	Pn	**Pn**	18 58 03.1	-1.3
	2.0nm,0.6s,baz=132,slow=13,SNR=40						
AB31				⇓Sn	**Sn**	19 00 24.0	-4.2
	2.1nm,0.5s,baz=132,slow=24,SNR=7.8						
BVAR	**Borovoye Array**	13.97	358	Pn	Pn	18 58 13.5	-3.7
	0.2nm,0.3s,baz=153,slow=13,SNR=2.7						
BVAR				Lg	Lg	19 02 16.0	
	0.0nm,0.3s,baz=158,slow=23,SNR=3.1						
AKTO	**Aktyubinsk**	14.76	325	⇓Pn	**Pn**	18 58 26.9	-0.9
	3.0nm,0.5s						
AKTO				⇑Sn	**Sn**	19 01 07.9	-2.1
	6.0nm,0.8s						
AKTO	**Aktyubinsk**	14.76	325	Pn	**Pn**	18 58 26.6	-1.2
	0.3nm,0.3s,baz=124,slow=15,SNR=6.1						
ZALV	**Zalesovo Beam**	17.50	27	P	**Pn**	18 59 00.1	-2.7
	0.2nm,0.3s,baz=236,slow=10,SNR=8.2						
FINES	**FINESS Array B**	35.53	324	P	**P**	19 01 55.8	+0.7
	0.6nm,0.6s,baz=122,slow=7.2,SNR=5.9						
GERES	**GERESS Array B**	41.70	303	P	**P**	19 02 49.1	+1.9
	0.2nm,0.4s,baz=65,slow=6.3,SNR=4.3						
ESDC	**Sonseca Array**	56.52	296	P	**P**	19 04 42.0	+1.4
	0.4nm,0.5s,baz=59,slow=7.3,SNR=4.7						
TORD	**Torodi Ar. Bea**	66.06	268	P	**P**	19 05 46.7	+1.3
	0.6nm,0.4s,baz=55,slow=5.8,SNR=15						
WRA	**Warramunga Arr**	83.14	122	P	**P**	19 07 22.3	-2.0
	0.3nm,0.6s,baz=322,slow=4.9,SNR=8.4						
ASAR	**Alice Springs**	85.52	125	P	**P**	19 07 34.5	-1.9
	0.2nm,0.9s,baz=317,slow=4.9,SNR=4.8						

IDC 05 19:08:57.0±1.1,5°.18N×123°.64E,h0km,mb3.8/5, mb1 4.0/5,mb1mx3.6/27,mbtmp3.9/5,Error ellipse: s-maj=68.0km s-min=19.3km az=78.0,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	23.21	175	P	P	19 14 05.7	-0.1
	3.9nm,1.1s,baz=0.0,slow=16,SNR=2.0						
WRA	**Warramunga Arr**	27.09	157	P	P	19 14 41.9	+0.3
	0.5nm,0.3s,baz=335,slow=9.5,SNR=18						
JNU	**Nakatsue**	28.61	13	P	P	19 14 55.1	0.0
	7.9nm,1.0s,baz=165,slow=8.9,SNR=3.5						
ASAR	**Alice Springs**	30.37	161	P	P	19 15 10.5	-0.3
	0.2nm,0.4s,baz=340,slow=7.4,SNR=14						
MKAR	**Makanchi Array**	54.63	326	P	P	19 18 27.5	-0.1
	0.2nm,0.3s,baz=123,slow=7.8,SNR=6.5						

*ISCJB **05** 19:18:33.2±0.4,51°.57S±0°.06×139°.4E±0°.2,h14km, mb4.2/14,MS3.9/15,Error ellipse: s-maj=18.6km s-min=8.0km az=5.9*
*IDC **05** 19:18:33.5±0.7,51°.60S×139°.70E,h0km,mb4.1/9, mb1 4.3/10,mb1mx4.2/16,mbtmp4.2/10,ML4.4/1,MS4.0/16, Ms1 4.0/16,ms1mx3.8/25,Error ellipse: s-maj=31.4km s-min=17.1km az=86.0*
*NEIC **05** 19:18:34.5±0.4,51°.60S×139°.59E,h10km,mb4.5/9,Error ellipse: s-maj=18.3km s-min=9.6km az=95.0*

ISC 05 19:18:35.3±0.5,51°.61S±0°.08×139°.7E±0°.1,h14km,n61, σ1§20/50,mb4.2/14,MS3.9/15,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAN	**Canberra**	17.61	26	*e*Pn	**P**	19 22 41.7	+0.6
	20nm,1.0s						
STKA	**Stephens Creek**	19.76	5	*e*P	**P**	19 23 04.8	+0.1
	3.0nm,0.9s						
STKA	**Stephens Creek**	19.76	5	P	**P**	19 23 05.0	+0.2
	0.6nm,0.3s,baz=169,slow=13,SNR=26						
STKA				LR	LR	19 29 17.1	
	comp=Z,428nm,18.9s,baz=192,slow=33						
CASY	**Casey**	20.73	214	*e*P	**P**	19 23 14.6	-0.3
	35nm,1.2s						
RPZ	**Rata Peaks**	22.43	82	P	**P**	19 23 33.6	+0.1
RPZ	**Rata Peaks**	22.43	82	P	**P**	19 23 33.6	+0.1
	21nm,0.9s,baz=198,slow=10,SNR=5.7						
RPZ				LR	LR	19 30 20.0	
	comp=Z,383nm,18.2s,baz=46,slow=32						
NWAO	**Narrogin (SRO)**	24.81	310	LR	LR	19 31 20.1	
	comp=Z,469nm,20.4s,baz=124,slow=31						
VNDA	**Vanda**	27.30	170	*e*P	**P**	19 24 17.0	-1.8
	6.8nm,1.2s						
VNDA	**Vanda**	27.30	170	P	**P**	19 24 17.8	-1.1
	2.1nm,1.1s,baz=322,slow=9.9,SNR=3.7						
VNDA				LR	LR	19 33 12.0	
	comp=Z,122nm,20.1s,baz=156,slow=32						
EIDS	**Eidsvold**	27.61	23	*e*P	**P**	19 24 22.1	0.0
	17nm,1.2s						
SBA	**Scott Base**	28.17	168	P	**P**	19 24 27.1	+0.5
	5.0nm,1.1s						
ASAR	**Alice Springs**	28.25	349	P	**P**	19 24 26.4	-1.4
ASAR	**Alice Springs**	28.25	349	P	**P**	19 24 26.4	-1.4
	1.8nm,0.9s,baz=165,slow=10,SNR=24						
AS31	**Alice Springs**	28.25	349	*e*P	**P**	19 24 25.0	-2.9
URZ	**Urewera**	29.33	78	LR	LR	19 34 20.3	
	comp=Z,171nm,18.6s,baz=54,slow=32						
WRA	**Warramunga Arr**	31.88	350	P	**P**	19 24 58.5	-1.4
WRA	**War

s-min=17.0km az=79.0
*ISCJB **05** 19:20:41.0±0.7, 0°.22S±0°.06×132°.8E±0°.1, h32km, mb4.0/7, MS3.4/3, Error ellipse: s-maj=16.1km s-min=8.1km az=4.7*
ISC 05 19:20:43.3±1.0, 0°.25S±0°.09×132°.8E±0°.1, h32km, n21, σ1§98/18, mb4.0/7, MS3.4/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	Sorong	1.67	249	P	Pn	19 21 07.4	-2.9
	baz=2.2,SNR=131						
FAKI	Fak Fak	2.71	192	P	Pn	19 21 25.9	+1.2
	baz=3.5,SNR=251						
BNDI	Bandanaira	5.14	214	P	Pn	19 22 00.5	+2.4
	baz=5.9,SNR=4.6						
TLE	Tual	5.35	181	P	Pn	19 22 04.2	+3.1
	baz=6.2,SNR=17						
TLE				S	Sb	19 23 11.1	-8.8
	baz=6.2,SNR=3.1						
AAI	Ambon	5.74	233	P	Pn	19 22 07.5	+1.2
	baz=6.4,SNR=13						
KDU	Kakadu	12.36	182	P	Pn	19 23 36.6	-0.5
	baz=13,SNR=28						
MTN	Manton Dam	12.62	188	P	Pn	19 23 40.1	-0.6
	baz=14,SNR=93						
KNRA	Kununurra	15.84	194	P	Pn	19 24 22.3	-1.8
	baz=17,SNR=45						
FITZ	Fitzroy Crossi	19.09	201	P	P	19 25 03.2	-0.2
	0.3nm,0.3s,baz=31,slow=13,SNR=9.4						
FITZ				S	Sn	19 28 32.9	-4.6
	0.1nm,0.3s,baz=170,slow=17,SNR=2.6						
FITZ	Fitzroy Crossi	19.09	201	P	Pn	19 25 08.1	+3.7
	baz=20,SNR=3.2						
WRA	Warramunga Arr	19.63	176	P	P	19 25 09.8	+0.4
	0.5nm,0.3s,baz=351,slow=11,SNR=14						
ASAR	Alice Springs	23.30	177	P	P	19 25 48.7	+0.1
	3.5nm,0.5s,baz=352,slow=7.0,SNR=90						
STKA	Stephens Creek	32.53	166	P	P	19 27 11.4	-0.1
	1.6nm,0.7s,baz=0.0,slow=11,SNR=3.2						
JNU	Nakatsue	33.25	357	LR	LR	19 40 00.2	
	comp=Z,62nm,18.9s,baz=56,slow=35						
MJAR	Matsushiro Arr	36.95	7	LR	LR	19 39 59.5	
	comp=Z,117nm,18.2s,baz=205,slow=32						
KSRS	Korea Array	37.79	354	LR	LR	19 41 32.9	
	comp=Z,40nm,18.4s,baz=163,slow=33						
MKAR	Makanchi Array	64.30	324	P	P	19 31 15.5	-0.3
	0.5nm,0.5s,baz=111,slow=8.5,SNR=8.0						
ZALV	Zalesovo Beam	66.92	331	P	P	19 31 32.4	-0.1
	0.8nm,0.6s,baz=134,slow=4.3,SNR=5.6						
KURBB	Kurchatov Arra	68.38	326	P	P	19 31 41.6	-0.1
	1.4nm,0.8s,baz=116,slow=6.2,SNR=6.8						
BVAR	Borovoye Array	73.97	326	P	P	19 32 15.0	-0.5
	2.3nm,1.0s,baz=121,slow=7.4,SNR=8.6						
ILAR	Eielson Array	86.09	25	P	P	19 33 19.8	-1.0
	0.3nm,0.5s,baz=256,slow=5.7,SNR=4.4						

*ISCJB **05** 19:38:31.7±0.3, 59°.66N±0°.02×24°.54E±0°.05, h0km, mb3.1/1, Error ellipse: s-maj=3.8km s-min=3.4km az=32.4*
*IDC **05** 19:38:33.8±1.5, 59°.68N×24°.68E, h0km, mb3.1/1, mb1 3.6/4, mb1mx3.2/26, mbtmp3.5/4, ML3.7/3, Error ellipse: s-maj=17.4km s-min=7.0km az=142.0*
*CSEM **05** 19:38:33.2±0.1, 59°.68N×24°.57E, h2km, ML2.8, Error ellipse: s-maj=3.8km s-min=2.9km az=129.0, Mining explosion.*
*HEL **05** 19:38:33.9±0.1, 59°.67N×24°.53E, h0km, ML2.3, ML1.4(UPP), Explosion*
*NAO **05** 19:38:33.8±1.0, 59°.71N×24°.49E, ML2.6*
*BER **05** 19:38:34.5±5.0, 59°.68N×24°.46E, h0km±21km, ML2.6(NAO)*
*UPP **05** 19:38:38.5, 59°.80N×23°.83E, h0km, ML1.4, Suspected Mining explosion.*
ISC 05 19:38:32.1±0.7, 59°.68N±0°.02×24°.49E±0°.03, h0km, n62, σ1§47/89, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	Metsahovi	0.54	355	eP	Pg	19 38 43.8	+1.2
MEF				eS	Sg	19 38 50.2	+0.7
MEF	Metsahovi	0.54	355	P	Pg	19 38 43.7	+1.2
MEF				eS	Sg	19 38 50.4	+0.9
	313nm,0.5s,SNR=90						
MTSE	Matsula	1.03	200	eP	Pg	19 38 52.2	+0.4
MTSE				eS	Sg	19 39 05.8	+0.8
MTSE	Matsula	1.03	200	P	Pg	19 38 52.2	+0.4
MTSE				S	Sg	19 39 05.8	+0.8
PVF	Pernaja	1.11	38	eP	Pg	19 38 53.4	+0.1
PVF				eS	Sg	19 39 08.4	+0.7
PVF				MSG		19 39 14.9	
	comp=Z,43nm,0.2s						
PVF	Pernaja	1.11	38	P	Pg	19 38 53.4	+0.1
PVF				S	Sg	19 39 08.4	+0.7
VSU	Vasula	1.69	135	Pg	Pn	19 39 03.4	+0.7
VSU				Lg	Lg	19 39 28.0	
VSU	Vasula	1.69	135	Pg	Pn	19 39 03.4	+0.7
VSU				Lg	Lg	19 39 28.0	
VSU	Vasula	1.69	135	eP	Pn	19 39 03.4	+0.7
VSU				eS	Sn	19 39 25.0	0.0
VSU	Vasula	1.69	135	eP	Pn	19 39 03.4	+0.7
	SNR=50						
VSU				S	Sn	19 39 25.0	0.0
VSU				Lg	Lg	19 39 28.0	
	SNR=121						
VJF	Virojoki	1.76	59	eP	Pn	19 39 04.5	+0.7
VJF				eS	Sn	19 39 26.7	-0.2
VJF	Virojoki	1.76	59	P	Pn	19 39 04.5	+0.7
VJF				S	Sn	19 39 26.7	-0.2
RAF	Rauma	1.91	316	eP	Pb	19 39 08.2	+0.4
RAF				eS	Sb	19 39 33.0	+0.8
RAF				MSG		19 39 37.6	
	comp=Z,30nm,0.2s						
RAF	Rauma	1.91	316	P	Pb	19 39 08.2	+0.4
RAF				S	Sb	19 39 32.9	+0.8
FIA0	FINESS Array S	1.94	23	Pn	Pb	19 39 08.4	+0.1
	baz=196,slow=18						
FIA0				Lg	Lg	19 39 33.8	
	baz=190,slow=37						
FIA0	FINESS Array S	1.94	23	Pn	Pb	19 39 08.4	+0.1
	baz=196,slow=18						
FIA0				Lg	Lg	19 39 33.8	
	baz=190,slow=37						
FIA0	FINESS Array S	1.94	23	eP	Pb	19 39 08.2	0.0
FIA0				eS	Sn	19 39 32.3	+1.0
FIA0	FINESS Array S	1.94	23	P	Pb	19 39 08.2	0.0
FIA0				S	Sn	19 39 32.2	+1.0
FIA0				Lg	Lg	19 39 33.8	
	baz=190,slow=28,SNR=5.0						
FINES	FINESS Array B	1.94	23	Pg	Pb	19 39 08.0	-0.2
	comp=Z,17nm,0.3s,baz=205,slow=16,SNR=809						
FINES				Lg	Lg	19 39 33.0	
	comp=Z,17nm,0.3s,baz=192,slow=27,SNR=22						
AAL	Aland	2.32	284	eP	Pn	19 39 13.2	+1.8
AAL				eSB	Sb	19 39 43.9	0.0
AAL	Aland	2.32	284	P	Pn	19 39 13.2	+1.8
AAL				Sb	Sb	19 39 43.8	0.0
SLIT	Slitere, Latvi	2.35	210	eP	Pb	19 39 14.3	-1.1
	SNR=50						
KEF	Keuruu	2.50	4	ePB	Pb	19 39 17.4	-0.6
KEF				eSG	Sb	19 39 50.1	+0.9
KEF	Keuruu	2.50	4	Pb	Pb	19 39 17.3	-0.6
KEF				Sg	Sb	19 39 50.1	+0.9
NRTU	Norrtaelje	2.97	272	P	Pn	19 39 22.3	+1.9
NRTU	Norrtaelje	2.97	272	P	Pn	19 39 22.3	+1.9
FLYU	Flymyra	3.35	281	P	Pn	19 39 27.0	+1.3
FLYU	Flymyra	3.35	281	P	Pn	19 39 27.0	+1.3
NYNU	Nynaeshamn	3.39	261	P	Pn	19 39 28.0	+1.9
NYNU	Nynaeshamn	3.39	261	P	Pn	19 39 28.0	+1.9
BACU	Backbrunna	3.74	276	P	Pn	19 39 32.7	+1.7
BACU	Backbrunna	3.74	276	P	Pn	19 39 32.6	+1.7
IGGU	Iggoen	3.77	292	P	Pn	19 39 32.7	+1.4
IGGU	Iggoen	3.77	292	P	Pn	19 39 32.7	+1.4
ARNU	Arnoeviken	4.04	303	P	Pn	19 39 36.6	+1.6
ARNU	Arnoeviken	4.04	303	P	Pn	19 39 36.6	+1.6
ESKU	Eskilstuna	4.15	267	P	Pn	19 39 38.8	+2.1
ESKU	Eskilstuna	4.15	267	P	Pn	19 39 38.8	+2.1
FALU	Falun	4.41	284	P	Pn	19 39 41.5	+1.3
FALU	Falun	4.41	284	P	Pn	19 39 41.5	+1.3
ROTU	Roteberg	4.62	296	P	Pn	19 39 44.1	+1.0
ROTU	Roteberg	4.62	296	P	Pn	19 39 44.1	+1.0
NRAU	Nora	4.80	273	P	Pn	19 39 46.8	+1.3
NRAU	Nora	4.80	273	P	Pn	19 39 46.8	+1.3
ASKU	Askersund	5.01	265	P	Pn	19 39 50.3	+1.8
ASKU	Askersund	5.01	265	P	Pn	19 39 50.3	+1.8
HFS	Hagfors	5.45	279	Pn	Pn	19 39 56.3	+1.8
	baz=100,slow=14						
HFS				Sn	Sn	19 40 57.2	-0.7
	baz=91,slow=22						
HFS				Lg	Lg	19 41 16.6	
	baz=87,slow=37						
HFS	Hagfors	5.45	279	Pn	Pn	19 39 56.3	+1.8
	baz=100,slow=14						
HFS				Sn	Sn	19 40 57.2	-0.7
	baz=91,slow=22						
HFS				Lg	Lg	19 41 16.6	
	baz=87,slow=37						
HFS	Hagfors	5.45	279	Pn	Pn	19 39 56.1	+1.6
	comp=Z,1.0nm,0.3s,baz=96,slow=15,SNR=53						
HFS				Sn	Sn	19 40 58.3	+0.5
	comp=Z,1.4nm,0.3s,baz=92,slow=27,SNR=9.5						
HFS				Lg	Lg	19 41 20.3	
	comp=Z,3.0nm,0.3s,baz=86,slow=32,SNR=7.6						
HFS	Hagfors	5.45	279	Pn	Pn	19 39 56.3	+1.8
	baz=100,slow=14,SNR=50						
HFS				Lg	Lg	19 41 16.6	
	baz=87,slow=35,SNR=50						
NB2	NORSAR Subarra	6.72	287	Pn	Pn	19 40 12.0	0.0
	baz=96,slow=14						
NB2				Sn	Sn	19 41 27.6	-1.7
	baz=95,slow=22						
NB2				Lg	Lg	19 42 02.1	
	baz=95,slow=37						
NB2	NORSAR Subarra	6.72	287	Pn	Pn	19 40 12.0	0.0
	baz=96,slow=14						
NB2				Sn	Sn	19 41 27.6	-1.7
	baz=95,slow=22						
NB2				Lg	Lg	19 42 02.1	
	baz=95,slow=37						
NB2	NORSAR Subarra	6.72	287	Pn	Pn	19 40 12.0	0.0
	baz=96,slow=12,SNR=50						
NB2				Lg	Lg	19 42 02.2	
	baz=95,slow=30,SNR=50						
NOA	NORSAR Array B	6.72	287	Pn	Pn	19 40 12.1	+0.1
	comp=Z,1.1nm,0.3s,baz=95,slow=14,SNR=39						
NOA				Sn	Sn	19 41 26.0	-3.2
	comp=Z,1.1nm,0.3s,baz=81,slow=19,SNR=6.9						
NOA				Lg	Lg	19 42 00.1	
	comp=Z,1.8nm,0.3s,baz=65,slow=17,SNR=6.0						
BSD	Bornholm Skovb	6.90	233	i P	Pn	19 40 15.9	+1.5
BSD				i S	Sn	19 41 30.5	-3.1
BSD	Bornholm Skovb	6.90	233	eP	Pn	19 40 15.9	+1.5
AKASG	Malin Array Be	9.39	161	Pn	Pn	19 40 48.3	-0.3
	comp=Z,1.1nm,0.3s,baz=338,slow=12,SNR=4.1						
ARA0	ARCESS Array S	9.91	2	Pn	Pn	19 40 54.9	-0.6
	baz=174,slow=16						
ARA0				Sn	Sn	19 42 41.8	-5.5
	baz=184,slow=28						
ARA0	ARCESS Array S	9.91	2	Pn	Pn	19 40 54.9	-0.6
	baz=174,slow=16						
ARA0				Sn	Sn	19 42 41.8	-5.5
	baz=184,slow=28						
ARA0	ARCESS Array S	9.91	2	Pn	Pn	19 40 54.9	-0.6
	baz=174,slow=15,SNR=50						
ARCES	ARCESS Array B	9.91	2	Pn	Pn	19 40 55.6	+0.1
	comp=Z,1.8nm,0.3s,baz=177,slow=12,SNR=48						
MKAR	Makanchi Array	35.72	85	P	P	19 45 31.7	-0.4
	comp=Z,0.1nm,0.3s,baz=307,slow=6.6,SNR=5.3						

*IDC **05** 19:42:43.4±1.4, 7°.82S×107°.32E, h0km, mb3.7/8, mb1 3.8/8, mb1mx3.6/23, mbtmp3.7/8, MS3.2/1, Ms1 3.2/1, ms1mx2.7/36, Error ellipse: s-maj=65.3km s-min=17.8km az=51.0*
*DJA **05** 19:42:46.8±1.7, 8°.S±3°×10°.7E±°, h10km, M4.4/16, MLv4.4/16*
*ISCJB **05** 19:42:49.6±0.7, 8°.11S±0°.08×107°.31E±0°.05, h62km, mb3.6/8, Error ellipse: s-maj=11.9km s-min=5.7km az=27.5*
ISC 05 19:42:51.2±0.8, 8°.0S±0°.1×107°.33E±0°.06, h62km, n22, σ1§04/25, mb3.6/8, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	Cisompet, Garu	0.67	45	P	Pn	19 43 04.2	-1.0
CISI				S	Sn	19 43 14.0	-1.5
LEM	Lembang	1.23	13	P	Pn	19 43 13.4	+1.0
LEM				S	Sn	19 43 34.7	+6.4
SKJI	Sukabumi	1.28	323	P	Pn	19 43 11.8	-1.1
SKJI				S	Sn	19 43 31.3	+2.1
DBJI	Dramaga	1.58	338	P	Pn	19 43 17.9	+0.9
TGJI	Tegal	2.12	57	P	Pn	19 43 25.9	+1.7
SBJI	Serang	2.24	328	P	Pn	19 43 27.1	+1.2
BJII	Banjamegara	2.45	74	P	Pn	19 43 29.5	+0.6
YOGI	Yogyakarta	2.94	86	P	Pn	19 43 35.4	-0.1
UGM	Wanagama	3.16	88	P	Pn	19 43 38.3	-0.2
BLSI	Bandar Lampung	3.36	322	P	Pn	19 43 41.7	+0.4
KASI	Kota Agung	3.76	311	P	Pn	19 43 46.3	-0.4
SJI	Sawahan	4.40	87	P	Pn	19 43 56.3	+0.7
LWLI	Liwa	4.42	312	P	Pn	19 43 55.8	-0.1
PWJI	Pagerwojo	4.43	90	P	Pn	19 43 55.8	0.0
WRA	Warramunga Arr	28.70	117	P	P	19 48 43.0	+0.2
	0.5nm,0.9s,baz=261,slow=10,SNR=5.2						
ASAR	Alice Springs	29.83	124	P	P	19 48 53.7	+1.0
	0.2nm,0.7s,baz=300,slow=8.5,SNR=4.8						
STKA	Stephens Creek	39.71	131	P	P	19 50 19.3	+1.6
	3.7nm,0.5s,baz=308,slow=12,SNR=20						
SONM	Songino Array	55.62	359	P	P	19 52 19.1	-1.6
	0.2nm,0.4s,baz=188,slow=8.7,SNR=2.3						
SONM				PcP	PcP	19 53 18.9	-0.8
	0.4nm,0.5s,baz=193,slow=5.9,SNR=3.5						
MKAR	Makanchi Array	58.96	340	P	P	19 52 43.7	-0.5
	0.3nm,0.6s,baz=120,slow=8.5,SNR=3.6						
MKAR				LR	LR	20 23 19.3	
	comp=Z,22nm,21.1s,baz=171,slow=42						
BVAR	Borovoye Array	68.44	337	P	P	19 53 45.9	-0.6
	0.3nm,0.3s,baz=133,slow=12,SNR=4.0						
PETK	Petropavlovsk-	74.33	29	P	P	19 54 22.2	+0.2
	0.5nm,0.6s,baz=221,slow=11,SNR=4.6						
BRTR	Keskin Array B	82.75	312	P	P	19 55 08.8	-0.1
	0.6nm,0.7s,baz=134,slow=6.9,SNR=4.2						

*ISCJB **05** 19:48:36.5±0.9, 36°.35N±0°.06×69°.9E±0°.1, h124km, Error ellipse: s-maj=14.8km s-min=5.8km az=155.5*
*NNC **05** 19:48:46.4±5.3, 36°.92N×70°.37E, h222km±52km, mb2.7, mpv3.8, Error ellipse: s-maj=48.3km s-min=35.0km az=34.0*
ISC 05 19:48:36.7±1.3, 36°.39N±0°.08×69°.9E±0°.1, h124km, n12, σ2§55/16, 3C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	Cherat	3.03	147	P	Pn	19 49 24.3	+0.7
CEP				S	Sn	19 49 58.0	-1.7
CHCP	Chirah Chowk	3.85	134	P	Pn	19 49 34.8	+0.4
DLH	Dalhousie	6.28	126	eP	Sn	19 51 13.0	-4.9
AML	Almayashu	6.43	26	P	Pn	19 50 11.1	+1.9
	SNR=17						
KK31	Karatay Array	6.72	4	P	Pn	19 50 15.4	+2.6
	4.0nm,0.4s,baz=196,slow=15,SNR=103						
KK31				⇓S	Sn	19 51 28.9	+1.0
	4.7nm,0.6s,baz=190,slow=20,SNR=10.0						
EKS2	Erkin-Say	6.93	24	P	Pn	19 50 18.3	+2.6
	SNR=18						
KZA	Kyzart	7.01	34	P	Pn	19 50 18.3	+1.2
	SNR=9.4						
CHMS	Chumysh	7.57	28	P	Pn	19 50 26.6	+2.4
	SNR=5.3						
USP	Ospenovka	7.71	26	P	Pn	19 50 27.9	+1.8
	SNR=14						
TKM2	Tokmak 2	7.84	32	⇑P	Pn	19 50 29.1	+1.0
	5.9nm,0.9s						
TKM2				⇓S	Sn	19 51 52.7	-2.7
	6.1nm,1.6s						
AB31	Akbulak array	14.79	334	P	P	19 52 02.2	+0.1
	0.5nm,0.3s,baz=151,slow=13,SNR=36						
AB31				⇓S	Sn	19 54 39.9	-2.8
	1.2nm,0.5s,baz=157,slow=24,SNR=8.5						
AKTO	Aktyubinsk	16.46	332	⇑P	P	19 52 23.6	+2.9
	1.1nm,0.8s						
AKTO				⇑S	Sn	19 55 18.0	-5.2
	9.0nm,1.8s						

*IDC **05** 19:53:16.1±1.5, 7°.99S×106°.91E, h0km, mb3.7/9, mb1 3.8/9, mb1mx3.6/25, mbtmp3.7/9, Error ellipse: s-maj=79.8km s-min=17.9km az=48.0*
*ISCJB **05** 19:53:22.4±0.7, 8°.37S±0°.06×107°.13E±0°.05, h33km, mb3.7/8, Error ellipse: s-maj=9.6km s-min=5.1km az=41.5*
*DJA **05** 19:53:24.7±0.9, 8°.S±5°×10°.7E±°, h27km±8km, M4.2/12, mb4.6/2, MLv4.0/12*
ISC 05 19:53:22.1±0.9, 8°.35S±0°.08×107°.10E±0°.07, h35km, n26, σ2§05/24, mb3.8/8, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	Cisompet, Garu	1.06	42	P	Pn	19 53 40.7	+0.1
CISI				S	Sn	19 53 52.2	-2.0
SKJI	Sukabumi	1.44	338	P	Pn	19 53 46.9	+1.2
SKJI				S	Sn	19 54 04.1	+0.7
LEM	Lembang	1.60	19	P	Pn	19 53 49.7	+1.6
LEM				S	Sn	19 54 10.7	+3.1
DBJI	Dramaga	1.82	349	P	Pn	19 53 53.1	+2.1
DBJI				S	Sn	19 54 13.5	+0.7
SBJI	Serang	2.41	337	P	Pn	19 54 02.1	+3.0
TGJI	Tegal	2.49	54	P	Pn	19 54 01.4	+1.2
BJII	Banjamegara	2.78	69	P	Pn	19 54 05.1	+0.8
YOGI	Yogyakarta	3.21	81	P	Pn	19 54 09.9	-0.2
UGM	Wanagama	3.42	83	P	Pn	19 54 13.9	+0.9
KASI	Kota Agung	3.81	317	P	Pn	19 54 20.2	+1.8
LWLI	Liwa	4.48	317	P	Pn	19 54 30.4	+2.7
SJI	Sawahan	4.67	83	P	Pn	19 54 33.1	+2.9
PWJI	Pagerwojo	4.67	86	P	Pn	19 54 32.2	+2.0
GMJI	Gumukmas	6.28	90	P	Pn	19 54 56.1	+3.7
BLJI	Banyuugugur	6.46	85	P	Pn	19 54 59.3	+4.4
KSI	Kapahiang	6.47	316	P	Pn	19 54 58.3	+3.3
	56nm,1.6s,0.3nm						
SRBI	Singaraja	8.04	89	P	Pn	19 55 17.6	+1.1
FITZ	Fitzroy Crossi	20.47	120	P	P	19 57 58.1	+1.1
	2.3nm,0.8s,baz=205,slow=17,SNR=5.6						
WRA	Warramunga Arr	28.77	117	P	P	19 59 19.6	+2.8
	0.3nm,0.9s,baz=291,slow=11,SNR=2.7						
STKA	Stephens Creek	39.68	131	P	P	20 00 53.0	+1.9
	0.7nm,0.4s,baz=322,slow=23,SNR=5.3						
SONM	Songino Array	55.94	359	P	P	20 02 53.6	-3.3
	0.4nm,0.4s,baz=152,slow=6.7,SNR=4.7						
SONM				PcP	PcP	20 03 52.9	-2.3
	0.4nm,0.5s,baz=173,slow=3.9,SNR=3.5						
MKAR	Makanchi Array	59.18	340	P	P	20 03 15.3	-4.2
	0.3nm,0.6s,baz=151,slow=8.3,SNR=6.1						
ZALV	Zalesovo Beam	64.86	346	P	P	20 03 54.0	-3.5
	0.4nm,0.3s,baz=140,slow=7.0,SNR=3.4						
BVAR	Borovoye Array	68.64	337	P	P	20 04 19.4	-2.3
	1.2nm,0.5s,baz=144,slow=9.0,SNR=8.6						
AKTO	Aktyubinsk	72.33	330	P	P	20 04 41.5	-2.7
	0.6nm,0.3s,baz=106,slow=4.6,SNR=4.2						
BRTR	Keskin Array B	82.79	312	P	P	20 05 40.5	-2.6
	0.5nm,0.6s,baz=120,slow=8.7,SNR=4.1						

*ISCJB **05** 20:00:30.8±0.7, 31°.78N±0°.10×138°.7E±0°.2, h384km±10km, mb2.9/5, Error ellipse: s-maj=21.5km s-min=14.5km az=164.1*
*JMA **05** 20:00:31.7±0.5, 31°.81N×138°.44E, h377km, M3.3*
*IDC **05** 20:00:31.2±1.6, 31°.79N×138°.96E, h379km±17km, mb2.7/5, mb1 2.8/6, mb1mx2.7/24, mbtmp2.7/6, Error ellipse: s-maj=38.5km s-min=17.1km az=74.0*
ISC 05 20:00:32.1±1.1, 31°.9N±0°.1×138°.6E±0°.1, h381km±11km, n20, σ1§14/26, mb2.8/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	Hachijojimakas	1.58	39	P	Pn	20 01 24.4	+0.7
JHJ2	Mitsune	1.62	38	P	Pn	20 01 25.1	+1.2
JKO	Kozu shima	2.37	10	P	Pn	20 01 29.0	+0.2
JIE	Ise	3.01	328	P	Pn	20 01 33.6	-0.2
JKN2	Miekihoku	3.10	321	P	Pn	20 01 33.5	-1.1
BSO3	Boso 3	3.34	28	P	Pn	20 01 36.0	-0.4
BSO3				eS	S	20 02 27.4	-1.2
BSO1	Boso 1	3.43	35	P	Pn	20 01 36.8	0.0
BSO1				eS	S	20 02 29.9	+0.5
JOD2	Odawara 2	3.43	6	P	Pn	20 01 37.8	+0.3
BSO4	Boso 4	3.45	24	P	Pn	20 01 37.7	+0.2
BSO4				eS	S	20 02 31.6	+1.0
JNY	Yasuok	3.56	350	P	Pn	20 01 39.7	+0.9
JHU	Hanno	4.03	8	P	Pn	20 01 43.2	0.0
JHU				eS	S	20 02 38.8	-2.1
JRY	Ryogami san	4.17	3	P	Pn	20 01 45.4	+0.8
JAG	Ashikaga	4.62	8	P	Pn	20 01 48.5	-0.6
JAG				eS	S	20 02 49.3	-2.3
MJAR	Matsushiro Arr	4.70	356	P	Pn	20 01 49.9	-0.1
	0.5nm,0.3s,baz=192,slow=6.5,SNR=11						
MJAR				S	S	20 02 53.5	+0.4
	0.3nm,0.3s,baz=118,slow=37,SNR=4.3						
SONM	Songino Array	29.18	313	P	P	20 06 00.9	+0.9
	0.2nm,0.6s,baz=131,slow=7.5,SNR=2.7						
MKAR	Makanchi Array	45.12	306	P	P	20 08 12.5	+0.4
	0.4nm,0.8s,baz=84,slow=11,SNR=3.9						
WRA	Warramunga Arr	51.66	185	P	P	20 09 00.2	-1.3
	0.2nm,0.4s,baz=0.5,slow=7.7,SNR=6.3						
ASAR	Alice Springs	55.38	185	P	P	20 09 28.1	-0.2
	0.2nm,0.5s,baz=20,slow=12,SNR=5.2						
FINES	FINESS Array B	72.32	332	P	P	20 11 18.7	+1.8
	1.7nm,0.9s,baz=76,slow=5.9,SNR=4.1						
LPAZ	La Paz	151.19	64	PKPbc	PKPbc	20 19 40.0	-2.3
	0.4nm,0.3s,baz=190,slow=6.1,SNR=3.4						

*ISCJB **05** 20:14:15.2±0.5, 14°.96N±0°.07×54°.94E±0°.08, h10km, mb4.2/31, MS3.3/6, Error ellipse: s-maj=11.3km s-min=9.5km az=158.2*
*IDC **05** 20:14:15.4±0.5, 14°.81N×55°.11E, h0km, mb4.1/24, mb1 4.2/24, mb1mx4.1/32, mbtmp4.1/24, MS3.4/7, Ms1 3.4/7, ms1mx2.9/42, Error ellipse: s-maj=15.3km s-min=12.9km az=120.0*
ISC 05 20:14:17.1±0.6, 14°.90N±0°.09×55°.0E±0°.1, h10km, n41, σ1§44/40, mb4.1/31, MS3.2/6, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	Arta Tunnel	12.34	256	LR	LR	20 20 40.9	
	comp=Z,163nm,20.6s,baz=91,slow=31						
RDF	Al-Radifah	15.58	335	eP	Pn	20 17 54.8	-2.1
RDF				AMb	AMB	20 18 04.8	
	comp=Z,50nm,0.7s						
KBD	Kabd	15.74	336	eP	Pn	20 17 57.1	-1.9
NAY	Al-Naaiem	15.

FINES FINESS Array B 50.91 343 P **P** **20 23 18.7 +0.5**
comp=Z,3.3nm,0.8s,baz=143,slow=8.9,SNR=13
KAF Kangasniemi 51.38 343 *ep* **P** **20 23 22.2 +0.5**
CABF La Chapelle 51.48 318 *eP* **P** **20 23 20.6 -2.3**
comp=Z,50nm,1.4s
TORD Torodi Ar. Bea 51.69 275 P **P** **20 23 25.4 +0.7**
comp=Z,1.0nm,0.8s,baz=79,slow=8.1,SNR=4.0
TORD PcP **PcP** **20 24 39.5 +1.1**
comp=Z,0.5nm,0.8s,baz=72,slow=4.4,SNR=3.4
BOSA Boshof 51.98 214 P **P** **20 23 25.9 -0.9**
comp=Z,2.1nm,0.5s,baz=30,slow=5.2,SNR=9.3
BOSA LR LR 20 47 42.9
comp=Z,82nm,19.7s,baz=346,slow=39
LOR Lormes 53.14 318 *eP* **P** **20 23 33.3 -1.8**
comp=Z,12nm,0.9s
SONM Songino Array 53.44 41 P **P** **20 23 37.0 -0.5**
comp=Z,1.9nm,0.8s,baz=237,slow=8.3,SNR=14
BGF Bois d'Agland 53.56 317 *eP* **P** **20 23 36.5 -1.7**
comp=Z,39nm,1.3s
NOA NORSAR Array B 55.76 336 P **P** **20 23 53.5 -0.4**
comp=Z,0.9nm,0.8s,baz=107,slow=9.2,SNR=4.3
ESDC Sonseca Array 56.85 308 P **P** **20 24 02.0 -0.2**
comp=Z,1.4nm,0.8s,baz=79,slow=6.5,SNR=8.6
ARCES ARCESS Array B 57.65 348 P **P** **20 24 06.6 -0.6**
comp=Z,1.5nm,0.6s,baz=142,slow=6.0,SNR=11
KSRS Korea Array 67.59 55 P **P** **20 25 13.3 -0.8**
comp=Z,1.3nm,0.7s,baz=270,slow=6.6,SNR=10
USRK Ussurisk Arra 70.46 48 P **P** **20 25 31.4 -0.4**
comp=Z,0.8nm,0.6s,baz=240,slow=4.8,SNR=4.7
MAW Mawson 82.47 177 P **P** **20 26 39.2 0.0**
comp=Z,0.4nm,0.3s,baz=350,slow=6.1,SNR=3.3
WRA Warramunga Arr 85.28 112 P **P** **20 26 53.5 -1.3**
comp=Z,1.2nm,1.1s,baz=300,slow=3.8,SNR=6.0
PETK Petropavlovsk- 85.63 36 LR LR 21 08 57.4
comp=Z,17nm,19.1s,baz=286,slow=38
ASAR Alice Springs 86.03 116 P **P** **20 26 56.4 -2.1**
comp=Z,0.3nm,0.6s,baz=286,slow=4.7,SNR=8.6
PDAR Pinedale Array 120.90 347 PKP **PKPdf** **20 33 09.4 -0.9**
comp=Z,0.4nm,0.7s,baz=87,slow=3.3,SNR=3.9
NVAR Mina Array Bea 126.58 353 PKP **PKPdf** **20 33 22.2 +0.8**
comp=Z,0.8nm,0.7s,baz=246,slow=0.8,SNR=7.0

IDC 05 20:39:23.6±3.2, 4°.34S×153°.05E, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.3/18, mbtmp3.5/2, Error ellipse: s-maj=147.0km s-min=44.6km az=121.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.94**	**228**	P	P	20 44 39.9	+0.2
0.9nm,0.4s,baz=55,slow=10,SNR=38							
ASAR	**Alice Springs**	**26.66**	**222**	P	P	20 45 05.0	+0.6
0.2nm,0.5s,baz=55,slow=9.0,SNR=7.6							
TORD	**Torodi Ar. Bea**	**150.40**	**289**	PKPbc	PKPbc	20 59 17.1	-1.0
1.3nm,0.8s,baz=90,slow=1.9,SNR=8.9							

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*UPP **05** 21:03:44.8, 59°.67N×24°.35E, h0km, ML2.0, Suspected Mining explosion.*
*ISCJB **05** 21:03:44.4±0.4, 59°.64N±0°.02×24°.13E±0°.05, h0km, Error ellipse: s-maj=4.0km s-min=3.2km az=26.9*
*CSEM **05** 21:03:45.9±0.2, 59°.65N×24°.16E, h2km, ML2.2, Error ellipse: s-maj=3.9km s-min=3.3km az=144.0, Mining explosion.*
*IDC **05** 21:03:46.7±2.4, 59°.66N×24°.21E, h0km, mb1 3.1/3, mb1mx2.9/26, mbtmp3.0/3, ML2.9/3, Error ellipse: s-maj=27.3km s-min=6.9km az=146.0*
*HEL **05** 21:03:46.7±0.1, 59°.66N×24°.15E, h0km, ML2.0, ML2.0(UPP), Explosion*
*NAO **05** 21:03:46.3±1.0, 59°.67N×24°.19E, ML2.1*
*BER **05** 21:03:47.3±4.9, 59°.65N×24°.18E, h0km±24km, ML2.1(NAO)*

ISC 05 21:03:45.1±0.7, 59°.66N±0°.02×24°.10E±0°.03, h0km, n54, σ1°.27/81, 1C-1D, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**0.58**	**15**	*eP*	**Pg**	**21 03 56.8**	**+0.5**
MEF				*eS*	**Sg**	**21 04 04.3**	**+0.5**
MEF	**Metsahovi**	**0.58**	**15**	P	**Pg**	**21 03 56.7**	**+0.5**
MTSE	**Matsula**	**0.96**	**189**	*eP*	**Pg**	**21 04 03.9**	**+0.5**
MTSE				*eS*	**Sg**	**21 04 15.9**	**+0.2**
MTSE	**Matsula**	**0.96**	**189**	P	**Pg**	**21 04 03.9**	**+0.5**
MTSE				S	**Sg**	**21 04 15.9**	**+0.2**
PVF	**Pernaja**	**1.26**	**44**	*eP*	**Pg**	**21 04 08.8**	**-0.3**
PVF				*eS*	**Sg**	**21 04 24.4**	**-1.1**
PVF				MSG		21 04 31.1	
comp=Z,16nm,0.2s							
PVF	**Pernaja**	**1.26**	**44**	P	**Pg**	**21 04 08.8**	**-0.3**
PVF				S	**Sg**	**21 04 24.3**	**-1.1**
RAF	**Rauma**	**1.80**	**321**	*eP*	**Pn**	**21 04 18.8**	**+1.5**
RAF				*eS*	**Sn**	**21 04 41.7**	**+0.9**
RAF				MSG		21 04 46.5	
comp=Z,13nm,0.1s							
RAF	**Rauma**	**1.80**	**321**	P	**Pn**	**21 04 18.8**	**+1.5**
RAF				S	**Sn**	**21 04 41.7**	**+0.9**
VSU	**Vasula**	**1.81**	**130**	Pg	**Pn**	**21 04 18.5**	**+1.0**
VSU				Lg	Lg	21 04 42.4	
VSU	**Vasula**	**1.81**	**130**	Pg	**Pn**	**21 04 18.5**	**+1.0**
VSU				Lg	Lg	21 04 42.4	
VSU	**Vasula**	**1.81**	**130**	*eP*	**Pn**	**21 04 18.8**	**+1.3**
VSU				*eS*	**Sn**	**21 04 41.9**	**+0.7**
VSU	**Vasula**	**1.81**	**130**	Pg	**Pn**	**21 04 18.5**	**+1.0**
SNR=90							
VSU	**Vasula**	**1.81**	**130**	P	**Pn**	**21 04 18.8**	**+1.3**
VSU				S	**Sn**	**21 04 41.9**	**+0.7**
VSU				Lg	Lg	21 04 42.4	
SNR=121							
VJF	**Virojoki**	**1.94**	**61**	*eP*	**Pn**	**21 04 19.6**	**+0.3**
VJF				*eS*	**Sn**	**21 04 44.5**	**+0.1**
VJF	**Virojoki**	**1.94**	**61**	P	**Pn**	**21 04 19.6**	**+0.3**
VJF				S	**Sn**	**21 04 44.5**	**+0.1**
FIA0	**FINESS Array S**	**2.04**	**28**	Pn	**Pn**	**21 04 22.1**	**+1.5**
baz=201,slow=16							
FIA0				Lg	Lg	21 04 49.1	
baz=216,slow=22							
FIA0	**FINESS Array S**	**2.04**	**28**	Pn	**Pn**	**21 04 22.1**	**+1.5**
baz=201,slow=16							
FIA0				Lg	Lg	21 04 49.1	
baz=216,slow=22							
FIA0	**FINESS Array S**	**2.04**	**28**	*eP*	**Pn**	**21 04 22.4**	**+1.7**
FIA0				*eS*	**Sn**	**21 04 48.5**	**+1.6**
FIA0	**FINESS Array S**	**2.04**	**28**	Pn	**Pn**	**21 04 22.1**	**+1.5**
baz=201,slow=14,SNR=50							
FIA0	**FINESS Array S**	**2.04**	**28**	P	**Pn**	**21 04 22.4**	**+1.7**
FIA0				S	**Sn**	**21 04 48.5**	**+1.6**
FIA0				Lg	Lg	21 04 49.1	
baz=216,slow=21,SNR=1.1							
FINES	**FINESS Array B**	**2.04**	**28**	Pg	**Pn**	**21 04 22.2**	**+1.5**
comp=Z,3.6nm,0.3s,baz=212,slow=14,SNR=543							
FINES				Lg	Lg	21 04 49.9	
comp=Z,5.4nm,0.3s,baz=209,slow=25,SNR=35							
AAL	**Aland**	**2.13**	**286**	*eP*	**Pn**	**21 04 23.4**	**+1.5**
AAL				*eS*	**Sn**	**21 04 51.6**	**+2.5**
AAL	**Aland**	**2.13**	**286**	P	**Pn**	**21 04 23.4**	**+1.5**
AAL				S	**Sn**	**21 04 51.5**	**+2.5**
KEF	**Keuruu**	**2.55**	**8**	*ePB*	**Pn**	**21 04 30.6**	**+2.9**
KEF				*eSB*	**Sb**	**21 05 03.3**	**-0.3**
KEF	**Keuruu**	**2.55**	**8**	Pb	**Pn**	**21 04 30.5**	**+2.9**
KEF				Sb	**Sb**	**21 05 03.2**	**-0.3**
KAF	**Kangasniemi**	**2.69**	**23**	*eP*	**Pn**	**21 04 31.7**	**+2.0**
KAF				*eSB*	**Sb**	**21 05 06.5**	**-1.1**
KAF	**Kangasniemi**	**2.69**	**23**	P	**Pn**	**21 04 31.6**	**+2.0**
KAF				Sb	**Sb**	**21 05 06.5**	**-1.1**
NRTU	**Norrtaelje**	**2.77**	**273**	P	**Pn**	**21 04 32.3**	**+1.6**
NRTU	**Norrtaelje**	**2.77**	**273**	P	**Pn**	**21 04 32.3**	**+1.6**
FLYU	**Flymyra**	**3.17**	**281**	P	**Pn**	**21 04 37.1**	**+1.0**
FLYU	**Flymyra**	**3.17**	**281**	P	**Pn**	**21 04 37.1**	**+1.0**
BACU	**Backbrunna**	**3.54**	**276**	P	**Pn**	**21 04 42.2**	**+0.9**
BACU	**Backbrunna**	**3.54**	**276**	P	**Pn**	**21 04 42.2**	**+0.9**
IGGU	**Iggoen**	**3.59**	**293**	P	**Pn**	**21 04 43.4**	**+1.4**
IGGU	**Iggoen**	**3.59**	**293**	P	**Pn**	**21 04 43.4**	**+1.4**
ESKU	**Eskilstuna**	**3.96**	**267**	P	**Pn**	**21 04 48.5**	**+1.6**
ESKU	**Eskilstuna**	**3.96**	**267**	P	**Pn**	**21 04 48.5**	**+1.6**
HFS	**Hagfors**	**5.26**	**280**	Pn	**Pn**	**21 05 05.6**	**+0.7**
baz=114,slow=12							
HFS				Sn	**Sn**	**21 06 06.6**	**+0.5**
baz=103,slow=28							
HFS				Lg	Lg	21 06 27.9	
baz=86,slow=37							
HFS	**Hagfors**	**5.26**	**280**	Pn	**Pn**	**21 05 05.3**	**+0.4**
comp=Z,0.2nm,0.3s,baz=117,slow=15,SNR=19							
HFS				Sn	**Sn**	**21 06 06.3**	**+0.2**
comp=Z,0.2nm,0.3s,baz=100,slow=26,SNR=6.6							
HFS				Lg	Lg	21 06 26.8	
comp=Z,0.5nm,0.3s,baz=87,slow=33,SNR=6.3							
HFS	**Hagfors**	**5.26**	**280**	Pn	**Pn**	**21 05 05.6**	**+0.7**
baz=114,slow=12,SNR=50							
HFS				Sn	**Sn**	**21 06 06.6**	**+0.5**
baz=103,slow=25,SNR=50							
HFS				Lg	Lg	21 06 27.9	
baz=86,slow=31,SNR=50							
NB2	**NORSAR Subarra**	**6.54**	**288**	Pn	**Pn**	**21 05 22.2**	**-0.3**
baz=96,slow=14							
NB2				Sn	**Sn**	**21 06 37.0**	**-0.8**
baz=97,slow=22							
NB2	**NORSAR Subarra**	**6.54**	**288**	Pn	**Pn**	**21 05 22.2**	**-0.3**
baz=96,slow=14							
NB2				Sn	**Sn**	**21 06 37.0**	**-0.8**
baz=97,slow=22							
NB2	**NORSAR Subarra**	**6.54**	**288**	Pn	**Pn**	**21 05 22.2**	**-0.3**
baz=96,slow=12,SNR=50							
NB2				Sn	**Sn**	**21 06 37.0**	**-0.8**
baz=97,slow=21,SNR=50							
NOA	**NORSAR Array B**	**6.54**	**288**	Pn	**Pn**	**21 05 21.9**	**-0.6**
comp=Z,0.2nm,0.3s,baz=48,slow=21,SNR=10							
NOA				Sn	**Sn**	**21 06 35.2**	**-2.6**
comp=Z,0.2nm,0.3s,baz=307,slow=13,SNR=3.8							
NOA				Lg	Lg	21 07 07.2	
comp=Z,0.3nm,0.3s,baz=111,slow=17,SNR=2.7							
APA0	**Apatity Array**	**8.90**	**23**	Pn	**Pn**	**21 05 56.6**	**+1.9**
baz=221,slow=12							
APA0	**Apatity Array**	**8.90**	**23**	Pn	**Pn**	**21 05 56.6**	**+1.9**
baz=221,slow=12							
APA0	**Apatity Array**	**8.90**	**23**	Pn	**Pn**	**21 05 56.6**	**+1.9**
baz=221,slow=12,SNR=50							
ARA0	**ARCESS Array S**	**9.94**	**3**	Pn	**Pn**	**21 06 08.8**	**-0.2**
baz=175,slow=14							
ARA0				Sn	Sn	21 07 55.2	-5.9
baz=178,slow=28							
ARA0	**ARCESS Array S**	**9.94**	**3**	Pn	**Pn**	**21 06 08.8**	**-0.2**
baz=175,slow=14							
ARA0				Sn	Sn	21 07 55.2	-5.9
baz=178,slow=28							
ARA0	**ARCESS Array S**	**9.94**	**3**	Pn	**Pn**	**21 06 08.8**	**-0.2**
baz=175,slow=14,SNR=50							
ARCES	**ARCESS Array B**	**9.94**	**3**	Pn	**Pn**	**21 06 08.8**	**-0.2**
comp=Z,0.2nm,0.3s,baz=175,slow=13,SNR=16							
VRI	**Vrincioaia**	**13.90**	**172**	↑*iP*	**Pn**	**21 07 02.7**	**-0.5**
PLOR	**Plostina**	**13.91**	**173**	↓*iP*	**Pn**	**21 07 02.0**	**-1.4**

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*ISCJB **05** 21:16:39.6±0.6, 16°.3N±0°.1×46°.6W±0°.1, h13km, mb3.9/10, MS3.5/21, Error ellipse: s-maj=20.6km s-min=13.7km az=37.7*
*IDC **05** 21:16:39.5±0.8, 16°.38N×46°.59W, h0km, mb3.8/9, mb1 4.1/9, mb1mx3.8/27, mbtmp3.8/9, MS3.5/21, Ms1 3.5/21, ms1mx3.3/45, Error ellipse: s-maj=28.0km s-min=19.0km az=141.0*
*NEIC **05** 21:16:40.9±0.6, 16°.33N×46°.57W, h10km, mb4.4/2, Error ellipse: s-maj=19.1km s-min=12.6km az=127.0*

ISC 05 21:16:41.4±0.7, 16°.3N±0°.1×46°.6W±0°.1, h13km, n37, σ0°.86/20, mb3.8/10, MS3.5/21, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBTS	**Babate**	**29.00**	**89**	LR	LR	21 30 53.7	
comp=Z,126nm,20.1s,baz=349,slow=30							
SAML	**Samuel**	**30.02**	**214**	*eP*	**P**	**21 22 49.0**	**-1.1**
BDFB	**Brasilia**	**31.81**	**183**	LR	LR	21 34 52.2	
comp=Z,67nm,18.5s,baz=234,slow=34							
SIV	**San Ignacio**	**35.16**	**205**	P	**P**	**21 23 36.5**	**+1.3**
SIV	**San Ignacio**	**35.16**	**205**	P	**P**	**21 23 36.5**	**+1.3**
1.7nm,1.1s,baz=63,slow=4.9,SNR=3.3							
TKL	**Tuckaleechee C**	**38.26**	**307**	LR	LR	21 36 50.2	
comp=Z,71nm,19.1s,baz=290,slow=32							
LPAZ	**La Paz**	**38.77**	**214**	*eP*	**P**	**21 24 05.9**	**-0.6**
3.2nm,1.1s							
LPAZ	**La Paz**	**38.77**	**214**	P	**P**	**21 24 05.9**	**-0.6**
1.4nm,0.7s,baz=26,slow=3.6,SNR=7.2							
LPAZ				LR	LR	21 38 43.4	
comp=Z,40nm,21.6s,baz=278,slow=34							
ATAH	**Atahualpa**	**39.18**	**236**	P	**P**	**21 24 10.2**	**+0.3**
ATAH	**Atahualpa**	**39.18**	**236**	P	**P**	**21 24 10.2**	**+0.3**
4.9nm,0.7s,baz=27,slow=4.5,SNR=3.2							
SADO	**Sadowa**	**39.40**	**323**	LR	LR	21 36 28.1	
comp=Z,56nm,20.0s,baz=109,slow=30							
DBIC	**Dimbokro**	**41.93**	**98**	LR	LR	21 38 29.0	
comp=Z,72nm,20.0s,baz=221,slow=31							
CPUP	**Villa Florida**	**43.68**	**194**	*eP*	**P**	**21 24 45.8**	**-0.3**
20nm,0.9s							
CMIG	**Matias Romero**	**46.16**	**278**	LR	LR	21 43 41.6	
comp=Z,25nm,19.1s,baz=192,slow=35							
TORD	**Torodi Ar. Bea**	**46.72**	**87**	P	**P**	**21 25 10.5**	**-0.1**
TORD	**Torodi Ar. Bea**	**46.72**	**87**	P	**P**	**21 25 10.5**	**-0.1**
1.6nm,1.0s,baz=282,slow=7.3,SNR=6.6							
TORD				LR	LR	21 42 00.7	
comp=Z,65nm,18.9s,baz=270,slow=33							
KEST	**Kesra**	**53.12**	**57**	LR	LR	21 45 16.0	
comp=Z,22nm,18.1s,baz=321,slow=32							
TXAR	**Lajitas Array**	**53.70**	**295**	P	**P**	**21 26 03.9**	**+0.4**
TXAR	**Lajitas Array**	**53.70**	**295**	P	**P**	**21 26 03.9**	**+0.4**
0.9nm,1.1s,baz=94,slow=6.5,SNR=4.4							
TXAR				LR	LR	21 46 00.6	
comp=Z,32nm,21.8s,baz=185,slow=33							
GERES	**GERESS Array B**	**58.38**	**42**	P	**P**	**21 26 37.7**	**+1.1**
GERES	**GERESS Array B**	**58.38**	**42**	P	**P**	**21 26 37.7**	**+1.1**
0.5nm,0.8s,baz=243,slow=6.5,SNR=2.7							
PDAR	**Pinedale Array**	**59.30**	**310**	P	**P**	**21 26 43.9**	**+0.5**
PDAR	**Pinedale Array**	**59.30**	**310**	P	**P**	**21 26 43.9**	**+0.5**
0.7nm,0.9s,baz=87,slow=5.0,SNR=5.6							
PDAR				LR	LR	21 49 13.4	
comp=Z,61nm,18.8s,baz=77,slow=33							
LPIG	**La Paz**	**59.87**	**289**	LR	LR	21 53 12.9	
comp=Z,28nm,18.2s,baz=265,slow=37							
NOA	**NORSAR Array B**	**60.44**	**28**	LR	LR	21 46 42.3	
comp=Z,6.6nm,19.5s,baz=180,slow=30							
PFO	**Pinyon Flat Ob**	**64.54**	**300**	LR	LR	21 53 46.1	
comp=Z,40nm,21.2s,baz=166,slow=34							
YBH	**Yreka Blue Hor**	**69.03**	**309**	LR	LR	21 59 10.0	
comp=Z,34nm,19.1s,baz=83,slow=37							
BBB	**Bella Bella**	**72.09**	**320**	LR	LR	21 56 04.1	
comp=Z,25nm,19.6s,baz=318,slow=33							
TSUM	**Tsumeb**	**72.31**	**117**	LR	LR	21 53 16.9	
comp=Z,71nm,20.3s,baz=169,slow=30							
BRTR	**Keskin Array B**	**72.32**	**53**	P	**P**	**21 28 06.4**	**-0.8**
BRTR	**Keskin Array B**	**72.32**	**53**	P	**P**	**21 28 06.4**	**-0.8**
0.8nm,0.9s,baz=282,slow=5.7,SNR=3.9							
DLBC	**Dease Lake**	**72.81**	**327**	LR	LR	21 59 56.0	
comp=Z,37nm,18.2s,baz=272,slow=36							
USHA	**Ushuaia**	**73.29**	**193**	LR	LR	21 59 45.1	
comp=Z,62nm,19.2s,baz=171,slow=35							
ILAR	**Eielson Array**	**79.68**	**335**	P	**P**	**21 28 47.5**	**-1.0**
ILAR	**Eielson Array**	**79.68**	**335**	P	**P**	**21 28 47.5**	**-1.0**
1.2nm,0.9s,baz=77,slow=4.4,SNR=8.6							
SUR	**Sutherland**	**80.61**	**128**	LR	LR	21 57 27.1	
comp=Z,75nm,21.3s,baz=198,slow=30							
LBTB	**Lobatse**	**81.44**	**119**	LR	LR	21 58 20.5	
comp=Z,89nm,20.2s,baz=105,slow=31							

IDC 05 21:18:48.5±6.1, 23°.84S×179°.99W, h554km±74km, mb3.1/5, mb1 3.5/6, mb1mx3.1/19, mbtmp3.2/6, Error ellipse: s-maj=59.4km s-min=25.8km az=5.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.59**	**189**	P	P	21 21 53.3	-0.1
2.0nm,0.3s,baz=340,slow=4.5,SNR=12							
URZ				S	S	21 24 25.7	-0.1
0.3nm,0.3s,baz=217,slow=20,SNR=3.4							
CTA	**Charters Tower**	**31.48**	**270**	P	P	21 24 25.8	+0.2
1.7nm,0.4s,baz=98,slow=13,SNR=5.6							
ASAR	**Alice Springs**	**42.05**	**261**	P	P	21 25 52.4	+0.1
0.9nm,0.6s,baz=98,slow=7.0,SNR=20							
WRA	**Warramunga Arr**	**42.42**	**266**	P	P	21 25 54.5	-0.7
1.0nm,0.3s,baz=103,slow=8.4,SNR=20							
TXAR	**Lajitas Array**	**90.39**	**58**	P	P	21 30 51.5	+0.1
0.6nm,0.7s,baz=214,slow=6.5,SNR=8.0							
PDAR	**Pinedale Array**	**92.64**	**44**	P	P	21 31 01.1	-0.6
0.5nm,0.7s,baz=184,slow=4.5,SNR=3.7							
ARCES	**ARCESS Array B**	**131.83**	**348**	PKP	PKPdf	21 36 57.8	-0.4
1.7nm,1.0s,baz=334,slow=8.1,SNR=4.6							
FINES	**FINESS Array B**	**138.39**	**341**	PKhKP	PKPpre	21 37 00.7	
2.2nm,1.0s,baz=72,slow=6.2,SNR=3.5							
NOA	**NORSAR Array B**	**142.02**	**351**	PKhKP	PKPpre	21 37 11.0	
1.0nm,0.8s,baz=11,slow=2.3,SNR=3.6							
AKASG	**Malin Array Be**	**144.92**	**327**	PKP	PKPdf	21 37 21.6	-0.8
1.5nm,0.5s,baz=43,slow=4.8,SNR=5.0							
BRTR	**Keskin Array B**	**147.54**	**307**	PKPbc	PKPbc	21 37 30.6	-0.4
0.5nm,0.6s,baz=133,slow=5.4,SNR=3.6							

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*MDD **05** 21:19:57.5±1.9, 39°.17N×13°.74W, h0km, mb4.1/5, Error ellipse: s-maj=17.3km s-min=14.0km az=80.0, PRXIMO*
*INMG **05** 21:19:59.1±1.0, 39°.09N×14°.20W, h10km, ML2.3, Error ellipse: s-maj=6.2km s-min=4.5km az=78.0*
*CSEM **05** 21:20:00.8±0.4, 39°.19N×13°.42W, h10km, mb4.1/5, Error ellipse: s-maj=7.6km s-min=5.7km az=77.0*

ISC 05 21:19:53.9±3.0, 39°.13N±0°.05×13°.9W±0°.2, h10km, n82, σ2°.38/146, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMAFR	**Mafra**	**3.59**	**91**	*ePn*	**Pn**	**21 20 52.6**	**+3.0**
PMAFR				*eSn*	**Sn**	**21 21 32.6**	**+0.5**
PMAFR	**Mafra**	**3.59**	**91**	P	**Pn**	**21 20 52.3**	**+2.7**
1.5nm,0.1s,SNR=7.9							
PMAFR				S	**Sn**	**21 21 31.2**	**-0.9**
5.1nm,0.1s,SNR=7.9							
PMAFR	**Mafra**	**3.59**	**91**	P	**Pn**	**21 20 52.3**	**+2.7**
1.5nm,0.1s,SNR=7.9							
PMAFR	**Mafra**	**3.59**	**91**	*ePn*	**Pn**	**21 20 52.6**	**+3.0**
PMAFR				S	**Sn**	**21 21 31.2**	**-0.9**
5.1nm,0.1s,SNR=7.9							
PMAFR				*eSn*	**Sn**	**21 21 32.6**	**+0.5**
PACT	**Alcochete**	**3.96**	**94**	*eSn*	**Sn**	**21 21 42.3**	**+1.2**
PACT	**Alcochete**	**3.96**	**94**	*eSn*	**Sn**	**21 21 42.3**	**+1.2**
PCAS	**Casmilo, Conde**	**4.26**	**76**	*eSn*	**Sn**	**21 21 47.0**	**-1.7**
PCAS	**Casmilo, Conde**	**4.26**	**76**	*eSn*	**Sn**	**21 21 47.0**	**-1.7**
PTOM	**Tomar**	**4.27**	**82**	*eSn*	**Sn**	**21 21 48.1**	**-0.8**
PTOM				A	A	21 21 51.3	
6.9nm,0.2s							
PTOM	**Tomar**	**4.27**	**82**	S	**Sn**	**21 21 48.1**	**-0.8**
3.5nm,0.2s							
PTOM	**Tomar**	**4.27**	**82**	S	**Sn**	**21 21 48.1**	**-0.8**
3.5nm,0.2s							
PNCL	**Nicolau / Gran**	**4.32**	**102**	*ePn*	**Pn**	**21 21 01.2**	**+1.6**
PNCL				*eSn*	**Sn**	**21 21 48.0**	**-2.0**
PNCL	**Nicolau / Gran**	**4.32**	**102**	*ePn*	**Pn**	**21 21 01.2**	**+1.6**
PNCL				*eSn*	**Sn**	**21 21 48.0**	**-2.0**
PTEO	**Sao Teotonio**	**4.36**	**110**	*ePn*	**Pn**	**21 21 01.9**	**+1.8**
PTEO				*eSn*	**Sn**	**21 21 46.7**	**-4.2**
PTEO	**Sao Teotonio**	**4.36**	**110**	P	**Pn**	**21 21 01.9**	**+1.8**
PTEO				S	**Sn**	**21 21 46.7**	**-4.2**
PTEO	**Sao Teotonio**	**4.36**	**110**	P	**Pn**	**21 21 01.9**	**+1.8**
PTEO				*eSn*	**Sn**	**21 21 46.7**	**-4.2**
PMTG	**Montargil**	**4.41**	**89**	*ePn*	**Pn**	**21 21 03.4**	**+2.6**
PMTG				*eSn*	**Sn**	**21 21 51.1**	**-1.0**
PMTG	**Montargil**	**4.41**	**89**	*ePn*	**Pn**	**21 21 03.4**	**+2.6**
PMTG				*eSn*	**Sn**	**21 21 51.1**	**-1.0**
PFVI	**Vila Bisbo**	**4.46**	**115**	*ePn*	**Pn**	**21 21 03.0**	**+1.5**
PFVI				*eSn*	**Sn**	**21 21 50.7**	**-2.8**
PFVI	**Vila Bisbo**	**4.46**	**115**	P	**Pn**	**21 21 02.9**	**+1.3**
1.4nm,0.0s,SNR=7.9							
PFVI				S	**Sn**	**21 21 50.3**	**-3.2**
3.1nm,0.1s,SNR=7.9							
PFVI	**Vila Bisbo**	**4.46**	**115**	*ePn*	**Pn**	**21 21 03.0**	**+1.5**
PFVI				S	**Sn**	**21 21 50.3**	**-3.2**
3.1nm,0.1s,SNR=7.9							
PFVI				*eSn*	**Sn**	**21 21 50.7**	**-2.8**
MORF	**Marmelete**	**4.51**	**112**	*ePn*	**Pn**	**21 21 04.0**	**+1.8**
MORF	**Marmelete**	**4.51**	**112**	P	**Pn**	**21 21 04.0**	**+1.8**
MORF				S	**Sn**	**21 21 51.7**	**-3.0**
MORF	**Marmelete**	**4.51**	**112**	P	**Pn**	**21 21 04.0**	**+1.8**
MORF				S	**Sn**	**21 21 51.7**	**-3.0**
EVO	**Evora**	**4.63**	**96**	*eSn*	**Sn**	**21 21 57.2**	**-0.4**
EVO	**Evora**	**4.63**	**96**	S	**Sn**	**21 21 57.2**	**-0.4**
EVO	**Evora**	**4.63**	**96**	S	**Sn**	**21 21 57.2**	**-0.4**
PBEJ	**Beja**	**4.84**	**101**	*ePn*	**Pn**	**21 21 09.5**	**+2.7**
PBEJ				*eSn*	**Sn**	**21 22 01.4**	**-1.6**
PBEJ	**Beja**	**4.84**	**101**	P	**Pn**	**21 21 09.5**	**+2.7**
PBEJ				S	**Sn**	**21 22 01.4**	**-1.6**
PBEJ	**Beja**	**4.84**	**101**	P	**Pn**	**21 21 09.5**	**+2.7**
PBEJ				S	**Sn**	**21 22 01.4**	**-1.6**
PVIS	**Viseu**	**4.87**	**69**	*ePn*	**Pn**	**21 21 09.4**	**+2.1**
PVIS				*eSn*	**Sn**	**21 22 00.9**	**-2.9**
PVIS	**Viseu**	**4.87**	**69**	P	**Pn**	**21 21 09.4**	**+2.1**
PVIS				S	**Sn**	**21 22 00.9**	**-2.9**
PVIS	**Viseu**	**4.87**	**69**	P	**Pn**	**21 21 09.4**	**+2.1**
PVIS				S	**Sn**	**21 22 00.9**	**-2.9**
PESTR	**Estremoz**	**4.91**	**91**	*ePn*	**Pn**	**21 21 10.6**	**+2.8**
PESTR			

EMAZ				S	Sn	21 22 10.5	-4.4
	1.0nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**5.33**	**43**	P	Pn	21 21 14.6	+1.1
	1.0nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**5.37**	**92**	P	Pn	21 21 16.0	+1.9
	0.2nm,0.1s,SNR=7.9						
EBAD				S	Sn	21 22 14.0	-2.0
	0.5nm,0.0s,SNR=7.9						
EBAD	**Badajoz**	**5.37**	**92**	P	Pn	21 21 16.0	+1.9
	0.2nm,0.1s,SNR=7.9						
EBAD				S	Sn	21 22 14.0	-2.0
	0.5nm,0.0s,SNR=7.9						
PBAR	**Barrancos**	**5.45**	**98**	*e*Pn	Pn	21 21 17.4	+2.3
PBAR				*e*Sn	Sn	21 22 15.8	-2.0
PBAR	**Barrancos**	**5.45**	**98**	P	Pn	21 21 17.4	+2.3
PBAR				S	Sn	21 22 15.8	-2.0
PBAR	**Barrancos**	**5.45**	**98**	P	Pn	21 21 17.4	+2.3
PBAR				S	Sn	21 22 15.8	-2.0
MVO	**Moncorvo**	**5.64**	**67**	*e*Pn	Pn	21 21 20.2	+2.4
MVO				*e*Sn	Sn	21 22 19.3	-3.3
MVO	**Moncorvo**	**5.64**	**67**	P	Pn	21 21 20.9	+3.2
	0.5nm,0.1s,SNR=6.2						
MVO				S	Sn	21 22 19.4	-3.2
	0.7nm,0.1s,SNR=7.9						
MVO	**Moncorvo**	**5.64**	**67**	*e*Pn	Pn	21 21 20.2	+2.4
MVO	**Moncorvo**	**5.64**	**67**	P	Pn	21 21 20.9	+3.2
	0.5nm,0.1s,SNR=6.2						
MVO				S	Sn	21 22 19.4	-3.2
	0.7nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.82**	**101**	P	Pn	21 21 22.6	+2.3
	0.2nm,0.1s,SNR=7.9						
EMIN				S	Sn	21 22 22.0	-5.1
	0.3nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.82**	**101**	P	Pn	21 21 22.6	+2.3
	0.2nm,0.1s,SNR=7.9						
EPLA	**Plasencia**	**6.10**	**79**	S	Sn	21 22 30.5	-3.6
	1.4nm,0.2s,SNR=7.9						
EPLA	**Plasencia**	**6.10**	**79**	S	Sn	21 22 30.5	-3.6
	1.4nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**6.13**	**60**	P	Pn	21 21 26.7	+2.1
	0.3nm,0.1s,SNR=7.9						
ECAL				S	Sn	21 22 31.7	-3.1
	0.7nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**6.13**	**60**	P	Pn	21 21 26.7	+2.1
	0.3nm,0.1s,SNR=7.9						
ECAL				S	Sn	21 22 31.7	-3.1
	0.7nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**6.72**	**96**	P	Pn	21 21 34.8	+2.2
	0.3nm,0.2s,SNR=7.9						
ECAB				S	Sn	21 22 45.6	-3.5
	0.1nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**6.72**	**96**	P	Pn	21 21 34.8	+2.2
	0.3nm,0.2s,SNR=7.9						
ECAB				S	Sn	21 22 45.6	-3.5
	0.1nm,0.1s,SNR=7.9						
ESPR	**Espera**	**6.73**	**107**	P	Pn	21 21 34.9	+2.2
	0.4nm,0.1s,SNR=7.9						
ESPR				S	Sn	21 22 47.6	-1.8
	3.6nm,0.3s,SNR=7.9						
ESPR	**Espera**	**6.73**	**107**	P	Pn	21 21 34.9	+2.2
	0.4nm,0.1s,SNR=7.9						
ESPR				S	Sn	21 22 47.6	-1.8
	3.6nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**7.35**	**95**	P	Pn	21 21 44.3	+3.0
	0.2nm,0.1s,SNR=7.9						
EADA				S	Sn	21 23 02.2	-2.6
	0.3nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**7.35**	**95**	P	Pn	21 21 44.3	+3.0
	0.2nm,0.1s,SNR=7.9						
EADA				S	Sn	21 23 02.2	-2.6
	0.3nm,0.1s,SNR=7.9						

IDC 05 21:36:37.9±2.3, 6°.56N×93°.57E, h0km, mb3.7/4, mb1 3.9/6, mb1mx3.6/28, mbtmp3.7/6, ML3.8/2, MS3.2/1, Ms1 3.2/1, ms1mx2.4/46, Error ellipse: s-maj=82.8km s-min=20.7km az=60.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**6.51**	**125**	Pn	Pn	21 38 18.1	+2.9
	1.3nm,0.3s,baz=322,slow=12,SNR=4.9						
PSI				LR	LR	21 40 52.4	
	comp=Z,189nm,19.1s,baz=88,slow=39						
CMAR	**Chiang Mai Arr**	**12.93**	**23**	Pn	Pn	21 39 43.5	+0.3
	0.2nm,0.3s,baz=212,slow=14,SNR=10						
MKAR	**Makanchi Array**	**41.25**	**348**	P	P	21 44 24.6	-0.2
	0.6nm,0.9s,baz=160,slow=8.4,SNR=4.9						
ZALV	**Zalesovo Beam**	**47.78**	**353**	P	P	21 45 16.8	0.0
	0.7nm,0.4s,baz=169,slow=8.6,SNR=5.4						
WRA	**Warramunga Arr**	**47.98**	**124**	P	P	21 45 18.2	-0.7
	0.7nm,0.6s,baz=305,slow=8.4,SNR=20						
ASAR	**Alice Springs**	**49.52**	**129**	P	P	21 45 30.7	-0.1
	1.0nm,0.7s,baz=301,slow=7.7,SNR=18						

IDC 05 21:41:05.6±2.0, 1°.02N×17°.55W, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.7/26, mbtmp4.0/6, ML5.0/1, MS3.3/4, Ms1 3.3/4, ms1mx2.7/40, Error ellipse: s-maj=61.2km s-min=41.5km az=123.0, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBTS	**Babate**	**13.59**	**4**	Pn	P	21 44 25.6	-3.4
	4.4nm,0.3s,baz=80,slow=2.1,SNR=8.4						
BBTS				Sn	Sn	21 46 55.0	+3.4
	3.2nm,0.3s,baz=25,slow=24,SNR=7.7						
DBIC	**Dimbokro**	**13.85**	**66**	Pn	Pn	21 44 23.4	0.0
	7.4nm,0.3s,baz=235,slow=14,SNR=96						
DBIC				Sn	Sn	21 46 51.5	-6.5
	3.1nm,0.3s,baz=136,slow=13,SNR=5.9						
DBIC				LR	LR	21 48 19.6	
	comp=Z,70nm,19.2s,baz=220,slow=31						
TORD	**Torodi Ar. Bea**	**22.55**	**57**	P	P	21 46 07.3	-0.3
	5.3nm,0.7s,baz=238,slow=10.0,SNR=41						
KEST	**Kesra**	**42.63**	**33**	P	P	21 49 05.5	+1.6
	0.8nm,0.6s,baz=253,slow=14,SNR=4.1						
GERES	**GERESS Array B**	**54.69**	**25**	P	P	21 50 37.0	+0.3
	0.4nm,0.7s,baz=197,slow=9.1,SNR=4.3						
BRTR	**Keskin Array B**	**60.36**	**44**	P	P	21 51 16.1	-0.8
	0.8nm,0.7s,baz=227,slow=5.7,SNR=2.9						
NOA	**NORSAR Array B**	**63.77**	**15**	LR	LR	22 21 29.1	
	comp=Z,13nm,18.9s,baz=155,slow=38						
FINES	**FINESS Array B**	**68.70**	**21**	P	P	21 52 10.1	-0.7
	0.8nm,0.6s,baz=207,slow=5.0,SNR=9.7						
TKL	**Tuckaleechee C**	**70.21**	**308**	LR	LR	22 16 44.4	
	comp=Z,18nm,18.5s,baz=280,slow=30						
INK	**Inuvik**	**98.41**	**340**	LR	LR	22 32 29.7	
	comp=Z,33nm,20.9s,baz=180,slow=31						
ASAR	**Alice Springs**	**144.33**	**131**	PKP	PKPdf	22 00 44.3	-0.5
	0.7nm,1.0s,baz=233,slow=2.3,SNR=4.0						
WRA	**Warramunga Arr**	**146.69**	**126**	PKPbc	PKPbc	22 00 50.0	-0.5
	0.5nm,0.8s,baz=242,slow=2.6,SNR=4.8						

*IDC **05** 21:41:01.1±0.8, 6°.82N×126°.62E, h0km, mb3.9/10, mb1 4.0/10, mb1mx3.8/25, mbtmp3.9/10, MS3.0/1, Ms1 3.2/1, ms1mx2.3/40, Error ellipse: s-maj=37.9km s-min=17.3km az=83.0*

*ISCJB **05** 21:41:07.5±0.6, 6°.75N±0°.07×127°.01E±0°.05, h60km, mb3.8/11, MS3.0/1, Error ellipse: s-maj=10.2km s-min=7.4km az=179.8*

*MAN **05** 21:41:07, 6°.86N×126°.87E, h1km, mb4.8, ML3.7, MS3.7*

ISC 05 21:41:08.9±0.8, 6°.66N±0°.08×126°.97E±0°.08, h60km, n19, σ1§71/20, mb3.8/11, 3C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**1.89**	**281**	⇑*i*P	Pn	21 41 38.3	-0.6
KCP				*i* S	Sn	21 42 03.0	+1.2
GSPH	**General Santos**	**2.08**	**254**	⇑*i*P	Pn	21 41 39.8	-1.8
GSPH				*i* S	Sn	21 42 06.7	+0.1
BUKP	**Musuan**	**2.24**	**303**	*e*P	Pn	21 41 43.6	-0.1
BUKP				*e*S	Sn	21 41 54.8	-16
BUTP	**Butuan**	**2.65**	**330**	*e*P	Pn	21 41 49.1	-0.2
CTBH	**Cotabato--PC H**	**2.76**	**282**	⇑*i*P	Pn	21 41 50.8	+0.1
CGP	**Cagayan de Oro**	**2.87**	**308**	⇓*e*P	Pn	21 41 51.8	-0.5
CGP				*e*S	Sn	21 42 29.8	+4.2
PAGZ	**Pagadian**	**3.75**	**289**	*e*P	Pn	21 42 04.6	+0.4
FITZ	**Fitzroy Crossi**	**24.64**	**183**	P	P	21 46 29.0	+5.0
	1.9nm,0.9s,baz=12,slow=14,SNR=2.9						
WRA	**Warramunga Arr**	**27.41**	**165**	P	P	21 46 50.6	+1.5
	0.3nm,0.6s,baz=12,slow=8.7,SNR=4.9						
CMAR	**Chiang Mai Arr**	**29.70**	**296**	LR	LR	21 59 36.1	
	comp=Z,32nm,19.9s,baz=185,slow=38						
ASAR	**Alice Springs**	**30.89**	**168**	P	P	21 47 22.0	+2.0
	0.3nm,0.4s,baz=340,slow=7.3,SNR=5.6						
MJAR	**Matsushiro Arr**	**31.47**	**18**	P	P	21 47 22.3	-2.6
	1.7nm,0.7s,baz=182,slow=8.7,SNR=7.1						
ASAJ	**Asahikawa**	**39.74**	**18**	P	P	21 48 36.4	+0.8
	3.0nm,0.4s,baz=244,slow=9.6,SNR=9.7						
STKA	**Stephens Creek**	**40.79**	**161**	P	P	21 48 46.5	+2.1
	0.5nm,0.3s,baz=169,slow=20,SNR=3.4						
PETK	**Petropavlovsk-**	**52.65**	**23**	P	P	21 50 17.8	+0.9
	3.9nm,0.6s,baz=191,slow=7.4,SNR=13						
MKAR	**Makanchi Array**	**55.32**	**324**	P	P	21 50 34.9	-1.6
	0.6nm,0.4s,baz=113,slow=7.4,SNR=20						
ILAR	**Eielson Array**	**82.37**	**26**	P	P	21 53 23.7	-0.5
	0.6nm,0.7s,baz=234,slow=5.4,SNR=7.5						
BRTR	**Keskin Array B**	**88.34**	**310**	P	P	21 53 53.2	-1.4
	0.5nm,0.8s,baz=142,slow=4.9,SNR=2.7						
FINES	**FINESS Array B**	**89.38**	**332**	P	P	21 53 57.0	-1.7
	1.5nm,0.9s,baz=91,slow=5.7,SNR=3.5						

IDC 05 21:59:17.1±2.3, 13°.99S×70°.65W, h78km±23km, mb3.3/3, mb1 3.5/7, mb1mx3.4/22, mbtmp3.4/7, Error ellipse: s-maj=38.8km s-min=18.0km az=28.0, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.33**	**134**	P	Pn	22 00 07.9	+0.1
	11nm,0.3s,baz=300,slow=11,SNR=27						
LPAZ				S	Sn	22 00 53.1	+6.2
	4.7nm,0.3s,baz=95,slow=16,SNR=5.5						
SIV	**San Ignacio**	**9.46**	**103**	P	Pn	22 01 29.6	-1.1
	1.4nm,0.3s,baz=313,slow=12,SNR=12						
SIV				S	Sn	22 03 17.2	+1.7
	1.6nm,0.3s,baz=274,slow=19,SNR=4.2						
ATAH	**Atahualpa**	**10.22**	**311**	P	Pn	22 01 41.5	+0.1
	0.3nm,0.3s,baz=155,slow=13,SNR=1.7						
CFAA	**Coronel Fontan**	**17.67**	**173**	P	P	22 03 16.6	-1.5
	0.0nm,0.3s,baz=350,slow=11,SNR=2.6						
BDFB	**Brasilia**	**21.94**	**97**	P	P	22 04 06.0	+1.3
	2.7nm,0.6s,baz=270,slow=13,SNR=5.4						
TXAR	**Lajitas Array**	**53.59**	**324**	P	P	22 08 30.0	-0.5
	0.3nm,0.8s,baz=156,slow=8.9,SNR=2.9						
TORD	**Torodi Ar. Bea**	**76.55**	**73**	P	P	22 10 58.5	-1.1
	1.0nm,0.8s,baz=256,slow=6.2,SNR=5.4						
WRA	**Warramunga Arr**	**138.27**	**217**	PKP	PKPdf	22 18 34.5	+0.2
	0.3nm,0.7s,baz=139,slow=2.0,SNR=3.4						
MJAR	**Matsushiro Arr**	**145.80**	**316**	PKPbc	PKPbc	22 18 47.6	-0.2
	1.0nm,0.8s,baz=190,slow=1.3,SNR=4.0						
KSRS	**Korea Array**	**151.37**	**328**	PKPbc	PKPbc	22 19 03.0	+0.8
	0.7nm,0.6s,baz=29,slow=2.9,SNR=5.1						

IDC 05 22:35:27.1±32.0, 52°.50S×139°.59E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.6/13, mbtmp3.6/3, Error ellipse: s-maj=568.4km s-min=154.0km az=145.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**20.66**	**5**	P	P	22 40 07.9	-0.4
	1.2nm,0.5s,baz=176,slow=13,SNR=4.7						
ASAR	**Alice Springs**	**29.11**	**349**	P	P	22 41 28.8	-0.7
	0.4nm,0.8s,baz=174,slow=10,SNR=4.9						
WRA	**Warramunga Arr**	**32.75**	**351**	P	P	22 42 02.2	+0.7
	0.6nm,0.6s,baz=175,slow=7.6,SNR=13						

IDC 05 22:41:51.3±1.8, 23°.90S×66°.65W, h192km±17km, mb3.3/3, mb1 3.5/8, mb1mx3.4/19, mbtmp3.4/8, Error ellipse: s-maj=24.3km s-min=15.7km az=116.0, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**7.70**	**349**	P	Pn	22 43 41.5	-0.2
	1.2nm,0.3s,baz=177,slow=7.6,SNR=23						
LPAZ				S	Sn	22 44 55.5	-14
	0.9nm,0.3s,baz=149,slow=18,SNR=6.8						
CFAA	**Coronel Fontan**	**7.80**	**190**	P	Pn	22 43 41.8	-0.2
	0.1nm,0.3s,baz=14,slow=14,SNR=34						
SIV	**San Ignacio**	**9.46**	**35**	P	Pn	22 44 03.6	-0.1
	0.7nm,0.3s,baz=226,slow=14,SNR=16						
SIV				S	Sn	22 45 49.5	-0.1
	0.2nm,0.3s,baz=186,slow=18,SNR=2.7						
PLCA	**Paso Flores**	**17.10**	**190**	P	P	22 45 38.1	+0.3
	0.1nm,0.3s,baz=18,slow=4.0,SNR=3.8						
BDFB	**Brasilia**	**19.35**	**68**	P	P	22 46 03.4	+0.8
	2.0nm,0.3s,baz=240,slow=12,SNR=43						
TXAR	**Lajitas Array**	**63.79**	**324**	P	P	22 52 02.9	-0.3
	0.4nm,0.7s,baz=140,slow=7.2,SNR=4.6						
TORD	**Torodi Ar. Bea**	**76.23**	**69**	P	P	22 53 18.2	-0.9
	1.8nm,0.5s,baz=267,slow=6.8,SNR=50						
ESDC	**Sonseca Array**	**86.11**	**43**	P	P	22 54 11.7	+1.1
	0.2nm,0.4s,baz=246,slow=5.7,SNR=3.1						
ASAR	**Alice Springs**	**128.68**	**204**	PKP	PKPdf	23 00 36.0	-0.4
	0.5nm,0.7s,baz=129,slow=1.6,SNR=8.4						
WRA	**Warramunga Arr**	**131.86**	**207**	PKP	PKPdf	23 00 42.5	+0.1
	0.3nm,0.3s,baz=152,slow=2.0,SNR=12						
ZALV	**Zalesovo Beam**	**143.16**	**28**	PKhKP	PKPpre	23 00 57.4	
	0.6nm,0.5s,baz=308,slow=7.1,SNR=3.1						
MKAR	**Makanchi Array**	**146.25**	**40**	PKPbc	PKPbc	23 01 08.4	-0.7
	0.9nm,0.6s,baz=300,slow=3.0,SNR=11						

*IDC **05** 23:02:01.0±3.6, 40°.76N×83°.97E, h0km, mb3.6/3, mb1 3.6/7, mb1mx3.4/30, mbtmp3.5/7, ML3.6/4, MS2.9/1, Ms1 2.9/1, ms1mx2.0/32, Error ellipse: s-maj=63.8km s-min=29.5km az=108.0*

*NNC **05** 23:02:19.5±2.9, 42°.06N×81°.45E, h9km±8km, mb3.8, mpv3.5, Error ellipse: s-maj=26.2km s-min=10.2km az=136.0*

ISC 05 23:02:23.8±2.3, 42°.4N±0°.1×81°.1E±0°.1, h10km, n14, σ1§96/12, mb3.5/3, 7C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDC	**Almaty**	**3.17**	**286**	⇓Pn	Pn	23 03 15.7	+1.9
KNDC				⇑Lg	Lg	23 04 10.0	
TKM2	**Tokmak 2**	**4.11**	**279**	⇑Pn	Pn	23 03 27.1	+0.1
	5.3nm,0.3s						
TKM2				⇓Lg	Lg	23 04 38.9	
	18nm,0.5s						
MK31	**Makanchi Array**	**4.43**	**10**	Pn	Pn	23 03 33.8	+2.6
	2.4nm,0.5s,baz=192,slow=13,SNR=82						
MK31				⇑Sn	Sb	23 04 33.4	-1.8
	3.3nm,0.5s,baz=189,slow=26,SNR=2.6						
MK31				⇑Lg	Lg	23 04 55.1	
	8.6nm,0.6s,baz=187,slow=30,SNR=6.4						
MKAR	**Makanchi Array**	**4.43**	**10**	Pn	Pn	23 03 34.0	+2.9
	0.7nm,0.3s,baz=186,slow=13,SNR=52						
MKAR				Pg	Pg	23 03 48.6	-0.1
	1.2nm,0.3s,baz=185,slow=16,SNR=16						
MKAR				Sn	Sb	23 04 34.3	-1.0
	1.8nm,0.3s,baz=186,slow=24,SNR=5.9						
MKAR				Lg	Lg	23 04 55.5	
	2.3nm,0.3s,baz=189,slow=31,SNR=13						
AAK	**Ala-Archa**	**4.91**	**275**	Pn	Pb	23 03 51.9	+1.9
	1.5nm,0.3s,baz=127,slow=8.1,SNR=11						
AAK				Sn	Sg	23 05 02.3	+0.7
	0.7nm,0.3s,baz=227,slow=19,SNR=3.7						
KK31	**Karatay Array**	**7.85**	**278**	⇑Pg	Pb	23 04 46.4	+6.5
	1.4nm,0.7s,baz=99,slow=19,SNR=7.9						
KK31				⇑Lg	Lg	23 06 32.5	
	1.9nm,0.7s,baz=90,slow=24,SNR=7.5						
KURBB	**Kurchatov Arra**	**8.38**	**349**	Pn	Pb	23 04 37.4	-12
	0.3nm,0.3s,baz=172,slow=15,SNR=8.4						
KURBB				Sn	Sb	23 06 19.4	-9.3
	0.3nm,0.3s,baz=164,slow=24,SNR=5.0						
ZALV	**Zalesovo Beam**	**11.77**	**11**	Pn	Pn	23 05 15.3	+3.6
	0.1nm,0.3s,baz=187,slow=10,SNR=2.6						
BVAR	**Borovoye Array**	**12.81**	**329**	Pn	Pn	23 05 38.1	+12
	0.1nm,0.3s,baz=125,slow=13,SNR=4.4						
AB31	**Akbulak array**	**16.24**	**302**	⇑Pn	Pn	23 06 10.5	-1.3
	0.8nm,0.7s,baz=105,slow=11,SNR=7.2						
SONM	**Songino Array**	**18.58**	**64**	LR	LR	23 13 12.5	
	comp=Z,34nm,18.4s,baz=196,slow=38						
BRTR	**Keskin Array B**	**35.54**	**282**	P	P	23 09 20.3	-0.8
	0.3nm,0.8s,baz=82,slow=10,SNR=3.0						
ARCES	**ARCESS Array B**	**39.07**	**333**	P	P	23 09 48.4	-2.2
	2.0nm,0.8s,baz=89,slow=9.9,SNR=5.4						
TORD	**Torodi Ar. Bea**	**73.50**	**273**	P	P	23 13 49.6	-7.3
	0.3nm,0.6s,baz=49,slow=5.6,SNR=7.3						

IDC 05 23:31:27.8±8.1, 1°.04S×100°.19E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/23, mbtmp3.5/4, Error ellipse: s-maj=406.1km s-min=23.0km az=54.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.32**	**122**	P	P	23 38 50.5	-0.2
	0.7nm,0.7s,baz=301,slow=9.0,SNR=12						
ASAR	**Alice Springs**	**39.67**	**127**	P	P	23 39 01.9	0.0
	0.3nm,0.6s,baz=300,slow=8.0,SNR=6.6						
MKAR	**Makanchi Array**	**50.16**	**344**	P	P	23 40 24.9	-0.2
	0.3nm,0.6s,baz=158,slow=8.4,SNR=4.3						
ZALV	**Zalesovo Beam**	**56.26**	**349**	P	P	23 41 09.9	0.0
	0.2nm,0.3s,baz=160,slow=8.8,SNR=2.5						

*NIED **05** 23:46:00, 37°.30N×143°.00E, h11km, Mw3.5 Best double couple: M0.2.11000×1014 NP1:φs326.00000°, δ77.00000°, λ-41.00000°. NP2:φs67.00000°, δ50.00000°, λ-163.00000°.*

*IDC **05** 23:46:53.3±1.8, 37°.29N×143°.07E, h0km, mb3.7/6, mb1 3.7/8, mb1mx3.5/26, mbtmp3.6/8, ML3.4/2, Error ellipse: s-maj=49.4km s-min=21.2km az=72.0*

*ISCJB **05** 23:46:54.9±0.8, 37°.33N±0°.04×143°.05E±0°.07, h24km, mb3.7/6, Error ellipse: s-maj=7.8km s-min=6.3km az=179.2*

*JMA **05** 23:46:55.9±0.2, 37°.32N×143°.03E, h44km, M3.5*

ISC 05 23:46:57.1±1.3, 37°.35N±0°.06×143°.0E±0°.1, h24km, n21, σ1§07/27, mb3.6/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.68**	**271**	P	Pn	23 47 24.2	-0.9
JFK				*e*S	Sn	23 47 44.2	-1.6
JIO	**Ouri**	**1.70**	**311**	P	Pn	23 47 24.5	-0.8
JIO				*e*S	Sn	23 47 45.4	-0.9
ONAJ	**Iwakimizuishiy**	**1.76**	**263**	P	Pn	23 47 25.3	-0.9
ONAJ				*e*S	Sn	23 47 46.5	-1.4
JMM	**Marumori**	**1.81**	**287**	P	Pn	23 47 25.8	-1.1
JFT	**Otama**	**2.11**	**275**	P	Pn	23 47 31.1	+0.1
JFT				*e*S	Sn	23 47 56.9	+0.4
JMK	**Ichinoseki**	**2.12**	**320**	P	Pn	23 47 30.5	-0.6
JMK				S	Sn	23 47 56.4	-0.3
JOM	**Ohasama**	**2.50**	**328**	P	Pn	23 47 35.9	-0.5
JOM				*e*S	Sn	23 48 06.0	-0.1
JYK	**Kaneyama**	**2.60**	**308**	P	Pn	23 47 37.7	+0.1
JAG	**Ashikaga**	**2.98**	**253**	P	Pn	23 47 42.4	-0.4
BSO1	**Boso 1**	**3.14**	**212**	P	Pn	23 47 43.8	-0.8
JRY	**Ryogami san**	**3.54**	**249**	P	Pn	23 47 50.0	-0.6
JOD2	**Odawara 2**	**3.77**	**238**	P	Pn	23 47 53.0	-0.8
MJAR	**Matsushiro Arr**	**3.91**	**260**	Pn	Pn	23 47 55.7	+0.1
	1.7nm,0.3s,baz=221,slow=26,SNR=20						
MAT	**Matsushiro**	**3.91**	**260**	P	Pn	23 47 57.3	+1.6
MAT				*e*S	Sn	23 48 44.5	+3.7
ASAJ	**Asahikawa**	**6.77**	**358**	Pn	Pn	23 48 35.7	+0.8
	0.8nm,0.3s,baz=231,slow=4.5,SNR=6.5						
SONM	**Songino Array**	**28.66**	**303**	P	P	23 52 52.9	+0.9
	0.6nm,0.6s,baz=106,slow=11,SNR=4.2						
ZALV	**Zalesovo Beam**	**42.63**	**312**	P	P	23 54 50.8	-0.6
	0.5nm,0.5s,baz=92,slow=7.2,SNR=3.5						
MKAR	**Makanchi Array**	**45.02**	**302**	P	P	23 55 10.6	0.0
	0.6nm,0.7s,baz=80,slow=9.0,SNR=5.4						
KURBB	**Kurchatov Arra**	**46.80**	**308**	P	P	23 55 25.5	+0.9
	1.0nm,0.5s,baz=82,slow=8.0,SNR=16						
WRA	**Warramunga Arr**	**57.56**	**190**	P	P	23 56 44.2	-0.6
	0.8nm,0.7s,baz=11,slow=7.3,SNR=7.0						
ASAR	**Alice Springs**	**61.28**	**189**	P	P	23 57 10.5	0.0
	0.4nm,0.8s,baz=8.9,slow=7.9,SNR=4.7						

WEL 06 00:00:49.0±0.6, 38°.08S×176°.05E, h154km±6km, ML3.5/9, 3C, Error ellipse: s-maj=7.5km s-min=5.7km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.85**	**103**	⇑PN	Pn	00 01 12.8	-0.2
URZ				SN	Sn	00 01 31.6	+0.4
BKZ	**Black Stump Fm**	**1.14**	**163**	⇑PN	Pn	00 01 15.4	0.0
BKZ				SN	Sn	00 01 35.7	0.0
RAHZ	**Arahi**	**1.17**	**136**	PN	Pn	00 01 16.1	+0.5
NMHZ	**Naumai**	**1.18**	**150**	PN	Pn	00 01 16.4	+0.6
MWZ	**Matawai**	**1.19**	**103**	PN	Pn	00 01 15.7	-0.2
MWZ				SN	Sn	00 01 36.4	-0.1
TUVZ	**Tukino**	**1.23**	**195**	PN	Pn	00 01 16.8	+0.4
WNVZ	**Wahianoa**	**1.30**	**196**	PN	Pn	00 01 17.2	+0.2
BHHZ	**Black Hill Sta**	**1.41**	**180**	PN	Pn	00 01 17.6	-0.4
BHHZ				SN	Sn	00 01 39.6	-0.8
KNZ	**Kokohu**	**1.58**	**127**	PN	Pn	00 01 19.3	-0.4
WAZ	**Wanganui**	**1.87**	**206**	PN	Pn	00 01 22.4	-0.6
DVHZ	**Dannevirke**	**2.22**	**178**	PN	Pn	00 01 25.4	-1.6
PRWZ	**Pori Road**	**2.48**	**181**	PN	Pn	00 01 28.1	-1.9
BFZ	**Birch Farm**	**2.60**	**177**	PN	Pn	00 01 29.4	-2.2
MRZ

TUZ				AML	AML	00 05 37.4	
HHSZ	**Highcliff Hill**	**2.21**	**141**	PN	Pn	00 05 12.2	-0.1
SYZ	**Scrubby Hill**	**2.40**	**171**	PN	Pn	00 05 14.6	-0.2
OXZ	**Oxford**	**2.62**	**72**	PN	Pn	00 05 16.3	-1.5
APZ	**The Paps**	**2.70**	**189**	PN	Pn	00 05 19.7	+0.7
MQZ	**McQueen's Vall**	**2.95**	**82**	PN	Pn	00 05 20.3	-2.0
LTZ	**Lake Taylor**	**2.99**	**64**	PN	Pn	00 05 21.7	-1.4
LTZ				AML	AML	00 06 02.9	
DSZ	**Denniston Nort**	**3.36**	**45**	PN	Pn	00 05 27.0	-1.2
THZ	**Tophouse**	**3.96**	**54**	PN	Pn	00 05 35.0	-1.3
THZ				AML	AML	00 06 22.1	
THZ				AML	AML	00 06 25.0	
KHZ	**Kahutara**	**3.99**	**66**	PN	Pn	00 05 38.2	+1.5
QRZ	**Quartz Range**	**4.42**	**42**	PN	Pn	00 05 41.5	-1.0
QRZ				SN	Sn	00 06 30.2	-4.1
NNZ	**Nelson**	**4.58**	**52**	PN	Pn	00 05 44.7	0.0
TUWZ	**Tuamarina**	**4.78**	**57**	PN	Pn	00 05 49.1	+1.6
TCW	**Tory Channel**	**5.11**	**57**	PN	Pn	00 05 53.4	+1.4
DUWZ	**D'Urville Isla**	**5.16**	**51**	PN	Pn	00 05 52.3	-0.5
CAW	**Cannon Point**	**5.65**	**59**	PN	Pn	00 05 60.0	+0.5

DJA 06 00:12:49.5±1.2, 8°S±7°×10°7E±°, h10km, M3.9/5, MLv3.9/5, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.72**	**47**	P	Pg	00 13 02.9	-0.5
CISI				S	Sg	00 13 12.4	-0.5
LEM	**Lembang**	**1.26**	**15**	P	Pn	00 13 12.5	-0.9
LEM				S	Sn	00 13 31.1	+0.6
SKJI	**Sukabumi**	**1.27**	**325**	P	Pn	00 13 12.2	-1.1
SKJI				S	Sn	00 13 30.5	+0.1
DBJI	**Dramaga**	**1.58**	**340**	P	Pn	00 13 17.6	0.0
DBJI				S	Sn	00 13 38.3	+0.1

WEL 06 00:21:06.1±0.4, 46°15S×165°81E, h31km±2km, ML3.5/11, Error ellipse: s-maj=4.7km s-min=2.9km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**1.15**	**55**	PN	Pn	00 21 26.1	-0.1
DCZ				SN	Sn	00 21 40.2	-0.6
DCZ				AML	AML	00 21 40.8	
DCZ				AML	AML	00 21 41.8	
DCZ				AML	AML	00 21 43.9	
WHZ	**Wether Hill Ro**	**1.51**	**81**	PN	Pn	00 21 31.3	+0.3
WHZ				SN	Sn	00 21 48.3	-1.4
WHZ				AML	AML	00 21 51.6	
APZ	**The Paps**	**1.65**	**115**	PN	Pn	00 21 32.5	-0.6
MLZ	**Mavora Lakes**	**1.84**	**65**	PN	Pb	00 21 37.6	-1.5
MLZ				AML	AML	00 22 04.4	
MLZ				AML	AML	00 22 05.8	
SYZ	**Scrubby Hill**	**2.34**	**101**	PN	Pn	00 21 42.9	+0.5
EAZ	**Earnscleugh**	**2.62**	**71**	PN	Pn	00 21 49.0	+2.7
EAZ				AML	AML	00 22 26.5	
EAZ				AML	AML	00 22 31.3	
TUZ	**Tuapeka**	**2.67**	**87**	PN	Pn	00 21 48.0	+1.1
TUZ				AML	AML	00 22 25.3	
JCZ	**Jackson Bay**	**2.94**	**46**	PN	Pn	00 21 53.9	+3.0
JCZ				AML	AML	00 22 45.3	
JCZ				AML	AML	00 22 48.7	

IDC 06 00:21:38.6±1.3, 1°62N×126°72E, h0km, mb4.2/4, mb1 4.2/5, mb1mx3.8/22, mbtmp4.1/5, ML3.6/1, MS3.3/1, Ms1 3.3/1, ms1mx2.7/31, Error ellipse: s-maj=98.2km s-min=20.8km az=68.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.63**	**183**	P	P	00 26 08.1	-0.8
	0.1nm,0.3s,baz=0.4,slow=8.4,SNR=4.9						
WRA	**Warramunga Arr**	**22.70**	**161**	P	P	00 26 42.0	-0.1
	8.0nm,0.5s,baz=340,slow=11,SNR=126						
WRA				PcP	PcP	00 30 35.1	+0.2
	0.2nm,0.9s,baz=337,slow=2.3,SNR=2.9						
ASAR	**Alice Springs**	**26.09**	**165**	P	P	00 27 14.5	+0.2
	1.9nm,0.4s,baz=350,slow=14,SNR=54						
ASAR				PcP	PcP	00 30 41.5	-0.8
	0.2nm,0.5s,baz=355,slow=2.5,SNR=4.1						
STKA	**Stephens Creek**	**36.18**	**158**	P	P	00 28 43.0	-0.1
	1.1nm,0.3s,baz=3.9,slow=8.8,SNR=4.1						
MJAR	**Matsushiro Arr**	**36.34**	**16**	LR	LR	00 41 11.0	
	comp=Z,46nm,19.7s,baz=205,slow=32						
MKAR	**Makanchi Array**	**59.28**	**326**	P	P	00 31 42.1	-0.1
	0.6nm,0.4s,baz=120,slow=7.8,SNR=28						

KRSC 06 00:51:57.3±0.6, 55°63N×160°32E, h228km±27km, ML3.6, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMNR	**Kamenistaya**	**0.14**	**340**	*e*P	Pn	00 52 28.3	+1.3
BZMR	**Bezymyannaya**	**0.32**	**17**	*e*P	Pn	00 52 28.5	+1.2
KIRR	**Kirishev**	**0.32**	**2**	*e*P	Pn	00 52 28.0	+0.7
BZWR	**Bezymyannyi-We**	**0.35**	**16**	*e*P	Pn	00 52 27.8	+0.4
TUMR	**Tumrok**	**0.36**	**196**	*e*P	Pn	00 52 28.2	+0.7
BZGR	**Bezymyannyi-Gr**	**0.38**	**34**	*e*P	Pn	00 52 28.5	+1.1
BZGR				*i* S	S	00 52 51.7	+0.7
ZLN	**Zelenaya**	**0.47**	**35**	*e*P	Pn	00 52 29.2	+1.6
KOZ	**Kozyrevsk**	**0.50**	**330**	*e*P	Pn	00 52 28.7	+1.1
CIRR	**Tsirk**	**0.54**	**26**	*e*P	Pn	00 52 28.8	+0.9
KRSR	**Krestovskiy**	**0.60**	**13**	*e*P	Pn	00 52 28.0	-0.1
SRDR	**Sredinnyy**	**0.77**	**334**	*e*P	Pn	00 52 28.8	+0.1
MKZ	**Mys Kozlova**	**1.35**	**142**	*e*P	Pn	00 52 33.7	+1.4
MKZ				*i* S	S	00 52 59.6	0.0
KBTR	**Krutoberegovo**	**1.52**	**67**	*e*P	Pn	00 52 35.4	+1.8
GNL	**Ganaly**	**2.38**	**216**	*e*P	Pn	00 52 42.6	+0.7
KRX	**Arik**	**2.48**	**204**	*e*P	Pn	00 52 44.9	+2.0
SDLR	**Sedlovina**	**2.50**	**200**	*e*P	Pn	00 52 44.5	+1.3
KRER	**Koryakskii**	**2.50**	**202**	*e*P	Pn	00 52 44.3	+1.0
NLC	**Nalytchevo**	**2.53**	**193**	*e*P	Pn	00 52 44.0	+0.7
SMAR	**Somma**	**2.53**	**201**	*e*P	Pn	00 52 44.6	+1.0
KOK	**Koryaka**	**2.54**	**203**	*e*P	Pn	00 52 45.8	+2.2
SPN	**Mys Shipunski**	**2.54**	**184**	*e*P	Pn	00 52 43.5	+0.1
SPN				*i* S	S	00 53 16.5	-3.0
AVH	**Avacha**	**2.54**	**202**	*e*P	Pn	00 52 44.9	+1.3
UGLR	**Uglovaya**	**2.58**	**200**	*e*P	Pn	00 52 45.1	+1.1
BKI	**Bering**	**3.25**	**95**	*e*P	Pn	00 52 52.6	+1.4
BKI				*i* S	S	00 53 34.0	+0.5
RUS	**Russkaya**	**3.38**	**199**	*e*P	Pn	00 52 53.7	+1.0
RUS				*i* S	S	00 53 35.5	-0.7
MTVR	**Mutnovka**	**3.40**	**203**	*e*P	Pn	00 52 54.6	+1.4
MTVR				*i* S	S	00 53 35.8	-1.2
ASAK	**Asacha**	**3.55**	**205**	*e*P	Pn	00 52 56.2	+1.3
MIPR	**Malaya Ipel'ka**	**3.96**	**214**	*e*P	Pn	00 53 02.1	+2.4
SKR	**Severo-Kuril's**	**5.56**	**209**	*e*P	Pn	00 53 23.8	+4.4

ISCJB ***06*** *01:04:16.6±0.3, 5°44S×0°05×151°65E±0°05, h57km, mb4.7/47, MS4.0/14, Error ellipse: s-maj=8.6km s-min=5.0km az=42.9*
AUST ***06*** *01:04:17.5, 5°66S×152°12E, h60km*
BJI ***06*** *01:04:18.6, 5°50S×151°70E, h76km, mB5.0/13, mb4.8/21, Ms5.0/8, Ms7 4.5/8*
NEIC ***06*** *01:04:20.1±1.6, 5°48S×151°67E, h80km±14km, mb4.8/27, Error ellipse: s-maj=8.8km s-min=8.5km az=95.0*
IDC ***06*** *01:04:21.9±2.6, 5°38S×151°49E, h90km±23km, mb4.1/15, mb1 4.2/17, mb1mx4.1/23, mbtmp4.1/17, MS3.8/13, Ms1 3.9/13, ms1mx3.5/31, Error ellipse: s-maj=16.9km s-min=12.0km az=115.0*

ISC 06 01:04:17.4±0.5, 5°49S±0°05×151°75E±0°07, h57km, n116, σ1§39/115, mb4.7/43, MS3.9/14, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.35**	**18**	P	**Pn**	**01 04 39.0**	**-1.1**
	baz=1.5,SNR=348						
RABL				S	**Sn**	**01 04 59.8**	**+2.7**
	baz=1.5,SNR=5.4						
PMG	**Port Moresby**	**5.99**	**229**	*e*Pn	**Pn**	**01 05 44.4**	**+1.0**
PMG				*e*Sn	**Sn**	**01 06 50.5**	**-0.2**
PMG	**Port Moresby**	**5.99**	**229**	P	**Pn**	**01 05 45.0**	**+1.5**
	8.0nm,0.3s,baz=33,slow=9.3,SNR=27						
PMG				S	**Sn**	**01 06 49.0**	**-1.6**
	7.9nm,0.3s,baz=152,slow=18,SNR=3.6						
PMG				LR	LR	01 07 20.2	
	comp=Z,117nm,20.9s,baz=30,slow=30						
HNR	**Honiara**	**9.03**	**116**	LR	LR	01 09 21.5	
	comp=Z,378nm,20.1s,baz=291,slow=32						
MMPI	**Merauke**	**11.66**	**255**	S	**Sn**	**01 09 08.7**	**-1.2**
	baz=12,SNR=3.7						
MTSU	**Mount Surprise**	**14.51**	**209**	P	**P**	**01 07 46.5**	**+1.5**
	baz=15,SNR=4.3						
CTA	**Charters Tower**	**15.46**	**200**	P	**P**	**01 07 55.2**	**-0.3**
CTA	**Charters Tower**	**15.46**	**200**	P	**P**	**01 07 55.2**	**-0.3**
	0.1nm,0.3s,baz=25,slow=14,SNR=6.2						
EIDS	**Eidsvold**	**19.78**	**182**	*e*P	**P**	**01 08 42.0**	**-1.0**
	26nm,1.2s						
EIDS	**Eidsvold**	**19.78**	**182**	P	**P**	**01 08 42.8**	**-0.2**
	baz=20,SNR=6.3						
KDU	**Kakadu**	**20.32**	**248**	P	**P**	**01 08 48.8**	**-0.2**
	baz=21,SNR=25						
KDU				S	Sn	01 12 43.8	+4.0
	baz=21,SNR=4.7						
RMQ	**Roma**	**21.07**	**187**	P	**P**	**01 08 57.1**	**+0.1**
	baz=21,SNR=11						
MTN	**Manton Dam**	**21.61**	**249**	P	**P**	**01 09 05.3**	**+2.4**
	baz=22,SNR=8.4						
MTN				S	**S**	**01 12 58.1**	**-1.3**
	baz=22,SNR=6.4						
DZM	**Mont Dzumac**	**21.77**	**141**	*e*LR	LR	01 14 33.9	
	671nm,23.0s						
DZM	**Mont Dzumac**	**21.77**	**141**	P	P	01 09 11.0	+6.4
DZM	**Mont Dzumac**	**21.77**	**141**	P	P	01 09 11.0	+6.4
	9.2nm,1.1s,baz=51,slow=18,SNR=6.2						
DZM				LR	LR	01 16 47.2	
	comp=Z,515nm,18.9s,baz=57,slow=34						
WRAB	**Tennant Creek**	**22.19**	**228**	*e*P	**P**	**01 09 09.6**	**+0.5**
	13nm,0.7s						
WRA	**Warramunga Arr**	**22.20**	**228**	P	**P**	**01 09 09.2**	**-0.1**
WRA				S	**S**	**01 13 08.5**	**-2.0**
WRA	**Warramunga Arr**	**22.20**	**228**	P	**P**	**01 09 09.2**	**-0.1**
	9.2nm,0.7s,baz=52,slow=9.8,SNR=47						
WRA				S	**S**	**01 13 08.5**	**-2.0**
	6.6nm,1.1s,baz=52,slow=17,SNR=5.4						
WRA				LR	LR	01 17 50.3	
	comp=Z,264nm,21.4s,baz=55,slow=37						
KNRA	**Kununurra**	**24.73**	**244**	P	**P**	**01 09 36.3**	**+2.6**
	baz=25,SNR=14						
AS31	**Alice Springs**	**24.93**	**222**	*e*P	**P**	**01 09 36.2**	**+0.6**
ASAR	**Alice Springs**	**24.94**	**222**	P	**P**	**01 09 35.7**	**+0.1**
ASAR	**Alice Springs**	**24.94**	**222**	P	**P**	**01 09 35.7**	**+0.1**
	8.6nm,0.7s,baz=58,slow=8.6,SNR=90						
ASAR				LR	LR	01 19 21.0	
	comp=Z,230nm,19.5s,baz=40,slow=36						
STKA	**Stephens Creek**	**27.92**	**199**	P	**P**	**01 10 04.8**	**+2.5**
STKA	**Stephens Creek**	**27.92**	**199**	P	**P**	**01 10 04.8**	**+2.5**
	4.3nm,0.9s,baz=15,slow=9.5,SNR=3.8						
STKA				LR	LR	01 21 48.4	
	comp=Z,198nm,18.4s,baz=22,slow=38						
FITZ	**Fitzroy Crossi**	**28.41**	**242**	*e*P	**P**	**01 10 06.8**	**0.0**
	23nm,0.9s						
FITZ	**Fitzroy Crossi**	**28.41**	**242**	P	**P**	**01 10 05.8**	**-1.0**
	22nm,0.9s,baz=74,slow=7.9,SNR=21						
FITZ				LR	LR	01 21 00.9	
	comp=Z,127nm,20.3s,baz=66,slow=35						
FITZ	**Fitzroy Crossi**	**28.41**	**242**	P	**P**	**01 10 06.2**	**-0.6**
	baz=29,SNR=25						
KAPI	**Kappang**	**31.86**	**269**	*e*P	**P**	**01 10 37.3**	**-0.1**
	21nm,1.3s						
MEEK	**Meekatharra**	**37.95**	**233**	P	P	01 11 33.4	+3.6
	baz=38,SNR=10						
URZ	**Urewera**	**39.94**	**148**	LR	LR	01 26 23.5	
	comp=Z,431nm,19.4s,baz=305,slow=33						
MORW	**Morawa**	**41.10**	**231**	P	P	01 11 59.3	+3.4
	baz=41,SNR=4.0						
NWAO	**Narrogin (SRO)**	**42.16**	**225**	LR	LR	01 29 51.2	
	comp=Z,287nm,20.9s,baz=169,slow=36						
MJAR	**Matsushiro Arr**	**43.69**	**344**	LR	LR	01 29 14.9	
	comp=Z,103nm,19.6s,baz=190,slow=34						
QIZ	**Qiongzhong**	**47.92**	**302**	P	**P**	**01 12 51.5**	**+1.0**
QIZ				S	**S**	**01 19 44.6**	**+0.4**
QIZ				pmax	pmax		
	comp=Z,190nm,5.6s						
QIZ				LR	LR		
	comp=N,290nm,18.5s						
QIZ				LR	LR		
	comp=E,140nm,17.9s						
QIZ				LR	LR		
	comp=Z,330nm,15.9s						
KSRS	**Korea Array**	**48.15**	**334**	P	**P**	**01 12 52.0**	**+0.1**
	comp=Z,1.2nm,0.8s,baz=157,slow=6.6,SNR=3.9						
KSAR	**Wonju Array Be**	**48.16**	**334**	P	**P**	**01 12 52.0**	**0.0**
NJ2	**Nanjing**	**48.73**	**322**	*e*P	P	01 13 00.4	+3.9
NJ2				pmax	pmax		
	comp=Z,20nm,1.2s						
GYA	**Guiyang**	**53.98**	**308**	P	**P**	**01 13 37.6**	**+1.5**
GYA				pP	pP	01 13 57.9	+6.6
GYA				sP	sP	01 14 07.0	+9.2
GYA				ScP	**ScP**	**01 18 31.6**	**-2.6**
GYA				S	**S**	**01 21 07.0**	**-1.1**
GYA				sS	sS	01 21 40.9	+7.2
GYA				SS	**SS**	**01 24 48.6**	**-1.8**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,90nm,5.0s						
GYA				LR	LR		
	comp=N,480nm,17.9s						
GYA				LR	LR		
	comp=E,390nm,18.8s						
GYA				LR	LR		
	comp=Z,410nm,17.6s						
CN2	**Changchun**	**54.50**	**337**	*e*P	P	01 13 43.9	+4.5
CN2				*es*P	sP	01 14 13.0	+12
CN2				*e*S	**S**	**01 21 16.6**	**+2.3**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,100nm,3.0s						
KMI	**Kunming**	**56.51**	**305**	P	P	01 13 57.5	+3.1
KMI				pmax	pmax		
	comp=Z,11nm,0.6s						
CMAR	**Chiang Mai Arr**	**57.22**	**296**	P	**P**	**01 14 00.2**	**+0.9**
CMAR	**Chiang Mai Arr**	**57.22**	**296**	P	**P**	**01 14 00.2**	**+0.9**
	comp=Z,1.0nm,0.3s,baz=122,slow=6.7,SNR=6.7						
CMAR				LR	LR	01 37 59.8	
	comp=Z,71nm,18.1s,baz=146,slow=35						
CHTO	**Chiang Mai**	**57.34**	**296**	*e*P	**P**	**01 14 00.0**	**-0.1**
	comp=Z,5.6nm,0.9s						
CD2	**Chengdu**	**58.39**	**311**	P	**P**	**01 14 08.8**	**+1.4**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PPT2	**Papeete2**	**58.52**	**107**	*e*LR	LR	01 31 27.4	
	comp=Z,44nm,22.8s						
HHC	**Hu-ho-hao-te**	**59.00**	**325**	*e*P	**P**	**01 14 12.5**	**+1.0**
HHC				pP	pP	01 14 32.0	+5.1
HHC				sP	sP	01 14 41.1	+7.8
HHC				PP	**PP**	**01 16 24.6**	**+2.1**
HHC				S	**S**	**01 22 08.3**	**-5.7**
HHC				sS	**sS**	**01 22 43.7**	**+3.8**
HHC				ScS	**ScS**	**01 23 51.8**	**-4.9**
HHC				SS	**SS**	**01 26 08.6**	**-0.3**
HHC				pmax	pmax		
	comp=Z,25nm,0.6s						
HHC				pmax	pmax		
	comp=Z,220nm,5.2s						
HHC				LR	LR		
	comp=N,270nm,13.1s						
HHC				LR	LR		
	comp=E,540nm,14.3s						
HHC				LR	LR		
	comp=Z,230nm,15.5s						
LZH	**Lanzhou**	**61.00**	**317**	*e*P	**P**	**01 14 26.7**	**+1.4**
LZH				pP	pP	01 14 45.0	+4.2
LZH				sP	sP	01 14 53.2	+5.9
LZH				pmax	pmax		
	comp=Z,13nm,1.0s						
GTA	**Gaotai**	**65.45**	**318**	*e*P	**P**	**01 14 55.4**	**+0.7**
GTA				pP	pP	01 15 15.1	+4.7
GTA				sP	sP	01 15 23.9	+7.1
GTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ULN	**Ulaanbaatar**	**66.03**	**329**	*e*P	**P**	**01 14 59.0**	**+0.7**
	comp=Z,3.6nm,0.9s						
SONM	**Songino Array**	**66.35**	**328**	P	**P**	**01 15 00.7**	**+0.3**
SONM	**Songino Array**	**66.35**	**328**	P	**P**	**01 15 00.7**	**+0.3**
	comp=Z,3.4nm,0.7s,baz=154,slow=4.7,SNR=18						
VNDA	**Vanda**	**72.19**	**178**	*e*P	**P**	**01 15 35.8**	**0.0**
	comp=Z,1.4nm,0.8s						
VNDA	**Vanda**	**72.19**	**178**	P	P	01 15 39.2	+3.4
	comp=Z,0.6nm,0.6s,baz=345,slow=6.1,SNR=3.1						
VNDA				LR	LR	01 44 54.9	
	comp=Z,58nm,19.9s,baz=95,slow=34						
WMQ	**Urumqi**	**75.54**	**318**	P	**P**	**01 15 56.7**	**+0.6**
WMQ				PcP	**PcP**	**01 16 10.3**	**+1.5**
WMQ				pP	pP	01 16 16.8	+4.8
WMQ				sP	sP	01 16 25.3	+7.0
WMQ				pmax	pmax		
	comp=Z,8.0nm,0.8s						
WMQ				pmax	pmax		
	comp=Z,95nm,5.2s						
SVW2	**Sparrevohn**	**77.87**	**23**	*e*P	**P**	**01 16 10.2**	**+1.5**
	comp=Z,42nm,2.2s						
MK31	**Makanchi Array**	**80.15**	**319**	*e*P	**P**	**01 16 21.3**	**-0.3**
MKAR	**Makanchi Array**	**80.15**	**319**	*e*P	**P**	**01 16 21.9**	**+0.2**
MKAR	**Makanchi Array**	**80.15**	**319**	P	**P**	**01 16 21.4**	**-0.2**
	comp=Z,2.9nm,0.9s,baz=104,slow=5.1,SNR=16						
ZAA0	**Zalesovo Array**	**81.14**	**327**	*e*P	**P**	**01 16 25.1**	**-1.5**
ZALV	**Zalesovo Beam**	**81.14**	**327**	P	**P**	**01 16 25.4**	**-1.3**
ZALV	**Zalesovo Beam**	**81.14**	**327**	P	**P**	**01 16 25.4**	**-1.3**
	comp=Z,2.6nm,0.8s,baz=104,slow=4.9,SNR=9.6						
MCK	**McKinley**	**81.90**	**23**	*e*P	**P**	**01 16 30.6**	**0.0**
	comp=Z,4.5nm,0.8s						
KSH	**Kashi**	**82.58**	**311**	*e*P	**P**	**01 16 32.3**	**-2.5**
KSH				S	S	01 26 37.9	-10
KSH				pmax	pmax		
	comp=Z,160nm,4.6s						
KSH				LR	LR		
	comp=N,63nm,3.8s						
KSH				LR	LR		
	comp=E,45nm,6.0s						
KSH				LR	LR		
	comp=Z,120nm,5.2s						
COLA	**College**	**82.88**	**22**	*e*P	**P**	**01 16 35.4**	**-0.1**
	comp=Z,14nm,0.7s						
ILAR	**Eielson Array**	**83.19**	**22**	P	**P**	**01 16 36.3**	**-0.9**
ILAR	**Eielson Array**	**83.19**	**22**	P	**P**	**01 16 36.3**	**-0.9**
	comp=Z,1.7nm,0.7s,baz=251,slow=5.4,SNR=17						
TKM2	**Tokmak 2**	**83.65**	**314**	*e*P	**P**	**01 16 40.5**	**+0.1**
	comp=Z,3.5nm,0.8s						
AAK	**Ala-Archa**	**84.38**	**314**	*e*P	**P**	**01 16 44.4**	**+0.4**
	comp=Z,4.6nm,0.9s						
AAK	**Ala-Archa**	**84.38**	**314**	P	**P**	**01 16 44.4**	**+0.4**
	comp=Z,1.5nm,0.5s,baz=137,slow=2.4,SNR=8.2						
EKS2	**Erkin-Say**	**84.90**	**314**	*e*P	**P**	**01 16 47.2**	**+0.6**
	comp=Z,11nm,1.0s						
EGAK	**Eagle**	**85.40**	**23**	*e*P	**P**	**01 16 49.2**	**+0.9**
KKAR	**Karatay Array**	**87.34**	**314**	*e*P	**P**	**01 16 57.8**	**-0.7**
VOSK	**Vostochnaya**	**88.75**	**323**	*e*P	**P**	**01 17 04.1**	**-0.8**
	comp=Z,5.4nm,1.2s						
BVAR	**Borovoye Array**	**89.16**	**323**	P	**P**	**01 17 06.1**	**-0.7**
BVAR	**Borovoye Array**	**89.16**	**323**	P	**P**	**01 17 06.1**	**-0.7**
	baz=104,slow=6.1						
HUMO	**Hull Mountain**	**90.22**	**47**	*e*P	**P**	**01 17 13.4**	**+1.4**
	comp=Z,15nm,1.0s						
YBH	**Yreka Blue Hor**	**90.29**	**48**	P	**P**	**01 17 13.1**	**+0.7**
YBH	**Yreka Blue Hor**	**90.29**	**48**	P	**P**	**01 17 13.1**	**+0.7**
	comp=Z,4.0nm,1.0s,baz=184,slow=3.4,SNR=8.5						
K05A	**Summer Lake**	**91.75**	**47**	*e*P	**P**	**01 17 20.3**	**+1.0**
	comp=Z,16nm,1.0s						
I07A	**Izee**	**92.88**	**46**	*e*P	**P**	**01 17 25.0**	**+0.6**
	comp=Z,9.0nm,1.0s						
NVAR	**Mina Array Bea**	**93.33**	**52**	P	**P**	**01 17 27.7**	**+0.9**
NVAR	**Mina Array Bea**	**93.33**	**52**	P	**P**	**01 17 27.7**	**+0.9**
	comp=Z,2.9nm,0.8s,baz=252,slow=6.9,SNR=16						
NVAR				LR	LR	01 55 12.4	
	comp=Z,140nm,18.4s,baz=99,slow=33						
G08A	**Pilot Rock**	**93.36**	**45**	*e*P	**P**	**01 17 27.1**	**+0.4**
	comp=Z,5.8nm,1.0s						
WVOR	**Wild Horse Val**	**93.38**	**48**	*e*P	**P**	**01 17 27.2**	**+0.4**
	comp=Z,4.2nm,1.0s						
J08A	**Circle Bar Ran**	**93.57**	**47**	*e*P	**P**	**01 17 27.6**	**0.0**
	comp=Z,8.3nm,1.1s						
BMO	**Blue Mountains**	**94.50**	**46**	*e*P	**P**	**01 17 31.4**	**-0.5**
	comp=Z,3.4nm,1.0s						
F10A	**Beach Ranch, E**	**94.62**	**44**	*e*P	**P**	**01 17 31.4**	**-0.9**
	comp=Z,7.8nm,1.0s						
ABKAR	**Akbulak array**	**95.30**	**319**	*e*P	**P**	**01 17 33.8**	**-1.4**
YKW3	**Yellowknife Ar**	**96.52**	**28**	*e*P	**P**	**01 17 40.2**	**-0.3**
HLID	**Hailey**	**96.53**	**47**	*e*P	**P**	**01 17 40.7**	**-0.6**
	comp=Z,1.5nm,0.8s						
HVU	**Hansel Valley**	**97.71**	**49**	*e*P	Pdif	01 17 47.4	+0.7
	comp=Z,3.8nm,1.0s						
RRI2	**Red Ridge**	**98.78**	**47**	*e*P	Pdif	01 17 52.5	+1.0
	comp=Z,5.1nm,1.3s						
TMUT	**Trail Mountain**	**98.90**	**51**	*e*P	Pdif	01 17 53.5	+1.2
	comp=Z,72nm,2.6s						
MOOW	**Moose Ponds**	**99.19**	**47**	*e*P	**Pdif**	**01 17 53.9**	**+0.6**
	comp=Z,28nm,2.8s						
PDAR	**Pinedale Array**	**100.09**	**48**	P	**Pdif**	**01 17 56.9**	**-0.4**
PDAR	**Pinedale Array**	**100.09**	**48**	P	**Pdif**	**01 17 56.9**	**-0.4**
	comp=Z,1.7nm,0.9s,baz=228,slow=2.9,SNR=12						
BRTR	**Keskin Array B**	**114.97**	**311**	PKP	PKPdf	01 22 51.9	-0.7
BRTR	**Keskin Array B**	**114.97**	**311**	PKP	PKPdf	01 22 51.9	-0.7
	comp=Z,0.4nm,0.6s,baz=129,slow=3.9,SNR=2.7						
KOLS	**Kolonicke sedl**	**119.26**	**324**	*e*PKP	**PKPdf**	**01 23 00.9**	**+0.6**
CLL	**Collm**	**122.94**	**330**	*e*PKPdf	**PKPdf**	**01 23 07.0**	**-0.3**
GERES	**GERESS Array B**	**124.08**	**328**	PKP	**PKPdf**	**01 23 09.8**	**0.0**
GERES	**GERESS Array B**	**124.08**	**328**	PKP	**PKPdf**	**01 23 09.8**	**0.0**
	comp=Z,1.4nm,0.7s,baz=107,slow=1.4,SNR=14						
DAVOX	**Davos/Dischmat**	**127.38**	**328**	PKP	**PKPdf**	**01 23 16.6**	**+0.4**
DAVOX	**Davos/Dischmat**	**127.38

DGPR				AML	AML	01 15 12.2
	comp=E,62µm,0.0s					
DGPR				AML	AML	01 15 12.4
	comp=N,35µm,0.7s					
PBA	**Port Blair**	**2.28**	**183**	*e*P	Pn	01 15 17.9 +2.2
PBA				*e*S	Sn	01 15 45.3 +2.6
PBA				AML	AML	01 15 49.1
	comp=N,4µm,0.4s					
PBA				AML	AML	01 15 50.6
	comp=E,2µm,0.4s					
CMBY	**CAMPBELL BAY**	**6.97**	**171**	*e*S	**Sn**	**01 17 39.1 +0.7**
CM31	**Chiang Mai Arr**	**7.35**	**52**	*e*Pn	**Pn**	**01 16 24.7 -0.7**
	comp=E,18nm,0.4s					
CMAR	**Chiang Mai Arr**	**7.35**	**52**	Pn	**Pn**	**01 16 24.6 -0.8**
CMAR				Sn	**Sn**	**01 17 42.5 -5.2**
CMAR	**Chiang Mai Arr**	**7.35**	**52**	Pn	**Pn**	**01 16 24.6 -0.8**
	comp=E,2.0nm,0.3s,baz=242,slow=15,SNR=25					
CMAR				Sn	**Sn**	**01 17 42.5 -5.2**
	comp=E,2.2nm,0.3s,baz=238,slow=20,SNR=4.1					
CMAR				LR	LR	01 19 48.4
	comp=E,438nm,19.6s,baz=246,slow=42					
CHTO	**Chiang Mai**	**7.57**	**49**	*e*P	**Pn**	**01 16 27.1 -1.2**
CHTO				*e*		01 17 44.7
CHTO	**Chiang Mai**	**7.57**	**49**	*e*Pn	**Pn**	**01 16 27.1 -1.2**
CHTO				*e*Sn	Sn	01 17 44.7 -8.3
CHTO	**Chiang Mai**	**7.57**	**49**	P	**Pn**	**01 16 26.9 -1.4**
	comp=E,44nm,1.1s,comp=E,0.3nm					
VIS	**Vishakhapatnam**	**9.92**	**293**	*i* P	**Pn**	**01 17 00.1 -0.6**
VIS				*i x*	x	01 18 41.2
VIS				*ex*	x	01 18 45.0
	comp=N,377nm,0.4s					
VIS				*ex*	x	01 18 45.0
	comp=E,321nm,0.4s					
KCSI	**Kotacane, Aceh**	**11.43**	**155**	P	Pn	01 17 25.7 +4.3
	comp=E,52nm,1.2s					
KULM	**Kulim**	**11.52**	**138**	*e*Pn	**Pn**	**01 17 22.7 +0.2**
KULM	**Kulim**	**11.52**	**138**	P	**Pn**	**01 17 25.5 +3.0**
	comp=E,40nm,1.5s					
PSI	**Prapat**	**12.59**	**151**	Pn	**Pn**	**01 17 39.5 +2.2**
PSI	**Prapat**	**12.59**	**151**	Pn	**Pn**	**01 17 39.5 +2.2**
	comp=E,0.9nm,0.3s,baz=328,slow=11,SNR=14					
PSI				LR	LR	01 22 41.7
	comp=E,323nm,21.9s,baz=308,slow=38					
HYB	**Hyderabad**	**14.22**	**286**	*i* P	**P**	**01 18 06.0 -0.4**
HYB				*e*S	**Sn**	**01 20 36.0 -0.1**
KMI	**Kunming**	**14.48**	**38**	P	**Pn**	**01 18 06.0 +2.8**
KMI				pP	pP	01 18 13.1
KMI				PP	**PnPn**	**01 18 17.0 +5.7**
KMI				sP		01 18 18.6
KMI				S	**Sn**	**01 20 43.1 +0.4**
KMI				sS	S	01 20 55.0 -6.7
KMI				SS	**SnSn**	**01 21 00.1 +4.4**
KMI				pmax	pmax	
	comp=Z,6.0nm,0.6s					
KMI				pmax	pmax	
	comp=Z,120nm,4.6s					
KMI				LR	LR	
	comp=N,380nm,16.9s					
KMI				LR	LR	
	comp=E,290nm,16.1s					
KMI				LR	LR	
	comp=Z,340nm,12.9s					
NGP	**Nagpur**	**15.00**	**300**	*e*P	**Pn**	**01 18 10.7 +0.8**
NGP				*ex*	x	01 20 42.3
LSA	**Lhasa**	**15.76**	**354**	*e*P	**Pn**	**01 18 20.0 -0.3**
LSA				pmax	pmax	
	comp=Z,23nm,0.8s					
LSA	**Lhasa**	**15.76**	**354**	*e*Pn	**Pn**	**01 18 20.0 -0.3**
	comp=Z,23nm,0.8s					
MYKOM	**Kota Tinggi**	**16.24**	**137**	P	**P**	**01 18 30.3 +1.5**
	comp=Z,62nm,1.1s					
LATR	**Latur**	**16.29**	**288**	*ex*	**Pn**	**01 18 22.2 -4.5**
LATR				*e*4	x	01 21 06.7
RGRI	**Rengat**	**17.02**	**146**	P	**P**	**01 18 37.7 +0.2**
	comp=Z,450nm,0.4s,comp=Z,109µm					
BHPL	**Bhopal**	**17.30**	**305**	*e*P	**Pn**	**01 18 40.1 +0.6**
BHPL				*ex*	x	01 21 37.9
GYA	**Guiyang**	**17.93**	**44**	P	**Pn**	**01 18 46.2 -1.1**
GYA				pP	**pP**	**01 18 54.0 -2.4**
GYA				PP	**PnPn**	**01 19 01.1 +2.6**
GYA				S	Sn	01 21 58.1 -8.3
GYA				sS	**S**	**01 22 09.3 -2.7**
GYA				SS	**SnSn**	**01 22 20.8 +0.5**
GYA				pmax	pmax	
	comp=Z,10.0nm,1.0s					
GYA				pmax	pmax	
	comp=Z,80nm,4.6s					
GYA				LR	LR	
	comp=N,460nm,12.9s					
GYA				LR	LR	
	comp=E,350nm,13.8s					
GYA				LR	LR	
	comp=Z,450nm,11.6s					
CD2	**Chengdu**	**19.62**	**29**	P	**P**	**01 19 05.6 -0.5**
CD2				pP	**pP**	**01 19 15.2 +0.3**
CD2				sP	**sP**	**01 19 20.0 +0.8**
CD2				PP	**PnPn**	**01 19 24.7 +3.0**
CD2				S	**S**	**01 22 39.8 -6.1**
CD2				sS	**Sn**	**01 22 51.9 +4.8**
CD2				SS	**SnSn**	**01 23 05.9 +4.1**
CD2				pmax	pmax	
	comp=Z,40nm,0.8s					
CD2				pmax	pmax	
	comp=Z,200nm,4.9s					
CD2				LR	LR	
	comp=N,470nm,5.9s					
CD2				LR	LR	
	comp=Z,380nm,6.5s					
PPBI	**Pangkal Pinang**	**20.71**	**140**	P	**P**	**01 19 18.6 +0.6**
	comp=Z,58nm,1.0s,comp=Z,6µm					
KSM	**Kuching**	**21.23**	**124**	*e*P	**P**	**01 19 21.2 -2.4**
	comp=Z,18nm,0.8s					
KSM	**Kuching**	**21.23**	**124**	P	**P**	**01 19 26.2 +2.6**
	comp=Z,25nm,0.9s					
SBUM	**Sibu**	**22.27**	**119**	*e*P	**P**	**01 19 33.4 -1.3**
	comp=Z,13nm,0.8s					
SBUM	**Sibu**	**22.27**	**119**	P	**P**	**01 19 35.2 +0.5**
	comp=Z,18nm,1.0s					
ENH	**Enshi**	**22.33**	**41**	*e*P	**P**	**01 19 33.6 -1.7**
	comp=Z,21nm,0.8s					
STKI	**Sintang**	**23.01**	**125**	P	**P**	**01 19 43.7 +1.1**
BHK	**Bhakra**	**23.03**	**322**	*ex*	x	01 19 54.6
LZH	**Lanzhou**	**24.14**	**22**	⇑P	**P**	**01 19 53.6 +0.1**
LZH				pP	**pP**	**01 20 01.0 -2.1**
LZH				sP	**sP**	**01 20 05.1 -2.0**
LZH				PP	PnPn	01 20 33.4 +10
LZH				*e*S	**S**	**01 24 06.5 -2.9**
LZH				sS	**sS**	**01 24 26.5 +1.4**
LZH				SS	SnSn	01 25 02.4 +10
LZH				pmax	pmax	
	comp=Z,20nm,1.0s					
LZH				pmax	pmax	
	comp=Z,140nm,5.3s					
LZH				LR	LR	
	comp=N,270nm,12.8s					
LZH				LR	LR	
	comp=E,240nm,13.4s					
LZH				LR	LR	
	comp=Z,400nm,13.9s					
XAN	**Xi'an**	**24.73**	**33**	P	**P**	**01 19 57.1 -1.7**
XAN				pP	**pP**	**01 20 07.2 -1.1**
XAN				sP	**sP**	**01 20 12.2 -0.2**
XAN				S	**S**	**01 24 19.8 +1.0**
XAN				pmax	pmax	
	comp=Z,8.0nm,1.1s					
XAN				pmax	pmax	
	comp=Z,26nm,6.0s					
XAN				LR	LR	
	comp=N,180nm,22.4s					
XAN				LR	LR	
	comp=E,77nm,22.4s					
GTA	**Gaotai**	**26.09**	**12**	P	**P**	**01 20 11.6 +0.5**
GTA				pP	**pP**	**01 20 21.2 +0.5**
GTA				sP	**sP**	**01 20 25.5 +0.8**
GTA				S	**S**	**01 24 39.0 -1.4**
GTA				sS	**sS**	**01 24 55.2 -1.0**
GTA				SS	**SnSn**	**01 25 49.3 +9.2**
GTA				pmax	pmax	
	comp=Z,8.0nm,0.9s					
GTA				pmax	pmax	
	comp=Z,87nm,6.9s					
GTA				LR	LR	
	comp=N,160nm,18.0s					
GTA				LR	LR	
	comp=E,150nm,17.6s					
GTA				LR	LR	
	comp=Z,130nm,18.5s					
KSH	**Kashi**	**29.50**	**333**	*e*P	P	01 20 50.6 +9.0
KSH				sP	sP	01 21 04.2 +8.9
KSH				PP	**PP**	**01 21 47.9 -0.6**
KSH				S	S	01 25 44.2 +10
KSH				SS	**ScP**	**01 27 20.6 -5.5**
KSH				PcS	PcS	01 27 36.3 +6.6
KSH				pmax	pmax	
	comp=Z,5.0nm,0.6s					
KSH				pmax	pmax	
	comp=Z,120nm,3.9s					
KSH				LR	LR	
	comp=N,84nm,5.0s					
KSH				LR	LR	
	comp=E,89nm,5.3s					
KSH				LR	LR	
	comp=Z,150nm,5.6s					
KBL	**Kabul**	**29.74**	**318**	*e*P	**P**	**01 20 45.0 +1.1**
KBL				*e**PP	**pP**	**01 20 53.7 +0.2**
KBL				pmax	pmax	
	comp=Z,6.0nm,0.6s					
KBL	**Kabul**	**29.74**	**318**	*e*P	**P**	**01 20 45.0 +1.1**
	comp=Z,5.6nm,0.6s					
KBL				*e*pP	**pP**	**01 20 53.7 +0.2**
WMQ	**Urumqi**	**30.10**	**353**	*e*P	P	01 20 56.3 +9.5
WMQ				pP	pP	01 21 06.3 +10
WMQ				sP	sP	01 21 10.3 +10
WMQ				PP	**PP**	**01 21 56.4 +1.3**
WMQ				*e*S	S	01 25 53.5 +10
WMQ				sS	sS	01 26 09.5 +10
WMQ				SS	**ScP**	**01 27 34.2 +6.3**
WMQ				pmax	pmax	
	comp=Z,9.0nm,0.7s					
WMQ				pmax	pmax	
	comp=Z,240nm,4.4s					
WMQ				LR	LR	
	comp=N,110nm,22.0s					
WMQ				LR	LR	
	comp=E,180nm,26.8s					
WMQ				LR	LR	
	comp=Z,110nm,22.0s					
HHC	**Hu-ho-hao-te**	**31.38**	**28**	*e*P	P	01 21 02.5 +4.3
HHC				pP	pP	01 21 13.0 +5.2
HHC				sP	sP	01 21 15.9 +4.1
HHC				S	**S**	**01 26 05.0 +1.5**
HHC				sS	sS	01 26 20.6 +1.2
HHC				SS	**SnSn**	**01 27 51.4 +2.6**
HHC				ScS	**ScS**	**01 31 32.0 +2.2**
HHC				pmax	pmax	
	comp=Z,27nm,0.6s					
HHC				pmax	pmax	
	comp=Z,490nm,5.5s					
HHC				LR	LR	
	comp=N,420nm,11.1s					
HHC				LR	LR	
	comp=E,540nm,11.9s					
HHC				LR	LR	
	comp=Z,380nm,13.2s					
TKM2	**Tokmak 2**	**32.48**	**336**	*e*P	**P**	**01 21 05.4 -2.6**
TKM2				*e**PP	**pP**	**01 21 16.5 -1.2**
TKM2				pmax	pmax	
	comp=Z,2.0nm,0.8s					
TKM2	**Tokmak 2**	**32.48**	**336**	*e*P	**P**	**01 21 05.4 -2.6**
	comp=Z,2.2nm,0.8s					
TKM2				*e*pP	**pP**	**01 21 16.5 -1.2**
AAK	**Ala-Archa**	**32.69**	**334**	*e*P	**P**	**01 21 09.5 -0.3**
AAK				*e**PP	**pP**	**01 21 19.2 -0.2**
AAK				pmax	pmax	
	comp=Z,4.0nm,1.1s					
AAK	**Ala-Archa**	**32.69**	**334**	*e*P	**P**	**01 21 09.5 -0.3**
	comp=Z,4.2nm,1.1s					
AAK				*e*pP	**pP**	**01 21 19.2 -0.2**
AAK	**Ala-Archa**	**32.69**	**334**	P	**P**	**01 21 12.1 +2.3**
	comp=Z,0.6nm,0.3s,baz=156,slow=10.0,SNR=2.0					
AAK				LR	LR	01 35 56.1
	comp=Z,215nm,21.8s,baz=135,slow=39					
EKS2	**Erkin-Say**	**33.02**	**334**	*e*P	**P**	**01 21 13.0 +0.4**
EKS2				pmax	pmax	
	comp=Z,4.0nm,0.8s					
EKS2	**Erkin-Say**	**33.02**	**334**	*e*P	**P**	**01 21 13.0 +0.4**
	comp=Z,3.8nm,0.8s					
BJI	**Beijing**	**33.06**	**34**	P	**P**	**01 21 15.7 +2.9**
BJI				S	**S**	**01 26 31.7 +2.2**
BJI				pmax	pmax	
	comp=Z,11nm,0.5s					
BJI				pmax	pmax	
	comp=Z,210nm,5.0s					
BJI				LR	LR	
	comp=N,320nm,24.9s					
BJI				LR	LR	
	comp=E,410nm,25.1s					
BJI				LR	LR	
	comp=Z,130nm,28.2s					
MK31	**Makanchi Array**	**33.92**	**347**	*e*P	**P**	**01 21 19.8 -0.5**
MK31				*e**PP	**pP**	**01 21 29.4 -0.6**
MK31	**Makanchi Array**	**33.92**	**347**	*e*P	**P**	**01 21 19.8 -0.5**
MK31				*e*pP	**pP**	**01 21 29.4 -0.6**
MKAR	**Makanchi Array**	**33.92**	**347**	P	**P**	**01 21 19.6 -0.7**
MKAR				*PP	**pP**	**01 21 29.3 -0.7**
MKAR	**Makanchi Array**	**33.92**	**347**	P	**P**	**01 21 19.6 -0.7**
MKAR				pP	**pP**	**01 21 29.3 -0.7**
MKAR	**Makanchi Array**	**33.92**	**347**	P	**P**	**01 21 19.6 -0.7**
	comp=Z,1.4nm,0.8s,baz=162,slow=8.9,SNR=9.4					
MKAR				pP	**pP**	**01 21 29.3 -0.7**
	comp=Z,7.0nm,0.7s,baz=163,slow=7.8,SNR=24					
MKAR				LR	LR	01 39 09.0
	comp=Z,113nm,19.9s,baz=162,slow=43					
KK31	**Karatay Array**	**34.85**	**331**	*i* P	P	01 21 38.6 +10
KK31				pmax	pmax	
	comp=Z,3.0nm,0.7s					
KKAR	**Karatay Array**	**34.85**	**331**	*e*P	**P**	**01 21 26.4 -2.0**
KKAR				*e**PP	**pP**	**01 21 37.3 -0.7**
KKAR	**Karatay Array**	**34.85**	**331**	*e*P	**P**	**01 21 26.4 -2.0**
KKAR				*e*pP	**pP**	**01 21 37.3 -0.7**
SONM	**Songino Array**	**35.61**	**16**	P	**P**	**01 21 35.0 0.0**
SONM				pP	**pP**	**01 21 45.3 +0.7**
SONM	**Songino Array**	**35.61**	**16**	P	**P**	**01 21 35.0 0.0**
	comp=Z,2.3nm,0.8s,baz=201,slow=10,SNR=14					
SONM				pP	**pP**	**01 21 45.3 +0.7**
	comp=Z,1.3nm,0.4s,baz=198,slow=9.3,SNR=6.4					
ULN	**Ulaanbaatar**	**35.81**	**16**	*e*P	**P**	**01 21 36.5 -0.3**
	comp=Z,0.9nm,0.4s					
KURBB	**Kurchatov Arra**	**38.39**	**345**	P	**P**	**01 21 58.2 -0.1**
	comp=Z,1.4nm,0.7s,baz=162,slow=7.9,SNR=8.6					
KURBB				pP	**pP**	**01 22 07.4 -0.7**
	comp=Z,7.8nm,0.7s,baz=163,slow=7.7,SNR=26					
KURK	**Kurchatov**	**38.45**	**345**	P	**P**	**01 21 58.2 -0.7**
KURK				*PP	**pP**	**01 22 07.4 -1.2**
KURK	**Kurchatov**	**38.45**	**345**	P	**P**	**01 21 58.2 -0.7**
KURK				pP	**pP**	**01 22 07.4 -1.2**
KSAR	**Wonju Array Be**	**38.92**	**47**	P	**P**	**01 22 02.2 -0.9**
KSAR				pP	**pP**	**01 22 12.8 -0.1**
KSRS	**Korea Array**	**38.96**	**47**	P	**P**	**01 22 02.2 -1.1**
	comp=Z,0.8nm,0.8s,baz=219,slow=9.4,SNR=3.5					
KSRS				pP	**pP**	**01 22 12.8 -0.3**
	comp=Z,2.6nm,0.8s,baz=246,slow=8.8,SNR=5.4					
KSRS				LR	LR	01 40 40.2
	comp=Z,131nm,18.4s,baz=225,slow=40					
ZAA0	**Zalesovo Array**	**40.41**	**353**	*e*P	**P**	**01 22 14.3 -0.9**
ZAA0				*e*pP	**pP**	**01 22 23.7 -1.2**
ZALV	**Zalesovo Beam**	**40.41**	**353**	P	**P**	**01 22 14.7 -0.5**
ZALV				*PP	**pP**	**01 22 24.7 -0.3**
ZALV	**Zalesovo Beam**	**40.41**	**353**	P	**P**	**01 22 14.7 -0.5**
ZALV				pP	**pP**	**01 22 24.7 -0.3**
ZALV	**Zalesovo Beam**	**40.41**	**353**	P	**P**	**01 22 14.7 -0.5**
	comp=Z,1.4nm,0.5s,baz=179,slow=10,SNR=8.1					
ZALV				pP	**pP**	**01 22 24.7 -0.3**
	comp=Z,8.3nm,0.7s,baz=173,slow=8.4,SNR=14					
CN2	**Changchun**	**40.74**	**37**	*e*P	P	01 22 22.3 +4.2
CN2				pmax	pmax	
	comp=Z,10.0nm,0.6s					
NVS	**Novosibirsk**	**41.49**	**352**	*e*P	P	01 22 30.3 +6.3
NVS				pmax	pmax	
	comp=N,3.0nm,0.8s					
NVS				pmax	pmax	
	comp=E,3.0nm,0.8s					
NVS				pmax	pmax	
	comp=Z,5.0nm,0.8s					
KRAR	**Krasnoyarsk**	**41.97**	**360**	⇑*e*P	P	01 22 32.9 +4.9
KRAR				pmax	pmax	
	comp=Z,20nm,0.5s					
VOSK	**Vostochnaya**	**42.43**	**340**	P	P	01 22 39.2 +7.4
VOSK				pmax	pmax	
	comp=Z,9.0nm,1.0s					
BVAR	**Borovoye Array**	**42.88**	**340**	P	**P**	**01 22 35.5 +0.1**
BVAR				*PP	**pP**	**01 22 45.3 0.0**
BVAR	**Borovoye Array**	**42.88**	**340**	P	**P**	**01 22 35.5 +0.1**
BVAR				pP	**pP**	**01 22 45.3 0.0**
BVAR	**Borovoye Array**	**42.88**	**340**	P	**P**	**01 22 35.5 +0.1**
	comp=Z,0.4nm,0.5s,baz=144,slow=12,SNR=3.0					
BVAR				pP	**pP**	**01 22 45.3 0.0**
	comp=Z,1.7nm,0.7s,baz=129,slow=6.3,SNR=6.0					
BRVK	**Borovoye**	**42.94**	**340**	*e*P	**P**	**01 22 35.5 -0.4**
BRVK				pmax	pmax	
	comp=Z,5.0nm,0.9s					
BRVK	**Borovoye**	**42.94**	**340**	*e*P	**P**	**01 22 35.5 -0.4**
	comp=Z,5.3nm,0.9s					
AB31	**Akbulak array**	**44.37**	**329**	*e*P	P	01 22 55.4 +7.9
AB31				pmax	pmax	
	comp=Z,7.0nm,0.7s					
ABKAR	**Akbulak array**	**44.37**	**329**	*e*P	**P**	**01 22 46.9 -0.6**
	comp=Z,10.0nm,0.9s					
ABKAR				*e*pP	**pP**	**01 22 57.2 -0.1**
USRK	**Ussuriysk Arra**	**44.91**	**40**	pP	pP	01 23 01.1 -0.6
	comp=Z,2.4nm,0.9s,baz=234,slow=4.8,SNR=3.7					
FITZ	**Fitzroy Crossi**	**45.37**	**134**	*e*P	**P**	**01 22 54.7 -1.1**
	comp=Z,14nm,0.7s					
FITZ	**Fitzroy Crossi**	**45.37**	**134**	P	**P**	**01 22 54.6 -1.2**
	comp=Z,11nm,0.6s,baz=331,slow=11,SNR=57					
AKTO	**Aktyubinsk**	**46.08**	**330**	P	P	01 23 10.8 +10
AKTO	**Aktyubinsk**	**46.08**	**330**	pP	P	01 23 10.8 +10
AKTO	**Aktyubinsk**	**46.08**	**330**	pP	P	01 23 10.8 +10
	comp=Z,3.9nm,0.7s,baz=103,slow=5.4,SNR=8.3					
AKTO				LR	LR	01 43 43.5
	comp=Z,61nm,21.9s,baz=281,slow=38					
MAT	**Matsushiro**	**46.23**	**52**	P	**P**	**01 23 00.8 -1.7**
MJAR	**Matsushiro Arr**	**46.24**	**52**	pP	**pP**	**01 23 12.3 -0.1**
MJAR				PcP	**PcP**	**01 24 37.8 0.0**
MJAR	**Matsushiro Arr**	**46.24**	**52**	pP	**pP**	**01 23 12.3 -0.1**
	comp=Z,2.8nm,0.7s,baz=267,slow=9.3,SNR=8.5					
MJAR				PcP	**PcP**	**01 24 37.8 0.0**
	comp=Z,0.8nm,0.7s,baz=257,slow=4.6,SNR=3.7					
MJAR				LR	LR	01 41 45.3
	comp=Z,61nm,20.9s,baz=95,slow=35					
SVE	**Sverdlovsk**	**49.34**	**337**	‖*e*P	P	01 23 36.2 +10
SVE				*e*PPP	PPP	01 26 16.9
SVE				*e*S	**S**	**01 30 32.3 +1.8**
SVE				*e*		01 33 57.4
SVE				pmax	pmax	
	comp=Z,22nm,1.2s					
SVE				MLR	MLR	
	comp=Z,218nm,22.0s					
GNI	**Garni**	**49.42**	**311**	*e*P	**P**	**01 23 27.3 0.0**
	comp=Z,38nm,1.1s					
GNI				*e*pP	**pP**	**01 23 37.5 +0.2**
GNI				pP	**pwP**	**01 23 38.3 +0.9**
GNI				*e*sP	**sP**	**01 23 40.4 -0.9**
GNI	**Garni**	**49.42**	**311**	P	**P**	**01 23 29.2 +1.9**
	comp=Z,1.3nm,0.3s,baz=262,slow=19,SNR=3.2					
GNI				pP	**pwP**	**01 23 38.3 +0.9**
	comp=Z,3.8nm,0.4s,baz=21,slow=14,SNR=4.1					
ARU	**Arti**	**49.86**	**336**	*d i* P	P	01 23 40.3 +10
ARU						01 25 31.8
ARU				S	S	01 30 51.6 +14
ARU				pmax	pmax	
	comp=Z,15nm,1.7s					
ZEI	**Tsey**	**50.86**	**314**	*e*P	**P**	**01 23 38.3 +0.1**
ZEI				pmax	pmax	
	comp=Z,26nm,1.4s					
ASAJ	**Asahikawa**	**51.81**	**44**	P	**P**	**01 23 44.2 -0.9**
ASAJ	**Asahikawa**	**51.81**	**44**	P	**P**	**01 23 44.2 -0.9**
	comp=Z,1.1nm,0.6s,baz=346,slow=19,SNR=2.6					
KIV	**Kislovodsk**	**52.08**	**315**	*e*P	P	01 23 54.3 +7.1
KIV				pmax	pmax	
	comp=Z,19nm,1.0s					
KIV				MLR	MLR	
	comp=Z,40nm,16.0s					
NWAO	**Narrogin (SRO)**	**52.10**	**154**	P	**P**	**01 23 46.9 -0.4**
NWAO	**Narrogin (SRO)**	**52.10**	**154**	P	**P**	**01 23 46.9 -0.4**
	comp=Z,15nm,0.5s,baz=325,slow=6.7,SNR=16					
SOKR	**Solikamsk**	**52.75**	**338**	*e*P	P	01 24 03.3 +12
SOKR				pmax	pmax	
	comp=Z,10.0nm,1.1s					
WRA	**Warramunga Arr**	**52.90**	**129**	P	**P**	**01 23 52.5 -1.0**
WRA				PcP	**PcP**	**01 25 01.9 -0.4**
WRA	**Warramunga Arr**	**52.90**	**129**	P	**P**	**01 23 52.5 -1.0**
	comp=Z,11nm,0.7s,baz=309,slow=8.0,SNR=51					
WRA				PcP	**PcP**	**01 25 01.9 -0.4**
	comp=Z,1.1nm,0.5s,baz=322,slow=3.3,SNR=4.8					
WRAB	**Tennant Creek**	**52.90**	**129**	*e*P	**P**	**01 23 52.1 -1.4**
WRAB				pmax	pmax	
	comp=Z,16nm,0.9s					
WRAB	**Tennant Creek**	**52.90**	**129**	*e*P	**P**	**01 23 52.1 -1.4**
	comp=Z,16nm,0.9s					
YSS	**Yuzh-Sakhalins**	**52.91**	**41**	*e*P	P	01 24 04.5 +11
AS31	**Alice Springs**	**54.83**	**133**	*e*P	**P**	**01 24 06.7 -1.0**
ASAR	**Alice Springs**	**54.83**	**133**	P	**P**	**01 24 07.0 -0.6**
ASAR	**Alice Springs**	**54.83**	**133**	P	**P**	**01 24 07.0 -0.6**
	comp=Z,9.1nm,0.5s,baz=308,slow=6.8,SNR=112					
VRHR	**Novokhopersk**	**55.31**	**323**	*e*P	P	01 24 19.4 +8.8
VRHR				pmax	pmax	
	comp=Z,5.0nm,0.6s					
VRHR				pmax	pmax	
	comp=N,4.0nm,0.7s					
VRHR				pmax	pmax	
	comp=E,10.0nm,0.8s					
FORT	**Forrest**	**55.88**	**143**	*e*P	**P**	**01 24 13.7 -1.2**
	comp=E,39nm,0.9s					
VSR	**Storozhevoye**	**56.79**	**323**	*e*P	P	01 24 29.7 +8.5
VSR				pmax	pmax	
	comp=Z,5.0nm,0.6s					
VSR				pmax	pmax	
	comp=N,6.0nm,0.8s					
VSR				pmax	pmax	
	comp=E,10.0nm,1.1s					
COEN	**Coen**	**56.99**	**117**	*e*P	**P**	**01 24 20.6 -2.6**
BR131	**Keskin Array S**	**57.62**	**308**	*e*P	**P**	**01 24 26.6 -0.9**
	comp=E,5.1nm,0.8s					
BR131				*e*pP	**pP**	**01 24 36.9 -0.8**
BRTR	**Keskin Array B**	**57.62**	**308**	P	**P**	**01 24 26.9 -0.6**
BRTR				pP	**pP**	**01 24 37.1 -0.6**
BRTR	**Keskin Array B**	**57.62**	**308**	P	**P**	**01 24 26.9 -0.6**
	comp=E,2.4nm,0.8s,baz=122,slow=7.8,SNR=16					
BRTR				pP	**pP**	**01 24 37.1 -0.6**
	comp=E,5.2nm,0.7s,baz=124,slow=7.4,SNR=17					
BRTR				LR	LR	01 52 34.0
	comp=E,48nm,18.8s,baz=104,slow=39					
PMG	**Port Moresby**	**58.64**	**110**	*e*P	**P**	**01 24 33.7 -1.1**
	comp=E,26nm,0.8s					
PMG	**Port Moresby**	**58.64**	**110**	P	**P**	**01 24 34.6 -0.2**
	comp=E,27nm,0.8s,baz=313,slow=3.7,SNR=10.0					
KLMR	**Klimovskoe**	**60.49**	**333**	*e*P	P	01 24 55.3 +8.5
KLMR				pmax	pmax	
	comp=Z,17nm,1.4s					
CTA	**Charters Tower**	**62.45**	**122**	P	**P**	**01 25 00.6 0.0**
CTA	**Charters Tower**	**62.45**	**122**	P	**P**	**01 25 00.6 0.0**
	comp=Z,3.1nm,0.8s,baz=313,slow=5.8,SNR=7.1					
TLB	**Topalu**	**62.45**	**313**	⇑*i* P	P	01 24 54.9 -5.4
CFR	**Carcaliu**	**62.46**	**314**	‖*i* P	P	01 25 10.4 +10
AKASG	**Malin Array Be**	**62.69**	**320**	P	pP	01 25 10.8 -1.2
AKASG	**Malin Array Be**	**62.69**	**320**	pP	pP	01 25 10.8 -1.2
AKASG	**Malin Array Be**	**62.69**	**320**	pP	pP	01 25 10.8 -1.2
	comp=Z,1.6nm,0.6s,baz=86,slow=5.5,SNR=2.6					
IAS	**Iasi**	**63.15**	**316**	‖*i* P	**P**	**01 25 07.7 +2.8**
MLR	**Muntele Rosu**	**64.03**	**314**	P	**P**	**01 25 11.7 +0.7**
MLR				pP	**pP**	**01 25 22.0 +0.8**
MLR	**Muntele Rosu**	**64.03**	**314**	P	**P**	**01 25 11.7 +0.7**
	comp=Z,0.3nm,0.8s,baz=185,slow=12,SNR=3.2					
MLR				pP	**pP**	**01 25 22.0 +0.8**
	comp=Z,1.5nm,0

FINES pP **pP** **01 25 38.6 -0.1**
FINES FINESS Array B 66.81 331 P **P** **01 25 27.6 -0.9**
comp=Z,1.7nm,0.8s,baz=87,slow=5.5,SNR=11
FINES pP **pP** **01 25 38.6 -0.1**
comp=Z,3.3nm,0.6s,baz=111,slow=7.0,SNR=6.3
FINES LR LR 01 58 17.1
comp=Z,78nm,19.1s,baz=296,slow=39
KOLS Kolonicke sedl 66.88 317 *e*P pP 01 25 40.4 +0.9
KOLS Kolonicke sedl 66.88 317 *e*P pP 01 25 40.4 +0.9
CRVS Cervenica-Dubn 67.41 317 *e*P **pP** **01 25 42.5 -0.4**
CRVS pmax pmax
comp=Z,15nm,1.5s
CRVS Cervenica-Dubn 67.41 317 *e*P pP 01 25 42.5 -0.4
STHS Stebnicka Huta 67.59 318 *e*P **pP** **01 25 44.0 0.0**
STHS pmax pmax
comp=Z,2.0nm,0.8s
STHS Stebnicka Huta 67.59 318 *e*P pP 01 25 44.0 0.0
KECS Kecovo 68.02 317 *e*P **pP** **01 25 45.3 -1.4**
KECS pmax pmax
comp=Z,2.0nm,0.9s
KECS Kecovo 68.02 317 *e*P pP 01 25 45.3 -1.4
VYHS Vyhne 69.12 317 *e*P **pP** **01 25 52.8 -0.8**
VYHS pmax pmax
comp=Z,11nm,2.2s
VYHS Vyhne 69.12 317 *e*P pP 01 25 52.8 -0.8
ARCES ARCESS Array B 69.17 340 P **P** **01 25 42.8 -0.4**
ARCES pP **pP** **01 25 54.0 +0.5**
ARCES ARCESS Array B 69.17 340 P **P** **01 25 42.8 -0.4**
comp=Z,0.9nm,0.5s,baz=79,slow=6.3,SNR=8.8
ARCES pP **pP** **01 25 54.0 +0.5**
comp=Z,5.3nm,0.8s,baz=91,slow=6.8,SNR=5.3
ARCES LR LR 01 59 43.3
comp=Z,72nm,18.5s,baz=246,slow=39
OKC Ostrava-Krasne 69.63 318 *e*P **pP** **01 25 58.0 +1.3**
OKC *e* 01 26 03.3
OKC Ostrava-Krasne 69.63 318 *e*pP **pP** **01 25 58.0 +1.3**
OKC *es*P sP 01 26 03.3 +2.7
MORC Moravsky Berou 70.02 318 *e*P pP 01 25 58.9 -0.3
MORC Moravsky Berou 70.02 318 *e*P pP 01 25 58.9 -0.3
DPC Dobruska-Polom 70.82 319 *e*P **pP** **01 26 04.3 +0.2**
DPC *e* 01 26 11.5
DPC Dobruska-Polom 70.82 319 *e*pP **pP** **01 26 04.3 +0.2**
DPC *e*PCP **PcP** **01 26 11.5 -2.8**
ARMA Armidale 71.68 129 *e*P **P** **01 26 00.7 +1.5**
PRU Pruhonice 71.96 318 *e*P **pP** **01 26 10.3 -0.6**
PRU *e* 01 26 15.9
PRU Pruhonice 71.96 318 *e*pP **pP** **01 26 10.3 -0.6**
PRU *es*P sP 01 26 15.9 +1.1
BRG Berggiesshubel 72.34 319 *e*P pP 01 26 14.7 +1.5
comp=Z,5.0nm,0.9s
BRG Berggiesshubel 72.34 319 *e*P **pP** **01 26 14.7 +1.5**
BRG pmax pmax
comp=Z,5.0nm,0.9s
GEC2 GERESS Array S 72.53 317 *e*P pP 01 26 14.3 -0.2
GEC2 GERESS Array S 72.53 317 *e*P pP 01 26 14.3 -0.2
GERES GERESS Array B 72.53 317 P **P** **01 26 04.0 0.0**
GERES pP **pP** **01 26 14.3 -0.2**
GERES GERESS Array B 72.53 317 P **P** **01 26 04.0 0.0**
comp=Z,0.9nm,0.7s,baz=90,slow=5.3,SNR=9.5
GERES pP **pP** **01 26 14.3 -0.2**
comp=Z,3.5nm,0.8s,baz=74,slow=4.7,SNR=14
KHC Kasperske Hory 72.60 317 *e*P pP 01 26 13.5 -1.3
KHC Kasperske Hory 72.60 317 *e*pP pP 01 26 13.5 -1.3
HFS Hagfors 72.63 329 P **P** **01 26 04.3 0.0**
HFS pP **pP** **01 26 14.2 -0.5**
HFS Hagfors 72.63 329 P **P** **01 26 04.3 0.0**
comp=Z,2.1nm,0.7s,baz=142,slow=7.3,SNR=3.8
HFS pP **pP** **01 26 14.2 -0.5**
comp=Z,2.6nm,0.6s,baz=79,slow=7.7,SNR=5.4
NB2 NORSAR Subarra 73.87 330 P **P** **01 26 10.6 -1.1**
comp=Z,3.5nm,0.8s,baz=90,slow=6.2
NOA NORSAR Array B 73.87 330 P **P** **01 26 10.6 -1.1**
NOA pP **pP** **01 26 21.3 -0.8**
NOA NORSAR Array B 73.87 330 P **P** **01 26 10.6 -1.1**
comp=Z,0.9nm,0.7s,baz=89,slow=6.0,SNR=3.5
NOA pP **pP** **01 26 21.3 -0.8**
comp=Z,2.6nm,0.8s,baz=90,slow=5.9,SNR=6.2
NOA LR LR 02 01 53.6
comp=Z,30nm,20.0s,baz=65,slow=38
GRF Grafenberg Arr 74.12 318 *e*P pP 01 26 23.6 -0.2
comp=Z,10.0nm,1.2s
GRF Grafenberg Arr 74.12 318 *e*P **pP** **01 26 23.6 -0.2**
GRF pmax pmax
comp=Z,10.0nm,1.2s
DAVOX Davos/Dischmat 75.20 315 pP pP 01 26 29.9 -0.4
DAVOX Davos/Dischmat 75.20 315 pP pP 01 26 29.9 -0.4
comp=Z,2.8nm,0.7s,baz=129,slow=15,SNR=2.8
PGF Pioggiola 76.24 311 *e*P **P** **01 26 24.6 -1.2**
comp=Z,25nm,0.9s
PGF Pioggiola 76.24 311 *e*P **P** **01 26 24.6 -1.2**
PGF pmax pmax
comp=Z,25nm,0.9s
PGF Pioggiola 76.24 311 *e*P **P** **01 26 24.6 -1.2**
comp=Z,25nm,0.9s
KEST Kesra 76.81 304 *e*P **P** **01 26 29.8 +0.6**
KEST *e*pP **PcP** **01 26 40.1 -0.2**
LPG La Plagne 77.50 314 *e*P **P** **01 26 32.3 -0.8**
comp=Z,18nm,0.7s
LPG La Plagne 77.50 314 *e*P **P** **01 26 32.3 -0.8**
LPG pmax pmax
comp=Z,18nm,0.7s
LPG La Plagne 77.50 314 *e*P **P** **01 26 32.3 -0.8**
comp=Z,18nm,0.7s
LPL La Plagne 77.51 314 *e*P **P** **01 26 32.3 -0.8**
comp=Z,24nm,0.7s
LPL La Plagne 77.51 314 *e*P **P** **01 26 32.3 -0.8**
LPL pmax pmax
comp=Z,24nm,0.7s
LPL La Plagne 77.51 314 *e*P **P** **01 26 32.3 -0.8**
comp=Z,24nm,0.7s
CABF La Chapelle 77.82 315 *e*P **P** **01 26 33.7 -0.9**
comp=Z,14nm,0.9s
CABF La Chapelle 77.82 315 *e*P **P** **01 26 33.7 -0.9**
CABF pmax pmax
comp=Z,14nm,0.9s
CABF La Chapelle 77.82 315 *e*P **P** **01 26 33.7 -0.9**
comp=Z,14nm,0.9s
BOSA Boshof 77.83 236 P **P** **01 26 35.9 +1.0**
BOSA Boshof 77.83 236 P **P** **01 26 35.9 +1.0**
comp=Z,1.8nm,0.6s,baz=67,slow=3.2,SNR=7.8
LOR Lormes 79.24 316 *e*P **P** **01 26 40.9 -1.4**
comp=Z,14nm,1.0s
LOR Lormes 79.24 316 *e*P **P** **01 26 40.9 -1.4**
comp=Z,14nm,1.0s
SMF Signal de Mont 79.35 315 *e*P **P** **01 26 41.5 -1.4**
SMF Signal de Mont 79.35 315 *e*P **P** **01 26 41.5 -1.4**
SMF Signal de Mont 79.35 315 *e*P **P** **01 26 41.5 -1.4**
SSF Saint Saulge 79.51 316 *e*P **P** **01 26 42.6 -1.2**
SSF Saint Saulge 79.51 316 *e*P **P** **01 26 42.6 -1.2**
SSF Saint Saulge 79.51 316 *e*P **P** **01 26 42.6 -1.2**
AVF Avril sur Loir 79.66 316 *e*P **P** **01 26 43.1 -1.5**
AVF Avril sur Loir 79.66 316 *e*P **P** **01 26 43.1 -1.5**
AVF Avril sur Loir 79.66 316 *e*P **P** **01 26 43.1 -1.5**
DZM Mont Dzumac 80.49 116 P **P** **01 26 49.0 -0.5**
DZM Mont Dzumac 80.49 116 P **P** **01 26 49.0 -0.5**
comp=Z,6.6nm,0.9s,baz=180,slow=21,SNR=7.9
CAF Calviac 80.86 314 *e*P **P** **01 26 50.3 -0.9**
comp=Z,13nm,1.1s
CAF Calviac 80.86 314 *e*P **P** **01 26 50.3 -0.9**
CAF pmax pmax
comp=Z,13nm,1.1s
CAF Calviac 80.86 314 *e*P **P** **01 26 50.3 -0.9**
comp=Z,13nm,1.1s
RJF Les Rejaudoux 81.17 314 *e*P **P** **01 26 52.2 -0.6**
comp=Z,9.6nm,0.9s
RJF Les Rejaudoux 81.17 314 *e*P **P** **01 26 52.2 -0.6**
RJF pmax pmax
comp=Z,10.0nm,0.9s
RJF Les Rejaudoux 81.17 314 *e*P **P** **01 26 52.2 -0.6**
comp=Z,9.6nm,0.9s
LDF La Druitiere 81.64 318 *e*P **P** **01 26 54.0 -1.2**
comp=Z,6.8nm,0.7s
LDF La Druitiere 81.64 318 *e*P **P** **01 26 54.0 -1.2**
LDF pmax pmax
comp=Z,7.0nm,0.7s
LDF La Druitiere 81.64 318 *e*P **P** **01 26 54.0 -1.2**
comp=Z,6.8nm,0.7s
FLN La Foliniere 81.84 318 *e*P **P** **01 26 54.9 -1.3**
comp=Z,24nm,1.0s
FLN La Foliniere 81.84 318 *e*P **P** **01 26 54.9 -1.3**
FLN pmax pmax
comp=Z,24nm,1.0s
FLN La Foliniere 81.84 318 *e*P **P** **01 26 54.9 -1.3**
comp=Z,24nm,1.0s
MFF Saint Martin d 82.06 316 *e*P **P** **01 26 56.3 -1.1**
comp=Z,45nm,1.4s
MFF Saint Martin d 82.06 316 *e*P **P** **01 26 56.3 -1.1**
MFF pmax pmax
comp=Z,45nm,1.4s
MFF Saint Martin d 82.06 316 *e*P **P** **01 26 56.3 -1.1**
comp=Z,45nm,1.4s
MAW Mawson 84.21 191 P **P** **01 27 09.1 +1.3**
MAW Mawson 84.21 191 P **P** **01 27 09.1 +1.3**
comp=Z,0.9nm,0.6s,baz=4.5,slow=8.7,SNR=4.0
ESDC Sonseca Array 86.38 310 P **P** **01 27 21.4 +1.7**
ESDC pP **pP** **01 27 29.7 -0.5**
ESDC Sonseca Array 86.38 310 P **P** **01 27 21.4 +1.7**
comp=Z,0.6nm,0.6s,baz=89,slow=5.2,SNR=4.1
ESDC pP **pP** **01 27 29.7 -0.5**
comp=Z,1.1nm,0.7s,baz=50,slow=5.2,SNR=6.0
TORD Torodi Ar. Bea 88.02 283 P **P** **01 27 28.2 +0.3**
TORD pP **pP** **01 27 39.2 +0.7**
TORD Torodi Ar. Bea 88.02 283 P **P** **01 27 28.2 +0.3**
comp=Z,0.9nm,0.8s,baz=87,slow=5.3,SNR=4.2
TORD pP **pP** **01 27 39.2 +0.7**
comp=Z,1.8nm,0.8s,baz=83,slow=3.8,SNR=7.0
ILAR Eielson Array 89.60 22 P **P** **01 27 34.2 -0.2**
ILAR pP **pP** **01 27 44.4 -0.7**
ILAR Eielson Array 89.60 22 P **P** **01 27 34.2 -0.2**
comp=Z,0.4nm,0.8s,baz=277,slow=2.4,SNR=3.6
ILAR pP **pP** **01 27 44.4 -0.7**
comp=Z,0.9nm,0.9s,baz=268,slow=4.2,SNR=3.8
NVAR Mina Array Bea 120.27 28 PKP **PKPdf** **01 33 29.4 +0.6**
NVAR Mina Array Bea 120.27 28 PKP **PKPdf** **01 33 29.4 +0.6**
comp=Z,0.4nm,0.7s,baz=357,slow=4.9,SNR=3.3
TXAR Lajitas Array 134.10 20 PKP **PKPdf** **01 33 55.2 0.0**
TXAR Lajitas Array 134.10 20 PKP **PKPdf** **01 33 55.2 0.0**
comp=Z,0.1nm,0.3s,baz=279,slow=1.7,SNR=2.7

*ISN **06** 01:24:31.9±0.3,34°.38N×50°.39E, h0km, ML3.3*
*IDC **06** 01:24:39.8±1.6,30°.17N×50°.76E, h0km, mb3.9/9,*
mb1 3.9/9, mb1mx3.6/27, mbtmp3.9/9, Error ellipse:
s-maj=39.1km s-min=19.8km az=149.0
*ISCJB **06** 01:24:43.4±0.4,30°.20N±0°.04×50°.93E±0°.04, h22km,*
mb3.8/10, Error ellipse: s-maj=6.5km s-min=4.6km
az=166.3
*CSEM **06** 01:24:43.4±0.2,30°.14N×50°.98E, h10km, ML3.6, Error*
ellipse: s-maj=5.1km s-min=3.8km az=166.0
*THR **06** 01:24:45.6±0.3,30°.17N×51°.71E, h15km, ML3.6*
*TEH **06** 01:24:45.2,30°.10N×50°.95E, h26km, ML3.6*
ISC 06 01:24:43.3±0.7, 30°.12N±0°.05×50°.94E±0°.03, h22km, n63,
σ1°74/66, mb3.8/10, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPAR	**Pars**	**1.85**	**98**	*e*Pn	**Pb**	**01 25 15.8**	**-0.8**
IPAR				*e*Sg	**Sb**	**01 25 43.8**	**+4.4**
IPAR				*e*		01 25 45.1	
comp=Z,6μm,0.4s							
IPAR	**Pars**	**1.85**	**98**	*e*Pn	**Pb**	**01 25 15.8**	**-0.8**
IPAR				*e*Sg	**Sb**	**01 25 43.8**	**+4.4**
ISRV	**Sarvestan**	**2.03**	**111**	*e*Pn	**Pn**	**01 25 17.7**	**+1.2**
ISRV				*e*Sg	**Sb**	**01 25 47.7**	**+3.1**
ISRV				*e*		01 26 02.3	
comp=Z,8μm,0.3s							
ISRV	**Sarvestan**	**2.03**	**111**	*e*Pn	**Pn**	**01 25 17.7**	**+1.2**
ISRV				*e*Sg	**Sb**	**01 25 47.7**	**+3.1**
IGAR	**Gharneh**	**2.46**	**22**	*e*Pn	**Pn**	**01 25 24.1**	**+1.7**
IGAR				*e*		01 25 28.7	
comp=Z,3μm,0.1s							
GHIR	**Ghir-Karzin**	**2.56**	**135**	*e*Pn	**Pn**	**01 25 23.5**	**-0.1**
GHIR				AML	AML	01 26 06.5	
comp=N,453nm,0.7s							
GHIR	**Ghir-Karzin**	**2.56**	**135**	*e*Pn	**Pn**	**01 25 23.5**	**-0.1**
IPIR	**Pirpir**	**2.56**	**359**	*e*Pn	**Pn**	**01 25 25.4**	**+1.6**
IPIR				*e*		01 26 09.5	
comp=Z,2μm,0.3s							
IPIR	**Pirpir**	**2.56**	**359**	*e*Pn	**Pn**	**01 25 25.4**	**+1.6**
UMR	**Umm Al-Rimmam**	**2.86**	**259**	*e*P	**Pn**	**01 25 30.0**	**+2.4**
UMR				AML	AML	01 26 08.8	
comp=Z,78nm,0.4s							
UMR	**Umm Al-Rimmam**	**2.86**	**259**	*e*P	**Pn**	**01 25 30.0**	**+2.4**
ISAD	**Sadrabad**	**2.96**	**52**	*e*Pn	**Pn**	**01 25 30.4**	**+1.1**
ISAD				*e*		01 26 19.1	
comp=Z,4μm,0.3s							
ISAD	**Sadrabad**	**2.96**	**52**	*e*Pn	**Pn**	**01 25 30.4**	**+1.1**
QRN	**Al-Qurain**	**2.97**	**243**	*e*P	**Pn**	**01 25 31.6**	**+2.5**
KBD	**Kabd**	**2.98**	**252**	*e*P	**Pn**	**01 25 30.9**	**+1.6**
KBD				AML	AML	01 26 11.5	
comp=Z,69nm,0.3s							
KBD	**Kabd**	**2.98**	**252**	*e*P	**Pn**	**01 25 30.9**	**+1.6**
IZEF	**Zefreh**	**3.01**	**23**	*e*Pn	**Pn**	**01 25 31.2**	**+1.2**
IZEF				*e*		01 25 43.4	
comp=Z,1μm,0.2s							
IZEF	**Zefreh**	**3.01**	**23**	*e*Pn	**Pn**	**01 25 31.2**	**+1.2**
NASN	**Na'in**	**3.11**	**30**	*e*Pn	**Pn**	**01 25 31.9**	**+0.5**
NASN	**Na'in**	**3.11**	**30**	*e*Pn	**Pn**	**01 25 31.9**	**+0.5**
MIB	**Mutribah**	**3.14**	**265**	*e*P	**Pn**	**01 25 33.7**	**+2.2**
MIB				AML	AML	01 26 15.9	
comp=Z,105nm,0.5s							
MIB	**Mutribah**	**3.14**	**265**	*e*P	**Pn**	**01 25 33.7**	**+2.2**
RDF	**Al-Radifah**	**3.19**	**249**	*e*P	**Pn**	**01 25 34.7**	**+2.6**
RDF				AML	AML	01 26 14.4	
comp=Z,91nm,0.5s							
RDF	**Al-Radifah**	**3.19**	**249**	*e*P	**Pn**	**01 25 34.7**	**+2.6**
IKLH	**Kolahrood**	**3.24**	**10**	*e*Pn	**Pn**	**01 25 34.2**	**+1.1**
IKLH				*e*		01 26 32.8	
comp=Z,984nm,0.4s							
IKLH	**Kolahrood**	**3.24**	**10**	*e*Pn	**Pn**	**01 25 34.2**	**+1.1**
NAY	**Al-Naaiem**	**3.33**	**256**	*e*P	**Pn**	**01 25 36.5**	**+2.4**
NAY				AML	AML	01 26 16.8	
comp=Z,2.2nm,0.7s							
NAY	**Al-Naaiem**	**3.33**	**256**	*e*P	**Pn**	**01 25 36.5**	**+2.4**
IMEH	**Mehriz**	**3.41**	**67**	*e*Pn	**Pn**	**01 25 36.4**	**+1.0**
IMEH				*e*		01 26 26.8	
comp=Z,887nm,0.3s							
IMEH	**Mehriz**	**3.41**	**67**	*e*Pn	**Pn**	**01 25 36.4**	**+1.0**
ICHK	**Chekchek**	**3.65**	**54**	*e*Pn	**Pn**	**01 25 39.5**	**+0.8**
ICHK				*e*		01 25 53.8	
comp=Z,1μm,0.3s							
ICHK	**Chekchek**	**3.65**	**54**	*e*Pn	**Pn**	**01 25 39.5**	**+0.8**
IBAF	**Bafgh**	**4.24**	**69**	*e*Pn	**Pn**	**01 25 47.2**	**+0.4**
IBAF				*e*		01 26 10.8	
comp=Z,426nm,0.2s							
IBAF	**Bafgh**	**4.24**	**69**	*e*Pn	**Pn**	**01 25 47.2**	**+0.4**
ISFB	**Sefidab**	**4.36**	**14**	*e*Pn	**Pn**	**01 25 49.4**	**+1.0**
ISFB				*e*		01 26 07.1	
comp=Z,424nm,0.2s							
ISFB	**Sefidab**	**4.36**	**14**	*e*Pn	**Pn**	**01 25 49.4**	**+1.0**
IKOM	**Komasi**	**4.98**	**325**	*e*Pn	**Pn**	**01 25 57.9**	**+1.0**
IKOM				*e*		01 27 00.7	
comp=Z,452nm,0.2s							
IKOM	**Komasi**	**4.98**	**325**	*e*Pn	**Pn**	**01 25 57.9**	**+1.0**
KRBR	**Kerman**	**5.05**	**90**	*e*Pn	Pn	01 25 54.1	-3.9
KRBR				AML	AML	01 27 27.1	
comp=N,47nm,0.2s							
KRBR	**Kerman**	**5.05**	**90**	*e*Pn	Pn	01 25 54.1	-3.9
IBDR	**Badra**	**5.21**	**306**	*i* Pg	**Pn**	**01 25 59.1**	**-0.9**
baz=70							
IBDR				*e*Sg	**Sn**	**01 27 00.1**	**+0.7**
BNDS	**Bandar-Abbas**	**5.33**	**119**	*e*Pn	**Pn**	**01 25 59.4**	**-2.4**
BNDS	**Bandar-Abbas**	**5.33**	**119**	*e*Pn	**Pn**	**01 25 59.4**	**-2.4**
IRAZ	**Razeghan**	**5.34**	**351**	*e*Pn	**Pn**	**01 26 03.0**	**+1.1**
IRAZ				*e*		01 26 31.1	
comp=Z,230nm,0.2s							
IRAZ	**Razeghan**	**5.34**	**351**	*e*Pn	**Pn**	**01 26 03.0**	**+1.1**
IDMV	**Damavand**	**5.52**	**9**	*e*Pn	**Pn**	**01 26 04.5**	**0.0**
IDMV				*e*		01 27 48.9	
comp=Z,238nm,0.4s							
IDMV	**Damavand**	**5.52**	**9**	*e*Pn	**Pn**	**01 26 04.5**	**0.0**
IFIR	**Firoozkooh**	**5.71**	**15**	*e*Pn	**Pn**	**01 26 08.2**	**+1.1**
IFIR	**Firoozkooh**	**5.71**	**15**	*e*Pn	**Pn**	**01 26 08.2**	**+1.1**
IDHR	**Dehrash**	**5.97**	**321**	*e*Pn	**Pn**	**01 26 11.7**	**+1.1**
IDHR				*e*		01 27 20.4	
comp=Z,692nm,0.2s							
IDHR	**Dehrash**	**5.97**	**321**	*e*Pn	**Pn**	**01 26 11.7**	**+1.1**
IGLO	**Ghaloghah**	**6.81**	**20**	*e*Pn	**Pn**	**01 26 23.4**	**+1.3**
IGLO				*e*		01 26 30.8	
comp=Z,222nm,0.2s							
BRTR	**Keskin Array B**	**17.10**	**309**	Pn	**P**	**01 28 42.4**	**-0.3**
comp=Z,0.1nm,0.3s,baz=119,slow=12,SNR=2.5							
AAK	**Ala-Archa**	**22.62**	**50**	P	**P**	**01 29 45.2**	**+2.4**
comp=Z,1.0nm,0.3s,baz=162,slow=4.0,SNR=3.8							
MLR	**Muntele Rosu**	**24.87**	**315**	P	**P**	**01 30 07.3**	**+2.8**
comp=Z,1.5nm,0.9s,baz=15,slow=14,SNR=4.3							
AKASG	**Malin Array Be**	**26.21**	**328**	P	**P**	**01 30 14.5**	**-1.8**
comp=Z,0.3nm,0.3s,baz=106,slow=9.7,SNR=2.3							
MKAR	**Makanchi Array**	**29.41**	**47**	P	**P**	**01 30 45.0**	**0.0**
comp=Z,0.6nm,0.7s,baz=239,slow=7.4,SNR=5.4							
ZALV	**Zalesovo Beam**	**34.11**	**36**	P	**P**	**01 31 25.2**	**-1.1**
comp=Z,0.4nm,0.3s,baz=224,slow=12,SNR=3.4							
FINES	**FINESS Array B**	**35.35**	**340**	P	**P**	**01 31 35.9**	**-1.0**
comp=Z,2.1nm,1.0s,baz=138,slow=11,SNR=3.3							
HFS	**Hagfors**	**38.97**	**331**	P	**P**	**01 32 06.1**	**-1.5**
comp=Z,1.1nm,0.6s,baz=141,slow=9.3,SNR=5.5							
ARCES	**ARCESS Array B**	**42.05**	**347**	P	**P**	**01 32 32.6**	**-0.4**
comp=Z,2.3nm,0.9s,baz=143,slow=9.1,SNR=3.2							
TORD	**Torodi Ar. Bea**	**48.41**	**261**	P	**P**	**01 33 23.7**	**-0.4**
comp=Z,1.7nm,0.8s,baz=57,slow=8.1,SNR=24							
DBIC	**Dimbokro**	**57.22**	**258**	P	**P**	**01 34 27.2**	**-2.0**
comp=Z,2.4nm,0.8s,baz=63,slow=11,SNR=3.1							

WEL 06 01:49:08.8±0.8, 35°.83S×178°.24E, h202km±8km, ML3.8/11,
Error ellipse: s-maj=18.0km s-min=11.0km az=90.0, Off
east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.74**	**178**	PN	Pn	01 49 44.9	+0.2
MXZ				SN	S	01 50 12.3	-0.2
MWZ	**Matawai**	**2.57**	**193**	PN	Pn	01 49 53.8	+0.2
MWZ				SN	S	01 50 29.3	+1.1
MWZ				AML	AML	01 50 40.9	
URZ	**Urewera**	**2.59**	**200**	PN	Pn	01 49 54.0	+0.2
URZ				SN	S	01 50 28.7	+0.3
URZ				AML	AML	01 50 32.5	
CNGZ	**Carnagh Statio**	**2.66**	**181**	PN	Pn	01 49 55.1	+0.6
KNZ	**Kokohu**	**3.22**	**188**	PN	Pn	01 50 00.6	-0.4
MHGZ	**Mahia Peninsul**	**3.33**	**184**	PN	Pn	01 50 02.4	0.0
NMHZ	**Naumai**	**3.46**	**199**	PN	Pn	01 50 04.5	+0.4
BKZ	**Black Stump Fm**	**3.62**	**202**	PN	Pn	01 50 06.6	+0.7
MCHZ	**McNeill Hill**	**3.82**	**198**	PN	Pn	01 50 08.7	+0.4
BHHZ	**Black Hill Sta**	**4.05**	**205**	PN	Pn	01 50 10.7	-0.6
WNVZ	**Wahianoa**	**4.08**	**210**	PN	Pn	01 50 12.0	+0.3
KAHZ	**Kahuranaki**	**4.11**	**195**	PN	Pn	01 50 11.6	-0.3
PNHZ	**Pukenui**	**4.39**	**201**	PN	Pn	01 50 14.5	-1.0
PRHZ	**Porangahau**	**4.61**	**195**	PN	Pn	01 50 17.1	-1.2
DVHZ	**Dannevirke**	**4.76**	**200**	PN	Pn	01 50 18.5	-1.6
ANWZ	**Angora Road**	**4.83**	**196**	PN	Pn	01 50 20.1	-0.9
BFZ	**Birch Farm**	**5.10**	**197**	PN	Pn	01 50 22.6	-1.7
MRZ	**Mangatainoka R**	**5.26**	**203**	PN	Pn	01 50 24.5	-2.0
MRZ				SN	S	01 51 23.8	-3.8
TIWZ	**Tintock**	**5.28**	**200**	PN	Pn	01 50 25.0	-1.7
HOWZ	**Holdsworth Sta**	**5.50**	**202**	PN	Pn	01 50 27.3	-2.3
OGWZ	**Otaki Gorge**	**5.54**	**205**	PN	Pn	01 50 27.8	-2.2
TMWZ	**Te Maipa**	**5.59**	**199**	PN	Pn	01 50 28.5	-2.2
KIW	**Kapiti Island**	**5.67**	**207**	PN	Pn	01 50 29.6	-2.2
MTW	**Mount Morrison**	**5.74**	**201**	PN	Pn	01 50 30.2	-2.5
CAW	**Cannon Point**	**5.83**	**204**	PN	Pn	01 50 31.2	-2.6
BHW	**Baring Head**	**6.17**	**204**	PN	Pn	01 50 34.8	-3.3
PLWZ	**Palliser**	**6.20**	**201**	PN	Pn	01 50 36.0	-2.6
TCW	**Tory Channel**	**6.21**	**209**	PN	Pn	01 50 36.1	-2.6
THZ	**Tophouse**	**7.25**	**213**	PN	Pn	01 50 50.0	-2.2
KHZ	**Kahutara**	**7.53**	**208**	PN	Pn	01 50 53.1	-2.6
OXZ	**Oxford**	**8.89**	**211**	PN	Pn	01 51 09.7	-3.8

IDC 06 01:59:48.3±2.2, 6°.07N×127°.73E, h0km, mb3.5/4,
mb1 3.6/4, mb1mx3.4/23, mbtmp3.5/4, Error ellipse:
s-maj=199.3km s-min=21.8km az=69.0, Philippine
Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.66**	**166**	P	P	02 05 30.5	+1.4
0.5nm,0.6s,baz=348,slow=10,SNR=4.7							
ASAR	**Alice Springs**	**30.17**	**169**	P	P	02 05 59.2	-1.2
0.1nm,0.3s,baz=336,slow=6.2,SNR=3.1							
MKAR	**Makanchi Array**	**56.24**	**324**	P	P	02 09 30.4	-0.2
0.3nm,0.4s,baz=118,slow=6.4,SNR=9.2							
ZALV	**Zalesovo Beam**	**58.98**	**332**	P	P	02 09 49.7	0.0
0.6nm,0.4s,baz=131,slow=4.4,SNR=3.4							

*ISCJB **06** 02:01:42.2±0.5, 10°.97N±0°.03×62°.27W±0°.03, h105km±5km,*
Error ellipse: s-maj=5.6km s-min=3.5km az=43.7
*FUNV **06** 02:01:43.5, 10°.94N×62°.14W, h103km, MW3.8*
*TRN **06** 02:01:45.9, 11°.02N×62°.07W, h93km, MD3.7*
TRN Felt Trinidad.
ISC 06 02:01:42.2±1.3, 10°.95N±0°.03×62°.25W±0°.04, h111km±9km,
n40, σ1°52/59, 7C-3D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.31**	**176⇑**	*e*P	**Pn**	**02 01 58.4**	**+0.3**
GUIV				*e*S	**Sn**	**02 02 08.7**	**-1.4**
TCE	**Chacachacare**	**0.55**	**118**	*e*P	**Pn**	**02 01 59.9**	**+0.3**
TCE	**Chacachacare**	**0.55**	**118**	*e*	x	02 02 06.7	
TCE				*e*S	**Sn**	**02 02 12.0**	**-0.6**
TRN	**Trinidad (W)**	**0.88**	**110⇓**	*i*P	**Pn**	**02 02 02.9**	**+0.6**
TRN	**Trinidad (W)**	**0.88**	**110**	*e*	x	02 02 10.7	
TRN				*e*S	**Sn**	**02 02 15.6**	**-1.9**
ALNG	**Atlantic LNG**	**0.94**	**144**	*e*P	**Pn**	**02 02 05.9**	**+2.9**
ALNG				*e*S	**Sn**	**02 02 19.6**	**+1.0**
BUAY	**Buenos Aires**	**1.01**	**147**	*e*P	**Pn**	**02 02 06.1**	**+2.5**
BUAY				*e*S	**Sn**	**02 02 20.2**	**+0.5**
TPP	**Pointe-a-Pierr**	**1.01**	**129⇑**	*e*P	**Pn**	**02 02 04.7**	**+1.1**
TPP				*e*S	**Sn**	**02 02 18.7**	**-1.0**
CRUV	**Carupano**	**1.01**	**254⇓**	*i*P	**Pn**	**02 02 04.4**	**+0.8**
CRUV				*e*S	**Sn**	**02 02 19.3**	**-0.5**
GUNV	**Guanoco**	**1.04**	**221⇑**	*e*P	**Pn**	**02 02 05.5**	**+1.5**
GUNV				*e*S	**Sn**	**02 02 21.1**	**+0.7**
SIPA	**Siparia**	**1.09**	**138**	*e*P	**Pn**	**02 02 06.4**	**+2.0**
TBH	**Brigand Hill**	**1.25**	**112**	*e*P	**Pn**	**02 02 06.8**	**+0.5**
TBH	**Brigand Hill**	**1.25**	**112**	*e*	x	02 02 16.2	
TBH				*e*S	**Sn**	**02 02 23.7**	**-0.7**
GRW	**Mount Saint Ca**	**1.33**	**26**	*e*P	**Pn**	**02 02 08.4**	**+1.2**
GRW	**Mount Saint Ca**	**1.33**	**26**	*e*	x	02 02 21.7	
GRW				*e*S	**Sn**	**02 02 24.2**	**-1.9**
GRHS	**Sauteurs**	**1.40**	**25**	*e*P	**Pn**	**02 02 09.6**	**+1.8**
GRHS				*e*S	**Sn**	**02

BUKP	Musuan	1.38	33	eP	Pn	02 24 26.9	-1.9
PAGZ	Pagadian	1.44	321	eP	Pn	02 24 29.6	+0.1
PAGZ				eS	Sn	02 24 34.3	-14
MATI	Mati	1.96	83	eP	Pb	02 24 39.8	+0.6
IPIL	Ipil	2.01	302	eP	Pn	02 24 38.4	+1.0

IDC 06 02:29:55.9±2.1, 17°63S×168°29E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.6/20, mbtmp3.6/5, ML3.8/1, MS3.0/1, Ms1 3.0/1, ms1mx2.7/21, Error ellipse: s-maj=61.6km s-min=31.5km az=134.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.74**	**201**	Pn	Pn	02 31 08.5	-0.3
	3.9nm,0.3s,baz=93,slow=20,SNR=106						
DZM				Sn	Sn	02 31 58.3	-6.4
	7.6nm,0.3s,baz=322,slow=23,SNR=8.4						
DZM				LR	LR	02 32 04.1	
	comp=Z,200nm,21.3s,baz=150,slow=27						
WRA	**Warramunga Arr**	**32.19**	**260**	P	P	02 36 26.1	+0.2
	0.4nm,1.0s,baz=79,slow=6.1,SNR=3.4						
ASAR	**Alice Springs**	**32.68**	**254**	P	P	02 36 30.3	+0.2
	0.4nm,0.5s,baz=80,slow=8.7,SNR=7.2						
FITZ	**Fitzroy Crossi**	**40.53**	**263**	P	P	02 37 36.4	-0.7
	1.7nm,1.0s,baz=126,slow=8.7,SNR=3.0						
ILAR	**Eielson Array**	**88.98**	**18**	P	P	02 42 52.1	0.0
	0.3nm,0.8s,baz=234,slow=5.4,SNR=3.7						

IDC 06 02:57:41.4±1.2, 22°84S×175°12W, h0km, mb3.9/5, mb1 4.2/5, mb1mx3.9/19, mbtmp3.9/5, MS3.2/1, Ms1 3.2/1, ms1mx2.5/37, Error ellipse: s-maj=59.5km s-min=27.5km az=146.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**27.35**	**295**	LR	LR	03 11 26.0	
	comp=Z,50nm,19.9s,baz=76,slow=30						
ASAR	**Alice Springs**	**46.53**	**258**	P	P	03 06 12.6	+0.7
	1.2nm,1.0s,baz=76,slow=8.7,SNR=5.4						
WRA	**Warramunga Arr**	**46.96**	**264**	P	P	03 06 13.8	-0.6
	1.0nm,0.5s,baz=91,slow=8.5,SNR=22						
MAW	**Mawson**	**80.26**	**199**	P	P	03 09 53.2	-0.4
	1.4nm,0.7s,baz=102,slow=9.3,SNR=4.1						
NVAR	**Mina Array Bea**	**80.93**	**42**	P	P	03 09 58.9	+0.9
	0.9nm,0.9s,baz=220,slow=8.3,SNR=4.0						
ILAR	**Eielson Array**	**90.02**	**12**	P	P	03 10 40.8	-1.5
	0.7nm,1.1s,baz=207,slow=5.8,SNR=3.5						
BRTR	**Keskin Array B**	**150.39**	**311**	PKPbc	PKPbc	03 17 35.5	+0.3
	0.7nm,0.8s,baz=131,slow=5.6,SNR=4.6						

IDC 06 02:58:59.8±2.1, 24°11S×66°83W, h174km±20km, mb2.9/2, mb1 3.1/5, mb1mx3.1/17, mbtmp2.9/5, Error ellipse: s-maj=27.7km s-min=19.3km az=77.0, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**7.57**	**189**	P	Pn	03 00 47.0	-0.4
	0.1nm,0.3s,baz=7.4,slow=12,SNR=8.5						
CFAA				S	Sn	03 02 05.7	-6.8
	0.3nm,0.3s,baz=286,slow=18,SNR=11						
LPAZ	**La Paz**	**7.88**	**351**	P	Pn	03 00 53.2	+0.8
	1.0nm,0.3s,baz=169,slow=8.6,SNR=26						
LPAZ				S	Sn	03 02 19.0	-2.3
	baz=49,slow=20,SNR=3.2						
BDFB	**Brasilia**	**19.58**	**68**	P	P	03 03 15.8	+1.0
	0.3nm,0.3s,baz=229,slow=12,SNR=6.7						
TXAR	**Lajitas Array**	**63.86**	**324**	P	P	03 09 14.5	+0.4
	0.1nm,0.5s,baz=141,slow=5.8,SNR=3.3						
TORD	**Torodi Ar. Bea**	**76.46**	**69**	P	P	03 10 30.3	-0.6
	0.6nm,1.0s,baz=253,slow=5.4,SNR=5.3						
MKAR	**Makanchi Array**	**146.51**	**40**	PKPbc	PKPdf	03 18 19.4	+0.5
	1.0nm,0.6s,baz=297,slow=3.8,SNR=10.0						

*MOS **06** 03:13:45.6±0.6, 53°36N×160°22E, h70km, mb4.1/9, Error ellipse: s-maj=13.9km s-min=7.6km az=68.8*
MOS Felt (II) at Petropavlovsk-Kamchatskiy.
*ISCJB **06** 03:13:46.2±0.3, 53°41N±0°03×160°14E±0°06, h76km±3km, mb3.7/13, Error ellipse: s-maj=6.6km s-min=2.7km az=35.4*
*KRSC **06** 03:13:46.6±0.1, 53°46N×160°10E, h65km±54km, ML4.3, FELT [II] at Institute.*
*IDC **06** 03:13:49.0±1.1, 53°72N×159°63E, h92km±12km, mb3.5/11, mb1 3.8/12, mb1mx3.5/28, mbtmp3.5/12, Error ellipse: s-maj=24.0km s-min=13.8km az=151.0*

ISC 06 03:13:46.7±0.7, 53°40N±0°03×160°17E±0°03, h70km±6km, n75, σ1°07/112, mb3.8/13, 2C-2D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.32**	**196**	PN	**Pn**	**03 13 58.7**	**+0.7**
SPN				S	**Sn**	**03 14 07.0**	**+0.7**
SPN	**Mys Shipunski**	**0.32**	**196**	*i* P	**Pn**	**03 13 58.7**	**+0.7**
SPN				*i* S	**Sn**	**03 14 07.0**	**+0.7**
NLC	**Nalytchevo**	**0.55**	**245**	PN	**Pn**	**03 14 00.1**	**+0.1**
NLC				S	**Sn**	**03 14 09.7**	**0.0**
NLC	**Nalytchevo**	**0.55**	**245**	*i* P	**Pn**	**03 14 00.1**	**+0.1**
NLC				*i* S	**Sn**	**03 14 09.7**	**0.0**
SDLR	**Sedlovina**	**0.78**	**261**	*i* P	**Pn**	**03 14 02.8**	**+0.1**
SDLR				*i* S	**Sn**	**03 14 14.2**	**-0.3**
UGLR	**Uglovaya**	**0.83**	**257**	*i* P	**Pn**	**03 14 03.5**	**+0.2**
UGLR				*i* S	**Sn**	**03 14 15.1**	**-0.4**
SMAR	**Somma**	**0.83**	**261**	*i* P	**Pn**	**03 14 03.2**	**-0.2**
SMAR				*i* S	**Sn**	**03 14 15.3**	**-0.4**
KRER	**Koryakskii**	**0.86**	**264**	*i* P	**Pn**	**03 14 03.9**	**+0.2**
KRER				*i* S	**Sn**	**03 14 16.2**	**0.0**
AVH	**Avacha**	**0.87**	**261**	*i* P	**Pn**	**03 14 03.9**	**+0.2**
AVH				*i* S	**Sn**	**03 14 16.3**	**+0.1**
KRX	**Arik**	**0.91**	**268**	*i* P	**Pn**	**03 14 04.2**	**-0.1**
KRX				*i* S	**Sn**	**03 14 16.7**	**-0.6**
KOK	**Koryaka**	**0.93**	**264**	*i* P	**Pn**	**03 14 04.5**	**+0.1**
KOK				*i* S	**Sn**	**03 14 16.8**	**-0.7**
PET	**Petropavlovsk**	**0.99**	**248**	*i* PN	**Pn**	**03 14 05.2**	**+0.2**
PET				*e*S	**Sn**	**03 14 19.0**	**+0.4**
PET				pmax	pmax		
	comp=Z,1μm,0.5s						
PET				smax	smax		
	comp=N,3μm,0.4s						
PET				smax	smax		
	comp=E,5μm,0.4s						
PET	**Petropavlovsk**	**0.99**	**248**	*i* P	**Pn**	**03 14 05.1**	**+0.1**
PET				*i* S	**Sn**	**03 14 18.8**	**+0.2**
GNL	**Ganaly**	**1.36**	**283**	*i* P	**Pn**	**03 14 09.5**	**-0.4**
GNL				*i* S	**Sn**	**03 14 26.4**	**-1.0**
RUS	**Russkaya**	**1.40**	**227**	PN	**Pn**	**03 14 10.2**	**-0.1**
RUS				S	**Sn**	**03 14 27.8**	**-0.2**
RUS	**Russkaya**	**1.40**	**227**	*i* P	**Pn**	**03 14 10.2**	**-0.1**
RUS				*i* S	**Sn**	**03 14 27.8**	**-0.2**
MKZ	**Mys Kozlova**	**1.48**	**38**	PN	**Pn**	**03 14 12.0**	**+0.6**
MKZ				S	**Sn**	**03 14 30.0**	**+0.1**
MKZ	**Mys Kozlova**	**1.48**	**38**	*i* P	**Pn**	**03 14 12.0**	**+0.6**
MKZ				*i* S	**Sn**	**03 14 30.0**	**+0.1**
PETK	**Petropavlovsk-**	**1.51**	**260**	PN	**Pn**	**03 14 11.7**	**-0.2**
PETK				S	**Sn**	**03 14 30.3**	**-0.5**
PETK				pmax	pmax		
	comp=Z,71nm,0.3s						
PETK				smax	smax		
	comp=N,82nm,0.3s						
PETK	**Petropavlovsk-**	**1.51**	**260**	P	**Pn**	**03 14 11.7**	**-0.2**
	comp=N,71nm,0.3s,baz=86,slow=19,SNR=162						
PETK				S	**Sn**	**03 14 30.3**	**-0.5**
	comp=N,82nm,0.3s,baz=318,slow=10,SNR=20						
MTVR	**Mutnovka**	**1.51**	**233**	*i* P	**Pn**	**03 14 12.3**	**+0.3**
MTVR				*i* S	**Sn**	**03 14 31.7**	**+0.7**
GRL	**Gorelyy**	**1.53**	**237**	*i* P	**Pn**	**03 14 12.9**	**+0.8**
GRL				*i* S	**Sn**	**03 14 31.8**	**+0.5**
ASAK	**Asacha**	**1.71**	**234**	*i* P	**Pn**	**03 14 15.4**	**+0.8**
ASAK				*i* S	**Sn**	**03 14 37.3**	**+1.7**
APC	**Apacha**	**1.87**	**256**	*i* P	**Pn**	**03 14 17.0**	**+0.4**
APC				*i* S	**Sn**	**03 14 39.2**	**-0.2**
TUMR	**Tumrok**	**1.88**	**360**	*i* P	**Pn**	**03 14 17.8**	**+0.9**
MIPR	**Malaya Ipel'ka**	**2.36**	**243**	*e*P	**Pn**	**03 14 23.8**	**+0.6**
KMNR	**Kamenistaya**	**2.36**	**1**	*i* P	**Pn**	**03 14 24.6**	**+1.3**
KMNR				*i* S	**Sn**	**03 14 51.8**	**+0.6**
BZMR	**Bezymyannaya**	**2.54**	**4**	*e*P	**Pn**	**03 14 26.9**	**+1.1**
KIRR	**Kirishev**	**2.56**	**2**	*e*P	**Pn**	**03 14 26.3**	**+0.3**
BZGR	**Bezymyannyi-Gr**	**2.56**	**7**	*e*P	**Pn**	**03 14 27.2**	**+1.2**
BZGR				*i* S	**Sn**	**03 14 56.2**	**0.0**
KPT	**Kopyto**	**2.57**	**1**	*e*P	**Pn**	**03 14 26.4**	**+0.3**
BZWR	**Bezymyannyi-We**	**2.57**	**4**	*e*P	**Pn**	**03 14 26.6**	**+0.3**
ZLN	**Zelenaya**	**2.65**	**8**	*e*P	**Pn**	**03 14 28.8**	**+1.6**
ZLN				*i* S	**Sn**	**03 14 59.0**	**+0.8**
KOZ	**Kozyrevsk**	**2.67**	**356**	*e*P	**Pn**	**03 14 28.1**	**+0.7**
ESO	**Esso**	**2.67**	**342**	PN	**Pn**	**03 14 27.7**	**+0.3**
ESO				S	**Sn**	**03 14 57.3**	**-1.3**
ESO	**Esso**	**2.67**	**342**	*i* P	**Pn**	**03 14 27.7**	**+0.3**
ESO				*i* S	**Sn**	**03 14 57.3**	**-1.3**
KOZR	**Kozyr**	**2.67**	**357**	PN	**Pn**	**03 14 28.1**	**+0.6**
LGNR	**Loginova**	**2.70**	**6**	*i* P	**Pn**	**03 14 29.8**	**+1.7**
LGNR				*i* S	**Sn**	**03 15 01.0**	**+1.1**
CIRR	**Tsirk**	**2.74**	**7**	*e*P	**Pn**	**03 14 30.1**	**+1.6**
PAU	**Pauzhetka**	**2.83**	**228**	PN	**Pn**	**03 14 30.0**	**+0.5**
PAU	**Pauzhetka**	**2.83**	**228**	*e*P	**Pn**	**03 14 30.0**	**+0.5**
KRSR	**Krestovskiy**	**2.83**	**5**	*e*P	**Pn**	**03 14 30.3**	**+0.6**
KLY	**Klyuchi**	**2.93**	**5**	PN	**Pn**	**03 14 32.1**	**+1.2**
KLY	**Klyuchi**	**2.93**	**5**	*e*P	**Pn**	**03 14 32.1**	**+1.2**
SRDR	**Sredinnyy**	**2.93**	**355**	*e*P	**Pn**	**03 14 30.7**	**-0.3**
KBTR	**Krutoberegovo**	**3.20**	**28**	PN	**Pn**	**03 14 35.3**	**+0.7**
KBTR				S	**Sn**	**03 15 11.7**	**+0.1**
KBTR	**Krutoberegovo**	**3.20**	**28**	*e*P	**Pn**	**03 14 35.3**	**+0.7**
KBTR				*i* S	**Sn**	**03 15 11.7**	**+0.1**
BDR	**Baidarnaya**	**3.23**	**10**	*e*P	**Pn**	**03 14 36.7**	**+1.6**
BDR				*i* S	**Sn**	**03 15 12.8**	**+0.4**
SMKR	**Semkarok**	**3.27**	**13**	*e*P	**Pn**	**03 14 36.7**	**+1.0**
SMKR				*i* S	**Sn**	**03 15 12.8**	**-0.6**
SRKR	**Sorokina**	**3.31**	**10**	*i* P	**Pn**	**03 14 37.5**	**+1.3**
SRKR				*i* S	**Sn**	**03 15 14.0**	**-0.3**
SKR	**Severo-Kuril's**	**3.70**	**224**	*e*PN	Pn	03 14 36.2	-5.2
SKR				pmax	pmax		
	comp=E,30nm,0.5s						
SKR				pmax	pmax		
	comp=Z,40nm,0.5s						
SKR	**Severo-Kuril's**	**3.70**	**224**	*e*P	**Pn**	**03 14 41.7**	**+0.3**
SKR				*i* S	**Sn**	**03 15 23.5**	**-0.2**
BKI	**Bering**	**3.85**	**60**	PN	**Pn**	**03 14 43.9**	**+0.5**
BKI				S	**Sn**	**03 15 24.1**	**-3.3**
BKI	**Bering**	**3.85**	**60**	*i* P	**Pn**	**03 14 43.9**	**+0.5**
BKI				*i* S	**Sn**	**03 15 24.1**	**-3.3**
FX1	**Attu Island--F**	**7.84**	**89**	P	**Pn**	**03 15 38.8**	**+0.9**
	comp=Z,17nm,0.3s,baz=284,slow=1.7,SNR=22						
FX1				S	**Sn**	**03 17 02.1**	**-2.9**
	comp=Z,16nm,0.3s,baz=72,slow=20,SNR=10						
YSS	**Yuzh-Sakhalins**	**12.87**	**247**	*e*PN	**Pn**	**03 16 46.6**	**0.0**
ASAJ	**Asahikawa**	**14.82**	**238**	P	**Pn**	**03 17 11.9**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=87,slow=10,SNR=7.9						
ERM	**Erimo**	**16.10**	**232**	*i* P	**Pn**	**03 17 25.6**	**-3.0**
YAK	**Yakutsk**	**18.27**	**310**	*e*P	**Pn**	**03 17 56.4**	**+1.4**
YAK				pmax	pmax		
	comp=Z,12nm,0.7s						
MJAR	**Matsushiro Arr**	**22.77**	**231**	P	**P**	**03 18 41.9**	**-1.4**
	comp=Z,2.2nm,0.6s,baz=16,slow=10,SNR=9.6						
ILAR	**Eielson Array**	**28.57**	**46**	P	**P**	**03 19 35.3**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=267,slow=8.3,SNR=13						
INK	**Inuvik**	**33.60**	**38**	P	**P**	**03 20 19.7**	**0.0**
	comp=Z,1.5nm,0.6s,baz=304,slow=7.3,SNR=4.4						
TLY	**Talaya**	**33.66**	**290**	*e*P	**P**	**03 20 20.9**	**+0.4**
TLY				pmax	pmax		
	comp=Z,2.0nm,0.8s						
SONM	**Songino Array**	**33.87**	**283**	P	**P**	**03 20 20.2**	**-2.4**
	comp=Z,0.4nm,0.6s,baz=72,slow=9.3,SNR=3.1						
KRAR	**Krasnoyarsk**	**37.58**	**302**	*e*P	**P**	**03 20 55.8**	**+1.9**
HVS	**Khovu-Aksy**	**39.41**	**295**	*e*P	**P**	**03 21 10.8**	**+1.3**
YKA	**Yellowknife Ar**	**42.90**	**43**	P	**P**	**03 21 38.0**	**+0.2**
	comp=Z,1.2nm,0.7s,baz=298,slow=6.8,SNR=3.1						
MKAR	**Makanchi Array**	**48.06**	**295**	P	P	03 22 15.2	-3.6
MKAR	**Makanchi Array**	**48.06**	**295**	P	P	03 22 15.2	-3.6
	comp=Z,0.4nm,0.5s,baz=58,slow=6.6,SNR=7.0						
BRVK	**Borovoye**	**50.26**	**308**	*e*P	**P**	**03 22 37.0**	**+1.6**
BRVK				*i* *PP	**pP**	**03 22 51.6**	**-1.6**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
PDAR	**Pinedale Array**	**57.33**	**61**	P	**P**	**03 23 28.4**	**+0.9**
	comp=Z,1.5nm,0.8s,baz=315,slow=2.6,SNR=14						
FINES	**FINESS Array B**	**59.85**	**336**	P	**P**	**03 23 41.3**	**-3.1**
	comp=Z,0.6nm,0.4s,baz=35,slow=7.0,SNR=7.2						
NOA	**NORSAR Array B**	**63.26**	**344**	P	**P**	**03 24 04.6**	**-2.8**
	comp=Z,0.7nm,0.9s,baz=19,slow=6.6,SNR=2.7						
TXAR	**Lajitas Array**	**70.47**	**67**	P	**P**	**03 24 54.8**	**+1.0**
	comp=Z,1.1nm,0.5s,baz=297,slow=5.0,SNR=15						
WRA	**Warramunga Arr**	**76.38**	**205**	P	**P**	**03 25 29.7**	**+1.5**
	comp=Z,0.2nm,0.4s,baz=22,slow=6.2,SNR=3.5						

*ISCJB **06** 03:16:37.8±0.6, 43°45N±0°06×139°1E±0°1, h268km±7km, mb3.2/5, Error ellipse: s-maj=13.3km s-min=8.1km az=28.6*
*IDC **06** 03:16:37.4±1.9, 43°61N×138°75E, h248km±17km, mb3.1/5, mb1 3.3/7, mb1mx3.0/26, mbtmp3.1/7, Error ellipse: s-maj=33.5km s-min=16.0km az=114.0*
*JMA **06** 03:16:38.4±0.3, 43°54N×138°92E, h252km±3km, M2.7*

ISC 06 03:16:38.4±0.9, 43°46N±0°07×139°05E±0°09, h261km±9km, n23, σ1°32/30, mb3.4/5, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSK	**Shakotan**	**1.04**	**95**	P	**Pn**	**03 17 14.6**	**-0.2**
JOSM	**Okushiri--Mats**	**1.41**	**167**	P	**Pn**	**03 17 17.4**	**+0.2**
JFR	**Furan**	**2.60**	**95**	P	**Pn**	**03 17 28.1**	**+0.7**
ASAJ	**Asahikawa**	**2.65**	**74**	P	**Pn**	**03 17 28.5**	**+0.6**
	3.9nm,0.3s,baz=251,slow=7.4,SNR=30						
ASAJ				S	**S**	**03 18 07.8**	**+0.7**
	baz=137,slow=19,SNR=3.0						
JKK2	**Kamakawa 2**	**2.71**	**80**	P	**Pn**	**03 17 29.3**	**+0.7**
JWK2	**Keihoku**	**2.76**	**47**	P	**Pn**	**03 17 29.3**	**+0.4**
JSE	**Soyaes**	**2.95**	**58**	P	**Pn**	**03 17 31.2**	**+0.3**
JNBK	**Urakawa-nobuka**	**2.96**	**112**	*e*S	**S**	**03 18 14.2**	**+1.2**
JCH	**Churui**	**3.27**	**103**	P	**Pn**	**03 17 34.3**	**-0.1**
JCH				*e*S	**S**	**03 18 17.3**	**-1.7**
JAR	**Ashorobuto**	**3.44**	**91**	P	**Pn**	**03 17 37.3**	**+1.0**
JAR				*e*S	**S**	**03 18 23.9**	**+1.5**
JTKR	**Abashiri--Toko**	**3.56**	**80**	P	**Pn**	**03 17 38.2**	**+0.6**
JANG	**Nango**	**3.59**	**148**	P	**Pn**	**03 17 38.7**	**+0.7**
JANG				*e*S	**S**	**03 18 24.3**	**-1.2**
JAK	**Akkeshi**	**4.15**	**94**	P	**Pn**	**03 17 44.5**	**+0.1**
JAK				*e*S	**S**	**03 18 35.0**	**-1.9**
JMK	**Ichinoseki**	**4.79**	**159**	P	**Pn**	**03 17 52.6**	**+0.6**
JMK				*e*S	**S**	**03 18 49.7**	**-1.1**
NEM2	**Nemuro 2**	**4.87**	**89**	P	**Pn**	**03 17 52.3**	**-0.6**
NEM2				*e*S	**S**	**03 18 48.9**	**-3.6**
MAT	**Matsushiro**	**6.94**	**186**	P	**Pn**	**03 18 18.6**	**+0.1**
MAT				S	S	03 18 42.0	-57
JNU	**Nakatsue**	**12.15**	**215**	P	**Pn**	**03 19 24.4**	**+0.8**
	0.2nm,0.3s,baz=38,slow=12,SNR=3.6						
WHN	**Wuhan**	**23.46**	**245**	*e*P	**P**	**03 21 22.3**	**-2.4**
ILAR	**Eielson Array**	**45.17**	**36**	P	**P**	**03 24 28.8**	**-0.2**
	0.2nm,0.5s,baz=284,slow=7.3,SNR=4.0						
FINES	**FINESS Array B**	**62.32**	**330**	P	**P**	**03 26 31.1**	**-1.5**
	0.9nm,0.8s,baz=64,slow=9.4,SNR=4.0						
WRA	**Warramunga Arr**	**63.23**	**185**	P	**P**	**03 26 39.6**	**+0.5**
	0.3nm,0.4s,baz=2.1,slow=6.9,SNR=9.1						
ASAR	**Alice Springs**	**66.96**	**185**	P	**P**	**03 27 04.8**	**+1.8**
	0.4nm,0.5s,baz=5.7,slow=4.7,SNR=5.3						
NVAR	**Mina Array Bea**	**72.60**	**53**	P	**P**	**03 27 39.2**	**+1.7**
	0.2nm,0.5s,baz=294,slow=6.5,SNR=2.6						

IDC 06 03:17:17.6±3.4, 6°95S×149°04E, h0km, mb3.3/2, mb1 3.5/4, mb1mx3.3/19, mbtmp3.4/4, ML3.1/2, Error ellipse: s-maj=111.1km s-min=35.1km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.07**	**217**	Pn	Pn	03 18 09.7	+2.3
	7.5nm,0.3s,baz=59,slow=5.9,SNR=14						
PMG				Sn	Sn	03 18 47.7	+2.7
	8.1nm,0.3s,baz=201,slow=20,SNR=8.6						
WRA	**Warramunga Arr**	**19.25**	**226**	P	P	03 21 43.6	-0.2
	0.1nm,0.3s,baz=53,slow=11,SNR=5.0						
ASAR	**Alice Springs**	**22.09**	**220**	P	P	03 22 13.3	-1.3
	0.3nm,0.6s,baz=54,slow=15,SNR=3.3						
FITZ	**Fitzroy Crossi**	**25.36**	**242**	P	P	03 22 46.2	-0.4
	1.7nm,0.7s,baz=70,slow=11,SNR=7.6						
TORD	**Torodi Ar. Bea**	**147.29**	**283**	PKPbc	PKPbc	03 37 03.8	-0.5
	0.2nm,0.6s,baz=72,slow=3.0,SNR=6.8						

*IDC **06** 03:20:53.7±1.6, 35°35N×120°92W, h0km, mb4.1/3, mb1 4.1/8, mb1mx3.8/28, mbtmp3.9/8, ML3.6/5, MS3.0/4, Ms1 3.0/4, ms1mx2.6/34, Error ellipse: s-maj=28.1km s-min=10.5km az=50.0*

*NEIC **06** 03:20:55.6, 35°56N×120°80W, h5km, mb4.0/6, MW3.8(PAS), MW3.8(BRK), After NCEDC.*
NEIC Felt [III] at Atascadero, Cayucos, Creston, Paso Robles, San Miguel and Templeton; [II] at Arroyo Grande, Bradley, Cambria, Grover Beach, Lompoc, Los Osos, Morro Bay, Oceano, Salinas, San Luis Obispo, Santa Margarita and Santa Maria. Also felt at Aptos, Hollister, King City, Lockwood, Nipomo, Pismo Beach, San Ardo and Santa Cruz.

ISC 06 03:20:54.4±0.8, 35°49N±0°03×120°74W±0°03, h2km±5km, n156, σ1°72/160, mb4.0/8, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTRM	**Twissleman Ran**	**0.46**	**69**	*e*Pg	**Pg**	**03 21 05.2**	**+2.0**
SMMC	**Simmler**	**0.63**	**106**	P	**Pg**	**03 21 09.0**	**+2.5**
	baz=0.7,SNR=753						
SMMC				S	**Sb**	**03 21 18.8**	**+1.2**
	baz=0.7						
SBC	**Santa Barbara**	**1.34**	**141**	P	**Pn**	**03 21 20.5**	**+0.3**
	baz=1.4,SNR=66						
SAO	**San Andreas Ge**	**1.39**	**336**	*e*Pn	**Pn**	**03 21 18.6**	**-2.4**
SAO				*e*Sn	**Sg**	**03 21 36.4**	**-2.7**
VES	**Vestal, Richgr**	**1.39**	**75**	P	**Pn**	**03 21 19.8**	**-1.1**
	baz=1.4,SNR=105						
VES				S	**Sb**	**03 21 38.3**	**-1.1**
	baz=1.4						
RCTC	**Rector, Farmer**	**1.47**	**56**	P	**Pn**	**03 21 20.9**	**-1.0**
	baz=1.5,SNR=70						
RCTC				S	**Sn**	**03 21 39.8**	**-1.9**
	baz=1.5						
ARVC	**Arvin**	**1.60**	**103**	P	**Pn**	**03 21 23.7**	**-0.1**
	baz=1.7,SNR=99						
ISA	**Isabella**	**1.86**	**84**	*e*Pn	**Pn**	**03 21 27.1**	**-0.2**
ISA				*e*Sn	**Sn**	**03 21 51.9**	**+0.4**
ISA	**Isabella**	**1.86**	**84**	P	**Pn**	**03 21 27.1**	**-0.2**
	baz=1.9,SNR=142						
OSI	**Osito Adit**	**1.87**	**117**	*e*Pn	**Pn**	**03 21 27.7**	**+0.2**
OSI				*e*Pg	**Pg**	**03 21 32.9**	**+2.6**
OSI				*e*Sn	**Sn**	**03 21 51.2**	**-0.6**
OSI	**Osito Adit**	**1.87**	**117**	P	**Pn**	**03 21 27.8**	**+0.2**
	baz=1.9,SNR=42						
BLG	**Laguna Peak**	**1.95**	**134**	P	**Pn**	**03 21 28.4**	**-0.2**
	baz=2.0,SNR=14						
BLG				S	**Sn**	**03 21 53.3**	**-0.4**
	baz=2.0						
DECC	**Green Verdugo**	**2.34**	**121**	P	**Pn**	**03 21 34.1**	**+0.2**
	baz=2.4,SNR=10						
CWC	**Cottonwood Cre**	**2.36**	**66**	P	**Pn**	**03 21 34.9**	**+0.6**
	baz=2.4,SNR=52						
PASC	**Pasadena Art C**	**2.48**	**121**	*e*Pn	**Pn**	**03 21 35.9**	**0.0**
SAC	**San Andreas**	**2.48**	**328**	*e*Pn	**Pn**	**03 21 33.1**	**-2.8**
SAC				*e*Pg	**Pb**	**03 21 38.9**	**-0.9**
SAC				*e*Sn	**Sb**	**03 22 08.1**	**-2.8**
SAC				*e*Sg	**Sg**	**03 22 17.9**	**+3.7**
LRMC	**Laurel Mountai**	**2.49**	**89**	P	**Pn**	**03 21 36.2**	**0.0**
	baz=2.5,SNR=41						
MWC	**Mount Wilson**	**2.54**	**119**	*e*Pn	**Pn**	**03 21 37.1**	**+0.2**
MWC				*e*Sg	**Sn**	**03 22 11.4**	**+2.8**
CMB	**Columbia Colle**	**2.55**	**6**	*e*Pn	**Pn**	**03 21 36.1**	**-0.8**
CMB				*e*Pg	**Pg**	**03 21 43.3**	**0.0**
CMB				*e*Sn	**Sn**	**03 22 07.4**	**-1.2**
MTUM	**Tungsten Hills**	**2.56**	**43**	*e*Pn	**Pn**	**03 21 38.0**	**+0.9**
TIN	**Tinemaha**	**2.56**	**52**	P	**Pn**	**03 21 38.4**	**+1.3**
	baz=2.6,SNR=61						
TIN				Sb	**Sb**	**03 22 12.1**	**-1.1**
	baz=2.6						
MLAC	**Mammoth Lakes**	**2.63**	**35**	P	**Pn**	**03 21 39.2**	**+1.1**
	baz=2.6,SNR=136						
MPMC	**Manual Prospec**	**2.70**	**77**	P	**Pn**	**03 21 39.3**	**+0.1**
	baz=2.7,SNR=84						
BFSC	**Mount Baldy Ra**	**2.83**	**115**	P	**Pn**	**03 21 41.0**	**+0.3**
	baz=2.9,SNR=46						
CIS	**Catalina Islan**	**2.84**	**136**	P	**Pn**	**03 21 40.4**	**-0.4**
	baz=2.9						
GRAC	**Grapevine Rang**	**3.11**	**60**	P	**Pn**	**03 21 45.6**	**+1.0**
	baz=3.1,SNR=21						
MCCM	**Marconi Confer**	**3.16**	**328**	*e*Pn	**Pn**	**03 21 42.4**	**-2.8**
MCCM				*e*Pg	**Pg**	**03 21 53.4**	**-1.5**
MCCM				*e*Sn	**Sn**	**03 22 23.7**	**+0.3**
MCCM				*e*Sg	**Sg**	**03 22 38.2**	**+2.4**
WAKR	**Walker**	**3.18**	**19**	*e*Pn	**Pn**	**03 21 46.8**	**+1.1**
WAKR				*e*Sg	**Sg**	**03 22 40.1**	**+3.4**
GSC	**Goldstone**	**3.22**	**92**	*e*Pn	**Pn**	**03 21 45.9**	**-0.3**
GSC	**Goldstone**	**3.22**	**92**	P	**Pn**	**03 21 45.8**	**-0.3**
	baz=3.3,SNR=34						
NVAR	**Mina Array Bea**	**3.52**	**

ELK				*e*Pg	**Pg**	**03 23 02.7**	**-2.1**
ELK				*e*Sg	**Sg**	**03 24 27.3**	**-5.6**
U15A	**North Rim**	**6.92**	**80**	P	Pn	03 22 40.2	+3.1
	baz=6.9,SNR=8.8						
WVOR	**Wild Horse Val**	**7.12**	**13**	*e*Pn	Pn	03 22 43.9	+4.1
	8.0nm,0.9s						
WVOR				*e*Pg	**Pg**	**03 23 12.1**	**+1.3**
WVOR				*e*Sg	Sg	03 24 37.2	-5.9
HUMO	**Hull Mountain**	**7.31**	**347**	*e*Pn	Pn	03 22 45.8	+3.5
WUAZ	**Wupatki**	**7.64**	**87**	*e*Pn	Pn	03 22 51.4	+4.5
	3.1nm,0.8s						
DUG	**Dugway**	**7.83**	**51**	*e*Pn	**Pn**	**03 22 52.3**	**+2.8**
DUG				*e*Pg	Pg	03 23 33.0	+8.5
DUG				*e*Sg	Sg	03 25 00.1	-5.8
BGU	**Big Grassy Mou**	**8.14**	**46**	*e*Pn	**Pn**	**03 22 56.4**	**+2.6**
TMUT	**Trail Mountain**	**8.48**	**61**	*e*Pn	Pn	03 23 01.8	+3.1
TUC	**Tucson**	**8.86**	**108**	*e*Pn	**Pn**	**03 23 04.2**	**+0.6**
SRU	**San Rafael**	**8.91**	**63**	*e*Pn	Pn	03 23 09.5	+5.2
JLU	**Jordanelle**	**8.93**	**52**	*e*Pn	Pn	03 23 10.1	+5.5
COR	**Corvallis**	**9.29**	**349**	*e*Pn	**Pn**	**03 23 08.7**	**-0.7**
HWUT	**Hardware Ranch**	**9.43**	**47**	*e*Pn	**Pn**	**03 23 13.7**	**+2.3**
	6.7nm,1.1s						
MVCO	**Mesa Verde**	**10.02**	**77**	*e*Pn	**Pn**	**03 23 22.1**	**+2.4**
Q20A	**Ridgley Place,**	**10.51**	**67**	P	Pn	03 23 30.7	+4.5
	baz=10,SNR=5.1						
P20A	**De Beque**	**10.60**	**64**	P	Pn	03 23 31.4	+4.0
	baz=11						
U21A	**Nageezi**	**10.65**	**81**	P	Pn	03 23 33.0	+4.8
	baz=11						
O20A	**White River Ci**	**10.92**	**61**	*e*Pn	Pn	03 23 37.1	+5.2
O20A	**White River Ci**	**10.92**	**61**	P	Pn	03 23 36.9	+5.0
	baz=11,SNR=6.5						
HAWA	**Hanford**	**10.93**	**4**	*e*Pn	Pn	03 23 38.2	+6.4
R21A	**Cimarron**	**10.94**	**71**	P	Pn	03 23 36.1	+3.8
	baz=11						
L19A	**Farson**	**11.06**	**50**	P	Pn	03 23 37.6	+3.7
	baz=11						
MCMT	**McKenzie Canyo**	**11.10**	**30**	*e*Pn	Pn	03 23 41.4	+7.0
	1.5nm,0.8s						
LON	**Longmire**	**11.28**	**356**	*e*Pn	Pn	03 23 43.9	+7.3
T22A	**Edith**	**11.28**	**78**	P	Pn	03 23 40.6	+3.8
	baz=11,SNR=5.2						
U22A	**Llaves**	**11.29**	**81**	P	Pn	03 23 41.4	+4.3
	baz=11						
P21A	**Newcastle**	**11.30**	**65**	P	Pn	03 23 41.3	+4.2
	baz=11						
PDAR	**Pinedale Array**	**11.32**	**47**	Pn	Pn	03 23 48.6	+11
PDAR	**Pinedale Array**	**11.32**	**47**	Pn	Pn	03 23 48.6	+11
	0.0nm,0.3s,baz=216,slow=9.0,SNR=3.5						
Q22A	**Crested Butte,**	**11.54**	**69**	P	Pn	03 23 45.7	+5.3
	baz=12						
FLWY	**Flagg Ranch**	**11.54**	**39**	*e*Pn	Pn	03 23 47.1	+6.7
ANMO	**Albuquerque**	**11.70**	**89**	*e*Pn	**Pn**	**03 23 43.8**	**+1.2**
MSO	**Missoula**	**12.43**	**22**	*e*Pn	Pn	03 24 00.6	+8.2
SDCO	**Great Sand Dun**	**12.45**	**75**	*e*Pn	Pn	03 23 57.3	+4.3
M22A	**Cedar Creek Ra**	**12.56**	**58**	P	Pn	03 23 58.7	+4.4
	baz=12						
ISCO	**Idaho Springs**	**12.74**	**66**	*e*Pn	**Pn**	**03 23 57.8**	**+1.0**
NEW	**Newport**	**13.04**	**11**	*e*Pn	Pn	03 24 06.3	+5.5
NEW	**Newport**	**13.04**	**11**	Pn	Pn	03 24 06.2	+5.5
	0.1nm,0.3s,baz=175,slow=12,SNR=8.3						
NEW				LR	LR	03 29 15.1	
	comp=Z,24nm,20.5s,baz=200,slow=38						
NEW	**Newport**	**13.04**	**11**	P	Pn	03 24 04.8	+4.1
	baz=13						
BSMT	**Bassoo Peak**	**13.12**	**18**	*e*Pn	P	03 24 08.7	-3.7
L23A	**Garrett**	**13.46**	**56**	P	**Pn**	**03 24 09.1**	**+2.5**
	baz=13,SNR=5.5						
F19A	**Roth Farm, Mol**	**13.67**	**37**	P	P	03 24 14.1	-4.3
	baz=14,SNR=7.5						
T26A	**Comanche Natio**	**13.93**	**78**	P	Pn	03 24 16.0	+3.0
	baz=14						
Q26A	**Hugo**	**14.15**	**71**	P	P	03 24 20.5	-3.3
	baz=14						
C17A	**Wharram Farm,**	**14.23**	**28**	P	**P**	**03 24 22.0**	**-2.6**
	baz=14						
P26A	**Davis Ranch, A**	**14.39**	**68**	P	**P**	**03 24 23.9**	**-2.6**
	baz=14						
WALA	**Waterton Lakes**	**14.46**	**18**	*e*Pn	**P**	**03 24 24.7**	**-2.5**
	0.4nm,1.2s						
WALA				*e*P	Pn	03 24 29.8	+10
LPIG	**La Paz**	**14.51**	**139**	LR	LR	03 29 54.1	
	comp=Z,67nm,18.6s,baz=360,slow=37						
E20A	**Meyer Farm, Mu**	**14.53**	**37**	P	**P**	**03 24 25.6**	**-2.3**
	baz=14						
326A	**Caldwell Ranch**	**14.61**	**102**	P	**P**	**03 24 27.1**	**-1.8**
	baz=15						
R27A	**Eads**	**14.63**	**74**	P	**P**	**03 24 26.9**	**-2.2**
	baz=15						
D19A	**Cripps Ranch,**	**14.66**	**34**	P	**P**	**03 24 27.3**	**-2.0**
	baz=15,SNR=7.7						
426A	**McDonald Obser**	**14.81**	**104**	P	**P**	**03 24 29.4**	**-1.9**
	baz=15						
KSCO	**Kaye Shedlock'**	**14.85**	**71**	*e*Pn	Pn	03 24 28.7	+3.2
KSCO	**Kaye Shedlock'**	**14.85**	**71**	P	**P**	**03 24 29.3**	**-2.3**
	baz=15						
MSTX	**Muleshoe**	**14.86**	**91**	*e*Pn	**Pn**	**03 24 28.4**	**+2.7**
MSTX				*e*P	**P**	**03 24 34.4**	**+2.7**
D20A	**Manuel Ranch,**	**14.95**	**35**	P	**P**	**03 24 30.3**	**-2.2**
	baz=15						
EGMT	**Eagleton**	**14.95**	**30**	*e*Pn	**Pn**	**03 24 29.3**	**+2.5**
526A	**Mary Lane Ranc**	**15.01**	**106**	P	**P**	**03 24 31.8**	**-1.6**
	baz=15						
E21A	**Keefer Ranch,**	**15.08**	**39**	P	**P**	**03 24 32.7**	**-1.4**
	baz=15,SNR=11						
O27A	**Beecher Island**	**15.17**	**67**	P	**P**	**03 24 33.7**	**-1.4**
	baz=15						
427A	**Hayter Ranch,**	**15.24**	**103**	P	**P**	**03 24 35.7**	**-0.2**
	baz=15						
H24A	**Dirks Ranch, A**	**15.43**	**48**	P	**P**	**03 24 35.7**	**-2.2**
	baz=15						
C20A	**Veseth Ranch,**	**15.46**	**34**	P	**P**	**03 24 38.1**	**-0.2**
	baz=15,SNR=6.0						
D21A	**La Casta Ranch**	**15.48**	**37**	P	**P**	**03 24 37.1**	**-1.3**
	baz=15						
B19A	**Brinkman Farms**	**15.62**	**30**	P	**P**	**03 24 38.8**	**-1.2**
	baz=16						
LAO	**LASA Array**	**15.62**	**40**	*e*Pn	**P**	**03 24 38.1**	**-2.0**
	9.8nm,0.9s						
LAO				*e*P	**pP**	**03 24 41.6**	**+1.1**
V29A	**Stinnett**	**15.63**	**83**	P	**P**	**03 24 39.0**	**-1.1**
	baz=16						
TXAR	**Lajitas Array**	**15.66**	**108**	Pn	**P**	**03 24 42.0**	**+1.3**
TXAR	**Lajitas Array**	**15.66**	**108**	Pn	**P**	**03 24 42.0**	**+1.3**
	0.1nm,0.3s,baz=283,slow=11,SNR=8.1						
OGNE	**Ogallala**	**15.67**	**64**	*e*Pn	**Pn**	**03 24 37.1**	**+0.7**
O28A	**Krutsinger Ran**	**15.68**	**67**	P	**P**	**03 24 39.5**	**-1.3**
	baz=16						
627A	**Terlingua Ranc**	**15.83**	**107**	P	**P**	**03 24 42.4**	**-0.1**
	baz=16						
Z29A	**Hungry Hill Ra**	**15.88**	**93**	P	**P**	**03 24 42.1**	**-0.8**
	baz=16						
129A	**Stewart Farms,**	**15.90**	**95**	P	**Pn**	**03 24 41.7**	**+2.3**
	baz=16						
D22A	**Cohagen**	**15.95**	**39**	P	**P**	**03 24 43.0**	**-0.7**
	baz=16						
C21A	**Desert Coulee**	**15.96**	**35**	P	**P**	**03 24 43.1**	**-0.8**
	baz=16						
A19A	**Klindworth Far**	**16.07**	**30**	P	**P**	**03 24 44.1**	**-0.9**
	baz=16						
Q29A	**Oakley**	**16.11**	**72**	P	**P**	**03 24 45.0**	**-0.5**
	baz=16						
DGMT	**Dagmar**	**17.82**	**38**	*e*Pn	**P**	**03 25 05.2**	**+0.8**
EDM	**Edmonton**	**18.48**	**14**	*e*P	**P**	**03 25 13.5**	**+1.9**
MDND	**Maddock**	**19.97**	**45**	*e*P	**P**	**03 25 27.9**	**0.0**
MIAR	**Mount Ida**	**22.25**	**85**	*e*P	**P**	**03 25 53.7**	**+1.1**
	5.9nm,1.0s						
SCIA	**State Center**	**22.36**	**65**	*e*P	**P**	**03 25 55.3**	**+1.6**
	2.6nm,0.5s						
AGMN	**Agassiz Nation**	**22.39**	**48**	*e*P	**P**	**03 25 52.4**	**-1.7**
	3.7nm,0.8s						
SIUC	**Southern Illin**	**25.34**	**76**	*e*P	**P**	**03 26 22.8**	**+0.1**
	2.2nm,0.3s						
COWI	**Conover**	**26.01**	**56**	*e*P	**P**	**03 26 28.1**	**-0.7**
	3.6nm,1.1s						
CMIG	**Matias Romero**	**29.41**	**122**	LR	LR	03 39 29.3	
	comp=Z,23nm,18.4s,baz=320,slow=38						
INK	**Inuvik**	**33.65**	**351**	LR	LR	03 43 01.4	
	comp=Z,38nm,18.2s,baz=246,slow=39						
NB2	**NORSAR Subarra**	**76.15**	**22**	P	**P**	**03 32 44.2**	**+0.5**
	comp=Z,1.3nm,0.7s,baz=322,slow=6.2						
NOA	**NORSAR Array B**	**76.15**	**22**	P	**P**	**03 32 44.2**	**+0.5**
NOA	**NORSAR Array B**	**76.15**	**22**	P	**P**	**03 32 44.2**	**+0.5**
	comp=Z,1.1nm,0.7s,baz=324,slow=5.7,SNR=4.7						
FINES	**FINESS Array B**	**79.70**	**16**	P	**P**	**03 33 04.3**	**+0.9**
FINES	**FINESS Array B**	**79.70**	**16**	P	**P**	**03 33 04.3**	**+0.9**
	comp=Z,2.1nm,0.8s,baz=353,slow=9.8,SNR=5.7						
SONM	**Songino Array**	**86.96**	**330**	P	**P**	**03 33 42.5**	**+1.3**
SONM	**Songino Array**	**86.96**	**330**	P	**P**	**03 33 42.5**	**+1.3**
	comp=Z,0.7nm,0.7s,baz=26,slow=3.8,SNR=4.9						

IDC 06 03:22:43.0±15.0, 17°63S×177°79W, h336km±127km, mb3.3/6, mb1 3.5/6, mb1mx3.2/20, mbtmp3.3/6, Error ellipse: s-maj=123.2km s-min=42.3km az=131.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**34.07**	**260**	P	P	03 28 58.3	+1.2
	1.0nm,0.4s,baz=170,slow=6.1,SNR=3.8						
STKA	**Stephens Creek**	**39.28**	**241**	P	P	03 29 42.1	+1.7
	1.4nm,0.4s,baz=45,slow=5.7,SNR=3.1						
WRA	**Warramunga Arr**	**45.26**	**259**	P	P	03 30 27.4	-1.1
	0.3nm,0.4s,baz=90,slow=8.5,SNR=11						
WRA				PcP	PcP	03 32 00.8	-1.3
	0.5nm,0.7s,baz=87,slow=3.4,SNR=3.8						
ASAR	**Alice Springs**	**45.43**	**254**	P	P	03 30 29.7	-0.1
	7.8nm,0.7s,baz=89,slow=8.1,SNR=92						
ASAR				PcP	PcP	03 32 01.3	-1.4
	0.5nm,0.6s,baz=99,slow=4.0,SNR=4.3						
FITZ	**Fitzroy Crossi**	**53.66**	**260**	P	P	03 31 31.2	-0.2
	3.0nm,1.1s,baz=90,slow=9.1,SNR=3.9						
ILAR	**Eielson Array**	**85.49**	**13**	P	P	03 34 44.0	+0.9
	0.1nm,0.3s,baz=205,slow=4.0,SNR=4.1						
BRTR	**Keskin Array B**	**145.00**	**315**	PKPbc	PKPdf	03 41 39.4	-1.6
	0.5nm,0.6s,baz=140,slow=5.7,SNR=3.4						
GERES	**GERESS Array B**	**147.50**	**346**	PKPbc	PKPbc	03 41 48.5	+0.5
	0.1nm,0.3s,baz=29,slow=3.0,SNR=4.7						
DAVOX	**Davos/Dischmat**	**150.25**	**349**	PKPbc	PKPbc	03 41 54.7	-0.2
	1.3nm,0.5s,baz=196,slow=7.4,SNR=4.4						

IDC 06 03:32:45.1±7.3, 0°16S×123°04E, h132km±76km, mb2.8/4, mb1 3.1/6, mb1mx3.0/24, mbtmp3.0/6, Error ellipse: s-maj=66.3km s-min=18.0km az=58.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**5.83**	**214**	P	Pn	03 34 09.8	+0.4
	1.9nm,0.3s,baz=73,slow=17,SNR=12						
KAPI				S	Sn	03 35 15.4	+0.2
	1.3nm,0.3s,baz=235,slow=23,SNR=8.3						
FITZ	**Fitzroy Crossi**	**18.01**	**172**	P	P	03 36 46.0	+0.2
	0.3nm,0.3s,baz=349,slow=8.9,SNR=13						
WRA	**Warramunga Arr**	**22.56**	**151**	P	P	03 37 32.8	-1.7
	0.5nm,0.8s,baz=327,slow=10,SNR=13						
ASAR	**Alice Springs**	**25.63**	**156**	P	P	03 38 04.0	+1.4
	0.2nm,0.5s,baz=338,slow=12,SNR=3.1						
SONM	**Songino Array**	**49.95**	**345**	P	P	03 41 25.6	-0.2
	0.3nm,0.4s,baz=167,slow=8.9,SNR=3.1						
MKAR	**Makanchi Array**	**58.77**	**328**	P	P	03 42 29.4	-0.1
	0.1nm,0.5s,baz=118,slow=9.1,SNR=3.7						

*ISCJB **06** 03:33:07.5±0.8, 51°41S±0°07×140°1E±0°4, h10km, mb4.2/10, MS3.8/6, Error ellipse: s-maj=36.6km s-min=10.2km az=1.9*

*IDC **06** 03:33:07.8±1.1, 51°43S×140°08E, h0km, mb4.0/6, mb1 4.1/7, mb1mx4.0/15, mbtmp3.9/7, ML3.9/1, MS3.8/7, Ms1 3.7/7, ms1mx3.4/20, Error ellipse: s-maj=65.4km s-min=16.4km az=89.0*

*NEIC **06** 03:33:09.1±0.3, 51°43S×140°15E, h10km, mb4.5/7, Error ellipse: s-maj=17.9km s-min=7.4km az=92.0*

ISC 06 03:33:09.1±0.6, 51°41S±0°09×140°2E±0°2, h10km, n38, σ0s59/35, mb4.2/10, MS3.7/6, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**19.55**	**4**	P	**Pn**	**03 37 38.9**	**+0.9**
STKA	**Stephens Creek**	**19.55**	**4**	P	**Pn**	**03 37 38.9**	**+0.9**
	0.2nm,0.3s,baz=157,slow=12,SNR=4.8						
STKA				LR	LR	03 43 30.9	
	comp=Z,256nm,20.7s,baz=206,slow=32						
CASY	**Casey**	**21.08**	**214**	*e*P	**P**	**03 37 53.0**	**-0.1**
	16nm,1.2s						
VNDA	**Vanda**	**27.43**	**170**	*e*P	**P**	**03 38 54.4**	**-0.1**
	3.2nm,1.1s						
VNDA	**Vanda**	**27.43**	**170**	P	**P**	**03 38 54.6**	**+0.2**
	1.1nm,0.8s,baz=345,slow=6.7,SNR=2.3						
VNDA				LR	LR	03 47 39.2	
	comp=Z,98nm,19.3s,baz=346,slow=32						
ASAR	**Alice Springs**	**28.12**	**348**	P	**P**	**03 39 01.3**	**+0.1**
ASAR	**Alice Springs**	**28.12**	**348**	P	**P**	**03 39 01.3**	**+0.1**
	0.6nm,0.5s,baz=168,slow=10.0,SNR=7.8						
ASAR				LR	LR	03 48 26.8	
	comp=Z,147nm,20.0s,baz=274,slow=33						
WRA	**Warramunga Arr**	**31.74**	**349**	P	**P**	**03 39 33.4**	**+0.1**
WRA	**Warramunga Arr**	**31.74**	**349**	P	**P**	**03 39 33.4**	**+0.1**
	3.3nm,0.8s,baz=174,slow=7.5,SNR=25						
WRA				LR	LR	03 51 02.9	
	comp=Z,128nm,20.7s,baz=25,slow=34						
WRAB	**Tennant Creek**	**31.75**	**349**	*e*P	**P**	**03 39 33.4**	**+0.1**
	15nm,1.3s						
QSPA	**South Pole Qui**	**38.70**	**180**	*e*P	**P**	**03 40 32.7**	**-0.2**
	7.8nm,1.2s						
QSPA	**South Pole Qui**	**38.70**	**180**	P	**P**	**03 40 32.5**	**-0.4**
	4.2nm,1.0s,baz=341,slow=4.9,SNR=6.4						
MAW	**Mawson**	**39.41**	**216**	P	**P**	**03 40 38.8**	**+0.4**
MAW	**Mawson**	**39.41**	**216**	P	**P**	**03 40 38.8**	**+0.4**
	2.4nm,0.9s,baz=168,slow=14,SNR=2.3						
KAPI	**Kappang**	**49.29**	**333**	*e*P	**P**	**03 41 57.4**	**-0.7**
	8.0nm,0.8s						
SNAA	**Sanae**	**54.47**	**194**	*e*P	**P**	**03 42 37.0**	**+0.8**
	8.4nm,1.4s						
SNAA	**Sanae**	**54.47**	**194**	P	**P**	**03 42 37.2**	**+1.0**
	0.7nm,0.9s,baz=178,slow=14,SNR=5.7						
PALK	**Pallekele**	**77.46**	**299**	*e*P	**P**	**03 45 05.2**	**+0.5**
	55nm,1.2s						
BOSA	**Boshof**	**82.00**	**234**	LR	LR	04 13 56.9	
	comp=Z,87nm,18.4s,baz=287,slow=30						
PLCA	**Paso Flores**	**84.39**	**157**	LR	LR	04 18 29.9	
	comp=Z,42nm,18.0s,baz=316,slow=32						
JNU	**Nakatsue**	**84.57**	**352**	LR	LR	04 19 43.2	
	comp=Z,62nm,18.2s,baz=227,slow=33						
ABKAR	**Akbulak array**	**121.31**	**311**	*e*PKPdf	**PKPdf**	**03 52 01.7**	**+0.3**
TUC	**Tucson**	**125.97**	**82**	*e*PKPdf	**PKPdf**	**03 52 11.1**	**+0.1**
MNTX	**Cornudas Mount**	**128.92**	**86**	*e*PKPdf	**PKPdf**	**03 52 17.1**	**+0.5**
LOHW	**Long Hollow**	**133.26**	**70**	*e*PKPdf	**PKPdf**	**03 52 25.0**	**+0.2**
BW06	**Boulder Array**	**133.38**	**72**	*e*PKPdf	**PKPdf**	**03 52 25.3**	**+0.3**
HKT	**Hockley**	**133.69**	**95**	*e*PKPdf	**PKPdf**	**03 52 25.1**	**-0.5**
TAM	**Tamanrasset**	**134.97**	**248**	*e*PKPdf	**PKPdf**	**03 52 28.2**	**-0.2**
INK	**Inuvik**	**135.12**	**32**	*e*PKPdf	**PKPdf**	**03 52 26.2**	**-0.9**
MORC	**Moravsky Berou**	**144.37**	**290**	*e*PKPdf	**PKPdf**	**03 52 44.0**	**-0.6**
ARCES	**ARCESS Array B**	**145.27**	**326**	PKPbc	**PKPab**	**03 52 45.4**	**0.0**
ARCES	**ARCESS Array B**	**145.27**	**326**	PKPbc	**PKPab**	**03 52 45.4**	**0.0**
	3.9nm,0.9s,baz=46,slow=3.5,SNR=6.7						
GERES	**GERESS Array B**	**146.25**	**287**	PKPbc	**PKPdf**	**03 52 47.8**	**-0.1**
GERES	**GERESS Array B**	**146.25**	**287**	PKPbc	**PKPdf**	**03 52 47.8**	**-0.1**
	0.6nm,0.6s,baz=128,slow=3.9,SNR=6.5						
NAO01	**NORSAR Array S**	**150.94**	**309**	*e*PKPbc	**PKPbc**	**03 53 00.3**	**-0.4**
WLF	**Walferdange**	**151.12**	**285**	*e*PKPdf	**PKPdf**	**03 52 55.7**	**+0.1**
ESDC	**Sonseca Array**	**152.58**	**259**	PKPbc	**PKPbc**	**03 53 03.7**	**-1.5**
ESDC	**Sonseca Array**	**152.58**	**259**	PKPbc	**PKPbc**	**03 53 03.7**	**-1.5**
	0.7nm,0.7s,baz=92,slow=2.5,SNR=3.7						

IDC 06 03:39:56.7±3.0, 6°04S×154°45E, h0km, mb3.4/2, mb1 3.8/2, mb1mx3.4/18, mbtmp3.5/2, Error ellipse: s-maj=194.5km s-min=36.2km az=132.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.94**	**233**	P	P	03 45 12.7	-0.1
	1.1nm,0.9s,baz=58,slow=9.1,SNR=5.0						
ILAR	**Eielson Array**	**82.69**	**22**	P	P	03 52 22.4	+0.5
	0.2nm,0.6s,baz=246,slow=5.1,SNR=4.9						
TORD	**Torodi Ar. Bea**	**152.24**	**287**	PKPbc	PKPbc	03 59 55.0	-0.5
	0.5nm,1.0s,baz=89,slow=2.6,SNR=3.7						

GUC 06 04:03:06.5±1.0, 22°75S×70°53W, h38km±3km, MD4.2, ML3.8, 7C-1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEN1	**Los Morros**	**0.71**	**154**	⇑*i*P	Pn	04 03 22.9	+2.7
CEN1				*i* S	Sn	04 03 34.2	+4.2
ANCH	**Antofagasta**	**0.93**	**173**	⇑*i*P	Pn	04 03 23.6	+0.5
ANCH				*i* S	Sn	04 03 35.9	+0.6
ANCH				AML	AML	04 03 37.2	
	comp=E,2μm,0.5s						
PB04	**Plate Boundary**	**1.08**	**64**	⇓*i*P	Pn	04 03 18.3	-6.8
PB04				*i* S	Sn	04 03 26.4	-12
PB04				AML	AML	04 03 28.6	
	comp=E,10μm,0.2s						
PB07	**Plate Boundary**	**1.18**	**31**	⇑*i*P	Pn	04 03 27.8	+1.0
PB07				*i* S	Sn	04 03 43.4	+1.6
PB07				AML	AML	04 03 44.9	
	comp=E,7μm,0.3s						
PB09	**Plate Boundary**	**1.52**	**52**	⇑*i*P	Pn	04 03 33.2	+1.8
PB09				*i* S	Sn	04 03 53.2	+2.9
PB09				AML	AML	04 03 57.7	
	comp=E,5μm,0.6s						
PB01	**Plate Boundary**	**1.96**	**30**	⇑*i*P	Pn	04 03 38.8	+1.5
PB01				*i* S	Sn	04 04 04.0	+3.3
PB01				AML	AML	04 04 06.0	
	comp=E,829nm,0.3s						
SPCH	**San Pedro de A**	**2.16**	**95**	⇑*i*P	Pn	04 03 45.2	+4.9
SPCH				*i* S	Sn	04 04 13.1	+7.0
HMBC	**Humberstone**	**2.53**	**14**	⇑*i*P	Pn	04 03 46.2	+0.9
HMBC				*i* S	Sn	04 04 17.3	+2.4
HMBC				AML	AML	04 04 33.0	
	comp=E,368nm,0.6s						

IDC 06 04:09:37.4±3.4, 6°92N×125°65E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/24, mbtmp3.4/3, Error ellipse: s-maj=326.1km s-min=27.7km az=65.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**28.03**	**162**	P	P	04 15 30.6	+0.2
	0.2nm,0.3s,baz=343,slow=8.9,SNR=4.3						
ASAR	**Alice Springs**	**31.45**	**165**	P	P	04 16 00.5	-0.3
	0.3nm,0.5s,baz=343,slow=7.0,SNR=5.0						
MKAR	**Makanchi Array**	**54.34**	**325**	P	P	04 19 05.8	-0.1
	0.2nm,0.3s,baz=114,slow=8.1,SNR=4.7						

IDC 06 04:12:45.1±1.5, 5°30N×125°98E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.7/23, mbtmp3.9/5, Error ellipse: s-maj=117.9km s-min=22.6km az=73.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**23.26**	**181**	P	P	04 17 55.2	+0.7
	1.5nm,0.8s,baz=7.1,slow=16,SNR=3.5						
WRA	**Warramunga Arr**	**26.40**	**162**	P	P	04 18 23.3	-0.3
	0.5nm,0.8s,baz=338,slow=11,SNR=5.6						
ASAR	**Alice Springs**	**29.81**	**165**	P	P	04 18 58.2	+4.0
	0.3nm,0.7s,baz=355,slow=7.6,SNR=3.3						
MKAR	**Makanchi Array**	**55.85**	**325**	P	P	04 22 25.2	+0.7
	0.6nm,0.4s,baz=118,slow=7.5,SNR=11						
ARCES	**ARCESS Array B**	**88.72**	**340**	P	P	04 25 39.5	-0.9
	1.0nm,0.7s,baz=77,slow=4.7,SNR=3.6						
FINES	**FINESS Array B**	**90.10**	**332**	P	P	04 25 46.6	-0.3
	4.1nm,1.1s,baz=104,slow=5.9,SNR=4.2						
TORD	**Torodi Ar. Bea**	**121.72**	**289**	PKP	PKPdf	04 31 41.6	-0.6
	0.3nm,0.7s,baz=63,slow=1.8,SNR=2.5						

*IDC **06** 04:45:35.9±2.9, 59°47N×24°50E, h0km, mb1 3.3/4, mb1mx3.1/27, mbtmp3.2/4, ML2.9/3, Error ellipse: s-maj=35.9km s-min=9.6km az=153.0*

*ISCJB **06** 04:45:36.4±0.4, 59°66N±0°02×24°08E±0°05, h0km, Error ellipse: s-maj=4.0km s-min=3.4km az=28.1*

*NAO **06** 04:45:37.7±1.0, 59°65N×24°21E, ML2.1*

*CSEM **06** 04:45:37.6±0.1, 59°66N×24°17E, h2km, ML2.4, Error ellipse: s-maj=3.4km s-min=3.1km az=130.0, Mining explosion.*

*HEL **06** 04:45:38.4±0.1, 59°68N×24°15E, h0km, ML2.3, ML1.8(UPP), Explosion*

*BER **06** 04:45:38.4±4.8, 59°65N×24°10E, h0km±25km, ML2.1(NAO)*

*UPP **06** 04:45:44.7, 59°82N×23°21E, h1km, ML1.8, Suspected Mining explosion.*

ISC 06 04:45:37.3±0.7, 59°68N±0°02×24°12E±0°03, h0km, n52, σ0s81/70, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**0.55**	**14**	*e*P	**Pg**	**04 45 48.3**	**+0.5**
MEF				*e*S	**Sg**	**04 45 55.7**	**+0.7**
MEF	**Metsahovi**	**0.55**	**14**	*e*P	**Pg**	**04 45 48.3**	**+0.5**
	SNR=90						
MEF				*e*S	**Sg**	**04 45 55.7**	**+0.7**
	64nm,0.5s,SNR=90						
MTSE	**Matsula**	**0.98**	**189**	*e*P	**Pg**	**04 45 55.4**	**-0.7**
MTSE				*e*S	**Sg**	**04 46 08.8**	**0.0

baz=84,slow=28
HFS Lg Lg 04 48 16.7
baz=99,slow=28
HFS Hagfors 5.27 279 Pn **Pn 04 46 57.4 +0.3**
baz=90,slow=14
HFS Sn **Sn 04 47 57.3 -1.1**
baz=84,slow=28
HFS Lg Lg 04 48 16.7
baz=99,slow=28
HFS Hagfors 5.27 279 Pn **Pn 04 46 57.5 +0.3**
comp=Z,0.2nm,0.3s,baz=106,slow=15,SNR=23
HFS Sn **Sn 04 47 58.2 -0.3**
comp=Z,0.4nm,0.3s,baz=97,slow=23,SNR=5.8
HFS Lg Lg 04 48 21.2
comp=Z,0.6nm,0.3s,baz=98,slow=29,SNR=5.2
HFS Hagfors 5.27 279 Pn **Pn 04 46 57.4 +0.3**
baz=90,slow=14,SNR=50
HFS Sn **Sn 04 47 57.3 -1.1**
baz=84,slow=25,SNR=50
HFS Lg Lg 04 48 16.7
baz=99,slow=26,SNR=50
NB2 NORSAR Subarra 6.55 288 Pn **Pn 04 47 14.1 -0.6**
baz=97,slow=14
NB2 NORSAR Subarra 6.55 288 Pn **Pn 04 47 14.1 -0.6**
baz=97,slow=14
NB2 NORSAR Subarra 6.55 288 Pn **Pn 04 47 14.1 -0.6**
baz=97,slow=13,SNR=50
NOA NORSAR Array B 6.55 288 Pn **Pn 04 47 13.4 -1.3**
comp=Z,0.2nm,0.3s,baz=84,slow=13,SNR=16
NOA Sn **Sn 04 48 30.6 +0.6**
comp=Z,0.3nm,0.3s,baz=316,slow=13,SNR=4.6
APA0 Apatity Array 8.87 23 Pn **Pn 04 47 48.1 +1.7**
baz=224,slow=14
APA0 Apatity Array 8.87 23 Pn **Pn 04 47 48.1 +1.7**
baz=224,slow=14
APA0 Apatity Array 8.87 23 Pn **Pn 04 47 48.1 +1.7**
baz=224,slow=13,SNR=50
ARA0 ARCESS Array S 9.91 3 Pn **Pn 04 48 00.4 -0.4**
baz=176,slow=14
ARA0 Sn Sn 04 49 45.6 -6.9
baz=191,slow=28
ARA0 ARCESS Array S 9.91 3 Pn **Pn 04 48 00.4 -0.4**
baz=176,slow=14
ARA0 Sn Sn 04 49 45.6 -6.9
baz=191,slow=28
ARA0 ARCESS Array S 9.91 3 Pn **Pn 04 48 00.4 -0.4**
baz=176,slow=14,SNR=50
ARCES ARCESS Array B 9.91 3 Pn **Pn 04 48 00.3 -0.4**
comp=Z,0.2nm,0.3s,baz=184,slow=12,SNR=34

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*BJI **06** 04:59:13.8, 5.46S×151.17E, h160km, mB5.0/25, mb4.8/45*
*ISCJB **06** 04:59:16.2±0.6, 5.35S±0.04×150.75E±0.04, h156km±5km, mb4.6/60, Error ellipse: s-maj=7.4km s-min=5.6km az=22.9*
*IDC **06** 04:59:16.5±1.5, 5.32S×150.72E, h147km±13km, mb4.4/23, mb1 4.5/26, mb1mx4.5/26, mbtmp4.4/26, MS3.4/1, Ms1 3.4/1, ms1mx2.8/24, Error ellipse: s-maj=12.2km s-min=8.9km az=85.0*
*NEIC **06** 04:59:17.5±1.1, 5.33S×150.74E, h158km±10km, mb4.7/27, Error ellipse: s-maj=7.9km s-min=7.0km az=92.0*
*AUST **06** 04:59:17.1±0.0, 5.37S×150.87E, h164km, Error ellipse: s-maj=1.4km s-min=1.1km az=13.0*
*DJA **06** 04:59:22.0±1.5, 5°S±7°×15°0E±1°1, h169km±11km, M5.2/11, mB5.8/3, mb4.8/11, MLv5.4/1, Mw(mB)5.4/3*
ISC 06 04:59:18.0±0.3, 5.44S±0.04×150.76E±0.05, h162km±2km, h162km:pP-P, n157, σ1°46/217, mb4.7/59, 1C-1D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.87**	**49**	P	**Pn**	**04 59 51.0**	**-1.5**
	baz=1.8,SNR=32						
MANU	**Manus Island**	**4.78**	**315**	P	**Pn**	**05 00 27.2**	**-1.6**
	baz=4.8,SNR=16						
PMG	**Port Moresby**	**5.32**	**222**	*e*Pn	**Pn**	**05 00 35.3**	**-0.5**
PMG				S	**Sn**	**05 01 35.0**	**-1.8**
PMG	**Port Moresby**	**5.32**	**222**	P	**Pn**	**05 00 35.7**	**-0.2**
	229nm,0.8s,9μm3.4nm						
PMG	**Port Moresby**	**5.32**	**222**	P	**Pn**	**05 00 35.6**	**-0.2**
	26nm,0.3s,baz=49,slow=7.2,SNR=59						
PMG				S	**Sn**	**05 01 35.0**	**-1.8**
	42nm,0.3s,baz=43,slow=22,SNR=26						
PMG				LR	LR	05 02 53.2	
	comp=Z,394nm,20.5s,baz=268,slow=40						
HNR	**Honiara**	**9.94**	**114**	P	**Pn**	**05 01 36.0**	**-1.1**
HNR	**Honiara**	**9.94**	**114**	P	**Pn**	**05 01 36.0**	**-1.1**
	8.1nm,0.3s,baz=320,slow=1.3,SNR=4.5						
JAY	**Jayapura**	**10.44**	**286**	P	**Pn**	**05 01 42.7**	**-1.1**
	40nm,1.3s,4μm						
COEN	**Coen**	**11.29**	**221**	*e*Pn	**Pn**	**05 01 55.3**	**+0.5**
MTSU	**Mount Surprise**	**14.10**	**206**	P	**P**	**05 02 33.4**	**-0.2**
	baz=14,SNR=10.0						
CTA	**Charters Tower**	**15.21**	**196**	P	**P**	**05 02 46.8**	**+1.0**
CTA	**Charters Tower**	**15.21**	**196**	P	**P**	**05 02 46.8**	**+1.0**
	0.3nm,0.3s,baz=20,slow=14,SNR=14						
KDU	**Kakadu**	**19.43**	**247**	P	**P**	**05 03 31.2**	**-1.0**
	baz=20,SNR=46						
KDU				S	**Sn**	**05 07 11.0**	**-3.9**
	baz=20,SNR=4.2						
EIDS	**Eidsvold**	**19.82**	**179**	*e*P	**Pn**	**05 03 38.8**	**-0.8**
	39nm,1.2s						
MTN	**Manton Dam**	**20.71**	**248**	P	**P**	**05 03 46.1**	**+0.1**
	baz=21,SNR=8.7						
MTN				S	**S**	**05 07 25.8**	**-2.8**
	baz=21,SNR=9.5						
RMQ	**Roma**	**21.02**	**185**	P	**P**	**05 03 51.8**	**+2.7**
	baz=21,SNR=6.3						
WRAB	**Tennant Creek**	**21.50**	**226**	*e*P	**P**	**05 03 53.4**	**-0.9**
	15nm,0.4s						
WRA	**Warramunga Arr**	**21.52**	**226**	P	**P**	**05 03 53.6**	**-0.9**
WRA				S	**S**	**05 07 42.5**	**-0.4**
WRA				PcP	**PcP**	**05 07 51.4**	**+0.7**
WRA				ScP	**ScP**	**05 11 13.5**	**+0.8**
WRA	**Warramunga Arr**	**21.52**	**226**	P	**P**	**05 03 53.6**	**-0.9**
	12nm,0.4s,baz=50,slow=9.8,SNR=61						
WRA				S	**S**	**05 07 42.5**	**-0.4**
	10nm,1.1s,baz=46,slow=19,SNR=7.8						
WRA				PcP	**PcP**	**05 07 51.4**	**+0.7**
	4.1nm,0.7s,baz=44,slow=1.5,SNR=8.2						
WRA				ScP	**ScP**	**05 11 13.5**	**+0.8**
	2.3nm,0.8s,baz=47,slow=2.7,SNR=10						
DZM	**Mont Dzumac**	**22.44**	**139**	P	**P**	**05 04 05.7**	**+1.9**
DZM	**Mont Dzumac**	**22.44**	**139**	P	**P**	**05 04 05.7**	**+1.9**
	15nm,0.5s,baz=270,slow=7.1,SNR=23						
KNRA	**Kununurra**	**23.87**	**243**	P	**P**	**05 04 16.9**	**+0.1**
	baz=24,SNR=17						
KNRA				S	**S**	**05 08 25.5**	**+4.2**
	baz=24,SNR=4.1						
AS31	**Alice Springs**	**24.33**	**220**	*e*P	**P**	**05 04 21.3**	**+0.3**
ASAR	**Alice Springs**	**24.33**	**220**	P	**P**	**05 04 21.6**	**+0.6**
ASAR				PcP	**PcP**	**05 07 57.4**	**+0.9**
ASAR				S	**S**	**05 08 27.6**	**-1.0**
ASAR				ScP	**ScP**	**05 11 21.9**	**+1.8**
ASAR	**Alice Springs**	**24.33**	**220**	P	**P**	**05 04 21.6**	**+0.6**
	11nm,0.4s,baz=51,slow=8.7,SNR=200						
ASAR				PcP	**PcP**	**05 07 57.4**	**+0.9**
	2.1nm,0.8s,baz=62,slow=3.1,SNR=5.8						
ASAR				S	**S**	**05 08 27.6**	**-1.0**
	2.0nm,0.9s,baz=50,slow=13,SNR=4.5						
ASAR				ScP	**ScP**	**05 11 21.9**	**+1.8**
	1.3nm,0.8s,baz=37,slow=3.3,SNR=8.1						
LHI	**Lord Howe Isla**	**27.09**	**164**	S	S	05 08 52.1	-20
	baz=27,SNR=5.3						
BATI	**Baumata**	**27.25**	**258**	P	**P**	**05 04 48.6**	**+1.2**
BATI	**Baumata**	**27.25**	**258**	P	**P**	**05 04 48.6**	**+1.2**
	15nm,0.4s,baz=95,slow=8.4,SNR=4.1						
FITZ	**Fitzroy Crossi**	**27.57**	**241**	*e*P	**P**	**05 04 49.5**	**-0.7**
	49nm,0.4s						
FITZ	**Fitzroy Crossi**	**27.57**	**241**	P	**P**	**05 04 49.6**	**-0.7**
	33nm,0.3s,baz=68,slow=7.2,SNR=343						
FITZ	**Fitzroy Crossi**	**27.57**	**241**	P	**P**	**05 04 49.5**	**-0.7**
	baz=28,SNR=62						
STKA	**Stephens Creek**	**27.67**	**197**	*e*P	**P**	**05 04 51.2**	**+0.3**
	6.4nm,1.5s						
STKA	**Stephens Creek**	**27.67**	**197**	P	**P**	**05 04 51.6**	**+0.8**
	5.8nm,0.8s,baz=9.9,slow=6.1,SNR=9.2						
STKA	**Stephens Creek**	**27.67**	**197**	P	**P**	**05 04 51.6**	**+0.8**
	baz=28,SNR=7.2						
PCI	**Palu**	**31.19**	**277**	P	**P**	**05 05 23.9**	**+1.6**
	383nm,1.3s,5μm						
FORT	**Forrest**	**33.03**	**218**	*e*P	**P**	**05 05 38.0**	**-0.1**
	60nm,0.9s						
MBWA	**Marble Bar**	**33.89**	**240**	*e*P	**P**	**05 05 45.3**	**-0.5**
	46nm,1.1s						
MEEK	**Meekatharra**	**37.20**	**232**	P	**P**	**05 06 13.7**	**-0.3**
	baz=37,SNR=19						
MORW	**Morawa**	**40.37**	**230**	P	**P**	**05 06 39.8**	**-0.4**
	baz=41,SNR=10						
KLBR	**Kellerberrin**	**40.40**	**226**	P	**P**	**05 06 39.4**	**-1.0**
	baz=41,SNR=8.0						
BLDU	**Ballidu**	**40.64**	**228**	P	**P**	**05 06 42.4**	**-0.1**
	baz=41,SNR=7.2						
SSLB	**Suanglung**	**41.10**	**316**	*e*P	**P**	**05 06 47.0**	**+0.7**
	43nm,1.4s						
YHNB	**Yeheng**	**41.40**	**318**	*e*P	**P**	**05 06 49.4**	**+0.6**
	29nm,0.8s						
RPZ	**Rata Peaks**	**42.11**	**158**	P	**P**	**05 06 56.1**	**+1.9**
RPZ	**Rata Peaks**	**42.11**	**158**	P	**P**	**05 06 56.1**	**+1.9**
	3.6nm,0.4s,baz=72,slow=3.2,SNR=3.2						
RKGY	**Rocky Gully**	**42.63**	**223**	P	**P**	**05 06 58.8**	**+0.3**
	baz=43,SNR=5.4						
JNU	**Nakatsue**	**42.74**	**335**	*e*P	**P**	**05 06 59.9**	**+0.5**
	62nm,0.9s						
JNU	**Nakatsue**	**42.74**	**335**	P	**P**	**05 06 59.2**	**-0.2**
	128nm,0.8s,baz=124,slow=3.9,SNR=70						
MJAR	**Matsushiro Arr**	**43.38**	**345**	P	**P**	**05 07 02.5**	**-2.0**
MJAR	**Matsushiro Arr**	**43.38**	**345**	P	**P**	**05 07 02.5**	**-2.0**
	6.0nm,0.9s,baz=161,slow=7.9,SNR=14						
MAT	**Matsushiro**	**43.38**	**345**	P	**P**	**05 07 02.3**	**-2.2**
PMBI	**Palembang**	**45.92**	**271**	S	S	05 13 28.5	-29
	baz=46,SNR=4.3						
QIZ	**Qiongzhong**	**47.06**	**302**	P	**P**	**05 07 34.3**	**+0.5**
QIZ				S	**S**	**05 14 13.6**	**-0.1**
QIZ				pmax	pmax		
	comp=Z,16nm,1.1s						
KSRS	**Korea Array**	**47.69**	**335**	P	**P**	**05 07 38.7**	**+0.4**
	comp=Z,24nm,0.9s,baz=154,slow=8.1,SNR=85						
KSAR	**Wonju Array Be**	**47.69**	**335**	P	**P**	**05 07 38.7**	**+0.3**
NJ2	**Nanjing**	**48.09**	**323**	*e*P	**P**	**05 07 42.4**	**+0.9**
NJ2				pmax	pmax		
	comp=Z,24nm,1.1s						
INCN	**Inchon**	**48.26**	**334**	*e*P	**P**	**05 07 43.5**	**+0.8**
	comp=Z,62nm,0.9s						
ASAJ	**Asahikawa**	**49.87**	**352**	*e*P	**P**	**05 07 54.7**	**-0.1**
	comp=Z,2.4nm,0.6s						
WHN	**Wuhan**	**49.94**	**318**	⇓P	**P**	**05 07 55.9**	**+0.3**
USRK	**Ussuriysk Arra**	**52.23**	**343**	P	**P**	**05 08 12.6**	**+0.2**
	comp=Z,4.5nm,0.8s,baz=155,slow=6.9,SNR=8.9						
GYA	**Guiyang**	**53.19**	**309**	*e*P	**P**	**05 08 20.7**	**+0.8**
GYA				pP	**pP**	**05 08 57.8**	**+0.9**
GYA				sP	**sP**	**05 09 17.4**	**+2.6**
GYA				PcP	**PcP**	**05 09 26.3**	**+0.4**
GYA				PP	**PP**	**05 10 24.3**	**+2.5**
GYA				PcS	**PcS**	**05 13 25.0**	**-0.2**
GYA				S	**S**	**05 15 38.7**	**+0.1**
GYA				sS	**sS**	**05 16 43.4**	**+0.6**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
MDJ	**Mudanjiang**	**53.34**	**341**	P	**P**	**05 08 21.1**	**+0.6**
MDJ				pP	**pP**	**05 08 57.6**	**0.0**
MDJ				sP	**sP**	**05 09 15.4**	**0.0**
MDJ				PcP	**PcP**	**05 09 25.3**	**-0.6**
MDJ				PP	**PP**	**05 10 23.9**	**+1.3**
MDJ				ScP	**ScP**	**05 13 07.4**	**-1.0**
MDJ				PcS	**PcS**	**05 13 24.1**	**-0.8**
MDJ				S	**S**	**05 15 40.4**	**+0.7**
MDJ				sS	**sS**	**05 16 44.1**	**+0.1**
MDJ				ScS	**ScS**	**05 17 53.9**	**+0.3**
MDJ				pmax	pmax		
	comp=Z,17nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,57nm,4.5s						
BJI	**Beijing**	**55.33**	**328**	P	**P**	**05 08 35.0**	**0.0**
BJI				pmax	pmax		
	comp=Z,20nm,1.8s						
KMI	**Kunming**	**55.67**	**305**	P	**P**	**05 08 39.1**	**+1.0**
KMI				pP	**pP**	**05 09 15.2**	**-0.2**
KMI				S	**S**	**05 16 11.0**	**-1.2**
KMI				pmax	pmax		
	comp=Z,15nm,0.9s						
KMI				pmax	pmax		
	comp=Z,200nm,4.2s						
KMI				LR	LR		
	comp=Z,40nm,28.5s						
XAN	**Xi'an**	**55.70**	**318**	P	**P**	**05 08 37.3**	**-0.6**
XAN				pP	**pP**	**05 09 14.2**	**-1.0**
XAN				pmax	pmax		
	comp=Z,9.0nm,1.0s						
XAN				pmax	pmax		
	comp=Z,47nm,5.4s						
CMAR	**Chiang Mai Arr**	**56.32**	**296**	P	**P**	**05 08 42.0**	**-0.5**
CMAR	**Chiang Mai Arr**	**56.32**	**296**	P	**P**	**05 08 42.0**	**-0.5**
	comp=Z,2.1nm,0.8s,baz=102,slow=5.5,SNR=9.8						
CD2	**Chengdu**	**57.63**	**312**	P	**P**	**05 08 52.0**	**+0.5**
CD2				pmax	pmax		
	comp=Z,30nm,0.6s						
HHC	**Hu-ho-hao-te**	**58.40**	**326**	*e*P	**P**	**05 08 57.2**	**+0.4**
HHC				pP	**pP**	**05 09 36.7**	**+2.2**
HHC				sP	**sP**	**05 09 53.7**	**+1.5**
HHC				S	**S**	**05 16 44.7**	**-2.4**
HHC				sS	**sS**	**05 17 51.3**	**-1.1**
HHC				ScS	**ScS**	**05 18 27.0**	**-3.7**
HHC				SS	**SS**	**05 20 42.1**	**-0.2**
HHC				pmax	pmax		
	comp=Z,39nm,1.3s						
HHC				pmax	pmax		
	comp=Z,340nm,5.2s						
HHC				LR	LR		
	comp=N,370nm,16.7s						
HHC				LR	LR		
	comp=E,380nm,15.5s						
HHC				LR	LR		
	comp=Z,290nm,16.7s						
PETK	**Petropavlovsk-**	**58.62**	**5**	P	**P**	**05 08 57.1**	**-0.8**
PETK	**Petropavlovsk-**	**58.62**	**5**	P	**P**	**05 08 57.1**	**-0.8**
	comp=Z,16nm,0.7s,baz=179,slow=9.4,SNR=44						
PPT	**Papeete**	**59.48**	**107**	P	**P**	**05 09 03.8**	**-0.7**
PPT	**Papeete**	**59.48**	**107**	P	**P**	**05 09 03.8**	**-0.7**
	comp=Z,72nm,1.0s,baz=45,slow=13,SNR=3.4						
LZH	**Lanzhou**	**60.29**	**317**	⇑P	**P**	**05 09 11.1**	**+1.2**
LZH				pP	**pP**	**05 09 46.6**	**-1.2**
LZH				*e*S	**S**	**05 17 14.4**	**+2.7**
LZH				sS	**sS**	**05 18 14.0**	**-3.3**
LZH				SS	**SS**	**05 21 16.1**	**+3.9**
LZH				pmax	pmax		
	comp=Z,32nm,1.0s						
LZH				pmax	pmax		
	comp=Z,100nm,7.7s						
LZH				LR	LR		
	comp=N,320nm,15.2s						
LZH				LR	LR		
	comp=E,320nm,13.8s						
LZH				LR	LR		
	comp=Z,470nm,16.0s						
GTA	**Gaotai**	**64.76**	**318**	*e*P	**P**	**05 09 40.2**	**+0.7**
GTA				PcP	**PcP**	**05 10 12.3**	**+0.6**
GTA				pP	**pP**	**05 10 19.8**	**+1.9**
GTA				sP	**sP**	**05 10 37.6**	**+2.2**
GTA				S	**S**	**05 18 06.0**	**-1.4**
GTA				sS	**sS**	**05 19 12.9**	**-1.0**
GTA				SS	**SS**	**05 22 22.7**	**+0.8**
GTA				pmax	pmax		
	comp=Z,8.0nm,1.6s						
GTA				pmax	pmax		
	comp=Z,150nm,4.5s						
GTA				LR	LR		
	comp=N,68nm,13.3s						
GTA				LR	LR		
	comp=E,130nm,14.0s						
GTA				LR	LR		
	comp=Z,72nm,14.0s						
ULN	**Ulaanbaatar**	**65.48**	**329**	*e*P	**P**	**05 09 44.7**	**+0.6**
	comp=Z,7.0nm,0.9s						
ULN	**Ulaanbaatar**	**65.48**	**329**	P	**P**	**05 09 44.6**	**+0.6**
	comp=Z,11nm,1.0s						
SONM	**Songino Array**	**65.80**	**329**	P	**P**	**05 09 46.4**	**+0.4**
SONM	**Songino Array**	**65.80**	**329**	P	**P**	**05 09 46.4**	**+0.4**
	comp=Z,7.3nm,0.7s,baz=158,slow=5.5,SNR=29						
VNDA	**Vanda**	**72.28**	**177**	*e*P	**P**	**05 10 26.4**	**+1.2**
	comp=Z,4.2nm,0.9s						
VNDA				*e*pP	**pP**	**05 11 00.2**	**-4.2**
VNDA	**Vanda**	**72.28**	**177**	P	**P**	**05 10 26.8**	**+1.5**
	comp=Z,4.0nm,0.8s,baz=318,slow=6.4,SNR=11						
CHGN	**Chignik**	**74.20**	**27**	*e*P	**P**	**05 10 35.5**	**-1.2**
WMQ	**Urumqi**	**74.84**	**318**	*e*P	**P**	**05 10 41.2**	**+0.3**
WMQ				PcP	**PcP**	**05 10 54.7**	**+0.6**
WMQ				pP	**pP**	**05 11 20.4**	**0.0**
WMQ				sP	**sP**	**05 11 37.8**	**+0.2**
WMQ				pmax	pmax		
	comp=Z,8.0nm,1.0s						
WMQ				pmax	pmax		
	comp=Z,160nm,5.2s						
MK31	**Makanchi Array**	**79.48**	**319**	*e*P	**P**	**05 11 06.0**	**-0.7**
MKAR	**Makanchi Array**	**79.48**	**319**	P	**P**	**05 11 06.2**	**-0.5**
MKAR				PKKPbc	**PKKPbc**	**05 29 53.2**	**-3.5**
MKAR	**Makanchi Array**	**79.48**	**319**	P	**P**	**05 11 06.2**	**-0.5**
	comp=Z,5.5nm,0.9s,baz=104,slow=6.4,SNR=36						
MKAR				PKKPbc	**PKKPbc**	**05 29 53.2**	**-3.5**
	comp=Z,0.6nm,0.8s,baz=321,slow=2.0,SNR=5.0						
ZAA0	**Zalesovo Array**	**80.56**	**327**	*e*P	**P**	**05 11 10.7**	**-1.6**
ZALV	**Zalesovo Beam**	**80.56**	**327**	P	**P**	**05 11 10.7**	**-1.6**
ZALV	**Zalesovo Beam**	**80.56**	**327**	P	**P**	**05 11 10.7**	**-1.6**
	comp=Z,4.4nm,0.6s,baz=107,slow=5.6,SNR=14						
SML	**Sawmill**	**81.55**	**25**	*e*P	**P**	**05 11 16.3**	**-1.1**
	comp=Z,3.3nm,1.0s						
TRF	**Thorofare Moun**	**81.57**	**23**	*e*P	**P**	**05 11 15.0**	**-2.6**
	comp=Z,4.2nm,0.7s						
BPAW	**Bear Paw Mtn.**	**81.64**	**22**	*e*P	**P**	**05 11 16.1**	**-1.7**
	comp=Z,2.8nm,0.8s						
KSH	**Kashi**	**81.81**	**311**	P	**P**	**05 11 20.3**	**+0.9**
KSH				pP	**pP**	**05 12 00.3**	**+0.9**
KSH				PP	**PP**	**05 14 31.3**	**+2.4**
KSH				S	**S**	**05 21 18.8**	**-0.6**
KSH				sS	**sS**	**05 22 27.9**	**-0.9**
KSH				SS	**SS**	**05 26 42.4**	**+1.0**
KSH				pmax	pmax		
	comp=Z,10.0nm,1.1s						
KSH				pmax	pmax		
	comp=Z,130nm,4.5s						
KSH				LR	LR		
	comp=N,52nm,4.3s						
KSH				LR	LR		
	comp=E,75nm,6.2s						
KSH				LR	LR		
	comp=Z,170nm,6.7s						
MCK	**McKinley**	**82.23**	**23**	*e*P	**P**	**05 11 18.9**	**-2.0**
	comp=Z,22nm,0.9s						
TKM2	**Tokmak 2**	**82.91**	**314**	P	P	05 11 20.2	-4.9
	SNR=7.3						
TKM2	**Tokmak 2**	**82.91**	**314**	*e*P	**P**	**05 11 24.6**	**-0.5**
	comp=Z,3.6nm,0.7s						
KZA	**Kyzart**	**82.96**	**313**	P	**P**	**05 11 26.4**	**+0.7**
	SNR=7.7						
COLA	**College**	**83.20**	**22**	*e*P	**P**	**05 11 24.0**	**-1.8**
	comp=Z,30nm,0.8s						
ILAR	**Eielson Array**	**83.52**	**22**	P	**P**	**05 11 25.3**	**-2.2**
ILAR	**Eielson Array**	**83.52**	**22**	P	**P**	**05 11 25.3**	**-2.2**
	comp=Z,6.5nm,0.9s,baz=254,slow=5.1,SNR=60						
CHMS	**Chumysh**	**83.53**	**314**	P	**P**	**05 11 28.0**	**-0.1**
	SNR=6.3						
AAK	**Ala-Archa**	**83.63**	**314**	P	**P**	**05 11 28.6**	**-0.2**
	SNR=6.8						
AAK	**Ala-Archa**	**83.63**	**314**	*e*P	**P**	**05 11 28.6**	**-0.2**
	comp=Z,12nm,1.0s						
USP	**Ospenovka**	**83.77**	**314**	P	**P**	**05 11 29.2**	**-0.1**
	SNR=24						
AML	**Almayashu**	**84.10**	**313**	P	**P**	**05 11 31.8**	**+0.4**
	SNR=16						
EKS2	**Erkin-Say**	**84.15**	**314**	P	**P**	**05 11 31.6**	**+0.3**
	SNR=20						
EKS2	**Erkin-Say**	**84.15**	**314**	*e*P	**P**	**05 11 31.1**	**-0.3**
	comp=Z,27nm,1.0s						
MAW	**Mawson**	**84.20**	**203**	P	**P**	**05 11 31.3**	**+0.4**
MAW	**Mawson**	**84.20**	**203**	P	**P**	**05 11 31.3**	**+0.4**
	comp=Z,2.7nm,0.6s,baz=87,slow=6.5,SNR=9.0						
MAW	**Mawson**	**84.20**	**203**	P	**P**	**05 11 31.8**	**+1.0**
	baz=84,SNR=5.2						
QSPA	**South Pole Qui**	**84.53**	**180**	*e*P	**P**	**05 11 33.5**	**+0.7**
	comp=Z,5.0nm,0.6s						
HYT	**Haines Junctio**	**85.94**	**28**	*e*P	**P**	**05 11 39.8**	**-0.1**
DAWY	**Dawson**	**86.20**	**24**	*e*P	**P**	**05 11 40.4**	**-0.5**
KKAR	**Karatay Array**	**86.59**	**314**	*e*P	**P**	**05 11 42.3**	**-1.0**
	comp=Z,16nm,0.9s						
BVAR	**Borovoye Array**	**88.53**	**323**	P	**P**	**05 11 50.0**	**-2.3**
BVAR	**Borovoye Array**	**88.53**	**323**	P	**P**	**05 11 50.0**	**-2.3**
	comp=Z,3.5nm,0.9s,baz=96,slow=4.5,SNR=12						
BRVK	**Borovoye**	**88.60**	**323**	*e*P	**P**	**05 11 51.2**	**-1.4**
	comp=Z,6.5nm,0.9s						
YBH	**Yreka Blue Hor**	**90.99**	**48**	P	**P**	**05 12 05.3**	**+1.2**
YBH	**Yreka Blue Hor**	**90.99**	**48**	P	**P**	**05 12 05.3**	**+1.2**
	comp=Z,1.4nm,0.7s,baz=219,slow=6.5,SNR=3.8						
NVAR	**Mina Array Bea**	**94.08**	**52**	P	**P**	**05 12 20.6**	**+2.0**
NVAR	**Mina Array Bea**	**94.08**	**52**	P	**P**	**05 12 20.6**	**+2.0**
	comp=Z,1.1nm,0.8s,baz=257,slow=5.9,SNR=4.1						
ABKAR	**Akbulak array**	**94.61**	**319**	*e*P	**P**	**05 12 17.7**	**-2.8**
	comp=Z,1.5nm,0.9s						
NEW	**Newport**	**95.43**	**42**	*e*P	**P**	**05 12 24.4**	**0.0**
ELK	**Elko**	**96.55**	**50**	*e*P	**P**	**05 12 30.7**	**+0.8**
	comp=Z,2.3nm,0.9s						
YKA	**Yellowknife Ar**	**96.94**	**28**	P	**P**	**05 12 30.4**	**-0.4**
YKA	**Yellowknife Ar**	**96.94**	**28**	P	**P**	**05 12 30.4**	**-0.4**
	comp=Z,1.4nm,0.7s,baz=274,slow=5.6,SNR=3.7						
HLID	**Hailey**	**97.21**	**47**	*e*P	Pdif	05 12 32.8	0.0
	comp=Z,3.6nm,1.1s						
BRTR	**Keskin Array B**	**114.20**	**311**	PKKPbc	PKKPbc	05 28 21.7	+0.9
BRTR	**Keskin Array B**	**114.20**	**311**	PKKPbc	PKKPbc	05 28 21.7	+0.9
	comp=Z,0.8nm,0.7s,baz=254,slow=2.2,SNR=4.6						
NOA	**NORSAR Array B**	**116.80**	**339**	PKP	**PKPdf**	**05 17 42.1**	**-0.9**
NOA	**NORSAR Array B**	**116.80**	**339**	PKP	**PKPdf**	**05 17 42.1**	**-0.9**
	comp=Z,1.0nm,0.8s,baz=51,slow=2.1,SNR=3.8						
BOSA	**Boshof**	**117.61**	**234**	PKP	**PKPdf**	**05 17 45.5**	**-0.3**
BOSA	**Boshof**	**117.61**	**234**	PKP	**PKPdf**	**05 17 45.5**	**-0.3**
	comp=Z,1.2nm,0.5s,baz=202,slow=5.4,SNR=4.6						
LBTB	**Lobatse**	**118.72**	**238**	*e*PKPdf	**PKPdf**	**05 17 47.6**	**-0.3**
BSD	**Bornholm Skovb**	**119.17**	**333**	*i* P	**Pdif**	**05 14 00.9**	**-9.0**
	comp=Z,36nm,0.9s						
PLCA	**Paso Flores**	**120.47**	**144**	PKP	**PKPdf**	**05 17 51.3**	**+0.5**
PLCA				*e*PKPdf	**PKiKP**	**05 17 51.6**	**+0.7**
PLCA	**Paso Flores**	**120.47**	**144**	PKP	**PKPdf**	**05 17 51.3**	**+0.5**
	comp=Z,4.3nm,0.8s,baz=224,slow=2.6,SNR=8.7						
MORC	**Moravsky Berou**	**120.91**	**327**	*e*PKPdf	**PKPdf**	**05 17 51.0**	**-0.3**
SADO	**Sadowa**	**121.52**	**40**	PKP	**PKPdf**	**05 17 51.5**	**-1.0**
SADO	**Sadowa**	**121.52**	**40**	P

*ISCJB **06** 05:02:44.7±0.3, 8°.67N±0°.03×82°.87W±0°.02, h57km±2km, mb4.6/118, MS4.3/22, Error ellipse: s-maj=6.0km s-min=2.9km az=20.8*
*BJI **06** 05:02:45.4, 8°.60N×83°.00W, h48km, mB5.4/2, Ms5.4/6, Ms7 5.0/7*
*GCMT **06** 05:02:47.8±0.2, 8°.66N×83°.02W, h55km±1km, MW5.1, Moment Tensor Solution. s64,c86; s83,c133; Moment tensor: Scale 10^{16}Nm; M_{rr}-3.44±.14; $M_{\theta\theta}$-0.84±.11; $M_{\phi\phi}$4.27±.11; $M_{r\theta}$1.29±.08; $M_{r\phi}$-0.51±.10; $M_{\theta\phi}$2.78±.12; Best double couple: $M_0$5.00000×10^{16} NP1:ϕ_s194.00000°, δ65.00000°,λ-70.00000°. NP2:ϕ_s332.00000°,δ32.00000°, λ-127.00000°. Principal axes: T 5.1700, Plg18.0000°, Azm269.0000°; N -0.3600, Plg19.0000°, Azm5.0000°; P -4.8200, Plg64.0000°, Azm138.0000°; Data Used: II IU IC G CN.*

ISC 06 05:02:45.0±0.4, 8°.64N±0°.04×82°.90W±0°.03, h46km±3km, n457, σ1°15/503, mb4.6/119, MS4.2/22, 1C-2D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRU2	**Volcan**	**0.26**	**52**	⇑*i*P	**Pn**	**05 02 53.2**	**-0.3**
BRU2				*e*S	**Sn**	**05 03 00.5**	**+0.9**
ACR	**Cerro Adams**	**0.27**	**274**	⇓*i*P	**Pn**	**05 02 51.7**	**-1.9**
ACR				⇓*e*		05 02 51.7	
CTCR	**Cotoan**	**0.29**	**28**	*e*P	**Pn**	**05 02 53.3**	**-0.6**
BRU	**Baru**	**0.37**	**63**	*e*P	**Pn**	**05 02 54.5**	**-0.5**
CNI	**Changuinola**	**0.86**	**26**	*e*P	**Pn**	**05 03 01.1**	**+0.4**
BUS	**Buena Vista**	**1.25**	**317**	*e*P	**Pn**	**05 03 05.1**	**-1.3**
BUS				*e*S	**Sn**	**05 03 20.3**	**-2.1**
URSC	**Urasca**	**1.48**	**324**	*e*P	**Pn**	**05 03 08.7**	**-0.6**
QCR	**Quepos**	**1.48**	**302**	*e*P	**Pn**	**05 03 07.4**	**-1.7**
SJS	**Escuela Geolog**	**1.73**	**319**	*e*P	**Pn**	**05 03 12.5**	**-0.3**
JCR	**Jicaral**	**2.50**	**299**	*e*P	**Pn**	**05 03 22.1**	**-1.1**
CASO	**Castillo**	**2.54**	**315**	*i* P	**Pn**	**05 03 25.8**	**+2.0**
CEDE	**Laguna Cede˜–o**	**2.56**	**316**	*i* P	**Pn**	**05 03 25.8**	**+1.7**
CEDE				*i* S	**Sn**	**05 03 59.5**	**+5.4**
AMAS	**Alto Masis**	**2.85**	**314**	*i* P	**Pn**	**05 03 29.1**	**+1.0**
CUI	**Cuipilapa**	**3.01**	**312**	*i* P	**Pn**	**05 03 31.1**	**+0.9**
ZANG	**Zanguenga, Cho**	**3.01**	**84**	*e*P	**Pn**	**05 03 31.0**	**+0.8**
COLC	**Colonia**	**3.04**	**312**	*i* P	**Pn**	**05 03 31.9**	**+1.2**
HORNC	**Hornillas**	**3.05**	**313**	*i* P	**Pn**	**05 03 31.9**	**+1.0**
BCIP	**Isla Barro Col**	**3.07**	**80**	*e*P	**Pn**	**05 03 31.7**	**+0.7**
BCIP				*e*S	**Sn**	**05 04 07.7**	**+1.2**
BCIP	**Isla Barro Col**	**3.07**	**80**	*e*Pn	**Pn**	**05 03 31.8**	**+0.7**
BCIP				*e*Sn	**Sn**	**05 04 05.0**	**-1.5**
MESS	**Mesas**	**3.08**	**313**	*i* P	**Pn**	**05 03 33.0**	**+1.8**
GUAB	**Guayabo de Bag**	**3.09**	**312**	*i* P	**Pn**	**05 03 32.8**	**+1.4**
LIM1	**Limonal**	**3.10**	**312**	*i* P	**Pn**	**05 03 32.8**	**+1.4**
GPS2	**Hotel Rinc˜‡n**	**3.21**	**311**	*i* P	**Pn**	**05 03 34.3**	**+1.3**
GPS2				*i* S	**Sn**	**05 04 14.0**	**+4.0**
GPS1	**Guardaparques**	**3.22**	**311**	*i* P	**Pn**	**05 03 34.8**	**+1.6**
LAPC	**Finca la Perla**	**3.28**	**310**	*i* P	**Pn**	**05 03 35.2**	**+1.3**
BUEV	**Buena Vista**	**3.28**	**311**	*i* P	**Pn**	**05 03 35.6**	**+1.6**
NY14	**Universidad de**	**3.28**	**308**	*i* P	**Pn**	**05 03 34.8**	**+0.9**
GBS3	**Finca Las lm˜¡**	**3.30**	**310**	*i* P	**Pn**	**05 03 34.6**	**+0.3**
UPA	**Univ. de Panam**	**3.34**	**84**	*e*P	**Pn**	**05 03 34.9**	**+0.2**
UPA				*e*S	**Sn**	**05 04 15.3**	**+2.1**
CNCH	**Conchagua**	**6.69**	**314**	*e*P	**Pn**	**05 04 22.5**	**+1.6**
BLLM	**Bellamira**	**7.09**	**313**	*e*P	**Pn**	**05 04 27.7**	**+1.4**
VSM	**San Miguel**	**7.11**	**313**	*e*P	**Pn**	**05 04 28.7**	**+1.9**
CAHU	**Cacacuatique**	**7.29**	**315**	*e*P	**Pn**	**05 04 32.3**	**+3.1**
SNVI	**San Vicente**	**7.65**	**311**	*e*P	**Pn**	**05 04 35.8**	**+1.8**
SNVI				*e*S	**Sn**	**05 05 58.5**	**-1.0**
LFRS	**El Faro**	**7.82**	**310**	*e*P	**Pn**	**05 04 38.0**	**+1.7**
LBRS	**Las Brisas**	**7.88**	**311**	*e*P	**Pn**	**05 04 39.2**	**+2.0**
LFU	**La Fuente**	**7.94**	**310**	*e*P	**Pn**	**05 04 40.2**	**+2.3**
SNET	**Serv Nac Est T**	**7.99**	**309**	*e*P	**Pn**	**05 04 39.9**	**+1.3**
BOQS	**Boqueron**	**8.06**	**310**	*e*P	**Pn**	**05 04 41.6**	**+1.9**
SBLS	**San Blas**	**8.38**	**309**	*e*P	**Pn**	**05 04 46.0**	**+1.8**
RTR	**El Retiro**	**8.44**	**309**	*e*P	**Pn**	**05 04 46.9**	**+2.1**
RBDL	**Robledal**	**8.60**	**310**	*e*P	**Pn**	**05 04 48.4**	**+1.3**
ROSC	**El Rosal**	**9.30**	**113**	P	Pn	05 05 01.9	+5.0
ROSC	**El Rosal**	**9.30**	**113**	P	Pn	05 05 01.9	+5.0
	1.9nm,0.3s,baz=276,slow=23,SNR=28						
ROSC				LR	LR	05 08 45.7	
	comp=Z,527nm,21.0s,baz=100,slow=39						
OTAV	**Otavalo**	**9.45**	**152**	*e*Pn	**Pn**	**05 05 01.4**	**+2.4**
OTAV				*e*Sn	**Sn**	**05 06 41.4**	**-2.7**
SDV	**Santo Domingo**	**12.12**	**88**	*e*Pn	**Pn**	**05 05 36.3**	**+0.9**
	472nm,1.9s						
TEIG	**Tepich**	**12.64**	**336**	*e*Pn	**Pn**	**05 05 42.4**	**+0.1**
TEIG	**Tepich**	**12.64**	**336**	P	**Pn**	**05 05 44.7**	**+2.5**
	1.2nm,0.3s,baz=150,slow=21,SNR=8.1						
TEIG				LR	LR	05 10 35.5	
	comp=Z,1μm,19.0s,baz=288,slow=37						
GTBY	**Guantanamo Bay**	**13.52**	**33**	*e*Pn	**Pn**	**05 05 55.5**	**+1.3**
GTBY				*e*Sn	**Sn**	**05 08 20.1**	**-3.0**
GTBY				*e*PcP	**PcP**	**05 11 18.9**	**+0.1**
CMIG	**Matias Romero**	**14.39**	**307**	P	**Pn**	**05 06 04.5**	**-1.6**
CMIG				S	**Sn**	**05 08 40.7**	**-3.6**
CMIG	**Matias Romero**	**14.39**	**307**	P	**Pn**	**05 06 04.5**	**-1.6**
	2.2nm,0.3s,baz=115,slow=8.2,SNR=31						
CMIG				S	**Sn**	**05 08 40.7**	**-3.6**
	0.2nm,0.3s,baz=283,slow=18,SNR=2.1						
SDDR	**Presa de Saban**	**15.25**	**46**	*e*Pn	**P**	**05 06 20.0**	**-1.6**
	52nm,0.9s						
ATAH	**Atahualpa**	**16.30**	**164**	P	**P**	**05 06 33.2**	**-0.3**
ATAH	**Atahualpa**	**16.30**	**164**	P	**P**	**05 06 33.2**	**-0.3**
	0.4nm,0.3s,baz=24,slow=8.6,SNR=7.8						
ATAH				LR	LR	05 12 10.7	
	comp=Z,2μm,21.7s,baz=174,slow=35						
CRPR	**Cabo Rojo, PR**	**17.95**	**57**	*e*Pn	**P**	**05 06 52.3**	**+0.9**
	38nm,0.9s						
LSP	**Las Mesas**	**18.05**	**57**	*e*P	**Pn**	**05 06 54.2**	**+1.6**
LRS	**Lares**	**18.31**	**57**	*e*P	**Pn**	**05 06 57.4**	**+1.6**
OBIP	**Obispado Ponce**	**18.39**	**58**	*e*P	**Pn**	**05 06 58.5**	**+1.9**
	37nm,0.8s						
OBIP				*e*Sn	**Sn**	**05 10 15.3**	**-6.0**
CELP	**Cerrillos**	**18.43**	**58**	*e*P	**Pn**	**05 06 58.5**	**+1.4**
SJG	**San Juan**	**18.80**	**58**	*e*P	**Pn**	**05 07 01.7**	**+0.1**
	31nm,0.7s						
SJG				*e*S	Sn	05 10 23.4	-7.9
CBYP	**Canovanas**	**19.12**	**58**	*e*P	**Pn**	**05 07 06.0**	**+0.4**
	40nm,0.9s						
STVI	**Saint Thomas**	**19.92**	**59**	*e*P	**P**	**05 07 13.5**	**+0.5**
	30nm,0.8s						
NNA	**Nana**	**21.35**	**164**	*e*P	**P**	**05 07 29.5**	**+0.9**
	94nm,1.5s						
NNA	**Nana**	**21.35**	**164**	P	**P**	**05 07 29.7**	**+1.2**
	32nm,1.0s,baz=349,slow=9.7,SNR=10.0						
NNA				LR	LR	05 15 16.3	
	comp=Z,321nm,20.5s,baz=339,slow=35						
BRAL	**Brewton**	**22.60**	**351**	*e*P	**P**	**05 07 45.4**	**+3.6**
	43nm,0.8s						
TIGA	**Tifton**	**22.70**	**358**	*e*P	**P**	**05 07 44.4**	**+1.6**
TIGA	**Tifton**	**22.70**	**358**	P	**P**	**05 07 44.0**	**+1.2**
	baz=23						
LRAL	**Lakeview Retre**	**24.57**	**352**	*e*P	**P**	**05 08 01.9**	**+1.2**
	72nm,1.4s						
NATX	**Nacogdoches**	**25.48**	**336**	*e*P	**P**	**05 08 08.7**	**-0.2**
	27nm,0.8s						
732A	**Laxson Ranch,**	**25.65**	**323**	P	**P**	**05 08 10.3**	**-0.2**
	baz=26						
632A	**Uvalde**	**26.12**	**325**	P	**P**	**05 08 14.7**	**-0.1**
	baz=26						
SAML	**Samuel**	**26.28**	**131**	*e*P	**P**	**05 08 15.2**	**-1.1**
	52nm,1.5s						
SAML				*e*PcP	**PcP**	**05 11 41.8**	**-0.2**
KMSC	**Kings Mountain**	**26.42**	**3**	*e*P	**P**	**05 08 18.4**	**+1.1**
KMSC	**Kings Mountain**	**26.42**	**3**	P	**P**	**05 08 18.5**	**+1.1**
	baz=27						
OXF	**Oxford**	**26.44**	**348**	*e*P	**P**	**05 08 18.4**	**+0.8**
	24nm,0.9s						
631A	**Perdido Creek**	**26.51**	**324**	P	**P**	**05 08 18.2**	**-0.1**
	baz=27						
SWET	**Sewanee**	**26.60**	**354**	*e*P	**P**	**05 08 19.5**	**+0.4**
	12nm,0.9s						
532A	**Rocksprings**	**26.66**	**326**	P	**P**	**05 08 19.3**	**-0.4**
	baz=27,SNR=9.8						
CPCT	**Cooper Cave**	**26.73**	**357**	*e*P	**P**	**05 08 20.5**	**+0.3**
JCT	**Junction City**	**26.87**	**326**	*e*P	**P**	**05 08 23.2**	**+1.6**
	16nm,0.8s						
JCT	**Junction City**	**26.87**	**326**	P	**P**	**05 08 22.6**	**+1.0**
	baz=27,SNR=6.2						
WHTX	**Lake Whitney**	**26.89**	**332**	P	**P**	**05 08 22.4**	**+0.7**
	baz=27						
TKL	**Tuckaleechee C**	**26.91**	**358**	*e*P	**P**	**05 08 22.7**	**+0.8**
TKL	**Tuckaleechee C**	**26.91**	**358**	P	**P**	**05 08 22.8**	**+1.0**
	4.0nm,1.0s,baz=185,slow=12,SNR=3.3						
TKL				LR	LR	05 19 47.9	
	comp=Z,588nm,18.5s,baz=178,slow=38						
432A	**Menard**	**27.17**	**327**	P	**P**	**05 08 24.5**	**+0.2**
	baz=27,SNR=7.3						
UALR	**University of**	**27.42**	**343**	*e*P	**P**	**05 08 26.2**	**-0.2**
	13nm,0.9s						
431A	**Sonora**	**27.47**	**325**	P	**P**	**05 08 26.6**	**-0.4**
	baz=28,SNR=5.4						
530A	**J-C Ranch, Com**	**27.50**	**324**	P	**P**	**05 08 27.2**	**0.0**
	baz=28						
332A	**Millersview**	**27.54**	**328**	P	**P**	**05 08 28.8**	**+1.2**
	baz=28						
MIAR	**Mount Ida**	**27.59**	**341**	*e*P	**P**	**05 08 27.2**	**-0.7**
	11nm,0.9s						
WVT	**Waverly**	**27.73**	**351**	*e*P	**P**	**05 08 28.8**	**-0.4**
	8.6nm,1.0s						
TZTN	**Tazewell**	**27.79**	**359**	P	**P**	**05 08 30.6**	**+1.0**
	24nm,1.2s						
331A	**San Angelo**	**27.85**	**327**	P	**P**	**05 08 32.3**	**+1.9**
	baz=28,SNR=17						
232A	**Coleman**	**27.89**	**328**	P	**P**	**05 08 32.1**	**+1.5**
	baz=28,SNR=6.7						
529A	**Stev Forest Ra**	**28.00**	**322**	P	**P**	**05 08 31.7**	**-0.1**
	baz=28						
429A	**Davenport Ranc**	**28.17**	**324**	P	**P**	**05 08 32.8**	**-0.4**
	baz=28,SNR=7.3						
627A	**Terlingua Ranc**	**28.26**	**320**	P	**P**	**05 08 34.1**	**0.0**
	baz=28						
TXAR	**Lajitas Array**	**28.36**	**319**	P	**P**	**05 08 35.8**	**+0.8**
TXAR				PcP	**PcP**	**05 11 47.3**	**+0.3**
TXAR				ScP	**ScP**	**05 15 27.1**	**+2.6**
TXAR	**Lajitas Array**	**28.36**	**319**	P	**P**	**05 08 35.8**	**+0.8**
	1.3nm,0.8s,baz=144,slow=8.7,SNR=8.2						
TXAR				PcP	**PcP**	**05 11 47.3**	**+0.3**
	1.0nm,0.9s,baz=142,slow=4.6,SNR=4.4						
TXAR				ScP	**ScP**	**05 15 27.1**	**+2.6**
	1.0nm,1.0s,baz=147,slow=5.4,SNR=5.4						
TXAR				LR	LR	05 21 21.2	
	comp=Z,294nm,19.9s,baz=190,slow=39						
TX31	**Lajitas Ar. Si**	**28.36**	**319**	*e*P	**P**	**05 08 35.5**	**+0.5**
ABTX	**Abilene, Hawle**	**28.47**	**329**	P	**P**	**05 08 36.7**	**+0.9**
	baz=29						
428A	**Kincaid Ranch,**	**28.71**	**323**	P	**P**	**05 08 38.9**	**+0.8**
	baz=29						
LPAZ	**La Paz**	**28.75**	**149**	P	**P**	**05 08 39.6**	**+0.5**
LPAZ	**La Paz**	**28.75**	**149**	P	**P**	**05 08 39.6**	**+0.5**
	4.0nm,0.8s,baz=336,slow=10.0,SNR=22						
527A	**Woodward Ranch**	**28.88**	**321**	P	**P**	**05 08 39.2**	**-0.4**
	baz=29						
526A	**Mary Lane Ranc**	**29.12**	**320**	P	**P**	**05 08 41.6**	**-0.2**
	baz=29						
427A	**Hayter Ranch,**	**29.23**	**322**	P	**P**	**05 08 43.5**	**+0.8**
	baz=29						
JSRW	**J. Sargeant Re**	**29.28**	**8**	*e*P	**P**	**05 08 44.6**	**+1.7**
JSRW				*e*pP	**pP**	**05 08 56.3**	**+1.2**
USIN	**University of**	**29.52**	**352**	*e*P	**P**	**05 08 45.4**	**+0.3**
	10nm,0.7s						
USIN				*e*pP	**pP**	**05 08 58.1**	**+0.9**
TUL1	**Tulsa**	**29.59**	**338**	*e*P	**P**	**05 08 44.6**	**-1.1**
TUL1	**Tulsa**	**29.59**	**338**	P	**P**	**05 08 45.5**	**-0.2**
	baz=30						
228A	**UT Block 9, Go**	**29.67**	**325**	P	**P**	**05 08 45.7**	**-0.9**
	baz=30						
Z30A	**Sanderson Ranc**	**29.75**	**328**	P	**P**	**05 08 47.3**	**0.0**
	baz=30						
WMOK	**Wichita Mounta**	**29.79**	**333**	*e*P	**P**	**05 08 47.6**	**+0.1**
	5.6nm,1.0s						
X31A	**McDonald Ranch**	**30.25**	**331**	P	**P**	**05 08 52.5**	**+0.8**
	baz=30						
OLIL	**Olney**	**30.33**	**352**	*e*P	**P**	**05 08 52.3**	**+0.1**
	27nm,0.9s						
OLIL				*e*pP	**pP**	**05 09 05.8**	**+1.4**
X30A	**Coker Ranch, T**	**30.54**	**330**	P	**P**	**05 08 55.1**	**+0.9**
	baz=31						
BLO	**Bloomington**	**30.58**	**354**	*e*P	**P**	**05 08 54.4**	**0.0**
	12nm,0.7s						
BLO				*e*pP	**pP**	**05 09 07.6**	**+1.0**
324A	**Moseley Ranch,**	**30.93**	**320**	P	**P**	**05 08 58.4**	**+0.5**
	baz=31,SNR=7.2						
MCWV	**Mont Chateau**	**31.01**	**5**	*e*P	**P**	**05 09 01.0**	**+2.8**
	19nm,1.1s						
SDMD	**Soldier's Deli**	**31.12**	**9**	*e*P	**P**	**05 09 01.1**	**+2.0**
	13nm,0.9s						
125A	**Gardner Draw,**	**31.27**	**323**	P	**P**	**05 09 00.8**	**+0.1**
	baz=31						
ACSO	**Alum Creek Sta**	**31.46**	**360**	*e*P	**P**	**05 09 02.5**	**+0.3**
	30nm,1.0s						
124A	**Stringfield Ra**	**31.77**	**322**	P	**P**	**05 09 05.7**	**+0.3**
	baz=32						
SFIN	**Scholer Farm**	**31.83**	**354**	*e*P	**P**	**05 09 04.9**	**-0.6**
SFIN				*e*pP	**pP**	**05 09 17.3**	**-0.4**
SFIN	**Scholer Farm**	**31.83**	**354**	P	**P**	**05 09 05.0**	**-0.4**
	baz=32						
U30A	**WK&E Inc. Balk**	**32.12**	**332**	P	**P**	**05 09 06.6**	**-1.5**
	baz=32						
T31A	**Randall Ranch,**	**32.16**	**334**	P	**P**	**05 09 06.8**	**-1.6**
	baz=32						
SSPA	**Standing Stone**	**32.18**	**7**	*e*P	**P**	**05 09 10.5**	**+2.0**
	9.9nm,0.9s						
SSPA				*e*pP	**pP**	**05 09 22.3**	**+1.6**
Y25A	**Mesa, Roswell**	**32.19**	**325**	P	**P**	**05 09 06.7**	**-2.1**
	baz=32						
Y24A	**Capitan**	**32.62**	**324**	P	**P**	**05 09 13.0**	**+0.3**
	baz=33						
KSU1	**Kansas State U**	**32.74**	**340**	*e*P	**P**	**05 09 12.7**	**-0.7**
	23nm,0.9s						
KSU1				*e*pP	**pP**	**05 09 24.9**	**-0.7**
221A	**Mesquite Ranch**	**32.78**	**319**	P	**P**	**05 09 15.6**	**+1.5**
	baz=33						
320A	**Kipp Ranch, An**	**32.86**	**317**	P	**P**	**05 09 16.2**	**+1.5**
	baz=33,SNR=14						
W25A	**X Bar L Ranch,**	**33.01**	**326**	P	**P**	**05 09 15.6**	**-0.4**
	baz=33						
V26A	**Tequesquite Ra**	**33.08**	**328**	P	**P**	**05 09 17.1**	**+0.5**
	baz=33						
220A	**Playas Peak, P**	**33.21**	**318**	P	**P**	**05 09 19.9**	**+2.1**
	baz=33,SNR=16						
319A	**Douglas**	**33.39**	**316**	P	**P**	**05 09 20.7**	**+1.4**
	baz=33,SNR=10						
R30A	**Dighton**	**33.42**	**335**	P	**P**	**05 09 19.5**	**0.0**
	baz=34						
U26A	**Atchley Ranch,**	**33.52**	**329**	P	**P**	**05 09 22.1**	**+1.6**
	baz=34						
Y22A	**Socorro**	**33.54**	**322**	P	**P**	**05 09 21.5**	**+0.8**
	baz=34,SNR=5.4						
S28A	**Manter**	**33.56**	**332**	P	**P**	**05 09 21.8**	**+1.1**
	baz=34						
Q31A	**Ellis**	**33.67**	**336**	P	**P**	**05 09 21.8**	**+0.2**
	baz=34						
120A	**U Bar Ranch, L**	**33.68**	**319**	P	**P**	**05 09 23.1**	**+1.1**
	baz=34,SNR=5.8						
ANMO	**Albuquerque**	**33.94**	**324**	*e*P	**P**	**05 09 23.7**	**-0.5**
	1.8nm,0.8s						
LVC	**Limon Verde**	**33.94**	**156**	*e*P	**P**	**05 09 25.8**	**+1.4**
	22nm,1.3s						
LVC				*e*pP	**pP**	**05 09 37.9**	**+1.3**
LAZ	**Ladron**	**33.96**	**323**	*e*P	**P**	**05 09 26.9**	**+2.4**
	1.3nm,1.0s						
BINY	**Binghamton**	**33.98**	**9**	*e*P	**P**	**05 09 26.5**	**+2.3**
BINY				*e*pP	**pP**	**05 09 37.8**	**+1.4**
Z20A	**Nine Sixteen R**	**34.01**	**319**	P	**P**	**05 09 26.1**	**+1.3**
	baz=34,SNR=8.6						
P31A	**Stockton**	**34.11**	**337**	P	**P**	**05 09 25.3**	**-0.2**
	baz=34						
R28A	**Tribune**	**34.13**	**333**	P	**P**	**05 09 25.6**	**-0.1**
	baz=34						
Q29A	**Oakley**	**34.23**	**334**	P	**P**	**05 09 27.6**	**+1.1**
	baz=34						
U24A	**Moreno Valley**	**34.34**	**327**	P	**P**	**05 09 28.4**	**+0.7**
	baz=34						
SCIA	**State Center**	**34.37**	**346**	*e*P	**P**	**05 09 27.1**	**-0.5**
	24nm,0.7s						
SCIA				*e*pP	**pP**	**05 09 40.8**	**+1.0**
X21A	**Alamocita Cree**	**34.38**	**322**	P	**P**	**05 09 28.8**	**+0.7**
	baz=34						
Y20A	**Horse Springs,**	**34.39**	**321**	P	**P**	**05 09 29.4**	**+1.2**
	baz=34,SNR=6.7						
P30A	**Selden**	**34.47**	**336**	P	**P**	**05 09 29.3**	**+0.7**
	baz=35						
R27A	**Eads**	**34.54**	**332**	P	**P**	**05 09 29.5**	**+0.3**
	baz=35						
Q28A	**Sharon Springs**	**34.74**	**334**	P	**P**	**05 09 31.3**	**+0.3**
	baz=35						
JFWS	**Jewell Farm**	**34.75**	**351**	*e*P	**P**	**05 09 30.1**	**-0.8**
	10nm,0.7s						
JFWS				*e*pP	**pP**	**05 09 43.4**	**+0.2**
U23A	**El Rito**	**34.78**	**326**	P	**P**	**05 09 31.4**	**-0.1**
	baz=35						
P29A	**Atwood**	**34.80**	**335**	P	**P**	**05 09 31.2**	**-0.2**
	baz=35						
TUC	**Tucson**	**34.97**	**316**	*e*P	**P**	**05 09 34.2**	**+1.2**
	4.8nm,0.9s						
BGNE	**Belgrade**	**35.33**	**340**	*e*P	**P**	**05 09 35.3**	**-0.5**
BGNE				*e*pP	**pP**	**05 09 47.5**	**-0.7**
Q26A	**Hugo**	**35.39**	**332**	P	**P**	**05 09 36.9**	**+0.2**
	baz=36						
SDCO	**Great Sand Dun**	**35.46**	**328**	*e*P	**P**	**05 09 37.6**	**+0.2**
	4.2nm,1.2s						
R23A	**Moffat**	**35.96**	**328**	P	**P**	**05 09 42.2**	**+0.5**
	baz=36						
SADO	**Sadowa**	**36.15**	**5**	P	**P**	**05 09 43.1**	**+0.4**
SADO	**Sadowa**	**36.15**	**5**	P	**P**	**05 09 43.1**	**+0.4**
	4.1nm,1.1s,baz=201,slow=13,SNR=3.1						
S22A	**4UR Ranch, Cre**	**36.16**	**327**	P	**P**	**05 09 44.0**	**+0.6**
	baz=36						
P25A	**Willow Gulch B**	**36.16**	**332**	P	**P**	**05 09 44.4**	**+1.1**
	baz=36						
214A	**Organ Pipe Nat**	**36.19**	**314**	P	**P**	**05 09 44.7**	**+1.3**
	baz=36,SNR=8.3						
O26A	**Horse Wrangler**	**36.36**	**333**	P	**P**	**05 09 46.8**	**+2.0**
	baz=36						
OGNE	**Ogallala**	**36.39**	**335**	*e*P	**P**	**05 09 45.1**	**0.0**
	49nm,1.2s						
OGNE				*e*pP	**pP**	**05 09 57.5**	**+0.1**
PTN	**Potsdam (NY)**	**36.45**	**10**	*e*P	P	05 09 48.5	+3.1
PTN				*e*pP	pP	05 09 58.9	+1.1
Q23A	**Hartsel**	**36.50**	**329**	P	**P**	**05 09 47.2**	**+0.9**
	baz=37						
S21A	**Coal Bank Pass**	**36.62**	**326**	P	**P**	**05 09 47.8**	**+0.4**
	baz=37						
X16A	**Lo Mia Camp, P**	**36.68**	**319**	P	**P**	**05 09 48.3**	**+0.5**
	baz=37,SNR=6.7						
MVCO	**Mesa Verde**	**36.70**	**325**	*e*P	**P**	**05 09 47.7**	**-0.2**
	5.6nm,1.0s						
MVCO	**Mesa Verde**	**36.70**	**325**	P	**P**	**05 09 48.6**	**+0.6**
	baz=37						
ECSD	**EROS Data Cent**	**36.96**	**343**	*e*P	**P**	**05 09 48.8**	**-1.0**
	20nm,1.0s						
Q22A	**Crested Butte,**	**37.02**	**328**	P	**P**	**05 09 51.6**	**+0.8**
	baz=37						
ISCO	**Idaho Springs**	**37.08**	**330**	*e*P	**P**	**05 09 51.8**	**+0.5**
	56nm,3.0s						
ISCO	**Idaho Springs**	**37.08**	**330**	P	**P**	**05 09 51.7**	**+0.5**
	baz=37						
WUAZ	**Wupatki**	**37.31**	**320**	*e*P	**P**	**05 09 52.6**	**-0.5**
	8.6nm,1.1s						
WUAZ				*e*pP	**pP**	**05 10 06.9**	**+1.5**
WUAZ	**Wupatki**	**37.31**	**320**	P	**P**	**05 09 53.5**	**+0.4**
	baz=37						
R20A	**Redvale**	**37.33**	**326**	P	**P**	**05 09 53.2**	**0.0**
	baz=37						
Y14A	**Wickenburg**	**37.44**	**317**	P	**P**	**05 09 55.3**	**+1.3**
	baz=38,SNR=8.9						
SPMN	**St. Paul**	**37.45**	**348**	*e*P	**P**	**05 09 52.2**	**-1.6**
SPMN	**St. Paul**	**37.45**	**348**	P	**P**	**05 09 52.9**	**-0.9**
	baz=38,SNR=6.1						
P22A	**Eagle**	**37.49**	**329**	P	**P**	**05 09 54.9**	**+0.2**
	baz=38,SNR=6.1						
O23A	**Lake Granby, G**	**37.55**	**331**	P	**P**	**05 09 55.3**	**+0.1**
	baz=38						
K28A	**Ten Mile Ranch**	**37.62**	**338**	P	**P**	**05 09 56.3**	**+0.8**
	baz=38						
COWI	**Conover**	**37.71**	**353**	*e*P	**P**	**05 09 54.5**	**-1.7**
	3.5nm,0.7s						
COWI				*e*pP	**pP**	**05 10 08.1**	**-0.4**
O22A	**Kremmling**	**37.82**	**330**	P	**P**	**05 09 57.3**	**-0.2**
	baz=38						
M24A	**Cheyenne**	**38.02**	**333**	P	**P**	**05 09 59.1**	**+0.1**
	baz=38						
J28A	**Allard Ranch,**	**38.19**	**338**	P	**P**	**05 10 00.5**	**+0.2**
	baz=38						
GLA	**Glamis**	**38.21**	**314**	P	**P**	**05 10 01.1**	**+0.5**
	baz=38,SNR=6.5						
P20A	**De Beque**	**38.27**	**327**	P	**P**	**05 10 01.8**	**+0.6**
	baz=38						
BRSD	**Miller**	**38.30**	**341**	*e*P	**P**	**05 10 00.1**	**-1.1**
BRSD				*e*pP	**pP**	**05 10 11.2**	**-2.4**
J27A	**Elkhorn Farm,**	**38.33**	**337**	P	**P**	**05 10 02.3**	**+0.9**
	baz=38						
Y12C	**Blythe**	**38.37**	**315**	P	**P**	**05 10 03.4**	**+1.5**
	baz=38,SNR=7.2						
O20A	**White River Ci**	**38.66**	**328**	P	**P**	**05 10 05.0**	**+0.6**
	baz=39						
**I28

baz=42
E25A Miller Ranch, 41.62 339 P **P** 05 10 28.8 +0.1
baz=42
C28A Hausauer Farms 41.68 342 P **P** 05 10 28.9 -0.2
baz=42
R11A Troy Canyon, C 41.71 320 *e*P **P** 05 10 30.4 +0.6
R11A Troy Canyon, C 41.71 320 P **P** 05 10 29.3 -0.4
baz=42
F23A Volborg 41.72 336 P **P** 05 10 29.8 +0.3
baz=42
D26A Manning 41.73 340 P **P** 05 10 29.7 +0.1
baz=42
H20A Greybull 41.83 333 P **P** 05 10 30.4 -0.1
baz=42
E24A Baker 42.00 338 P **P** 05 10 31.3 -0.5
baz=42
B29A Wagenman Farm, 42.06 344 P **P** 05 10 31.9 -0.3
baz=42
I18A Diamond G Ranc 42.09 331 P **P** 05 10 32.7 -0.1
baz=42
F22A Rosebud 42.11 336 P **P** 05 10 32.5 -0.2
baz=42
BDFB Brasilia 42.14 125 P **P** 05 10 32.5 -0.9
BDFB Brasilia 42.14 125 P **P** 05 10 32.5 -0.9
9.6nm,0.9s,baz=282,slow=12,SNR=14
BDFB LR LR 05 28 54.2
comp=Z,1µm,18.1s,baz=112,slow=37
C26A Wahner Farm, P 42.31 341 P **P** 05 10 35.1 +0.8
baz=42
B28A Dugan Ranch, T 42.33 343 P **P** 05 10 34.5 +0.1
baz=42
REDW Red Top Meadow 42.35 329 *e*P **P** 05 10 34.6 -0.3
10nm,1.1s
LOHW Long Hollow 42.41 330 *e*P **P** 05 10 35.3 -0.1
2.7nm,0.9s
H19A Powell 42.42 332 P **P** 05 10 35.4 0.0
baz=42
A29A Manning Farm, 42.44 344 P **P** 05 10 35.5 +0.2
baz=43
D24A Glendive 42.47 338 P **P** 05 10 35.2 -0.4
baz=43
TPAW Teton Pass 42.49 330 *e*P **P** 05 10 35.4 -0.7
4.5nm,0.8s
G20A Bridger 42.50 333 P **P** 05 10 35.4 -0.5
baz=43
E22A Miles City 42.53 336 P **P** 05 10 35.9 -0.2
baz=43,SNR=7.2
RRI2 Red Ridge 42.57 329 *e*P **P** 05 10 37.0 +0.2
3.0nm,0.6s
MOOW Moose Ponds 42.58 330 *e*P **P** 05 10 36.1 -0.7
3.7nm,0.9s
CPUP Villa Florida 42.72 145 P **P** 05 10 36.6 -1.1
5.6nm,0.8s
CPUP *e*PP **PP** 05 12 18.8 +1.2
CPUP Villa Florida 42.72 145 P **P** 05 10 36.6 -1.1
1.1nm,0.6s,baz=335,slow=10,SNR=6.0
CPUP LR LR 05 30 12.1
comp=Z,262nm,19.7s,baz=307,slow=39
H18A Shoshone NF, C 42.74 332 P **P** 05 10 37.6 -0.5
baz=43
IMW Indian Meadow 42.78 330 *e*P **P** 05 10 38.4 -0.1
3.0nm,0.6s
FLWY Flagg Ranch 42.80 330 *e*P **P** 05 10 38.3 -0.2
3.8nm,0.8s
B26A Jensen Ranch, 42.84 341 P **P** 05 10 38.9 +0.3
baz=43
D23A Lindsay 42.85 338 P **P** 05 10 39.0 +0.3
baz=43,SNR=8.3
C24A Savage 42.86 339 P **P** 05 10 39.1 +0.4
baz=43
RLMT Red Lodge 42.90 332 *e*P **P** 05 10 38.7 -0.6
4.4nm,0.8s
F20A Billings 42.93 334 P **P** 05 10 38.9 -0.5
baz=43
E21A Keefer Ranch, 43.06 336 P **P** 05 10 40.4 0.0
baz=43
G18A Lazy EL Ranch, 43.18 332 P **P** 05 10 41.0 -0.5
baz=43
D22A Cohagen 43.20 337 P **P** 05 10 41.5 0.0
baz=43,SNR=5.8
F19A Roth Farm, Mol 43.32 333 P **P** 05 10 42.0 -0.6
baz=43,SNR=6.2
C23A Lambert 43.37 338 P **P** 05 10 43.2 +0.3
baz=44,SNR=6.1
NV11 Mina Array Sit 43.41 319 *e*P **P** 05 10 43.5 0.0
D21A La Casta Ranch 43.45 336 P **P** 05 10 43.9 +0.4
baz=44
E20A Meyer Farm, Mu 43.47 335 P **P** 05 10 44.1 +0.3
baz=44
NVAR Mina Array Bea 43.51 319 P **P** 05 10 45.5 +1.1
NVAR Mina Array Bea 43.51 319 P **P** 05 10 45.5 +1.1
4.3nm,0.8s,baz=132,slow=6.8,SNR=27
NVAR LR LR 05 30 28.4
comp=Z,293nm,18.0s,baz=245,slow=38
DGMT Dagmar 43.58 339 *e*P **P** 05 10 44.1 -0.4
8.9nm,0.7s
DGMT *e*pP **pP** 05 10 56.6 -0.5
DGMT Dagmar 43.58 339 P **P** 05 10 44.8 +0.3
baz=44
C22A Vida 43.58 338 P **P** 05 10 45.1 +0.5
baz=44,SNR=7.0
F18A Big Timber 43.70 333 P **P** 05 10 45.5 -0.2
baz=44
E19A Rath Farm, Rou 43.72 334 P **P** 05 10 45.9 +0.1
baz=44
B23A Brockton 43.85 339 P **P** 05 10 47.4 +0.6
baz=44,SNR=6.3
A24A Westby 43.90 340 P **P** 05 10 47.6 +0.5
baz=44
D20A Manuel Ranch, 43.94 335 P **P** 05 10 47.4 -0.1
baz=44
BMN Battle Mountai 43.97 322 *e*P **P** 05 10 48.6 +0.6
12nm,0.8s
BMN *e*pP **pP** 05 11 02.4 +1.9
B22A Reddig Ranch S 44.08 338 P **P** 05 10 49.1 +0.5
baz=44
F17A Fitzpatrick Pl 44.13 332 P **P** 05 10 49.3 +0.1
baz=44
WAKR Walker 44.29 318 *e*P **P** 05 10 51.7 +1.1
5.6nm,1.0s
E18A Harlowton 44.30 333 P **P** 05 10 50.5 0.0
baz=44
D19A Cripps Ranch, 44.31 335 P **P** 05 10 50.3 -0.2
baz=44,SNR=6.7
HLID Hailey 44.34 327 *e*P **P** 05 10 51.0 +0.1
3.0nm,0.8s
HLID Hailey 44.34 327 P **P** 05 10 50.7 -0.2
baz=44,SNR=7.6
C20A Veseth Ranch, 44.38 336 P **P** 05 10 50.7 -0.3
baz=44
MCMT McKenzie Canyo 44.40 329 *e*P **P** 05 10 51.6 +0.1
1.9nm,0.9s
A22A Carney Farms, 44.63 338 P **P** 05 10 53.2 +0.2
baz=45,SNR=5.4
E17A Martinsdale 44.64 333 P **P** 05 10 53.3 0.0
baz=45
DLMT Dillon 44.66 330 *e*P **P** 05 10 53.8 +0.4
5.0nm,1.0s
D18A Linhart Farms, 44.73 334 P **P** 05 10 54.0 +0.2
baz=45,SNR=5.1
C19A Slack Wire Ran 44.83 335 P **P** 05 10 54.5 -0.1
baz=45,SNR=7.6
LRM Limekiln Ridge 44.92 331 *e*P **P** 05 10 55.4 -0.1
30nm,0.6s
A21A Bergtoll Ranch 45.00 338 P **P** 05 10 56.1 +0.2
baz=45
MFID Camas Ranch 45.02 326 P **P** 05 10 56.6 +0.4
baz=45,SNR=6.0
D17A Six Diamond Ra 45.09 333 P **P** 05 10 57.0 +0.2
baz=45
A20A Cobblestone Ra 45.29 337 P **P** 05 10 58.4 +0.2
baz=45,SNR=6.1
EGMT Eagleton 45.35 335 P **P** 05 10 58.7 -0.1
baz=46
B19A Brinkman Farms 45.36 336 P **P** 05 10 59.0 +0.2
baz=46,SNR=5.4
C17A Wharram Farm, 45.48 334 P **P** 05 10 59.5 -0.4
baz=46,SNR=6.8
BEKR Beckworth 45.63 319 *e*P **P** 05 11 01.8 +0.6
2.4nm,0.9s
A19A Klindworth Far 45.65 336 P **P** 05 11 01.2 +0.1
baz=46
WVOR Wild Horse Val 46.02 323 *e*P **P** 05 11 04.2 0.0
12nm,0.9s
MSO Missoula 46.36 331 P **P** 05 11 06.3 -0.4
baz=46
SCHQ Schefferville 47.82 12 P **P** 05 11 16.1 -1.8
SCHQ PcP **PcP** 05 12 45.1 -1.0
SCHQ Schefferville 47.82 12 P **P** 05 11 16.1 -1.8
2.7nm,0.8s,baz=246,slow=12,SNR=3.3
SCHQ PcP **PcP** 05 12 45.1 -1.0
4.8nm,0.8s,baz=225,slow=2.9,SNR=4.1
NEW Newport 48.91 330 *e*P **P** 05 11 25.8 -0.6
3.6nm,1.0s
NEW Newport 48.91 330 P **P** 05 11 26.2 -0.2
baz=49
RCBR Riachuelo 49.01 105 *e*P **P** 05 11 29.7 +2.0
138nm,1.4s
TRQA Tornquist 50.39 159 *e*P **P** 05 11 38.6 +0.9
9.9nm,1.3s
TRQA *e*pP **pP** 05 11 49.0 -1.5
PLCA Paso Flores 50.43 168 P **P** 05 11 38.2 +0.2
PLCA Paso Flores 50.43 168 P **P** 05 11 38.2 +0.2
15nm,0.8s,baz=327,slow=11,SNR=18
EDM Edmonton 50.82 337 *e*P **P** 05 11 40.0 -0.8
EDM *e*pP **pP** 05 11 52.8 -0.8
YKA Yellowknife Ar 58.49 343 P **P** 05 12 35.0 -1.2
YKA Yellowknife Ar 58.49 343 P **P** 05 12 35.0 -1.2
2.1nm,0.7s,baz=134,slow=7.0,SNR=5.1
YKW3 Yellowknife Ar 58.54 343 *e*P **P** 05 12 36.7 +0.1
0.2nm,0.8s
INK Inuvik 68.18 342 *e*P **P** 05 13 40.9 +0.7
9.6nm,1.3s
SUMG Summit 69.21 13 *i* P **P** 05 13 47.3 +0.2
11nm,0.9s
SUMG Summit 69.21 13 *e*P **P** 05 13 45.3 -1.7
6.7nm,0.9s
PPT Papeete 70.81 248 LR LR 05 35 51.7
comp=Z,187nm,18.5s,baz=149,slow=28
PPT2 Papeete2 70.82 248 *e*S **S** 05 23 11.7 +2.0
123nm,28.0s
PPT2 Papeete2 70.82 248 *e*LR LR 05 35 38.3
306nm,26.5s
ILAR Eielson Array 71.30 336 P **P** 05 13 59.6 +0.1
ILAR Eielson Array 71.30 336 P **P** 05 13 59.6 +0.1
2.1nm,0.8s,baz=115,slow=4.3,SNR=13
ILAR LR LR 05 50 17.0
comp=Z,110nm,18.9s,baz=252,slow=40
MCK McKinley 71.80 335 P **P** 05 14 02.7 +0.1
6.7nm,1.1s
TRF Thorofare Moun 72.30 334 *e*P **P** 05 14 05.8 +0.1
5.9nm,1.0s
TBI Tubuai 72.38 242 *e*LR LR 05 36 24.6
236nm,31.5s
RSO Redoubt South 72.64 331 *e*P **P** 05 14 08.2 +0.4
21nm,0.9s
EVOP Sao Brissos 72.77 52 *e*P **P** 05 14 08.3 -0.5
18nm,0.9s
BPAW Bear Paw Mtn. 72.78 335 *e*P **P** 05 14 07.9 -0.5
11nm,1.0s
EVO Evora 72.85 52 *e*P **P** 05 14 08.3 -1.0
18nm,0.9s
EVO *e*R
254nm,22.5s
IMA2 Indian Mountai 74.40 336 *e*P **P** 05 14 18.7 +0.7
CHGN Chignik 74.83 326 *e*P **P** 05 14 20.4 0.0
CHGN *e*pP **PcP** 05 14 34.2 0.0
ESDC Sonseca Array 76.03 51 P **P** 05 14 28.2 +0.4
ESDC Sonseca Array 76.03 51 P **P** 05 14 28.2 +0.4
11nm,0.9s,baz=279,slow=5.8,SNR=43
ESDC LR LR 05 41 42.7
comp=Z,110nm,21.4s,baz=205,slow=31
ESLA Sonseca Array 76.03 51 *e*P **P** 05 14 28.2 +0.3
3.5nm,1.0s
ROSF Rostrenen 76.70 42 *e*P **P** 05 14 30.5 -0.9
ROSF Rostrenen 76.70 42 *e*P **P** 05 14 30.5 -0.9
QUIF Quistinic 76.76 43 *e*P **P** 05 14 30.9 -0.8
72nm,1.2s
QUIF Quistinic 76.76 43 *e*P **P** 05 14 30.9 -0.8
72nm,1.2s
TIC Toumodi 77.09 85 *e*P **P** 05 14 34.7 +0.5
30nm,0.2s
LIC Lamto 77.13 86 *e*P **P** 05 14 34.4 -0.1
29nm,0.8s,baz=277
LIC *e*R
170nm,21.8s
LIC Lamto 77.13 86 *e*P **P** 05 14 35.1 +0.6
43nm,0.8s
LIC Lamto 77.13 86 *e*P **P** 05 14 34.4 -0.1
29nm,0.8s
DBIC Dimbokro 77.25 85 *e*P **P** 05 14 34.4 -0.7
24nm,1.3s
DBIC Dimbokro 77.25 85 P **P** 05 14 34.4 -0.7
8.2nm,0.9s,baz=238,slow=6.7,SNR=7.7
DBIC LR LR 05 46 54.6
comp=Z,80nm,20.1s,baz=274,slow=34
KIC Kosan Boka 77.40 85 *e*P **P** 05 14 36.6 +0.6
71nm,1.5s
SJPF Ste Jean 78.08 48 *e*P **P** 05 14 39.0 -0.2
17nm,0.8s
SJPF Ste Jean 78.08 48 *e*P **P** 05 14 39.0 -0.2
17nm,0.8s
GRR Gorron 78.32 42 *e*P **P** 05 14 39.3 -1.1
34nm,0.9s
GRR Gorron 78.32 42 *e*P **P** 05 14 39.3 -1.1
34nm,0.9s
FLN La Foliniere 78.57 42 *e*P **P** 05 14 40.9 -0.8
16nm,0.8s
FLN *e*R
392nm,22.5s
FLN La Foliniere 78.57 42 *e*P **P** 05 14 40.9 -0.8
16nm,0.8s
ETSF Etsaut 78.58 48 *e*P **P** 05 14 41.7 -0.3
28nm,1.3s
ETSF Etsaut 78.58 48 *e*P **P** 05 14 41.7 -0.3
28nm,1.3s
LDF La Druitiere 78.81 42 *e*P **P** 05 14 42.0 -1.1
21nm,0.8s
LDF La Druitiere 78.81 42 *e*P **P** 05 14 42.0 -1.1
21nm,0.8s
MFF Saint Martin d 78.81 44 *e*P **P** 05 14 42.2 -0.9
8.7nm,0.6s
MFF Saint Martin d 78.81 44 *e*P **P** 05 14 42.2 -0.9
8.7nm,0.6s
EPF Esparros 79.23 48 *e*P **P** 05 14 45.2 -0.4
22nm,1.0s
EPF Esparros 79.23 48 *e*P **P** 05 14 45.2 -0.4
22nm,1.0s
LFF La Frestale 79.46 46 *e*P **P** 05 14 45.7 -1.0
LFF La Frestale 79.46 46 *e*P **P** 05 14 45.7 -1.0
RJF Les Rejaudoux 80.00 45 *e*P **P** 05 14 48.6 -1.1
RJF *e*R
142nm,22.0s
RJF Les Rejaudoux 80.00 45 *e*P **P** 05 14 48.6 -1.1
CAF Calviac 80.40 46 *e*P **P** 05 14 50.7 -1.2
8.0nm,0.8s
CAF Calviac 80.40 46 *e*P **P** 05 14 50.7 -1.2
8.0nm,0.8s
TCF Toulx Ste Croi 80.44 44 *e*P **P** 05 14 50.6 -1.5
6.5nm,0.7s
TCF Toulx Ste Croi 80.44 44 *e*P **P** 05 14 50.6 -1.5
6.5nm,0.7s
BGF Bois d'Agland 80.87 44 *e*P **P** 05 14 53.0 -1.3
13nm,0.8s
BGF Bois d'Agland 80.87 44 *e*P **P** 05 14 53.0 -1.3
13nm,0.8s
AVF Avril sur Loir 81.21 44 *e*P **P** 05 14 54.1 -2.0
16nm,1.1s
AVF Avril sur Loir 81.21 44 *e*P **P** 05 14 54.1 -2.0
16nm,1.1s
LOR Lormes 81.53 43 *e*P **P** 05 14 56.1 -1.7
4.3nm,0.7s
LOR *e*R
222nm,21.0s
LOR Lormes 81.53 43 *e*P **P** 05 14 56.1 -1.7
4.3nm,0.7s
SMF Signal de Mont 81.55 44 *e*P **P** 05 14 56.1 -1.9
9.1nm,1.0s
SMF Signal de Mont 81.55 44 *e*P **P** 05 14 56.1 -1.9
9.1nm,1.0s
LASF Ste Croix 81.73 47 *e*P **P** 05 14 57.3 -1.7
LASF Ste Croix 81.73 47 *e*P **P** 05 14 57.3 -1.7
MEZF Maizieres J'vi 82.24 42 *e*P **P** 05 15 01.0 -0.5
13nm,0.8s
MEZF Maizieres J'vi 82.24 42 *e*P **P** 05 15 01.0 -0.5
13nm,0.8s
VIVF Saint-Julien-l 82.26 46 *e*P **P** 05 15 01.2 -0.5
14nm,0.9s
VIVF Saint-Julien-l 82.26 46 *e*P **P** 05 15 01.2 -0.5
14nm,0.9s
KBS Kingsbay 82.52 11 *e*P **P** 05 15 02.4 0.0
5.8nm,0.8s
PAGF Fort de Pagny 82.69 42 *e*P **P** 05 15 02.5 -1.3
4.2nm,0.9s
PAGF Fort de Pagny 82.69 42 *e*P **P** 05 15 02.5 -1.3
4.2nm,0.9s
TORD Torodi Ar. Bea 82.85 78 P **P** 05 15 04.8 -0.5
TORD Torodi Ar. Bea 82.85 78 P **P** 05 15 04.8 -0.5
0.7nm,0.5s,baz=283,slow=4.5,SNR=24
TORD LR LR 05 51 16.2
comp=Z,177nm,21.1s,baz=270,slow=35
CABF La Chapelle 83.10 44 *e*P **P** 05 15 05.6 -0.5
44nm,1.3s
CABF La Chapelle 83.10 44 *e*P **P** 05 15 05.6 -0.5
44nm,1.3s
ORIF Oris-en-Rattie 83.11 46 *e*P **P** 05 15 05.4 -0.8
10.0nm,0.9s
ORIF *e*R
174nm,22.0s
ORIF Oris-en-Rattie 83.11 46 *e*P **P** 05 15 05.4 -0.8
10.0nm,0.9s
HAU Haudompre 83.15 43 *e*P **P** 05 15 04.7 -1.6
11nm,0.9s
HAU *e*R
247nm,23.0s
HAU Haudompre 83.15 43 *e*P **P** 05 15 04.7 -1.6
11nm,0.9s
HINF Hinteralfeld 83.50 43 *e*P **P** 05 15 07.2 -0.9
4.0nm,0.7s
HINF Hinteralfeld 83.50 43 *e*P **P** 05 15 07.2 -0.9
4.0nm,0.7s
LPG La Plagne 83.67 45 *e*P **P** 05 15 08.8 -0.5
LPG La Plagne 83.67 45 *e*P **P** 05 15 08.8 -0.5
LMR La Mourre 83.71 47 *e*P **P** 05 15 08.2 -1.0
25nm,1.1s
LMR La Mourre 83.71 47 *e*P **P** 05 15 08.2 -1.0
25nm,1.1s
CDF Champ du Feu 83.73 42 *e*P **P** 05 15 07.8 -1.5
8.7nm,1.1s
CDF Champ du Feu 83.73 42 *e*P **P** 05 15 07.8 -1.5
8.7nm,1.1s
NB2 NORSAR Subarra 84.50 29 P **P** 05 15 11.9 -1.0
comp=Z,7.3nm,0.9s,baz=279,slow=5.1
NOA NORSAR Array B 84.50 29 P **P** 05 15 12.5 -0.4
NOA NORSAR Array B 84.50 29 P **P** 05 15 12.5 -0.4
comp=Z,5.3nm,0.8s,baz=278,slow=5.0,SNR=17
NOA LR LR 05 49 57.7
comp=Z,73nm,19.6s,baz=275,slow=34
TAM Tamanrasset 85.26 68 *e*P **P** 05 15 18.4 +0.7
comp=Z,4.0nm,1.1s
BRG Berggiesshubel 87.66 39 *e*(P) **P** 05 15 27.8 -0.8
comp=Z,1.8nm,0.6s
GERES GERESS Array B 87.88 41 P **P** 05 15 29.2 -0.7
GERES GERESS Array B 87.88 41 P **P** 05 15 29.2 -0.7
comp=Z,1.3nm,0.8s,baz=297,slow=4.1,SNR=9.8
GERES LR LR 05 48 51.1
comp=Z,239nm,21.7s,baz=269,slow=32
ARCES ARCESS Array B 88.29 20 P **P** 05 15 29.6 -1.7
ARCES ARCESS Array B 88.29 20 P **P** 05 15 29.6 -1.7
comp=Z,6.2nm,0.8s,baz=299,slow=1.2,SNR=13
ARCES LR LR 05 54 43.9
comp=Z,49nm,19.3s,baz=48,slow=35
FINES FINESS Array B 91.36 27 P **P** 05 15 43.8 -2.0
FINES FINESS Array B 91.36 27 P **P** 05 15 43.8 -2.0
comp=Z,2.2nm,0.8s,baz=180,slow=1.5,SNR=9.0
FINES LR LR 05 51 51.0
comp=Z,122nm,20.2s,baz=108,slow=32
AKASG Malin Array Be 96.99 36 LR LR 05 57 35.6
comp=Z,118nm,20.0s,baz=300,slow=34
KURK Kurchatov 118.75 13 PKP **PKPdf** 05 21 27.6 -0.6
KURBB Kurchatov Arra 118.82 13 PKP **PKPdf** 05 21 27.6 -0.8
comp=Z,0.3nm,0.2s,baz=353,slow=2.9,SNR=3.7
CN2 Changchun 121.82 336 *e*PKP **PKPdf** 05 21 36.0 +1.6
SONM Songino Array 123.18 353 PKP **PKPdf** 05 21 35.9 -1.2
SONM Songino Array 123.18 353 PKP **PKPdf** 05 21 35.9 -1.2
comp=Z,0.5nm,0.6s,baz=260,slow=5.9,SNR=3.9
MKAR Makanchi Array 123.26 12 PKP **PKPdf** 05 21 35.3 -1.8
MKAR Makanchi Array 123.26 12 PKP **PKPdf** 05 21 35.3 -1.8
comp=Z,0.5nm,0.8s,baz=321,slow=3.1,SNR=5.0
KSRS Korea Array 125.83 330 PKP **PKPdf** 05 21 42.2 0.0
comp=Z,1.0nm,0.7s,baz=16,slow=2.4,SNR=6.3
KSAR Wonju Array Be 125.86 330 PKP **PKPdf** 05 21 42.2 -0.1
WMQ Urumqi 127.10 9 *e*PKP **PKPdf** 05 21 44.1 -0.5
WMQ LR LR
comp=N,65nm,24.5s
WMQ LR LR
comp=Z,78nm,22.7s
KSH Kashi 128.24 21 *e*PKP **PKPdf** 05 21 48.2 +1.2
KSH sPKP 05 22 03.0
KSH PP PP 05 23 55.2 +5.3
KSH PKS **PKSdf** **05 25 23.7 0.0**
KSH SKKS 05 30 44.3
KSH SS **SS** **05 41 05.0 +4.1**
KSH AMB AMB
comp=Z,160nm,5.0s
KSH LR LR
comp=N,98nm,5.2s
KSH LR LR
comp=E,100nm,5.7s
KSH LR LR
comp=Z,190nm,5.6s
BJI Beijing 128.45 341 PKP **PKPdf** 05 21 46.6 -0.5
BJI LR LR
comp=N,280nm,25.2s
BJI LR LR
comp=E,440nm,25.1s
BJI LR LR
comp=Z,80nm,33.2s
HHC Hu-ho-hao-te 128.99 346 *e*PKP **PKPdf** 05 21 49.2 +0.9
HHC sPKP 05 22 03.9
HHC PP PP 05 24 02.5 +7.8
HHC SKS **SKSdf** **05 28 55.1 -1.5**
HHC SKKS **SKKSac** **05 30 48.1 -1.4**
HHC LR LR
comp=N,290nm,19.0s
HHC LR LR
comp=E,410nm,18.9s
HHC LR LR
comp=Z,280nm,17.8s
LZH Lanzhou 135.07 352 *e*PKP **PKPdf** 05 22 03.1 +3.1
LZH sPKP 05 22 17.4
LZH LR LR
comp=N,200nm,18.5s
LZH LR LR
comp=E,200nm,16.3s
LZH LR LR
comp=Z,270nm,19.6s
CD2 Chengdu 140.16 351 PKP **PKPdf** 05 22 08.1 -1.3
ASAR Alice Springs 141.77 243 PKPpre PKPpre 05 22 06.2
ASAR PKP **PKPdf** **05 22 11.2 -1.2**
ASAR Alice Springs 141.77 243 PKhKP PKPpre 05 22 06.2
comp=Z,0.6nm,0.7s,baz=111,slow=3.8,SNR=8.6
ASAR PKP **PKPdf** **05 22 11.2 -1.2**
comp=Z,2.1nm,0.8s,baz=112,slow=3.0,SNR=15
WRA Warramunga Arr 142.30 249 PKPpre PKPpre 05 22 08.8
WRA PKP **PKPdf** **05 22 13.0 -0.5**
WRA Warramunga Arr 142.30 249 PKhKP PKPpre 05 22 08.8
comp=Z,2.4nm,0.9s,baz=100,slow=2.9,SNR=11
WRA PKP **PKPdf** **05 22 13.0 -0.5**
comp=Z,2.4nm,0.9s,baz=101,slow=3.1,SNR=12
KMI Kunming 146.00 351 PKPbc **PKPdf** 05 22 18.8 -1.3
KMI LR LR
comp=Z,71nm,22.8s
FITZ Fitzroy Crossi 150.73 248 PKPbc **PKPbc** 05 22 32.8 -0.3
FITZ Fitzroy Crossi 150.73 248 PKPbc **PKPbc** 05 22 32.8 -0.3
comp=Z,3.5nm,0.8s,baz=170,slow=4.0,SNR=6.4
CMAR Chiang Mai Arr 153.02 356 PKP **PKPdf** 05 22 30.8 -0.3
CMAR PKPbc **PKPbc** 05 22 37.8 -0.6
CMAR PKPab **PKPab** 05 22 48.6 -1.0
CMAR Chiang Mai Arr 153.02 356 PKP **PKPdf** 05 22 30.8 -0.3
comp=Z,1.0nm,0.3s,baz=312,slow=2.0,SNR=4.6
CMAR PKPbc **PKPbc** 05 22 37.8 -0.6
comp=Z,2.8nm,0.7s,baz=334,slow=3.2,SNR=10
CMAR PKPab **PKPab** 05 22 48.6 -1.0
comp=Z,2.9nm,0.6s,baz=336,slow=4.7,SNR=9.1

IDC ***06*** *05:16:17.5±1.4, 39°.29N×20°.81E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/24, mbtmp3.5/4, Error ellipse: s-maj=65.2km s-min=24.9km az=128.0*
ATH ***06*** *05:16:18.8, 39°.38N×20°.70E, h5km±2km, MD3.5/21*
CSEM ***06*** *05:16:19.4±0.2, 39°.38N×20°.61E, h2km, ML3.3, Error ellipse: s-maj=4.1km s-min=2.5km az=72.0*
THE ***06*** *05:16:19.4, 39°.38N×20°.60E, h0km±1km, ML3.1/12, Error ellipse: s-maj=2.0km s-min=0.7km az=260.0*
ISC 06 05:16:18.9±1.1,**39°.38N**±0°.01×**20°.65E**±0°.02,**h3**km±8km, **n116,** σ0°98/172,**mb3.5**/4,**4D,Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.29**	**302**	P	**Pg**	**05 16 22.8**	**-1.6**
IGT				S	**Sg**	**05 16 28.6**	**+0.5**
IGT	**Igoumenitsa**	**0.29**	**302**	P	**Pg**	**05 16 23.7**	**-0.7**
IGT				S	**Sg**	**05 16 28.2**	**+0.1**
JAN	**Janina**	**0.32**	**30**	P	**Pg**	**05 16 24.2**	**-0.8**
JAN				S	**Sb**	**05 16 31.3**	**-1.6**
JAN	**Janina**	**0.32**	**30**	*e*PG	**Pg**	**05 16 24.5**	**-0.5**
JAN				*e*SG	**Sg**	**05 16 29.5**	**+0.3**
JAN	**Janina**	**0.32**	**30**	*e*Pg	**Pg**	**05 16 24.5**	**-0.5**
JAN				*e*Sg	**Sg**	**05 16 29.5**	**+0.3**
JAN				S	**Sb**	**05 16 31.3**	**-1.6**
LKD2	**Lefkada island**	**0.59**	**179**	P	**Pg**	**05 16 30.5**	**+0.3**
LKD2				S	**Sg**	**05 16 39.2**	**+1.3**
LKD2	**Lefkada island**	**0.59**	**179**	*e*PB	**Pg**	**05 16 30.5**	**+0.3**
LKD2				*e*SB	**Sg**	**05 16 39.2**	**+1.3**
LKD2	**Lefkada island**	**0.59**	**179**	P	**Pg**	**05 16 30.5**	**+0.3**
LKD2				S	**Sg**	**05 16 39.2**	**+1.3**
SRN	**Sarande**	**0.70**	**315**	P	**Pg**	**05 16 31.8**	**-0.6**
SRN				S	**Sb**	**05 16 43.8**	**-0.1**
SRN	**Sarande**	**0.70**	**315**	P	**Pg**	**05 16 31.8**	**-0.6**
SRN				S	**Sb**	**05 16 43.8**	**-0.1**
KEK	**Kerkira**	**0.73**	**297**	P	**Pg**	**05 16 32.6**	**-0.4**
KEK				S	**Sb**	**05 16 44.2**	**-0.6**
KEK	**Kerkira**	**0.73**	**297**	*e*PB	**Pg**	**05 16 32.9**	**-0.1**
KEK				*e*SB	**Sb**	**05 16 45.4**	**+0.6**
KEK	**Kerkira**	**0.73**	**297**	P	**Pg**	**05 16 32.7**	**-0.3**
KEK				S	**Sb**	**05 16 44.2**	**-0.6**
KEK				*e*Sb	**Sb**	**05 16 45.4**	**+0.6**
EVR	**Evrytania**	**1.02**	**117**	P	**Pg**	**05 16 37.9**	**-0.5**
EVR				S	**Sn**	**05 16 55.0**	**0.0**
EVR	**Evrytania**	**1.02**	**117**	*e*PN	**Pg**	**05 16 38.2**	**-0.2**
EVR	**Evrytania**	**1.02**	**117**	P	**Pg**	**05 16 37.9**	**-0.5**
EVR	**Evrytania**	**1.02**	**117**	*e*Pn	**Pg**	**05 16 38.2**	**-0.2**
EVR				S	**Sn**	**05 16 54.4**	**-0.6**
THL	**Klokotos Trika**	**1.07**	**80**	P	**Pg**	**05 16 39.1**	**-0.5**
THL				S	**Sn**	**05 16 56.5**	**+0.2**
THL	**Klokotos Trika**	**1.07**	**80**	*e*PN	**Pg**	**05 16 39.0**	**-0.5**
THL				*e*SB	**Sg**	**05 16 52.5**	**-0.9**
THL	**Klokotos Trika**	**1.07**	**80**	*e*Pn	**Pg**	**05 16 39.0**	**-0.5**
THL	**Klokotos Trika**	**1.07**	**80**	P	**Pg**	**05 16 39.4**	**-0.1**
THL				*e*Sb	**Sg**	**05 16 52.5**	**-0.9**
THL				S	**Sn**	**05 16 56.5**	**+0.2**
NEST	**Nestorio**	**1.08**	**17**	P	**Pg**	**05 16 38.5**	**-1.1**
NEST				S	**Sb**	**05 16 55.8**	**+1.0**
NEST	**Nestorio**	**1.08**	**17**	P	**Pg**	**05 16 38.5**	**-1.1**
NEST				S	**Sb**	**05 16 55.8**	**+1.0**
VLS	**Valsamata**	**1.20**	**182**	P	**Pg**	**05 16 41.2**	**-0.8**
VLS				S	**Sn**	**05 16 59.6**	**+0.1**
VLS	**Valsamata**	**1.20**	**182**	*e*PB	**Pg**	**05 16 42.1**	**+0.1**
VLS				*e*SB	**Sn**	**05 16 59.2**	**-0.3**
VLS	**Valsamata**	**1.20**	**182**	P	**Pg**	**05 16 41.8**	**-0.2**
VLS	**Valsamata**	**1.20**	**182**	*e*Pb	**Pg**	**05 16 42.1**	**+0.1**
VLS				*e*Sb	**Sn**	**05 16 59.2**	**-0.3**
MAKR	**Makrakomi, Fth**	**1.21**	**107**	P	**Pg**	**05 16 41.8**	**-0.3**
MAKR				S	**Sn**	**05 17 01.1**	**+1.3**
MAKR	**Makrakomi, Fth**	**1.21**	**107**	P	**Pg**	**05 16 41.8**	**-0.3**
MAKR				S	**Sn**	**05 17 01.1**	**+1.3**
KBN	**Korca**	**1.25**	**5**	P	**Pg**	**05 16 42.1**	**-0.7**
KBN				S	**Sn**	**05 17 01.4**	**+0.7**
KBN	**Korca**	**1.25**	**5**	P	**Pg**	**05 16 42.1**	**-0.7**
KBN				S	**Sn**	**05 17 01.4**	**+0.7**
KFL	**Anninata**	**1.27**	**175**	P	**Pg**	**05 16 42.7**	**-0.6**
KFL				S	**Sn**	**05 17 02.2**	**+0.9**
KFL	**Anninata**	**1.27**	**175**	P	**Pg**	**05 16 43.3**	**0.0**
KFL				S	**Sn**	**05 17 02.2**	**+0.9**
AXS	**Araxos**	**1.31**	**154**	P	**Pg**	**05 16 43.5**	**-0.5**
AXS				S	**Sn**	**05 17 04.5**	**+2.3**
AXS	**Araxos**	**1.31**	**154**	P	**Pg**	**05 16 43.6**	**-0.5**
AXS				S	**Sn**	**05 17 02.5**	**+0.3**
AGG	**Agios Georgios**	**1.36**	**105**	P	**Pn**	**05 16 43.8**	**-1.0**
AGG				S	**Sn**	**05 17 05.8**	**+2.4**
AGG	**Agios Georgios**	**1.36**	**105**	P	**Pn**	**05 16 44.0**	**-0.8**
AGG				S	**Sn**	**05 17 05.7**	**+2.4**
EFP	**Efpalio**	**1.37**	**134**	P	**Pb**	**05 16 45.6**	**+0.4**
EFP				S	**Sn**	**05 17 05.7**	**+2.1**
EFP	**Efpalio**	**1.37**	**134**	*e*PB	**Pn**	**05 16 44.2**	**-0.7**
EFP	**Efpalio**	**1.37**	**134**	*e*Pb	**Pn**	**05 16 44.2**	**-0.7**
EFP	**Efpalio**	**1.37**	**134**	P	**Pb**	**05 16 45.6**	**+0.4**
EFP				S	**Sn**	**05 17 05.7**	**+2.1**
PSA1	**Psathopyrgos**	**1.43**	**137**	*e*PB	**Pn**	**05 16 46.0**	**+0.2**
RLS	**Riolos of Patr**	**1.47**	**154**	P	**Pn**	**05 16 46.3**	**0.0**
RLS				S	**Sg**	**05 17 07.8**	**+1.7**
RLS	**Riolos of Patr**	**1.47**	**154**	*e*PB	**Pn**	**05 16 46.3**	**0.0**
RLS	**Riolos of Patr**	**1.47**	**154**	*e*Pb	**Pn**	**05 16 46.3**	**0.0**
RLS	**Riolos of Patr**	**1.47**	**154**	P	**Pn**	**05 16 47.2**	**+0.1**
RLS				S	**Sg**	**05 17 07.8**	**+1.7**
TRIZ	**Trizonia**	**1.51**	**132**	P	**Pb**	**05 16 47.5**	**0.0**
TRIZ	**Trizonia**	**1.51**	**132**	P	**Pb**	**05 16 47.5**	**0.0**
FNA	**Florina**	**1.51**	**22**	P	**Pn**	**05 16 46.1**	**-0.8**
FNA				S	**Sg**	**05 17 08.2**	**+0.8**
FNA	**Florina**	**1.51**	**22**	P	**Pn**	**05 16 46.1**	**-0.8**
FNA				S	**Sg**	**05 17 08.2**	**+0.8**
KALE	**Kalithea**	**1.53**	**130**	P	**Pb**	**05 16 48.2**	**+0.3**
KALE	**Kalithea**	**1.53**	**130**	*e*PB	**Pn**	**05 16 47.4**	**+0.2**
KALE	**Kalithea**	**1.53**	**130**	*e*Pb	**Pn**	**05 16 47.4**	**+0.2**
KALE	**Kalithea**	**1.53**	**130**	P	**Pb**	**05 16 48.2**	**+0.3**
LAKA	**Lakka**	**1.54**	**137**	P	**Pn**	**05 16 47.7**	**+0.3**
LAKA	**Lakka**	**1.54**	**137**	P	**Pn**	**05 16 47.7**	**+0.3**
LIT	**Litokhoron**	**1.59**	**63**	P	**Pb**	**05 16 48.7**	**-0.3**
LIT				S	**Sg**	**05 17 11.5**	**+1.4**
LIT	**Litokhoron**	**1.59**	**63**	*e*PB	**Pb**	**05 16 48.7**	**-0.3**
LIT	**Litokhoron**	**1.59**	**63**	*e*Pb	**Pb**	**05 16 48.7**	**-0.3**
LIT				S	**Sg**	**05 17 11.5**	**+1.4**
AXAR	**Agios Charalam**	**1.68**	**111**	P	**Pb**	**05 16 50.4**	**-0.1**
AXAR				S	**Sg**	**05 17 13.2**	**+0.2**
AXAR	**Agios Charalam**	**1.68**	**111**	P	**Pb**	**05 16 50.4**	**-0.1**
AXAR				S	**Sg**	**05 17 13.2**	**+0.2**
BIA	**Bitola**	**1.72**	**17**	P	**Pb**	**05 16 51.4**	**+0.3**
BIA				S	**Sb**	**05 17 13.4**	**+0.3**
BIA	**Bitola**	**1.72**	**17**	*e*Pn	**Pb**	**05 16 51.4**	**+0.3**
BIA				*e*Sg	**Sg**	**05 17 17.1**	**+3.1**
BIA	**Bitola**	**1.72**	**17**	*e*Pn	**Pb**	**05 16 50.9**	**-0.2**
BIA	**Bitola**	**1.72**	**17**	P	**Pb**	**05 16 51.4**	**+0.3**
BIA				S	**Sb**	**05 17 13.4**	**+0.3**
BIA				*e*Sg	**Sg**	**05 17 16.6**	**+2.6**
DSF	**Desfina**	**1.76**	**123**	P	**Pn**	**05 16 50.4**	**0.0**
DSF	**Desfina**	**1.76**	**123**	P	**Pn**	**05 16 50.4**	**0.0**
KLV	**Kalavryta, Ach**	**1.78**	**138**	P	**Pn**	**05 16 51.6**	**+0.9**
KLV				S	**Sg**	**05 17 16.2**	**+0.1**
KLV	**Kalavryta, Ach**	**1.78**	**138**	*e*PN	**Pb**	**05 16 52.2**	**0.0**
KLV	**Kalavryta, Ach**	**1.78**	**138**	P	**Pn**	**05 16 51.6**	**+0.9**
KLV	**Kalavryta, Ach**	**1.78**	**138**	*e*Pn	**Pb**	**05 16 52.2**	**0.0**
KLV				S	**Sg**	**05 17 16.2**	**+0.1**
GUR	**Goura**	**1.96**	**137**	P	**Pb**	**05 16 54.5**	**-0.8**
GUR	**Goura**	**1.96**	**137**	*e*PN	**Pb**	**05 16 55.6**	**+0.3**
GUR	**Goura**	**1.96**	**137**	P	**Pb**	**05 16 54.5**	**-0.8**
GUR	**Goura**	**1.96**	**137**	*e*Pn	**Pb**	**05 16 55.6**	**+0.3**
LKR	**Lokris**	**1.97**	**111**	*e*PN	**Pb**	**05 16 55.5**	**0.0**
LKR	**Lokris**	**1.97**	**111**	*e*Pn	**Pb**	**05 16 55.5**	**0.0**
XOR	**Xorichti**	**1.97**	**90**	P	**Pn**	**05 16 54.5**	**+1.2**
XOR				S	**Sb**	**05 17 20.9**	**+0.4**
XOR	**Xorichti**	**1.97**	**90**	P	**Pn**	**05 16 54.5**	**+1.2**
XOR				S	**Sb**	**05 17 20.9**	**+0.4**
TIR	**Tirane**	**2.05**	**343**	P	**Pn**	**05 16 54.9**	**+0.6**
TIR	**Tirane**	**2.05**	**343**	P	**Pn**	**05 16 54.9**	**+0.6**
SMIA	**Simia**	**2.06**	**103**	P	**Pb**	**05 16 56.0**	**-0.9**
SMIA	**Simia**	**2.06**	**103**	P	**Pb**	**05 16 56.0**	**-0.9**
LTK	**Loutraki**	**2.27**	**126**	*e*PG	**Pb**	**05 16 59.8**	**-0.7**
LTK	**Loutraki**	**2.27**	**126**	*e*Pg	**Pb**	**05 16 59.8**	**-0.7**
PHP	**Peshkopia**	**2.31**	**356**	P	**Pn**	**05 16 59.4**	**+1.5**
PHP				S	**Sn**	**05 17 28.1**	**+1.3**
PHP	**Peshkopia**	**2.31**	**356**	P	**Pn**	**05 16 59.4**	**+1.5**
PHP				S	**Sn**	**05 17 28.1**	**+1.3**
PLG	**Polygyros**	**2.37**	**64**	P	**Pn**	**05 16 59.6**	**+0.8**
PLG				S	**Sb**	**05 17 30.8**	**-1.2**
PLG	**Polygyros**	**2.37**	**64**	*e*PB	**Pn**	**05 16 59.1**	**+0.3**
PLG				*e*SN	**Sb**	**05 17 31.0**	**-1.0**
PLG	**Polygyros**	**2.37**	**64**	P	**Pn**	**05 16 59.6**	**+0.8**
PLG				*e*Sn	**Sb**	**05 17 31.0**	**-1.0**
PAIG	**Paliouri**	**2.40**	**76**	*e*PN	**Pn**	**05 17 00.3**	**+1.1**
PAIG	**Paliouri**	**2.40**	**76**	*e*Pn	**Pn**	**05 17 00.3**	**+1.1**
ITM	**Ithomi**	**2.42**	**155**	P	**Pn**	**05 17 00.2**	**+0.8**
ITM	**Ithomi**	**2.42**	**155**	*e*PN	**Pb**	**05 17 02.1**	**-1.0**
ITM	**Ithomi**	**2.42**	**155**	P	**Pn**	**05 17 00.2**	**+0.8**
ITM	**Ithomi**	**2.42**	**155**	*e*Pn	**Pb**	**05 17 02.1**	**-1.0**
VLX	**Vlachokerasia**	**2.43**	**145**	*e*PN	**Pb**	**05 17 01.8**	**-1.5**
VLX	**Vlachokerasia**	**2.43**	**145**	*e*Pn	**Pb**	**05 17 01.8**	**-1.5**
SOH	**Sokhos**	**2.53**	**54**	*e*PN	**Pn**	**05 17 03.0**	**+2.1**
SOH	**Sokhos**	**2.53**	**54**	*e*Pn	**Pn**	**05 17 03.0**	**+2.1**
ERET	**Eretria**	**2.64**	**110**	P	**Pn**	**05 17 04.7**	**+2.2**
ERET	**Eretria**	**2.64**	**110**	P	**Pn**	**05 17 04.7**	**+2.2**
DID	**Didima**	**2.77**	**132**	P	**Pn**	**05 17 04.8**	**+0.6**
DID	**Didima**	**2.77**	**132**	P	**Pn**	**05 17 04.8**	**+0.6**
NVR	**Nevrokopi**	**3.15**	**50**	*e*PB	**Pn**	**05 17 11.3**	**+1.9**
BARS	**Barje**	**3.54**	**14**	*e*Pn	**Pn**	**05 17 16.3**	**+1.5**
GRUS	**Gruza**	**4.50**	**1**	*e*Pn	**Pn**	**05 17 30.0**	**+2.0**
DIVS	**Divibare**	**4.74**	**354**	*e*Pn	**Pn**	**05 17 31.1**	**-0.2**
BZS	**Buzias**	**6.27**	**6**	⇓*i*P	**Pb**	**05 18 09.4**	**+0.7**
MLR	**Muntele Rosu**	**7.25**	**31**	⇓*i*P	Pn	05 18 11.9	+6.0
PLOR	**Plostina**	**7.83**	**32**	⇓*i*P	Pn	05 18 18.9	+5.1
PETR	**Petresti**	**7.98**	**35**	⇓*i*P	Pn	05 18 19.0	+3.2
FINES	**FINESS Array B**	**22.34**	**7**	P	**P**	**05 21 17.3**	**-0.3**
	2.0nm,0.8s,baz=168,slow=12,SNR=4.7						
TORD	**Torodi Ar. Bea**	**31.03**	**218**	P	**P**	**05 22 37.2**	**-0.9**
	0.5nm,0.9s,baz=36,slow=8.0,SNR=3.3						
MKAR	**Makanchi Array**	**44.60**	**59**	P	**P**	**05 24 30.4**	**-1.9**
	0.2nm,0.4s,baz=284,slow=7.7,SNR=5.1						
ZALV	**Zalesovo Beam**	**44.82**	**49**	P	**P**	**05 24 32.9**	**-1.0**
	0.6nm,0.5s,baz=289,slow=10,SNR=2.9						

MAN 06 05:25:40,15.01N×122.88E,h19km,mb4.3,ML3.1,MS2.9, 1C-1D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GQP	**Guinayangan**	**1.18**	**201**	⇑*i*P	Pg	05 26 02.3	-0.5
GQP				*i* S	Sg	05 26 17.9	-0.4
BALP	**Baler**	**1.45**	**300**	*e*P	Pn	05 26 04.6	-0.6
BALP				*e*S	Sn	05 26 18.2	-5.5
PCPH	**Palayan**	**1.80**	**288**	⇓*e*P	Pn	05 26 09.2	-0.8
PVCP	**Virac**	**1.88**	**138**	*e*P	Pn	05 26 11.5	+0.4
CAUP	**Cauayan**	**2.17**	**332**	*e*P	Pn	05 26 16.3	+1.2

MEX 06 05:56:14.5±0.9,17.45N×95.91W,h96km±14km,MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**1.04**	**110**	*e*P	Pn	05 56 34.1	-0.9
CMIG				*i* S	Sn	05 56 48.4	-2.2
HUIG	**Huatulco**	**1.68**	**187**	*i* P	Pn	05 56 42.2	-0.7
HUIG				*i* S	Sn	05 57 03.0	-1.4
TPIG	**Tehuac#an**	**1.69**	**305**	*i* P	Pn	05 56 42.3	-0.9
TPIG				*i* S	Sn	05 57 04.2	-0.7
PNIG	**Pinotepa**	**2.37**	**244**	*e*P	Pn	05 56 49.8	-2.1
PNIG				*i* S	Sn	05 57 19.1	-1.3
TGIG		**2.74**	**104**	*i* P	Pn	05 56 55.9	-0.9
TGIG				*i* S	Sn	05 57 27.4	-2.0
PCIG		**3.11**	**124**	*i* P	Pn	05 57 00.7	-0.9
PCIG				*i* S	Sn	05 57 37.0	-0.8
CCIG	**Comitan**	**3.79**	**107**	*i* P	Pn	05 57 11.1	0.0
CCIG				*i* S	Sn	05 57 53.1	-1.8

WEL 06 05:56:35.0±0.6,44.24S×167.71E,h12km,ML3.6/11,1D, Error ellipse: s-maj=4.7km s-min=2.9km az=90.0,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.46**	**160**	P*	Pg	05 56 43.5	-0.6
MSZ				S*	Sg	05 56 49.5	-0.8
MSZ				AML	AML	05 56 49.8	
MSZ				AML	AML	05 56 49.8	
MSZ				AML	AML	05 56 50.0	
JCZ	**Jackson Bay**	**0.77**	**78**	⇓P*	Pg	05 56 49.1	-1.0
JCZ				S*	Sg	05 57 00.4	0.0
JCZ				AML	AML	05 57 02.4	
WKZ	**Wanaka**	**1.11**	**123**	P*	Pb	05 56 55.2	-1.0
WKZ				S*	Sb	05 57 08.7	-1.9
WKZ				AML	AML	05 57 09.5	
WKZ				AML	AML	05 57 10.4	
WKZ				AML	AML	05 57 10.4	
MLZ	**Mavora Lakes**	**1.16**	**164**	P*	Pb	05 56 56.1	-0.9
MLZ				S*	Sn	05 57 12.7	-0.2
MLZ				AML	AML	05 57 15.5	
DCZ	**Deep Cove**	**1.30**	**197**	PN	Pn	05 56 56.8	-2.1
DCZ				AML	AML	05 57 15.7	
DCZ				AML	AML	05 57 15.7	
DCZ				AML	AML	05 57 16.8	
DCZ				AML	AML	05 57 17.0	
EAZ	**Earnscleugh**	**1.51**	**132**	PN	Pn	05 57 02.1	+0.2
EAZ				SN	Sn	05 57 20.7	-0.9
EAZ				AML	AML	05 57 24.0	
EAZ				AML	AML	05 57 24.0	
EAZ				AML	AML	05 57 32.0	
FOZ	**Fox Glacier**	**1.58**	**65**	*e*PN	Pb	05 57 03.6	-0.5
FOZ				AML	AML	05 57 28.0	
FOZ				AML	AML	05 57 29.7	
FOZ				AML	AML	05 57 31.0	
FOZ				AML	AML	05 57 31.1	
WHZ	**Wether Hill Ro**	**1.66**	**174**	PN	Pn	05 57 04.1	+0.1
WHZ				AML	AML	05 57 30.3	
WHZ				AML	AML	05 57 30.8	
LBZ	**Lake Benmore**	**1.78**	**96**	PN	Pn	05 57 06.3	+0.6
LBZ				AML	AML	05 57 30.9	
LBZ				AML	AML	05 57 31.1	
LBZ				AML	AML	05 57 31.1	
LBZ				AML	AML	05 57 32.6	
TUZ	**Tuapeka**	**2.19**	**142**	PN	Pb	05 57 12.9	-1.6
TUZ				AML	AML	05 57 43.4	
TUZ				AML	AML	05 57 44.4	
ODZ	**Otahua Downs**	**2.25**	**112**	PN	Pn	05 57 12.4	+0.4
WVZ	**Waitaha Valley**	**2.49**	**63**	PN	Pn	05 57 13.5	-1.8
WVZ				AML	AML	05 57 53.7	
WVZ				AML	AML	05 57 54.7	
SYZ	**Scrubby Hill**	**2.51**	**157**	PN	Pn	05 57 16.6	+1.0
APZ	**The Paps**	**2.60**	**176**	PN	Pn	05 57 17.7	+0.7
DSZ	**Denniston Nort**	**3.90**	**52**	PN	Pn	05 57 32.2	-2.7
THZ	**Tophouse**	**4.54**	**59**	PN	Pn	05 57 42.1	-1.6
QRZ	**Quartz Range**	**4.93**	**48**	PN	Pn	05 57 46.4	-2.5

IDC 06 06:02:23.4±1.8,46.86N×155.42E,h0km,mb3.8/5, mb1 4.0/5,mb1mx3.5/25,mbtmp3.8/5,Error ellipse: s-maj=57.9km s-min=26.7km az=172.0,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**22.35**	**255**	P	P	06 07 24.1	+1.4
	0.6nm,0.5s,baz=52,slow=12,SNR=3.1						
MKAR	**Makanchi Array**	**48.29**	**298**	P	P	06 11 04.8	-1.3
	0.6nm,0.7s,baz=67,slow=8.0,SNR=5.8						
KURBB	**Kurchatov Arra**	**48.71**	**304**	P	P	06 11 07.8	-1.4
	0.9nm,0.6s,baz=71,slow=9.0,SNR=6.7						
FINES	**FINESS Array B**	**64.60**	**336**	P	P	06 13 03.3	+1.3
	2.4nm,0.7s,baz=35,slow=7.5,SNR=19						
TXAR	**Lajitas Array**	**76.05**	**62**	P	P	06 14 12.4	-0.3
	0.7nm,0.6s,baz=305,slow=4.6,SNR=13						
EKA	**Eskdalemuir Ar**	**76.59**	**348**	P	P	06 14 20.4	+5.2
	0.3nm,0.4s,baz=16,slow=5.0,SNR=5.1						

*ISCJB **06** 06:31:04.0±0.7,5.81S±0.04×131.1E±0.1,h68km,Error ellipse: s-maj=14.7km s-min=5.3km az=167.8*
*AUST **06** 06:31:05.5±0.0,5.68S×130.93E,h104km,Error ellipse: s-maj=1.1km s-min=0.7km az=263.0*
*IDC **06** 06:31:17.0±2.4,7.21S×130.97E,h0km,mb3.7/1, mb1 4.3/3,mb1mx3.7/17,mbtmp4.0/3,ML4.2/2,Error ellipse: s-maj=98.9km s-min=28.3km az=79.0*

ISC 06 06:31:04.6±0.8,5.75S±0.05×131.14E±0.09,h68km,n14, σ1.96/16,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLE	**Tual**	**1.60**	**86**	P	Pn	06 31 38.2	+7.4
	baz=1.8,SNR=88						
BNDI	**Bandanaira**	**1.73**	**315**	P	Pn	06 31 34.5	+2.0
	baz=1.5,SNR=6.7						
BNDI				S	**Sn**	**06 31 54.8**	**+1.1**
	baz=1.5,SNR=5.9						
FAKI	**Fak Fak**	**3.02**	**22**	P	**Pn**	**06 31 52.2**	**+2.1**
	baz=3.1,SNR=23						
FAKI				S	**Sn**	**06 32 22.9**	**-2.3**
	baz=3.1,SNR=5.0						
SWI	**Sorong**	**4.85**	**1**	P	**Pn**	**06 32 15.6**	**+0.4**
	baz=4.8,SNR=22						
SWI				S	**Sn**	**06 33 08.6**	**-1.5**
	baz=4.8,SNR=4.4						
KDU	**Kakadu**	**7.02**	**169**	P	Pn	06 32 47.5	+2.7
	baz=7.2,SNR=165						
KDU				S	**Sn**	**06 34 03.8**	**+0.5**
	baz=7.2,SNR=5.1						
MTN	**Manton Dam**	**7.05**	**180**	P	Pn	06 32 48.0	+2.7
	baz=7.2,SNR=114						
MTN				S	**Sn**	**06 34 06.3**	**+2.3**
	baz=7.2,SNR=7.1						
KNRA	**Kununurra**	**10.14**	**193**	P	**Pn**	**06 33 28.4**	**+0.9**
	baz=10,SNR=22						
KNRA				S	**Sn**	**06 35 17.0**	**-2.7**
	baz=10,SNR=4.2						
FITZ	**Fitzroy Crossi**	**13.40**	**203**	Pn	**Pn**	**06 34 09.2**	**-2.7**
	baz=41,slow=13						
FITZ	**Fitzroy Crossi**	**13.40**	**203**	P	**Pn**	**06 34 11.2**	**-0.7**
	baz=14,SNR=9.6						
FITZ				S	Sn	06 36 31.4	-7.9
	baz=14,SNR=3.6						
COEN	**Coen**	**14.39**	**125**	P	**P**	**06 34 29.7**	**-0.3**
	baz=15,SNR=5.7						
WRA	**Warramunga Arr**	**14.45**	**168**	Pn	**Pn**	**06 34 23.8**	**-2.0**
	1.1nm,0.3s,baz=345,slow=14,SNR=28						
WRA				Sn	Sn	06 36 57.3	-7.5
	1.1nm,0.3s,baz=360,slow=22,SNR=6.6						
ASAR	**Alice Springs**	**18.02**	**172**	Pn	**Pn**	**06 35 12.0**	**+1.5**
	1.2nm,0.3s,baz=355,slow=11,SNR=40						
ASAR				Sn	Sn	06 38 22.4	-8.6
	0.2nm,0.3s,baz=353,slow=27,SNR=5.1						
XMIS	**Christmas Isla**	**25.66**	**258**	P	**P**	**06 36 26.2**	**-2.1**
	baz=26,SNR=4.0						
MKAR	**Makanchi Array**	**67.81**	**326**	P	**PcP**	**06 42 23.9**	**+2.2**
	0.5nm,0.6s,baz=125,slow=7.2,SNR=7.9						

*BJI **06** 06:48:55.4,39.53N×73.75E,h5km,mb4.3/5,ML3.7/5*
*IDC **06** 06:48:56.2±0.8,39.46N×73.96E,h0km,mb3.9/15, mb1 4.0/21,mb1mx3.9/33,mbtmp3.8/21,ML3.7/6,MS3.0/7, Ms1 3.0/7,ms1mx2.6/46,Error ellipse: s-maj=14.7km s-min=13.2km az=164.0*
*NNC **06** 06:48:57.5±2.9,39.45N×73.57E,h1km±17km,mb4.3, mpv4.1,Error ellipse: s-maj=27.8km s-min=11.6km az=2.0*
*MOS **06** 06:49:02.8±0.9,39.64N×73.86E,h59km,mb4.1/14,Error ellipse: s-maj=12.3km s-min=5.2km az=83.5*

ISC 06 06:49:00.6±0.8,39.70N±0.04×73.90E±0.04,h19km±3km, n79,σ1.83/76,mb3.9/19,MS3.1/4,9C-7D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.61**	**96**	Pg	Pn	06 49 22.0	-6.2
KSH				Sg	Sn	06 49 40.2	-8.4
KSH				smax	smax		
	comp=N,960nm,0.4s						
KSH				smax	smax		
	comp=E,910nm,0.7s						
AML	**Almayashu**	**2.44**	**356**	*i* PN	**Pn**	**06 49 42.3**	**+2.5**
AML	**Almayashu**	**2.44**	**356**	P	**Pn**	**06 49 42.3**	**+2.5**
	SNR=56						
UCH	**Uchtor**	**2.57**	**10**	*i* PN	**Pb**	**06 49 44.7**	**-1.7**
UCH	**Uchtor**	**2.57**	**10**	P	**Pb**	**06 49 44.7**	**-1.7**
	SNR=30						
KZA	**Kyzart**	**2.59**	**23**	*i* PN	**Pn**	**06 49 44.2**	**+2.3**
KZA	**Kyzart**	**2.59**	**23**	P	**Pn**	**06 49 44.2**	**+2.3**
	SNR=76						
EKS2	**Erkin-Say**	**2.96**	**358**	*i* PN	**Pn**	**06 49 49.5**	**+2.7**
EKS2	**Erkin-Say**	**2.96**	**358**	P	**Pn**	**06 49 49.5**	**+2.7**
	SNR=70						
AAK	**Ala-Archa**	**2.97**	**9**	*d* iPN	**Pn**	**06 49 49.8**	**+2.9**
AAK				*i* S	**Sb**	**06 50 32.4**	**+3.5**
AAK	**Ala-Archa**	**2.97**	**9**	P	Pn	06 49 50.1	+3.2
	SNR=57						
AAK	**Ala-Archa**	**2.97**	**9**	Pn	Pn	06 49 50.0	+3.2
	comp=E,16nm,0.3s,baz=166,slow=7.8,SNR=86						
AAK				Lg	Lg	06 50 30.0	
	comp=E,18nm,0.3s,baz=68,slow=19,SNR=7.9						
AAK				LR	LR	06 51 03.9	
	comp=E,205nm,18.1s,baz=193,slow=40						
KBK	**Karagaybulak**	**3.06**	**15**	*i* PN	**Pb**	**06 49 51.8**	**-2.8**
KBK	**

comp=Z,1.0nm,0.3s
BVAR MLR MLR
comp=Z,48nm,21.9s
BVAR Borovoye Array 13.55 351 Pn Pn 06 52 11.0 -0.7
comp=Z,0.6nm,0.3s,baz=168,slow=15,SNR=9.0
BVAR LR LR 06 57 41.4
comp=Z,48nm,21.9s,baz=133,slow=38
BRVK Borovoye 13.59 351 *i* P **Pn 06 52 12.0 -0.3**
BRVK pmax pmax
comp=Z,4.0nm,0.8s
BRVK MLR MLR
comp=Z,53nm,18.0s
AB31 Akbulak array 13.78 318 ⇑P **Pn 06 52 13.5 -1.5**
comp=Z,1.8nm,0.5s,baz=126,slow=14,SNR=60
AB31 ⇑S **Sn 06 54 45.2 -2.2**
comp=Z,1.0nm,0.4s
AB31 Akbulak array 13.78 318 P **Pn 06 52 13.4 -1.5**
AB31 06 54 42.2
AB31 pmax pmax
comp=Z,2.0nm,0.5s
AB31 smax smax
comp=N,1.0nm,0.4s
AKTO Aktyubinsk 15.49 319 ⇓P **Pn 06 52 39.0 +1.0**
comp=N,9.9nm,1.4s
AKTO ⇑S **Sn 06 55 26.5 -2.5**
comp=N,4.5nm,1.3s
AKTO Aktyubinsk 15.49 319 P **Pn 06 52 36.7 -1.3**
AKTO pmax pmax
comp=Z,1.0nm,0.3s
AKTO MLR MLR
comp=Z,45nm,21.8s
AKTO Aktyubinsk 15.49 319 Pn **Pn 06 52 36.7 -1.3**
comp=Z,0.5nm,0.3s,baz=98,slow=13,SNR=7.1
AKTO LR LR 06 59 06.5
comp=Z,45nm,21.8s,baz=118,slow=39
ZALV Zalesovo Beam 16.06 24 P **Pn 06 52 44.9 -0.4**
ZALV pmax pmax
comp=Z,1.0nm,0.3s
ZALV Zalesovo Beam 16.06 24 Pn **Pn 06 52 44.9 -0.4**
comp=Z,0.5nm,0.3s,baz=211,slow=10,SNR=9.6
NVS Novosibirsk 16.39 19 *e*P Pn 06 52 44.1 -5.4
HVS Khovu-Aksy 17.94 44 *i* P **P 06 53 10.7 +1.3**
HVS pmax pmax
comp=Z,62nm,1.7s
ARU Arti 19.55 334*d i*P **Pn 06 53 29.8 +1.5**
ARU pmax pmax
comp=Z,13nm,2.5s
GTA Gaotai 19.97 83 P **P 06 53 32.3 +0.5**
GTA pP **pP 06 53 37.0 -0.1**
GTA sP **sP 06 53 39.4 -0.1**
GTA pmax pmax
comp=Z,10.0nm,0.7s
ZAK Zakamensk 23.20 53 *e*P **P 06 54 06.2 -0.1**
ZAK pmax pmax
comp=Z,3.0nm,1.1s
KIV Kislovodsk 23.57 291 *e*P P 06 54 02.9 -7.1
KIV *e*S S 06 58 13.3 -10
KIV pmax pmax
comp=Z,5.0nm,1.1s
SONM Songino Array 24.69 60 P **P 06 54 20.2 -0.3**
comp=Z,1.9nm,0.7s,baz=257,slow=11,SNR=13
BRTR Keskin Array B 30.79 283 P **P 06 55 15.2 0.0**
comp=Z,1.1nm,0.8s,baz=64,slow=7.9,SNR=4.6
AKASG Malin Array Be 32.87 305 P **P 06 55 34.3 +1.2**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 32.87 305 P **P 06 55 34.3 +1.2**
comp=Z,0.3nm,0.4s,baz=81,slow=7.4,SNR=2.2
JOF Joensuu 34.35 327 *e*P **P 06 55 46.0 +0.2**
JOF pmax pmax
comp=Z,2.0nm,0.6s
JOF Joensuu 34.35 327 *e*p **P 06 55 46.0 +0.2**
comp=Z,2.1nm,0.6s
FINES FINESS Array B 36.21 323 P **P 06 56 02.0 +0.1**
comp=Z,1.4nm,0.4s,baz=115,slow=9.7,SNR=30
FINES LR LR 07 11 35.5
comp=Z,31nm,20.5s,baz=18,slow=37
QIZ Qiongzhong 37.15 113 P P 06 56 03.2 -7.1
QIZ S S 07 01 49.6 -6.4
QIZ pmax pmax
comp=Z,6.0nm,1.7s
ARCES ARCESS Array B 39.13 335 P **P 06 56 27.0 +0.5**
comp=Z,1.0nm,0.5s,baz=107,slow=8.9,SNR=18
KSRS Korea Array 41.76 75 P **P 06 56 47.0 -1.6**
comp=Z,0.9nm,0.8s,baz=290,slow=7.2,SNR=3.4
HFS Hagfors 42.04 320 P **P 06 56 50.4 -0.3**
comp=Z,1.6nm,0.5s,baz=98,slow=11,SNR=10
GERES GERESS Array B 43.04 303 P **P 06 56 59.9 +0.9**
comp=Z,0.8nm,0.5s,baz=68,slow=8.1,SNR=10
GERES LR LR 07 18 01.3
comp=Z,15nm,20.5s,baz=132,slow=40
NB2 NORSAR Subarra 43.27 321 P **P 06 57 00.5 -0.2**
comp=Z,1.1nm,0.5s,baz=90,slow=8.6
NOA NORSAR Array B 43.27 321 P **P 06 57 00.9 +0.2**
comp=Z,1.5nm,0.6s,baz=91,slow=7.9,SNR=7.4
NOA LR LR 07 15 51.8
comp=Z,25nm,19.6s,baz=90,slow=37
JNU Nakatsue 45.67 80 LR LR 07 20 08.3
comp=Z,29nm,19.1s,baz=62,slow=41
ESDC Sonseca Array 58.01 297 P **P 06 58 51.9 -0.4**
comp=Z,0.1nm,0.3s,baz=55,slow=7.0,SNR=4.2
TORD Torodi Ar. Bea 68.07 269 P **P 06 59 57.6 -1.6**
comp=Z,0.7nm,0.4s,baz=50,slow=5.5,SNR=15
ILAR Eielson Array 71.07 17 P **P 07 00 15.6 -1.5**
comp=Z,0.5nm,0.8s,baz=326,slow=4.8,SNR=6.9
YKA Yellowknife Ar 77.92 4 P **P 07 00 56.0 -0.9**
comp=Z,1.2nm,0.7s,baz=359,slow=6.1,SNR=3.6
WRA Warramunga Arr 81.81 124 P **P 07 01 16.5 -2.0**
comp=Z,0.5nm,0.5s,baz=307,slow=3.7,SNR=13
ASAR Alice Springs 84.28 127 P **P 07 01 29.0 -2.2**
comp=Z,0.4nm,0.6s,baz=315,slow=5.0,SNR=8.8

ISCJB ***06*** *07:00:34.1±0.4, 59.°64N±0.°02×24.°58E±0.°05, h0km, Error ellipse: s-maj=3.8km s-min=3.3km az=31.3*
CSEM ***06*** *07:00:34.9±0.2, 59.°68N×24.°72E, h2km, ML2.8, Error ellipse: s-maj=4.8km s-min=4.2km az=122.0, Mining explosion.*
NAO ***06*** *07:00:35.7±1.0, 59.°68N×24.°68E, ML2.5*
HEL ***06*** *07:00:35.4±0.1, 59.°61N×24.°65E, h0km, ML2.6, ML1.7(UPP), Explosion*
BER ***06*** *07:00:36.1±3.4, 59.°68N×24.°70E, h0km±15km, ML2.5(NAO)*
IDC ***06*** *07:00:37.0±1.0, 59.°77N×24.°70E, h0km, mb1 3.5/4, mb1mx3.2/27, mbtmp3.5/4, Error ellipse: s-maj=12.2km s-min=8.8km az=143.0*
UPP ***06*** *07:00:46.1, 59.°84N×23.°07E, h0km, ML1.7, Suspected Mining explosion.*

ISC 06 07:00:34.1±0.7, 59.°64N±0.°03×24.°58E±0.°03, h0km, n62, σ1§23/87, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**0.59**	**351**	*e*P	**Pg**	**07 00 45.8**	**+0.4**
MEF				*e*RG	Rg	07 00 52.6	
MEF	**Metsahovi**	**0.59**	**351**	P	**Pg**	**07 00 45.8**	**+0.4**
MEF				*e*S	**Sg**	**07 00 52.6**	**-0.4**
	155nm,0.4s,SNR=90						
MTSE	**Matsula**	**1.01**	**203**	*e*P	**Pg**	**07 00 52.9**	**-0.5**
MTSE				*e*SB	**Sg**	**07 01 07.5**	**+1.1**
MTSE				*e*RG	Rg	07 01 10.2	
MTSE	**Matsula**	**1.01**	**203**	P	**Pg**	**07 00 52.8**	**-0.5**
MTSE				Sb	**Sg**	**07 01 07.5**	**+1.1**
PVF	**Pernaja**	**1.11**	**35**	*e*P	**Pg**	**07 00 55.1**	**-0.3**
PVF				*e*SN	**Sn**	**07 01 14.3**	**+1.4**
PVF				*e*RG	Rg	07 01 15.4	
PVF	**Pernaja**	**1.11**	**35**	P	**Pg**	**07 00 55.1**	**-0.3**
PVF				Sn	**Sn**	**07 01 14.3**	**+1.4**
VSU	**Vasula**	**1.62**	**136**	Pg	**Pn**	**07 01 04.9**	**+1.1**
VSU				Lg	Lg	07 01 26.0	
VSU	**Vasula**	**1.62**	**136**	Pg	**Pn**	**07 01 04.9**	**+1.1**
VSU				Lg	Lg	07 01 26.0	
VSU	**Vasula**	**1.62**	**136**	Pg	**Pn**	**07 01 04.9**	**+1.1**
	SNR=90						
VSU				Lg	Lg	07 01 26.0	
	SNR=121						
VSU				*e*S	**S**	**07 01 26.0**	**+0.5**
	329nm,0.3s,SNR=50						
VJF	**Virojoki**	**1.74**	**57**	*e*P	**Pn**	**07 01 06.3**	**+0.7**
VJF				*e*SN	**Sb**	**07 01 29.5**	**+0.2**
VJF	**Virojoki**	**1.74**	**57**	P	**Pn**	**07 01 06.2**	**+0.7**
VJF				Sn	**Sb**	**07 01 29.5**	**+0.2**
FIA0	**FINESS Array S**	**1.96**	**22**	Pg	**Pb**	**07 01 10.2**	**-0.3**
	baz=189,slow=18						
FIA0				Lg	Lg	07 01 34.9	
	baz=198,slow=37						
FIA0	**FINESS Array S**	**1.96**	**22**	Pg	**Pb**	**07 01 10.2**	**-0.3**
	baz=189,slow=18						
FIA0				Lg	Lg	07 01 34.9	
	baz=198,slow=37						
FIA0	**FINESS Array S**	**1.96**	**22**	*e*PB	**Pn**	**07 01 10.1**	**+1.6**
FIA0				*e*S	**Sn**	**07 01 34.4**	**+0.7**
FIA0	**FINESS Array S**	**1.96**	**22**	Pg	**Pb**	**07 01 10.2**	**-0.3**
	baz=189,slow=18,SNR=90						
FIA0				S	**Sn**	**07 01 34.4**	**+0.7**
FINES	**FINESS Array B**	**1.96**	**22**	Pn	**Pb**	**07 01 10.2**	**-0.3**
	17nm,0.3s,baz=198,slow=15,SNR=701						
FINES				Sn	**Sb**	**07 01 35.2**	**-0.3**
	22nm,0.3s,baz=196,slow=24,SNR=23						
RAF	**Rauma**	**1.98**	**316**	*e*PB	**Pb**	**07 01 10.8**	**-0.1**
RAF				*e*SG	**Sb**	**07 01 37.4**	**+1.4**
RAF	**Rauma**	**1.98**	**316**	*e*P	**Pb**	**07 01 10.7**	**-0.1**
	SNR=50						
RAF				*e*S	**Sb**	**07 01 37.1**	**+1.1**
	53nm,0.3s,SNR=50						
RAF				Sg	**Sb**	**07 01 37.4**	**+1.4**
SLIT	**Slitere, Latvi**	**2.34**	**212**	*e*P	**Pb**	**07 01 17.1**	**0.0**
	SNR=50						
AAL	**Aland**	**2.38**	**285**	*e*P	**Pn**	**07 01 15.8**	**+1.6**
AAL				*e*SB	**Sb**	**07 01 48.3**	**+0.8**
AAL	**Aland**	**2.38**	**285**	P	**Pn**	**07 01 15.8**	**+1.6**
AAL				Sb	**Sb**	**07 01 48.3**	**+0.8**
KEF	**Keuruu**	**2.54**	**3**	*e*PB	**Pb**	**07 01 19.7**	**-0.8**
KEF				*e*SB	**Sb**	**07 01 53.0**	**+0.7**
KEF				MSG		07 01 53.8	
	comp=Z,33nm,0.3s						
KEF	**Keuruu**	**2.54**	**3**	Pb	**Pb**	**07 01 19.7**	**-0.8**
KEF				Sb	**Sb**	**07 01 53.0**	**+0.7**
KAF	**Kangasniemi**	**2.62**	**18**	*e*P	**Pn**	**07 01 19.6**	**+2.0**
KAF				*e*SB	**Sb**	**07 01 53.5**	**-1.1**
KAF				MSG		07 01 57.6	
	comp=Z,34nm,0.3s						
KAF	**Kangasniemi**	**2.62**	**18**	P	**Pn**	**07 01 19.6**	**+2.0**
KAF				Sb	**Sb**	**07 01 53.5**	**-1.1**
NRTU	**Norrtaelje**	**3.02**	**273**	P	**Pn**	**07 01 24.5**	**+1.4**
NRTU	**Norrtaelje**	**3.02**	**273**	P	**Pn**	**07 01 24.5**	**+1.4**
SUF	**Sumiainen**	**3.18**	**13**	*e*P	**Pn**	**07 01 27.3**	**+1.9**
SUF				MSG		07 02 20.1	
	comp=Z,12nm,0.3s						
SUF	**Sumiainen**	**3.18**	**13**	P	**Pn**	**07 01 27.2**	**+1.9**
FLYU	**Flymyra**	**3.41**	**281**	P	**Pn**	**07 01 29.4**	**+0.9**
FLYU	**Flymyra**	**3.41**	**281**	P	**Pn**	**07 01 29.4**	**+0.9**
NYNU	**Nynaeshamn**	**3.43**	**262**	P	**Pn**	**07 01 30.9**	**+2.1**
NYNU	**Nynaeshamn**	**3.43**	**262**	P	**Pn**	**07 01 30.8**	**+2.1**
VAF	**Ylistaro**	**3.54**	**346**	*e*P	**Pn**	**07 01 32.5**	**+2.3**
VAF	**Ylistaro**	**3.54**	**346**	P	**Pn**	**07 01 32.5**	**+2.3**
IGGU	**Iggoen**	**3.83**	**292**	P	**Pn**	**07 01 35.6**	**+1.4**
IGGU	**Iggoen**	**3.83**	**292**	P	**Pn**	**07 01 35.6**	**+1.4**
ARNU	**Arnoeviken**	**4.10**	**303**	P	**Pn**	**07 01 39.4**	**+1.5**
ARNU	**Arnoeviken**	**4.10**	**303**	P	**Pn**	**07 01 39.4**	**+1.5**
ESKU	**Eskilstuna**	**4.20**	**268**	P	**Pn**	**07 01 41.5**	**+2.2**
ESKU	**Eskilstuna**	**4.20**	**268**	P	**Pn**	**07 01 41.5**	**+2.2**
HUDU	**Hudiksvall**	**4.23**	**303**	P	**Pn**	**07 01 41.2**	**+1.4**
HUDU	**Hudiksvall**	**4.23**	**303**	P	**Pn**	**07 01 41.1**	**+1.4**
FALU	**Falun**	**4.47**	**285**	P	**Pn**	**07 01 44.2**	**+1.2**
FALU	**Falun**	**4.47**	**285**	P	**Pn**	**07 01 44.2**	**+1.2**
HFS	**Hagfors**	**5.51**	**280**	Pn	**Pn**	**07 01 58.6**	**+1.3**
	baz=97,slow=16						
HFS				Sn	**Sn**	**07 03 01.0**	**-0.2**
	baz=98,slow=28						
HFS				Lg	Lg	07 03 27.1	
	baz=83,slow=37						
HFS	**Hagfors**	**5.51**	**280**	Pn	**Pn**	**07 01 58.6**	**+1.3**
	baz=97,slow=16						
HFS				Sn	**Sn**	**07 03 01.0**	**-0.2**
	baz=98,slow=28						
HFS				Lg	Lg	07 03 27.1	
	baz=83,slow=37						
HFS	**Hagfors**	**5.51**	**280**	Pn	**Pn**	**07 01 58.5**	**+1.3**
	comp=Z,0.8nm,0.3s,baz=118,slow=14,SNR=33						
HFS				Sn	**Sn**	**07 03 02.9**	**+1.7**
	comp=Z,1.1nm,0.3s,baz=101,slow=24,SNR=7.0						
HFS				Lg	Lg	07 03 24.5	
	comp=Z,2.1nm,0.3s,baz=85,slow=32,SNR=8.4						
HFS	**Hagfors**	**5.51**	**280**	Pn	**Pn**	**07 01 58.6**	**+1.3**
	baz=97,slow=14,SNR=50						
HFS				Lg	Lg	07 03 27.1	
	baz=83,slow=32,SNR=6.2						
NB2	**NORSAR Subarra**	**6.78**	**288**	Pn	**Pn**	**07 02 14.6**	**-0.2**
	baz=103,slow=12						
NB2				Sn	**Sn**	**07 03 30.2**	**-2.5**
NB2				Lg	Lg	07 04 05.5	
NB2	**NORSAR Subarra**	**6.78**	**288**	Pn	**Pn**	**07 02 14.6**	**-0.2**
	baz=103,slow=12						
NB2				Sn	**Sn**	**07 03 30.2**	**-2.5**
NB2				Lg	Lg	07 04 05.5	
NB2	**NORSAR Subarra**	**6.78**	**288**	Pn	**Pn**	**07 02 14.6**	**-0.2**
	baz=103,slow=12,SNR=50						
NB2				Lg	Lg	07 04 05.5	
NOA	**NORSAR Array B**	**6.78**	**288**	Pn	**Pn**	**07 02 14.6**	**-0.2**
	comp=Z,0.9nm,0.3s,baz=88,slow=13,SNR=21						
NOA				Sn	**Sn**	**07 03 30.8**	**-1.9**
	comp=Z,0.7nm,0.3s,baz=151,slow=18,SNR=3.7						
NOA				Lg	Lg	07 04 04.3	
	comp=Z,1.7nm,0.3s,baz=107,slow=15,SNR=7.1						
KU6	**Riekki**	**6.85**	**18**	MSG		07 04 09.8	
	comp=Z,4.8nm,0.3s						
APA0	**Apatity Array**	**8.82**	**21**	Pn	**Pn**	**07 02 42.5**	**-0.1**
	baz=219,slow=14						
APA0	**Apatity Array**	**8.82**	**21**	Pn	**Pn**	**07 02 42.5**	**-0.1**
	baz=219,slow=14						
APA0	**Apatity Array**	**8.82**	**21**	Pn	**Pn**	**07 02 42.5**	**-0.1**
	baz=219,slow=12,SNR=50						
AKASG	**Malin Array Be**	**9.34**	**162**	Pn	**Pn**	**07 02 49.5**	**-0.3**
	comp=Z,1.5nm,0.3s,baz=339,slow=12,SNR=4.5						
ARA0	**ARCESS Array S**	**9.95**	**2**	Pn	**Pn**	**07 02 57.0**	**-1.1**
	baz=174,slow=16						
ARA0	**ARCESS Array S**	**9.95**	**2**	Pn	**Pn**	**07 02 57.0**	**-1.1**
	baz=174,slow=16						
ARA0	**ARCESS Array S**	**9.95**	**2**	Pn	**Pn**	**07 02 57.0**	**-1.1**
	baz=174,slow=15,SNR=50						
ARCES	**ARCESS Array B**	**9.95**	**2**	Pn	**Pn**	**07 02 57.2**	**-0.9**
	comp=Z,1.2nm,0.3s,baz=182,slow=11,SNR=83						
ARCES				Sn	Sn	07 04 42.9	-7.3
	comp=Z,0.3nm,0.3s,baz=182,slow=21,SNR=4.6						

ISCJB ***06*** *07:05:28.2±0.4, 40.°00N±0.°03×77.°11E±0.°06, h10km, mb4.0/15, MS3.4/10, Error ellipse: s-maj=6.1km s-min=4.7km az=177.6*
IDC ***06*** *07:05:28.1±1.5, 39.°98N×77.°09E, h0km, mb3.9/10, mb1 4.1/16, mb1mx3.9/32, mbtmp4.0/16, ML3.9/6, MS3.4/11, Ms1 3.4/11, ms1mx3.2/40, Error ellipse: s-maj=27.2km s-min=16.9km az=151.0*
BJI ***06*** *07:05:30.6, 40.°29N×76.°94E, h5km, mb4.4/6, ML4.0/8, Ms3.9/2, Ms7 3.9/2*
NNC ***06*** *07:05:35.0±2.1, 40.°42N×76.°79E, h0km, mb4.5, mpv4.1, Error ellipse: s-maj=18.8km s-min=15.1km az=146.0*
MOS ***06*** *07:05:44.3±1.4, 40.°99N×76.°83E, h116km, mb4.2/11, Error ellipse: s-maj=10.1km s-min=5.1km az=109.3*

ISC 06 07:05:29.8±0.5, 40.°05N±0.°05×76.°98E±0.°06, h10km, n86, σ1§77/74, mb4.1/15, MS3.5/10, 10C-9D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**0.94**	**236**	*i*Pg	Pn	07 06 00.0	+11
KSH				Sg	Sn	07 06 20.6	+18
KSH				smax	smax		
	comp=N,1μm,0.5s						
KSH				smax	smax		
	comp=E,3μm,0.4s						
ULHL	**Ulahol**	**2.26**	**346**	P	**Pn**	**07 06 08.4**	**+1.1**
	SNR=451						
KZA	**Kyzart**	**2.41**	**328**	*i* PN	**Pn**	**07 06 11.4**	**+1.8**
KZA	**Kyzart**	**2.41**	**328**	P	**Pn**	**07 06 11.4**	**+1.8**
	SNR=218						
UCH	**Uchtor**	**2.86**	**320**	*i* PN	**Pn**	**07 06 18.1**	**+2.3**
UCH	**Uchtor**	**2.86**	**320**	P	**Pn**	**07 06 18.1**	**+2.3**
	SNR=27						
KBK	**Karagaybulak**	**3.02**	**330**	*i* PN	**Pb**	**07 06 20.8**	**-2.9**
KBK	**Karagaybulak**	**3.02**	**330**	P	**Pb**	**07 06 20.8**	**-2.9**
	SNR=98						
TKM2	**Tokmak 2**	**3.05**	**341**	⇑Pn	**Pn**	**07 06 21.0**	**+2.7**
	comp=E,323nm,1.1s						
TKM2				⇑Lg	Lg	07 06 59.9	
	comp=E,611nm,0.7s						
TKM2	**Tokmak 2**	**3.05**	**341**	PN	**Pn**	**07 06 20.9**	**+2.7**
TKM2				pmax	pmax		
	comp=Z,323nm,1.1s						
TKM2				pmax	pmax		
	comp=N,611nm,0.7s						
TKM2	**Tokmak 2**	**3.05**	**341**	P	**Pn**	**07 06 20.9**	**+2.7**
	SNR=345						
KNDC	**Almaty**	**3.16**	**360**	⇓Pn	Pn	07 06 22.3	+2.6
KNDC				⇑Lg	Lg	07 07 03.5	
AAK	**Ala-Archa**	**3.19**	**325**	PN	**Pn**	**07 06 23.0**	**+2.9**
AAK				pmax	pmax		
	comp=Z,16nm,0.3s						
AAK	**Ala-Archa**	**3.19**	**325**	P	**Pn**	**07 06 23.0**	**+2.9**
	SNR=62						
AAK	**Ala-Archa**	**3.19**	**325**	Pn	**Pn**	**07 06 23.0**	**+2.9**
	comp=Z,16nm,0.3s,baz=138,slow=9.6,SNR=125						
AAK				Lg	Lg	07 07 03.0	
	comp=Z,45nm,0.3s,baz=14,slow=23,SNR=12						
AAA	**Alma-Ata**	**3.22**	**360**	*e*PN	**Pb**	**07 06 25.2**	**-1.8**
AAA				pmax	pmax		
	comp=Z,933nm,0.5s						
AML	**Almayashu**	**3.24**	**311**	*i* PN	**Pb**	**07 06 25.2**	**-2.3**
AML	**Almayashu**	**3.24**	**311**	P	Pn	07 06 24.0	+3.0
	SNR=252						
FRU	**Bishkek**	**3.30**	**328**	⇑*i*PN	**Pn**	**07 06 24.0**	**+2.5**
FRU				pmax	pmax		
	comp=Z,1μm,1.8s						
CHMS	**Chumysh**	**3.38**	**331**	*i* PN	**Pn**	**07 06 25.5**	**+2.8**
CHMS	**Chumysh**	**3.38**	**331**	P	**Pn**	**07 06 25.5**	**+2.8**
	SNR=188						
EKS2	**Erkin-Say**	**3.55**	**318**	*i* PN	Pn	07 06 28.6	+3.6
EKS2	**Erkin-Say**	**3.55**	**318**	P	Pn	07 06 28.6	+3.6
	SNR=137						
USP	**Ospenovka**	**3.71**	**331**	*i* PN	**Pn**	**07 06 29.5**	**+2.3**
USP	**Ospenovka**	**3.71**	**331**	P	**Pn**	**07 06 29.5**	**+2.3**
	SNR=32						
KK31	**Karatay Array**	**5.73**	**304**	⇓Pn	**Pn**	**07 06 56.7**	**+1.8**
	comp=Z,2.7nm,0.5s,baz=120,slow=12,SNR=54						
KK31				Pg	Pb	07 07 13.2	+3.4
	comp=Z,11nm,0.4s,baz=120,slow=16,SNR=20						
KK31				⇑Lg	Lg	07 08 25.3	
	comp=Z,40nm,0.6s,baz=133,slow=30,SNR=5.9						
KK31	**Karatay Array**	**5.73**	**304**	*i* PN	**Pn**	**07 06 56.6**	**+1.8**
KK31				pmax	pmax		
	comp=Z,3.0nm,0.5s						
KK31				pmax	pmax		
	comp=Z,11nm,0.4s						
KK31				pmax	pmax		
	comp=N,40nm,0.6s						
DLH	**Dalhousie**	**7.54**	**187**	*e*P	Pn	07 07 26.0	+6.0
DLH				*e*4		07 08 50.0	
THN	**Thein Dam**	**7.67**	**188**	*e*P	Pn	07 07 24.4	+2.9
THN				*e*S	Sb	07 08 59.6	-15
MK31	**Makanchi Array**	**7.76**	**28**	⇑Pn	**Pn**	**07 07 24.5**	**+1.6**
	comp=N,3.8nm,0.6s,baz=203,slow=13,SNR=50						
MK31				⇓Pg	Pb	07 07 48.7	+4.3
	comp=N,20nm,1.1s,baz=214,slow=16,SNR=4.3						
MK31				⇑Lg	Lg	07 09 30.3	
	comp=N,24nm,0.8s,baz=215,slow=29,SNR=4.2						
MK31	**Makanchi Array**	**7.76**	**28**	*e*PN	**Pn**	**07 07 24.4**	**+1.6**
MK31				pmax	pmax		
	comp=Z,5.0nm,0.5s						
MK31				pmax	pmax		
	comp=N,4.0nm,0.3s						
MKAR	**Makanchi Array**	**7.76**	**28**	PN	**Pn**	**07 07 24.3**	**+1.5**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR				MLR	MLR		
	comp=Z,114nm,19.4s						
MKAR	**Makanchi Array**	**7.76**	**28**	Pn	**Pn**	**07 07 24.3**	**+1.5**
	comp=Z,0.7nm,0.3s,baz=198,slow=12,SNR=32						
MKAR				Lg	Lg	07 09 28.6	
	comp=Z,2.6nm,0.3s,baz=213,slow=30,SNR=6.0						
MKAR				LR	LR	07 10 51.7	
	comp=Z,114nm,19.4s,baz=221,slow=42						
WMQ	**Urumqi**	**8.83**	**61**	Pn	Pn	07 07 25.3	-12
WMQ				Sn	**Sn**	**07 09 18.0**	**+1.0**
WMQ				smax	smax		
	comp=N,47nm,0.9s						
WMQ				smax	smax		
	comp=E,32nm,0.8s						
KURBB	**Kurchatov Arra**	**10.62**	**5**	Pn	**Pn**	**07 08 01.4**	**-0.6**
	comp=E,0.7nm,0.3s,baz=196,slow=12,SNR=31						
KURBB				Lg	Lg	07 10 56.3	
	comp=E,1.6nm,0.3s,baz=180,slow=32,SNR=8.9						
KURK	**Kurchatov**	**10.72**	**6**	P	**Pn**	**07 08 01.4**	**-1.9**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AYAN	**Aya Nagar**	**11.54**	**179**	*e*P	**Pn**	**07 08 14.4**	**-0.2**
AYAN				*e*S	**Sn**	**07 10 21.4**	**-2.1**
SONA	**Sohna**	**11.78**	**180**	*e*P	**Pn**	**07 08 17.5**	**-0.2**
SONA				*e*S	**Sn**	**07 10 26.3**	**-2.9**
SONA				AML	AML	07 10 41.2	
	comp=E,14nm,0.1s						
SONA				AML	AML	07 10 41.9	
	comp=N,10nm,0.4s						
KHET	**Khetri**	**11.99**	**185**	*e*P	Pn	07 08 21.7	+1.0
KHET				*e*S	**Sn**	**07 10 36.9**	**+2.4**
KHET				AML	AML	07 10 59.2	
	comp=N,48nm,0.1s						
KHET				AML	AML	07 10 59.2	
	comp=E,29nm,0.1s						
VOSK	**Vostochnaya**	**13.32**	**344**	⇑Pn	**Pn**	**07 08 37.4**	**-1.5**
	comp=E,15nm,1.3s						
VOSK				⇑Lg	Lg	07 12 22.7	
	comp=E,67nm,1.3s						
VOSK	**Vostochnaya**	**13.32**	**344**	P	**Pn**	**07 08 37.4**	**-1.5**
VOSK				pmax	pmax		
	comp=Z,15nm,1.3s						
VOSK				pmax	pmax		
	comp=N,52nm,1.1s						
BVA0	**Borovoye Array**	**13.74**	**343**	Pn	**Pn**	**07 08 43.3**	**-1.1**
	comp=N,13nm,0.9s,baz=148,slow=12,SNR=52						
BVA0				⇓Lg	Lg	07 12 36.7	
	comp=N,83nm,1.4s,baz=134,slow=22,SNR=4.4						
BVA0	**Borovoye Array**	**13.74**	**343**	*i* P	**Pn**	**07 08 43.3**	**-1.1**
BVA0				pmax	pmax		
	comp=Z,14nm,0.9s						
BVA0				pmax	pmax		
	comp=N,159nm,2.0s						
BVAR	**Borovoye Array**	**13.74**	**343**	P	**Pn**	**07 08 43.0**	**-1.4**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
BVAR				MLR	MLR		
	comp=Z,281nm,18.3s						
BVAR	**Borovoye Array**	**13.74**	**343**	Pn	**Pn**	**07 08 43.0**	**-1.4**
	comp=Z,1.5nm,0.3s,baz=153,slow=13,SNR=34						
BVAR				Lg	Lg	07 12 37.5	
	comp=Z,0.6nm,0.3s,baz=170,slow=17,SNR=5.7						
BVAR				LR	LR	07 14 03.4	
	comp=Z,281nm,18.3s,baz=111,slow=37						
BRVK	**Borovoye**	**13.79**	**343**	⇓Lg	Lg	07 12 37.1	
	comp=Z,267nm,1.5s						
BRVK	**Borovoye**	**13.79**	**343***c i*P	**Pn**	**07 08 44.0**	**-1.2**
BRVK				pmax	pmax		
	comp=Z,25nm,1.4s						
BRVK				MLR	MLR		
	comp=Z,296nm,17.0s						
ZALV	**Zalesovo Beam**	**14.88**	**18**	P	**Pn**	**07 08 59.0**	**-1.0**
ZALV				MLR	MLR		
	comp=Z,197nm,19.5s						
ZALV	**Zalesovo Beam**

AKTO	**Aktyubinsk**	**16.87**	**314**	⇓Pn	**Pn**	**07 09 25.5**	**-0.3**
	comp=Z,11nm,1.1s						
AKTO	**Aktyubinsk**	**16.87**	**314**	P	**Pn**	**07 09 25.5**	**-0.3**
AKTO				pmax	pmax		
	comp=Z,11nm,1.1s						
AKTO	**Aktyubinsk**	**16.87**	**314**	Pn	**Pn**	**07 09 24.8**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=122,slow=15,SNR=9.3						
AKTO				LR	LR	07 16 19.1	
	comp=Z,248nm,19.4s,baz=124,slow=38						
GTA	**Gaotai**	**17.57**	**85**	*eP*	**P**	**07 09 35.5**	**-0.4**
GTA				pP	**pP**	**07 09 39.0**	**+0.3**
GTA				sP	**sP**	**07 09 41.9**	**+1.9**
GTA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
SVE	**Sverdlovsk**	**19.89**	**333**	*eP*	**Pn**	**07 10 01.9**	**-0.8**
SVE				pmax	pmax		
	comp=Z,12nm,1.2s						
ARU	**Arti**	**20.36**	**330**	*d iP*	Pn	07 10 10.7	+2.5
ARU				pmax	pmax		
	comp=Z,9.0nm,0.8s						
ZAK	**Zakamensk**	**21.10**	**52**	*eP*	**P**	**07 10 14.8**	**+0.4**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
SONM	**Songino Array**	**22.46**	**60**	P	**P**	**07 10 30.2**	**+1.1**
	comp=Z,1.7nm,0.7s,baz=264,slow=8.7,SNR=9.5						
SOKR	**Solikamsk**	**23.32**	**334**	*eP*	**P**	**07 10 36.8**	**-0.9**
SOKR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
SOKR				MLR	MLR		
	comp=Z,210nm,20.0s						
GNI	**Garni**	**24.59**	**281**	LR	LR	07 22 10.3	
	comp=Z,27nm,21.0s,baz=33,slow=41						
KIV	**Kislovodsk**	**25.67**	**290**	*eP*	P	07 10 52.6	-7.2
KIV				*eS*	S	07 15 09.2	-19
KIV				pmax	pmax		
	comp=Z,5.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,46nm,15.0s						
OBN	**Obninsk**	**30.64**	**313**	*i P*	P	07 11 35.7	-8.2
OBN				pmax	pmax		
	comp=Z,6.0nm,0.9s						
OBN				MLR	MLR		
	comp=Z,100nm,15.0s						
BRTR	**Keskin Array B**	**33.01**	**284**	P	**P**	**07 12 06.7**	**+1.5**
	comp=Z,2.0nm,0.8s,baz=103,slow=8.6,SNR=10						
AKASG	**Malin Array Be**	**34.63**	**304**	P	**P**	**07 12 20.7**	**+1.8**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKASG	**Malin Array Be**	**34.63**	**304**	P	**P**	**07 12 20.7**	**+1.8**
	comp=Z,2.1nm,0.6s,baz=107,slow=9.2,SNR=5.2						
JOF	**Joensuu**	**35.37**	**326**	*eP*	**P**	**07 12 25.5**	**+0.3**
JOF				pmax	pmax		
	comp=Z,4.0nm,0.8s						
JOF	**Joensuu**	**35.37**	**326**	*ep*	**P**	**07 12 25.5**	**+0.3**
	comp=Z,3.7nm,0.8s						
FINES	**FINESS Array B**	**37.37**	**322**	P	**P**	**07 12 42.7**	**+0.5**
	comp=Z,1.9nm,0.6s,baz=116,slow=9.8,SNR=12						
FINES				LR	LR	07 28 57.7	
	comp=Z,85nm,19.3s,baz=209,slow=38						
KSRS	**Korea Array**	**39.37**	**77**	LR	LR	07 31 09.9	
	comp=Z,29nm,18.1s,baz=235,slow=39						
ARCES	**ARCESS Array B**	**39.81**	**335**	P	**P**	**07 13 03.2**	**+0.6**
	comp=Z,5.2nm,0.9s,baz=99,slow=7.6,SNR=12						
ARCES				LR	LR	07 30 07.8	
	comp=Z,79nm,19.9s,baz=43,slow=37						
USRK	**Ussuriysk Arra**	**40.37**	**65**	LR	LR	07 29 37.6	
	comp=Z,43nm,20.9s,baz=200,slow=36						
DPC	**Dobruska-Polom**	**42.85**	**305**	*eP*	**P**	**07 13 28.8**	**+0.9**
DPC	**Dobruska-Polom**	**42.85**	**305**	*eP*	**P**	**07 13 28.8**	**+0.9**
UPC	**Upice**	**43.02**	**305**	*eP*	**P**	**07 13 29.7**	**+0.5**
UPC	**Upice**	**43.02**	**305**	*eP*	**P**	**07 13 29.7**	**+0.5**
TREC	**Trest**	**43.59**	**303**	AMS	AMS	07 33 00.0	
	comp=Z,100nm,12.7s						
PRU	**Pruhonice**	**44.04**	**305**	AMS	AMS	07 33 10.0	
	comp=Z,200nm,14.4s						
NB2	**NORSAR Subarra**	**44.50**	**321**	P	**P**	**07 13 40.0**	**-1.0**
	comp=Z,2.2nm,0.6s,baz=88,slow=7.9						
NOA	**NORSAR Array B**	**44.50**	**321**	P	**P**	**07 13 40.7**	**-0.3**
	comp=Z,1.6nm,0.6s,baz=88,slow=7.9,SNR=6.6						
NOA				LR	LR	07 32 56.9	
	comp=Z,80nm,19.3s,baz=90,slow=37						
GERES	**GERESS Array B**	**44.83**	**303**	P	**P**	**07 13 44.9**	**+0.9**
	comp=Z,2.5nm,0.7s,baz=74,slow=7.5,SNR=24						
GERES				LR	LR	07 35 08.5	
	comp=Z,39nm,18.4s,baz=39,slow=40						
ESDC	**Sonseca Array**	**59.95**	**298**	P	**P**	**07 15 36.1**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=53,slow=6.7,SNR=5.5						
ILAR	**Eielson Array**	**70.00**	**18**	P	**P**	**07 16 40.1**	**-1.0**
	comp=Z,0.5nm,0.8s,baz=322,slow=5.4,SNR=7.2						
TORD	**Torodi Ar. Bea**	**70.44**	**271**	P	**P**	**07 16 44.9**	**+0.4**
	comp=Z,0.5nm,0.8s,baz=50,slow=4.3,SNR=4.8						

*IDC **06** 07:07:03.8±4.5, 21°.93S×68°.49W, h77km±31km, mb3.6/4, mb1 3.6/7, mb1mx3.3/20, mbtmp3.5/7, Error ellipse: s-maj=70.6km s-min=20.5km az=114.0*
*ISCJB **06** 07:07:05.6±0.8, 21°.87S±0°.06×68°.56W±0°.1, h111km±11km, mb3.8/4, Error ellipse: s-maj=20.4km s-min=9.0km az=7.8*
*GUC **06** 07:07:06.8±0.5, 21°.88S×68°.72W, h118km±4km, ML3.9*
ISC 06 07:07:05.8±0.9, 21°.84S±0°.07×68°.32W±0°.08, h97km±10km, n18, σ1§47/20, mb3.8/4, 4C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**Plate Boundary**	**0.86**	**273**	⇑*iP*	**Pn**	**07 07 25.1**	**+0.5**
PB09				*i S*	**Sn**	**07 07 38.8**	**0.0**
PB09				AML	AML	07 07 39.9	
	comp=N,13μm,0.6s						
PB04	**Plate Boundary**	**1.16**	**248**	⇑*iP*	Pn	07 07 33.2	+5.4
PB04				*i S*	Sn	07 07 53.8	+9.3
PB04				AML	AML	07 07 55.8	
	comp=E,2μm,0.4s						
PB07	**Plate Boundary**	**1.46**	**274**	⇑*iP*	**Pn**	**07 07 30.6**	**-1.0**
PB07				*i S*	**Sn**	**07 07 48.2**	**-2.9**
PB07				AML	AML	07 07 49.3	
	comp=E,3μm,0.4s						
CEN1	**Los Morros**	**2.32**	**228**	*eP*	**Pn**	**07 07 44.0**	**+1.3**
CEN1				AML	AML	07 08 19.7	
	comp=N,394nm,0.8s						
ANCH	**Antofagasta**	**2.66**	**226**	*eP*	**Pn**	**07 07 45.8**	**-1.2**
PSGC	**Pisagua**	**2.80**	**323**	⇑*iP*	**Pn**	**07 07 48.3**	**-0.6**
PSGC				*i S*	**Sn**	**07 08 20.6**	**-1.4**
PSGC				AML	AML	07 08 22.4	
	comp=N,411nm,0.4s						
MNMC	**Minimini**	**2.95**	**336**	*eP*	**Pn**	**07 07 52.5**	**+1.5**
MNMC				*eS*	**Sn**	**07 08 27.6**	**+1.7**
MNMC				AML	AML	07 08 36.5	
	comp=N,476nm,0.5s						
LPAZ	**La Paz**	**5.53**	**2**	P	Pn	07 08 31.7	+5.4
	comp=N,0.4nm,0.3s,baz=197,slow=6.3,SNR=9.0						
SIV	**San Ignacio**	**8.99**	**51**	P	**Pn**	**07 09 14.5**	**+1.6**
	comp=N,0.8nm,0.3s,baz=243,slow=11,SNR=16						
SIV				S	**Sn**	**07 10 49.4**	**-3.0**
	baz=150,slow=20,SNR=3.7						
CFAA	**Coronel Fontan**	**9.73**	**180**	P	Pn	07 09 17.8	-5.0
	comp=N,0.1nm,0.3s,baz=360,slow=12,SNR=12						
CFAA				S	Sn	07 10 58.2	-12
	comp=N,0.1nm,0.3s,baz=93,slow=19,SNR=4.4						
PLCA	**Paso Flores**	**18.93**	**185**	P	**P**	**07 11 18.6**	**-0.5**
	comp=N,0.2nm,0.3s,baz=350,slow=14,SNR=3.4						
SNAA	**Sanae**	**61.78**	**161**	P	**P**	**07 17 14.0**	**0.0**
	comp=N,0.4nm,0.6s,baz=288,slow=7.3,SNR=18						
QSPA	**South Pole Qui**	**68.35**	**180**	P	**P**	**07 17 56.7**	**0.0**
	comp=N,1.7nm,0.5s,baz=169,slow=0.6,SNR=23						
TORD	**Torodi Ar. Bea**	**76.95**	**70**	P	**P**	**07 18 48.9**	**+0.6**
	comp=N,0.5nm,0.5s,baz=257,slow=5.4,SNR=9.4						
MAW	**Mawson**	**83.85**	**163**	P	**P**	**07 19 24.5**	**+0.2**
	comp=N,1.1nm,0.7s,baz=117,slow=4.5,SNR=5.1						
ASAR	**Alice Springs**	**129.86**	**207**	PKP	**PKPdf**	**07 26 03.9**	**-0.9**
	comp=N,0.3nm,0.7s,baz=118,slow=2.2,SNR=2.9						
WRA	**Warramunga Arr**	**132.94**	**210**	PKP	**PKPdf**	**07 26 10.2**	**-0.4**
	comp=N,0.2nm,0.6s,baz=152,slow=1.6,SNR=4.5						
MKAR	**Makanchi Array**	**145.58**	**37**	PKPbc	**PKPbc**	**07 26 33.7**	**+0.6**
	comp=N,0.6nm,0.8s,baz=307,slow=2.8,SNR=4.3						

*IDC **06** 07:31:54.8±3.7, 58°.82N×22°.40E, h0km, mb1 3.1/3, mb1mx2.9/26, mbtmp3.0/3, ML2.6/3, Error ellipse: s-maj=45.9km s-min=12.1km az=165.0*
*ISCJB **06** 07:31:55.2±0.3, 59°.03N±0°.03×22°.12E±0°.04, h0km, Error ellipse: s-maj=4.2km s-min=3.1km az=9.0*
*UPP **06** 07:31:56.8, 59°.09N×22°.07E, h0km, ML1.9, Suspected Mining explosion.*
*CSEM **06** 07:31:56.3±0.1, 59°.03N×22°.15E, h2km, ML1.8, Error ellipse: s-maj=4.3km s-min=3.2km az=15.0, Mining explosion.*
*HEL **06** 07:31:56.7±0.1, 59°.04N×22°.13E, h0km, ML1.8, ML1.9(UPP), Explosion*
ISC 06 07:31:55.6±0.9, 59°.03N±0°.04×22°.11E±0°.03, h0km, n50, σ1§00/62, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
MTSE	**Matsula**	**0.94**	**109**	*eP*	**Pg**	**07 32 13.0**	**-0.6**
MTSE				*eS*	**Sg**	**07 32 25.2**	**-0.5**
MTSE	**Matsula**	**0.94**	**109**	P	**Pg**	**07 32 13.0**	**-0.6**
MTSE				S	**Sg**	**07 32 25.2**	**-0.5**
SLIT	**Slitere, Latvi**	**1.41**	**176**	*eP*	**Pn**	**07 32 21.7**	**-0.7**
SLIT				*eS*	**Sg**	**07 32 40.7**	**-0.2**
SLIT	**Slitere, Latvi**	**1.41**	**176**	*eP*	**Pn**	**07 32 22.0**	**-0.5**
SNR=50							
SLIT				S	**Sg**	**07 32 40.6**	**-0.2**
AAL	**Aland**	**1.58**	**318**	*eP*	**Pn**	**07 32 24.3**	**-0.5**
AAL				*eS*	**Sn**	**07 32 45.2**	**-0.6**
AAL	**Aland**	**1.58**	**318**	P	**Pn**	**07 32 24.3**	**-0.5**
AAL				S	**Sn**	**07 32 45.2**	**-0.6**
MEF	**Metsahovi**	**1.66**	**43**	*eP*	**Pn**	**07 32 26.0**	**+0.1**
MEF				*eS*	**Sn**	**07 32 46.8**	**-1.1**
MEF	**Metsahovi**	**1.66**	**43**	*eP*	**Pn**	**07 32 25.9**	**0.0**
SNR=50							
MEF				*eS*	**Sn**	**07 32 47.3**	**-0.6**
	17nm,0.4s,SNR=50						
NRTU	**Norrtaelje**	**1.90**	**291**	P	**Pn**	**07 32 29.9**	**+0.7**
NRTU	**Norrtaelje**	**1.90**	**291**	P	**Pn**	**07 32 29.9**	**+0.7**
RAF	**Rauma**	**2.00**	**355**	*eP*	**Pn**	**07 32 31.9**	**+1.2**
RAF				*eS*	**Sn**	**07 32 57.6**	**+1.2**
RAF	**Rauma**	**2.00**	**355**	P	**Pn**	**07 32 31.8**	**+1.2**
RAF				*eS*	**Sn**	**07 32 57.4**	**+1.0**
	17nm,0.1s,SNR=50						
NYNU	**Nynaeshamn**	**2.13**	**271**	P	**Pn**	**07 32 33.2**	**+0.9**
NYNU	**Nynaeshamn**	**2.13**	**271**	P	**Pn**	**07 32 33.2**	**+0.9**
GOTU	**Gotland**	**2.31**	**236**	P	**Pn**	**07 32 36.0**	**+1.2**
GOTU	**Gotland**	**2.31**	**236**	P	**Pn**	**07 32 35.9**	**+1.2**
FORU	**Forsmark**	**2.41**	**306**	P	**Pn**	**07 32 36.8**	**+0.6**
FORU	**Forsmark**	**2.41**	**306**	P	**Pn**	**07 32 36.8**	**+0.6**
FLYU	**Flymyra**	**2.42**	**299**	P	**Pn**	**07 32 37.1**	**+0.8**
FLYU	**Flymyra**	**2.42**	**299**	P	**Pn**	**07 32 37.1**	**+0.8**
PVF	**Pernaja**	**2.43**	**50**	*eP*	**Pn**	**07 32 37.9**	**+1.4**
PVF				*e*SB	**Sb**	**07 33 09.4**	**-1.1**
PVF	**Pernaja**	**2.43**	**50**	P	**Pn**	**07 32 37.9**	**+1.4**
VSU	**Vasula**	**2.48**	**101**	*eP*	**Pn**	**07 32 38.8**	**+1.6**
VSU				*e*SB	**Sn**	**07 33 09.8**	**+1.8**
VSU	**Vasula**	**2.48**	**101**	P	**Pn**	**07 32 38.7**	**+1.6**
VSU				*eS*	**Sb**	**07 33 11.2**	**-0.7**
	58nm,0.5s,SNR=50						
BACU	**Backbrunna**	**2.69**	**290**	P	**Pn**	**07 32 41.6**	**+1.5**
BACU	**Backbrunna**	**2.69**	**290**	P	**Pn**	**07 32 41.5**	**+1.5**
ESKU	**Eskilstuna**	**2.96**	**276**	P	**Pn**	**07 32 45.1**	**+1.3**
ESKU	**Eskilstuna**	**2.96**	**276**	P	**Pn**	**07 32 45.0**	**+1.3**
IGGU	**Iggoen**	**3.04**	**309**	P	**Pn**	**07 32 45.7**	**+0.8**
IGGU	**Iggoen**	**3.04**	**309**	P	**Pn**	**07 32 45.6**	**+0.8**
FINES	**FINESS Array B**	**3.12**	**38**	Pn	**Pn**	**07 32 47.5**	**+1.4**
	0.3nm,0.3s,baz=220,slow=12,SNR=22						
FINES				Sn	**Sn**	**07 33 25.5**	**+1.5**
	0.7nm,0.3s,baz=225,slow=21,SNR=8.8						
VJF	**Virojoki**	**3.14**	**59**	MSG		07 33 40.8	
	comp=Z,2.9nm,0.1s						
VSTU	**Vaestervik**	**3.25**	**247**	P	**Pn**	**07 32 48.3**	**+0.6**
VSTU	**Vaestervik**	**3.25**	**247**	P	**Pn**	**07 32 48.3**	**+0.6**
KEF	**Keurusu**	**3.43**	**22**	MSG		07 33 38.5	
	comp=Z,1.8nm,0.2s						
ARNU	**Arnoeviken**	**3.56**	**321**	P	**Pn**	**07 32 52.8**	**+0.8**
ARNU	**Arnoeviken**	**3.56**	**321**	P	**Pn**	**07 32 52.7**	**+0.8**
NRAU	**Nora**	**3.67**	**281**	P	**Pn**	**07 32 54.6**	**+1.1**
NRAU	**Nora**	**3.67**	**281**	P	**Pn**	**07 32 54.6**	**+1.1**
KAF	**Kangasniemi**	**3.72**	**32**	MSG		07 33 59.7	
	comp=Z,1.7nm,0.1s						
ASKU	**Askersund**	**3.78**	**271**	P	**Pn**	**07 32 55.6**	**+0.6**
ASKU	**Askersund**	**3.78**	**271**	P	**Pn**	**07 32 55.6**	**+0.6**
ROTU	**Roteberg**	**3.95**	**310**	P	**Pn**	**07 32 57.5**	**+0.1**
ROTU	**Roteberg**	**3.95**	**310**	P	**Pn**	**07 32 57.5**	**+0.1**
UDD	**Uddeholm**	**4.46**	**287**	P	**Pn**	**07 33 05.6**	**+1.2**
UDD	**Uddeholm**	**4.46**	**287**	P	**Pn**	**07 33 05.6**	**+1.2**
NASU	**Vaermlandsnaes**	**4.62**	**273**	P	**Pn**	**07 33 07.5**	**+0.8**
NASU	**Vaermlandsnaes**	**4.62**	**273**	P	**Pn**	**07 33 07.4**	**+0.8**
NOA	**NORSAR Array B**	**5.82**	**295**	Pn	**Pn**	**07 33 22.8**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=102,slow=11,SNR=8.6						
NOA				Sn	**Sn**	**07 34 31.3**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=165,slow=8.3,SNR=2.6						
NOA				Lg	Lg	07 34 58.9	
	comp=Z,0.5nm,0.3s,baz=121,slow=15,SNR=7.2						
ARCES	**ARCESS Array B**	**10.64**	**6**	Pn	**Pn**	**07 34 27.4**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=189,slow=12,SNR=7.1						

*SKHL **06** 07:35:34.9±4.1, 52°.43N×154°.94E, h155km±5km, mb5.0/2, msh4.8/1*
*KRSC **06** 07:35:40.0±0.0, 51°.88N×156°.77E, h233km±27km, ML4.1*
*MOS **06** 07:35:40.8±1.4, 52°.09N×156°.27E, h222km, mb3.9/10, Error ellipse: s-maj=21.0km s-min=9.3km az=63.6*
*IDC **06** 07:35:42.5±0.6, 52°.16N×156°.28E, h220km±5km, mb3.3/13, mb1 3.6/16, mb1mx3.4/29, mbtmp3.4/16, Error ellipse: s-maj=15.2km s-min=9.7km az=144.0*
ISC 06 07:35:41.7±0.6, 51°.91N±0°.06×156°.71E±0°.06, h223km±5km, n73, σ1§42/96, mb3.6/13, 1C-2D, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIPR	**Malaya Ipel'ka**	**0.37**	**4**	P	**Pn**	**07 36 11.3**	**+0.2**
MIPR				*i S*	**S**	**07 36 33.1**	**-1.2**
PAU	**Pauzhetka**	**0.45**	**172**	PN	**Pn**	**07 36 11.6**	**+0.2**
PAU	**Pauzhetka**	**0.45**	**172**	P	**Pn**	**07 36 11.6**	**+0.2**
ASAK	**Asacha**	**0.87**	**57**	P	**Pn**	**07 36 13.7**	**+0.5**
ASAK				*i S*	**S**	**07 36 37.4**	**-0.5**
APC	**Apacha**	**1.05**	**15**	P	**Pn**	**07 36 14.0**	**-0.1**
APC				*i S*	**S**	**07 36 38.2**	**-1.4**
MTVR	**Mutnovka**	**1.07**	**57**	P	**Pn**	**07 36 15.0**	**+0.5**
MTVR				*i S*	**S**	**07 36 40.6**	**+0.5**
RUS	**Russkaya**	**1.23**	**64**	PN	**Pn**	**07 36 15.4**	**+0.1**
RUS				S	**S**	**07 36 40.6**	**-1.0**
RUS	**Russkaya**	**1.23**	**64**	P	**Pn**	**07 36 15.4**	**+0.1**
RUS				*i S*	**S**	**07 36 40.6**	**-1.0**
SKR	**Severo-Kuril's**	**1.28**	**197**	⇓*iP*N	Pn	07 36 08.4	-7.4
SKR				pmax	pmax		
	comp=Z,320nm,0.6s						
SKR				pmax	pmax		
	comp=N,50nm,0.5s						
SKR				pmax	pmax		
	comp=E,80nm,0.5s						
SKR	**Severo-Kuril's**	**1.28**	**197**	P	**Pn**	**07 36 15.6**	**-0.2**
SKR				*i S*	**S**	**07 36 41.6**	**-0.7**
SKR	**Severo-Kuril's**	**1.28**	**197**	*i P*	Pn	07 36 08.4	-7.4
SKR				AMB	AMB	07 36 08.7	
	comp=E,50nm,0.6s						
SKR				AMB	AMB	07 36 08.7	
	comp=E,80nm,0.6s						
SKR				AMB	AMB	07 36 08.7	
	comp=E,320nm,0.6s						
SKR				*eS*	S	07 36 34.5	-7.8
SKR				A	A	07 36 37.4	
	comp=E,210nm,0.5s						
SKR				A	A	07 36 37.4	
	comp=E,180nm,0.5s						
PETK	**Petropavlovsk-**	**1.34**	**26**	PN	**Pn**	**07 36 16.3**	**+0.1**
PETK				S	**S**	**07 36 42.7**	**-0.5**
PETK				pmax	pmax		
	comp=Z,7.0nm,0.3s						
PETK				smax	smax		
	comp=N,2.0nm,0.3s						
PETK	**Petropavlovsk-**	**1.34**	**26**	P	**Pn**	**07 36 16.3**	**+0.1**
	comp=N,7.2nm,0.3s,baz=166,slow=8.5,SNR=306						
PETK				S	**S**	**07 36 42.7**	**-0.5**
	comp=N,1.9nm,0.3s,baz=312,slow=12,SNR=10						
PET	**Petropavlovsk**	**1.63**	**46**	*e*PN	**Pn**	**07 36 19.2**	**+0.7**
PET				*eS*	**S**	**07 36 47.5**	**+0.3**
PET				pmax	pmax		
	comp=Z,64nm,0.7s						
PET				smax	smax		
	comp=E,224nm,0.8s						
PET				smax	smax		
	comp=N,223nm,0.5s						
PET	**Petropavlovsk**	**1.63**	**46**	P	**Pn**	**07 36 18.9**	**+0.4**
PET				*i S*	**S**	**07 36 47.7**	**+0.5**
PET	**Petropavlovsk**	**1.63**	**46**	*eP*	**Pn**	**07 36 18.9**	**+0.4**
KOK	**Koryaka**	**1.81**	**40**	P	**Pn**	**07 36 21.3**	**+1.0**
KOK				*i S*	**S**	**07 36 52.2**	**+1.8**
UGLR	**Uglovaya**	**1.83**	**44**	P	**Pn**	**07 36 21.8**	**+1.3**
UGLR				*i S*	**S**	**07 36 51.6**	**+0.9**
AVH	**Avacha**	**1.83**	**42**	P	**Pn**	**07 36 21.3**	**+0.8**
AVH				*i S*	**S**	**07 36 52.6**	**+1.9**
SMAR	**Somma**	**1.86**	**42**	P	**Pn**	**07 36 21.8**	**+0.9**
SMAR				*i S*	**S**	**07 36 51.6**	**+0.2**
KRER	**Koryakskii**	**1.87**	**41**	P	**Pn**	**07 36 21.7**	**+0.8**
KRER				*i S*	**S**	**07 36 52.5**	**+1.0**
KRX	**Arik**	**1.87**	**38**	P	**Pn**	**07 36 21.4**	**+0.5**
KRX				*i S*	**S**	**07 36 52.2**	**+0.8**
SDLR	**Sedlovina**	**1.91**	**43**	P	**Pn**	**07 36 22.0**	**+0.8**
SDLR				*i S*	**S**	**07 36 52.4**	**+0.4**
GNL	**Ganaly**	**1.94**	**22**	P	**Pn**	**07 36 21.4**	**-0.1**
GNL				*i S*	**S**	**07 36 52.3**	**-0.2**
KII	**Karymskiy**	**2.70**	**37**	P	**Pn**	**07 36 30.2**	**+1.0**
TUMR	**Tumrok**	**3.95**	**30**	P	**Pn**	**07 36 45.1**	**+1.3**
MKZ	**Mys Kozlova**	**4.01**	**47**	PN	**Pn**	**07 36 44.1**	**-0.3**
MKZ				S	**S**	**07 37 30.1**	**-3.6**
MKZ	**Mys Kozlova**	**4.01**	**47**	P	**Pn**	**07 36 44.1**	**-0.3**
MKZ				*i S*	**S**	**07 37 30.1**	**-3.6**
ESO	**Esso**	**4.19**	**15**	PN	**Pn**	**07 36 47.8**	**+1.2**
ESO	**Esso**	**4.19**	**15**	P	**Pn**	**07 36 47.8**	**+1.2**
KMNR	**Kamenistaya**	**4.38**	**27**	P	**Pn**	**07 36 50.3**	**+1.3**
KPT	**Kopyto**	**4.56**	**26**	P	**Pn**	**07 36 51.4**	**+0.2**
KIRR	**Kirishev**	**4.58**	**26**	P	**Pn**	**07 36 52.7**	**+1.2**
BZMR	**Bezymyannaya**	**4.61**	**27**	P	**Pn**	**07 36 53.3**	**+1.5**
BZMR				*i S*	**S**	**07 37 47.7**	**+0.5**
BZWR	**Bezymyannyi-We**	**4.64**	**27**	P	**Pn**	**07 36 53.8**	**+1.6**
BZWR				*i S*	**S**	**07 37 48.3**	**+0.5**
BZGR	**Bezymyannyi-Gr**	**4.67**	**29**	P	**Pn**	**07 36 53.6**	**+1.0**
SRDR	**Sredinnyy**	**4.76**	**21**	P	**Pn**	**07 36 54.6**	**+1.0**
ZLN	**Zelenaya**	**4.77**	**29**	P	**Pn**	**07 36 55.5**	**+1.7**
LGNR	**Loginova**	**4.79**	**28**	P	**Pn**	**07 36 56.0**	**+1.7**
KRSR	**Krestovskiy**	**4.88**	**26**	P	**Pn**	**07 36 55.2**	**+0.1**
BDR	**Baidarnaya**	**5.36**	**28**	P	**Pn**	**07 37 01.9**	**+0.8**
SRKR	**Sorokina**	**5.42**	**27**	P	**Pn**	**07 37 01.9**	**0.0**
SMKR	**Semkarok**	**5.45**	**29**	P	**Pn**	**07 37 03.0**	**+0.8**
KBTR	**Krutoberegovo**	**5.61**	**37**	PN	**Pn**	**07 37 03.9**	**-0.3**
KBTR				S	**S**	**07 38 06.4**	**-3.2**
KBTR	**Krutoberegovo**	**5.61**	**37**	P	**Pn**	**07 37 03.9**	**-0.3**
KBTR				*i S*	**S**	**07 38 06.4**	**-3.2**
BKI	**Bering**	**6.43**	**55**	PN	**Pn**	**07 37 15.0**	**+0.4**
BKI				S	**S**	**07 38 24.6**	**-3.9**
BKI	**Bering**	**6.43**	**55**	P	**Pn**	**07 37 15.0**	**+0.4**
BKI				*i S*	**S**	**07 38 24.6**	**-3.9**
FX1	**Attu Island--F**	**10.11**	**78**	P	**P**	**07 38 06.5**	**-2.1**
	comp=N,1.8nm,0.3s,baz=108,slow=20,SNR=4.1						
FX1				S	**S**	**07 39 58.2**	**+3.1**
	comp=N,3.8nm,0.3s,baz=347,slow=21,SNR=6.2						
YUK	**Yuzh-Kuril'sk**	**10.71**	**227**	⇓*iP*N	**Pn**	**07 38 08.0**	**-1.6**
YUK				pmax	pmax		
	comp=N,38nm,0.4s						
YUK				pmax	pmax		
	comp=Z,66nm,0.4s						
YUK				pmax	pmax		
	comp=E,10.0nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**10.71**	**227**	*i* P	**Pn**	**07 38 08.0**	**-1.6**
YUK				AMB	AMB	07 38 09.7	
	comp=E,38nm,0.4s						
YUK				AMB	AMB	07 38 09.7	
	comp=E,11nm,0.4s						
YUK				AMB	AMB	07 38 09.7	
	comp=E,66nm,0.4s						
YUK				*eS*	S	07 39 58.0	-12
ASAJ	**Asahikawa**	**12.24**	**236**	P	**Pn**	**07 38 29.4**	**+0.6**
	comp=E,1.5nm,0.3s,baz=77,slow=13,SNR=14						
ERM	**Erimo**	**13.53**	**228**	*e*PN	Pn	07 38 41.1	-3.8
ERM	**Erimo**	**13.53**	**228**	*eP*	Pn	07 38 41.1	-3.8
USRK	**Ussuriysk Arra**	**18.18**	**255**	P	**P**	**07 39 38.4**	**+0.7**
	comp=E,0.3nm,0.3s,baz=50,slow=12,SNR=4.1						
MJA0	**Matsu Arr-Jizo**	**20.19**	**228**	*eP*	Pn	07 40 03.6	-0.9
MJA0				pmax	pmax		
	comp=Z,4.0nm,0.5s						
MAT	**Matsushiro**	**20.20**	**228**	P	**P**	**07 40 00.1**	**+0.5**
MJAR	**Matsushiro Arr**	**20.20**	**228**	P	**P**	**07 40 00.4**	**+0.8**
	comp=Z,3.6nm,0.5s,baz=14,slow=11,SNR=10						
TIXI	**Tiksi**	**23.35**	**338**	⇑*iP*	**P**	**07 40 28.3**	**-1.4**
TIXI				pmax	pmax		
	comp=Z,7.0nm,1.4s

ILAR	**Eielson Array**	**83.94**	**26**	P	**P**	**08 01 49.9**	**-2.1**
	0.3nm,0.6s,baz=238,slow=5.1,SNR=5.5						

*MDD **06** 08:03:12.8±1.9, 37°.27N×13°.59W, h0km, mb4.5/6, Error ellipse: s-maj=18.7km s-min=15.6km az=24.0, PRXIMO*
*INMG **06** 08:03:14.3±1.0, 37°.09N×13°.99W, h10km, ML2.6, Error ellipse: s-maj=5.1km s-min=4.8km az=36.0*
*CSEM **06** 08:03:15.9±0.3, 37°.36N×13°.33W, h10km, ML3.1/4, Error ellipse: s-maj=6.7km s-min=5.2km az=36.0*

ISC 06 08:03:10.8±3.4, 37°.28N±0°.09×13°.6W±0°.2, h10km, n74, σ1§82/141, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMAFR	**Mafra**	**3.82**	**63**	*e*Pn	**Pn**	**08 04 12.1**	**+2.3**
PMAFR				A	A	08 05 01.2	
	13nm,0.7s						
PMAFR	**Mafra**	**3.82**	**63**	P	**Pn**	**08 04 12.0**	**+2.3**
	15nm,0.1s,SNR=33						
PMAFR				S	**Sn**	**08 04 54.9**	**+0.2**
	8.5nm,0.1s						
PMAFR	**Mafra**	**3.82**	**63**	P	**Pn**	**08 04 12.0**	**+2.3**
	15nm,0.1s,SNR=33						
PMAFR				S	**Sn**	**08 04 54.9**	**+0.2**
	8.5nm,0.1s						
PFVI	**Vila Bisbo**	**3.85**	**91**	*e*Pn	**Pn**	**08 04 11.3**	**+1.2**
PFVI				*e*Sn	**Sn**	**08 04 53.9**	**-1.4**
PFVI				A	A	08 04 56.2	
	11nm,0.5s						
PFVI	**Vila Bisbo**	**3.85**	**91**	P	**Pn**	**08 04 11.3**	**+1.2**
	3.2nm,0.1s,SNR=18						
PFVI				S	**Sn**	**08 04 53.0**	**-2.3**
	14nm,0.1s,SNR=8.1						
PFVI	**Vila Bisbo**	**3.85**	**91**	P	**Pn**	**08 04 11.3**	**+1.2**
	3.2nm,0.1s,SNR=18						
PFVI				S	**Sn**	**08 04 53.0**	**-2.3**
	14nm,0.1s,SNR=8.1						
PFVI				*e*Sn	**Sn**	**08 04 53.9**	**-1.4**
	11nm,0.5s						
PTEO	**Sao Teotonio**	**3.92**	**85**	*e*Pn	**Pn**	**08 04 12.6**	**+1.5**
PTEO				*e*Sn	**Sn**	**08 04 56.0**	**-1.2**
PTEO				A	A	08 04 59.8	
	11nm,0.6s						
PTEO	**Sao Teotonio**	**3.92**	**85**	P	**Pn**	**08 04 12.6**	**+1.5**
PTEO				S	**Sn**	**08 04 56.0**	**-1.2**
	5.3nm,0.6s						
PTEO	**Sao Teotonio**	**3.92**	**85**	P	**Pn**	**08 04 12.6**	**+1.5**
PTEO				S	**Sn**	**08 04 56.0**	**-1.2**
	5.3nm,0.6s						
MORF	**Marmelete**	**3.98**	**88**	*e*Pn	**Pn**	**08 04 13.3**	**+1.4**
MORF				*e*Sn	**Sn**	**08 04 57.6**	**-1.1**
MORF				A	A	08 05 04.3	
	9.2nm,0.4s						
MORF	**Marmelete**	**3.98**	**88**	P	**Pn**	**08 04 13.3**	**+1.4**
MORF				S	**Sn**	**08 04 57.6**	**-1.1**
	9.2nm,0.4s						
MORF	**Marmelete**	**3.98**	**88**	P	**Pn**	**08 04 13.3**	**+1.4**
MORF				S	**Sn**	**08 04 57.6**	**-1.1**
	9.2nm,0.4s						
PACT	**Alcochete**	**4.08**	**67**	*e*Pn	**Pn**	**08 04 15.8**	**+2.6**
PACT	**Alcochete**	**4.08**	**67**	*e*Pn	**Pn**	**08 04 15.8**	**+2.6**
PNCL	**Nicolau / Gran**	**4.14**	**77**	*e*Pn	**Pn**	**08 04 15.7**	**+1.7**
PNCL				*e*Sn	**Sn**	**08 05 02.5**	**0.0**
PNCL				A	A	08 05 06.7	
	6.7nm,0.5s						
PNCL	**Nicolau / Gran**	**4.14**	**77**	*e*Pn	**Pn**	**08 04 15.7**	**+1.7**
PNCL				*e*Sn	**Sn**	**08 05 02.5**	**0.0**
	6.7nm,0.5s						
PBDV	**Barranco-do-Ve**	**4.55**	**89**	*e*Pn	**Pn**	**08 04 21.8**	**+2.0**
PBDV				*e*Sn	**Sn**	**08 05 11.3**	**-1.5**
PBDV				A	A	08 05 21.9	
	6.6nm,0.6s						
PBDV	**Barranco-do-Ve**	**4.55**	**89**	P	**Pn**	**08 04 21.8**	**+2.0**
PBDV				S	**Sn**	**08 05 11.3**	**-1.5**
	6.6nm,0.6s						
PBDV	**Barranco-do-Ve**	**4.55**	**89**	P	**Pn**	**08 04 21.8**	**+2.0**
PBDV				S	**Sn**	**08 05 11.3**	**-1.5**
	6.6nm,0.6s						
EVO	**Evora**	**4.62**	**73**	*e*Pn	**Pn**	**08 04 22.5**	**+1.8**
EVO				*e*Sn	**Sn**	**08 05 13.3**	**-1.1**
EVO				A	A	08 05 18.6	
	9.0nm,0.1s						
EVO	**Evora**	**4.62**	**73**	P	**Pn**	**08 04 22.5**	**+1.8**
EVO				S	**Sn**	**08 05 13.3**	**-1.1**
	9.0nm,0.1s						
EVO	**Evora**	**4.62**	**73**	P	**Pn**	**08 04 22.5**	**+1.8**
EVO				S	**Sn**	**08 05 13.3**	**-1.1**
	9.0nm,0.1s						
PMTG	**Montargil**	**4.62**	**66**	*e*Pn	**Pn**	**08 04 22.4**	**+1.7**
PMTG				*e*Sn	**Sn**	**08 05 14.4**	**-0.1**
PMTG				A	A	08 05 17.8	
	2.8nm,0.3s						
PMTG	**Montargil**	**4.62**	**66**	*e*Pn	**Pn**	**08 04 22.4**	**+1.7**
PMTG				*e*Sn	**Sn**	**08 05 14.4**	**-0.1**
	2.8nm,0.3s						
PBEJ	**Beja**	**4.64**	**79**	*e*Pn	**Pn**	**08 04 22.9**	**+1.9**
PBEJ				*e*Sn	**Sn**	**08 05 14.3**	**-0.6**
PBEJ				A	A	08 05 20.3	
	4.0nm,0.2s						
PBEJ	**Beja**	**4.64**	**79**	P	**Pn**	**08 04 22.9**	**+1.9**
PBEJ				S	**Sn**	**08 05 14.3**	**-0.6**
	2.0nm,0.2s						
PBEJ	**Beja**	**4.64**	**79**	P	**Pn**	**08 04 22.9**	**+1.9**
PBEJ				S	**Sn**	**08 05 14.3**	**-0.6**
	2.0nm,0.2s						
PTOM	**Tomar**	**4.72**	**59**	*e*Pn	**Pn**	**08 04 24.4**	**+2.3**
PTOM				*e*Sn	**Sn**	**08 05 17.1**	**+0.2**
PTOM				A	A	08 05 29.4	
	5.7nm,0.6s						
PTOM	**Tomar**	**4.72**	**59**	P	**Pn**	**08 04 24.4**	**+2.3**
PTOM				S	**Sn**	**08 05 17.1**	**+0.2**
	2.8nm,0.6s						
PTOM	**Tomar**	**4.72**	**59**	P	**Pn**	**08 04 24.4**	**+2.3**
PTOM				S	**Sn**	**08 05 17.1**	**+0.2**
	2.8nm,0.6s						
PVAQ	**Vaqueiros**	**4.72**	**87**	*e*Pn	**Pn**	**08 04 23.9**	**+1.8**
PVAQ				*e*Sn	**Sn**	**08 05 15.6**	**-1.3**
PVAQ				A	A	08 05 19.1	
	8.8nm,0.6s						
PVAQ	**Vaqueiros**	**4.72**	**87**	P	**Pn**	**08 04 23.9**	**+1.8**
PVAQ				S	**Sn**	**08 05 15.6**	**-1.3**
	8.8nm,0.6s						
PVAQ	**Vaqueiros**	**4.72**	**87**	P	**Pn**	**08 04 23.9**	**+1.8**
PVAQ				S	**Sn**	**08 05 15.6**	**-1.3**
	8.8nm,0.6s						
PMPST	**Porto Santo, M**	**4.74**	**209**	*e*Sn	Sn	08 05 00.7	-17
PCAS	**Casmilo, Conde**	**4.88**	**54**	*e*Pn	**Pn**	**08 04 26.1**	**+1.8**
PCAS				*e*Sn	**Sn**	**08 05 21.6**	**+0.7**
PCAS	**Casmilo, Conde**	**4.88**	**54**	*e*Pn	**Pn**	**08 04 26.1**	**+1.8**
PCAS				*e*Sn	**Sn**	**08 05 21.6**	**+0.7**
EGRO	**El Granado**	**4.91**	**85**	P	**Pn**	**08 04 26.1**	**+1.4**
	0.8nm,0.1s,SNR=13						
EGRO				S	**Sn**	**08 05 19.4**	**-2.1**
	5.9nm,0.2s,SNR=7.8						
EGRO	**El Granado**	**4.91**	**85**	P	**Pn**	**08 04 26.1**	**+1.4**
	0.8nm,0.1s,SNR=13						
EGRO				S	**Sn**	**08 05 19.4**	**-2.1**
	5.9nm,0.2s,SNR=7.8						
PESTR	**Estremoz**	**5.03**	**70**	*e*Pn	**Pn**	**08 04 28.3**	**+2.0**
PESTR				*e*Sn	**Sn**	**08 05 24.3**	**-0.2**
PESTR				A	A	08 05 29.3	
	3.3nm,0.6s						
PESTR	**Estremoz**	**5.03**	**70**	P	**Pn**	**08 04 28.3**	**+2.0**
PESTR				S	**Sn**	**08 05 24.3**	**-0.2**
	1.7nm,0.6s						
PESTR	**Estremoz**	**5.03**	**70**	P	**Pn**	**08 04 28.3**	**+2.0**
PESTR				S	**Sn**	**08 05 24.3**	**-0.2**
	1.7nm,0.6s						
PBAR	**Barrancos**	**5.31**	**78**	*e*Pn	**Pn**	**08 04 32.4**	**+2.3**
PBAR				*e*Sn	**Sn**	**08 05 30.2**	**-1.1**
PBAR				A	A	08 05 36.5	
	2.2nm,0.2s						
PBAR	**Barrancos**	**5.31**	**78**	P	**Pn**	**08 04 32.4**	**+2.3**
PBAR				S	**Sn**	**08 05 30.2**	**-1.1**
	2.2nm,0.2s						
PBAR	**Barrancos**	**5.31**	**78**	P	**Pn**	**08 04 32.4**	**+2.3**
PBAR				S	**Sn**	**08 05 30.2**	**-1.1**
	2.2nm,0.2s						
PMRV	**Marv??o**	**5.36**	**65**	*e*Pn	**Pn**	**08 04 32.5**	**+1.7**
PMRV				*e*Sn	**Sn**	**08 05 31.7**	**-0.9**
PMRV				A	A	08 05 36.6	
	4.2nm,0.3s						
PMRV	**Marv??o**	**5.36**	**65**	P	**Pn**	**08 04 32.5**	**+1.7**
PMRV				S	**Sn**	**08 05 31.7**	**-0.9**
	4.2nm,0.3s						
PMRV	**Marv??o**	**5.36**	**65**	P	**Pn**	**08 04 32.5**	**+1.7**
PMRV				S	**Sn**	**08 05 31.7**	**-0.9**
	4.2nm,0.3s						
EBAD	**Badajoz**	**5.43**	**72**	P	**Pn**	**08 04 33.3**	**+1.4**
	1.9nm,0.1s,SNR=22						
EBAD				S	**Sn**	**08 05 32.6**	**-1.9**
	3.4nm,0.1s,SNR=7.2						
EBAD	**Badajoz**	**5.43**	**72**	P	**Pn**	**08 04 33.3**	**+1.4**
	1.9nm,0.1s,SNR=22						
EBAD				S	**Sn**	**08 05 32.6**	**-1.9**
	3.4nm,0.1s,SNR=7.2						
EMIN	**Mina Concepcio**	**5.56**	**83**	P	**Pn**	**08 04 34.4**	**+0.8**
	0.3nm,0.1s,SNR=8.8						
EMIN				S	**Sn**	**08 05 34.5**	**-3.1**
	1.9nm,0.2s,SNR=12						
EMIN	**Mina Concepcio**	**5.56**	**83**	P	**Pn**	**08 04 34.4**	**+0.8**
	0.3nm,0.1s,SNR=8.8						
EMIN				S	**Sn**	**08 05 34.5**	**-3.1**
	1.9nm,0.2s,SNR=12						
POLO	**Lamas de Olo**	**6.10**	**46**	*e*Pn	**Pn**	**08 04 43.2**	**+2.1**
POLO				*e*Sn	**Sn**	**08 05 49.2**	**-1.8**
POLO	**Lamas de Olo**	**6.10**	**46**	*e*Pn	**Pn**	**08 04 43.2**	**+2.1**
POLO				*e*Sn	**Sn**	**08 05 49.2**	**-1.8**
ESPR	**Espera**	**6.24**	**91**	P	**Pn**	**08 04 43.8**	**+0.9**
	1.1nm,0.1s,SNR=4.0						
ESPR				S	**Sn**	**08 05 52.9**	**-1.4**
	10nm,0.3s,SNR=7.9						
ESPR	**Espera**	**6.24**	**91**	P	**Pn**	**08 04 43.8**	**+0.9**
	1.1nm,0.1s,SNR=4.0						
ESPR				S	**Sn**	**08 05 52.9**	**-1.4**
	10nm,0.3s,SNR=7.9						
PGAV	**Gavieira, Arco**	**6.25**	**40**	*e*Pn	**Pn**	**08 04 45.5**	**+2.4**
PGAV				*e*Sn	**Sn**	**08 05 52.5**	**-2.1**
PGAV	**Gavieira, Arco**	**6.25**	**40**	*e*Pn	**Pn**	**08 04 45.5**	**+2.4**
PGAV				*e*Sn	**Sn**	**08 05 52.5**	**-2.1**
ELOB	**Lobios**	**6.29**	**42**	P	**Pn**	**08 04 45.1**	**+1.5**
	1.0nm,0.1s,SNR=9.1						
ELOB				S	**Sn**	**08 05 52.5**	**-3.1**
	1.3nm,0.1s						
ELOB	**Lobios**	**6.29**	**42**	P	**Pn**	**08 04 45.1**	**+1.5**
	1.0nm,0.1s,SNR=9.1						
MVO	**Moncorvo**	**6.43**	**51**	*e*Pn	**Pn**	**08 04 47.3**	**+1.7**
MVO				*e*Sn	**Sn**	**08 05 57.0**	**-2.1**
MVO				A	A	08 06 02.1	
	3.2nm,0.6s						
MVO	**Moncorvo**	**6.43**	**51**	P	**Pn**	**08 04 47.1**	**+1.5**
	0.9nm,0.1s,SNR=8.6						
MVO				S	**Sn**	**08 05 56.1**	**-3.0**
	1.5nm,0.1s						
MVO	**Moncorvo**	**6.43**	**51**	*e*Pn	**Pn**	**08 04 47.3**	**+1.7**
MVO				*e*Sn	**Sn**	**08 05 57.0**	**-2.1**
	3.2nm,0.6s						
ECAB	**El Cabril**	**6.57**	**81**	P	**Pn**	**08 04 49.2**	**+1.7**
	0.6nm,0.1s,SNR=12						
ECAB				S	**Sn**	**08 05 59.3**	**-3.2**
	1.0nm,0.1s						
ECAB	**El Cabril**	**6.57**	**81**	P	**Pn**	**08 04 49.2**	**+1.7**
	0.6nm,0.1s,SNR=12						
ECAB				S	**Sn**	**08 05 59.3**	**-3.2**
	1.0nm,0.1s						
EMAZ	**Mazaricos**	**6.69**	**31**	P	**Pn**	**08 04 50.1**	**+0.9**
	1.1nm,0.1s,SNR=8.0						
EMAZ				S	**Sn**	**08 05 59.6**	**-5.8**
	1.5nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**6.69**	**31**	P	**Pn**	**08 04 50.1**	**+0.9**
	1.1nm,0.1s,SNR=8.0						
ECAL	**Calabor**	**7.07**	**47**	P	**Pn**	**08 04 56.2**	**+1.8**
	0.7nm,0.1s,SNR=7.8						
ECAL				S	**Sn**	**08 06 10.8**	**-4.1**
	2.1nm,0.3s,SNR=7.9						
ECAL	**Calabor**	**7.07**	**47**	P	**Pn**	**08 04 56.2**	**+1.8**
	0.7nm,0.1s,SNR=7.8						
EADA	**Adamuz**	**7.24**	**80**	P	**Pn**	**08 04 58.1**	**+1.4**
	0.4nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**08 06 16.1**	**-2.8**
	3.2nm,0.3s,SNR=4.3						
EADA	**Adamuz**	**7.24**	**80**	P	**Pn**	**08 04 58.1**	**+1.4**
	0.4nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**08 06 16.1**	**-2.8**
	3.2nm,0.3s,SNR=4.3						
ESDC	**Sonseca Array**	**7.96**	**70**	P	**Pn**	**08 05 08.0**	**+1.4**
	5.7nm,0.2s,baz=257,slow=13,SNR=33						
ESDC				S	**Sn**	**08 06 34.2**	**-2.4**
	0.4nm,0.1s,baz=262,slow=23,SNR=7.9						
ESDC	**Sonseca Array**	**7.96**	**70**	P	**Pn**	**08 05 08.0**	**+1.4**
	5.7nm,0.2s,baz=257,slow=13,SNR=33						
ESDC				S	**Sn**	**08 06 34.2**	**-2.4**
	0.4nm,0.1s,slow=23,SNR=7.9						
GUD	**Guadarrama**	**8.12**	**63**	P	**Pn**	**08 05 10.6**	**+1.8**
	0.3nm,0.1s,SNR=7.9						
GUD				S	**Sn**	**08 06 40.1**	**-0.6**
	0.4nm,0.2s,SNR=4.0						
GUD	**Guadarrama**	**8.12**	**63**	P	**Pn**	**08 05 10.6**	**+1.8**
	0.3nm,0.1s,SNR=7.9						
GUD				S	**Sn**	**08 06 40.1**	**-0.6**
	0.4nm,0.2s,SNR=4.0						

MEX 06 08:20:24.3±0.9, 17°.39N×100°.19W, h39km±10km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.34**	**193**	*i* P	Pn	08 20 31.4	-1.6
CAIG				*i* S	Sn	08 20 37.6	-1.8
MEIG	**Mezcala**	**0.76**	**45**	*e*P	Pn	08 20 36.5	-2.2
MEIG				*i* S	Sn	08 20 46.9	-2.2
PLIG	**Platanillo**	**1.19**	**33**	*i* P	Pn	08 20 42.3	-2.3
PLIG				*i* S	Sn	08 20 58.3	-1.4
ZIIG	**Zihuatanejo**	**1.24**	**280**	*e*P	Pn	08 20 43.7	-1.4
ZIIG				*i* S	Sn	08 20 58.3	-2.4
PNIG	**Pinotepa**	**2.20**	**116**	*e*P	Pn	08 20 57.1	-1.3
PNIG				*i* S	Sn	08 21 23.1	-1.4
PPM	**Popocatepetl**	**2.23**	**41**	*e*P	Pn	08 20 58.4	-1.1
PPM				*i* S	Sn	08 21 23.5	-2.8
MOIG	**Morelia**	**2.47**	**337**	*i* P	Pn	08 21 01.3	-1.1
MOIG				*i* S	Sn	08 21 30.0	-1.6
MMIG	**Aquila**	**3.14**	**287**	*e*P	Pn	08 21 10.2	-1.0
MMIG				*i* S	Sn	08 21 44.9	-2.7

GUC 06 08:21:41.6±0.6, 34°.70S×69°.71W, h3km±11km, MD3.5, ML2.5, 3C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CACH	**El Canelo**	**0.94**	**308**	⇓*i*P	Pg	08 21 58.8	-0.9
CACH				*i* S	Sg	08 22 12.1	+0.1
LMEL	**Las Melosas**	**0.94**	**334**	⇑*i*P	Pg	08 21 59.5	-0.4
LMEL				*i* S	Sb	08 22 13.3	-0.4
LMEL				AML	AML	08 22 15.0	
	comp=N,191nm,0.2s						
CHCH	**Chadas Angostu**	**1.09**	**314**	⇑*i*P	Pg	08 22 02.1	-0.5
CHCH				*i* S	Sb	08 22 17.4	-0.5
CLCH	**Cerro Calan**	**1.47**	**332**	*e*P	Pn	08 22 08.8	-0.2
CLCH				*i* S	Sg	08 22 29.1	+0.1
CLCH				AML	AML	08 22 33.0	
	comp=E,121nm,0.6s						
PEL	**Peldehue**	**1.75**	**332**	⇓*i*P	Pb	08 22 13.7	-0.7
PEL				*i* S	Sg	08 22 38.4	+0.5
PEL				AML	AML	08 22 41.0	
	comp=E,130nm,0.7s						
ROCH	**El Roble**	**2.03**	**327**	⇑*i*P	Pb	08 22 19.0	-0.5
ROCH				*e*S	Sg	08 22 46.9	-0.5
ROCH				AML	AML	08 22 52.0	
	comp=E,67nm,0.5s						

*IDC **06** 08:27:39.7±1.9, 6°.03N×126°.48E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/24, mbtmp3.7/5, Error ellipse: s-maj=115.1km s-min=23.4km az=67.0*
*ISCJB **06** 08:27:45.1±0.7, 5°.90N±0°.06×126°.18E±0°.07, h50km, mb3.6/5, Error ellipse: s-maj=10.3km s-min=7.9km az=158.7*
*MAN **06** 08:27:46, 6°.06N×126°.30E, h47km, mb4.3, ML3.1, MS2.9*

ISC 06 08:27:46.5±1.0, 5°.92N±0°.08×126°.17E±0°.08, h50km, n10, σ1§50/12, mb3.5/5, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.02**	**5**	*e*P	**Pn**	**08 28 03.9**	**-0.7**
MATI				*e*S	**Sn**	**08 28 16.3**	**-1.6**
GSPH	**General Santos**	**1.23**	**278**	⇑*i*P	**Pn**	**08 28 05.9**	**-1.6**
GSPH				*i* S	**Sn**	**08 28 20.6**	**-2.4**
BUKP	**Musuan**	**2.24**	**331**	*e*P	**Pn**	**08 28 21.5**	**+0.4**
CTBH	**Cotabato--PC H**	**2.31**	**304**	⇑*i*P	**Pn**	**08 28 24.1**	**+1.9**
PAGZ	**Pagadian**	**3.37**	**305**	*e*P	**Pn**	**08 28 38.4**	**+1.8**
FITZ	**Fitzroy Crossi**	**23.87**	**181**	P	**P**	**08 32 56.5**	**+0.9**
	1.8nm,0.5s,baz=358,slow=7.8,SNR=8.8						
WRA	**Warramunga Arr**	**26.93**	**163**	P	**P**	**08 33 22.5**	**-0.8**
	0.4nm,0.4s,baz=343,slow=9.9,SNR=7.5						
ASAR	**Alice Springs**	**30.36**	**166**	P	**P**	**08 33 53.9**	**+0.1**
	0.4nm,0.4s,baz=346,slow=6.9,SNR=15						
STKA	**Stephens Creek**	**40.36**	**160**	P	**P**	**08 35 19.4**	**-0.1**
	1.2nm,0.4s,baz=336,slow=12,SNR=3.9						
MKAR	**Makanchi Array**	**55.46**	**325**	P	**P**	**08 37 16.8**	**+0.7**
	0.1nm,0.3s,baz=128,slow=9.3,SNR=2.6						

IDC 06 08:34:50.1±87.0, 13°.92S×166°.20E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/19, mbtmp3.6/3, Error ellipse: s-maj=1462.0km s-min=109.4km az=62.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**28.75**	**227**	P	P	08 40 49.6	0.0
	1.4nm,0.7s,baz=65,slow=14,SNR=2.0						
WRA	**Warramunga Arr**	**31.03**	**254**	P	P	08 41 10.1	+0.2
	0.2nm,0.7s,baz=80,slow=7.3,SNR=23						
ASAR	**Alice Springs**	**32.01**	**248**	P	P	08 41 18.2	-0.3
	0.4nm,0.4s,baz=74,slow=9.6,SNR=11						

IDC 06 08:41:15.8±4.2, 5°.70S×147°.28E, h234km±47km, mb3.1/3, mb1 3.3/5, mb1mx3.0/19, mbtmp3.1/5, Error ellipse: s-maj=82.6km s-min=25.2km az=134.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.68**	**182**	P	Pn	08 42 15.5	+0.3
	3.0nm,0.3s,baz=316,slow=5.3,SNR=7.5						
PMG				S		08 43 02.7	+0.6
	4.2nm,0.3s,baz=35,slow=23,SNR=10.0						
WRA	**Warramunga Arr**	**18.94**	**220**	P	P	08 45 18.6	-1.1
	0.4nm,0.3s,baz=36,slow=11,SNR=40						
ASAR	**Alice Springs**	**22.02**	**214**	P	P	08 45 51.9	+0.4
	0.8nm,0.7s,baz=56,slow=9.0,SNR=15						
FITZ	**Fitzroy Crossi**	**24.46**	**238**	P	P	08 46 14.0	+0.3
	1.9nm,0.6s,baz=48,slow=13,SNR=6.3						
ILAR	**Eielson Array**	**85.10**	**23**	P	P	08 53 25.0	-0.1
	0.4nm,0.9s,baz=258,slow=4.5,SNR=3.2						

IDC 06 08:50:26.5±1.5, 11°.39S×165°.35E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.9/19, mbtmp3.9/7, MS3.5/2, Ms1 3.5/2, ms1mx2.7/32, Error ellipse: s-maj=55.5km s-min=23.1km az=133.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**29.92**	**223**	P	P	08 56 37.7	+1.3
	1.9nm,0.8s,baz=27,slow=6.8,SNR=3.7						
STKA				LR	LR	09 08 03.4	
	comp=Z,90nm,19.8s,baz=25,slow=35						
WRA	**Warramunga Arr**	**31.00**	**250**	P	P	08 56 45.5	-0.5
	2.9nm,0.9s,baz=81,slow=9.3,SNR=10						
ASAR	**Alice Springs**	**32.29**	**244**	P	P	08 56 56.5	-0.9
	0.6nm,0.9s,baz=70,slow=9.6,SNR=5.5						
FITZ	**Fitzroy Crossi**	**38.91**	**255**	LR	LR	09 12 58.3	
	comp=Z,73nm,21.1s,baz=220,slow=35						
MJAR	**Matsushiro Arr**	**54.10**	**333**	P	P	08 59 53.3	0.0
	1.2nm,0.8s,baz=163,slow=8.9,SNR=3.9						
ILAR	**Eielson Array**	**83.96**	**19**	P	P	09 02 58.5	+0.2
	0.9nm,0.6s,baz=236,slow=5.1,SNR=33						
NVAR	**Mina Array Bea**	**86.54**	**50**	P	P	09 03 11.4	-0.7
	0.5nm,0.9s,baz=235,slow=3.2,SNR=3.8						
MKAR	**Makanchi Array**	**93.50**	**317**	P	P	09 03 44.4	0.0
	0.5nm,0.7s,baz=111,slow=5.3,SNR=6.0						

*NEIC **06** 08:52:55.9, 18°.62N×67°.32W, h13km, MD2.5(RSPR), After RSPR.*

RSPR 06 08:52:55.9, 18°.62N×67°.32W, h13km, MD2.4/11, 24C-13D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.25**	**127**	⇑*e*P	Pg	08 53 01.3	+0.2
AGPR	**Aguadilla, PR**	**0.25**	**127**	*e*S	Sb	08 53 05.7	-0.8
AGPR	**Aguadilla, PR**	**0.25**	**127**	⇑*e*P	Pg	08 53 01.3	+0.2
AGPR	**Aguadilla, PR**	**0.25**	**127**	⇑*e*P	Pg	08 53 01.3	+0.2
AGPR				*e*S	Sb	08 53 05.7	-0.8
IDE	**Isla Desecheo**	**0.27**	**213**	⇓*i*P	Pg	08 53 01.4	-0.1
IDE	**Isla Desecheo**	**0.27**	**213**	*e*S	Sg	08 53 06.1	+0.8
IDE	**Isla Desecheo**	**0.27**	**213**	⇑*e*P	Pg	08 53 01.4	-0.2
IDE	**Isla Desecheo**	**0.27**	**213**	⇑*e*P	Pg	08 53 01.4	-0.2
IDE				*e*S	Sg	08 53 06.1	+0.8
MPR	**Mayaguez**	**0.44**	**157**	⇑*e*P	Pg	08 53 03.7	-0.8
MPR	**Mayaguez**	**0.44**	**157**	*e*S	Sg	08 53 10.4	+0.1
MPR	**Mayaguez**	**0.44**	**157**	⇑*e*P	Pg	08 53 03.7	-0.8
LSP	**Las Mesas**	**0.49**	**153**	*e*S	Sg	08 53 12.4	+0.2
LSP	**Las Mesas**	**0.49**	**153**	⇑*e*P	Pg	08 53 04.9	-0.7
LSP	**Las Mesas**	**0.49**	**153**	⇑*e*P	Pg	08 53 04.9	-0.7
LSP	**Las Mesas**	**0.49**	**153**	⇑*e*P	Pg	08 53 04.9	-0.7
LSP				*e*S	Sg	08 53 12.4	+0.2
LRS	**Lares**	**0.55**	**126**	⇑*e*P	Pg	08 53 05.5	-1.3
LRS				*e*S	Sg	08 53 13.6	-0.6
LRS	**Lares**	**0.55**	**126**	⇓*e*P	Pg	08

σ1°18/54, **Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTSE	**Matsula**	**0.94**	**107**	*e*P	**Pg**	**08 58 39.3**	**-0.1**
MTSE				*e*S	**Sg**	**08 58 51.4**	**0.0**
MTSE	**Matsula**	**0.94**	**107**	P	**Pg**	**08 58 39.2**	**-0.1**
MTSE				S	**Sg**	**08 58 51.4**	**0.0**
SLIT	**Slitere, Latvi**	**1.37**	**175**	*e*P	**Pg**	**08 58 47.3**	**-0.3**
SLIT				*e*S	**Sg**	**08 59 05.6**	**+0.2**
SLIT	**Slitere, Latvi**	**1.37**	**175**	P	**Pg**	**08 58 47.3**	**-0.3**
SLIT				S	**Sg**	**08 59 05.6**	**+0.2**
AAL	**Aland**	**1.60**	**319**	*e*P	**Pn**	**08 58 50.9**	**+0.2**
AAL				*e*S	**Sn**	**08 59 12.3**	**+0.3**
AAL	**Aland**	**1.60**	**319**	P	**Pn**	**08 58 50.9**	**+0.2**
AAL				S	**Sn**	**08 59 12.3**	**+0.3**
MEF	**Metsahovi**	**1.70**	**43**	*e*P	**Pn**	**08 58 52.4**	**+0.2**
MEF				*e*S	**Sn**	**08 59 13.7**	**-0.9**
MEF				MSG		08 59 19.1	
	comp=Z,10nm,0.1s						
MEF	**Metsahovi**	**1.70**	**43**	P	**Pn**	**08 58 52.3**	**+0.2**
MEF				*e*S	**Sn**	**08 59 13.8**	**-0.7**
	comp=Z,14nm,0.1s,SNR=50						
NRTU	**Norrtaelje**	**1.90**	**293**	P	**Pb**	**08 58 56.5**	**-0.3**
NRTU	**Norrtaelje**	**1.90**	**293**	P	**Pb**	**08 58 56.5**	**-0.3**
RAF	**Rauma**	**2.04**	**356**	*e*P	**Pn**	**08 58 58.4**	**+1.5**
RAF				*e*SG	**Sb**	**08 59 25.0**	**-0.1**
RAF				MSG		08 59 27.2	
	comp=Z,4.6nm,0.1s						
RAF	**Rauma**	**2.04**	**356**	P	**Pn**	**08 58 58.3**	**+1.5**
RAF				*e*S	**Sb**	**08 59 24.7**	**-0.4**
	comp=Z,12nm,0.2s,SNR=50						
NYNU	**Nynaeshamn**	**2.11**	**272**	P	**Pb**	**08 58 59.7**	**-0.8**
NYNU	**Nynaeshamn**	**2.11**	**272**	P	**Pb**	**08 58 59.6**	**-0.8**
GOTU	**Gotland**	**2.27**	**236**	P	**Pb**	**08 59 02.4**	**-0.7**
GOTU	**Gotland**	**2.27**	**236**	P	**Pb**	**08 59 02.4**	**-0.7**
FLYU	**Flymyra**	**2.42**	**300**	P	**Pn**	**08 59 03.6**	**+1.4**
FLYU	**Flymyra**	**2.42**	**300**	P	**Pn**	**08 59 03.5**	**+1.4**
UPP	**Uppsala**	**2.44**	**293**	P	**Pb**	**08 59 05.8**	**-0.2**
UPP	**Uppsala**	**2.44**	**293**	P	**Pb**	**08 59 05.8**	**-0.2**
PVF	**Pernaja**	**2.46**	**49**	*e*P	**Pn**	**08 59 04.4**	**+1.8**
PVF				*e*SB	**Sb**	**08 59 35.9**	**-1.3**
PVF				MSG		08 59 39.3	
	comp=Z,2.9nm,0.1s						
PVF	**Pernaja**	**2.46**	**49**	P	**Pn**	**08 59 04.4**	**+1.8**
VSU	**Vasula**	**2.48**	**100**	*e*P	**Pb**	**08 59 06.1**	**-0.6**
	SNR=50						
VSU				*e*S	**Sb**	**08 59 37.5**	**-0.2**
	comp=Z,41nm,0.1s,SNR=50						
BACU	**Backbrunna**	**2.69**	**291**	P	**Pn**	**08 59 07.5**	**+1.8**
BACU	**Backbrunna**	**2.69**	**291**	P	**Pn**	**08 59 07.5**	**+1.8**
ESKU	**Eskilstuna**	**2.95**	**277**	P	**Pn**	**08 59 11.2**	**+1.9**
ESKU	**Eskilstuna**	**2.95**	**277**	P	**Pn**	**08 59 11.2**	**+1.9**
IGGU	**Iggoen**	**3.05**	**310**	P	**Pn**	**08 59 12.1**	**+1.4**
IGGU	**Iggoen**	**3.05**	**310**	P	**Pn**	**08 59 12.1**	**+1.4**
FINES	**FINESS Array B**	**3.16**	**37**	Pn	**Pn**	**08 59 13.8**	**+1.6**
	comp=Z,0.3nm,0.3s,baz=225,slow=12,SNR=18						
FINES				Sn	**Sn**	**08 59 53.0**	**+2.4**
	comp=Z,0.4nm,0.3s,baz=229,slow=23,SNR=8.9						
ARNU	**Arnoeviken**	**3.58**	**321**	P	**Pn**	**08 59 19.2**	**+1.2**
ARNU	**Arnoeviken**	**3.58**	**321**	P	**Pn**	**08 59 19.1**	**+1.2**
KAF	**Kangasniemi**	**3.76**	**32**	MSG		09 00 26.4	
	comp=Z,1.1nm,0.2s						
ROTU	**Roteberg**	**3.96**	**311**	P	**Pn**	**08 59 23.9**	**+0.6**
ROTU	**Roteberg**	**3.96**	**311**	P	**Pn**	**08 59 23.9**	**+0.6**
HASU	**Hassela**	**4.16**	**322**	P	**Pn**	**08 59 27.0**	**+1.0**
HASU	**Hassela**	**4.16**	**322**	P	**Pn**	**08 59 27.0**	**+1.0**
HEMU	**Hemsoen**	**4.19**	**333**	P	**Pn**	**08 59 28.2**	**+1.8**
HEMU	**Hemsoen**	**4.19**	**333**	P	**Pn**	**08 59 28.2**	**+1.8**
NOA	**NORSAR Array B**	**5.83**	**295**	Pn	**Pn**	**08 59 49.4**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=106,slow=12,SNR=6.9						
NOA				Sn	**Sn**	**09 00 54.3**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=126,slow=14,SNR=2.7						
NOA				Lg	Lg	09 01 22.6	
	comp=Z,0.3nm,0.3s,baz=44,slow=26,SNR=4.7						
ARCES	**ARCESS Array B**	**10.68**	**6**	Pn	**Pn**	**09 00 52.8**	**-2.6**
	comp=Z,0.1nm,0.3s,baz=191,slow=12,SNR=3.8						

IDC 06 09:06:40.9±2.4, 17°.61S×178°.39W, h454km±26km, mb3.3/13, mb1 3.5/14, mb1mx3.4/21, mbtmp3.3/14, Error ellipse: s-maj=19.5km s-min=13.9km az=143.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.35**	**61**	P	P	09 08 29.4	-0.2
	2.9nm,0.3s,baz=152,slow=22,SNR=5.2						
STKA	**Stephens Creek**	**38.79**	**241**	P	P	09 13 25.8	+0.5
	3.1nm,1.0s,baz=88,slow=14,SNR=3.1						
WRA	**Warramunga Arr**	**44.71**	**259**	P	P	09 14 11.8	-0.8
	0.5nm,0.6s,baz=95,slow=8.3,SNR=2.6						
ASAR	**Alice Springs**	**44.89**	**254**	P	P	09 14 13.6	-0.4
	2.4nm,0.5s,baz=91,slow=7.5,SNR=18						
MJAR	**Matsushiro Arr**	**67.68**	**323**	P	P	09 16 51.5	-0.3
	1.9nm,0.6s,baz=164,slow=6.1,SNR=7.5						
ASAJ	**Asahikawa**	**71.03**	**331**	P	P	09 17 12.2	+0.4
	3.7nm,0.7s,baz=357,slow=27,SNR=4.8						
QSPA	**South Pole Qui**	**72.44**	**180**	P	P	09 17 20.8	+0.8
	2.6nm,1.1s,baz=268,slow=2.8,SNR=4.6						
PETK	**Petropavlovsk-**	**73.40**	**345**	P	P	09 17 25.4	0.0
	1.3nm,0.4s,baz=152,slow=9.9,SNR=3.9						
KSRS	**Korea Array**	**74.49**	**318**	P	P	09 17 33.2	+1.3
	0.7nm,0.7s,baz=101,slow=6.3,SNR=3.9						
NVAR	**Mina Array Bea**	**79.19**	**44**	P	P	09 17 58.7	+0.6
	1.5nm,0.7s,baz=228,slow=9.0,SNR=12						
PMSA	**Palmer Station**	**84.08**	**157**	P	P	09 18 22.3	-0.2
	21nm,1.0s,baz=32,slow=2.2,SNR=4.0						
MAW	**Mawson**	**84.15**	**200**	P	P	09 18 22.2	-0.6
	1.2nm,0.6s,baz=142,slow=4.4,SNR=3.9						
ILAR	**Eielson Array**	**85.59**	**13**	P	P	09 18 28.4	-1.3
	0.7nm,0.7s,baz=231,slow=5.7,SNR=5.9						
TXAR	**Lajitas Array**	**85.82**	**58**	P	P	09 18 32.1	+0.3
	0.9nm,0.8s,baz=219,slow=5.5,SNR=11						
PDAR	**Pinedale Array**	**87.12**	**43**	P	P	09 18 37.1	-0.8
	0.9nm,0.9s,baz=214,slow=2.5,SNR=6.4						
BRTR	**Keskin Array B**	**144.59**	**315**	PKP	PKPbc	09 25 24.1	-1.2
	1.1nm,0.8s,baz=145,slow=4.6,SNR=5.7						
GERES	**GERESS Array B**	**147.33**	**345**	PKPbc	PKPbc	09 25 32.3	-0.4
	0.9nm,0.6s,baz=29,slow=3.0,SNR=6.8						
DAVOX	**Davos/Dischmat**	**150.12**	**349**	PKPbc	PKPbc	09 25 38.8	-1.0
	3.4nm,0.6s,baz=287,slow=17,SNR=7.8						

IDC 06 09:08:15.3±4.9, 5°.28S×151°.70E, h48km±47km, mb3.6/9, mb1 3.9/11, mb1mx3.7/23, mbtmp3.7/11, ML3.5/2, MS3.1/2, Ms1 3.1/2, ms1mx2.6/25, Error ellipse: s-maj=47.3km s-min=28.7km az=133.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.08**	**227**	P	Pn	09 09 43.0	+0.2
	3.4nm,0.3s,baz=38,slow=8.0,SNR=9.4						
PMG				S	Sn	09 10 47.7	-3.4
	4.3nm,0.3s,baz=148,slow=19,SNR=3.9						
PMG				LR	LR	09 11 46.9	
	comp=Z,118nm,18.8s,baz=83,slow=35						
CTA	**Charters Tower**	**15.64**	**199**	P	Pn	09 11 53.6	+0.9
	0.2nm,0.3s,baz=340,slow=14,SNR=3.8						
WRA	**Warramunga Arr**	**22.30**	**228**	P	P	09 13 07.7	-1.4
	1.8nm,0.7s,baz=52,slow=10,SNR=9.2						
WRA				LR	LR	09 21 57.6	
	comp=Z,59nm,18.6s,baz=205,slow=37						
ASAR	**Alice Springs**	**25.06**	**221**	P	P	09 13 35.2	-0.2
	2.0nm,0.7s,baz=58,slow=8.6,SNR=31						
FITZ	**Fitzroy Crossi**	**28.46**	**241**	P	P	09 14 07.1	+1.0
	5.5nm,0.8s,baz=31,slow=4.8,SNR=9.2						
MKAR	**Makanchi Array**	**79.97**	**319**	P	P	09 20 19.6	0.0
	0.2nm,0.5s,baz=116,slow=8.2,SNR=2.9						
ILAR	**Eielson Array**	**83.02**	**22**	P	P	09 20 34.5	-0.8
	0.3nm,0.6s,baz=260,slow=5.5,SNR=4.7						
KURBB	**Kurchatov Arra**	**83.50**	**322**	P	P	09 20 38.7	+0.6
	0.1nm,0.3s,baz=99,slow=4.8,SNR=2.9						
BVAR	**Borovoye Array**	**88.97**	**323**	P	P	09 21 04.3	-0.6
	0.8nm,0.7s,baz=120,slow=8.5,SNR=3.3						
NVAR	**Mina Array Bea**	**93.25**	**52**	P	P	09 21 26.1	+0.6
	0.5nm,0.7s,baz=247,slow=5.5,SNR=4.9						
PDAR	**Pinedale Array**	**99.98**	**48**	P	Pdif	09 21 55.8	-0.1
	0.4nm,0.7s,baz=260,slow=5.4,SNR=4.0						
TORD	**Torodi Ar. Bea**	**149.40**	**287**	PKPbc	PKPbc	09 27 59.6	-0.7
	2.7nm,0.7s,baz=78,slow=3.0,SNR=17						

*IDC **06** 09:14:31.1±0.7, 1°.51S×99°.47E, h0km, mb4.0/15, mb1 4.1/17, mb1mx4.0/28, mbtmp4.0/17, ML3.8/2, Error ellipse: s-maj=22.9km s-min=14.2km az=56.0*
*NEIC **06** 09:14:32.6±0.4, 1°.55S×99°.40E, h10km, mb4.1/3, Error ellipse: s-maj=12.4km s-min=7.4km az=67.0*
*ISCJB **06** 09:14:33.6±0.4, 1°.50S±0°.05×99°.34E±0°.05, h30km, mb4.2/19, Error ellipse: s-maj=6.9km s-min=6.7km az=161.7*
*DJA **06** 09:14:36.4±1.2, 1°.S±6°.×9°.9E±1°.1, h30km, M4.8/3, MLv4.8/3*
ISC 06 09:14:36.0±0.5, **1°.36S**±0°.06×**99°.46E**±0°.06, **h30km, n52,** σ0°.87/51, **mb4.2**/19, **Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.10**	**66**	P	**Pn**	**09 14 55.2**	**-0.1**
PDSI				S	**Sb**	**09 15 12.1**	**+1.8**
PPI	**Padang Panjang**	**1.30**	**46**	P	**Pn**	**09 14 58.7**	**+0.6**
PPI	**Padang Panjang**	**1.30**	**46**	P	**Pn**	**09 14 58.1**	**0.0**
	2μm,0.7s,42μm						
BKNI	**Bangkinang**	**2.30**	**43**	P	**Pb**	**09 15 15.8**	**-1.1**
BKNI				S	**Sb**	**09 15 43.2**	**-1.7**
MASI	**Maura Aman, Be**	**3.29**	**123**	P	Pb	09 15 37.8	+4.1
	453nm,0.8s,8μm						
KSI	**Kapahiang**	**3.87**	**126**	P	**Pb**	**09 15 44.5**	**+0.9**
	220nm,0.8s						
PSI	**Prapat**	**4.17**	**353**	Pn	**Pn**	**09 15 38.0**	**+0.2**
PSI	**Prapat**	**4.17**	**353**	Pn	**Pn**	**09 15 38.0**	**+0.2**
	0.7nm,0.3s,baz=164,slow=16,SNR=2.7						
MNAI	**Manna**	**4.59**	**131**	P	**Pn**	**09 15 44.3**	**+0.9**
EGSI	**Enggano, Bengk**	**4.86**	**145**	P	**Pn**	**09 15 46.3**	**-0.8**
IPM	**Ipoh**	**6.01**	**15**	*e*Pn	Pn	09 16 07.3	+4.4
	19nm,0.6s						
KULM	**Kulim**	**6.71**	**10**	*e*Pn	**Pn**	**09 16 13.7**	**+1.1**
CMAR	**Chiang Mai Arr**	**19.70**	**359**	P	**Pn**	**09 19 05.0**	**+0.3**
CMAR	**Chiang Mai Arr**	**19.70**	**359**	P	**Pn**	**09 19 05.0**	**+0.3**
	0.6nm,0.3s,baz=186,slow=10,SNR=5.5						
KAPI	**Kappang**	**20.58**	**101**	P	**P**	**09 19 13.0**	**+0.3**
KAPI	**Kappang**	**20.58**	**101**	P	**P**	**09 19 13.0**	**+0.3**
	16nm,1.0s,baz=238,slow=6.9,SNR=4.3						
WRA	**Warramunga Arr**	**38.78**	**121**	P	**P**	**09 21 55.9**	**-2.4**
WRA	**Warramunga Arr**	**38.78**	**121**	P	**P**	**09 21 55.9**	**-2.4**
	1.5nm,0.6s,baz=300,slow=9.6,SNR=25						
WRAB	**Tennant Creek**	**38.78**	**121**	*e*P	**P**	**09 21 57.2**	**-1.1**
	3.8nm,0.9s						
ASAR	**Alice Springs**	**40.06**	**126**	P	**P**	**09 22 07.8**	**-1.2**
ASAR	**Alice Springs**	**40.06**	**126**	P	**P**	**09 22 07.8**	**-1.2**
	1.2nm,0.6s,baz=300,slow=7.8,SNR=22						
KSAR	**Wonju Array Be**	**46.73**	**31**	P	**P**	**09 23 02.1**	**-0.2**
KSRS	**Korea Array**	**46.75**	**31**	P	**P**	**09 23 02.1**	**-0.4**
	0.4nm,0.6s,baz=220,slow=7.5,SNR=3.5						
SONM	**Songino Array**	**49.37**	**6**	P	**P**	**09 23 23.8**	**+1.0**
SONM	**Songino Array**	**49.37**	**6**	P	**P**	**09 23 23.8**	**+1.0**
	0.8nm,0.7s,baz=184,slow=10,SNR=3.2						
STKA	**Stephens Creek**	**49.97**	**132**	*e*P	**P**	**09 23 28.2**	**+0.6**
	2.0nm,1.3s						
STKA	**Stephens Creek**	**49.97**	**132**	P	**P**	**09 23 27.2**	**-0.4**
	2.7nm,0.7s,baz=268,slow=8.8,SNR=5.2						
MK31	**Makanchi Array**	**50.27**	**345**	*e*P	**P**	**09 23 30.5**	**+0.9**
MKAR	**Makanchi Array**	**50.27**	**345**	P	**P**	**09 23 30.5**	**+0.9**
MKAR	**Makanchi Array**	**50.27**	**345**	P	**P**	**09 23 30.5**	**+0.9**
	1.6nm,0.6s,baz=147,slow=8.0,SNR=22						
USRK	**Ussuriysk Arra**	**53.85**	**29**	P	**P**	**09 23 56.6**	**+0.3**
	1.0nm,0.6s,baz=234,slow=7.2,SNR=4.2						
KURBB	**Kurchatov Arra**	**54.79**	**344**	P	**P**	**09 24 03.4**	**+0.5**
	0.8nm,0.8s,baz=160,slow=6.9,SNR=7.3						
KURK	**Kurchatov**	**54.85**	**344**	P	**P**	**09 24 03.4**	**0.0**
ZALV	**Zalesovo Beam**	**56.45**	**350**	P	**P**	**09 24 15.5**	**+0.7**
ZALV	**Zalesovo Beam**	**56.45**	**350**	P	**P**	**09 24 15.5**	**+0.7**
	1.4nm,0.5s,baz=186,slow=6.3,SNR=4.5						
NAY	**Al-Naaiem**	**58.41**	**306**	*e*P	**P**	**09 24 28.8**	**-0.4**
NAY				AMb	AMB	09 24 30.0	
	comp=Z,0.6nm,1.1s						
MIB	**Mutribah**	**58.55**	**306**	*e*P	**P**	**09 24 29.7**	**-0.3**
MIB				AMb	AMB	09 24 31.3	
	comp=Z,26nm,0.9s						
RST	**Umm Al-Ruwaisa**	**58.71**	**306**	*e*P	**P**	**09 24 30.9**	**-0.3**
RST				AMb	AMB	09 24 32.3	
	comp=Z,98nm,0.9s						
ABKAR	**Akbulak array**	**60.83**	**331**	*e*P	**P**	**09 24 44.9**	**-0.5**
	comp=Z,1.1nm,0.6s						
KMBO	**Kilima Mbogo**	**62.19**	**269**	P	**P**	**09 24 55.1**	**-0.5**
KMBO	**Kilima Mbogo**	**62.19**	**269**	P	**P**	**09 24 55.1**	**-0.5**
	comp=Z,2.2nm,0.7s,baz=56,slow=15,SNR=6.4						
KBZ	**Khabaz**	**67.48**	**319**	P	**P**	**09 25 29.8**	**+0.6**
KBZ	**Khabaz**	**67.48**	**319**	P	**P**	**09 25 29.8**	**+0.6**
	comp=Z,2.7nm,0.9s,baz=252,slow=5.0,SNR=4.1						
MAW	**Mawson**	**70.77**	**194**	P	**P**	**09 25 48.9**	**-0.2**
MAW	**Mawson**	**70.77**	**194**	P	**P**	**09 25 48.9**	**-0.2**
	comp=Z,2.4nm,1.0s,baz=61,slow=5.2,SNR=4.6						
MLR	**Muntele Rosu**	**79.47**	**317**	P	**P**	**09 26 40.2**	**+0.3**
MLR	**Muntele Rosu**	**79.47**	**317**	P	**P**	**09 26 40.2**	**+0.3**
	comp=Z,0.9nm,0.8s,baz=130,slow=17,SNR=4.4						
GERES	**GERESS Array B**	**88.22**	**319**	P	**P**	**09 27 25.1**	**+0.6**
GERES	**GERESS Array B**	**88.22**	**319**	P	**P**	**09 27 25.1**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=98,slow=7.4,SNR=4.3						
CPUP	**Villa Florida**	**144.50**	**218**	*e*PKPdf	PKPbc	09 34 09.0	+0.2
TXAR	**Lajitas Array**	**144.52**	**36**	PKP	**PKPdf**	**09 34 09.9**	**-0.5**
TXAR	**Lajitas Array**	**144.52**	**36**	PKP	**PKPdf**	**09 34 09.9**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=248,slow=0.8,SNR=14						

*ISCJB **06** 09:19:23.6±1.0, 12°.93N±0°.03×144°.50E±0°.02, h42km±9km, mb5.0/175, MS3.9/29, Error ellipse: s-maj=5.6km s-min=3.9km az=7.7*
*BJI **06** 09:19:23.1, 12°.67N×144°.93E, h71km, mB5.2/32, mb5.2/46, Ms4.7/24, Ms7 4.4/23*
*BKK **06** 09:19:24.3±0.4, 13°.N±5°.×14°.4E±°., h10km, M5.1/18, mB5.9/5, mb5.1/18, MLv4.9/1, Mw(mB)5.5/5*
*DJA **06** 09:19:24.9±0.4, 13°.N±6°.×14°.4E±°., h10km, M5.1/7, mB5.9/2, mb5.2/7, MLv5.0/1, Mw(mB)5.5/2*
*MOS **06** 09:19:26.5±1.0, 12°.90N×144°.45E, h72km, mb5.2/50, Error ellipse: s-maj=9.4km s-min=5.7km az=102.5*
*IDC **06** 09:19:27.1±2.2, 12°.92N×144°.59E, h65km±19km, mb4.5/35, mb1 4.6/35, mb1mx4.5/39, mbtmp4.5/35, MS3.8/20, Ms1 3.8/20, ms1mx3.7/25, Error ellipse: s-maj=14.7km s-min=8.6km az=81.0*
*NEIC **06** 09:19:28.4±0.7, 12°.88N×144°.54E, h75km±6km, mb5.0/102, Error ellipse: s-maj=4.0km s-min=3.5km az=115.0*
NEIC Felt at Dededo, Hagatna, Santa Rita and Yigo.
ISC 06 09:19:28.6±0.4, **12°.87N**±0°.04×**144°.56E**±0°.05, **h77**km±2km, **n544,** σ1°12/619, **mb5.0**/174, **4C-5D, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.78**	**23**	*e*Pn	**Pn**	**09 19 45.2**	**+0.4**
GUMO				*e*Sn	**Sn**	**09 19 57.7**	**+0.7**
CBIJ	**Chichi jima**	**14.33**	**351**	LR	LR	09 28 02.1	
	comp=Z,681nm,18.1s,baz=134,slow=36						
JOW	**Kunigami**	**20.64**	**315**	*e*P	Pn	09 24 04.0	-1.0
	140nm,1.0s						
PMG	**Port Moresby**	**22.28**	**173**	*e*P	**P**	**09 24 18.8**	**-0.9**
	30nm,0.8s						
PMG	**Port Moresby**	**22.28**	**173**	P	**P**	**09 24 19.5**	**-0.1**
	41nm,0.9s						
PMG	**Port Moresby**	**22.28**	**173**	P	**P**	**09 24 18.7**	**-0.9**
	25nm,0.7s,baz=343,slow=7.0,SNR=9.4						
PMG				LR	LR	09 32 16.0	
	comp=Z,104nm,20.6s,baz=216,slow=34						
JNU	**Nakatsue**	**23.72**	**330**	*e*P	**P**	**09 24 33.2**	**-0.5**
	54nm,1.0s						
JNU				PcP	**PcP**	**09 28 15.4**	**-0.4**
JNU	**Nakatsue**	**23.72**	**330**	P	**P**	**09 24 33.2**	**-0.5**
	55nm,1.0s,baz=138,slow=4.1,SNR=17						
JNU				PcP	**PcP**	**09 28 15.4**	**-0.4**
	24nm,1.2s,baz=23,slow=2.3,SNR=4.4						
MJAR	**Matsushiro Arr**	**24.26**	**347**	P	**P**	**09 24 37.5**	**-1.0**
MJAR				PcP	**PcP**	**09 28 17.1**	**+0.2**
MJAR	**Matsushiro Arr**	**24.26**	**347**	P	**P**	**09 24 37.5**	**-1.0**
	26nm,0.7s,baz=162,slow=8.9,SNR=74						
MJAR				PcP	**PcP**	**09 28 17.1**	**+0.2**
	3.1nm,0.8s,baz=174,slow=3.1,SNR=6.0						
MAT	**Matsushiro**	**24.26**	**347**	P	**P**	**09 24 37.1**	**-1.4**
MAT				S	**S**	**09 28 57.2**	**+5.4**
TWG	**Pinlang**	**24.41**	**297**	*e*P	**P**	**09 24 39.4**	**-0.6**
	183nm,0.7s						
YULB	**Yu-li**	**24.42**	**299**	*e*P	**P**	**09 24 40.0**	**-0.2**
	77nm,0.7s						
NACB	**Ninganchiao**	**24.46**	**301**	*e*P	**P**	**09 24 40.3**	**-0.2**
	42nm,0.7s						
YHNB	**Yeheng**	**24.84**	**302**	*e*P	**P**	**09 24 45.8**	**+1.7**
	41nm,0.7s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSLB	**Suanglung**	**24.86**	**299**	*e*P	**P**	**09 24 43.5**	**-0.7**
	131nm,0.8s						
SSLB				*e*PcP	**PcP**	**09 28 18.6**	**+0.1**
TPUB	**Ta-pu**	**24.96**	**298**	*e*P	**P**	**09 24 44.3**	**-0.8**
	75nm,0.7s						
COEN	**Coen**	**26.68**	**183**	*e*P	**P**	**09 25 00.3**	**-0.3**
	199nm,0.8s						
MYLDM	**Lahad Datu**	**26.82**	**256**	P	**P**	**09 25 04.7**	**+2.7**
HNR	**Honiara**	**26.91**	**145**	LR	LR	09 34 42.4	
	comp=Z,111nm,19.4s,baz=142,slow=34						
SDKM	**Sandakan**	**27.92**	**258**	P	P	09 25 18.3	+6.4
KSRS	**Korea Array**	**28.65**	**332**	P	**P**	**09 25 17.0**	**-1.0**
	11nm,0.6s,baz=144,slow=9.2,SNR=51						
KSAR	**Wonju Array Be**	**28.66**	**332**	P	**P**	**09 25 17.0**	**-1.1**
KS01	**Wonju Array Si**	**28.68**	**332**	*e*P	**P**	**09 25 16.7**	**-1.5**
KS01				*e*PcP	**PcP**	**09 28 28.0**	**+0.8**
KKM	**Kota Kinabalu**	**28.75**	**259**	P	**P**	**09 25 18.7**	**-0.6**
ERM	**Erimo**	**29.07**	**358**	*e*P	**P**	**09 25 22.8**	**+1.2**
ERM				pmax	pmax		
	comp=Z,47nm,1.4s						
ERM	**Erimo**	**29.07**	**358**	*e*P	**P**	**09 25 22.8**	**+1.2**
	comp=Z,47nm,1.4s						
NJ2	**Nanjing**	**30.34**	**313**	*e*P	**P**	**09 25 33.3**	**+0.3**
NJ2				pP	**pP**	**09 25 50.7**	**-0.4**
NJ2				sP	**sP**	**09 26 00.5**	**+0.4**
NJ2				S	**S**	**09 30 32.4**	**+4.5**
NJ2				sS	**sS**	**09 30 56.8**	**-2.1**
NJ2				pmax	pmax		
	comp=Z,14nm,0.7s						
NJ2				pmax	pmax		
	comp=Z,210nm,5.4s						
NJ2				LR	LR		
	comp=N,3μm,18.2s						
NJ2				LR	LR		
	comp=E,9μm,23.1s						
NJ2				LR	LR		
	comp=Z,1μm,21.4s						
ASAJ	**Asahikawa**	**31.19**	**357**	*e*P	**P**	**09 25 40.6**	**+0.3**
	comp=Z,16nm,0.7s						
ASAJ				*e*PcP	**PcP**	**09 28 34.6**	**+1.0**
ASAJ	**Asahikawa**	**31.19**	**357**	P	**P**	**09 25 39.6**	**-0.7**
	comp=Z,13nm,0.6s,baz=210,slow=8.8,SNR=18						
ASAJ				PcP	**PcP**	**09 28 34.6**	**+1.0**
	comp=Z,8.3nm,0.8s,baz=245,slow=9.7,SNR=6.6						
VLA	**Vladivostok**	**32.07**	**342**	*e*P	**P**	**09 25 46.7**	**-1.4**
VLA				S	**S**	**09 30 55.6**	**+0.9**
VLA				pmax	pmax		
	comp=Z,58nm,1.5s						
CTA	**Charters Tower**	**32.79**	**177**	P	**P**	**09 25 54.0**	**-0.6**
CTA	**Charters Tower**	**32.79**	**177**	P	**P**	**09 25 54.0**	**-0.6**
	comp=Z,16nm,0.8s,baz=351,slow=9.3,SNR=27						
CTAO	**Charters Tower**	**32.79**	**177**	*e*P	**P**	**09 25 54.3**	**-0.3**
CTAO				pmax	pmax		
	comp=Z,18nm,0.8s						
CTAO	**Charters Tower**	**32.79**	**177**	*e*P	**P**	**09 25 54.3**	**-0.3**
	comp=Z,18nm,0.8s						
WHN	**Wuhan**	**32.97**	**307**	*i*P	**P**	**09 25 57.2**	**+1.1**
WHN				pmax	pmax		
	comp=Z,82nm,0.7s						
USRK	**Ussuriysk Arra**	**33.04**	**343**	P	**P**	**09 25 56.5**	**0.0**
	comp=Z,8.0nm,0.6s,baz=165,slow=9.4,SNR=34						
USRK				PcP	**PcP**	**09 28 39.2**	**+0.5**
	comp=Z,1.1nm,0.7s,baz=194,slow=7.3,SNR=6.1						
SBUM	**Sibu**	**33.63**	**255**	*e*P	**P**	**09 26 03.4**	**+1.3**
	comp=Z,57nm,1.3s						
SBUM	**Sibu**	**33.63**	**255**	P	**P**	**09 26 03.8**	**+1.7**
SBUM	**Sibu**	**33.63**	**255**	P	**P**	**09 26 03.8**	**+1.7**
	comp=Z,36nm,1.2s						
QIZ	**Qiongzhong**	**33.89**	**285**	P	**P**	**09 26 03.6

GYA pmax pmax
comp=Z,150nm,5.2s
GYA LR LR
comp=N,550nm,17.0s
GYA LR LR
comp=E,480nm,18.6s
GYA LR LR
comp=Z,520nm,17.5s
EIDS Eidsvold 38.53 170 *e*P **P 09 26 43.2 -0.6**
comp=Z,6.1nm,0.5s
XAN Xi'an 38.61 309 P **P 09 26 44.4 0.0**
XAN pP **pP 09 26 58.7 -4.2**
XAN pmax pmax
comp=Z,12nm,0.8s
XAN pmax pmax
comp=Z,29nm,5.2s
HHC Hu-ho-hao-te 40.12 320 *e*P **P 09 26 58.5 +1.5**
HHC pP **pP 09 27 16.9 +1.3**
HHC sP **sP 09 27 26.1 +1.7**
HHC PP **PnPn 09 28 35.1 +0.3**
HHC S **S 09 33 00.3 +2.3**
HHC sS **sS 09 33 32.4 +2.7**
HHC SS **SS 09 35 55.1 -3.3**
HHC ScS **ScS 09 36 56.2 -0.2**
HHC pmax pmax
comp=Z,32nm,0.7s
HHC pmax pmax
comp=Z,160nm,6.2s
HHC LR LR
comp=N,280nm,16.7s
HHC LR LR
comp=E,260nm,16.7s
HHC LR LR
comp=Z,330nm,16.7s
NONG Nongkai 40.18 283 P **P 09 26 59.3 +1.6**
comp=Z,12nm,1.7s
DZM Mont Dzumac 40.82 148 *e*LR LR 09 38 22.7
comp=Z,337nm,31.9s
DZM Mont Dzumac 40.82 148 P **P 09 27 03.1 +0.1**
DZM Mont Dzumac 40.82 148 P **P 09 27 03.1 +0.1**
comp=Z,7.9nm,0.5s,baz=308,slow=5.1,SNR=12
KMI Kunming 41.21 293 P **P 09 27 07.9 +1.5**
KMI pP **pP 09 27 26.5 +1.5**
KMI S **S 09 33 15.6 +0.8**
KMI pmax pmax
comp=Z,22nm,0.8s
KMI pmax pmax
comp=Z,86nm,3.1s
KMI LR LR
comp=N,190nm,17.2s
KMI LR LR
comp=E,150nm,15.2s
KMI LR LR
comp=Z,160nm,20.0s
CHAI Chaiyaphum 41.30 279 P **P 09 27 08.0 +1.1**
comp=Z,16nm,0.7s
PEA0 Petropavlovsk- 41.49 12 *e*P **P 09 27 07.8 -0.1**
PEA0 *e*PcP **PcP 09 29 03.5 -0.7**
PETK Petropavlovsk- 41.49 12 P **P 09 27 07.2 -0.8**
PETK 09 29 04.1
PETK Petropavlovsk- 41.49 12 P **P 09 27 07.2 -0.8**
PETK PcP **PcP 09 29 04.1 -0.2**
PETK Petropavlovsk- 41.49 12 P **P 09 27 07.2 -0.8**
comp=Z,1.9nm,0.6s,baz=179,slow=8.7,SNR=4.5
PETK PcP **PcP 09 29 04.1 -0.2**
comp=Z,6.3nm,0.7s,baz=185,slow=6.8,SNR=16
PETK LR LR 09 45 00.2
comp=Z,28nm,19.3s,baz=194,slow=37
KTGM Kuala Trenggan 41.53 263 P **P 09 27 10.3 +1.5**
PET Petropavlovsk 41.61 13 *e*P **P 09 27 09.6 +0.7**
PET pmax pmax
comp=Z,25nm,1.3s
CD2 Chengdu 41.62 302 P **P 09 27 09.7 +0.3**
CD2 pP **pP 09 27 28.0 0.0**
CD2 sP **sP 09 27 37.0 +0.1**
CD2 PP **PnPn 09 28 50.4 -2.0**
CD2 PcP **PcP 09 29 05.8 +0.6**
CD2 S **S 09 33 19.4 -0.9**
CD2 sS **sS 09 33 52.2 0.0**
CD2 SS **SS 09 36 23.0 -5.1**
CD2 pmax pmax
comp=Z,120nm,0.7s
CD2 pmax pmax
comp=Z,160nm,4.7s
CD2 LR LR
comp=N,350nm,5.4s
CD2 LR LR
comp=Z,220nm,4.9s
HIA Hailar 41.67 336 *e*P **P 09 27 09.3 -0.2**
comp=Z,12nm,0.6s
MBWA Marble Bar 41.69 216 *e*P **P 09 27 10.2 +0.2**
comp=Z,24nm,1.2s
MYKOM Kota Tinggi 41.77 258 P **P 09 27 10.6 -0.2**
MYKOM Kota Tinggi 41.77 258 P **P 09 27 12.2 +1.4**
comp=Z,105nm,0.9s,comp=Z,1um
KGM Kluang 42.21 259 P **P 09 27 14.0 -0.4**
PBKT Sadao Pong 42.26 281 P **P 09 27 16.3 +1.6**
comp=Z,46nm,0.9s
LZH Lanzhou 43.24 310 ⇑P **P 09 27 23.5 +0.9**
LZH pP **pP 09 27 38.6 -2.8**
LZH sP **sP 09 27 49.4 -0.8**
LZH *e*S **S 09 33 46.1 +1.8**
LZH sS **sS 09 34 14.2 -2.1**
LZH pmax pmax
comp=Z,22nm,1.0s
LZH pmax pmax
comp=Z,150nm,4.6s
LZH LR LR
comp=N,360nm,14.6s
LZH LR LR
comp=E,330nm,13.0s
LZH LR LR
comp=Z,410nm,16.2s
PAYA Payao 43.32 285 P **P 09 27 24.9 +1.6**
comp=Z,9.4nm,0.9s,comp=Z,696nm
FRIM Kepong 43.51 261 P **P 09 27 26.1 +1.2**
ARMA Armidale 43.57 171 *e*P **P 09 27 24.7 -0.5**
comp=Z,14nm,1.0s
UTHA Uthaitani 43.75 279 P **P 09 27 28.9 +2.1**
comp=Z,12nm,1.0s
IPM Ipoh 43.77 263 P **P 09 27 27.5 +0.5**
KULM Kulim 43.95 264 *e*P **P 09 27 29.7 +1.3**
comp=Z,19nm,0.7s
KULM Kulim 43.95 264 P **P 09 27 30.1 +1.7**
CMAI Chiengmai2 44.12 285 P **P 09 27 31.0 +1.1**
comp=Z,31nm,1.0s
CM01 Chiang Mai Arr 44.17 283 *e*P **P 09 27 31.4 +1.2**
CM01 *e*PcP **PP 09 29 15.1 +0.7**
CMAR Chiang Mai Arr 44.18 283 P **P 09 27 30.8 +0.6**
CMAR PcP **PP 09 29 15.5 +0.9**
CMAR Chiang Mai Arr 44.18 283 P **P 09 27 30.8 +0.6**
comp=Z,8.9nm,0.7s,baz=82,slow=6.1,SNR=31
CMAR PcP **PP 09 29 15.5 +0.9**
comp=Z,8.8nm,0.7s,baz=98,slow=1.8,SNR=21
CMAR LR LR 09 43 17.8
comp=Z,82nm,21.3s,baz=142,slow=32
STKA Stephens Creek 44.58 184 *e*P **P 09 27 31.9 -1.1**
comp=Z,1.0nm,0.6s
STKA Stephens Creek 44.58 184 P **P 09 27 32.4 -0.7**
comp=Z,5.0nm,0.6s,baz=344,slow=11,SNR=14
STKA LR LR 09 47 37.5
comp=Z,97nm,19.8s,baz=22,slow=38
FX1 Attu Island--F 45.98 24 *e*P **P 09 27 44.2 +0.2**
PSI Prapat 46.22 261 P **P 09 27 46.7 +0.1**
PSI Prapat 46.22 261 P **P 09 27 46.7 +0.1**
comp=Z,16nm,0.7s,baz=104,slow=3.7,SNR=7.9
ULN Ulaanbaatar 46.80 326 *e*P **P 09 27 50.5 -0.2**
comp=Z,3.5nm,0.5s
SONM Songino Array 47.15 325 P **P 09 27 53.4 0.0**
SONM PcP **PcP 09 29 23.2 -0.7**
SONM ScP **ScP 09 33 11.0 -0.2**
SONM Songino Array 47.15 325 P **P 09 27 53.4 0.0**
comp=Z,5.2nm,0.6s,baz=144,slow=7.9,SNR=34
SONM PcP **PcP 09 29 23.2 -0.7**
comp=Z,3.4nm,0.8s,baz=149,slow=3.5,SNR=6.1
SONM ScP **ScP 09 33 11.0 -0.2**
comp=Z,0.6nm,0.6s,baz=134,slow=4.2,SNR=3.2
SONA1 Songino Array 47.15 325 *e*P **P 09 27 53.3 -0.1**
GTA Gaotai 47.43 312 ⇑P **P 09 27 56.3 +0.6**
GTA pP **pP 09 28 11.6 -3.1**
GTA sP **sP 09 28 18.5 -4.9**
GTA PcP **PcP 09 29 26.4 +1.3**
GTA S **S 09 34 43.6 -0.9**
GTA SS **SS 09 38 06.9 -6.2**
GTA pmax pmax
comp=Z,36nm,0.7s
GTA pmax pmax
comp=Z,73nm,4.8s
GTA LR LR
comp=N,69nm,14.5s
GTA LR LR
comp=E,82nm,15.2s
GTA LR LR
comp=Z,120nm,15.9s
YAK Yakutsk 50.25 351 *e*P **P 09 28 16.7 0.0**
YAK *e**PP pP 09 28 42.7 +6.9
YAK *e* 09 29 32.3
YAK *e* 09 30 12.5
YAK *e*PPP PPP 09 31 15.5
YAK *e*S **S 09 35 22.0 -1.1**
YAK *e*SS **SS 09 38 59.5 +2.2**
YAK *e*SSS SSS 09 40 34.2
YAK pmax pmax
comp=Z,57nm,0.8s
YAK pmax pmax
comp=N,13nm,1.0s
YAK pmax pmax
comp=E,6.0nm,1.0s
YAK pmax pmax
comp=Z,66nm,3.3s
YAK pmax pmax
comp=N,53nm,3.0s
YAK pmax pmax
comp=E,58nm,3.2s
YAK smax smax
comp=E,46nm,2.6s
YAK smax smax
comp=N,34nm,2.7s
ZAK Zakamensk 50.27 327 *e*P **P 09 28 15.5 -1.7**
ZAK *e* 09 29 34.9
ZAK pmax pmax
comp=Z,5.0nm,1.3s
SEY Seymchan 50.30 5 *c e*P **P 09 28 16.2 -0.9**
TLY Talaya 50.80 328 *e*P **P 09 28 20.5 -0.6**
TLY pmax pmax
comp=Z,8.0nm,0.6s
TLY MLR MLR
comp=Z,47nm,16.0s
ATKA Atka Island 51.27 31 *e*P **P 09 28 23.5 -1.0**
comp=Z,39nm,0.9s
LSA Lhasa 52.06 298 *e*P **P 09 28 32.3 +0.9**
LSA pmax pmax
comp=Z,24nm,0.4s
LSA Lhasa 52.06 298 *e*P **P 09 28 32.3 +0.9**
comp=Z,24nm,0.4s
TAPN Taplejung 54.87 294 *e*P **P 09 28 52.0 +0.2**
comp=Z,34nm,0.5s
ODAN Odare 55.12 294 *e*P **P 09 28 53.1 -0.5**
comp=Z,30nm,0.5s
RAMN Ramite 55.83 294 *e*P **P 09 28 57.8 -0.9**
comp=Z,30nm,0.6s
JIRN Jiri 56.23 295 *e*P **P 09 29 01.8 +0.1**
comp=Z,43nm,0.4s
GUN Gumba 56.52 295 *e*P **P 09 29 03.8 +0.1**
comp=Z,79nm,0.5s
AKUT Akutan 56.61 32 *e*P **P 09 29 03.1 -0.3**
comp=Z,108nm,1.3s
PKI Pulchoki 56.92 295 *e*P **P 09 29 05.9 -0.6**
comp=Z,41nm,0.5s
PKIN Phulchoki 56.93 295 *e*P **P 09 29 06.0 -0.5**
comp=Z,38nm,0.5s
KKN Kakani 57.04 295 *e*P **P 09 29 06.8 -0.4**
comp=Z,14nm,0.4s
DMN Daman 57.19 295 *e*P **P 09 29 07.9 -0.4**
comp=Z,71nm,0.8s
WMQ Urumqi 57.41 314 P **P 09 29 10.0 +0.6**
WMQ pP **pP 09 29 29.4 +0.4**
WMQ sP **sP 09 29 38.1 +0.5**
WMQ PcP **PcP 09 30 02.5 0.0**
WMQ pmax pmax
comp=Z,32nm,1.0s
WMQ pmax pmax
comp=Z,200nm,4.6s
WMQ LR LR
comp=N,63nm,30.2s
WMQ LR LR
comp=Z,75nm,28.6s
FALS False Pass 58.17 32 *e*P **P 09 29 13.9 -0.4**
comp=Z,67nm,0.7s
DANN Dangsing 58.41 295 *e*P **P 09 29 16.9 0.0**
comp=Z,136nm,0.5s
KOLN Koldanda 58.53 295 *e*P **P 09 29 17.2 -0.5**
comp=Z,39nm,0.7s
TIXI Tiksi 59.52 354 ⇓ *i*P **P 09 29 22.7 -0.7**
TIXI pmax pmax
comp=Z,22nm,1.2s
SDPT Sand Point 59.91 33 *e*P **P 09 29 25.9 -0.4**
comp=Z,98nm,0.8s
SNZO South Karori 60.67 154 *e*P **P 09 29 31.4 -0.3**
comp=Z,70nm,1.3s
RPZ Rata Peaks 61.28 158 P **P 09 29 34.9 -1.0**
RPZ Rata Peaks 61.28 158 P **P 09 29 34.9 -1.0**
comp=Z,12nm,0.8s,baz=31,slow=15,SNR=7.3
CHGN Chignik 61.35 32 *e*P **P 09 29 34.6 -1.5**
MK01 Makanchi Array 61.79 316 *e*P **P 09 29 39.2 -0.1**
MK31 Makanchi Array 61.80 316 *i*P **P 09 29 39.3 -0.1**
MK31 pmax pmax
comp=Z,14nm,0.8s
MK31 Makanchi Array 61.80 316 *e*P **P 09 29 39.4 0.0**
MKAR Makanchi Array 61.80 316 *e*P **P 09 29 39.6 +0.1**
MKAR 09 30 19.7
MKAR Makanchi Array 61.80 316 *e*P **P 09 29 39.6 +0.1**
MKAR PcP **PcP 09 30 19.7 -0.2**
MKAR ScP **ScP 09 34 13.2 -1.8**
MKAR Makanchi Array 61.80 316 P **P 09 29 39.5 0.0**
comp=Z,7.6nm,0.6s,baz=92,slow=8.7,SNR=83
MKAR PcP **PcP 09 30 19.7 -0.2**
comp=Z,2.2nm,0.6s,baz=74,slow=8.2,SNR=4.5
MKAR ScP **ScP 09 34 13.2 -1.8**
comp=Z,0.9nm,0.8s,baz=107,slow=4.1,SNR=3.7
ZAA0 Zalesovo Array 62.03 325 *e*P **P 09 29 39.3 -1.5**
ZALV Zalesovo Beam 62.03 325 *i*P **P 09 29 40.0 -0.8**
ZALV pmax pmax
comp=Z,3.0nm,0.5s
ZALV Zalesovo Beam 62.03 325 P **P 09 29 40.0 -0.8**
ZALV PcP **PcP 09 30 19.7 -0.9**
ZALV Zalesovo Beam 62.03 325 P **P 09 29 40.0 -0.8**
comp=Z,2.5nm,0.5s,baz=103,slow=7.1,SNR=8.7
ZALV PcP **PcP 09 30 19.7 -0.9**
comp=Z,5.7nm,0.4s,baz=122,slow=4.3,SNR=16
NVS Novosibirsk 63.18 325 *e*P **P 09 29 46.1 -2.3**
NVS pmax pmax
comp=N,7.0nm,1.0s
NVS pmax pmax
comp=Z,7.0nm,1.0s
HYB Hyderabad 63.61 283 *i*P **P 09 29 51.5 -0.5**
OHAK Old Harbor 64.32 32 *e*P **P 09 29 55.7 -0.1**
comp=Z,26nm,0.8s
SVW2 Sparrevohn 64.45 28 *e*P **P 09 29 56.6 -0.1**
comp=Z,20nm,0.8s
KDAK Kodiak Island 64.84 32 P **P 09 29 59.1 -0.2**
comp=Z,142nm,0.7s,SNR=5.9
KDAK Kodiak Island 64.84 32 *e*P **P 09 29 59.1 -0.2**
comp=Z,16nm,0.7s
KDAK Kodiak Island 64.84 32 P **P 09 29 58.8 -0.5**
comp=Z,11nm,0.6s,baz=302,slow=6.4,SNR=20
KURK Kurchatov 64.94 320 P **P 09 29 59.7 -0.3**
KURK Kurchatov 64.94 320 P **P 09 29 59.7 -0.3**
KURBB Kurchatov Arra 64.98 320 P **P 09 29 59.7 -0.6**
comp=Z,12nm,0.7s,baz=102,slow=6.7,SNR=92
ULHL Ulahol 65.43 311 *i*P **P 09 30 04.3 +0.6**
ULHL Ulahol 65.43 311 P **P 09 30 04.3 +0.6**
SNR=10
KSH Kashi 65.44 308 P **P 09 30 06.2 +2.5**
KSH sP **sP 09 30 35.5 +3.3**
KSH PP PP 09 32 35.2 +6.8
KSH S **S 09 38 45.1 +2.5**
KSH sS **sS 09 39 18.5 +2.0**
KSH SS **SS 09 43 01.4 +4.3**
KSH pmax pmax
comp=Z,23nm,1.0s
KSH pmax pmax
comp=Z,72nm,4.1s
KSH LR LR
comp=N,140nm,8.6s
KSH LR LR
comp=E,140nm,4.2s
KSH LR LR
comp=Z,140nm,6.4s
RSO Redoubt South 65.55 29 *e*P **P 09 30 03.1 -1.0**
TKM2 Tokmak 2 65.96 311 *e*P **P 09 30 06.7 -0.4**
TKM2 pmax pmax
comp=Z,9.0nm,1.0s
TKM2 Tokmak 2 65.96 311 P **P 09 30 07.1 0.0**
SNR=10
TKM2 Tokmak 2 65.96 311 *e*P **P 09 30 06.7 -0.4**
comp=Z,8.9nm,1.0s
SPU Mount Spurr 66.10 28 *e*P **P 09 30 07.2 -0.2**
KZA Kyzart 66.15 310 *i*P **P 09 30 09.5 +0.9**
KZA Kyzart 66.15 310 P **P 09 30 09.5 +0.9**
SNR=9.1
KBK Karagaybulak 66.42 311 *i*P **P 09 30 10.4 +0.4**
KBK Karagaybulak 66.42 311 P **P 09 30 10.4 +0.4**
SNR=6.6
PPLA Purkeypile 66.57 26 *e*P **P 09 30 10.3 -0.2**
comp=Z,27nm,0.7s
AAK Ala-Archa 66.75 311 *e*P **P 09 30 11.9 -0.2**
AAK pmax pmax
comp=Z,3.0nm,0.8s
AAK Ala-Archa 66.75 311 *e*P **P 09 30 11.9 -0.2**
comp=Z,2.6nm,0.8s
AAK Ala-Archa 66.75 311 P **P 09 30 11.6 -0.5**
comp=Z,2.7nm,0.7s,baz=86,slow=3.1,SNR=7.3
CAST Castle Rocks 66.78 26 *e*P **P 09 30 11.2 -0.5**
comp=Z,38nm,0.7s
USP Ospenovka 66.79 312 *i*P **P 09 30 12.4 +0.2**
USP Ospenovka 66.79 312 P **P 09 30 12.4 +0.2**
SNR=5.3
IM04 Indian Mountai 66.96 23 *e*P **P 09 30 12.2 -0.6**
IMA2 Indian Mountai 67.03 23 *e*P **P 09 30 13.0 -0.3**
EKS2 Erkin-Say 67.28 311 *e*P **P 09 30 15.6 +0.2**
EKS2 pmax pmax
comp=Z,7.0nm,1.1s
EKS2 Erkin-Say 67.28 311 *e*P **P 09 30 15.6 +0.2**
comp=Z,7.2nm,1.1s
BPAW Bear Paw Mtn. 67.45 25 *e*P **P 09 30 15.3 -0.6**
comp=Z,25nm,0.8s
TRF Thorofare Moun 67.56 26 *e*P **P 09 30 14.7 -2.1**
comp=Z,18nm,0.7s
PMR Palmer 67.56 28 *e*P **P 09 30 15.5 -1.1**
PMR pmax pmax
comp=Z,30nm,0.6s
PMR Palmer 67.56 28 *e*P **P 09 30 15.5 -1.1**
comp=Z,30nm,0.6s
SML Sawmill 67.99 28 *e*P **P 09 30 18.6 -0.7**
SML pmax pmax
comp=Z,16nm,0.9s
SML Sawmill 67.99 28 *e*P **P 09 30 18.6 -0.7**
comp=Z,16nm,0.9s
MCK McKinley 68.22 26 *e*P **P 09 30 19.7 -1.0**
MCK pmax pmax
comp=Z,31nm,1.4s
MCK McKinley 68.22 26 *e*P **P 09 30 19.7 -1.0**
comp=Z,31nm,1.4s
COLD Coldfoot 68.73 22 *e*P **P 09 30 24.2 +0.4**
comp=Z,23nm,0.6s
COLA College 68.97 25 *e*P **P 09 30 24.4 -1.0**
COLA pmax pmax
comp=Z,16nm,0.8s
COLA College 68.97 25 *e*P **P 09 30 24.4 -1.0**
comp=Z,16nm,0.8s
DIV Divide 69.03 29 *e*P **P 09 30 26.5 +0.6**
comp=Z,22nm,0.7s
ILAR Eielson Array 69.35 25 P **P 09 30 25.6 -2.2**
ILAR Eielson Array 69.35 25 P **P 09 30 25.6 -2.2**
comp=Z,16nm,0.5s,baz=250,slow=6.0,SNR=290
ILAR LR LR 09 56 03.5
comp=Z,40nm,20.7s,baz=256,slow=32
IL1 Eielson Array 69.35 25 *e*P **P 09 30 25.9 -1.8**
PAX Paxson 69.55 27 *e*P **P 09 30 28.3 -0.8**
PAX pmax pmax
comp=Z,23nm,0.6s
PAX Paxson 69.55 27 *e*P **P 09 30 28.3 -0.8**
comp=Z,23nm,0.6s
BMRM Bremner River 69.56 29 *e*P **P 09 30 28.7 -0.5**
comp=Z,54nm,1.3s
KK31 Karatay Array 69.70 311 *i*P **P 09 30 29.7 -0.6**
KK31 pmax pmax
comp=Z,16nm,1.0s
KKAR Karatay Array 69.70 311 *e*P **P 09 30 30.4 +0.1**
KKAR pmax pmax
comp=Z,7.0nm,0.7s
KKAR Karatay Array 69.70 311 *e*P **P 09 30 30.4 +0.1**
comp=Z,7.0nm,0.7s
VOSK Vostochnaya 69.92 322 *e*P **P 09 30 30.4 -1.1**
VOSK pmax pmax
comp=Z,11nm,1.4s
VOSK Vostochnaya 69.92 322 *e*P **P 09 30 30.4 -1.1**
comp=Z,11nm,1.4s
BVA0 Borovoye Array 70.30 322 P **P 09 30 32.7 -1.1**
BVA0 pmax pmax
comp=Z,7.0nm,0.5s
BVAR Borovoye Array 70.30 322 P **P 09 30 33.6 -0.2**
BVAR Borovoye Array 70.30 322 P **P 09 30 33.6 -0.2**
BVAR Borovoye Array 70.30 322 P **P 09 30 33.6 -0.2**
comp=Z,6.7nm,0.5s,baz=103,slow=8.5,SNR=22
MENT Mentasta 70.33 27 *e*P **P 09 30 33.8 0.0**
BRVK Borovoye 70.37 322 *e*P **P 09 30 34.1 -0.1**
BRVK pmax pmax
comp=Z,9.0nm,0.9s
BRVK Borovoye 70.37 322 *e*P **P 09 30 34.1 -0.1**
comp=Z,9.5nm,0.9s
KBL Kabul 70.96 302 *e*P **P 09 30 38.1 -0.3**
KBL pmax pmax
comp=Z,31nm,1.0s
KBL Kabul 70.96 302 *e*P **P 09 30 38.1 -0.3**
comp=Z,31nm,1.0s
PPT Papeete 71.70 114 LR LR 09 56 03.3
comp=Z,207nm,20.6s,baz=171,slow=31
PPT2 Papeete2 71.71 114 *e*LR LR 09 52 17.8
comp=Z,253nm,30.8s
EGAK Eagle 71.75 26 *e*P **P 09 30 42.2 -0.2**
comp=Z,12nm,0.8s
DAWY Dawson 72.42 27 *e*P **P 09 30 46.6 +0.2**
HYT Haines Junctio 72.98 30 *e*P **P 09 30 50.7 +0.8**
INK Inuvik 75.15 22 *e*P **P 09 31 01.9 -0.3**
comp=Z,24nm,1.0s
WRAK Wrangell Islan 75.58 35 *e*P **P 09 31 05.6 +0.7**
comp=Z,16nm,0.7s
SVE Sverdlovsk 76.02 326 *e*P **P 09 31 07.1 -0.3**
SVE pmax pmax
comp=Z,8.0nm,0.9s
DLBC Dease Lake 76.75 33 *e*P **P 09 31 11.9 +0.3**
DLBC Dease Lake 76.75 33 LR LR 09 59 21.7
comp=Z,53nm,20.0s,baz=298,slow=31
AB31 Akbulak array 76.87 318 P **P 09 31 11.4 -1.0**
AB31 pmax pmax
comp=Z,4.0nm,0.4s
ABKAR Akbulak array 76.87 318 *e*P **P 09 31 11.7 -0.7**
comp=Z,9.4nm,0.6s
ARU Arti 77.19 325 *d i*P **P 09 31 13.5 -0.5**
ARU 09 34 02.4
ARU S **S 09 40 59.5 +2.3**
ARU pmax pmax
comp=Z,6.0nm,0.6s
AKTO Aktyubinsk 78.01 319 P **P 09 31 18.1 -0.6**
AKTO Aktyubinsk 78.01 319 P **P 09 31 18.1 -0.6**
AKTO Aktyubinsk 78.01 319 P **P 09 31 18.1 -0.6**
comp=Z,4.2nm,0.5s,baz=88,slow=6.5,SNR=7.9
BBB Bella Bella 78.33 39 LR LR 09 59 59.0
comp=Z,58nm,21.1s,baz=266,slow=31
FL2 Flat Top 2 82.96 44 P **P 09 31 46.6 +1.1**
UOSS Wadi Hilu 83.21 294 P **P 09 31 46.0 -1.0**
comp=Z,93nm,1.2s,SNR=5.3
HUMO Hull Mountain 83.22 48 *e*P **P 09 31 47.8 +1.0**
comp=Z,12nm,0.9s
KCPM Cahto Peak 83.32 51 *e*P **P 09 31 48.3 +0.8**
comp=Z,8.0nm,0.7s
H04A Detroit Lake 83.37 46 *e*P **P 09 31 48.0 +0.5**
WPW White Pass 83.40 44 P **P 09 31 48.2 +0.4**
FRIS Frissel Point 83.52 46 P **P 09 31 49.1 +0.7**
TDH Tom, Dick, Har 83.52 45 P **P 09 31 49.0 +0.6**
VLL Laurance Lake 83.56 45 P **P 09 31 49.5 +0.9**
YBH Yreka Blue Hor 83.58 49 *e*P **P 09 31 49.4 +0.7**
comp=Z,16nm,1.1s
YKA Yellowknife Ar 83.64 27 P **P 09 31 47.9 -0.5**
YKA Yellowknife Ar 83.64 27 P **P 09 31 47.9 -0.5**
comp=Z,5.2nm,0.6s,baz=267,slow=5.1,SNR=17
WDC Whiskeytown Da 83.93 50 *e*P **P 09 31 51.5 +1.1**
WDC pmax pmax
comp=Z,9.0nm,1.0s
WDC Whiskeytown Da 83.93 50 *e*P **P 09 31 51.5 +1.1**
comp=Z,8.6nm,1.0s
ALE Alert 83.97 3 P **P 09 31 50.9 +1.1**
comp=Z,348nm,0.8s,SNR=9.8
MDW Midway 84.62 44 P **P 09 31 54.6 +0.8**
MDW Midway 84.62 44 P **P 09 31 54.6 +0.8**

K05A	Summer Lake	84.69	48	eP	P	09 31 55.3	+0.8
SPITS	Spitsbergen Ar	84.71	351	P	P	09 31 52.8	-0.9
SPITS	Spitsbergen Ar	84.71	351	P	P	09 31 52.8	-0.9
	comp=Z,5.7nm,0.6s,baz=52,slow=4.3,SNR=20						
LBCM	Butte Creek Ri	84.76	49	P	P	09 31 55.1	+0.3
HAWA	Hanford	84.83	44	eP	P	09 31 55.2	+0.3
	comp=Z,5.2nm,0.7s						
KBS	Kingsbay	84.87	352	ceP	P	09 31 54.7	+0.3
KBS				pmax	pmax		
	comp=Z,19nm,1.2s						
KBS	Kingsbay	84.87	352	eP	P	09 31 54.7	+0.3
	comp=Z,8.6nm,0.5s						
REDWA	Red Mountain	84.91	44	P	P	09 31 56.1	+0.8
D08A	Wollman Farm,	85.08	43	eP	P	09 31 56.8	+0.7
I07A	Izee	85.37	46	eP	P	09 31 58.0	+0.3
G08A	Pilot Rock	85.47	45	eP	P	09 31 58.8	+0.6
NEW	Newport	85.97	42	eP	P	09 32 00.6	0.0
	comp=Z,24nm,0.8s						
NEW	Newport	85.97	42	P	P	09 32 00.8	+0.2
	baz=86						
APA	Apatity	86.03	339⇓	eP	P	09 32 02.4	+2.1
APA				MLR	MLR		
	comp=Z,200nm,15.0s						
CMB	Columbia Colle	86.11	52	eP	P	09 32 02.0	+0.5
CMB				pmax	pmax		
	comp=Z,8.0nm,0.6s						
CMB	Columbia Colle	86.11	52	eP	P	09 32 02.0	+0.5
	comp=Z,7.9nm,0.6s						
J08A	Circle Bar Ran	86.27	47	eP	P	09 32 03.1	+0.8
WVOR	Wild Horse Val	86.38	47	eP	P	09 32 02.8	0.0
WVOR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
WVOR	Wild Horse Val	86.38	47	eP	P	09 32 02.8	0.0
	comp=Z,5.5nm,0.8s						
BMO	Blue Mountains	86.71	45	eP	P	09 32 04.3	-0.1
BMO				pmax	pmax		
	comp=Z,16nm,0.8s						
BMO	Blue Mountains	86.71	45	eP	P	09 32 04.3	-0.1
	comp=Z,16nm,0.8s						
WAKR	Walker	86.73	51	eP	P	09 32 05.1	+0.4
	comp=Z,5.7nm,0.9s						
EDM	Edmonton	86.91	36	eP	P	09 32 05.0	-0.1
EDM	Edmonton	86.91	36	eP	P	09 32 05.0	-0.1
SMMC	Simmler	87.04	55	P	P	09 32 07.3	+1.2
	baz=87						
MLAC	Mammoth Lakes	87.40	52	P	P	09 32 09.1	+1.1
	baz=87						
RCTC	Rector, Farmer	87.40	53	P	P	09 32 08.2	+0.5
	baz=87						
BSMT	Bassoo Peak	87.59	41	eP	P	09 32 09.0	+0.3
	comp=Z,24nm,1.0s						
NVAR	Mina Array Bea	87.61	51	P	P	09 32 09.7	+0.7
NVAR	Mina Array Bea	87.61	51	P	P	09 32 09.7	+0.7
	comp=Z,9.1nm,0.7s,baz=271,slow=5.7,SNR=86						
VES	Vestal, Richgr	87.64	54	P	P	09 32 09.0	+0.1
	baz=88,SNR=5.9						
ARCES	ARCESS Array B	87.67	342	P	P	09 32 08.2	-0.2
ARCES	ARCESS Array B	87.67	342	P	P	09 32 08.2	-0.2
	comp=Z,3.8nm,0.6s,baz=76,slow=6.9,SNR=34						
ARCES				LR	LR	10 16 09.8	
	comp=Z,41nm,19.2s,baz=316,slow=39						
ARE0	ARCESS Array S	87.67	342	eP	P	09 32 08.3	0.0
NV11	Mina Array Sit	87.72	51	eP	P	09 32 09.7	+0.3
WALA	Waterton Lakes	87.80	40	eP	P	09 32 10.4	+0.9
	comp=Z,0.3nm,0.9s						
BLMT	Blacktail Moun	87.82	41	eP	P	09 32 09.9	+0.2
ARVC	Arvin	88.01	55	P	P	09 32 11.3	+0.7
	baz=88						
MFID	Camas Ranch	88.12	46	P	P	09 32 11.6	+0.5
	baz=88						
ISA	Isabella	88.16	54	eP	P	09 32 11.4	-0.1
ISA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
ISA	Isabella	88.16	54	eP	P	09 32 11.4	-0.1
	comp=Z,7.5nm,0.9s						
ISA	Isabella	88.16	54	P	P	09 32 11.4	-0.1
	baz=88,SNR=5.9						
OSI	Osito Adit	88.22	55	eP	P	09 32 11.8	0.0
	comp=Z,6.0nm,0.4s						
OSI	Osito Adit	88.22	55	P	P	09 32 12.2	+0.4
	baz=88						
CWC	Cottonwood Cre	88.28	53	P	P	09 32 12.5	+0.4
	baz=88						
SLMT	Seeley Lake	88.61	42	eP	P	09 32 13.0	-0.5
	comp=Z,7.1nm,1.3s						
DECC	Green Verdugo	88.63	55	P	P	09 32 14.3	+0.7
	baz=88						
CIS	Catalina Islan	88.78	56	P	P	09 32 15.2	+0.8
	baz=89						
JOF	Joensuu	88.82	335	eP	P	09 32 13.2	-0.6
JOF				pmax	pmax		
	comp=Z,4.0nm,0.6s						
JOF	Joensuu	88.82	335	ep	P	09 32 13.2	-0.6
	comp=Z,3.5nm,0.6s						
LRMC	Laurel Mountai	88.83	54	P	P	09 32 15.8	+1.2
	baz=89						
MPMC	Manual Prospec	88.84	53	P	P	09 32 15.4	+0.7
	baz=89,SNR=27						
MWC	Mount Wilson	88.86	55	eP	P	09 32 15.3	+0.4
MWC				pmax	pmax		
	comp=Z,7.0nm,0.5s						
MWC	Mount Wilson	88.86	55	eP	P	09 32 15.3	+0.4
	comp=Z,6.9nm,0.5s						
HLID	Hailey	89.07	46	eP	P	09 32 15.9	+0.2
	comp=Z,17nm,1.1s						
HLID	Hailey	89.07	46	P	P	09 32 16.2	+0.5
	baz=89						
BFSC	Mount Baldy Ra	89.17	55	P	P	09 32 16.6	+0.3
	baz=89						
FURC	Furnace Creek,	89.22	53	P	P	09 32 17.5	+1.2
	baz=89,SNR=7.8						
ELK	Elko	89.28	48	eP	P	09 32 17.4	+0.6
	comp=Z,19nm,1.0s						
KBZ	Khabaz	89.45	315	P	P	09 32 18.1	+0.9
KBZ	Khabaz	89.45	315	P	P	09 32 18.1	+0.9
KBZ	Khabaz	89.45	315	P	P	09 32 18.1	+0.9
	comp=Z,1.8nm,0.8s,baz=32,slow=8.1,SNR=3.6						
KBZ				LR	LR	10 15 17.9	
	comp=Z,42nm,18.5s,baz=35,slow=38						
OBN	Obninsk	89.54	327	eP	P	09 32 15.1	-2.2
OBN				pmax	pmax		
	comp=Z,12nm,1.1s						
GSC	Goldstone	89.57	54	eP	P	09 32 19.0	+0.9
GSC				pmax	pmax		
	comp=Z,19nm,0.8s						
GSC	Goldstone	89.57	54	eP	P	09 32 19.0	+0.9
	comp=Z,19nm,0.8s						
GSC	Goldstone	89.57	54	P	P	09 32 19.0	+0.9
	baz=90						
R11A	Troy Canyon, C	89.69	51	eP	P	09 32 18.9	+0.2
R11A	Troy Canyon, C	89.69	51	P	P	09 32 19.5	+0.7
	baz=90						
MURC	Murrieta	89.70	56	P	P	09 32 19.3	+0.6
	baz=90,SNR=5.2						
LRM	Limekiln Ridge	89.72	43	eP	P	09 32 19.1	+0.3
	comp=Z,28nm,0.7s						
MCMT	McKenzie Canyo	89.76	44	eP	P	09 32 19.7	+0.7
DLMT	Dillon	89.77	43	eP	P	09 32 18.7	-0.2
	comp=Z,3.7nm,0.8s						
SHOC	Shoshone	89.83	53	P	P	09 32 20.1	+0.9
	baz=90						
MIB	Mutribah	89.83	300	eP	P	09 32 17.4	-1.9
MIB				AMb	AMB	09 32 21.6	
	comp=Z,40nm,0.7s						
HRY	Holter Researc	89.85	42	eP	P	09 32 19.3	+0.1
	comp=Z,3.1nm,0.6s						
109C	Camp Elliot, M	89.97	56	P	P	09 32 20.5	+0.6
	baz=90,SNR=7.8						
NAY	Al-Naaiem	90.05	300	eP	P	09 32 18.2	-2.1
NAY				AMb	AMB	09 32 22.1	
	comp=Z,1.3nm,0.8s						
HEC	Hector,Ludlow	90.07	54	P	P	09 32 21.1	+0.7
	baz=90						
RST	Umm Al-Ruwaisa	90.20	300	eP	P	09 32 18.9	-2.1
RST				AMb	AMB	09 32 23.5	
	comp=Z,290nm,0.9s						
TUQ	Turquoise Moun	90.23	54	P	P	09 32 21.9	+0.7
	baz=90,SNR=12						
C17A	Wharram Farm,	90.24	41	P	P	09 32 21.9	+0.9
	baz=90						
PFO	Pinyon Flat Ob	90.30	56	P	P	09 32 22.2	+0.6
	baz=90,SNR=6.1						
BOZ	Bozeman (W)	90.33	43	eP	P	09 32 21.3	-0.2
BOZ				pmax	pmax		
	comp=Z,11nm,1.5s						
BOZ	Bozeman (W)	90.33	43	eP	P	09 32 21.3	-0.2
	comp=Z,11nm,1.5s						
BAR	Barrett	90.37	56	eP	P	09 32 22.1	+0.3
	comp=Z,17nm,1.0s						
D17A	Six Diamond Ra	90.45	41	P	P	09 32 22.3	+0.2
	baz=90						
MONP	Monument Peak	90.52	56	P	P	09 32 23.5	+0.7
	baz=90,SNR=14						
SHPR	Sheep Range	90.53	52	eP	P	09 32 23.6	+1.0
	comp=Z,12nm,0.8s						
BELC	Belle Mtn. Jos	90.56	55	P	P	09 32 23.2	+0.4
	baz=90,SNR=12						
E17A	Martinsdale	90.57	42	P	P	09 32 23.0	+0.4
	baz=90						
GMRC	Granite Mounta	90.62	54	P	P	09 32 23.9	+0.8
	baz=90,SNR=20						
QLMT	Earthquake Lak	90.72	44	eP	P	09 32 24.8	+1.4
DVTC	Desert V Tower	90.84	56	P	P	09 32 24.9	+0.8
	baz=91,SNR=6.3						
F17A	Fitzpatrick Pl	90.88	42	P	P	09 32 24.8	+0.7
	baz=91						
H16A	Russell Place,	90.89	44	P	P	09 32 25.1	+0.9
	baz=91,SNR=8.7						
I16A	Newdale	90.99	45	P	P	09 32 25.8	+1.1
	baz=91,SNR=9.2						
SWSC	Sam W. Stewart	91.01	56	P	P	09 32 25.5	+0.8
	baz=91						
G17A	Pierce Place,	91.02	43	P	P	09 32 25.4	+0.7
	baz=91						
A19A	Klindworth Far	91.06	39	P	P	09 32 25.0	+0.3
	baz=91						
BC3	Big Chuckawall	91.09	55	P	P	09 32 26.1	+0.9
	baz=91,SNR=9.0						
B19A	Brinkman Farms	91.11	40	P	P	09 32 25.2	+0.3
	baz=91						
E18A	Harlowton	91.15	42	P	P	09 32 25.8	+0.5
	baz=91,SNR=6.6						
IRM	Iron Mountain	91.19	55	P	P	09 32 26.4	+0.8
	baz=91,SNR=12						
DUG	Dugway	91.21	48	eP	P	09 32 26.3	+0.6
DUG				pmax	pmax		
	comp=Z,5.0nm,0.7s						
DUG	Dugway	91.21	48	eP	P	09 32 26.3	+0.6
	comp=Z,4.9nm,0.7s						
DUG	Dugway	91.21	48	P	P	09 32 26.2	+0.6
	baz=91,SNR=11						
KAF	Kangasniemi	91.25	336	eP	P	09 32 23.8	-1.4
KAF				pmax	pmax		
	comp=Z,4.0nm,0.5s						
KAF	Kangasniemi	91.25	336	ep	P	09 32 23.8	-1.4
	comp=Z,4.2nm,0.5s						
RRI2	Red Ridge	91.28	45	eP	P	09 32 26.9	+0.8
	comp=Z,4.2nm,0.7s						
C19A	Slack Wire Ran	91.29	40	P	P	09 32 26.6	+0.7
	baz=91						
IMW	Indian Meadow	91.36	44	eP	P	09 32 27.3	+0.8
	comp=Z,4.7nm,0.8s						
H17A	Grant Village	91.44	44	eP	P	09 32 29.3	+2.5
H17A	Grant Village	91.44	44	P	P	09 32 28.8	+2.0
	baz=91,SNR=6.9						
FLWY	Flagg Ranch	91.46	44	eP	P	09 32 27.9	+1.0
	comp=Z,28nm,1.4s						
TPAW	Teton Pass	91.48	45	eP	P	09 32 27.8	+0.7
	comp=Z,2.8nm,0.6s						
F18A	Big Timber	91.50	42	P	P	09 32 27.7	+0.8
	baz=91						
MOOW	Moose Ponds	91.54	45	eP	P	09 32 27.5	+0.2
	comp=Z,5.2nm,1.1s						
CCUT	Cedar City	91.60	51	eP	P	09 32 28.7	+1.0
	comp=Z,19nm,1.6s						
D19A	Cripps Ranch,	91.60	41	P	P	09 32 27.4	+0.1
	baz=92,SNR=5.2						
HWUT	Hardware Ranch	91.67	47	eP	P	09 32 28.1	+0.3
	comp=Z,9.3nm,1.0s						
LOHW	Long Hollow	91.68	45	eP	P	09 32 28.6	+0.7
	comp=Z,2.0nm,0.8s						
FINES	FINESS Array B	91.69	335	P	P	09 32 25.9	-1.3
FINES	FINESS Array B	91.69	335	P	P	09 32 25.9	-1.3
	comp=Z,6.6nm,0.5s,baz=61,slow=5.0,SNR=68						
FINES				LR	LR	10 14 13.0	
	comp=Z,40nm,18.6s,baz=241,slow=36						
GLA	Glamis	91.77	56	eP	P	09 32 28.9	+0.6
GLA				pmax	pmax		
	comp=Z,21nm,0.8s						
GLA	Glamis	91.77	56	eP	P	09 32 28.9	+0.6
	comp=Z,20nm,0.8s						
GLA	Glamis	91.77	56	P	P	09 32 29.3	+1.0
	baz=92,SNR=10						
G18A	Lazy EL Ranch,	91.81	43	P	P	09 32 29.0	+0.7
	baz=92						
Y12C	Blythe	91.81	55	P	P	09 32 29.4	+1.0
	baz=92,SNR=14						
E19A	Rath Farm, Rou	91.91	42	P	P	09 32 29.1	+0.3
	baz=92						
W13A	Hualapai Mount	91.92	53	P	P	09 32 30.2	+0.9
	baz=92,SNR=5.9						
PDMCI	Parker Dam,Lak	91.96	54	P	P	09 32 30.1	+1.0
	baz=92,SNR=5.8						
H18A	Shoshone NF, C	91.96	43	P	P	09 32 29.9	+0.7
	baz=92						
C20A	Veseth Ranch,	91.96	40	P	P	09 32 29.1	+0.2
	baz=92,SNR=10						
F19A	Roth Farm, Mol	92.03	42	P	P	09 32 29.7	+0.4
	baz=92						
RLMT	Red Lodge	92.07	43	eP	P	09 32 29.9	+0.2
	comp=Z,3.5nm,0.6s						
JLU	Jordanelle	92.07	48	eP	P	09 32 29.9	+0.1
	comp=Z,5.1nm,0.9s						
D20A	Manuel Ranch,	92.10	41	P	P	09 32 29.7	+0.1
	baz=92,SNR=5.5						
A21A	Bergtoll Ranch	92.15	39	P	P	09 32 29.8	0.0
	baz=92						
I18A	Diamond G Ranc	92.19	44	P	P	09 32 30.7	+0.4
	baz=92						
B21A	Ellsworth Farm	92.31	39	P	P	09 32 30.5	0.0
	baz=92						
E20A	Meyer Farm, Mu	92.32	41	P	P	09 32 30.5	-0.1
	baz=92						
M17A	Scullys Gap (B	92.35	47	P	P	09 32 31.0	-0.1
	baz=92,SNR=5.6						
H19A	Powell	92.42	43	P	P	09 32 31.8	+0.7
	baz=92						
C21A	Desert Coulee	92.49	40	P	P	09 32 31.7	+0.4
	baz=92						
I19A	Meeteetse	92.63	44	P	P	09 32 33.0	+0.8
	baz=92,SNR=5.4						
L18A	Fontenelle, Gr	92.64	46	P	P	09 32 32.9	+0.5
	baz=92,SNR=8.0						
BW06	Boulder Array	92.69	45	eP	P	09 32 30.6	-2.0
	comp=Z,3.8nm,1.3s						
PDAR	Pinedale Array	92.69	45	P	P	09 32 31.9	-0.7
PDAR	Pinedale Array	92.69	45	P	P	09 32 31.9	-0.7
	comp=Z,1.7nm,0.8s,baz=236,slow=2.2,SNR=14						
PDAR				LR	LR	10 12 33.4	
	comp=Z,25nm,18.2s,baz=83,slow=34						
113A	Mohawk Valley,	92.70	56	P	P	09 32 33.5	+0.9
	baz=93,SNR=9.8						
G20A	Bridger	92.73	43	P	P	09 32 32.9	+0.3
	baz=93,SNR=6.8						
U15A	North Rim	92.76	52	P	P	09 32 34.2	+1.1
	baz=93,SNR=11						
A22A	Carney Farms,	92.77	38	P	P	09 32 33.5	+0.9
	baz=93						
Q16A	Castle Valley	92.82	49	eP	P	09 32 33.5	+0.3
Q16A	Castle Valley	92.82	49	P	P	09 32 34.0	+0.7
	baz=93,SNR=6.9						
D21A	La Casta Ranch	92.84	40	P	P	09 32 33.0	0.0
	baz=93,SNR=6.5						
J19A	Crowheart	92.86	45	P	P	09 32 33.8	+0.5
	baz=93,SNR=10						
Y14A	Wickenburg	92.96	54	P	P	09 32 34.8	+0.9
	baz=93,SNR=22						
E21A	Keefer Ranch,	92.98	41	P	P	09 32 33.8	+0.1
	baz=93						
B22A	Reddig Ranch S	92.99	39	P	P	09 32 33.6	0.0
	baz=93						
L19A	Farson	93.06	46	P	P	09 32 35.0	+0.7
	baz=93,SNR=6.2						
H20A	Greybull	93.14	43	P	P	09 32 35.0	+0.6
	baz=93						
K19A	Absolon Red Bu	93.16	45	P	P	09 32 34.2	-0.5
	baz=93,SNR=7.2						
Z14A	Wintersburg	93.18	55	P	P	09 32 35.7	+0.9
	baz=93,SNR=7.0						
I20A	Worland	93.25	44	P	P	09 32 35.3	+0.3
	baz=93						
C22A	Vida	93.27	40	P	P	09 32 35.4	+0.4
	baz=93						
D22A	Cohagen	93.32	40	P	P	09 32 35.5	+0.4
	baz=93						
G21A	Lodge Grass	93.39	42	P	P	09 32 35.8	+0.2
	baz=93						
LAO	LASA Array	93.47	41	eP	P	09 32 36.2	+0.2
	comp=Z,20nm,1.0s						
J20A	Shoshoni	93.49	44	P	P	09 32 36.1	-0.1
	baz=93						
B23A	Brockton	93.54	39	P	P	09 32 36.2	0.0
	baz=93						
K20A	Yellowstone Ra	93.56	45	P	P	09 32 36.5	-0.1
	baz=93,SNR=10						
C23A	Lambert	93.68	39	P	P	09 32 37.0	+0.1
	baz=94						
214A	Organ Pipe Nat	93.71	56	P	P	09 32 38.1	+0.8
	baz=94						
H21A	Big Horn, Sher	93.72	43	P	P	09 32 37.8	+0.6
	baz=94,SNR=8.4						
WUAZ	Wupatki	93.75	52	eP	P	09 32 38.2	+0.6
	comp=Z,8.3nm,1.0s						
WUAZ	Wupatki	93.75	52	P	P	09 32 38.6	+1.0
	baz=94,SNR=7.8						
L20A	Wamsutter	93.80	46	P	P	09 32 38.0	+0.2
	baz=94						
I21A	Big Trails, Te	93.86	44	P	P	09 32 37.7	-0.2
	baz=94						
D23A	Lindsay	93.92	40	P	P	09 32 38.3	+0.3
	baz=94						
J21A	Lysite	93.93	44	P	P	09 32 38.4	+0.2
	baz=94,SNR=7.2						
A24A	Westby	93.95	38	P	P	09 32 38.1	0.0
	baz=94						
G22A	Birney	93.99	42	P	P	09 32 38.3	-0.1
	baz=94						
X16A	Lo Mia Camp, P	94.05	54	P	P	09 32 39.9	+0.9
	baz=94,SNR=6.6						
E23A	Ismay	94.13	41	P	P	09 32 39.3	+0.4
	baz=94						
P19A	Cripple Cowboy	94.18	48	P	P	09 32 39.8	+0.3
	baz=94,SNR=5.8						
C24A	Savage	94.26	39	P	P	09 32 39.7	+0.2
	baz=94						
N20A	Spence Gulch,	94.27	47	P	P	09 32 40.2	+0.3
	baz=94						
K21A	Alcova	94.32	45	P	P	09 32 40.5	+0.4
	baz=94						
F23A	Vollborg	94.37	41	P	P	09 32 39.9	-0.2
	baz=94						
I22A	9 Mile Ranch,	94.37	43	P	P	09 32 40.4	+0.2
	baz=94						
J22A	Midwest	94.56	44	P	P	09 32 41.4	+0.3
	baz=94						
G23A	Biddle	94.59	42	P	P	09 32 40.6	-0.5
	baz=94						
M21A	Separation Pea	94.62	46	P	P	09 32 41.4	-0.1
	baz=94						
SUMG	Summit	94.73	1	eP	P	09 32 41.6	0.0
SUMG				pmax	pmax		
	comp=Z,9.0nm,1.1s						
SUMG	Summit	94.73	1	iP	P	09 32 41.4	-0.2
	comp=Z,6.6nm,0.8s						
SUMG	Summit	94.73	1	eP	P	09 32 41.5	0.0
	comp=Z,9.4nm,1.1s						
N21A	Black Mountain	94.82	46	P	P	09 32 42.3	-0.2
	baz=95						
C25A	Freed Ranch, W	94.91	39	P	P	09 32 42.5	+0.1
	baz=95						
Q20A	Ridgley Place,	94.92	48	P	P	09 32 43.0	+0.1
	baz=95,SNR=14						
F24A	Ekalaka	94.94	41	P	P	09 32 42.5	-0.2
	baz=95						
R20A	Redvale	95.12	49	P	P	09 32 43.8	-0.1
	baz=95						
TUC	Tucson	95.24	55	eP	P	09 32 44.8	+0.5
TUC				pmax	pmax		
	comp=Z,4.0nm,1.1s						
TUC	Tucson	95.24	55	eP	P	09 32 44.8	+0.5
	comp=Z,4.2nm,1.1s						
S20A	Disappointment	95.26	49	P	P	09 32 44.5	-0.1
	baz=95						
H24A	Dirks Ranch, A	95.31	42	P	P	09 32 44.0	-0.4
	baz=95						
AKASG	Malin Array Be	95.43	325	LR	LR	10 18 30.4	
	comp=Z,60nm,20.6s,baz=75,slow=37						
R21A	Cimarron	95.67	49	P	P	09 32 46.8	+0.4
	baz=96,SNR=16						
S21A	Coal Bank Pass	95.74	49	P	P	09 32 47.2	+0.4
	baz=96						
P22A	Eagle	95.79	47	P	P	09 32 47.4	+0.5
	baz=96						
SMCO	Snowmass	95.79	48	eP	P	09 32 47.4	+0.3
	comp=Z,3.2nm,1.1s						
M23A	Laramie	95.82	45	P	P	09 32 47.7	+0.7
	baz=96						
N23A	Red Feather La	95.88	46	P	P	09 32 47.8	+0.5
	baz=96						
V20A	Brimhall	95.89	51	P	P	09 32 47.8	+0.4
	baz=96						
E26A	Carlson Angus	95.93	40	P	P	09 32 47.0	-0.1
	baz=96						
Q22A	Crested Butte,	95.96	48	P	P	09 32 47.8	0.0
	baz=96						
C27A	Sayler Ranch,	95.97	38	P	P	09 32 47.3	0.0
	baz=96						
H25A	Fruitdale	95.98	42	P	P	09 32 47.3	-0.2
	baz=96						
F26A	Lodgepole	96.06	40	P	P	09 32 47.7	0.0
	baz=96						
G27A	Dupree	96.10	41	P	P	09 32 50.3	+2.4
	baz=97						
U21A	Nageezi	96.28	51	P	P	09 32 49.3	+0.1
	baz=96						
R22A	Saguache, Gunn	96.30	49	P	P	09 32 49.3	-0.1
	baz=96						
X20A	Quemado	96.30	53	P	P	09 32 50.3	+0.9
	baz=96,SNR=5.9						
S22A	4UR Ranch, Cre	96.42	49	P	P	09 32 50.2	+0.3
	baz=96						
F27A	Lemmon	96.46	40	P	P	09 32 49.6	0.0
	baz=96						
E27A	Carson	96.50	40	P	P	09 32 49.4	-0.3
	baz=96						
H26A	Fairpoint	96.52	42	P	P	09 32 49.7	-0.2
	baz=96						
ISCO	Idaho Springs	96.53	47	P	P	09 32 50.7	+0.3
	baz=96						
P23A	Jefferson	96.54	47	P	P	09 32 51.3	+0.9
	baz=96						
Y20A	Horse Springs,	96.61	53	P	P	09 32 51.8	+1.1
	baz=96						
T22A	Edith	96.64	50	P	P	09 32 51.2	+0.4
	baz=96						
Z20A	Nine Sixteen R	96.72	54	P	P	09 32 52.2	+1.1
	baz=97						
A29A	Manning Farm,	96.77	37	P	P	09 32 50.6	-0.2
	baz=97						
120A	U Bar Ranch, L	96.88	55	P	P	09 32 52.6	+0.7
	baz=97						
U22A	Llaves	96.91	50	P	P	09 32 52.5	+0.5
	baz=97						
Y21A	Point of Rocks	97.13	53	P	Pdif	09 32 54.1	+0.9
	baz=97						
220A	Playas Peak, P	97.18	55	P	Pdif	09 32 54.0	+0.7
	baz=97						
BRTR	Keskin Array B	97.33	313	P	P	09 32 52.1	-1.7
BRTR	Keskin Array B	97.33	313	P	P	09 32 52.1	-1.7
	comp=Z,0.9nm,0.5s,baz=67,slow=4.1,SNR=5.6						
BRTR				LR	LR	10 21 02.9	
	comp=Z,26nm,18.3s,baz=91,slow=38						
HFS	Hagfors	97.34	338	P	P	09 32 51.7	-1.5
HFS	Hagfors	97.34	338	P	P	09 32 51.7	-1.5
	comp=Z,1.2nm,0.4s,baz=92,slow=4.9,SNR=11						
320A	Kipp Ranch, An	97.37	56	P	Pdif	09 32 55.6	+1.4
	baz=97						
Z21A	St. Cloud Mine	97.38	54	P	Pdif

	comp=Z,1.0nm,0.8s						
T24B	**San Luis**	**97.75**	**49**	P	Pdif	09 32 56.5	+0.5
	baz=98						
Z22A	**Elephant Butte**	**97.95**	**53**	P	Pdif	09 32 57.4	+0.7
	baz=98,SNR=5.5						
S25A	**Robets Cordova**	**98.21**	**48**	P	**P**	**09 32 57.5**	**-0.3**
	baz=98						
P26A	**Davis Ranch, A**	**98.24**	**46**	P	**P**	**09 32 57.9**	**0.0**
	baz=98						
222A	**Williams Famil**	**98.25**	**54**	P	Pdif	09 32 58.9	+0.8
	baz=98						
MAW	**Mawson**	**98.64**	**203**	LR	LR	10 15 45.2	
	comp=Z,108nm,20.6s,baz=159,slow=34						
224A	**Cornudas Mount**	**99.51**	**54**	P	**Pdif**	**09 33 04.6**	**+0.9**
	baz=99,SNR=7.9						
324A	**Moseley Ranch,**	**99.77**	**55**	P	**Pdif**	**09 33 05.5**	**+0.6**
	baz=100						
325A	**Bean Ranch, Si**	**100.20**	**55**	P	**Pdif**	**09 33 07.4**	**+0.5**
	baz=100,SNR=6.6						
Z26A	**Caprock**	**100.26**	**52**	P	**Pdif**	**09 33 07.5**	**+0.5**
	baz=100						
425A	**Indio Mountain**	**100.41**	**55**	P	**Pdif**	**09 33 08.6**	**+0.8**
	baz=100						
CRVS	**Cervenica-Dubn**	**100.67**	**326**	*i* P	**Pdif**	**09 33 08.6**	**+0.3**
CRVS	**Cervenica-Dubn**	**100.67**	**326**	PDIF	**Pdif**	**09 33 08.6**	**+0.3**
426A	**McDonald Obser**	**101.22**	**55**	P	**Pdif**	**09 33 12.0**	**+0.6**
	baz=101						
526A	**Mary Lane Ranc**	**101.40**	**55**	P	**Pdif**	**09 33 13.1**	**+0.9**
	baz=101						
KECS	**Kecovo**	**101.44**	**326**	*i* P	**Pdif**	**09 33 11.2**	**-0.5**
KECS	**Kecovo**	**101.44**	**326**	PDIF	**Pdif**	**09 33 11.2**	**-0.5**
427A	**Hayter Ranch,**	**101.65**	**54**	P	**Pdif**	**09 33 14.0**	**+0.8**
	baz=102						
527A	**Woodward Ranch**	**101.75**	**55**	P	**Pdif**	**09 33 14.4**	**+0.7**
	baz=102						
TXAR	**Lajitas Array**	**102.01**	**56**	P	**Pdif**	**09 33 14.8**	**0.0**
TXAR	**Lajitas Array**	**102.01**	**56**	P	**Pdif**	**09 33 14.8**	**0.0**
	comp=Z,0.4nm,0.7s,baz=256,slow=1.9,SNR=7.6						
VYHS	**Vyhne**	**102.33**	**326**	*i* P	**Pdif**	**09 33 15.4**	**-0.3**
VYHS	**Vyhne**	**102.33**	**326**	PDIF	**Pdif**	**09 33 15.4**	**-0.3**
528A	**Cox Ranch, San**	**102.40**	**55**	P	**Pdif**	**09 33 17.0**	**+0.5**
	baz=102						
329A	**Wagon Wheel Ra**	**102.52**	**53**	P	**Pdif**	**09 33 17.5**	**+0.5**
	baz=102						
628A	**Black Gap, Mar**	**102.58**	**56**	P	**Pdif**	**09 33 17.5**	**+0.2**
	baz=102						
232A	**Coleman**	**104.17**	**52**	P	**Pdif**	**09 33 24.0**	**-0.3**
	baz=104						
LSZ	**Lusaka**	**118.42**	**259**	PKP	**PKPdf**	**09 38 08.3**	**-0.1**
LSZ	**Lusaka**	**118.42**	**259**	PKP	**PKPdf**	**09 38 08.3**	**-0.1**
	comp=Z,3.5nm,0.7s,baz=55,slow=5.9,SNR=9.1						
ESDC	**Sonseca Array**	**120.08**	**332**	PKP	**PKPdf**	**09 38 11.9**	**+0.9**
ESDC	**Sonseca Array**	**120.08**	**332**	PKP	**PKPdf**	**09 38 11.9**	**+0.9**
	comp=Z,0.6nm,0.5s,baz=35,slow=2.3,SNR=5.9						
MVO	**Moncorvo**	**120.17**	**335**	*e*PKP	**PKPdf**	**09 38 12.9**	**+1.8**
POLO	**Lamas de Olo**	**120.30**	**336**	*e*PKP	**PKPdf**	**09 38 13.1**	**+1.7**
MTE	**Manteigas**	**121.02**	**335**	*e*PKP	**PKPdf**	**09 38 13.7**	**+0.9**
LBTB	**Lobatse**	**121.43**	**248**	*e*PKPdf	**PKPdf**	**09 38 14.5**	**+0.5**
BOSA	**Boshof**	**121.67**	**244**	PKP	**PKPdf**	**09 38 14.9**	**+0.6**
BOSA	**Boshof**	**121.67**	**244**	PKP	**PKPdf**	**09 38 14.9**	**+0.6**
	comp=Z,1.2nm,0.4s,baz=138,slow=11,SNR=3.9						
PMRV	**Marv??o**	**121.78**	**335**	*e*PKP	**PKPdf**	**09 38 15.0**	**+0.8**
PNCL	**Nicolau / Gran**	**123.36**	**335**	*e*PKP	**PKPdf**	**09 38 19.0**	**+1.8**
TAM	**Tamanrasset**	**126.47**	**311**	*e*PKIKP	**PKPdf**	**09 38 25.3**	**+1.5**
TAM	**Tamanrasset**	**126.47**	**311**	*e*PKPdf	**PKPdf**	**09 38 25.3**	**+1.5**
TORD	**Torodi Ar. Bea**	**135.01**	**304**	PKPpre	PKPpre	09 38 32.5	
TORD				PKP	**PKPdf**	**09 38 39.7**	**-0.3**
TORD	**Torodi Ar. Bea**	**135.01**	**304**	PKhKP	PKPpre	09 38 32.5	
	comp=Z,1.0nm,0.8s,baz=27,slow=1.7,SNR=5.4						
TORD				PKP	**PKPdf**	**09 38 39.7**	**-0.3**
	comp=Z,6.0nm,0.8s,baz=36,slow=2.5,SNR=28						
DBIC	**Dimbokro**	**143.94**	**301**	*e*PKPdf	PKPab	09 38 53.4	-0.1
DBIC				PKP	PKPbc	09 38 54.2	+0.1
DBIC	**Dimbokro**	**143.94**	**301**	PKP	PKPbc	09 38 54.2	+0.1
	comp=Z,39nm,0.6s,baz=42,slow=4.0,SNR=58						
KIC	**Kosan Boka**	**144.01**	**300**	*e*PKP1	**PKPab**	**09 38 54.0**	**+0.2**
	comp=Z,104nm,0.8s						
TIC	**Toumodi**	**144.09**	**301**	*e*PKP1	**PKPab**	**09 38 53.9**	**-0.3**
	comp=Z,123nm,0.8s						
LIC	**Lamto**	**144.32**	**300**	*e*PKP1	**PKPab**	**09 38 55.0**	**0.0**
	comp=Z,279nm,0.6s						
LPAZ	**La Paz**	**148.20**	**100**	PKP	**PKPdf**	**09 39 04.7**	**+0.6**
LPAZ				*e*PKPdf	**PKPbc**	**09 39 05.0**	**-2.5**
LPAZ				*e*PKPbc	**PKiKP**	**09 39 08.5**	**-0.7**
LPAZ	**La Paz**	**148.20**	**100**	PKP	**PKPdf**	**09 39 04.7**	**+0.6**
	comp=Z,9.5nm,0.7s,baz=304,slow=2.7,SNR=9.3						
LPAZ				PKPbc	**PKiKP**	**09 39 08.6**	**-0.6**
	comp=Z,9.5nm,0.7s,baz=305,slow=2.5,SNR=38						
SAML	**Samuel**	**152.49**	**85**	*e*PKPdf	**PKPdf**	**09 39 10.8**	**+0.6**
SAML				*e*PKPbc	**PKPbc**	**09 39 16.9**	**-0.2**
SAML				*e*PKPab	**PKPab**	**09 39 27.5**	**-0.2**

*NEIC **06** 09:19:50.0, 18°.21N×67°.61W, h130km, MD3.3(RSPR), After RSPR.*

RSPR 06 09:19:50.0, 18°.21N×67°.61W, h130km±1km, MD3.3/20, 43C-12D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDE	**Isla Desecheo**	**0.22**	**36**	*e*P	Pn	09 20 07.4	-0.5
IDE	**Isla Desecheo**	**0.22**	**36**	*e*S	Sn	09 20 21.2	-0.2
IDE	**Isla Desecheo**	**0.22**	**36**	*e*P	Pn	09 20 07.4	-0.5
IDE	**Isla Desecheo**	**0.22**	**36**	*e*P	Pn	09 20 07.4	-0.5
IDE				*e*S	Sn	09 20 21.2	-0.2
IMO	**Isla Mona**	**0.30**	**251**	*e*P	Pn	09 20 07.5	-0.6
IMO	**Isla Mona**	**0.30**	**251**	*e*P	Pn	09 20 07.5	-0.6
IMO	**Isla Mona**	**0.30**	**251**	*e*P	Pn	09 20 07.5	-0.6
LSP	**Las Mesas**	**0.50**	**93**	*e*P	Pn	09 20 09.2	+0.1
LSP	**Las Mesas**	**0.50**	**93**	*e*S	Sn	09 20 22.9	-0.6
LSP	**Las Mesas**	**0.50**	**93**	*e*P	Pn	09 20 08.9	-0.2
LSP	**Las Mesas**	**0.50**	**93**	*e*P	Pn	09 20 08.9	-0.2
LSP				*e*S	Sn	09 20 22.9	-0.6
CRPR	**Cabo Rojo, PR**	**0.52**	**113**	*e*P	Pn	09 20 09.2	+0.1
CRPR	**Cabo Rojo, PR**	**0.52**	**113**	*e*S	Sn	09 20 23.5	-0.1
CRPR	**Cabo Rojo, PR**	**0.52**	**113**	*e*P	Pn	09 20 09.1	0.0
CRPR	**Cabo Rojo, PR**	**0.52**	**113**	*e*P	Pn	09 20 09.1	0.0
CRPR				*e*S	Sn	09 20 23.5	-0.1
AGPR	**Aguadilla, PR**	**0.54**	**61**	*e*S	Sn	09 20 23.9	0.0
AGPR	**Aguadilla, PR**	**0.54**	**61**	*e*P	Pn	09 20 09.2	-0.1
AGPR	**Aguadilla, PR**	**0.54**	**61**	*e*S	Sn	09 20 24.1	+0.3
AGPR	**Aguadilla, PR**	**0.54**	**61**	*e*P	Pn	09 20 09.1	-0.2
AGPR	**Aguadilla, PR**	**0.54**	**61**	*e*P	Pn	09 20 09.1	-0.2
AGPR				*e*S	Sn	09 20 24.1	+0.3
GBPR	**Guanica, Bosqu**	**0.73**	**108**	*e*P	Pn	09 20 10.3	-0.2
GBPR	**Guanica, Bosqu**	**0.73**	**108**	*e*P	Pn	09 20 10.3	-0.2
GBPR				*e*S	Sn	09 20 26.3	+0.2
LRS	**Lares**	**0.73**	**83**	*e*P	Pn	09 20 10.0	-0.6
LRS				*e*S	Sn	09 20 25.9	-0.4
LRS	**Lares**	**0.73**	**83**	*e*P	Pn	09 20 10.1	-0.6
LRS				*e*S	Sn	09 20 25.8	-0.4
LRS	**Lares**	**0.73**	**83**	*e*P	Pn	09 20 10.1	-0.6
LRS				*e*S	Sn	09 20 25.8	-0.4
AOPR	**Arecibo Observ**	**0.82**	**80**	*e*P	Pn	09 20 10.6	-0.7
AOPR	**Arecibo Observ**	**0.82**	**80**	*e*P	Pn	09 20 10.9	-0.4
AOPR				*e*S	Sn	09 20 27.9	+0.4
AOPR	**Arecibo Observ**	**0.82**	**80**	*e*P	Pn	09 20 10.6	-0.7
AOPR	**Arecibo Observ**	**0.82**	**80**	*e*S	Sn	09 20 27.3	-0.3
AOPR	**Arecibo Observ**	**0.82**	**80**	*e*P	Pn	09 20 10.6	-0.7
AOPR				*e*S	Sn	09 20 27.9	+0.4
OBIP	**Obispado Ponce**	**0.97**	**100**	*e*P	Pn	09 20 12.1	-0.5
OBIP	**Obispado Ponce**	**0.97**	**100**	*e*P	Pn	09 20 12.2	-0.4
OBIP	**Obispado Ponce**	**0.97**	**100**	*e*S	Sn	09 20 29.6	-0.1
OBIP	**Obispado Ponce**	**0.97**	**100**	*e*P	Pn	09 20 12.2	-0.4
OBIP				*e*S	Sn	09 20 29.6	-0.1
CELP	**Cerrillos**	**0.99**	**97**	*e*P	Pn	09 20 12.5	-0.3
CELP				*e*S	Sn	09 20 29.6	-0.5
CELP	**Cerrillos**	**0.99**	**97**	*e*P	Pn	09 20 12.3	-0.4
CELP				*e*S	Sn	09 20 30.0	0.0
CELP	**Cerrillos**	**0.99**	**97**	*e*P	Pn	09 20 12.3	-0.4
CELP				*e*S	Sn	09 20 30.0	0.0
SJG	**San Juan**	**1.39**	**94**	*e*P	Pn	09 20 15.9	-0.9
SJG	**San Juan**	**1.39**	**94**	*e*P	Pn	09 20 16.1	-0.8
SJG				*e*S	Sn	09 20 37.0	-0.3
SJG	**San Juan**	**1.39**	**94**	*e*P	Pn	09 20 16.1	-0.8
SJG				*e*S	Sn	09 20 37.3	0.0
SJG	**San Juan**	**1.39**	**94**	*e*P	Pn	09 20 16.1	-0.8
SJG	**San Juan**	**1.39**	**94**	*e*P	Pn	09 20 16.1	-0.8
CPD	**Cerro la Pandu**	**1.62**	**96**	*e*P	Pn	09 20 18.8	-0.7
CPD	**Cerro la Pandu**	**1.62**	**96**	*e*P	Pn	09 20 18.6	-0.8
CPD	**Cerro la Pandu**	**1.62**	**96**	*e*S	Sn	09 20 41.9	-0.1
CPD	**Cerro la Pandu**	**1.62**	**96**	*e*P	Pn	09 20 18.6	-0.8
CPD				*e*S	Sn	09 20 41.9	-0.1
CBYP	**Canovanas**	**1.67**	**88**	*e*P	Pn	09 20 19.1	-1.0
CBYP	**Canovanas**	**1.67**	**88**	*e*P	Pn	09 20 19.2	-0.8
CBYP	**Canovanas**	**1.67**	**88**	*e*S	Sn	09 20 42.4	-0.6
CBYP	**Canovanas**	**1.67**	**88**	*e*P	Pn	09 20 19.2	-0.8
CBYP				*e*S	Sn	09 20 42.4	-0.6
HUMP	**Col San Antoni**	**1.67**	**92**	*e*P	Pn	09 20 19.1	-0.9
HUMP	**Col San Antoni**	**1.67**	**92**	*e*P	Pn	09 20 19.2	-0.8
HUMP	**Col San Antoni**	**1.67**	**92**	*e*S	Sn	09 20 42.7	-0.3
HUMP	**Col San Antoni**	**1.67**	**92**	*e*P	Pn	09 20 19.2	-0.8
HUMP				*e*S	Sn	09 20 42.7	-0.3
DR12	**Loma Pena Alta**	**1.78**	**289**	*e*P	Pn	09 20 20.1	-1.3
DR12				*e*S	Sn	09 20 44.8	-0.5
DR12	**Loma Pena Alta**	**1.78**	**289**	*e*P	Pn	09 20 20.2	-1.2
DR12	**Loma Pena Alta**	**1.78**	**289**	*e*P	Pn	09 20 20.2	-1.2
MTP	**Monte Pirata**	**1.96**	**93**	*e*P	Pn	09 20 22.7	-0.7
MTP	**Monte Pirata**	**1.96**	**93**	*e*P	Pn	09 20 22.7	-0.7
MTP	**Monte Pirata**	**1.96**	**93**	*e*S	Sn	09 20 49.0	0.0
MTP	**Monte Pirata**	**1.96**	**93**	*e*P	Pn	09 20 22.7	-0.7
MTP				*e*S	Sn	09 20 49.0	0.0
STVI	**Saint Thomas**	**2.53**	**86**	*e*P	Pn	09 20 29.5	-1.0
STVI	**Saint Thomas**	**2.53**	**86**	*e*S	Sn	09 21 01.2	-0.4
STVI	**Saint Thomas**	**2.53**	**86**	*e*P	Pn	09 20 29.7	-0.8
STVI	**Saint Thomas**	**2.53**	**86**	*e*P	Pn	09 20 29.7	-0.8
ABV	**Anegada**	**3.15**	**80**	*e*P	Pn	09 20 38.0	-0.5
ABVI	**Anegada Island**	**3.15**	**80**	*e*P	Pn	09 20 38.0	-0.5
SDDR	**Presa de Saban**	**3.57**	**283**	*e*Pn	Pn	09 20 45.1	+0.9

*NAO **06** 09:23:05.9±1.0, 59°.72N×24°.58E, ML2.1*
*CSEM **06** 09:23:05.5±0.2, 59°.77N×24°.58E, h2km, ML2.2, Error ellipse: s-maj=4.8km s-min=3.9km az=113.0, Mining explosion.*
*ISCJB **06** 09:23:05.2±0.4, 59°.76N±0°.03×24°.44E±0°.06, h0km, Error ellipse: s-maj=4.4km s-min=3.7km az=22.3*
*BER **06** 09:23:06.1±4.4, 59°.72N×24°.48E, h0km, ML2.1(NAO), Suspected explosion*
*IDC **06** 09:23:06.0±1.9, 59°.73N×24°.63E, h0km, mb1 3.3/3, mb1mx3.1/26, mbtmp3.2/3, ML3.1/3, Error ellipse: s-maj=20.7km s-min=7.0km az=142.0*
*HEL **06** 09:23:07.6±0.2, 59°.78N×24°.52E, h0km, ML1.8, Explosion*

ISC 06 09:23:05.0±0.8, 59.74N±0°.03×24.48E±0°.02, h0km, n42, σ1§31/68, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**0.48**	**355**	*e*P	**Pg**	**09 23 15.3**	**+1.1**
MEF				*e*S	**Sg**	**09 23 20.7**	**+0.3**
MEF				*e*RG	Rg	09 23 22.5	
MEF	**Metsahovi**	**0.48**	**355**	P	**Pg**	**09 23 15.3**	**+1.1**
MEF				S	**Sg**	**09 23 20.7**	**+0.3**
PVF	**Pernaja**	**1.06**	**40**	*e*P	**Pg**	**09 23 25.4**	**0.0**
PVF				*e*SN	**Sn**	**09 23 45.1**	**+2.5**
PVF				*e*RG	Rg	09 23 46.0	
PVF	**Pernaja**	**1.06**	**40**	P	**Pg**	**09 23 25.3**	**0.0**
PVF				Sn	**Sn**	**09 23 45.1**	**+2.5**
MTSE	**Matsula**	**1.09**	**199**	*e*SB	**Sn**	**09 23 43.5**	**+0.3**
MTSE				*e*RG	Rg	09 23 44.4	
MTSE	**Matsula**	**1.09**	**199**	Sb	**Sn**	**09 23 43.5**	**+0.3**
VSU	**Vasula**	**1.73**	**137**	Pg	**Pn**	**09 23 35.2**	**-1.2**
VSU				Lg	Lg	09 23 59.7	
VSU	**Vasula**	**1.73**	**137**	Pg	**Pn**	**09 23 35.2**	**-1.2**
VSU				Lg	Lg	09 23 59.7	
VSU	**Vasula**	**1.73**	**137**	*e*P	**Pn**	**09 23 35.3**	**-1.1**
	SNR=50						
VSU				*e*S	**Sn**	**09 23 58.6**	**-0.5**
	112nm,0.2s,SNR=50						
VSU				Lg	Lg	09 23 59.7	
VJF	**Virojoki**	**1.73**	**61**	*e*P	**Pn**	**09 23 36.8**	**+0.4**
VJF				*e*SN	**Sg**	**09 24 01.3**	**+0.6**
VJF	**Virojoki**	**1.73**	**61**	P	**Pn**	**09 23 36.7**	**+0.4**
VJF				Sn	**Sg**	**09 24 01.3**	**+0.6**
RAF	**Rauma**	**1.86**	**315**	*e*P	**Pb**	**09 23 40.1**	**+0.2**
RAF				MSG	**Sg**	**09 24 05.2**	**+0.4**
	comp=Z,5.0nm,0.1s						
RAF				*e*SG	**Sg**	**09 24 05.2**	**+0.4**
RAF	**Rauma**	**1.86**	**315**	*e*P	**Pb**	**09 23 39.9**	**0.0**
	SNR=50						
RAF				Sg	**Sg**	**09 24 05.2**	**+0.4**
FIA0	**FINESS Array S**	**1.88**	**24**	Pg	**Pb**	**09 23 39.9**	**-0.3**
	baz=194,slow=16						
FIA0				Lg	Lg	09 24 04.7	
	baz=195,slow=28						
FIA0	**FINESS Array S**	**1.88**	**24**	Pg	**Pb**	**09 23 39.9**	**-0.3**
	baz=194,slow=16						
FIA0				Lg	Lg	09 24 04.7	
	baz=195,slow=28						
FIA0	**FINESS Array S**	**1.88**	**24**	*e*P	**Pb**	**09 23 39.8**	**-0.3**
FIA0				*e*SN	**Sg**	**09 24 05.0**	**-0.4**
FIA0				MSG		09 24 05.0	
	comp=Z,7.5nm,0.3s						
FIA0	**FINESS Array S**	**1.88**	**24**	Pg	**Pb**	**09 23 39.9**	**-0.3**
	baz=194,slow=16,SNR=90						
FIA0				Lg	Lg	09 24 04.7	
	baz=195,slow=27,SNR=50						
FIA0				Sn	**Sg**	**09 24 05.0**	**-0.4**
FINES	**FINESS Array B**	**1.88**	**24**	Pn	**Pb**	**09 23 40.1**	**-0.1**
	comp=Z,3.6nm,0.3s,baz=205,slow=16,SNR=189						
FINES				Lg	Lg	09 24 04.4	
	comp=Z,5.1nm,0.3s,baz=204,slow=28,SNR=22						
AAL	**Aland**	**2.30**	**283**	*e*P	**Pb**	**09 23 46.7**	**-0.6**
AAL				*e*SB	**Sb**	**09 24 16.5**	**+0.3**
AAL	**Aland**	**2.30**	**283**	P	**Pb**	**09 23 46.7**	**-0.6**
AAL				Sb	**Sb**	**09 24 16.5**	**+0.3**
SLIT	**Slitere, Latvi**	**2.41**	**209**	*e*P	**Pn**	**09 23 46.4**	**+0.8**
	SNR=50						
SLIT				*e*S	**Sn**	**09 24 18.6**	**+2.8**
	comp=Z,79nm,0.2s,SNR=50						
KEF	**Keuruu**	**2.44**	**4**	*e*PB	**Pb**	**09 23 49.6**	**-0.1**
KEF				*e*SG	**Sg**	**09 24 22.4**	**-1.0**
KEF				MSG		09 24 22.4	
	comp=Z,3.6nm,0.1s						
KEF	**Keuruu**	**2.44**	**4**	Pb	**Pb**	**09 23 49.6**	**-0.1**
KEF				Sg	**Sg**	**09 24 22.4**	**-1.0**
KAF	**Kangasniemi**	**2.54**	**20**	*e*P	**Pb**	**09 23 49.8**	**-1.6**
KAF				MSG	**Sb**	**09 24 24.5**	**+1.3**
	comp=Z,3.4nm,0.4s						
KAF				*e*SG	**Sb**	**09 24 24.5**	**+1.3**
KAF	**Kangasniemi**	**2.54**	**20**	P	**Pb**	**09 23 49.8**	**-1.6**
KAF				Sg	**Sb**	**09 24 24.5**	**+1.3**
VAF	**Ylistaro**	**3.42**	**346**	*e*P	**Pn**	**09 24 02.6**	**+3.0**
VAF	**Ylistaro**	**3.42**	**346**	P	**Pn**	**09 24 02.5**	**+3.0**
HFS	**Hagfors**	**5.44**	**279**	Pn	**Pn**	**09 24 28.1**	**+0.9**
	baz=106,slow=14						
HFS				Sn	**Sn**	**09 25 30.7**	**+0.3**
	baz=91,slow=22						
HFS				Lg	Lg	09 25 52.1	
	baz=90,slow=37						
HFS	**Hagfors**	**5.44**	**279**	Pn	**Pn**	**09 24 28.1**	**+0.9**
	baz=106,slow=14						
HFS				Sn	**Sn**	**09 25 30.7**	**+0.3**
	baz=91,slow=22						
HFS				Lg	Lg	09 25 52.1	
	baz=90,slow=37						
HFS	**Hagfors**	**5.44**	**279**	Pn	**Pn**	**09 24 28.3**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=118,slow=13,SNR=24						
HFS				Sn	**Sn**	**09 25 30.1**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=91,slow=28,SNR=6.5						
HFS				Lg	Lg	09 25 51.6	
	comp=Z,0.5nm,0.3s,baz=92,slow=29,SNR=5.4						
HFS	**Hagfors**	**5.44**	**279**	Pn	**Pn**	**09 24 28.1**	**+0.9**
	baz=106,slow=13,SNR=50						
HFS				Sn	**Sn**	**09 25 30.7**	**+0.3**
	baz=91,slow=22,SNR=50						
HFS				Lg	Lg	09 25 52.1	
	baz=90,slow=28,SNR=50						
NB2	**NORSAR Subarra**	**6.70**	**287**	Pn	**Pn**	**09 24 43.8**	**-0.9**
	baz=97,slow=14						
NB2				Lg	Lg	09 26 30.0	
NB2	**NORSAR Subarra**	**6.70**	**287**	Pn	**Pn**	**09 24 43.8**	**-0.9**
	baz=97,slow=14						
NB2				Lg	Lg	09 26 30.0	
NB2	**NORSAR Subarra**	**6.70**	**287**	Pn	**Pn**	**09 24 43.8**	**-0.9**
	baz=97,slow=12,SNR=50						
NOA	**NORSAR Array B**	**6.70**	**287**	Pn	**Pn**	**09 24 43.5**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=72,slow=15,SNR=10						
NOA				Sn	**Sn**	**09 25 58.0**	**-3.5**
	comp=Z,0.2nm,0.3s,baz=33,slow=22,SNR=3.0						
NOA				Lg	Lg	09 26 33.6	
	comp=Z,0.3nm,0.3s,baz=53,slow=22,SNR=4.3						
APA0	**Apatity Array**	**8.74**	**22**	Pn	**Pn**	**09 25 13.8**	**+1.3**
	baz=202,slow=11						
APA0	**Apatity Array**	**8.74**	**22**	Pn	**Pn**	**09 25 13.8**	**+1.3**
	baz=202,slow=11						
APA0	**Apatity Array**	**8.74**	**22**	Pn	**Pn**	**09 25 13.8**	**+1.3**
	baz=202,slow=10,SNR=50						
ARA0	**ARCESS Array S**	**9.84**	**2**	Pn	**Pn**	**09 25 26.9**	**-0.7**
	baz=174,slow=16						
ARA0	**ARCESS Array S**	**9.84**	**2**	Pn	**Pn**	**09 25 26.9**	**-0.7**
	baz=174,slow=16						
ARA0	**ARCESS Array S**	**9.84**	**2**	Pn	**Pn**	**09 25 26.9**	**-0.7**
	baz=174,slow=15,SNR=50						
ARCES	**ARCESS Array B**	**9.84**	**2**	Pn	**Pn**	**09 25 26.4**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=176,slow=13,SNR=42						
ARCES				Sn	**Sn**	**09 27 13.9**	**-4.7**
	comp=Z,0.1nm,0.3s,baz=187,slow=22,SNR=3.6						

*CSEM **06** 09:31:13.6, 42°.46N×19°.35E, h16km, ML1.3/8, After PDG*

PDG 06 09:31:13.6±0.1, 42°.46N×19°.35E, h16km±1km, MD1.4/1, ML1.3/8, 2C-10D, Error ellipse: s-maj=0.3km s-min=0.3km az=0.0, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDG	**Podgorica**	**0.07**	**243**	*i*Pg	Pg	09 31 16.7	-0.1
PDG				*e*Sg	Sg	09 31 19.5	+0.6
TTG	**Podgorica**	**0.07**	**243**	*i*Pg	Pg	09 31 16.7	-0.1
TTG				*e*Sg	Sg	09 31 19.5	+0.6
DRME	**Dracevica, Mon**	**0.30**	**203**	*i*Pg	Pg	09 31 19.6	-0.5
DRME				*e*Sg	Sb	09 31 25.2	-0.2
DRME	**Dracevica, Mon**	**0.30**	**203**	*i*Pg	Pg	09 31 19.6	-0.5
DRME				*e*Sg	Sb	09 31 25.2	-0.2
BUM	**Brajici-Budva**	**0.37**	**244**	*i*Pg	Pg	09 31 20.7	-0.7
BUM				*e*Sg	Sb	09 31 27.3	-0.3
BUM	**Brajici-Budva**	**0.37**	**244**	*i*Pg	Pg	09 31 20.7	-0.7
BUM				*e*Sg	Sb	09 31 27.3	-0.3
NKME	**Niksic**	**0.42**	**316**	*i*Pg	Pg	09 31 21.7	-0.5
NKME				*e*Sg	Sb	09 31 28.6	-0.3
NKME	**Niksic**	**0.42**	**316**	*i*Pg	Pg	09 31 21.7	-0.5
NKME				*e*Sg	Sb	09 31 28.6	-0.3
BEY	**Berane**	**0.57**	**45**	*e*Pg	Pg	09 31 24.7	-0.4
BEY				*e*Sg	Sb	09 31 33.8	+0.4
IVA	**Berane**	**0.57**	**45**	*e*Pg	Pg	09 31 24.7	-0.4
IVA				*e*Sg	Sb	09 31 33.8	+0.4
HCY	**Herceg Novi**	**0.63**	**269**	*i*Pg	Pg	09 31 25.5	-0.6
HCY				*e*Sg	Sb	09 31 35.5	+0.6
HCY	**Herceg Novi**	**0.63**	**269**	*i*Pg	Pg	09 31 25.5	-0.6
HCY				*e*Sg	Sb	09 31 35.5	+0.6
BRY	**Bratogost**	**0.74**	**307**	*i*Pg	Pg	09 31 27.8	-0.5
BRY				*e*Sg	Sb	09 31 39.0	+0.7
BRY	**Bratogost**	**0.74**	**307**	*i*Pg	Pg	09 31 27.8	-0.5
BRY				*e*Sg	Sb	09 31 39.0	+0.7
UPM	**Unac-Piva**	**0.81**	**336**	*e*Pg	Pb	09 31 28.8	-0.7
UPM				*e*Sg	Sg	09 31 41.4	+0.9
UPM	**Unac-Piva**	**0.81**	**336**	*e*Pg	Pb	09 31 28.8	-0.7
UPM				*e*Sg	Sg	09 31 41.4	+0.9

*ISCJB **06** 09:38:13.5±0.5, 59°.72N±0°.03×24°.47E±0°.06, h0km, Error ellipse: s-maj=4.1km s-min=4.0km az=163.0*
*CSEM **06** 09:38:14.8±0.2, 59°.71N×24°.51E, h2km, ML2.2, Error ellipse: s-maj=5.5km s-min=4.7km az=121.0, Mining explosion.*
*NAO **06** 09:38:15.7±1.0, 59°.69N×24°.57E, ML2.1

HFS				Sn	Sn	09 40 40.2	-0.1
	baz=98,slow=28,SNR=50						
HFS				Lg	Lg	09 41 03.3	
	baz=72,slow=31,SNR=4.1						
NB2	**NORSAR Subarra**	**6.74**	**287**	Pn	**Pn**	**09 39 53.7**	**-0.4**
	baz=97,slow=14						
NB2				Sn	**Sn**	**09 41 09.5**	**-2.0**
	baz=96,slow=22						
NB2	**NORSAR Subarra**	**6.74**	**287**	Pn	**Pn**	**09 39 53.7**	**-0.4**
	baz=97,slow=14						
NB2				Sn	**Sn**	**09 41 09.5**	**-2.0**
	baz=96,slow=22						
NB2	**NORSAR Subarra**	**6.74**	**287**	Pn	**Pn**	**09 39 53.7**	**-0.4**
	baz=97,slow=13,SNR=50						
NB2				Sn	**Sn**	**09 41 09.5**	**-2.0**
	baz=96,slow=22,SNR=50						
NOA	**NORSAR Array B**	**6.74**	**287**	Pn	**Pn**	**09 39 53.5**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=88,slow=12,SNR=6.2						
NOA				Sn	**Sn**	**09 41 07.4**	**-4.2**
	comp=Z,0.3nm,0.3s,baz=127,slow=22,SNR=5.0						
ARA0	**ARCESS Array S**	**9.87**	**2**	Pn	**Pn**	**09 40 37.2**	**+0.3**
	baz=178,slow=14						
ARA0				Sn	**Sn**	**09 42 23.2**	**-5.1**
	baz=183,slow=28						
ARA0	**ARCESS Array S**	**9.87**	**2**	Pn	**Pn**	**09 40 37.2**	**+0.3**
	baz=178,slow=14						
ARA0				Sn	**Sn**	**09 42 23.2**	**-5.1**
	baz=183,slow=28						
ARA0	**ARCESS Array S**	**9.87**	**2**	Pn	**Pn**	**09 40 37.2**	**+0.3**
	baz=178,slow=14,SNR=50						
ARCES	**ARCESS Array B**	**9.87**	**2**	Pn	**Pn**	**09 40 36.4**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=181,slow=12,SNR=31						
ARCES				Sn	Sn	09 42 21.1	-7.2
	comp=Z,0.1nm,0.3s,baz=190,slow=21,SNR=3.1						

*NEIC **06** 09:39:54.9, 15°.65N×94°.46W, h16km, MD4.0(MEX), After MEX.*

MEX 06 09:39:54.9±0.7, 15°.65N×94°.46W, h16km±6km, MD4.0, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.20**	**87**	*i* P	Pn	09 40 13.3	-3.6
PCIG				*i* S	Sb	09 40 26.8	-5.6
PCIG		**1.20**	**87**	*i* P	Pn	09 40 13.3	-3.6
PCIG				*i* S	Sb	09 40 26.8	-5.6
CMIG	**Matias Romero**	**1.49**	**344**	*e*P	Pn	09 40 17.5	-3.5
CMIG				*i* S	Sn	09 40 35.0	-5.1
CMIG	**Matias Romero**	**1.49**	**344**	*e*P	Pn	09 40 17.5	-3.5
CMIG				*i* S	Sn	09 40 35.0	-5.1
HUIG	**Huatulco**	**1.59**	**274**	*i* P	Pn	09 40 18.9	-3.5
HUIG				*i* S	Sn	09 40 37.0	-5.7
HUIG	**Huatulco**	**1.59**	**274**	*i* P	Pn	09 40 18.9	-3.5
HUIG				*i* S	Sn	09 40 37.0	-5.7
TGIG		**1.70**	**49**	*e*P	Pn	09 40 20.6	-3.5
TGIG				*i* S	Sn	09 40 39.8	-5.8
TGIG		**1.70**	**49**	*e*P	Pn	09 40 20.6	-3.5
TGIG				*i* S	Sn	09 40 39.8	-5.8
THIG		**2.24**	**109**	*i* P	Pn	09 40 28.2	-3.1
THIG				*i* S	Sn	09 40 54.1	-4.6
THIG		**2.24**	**109**	*i* P	Pn	09 40 28.2	-3.1
THIG				*i* S	Sn	09 40 54.1	-4.6
CCIG	**Comitan**	**2.32**	**74**	*e*P	Pn	09 40 30.1	-2.6
CCIG				*i* S	Sn	09 40 56.0	-5.1
CCIG	**Comitan**	**2.32**	**74**	*e*P	Pn	09 40 30.1	-2.6
CCIG				*i* S	Sn	09 40 56.0	-5.1
PNIG	**Pinotepa**	**3.60**	**282**	*i* P	Pn	09 40 47.8	-2.4
PNIG				*i* S	Sn	09 41 29.0	-3.4
PNIG	**Pinotepa**	**3.60**	**282**	*i* P	Pn	09 40 47.8	-2.4
PNIG				*i* S	Sn	09 41 29.0	-3.4
TPIG	**Tehuac#an**	**3.91**	**315**	*i* P	Pn	09 40 52.6	-1.9
TPIG				*i* S	Sn	09 41 36.3	-4.0
TPIG	**Tehuac#an**	**3.91**	**315**	*i* P	Pn	09 40 52.6	-1.9
TPIG				*i* S	Sn	09 41 36.3	-4.0

*ISCJB **06** 09:47:13.4±0.6, 36°.73N±0°.03×121°.48W±0°.03, h11km±4km, mb3.2/1, MS3.0/1, Error ellipse: s-maj=5.7km s-min=2.9km az=137.6*
*BJI **06** 09:47:13.2, 36°.90N×121°.40W, h9km, Ms4.4/2, Ms7 4.2/2*
*IDC **06** 09:47:14.3±1.3, 36°.86N×121°.28W, h0km, mb3.2/1, mb1 3.7/7, mb1mx3.5/30, mbtmp3.3/7, ML3.6/6, MS3.0/4, Ms1 3.0/4, ms1mx2.7/13, Error ellipse: s-maj=16.6km s-min=11.6km az=57.0*
*NEIC **06** 09:47:15.2, 36°.85N×121°.41W, h10km, MW3.9(BRK), After NCEDC.*
NEIC Felt [III] at Atascadero, Hollister and San Juan Bautista; [II] at Aptos, Ben Lomond, Boulder Creek, Capitola, Carmel Valley, Cupertino, Daly City, Felton, Gilroy, Los Gatos, Marina, Milpitas, Monterey, Morgan Hill, Mountain View, Oakland, Pacific Grove, Palo Alto, Paso Robles, Salinas, San Francisco, San Jose, Santa Clara, Santa Cruz, Scotts Valley, Seaside, Soquel, Sunnyvale and Watsonville. Felt as far northwest as Oakland and as far southeast as Morro Bay.

ISC 06 09:47:15.3±0.6, 36°.84N±0°.03×121°.36W±0°.03, h14km±3km, n95, σ1§46/103, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAO	**San Andreas Ge**	**0.10**	**225**	*e*Pg	**Pg**	**09 47 17.8**	**-0.6**
SAO				*e*Sg	**Sg**	**09 47 20.4**	**0.0**
SAC	**San Andreas**	**1.13**	**312**	*e*Pn	**Pb**	**09 47 34.1**	**-2.4**
SAC				*e*Sn	**Sb**	**09 47 52.0**	**+0.9**
CMB	**Columbia Colle**	**1.43**	**33**	*e*Pn	**Pn**	**09 47 40.1**	**-0.7**
PTRM	**Twissleman Ran**	**1.50**	**141**	*e*Pn	**Pn**	**09 47 41.6**	**-0.2**
MCCM	**Marconi Confer**	**1.78**	**318**	*e*Pn	**Pn**	**09 47 43.4**	**-2.3**
MCCM				*e*Sg	**Sg**	**09 48 12.8**	**+0.3**
RCTC	**Rector, Farmer**	**1.79**	**106**	P	**Pn**	**09 47 45.3**	**-0.4**
	baz=1.8,SNR=141						
SMMC	**Simmler**	**1.88**	**144**	P	**Pn**	**09 47 46.7**	**-0.3**
	baz=1.9,SNR=129						
VES	**Vestal, Richgr**	**2.09**	**118**	P	**Pn**	**09 47 49.5**	**-0.4**
	baz=2.1,SNR=128						
VES				Sb	**Sn**	**09 48 15.5**	**-0.2**
	baz=2.1						
MLAC	**Mammoth Lakes**	**2.17**	**68**	P	**Pn**	**09 47 53.0**	**+1.9**
	baz=2.2,SNR=179						
MLAC				Sb	**Sb**	**09 48 23.2**	**+2.0**
	baz=2.2						
WAKR	**Walker**	**2.26**	**42**	*e*Pn	**Pn**	**09 47 53.8**	**+1.3**
WAKR				*e*Sn	**Sb**	**09 48 23.6**	**-0.3**
MTUM	**Tungsten Hills**	**2.29**	**76**	*e*Pn	**Pn**	**09 47 54.9**	**+2.0**
MTUM				*e*Sn	**Sb**	**09 48 24.7**	**-0.3**
OHCM	**Honcut**	**2.50**	**358**	*e*Pn	**Pn**	**09 47 55.8**	**+0.2**
TIN	**Tinemaha**	**2.52**	**84**	Pb	**Pb**	**09 47 59.7**	**-0.7**
	baz=2.5,SNR=52						
TIN				Sb	**Sb**	**09 48 30.5**	**-0.8**
	baz=2.5						
HOPS	**Hopland**	**2.54**	**328**	*e*Pn	**Pn**	**09 47 54.0**	**-2.2**
ISA	**Isabella**	**2.61**	**116**	*e*Pn	**Pn**	**09 47 57.5**	**+0.3**
ISA				*e*Sn	**Sn**	**09 48 29.9**	**+1.2**
ISA	**Isabella**	**2.61**	**116**	P	**Pn**	**09 47 57.4**	**+0.3**
	baz=2.6,SNR=328						
ARVC	**Arvin**	**2.67**	**129**	P	**Pn**	**09 47 58.3**	**+0.4**
	baz=2.7,SNR=51						
CWC	**Cottonwood Cre**	**2.67**	**98**	P	**Pn**	**09 47 59.3**	**+1.3**
	baz=2.7,SNR=91						
SBC	**Santa Barbara**	**2.74**	**150**	P	**Pn**	**09 47 59.5**	**+0.7**
	baz=2.8,SNR=12						
NVAR	**Mina Array Bea**	**2.90**	**56**	Pn	**Pn**	**09 48 02.5**	**+1.2**
NVAR				Lg	Lg	09 48 42.8	
NVAR	**Mina Array Bea**	**2.90**	**56**	Pn	**Pn**	**09 48 02.5**	**+1.2**
	8.0nm,0.3s,baz=241,slow=16,SNR=167						
NVAR				Lg	Lg	09 48 42.8	
	36nm,0.3s,baz=218,slow=22,SNR=7.0						
NV11	**Mina Array Sit**	**3.00**	**57**	*e*Pn	**Pn**	**09 48 04.0**	**+1.3**
NV11				*e*Sn	**Sb**	**09 48 47.6**	**+2.3**
OSI	**Osito Adit**	**3.08**	**135**	*e*Pn	**Pn**	**09 48 05.7**	**+2.0**
OSI	**Osito Adit**	**3.08**	**135**	P	**Pn**	**09 48 04.3**	**+0.7**
	baz=3.1						
BEKR	**Beckworth**	**3.13**	**14**	*e*Pn	**Pn**	**09 48 04.8**	**+0.4**
GRAC	**Grapevine Rang**	**3.20**	**86**	Sg	**Sg**	**09 48 56.4**	**-1.7**
	baz=3.2						
MPMC	**Manual Prospec**	**3.21**	**103**	Pb	**Pb**	**09 48 11.4**	**-0.9**
	baz=3.3,SNR=155						
PAHR	**Pah Rah Range**	**3.26**	**28**	*e*Pn	**Pn**	**09 48 07.1**	**+0.9**
BLG	**Laguna Peak**	**3.30**	**145**	P	**Pn**	**09 48 06.3**	**-0.3**
	baz=3.3,SNR=9.9						
KCPM	**Cahto Peak**	**3.34**	**329**	*e*Pn	**Pn**	**09 48 06.1**	**-1.1**
KCPM				*e*Pg	**Pg**	**09 48 19.9**	**+0.6**
KIPM	**Iron Peak**	**3.41**	**331**	*e*Pn	**Pn**	**09 48 07.9**	**-0.2**
PASC	**Pasadena Art C**	**3.71**	**135**	*e*Pn	**Pn**	**09 48 12.0**	**-0.3**
MWC	**Mount Wilson**	**3.75**	**133**	*e*Pn	**Pn**	**09 48 13.3**	**+0.5**
WDC	**Whiskeytown Da**	**3.85**	**346**	*e*Pn	**Pn**	**09 48 13.7**	**-0.5**
BFSC	**Mount Baldy Ra**	**3.98**	**130**	P	**Pn**	**09 48 16.1**	**+0.1**
	baz=4.0,SNR=34						
GSC	**Goldstone**	**3.99**	**111**	*e*Pn	**Pn**	**09 48 16.7**	**+0.5**
GSC				*e*Sg	**Sg**	**09 49 25.5**	**+1.9**
GSC	**Goldstone**	**3.99**	**111**	P	**Pn**	**09 48 16.5**	**+0.3**
	baz=4.0,SNR=37						
CIS	**Catalina Islan**	**4.19**	**144**	P	**Pn**	**09 48 18.2**	**-0.7**
	baz=4.2						
CIS				Sn	**Sn**	**09 49 05.5**	**-2.2**
	baz=4.2						
BBRC	**Big Bear Solar**	**4.44**	**124**	P	**Pn**	**09 48 22.6**	**+0.2**
	baz=4.5						
KHMM	**Horse Mountain**	**4.44**	**336**	*e*Pn	**Pn**	**09 48 23.0**	**+0.7**
HEC	**Hector,Ludlow**	**4.55**	**115**	P	**Pn**	**09 48 23.8**	**0.0**
	baz=4.6,SNR=13						
TUQ	**Turquoise Moun**	**4.62**	**106**	P	**Pn**	**09 48 25.0**	**+0.2**
	baz=4.7,SNR=24						
MURC	**Murrieta**	**4.69**	**132**	P	**Pn**	**09 48 26.1**	**+0.3**
	baz=4.7,SNR=6.4						
R11A	**Troy Canyon, C**	**4.83**	**70**	*e*Pn	**Pn**	**09 48 30.7**	**+3.0**
R11A				*e*Sg	**Sg**	**09 49 48.9**	**-1.4**
BMN	**Battle Mountai**	**4.84**	**41**	*e*Pn	**Pn**	**09 48 28.5**	**+0.7**
SHPR	**Sheep Range**	**5.00**	**92**	*e*Pn	**Pn**	**09 48 32.8**	**+2.7**
YBH	**Yreka Blue Hor**	**5.00**	**348**	*e*Pn	**Pn**	**09 48 32.3**	**+2.3**
YBH				*e*Pg	**Pg**	**09 48 50.2**	**-0.8**
YBH	**Yreka Blue Hor**	**5.00**	**348**	Pn	**Pn**	**09 48 32.1**	**+2.0**
	0.5nm,0.3s,baz=155,slow=5.8,SNR=13						
GMRC	**Granite Mounta**	**5.07**	**112**	P	**Pn**	**09 48 30.5**	**-0.5**
	baz=5.1,SNR=31						
KRMB	**Red Mountain**	**5.08**	**338**	*e*Pn	**Pn**	**09 48 32.7**	**+1.5**
PFO	**Pinyon Flat Ob**	**5.14**	**127**	*e*Pn	**Pn**	**09 48 32.5**	**+0.5**
PFO	**Pinyon Flat Ob**	**5.14**	**127**	Pn	**Pn**	**09 48 32.6**	**+0.5**
	2.6nm,0.3s,baz=305,slow=11,SNR=26						
PFO				LR	LR	09 50 52.7	
	comp=Z,231nm,18.9s,baz=316,slow=43						
PFO	**Pinyon Flat Ob**	**5.14**	**127**	P	**Pn**	**09 48 31.8**	**-0.3**
	baz=5.2,SNR=13						
BELC	**Belle Mtn. Jos**	**5.21**	**121**	P	**Pn**	**09 48 32.4**	**-0.6**
	baz=5.3,SNR=11						
109C	**Camp Elliot, M**	**5.27**	**137**	P	**Pn**	**09 48 33.8**	**+0.2**
	baz=5.3						
BAR	**Barrett**	**5.66**	**136**	*e*Pn	**Pn**	**09 48 39.6**	**+0.5**
IRM	**Iron Mountain**	**5.72**	**116**	P	**Pn**	**09 48 39.4**	**-0.6**
	baz=5.8,SNR=13						
KBO	**Bosley Butte**	**5.81**	**338**	*e*Pn	**Pn**	**09 48 42.1**	**+1.0**
HUMO	**Hull Mountain**	**5.89**	**348**	*e*Pn	**Pn**	**09 48 44.5**	**+2.2**
K05A	**Summer Lake**	**5.89**	**3**	*e*Pn	Pn	09 48 46.7	+4.3
WVOR	**Wild Horse Val**	**5.97**	**20**	*e*Pn	**Pn**	**09 48 46.2**	**+2.8**
	11nm,0.8s						
ELK	**Elko**	**6.17**	**49**	*e*Pn	**Pn**	**09 48 46.1**	**-0.1**
	11nm,0.9s						
ELK				*e*Sg	**Sg**	**09 50 28.7**	**-4.7**
Y12C	**Blythe**	**6.38**	**117**	P	**Pn**	**09 48 48.4**	**-0.5**
	baz=6.4,SNR=11						
ARUT	**Antelope Range**	**6.38**	**79**	*e*Pn	Pn	09 48 54.1	+5.0
	279nm,0.6s						
CCUT	**Cedar City**	**6.42**	**81**	*e*Pn	Pn	09 48 53.4	+3.7
GLA	**Glamis**	**6.56**	**123**	*e*Pn	**Pn**	**09 48 51.1**	**-0.3**
	9.2nm,0.5s						
GLA	**Glamis**	**6.56**	**123**	P	**Pn**	**09 48 50.8**	**-0.6**
	baz=6.6,SNR=7.2						
Y14A	**Wickenburg**	**7.41**	**110**	P	**Pn**	**09 49 03.4**	**+0.3**
	baz=7.4,SNR=11						
DUG	**Dugway**	**7.49**	**61**	*e*Pn	**Pn**	**09 49 07.3**	**+3.0**
DUG				*e*Sg	**Sg**	**09 51 15.6**	**-0.1**
BGU	**Big Grassy Mou**	**7.67**	**55**	*e*Pn	**Pn**	**09 49 09.5**	**+2.7**
BGU				*e*Sg	**Sg**	**09 51 16.9**	**-4.5**
WUAZ	**Wupatki**	**8.18**	**96**	*e*Pn	Pn	09 49 17.9	+4.2
	7.1nm,0.8s						
HLID	**Hailey**	**8.56**	**36**	*e*Pn	Pn	09 49 24.3	+5.3
SRU	**San Rafael**	**8.85**	**72**	*e*Pn	Pn	09 49 29.8	+6.8
HWUT	**Hardware Ranch**	**8.97**	**55**	*e*Pn	Pn	09 49 28.4	+3.8
	12nm,0.9s						
HAWA	**Hanford**	**9.65**	**8**	Pn	**Pn**	**09 49 36.8**	**+3.1**
TUC	**Tucson**	**9.82**	**114**	*e*Pn	**Pn**	**09 49 38.9**	**+2.8**
	1.8nm,0.6s						
LON	**Longmire**	**9.91**	**358**	*e*Pn	Pn	09 49 42.5	+5.1
MCMT	**McKenzie Canyo**	**10.26**	**36**	*e*Pn	Pn	09 49 50.2	+8.0
	1.3nm,0.8s						
O20A	**White River Ci**	**10.80**	**68**	*e*Pn	Pn	09 49 57.1	+7.5
PDAR	**Pinedale Array**	**10.84**	**53**	Pn	Pn	09 49 53.6	+3.4
PDAR	**Pinedale Array**	**10.84**	**53**	Pn	Pn	09 49 53.6	+3.4
	0.0nm,0.3s,baz=233,slow=12,SNR=2.8						
NEW	**Newport**	**11.84**	**14**	Pn	Pn	09 50 07.2	+3.5
NEW	**Newport**	**11.84**	**14**	Pn	Pn	09 50 07.2	+3.5
	0.1nm,0.3s,baz=188,slow=9.9,SNR=4.0						
NEW				LR	LR	09 55 20.4	
	comp=Z,41nm,19.1s,baz=15,slow=41						
LPIG	**La Paz**	**15.85**	**140**	LR	LR	09 57 13.9	
	comp=Z,68nm,18.6s,baz=327,slow=38						
TXAR	**Lajitas Array**	**16.59**	**112**	Pn	**P**	**09 51 10.8**	**+0.7**
TXAR	**Lajitas Array**	**16.59**	**112**	Pn	**P**	**09 51 10.8**	**+0.7**
	0.1nm,0.3s,baz=290,slow=12,SNR=10						
EDM	**Edmonton**	**17.32**	**16**	*e*P	**P**	**09 51 18.7**	**+0.8**
TKL	**Tuckaleechee C**	**30.21**	**81**	LR	LR	10 05 58.3	
	comp=Z,29nm,18.7s,baz=141,slow=37						
ILAR	**Eielson Array**	**31.83**	**340**	P	**P**	**09 53 41.0**	**+1.7**
ILAR	**Eielson Array**	**31.83**	**340**	P	**P**	**09 53 41.0**	**+1.7**
	0.3nm,0.8s,baz=154,slow=8.3,SNR=2.9						
CN2	**Changchun**	**79.46**	**317**	*e*P	**P**	**09 59 23.3**	**+2.1**
HHC	**Hu-ho-hao-te**	**88.74**	**323**	*e*P	P	10 00 05.5	-3.2
HHC				sP	sP	10 00 14.4	-0.4
HHC				PP	**PP**	**10 03 35.0**	**-1.7**
HHC				SKS	SKSac	10 10 31.1	-6.8
HHC				S	**S**	**10 10 55.5**	**0.0**
HHC				sS	**ScS**	**10 11 00.7**	**-0.2**
HHC				LR	LR		
	comp=N,140nm,17.7s						
HHC				LR	LR		
	comp=E,230nm,18.6s						
HHC				LR	LR		
	comp=Z,230nm,17.8s						
WMQ	**Urumqi**	**95.50**	**339**	*e*P	**P**	**10 00 40.6**	**+0.8**
WMQ				pP	**pP**	**10 00 45.6**	**+1.2**
WMQ				sP	**sP**	**10 00 47.6**	**+1.6**
WMQ				LR	LR		
	comp=N,26nm,18.6s						
WMQ				LR	LR		
	comp=Z,220nm,18.0s						
LZH	**Lanzhou**	**96.19**	**325**	*e*P	**P**	**10 00 42.3**	**-1.0**
LZH				pP	**pP**	**10 00 47.1**	**-0.7**
LZH				sP	**sP**	**10 00 49.6**	**+0.2**
CD2	**Chengdu**	**100.45**	**322**	P	**Pdif**	**10 01 02.5**	**+0.1**

*AUST **06** 09:49:22.2, 5°.88S×105°.93E, h35km*
*ISCJB **06** 09:49:46.1±0.6, 8°.19S±0°.04×107°.23E±0°.04, h46km, Error ellipse: s-maj=7.1km s-min=5.2km az=42.4*
*DJA **06** 09:49:46.8±0.9, 8°S±3°×10°7E±°, h35km±12km, M4.0/10, MLv4.0/10*

ISC 06 09:49:46.9±1.3, 8°.17S±0°.05×107°.24E±0°.04, h46km, n14, σ1§47/21, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.83**	**43**	P	**Pn**	**09 50 01.0**	**-1.4**
CISI	**Cisompet, Garu**	**0.83**	**43**	P	**Pn**	**09 50 00.6**	**-1.8**
	baz=2.5,SNR=18						
SKJI	**Sukabumi**	**1.34**	**330**	P	**Pn**	**09 50 08.7**	**-0.5**
SKJI				S	**Sn**	**09 50 23.2**	**-2.7**
LEM	**Lembang**	**1.39**	**16**	P	**Pn**	**09 50 10.6**	**+0.6**
LEM				S	**Sn**	**09 50 27.9**	**+0.7**
LEM	**Lembang**	**1.39**	**16**	S	**Pn**	**09 50 12.2**	**+2.2**
	baz=1.9,SNR=13						
DBJI	**Dramaga**	**1.68**	**343**	P	**Pn**	**09 50 14.4**	**+0.5**
DBJI				S	**Sn**	**09 50 35.0**	**+0.8**
KPJI	**Karang Pucung**	**1.87**	**64**	P	**Pn**	**09 50 16.9**	**+0.5**
KPJI				S	**Sn**	**09 50 39.0**	**+0.2**
TGJI	**Tegal**	**2.27**	**55**	P	**Pn**	**09 50 22.4**	**+0.5**
TGJI				S	**Sn**	**09 50 49.7**	**+1.0**
BJII	**Banjamegara**	**2.58**	**71**	P	**Pn**	**09 50 25.9**	**-0.4**
XMI	**Christmas Isla**	**2.73**	**214**	P	**Pn**	**09 50 29.1**	**+0.8**
	baz=4.6,SNR=4.2						
XMI				S	**Sn**	**09 50 59.3**	**-0.9**
	baz=4.6,SNR=3.6						
XMIS	**Christmas Isla**	**2.78**	**214**	P	**Pn**	**09 50 29.4**	**+0.4**
	baz=4.6,SNR=7.5						
UGM	**Wanagama**	**3.26**	**86**	P	**Pn**	**09 50 34.8**	**-0.7**
UGM				S	**Sn**	**09 51 10.3**	**-2.8**
UGM	**Wanagama**	**3.26**	**86**	P	**Pn**	**09 50 35.1**	**-0.5**
	baz=5.0,SNR=11						
JAGI	**Jajag, Banyuwa**	**6.84**	**93**	P	**Pn**	**09 51 27.5**	**+2.8**
	baz=8.6,SNR=3.5						

*ISCJB **06** 10:02:47.9±0.4, 59°.01N±0°.03×23°.01E±0°.05, h0km, Error ellipse: s-maj=4.2km s-min=3.6km az=16.9*
*IDC **06** 10:02:48.6±3.3, 58°.94N×23°.11E, h0km, mb1 3.1/3, mb1mx2.9/26, mbtmp3.0/3, ML2.8/3, Error ellipse: s-maj=38.8km s-min=11.4km az=166.0*
*NAO **06** 10:02:49.7±1.2, 59°.11N×23°.15E, ML2.1*
*CSEM **06** 10:02:49.1±0.1, 59°.00N×23°.07E, h2km, ML2.0, Error ellipse: s-maj=3.3km s-min=2.6km az=8.0, Mining explosion.*
*HEL **06** 10:02:49.4±0.1, 59°.02N×23°.07E, h0km, ML2.0, ML2.2(UPP), Explosion*
*BER **06** 10:02:50.5±3.2, 59°.12N×23°.18E, h0km, ML2.1(NAO), Suspected explosion*
*UPP **06** 10:02:51.1, 59°.10N×22°.85E, h0km, ML2.2, Suspected Mining explosion.*

ISC 06 10:02:47.5±0.7, 59°.02N±0°.03×23°.01E±0°.02, h0km, n55, σ1§38/74, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTSE	**Matsula**	**0.52**	**126**	*e*P	**Pg**	**10 02 58.0**	**+0.5**
MTSE				*e*S	**Sg**	**10 03 04.5**	**+0.2**
MTSE	**Matsula**	**0.52**	**126**	P	**Pg**	**10 02 58.0**	**+0.5**
MTSE				S	**Sg**	**10 03 04.4**	**+0.2**
MEF	**Metsahovi**	**1.39**	**30**	*e*P	**Pg**	**10 03 13.8**	**-0.5**
MEF				*e*S	**Sg**	**10 03 30.4**	**-1.8**
MEF	**Metsahovi**	**1.39**	**30**	P	**Pg**	**10 03 13.7**	**-0.5**
MEF				*e*S	**Sb**	**10 03 32.6**	**-0.1**
	25nm,0.2s,SNR=50						
SLIT	**Slitere, Latvi**	**1.45**	**195**	*e*P	**Pn**	**10 03 15.3**	**+0.3**
SLIT				*e*S	**Sn**	**10 03 35.0**	**+0.5**
SLIT	**Slitere, Latvi**	**1.45**	**195**	P	**Pn**	**10 03 15.2**	**+0.3**
SLIT				S	**Sn**	**10 03 35.0**	**+0.5**
AAL	**Aland**	**1.92**	**308**	*e*P	**Pb**	**10 03 23.4**	**+0.1**
AAL				*e*S	**Sb**	**10 03 48.8**	**+0.8**
AAL	**Aland**	**1.92**	**308**	P	**Pb**	**10 03 23.5**	**+0.1**
AAL				S	**Sb**	**10 03 48.7**	**+0.8**
VSU	**Vasula**	**2.02**	**104**	Pn	**Pb**	**10 03 24.5**	**-0.6**
VSU				Lg	Lg	10 03 49.5	
VSU	**Vasula**	**2.02**	**104**	Pn	**Pb**	**10 03 24.5**	**-0.6**
VSU				Lg	Lg	10 03 49.5	
VSU	**Vasula**	**2.02**	**104**	*e*P	**Pb**	**10 03 24.6**	**-0.6**
VSU				*e*S	**Sn**	**10 03 49.9**	**+1.1**
VSU	**Vasula**	**2.02**	**104**	P	**Pb**	**10 03 24.5**	**-0.6**
VSU				Lg	Lg	10 03 49.5	
	SNR=121						
VSU				*e*S	**Sn**	**10 03 49.9**	**+1.1**
	43nm,0.2s,SNR=50						
PVF	**Pernaja**	**2.10**	**42**	*e*P	**Pn**	**10 03 25.4**	**+1.4**
PVF				*e*S	**Sn**	**10 03 51.9**	**+1.1**
PVF	**Pernaja**	**2.10**	**42**	P	**Pn**	**10 03 25.3**	**+1.4**
PVF				S	**Sn**	**10 03 51.9**	**+1.1**
RAF	**Rauma**	**2.10**	**343**	*e*P	**Pb**	**10 03 26.4**	**-0.1**
RAF				*e*SG	**Sg**	**10 03 54.5**	**-0.6**
RAF				MSG		10 03 55.4	
	comp=Z,13nm,0.1s						
RAF	**Rauma**	**2.10**	**343**	P	**Pb**	**10 03 26.4**	**-0.1**
RAF				*e*S	**Sb**	**10 03 54.2**	**+1.1**
	comp=Z,22nm,0.2s,SNR=50						
NRTU	**Norrtaelje**	**2.34**	**288**	P	**Pb**	**10 03 29.6**	**-0.9**
NRTU	**Norrtaelje**	**2.34**	**288**	P	**Pb**	**10 03 29.5**	**-0.9**
NYNU	**Nynaeshamn**	**2.59**	**272**	P	**Pn**	**10 03 32.8**	**+2.2**
NYNU	**Nynaeshamn**	**2.59**	**272**	P	**Pn**	**10 03 32.7**	**+2.2**
FLYU	**Flymyra**	**2.83**	**295**	P	**Pn**	**10 03 36.0**	**+2.0**
FLYU	**Flymyra**	**2.83**	**295**	P	**Pn**	**10 03 35.9**	**+2.0**
FIA0	**FINESS Array S**	**2.87**	**31**	Pn	**Pn**	**10 03 36.1**	**+1.6**
	baz=202,slow=12						
FIA0				Lg	Lg	10 04 14.9	
	baz=219,slow=22						
FIA0	**FINESS Array S**	**2.87**	**31**	Pn	**Pn**	**10 03 36.1**	**+1.6**
	baz=202,slow=12						
FIA0				Lg	Lg	10 04 14.9	
	baz=219,slow=22						
FIA0	**FINESS Array S**	**2.87**	**31**	MSG		10 04 19.2	
	comp=Z,4.6nm,0.2s						
FIA0	**FINESS Array S**	**2.87**	**31**	Pn	**Pn**	**10 03 36.1**	**+1.6**
	baz=202,slow=12,SNR=50						
FIA0				Lg	Lg	10 04 14.9	
	baz=219,slow=20,SNR=50						
FINES	**FINESS Array B**	**2.87**	**31**	Pn	**Pn**	**10 03 36.1**	**+1.6**
	comp=Z,0.9nm,0.3s,baz=214,slow=12,SNR=35						
FINES				Sn	**Sb**	**10 04 14.1**	**-1.2**
	comp=Z,1.2nm,0.3s

PMG Port Moresby 7.27 273 LR LR 10 32 06.5
comp=Z,187nm,18.4s,baz=51,slow=38
DZM Mont Dzumac 16.65 138 LR LR 10 36 08.8
comp=Z,189nm,18.1s,baz=29,slow=31
WRA Warramunga Arr 21.87 241 P P 10 32 21.6 -0.2
5.3nm,0.8s,baz=62,slow=10,SNR=25
WRA LR LR 10 40 13.4
comp=Z,87nm,18.8s,baz=105,slow=35
ASAR Alice Springs 23.96 233 P P 10 32 43.0 -0.5
5.6nm,0.9s,baz=62,slow=9.4,SNR=32
STKA Stephens Creek 24.92 207 P P 10 32 52.5 +0.4
8.4nm,0.9s,baz=33,slow=13,SNR=8.0
URZ Urewera 34.76 148 LR LR 10 47 14.4
comp=Z,158nm,18.4s,baz=287,slow=34
MJAR Matsushiro Arr 48.69 342 LR LR 10 53 30.4
comp=Z,71nm,20.8s,baz=75,slow=32
SONM Songino Array 71.53 328 LR LR 11 09 15.4
comp=Z,29nm,19.5s,baz=63,slow=35
MAW Mawson 81.54 203 LR LR 11 10 49.0
comp=Z,82nm,19.8s,baz=189,slow=32
MKAR Makanchi Array 85.27 319 P P 10 40 06.5 +0.6
0.2nm,0.6s,baz=99,slow=7.7,SNR=2.7
TORD Torodi Ar. Bea 153.18 279 PKPbc PKPbc 10 47 27.5 -0.6
0.3nm,0.7s,baz=85,slow=1.6,SNR=2.3

*IDC **06** 10:34:23.1±1.7, 35°.33N×30°.60E, h0km, mb3.5/2, mb1 3.5/3, mb1mx3.3/23, mbtmp3.5/3, ML3.4/1, Error ellipse: s-maj=75.0km s-min=23.6km az=137.0*
*CSEM **06** 10:34:25.9±0.3, 35°.86N×29°.92E, h2km, MD3.2, Error ellipse: s-maj=8.1km s-min=4.0km az=21.0*
*DDA **06** 10:34:25.6, 35°.90N×29°.96E, h17km, MD3.2*
*ISK **06** 10:34:28.1, 35°.87N×29°.88E, h32km, MD3.4*

ISC 06 10:34:23.6±1.4, 35°.77N±0°.05×29°.95E±0°.03, h3km±10km, n68, σ1°.49/86, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKAS	**Kas**	**0.54**	**329**	*i* P	**Pg**	**10 34 34.3**	**+0.4**
AKAS				*i* S	**Sb**	**10 34 41.6**	**-2.2**
AKAS	**Kas**	**0.54**	**329**	*i* P	**Pg**	**10 34 34.3**	**+0.4**
AKAS				*i* S	**Sb**	**10 34 41.6**	**-2.2**
FETY	**Fethiye**	**1.11**	**321**	*e*PG	**Pn**	**10 34 45.5**	**-0.5**
FETY				*e*SG	**Sb**	**10 34 59.1**	**-1.1**
FETY	**Fethiye**	**1.11**	**321**	*e*Pg	**Pn**	**10 34 45.5**	**-0.5**
FETY				*e*Sg	**Sb**	**10 34 59.1**	**-1.1**
KORT	**Korkueli**	**1.27**	**15**	*i* P	**Pb**	**10 34 47.1**	**-1.1**
KORT				*i* S	Sn	10 35 11.4	+5.6
KORT	**Korkueli**	**1.27**	**15**	*i* P	**Pb**	**10 34 47.1**	**-1.1**
DALY	**Dalyan (Mu¨la**	**1.48**	**315**	*e*PN	**Pg**	**10 34 51.5**	**-0.3**
DALY	**Dalyan (Mu¨la**	**1.48**	**315**	*e*Pn	**Pg**	**10 34 51.5**	**-0.3**
GOLH	**Golhisar**	**1.49**	**348**	*i* P	**Pg**	**10 34 51.4**	**-0.8**
GOLH				*i* S	**Sg**	**10 35 12.3**	**+0.8**
GOLH	**Golhisar**	**1.49**	**348**	*i* P	**Pg**	**10 34 51.4**	**-0.8**
GOLH				*i* S	**Sg**	**10 35 12.3**	**+0.8**
TURN	**Turunc**	**1.54**	**316**	*i* P	**Pg**	**10 34 54.3**	**+1.1**
TURN				*i* S	**Sg**	**10 35 16.8**	**+3.6**
TURN	**Turunc**	**1.54**	**316**	*i* P	**Pg**	**10 34 54.3**	**+1.1**
BCK	**Bucak**	**1.76**	**17**	*e*PN	**Pg**	**10 34 56.8**	**-0.5**
BCK	**Bucak**	**1.76**	**17**	*e*Pn	**Pg**	**10 34 56.8**	**-0.5**
SUTC	**Sutluce-Ispart**	**1.90**	**26**	*e*PN	**Pb**	**10 34 57.8**	**-1.1**
SUTC	**Sutluce-Ispart**	**1.90**	**26**	*e*Pn	**Pb**	**10 34 57.8**	**-1.1**
YER	**Yerkesik**	**1.91**	**316**	*e*PN	**Pb**	**10 34 58.2**	**-0.8**
YER	**Yerkesik**	**1.91**	**316**	*e*Pn	**Pb**	**10 34 58.2**	**-0.8**
GAZI	**Gazipasa**	**1.98**	**76**	*i* P	**Pb**	**10 34 59.0**	**-1.1**
GAZI				*i* S	**Sb**	**10 35 23.5**	**-1.7**
GAZI	**Gazipasa**	**1.98**	**76**	*i* P	**Pb**	**10 34 59.0**	**-1.1**
DNZL	**Cakiroluk**	**2.04**	**340**	*i* P	**Pb**	**10 35 00.5**	**-1.0**
DNZL				*i* S	**Sb**	**10 35 26.8**	**-0.5**
DNZL	**Cakiroluk**	**2.04**	**340**	*i* P	**Pb**	**10 35 00.4**	**-1.0**
DNZL				*i* S	**Sb**	**10 35 26.8**	**-0.5**
ISP	**Isparta**	**2.10**	**13**	*e*PN	**Pb**	**10 35 01.4**	**-0.8**
ISP	**Isparta**	**2.10**	**13**	*e*Pn	**Pb**	**10 35 01.5**	**-0.8**
DENT	**Denizli**	**2.11**	**340**	*e*PN	**Pb**	**10 35 00.9**	**-1.5**
DENT	**Denizli**	**2.11**	**340**	*e*Pn	**Pb**	**10 35 00.9**	**-1.5**
MLSB	**Milas**	**2.31**	**312**	*e*PN	**Pb**	**10 35 04.1**	**-1.9**
MLSB	**Milas**	**2.31**	**312**	*e*Pn	**Pb**	**10 35 04.1**	**-1.9**
HDMB	**Hadim**	**2.37**	**59**	*e*PN	**Pb**	**10 35 04.9**	**-2.1**
HDMB	**Hadim**	**2.37**	**59**	*e*Pn	**Pb**	**10 35 04.9**	**-2.1**
BDRM	**Kayabasi**	**2.40**	**303**	*i* P	**Pg**	**10 35 08.7**	**-0.8**
BDRM				*i* S	**Sg**	**10 35 40.6**	**+0.1**
BODT	**Bodrum**	**2.48**	**302**	*e*PN	**Pn**	**10 35 05.7**	**+0.8**
BODT	**Bodrum**	**2.48**	**302**	*e*Pn	**Pn**	**10 35 05.7**	**+0.8**
AYDN	**Tasoluk**	**2.51**	**319**	*i* P	**Pn**	**10 35 06.2**	**+0.9**
AYDN				*i* S	**Sb**	**10 35 38.9**	**-1.7**
AYDN	**Tasoluk**	**2.51**	**319**	*i* P	**Pn**	**10 35 06.2**	**+0.9**
AYDN				*i* S	**Sb**	**10 35 38.9**	**-1.7**
ERMK	**Ermenek**	**2.55**	**69**	*i* P	**Pb**	**10 35 09.5**	**-0.5**
ERMK	**Ermenek**	**2.55**	**69**	*i* P	**Pb**	**10 35 09.5**	**-0.5**
KHL	**Karahalli**	**2.57**	**353**	*e*PN	**Pb**	**10 35 07.6**	**-2.7**
KHL	**Karahalli**	**2.57**	**353**	*e*Pn	**Pb**	**10 35 07.6**	**-2.7**
KHAL	**Karahalli**	**2.62**	**352**	*i* P	**Pn**	**10 35 08.1**	**+1.3**
KHAL				*i* S	**Sn**	**10 35 38.8**	**-0.3**
KHAL	**Karahalli**	**2.62**	**352**	*i* P	**Pn**	**10 35 08.1**	**+1.3**
KHAL				*i* S	**Sn**	**10 35 38.8**	**-0.3**
CSS	**Prodhromos**	**2.88**	**105**	*e*PN	**Pb**	**10 35 14.8**	**-0.8**
CSS	**Prodhromos**	**2.88**	**105**	*e*Pn	**Pb**	**10 35 14.8**	**-0.8**
GCAM	**G?zelcaml?**	**2.91**	**312**	*i* P	**Pn**	**10 35 12.5**	**+1.9**
GCAM	**G?zelcaml?**	**2.91**	**312**	*i* P	**Pn**	**10 35 12.5**	**+1.9**
KULA	**Kula-Manisa**	**2.92**	**340**	*e*PN	**Pn**	**10 35 11.9**	**+0.9**
KULA	**Kula-Manisa**	**2.92**	**340**	*e*Pn	**Pn**	**10 35 11.9**	**+0.9**
BOLV	**Bolvadin**	**3.05**	**15**	*i* P	**Pn**	**10 35 14.3**	**+1.6**
BOLV	**Bolvadin**	**3.05**	**15**	*i* P	**Pn**	**10 35 14.3**	**+1.6**
IKL	**Isikli**	**3.07**	**80**	*e*PN	**Pb**	**10 35 15.9**	**-2.8**
IKL	**Isikli**	**3.07**	**80**	*e*Pn	**Pb**	**10 35 15.9**	**-2.8**
LADK	**Ladik-KONYA**	**3.10**	**38**	*e*PN	**Pn**	**10 35 15.5**	**+2.0**
LADK	**Ladik-KONYA**	**3.10**	**38**	*e*Pn	**Pn**	**10 35 15.5**	**+2.0**
GDZ	**Gediz**	**3.33**	**354**	*i* P	**Pn**	**10 35 17.8**	**+1.2**
GDZ	**Gediz**	**3.33**	**354**	*i* P	**Pn**	**10 35 17.8**	**+1.2**
DEMI	**Demirci**	**3.41**	**344**	*i* P	**Pn**	**10 35 19.6**	**+2.0**
DEMI	**Demirci**	**3.41**	**344**	*i* P	**Pn**	**10 35 19.6**	**+2.0**
KIZT	**Kizilcal**	**3.46**	**26**	*e*PN	**Pn**	**10 35 20.1**	**+1.7**
KIZT	**Kizilcal**	**3.46**	**26**	*e*Pn	**Pn**	**10 35 20.1**	**+1.7**
SEYT	**Eskypehyr**	**3.81**	**11**	*i* P	**Pn**	**10 35 24.2**	**+1.0**
SEYT				*i* S	**Sn**	**10 36 11.1**	**+2.6**
SEYT	**Eskypehyr**	**3.81**	**11**	*i* P	**Pn**	**10 35 24.2**	**+1.0**
SEYT				*i* S	**Sn**	**10 36 11.1**	**+2.6**
SVRH	**Sivrihisar-ESK**	**3.87**	**18**	*e*PN	Pn	10 35 26.5	+2.4
SVRH	**Sivrihisar-ESK**	**3.87**	**18**	*e*Pn	Pn	10 35 26.5	+2.4
DURS	**Dursunbey**	**4.00**	**343**	*i* P	**Pn**	**10 35 28.0**	**+2.3**
DURS				*i* S	**Sn**	**10 36 13.2**	**+0.1**
DURS	**Dursunbey**	**4.00**	**343**	*i* P	**Pn**	**10 35 28.0**	**+2.3**
DURS				*i* S	**Sn**	**10 36 13.2**	**+0.1**
BRTR	**Keskin Array B**	**4.91**	**35**	Pn	**Pn**	**10 35 39.6**	**+1.3**
1.5nm,0.3s,baz=206,slow=14,SNR=54							
BRTR				Sn	**Sn**	**10 36 36.6**	**+0.8**
0.6nm,0.3s,baz=206,slow=22,SNR=6.0							
TORD	**Torodi Ar. Bea**	**33.97**	**236**	P	**P**	**10 41 09.8**	**+1.4**
0.4nm,0.7s,baz=29,slow=9.9,SNR=3.0							
MKAR	**Makanchi Array**	**40.16**	**57**	P	**P**	**10 41 59.5**	**-1.3**
0.4nm,0.6s,baz=277,slow=6.3,SNR=6.0							

CASC 06 10:48:52.5±2.3, 11°.74N×87°.22W, h36km±22km, MD3.8, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**1.64**	**339**	*e*P	Pn	10 49 17.8	-1.2
BLLM	**Bellamira**	**1.96**	**330**	*e*S	Sn	10 49 46.7	-0.2
VSM	**San Miguel**	**1.97**	**329**	*e*P	Pn	10 49 24.5	+0.8
VCR	**Vista de Mar**	**2.24**	**136**	*e*P	Pn	10 49 27.4	+0.2
VCR				*e*S	Sn	10 49 53.0	-0.7
SNVI	**San Vicente**	**2.44**	**320**	*e*S	Sn	10 49 59.5	+0.6
LFRS	**El Faro**	**2.59**	**316**	*e*P	Pn	10 49 32.8	+0.7
JCR	**Jicaral**	**2.80**	**132**	*e*P	Pn	10 49 34.9	+0.1
JCR				*e*S	Sn	10 50 07.5	+0.2
SBLS	**San Blas**	**3.14**	**312**	*e*P	Pn	10 49 41.3	+1.5
CGA2	**Cerro Gallo 2**	**3.20**	**122**	*e*P	Pn	10 49 42.8	+2.3
CGA2				*e*S	Sn	10 50 18.9	+1.3
URSC	**Urasca**	**3.88**	**119**	*e*P	Pn	10 49 50.2	+0.4
URSC				*e*S	Sn	10 50 36.8	+2.5

IDC 06 10:50:44.7±1.9, 6°.76S×149°.22E, h0km, mb3.6/3, mb1 3.8/5, mb1mx3.5/19, mbtmp3.6/5, ML3.3/2, Error ellipse: s-maj=94.2km s-min=22.5km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.32**	**218**	Pn	Pn	10 51 38.8	+0.8
6.9nm,0.3s,baz=38,slow=3.3,SNR=25							
PMG				Sn	Sn	10 52 20.4	+2.1
22nm,0.3s,baz=0.8,slow=24,SNR=15							
WRA	**Warramunga Arr**	**19.50**	**226**	P	P	10 55 12.9	-0.7
0.2nm,0.3s,baz=51,slow=10,SNR=15							
ASAR	**Alice Springs**	**22.34**	**220**	P	P	10 55 43.0	-1.4
0.8nm,0.8s,baz=50,slow=10,SNR=6.2							
FITZ	**Fitzroy Crossi**	**25.60**	**242**	P	P	10 56 16.5	+0.6
2.0nm,0.5s,baz=84,slow=6.1,SNR=16							
ILAR	**Eielson Array**	**85.32**	**23**	P	P	11 03 23.3	-0.1
0.2nm,0.6s,baz=251,slow=4.4,SNR=3.1							
TORD	**Torodi Ar. Bea**	**147.41**	**284**	PKPbc	PKPbc	11 10 31.1	-0.5
0.2nm,0.3s,baz=66,slow=2.9,SNR=5.8							

MEX 06 10:51:34.2±0.8, 17°.39N×101°.22W, h25km±11km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.32**	**313**	*e*P	Pb	10 51 39.6	-2.0
ZIIG				*i* S	Sb	10 51 45.8	-0.8
CAIG	**El Cayaco**	**0.97**	**110**	*e*P	Pn	10 51 49.6	-2.6
CAIG				*i* S	Sb	10 52 00.8	-3.9
MEIG	**Mezcala**	**1.61**	**70**	*i* P	Pn	10 51 58.9	-2.3
MEIG				*i* S	Sn	10 52 18.5	-2.8
PLIG	**Platanillo**	**1.92**	**58**	*i* P	Pn	10 52 03.1	-2.2
PLIG				*i* S	Sn	10 52 24.9	-3.9
MMIG	**Aquila**	**2.22**	**294**	*i* P	Pn	10 52 07.3	-2.0
MMIG				*i* S	Sn	10 52 32.8	-3.2
MOIG	**Morelia**	**2.28**	**1**	*i* P	Pn	10 52 08.4	-2.1
MOIG				*i* S	Sn	10 52 35.6	-2.5
PPM	**Popocatepetl**	**2.98**	**55**	*e*P	Pn	10 52 18.2	-2.3
PPM				*i* S	Sn	10 52 53.1	-2.8
PNIG	**Pinotepa**	**3.12**	**108**	*e*P	Pn	10 52 19.8	-2.1
PNIG				*i* S	Sn	10 52 55.2	-3.2

*IDC **06** 11:15:28.4±1.7, 10°.05S×119°.18E, h0km, mb3.8/2, mb1 3.9/6, mb1mx3.6/21, mbtmp3.8/6, ML3.7/4, MS3.6/1, Ms1 3.6/1, ms1mx2.8/23, Error ellipse: s-maj=53.6km s-min=21.2km az=58.0*
*ISCJB **06** 11:15:31.9±0.7, 10°.06S±0°.06×119°.44E±0°.07, h33km, mb3.8/2, MS3.4/1, Error ellipse: s-maj=10.0km s-min=8.5km az=135.8*
*AUST **06** 11:15:32.8±9.5, 10°.00S×119°.58E, h0km, Error ellipse: s-maj=1.2km s-min=0.8km az=40.0*

ISC 06 11:15:33.7±0.9, 10°.02S±0°.06×119°.46E±0°.09, h35km, n19, σ2°.81/18, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**4.14**	**93**	Pn	**Pn**	**11 16 36.2**	**+1.7**
9.9nm,0.3s,baz=159,slow=0.8,SNR=8.7							
BATI				Sn	**Sn**	**11 17 21.1**	**-0.7**
7.3nm,0.3s,baz=6.7,slow=22,SNR=8.4							
KAPI	**Kappang**	**4.98**	**3**	Pn	**Pn**	**11 16 46.2**	**+0.2**
4.5nm,0.3s,baz=171,slow=5.2,SNR=17							
KAPI				Sn	**Sn**	**11 17 37.8**	**-4.6**
8.9nm,0.3s,baz=65,slow=21,SNR=14							
JAGI	**Jajag, Banyuwa**	**5.46**	**286**	P	Pn	11 16 59.8	+7.1
baz=5.6,SNR=9.1							
LUWI	**Luwuk**	**9.51**	**20**	P	Pn	11 17 55.9	+7.7
baz=9.5,SNR=3.4							
FITZ	**Fitzroy Crossi**	**10.02**	**144**	Pn	**Pn**	**11 17 55.9**	**+0.7**
0.3nm,0.3s,baz=320,slow=7.6,SNR=24							
FITZ	**Fitzroy Crossi**	**10.02**	**144**	S	**Sn**	**11 19 41.8**	**-4.6**
baz=10.0,SNR=5.5							
KNRA	**Kununurra**	**10.67**	**123**	P	**Pn**	**11 18 05.5**	**+1.4**
baz=11,SNR=4.0							
KNRA				S	**Sn**	**11 19 56.8**	**-5.6**
baz=11,SNR=4.1							
MTN	**Manton Dam**	**11.78**	**105**	P	**Pn**	**11 18 22.1**	**+2.8**
baz=12,SNR=3.6							
MTN				S	Sn	11 20 19.6	-10
baz=12,SNR=5.4							
KDU	**Kakadu**	**13.03**	**103**	P	**Pn**	**11 18 36.6**	**+0.2**
baz=13,SNR=5.0							
MEEK	**Meekatharra**	**16.55**	**183**	P	**P**	**11 19 27.7**	**+2.3**
baz=17,SNR=5.3							
MEEK				S	**Sn**	**11 22 22.3**	**-3.6**
baz=17,SNR=4.9							
WRA	**Warramunga Arr**	**17.42**	**126**	P	**P**	**11 19 34.6**	**-0.5**
0.2nm,0.3s,baz=302,slow=13,SNR=12							
WRA				S	Sn	11 22 34.1	-13
0.2nm,0.3s,baz=290,slow=22,SNR=5.9							
MORW	**Morawa**	**19.22**	**189**	P	Pn	11 20 03.5	+7.5
baz=19,SNR=3.2							
ASAR	**Alice Springs**	**19.34**	**136**	P	**Pn**	**11 19 59.2**	**+1.7**
0.3nm,0.3s,baz=312,slow=10,SNR=17							
ASAR				S	S	11 23 22.9	-10
0.1nm,0.3s,baz=306,slow=22,SNR=3.4							
PPI	**Padang Panjang**	**21.21**	**295**	P	**P**	**11 20 17.8**	**+1.2**
baz=21,SNR=3.3							
NWAO	**Narrogin (SRO)**	**22.89**	**185**	LR	LR	11 29 10.9	
comp=Z,126nm,18.7s,baz=305,slow=36							
MTSU	**Mount Surprise**	**25.40**	**111**	P	**P**	**11 21 00.8**	**+2.7**
baz=25,SNR=5.3							
STKA	**Stephens Creek**	**29.88**	**140**	P	**P**	**11 21 39.0**	**+0.9**
1.9nm,0.9s,baz=307,slow=5.1,SNR=2.4							
PATS	**Pohnpei**	**42.16**	**68**	S	S	11 30 11.7	+30
baz=42,SNR=3.5							
MKAR	**Makanchi Array**	**65.57**	**333**	P	**P**	**11 26 13.1**	**-0.8**
0.4nm,0.5s,baz=155,slow=8.1,SNR=4.1							

IDC 06 11:25:19.5±8.4, 10°.94S×164°.32E, h58km±36km, mb3.9/4, mb1 4.0/7, mb1mx3.5/23, mbtmp3.9/7, MS3.0/3, MS1 3.0/2, ms1mx2.6/28, Error ellipse: s-maj=151.3km s-min=32.4km az=51.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.56**	**289**	P	Pn	11 26 26.8	+0.8
5.9nm,0.3s,baz=51,slow=6.5,SNR=3.5							
HNR				S	Sn	11 27 12.6	-5.1
6.9nm,0.3s,baz=197,slow=19,SNR=2.8							
HNR				LR	LR	11 28 01.6	
comp=Z,140nm,19.6s,baz=244,slow=36							
DZM	**Mont Dzumac**	**11.25**	**170**	P	Pn	11 27 56.7	-1.1
0.8nm,0.3s,baz=122,slow=23,SNR=18							
PMG	**Port Moresby**	**16.96**	**274**	LR	LR	11 34 42.1	
comp=Z,62nm,20.1s,baz=292,slow=33							
CTA	**Charters Tower**	**19.62**	**240**	P	P	11 29 43.2	-0.2
0.3nm,0.3s,baz=70,slow=15,SNR=6.2							
STKA	**Stephens Creek**	**29.57**	**222**	P	P	11 31 20.3	+1.3
4.7nm,0.7s,baz=52,slow=4.6,SNR=10							
WRA	**Warramunga Arr**	**30.21**	**249**	P	P	11 31 24.2	-0.6
1.9nm,0.4s,baz=80,slow=9.4,SNR=22							
ASAR	**Alice Springs**	**31.59**	**242**	P	P	11 31 36.2	-0.8
0.9nm,0.6s,baz=66,slow=10.0,SNR=24							
FITZ	**Fitzroy Crossi**	**38.06**	**255**	P	P	11 32 32.7	0.0
2.4nm,1.0s,baz=54,slow=14,SNR=3.7							

CASC 06 11:37:21.8±2.1, 13°.06N×89°.58W, h20km±7km, MD3.5, 1C-2D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNET	**Serv Nac Est T**	**0.71**	**29**	*e*P	Pb	11 37 35.4	-0.2
BOQS	**Boqueron**	**0.73**	**231**	*i*P	Pb	11 37 36.0	-0.2
SBLS	**San Blas**	**0.78**	**357**	*i*P	Pb	11 37 36.5	-0.5
SNJE	**San Jose**	**0.81**	**358**	*i* P	Pb	11 37 36.8	-0.6
LFU	**La Fuente**	**0.82**	**33**	*i*P	Pb	11 37 37.4	-0.2
RTR	**El Retiro**	**0.84**	**356**	*e*P	Pb	11 37 37.4	-0.6
SNVI	**San Vicente**	**0.91**	**53**	*e*P	Pb	11 37 38.6	-0.5
SNVI				*e*S	Sn	11 37 53.3	+1.0
RBDL	**Robledal**	**1.05**	**354**	*e*P	Pb	11 37 40.4	-1.2
VSM	**San Miguel**	**1.32**	**74**	*e*P	Pn	11 37 45.3	-0.2
BLLM	**Bellamira**	**1.36**	**74**	*e*S	Sn	11 38 02.6	-0.7
CAHU	**Cacacuatique**	**1.51**	**62**	*e*P	Pn	11 37 47.3	-0.7
PCG	**Pacaya**	**1.66**	**323**	*e*P	Pb	11 37 51.4	-0.7
PCG				*e*S	Sb	11 38 12.6	-0.2
NBG	**Las Nubes**	**1.69**	**334**	*e*P	Pn	11 37 50.9	+0.3
NBG				*e*S	Sn	11 38 12.4	+0.5
CNCH	**Conchagua**	**1.72**	**83**	*e*P	Pn	11 37 50.5	-0.2
FUG	**Fuego 3**	**1.85**	**319**	*e*P	Pn	11 37 51.9	-0.7
MRL	**Marmol**	**2.00**	**357**	*e*P	Pn	11 37 55.0	+0.3
JAT	**Jato**	**2.36**	**302**	*e*P	Pn	11 37 59.2	-0.2
JAT				*e*S	Sn	11 38 29.9	+2.2

IDC 06 11:42:37.4±2.5, 5°.92N×77°.97W, h0km, mb3.5/2, mb1 3.6/3, mb1mx3.4/21, mbtmp3.6/3, ML2.1/1, Error ellipse: s-maj=55.9km s-min=54.1km az=62.0, Near west coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**3.77**	**106**	Pn	Pn	11 43 39.1	+1.7
3.0nm,0.3s,baz=261,slow=19,SNR=5.6							
LPAZ	**La Paz**	**24.12**	**156**	P	P	11 47 55.2	-0.7
0.3nm,0.4s,baz=322,slow=10,SNR=3.7							
TORD	**Torodi Ar. Bea**	**78.64**	**78**	P	P	11 54 41.3	-0.7
0.4nm,0.5s,baz=281,slow=5.8,SNR=4.3							
ASAR	**Alice Springs**	**144.63**	**237**	PKP	PKPdf	12 02 18.1	+1.0
0.4nm,0.9s,baz=115,slow=4.1,SNR=4.5							

*NIED **06** 11:52:00.24°.80N×125°.40E, h41km, Mw4.0 Best double couple: M0 1.03000×10^15 NP1:φ=53.00000°, δ=80.00000°, λ=98.00000°. NP2:φ=196.00000°, δ=13.00000°, λ=54.00000°.*
*ISCJB **06** 11:52:50.7±0.4, 24°.88N±0°.07×125°.42E±0°.05, h53km±3km, mb3.8/12, MS3.1/1, Error ellipse: s-maj=14.3km s-min=3.7km az=148.6*
*JMA **06** 11:52:51.2±0.1, 24°.82N×125°.39E, h49km±1km, M4.0*
JMA Felt II J1.
*IDC **06** 11:52:51.3±4.6, 24°.84N×125°.19E, h43km±44km, mb3.6/12, mb1 3.7/14, mb1mx3.6/27, mbtmp3.6/14, ML3.4/2, MS2.9/2, Ms1 2.9/2, ms1mx2.4/31, Error ellipse: s-maj=25.8km s-min=17.4km az=71.0*

ISC 06 11:52:51.4±0.7, 24°.77N±0°.08×125°.47E±0°.05, h49km±5km, n31, σ1°.35/46, mb3.9/12, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**0.06**	**257**	P	**Pn**	**11 52 58.7**	**-0.2**
JOGS				S	**Sn**	**11 53 04.3**	**0.0**
JMJ	**Miyako jima 2**	**0.17**	**284**	P	**Pn**	**11 52 58.7**	**-0.7**
JMJ				S	**Sn**	**11 53 04.3**	**-0.7**
JTJ	**Tarama**	**0.71**	**259**	P	**Pn**	**11 53 04.3**	**-0.9**
JTJ				S	**Sn**	**11 53 13.7**	**-1.6**
JIJ	**Ishigaki jima**	**1.28**	**252**	P	**Pn**	**11 53 12.0**	**-0.8**
JIJ				S	**Sn**	**11 53 28.1**	**-0.7**
JKRS	**Kuro-shima**	**1.44**	**248**	P	**Pn**	**11 53 14.9**	**-0.1**
JKRS				S	**Sn**	**11 53 34.0**	**+1.3**
IRIF	**Iriomote-Funau**	**1.65**	**255**	P	**Pn**	**11 53 17.1**	**-0.7**
IRIF				*e*S	**Sn**	**11 53 38.1**	**+0.3**
HATJ	**Hateruma jima**	**1.68**	**245**	P	**Pn**	**11 53 18.5**	**+0.2**
HATJ				*e*S	**Sn**	**11 53 41.1**	**+2.4**
JKE	**Kume jima 2**	**1.95**	**37**	P	**Pn**	**11 53 22.4**	**+0.4**
YOJ	**Yonaguni jima**	**2.26**	**263**	P	**Pn**	**11 53 25.2**	**-1.1**
YOJ				*e*S	**Sn**	**11 53 53.3**	**+0.3**
JAGN	**Aguni-jima**	**2.41**	**41**	P	**Pn**	**11 53 28.8**	**+0.5**
JAGN				*e*S	**Sn**	**11 53 57.5**	**+0.8**
JJT2	**Tamagusuku 2**	**2.47**	**56**	P	**Pn**	**11 53 31.0**	**+1.9**
JIH	**Iheya**	**3.18**	**44**	P	**Pn**	**11 53 38.7**	**-0.2**
JOW	**Kunigami**	**3.25**	**50**	P	**Pn**	**11 53 40.2**	**+0.3**
JOW				*e*S	**Sn**	**11 54 19.0**	**+1.6**
JTK	**Tokunoshima**	**4.33**	**45**	P	**Pn**	**11 53 54.2**	**-0.5**
JTK				*e*S	**Sn**	**11 54 43.6**	**-0.3**
JAMN	**Amaminishikomi**	**4.79**	**43**	P	**Pn**	**11 54 00.7**	**-0.3**
JAMN				*e*S	**Sn**	**11 54 53.6**	**-1.6**
JAM	**Amami Oshima**	**5.18**	**45**	P	**Pn**	**11 54 06.7**	**+0.4**
JMZ	**Minamidaito 2**	**5.31**	**77**	P	**Pn**	**11 54 06.0**	**-2.1**
JMZ				*e*S	**Sn**	**11 55 02.8**	**-5.1**
KSRS	**Korea Array**	**12.81**	**9**	P	**Pn**	**11 55 51.3**	**+0.5**
0.1nm,0.3s,baz=190,slow=13,SNR=4.3							
KSRS				LR	LR	12 01 06.1	
comp=Z,18nm,18.2s,baz=175,slow=39							
MJAR	**Matsushiro Arr**	**16.03**	**40**	P	**P**	**11 56 37.0**	**+0.7**
0.2nm,0.3s,baz=230,slow=9.9,SNR=5.2							
ASAJ	**Asahikawa**	**23.82**	**32**	P	**P**	**11 57 59.6**	**-0.2**
2.7nm,0.7s,baz=62,slow=28,SNR=6.2							
SONM	**Songino Array**	**27.53**	**332**	P	**P**	**11 58 32.1**	**-1.4**
0.3nm,0.4s,baz=159,slow=9.5,SNR=3.9							
SONM				LR	LR	12 10 48.7	
comp=Z,53nm,18.9s,baz=54,slow=39							
PETK	**Petropavlovsk-**	**37.24**	**32**	P

ESKU	**Eskilstuna**	**2.92 277**	P		**Pn**	**12 00 33.1**	**+2.3**
IGGU	**Iggoen**	**3.02 310**	P		**Pn**	**12 00 34.1**	**+1.9**
IGGU	**Iggoen**	**3.02 310**	P		**Pn**	**12 00 34.1**	**+1.9**
FIA0	**FINESS Array S**	**3.16 38**	*e*P		**Pn**	**12 00 35.7**	**+1.5**
FIA0	**FINESS Array S**	**3.16 38**	P		**Pn**	**12 00 35.7**	**+1.5**
FINES	**FINESS Array B**	**3.16 38**	Pn		**Pn**	**12 00 36.1**	**+1.9**
	comp=Z,0.3nm,0.3s,baz=219,slow=12,SNR=18						
FINES			Sn		**Sn**	**12 01 15.2**	**+2.6**
	comp=Z,0.5nm,0.3s,baz=223,slow=22,SNR=7.2						
VJF	**Virojoki**	**3.18 59**	*e*P		**Pn**	**12 00 35.1**	**+0.5**
VJF	**Virojoki**	**3.18 59**	P		**Pn**	**12 00 35.0**	**+0.5**
KEF	**Keuruu**	**3.46 23**	*e*P		**Pn**	**12 00 41.3**	**+3.0**
KEF	**Keuruu**	**3.46 23**	P		**Pn**	**12 00 41.2**	**+3.0**
FALU	**Falun**	**3.47 298**	P		**Pn**	**12 00 40.1**	**+1.7**
FALU	**Falun**	**3.47 298**	P		**Pn**	**12 00 40.1**	**+1.7**
ARNU	**Arnoeviken**	**3.54 321**	P		**Pn**	**12 00 41.2**	**+1.7**
ARNU	**Arnoeviken**	**3.54 321**	P		**Pn**	**12 00 41.2**	**+1.7**
ASKU	**Askersund**	**3.73 271**	P		**Pn**	**12 00 43.6**	**+1.6**
ASKU	**Askersund**	**3.73 271**	P		**Pn**	**12 00 43.7**	**+1.6**
KAF	**Kangasniemi**	**3.75 32**	*e*P		**Pn**	**12 00 44.7**	**+2.3**
KAF	**Kangasniemi**	**3.75 32**	P		**Pn**	**12 00 44.7**	**+2.3**
EKSU	**Eksjoe**	**3.84 251**	P		**Pn**	**12 00 45.1**	**+1.6**
EKSU	**Eksjoe**	**3.84 251**	P		**Pn**	**12 00 45.1**	**+1.6**
ROTU	**Roteberg**	**3.93 310**	P		**Pn**	**12 00 46.0**	**+1.3**
ROTU	**Roteberg**	**3.93 310**	P		**Pn**	**12 00 46.0**	**+1.3**
VAF	**Ylistaro**	**4.05 4**	*e*P		**Pn**	**12 00 48.8**	**+2.4**
VAF			MSG		**Sg**	**12 01 51.4**	**-1.9**
	comp=Z,1.7nm,0.4s						
VAF			*e*SG		**Sg**	**12 01 51.4**	**-1.9**
VAF	**Ylistaro**	**4.05 4**	P		**Pn**	**12 00 48.8**	**+2.4**
HASU	**Hassela**	**4.13 322**	P		**Pn**	**12 00 49.0**	**+1.5**
HASU	**Hassela**	**4.13 322**	P		**Pn**	**12 00 49.0**	**+1.5**
HEMU	**Hemsoen**	**4.16 334**	P		**Pn**	**12 00 50.2**	**+2.2**
HEMU	**Hemsoen**	**4.16 334**	P		**Pn**	**12 00 50.1**	**+2.2**
NOA	**NORSAR Array B**	**5.79 295**	Pn		**Pn**	**12 01 10.9**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=215,slow=21,SNR=7.7						
NOA			Sn		**Sn**	**12 02 16.1**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=38,slow=19,SNR=2.3						
NOA			Lg		Lg	12 02 45.2	
	comp=Z,0.4nm,0.3s,baz=53,slow=10,SNR=5.4						
ARCES	**ARCESS Array B**	**10.66 7**	Pn		**Pn**	**12 02 15.0**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=190,slow=12,SNR=8.3						

ISCJB ***06*** *12:02:36.1±0.6,21°.09S±0°.04×68°.8W±0°.1,h117km±8km, mb3.5/2,Error ellipse: s-maj=16.8km s-min=7.0km az=6.0*
GUC ***06*** *12:02:36.4±0.6,21°.11S×68°.97W,h122km±3km,ML4.4*
IDC ***06*** *12:02:36.2±2.3,21°.20S×68°.72W,h100km±22km,mb3.5/3, mb1 3.8/7,mb1mx3.5/19,mbtmp3.6/7,Error ellipse: s-maj=28.4km s-min=20.1km az=101.0*

ISC 06 12:02:37.0±0.9,21°.09S±0°.05×68°.8W±0°.1,h112km±9km, n16,σ1s24/19,4C-4D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB01	**Plate Boundary**	**0.63**	**274**	⇓*i*P		**Pn**	**12 02 54.8**	**-0.3**
PB01				*i* S		**Sn**	**12 03 08.8**	**+0.1**
PB01				AML		AML	12 03 09.4	
	comp=E,16μm,0.2s						
PB09	**Plate Boundary**	**0.80**	**209**	⇓*i*P		**Pn**	**12 02 56.9**	**+0.2**
PB09				*i* S		**Sn**	**12 03 12.4**	**+0.9**
PB09				AML		AML	12 03 14.9	
	comp=E,18μm,0.4s						
PB07	**Plate Boundary**	**1.18**	**237**	⇑*i*P		**Pn**	**12 03 00.1**	**-0.3**
PB07				*i* S		**Sn**	**12 03 17.8**	**-0.4**
PB07				AML		AML	12 03 20.1	
	comp=E,6μm,0.4s						
HMBC	**Humberstone**	**1.29**	**309**	⇓*i*P		**Pn**	**12 03 01.4**	**-0.3**
HMBC				*i* S		**Sn**	**12 03 20.1**	**-0.1**
HMBC				AML		AML	12 03 20.9	
	comp=N,14μm,0.3s						
PB04	**Plate Boundary**	**1.32**	**208**	⇑*i*P		Pn	12 03 06.7	+4.9
PB04				*i* S		Sn	12 03 29.2	+8.5
PB04				AML		AML	12 03 36.2	
	comp=N,3μm,0.2s						
MNMC	**Minimini**	**2.08**	**339**	⇓*i*P		**Pn**	**12 03 11.6**	**+0.2**
MNMC				*i* S		**Sn**	**12 03 39.0**	**+1.3**
MNMC				AML		AML	12 03 41.6	
	comp=E,3μm,0.9s						
CEN1	**Los Morros**	**2.62**	**209**	⇑*i*P		Pn	12 03 20.5	+2.3
CEN1				*i* S		**Sn**	**12 03 52.1**	**+2.3**
CEN1				AML		AML	12 04 12.4	
	comp=N,483nm,0.8s						
ANCH	**Antofagasta**	**2.97**	**209**	⇑*i*P		**Pn**	**12 03 22.2**	**-0.4**
LPAZ	**La Paz**	**4.82**	**8**	P		**Pn**	**12 03 50.4**	**+2.3**
	comp=N,6.4nm,0.3s,baz=193,slow=7.2,SNR=82						
SIV	**San Ignacio**	**8.93**	**57**	P		**Pn**	**12 04 40.8**	**-2.3**
	comp=N,7.9nm,0.3s,baz=253,slow=11,SNR=89						
CFAA	**Coronel Fontan**	**10.48**	**177**	P		Pn	12 05 00.1	-4.0
	comp=N,0.2nm,0.3s,baz=350,slow=14,SNR=27						
CFAA				S		Sn	12 06 48.3	-11
	comp=N,0.1nm,0.3s,baz=223,slow=18,SNR=4.3						
PLCA	**Paso Flores**	**19.63**	**184**	P		**Pn**	**12 06 57.4**	**-1.9**
	comp=N,0.3nm,0.3s,baz=357,slow=11,SNR=8.1						
BDFB	**Brasilia**	**20.47**	**78**	P		**P**	**12 07 05.8**	**-0.3**
	comp=N,6.1nm,0.5s,baz=247,slow=9.6,SNR=19						
TXAR	**Lajitas Array**	**60.34**	**325**	P		**P**	**12 12 34.9**	**+0.5**
	comp=N,0.1nm,0.5s,baz=157,slow=9.3,SNR=4.6						
TORD	**Torodi Ar. Bea**	**77.14**	**70**	P		**P**	**12 14 18.9**	**+0.1**
	comp=N,1.5nm,0.7s,baz=253,slow=6.3,SNR=9.4						
MKAR	**Makanchi Array**	**145.26**	**36**	PKPbc		**PKPab**	**12 22 02.2**	**+0.6**
	comp=N,0.6nm,0.7s,baz=318,slow=2.4,SNR=4.9						
MKAR				pPKPbc		pPKPbc	12 22 33.0	+1.4
	comp=N,0.7nm,0.8s,baz=339,slow=3.0,SNR=4.2						

NIED ***06*** *12:10:00,46°.60N×153°.10E,h11km,Mw3.9 Best double couple: M0=7.97000×10^14 NP1:φs=212.00000°,δ68.00000°, λ146.00000°. NP2:φs=317.00000°,δ58.00000°,λ27.00000°.*
JMA ***06*** *12:10:15.5±0.7,46°.57N×153°.13E,h30km,M3.9*
IDC ***06*** *12:10:15.8±1.3,46°.49N×152°.88E,h0km,mb3.7/10, mb1 3.9/14,mb1mx3.8/28,mbtmp3.7/14,ML3.1/4,MS3.4/4, Ms1 3.4/4,ms1mx2.8/38,Error ellipse: s-maj=38.6km s-min=16.8km az=162.0*
MOS ***06*** *12:10:17.9±1.4,46°.42N×153°.00E,h41km,mb4.2/5,Error ellipse: s-maj=20.9km s-min=11.2km az=51.6*

ISC 06 12:10:18.6±1.0,46°.0N±0°.2×153°.1E±0°.1,h31km,n34, σ2s04/34,mb3.7/9,MS3.3/4,1D,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.75**	**260**	⇓*i*PN		**Pn**	**12 11 16.8**	**+2.6**
KUR				*i* S		**Sn**	**12 12 01.9**	**+4.7**
KUR				pmax		pmax		
	comp=Z,95nm,0.5s						
KUR				pmax		pmax		
	comp=E,8.0nm,0.2s						
KUR				pmax		pmax		
	comp=N,34nm,0.5s						
KUR				smax		smax		
	comp=N,32nm,0.8s						
KUR				smax		smax		
	comp=E,24nm,0.8s						
SKR	**Severo-Kuril's**	**5.11**	**22**	*e*PN		Pn	12 11 26.0	-6.9
SKR				pmax		pmax		
	comp=N,20nm,0.5s						
SKR				pmax		pmax		
	comp=Z,30nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**5.49**	**252**	*i* PN		**Pn**	**12 11 40.5**	**+2.4**
YUK				*i*			12 12 44.7	
YUK				pmax		pmax		
	comp=N,12nm,0.6s						
YUK				pmax		pmax		
	comp=E,27nm,0.6s						
YUK				pmax		pmax		
	comp=Z,63nm,0.6s						
YUK				pmax		pmax		
	comp=E,133nm,1.1s						
NEM2	**Nemuro 2**	**5.86**	**246**	P		**Pn**	**12 11 43.2**	**-0.1**
NEM2				*e*S		**Sn**	**12 12 48.4**	**-1.0**
JRA	**Rausu**	**6.02**	**253**	P		**Pn**	**12 11 48.0**	**+2.6**
JNK	**Nakash**	**6.43**	**251**	P		**Pn**	**12 11 52.4**	**+1.4**
JAK	**Akkeshi**	**6.71**	**246**	P		**Pn**	**12 11 54.7**	**-0.2**
JAK				*e*S		**Sn**	**12 13 08.4**	**-1.8**
JTKR	**Abashiri--Toko**	**6.82**	**256**	P		**Pn**	**12 11 58.7**	**+2.3**
JAR	**Ashorobuto**	**7.18**	**251**	P		**Pn**	**12 12 02.9**	**+1.6**
JAR				*e*S		**Sn**	**12 13 23.9**	**+2.2**
JMP	**Maruseppu**	**7.18**	**257**	P		**Pn**	**12 12 03.8**	**+2.4**
JKK2	**Kamakawa 2**	**7.64**	**258**	P		**Pn**	**12 12 10.1**	**+2.4**
ASAJ	**Asahikawa**	**7.67**	**260**	Pn		**Pn**	**12 12 09.3**	**+1.3**
	comp=E,0.7nm,0.3s,baz=123,slow=23,SNR=9.9						
PETK	**Petropavlovsk-**	**7.72**	**21**	PN		Pn	12 12 04.7	-4.1
PETK	**Petropavlovsk-**	**7.72**	**21**	Pn		Pn	12 12 04.7	-4.1
	comp=E,0.4nm,0.3s,baz=174,slow=15,SNR=5.1						
ERM	**Erimo**	**8.19**	**244**	*i* PN		**Pn**	**12 12 18.0**	**+2.8**
JNBK	**Urakawa-nobuka**	**8.31**	**247**	P		**Pn**	**12 12 16.7**	**-0.2**
JNBK				*e*S		**Sn**	**12 13 46.8**	**-2.8**
JKB	**Kayabe**	**9.62**	**249**	P		**Pn**	**12 12 34.7**	**-0.1**
JKB				*e*S		**Sn**	**12 14 17.3**	**-4.4**
JIO	**Ouri**	**11.51**	**233**	*e*S		Sn	12 15 00.7	-7.3
MJAR	**Matsushiro Arr**	**14.62**	**235**	Pn		**Pn**	**12 13 44.7**	**+1.5**
	comp=E,0.1nm,0.3s,baz=29,slow=16,SNR=3.1						
USRK	**Ussuriysk Arra**	**15.01**	**271**	Pn		**Pn**	**12 13 48.3**	**0.0**
	comp=E,0.1nm,0.3s,baz=80,slow=17,SNR=4.0						
KSRS	**Korea Array**	**20.57**	**254**	P		**P**	**12 14 55.9**	**+1.3**
	comp=E,1.8nm,0.8s,baz=63,slow=11,SNR=8.4						
ILAR	**Eielson Array**	**37.15**	**38**	P		**P**	**12 17 24.1**	**-2.0**
	comp=E,0.2nm,0.7s,baz=262,slow=6.9,SNR=3.5						
ILAR				LR		LR	12 31 57.5	
	comp=E,34nm,19.1s,baz=329,slow=35						
MKAR	**Makanchi Array**	**47.28**	**298**	P		**P**	**12 18 47.8**	**-1.0**
MKAR				pmax		pmax		
	comp=Z,1.0nm,0.7s						
MKAR				MLR		MLR		
	comp=Z,40nm,18.6s						
MKAR	**Makanchi Array**	**47.28**	**298**	P		**P**	**12 18 47.8**	**-1.0**
	comp=Z,1.3nm,0.7s,baz=64,slow=7.4,SNR=13						
MKAR				LR		LR	12 40 05.0	
	comp=Z,40nm,18.6s,baz=356,slow=38						
NVAR	**Mina Array Bea**	**62.80**	**62**	P		P	12 20 44.3	+3.0
	comp=Z,0.4nm,0.7s,baz=300,slow=9.1,SNR=3.6						
FINES	**FINESS Array B**	**64.72**	**335**	P		**P**	**12 20 52.0**	**-1.2**
	comp=Z,1.1nm,0.5s,baz=27,slow=8.8,SNR=13						
PDAR	**Pinedale Array**	**65.20**	**54**	P		**P**	**12 20 58.8**	**+1.7**
	comp=Z,0.2nm,0.5s,baz=325,slow=6.1,SNR=2.2						
NOA	**NORSAR Array B**	**68.94**	**341**	P		**P**	**12 21 18.4**	**-1.7**
	comp=Z,0.5nm,0.7s,baz=27,slow=6.5,SNR=3.9						
NOA				LR		LR	12 55 59.7	
	comp=Z,15nm,19.4s,baz=60,slow=40						
KBZ	**Khabaz**	**71.38**	**314**	P		**P**	**12 21 35.3**	**0.0**
KBZ				pmax		pmax		
	comp=Z,1.0nm,0.7s						
KBZ	**Khabaz**	**71.38**	**314**	P		**P**	**12 21 35.3**	**0.0**
	comp=Z,1.8nm,0.7s,baz=77,slow=1.0,SNR=3.7						
AKASG	**Malin Array Be**	**72.17**	**326**	P		**P**	**12 21 38.6**	**-1.3**
AKASG				pmax		pmax		
	comp=Z,2.0nm,0.5s						
AKASG	**Malin Array Be**	**72.17**	**326**	P		**P**	**12 21 38.6**	**-1.3**
	comp=Z,2.2nm,0.5s,baz=34,slow=6.1,SNR=6.0						
TXAR	**Lajitas Array**	**77.88**	**60**	P		**P**	**12 22 13.2**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=302,slow=4.7,SNR=5.2						
TKL	**Tuckaleechee C**	**83.93**	**43**	LR		LR	13 02 01.5	
	comp=Z,38nm,20.1s,baz=74,slow=37						

MAN 06 12:15:13,13°.31N×122°.97E,h101km,mb4.0,ML2.7, MS2.4,1C-1D,Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AUQP	**San Andres**	**0.29**	**272**	*e*P		Pn	12 15 29.6	+2.0
AUQP				*e*S		Sn	12 15 39.0	+0.4
GQP	**Guinayangan**	**0.78**	**319**	⇓*e*P		Pn	12 15 39.4	+8.2
GQP				*e*S		Sn	12 15 54.3	+9.3
BOAC	**Boac**	**1.11**	**278**	*e*P		Pn	12 15 41.6	+7.0
RCP	**Roxas**	**1.75**	**187**	⇓*e*P		Pn	12 15 43.8	+1.3
BALP	**Baler**	**2.77**	**331**	*e*P		Pn	12 15 56.5	+0.8

IDC 06 12:44:27.9±1.4,18°.30N×144°.69E,h0km,mb3.7/6, mb1 3.8/7,mb1mx3.6/25,mbtmp3.7/7,ML3.7/1,MS3.2/1, Ms1 3.2/1,ms1mx2.5/35,Error ellipse: s-maj=45.3km s-min=24.9km az=87.0,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**19.05**	**344**	P	P	12 48 49.9	-1.9
	0.3nm,0.3s,baz=185,slow=11,SNR=4.1						
MJAR				LR	LR	12 55 30.8	
	comp=Z,68nm,20.7s,baz=175,slow=35						
KSRS	**Korea Array**	**24.09**	**326**	P	P	12 49 43.5	-1.7
	1.1nm,0.8s,baz=128,slow=10,0,SNR=3.7						
WRA	**Warramunga Arr**	**39.34**	**195**	P	P	12 51 58.5	-0.7
	0.5nm,0.9s,baz=17,slow=9.1,SNR=3.0						
ZALV	**Zalesovo Beam**	**57.75**	**323**	P	P	12 54 21.2	+0.6
	2.1nm,0.9s,baz=93,slow=7.4,SNR=5.5						
MKAR	**Makanchi Array**	**58.05**	**314**	P	P	12 54 24.1	+1.2
	0.2nm,0.4s,baz=96,slow=9.9,SNR=3.9						
ILAR	**Eielson Array**	**64.42**	**26**	P	P	12 55 05.9	+0.1
	0.4nm,1.0s,baz=223,slow=6.1,SNR=3.6						
BVAR	**Borovoye Array**	**66.17**	**321**	P	P	12 55 17.9	+0.6
	1.9nm,0.8s,baz=108,slow=9.7,SNR=5.8						

IDC 06 13:05:58.6±1.1,18°.24N×143°.94E,h0km,mb3.6/9, mb1 3.8/10,mb1mx3.7/26,mbtmp3.6/10,ML3.9/1,Error ellipse: s-maj=43.2km s-min=19.2km az=85.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**18.92**	**346**	P	Pn	13 10 22.0	+0.4
	0.4nm,0.3s,baz=165,slow=10,SNR=4.4						
KSRS	**Korea Array**	**23.74**	**327**	P	P	13 11 14.1	+1.5
	1.1nm,0.9s,baz=144,slow=9.2,SNR=5.9						
WRA	**Warramunga Arr**	**39.10**	**194**	P	P	13 13 28.4	+0.6
	0.7nm,0.8s,baz=16,slow=8.9,SNR=4.0						
SONM	**Songino Array**	**42.47**	**323**	P	P	13 13 53.7	-1.9
	0.2nm,0.4s,baz=123,slow=5.3,SNR=2.7						
ASAR	**Alice Springs**	**42.79**	**194**	P	P	13 13 57.6	-0.6
	0.4nm,0.8s,baz=18,slow=9.7,SNR=5.1						
ZALV	**Zalesovo Beam**	**57.37**	**323**	P	P	13 15 48.7	+0.1
	0.7nm,0.6s,baz=91,slow=7.4,SNR=3.8						
MKAR	**Makanchi Array**	**57.58**	**314**	P	P	13 15 49.8	-0.5
	0.4nm,0.8s,baz=102,slow=6.1,SNR=3.0						
ILAR	**Eielson Array**	**64.79**	**26**	P	P	13 16 39.0	+0.1
	0.4nm,0.9s,baz=275,slow=4.4,SNR=3.1						
BVAR	**Borovoye Array**	**65.76**	**321**	P	P	13 16 46.7	+1.3
	1.5nm,0.8s,baz=98,slow=6.3,SNR=6.4						
FINES	**FINESS Array B**	**86.59**	**335**	P	P	13 18 42.1	-1.6
	1.4nm,0.8s,baz=98,slow=5.8,SNR=3.6						

ISCJB ***06*** *13:08:46.4±0.3,59°.69N±0°.02×24°.41E±0°.05,h0km,Error ellipse: s-maj=3.9km s-min=3.0km az=35.8*
NAO ***06*** *13:08:47.7±1.0,59°.68N×24°.59E,ML2.7*
CSEM ***06*** *13:08:47.6±0.2,59°.69N×24°.54E,h2km,ML2.9,Error ellipse: s-maj=5.1km s-min=3.4km az=130.0,Mining explosion.*
HEL ***06*** *13:08:47.7±0.1,59°.66N×24°.55E,h0km,ML2.5, ML1.7(UPP),Explosion*
IDC ***06*** *13:08:48.9±1.0,59°.76N×24°.55E,h0km,mb1 3.6/5, mb1mx3.2/28,mbtmp3.6/5,Error ellipse: s-maj=11.1km s-min=6.5km az=135.0*
BER ***06*** *13:08:48.3±3.5,59°.68N×24°.60E,h0km,ML2.7(NAO), Suspected explosion*
UPP ***06*** *13:08:51.7,59°.74N×23°.96E,h0km,ML1.7,Suspected Mining explosion.*

ISC 06 13:08:46.2±0.6,59°.68N±0°.02×24°.49E±0°.03,h0km,n101, σ1s58/126,Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MEF	**Metsahovi**	**0.54**	**355**	*e*P		**Pg**	**13 08 57.4**	**+0.9**
MEF				*e*S		**Sg**	**13 09 04.8**	**+1.3**
MEF				*e*RG		Rg	13 09 04.9	
MEF	**Metsahovi**	**0.54**	**355**	*e*P		**Pg**	**13 08 58.0**	**+1.5**
	SNR=90						
MEF				*e*S		**Sg**	**13 09 04.8**	**+1.3**
	476nm,0.5s,SNR=90						
MTSE	**Matsula**	**1.03**	**200**	*e*P		**Pg**	**13 09 06.0**	**+0.2**
MTSE				*e*S		**Sg**	**13 09 19.2**	**+0.1**
MTSE				*e*RG		Rg	13 09 19.8	
MTSE	**Matsula**	**1.03**	**200**	P		**Pg**	**13 09 06.0**	**+0.2**
MTSE				S		**Sg**	**13 09 19.2**	**+0.1**
PVF	**Pernaja**	**1.11**	**38**	*e*P		**Pg**	**13 09 07.3**	**-0.1**
PVF				*e*SN		**Sn**	**13 09 26.8**	**+2.0**
PVF				*e*RG		Rg	13 09 27.9	
PVF	**Pernaja**	**1.11**	**38**	P		**Pg**	**13 09 07.3**	**-0.1**
PVF				Sn		**Sn**	**13 09 26.8**	**+2.0**
VSU	**Vasula**	**1.69**	**136**	Pg		**Pn**	**13 09 17.4**	**+0.6**
VSU				Lg		Lg	13 09 39.3	
VSU	**Vasula**	**1.69**	**136**	Pg		**Pn**	**13 09 17.4**	**+0.6**
VSU				Lg		Lg	13 09 39.3	
VSU	**Vasula**	**1.69**	**136**	*e*P		**Pn**	**13 09 17.5**	**+0.7**
	SNR=50						
VSU				Lg		Lg	13 09 39.3	
VSU				*e*S		**Sb**	**13 09 42.2**	**+2.5**
	SNR=50						
VJF	**Virojoki**	**1.76**	**59**	*e*P		**Pn**	**13 09 18.5**	**+0.7**
VJF				MSG		**Sn**	**13 09 41.9**	**+0.9**
	comp=Z,38nm,0.2s						
VJF				*e*SN		**Sn**	**13 09 41.9**	**+0.9**
VJF	**Virojoki**	**1.76**	**59**	P		**Pn**	**13 09 18.5**	**+0.7**
VJF				Sn		**Sn**	**13 09 41.8**	**+0.9**
RAF	**Rauma**	**1.91**	**316**	*e*PN		**Pn**	**13 09 22.1**	**+2.2**
RAF				*e*SG		**Sb**	**13 09 47.4**	**+1.2**
RAF	**Rauma**	**1.91**	**316**	Pn		**Pn**	**13 09 22.1**	**+2.2**
RAF	**Rauma**	**1.91**	**316**	*e*P		**Pb**	**13 09 23.1**	**+1.3**
	SNR=50						
RAF				Sg		**Sb**	**13 09 47.4**	**+1.2**
RAF				*e*S		**Sg**	**13 09 48.2**	**+0.8**
	SNR=50						
FIA0	**FINESS Array S**	**1.94**	**23**	Pg		**Pb**	**13 09 22.4**	**+0.1**
	baz=198,slow=18						
FIA0				Lg		Lg	13 09 47.2	
	baz=195,slow=28						
FIA0				Rg		Rg	13 09 58.8	
	baz=210,slow=37						
FIA0	**FINESS Array S**	**1.94**	**23**	Pg		**Pb**	**13 09 22.4**	**+0.1**
	baz=198,slow=18						
FIA0				Lg		Lg	13 09 47.2	
	baz=195,slow=28						
FIA0				Rg		Rg	13 09 58.8	
	baz=210,slow=37						
FIA0	**FINESS Array S**	**1.94**	**23**	*e*PN		**Pn**	**13 09 22.1**	**+1.8**
FIA0				MSG		**Sb**	**13 09 47.2**	**+0.3**
	comp=Z,36nm,0.3s						
FIA0				*e*SG		**Sb**	**13 09 47.2**	**+0.3**
FIA0				*e*RG		Rg	13 10 00.6	
FIA0				*e*RG		Rg	13 10 00.6	
FIA0				*e*RG		Rg	13 10 00.6	
FIA0	**FINESS Array S**	**1.94**	**23**	Pn		**Pn**	**13 09 22.1**	**+1.8**
FIA0	**FINESS Array S**	**1.94**	**23**	Pg		**Pb**	**13 09 22.4**	**+0.1**
	baz=198,slow=17,SNR=90						
FIA0				Sg		**Sb**	**13 09 47.2**	**+0.3**
FINES	**FINESS Array B**	**1.94**	**23**	Pn		**Pb**	**13 09 22.2**	**0.0**
	comp=Z,20nm,0.3s,baz=202,slow=15,SNR=722						
FINES				Lg		Lg	13 09 46.8	
	comp=Z,20nm,0.3s,baz=192,slow=29,SNR=21						
SLIT	**Slitere, Latvi**	**2.36**	**210**	*e*P		**Pn**	**13 09 28.9**	**+2.9**
	SNR=50						
KEF	**Keuruu**	**2.50 4**	*e*PB		**Pb**	**13 09 31.4**	**-0.6**
KEF				*e*SG		**Sb**	**13 10 04.7**	**+1.5**
KEF	**Keuruu**	**2.50 4**	Pb		**Pb**	**13 09 31.3**	**-0.6**
KEF				Sg		**Sb**	**13 10 04.7**	**+1.5**
KAF	**Kangasniemi**	**2.60 19**	*e*P		**Pn**	**13 09 31.9**	**+2.5**
KAF				*e*SB		**Sb**	**13 10 06.5**	**+0.5**
KAF				MSG			13 10 06.5	
	comp=Z,27nm,0.4s						
KAF	**Kangasniemi**	**2.60 19**	P		**Pn**	**13 09 31.9**	**+2.5**
KAF				Sb		**Sb**	**13 10 06.5**	**+0.5**
NRTU	**Norrtaelje**	**2.97 272**	P		**Pn**	**13 09 36.3**	**+1.8**
NRTU	**Norrtaelje**	**2.97 272**	P		**Pn**	**13 09 36.2**	**+1.8**
SUF	**Sumiainen**	**3.15 14**	*e*P		**Pn**	**13 09 39.5**	**+2.5**
SUF	**Sumiainen**	**3.15 14**	P		**Pn**	**13 09 39.5**	**+2.5**
FLYU	**Flymyra**	**3.36 281**	P		**Pn**	**13 09 41.0**	**+1.2**
FLYU	**Flymyra**	**3.36 281**	P		**Pn**	**13 09 41.0**	**+1.2**
NYNU	**Nynaeshamn**	**3.39 261**	P		**Pn**	**13 09 41.9**	**+1.7**
NYNU	**Nynaeshamn**	**3.39 261**	P		**Pn**	**13 09 41.9**	**+1.7**
VAF	**Ylistaro**	**3.48 346**	*e*P		Pn	13 09 44.8	+3.2
VAF			MSG			13 10 34.0	
	comp=Z,12nm,0.2s						
VAF	**Ylistaro**	**3.48 346**	P		Pn	13 09 44.7	+3.2
GOTU	**Gotland**	**3.68 240**	P		**Pn**	**13 09 46.4**	**+2.1**
GOTU	**Gotland**	**3.68 240**	P		**Pn**	**13 09 46.3**	**+2.1**
BACU	**Backbrunna**	**3.74 276**	P		**Pn**	**13 09 46.7**	**+1.7**
BACU	**Backbrunna**	**3.74 276**	P		**Pn**	**13 09 46.7**	**+1.7**
IGGU	**Iggoen**	**3.77 292**	P		**Pn**	**13 09 46.9**	**+1.5**
IGGU	**Iggoen**	**3.77 292**	P		**Pn**	**13 09 46.9**	**+1.5**
ARNU	**Arnoeviken**	**4.04 303**	P		**Pn**	**13 09 50.7**	**+1.6**
ARNU	**Arnoeviken**	**4.04 303**	P		**Pn**	**13 09 50.7**	**+1.6**
ESKU	**Eskilstuna**	**4.16 267**	P		**Pn**	**13 09 52.9**	**+2.2**
ESKU	**Eskilstuna**	**4.16 267**	P		**Pn**	**13 09 52.9**	**+2.2**
HUDU	**Hudiksvall**	**4.17 303**	P		**Pn**	**13 09 52.5**	**+1.6**

baz=228,slow=12
APA0 Apatity Array 8.80 22 Pn **Pn 13 10 55.9 +1.5**
baz=228,slow=12
APA0 Apatity Array 8.80 22 Pn **Pn 13 10 55.9 +1.5**
baz=228,slow=11,SNR=50
AKASG Malin Array Be 9.39 161 Pn Pn 13 11 00.8 -1.8
comp=Z,1.4nm,0.3s,baz=340,slow=12,SNR=5.5
ARA0 ARCESS Array S 9.90 2 Pn **Pn 13 11 08.9 -0.7**
baz=176,slow=14
ARA0 Sn **Sn 13 12 56.8 -4.5**
baz=186,slow=22
ARA0 ARCESS Array S 9.90 2 Pn **Pn 13 11 08.9 -0.7**
baz=176,slow=14
ARA0 Sn **Sn 13 12 56.8 -4.5**
baz=186,slow=22
ARA0 ARCESS Array S 9.90 2 Pn **Pn 13 11 08.9 -0.7**
baz=176,slow=14,SNR=50
ARCES ARCESS Array B 9.90 2 Pn **Pn 13 11 09.0 -0.6**
comp=Z,2.3nm,0.3s,baz=178,slow=13,SNR=112
ARCES Sn Sn 13 12 55.3 -6.0
comp=Z,0.5nm,0.3s,baz=182,slow=13,SNR=3.9
SPA0 Spitsbergen Ar 18.77 355 P **P 13 13 05.9 -0.6**
baz=155,slow=16
SPA0 Spitsbergen Ar 18.77 355 P **P 13 13 05.9 -0.6**
baz=155,slow=16
SPA0 Spitsbergen Ar 18.77 355 P **P 13 13 05.9 -0.6**
baz=155,slow=15,SNR=47
SPITS Spitsbergen Ar 18.77 355 Pn **P 13 13 05.8 -0.6**
baz=166,slow=17,SNR=7.5

PRE 06 13:41:44.8±3.0, 21°.26S×33°.34E, h10km, ML4.4, 1D, Mozambique

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
MSNA	**Messina**	**3.27**	**250**	*e*P		Pn	13 42 38.9	+2.7
MSNA				*e*S		Sn	13 43 17.7	+2.4
MSNA				AML		AML	13 43 30.6	
	comp=Z,283nm,0.5s							
POGA	**Pongola**	**6.29**	**194**	*e*S		Sn	13 44 27.3	-2.2
POGA				AML		AML	13 45 18.1	
	comp=Z,34nm,0.5s							
SLR	**Silverton**	**6.43**	**225**	*e*P		Pn	13 43 21.6	+1.7
SLR				*e*S		Sn	13 44 30.5	-3.1
SLR				AML		AML	13 45 16.8	
	comp=Z,52nm,0.5s							
ERPM	**east rand prop**	**6.89**	**222**	*e*P		Pn	13 43 26.2	0.0
ERPM				*e*S		Sn	13 44 41.5	-3.2
ERPM				AML		AML	13 45 24.7	
	comp=Z,33nm,0.6s							
KLOF	**Kloof**	**7.29**	**225**	*e*P		Pn	13 43 33.0	+1.3
KLOF				*e*S		Sn	13 44 50.1	-4.7
KLOF				AML		AML	13 45 49.5	
	comp=Z,74nm,0.1s							
LSZ	**Lusaka**	**7.70**	**320**	↓*i*P		Pn	13 43 38.3	+1.0
LSZ				*e*S		Sn	13 45 00.5	-4.3
PRYS	**Parys**	**7.85**	**223**	*e*P		Pn	13 43 39.9	+0.5
PRYS				*e*S		Sn	13 45 02.8	-5.7
PRYS				AML		AML	13 46 04.3	
	comp=Z,9.8nm,0.4s							
LBTB	**Lobatse**	**8.05**	**241**	*e*P		Pn	13 43 42.7	+0.7
LBTB				*e*S		Sn	13 45 08.8	-4.4
LBTB				AML		AML	13 45 56.4	
	comp=Z,35nm,0.6s							
SWZ	**Schweizer**	**9.39**	**230**	*e*P		Pn	13 44 00.9	+0.4
SWZ				*e*S		Sn	13 45 40.5	-5.8
SWZ				AML		AML	13 46 44.0	
	comp=Z,18nm,0.4s							
KSD	**Kokstad**	**9.89**	**200**	*e*S		Sn	13 45 53.6	-5.0
KSD				AML		AML	13 47 02.7	
	comp=Z,21nm,0.7s							
BOSA	**Boshof**	**10.36**	**223**	*e*P		Pn	13 44 14.1	+0.4
BOSA				*e*S		Sn	13 46 03.2	-6.9
BOSA				AML		AML	13 47 23.3	
	comp=Z,9.8nm,0.7s							
HVD	**Gariep Dam**	**11.68**	**216**	*e*S		Sn	13 46 36.9	-5.5
HVD				AML		AML	13 48 17.4	
	comp=Z,8.1nm,0.6s							
TSUM	**Tsumeb**	**14.93**	**275**	*e*P		Pn	13 45 15.9	-0.3
TSUM				*e*S		Sn	13 47 55.9	-6.1
SUR	**Sutherland**	**15.72**	**223**	*e*S		Sn	13 48 10.9	-10
SUR				AML		AML	13 50 09.1	
	comp=Z,4.5nm,0.8s							

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*UPP **06** 13:43:09.6, 59°.68N×24°.23E, h0km, ML2.3, Suspected Mining explosion.*
*ISCJB **06** 13:43:09.4±0.3, 59°.64N±0°.02×24°.09E±0°.06, h0km, Error ellipse: s-maj=4.5km s-min=3.0km az=22.8*
*NAO **06** 13:43:10.7±1.0, 59°.67N×24°.10E, ML2.5*
*CSEM **06** 13:43:10.4±0.2, 59°.65N×24°.21E, h2km, ML2.8, Error ellipse: s-maj=4.5km s-min=3.1km az=125.0, Mining explosion.*
*HEL **06** 13:43:11.4±0.1, 59°.65N×24°.22E, h0km, ML2.5, ML2.3(UPP), Explosion*
*BER **06** 13:43:11.2±4.2, 59°.64N×24°.08E, h0km, ML2.5(NAO), Suspected explosion*
*IDC **06** 13:43:12.3±1.8, 59°.77N×24°.08E, h0km, mb1 3.3/3, mb1mx3.0/26, mbtmp3.3/3, Error ellipse: s-maj=20.0km s-min=6.9km az=148.0*

ISC 06 13:43:10.1±0.7, 59°.67N±0°.02×24°.04E±0°.03, h0km, n86, σ1§34/109, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**0.58**	**18**	*e*P		**Pg**	**13 43 21.2**	**0.0**
MEF				*e*S		**Sg**	**13 43 28.8**	**+0.2**
MEF	**Metsahovi**	**0.58**	**18**	*e*P		**Pg**	**13 43 21.4**	**+0.3**
MEF	SNR=90			*e*S		**Sg**	**13 43 28.4**	**-0.2**
	507nm,0.5s,SNR=90							
MTSE	**Matsula**	**0.97**	**187**	*e*P		**Pg**	**13 43 28.5**	**-0.2**
MTSE				*e*S		**Sg**	**13 43 41.1**	**0.0**
MTSE				*e*RG		Rg	13 43 46.2	
MTSE	**Matsula**	**0.97**	**187**	P		**Pg**	**13 43 28.4**	**-0.2**
PVF	**Pernaja**	**1.27**	**45**	*e*P		**Pg**	**13 43 33.1**	**-1.2**
PVF				*e*RG		Rg	13 43 55.7	
PVF	**Pernaja**	**1.27**	**45**	P		**Pg**	**13 43 33.1**	**-1.2**
RAF	**Rauma**	**1.77**	**321**	*e*P		**Pn**	**13 43 43.1**	**+1.2**
RAF				*e*SN		**Sg**	**13 44 08.1**	**+1.2**
RAF				MSG			13 44 12.6	
	comp=Z,34nm,0.2s							
RAF	**Rauma**	**1.77**	**321**	P		**Pn**	**13 43 43.1**	**+1.2**
RAF				*e*S		**Sb**	**13 44 06.7**	**+0.7**
	comp=Z,58nm,0.2s,SNR=50							
RAF				Sn		**Sg**	**13 44 08.0**	**+1.2**
VSU	**Vasula**	**1.85**	**130**	Pg		**Pn**	**13 43 43.3**	**+0.3**
VSU				Lg		Lg	13 44 06.9	
VSU	**Vasula**	**1.85**	**130**	Pg		**Pn**	**13 43 43.3**	**+0.3**
VSU				Lg		Lg	13 44 06.9	
VSU	**Vasula**	**1.85**	**130**	Pg		**Pn**	**13 43 43.3**	**+0.3**
VSU	SNR=90			Lg		Lg	13 44 06.9	
VSU	SNR=62			*e*S		**Sn**	**13 44 07.3**	**+0.3**
	comp=Z,488nm,0.3s,SNR=50							
VJF	**Virojoki**	**1.96**	**62**	*e*P		**Pn**	**13 43 44.4**	**-0.2**
VJF	**Virojoki**	**1.96**	**62**	P		**Pn**	**13 43 44.4**	**-0.2**
FIA0	**FINESS Array S**	**2.04**	**29**	Pn		**Pn**	**13 43 46.8**	**+1.1**
FIA0	baz=197,slow=16			Lg		Lg	13 44 14.0	
	baz=222,slow=28							
FIA0	**FINESS Array S**	**2.04**	**29**	Pn		**Pn**	**13 43 46.8**	**+1.1**
FIA0	baz=197,slow=16			Lg		Lg	13 44 14.0	
	baz=222,slow=28							
FIA0	**FINESS Array S**	**2.04**	**29**	*e*PB		**Pn**	**13 43 46.8**	**+1.1**
FIA0				*e*SG		**Sn**	**13 44 13.2**	**+1.3**
FIA0				*e*RG		Rg	13 44 23.8	
FIA0				*e*RG		Rg	13 44 23.8	
FIA0				*e*RG		Rg	13 44 23.8	
FIA0	**FINESS Array S**	**2.04**	**29**	Pb		**Pn**	**13 43 46.8**	**+1.1**
FIA0				Sg		**Sn**	**13 44 13.2**	**+1.3**
FIA0				Lg		Lg	13 44 14.0	
	baz=222,slow=28,SNR=62							
FINES	**FINESS Array B**	**2.04**	**29**	Pn		**Pn**	**13 43 46.8**	**+1.1**
	comp=Z,7.0nm,0.3s,baz=212,slow=14,SNR=462							
FINES				Lg		Lg	13 44 13.3	
	comp=Z,8.0nm,0.3s,baz=213,slow=28,SNR=6.1							
SLIT	**Slitere, Latvi**	**2.24**	**205**	*e*P		**Pn**	**13 43 50.6**	**+2.2**
SLIT				*e*SG		**Sb**	**13 44 21.1**	**+1.4**
SLIT	**Slitere, Latvi**	**2.24**	**205**	P		**Pn**	**13 43 50.6**	**+2.2**
SLIT				Sg		**Sb**	**13 44 21.1**	**+1.4**
KEF	**Keuruu**	**2.54**	**9**	*e*PB		**Pn**	**13 43 55.3**	**+2.8**
KEF				*e*SB		**Sb**	**13 44 28.3**	**+0.1**
KEF				MSG			13 44 32.5	
	comp=Z,29nm,0.2s							
KEF	**Keuruu**	**2.54**	**9**	Pb		**Pn**	**13 43 55.3**	**+2.8**
KEF				Sb		**Sb**	**13 44 28.2**	**+0.1**
KAF	**Kangasniemi**	**2.69**	**23**	*e*P		**Pn**	**13 43 56.3**	**+1.7**
KAF				*e*SB		**Sb**	**13 44 31.5**	**-1.0**
KAF				MSG			13 44 36.3	
	comp=Z,22nm,0.2s							
KAF	**Kangasniemi**	**2.69**	**23**	P		**Pn**	**13 43 56.3**	**+1.7**
KAF				Sb		**Sb**	**13 44 31.5**	**-1.0**
NRTU	**Norrtaelje**	**2.74**	**272**	P		**Pn**	**13 43 56.4**	**+1.0**
NRTU	**Norrtaelje**	**2.74**	**272**	P		**Pn**	**13 43 56.3**	**+1.0**
FLYU	**Flymyra**	**3.13**	**281**	P		**Pn**	**13 44 01.6**	**+0.9**
FLYU	**Flymyra**	**3.13**	**281**	P		**Pn**	**13 44 01.6**	**+0.9**
NYNU	**Nynaeshamn**	**3.16**	**260**	P		**Pn**	**13 44 02.6**	**+1.5**
NYNU	**Nynaeshamn**	**3.16**	**260**	P		**Pn**	**13 44 02.5**	**+1.5**
SUF	**Sumiainen**	**3.22**	**18**	*e*P		**Pn**	**13 44 04.3**	**+2.4**
SUF	**Sumiainen**	**3.22**	**18**	P		**Pn**	**13 44 04.3**	**+2.4**
VAF	**Ylistaro**	**3.45**	**350**	*e*P		**Pn**	**13 44 07.2**	**+2.3**
VAF	**Ylistaro**	**3.45**	**350**	P		**Pn**	**13 44 07.2**	**+2.3**
GOTU	**Gotland**	**3.48**	**237**	P		**Pn**	**13 44 07.3**	**+1.9**
GOTU	**Gotland**	**3.48**	**237**	P		**Pn**	**13 44 07.3**	**+1.9**
BACU	**Backbrunna**	**3.51**	**276**	P		**Pn**	**13 44 06.9**	**+1.1**
BACU	**Backbrunna**	**3.51**	**276**	P		**Pn**	**13 44 06.9**	**+1.1**
IGGU	**Iggoen**	**3.56**	**293**	P		**Pn**	**13 44 07.7**	**+1.2**
IGGU	**Iggoen**	**3.56**	**293**	P		**Pn**	**13 44 07.7**	**+1.2**
ARNU	**Arnoeviken**	**3.85**	**305**	P		**Pn**	**13 44 11.8**	**+1.3**
ARNU	**Arnoeviken**	**3.85**	**305**	P		**Pn**	**13 44 11.8**	**+1.3**
ESKU	**Eskilstuna**	**3.93**	**267**	P		**Pn**	**13 44 13.0**	**+1.4**
ESKU	**Eskilstuna**	**3.93**	**267**	P		**Pn**	**13 44 12.9**	**+1.4**
HEMU	**Hemsoen**	**4.19**	**319**	P		**Pn**	**13 44 17.0**	**+1.9**
HEMU	**Hemsoen**	**4.19**	**319**	P		**Pn**	**13 44 17.0**	**+1.9**
FALU	**Falun**	**4.19**	**285**	P		**Pn**	**13 44 16.3**	**+1.1**
FALU	**Falun**	**4.19**	**285**	P		**Pn**	**13 44 16.3**	**+1.1**
HASU	**Hassela**	**4.40**	**308**	P		**Pn**	**13 44 19.3**	**+1.2**
HASU	**Hassela**	**4.40**	**308**	P		**Pn**	**13 44 19.2**	**+1.2**
VSTU	**Vaestervik**	**4.41**	**246**	P		**Pn**	**13 44 19.9**	**+1.8**
VSTU	**Vaestervik**	**4.41**	**246**	P		**Pn**	**13 44 19.9**	**+1.8**
NRAU	**Nora**	**4.57**	**273**	P		**Pn**	**13 44 21.2**	**+0.8**
NRAU	**Nora**	**4.57**	**273**	P		**Pn**	**13 44 21.2**	**+0.8**
ASKU	**Askersund**	**4.79**	**265**	P		**Pn**	**13 44 24.7**	**+1.3**
ASKU	**Askersund**	**4.79**	**265**	P		**Pn**	**13 44 24.7**	**+1.3**
SOLU	**Solleftea**	**4.84**	**321**	P		**Pn**	**13 44 25.9**	**+1.8**
SOLU	**Solleftea**	**4.84**	**321**	P		**Pn**	**13 44 25.9**	**+1.8**
OSKU	**Oskarshamn**	**4.86**	**243**	P		**Pn**	**13 44 25.9**	**+1.6**
OSKU	**Oskarshamn**	**4.86**	**243**	P		**Pn**	**13 44 25.9**	**+1.6**
HFS	**Hagfors**	**5.23**	**280**	Pn		**Pn**	**13 44 30.6**	**+1.2**
HFS	baz=88,slow=11			Sn		**Sn**	**13 45 29.0**	**-1.4**
HFS	baz=102,slow=28			Lg		Lg	13 45 47.5	
HFS	**Hagfors**	**5.23**	**280**	Pn		**Pn**	**13 44 30.6**	**+1.2**
HFS	baz=88,slow=11			Sn		**Sn**	**13 45 29.0**	**-1.4**
HFS	baz=102,slow=28			Lg		Lg	13 45 47.5	
HFS	**Hagfors**	**5.23**	**280**	Pn		**Pn**	**13 44 30.1**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=96,slow=10,SNR=43							
HFS				Sn		**Sn**	**13 45 29.2**	**-1.2**
	comp=Z,0.7nm,0.3s,baz=113,slow=29,SNR=5.4							
HFS				Lg		Lg	13 45 50.5	
	comp=Z,1.6nm,0.3s,baz=87,slow=31,SNR=8.6							
HFS	**Hagfors**	**5.23**	**280**	Pn		**Pn**	**13 44 30.6**	**+1.2**
HFS	baz=88,slow=10,SNR=50			Sn		**Sn**	**13 45 29.0**	**-1.4**
HFS	baz=102,slow=28,SNR=50			Lg		Lg	13 45 47.5	
HFS	baz=92,slow=29,SNR=50							
UDD	**Uddeholm**	**5.27**	**279**	P		**Pn**	**13 44 30.9**	**+0.8**
UDD	**Uddeholm**	**5.27**	**279**	P		**Pn**	**13 44 30.9**	**+0.8**
BLEU	**Blekinge**	**5.53**	**236**	P		**Pn**	**13 44 34.9**	**+1.4**
BLEU	**Blekinge**	**5.53**	**236**	P		**Pn**	**13 44 34.9**	**+1.4**
NOD	**Norderasen**	**5.79**	**315**	P		**Pn**	**13 44 38.2**	**+1.0**
NOD	**Norderasen**	**5.79**	**315**	P		**Pn**	**13 44 38.2**	**+1.0**
NB2	**NORSAR Subarra**	**6.51**	**288**	Pn		**Pn**	**13 44 46.8**	**-0.3**
NB2	baz=96,slow=14			Sn		**Sn**	**13 46 00.1**	**-1.9**
NB2	baz=94,slow=22			Lg		Lg	13 46 34.1	
NB2	baz=92,slow=37							
NB2	**NORSAR Subarra**	**6.51**	**288**	Pn		**Pn**	**13 44 46.8**	**-0.3**
NB2	baz=96,slow=14			Sn		**Sn**	**13 46 00.1**	**-1.9**
NB2	baz=94,slow=22			Lg		Lg	13 46 34.1	
NB2	baz=92,slow=37							
NB2	**NORSAR Subarra**	**6.51**	**288**	Pn		**Pn**	**13 44 46.8**	**-0.3**
NB2	baz=96,slow=12,SNR=50			Lg		Lg	13 46 34.1	
NB2	baz=92,slow=29,SNR=3.7							
NOA	**NORSAR Array B**	**6.51**	**288**	Pn		**Pn**	**13 44 47.0**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=91,slow=13,SNR=18							
NOA				Sn		**Sn**	**13 45 58.9**	**-3.1**
	comp=Z,0.5nm,0.3s,baz=97,slow=12,SNR=3.7							
NOA				Lg		Lg	13 46 33.4	
	comp=Z,1.1nm,0.3s,baz=83,slow=16,SNR=5.7							
BSD	**Bornholm Skovb**	**6.72**	**231**	*i* P		**Pn**	**13 44 49.3**	**-0.6**
BSD				*i* S		**Sn**	**13 46 05.0**	**-2.1**
BSD	**Bornholm Skovb**	**6.72**	**231**	*i* P		**Pn**	**13 44 49.3**	**-0.6**
APA0	**Apatity Array**	**8.89**	**23**	Pn		**Pn**	**13 45 18.7**	**-0.9**
	baz=217,slow=14							
APA0	**Apatity Array**	**8.89**	**23**	Pn		**Pn**	**13 45 18.7**	**-0.9**
	baz=217,slow=14							
APA0	**Apatity Array**	**8.89**	**23**	Pn		**Pn**	**13 45 18.7**	**-0.9**
	baz=217,slow=13,SNR=50							
ARA0	**ARCESS Array S**	**9.92**	**3**	Pn		**Pn**	**13 45 33.2**	**-0.6**
	baz=178,slow=16							
ARA0	**ARCESS Array S**	**9.92**	**3**	Pn		**Pn**	**13 45 33.2**	**-0.6**
	baz=178,slow=16							
ARA0	**ARCESS Array S**	**9.92**	**3**	Pn		**Pn**	**13 45 33.2**	**-0.6**
	baz=178,slow=14,SNR=50							
ARCES	**ARCESS Array B**	**9.92**	**3**	Pn		**Pn**	**13 45 33.4**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=179,slow=12,SNR=61							
ARCES				Sn		Sn	13 47 19.8	-6.0
	comp=Z,0.3nm,0.3s,baz=186,slow=22,SNR=5.5							
ARCES				Lg		Lg	13 48 17.2	
	comp=Z,0.4nm,0.3s,baz=163,slow=30,SNR=6.2							
SPA0	**Spitsbergen Ar**	**18.76**	**355**	P		**Pn**	**13 47 32.0**	**+1.3**
	baz=160,slow=12							
SPA0	**Spitsbergen Ar**	**18.76**	**355**	P		**Pn**	**13 47 32.0**	**+1.3**
	baz=160,slow=12							
SPA0	**Spitsbergen Ar**	**18.76**	**355**	P		**Pn**	**13 47 32.0**	**+1.3**
	baz=160,slow=11,SNR=47							

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*NIED **06** 13:45:00, 44°.60N×150°.00E, h14km, Mw3.6 Best double couple: M₀2.46000×10¹⁴ NP1:φ₀s42.00000°, δ63.00000°, λ113.00000°. NP2:φ₀s178.00000°, δ35.00000°, λ52.00000°.*
*MOS **06** 13:45:31.4±1.4, 44°.53N×150°.09E, h33km, mb4.1/2, Error ellipse: s-maj=25.7km s-min=20.1km az=40.4*
*JMA **06** 13:45:32.3±0.4, 44°.63N×149°.99E, h30km, M4.0*
*IDC **06** 13:45:36.0±4.3, 44°.62N×150°.00E, h54km±31km, mb3.3/6, mb1 3.4/8, mb1mx3.2/27, mbtmp3.3/8, ML3.3/2, MS2.7/1, Ms1 2.7/1, ms1mx2.1/20, Error ellipse: s-maj=66.2km s-min=24.1km az=167.0*

ISC 06 13:45:29.8±1.8, 43°.90N±0°.09×150°.4E±0°.1, h41km±17km, n35, σ1§92/43, mb3.5/6, 1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.22**	**308**	↓*i*PN		Pn	13 46 00.4	-3.6
KUR				*e*S		**Sn**	**13 46 27.7**	**-2.5**
KUR				pmax		pmax		
	comp=Z,18nm,0.1s							
KUR				pmax		pmax		
	comp=E,39nm,0.5s							
KUR				pmax		pmax		
	comp=N,21nm,0.2s							
KUR				smax		smax		
	comp=N,24nm,0.2s							
KUR				smax		smax		
	comp=E,83nm,0.4s							
NEM2	**Nemuro 2**	**3.38**	**263**	P		**Pn**	**13 46 21.0**	**+1.0**
NEM2				*e*S		**Sn**	**13 46 56.8**	**-2.1**
JRA	**Rausu**	**3.77**	**272**	P		**Pn**	**13 46 27.2**	**+1.8**
JRA				*e*S		**Sn**	**13 47 08.7**	**+0.2**
JNK	**Nakash**	**4.09**	**268**	P		**Pn**	**13 46 31.0**	**+1.2**
JNK				*e*S		**Sn**	**13 47 15.2**	**-1.1**
JAK	**Akkeshi**	**4.21**	**260**	P		**Pn**	**13 46 32.7**	**+1.3**
JAK				*e*S		**Sn**	**13 47 17.8**	**-1.5**
JTKR	**Abashiri--Toko**	**4.65**	**273**	P		**Pn**	**13 46 38.8**	**+1.4**
JAR	**Ashorobuto**	**4.81**	**265**	P		**Pn**	**13 46 42.1**	**+2.4**
JAR				*e*S		**Sn**	**13 47 33.6**	**-0.6**
JOB	**Onbets**	**4.85**	**260**	P		**Pn**	**13 46 42.4**	**+2.3**
JOB				*e*S		**Sn**	**13 47 34.6**	**-0.4**
JMP	**Maruseppu**	**5.04**	**274**	P		**Pn**	**13 46 44.4**	**+1.5**
JCH	**Churui**	**5.26**	**258**	P		**Pn**	**13 46 48.7**	**+2.9**
JCH				*e*S		**Sn**	**13 47 44.7**	**-0.4**
JKK2	**Kamakawa 2**	**5.49**	**272**	P		**Pn**	**13 46 51.4**	**+2.4**
ASAJ	**Asahikawa**	**5.59**	**275**	P		**Pn**	**13 46 52.5**	**+2.1**
	comp=E,2.0nm,0.3s,baz=96,slow=11,SNR=27							
ASAJ				LR		LR	13 49 18.4	
	comp=E,78nm,20.0s,baz=353,slow=42							
JEM	**Erimo**	**5.60**	**253**	P		Pn	13 46 53.7	+3.2
JNBK	**Urakawa-nobuka**	**5.79**	**256**	P		**Pn**	**13 46 55.2**	**+2.1**
JNBK				*e*S		**Sn**	**13 47 57.2**	**-1.0**
JBT2	**Biratori 2**	**5.93**	**262**	P		**Pn**	**13 46 56.7**	**+1.7**
JNB	**Noboribetsu**	**6.95**	**261**	P		**Pn**	**13 47 11.2**	**+2.2**
JKB	**Kayabe**	**7.13**	**257**	P		**Pn**	**13 47 13.6**	**+2.2**
JKB				*e*S		**Sn**	**13 48 28.2**	**-2.9**
JANG	**Nango**	**7.45**	**245**	P		**Pn**	**13 47 18.6**	**+2.8**
JANG				*e*S		**Sn**	**13 48 35.9**	**-3.1**
JTH	**Tanohata**	**7.46**	**241**	*e*S		**Sn**	**13 48 35.6**	**-3.7**
JYM2	**Yakumo 2**	**7.53**	**260**	P		**Pn**	**13 47 18.9**	**+2.0**
JTM	**Tenmabayashi**	**7.54**	**249**	*e*S		**Sn**	**13 48 38.6**	**-2.7**
JOSM	**Okushiri--Mats**	**8.17**	**261**	P		**Pn**	**13 47 27.8**	**+2.0**
JRG	**Rokugo**	**8.55**	**242**	*e*S		**Sn**	**13 49 04.2**	**-1.8**
JIO	**Ouri**	**8.69**	**234**	*e*S		**Sn**	**13 49 07.6**	**-1.9**
PETK	**Petropavlovsk-**	**10.42**	**25**	PN		**Pn**	**13 47 55.7**	**-0.9**
PETK	**Petropavlovsk-**	**10.42**	**25**	P		**Pn**	**13 47 55.7**	**-0.9**
	comp=E,0.1nm,0.3s,baz=195,slow=15,SNR=3.0							
SONM	**Songino Array**	**30.55**	**293**	P		**P**	**13 51 40.3**	**+0.9**
	comp=E,0.3nm,0.4s,baz=72,slow=9.3,SNR=3.4							
MKAR	**Makanchi Array**	**46.56**	**299**	P		**P**	**13 53 53.8**	**+0.5**
MKAR				pmax		pmax		
	comp=Z,1.0nm,0.7s							
MKAR	**Makanchi Array**	**46.56**	**299**	P		**P**	**13 53 53.8**	**+0.5**
	comp=Z,1.2nm,0.7s,baz=74,slow=8.4,SNR=11							
KURK	**Kurchatov**	**47.35**	**305**	P		**P**	**13 53 58.5**	**-0.9**
KURBB	**Kurchatov Arra**	**47.44**	**305**	P		**P**	**13 53 58.5**	**-1.6**
	comp=Z,0.3nm,0.6s,baz=72,slow=8.5,SNR=3.5							
BVAR	**Borovoye Array**	**51.19**	**310**	P		**P**	**13 54 29.8**	**+1.1**
BVAR	**Borovoye Array**	**51.19**	**310**	P		**P**	**13 54 29.8**	**+1.1**
	comp=Z,0.3nm,0.5s,baz=65,slow=3.8,SNR=2.5							
NOA	**NORSAR Array B**	**70.28**	**340**	P		**P**	**13 56 38.0**	**-0.5**
	comp=Z,0.7nm,0.7s,baz=51,slow=3.7,SNR=2.9							
TXAR	**Lajitas Array**	**80.62**	**58**	P		P	13 57 42.4	+3.9
	comp=Z,0.1nm,0.5s,baz=315,slow=4.6,SNR=4.9							
TXAR				pP		pP	13 57 54.8	+4.1
	comp=Z,0.3nm,0.5s,baz=294,slow=4.0,SNR=6.9							

IDC 06 13:57:28.6±5.5, 1°.55S×99°.68E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.3/23, mbtmp3.3/4, Error ellipse: s-maj=277.7km s-min=23.4km az=54.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.50**	**121**	P		P	14 04 53.8	+0.8
	0.4nm,0.9s,baz=302,slow=9.2,SNR=3.0							
ASAR	**Alice Springs**	**39.78**	**126**	P		P	14 05 02.7	-0.9
	0.3nm,0.9s,baz=306,slow=7.9,SNR=3.0							
MKAR	**Makanchi Array**	**50.51**	**345**	P		P	14 06 27.4	-1.1
	0.3nm,0.6s,baz=147,slow=8.7,SNR=3.8							
ZALV	**Zalesovo Beam**	**56.66**	**350**	P		P	14 07 14.4	+0.9
	0.3nm,0.5s,baz=143,slow=5.0,SNR=2.5							
TXAR	**Lajitas Array**	**144.54**	**37**	PKP		PKPbc	14 17 06.5	-0.1
	0.3nm,0.5s,baz=221,slow=1.2,SNR=5.5							

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*NIED **06** 13:59:00, 44°.60N×150°.10E, h23km, Mw3.6 Best double couple: M₀3.01000×10¹⁴ NP1:φ₀s134.00000°, δ76.00000°, λ23.00000°. NP2:φ₀s39.00000°, δ68.00000°, λ165.00000°.*

JMA 06 13:59:05.6±0.4, 44°.61N×150°.08E, h30km, M3.8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**3.37**	**250**	P		Pn	13 59 55.2	-0.9
NEM2				*e*S		Sn	14 00 32.5	-2.5
JRA	**Rausu**	**3.62**	**261**	P		Pn	14 00 01.3	+1.7
JRA				*e*S		Sn	14 00 43.3	+2.0
JNK	**Nakash**	**4.00**	**257**	P		Pn	14 00 05.5	+0.7
JNK				*e*S		Sn	14 00 49.1	-1.5
JAK	**Akkeshi**	**4.22**	**249**	P		Pn	14 00 07.0	-0.8
JTKR	**Abashiri--Toko**	**4.48**	**264**	P		Pn	14 00 13.2	+1.9
JAR	**Ashorobuto**	**4.74**	**256**	P		Pn	14 00 16.2	+1.2
JMP	**Maruseppu**	**4.86**	**265**	P		Pn	14 00 18.7	+2.0
JCH	**Churui**	**5.27**	**250**	*e*S		Sn	14 01 19.5	-2.4
JKK2	**Kamakawa 2**	**5.32**	**265**	P		Pn	14 00 25.5	+2.5
JNBK	**Urakawa-nobuka**	**5.82**	**249**	P		Pn	14 00 29.6	-0.2
JNBK				*e*S		Sn	14 01 31.

FIA0	**FINESS Array S**	**1.92**	**22**	P	**Pb**	**14 00 32.4**	**0.0**
FIA0				S	**Sb**	**14 00 56.9**	**+0.1**
FIA0				Lg	Lg	14 00 57.8	
	baz=202,slow=25,SNR=62						
FINES	**FINESS Array B**	**1.92**	**22**	Pn	**Pb**	**14 00 32.6**	**+0.2**
	comp=Z,11nm,0.3s,baz=200,slow=16,SNR=342						
FINES				Lg	Lg	14 00 57.5	
	comp=Z,9.6nm,0.3s,baz=200,slow=26,SNR=20						
RAF	**Rauma**	**1.94**	**315**	*e*P	**Pb**	**14 00 33.1**	**+0.3**
RAF				*e*S	**Sg**	**14 00 58.7**	**-0.2**
RAF				MSG		14 01 03.0	
	comp=Z,47nm,0.1s						
RAF	**Rauma**	**1.94**	**315**	P	**Pb**	**14 00 33.1**	**+0.3**
RAF				S	**Sg**	**14 00 58.6**	**-0.2**
SLIT	**Slitere, Latvi**	**2.38**	**211**	*e*P	**Pn**	**14 00 39.3**	**+2.5**
SLIT				*e*SG	**Sb**	**14 01 11.7**	**+1.5**
SLIT	**Slitere, Latvi**	**2.38**	**211**	*e*P	**Pn**	**14 00 39.2**	**+2.4**
	SNR=50						
SLIT				Sg	**Sb**	**14 01 11.6**	**+1.5**
KEF	**Keuruu**	**2.50**	**3**	MSG		14 01 16.9	
	comp=Z,23nm,0.1s						
NRTU	**Norrtaelje**	**3.01**	**272**	P	**Pn**	**14 00 46.9**	**+1.4**
NRTU	**Norrtaelje**	**3.01**	**272**	P	**Pn**	**14 00 46.9**	**+1.4**
FLYU	**Flymyra**	**3.40**	**280**	P	**Pn**	**14 00 51.8**	**+1.0**
FLYU	**Flymyra**	**3.40**	**280**	P	**Pn**	**14 00 51.8**	**+1.0**
NYNU	**Nynaeshamn**	**3.43**	**261**	P	**Pn**	**14 00 52.9**	**+1.6**
NYNU	**Nynaeshamn**	**3.43**	**261**	P	**Pn**	**14 00 52.9**	**+1.6**
BACU	**Backbrunna**	**3.78**	**276**	P	**Pn**	**14 00 57.4**	**+1.3**
BACU	**Backbrunna**	**3.78**	**276**	P	**Pn**	**14 00 57.4**	**+1.3**
IGGU	**Iggoen**	**3.81**	**291**	P	**Pn**	**14 00 57.8**	**+1.4**
IGGU	**Iggoen**	**3.81**	**291**	P	**Pn**	**14 00 57.8**	**+1.4**
ARNU	**Arnoeviken**	**4.07**	**303**	P	**Pn**	**14 01 01.6**	**+1.5**
ARNU	**Arnoeviken**	**4.07**	**303**	P	**Pn**	**14 01 01.5**	**+1.5**
ESKU	**Eskilstuna**	**4.20**	**267**	P	**Pn**	**14 01 03.5**	**+1.6**
ESKU	**Eskilstuna**	**4.20**	**267**	P	**Pn**	**14 01 03.4**	**+1.6**
FALU	**Falun**	**4.45**	**284**	P	**Pn**	**14 01 06.5**	**+1.2**
FALU	**Falun**	**4.45**	**284**	P	**Pn**	**14 01 06.5**	**+1.2**
HASU	**Hassela**	**4.61**	**306**	P	**Pn**	**14 01 09.0**	**+1.6**
HASU	**Hassela**	**4.61**	**306**	P	**Pn**	**14 01 08.9**	**+1.6**
VSTU	**Vaestervik**	**4.66**	**248**	P	**Pn**	**14 01 09.9**	**+1.7**
VSTU	**Vaestervik**	**4.66**	**248**	P	**Pn**	**14 01 09.8**	**+1.7**
ASPU	**Aespoe**	**4.75**	**245**	P	**Pn**	**14 01 10.8**	**+1.4**
ASPU	**Aespoe**	**4.75**	**245**	P	**Pn**	**14 01 10.8**	**+1.4**
NRAU	**Nora**	**4.84**	**273**	P	**Pn**	**14 01 11.4**	**+0.8**
NRAU	**Nora**	**4.84**	**273**	P	**Pn**	**14 01 11.4**	**+0.8**
ASKU	**Askersund**	**5.06**	**265**	P	**Pn**	**14 01 14.9**	**+1.3**
ASKU	**Askersund**	**5.06**	**265**	P	**Pn**	**14 01 14.9**	**+1.3**
HFS	**Hagfors**	**5.49**	**279**	Pn	**Pn**	**14 01 20.3**	**+0.7**
	baz=100,slow=16						
HFS				Sn	**Sn**	**14 02 21.7**	**-1.7**
	baz=83,slow=37						
HFS				Lg	Lg	14 02 45.2	
	baz=88,slow=37						
HFS	**Hagfors**	**5.49**	**279**	Pn	**Pn**	**14 01 20.3**	**+0.7**
	baz=100,slow=16						
HFS				Sn	**Sn**	**14 02 21.7**	**-1.7**
	baz=83,slow=37						
HFS				Lg	Lg	14 02 45.2	
	baz=88,slow=37						
HFS	**Hagfors**	**5.49**	**279**	Pn	**Pn**	**14 01 21.1**	**+1.5**
	comp=Z,0.6nm,0.3s,baz=112,slow=13,SNR=28						
HFS				Sn	**Sn**	**14 02 25.5**	**+2.1**
	comp=Z,0.8nm,0.3s,baz=89,slow=25,SNR=6.6						
HFS				Lg	Lg	14 02 48.1	
	comp=Z,1.4nm,0.3s,baz=104,slow=31,SNR=6.4						
HFS	**Hagfors**	**5.49**	**279**	Pn	**Pn**	**14 01 20.3**	**+0.7**
	baz=100,slow=15,SNR=50						
HFS				Lg	Lg	14 02 45.2	
	baz=88,slow=30,SNR=4.0						
NASU	**Vaermlandsnaes**	**5.88**	**268**	P	**Pn**	**14 01 27.1**	**+2.1**
NASU	**Vaermlandsnaes**	**5.88**	**268**	P	**Pn**	**14 01 27.0**	**+2.1**
FINU	**Finntorp**	**6.16**	**273**	P	**Pn**	**14 01 29.2**	**+0.5**
FINU	**Finntorp**	**6.16**	**273**	P	**Pn**	**14 01 29.2**	**+0.5**
NB2	**NORSAR Subarra**	**6.76**	**287**	Pn	**Pn**	**14 01 37.0**	**-0.1**
	baz=99,slow=12						
NB2				Sn	**Sn**	**14 02 52.4**	**-2.4**
	baz=94,slow=28						
NB2				Lg	Lg	14 03 26.8	
	baz=94,slow=37						
NB2	**NORSAR Subarra**	**6.76**	**287**	Pn	**Pn**	**14 01 37.0**	**-0.1**
	baz=99,slow=12						
NB2				Sn	**Sn**	**14 02 52.4**	**-2.4**
	baz=94,slow=28						
NB2				Lg	Lg	14 03 26.8	
	baz=94,slow=37						
NB2	**NORSAR Subarra**	**6.76**	**287**	Pn	**Pn**	**14 01 37.0**	**-0.1**
	baz=99,slow=12,SNR=50						
NB2				Lg	Lg	14 03 26.8	
	baz=94,slow=28,SNR=3.6						
NOA	**NORSAR Array B**	**6.76**	**287**	Pn	**Pn**	**14 01 36.7**	**-0.4**
	comp=Z,0.6nm,0.3s,baz=98,slow=12,SNR=16						
NOA				Sn	**Sn**	**14 02 52.3**	**-2.5**
	comp=Z,0.7nm,0.3s,baz=24,slow=12,SNR=4.9						
NOA				Lg	Lg	14 03 27.9	
	comp=Z,1.3nm,0.3s,baz=111,slow=12,SNR=7.1						
BSD	**Bornholm Skovb**	**6.94**	**233**	*i* P	**Pn**	**14 01 38.7**	**-0.7**
BSD				*i* S	**Sn**	**14 02 57.0**	**-2.0**
BSD	**Bornholm Skovb**	**6.94**	**233**	*i* P	**Pn**	**14 01 38.7**	**-0.7**
APA0	**Apatity Array**	**8.78**	**22**	Pn	**Pn**	**14 02 05.6**	**+1.0**
	baz=215,slow=11						
APA0	**Apatity Array**	**8.78**	**22**	Pn	**Pn**	**14 02 05.6**	**+1.0**
	baz=215,slow=11						
APA0	**Apatity Array**	**8.78**	**22**	Pn	**Pn**	**14 02 05.6**	**+1.0**
	baz=215,slow=11,SNR=50						
ARA0	**ARCESS Array S**	**9.90**	**2**	Pn	**Pn**	**14 02 19.0**	**-1.0**
	baz=174,slow=16						
ARA0	**ARCESS Array S**	**9.90**	**2**	Pn	**Pn**	**14 02 19.0**	**-1.0**
	baz=174,slow=16						
ARA0	**ARCESS Array S**	**9.90**	**2**	Pn	**Pn**	**14 02 19.0**	**-1.0**
	baz=174,slow=14,SNR=50						
ARCES	**ARCESS Array B**	**9.90**	**2**	Pn	**Pn**	**14 02 19.2**	**-0.7**
	comp=Z,0.8nm,0.3s,baz=182,slow=13,SNR=90						
ARCES				Sn	**Sn**	**14 04 08.1**	**-3.6**
	comp=Z,0.3nm,0.3s,baz=182,slow=25,SNR=5.3						

GUC ***06*** *14:42:10.7±0.8, 27°.75S×71°.46W, h48km±5km, ML4.4*
ISCJB ***06*** *14:42:11.3±1.4, 27°.69S±0°.03×71°.3W±0°.1, h30km±9km, mb4.6/14, MS3.8/7, Error ellipse: s-maj=15.5km s-min=5.3km az=177.6*
NEIC ***06*** *14:42:12.2±2.4, 27°.68S×71°.17W, h21km±16km, mb4.6/6, Error ellipse: s-maj=14.7km s-min=7.1km az=89.0*
IDC ***06*** *14:42:14.2±4.8, 27°.77S×71°.21W, h33km±35km, mb4.3/6, mb1 4.3/10, mb1mx4.1/17, mbtmp4.2/10, ML3.9/4, MS3.7/11, Ms1 3.7/11, ms1mx3.5/19, Error ellipse: s-maj=25.7km s-min=20.1km az=79.0*

ISC 06 14:42:10.4±2.4, 27°.75S±0°.03×71°.37W±0°.08, h12km±14km, n69, σ1§48/75, mb4.8/14, MS3.9/7, 5D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCH	**Caldera**	**0.84**	**36**	*e*P	**Pn**	**14 42 28.1**	**+0.1**
CDCH				*i* S	**Sn**	**14 42 40.7**	**+0.5**
CDCH				AML	AML	14 42 42.7	
	comp=E,7μm,0.5s						
CPCH	**Copiapo**	**0.98**	**67**	⇓*i*P	**Pb**	**14 42 29.5**	**+0.1**
CPCH				*i* S	**Sn**	**14 42 44.5**	**+0.6**
CPCH				AML	AML	14 42 45.4	
	comp=E,30μm,0.2s						
VACH	**Vallenar**	**0.98**	**147**	⇓*i*P	**Pb**	**14 42 29.0**	**-0.4**
VACH				*i* S	**Sg**	**14 42 42.8**	**+0.5**
VACH				AML	AML	14 42 48.7	
	comp=N,38μm,0.4s						
LCO	**Las Campanas**	**1.39**	**155**	*e*Pn	**Pn**	**14 42 35.8**	**0.0**
LCO				*e*Sn	**Sn**	**14 42 51.9**	**-2.3**
LCO	**Las Campanas**	**1.39**	**155**	⇓*i*P	**Pn**	**14 42 35.7**	**-0.2**
LCO				*i* S	**Sn**	**14 42 53.6**	**-0.7**
CMCH	**Combarbala**	**3.43**	**175**	*e*P	**Pn**	**14 43 02.9**	**-0.8**
ANCH	**Antofagasta**	**4.14**	**12**	⇓*i*P	**Pn**	**14 43 12.0**	**-1.5**
ANCH				*i* S	**Sn**	**14 43 58.9**	**-2.9**
CEN1	**Los Morros**	**4.47**	**14**	⇓*i*P	Pn	14 43 13.9	-4.1
CFAA	**Coronel Fontan**	**4.71**	**145**	Pn	**Pn**	**14 43 23.4**	**+2.1**
CFAA				Lg	Lg	14 44 27.4	
CFAA	**Coronel Fontan**	**4.71**	**145**	Pn	**Pn**	**14 43 23.4**	**+2.1**
	comp=N,2.4nm,0.3s,baz=319,slow=13,SNR=95						
CFAA				Lg	Lg	14 44 27.4	
	comp=N,13nm,0.3s,baz=181,slow=17,SNR=11						
LVC	**Limon Verde**	**5.58**	**24**	*e*Pn	**Pn**	**14 43 33.0**	**-0.5**
	comp=N,131nm,0.7s						
LVC				*e*Sn	**Sb**	**14 44 57.5**	**+2.6**
LPAZ	**La Paz**	**11.79**	**15**	*e*Pn	**Pn**	**14 44 58.2**	**-0.9**
	comp=N,6.6nm,0.6s						
LPAZ	**La Paz**	**11.79**	**15**	Pn	**Pn**	**14 44 58.3**	**-0.7**
	comp=N,0.9nm,0.3s,baz=194,slow=6.1,SNR=33						
LPAZ				LR	LR	14 48 46.0	
	comp=N,49nm,18.2s,baz=6.4,slow=33						
CPUP	**Villa Florida**	**12.60**	**87**	*e*Pn	**Pn**	**14 45 08.0**	**-1.4**
	comp=N,32nm,0.6s						
CPUP	**Villa Florida**	**12.60**	**87**	Pn	**Pn**	**14 45 09.1**	**-0.3**
	comp=N,0.1nm,0.3s,baz=256,slow=17,SNR=6.4						
CPUP				LR	LR	14 50 20.4	
	comp=N,263nm,19.9s,baz=254,slow=39						
TRQA	**Tornquist**	**12.95**	**145**	*e*P	**Pn**	**14 45 13.9**	**-0.3**
	comp=N,24nm,0.8s						
PLCA	**Paso Flores**	**12.97**	**177**	Pn	**Pn**	**14 45 17.0**	**+2.4**
PLCA	**Paso Flores**	**12.97**	**177**	Pn	**Pn**	**14 45 17.0**	**+2.4**
	comp=N,0.1nm,0.3s,baz=325,slow=10,SNR=3.0						
PLCA				LR	LR	14 50 27.9	
	comp=N,410nm,18.2s,baz=322,slow=38						
SIV	**San Ignacio**	**15.10**	**41**	Pn	**Pn**	**14 45 39.2**	**-4.4**
SIV	**San Ignacio**	**15.10**	**41**	Pn	**Pn**	**14 45 39.2**	**-4.4**
	comp=N,0.6nm,0.3s,baz=258,slow=11,SNR=7.0						
SIV				LR	LR	14 52 29.9	
	comp=N,157nm,19.5s,slow=41						
SAML	**Samuel**	**20.24**	**24**	*e*P	**P**	**14 46 45.0**	**-0.6**
	comp=N,13nm,0.9s						
ATAH	**Atahualpa**	**21.56**	**341**	LR	LR	14 54 34.9	
	comp=N,58nm,19.7s,baz=348,slow=34						
BDFB	**Brasilia**	**24.77**	**66**	P	**P**	**14 47 31.1**	**-1.2**
BDFB	**Brasilia**	**24.77**	**66**	P	**P**	**14 47 31.1**	**-1.2**
	comp=N,12nm,0.8s,baz=235,slow=8.8,SNR=19						
BDFB				LR	LR	14 58 36.1	
	comp=N,597nm,18.2s,baz=125,slow=40						
VNA3	**Neumayer Olymp**	**54.96**	**160**	*e*P	**P**	**14 51 41.1**	**+0.2**
VNA3	**Neumayer Olymp**	**54.96**	**160**	*e*I		14 51 51.3	
VNA1	**Neumayer--Stat**	**55.23**	**159**	*e*P	**P**	**14 51 44.4**	**+1.6**
VNA2	**Neumayer--Watz**	**55.58**	**159**	*e*P	**P**	**14 51 45.8**	**+0.4**
VNA2	**Neumayer--Watz**	**55.58**	**159**	*e*I		14 51 55.1	
SNAA	**Sanae**	**57.18**	**159**	*e*P	**P**	**14 51 56.7**	**-0.1**
	comp=N,21nm,1.4s						
QSPA	**South Pole Qui**	**62.47**	**180**	*e*P	**P**	**14 52 33.7**	**+0.4**
	comp=N,3.8nm,0.8s						
TXAR	**Lajitas Array**	**64.63**	**329**	P	**P**	**14 52 49.7**	**+1.7**
TXAR	**Lajitas Array**	**64.63**	**329**	P	**P**	**14 52 49.7**	**+1.7**
	comp=N,0.2nm,0.6s,baz=145,slow=7.4,SNR=8.8						
MSTX	**Muleshoe**	**68.22**	**332**	*e*P	**P**	**14 53 10.6**	**-0.3**
LIC	**Lamto**	**72.32**	**73**	*e*P	**P**	**14 53 36.7**	**+0.3**
	comp=N,50nm,0.9s						
TIC	**Toumodi**	**72.55**	**73**	*e*P	**P**	**14 53 38.8**	**+1.1**
	comp=N,6.0nm,0.2s						
SDCO	**Great Sand Dun**	**72.59**	**332**	P	**P**	**14 53 38.5**	**+0.7**
KIC	**Kosan Boka**	**72.64**	**73**	*e*P	**P**	**14 53 38.8**	**+0.5**
	comp=N,176nm,2.0s						
DBIC	**Dimbokro**	**72.70**	**73**	*e*P	**P**	**14 53 38.5**	**-0.1**
DBIC	**Dimbokro**	**72.70**	**73**	P	**P**	**14 53 39.2**	**+0.6**
	comp=N,18nm,0.8s,baz=213,slow=6.8,SNR=19						
DBIC				LR	LR	15 21 29.8	
	comp=N,49nm,19.3s,baz=25,slow=32						
SMCO	**Snowmass**	**74.41**	**332**	*e*P	**P**	**14 53 50.9**	**+2.3**
	comp=N,5.0nm,1.0s						
PDAR	**Pinedale Array**	**78.48**	**332**	P	**P**	**14 54 12.6**	**+1.1**
PDAR	**Pinedale Array**	**78.48**	**332**	P	**P**	**14 54 12.6**	**+1.1**
	comp=N,0.7nm,0.7s,baz=106,slow=3.2,SNR=3.7						
MAW	**Mawson**	**79.00**	**164**	P	**P**	**14 54 13.9**	**+0.2**
MAW	**Mawson**	**79.00**	**164**	P	**P**	**14 54 13.9**	**+0.2**
	comp=N,1.7nm,0.8s,baz=204,slow=6.0,SNR=7.8						
MAW				LR	LR	15 30 02.6	
	comp=N,100nm,19.4s,baz=269,slow=36						
REDW	**Red Top Meadow**	**79.51**	**332**	P	**P**	**14 54 17.6**	**+0.5**
TOA0	**Torodi Ar. Sit**	**81.56**	**70**	*e*P	**P**	**14 54 27.9**	**-0.5**
TOA0				*e*pP	**PcP**	**14 54 39.3**	**+5.0**
TORD	**Torodi Ar. Bea**	**81.56**	**70**	P	**P**	**14 54 28.7**	**+0.3**
TORD	**Torodi Ar. Bea**	**81.56**	**70**	P	**P**	**14 54 28.7**	**+0.3**
	comp=N,9.6nm,0.9s,baz=253,slow=4.9,SNR=33						
TORD				LR	LR	15 26 40.9	
	comp=N,58nm,20.2s,baz=115,slow=33						
BOSA	**Boshof**	**82.49**	**118**	*e*P	**P**	**14 54 32.9**	**-0.4**
	comp=N,4.3nm,0.8s						
BOSA	**Boshof**	**82.49**	**118**	P	**P**	**14 54 32.6**	**-0.8**
	comp=N,2.9nm,0.8s,baz=298,slow=5.9,SNR=4.4						
BOSA				LR	LR	15 26 21.0	
	comp=N,92nm,19.9s,baz=159,slow=32						
NLWA	**Neilton Lookou**	**88.47**	**327**	*e*P	**P**	**14 54 60.0**	**-2.4**
	comp=N,16nm,1.3s						
ESDC	**Sonseca Array**	**91.82**	**45**	LR	LR	15 37 21.9	
	comp=N,28nm,18.8s,baz=300,slow=36						
ASAR	**Alice Springs**	**123.36**	**208**	PKP	**PKPdf**	**15 01 07.2**	**-0.8**
ASAR	**Alice Springs**	**123.36**	**208**	PKP	**PKPdf**	**15 01 07.2**	**-0.8**
	comp=N,0.2nm,0.5s,baz=131,slow=1.5,SNR=9.0						
WRA	**Warramunga Arr**	**126.45**	**210**	PKP	**PKPdf**	**15 01 13.1**	**-0.9**
WRA	**Warramunga Arr**	**126.45**	**210**	PKP	**PKPdf**	**15 01 13.1**	**-0.9**
	comp=N,0.6nm,0.6s,baz=160,slow=1.7,SNR=11						
KKAR	**Karatay Array**	**145.69**	**53**	*e*PKP	**PKPab**	**15 01 49.5**	**0.0**
EKS2	**Erkin-Say**	**148.13**	**53**	PKPdf	**PKPdf**	**15 01 52.5**	**-0.4**
ZAA0	**Zalesovo Array**	**148.53**	**27**	*e*PKPdf	**PKPdf**	**15 01 54.0**	**+0.9**
ZAA0				*e*PKPbc	**PKPbc**	**15 01 57.3**	**+0.6**
ZALV	**Zalesovo Beam**	**148.53**	**27**	PKP	**PKPdf**	**15 01 54.5**	**+1.5**
ZALV				PKPbc	**PKiKP**	**15 01 57.6**	**-0.6**
ZALV	**Zalesovo Beam**	**148.53**	**27**	PKP	**PKPdf**	**15 01 54.5**	**+1.5**
	comp=N,14nm,0.7s,baz=300,slow=3.2,SNR=46						
ZALV				PKPbc	**PKiKP**	**15 01 57.6**	**-0.6**
	comp=N,14nm,0.7s,baz=306,slow=3.4,SNR=48						
AAK	**Ala-Archa**	**148.64**	**53**	*e*PKPbc	**PKPbc**	**15 01 57.7**	**+0.1**
TKM2	**Tokmak 2**	**149.32**	**52**	*e*PKPbc	**PKPbc**	**15 01 59.8**	**+0.4**
MK31	**Makanchi Array**	**151.91**	**40**	*e*PKPbc	**PKPbc**	**15 02 04.8**	**-0.3**
MKAR	**Makanchi Array**	**151.91**	**40**	PKPbc	**PKPbc**	**15 02 04.9**	**-0.2**
MKAR	**Makanchi Array**	**151.91**	**40**	PKPbc	**PKPbc**	**15 02 04.9**	**-0.2**
	comp=N,3.6nm,0.7s,baz=322,slow=2.2,SNR=34						
CMAR	**Chiang Mai Arr**	**167.16**	**134**	PKPab	**PKPab**	**15 03 19.8**	**-1.3**
CMAR	**Chiang Mai Arr**	**167.16**	**134**	PKPab	**PKPab**	**15 03 19.8**	**-1.3**
	comp=N,0.7nm,0.8s,baz=241,slow=5.3,SNR=5.0						

WEL 06 14:42:48.8±0.3, 45°.99S×166°.14E, h30km±1km, ML3.8/14, Error ellipse: s-maj=3.8km s-min=1.6km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.87**	**55**	PN	Pn	14 43 04.4	-0.5
DCZ				SN	Sn	14 43 16.4	-0.2
DCZ				AML	AML	14 43 16.7	
DCZ				AML	AML	14 43 16.7	
WHZ	**Wether Hill Ro**	**1.26**	**87**	PN	Pn	14 43 10.5	+0.1
WHZ				SN	Sn	14 43 25.0	-1.4
WHZ				AML	AML	14 43 28.9	
APZ	**The Paps**	**1.53**	**124**	PN	Pn	14 43 13.3	-0.8
MLZ	**Mavora Lakes**	**1.56**	**67**	PN	Pn	14 43 15.6	+1.1
MLZ				SN	Sb	14 43 36.5	+0.1
MLZ				AML	AML	14 43 41.0	
MSZ	**Milford Sound**	**1.82**	**44**	*e*PN	Pn	14 43 19.6	+1.6
MSZ				AML	AML	14 43 51.8	
MSZ				AML	AML	14 43 51.9	
MSZ				AML	AML	14 43 58.0	
MSZ				AML	AML	14 43 58.0	
SYZ	**Scrubby Hill**	**2.15**	**106**	PN	Pn	14 43 23.2	+0.6
WKZ	**Wanaka**	**2.33**	**61**	PN	Pb	14 43 28.6	-1.6
WKZ				AML	AML	14 44 09.6	
WKZ				AML	AML	14 44 09.7	
EAZ	**Earnscleugh**	**2.34**	**72**	PN	Pb	14 43 28.1	-2.2
EAZ				AML	AML	14 44 04.7	
EAZ				AML	AML	14 44 05.1	
TUZ	**Tuapeka**	**2.43**	**91**	PN	Pn	14 43 28.3	+1.9
TUZ				SN	Sn	14 43 56.9	+1.7
TUZ				AML	AML	14 44 01.6	
JCZ	**Jackson Bay**	**2.66**	**45**	PN	Pb	14 43 33.0	-2.8
JCZ				AML	AML	14 43 41.1	
JCZ				AML	AML	14 44 19.9	
HHSZ	**Highcliff Hill**	**3.11**	**90**	PN	Pn	14 43 37.3	+1.5
LBZ	**Lake Benmore**	**3.27**	**62**	PN	Pn	14 43 39.6	+1.5
LBZ				SN	Sn	14 44 19.1	+3.1
LBZ				AML	AML	14 44 23.4	
ODZ	**Otahua Downs**	**3.30**	**75**	PN	Pn	14 43 39.1	+0.7
FOZ	**Fox Glacier**	**3.50**	**47**	PN	Pn	14 43 44.5	+3.5
RPZ	**Rata Peaks**	**4.16**	**59**	PN	Pn	14 43 51.4	+1.1
WVZ	**Waitaha Valley**	**4.39**	**50**	PN	Pn	14 43 55.8	+2.5
OXZ	**Oxford**	**4.97**	**60**	PN	Pn	14 44 02.1	+0.6
LTZ	**Lake Taylor**	**5.43**	**56**	PN	Pn	14 44 08.3	+0.5
DSZ	**Denniston Nort**	**5.89**	**46**	PN	Pn	14 44 16.2	+2.2
THZ	**Tophouse**	**6.45**	**52**	PN	Pn	14 44 22.0	+0.2
QRZ	**Quartz Range**	**6.94**	**44**	PN	Pn	14 44 30.6	+2.2
NNZ	**Nelson**	**7.09**	**50**	PN	Pn	14 44 34.4	+4.0

IGQ 06 14:57:52.3, 0°.59S×79°.55W, h45km±91km, Mb4.1, Ms3.9,

6C-12D, Error ellipse: s-maj=1.7km s-min=1.3km az=1.8, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PECV	**Mancha de Ca P**	**0.53**	**250**	P	Pn	14 58 08.5	+4.7
MAG1	**Magdalena**	**0.56**	**337**	⇓P	Pn	14 58 06.0	+1.9
JAMA	**Jama**	**0.73**	**297**	S	Sn	14 58 19.0	+2.3
JAMA	**Jama**	**0.73**	**297**	P	Pn	14 58 06.5	0.0
JUA2	**San Juan 2**	**1.02**	**68**	⇓P	Pn	14 58 11.9	+1.2
TERV	**Terraza Guagua**	**1.03**	**66**	P	Pn	14 58 11.7	+0.6
PINO	**Pino**	**1.04**	**65**	⇓P	Pn	14 58 11.7	+0.5
GGP	**Refugio Guagua**	**1.04**	**66**	⇓P	Pn	14 58 11.9	+0.7
CAMI	**Rancho Maria**	**1.05**	**94**	⇓P	Pn	14 58 12.7	+1.5
BNAS	**Cotopaxi Volca**	**1.07**	**94**	⇓P	Pn	14 58 13.0	+1.5
NAS2	**Nasa**	**1.08**	**93**	S	Sn	14 58 31.7	+5.6
NAS2	**Nasa**	**1.08**	**93**	P	Pn	14 58 13.2	+1.5
BMOR	**Cotopaxi Volca**	**1.10**	**97**	P	Pn	14 58 13.4	+1.4
BREF	**Cotopaxi Volca**	**1.11**	**94**	S	Sn	14 58 31.5	+4.5
BREF	**Cotopaxi Volca**	**1.11**	**94**	P	Pn	14 58 13.8	+1.6
MOV1	**Cotopaxi Vol s**	**1.11**	**96**	⇓P	Pn	14 58 13.3	+1.0
PITA	**Cotopaxi Volc**	**1.12**	**88**	P	Pn	14 58 13.5	+1.3
VC1	**Cotopaxi 1**	**1.15**	**92**	P	Pn	14 58 14.1	+1.5
BTAM	**Cotopaxi Volca**	**1.16**	**94**	⇓P	Pn	14 58 14.2	+1.4
TAMB	**Tambo**	**1.19**	**95**	P	Pn	14 58 14.5	+1.3
COV1	**Cotopaxi Volc**	**1.21**	**93**	P	Pn	14 58 13.9	+0.3
COV1	**Cotopaxi Volc**	**1.21**	**93**	S	Sn	14 58 30.9	+1.5
PISA	**Pisayambo**	**1.25**	**112**	⇑P	Pn	14 58 15.3	+1.3
IGUA	**Igualata**	**1.27**	**134**	S	Sn	14 58 33.1	+2.3
IGUA	**Igualata**	**1.27**	**134**	P	Pn	14 58 15.3	+0.9
BIL2	**Estacion Bilba**	**1.35**	**129**	S	Sn	14 58 35.0	+2.8
BIL2	**Estacion Bilba**	**1.35**	**129**	P	Pn	14 58 16.2	+1.1
JUI6	**Juive**	**1.36**	**127**	S	Sn	14 58 35.2	+2.8
JUI6	**Juive**	**1.36**	**127**	P	Pn	14 58 16.1	+0.8
OTAV	**Otavalo**	**1.37**	**53**	⇓S	Sn	14 58 35.2	+2.1
OTAV	**Otavalo**	**1.37**	**53**	⇓P	Pn	14 58 16.1	+0.4
RUN5	**Runtun**	**1.39**	**126**	⇓P	Pn	14 58 17.0	+1.3
RETU	**Refugio**	**1.39**	**128**	P	Pn	14 58 17.2	+1.2
ANTI	**Antisana**	**1.40**	**84**	P	Pn	14 58 17.1	+1.0
BMAS	**Trigal station**	**1.40**	**130**	⇑P	Pn	14 58 16.8	+0.9
BRUN	**Tungurahua Vol**	**1.40**	**126**	P	Pn	14 58 16.6	+0.7
BULB	**Ulba Tungurahu**	**1.41**	**126**	P	Pn	14 58 16.7	+0.6
ARRY	**Arrayan**	**1.42**	**130**	⇑S	Sn	14 58 36.2	+2.2
ARRY	**Arrayan**	**1.42**	**130**	⇑P	Pn	14 58 16.9	+0.7
ULBA	**Ulba**	**1.42**	**127**	P	Pn	14 58 16.7	+0.5
PAT1	**Patacocha**	**1.43**	**129**	P	Pn	14 58 17.5	+1.1
BPAT	**Tungurahua Vol**	**1.44**	**129**	P	Pn	14 58 17.7	+1.2
COTA	**Cotacachi**	**1.52**	**53**	⇓P	Pn	14 58 18.5	+0.8
CAYR	**Refugio Cayamb**	**1.66**	**69**	⇑S	Sn	14 58 44.6	+4.2
CAYR	**Refugio Cayamb**	**1.66**	**69**	⇑P	Pn	14 58 21.2	+1.5
CAYA	**Cayambe**	**1.69**	**67**	P	Pn	14 58 21.1	+1.0
CHAR	**Charly**	**1.94**	**75**	P	Pn	14 58 24.7	+1.3
CONE	**Cono NE Rev Vo**	**1.98**

CHN5				S		Sn	15 11 02.4	-0.9
	baz=9.0							
WSF	**Szhu**	**1.60**	**356**	*e*P		**Pn**	**15 10 42.7**	**-1.4**
WSF	baz=355			S		**Sn**	**15 11 02.6**	**-1.0**
	baz=355							
WGK	**Gukeng**	**1.66**	**6**	*e*P		**Pn**	**15 10 43.5**	**-1.4**
WGK	baz=6.0			*e*S		**Sn**	**15 11 04.3**	**-0.7**
	baz=6.0							
PNG	**Penghu**	**1.70**	**334**	P		**Pn**	**15 10 43.4**	**-2.0**
PNG	baz=333			*e*S		**Sn**	**15 11 04.1**	**-1.9**
	baz=333							
EHY	**Hungye**	**1.72**	**31**	P		**Pn**	**15 10 45.7**	**-0.1**
EHY	baz=19			*e*S		**Sn**	**15 11 06.5**	**+0.1**
	baz=19							
WTCT	**Ta-ch'eng**	**1.83**	**358**	*e*P		**Pn**	**15 10 46.5**	**-0.8**
WTCT	baz=7.0			*e*S		**Sn**	**15 11 08.1**	**-1.0**
	baz=7.0							
WNT	**Mingjian**	**1.86**	**9**	*e*P		**Pn**	**15 10 46.4**	**-1.3**
WNT	baz=9.0			*e*S		**Sn**	**15 11 08.2**	**-1.8**
	baz=9.0							
SMLT	**Sun Moon Lake**	**1.91**	**15**	*e*P		**Pn**	**15 10 48.1**	**-0.4**
SMLT	baz=4.0			*e*S		**Sn**	**15 11 11.4**	**0.0**
	baz=4.0							
TYC	**Yuchr**	**1.92**	**14**	P		**Pn**	**15 10 47.7**	**-0.8**
TYC	baz=13			S		**Sn**	**15 11 11.1**	**-0.4**
	baz=13							
ESL	**Shilin**	**2.03**	**29**	*e*P		**Pn**	**15 10 49.7**	**-0.3**
ESL	baz=28			*e*S		**Sn**	**15 11 13.1**	**-1.1**
	baz=28							
TCU	**Taichung**	**2.13**	**8**	*e*P		**Pn**	**15 10 51.1**	**-0.3**
TCU	baz=7.0			*e*S		**Sn**	**15 11 15.4**	**-1.2**
	baz=7.0							
HWA	**Hwalien**	**2.25**	**30**	*e*P		**Pn**	**15 10 50.6**	**-2.5**
WHF	baz=30			P		**Pn**	**15 10 53.4**	**-0.3**
	Hehuan Shan	**2.26**	**21**					
	baz=9.0							
WHF				*e*S		**Sn**	**15 11 20.4**	**-0.2**
	baz=9.0							
TWD	**Chiawan**	**2.34**	**29**	*e*P		**Pn**	**15 10 53.3**	**-0.9**
TWD	baz=29			*e*S		**Sn**	**15 11 21.9**	**+0.2**
	baz=29							
TWT	**Tachien**	**2.34**	**19**	*e*P		**Pn**	**15 10 54.0**	**-0.5**
TWT	baz=9.0			*e*S		**Sn**	**15 11 21.0**	**-1.0**
	baz=9.0							
TWQ1	**Liyutan**	**2.34**	**9**	*e*P		**Pn**	**15 10 54.1**	**-0.2**
TWQ1	baz=9.0			*e*S		**Sn**	**15 11 21.0**	**-0.8**
	baz=9.0							
NSY	**Sanyi**	**2.40**	**9**	*e*P		**Pn**	**15 10 54.9**	**-0.3**
NSY	baz=8.0			*e*S		**Sn**	**15 11 23.8**	**+0.4**
	baz=8.0							
NNS	**Nan Shan**	**2.57**	**21**	P		**Pn**	**15 10 58.0**	**+0.3**
NNS	baz=11			*e*S		**Sn**	**15 11 28.3**	**+0.5**
	baz=11							
NSTT	**Nanjuang**	**2.66**	**13**	*e*P		**Pn**	**15 10 58.0**	**-0.7**
NSTT	baz=12			*e*S		**Sn**	**15 11 27.9**	**-1.8**
	baz=12							
ENA	**Nanau**	**2.70**	**28**	*e*P		**Pn**	**15 10 58.4**	**-0.9**
NSK	baz=27			*e*S		**Sn**	**15 11 00.7**	**+0.1**
	Sanguang	**2.79**	**19**					
	baz=19							
NSK				*e*S		**Sn**	**15 11 33.9**	**+0.9**
	baz=19							
ENTT	**Nioudou**	**2.83**	**23**	*e*P		**Pn**	**15 11 01.3**	**+0.3**
ENTT	baz=12			*e*S		**Sn**	**15 11 33.4**	**-0.4**
	baz=12							
TWC	**Suao**	**2.91**	**28**	*e*P		**Pn**	**15 11 02.3**	**+0.2**
TWE	**Neicheng**	**2.94**	**24**	*e*P		**Pn**	**15 11 02.8**	**+0.4**
	baz=28							
KNM	**Kinmen**	**2.96**	**324**	*e*P		**Pn**	**15 11 02.1**	**-0.8**
KNM	baz=321			*e*S		**Sn**	**15 11 37.1**	**0.0**
	baz=321							
TWA	**Mucha**	**3.14**	**21**	*e*P		**Pn**	**15 11 05.5**	**+0.1**
TAP1	**Taipei**	**3.18**	**19**	*e*P		**Pn**	**15 11 03.4**	**-2.4**
	baz=9.0							
TWS1	**Kuangyinshan**	**3.21**	**17**	*e*P		**Pn**	**15 11 04.5**	**-1.7**
TWS1	baz=8.0			*e*S		**Sn**	**15 11 41.6**	**-1.6**
	baz=6.0							
YOJ	**Yonaguni jima**	**3.44**	**45**	*e*P		**Pn**	**15 11 10.1**	**+0.7**
YOJ	baz=45			*e*S		**Sn**	**15 11 48.1**	**-0.7**
	baz=45							
YOJ	**Yonaguni jima**	**3.44**	**45**	P		**Pn**	**15 11 10.0**	**+0.7**
YOJ				S		**Sn**	**15 11 48.8**	**-0.1**
HATJ	**Hateruma jima**	**3.76**	**57**	P		**Pn**	**15 11 13.3**	**-0.5**
HATJ				*e*S		**Sn**	**15 11 54.9**	**-2.0**
IRIF	**Iriomote-Funau**	**3.86**	**53**	P		**Pn**	**15 11 14.8**	**-0.4**
IRIF				S		**Sn**	**15 11 59.0**	**-0.3**
JKRS	**Kuro-shima**	**4.01**	**56**	P		**Pn**	**15 11 17.2**	**-0.1**
JKRS				*e*S		**Sn**	**15 12 04.6**	**+1.5**
JIJ	**Ishigaki jima**	**4.18**	**56**	P		**Pn**	**15 11 19.3**	**-0.4**
JIJ				S		**Sn**	**15 12 04.9**	**-2.4**
JTJ	**Tarama**	**4.76**	**56**	P		**Pn**	**15 11 27.3**	**-0.3**
JTJ				*e*S		**Sn**	**15 12 20.0**	**-1.6**
JMJ	**Miyako jima 2**	**5.31**	**58**	*e*S		**Sn**	**15 12 33.2**	**-1.9**
KSRS	**Korea Array**	**16.70**	**21**	P		**Pn**	**15 14 09.1**	**-0.4**
	0.0nm,0.3s,baz=186,slow=9.7,SNR=3.8							
KSRS				LR		LR	15 21 41.2	
	comp=Z,176nm,18.2s,baz=200,slow=41							
CMAR	**Chiang Mai Arr**	**20.40**	**264**	P		Pn	15 14 55.5	+0.8
	2.1nm,0.9s,baz=63,slow=6.9,SNR=7.9							
CMAR				pP		pP	15 15 08.0	+6.3
	0.7nm,0.3s,baz=68,slow=8.3,SNR=3.8							
CMAR				LR		LR	15 23 42.7	
	comp=Z,90nm,18.9s,baz=312,slow=39							
MJAR	**Matsushiro Arr**	**21.20**	**43**	P		**P**	**15 14 59.8**	**-1.0**
	1.4nm,0.7s,baz=225,slow=8.8,SNR=6.2							
MJAR				pP		**pP**	**15 15 11.9**	**+1.7**
	1.8nm,0.8s,baz=232,slow=8.9,SNR=4.7							
USRK	**Ussuriysk Arra**	**24.11**	**21**	P		**P**	**15 15 30.4**	**-0.3**
	1.2nm,0.6s,baz=219,slow=6.5,SNR=3.1							
SONM	**Songino Array**	**28.09**	**340**	P		**P**	**15 16 07.0**	**+0.3**
	1.2nm,0.8s,baz=160,slow=11,SNR=5.2							
SONM				pP		pP	15 16 22.6	+5.8
	1.4nm,1.1s,baz=153,slow=10.0,SNR=2.7							
SONM				LR		LR	15 28 50.7	
	comp=Z,100nm,18.9s,baz=148,slow=39							
ASAJ	**Asahikawa**	**28.68**	**35**	LR		LR	15 27 56.4	
	comp=Z,141nm,21.3s,baz=327,slow=37							
MKAR	**Makanchi Array**	**39.39**	**318**	P		**P**	**15 17 45.9**	**+1.3**
	2.6nm,0.7s,baz=114,slow=9.9,SNR=25							
ZALV	**Zalesovo Beam**	**41.66**	**329**	P		**P**	**15 18 03.9**	**+0.7**
	2.4nm,0.7s,baz=108,slow=8.0,SNR=12							
ZALV				LR		LR	15 36 48.0	
	comp=Z,49nm,18.1s,baz=253,slow=38							
PETK	**Petropavlovsk-**	**42.07**	**33**	LR		LR	15 36 34.7	
	comp=Z,54nm,19.3s,baz=121,slow=38							
WRA	**Warramunga Arr**	**43.90**	**161**	P		**P**	**15 18 21.0**	**-0.7**
	1.1nm,0.7s,baz=343,slow=8.9,SNR=14							
ASAR	**Alice Springs**	**47.30**	**163**	P		**P**	**15 18 48.4**	**-0.2**
	0.3nm,0.4s,baz=343,slow=7.0,SNR=26							
ILAR	**Eielson Array**	**71.47**	**27**	LR		LR	15 56 59.1	
	comp=Z,34nm,19.0s,baz=334,slow=39							
FINES	**FINESS Array B**	**72.92**	**330**	P		**P**	**15 21 43.8**	**+0.1**
	4.8nm,1.0s,baz=68,slow=11,SNR=3.9							
FINES				LR		LR	15 57 26.2	
	comp=Z,50nm,18.9s,baz=99,slow=39							
BRTR	**Keskin Array B**	**73.84**	**307**	P		**P**	**15 21 50.8**	**+1.0**
	1.3nm,0.9s,baz=102,slow=10,SNR=5.8							
NOA	**NORSAR Array B**	**79.76**	**332**	LR		LR	16 00 56.7	
	comp=Z,57nm,20.6s,baz=45,slow=38							
GERES	**GERESS Array B**	**84.01**	**320**	P		**P**	**15 22 45.5**	**+0.2**
	0.9nm,0.8s,baz=46,slow=3.9,SNR=6.9							
GERES				LR		LR	16 06 20.0	
	comp=Z,28nm,19.4s,baz=12,slow=40							

*ISCJB **06** 15:34:13.3±0.4, 6°.26S±0°.03×130°.69E±0°.05, h124km, mb3.9/4, Error ellipse: s-maj=6.9km s-min=4.4km az=15.5*
*AUST **06** 15:34:13.2±0.0, 6°.07S×130°.76E, h178km, Error ellipse: s-maj=1.3km s-min=0.9km az=281.0*
*IDC **06** 15:34:15.5±5.8, 6°.27S×130.61E, h132km±61km, mb3.7/4, mb1 3.8/8, mb1mx3.5/20, mbtmp3.7/8, Error ellipse: s-maj=44.2km s-min=20.6km az=52.0*
*DJA **06** 15:34:16.5±0.4, 6°.5±3°×13°.1E±°, h112km±9km, M4.7/7, mb4.8/6, mB5.4/4, MLv4.6/7, Mw(mB)4.8/4*
ISC 06 15:34:14.0±0.7, 6°.20S±0°.05×130°.69E±0°.06, h124km, n28, σ2º13/34, mb3.8/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.84**	**335**	P	**Pn**	**15 34 48.6**	**+2.8**
BNDI	**Bandanaira**	**1.84**	**335**	P	**Pn**	**15 34 48.0**	**+2.2**
	baz=1.8,SNR=43						
SAUI	**Saumlaki**	**1.87**	**161**	P	**Sn**	**15 35 14.0**	**+3.4**
SAUI				S	**Sn**	**15 35 14.1**	**+3.4**
TLE	**Tual**	**2.11**	**75**	P	Pn	15 34 53.7	+4.6
TLE				S	**Sn**	**15 35 17.6**	**+1.6**
TLE	**Tual**	**2.11**	**75**	P	Pn	15 34 53.8	+4.6
	baz=2.0,SNR=59						
TLE				S	**Sn**	**15 35 17.8**	**+1.8**
	baz=2.0,SNR=14						
FAKI	**Fak Fak**	**3.61**	**26**	P	**Pn**	**15 35 08.8**	**+0.2**
FAKI				S	**Sn**	**15 35 49.7**	**-1.1**
FAKI	**Fak Fak**	**3.61**	**26**	P	**Pn**	**15 35 09.0**	**+0.5**
	baz=3.5,SNR=49						
FAKI				S	**Sn**	**15 35 49.6**	**-1.1**
	baz=3.5,SNR=5.8						
SWI	**Sorong**	**5.33**	**6**	P	**Pn**	**15 35 31.4**	**-0.2**
	60nm,0.4s,7μm1.2nm						
SWI	**Sorong**	**5.33**	**6**	P	**Pn**	**15 35 31.1**	**-0.5**
	baz=5.2,SNR=105						
SWI				S	Sn	15 36 26.4	-5.5
	baz=5.2,SNR=16						
RKPI	**Ransiki, Papua**	**5.81**	**37**	P	**Pn**	**15 35 39.5**	**+1.4**
	153nm,0.5s,3μm0.7nm						
MTN	**Manton Dam**	**6.62**	**176**	P	**Pn**	**15 35 50.6**	**+1.8**
	baz=6.8,SNR=72						
MTN				S	**Sn**	**15 37 01.0**	**-1.9**
	baz=6.8,SNR=12						
KDU	**Kakadu**	**6.68**	**165**	P	**Pn**	**15 35 51.3**	**+1.6**
	baz=6.8,SNR=76						
KDU				S	**Sn**	**15 37 03.9**	**-0.6**
	baz=6.8,SNR=9.4						
SOEI	**Soe**	**7.27**	**241**	P	**Pn**	**15 35 59.6**	**+1.7**
	35nm,1.7s,0.2nm						
SOEI	**Soe**	**7.27**	**241**	P	**Pn**	**15 36 00.0**	**+2.1**
	baz=7.4,SNR=17						
BAKI	**Biak**	**7.35**	**48**	P	**Pn**	**15 36 01.5**	**+2.7**
	272nm,0.7s,2μm						
BATI	**Baumata**	**8.01**	**240**	P	**Pn**	**15 36 09.7**	**+2.0**
BATI	**Baumata**	**8.01**	**240**	P	**Pn**	**15 36 09.0**	**+1.3**
	8.1nm,0.3s,baz=114,slow=2.1,SNR=9.7						
BATI				S	**Sn**	**15 37 35.8**	**-1.0**
	3.3nm,0.3s,baz=63,slow=23,SNR=5.6						
KNRA	**Kununurra**	**9.61**	**191**	P	**Pn**	**15 36 29.3**	**+0.2**
	baz=9.8,SNR=97						
KNRA				S	**Sn**	**15 38 10.7**	**-4.6**
	baz=9.8,SNR=9.0						
FITZ	**Fitzroy Crossi**	**12.81**	**202**	P	**Pn**	**15 37 10.5**	**-1.3**
	1.4nm,0.3s,baz=39,slow=11,SNR=58						
FITZ				S	Sn	15 39 24.2	-8.9
	1.4nm,0.3s,baz=116,slow=22,SNR=8.0						
FITZ	**Fitzroy Crossi**	**12.81**	**202**	P	**Pn**	**15 37 10.7**	**-1.1**
	baz=13,SNR=30						
FITZ				S	Sn	15 39 23.0	-10
	baz=13,SNR=4.9						
WRA	**Warramunga Arr**	**14.11**	**166**	P	**Pn**	**15 37 27.9**	**-0.6**
	0.7nm,0.3s,baz=328,slow=14,SNR=37						
WRA				S	Sn	15 39 56.0	-8.5
	1.8nm,0.3s,baz=330,slow=23,SNR=8.8						
COEN	**Coen**	**14.50**	**123**	S	**Sn**	**15 40 08.2**	**-5.8**
	baz=14,SNR=4.9						
ASAR	**Alice Springs**	**17.64**	**170**	P	**Pn**	**15 38 13.5**	**+1.3**
	0.8nm,0.3s,baz=349,slow=11,SNR=76						
ASAR				S	S	15 41 19.7	-8.8
	0.4nm,0.3s,baz=355,slow=27,SNR=7.4						
STKA	**Stephens Creek**	**27.50**	**160**	P	**P**	**15 39 49.2**	**+0.3**
	1.5nm,0.8s,baz=311,slow=17,SNR=3.8						
MCQ	**Macquarie Isla**	**53.28**	**160**	P	P	15 43 15.2	-4.6
	baz=54,SNR=3.8						
SONM	**Songino Array**	**57.91**	**341**	P	**P**	**15 43 54.1**	**+0.8**
	0.6nm,0.6s,baz=167,slow=7.1,SNR=3.5						
PETK	**Petropavlovsk-**	**63.36**	**18**	P	**P**	**15 44 31.0**	**+1.1**
	0.9nm,0.6s,baz=151,slow=4.8,SNR=11						
MKAR	**Makanchi Array**	**67.94**	**326**	P	**P**	**15 45 00.2**	**+0.7**
	2.7nm,0.4s,baz=114,slow=8.2,SNR=61						

*CSEM **06** 15:38:18.1±0.4, 36°.69N×9°.75W, h15km, ML1.8, Error ellipse: s-maj=7.0km s-min=5.2km az=21.0*
*INMG **06** 15:38:18.4±1.0, 36°.59N×9°.82W, h14km±4km, mL1.8, Error ellipse: s-maj=4.4km s-min=4.1km az=43.0*
MDD 06 15:38:17.8±1.5, 36°.61N×9°.86W, h16km±9km, mbLg2.3/9, 1C, Error ellipse: s-maj=14.0km s-min=10.8km az=14.0, PRXIMO, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**0.98**	**58**	*e*P	Pb	15 38 35.7	-0.7
PFVI				*e*S	Sb	15 38 48.8	-0.3
PFVI				A	A	15 38 49.5	
	11nm,0.2s						
PFVI	**Vila Bisbo**	**0.98**	**58**	P	Pb	15 38 35.7	-0.7
	2.2nm,0.1s,SNR=7.2						
PFVI				S	Sb	15 38 48.3	-0.8
	14nm,0.1s,SNR=13						
PFVI	**Vila Bisbo**	**0.98**	**58**	P	Pb	15 38 35.7	-0.7
	2.2nm,0.1s,SNR=7.2						
PFVI				*e*S	Sb	15 38 48.8	-0.3
	11nm,0.2s						
MORF	**Marmelete**	**1.19**	**54**	*e*P	Pn	15 38 38.8	-1.1
MORF				*e*S	Sb	15 38 54.5	-0.9
MORF				A	A	15 38 55.0	
	11nm,0.1s						
MORF	**Marmelete**	**1.19**	**54**	P	Pn	15 38 38.8	-1.2
MORF				S	Sb	15 38 54.3	-1.1
MORF	**Marmelete**	**1.19**	**54**	*e*P	Pn	15 38 38.8	-1.1
MORF				*e*S	Sb	15 38 54.5	-0.9
	11nm,0.1s						
PBDV	**Barranco-do-Ve**	**1.67**	**67**	*e*P	Pn	15 38 45.4	-1.1
PBDV				*e*S	Sn	15 39 05.7	-1.9
PBDV				A	A	15 39 10.4	
	3.6nm,0.1s						
PBDV	**Barranco-do-Ve**	**1.67**	**67**	P	Pn	15 38 45.4	-1.1
PBDV				S	Sn	15 39 05.7	-1.9
	3.6nm,0.1s						
PBDV	**Barranco-do-Ve**	**1.67**	**67**	*e*P	Pn	15 38 45.4	-1.1
PBDV				S	Sn	15 39 05.7	-1.9
	3.6nm,0.1s						
PCVE	**Castro Verde**	**1.77**	**55**	*e*Pn	Pn	15 38 47.2	-0.7
PCVE				*e*Sn	Sn	15 39 08.7	-1.5
PCVE				A	A	15 39 10.6	
	6.0nm,0.5s						
PCVE	**Castro Verde**	**1.77**	**55**	P	Pn	15 38 47.2	-0.7
PCVE				S	Sn	15 39 08.7	-1.5
	6.0nm,0.5s						
PCVE	**Castro Verde**	**1.77**	**55**	P	Pn	15 38 47.2	-0.7
PCVE				S	Sn	15 39 08.7	-1.5
	6.0nm,0.5s						
PNCL	**Nicolau / Gran**	**1.83**	**35**	*e*Pn	Pn	15 38 47.8	-0.9
PNCL				*e*Sn	Sn	15 39 09.9	-1.7
PNCL				A	A	15 39 11.6	
	4.4nm,0.1s						
PNCL	**Nicolau / Gran**	**1.83**	**35**	*e*Pn	Pn	15 38 47.8	-0.9
PNCL				*e*Sn	Sn	15 39 09.9	-1.7
	4.4nm,0.1s						
PVAQ	**Vaqueiros**	**1.89**	**65**	*e*Pn	Pn	15 38 48.3	-1.1
PVAQ				*e*Sn	Sn	15 39 10.5	-2.4
PVAQ	**Vaqueiros**	**1.89**	**65**	P	Pn	15 38 48.3	-1.1
PVAQ				S	Sn	15 39 10.5	-2.4
PVAQ	**Vaqueiros**	**1.89**	**65**	P	Pn	15 38 48.3	-1.1
PVAQ				S	Sn	15 39 10.5	-2.4
EGRO	**El Granado**	**2.11**	**64**	P	Pn	15 38 51.6	-0.9
	0.3nm,0.0s,SNR=10						
EGRO				S	Sn	15 39 15.9	-2.6
	4.5nm,0.1s,SNR=5.0						
EGRO	**El Granado**	**2.11**	**64**	P	Pn	15 38 51.6	-0.9
	0.3nm,0.0s,SNR=10						
EGRO				S	Sn	15 39 15.9	-2.5
	4.5nm,0.1s,SNR=5.0						
PACT	**Alcochete**	**2.30**	**20**	*e*Pn	Pn	15 38 54.7	-0.4
PACT	**Alcochete**	**2.30**	**20**	*e*Pn	Pn	15 38 54.7	-0.4
PMAFR	**Mafra**	**2.38**	**11**	*e*Pn	Pn	15 38 55.3	-1.0
PMAFR				*e*Sn	Sn	15 39 23.6	-1.6
PMAFR				A	A	15 39 25.5	
	17nm,0.6s						
PMAFR	**Mafra**	**2.38**	**11**	P	Pn	15 38 55.0	-1.2
	3.8nm,0.1s,SNR=6.2						
PMAFR				S	Sn	15 39 23.6	-1.6
	17nm,0.1s,SNR=8.6						
PMAFR	**Mafra**	**2.38**	**11**	P	Pn	15 38 55.0	-1.3
	3.8nm,0.1s,SNR=6.2						
PMAFR	**Mafra**	**2.38**	**11**	*e*Pn	Pn	15 38 55.3	-1.0
PMAFR				S	Sn	15 39 23.6	-1.6
	17nm,0.1s,SNR=8.6						
EVO	**Evora**	**2.41**	**37**	*e*Pn	Pn	15 38 55.5	-1.2
EVO				*e*Sn	Sn	15 39 23.8	-2.1
EVO	**Evora**	**2.41**	**37**	P	Pn	15 38 55.5	-1.2
EVO				S	Sn	15 39 23.8	-2.1
EVO	**Evora**	**2.41**	**37**	P	Pn	15 38 55.5	-1.2
EVO				S	Sn	15 39 23.8	-2.1
PBAR	**Barrancos**	**2.73**	**54**	*e*Pn	Pn	15 39 00.3	-0.8
PBAR				*e*Sn	Sn	15 39 31.7	-2.1
PBAR				A	A	15 39 33.4	
	2.1nm,0.2s						
PBAR	**Barrancos**	**2.73**	**54**	P	Pn	15 39 00.3	-0.8
PBAR				S	Sn	15 39 31.7	-2.1
	2.1nm,0.2s						
PBAR	**Barrancos**	**2.73**	**54**	P	Pn	15 39 00.3	-0.8
PBAR				S	Sn	15 39 31.7	-2.1
	2.1nm,0.2s						
PMTG	**Montargil**	**2.77**	**27**	*e*Pn	Pn	15 39 00.6	-1.0
PMTG				*e*Sn	Sn	15 39 32.9	-1.8
PMTG				A	A	15 39 35.1	
	1.3nm,0.1s						
PMTG	**Montargil**	**2.77**	**27**	*e*Pn	Pn	15 39 00.6	-1.0
PMTG				*e*Sn	Sn	15 39 32.9	-1.8
	1.3nm,0.1s						
EMIN	**Mina Concepcio**	**2.79**	**65**	P	Pn	15 39 01.3	-0.6
	0.5nm,0.1s,SNR=7.9						
EMIN				S	Sn	15 39 31.8	-3.5
	1.5nm,0.1s,SNR=7.6						
EMIN	**Mina Concepcio**	**2.79**	**65**	P	Pn	15 39 01.3	-0.6
	0.5nm,0.1s,SNR=7.9						
EMIN				S	Sn	15 39 31.8	-3.5
	1.5nm,0.1s,SNR=7.6						
PESTR	**Estremoz**	**2.88**	**38**	*e*Pn	Pn	15 39 02.1	-1.0
PESTR				*e*Sn	Sn	15 39 35.1	-2.4
PESTR	**Estremoz**	**2.88**	**38**	P	Pn	15 39 02.1	-1.0
PESTR				S	Sn	15 39 35.1	-2.4
PESTR	**Estremoz**	**2.88**	**38**	P	Pn	15 39 02.1	-1.0
PESTR				S	Sn	15 39 35.1	-2.4
EBAD	**Badajoz**	**3.11**	**46**	⇑P	Pn	15 39 04.7	-1.6
	1.9nm,0.1s,SNR=18						
EBAD				S	Sn	15 39 40.0	-3.1
	1.7nm,0.1s,SNR=7.1						
EBAD	**Badajoz**	**3.11**	**46**	P	Pn	15 39 04.7	-1.5
	1.9nm,0.1s,SNR=18						
EBAD				S	Sn	15 39 40.0	-3.1
	1.7nm,0.1s,SNR=7.1						
ESPR	**Espera**	**3.23**	**84**	P	Pn	15 39 06.2	-1.6
	0.8nm,0.1s,SNR=4.0						
ESPR				S	Sn	15 39 40.8	-5.1
	12nm,0.2s,SNR=4.0						
ESPR	**Espera**	**3.23**	**84**	P	Pn	15 39 06.2	-1.6
	0.8nm,0.1s,SNR=4.0						
ESPR				S	Sn	15 39 40.8	-5.1
	12nm,0.2s,SNR=4.0						
PMRV	**Marv??o**	**3.42**	**34**	*e*Pn	Pn	15 39 09.4	-1.1
PMRV				*e*Sn	Sn	15 39 48.1	-2.7
PMRV				A	A	15 39 50.0	
	1.2nm,0.1s						
PMRV	**Marv??o**	**3.42**	**34**	P	Pn	15 39 09.4	-1.1
PMRV				S	Sn	15 39 48.1	-2.7
	1.2nm,0.1s						
PMRV	**Marv??o**	**3.42**	**34**	P	Pn	15 39 09.4	-1.1
PMRV				S	Sn	15 39 48.1	-2.7
	1.2nm,0.1s						
ECAB	**El Cabril**	**3.83**	**66**	P	Pn	15 39 15.0	-1.2
	0.4nm,0.1s,SNR=7.9						
ECAB				S	Sn	15 39 57.0	-3.9
	0.7nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**3.83**	**66**	P	Pn	15 39 15.0	-1.2
	0.4nm,0.1s,SNR=7.9						
ECAB				S	Sn	15 39 57.0	-3.9
	0.7nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**4.48**	**68**	P	Pn	15 39 24.1	-1.1
	0.3nm,0.1s,SNR=7.9						
EADA				S	Sn	15 40 12.1	-4.9
	0.5nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**4.48**	**68**	P	Pn	15 39 24.1	-1.1
	0.3nm,0.1s,SNR=7.9						
EADA				S	Sn	15 40 12.1	-5.0
	0.5nm,0.1s,SNR=7.9						
EPLA	**Plasencia**	**4.55**	**40**	P	Pn	15 39 24.5	-1.5
	0.4nm,0.1s,SNR=4.0						
EPLA				S	Sn	15 40 15.4	-3.3
	1.1nm,0.1s,SNR=6.0						
EPLA	**Plasencia**	**4.55**	**40**	P	Pn	15 39 24.5	-1.6
	0.4nm,0.1s,SNR=4.0						
EPLA				S	Sn	15 40 15.4	-3.3
	1.1nm,0.1s,SNR=6.0						
MVO	**Moncorvo**	**5.05**	**25**	P	Pn	15 39 31.8	-1.3
	2.3nm,0.1s,SNR=6.0						
MVO				S	Sn	15 40 28.5	-2.7
	0.5nm,0.1s						
MVO	**Moncorvo**	**5.05**	**25**	P	Pn	15 39 31.8	-1.2
	2.3nm,0.1s,SNR=6.0						
MVO				S	Sn	15 40 28.5	-2.6
	0.5nm,0.1s						
EBAN	**Banos Encina**	**5.08**	**70**	S	Sn	15 40 27.8	-3.9
	SNR=7.9						
EBAN	**Banos Encina**	**5.08**	**70**	S	Sn	15 40 27.8	-3.9
	SNR=7.9						
ELOB	**Lobios**	**5.43**	**14**	P	Pn	15 39 36.6	-1.7
	0.6nm,0.1s,SNR=7.9						
ELOB				S	Sn	15 40 36.0	-4.5
	0.4nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**5.43**	**14**	P	Pn	15 39 36.6	-1.6

ML1.8, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFNV	**Sufian**	**0.66**	**118**	*e*P	Pg	15 53 09.1	-1.7
SFNV				*e*S	Sg	15 53 19.9	+0.4
SFNV				AML	AML	15 53 23.5	
	comp=N,25nm,0.2s						
SFNV				AML	AML	15 53 26.7	
	comp=Z,54nm,0.2s						
SFNV				AML	AML	15 53 27.7	
	comp=E,57nm,0.2s						
SFNV	**Sufian**	**0.66**	**118**	*e*P	Pg	15 53 09.1	-1.6
	SNR=75						
SFNV				*e*S	Sg	15 53 19.9	+0.5
	comp=E,57nm,0.2s,SNR=59						
KBSD	**Kabsdagh**	**0.97**	**74**	*e*P	Pg	15 53 16.2	-0.3
KBSD				*e*S	Sb	15 53 30.7	-0.2
KBSD				AML	AML	15 53 35.0	
	comp=N,46nm,0.2s						
KBSD				AML	AML	15 53 35.0	
	comp=Z,55nm,0.2s						
KBSD				AML	AML	15 53 36.5	
	comp=E,32nm,0.3s						
KBSD	**Kabsdagh**	**0.97**	**74**	*e*P	Pg	15 53 16.2	-0.3
	SNR=67						
KBSD				*e*S	Sb	15 53 30.7	-0.3
	comp=E,32nm,0.3s,SNR=59						
MARD	**Mardin**	**1.26**	**62**	*i* P	Pn	15 53 24.6	+1.7
MARD				*i* S	Sn	15 53 43.9	+3.2
SLMH	**Al Salmeh**	**1.28**	**247**	*e*P	Pg	15 53 21.2	-1.4
SLMH				*e*S	Sb	15 53 39.8	-0.3
SLMH				AML	AML	15 53 42.8	
	comp=E,31nm,0.6s						
SLMH				AML	AML	15 53 45.0	
	comp=N,36nm,0.2s						
SLMH				AML	AML	15 53 51.4	
	comp=Z,15nm,0.5s						
SLMH	**Al Salmeh**	**1.28**	**247**	*e*P	Pg	15 53 21.2	-1.4
	SNR=57						
SLMH				*e*S	Sb	15 53 39.8	-0.3
	comp=Z,15nm,0.5s,SNR=49						
MZRK	**Al-Mazaregh**	**1.37**	**131**	*e*P	Pb	15 53 24.8	+0.5
MZRK				*e*S	Sb	15 53 42.7	+0.2
MZRK				AML	AML	15 53 47.5	
	comp=E,32nm,0.2s						
MZRK				AML	AML	15 53 53.2	
	comp=N,23nm,0.3s						
MZRK				AML	AML	15 53 53.9	
	comp=Z,16nm,0.2s						
MZRK	**Al-Mazaregh**	**1.37**	**131**	*e*P	Pb	15 53 24.8	+0.4
	SNR=57						
MZRK				*e*S	Sb	15 53 42.7	+0.3
	comp=Z,16nm,0.2s,SNR=49						
GZT	**Gaziantep**	**1.58**	**294**	*i* P	Pn	15 53 26.8	-0.7
GZT				*i* S	Sn	15 53 48.5	-0.3
ELZG	**Elazig**	**1.79**	**350**	*i* P	Pb	15 53 31.2	-0.7
ELZG				*i* S	Sn	15 53 54.4	+0.5
ELZG	**Elazig**	**1.79**	**350**	*i* P	Pb	15 53 31.2	-0.7
ELZG				*i* S	Sn	15 53 54.4	+0.4
BEST	**Besiri**	**1.90**	**52**	*i* P	Pg	15 53 34.6	+0.2
BEST				*i* S	Sg	15 54 01.8	+2.7
AKCD	**Akcadag**	**1.95**	**324**	*i* P	Pn	15 53 31.6	-0.8
AKCD				*i* S	Sn	15 53 57.5	-0.3
AKCD	**Akcadag**	**1.95**	**324**	*i* P	Pn	15 53 31.6	-0.8
AKCD				*i* S	Sn	15 53 57.5	-0.2
BTCH	**Batrach**	**2.46**	**254**	*e*P	Pn	15 53 39.8	+0.4
BTCH				*e*S	Sn	15 54 10.0	-0.3
BTCH				AML	AML	15 54 22.3	
	comp=Z,17nm,0.2s						
BTCH				AML	AML	15 54 25.2	
	comp=E,10nm,0.3s						
BTCH				AML	AML	15 54 28.1	
	comp=N,16nm,0.3s						
BTCH	**Batrach**	**2.46**	**254**	*e*P	Pn	15 53 39.8	+0.4
	SNR=45						
BTCH				*e*S	Sn	15 54 10.0	-0.3
	comp=N,16nm,0.3s,SNR=40						

ISCJB ***06*** *16:28:44.9±0.8, 13°.40N±0°.05×120°.33E±0°.08, h70km, mb3.7/7, Error ellipse: s-maj=10.8km s-min=7.2km az=178.6*
MAN ***06*** *16:28:47, 9°.46N×122°.67E, h31km, mb4.1, ML2.9, MS2.6*
IDC ***06*** *16:28:47.3±0.6, 13°.56N×121°.02E, h107km±7km, mb3.3/6, mb1 3.4/6, mb1mx3.2/25, mbtmp3.3/6, Error ellipse: s-maj=45.6km s-min=14.0km az=64.0*

ISC 06 16:28:46.5±0.9, 13°.42N±0°.06×120°.43E±0°.09, h70km, n20, σ2§18/20, mb3.7/7, 3C-4D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.52**	**81**	↓*i*P	**Pn**	**16 29 01.3**	**+1.8**
TGY	**Tagaytay City**	**0.84**	**36**	↑*i*P	**Pn**	**16 29 05.4**	**+2.3**
TGY				*i* S	**Sn**	**16 29 19.9**	**+4.5**
TGY	**Tagaytay City**	**0.84**	**36**	P	**Pn**	**16 29 05.4**	**+2.3**
	472nm,0.3s,baz=238,slow=2.2,SNR=22						
TGY				S	**Sn**	**16 29 18.5**	**+3.1**
	472nm,0.3s,baz=73,slow=19,SNR=20						
LQP	**Lukban**	**1.28**	**57**	↓*i*P	**Pn**	**16 29 09.1**	**+0.3**
LQP				*i* S	**Sn**	**16 29 26.5**	**+1.1**
GQP	**Guinayangan**	**2.02**	**76**	↓*e*P	**Pn**	**16 29 17.5**	**-0.9**
PCPH	**Palayan**	**2.23**	**17**	↑*e*P	**Pn**	**16 29 21.2**	**0.0**
PCPH				*e*S	**Sn**	**16 29 47.6**	**-0.1**
RCP	**Roxas**	**2.92**	**129**	↓*e*P	**Pn**	**16 29 31.2**	**+0.5**
GUIM	**Jordan**	**3.49**	**143**	*e*P	**Pn**	**16 29 40.1**	**+1.7**
PVCP	**Virac**	**3.63**	**87**	↑*i*P	**Pn**	**16 29 39.0**	**-1.2**
PPR	**Puerto Princes**	**3.99**	**205**	*e*P	Pn	16 29 50.7	+5.5
OCLP	**Ormoc**	**4.71**	**120**	*e*P	**Pn**	**16 29 55.1**	**0.0**
BATP	**Bataraza**	**5.27**	**210**	*e*P	Pn	16 30 07.7	+4.9
MSLP	**Maasin**	**5.43**	**127**	*e*P	**Pn**	**16 30 07.0**	**+2.1**
CMAR	**Chiang Mai Arr**	**21.25**	**286**	P	**P**	**16 33 30.3**	**+3.2**
	1.8nm,0.6s,baz=96,slow=8.4,SNR=9.4						
BATI	**Baumata**	**23.69**	**172**	P	**P**	**16 33 50.5**	**-1.6**
	12nm,0.5s,baz=322,slow=2.3,SNR=6.1						
WRA	**Warramunga Arr**	**35.87**	**157**	P	P	16 35 35.5	-4.4
	0.3nm,0.3s,baz=332,slow=10,SNR=18						
WRA				pP	pP	16 35 59.0	+2.1
	0.7nm,0.8s,baz=335,slow=9.7,SNR=5.7						
SONM	**Songino Array**	**36.25**	**344**	P	**P**	**16 35 40.6**	**-2.4**
	0.5nm,0.6s,baz=153,slow=9.4,SNR=4.1						
ASAR	**Alice Springs**	**39.14**	**160**	P	P	16 36 04.5	-3.1
	0.3nm,0.5s,baz=339,slow=7.0,SNR=14						
ASAR				pP	pP	16 36 27.5	+2.8
	0.6nm,0.6s,baz=340,slow=6.9,SNR=6.3						
MKAR	**Makanchi Array**	**46.10**	**324**	P	**P**	**16 37 02.7**	**-1.0**
	0.8nm,0.7s,baz=120,slow=9.2,SNR=7.3						
ZALV	**Zalesovo Beam**	**49.18**	**333**	P	**P**	**16 37 24.9**	**-2.5**
	0.6nm,0.4s,baz=120,slow=5.8,SNR=2.2						

IDC ***06*** *16:39:54.8±2.7, 1°.39S×99°.45E, h0km, mb3.7/6, mb1 3.7/8, mb1mx3.5/25, mbtmp3.6/8, ML3.2/2, Error ellipse: s-maj=114.4km s-min=17.9km az=60.0*
ISCJB ***06*** *16:39:55.9±0.8, 1°.47S±0°.08×99°.18E±0°.08, h30km, mb3.8/6, Error ellipse: s-maj=12.1km s-min=10.4km az=148.4*
DJA ***06*** *16:39:58.8±1.2, 2°.5S±6°.9×9°.9E±1°.1, h11km, M4.4/3, MLv4.4/3*

ISC 06 16:39:58.3±1.0, 1°.40S±0°.07×99°.28E±0°.09, h30km, n13, σ0§87/14, mb3.7/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.27**	**68**	P	**Pn**	**16 40 19.8**	**-0.3**
PDSI				S	**Sb**	**16 40 37.6**	**-0.2**
PPI	**Padang Panjang**	**1.45**	**50**	P	**Pn**	**16 40 22.5**	**0.0**
BKNI	**Bangkinang**	**2.45**	**46**	P	**Pb**	**16 40 41.2**	**-0.5**
PSI	**Prapat**	**4.18**	**355**	Pn	**Pn**	**16 40 58.7**	**-1.5**
	0.4nm,0.3s,baz=152,slow=16,SNR=2.2						
EGSI	**Enggano, Bengk**	**4.94**	**143**	P	**Pn**	**16 41 09.4**	**-1.1**
CMAR	**Chiang Mai Arr**	**19.73**	**359**	P	**Pn**	**16 44 26.9**	**-0.4**
	0.1nm,0.3s,baz=186,slow=10.0,SNR=3.5						
WRA	**Warramunga Arr**	**38.92**	**121**	P	**P**	**16 47 21.0**	**-0.7**
	1.1nm,0.7s,baz=301,slow=9.1,SNR=15						
ASAR	**Alice Springs**	**40.19**	**126**	P	**P**	**16 47 31.9**	**-0.4**
	0.4nm,0.8s,baz=303,slow=7.6,SNR=8.2						
SONM	**Songino Array**	**49.42**	**6**	P	**P**	**16 48 46.0**	**+0.5**
	0.3nm,0.5s,baz=188,slow=8.7,SNR=3.2						
STKA	**Stephens Creek**	**50.08**	**132**	P	**P**	**16 48 51.7**	**+0.9**
	4.6nm,1.1s,baz=299,slow=19,SNR=3.3						
MKAR	**Makanchi Array**	**50.26**	**345**	P	**P**	**16 48 53.0**	**+1.2**
	0.4nm,0.5s,baz=156,slow=7.8,SNR=6.2						
ZALV	**Zalesovo Beam**	**56.45**	**350**	P	**P**	**16 49 38.2**	**+1.1**
	0.9nm,0.5s,baz=168,slow=7.4,SNR=5.1						
TXAR	**Lajitas Array**	**144.65**	**36**	PKP	**PKPdf**	**16 59 32.9**	**0.0**
	0.5nm,0.6s,baz=210,slow=0.4,SNR=11						

ISCJB ***06*** *17:06:15.3±0.6, 24°.04S±0°.06×68°.74W±0°.07, h112km±9km, mb4.0/5, Error ellipse: s-maj=12.1km s-min=9.0km az=33.0*
IDC ***06*** *17:06:15.7±2.5, 23°.95S×68°.55W, h94km±20km, mb3.8/5, mb1 3.7/9, mb1mx3.5/20, mbtmp3.6/9, Error ellipse: s-maj=33.1km s-min=17.5km az=108.0*
GUC ***06*** *17:06:16.4±0.7, 23°.88S×68°.86W, h117km±7km, ML4.3*

ISC 06 17:06:15.9±0.8, 24°.10S±0°.06×68°.71W±0°.06, h98km±10km, n21, σ1§41/24, mb4.1/5, 2C-4D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPCH	**San Pedro de A**	**1.28**	**22**	*e*P	**Pn**	**17 06 40.8**	**+1.1**
SPCH				*i* S	**Sn**	**17 06 59.0**	**+1.5**
SPCH				AML	AML	17 06 59.7	
	comp=N,12µm,0.4s						
CEN1	**Los Morros**	**1.54**	**297**	↓*i*P	**Pn**	**17 06 42.7**	**+0.1**
CEN1				*i* S	**Sn**	**17 07 02.8**	**-0.1**
CEN1				AML	AML	17 07 04.0	
	comp=N,3µm,0.4s						
ANCH	**Antofagasta**	**1.61**	**285**	↑*i*P	**Pn**	**17 06 43.6**	**+0.2**
ANCH				*i* S	**Sn**	**17 07 03.9**	**-0.4**
ANCH				AML	AML	17 07 05.6	
	comp=N,3µm,0.1s						
PB04	**Plate Boundary**	**1.96**	**338**	↑*i*P	**Pn**	**17 06 50.2**	**+2.3**
PB04				AML	AML	17 07 16.2	
	comp=N,3µm,0.4s						
PB09	**Plate Boundary**	**2.35**	**348**	↓*i*P	**Pn**	**17 06 53.2**	**+0.1**
PB09				*e*S	**Sn**	**17 07 20.8**	**-0.7**
PB09				AML	AML	17 07 27.2	
	comp=N,6µm,0.5s						
PB07	**Plate Boundary**	**2.60**	**335**	↓*i*P	**Pn**	**17 06 55.3**	**-1.2**
PB07				AML	AML	17 07 27.8	
	comp=E,2µm,0.7s						
PB01	**Plate Boundary**	**3.13**	**347**	↓*i*P	**Pn**	**17 07 02.0**	**-1.4**
PB01				*e*S	**Sn**	**17 07 37.2**	**-2.9**
PB01				AML	AML	17 07 38.7	
	comp=E,858nm,0.4s						
CDCH	**Caldera**	**3.52**	**212**	AML	AML	17 07 58.7	
	comp=E,187nm,0.5s						
CFAA	**Coronel Fontan**	**7.49**	**177**	P	**Pn**	**17 08 02.8**	**+0.3**
	comp=E,0.2nm,0.3s,baz=1.7,slow=12,SNR=51						
CFAA				S	**Sn**	**17 09 23.1**	**-2.6**
	comp=E,0.2nm,0.3s,baz=245,slow=19,SNR=6.3						
LPAZ	**La Paz**	**7.79**	**4**	P	**Pn**	**17 08 06.5**	**-0.7**
	comp=E,0.3nm,0.3s,baz=192,slow=8.4,SNR=8.6						
CPUP	**Villa Florida**	**10.54**	**105**	P	**Pn**	**17 08 43.6**	**-0.3**
	comp=E,0.3nm,0.3s,baz=266,slow=13,SNR=6.8						
SIV	**San Ignacio**	**10.79**	**43**	P	Pn	17 08 43.1	-4.4
	comp=E,1.4nm,0.3s,baz=249,slow=12,SNR=23						
SIV				S	Sn	17 10 36.5	-10
	comp=E,0.5nm,0.3s,baz=148,slow=23,SNR=5.5						
BDFB	**Brasilia**	**21.18**	**70**	P	**P**	**17 10 51.4**	**-2.3**
	comp=E,9.0nm,0.5s,baz=242,slow=12,SNR=18						
SNAA	**Sanae**	**59.77**	**160**	P	**P**	**17 16 11.3**	**+1.0**
	comp=E,0.5nm,0.8s,baz=275,slow=10,SNR=7.8						
QSPA	**South Pole Qui**	**66.10**	**180**	P	**P**	**17 16 54.1**	**+1.7**
	comp=E,3.3nm,0.6s,baz=165,slow=2.2,SNR=41						
TORD	**Torodi Ar. Bea**	**78.07**	**70**	P	**P**	**17 18 04.0**	**-0.4**
	comp=E,0.7nm,0.5s,baz=256,slow=5.1,SNR=18						
MAW	**Mawson**	**81.80**	**163**	P	**P**	**17 18 24.3**	**+0.7**
	comp=E,2.2nm,0.7s,baz=225,slow=8.6,SNR=4.8						
ASAR	**Alice Springs**	**127.69**	**206**	PKP	**PKPdf**	**17 25 10.7**	**+0.1**
	comp=E,0.4nm,0.5s,baz=135,slow=1.4,SNR=18						
WRA	**Warramunga Arr**	**130.80**	**209**	PKP	**PKPdf**	**17 25 16.9**	**+0.4**
	comp=E,0.5nm,0.5s,baz=155,slow=1.7,SNR=13						
ZALV	**Zalesovo Beam**	**144.20**	**27**	PKP	PKPbc	17 25 38.7	+0.4
	comp=E,0.6nm,0.5s,baz=316,slow=4.0,SNR=3.5						
MKAR	**Makanchi Array**	**147.59**	**38**	PKPbc	**PKPdf**	**17 25 47.0**	**+0.9**
	comp=E,0.8nm,0.7s,baz=316,slow=4.0,SNR=7.8						

ISCJB ***06*** *17:22:58.7±0.3, 59°.23N±0°.03×22°.69E±0°.05, h0km, mb3.3/2, Error ellipse: s-maj=3.7km s-min=3.3km az=178.8*
NAO ***06*** *17:23:00.8±1.2, 59°.41N×22°.72E, ML2.7*
IDC ***06*** *17:23:00.8±0.6, 59°.25N×22°.90E, h0km, mb3.3/2, mb1 3.6/9, mb1mx3.4/29, mbtmp3.5/9, ML3.7/7, Error ellipse: s-maj=8.5km s-min=7.8km az=136.0*
CSEM ***06*** *17:23:00.2±0.1, 59°.25N×22°.68E, h1km, ML2.4, Error ellipse: s-maj=4.1km s-min=3.2km az=155.0, Mining explosion.*
HEL ***06*** *17:23:00.4±0.1, 59°.23N×22°.75E, h0km, ML2.4, ML2.6(UPP), Explosion*
UPP ***06*** *17:23:01.5, 59°.26N×22°.57E, h0km, ML2.6, Suspected Mining explosion.*
BER ***06*** *17:23:01.1±4.2, 59°.42N×22°.76E, h0km, ML2.7(NAO), Suspected explosion*

ISC 06 17:22:59.1±0.6, 59°.24N±0°.03×22°.68E±0°.03, h0km, n88, σ1§23/105, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTSE	**Matsula**	**0.79**	**131**	*e*P	**Pg**	**17 23 14.2**	**+0.1**
MTSE				*e*S	**Sg**	**17 23 24.8**	**+0.5**
MEF	**Metsahovi**	**1.31**	**41**	*e*P	**Pg**	**17 23 23.5**	**-0.7**
MEF				*e*S	**Sg**	**17 23 39.9**	**-1.3**
MEF	**Metsahovi**	**1.31**	**41**	*e*P	**Pg**	**17 23 23.4**	**-0.8**
	SNR=70						
MEF				*e*S	**Sg**	**17 23 40.1**	**-1.1**
	44nm,0.5s,SNR=70						
SLIT	**Slitere, Latvi**	**1.63**	**187**	*e*P	**Pn**	**17 23 29.0**	**+0.1**
SLIT				*e*S	**Sn**	**17 23 51.2**	**+0.7**
SLIT	**Slitere, Latvi**	**1.63**	**187**	*e*P	**Pn**	**17 23 29.4**	**+0.5**
	SNR=50						
SLIT				S	**Sn**	**17 23 51.2**	**+0.7**
RAF	**Rauma**	**1.85**	**346**	*e*P	**Pn**	**17 23 33.2**	**+1.2**
RAF				*e*S	**Sn**	**17 23 56.9**	**+0.8**
RAF	**Rauma**	**1.85**	**346**	P	**Pn**	**17 23 33.2**	**+1.2**
RAF				S	**Sn**	**17 23 56.9**	**+0.8**
PVF	**Pernaja**	**2.07**	**49**	*e*P	**Pn**	**17 23 36.3**	**+1.2**
PVF				*e*S	**Sn**	**17 24 02.1**	**+0.5**
PVF	**Pernaja**	**2.07**	**49**	P	**Pn**	**17 23 36.2**	**+1.2**
PVF				S	**Sn**	**17 24 02.0**	**+0.5**
NRTU	**Norrtaelje**	**2.12**	**284**	P	**Pn**	**17 23 37.4**	**+1.7**
NRTU	**Norrtaelje**	**2.12**	**284**	P	**Pn**	**17 23 37.3**	**+1.7**
VSU	**Vasula**	**2.25**	**109**	Pn	**Pb**	**17 23 39.7**	**-0.7**
VSU				Lg	Lg	17 24 07.6	
VSU	**Vasula**	**2.25**	**109**	Pn	**Pb**	**17 23 39.7**	**-0.7**
VSU				Lg	Lg	17 24 07.6	
VSU	**Vasula**	**2.25**	**109**	*e*PG	**Pb**	**17 23 39.7**	**-0.7**
VSU				*e*SG	**Sb**	**17 24 08.2**	**-0.6**
VSU	**Vasula**	**2.25**	**109**	*e*P	**Pb**	**17 23 39.7**	**-0.7**
	SNR=50						
VSU				Lg	Lg	17 24 07.6	
	SNR=62						
VSU				*e*S	**S**	**17 24 07.6**	**+1.9**
	108nm,0.3s,SNR=50						
NYNU	**Nynaeshamn**	**2.42**	**267**	P	**Pn**	**17 23 41.5**	**+1.5**
NYNU	**Nynaeshamn**	**2.42**	**267**	P	**Pn**	**17 23 41.4**	**+1.5**
FORU	**Forsmark**	**2.55**	**299**	P	**Pn**	**17 23 42.9**	**+1.3**
FORU	**Forsmark**	**2.55**	**299**	P	**Pn**	**17 23 42.9**	**+1.3**
FLYU	**Flymyra**	**2.59**	**292**	P	**Pn**	**17 23 43.4**	**+1.2**
FLYU	**Flymyra**	**2.59**	**292**	P	**Pn**	**17 23 43.4**	**+1.2**
UPP	**Uppsala**	**2.65**	**286**	P	**Pn**	**17 23 44.8**	**+1.8**
UPP	**Uppsala**	**2.65**	**286**	P	**Pn**	**17 23 44.8**	**+1.8**
VJF	**Virojoki**	**2.78**	**60**	MSG		17 24 24.8	
	comp=Z,16nm,0.3s						
FIA0	**FINESS Array S**	**2.78**	**36**	Pn	**Pn**	**17 23 46.1**	**+1.3**
	baz=217,slow=12						
FIA0				Lg	Lg	17 24 21.7	
	baz=225,slow=22						
FIA0	**FINESS Array S**	**2.78**	**36**	Pn	**Pn**	**17 23 46.1**	**+1.3**
	baz=217,slow=12						
FIA0				Lg	Lg	17 24 21.7	
	baz=225,slow=22						
FIA0	**FINESS Array S**	**2.78**	**36**	MSG		17 24 25.5	
	comp=Z,15nm,0.2s						
FIA0	**FINESS Array S**	**2.78**	**36**	Pn	**Pn**	**17 23 46.2**	**+1.3**
	baz=217,slow=12,SNR=50						
FIA0				Lg	Lg	17 24 21.7	
	baz=225,slow=22,SNR=62						
FINES	**FINESS Array B**	**2.78**	**36**	Pn	**Pn**	**17 23 46.4**	**+1.6**
	comp=Z,3.9nm,0.3s,baz=220,slow=12,SNR=152						
FINES				Sn	**Sn**	**17 24 21.1**	**+2.0**
	comp=Z,8.1nm,0.3s,baz=219,slow=21,SNR=19						
BACU	**Backbrunna**	**2.91**	**285**	P	**Pn**	**17 23 48.1**	**+1.6**
BACU	**Backbrunna**	**2.91**	**285**	P	**Pn**	**17 23 48.1**	**+1.6**
KEF	**Keuruu**	**3.13**	**19**	MSG		17 24 35.5	
	comp=Z,13nm,0.3s						
IGGU	**Iggoen**	**3.15**	**304**	P	**Pn**	**17 23 51.3**	**+1.3**
IGGU	**Iggoen**	**3.15**	**304**	P	**Pn**	**17 23 51.2**	**+1.3**
ESKU	**Eskilstuna**	**3.23**	**273**	P	**Pn**	**17 23 53.4**	**+2.3**
ESKU	**Eskilstuna**	**3.23**	**273**	P	**Pn**	**17 23 53.3**	**+2.3**
VSTU	**Vaestervik**	**3.60**	**247**	P	**Pn**	**17 23 57.5**	**+1.5**
VSTU	**Vaestervik**	**3.60**	**247**	P	**Pn**	**17 23 57.5**	**+1.5**
ARNU	**Arnoeviken**	**3.60**	**315**	P	**Pn**	**17 23 57.2**	**+1.1**
ARNU	**Arnoeviken**	**3.60**	**315**	P	**Pn**	**17 23 57.2**	**+1.1**
FALU	**Falun**	**3.68**	**293**	P	**Pn**	**17 23 58.4**	**+1.2**
FALU	**Falun**	**3.68**	**293**	P	**Pn**	**17 23 58.3**	**+1.2**
NRAU	**Nora**	**3.92**	**278**	P	**Pn**	**17 24 01.8**	**+1.3**
NRAU	**Nora**	**3.92**	**278**	P	**Pn**	**17 24 01.8**	**+1.3**
ROTU	**Roteberg**	**4.06**	**306**	P	**Pn**	**17 24 03.3**	**+1.0**
ROTU	**Roteberg**	**4.06**	**306**	P	**Pn**	**17 24 03.3**	**+1.0**
ASKU	**Askersund**	**4.07**	**269**	P	**Pn**	**17 24 03.9**	**+1.4**
ASKU	**Askersund**	**4.07**	**269**	P	**Pn**	**17 24 03.9**	**+1.4**
HEMU	**Hemsoen**	**4.13**	**329**	P	**Pn**	**17 24 05.1**	**+1.7**
HEMU	**Hemsoen**	**4.13**	**329**	P	**Pn**	**17 24 05.0**	**+1.7**
HASU	**Hassela**	**4.18**	**317**	P	**Pn**	**17 24 05.4**	**+1.4**
HASU	**Hassela**	**4.18**	**317**	P	**Pn**	**17 24 05.4**	**+1.4**
HFS	**Hagfors**	**4.64**	**285**	Pn	**Pn**	**17 24 11.4**	**+1.0**
	baz=89,slow=14						
HFS				Sn	**Sn**	**17 25 03.1**	**-1.9**
	baz=94,slow=28						
HFS				Lg	Lg	17 25 21.8	
	baz=91,slow=22						
HFS	**Hagfors**	**4.64**	**285**	Pn	**Pn**	**17 24 11.4**	**+1.0**
	baz=89,slow=14						
HFS				Sn	**Sn**	**17 25 03.1**	**-1.9**
	baz=94,slow=28						
HFS				Lg	Lg	17 25 21.8	
	baz=91,slow=22						
HFS	**Hagfors**	**4.64**	**285**	Pn	**Pn**	**17 24 11.7**	**+1.3**
	comp=Z,3.2nm,0.3s,baz=98,slow=14,SNR=101						
HFS				Pg	**Pb**	**17 24 22.5**	**+1.2**
	comp=Z,2.1nm,0.3s,baz=94,slow=18,SNR=10						
HFS				Sn	**Sn**	**17 25 06.0**	**+1.1**
	comp=Z,1.3nm,0.3s,baz=90,slow=20,SNR=3.0						
HFS				Lg	Lg	17 25 22.8	
	comp=Z,4.8nm,0.3s,baz=95,slow=31,SNR=10						
HFS	**Hagfors**	**4.64**	**285**	Pn	**Pn**	**17 24 11.4**	**+1.0**
	baz=89,slow=14,SNR=50						
HFS				Sn	**Sn**	**17 25 03.1**	**-1.9**
	baz=94,slow=26,SNR=50						
HFS				Lg	Lg	17 25 21.8	
	baz=91,slow=22,SNR=8.7						
UDD	**Uddeholm**	**4.68**	**284**	P	**Pn**	**17 24 11.9**	**+1.0**
UDD	**Uddeholm**	**4.68**	**284**	P	**Pn**	**17 24 11.9**	**+1.0**
BLEU	**Blekinge**	**4.71**	**234**	P	**Pn**	**17 24 12.1**	**+0.8**
BLEU	**Blekinge**	**4.71**	**234**	P	**Pn**	**17 24 12.1**	**+0.8**
SOLU	**Sollefteaa**	**4.80**	**329**	P	**Pn**	**17 24 13.7**	**+1.1**
SOLU	**Sollefteaa**	**4.80**	**329**	P	**Pn**	**17 24 13.6**	**+1.1**
FINU	**Finntorp**	**5.23**	**276**	P	**Pn**	**17 24 19.5**	**+1.1**
FINU	**Finntorp**	**5.23**	**276**	P	**Pn**	**17 24 19.5**	**+1.1**
VANU	**Vaenersborg**	**5.56**	**267**	P	**Pn**	**17 24 24.8**	**+1.9**
VANU	**Vaenersborg**	**5.56**	**267**	P	**Pn**	**17 24 24.8**	**+1.9**
BSD	**Bornholm Skovb**	**5.91**	**229**	*i* P	**Pn**	**17 24 27.4**	**-0.4**
BSD				*i* S	Sn	17 25 31.0	-5.1
BSD	**Bornholm Skovb**	**5.91**	**229**	*i* P	**Pn**	**17 24 27.4**	**-0.4**
STRU	**Stroemstad**	**5.92**	**273**	P	**Pn**	**17 24 28.7**	**+0.7**
STRU	**Stroemstad**	**5.92**	**273**	P	**Pn**	**17 24 28.7**	**+0.7**
NB2	**NORSAR Subarra**	**6.01**	**292**	Pn	**Pn**	**17 24 29.2**	**0.0**
	baz=99,slow=14						
NB2				Sn	**Sn**	**17 25 36.9**	**-1.7**
NB2				Lg	Lg	17 26 02.9	
NB2	**NORSAR Subarra**	**6.01**	**292**	Pn	**Pn**	**17 24 29.2**	**0.0**
	baz=99,slow=14						
NB2				Sn	**Sn**	**17 25 36.9**	**-1.7**
NB2				Lg	Lg	17 26 02.9	
NB2	**NORSAR Subarra**	**6.01**	**292**	Pn	**Pn**	**17 24 29.2**	**0.0**
	baz=99,slow=13,SNR=5.0						
NB2				Sn	**Sn**	**17 25 36.9**	**-1.7**
	SNR=50						
NB2				Lg	Lg	17 26 02.8	
NOA	**NORSAR Array B**	**6.01**	**292**	Pn	**Pn**	**17 24 29.3**	**0.0**
	comp=Z,2.4nm,0.3s,baz=98,slow=13,SNR=54						
NOA				Sn	**Sn**	**17 25 40.1**	**+1.5**
	comp=Z,1.0nm,0.3s,baz=112,slow=14,SNR=3.9						
NOA				Lg	Lg	17 26 03.8	
	comp=Z,2.0nm,0.3s,baz=267,slow=16,SNR=5.3						
AKASG	**Malin Array Be**	**9.34**	**153**	Pn	Pn	17 25 10.9	-3.9
	comp=Z,5.3nm,0.3s,baz=333,slow=13,SNR=12						
AKASG				Lg	Lg	17 27 50.0	
	comp=Z,0.9nm,0.3s,baz=330,slow=28,SNR=3.9						
**AP

ellipse: s-maj=5.1km s-min=3.5km az=129.0, Mining explosion.
*HEL **06** 17:34:44.2±0.1, 59°.65N×24°.56E, h0km, ML2.6, ML1.8(UPP), Explosion*
*UPP **06** 17:34:46.8, 59°.73N×24°.17E, h0km, ML1.8, Suspected Mining explosion.*

ISC 06 17:34:42.4±0.6, 59°.66N±0°.02×24°.48E±0°.03, h0km, n88, σ1§53/111, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**0.56**	**356**	*e*P	**Pg**	**17 34 53.9**	**+0.8**
MEF				*e*RG	Rg	17 35 01.5	
MEF	**Metsahovi**	**0.56**	**356**	*e*P	**Pg**	**17 34 54.1**	**+1.0**
	SNR=90						
MEF				*e*S	**Sg**	**17 35 01.2**	**+0.9**
	548nm,0.6s,SNR=90						
MTSE	**Matsula**	**1.01**	**200**	*e*P	**Pg**	**17 35 02.3**	**+0.6**
MTSE				*e*SB	**Sg**	**17 35 16.5**	**+1.7**
MTSE	**Matsula**	**1.01**	**200**	P	**Pg**	**17 35 02.3**	**+0.6**
MTSE				Sb	**Sg**	**17 35 16.5**	**+1.7**
PVF	**Pernaja**	**1.12**	**37**	*e*P	**Pg**	**17 35 03.7**	**-0.3**
PVF				*e*SB	**Sg**	**17 35 20.0**	**+1.5**
PVF				*e*RG	Rg	17 35 23.9	
PVF	**Pernaja**	**1.12**	**37**	P	**Pg**	**17 35 03.6**	**-0.3**
PVF				Sb	**Sg**	**17 35 20.0**	**+1.5**
VSU	**Vasula**	**1.68**	**135**	Pg	**Pn**	**17 35 13.6**	**+0.7**
VSU				Lg	Lg	17 35 35.0	
VSU	**Vasula**	**1.68**	**135**	Pg	**Pn**	**17 35 13.6**	**+0.7**
VSU				Lg	Lg	17 35 35.0	
VSU	**Vasula**	**1.68**	**135**	Pg	**Pn**	**17 35 13.6**	**+0.7**
	SNR=90						
VSU				Lg	Lg	17 35 35.0	
	SNR=62						
VJF	**Virojoki**	**1.77**	**59**	*e*P	**Pn**	**17 35 14.8**	**+0.5**
VJF				*e*SG	**Sn**	**17 35 37.9**	**+0.4**
VJF	**Virojoki**	**1.77**	**59**	P	**Pn**	**17 35 14.8**	**+0.5**
VJF				Sg	**Sn**	**17 35 37.9**	**+0.4**
RAF	**Rauma**	**1.92**	**317**	*e*P	**Pb**	**17 35 18.5**	**+0.3**
RAF				*e*SB	**Sb**	**17 35 43.9**	**+1.2**
RAF	**Rauma**	**1.92**	**317**	*e*P	**Pb**	**17 35 18.9**	**+0.7**
	SNR=50						
RAF				Sb	**Sb**	**17 35 43.9**	**+1.2**
RAF				*e*S	**Sg**	**17 35 45.0**	**+1.0**
	84nm,0.2s,SNR=50						
FIA0	**FINESS Array S**	**1.96**	**23**	Pg	**Pn**	**17 35 18.5**	**+1.7**
	baz=193,slow=18						
FIA0				Lg	Lg	17 35 44.6	
	baz=202,slow=28						
FIA0				Rg	Rg	17 35 54.3	
	baz=178,slow=56						
FIA0	**FINESS Array S**	**1.96**	**23**	Pg	**Pn**	**17 35 18.5**	**+1.7**
	baz=193,slow=18						
FIA0				Lg	Lg	17 35 44.6	
	baz=202,slow=28						
FIA0				Rg	Rg	17 35 54.3	
	baz=178,slow=56						
FIA0	**FINESS Array S**	**1.96**	**23**	*e*P	**Pn**	**17 35 18.3**	**+1.5**
FIA0				*e*SG	**Sg**	**17 35 45.9**	**+0.8**
FIA0				*e*RG	Rg	17 35 55.8	
FIA0				*e*RG	Rg	17 35 55.8	
FIA0				*e*RG	Rg	17 35 55.8	
FIA0	**FINESS Array S**	**1.96**	**23**	Pg	**Pn**	**17 35 18.5**	**+1.7**
	baz=193,slow=18,SNR=203						
FIA0				Lg	Lg	17 35 44.7	
	baz=202,slow=26,SNR=62						
FIA0				Sg	**Sg**	**17 35 45.9**	**+0.8**
FINES	**FINESS Array B**	**1.96**	**23**	Pn	**Pn**	**17 35 18.8**	**+2.0**
	17nm,0.3s,baz=203,slow=16,SNR=829						
FINES				Sn	**Sn**	**17 35 43.5**	**+1.5**
	18nm,0.3s,baz=192,slow=26,SNR=20						
SLIT	**Slitere, Latvi**	**2.34**	**210**	*e*P	**Pb**	**17 35 25.2**	**-0.1**
	SNR=50						
KEF	**Keuruu**	**2.52**	**4**	*e*PB	**Pb**	**17 35 27.8**	**-0.7**
KEF				*e*SB	**Sb**	**17 36 00.3**	**+0.3**
KEF				MSG		17 36 02.6	
	comp=Z,27nm,0.2s						
KEF	**Keuruu**	**2.52**	**4**	Pb	**Pb**	**17 35 27.8**	**-0.7**
KEF				Sb	**Sb**	**17 36 00.3**	**+0.3**
KAF	**Kangasniemi**	**2.62**	**19**	*e*P	**Pn**	**17 35 28.6**	**+2.7**
KAF				*e*SB	**Sb**	**17 36 03.2**	**+0.4**
KAF				MSG		17 36 07.3	
	comp=Z,20nm,0.2s						
KAF	**Kangasniemi**	**2.62**	**19**	P	**Pn**	**17 35 28.6**	**+2.7**
KAF				Sb	**Sb**	**17 36 03.2**	**+0.4**
NRTU	**Norrtaelje**	**2.97**	**273**	P	**Pn**	**17 35 32.7**	**+2.0**
NRTU	**Norrtaelje**	**2.97**	**273**	P	**Pn**	**17 35 32.7**	**+2.0**
SUF	**Sumiainen**	**3.17**	**14**	*e*P	**Pn**	**17 35 35.9**	**+2.4**
SUF				MSG		17 36 24.7	
	comp=Z,18nm,0.2s						
SUF	**Sumiainen**	**3.17**	**14**	P	**Pn**	**17 35 35.9**	**+2.4**
FLYU	**Flymyra**	**3.35**	**281**	P	**Pn**	**17 35 37.2**	**+1.2**
FLYU	**Flymyra**	**3.35**	**281**	P	**Pn**	**17 35 37.2**	**+1.2**
NYNU	**Nynaeshamn**	**3.38**	**262**	P	**Pn**	**17 35 38.4**	**+2.1**
NYNU	**Nynaeshamn**	**3.38**	**262**	P	**Pn**	**17 35 38.4**	**+2.1**
VAF	**Ylistaro**	**3.50**	**346**	*e*P	Pn	17 35 41.8	+3.8
VAF				MSG		17 36 40.0	
	comp=Z,19nm,0.3s						
VAF	**Ylistaro**	**3.50**	**346**	P	Pn	17 35 41.8	+3.8
GOTU	**Gotland**	**3.67**	**240**	P	**Pn**	**17 35 42.9**	**+2.6**
GOTU	**Gotland**	**3.67**	**240**	P	**Pn**	**17 35 42.8**	**+2.6**
BACU	**Backbrunna**	**3.73**	**276**	P	**Pn**	**17 35 42.9**	**+1.7**
BACU	**Backbrunna**	**3.73**	**276**	P	**Pn**	**17 35 42.9**	**+1.7**
IGGU	**Iggoen**	**3.77**	**292**	P	**Pn**	**17 35 43.2**	**+1.5**
IGGU	**Iggoen**	**3.77**	**292**	P	**Pn**	**17 35 43.2**	**+1.5**
ARNU	**Arnoeviken**	**4.04**	**303**	P	**Pn**	**17 35 47.2**	**+1.7**
ARNU	**Arnoeviken**	**4.04**	**303**	P	**Pn**	**17 35 47.1**	**+1.7**
ESKU	**Eskilstuna**	**4.15**	**268**	P	**Pn**	**17 35 49.4**	**+2.4**
ESKU	**Eskilstuna**	**4.15**	**268**	P	**Pn**	**17 35 49.3**	**+2.4**
HUDU	**Hudiksvall**	**4.17**	**303**	P	**Pn**	**17 35 48.7**	**+1.5**
HUDU	**Hudiksvall**	**4.17**	**303**	P	**Pn**	**17 35 48.7**	**+1.5**
FALU	**Falun**	**4.41**	**285**	P	**Pn**	**17 35 52.0**	**+1.5**
FALU	**Falun**	**4.41**	**285**	P	**Pn**	**17 35 52.0**	**+1.5**
HASU	**Hassela**	**4.58**	**306**	P	**Pn**	**17 35 54.7**	**+1.9**
HASU	**Hassela**	**4.58**	**306**	P	**Pn**	**17 35 54.7**	**+1.9**
VSTU	**Vaestervik**	**4.61**	**248**	P	**Pn**	**17 35 55.4**	**+2.2**
VSTU	**Vaestervik**	**4.61**	**248**	P	**Pn**	**17 35 55.3**	**+2.2**
ASPU	**Aespoe**	**4.70**	**245**	P	**Pn**	**17 35 56.6**	**+2.1**
ASPU	**Aespoe**	**4.70**	**245**	P	**Pn**	**17 35 56.5**	**+2.1**
NRAU	**Nora**	**4.79**	**273**	P	**Pn**	**17 35 57.2**	**+1.4**
NRAU	**Nora**	**4.79**	**273**	P	**Pn**	**17 35 57.2**	**+1.4**
ASKU	**Askersund**	**5.01**	**265**	P	**Pn**	**17 36 00.9**	**+2.2**
ASKU	**Askersund**	**5.01**	**265**	P	**Pn**	**17 36 00.9**	**+2.2**
HFS	**Hagfors**	**5.45**	**280**	Pn	**Pn**	**17 36 05.5**	**+0.7**
	baz=100,slow=12						
HFS				Sn	**Sn**	**17 37 07.8**	**-0.3**
	baz=91,slow=22						
HFS				Lg	Lg	17 37 31.0	
	baz=79,slow=37						
HFS	**Hagfors**	**5.45**	**280**	Pn	**Pn**	**17 36 05.5**	**+0.7**
	baz=100,slow=12						
HFS				Sn	**Sn**	**17 37 07.8**	**-0.3**
	baz=91,slow=22						
HFS				Lg	Lg	17 37 31.0	
	baz=79,slow=37						
HFS	**Hagfors**	**5.45**	**280**	Pn	**Pn**	**17 36 06.0**	**+1.2**
	comp=Z,1.1nm,0.3s,baz=88,slow=14,SNR=54						
HFS				Sn	**Sn**	**17 37 07.8**	**-0.3**
	comp=Z,1.2nm,0.3s,baz=90,slow=22,SNR=7.0						
HFS				Lg	Lg	17 37 31.3	
	comp=Z,2.9nm,0.3s,baz=87,slow=30,SNR=9.1						
HFS	**Hagfors**	**5.45**	**280**	Pn	**Pn**	**17 36 05.5**	**+0.7**
	baz=100,slow=12,SNR=50						
HFS				Lg	Lg	17 37 31.0	
	baz=79,slow=28,SNR=6.6						
UDD	**Uddeholm**	**5.49**	**279**	P	**Pn**	**17 36 07.3**	**+1.9**
UDD	**Uddeholm**	**5.49**	**279**	P	**Pn**	**17 36 07.3**	**+1.9**
NASU	**Vaermlandsnaes**	**5.83**	**268**	P	**Pn**	**17 36 12.7**	**+2.7**
NASU	**Vaermlandsnaes**	**5.83**	**268**	P	**Pn**	**17 36 12.7**	**+2.7**
FINU	**Finntorp**	**6.11**	**273**	P	**Pn**	**17 36 15.0**	**+1.2**
FINU	**Finntorp**	**6.11**	**273**	P	**Pn**	**17 36 15.0**	**+1.2**
NB2	**NORSAR Subarra**	**6.72**	**288**	Pn	**Pn**	**17 36 21.9**	**-0.5**
	baz=96,slow=14						
NB2				Sn	**Sn**	**17 37 37.5**	**-2.1**
	baz=97,slow=22						
NB2				Lg	Lg	17 38 12.5	
	baz=96,slow=37						
NB2	**NORSAR Subarra**	**6.72**	**288**	Pn	**Pn**	**17 36 21.9**	**-0.5**
	baz=96,slow=14						
NB2				Sn	**Sn**	**17 37 37.5**	**-2.1**
	baz=97,slow=22						
NB2				Lg	Lg	17 38 12.5	
	baz=96,slow=37						
NB2	**NORSAR Subarra**	**6.72**	**288**	Pn	**Pn**	**17 36 21.9**	**-0.5**
	baz=96,slow=12,SNR=50						
NB2				Lg	Lg	17 38 12.5	
	baz=96,slow=30,SNR=3.2						
NOA	**NORSAR Array B**	**6.72**	**288**	Pn	**Pn**	**17 36 22.6**	**+0.3**
	comp=Z,1.2nm,0.3s,baz=96,slow=14,SNR=37						
NOA				Sn	**Sn**	**17 37 40.7**	**+1.1**
	comp=Z,1.2nm,0.3s,baz=79,slow=17,SNR=5.4						
NOA				Lg	Lg	17 38 10.0	
	comp=Z,2.0nm,0.3s,baz=86,slow=18,SNR=6.6						
BSD	**Bornholm Skovb**	**6.89**	**233**	*i* P	**Pn**	**17 36 24.5**	**0.0**
BSD				*i* S	**Sn**	**17 37 39.5**	**-4.0**
BSD	**Bornholm Skovb**	**6.89**	**233**	*e*P	**Pn**	**17 36 24.5**	**0.0**
APA0	**Apatity Array**	**8.82**	**22**	Pn	**Pn**	**17 36 50.7**	**-0.2**
	baz=223,slow=12						
APA0	**Apatity Array**	**8.82**	**22**	Pn	**Pn**	**17 36 50.7**	**-0.2**
	baz=223,slow=12						
APA0	**Apatity Array**	**8.82**	**22**	Pn	**Pn**	**17 36 50.7**	**-0.2**
	baz=223,slow=12,SNR=50						
AKASG	**Malin Array Be**	**9.38**	**161**	Pn	**Pn**	**17 36 58.3**	**-0.3**
	comp=Z,1.8nm,0.3s,baz=338,slow=12,SNR=4.5						
ARA0	**ARCESS Array S**	**9.92**	**2**	Pn	**Pn**	**17 37 05.0**	**-1.1**
	baz=173,slow=16						
ARA0	**ARCESS Array S**	**9.92**	**2**	Pn	**Pn**	**17 37 05.0**	**-1.1**
	baz=173,slow=16						
ARA0	**ARCESS Array S**	**9.92**	**2**	Pn	**Pn**	**17 37 05.0**	**-1.1**
	baz=173,slow=15,SNR=50						
ARCES	**ARCESS Array B**	**9.92**	**2**	Pn	**Pn**	**17 37 05.3**	**-0.8**
	comp=Z,1.9nm,0.3s,baz=180,slow=13,SNR=107						
ARCES				Sn	**Sn**	**17 38 54.2**	**-3.8**
	comp=Z,0.5nm,0.3s,baz=182,slow=22,SNR=4.4						
ARCES				Lg	Lg	17 39 48.2	
	comp=Z,0.7nm,0.3s,baz=177,slow=31,SNR=5.4						
GERES	**GERESS Array B**	**12.51**	**215**	Pn	**Pn**	**17 37 42.3**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=24,slow=15,SNR=2.5						
SPA0	**Spitsbergen Ar**	**18.79**	**355**	P	**P**	**17 39 03.6**	**+0.7**
	baz=164,slow=11						
SPA0	**Spitsbergen Ar**	**18.79**	**355**	P	**P**	**17 39 03.6**	**+0.7**
	baz=164,slow=11						
SPA0	**Spitsbergen Ar**	**18.79**	**355**	P	**P**	**17 39 03.6**	**+0.7**
	baz=164,slow=10,SNR=47						
SPITS	**Spitsbergen Ar**	**18.79**	**355**	P	**P**	**17 39 03.8**	**+0.9**
	baz=160,slow=18,SNR=5.7						
MKAR	**Makanchi Array**	**35.73**	**85**	P	**P**	**17 41 41.9**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=310,slow=6.5,SNR=6.0						
TORD	**Torodi Ar. Bea**	**49.41**	**210**	P	**P**	**17 43 33.6**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=3.4,slow=8.5,SNR=3.0						

*ISCJB **06** 17:53:46.0±0.4, 59°.63N±0°.02×24°.10E±0°.06, h0km, Error ellipse: s-maj=4.7km s-min=2.8km az=26.4*
*BER **06** 17:53:47.9±4.0, 59°.68N×24°.17E, h0km±16km, ML2.4(NAO)*
*CSEM **06** 17:53:47.2±0.2, 59°.65N×24°.20E, h2km, ML2.4, Error ellipse: s-maj=4.5km s-min=3.2km az=121.0, Mining explosion.*
*NAO **06** 17:53:47.1±1.0, 59°.66N×24°.18E, ML2.4*
*IDC **06** 17:53:48.8±1.1, 59°.74N×24°.17E, h0km, mb1 3.2/4, mb1mx3.0/26, mbtmp3.1/4, ML3.2/4, Error ellipse: s-maj=12.9km s-min=8.6km az=151.0*
*HEL **06** 17:53:48.1±0.1, 59°.66N×24°.24E, h0km, ML2.4, ML2.1(UPP), Explosion*
*UPP **06** 17:53:51.7, 59°.73N×23°.54E, h0km, ML2.1, Suspected Mining explosion.*

ISC 06 17:53:46.1±0.7, 59°.67N±0°.02×24°.12E±0°.03, h0km, n93, σ1§53/120, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**0.56**	**14**	*e*P	**Pg**	**17 53 57.8**	**+0.8**
MEF				*e*S	**Sg**	**17 54 05.2**	**+1.0**
MEF	**Metsahovi**	**0.56**	**14**	*e*P	**Pg**	**17 53 58.1**	**+1.1**
	SNR=90						
MEF				*e*S	**Sg**	**17 54 05.4**	**+1.1**
	SNR=90						
MTSE	**Matsula**	**0.97**	**189**	*e*P	**Pg**	**17 54 05.3**	**+0.5**
MTSE				*e*S	**Sg**	**17 54 17.7**	**+0.4**
MTSE				*e*RG	Rg	17 54 21.0	
MTSE	**Matsula**	**0.97**	**189**	P	**Pg**	**17 54 05.2**	**+0.5**
MTSE				S	**Sg**	**17 54 17.7**	**+0.4**
PVF	**Pernaja**	**1.24**	**44**	*e*P	**Pg**	**17 54 09.8**	**0.0**
PVF				*e*RG	Rg	17 54 31.5	
PVF	**Pernaja**	**1.24**	**44**	P	**Pg**	**17 54 09.8**	**0.0**
RAF	**Rauma**	**1.79**	**320**	*e*P	**Pb**	**17 54 19.9**	**+0.1**
RAF				*e*SN	**Sg**	**17 54 45.0**	**+1.4**
RAF				MSG		17 54 47.3	
	comp=Z,27nm,0.1s						
RAF	**Rauma**	**1.79**	**320**	P	**Pb**	**17 54 19.9**	**+0.1**
RAF				*e*S	**Sg**	**17 54 44.6**	**+1.0**
	SNR=50						
VSU	**Vasula**	**1.82**	**131**	Pg	**Pn**	**17 54 20.0**	**+1.4**
VSU				Lg	Lg	17 54 43.4	
VSU	**Vasula**	**1.82**	**131**	Pg	**Pn**	**17 54 20.0**	**+1.4**
VSU				Lg	Lg	17 54 43.4	
VSU	**Vasula**	**1.82**	**131**	Pg	**Pn**	**17 54 20.0**	**+1.4**
	SNR=90						
VSU	**Vasula**	**1.82**	**131**	*e*P	**Pn**	**17 54 20.4**	**+1.8**
	SNR=50						
VSU				Lg	Lg	17 54 43.4	
	SNR=62						
VJF	**Virojoki**	**1.93**	**62**	*e*P	**Pn**	**17 54 21.0**	**+0.9**
VJF	**Virojoki**	**1.93**	**62**	P	**Pn**	**17 54 21.0**	**+0.9**
FIA0	**FINESS Array S**	**2.02**	**28**	Pn	**Pn**	**17 54 23.5**	**+2.0**
	baz=200,slow=16						
FIA0				Lg	Lg	17 54 50.3	
	baz=202,slow=28						
FIA0				Rg	Rg	17 55 00.9	
	baz=199,slow=37						
FIA0	**FINESS Array S**	**2.02**	**28**	Pn	**Pn**	**17 54 23.5**	**+2.0**
	baz=200,slow=16						
FIA0				Lg	Lg	17 54 50.3	
	baz=202,slow=28						
FIA0				Rg	Rg	17 55 00.9	
	baz=199,slow=37						
FIA0	**FINESS Array S**	**2.02**	**28**	*e*PB	**Pn**	**17 54 23.3**	**+1.8**
FIA0				*e*SG	**Sb**	**17 54 49.6**	**+0.1**
FIA0				*e*RG	Rg	17 55 00.5	
FIA0	**FINESS Array S**	**2.02**	**28**	Pn	**Pn**	**17 54 23.5**	**+2.0**
	baz=200,slow=14,SNR=50						
FIA0				Sg	**Sb**	**17 54 49.6**	**+0.1**
FIA0				Lg	Lg	17 54 50.3	
	baz=202,slow=25,SNR=62						
FINES	**FINESS Array B**	**2.02**	**28**	Pn	**Pb**	**17 54 23.8**	**+0.1**
	comp=Z,6.9nm,0.3s,baz=210,slow=13,SNR=816						
FINES				Sn	**Sb**	**17 54 49.9**	**+0.4**
	comp=Z,7.8nm,0.3s,baz=208,slow=24,SNR=31						
SLIT	**Slitere, Latvi**	**2.26**	**206**	*e*P	**Pn**	**17 54 27.2**	**+2.5**
SLIT				*e*SG	**Sb**	**17 54 58.1**	**+1.8**
SLIT	**Slitere, Latvi**	**2.26**	**206**	*e*P	**Pn**	**17 54 27.2**	**+2.5**
	SNR=50						
SLIT				Sg	**Sb**	**17 54 58.0**	**+1.8**
KEF	**Keuruu**	**2.53**	**8**	*e*PB	**Pb**	**17 54 32.0**	**-0.4**
KEF				*e*SB	**Sb**	**17 55 04.1**	**+0.1**
KEF				MSG		17 55 06.9	
	comp=Z,21nm,0.2s						
KEF	**Keuruu**	**2.53**	**8**	Pb	**Pb**	**17 54 32.0**	**-0.4**
KEF				Sb	**Sb**	**17 55 04.1**	**+0.1**
KAF	**Kangasniemi**	**2.67**	**23**	*e*P	**Pn**	**17 54 33.1**	**+2.7**
KAF				*e*SB	**Sb**	**17 55 07.3**	**-0.8**
KAF				MSG		17 55 12.4	
	comp=Z,22nm,0.2s						
KAF	**Kangasniemi**	**2.67**	**23**	P	**Pn**	**17 54 33.0**	**+2.7**
KAF				Sb	**Sb**	**17 55 07.3**	**-0.8**
NRTU	**Norrtaelje**	**2.78**	**272**	P	**Pn**	**17 54 33.7**	**+1.8**
NRTU	**Norrtaelje**	**2.78**	**272**	P	**Pn**	**17 54 33.6**	**+1.8**
FLYU	**Flymyra**	**3.17**	**281**	P	**Pn**	**17 54 38.2**	**+1.0**
FLYU	**Flymyra**	**3.17**	**281**	P	**Pn**	**17 54 38.2**	**+1.0**
NYNU	**Nynaeshamn**	**3.20**	**261**	P	**Pn**	**17 54 39.2**	**+1.6**
NYNU	**Nynaeshamn**	**3.20**	**261**	P	**Pn**	**17 54 39.2**	**+1.6**
SUF	**Sumiainen**	**3.21**	**17**	*e*P	**Pn**	**17 54 40.3**	**+2.5**
SUF				*e*SB	**Sb**	**17 55 25.2**	**+1.6**
SUF	**Sumiainen**	**3.21**	**17**	P	**Pn**	**17 54 40.3**	**+2.5**
SUF				Sb	**Sb**	**17 55 25.2**	**+1.6**
VAF	**Ylistaro**	**3.45**	**349**	*e*P	**Pn**	**17 54 44.1**	**+3.0**
VAF				*e*SG	**Sg**	**17 55 35.8**	**-1.1**
VAF				MSG		17 55 36.2	
	comp=Z,7.8nm,0.2s						
VAF	**Ylistaro**	**3.45**	**349**	P	**Pn**	**17 54 44.0**	**+3.0**
VAF				Sg	**Sg**	**17 55 35.8**	**-1.1**
BACU	**Backbrunna**	**3.55**	**276**	P	**Pn**	**17 54 43.8**	**+1.4**
BACU	**Backbrunna**	**3.55**	**276**	P	**Pn**	**17 54 43.8**	**+1.4**
IGGU	**Iggoen**	**3.59**	**292**	P	**Pn**	**17 54 44.4**	**+1.4**
IGGU	**Iggoen**	**3.59**	**292**	P	**Pn**	**17 54 44.4**	**+1.4**
ARNU	**Arnoeviken**	**3.88**	**304**	P	**Pn**	**17 54 48.6**	**+1.6**
ARNU	**Arnoeviken**	**3.88**	**304**	P	**Pn**	**17 54 48.6**	**+1.6**
ESKU	**Eskilstuna**	**3.97**	**267**	P	**Pn**	**17 54 49.8**	**+1.7**
ESKU	**Eskilstuna**	**3.97**	**267**	P	**Pn**	**17 54 49.8**	**+1.7**
HUDU	**Hudiksvall**	**4.01**	**304**	P	**Pn**	**17 54 50.0**	**+1.2**
HUDU	**Hudiksvall**	**4.01**	**304**	P	**Pn**	**17 54 50.0**	**+1.2**
HEMU	**Hemsoen**	**4.21**	**318**	P	**Pn**	**17 54 53.7**	**+2.1**
HEMU	**Hemsoen**	**4.21**	**318**	P	**Pn**	**17 54 53.6**	**+2.1**
FALU	**Falun**	**4.23**	**285**	P	**Pn**	**17 54 52.7**	**+0.9**
FALU	**Falun**	**4.23**	**285**	P	**Pn**	**17 54 52.7**	**+0.9**
HUSU	**Husum**	**4.37**	**330**	P	**Pn**	**17 54 56.5**	**+2.8**
HUSU	**Husum**	**4.37**	**330**	P	**Pn**	**17 54 56.4**	**+2.8**
HASU	**Hassela**	**4.43**	**307**	P	**Pn**	**17 54 56.3**	**+1.9**
HASU	**Hassela**	**4.43**	**307**	P	**Pn**	**17 54 56.3**	**+1.9**
VSTU	**Vaestervik**	**4.44**	**246**	P	**Pn**	**17 54 56.5**	**+1.8**
VSTU	**Vaestervik**	**4.44**	**246**	P	**Pn**	**17 54 56.4**	**+1.8**
ROTU	**Roteberg**	**4.46**	**297**	P	**Pn**	**17 54 56.0**	**+1.1**
ROTU	**Roteberg**	**4.46**	**297**	P	**Pn**	**17 54 56.0**	**+1.1**
UMAU	**Umeaa**	**4.53**	**340**	P	**Pn**	**17 54 57.9**	**+2.0**
UMAU	**Umeaa**	**4.53**	**340**	P	**Pn**	**17 54 57.8**	**+2.0**
ASPU	**Aespoe**	**4.54**	**243**	P	**Pn**	**17 54 58.2**	**+2.1**
ASPU	**Aespoe**	**4.54**	**243**	P	**Pn**	**17 54 58.1**	**+2.1**
NRAU	**Nora**	**4.61**	**273**	P	**Pn**	**17 54 57.8**	**+0.8**
NRAU	**Nora**	**4.61**	**273**	P	**Pn**	**17 54 57.8**	**+0.8**
ASKU	**Askersund**	**4.83**	**265**	P	**Pn**	**17 55 01.4**	**+1.4**
ASKU	**Askersund**	**4.83**	**265**	P	**Pn**	**17 55 01.4**	**+1.4**
SOLU	**Sollefteaa**	**4.87**	**320**	P	**Pn**	**17 55 02.5**	**+2.0**
SOLU	**Sollefteaa**	**4.87**	**320**	P	**Pn**	**17 55 02.5**	**+2.0**
OSKU	**Oskarshamn**	**4.89**	**243**	P	**Pn**	**17 55 02.6**	**+1.8**
OSKU	**Oskarshamn**	**4.89**	**243**	P	**Pn**	**17 55 02.6**	**+1.8**
BREU	**Bredtraesk**	**4.98**	**331**	P	**Pn**	**17 55 05.0**	**+2.9**
BREU	**Bredtraesk**	**4.98**	**331**	P	**Pn**	**17 55 04.9**	**+2.9**
HFS	**Hagfors**	**5.27**	**280**	Pn	**Pn**	**17 55 07.0**	**+1.0**
	baz=106,slow=12						
HFS				Sn	**Sn**	**17 56 06.2**	**-1.1**
	baz=92,slow=28						
HFS				Lg	Lg	17 56 27.6	
	baz=84,slow=28						
HFS	**Hagfors**	**5.27**	**280**	Pn	**Pn**	**17 55 07.0**	**+1.0**
	baz=106,slow=12						
HFS				Sn	**Sn**	**17 56 06.2**	**-1.1**
	baz=92,slow=28						
HFS				Lg	Lg	17 56 27.6	
	baz=84,slow=28						
HFS	**Hagfors**	**5.27**	**280**	Pn	**Pn**	**17 55 06.8**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=92,slow=15,SNR=30						
HFS				Sn	**Sn**	**17 56 07.5**	**+0.2**
	comp=Z,0.6nm,0.3s,baz=90,slow=27,SNR=6.5						
HFS				Lg	Lg	17 56 28.0	
	comp=Z,1.2nm,0.3s,baz=92,slow=33,SNR=8.0						
HFS	**Hagfors**	**5.27**	**280**	Pn	**Pn**	**17 55 07.0**	**+1.0**
	baz=106,slow=12,SNR=50						
HFS				Sn	**Sn**	**17 56 06.2**	**-1.1**
	baz=92,slow=26,SNR=50						
HFS				Lg	Lg	17 56 27.6	
	baz=84,slow=26,SNR=50						
UDD	**Uddeholm**	**5.31**	**279**	P	**Pn**	**17 55 08.2**	**+1.6**
UDD	**Uddeholm**	**5.31**	**279**	P	**Pn**	**17 55 08.2**	**+1.6**
NB2	**NORSAR Subarra**	**6.55**	**288**	Pn	**Pn**	**17 55 23.6**	**-0.1**
	baz=96,slow=14						
NB2				Sn	**Sn**	**17 56 36.5**	**-2.4**
	baz=98,slow=22						
NB2				Lg	Lg	17 57 10.8	
	baz=90,slow=28						
NB2	**NORSAR Subarra**	**6.55**	**288**	Pn	**Pn**	**17 55 23.6**	**-0.1**
	baz=96,slow=14						
NB2				Sn	**Sn**	**17 56 36.5**	**-2.4**
	baz=98,slow=22						
NB2				Lg	Lg	17 57 10.8	
	baz=90,slow=28						
NB2	**NORSAR Subarra**	**6.55**	**288**	Pn	**Pn**	**17 55 23.5**	**-0.1**
	baz=96,slow=12,SNR=50						
NB2				Lg	Lg	17 57 10.8	
	baz=90,slow=28,SNR=50						
NOA	**NORSAR Array B**	**6.55**	**288**	Pn	**Pn**	**17 55 23.3**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=99,slow=11,SNR=16						
NOA				Sn	**Sn**	**17 56 37.6**	**-1.3**
	comp=Z,0.4nm,0.3s,baz=118,slow=16,SNR=3.0						
NOA				Lg	Lg	17 57 06.2	
	comp=Z,0.7nm,0.3s,baz=245,slow=12,SNR=4.3						

SIV **San Ignacio** 17.01 25 P **P** **18 06 25.9 +1.2**
comp=E,0.1nm,0.3s,baz=232,slow=14,SNR=6.3
BDFB **Brasilia** 24.53 54 P **P** **18 07 43.4 +0.4**
comp=E,0.8nm,0.4s,baz=217,slow=10,SNR=2.5
SNAA **Sanae** 52.60 159 P **P** **18 11 34.4 -1.1**
comp=E,0.2nm,0.5s,baz=297,slow=9.0,SNR=4.2
SNAA pP **pP** **18 12 00.8 +0.1**
comp=E,0.2nm,0.5s,baz=334,slow=5.2,SNR=2.3
TEIG **Tepich** 55.02 337 P **P** **18 11 54.1 +0.5**
comp=E,5.1nm,0.6s,baz=189,slow=18,SNR=5.4
TXAR **Lajitas Array** 69.32 327 P **P** **18 13 30.1 +0.9**
comp=E,0.2nm,0.6s,baz=146,slow=8.8,SNR=3.5
TORD **Torodi Ar. Bea** 80.56 68 P **P** **18 14 34.0 0.0**
comp=E,1.4nm,0.9s,baz=283,slow=7.0,SNR=5.8
TORD pP **pP** **18 15 01.8 +0.7**
comp=E,0.7nm,0.5s,baz=280,slow=7.2,SNR=3.5
TORD sP **sP** **18 15 12.1 -0.3**
comp=E,0.8nm,0.6s,baz=260,slow=5.0,SNR=3.6
WRA **Warramunga Arr** 124.20 206 PKP **PKPdf** **18 21 18.6 -1.3**
comp=E,1.4nm,1.3s,baz=175,slow=1.6,SNR=4.5
WRA pPKP **pPKPdf** **18 21 47.7 -0.9**
comp=E,0.2nm,0.5s,baz=168,slow=1.6,SNR=2.0
KURBB **Kurchatov Arra** 149.12 43 PKPbc **PKPbc** **18 22 08.9 +0.4**
comp=E,0.3nm,0.2s,baz=302,slow=3.0,SNR=5.0
ZALV **Zalesovo Beam** 150.66 33 PKPbc **PKPbc** **18 22 12.3 +0.1**
comp=E,1.1nm,0.4s,baz=306,slow=2.8,SNR=7.1
ZALV pPKPbc **pPKPbc** **18 22 40.8 0.0**
comp=E,0.7nm,0.5s,baz=316,slow=4.0,SNR=2.4
MKAR **Makanchi Array** 152.97 48 PKPab **PKPab** **18 22 29.7 +0.3**
comp=E,0.8nm,0.7s,baz=280,slow=4.2,SNR=5.0

*IDC **06** 18:03:07.1±2.7,4°.26S×129°.93E, h0km, mb3.3/1, mb1 3.6/3, mb1mx3.3/19, mbtmp3.4/3, ML3.3/2, MS3.0/1, Ms1 3.0/1, ms1mx2.5/18, Error ellipse: s-maj=186.4km s-min=30.6km az=70.0*
*ISCJB **06** 18:03:11.0±0.8,4°.59S±0°.07×128°.85E±0°.05, h33km, mb3.4/2, Error ellipse: s-maj=10.2km s-min=7.0km az=27.1*
*DJA **06** 18:03:12.8±0.9,4°.S±9°×12°.9E±°, h10km±14km, M4.0/7, mb4.7/1, mB5.1/1, MLv3.7/7, Mw(mB)4.4/1*
ISC 06 18:03:12.3±1.1,4°.61S±0°.09×128°.85E±0°.06, h35km, n11, σ1°65/12, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	1.05	85	P	**Pn**	18 03 29.8	-0.8
BNDI				S	**Sn**	18 03 44.0	-0.1
AAI	**Ambon**	1.12	324	P	**Pn**	18 03 30.3	-1.3
AAI				S	**Sn**	18 03 43.4	-2.4
NLAI	**Namlea**	2.21	308	P	**Pn**	18 03 48.3	+1.7
FAKI	**Fak Fak**	3.78	64	P	**Pn**	18 04 09.3	+1.1
SWI	**Sorong**	4.43	33	P	**Pn**	18 04 17.7	+0.6
SWI				S	**Sn**	18 05 06.0	-1.4
RKPI	**Ransiki, Papua**	6.14	60	P	**Pn**	18 04 41.1	+0.4
BATI	**Baumata**	7.58	222	LR	LR	18 08 14.2	
	comp=Z,117nm,21.5s,baz=287,slow=36						
WRA	**Warramunga Arr**	16.15	161	Pn	**Pn**	18 06 54.7	-2.1
	0.1nm,0.3s,baz=348,slow=12,SNR=6.8						
ASAR	**Alice Springs**	19.57	166	P	**Pn**	18 07 38.4	-0.4
	0.2nm,0.3s,baz=346,slow=11,SNR=36						
MKAR	**Makanchi Array**	65.61	327	P	**P**	18 13 55.0	+2.1
	0.2nm,0.5s,baz=113,slow=8.1,SNR=3.7						
KURBB	**Kurchatov Arra**	69.89	329	P	P	18 14 26.4	+6.7
	0.2nm,0.3s,baz=134,slow=4.2,SNR=4.0						

*ISCJB **06** 18:04:53.6±1.4,22°.12N±0°.07×101°.35E±0°.06, h3km±13km, Error ellipse: s-maj=12.4km s-min=9.7km az=18.1*
*BJI **06** 18:04:55.4,22°.15N×101°.28E, h5km, ML4.1/7, Ms3.8/3, Ms7 3.6/2*
*PLV **06** 18:04:57.5±2.1,22°.44N×101°.64E, h15km±16km, MD3.3*
*BKK **06** 18:04:57.6±1.1,22°.N±6°.×10°.1E±°, h0km, M4.3/5, MLv4.3/5*
ISC 06 18:04:57.3±2.0,21°.94N±0°.05×101°.38E±0°.05, h3km±15km, n8, σ1°65/19, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DBV	**Dienbien**	1.62	109	*e*Pn	**Pn**	18 05 25.3	-1.6
DBV				*e*Pg	**Pg**	18 05 28.5	+0.1
DBV				*e*Sg	**Sg**	18 05 51.6	+2.1
TGV	**Tuan Giao**	1.92	100	*e*Pn	**Pn**	18 05 29.1	-1.9
TGV				*e*Pg	**Pb**	18 05 33.4	+0.3
TGV				*e*Sg	**Sg**	18 05 58.5	-0.7
CRAI	**Chiangrai**	1.95	209	P	**Pn**	18 05 30.2	-1.1
CRAI				S	**Sn**	18 05 55.5	-0.8
SLVN	**Son La**	2.42	104	*e*Pn	**Pn**	18 05 35.8	-2.1
SLVN				*e*Pg	**Pg**	18 05 43.6	-0.1
SLVN				*e*Sg	**Sb**	18 06 12.4	+0.5
CMAI	**Chiengmai2**	2.96	228	P	**Pn**	18 05 43.1	-2.3
CMAI				S	**Sn**	18 06 20.2	-1.4
KMI	**Kunming**	3.40	21	Pn	**Pn**	18 05 50.7	-0.8
KMI				Pg	**Pb**	18 05 58.1	-0.3
KMI				Sg	**Sn**	18 06 35.1	+2.6
KMI				smax	smax		
	comp=N,70nm,0.7s						
KMI				smax	smax		
	comp=E,85nm,1.1s						
KMI				LR	LR		
	comp=N,560nm,4.9s						
KMI				LR	LR		
	comp=E,760nm,5.5s						
CHTO	**Chiang Mai**	3.86	217	P	**Pn**	18 05 58.7	+1.0
CHTO				S	**Sn**	18 06 46.3	+2.7
LOEI	**Loei**	4.41	181	P	**Pn**	18 06 05.5	+0.3

*ISCJB **06** 18:08:01.0±0.6,64°.21N±0°.09×40°.2W±0°.1, h10km, mb4.0/13, MS3.0/7, Error ellipse: s-maj=13.7km s-min=7.7km az=10.0*
*IDC **06** 18:08:01.3±0.8,64°.06N×40°.10W, h0km, mb3.9/13, mb1 4.1/15, mb1mx3.9/33, mbtmp3.9/15, ML3.7/2, MS3.1/8, Ms1 3.1/8, ms1mx2.8/43, Error ellipse: s-maj=24.5km s-min=15.5km az=176.0*
ISC 06 18:08:02.9±0.7,64°.2N±0°.1×40°.14W±0°.06, h10km, n26, σ1°06/23, mb4.0/13, MS3.0/7, Western Kalaallit Nunaat

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFJD	**Kangerlussuaq**	5.16	307	*i* P	**Pn**	18 09 20.7	+0.6
SFJD				*i*		18 09 32.2	
SFJD	**Kangerlussuaq**	5.16	307	Pn	**Pn**	18 09 20.6	+0.6
	7.7nm,0.3s,baz=108,slow=13,SNR=45						
SFJD				Pg	**Pb**	18 09 32.0	-1.1
	37nm,0.3s,baz=127,slow=15,SNR=26						
SFJD				Sn	**Sn**	18 10 18.7	-0.9
	29nm,0.3s,baz=357,slow=20,SNR=7.0						
SFJD				Lg	Lg	18 10 34.8	
	100nm,0.3s,baz=192,slow=20,SNR=16						
BORG	**Borgarnes**	8.13	78	Pn	**Pn**	18 10 01.6	+0.8
	0.4nm,0.3s,baz=291,slow=14,SNR=2.4						
BORG				Sn	**Sn**	18 11 30.8	-1.9
	baz=270,slow=20,SNR=3.5						
SUMG	**Summit**	8.42	3	*i* P	**Pn**	18 10 03.6	-1.5
FRB	**Frobisher Bay**	12.43	281	LR	LR	18 15 21.6	
	comp=Z,93nm,20.8s,baz=310,slow=35						
SCHQ	**Schefferville**	16.35	247	Pn	**Pn**	18 11 50.7	-1.6
	0.1nm,0.3s,baz=54,slow=17,SNR=1.9						
RES	**Resolute Bay**	20.93	323	LR	LR	18 21 16.6	
	comp=Z,44nm,19.8s,baz=350,slow=38						
HFS	**Hagfors**	24.81	74	LR	LR	18 22 16.6	
	comp=Z,20nm,18.3s,baz=58,slow=34						
ARCES	**ARCESS Array B**	25.14	49	P	**P**	18 13 28.0	+0.4
	2.5nm,0.7s,baz=283,slow=8.2,SNR=12						
DAVOX	**Davos/Dischmat**	32.18	99	LR	LR	18 26 00.3	
	comp=Z,24nm,21.9s,baz=265,slow=34						
GERES	**GERESS Array B**	32.26	92	LR	LR	18 27 30.1	
	comp=Z,31nm,18.2s,baz=330,slow=36						
ILAR	**Eielson Array**	40.66	321	P	**P**	18 15 43.5	+0.9
	1.6nm,0.9s,baz=34,slow=6.9,SNR=11						
ILAR				PcP	**PcP**	18 17 44.5	+0.5
	1.9nm,0.6s,baz=358,slow=2.8,SNR=12						
PDAR	**Pinedale Array**	43.81	275	P	**P**	18 16 08.4	-0.4
	1.0nm,0.8s,baz=68,slow=7.9,SNR=7.6						
BRTR	**Keskin Array B**	48.19	83	P	**P**	18 16 41.7	-1.5
	0.7nm,0.9s,baz=312,slow=11,SNR=2.7						
KBZ	**Khabaz**	48.86	73	P	**P**	18 16 48.4	+0.3
	2.2nm,0.8s,baz=2.1,slow=7.8,SNR=4.5						
KBZ				LR	LR	18 35 48.6	
	comp=Z,34nm,20.5s,baz=356,slow=34						
BVAR	**Borovoye Array**	51.38	46	P	**P**	18 17 08.5	+1.3
	1.4nm,0.7s,baz=341,slow=8.3,SNR=8.7						
TXAR	**Lajitas Array**	52.52	260	P	**P**	18 17 16.0	-0.1
	0.6nm,0.8s,baz=63,slow=6.3,SNR=8.0						
TXAR				LR	LR	18 38 13.1	
	comp=Z,29nm,21.8s,baz=175,slow=34						
ZALV	**Zalesovo Beam**	54.74	36	P	**P**	18 17 32.4	+0.5
	1.3nm,0.7s,baz=320,slow=7.3,SNR=6.7						
KURBB	**Kurchatov Arra**	55.97	42	P	**P**	18 17 41.2	+0.4
	1.1nm,0.7s,baz=332,slow=6.7,SNR=8.9						
TORD	**Torodi Ar. Bea**	58.62	130	P	**P**	18 17 59.1	-0.8
	1.8nm,0.6s,baz=338,slow=7.6,SNR=12						
MKAR	**Makanchi Array**	60.51	42	P	**P**	18 18 13.2	+0.5
	0.7nm,0.5s,baz=353,slow=5.2,SNR=13						
PETK	**Petropavlovsk-**	62.19	348	LR	LR	18 47 00.5	
	comp=Z,24nm,20.1s,baz=81,slow=38						
SONM	**Songino Array**	65.24	24	P	**P**	18 18 46.0	+1.7
	1.6nm,0.7s,baz=320,slow=5.9,SNR=11						
CMAR	**Chiang Mai Arr**	91.76	38	P	**P**	18 21 11.5	+0.9
	1.0nm,0.8s,baz=324,slow=5.3,SNR=4.4						
ASAR	**Alice Springs**	139.27	8	PKhKP	PKPpre	18 27 22.2	
	0.3nm,0.8s,baz=350,slow=2.7,SNR=6.3						
MAW	**Mawson**	150.27	131	PKPbc	**PKPbc**	18 27 52.5	+0.2
	2.2nm,0.9s,baz=307,slow=4.5,SNR=3.7						

*ISCJB **06** 18:09:41.5±1.5,20°.6S±0°.1×178°.1W±0°.2, h534km, mb4.1/8, Error ellipse: s-maj=27.7km s-min=19.4km az=8.6*
*IDC **06** 18:09:41.5±5.1,20°.57S×178°.16W, h509km±52km, mb3.6/8, mb1 3.6/10, mb1mx3.3/22, mbtmp3.5/10, Error ellipse: s-maj=34.7km s-min=27.8km az=99.0*
*AUST **06** 18:09:43.0±0.0,19°.66S×179°.32E, h287km, Error ellipse: s-maj=2.1km s-min=1.4km az=30.0*
ISC 06 18:09:43.3±1.4,20°.6S±0°.2×178°.2W±0°.2, h534km, n24, σ0°66/23, mb4.2/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	14.43	261	P	**P**	18 12 46.8	-0.4
	0.5nm,0.3s,baz=79,slow=15,SNR=5.5						
URZ	**Urewera**	18.05	192	P	**P**	18 13 21.4	-0.8
	0.7nm,0.3s,baz=42,slow=12,SNR=3.6						
EIDS	**Eidsvold**	28.68	255	P	**P**	18 14 57.9	+0.6
	baz=27,SNR=3.6						
RMQ	**Roma**	30.84	253	P	**P**	18 15 17.1	+1.1
	baz=29,SNR=8.3						
CTA	**Charters Tower**	33.34	265	P	**P**	18 15 37.4	0.0
	7.6nm,0.4s,baz=89,slow=12,SNR=27						
PMG	**Port Moresby**	35.23	283	P	**P**	18 15 53.0	-0.3
	16nm,0.9s,baz=163,slow=2.5,SNR=4.3						
MTSU	**Mount Surprise**	35.45	267	P	**P**	18 15 55.2	+0.3
	baz=33,SNR=13						
COEN	**Coen**	37.45	274	P	**P**	18 16 11.7	+0.2
	baz=35,SNR=5.2						
STKA	**Stephens Creek**	37.61	244	P	**P**	18 16 12.8	+0.2
	1.3nm,0.4s,baz=90,slow=12,SNR=9.4						
STKA	**Stephens Creek**	37.61	244	P	**P**	18 16 13.2	+0.6
	baz=36,SNR=6.5						
ASAR	**Alice Springs**	44.35	257	P	**P**	18 17 06.3	-0.1
	8.3nm,0.6s,baz=92,slow=8.1,SNR=247						
ASAR				PcP	**PcP**	18 18 39.0	+0.2
	0.9nm,0.6s,baz=106,slow=3.7,SNR=6.4						
WRA	**Warramunga Arr**	44.45	262	P	**P**	18 17 06.2	-0.9
	4.5nm,0.6s,baz=94,slow=5.1,SNR=89						
MTN	**Manton Dam**	49.02	271	P	**P**	18 17 41.3	-0.4
	baz=47,SNR=5.1						
KNRA	**Kununurra**	50.51	266	P	**P**	18 17 52.5	-0.1
	baz=48,SNR=9.6						
FITZ	**Fitzroy Crossi**	52.87	262	P	**P**	18 18 09.3	-0.3
	2.9nm,0.8s,baz=85,slow=6.4,SNR=18						
FITZ	**Fitzroy Crossi**	52.87	262	P	**P**	18 18 09.8	+0.2
	baz=51,SNR=3.6						
SWI	**Sorong**	53.14	285	P	**P**	18 18 11.8	+0.2
	baz=51,SNR=5.7						
SOEI	**Soe**	56.36	272	P	P	18 18 39.7	+5.4
	baz=54,SNR=3.6						
MJAR	**Matsushiro Arr**	70.22	34	P	**P**	18 20 02.4	-0.3
	11nm,1.4s,baz=159,slow=7.5,SNR=4.2						
PETK	**Petropavlovsk-**	76.35	345	P	**P**	18 20 36.8	-0.5
	1.1nm,0.4s,baz=157,slow=4.7,SNR=4.1						
HFS	**Hagfors**	139.64	351	PKhKP	PKPpre	18 28 04.1	
	1.7nm,0.9s,baz=29,slow=3.3,SNR=5.4						
AKASG	**Malin Array Be**	143.05	331	PKhKP	PKPpre	18 28 12.7	
	1.3nm,0.4s,baz=42,slow=4.2,SNR=12						
BRTR	**Keskin Array B**	146.82	312	PKPbc	**PKPbc**	18 28 25.7	-0.2
	1.0nm,0.5s,baz=126,slow=3.7,SNR=7.1						
GERES	**GERESS Array B**	150.28	344	PKPbc	**PKPbc**	18 28 36.1	+2.0
	0.3nm,0.7s,baz=356,slow=3.9,SNR=5.3						
GERES				PKPab	**PKPab**	18 28 42.3	-0.5
	0.2nm,0.5s,baz=10,slow=6.0,SNR=3.2						

*ISCJB **06** 18:14:01.3±0.5,14°.03N±0°.06×92°.94E±0°.06, h32km, mb4.0/15, MS3.0/2, Error ellipse: s-maj=10.0km s-min=8.1km az=44.2*
*IDC **06** 18:14:02.5±0.6,13°.81N×92°.86E, h26km±3km, mb3.8/15, mb1 3.9/16, mb1mx3.7/29, mbtmp3.8/16, ML3.2/1, MS3.0/2, Ms1 3.0/2, ms1mx2.5/37, Error ellipse: s-maj=23.6km s-min=11.0km az=57.0*
ISC 06 18:14:03.1±0.6,13°.93N±0°.09×92°.90E±0°.09, h32km, n27, σ1°42/36, mb4.0/15, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	7.34	51	Pn	**Pn**	18 15 49.5	+1.3
	0.1nm,0.3s,baz=239,slow=15,SNR=3.3						
CMAR				Sn	**Sn**	18 17 08.7	-1.8
	0.6nm,0.3s,baz=242,slow=26,SNR=5.8						
ODAN	**Odare**	13.86	339	*e*P	**Pn**	18 17 15.5	-2.1
	22nm,0.2s						
TAPN	**Taplejung**	14.20	341	*e*P	**Pn**	18 17 21.4	-1.0
	15nm,0.3s						
JIRN	**Jiri**	15.02	336	*e*P	**Pn**	18 17 31.2	-2.4
	11nm,0.3s						
PKI	**Pulchoki**	15.26	334	*e*P	**Pn**	18 17 34.2	-2.5
	7.6nm,0.2s						
PKIN	**Phulchoki**	15.27	334	*e*P	**Pn**	18 17 34.3	-2.5
	12nm,0.4s						
DMN	**Daman**	15.43	333	*e*P	**Pn**	18 17 36.1	-2.7
	11nm,0.3s						
KOLN	**Koldanda**	16.27	329	*e*P	**Pn**	18 17 47.5	-2.0
	24nm,0.6s						
PYUN	**Piuthan**	16.85	328	*e*P	**Pn**	18 17 56.0	-0.8
	24nm,0.5s						
MKAR	**Makanchi Array**	33.95	347	P	**P**	18 20 44.6	+1.1
	1.5nm,0.7s,baz=161,slow=9.1,SNR=15						
MKAR				pP	**pP**	18 20 52.9	+0.1
	1.9nm,0.7s,baz=158,slow=9.2,SNR=12						
SONM	**Songino Array**	35.62	16	P	**P**	18 20 59.9	+1.9
	0.7nm,0.7s,baz=188,slow=8.7,SNR=3.6						
SONM				pP	**pP**	18 21 06.7	-0.7
	1.3nm,0.7s,baz=199,slow=8.8,SNR=6.5						
KURBB	**Kurchatov Arra**	38.41	345	P	**P**	18 21 22.4	+0.9
	0.5nm,0.2s,baz=164,slow=8.0,SNR=4.2						
KURBB				pP	**pP**	18 21 31.0	0.0
	1.8nm,0.7s,baz=163,slow=8.2,SNR=4.4						
KSRS	**Korea Array**	38.95	47	LR	LR	18 40 28.0	
	comp=Z,30nm,18.3s,baz=225,slow=41						
ZALV	**Zalesovo Beam**	40.43	353	P	**P**	18 21 39.2	+0.9
	1.8nm,0.6s,baz=178,slow=8.4,SNR=11						
ZALV				pP	**pP**	18 21 47.0	-0.7
	2.2nm,0.6s,baz=176,slow=8.8,SNR=8.4						
USRK	**Ussuriysk Arra**	44.91	40	LR	LR	18 44 05.3	
	comp=Z,13nm,19.1s,baz=114,slow=40						
FITZ	**Fitzroy Crossi**	45.34	134	P	**P**	18 22 18.0	-0.6
	1.3nm,0.6s,baz=350,slow=6.1,SNR=5.8						
WRA	**Warramunga Arr**	52.87	129	P	**P**	18 23 15.9	-0.4
	1.3nm,0.6s,baz=306,slow=7.8,SNR=18						
WRA				pP	**pP**	18 23 24.1	-1.8
	1.3nm,0.6s,baz=307,slow=7.9,SNR=8.0						
WRA				PcP	**PcP**	18 24 25.4	+0.2
	0.2nm,0.3s,baz=324,slow=3.2,SNR=3.5						
WRA				pPcP		18 24 33.0	
	0.4nm,0.5s,baz=321,slow=3.0,SNR=4.6						
ASAR	**Alice Springs**	54.81	133	P	**P**	18 23 30.2	-0.2
	1.3nm,0.3s,baz=310,slow=7.0,SNR=35						
ASAR				pP	**pP**	18 23 38.1	-2.0
	1.7nm,0.5s,baz=309,slow=6.9,SNR=12						
BRTR	**Keskin Array B**	57.65	308	P	**P**	18 23 50.9	+0.2
	0.9nm,0.9s,baz=126,slow=8.1,SNR=5.2						
BRTR				pP	**pP**	18 23 59.2	-1.2
	1.1nm,0.9s,baz=131,slow=5.6,SNR=3.9						
STKA	**Stephens Creek**	65.20	135	P	**P**	18 24 41.4	-0.2
	2.9nm,1.0s,baz=306,slow=8.7,SNR=3.5						
FINES	**FINESS Array B**	66.83	331	P	**P**	18 24 51.7	+0.1
	1.8nm,0.9s,baz=111,slow=7.6,SNR=4.3						
FINES				pP	**pP**	18 25 00.5	-1.0
	1.3nm,0.7s,baz=108,slow=7.5,SNR=1.8						
ARCES	**ARCESS Array B**	69.19	340	P	**P**	18 25 07.2	+0.9
	0.9nm,0.8s,baz=104,slow=7.7,SNR=3.3						
ARCES				pP	**pP**	18 25 15.5	-0.8
	1.4nm,1.0s,baz=97,slow=7.4,SNR=1.3						
GERES	**GERESS Array B**	72.55	317	P	**P**	18 25 27.7	+0.4
	0.5nm,0.7s,baz=81,slow=7.2,SNR=5.9						
BOSA	**Boshof**	77.84	236	P	**P**	18 25 58.1	+0.1
	2.0nm,0.7s,baz=96,slow=7.3,SNR=4.4						
TORD	**Torodi Ar. Bea**	88.04	283	P	**P**	18 26 51.7	+0.7
	0.6nm,0.7s,baz=74,slow=4.0,SNR=4.2						
ILAR	**Eielson Array**	89.61	22	P	**P**	18 26 58.3	+0.9
	0.4nm,0.7s,baz=289,slow=4.4,SNR=4.2						
TXAR	**Lajitas Array**	134.11	20	PKP	**PKPdf**	18 33 20.6	+2.3
	0.1nm,0.5s,baz=302,slow=2.0,SNR=3.0						

*IDC **06** 18:18:22.4±4.0,48°.85N×129°.25W, h0km, mb1 3.9/6, mb1mx3.5/29, mbtmp3.6/6, Error ellipse: s-maj=60.3km s-min=15.8km az=47.0*
*PGC **06** 18:18:23.9±0.6,48°.91N×129°.14W, h10km, ML3.2/12, Mw3.8, 234km southwest of Pt. Hardy, Bc Vancouver Island Region*
ISC 06 18:18:24.5±3.1,49°.05N±0°.06×128°.89W±0°.07, h7km±18km, n29, σ1°16/43, 13D, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BPBC	**Brooks Peninsu**	1.32	33	⇑Pn	**Pn**	18 18 49.2	-0.3
BPBC				⇑Sn	**Sn**	18 19 06.8	-0.6
EDB	**Eliza Dome**	1.42	54	⇑Pn	**Pn**	18 18 50.5	-0.2
EDB				⇓Sn	**Sg**	18 19 09.5	-0.5
ETB	**Estevan Point**	1.58	77	⇓Pn	**Pn**	18 18 53.0	+0.1
HOLB	**Holberg**	1.66	17	⇓Pn	**Pn**	18 18 53.4	-0.7
HOLB				⇑Sn	**Sb**	18 19 16.6	-0.1
MAYB	**Maynard**	1.75	39	⇓Pn	**Pn**	18 18 55.3	-0.1
MAYB				⇑Sn	**Sn**	18 19 17.5	-0.5
PHC	**Port Hardy**	1.91	29	⇑Pn	**Pn**	18 18 57.5	+0.2
PHC				⇓Sn	**Sn**	18 19 21.1	-0.4
TLCB	**Telegraph Cove**	2.00	41	Sn	**Sn**	18 19 24.3	+0.4
GDR	**Gold River**	2.00	68	⇑Pn	**Pn**	18 18 58.8	+0.1
OZB	**Mount Ozzard**	2.24	91	⇑Pn	**Pn**	18 19 01.3	-0.7
OZB				⇑Sn	**Sn**	18 19 28.8	-1.1
BTB	**Buttle Lake**	2.25	78	⇓Pn	**Pn**	18 19 02.5	+0.3
SPLB	**Strathcona Par**	2.27	67	Sn	**Sb**	18 19 32.8	-1.3
BMSB	**Bamfield Mari**	2.48	94	⇑Pn	**Pn**	18 19 04.7	-0.6
BMSB				⇑Sn	**Sn**	18 19 34.9	-1.0
CBB	**Campbell River**	2.50	66	⇓Pn	**Pn**	18 19 06.5	+1.0
CBB				⇑Sn	**Sn**	18 19 37.9	+1.7
MGB	**Mount Grey**	2.76	90	⇑Pn	**Pn**	18 19 08.8	-0.5
MGB				⇑Sn	**Sn**	18 19 42.2	-0.8
OCP	**Olym-Cheeka Pk**	2.93	103	⇓Pn	**Pn**	18 19 11.2	-0.3
OCP				⇓Sn	**Sn**	18 19 46.0	-0.8
PFB	**Port Renfrew**	2.98	98	⇓Pn	**Pn**	18 19 11.9	-0.3
PFB				⇓Sn	**Sn**	18 19 46.6	-1.5
YOUB	**Youbou, Lake C**	3.05	91	⇑Pn	**Pn**	18 19 13.0	-0.2
YOUB				⇓Sn	**Sn**	18 19 49.7	-0.3
GHNB	**Nanoose**	3.06	83	⇓Pn	**Pn**	18 19 14.6	+1.3
GHNB				⇑Sn	**Sn**	18 19 51.4	+1.2
BBB	**Bella Bella**	3.17	9	⇑Pn	**Pn**	18 19 15.1	+0.3
BBB				⇑Sn	**Sn**	18 19 51.5	-1.4
BBB	**Bella Bella**	3.17	9	Pn	**Pn**	18 19 15.0	+0.3
	97nm,0.3s,baz=207,slow=15,SNR=1039						
BBB				Sn	**Sn**	18 19 51.5	-1.4
	49nm,0.3s,baz=102,slow=19,SNR=8.7						
OFR	**Olym-F Res Ctr**	3.19	109	⇑Sn	**Sn**	18 19 52.5	-0.8
DIB	**Dawson Inlet,**	4.73	333	Pn	**Pn**	18 19 35.1	-1.1
NEW	**Newport**	7.83	91	Pn	**Pn**	18 20 20.7	+1.9
	0.5nm,0.3s,baz=301,slow=12,SNR=6.9						
YBH	**Yreka Blue Hor**	8.51	147	Pn	Pn	18 20 33.1	+4.9
	0.3nm,0.3s,baz=340,slow=12,SNR=22						
DLBC	**Dease Lake**	9.43	356	Pn	**Pn**	18 20 43.2	+2.5
	0.2nm,0.3s,baz=242,slow=19,SNR=2.2						
PDAR	**Pinedale Array**	14.84	108	Pn	**P**	18 21 59.0	-1.7
	0.0nm,0.3s,baz=306,slow=7.7,SNR=7.3						
YKA	**Yellowknife Ar**	15.63	25	Pn	**Pn**	18 22 05.6	+0.7
	0.3nm,0.3s,baz=213,slow=13,SNR=8.4						
ILAR	**Eielson Array**	18.45	335	P	**Pn**	18 22 40.6	+0.3
	baz=141,slow=10,SNR=3.6						
ANMO	**Albuquerque**	21.72	122	P	**P**	18 23 20.3	+4.0
	0.8nm,0.8s,baz=328,slow=13,SNR=3.0						

*AUST **06** 18:33:32.4±4.6,7°.37N×126°.12E, h86km±1km, Error ellipse: s-maj=4.4km s-min=2.0km az=343.0*
*ISCJB **06** 18:33:53.6±0.3,5°.35N±0°.03×126°.10E±0°.05, h116km, mb4.0/12, Error ellipse: s-maj=6.8km s-min=4.6km az=164.5*
*MAN **06** 18:33:56,5°.21N×125°.70

baz=38,SNR=5.6
BLDU Ballidu 36.80 193 P **P 18 40 50.8 -0.7**
baz=39,SNR=7.1
NWAO Narrogin (SRO) 38.92 192 P **P 18 41 08.9 -0.3**
9.4nm,1.0s,baz=27,slow=9.0,SNR=6.6
USRK Ussuriysk Arra 39.09 7 P **P 18 41 09.6 -0.9**
1.5nm,0.7s,baz=165,slow=12,SNR=4.4
BBOO Buckleboo 39.10 166 P **P 18 41 12.0 +1.2**
baz=41,SNR=8.3
STKA Stephens Creek 39.87 159 P **P 18 41 19.2 +2.1**
1.9nm,0.7s,baz=348,slow=8.5,SNR=4.7
ASAJ Asahikawa 41.33 18 P **P 18 41 29.9 +0.9**
12nm,1.2s,baz=228,slow=14,SNR=5.2
PETK Petropavlovsk- 54.27 23 P **P 18 43 09.7 +0.9**
1.4nm,0.5s,baz=186,slow=4.4,SNR=7.3
MKAR Makanchi Array 55.83 325 P **P 18 43 17.9 -2.2**
0.2nm,0.4s,baz=117,slow=6.6,SNR=5.9
MKAR ScP **ScP 18 48 01.6 -4.6**
0.2nm,0.6s,baz=106,slow=4.7,SNR=3.6
ILAR Eielson Array 84.01 25 P **P 18 46 10.9 -1.1**
1.0nm,0.5s,baz=248,slow=5.8,SNR=10

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*ATH **06** 18:36:15.6, 37.°69N×26.°82E, h19km, MD3.6/24, ML3.3*
*DDA **06** 18:36:16.3, 37.°73N×26.°84E, h27km, MD3.5*
*CSEM **06** 18:36:16.7±0.1, 37.°63N×26.°73E, h2km, MD3.6, Error ellipse: s-maj=2.9km s-min=2.4km az=148.0*
*ISCJB **06** 18:36:16.2±0.4, 37.°66N±0.°01×26.°75E±0.°02, h6km±3km, Error ellipse: s-maj=2.4km s-min=2.3km az=38.2*
*ISK **06** 18:36:17.5, 37.°61N×26.°86E, h14km, ML3.6*
*THE **06** 18:36:17.1, 37.°72N×26.°79E, h8km, ML3.4/5, Error ellipse: s-maj=0.8km s-min=0.5km az=68.0*

ISC 06 18:36:16.8±0.7, 37.°70N±0.°01×26.°81E±0.°02, h12km±4km, n189, σ1°11/226, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.03**	**58**	P	**Pg**	**Pg**	**18 36 18.9**	**-0.1**
SMG				S		**Sg**	**18 36 20.3**	**-0.3**
SMG	**Samos**	**0.03**	**58**	*e*PB	**Pg**	**Sg**	**18 36 19.0**	**-0.1**
SMG				*e*SB		**Sg**	**18 36 21.5**	**+0.9**
SMG	**Samos**	**0.03**	**58**	*e*Pb	**Pg**	**Sg**	**18 36 19.0**	**-0.1**
SMG				S		**Sg**	**18 36 20.3**	**-0.3**
SMG				*e*Sb			18 36 21.5	
GCAM	**G?zelcaml?**	**0.34**	**89**	*i* P	**Pg**		**18 36 23.8**	**+0.2**
GCAM				*i* S	**Sb**		**18 36 29.3**	**-0.8**
GCAM	**G?zelcaml?**	**0.34**	**89**	*i* P	**Pg**		**18 36 23.8**	**+0.2**
GCAM				*i* S	**Sb**		**18 36 29.3**	**-0.8**
URLA	**Izmir**	**0.69**	**346**	*i* P	**Pg**		**18 36 29.3**	**-0.9**
URLA				*i* S	**Sg**		**18 36 39.6**	**+0.4**
BODT	**Bodrum**	**0.75**	**148**	*e*PG	**Pg**		**18 36 31.2**	**-0.1**
BODT				*e*SG	**Sg**		**18 36 40.2**	**-0.9**
BODT	**Bodrum**	**0.75**	**148**	*e*Pg	**Pg**		**18 36 31.2**	**-0.1**
BODT				*e*Sg	**Sg**		**18 36 40.2**	**-0.9**
BDRM	**Kayabasi**	**0.81**	**141**	*i* P	**Pb**		**18 36 32.5**	**-0.3**
BDRM				*i* S	**Sn**		**18 36 45.0**	**-0.9**
BDRM	**Kayabasi**	**0.81**	**141**	*i* P	**Pb**		**18 36 32.5**	**-0.3**
BDRM				*i* S	**Sn**		**18 36 45.0**	**-0.9**
AYDN	**Tasoluk**	**0.85**	**92**	*i* P	**Pg**		**18 36 32.6**	**-0.6**
AYDN				*i* S	**Sg**		**18 36 44.2**	**-0.2**
AYDN	**Tasoluk**	**0.85**	**92**	*i* P	**Pg**		**18 36 32.6**	**-0.6**
AYDN				*i* S	**Sg**		**18 36 44.2**	**-0.2**
MLSB	**Milas**	**0.87**	**117**	*e*PG	**Pg**		**18 36 33.1**	**-0.5**
MLSB				*e*SG	**Sg**		**18 36 44.7**	**-0.2**
MLSB	**Milas**	**0.87**	**117**	*e*Pg	**Pg**		**18 36 33.1**	**-0.5**
MLSB				*e*Sg	**Sg**		**18 36 44.7**	**-0.2**
CHOS	**Chios island**	**0.91**	**319**	P	**Pg**		**18 36 33.7**	**-0.7**
CHOS				S	**Sg**		**18 36 46.2**	**-0.2**
CHOS	**Chios island**	**0.91**	**319**	*e*PN	**Pg**		**18 36 33.8**	**-0.7**
CHOS				*e*SN	**Sg**		**18 36 45.6**	**-0.8**
CHOS	**Chios island**	**0.91**	**319**	P	**Pg**		**18 36 33.7**	**-0.7**
CHOS				S	**Sg**		**18 36 46.2**	**-0.2**
APE	**Apeiranthos**	**1.20**	**239**	*e*PN	**Pg**		**18 36 40.2**	**+0.4**
APE	**Apeiranthos**	**1.20**	**239**	P	**Pb**		**18 36 38.6**	**-0.8**
APE				S	**Sn**		**18 36 55.7**	**+0.1**
APE	**Apeiranthos**	**1.20**	**239**	*e*PN	**Pb**		**18 36 38.8**	**-0.6**
APE				*e*SN	**Sg**		**18 36 55.5**	**+0.1**
APE	**Apeiranthos**	**1.20**	**239**	*e*Pn	**Pb**		**18 36 38.8**	**-0.6**
APE				*e*Sn	**Sg**		**18 36 55.5**	**+0.1**
YER	**Yerkesik**	**1.30**	**115**	*e*PN	**Pn**		**18 36 40.8**	**-0.1**
YER	**Yerkesik**	**1.30**	**115**	*e*Pn	**Pn**		**18 36 40.8**	**-0.1**
AKHS	**Akhisar**	**1.42**	**33**	*i* P	**Pn**		**18 36 41.3**	**-1.2**
AKHS				*i* S	**Sg**		**18 37 02.8**	**+0.1**
AKHS	**Akhisar**	**1.42**	**33**	*i* P	**Pn**		**18 36 41.3**	**-1.2**
AKHS				*i* S	**Sg**		**18 37 02.8**	**+0.1**
AKS	**Akhisar**	**1.42**	**33**	*e*PN	**Pg**		**18 36 43.7**	**-0.5**
AKS	**Akhisar**	**1.42**	**33**	*e*Pn	**Pg**		**18 36 43.7**	**-0.5**
MANT	**Manisa**	**1.59**	**60**	*i* P	**Pg**		**18 36 47.1**	**-0.3**
MANT				*i* S	**Sb**		**18 37 06.1**	**-0.4**
MANT	**Manisa**	**1.59**	**60**	*i* P	**Pg**		**18 36 47.1**	**-0.3**
MANT				*i* S	**Sb**		**18 37 06.1**	**-0.4**
PRK	**Paraskevi**	**1.60**	**345**	P	**Pn**		**18 36 44.0**	**-1.0**
PRK				S	**Sn**		**18 37 04.9**	**-0.8**
PRK	**Paraskevi**	**1.60**	**345**	*e*PN	**Pn**		**18 36 45.1**	**+0.1**
PRK				*e*SN	**Sb**		**18 37 07.1**	**+0.5**
PRK	**Paraskevi**	**1.60**	**345**	P	**Pn**		**18 36 44.0**	**-1.0**
PRK	**Paraskevi**	**1.60**	**345**	*e*Pn	**Pn**		**18 36 45.1**	**+0.1**
PRK				S	**Sn**		**18 37 04.9**	**-0.8**
PRK				*e*Sn	**Sb**		**18 37 07.1**	**+0.5**
TURN	**Turunc**	**1.65**	**119**	*i* P	**Pn**		**18 36 43.2**	**-2.4**
TURN				*i* S	**Sn**		**18 37 02.8**	**-3.9**
TURN	**Turunc**	**1.65**	**119**	*i* P	**Pn**		**18 36 43.2**	**-2.4**
KULA	**Kula-Manisa**	**1.67**	**60**	*e*PN	**Pb**		**18 36 47.4**	**-0.2**
KULA	**Kula-Manisa**	**1.67**	**60**	P	**Pn**		**18 36 45.1**	**-0.9**
KULA				S	**Sn**		**18 37 07.4**	**-0.1**
KULA	**Kula-Manisa**	**1.67**	**60**	P	**Pn**		**18 36 45.1**	**-0.9**
KULA	**Kula-Manisa**	**1.67**	**60**	*e*Pn	**Pb**		**18 36 47.4**	**-0.2**
KULA				S	**Sn**		**18 37 07.4**	**-0.1**
SANT	**Santorini**	**1.71**	**220**	P	**Pn**		**18 36 45.6**	**-0.9**
SANT				S	**Sn**		**18 37 08.7**	**+0.5**
SANT	**Santorini**	**1.71**	**220**	*e*PB	**Pn**		**18 36 45.8**	**-0.7**
SANT	**Santorini**	**1.71**	**220**	P	**Pn**		**18 36 45.6**	**-0.9**
SANT				S	**Sn**		**18 37 08.7**	**+0.5**
DALY	**Dalyan (Mu¨la**	**1.71**	**120**	*e*PN	**Pn**		**18 36 46.5**	**0.0**
DALY	**Dalyan (Mu¨la**	**1.71**	**120**	*e*Pn	**Pn**		**18 36 46.5**	**0.0**
DENT	**Denizli**	**1.76**	**87**	*e*PN	**Pn**		**18 36 47.7**	**+0.5**
DNZL	**Cakiroluk**	**1.77**	**89**	*i* P	**Pn**		**18 36 47.8**	**+0.3**
DNZL				*i* S	**Sg**		**18 37 15.9**	**+2.0**
ARG	**Arkhangelos**	**1.81**	**144**	P	**Pn**		**18 36 48.1**	**+0.2**
ARG				S	**Sn**		**18 37 11.3**	**+0.5**
ARG	**Arkhangelos**	**1.81**	**144**	*e*PN	**Pn**		**18 36 48.2**	**+0.3**
ARG	**Arkhangelos**	**1.81**	**144**	*e*Pn	**Pn**		**18 36 48.2**	**+0.3**
ARG				S	**Sn**		**18 37 11.3**	**+0.5**
MRMA	**Marmari**	**1.96**	**281**	P	**Pn**		**18 36 50.1**	**+0.2**
MRMA	**Marmari**	**1.96**	**281**	P	**Pn**		**18 36 50.1**	**+0.2**
DEMI	**Demirci**	**2.01**	**47**	*i* P	**Pg**		**18 36 54.8**	**-0.7**
DEMI				*i* S	**Sg**		**18 37 20.2**	**-1.4**
DEMI	**Demirci**	**2.01**	**47**	*i* P	**Pg**		**18 36 54.8**	**-0.7**
DEMI				*i* S	**Sg**		**18 37 20.2**	**-1.4**
FETY	**Fethiye**	**2.10**	**120**	*e*PN	**Pn**		**18 36 52.3**	**+0.5**
BALB	**Balikesir**	**2.12**	**23**	*e*PN	**Pb**		**18 36 54.8**	**-0.3**
BALB	**Balikesir**	**2.12**	**23**	*e*Pn	**Pb**		**18 36 54.8**	**-0.3**
KARP	**Karpathos**	**2.16**	**172**	P	**Pn**		**18 36 52.4**	**-0.3**
KARP				S	**Sb**		**18 37 21.1**	**-1.6**
KARP	**Karpathos**	**2.16**	**172**	*e*PB	**Pn**		**18 36 52.7**	**0.0**
KARP	**Karpathos**	**2.16**	**172**	P	**Pn**		**18 36 52.4**	**-0.3**
KARP				S	**Sb**		**18 37 21.1**	**-1.6**
KHAL	**Karahalli**	**2.22**	**72**	*i* P	**Pn**		**18 36 54.1**	**+0.5**
KHAL	**Karahalli**	**2.22**	**72**	*i* P	**Pn**		**18 36 54.1**	**+0.5**
KHL	**Karahalli**	**2.23**	**73**	*e*PN	**Pn**		**18 36 54.4**	**+0.7**
KHL	**Karahalli**	**2.23**	**73**	*e*Pn	**Pn**		**18 36 54.4**	**+0.7**
GOLH	**Golhisar**	**2.24**	**101**	*i* P	**Pn**		**18 36 55.1**	**+1.3**
PTL	**Penteli**	**2.36**	**280**	P	**Pn**		**18 36 55.0**	**-0.4**
PTL				S	**Sn**		**18 37 24.5**	**+0.2**
PTL	**Penteli**	**2.36**	**280**	*e*PN	**Pn**		**18 36 55.3**	**-0.1**
PTL	**Penteli**	**2.36**	**280**	P	**Pn**		**18 36 55.0**	**-0.4**
PTL	**Penteli**	**2.36**	**280**	*e*Pn	**Pn**		**18 36 55.3**	**-0.1**
PTL				S	**Sn**		**18 37 24.5**	**+0.2**
DST	**Dursunbey**	**2.38**	**36**	*e*PN	**Pb**		**18 36 58.2**	**-1.4**
DST	**Dursunbey**	**2.38**	**36**	*e*Pn	**Pb**		**18 36 58.2**	**-1.4**
ATHU	**Athens Univers**	**2.41**	**277**	P	**Pn**		**18 36 55.3**	**-0.8**
ATHU	**Athens Univers**	**2.41**	**277**	P	**Pn**		**18 36 55.3**	**-0.8**
GONE	**Gonen-Balikesi**	**2.45**	**16**	*e*PN	**Pb**		**18 36 59.2**	**-1.5**
GONE	**Gonen-Balikesi**	**2.45**	**16**	*e*Pn	**Pb**		**18 36 59.2**	**-1.5**
ATH	**Athens Observa**	**2.46**	**277**	P	**Pn**		**18 36 56.5**	**-0.3**
ATH				S	**Sn**		**18 37 26.6**	**-0.2**
ATH	**Athens Observa**	**2.46**	**277**	*e*PN	**Pn**		**18 36 56.9**	**+0.1**
ATH	**Athens Observa**	**2.46**	**277**	P	**Pn**		**18 36 56.5**	**-0.3**
ATH	**Athens Observa**	**2.46**	**277**	*e*Pn	**Pn**		**18 36 56.9**	**+0.1**
ATH				S	**Sn**		**18 37 26.6**	**-0.2**
GDZ	**Gediz**	**2.52**	**56**	*i* P	**Pg**		**18 37 04.3**	**-0.8**
GDZ	**Gediz**	**2.52**	**56**	*i* P	**Pg**		**18 37 04.3**	**-0.8**
LIA	**Limnos Island**	**2.54**	**330**	P	**Pn**		**18 36 57.2**	**-0.7**
LIA				S	**Sn**		**18 37 28.7**	**0.0**
LIA	**Limnos Island**	**2.54**	**330**	P	**Pn**		**18 36 57.2**	**-0.7**
LIA				S	**Sn**		**18 37 28.7**	**0.0**
NPS	**Neapolis**	**2.61**	**202**	P	**Pn**		**18 36 58.7**	**-0.1**
NPS				S	**Sn**		**18 37 31.6**	**+1.1**
NPS	**Neapolis**	**2.61**	**202**	*e*PN	**Pn**		**18 36 58.8**	**-0.1**
NPS	**Neapolis**	**2.61**	**202**	*e*Pn	**Pn**		**18 36 58.8**	**-0.1**
NPS				S	**Sn**		**18 37 31.6**	**+1.1**
ZKR	**Zakros**	**2.62**	**191**	P	**Pn**		**18 36 59.1**	**+0.1**
ZKR				S	**Sn**		**18 37 32.2**	**+1.5**
ZKR	**Zakros**	**2.62**	**191**	*e*PB	**Pn**		**18 36 59.8**	**+0.8**
ZKR	**Zakros**	**2.62**	**191**	P	**Pn**		**18 36 59.1**	**+0.1**
ZKR				S	**Sn**		**18 37 32.2**	**+1.5**
NAIG	**Nisos Aigina**	**2.63**	**272**	*e*PN	**Pn**		**18 36 59.0**	**-0.2**
NAIG	**Nisos Aigina**	**2.63**	**272**	*e*Pn	**Pn**		**18 36 59.0**	**-0.2**
ELL	**Elmali**	**2.65**	**110**	*e*PN	**Pn**		**18 37 00.1**	**+0.6**
AKAS	**Kas**	**2.67**	**122**	*i* P	**Pb**		**18 37 02.1**	**-2.6**
AKAS				*i* S	**Sb**		**18 37 37.5**	**0.0**
LPK	**Lapseki**	**2.67**	**359**	*e*PN	**Pn**		**18 37 02.1**	**+2.4**
LPK	**Lapseki**	**2.67**	**359**	*e*Pn	**Pn**		**18 37 02.1**	**+2.4**
GELI	**Tayfur-Gelibol**	**2.71**	**355**	*e*PN	**Pb**		**18 37 03.0**	**-2.3**
GELI	**Tayfur-Gelibol**	**2.71**	**355**	*e*Pn	**Pb**		**18 37 03.0**	**-2.3**
KRBG	**Karabiga-Canak**	**2.72**	**8**	*e*PN	**Pb**		**18 37 04.2**	**-1.2**
KRBG	**Karabiga-Canak**	**2.72**	**8**	*e*Pn	**Pb**		**18 37 04.2**	**-1.2**
LAST	**Lasithi**	**2.75**	**203**	P	**Pn**		**18 37 00.5**	**-0.3**
LAST				S	**Sn**		**18 37 34.9**	**+0.9**
LAST	**Lasithi**	**2.75**	**203**	*e*PN	**Pn**		**18 37 00.8**	**0.0**
LAST	**Lasithi**	**2.75**	**203**	P	**Pn**		**18 37 00.5**	**-0.3**
LAST	**Lasithi**	**2.75**	**203**	*e*Pn	**Pn**		**18 37 00.8**	**0.0**
LAST				S	**Sn**		**18 37 34.9**	**+0.9**
BNT	**Bandirma**	**2.79**	**18**	*e*PN	**Pn**		**18 37 03.7**	**+2.3**
BNT	**Bandirma**	**2.79**	**18**	*e*Pn	**Pn**		**18 37 03.7**	**+2.3**
KCTX	**Karacabey (Bur**	**2.84**	**25**	*e*PN	**Pn**		**18 37 04.3**	**+2.3**
KCTX	**Karacabey (Bur**	**2.84**	**25**	*e*Pn	**Pn**		**18 37 04.3**	**+2.3**
DID	**Didima**	**2.84**	**267**	P	**Pn**		**18 37 01.9**	**-0.2**
DID				S	**Sn**		**18 37 35.6**	**-0.7**
DID	**Didima**	**2.84**	**267**	*e*PN	**Pn**		**18 37 01.9**	**-0.2**
DID	**Didima**	**2.84**	**267**	P	**Pn**		**18 37 01.9**	**-0.2**
IDI	**Anoyia**	**2.86**	**213**	P	**Pn**		**18 37 02.1**	**-0.2**
IDI				S	**Sn**		**18 37 36.5**	**-0.1**
IDI	**Anoyia**	**2.86**	**213**	*e*PN	**Pn**		**18 37 02.6**	**+0.3**
IDI	**Anoyia**	**2.86**	**213**	P	**Pn**		**18 37 02.1**	**-0.2**
IDI	**Anoyia**	**2.86**	**213**	*e*Pn	**Pn**		**18 37 02.6**	**+0.3**
IDI				S	**Sn**		**18 37 36.5**	**-0.1**
ISP	**Isparta**	**2.94**	**86**	*e*PN	**Pn**		**18 37 04.5**	**+0.9**
ISP	**Isparta**	**2.94**	**86**	P	**Pn**		**18 37 03.3**	**-0.2**
ISP				S	**Sn**		**18 37 39.4**	**+0.5**
SMTH	**Samothraki Isl**	**2.94**	**341**	P	**Pn**		**18 37 02.2**	**-1.3**
SMTH	**Samothraki Isl**	**2.94**	**341**	P	**Pn**		**18 37 02.2**	**-1.3**
RKY	**Sarkoy-Tekirda**	**3.00**	**5**	*e*PN	**Pb**		**18 37 07.6**	**-2.7**
RKY	**Sarkoy-Tekirda**	**3.00**	**5**	*e*Pn	**Pb**		**18 37 07.6**	**-2.7**
BCK	**Bucak**	**3.01**	**93**	*e*PN	**Pn**		**18 37 05.6**	**+1.1**
LTK	**Loutraki**	**3.06**	**277**	P	**Pn**		**18 37 04.8**	**-0.2**
LTK	**Loutraki**	**3.06**	**277**	*e*PN	**Pn**		**18 37 05.3**	**+0.3**
LTK	**Loutraki**	**3.06**	**277**	P	**Pn**		**18 37 04.8**	**-0.2**
LTK	**Loutraki**	**3.06**	**277**	*e*Pn	**Pn**		**18 37 05.3**	**+0.3**
VAM	**Vamos**	**3.10**	**223**	*e*PN	**Pn**		**18 37 06.6**	**+1.0**
VAM	**Vamos**	**3.10**	**223**	*e*Pn	**Pn**		**18 37 06.6**	**+1.0**
MFT	**Murefte**	**3.11**	**7**	*e*PN	Pn		18 37 08.9	+3.1
MFT	**Murefte**	**3.11**	**7**	*e*Pn	Pn		18 37 08.9	+3.1
SIVA	**Sivas**	**3.12**	**212**	P	**Pn**		**18 37 05.9**	**0.0**
SIVA	**Sivas**	**3.12**	**212**	P	**Pn**		**18 37 05.9**	**0.0**
ACOR	**Acrocorinthos**	**3.13**	**275**	P	**Pn**		**18 37 05.8**	**-0.2**
ACOR	**Acrocorinthos**	**3.13**	**275**	P	**Pn**		**18 37 05.8**	**-0.2**
VLI	**Veliai**	**3.24**	**254**	P	**Pn**		**18 37 07.4**	**-0.1**
VLI	**Veliai**	**3.24**	**254**	*e*PN	**Pn**		**18 37 08.0**	**+0.5**
VLI	**Veliai**	**3.24**	**254**	P	**Pn**		**18 37 07.4**	**-0.1**
VLI	**Veliai**	**3.24**	**254**	*e*Pn	**Pn**		**18 37 08.0**	**+0.5**
KARN	**Karanos**	**3.27**	**226**	P	**Pn**		**18 37 07.7**	**-0.2**
KARN	**Karanos**	**3.27**	**226**	*e*PN	**Pn**		**18 37 08.9**	**+1.0**
KARN	**Karanos**	**3.27**	**226**	P	**Pn**		**18 37 07.7**	**-0.2**
KARN	**Karanos**	**3.27**	**226**	*e*Pn	**Pn**		**18 37 08.9**	**+1.0**
ARMT	**Armutlu**	**3.28**	**28**	*e*PN	**Pn**		**18 37 11.0**	**+2.9**
ARMT	**Armutlu**	**3.28**	**28**	*e*Pn	**Pn**		**18 37 11.0**	**+2.9**
KYTH	**Kithira**	**3.33**	**246**	*e*PN	**Pn**		**18 37 09.9**	**+1.1**
KYTH	**Kithira**	**3.33**	**246**	*e*Pn	**Pn**		**18 37 09.9**	**+1.1**
SUTC	**Sutluce-Ispart**	**3.34**	**92**	*e*PN	**Pn**		**18 37 10.4**	**+1.5**
CAVI	**Cavuskoy**	**3.44**	**42**	*e*PN	**Pn**		**18 37 12.6**	**+2.3**
CAVI	**Cavuskoy**	**3.44**	**42**	*e*Pn	**Pn**		**18 37 12.6**	**+2.3**
YLV	**Yalova**	**3.49**	**34**	*e*PN	Pn		18 37 14.6	+3.6
YLV	**Yalova**	**3.49**	**34**	*e*Pn	Pn		18 37 14.6	+3.6
GUR	**Goura**	**3.55**	**275**	*e*PN	**Pn**		**18 37 12.3**	**+0.5**
GUR	**Goura**	**3.55**	**275**	*e*Pn	**Pn**		**18 37 12.3**	**+0.5**
ADVT	**Abdulvahap**	**3.56**	**39**	*e*PN	**Pn**		**18 37 14.6**	**+2.7**
ADVT	**Abdulvahap**	**3.56**	**39**	*e*Pn	**Pn**		**18 37 14.6**	**+2.7**
RDO	**Rodhopi**	**3.58**	**344**	P	**Pn**		**18 37 12.1**	**-0.1**
RDO	**Rodhopi**	**3.58**	**344**	P	**Pn**		**18 37 12.1**	**-0.1**
BUY	**Buyukada**	**3.63**	**29**	*e*PN	**Pn**		**18 37 15.5**	**+2.7**
BUY	**Buyukada**	**3.63**	**29**	*e*Pn	**Pn**		**18 37 15.5**	**+2.7**
SLVT	**Silivri**	**3.69**	**17**	*e*PN	Pn		18 37 17.5	+3.8
SLVT	**Silivri**	**3.69**	**17**	*e*Pn	Pn		18 37 17.5	+3.8
KAVA	**Kavala**	**3.75**	**332**	P	**Pn**		**18 37 14.1**	**-0.4**
KAVA	**Kavala**	**3.75**	**332**	P	**Pn**		**18 37 14.1**	**-0.4**
AGG	**Agios Georgios**	**3.76**	**292**	*e*PN	**Pn**		**18 37 15.7**	**+1.0**
AGG	**Agios Georgios**	**3.76**	**292**	*e*Pn	**Pn**		**18 37 15.7**	**+1.0**
ISK	**Istanbul-Kandi**	**3.79**	**27**	*e*PN	Pn		18 37 18.2	+3.1
ISK	**Istanbul-Kandi**	**3.79**	**27**	*e*Pn	Pn		18 37 18.2	+3.1
BGKT	**Bogazkoy**	**3.80**	**23**	*e*PN	Pn		18 37 19.0	+3.9
BGKT	**Bogazkoy**	**3.80**	**23**	*e*Pn	Pn		18 37 19.0	+3.9
TRIZ	**Trizonia**	**3.80**	**282**	*e*PN	**Pn**		**18 37 16.5**	**+1.3**
TRIZ	**Trizonia**	**3.80**	**282**	*e*Pn	**Pn**		**18 37 16.5**	**+1.3**
HRT	**Hereke**	**3.83**	**35**	*e*PN	Pn		18 37 19.0	+3.4
HRT	**Hereke**	**3.83**	**35**	*e*Pn	Pn		18 37 19.0	+3.4
LAKA	**Lakka**	**3.86**	**280**	*e*PN	**Pn**		**18 37 17.1**	**+1.1**
LAKA	**Lakka**	**3.86**	**280**	*e*Pn	**Pn**		**18 37 17.1**	**+1.1**
EFP	**Efpalio**	**3.94**	**282**	*e*PN	**Pn**		**18 37 18.1**	**+1.0**
EFP	**Efpalio**	**3.94**	**282**	*e*Pn	**Pn**		**18 37 18.1**	**+1.0**
GULT	**Gulveren**	**3.97**	**45**	*e*PN	**Pn**		**18 37 20.0**	**+2.3**
GULT	**Gulveren**	**3.97**	**45**	*e*Pn	**Pn**		**18 37 20.0**	**+2.3**
SVRH	**Sivrihisar-ESK**	**4.09**	**63**	*e*PN	Pn		18 37 22.5	+3.3
SVRH	**Sivrihisar-ESK**	**4.09**	**63**	*e*Pn	Pn		18 37 22.5	+3.3
EDRB	**Edirne**	**4.15**	**359**	*e*PN	Pn		18 37 24.0	+4.0
EDRB	**Edirne**	**4.15**	**359**	*e*Pn	Pn		18 37 24.0	+4.0
MDUB	**Mudurnu**	**4.40**	**50**	*e*PN	Pn		18 37 27.0	+3.5
MDUB	**Mudurnu**	**4.40**	**50**	*e*Pn	Pn		18 37 27.0	+3.5
KONT	**Konya--Tatoy**	**4.40**	**85**	*e*PN	**Pn**		**18 37 25.5**	**+2.0**
KONT	**Konya--Tatoy**	**4.40**	**85**	*e*Pn	**Pn**		**18 37 25.5**	**+2.0**
LADK	**Ladik-KONYA**	**4.42**	**82**	*e*PN	Pn		18 37 26.9	+3.1
LADK	**Ladik-KONYA**	**4.42**	**82**	*e*Pn	Pn		18 37 26.9	+3.1
HDMB	**Hadim**	**4.58**	**97**	*e*PN	**Pn**		**18 37 28.3**	**+2.2**
BARS	**Barje**	**6.38**	**325**	*e*Pn	**Pn**		**18 37 53.5**	**+2.8**

IDC 06 18:41:24.8±5.1, 9.°00S×128.°55E, h124km±55km, mb2.8/1, mb1 2.9/5, mb1mx2.8/21, mbtmp2.7/5, Error ellipse: s-maj=50.9km s-min=17.2km az=38.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**4.97**	**256**	P	Pn		18 42 38.0	+0.5
	1.1nm,0.3s,baz=114,slow=18,SNR=2.8							
BATI				S	Sn		18 43 34.1	+0.1
	1.3nm,0.3s,baz=319,slow=20,SNR=2.9							
FITZ	**Fitzroy Crossi**	**9.48**	**197**	P	Pn		18 43 37.9	-0.4
	0.1nm,0.3s,baz=21,slow=10,SNR=8.6							
FITZ				S	Sn		18 45 25.7	+2.5
	0.1nm,0.3s,baz=177,slow=17,SNR=3.2							
WRA	**Warramunga Arr**	**12.24**	**153**	P	Pn		18 44 13.3	-1.8
	0.2nm,0.3s,baz=331,slow=12,SNR=8.4							
WRA				S	Sn		18 46 31.2	+1.2
	0.2nm,0.3s,baz=331,slow=22,SNR=6.5							
ASAR	**Alice Springs**	**15.46**	**161**	P	Pn		18 44 55.9	-0.4
	0.1nm,0.3s,baz=333,slow=12,SNR=6.0							
ASAR				S	Sn		18 47 49.9	+2.1
	0.1nm,0.3s,baz=319,slow=22,SNR=3.6							
MKAR	**Makanchi Array**	**69.12**	**328**	P	P		18 52 17.9	+0.2
	0.2nm,0.7s,baz=141,slow=7.3,SNR=3.1							

IDC 06 18:48:06.3±14.0, 3.°02N×124.°73E, h380km±171km, mb3.0/5, mb1 3.3/6, mb1mx2.9/25, mbtmp3.2/6, Error ellipse: s-maj=93.4km s-min=29.7km az=58.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**13.18**	**185**	P	P		18 51 00.0	+0.2
	2.9nm,0.3s,baz=17,slow=5.6,SNR=6.2							

FITZ	**Fitzroy Crossi**	**21.01**	**178**	P	P		18 52 20.5	-0.9
	1.4nm,0.3s,baz=10,slow=12,SNR=16							
WRA	**Warramunga Arr**	**24.69**	**158**	P	P		18 52 55.0	+0.3
	1.6nm,0.3s,baz=339,slow=9.8,SNR=50							
ASAR	**Alice Springs**	**27.99**	**162**	P	P		18 53 24.6	+0.6
	0.2nm,0.4s,baz=344,slow=7.7,SNR=9.0							
MKAR	**Makanchi Array**	**57.02**	**326**	P	P		18 57 15.6	+1.7
	0.4nm,0.4s,baz=124,slow=8.7,SNR=3.4							
ZALV	**Zalesovo Beam**	**60.33**	**334**	P	P		18 57 34.3	-1.9
	0.6nm,0.6s,baz=148,slow=8.5,SNR=2.1							

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*NIED **06** 19:42:00, 33.°00N×140.°70E, h56km, Mw3.8 Best double couple: M∂5.25000×10^14 NP1:φ∂10.00000°, δ56.00000°, λ78.00000°. NP2:φ∂211.00000°, δ36.00000°, λ107.00000°.*
*ISCJB **06** 19:42:02.2±0.9, 32.°83N±0.°05×140.°72E±0.°08, h69km±7km, mb3.9/11, Error ellipse: s-maj=11.4km s-min=7.8km az=9.8*
*JMA **06** 19:42:02.8±0.1, 32.°87N×140.°75E, h56km, M4.0*
JMA Felt I J1.
*IDC **06** 19:42:05.2±2.9, 32.°78N×140.°62E, h80km±25km, mb3.7/11, mb1 3.8/13, mb1mx3.6/27, mbtmp3.7/13, MS2.7/1, Ms1 2.7/1, ms1mx2.1/27, Error ellipse: s-maj=23.2km s-min=14.6km az=97.0*

**ISC 06 19:42:02.2±1.8, 32.°80N

ATH	**Athens Observa**	**1.01 198**	*e*Pn	**Pb**	**19 44 43.5**	**+0.1**
ATH			S	**Sn**	**19 44 57.8**	**-0.5**
ATH			*e*Sn	**Sn**	**19 44 58.5**	**+0.2**
PAIG	**Paliouri**	**1.05 341**	P	**Pg**	**19 44 43.7**	**-0.5**
PAIG			S	**Sn**	**19 44 58.8**	**-0.7**
PAIG	**Paliouri**	**1.05 341**	P	**Pg**	**19 44 43.7**	**-0.5**
PAIG			S	**Sn**	**19 44 58.8**	**-0.7**
AXAR	**Agios Charalam**	**1.15 262**	P	**Pb**	**19 44 45.6**	**-0.3**
AXAR			S	**Sn**	**19 45 02.6**	**+0.6**
AXAR	**Agios Charalam**	**1.15 262**	P	**Pb**	**19 44 45.6**	**-0.3**
AXAR			S	**Sn**	**19 45 02.6**	**+0.6**
LIA	**Limnos Island**	**1.27 40**	P	**Pb**	**19 44 47.8**	**-0.1**
LIA			S	**Sn**	**19 45 05.4**	**+0.6**
LIA	**Limnos Island**	**1.27 40**	P	**Pb**	**19 44 47.8**	**-0.1**
LIA			S	**Sn**	**19 45 05.4**	**+0.6**
LTK	**Loutraki**	**1.28 225**	P	**Pn**	**19 44 47.6**	**-0.3**
LTK			S	**Sg**	**19 45 05.3**	**+0.2**
LTK	**Loutraki**	**1.28 225**	*e*PN	**Pg**	**19 44 49.0**	**+0.5**
LTK			*e*SN	**Sg**	**19 45 06.6**	**+1.5**
LTK	**Loutraki**	**1.28 225**	P	**Pn**	**19 44 47.6**	**-0.3**
LTK	**Loutraki**	**1.28 225**	*e*Pn	**Pg**	**19 44 49.0**	**+0.5**
LTK			S	**Sg**	**19 45 05.3**	**+0.2**
LTK			*e*Sn	**Sg**	**19 45 06.6**	**+1.5**
DSF	**Desfina**	**1.35 248**	P	**Pn**	**19 44 48.0**	**-0.9**
DSF			S	**Sn**	**19 45 07.0**	**+0.1**
DSF	**Desfina**	**1.35 248**	P	**Pn**	**19 44 48.0**	**-0.9**
DSF			S	**Sn**	**19 45 07.0**	**+0.1**
AGG	**Agios Georgios**	**1.40 274**	P	**Pn**	**19 44 48.8**	**-0.7**
AGG			S	**Sb**	**19 45 08.1**	**0.0**
AGG	**Agios Georgios**	**1.40 274**	*e*PN	**Pg**	**19 44 50.6**	**-0.1**
AGG			*e*SN	**Sg**	**19 45 10.8**	**+1.9**
AGG	**Agios Georgios**	**1.40 274**	P	**Pn**	**19 44 48.8**	**-0.7**
AGG	**Agios Georgios**	**1.40 274**	*e*Pn	**Pg**	**19 44 50.6**	**-0.1**
AGG			S	**Sb**	**19 45 08.1**	**0.0**
AGG			*e*Sn	**Sg**	**19 45 10.8**	**+1.9**
OUR	**Ouranopolis**	**1.41 356**	P	**Pn**	**19 44 49.1**	**-0.5**
OUR			S	**Sg**	**19 45 09.2**	**0.0**
OUR	**Ouranopolis**	**1.41 356**	P	**Pn**	**19 44 49.1**	**-0.5**
ACOR	**Acrocorinthos**	**1.43 224**	P	**Pn**	**19 44 49.8**	**-0.1**
ACOR			S	**Sg**	**19 45 09.7**	**-0.2**
ACOR	**Acrocorinthos**	**1.43 224**	P	**Pn**	**19 44 49.8**	**-0.1**
ACOR			S	**Sg**	**19 45 09.7**	**-0.2**
PLG	**Polygyros**	**1.53 340**	P	**Pn**	**19 44 50.6**	**-0.8**
PLG	**Polygyros**	**1.53 340**	P	**Pn**	**19 44 50.6**	**-0.8**
DID	**Didima**	**1.58 206**	P	**Pn**	**19 44 51.5**	**-0.6**
DID			S	**Sb**	**19 45 12.9**	**-0.5**
DID	**Didima**	**1.58 206**	*e*PN	**Pb**	**19 44 52.7**	**-0.6**
DID	**Didima**	**1.58 206**	P	**Pn**	**19 44 51.5**	**-0.6**
DID	**Didima**	**1.58 206**	*e*Pn	**Pb**	**19 44 52.7**	**-0.6**
DID			S	**Sb**	**19 45 12.9**	**-0.5**
CHOS	**Chios island**	**1.61 109**	P	**Pn**	**19 44 52.5**	**0.0**
CHOS			S	**Sb**	**19 45 14.5**	**+0.3**
CHOS	**Chios island**	**1.61 109**	P	**Pn**	**19 44 52.5**	**0.0**
CHOS			S	**Sb**	**19 45 14.5**	**+0.3**
DIDY	**Didyma**	**1.62 207**	P	**Pn**	**19 44 51.9**	**-0.7**
DIDY	**Didyma**	**1.62 207**	P	**Pn**	**19 44 51.9**	**-0.7**
KALE	**Kalíthea**	**1.64 251**	P	**Pn**	**19 44 52.3**	**-0.6**
KALE	**Kalithea**	**1.64 251**	*e*PN	**Pn**	**19 44 53.4**	**+0.5**
KALE	**Kalithea**	**1.64 251**	P	**Pn**	**19 44 52.3**	**-0.6**
KALE	**Kalithea**	**1.64 251**	*e*Pn	**Pn**	**19 44 53.4**	**+0.5**
TRIZ	**Trizonia**	**1.70 251**	P	**Pn**	**19 44 53.2**	**-0.4**
TRIZ	**Trizonia**	**1.70 251**	*e*PN	**Pb**	**19 44 54.3**	**-0.9**
TRIZ	**Trizonia**	**1.70 251**	P	**Pn**	**19 44 53.2**	**-0.4**
TRIZ	**Trizonia**	**1.70 251**	*e*Pn	**Pb**	**19 44 54.3**	**-0.9**
PRK	**Paraskevi**	**1.70 79**	P	**Pn**	**19 44 53.4**	**-0.3**
PRK			S	**Sb**	**19 45 17.1**	**+0.3**
PRK	**Paraskevi**	**1.70 79**	P	**Pn**	**19 44 53.4**	**-0.3**
GUR	**Goura**	**1.71 235**	P	**Pn**	**19 44 53.8**	**-0.1**
GUR			S	**Sn**	**19 45 16.0**	**+0.1**
GUR	**Goura**	**1.71 235**	*e*PB	**Pn**	**19 44 54.3**	**+0.4**
GUR	**Goura**	**1.71 235**	P	**Pn**	**19 44 53.8**	**-0.1**
GUR	**Goura**	**1.71 235**	*e*Pb	**Pn**	**19 44 54.3**	**+0.4**
GUR			S	**Sn**	**19 45 16.0**	**+0.1**
THL	**Klokotos Trika**	**1.75 292**	P	**Pn**	**19 44 54.4**	**0.0**
THL			S	**Sn**	**19 45 16.8**	**0.0**
THL	**Klokotos Trika**	**1.75 292**	*e*PN	**Pn**	**19 44 54.8**	**+0.4**
THL	**Klokotos Trika**	**1.75 292**	P	**Pn**	**19 44 54.4**	**0.0**
THL	**Klokotos Trika**	**1.75 292**	*e*Pn	**Pn**	**19 44 54.8**	**+0.4**
THL			S	**Sn**	**19 45 16.8**	**0.0**
KLV	**Kalavryta, Ach**	**1.78 241**	P	**Pn**	**19 44 54.2**	**-0.6**
KLV			S	**Sn**	**19 45 17.5**	**-0.1**
KLV	**Kalavryta, Ach**	**1.78 241**	*e*PN	**Pb**	**19 44 56.1**	**-0.6**
KLV	**Kalavryta, Ach**	**1.78 241**	P	**Pn**	**19 44 54.2**	**-0.6**
KLV	**Kalavryta, Ach**	**1.78 241**	*e*Pn	**Pb**	**19 44 56.1**	**-0.6**
KLV			S	**Sn**	**19 45 17.5**	**-0.1**
EVR	**Evrytania**	**1.80 270**	*e*PN	**Pn**	**19 44 56.0**	**+0.8**
EVR	**Evrytania**	**1.80 270**	*e*Pn	**Pn**	**19 44 56.0**	**+0.8**
EFP	**Efpalio**	**1.80 255**	P	**Pn**	**19 44 54.2**	**-0.9**
EFP	**Efpalio**	**1.80 255**	*e*PN	**Pb**	**19 44 56.5**	**-0.5**
EFP	**Efpalio**	**1.80 255**	P	**Pn**	**19 44 54.2**	**-0.9**
EFP	**Efpalio**	**1.80 255**	*e*Pn	**Pb**	**19 44 56.5**	**-0.5**
LAKA	**Lakka**	**1.81 248**	P	**Pn**	**19 44 54.7**	**-0.6**
LAKA	**Lakka**	**1.81 248**	*e*PN	**Pb**	**19 44 56.2**	**-1.0**
LAKA	**Lakka**	**1.81 248**	P	**Pn**	**19 44 54.7**	**-0.6**
LAKA	**Lakka**	**1.81 248**	*e*Pn	**Pb**	**19 44 56.2**	**-1.0**
HORT	**Hortiatis**	**1.84 335**	P	**Pn**	**19 44 55.4**	**-0.3**
HORT			S	**Sn**	**19 45 19.8**	**+0.7**
HORT	**Hortiatis**	**1.84 335**	P	**Pn**	**19 44 55.4**	**-0.3**
HORT			S	**Sn**	**19 45 19.8**	**+0.7**
SOH	**Sokhos**	**1.98 343**	P	**Pn**	**19 44 57.2**	**-0.4**
SOH	**Sokhos**	**1.98 343**	P	**Pn**	**19 44 57.2**	**-0.4**
VLX	**Vlachokerasia**	**2.08 222**	P	**Pn**	**19 44 58.5**	**-0.4**
VLX			S	**Sn**	**19 45 25.7**	**+0.8**
VLX	**Vlachokerasia**	**2.08 222**	*e*PB	**Pn**	**19 44 59.8**	**+0.9**
VLX	**Vlachokerasia**	**2.08 222**	P	**Pn**	**19 44 58.5**	**-0.4**
VLX	**Vlachokerasia**	**2.08 222**	*e*Pb	**Pn**	**19 44 59.8**	**+0.9**
VLX			S	**Sn**	**19 45 25.7**	**+0.8**
KAVA	**Kavala**	**2.09 8**	P	**Pn**	**19 44 58.1**	**-0.9**
KAVA	**Kavala**	**2.09 8**	P	**Pn**	**19 44 58.1**	**-0.9**
APE	**Apeiranthos**	**2.17 149**	P	**Pn**	**19 44 59.6**	**-0.5**
APE			S	**Sn**	**19 45 28.2**	**+1.1**
APE	**Apeiranthos**	**2.17 149**	P	**Pn**	**19 44 59.6**	**-0.5**
APE			S	**Sn**	**19 45 28.2**	**+1.1**
VLI	**Veliai**	**2.40 203**	P	**Pn**	**19 44 03.5**	**+0.2**
VLI	**Veliai**	**2.40 203**	*e*PN	**Pn**	**19 44 04.1**	**+0.8**
VLI	**Veliai**	**2.40 203**	P	**Pn**	**19 44 03.5**	**+0.2**
VLI	**Veliai**	**2.40 203**	*e*Pn	**Pn**	**19 44 04.1**	**+0.8**
ITM	**Ithomi**	**2.46 225**	*e*PB	**Pb**	**19 44 06.2**	**-2.0**
ITM	**Ithomi**	**2.46 225**	*e*Pb	**Pb**	**19 44 06.2**	**-2.0**
KYTH	**Kithira**	**2.78 198**	*e*PN	**Pn**	**19 44 08.9**	**+0.4**
KYTH	**Kithira**	**2.78 198**	*e*Pn	**Pn**	**19 44 08.9**	**+0.4**

*CSEM **06** 19:46:18.4, 37°.60N×32°.68E, h17km, MD2.7, After ISK*

ISK 06 19:46:18.4, 37°.60N×32°.68E, h17km, MD2.7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KONT	**Konya--Tatoy**	**0.43 324**		*e*PG	Pb	19 46 28.1	+0.5
KONT				*e*SG	Sb	19 46 34.6	+0.7
KONT	**Konya--Tatoy**	**0.43 324**		*e*Pg	Pb	19 46 28.1	+0.5
KONT				*e*Sg	Sb	19 46 34.6	+0.7
HDMB	**Hadim**	**0.65 194**		*e*PG	Pg	19 46 31.5	0.0
HDMB				*e*SG	Sb	19 46 41.2	+0.7
HDMB	**Hadim**	**0.65 194**		*e*Pg	Pg	19 46 31.5	0.0
HDMB				*e*Sg	Sb	19 46 41.2	+0.7
LADK	**Ladik-KONYA**	**0.65 338**		*e*PG	Pg	19 46 31.3	-0.1
LADK				*e*SG	Sb	19 46 40.8	+0.3
LADK	**Ladik-KONYA**	**0.65 338**		*e*Pg	Pg	19 46 31.3	-0.1
LADK				*e*Sg	Sb	19 46 40.8	+0.4
SULT	**Sultanhani-AKS**	**0.90 48**		*e*PG	Pn	19 46 36.5	+0.1
SULT	**Sultanhani-AKS**	**0.90 48**		*e*Pg	Pn	19 46 36.5	+0.1
SUTC	**Sutluce-Ispart**	**1.34 265**		*e*PN	Pb	19 46 42.9	-0.3
SUTC	**Sutluce-Ispart**	**1.34 265**		*e*Pn	Pb	19 46 42.9	-0.3

MEX 06 19:50:08.3±1.1, 16°.93N×94°.32W, h142km±12km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.56 287**		*i* P	Pn	19 50 28.2	-0.9
CMIG				*i* S	Sn	19 50 42.9	-2.0
TGIG		**1.16 97**		*i* P	Pn	19 50 32.5	-1.4
TGIG				*i* S	Sn	19 50 50.6	-2.7
PCIG		**1.61 139**		*i* P	Pn	19 50 37.7	-0.8
PCIG				*i* S	Sn	19 50 59.8	-1.8
HUIG	**Huatulco**	**2.07 236**		*i* P	Pn	19 50 41.6	-2.2
HUIG				*i* S	Sn	19 51 09.3	-1.7

MAN 06 20:10:29, 9°.31N×123°.22E, h33km, mb3.8, ML2.6, MS2.2, 1D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCPH	**Dipolog City**	**0.73 170**		*i*eP	Pb	20 10 43.6	+0.2
GUIM	**Jordan**	**1.45 335**		*e*P	Pn	20 10 53.9	+1.0
GUIM				*e*S	Sn	20 11 11.2	+0.4
PAGZ	**Pagadian**	**1.46 174**		*e*P	Pn	20 10 54.3	+1.2
PAGZ				*e*S	Sn	20 11 11.7	+0.6

IDC 06 20:12:45.5±0.8, 13°.89N×92°.90E, h29km±4km, mb3.5/10, mb1 3.7/11, mb1mx3.5/27, mbtmp3.5/11, ML3.5/1, Error ellipse: s-maj=27.8km s-min=15.9km az=52.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.37 51**		Pn	Pn	20 14 30.5	-0.7
	0.2nm,0.3s,baz=237,slow=16,SNR=5.9						
CMAR				Sn	Sn	20 15 47.6	-6.3
	0.2nm,0.3s,baz=253,slow=15,SNR=6.4						
MKAR	**Makanchi Array**	**33.99 347**		P	P	20 19 26.6	+0.1
	0.4nm,0.6s,baz=175,slow=8.4,SNR=5.0						
MKAR				pP	pP	20 19 34.8	-0.3
	1.0nm,0.9s,baz=158,slow=10,SNR=4.2						
ZALV	**Zalesovo Beam**	**40.47 353**		P	P	20 20 21.5	+0.2
	0.5nm,0.5s,baz=152,slow=6.5,SNR=3.2						
WRA	**Warramunga Arr**	**52.84 129**		P	P	20 21 58.5	-0.3
	0.3nm,0.6s,baz=314,slow=8.2,SNR=6.5						
ASAR	**Alice Springs**	**54.78 133**		P	P	20 22 13.4	+0.5
	0.3nm,0.4s,baz=308,slow=7.0,SNR=8.9						
ASAR				pP	pP	20 22 21.7	-0.2
	0.3nm,0.5s,baz=312,slow=7.0,SNR=2.1						
BRTR	**Keskin Array B**	**57.68 308**		P	P	20 22 34.0	+0.4
	0.9nm,0.8s,baz=92,slow=6.2,SNR=4.9						
BRTR				pP	pP	20 22 43.2	+0.6
	0.7nm,0.8s,baz=120,slow=7.3,SNR=3.6						
FINES	**FINESS Array B**	**66.87 331**		P	P	20 23 34.0	-0.6
	0.6nm,0.5s,baz=99,slow=6.0,SNR=6.5						
FINES				pP	pP	20 23 43.1	-0.6
	2.2nm,1.0s,baz=102,slow=4.5,SNR=2.3						
GERES	**GERESS Array B**	**72.58 317**		P	P	20 24 10.7	+0.5
	0.4nm,0.6s,baz=65,slow=6.3,SNR=5.8						
GERES				pP	pP	20 24 19.9	+0.5
	0.6nm,0.6s,baz=84,slow=6.8,SNR=5.1						
NOA	**NORSAR Array B**	**73.93 330**		P	P	20 24 16.7	-1.1
	0.6nm,0.8s,baz=82,slow=6.8,SNR=2.8						
BOSA	**Boshof**	**77.81 236**		P	P	20 24 39.8	-0.8
	3.7nm,1.1s,baz=93,slow=3.6,SNR=3.7						
TORD	**Torodi Ar. Bea**	**88.05 283**		P	P	20 25 34.5	+0.7
	0.4nm,0.8s,baz=88,slow=4.1,SNR=3.6						

*ISCJB **06** 20:16:21.7±0.8, 55°.2S±0°.1×29°.6W±0°.3, h10km, mb4.0/6, MS3.4/3, Error ellipse: s-maj=23.2km s-min=13.5km az=152.9*

*IDC **06** 20:16:21.8±0.8, 55°.16S×29°.36W, h0km, mb4.0/7, mb1 4.2/8, mb1mx4.0/18, mbtmp4.1/8, ML5.5/1, MS3.3/3, Ms1 3.4/3, ms1mx3.1/18, Error ellipse: s-maj=28.9km s-min=17.7km az=71.0*

ISC 06 20:16:23.3±0.8, 55°.2S±0°.1×29°.4W±0°.2, h10km, n13, σ0.81/11, mb4.0/6, MS3.3/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**18.10 157**		*e*P	Pn	20 20 27.4	-7.0
VNA2	**Neumayer--Watz**	**18.50 157**		*e*P	**Pn**	**20 20 39.6**	**+0.2**
	baz=318,slow=13						
PMSA	**Palmer Station**	**19.54 227**		P	**P**	**20 20 49.6**	**-1.1**
	1.3nm,0.3s,baz=45,slow=11,SNR=7.6						
SNAA	**Sanae**	**20.07 156**		P	**P**	**20 20 56.4**	**-0.1**
	5.4nm,0.8s,baz=307,slow=10,SNR=99						
QSPA	**South Pole Qui**	**35.09 180**		P	**P**	**20 23 16.6**	**+0.3**
	1.5nm,0.5s,baz=180,slow=3.4,SNR=18						
CPUP	**Villa Florida**	**35.27 313**		P	**P**	**20 23 17.4**	**-0.6**
	0.5nm,0.3s,baz=106,slow=13,SNR=4.2						
CPUP				LR	LR	20 36 40.1	
	comp=Z,38nm,20.2s,baz=178,slow=34						
MAW	**Mawson**	**41.62 145**		P	**P**	**20 24 10.4**	**-0.5**
	2.3nm,0.7s,baz=226,slow=8.4,SNR=8.8						
VNDA	**Vanda**	**47.39 183**		P	**P**	**20 24 57.9**	**+0.9**
	0.6nm,0.7s,baz=157,slow=1.1,SNR=4.7						
LPAZ	**La Paz**	**48.82 307**		P	**P**	**20 25 10.5**	**+1.1**
	6.6nm,0.5s,baz=167,slow=4.2,SNR=36						
LPAZ				LR	LR	20 43 08.1	
	comp=Z,29nm,20.4s,baz=108,slow=33						
TORD	**Torodi Ar. Bea**	**72.95 32**		P	**P**	**20 27 52.9**	**+0.2**
	0.5nm,0.5s,baz=198,slow=6.3,SNR=14						
ESDC	**Sonseca Array**	**96.95 20**		LR	LR	21 07 48.0	
	comp=Z,24nm,21.9s,baz=15,slow=32						
ILAR	**Eielson Array**	**148.57 313**		PKPbc	**PKPbc**	**20 36 08.7**	**-0.2**
	3.4nm,0.7s,baz=124,slow=1.6,SNR=23						
SONM	**Songino Array**	**151.95 87**		PKPbc	**PKPbc**	**20 36 16.6**	**-1.1**
	0.4nm,0.5s,baz=219,slow=3.7,SNR=2.7						

DJA 06 20:16:24.3±1.0, 1°S±13°×9°9E±°, h10km, M4.0/4, MLv4.0/4, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SISI	**Saibi**	**0.33 281**		P	Pg	20 16 30.6	-0.2
PDSI	**Padang**	**1.15 66**		P	Pb	20 16 44.9	-1.5
PDSI				S	Sn	20 17 02.8	+0.4
PPI	**Padang Panjang**	**1.35 47**		P	Pn	20 16 47.5	-1.8
PPI				S	Sg	20 17 07.8	-0.1
BKNI	**Bangkinang**	**2.36 44**		P	Pb	20 17 05.1	-1.8

KRSC 06 20:43:11.4±0.8, 56°.34N×160°.52E, h21km±20km, ML3.7, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLY	**Klyuchi**	**0.08 110**		P	Pb	20 43 16.4	+1.1
KLY				*i* S	Sb	20 43 20.1	+2.1
KRSR	**Krestovskiy**	**0.13 168**		P	Pb	20 43 15.7	-2.2
KRSR				*i* S	Sb	20 43 18.9	-3.6
CIRR	**Tsirk**	**0.26 150**		P	Pb	20 43 17.8	0.0
CIRR				*i* S	Sb	20 43 22.3	0.0
LGNR	**Loginova**	**0.28 160**		P	Pb	20 43 18.2	0.0
LGNR				*i* S	Sb	20 43 23.0	+0.2
ZLN	**Zelenaya**	**0.36 154**		P	Pb	20 43 19.3	+0.2
ZLN				*i* S	Sb	20 43 25.1	+0.7
BZWR	**Bezymyannyi-We**	**0.38 182**		P	Pb	20 43 19.5	0.0
BZWR				*i* S	Sb	20 43 25.7	+0.7
KIRR	**Kirishev**	**0.40 194**		P	Pb	20 43 19.6	-0.3
KIRR				*i* S	Sb	20 43 25.8	+0.2
BZMR	**Bezymyannaya**	**0.41 182**		P	Pb	20 43 19.9	-0.1
BZMR				*i* S	Sb	20 43 26.4	+0.6
KPT	**Kopyto**	**0.41 204**		P	Pb	20 43 19.8	-0.2
KPT				*i* S	Sb	20 43 26.2	+0.4
BZGR	**Bezymyannyi-Gr**	**0.41 166**		P	Pb	20 43 19.6	-0.4
BZGR				*i* S	Sb	20 43 25.8	-0.1
BDR	**Baidarnaya**	**0.45 59**		P	Pb	20 43 21.0	+0.4
BDR				*i* S	Sb	20 43 28.2	+1.3
SRDR	**Sredinnyy**	**0.45 267**		P	Pb	20 43 20.8	+0.2
SRDR				*i* S	Sb	20 43 27.8	+0.9
KOZ	**Kozyrevsk**	**0.46 232**		P	Pb	20 43 21.3	+0.5
KOZ				*i* S	Sb	20 43 28.7	+1.6
SRKR	**Sorokina**	**0.48 49**		P	Pb	20 43 21.2	0.0
SRKR				*i* S	Sb	20 43 28.6	+0.8
SMKR	**Semkarok**	**0.58 65**		P	Pb	20 43 22.9	-0.2
SMKR				*i* S	Sb	20 43 31.9	+0.9
KMNR	**Kamenistaya**	**0.61 195**		P	Pb	20 43 23.0	-0.5
KMNR				*i* S	Sb	20 43 31.9	+0.1
TUMR	**Tumrok**	**1.08 191**		P	Pn	20 43 30.1	-1.3
KBTR	**Krutoberegovo**	**1.29 95**		P	Pn	20 43 33.9	-0.2
KBTR				*i* S	Sb	20 43 51.0	0.0
MKZ	**Mys Kozlova**	**1.92 158**		P	Pb	20 43 44.3	-1.3
MKZ				*i* S	Sb	20 44 08.7	-0.3
KRER	**Koryakskii**	**3.21 199**		P	Pn	20 44 02.7	+1.9
SDLR	**Sedlovina**	**3.21 198**		P	Pn	20 44 02.2	+1.5
SMAR	**Somma**	**3.24 199**		P	Pn	20 44 03.3	+2.0
KOK	**Koryaka**	**3.24 200**		P	Pn	20 44 02.1	+1.0
AVH	**Avacha**	**3.25 199**		P	Pn	20 44 03.0	+1.8
SPN	**Mys Shipunski**	**3.26 185**		P	Pn	20 44 02.9	+1.7
BKI	**Bering**	**3.28 108**		P	Pn	20 44 02.4	+0.9
BKI				*i* S	Sn	20 44 40.1	+0.2
APC	**Apacha**	**3.94 211**		P	Pn	20 44 11.8	+1.2

PLV 06 20:49:14.7±2.7, 21°.11N×104°.81E, h14km±12km, MD3.5, Vietnam

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BVV	**Ba Vi**	**0.52 90**		*e*Pg	Pb	20 49 26.2	+0.6
BVV				*e*Sg	Sb	20 49 32.8	-0.1
SLVN	**Son La**	**0.88 285**		*e*Pn	Pb	20 49 30.5	-1.3
SLVN				*e*Pg	Pg	20 49 32.2	+0.3
SLVN				*e*Sg	Sg	20 49 43.2	-0.3
DSV	**Doi Son**	**1.20 115**		*e*Pg	Pg	20 49 38.5	+0.6
DSV				*e*Sg	Sb	20 49 52.5	-0.1
BGV	**Bac-Giang**	**1.33 82**		*e*Pg	Pg	20 49 41.9	+1.5
BGV				*e*Sg	Sn	20 49 55.6	-0.8
TGV	**Tuan Giao**	**1.39 291**		*e*Pn	Pn	20 49 39.8	+0.2
TGV				*e*Pg	Pg	20 49 41.3	-0.1
TGV				*e*Sg	Sg	20 49 59.3	-0.2
MTZV	**Met**	**1.49 73**		*e*Pg	Pg	20 49 44.2	+0.9
MTZV				*e*Sg	Sg	20 50 02.2	-0.6
DBV	**Dienbien**	**1.69 280**		*e*Pn	Pb	20 49 45.1	-0.7
DBV				*e*Pg	Pg	20 49 47.4	0.0
DBV				*e*Sg	Sg	20 50 08.8	-0.8
PLV	**Phu-Lien**	**1.72 100**		*e*Pg	Pg	20 49 47.6	-0.2
PLV				*e*Sg	Sg	20 50 09.8	-0.5

*ISCJB **06** 20:51:12.8±0.5, 59°.70N±0°.03×24°.55E±0°.08, h0km, Error ellipse: s-maj=5.9km s-min=4.3km az=177.9*

*HEL **06** 20:51:14.4±0.1, 59°.71N×24°.56E, h0km, ML2.2, Explosion*

*CSEM **06** 20:51:14.4±0.2, 59°.75N×24°.71E, h2km, ML2.2, Error ellipse: s-maj=5.6km s-min=4.1km az=78.0, Mining explosion.*

*IDC **06** 20:51:15.4±2.5, 59°.77N×24°.64E, h0km, mb1 3.3/2, mb1mx3.0/24, mbtmp3.2/2, ML3.3/2, Error ellipse: s-maj=27.0km s-min=9.1km az=144.0*

ISC 06 20:51:13.1±0.7, 59°.72N±0°.02×24°.54E±0°.03, h0km, n19, σ0.94/30, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**0.51 352**		*e*P	**Pg**	**20 51 23.6**	**+0.9**
MEF				*e*S	**Sg**	**20 51 29.9**	**+0.5**
MEF	**Metsahovi**	**0.51 352**		*e*P	**Pg**	**20 51 23.7**	**+0.9**
	SNR=90						
MEF				*e*S	**Sg**	**20 51 30.0**	**+0.6**
	32nm,0.3s,SNR=90						
PVF	**Pernaja**	**1.06 38**		*e*P	**Pg**	**20 51 33.5**	**0.0**
PVF	**Pernaja**	**1.06 38**		P	**Pg**	**20 51 33.4**	**0.0**
MTSE	**Matsula**	**1.07 201**		*e*P	**Pg**	**20 51 33.3**	**-0.2**
MTSE				*e*S	**Sg**	**20 51 47.2**	**-0.2**
MTSE	**Matsula**	**1.07 201**		P	**Pg**	**20 51 33.3**	**-0.2**
MTSE				S	**Sg**	**20 51 47.2**	**-0.2**
VSU	**Vasula**	**1.69 137**		*e*P	**Pn**	**20 51 44.3**	**+0.5**
VSU				*e*S	**Sn**	**20 52 05.7**	**-0.4**
VSU	**Vasula**	**1.69 137**		P	**Pn**	**20 51 44.3**	**+0.5**
VSU				*e*S	**Sn**	**20 52 05.7**	**-0.4**
	111nm,0.2s,SNR=50						
VJF	**Virojoki**	**1.72 60**		*e*P	**Pn**	**20 51 44.7**	**+0.5**
VJF				*e*S	**Sg**	**20 52 08.2**	**-0.1**
VJF				MSG		20 52 10.6	
	comp=Z,23nm,0.2s						
VJF	**Virojoki**	**1.72 60**		P	**Pn**	**20 51 44.7**	**+0.5**
VJF				S	**Sg**	**20 52 08.1**	**-0.1**
FINES	**FINESS Array B**	**1.89 23**		Pg	**Pb**	**20 51 48.4**	**-0.1**
	comp=Z,4.3nm,0.3s,baz=200,slow=16,SNR=270						
FINES				Lg	Lg	20 52 12.3	
	comp=Z,4.1nm,0.3s,baz=202,slow=29,SNR=7.4						
RAF	**Rauma**	**1.90 315**		*e*P	**Pb**	**20 51 48.4**	**-0.2**
RAF				*e*S	**Sb**	**20 52 13.0**	**+0.2**
RAF	**Rauma**	**1.90 315**		P	**Pb**	**20 51 48.4**	**-0.2**
RAF				*e*S	**Sb**	**20 52 13.6**	**+0.7**
	comp=Z,13nm,0.2s,SNR=50						
SLIT	**Slitere, Latvi**	**2.40 210**		*e*P	**Pn**	**20 51 55.4**	**+1.9**
SLIT				*e*SG	**Sb**	**20 52 27.7**	**+0.6**
SLIT	**Slitere, Latvi**	**2.40 210**		P	**Pn**	**20 51 55.4**	**+1.9**
SLIT				*e*S	**Sb**	**20 52 28.3**	**+1.1**
	comp=Z,110nm,0.2s,SNR=50						
KEF	**Keuruu**	**2.

RAO	**Raoul Island**	**11.68 125**	LR	LR	21 19 38.5	
	comp=Z,2µm,18.1s,baz=198,slow=32					
OUZ	**Omahuta**	**12.52 171**	*e*Pn	**Pn**	**21 16 25.4**	**-0.3**
URZ	**Urewera**	**16.19 163**	*e*Pn	**P**	**21 17 15.2**	**-1.3**
URZ	**Urewera**	**16.19 163**	Pn	**Pn**	**21 17 15.1**	**+0.8**
	1.7nm,0.3s,baz=344,slow=6.7,SNR=25					
URZ			LR	LR	21 22 06.2	
	comp=Z,2µm,19.1s,baz=344,slow=32					
BKZ	**Black Stump Fm**	**16.90 166**	*e*Pn	**P**	**21 17 26.1**	**+1.6**
	99nm,0.9s					
HNR	**Honiara**	**17.14 319**	P	**Pn**	**21 17 25.1**	**-1.1**
HNR	**Honiara**	**17.14 319**	P	**Pn**	**21 17 25.1**	**-1.1**
	16nm,0.3s,baz=338,slow=1.7,SNR=5.4					
HNR			LR	LR	21 23 10.6	
	comp=Z,328nm,19.0s,baz=148,slow=34					
BFZ	**Birch Farm**	**18.30 168**	*e*P	**Pn**	**21 17 41.2**	**+0.9**
	45nm,1.0s					
AFI	**Afiamalu**	**18.42 64**	LR	LR	21 23 10.2	
	comp=Z,470nm,18.4s,baz=202,slow=32					
EIDS	**Eidsvold**	**18.54 258**	*e*Pn	**Pn**	**21 17 44.0**	**+0.7**
	75nm,1.6s					
EIDS	**Eidsvold**	**18.54 258**	P	**Pn**	**21 17 44.1**	**+0.7**
	baz=18,SNR=7.6					
EIDS			S	S	21 21 29.4	+18
	baz=18,SNR=5.9					
SNZO	**South Karori**	**18.66 172**	*e*P	**Pn**	**21 17 45.0**	**+0.5**
	243nm,1.4s					
ARMA	**Armidale**	**19.04 242**	*e*Pn	**Pn**	**21 17 49.4**	**0.0**
	52nm,1.4s					
ARMA	**Armidale**	**19.04 242**	P	**Pn**	**21 17 52.0**	**+2.6**
	baz=19,SNR=5.0					
KHZ	**Kahutara**	**19.63 175**	*e*Pn	**Pn**	**21 17 57.7**	**+1.5**
	198nm,1.2s					
MGCD	**Mangrove Creek**	**20.49 235**	P	Pn	21 18 07.2	+0.7
	baz=20,SNR=5.6					
RMQ	**Roma**	**20.71 255**	P	Pn	21 18 08.2	-0.9
	baz=21,SNR=44					
RPZ	**Rata Peaks**	**20.83 180**	*e*P	Pn	21 18 09.0	-1.3
	55nm,0.9s					
RPZ	**Rata Peaks**	**20.83 180**	P	Pn	21 18 09.0	-1.4
	40nm,0.8s,baz=23,slow=3.5,SNR=12					
RPZ			LR	LR	21 24 49.4	
	comp=Z,629nm,20.8s,baz=44,slow=33					
ODZ	**Otahua Downs**	**22.16 181**	*e*P	**P**	**21 18 22.3**	**+0.6**
	36nm,1.2s					
CAN	**Canberra**	**22.99 232**	*e*P	**P**	**21 18 30.7**	**+0.1**
	103nm,1.7s					
YNG	**Young**	**23.00 235**	P	**P**	**21 18 32.5**	**+1.9**
	baz=23,SNR=6.7					
WHZ	**Wether Hill Ro**	**23.16 186**	*e*P	**P**	**21 18 33.3**	**+1.2**
	47nm,1.1s					
CTA	**Charters Tower**	**23.37 272**	P	**P**	**21 18 34.2**	**-0.1**
CTA	**Charters Tower**	**23.37 272**	P	**P**	**21 18 34.2**	**-0.1**
	5.5nm,0.7s,baz=105,slow=12,SNR=6.5					
CMSA	**Cobar Meteorol**	**24.24 244**	P	**P**	**21 18 43.1**	**+0.8**
	baz=24,SNR=34					
MTSU	**Mount Surprise**	**25.59 276**	P	**P**	**21 18 54.8**	**0.0**
	baz=26,SNR=35					
PMG	**Port Moresby**	**26.62 296**	*e*P	**P**	**21 19 01.8**	**-2.1**
PMG	**Port Moresby**	**26.62 296**	P	**P**	**21 19 01.6**	**-2.3**
	16nm,0.8s,baz=93,slow=7.2,SNR=5.2					
PMG			LR	LR	21 27 39.8	
	comp=Z,508nm,20.4s,baz=120,slow=32					
RAR	**Rarotonga**	**26.94 92**	P	**P**	**21 19 03.7**	**-3.2**
RAR	**Rarotonga**	**26.94 92**	P	**P**	**21 19 03.7**	**-3.2**
	19nm,1.0s,baz=45,slow=0.0,SNR=2.8					
RAR			LR	LR	21 27 34.7	
	comp=Z,310nm,18.6s,baz=315,slow=32					
STKA	**Stephens Creek**	**27.72 245**	P	**P**	**21 19 14.4**	**+0.6**
STKA	**Stephens Creek**	**27.72 245**	P	**P**	**21 19 14.4**	**+0.6**
	4.5nm,0.9s,baz=103,slow=10,SNR=3.7					
COEN	**Coen**	**27.98 284**	*e*P	**P**	**21 19 16.5**	**+0.3**
	199nm,0.8s					
COEN	**Coen**	**27.98 284**	P	**P**	**21 19 16.3**	**+0.1**
	baz=28,SNR=14					
MCQ	**Macquarie Isla**	**32.93 193**	P	P	21 20 07.7	+8.3
	baz=33,SNR=3.3					
AS31	**Alice Springs**	**34.21 261**	*e*P	**P**	**21 20 09.8**	**-1.3**
ASAR	**Alice Springs**	**34.21 261**	P	**P**	**21 20 10.2**	**-0.9**
ASAR	**Alice Springs**	**34.21 261**	P	**P**	**21 20 10.2**	**-0.9**
	14nm,0.9s,baz=88,slow=8.8,SNR=62					
ASAR			LR	LR	21 32 24.6	
	comp=Z,314nm,20.5s,baz=101,slow=33					
WRAB	**Tennant Creek**	**34.38 268**	*e*P	**P**	**21 20 10.6**	**-1.9**
	76nm,2.3s					
WRA	**Warramunga Arr**	**34.38 268**	P	**P**	**21 20 10.3**	**-2.2**
WRA	**Warramunga Arr**	**34.38 268**	P	**P**	**21 20 10.3**	**-2.2**
	9.5nm,1.3s,baz=99,slow=8.4,SNR=44					
WRA			LR	LR	21 34 20.7	
	comp=Z,532nm,18.8s,baz=110,slow=36					
TBI	**Tubuai**	**36.12 99**	*e*LQ	LQ	21 28 24.5	
	241nm,27.5s					
TBI			*e*LR	LR	21 30 08.9	
	379nm,26.8s					
PPT2	**Papeete2**	**37.10 89**	*e*S	**S**	**21 26 17.5**	**-1.1**
	116nm,25.2s					
PPT2			*e*LR	LR	21 30 25.0	
	382nm,27.2s					
PPT	**Papeete**	**37.11 89**	LR	LR	21 32 13.9	
	comp=Z,285nm,19.1s,baz=7.8,slow=31					
KDU	**Kakadu**	**38.13 279**	P	**P**	**21 20 43.2**	**-1.4**
	baz=38,SNR=8.5					
MTN	**Manton Dam**	**39.30 278**	P	**P**	**21 20 53.0**	**-1.4**
	baz=39,SNR=14					
KNRA	**Kununurra**	**40.58 272**	P	**P**	**21 21 03.7**	**-1.3**
	baz=40,SNR=4.0					
FITZ	**Fitzroy Crossi**	**42.81 268**	*e*P	**P**	**21 21 23.2**	**0.0**
FITZ	**Fitzroy Crossi**	**42.81 268**	P	**P**	**21 21 22.7**	**-0.5**
	21nm,0.8s,baz=128,slow=8.2,SNR=35					
FITZ	**Fitzroy Crossi**	**42.81 268**	P	**P**	**21 21 22.8**	**-0.4**
	baz=43,SNR=15					
MBWA	**Marble Bar**	**47.55 262**	*e*P	**P**	**21 22 00.5**	**-0.3**
	35nm,0.9s					
MEEK	**Meekatharra**	**47.64 254**	P	**P**	**21 22 00.7**	**-0.7**
	baz=47,SNR=13					
KLBR	**Kellerberrin**	**47.93 247**	P	**P**	**21 22 02.9**	**-0.7**
	baz=48,SNR=7.7					
DRV	**Dumont d'Urvil**	**48.06 196**	S	**S**	**21 29 04.0**	**+5.7**
DRV			L	L	21 34 00.0	
DRV			R		21 36 00.0	
NWAO	**Narrogin (SRO)**	**48.30 246**	P	**P**	**21 22 05.9**	**-0.6**
NWAO	**Narrogin (SRO)**	**48.30 246**	P	**P**	**21 22 05.9**	**-0.6**
	23nm,1.0s,baz=101,slow=2.7,SNR=5.5					
NWAO			LR	LR	21 42 43.9	
	comp=Z,346nm,18.3s,baz=282,slow=36					
BLDU	**Ballidu**	**48.89 249**	P	**P**	**21 22 10.2**	**-0.8**
	baz=49,SNR=7.4					
MORW	**Morawa**	**49.61 251**	P	**P**	**21 22 16.0**	**-0.6**
	baz=49,SNR=3.6					
LUWI	**Luwuk**	**51.75 288**	P	**P**	**21 22 32.9**	**0.0**
	baz=52,SNR=6.0					
KAPI	**Kappang**	**52.68 282**	*e*P	**P**	**21 22 39.2**	**-0.5**
	49nm,1.2s					
KAPI	**Kappang**	**52.68 282**	P	**P**	**21 22 40.7**	**+1.0**
	41nm,1.0s					
VNDA	**Vanda**	**54.92 182**	*e*P	**P**	**21 22 55.8**	**+0.6**
VNDA	**Vanda**	**54.92 182**	P	**P**	**21 22 55.6**	**+0.4**
	1.8nm,0.8s,baz=0.4,slow=7.3,SNR=8.4					
VNDA			LR	LR	21 45 22.7	
	comp=Z,225nm,18.8s,baz=344,slow=35					
SBA	**Scott Base**	**55.11 181**	*e*P	**P**	**21 22 58.3**	**+1.7**
	19nm,0.9s					
JAGI	**Jajag, Banyuwa**	**56.43 275**	P	**P**	**21 23 05.7**	**-1.3**
	baz=56,SNR=3.6					
KSM	**Kuching**	**63.97 284**	*e*P	**P**	**21 23 58.1**	**-0.5**
	33nm,0.9s					
KSM	**Kuching**	**63.97 284**	P	P	21 24 02.3	+3.7
	44nm,1.1s					
KSM	**Kuching**	**63.97 284**	P	**P**	**21 23 58.6**	**0.0**
	baz=64,SNR=4.8					
MJAR	**Matsushiro Arr**	**66.77 332**	P	**P**	**21 24 15.8**	**-0.4**
MJAR	**Matsushiro Arr**	**66.77 332**	P	**P**	**21 24 15.8**	**-0.4**
	0.8nm,0.5s,baz=129,slow=9.6,SNR=4.0					
QSPA	**South Pole Qui**	**67.24 180**	*e*P	**P**	**21 24 18.9**	**0.0**
	51nm,1.1s					
JNU	**Nakatsue**	**67.64 324**	LR	LR	21 49 10.9	
	comp=Z,146nm,19.0s,baz=4.3,slow=32					
ASAJ	**Asahikawa**	**71.60 339**	LR	LR	21 52 42.1	
	comp=Z,221nm,20.7s,baz=179,slow=33					
KSRS	**Korea Array**	**72.49 325**	P	**P**	**21 24 50.7**	**-0.6**
	0.8nm,0.6s,baz=127,slow=6.0,SNR=4.1					
KSAR	**Wonju Array Be**	**72.50 325**	P	**P**	**21 24 50.7**	**-0.7**
QIZ	**Qiongzhong**	**72.94 300**	P	**P**	**21 24 55.8**	**+1.4**
QIZ			S	**S**	**21 34 19.0**	**+1.6**
IPM	**Ipoh**	**73.62 282**	*e*P	**P**	**21 25 00.2**	**+1.6**
IPM	**Ipoh**	**73.62 282**	P	P	21 25 02.3	+3.7
	22nm,1.4s					
NJ2	**Nanjing**	**74.05 316**	*e*P	**P**	**21 25 01.9**	**+1.2**
NJ2			pmax	pmax		
	comp=Z,17nm,1.5s					
USRK	**Ussuriysk Arra**	**75.75 332**	P	**P**	**21 25 08.7**	**-1.5**
	comp=Z,1.8nm,0.9s,baz=141,slow=4.8,SNR=4.0					
MAW	**Mawson**	**75.80 202**	P	**P**	**21 25 10.8**	**+0.5**
MAW	**Mawson**	**75.80 202**	P	**P**	**21 25 10.8**	**+0.5**
	comp=Z,3.9nm,0.7s,baz=131,slow=7.4,SNR=17					
MAW	**Mawson**	**75.80 202**	P	**P**	**21 25 11.0**	**+0.7**
	baz=75,SNR=8.4					
WHN	**Wuhan**	**76.11 312**	P	**P**	**21 25 13.4**	**+0.9**
PETK	**Petropavlovsk-**	**76.53 352**	P	**P**	**21 25 14.0**	**-0.4**
PETK	**Petropavlovsk-**	**76.53 352**	P	**P**	**21 25 14.0**	**-0.4**
	comp=Z,2.2nm,0.8s,baz=134,slow=8.5,SNR=4.7					
SKNT	**Sakolnakorn**	**76.71 295**	P	**P**	**21 25 18.7**	**+2.5**
	comp=Z,27nm,1.7s					
MDJ	**Mudanjiang**	**77.14 331**	P	**P**	**21 25 18.8**	**+0.7**
MDJ			pmax	pmax		
	comp=Z,4.0nm,0.6s					
MDJ			pmax	pmax		
	comp=Z,94nm,4.1s					
NONG	**Nongkai**	**77.93 296**	P	**P**	**21 25 25.2**	**+2.1**
	comp=Z,114nm,0.7s					
CN2	**Changchun**	**78.46 328**	*e*P	**P**	**21 25 26.4**	**+0.9**
CN2			*es*P	**sP**	**21 25 47.9**	**+1.2**
CN2			*e*S	**S**	**21 35 17.0**	**-0.4**
CN2			pmax	pmax		
	comp=Z,10.0nm,0.8s					
CN2			pmax	pmax		
	comp=Z,80nm,6.0s					
GYA	**Guiyang**	**79.36 305**	*e*P	**P**	**21 25 32.0**	**+1.0**
GYA			pP	**pP**	**21 25 46.5**	**+0.3**
GYA			sP	**sP**	**21 25 52.9**	**+0.7**
GYA			PP	**PP**	**21 28 33.6**	**+1.8**
GYA			S	**S**	**21 35 27.0**	**-0.9**
GYA			SKS	**SKSac**	**21 35 39.4**	**-3.7**
GYA			sS	**sS**	**21 35 52.9**	**-0.8**
GYA			SS	**SS**	**21 40 37.7**	**+1.2**
GYA			pmax	pmax		
	comp=Z,20nm,1.0s					
GYA			pmax	pmax		
	comp=Z,120nm,5.4s					
GYA			LR	LR		
	comp=N,540nm,20.7s					
GYA			LR	LR		
	comp=E,520nm,21.6s					
GYA			LR	LR		
	comp=Z,570nm,20.5s					
UTHA	**Uthaitani**	**79.89 292**	P	P	21 25 39.3	+5.5
	comp=Z,6.8nm,1.1s					
CRAI	**Chiangrai**	**81.26 296**	P	**P**	**21 25 43.4**	**+2.2**
	comp=Z,162nm,1.4s					
CM31	**Chiang Mai Arr**	**81.64 294**	*e*P	**P**	**21 25 43.0**	**-0.1**
	comp=Z,5.2nm,0.6s					
CMAR	**Chiang Mai Arr**	**81.64 294**	P	**P**	**21 25 44.0**	**+0.8**
CMAR			PKKPbc	**PKKPbc**	**21 44 15.8**	**+0.4**
CMAR	**Chiang Mai Arr**	**81.64 294**	P	**P**	**21 25 44.0**	**+0.8**
	comp=Z,6.1nm,0.7s,baz=133,slow=4.1,SNR=49					
CMAR			PKKPbc	**PKKPbc**	**21 44 15.8**	**+0.4**
	comp=Z,1.3nm,1.1s,baz=282,slow=4.2,SNR=4.6					
KMI	**Kunming**	**81.71 302**	P	**P**	**21 25 45.8**	**+2.1**
KMI			pP	**pP**	**21 26 01.7**	**+2.7**
KMI			S	**S**	**21 35 52.7**	**-0.1**
KMI			SS	**SS**	**21 41 14.5**	**+2.6**
KMI			pmax	pmax		
	comp=Z,7.0nm,1.6s					
KMI			pmax	pmax		
	comp=Z,110nm,3.6s					
KMI			LR	LR		
	comp=N,94nm,16.0s					
KMI			LR	LR		
	comp=E,120nm,13.4s					
KMI			LR	LR		
	comp=Z,130nm,21.1s					
CHTO	**Chiang Mai**	**81.80 294**	*e*P	**P**	**21 25 45.1**	**+1.1**
	comp=Z,16nm,1.1s					
CHTO	**Chiang Mai**	**81.80 294**	P	**P**	**21 25 46.6**	**+2.6**
CHTO	**Chiang Mai**	**81.80 294**	P	**P**	**21 25 46.6**	**+2.6**
	comp=Z,17nm,2.4s					
XAN	**Xi'an**	**81.87 312**	P	**P**	**21 25 43.3**	**-0.8**
XAN			pmax	pmax		
	comp=Z,2.0nm,0.8s					
SYO	**Syowa Base**	**82.00 196**‖	*e*X		21 25 41.5	
CMAI	**Chiengmai2**	**82.23 295**	P	P	21 25 50.3	+3.9
	comp=Z,66nm,1.1s					
PMSA	**Palmer Station**	**82.92 159**	P	**P**	**21 25 48.8**	**-0.3**
PMSA	**Palmer Station**	**82.92 159**	P	**P**	**21 25 48.8**	**-0.3**
	comp=Z,14nm,0.9s,baz=234,slow=7.1,SNR=4.9					
CD2	**Chengdu**	**83.86 307**	P	**P**	**21 25 55.4**	**+0.9**
CD2			pP	**pP**	**21 26 11.1**	**+1.2**
CD2			sP	**sP**	**21 26 17.3**	**+1.5**
CD2			PP	**PP**	**21 29 11.3**	**+2.5**
CD2			SKS	**SKSac**	**21 36 09.9**	**-3.3**
CD2			S	**S**	**21 36 13.5**	**-0.6**
CD2			sS	**sS**	**21 36 40.2**	**+0.2**
CD2			pmax	pmax		
	comp=Z,10.0nm,0.5s					
CD2			pmax	pmax		
	comp=Z,170nm,5.2s					
CD2			LR	LR		
	comp=N,330nm,6.0s					
CD2			LR	LR		
	comp=Z,500nm,6.0s					
HHC	**Hu-ho-hao-te**	**84.12 319**	*e*P	**P**	**21 25 54.4**	**-1.3**
HHC			sP	**sP**	**21 26 17.8**	**+0.8**
HHC			PP	**PP**	**21 29 13.0**	**+2.2**
HHC			SKS	SKSac	21 36 05.9	-8.7
HHC			S	**S**	**21 36 10.8**	**-5.6**
HHC			sS	**sS**	**21 36 41.5**	**-0.9**
HHC			SS	**SS**	**21 41 47.4**	**+0.5**
HHC			pmax	pmax		
	comp=Z,33nm,0.6s					
HHC			pmax	pmax		
	comp=Z,230nm,7.8s					
HHC			LR	LR		
	comp=N,220nm,15.5s					
HHC			LR	LR		
	comp=E,300nm,16.7s					
HHC			LR	LR		
	comp=Z,240nm,17.8s					
MAIT	**Maitri**	**85.53 187**	*e*P	P	21 25 53.6	-8.6
MAIT	**Maitri**	**85.53 187**	*e*P	P	21 25 53.6	-8.6
LZH	**Lanzhou**	**86.48 311**	P	**P**	**21 26 09.8**	**+2.2**
LZH			pP	**pP**	**21 26 25.3**	**+2.2**
LZH			sP	sP	21 26 34.9	+5.9
LZH			SKS	**SKSac**	**21 36 26.3**	**-3.5**
LZH			*e*S	**S**	**21 36 43.6**	**+3.6**
LZH			pmax	pmax		
	comp=Z,19nm,1.0s					
LZH			pmax	pmax		
	comp=Z,91nm,4.6s					
LZH			LR	LR		
	comp=N,340nm,15.8s					
LZH			LR	LR		
	comp=E,290nm,16.2s					
LZH			LR	LR		
	comp=Z,370nm,17.0s					
VNA2	**Neumayer--Watz**	**86.49 180**	*e*P	**P**	**21 26 06.4**	**-0.6**
VNA1	**Neumayer--Stat**	**86.77 180**	*e*P	**P**	**21 26 07.7**	**-0.6**
CMB	**Columbia Colle**	**88.21 47**	*e*P	**P**	**21 26 15.3**	**-0.4**
EDW2	**Edwards Air Fo**	**88.30 51**	P	**P**	**21 26 16.1**	**-0.2**
	baz=88					
ISA	**Isabella**	**88.34 50**	P	**P**	**21 26 16.6**	**+0.1**
	baz=88					
MONP	**Monument Peak**	**88.49 53**	P	**P**	**21 26 17.3**	**-0.2**
	baz=89					
DVTC	**Desert V Tower**	**88.62 54**	P	**P**	**21 26 17.2**	**-0.7**
	baz=89					
YBH	**Yreka Blue Hor**	**88.63 43**	LR	LR	21 59 49.4	
	comp=Z,79nm,18.3s,baz=106,slow=32					
PFO	**Pinyon Flat Ob**	**88.80 53**	LR	LR	22 01 28.2	
	comp=Z,64nm,18.6s,baz=174,slow=33					
WAKR	**Walker**	**89.09 47**	*e*P	**P**	**21 26 20.1**	**0.0**
MTUM	**Tungsten Hills**	**89.12 49**	*e*P	**P**	**21 26 20.3**	**0.0**
MPMC	**Manual Prospec**	**89.23 50**	P	**P**	**21 26 20.7**	**-0.2**
	baz=89					
BELC	**Belle Mtn. Jos**	**89.32 53**	P	**P**	**21 26 21.2**	**0.0**
	baz=90					
LPIG	**La Paz**	**89.34 64**	LR	LR	21 55 50.3	
	comp=Z,46nm,21.9s,baz=62,slow=29					
GSC	**Goldstone**	**89.36 51**	P	**P**	**21 26 20.3**	**-1.0**
	baz=90					
HEC	**Hector,Ludlow**	**89.47 52**	P	**P**	**21 26 21.3**	**-0.6**
	baz=90					
BC3	**Big Chuckawall**	**89.56 53**	P	**P**	**21 26 21.7**	**-0.7**
	baz=90					
PAHR	**Pah Rah Range**	**89.73 46**	*e*P	**P**	**21 26 22.8**	**-0.3**
GLA	**Glamis**	**89.75 54**	*e*P	**P**	**21 26 23.5**	**+0.4**
GLA	**Glamis**	**89.75 54**	P	**P**	**21 26 23.0**	**-0.1**
	baz=90					
GRAC	**Grapevine Rang**	**89.77 49**	P	**P**	**21 26 23.1**	**-0.1**
	baz=90					
FURC	**Furnace Creek,**	**89.88 50**	P	**P**	**21 26 23.5**	**0.0**
	baz=90					
GMRC	**Granite Mounta**	**89.94 52**	P	**P**	**21 26 24.0**	**-0.1**
	baz=90					
IRM	**Iron Mountain**	**90.02 53**	P	**P**	**21 26 24.4**	**+0.1**
	baz=90					
TUQ	**Turquoise Moun**	**90.05 51**	P	**P**	**21 26 24.4**	**-0.3**
	baz=90					
113A	**Mohawk Valley,**	**90.41 54**	P	**P**	**21 26 26.2**	**0.0**
	baz=90					
214A	**Organ Pipe Nat**	**90.77 56**	P	**P**	**21 26 28.1**	**+0.2**
	baz=91					
ULN	**Ulaanbaatar**	**90.82 323**	*e*P	**P**	**21 26 26.9**	**-1.1**
	comp=Z,8.6nm,1.2s					
GTA	**Gaotai**	**90.91 313**	P	P	21 26 31.8	+3.3
GTA			pP	pP	21 26 45.3	+1.3
GTA			sP	sP	21 26 50.4	+0.5
GTA			S	**S**	**21 37 23.3**	**+1.8**
GTA			sS	sS	21 37 46.4	-1.4
GTA			SS	**SS**	**21 43 30.4**	**+4.3**
GTA			pmax	pmax		
	comp=Z,4.0nm,1.4s					
GTA			pmax	pmax		
	comp=Z,95nm,4.3s					
GTA			LR	LR		
	comp=N,130nm,17.3s					
GTA			LR	LR		
	comp=E,220nm,18.5s					
GTA			LR	LR		
	comp=Z,150nm,19.5s					
SONM	**Songino Array**	**91.17 322**	P	**P**	**21 26 28.6**	**-0.9**
SONM	**Songino Array**	**91.17 322**	P	**P**	**21 26 28.6**	**-0.9**
	comp=Z,3.6nm,1.0s,baz=127,slow=3.9,SNR=9.0					
W13A	**Hualapai Mount**	**91.38 52**	P	**P**	**21 26 30.9**	**0.0**
	baz=92					
Y14A	**Wickenburg**	**91.50 54**	P	**P**	**21 26 30.6**	**-0.7**
	baz=92					
R11A	**Troy Canyon, C**	**91.66 49**	P	**P**	**21 26 31.4**	**-0.7**
	baz=92					
TUC	**Tucson**	**92.47 56**	*e*P	**P**	**21 26 36.1**	**+0.3**
X16A	**Lo Mia Camp, P**	**92.88 54**	P	**P**	**21 26 37.6**	**-0.3**
	baz=93					
ILAR	**Eielson Array**	**93.12 17**	P	**P**	**21 26 37.3**	**-0.7**
ILAR	**Eielson Array**	**93.12 17**	P	**P**	**21 26 37.3**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=248,slow=4.8,SNR=3.5					
U15A	**North Rim**	**93.13 52**	P	**P**	**21 26 38.9**	**-0.2**
	baz=93					
319A	**Douglas**	**93.23 57**	P	**P**	**21 26 39.5**	**0.0**
	baz=93					
220A	**Playas Peak, P**	**94.04 57**	P	**P**	**21 26 42.6**	**-0.6**
	baz=94					
TXAR	**Lajitas Array**	**96.88 61**	P	**P**	**21 26 56.2**	**+0.1**
TXAR	**Lajitas Array**	**96.88 61**	P	**P**	**21 26 56.2**	**+0.1**
	comp=Z,0.3nm,0.8s,baz=204,slow=2.7,SNR=5.5					
BOZ	**Bozeman (W)**	**97.55 44**	P	**P**	**21 26 56.9**	**-2.0**
	comp=Z,8.2nm,0.7s					
CMIG	**Matias Romero**	**99.96 76**	LR	LR	22 02 07.0	
	comp=Z,81nm,19.5s,baz=325,slow=29					
WMQ	**Urumqi**	**100.99 313**	*e*P	**Pdif**	**21 27 14.0**	**-0.1**
WMQ			pmax	pmax		
	comp=Z,5.0nm,1.0s					
WMQ			pmax	pmax		
	comp=Z,38nm,4.6s					
MKAR	**Makanchi Array**	**105.56 315**	Pdif	**Pdif**	**21 27 40.9**	**+6.6**
MKAR			PKiKP	**PKiKP**	**21 31 48.1**	**+0.7**
MKAR	**Makanchi Array**	**105.56 315**	Pdiff	**Pdif**	**21 27 40.9**	**+6.6**
	comp=Z,0.3nm,0.7s,baz=96,slow=7.0,SNR=2.8					
MKAR			PKiKP	**PKiKP**	**21 31 48.1**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=108,slow=4.7,SNR=3.7					
KSH	**Kashi**	**108.03 306**	*e*Pdif	**Pdif**	**21 27 49.7**	**+4.1**
KSH			PP	PP	21 32 23.6	+7.8
KSH			S	**Sdif**	**21 39 49.8**	**+2.3**
KSH			AMB	AMB		
	comp=Z,65nm,5.2s					
KSH			LR	LR		
	comp=Z,440nm,14.1s					
KURK	**Kurchatov**	**108.92 318**	PKiKP	**PKiKP**	**21 31 52.4**	**-1.1**
KURBB	**Kurchatov Arra**	**108.95 318**	PKiKP	**PKiKP**	**21 31 52.4**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=111,slow=1.7,SNR=4.1					
BVAR	**Borovoye Array**	**114.33 319**	PKP	PKPdf	21 32 02.5	-1.2
BVAR	**Borovoye Array**	**114.33 319**	PKP	PKPdf	21 32 02.5	-1.2
	comp=Z,0.8nm,0.6s,baz=76,slow=0.6,SNR=5.8					
ARCES	**ARCESS Array B**	**128.99 345**	PKP	**PKPdf**	**21 32 29.4**	**-2.1**
ARCES	**ARCESS Array B**	**128.99 345**	PKP	**PKPdf**	**21 32 29.4**	**-2.1**
	comp=Z,1.6nm,0.7s,baz=49,slow=2.2,SNR=8.7					
FINES	**FINESS Array B**	**134.59 337**	PKP	**PKPdf**	**21 32 41.0**	**-1.2**
FINES	**FINESS Array B**	**134.59 337**	PKP	**PKPdf**	**21 32 41.0**	**-1.2**
	comp=Z,3.8nm,1.0s,baz=11,slow=2.8,SNR=5.4					
NOA	**NORSAR Array B**	**139.37 345**	PKP	**PKPdf**	**21 32 52.4**	**+1.3**
NOA	**NORSAR Array B**	**139.37 345**	PKP	**PKPdf**	**21 32 52.4**	**+1.3**
	comp=Z,0.8nm,0.7s,baz=35,slow=2.0,SNR=2.6					
AKASG	**Malin Array Be**	**139.46 323**	PKP	**PKPdf**	**21 32 51.1**	**-0.4**
AKASG	**Malin Array Be**	**139.46 323**	PKP	**PKPdf**	**21 32 51.1**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=275,slow=18,SNR=3.1					
BRTR	**Keskin Array B**	**140.42 305**	PKP	**PKPdf**	**21 32 52.6**	**-1.2**
BRTR	**Keskin Array B**	**140.42 305**	PKP	**PKPdf**	**21 32 52.6**	**-1.2**
	comp=Z,0.6nm,0.6s,baz=111,slow=2.6,SNR=3.2					
GRER		**143.25 316**⇑	*i*P	pPKPdf	21 33 15.6	+1.0
BUR08	**Bucovina Ar. S**	**143.27 321**	*e*PKPdf	**PKPdf**	**21 32 58.2**	**-0.4**
BURAR	**Bucovina Array**	**143.27 321**‖	*i*P	**PKPdf**	**21 32 59.5**	**+0.9**
MLR	**Muntele Rosu**	**143.85 317**‖	*i*P	**PKPdf**	**21 33 01.1**	**+1.4**
SULR		**144.01 316**⇑	*i*P	PKPbc	21 32 57.9	0.0
KOLS	**Kolonicke sedl**	**144.21 324**	*e*PKP	**PKPdf**	**21 32 59.6**	**-0.5**
STHS	**Stebnicka Huta**	**144.46 326**	*e*PKP	**PKPdf**	**21 33 00.7**	**+0.2**
CRVS	**Cervenica-Dubn**	**144.66 325**	*e*PKP	PKPbc	21 32 59.9	+0.1
CRVS			*e*		21 33 05.8	
HUMR	**Humele**	**144.90 316**‖	*i*P	**PKPab**	**21 33 00.0**	**-0.6**
DRGR		**145.16 321**‖	*i*P	**PKPbc**	**21 33 01.4**	**-0.1**
LOT	**Lotru**	**145.22 318**⇑	*i*P	**PKPdf**	**21 33 02.3**	**+0.2**
KECS	**Kecovo**	**145.43 325**	*e*PKP	**PKPdf**	**21 33 02.2**	**0.0**
OKC	**Ostrava-Krasne**	**145.74 329**	*e*PKP	**PKPdf**	**21 33 02.8**	**+0.1**
OKC			*e*	x	21 33 06.0	
OKC			*ep*PKP	**pPKPdf**	**21 33 13.6**	**-5.2**
BSEG	**Bad

comp=Z,14nm,0.9s
IBBN **Ibbenburen** 147.94 341 *e*PKPbc **PKPbc** 21 33 08.9 -0.5
comp=Z,49nm,1.3s
SOP **Sopron** 147.97 327⇓*e*PKPdf **PKPab** 21 33 11.1 -1.2
MOX **Moxa** 148.00 335 *e*PKPbc **PKPbc** 21 33 09.2 -0.4
comp=Z,12nm,1.1s
CONA **Conrad Observa** 148.15 328⇑*i*PKPbc **PKPbc** 21 33 10.1 -0.1
comp=Z,14nm,0.9s
IDI **Anoyia** 148.20 301 PKPbc **PKPbc** 21 33 10.3 -0.4
KHC **Kasperske Hory** 148.35 332⇑*e*PKP **PKPbc** 21 33 10.1 -0.5
KHC *e*PKPAB **PKPab** 21 33 13.6 -0.3
KHC *ep*PKP **pPKPdf** 21 33 20.7 -2.6
KHC **Kasperske Hory** 148.35 332 *e*PKPbc **PKPbc** 21 33 09.6 -1.0
ROTZ **Rotzenmuhle** 148.45 334 *e*PKPbc **PKPbc** 21 33 10.8 0.0
comp=Z,23nm,1.5s
UBBA **Unterbreizbach** 148.46 337 *e*PKPbc **PKPbc** 21 33 10.1 -0.5
comp=Z,31nm,1.8s
GEC2 **GERESS Array S** 148.51 331 *e*PKPbc **PKPbc** 21 33 10.8 -0.3
comp=Z,16nm,1.0s
GERES **GERESS Array B** 148.51 331 PKP **PKPdf** 21 33 07.0 -0.4
GERES PKPbc **PKPbc** 21 33 10.0 -1.1
GERES **GERESS Array B** 148.51 331 PKP **PKPdf** 21 33 07.0 -0.4
comp=Z,6.9nm,0.8s,baz=95,slow=1.2,SNR=39
GERES PKPbc **PKPbc** 21 33 10.0 -1.1
comp=Z,13nm,1.0s,baz=46,slow=2.0,SNR=55
WET **Wettzell** 148.65 332 *e*PKPbc **PKPbc** 21 33 11.2 -0.2
comp=Z,16nm,1.3s
GRF **Grafenberg Arr** 148.91 334 *e*PKPbc **PKPbc** 21 33 11.8 -0.2
comp=Z,25nm,1.2s
GRFO **Grafenberg** 148.91 334 *e*PKPbc **PKPbc** 21 33 11.5 -0.5
MOA **Molln** 148.97 329⇓*i*PKPbc **PKPbc** 21 33 11.6 -0.7
comp=Z,7.7nm,0.7s
PERS **Pernice** 149.40 327 *i*PKPbc **PKPbc** 21 33 12.5 -0.9
SOKA **Soboth** 149.41 327 *i*PKPbc **PKPbc** 21 33 12.8 -0.7
comp=Z,20nm,1.1s,SNR=6.6
TNS **Taunus Mts** 149.50 338 *e*PKPbc **PKPbc** 21 33 13.1 -0.4
comp=Z,7.0nm,0.8s
RJOB **Jochberg** 149.74 330 *e*PKPbc **PKPbc** 21 33 13.4 -0.8
comp=Z,13nm,0.9s
KBA **Koelnbreinsper** 149.96 329⇑*i*PKPbc **PKPbc** 21 33 13.6 -1.3
comp=Z,25nm,0.9s
MEM **Membach** 149.96 341 PKPbc **PKPbc** 21 33 13.8 -0.7
MEM APKP **pPKPdf** 21 33 25.1 -0.6
FUR **Furstenfeldbru** 150.08 333 *e*PKPbc **PKPbc** 21 33 14.6 -0.4
comp=Z,21nm,1.1s
BOJS **Bojanci** 150.09 325 *i*PKPbc **PKPbc** 21 33 15.0 0.0
LJU **Ljubljana** 150.10 326 *i*PKPbc **PKPbc** 21 33 14.6 -0.4
BCLA **Clavier** 150.34 342 PKPbc **PKPbc** 21 33 14.2 -1.3
STU **Stuttgart** 150.44 336 *e*PKPbc **PKPbc** 21 33 15.5 -0.3
comp=Z,25nm,0.9s
STU **Stuttgart** 150.44 336 *e*PKPbc **PKPbc** 21 33 15.5 -0.3
JAVS **Javornik** 150.44 327 *i*PKPbc **PKPbc** 21 33 15.0 -1.0
ABTA **Abfaltersbach** 150.59 329⇑*i*PKPbc **PKPbc** 21 33 15.1 -1.2
comp=Z,20nm,0.7s
WTTA **Wattenberg** 150.61 331⇑*i*PKPbc **PKPbc** 21 33 15.7 -0.8
comp=Z,23nm,0.8s,SNR=10
WLF **Walferdange** 150.75 340 PKPbc **PKPbc** 21 33 16.4 0.0
WLF APKP **pPKPdf** 21 33 27.8 +0.8
WLF **Walferdange** 150.75 340 *e*PKPbc **PKPbc** 21 33 16.5 0.0
comp=Z,15nm,0.9s
WLF **Walferdange** 150.75 340 *e*PKPbc **PKPbc** 21 33 16.1 -0.3
LANF **Langenberg** 150.78 337 PKP **PKPbc** 21 33 14.8 -1.8
MOTA **Moosalm** 150.78 332⇑*i*PKPbc **PKPbc** 21 33 15.8 -1.0
comp=Z,16nm,0.7s,SNR=21
DOU **Dourbes** 150.83 342 PKPbc **PKPbc** 21 33 16.0 -0.6
DOU APKP **pPKPdf** 21 33 26.9 -0.2
BFO **Black Forest** 151.13 336 *e*PKPbc **PKPbc** 21 33 16.7 -0.7
comp=Z,10.0nm,1.0s
BFO **Black Forest** 151.13 336 *e*PKPdf **PKPdf** 21 33 11.7 +0.1
BFO *e*PKPbc **PKPbc** 21 33 16.2 -1.2
FETA **Feichten** 151.20 332 *i*PKiKP **PKiKP** 21 33 17.4 -0.5
comp=Z,28nm,0.9s,SNR=14
DAVA **Damuels** 151.35 333⇑*i*PKPbc **PKPbc** 21 33 17.6 -0.6
comp=Z,20nm,1.3s
WLS **Welschbruch** 151.42 337 PKP **PKPbc** 21 33 17.1 -1.0
ECH **Echery** 151.65 337 PKP **PKPbc** 21 33 17.4 -1.3
ECH **Echery** 151.65 337 *e*PKPbc **PKPbc** 21 33 17.6 -1.0
MOF **Molkenrain** 151.97 337 PKP **PKPdf** 21 33 15.1 +2.2
TUE **Stuetta** 152.22 332 *e*PKPbc **PKPbc** 21 33 19.8 -0.5
ESDC **Sonseca Array** 162.72 347 PKPab **PKPab** 21 34 13.9 -1.4
ESDC **Sonseca Array** 162.72 347 PKPab **PKPab** 21 34 13.9 -1.4
comp=Z,0.3nm,0.6s,baz=11,slow=3.9,SNR=5.1
TORD **Torodi Ar. Bea** 166.13 228 PKP **PKPdf** 21 33 29.7 -0.6
TORD PKPab **PKPab** 21 34 31.0 +0.1
TORD **Torodi Ar. Bea** 166.13 228 PKP **PKPdf** 21 33 29.7 -0.6
comp=Z,3.6nm,0.9s,baz=274,slow=0.3,SNR=17
TORD PKPab **PKPab** 21 34 31.0 +0.1
comp=Z,5.7nm,0.9s,baz=117,slow=4.5,SNR=14

*AUST **06** 21:23:48.6±14.0, 22°.41S×178°.18W, h584km, Error ellipse: s-maj=8.7km s-min=3.1km az=275.0*
*ISCJB **06** 21:23:56.4±0.9, 22°.2S±0°.1×179°.7W±0°.1, h592km, mb4.0/11, Error ellipse: s-maj=21.4km s-min=15.5km az=140.9*
*IDC **06** 21:23:58.3±3.0, 22°.19S×179°.68W, h602km±31km, mb3.4/11, mb1 3.6/12, mb1mx3.3/23, mbtmp3.4/12, Error ellipse: s-maj=25.9km s-min=21.5km az=122.0*
ISC 06 21:23:56.6±1.1, 22°.2S±0°.2×179°.5W±0°.2, h592km, n33, σ0°83/30, mb4.0/11, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**13.04**	**268**	P	**P**	**21 26 47.8**	**+1.7**
	1.3nm,0.3s,baz=87,slow=23,SNR=11						
EIDS	**Eidsvold**	**27.10**	**257**	P	**P**	**21 28 53.7**	**0.0**
	baz=28,SNR=4.5						
RMQ	**Roma**	**29.21**	**255**	P	**P**	**21 29 13.2**	**+1.1**
	baz=30,SNR=5.5						
CNB	**Canberra Magne**	**30.15**	**237**	P	**P**	**21 29 20.9**	**+0.8**
	baz=31,SNR=7.0						
CTA	**Charters Tower**	**31.99**	**267**	P	**P**	**21 29 35.5**	**-0.5**
	6.3nm,0.3s,baz=93,slow=11,SNR=9.2						
CMSA	**Cobar Meteorol**	**32.32**	**246**	P	**P**	**21 29 38.6**	**0.0**
	baz=33,SNR=14						
TOO	**Toolangi**	**33.80**	**235**	P	**P**	**21 29 51.2**	**+0.2**
	baz=35,SNR=6.2						
PMG	**Port Moresby**	**34.42**	**286**	P	**P**	**21 29 56.1**	**-0.3**
	13nm,0.8s,baz=238,slow=9.5,SNR=3.7						
STKA	**Stephens Creek**	**35.83**	**246**	P	**P**	**21 30 08.1**	**+0.2**
	5.7nm,0.5s,baz=92,slow=9.9,SNR=33						
STKA	**Stephens Creek**	**35.83**	**246**	P	**P**	**21 30 08.1**	**+0.2**
	baz=37,SNR=27						
PATS	**Pohnpei**	**36.12**	**320**	S	S	21 35 21.2	+12
	baz=37,SNR=3.2						
COEN	**Coen**	**36.35**	**277**	P	**P**	**21 30 13.1**	**+0.8**
	baz=38,SNR=6.9						
BBOO	**Buckleboo**	**40.58**	**245**	P	**P**	**21 30 45.7**	**-0.6**
	baz=42,SNR=14						
ASAR	**Alice Springs**	**42.81**	**259**	P	**P**	**21 31 03.5**	**-0.5**
	8.6nm,0.7s,baz=93,slow=8.7,SNR=83						
WRA	**Warramunga Arr**	**43.02**	**264**	P	**P**	**21 31 04.2**	**-1.5**
	2.8nm,0.3s,baz=97,slow=7.8,SNR=52						
WRA	ScP				**ScP**	**21 35 37.2**	**-0.4**
	0.7nm,0.9s,baz=89,slow=4.1,SNR=2.8						
KDU	**Kakadu**	**46.63**	**273**	P	**P**	**21 31 32.4**	**-0.8**
	baz=48,SNR=13						
MTN	**Manton Dam**	**47.82**	**273**	P	P	21 31 49.3	+7.2
	baz=49,SNR=3.8						
KNRA	**Kununurra**	**49.19**	**268**	P	**P**	**21 31 51.8**	**-0.4**
	baz=50,SNR=7.1						
FITZ	**Fitzroy Crossi**	**51.45**	**264**	P	**P**	**21 32 08.6**	**-0.1**
	baz=53,SNR=19						
MEEK	**Meekatharra**	**56.08**	**252**	P	**P**	**21 32 40.2**	**-0.9**
	baz=57,SNR=5.8						
NWAO	**Narrogin (SRO)**	**56.39**	**244**	P	**P**	**21 32 42.5**	**-0.7**
	9.0nm,1.0s,baz=158,slow=11,SNR=2.6						
MORW	**Morawa**	**57.92**	**249**	P	**P**	**21 32 53.2**	**-0.5**
	baz=59,SNR=4.6						
JAGI	**Jajag, Banyuwa**	**65.00**	**271**	P	**P**	**21 33 38.8**	**-1.2**
	baz=66,SNR=4.0						
QSPA	**South Pole Qui**	**67.90**	**180**	P	**P**	**21 33 57.8**	**+0.8**
	0.4nm,0.5s,baz=210,slow=2.7,SNR=4.6						
MJAR	**Matsushiro Arr**	**70.75**	**325**	P	**P**	**21 34 13.9**	**-0.4**
	0.8nm,0.5s,baz=134,slow=5.4,SNR=3.4						
PETK	**Petropavlovsk-**	**77.54**	**346**	P	**P**	**21 34 52.9**	**+0.8**
	1.5nm,0.7s,baz=133,slow=6.5,SNR=4.6						
TXAR	**Lajitas Array**	**89.12**	**58**	P	P	21 35 52.4	+2.1
	0.3nm,0.8s,baz=212,slow=4.4,SNR=5.1						
CMAR	**Chiang Mai Arr**	**89.38**	**290**	P	**P**	**21 35 53.3**	**+1.7**
	1.9nm,0.8s,baz=134,slow=2.7,SNR=9.0						
MKAR	**Makanchi Array**	**111.33**	**313**	PKiKP	**PKiKP**	**21 41 23.8**	**-0.4**
	0.3nm,0.8s,baz=150,slow=0.4,SNR=4.0						
HFS	**Hagfors**	**140.94**	**350**	PKhKP	PKPpre	21 42 14.0	
	0.7nm,0.4s,baz=20,slow=4.6,SNR=6.5						
AKASG	**Malin Array Be**	**143.76**	**329**	PKP	**PKPdf**	**21 42 23.6**	**-1.4**
	1.5nm,0.5s,baz=40,slow=4.3,SNR=7.0						
BRTR	**Keskin Array B**	**146.88**	**310**	PKPbc	**PKPbc**	**21 42 34.0**	**+0.2**
	0.8nm,0.7s,baz=146,slow=5.0,SNR=5.7						
GERES	**GERESS Array B**	**151.39**	**342**	PKPbc	**PKPbc**	**21 42 44.2**	**-0.1**
	0.4nm,0.5s,baz=347,slow=3.0,SNR=5.1						

*ISCJB **06** 21:27:06.8±0.4, 21°.41S±0°.04×66°.60W±0°.06, h230km±5km, mb4.3/14, Error ellipse: s-maj=8.7km s-min=5.9km az=1.7*
*NEIC **06** 21:27:07.7±0.5, 21°.42S×66°.55W, h226km±5km, mb4.3/10, Error ellipse: s-maj=9.0km s-min=6.6km az=97.0*
*IDC **06** 21:27:08.2±1.1, 21°.32S×66°.49W, h224km±9km, mb4.1/8, mb1 4.0/13, mb1mx3.9/20, mbtmp3.9/13, Error ellipse: s-maj=15.1km s-min=11.3km az=69.0*
*GUC **06** 21:27:09.4±0.5, 21°.34S×67°.16W, h252km±12km, ML5.1*
ISC 06 21:27:07.9±0.6, 21°.33S±0°.05×66°.67W±0°.06, h226km±5km, n63, σ1°.22/89, mb4.3/14, 4D, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**Plate Boundary**	**2.44**	**259**	⇓*i*P	**Pn**	**21 27 54.1**	**+1.2**
PB09				*i*S	**S**	**21 28 27.4**	**-0.7**
PB09				AML	AML	21 28 31.6	
	comp=N,4μm,0.8s						
LVC	**Limon Verde**	**2.44**	**238**	*e*Pn	**Pn**	**21 27 54.2**	**+1.1**
LVC				*e*S	**S**	**21 28 28.4**	**+0.1**
PB04	**Plate Boundary**	**2.78**	**250**	*e*P	Pn	21 28 03.9	+7.5
PB04				*i*S	S	21 28 45.3	+11
MACH	**Maria Elena**	**3.00**	**253**	*e*P	**Pn**	**21 27 59.9**	**+0.8**
MACH				*i*S	**S**	**21 28 38.2**	**-1.0**
PB07	**Plate Boundary**	**3.02**	**262**	*i*P	**Pn**	**21 27 59.6**	**+0.3**
PB07				*i*S	**S**	**21 28 38.2**	**-1.4**
PB07				AML	AML	21 28 41.0	
	comp=N,4μm,0.6s						
HMBC	**Humberstone**	**3.19**	**289**	⇓*i*P	**Pn**	**21 28 01.3**	**+0.1**
HMBC				*i*S	**S**	**21 28 41.1**	**-1.9**
HMBC				AML	AML	21 28 45.4	
	comp=E,2μm,0.4s						
MNMC	**Minimini**	**3.51**	**308**	⇓*i*P	**Pn**	**21 28 06.3**	**+1.1**
MNMC				*i*S	**S**	**21 28 50.4**	**+0.3**
PSGC	**Pisagua**	**3.67**	**297**	*i*P	**Pn**	**21 28 06.0**	**-0.8**
PSGC				*i*S	**S**	**21 28 50.5**	**-2.6**
CEN1	**Los Morros**	**3.86**	**237**	⇓*i*P	**Pn**	**21 28 10.9**	**+1.9**
CEN1				*i*S	**S**	**21 28 59.0**	**+1.8**
LPAZ	**La Paz**	**5.20**	**344**	P	**Pn**	**21 28 27.8**	**+1.6**
LPAZ				S	**S**	**21 29 29.5**	**+1.5**
LPAZ	**La Paz**	**5.20**	**344**	P	**Pn**	**21 28 27.8**	**+1.6**
	comp=E,4.5nm,0.3s,baz=156,slow=7.6,SNR=103						
LPAZ				S	**S**	**21 29 29.5**	**+1.5**
	comp=E,2.3nm,0.3s,baz=354,slow=16,SNR=26						
SIV	**San Ignacio**	**7.51**	**46**	P	**Pn**	**21 28 53.7**	**-1.2**
SIV	**San Ignacio**	**7.51**	**46**	P	**Pn**	**21 28 53.7**	**-1.2**
	comp=E,51nm,0.3s,baz=233,slow=13,SNR=715						
LCO	**Las Campanas**	**8.47**	**205**	*e*Pn	**Pn**	**21 29 04.8**	**-2.7**
	comp=E,36nm,0.6s						
LCO				*e*S	S	21 30 35.5	-7.9
CPUP	**Villa Florida**	**9.89**	**122**	*e*Pn	**Pn**	**21 29 23.8**	**-1.5**
	comp=E,48nm,0.8s						
CPUP	**Villa Florida**	**9.89**	**122**	P	**Pn**	**21 29 24.1**	**-1.2**
	comp=E,0.4nm,0.3s,baz=294,slow=11,SNR=13						
CFAA	**Coronel Fontan**	**10.33**	**187**	P	**Pn**	**21 29 28.3**	**-2.6**
CFAA				S	S	21 31 17.6	-9.2
CFAA	**Coronel Fontan**	**10.33**	**187**	P	**Pn**	**21 29 28.3**	**-2.6**
	comp=E,0.4nm,0.3s,baz=1.1,slow=11,SNR=102						
CFAA				S	S	21 31 17.6	-9.2
	comp=E,1.2nm,0.3s,baz=312,slow=12,SNR=16						
SAML	**Samuel**	**12.76**	**16**	*e*Pn	**Pn**	**21 30 01.1**	**-0.6**
	comp=E,10.0nm,0.9s						
SAML				*e*Sn	**S**	**21 32 22.6**	**-0.4**
NNA	**Nana**	**13.46**	**312**	P	**P**	**21 30 13.0**	**+0.8**
NNA				S	**S**	**21 32 36.2**	**-3.2**
NNA	**Nana**	**13.46**	**312**	P	**P**	**21 30 13.0**	**+0.8**
	comp=E,1.2nm,0.3s,baz=159,slow=11,SNR=5.0						
NNA				S	**S**	**21 32 36.2**	**-3.2**
	comp=E,1.0nm,0.3s,baz=41,slow=18,SNR=4.2						
TRQA	**Tornquist**	**17.16**	**167**	*e*P	**P**	**21 30 51.7**	**-1.1**
	comp=E,3.7nm,0.3s						
BDFB	**Brasilia**	**18.57**	**75**	P	**P**	**21 31 08.6**	**+0.1**
BDFB	**Brasilia**	**18.57**	**75**	P	**P**	**21 31 08.6**	**+0.1**
	comp=E,2.7nm,0.3s,baz=244,slow=8.9,SNR=18						
PLCA	**Paso Flores**	**19.62**	**189**	*e*P	**P**	**21 31 19.9**	**+0.5**
	comp=E,3.3nm,0.5s						
PLCA	**Paso Flores**	**19.62**	**189**	P	**P**	**21 31 19.5**	**+0.1**
	comp=E,0.5nm,0.3s,baz=7.2,slow=12,SNR=4.6						
SDV	**Santo Domingo**	**30.28**	**352**	*e*P	**P**	**21 32 58.6**	**+0.2**
	comp=E,5.4nm,0.5s						
VNA2	**Neumayer-Watz**	**60.12**	**161**	*e*P	**P**	**21 36 52.7**	**+1.6**
	baz=295,slow=5.9						
TXAR	**Lajitas Array**	**61.71**	**323**	P	**P**	**21 37 03.4**	**+0.9**
TXAR	**Lajitas Array**	**61.71**	**323**	P	**P**	**21 37 03.4**	**+0.9**
	comp=E,0.3nm,0.6s,baz=154,slow=8.5,SNR=5.6						
LIC	**Lamto**	**66.34**	**73**	*e*P	**P**	**21 37 31.4**	**-1.4**
	comp=E,21nm,0.8s						
TIC	**Toumodi**	**66.53**	**72**	*e*P	**P**	**21 37 32.6**	**-1.4**
	comp=E,84nm,1.3s						
KIC	**Kosan Boka**	**66.66**	**73**	*e*P	**P**	**21 37 33.7**	**-1.1**
	comp=E,29nm,0.8s						
DBIC	**Dimbokro**	**66.69**	**72**	*e*P	**P**	**21 37 34.0**	**-1.0**
	comp=E,12nm,0.7s						
DBIC	**Dimbokro**	**66.69**	**72**	P	**P**	**21 37 34.0**	**-1.0**
	comp=E,16nm,0.8s,baz=226,slow=5.9,SNR=15						
QSPA	**South Pole Qui**	**68.86**	**180**	*e*P	**P**	**21 37 48.4**	**+0.6**
	comp=E,2.5nm,0.8s						
QSPA	**South Pole Qui**	**68.86**	**180**	P	**P**	**21 37 49.4**	**+1.6**
	comp=E,2.0nm,0.5s,baz=157,slow=2.9,SNR=24						
TOA0	**Torodi Ar. Sit**	**75.34**	**69**	*e*P	**P**	**21 38 25.8**	**-1.1**
TORD	**Torodi Ar. Bea**	**75.34**	**69**	P	**P**	**21 38 26.0**	**-0.9**
TORD				pP	**pP**	**21 39 21.9**	**+1.6**
TORD	**Torodi Ar. Bea**	**75.34**	**69**	P	**P**	**21 38 26.0**	**-0.9**
	comp=E,19nm,0.5s,baz=258,slow=5.5,SNR=407						
TORD				pP	**pP**	**21 39 21.9**	**+1.6**
	comp=E,2.2nm,0.6s,baz=253,slow=5.7,SNR=3.6						
NVAR	**Mina Array Bea**	**76.67**	**321**	P	**P**	**21 38 34.9**	**+0.8**
NVAR	**Mina Array Bea**	**76.67**	**321**	P	**P**	**21 38 34.9**	**+0.8**
	comp=E,0.7nm,0.8s,baz=149,slow=7.4,SNR=3.6						
BOSA	**Boshof**	**81.68**	**117**	*e*P	**P**	**21 39 01.4**	**-0.1**
	comp=E,4.9nm,0.7s						
BOSA	**Boshof**	**81.68**	**117**	P	**P**	**21 39 00.8**	**-0.7**
	comp=E,5.1nm,0.6s,baz=197,slow=4.9,SNR=12						
TAM	**Tamanrasset**	**82.89**	**62**	*e*P	**P**	**21 39 07.5**	**-0.3**
	comp=E,3.7nm,0.9s						
MAW	**Mawson**	**83.88**	**163**	P	**P**	**21 39 12.6**	**+0.8**
	comp=E,4.9nm,0.8s,baz=248,slow=7.1,SNR=12						
ESDC	**Sonseca Array**	**84.26**	**44**	P	**P**	**21 39 14.4**	**+0.2**
ESDC	**Sonseca Array**	**84.26**	**44**	P	**P**	**21 39 14.4**	**+0.2**
	comp=E,1.5nm,0.8s,baz=248,slow=4.5,SNR=9.3						
YKA	**Yellowknife Ar**	**91.73**	**340**	P	**P**	**21 39 49.8**	**+0.6**
YKA	**Yellowknife Ar**	**91.73**	**340**	P	**P**	**21 39 49.8**	**+0.6**
	comp=E,1.2nm,0.5s,baz=133,slow=4.7,SNR=8.4						
ASAR	**Alice Springs**	**130.99**	**205**	PKP	**PKPdf**	**21 45 53.5**	**+0.2**
ASAR				SKPbc	**SKPbc**	**21 48 55.8**	**-0.6**
ASAR	**Alice Springs**	**130.99**	**205**	PKP	**PKPdf**	**21 45 53.5**	**+0.2**
	comp=E,0.3nm,0.4s,baz=131,slow=2.0,SNR=4.0						
ASAR				SKPbc	**SKPbc**	**21 48 55.8**	**-0.6**
	comp=E,1.0nm,0.8s,baz=148,slow=3.6,SNR=7.6						
WRA	**Warramunga Arr**	**134.12**	**208**	PKP	**PKPdf**	**21 45 59.7**	**+0.5**
WRA				SKPbc	**SKPbc**	**21 49 07.2**	**0.0**
WRA	**Warramunga Arr**	**134.12**	**208**	PKP	**PKPdf**	**21 45 59.7**	**+0.5**
	comp=E,0.2nm,0.4s,baz=152,slow=1.8,SNR=7.5						
WRA				SKPbc	**SKPbc**	**21 49 07.2**	**0.0**
	comp=E,1.8nm,0.8s,baz=145,slow=3.4,SNR=10						
PMG	**Port Moresby**	**134.87**	**231**	SKPbc	**SKPbc**	**21 49 08.2**	**-1.5**
PMG	**Port Moresby**	**134.87**	**231**	SKPbc	**SKPbc**	**21 49 08.2**	**-1.5**
	comp=E,5.3nm,0.6s,baz=194,slow=8.3,SNR=2.7						
ZALV	**Zalesovo Beam**	**140.89**	**27**	PKPpre	PKPpre	21 46 06.4	
ZALV				PKP	**PKPdf**	**21 46 11.8**	**+1.2**
ZALV				SKPbc	**SKiKP**	**21 49 26.8**	**-1.0**
ZALV	**Zalesovo Beam**	**140.89**	**27**	PKhKP	PKPpre	21 46 06.4	
	comp=E,0.4nm,0.4s,baz=342,slow=3.2,SNR=3.1						
ZALV				PKP	**PKPdf**	**21 46 11.8**	**+1.2**
	comp=E,0.9nm,0.5s,baz=321,slow=3.8,SNR=5.7						
ZALV				SKPbc	**SKiKP**	**21 49 26.8**	**-1.0**
	comp=E,0.5nm,0.5s,baz=300,slow=3.2,SNR=2.9						
MK31	**Makanchi Array**	**144.25**	**37**	*e*PKPdf	**PKPdf**	**21 46 16.4**	**-0.4**
MKAR	**Makanchi Array**	**144.25**	**37**	PKP	**PKPdf**	**21 46 16.4**	**-0.5**
MKAR				SKPbc	**SKiKP**	**21 49 35.4**	**+0.4**
MKAR	**Makanchi Array**	**144.25**	**37**	PKP	**PKPdf**	**21 46 16.4**	**-0.5**
	comp=E,6.0nm,0.7s,baz=311,slow=3.8,SNR=57						
MKAR				SKPbc	**SKiKP**	**21 49 35.4**	**+0.4**
	comp=E,0.3nm,0.7s,baz=299,slow=3.0,SNR=3.4						
SONM	**Songino Array**	**152.97**	**10**	PKP	**PKPdf**	**21 46 31.7**	**+0.7**
SONM				PKPbc	**PKiKP**	**21 46 39.0**	**+0.5**
SONM				PKPab	**PKPab**	**21 46 51.4**	**+0.8**
SONM	**Songino Array**	**152.97**	**10**	PKP	**PKPdf**	**21 46 31.7**	**+0.7**
	comp=E,0.8nm,0.7s,baz=349,slow=3.0,SNR=4.7						
SONM				PKPbc	**PKiKP**	**21 46 39.0**	**+0.5**
	comp=E,1.7nm,0.8s,baz=324,slow=0.9,SNR=9.0						
SONM				PKPab	**PKPab**	**21 46 51.4**	**+0.8**
	comp=E,1.2nm,0.7s,baz=336,slow=3.3,SNR=4.6						

IDC 06 21:28:22.1±9.6, 47°.24S×125°.51E, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.6/14, mbtmp3.8/3, ML3.5/1, MS3.8/3, Ms1 3.7/3, ms1mx3.3/22, Error ellipse: s-maj=213.9km s-min=53.1km az=162.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**19.66**	**44**	P	Pn	21 32 53.5	-0.3
	0.1nm,0.3s,baz=254,slow=7.4,SNR=2.6						
STKA				LR	LR	21 39 53.8	
	comp=Z,238nm,20.4s,baz=204,slow=35						
ASAR	**Alice Springs**	**24.46**	**19**	P	P	21 33 42.1	-0.7
	1.3nm,0.8s,baz=188,slow=9.0,SNR=10						
ASAR				LR	LR	21 42 46.5	
	comp=Z,288nm,21.1s,baz=220,slow=35						
PMG	**Port Moresby**	**41.94**	**33**	LR	LR	21 53 25.7	
	comp=Z,98nm,18.3s,baz=326,slow=36						
CMAR	**Chiang Mai Arr**	**69.62**	**333**	P	P	21 39 33.4	+0.2
	0.5nm,0.4s,baz=185,slow=5.2,SNR=5.3						

*CSEM **06** 21:36:12.6, 38°.80N×30°.48E, h7km, MD2.6, After DDA*
DDA 06 21:36:12.6, 38°.80N×30°.48E, h7km, MD2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLV	**Bolvadin**	**0.38**	**103**	*i*P	Pg	21 36 20.2	+0.1
BOLV				*i*S	Sg	21 36 24.6	-0.7
BOLV	**Bolvadin**	**0.38**	**103**	*i*P	Pg	21 36 20.2	0.0
BOLV				*i*S	Sg	21 36 24.6	-0.7
SEYT	**Eskypehyr**	**0.77**	**22**	*i*P	Pg	21 36 27.9	+0.3
SEYT				*i*S	Sg	21 36 38.5	+0.7
SEYT	**Eskypehyr**	**0.77**	**22**	*i*P	Pg	21 36 27.9	+0.3
SEYT				*i*S	Sg	21 36 38.5	+0.7
GDZ	**Gediz**	**0.83**	**290**	*i*P	Pn	21 36 31.3	+0.4
GDZ				*i*S	Sb	21 36 41.0	-0.1
GDZ	**Gediz**	**0.83**	**290**	*i*P	Pn	21 36 31.3	+0.4
GDZ				*i*S	Sb	21 36 41.0	0.0
KHAL	**Karahalli**	**0.89**	**241**	*i*P	Pg	21 36 30.0	+0.3
KHAL				*i*S	Sg	21 36 41.4	0.0
KHAL	**Karahalli**	**0.89**	**241**	*i*P	Pg	21 36 30.0	+0.2
KHAL				*i*S	Sg	21 36 41.4	0.0
BORA	**Eskisehir**	**1.08**	**359**	*i*P	Pn	21 36 34.0	-0.2
BORA				*i*S	Sb	21 36 48.4	+0.3
BORA	**Eskisehir**	**1.08**	**359**	*i*P	Pn	21 36 34.0	-0.2
BORA				*i*S	Sb	21 36 48.4	+0.4

IDC 06 21:36:50.2±1.4, 3°.30N×127°.20E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.6/25, mbtmp3.8/6, Error ellipse: s-maj=103.7km s-min=18.1km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.32**	**184**	P	P	21 41 38.0	-0.9
	1.7nm,0.7s,baz=2.6,slow=8.1,SNR=8.0						
WRA	**Warramunga Arr**	**24.14**	**163**	P	P	21 42 07.4	-0.8
	1.5nm,0.4s,baz=344,slow=9.6,SNR=33						
ASAR	**Alice Springs**	**27.59**	**167**	P	P	21 42 39.2	-0.2
	0.5nm,0.5s,baz=339,slow=7.2,SNR=5.9						
STKA	**Stephens Creek**	**37.56**	**160**	P	P	21 44 07.0	+0.5
	0.8nm,0.3s,baz=336,slow=9.5,SNR=5.1						
MKAR	**Makanchi Array**	**58.17**	**325**	P	P	21 46 46.0	-0.1
	0.3nm,0.3s,baz=126,slow=7.1,SNR=3.3						
KURBB	**Kurchatov Arra**	**62.35**	**327**	P	P	21 47 14.9	+0.3
	0.5nm,0.3s,baz=134,slow=6.6,SNR=3.0						
TORD	**Torodi Ar. Bea**	**123.50**	**288**	PKP	PKPdf	21 55

ms4.7/2, Error ellipse: s-maj=5.0km s-min=3.1km az=30.0
PDG **06** *21:49:41.7±0.5, 41°.45N×20°.41E, h10km, MD5.3/9, ML5.3/10, Error ellipse: s-maj=0.6km s-min=0.7km az=0.0*
TIR **06** *21:49:41.0±6.8, 41°.51N×20°.57E, h14km±30km, ML5.4*
IDC **06** *21:49:41.1±0.4, 41°.46N×20°.49E, h0km, mb4.9/39, mb1 4.9/49, mb1mx4.9/50, mbtmp4.8/49, ML4.4/10, MS4.9/43, Ms1 4.9/43, ms1mx4.8/47, Error ellipse: s-maj=8.3km s-min=7.1km az=85.0*
MOS **06** *21:49:41.5±1.2, 41°.45N×20°.32E, h16km, mb5.3/75, MS4.8/57, Error ellipse: s-maj=3.0km s-min=2.1km az=103.5*
BEO **06** *21:49:42.4±0.3, 41°.42N×20°.47E, h5km±3km, ML5.1/2*
SKO **06** *21:49:42.4, 41°.40N×20°.48E, h15km, M4.8, ML5.1*
THE **06** *21:49:42.0, 41°.52N×20°.47E, h0km±1km, ML5.1/15, Error ellipse: s-maj=1.1km s-min=0.5km az=301.0*
SFS **06** *21:49:42.0, 41°.49N×20°.43E, h3km, ML5.5*
CSEM **06** *21:49:42.6±0.0, 41°.47N×20°.39E, h5km, mb5.3/99, Ms5.0, Mw5.3, Error ellipse: s-maj=1.8km s-min=1.1km az=43.0*
NEIC **06** *21:49:42.2±0.1, 41°.48N×20°.39E, h3km, mb5.3/131, MW5.4, MW5.5, ML5.3(SKO), ML5.4(PDG), MW5.3(USGS), Error ellipse: s-maj=2.7km s-min=1.6km az=41.0, Moment Tensor Solution. s51 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.32; $M_{\theta\theta}$-0.03; $M_{\phi\phi}$1.34; $M_{r\theta}$0.63; $M_{r\phi}$0.10; $M_{\theta\phi}$1.04; Best double couple: $M_0$1.80000×10^{17} NP1:ϕ_s349.00000°, δ27.00000°, λ-119.00000°. NP2:ϕ_s202.00000°, δ67.00000°, λ-76.00000°. Principal axes: T 1.7500, Plg20.0000°, Azm280.0000°; N 0.0900, Plg12.0000°, Azm15.0000°; P -1.8500, Plg65.0000°, Azm136.0000°;*
NEIC *Felt [IV] at Tirana and [III] at Durres. Also felt at Cerrik, Elbasan, Peshkopi and Shkoder. Felt [V] at Debar and Tetovo; [IV] at Ohrid, Prilep and Struga; [III] at Bitola, Gostivar and Skopje; [II] at Saraj, Macedonia. Also felt at Bogovinje, Brvenica, Demir Hisar, Kumanovo, Negotino, Resen and Sveti Nikole. Felt [II] at Podgorica, Montenegro. Also felt at Ulcinj. Felt at Mostar, Bosnia and Herzegovina; at Florina, Ioannina, Kastoria and Thessaloniki, Greece; at Orahovac and Prizren, Kosovo; at Vranje, Serbia.*
IGIL **06** *21:49:42.4, 41°.46N×20°.41E, h2km, mb5.2*
TEH **06** *21:49:43.0, 41°.43N×20°.39E, h4km, ML5.4*
SZGRF **06** *21:49:43.4, 41°.26N×20°.46E, h10km, mb5.8, Albania*
GCMT **06** *21:49:46.7±0.1, 41°.37N×20°.36E, h12km, MW5.5, Moment Tensor Solution. s86,c161; s35,c35; Moment tensor: Scale 10^{17}Nm; M_{rr}-1.70±.02; $M_{\theta\theta}$0.00±.02; $M_{\phi\phi}$1.70±.02; $M_{r\theta}$-0.70±.06; $M_{r\phi}$0.36±.02; $M_{\theta\phi}$-0.37±.05; Best double couple: $M_0$1.90000×10^{17} NP1:ϕ_s29.00000°, δ56.00000°, λ-69.00000°. NP2:ϕ_s175.00000°, δ39.00000°, λ-118.00000°. Principal axes: T 1.8500, Plg9.0000°, Azm104.0000°; N 0.1200, Plg17.0000°, Azm197.0000°; P -1.9700, Plg71.0000°, Azm349.0000°; Data Used: II IU IC G CN. Surface waves: sta=103, comp=217, per= 50.*
BGS **06** *21:49:48.1±2.8, 42°.06N×20°.29E, h10km, mb5.0, MS5.2*
NEIC **06** *21:49:50.0±0.0, 41°.88N×20°.24E, h10km, Moment Tensor Solution. s129 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.55; $M_{\theta\theta}$-0.30; $M_{\phi\phi}$1.85; $M_{r\theta}$1.82; $M_{r\phi}$0.32; $M_{\theta\phi}$0.32; Best double couple: $M_0$2.40000×10^{17} NP1:ϕ_s224.00000°, δ66.00000°, λ-54.00000°. NP2:ϕ_s343.00000°, δ42.00000°, λ-141.00000°. Principal axes: T 2.0400, Plg13.0000°, Azm288.0000°; N 0.8100, Plg31.0000°, Azm27.0000°; P -2.8500, Plg54.0000°, Azm178.0000°;*
HLW **06** *21:49:51.8, 40°.95N×21°.32E, h33km±26km, Md5.0, Ml4.7*
NSSC **06** *21:49:57.0±3.5, 41°.08N×21°.47E, h2km±999km*
BKK **06** *21:50:06.1±3.0, 41°.N±12°×2°.1E±1°.8, h181km±21km, M4.6/22, mB5.1/7, mb4.9/22, Mw(mB)4.5/7*
DJA **06** *21:50:08.9±3.9, 41°.N±15°×2°.1E±2°.4, h215km±29km, M4.8/11, mB5.2/3, mb4.9/11, Mw(mB)4.6/3*
ISC 06 21:49:42.8±0.4, **41°.48N**±0°.01×**20°.41E**±0°.01, **h8**km±2km, **n2370**, σ1§42/2687, **mb5.2**/240, **MS5.0**/80, **130C-87D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHP	**Peshkopia**	**0.20**	**6**	*i* PG	**Pg**	**21 49 45.7**	**-1.2**
PHP				*i* SG	**Sg**	**21 49 49.9**	**+0.1**
PHP	**Peshkopia**	**0.20**	**6**	P	**Pg**	**21 49 44.7**	**-2.2**
PHP				S	**Sg**	**21 49 47.9**	**-1.9

NEO	Neokhori	3.05 134	P	Pn	21 50 31.5	+0.1
NEO	Neokhori	3.05 134	P	Pn	21 50 31.5	+0.1
KAVA	Kavala	3.13 98	P	Pn	21 50 32.2	-0.2
KAVA			S	Sn	21 51 10.3	+0.3
KAVA	Kavala	3.13 98	P	Pn	21 50 32.2	-0.2
KAVA			S	Sn	21 51 10.3	+0.3
KAVA	Kavala	3.13 98	P	Pn	21 50 32.2	-0.2
KAVA			S	Sn	21 51 10.3	+0.3
TEKS	Tekeris	3.13 348	ePn	Pn	21 50 34.2	+1.7
TEKS	Tekeris	3.13 348	ePn	Pn	21 50 34.2	+1.7
AXAR	Agios Charalam	3.21 147	P	Pn	21 50 33.5	-0.1
AXAR	Agios Charalam	3.21 147	P	Pn	21 50 33.5	-0.1
AXAR	Agios Charalam	3.21 147	P	Pn	21 50 33.5	-0.1
EFP	Efpalio	3.26 159	ePB	Pb	21 50 37.1	-3.8
PLD	Plovdiv	3.27 78	P	Pn	21 50 33.9	-0.4
PLD			S	Sn	21 51 14.3	+1.0
PLD	Plovdiv	3.27 78	P	Pn	21 50 33.9	-0.4
PLD			S	Sn	21 51 14.3	+1.0
PLD	Plovdiv	3.27 78	P	Pn	21 50 33.9	-0.4
PLD			S	Sn	21 51 14.3	+1.0
PLD	Plovdiv	3.27 78	ePn	Pn	21 50 34.7	+0.4
PLD	Plovdiv	3.27 78	P	Pn	21 50 33.9	-0.4
PLD	Plovdiv	3.27 78	ePn	Pn	21 50 34.7	+0.4
PLD			S	Sn	21 51 14.3	+1.0
SKIA	Skiathos	3.29 134	P	Pn	21 50 34.4	-0.2
SKIA	Skiathos	3.29 134	P	Pn	21 50 34.4	-0.2
VLS	Valsamata	3.30 178	P	Pn	21 50 34.7	-0.1
VLS			S	Sn	21 51 16.6	+2.3
VLS	Valsamata	3.30 178	P	Pn	21 50 34.7	-0.1
VLS			S	Sn	21 51 16.6	+2.3
VLS	Valsamata	3.30 178	ePn	Pn	21 50 34.8	-0.1
VLS	Valsamata	3.30 178	P	Pn	21 50 34.7	-0.1
VLS			S	Sn	21 51 16.6	+2.3
VLS	Valsamata	3.30 178	ePn	Pn	21 50 34.8	-0.1
BEO	Beograd	3.33 1	ePn	Pn	21 50 35.7	+0.6
KALE	Kalithea	3.36 156	P	Pn	21 50 35.2	-0.4
KALE	Kalithea	3.36 156	ePN	Pn	21 50 37.1	+1.5
KALE	Kalithea	3.36 156	P	Pn	21 50 35.2	-0.4
KALE	Kalithea	3.36 156	P	Pn	21 50 35.2	-0.4
KALE	Kalithea	3.36 156	ePn	Pn	21 50 37.1	+1.5
MS1	Monte Sant'Ang	3.36 275	ePn	Pn	21 50 35.1	-0.6
AXS	Araxos	3.36 167	P	Pn	21 50 35.7	+0.1
AXS	Araxos	3.36 167	P	Pn	21 50 35.7	+0.1
TRIZ	Trizonia	3.36 157	P	Pn	21 50 35.4	-0.2
TRIZ	Trizonia	3.36 157	ePN	Pn	21 50 37.2	+1.6
TRIZ	Trizonia	3.36 157	P	Pn	21 50 35.4	-0.2
TRIZ	Trizonia	3.36 157	ePn	Pn	21 50 37.2	+1.6
SMIA	Simia	3.37 140	P	Pn	21 50 36.1	+0.4
SMIA	Simia	3.37 140	P	Pn	21 50 36.1	+0.4
KFL	Anninata	3.38 175	P	Pn	21 50 36.1	+0.2
KFL	Anninata	3.38 175	P	Pn	21 50 36.1	+0.2
LAKA	Lakka	3.46 159	P	Pn	21 50 36.9	0.0
LAKA	Lakka	3.46 159	ePN	Pn	21 50 38.9	+2.0
LAKA	Lakka	3.46 159	P	Pn	21 50 36.9	0.0
LAKA	Lakka	3.46 159	P	Pn	21 50 36.9	0.0
LAKA	Lakka	3.46 159	ePn	Pn	21 50 38.9	+2.0
LKR	Lokris	3.46 144	P	Pn	21 50 36.6	-0.3
LKR	Lokris	3.46 144	P	Pn	21 50 36.6	-0.3
LKR	Lokris	3.46 144	P	Pn	21 50 36.6	-0.3
DSF	Desfina	3.47 151	P	Pn	21 50 37.5	+0.3
DSF	Desfina	3.47 151	P	Pn	21 50 37.5	+0.3
DSF	Desfina	3.47 151	P	Pn	21 50 37.5	+0.3
AOS	Alonnisos	3.52 130	P	Pn	21 50 37.6	-0.1
AOS			S	Sn	21 51 21.5	+2.0
AOS	Alonnisos	3.52 130	ePN	Pn	21 50 37.4	-0.3
AOS			eSN	Sn	21 51 20.8	+1.3
AOS	Alonnisos	3.52 130	P	Pn	21 50 37.6	-0.1
AOS			S	Sn	21 51 21.5	+2.0
AOS	Alonnisos	3.52 130	P	Pn	21 50 37.6	-0.1
AOS			eSn	Sn	21 51 20.8	+1.3
RLS	Riolos of Patr	3.52 166	P	Pn	21 50 38.9	+1.2
RLS	Riolos of Patr	3.52 166	ePN	Pn	21 50 39.5	+1.8
RLS	Riolos of Patr	3.52 166	P	Pn	21 50 38.9	+1.2
RLS	Riolos of Patr	3.52 166	P	Pn	21 50 38.9	+1.2
RLS	Riolos of Patr	3.52 166	ePn	Pn	21 50 39.5	+1.8
RMGR	Halanga-Turnu	3.59 27	⇓iP	Pn	21 50 39.3	+0.6
RMGR	Halanga-Turnu	3.59 27	⇓iP	Pn	21 50 39.3	+0.6
KLV	Kalavryta, Ach	3.69 158	P	Pn	21 50 40.9	+0.8
KLV	Kalavryta, Ach	3.69 158	ePN	Pn	21 50 42.2	+2.1
KLV	Kalavryta, Ach	3.69 158	P	Pn	21 50 40.9	+0.8
KLV	Kalavryta, Ach	3.69 158	P	Pn	21 50 40.9	+0.8
KLV	Kalavryta, Ach	3.69 158	ePn	Pn	21 50 42.2	+2.1
MRKA	Markates	3.69 138	P	Pn	21 50 39.9	-0.2
MRKA	Markates	3.69 138	P	Pn	21 50 39.9	-0.2
FGSL	Fruska Gora	3.70 353	ePn	Pn	21 50 40.5	+0.2
FRGS	Fruska Gora	3.70 353	ePn	Pn	21 50 40.5	+0.2
SRE	Strehaia	3.78 32	⇓P	Pn	21 50 41.3	0.0
SRE	Strehaia	3.78 32	⇓iP	Pn	21 50 41.3	0.0
SRE	Strehaia	3.78 32	⇓iP	Pn	21 50 41.3	0.0
CUC	Castrocucco	3.80 248	ePn	Pn	21 50 40.8	-0.8
CUC			eSn	Sn	21 51 23.2	-3.3
CUC	Castrocucco	3.80 248	ePn	Pn	21 50 40.8	-0.8
CUC			eSn	Sn	21 51 23.2	-3.3
GUR	Goura	3.84 157	P	Pn	21 50 43.1	+0.8
GUR	Goura	3.84 157	ePN	Pn	21 50 43.8	+1.5
GUR	Goura	3.84 157	P	Pn	21 50 43.1	+0.8
GUR	Goura	3.84 157	P	Pn	21 50 43.1	+0.8
GUR	Goura	3.84 157	ePn	Pn	21 50 43.8	+1.5
LIA	Limnos Island	3.96 112	P	Pn	21 50 43.6	-0.1
LIA	Limnos Island	3.96 112	ePN	Pn	21 50 43.7	-0.1
LIA	Limnos Island	3.96 112	P	Pn	21 50 43.6	-0.1
LIA	Limnos Island	3.96 112	ePn	Pn	21 50 43.7	-0.1
LTK	Loutraki	3.98 150	P	Pn	21 50 44.7	+0.6
LTK	Loutraki	3.98 150	ePN	Pn	21 50 44.2	+0.1
LTK	Loutraki	3.98 150	P	Pn	21 50 44.7	+0.6
LTK	Loutraki	3.98 150	ePn	Pn	21 50 44.2	+0.1
LTK	Loutraki	3.98 150	P	Pn	21 50 44.7	+0.6
ERET	Eretria	4.00 138	P	Pn	21 50 45.0	+0.5
ERET	Eretria	4.00 138	P	Pn	21 50 45.0	+0.5
SMTH	Samothraki Isl	4.00 103	P	Pn	21 50 44.6	+0.2
SMTH	Samothraki Isl	4.00 103	ePN	Pn	21 50 45.0	+0.6
SMTH	Samothraki Isl	4.00 103	P	Pn	21 50 44.6	+0.2
SMTH	Samothraki Isl	4.00 103	P	Pn	21 50 44.6	+0.2
SMTH	Samothraki Isl	4.00 103	ePn	Pn	21 50 45.0	+0.6
ACOR	Acrocorinthos	4.06 151	P	Pn	21 50 45.6	+0.4
ACOR	Acrocorinthos	4.06 151	P	Pn	21 50 45.6	+0.4
AMT	Artemida-Makis	4.07 165	P	Pn	21 50 46.5	+1.1
AMT			S	Sn	21 51 35.6	+2.4
AMT	Artemida-Makis	4.07 165	ePN	Pn	21 50 47.0	+1.6
AMT	Artemida-Makis	4.07 165	P	Pn	21 50 46.5	+1.1
AMT	Artemida-Makis	4.07 165	ePn	Pn	21 50 47.0	+1.6
BZS	Buzias	4.22 12	⇑P	Pn	21 50 47.4	-0.1
BZS	Buzias	4.22 12	⇑iP	Pn	21 50 47.4	-0.1
BZS	Buzias	4.22 12	ePn	Pn	21 50 47.0	-0.5
BZS	Buzias	4.22 12	ePn	Pn	21 50 47.0	-0.5
BZS	Buzias	4.22 12	⇑iP	Pn	21 50 47.4	-0.1
ZIMR		4.25 58	⇑P	Pn	21 50 49.2	+1.4
ZIMR		4.25 58	⇑iP	Pn	21 50 49.2	+1.4
GZR	Gura Zlata	4.27 23	⇓P	Pn	21 50 48.1	-0.1
GZR	Gura Zlata	4.27 23	⇓iP	Pn	21 50 48.1	-0.1
GZR	Gura Zlata	4.27 23	⇓iP	Pn	21 50 48.1	-0.1
ALN	Alexandroupoli	4.29 96	P	Pn	21 50 48.5	+0.2
ALN	Alexandroupoli	4.29 96	P	Pn	21 50 48.5	+0.2
ALN	Alexandroupoli	4.29 96	ePN	Pn	21 50 48.9	+0.6
ALN	Alexandroupoli	4.29 96	P	Pn	21 50 48.5	+0.2
ALN	Alexandroupoli	4.29 96	P	Pn	21 50 48.5	+0.2
ALN	Alexandroupoli	4.29 96	ePn	Pn	21 50 48.9	+0.6
TIM	Timisoara	4.29 8	⇑P	Pn	21 50 49.2	+0.8
TIM	Timisoara	4.29 8	⇑iP	Pn	21 50 49.2	+0.8
TIM	Timisoara	4.29 8	⇑iP	Pn	21 50 49.2	+0.8
ATH	Athens Observa	4.33 143	P	Pn	21 50 48.9	0.0
ATH	Athens Observa	4.33 143	P	Pn	21 50 48.9	0.0
ATH	Athens Observa	4.33 143	ePN	Pn	21 50 49.9	+1.0
ATH	Athens Observa	4.33 143	P	Pn	21 50 48.9	0.0
ATH	Athens Observa	4.33 143	P	Pn	21 50 48.9	0.0
ATH	Athens Observa	4.33 143	ePn	Pn	21 50 49.9	+1.0
PTL	Penteli	4.34 141	P	Pn	21 50 50.0	+0.9
PTL	Penteli	4.34 141	ePN	Pn	21 50 50.2	+1.1
PTL	Penteli	4.34 141	P	Pn	21 50 50.0	+0.9
PTL	Penteli	4.34 141	P	Pn	21 50 50.0	+0.9
ATHU	Athens Univers	4.37 142	P	Pn	21 50 50.3	+0.9
ATHU	Athens Univers	4.37 142	P	Pn	21 50 50.3	+0.9
ATHU	Athens Univers	4.37 142	P	Pn	21 50 50.3	+0.9
VLX	Vlachokerasia	4.38 159	P	Pn	21 50 50.5	+0.8
VLX	Vlachokerasia	4.38 159	ePN	Pn	21 50 51.8	+2.1
VLX	Vlachokerasia	4.38 159	P	Pn	21 50 50.5	+0.8
VLX	Vlachokerasia	4.38 159	P	Pn	21 50 50.5	+0.8
VLX	Vlachokerasia	4.38 159	ePn	Pn	21 50 51.8	+2.1
NAIG	Nisos Aigina	4.41 146	ePN	Pn	21 50 50.3	+0.3
NAIG	Nisos Aigina	4.41 146	ePn	Pn	21 50 50.3	+0.3
ITM	Ithomi	4.45 164	P	Pn	21 50 51.5	+0.9
ITM	Ithomi	4.45 164	ePN	Pn	21 50 52.1	+1.5
ITM	Ithomi	4.45 164	P	Pn	21 50 51.5	+0.9
ITM	Ithomi	4.45 164	P	Pn	21 50 51.5	+0.9
ITM	Ithomi	4.45 164	ePn	Pn	21 50 52.1	+1.5
HUMR	Humele	4.53 46	⇓iP	Pn	21 50 52.0	+0.4
HUMR	Humele	4.53 46	⇓iP	Pn	21 50 52.0	+0.4
DID	Didima	4.53 150	P	Pn	21 50 52.1	+0.4
DID	Didima	4.53 150	ePN	Pn	21 50 52.4	+0.7
DID	Didima	4.53 150	P	Pn	21 50 52.1	+0.4
DID	Didima	4.53 150	P	Pn	21 50 52.1	+0.4
DID	Didima	4.53 150	ePn	Pn	21 50 52.4	+0.7
RMVG	GOVORA	4.54 37	⇑iP	Pn	21 50 51.9	+0.1
RMVG	GOVORA	4.54 37	⇑iP	Pn	21 50 51.9	+0.1
DIDY	Didyma	4.55 151	P	Pn	21 50 52.9	+0.9
DIDY	Didyma	4.55 151	P	Pn	21 50 52.9	+0.9
BOZC	Bozcaada	4.59 109	iP	Pn	21 50 53.6	+1.1
LOT	Lotru	4.66 31	⇑iP	Pn	21 50 53.3	-0.2
LOT	Lotru	4.66 31	⇑iP	Pn	21 50 53.3	-0.2
PYL	PYLOS	4.70 167	P	Pn	21 50 53.5	-0.4
PYL	PYLOS	4.70 167	ePN	Pn	21 50 53.9	0.0
PYL	PYLOS	4.70 167	P	Pn	21 50 53.5	-0.4
PYL	PYLOS	4.70 167	P	Pn	21 50 53.5	-0.4
PYL	PYLOS	4.70 167	ePn	Pn	21 50 53.9	0.0
JMB	Yambol	4.70 76	P	Pn	21 50 54.2	+0.2
JMB	Yambol	4.70 76	P	Pn	21 50 54.2	+0.2
JMB	Yambol	4.70 76	P	Pn	21 50 54.2	+0.2
JMB	Yambol	4.70 76	ePn	Pn	21 50 54.8	+0.8
JMB	Yambol	4.70 76	P	Pn	21 50 54.2	+0.2
JMB	Yambol	4.70 76	ePn	Pn	21 50 54.8	+0.8
GELI	Tayfur-Gelibol	4.72 101	eP	Pn	21 50 56.3	+2.1
GELI	Tayfur-Gelibol	4.72 101	eP	Pn	21 50 56.3	+2.1
GOLR		4.73 43	⇓iP	Pn	21 50 55.3	+1.0
GOLR		4.73 43	⇓iP	Pn	21 50 55.3	+1.0
CEL	Celeste	4.74 229	⇑ePn	Pn	21 50 53.9	-0.7
CEL			eSn	Sn	21 51 50.0	+0.3
CEL	Celeste	4.74 229	⇑ePn	Pn	21 50 53.9	-0.7
CEL			eSn	Sn	21 51 50.0	+0.3
DEV	Deva	4.75 21	⇑P	Pn	21 50 55.1	+0.4
DEV	Deva	4.75 21	⇑iP	Pn	21 50 55.1	+0.4
DEV	Deva	4.75 21	⇑iP	Pn	21 50 55.1	+0.4
EDRB	Edirne	4.76 84	eP	Pn	21 50 57.2	+2.4
EDRB	Edirne	4.76 84	eP	Pn	21 50 57.2	+2.4
PKSM	Moragy	4.90 345	⇓P	Pn	21 50 56.7	0.0
PKSM	Moragy	4.90 345	⇓iP	Pn	21 50 56.7	0.0
PKSM	Moragy	4.90 345	ePn	Pn	21 50 57.2	+0.5
PKSM			e		21 51 56.6	
PKSM	Moragy	4.90 345	⇓iP	Pn	21 50 56.7	0.0
PKSM			eS	Sn	21 51 56.6	+3.0
LPK	Lapseki	4.93 101	eP	Pn	21 50 59.6	+2.4
LPK	Lapseki	4.93 101	eP	Pn	21 50 59.6	+2.4
DYR	Agios Nikonas	4.94 162	P	Pn	21 50 58.2	+0.8
DYR	Agios Nikonas	4.94 162	ePN	Pn	21 50 58.8	+1.4
DYR	Agios Nikonas	4.94 162	P	Pn	21 50 58.2	+0.8
DYR	Agios Nikonas	4.94 162	ePn	Pn	21 50 58.8	+1.4
ARR	Arges	4.95 37	⇑iP	Pn	21 50 58.0	+0.5
ARR	Arges	4.95 37	⇑iP	Pn	21 50 58.0	+0.5
SISC	Sisak	4.95 325	iPn	Pn	21 51 00.5	+3.1
SISC			Sn	Sn	21 51 58.9	+3.9
PRK	Paraskevi	5.00 115	P	Pn	21 50 58.6	+0.5
PRK			S	Sn	21 51 56.0	-0.1
PRK	Paraskevi	5.00 115	P	Pn	21 50 58.6	+0.5
PRK			S	Sn	21 51 56.0	-0.1
PRK	Paraskevi	5.00 115	ePN	Pn	21 50 58.9	+0.8
PRK	Paraskevi	5.00 115	P	Pn	21 50 58.6	+0.5
PRK			S	Sn	21 51 56.0	-0.1
PRK	Paraskevi	5.00 115	P	Pn	21 50 58.6	+0.5
PRK	Paraskevi	5.00 115	ePn	Pn	21 50 58.9	+0.8
PRK			S	Sn	21 51 56.0	-0.1
BUC1	Bucharest	5.02 53	⇓iP	Pn	21 51 01.4	+3.0
BUC1	Bucharest	5.02 53	⇓iP	Pn	21 51 01.4	+3.0
MTUR	Matau	5.05 41	⇓P	Pn	21 51 00.1	+1.2
MTUR	Matau	5.05 41	⇓iP	Pn	21 51 00.1	+1.2
MTUR	Matau	5.05 41	⇓iP	Pn	21 51 00.1	+1.2
PKS2	Kecel	5.08 351	⇑epPn	Pn	21 51 00.7	+1.5
PKS2	Kecel	5.08 351	⇑eP	Pn	21 51 00.7	+1.5
BUC	Bucharest	5.10 53	⇓P	Pn	21 51 01.4	+2.0
NVLJ	Novalja	5.10 309	iPn	Pn	21 51 00.3	+0.9
NVLJ			Sn	Sn	21 52 00.3	+1.9
BAPR	Bucharest-Chil	5.11 53	⇓iP	Pn	21 51 00.8	+1.3
BAPR	Bucharest-Chil	5.11 53	⇓iP	Pn	21 51 00.8	+1.3
BTMR	Bucharest-Geot	5.12 53	⇑iP	Pn	21 51 01.4	+1.7
BTMR	Bucharest-Geot	5.12 53	⇑iP	Pn	21 51 01.4	+1.7
VLI	Veliai	5.15 157	P	Pn	21 51 00.6	+0.5
VLI	Veliai	5.15 157	ePN	Pn	21 51 00.6	+0.5
VLI	Veliai	5.15 157	P	Pn	21 51 00.6	+0.5
VLI	Veliai	5.15 157	ePn	Pn	21 51 00.3	+0.2
VLI	Veliai	5.15 157	P	Pn	21 51 00.6	+0.5
INCR	INCERC-Sediu C	5.15 53	⇓iP	Pn	21 51 02.1	+1.9
INCR	INCERC-Sediu C	5.15 53	⇓iP	Pn	21 51 02.1	+1.9
RKY	Sarkoy-Tekirda	5.17 97	eP	Pn	21 51 03.4	+2.9
RKY	Sarkoy-Tekirda	5.17 97	eP	Pn	21 51 03.4	+2.9
SART	Tekirdag	5.17 97	iP	Pn	21 51 03.0	+2.4
SART	Tekirdag	5.17 97	iP	Pn	21 51 03.0	+2.4
VOIR		5.20 39	⇑P	Pn	21 51 02.4	+1.5
VOIR		5.20 39	⇑iP	Pn	21 51 02.4	+1.5
VOIR		5.20 39	⇑iP	Pn	21 51 02.4	+1.5
MFT	Murefte	5.23 95	eP	Pn	21 51 03.0	+1.6
MFT	Murefte	5.23 95	eP	Pn	21 51 03.0	+1.6
AQU	L'Aquila	5.30 282	ePn	Pn	21 51 02.0	-0.3
AQU			eSn	Sn	21 52 03.8	+0.2
AQU	L'Aquila	5.30 282	eP	Pn	21 51 02.0	-0.3
AQU			eS	Sn	21 52 03.6	+0.2
CHOS	Chios island	5.33 124	P	Pn	21 51 03.2	+0.5
CHOS	Chios island	5.33 124	ePN	Pn	21 51 03.5	+0.8
CHOS	Chios island	5.33 124	P	Pn	21 51 03.2	+0.5
CHOS	Chios island	5.33 124	P	Pn	21 51 03.2	+0.5
CHOS	Chios island	5.33 124	ePn	Pn	21 51 03.5	+0.8
KRBG	Karabiga-Canak	5.33 100	eP	Pn	21 51 04.4	+1.8
KRBG	Karabiga-Canak	5.33 100	eP	Pn	21 51 04.4	+1.8
PKS9	Tamasi	5.33 344	⇑epPn	Pn	21 51 04.1	+1.5
PKS9			e		21 52 07.0	
PKS9	Tamasi	5.33 344	⇑eP	Pn	21 51 04.1	+1.5
PKS9			eS	Sn	21 52 07.0	+2.8
PHSR	Pinarhisar	5.34 86	eP	Pn	21 51 05.2	+2.5
PHSR	Pinarhisar	5.34 86	eP	Pn	21 51 05.2	+2.5
SULR		5.34 51	⇓iP	Pn	21 51 03.8	+1.1
SULR		5.34 51	⇓iP	Pn	21 51 03.8	+1.1
TKR	Tekirdag	5.39 93	eP	Pg	21 51 22.6	-3.4
PKSN	Nyarlorinc	5.43 356	⇑epPn	Pn	21 51 05.8	+1.6
PKSN			⇑e		21 52 05.8	
SECR		5.45 47	⇑iP	Pn	21 51 05.9	+1.7
MDB	Medias	5.47 30	⇓P	Pn	21 51 06.1	+1.5
MDB	Medias	5.47 30	⇓iP	Pn	21 51 06.1	+1.5
MDB	Medias	5.47 30	⇓iP	Pn	21 51 06.1	+1.5
BOJS	Bojanci	5.50 319	iPn	Pn	21 51 06.4	+1.4
BOJS			iSn	Sn	21 52 13.8	+5.4
BOJS	Bojanci	5.50 319	iPn	Pn	21 51 06.4	+1.4
DRGR		5.56 17	⇑P	Pn	21 51 05.6	-0.3
DRGR		5.56 17	⇑iP	Pn	21 51 05.6	-0.3
DRGR		5.56 17	⇑iP	Pn	21 51 05.6	-0.3
KYTH	Kithira	5.58 158	P	Pn	21 51 07.5	+1.4
KYTH	Kithira	5.58 158	ePN	Pn	21 51 08.6	+2.5
KYTH	Kithira	5.58 158	P	Pn	21 51 07.5	+1.4
KYTH	Kithira	5.58 158	P	Pn	21 51 07.5	+1.4
BEHE	Becsehely	5.63 333	⇑epPn	Pn	21 51 09.6	+2.8
BEHE			eSdiff	Sn	21 52 20.6	+8.9
PKS7	Kunszentmiklos	5.64 351	⇑epPn	Pn	21 51 08.2	+1.4
PKS7			e		21 52 15.7	
CRES	Cresnjev	5.64 322	iPn	Pn	21 51 08.0	+1.1
CRES	Cresnjev	5.64 322	iPn	Pn	21 51 08.0	+1.1
MLR	Muntele Rosu	5.68 43	Pn	Pn	21 51 08.2	+0.7
MLR			Sn	Sn	21 52 14.2	+1.2
MLR	Muntele Rosu	5.68 43	⇑iP	Pn	21 51 09.4	+1.9
MLR	Muntele Rosu	5.68 43	Pn	Pn	21 51 08.2	+0.7
	comp=N,4.4nm,0.3s,baz=207,slow=14,SNR=55					
MLR			Sn	Sn	21 52 14.2	+1.2
	baz=164,slow=9.3,SNR=3.8					
MLR			LR	LR	21 52 39.4	
	comp=N,1μm,19.9s,baz=235,slow=32					
MLR	Muntele Rosu	5.68 43	Pn	Pn	21 51 08.2	+0.7
MLR	Muntele Rosu	5.68 43	⇑iP	Pn	21 51 09.4	+1.9
MLR			Sn	Sn	21 52 14.2	+1.2
URLA	Izmir	5.68 121	iP	Pn	21 51 07.3	-0.3
URLA	Izmir	5.68 121	iP	Pn	21 51 07.3	-0.3
GONE	Gonen-Balikesi	5.71 102	eP	Pn	21 51 10.5	+2.7
CJR	Cluj-Napoca	5.71 23	⇑P	Pn	21 51 09.2	+1.3
CJR	Cluj-Napoca	5.71 23	⇑iP	Pn	21 51 09.2	+1.3
CJR	Cluj-Napoca	5.71 23	⇑iP	Pn	21 51 09.2	+1.3
DOPR	Dopca	5.75 37	⇓iP	Pn	21 51 09.2	+0.7
BALY	Balya	5.75 105	iP	Pn	21 51 10.1	+1.6
BALY	Balya	5.75 105	iP	Pn	21 51 10.1	+1.6
ISR	Istrita	5.76 49	⇑P	Pn	21 51 10.3	+1.7
ISR	Istrita	5.76 49	⇑iP	Pn	21 51 10.3	+1.7
ISR	Istrita	5.76 49	⇑iP	Pn	21 51 10.3	+1.7
KOGS	Kog	5.80 330	iPn	Pn	21 51 11.3	+2.2
KOGS	Kog	5.80 330	iPn	Pn	21 51 11.3	+2.2
SLVT	Silivri	5.87 90	eP	Pn	21 51 05.2	-4.9
PGOR	Pogoanele	5.90 52	⇓iP	Pn	21 51 12.3	+1.9
VISS	Visnje	5.92 319	iPn	Pn	21 51 11.8	+1.1
VISS						
	comp=Z,48μm,4.0s					
VISS	Visnje	5.92 319	iPn	Pn	21 51 11.8	+1.1
	comp=Z,48μm,4.0s					
APE	Apeiranthos	5.93 136	eP	Pn	21 51 14.1	+3.1
APE	Apeiranthos	5.93 136	P	Pn	21 51 11.9	+1.0
APE	Apeiranthos	5.93 136	P	Pn	21 51 11.9	+1.0
APE	Apeiranthos	5.93 136	ePN	Pn	21 51 12.0	+1.0
APE	Apeiranthos	5.93 136	P	Pn	21 51 11.9	+1.0
APE	Apeiranthos	5.93 136	⇑iP	Pn	21 51 12.3	+1.3
APE	Apeiranthos	5.93 136	P	Pn	21 51 11.9	+1.0
AMRR	Amara	5.96 56	⇑P	Pn	21 51 13.0	+1.8
AMRR	Amara	5.96 56	⇑iP	Pn	21 51 13.0	+1.8
AMRR	Amara	5.96 56	⇑iP	Pn	21 51 13.0	+1.8
BALB	Balikesir	5.98 105	eP	Pn	21 51 13.2	+1.7
PKST	T^s	6.02 344	⇑epPn	Pn	21 51 14.6	+2.4
PKST			e		21 52 25.9	
ANKY	Antikythira Is	6.04 157	P	Pn	21 51 14.0	+1.5
ANKY	Antikythira Is	6.04 157	ePN	Pn	21 51 14.2	+1.7
ANKY			eSN	Sn	21 52 23.7	+1.9
ANKY	Antikythira Is	6.04 157	P	Pn	21 51 14.0	+1.5
ANKY	Antikythira Is	6.04 157	P	Pn	21 51 14.0	+1.5
ELBA	Catalca	6.05 91	iP	Pn	21 51 15.8	+3.3
CSKK	Cs^‡kako	6.08 346	epPn	Pn	21 51 16.3	+3.4
CSKK			eSdiff	Sn	21 52 29.7	+7.1
BUD	Budapest	6.08 351	⇑epPn	Pn	21 51 14.5	+1.6
BUD			e		21 52 26.6	
PKSG		6.08 347	⇑epPn	Pn	21 51 15.1	+2.1
PKSG			eSn	Sn	21 52 24.9	+2.2
CTKS	Kestanelik-??a	6.09 90	eP	Pn	21 51 13.2	+0.1
IZM	Izmir	6.10 118	eP	Pn	21 51 15.2	+2.0
KCTX	Karacabey (Bur	6.14 99	eP	Pn	21 51 18.5	+4.7
GRER		6.16 49	⇓iP	Pn	21 51 16.2	+2.1
SKDS	Skadanscina	6.17 313	ePn	Pn	21 51 14.2	-0.2
SKDS			eSn	Sn	21 52 26.4	+1.3
SKDS						
	comp=Z,47μm,5.1s					
SKDS	Skadanscina	6.17 313	ePn	Pn	21 51 14.1	-0.2
SKDS			eSn	Sn	21 52 26.4	+1.3
	comp=Z,47μm,5.1s					
VNDS	Vrh nad Dolski	6.20 320	iPn	Pn	21 51 15.4	+0.8
SMG	Samos	6.23 125	P	Pn	21 51 15.7	+0.7
SMG	Samos	6.23 125	ePN	Pn	21 51 16.8	+1.8
SMG	Samos	6.23 125	P	Pn	21 51 15.7	+0.7
SMG	Samos	6.23 125	P	Pn	21 51 15.7	+0.7
AKS	Akhisar	6.23 112	eP	Pn	21 51 17.5	+2.5

VAM	**Vamos**	**6.75 153**	*e*PN	**Pn**	**21 51 22.1**	**-0.1**
VAM	**Vamos**	**6.75 153**	P	**Pn**	**21 51 22.5**	**+0.3**
VAM	**Vamos**	**6.75 153**	P	**Pn**	**21 51 22.5**	**+0.3**
CADS	**Cadrg**	**6.77 317**	*e*Sn	**Sn**	**21 52 42.8**	**+3.2**
SOP	**Sopron**	**6.78 337**⇑	*e*pPn	**Pn**	**21 51 24.1**	**+1.5**
SOP			*e*S	**Sn**	**21 52 44.5**	**+4.5**
GHRR		**6.82 46**⇓	*i*P	**Pn**	**21 51 24.2**	**+1.1**
GHRR		**6.82 46**⇓	*i*P	**Pn**	**21 51 24.2**	**+1.1**
YLV	**Yalova**	**6.84 95**	*e*P	Pn	21 51 29.8	+6.4
AYDN	**Tasoluk**	**6.91 121**	*i*P	**Pn**	**21 51 26.3**	**+1.8**
AYDN	**Tasoluk**	**6.91 121**	*i*P	**Pn**	**21 51 26.3**	**+1.8**
MANT	**Manisa**	**6.93 113**	*i*P	**Pn**	**21 51 25.7**	**+0.9**
MANT	**Manisa**	**6.93 113**	*i*P	**Pn**	**21 51 25.7**	**+0.9**
BODT	**Bodrum**	**6.93 127**	*e*P	**Pn**	**21 51 27.5**	**+2.8**
BODT	**Bodrum**	**6.93 127**	*e*P	**Pn**	**21 51 27.5**	**+2.8**
SILT	**Sile**	**6.96 90**	*e*P	Pn	21 51 30.9	+6.0
KULA	**Kula-Manisa**	**6.99 112**	*e*P	**Pn**	**21 51 27.4**	**+1.9**
KULA	**Kula-Manisa**	**6.99 112**	*e*P	**Pn**	**21 51 27.4**	**+1.9**
KECS	**Kecovo**	**7.00 0**	*e*P	**Pn**	**21 51 26.3**	**+0.7**
KECS			*e*		21 52 47.7	
KECS	**Kecovo**	**7.00 0**	*e*PN	**Pn**	**21 51 26.3**	**+0.7**
KECS			*e*SN	**Sn**	**21 52 47.7**	**+2.4**
BDRM	**Kayabasi**	**7.01 127**	*i*P	Pn	21 51 29.0	+3.2
HRT	**Hereke**	**7.02 92**	*e*P	**Pn**	**21 51 25.6**	**-0.2**
HRT	**Hereke**	**7.02 92**	*e*P	**Pn**	**21 51 25.6**	**-0.2**
BURAR	**Bucovina Array**	**7.03 28**⇑	P	**Pn**	**21 51 27.4**	**+1.4**
BURAR	**Bucovina Array**	**7.03 28**⇑	*i*P	**Pn**	**21 51 27.4**	**+1.4**
BURAR	**Bucovina Array**	**7.03 28**⇑	*i*P	**Pn**	**21 51 27.4**	**+1.4**
BUR08	**Bucovina Ar. S**	**7.04 27**	*e*Pn	**Pn**	**21 51 27.5**	**+1.2**
BUR08			*e*Sg	**Sg**	**21 53 29.9**	**+1.1**
BUR08	**Bucovina Ar. S**	**7.04 27**	*e*Pn	**Pn**	**21 51 27.5**	**+1.2**
BUR08			*e*Sg	**Sg**	**21 53 29.9**	**+1.1**
MLSB	**Milas**	**7.07 124**	*e*P	**Pn**	**21 51 25.6**	**-1.0**
MLSB	**Milas**	**7.07 124**	*e*P	**Pn**	**21 51 25.6**	**-1.0**
MYKA	**Terra Mystica**	**7.09 319**⇑	*i*Pn	**Pn**	**21 51 27.9**	**+1.0**
	SNR=59					
MYKA			⇑*i*Sn	**Sn**	**21 52 48.2**	**+0.6**
MYKA	**Terra Mystica**	**7.09 319**	Pn	**Pn**	**21 51 27.9**	**+1.0**
	SNR=59					
MYKA			Sn	**Sn**	**21 52 48.2**	**+0.6**
VYHS	**Vyhne**	**7.10 351**	*e*P	**Pn**	**21 51 27.9**	**+0.9**
VYHS			*e*		21 52 45.7	
VYHS	**Vyhne**	**7.10 351**	*e*PN	**Pn**	**21 51 27.8**	**+0.8**
VYHS			*e*SN	**Sn**	**21 52 45.7**	**-2.1**
IDI	**Anoyia**	**7.11 149**	P	**Pn**	**21 51 26.2**	**-1.0**
IDI	**Anoyia**	**7.11 149**	*e*PN	**Pn**	**21 51 26.3**	**-1.0**
IDI	**Anoyia**	**7.11 149**	*e*Pn	**Pn**	**21 51 26.6**	**-0.6**
IDI			*e*Sn	**Sn**	**21 52 47.5**	**-0.8**
IDI	**Anoyia**	**7.11 149**	Pn	**Pn**	**21 51 26.1**	**-1.0**
	comp=Z,3.1nm,0.3s,baz=303,slow=12,SNR=27					
IDI			Sn	**Sn**	**21 52 46.5**	**-1.7**
	comp=Z,11nm,0.3s,baz=99,slow=20,SNR=3.8					
IDI			LR	LR	21 54 23.9	
	comp=Z,13μm,18.7s,baz=333,slow=40					
IDI	**Anoyia**	**7.11 149**	P	**Pn**	**21 51 26.2**	**-1.0**
IDI	**Anoyia**	**7.11 149**	*e*Pn	**Pn**	**21 51 26.6**	**-0.6**
IDI			*e*Sn	**Sn**	**21 52 47.5**	**-0.8**
ZST	**Bratislava**	**7.11 342**	*e*P	**Pn**	**21 51 28.9**	**+1.8**
ZST			*e*		21 52 48.6	
ZST	**Bratislava**	**7.11 342**	*e*PN	**Pn**	**21 51 28.9**	**+1.8**
ZST			*e*SN	**Sn**	**21 52 48.5**	**+0.4**
ADVT	**Abdulvahap**	**7.14 95**	*e*P	**Pn**	**21 51 30.1**	**+2.6**
ADVT	**Abdulvahap**	**7.14 95**	*e*P	**Pn**	**21 51 30.1**	**+2.6**
TLCR		**7.16 56**⇓	P	**Pn**	**21 51 29.4**	**+1.7**
TLCR		**7.16 56**⇓	*i*P	**Pn**	**21 51 29.4**	**+1.7**
TLCR		**7.16 56**⇓	*i*P	**Pn**	**21 51 29.4**	**+1.7**
CONA	**Conrad Observa**	**7.21 335**⇑	*i*Pn	**Pn**	**21 51 29.4**	**+0.8**
	SNR=93					
CONA			⇓*i*Sn	**Sn**	**21 52 52.2**	**+1.5**
CONA	**Conrad Observa**	**7.21 335**	Pn	**Pn**	**21 51 29.4**	**+0.8**
	SNR=93					
CONA			Sn	**Sn**	**21 52 52.2**	**+1.5**
GVD	**Gavdhos**	**7.24 155**	*e*Pn	**Pn**	**21 51 29.2**	**+0.4**
	comp=Z,255nm,0.5s					
GVD			*e*Sn	**Sn**	**21 52 51.0**	**-0.2**
GVD	**Gavdhos**	**7.24 155**	*e*Pn	**Pn**	**21 51 29.2**	**+0.4**
	comp=Z,255nm,0.5s					
GVD			*e*Sn	**Sn**	**21 52 51.0**	**-0.2**
CAVI	**Cavuskoy**	**7.26 97**	*e*P	Pn	21 51 33.6	+4.4
UZH	**Uzhgorod**	**7.27 10**	*e*P	**Pn**	**21 51 28.4**	**-0.9**
UZH			*e*S	**Sn**	**21 52 49.2**	**-2.8**
UZH			MLR	MLR		
	comp=N,8μm,9.0s					
UZH			MLR	MLR		
	comp=E,9μm,9.0s					
UZH			MLR	MLR		
	comp=Z,6μm,9.0s					
SIVA	**Sivas**	**7.32 150**	P	**Pn**	**21 51 31.4**	**+1.4**
SIVA	**Sivas**	**7.32 150**	P	**Pn**	**21 51 31.4**	**+1.4**
SIVA	**Sivas**	**7.32 150**	P	**Pn**	**21 51 31.4**	**+1.4**
GDZ	**Gediz**	**7.33 106**	*i*P	**Pn**	**21 51 29.7**	**-0.6**
GDZ	**Gediz**	**7.33 106**	*i*P	**Pn**	**21 51 29.7**	**-0.6**
SMOL	**Smolenice**	**7.34 344**	*e*P	**Pn**	**21 51 32.1**	**+1.8**
SMOL			*e*		21 52 54.5	
SMOL	**Smolenice**	**7.34 344**	*e*PN	**Pn**	**21 51 32.1**	**+1.8**
SMOL			*e*SN	**Sn**	**21 52 54.5**	**+0.8**
CRVS	**Cervenica-Dubn**	**7.46 5**	*e*P	**Pn**	**21 51 32.5**	**+0.7**
CRVS			*e*		21 53 02.0	
CRVS	**Cervenica-Dubn**	**7.46 5**	*e*PN	**Pn**	**21 51 32.5**	**+0.7**
CRVS			*e*SN	**Sn**	**21 53 02.0**	**+5.4**
LAST	**Lasithi**	**7.46 146**	P	**Pn**	**21 51 31.0**	**-1.0**
LAST	**Lasithi**	**7.46 146**	*e*PN	**Pn**	**21 51 30.9**	**-1.0**
LAST	**Lasithi**	**7.46 146**	P	**Pn**	**21 51 31.0**	**-1.0**
LAST	**Lasithi**	**7.46 146**	P	**Pn**	**21 51 31.0**	**-1.0**
YER	**Yerkesik**	**7.49 123**	*e*P	**Pn**	**21 51 34.9**	**+2.6**
YER	**Yerkesik**	**7.49 123**	*e*P	**Pn**	**21 51 34.9**	**+2.6**
LEOM	**Leova**	**7.54 46**⇓	P	**Pn**	**21 51 33.7**	**+0.8**
LEOM	**Leova**	**7.54 46**⇓	*i*P	**Pn**	**21 51 33.7**	**+0.8**
LEOM	**Leova**	**7.54 46**⇓	*i*P	**Pn**	**21 51 33.7**	**+0.8**
KBA	**Koelnbreinsper**	**7.55 320**	*e*Pn	**Pn**	**21 51 34.3**	**+1.0**
KBA	**Koelnbreinsper**	**7.55 320**⇑	*i*Pn	**Pn**	**21 51 34.0**	**+0.7**
	SNR=161					
KBA			⇑*i*Sn	**Sn**	**21 52 58.5**	**-0.6**
KBA	**Koelnbreinsper**	**7.55 320**	Pn	**Pn**	**21 51 34.0**	**+0.7**
	SNR=161					
KBA			Sn	**Sn**	**21 52 58.5**	**-0.6**
KOLS	**Kolonicke sedl**	**7.57 9**	*e*P	**Pn**	**21 51 34.3**	**+1.0**
KOLS	**Kolonicke sedl**	**7.57 9**	*e*PN	**Pn**	**21 51 34.3**	**+1.0**
DENT	**Denizli**	**7.62 116**	*e*P	**Pn**	**21 51 35.9**	**+1.7**
DENT	**Denizli**	**7.62 116**	*e*P	**Pn**	**21 51 35.9**	**+1.7**
DNZL	**Cakiroluk**	**7.67 117**	*i*P	**Pn**	**21 51 35.5**	**+0.6**
DNZL	**Cakiroluk**	**7.67 117**	*i*P	**Pn**	**21 51 35.5**	**+0.6**
IAS	**Iasi**	**7.67 39**⇓	P	**Pn**	**21 51 34.7**	**0.0**
IAS	**Iasi**	**7.67 39**⇓	*i*P	**Pn**	**21 51 34.7**	**0.0**
IAS	**Iasi**	**7.67 39**⇓	*i*P	**Pn**	**21 51 34.7**	**0.0**
KHL	**Karahalli**	**7.68 111**	*e*P	**Pn**	**21 51 36.6**	**+1.7**
KHL	**Karahalli**	**7.68 111**	*e*P	**Pn**	**21 51 36.7**	**+1.7**
GULT	**Gulveren**	**7.72 94**	*e*P	Pn	21 51 41.6	+6.1
MOA	**Molln**	**7.73 328**	*e*Pn	**Pn**	**21 51 38.0**	**+2.4**
MOA			*e*Sn	**Sn**	**21 53 07.6**	**+4.4**
MOA	**Molln**	**7.73 328**⇑	*i*Pn	**Pn**	**21 51 36.4**	**+0.8**
	SNR=99					
MOA			⇓*i*Sn	**Sn**	**21 53 03.7**	**+0.5**
MOA	**Molln**	**7.73 328**	Pn	**Pn**	**21 51 36.4**	**+0.8**
	SNR=99					
MOA			Sn	**Sn**	**21 53 03.7**	**+0.5**
ABTA	**Abfaltersbach**	**7.75 315**⇑	*i*Pn	**Pn**	**21 51 36.4**	**+0.5**
	SNR=89					
ABTA			⇓*i*Sn	**Sn**	**21 53 05.0**	**+1.2**
ABTA	**Abfaltersbach**	**7.75 315**	Pn	**Pn**	**21 51 36.4**	**+0.5**
	SNR=89					
ABTA			Sn	**Sn**	**21 53 05.0**	**+1.2**
BORA	**Eskisehir**	**7.80 99**	*i*P	**Pg**	**21 52 12.4**	**+0.4**
VLC	**Villacollemand**	**7.84 293**	*e*Pn	**Pn**	**21 51 37.5**	**+0.4**
VLC			*e*Sn	**Sn**	**21 53 02.2**	**-3.9**
VLC	**Villacollemand**	**7.84 293**	*e*Pn	**Pn**	**21 51 37.5**	**+0.4**
VLC			*e*Sn	**Sn**	**21 53 02.2**	**-3.9**
TURN	**Turunc**	**7.85 123**	*i*P	**Pn**	**21 51 37.2**	**0.0**
TURN	**Turunc**	**7.85 123**	*i*P	**Pn**	**21 51 37.2**	**0.0**
DALY	**Dalyan (Mu¨la**	**7.92 123**	*e*P	Pn	21 51 41.6	+3.5
NIE	**Niedzica**	**7.94 360**	*e*P	Pn	21 51 43.2	+4.7
NIE			*e*		21 53 13.8	
NIE	**Niedzica**	**7.94 360**	*e*P	Pn	21 51 43.2	+4.7
NIE			*e*PP	**PnPn**	**21 51 50.6**	**+4.5**
NIE			*e*Sn	**Sn**	**21 53 13.8**	**+5.4**
KARP	**Karpathos**	**7.94 136**	P	**Pn**	**21 51 40.1**	**+1.6**
KARP	**Karpathos**	**7.94 136**	*e*PN	**Pn**	**21 51 40.1**	**+1.6**
KARP	**Karpathos**	**7.94 136**	P	**Pn**	**21 51 40.1**	**+1.6**
KARP	**Karpathos**	**7.94 136**	P	**Pn**	**21 51 40.1**	**+1.6**
STHS	**Stebnicka Huta**	**7.96 4**	*e*P	**Pn**	**21 51 40.3**	**+1.5**
STHS			*e*		21 53 14.1	
STHS	**Stebnicka Huta**	**7.96 4**	*e*PN	**Pn**	**21 51 40.2**	**+1.5**
STHS			*e*SN	**Sn**	**21 53 14.1**	**+5.2**
ARG	**Arkhangelos**	**7.99 129**	*e*PN	Pn	21 51 42.6	+3.4
KIS	**Kishinev**	**8.17 45**	*e*P	**Pn**	**21 51 43.0**	**+1.4**
KIS			*e*S	**Sn**	**21 53 19.0**	**+4.9**
KIS			LRM	MLR	21 55 18.0	
	comp=Z,17μm,15.0s					
KIS	**Kishinev**	**8.17 45**	*e*P	**Pn**	**21 51 43.0**	**+1.4**
KIS			*e*S	**Sn**	**21 53 19.0**	**+4.9**
KIS			MLR	MLR		
	comp=Z,17μm,12.0s					
KIS			MLR	MLR		
	comp=N,31μm,14.0s					
KIS			MLR	MLR		
	comp=E,12μm,15.0s					
KIS			MLR	MLR		
	comp=Z,17μm,15.0s					
KIS	**Kishinev**	**8.17 45**⇓	*i*P	**Pn**	**21 51 43.4**	**+1.8**
KIS	**Kishinev**	**8.17 45**	*e*P	**Pn**	**21 51 43.0**	**+1.4**
ESKT	**Eskisehir**	**8.19 100**	*e*P	**Pn**	**21 51 43.7**	**+1.6**
ESKT	**Eskisehir**	**8.19 100**	*e*P	**Pn**	**21 51 43.7**	**+1.6**
MDUB	**Mudurnu**	**8.22 94**	*e*P	**Pn**	**21 51 45.1**	**+2.7**
MDUB	**Mudurnu**	**8.22 94**	*e*P	**Pn**	**21 51 45.1**	**+2.7**
GOLH	**Golhisar**	**8.26 118**	*i*P	Pn	21 51 46.8	+3.8
VRAC	**Vranov**	**8.27 342**	Pn	**Pn**	**21 51 44.5**	**+1.4**
VRAC			Sn	**Sn**	**21 53 17.2**	**+0.5**
VRAC	**Vranov**	**8.27 342**	Pn	**Pn**	**21 51 44.5**	**+1.4**
	comp=Z,3.2nm,0.3s,baz=162,slow=12,SNR=56					
VRAC			Sn	**Sn**	**21 53 17.2**	**+0.5**
	comp=Z,4.7nm,0.3s,baz=115,slow=17,SNR=3.0					
VRAC			LR	LR	21 55 07.8	
	comp=Z,12μm,18.7s,baz=164,slow=39					
VRAC	**Vranov**	**8.27 342**	Pn	**Pn**	**21 51 44.5**	**+1.4**
VRAC			Sn	**Sn**	**21 53 17.2**	**+0.5**
RJOB	**Jochberg**	**8.28 322**	*e*Pn	**Pn**	**21 51 45.1**	**+1.9**
KDZE	**Karadeniz Ereo**	**8.29 88**	*e*P	Pg	21 52 26.8	+5.3
FETY	**Fethiye**	**8.30 123**	*e*P	Pn	21 51 48.4	+4.9
KWP	**Kalwaria Pacla**	**8.31 10**	*e*Pn	**Pn**	**21 51 46.0**	**+2.5**
KWP	**Kalwaria Pacla**	**8.31 10**	*e*P	**Pn**	**21 51 45.5**	**+1.9**
KWP			*e*		21 53 13.4	
KWP			pmax	pmax		
	comp=Z,386nm,1.1s					
KWP	**Kalwaria Pacla**	**8.31 10**	*e*Pn	**Pn**	**21 51 45.5**	**+1.9**
	comp=Z,386nm,1.1s					
KWP			*e*Sn	**Sn**	**21 53 13.4**	**-4.1**
KWP	**Kalwaria Pacla**	**8.31 10**⇑	*i*P	**Pn**	**21 51 45.4**	**+1.9**
KWP	**Kalwaria Pacla**	**8.31 10**	*e*P	**Pn**	**21 51 45.8**	**+2.3**
KWP			*e*PP	**PnPn**	**21 51 54.0**	**+2.9**
KWP			*e*Sn	Sn	21 53 27.7	+10
KWP			*e*Sg	Sg	21 54 19.2	+10
KWP	**Kalwaria Pacla**	**8.31 10**⇑	*i*P	**Pn**	**21 51 45.4**	**+1.9**
KWP			*e*Sn	**Sn**	**21 53 13.4**	**-4.1**
OKC	**Ostrava-Krasne**	**8.51 350**	*e*Pn	Pn	21 51 49.6	+3.4
OKC			*e*Sn	**Sn**	**21 53 20.5**	**-1.8**
OKC	**Ostrava-Krasne**	**8.51 350**	*e*P	**Pn**	**21 51 47.3**	**+1.1**
OKC			*e*		21 53 21.5	
OKC			MLR	MLR		
	comp=Z,10μm,10.3s					
OKC	**Ostrava-Krasne**	**8.51 350**	*e*PN	**Pn**	**21 51 47.3**	**+1.1**
OKC			*e*SN	**Sn**	**21 53 21.5**	**-0.8**
OKC			AMS	AMS	21 55 30.0	
	comp=Z,10μm,10.3s					
OKC	**Ostrava-Krasne**	**8.51 350**	Pn	**Pn**	**21 51 47.3**	**+1.1**
OKC			Sn	**Sn**	**21 53 21.5**	**-0.8**
BOLV	**Bolvadin**	**8.53 105**	*i*P	Pn	21 51 52.1	+5.3
MORC	**Moravsky Berou**	**8.54 347**	*e*Pn	**Pn**	**21 51 49.0**	**+2.3**
MORC			*e*Sn	**Sn**	**21 53 24.7**	**+1.6**
MORC	**Moravsky Berou**	**8.54 347**	*e*P	**Pn**	**21 51 48.7**	**+2.0**
MORC			*e*		21 53 25.2	
MORC	**Moravsky Berou**	**8.54 347**	*e*Pn	**Pn**	**21 51 48.7**	**+2.0**
MORC			*e*Sn	**Sn**	**21 53 25.2**	**+2.1**
MORC	**Moravsky Berou**	**8.54 347**	*e*Pn	**Pn**	**21 51 48.7**	**+2.0**
MORC			*e*Sn	**Sn**	**21 53 25.2**	**+2.1**
WTTA	**Wattenberg**	**8.54 316**	*e*Pn	**Pn**	**21 51 47.7**	**+0.9**
WTTA	**Wattenberg**	**8.54 316**⇓	*i*Pn	**Pn**	**21 51 47.4**	**+0.6**
	SNR=120					
WTTA			⇑*i*Sn	**Sn**	**21 53 25.2**	**+1.8**
WTTA	**Wattenberg**	**8.54 316**	Pn	**Pn**	**21 51 47.4**	**+0.6**
	SNR=120					
WTTA			Sn	**Sn**	**21 53 25.2**	**+1.8**
TREC	**Trest**	**8.54 338**	*e*P	**Pn**	**21 51 48.5**	**+1.7**
TREC			*e*		21 53 24.5	
TREC			MLR	MLR		
	comp=Z,35μm,9.2s					
TREC	**Trest**	**8.54 338**	*e*PN	**Pn**	**21 51 48.5**	**+1.7**
TREC			*e*SN	**Sn**	**21 53 24.5**	**+1.2**
TREC			AMS	AMS	21 55 30.0	
	comp=Z,35μm,9.2s					
TREC	**Trest**	**8.54 338**	Pn	**Pn**	**21 51 48.5**	**+1.7**
TREC			Sn	**Sn**	**21 53 24.5**	**+1.2**
PGF	**Pioggiola**	**8.57 281**	*e*Pn	**Pn**	**21 51 46.7**	**-0.5**
PGF	**Pioggiola**	**8.57 281**	*e*P	**Pn**	**21 51 46.7**	**-0.5**
PGF	**Pioggiola**	**8.57 281**	*e*Pn	**Pn**	**21 51 46.7**	**-0.5**
ISP	**Isparta**	**8.61 112**	*e*P	Pn	21 51 51.7	+3.9
ISP	**Isparta**	**8.61 112**	P	**Pn**	**21 51 49.7**	**+1.9**
ISP	**Isparta**	**8.61 112**⇑	P	**Pn**	**21 51 50.1**	**+2.3**
ISP	**Isparta**	**8.61 112**	*e*Pn	**Pn**	**21 51 48.9**	**+1.1**
ISP	**Isparta**	**8.61 112**⇑	*i*P	**Pn**	**21 51 50.1**	**+2.3**
ISP	**Isparta**	**8.61 112**	*e*Pn	**Pn**	**21 51 48.9**	**+1.1**
ISP	**Isparta**	**8.61 112**	P	**Pn**	**21 51 49.7**	**+1.9**
VSL	**Villasalto**	**8.64 260**	*e*Pn	**Pn**	**21 51 47.3**	**-0.8**
	comp=Z,78nm,0.9s					
VSL	**Villasalto**	**8.64 260**	*e*Pn	**Pn**	**21 51 47.3**	**-0.8**
	comp=Z,78nm,0.9s					
SVRH	**Sivrihisar-ESK**	**8.71 100**	*e*P	Pn	21 51 52.2	+3.1
SVRH	**Sivrihisar-ESK**	**8.71 100**	*e*P	Pn	21 51 52.2	+3.1
LVV	**L'vov**	**8.71 16**	*e*P	Pn	21 51 57.0	+8.0
LVV			MLR	MLR		
	comp=Z,3μm,9.0s					
RAC	**Raciborz**	**8.74 351**	*e*P	Pn	21 51 53.0	+3.6
RAC			MLR	MLR		
	comp=Z,4μm,21.3s					
OJC	**Ojcow**	**8.75 357**	*e*Pn	**Pn**	**21 51 52.5**	**+2.9**
OJC			*e*Sn	**Sn**	**21 53 31.0**	**+2.7**
OJC	**Ojcow**	**8.75 357**	*e*P	**Pn**	**21 51 52.2**	**+2.6**
OJC			*e*		21 53 30.7	
OJC	**Ojcow**	**8.75 357**	*e*Pn	**Pn**	**21 51 52.1**	**+2.6**
OJC	**Ojcow**	**8.75 357**	*e*P	**Pn**	**21 51 52.2**	**+2.6**
OJC			*e*Sn	**Sn**	**21 53 30.7**	**+2.4**
OJC	**Ojcow**	**8.75 357**	*e*Pn	**Pn**	**21 51 52.1**	**+2.5**
GEC2	**GERESS Array S**	**8.75 330**	*e*Pn	**Pn**	**21 51 51.4**	**+1.7**
GEC2	**GERESS Array S**	**8.75 330**	*e*P	**Pn**	**21 51 51.4**	**+1.7**
GEC2	**GERESS Array S**	**8.75 330**	*e*Pn	**Pn**	**21 51 50.5**	**+0.8**
GEC2	**GERESS Array S**	**8.75 330**	*e*Pn	**Pn**	**21 51 50.5**	**+0.8**
GERES	**GERESS Array B**	**8.75 330**	Pn	**Pn**	**21 51 51.3**	**+1.7**
GERES			Sn	**Sn**	**21 53 29.7**	**+1.1**
GERES			Lg	Lg	21 54 27.3	
GERES	**GERESS Array B**	**8.75 330**	Pn	**Pn**	**21 51 51.3**	**+1.7**
	comp=Z,5.1nm,0.3s,baz=153,slow=13,SNR=187					
GERES			Sn	**Sn**	**21 53 29.7**	**+1.1**
	comp=Z,5.5nm,0.3s,baz=144,slow=25,SNR=3.2					
GERES			Lg	Lg	21 54 27.3	
	baz=143,slow=25,SNR=1.9					
GERES			LR	LR	21 55 49.2	
	comp=Z,20μm,18.9s,baz=142,slow=42					
GERES	**GERESS Array B**	**8.75 330**	Pn	**Pn**	**21 51 51.3**	**+1.6**
GERES			Sn	**Sn**	**21 53 29.7**	**+1.1**
ELL	**Elmali**	**8.76 120**	*e*P	Pn	21 51 57.6	+7.7
BCK	**Bucak**	**8.83 114**	*e*P	**Pn**	**21 51 53.1**	**+2.3**
BCK	**Bucak**	**8.83 114**	*e*P	**Pn**	**21 51 53.1**	**+2.3**
MOTA	**Moosalm**	**8.87 314**⇑	*i*Pn	**Pn**	**21 51 52.0**	**+0.6**
	SNR=265					
MOTA			⇑*i*Sn	**Sn**	**21 53 32.5**	**+1.0**
MOTA	**Moosalm**	**8.87 314**	Pn	**Pn**	**21 51 52.0**	**+0.6**
	SNR=265					
MOTA			Sn	**Sn**	**21 53 32.5**	**+1.0**
AKAS	**Kas**	**8.88 123**	*i*P	Pn	21 51 54.8	+3.3
FETA	**Feichten**	**8.88 312**⇑	*i*Pn	**Pn**	**21 51 51.8**	**+0.3**
	SNR=45					
FETA			⇑*i*Sn	**Sn**	**21 53 32.5**	**+0.7**
FETA	**Feichten**	**8.88 312**	Pn	**Pn**	**21 51 51.8**	**+0.3**
	SNR=45					
FETA			Sn	**Sn**	**21 53 32.5**	**+0.7**
FUORN	**Ofenpass-Fuorn**	**8.93 309**	*e*Pn	**Pn**	**21 51 53.0**	**+0.7**
FUORN	**Ofenpass-Fuorn**	**8.93 309**	*e*Pn	**Pn**	**21 51 53.0**	**+0.7**
KHC	**Kasperske Hory**	**9.04 330**	*e*Pn	**Pn**	**21 51 55.6**	**+2.1**
KHC	**Kasperske Hory**	**9.04 330**	*e*P	**Pn**	**21 51 55.1**	**+1.6**
KHC			*e*		21 53 37.2	
KHC			MLR	MLR		
	comp=Z,25μm,18.5s					
KHC	**Kasperske Hory**	**9.04 330**	*e*PN	**Pn**	**21 51 55.1**	**+1.6**
KHC			*e*SN	**Sn**	**21 53 37.2**	**+1.8**
KHC			*ex*	x	21 53 50.0	
KHC			AMS	AMS	21 55 40.0	
	comp=Z,25μm,18.5s					
KHC	**Kasperske Hory**	**9.04 330**	*e*Pn	**Pn**	**21 51 55.4**	**+1.9**
KHC			*e*Sn	**Sn**	**21 53 35.1**	**-0.3**
SUTC	**Sutluce-Ispart**	**9.11 113**	*e*P	Pn	21 51 57.8	+3.1
SUTC	**Sutluce-Ispart**	**9.11 113**	*e*P	Pn	21 51 57.8	+3.1
RETA	**Reutte**	**9.14 314**⇓	*i*Pn	**Pn**	**21 51 55.8**	**+0.8**
	SNR=33					
RETA			⇑*i*Sn	**Sn**	**21 53 38.1**	**0.0**
RETA	**Reutte**	**9.14 314**	Pn	**Pn**	**21 51 55.8**	**+0.8**
	SNR=33					
RETA			Sn	**Sn**	**21 53 38.1**	**0.0**
KIZT	**Kizilcal**	**9.15 103**	*e*P	**Pn**	**21 51 57.5**	**+2.3**
KIZT	**Kizilcal**	**9.15 103**	*e*P	**Pn**	**21 51 57.5**	**+2.3**
SAFT	**Safranbolu**	**9.23 87**	*e*P	**Pn**	**21 51 54.6**	**-1.6**
SAFT	**Safranbolu**	**9.23 87**	*e*P	**Pn**	**21 51 54.6**	**-1.6**
DAVOX	**Davos/Dischmat**	**9.24 309**	Pn	**Pn**	**21 51 57.9**	**+1.5**
DAVOX			Sn	**Sn**	**21 53 41.4**	**+0.7**
DAVOX	**Davos/Dischmat**	**9.24 309**	Pn	**Pn**	**21 51 57.9**	**+1.5**
	comp=Z,12nm,0.3s,baz=123,slow=14,SNR=83					
DAVOX			Sn	**Sn**	**21 53 41.4**	**+0.7**
	comp=Z,12nm,0.3s,baz=324,slow=23,SNR=6.7					
DAVOX	**Davos/Dischmat**	**9.24 309**	Pn	**Pn**	**21 51 57.9**	**+1.5**
DAVOX			Sn	**Sn**	**21 53 41.4**	**+0.7**
FUR	**Furstenfeldbru**	**9.31 319**	*e*Pn	**Pn**	**21 51 58.3**	**+1.0**
FUR	**Furstenfeldbru**	**9.31 319**	*e*P	**Pn**	**21 51 58.3**	**+1.0**
DPC	**Dobruska-Polom**	**9.31 344**	*e*Pn	Pn	21 52 01.7	+4.4
DPC	**Dobruska-Polom**	**9.31 344**	*e*P	**Pn**	**21 51 59.7**	**+2.4**
DPC			*e*		21 53 42.9	
DPC	**Dobruska-Polom**	**9.31 344**	*e*PN	**Pn**	**21 51 59.7**	**+2.4**
DPC			*e*SN	**Sn**	**21 53 42.9**	**+0.6**
DPC			AMS	AMS	21 56 00.0	
DPC	**Dobruska-Polom**	**9.31 344**	*e*Pn	**Pn**	**21 51 59.8**	**+2.4**
DPC	**Dobruska-Polom**	**9.31 344**	Pn	**Pn**	**21 51 59.7**	**+2.4**
DPC			Sn	**Sn**	**21 53 42.9**	**+0.6**
WET	**Wettzell**	**9.32 328**	*e*Pn	**Pn**	**21 51 57.9**	**+0.6**
WET	**Wettzell**	**9.32 328**	*e*P	**Pn**	**21 51 57.9**	**+0.6**
TUE	**Stuetta**	**9.41 306**	*e*Pn	**Pn**	**21 51 59.2**	**+0.5**
TUE			*e*Sn	**Sn**	**21 53 39.8**	**-5.0**
TUE	**Stuetta**	**9.41 306**	*e*Pn	**Pn**	**21 51 59.2**	**+0.5**
TUE			*e*Sn	**Sn**	**21 53 39.8**	**-5.0**
PRU	**Pruhonice**	**9.44 336**	*e*Pn	Pn	21 52 02.5	+3.5
PRU	**Pruhonice**	**9.44 336**	*e*P	**Pn**	**21 52 01.8**	**+2.8**
PRU			*e*		21 53 46.8	
PRU			MLR	MLR		
	comp=Z,34μm,9.5s					
PRU	**Pruhonice**	**9.44 336**	*e*PN	**

BRG
comp=E,11µm,9.0s
BRG
comp=Z,30µm,9.9s
BRG Berggiesshubel 10.40 337 *e*Pn **Pn 21 52 15.0 +2.8**
BRG Berggiesshubel 10.40 337 *i* P **Pn 21 52 15.1 +2.8**
BRG S **Sn 21 54 07.0 -1.9**
BRG pmax pmax
comp=Z,98nm,1.5s
BRG MLR MLR
comp=N,22µm,10.7s
BRG MLR MLR
comp=E,11µm,9.0s
BRG MLR MLR
comp=Z,30µm,9.9s
GRF Grafenberg Arr 10.43 325 *e*Pn **Pn 21 52 12.1 -0.5**
GRF Grafenberg Arr 10.43 325 *e*P **Pn 21 52 12.1 -0.5**
GRFO Grafenberg 10.43 325 *e*P **Pn 21 52 11.4 -1.2**
GRFO *e* 21 54 13.9
GRFO Grafenberg 10.43 325 *e*Pn **Pn 21 52 11.4 -1.2**
GRFO *e*Sn **Sn 21 54 13.9 +4.4**
GRFO Grafenberg 10.43 325 *e*Pn **Pn 21 52 11.4 -1.2**
GRFO *e*Sn **Sn 21 54 13.9 +4.4**
LMR La Mourre 10.45 285 *e*Pn **Pn 21 52 12.1 -0.8**
SNR=1.0
LMR *e*Sn Sn 21 54 01.1 -9.0
comp=Z,19nm,0.4s,SNR=1.0
LMR La Mourre 10.45 285 *e*P **Pn 21 52 12.1 -0.8**
LMR *e* 21 54 01.1
LMR La Mourre 10.45 285 *e*Pn **Pn 21 52 12.1 -0.8**
LMR *e*Sn Sn 21 54 01.1 -9.0
MBDF Montbardon 10.49 293 *e*Pn **Pn 21 52 11.2 -2.4**
SNR=1.0
MBDF *e*Sn Sn 21 54 02.2 -9.1
comp=Z,89nm,0.5s
MBDF Montbardon 10.49 293 *e*P **Pn 21 52 11.2 -2.4**
MBDF *e* 21 54 02.2
MBDF Montbardon 10.49 293 *e*Pn **Pn 21 52 11.2 -2.4**
MBDF *e*Sn Sn 21 54 02.2 -9.1
TANN Tannenbergstha 10.50 331 *e*Pn **Pn 21 52 16.2 +2.6**
LJBD Adjabya 10.55 181 *i* P **Pn 21 52 13.3 -0.9**
comp=Z,83nm,1.2s,SNR=34
SPAK Spaichingen-Ko 10.58 313 P **Pn 21 52 13.7 -1.0**
SIM Simferopol' 10.58 66 *e*P **Pn 21 52 15.6 +0.9**
SIM *e*S **Sn 21 54 10.0 -3.4**
SIM pmax pmax
comp=Z,42nm,0.9s
SIM MLR MLR
comp=Z,4µm,13.0s
SULT Sultanhani-AKS 10.60 104 *e*P Pn 21 52 20.9 +5.9
BNI Bardonecchia 10.63 294 *e*P **Pn 21 52 15.3 -0.2**
BNI *e* 21 54 14.5
BNI Bardonecchia 10.63 294 *e*Pn **Pn 21 52 15.3 -0.2**
BNI *e*Sn **Sn 21 54 14.5 -0.3**
BNI Bardonecchia 10.63 294 *e*Pn **Pn 21 52 15.3 -0.2**
BNI *e*Sn **Sn 21 54 14.5 -0.3**
SENIN Lac Senin/Sane 10.64 302 *e*Pn **Pn 21 52 16.2 +0.5**
SENIN Lac Senin/Sane 10.64 302 *e*Pn **Pn 21 52 16.2 +0.5**
GAZI Gazipasa 10.65 116 *i* P **Pn 21 52 16.7 +1.0**
GAZI Gazipasa 10.65 116 *i* P **Pn 21 52 16.7 +1.0**
SLUM 10.69 157 S Sn 21 53 57.1 -19
baz=160
SLUM 10.69 157 P Pn 21 52 12.6 -3.6
SLUM S Sn 21 53 57.1 -19
LPG La Plagne 10.71 297 *e*Pn **Pn 21 52 14.9 -1.7**
SNR=1.0
LPG *e*Sn Sn 21 54 07.0 -10
comp=Z,216nm,0.7s
LPG La Plagne 10.71 297 *e*P **Pn 21 52 14.9 -1.7**
LPG *e* 21 54 07.0
LPG La Plagne 10.71 297 *e*Pn **Pn 21 52 14.9 -1.7**
LPG *e*Sn Sn 21 54 07.0 -10
LPL La Plagne 10.72 297 *e*Pn **Pn 21 52 15.0 -1.8**
SNR=1.0
LPL *e*Sn Sn 21 54 07.8 -9.3
comp=Z,121nm,0.3s
LPL La Plagne 10.72 297 *e*P **Pn 21 52 15.0 -1.8**
LPL *e* 21 54 07.8
LPL La Plagne 10.72 297 *e*Pn **Pn 21 52 15.0 -1.8**
LPL *e*Sn Sn 21 54 07.8 -9.3
STU Stuttgart 10.76 316 *e*Pn **Pn 21 52 17.4 +0.3**
STU Stuttgart 10.76 316 *e*P **Pn 21 52 17.4 +0.3**
STU Stuttgart 10.76 316 *e*Pn **Pn 21 52 16.5 -0.6**
STU Stuttgart 10.76 316 *e*Pn **Pn 21 52 16.5 -0.6**
CDAG Cicekdag 10.78 95 *i* P Pn 21 52 22.0 +4.4
RSL Roselend 10.85 297 P **Pn 21 52 19.0 +0.5**
RSL S **Sn 21 54 16.4 -3.7**
RSL Roselend 10.85 297 P **Pn 21 52 19.0 +0.5**
RSL S **Sn 21 54 16.4 -3.7**
ERMK Ermenek 10.85 112 *i* P Pn 21 52 23.1 +4.5
CORM Corum 10.85 92 *e*P Pn 21 52 25.1 +6.6
FELD Feldberg im Sc 10.90 310 P **Pn 21 52 18.7 -0.4**
OG25 Le Caire 10.90 290 P **Pn 21 52 20.7 +1.5**
OG25 S **Sn 21 54 20.5 -0.9**
OG25 Le Caire 10.90 290 P **Pn 21 52 20.7 +1.5**
OG25 S **Sn 21 54 20.5 -0.9**
BFO Black Forest 10.96 313 Pn **Pn 21 52 19.0 -0.9**
comp=Z,586nm,0.6s,SNR=58
BFO Black Forest 10.96 313 *e*Pn **Pn 21 52 19.2 -0.7**
BFO *e*Sn **Sn 21 54 18.4 -4.2**
BFO Black Forest 10.96 313 *e*P **Pn 21 52 18.2 -1.7**
BFO *e* 21 54 19.4
BFO Black Forest 10.96 313 *e*Pn **Pn 21 52 18.1 -1.7**
BFO *e*Sn **Sn 21 54 19.4 -3.2**
BFO Black Forest 10.96 313 *e*Pn **Pn 21 52 18.1 -1.8**
BFO *e*Sn **Sn 21 54 19.4 -3.2**
MOX Moxa 11.01 329 *e*Pn **Pn 21 52 21.1 +0.6**
MOX Moxa 11.01 329 *e*P **Pn 21 52 21.1 +0.6**
OG01 Vacheresse 11.02 301 P **Pn 21 52 20.0 -0.8**
OG01 S **Sn 21 54 21.4 -2.9**
OG01 Vacheresse 11.02 301 P **Pn 21 52 20.0 -0.8**
OG01 S **Sn 21 54 21.4 -2.9**
GHAR Gharyan 11.03 214 *i* P **Pn 21 52 19.9 -1.0**
comp=Z,104nm,2.6s,SNR=34
KIEV Kiev 11.04 31 *e*P **Pn 21 52 21.8 +0.9**
KIEV *e* 21 54 25.0
KIEV Kiev 11.04 31 *e*Pn **Pn 21 52 21.8 +0.9**
KIEV *e*Sn **Sn 21 54 25.0 +0.4**
KIEV Kiev 11.04 31 *e*Pn **Pn 21 52 21.8 +0.9**
KIEV *e*Sn **Sn 21 54 25.0 +0.4**
AKASG Malin Array Be 11.06 31 P **Pn 21 52 20.6 -0.5**
AKASG pmax pmax
comp=Z,2.0nm,0.3s
AKASG MLR MLR
comp=Z,4µm,18.6s
AKASG Malin Array Be 11.06 31 Pn **Pn 21 52 20.6 -0.5**
AKASG Lg Lg 21 55 27.7
AKASG Malin Array Be 11.06 31 Pn **Pn 21 52 20.6 -0.5**
comp=Z,1.8nm,0.3s,baz=219,slow=11,SNR=16
AKASG Lg Lg 21 55 27.7
baz=217,slow=26,SNR=2.6
AKASG LR LR 21 57 00.2
comp=Z,4µm,18.6s,baz=200,slow=40
AKASG Malin Array Be 11.06 31 Pn **Pn 21 52 20.6 -0.5**
AKASG Lg Lg 21 55 27.7
GDM Grand'Maison 11.06 294 P **Pn 21 52 21.9 +0.6**
GDM S **Sn 21 54 22.6 -2.6**
GDM Grand'Maison 11.06 294 P **Pn 21 52 21.9 +0.6**
GDM S **Sn 21 54 22.6 -2.6**
CLL Collm 11.07 335 *e*Pn **Pn 21 52 23.3 +2.0**
CLL Collm 11.07 335 *i* P Pn 21 52 24.7 +3.4
CLL pmax pmax
comp=Z,125nm,1.6s
CLL Collm 11.07 335 *i* Pmax 21 52 24.7
comp=Z,125nm,1.6s
CLL *e* 21 52 31.0
CLL *e* 21 52 37.0
CLL *e*(S) Sn 21 54 00.0 -25
CLL *e* 21 55 00.0
DIKM Dikmen 11.13 84 *e*P Pn 21 52 26.0 +3.8
ORIF Oris-en-Rattie 11.15 293 *e*Pn **Pn 21 52 20.5 -2.0**
SNR=1.0
ORIF *e*R
comp=Z,20µm,24.2s
ORIF Oris-en-Rattie 11.15 293 *e*P **Pn 21 52 20.5 -2.0**
ORIF Oris-en-Rattie 11.15 293 *e*Pn **Pn 21 52 20.5 -2.0**
SMRF Simiane la Rot 11.20 288 *e*P **Pn 21 52 23.7 +0.6**
SNR=1.0
SMRF Simiane la Rot 11.20 288 *e*P **Pn 21 52 23.7 +0.6**
CMAH Djebel Manchou 11.20 249 P **Pn 21 52 24.6 +1.3**
CMAH Djebel Manchou 11.20 249 P **Pn 21 52 24.6 +1.3**
LIBD Limburg 11.27 311 P **Pn 21 52 23.7 -0.4**

GRN Grenoble 11.32 294 P **Pn 21 52 23.5 -1.3**
GRN Grenoble 11.32 294 P **Pn 21 52 23.5 -1.3**
ABSA Djebel Ababsia 11.34 247 P Pn 21 52 30.6 +5.4
ABSA Djebel Ababsia 11.34 247 P Pn 21 52 30.6 +5.4
LOMF Lomont 11.34 306 P **Pn 21 52 24.1 -1.1**
LOMF Lomont 11.34 306 P **Pn 21 52 24.1 -1.1**
MOF Molkenrain 11.39 308 P **Pn 21 52 25.3 -0.5**
MOF Molkenrain 11.39 308 P **Pn 21 52 25.3 -0.5**
NIG Nigde 11.43 102 *e*P Pn 21 52 34.8 +8.2
OG26 St.-Nazaire-De 11.49 291 P **Pn 21 52 26.4 -0.7**
OG26 St.-Nazaire-De 11.49 291 P **Pn 21 52 26.4 -0.7**
TOD Tromm 11.49 319 P **Pn 21 52 26.5 -0.6**
CABF La Chapelle 11.51 301 *e*Pn **Pn 21 52 25.3 -2.1**
SNR=1.0
CABF *e*Sn Sn 21 54 27.2 -9.0
comp=Z,326nm,1.0s
CABF La Chapelle 11.51 301 *e*P **Pn 21 52 25.3 -2.1**
CABF *e* 21 54 27.2
CABF La Chapelle 11.51 301 *e*Pn **Pn 21 52 25.3 -2.1**
CABF *e*Sn Sn 21 54 27.2 -9.0
HAVZ Havza 11.53 87 *i* P Pn 21 52 32.1 +4.4
HINF Hinteralfeld 11.54 308 *e*Pn **Pn 21 52 26.7 -1.1**
SNR=1.0
HINF Hinteralfeld 11.54 308 *e*P **Pn 21 52 26.7 -1.1**
HINF Hinteralfeld 11.54 308 *e*Pn **Pn 21 52 26.7 -1.1**
WLS Welschbruch 11.55 311 P **Pn 21 52 26.9 -1.1**
WLS Welschbruch 11.55 311 P **Pn 21 52 26.9 -1.1**
ECH Echery 11.56 310 *e*P **Pn 21 52 26.9 -1.2**
ECH *e* 21 54 33.3
ECH pmax pmax
comp=Z,63nm,0.9s
ECH Echery 11.56 310 P **Pn 21 52 26.3 -1.8**
ECH Echery 11.56 310 *e*Pn **Pn 21 52 26.9 -1.2**
comp=Z,63nm,0.9s
ECH *e*Sn **Sn 21 54 33.3 -4.0**
ECH Echery 11.56 310 P **Pn 21 52 26.3 -1.8**
ECH Echery 11.56 310 *e*Pn **Pn 21 52 26.9 -1.2**
comp=Z,63nm,0.9s
ECH *e*Sn **Sn 21 54 33.3 -4.0**
IKL Isikli 11.59 113 *e*P **Pn 21 52 31.4 +2.9**
IKL Isikli 11.59 113 *e*P **Pn 21 52 31.4 +2.9**
CDF Champ du Feu 11.60 311 *e*Pn Pn 21 52 25.1 -3.5
SNR=1.0
CDF *e*Sn Sn 21 54 28.5 -10
comp=Z,232nm,1.0s
CDF Champ du Feu 11.60 311 *e*P Pn 21 52 25.1 -3.5
CDF Champ du Feu 11.60 311 *e*Pn Pn 21 52 25.1 -3.5
CDF *e*Sn Sn 21 54 28.5 -10
LANF Langenberg 11.62 314 P **Pn 21 52 28.6 -0.2**
LANF Langenberg 11.62 314 P **Pn 21 52 28.6 -0.2**
OG35 Corcelles 11.66 298 P **Pn 21 52 27.8 -1.6**
KTD Kalmit 11.67 316 P **Pn 21 52 29.9 +0.3**
LEF Lefka 11.67 119 *e*P Pn 21 52 32.9 +3.2
KVT Kavak 11.77 87 *e*P Pn 21 52 34.4 +3.3
KIZK Mersin 11.79 111 *i* P Pn 21 52 35.9 +4.6
UBBA Unterbreizbach 11.79 326 *e*Pn **Pn 21 52 32.3 +1.2**
CKFL Kef-Lekhel 11.80 249 P Pn 21 52 35.4 +3.8
CKFL Kef-Lekhel 11.80 249 P Pn 21 52 35.4 +3.8
GULE Gulek 11.88 106 *i* P Pn 21 52 38.2 +5.6
RUE Ruedersdorf 11.89 340 *e*Pn **Pn 21 52 32.4 -0.1**
RUE *e*Sn **Sn 21 54 45.0 -0.3**
RUE Ruedersdorf 11.89 340 *e*Pn **Pn 21 52 32.4 -0.1**
RUE *e*Sn **Sn 21 54 45.0 -0.3**
HAU Haudompre 11.93 308 *e*Pn **Pn 21 52 32.2 -0.9**
SNR=1.0
HAU *e*Sn Sn 21 54 34.9 -12
comp=Z,222nm,0.8s
HAU *e*R
comp=Z,7µm,17.5s
HAU Haudompre 11.93 308 *e*P **Pn 21 52 32.2 -0.9**
HAU Haudompre 11.93 308 *e*Pn **Pn 21 52 32.2 -0.9**
HAU *e*Sn Sn 21 54 34.9 -12
VIVF Saint-Julien-l 11.98 292 *e*Pn **Pn 21 52 31.2 -2.6**
SNR=1.0
VIVF *e*Sn Sn 21 54 37.3 -10
comp=Z,32nm,0.6s
VIVF Saint-Julien-l 11.98 292 *e*P **Pn 21 52 31.2 -2.6**
VIVF Saint-Julien-l 11.98 292 *e*Pn **Pn 21 52 31.2 -2.6**
VIVF *e*Sn Sn 21 54 37.3 -10
GKP Gorka Klasztor 11.99 351 *e*P Pn 21 52 37.5 +3.7
GKP *e*S Sn 21 55 05.5 +18
LFK Lefkose 12.01 117 *e*P Pn 21 52 40.2 +5.9
CASM Ain Smara 12.04 249 P **Pn 21 52 35.8 +1.2**
CASM Ain Smara 12.04 249 P **Pn 21 52 35.8 +1.2**
CSS Prodhromos 12.06 118 *e*P **Pn 21 52 33.2 -1.7**
CSS Prodhromos 12.06 118 *e*Pn **Pn 21 52 36.8 +1.9**
CSS Prodhromos 12.06 118 *e*P **Pn 21 52 33.2 -1.7**
CSS Prodhromos 12.06 118 *e*Pn **Pn 21 52 36.8 +1.9**
TNS Taunus Mts 12.07 320 *e*Pn **Pn 21 52 35.8 +0.8**
TNS *e*Sn **Sn 21 54 45.1 -4.7**
TNS Taunus Mts 12.07 320 *e*P **Pn 21 52 35.8 +0.8**
TNS *e* 21 54 45.1
KARA Karaisali 12.09 106 *e*P Pn 21 52 41.9 +6.5
BNN Bunyan 12.10 97 *e*P Pn 21 52 41.1 +5.5
SSB Saint Sauveur 12.15 294 *e*P **Pn 21 52 34.5 -1.7**
SSB *e* 21 54 49.7
SSB pmax pmax
comp=Z,51nm,1.0s
SSB Saint Sauveur 12.15 294 *e*Pn **Pn 21 52 34.5 -1.7**
comp=Z,51nm,1.0s
SSB *e*Sn **Sn 21 54 49.7 -2.2**
SSB Saint Sauveur 12.15 294 *e*Pn **Pn 21 52 34.5 -1.7**
comp=Z,51nm,1.0s
SSB *e*Sn **Sn 21 54 49.7 -2.2**
CTEI Djebel Teioual 12.19 248 P **Pn 21 52 38.6 +1.7**
CTEI Djebel Teioual 12.19 248 P **Pn 21 52 38.6 +1.7**
TOKA Tokat 12.21 90 *i* P Pn 21 52 40.1 +3.1
TOKA Tokat 12.21 90 *i* P Pn 21 52 40.1 +3.1
THEF They Montfort 12.25 308 P **Pn 21 52 37.0 -0.5**
THEF They Montfort 12.25 308 P **Pn 21 52 37.0 -0.5**
ABH Alteburg 12.29 317 P **Pn 21 52 36.4 -1.7**
EREN Erenkoy 12.30 114 *e*P Pn 21 52 41.1 +2.9
EREN Erenkoy 12.30 114 *e*Pn Pn 21 52 41.1 +2.9
DFRA Djebel Bou Aff 12.33 251 P **Pn 21 52 38.2 -0.5**
DFRA Djebel Bou Aff 12.33 251 P **Pn 21 52 38.2 -0.5**
LUJL Ujela 12.36 176 *i* P Pn 21 52 34.0 -5.0
comp=Z,108nm,2.0s,SNR=34
RUP Ruppelstein 12.44 316 P **Pn 21 52 40.3 +0.2**
LASF Ste Croix 12.44 288 *e*Pn **Pn 21 52 37.9 -2.2**
LASF Ste Croix 12.44 288 *e*Pn **Pn 21 52 37.9 -2.2**
PAGF Fort de Pagny 12.56 309 *e*Pn Pn 21 52 37.6 -4.1
PAGF Fort de Pagny 12.56 309 *e*P **Pn 21 52 43.0 +1.3**
baz=133
PAGF Fort de Pagny 12.56 309 *e*P **Pn 21 52 43.0 +1.3**
KOZT Kozan 12.56 104 *e*P Pn 21 52 49.4 +7.6
PINB Pinarbasi 12.56 98 *i* P Pn 21 52 45.5 +3.4
SUW Suwalki 12.67 7 *e*Pn **Pn 21 52 45.9 +2.7**
SUW Suwalki 12.67 7 *e*P **Pn 21 52 45.6 +2.4**
SUW *e* 21 55 05.1
SUW Suwalki 12.67 7 *e*Pn **Pn 21 52 45.6 +2.4**
SUW *e*Sn **Sn 21 55 05.1 +0.7**
SUW Suwalki 12.67 7 *e*P **Pn 21 52 45.3 +2.1**
SUW *e*S Sn 21 55 22.4 +18
SUW Suwalki 12.67 7 *e*Pn **Pn 21 52 45.6 +2.4**
SUW *e*Sn **Sn 21 55 05.1 +0.7**
CEYT Ceyhan 12.70 106 *e*P **Pn 21 52 44.9 +1.3**
CEYT Ceyhan 12.70 106 *e*P **Pn 21 52 44.9 +1.3**
SCER sogukcermik 12.80 92 *i* P **Pn 21 52 47.6 +2.5**
SCER sogukcermik 12.80 92 *i* P **Pn 21 52 47.6 +2.5**
SFTF Sexfontaines 12.80 307 *e*Pn Pn 21 52 40.3 -4.7
baz=122
SFTF Sexfontaines 12.80 307 *e*Pn Pn 21 52 40.3 -4.7
SET Setif 12.83 251 P **Pn 21 52 48.0 +2.4**
SET Setif 12.83 251 P **Pn 21 52 48.0 +2.4**
RSDY Resadiye-TOKAT 12.84 89 *e*P Pn 21 52 49.4 +3.8
CKHR Kef el Ahmar 12.84 250 P **Pn 21 52 48.0 +2.2**
CKHR Kef el Ahmar 12.84 250 P **Pn 21 52 48.0 +2.2**
ANN Anapa 12.87 69 *e*P **Pn 21 52 42.9 -2.9**
ANN *e*S **Sn 21 55 06.5 -2.6**
ANN pmax pmax
comp=Z,72nm,1.4s
ANN MLR MLR
comp=N,4µm,12.0s
ANN MLR MLR
comp=E,1µm,12.0s
ANN MLR MLR
comp=Z,4µm,12.0s
SWA2 12.88 160 P Pn 21 52 42.3 -3.8
baz=162
SWA2 12.88 160 P Pn 21 52 42.3 -3.8
WLF Walferdange 12.90 314 P **Pn 21 52 47.8 +1.5**
comp=Z,38nm,1.5s

WLF Walferdange 12.90 314 *e*Pn **Pn 21 52 48.8 +2.5**
WLF Walferdange 12.90 314 *e*P **Pn 21 52 47.5 +1.2**
WLF pmax pmax
comp=Z,54nm,0.9s
WLF Walferdange 12.90 314 *e*Pn **Pn 21 52 47.5 +1.2**
comp=Z,54nm,0.9s
WLF Walferdange 12.90 314 *e*Pn **Pn 21 52 47.5 +1.2**
comp=Z,54nm,0.9s
WLF Walferdange 12.90 314 P **Pn 21 52 47.8 +1.5**
comp=Z,38nm,1.5s
ANDN Andirin 12.90 102 *i* P **Pn 21 52 47.9 +1.4**
ANDN Andirin 12.90 102 *i* P **Pn 21 52 47.9 +1.4**
LJFR Jufra 12.91 198 *i* P **Pn 21 52 46.4 -0.2**
comp=Z,107nm,1.0s,SNR=34
MEZF Maizieres J'vi 12.93 308 *e*Pn Pn 21 52 41.5 -5.2
baz=120,SNR=1.0
MEZF Maizieres J'vi 12.93 308 *e*Pn Pn 21 52 41.5 -5.2
SMF Signal de Mont 12.98 299 *e*Pn **Pn 21 52 44.5 -3.0**
SNR=1.0
SMF *e*Sn Sn 21 55 02.4 -10
comp=Z,119nm,0.7s
SMF Signal de Mont 12.98 299 *e*P **Pn 21 52 44.5 -3.0**
SMF *e* 21 55 02.4
SMF Signal de Mont 12.98 299 *e*Pn **Pn 21 52 44.5 -3.0**
SMF *e*Sn Sn 21 55 02.4 -10
NRDL Niedersach Rie 13.05 331 *e*Pn Pn 21 52 52.0 +3.7
LZLA Zalla 13.11 191 *i* P Pn 21 52 45.9 -3.4
comp=Z,70nm,1.3s,SNR=34
LOR Lormes 13.17 302 *e*Pn **Pn 21 52 47.6 -2.5**
baz=112,SNR=1.0
LOR *e*Sn Sn 21 55 06.6 -10
comp=Z,58nm,0.5s
LOR *e*R
comp=Z,7µm,22.6s
LOR Lormes 13.17 302 *e*Pn **Pn 21 52 47.6 -2.5**
LOR *e*Sn Sn 21 55 06.6 -10
AYKD Aykdinkavak 13.30 102 *i* P **Pn 21 52 51.9 0.0**
SSF Saint Saulge 13.33 300 *e*Pn **Pn 21 52 49.7 -2.5**
SNR=1.0
SSF Saint Saulge 13.33 300 *e*P **Pn 21 52 49.7 -2.5**
SSF Saint Saulge 13.33 300 *e*Pn **Pn 21 52 49.7 -2.5**
KMRS Kahramanmaras 13.34 102 *e*P Pn 21 52 56.8 +4.5
AVF Avril sur Loir 13.35 299 *e*Pn Pn 21 52 49.1 -3.3
SNR=1.0
AVF Avril sur Loir 13.35 299 *e*P Pn 21 52 49.1 -3.3
AVF Avril sur Loir 13.35 299 *e*Pn Pn 21 52 49.1 -3.3
HTY Hatay 13.38 108 *e*P Pn 21 52 56.2 +3.3
YAYL Yayladag 13.39 109 *i* P P 21 52 58.3 -4.6
DARE Darende-Malaty 13.40 97 *e*P P 21 52 59.1 -3.9
MEM Membach 13.52 317 P **Pn 21 52 56.1 +1.2**
comp=Z,52nm,1.4s
MEM Membach 13.52 317 *e*P **Pn 21 52 56.2 +1.4**
MEM Membach 13.52 317 *e*Pn **Pn 21 52 56.2 +1.4**
MEM Membach 13.52 317 P **Pn 21 52 56.0 +1.2**
comp=Z,52nm,1.4s
DRWC Darouich 13.53 106 *e*P **P 21 53 04.2 -0.1**
DRWC Darouich 13.53 106 *e*P **P 21 53 04.2 -0.1**
SNR=45
SUSE Susehri 13.53 90 *i* P **P 21 53 01.5 -2.9**
MTLF Montolieu 13.57 284 *e*Pn Pn 21 52 51.8 -3.8
SNR=1.0
MTLF Montolieu 13.57 284 *e*P Pn 21 52 51.8 -3.8
MTLF Montolieu 13.57 284 *e*Pn Pn 21 52 51.8 -3.8
BGF Bois d'Agland 13.62 298 *e*Pn **Pn 21 52 53.2 -2.9**
SNR=1.0
BGF *e*Sn Sn 21 55 16.7 -11
comp=Z,85nm,0.6s
BGF Bois d'Agland 13.62 298 *e*P **Pn 21 52 53.2 -2.9**
BGF Bois d'Agland 13.62 298 *e*Pn **Pn 21 52 53.2 -2.9**
BGF *e*Sn Sn 21 55 16.7 -11
KUZU Kuzuini 13.76 105 *i* P **Pn 21 52 59.4 +1.3**
KUZU Kuzuini 13.76 105 *i* P **Pn 21 52 59.4 +1.3**
BCLA Clavier 13.78 316 P **Pn 21 52 58.9 +0.7**
comp=Z,34nm,2.0s
BEBN Eben Emael 13.80 317 P **Pn 21 53 01.0 +2.4**
comp=Z,17nm,1.0s
ESPY Espiye-Giresun 13.81 86 *e*P P 21 53 04.2 -3.1
ESPY Espiye-Giresun 13.81 86 *e*P P 21 53 04.2 -3.1
CAF Calviac 13.82 291 *e*P **Pn 21 53 00.5 +1.6**
SNR=1.0
CAF Calviac 13.82 291 *e*P **Pn 21 53 00.5 +1.6**
CAF Calviac 13.82 291 *e*P **Pn 21 53 00.5 +1.6**
GIVF Givet 13.86 314 *e*Pn **Pn 21 52 57.8 -1.6**
GIVF Givet 13.86 314 *e*P **Pn 21 52 57.8 -1.6**
GIVF Givet 13.86 314 *e*Pn **Pn 21 52 57.8 -1.6**
WRDH Warideh 13.87 110 *e*P **Pn 21 53 00.5 +0.8**
WRDH Warideh 13.87 110 *e*P **Pn 21 53 00.5 +0.8**
SNR=45
MNK Minsk 13.93 18|| *e*P Pn 21 52 55.0 -5.3
MNK pmax pmax
comp=N,380nm,1.0s
MNK pmax pmax
comp=Z,290nm,1.0s
MNK MLR MLR
comp=N,10µm,8.0s
MNK MLR MLR
comp=Z,7µm,8.0s
MICGM Minsk 13.94 18|| *e*P Pn 21 52 55.0 -5.5
HYF Humbligny 13.96 300 *e*Pn **Pn 21 53 00.2 -0.6**
HYF Humbligny 13.96 300 *e*Pn **Pn 21 53 00.2 -0.6**
KEMA Kemaliye 13.96 93 *i* P **Pn 21 53 02.6 +1.6**
ILIC ilic-Erzincan 13.97 92 *e*P **P 21 53 07.3 -2.0**
ILIC ilic-Erzincan 13.97 92 *e*P **P 21 53 07.3 -2.0**
TCF Toulx Ste Croi 13.97 296 *e*Pn **Pn 21 52 58.0 -3.0**
SNR=1.0
TCF Toulx Ste Croi 13.97 296 *e*P **Pn 21 52 58.0 -3.0**
TCF Toulx Ste Croi 13.97 296 *e*Pn **Pn 21 52 58.0 -3.0**
DOU Dourbes 13.98 313 P **Pn 21 53 02.2 +1.2**
comp=Z,39nm,2.0s
BIDA Albida 14.06 112 *e*P **Pn 21 53 03.9 +1.5**
BIDA Albida 14.06 112 *e*P **Pn 21 53 03.9 +1.5**
SNR=45
NACGM Naroch 14.07 15 *e*P **Pn 21 53 01.0 -1.3**
BSD Bornholm Skovb 14.12 347 *i* P **Pn 21 53 02.8 -0.1**
BSD *e*S **Sn 21 55 42.2 +2.6**
BSD pmax pmax
comp=Z,52nm,0.9s
BSD MLR MLR
comp=Z,4µm,14.0s
BSD Bornholm Skovb 14.12 347 *i* P **Pn 21 53 02.8 -0.1**
comp=Z,52nm,0.9s
BSD *e*S **Sn 21 55 42.2 +2.6**
BSD
comp=Z,5µm,13.0s
BAIF Baives 14.17 313 *e*P **Pn 21 53 05.6 +1.9**
SNR=1.0
BAIF Baives 14.17 313 *e*P **Pn 21 53 05.6 +1.9**
BAIF Baives 14.17 313 *e*P **Pn 21 53 05.6 +1.9**
BSEG Bad Segeberg 14.17 335 *e*Pn **Pn 21 53 05.7 +2.1**
BSEG Bad Segeberg 14.17 335 *e*P **Pn 21 53 05.7 +2.1**
MALT Malatya 14.19 97 *e*P **P 21 53 09.8 -1.9**
MALT Malatya 14.19 97|| *i*P **P 21 53 13.7 +2.0**
MALT Malatya 14.19 97 *e*P **P 21 53 09.8 -1.9**
RJF Les Rejaudoux 14.26 292 *e*Pn **Pn 21 53 02.8 -2.1**
SNR=1.0
RJF *e*R
comp=Z,8µm,21.0s
RJF Les Rejaudoux 14.26 292 *e*P **Pn 21 53 02.8 -2.1**
RJF Les Rejaudoux 14.26 292 *e*Pn **Pn 21 53 02.8 -2.1**
KELT Kelkit 14.33 89 *i* P **P 21 53 11.1 -2.3**
SNF Seneffe 14.37 314 P **Pn 21 53 07.7 +1.4**
HAWK Haweek 14.39 114 *e*P **Pn 21 53 05.0 -1.8**
HAWK Haweek 14.39 114 *e*P **Pn 21 53 05.0 -1.8**
SNR=45
SOC Sochi 14.39 75 *e*P **Pn 21 53 08.0 +1.3**
SOC *e* 21 55 43.9
SOC pmax pmax
comp=Z,14nm,0.8s
SOC MLR MLR
comp=Z,3µm,13.0s
SOC MLR MLR
comp=N,2µm,13.0s
SOC MLR MLR
comp=E,1µm,12.0s
MLS Moulis 14.39 282 P **Pn 21 53 06.1 -0.7**
MLS Moulis 14.39 282 P **Pn 21 53 06.1 -0.7**
GUMT Gumushane 14.44 88 *e*P **P 21 53 14.8 +0.3**
GUMT Gumushane 14.44 88 *e*P **P 21 53 14.8 +0.3**
LGHD Ghdames 14.48 221 *i* P **Pn 21 53 09.1 +1.0**
comp=E,286nm,1.7s,SNR=45
EZC Erzincan 14.49 91 *e*P **P 21 53 15.6 +0.5**
KTUT Trabzon 14.57 86 *e*P **P 21 53 13.3 -2.5**
MACK Trabzon 14.58 86 *i* P **Pn 21 53 10.7 +1.3**
EMHD Djebel Mahouad 14.59 254 P **P 21 53 14.0 -2.1**

EMHD	Djebel Mahouad	14.59 254	P	P	21 53 14.0	-2.1
MMAI	Mount Meron Ar	14.61 121	Pn	Pn	21 53 09.2	-0.6
MMAI			Sn	Sn	21 55 46.8	-5.2
MMAI	Mount Meron Ar	14.61 121	Pn	Pn	21 53 09.2	-0.6
	comp=E,1.4nm,0.3s,baz=310,slow=12,SNR=14					
MMAI			Sn	Sn	21 55 46.8	-5.2
	comp=E,0.1nm,0.3s,baz=306,slow=27,SNR=2.1					
MMAI			LR	LR	21 59 38.9	
	comp=E,7μm,21.4s,baz=305,slow=41					
MMAI	Mount Meron Ar	14.61 121	Pn	Pn	21 53 09.2	-0.6
MMAI			Sn	Sn	21 55 46.8	-5.2
MARH	Ras Al Marh	14.72 115	eP	P	21 53 18.1	+0.3
MARH	Ras Al Marh	14.72 115	eP	P	21 53 18.1	+0.3
	SNR=45					
BRBR	Barbar	14.72 118	eP	Pn	21 53 12.5	+1.0
BRBR	Barbar	14.72 118	eP	Pn	21 53 12.5	+1.0
	SNR=45					
PTK	Pertek	14.74 94	eP	P	21 53 17.8	0.0
PTK	Pertek	14.74 94	eP	P	21 53 17.8	0.0
KOT	Kottamia	14.78 138	P	Pn	21 53 08.1	-4.1
	baz=139					
KOT	Kottamia	14.78 138	P	Pn	21 53 08.1	-4.1
ERZN	Erzincan	14.81 91	eP	P	21 53 15.6	-3.0
QASN	Qassioun	14.87 117	eP	Pn	21 53 11.1	-2.3
QASN	Qassioun	14.87 117	eP	Pn	21 53 11.1	-2.3
	SNR=45					
LLD	Lille Linde	14.88 341	i P	P	21 53 19.3	+0.3
LLD			pmax	pmax		
	comp=Z,88nm,0.9s					
LLD	Lille Linde	14.88 341	i P	P	21 53 19.3	+0.3
	comp=Z,88nm,0.9s					
EPF	Esparros	14.95 283	eP	Pn	21 53 15.1	+0.8
EPF	Esparros	14.95 283	eP	Pn	21 53 15.1	+0.8
EPF	Esparros	14.95 283	eP	Pn	21 53 15.1	+0.8
AMAG	Maghara	14.95 132	P	Pn	21 53 10.2	-4.2
	baz=133					
AMAG	Maghara	14.95 132	P	Pn	21 53 10.2	-4.2
BAYT	Ayd¯–ntepe-Bay	14.95 88	eP	P	21 53 20.1	-0.1
BAYT	Ayd¯–ntepe-Bay	14.95 88	eP	P	21 53 20.1	-0.1
RESF	Ens	14.95 282	P	Pn	21 53 14.0	-0.5
RESF	Ens	14.95 282	P	Pn	21 53 14.0	-0.5
RSH		15.00 130	P	Pn	21 53 11.6	-3.5
	baz=131					
RSH		15.00 130	P	Pn	21 53 11.6	-3.5
TOTH	TOTAH	15.07 117	eP	P	21 53 20.3	-1.2
TOTH	TOTAH	15.07 117	eP	P	21 53 20.3	-1.2
	SNR=45					
COP	Copenhagen	15.15 342	⇓i P	P	21 53 20.7	-1.3
COP			MLR	MLR		
	comp=Z,4μm,10.0s					
COP	Copenhagen	15.15 342	⇓i P	P	21 53 20.7	-1.3
COP						
	comp=Z,4μm,10.0s					
VIEF	Viey	15.18 282	P	Pn	21 53 18.7	+1.2
VIEF	Viey	15.18 282	P	Pn	21 53 18.7	+1.2
TCHB	Talchebab	15.20 120	eP	P	21 53 22.1	-0.7
TCHB	Talchebab	15.20 120	eP	P	21 53 22.1	-0.7
	SNR=45					
JHLN	Al Jahlan	15.24 107	eP	P	21 53 21.9	-1.4
JHLN	Al Jahlan	15.24 107	eP	P	21 53 21.9	-1.4
	SNR=45					
BINT	Bingol	15.56 93	eP	P	21 53 29.1	+2.1
EBNR	Beni Rached	15.58 257	P	Pn	21 53 22.0	-0.8
EBNR	Beni Rached	15.58 257	P	Pn	21 53 22.0	-0.8
ETSF	Etsaut	15.61 282	ePn	Pn	21 53 20.0	-3.1
ETSF	Etsaut	15.61 282	eP	Pn	21 53 20.0	-3.1
ETSF	Etsaut	15.61 282	ePn	Pn	21 53 20.0	-3.1
MFF	Saint Martin d	15.63 296	ePn	Pn	21 53 20.8	-2.5
MFF	Saint Martin d	15.63 296	eP	Pn	21 53 20.8	-2.5
MFF	Saint Martin d	15.63 296	ePn	Pn	21 53 20.8	-2.5
SALA	Sala	15.67 119	eP	P	21 53 26.7	-1.6
SALA	Sala	15.67 119	eP	P	21 53 26.7	-1.6
	SNR=45					
BNGB	Bing¶‖	15.68 92	eP	P	21 53 29.1	+0.9
HFRF	Wahat Farafira	15.70 153	P	Pn	21 53 21.5	-2.9
	baz=155					
HFRF	Wahat Farafira	15.70 153	P	Pn	21 53 21.5	-2.9
ATE	Arette	15.71 283	P	Pn	21 53 25.2	+0.8
ECHA	Ech Chlef	15.76 256	P	Pn	21 53 24.0	-1.1
ECHA	Ech Chlef	15.76 256	P	Pn	21 53 24.0	-1.1
BCA	Borcka	15.90 83	eP	P	21 53 29.1	-1.5
BCA	Borcka	15.90 83	eP	P	21 53 29.1	-1.5
LARF	Larrau	15.92 283	P	Pn	21 53 27.5	+0.4
LARF	Larrau	15.92 283	P	Pn	21 53 27.5	+0.4
HNKL	Nakhl	15.92 132	P	Pn	21 53 24.4	-2.8
	baz=133					
HNKL	Nakhl	15.92 132	P	Pn	21 53 24.4	-2.8
ZALF	Zalf	15.94 117	eP	P	21 53 32.4	+1.2
ZALF	Zalf	15.94 117	eP	P	21 53 32.3	+1.2
	SNR=45					
DBOC	Borcka	15.95 83	i P	P	21 53 31.0	-0.1
DBOC	Borcka	15.95 83	i P	P	21 53 31.0	-0.1
EZM	Erzurum	15.97 89	eP	Pn	21 53 27.6	-0.4
MAZI	Mazidag	15.98 98	eP	P	21 53 30.6	-1.0
MAZI	Mazidag	15.98 98	eP	P	21 53 30.6	-1.0
LUMB	Murzuk	16.00 199	i P	P	21 53 30.3	-1.5
	comp=Z,248nm,1.8s,SNR=43					
DBAD	Bademkaya	16.01 85	i P	P	21 53 32.2	+0.3
DBAD	Bademkaya	16.01 85	i P	P	21 53 32.2	+0.3
BNGL	BINGOL	16.04 92	i P	P	21 53 33.9	+1.5
EANR	'Ain N'Sour	16.05 256	P	Pn	21 53 30.0	+1.2
EANR	'Ain N'Sour	16.05 256	P	Pn	21 53 30.0	+1.2
DDEM	Demirkent	16.07 85	i P	P	21 53 33.6	+1.0
DDEM	Demirkent	16.07 85	i P	P	21 53 33.6	+1.0
SJPF	Ste Jean	16.09 283	ePn	Pn	21 53 26.8	-2.5
SJPF	Ste Jean	16.09 283	eP	Pn	21 53 26.8	-2.5
SJPF	Ste Jean	16.09 283	ePn	Pn	21 53 26.8	-2.5
VORD	Divnogorie	16.10 48	eP	Pn	21 53 27.8	-1.5
VORD			pmax	pmax		
	comp=Z,40nm,0.8s					
VORD			pmax	pmax		
	comp=N,40nm,1.0s					
VORD			pmax	pmax		
	comp=E,100nm,1.1s					
VORD			MLR	MLR		
	comp=Z,6μm,9.0s					
VORD			MLR	MLR		
	comp=N,10μm,12.0s					
VORD			MLR	MLR		
	comp=E,3μm,9.0s					
ASF	Jabal al Asfar	16.12 120	Pn	P	21 53 31.4	-1.7
ASF	Jabal al Asfar	16.12 120	Pn	P	21 53 31.4	-1.7
	comp=E,0.2nm,0.3s,baz=236,slow=3.8,SNR=12					
ASF			LR	LR	22 00 46.6	
	comp=E,4μm,20.1s,baz=266,slow=41					
SFNV	Sufian	16.13 102	eP	P	21 53 36.1	+2.9
SFNV	Sufian	16.13 102	eP	P	21 53 36.1	+2.9
	SNR=43					
LDF	La Druitiere	16.14 303	ePn	Pn	21 53 28.3	-1.5
	SNR=1.0					
LDF	La Druitiere	16.14 303	eP	Pn	21 53 28.3	-1.5
LDF	La Druitiere	16.14 303	ePn	Pn	21 53 28.3	-1.5
VSR	Storozhevoye	16.16 47	eP	Pn	21 53 28.7	-1.3
VSR			pmax	pmax		
	comp=Z,40nm,0.9s					
VSR			pmax	pmax		
	comp=N,30nm,0.7s					
VSR			pmax	pmax		
	comp=E,50nm,0.7s					
VSR			MLR	MLR		
	comp=Z,4μm,9.0s					
VSR			MLR	MLR		
	comp=N,6μm,11.0s					
VSR			MLR	MLR		
	comp=E,5μm,11.0s					
ARTV	Artvin	16.16 84	i P	Pn	21 53 30.3	-0.1
DAGI	Agillar	16.17 84	i P	P	21 53 33.4	-0.2
SLIT	Slitere, Latvi	16.21 4	eP	P	21 53 33.9	+0.1
	SNR=145					
VRTB	Varto-Mus	16.21 91	eP	P	21 53 37.6	+3.4
KBSD	Kabsdagh	16.22 99	eP	P	21 53 35.5	+1.4
KBSD	Kabsdagh	16.22 99	eP	P	21 53 35.5	+1.4
	SNR=43					
MARD	Mardin	16.28 98	i P	Pn	21 53 30.3	-1.5
HOMI	Horasan	16.35 88	i P	P	21 53 35.9	+0.1
FLN	La Foliniere	16.41 303	eP	Pn	21 53 33.5	+0.1
	baz=115,SNR=1.0					
FLN			eR			
	comp=E,6μm,18.2s					
FLN	La Foliniere	16.41 303	eP	Pn	21 53 33.5	+0.1
FLN	La Foliniere	16.41 303	eP	Pn	21 53 33.5	+0.1
VOR	Voronezh	16.44 45	P	Pn	21 53 35.0	+1.4
VOR			pmax	pmax		
	comp=Z,250nm,1.0s					
GRR	Gorron	16.54 302	ePn	Pn	21 53 33.8	-1.2
	SNR=1.0					
GRR	Gorron	16.54 302	eP	Pn	21 53 33.8	-1.2
GRR	Gorron	16.54 302	ePn	Pn	21 53 33.8	-1.2
KIV	Kislovodsk	16.55 74	eP	Pn	21 53 34.9	-0.3
KIV			eS	Sn	21 56 38.7	-0.3
KIV			pmax	pmax		
	comp=Z,36nm,1.0s					
KIV			MLR	MLR		
	comp=Z,2μm,14.0s					
MUD	Monsted U'grnd	16.67 338	i P	P	21 53 40.4	+1.5
MUD			eS	S	21 56 50.9	-2.1
MUD			pmax	pmax		
	comp=Z,110nm,1.0s					
MUD	Monsted U'grnd	16.67 338	i P	P	21 53 40.4	+1.5
	comp=Z,109nm,0.9s					
MUD			eS	S	21 56 50.9	-2.1
EIL	Elat	16.67 130	Pn	Pn	21 53 35.2	-1.5
EIL			Sn	Sn	21 56 34.7	-7.3
EIL	Elat	16.67 130	Pn	Pn	21 53 35.2	-1.5
	comp=Z,0.7nm,0.3s,baz=354,slow=6.5,SNR=11					
EIL			Sn	Sn	21 56 34.7	-7.3
	comp=Z,1.0nm,0.3s,baz=356,slow=16,SNR=5.2					
EIL			LR	LR	22 01 38.0	
	comp=Z,2μm,20.0s,baz=303,slow=43					
EIL	Elat	16.67 130	Pn	Pn	21 53 35.2	-1.5
EIL			Sn	Sn	21 56 34.7	-7.3
KBZ	Khabaz	16.70 75	P	P	21 53 41.3	+1.9
KBZ					21 56 52.4	
KBZ	Khabaz	16.70 75	Pn	P	21 53 41.3	+1.9
KBZ			Sn	S	21 56 52.4	-1.5
KBZ	Khabaz	16.70 75	Pn	P	21 53 41.3	+1.9
	comp=Z,0.4nm,0.3s,baz=282,slow=9.2,SNR=26					
KBZ			Sn	S	21 56 52.4	-1.5
	comp=Z,0.1nm,0.3s,baz=256,slow=4.2,SNR=2.7					
KBZ	Khabaz	16.70 75	Pn	P	21 53 41.3	+1.9
KBZ			Sn	S	21 56 52.3	-1.5
MZRK	Al-Mazaregh	16.77 103	eP	P	21 53 40.6	+0.3
MZRK	Al-Mazaregh	16.77 103	eP	P	21 53 40.6	+0.3
	SNR=42					
CART	Cartagena	16.96 264	i S	S	21 56 56.8	-2.5
TATV	Tatvan	17.00 93	i P	P	21 53 47.4	+4.4
HKAT	Jabal Katrina	17.03 135	P	Pn	21 53 40.0	-1.5
	baz=136					
HKAT	Jabal Katrina	17.03 135	P	Pn	21 53 40.0	-1.5
KARS	Kars	17.11 85	eP	P	21 53 46.3	+2.1
KARS	Kars	17.11 85	eP	P	21 53 46.3	+2.1
ONI	Oni	17.15 79	P	P	21 53 46.1	+1.7
ONI			S	S	21 57 10.3	+7.2
TUTA	Tutak	17.17 90	i P	P	21 53 45.3	+0.3
TUTA	Tutak	17.17 90	i P	P	21 53 45.3	+0.3
AGRB	Hanur-Agry	17.27 89	eP	P	21 53 47.7	+1.8
AGRB	Hanur-Agry	17.27 89	eP	P	21 53 47.7	+1.8
AKH	Akhalkalaki	17.30 83	P	P	21 53 49.3	+3.1
AKH			S	S	21 57 03.1	-3.3
OBN	Obninsk	17.30 33	d i P	Pn	21 53 41.6	-2.9
OBN			i S	Sn	21 56 52.4	-4.6
OBN			pmax	pmax		
	comp=Z,161nm,1.1s					
OBN			MLR	MLR		
	comp=Z,2μm,17.0s					
OBN	Obninsk	17.30 33	Pn	Pn	21 53 42.9	-1.6
	comp=Z,710nm,0.9s,SNR=8.3					
LKFR	Kufra	17.43 171	i P	P	21 53 47.0	-0.6
	comp=Z,299nm,1.6s,SNR=41					
SIRN	S¯–rnak	17.43 96	i P	P	21 53 47.4	-0.2
SIRN	S¯–rnak	17.43 96	i P	P	21 53 47.4	-0.2
SIRT	Sirnak	17.45 96	eP	P	21 53 48.6	+0.7
SIRT	Sirnak	17.45 96	eP	P	21 53 48.6	+0.7
VSU	Vasula	17.46 11	⇑i P	P	21 53 47.9	+0.2
VSU			pmax	pmax		
	comp=Z,234nm,1.1s					
VSU			MLR	MLR		
	comp=Z,4μm,14.0s					
VSU	Vasula	17.46 11	eP	P	21 53 48.1	+0.4
	SNR=46					
VSU			eS	Sn	21 56 55.3	-5.5
	SNR=38					
ZEI	Tsey	17.46 78	eP	P	21 53 49.5	+1.4
ZEI			pmax	pmax		
	comp=Z,68nm,1.3s					
VRHR	Novokhopersk	17.47 49	eP	Pn	21 53 46.9	+0.2
VRHR			pmax	pmax		
	comp=Z,60nm,0.8s					
VRHR			pmax	pmax		
	comp=N,50nm,0.9s					
VRHR			pmax	pmax		
	comp=E,80nm,1.0s					
VRHR			MLR	MLR		
	comp=Z,3μm,10.0s					
VRHR			MLR	MLR		
	comp=N,2μm,15.0s					
VRHR			MLR	MLR		
	comp=E,9μm,18.0s					
SGMF	Saint Gilles	17.60 300	ePn	Pn	21 53 44.9	-3.3
	SNR=1.0					
SGMF	Saint Gilles	17.60 300	eP	Pn	21 53 44.9	-3.3
SGMF	Saint Gilles	17.60 300	ePn	Pn	21 53 44.9	-3.3
JSA	Saint Aubin	17.61 304	eS	Sn	21 57 01.7	-2.7
JSA			AMS	AMS	22 00 28.1	
	comp=Z,8μm,10.3s					
GEVA	Gevas	17.65 93	i P	P	21 53 51.7	+1.5
GEVA	Gevas	17.65 93	i P	P	21 53 51.7	+1.5
SKP1	Kophill	17.76 312	eP	Pn	21 53 50.3	+0.1
DYDN	Diyadin	17.80 89	i P	P	21 53 54.9	+3.1
WOL	Wolverton	17.81 311	eP	Pn	21 53 50.8	-0.1
WOL			AMB	AMB	21 53 56.6	
	comp=Z,200nm,2.4s					
WOL			AMS	AMS	22 01 33.8	
	comp=Z,15μm,8.8s					
HHRG	Al Ghardaqah	17.87 139	P	Pn	21 53 51.4	-0.3
	baz=140					
HHRG	Al Ghardaqah	17.87 139	P	Pn	21 53 51.4	-0.3
QUIF	Quistinic	17.92 299	ePn	Pn	21 53 50.1	-2.1
	SNR=1.0					
QUIF	Quistinic	17.92 299	eP	Pn	21 53 50.1	-2.1
QUIF	Quistinic	17.92 299	ePn	Pn	21 53 50.1	-2.1
CLDR	Caldiran	18.07 90	eP	P	21 53 58.3	+3.5
ROSF	Rostrenen	18.08 300	ePn	Pn	21 53 52.3	-1.9
	SNR=1.0					
ROSF	Rostrenen	18.08 300	eP	Pn	21 53 52.3	-1.9
ROSF	Rostrenen	18.08 300	ePn	Pn	21 53 52.3	-1.9
MOS	Moscow	18.17 32	α i P	P	21 53 55.5	0.0
MOS			i S	Sn	21 57 20.2	+2.2
MOS			pmax	pmax		
	comp=Z,118nm,1.4s					
MOS			pmax	pmax		
	comp=Z,600nm,3.0s					
MOS			smax	smax		
	comp=N,1μm,4.7s					
MOS			MLR	MLR		
	comp=Z,2μm,15.0s					
TBLG	Delisi	18.18 81	P	P	21 53 56.7	+0.9
TBLG	Delisi	18.18 81	P	P	21 53 56.7	+0.9
TBLG			S	S	21 57 28.3	+4.1
SWN1	Swindon	18.22 311	eP	P	21 53 56.3	+0.1
SWN1			AMB	AMB	21 54 02.5	
	comp=Z,166nm,1.8s					
SWN1			eS	Sn	21 57 16.7	-2.6
SWN1			AMS	AMS	22 00 05.8	
	comp=Z,8μm,5.6s					
HAKT	HAKKARI	18.38 95	i P	P	21 53 58.2	-0.1
HAKT	HAKKARI	18.38 95	i P	P	21 53 58.2	-0.1
CUKT	Cukurca	18.41 96	eP	P	21 53 59.0	+0.6
CUKT	Cukurca	18.41 96	eP	P	21 53 59.1	+0.6
HOMB	Homborsund	18.43 340	eP	Pn	21 53 59.1	+0.8
HOMB			AMB	AMB	21 54 01.6	
	comp=Z,138nm,1.3s					
HOMB			eS	S	21 57 29.7	+1.0
HOMB			AMS	AMS	22 02 27.0	
	comp=Z,8μm,11.8s					
SSW	Stow on the Wo	18.44 312	eP	Pn	21 53 59.3	+0.7
GNI	Garni	18.45 86	eP	Pn	21 54 02.3	+3.2
GNI	Garni	18.45 86	eP	Pn	21 54 00.5	+1.5
	comp=Z,50nm,0.8s					
GNI			S	S	21 57 31.2	+1.3
GNI	Garni	18.45 86	P	Pn	21 54 02.2	+3.2
	comp=Z,0.9nm,0.3s,baz=293,slow=2.3,SNR=15					
GNI			S	S	21 57 31.2	+1.3
	baz=263,slow=8.1,SNR=1.8					
GNI	Garni	18.45 86	eP	Pn	21 54 00.5	+1.5
	comp=Z,50nm,0.8s					
GNI			S	S	21 57 31.2	+1.3
ESDC	Sonseca Array	18.59 272	P	P	21 53 59.5	-0.9
ESDC	Sonseca Array	18.59 272	P	P	21 53 59.5	-0.9
	comp=Z,0.2nm,0.3s,baz=77,slow=12,SNR=16					
ESDC			LR	LR	22 01 42.0	
	comp=Z,4μm,18.9s,baz=75,slow=39					
ESDC	Sonseca Array	18.59 272	P	P	21 53 59.5	-0.9
ESLA	Sonseca Array	18.59 272	eP	P	21 53 60.0	-0.4
	comp=Z,6.5nm,1.0s					
ESLA	Sonseca Array	18.59 272	eP	P	21 54 00.0	-0.4
	comp=Z,6.5nm,1.0s					
DGRG	David-gareji	18.69 82	P	Pn	21 54 04.8	+3.0
DGRG			S	S	21 57 40.2	+5.6
KBI1	Birley Grange	18.87 316	eP	P	21 54 03.1	-0.2
PAB	San Pablo	18.91 272	eP	Pn	21 54 07.5	+3.0
PAB			pmax	pmax		
	comp=Z,142nm,0.9s					
PAB	San Pablo	18.91 272	ePn	Pn	21 54 07.5	+3.0
	comp=Z,142nm,0.9s					
PAB	San Pablo	18.91 272	ePn	Pn	21 54 07.5	+3.0
	comp=Z,142nm,0.9s					
MEF	Metsahovi	18.92 6	eP	Pn	21 54 05.0	+0.7
	SNR=29					
DYA	Yadsworthy	19.08 306	eP	P	21 54 04.1	-1.5
DYA			AMB	AMB	21 54 12.1	
	comp=Z,112nm,3.3s					
DYA			eS	Sn	21 57 35.6	-4.4
DYA			AMS	AMS	22 01 03.6	
	comp=Z,5μm,9.3s					
MCH1	Michaelchurch	19.10 311	eP	P	21 54 04.2	-1.6
MCH1			AMB	AMB	21 54 08.8	
	comp=Z,202nm,4.5s					
HFS	Hagfors	19.13 350	P	P	21 54 05.6	-0.5
HFS	Hagfors	19.13 350	P	P	21 54 05.6	-0.5
	comp=Z,2.8nm,0.3s,baz=153,slow=10.0,SNR=51					
HFS	Hagfors	19.13 350	P	P	21 54 05.6	-0.5
STNC	Stoke	19.15 315	AMS	AMS	22 00 59.6	
	comp=Z,6μm,10.4s					
HLM1	Long Mynd	19.25 313	eP	P	21 54 08.1	+0.6
HLM1			AMB	AMB	21 54 14.0	
	comp=Z,134nm,2.8s					
HPK	Haverah Park	19.28 318	eP	P	21 54 08.0	+0.2
HPK			AMB	AMB	21 54 14.4	
	comp=Z,178nm,1.4s					
HPK			eS	Sn	21 57 40.3	-4.5
HPK			AMS	AMS	22 03 02.6	
	comp=Z,5μm,14.8s					
MELI	Melilla	19.29 259	i S	Sn	21 57 43.0	-2.3
KONO	Kongsberg	19.39 343	eP	Pn	21 54 11.1	+1.0
KONO			AMB	AMB	21 54 13.8	
	comp=Z,95nm,1.1s					
KONO			eS	Sn	21 57 48.1	+0.6
KONO			AMS	AMS	22 02 40.7	
	comp=Z,5μm,10.4s					
KONO	Kongsberg	19.39 343	eP	P	21 54 08.6	-0.4
KONO			pmax	pmax		
	comp=Z,107nm,1.2s					
KONO	Kongsberg	19.39 343	eP	P	21 54 08.6	-0.4
	comp=Z,106nm,1.2s					
KONO	Kongsberg	19.39 343	eP	P	21 54 08.6	-0.4
	comp=Z,106nm,1.2s					
KONO			eS	Sn	21 57 48.1	+0.6
	SNR=47					
ISHB	Shabestar	19.58 91	eP	P	21 54 11.9	+0.4
RAF	Rauma	19.59 2	eP	P	21 54 11.7	+0.7
	SNR=29					
FOEL	Foel Wylfa	19.59 314	eP	P	21 54 10.8	-0.4
FOEL			eS	S	21 57 49.1	-3.3
FOEL			AMS	AMS	22 02 24.3	
	comp=Z,6μm,24.9s					
LPW	Lampeter	19.75 311	eP	P	21 54 13.0	+0.1
LPW			AMB	AMB	21 54 18.5	
	comp=Z,725nm,1.6s					
LPW			eS	S	21 57 52.0	-3.6
LPW			AMS	AMS	22 02 48.1	
	comp=Z,67μm,11.2s					
CCA1	Carnmenellis	19.80 305	eP	P	21 54 14.1	+0.7
CCA1			AMB	AMB	21 54 20.0	
	comp=Z,126nm,2.7s					
CCA1			eS	S	21 57 52.3	-4.1
CCA1			AMS	AMS	22 02 43.7	
	comp=Z,4μm,7.1s					
BLS5	Blasjo	19.96 339	eP	Pn	21 54 16.2	-0.7
BLS5			IAmb	IAmb	21 54 20.9	
	comp=Z,277nm,1.8s					
BLS5			eS	Sn	21 58 01.6	+0.3
NC602	NORSAR Array S	20.03 347	eP	P	21 54 15.1	-0.8
NC602			eS	Sn	21 58 02.5	-0.4
MAK	Makhachkala	20.09 77	eP	P	21 54 17.2	+0.5
MAK			e		21 54 37.9	
MAK			ePPP	PPP	21 54 45.9	
MAK			eS	Sn	21 58 06.9	+2.4
MAK			eSS	SnSn	21 58 31.8	+13
MAK			eSSS	SSS	21 58 43.1	
MAK			pmax	pmax		
	comp=Z,295nm,1.1s					
MAK			MLR	MLR		
	comp=Z,3μm,13.0s					
KMY	Karmoy	20.13 337	eP	Pn	21 54 18.7	0.0
NAO01	NORSAR Array S	20.25 346	eP	P	21 54 18.0	-0.2
	comp=Z,226nm,1.0s					
NAO01	NORSAR Array S	20.25 346	eP	P	21 54 18.0	-0.2
	comp=Z,226nm,1.0s					
PBRG	Braganca	20.27 280	eP	Pn	21 54 19.9	-0.8
PBRG			A	A	21 54 51.8	
	comp=Z,539nm,17.0s					
PBRG			eS	Sn	21 58 09.1	0.0
FINES	FINESS Array B	20.28 8	P	P	21 54 17.6	-1.0
FINES			S	S	21 58 05.0	-1.0
FINES			PcP	PcP	21 58 30.6	-1.2
FINES	FINESS Array B	20.28 8	P	P	21 54 17.6	-1.0
	comp=Z,33nm,0.9s,baz=179,slow=11,SNR=35					
FINES			S	S	21 58 05.0	-1.0
	comp=Z,5.4nm,0.8s,baz=183,slow=21,SNR=3.0					
FINES			PcP	PcP	21 58 30.6	-1.2
	comp=Z,4.1nm,0.8s,baz=203,slow=1.1,SNR=4.1					
FINES			LR	LR	22 02 36.6	
	comp=Z,2μm,18.6s,baz=190,slow=38					
FINES	FINESS Array B	20.28 8	P	P	21 54 17.6	-1.0
FINES			S	S	21 58 05.0	-1.0
	comp=Z,5.0nm,0.8s					
FIA1	FINESS Array S	20.29 8	eP	P	21 54 17.9	-0.7
FIA1	FINESS Array S	20.29 8	eP	P	21 54 17.9	-0.7
ODD1	Odda	20.34 340	eP	P	21 54 19.8	+0.5
ODD1			AMS	AMS	22 03 28.4	
	comp=Z,9μm,11.8s					
KESW	Keswick, Cumbr	20.35 318	eP	P	21 54 19.2	-0.2
KESW			AMB	AMB	21 54 25.7	
	comp=Z,150nm,1.3s					
KESW			AMS	AMS	22 03 37.9	
	comp=Z,6μm,14.1s					
NB2	NORSAR Subarra	20.37 347	P	P	21 54 19.3	-0.4
	comp=Z,79nm,0.7s,baz=154,slow=11					
NB2	NORSAR Subarra	20.37 347	P	P	21 54 19.3	-0.4
	baz=154,slow=11					
NB2	NORSAR Subarra	20.37 347	P	P	21 54 19.3	-0.4
	comp=Z,79nm,0.7s,SNR=60					
NOA	NORSAR Array B	20.37 347	P	P	21 54 18.9	-0.7
NOA	NORSAR Array B	20.37 347	P	P	21 54 18.9	-0.7
	comp=Z,105nm,1.0s,baz=153,slow=10,SNR=57					
NOA			LR	LR	22 02 21.4	
	comp=Z,2μm,21.9s,baz=170,slow=37					
NOA	NORSAR Array B	20.37 347	P	P	21 54 19.0	-0.7
WLF1	Llynfaes	20.42 314	eP	P	21 54 20.4	+0.3
WLF1			AMB	AMB	21 54 24.6	
	comp=Z,112nm,2.4s					
WLF1			AMS	AMS	22 02 56.9	
	comp=Z,6μm,24.8s					
MVO	Moncorvo	20.59 278	eP	P	21 54 23.0	+0.8
	comp=Z,112nm,1.5s					
MVO			eS	Sn	21 58 17.0	+0.3
IHRS	Heris	20.64 90	eP	Pn	21 54 24.2	-1.1
ECK	Cauldkaine Hil	20.67 320	eP	P	21 54 23.2

ESK	**Eskdalemuir**	**20.78 320**	*e*P	**P**	**21 54 24.7 +0.7**
ESK			pmax	pmax	
	comp=Z,225nm,1.1s				
ESK	**Eskdalemuir**	**20.78 320**	*e*P	**P**	**21 54 24.7 +0.7**
	comp=Z,225nm,1.1s				
ESK	**Eskdalemuir**	**20.78 320**	*e*P	**P**	**21 54 24.7 +0.7**
	comp=Z,225nm,1.1s				
KAF	**Kangasniemi**	**20.96 8**	*e*P	**P**	**21 54 25.3 -0.7**
KAF			pmax	pmax	
	comp=Z,31nm,0.8s				
KAF	**Kangasniemi**	**20.96 8**	*e*p	**P**	**21 54 25.3 -0.7**
	comp=Z,31nm,0.8s				
DKH	**Dar Kharkhour**	**21.00 262**	*i* P	**P**	**21 54 28.0 +1.2**
EGD	**Espegrend**	**21.01 339**	*e*P	**P**	**21 54 25.4 -1.2**
PVRL	**Vila Real**	**21.08 279**	*e*P	**P**	**21 54 29.5 +2.0**
	comp=Z,131nm,1.7s				
BER	**Bergen**	**21.08 339**	*e*P	**P**	**21 54 28.8 +1.6**
BER			IAmb	IAmb	21 54 30.9
	comp=Z,265nm,1.6s				
BER			*e*S	**S**	**21 58 23.6 +1.8**
BER			AMS	AMS	22 04 05.1
	comp=Z,8μm,11.2s				
EDI	**Edinburgh**	**21.10 321**	*e*P	**P**	**21 54 27.4 0.0**
EDI			AMB	AMB	21 54 33.2
	comp=Z,211nm,3.0s				
EDI			*e*S	**S**	**21 58 16.2 -5.9**
EDI			AMS	AMS	22 04 19.6
	comp=Z,9μm,14.6s				
RUND	**Rundenannen**	**21.10 339**	*e*P	**P**	**21 54 26.6 -0.8**
RUND			AMB	AMB	21 54 30.3
	comp=Z,285nm,0.7s				
MTE	**Manteigas**	**21.12 276**	*e*P	**P**	**21 54 28.0 +0.1**
	comp=Z,119nm,1.2s				
MTE			*e*S	**S**	**21 58 23.5 +0.5**
MTE	**Manteigas**	**21.12 276**	*e*P	**P**	**21 54 27.3 -0.6**
	comp=Z,67nm,0.9s				
MTE	**Manteigas**	**21.12 276**	*e*P	**P**	**21 54 27.3 -0.6**
	comp=Z,67nm,0.9s				
POLO	**Lamas de Olo**	**21.12 279**	*e*P	**P**	**21 54 28.9 +0.9**
	comp=Z,78nm,1.7s				
POLO			*e*S	Sn	21 58 27.8 -1.8
ASK	**Askoy**	**21.20 339**	*e*P	**P**	**21 54 27.5 -1.0**
ASK			AMB	AMB	21 54 32.8
	comp=Z,337nm,2.2s				
PMRV	**Marv??o**	**21.23 274**	*e*P	**P**	**21 54 29.7 +0.7**
	comp=Z,72nm,1.8s				
PMRV			*e*S	**S**	**21 58 23.8 -1.3**
PCAB	**Cabril**	**21.24 280**	*e*P	**P**	**21 54 30.3 +1.1**
	comp=Z,91nm,1.3s				
ISRB	**Sarab**	**21.26 91**	*e*P	**P**	**21 54 30.7 +1.0**
PBAR	**Barrancos**	**21.31 270**	*e*P	**P**	**21 54 30.5 +0.6**
	comp=Z,128nm,1.5s				
PBAR			*e*S	**S**	**21 58 24.9 -1.8**
PVIS	**Viseu**	**21.31 277**	*e*P	**P**	**21 54 30.8 +0.8**
	comp=Z,79nm,1.3s				
DRUM	**Mains of Drumt**	**21.34 324**	AMS	AMS	22 04 50.4
	comp=Z,14μm,12.9s				
PGAV	**Gavieira, Arco**	**21.38 281**	*e*P	**P**	**21 54 30.6 -0.1**
	comp=Z,274nm,1.5s				
PGAV			*e*S	**S**	**21 58 31.2 +3.0**
PESTR	**Estremoz**	**21.52 272**	*e*P	**P**	**21 54 35.4 +3.2**
	comp=Z,115nm,1.5s				
PESTR			*e*S	**S**	**21 58 34.7 +3.8**
HYA	**Hoyanger**	**21.53 341**	*e*P	**P**	**21 54 32.5 +0.5**
HYA			AMB	AMB	21 54 42.5
	comp=Z,180nm,1.3s				
HYA			AMS	AMS	22 04 20.0
	comp=Z,3μm,10.2s				
RSA	**Sarsar**	**21.61 261**	*i* P	**P**	**21 54 33.0 -0.2**
EAB	**Aberfoyle**	**21.78 321**	*e*P	**P**	**21 54 35.0 +0.2**
MME1	**Meikle Cairn**	**21.80 325**	*e*P	**P**	**21 54 35.0 0.0**
SUE	**Sulen**	**21.80 339**	*e*P	**P**	**21 54 38.1 +3.2**
SUE			AMS	AMS	22 04 28.8
	comp=Z,7μm,13.2s				
PCAS	**Casmilo, Conde**	**21.90 276**	*e*P	**P**	**21 54 38.6 +2.3**
	comp=Z,102nm,1.3s				
PCAS			*e*S	**S**	**21 58 41.6 +3.2**
EVO	**Evora**	**21.93 272**	*e*P	**P**	**21 54 38.3 +1.7**
	comp=Z,45nm,1.1s				
EVO			*e*R		
	comp=Z,6μm,19.8s				
EVO	**Evora**	**21.93 272**	*e*P	**P**	**21 54 37.2 +0.6**
	comp=Z,60nm,2.3s				
PTOM	**Tomar**	**21.94 275**	*e*P	P	21 54 42.2 +5.5
	comp=Z,146nm,1.2s				
PMTG	**Montargil**	**21.94 273**	*e*P	**P**	**21 54 37.3 +0.6**
	comp=Z,135nm,1.7s				
PMTG			*e*S	**S**	**21 58 40.8 +1.7**
PBEJ	**Beja**	**21.97 270**	*e*P	**P**	**21 54 40.7 +3.6**
	comp=Z,67nm,1.5s				
EVOP	**Sao Brissos**	**22.02 272**	*e*P	**P**	**21 54 38.3 +0.8**
EVOP			pmax	pmax	
	comp=Z,45nm,1.1s				
EVOP	**Sao Brissos**	**22.02 272**	*e*P	**P**	**21 54 38.3 +0.8**
	comp=Z,45nm,1.1s				
PVAQ	**Vaqueiros**	**22.06 269**	*e*P	**P**	**21 54 39.3 +1.3**
	comp=Z,106nm,1.3s				
PVAQ			*e*S	**S**	**21 58 40.1 -1.3**
MCD	**Coleburn Disti**	**22.08 325**	*e*P	**P**	**21 54 37.3 -0.7**
PBDV	**Barranco-do-Ve**	**22.27 268**	*e*P	**P**	**21 54 41.0 +0.7**
	comp=Z,161nm,1.5s				
PBDV			*e*S	**S**	**21 58 44.6 -0.9**
JOF	**Joensuu**	**22.42 13**	*e*P	**P**	**21 54 43.4 +1.8**
JOF			pmax	pmax	
	comp=Z,19nm,0.6s				
JOF	**Joensuu**	**22.42 13**	*e*p	**P**	**21 54 43.4 +1.8**
	comp=Z,19nm,0.6s				
TAM	**Tamanrasset**	**22.44 218**	*e*P	**P**	**21 54 43.9 +1.6**
TAM			*e*S	**S**	**21 58 50.2 +1.2**
TAM			pmax	pmax	
	comp=Z,67nm,1.4s				
TAM	**Tamanrasset**	**22.44 218**	*e*P	**P**	**21 54 43.9 +1.6**
	comp=Z,67nm,1.4s				
TAM			*e*S	**S**	**21 58 50.2 +1.2**
TAM	**Tamanrasset**	**22.44 218**	*e*P	**P**	**21 54 43.9 +1.6**
	comp=Z,67nm,1.4s				
TAM			*e*S	**S**	**21 58 50.2 +1.2**
PNCL	**Nicolau / Gran**	**22.44 271**	*e*P	**P**	**21 54 42.9 +0.8**
	comp=Z,88nm,1.8s				
PNCL			*e*S	**S**	**21 58 46.6 -2.0**
MOL	**Molde**	**22.47 344**	*e*P	**P**	**21 54 42.0 -0.1**
MOL			IAmb	IAmb	21 54 52.2
	comp=Z,76nm,1.2s				
MOL			*e*S	**S**	**21 58 50.8 +2.2**
MOL			AMS	AMS	22 04 32.2
	comp=Z,3μm,10.9s				
PACT	**Alcochete**	**22.48 273**	*e*P	**P**	**21 54 44.1 +1.6**
TBLU	**Trondheim**	**22.61 348**	*e*P	**P**	**21 54 45.1 +1.4**
TBLU			IAmb	IAmb	21 54 50.8
	comp=Z,392nm,1.8s				
TBLU			*e*		21 59 01.1
TBLU			AMS	AMS	22 04 49.2
	comp=Z,4μm,11.2s				
KLMR	**Klimovskoe**	**22.64 25**	*d i*P	**P**	**21 54 43.5 -0.4**
KLMR			*e*S	**S**	**21 58 48.8 -3.0**
KLMR			pmax	pmax	
	comp=Z,206nm,1.2s				
KLMR			MLR	MLR	
	comp=Z,3μm,11.0s				
LIS	**Lisbon**	**22.73 273**	*e*P	**P**	**21 54 46.0 +0.8**
LIS			AMb	AMB	21 54 53.9
	comp=Z,132nm,1.2s				
LIS			*e*S	**S**	**21 58 56.8 +2.9**
LIS	**Lisbon**	**22.73 273**	*e*P	**P**	**21 54 46.0 +0.8**
	comp=Z,132nm,1.2s				
LIS			*e*S	**S**	**21 58 56.8 +2.9**
LIS	**Lisbon**	**22.73 273**	*e*P	**P**	**21 54 46.0 +0.8**
PMST	**Lisbon--Monsan**	**22.75 273**	*e*P	**P**	**21 54 48.4 +3.0**
	comp=Z,159nm,1.5s				
PMAFR	**Mafra**	**22.77 273**	*e*P	**P**	**21 54 44.3 -1.2**
	comp=Z,142nm,1.5s				
PMAFR			*e*S	**S**	**21 58 55.0 +0.4**
MORF	**Marmelete**	**22.79 269**	*e*P	**P**	**21 54 47.0 +1.1**
	comp=Z,141nm,1.5s				
MORF			*e*S	**S**	**21 58 55.1 -0.1**
MORF	**Marmelete**	**22.79 269**	*e*P	**P**	**21 54 46.1 +0.2**
LRW	**Lerwick**	**22.93 332**	*e*P	**P**	**21 54 46.4 -0.7**
LRW			AMB	AMB	21 54 55.5
	comp=Z,212nm,2.2s				
KAC	**Achnashellach**	**22.94 323**	*e*P	**P**	**21 54 45.6 -1.5**
PFVI	**Vila Bisbo**	**22.98 269**	*e*P	**P**	**21 54 47.6 -0.2**
	comp=Z,184nm,1.8s				
PFVI			*e*S	**S**	**21 58 58.9 +0.5**
KPL	**Plockton**	**23.01 322**	AMS	AMS	22 05 56.4
	comp=Z,9μm,12.7s				
VAL	**Valentia**	**23.31 307**	*e*P	**P**	**21 54 53.3 +2.3**
VAL	**Valentia**	**23.31 307** ⇑	*i*S	**S**	**21 59 02.7 -0.9**
NSS	**Namsos**	**23.60 351**	*e*P	**P**	**21 54 54.1 +0.3**
NSS			AMB	AMB	21 54 58.0
	comp=Z,41nm,2.9s				
NSS			AMS	AMS	22 04 35.8
	comp=Z,2μm,13.2s				
IRAZ	**Razeghan**	**23.83 95**	*e*P	**P**	**21 54 56.7 +0.1**
IR5	**Iran Long-Peri**	**24.40 95**	*e*P	**P**	**21 55 00.6 -1.1**
IR3	**Iran Long-Peri**	**24.62 94**	*e*P	**P**	**21 55 03.8 +0.1**
RST	**Umm Al-Ruwaisa**	**24.62 111**	*e*P	**P**	**21 55 01.9 -1.8**
RST			AMb	AMB	21 55 05.0
	comp=Z,957nm,0.8s				
RST	**Umm Al-Ruwaisa**	**24.62 111**	*e*P	**P**	**21 55 01.9 -1.8**
	comp=Z,957nm,0.8s				
MIB	**Mutribah**	**24.69 110**	*e*P	**P**	**21 55 03.2 -1.1**
MIB			AMb	AMB	21 55 11.3
	comp=Z,222nm,0.7s				
MIB	**Mutribah**	**24.69 110**	*e*P	**P**	**21 55 03.2 -1.1**
	comp=Z,222nm,0.7s				
OUK	**Oukaimeden**	**24.88 255**	*i* P	**P**	**21 55 05.0 -1.4**
TMCR	**Tamitsa**	**24.91 18**	*e*P	**P**	**21 55 06.9 +1.0**
TMCR			pmax	pmax	
	comp=Z,216nm,1.3s				
NAY	**Al-Naaiem**	**24.95 111**	*e*P	**P**	**21 55 04.8 -1.8**
NAY			AMb	AMB	21 55 10.0
	comp=Z,4.1nm,0.8s				
NAY	**Al-Naaiem**	**24.95 111**	*e*P	**P**	**21 55 04.8 -1.8**
	comp=Z,4.1nm,0.8s				
UMR	**Umm Al-Rimmam**	**25.10 110**	*e*P	**P**	**21 55 06.7 -1.2**
UMR			AMb	AMB	21 55 11.0
	comp=Z,196nm,1.2s				
UMR	**Umm Al-Rimmam**	**25.10 110**	*e*P	**P**	**21 55 06.7 -1.2**
	comp=Z,196nm,1.2s				
IPRN	**Peran**	**25.32 91**	*e*P	**P**	**21 55 10.6 +0.6**
IDMV	**Damavand**	**25.34 93**	*e*P	**P**	**21 55 10.2 -0.2**
IVRN	**Varamin**	**25.34 95**	*e*P	**P**	**21 55 11.8 +1.6**
RDF	**Al-Radifah**	**25.35 111**	*e*P	**P**	**21 55 08.8 -1.4**
RDF			AMb	AMB	21 55 14.6
	comp=Z,97nm,1.2s				
RDF	**Al-Radifah**	**25.35 111**	*e*P	**P**	**21 55 08.8 -1.4**
	comp=Z,97nm,1.2s				
QRN	**Al-Qurain**	**25.72 111**	*e*P	**P**	**21 55 12.4 -1.2**
QRN			AMb	AMB	21 55 16.5
	comp=Z,139nm,1.5s				
IALA	**Alasht**	**25.73 91**	*e*P	**P**	**21 55 13.6 -0.4**
IFIR	**Firoozkooh**	**25.86 92**	*e*P	**P**	**21 55 15.5 +0.4**
IKLH	**Kolahrood**	**25.96 98**	*e*P	**P**	**21 55 13.3 -2.8**
ISFB	**Sefidab**	**26.00 95**	*e*P	**P**	**21 55 15.6 -0.6**
IKIA	**Kiasar**	**26.34 91**	*e*P	**P**	**21 55 19.3 -0.2**
IGLO	**Ghaloghah**	**26.34 90**	*e*P	**P**	**21 55 20.2 +0.7**
IZEF	**Zefreh**	**26.71 98**	*e*P	**P**	**21 55 20.8 -2.1**
LOF	**Lofoten**	**26.96 354**	*e*P	**P**	**21 55 24.4 0.0**
APA	**Apatity**	**27.09 11** ⇑	*i*P	**P**	**21 55 27.0 +1.4**
APA			*i* S	**S**	**22 00 04.0 +0.5**
APA			MLR	MLR	
	comp=Z,4μm,12.0s				
AKTO	**Aktyubinsk**	**27.38 58**	P	**P**	**21 55 27.7 -0.7**
AKTO			pmax	pmax	
	comp=Z,7.0nm,0.7s				
AKTO			MLR	MLR	
	comp=Z,4μm,20.9s				
AKTO	**Aktyubinsk**	**27.38 58**	P	**P**	**21 55 27.7 -0.7**
AKTO	**Aktyubinsk**	**27.38 58**	P	**P**	**21 55 27.7 -0.7**
	comp=Z,7.4nm,0.7s,baz=268,slow=8.5,SNR=28				
AKTO			LR	LR	22 07 50.6
	comp=Z,4μm,20.9s,baz=268,slow=40				
AKTO	**Aktyubinsk**	**27.38 58**	P	**P**	**21 55 27.7 -0.7**
ARCES	**ARCESS Array B**	**28.24 4**	P	**P**	**21 55 33.9 -2.0**
ARCES			PcP	**PcP**	**21 58 48.2 -0.8**
ARCES	**ARCESS Array B**	**28.24 4**	P	**P**	**21 55 33.9 -2.0**
	comp=Z,12nm,0.8s,baz=191,slow=9.2,SNR=32				
ARCES			PcP	**PcP**	**21 58 48.2 -0.8**
	comp=Z,5.4nm,1.0s,baz=159,slow=2.8,SNR=5.3				
ARE0	**ARCESS Array S**	**28.24 4**	*e*P	**P**	**21 55 34.7 -1.2**
ARE0			*e*S	**S**	**22 00 24.2 +2.5**
ARE0	**ARCESS Array S**	**28.24 4**	*e*P	**P**	**21 55 34.4 -1.5**
ARE0	**ARCESS Array S**	**28.24 4**	*e*P	**P**	**21 55 34.4 -1.5**
ABKAR	**Abkulak array**	**28.57 61**	*e*P	**P**	**21 55 38.9 -0.1**
ABKAR	**Abkulak array**	**28.57 61**	*e*P	**P**	**21 55 38.9 -0.1**
ARU	**Arti**	**28.72 46**	*d i*P	**P**	**21 55 39.5 -0.8**
ARU			PPP	PPP	21 56 37.7
ARU					21 58 49.5
ARU			S	**S**	**22 00 29.6 +0.1**
ARU			SS	**SnSn**	**22 01 56.7 +7.0**
ARU			pmax	pmax	
	comp=Z,29nm,1.2s				
ARU			MLR	MLR	
	comp=Z,3μm,16.0s				
ARU	**Arti**	**28.72 46**	P	**P**	**21 55 39.2 -1.1**
	comp=Z,140nm,1.4s,SNR=7.6				
ARU	**Arti**	**28.72 46**	*i* P	**P**	**21 55 39.5 -0.8**
	comp=Z,29nm,1.2s				
IPAR	**Pars**	**28.78 103**	*e*P	**P**	**21 55 41.2 -0.3**
IPAR	**Pars**	**28.78 103**	*e*P	**P**	**21 55 41.2 -0.3**
SOKR	**Solikamsk**	**28.86 39**	*e*P	**P**	**21 55 41.0 -0.4**
SOKR			S	**S**	**22 00 32.7 +1.3**
SOKR			SS	ScP	22 02 14.1 -18
SOKR			pmax	pmax	
	comp=Z,10.0nm,0.9s				
SOKR			MLR	MLR	
	comp=Z,3μm,19.0s				
SOKR	**Solikamsk**	**28.86 39**	*e*P	**P**	**21 55 41.0 -0.4**
	comp=Z,10.0nm,0.9s				
ISRV	**Sarvestan**	**29.08 104**	*e*P	**P**	**21 55 44.5 +0.4**
ISRV	**Sarvestan**	**29.08 104**	*e*P	**P**	**21 55 44.5 +0.4**
ISFR	**Sfrayin**	**29.28 86**	*e*P	**P**	**21 55 44.3 -1.5**
ISFR	**Sfrayin**	**29.28 86**	*e*P	**P**	**21 55 44.3 -1.5**
IEMG	**Emamgholi**	**29.64 85**	*e*P	**P**	**21 55 47.9 -1.1**
IEMG	**Emamgholi**	**29.64 85**	*e*P	**P**	**21 55 47.9 -1.1**
IKRD	**Kardeh**	**29.76 86**	*e*P	P	21 55 56.6 +6.6
SVE	**Sverdlovsk**	**29.93 45** ⇑	*e*P	**P**	**21 55 50.3 -0.7**
SVE			*e*		21 56 54.5
SVE			*e*S	**S**	**22 00 50.8 +2.3**
SVE			pmax	pmax	
	comp=Z,37nm,1.1s				
SVE			MLR	MLR	
	comp=Z,4μm,14.0s				
SVE	**Sverdlovsk**	**29.93 45**	*e*P	**P**	**21 55 50.3 -0.7**
	comp=Z,37nm,1.1s				
IAKL	**Akhelmad**	**30.01 87**	*e*P	**P**	**21 55 52.0 -0.2**
IPAY	**Payeh**	**30.24 87**	*e*P	**P**	**21 55 54.3 0.0**
IPAY	**Payeh**	**30.24 87**	*e*P	**P**	**21 55 54.3 0.0**
IMYA	**Miami**	**31.11 86**	*e*P	**P**	**21 56 01.7 -0.2**
IMYA	**Miami**	**31.11 86**	*e*P	**P**	**21 56 01.7 -0.2**
IKOO	**Kooshah**	**31.92 94**	*e*P	**P**	**21 56 10.0 +0.9**
IKOO	**Kooshah**	**31.92 94**	*e*P	**P**	**21 56 10.0 +0.9**
TOA0	**Torodi Ar. Sit**	**32.61 215**	*e*P	**P**	**21 56 15.1 +0.1**
TOA0			*e*PcP	**PcP**	**21 58 59.6 -1.6**
TOA0	**Torodi Ar. Sit**	**32.61 215**	*e*P	**P**	**21 56 15.1 +0.1**
TORD	**Torodi Ar. Bea**	**32.61 215**	P	**P**	**21 56 14.3 -0.7**
TORD			PcP	**PcP**	**21 59 00.8 -0.4**
TORD	**Torodi Ar. Bea**	**32.61 215**	P	**P**	**21 56 14.3 -0.7**
	comp=Z,14nm,0.8s,baz=26,slow=7.5,SNR=72				
TORD			PcP	**PcP**	**21 59 00.8 -0.4**
	comp=Z,3.5nm,0.9s,baz=3.7,slow=4.5,SNR=4.5				
TORD	**Torodi Ar. Bea**	**32.61 215**	P	**P**	**21 56 14.3 -0.7**
TORD	**Torodi Ar. Bea**	**32.61 215**	PcP	**PcP**	**21 59 00.8 -0.4**
JMIC	**Jan Mayen**	**32.97 343**	*e*P	**P**	**21 56 19.5 +1.9**
JMIC			AMB	AMB	21 56 25.2
	comp=Z,171nm,1.7s				
JMIC			*e*S	**S**	**22 01 38.8 +3.3**
JMIC			AMS	AMS	22 16 06.4
	comp=Z,1μm,12.7s				
JMIC	**Jan Mayen**	**32.97 343**	P	**P**	**21 56 20.5 +2.9**
JMIC	**Jan Mayen**	**32.97 343**	P	**P**	**21 56 20.5 +2.9**
	comp=Z,46nm,0.8s,baz=87,slow=1.4,SNR=5.1				
JMIC	**Jan Mayen**	**32.97 343**	*e*P	**P**	**21 56 19.5 +1.9**
	comp=Z,171nm,1.7s,SNR=27				
BJO	**Bjornoya**	**33.12 359**	AMS	AMS	22 02 20.7
	comp=Z,2μm,14.7s				
BORG	**Borgarnes**	**33.22 329**	*e*P	P	21 56 23.0 +3.2
	comp=Z,129nm,1.4s				
BANOM	**Banah**	**33.37 106**	P	**P**	**21 56 19.8 -1.8**
	SNR=6.5				
ASUD	**Al Ashush, Dub**	**33.47 109**	P	**P**	**21 56 20.9 -1.5**
NAZ	**Nazwa, Dubai**	**33.48 108**	P	**P**	**21 56 21.1 -1.5**
FAQ	**Al Faqa, Dubai**	**33.58 109**	P	**P**	**21 56 22.2 -1.2**
HATD	**Hatta, Dubai**	**33.92 108**	P	**P**	**21 56 24.9 -1.5**
ASHO	**Ashiyiah**	**33.95 108**	P	**P**	**21 56 24.9 -1.8**
	SNR=12				
BRVK	**Borovoye**	**35.07 53**	P	**P**	**21 56 36.6 +0.5**
	comp=Z,287nm,0.6s,SNR=34				
BRVK	**Borovoye**	**35.07 53**	*c i*P	**P**	**21 56 36.2 +0.1**
BRVK			pmax	pmax	
	comp=Z,42nm,1.1s				
BRVK			MLR	MLR	
	comp=Z,2μm,17.0s				
BRVK	**Borovoye**	**35.07 53**	*e*P	**P**	**21 56 36.1 +0.1**
	comp=Z,60nm,1.2s				
BRVK	**Borovoye**	**35.07 53**	*e*P	**P**	**21 56 36.1 0.0**
	comp=Z,60nm,1.2s				
VOSK	**Vostochnaya**	**35.50 54**	*e*P	**P**	**21 56 40.0 +0.2**
VOSK			pmax	pmax	
	comp=Z,10.0nm,0.8s				
VOSK	**Vostochnaya**	**35.50 54**	*e*P	**P**	**21 56 40.0 +0.2**
	comp=Z,9.5nm,0.8s				
VOSK	**Vostochnaya**	**35.50 54**	*e*P	**P**	**21 56 40.0 +0.2**
	comp=Z,9.5nm,0.8s				
SCO	**Scoresbysund**	**36.09 337**	*i* P	**P**	**21 56 46.9 +2.3**
SCO			MLR	MLR	
	comp=Z,1μm,12.0s				
SCO	**Scoresbysund**	**36.09 337**	*i* P	**P**	**21 56 46.9 +2.3**
SCO					
	comp=Z,1μm,12.0s				
SCO	**Scoresbysund**	**36.09 337**	*i* P	**P**	**21 56 46.9 +2.3**
	comp=Z,1μm,12.0s				
KKAR	**Karatay Array**	**36.65 70**	*e*P	**P**	**21 56 50.1 +0.3**
KKAR	**Karatay Array**	**36.65 70**	*e*P	**P**	**21 56 50.1 +0.3**
KKAR	**Karatay Array**	**36.65 70**	*e*P	**P**	**21 56 50.1 +0.3**
SPA0	**Spitsbergen Ar**	**36.85 359**	*e*P	**P**	**21 56 53.1 +2.1**
SPA0			*e*S	**S**	**22 02 37.0 +1.8**
SPA0	**Spitsbergen Ar**	**36.85 359**	*e*P	**P**	**21 56 53.1 +2.1**
	SNR=26				
SPITS	**Spitsbergen Ar**	**36.85 359**	P	**P**	**21 56 50.5 -0.5**
SPITS	**Spitsbergen Ar**	**36.85 359**	P	**P**	**21 56 50.5 -0.5**
	comp=Z,1.6nm,0.4s,baz=154,slow=12,SNR=13				
SPITS	**Spitsbergen Ar**	**36.85 359**	P	**P**	**21 56 50.5 -0.5**
	comp=Z,2.0nm,0.4s				
KBS	**Kingsbay**	**37.71 357**	*e*P	**P**	**21 56 58.0 -0.2**
KBS			IAmb	IAmb	21 57 01.8
	comp=Z,24nm,0.8s				
KBS			AMS	AMS	22 14 00.2
	comp=Z,1μm,14.9s				
KBS	**Kingsbay**	**37.71 357**	*c i*P	**P**	**21 56 59.6 +1.3**
KBS			pmax	pmax	
	comp=Z,41nm,1.2s				
KBS			MLR	MLR	
	comp=Z,1μm,16.0s				
KBS	**Kingsbay**	**37.71 357**	*e*P	**P**	**21 57 00.1 +1.8**
	comp=Z,24nm,0.9s				
KBS	**Kingsbay**	**37.71 357**	*i* P	**P**	**21 56 59.6 +1.3**
	comp=Z,1μm,16.0s				
KBL	**Kabul**	**38.52 84**	*e*P	**P**	**21 57 06.5 +0.6**
KBL			pmax	pmax	
	comp=Z,6.0nm,0.9s				
KBL	**Kabul**	**38.52 84**	*e*P	**P**	**21 57 06.5 +0.6**
	comp=Z,5.6nm,0.9s				
KBL	**Kabul**	**38.52 84**	*e*P	**P**	**21 57 06.5 +0.6**
	comp=Z,5.6nm,0.9s				
EKS2	**Erkin-Say**	**39.08 70**	*e*P	**P**	**21 57 10.8 +0.4**
EKS2			pmax	pmax	
	comp=Z,16nm,0.9s				
EKS2	**Erkin-Say**	**39.08 70**	*e*P	**P**	**21 57 10.8 +0.4**
	comp=Z,16nm,0.9s				
EKS2	**Erkin-Say**	**39.08 70**	*e*P	**P**	**21 57 10.8 +0.4**
	comp=Z,16nm,0.9s				
AAK	**Ala-Archa**	**39.59 70**	P	**P**	**21 57 14.9 +0.2**
AAK			pmax	pmax	
	comp=Z,4.0nm,0.6s				
AAK	**Ala-Archa**	**39.59 70**	P	**P**	**21 57 14.9 +0.2**
AAK	**Ala-Archa**	**39.59 70**	P	**P**	**21 57 14.9 +0.2**
	comp=Z,4.1nm,0.7s,baz=237,slow=7.1,SNR=9.8				
AAK	**Ala-Archa**	**39.59 70**	P	**P**	**21 57 14.9 +0.2**
	comp=Z,4.0nm,0.6s				
FRU	**Bishkek**	**39.62 69**	*e*P	**P**	**21 57 15.5 +0.7**
FRU			*e*		21 58 50.0
FRU			*e*S	**S**	**22 03 13.0 -4.9**
FRU			pmax	pmax	
	comp=Z,70nm,2.4s				
FRU			pmax	pmax	
	comp=Z,2μm,26.0s				
FRU			MLR	MLR	
	comp=N,3μm,17.5s				
FRU	**Bishkek**	**39.62 69**	*e*P	**P**	**21 57 15.5 +0.7**
	comp=N,70nm,2.4s				
KURBB	**Kurchatov Arra**	**40.40 57**	P	**P**	**21 57 20.6 -0.6**
	comp=N,6.7nm,0.7s,baz=288,slow=10,SNR=46				
KURBB			PcP	**PcP**	**21 59 24.2 +0.2**
	comp=N,3.7nm,0.9s,baz=292,slow=4.3,SNR=4.9				
KURK	**Kurchatov**	**40.44 56**	P	**P**	**21 57 20.6 -0.9**
KURK					21 59 24.2
KURK			pmax	pmax	
	comp=Z,7.0nm,0.7s				
KURK			pmax	pmax	
	comp=Z,4.0nm,0.9s				
KURK	**Kurchatov**	**40.44 56**	P	**P**	**21 57 20.6 -0.9**
KURK			PcP	**PcP**	**21 59 24.2 +0.1**
KURK	**Kurchatov**	**40.44 56**	P	**P**	**21 57 20.5 -0.9**
DBIC	**Dimbokro**	**41.32 220**	*e*P	**P**	**21 57 28.8 -0.2**
	comp=Z,72nm,1.5s				
DBIC	**Dimbokro**	**41.32 220**	P	**P**	**21 57 28.7 -0.2**
	comp=Z,13nm,0.8s,baz=14,slow=9.0,SNR=14				
DBIC			LR	LR	22 16 43.3
	comp=Z,913nm,19.3s,baz=8.7,slow=39				
DBIC	**Dimbokro**	**41.32 220**	*e*P	**P**	**21 57 28.8 -0.2**
	comp=Z,72nm,1.5s				
TIC	**Toumodi**	**41.42 220**	*e*P	**P**	**21 57 28.9 -1.0**
	comp=Z,70nm,1.1s				
KIC	**Kosan Boka**	**41.53 220**	*e*P	**P**	**21 57 29.8 -1.0**
	comp=Z,70nm,1.0s				
BBTS	**Babate**	**41.66 241**	P	**P**	**21 57 30.8 -1.0**
BBTS	**Babate**	**41.66 241**	P	**P**	**21 57 30.8 -1.0**
	comp=Z,22nm,1.0s,baz=146,slow=3.6,SNR=2.4				
BBTS			LR	LR	22 16 31.5
	comp=Z,3μm,18.4s,baz=30,slow=39				
BBTS	**Babate**	**41.66 241**	P	**P**	**21 57 30.8 -1.0**
KSH	**Kashi**	**41.68 74**	P	**P**	**21 57 31.5 -0.4**
KSH			PP	**PnPn**	**21 59 10.6 -2.3**
KSH			PcP	**PcP**	**21 59 29.8 +1.2**
KSH			PcS	**PcS**	**22 03 20.6 +0.5**
KSH			S	**S**	**22 03 47.2 -1.7**
KSH			pmax	pmax	
	comp=Z,16nm,1.4s				
KSH			pmax	pmax	
	comp=Z,310nm,8.1s				
KSH			LR	LR	
	comp=N,760nm,13.2s				
KSH			LR	LR	
	comp

NVS smax smax
comp=N,12nm,1.0s
NVS smax smax
comp=E,3.0nm,0.5s
NVS Novosibirsk 42.54 50 *e*P **P 21 57 39.0 +0.4**
comp=E,12nm,1.0s
MBAR Mbarara 42.92 165 *e*P **P 21 57 40.8 -1.5**
NRS Narsarsuaq 43.42 320 *e*P **P 21 57 47.4 +1.7**
NRS *i* S **S 22 04 13.8 +0.1**
NRS pmax pmax
comp=Z,26nm,0.9s
NRS MLR MLR
comp=Z,2μm,16.0s
NRS Narsarsuaq 43.42 320 *e*P **P 21 57 47.4 +1.7**
comp=Z,26nm,0.9s
ZAA0 Zalesovo Array 43.60 51 *e*P **P 21 57 46.5 -0.7**
ZAA0 *e*PP **PP 21 59 28.6 +0.3**
ZAA0 Zalesovo Array 43.60 51 *e*P **P 21 57 46.5 -0.7**
ZALV Zalesovo Beam 43.60 51 P **P 21 57 46.7 -0.5**
ZALV pmax pmax
comp=Z,21nm,0.7s
ZALV MLR MLR
comp=Z,2μm,21.1s
ZALV Zalesovo Beam 43.60 51 P **P 21 57 46.7 -0.5**
ZALV Zalesovo Beam 43.60 51 P **P 21 57 46.7 -0.5**
comp=Z,21nm,0.7s,baz=280,slow=8.5,SNR=88
ZALV LR LR 22 16 45.4
comp=Z,2μm,21.1s,baz=69,slow=37
ZALV Zalesovo Beam 43.60 51 P **P 21 57 46.7 -0.5**
comp=Z,2μm,21.1s
MK31 Makanchi Array 43.71 61 *e*P **P 21 57 48.0 -0.3**
MK31 *e* 21 59 31.5
MK31 Makanchi Array 43.71 61 *e*P **P 21 57 48.0 -0.3**
MK31 *e*PP **PP 21 59 31.5 +1.7**
MK31 Makanchi Array 43.71 61 *e*P **P 21 57 48.0 -0.3**
MKAR Makanchi Array 43.71 61 P **P 21 57 47.6 -0.7**
MKAR pmax pmax
comp=Z,20nm,0.8s
MKAR pmax pmax
comp=N,1.0nm,0.8s
MKAR MLR MLR
comp=Z,2μm,21.8s
MKAR Makanchi Array 43.71 61 *e*P **P 21 57 48.1 -0.2**
MKAR ScP **ScP 22 03 27.9 +1.0**
MKAR Makanchi Array 43.71 61 P **P 21 57 47.6 -0.7**
comp=Z,20nm,0.8s,baz=282,slow=6.3,SNR=136
MKAR ScP **ScP 22 03 27.9 +1.0**
comp=Z,0.8nm,0.8s,baz=280,slow=5.8,SNR=3.2
MKAR LR LR 22 17 52.2
comp=Z,2μm,21.8s,baz=288,slow=39
MKAR Makanchi Array 43.71 61 *e*P **P 21 57 48.1 -0.2**
MKAR ScP **ScP 22 03 27.9 +1.0**
KMBO Kilima Mbogo 45.08 156 *e*P **P 21 58 00.4 +0.7**
KMBO Kilima Mbogo 45.08 156 *e*P **P 21 58 00.8 +1.1**
KMBO Kilima Mbogo 45.08 156 P **P 21 57 59.5 -0.2**
comp=Z,6.4nm,0.8s,baz=353,slow=8.0,SNR=19
KMBO LR LR 22 19 13.1
comp=Z,771nm,18.2s,baz=337,slow=39
KMBO Kilima Mbogo 45.08 156 P **P 21 57 59.5 -0.2**
comp=Z,771nm,18.2s
SFJD Kangerlussuaq 45.35 329 P **P 21 58 00.9 -0.1**
SFJD Kangerlussuaq 45.35 329 P **P 21 58 00.9 -0.1**
comp=Z,8.7nm,0.7s,baz=95,slow=9.9,SNR=2.7
SFJD Kangerlussuaq 45.35 329 P **P 21 58 00.9 -0.1**
comp=Z,9.0nm,0.7s
ALE Alert 48.20 350 P **P 21 58 22.2 -0.9**
comp=Z,106nm,1.4s,SNR=5.8
WMQ Urumqi 48.29 63 P **P 21 58 26.8 +2.4**
WMQ PP **PP 22 00 18.8 +2.1**
WMQ ScP **ScP 22 03 47.8 +1.7**
WMQ S **S 22 05 26.7 +2.3**
WMQ ScS **ScS 22 08 18.3 +0.6**
WMQ SS **SS 22 08 50.8 -2.7**
WMQ pmax pmax
comp=Z,16nm,0.9s
WMQ pmax pmax
comp=Z,510nm,6.8s
WMQ LR LR
comp=N,2μm,20.1s
WMQ LR LR
comp=E,1μm,19.0s
WMQ LR LR
comp=Z,1μm,19.0s
PYUN Piuthan 52.05 84 *e*P **P 21 58 50.7 -2.7**
comp=Z,62nm,0.5s
DANN Dangsing 52.50 83 *e*P **P 21 58 54.7 -2.0**
comp=Z,64nm,0.6s
MOY Mondy 53.64 50 *e*P **P 21 59 07.5 +2.9**
DMN Daman 53.90 83 *e*P **P 21 59 05.3 -1.7**
comp=Z,32nm,0.6s
KKN Kakani 53.93 83 *e*P **P 21 59 05.1 -2.1**
comp=Z,21nm,0.5s
PKIN Phulchoki 54.13 83 *e*P **P 21 59 06.6 -2.2**
comp=Z,27nm,0.6s
PKI Pulchoki 54.14 83 *e*P **P 21 59 06.8 -2.1**
comp=Z,30nm,0.8s
GUN Gumba 54.31 82 *e*P **P 21 59 08.3 -1.9**
comp=Z,75nm,0.9s
JIRN Jiri 54.68 82 *e*P **P 21 59 11.0 -1.9**
comp=Z,50nm,0.6s
HYB Hyderabad 54.90 98 *i* P P 21 59 10.0 -4.2
TLY Talaya 55.14 49 *e*P **P 21 59 15.4 -0.1**
TLY *e* 22 00 19.5
TLY *e* 22 01 21.2
TLY *e*S **S 22 07 03.4 +4.9**
TLY *e*SS **SS 22 10 48.0 +6.2**
TLY pmax pmax
comp=Z,32nm,1.4s
TLY MLR MLR
comp=Z,2μm,18.0s
TLY Talaya 55.14 49 P **P 21 59 16.6 +1.1**
comp=Z,98nm,1.5s,SNR=6.1
RAMN Ramite 55.37 83 *e*P **P 21 59 15.8 -1.9**
comp=Z,74nm,0.5s
ZAK Zakamensk 55.48 50 *e*P **P 21 59 15.0 -3.0**
ZAK pmax pmax
comp=Z,10.0nm,1.4s
TAPN Taplejung 55.98 82 *e*P **P 21 59 20.9 -1.2**
comp=Z,104nm,1.4s
SCHQ Schefferville 56.01 316 *e*P **P 21 59 22.0 +0.4**
SCHQ Schefferville 56.01 316 P **P 21 59 21.7 +0.1**
comp=Z,14nm,0.8s,baz=22,slow=2.5,SNR=8.4
SCHQ LR LR 22 23 06.4
comp=Z,2μm,18.8s,baz=75,slow=36
SCHQ Schefferville 56.01 316 *e*P **P 21 59 22.0 +0.4**
ODAN Odare 56.01 83 *e*P **P 21 59 20.8 -1.5**
comp=Z,55nm,0.7s
TIXI Tiksi 56.59 21 ⇓ *i*P **P 21 59 22.9 -2.6**
TIXI pmax pmax
comp=Z,14nm,1.3s
TIXI MLR MLR
comp=Z,2μm,20.0s
LSZ Lusaka 56.93 171 *e*P **P 21 59 28.5 -0.1**
LSZ Lusaka 56.93 171 *e*P **P 21 59 28.8 +0.2**
comp=Z,113nm,2.2s
LSZ Lusaka 56.93 171 *e*P **P 21 59 28.8 +0.2**
comp=Z,113nm,2.2s
LSA Lhasa 57.25 78 P **P 21 59 30.2 -1.2**
LSA LR LR
comp=N,630nm,25.4s
LSA LR LR
comp=E,1μm,25.4s
LSA LR LR
comp=Z,910nm,37.1s
LSA Lhasa 57.25 78 *e*P **P 21 59 30.0 -1.4**
LSA pmax pmax
comp=Z,9.0nm,0.8s
LSA Lhasa 57.25 78 *e*P **P 21 59 30.0 -1.4**
comp=Z,9.4nm,0.8s
LSA Lhasa 57.25 78 *e*P **P 21 59 30.0 -1.4**
comp=Z,9.4nm,0.8s
GTA Gaotai 58.38 63 P **P 21 59 38.1 -0.7**
GTA pP **pP 21 59 41.2 -0.1**
GTA sP **sP 21 59 44.2 +2.0**
GTA PcP **PcP 22 00 30.7 +1.1**
GTA S **S 22 07 40.2 -1.6**
GTA SS **SS 22 11 34.4 +1.0**
GTA pmax pmax
comp=Z,8.0nm,0.7s
GTA pmax pmax
comp=Z,340nm,7.1s
GTA LR LR
comp=N,2μm,18.0s
GTA LR LR
comp=E,2μm,19.0s
GTA LR LR
comp=Z,2μm,23.3s
SONM Songino Array 58.46 52 P **P 21 59 39.2 0.0**
SONM Songino Array 58.46 52 P **P 21 59 39.2 0.0**
comp=Z,36nm,1.1s,baz=288,slow=9.2,SNR=77
SONM LR LR 22 25 46.5
comp=Z,2μm,20.4s,baz=303,slow=37
SONM Songino Array 58.46 52 P **P 21 59 39.2 0.0**
ULN Ulaanbaatar 58.83 52 *e*P **P 21 59 41.6 -0.3**
comp=Z,25nm,1.2s
ULN Ulaanbaatar 58.83 52 P **P 21 59 41.8 0.0**
comp=Z,21nm,1.2s,comp=Z,578nm
ULN Ulaanbaatar 58.83 52 *e*P **P 21 59 41.6 -0.3**
comp=Z,25nm,1.2s
RUDU RUNDU 59.09 181 *e*P **P 21 59 43.4 -0.3**
RUDU AMB AMB 21 59 51.3
comp=Z,26nm,4.8s
TSUM Tsumeb 60.43 183 *e*P **P 21 59 52.1 -0.9**
TSUM Tsumeb 60.43 183 *e*P **P 21 59 52.4 -0.6**
comp=Z,29nm,1.4s
TSUM Tsumeb 60.43 183 *e*P **P 21 59 52.3 -0.6**
comp=Z,29nm,1.4s
LZH Lanzhou 62.83 65 P **P 22 00 08.8 -0.4**
LZH pP **pP 22 00 12.2 +0.4**
LZH sP **sP 22 00 16.0 +3.3**
LZH *e*S **S 22 08 34.4 -4.5**
LZH pmax pmax
comp=Z,22nm,1.0s
LZH pmax pmax
comp=Z,200nm,4.5s
LZH LR LR
comp=N,2μm,15.3s
LZH LR LR
comp=E,2μm,17.6s
LZH LR LR
comp=Z,2μm,19.0s
CLNS Chul'man 63.38 37 *e*P **P 22 00 13.0 +0.6**
CLNS pmax pmax
comp=Z,17nm,1.3s
CLNS pmax pmax
comp=N,6.0nm,1.3s
CLNS pmax pmax
comp=E,5.0nm,1.2s
MSNA Messina 64.12 170 *e*P **P 22 00 18.7 +1.1**
MSNA AMB AMB 22 00 20.7
comp=Z,24nm,2.0s
OPO Ambohidratompo 64.70 152 LR LR 22 29 59.3
comp=Z,799nm,21.4s,baz=331,slow=37
HIA Hailar 65.24 45 *e*P **P 22 00 25.5 +0.8**
comp=Z,44nm,1.4s
HIA Hailar 65.24 45 *e*P **P 22 00 25.5 +0.8**
comp=Z,44nm,1.4s
HHC Hu-ho-hao-te 65.26 57 *e*P **P 22 00 24.6 -0.5**
HHC PP **PP 22 02 49.4 +1.2**
HHC PcS 22 05 01.9
HHC S **S 22 09 07.7 -1.1**
HHC SKS **SKSac 22 10 18.0 -2.6**
HHC ScS **ScS 22 10 22.5 +1.8**
HHC pmax pmax
comp=Z,46nm,1.4s
HHC pmax pmax
comp=Z,980nm,7.3s
HHC LR LR
comp=Z,2μm,16.7s
LONY Lake Ozonia 65.47 309 *e*P **P 22 00 28.0 +1.8**
comp=Z,55nm,1.5s
LONY Lake Ozonia 65.47 309 *e*P **P 22 00 28.0 +1.8**
comp=Z,55nm,1.5s
NCB Newcomb 65.63 308 *e*P P 22 00 30.6 +3.3
comp=Z,26nm,1.4s
ACCN Adirondack Com 65.63 307 *e*P P 22 00 31.1 +3.9
comp=Z,54nm,1.5s
CD2 Chengdu 65.66 70 P **P 22 00 26.8 -0.9**
CD2 pP **pP 22 00 31.5 +1.2**
CD2 sP **sP 22 00 33.8 +2.6**
CD2 PP **PP 22 02 53.2 +1.3**
CD2 S **S 22 09 11.1 -2.7**
CD2 SKS **SKSac 22 10 21.6 -2.2**
CD2 pmax pmax
comp=Z,30nm,0.5s
CD2 pmax pmax
comp=Z,500nm,7.6s
CD2 LR LR
comp=N,1μm,15.5s
CD2 LR LR
comp=Z,730nm,20.2s
LBTB Lobatse 66.33 175 ⇑ *i*P **P 22 00 32.5 +0.6**
LBTB AMB AMB 22 00 32.6
comp=Z,30nm,1.1s
LBTB Lobatse 66.33 175 *e*P **P 22 00 32.5 +0.6**
comp=Z,42nm,1.1s
LBTB Lobatse 66.33 175 *e*P **P 22 00 32.5 +0.6**
comp=Z,42nm,1.1s
FCC Fort Churchill 66.37 329 *e*P **P 22 00 31.9 +0.2**
FCC Fort Churchill 66.37 329 *e*P **P 22 00 31.9 +0.2**
comp=Z,0.8nm,0.6s
FCC Fort Churchill 66.37 329 *e*P **P 22 00 31.9 +0.2**
comp=Z,0.8nm,0.6s
SLR Silverton 67.27 172 *e*P **P 22 00 38.9 +0.9**
SLR AMB AMB 22 00 40.4
comp=Z,54nm,3.5s
XAN Xi'an 67.42 64 P **P 22 00 37.8 -1.2**
XAN S **S 22 09 35.3 +0.2**
XAN SS **SS 22 13 57.5 +2.9**
XAN pmax pmax
comp=Z,7.0nm,1.2s
XAN pmax pmax
comp=Z,83nm,7.1s
XAN LR LR
comp=N,970nm,17.3s
XAN LR LR
comp=E,570nm,18.4s
KLOF Kloof 67.82 173 *e*P **P 22 00 42.3 +0.8**
KLOF AMB AMB 22 00 44.1
comp=Z,41nm,2.2s
ERPM east rand prop 67.87 172 *e*P **P 22 00 42.2 +0.4**
ERPM AMB AMB 22 00 42.7
comp=Z,32nm,5.2s
SADO Sadowa 68.02 311 P **P 22 00 42.8 +0.3**
SADO Sadowa 68.02 311 P **P 22 00 42.8 +0.3**
comp=Z,17nm,1.1s,baz=68,slow=6.2,SNR=5.6
SADO Sadowa 68.02 311 P **P 22 00 42.8 +0.3**
KMI Kunming 68.31 75 P **P 22 00 43.4 -1.5**
KMI pP **pP 22 00 47.9 +0.5**
KMI PP **PP 22 03 19.1 +3.8**
KMI S **S 22 09 44.3 -2.0**
KMI SS **SS 22 14 10.5 +1.4**
KMI pmax pmax
comp=Z,13nm,0.9s
KMI pmax pmax
comp=Z,270nm,5.5s
KMI LR LR
comp=N,750nm,18.5s
KMI LR LR
comp=E,840nm,18.0s
KMI LR LR
comp=Z,820nm,19.4s
PRYS Parys 68.36 173 *e*P **P 22 00 44.8 0.0**
PRYS AMB AMB 22 00 45.3
comp=Z,16nm,3.6s
SWZ Schweizer 68.47 175 *e*P **P 22 00 45.5 0.0**
SWZ AMB AMB 22 00 48.4
comp=Z,47nm,2.0s
BJI Beijing 68.60 55 P **P 22 00 45.4 -0.7**
BJI S **S 22 09 48.6 -0.2**
BJI pmax pmax
comp=Z,14nm,0.8s
BJI pmax pmax
comp=Z,310nm,6.3s
BJI LR LR
comp=N,3μm,18.3s
BJI LR LR
comp=E,3μm,18.3s
BJI LR LR
comp=Z,830nm,20.8s
CMAI Chiengmai2 68.72 82 P **P 22 00 46.1 -1.3**
comp=Z,43nm,0.8s,comp=Z,3μm
INK Inuvik 68.80 350 *e*P **P 22 00 46.1 -0.8**
comp=Z,32nm,1.3s
INK Inuvik 68.80 350 P **P 22 00 46.3 -0.6**
comp=Z,5.9nm,0.7s,baz=32,slow=8.1,SNR=8.2
INK LR LR 22 33 08.9
comp=Z,648nm,20.2s,baz=314,slow=38
INK Inuvik 68.80 350 *e*P **P 22 00 46.1 -0.8**
comp=Z,32nm,1.3s
POGA Pongola 69.28 169 *e*P **P 22 00 50.5 +0.2**
POGA AMB AMB 22 00 51.8
comp=Z,33nm,3.2s
CHTO Chiang Mai 69.33 83 *e*P **P 22 00 48.9 -2.1**
CHTO pmax pmax
comp=Z,27nm,1.0s
CHTO Chiang Mai 69.33 83 *e*P **P 22 00 48.9 -2.1**
comp=Z,27nm,1.0s
CHTO Chiang Mai 69.33 83 P **P 22 00 48.9 -2.1**
comp=Z,33nm,0.9s
CHTO Chiang Mai 69.33 83 P **P 22 00 48.9 -2.1**
comp=Z,33nm,0.9s
CHTO Chiang Mai 69.33 83 *e*P **P 22 00 48.9 -2.1**
comp=Z,27nm,1.0s
CRAI Chiangrai 69.52 81 P P 22 00 48.3 -3.9
comp=Z,120nm,0.7s
CM31 Chiang Mai Arr 69.54 83 *e*P **P 22 00 49.5 -2.8**
comp=Z,18nm,0.8s
CM31 Chiang Mai Arr 69.54 83 *e*P **P 22 00 49.5 -2.8**
comp=Z,18nm,0.8s
CMAR Chiang Mai Arr 69.54 83 P **P 22 00 50.2 -2.1**
CMAR Chiang Mai Arr 69.54 83 P **P 22 00 50.2 -2.1**
comp=Z,15nm,0.8s,baz=306,slow=7.6,SNR=100
CMAR LR LR 22 38 13.7
comp=Z,387nm,20.3s,baz=290,slow=42
CMAR Chiang Mai Arr 69.54 83 P **P 22 00 50.2 -2.1**
PAYA Payao 69.68 82 P **P 22 00 51.4 -1.8**
comp=Z,19nm,0.8s,comp=Z,162nm
SSPA Standing Stone 69.79 307 *e*P **P 22 00 55.3 +1.8**
comp=Z,126nm,2.2s
SSPA Standing Stone 69.79 307 *e*P **P 22 00 55.3 +1.8**
comp=Z,126nm,2.2s
BOSA Boshof 69.89 175 ⇑ *i*P **P 22 00 54.1 0.0**
BOSA AMB AMB 22 00 57.7
comp=Z,35nm,1.9s
BOSA Boshof 69.89 175 *e*P **P 22 00 54.3 +0.1**
BOSA Boshof 69.89 175 P **P 22 00 54.2 0.0**
comp=Z,23nm,0.7s,baz=356,slow=6.7,SNR=7.0
BOSA LR LR 22 33 58.7
comp=Z,2μm,18.6s,baz=354,slow=38
BOSA Boshof 69.89 175 *e*P **P 22 00 54.3 +0.1**
ENH Enshi 70.03 67 *e*P **P 22 00 53.2 -2.1**
comp=Z,19nm,1.0s
ENH Enshi 70.03 67 *e*P **P 22 00 53.2 -2.1**
comp=Z,19nm,1.0s
YKW3 Yellowknife Ar 70.21 340 *e*P **P 22 00 55.5 -0.2**
comp=Z,0.8nm,1.0s
YKW3 Yellowknife Ar 70.21 340 *e*P **P 22 00 55.5 -0.2**
comp=Z,0.8nm,1.0s
YKA Yellowknife Ar 70.26 340 P **P 22 00 55.5 -0.6**
YKA Yellowknife Ar 70.26 340 P **P 22 00 55.4 -0.6**
comp=Z,15nm,0.9s,baz=38,slow=5.3,SNR=17
YKA Yellowknife Ar 70.26 340 P **P 22 00 55.5 -0.6**
GYA Guiyang 70.34 72 P **P 22 00 58.0 +0.7**
GYA PP **PP 22 03 34.5 +1.8**
GYA S **S 22 10 08.9 -1.1**
GYA SKS **SKSac 22 10 54.2 -5.3**
GYA SS **SS 22 14 40.0 -0.1**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,140nm,5.9s
GYA LR LR
comp=N,760nm,20.2s
GYA LR LR
comp=E,680nm,21.4s
GYA LR LR
comp=Z,830nm,20.8s
COLD Coldfoot 71.38 356 *e*P **P 22 01 03.0 +0.2**
comp=Z,33nm,1.1s
COLD Coldfoot 71.38 356 *e*P **P 22 01 03.0 +0.2**
comp=Z,33nm,1.1s
KLR Kul'dur 71.39 40 *e*P P 22 01 00.0 -3.2
KLR *e*S **S 22 10 20.0 -1.3**
KLR *e* 22 18 07.5
KLR MLR MLR
comp=E,1μm,12.0s
KLR MLR MLR
comp=Z,2μm,12.0s
TIA Tai'an 71.51 58 *e*P **P 22 01 02.6 -1.5**
TIA S **S 22 10 27.9 +4.7**
TIA LR LR
comp=N,2μm,19.3s
TIA LR LR
comp=E,2μm,17.8s
TIA LR LR
comp=Z,640nm,22.0s
CN2 Changchun 71.70 47 ⇑ P **P 22 01 04.6 -0.5**
CN2 PcP **PcP 22 01 24.5 +0.3**
CN2 *e*S **S 22 10 23.1 -2.0**
CN2 pmax pmax
comp=Z,20nm,1.2s
CN2 pmax pmax
comp=Z,500nm,4.0s
CN2 LR LR
comp=Z,1μm,16.0s
UTHA Uthaitani 71.72 85 P **P 22 01 04.4 -1.2**
comp=Z,10nm,0.9s,comp=Z,106nm
FFC Flin Flon 72.30 329 P **P 22 01 08.2 -0.3**
comp=Z,141nm,0.7s,SNR=5.5
FFC Flin Flon 72.30 329 *e*P **P 22 01 08.3 -0.3**
FFC pmax pmax
comp=Z,112nm,1.3s
FFC Flin Flon 72.30 329 *e*P **P 22 01 08.3 -0.3**
comp=Z,112nm,1.3s
FFC Flin Flon 72.30 329 *e*P **P 22 01 08.3 -0.3**
comp=Z,112nm,1.3s
EYMN Ely 72.54 319 *e*P **P 22 01 10.3 +0.2**
comp=Z,61nm,1.5s
EYMN Ely 72.54 319 *e*P **P 22 01 10.3 +0.2**
comp=Z,61nm,1.5s
COWI Conover 72.60 317 *e*P **P 22 01 10.3 -0.2**
comp=Z,21nm,0.8s
COWI Conover 72.60 317 *e*P **P 22 01 10.3 -0.2**
comp=Z,21nm,0.8s
IMA2 Indian Mountai 72.69 357 *e*P **P 22 01 10.6 -0.2**
IMA2 Indian Mountai 72.69 357 *e*P **P 22 01 10.6 -0.2**
IM04 Indian Mountai 72.78 358 *e*P **P 22 01 11.6 +0.3**
IM04 Indian Mountai 72.78 358 *e*P **P 22 01 11.6 +0.3**
NONG Nongkai 72.91 81 P **P 22 01 11.2 -1.6**
comp=Z,21nm,1.5s
EGAK Eagle 73.09 352 *e*P **P 22 01 12.8 -0.3**
comp=Z,23nm,1.3s
EGAK Eagle 73.09 352 *e*P **P 22 01 12.8 -0.3**
comp=Z,23nm,1.3s
WHN Wuhan 73.19 64 P **P 22 01 13.1 -1.1**
WHN S **SKiKP 22 10 47.7 +1.2**
WHN LR LR
comp=Z,3μm,27.0s
MDJ Mudanjiang 73.41 45 P **P 22 01 14.2 -1.1**
MDJ PP **PP 22 03 58.8 +0.5**
MDJ S **S 22 10 41.9 -2.6**
MDJ ScS **ScS 22 11 26.1 +1.8**
MDJ SS SS 22 15 36.6 +11
MDJ pmax pmax
comp=Z,4.0nm,0.6s
MDJ pmax pmax
comp=Z,180nm,6.8s
MDJ LR LR
comp=N,1μm,22.2s
MDJ LR LR
comp=E,2μm,23.1s
MDJ LR LR
comp=Z,780nm,23.1s
COLA College 73.58 355 *e*P **P 22 01 16.0 +0.1**
COLA pmax pmax
comp=Z,59nm,1.0s
COLA College 73.58 355 *e*P **P 22 01 16.0 +0.1**
comp=Z,59nm,1.0s
COLA College 73.58 355 *e*P **P 22 01 16.0 +0.1**
comp=Z,59nm,1.0s
DAWY Dawson 73.58 351 *e*P **P 22 01 15.8 -0.3**
DAWY Dawson 73.58 351 *e*P **P 22 01 15.8 -0.3**
ILAR Eielson Array 73.62 354 P **P 22 01 15.8 -0.3**
ILAR Eielson Array 73.62 354 P **P 22 01 15.8 -0.3**
comp=Z,3.7nm,0.6s,baz=2.4,slow=5.1,SNR=24
ILAR LR LR 22 36 50.4
comp=Z,298nm,20.3s,baz=211,slow=38
ILAR Eielson Array 73.62 354 P **P 22 01 15.9 -0.3**
AGMN Agassiz Nation 74.39 322 *e*P **P 22 01 20.9 -0.1**
comp=Z,29nm,1.4s
AGMN Agassiz Nation 74.39 322 *e*P **P 22 01 20.9 -0.1**
comp=Z,29nm,1.4s
BPAW Bear Paw Mtn. 74.54 356 *e*P **P 22 01 21.1 -0.5**
comp=Z,42nm,1.6s
BPAW Bear Paw Mtn. 74.54 356 *e*P **P 22 01 21.1 -0.5**
comp=Z,42nm,1.6s
PANO Nakornpanom 74.58 81 P **P 22 01 21.2 -1.3**

comp=Z,232nm,1.4s
GRM Grahamstown 74.64 175 *eP* **P 22 01 21.7 -0.8**
GRM AMB AMB 22 01 22.6
comp=Z,90nm,4.6s
MCK McKinley 74.79 355 *eP* **P 22 01 23.2 +0.2**
MCK pmax pmax
comp=Z,46nm,1.2s
MCK McKinley 74.79 355 *eP* **P 22 01 23.2 +0.2**
comp=Z,46nm,1.2s
MCK McKinley 74.79 355 *eP* **P 22 01 23.2 +0.2**
comp=Z,46nm,1.2s
USRK Ussuriysk Arra 74.95 44 P **P 22 01 23.2 -1.1**
comp=Z,2.2nm,0.4s,baz=308,slow=6.3,SNR=8.9
USRK LR LR 22 38 13.2
comp=Z,999nm,18.5s,baz=310,slow=39
A30A Hoffart Farm, 75.04 323 P **P 22 01 24.4 -0.4**
baz=75
SPMN St. Paul 75.08 318 *eP* **P 22 01 25.2 +0.2**
SPMN St. Paul 75.08 318 *eP* **P 22 01 25.2 +0.2**
TRF Thorofare Moun 75.15 356 *eP* **P 22 01 24.7 -0.6**
comp=Z,46nm,1.6s
TRF Thorofare Moun 75.15 356 *eP* **P 22 01 24.7 -0.6**
comp=Z,46nm,1.6s
CAST Castle Rocks 75.27 357 *eP* **P 22 01 25.7 -0.1**
comp=Z,107nm,2.2s
CAST Castle Rocks 75.27 357 *eP* **P 22 01 25.7 -0.1**
comp=Z,107nm,2.2s
PAX Paxson 75.28 353 *eP* **P 22 01 26.5 +0.5**
PAX pmax pmax
comp=Z,15nm,1.1s
PAX Paxson 75.28 353 *eP* **P 22 01 26.5 +0.5**
comp=Z,15nm,1.1s
PAX Paxson 75.28 353 *eP* **P 22 01 26.5 +0.5**
comp=Z,15nm,1.1s
SFIN Scholer Farm 75.34 311 *eP* **P 22 01 26.2 -0.4**
SFIN Scholer Farm 75.34 311 *eP* **P 22 01 26.2 -0.4**
SFIN Scholer Farm 75.34 311 P **P 22 01 26.6 0.0**
baz=75
JFWS Jewell Farm 75.35 315 *eP* **P 22 01 26.8 +0.2**
JFWS pmax pmax
comp=Z,16nm,0.8s
JFWS Jewell Farm 75.35 315 *eP* **P 22 01 26.8 +0.2**
comp=Z,16nm,0.8s
JFWS Jewell Farm 75.35 315 *eP* **P 22 01 26.8 +0.2**
comp=Z,16nm,0.8s
KMSC Kings Mountain 75.36 304 *eP* P 22 01 30.6 +3.8
comp=Z,70nm,1.9s
B30A Myrvik Farm, E 75.41 323 P **P 22 01 26.8 -0.1**
baz=75
A29A Manning Farm, 75.47 324 P **P 22 01 26.9 -0.3**
baz=75
PPLA Purkeypile 75.80 357 *eP* **P 22 01 29.0 -0.1**
comp=Z,75nm,1.6s
PPLA Purkeypile 75.80 357 *eP* **P 22 01 29.0 -0.1**
comp=Z,75nm,1.6s
BLO Bloomington 75.82 310 *eP* **P 22 01 29.8 +0.4**
BLO pmax pmax
comp=Z,20nm,0.9s
BLO Bloomington 75.82 310 *eP* **P 22 01 29.8 +0.4**
comp=Z,20nm,0.9s
BLO Bloomington 75.82 310 *eP* **P 22 01 29.8 +0.4**
comp=Z,20nm,0.9s
C30A Mose, Pekin 76.03 322 P **P 22 01 30.4 -0.1**
baz=76
WCI Wyandotte Cave 76.32 309 *eP* **P 22 01 32.7 +0.4**
WCI pmax pmax
comp=Z,80nm,1.6s
WCI Wyandotte Cave 76.32 309 *eP* **P 22 01 32.7 +0.4**
comp=Z,80nm,1.6s
WCI Wyandotte Cave 76.32 309 *eP* **P 22 01 32.7 +0.4**
comp=Z,80nm,1.6s
HDIL Hopedale 76.45 312 *eP* **P 22 01 33.8 +0.9**
comp=Z,22nm,0.8s
HDIL Hopedale 76.45 312 *eP* **P 22 01 33.8 +0.9**
comp=Z,22nm,0.8s
HYT Haines Junctio 76.46 349 *eP* **P 22 01 33.7 +0.9**
HYT Haines Junctio 76.46 349 *eP* **P 22 01 33.7 +0.9**
TKL Tuckaleechee C 76.53 306 *eP* **P 22 01 36.1 +2.6**
TKL Tuckaleechee C 76.53 306 P **P 22 01 33.1 -0.4**
comp=Z,4.5nm,0.9s,baz=148,slow=0.8,SNR=4.0
TKL Tuckaleechee C 76.53 306 *eP* **P 22 01 36.1 +2.6**
SML Sawmill 76.66 355 *eP* **P 22 01 34.3 +0.5**
SML pmax pmax
comp=Z,7.0nm,1.1s
SML Sawmill 76.66 355 *eP* **P 22 01 34.3 +0.5**
comp=Z,6.7nm,1.1s
SML Sawmill 76.66 355 *eP* **P 22 01 34.3 +0.5**
comp=Z,6.7nm,1.1s
PMR Palmer 76.93 355 *eP* **P 22 01 35.3 +0.1**
PMR pmax pmax
comp=Z,24nm,1.1s
PMR Palmer 76.93 355 *eP* **P 22 01 35.3 +0.1**
comp=Z,24nm,1.1s
PMR Palmer 76.93 355 *eP* **P 22 01 35.3 +0.1**
comp=Z,24nm,1.1s
OLIL Olney 77.02 310 *eP* **P 22 01 36.3 +0.1**
comp=Z,45nm,1.4s
OLIL Olney 77.02 310 *eP* **P 22 01 36.3 +0.1**
comp=Z,45nm,1.4s
E30A Jud 77.12 322 P **P 22 01 36.5 -0.1**
baz=77
CPCT Cooper Cave 77.12 306 *eP* **P 22 01 38.7 +1.9**
CPCT Cooper Cave 77.12 306 *eP* **P 22 01 38.7 +1.9**
DIV Divide 77.12 353 *eP* P 22 01 39.7 +3.2
comp=Z,39nm,1.6s
BMRM Bremner River 77.17 353 *eP* **P 22 01 37.4 +0.7**
comp=Z,45nm,1.2s
BMRM Bremner River 77.17 353 *eP* **P 22 01 37.4 +0.7**
comp=Z,45nm,1.2s
QIZ Qiongzhong 77.23 76 P **P 22 01 37.2 -0.5**
QIZ S **S 22 11 29.4 +1.6**
QIZ pmax pmax
comp=Z,17nm,1.6s
QIZ pmax pmax
comp=Z,210nm,5.3s
QIZ LR LR
comp=N,660nm,25.3s
QIZ LR LR
comp=E,450nm,22.5s
QIZ LR LR
comp=Z,570nm,27.2s
KSAR Wonju Array Be 77.29 51 P **P 22 01 37.1 -0.6**
KSAR Wonju Array Be 77.29 51 P **P 22 01 37.1 -0.6**
USIN University of 77.29 310 *eP* **P 22 01 38.3 +0.5**
comp=Z,36nm,1.1s
USIN University of 77.29 310 *eP* **P 22 01 38.3 +0.5**
comp=Z,36nm,1.1s
KSRS Korea Array 77.31 51 P **P 22 01 37.1 -0.7**
comp=Z,12nm,0.8s,baz=315,slow=4.6,SNR=30
KSRS LR LR 22 38 47.9
comp=Z,601nm,18.9s,baz=312,slow=38
SSE Sheshan 77.37 60 P P 22 01 33.5 -4.8
SSE S **S 22 11 23.3 -5.6**
SSE sS sS 22 11 34.3 +1.1
SSE pmax pmax
comp=Z,21nm,0.7s
SSE pmax pmax
comp=Z,190nm,4.6s
SSE LR LR
comp=N,1µm,18.9s
SSE LR LR
comp=E,2µm,19.0s
SSE LR LR
comp=Z,500nm,18.7s
E29A Napoleon 77.41 322 P **P 22 01 38.2 -0.1**
baz=77
SKAG Skagway 77.44 348 *eP* **P 22 01 37.3 -0.8**
SKAG Skagway 77.44 348 *eP* **P 22 01 37.3 -0.8**
DLBC Dease Lake 77.44 345 *eP* **P 22 01 38.8 +0.5**
DLBC Dease Lake 77.44 345 P **P 22 01 39.2 +0.9**
comp=Z,10nm,0.9s,baz=9.5,slow=7.4,SNR=15
DLBC LR LR 22 37 43.8
comp=Z,595nm,20.1s,baz=32,slow=37
DLBC Dease Lake 77.44 345 *eP* **P 22 01 38.8 +0.5**
RC01 Rabbit Creek A 77.47 355 *eP* **P 22 01 37.8 -0.5**
comp=Z,38nm,0.9s
RC01 Rabbit Creek A 77.47 355 *eP* **P 22 01 37.8 -0.5**
comp=Z,38nm,0.9s
SPU Mount Spurr 77.51 356 *eP* **P 22 01 38.6 0.0**
SPU Mount Spurr 77.51 356 *eP* **P 22 01 38.6 0.0**
A24A Westby 77.53 326 P **P 22 01 39.1 +0.1**
baz=77,SNR=6.7
EDM Edmonton 77.60 334 *eP* **P 22 01 39.4 +0.2**
EDM Edmonton 77.60 334 *eP* **P 22 01 39.4 +0.2**
EDM Edmonton 77.60 334 *eP* **P 22 01 39.4 +0.2**
B25A Knox Farm, Ray 77.68 325 P **P 22 01 39.9 +0.1**
baz=77

SVW2 Sparrevohn 77.72 358 *eP* **P 22 01 40.3 +0.5**
comp=Z,40nm,1.6s
SVW2 Sparrevohn 77.72 358 *eP* **P 22 01 40.3 +0.5**
comp=Z,40nm,1.6s
ECSD EROS Data Cent 78.05 319 *eP* P 22 01 37.1 -4.8
comp=Z,14nm,0.8s
YSS Yuzh-Sakhalins 78.15 36 *eP* **P 22 01 42.3 0.0**
YSS *e**SP sP 22 01 58.5 +13
YSS *eS* **S 22 11 40.0 +3.2**
YSS pmax pmax
comp=Z,30nm,0.9s
YSS pmax pmax
comp=Z,500nm,4.0s
RSO Redoubt South 78.26 357 *eP* **P 22 01 43.0 0.0**
RSO Redoubt South 78.26 357 *eP* **P 22 01 43.0 0.0**
A22A Carney Farms, 78.27 327 P **P 22 01 43.2 +0.1**
baz=78,SNR=7.6
SLM Saint Louis 78.30 312 *eP* **P 22 01 45.9 +2.6**
SLM pmax pmax
comp=Z,24nm,0.6s
SLM Saint Louis 78.30 312 *eP* **P 22 01 45.9 +2.6**
comp=Z,24nm,0.6s
SLM Saint Louis 78.30 312 *eP* **P 22 01 45.9 +2.6**
comp=Z,24nm,0.6s
B23A Brockton 78.30 326 P **P 22 01 42.9 -0.3**
baz=78
SIUC Southern Illin 78.36 310 *eP* **P 22 01 42.8 -0.9**
comp=Z,28nm,1.3s
SIUC Southern Illin 78.36 310 *eP* **P 22 01 42.8 -0.9**
comp=Z,28nm,1.3s
F28A McLaughlin 78.48 322 P **P 22 01 44.0 -0.3**
baz=78,SNR=6.9
D25A Fairfield 78.61 325 P **P 22 01 44.7 -0.3**
baz=78
WVT Waverly 78.64 308 *eP* **P 22 01 44.4 -0.9**
WVT pmax pmax
comp=Z,21nm,1.3s
WVT Waverly 78.64 308 *eP* **P 22 01 44.4 -0.9**
comp=Z,21nm,1.3s
WVT Waverly 78.64 308 *eP* **P 22 01 44.4 -0.9**
comp=Z,21nm,1.3s
BRSD Miller 78.67 320 *eP* **P 22 01 46.0 +0.7**
BRSD Miller 78.67 320 *eP* **P 22 01 46.0 +0.7**
BRSD Miller 78.67 320 P **P 22 01 45.1 -0.3**
baz=78
E26A Carlson Angus 78.75 324 P **P 22 01 45.7 -0.1**
baz=78
C24A Savage 78.79 325 P **P 22 01 45.7 -0.2**
baz=78
PETK Petropavlovsk- 78.83 25 P **P 22 01 44.7 -1.3**
PETK pmax pmax
comp=Z,6.0nm,1.0s
PETK MLR MLR
comp=Z,516nm,20.4s
PETK Petropavlovsk- 78.83 25 P **P 22 01 44.7 -1.3**
PETK Petropavlovsk- 78.83 25 P **P 22 01 44.7 -1.3**
comp=Z,5.4nm,0.9s,baz=156,slow=1.5,SNR=9.3
PETK LR LR 22 40 28.8
comp=Z,516nm,20.4s,baz=138,slow=39
PETK Petropavlovsk- 78.83 25 P **P 22 01 44.7 -1.3**
B22A Reddig Ranch S 78.85 327 P **P 22 01 46.1 -0.1**
baz=78,SNR=10
C23A Lambert 78.90 326 P **P 22 01 46.5 -0.1**
baz=79,SNR=5.7
SDDR Presa de Saban 78.92 285 *eP* **P 22 01 49.0 +1.9**
comp=Z,36nm,1.0s
SDDR Presa de Saban 78.92 285 *eP* **P 22 01 49.0 +1.9**
comp=Z,36nm,1.0s
F27A Lemmon 79.01 323 P **P 22 01 46.4 -0.9**
baz=79,SNR=5.8
D24A Glendive 79.07 325 P **P 22 01 47.1 -0.4**
baz=79
G28A Parade 79.11 322 P **P 22 01 46.9 -0.9**
baz=79
B21A Ellsworth Farm 79.16 327 P **P 22 01 46.8 -1.1**
baz=79
PET Petropavlovsk 79.20 24 *eP* P 22 01 43.4 -4.6
PET *eS* S 22 11 38.2 -10
PET MLR MLR
comp=Z,600nm,17.0s
KULM Kulim 79.20 92 *eP* **P 22 01 46.3 -2.3**
comp=Z,83nm,1.6s
KULM Kulim 79.20 92 *eP* **P 22 01 46.3 -2.3**
comp=Z,83nm,1.6s
C22A Vida 79.24 326 P **P 22 01 48.5 +0.1**
baz=79,SNR=12
F26A Lodgepole 79.32 323 P **P 22 01 48.3 -0.7**
baz=79,SNR=5.8
H28A Mission Ridge 79.47 322 P **P 22 01 49.8 +0.1**
baz=79
PSI Prapat 79.54 96 P **P 22 01 48.5 -2.1**
PSI Prapat 79.54 96 P **P 22 01 48.5 -2.1**
comp=Z,16nm,0.8s,baz=307,slow=6.0,SNR=11
PSI LR LR 22 39 05.9
comp=Z,480nm,20.9s,baz=278,slow=37
PLAL Pickwick Lake 79.57 308 *eP* **P 22 01 50.3 -0.1**
comp=Z,68nm,1.8s
PLAL Pickwick Lake 79.57 308 *eP* **P 22 01 50.3 -0.1**
comp=Z,68nm,1.8s
C21A Desert Coulee 79.67 327 P **P 22 01 50.5 -0.3**
baz=79,SNR=9.5
G26A Maurine 79.72 323 P **P 22 01 50.9 -0.2**
baz=79,SNR=11
SIT Sitka 79.72 347 *eP* P 22 01 54.9 +4.2
SIT pmax pmax
comp=Z,32nm,1.1s
SIT Sitka 79.72 347 *eP* P 22 01 54.9 +4.2
comp=Z,32nm,1.1s
WRAK Wrangell Islan 79.78 345 *eP* **P 22 01 52.2 +1.1**
comp=Z,14nm,0.8s
WRAK Wrangell Islan 79.78 345 *eP* **P 22 01 52.2 +1.1**
comp=Z,14nm,0.8s
G27A Dupree 79.80 323 P P 22 01 48.4 -3.1
baz=79
D22A Cohagen 79.83 326 P **P 22 01 52.5 +0.8**
baz=80,SNR=18
B19A Brinkman Farms 79.91 328 P **P 22 01 51.9 -0.2**
baz=80,SNR=11
E23A Ismay 79.97 325 P **P 22 01 52.6 +0.2**
baz=80
H27A Howes 79.99 322 P **P 22 01 52.4 -0.2**
baz=80
IPM Ipoh 80.02 93 *eP* **P 22 01 50.0 -3.1**
comp=Z,96nm,1.7s
I28A Midland 80.05 321 P **P 22 01 53.2 +0.3**
baz=80
F24A Ekalaka 80.11 324 P **P 22 01 53.4 +0.1**
baz=80
C20A Veseth Ranch, 80.13 328 P **P 22 01 53.9 +0.6**
baz=80,SNR=17
G25A Newell 80.16 323 P **P 22 01 53.6 +0.1**
baz=80,SNR=6.3
LAO LASA Array 80.21 326 *eP* **P 22 01 54.3 +0.5**
comp=Z,55nm,0.9s
LAO LASA Array 80.21 326 *eP* **P 22 01 54.3 +0.5**
comp=Z,55nm,0.9s
D21A La Casta Ranch 80.24 327 P **P 22 01 54.6 +0.7**
baz=80,SNR=26
LRAL Lakeview Retre 80.26 306 *eP* **P 22 01 54.3 +0.1**
comp=Z,33nm,1.1s
LRAL Lakeview Retre 80.26 306 *eP* **P 22 01 54.3 +0.1**
comp=Z,33nm,1.1s
E22A Miles City 80.30 326 P **P 22 01 55.0 +0.8**
baz=80
H26A Fairpoint 80.32 323 P **P 22 01 54.0 -0.3**
baz=80,SNR=6.7
J28A Allard Ranch, 80.52 321 P **P 22 01 56.1 +0.7**
baz=80,SNR=7.0
BGNE Belgrade 80.53 318 *eP* **P 22 01 55.8 +0.3**
BGNE Belgrade 80.53 318 *eP* **P 22 01 55.8 +0.3**
BGNE Belgrade 80.53 318 P **P 22 01 55.5 0.0**
baz=80
C19A Slack Wire Ran 80.53 328 P **P 22 01 56.1 +0.6**
baz=80,SNR=9.4
EGMT Eagleton 80.58 329 *eP* **P 22 01 56.5 +0.8**
comp=Z,75nm,0.9s
EGMT Eagleton 80.58 329 *eP* **P 22 01 56.5 +0.8**
comp=Z,75nm,0.9s
EGMT Eagleton 80.58 329 P **P 22 01 56.4 +0.7**
baz=80,SNR=24
F23A Volborg 80.63 325 P **P 22 01 56.3 +0.3**
baz=80,SNR=21
D20A Manuel Ranch, 80.68 327 P **P 22 01 56.8 +0.6**
baz=80
H25A Fruitdale 80.69 323 P **P 22 01 56.4 +0.1**
baz=80,SNR=6.7
OXF Oxford 80.69 308 *eP* **P 22 01 55.7 -0.7**

OXF pmax pmax
comp=Z,42nm,1.4s
OXF Oxford 80.69 308 *eP* **P 22 01 55.7 -0.7**
comp=Z,42nm,1.4s
OXF Oxford 80.69 308 *eP* **P 22 01 55.7 -0.7**
comp=Z,42nm,1.4s
HBAR Harrisburg 80.69 310 *eP* **P 22 01 57.1 +0.7**
HBAR Harrisburg 80.69 310 *eP* **P 22 01 57.1 +0.7**
I26A New Underwood 80.81 322 P **P 22 01 57.1 +0.1**
baz=80
D19A Cripps Ranch, 80.93 328 P **P 22 01 57.9 +0.3**
baz=81,SNR=8.9
KDAK Kodiak Island 80.93 356 P **P 22 01 57.5 +0.3**
KDAK Kodiak Island 80.93 356 P **P 22 01 57.5 +0.3**
comp=Z,22nm,1.1s,baz=34,slow=5.7,SNR=7.5
KDAK LR LR 22 38 52.0
comp=Z,220nm,20.4s,baz=20,slow=36
KDAK Kodiak Island 80.93 356 P **P 22 01 57.5 +0.3**
F22A Rosebud 80.95 325 P **P 22 01 57.9 +0.2**
baz=81,SNR=7.9
H24A Dirks Ranch, A 81.02 324 P **P 22 01 58.2 0.0**
baz=81
G23A Biddle 81.03 325 P **P 22 01 58.3 +0.1**
baz=81,SNR=9.9
E20A Meyer Farm, Mu 81.15 327 P **P 22 01 59.2 +0.3**
baz=81,SNR=8.3
I25A Rochford 81.22 323 P **P 22 01 59.7 +0.4**
baz=81,SNR=9.9
D18A Linhart Farms, 81.27 328 P **P 22 02 00.1 +0.6**
baz=81,SNR=9.6
WALA Waterton Lakes 81.28 332 *eP* **P 22 01 59.1 -0.4**
comp=Z,1.3nm,1.3s
WALA Waterton Lakes 81.28 332 *eP* **P 22 01 59.1 -0.4**
comp=Z,1.3nm,1.3s
M30A Dale-Ortello V 81.29 319 P **P 22 02 00.2 +0.6**
baz=81
G22A Birney 81.41 325 P **P 22 02 00.4 +0.1**
baz=81
KSU1 Kansas State U 81.44 315 *eP* **P 22 02 00.4 0.0**
comp=Z,56nm,0.9s
KSU1 Kansas State U 81.44 315 *eP* **P 22 02 00.4 0.0**
comp=Z,56nm,0.9s
E19A Rath Farm, Rou 81.46 327 P **P 22 02 00.8 +0.4**
baz=81,SNR=21
OHAK Old Harbor 81.52 357 *eP* **P 22 02 01.2 +0.8**
comp=Z,27nm,1.0s
OHAK Old Harbor 81.52 357 *eP* **P 22 02 01.2 +0.8**
comp=Z,27nm,1.0s
D17A Six Diamond Ra 81.65 329 P **P 22 02 01.6 0.0**
baz=81,SNR=5.5
F20A Billings 81.73 326 P **P 22 02 02.6 +0.7**
baz=81,SNR=6.9
J25A Sunshine Ranch 81.74 322 P **P 22 02 02.4 +0.4**
baz=81
YUK Yuzh-Kuril'sk 81.79 36 *c iP* **P 22 02 00.4 -1.7**
YUK *e*PPP PPP 22 06 58.6
YUK *i* S **S 22 12 10.9 -4.4**
YUK MLR MLR
comp=N,253nm,18.0s
YUK MLR MLR
comp=Z,699nm,18.0s
G21A Lodge Grass 81.79 326 P **P 22 02 02.5 +0.2**
baz=82
E18A Harlowton 81.83 328 P **P 22 02 03.0 +0.6**
baz=82,SNR=8.8
F19A Roth Farm, Mol 82.01 327 P **P 22 02 04.0 +0.5**
baz=82,SNR=18
JNU Nakatsue 82.04 53 P **P 22 02 02.9 -0.8**
JNU Nakatsue 82.04 53 P **P 22 02 02.9 -0.8**
comp=Z,12nm,1.0s,baz=65,slow=4.6,SNR=3.9
JNU LR LR 22 41 56.1
comp=Z,955nm,20.5s,baz=315,slow=38
JNU Nakatsue 82.04 53 P **P 22 02 02.9 -0.8**
J24A Dixon Ranch, L 82.17 323 P **P 22 02 05.0 +0.7**
baz=82
H21A Big Horn, Sher 82.20 325 P **P 22 02 04.7 +0.2**
baz=82,SNR=6.9
N29A Votaw Ranch, W 82.20 319 P **P 22 02 04.9 +0.5**
baz=82
UALR University of 82.22 310 *eP* **P 22 02 05.2 +0.7**
comp=Z,101nm,2.0s
UALR University of 82.22 310 *eP* **P 22 02 05.2 +0.7**
comp=Z,101nm,2.0s
G20A Bridger 82.22 326 P **P 22 02 04.9 +0.4**
baz=82,SNR=17
E17A Martinsdale 82.29 328 P **P 22 02 05.5 +0.5**
baz=82,SNR=9.3
F18A Big Timber 82.29 327 P **P 22 02 05.5 +0.6**
baz=82,SNR=8.0
BLMT Blacktail Moun 82.32 331 *eP* **P 22 02 05.9 +0.8**
BLMT Blacktail Moun 82.32 331 *eP* **P 22 02 05.9 +0.8**
K25A Mack Ranch, Ha 82.38 322 P **P 22 02 05.5 +0.1**
baz=82
O30A MW Ranch, Wils 82.41 318 P **P 22 02 05.8 +0.3**
baz=82,SNR=7.7
HRY Holter Researc 82.46 329 *eP* **P 22 02 06.3 +0.5**
HRY Holter Researc 82.46 329 *eP* **P 22 02 06.3 +0.5**
JTMT Jette 82.51 331 *eP* **P 22 02 06.5 +0.4**
JTMT Jette 82.51 331 *eP* **P 22 02 06.4 +0.4**
I22A 9 Mile Ranch, 82.54 324 P **P 22 02 06.5 +0.3**
baz=82,SNR=12
P31A Stockton 82.56 317 P **P 22 02 06.4 +0.1**
baz=82,SNR=6.5
CHGN Chignik 82.58 359 *eP* **P 22 02 05.5 -0.5**
CHGN Chignik 82.58 359 *eP* **P 22 02 05.5 -0.5**
BSMT Bassoo Peak 82.61 331 *eP* **P 22 02 07.2 +0.6**
BSMT Bassoo Peak 82.61 331 *eP* **P 22 02 07.2 +0.6**
SWMT Swartz Lake 82.61 331 *eP* **P 22 02 07.2 +0.7**
SWMT Swartz Lake 82.61 331 *eP* **P 22 02 07.2 +0.7**
SLMT Seeley Lake 82.65 330 *eP* **P 22 02 07.2 +0.4**
SLMT Seeley Lake 82.65 330 *eP* **P 22 02 07.2 +0.4**
F17A Fitzpatrick Pl 82.66 328 P **P 22 02 07.4 +0.5**
baz=82,SNR=8.1
H20A Greybull 82.72 326 P **P 22 02 07.6 +0.5**
baz=82,SNR=13
N28A Pribbeno Ranch 82.75 319 P **P 22 02 07.9 +0.6**
baz=82
BBB Bella Bella 82.79 341 LR LR 22 40 46.9
comp=Z,802nm,18.5s,baz=187,slow=37
OGNE Ogallala 82.80 320 *eP* **P 22 02 07.3 -0.3**
comp=Z,42nm,1.1s
OGNE Ogallala 82.80 320 *eP* **P 22 02 07.3 -0.3**
comp=Z,42nm,1.1s
O29A 4D Ranch, Culb 82.82 319 P **P 22 02 08.1 +0.5**
baz=82,SNR=6.8
CHMT Chamberlain Mo 82.83 330 *eP* **P 22 02 08.1 +0.3**
CHMT Chamberlain Mo 82.83 330 *eP* **P 22 02 08.1 +0.3**
J22A Midwest 82.92 324 P **P 22 02 07.7 -0.6**
baz=83,SNR=9.5
Q31A Ellis 82.96 317 P **P 22 02 08.6 +0.2**
baz=83
I21A Big Trails, Te 82.96 325 P **P 22 02 08.8 +0.3**
baz=83,SNR=16
P30A Selden 82.98 318 P **P 22 02 09.1 +0.6**
baz=83,SNR=7.5
H19A Powell 82.99 326 P **P 22 02 09.4 +0.9**
baz=83,SNR=17
K23A Bowen Ranch, D 83.06 323 P **P 22 02 08.9 -0.1**
baz=83,SNR=12
NEW Newport 83.07 333 *eP* **P 22 02 09.3 +0.5**
comp=Z,16nm,1.2s
NEW Newport 83.07 333 *eP* **P 22 02 09.3 +0.5**
comp=Z,16nm,1.2s
NEW Newport 83.07 333 P **P 22 02 09.1 +0.3**
baz=83
MIAR Mount Ida 83.09 311 *eP* **P 22 02 09.9 +0.8**
MIAR pmax pmax
comp=Z,28nm,1.0s
MIAR Mount Ida 83.09 311 *eP* **P 22 02 09.9 +0.8**
comp=Z,28nm,1.0s
MIAR Mount Ida 83.09 311 *eP* **P 22 02 09.9 +0.8**
comp=Z,28nm,1.0s
FX1 Attu Island--F 83.10 16 *eP* P 22 02 13.8 +5.0
FX1 Attu Island--F 83.10 16 LR LR 22 38 46.5
comp=Z,231nm,21.8s,baz=348,slow=35
N27A Anderson Farm, 83.14 320 P **P 22 02 10.4 +0.9**
baz=83,SNR=6.1
MSO Missoula 83.16 330 *eP* **P 22 02 09.9 +0.5**
comp=Z,16nm,1.1s
MSO Missoula 83.16 330 *eP* **P 22 02 09.9 +0.5**
comp=Z,16nm,1.1s
MSO Missoula 83.16 330 P **P 22 02 09.7 +0.3**
baz=83
I20A Worland 83.21 325 P **P 22 02 09.7 0.0**
baz=83,SNR=22
BOZ Bozeman (W) 83.26 328 *eP* **P 22 02 09.9 -0.1**
BOZ pmax pmax

	comp=Z,16nm,1.3s					
BOZ	Bozeman (W)	83.26	328	eP	P	22 02 09.8 -0.1
	comp=Z,16nm,1.3s					
BOZ	Bozeman (W)	83.26	328	eP	P	22 02 09.9 -0.1
	comp=Z,16nm,1.3s					
H18A	Shoshone NF, C	83.27	327	P	P	22 02 10.7 +0.6
	baz=83,SNR=20					
TUL1	Tulsa	83.34	313	eP	P	22 02 10.9 +0.5
TUL1	Tulsa	83.34	313	eP	P	22 02 10.9 +0.5
TUL1	Tulsa	83.34	313	P	P	22 02 10.7 +0.4
	baz=83,SNR=11					
M25A	Palm-Egli Farm	83.38	321	P	P	22 02 11.6 +0.9
	baz=83,SNR=5.8					
Q30A	Quinter	83.40	318	P	P	22 02 11.5 +0.8
	baz=83,SNR=7.0					
J21A	Lysite	83.40	325	P	P	22 02 10.8 0.0
	baz=83,SNR=20					
LRM	Limekiln Ridge	83.44	329	eP	P	22 02 11.7 +0.7
LRM	Limekiln Ridge	83.44	329	eP	P	22 02 11.7 +0.7
N26A	Koester Ranch,	83.46	321	P	P	22 02 11.9 +0.8
	baz=83,SNR=7.0					
I19A	Meeteetse	83.51	326	P	P	22 02 12.1 +0.8
	baz=83,SNR=29					
K22A	Casper	83.55	324	P	P	22 02 11.2 -0.4
	baz=83,SNR=21					
R31A	Burdett	83.56	317	P	P	22 02 12.0 +0.4
	baz=83,SNR=13					
O27A	Beecher Island	83.59	320	P	P	22 02 12.3 +0.6
	baz=83,SNR=17					
L23A	Garrett	83.61	323	P	P	22 02 11.6 -0.3
	baz=83,SNR=11					
J20A	Shoshoni	83.67	325	P	P	22 02 12.4 +0.3
	baz=83,SNR=16					
M24A	Cheyenne	83.71	322	P	P	22 02 13.3 +0.8
	baz=83,SNR=11					
P28A	Saint Francis	83.71	319	P	P	22 02 13.1 +0.8
	baz=83,SNR=8.4					
B08A	Colville Reser	83.73	334	eP	P	22 02 18.5 +6.3
	comp=Z,52nm,2.0s					
MAT	Matsushiro	83.74	46	P	P	22 02 11.6 -0.8
MAT				S	S	22 12 38.2 +2.7
MJAR	Matsushiro Arr	83.74	46	P	P	22 02 12.0 -0.4
MJAR	Matsushiro Arr	83.74	46	P	P	22 02 12.0 -0.4
	comp=Z,5.9nm,1.0s,baz=313,slow=4.8,SNR=13					
MJAR				LR	LR	22 38 06.3
	comp=Z,516nm,21.8s,baz=315,slow=35					
MJAR	Matsushiro Arr	83.74	46	P	P	22 02 12.0 -0.4
YMR	Madison River	83.80	327	eP	P	22 02 12.9 0.0
	comp=Z,55nm,1.1s					
YMR	Madison River	83.80	327	eP	P	22 02 12.9 0.0
	comp=Z,55nm,1.1s					
Q29A	Oakley	83.85	318	P	P	22 02 13.1 +0.1
	baz=84					
QLMT	Earthquake Lak	83.86	328	eP	P	22 02 14.8 +1.7
QLMT	Earthquake Lak	83.86	328	eP	P	22 02 14.8 +1.7
H17A	Grant Village	83.87	327	eP	P	22 02 14.7 +1.4
H17A	Grant Village	83.87	327	eP	P	22 02 14.7 +1.4
DLMT	Dillon	83.88	329	eP	P	22 02 14.2 +1.1
	comp=Z,54nm,1.4s					
DLMT	Dillon	83.88	329	eP	P	22 02 14.2 +1.1
	comp=Z,54nm,1.4s					
K21A	Alcova	83.89	324	P	P	22 02 12.8 -0.5
	baz=84,SNR=17					
H16A	Russell Place,	83.89	328	P	P	22 02 14.2 +0.8
	baz=84					
YFT	Old Faithful	83.93	327	eP	P	22 02 14.7 +1.1
	comp=Z,22nm,0.8s					
YFT	Old Faithful	83.93	327	eP	P	22 02 14.7 +1.1
	comp=Z,22nm,0.8s					
R30A	Dighton	83.95	317	P	P	22 02 13.8 +0.3
	baz=84,SNR=13					
L22A	Ellis Ranch, M	84.00	323	P	P	22 02 14.5 +0.6
	baz=84,SNR=13					
I18A	Diamond G Ranc	84.12	326	P	P	22 02 15.3 +0.7
	baz=84,SNR=19					
PHWY	Pilot Hill	84.14	322	eP	P	22 02 14.8 +0.1
	comp=Z,42nm,1.0s					
PHWY	Pilot Hill	84.14	322	eP	P	22 02 14.8 +0.1
	comp=Z,42nm,1.0s					
Q28A	Sharon Springs	84.14	319	P	P	22 02 14.8 +0.3
	baz=84,SNR=7.4					
J19A	Crowheart	84.16	325	P	P	22 02 14.8 +0.2
	baz=84,SNR=14					
FLWY	Flagg Ranch	84.18	327	eP	P	22 02 16.8 +2.0
	comp=Z,36nm,0.9s					
FLWY	Flagg Ranch	84.18	327	eP	P	22 02 16.8 +2.0
	comp=Z,36nm,0.9s					
N24A	Carr	84.24	322	P	P	22 02 16.0 +0.9
	baz=84,SNR=7.6					
K20A	Yellowstone Ra	84.34	325	P	P	22 02 15.1 -0.5
	baz=84					
MCMT	McKenzie Canyo	84.42	329	eP	P	22 02 16.5 +0.4
	comp=Z,3.9nm,0.8s					
MCMT	McKenzie Canyo	84.42	329	eP	P	22 02 16.5 +0.4
	comp=Z,3.9nm,0.8s					
K19A	Absolon Red Bu	84.43	325	P	P	22 02 15.2 -0.9
	baz=84,SNR=19					
IMW	Indian Meadow	84.43	327	eP	P	22 02 15.0 -1.2
	comp=Z,22nm,0.7s					
IMW	Indian Meadow	84.43	327	eP	P	22 02 15.0 -1.2
	comp=Z,22nm,0.7s					
MOOW	Moose Ponds	84.47	327	eP	P	22 02 17.1 +0.8
	comp=Z,107nm,2.3s					
MOOW	Moose Ponds	84.47	327	eP	P	22 02 17.1 +0.8
	comp=Z,107nm,2.3s					
L21A	Rawlins	84.47	324	P	P	22 02 16.1 -0.2
	baz=84					
P26A	Davis Ranch, A	84.50	320	P	P	22 02 16.9 +0.4
	baz=84					
LOHW	Long Hollow	84.53	327	eP	P	22 02 17.6 +1.0
	comp=Z,89nm,2.3s					
LOHW	Long Hollow	84.53	327	eP	P	22 02 17.6 +1.0
	comp=Z,89nm,2.3s					
S30A	Montezuma	84.54	317	P	P	22 02 17.4 +0.8
	baz=84,SNR=5.7					
T31A	Randall Ranch,	84.54	316	P	P	22 02 17.1 +0.5
	baz=84,SNR=18					
KSCO	Kaye Shedlock'	84.58	319	eP	P	22 02 17.1 +0.3
KSCO	Kaye Shedlock'	84.58	319	eP	P	22 02 17.1 +0.3
KSCO	Kaye Shedlock'	84.58	319	P	P	22 02 17.7 +0.9
	baz=84,SNR=18					
M22A	Cedar Creek Ra	84.58	323	P	P	22 02 17.1 +0.2
	baz=84,SNR=7.8					
I16A	Newdale	84.67	327	P	P	22 02 19.3 +2.1
	baz=84,SNR=9.0					
N23A	Red Feather La	84.68	322	P	P	22 02 17.9 +0.5
	baz=84,SNR=8.5					
SNOW	Snow King Moun	84.71	327	eP	P	22 02 19.1 +1.5
	comp=Z,13nm,0.9s					
SNOW	Snow King Moun	84.71	327	eP	P	22 02 19.0 +1.5
	comp=Z,13nm,0.9s					
M21A	Separation Pea	84.76	323	P	P	22 02 18.1 +0.2
	baz=84,SNR=7.6					
TPAW	Teton Pass	84.77	327	eP	P	22 02 19.0 +1.1
	comp=Z,19nm,0.9s					
TPAW	Teton Pass	84.77	327	eP	P	22 02 19.0 +1.1
	comp=Z,19nm,0.9s					
BW06	Boulder Array	84.78	325	eP	P	22 02 17.1 -0.9
	comp=Z,12nm,0.9s					
BW06	Boulder Array	84.78	325	eP	P	22 02 17.0 -0.9
	comp=Z,12nm,0.9s					
PDAR	Pinedale Array	84.78	325	P	P	22 02 17.4 -0.5
PDAR	Pinedale Array	84.78	325	P	P	22 02 17.4 -0.5
	comp=Z,9.0nm,0.9s,baz=60,slow=3.6,SNR=55					
PDAR				LR	LR	22 39 04.3
	comp=Z,2μm,22.0s,baz=36,slow=35					
PDAR	Pinedale Array	84.78	325	P	P	22 02 17.4 -0.5
JOW	Kunigami	84.82	59	eP	P	22 02 19.3 +1.3
	comp=Z,48nm,1.1s					
JOW	Kunigami	84.82	59	eP	P	22 02 19.3 +1.3
	comp=Z,48nm,1.1s					
REDW	Red Top Meadow	84.83	327	eP	P	22 02 19.3 +1.1
	comp=Z,21nm,1.1s					
REDW	Red Top Meadow	84.83	327	eP	P	22 02 19.3 +1.1
	comp=Z,21nm,1.1s					
L20A	Wamsutter	84.87	324	P	P	22 02 18.8 +0.5
	baz=84,SNR=14					
BDFB	Brasilia	84.87	244	eP	P	22 02 19.9 +1.5
BDFB	Brasilia	84.87	244	P	P	22 02 19.1 +0.7
	comp=Z,14nm,0.8s,baz=70,slow=4.0,SNR=21					
BDFB				LR	LR	22 43 04.8
	comp=Z,788nm,18.5s,baz=210,slow=38					
BDFB	Brasilia	84.87	244	eP	P	22 02 19.9 +1.5
S29A	Ulysses	84.89	317	P	P	22 02 18.8 +0.5
	baz=85,SNR=5.7					
E09A	Wood Farm, Sta	84.94	333	eP	P	22 02 18.4 +0.1
	comp=Z,24nm,0.9s					
E09A	Wood Farm, Sta	84.94	333	eP	P	22 02 18.4 +0.1
	comp=Z,24nm,0.9s					
SDV	Santo Domingo	84.97	277	eP	P	22 02 20.8 +1.6
	comp=Z,31nm,0.9s					
SDV	Santo Domingo	84.97	277	eP	P	22 02 20.8 +1.6
	comp=Z,31nm,0.9s					
N22A	Wattenberg Ran	84.99	322	P	P	22 02 20.1 +1.0
	baz=85					
RRI2	Red Ridge	85.04	327	eP	P	22 02 20.7 +1.5
	comp=Z,41nm,1.3s					
RRI2	Red Ridge	85.04	327	eP	P	22 02 20.7 +1.5
	comp=Z,41nm,1.3s					
F10A	Beach Ranch, E	85.08	332	eP	P	22 02 18.9 -0.3
	comp=Z,204nm,2.5s					
F10A	Beach Ranch, E	85.08	332	eP	P	22 02 18.9 -0.3
	comp=Z,204nm,2.5s					
M20A	Sweetwater, Wa	85.22	324	P	P	22 02 20.5 +0.4
	baz=85,SNR=7.8					
R27A	Eads	85.22	319	P	P	22 02 20.7 +0.7
	baz=85,SNR=6.2					
S28A	Manter	85.31	318	P	P	22 02 21.3 +0.8
	baz=85,SNR=7.2					
T29A	Hugoton	85.33	317	P	P	22 02 21.1 +0.6
	baz=85,SNR=6.5					
ISCO	Idaho Springs	85.40	321	eP	P	22 02 21.7 +0.6
ISCO				pmax	pmax	
	comp=Z,102nm,2.6s					
ISCO	Idaho Springs	85.40	321	eP	P	22 02 21.7 +0.6
	comp=Z,102nm,2.6s					
ISCO	Idaho Springs	85.40	321	eP	P	22 02 21.7 +0.6
	comp=Z,102nm,2.6s					
ISCO	Idaho Springs	85.40	321	P	P	22 02 21.3 +0.1
	baz=85,SNR=5.2					
U30A	WK&E Inc. Balk	85.48	316	P	P	22 02 22.2 +0.9
	baz=85					
N21A	Black Mountain	85.51	323	P	P	22 02 21.9 +0.3
	baz=85,SNR=6.1					
HAWA	Hanford	85.51	333	eP	P	22 02 22.5 +1.3
	comp=Z,36nm,1.0s					
HAWA	Hanford	85.51	333	eP	P	22 02 22.5 +1.3
	comp=Z,36nm,1.0s					
R26A	Arlington	85.53	319	P	P	22 02 21.8 +0.3
	baz=85					
O22A	Kremmling	85.54	322	P	P	22 02 21.7 -0.2
	baz=85					
M19A	Rock Springs	85.63	325	P	P	22 02 22.7 +0.5
	baz=85,SNR=10					
T28A	Walsh	85.78	317	P	P	22 02 23.4 +0.6
	baz=86					
N20A	Spence Gulch,	85.78	324	P	P	22 02 23.3 +0.4
	baz=86,SNR=7.8					
P23A	Jefferson	85.84	321	P	P	22 02 23.8 +0.5
	baz=86,SNR=8.8					
WMOK	Wichita Mounta	85.84	314	eP	P	22 02 23.0 -0.1
WMOK				pmax	pmax	
	comp=Z,29nm,1.0s					
WMOK	Wichita Mounta	85.84	314	eP	P	22 02 23.0 -0.1
	comp=Z,29nm,1.0s					
WMOK	Wichita Mounta	85.84	314	eP	P	22 02 23.0 -0.1
	comp=Z,29nm,1.0s					
BMO	Blue Mountains	86.08	331	eP	P	22 02 22.7 -1.4
	comp=Z,36nm,1.3s					
BMO	Blue Mountains	86.08	331	eP	P	22 02 22.7 -1.4
	comp=Z,36nm,1.3s					
P22A	Eagle	86.09	322	P	P	22 02 24.5 0.0
	baz=86					
HLID	Hailey	86.09	329	eP	P	22 02 25.6 +1.2
	comp=Z,85nm,2.7s					
HLID	Hailey	86.09	329	eP	P	22 02 25.6 +1.2
	comp=Z,85nm,2.7s					
HLID	Hailey	86.09	329	P	P	22 02 25.4 +1.0
	baz=86					
Q23A	Hartsel	86.21	321	P	P	22 02 25.8 +0.6
	baz=86					
G08A	Pilot Rock	86.28	333	eP	P	22 02 25.0 -0.1
	comp=Z,59nm,2.1s					
G08A	Pilot Rock	86.28	333	eP	P	22 02 25.0 -0.1
	comp=Z,59nm,2.1s					
M17A	Scullys Gap (B	86.31	325	P	P	22 02 24.9 -0.6
	baz=86					
O20A	White River Ci	86.34	323	eP	P	22 02 24.5 -1.1
O20A	White River Ci	86.34	323	eP	P	22 02 24.5 -1.1
O20A	White River Ci	86.34	323	P	P	22 02 25.2 -0.4
	baz=86,SNR=9.0					
U28A	Mallet	86.41	317	P	P	22 02 25.9 0.0
	baz=86					
SMCO	Snowmass	86.53	322	eP	P	22 02 27.5 +0.6
	comp=Z,5.2nm,1.0s					
SMCO	Snowmass	86.53	322	eP	P	22 02 27.5 +0.6
	comp=Z,5.2nm,1.0s					
HWUT	Hardware Ranch	86.58	326	eP	P	22 02 25.9 -0.9
	comp=Z,11nm,0.9s					
HWUT	Hardware Ranch	86.58	326	eP	P	22 02 25.9 -0.9
	comp=Z,11nm,0.9s					
O19A	Miners Draw (B	86.60	324	P	P	22 02 26.5 -0.4
	baz=86,SNR=9.0					
U27A	Thompson Grove	86.68	317	P	P	22 02 27.0 -0.3
	baz=86					
Q22A	Crested Butte,	86.75	322	P	P	22 02 27.7 -0.2
	baz=86,SNR=10					
Y32A	R-V Farms, Ver	86.75	314	P	P	22 02 28.7 +1.2
	baz=86,SNR=6.9					
MFID	Camas Ranch	86.76	330	P	P	22 02 27.9 +0.4
	baz=86					
S24A	Houchin Ranch,	86.91	320	P	P	22 02 27.5 -1.1
	baz=87					
P20A	De Beque	86.92	323	P	P	22 02 27.9 -0.6
	baz=87					
HVU	Hansel Valley	86.94	327	eP	P	22 02 29.0 +0.5
HVU				pmax	pmax	
	comp=Z,85nm,2.5s					
HVU	Hansel Valley	86.94	327	eP	P	22 02 29.0 +0.5
	comp=Z,85nm,2.5s					
HVU	Hansel Valley	86.94	327	eP	P	22 02 29.0 +0.5
	comp=Z,85nm,2.5s					
SDCO	Great Sand Dun	86.97	320	eP	P	22 02 28.6 -0.3
	comp=Z,11nm,1.6s					
SDCO	Great Sand Dun	86.97	320	eP	P	22 02 28.6 -0.3
	comp=Z,11nm,1.6s					
P19A	Cripple Cowboy	87.08	323	P	P	22 02 28.7 -0.6
	baz=87					
WHTX	Lake Whitney	87.17	311	eP	P	22 02 30.6 +1.0
WHTX	Lake Whitney	87.17	311	eP	P	22 02 30.6 +1.0
WHTX	Lake Whitney	87.17	311	P	P	22 02 30.2 +0.6
	baz=87					
U26A	Atchley Ranch,	87.17	318	P	P	22 02 29.7 0.0
	baz=87,SNR=6.3					
X30A	Coker Ranch, T	87.19	315	P	P	22 02 30.0 +0.3
	baz=87					
Y31A	Rekieta Farm,	87.23	314	P	P	22 02 29.6 -0.3
	baz=87					
Z32A	Haskell	87.30	313	P	P	22 02 31.1 +0.8
	baz=87,SNR=20					
Q20A	Ridgley Place,	87.32	322	P	P	22 02 29.7 -0.7
	baz=87,SNR=5.5					
JLU	Jordanelle	87.36	325	eP	P	22 02 31.1 +0.4
	comp=Z,50nm,1.8s					
JLU	Jordanelle	87.36	325	eP	P	22 02 31.1 +0.4
	comp=Z,50nm,1.8s					
CTU	Camp Tracy	87.42	326	eP	P	22 02 30.6 -0.3
	comp=Z,4.8nm,0.6s					
CTU	Camp Tracy	87.42	326	eP	P	22 02 30.6 -0.3
	comp=Z,4.8nm,0.6s					
T24B	San Luis	87.45	319	P	P	22 02 31.6 +0.4
	baz=87,SNR=5.6					
U25A	Circle Dot Ran	87.49	318	P	P	22 02 31.5 +0.1
	baz=87,SNR=9.2					
I07A	Izee	87.53	332	eP	P	22 02 33.7 +2.4
	comp=Z,283nm,2.8s					
I07A	Izee	87.53	332	eP	P	22 02 33.7 +2.4
	comp=Z,283nm,2.8s					
S22A	4UR Ranch, Cre	87.61	321	P	P	22 02 31.8 -0.1
	baz=87,SNR=6.8					
Y30A	Stafford Cattl	87.64	315	P	P	22 02 32.0 +0.1
	baz=87					
V26A	Tequesquite Ra	87.65	318	P	P	22 02 31.5 -0.6
	baz=87					
Z31A	Sharp Cattle R	87.66	314	P	P	22 02 32.1 +0.2
	baz=87					
HKT	Hockley	87.74	309	eP	P	22 02 34.0 +1.7
HKT				pmax	pmax	
	comp=Z,25nm,1.3s					
HKT	Hockley	87.74	309	eP	P	22 02 34.0 +1.7
	comp=Z,25nm,1.3s					
HKT	Hockley	87.74	309	eP	P	22 02 34.0 +1.7
	comp=Z,25nm,1.3s					
BGU	Big Grassy Mou	87.76	327	eP	P	22 02 33.0 +0.5
	comp=Z,12nm,1.1s					
BGU	Big Grassy Mou	87.76	327	eP	P	22 02 33.0 +0.5
	comp=Z,12nm,1.1s					
X28A	Dimmitt	87.83	316	P	P	22 02 32.9 0.0
	baz=88					
W27A	Bowe Ranch, En	87.86	317	P	P	22 02 32.6 -0.4
	baz=88,SNR=10					
ABTX	Abilene, Hawle	87.91	313	eP	P	22 02 33.0 -0.2
ABTX	Abilene, Hawle	87.91	313	eP	P	22 02 33.0 -0.2
ABTX	Abilene, Hawle	87.91	313	P	P	22 02 33.7 +0.5
	baz=88					
MPU	Maple Canyon	87.93	325	eP	P	22 02 34.9 +1.5
	comp=Z,12nm,1.0s					
MPU	Maple Canyon	87.93	325	eP	P	22 02 34.9 +1.5
	comp=Z,12nm,1.0s					
R20A	Redvale	87.97	322	P	P	22 02 33.5 -0.2
	baz=88					
Y29A	Porterfield Fa	88.06	315	P	P	22 02 33.5 -0.4
	baz=88					
S21A	Coal Bank Pass	88.13	321	P	P	22 02 34.8 +0.3
	baz=88,SNR=25					
NLU	North Lily Min	88.17	325	eP	P	22 02 35.2 +0.7
	comp=Z,14nm,1.0s					
NLU	North Lily Min	88.17	325	eP	P	22 02 35.2 +0.7
	comp=Z,14nm,1.0s					
SRU	San Rafael	88.19	324	eP	P	22 02 34.0 -0.6
SRU				pmax	pmax	
	comp=Z,16nm,1.0s					
SRU	San Rafael	88.19	324	eP	P	22 02 34.0 -0.6
	comp=Z,16nm,1.0s					
SRU	San Rafael	88.19	324	eP	P	22 02 34.0 -0.6
	comp=Z,16nm,1.0s					
W26A	Owens Ranch, T	88.20	317	P	P	22 02 34.4 -0.3
	baz=88					
T22A	Edith	88.22	320	P	P	22 02 34.9 0.0
	baz=88,SNR=9.5					
PINOR	Pine Mountain	88.23	333	eP	P	22 02 37.2 +2.8
PINOR	Pine Mountain	88.23	333	eP	P	22 02 37.2 +2.8
DUG	Dugway	88.28	326	eP	P	22 02 35.1 +0.1
DUG				pmax	pmax	
	comp=Z,17nm,0.9s					
DUG	Dugway	88.28	326	eP	P	22 02 35.1 +0.1
	comp=Z,17nm,0.9s					
DUG	Dugway	88.28	326	eP	P	22 02 35.1 +0.1
	comp=Z,17nm,0.9s					
DUG	Dugway	88.28	326	P	P	22 02 34.9 0.0
	baz=88					
Y28A	McKinney Farm,	88.33	316	P	P	22 02 35.1 -0.1
	baz=88,SNR=15					
TMUT	Trail Mountain	88.34	325	eP	P	22 02 35.7 +0.2
	comp=Z,13nm,0.9s					
TMUT	Trail Mountain	88.34	325	eP	P	22 02 35.7 +0.2
	comp=Z,13nm,0.9s					
W25A	X Bar L Ranch,	88.45	318	P	P	22 02 35.6 -0.2
	baz=88,SNR=7.3					
232A	Coleman	88.47	313	P	P	22 02 36.4 +0.5
	baz=88,SNR=11					
Z29A	Hungry Hill Ra	88.54	315	P	P	22 02 36.5 +0.3
	baz=88,SNR=9.3					
T21A	Navajo Lake	88.54	321	P	P	22 02 36.8 +0.4
	baz=88					
MSTX	Muleshoe	88.56	316	eP	P	22 02 36.0 -0.4
MSTX	Muleshoe	88.56	316	eP	P	22 02 36.0 -0.4
MSTX	Muleshoe	88.56	316	P	P	22 02 35.9 -0.4
	baz=88					
Q16A	Castle Valley	88.64	324	eP	P	22 02 36.3 -0.4
Q16A	Castle Valley	88.64	324	eP	P	22 02 36.3 -0.4
Q16A	Castle Valley	88.64	324	P	P	22 02 36.2 -0.6
	baz=88					
X26A	CR and CF Fran	88.64	317	P	P	22 02 36.6 -0.2
	baz=88,SNR=12					
130A	Snyder	88.65	314	P	P	22 02 37.0 +0.3
	baz=88,SNR=5.5					
U22A	Llaves	88.71	320	P	P	22 02 37.8 +0.6
	baz=88,SNR=9.1					
231A	Bronte	88.80	313	P	P	22 02 38.6 +1.2
	baz=88,SNR=7.4					
ELK	Elko	88.81	328	eP	P	22 02 38.3 +0.7
	comp=Z,5.7nm,1.0s					
ELK	Elko	88.81	328	eP	P	22 02 38.3 +0.7
	comp=Z,5.7nm,1.0s					
MVCO	Mesa Verde	88.82	322	eP	P	22 02 38.0 +0.3
	comp=Z,15nm,1.1s					
MVCO	Mesa Verde	88.82	322	eP	P	22 02 38.0 +0.3
	comp=Z,15nm,1.1s					
MVCO	Mesa Verde	88.82	322	P	P	22 02 37.9 +0.3
	baz=88,SNR=5.7					
Y27A	Causey	88.83	316	P	P	22 02 37.2 -0.4
	baz=88,SNR=5.8					
Z28A	Tucker Farm, M	88.88	315	P	P	22 02 37.6 -0.2
	baz=89,SNR=7.5					
332A	Millersview	88.90	312	P	P	22 02 38.7 +0.8
	baz=89,SNR=19					
W24A	Lazy 6 Ranch,	88.93	318	P	P	22 02 38.3 +0.2
	baz=89,SNR=8.7					
U21A	Nageezi	89.06	321	P	P	22 02 38.7 -0.1
	baz=89,SNR=11					
V22A	San Miguel Ran	89.11	320	P	P	22 02 39.5 +0.5
	baz=89,SNR=7.7					
Y26A	Elida	89.14	317	P	P	22 02 39.1 0.0
	baz=89,SNR=6.5					
K05A	Summer Lake	89.20	333	eP	P	22 02 41.4 +2.1
	comp=Z,129nm,1.8s					
K05A	Summer Lake	89.20	333	eP	P	22 02 41.4 +2.1
	comp=Z,129nm,1.8s					
230A	Sterling City	89.27	314	P	P	22 02 39.9 +0.2
	baz=89,SNR=8.8					
Z27A	Tatum	89.30	316	P	P	22 02 39.7 -0.2
	baz=89					
432A	Menard	89.32	312	P	P	22 02 40.5 +0.6
	baz=89,SNR=10.0					
W23A	Werner Place,	89.34	319	P	P	22 02 40.4 +0.3
	baz=89					
331A	San Angelo	89.34	313	P	P	22 02 40.7 +0.8
	baz=89,SNR=7.0					
128A	Castleberry Fa	89.45	315	P	P	22 02 40.8 +0.3
	baz=89,SNR=5.9					
V21A	Milan	89.55	320	P	P	22 02 40.8 -0.3
	baz=89,SNR=6.6					
Y25A	Mesa, Roswell	89.58	317	P	P	22 02 40.8 -0.4
	baz=89					
JCT	Junction City	89.62	312	eP	P	22 02 42.1 +0.8
JCT				pmax	pmax	
	comp=Z,41nm,1.4s					
JCT	Junction City	89.62	312	eP	P	22 02 42.1 +0.8
	comp=Z,41nm,1.4s					
JCT	Junction City	89.62	312	eP	P	22 02 42.1 +0.8
	comp=Z,41nm,1.4s					
JCT	Junction City	89.62	312	P	P	22 02 41.8 +0.5
	baz=89,SNR=8.1					
ANMO	Albuquerque	89.66	319	eP	P	22 02 42.1 +0.6
ANMO	Albuquerque	89.66	319	eP	P	22 02 42.2 +0.6
330A	Mertzon	89.68	313	P	P	22 02 42.4 +0.8
	baz=89,SNR=10					
Z26A	Caprock	89.73	316	P	P	22 02 41.5 -0.3
	baz=89,SNR=23					
X23A	Hourglass Bar	89.82	319	P	P	22 02 42.3 -0.1
	baz=90					
431A	Sonora	89.92	312	P	P	22 02 43.6 +0.9
	baz=90,SNR=20					
532A	Rocksprings	89.95	312	P	P	22 02 44.0 +1.2
	baz=90,SNR=20					
V20A	Brimhall	89.95	321	P	P	22 02 42.9 0.0
	baz=90,SNR=11					
TEIG	Tepich	89.96	297	P	P	22 02 44.1 +1.2
TEIG	Tepich	89.96	297	P	P	22 02 44.1 +1.2
	comp=Z,7.5nm,0.8s,baz=287,slow=22,SNR=4.3					
TEIG	Tepich	89.96	297	P	P	22 02 44.1 +1.2
Y24A	Capitan	89.96	318	P	P	22 02 42.8 -0.2
	baz=90					
329A	Wagon Wheel Ra	90.05	314	P	P	22 02 43.9 +0.5
	baz=90,SNR=13					
Z25A	Roswell	90.10	317	P	P	22 02 44.0 +0.4

ROSC	El Rosal	90.37 277	P	P	22 02 46.0	+0.6
BNM	Barren Site	90.38 319	*e*P	P	22 02 45.3	+0.3
	comp=Z,5.6nm,0.9s					
BNM	Barren Site	90.38 319	*e*P	P	22 02 45.3	+0.3
	comp=Z,5.6nm,0.9s					
Z24A	Sheeppen Canyo	90.39 317	P	P	22 02 45.4	+0.3
	baz=90,SNR=7.8					
LENM	Lemitar	90.54 319	*e*P	P	22 02 47.2	+1.5
LENM	Lemitar	90.54 319	*e*P	P	22 02 47.2	+1.5
125A	Gardner Draw,	90.56 316	P	P	22 02 45.4	-0.3
	baz=90,SNR=12					
ARUT	Antelope Range	90.56 325	*e*P	P	22 02 46.1	+0.4
ARUT			pmax	pmax		
	comp=Z,168nm,1.1s					
ARUT	Antelope Range	90.56 325	*e*P	P	22 02 46.1	+0.4
	comp=Z,168nm,1.1s					
ARUT	Antelope Range	90.56 325	*e*P	P	22 02 46.1	+0.4
	comp=Z,168nm,1.1s					
328A	Wristen Ranch,	90.58 314	P	P	22 02 45.8	0.0
	baz=90,SNR=11					
429A	Davenport Ranc	90.67 313	P	P	22 02 46.2	0.0
	baz=90					
X21A	Alamocita Cree	90.71 319	P	P	22 02 47.3	+0.8
	baz=90,SNR=12					
CCUT	Cedar City	90.73 325	*e*P	P	22 02 47.6	+1.0
	comp=Z,14nm,1.3s					
CCUT	Cedar City	90.73 325	*e*P	P	22 02 47.6	+1.0
	comp=Z,14nm,1.3s					
530A	J-C Ranch, Com	90.73 313	P	P	22 02 47.1	+0.6
	baz=90,SNR=20					
226B	Tecolote Peak,	90.76 316	P	P	22 02 46.9	+0.2
	baz=90,SNR=12					
GDL2	Guadalupe Moun	90.77 316	*e*P	P	22 02 47.4	+0.7
GDL2	Guadalupe Moun	90.77 316	*e*P	P	22 02 47.4	+0.7
631A	Perdido Creek	90.87 312	P	P	22 02 47.6	+0.5
	baz=91,SNR=28					
Z23A	Rita Site, Whi	90.89 318	P	P	22 02 47.5	+0.2
	baz=91,SNR=7.9					
124A	Stringfield Ra	90.94 317	P	P	22 02 48.8	+1.1
	baz=91,SNR=5.4					
X20A	Quemado	90.98 320	P	P	22 02 48.0	+0.2
	baz=91					
R11A	Troy Canyon, C	90.99 327	*e*P	P	22 02 48.0	+0.3
R11A	Troy Canyon, C	90.99 327	*e*P	P	22 02 48.0	+0.3
R11A	Troy Canyon, C	90.99 327	P	P	22 02 48.1	+0.3
	baz=91					
Y21A	Point of Rocks	91.01 319	P	P	22 02 48.6	+0.6
	baz=91,SNR=5.9					
428A	Kincaid Ranch,	91.02 314	P	P	22 02 48.0	+0.1
	baz=91,SNR=7.6					
732A	Laxson Ranch,	91.04 311	P	P	22 02 48.9	+1.0
	baz=91,SNR=8.8					
SAML	Samuel	91.10 259	*e*P	P	22 02 48.5	+0.2
	comp=Z,24nm,1.7s					
SAML	Samuel	91.10 259	*e*P	P	22 02 48.5	+0.2
	comp=Z,24nm,1.7s					
U15A	North Rim	91.19 324	P	P	22 02 48.7	-0.2
	baz=91					
529A	Stev Forest Ra	91.23 313	P	P	22 02 49.6	+0.7
	baz=91,SNR=8.8					
326A	Caldwell Ranch	91.26 315	P	P	22 02 49.3	+0.4
	baz=91,SNR=6.7					
PAHR	Pah Rah Range	91.31 330	*e*P	P	22 02 51.1	+2.0
	comp=Z,15nm,1.4s					
PAHR	Pah Rah Range	91.31 330	*e*P	P	22 02 51.1	+2.0
	comp=Z,15nm,1.4s					
427A	Hayter Ranch,	91.31 314	P	P	22 02 49.7	+0.5
	baz=91,SNR=8.4					
Y20A	Horse Springs,	91.44 320	P	P	22 02 49.7	-0.3
	baz=91					
224A	Cornudas Mount	91.47 317	P	P	22 02 49.7	-0.3
	baz=91					
528A	Cox Ranch, San	91.52 314	P	P	22 02 50.7	+0.5
	baz=91,SNR=20					
WUAZ	Wupatki	91.54 323	*e*P	P	22 02 50.4	+0.1
	comp=Z,32nm,1.3s					
WUAZ	Wupatki	91.54 323	*e*P	P	22 02 50.4	+0.1
	comp=Z,32nm,1.3s					
WUAZ	Wupatki	91.54 323	P	P	22 02 50.7	+0.4
	baz=91					
Z21A	St. Cloud Mine	91.57 319	P	P	22 02 50.6	+0.1
	baz=91					
MNTX	Cornudas Mount	91.69 316	*e*P	P	22 02 50.3	-0.6
	comp=Z,7.7nm,1.0s					
MNTX	Cornudas Mount	91.69 316	*e*P	P	22 02 50.3	-0.6
	comp=Z,7.7nm,1.0s					
426A	McDonald Obser	91.79 315	P	P	22 02 52.0	+0.4
	baz=92,SNR=22					
324A	Moseley Ranch,	91.95 316	P	P	22 02 51.7	-0.5
	baz=92,SNR=29					
527A	Woodward Ranch	91.97 314	P	P	22 02 53.2	+0.8
	baz=92,SNR=7.6					
NVAR	Mina Array Bea	92.00 329	P	P	22 02 52.4	-0.1
NVAR	Mina Array Bea	92.00 329	P	P	22 02 52.4	-0.1
	comp=Z,0.8nm,0.7s,baz=9.5,slow=3.6,SNR=7.3					
NVAR	Mina Array Bea	92.00 329	P	P	22 02 52.4	-0.1
628A	Black Gap, Mar	92.09 313	P	P	22 02 53.8	+1.0
	baz=92,SNR=17					
Z20A	Nine Sixteen R	92.18 319	P	P	22 02 54.2	+0.8
	baz=92					
425A	Indio Mountain	92.21 315	P	P	22 02 52.9	-0.5
	baz=92					
222A	Williams Famil	92.25 318	P	P	22 02 53.8	+0.2
	baz=92					
526A	Mary Lane Ranc	92.30 314	P	P	22 02 54.5	+0.7
	baz=92,SNR=16					
SHPR	Sheep Range	92.38 326	*e*P	P	22 02 55.7	+1.5
SHPR	Sheep Range	92.38 326	*e*P	P	22 02 55.7	+1.5
WAKR	Walker	92.38 330	*e*P	P	22 02 55.4	+1.2
WAKR	Walker	92.38 330	*e*P	P	22 02 55.4	+1.2
627A	Terlingua Ranc	92.39 314	P	P	22 02 54.7	+0.4
	baz=92,SNR=32					
OHCM	Honcut	92.40 331	*e*P	P	22 02 55.4	+1.4
OHCM	Honcut	92.40 331	*e*P	P	22 02 55.4	+1.4
X16A	Lo Mia Camp, P	92.47 322	P	P	22 02 55.3	+0.6
	baz=92					
TXAR	Lajitas Array	92.64 314	P	P	22 02 55.6	+0.3
TXAR	Lajitas Array	92.64 314	P	P	22 02 55.6	+0.3
	comp=Z,15nm,0.9s,baz=68,slow=3.4,SNR=104					
TXAR			LR	LR	22 43 19.7	
	comp=Z,744nm,20.7s,baz=355,slow=35					
TXAR	Lajitas Array	92.64 314	P	P	22 02 55.7	+0.3
626A	Big Bend Ranch	92.72 314	P	P	22 02 56.0	-0.2
	baz=92,SNR=12					
MTUM	Tungsten Hills	93.04 328	*e*P	P	22 03 04.2	+6.9
CMB	Columbia Colle	93.15 330	*e*P	P	22 02 59.6	+2.1
CMB			pmax	pmax		
	comp=Z,5.0nm,1.1s					
CMB	Columbia Colle	93.15 330	*e*P	P	22 02 59.6	+2.1
	comp=Z,5.0nm,1.1s					
CMB	Columbia Colle	93.15 330	*e*P	P	22 02 59.6	+2.1
	comp=Z,5.0nm,1.1s					
MPMC	Manual Prospec	93.73 327	P	P	22 03 00.7	+0.2
	baz=93					
TUC	Tucson	93.90 320	*e*P	P	22 03 02.0	+0.8
TUC			pmax	pmax		
	comp=Z,76nm,2.4s					
TUC	Tucson	93.90 320	*e*P	P	22 03 02.0	+0.8
	comp=Z,76nm,2.4s					
TUC	Tucson	93.90 320	*e*P	P	22 03 02.0	+0.8
	comp=Z,76nm,2.4s					
Z14A	Wintersburg	94.04 322	P	P	22 03 01.4	-0.3
	baz=94					
BELC	Belle Mtn. Jos	94.86 325	P	P	22 03 05.9	+0.3
	baz=94					
113A	Mohawk Valley,	94.92 323	P	P	22 03 05.5	-0.1
	baz=95					
GLA	Glamis	95.16 324	*e*P	P	22 03 07.9	+1.1
GLA	Glamis	95.16 324	*e*P	P	22 03 07.9	+1.1
GLA	Glamis	95.16 324	*e*P	P	22 03 07.9	+1.1
PFO	Pinyon Flat Ob	95.40 325	*e*P	P	22 03 08.6	+0.6
	comp=Z,7.9nm,1.0s					
PFO	Pinyon Flat Ob	95.40 325	*e*P	P	22 03 08.6	+0.6
	comp=Z,7.9nm,1.0s					
PFO	Pinyon Flat Ob	95.40 325	P	P	22 03 08.4	+0.3
	baz=95					
OTAV	Otavalo	96.49 276	*e*P	P	22 03 15.5	+1.8
OTAV	Otavalo	96.49 276	*e*P	P	22 03 15.5	+1.8
CPUP	Villa Florida	98.51 242	LR	LR	22 50 45.3	
	comp=Z,943nm,18.8s,baz=40,slow=37					
LPAZ	La Paz	99.53 257	P	Pdif	22 03 26.5	-0.9
LPAZ	La Paz	99.53 257	P	Pdif	22 03 26.5	-0.9
	comp=Z,0.9nm,0.7s,baz=36,slow=7.9,SNR=5.7					
LPAZ			LR	LR	22 49 42.4	
	comp=Z,595nm,20.3s,baz=71,slow=36					
LPAZ	La Paz	99.53 257	P	Pdif	22 03 26.5	-0.9
WRA	Warramunga Arr	120.69 90	PKP	PKPdf	22 08 33.8	-1.8
WRA			PKPbc	PKKPbc	22 18 39.1	+0.2
WRA	Warramunga Arr	120.69 90	PKP	PKPdf	22 08 33.8	-1.8
	comp=Z,1.2nm,0.9s,baz=307,slow=2.1,SNR=5.3					
WRA			PKPbc	PKKPbc	22 18 39.1	+0.2
	comp=Z,1.5nm,0.9s,baz=125,slow=3.9,SNR=6.3					
WRA	Warramunga Arr	120.69 90	PKIKP	PKPdf	22 08 33.8	-1.8
ASAR	Alice Springs	122.55 94	PKP	PKPdf	22 08 37.1	-1.9
ASAR	Alice Springs	122.55 94	PKP	PKPdf	22 08 37.1	-1.9
	comp=Z,1.8nm,0.7s,baz=314,slow=1.6,SNR=17					
ASAR	Alice Springs	122.55 94	PKIKP	PKPdf	22 08 37.1	-1.9
CTA	Charters Tower	129.70 82	PKP	PKPdf	22 08 53.5	+0.7
CTA	Charters Tower	129.70 82	PKP	PKPdf	22 08 53.5	+0.7
	comp=Z,3.4nm,0.8s,baz=247,slow=7.7,SNR=2.4					
CTA	Charters Tower	129.70 82	PKIKP	PKPdf	22 08 53.5	+0.7
QSPA	South Pole Qui	131.33 180	*e*PKPdf	PKPdf	22 08 54.1	-0.4
QSPA	South Pole Qui	131.33 180	*e*PKIKP	PKPdf	22 08 54.1	-0.4
STKA	Stephens Creek	132.67 98	PKP	PKPdf	22 08 59.6	+1.5
STKA	Stephens Creek	132.67 98	PKP	PKPdf	22 08 59.6	+1.5
	comp=Z,2.5nm,0.8s,baz=59,slow=3.6,SNR=3.4					
STKA	Stephens Creek	132.67 98	PKIKP	PKPdf	22 08 59.6	+1.5
DZM	Mont Dzumac	145.54 66	PKPbc	PKPab	22 09 22.9	+0.6
DZM	Mont Dzumac	145.54 66	PKPbc	PKPab	22 09 22.9	+0.6
	comp=Z,69nm,1.2s,baz=73,slow=5.2,SNR=6.8					
DZM	Mont Dzumac	145.54 66	PKPbc	PKPab	22 09 22.9	+0.6

IDC 06 21:50:48.0±16.0, 8°.10S×118°.87E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.3/22, mbtmp3.3/3, Error ellipse: s-maj=318.1km s-min=178.3km az=9.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.05	130	P	P	21 55 11.5	-0.5
	0.1nm,0.3s,baz=303,slow=12,SNR=7.4						
ASAR	Alice Springs	21.15	139	P	P	21 55 35.5	+0.6
	0.3nm,0.7s,baz=314,slow=8.4,SNR=7.3						
STKA	Stephens Creek	31.73	141	P	P	21 57 13.6	-0.2
	1.4nm,0.8s,baz=324,slow=8.7,SNR=2.9						

*ATH **06** 22:01:17.0, 41°.63N×20°.35E, h11km±3km, MD3.8/34*
*IDC **06** 22:01:18.5±0.8, 41°.41N×20°.41E, h0km, mb3.7/14, mb1 3.9/20, mb1mx3.8/33, mbtmp3.7/20, ML3.3/6, Error ellipse: s-maj=12.9km s-min=11.6km az=35.0*
*ISCJB **06** 22:01:19.1±0.3, 41°.49N±0°.01×20°.46E±0°.02, h3km±2km, mb3.7/11, Error ellipse: s-maj=2.3km s-min=1.4km az=149.0*
*TIR **06** 22:01:19.5±3.5, 41°.47N×20°.46E, h8km±999km, ML3.6*
*SKO **06** 22:01:19.1, 41°.42N×20°.44E, h35km, M3.3, ML3.8*
*PDG **06** 22:01:19.7±0.3, 41°.47N×20°.44E, h15km, MD3.8/6, ML3.7/11, Error ellipse: s-maj=0.4km s-min=0.5km az=0.0*
*BEO **06** 22:01:20.0±0.4, 41°.41N×20°.48E, h5km±2km, ML3.6/1*
*THE **06** 22:01:20.0, 41°.49N×20°.49E, h1km±1km, ML3.5/10, Error ellipse: s-maj=1.5km s-min=0.7km az=308.0*
*CSEM **06** 22:01:20.4±0.1, 41°.46N×20°.48E, h2km, ML3.5/10, Error ellipse: s-maj=2.9km s-min=1.7km az=65.0*
*LDG **06** 22:01:20.6±0.1, 41°.48N×20°.38E, h10km, Ml3.7/6, Error ellipse: s-maj=5.7km s-min=3.3km az=37.0*
*PRU **06** 22:01:21.3, 41°.53N×20°.82E, h0km*

ISC 06 22:01:20.0±1.0, 41°.46N±0°.01×20°.45E±0°.01, h6km±7km, n300, σ1°26/410, mb3.8/11, 52C-27D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHP	**Peshkopia**	**0.22**	**359**	*i* PG	**Pg**	**22 01 24.1**	**-0.3**
PHP				*i* SG	**Sg**	**22 01 27.9**	**+0.4**
PHP	**Peshkopia**	**0.22**	**359**	P	**Pg**	**22 01 23.8**	**-0.7**
PHP				S	**Sg**	**22 01 27.7**	**+0.2**
PHP	**Peshkopia**	**0.22**	**359**	*i* Pg	**Pg**	**22 01 24.1**	**-0.3**
	SNR=90						
PHP				*i* Sg	**Sg**	**22 01 27.9**	**+0.4**
	SNR=90						
TIR	**Tirane**	**0.45**	**256**	*i* PG	**Pg**	**22 01 28.7**	**-0.1**
TIR				*i* SG	**Sb**	**22 01 36.3**	**-1.1**
TIR	**Tirane**	**0.45**	**256**	P	**Pg**	**22 01 27.8**	**-1.0**
TIR				S	**Sb**	**22 01 36.2**	**-1.1**
TIR	**Tirane**	**0.45**	**256**	⇑*i*Pg	**Pg**	**22 01 27.6**	**-1.2**
TIR				*e*Sg	**Sb**	**22 01 36.5**	**-0.9**
TIR	**Tirane**	**0.45**	**256**	⇑*i*Pg	**Pg**	**22 01 27.6**	**-1.2**
TIR				*e*Sg	**Sb**	**22 01 36.5**	**-0.9**
PUK	**Puka**	**0.71**	**325**	*i* PG	**Pn**	**22 01 37.7**	**+1.0**
PUK	**Puka**	**0.71**	**325**	*i* Pg	**Pn**	**22 01 37.7**	**+1.0**
	SNR=90						
BIA	**Bitola**	**0.80**	**123**	P	**Pg**	**22 01 33.9**	**-1.4**
BIA				S	**Sg**	**22 01 46.0**	**+0.5**
BIA	**Bitola**	**0.80**	**123**	*i* Pg	**Pg**	**22 01 34.4**	**-0.9**
BIA				*i* Sg	**Sb**	**22 01 46.6**	**-0.6**
BIA	**Bitola**	**0.80**	**123**	*i* Pg	**Pg**	**22 01 33.8**	**-1.5**
BIA				*i* Sg	**Sg**	**22 01 46.1**	**+0.5**
KBN	**Korca**	**0.88**	**163**	*i* PG	**Pg**	**22 01 36.6**	**-0.2**
KBN	**Korca**	**0.88**	**163**	P	**Pg**	**22 01 36.4**	**-0.4**
KBN				S	**Sb**	**22 01 49.7**	**+0.1**
KBN	**Korca**	**0.88**	**163**	*i* Pg	**Pg**	**22 01 36.6**	**-0.2**
	SNR=90						
KBN				S	**Sb**	**22 01 49.7**	**+0.1**
SKO	**Skopje**	**0.90**	**55**	P	**Pg**	**22 01 37.0**	**-0.3**
SKO				S	**Sb**	**22 01 50.1**	**-0.2**
SKO	**Skopje**	**0.90**	**55**	⇑*i*Pg	**Pg**	**22 01 36.9**	**-0.3**
SKO				*e*Sg	**Sb**	**22 01 49.5**	**-0.7**
SKO	**Skopje**	**0.90**	**55**	*i* Pg	**Pb**	**22 01 37.9**	**-0.2**
SKO				*i* Sg	**Sb**	**22 01 50.7**	**+0.4**
SKO				*e*Lg	Lg	22 01 52.1	
	comp=N,3μm,0.4s						
SKO				*e*Lg	Lg	22 01 52.2	
	comp=E,3μm,0.7s						
SKO	**Skopje**	**0.90**	**55**	P	**Pg**	**22 01 37.0**	**-0.3**
SKO				*i* Sg	**Sb**	**22 01 49.6**	**-0.7**
SKO				S	**Sb**	**22 01 50.1**	**-0.2**
SKO				*e*Lg	Lg	22 01 51.1	
	comp=E,3μm,0.7s						
BCI	**Bajram Curri**	**0.95**	**343**	*i* PG	**Pg**	**22 01 36.6**	**-1.6**
BCI	**Bajram Curri**	**0.95**	**343**	*i* Pg	**Pg**	**22 01 36.6**	**-1.6**
	SNR=90						
FNA	**Florina**	**0.97**	**134**	P	**Pg**	**22 01 37.8**	**-0.9**
FNA				S	**Sb**	**22 01 52.5**	**+0.1**
FNA	**Florina**	**0.97**	**134**	*e*PG	**Pg**	**22 01 38.2**	**-0.5**
FNA				*e*SB	**Sn**	**22 01 55.0**	**+0.6**
FNA	**Florina**	**0.97**	**134**	P	**Pg**	**22 01 37.8**	**-0.9**
FNA	**Florina**	**0.97**	**134**	*e*Pg	**Pg**	**22 01 38.2**	**-0.5**
FNA				S	**Sb**	**22 01 52.5**	**+0.1**
FNA				*e*Sb	**Sn**	**22 01 55.0**	**+0.6**
ULC	**Ulcinj**	**1.03**	**300**	⇑*i*Pg	**Pg**	**22 01 37.8**	**-2.0**
ULC				*e*Sg	**Sb**	**22 01 54.6**	**+0.5**
ULC	**Ulcinj**	**1.03**	**300**	⇑*i*Pg	**Pg**	**22 01 37.8**	**-2.0**
ULC				*e*Sg	**Sb**	**22 01 54.6**	**+0.5**
NEST	**Nestorio**	**1.14**	**156**	P	**Pg**	**22 01 41.4**	**-0.5**
NEST				S	**Sn**	**22 01 58.4**	**-0.1**
NEST	**Nestorio**	**1.14**	**156**	P	**Pg**	**22 01 41.4**	**-0.5**
NEST				S	**Sn**	**22 01 58.4**	**-0.1**
PVY	**Plav**	**1.19**	**342**	⇑*i*Pg	**Pg**	**22 01 41.5**	**-1.3**
PVY				*e*Sg	**Sn**	**22 01 59.9**	**+0.1**
PVY	**Plav**	**1.19**	**342**	⇑*i*Pg	**Pg**	**22 01 41.5**	**-1.3**
PVY				*e*Sg	**Sn**	**22 01 59.9**	**+0.1**
DRME	**Dracevica, Mon**	**1.19**	**308**	⇑*i*Pg	**Pb**	**22 01 41.2**	**-1.8**
DRME				*e*Sg	**Sn**	**22 02 00.3**	**+0.6**
DRME	**Dracevica, Mon**	**1.19**	**308**	⇑*i*Pg	**Pb**	**22 01 41.2**	**-1.8**
DRME				*e*Sg	**Sn**	**22 02 00.3**	**+0.6**
LSK	**Leskovik**	**1.31**	**175**	*i* PG	**Pg**	**22 01 45.4**	**+0.2**
LSK				*i* SG	**Sn**	**22 02 04.8**	**+2.0**
LSK	**Leskovik**	**1.31**	**175**	*i* Pg	**Pg**	**22 01 45.4**	**+0.2**
	SNR=90						
LSK				*i* Sg	**Sn**	**22 02 04.8**	**+2.0**
	SNR=90						
PDG	**Podgorica**	**1.31**	**318**	P	**Pn**	**22 01 43.0**	**-1.9**
PDG				S	**Sn**	**22 02 03.6**	**+0.9**
PDG	**Podgorica**	**1.31**	**318**	⇓*i*Pg	**Pn**	**22 01 43.0**	**-1.9**
PDG				*e*Sg	**Sn**	**22 02 04.2**	**+1.5**
PDG	**Podgorica**	**1.31**	**318**	⇓*i*Pg	**Pn**	**22 01 43.0**	**-1.9**
PDG				S	**Sn**	**22 02 03.6**	**+0.9**
TTG	**Podgorica**	**1.31**	**318**	⇓*i*Pg	**Pn**	**22 01 43.6**	**-1.3**
TTG				*e*Sg	**Sn**	**22 02 03.9**	**+1.2**
BUM	**Brajici-Budva**	**1.43**	**306**	⇑*i*Pg	**Pn**	**22 01 45.6**	**-1.0**
BUM				*e*Sg	**Sg**	**22 02 07.0**	**+1.0**
BUM	**Brajici-Budva**	**1.43**	**306**	⇑*i*Pg	**Pn**	**22 01 45.6**	**-1.0**
BUM				*e*Sg	**Sg**	**22 02 07.0**	**+1.0**
KZN	**Kozani**	**1.53**	**139**	*e*PG	**Pn**	**22 01 48.1**	**+0.2**
KZN	**Kozani**	**1.53**	**139**	*e*Pg	**Pn**	**22 01 48.1**	**+0.2**
VAY	**Valandovo**	**1.60**	**94**	P	**Pn**	**22 01 47.9**	**-0.9**
VAY				S	**Sb**	**22 02 09.9**	**-0.6**
VAY	**Valandovo**	**1.60**	**94**	⇑*i*Pn	**Pn**	**22 01 47.8**	**-1.0**
VAY	**Valandovo**	**1.60**	**94**	*i* Pg	**Pn**	**22 01 48.4**	**-0.5**
VAY				*i* Sg	**Sb**	**22 02 10.6**	**+0.2**
	comp=N,1μm,0.8s						
VAY				*e*Lg	Lg	22 02 11.0	
	comp=N,1μm,0.8s						
VAY				*e*Lg	Lg	22 02 13.3	
	comp=E,637nm,0.5s						
VAY	**Valandovo**	**1.60**	**94**	P	**Pn**	**22 01 47.9**	**-0.9**
VAY				*i* Sg	**Sb**	**22 02 10.1**	**-0.4**
	comp=E,1μm,0.8s						
VAY				*e*Lg	Lg	22 02 12.8	
	comp=E,637nm,0.5s						
SRN	**Sarande**	**1.62**	**192**	P	**Pn**	**22 01 49.2**	**+0.2**
SRN				S	**Sg**	**22 02 11.9**	**0.0**
SRN	**Sarande**	**1.62**	**192**	P	**Pn**	**22 01 49.2**	**+0.2**
SRN				S	**Sg**	**22 02 11.9**	**0.0**
BARS	**Barje**	**1.69**	**36**	*e*Pn	**Pn**	**22 01 49.9**	**-0.2**
BARS				*e*Sn	**Sb**	**22 02 13.1**	**0.0**
BARS	**Barje**	**1.69**	**36**	*e*Pn	**Pn**	**22 01 49.9**	**-0.2**
BARS				*e*Sn	**Sb**	**22 02 13.1**	**0.0**
NKME	**Niksic**	**1.71**	**320**	⇑*i*Pn	**Pn**	**22 01 50.2**	**-0.2**
NKME				*e*Sn	**Sb**	**22 02 13.5**	**-0.2**
NKME	**Niksic**	**1.71**	**320**	⇑*i*Pn	**Pn**	**22 01 50.2**	**-0.2**
NKME				*e*Sn	**Sb**	**22 02 13.5**	**-0.2**
NKY	**Niksic**	**1.73**	**322**	⇓*i*Pn	**Pn**	**22 01 50.8**	**+0.1**
NKY				*e*Sn	**Sb**	**22 02 14.4**	**+0.1**
NKY	**Niksic**	**1.73**	**322**	⇓*i*Pn	**Pn**	**22 01 50.8**	**+0.1**
NKY				*e*Sn	**Sb**	**22 02 14.4**	**+0.1**
HCY	**Herceg Novi**	**1.76**	**305**	⇑*i*Pn	**Pn**	**22 01 51.0**	**0.0**
HCY				*e*Sn	**Sb**	**22 02 15.4**	**+0.4**
HCY	**Herceg Novi**	**1.76**	**305**	⇑*i*Pn	**Pn**	**22 01 51.0**	**0.0**
HCY				*e*Sn	**Sb**	**22 02 15.4**	**+0.4**
KEK	**Kerkira**	**1.81**	**196**	P	**Pb**	**22 01 52.8**	**-0.8**
KEK				S	**Sg**	**22 02 18.3**	**0.0**
KEK	**Kerkira**	**1.81**	**196**	*e*PN	**Pb**	**22 01 52.8**	**-0.8**
KEK	**Kerkira**	**1.81**	**196**	P	**Pb**	**22 01 52.8**	**-0.8**
SELS	**Selova**	**1.83**	**16**	⇑*i*Pn	**Pn**	**22 01 51.3**	**-0.7**
SELS				*e*Sn	**Sg**	**22 02 17.8**	**-0.9**
JAN	**Janina**	**1.83**	**170**	P	**Pb**	**22 01 52.9**	**-1.0**
JAN				S	**Sb**	**22 02 17.0**	**0.0**
JAN	**Janina**	**1.83**	**170**	*e*PG	**Pg**	**22 01 54.7**	**-0.3**
JAN	**Janina**	**1.83**	**170**	P	**Pb**	**22 01 52.9**	**-1.0**
JAN	**Janina**	**1.83**	**170**	*e*Pg	**Pg**	**22 01 54.7**	**-0.3**
JAN				S	**Sb**	**22 02 17.0**	**0.0**
SJES	**Sjenica**	**1.83**	**349**	*e*Pn	**Pn**	**22 01 52.1**	**0.0**
SJES				*e*Sn	**Sb**	**22 02 17.6**	**+0.4**
KNT	**Kendrikon**	**1.87**	**98**	P	**Pn**	**22 01 51.9**	**-0.6**
KNT				S	**Sb**	**22 02 17.2**	**-1.0**
KNT	**Kendrikon**	**1.87**	**98**	P	**Pn**	**22 01 51.9**	**-0.6**
KNT				S	**Sb**	**22 02 17.2**	**-1.0**
IGT	**Igoumenitsa**	**1.93**	**183**	P	**Pn**	**22 01 53.6**	**+0.3**
IGT				S	**Sb**	**22 02 19.6**	**-0.2**
IGT	**Igoumenitsa**	**1.93**	**183**	P	**Pn**	**22 01 53.6**	**+0.3**
IGT				S	**Sb**	**22 02 19.6**	**-0.2**
TREB	**Trebinje**	**2.00**	**309**	*e*Pn	**Pb**	**22 01 55.7**	**-1.1**
TREB				*e*Sn	**Sb**	**22 02 22.2**	**+0.2**
TREB	**Trebinje**	**2.00**	**309**	*e*Pn	**Pb**	**22 01 55.7**	**-1.1**
TREB				*e*Sn	**Sb**	**22 02 22.2**	**+0.2**
BRY	**Bratogost**	**2.02**	**316**	⇑*i*Pn	**Pn**	**22 01 54.7**	**0.0**
BRY				*e*Sn	**Sb**	**22 02 21.6**	**-1.1**
BRY	**Bratogost**	**2.02**	**316**	⇑*i*Pn	**Pn**	**22 01 54.7**	**0.0**
BRY				*e*Sn	**Sb**	**22 02 21.6**	**-1.1**
PLE	**Pljevlja**	**2.02**	**338**	⇓*i*Pn	**Pn**	**22 01 54.6**	**-0.2**
PLE				*e*Sn	**Sn**	**22 02 21.4**	**+1.0**
PLE	**Pljevlja**	**2.02**	**338**	⇓*i*Pn	**Pn**	**22 01 54.6**	**-0.2**
PLE				*e*Sn	**Sn**	**22 02 21.4**	**+1.0**
LIT	**Litokhoron**	**2.06**	**131**	*e*PN	**Pn**	**22 01 55.9**	**+0.7**
LIT	**Litokhoron**	**2.06**	**131**	*e*Pn	**Pn**	**22 01 55.9**	**+0.7**
THE	**Thessaloniki**	**2.08**	**113**	P	**Pn**	**22 01 55.7**	**+0.4**
THE				S	**Sn**	**22 02 21.4**	**-0.1**
THE	**Thessaloniki**	**2.08**	**113**	P	**Pn**	**22 01 55.7**	**+0.4**
THE				S	**Sn**	**22 02 21.4**	**-0.1**
UPM	**Unac-Piva**	**2.08**	**327**	⇑*i*Pn	**Pn**	**22 01 55.2**	**-0.4**
UPM				*e*Sn	**Sn**	**22 02 22.9**	**+0.9**
UPM	**Unac-Piva**	**2.08**	**327**	⇑*i*Pn	**Pn**	**22 01 55.2**	**-0.4**
UPM				*e*Sn	**Sn**	**22 02 22.9**	**+0.9**
HORT	**Hortiatis**	**2.18**	**112**	P	**Pn**	**22 01 57.1**	**+0.2**
HORT				S	**Sn**	**22 02 24.2**	**-0.1**
HORT	**Hortiatis**	**2.18**	**112**	P	**Pn**	**22 01 57.1**	**+0.2**
HORT				S	**Sn**	**22 02 24.2**	**-0.1**
THL	**

KAVA	Kavala	3.10	97	P	Pn	22 02 09.8	+0.4
KAVA	Kavala	3.10	97	P	Pn	22 02 09.8	+0.4
TEKS	Tekeris	3.16	348	ePn	Pn	22 02 12.4	+2.1
TEKS	Tekeris	3.16	348	ePn	Pn	22 02 12.4	+2.1
EFP	Efpalio	3.23	159	ePB	Pb	22 02 15.0	-2.7
EFP	Efpalio	3.23	159	ePb	Pb	22 02 15.0	-2.7
PLD	Plovdiv	3.25	77	P	Pn	22 02 12.0	+0.6
PLD	Plovdiv	3.25	77	ePn	Pn	22 02 12.1	+0.6
PLD	Plovdiv	3.25	77	ePn	Pn	22 02 12.1	+0.6
VLS	Valsamata	3.28	178	P	Pn	22 02 12.1	+0.2
VLS	Valsamata	3.28	178	ePN	Pn	22 02 12.2	+0.3
VLS	Valsamata	3.28	178	ePn	Pn	22 02 12.2	+0.3
KALE	Kalithea	3.33	156	ePN	Pn	22 02 14.2	+1.5
KALE	Kalithea	3.33	156	ePn	Pn	22 02 14.2	+1.5
TRIZ	Trizonia	3.33	157	ePN	Pn	22 02 13.9	+1.3
TRIZ	Trizonia	3.33	157	ePn	Pn	22 02 13.9	+1.3
KFL	Anninata	3.36	175	P	Pn	22 02 13.7	+0.7
KFL	Anninata	3.36	175	P	Pn	22 02 13.7	+0.7
LKR	Lokris	3.42	144	ePN	Pn	22 02 14.2	+0.3
LKR	Lokris	3.42	144	ePn	Pn	22 02 14.2	+0.3
LAKA	Lakka	3.43	159	ePN	Pn	22 02 16.3	+2.4
LAKA	Lakka	3.43	159	ePn	Pn	22 02 16.3	+2.4
KLV	Kalavryta, Ach	3.66	158	ePN	Pn	22 02 19.1	+2.0
KLV				eSN	Sn	22 03 03.2	+2.6
KLV	Kalavryta, Ach	3.66	158	ePn	Pn	22 02 19.1	+2.0
KLV				eSn	Sn	22 03 03.2	+2.6
FGSL	Fruska Gora	3.72	353	⇓iPn	Pn	22 02 17.8	-0.2
FGSL				eSn	Sn	22 03 02.0	-0.2
FRGS	Fruska Gora	3.72	353	⇓iPn	Pn	22 02 17.8	-0.2
FRGS				eSn	Sn	22 03 02.0	-0.2
SRE	Strehaia	3.78	31	⇑iP	Pn	22 02 19.4	+0.6
SRE	Strehaia	3.78	31	⇑iP	Pn	22 02 19.4	+0.6
GUR	Goura	3.81	157	ePN	Pn	22 02 21.4	+2.1
GUR				eSN	Sn	22 03 08.5	+4.0
GUR	Goura	3.81	157	ePn	Pn	22 02 21.4	+2.1
GUR				eSn	Sn	22 03 08.5	+4.0
LTK	Loutraki	3.94	150	ePN	Pn	22 02 22.7	+1.6
LTK	Loutraki	3.94	150	ePn	Pn	22 02 22.7	+1.6
AMT	Artemida-Makis	4.04	166	ePN	Pn	22 02 24.8	+2.4
AMT	Artemida-Makis	4.04	166	ePn	Pn	22 02 24.8	+2.4
BZS	Buzias	4.24	11	⇑iP	Pn	22 02 24.5	-0.6
BZS	Buzias	4.24	11	ePn	Pn	22 02 24.5	-0.6
BZS	Buzias	4.24	11	⇑iP	Pn	22 02 24.5	-0.6
GZR	Gura Zlata	4.28	23	⇑iP	Pn	22 02 25.6	-0.1
GZR	Gura Zlata	4.28	23	⇑iP	Pn	22 02 25.6	-0.1
VLX	Vlachokerasia	4.35	159	ePN	Pn	22 02 28.8	+2.1
VLX	Vlachokerasia	4.35	159	ePn	Pn	22 02 28.8	+2.1
ITM	Ithomi	4.43	165	ePN	Pn	22 02 29.3	+1.6
ITM	Ithomi	4.43	165	ePn	Pn	22 02 29.3	+1.6
DID	Didima	4.50	150	ePN	Pn	22 02 29.9	+1.2
DID				eSN	Sn	22 03 24.9	+3.5
DID	Didima	4.50	150	ePn	Pn	22 02 29.9	+1.2
DID				eSn	Sn	22 03 24.9	+3.5
HUMR	Humele	4.52	46	⇓iP	Pn	22 02 30.0	+1.1
HUMR	Humele	4.52	46	⇓iP	Pn	22 02 30.0	+1.1
LOT	Lotru	4.66	30	⇓iP	Pn	22 02 31.1	+0.1
LOT	Lotru	4.66	30	⇓iP	Pn	22 02 31.1	+0.1
PYL	PYLOS	4.67	167	ePN	Pn	22 02 31.4	+0.4
PYL	PYLOS	4.67	167	ePn	Pn	22 02 31.4	+0.4
JMB	Yambol	4.68	76	ePn	Pn	22 02 31.9	+0.7
JMB	Yambol	4.68	76	ePn	Pn	22 02 31.9	+0.7
DYR	Agios Nikonas	4.92	162	ePN	Pn	22 02 36.5	+2.1
DYR	Agios Nikonas	4.92	162	ePn	Pn	22 02 36.5	+2.1
PKSM	Moragy	4.92	345	⇓iP	Pn	22 02 34.8	+0.3
PKSM	Moragy	4.92	345	e	Pn	22 02 34.8	+0.3
PKSM				epg	Pn	22 02 36.6	+2.1
PKSM				e		22 03 34.9	
PKSM	Moragy	4.92	345	⇓iP	Pn	22 02 34.8	+0.3
PKSM	Moragy	4.92	345	ePg	Pn	22 02 36.6	+2.1
PKSM				eS	Sn	22 03 34.9	+3.2
ARR	Arges	4.95	37	⇑iP	Pn	22 02 35.6	+0.6
ARR	Arges	4.95	37	⇑iP	Pn	22 02 35.6	+0.6
PRK	Paraskevi	4.97	115	ePN	Pn	22 02 37.0	+1.9
PRK	Paraskevi	4.97	115	ePn	Pn	22 02 37.0	+1.9
PKS2	Kecel	5.11	350	e	Pn	22 02 40.3	+3.3
PKS2	Kecel	5.11	350	eP	Pn	22 02 40.3	+3.3
VLI	Veliai	5.12	157	ePN	Pn	22 02 37.8	+0.7
VLI	Veliai	5.12	157	ePn	Pn	22 02 37.8	+0.7
NVLJ	Novalja	5.13	309	ePn	Pn	22 02 37.2	-0.1
NVLJ				Sn	Sn	22 03 35.2	-1.6
VOIR		5.20	39	⇓iP	Pn	22 02 39.8	+1.5
VOIR		5.20	39	⇓iP	Pn	22 02 39.8	+1.5
CHOS	Chios island	5.29	124	ePN	Pn	22 02 41.2	+1.6
CHOS	Chios island	5.29	124	ePn	Pn	22 02 41.2	+1.6
SULR		5.33	51	⇑iP	Pn	22 02 42.0	+1.9
SULR		5.33	51	⇑iP	Pn	22 02 42.0	+1.9
PKS9	Tamasi	5.36	344	⇑e	Pn	22 02 41.9	+1.5
PKS9				e		22 03 43.4	
PKS9	Tamasi	5.36	344	⇑eP	Pn	22 02 41.9	+1.5
PKS9				eS	Sn	22 03 43.4	+1.0
PKSN	Nyarlorinc	5.45	356	⇓e	Pn	22 02 44.5	+2.8
PKSN	Nyarlorinc	5.45	356	⇓eP	Pn	22 02 44.5	+2.8
BOJS	Bojanci	5.53	319	i Pn	Pn	22 02 44.1	+1.2
BOJS				i Sn	Sn	22 03 47.7	+1.0
KYTH	Kithira	5.55	158	ePN	Pn	22 02 47.1	+3.9
DRGR		5.57	16	⇑iP	Pn	22 02 43.1	-0.4
DRGR		5.57	16	⇑iP	Pn	22 02 43.1	-0.4
PKS7	Kunszentmiklos	5.66	351	e	Pn	22 02 46.9	+2.3
PKS7				e		22 03 48.5	
PKS7	Kunszentmiklos	5.66	351	eP	Pn	22 02 46.9	+2.3
PKS7				eS	Sn	22 03 48.5	-1.3
MLR	Muntele Rosu	5.67	43	⇑iP	Pn	22 02 46.7	+1.8
MLR	Muntele Rosu	5.67	43	Pn	Pn	22 02 47.0	+2.0
	comp=E,0.5nm,0.3s,baz=216,slow=13,SNR=13						
MLR				Sn	Sn	22 03 53.0	+2.6
	baz=126,slow=19,SNR=2.0						
MLR	Muntele Rosu	5.67	43	⇑iP	Pn	22 02 46.7	+1.8
DOPR	Dopca	5.75	37	⇑iP	Pn	22 02 46.7	+0.8
DOPR	Dopca	5.75	37	⇑iP	Pn	22 02 46.7	+0.8
PGOR	Pogoanele	5.89	52	⇓iP	Pn	22 02 49.9	+2.2
PGOR	Pogoanele	5.89	52	⇓iP	Pn	22 02 49.9	+2.2
PKST	T"s	6.05	344	e	Pn	22 02 51.8	+1.9
PKST				e		22 04 01.2	
PKST	T"s	6.05	344	eP	Pn	22 02 51.8	+1.9
PKST				eS	Sn	22 04 01.2	+1.7
CSKK	Cs^‡kako	6.11	346	e	Pn	22 02 53.4	+2.7
CSKK				e		22 04 02.8	
CSKK	Cs^‡kako	6.11	346	eP	Pn	22 02 53.4	+2.7
CSKK				eS	Sn	22 04 02.8	+2.0
PKSG		6.11	347	⇓	Pn	22 02 53.0	+2.3
PKSG				e		22 04 00.7	
PKSG		6.11	347	⇓eP	Pn	22 02 53.0	+2.3
PKSG				eS	Sn	22 04 00.7	-0.2
LJU	Ljubljana	6.27	319	i Pn	Pn	22 02 54.9	+1.8
PLOR	Plostina	6.28	44	⇑iP	Pn	22 02 54.8	+1.6
PLOR	Plostina	6.28	44	⇑iP	Pn	22 02 54.8	+1.6
VRI	Vrincioaia	6.33	44	⇓iP	Pn	22 02 55.9	+2.0
VRI	Vrincioaia	6.33	44	⇓iP	Pn	22 02 55.9	+2.0
JAVS	Javornik	6.41	316	i Pn	Pn	22 02 55.9	+0.9
JAVS				i Sn	Sn	22 04 08.0	-0.4
PERS	Pernice	6.44	325	i Pn	Pn	22 02 56.5	+1.2
PERS				i Sn	Sn	22 04 09.7	+0.5
OBKA	Obir	6.60	322	⇓iPn	Pn	22 02 58.0	+0.5
OBKA				⇑iSn	Sn	22 04 14.4	+1.3
OBKA	Obir	6.60	322	Pn	Pn	22 02 58.0	+0.5
OBKA				Sn	Sn	22 04 14.4	+1.3
KARN	Karanos	6.63	155	ePN	Pn	22 02 59.0	+1.0
KARN	Karanos	6.63	155	ePn	Pn	22 02 59.0	+1.0
KECS	Kecovo	7.02	0	ePn	Pn	22 03 05.0	+1.7
KECS				eSn	Sn	22 04 23.0	-0.4
BURAR	Bucovina Array	7.03	27	⇑iP	Pn	22 03 04.8	+1.3
BURAR	Bucovina Array	7.03	27	⇑iP	Pn	22 03 04.8	+1.3
IDI	Anoyia	7.08	149	Pn	Pn	22 03 04.7	+0.6
	comp=E,0.6nm,0.3s,baz=321,slow=13,SNR=7.0						
IDI				Sn	Sn	22 04 22.3	-2.7
	comp=E,0.8nm,0.3s,baz=342,slow=20,SNR=3.9						
VYHS	Vyhne	7.12	351	ePn	Pn	22 03 07.0	+2.3
TLCR		7.15	56	⇑iP	Pn	22 03 06.7	+1.7
TLCR		7.15	56	⇑iP	Pn	22 03 06.7	+1.7
SMOL	Smolenice	7.37	344	ePn	Pn	22 03 11.4	+3.4
SMOL				eSn	Sn	22 04 31.9	0.0
CRVS	Cervenica-Dubn	7.47	5	ePn	Pn	22 03 10.1	+0.6
KOLS	Kolonicke sedl	7.58	9	ePn	Pn	22 03 11.9	+0.9
MOA	Molln	7.76	327	⇑iPn	Pn	22 03 14.5	+1.1
	SNR=6.5						
MOA	Molln	7.76	327	Pn	Pn	22 03 14.5	+1.1
	SNR=6.5						
ABTA	Abfaltersbach	7.78	315	⇓iPn	Pn	22 03 14.4	+0.7
ABTA	Abfaltersbach	7.78	315	Pn	Pn	22 03 14.4	+0.7
STHS	Stebnicka Huta	7.97	4	ePn	Pn	22 03 19.2	+2.8
PGF	Pioggiola	8.60	281	eP	Pn	22 03 28.4	+3.4
PGF	Pioggiola	8.60	281	eP	Pn	22 03 28.4	+3.4
GERES	GERESS Array B	8.79	329	Pn	Pn	22 03 28.4	+0.8
	comp=E,0.2nm,0.3s,baz=155,slow=13,SNR=16						
GERES				Sn	Sn	22 05 07.2	+0.3
	comp=E,0.3nm,0.3s,baz=145,slow=22,SNR=3.7						
KHC	Kasperske Hory	9.06	330	ePN	Pn	22 03 33.8	+2.5
KHC				eSN	Sn	22 05 15.4	+1.7
KHC	Kasperske Hory	9.06	330	Pn	Pn	22 03 33.8	+2.5
KHC				Sn	Sn	22 05 15.4	+1.7
DAVOX	Davos/Dischmat	9.27	309	Pn	Pn	22 03 35.2	+0.8
	comp=E,0.6nm,0.3s,baz=90,slow=8.6,SNR=14						
DAVOX				Sn	Sn	22 05 18.0	-1.0
	comp=E,0.8nm,0.3s,baz=323,slow=20,SNR=4.9						
SBF	Sospel	9.88	288	eSn	Sn	22 05 24.7	-9.1
	comp=E,3.1nm,0.3s						
BRTR	Keskin Array B	10.18	95	Pn	Pn	22 03 47.1	+0.3
	comp=E,0.1nm,0.3s,baz=272,slow=13,SNR=3.0						
MBDF	Montbardon	10.52	293	ePn	Pn	22 03 48.3	-3.1
MBDF				eSn	Sn	22 05 39.7	-10
	comp=E,5.7nm,0.7s						
LPL	La Plagne	10.76	297	eSn	Sn	22 05 45.3	-10
	comp=E,3.8nm,0.4s						
HINF	Hinteralfeld	11.57	308	ePn	Pn	22 04 02.3	-3.4
HINF				eSn	Sn	22 06 04.9	-10
	comp=E,2.3nm,0.5s						
CDF	Champ du Feu	11.63	311	eP	Pn	22 04 09.4	+2.9
CDF				eSn	Sn	22 06 06.1	-11
	comp=E,2.1nm,0.6s						
CDF	Champ du Feu	11.63	311	eP	Pn	22 04 09.4	+2.9
HAU	Haudompre	11.96	308	ePn	Pn	22 04 07.4	-3.6
HAU	Haudompre	11.96	308	eP	Pn	22 04 13.7	+2.7
HAU				eSn	Sn	22 06 14.5	-10
	comp=E,2.9nm,0.5s						
HAU	Haudompre	11.96	308	eP	Pn	22 04 13.7	+2.7
MMAI	Mount Meron Ar	14.58	121	Pn	P	22 04 50.8	-2.7
	comp=E,0.2nm,0.3s,baz=316,slow=10,SNR=2.7						
HFS	Hagfors	19.16	350	P	P	22 05 43.6	-0.2
	comp=E,0.4nm,0.3s,baz=170,slow=10,SNR=13						
FINES	FINESS Array B	20.30	8	P	P	22 05 55.9	-0.4
	comp=E,1.4nm,0.6s,baz=178,slow=9.7,SNR=7.7						
NB2	NORSAR Subarra	20.40	347	P	P	22 05 56.8	-0.6
	comp=Z,3.2nm,0.6s,baz=156,slow=11						
NB2	NORSAR Subarra	20.40	347	P	P	22 05 56.8	-0.6
	comp=Z,3.2nm,0.6s,baz=156,slow=10,SNR=9.5						
NOA	NORSAR Array B	20.40	347	P	P	22 05 56.9	-0.5
	comp=Z,2.8nm,0.6s,baz=156,slow=10,SNR=8.7						
EKA	Eskdalemuir Ar	20.80	320	P	P	22 06 02.2	+0.5
	comp=Z,0.8nm,0.5s,baz=115,slow=11,SNR=2.5						
ARCES	ARCESS Array B	28.26	4	P	P	22 07 11.6	-2.0
	comp=Z,1.9nm,1.1s,baz=185,slow=10.0,SNR=4.7						
TORD	Torodi Ar. Bea	32.61	216	P	P	22 07 51.9	-0.5
	comp=Z,0.6nm,0.8s,baz=15,slow=8.2,SNR=5.1						
BVAR	Borovoye Array	35.13	53	P	P	22 08 13.7	-0.3
	comp=Z,0.4nm,0.6s,baz=284,slow=5.8,SNR=3.2						
ZALV	Zalesovo Beam	43.60	51	P	P	22 09 24.4	-0.3
	comp=Z,0.8nm,0.3s,baz=287,slow=8.6,SNR=3.9						
MKAR	Makanchi Array	43.70	61	P	P	22 09 25.5	-0.1
	comp=Z,0.7nm,0.5s,baz=280,slow=7.6,SNR=9.1						
SONM	Songino Array	58.45	52	P	P	22 11 16.4	-0.2
	comp=Z,0.4nm,0.6s,baz=302,slow=8.2,SNR=3.2						
CMAR	Chiang Mai Arr	69.52	83	P	P	22 12 28.0	-1.7
	comp=Z,0.9nm,0.6s,baz=316,slow=7.6,SNR=4.2						
BOSA	Boshof	69.86	175	P	P	22 12 30.8	-0.8
	comp=Z,4.4nm,1.1s,baz=18,slow=3.2,SNR=3.1						
ILAR	Eielson Array	73.64	354	P	P	22 12 53.3	-0.5
	comp=Z,0.3nm,0.7s,baz=40,slow=7.1,SNR=3.0						
PDAR	Pinedale Array	84.81	326	P	P	22 13 55.5	0.0
	comp=Z,0.6nm,0.7s,baz=64,slow=6.1,SNR=4.1						
TXAR	Lajitas Array	92.67	314	P	P	22 14 33.3	+0.2
	comp=Z,0.5nm,0.9s,baz=64,slow=2.1,SNR=3.5						

*BYKL **06** 22:09:31.9±0.2, 55°.50N×110°.59E*
MOS 06 22:09:32.7±2.0, 55°.49N×110°.52E, h8km, mb4.2/1, 2C,
Error ellipse: s-maj=38.0km s-min=26.7km az=148.1,
Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMO	Kumora	0.55	44	i Pg	Pg	22 09 41.5	-2.0
KMO				eSg	Sg	22 09 48.2	-2.6
KMO				Pmax			
	181nm,0.4s						
KMO				Smax			
	530nm,1.2s						
NIZ	Nizh Angarsk	0.62	298	⇑iPg	Pg	22 09 43.5	-1.3
NIZ				eSg	Sg	22 09 52.8	-0.2
NIZ				eSb	Sn	22 09 59.9	+1.8
NIZ				Pmax			
	80nm,0.2s						
NIZ				max			
	357nm,0.2s						
NIZ	Nizh Angarsk	0.62	298	ePG	Pg	22 09 43.5	-1.3
NIZ				e		22 09 53.1	
NIZ				pmax	pmax		
	comp=Z,102nm,0.3s						
NIZ				smax	smax		
	comp=N,359nm,0.2s						
UKT	Uakit	1.77	89	⇑iPg	Pn	22 10 02.8	-0.9
UKT				eSg	Sn	22 10 25.7	-0.8
UKT				Pmax			
	comp=N,29nm,0.3s						
UKT				Smax			
	comp=N,307nm,0.3s						
UKT	Uakit	1.77	89	ePN	Pg	22 10 06.6	-0.2
UKT				e		22 10 29.6	
UKT				pmax	pmax		
	comp=Z,39nm,0.2s						
UKT				smax	smax		
	comp=N,307nm,0.2s						
SYVR	Suvo	1.86	190	ePn	Pn	22 10 05.4	+0.5
SYVR				ePg	Pb	22 10 05.9	-1.1
SYVR				eSn	Sn	22 10 28.3	-0.3
SYVR				eSg	Sg	22 10 31.5	-1.1
SYVR				Pmax			
	comp=N,19nm,0.1s						
SYVR				Smax			
	comp=N,125nm,0.3s						
MXMB	Maximikha	2.46	206	ePg	Pb	22 10 16.3	-0.9
MXMB				eSg	Sb	22 10 49.3	+1.6
MXMB				Pmax			
	comp=N,14nm,0.2s						
MXMB				Smax			
	comp=N,171nm,0.7s						
OGRR	Ongureny	2.52	224	ePn	Pn	22 10 14.0	+0.1
OGRR				ePg	Pb	22 10 18.0	-0.1
OGRR				eSg	Sb	22 10 50.6	+1.4
OGRR				Pmax			
	comp=N,15nm,0.1s						
OGRR				Smax			
	comp=N,125nm,0.2s						
OGRR	Ongureny	2.52	224	ePN	Pn	22 10 14.9	+1.0
OGRR				e		22 10 18.6	
OGRR				e		22 10 50.6	
OGRR				pmax	pmax		
	comp=Z,19nm,0.4s						
OGRR				smax	smax		
	comp=E,181nm,0.8s						
BOD	Bodaibo	3.02	38	ePn	Pn	22 10 20.3	-0.5
BOD				ePg	Pb	22 10 25.8	-1.0
BOD				eSn	Sn	22 10 55.2	-2.0
BOD				eSg	Sb	22 11 03.9	+0.1
BOD				Pmax			
	comp=E,9.0nm,0.3s						
BOD				Smax			
	comp=E,38nm,0.4s						
TRG	Tyrgan	3.67	224	ePn	Pn	22 10 31.3	+1.4
TRG				ePg	Pb	22 10 39.1	+1.2
TRG				eSn	Sn	22 11 13.6	+0.2
TRG				eSg	Sg	22 11 27.1	-3.7
TRG				Pmax			
	comp=E,8.0nm,0.2s						
TRG				Smax			
	comp=E,47nm,0.2s						
UUDB	Ulan-Yde	4.01	206	eSg	Sg	22 11 37.1	-4.4
UUDB				Smax			
	comp=E,29nm,0.5s						
HRMR	Khuramsha	4.41	210	ePn	Pn	22 10 39.5	-0.5
HRMR				ePg	Pb	22 10 51.2	+0.7
HRMR				eSg	Sg	22 11 49.4	-5.1
HRMR				Pmax			
	comp=E,12nm,0.4s						
HRMR				Smax			
	comp=E,102nm,0.6s						
CRS	Chara	4.55	69	ePg	Pb	22 10 52.5	-0.4
CRS				eSg	Sb	22 11 51.7	+3.8
CRS				Pmax			
	comp=E,20nm,0.7s						
CRS				Smax			
	comp=E,21nm,0.4s						
CRS	Chara	4.55	69	ePN	Pb	22 10 53.6	+0.7
CRS				e		22 11 51.7	
CRS				pmax	pmax		
	comp=Z,34nm,2.1s						
CRS				smax	smax		
	comp=E,67nm,2.6s						
IRK	Irkutsk	4.92	231	ePN	Pb	22 11 01.0	+1.8
IRK				e		22 12 04.0	
IRK				pmax	pmax		
	comp=Z,67nm,0.1s						
IRK				smax	smax		
	comp=E,274nm,0.1s						
LSTR	Listvyanka	4.96	225	eSg	Sb	22 12 05.3	+5.8
LSTR				Smax			
	comp=E,68nm,1.4s						
KHNR	Khani	5.47	71	eSg	Sb	22 12 20.2	+5.9
TUP	Tupik	5.54	97	ePn	Pn	22 10 54.8	-0.7
TUP				ePg	Pb	22 11 10.5	+0.8
TUP				eSn	Sn	22 11 54.6	-4.7
TUP				eSg	Sb	22 12 22.8	+6.5
TUP				Pmax			
	comp=E,4.0nm,0.3s						
TUP				Smax			
	comp=E,67nm,0.9s						
TUP	Tupik	5.54	97	ePN	Pn	22 10 54.7	-0.8
TUP				e		22 11 11.2	
TUP				eS	Sn	22 11 55.3	-4.0
TUP				e		22 12 23.2	
TUP				pmax	pmax		
	comp=Z,3.0nm,0.4s						
TUP				smax	smax		
	comp=N,67nm,0.9s						
KPC	Khapcheranga	5.91	168	ePn	Pn	22 10 59.4	-1.1
KPC				eSn	Sn	22 12 05.9	-2.5
KPC				eSg	Sb	22 12 34.6	+7.7
KPC				Smax			
	comp=N,22nm,0.7s						
ARS	Arshan	5.99	237	ePn	Pn	22 11 02.3	+0.6
ARS				e		22 11 11.9	
ARS				ePg	Pb	22 11 21.1	+3.7
ARS				eSn	Sn	22 12 09.8	-0.7
ARS				eSg	Sg	22 12 38.9	-6.2
ARS				Pmax			
	comp=N,8.0nm,0.2s						
ARS				Smax			
	comp=N,77nm,0.6s						
ZAK	Zakamensk	6.73	224	eSg	Sg	22 13 00.6	-8.3
ZAK				Smax			
	comp=N,10.0nm,0.8s						
MOY	Mondy	6.84	240	ePn	Pn	22 11 14.7	+1.3
MOY				eSn	Sn	22 12 29.3	-2.3
MOY				eSg	Sg	22 13 05.5	-7.0
MOY				Smax			
	comp=N,28nm,1.4s						
ORL	Orlik	6.97	249	ePn	Pn	22 11 16.5	+1.3
ORL				e		22 11 29.4	
ORL				eSn	Sn	22 12 32.9	-1.8
ORL				eSg	Sg	22 13 07.9	-8.7
ORL				Smax			
	comp=N,26nm,1.2s						
ORL	Orlik	6.97	249	ePN	Pn	22 11 16.5	+1.3
ORL				e		22 11 38.3	
ORL				e		22 13 08.1	
ORL				pmax	pmax		
	comp=Z,16nm,1.1s						
ORL				smax	smax		
	comp=N,25nm,1.3s						

IDC 06 22:10:41.5±1.6, 17°.90S×178°.44W, h528km±18km,
mb3.3/11, mb1 3.5/12, mb1mx3.3/21, mbtmp3.3/12, Error
ellipse: s-maj=21.9km s-min=11.5km az=144.0, Fiji
Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.54	59	P	P	22 12 33.6	-0.6
	1.3nm,0.3s,baz=107,slow=17,SNR=2.4						
AFI				S	S	22 14 07.2	+0.8
	3.1nm,0.3s,baz=170,slow=19,SNR=3.5						
URZ	Urewera	20.66	190	P	P	22 14 42.8	-1.7
	5.4nm,0.6s,baz=243,slow=5.7,SNR=5.3						
CTA	Charters Tower	33.41	261	P	P	22 16 36.5	-0.1
	2.6nm,0.6s,baz=93,slow=9.6,SNR=3.3						
STKA	Stephens Creek	38.60	241	P	P	22 17 20.5	+1.0
	2.9nm,0.8s,baz=123,slow=17,SNR=5.6						
WRA	Warramunga Arr	44.60	260	P	P	22 18 06.4	-0.7
	0.8nm,0.6s,baz=95,slow=6.9,SNR=23						
WRA				PcP	PcP	22 19 37.7	-0.9
	0.4nm,0.4s,baz=90,slow=3.4,SNR=7.1						
ASAR	Alice Springs	44.76	254	P	P	22 18 08.6	+0.3
	2.7nm,0.4s,baz=88,slow=8.6,SNR=51						
ASAR				PcP	PcP	22 19 38.5	-0.8
	1.1nm,0.6s,baz=100,slow=4.2,SNR=6.8						
VNDA	Vanda	60.45	185	P	P	22 20 00.5	+1.0
	0.7nm,0.5s,baz=16,slow=5.9,SNR=7.6						
NVAR	Mina Array Bea	79.44	44	P	P	22 21 53.6	+0.2
	1.4nm,0.8s,baz=224,slow=8.4,SNR=9.2						
MAW	Mawson	83.86	200	P	P	22 22 14.8	-0.4
	2.6nm,0.8s,baz=123,slow=6.9,SNR=5.7						
ILAR	Eielson Array	85.89	13	P	P	22 22 24.3	-0.7
	0.4nm,0.4s,baz=219,slow=5.5,SNR=5.8						
TXAR	Lajitas Array	86.02	58	P	P	22 22 27.9	+1.4
	1.9nm,0.8s,baz=216,slow=5.8,SNR=21						
PDAR	Pinedale Array	87.37	43	P	P	22

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC
WRA	Warramunga Arr	38.58	120	P	P	22 27 24.8	-0.3
WRA				PcP	PcP	22 29 37.7	+0.3
WRA	Warramunga Arr	38.58	120	P	P	22 27 24.7	-0.3
	1.9nm,0.7s,baz=302,slow=9.2,SNR=35						
WRA				PcP	PcP	22 29 37.7	+0.3
	0.5nm,0.8s,baz=314,slow=2.4,SNR=3.5						
WRAB	Tennant Creek	38.59	120	eP	P	22 27 25.4	+0.3
	2.3nm,0.6s						
ASAR	Alice Springs	39.84	126	P	P	22 27 36.0	+0.5
ASAR	Alice Springs	39.84	126	P	P	22 27 36.0	+0.5
	0.9nm,0.5s,baz=298,slow=8.1,SNR=16						
TKM2	Tokmak 2	49.35	337	eP	P	22 28 51.1	-0.2
	1.6nm,0.7s						
SONM	Songino Array	49.68	6	P	P	22 28 53.9	+0.2
SONM				PcP	PcP	22 30 15.8	+1.1
SONM	Songino Array	49.68	6	P	P	22 28 53.9	+0.2
	1.5nm,0.8s,baz=184,slow=9.7,SNR=8.8						
SONM				PcP	PcP	22 30 15.8	+1.1
	0.3nm,0.5s,baz=180,slow=4.4,SNR=3.8						
STKA	Stephens Creek	49.73	132	P	P	22 28 55.6	+1.4
	1.4nm,0.3s,baz=324,slow=8.7,SNR=2.3						
ULN	Ulaanbaatar	49.79	7	eP	P	22 28 54.6	+0.1
	0.8nm,0.5s						
EKS2	Erkin-Say	49.87	335	eP	P	22 28 55.7	+0.5
	1.5nm,0.7s						
MK31	Makanchi Array	50.59	345	eP	P	22 29 00.6	+0.1
MKAR	Makanchi Array	50.59	345	P	P	22 29 01.2	+0.7
MKAR	Makanchi Array	50.59	345	P	P	22 29 01.2	+0.7
	0.6nm,0.3s,baz=155,slow=9.1,SNR=14						
USRK	Ussuriysk Arra	54.12	28	P	P	22 29 26.8	+0.1
	0.9nm,0.5s,baz=225,slow=3.9,SNR=4.1						
ZAA0	Zalesovo Array	56.77	350	eP	P	22 29 45.5	0.0
ZALV	Zalesovo Beam	56.77	350	P	P	22 29 46.0	+0.5
ZALV	Zalesovo Beam	56.77	350	P	P	22 29 46.0	+0.5
	1.8nm,0.5s,baz=165,slow=6.2,SNR=13						
KBZ	Khabaz	67.74	319	P	P	22 30 59.2	-0.1
KBZ	Khabaz	67.74	319	P	P	22 30 59.2	-0.1
	0.8nm,0.7s,baz=133,slow=3.5,SNR=3.8						
BRTR	Keskin Array B	72.74	313	P	P	22 31 28.4	-1.8
BRTR	Keskin Array B	72.74	313	P	P	22 31 28.4	-1.8
	0.6nm,0.6s,baz=100,slow=6.0,SNR=3.9						
FINES	FINESS Array B	83.60	332	P	P	22 32 30.1	+0.5
FINES	FINESS Array B	83.60	332	P	P	22 32 30.1	+0.5
	0.8nm,0.5s,baz=117,slow=6.6,SNR=9.0						
ARCES	ARCESS Array B	86.01	340	P	P	22 32 42.1	+0.4
ARCES	ARCESS Array B	86.01	340	P	P	22 32 42.1	+0.4
	0.9nm,0.8s,baz=93,slow=5.4,SNR=3.0						
CPUP	Villa Florida	144.27	217	ePKPdf	PKPdf	22 39 38.1	-0.2
CPUP				PKP	PKPbc	22 39 38.4	+1.8
CPUP	Villa Florida	144.27	217	PKP	PKPdf	22 39 38.4	0.0
	3.1nm,0.7s,baz=113,slow=2.7,SNR=11						
TXAR	Lajitas Array	144.75	37	PKP	PKPdf	22 39 39.5	+0.2
TXAR	Lajitas Array	144.75	37	PKP	PKPdf	22 39 39.5	+0.2
	2.2nm,0.7s,baz=207,slow=0.7,SNR=27						
MIAR	Mount Ida	145.10	19	ePKP	PKPbc	22 39 39.3	+0.3
JCT	Junction City	146.01	31	ePKPdf	PKPdf	22 39 41.7	+0.4

ATH **06** *22:24:40.6, 41.°62N×20.°49E, h8km±1km, MD3.7/20, ML3.9*
IDC **06** *22:24:41.7±0.9, 41.°55N×20.°34E, h0km, mb3.6/12, mb1 3.8/22, mb1mx3.7/38, mbtmp3.6/22, ML3.4/10, Error ellipse: s-maj=14.9km s-min=11.3km az=35.0*
SKO **06** *22:24:41.8, 41.°44N×20.°50E, h15km, M3.3, ML3.7*
TIR **06** *22:24:41.1±1.0, 41.°54N×20.°50E, h14km±6km, ML3.0*
ISCJB **06** *22:24:41.5±0.3, 41.°560N±0.°010×20.°43E±0.°02, h5km±2km, mb3.6/9, Error ellipse: s-maj=2.2km s-min=1.3km az=145.0*
PDG **06** *22:24:41.4±0.6, 41.°51N×20.°44E, h14km, MD3.8/5, ML3.8/9, Error ellipse: s-maj=0.8km s-min=0.9km az=0.0*
PRU **06** *22:24:42.8, 41.°55N×20.°61E, h0km*
CSEM **06** *22:24:42.3±0.1, 41.°54N×20.°44E, h2km, ML4.0/11, Error ellipse: s-maj=2.3km s-min=1.4km az=57.0*
LDG **06** *22:24:42.7±0.1, 41.°57N×20.°39E, h10km, Ml3.8/4, Error ellipse: s-maj=3.7km s-min=2.4km az=29.0*
BEO **06** *22:24:42.7±0.3, 41.°51N×20.°44E, h9km±2km, ML3.6/1*
THE **06** *22:24:42.5, 41.°56N×20.°50E, h1km±1km, ML4.0/11, Error ellipse: s-maj=1.0km s-min=0.5km az=295.0*
SOF **06** *22:24:49.0, 41.°71N×21.°13E, h3km, MD3.4*
ISC 06 22:24:42.6±0.8, 41.°56N±0.°01×20.°47E±0.°01, h7km±5km, n372, σ1§19/530, mb3.7/9, 61C-44D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC
PHP	Peshkopia	0.13	352	i PG	Pg	22 24 45.1	-0.3
PHP				i SG	Sg	22 24 48.2	+0.9
PHP	Peshkopia	0.13	352	P	Pg	22 24 45.1	-0.3
PHP				S	Sg	22 24 47.4	+0.1
PHP	Peshkopia	0.13	352	P	Pg	22 24 45.1	-0.3
PHP				S	Sg	22 24 47.4	+0.1
PHP				i Sg	Sg	22 24 48.2	+0.8
	SNR=127						
TIR	Tirane	0.50	245	i PG	Pg	22 24 51.2	-1.0
TIR				i SG	Sg	22 24 59.3	+0.5
TIR	Tirane	0.50	245	P	Pg	22 24 51.3	-1.0
TIR				S	Sg	22 24 59.8	+1.1
TIR	Tirane	0.50	245	ePg	Pg	22 24 49.9	-2.3
TIR				eSg	Sg	22 24 59.2	+0.5
TIR	Tirane	0.50	245	ePb	Pg	22 24 50.4	-1.8
TIR	Tirane	0.50	245	i Pg	Pg	22 24 51.2	-1.0
	SNR=91						
TIR				i Sg	Sg	22 24 59.3	+0.5
	SNR=91						
SKO	Skopje	0.84	60	P	Pg	22 24 58.3	-0.4
SKO				S	Sb	22 25 11.4	+0.5
SKO	Skopje	0.84	60	⇧iPg	Pg	22 24 58.3	-0.4
SKO				eSg	Sb	22 25 12.0	+1.0
SKO	Skopje	0.84	60	i Pg	Pb	22 24 59.3	-0.2
SKO				i Sg	Sn	22 25 13.0	-0.4
SKO				eLg	Lg	22 25 13.4	
	comp=N,3μm,0.3s						
SKO				eLg	Lg	22 25 13.7	
	comp=E,2μm,0.3s						
SKO	Skopje	0.84	60	i Pg	Pg	22 24 58.2	-0.4
SKO				i Sg	Sb	22 25 11.9	+1.0
SKO				eLg	Lg	22 25 12.6	
	comp=E,2μm,0.3s						
BIA	Bitola	0.84	129	P	Pg	22 24 57.9	-0.9
BIA				S	Sg	22 25 10.0	+0.3
BIA	Bitola	0.84	129	i Pg	Pg	22 24 57.0	-1.8
BIA				i Sg	Sg	22 25 10.2	+0.4
BIA	Bitola	0.84	129	i Pg	Pg	22 24 56.4	-2.4
BIA	Bitola	0.84	129	P	Pg	22 24 57.9	-0.9
BIA				i Sg	Sg	22 25 09.6	-0.1
BIA				S	Sg	22 25 10.0	+0.3
BCI	Bajram Curri	0.86	340	i PG	Pg	22 24 58.2	-0.9
BCI				i SG	Sb	22 25 12.1	+0.5
BCI	Bajram Curri	0.86	340	i Pg	Pg	22 24 58.2	-0.9
	SNR=90						
BCI				i Sg	Sb	22 25 12.1	+0.5
	SNR=90						
KBN	Korca	0.96	165	P	Pg	22 25 01.1	0.0
KBN				S	Sb	22 25 14.5	-0.1
KBN	Korca	0.96	165	P	Pg	22 25 01.1	0.0
KBN				S	Sb	22 25 14.5	-0.1
ULC	Ulcinj	1.00	294	⇧iPg	Pg	22 24 59.4	-2.4
ULC				eSg	Sb	22 25 15.6	0.0
ULC	Ulcinj	1.00	294	⇧iPg	Pg	22 24 59.4	-2.4
ULC				eSg	Sb	22 25 15.6	0.0
FNA	Florina	1.04	138	P	Pg	22 25 01.4	-1.1
FNA				S	Sn	22 25 17.9	-0.4
FNA	Florina	1.04	138	ePG	Pg	22 25 00.4	-2.1
FNA				eSB	Sb	22 25 16.2	-0.4
FNA	Florina	1.04	138	ePg	Pg	22 25 00.4	-2.1
FNA	Florina	1.04	138	P	Pg	22 25 01.4	-1.1
FNA				eSb	Sb	22 25 16.2	-0.4
FNA				S	Sn	22 25 17.9	-0.4
PVY	Plav	1.10	340	⇧iPg	Pg	22 25 01.6	-2.2
PVY				eSg	Sn	22 25 20.1	0.0
PVY	Plav	1.10	340	⇧iPg	Pg	22 25 01.6	-2.2
PVY				eSg	Sn	22 25 20.1	0.0
DRME	Dracevica, Mon	1.14	304	⇓iPg	Pg	22 25 02.7	-1.8
DRME				eSg	Sn	22 25 21.3	+0.4
DRME	Dracevica, Mon	1.14	304	⇓iPg	Pg	22 25 02.7	-1.8
DRME				eSg	Sn	22 25 21.3	+0.4
NEST	Nestorio	1.23	159	P	Pb	22 25 05.9	-0.2
NEST				S	Sn	22 25 23.0	0.0
NEST	Nestorio	1.23	159	P	Pb	22 25 05.9	-0.2
NEST				S	Sn	22 25 23.0	0.0
PDG	Podgorica	1.25	314	P	Pn	22 25 05.6	-0.9
PDG				S	Sn	22 25 24.6	+1.0
PDG	Podgorica	1.25	314	ePg	Pn	22 25 04.5	-2.0
PDG				eSg	Sn	22 25 23.5	-0.1
PDG				eSn	Sg	22 25 25.3	+2.4
PDG	Podgorica	1.25	314	ePg	Pn	22 25 04.5	-2.0
PDG	Podgorica	1.25	314	P	Pn	22 25 05.6	-0.9
PDG				eSg	Sn	22 25 23.5	-0.1
PDG				S	Sn	22 25 24.6	+1.0
PDG				eSn	Sg	22 25 25.3	+2.4
TTG	Podgorica	1.25	314	⇓iPg	Pn	22 25 04.5	-2.0
TTG				eSg	Sn	22 25 24.6	+1.0
BUM	Brajici-Budva	1.39	303	⇓iPg	Pn	22 25 07.5	-0.9
BUM				eSg	Sg	22 25 28.2	+1.0
BUM	Brajici-Budva	1.39	303	⇓iPg	Pn	22 25 07.5	-0.9
BUM				eSg	Sg	22 25 28.2	+1.0
LSK	Leskovik	1.41	176	i PG	Pn	22 25 08.6	-0.1
LSK				i SG	Sg	22 25 28.2	+0.3
LSK	Leskovik	1.41	176	i Pg	Pn	22 25 08.6	-0.1
	SNR=90						
LSK				i Sg	Sg	22 25 28.2	+0.3
	SNR=90						
KZN	Kozani	1.59	141	ePB	Pn	22 25 11.3	0.0
KZN				eSB	Sg	22 25 33.6	-0.2
KZN	Kozani	1.59	141	ePb	Pn	22 25 11.3	0.0
KZN				eSb	Sg	22 25 33.6	-0.2
VAY	Valandovo	1.60	98	P	Pn	22 25 10.9	-0.4
VAY				S	Sb	22 25 32.6	-0.2
VAY	Valandovo	1.60	98	⇧iPn	Pn	22 25 09.9	-1.4
VAY	Valandovo	1.60	98	i Pn	Pn	22 25 10.4	-0.8
VAY				i Sg	Sg	22 25 33.9	-0.1
VAY				eLg	Lg	22 25 34.6	
	comp=E,324nm,0.6s						
VAY				eLg	Lg	22 25 38.0	
	comp=N,1μm,1.4s						
VAY	Valandovo	1.60	98	⇧iPn	Pn	22 25 09.9	-1.4
VAY	Valandovo	1.60	98	P	Pn	22 25 10.9	-0.4
VAY				S	Sb	22 25 32.6	-0.2
VAY				i Sg	Sg	22 25 33.3	-0.7
VAY				eLg	Lg	22 25 37.4	
	comp=N,1μm,1.4s						
BARS	Barje	1.61	38	eSn	Sb	22 25 33.3	+0.2
BARS	Barje	1.61	38	eSn	Sb	22 25 33.3	+0.2
NKME	Niksic	1.65	318	⇓iPn	Pn	22 25 10.7	-1.3
NKME				eSn	Sb	22 25 35.1	+0.8
NKME	Niksic	1.65	318	⇓iPn	Pn	22 25 10.7	-1.3
NKME				eSn	Sb	22 25 35.1	+0.8
NKY	Niksic	1.66	319	⇓iPn	Pn	22 25 11.2	-1.0
NKY				eSn	Sb	22 25 35.4	+0.6
NKY	Niksic	1.66	319	⇓iPn	Pn	22 25 11.2	-1.0
NKY				eSn	Sb	22 25 35.4	+0.6
SRN	Sarande	1.71	192	P	Pn	22 25 13.3	+0.5
SRN				S	Sg	22 25 37.7	+0.1
SRN	Sarande	1.71	192	P	Pn	22 25 13.3	+0.5
SRN				S	Sg	22 25 37.7	+0.1
HCY	Herceg Novi	1.72	302	⇧iPn	Pn	22 25 12.8	-0.1
HCY				eSn	Sb	22 25 36.5	+0.3
HCY	Herceg Novi	1.72	302	⇧iPn	Pn	22 25 12.8	-0.1
HCY				eSn	Sb	22 25 36.5	+0.3
SELS	Selova	1.73	16	⇓iPn	Pn	22 25 12.9	-0.2
SELS				eSn	Sb	22 25 37.1	+0.5
SJES	Sjenica	1.74	348	⇧iPn	Pn	22 25 13.6	+0.3
SJES				eSn	Sn	22 25 35.5	-0.3
KNT	Kendrikon	1.87	101	P	Pn	22 25 14.7	-0.3
KNT				S	Sb	22 25 39.9	-0.8
KNT	Kendrikon	1.87	101	P	Pn	22 25 14.7	-0.3
KNT				S	Sb	22 25 39.9	-0.8
KEK	Kerkira	1.91	196	P	Pn	22 25 16.3	+0.8
KEK				S	Sb	22 25 42.1	+0.3
KEK	Kerkira	1.91	196	ePN	Pn	22 25 16.5	+0.9
KEK				eSN	Sb	22 25 42.3	+0.5
KEK	Kerkira	1.91	196	P	Pn	22 25 16.3	+0.8
KEK				S	Sb	22 25 42.1	+0.3
JAN	Janina	1.92	171	P	Pn	22 25 16.3	+0.6
JAN				S	Sb	22 25 42.5	+0.3
JAN	Janina	1.92	171	ePG	Pb	22 25 17.4	-0.6
JAN				eSN	Sb	22 25 42.8	+0.7
JAN	Janina	1.92	171	P	Pn	22 25 16.3	+0.6
JAN	Janina	1.92	171	ePg	Pb	22 25 17.4	-0.6
JAN				S	Sb	22 25 42.5	+0.3
PLE	Pljevlja	1.94	336	ePn	Pn	22 25 15.8	-0.3
PLE				eSn	Sb	22 25 42.3	-0.5
PLE	Pljevlja	1.94	336	ePn	Pn	22 25 15.8	-0.3
PLE				eSn	Sb	22 25 42.3	-0.5
TREB	Trebinje	1.95	307	ePn	Pn	22 25 17.1	+1.0
TREB				eSn	Sn	22 25 41.6	+0.7
TREB	Trebinje	1.95	307	ePn	Pn	22 25 17.1	+1.0
TREB				eSn	Sn	22 25 41.6	+0.7
BRY	Bratogost	1.96	314	⇧iPn	Pn	22 25 16.0	-0.4
BRY				eSn	Sb	22 25 43.0	-0.4
BRY	Bratogost	1.96	314	⇧iPn	Pn	22 25 16.0	-0.4
BRY				eSn	Sb	22 25 43.0	-0.4
KKB	Krupnik	1.98	80	P	Pn	22 25 17.6	+1.0
KKB	Krupnik	1.98	80	P	Pn	22 25 17.6	+1.0
UPM	Unac-Piva	2.01	325	⇓iPn	Pn	22 25 17.2	+0.1
UPM				eSn	Sb	22 25 44.4	-0.4
UPM	Unac-Piva	2.01	325	⇓iPn	Pn	22 25 17.2	+0.1
UPM				eSn	Sb	22 25 44.4	-0.4
IGT	Igoumenitsa	2.03	183	P	Pn	22 25 17.8	+0.7
IGT				S	Sn	22 25 43.8	+1.1
IGT	Igoumenitsa	2.03	183	P	Pn	22 25 17.8	+0.7
IGT				S	Sn	22 25 43.8	+1.1
THE	Thessaloniki	2.10	115	P	Pn	22 25 17.9	-0.3
THE				S	Sn	22 25 45.1	+0.6
THE	Thessaloniki	2.10	115	P	Pn	22 25 17.9	-0.3
THE				S	Sn	22 25 45.1	+0.6
LIT	Litokhoron	2.12	133	ePN	Pn	22 25 18.3	-0.1
LIT	Litokhoron	2.12	133	ePn	Pn	22 25 18.3	-0.1
HORT	Hortiatis	2.21	115	P	Pn	22 25 19.3	-0.4
HORT				S	Sn	22 25 47.7	+0.4
HORT	Hortiatis	2.21	115	P	Pn	22 25 19.3	-0.4
HORT				S	Sn	22 25 47.7	+0.4
VTS	Vitosha	2.29	62	P	Pn	22 25 20.9	0.0
VTS				S	Sn	22 25 50.6	+1.2
VTS	Vitosha	2.29	62	⇓iP	Pn	22 25 21.7	+0.8
VTS	Vitosha	2.29	62	ePn	Pn	22 25 22.0	+1.1
VTS				eSn	Sn	22 25 50.2	+0.8
VTS	Vitosha	2.29	62	P	Pn	22 25 21.7	+0.8
VTS	Vitosha	2.29	62	P	Pn	22 25 20.9	0.0
VTS	Vitosha	2.29	62	ePn	Pn	22 25 22.0	+1.1
VTS				eSn	Sn	22 25 50.2	+0.8
SOH	Sokhos	2.30	108	P	Pn	22 25 20.8	-0.2
SOH				S	Sn	22 25 50.0	+0.5
SOH	Sokhos	2.30	108	ePN	Pn	22 25 21.0	0.0
SOH	Sokhos	2.30	108	ePn	Pn	22 25 21.0	0.0
SOH				S	Sn	22 25 50.0	+0.5
THL	Klokotos Trika	2.31	149	P	Pn	22 25 21.4	+0.3
THL				S	Sn	22 25 51.0	+1.2
THL	Klokotos Trika	2.31	149	ePN	Pn	22 25 21.8	+0.7
THL				eSN	Sb	22 25 52.5	-0.9
THL	Klokotos Trika	2.31	149	P	Pn	22 25 21.4	+0.3
THL	Klokotos Trika	2.31	149	ePn	Pn	22 25 21.8	+0.7
THL				S	Sn	22 25 51.0	+1.2
THL				eSn	Sb	22 25 52.5	-0.9
GRUS	Gruza	2.34	4	ePn	Pn	22 25 21.6	+0.2
GRUS				eSn	Sn	22 25 50.8	+0.5
GRUS	Gruza	2.34	4	ePn	Pn	22 25 21.6	+0.2
GRUS				eSn	Sn	22 25 50.8	+0.5
ZAPS	Zavoj	2.35	42	⇧iPn	Pn	22 25 22.6	+1.0
ZAPS				eSn	Sb	22 25 52.5	-1.9
ZAPS	Zavoj	2.35	42	⇧iPn	Pn	22 25 22.6	+1.0
ZAPS				eSn	Sb	22 25 52.5	-1.9
SRS	Serrai	2.40	100	P	Pn	22 25 21.9	-0.3
SRS				S	Sn	22 25 53.3	+1.5
SRS	Serrai	2.40	100	P	Pn	22 25 21.9	-0.3
SRS				S	Sn	22 25 53.3	+1.5
PE1	Pezze di Greco	2.42	253	ePn	Pn	22 25 20.8	-1.7
BBLS	Lazići	2.44	342	⇓iPn	Pb	22 25 25.0	-1.7
BBLS				eSn	Sb	22 25 53.2	+0.3
BBLS	Lazići	2.44	342	⇓iPn	Pb	22 25 25.0	-1.7
BBLS				eSn	Sn	22 25 53.2	+0.3
STON	Ston	2.44	303	ePn	Pn	22 25 22.7	-0.1
STON				Sn	Sb	22 25 56.9	0.0
MMB	Musomiste	2.45	88	P	Pn	22 25 23.4	+0.4
MMB	Musomiste	2.45	88	P	Pn	22 25 23.4	+0.4
BOLS	Boljevac	2.52	25	⇧iPn	Pn	22 25 23.5	-0.4
BOLS	Boljevac	2.52	25	⇧iPn	Pn	22 25 23.5	-0.4
PLG	Polygyros	2.55	117	P	Pn	22 25 24.3	0.0
PLG				S	Sn	22 25 56.1	+0.5
PLG	Polygyros	2.55	117	ePN	Pn	22 25 24.5	+0.2
PLG				eSN	Sn	22 25 55.8	+0.2
PLG	Polygyros	2.55	117	ePn	Pn	22 25 24.5	+0.2
PLG				eSn	Sn	22 25 55.8	+0.2
PLG				S	Sn	22 25 56.1	+0.5
DIVS	Divibare	2.56	352	P	Pn	22 25 24.6	0.0
DIVS				S	Sn	22 25 57.9	+1.9
DIVS	Divibare	2.56	352	ePn	Pn	22 25 24.8	+0.2
DIVS				eSn	Sn	22 25 56.8	+0.8
DIVS	Divibare	2.56	352	ePn	Pn	22 25 24.8	+0.2
DIVS				eSn	Sn	22 25 56.8	+0.8
DIVS				S	Sn	22 25 57.9	+1.9
NVR	Nevrokopi	2.56	94	P	Pn	22 25 24.7	+0.2
NVR				S	Sn	22 25 57.4	+1.5
NVR	Nevrokopi	2.56	94	ePN	Pn	22 25 25.0	+0.5
NVR	Nevrokopi	2.56	94	P	Pn	22 25 24.7	+0.2
NVR	Nevrokopi	2.56	94	ePn	Pn	22 25 25.0	+0.5
NVR				S	Sn	22 25 57.4	+1.5
TRUS	Trudelj	2.66	359	⇧iPn	Pn	22 25 25.6	-0.3
TRUS	Trudelj	2.66	359	⇧iPn	Pn	22 25 25.6	-0.3
BAI	Bari	2.74	262	ePn	Pn	22 25 25.9	-1.0
SVIS	Svilajnac	2.76	11	ePn	Pn	22 25 27.7	+0.5
LKD2	Lefkada island	2.77	177	P	Pn	22 25 27.2	-0.2
LKD2				S	Sn	22 26 02.6	+1.5
LKD2	Lefkada island	2.77	177	ePB	Pn	22 25 28.0	+0.6
LKD2	Lefkada island	2.77	177	P	Pn	22 25 27.2	-0.2
LKD2	Lefkada island	2.77	177	ePb	Pn	22 25 28.0	+0.6
LKD2				S	Sn	22 26 02.6	+1.5
EVR	Evrytania	2.83	158	P	Pn	22 25 28.3	0.0
EVR				S	Sn	22 26 04.0	+1.3
EVR	Evrytania	2.83	158	ePN	Pn	22 25 29.9	+1.6
EVR				eSN	Sn	22 26 04.6	+1.9
EVR	Evrytania	2.83	158	P	Pn	22 25 28.3	0.0
EVR	Evrytania	2.83	158	ePn	Pn	22 25 29.9	+1.6
EVR				S	Sn	22 26 04.0	+1.3
MAKR	Makrakomi, Fth	2.84	153	P	Pn	22 25 28.4	0.0
MAKR				S	Sn	22 26 04.6	+1.7
MAKR	Makrakomi, Fth	2.84	153	P	Pn	22 25 28.4	0.0
MAKR				S	Sn	22 26 04.6	+1.7
AGG	Agios Georgios	2.91	150	P	Pn	22 25 29.0	-0.3
AGG				S	Sn	22 26 05.8	+1.3
AGG	Agios Georgios	2.91	150	ePN	Pn	22 25 29.4	+0.1
AGG				eSN	Sn	22 26 05.9	+1.4
AGG	Agios Georgios	2.91	150	P	Pn	22 25 29.0	-0.3
AGG	Agios Georgios	2.91	150	ePn	Pn	22 25 29.4	+0.1
AGG				S	Sn	22 26 05.8	+1.3
PGB	Panagyurishte	2.93	69	P	Pn	22 25 30.6	+1.0
PGB	Panagyurishte	2.93	69	P	Pn	22 25 30.6	+1.0
OUR	Ouranopolis	2.93	114	P	Pn	22 25 29.5	0.0
OUR				S	Sn	22 26 06.1	+1.1
OUR	Ouranopolis	2.93	114	P	Pn	22 25 29.5	0.0
OUR				S	Sn	22 26 06.1	+1.1
PAIG	Paliouri	2.94	123	P	Pn	22 25 29.5	-0.1
PAIG				S	Sn	22 26 05.7	+0.6
PAIG	Paliouri	2.94	123	P	Pn	22 25 29.5	-0.1
PAIG				S	Sn	22 26 05.7	+0.6
MPEP	Malo Peshtene	3.02	52	P	Pn	22 25 31.7	+1.0
XOR	Xorichti	3.02	136	P	Pn	22 25 30.5	-0.3
XOR				S	Sn	22 26 09.2	+2.0
XOR	Xorichti	3.02	136	P	Pn	22 25 30.5	-0.3
XOR				S	Sn	22 26 09.2	+2.0
TEKS	Tekeris	3.07	347	ePn	Pn	22 25 34.2	+2.7
TEKS	Tekeris	3.07	347	ePn	Pn	22 25 34.2	+2.7
NEO	Neokhori	3.08	136	P	Pn	22 25 31.6	-0.1
NEO	Neokhori	3.08	136	ePN	Pn	22 25 31.9	+0.2
NEO	Neokhori	3.08	136	P	Pn	22 25 31.6	-0.1
NEO	Neokhori	3.08	136	ePn	Pn	22 25 31.9	+0.2
KAVA	Kavala	3.10	99	P	Pn	22 25 32.1	+0.2
KAVA	Kavala	3.10	99	P	Pn	22 25 32.1	+0.2
RZN	Rozhen	3.19	86	P	Pn	22 25 34.1	+0.8
RZN	Rozhen	3.19	86	P	Pn	22 25 34.1	+0.8
CDT	Castel del Mon	3.19	263	ePn	Pn	22 25 32.1	-1.1
PLD	Plovdiv	3.21	79	P	Pn	22 25 34.0	+0.6
PLD				S	Sn	22 26 13.9	+1.9
PLD	Plovdiv	3.21	79	⇧iPn	Pn	22 25 34.5	+1.1
PLD				eSn	Sn	22 26 11.7	-0.2
PLD	Plovdiv	3.21	79	P	Pn	22 25 34.6	+1.1
PLD	Plovdiv	3.21	79	P	Pn	22 25 34.0	+0.6
PLD	Plovdiv	3.21	79	⇧iPn	Pn	22 25 34.5	+1.1
PLD				eSn	Sn	22 26 11.7	-0.2
PLD				S	Sn	22 26 13.9	+1.9
BEO	Beograd	3.25	0	ePn	Pn	22 25 34.2	+0.3
AXAR	Agios Charalam	3.26	148	P	Pn	22 25 34.5	+0.4
AXAR	Agios Charalam	3.26	148	P	Pn	22 25 34.5	+0.4
EFP	Efpalio	3.32	160	ePB	Pn	22 25 37.0	+2.1
VLS	Valsamata	3.38	178	P	Pn	22 25 36.5	+0.8
VLS	Valsamata	3.38	178

PKSM Moragy 4.83 345⇑ *e* Pn 22 25 55.9 +0.2
PKSM *e* 22 26 52.4
PKSM Moragy 4.83 345⇑ *eP* Pn 22 25 55.9 +0.2
PKSM *eS* **Sn 22 26 52.4 +0.5**
ARR Arges 4.87 37⇑ *iP* Pn 22 25 57.1 +0.9
ARR Arges 4.87 37⇑ *iP* Pn 22 25 57.1 +0.9
PKS2 Kecel 5.01 350⇓ *e* Pn 22 26 00.5 +2.3
PKS2 *e* 22 26 59.3
PKS2 Kecel 5.01 350⇓ *eP* Pn 22 26 00.5 +2.3
PKS2 *eS* **Sn 22 26 59.3 +3.0**
NVLJ Novalja 5.08 308 *ePn* Pn 22 25 58.9 -0.1
NVLJ Sn **Sn 22 26 56.1 -1.8**
VOIR 5.11 39⇑ *iP* Pn 22 26 00.7 +1.1
VOIR 5.11 39⇑ *iP* Pn 22 26 00.7 +1.1
SULR 5.26 52⇓ *iP* Pn 22 26 02.9 +1.3
SULR 5.26 52⇓ *iP* Pn 22 26 02.9 +1.3
PKS9 Tamasi 5.27 343⇑ *e* Pn 22 26 03.0 +1.3
PKS9 *e* 22 27 05.2
PKS9 Tamasi 5.27 343⇑ *eP* Pn 22 26 03.0 +1.3
PKS9 *eS* **Sn 22 27 05.2 +2.6**
PKSN Nyarlorinc 5.36 356⇓ *e* Pn 22 26 05.8 +3.0
PKSN Nyarlorinc 5.36 356⇓ *eP* Pn 22 26 05.8 +3.0
BOJS Bojanci 5.47 318 *i* Pn Pn 22 26 05.5 +1.1
BOJS *i* Sn **Sn 22 27 08.6 +1.1**
BOJS Bojanci 5.47 318 Pn Pn 22 26 05.5 +1.1
BOJS *i* Sn **Sn 22 27 08.6 +1.1**
DRGR 5.47 16⇓ *iP* Pn 22 26 05.0 +0.4
DRGR 5.47 16⇓ *iP* Pn 22 26 05.0 +0.4
PKS7 Kunszentmiklos 5.57 351 *e* Sn 22 27 10.7 +0.8
PKS7 Kunszentmiklos 5.57 351 *eS* Sn 22 27 10.7 +0.8
BEHE Becsehely 5.58 333⇑ *e* Pn 22 26 08.3 +2.3
BEHE Becsehely 5.58 333⇑ *eP* Pn 22 26 08.3 +2.3
MLR Muntele Rosu 5.60 44⇓ *iP* Pn 22 26 08.8 +2.5
MLR Muntele Rosu 5.60 44 Pn Pn 22 26 08.1 +1.8
comp=N,0.4nm,0.3s,baz=202,slow=14,SNR=7.9
MLR Muntele Rosu 5.60 44⇓ *iP* Pn 22 26 08.8 +2.5
DOPR Dopca 5.67 37⇑ *iP* Pn 22 26 09.1 +1.9
DOPR Dopca 5.67 37⇑ *iP* Pn 22 26 09.1 +1.9
GONE Gonen-Balikesi 5.68 103 *eP* Pn 22 26 07.1 -0.3
GONE Gonen-Balikesi 5.68 103 *eP* Pn 22 26 07.1 -0.3
PGOR Pogoanele 5.82 53⇓ *iP* Pn 22 26 11.4 +2.2
PGOR Pogoanele 5.82 53⇓ *iP* Pn 22 26 11.4 +2.2
PKST T^'s 5.96 344⇑ *e* Pn 22 26 13.2 +2.0
PKST *e* 22 27 23.3
PKST T^'s 5.96 344⇑ *eP* Pn 22 26 13.2 +2.0
BUD Budapest 6.01 351⇑ *e* Pn 22 26 14.5 +2.6
BUD *e* 22 27 22.3
BUD Budapest 6.01 351⇑ *eP* Pn 22 26 14.5 +2.6
BUD *eS* **Sn 22 27 22.3 +1.4**
CSKK Cs^‡kako 6.01 346⇓ *e* Pn 22 26 14.4 +2.5
CSKK *e* 22 27 22.8
CSKK Cs^‡kako 6.01 346⇓ *eP* Pn 22 26 14.4 +2.5
CSKK *eS* **Sn 22 27 22.8 +1.8**
PKSG 6.02 346⇓ *e* Pn 22 26 14.4 +2.5
PKSG *e* 22 27 23.3
PKSG 6.02 346⇓ *eP* Pn 22 26 14.4 +2.5
PKSG *eS* **Sn 22 27 23.3 +2.3**
ARCR ARCALIA 6.19 25⇓ *iP* Pn 22 26 16.5 +2.2
ARCR ARCALIA 6.19 25⇓ *iP* Pn 22 26 16.5 +2.2
CVD Cernavoda 6.20 61⇑ *iP* Pn 22 26 16.7 +2.3
CVD Cernavoda 6.20 61⇑ *iP* Pn 22 26 16.7 +2.3
PLOR Plostina 6.20 44⇑ *iP* Pn 22 26 16.2 +1.6
PLOR Plostina 6.20 44⇑ *iP* Pn 22 26 16.2 +1.6
LJU Ljubljana 6.21 318 *i* Pn Pn 22 26 15.4 +0.8
LJU Ljubljana 6.21 318 *i* Pn Pn 22 26 15.4 +0.8
VRI Vrincioaia 6.25 44⇑ *iP* Pn 22 26 16.8 +1.6
VRI Vrincioaia 6.25 44⇑ *iP* Pn 22 26 16.8 +1.6
TLB Topalu 6.32 59⇓ *iP* Pn 22 26 17.3 +1.2
TLB Topalu 6.32 59⇓ *iP* Pn 22 26 17.3 +1.2
JAVS Javornik 6.34 315 *i* Pn Pn 22 26 16.7 +0.1
JAVS *i* Sn **Sn 22 27 29.3 0.0**
JAVS Javornik 6.34 315 *i* Pn Pn 22 26 16.7 +0.1
JAVS *i* Sn **Sn 22 27 29.3 0.0**
PERS Pernice 6.37 325 *i* Pn Pn 22 26 17.6 +0.8
PERS *i* Sn **Sn 22 27 30.2 +0.4**
PERS Pernice 6.37 325 *i* Pn Pn 22 26 17.6 +0.8
PERS *i* Sn **Sn 22 27 30.2 +0.4**
VOY Vojsko 6.53 315 *ePn* Pn 22 26 19.2 +0.2
VOY *eSn* **Sn 22 27 34.2 +0.5**
VOY Vojsko 6.53 315 *ePn* Pn 22 26 19.2 +0.2
VOY *eSn* **Sn 22 27 34.2 +0.5**
CFR Carcaliu 6.66 55⇓ *iP* Pn 22 26 20.3 -0.4
CFR Carcaliu 6.66 55⇓ *iP* Pn 22 26 20.3 -0.4
KECS Kecovo 6.92 0 *ePN* Pn 22 26 25.0 +0.6
KECS *eSN* **Sn 22 27 40.6 -2.8**
KECS Kecovo 6.92 0 *ePn* Pn 22 26 25.0 +0.6
BURAR Bucovina Array 6.94 28⇓ *iP* Pn 22 26 27.1 +2.4
BURAR Bucovina Array 6.94 28⇓ *iP* Pn 22 26 27.1 +2.4
KULA Kula-Manisa 6.99 113 *eP* Pn 22 26 26.0 +0.7
KULA Kula-Manisa 6.99 113 *eP* Pn 22 26 26.0 +0.7
VYHS Vyhne 7.03 351 *ePN* Pn 22 26 28.6 +2.7
VYHS *eSN* **Sn 22 27 43.5 -2.5**
VYHS Vyhne 7.03 351 *ePn* Pn 22 26 28.6 +2.7
TLCR 7.08 56⇓ *iP* Pn 22 26 27.8 +1.3
TLCR 7.08 56⇓ *iP* Pn 22 26 27.8 +1.3
IDI Anoyia 7.16 150 Pn Pn 22 26 27.3 -0.4
comp=N,0.3nm,0.3s,baz=147,slow=16,SNR=4.8
IDI Sn **Sn 22 27 47.0 -2.3**
comp=N,1.3nm,0.3s,baz=246,slow=20,SNR=3.7
SMOL Smolenice 7.28 344 *ePN* Pn 22 26 32.7 +3.4
SMOL *eSN* **Sn 22 27 53.0 +0.9**
CRVS Cervenica-Dubn 7.38 5 *ePN* Pn 22 26 32.7 +2.1
CRVS Cervenica-Dubn 7.38 5 *ePn* Pn 22 26 32.7 +2.1
KOLS Kolonicke sedl 7.48 9 *ePN* Pn 22 26 33.7 +1.6
KOLS Kolonicke sedl 7.48 9 *ePn* Pn 22 26 33.7 +1.6
KBA Koelnbreinsper 7.51 320⇑ *iPn* Pn 22 26 33.6 +0.9
KBA ⇑ *iSn* **Sn 22 27 59.3 +1.1**
KBA Koelnbreinsper 7.51 320 Pn Pn 22 26 33.6 +0.9
KBA Sn **Sn 22 27 59.3 +1.1**
KHL Karahalli 7.67 112 *eP* Pn 22 26 34.4 -0.4
KHL Karahalli 7.67 112 *eP* Pn 22 26 34.4 -0.4
ABTA Abfaltersbach 7.72 315⇑ *iPn* Pn 22 26 35.6 +0.2
ABTA ⇓ *iSn* **Sn 22 28 04.2 +1.1**
ABTA Abfaltersbach 7.72 315 Pn Pn 22 26 35.6 +0.2
ABTA Sn **Sn 22 28 04.2 +1.1**
NIE Niedzica 7.86 359 *eP* Pn 22 26 44.5 +7.2
STHS Stebnicka Huta 7.88 4 *ePN* Pn 22 26 40.0 +2.5
STHS Stebnicka Huta 7.88 4 *ePn* Pn 22 26 40.0 +2.5
VRAC Vranov 8.21 342 Pn Pn 22 26 43.0 +0.9
comp=N,0.3nm,0.3s,baz=167,slow=14,SNR=4.2
VRAC Vranov 8.21 342 *ePn* Pn 22 26 42.3 +0.2
KWP Kalwaria Pacla 8.22 10⇑ *iP* Pn 22 26 47.3 +5.0
OKC Ostrava-Krasne 8.44 350 *eSN* Sn 22 28 19.7 -0.8
OKC Ostrava-Krasne 8.44 350 Sn Sn 22 28 19.7 -0.8
WTTA Wattenberg 8.51 315⇓ *iPn* Pn 22 26 46.3 0.0
SNR=11
WTTA ⇑ *iSn* **Sn 22 28 23.2 +0.6**
WTTA Wattenberg 8.51 315 Pn Pn 22 26 46.3 0.0
SNR=11
WTTA Sn **Sn 22 28 23.2 +0.6**
PGF Pioggiola 8.59 280 *eP* Pn 22 26 48.9 +1.5
PGF Pioggiola 8.59 280 *eP* Pn 22 26 48.9 +1.5
OJC Ojcow 8.68 357 *eP* Pn 22 26 52.8 +4.4
GERES GERESS Array B 8.71 329 Pn Pn 22 26 50.0 +1.0
comp=N,0.5nm,0.3s,baz=154,slow=14,SNR=30
GERES Sn **Sn 22 28 27.4 +0.1**
comp=N,0.1nm,0.3s,baz=149,slow=19,SNR=2.2
KHC Kasperske Hory 8.99 330 *ePn* Pn 22 26 54.0 +1.3
KHC *ex* x 22 27 02.5
KHC *eSN* **Sn 22 28 33.7 -0.5**
KHC *ex* x 22 29 20.5
KHC Kasperske Hory 8.99 330 Pn Pn 22 26 54.0 +1.3
KHC Sn **Sn 22 28 33.7 -0.5**
DAVOX Davos/Dischmat 9.22 308 Pn Pn 22 26 56.6 +0.5
comp=N,0.6nm,0.3s,baz=114,slow=16,SNR=13
DAVOX Sn **Sn 22 28 38.6 -1.6**
comp=N,0.4nm,0.3s,baz=319,slow=19,SNR=4.9
DPC Dobruska-Polom 9.25 343 *eSN* Sn 22 28 39.2 -1.5
DPC Dobruska-Polom 9.25 343 Sn Sn 22 28 39.2 -1.5
SBF Sospel 9.86 288 *ePn* Pn 22 27 01.7 -3.1
BRTR Keskin Array B 10.18 96 Pn Pn 22 27 09.9 +0.7
comp=N,0.1nm,0.3s,baz=300,slow=15,SNR=3.4
FRF La Foret Royal 10.39 286 *eP* Pn 22 27 13.6 +1.7
FRF La Foret Royal 10.39 286 *eP* Pn 22 27 13.6 +1.7
KEST Kesra 10.46 240 Pn Pn 22 27 12.9 -0.1
comp=N,0.0nm,0.3s,baz=41,slow=14,SNR=3.5
MBDF Montbardon 10.50 292 *ePn* Pn 22 27 10.6 -2.9
MBDF *eSn* Sn 22 28 59.4 -12
comp=N,6.2nm,0.6s
LPG La Plagne 10.71 296 *eSn* Sn 22 29 04.7 -12
comp=N,13nm,0.7s
LPL La Plagne 10.72 296 *ePn* Pn 22 27 14.1 -2.6
AKASG Malin Array Be 10.97 31 Pn Pn 22 27 19.7 -0.1
comp=N,0.2nm,0.3s,baz=220,slow=13,SNR=2.0
CLL Collm 11.02 335 *e* x 22 28 01.0
CLL *e*(S) **Sn 22 29 19.0 -4.9**
CLL *e* 22 31 02.0
CABF La Chapelle 11.50 301 *ePn* Pn 22 27 25.2 -2.0
HINF Hinteralfeld 11.53 307 *ePn* Pn 22 27 24.8 -2.7
HINF *eSn* Sn 22 29 24.1 -12
comp=N,4.5nm,0.5s
CDF Champ du Feu 11.57 311 *ePn* Pn 22 27 26.9 -1.3
CDF *eSn* Sn 22 29 24.9 -13
comp=N,1.1nm,0.4s
CDF Champ du Feu 11.57 311 *ePn* Pn 22 27 26.9 -1.3
LOR Lormes 13.16 301 *ePn* Pn 22 27 48.1 -1.7
LOR Lormes 13.16 301 *ePn* Pn 22 27 48.1 -1.7
MMAI Mount Meron Ar 14.62 121 Pn Pn 22 28 11.8 +2.0
comp=N,0.5nm,0.3s,baz=312,slow=14,SNR=4.6
HFS Hagfors 19.06 350 P P 22 29 05.1 -0.1
comp=N,0.3nm,0.3s,baz=155,slow=11,SNR=8.0
FINES FINESS Array B 20.20 8 P P 22 29 17.6 0.0
comp=N,1.6nm,0.8s,baz=165,slow=12,SNR=9.1
NB2 NORSAR Subarra 20.31 347 P P 22 29 18.1 -0.8
comp=Z,2.4nm,0.6s,baz=165,slow=11
NB2 NORSAR Subarra 20.31 347 P P 22 29 18.1 -0.8
comp=Z,2.4nm,0.6s,baz=165,slow=10,SNR=0.4
NOA NORSAR Array B 20.31 347 P P 22 29 18.2 -0.6
comp=Z,1.3nm,0.7s,baz=152,slow=9.8,SNR=9.5
EKA Eskdalemuir Ar 20.73 320 P P 22 29 21.9 -1.6
comp=Z,1.2nm,0.7s,baz=107,slow=11,SNR=3.6
ARCES ARCESS Array B 28.16 4 P P 22 30 33.9 -1.2
comp=Z,0.3nm,0.4s,baz=186,slow=11,SNR=7.0
TORD Torodi Ar. Bea 32.70 215 P P 22 31 14.7 -0.9
comp=Z,0.7nm,0.8s,baz=23,slow=9.9,SNR=7.8
BVAR Borovoye Array 35.06 54 P P 22 31 36.6 +0.8
comp=Z,0.3nm,0.5s,baz=273,slow=8.2,SNR=2.5
KURBB Kurchatov Arra 40.33 57 P P 22 32 22.0 +1.6
comp=Z,0.2nm,0.4s,baz=286,slow=9.7,SNR=6.8
ZALV Zalesovo Beam 43.52 51 P P 22 32 48.6 +2.1
comp=Z,1.3nm,0.5s,baz=286,slow=10,SNR=5.2
MKAR Makanchi Array 43.64 61 P P 22 32 49.1 +1.5
comp=Z,0.6nm,0.5s,baz=284,slow=7.4,SNR=9.2
SONM Songino Array 58.38 52 P P 22 34 40.4 +1.8
comp=Z,0.5nm,0.7s,baz=289,slow=8.8,SNR=3.6
ILAR Eielson Array 73.54 354 P P 22 36 15.3 -0.4
comp=Z,0.5nm,0.7s,baz=1.9,slow=5.7,SNR=3.9
TXAR Lajitas Array 92.61 314 P P 22 37 55.3 +0.1
comp=Z,0.4nm,0.8s,baz=36,slow=2.3,SNR=4.9

*ISCJB **06** 22:32:26.7±0.2, 37°.32N±0°.02×72°.09E±0°.04, h130km, mb4.0/30, Error ellipse: s-maj=4.0km s-min=2.6km az=169.0*
*IDC **06** 22:32:27.0±2.6, 37°.29N×72°.04E, h120km±23km, mb3.7/21, mb1 3.8/26, mb1mx3.7/35, mbtmp3.7/26, Error ellipse: s-maj=16.3km s-min=11.3km az=7.0*
*MOS **06** 22:32:28.1±0.8, 37°.38N×72°.00E, h142km, mb4.0/19, Error ellipse: s-maj=10.3km s-min=5.1km az=82.8*
*NEIC **06** 22:32:29.0±0.8, 37°.44N×71°.83E, h140km±11km, mb4.2/3, Error ellipse: s-maj=13.2km s-min=9.3km az=108.0*
*BJI **06** 22:32:32.0, 37°.52N×72°.37E, h139km, mB5.1/1, mb4.6/11*
*NNC **06** 22:32:35.7±6.0, 37°.95N×71°.86E, h188km±55km, mb3.4, mpv4.4, Error ellipse: s-maj=57.6km s-min=28.5km az=19.0*

ISC 06 22:32:28.1±0.3, 37°.38N±0°.03×72°.02E±0°.03, h130km, n125, σ1 s76/137, mb4.0/30, 7C-3D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.55**	**181**	P		**Pn**	**Sn**	**22 33 22.9**	**+0.9**
CEP				S		**Sn**	**Sn**	**22 34 04.0**	**+0.3**
KBL	**Kabul**	**3.72**	**221**	*e*PN		**Pn**	**Sn**	**22 33 25.1**	**+0.7**
KBL	**Kabul**	**3.72**	**221**	*e*Pn		**Pn**	**Sn**	**22 33 25.1**	**+0.7**
KBL				*e*Sn		**Sn**	**Sn**	**22 34 06.9**	**-0.9**
KSH	**Kashi**	**3.77**	**54**	P		**Pn**	**Sn**	**22 33 22.2**	**-2.7**
KSH				S		Sn	Sn	22 34 02.0	-6.9
KSH	comp=N,1μm,0.4s			smax		smax			
KSH	comp=E,990nm,0.4s			smax		smax			
CHCP	**Chirah Chowk**	**3.85**	**164**	P		**Pn**	**Sn**	**22 33 27.6**	**+1.7**
THW	**Thamme Wali**	**4.58**	**183**	P		**Pn**	**Sn**	**22 33 36.0**	**+0.4**
AML	**Almayashu**	**4.92**	**15**	*i* PN		**Pn**	**Sn**	**22 33 41.6**	**+1.2**
AML	**Almayashu**	**4.92**	**15**	P		**Pn**	**Sn**	**22 33 41.6**	**+1.2**
SNR=60									
UCH	**Uchtor**	**5.21**	**21**	*i* PN		**Pn**	**Sn**	**22 33 45.8**	**+1.4**
UCH	**Uchtor**	**5.21**	**21**	P		**Pn**	**Sn**	**22 33 45.8**	**+1.4**
SNR=8.1									
JMU	**Jammu**	**5.22**	**152**	*e*P		**Pn**	**Sn**	**22 33 45.5**	**+1.4**
JMU				*e*S		**Sn**	**Sn**	**22 34 40.5**	**-2.7**
KZA	**Kyzart**	**5.32**	**27**	*i* PN		**Pn**	**Sn**	**22 33 46.6**	**+0.9**
KZA	**Kyzart**	**5.32**	**27**	P		**Pn**	**Sn**	**22 33 46.6**	**+0.9**
SNR=35									
EKS2	**Erkin-Say**	**5.45**	**14**	*e*PN		**Pn**	**Sn**	**22 33 48.6**	**+1.4**
EKS2	**Erkin-Say**	**5.45**	**14**	P		**Pn**	**Sn**	**22 33 48.7**	**+1.4**
SNR=146									
EKS2	**Erkin-Say**	**5.45**	**14**	*e*Pn		**Pn**	**Sn**	**22 33 48.6**	**+1.4**
EKS2				*e*Sn		**Sn**	**Sn**	**22 34 43.6**	**-5.3**
AAK	**Ala-Archa**	**5.58**	**19**	PN		**Pn**	**Sn**	**22 33 50.7**	**+1.6**
AAK				pmax		pmax			
comp=Z,20nm,0.3s									
AAK	**Ala-Archa**	**5.58**	**19**	P		**Pn**	**Sn**	**22 33 50.9**	**+1.7**
SNR=79									
AAK	**Ala-Archa**	**5.58**	**19**	*e*Pn		**Pn**	**Sn**	**22 33 50.8**	**+1.6**
AAK				*e*Sn		**Sn**	**Sn**	**22 34 48.4**	**-3.9**
AAK	**Ala-Archa**	**5.58**	**19**	P		**Pn**	**Sn**	**22 33 50.7**	**+1.6**
comp=Z,20nm,0.3s,baz=165,slow=6.2,SNR=150									
AAK				S		**Sn**	**Sn**	**22 34 50.6**	**-1.7**
comp=Z,24nm,0.3s,baz=131,slow=23,SNR=24									
KBK	**Karagaybulak**	**5.73**	**22**	*i* PN		**Pn**	**Sn**	**22 33 52.9**	**+1.8**
KBK	**Karagaybulak**	**5.73**	**22**	P		**Pn**	**Sn**	**22 33 52.9**	**+1.8**
SNR=26									
THN	**Thein Dam**	**5.79**	**147**	*e*P		**Pn**	**Sn**	**22 33 49.4**	**-2.4**
THN				*e*4				22 34 49.4	
FRU	**Bishkek**	**5.80**	**19**	*e*PN		**Pn**	**Sn**	**22 33 54.0**	**+2.1**
FRU				*i* S		**Sn**	**Sn**	**22 34 58.0**	**+0.7**
FRU	comp=E,160nm,1.6s			pmax		pmax			
DLH	**Dalhousie**	**5.81**	**145**	*e*P		**Pn**	**Sn**	**22 33 52.0**	**-0.3**
DLH				*e*S		**Sn**	**Sn**	**22 34 55.0**	**-3.0**
KK31	**Karatay Array**	**5.83**	**349**	⇓P		**Pn**	**Sn**	**22 33 52.6**	**+0.3**
comp=E,49nm,0.3s,baz=164,slow=11,SNR=1949									
KK31				S		**Sn**	**Sn**	**22 34 55.5**	**-2.6**
comp=E,65nm,0.3s,baz=181,slow=23,SNR=16									
KKAR	**Karatay Array**	**5.83**	**349**	*e*PN		**Pn**	**Sn**	**22 33 52.5**	**+0.2**
KKAR	**Karatay Array**	**5.83**	**349**	*e*Pn		**Pn**	**Sn**	**22 33 52.5**	**+0.2**
KKAR				*e*Sn		**Sn**	**Sn**	**22 34 54.3**	**-3.8**
ULHL	**Ulahol**	**5.85**	**32**	*i* PN		**Pn**	**Sn**	**22 33 53.7**	**+1.0**
ULHL	**Ulahol**	**5.85**	**32**	P		**Pn**	**Sn**	**22 33 53.7**	**+1.0**
SNR=61									
CHMS	**Chumysh**	**5.99**	**20**	*i* PN		**Pn**	**Sn**	**22 33 55.8**	**+1.3**
CHMS	**Chumysh**	**5.99**	**20**	P		**Pn**	**Sn**	**22 33 55.8**	**+1.3**
SNR=71									
TKM2	**Tokmak 2**	**6.18**	**25**	⇑P		**Pn**	**Sn**	**22 33 58.4**	**+1.3**
TKM2	comp=E,7.5nm,0.5s			⇑S		**Sn**	**Sn**	**22 35 05.3**	**-1.4**
TKM2	comp=E,22nm,0.5s								
TKM2	**Tokmak 2**	**6.18**	**25**	*e*PN		**Pn**	**Sn**	**22 33 58.5**	**+1.3**
TKM2	**Tokmak 2**	**6.18**	**25**	P		**Pn**	**Sn**	**22 33 58.5**	**+1.3**
SNR=25									
TKM2	**Tokmak 2**	**6.18**	**25**	*e*Pn		**Pn**	**Sn**	**22 33 58.5**	**+1.3**
USP	**Ospenovka**	**6.18**	**17**	*i* PN		**Pn**	**Sn**	**22 33 57.7**	**+0.7**
USP	**Ospenovka**	**6.18**	**17**	P		**Pn**	**Sn**	**22 33 57.7**	**+0.7**
SNR=70									
DHRM	**DHARAMSHALA**	**6.21**	**144**	*e*P		**Pn**	**Sn**	**22 33 56.8**	**-0.8**
DHRM				*e*S		**Sn**	**Sn**	**22 35 03.0**	**-4.5**
BHK	**Bhakra**	**6.97**	**147**	*e*P		**Pn**	**Sn**	**22 34 06.6**	**-1.1**
BHK				*e*S		Sn	Sn	22 35 20.0	-5.6
SDNR	**Sundarnagar**	**7.15**	**144**	*e*P		**Pn**	**Sn**	**22 34 09.6**	**-0.5**
SDNR				*e*4				22 35 05.0	
SMLA	**Simla**	**7.55**	**144**	*i* P		**Pn**	**Sn**	**22 34 14.5**	**-1.0**
SMLA				*i* S		Sn	Sn	22 35 32.8	-6.8
SMLA				AML		AML		22 35 38.8	
SMLA	comp=E,519nm,0.3s			AML		AML		22 35 40.2	
SMLA	comp=N,314nm,0.4s								
DDI	**Dehra Dun**	**8.64**	**143**	*e*P		**Pn**	**Sn**	**22 34 29.2**	**-1.0**
DDI				*ex*		x		22 36 00.7	
DDI				*e*4				22 36 01.5	
MK31	**Makanchi Array**	**12.11**	**36**	⇑P		**Pn**	**Sn**	**22 35 16.3**	**+0.1**
comp=N,3.8nm,1.0s,baz=220,slow=14,SNR=13									
MK31	**Makanchi Array**	**12.11**	**36**	*e*P		**Pn**	**Sn**	**22 35 16.0**	**-0.2**
MK31				*e*				22 37 29.8	
MK31	**Makanchi Array**	**12.11**	**36**	*e*Pn		**Pn**	**Sn**	**22 35 16.0**	**-0.2**
MK31				*e*Sn		**Sn**	**Sn**	**22 37 29.8**	**+0.3**
MKAR	**Makanchi Array**	**12.11**	**36**	*e*P		**Pn**	**Sn**	**22 35 16.4**	**+0.2**
MKAR	**Makanchi Array**	**12.11**	**36**	*e*Pn		**Pn**	**Sn**	**22 35 16.4**	**+0.2**
MKAR	**Makanchi Array**	**12.11**	**36**	P		**Pn**	**Sn**	**22 35 16.1**	**-0.1**
comp=N,0.3nm,0.3s,baz=225,slow=16,SNR=16									
PYUN	**Piuthan**	**13.06**	**132**	*e*P		Pn	Pn	22 35 25.6	-3.4
comp=N,228nm,0.3s									
DANN	**Dangsing**	**13.35**	**129**	*e*P		Pn	Pn	22 35 29.8	-3.0
comp=N,105nm,0.3s									
WMQ	**Urumqi**	**13.53**	**57**	*e*P		**P**	**Sn**	**22 35 37.0**	**-2.3**
WMQ				sP				22 36 15.5	
WMQ				pmax		pmax			
comp=Z,8.0nm,0.6s									
WMQ				LR		LR			
comp=N,410nm,13.7s									
WMQ				LR		LR			
comp=E,500nm,14.6s									
WMQ				LR		LR			
comp=Z,360nm,13.7s									
KOLN	**Koldanda**	**13.67**	**131**	*e*P		Pn	Pn	22 35 34.0	-2.8
comp=Z,71nm,0.3s									
KURBB	**Kurchatov Arra**	**14.04**	**17**	P		**Pn**	**Sn**	**22 35 38.8**	**-2.3**
comp=Z,0.1nm,0.3s,baz=209,slow=11,SNR=5.8									
KURK	**Kurchatov**	**14.15**	**17**	P		Pn	Pn	22 35 38.8	-3.7
KKN	**Kakani**	**14.70**	**127**	*e*P		Pn	Pn	22 35 46.4	-3.5
comp=Z,34nm,0.2s									
DMN	**Daman**	**14.71**	**128**	*e*P		Pn	Pn	22 35 47.1	-3.0
comp=Z,95nm,0.3s									
AB31	**Akbulak array**	**14.75**	**327**	*e*Pn		**Pn**	**Sn**	**22 35 47.9**	**-2.2**
comp=Z,5.0nm,0.4s,baz=142,slow=12,SNR=325									
AB31				⇓S		Sn	Sn	22 38 18.4	-15
comp=Z,20nm,0.7s,baz=146,slow=23,SNR=12									
ABKAR	**Akbulak array**	**14.75**	**327**	*e*Pn		**Pn**	**Sn**	**22 35 47.5**	**-2.5**
ABKAR				Sn		Sn	Sn	22 38 15.3	-18
BHPL	**Bhopal**	**14.84**	**160**	*e*P		**Pn**	**Sn**	**22 35 51.5**	**0.0**
BHPL				*ex*		x	x	22 38 21.3	
PKIN	**Phulchoki**	**14.92**	**127**	*e*P		Pn	Pn	22 35 49.5	-3.2
comp=Z,44nm,0.2s									
PKI	**Pulchoki**	**14.93**	**127**	*e*P		Pn	Pn	22 35 49.6	-3.3
comp=Z,44nm,0.3s									
GUN	**Gumba**	**15.00**	**125**	*e*P		Pn	Pn	22 35 50.4	-3.4
comp=Z,101nm,0.4s									
VOSK	**Vostochnaya**	**15.36**	**358**	⇑P		**Pn**	**Sn**	**22 35 57.3**	**-0.4**
comp=Z,2.3nm,0.8s									
VOSK	**Vostochnaya**	**15.36**	**358**	*e*P		**Pn**	**Sn**	**22 35 57.0**	**-0.7**
VOSK				pmax		pmax			
comp=Z,34nm,2.6s									
VOSK	**Vostochnaya**	**15.36**	**358**	*e*Pn		**Pn**	**Sn**	**22 35 57.0**	**-0.7**
comp=Z,34nm,2.6s									
JIRN	**Jiri**	**15.37**	**125**	*e*P		**Pn**	**Sn**	**22 35 55.5**	**-3.0**
comp=Z,224nm,0.3s									
BVAR	**Borovoye Array**	**15.69**	**356**	P		**Pn**	**Sn**	**22 36 01.4**	**-0.4**
BVAR	**Borovoye Array**	**15.69**	**356**	P		**Pn**	**Sn**	**22 36 01.4**	**-0.4**
comp=Z,0.4nm,0.3s,baz=155,slow=12,SNR=8.1									
BRVK	**Borovoye**	**15.73**	**356**	⇑P		**P**	**Sn**	**22 36 04.4**	**+0.9**
comp=Z,5.0nm,0.6s									
BRVK	**Borovoye**	**15.73**	**356**	*e*P		**Pn**	**Sn**	**22 36 02.2**	**0.0**
BRVK				*e*				22 38 50.3	
BRVK				pmax		pmax			
comp=Z,4.0nm,0.5s									
BRVK	**Borovoye**	**15.73**	**356**	*e*Pn		**Pn**	**Sn**	**22 36 02.2**	**0.0**
comp=Z,3.8nm,0.5s									
BRVK				*e*Sn		**Sn**	**Sn**	**22 38 50.3**	**-6.4**
RAMN	**Ramite**	**16.12**	**126**	*e*P		**Pn**	**Sn**	**22 36 04.8**	**-2.8**
comp=Z,119nm,0.6s									
AKTO	**Aktyubinsk**	**16.46**	**327**	⇑P		**Pn**	**Sn**	**22 36 11.9**	**+0.7**
comp=Z,17nm,0.8s									
AKTO				⇑S		Sn	Sn	22 39 05.1	-9.2
comp=Z,12nm,0.7s									
AKTO	**Aktyubinsk**	**16.46**	**327**	P		**Pn**	**Sn**	**22 36 10.9**	**-0.3**
AKTO				S		Sn	Sn	22 39 04.7	-10
AKTO				pmax		pmax			
comp=Z,4.0nm,0.3s									
AKTO				smax		smax			
comp=N,1.0nm,0.3s									
AKTO	**Aktyubinsk**	**16.46**	**327**	P		**Pn**	**Sn**	**22 36 10.9**	**-0.3**
comp=N,3.6nm,0.3s,baz=130,slow=11,SNR=30									
AKTO				S		Sn	Sn	22 39 04.7	-10
comp=N,1.0nm,0.3s,baz=52,slow=21,SNR=8.6									
TAPN	**Taplejung**	**16.59**	**123**	*e*P		**Pn**	**Sn**	**22 36 10.4**	**-2.9**
comp=N,72nm,0.4s									
ODAN	**Odare**	**16.70**	**124**	*e*P		**Pn**	**Sn**	**22 36 12.0**	**-2.6**
comp=N,72nm,0.5s									
LSA	**Lhasa**	**17.68**	**110**	P		**Pn**	**Sn**	**22 36 27.3**	**+0.7**
LSA				pmax		pmax			
comp=Z,20nm,1.0s					

ARCES	**ARCESS Array B**	**40.65**	**337**	P	**P**	**22 39 56.2**	**+1.2**
	comp=Z,2.1nm,0.6s,baz=111,slow=8.5,SNR=23						
PSI	**Prapat**	**42.36**	**138**	P	**P**	**22 40 09.6**	**-0.1**
	comp=Z,4.2nm,0.7s,baz=323,slow=11,SNR=3.6						
HFS	**Hagfors**	**42.89**	**321**	P	**P**	**22 40 14.0**	**+0.7**
	comp=Z,3.3nm,0.7s,baz=94,slow=12,SNR=13						
NOA	**NORSAR Array B**	**44.18**	**322**	P	**P**	**22 40 23.9**	**+0.2**
	comp=Z,0.9nm,0.7s,baz=93,slow=7.7,SNR=4.0						
JNU	**Nakatsue**	**47.59**	**77**	P	**P**	**22 40 51.8**	**+1.0**
	comp=Z,4.4nm,0.8s,baz=166,slow=8.3,SNR=2.5						
KMBO	**Kilima Mbogo**	**50.02**	**228**	P	**P**	**22 41 09.5**	**-0.3**
	comp=Z,1.4nm,0.5s,baz=226,slow=23,SNR=4.4						
MJAR	**Matsushiro Arr**	**51.88**	**69**	P	**P**	**22 41 23.5**	**+0.3**
	comp=Z,1.8nm,0.7s,baz=287,slow=8.9,SNR=6.0						
MJA0	**Matsu Arr-Jizo**	**51.91**	**69**	*e*P	**P**	**22 41 24.6**	**+1.2**
MJA0				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ESDC	**Sonseca Array**	**57.77**	**298**	P	**P**	**22 42 06.0**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=46,slow=6.5,SNR=5.5						
TORD	**Torodi Ar. Bea**	**66.55**	**269**	P	**P**	**22 43 03.2**	**-1.2**
	comp=Z,0.8nm,0.4s,baz=49,slow=5.9,SNR=27						
INK	**Inuvik**	**72.91**	**10**	P	**P**	**22 43 43.3**	**+0.8**
	comp=Z,2.8nm,0.5s,baz=40,slow=5.4,SNR=9.2						
ILAR	**Eielson Array**	**73.71**	**16**	P	**P**	**22 43 47.2**	**-0.1**
	comp=Z,1.0nm,0.9s,baz=319,slow=5.4,SNR=6.7						
PPLA	**Purkeypile**	**73.99**	**19**	*e*P	**P**	**22 43 49.9**	**+0.8**
	comp=Z,2.9nm,0.5s						
YKA	**Yellowknife Ar**	**80.33**	**3**	P	**P**	**22 44 24.9**	**+0.6**
	comp=Z,2.0nm,0.5s,baz=350,slow=5.5,SNR=6.8						
SCHQ	**Schefferville**	**81.61**	**337**	P	**P**	**22 44 30.3**	**-1.0**
	comp=Z,3.4nm,0.7s,baz=56,slow=17,SNR=2.6						
WRA	**Warramunga Arr**	**81.77**	**123**	P	**P**	**22 44 32.1**	**-0.5**
	comp=Z,1.1nm,0.7s,baz=322,slow=4.7,SNR=16						
ASAR	**Alice Springs**	**84.09**	**126**	P	**P**	**22 44 43.3**	**-1.2**
	comp=Z,0.2nm,0.5s,baz=320,slow=5.4,SNR=3.4						

TIR ***06*** *22:36:03.5±0.8, 41°.46N×20°.43E, h14km±8km, ML3.9*
ATH ***06*** *22:36:03.3, 41°.55N×20°.54E, h5km±2km, MD3.5/17*
BEO ***06*** *22:36:04.8±0.4, 41°.42N×20°.44E, h7km±3km, ML2.9/1*
SKO ***06*** *22:36:04.0, 41°.39N×20°.48E, h15km, M2.7, ML3.1*
THE ***06*** *22:36:04.5, 41°.47N×20°.49E, h0km±1km, ML3.3/6, Error ellipse: s-maj=1.7km s-min=0.8km az=327.0*
CSEM ***06*** *22:36:04.6±0.1, 41°.46N×20°.47E, h2km, ML3.3/6, Error ellipse: s-maj=2.8km s-min=1.8km az=56.0*
PDG ***06*** *22:36:04.0±0.4, 41°.42N×20°.43E, h9km, ML3.5/11, Error ellipse: s-maj=0.6km s-min=0.7km az=0.0*
SOF ***06*** *22:36:12.6, 41°.60N×21°.25E, h2km, MD2.7*

ISC 06 22:36:03.5±0.7, 41°.45N±0°.01×20°.46E±0°.01, h12km±7km, n187, σ1§54/258, 22C-21D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHP	**Peshkopia**	**0.24**	**356**	*i* PG	**Pb**	**22 36 09.0**	**-0.9**
PHP				*i* SG	**Sb**	**22 36 13.1**	**+1.0**
PHP	**Peshkopia**	**0.24**	**356**	P	**Pb**	**22 36 08.9**	**-0.9**
PHP				S	**Sb**	**22 36 13.1**	**+1.0**
PHP	**Peshkopia**	**0.24**	**356**	*i* Pg	**Pb**	**22 36 09.0**	**-0.9**
	SNR=112						
PHP				S	**Sb**	**22 36 13.1**	**+1.0**
TIR	**Tirane**	**0.46**	**258**	*i* PG	**Pb**	**22 36 12.6**	**-1.0**
TIR				*i* SG	**Sb**	**22 36 19.3**	**-1.1**
TIR	**Tirane**	**0.46**	**258**	P	**Pb**	**22 36 12.3**	**-1.3**
TIR				S	**Sb**	**22 36 20.0**	**-0.4**
TIR	**Tirane**	**0.46**	**258**	*e*Pg	**Pb**	**22 36 12.2**	**-1.3**
TIR	**Tirane**	**0.46**	**258**	P	**Pb**	**22 36 12.3**	**-1.3**
TIR	**Tirane**	**0.46**	**258**	*i* Pg	**Pb**	**22 36 12.6**	**-1.0**
	SNR=93						
TIR				*e*Sg	**Sb**	**22 36 20.2**	**-0.2**
PUK	**Puka**	**0.73**	**325**	*i* PG	**Pb**	**22 36 17.7**	**-0.6**
PUK				*i* SG	**Sn**	**22 36 29.1**	**-1.8**
PUK	**Puka**	**0.73**	**325**	*i* Pg	**Pb**	**22 36 17.7**	**-0.6**
	SNR=90						
PUK				*i* Sg	**Sn**	**22 36 29.1**	**-1.8**
	SNR=90						
BIA	**Bitola**	**0.78**	**123**	P	**Pg**	**22 36 18.1**	**-0.5**
BIA				S	**Sn**	**22 36 30.7**	**-1.3**
BIA	**Bitola**	**0.78**	**123**	*i* Pg	**Pg**	**22 36 18.7**	**+0.1**
BIA				*i* Sg	**Sn**	**22 36 31.7**	**-0.3**
BIA	**Bitola**	**0.78**	**123**	*i* Pg	**Pg**	**22 36 18.2**	**-0.4**
BIA				S	**Sn**	**22 36 30.7**	**-1.3**
BIA				*i* Sg	**Sb**	**22 36 31.2**	**+1.7**
KBN	**Korca**	**0.86**	**163**	P	**Pg**	**22 36 20.3**	**+0.2**
KBN				S	**Sn**	**22 36 33.6**	**-0.4**
KBN	**Korca**	**0.86**	**163**	P	**Pg**	**22 36 20.3**	**+0.2**
KBN				S	**Sn**	**22 36 33.6**	**-0.4**
SKO	**Skopje**	**0.90**	**54**	P	**Pn**	**22 36 21.6**	**-0.4**
SKO				S	**Sn**	**22 36 35.1**	**+0.1**
SKO	**Skopje**	**0.90**	**54**	*e*Pg	**Pn**	**22 36 21.7**	**-0.3**
SKO				*e*Sg	**Sn**	**22 36 34.7**	**-0.3**
SKO	**Skopje**	**0.90**	**54**	*i* Pg	**Pn**	**22 36 22.9**	**+0.8**
SKO				*i* Sg	**Sn**	**22 36 36.6**	**+1.7**
SKO				*e*Lg	Lg	22 36 39.8	
	comp=E,726nm,0.9s						
SKO				*e*Lg	Lg	22 36 40.2	
	comp=N,806nm,0.5s						
SKO	**Skopje**	**0.90**	**54**	P	**Pn**	**22 36 21.6**	**-0.4**
SKO				*e*Sg	**Sn**	**22 36 34.7**	**-0.3**
SKO				S	**Sn**	**22 36 35.1**	**+0.1**
SKO				*e*Lg	Lg	22 36 39.1	
	comp=N,806nm,0.5s						
FNA	**Florina**	**0.96**	**134**	P	**Pb**	**22 36 21.8**	**-0.3**
FNA				S	**Sn**	**22 36 36.8**	**+0.4**
FNA	**Florina**	**0.96**	**134**	*e*PG	**Pb**	**22 36 21.9**	**-0.2**
FNA				*e*SB	**Sn**	**22 36 36.2**	**-0.2**
FNA	**Florina**	**0.96**	**134**	*e*Pg	**Pb**	**22 36 21.9**	**-0.2**
FNA				*e*Sg	**Sn**	**22 36 36.2**	**-0.2**
BCI	**Bajram Curri**	**0.97**	**342**	*i* PG	**Pn**	**22 36 21.8**	**-1.1**
BCI	**Bajram Curri**	**0.97**	**342**	*i* Pg	**Pn**	**22 36 21.8**	**-1.1**
	SNR=90						
ULC	**Ulcinj**	**1.05**	**300**	⇓*i*Pg	**Pg**	**22 36 22.8**	**-0.9**
ULC				*e*Sg	**Sn**	**22 36 39.5**	**+0.8**
ULC	**Ulcinj**	**1.05**	**300**	⇓*i*Pg	**Pg**	**22 36 22.8**	**-0.9**
ULC				*e*Sg	**Sn**	**22 36 39.5**	**+0.8**
NEST	**Nestorio**	**1.12**	**157**	P	**Pg**	**22 36 25.1**	**0.0**
NEST				S	**Sn**	**22 36 42.1**	**+1.5**
NEST	**Nestorio**	**1.12**	**157**	P	**Pg**	**22 36 25.1**	**0.0**
NEST				S	**Sn**	**22 36 42.1**	**+1.5**
PVY	**Plav**	**1.21**	**342**	⇑*i*Pg	**Pg**	**22 36 26.9**	**+0.1**
PVY				*e*Sg	**Sg**	**22 36 46.5**	**+4.0**
PVY	**Plav**	**1.21**	**342**	⇑*i*Pg	**Pg**	**22 36 26.9**	**+0.1**
PVY				*e*Sg	**Sg**	**22 36 46.5**	**+4.0**
DRME	**Dracevica, Mon**	**1.21**	**308**	⇓*i*Pg	**Pg**	**22 36 25.9**	**-0.9**
DRME				*e*Sg	**Sg**	**22 36 45.5**	**+3.0**
DRME	**Dracevica, Mon**	**1.21**	**308**	⇓*i*Pg	**Pg**	**22 36 25.9**	**-0.9**
DRME				*e*Sg	**Sg**	**22 36 45.5**	**+3.0**
LSK	**Leskovik**	**1.30**	**175**	*i* PG	**Pg**	**22 36 29.1**	**+0.6**
LSK				*i* SG	**Sg**	**22 36 48.2**	**+2.8**
LSK	**Leskovik**	**1.30**	**175**	*i* Pg	**Pg**	**22 36 29.1**	**+0.6**
	SNR=90						
LSK				*i* Sg	**Sg**	**22 36 48.2**	**+2.8**
	SNR=90						
PDG	**Podgorica**	**1.33**	**318**	P	**Pg**	**22 36 28.0**	**-1.2**
PDG				S	**Sg**	**22 36 49.7**	**+3.2**
PDG	**Podgorica**	**1.33**	**318**	*e*Pg	**Pg**	**22 36 27.9**	**-1.2**
PDG				*e*Sg	**Sg**	**22 36 47.2**	**+0.7**
PDG	**Podgorica**	**1.33**	**318**	P	**Pg**	**22 36 28.0**	**-1.2**
PDG				*e*Sg	**Sg**	**22 36 47.2**	**+0.7**
PDG				S	**Sg**	**22 36 49.7**	**+3.2**
TTG	**Podgorica**	**1.33**	**318**	⇓*i*Pg	**Pg**	**22 36 28.0**	**-1.2**
TTG				*e*Sg	**Sg**	**22 36 49.3**	**+2.8**
BUM	**Brajici-Budva**	**1.45**	**307**	⇑*i*Pg	**Pg**	**22 36 30.7**	**-0.7**
BUM				*e*Sg	**Sg**	**22 36 53.1**	**+2.9**
BUM	**Brajici-Budva**	**1.45**	**307**	⇑*i*Pg	**Pg**	**22 36 30.7**	**-0.7**
BUM				*e*Sg	**Sg**	**22 36 53.1**	**+2.9**
KZN	**Kozani**	**1.51**	**139**	*e*PB	**Pg**	**22 36 32.6**	**+0.1**
KZN				*e*SB	**Sg**	**22 36 53.4**	**+1.3**
KZN	**Kozani**	**1.51**	**139**	*e*Pb	**Pg**	**22 36 32.6**	**+0.1**
KZN				*e*Sb	**Sg**	**22 36 53.4**	**+1.3**
VAY	**Valandovo**	**1.59**	**94**	P	**Pb**	**22 36 32.2**	**-0.6**
VAY				S	**Sg**	**22 36 54.2**	**-0.5**
VAY	**Valandovo**	**1.59**	**94**	⇑*i*Pn	**Pb**	**22 36 32.2**	**-0.6**
VAY	**Valandovo**	**1.59**	**94**	*i* Pn	**Pb**	**22 36 32.7**	**-0.1**
VAY				*i* Sn	**Sg**	**22 36 55.0**	**+0.3**
VAY				*e*Lg	Lg	22 36 55.1	
	comp=N,225nm,0.7s						
VAY				*e*Lg	Lg	22 36 58.3	
	comp=E,133nm,0.7s						
VAY	**Valandovo**	**1.59**	**94**	P	**Pb**	**22 36 32.2**	**-0.6**
VAY				*i* Sn	**Sg**	**22 36 54.4**	**-0.3**
VAY				*e*Lg	Lg	22 36 57.8	
	comp=E,133nm,0.7s						
SRN	**Sarande**	**1.60**	**193**	P	**Pg**	**22 36 34.6**	**+0.3**
SRN				S	**Sg**	**22 36 56.9**	**+1.8**
SRN	**Sarande**	**1.60**	**193**	P	**Pg**	**22 36 34.6**	**+0.3**
SRN				S	**Sg**	**22 36 56.9**	**+1.8**
BARS	**Barje**	**1.70**	**36**	*e*Pn	**Pg**	**22 36 35.1**	**-1.0**
BARS	**Barje**	**1.70**	**36**	*e*Pn	**Pg**	**22 36 35.1**	**-1.0**
NKME	**Niksic**	**1.73**	**320**	⇓*i*Pn	**Pg**	**22 36 35.2**	**-1.6**
NKME				*e*Sn	**Sg**	**22 37 00.3**	**+1.0**
NKME	**Niksic**	**1.73**	**320**	⇓*i*Pn	**Pg**	**22 36 35.2**	**-1.6**
NKME				*e*Sn	**Sg**	**22 37 00.3**	**+1.0**
NKY	**Niksic**	**1.75**	**322**	⇑*i*Pn	**Pg**	**22 36 36.4**	**-0.7**
NKY				*e*Sn	**Sg**	**22 37 00.5**	**+0.7**
NKY	**Niksic**	**1.75**	**322**	⇑*i*Pn	**Pg**	**22 36 36.4**	**-0.7**
NKY				*e*Sn	**Sg**	**22 37 00.5**	**+0.7**
HCY	**Herceg Novi**	**1.78**	**305**	⇓*i*Pn	**Pg**	**22 36 36.0**	**-1.6**
HCY				*e*Sn	**Sg**	**22 37 01.4**	**+0.7**
HCY	**Herceg Novi**	**1.78**	**305**	⇓*i*Pn	**Pg**	**22 36 36.0**	**-1.6**
HCY				*e*Sn	**Sg**	**22 37 01.4**	**+0.7**
KEK	**Kerkira**	**1.80**	**197**	P	**Pg**	**22 36 37.2**	**-0.9**
KEK				S	**Sg**	**22 37 00.7**	**-0.8**
KEK	**Kerkira**	**1.80**	**197**	*e*PG	**Pg**	**22 36 39.0**	**+0.9**
KEK				*e*SN	**Sg**	**22 37 03.7**	**+2.2**
KEK	**Kerkira**	**1.80**	**197**	P	**Pg**	**22 36 37.2**	**-0.9**
KEK	**Kerkira**	**1.80**	**197**	*e*Pg	**Pg**	**22 36 39.0**	**+0.9**
KEK				S	**Sg**	**22 37 00.7**	**-0.8**
KEK				*e*Sn	**Sg**	**22 37 03.7**	**+2.2**
JAN	**Janina**	**1.81**	**170**	P	**Pg**	**22 36 37.3**	**-1.0**
JAN				S	**Sg**	**22 37 01.4**	**-0.4**
JAN	**Janina**	**1.81**	**170**	*e*PG	**Pg**	**22 36 38.9**	**+0.6**
JAN				*e*SN	**Sg**	**22 37 04.7**	**+2.9**
JAN	**Janina**	**1.81**	**170**	P	**Pg**	**22 36 37.3**	**-1.0**
JAN	**Janina**	**1.81**	**170**	*e*Pg	**Pg**	**22 36 38.9**	**+0.6**
JAN				S	**Sg**	**22 37 01.4**	**-0.4**
JAN				*e*Sn	**Sg**	**22 37 04.7**	**+2.9**
SELS	**Selova**	**1.84**	**15**	*e*Pn	**Pb**	**22 36 36.3**	**-0.8**
SJES	**Sjenica**	**1.85**	**349**	⇓*i*Pn	**Pb**	**22 36 37.3**	**-0.1**
KNT	**Kendrikon**	**1.86**	**98**	P	**Pb**	**22 36 37.0**	**-0.4**
KNT				S	**Sb**	**22 37 01.3**	**+0.7**
KNT	**Kendrikon**	**1.86**	**98**	P	**Pb**	**22 36 37.0**	**-0.4**
KNT				S	**Sb**	**22 37 01.3**	**+0.7**
IGT	**Igoumenitsa**	**1.91**	**183**	P	**Pg**	**22 36 38.9**	**-1.4**
IGT				S	**Sg**	**22 37 03.4**	**-1.7**
IGT	**Igoumenitsa**	**1.91**	**183**	P	**Pg**	**22 36 38.9**	**-1.4**
IGT				S	**Sg**	**22 37 03.4**	**-1.7**
KKB	**Krupnik**	**2.01**	**77**	P	**Pb**	**22 36 40.6**	**+0.6**
KKB	**Krupnik**	**2.01**	**77**	P	**Pb**	**22 36 40.6**	**+0.6**
TREB	**Trebinje**	**2.02**	**310**	*e*Pn	**Pb**	**22 36 40.2**	**0.0**
TREB	**Trebinje**	**2.02**	**310**	*e*Pn	**Pb**	**22 36 40.2**	**0.0**
BRY	**Bratogost**	**2.04**	**316**	⇓*i*Pn	**Pb**	**22 36 40.6**	**0.0**
BRY				*e*Sn	**Sg**	**22 37 07.9**	**-1.2**
BRY	**Bratogost**	**2.04**	**316**	⇓*i*Pn	**Pb**	**22 36 40.6**	**0.0**
BRY				*e*Sn	**Sg**	**22 37 07.9**	**-1.2**
LIT	**Litokhoron**	**2.04**	**130**	*e*PN	**Pb**	**22 36 40.3**	**-0.3**
LIT	**Litokhoron**	**2.04**	**130**	*e*Pn	**Pb**	**22 36 40.3**	**-0.3**
PLE	**Pljevlja**	**2.04**	**337**	⇓*i*Pn	**Pb**	**22 36 40.1**	**-0.6**
PLE				*e*Sn	**Sg**	**22 37 07.8**	**-1.5**
PLE	**Pljevlja**	**2.04**	**337**	⇓*i*Pn	**Pb**	**22 36 40.1**	**-0.6**
PLE				*e*Sn	**Sg**	**22 37 07.8**	**-1.5**
THE	**Thessaloniki**	**2.06**	**112**	P	**Pb**	**22 36 39.8**	**-1.0**
THE				S	**Sb**	**22 37 06.7**	**+0.3**
THE	**Thessaloniki**	**2.06**	**112**	P	**Pb**	**22 36 39.8**	**-1.0**
THE				S	**Sb**	**22 37 06.7**	**+0.3**
UPM	**Unac-Piva**	**2.10**	**327**	⇑*i*Pn	**Pb**	**22 36 41.2**	**-0.5**
UPM				*e*Sn	**Sg**	**22 37 09.8**	**-1.3**
UPM	**Unac-Piva**	**2.10**	**327**	⇑*i*Pn	**Pb**	**22 36 41.2**	**-0.5**
UPM				*e*Sn	**Sg**	**22 37 09.8**	**-1.3**
HORT	**Hortiatis**	**2.17**	**112**	P	**Pb**	**22 36 41.0**	**-1.7**
HORT				S	**Sb**	**22 37 09.0**	**-0.6**
HORT	**Hortiatis**	**2.17**	**112**	P	**Pb**	**22 36 41.0**	**-1.7**
HORT				S	**Sb**	**22 37 09.0**	**-0.6**
THL	**Klokotos Trika**	**2.22**	**147**	P	**Pb**	**22 36 42.7**	**-0.9**
THL				S	**Sb**	**22 37 11.7**	**+0.7**
THL	**Klokotos Trika**	**2.22**	**147**	*e*PN	**Pb**	**22 36 42.8**	**-0.9**
THL	**Klokotos Trika**	**2.22**	**147**	P	**Pb**	**22 36 42.7**	**-0.9**
THL				S	**Sb**	**22 37 11.7**	**+0.7**
SOH	**Sokhos**	**2.27**	**105**	P	**Pb**	**22 36 42.8**	**-1.7**
SOH	**Sokhos**	**2.27**	**105**	*e*PN	**Pb**	**22 36 43.3**	**-1.2**
SOH	**Sokhos**	**2.27**	**105**	P	**Pb**	**22 36 42.8**	**-1.7**
SOH	**Sokhos**	**2.27**	**105**	*e*Pn	**Pb**	**22 36 43.3**	**-1.2**
VTS	**Vitosha**	**2.34**	**60**	P	**Pb**	**22 36 43.8**	**-2.0**
VTS				S	**Sb**	**22 37 13.3**	**-1.4**
VTS	**Vitosha**	**2.34**	**60**	⇓*i*P	**Pb**	**22 36 44.7**	**-1.1**
VTS	**Vitosha**	**2.34**	**60**	⇑*i*Pn	**Pb**	**22 36 44.7**	**-1.1**
VTS	**Vitosha**	**2.34**	**60**	P	**Pb**	**22 36 44.9**	**-0.9**
VTS	**Vitosha**	**2.34**	**60**	P	**Pb**	**22 36 43.8**	**-2.0**
VTS	**Vitosha**	**2.34**	**60**	⇑*i*Pn	**Pb**	**22 36 44.7**	**-1.1**
VTS				S	**Sb**	**22 37 13.3**	**-1.4**
SRS	**Serrai**	**2.38**	**97**	P	**Pn**	**22 36 43.9**	**+1.5**
SRS	**Serrai**	**2.38**	**97**	P	**Pn**	**22 36 43.9**	**+1.5**
ZAPS	**Zavoj**	**2.43**	**41**	⇑*i*Pn	**Pb**	**22 36 46.2**	**-1.1**
GRUS	**Gruza**	**2.45**	**4**	⇑*i*Pn	**Pb**	**22 36 46.2**	**-1.3**
GRUS	**Gruza**	**2.45**	**4**	⇑*i*Pn	**Pb**	**22 36 46.2**	**-1.3**
MMB	**Musomiste**	**2.46**	**86**	P	**Pb**	**22 36 46.1**	**-1.5**
MMB				Pg	**Pg**	**22 36 49.9**	**-0.7**
MMB	**Musomiste**	**2.46**	**86**	P	**Pb**	**22 36 46.1**	**-1.5**
STON	**Ston**	**2.50**	**306**	*e*Pn	**Pb**	**22 36 46.5**	**-1.8**
STON				Sn	**Sg**	**22 37 25.8**	**+2.0**
PLG	**Polygyros**	**2.50**	**114**	P	**Pb**	**22 36 46.3**	**-2.1**
PLG				S	**Sb**	**22 37 17.2**	**-2.0**
PLG	**Polygyros**	**2.50**	**114**	*e*PN	**Pb**	**22 36 46.6**	**-1.8**
PLG				*e*SN	**Sb**	**22 37 17.6**	**-1.6**
PLG	**Polygyros**	**2.50**	**114**	P	**Pb**	**22 36 46.3**	**-2.1**
PLG	**Polygyros**	**2.50**	**114**	*e*Pb	**Pb**	**22 36 46.6**	**-1.8**
PLG				S	**Sb**	**22 37 17.2**	**-2.0**
BBLS	**Lazići**	**2.54**	**342**	*e*Pn	**Pb**	**22 36 48.0**	**-1.1**
BBLS	**Lazići**	**2.54**	**342**	*e*Pn	**Pb**	**22 36 48.0**	**-1.1**
NVR	**Nevrokopi**	**2.56**	**91**	P	**Pn**	**22 36 46.8**	**+1.9**
NVR	**Nevrokopi**	**2.56**	**91**	*e*PN	**Pb**	**22 36 47.3**	**-2.1**
NVR	**Nevrokopi**	**2.56**	**91**	P	**Pn**	**22 36 46.8**	**+1.9**
NVR	**Nevrokopi**	**2.56**	**91**	*e*Pn	**Pb**	**22 36 47.3**	**-2.1**
BOLS	**Boljevac**	**2.62**	**24**	⇑*i*Pn	**Pn**	**22 36 46.3**	**+0.6**
BOLS	**Boljevac**	**2.62**	**24**	⇑*i*Pn	**Pn**	**22 36 46.3**	**+0.6**
LKD2	**Lefkada island**	**2.66**	**177**	P	**Pb**	**22 36 49.0**	**-2.1**
LKD2				S	**Sb**	**22 37 23.1**	**-0.6**
LKD2	**Lefkada island**	**2.66**	**177**	*e*PB	**Pb**	**22 36 49.3**	**-1.8**
LKD2	**Lefkada island**	**2.66**	**177**	P	**Pb**	**22 36 49.0**	**-2.1**
LKD2	**Lefkada island**	**2.66**	**177**	*e*Pn	**Pb**	**22 36 49.3**	**-1.8**
LKD2				S	**Sb**	**22 37 23.1**	**-0.6**
DIVS	**Divibare**	**2.67**	**353**	*e*Pn	**Pb**	**22 36 49.0**	**-2.4**
DIVS	**Divibare**	**2.67**	**353**	*e*Pn	**Pb**	**22 36 49.0**	**-2.4**
EVR	**Evrytania**	**2.73**	**157**	*e*PN	**Pb**	**22 36 51.8**	**-0.5**
EVR	**Evrytania**	**2.73**	**157**	*e*Pb	**Pb**	**22 36 51.8**	**-0.5**
MAKR	**Makrakomi, Fth**	**2.75**	**152**	P	**Pb**	**22 36 49.8**	**-2.8**
MAKR	**Makrakomi, Fth**	**2.75**	**152**	P	**Pb**	**22 36 49.8**	**-2.8**
AGG	**Agios Georgios**	**2.81**	**149**	P	**Pn**	**22 36 50.1**	**+1.8**
AGG	**Agios Georgios**	**2.81**	**149**	*e*PB	**Pb**	**22 36 51.3**	**-2.4**
AGG	**Agios Georgios**	**2.81**	**149**	P	**Pn**	**22 36 50.1**	**+1.8**
AGG	**Agios Georgios**	**2.81**	**149**	*e*Pn	**Pb**	**22 36 51.3**	**-2.4**
PAIG	**Paliouri**	**2.88**	**121**	*e*PB	**Pn**	**22 36 51.5**	**+2.3**
PAIG	**Paliouri**	**2.88**	**121**	*e*Pn	**Pn**	**22 36 51.5**	**+2.3**
MPEP	**Malo Peshtene**	**3.09**	**51**	P	**Pb**	**22 36 59.9**	**+1.5**
RZN	**Rozhen**	**3.20**	**84**	P	Pn	22 36 56.8	+3.0
RZN	**Rozhen**	**3.20**	**84**	P	Pn	22 36 56.8	+3.0
EFP	**Efpalio**	**3.21**	**159**	*e*PB	**Pb**	**22 36 59.0**	**-1.5**
EFP	**Efpalio**	**3.21**	**159**	*e*Pb	**Pb**	**22 36 59.0**	**-1.5**
PLD	**Plovdiv**	**3.24**	**77**	*e*Pn	Pb	22 36 57.4	-3.5
PLD	**Plovdiv**	**3.24**	**77**	*e*Pn	Pb	22 36 57.4	-3.5
VLS	**Valsamata**	**3.27**	**178**	P	**Pn**	**22 36 56.4**	**+1.8**
VLS				S	**Sb**	**22 37 17.1**	**-4.1**
VLS	**Valsamata**	**3.27**	**178**	*e*PN	Pn	22 36 57.2	+2.6
VLS	**Valsamata**	**3.27**	**178**	P	**Pn**	**22 36 56.4**	**+1.8**
VLS	**Valsamata**	**3.27**	**178**	*e*Pn	Pn	22 36 57.2	+2.6
VLS				S	**Sb**	**22 37 17.1**	**-4.1**
KALE	**Kalithea**	**3.31**	**157**	*e*PB	**Pb**	**22 36 59.8**	**-2.5**
KALE	**Kalithea**	**3.31**	**157**	*e*Pn	**Pb**	**22 36 59.8**	**-2.5**
TRIZ	**Trizonia**	**3.32**	**158**	*e*PB	**Pb**	**22 37 00.2**	**-2.1**
TRIZ	**Trizonia**	**3.32**	**158**	*e*Pb	**Pb**	**22 37 00.2**	**-2.1**
LAKA	**Lakka**	**3.41**	**159**	*e*PN	**Pb**	**22 37 00.9**	**-3.0**
LAKA	**Lakka**	**3.41**	**159**	*e*Pn	**Pb**	**22 37 00.9**	**-3.0**
RLS	**Riolos of Patr**	**3.47**	**167**	*e*PN	Pb	22 37 01.4	-3.5
RLS	**Riolos of Patr**	**3.47**	**167**	*e*Pn	Pb	22 37 01.4	-3.5
KLV	**Kalavryta, Ach**	**3.64**	**159**	*e*PN	Pb	22 37 04.1	-3.7
KLV	**Kalavryta, Ach**	**3.64**	**159**	*e*Pn	Pb	22 37 04.1	-3.7
FGSL	**Fruska Gora**	**3.74**	**353**	⇑*i*Pn	**Pn**	**22 37 03.0**	**+1.9**
FRGS	**Fruska Gora**	**3.74**	**353**	⇑*i*Pn	**Pn**	**22 37 03.0**	**+1.9**
GUR	**Goura**	**3.79**	**157**	*e*PN	Pb	22 37 06.7	-3.8
GUR	**Goura**	**3.79**	**157**	*e*Pn	Pb	22 37 06.7	-3.8
BZS	**Buzias**	**4.25**	**11**	⇓*i*P	**Pn**	**22 37 09.2**	**+1.2**
BZS	**Buzias**	**4.25**	**11**	*e*Pn	**Pn**	**22 37 09.3**	**+1.2**
BZS	**Buzias**	**4.25**	**11**	*e*Pn	**Pn**	**22 37 09.3**	**+1.2**
GZR	**Gura Zlata**	**4.29**	**22**	⇑*i*P	**Pn**	**22 37 11.1**	**+2.4**
GZR	**Gura Zlata**	**4.29**	**22**	⇑*i*P	**Pn**	**22 37 11.1**	**+2.4**
LOT	**Lotru**	**4.67**	**30**	⇑*i*P	**Pn**	**22 37 15.3**	**+1.4**
LOT	**Lotru**	**4.67**	**30**	⇑*i*P	**Pn**	**22 37 15.3**	**+1.4**
PKSM	**Moragy**	**4.94**	**345**	⇓*i*P	**Pn**	**22 37 19.7**	**+2.1**
ARR	**Arges**	**4.96**	**36**	⇓*i*P	Pn	22 37 20.4	+2.5
ARR	**Arges**	**4.96**	**36**	⇓*i*P	Pn	22 37 20.4	+2.5
NVLJ	**Novalja**	**5.15**	**309**	*e*Pn	**Pn**	**22 37 21.9**	**+1.6**
NVLJ				Sn	**Sn**	**22 38 20.7**	**+1.0**
BOJS	**Bojanci**	**5.55**	**319**	*i* Pn	Pn	22 37 28.9	+2.9
BOJS				*i* Sn	**Sn**	**22 38 31.8**	**+2.2**
BOJS	**Bojanci**	**5.55**	**319**	*i* Pn	Pn	22 37 28.9	+2.9
BOJS				*i* Sn	**Sn**	**22 38 31.8**	**+2.2**
DRGR		**5.58**	**16**	⇓*i*P	**Pn**	**22 37 28.6**	**+2.2**
DRGR		**5.58**	**16**	⇓*i*P	**Pn**	**22 37 28.6**	**+2.2**
VISS	**Visnje**	**5.97**	**319**	*i* Pn	Pn	22 37 34.5	+2.9
VISS				*i* Sn	**Sn**	**22 38 41.7**	**+1.8**
VISS	**Visnje**	**5.97**	**319**	*i* Pn	Pn	22 37 34.5	+2.9
VISS				*i* Sn	**Sn**	**22 38 41.7**	**+1.8**
JAVS	**Javornik**	**6.42**	**316**	*i* Pn	Pn	22 37 40.4	+2.4
JAVS				*i* Sn	**Sn**	**22 38 53.4**	**+2.1**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.60**	**93**	P	Pn	22 51 34.3	-7.2
	baz=4.1,SNR=31						
NIUE				S	Sn	22 52 20.2	-14
	baz=4.1,SNR=14						
AFI	**Afiamalu**	**5.74**	**31**	*e*Pn	Pn	22 51 48.2	-8.6
AFI				*e*Sn	Sn	22 52 42.5	-19
AFI	**Afiamalu**	**5.74**	**31**	P	Pn	22 51 49.0	-7.9
	141nm,0.3s,baz=196,slow=2.1,SNR=115						
AFI				S	Sn	22 52 44.1	-18
	184nm,0.3s,baz=228,slow=23,SNR=10						
MSVF	**Nonsavu**	**6.90**	**279**	*i* P	Pn	22 52 17.0	+4.7
MSVF	**Nonsavu**	**6.90**	**279**	*e*Pn	Pn	22 52 18.0	+5.7
RAR	**Rarotonga**	**14.30**	**102**	*e*Pn	**Pn**	**22 53 47.4**	**-2.3**
RAR	**Rarotonga**	**14.30**	**102**	P	**Pn**	**22 53 47.2**	**-2.5**
	2.8nm,0.3s,baz=209,slow=0.0,SNR=7.5						
DZM	**Mont Dzumac**	**17.86**	**257**	P	**Pn**	**22 54 35.5**	**+1.9**
DZM	**Mont Dzumac**	**17.86**	**257**	P	**Pn**	**22 54 35.5**	**+1.9**
	1.4nm,0.3s,baz=86,slow=17,SNR=18						
URZ	**Urewera**	**20.54**	**198**	*e*P	**P**	**22 55 01.2**	**+0.2**
URZ				S	S	22 58 35.2	-8.1
URZ	**Urewera**	**20.54**	**198**	P	**P**	**22 55 00.6**	**-0.4**
	20nm,0.3s,baz=345,slow=3.1,SNR=32						
URZ				S	S	22 58 35.2	-8.1
	2.6nm,0.3s,baz=137,slow=18,SNR=3.7						
BKZ	**Black Stump Fm**	**21.56**	**199**	*e*P	**P**	**22 55 10.8**	**-1.3**
	29nm,1.2s						
BFZ	**Birch Farm**	**23.03**	**198**	*e*P	**P**	**22 55 27.4**	**+0.8**
	41nm,1.0s						
SNZO	**South Karori**	**24.07**	**200**	*e*P	**P**	**22 55 36.9**	**+0.8**
	115nm,1.4s						
KHZ	**Kahutara**	**25.45**	**200**	*e*P	**P**	**22 55 48.3**	**-0.2**
	45nm,1.2s						
RPZ	**Rata Peaks**	**27.46**	**203**	*e*P	**P**	**22 56 07.6**	**+1.0**
RPZ	**Rata Peaks**	**27.46**	**203**	P	**P**	**22 56 07.1**	**+0.5**
	8.2nm,0.4s,baz=31,slow=12,SNR=3.0						
ODZ	**Otahua Downs**	**28.75**	**202**	*e*P	**P**	**22 56 19.8**	**+1.8**
	107nm,2.1s						
EIDS	**Eidsvold**	**32.20**	**252**	*e*P	**P**	**22 56 48.2**	**-0.4**
	20nm,1.1s						
EIDS	**Eidsvold**	**32.20**	**252**	P	**P**	**22 56 48.4**	**-0.3**
	baz=33,SNR=3.7						
EIDS				S	S	23 02 14.6	+23
	baz=33,SNR=6.2						
ARMA	**Armidale**	**32.48**	**243**	*e*P	**P**	**22 56 52.0**	**+0.8**
	22nm,1.2s						
ARMA	**Armidale**	**32.48**	**243**	P	**P**	**22 56 51.7**	**+0.5**
	baz=33,SNR=4.9						
RMQ	**Roma**	**34.38**	**251**	P	**P**	**22 57 08.2**	**+0.7**
	baz=35,SNR=8.7						
CTA	**Charters Tower**	**36.69**	**262**	P	**P**	**22 57 27.1**	**-0.2**
CTA	**Charters Tower**	**36.69**	**262**	P	**P**	**22 57 27.1**	**-0.2**
	baz=93,slow=13						
CMSA	**Cobar Meteorol**	**37.70**	**243**	P	**P**	**22 57 35.3**	**-0.5**
	baz=38,SNR=14						
PMG	**Port Moresby**	**38.01**	**279**	*e*P	**P**	**22 57 39.4**	**+0.8**
	41nm,1.0s						
MTSU	**Mount Surprise**	**38.72**	**264**	P	**P**	**22 57 45.0**	**+0.5**
	baz=39,SNR=14						
MTSU				S	S	23 03 10.4	-21
	baz=39,SNR=4.1						
COEN	**Coen**	**40.55**	**270**	*e*P	**P**	**22 58 00.1**	**+0.4**
	81nm,1.1s						
COEN	**Coen**	**40.55**	**270**	P	**P**	**22 57 59.7**	**+0.1**
	baz=41,SNR=4.2						
STKA	**Stephens Creek**	**41.20**	**243**	*e*P	**P**	**22 58 04.9**	**+0.1**
STKA	**Stephens Creek**	**41.20**	**243**	P	**P**	**22 58 04.5**	**-0.3**
	20nm,0.9s,baz=92,slow=8.7,SNR=16						
STKA	**Stephens Creek**	**41.20**	**243**	P	**P**	**22 58 04.9**	**+0.1**
	baz=42,SNR=7.2						
BBOO	**Buckleboo**	**45.96**	**242**	*e*P	**P**	**22 58 42.4**	**-0.6**
	897nm,1.2s						
BBOO	**Buckleboo**	**45.96**	**242**	P	**P**	**22 58 42.0**	**-1.0**
	baz=46,SNR=12						
WRAB	**Tennant Creek**	**47.83**	**260**	*e*P	**P**	**22 58 56.8**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,45nm,0.9s						
WRAB	**Tennant Creek**	**47.83**	**260**	*e*P	**P**	**22 58 56.8**	**-0.8**
	comp=Z,45nm,0.9s						
WRA	**Warramunga Arr**	**47.84**	**260**	P	**P**	**22 58 56.5**	**-1.2**
WRA				PcP	**PcP**	**23 00 24.7**	**+0.3**
WRA				S	**S**	**23 05 40.1**	**-4.3**
WRA	**Warramunga Arr**	**47.84**	**260**	P	**P**	**22 58 56.5**	**-1.2**
	comp=Z,23nm,0.3s,baz=97,slow=7.5,SNR=1551						
WRA				PcP	**PcP**	**23 00 24.7**	**+0.3**
	comp=Z,2.9nm,0.8s,baz=94,slow=3.6,SNR=3.5						
WRA				S	**S**	**23 05 40.1**	**-4.3**
	comp=Z,1.3nm,0.8s,baz=96,slow=13,SNR=4.7						
AS31	**Alice Springs**	**47.84**	**255**	*e*P	**P**	**22 58 57.2**	**-0.5**
ASAR	**Alice Springs**	**47.84**	**255**	P	**P**	**22 58 57.0**	**-0.6**
ASAR				PcP	**PcP**	**23 00 24.4**	**+0.1**
ASAR				S	**S**	**23 05 39.0**	**-5.4**
ASAR	**Alice Springs**	**47.84**	**255**	P	**P**	**22 58 57.0**	**-0.6**
	comp=Z,27nm,0.7s,baz=86,slow=8.6,SNR=210						
ASAR				PcP	**PcP**	**23 00 24.4**	**+0.1**
	comp=Z,3.5nm,0.7s,baz=97,slow=4.3,SNR=5.3						
ASAR				S	**S**	**23 05 39.0**	**-5.4**
	comp=Z,2.3nm,1.1s,baz=84,slow=12,SNR=11						
KDU	**Kakadu**	**50.98**	**269**	P	**P**	**22 59 21.0**	**-0.5**
	baz=52,SNR=12						
MTN	**Manton Dam**	**52.20**	**268**	P	**P**	**22 59 29.9**	**-0.7**
	baz=53,SNR=11						
FORT	**Forrest**	**52.70**	**245**	*e*P	**P**	**22 59 33.3**	**-0.9**
	comp=Z,87nm,0.8s						
FORT	**Forrest**	**52.70**	**245**	P	**P**	**22 59 33.2**	**-0.9**
	baz=53,SNR=11						
KNRA	**Kununurra**	**53.81**	**264**	P	**P**	**22 59 41.8**	**-0.6**
	baz=54,SNR=14						
FAKI	**Fak Fak**	**54.14**	**280**	P	**P**	**22 59 45.3**	**+0.5**
	baz=55,SNR=3.1						
SWI	**Sorong**	**55.81**	**282**	P	**P**	**22 59 57.1**	**+0.3**
	baz=56,SNR=6.2						
SOEI	**Soe**	**59.51**	**270**	P	**P**	**23 00 24.2**	**+1.3**
	baz=60,SNR=7.3						
SBA	**Scott Base**	**59.67**	**184**	*e*P	P	23 00 26.0	+3.2
SBA				pmax	pmax		
	comp=Z,22nm,0.9s						
SBA	**Scott Base**	**59.67**	**184**	*e*P	P	23 00 26.0	+3.2
	comp=Z,22nm,0.9s						
VNDA	**Vanda**	**59.78**	**186**	*e*P	**P**	**23 00 25.8**	**+2.2**
	comp=Z,15nm,1.0s						
VNDA	**Vanda**	**59.78**	**186**	P	**P**	**23 00 25.7**	**+2.2**
	comp=Z,11nm,1.0s,baz=7.3,slow=6.9,SNR=40						
TNTI	**Ternate**	**60.03**	**282**	*e*P	**P**	**23 00 26.6**	**+0.3**
	comp=Z,96nm,0.9s						
MBWA	**Marble Bar**	**61.16**	**256**	*e*P	**P**	**23 00 32.7**	**-1.2**
	comp=Z,25nm,1.0s						
MEEK	**Meekatharra**	**61.30**	**249**	P	**P**	**23 00 33.4**	**-1.4**
	baz=62,SNR=5.8						
KLBR	**Kellerberrin**	**61.47**	**244**	P	**P**	**23 00 35.2**	**-0.6**
	baz=62,SNR=6.4						
BLDU	**Ballidu**	**62.47**	**245**	P	**P**	**23 00 41.7**	**-0.7**
	baz=63,SNR=7.4						
MORW	**Morawa**	**63.23**	**246**	P	**P**	**23 00 46.9**	**-0.7**
	baz=64,SNR=3.7						
MJAR	**Matsushiro Arr**	**70.79**	**321**	P	**P**	**23 01 34.4**	**-0.6**
MJAR	**Matsushiro Arr**	**70.79**	**321**	P	**P**	**23 01 34.4**	**-0.6**
	comp=Z,4.7nm,0.7s,baz=150,slow=5.9,SNR=14						
MAT	**Matsushiro**	**70.79**	**321**	P	**P**	**23 01 34.8**	**-0.3**
QSPA	**South Pole Qui**	**71.16**	**180**	*e*P	**P**	**23 01 38.0**	**+1.0**
	comp=Z,38nm,0.9s						
FX1	**Attu Island--F**	**72.24**	**352**	LR	LR	23 25 53.7	
	comp=Z,54nm,21.2s,baz=254,slow=30						
YUK	**Yuzh-Kuril'sk**	**72.24**	**331**	*i* P	**PcP**	**23 02 02.4**	**+1.5**
YUK				*i* S	**SKSac**	**23 11 28.3**	**-6.6**
YUK				pmax	pmax		
	comp=N,253nm,1.1s						
YUK				pmax	pmax		
	comp=E,87nm,1.4s						
YUK				pmax	pmax		
	comp=Z,502nm,1.3s						
UGM	**Wanagama**	**73.04**	**267**	P	**P**	**23 01 49.1**	**0.0**
	baz=74,SNR=3.2						
SBUM	**Sibu**	**74.75**	**278**	*e*P	**P**	**23 01 59.9**	**+0.9**
	comp=Z,9.5nm,0.7s						
NACB	**Ninganchiao**	**75.34**	**302**	*e*P	**P**	**23 02 01.2**	**-0.9**
PETK	**Petropavlovsk-**	**75.56**	**343**	P	**P**	**23 02 02.2**	**-0.5**
PETK	**Petropavlovsk-**	**75.56**	**343**	P	**P**	**23 02 02.2**	**-0.5**
PETK	**Petropavlovsk-**	**75.56**	**343**	P	**P**	**23 02 02.2**	**-0.5**
	comp=Z,6.4nm,0.8s,baz=134,slow=8.4,SNR=11						
SSLB	**Suanglung**	**75.67**	**302**	*e*P	**P**	**23 02 02.9**	**-1.2**
	comp=Z,28nm,1.0s						
TPUB	**Ta-pu**	**75.70**	**301**	*e*P	**P**	**23 02 03.5**	**-0.7**
	comp=Z,69nm,0.8s						
YHNB	**Yeheng**	**75.75**	**303**	*e*P	**P**	**23 02 04.2**	**-0.4**
	comp=Z,17nm,0.9s						
VES	**Vestal, Richgr**	**75.78**	**44**	P	**P**	**23 02 04.5**	**+0.2**
	baz=76						
YSS	**Yuzh-Sakhalins**	**75.88**	**332**	*i* P	**P**	**23 02 06.2**	**+1.6**
MONP	**Monument Peak**	**75.89**	**48**	P	**P**	**23 02 05.3**	**0.0**
	baz=76						
EDW2	**Edwards Air Fo**	**75.94**	**45**	P	**P**	**23 02 05.4**	**+0.1**
	baz=76,SNR=6.8						
ISA	**Isabella**	**76.07**	**44**	P	**P**	**23 02 06.4**	**+0.3**
	baz=76						
KSM	**Kuching**	**76.22**	**276**	*e*P	**P**	**23 02 08.1**	**+0.8**
	comp=Z,35nm,1.0s						
CMB	**Columbia Colle**	**76.26**	**41**	*e*P	**P**	**23 02 07.4**	**+0.3**
CMB				pmax	pmax		
	comp=Z,6.0nm,1.0s						
CMB	**Columbia Colle**	**76.26**	**41**	*e*P	**P**	**23 02 07.4**	**+0.3**
	comp=Z,6.0nm,1.0s						
BELC	**Belle Mtn. Jos**	**76.80**	**47**	P	**P**	**23 02 10.4**	**0.0**
	baz=77						
MPMC	**Manual Prospec**	**76.95**	**44**	P	**P**	**23 02 11.5**	**+0.2**
	baz=77,SNR=12						
GSC	**Goldstone**	**76.98**	**45**	*e*P	**P**	**23 02 11.6**	**+0.4**
GSC				pmax	pmax		
	comp=Z,6.0nm,0.9s						
GSC	**Goldstone**	**76.98**	**45**	*e*P	**P**	**23 02 11.6**	**+0.4**
	comp=Z,5.9nm,0.9s						
GSC	**Goldstone**	**76.98**	**45**	P	**P**	**23 02 11.1**	**-0.1**
	baz=77						
BC3	**Big Chuckawall**	**76.99**	**47**	P	**P**	**23 02 11.5**	**+0.2**
	baz=77						
MTUM	**Tungsten Hills**	**77.00**	**43**	*e*P	**P**	**23 02 12.1**	**+0.7**
HEC	**Hector,Ludlow**	**77.04**	**46**	P	**P**	**23 02 11.2**	**-0.3**
	baz=77,SNR=5.5						
GLA	**Glamis**	**77.10**	**48**	P	**P**	**23 02 12.2**	**+0.3**
	baz=77						
WAKR	**Walker**	**77.13**	**41**	*e*P	**P**	**23 02 12.8**	**+0.7**
YBH	**Yreka Blue Hor**	**77.18**	**37**	LR	LR	23 30 52.9	
	comp=Z,111nm,18.3s,baz=81,slow=32						
GMRC	**Granite Mounta**	**77.47**	**46**	P	**P**	**23 02 13.8**	**-0.3**
	baz=78						
IRM	**Iron Mountain**	**77.48**	**47**	P	**P**	**23 02 14.1**	**+0.1**
	baz=78,SNR=6.5						
GRAC	**Grapevine Rang**	**77.57**	**44**	P	**P**	**23 02 15.0**	**+0.5**
	baz=78						
FURC	**Furnace Creek,**	**77.61**	**44**	P	**P**	**23 02 15.2**	**+0.6**
	baz=78						
TUQ	**Turquoise Moun**	**77.65**	**46**	P	**P**	**23 02 15.2**	**+0.2**
	baz=78						
SHOC	**Shoshone**	**77.67**	**45**	P	**P**	**23 02 15.3**	**+0.3**
	baz=78						
Y12C	**Blythe**	**77.69**	**48**	P	**P**	**23 02 15.3**	**+0.1**
	baz=78						
113A	**Mohawk Valley,**	**77.70**	**49**	P	**P**	**23 02 15.3**	**+0.1**
	baz=78						
KSRS	**Korea Array**	**77.75**	**317**	P	**P**	**23 02 16.9**	**+1.5**
	comp=Z,4.7nm,0.9s,baz=138,slow=6.3,SNR=14						
KSAR	**Wonju Array Be**	**77.77**	**317**	P	**P**	**23 02 16.9**	**+1.4**
NV11	**Mina Array Sit**	**77.90**	**42**	*e*P	**P**	**23 02 16.2**	**-0.2**
214A	**Organ Pipe Nat**	**77.97**	**50**	P	**P**	**23 02 16.5**	**-0.3**
	baz=78						
PDMCI	**Parker Dam,Lak**	**78.26**	**47**	P	**P**	**23 02 18.6**	**+0.4**
	baz=78						
Z14A	**Wintersburg**	**78.60**	**49**	P	**P**	**23 02 20.9**	**+0.7**
	baz=79						
SHPR	**Sheep Range**	**78.76**	**45**	*e*P	**P**	**23 02 21.6**	**+0.4**
W13A	**Hualapai Mount**	**78.86**	**47**	P	**P**	**23 02 21.8**	**0.0**
	baz=79						
Y14A	**Wickenburg**	**78.86**	**48**	P	**P**	**23 02 21.8**	**+0.1**
	baz=79,SNR=8.0						
USRK	**Ussuriysk Arra**	**79.40**	**324**	P	**P**	**23 02 25.4**	**+1.2**
	comp=Z,2.1nm,0.8s,baz=117,slow=6.6,SNR=4.7						
USRK				LR	LR	23 33 09.5	
	comp=Z,45nm,20.5s,baz=297,slow=32						
R11A	**Troy Canyon, C**	**79.50**	**43**	*e*P	**P**	**23 02 25.5**	**+0.3**
R11A	**Troy Canyon, C**	**79.50**	**43**	P	**P**	**23 02 25.3**	**+0.1**
	baz=80						
TUC	**Tucson**	**79.62**	**51**	*e*P	**P**	**23 02 26.5**	**+0.6**
TUC				pmax	pmax		
	comp=Z,17nm,1.3s						
TUC	**Tucson**	**79.62**	**51**	*e*P	**P**	**23 02 26.5**	**+0.6**
	comp=Z,17nm,1.3s						
X16A	**Lo Mia Camp, P**	**80.22**	**49**	P	**P**	**23 02 30.0**	**+0.8**
	baz=80,SNR=7.9						
319A	**Douglas**	**80.28**	**52**	P	**P**	**23 02 30.1**	**+0.7**
	baz=80						
CCUT	**Cedar City**	**80.53**	**45**	*e*P	**P**	**23 02 31.6**	**+0.8**
	comp=Z,7.2nm,1.2s						
ARUT	**Antelope Range**	**80.61**	**45**	*e*P	**P**	**23 02 31.5**	**+0.4**
ARUT				pmax	pmax		
	comp=Z,26nm,0.5s						
ARUT	**Antelope Range**	**80.61**	**45**	*e*P	**P**	**23 02 31.5**	**+0.4**
	comp=Z,26nm,0.5s						
J08A	**Circle Bar Ran**	**80.64**	**38**	*e*P	**P**	**23 02 28.0**	**-3.1**
	comp=Z,49nm,1.8s						
U15A	**North Rim**	**80.66**	**46**	P	**P**	**23 02 32.2**	**+0.6**
	baz=81,SNR=10						
320A	**Kipp Ranch, An**	**80.82**	**53**	P	**P**	**23 02 33.2**	**+0.8**
	baz=81						
WUAZ	**Wupatki**	**80.83**	**48**	*e*P	**P**	**23 02 32.4**	**+0.1**
	comp=Z,12nm,1.3s						
WUAZ	**Wupatki**	**80.83**	**48**	P	**P**	**23 02 33.0**	**+0.7**
	baz=81,SNR=5.6						
MDJ	**Mudanjiang**	**81.00**	**323**	P	**P**	**23 02 34.0**	**+1.2**
MDJ				pmax	pmax		
	comp=Z,11nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,120nm,5.3s						
RSO	**Redoubt South**	**81.07**	**11**	*e*P	**P**	**23 02 34.7**	**+1.6**
220A	**Playas Peak, P**	**81.10**	**52**	P	**P**	**23 02 34.6**	**+0.8**
	baz=81,SNR=14						
NJ2	**Nanjing**	**81.24**	**308**	*e*P	**P**	**23 02 35.1**	**+0.8**
NJ2				pmax	pmax		
	comp=Z,14nm,1.1s						
120A	**U Bar Ranch, L**	**81.33**	**51**	P	**P**	**23 02 35.9**	**+0.9**
	baz=82,SNR=6.6						
X18A	**Snowflake**	**81.34**	**49**	P	**P**	**23 02 35.8**	**+0.7**
	baz=82						
G08A	**Pilot Rock**	**81.53**	**36**	*e*P	**P**	**23 02 36.1**	**+0.4**
	comp=Z,12nm,1.1s						
Z20A	**Nine Sixteen R**	**81.63**	**51**	P	**P**	**23 02 37.6**	**+1.0**
	baz=82,SNR=15						
121A	**Cookes Peak, D**	**81.95**	**52**	P	**P**	**23 02 39.3**	**+0.9**
	baz=82,SNR=8.3						
Y20A	**Horse Springs,**	**82.17**	**50**	P	**P**	**23 02 40.4**	**+0.9**
	baz=82,SNR=13						
RC01	**Rabbit Creek A**	**82.22**	**12**	*e*P	**P**	**23 02 38.5**	**-0.3**
	comp=Z,25nm,1.5s						
MFID	**Camas Ranch**	**82.23**	**39**	P	**P**	**23 02 39.8**	**+0.3**
	baz=82						
DUG	**Dugway**	**82.31**	**43**	*e*P	**P**	**23 02 40.4**	**+0.4**
DUG				pmax	pmax		
	comp=Z,13nm,1.7s						
DUG	**Dugway**	**82.31**	**43**	*e*P	**P**	**23 02 40.4**	**+0.4**
	comp=Z,12nm,1.7s						
DUG	**Dugway**	**82.31**	**43**	P	**P**	**23 02 40.3**	**+0.4**
	baz=82						
X20A	**Quemado**	**82.39**	**50**	P	**P**	**23 02 42.1**	**+1.5**
	baz=82						
Z21A	**St. Cloud Mine**	**82.40**	**51**	P	**P**	**23 02 41.9**	**+1.2**
	baz=82,SNR=13						
W20A	**Ramah**	**82.67**	**49**	P	**P**	**23 02 43.0**	**+0.9**
	baz=83,SNR=12						
Q16A	**Castle Valley**	**82.72**	**45**	P	**P**	**23 02 43.4**	**+1.2**
	baz=83						
Y21A	**Point of Rocks**	**82.73**	**50**	P	**P**	**23 02 43.6**	**+1.2**
	baz=83						
X21A	**Alamocita Cree**	**82.86**	**50**	P	**P**	**23 02 43.9**	**+0.8**
	baz=83,SNR=5.8						
TMUT	**Trail Mountain**	**82.89**	**44**	*e*P	**P**	**23 02 44.6**	**+1.3**
	comp=Z,19nm,1.2s						
Z22A	**Elephant Butte**	**82.90**	**51**	P	**P**	**23 02 44.1**	**+0.9**
	baz=83						
F10A	**Beach Ranch, E**	**82.91**	**36**	*e*P	**P**	**23 02 42.2**	**-0.7**
	comp=Z,16nm,1.2s						
CN2	**Changchun**	**82.93**	**321**	*e*P	**P**	**23 02 44.1**	**+1.2**
CN2				*es*P	**sP**	**23 03 33.0**	**+0.7**
CN2				*e*S	**SKSac**	**23 12 51.2**	**-0.4**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.2s						
CN2				pmax	pmax		
	comp=Z,200nm,6.0s						
QIZ	**Qiongzhong**	**83.00**	**293**	P	**P**	**23 02 43.6**	**-0.2**
QIZ				S	**S**	**23 12 52.3**	**+0.4**
QIZ				pmax	pmax		
	comp=Z,18nm,2.1s						
V20A	**Brimhall**	**83.02**	**49**	P	**P**	**23 02 44.5**	**+0.7**
	baz=83						
DIV	**Divide**	**83.09**	**14**	*e*P	**P**	**23 02 43.3**	**-0.1**
HLID	**Hailey**	**83.16**	**40**	*e*P	**P**	**23 02 45.1**	**+0.7**
	comp=Z,9.7nm,1.1s						
HLID				*e*pP	**pP**	**23 03 17.9**	**-1.2**
HLID	**Hailey**	**83.16**	**40**	P	**P**	**23 02 45.0**	**+0.7**
	baz=83						
324A	**Moseley Ranch,**	**83.18**	**54**	P	**P**	**23 02 45.2**	**+0.5**
	baz=83,SNR=13						
HVU	**Hansel Valley**	**83.19**	**42**	*e*P	**P**	**23 02 45.6**	**+1.0**
HVU				pmax	pmax		
	comp=Z,10.0nm,1.2s						
HVU	**Hansel Valley**	**83.19**	**42**	*e*P	**P**	**23 02 45.6**	**+1.0**
	comp=Z,10.0nm,1.2s						
Y22A	**Socorro**	**83.21**	**51**	P	**P**	**23 02 45.7**	**+0.8**
	baz=83,SNR=6.9						
BMRM	**Bremner River**	**83.22**	**14**	*e*P	**P**	**23 02 44.0**	**0.0**
	comp=Z,30nm,1.3s						
SRU	**San Rafael**	**83.25**	**45**	*e*P	**P**	**23 02 45.7**	**+0.8**
SRU				pmax	pmax		
	comp=Z,13nm,1.0s						
SRU	**San Rafael**	**83.25**	**45**	*e*P	**P**	**23 02 45.7**	**+0.8**
	comp=Z,13nm,1.0s						
U20A	**Newcomb**	**83.26**	**48**	P	**P**	**23 02 45.5**	**+0.4**
	baz=83,SNR=5.2						
425A	**Indio Mountain**	**83.26**	**54**	P	**P**	**23 02 45.9**	**+0.7**
	baz=83,SNR=20						
LAZ	**Ladron**	**83.31**	**50**	*e*P	**P**	**23 02 46.1**	**+0.7**
	comp=Z,8.2nm,1.6s						
MNTX	**Cornudas Mount**	**83.37**	**53**	*e*P	**P**	**23 02 46.3**	**+0.8**
	comp=Z,14nm,1.1s						
626A	**Big Bend Ranch**	**83.38**	**56**	P	**P**	**23 02 46.6**	**+0.9**
	baz=84,SNR=7.6						
224A	**Cornudas Mount**	**83.43**	**53**	P	**P**	**23 02 46.9**	**+0.9**
	baz=84,SNR=16						
Z23A	**Rita Site, Whi**	**83.44**	**52**	P	**P**	**23 02 46.9**	**+0.9**
	baz=84						
X22A	**Bernardo**	**83.45**	**50**	P	**P**	**23 02 47.1**	**+1.0**
	baz=84						
325A	**Bean Ranch, Si**	**83.54**	**54**	P	**P**	**23 02 47.0**	**+0.5**
	baz=84,SNR=18						
BNM	**Barren Site**	**83.56**	**51**	*e*P	**P**	**23 02 47.6**	**+0.9**
	comp=Z,3.8nm,0.9s						
V21A	**Milan**	**83.61**	**49**	P	**P**	**23 02 47.5**	**+0.6**
	baz=84,SNR=10						
LPM	**Los Pinos Moun**	**83.63**	**51**	*e*P	**P**	**23 02 48.4**	**+1.3**
526A	**Mary Lane Ranc**	**83.64**	**55**	P	**P**	**23 02 47.7**	**+0.6**
	baz=84,SNR=9.2						
TXAR	**Lajitas Array**	**83.65**	**56**	P	**P**	**23 02 48.1**	**+1.0**
TXAR	**Lajitas Array**	**83.65**	**56**	P	**P**	**23 02 48.1**	**+1.0**
	comp=Z,6.0nm,1.1s,baz=216,slow=6.2,SNR=35						
MVCO	**Mesa Verde**	**83.68**	**47**	P	**P**	**23 02 48.1**	**+0.9**
	baz=84						
124A	**Stringfield Ra**	**83.77**	**53**	P	**P**	**23 02 48.7**	**+0.9**
	baz=84,SNR=9.5						
Y23A	**Lovelace Mesa,**	**83.88**	**51**	P	**P**	**23 02 48.8**	**+0.5**
	baz=84,SNR=5.4						
U21A	**Nageezi**	**83.89**	**48**	P	**P**	**23 02 49.1**	**+0.7**
	baz=84,SNR=15						
627A	**Terlingua Ranc**	**83.92**	**56**	P	**P**	**23 02 49.4**	**+0.9**
	baz=84,SNR=13						
426A	**McDonald Obser**	**83.95**	**55**	P	**P**	**23 02 49.6**	**+0.8**
	baz=84,SNR=13						
CAST	**Castle Rocks**	**83.95**	**10**	*e*P	**P**	**23 02 46.2**	**-1.5**
WHN	**Wuhan**	**83.97**	**305**	P	**P**	**23 02 50.0**	**+1.5**
WHN				pP	**pP**	**23 03 25.5**	**+2.1**
225A	**Deer Hill, Car**	**83.98**	**53**	P	**P**	**23 02 49.8**	**+1.0**
	baz=84						
527A	**Woodward Ranch**	**84.05**	**56**	P	**P**	**23 02 49.7**	**+0.6**
	baz=84,SNR=7.0						
ANMO	**Albuquerque**	**84.06**	**50**	*e*P	**P**	**23 02 49.9**	**+0.7**
	comp=Z,17nm,1.2s						
ANMO				*e*pP	**pP**	**23 03 23.9**	**-0.1**
MAW	**Mawson**	**84.07**	**199**	P	**P**	**23 02 49.4**	**+1.0**
MAW	**Mawson**	**84.07**	**199**	P	**P**	**23 02 49.4**	**+1.0**
	comp=Z,10nm,1.0s,baz=125,slow=6.3,SNR=21						
MAW	**Mawson**	**84.07**	**199**	P	**P**	**23 02 49.3**	**+1.0**
	baz=84,SNR=13						
S20A	**Disappointment**	**84.08**	**47**	P	**P**	**23 02 49.9**	**+0.6**
	baz=84						
Z24A	**Sheeppen Canyo**	**84.12**	**52**	P	**P**	**23 02 50.2**	**+0.7**
	baz=84,SNR=7.7						
V22A	**San Miguel Ran**	**84.18**	**49**	P	**P**	**23 02 50.1**	**+0.3**
	baz=84						
R20A	**Redvale**	**84.24**	**47**	P	**P**	**23 02 50.6**	**+0.6**
	baz=84						
T21A	**Navajo Lake**	**84.25**	**48**	P	**P**	**23 02 51.1**	**+1.0**
	baz=84						
326A	**Caldwell Ranch**	**84.27**	**54**	P	**P**	**23 02 50.9**	**+0.7**
	baz=84						
TRF	**Thorofare Moun**	**84.29**	**11**	*e*P	**P**	**23 02 48.3**	**-1.3**
628A	**Black Gap, Mar**	**84.33**	**56**	P	**P**	**23 02 51.2**	**+0.7**
	baz=84,SNR=9.4						
Y24A	**Capitan**	**84.34**	**51**	P	**P**	**23 02 51.4**	**+0.8**
	baz=84,SNR=19						
125A	**Gardner Draw,**	**84.35**	**53**	P	**

127A	**Arkansas Junct**	85.34	53	P	**P**	23 02 55.9 +0.3
	baz=86,SNR=7.3					
R22A	**Saguache, Gunn**	85.38	47	P	**P**	23 02 56.5 +0.6
	baz=86					
IMW	**Indian Meadow**	85.46	41	*e*P	**P**	23 02 56.7 +0.6
IMW				*ep*P	**pP**	23 03 29.2 -1.9
Y26A	**Elida**	85.53	52	P	**P**	23 02 56.8 +0.3
	baz=86,SNR=6.6					
L19A	**Farson**	85.53	43	P	**P**	23 02 56.5 +0.1
	baz=86					
SEY	**Seymchan**	85.55	346	⇓*i*P	**P**	23 02 55.4 -0.3
429A	**Davenport Ranc**	85.59	56	P	**P**	23 02 57.3 +0.5
	baz=86					
N20A	**Spence Gulch,**	85.62	44	P	**P**	23 02 56.9 +0.1
	baz=86					
W25A	**X Bar L Ranch,**	85.64	51	P	**P**	23 02 56.9 -0.1
	baz=86,SNR=12					
SMCO	**Snowmass**	85.68	46	*e*P	**P**	23 02 57.5 +0.1
228A	**UT Block 9, Go**	85.69	54	P	**P**	23 02 57.6 +0.4
	baz=86,SNR=8.2					
Z27A	**Tatum**	85.72	53	P	**P**	23 02 57.5 0.0
	baz=86,SNR=8.0					
PDAR	**Pinedale Array**	85.74	42	P	**P**	23 02 56.8 -0.6
PDAR	**Pinedale Array**	85.74	42	P	**P**	23 02 56.8 -0.6
	comp=Z,2.5nm,0.9s,baz=215,slow=3.7,SNR=16					
X26A	**CR and CF Fran**	85.82	51	P	**P**	23 02 58.5 +0.6
	baz=86,SNR=6.7					
530A	**J-C Ranch, Com**	85.83	56	P	**P**	23 02 58.4 +0.5
	baz=86,SNR=8.7					
329A	**Wagon Wheel Ra**	85.89	55	P	**P**	23 02 58.9 +0.7
	baz=86,SNR=15					
128A	**Castleberry Fa**	85.98	54	P	**P**	23 02 59.0 +0.3
	baz=86,SNR=28					
Y27A	**Causey**	86.01	52	P	**P**	23 02 59.0 +0.2
	baz=86,SNR=14					
P22A	**Eagle**	86.03	46	P	**P**	23 02 58.9 0.0
	baz=86					
COLA	**College**	86.03	11	*e*P	**P**	23 02 57.5 -0.5
COLA				pmax	pmax	
	comp=Z,47nm,1.0s					
COLA	**College**	86.03	11	*e*P	**P**	23 02 57.5 -0.5
	comp=Z,47nm,1.0s					
N21A	**Black Mountain**	86.07	45	P	**P**	23 02 59.3 +0.2
	baz=86					
W26A	**Owens Ranch, T**	86.09	51	P	**P**	23 03 00.1 +0.9
	baz=86					
IM04	**Indian Mountai**	86.10	8	*e*P	**P**	23 02 58.3 0.0
ILAR	**Eielson Array**	86.12	12	P	**P**	23 02 57.6 -0.9
ILAR	**Eielson Array**	86.12	12	P	**P**	23 02 57.6 -0.9
	comp=Z,7.2nm,0.9s,baz=214,slow=5.5,SNR=34					
631A	**Perdido Creek**	86.14	57	P	**P**	23 02 59.8 +0.4
	baz=86,SNR=11					
L20A	**Wamsutter**	86.14	43	P	**P**	23 02 59.7 +0.3
	baz=86					
430A	**Baggett Ranch,**	86.18	56	P	**P**	23 02 59.8 +0.1
	baz=86					
S24A	**Houchin Ranch,**	86.19	48	P	**P**	23 02 59.9 0.0
	baz=86					
IMA2	**Indian Mountai**	86.20	8	*e*P	**P**	23 02 58.7 -0.3
U25A	**Circle Dot Ran**	86.20	50	P	**P**	23 02 59.9 +0.1
	baz=86					
229A	**Bryant Ranch,**	86.22	55	P	**P**	23 03 00.3 +0.4
	baz=86,SNR=5.5					
J19A	**Crowheart**	86.31	42	P	**P**	23 03 00.5 +0.3
	baz=86					
MSTX	**Muleshoe**	86.34	52	*e*P	**P**	23 03 00.5 +0.1
MSTX	**Muleshoe**	86.34	52	P	**P**	23 03 00.7 +0.3
	baz=86,SNR=13					
Z28A	**Tucker Farm, M**	86.34	53	P	**P**	23 03 00.5 +0.1
	baz=86,SNR=8.8					
732A	**Laxson Ranch,**	86.34	58	P	**P**	23 03 00.4 0.0
	baz=86					
V26A	**Tequesquite Ra**	86.39	50	P	**P**	23 03 01.0 +0.3
	baz=86					
X27A	**F and S Farms,**	86.39	52	P	**P**	23 03 00.9 +0.2
	baz=86					
O22A	**Kremmling**	86.44	45	P	**P**	23 03 01.1 0.0
	baz=87					
129A	**Stewart Farms,**	86.46	54	P	**P**	23 03 01.5 +0.5
	baz=87,SNR=9.1					
531A	**Rocksprings**	86.46	57	P	**P**	23 03 01.4 +0.4
	baz=87,SNR=14					
330A	**Mertzon**	86.48	55	P	**P**	23 03 00.9 -0.2
	baz=87,SNR=6.5					
M21A	**Separation Pea**	86.59	44	P	**P**	23 03 01.4 -0.2
	baz=87					
W27A	**Bowie Ranch, En**	86.60	51	P	**P**	23 03 01.6 -0.1
	baz=87,SNR=5.4					
Y28A	**McKinney Farm,**	86.71	53	P	**P**	23 03 02.8 +0.6
	baz=87					
230A	**Sterling City**	86.73	55	P	**P**	23 03 02.5 +0.2
	baz=87					
S25A	**Robets Cordova**	86.75	48	P	**P**	23 03 02.5 0.0
	baz=87					
632A	**Uvalde**	86.80	57	P	**P**	23 03 03.3 +0.6
	baz=87,SNR=7.7					
Z29A	**Hungry Hill Ra**	86.84	53	P	**P**	23 03 03.4 +0.5
	baz=87,SNR=8.0					
532A	**Rocksprings**	86.96	57	P	**P**	23 03 04.0 +0.5
	baz=87,SNR=13					
X28A	**Dimmitt**	87.00	52	P	**P**	23 03 04.4 +0.8
	baz=87					
331A	**San Angelo**	87.02	56	P	**P**	23 03 03.8 +0.1
	baz=87,SNR=6.0					
G18A	**Lazy EL Ranch,**	87.03	40	P	**P**	23 03 04.2 +0.6
	baz=87					
Y29A	**Porterfield Fa**	87.12	53	P	**P**	23 03 04.8 +0.6
	baz=87					
DAWY	**Dawson**	87.13	15	*e*P	**P**	23 03 03.3 -0.2
130A	**Snyder**	87.13	54	P	**P**	23 03 04.4 +0.1
	baz=87,SNR=6.1					
K21A	**Alcova**	87.16	43	P	**P**	23 03 04.2 -0.1
	baz=87					
N23A	**Red Feather La**	87.19	45	P	**P**	23 03 04.9 +0.3
	baz=87					
P24A	**Kohler Place,**	87.26	47	P	**P**	23 03 05.0 +0.2
	baz=87					
Z30A	**Sanderson Ranc**	87.30	54	P	**P**	23 03 04.8 -0.2
	baz=87,SNR=9.7					
EGAK	**Eagle**	87.32	14	*e*P	**P**	23 03 04.3 0.0
	comp=Z,15nm,1.1s					
432A	**Menard**	87.34	56	P	**P**	23 03 05.2 -0.1
	baz=88,SNR=6.0					
231A	**Bronte**	87.36	55	P	**P**	23 03 05.2 -0.1
	baz=88,SNR=12					
J21A	**Lysite**	87.37	42	P	**P**	23 03 05.4 +0.1
	baz=88					
PSI	**Prapat**	87.39	274	P	**P**	23 03 05.9 -0.1
PSI	**Prapat**	87.39	274	P	**P**	23 03 05.9 -0.1
	comp=Z,4.4nm,0.5s,baz=211,slow=9.8					
PSI	**Prapat**	87.39	274	P	**P**	23 03 06.0 0.0
	baz=88,SNR=3.5					
SKNT	**Sakolnakorn**	87.44	289	P	**P**	23 03 07.7 +1.8
	comp=Z,22nm,1.0s					
332A	**Millersview**	87.59	56	P	**P**	23 03 06.5 +0.1
	baz=88,SNR=10.0					
131A	**Roby**	87.61	54	P	**P**	23 03 06.5 0.0
	baz=88,SNR=6.8					
R26A	**Arlington**	87.73	48	P	**P**	23 03 07.1 0.0
	baz=88					
232A	**Coleman**	87.87	55	P	**P**	23 03 08.0 +0.2
	baz=88,SNR=12					
L23A	**Garrett**	87.92	44	P	**P**	23 03 08.1 +0.1
	baz=88					
Z31A	**Sharp Cattle R**	88.06	54	P	**P**	23 03 08.5 -0.1
	baz=88,SNR=7.1					
PLCA	**Paso Flores**	88.15	133	P	**P**	23 03 09.3 +0.2
PLCA	**Paso Flores**	88.15	133	P	**P**	23 03 09.3 +0.2
	comp=Z,2.9nm,0.8s,baz=251,slow=4.7,SNR=2.8					
ABTX	**Abilene, Hawle**	88.16	55	*e*P	**P**	23 03 09.4 +0.3
ABTX	**Abilene, Hawle**	88.16	55	P	**P**	23 03 09.4 +0.3
	baz=88,SNR=9.0					
GYA	**Guiyang**	88.52	298	*e*P	**P**	23 03 11.0 0.0
GYA				pP	**pP**	23 03 45.4 -0.8
GYA				sP	**sP**	23 04 01.7 +0.9
GYA				PP	**PP**	23 06 44.0 +2.6
GYA				SKS	**SKSac**	23 13 25.4 -2.3
GYA				S	**S**	23 13 43.8 -2.1
GYA				pmax	pmax	
	comp=Z,10.0nm,1.0s					
GYA				pmax	pmax	
	comp=Z,90nm,5.9s					
Z32A	**Haskell**	88.56	54	P	**P**	23 03 11.5 +0.6
	baz=89,SNR=16					
Y32A	**R-V Farms, Ver**	88.87	54	P	**P**	23 03 13.0 +0.6
	baz=89					
KRAB	**Krabi**	88.89	279	P	**P**	23 03 15.6 +2.7
	comp=Z,38nm,0.8s					
R28A	**Tribune**	88.91	49	P	**P**	23 03 13.0 +0.4
	baz=89					
SYO	**Syowa Base**	88.92	192⇑	*e*P	**P**	23 03 10.4 -1.6
W31A	**Holland Ranch,**	88.97	52	P	**P**	23 03 13.5 +0.6
	baz=89					
U30A	**WK&E Inc. Balk**	88.99	51	P	**P**	23 03 13.2 +0.2
	baz=89					
C20A	**Veseth Ranch,**	89.17	38	P	**P**	23 03 14.3 +0.8
	baz=89					
Q28A	**Sharon Springs**	89.20	48	P	**P**	23 03 14.4 +0.5
	baz=89					
V31A	**Spring Creek L**	89.28	52	P	**P**	23 03 14.9 +0.6
	baz=89					
F22A	**Rosebud**	89.29	41	P	**P**	23 03 14.5 +0.4
	baz=89					
SNAA	**Sanae**	89.49	177	*e*P	**P**	23 03 14.5 -0.3
	comp=Z,15nm,1.0s					
XAN	**Xi'an**	89.60	306	P	**P**	23 03 17.5 +1.6
XAN				pP	**pP**	23 03 52.0 +0.9
XAN				pmax	pmax	
	comp=Z,3.0nm,1.1s					
XAN				pmax	pmax	
	comp=Z,24nm,6.2s					
VNA2	**Neumayer--Watz**	89.98	176	*e*P	**P**	23 03 18.1 +1.2
	baz=192,slow=3.1					
PHET	**Kaeng Krachan**	90.02	284	P	**P**	23 03 21.1 +3.0
	comp=Z,109nm,1.0s					
LOEI	**Loei**	90.06	288	P	**P**	23 03 19.0 +0.7
	comp=Z,126nm,2.0s					
VNA1	**Neumayer--Stat**	90.19	176	*e*P	**P**	23 03 19.1 +1.2
HHC	**Hu-ho-hao-te**	90.44	313	*e*P	**P**	23 03 20.8 +1.2
HHC				pP	**pP**	23 03 53.2 -1.7
HHC				sP	**sP**	23 04 07.2 -2.2
HHC				PP	**PP**	23 06 58.5 +2.2
HHC				S	**S**	23 14 02.9 -0.1
HHC				sS	sS	23 14 58.1 -6.0
HHC				pmax	pmax	
	comp=Z,34nm,0.5s					
HHC				pmax	pmax	
	comp=Z,420nm,5.4s					
HHC				LR	LR	
	comp=N,250nm,17.8s					
HHC				LR	LR	
	comp=E,310nm,17.8s					
HHC				LR	LR	
	comp=Z,200nm,19.0s					
NANT	**Nan**	91.00	289	P	**P**	23 03 24.1 +1.5
	comp=Z,35nm,1.0s					
UTHA	**Uthaitani**	91.06	286	P	**P**	23 03 25.8 +2.9
	comp=Z,6.6nm,1.1s					
KMI	**Kunming**	91.35	296	P	**P**	23 03 25.2 +0.8
KMI				pP	**pP**	23 03 59.3 -0.4
KMI				S	**S**	23 14 09.8 -2.4
KMI				pmax	pmax	
	comp=Z,5.0nm,0.5s					
KMI				LR	LR	
	comp=Z,50nm,26.6s					
CRAI	**Chiangrai**	91.76	291	P	**P**	23 03 26.0 -0.1
	comp=Z,276nm,0.8s,comp=Z,10μm					
PAYA	**Payao**	91.92	290	P	**P**	23 03 28.8 +1.9
	comp=Z,5.8nm,0.9s					
CMAR	**Chiang Mai Arr**	92.45	289	P	**P**	23 03 30.9 +1.5
CMAR	**Chiang Mai Arr**	92.45	289	P	**P**	23 03 30.9 +1.5
	comp=Z,11nm,0.9s,baz=108,slow=2.9,SNR=43					
CD2	**Chengdu**	92.50	302	P	**P**	23 03 30.6 +1.2
CD2				pP	**pP**	23 04 04.4 -0.3
CD2				sP	**sP**	23 04 18.5 -0.7
CD2				PP	**PP**	23 07 16.1 +3.3
CD2				S	**S**	23 14 20.5 -1.4
CD2				sS	**sS**	23 15 19.7 -3.6
CD2				pmax	pmax	
	comp=Z,10.0nm,0.5s					
CD2				pmax	pmax	
	comp=Z,160nm,5.9s					
CHTO	**Chiang Mai**	92.57	289	P	**P**	23 03 31.7 +1.8
	comp=Z,17nm,1.1s					
CMAI	**Chiengmai2**	92.84	290	P	**P**	23 03 33.7 +2.4
	comp=Z,14nm,1.4s,comp=Z,4μm					
LZH	**Lanzhou**	94.23	307	*e*P	**P**	23 03 37.9 +0.5
LZH				pP	**pP**	23 04 13.8 +1.1
LZH				sP	**sP**	23 04 27.0 -0.2
LZH				pmax	pmax	
	comp=Z,10.0nm,1.0s					
SONM	**Songino Array**	96.56	318	P	**P**	23 03 49.0 +1.4
SONM	**Songino Array**	96.56	318	P	**P**	23 03 49.0 +1.4
	comp=Z,0.5nm,0.8s,baz=84,slow=4.5,SNR=2.9					
LPAZ	**La Paz**	99.84	111	P	**Pdif**	23 04 05.5 +1.8
LPAZ	**La Paz**	99.84	111	P	**Pdif**	23 04 05.5 +1.8
	comp=Z,0.5nm,0.7s,baz=195,slow=2.0,SNR=4.1					
ZALV	**Zalesovo Beam**	111.14	321	PKiKP	**PKiKP**	23 08 49.8 -0.7
ZALV	**Zalesovo Beam**	111.14	321	PKiKP	**PKiKP**	23 08 49.8 -0.7
	comp=Z,1.5nm,0.6s,baz=106,slow=2.6,SNR=7.0					
MKAR	**Makanchi Array**	112.30	314	PKiKP	**PKiKP**	23 08 52.2 -0.8
MKAR	**Makanchi Array**	112.30	314	PKiKP	**PKiKP**	23 08 52.2 -0.8
MKAR				PKKPbc	**PKKPbc**	23 19 44.0 -1.0
MKAR	**Makanchi Array**	112.30	314	PKiKP	**PKiKP**	23 08 52.2 -0.8
	comp=Z,1.6nm,0.7s,baz=70,slow=2.7,SNR=14					
MKAR				PKKPbc	**PKKPbc**	23 19 44.0 -1.0
	comp=Z,0.9nm,0.8s,baz=272,slow=2.9,SNR=6.1					
KURK	**Kurchatov**	114.86	318	PKIKP	PKPdf	23 08 56.7 -1.0
KURK	**Kurchatov**	114.86	318	PKP	PKPdf	23 08 56.7 -1.0
KURBB	**Kurchatov Arra**	114.92	318	PKP	PKPdf	23 08 56.7 -1.1
	comp=Z,2.7nm,0.9s,baz=97,slow=1.9,SNR=17					
KSH	**Kashi**	116.45	305	*e*PKP	**PKPdf**	23 08 58.3 -3.0
KSH				PP	**PP**	23 10 13.8 +3.7
KSH				PKS	**PKSdf**	23 12 33.6 -4.5
KSH				SKKS		23 16 49.4
KSH				SS	**SS**	23 26 03.9 -0.7
KSH				AMB	AMB	
	comp=Z,73nm,5.8s					
KSH				LR	LR	
	comp=N,63nm,5.0s					
KSH				LR	LR	
	comp=E,90nm,5.2s					
KSH				LR	LR	
	comp=Z,150nm,5.3s					
AAK	**Ala-Archa**	117.67	309	*c i*PKIKP	**PKPdf**	23 09 03.2 -0.4
AAK				pmax	pmax	
	comp=Z,8.0nm,1.7s					
AAK	**Ala-Archa**	117.67	309	PKP	**PKPdf**	23 09 03.6 -0.1
AAK	**Ala-Archa**	117.67	309	PKP	**PKPdf**	23 09 03.6 -0.1
	comp=Z,0.9nm,0.3s,baz=328,slow=4.2,SNR=6.4					
BVAR	**Borovoye Array**	119.78	321	PKIKP	**PKPdf**	23 09 06.7 -0.5
BVAR	**Borovoye Array**	119.78	321	PKP	**PKPdf**	23 09 06.7 -0.5
BVAR	**Borovoye Array**	119.78	321	PKP	**PKPdf**	23 09 06.7 -0.5
	comp=Z,3.2nm,0.4s,baz=96,slow=1.7,SNR=21					
BRVK	**Borovoye**	119.84	321	*c i*PKIKP	**PKPdf**	23 09 07.5 +0.3
BRVK				pmax	pmax	
	comp=Z,3.0nm,1.0s					
KKAR	**Karatay Array**	120.60	309	*e*PKIKP	**PKPdf**	23 09 08.4 -0.6
KKAR	**Karatay Array**	120.60	309	*e*PKPdf	**PKPdf**	23 09 08.4 -0.6
KBL	**Kabul**	121.76	299	*e*PKIKP	**PKPdf**	23 09 11.8 0.0
KBL	**Kabul**	121.76	299	*e*PKPdf	**PKPdf**	23 09 11.8 0.0
SVE	**Sverdlovsk**	124.36	327	*e*PKIKP	**PKPdf**	23 09 16.0 +0.2
SVE				pmax	pmax	
	comp=Z,13nm,1.2s					
SOKR	**Solikamsk**	125.20	331	*e*PKIKP	**PKPdf**	23 09 16.3 -1.0
SOKR				pmax	pmax	
	comp=Z,10.0nm,0.9s					
ARU	**Arti**	125.57	327	*i* PKIKP	**PKPdf**	23 09 17.8 -0.3
ARU						23 11 09.2
ARU						23 16 06.6
ABKAR	**Akbulak array**	126.97	318	*e*PKPdf	**PKPdf**	23 09 20.2 -0.8
AKTO	**Aktyubinsk**	127.85	320	PKIKP	**PKPdf**	23 09 22.9 +0.2
AKTO	**Aktyubinsk**	127.85	320	PKP	**PKPdf**	23 09 22.9 +0.2
AKTO	**Aktyubinsk**	127.85	320	PKP	**PKPdf**	23 09 22.9 +0.2
	comp=Z,2.5nm,0.9s,baz=98,slow=2.5,SNR=9.5					
ARCES	**ARCESS Array B**	127.86	351	PKP	**PKPdf**	23 09 22.4 +0.2
ARCES	**ARCESS Array B**	127.86	351	PKP	**PKPdf**	23 09 22.4 +0.2
	comp=Z,6.2nm,0.8s,baz=57,slow=4.5,SNR=13					
BOSA	**Boshof**	128.94	203	PKP	**PKPdf**	23 09 25.9 +0.2
BOSA	**Boshof**	128.94	203	PKP	**PKPdf**	23 09 25.9 +0.2
	comp=Z,3.2nm,0.9s,baz=120,slow=11,SNR=3.5					
KLMR	**Klimovskoe**	131.58	338	*e*PKIKP	**PKPdf**	23 09 29.2 -0.2
KLMR				pmax	pmax	
	comp=Z,18nm,1.5s					
FINES	**FINESS Array B**	135.03	346	PKPpre	PKPpre	23 09 31.2
FINES				PKP	**PKPdf**	23 09 36.6 +0.7
FINES	**FINESS Array B**	135.03	346	PKhKP	PKPpre	23 09 31.2
	comp=Z,6.0nm,1.1s,baz=60,slow=2.4,SNR=9.4					
FINES				PKP	**PKPdf**	23 09 36.6 +0.7
	comp=Z,3.7nm,0.8s,baz=64,slow=6.3,SNR=10.0					
OBN	**Obninsk**	136.72	334	⇑*i*PKIKP	**PKPdf**	23 09 39.5 +0.3
OBN				pmax	pmax	
	comp=Z,10.0nm,1.1s					
NOA	**NORSAR Array B**	137.69	356	PKP	**PKPdf**	23 09 40.3 -0.6
NOA	**NORSAR Array B**	137.69	356	PKP	**PKPdf**	23 09 40.3 -0.6
	comp=Z,0.8nm,0.8s,baz=14,slow=4.0,SNR=3.8					
SUW	**Suwalki**	142.32	343	*e*PKP	**PKPdf**	23 09 49.2 -0.2
AKASG	**Malin Array Be**	142.98	335	*c i*PKIKP	**PKPdf**	23 09 55.0 +4.3
AKASG	**Malin Array Be**	142.98	335	PKPpre	PKPpre	23 09 46.3
AKASG	**Malin Array Be**	142.98	335	PKhKP	PKPpre	23 09 46.3
	comp=Z,0.9nm,0.3s,baz=38,slow=4.3,SNR=7.3					
MZRK	**Al-Mazaregh**	144.53	306	*e*P	PKPbc	23 09 53.4 +0.4
SFNV	**Sufian**	144.75	307	*e*P	**PKPdf**	23 09 54.2 -0.2
BSEG	**Bad Segeberg**	144.81	355	*e*PKPbc	**PKPab**	23 09 53.1 0.0
BSEG	**Bad Segeberg**	144.81	355	*e*PKIKP	**PKPab**	23 09 53.1 0.0
BEL	**Belsk**	144.92	343	*e*PKP	**PKPdf**	23 09 54.2 +0.1
MALT	**Malatya**	145.27	311	⇑PKIKP	**PKPab**	23 09 56.5 +0.9
MALT	**Malatya**	145.27	311	⇑*i*P	**PKPab**	23 09 56.5 +0.9
LVV	**L'vov**	145.67	338	*i* PKHKP	**PKPdf**	23 09 53.6 -1.9
NRDL	**Niedersach Rie**	146.26	355	*e*PKPbc	**PKPbc**	23 09 57.9 +0.3
KWP	**Kalwaria Pacla**	146.28	339	⇓PKIKP	**PKPbc**	23 09 58.0 +0.1
KWP	**Kalwaria Pacla**	146.28	339	*e*PKPdf	**PKPbc**	23 09 57.3 -0.5
KWP	**Kalwaria Pacla**	146.28	339	⇓*i*P	**PKPbc**	23 09 58.0 +0.1
KWP	**Kalwaria Pacla**	146.28	339	*e*PKP	**PKPbc**	23 09 58.2 +0.3
SLMH	**Al Salmeh**	146.47	308	*e*P	**PKPdf**	23 09 58.0 +0.7
LEOM	**Leova**	146.60	331	⇓PKP2	**PKPbc**	23 09 59.2 +0.3
LEOM	**Leova**	146.60	331	⇓*i*P	**PKPbc**	23 09 59.2 +0.3
IBBN	**Ibbenburen**	146.60	357	*e*PKPbc	**PKPbc**	23 09 59.3 +0.6
OJC	**Ojcow**	146.65	343	*e*PKIKP	**PKPbc**	23 09 59.0 +0.1
OJC	**Ojcow**	146.65	343	*e*PKP	**PKPbc**	23 09 59.0 +0.1
PRAR	**RASCA**	146.82	334	⇑*i*P	**PKPbc**	23 10 00.3 +0.8
CLZ	**Clausthal**	146.88	354	*e*PKPbc	**PKPbc**	23 10 00.1 +0.5
CLZ	**Clausthal**	146.88	354	*e*PKP2	**PKPbc**	23 10 00.1 +0.5
KSP	**Ksiaz**	146.94	347	*e*PKP2	**PKPbc**	23 10 00.4 +0.7
KSP	**Ksiaz**	146.94	347	*e*PKP	**PKPbc**	23 10 00.4 +0.7
STHS	**Stebnicka Huta**	146.94	341	*e*PKIKP	**PKPbc**	23 09 59.2 -0.6
STHS	**Stebnicka Huta**	146.94	341	*e*PKP	**PKPbc**	23 09 59.2 -0.6
BUR08	**Bucovina Ar. S**	147.02	335	*e*PKPbc	**PKPbc**	23 10 01.0 +0.8
KOLS	**Kolonicke sedl**	147.03	339	*e*PKIKP	**PKPdf**	23 09 58.4 +0.6
KOLS	**Kolonicke sedl**	147.03	339	*e*PKP	**PKPdf**	23 09 58.4 +0.6
BURAR	**Bucovina Array**	147.03	335	⇓PKP2	**PKPbc**	23 10 00.9 +0.7
BURAR	**Bucovina Array**	147.03	335	⇓*i*P	**PKPbc**	23 10 00.9 +0.7
CLL	**Collm**	147.08	351	⇓*e*PKIKP	**PKPbc**	23 09 59.0 -1.1
CLL				*i*		23 10 00.2
CLL				pmax	pmax	
	comp=Z,63nm,1.2s					
CLL	**Collm**	147.08	351	*e*PKPdf	**PKPbc**	23 09 59.0 -1.1
CLL				⇓*i*PKPbc	**PKPab**	23 10 00.2 -1.7
	comp=Z,63nm,1.2s					
CLL				*i* pPKPbc	**pPKPbc**	23 10 34.1 -2.5
CLL				*ep*PKPab	**pPKPab**	23 10 39.0 +1.3
CLL				*e*(pPP)		23 13 51.0
NIE	**Niedzica**	147.22	342	*e*PKP2	**PKPab**	23 10 03.5 +0.9
NIE	**Niedzica**	147.22	342	*e*PKP	**PKPab**	23 10 03.5 +0.9
DRWC	**Darouich**	147.24	309	*e*P	**PKPbc**	23 10 01.1 0.0
TLCR		147.26	328	⇑PKP2	**PKPbc**	23 10 01.4 +0.6
TLCR		147.26	328	⇑*i*P	**PKPbc**	23 10 01.4 +0.6
UZH	**Uzhgorod**	147.28	339	⇑*i*PKIKP	**PKPbc**	23 10 00.7 0.0
UZH				*i*		23 10 03.7
GHRR		147.30	331	⇓*i*P	**PKPab**	23 10 02.3 -0.6
TESR	**Tescani**	147.30	332	⇑*i*P	**PKPbc**	23 10 01.0 +0.1
UPC	**Upice**	147.31	347	*e*PKIKP	**PKPdf**	23 09 59.3 +1.1
UPC				*e*		23 10 01.6
UPC	**Upice**	147.31	347	*e*PKP	**PKPdf**	23 09 59.3 +1.1
UPC				*ex*	x	23 10 01.6
UPC				*ex*	x	23 10 07.4
UPC				*ex*	x	23 10 36.6
CRVS	**Cervenica-Dubn**	147.32	340	*e*PKP2	**PKPbc**	23 10 01.5 +0.7
CRVS	**Cervenica-Dubn**	147.32	340	*e*PKP	**PKPbc**	23 10 01.5 +0.7
BRG	**Berggiesshubel**	147.35	350	*i* PKP	**PKPdf**	23 09 59.2 +0.9
	comp=Z,11nm,1.3s					
BRG				*i*		23 10 01.2
	comp=Z,51nm,1.5s					
BRG				*e*		23 10 35.6
	comp=Z,12nm,1.4s					
BRG	**Berggiesshubel**	147.35	350	*e*PKPbc	**PKPbc**	23 10 01.3 +0.5
BRG	**Berggiesshubel**	147.35	350	*i* PKIKP	**PKPdf**	23 09 59.2 +0.9
BRG				*i*		23 10 01.2
BRG				pmax	pmax	
	comp=Z,11nm,1.3s					
BRG				pmax	pmax	
	comp=Z,51nm,1.5s					
BRG				pmax	pmax	
	comp=Z,12nm,1.4s					
DPC	**Dobruska-Polom**	147.39	347	*e*PKIKP	**PKPdf**	23 09 58.9 +0.5
DPC				*i*		23 10 01.8
DPC	**Dobruska-Polom**	147.39	347	*e*PKP	**PKPdf**	23 09 58.9 +0.5
DPC				*i x*	x	23 10 01.8
DPC				*ex*	x	23 10 09.1
DPC				*ex*	x	23 10 38.1
OKC	**Ostrava-Krasne**	147.44	344	*e*PKP	**PKPdf**	23 09 57.5 -0.9
OKC				*i x*	x	23 10 01.4
OKC				*ep*PKP	**pPKPdf**	23 10 36.2 +0.8
BUG	**Bochum--Univer**	147.49	358	*e*PKPbc	**PKPbc**	23 10 01.3 +0.1

KHC	Kasperske Hory	149.10	349	*e*PKIKP	PKPdf	23 10 01.7	+0.5
KHC				*i*		23 10 06.0	
KHC				*e*		23 10 10.3	
KHC	Kasperske Hory	149.10	349	*e*PKP	PKPdf	23 10 01.7	+0.5
KHC				*i* x	x	23 10 06.0	
KHC				*e*x	x	23 10 10.3	
KHC				*e*pPKP	pPKPdf	23 10 41.2	+3.0
KHC	Kasperske Hory	149.10	349	*e*PKPdf	PKPdf	23 10 01.6	+0.3
KHC				*e*PKPbc	PKPbc	23 10 05.7	+0.2
WET	Wettzell	149.20	350	*e*PKPbc	PKPbc	23 10 06.2	+0.4
ZST	Bratislava	149.22	344	*e*PKP2	PKPbc	23 10 06.5	+0.7
ZST	Bratislava	149.22	344	*e*PKP	PKPbc	23 10 06.5	+0.7
WLF	Walferdange	149.30	359	PKPbc	PKPbc	23 10 06.9	+1.0
WLF	Walferdange	149.30	359	*e*PKPbc	PKPbc	23 10 06.9	+1.0
WLF	Walferdange	149.30	359	*e*PKPbc	PKPbc	23 10 06.5	+0.5
BUD	Budapest	149.34	341⇑	*e*PKPdf	PKPbc	23 10 06.4	+0.3
GEC2	GERESS Array S	149.35	349	*e*PKPbc	PKPbc	23 10 06.5	+0.3
GERES	GERESS Array B	149.35	349	PKPbc	PKPbc	23 10 06.1	-0.1
GERES	GERESS Array B	149.35	349	PKPbc	PKPbc	23 10 06.1	-0.1
	comp=Z,9.8nm,0.9s,baz=66,slow=3,2,SNR=4.3						
DEV	Deva	149.37	335	⇑PKHKP	PKPbc	23 10 05.4	-0.8
DEV	Deva	149.37	335⇑	*i*P	PKPbc	23 10 05.4	-0.8
LOT	Lotru	149.37	334⇑	*i*P	PKPdf	23 10 01.3	-0.6
HUMR	Humele	149.57	331⇑	*i*P	PKPbc	23 10 05.6	-1.2
PKSG		149.61	342⇑	*e*PKPdf	PKPbc	23 10 07.2	+0.5
CSKK	Cs^‡kako	149.67	342⇑	*e*PKPdf	PKPbc	23 10 07.4	+0.5
PKS7	Kunszentmiklos	149.69	341⇑	*e*PKPdf	PKPbc	23 10 07.5	+0.6
CONA	Conrad Observa	149.77	346⇑	*i*PKiKP	PKiKP	23 10 07.8	-0.4
	comp=Z,45nm,1.3s,SNR=15						
GZR	Gura Zlata	149.82	335	⇑PKIKP	PKPbc	23 10 07.7	+0.3
GZR	Gura Zlata	149.82	335⇑	*i*P	PKPbc	23 10 07.7	+0.3
PKST	T^`s	149.83	342⇓	*e*PKPdf	PKPbc	23 10 07.3	0.0
SOP	Sopron	149.83	345⇓	*e*PKPdf	PKPbc	23 10 08.0	+0.7
LANF	Langenberg	149.92	357	PKP	PKPbc	23 10 07.4	-0.1
STU	Stuttgart	150.03	355	*e*PKPbc	PKPbc	23 10 08.2	+0.5
STU	Stuttgart	150.03	355	*e*PKPbc	PKPbc	23 10 07.8	+0.1
BZS	Buzias	150.09	337	⇓PKHKP	PKPbc	23 10 08.1	+0.1
BZS	Buzias	150.09	337⇓	*i*P	PKPbc	23 10 08.1	+0.1
PKS2	Kecel	150.16	340⇑	*e*PKPdf	PKPbc	23 10 09.0	+0.9
MOA	Molln	150.20	348⇓	*i*PKPbc	PKPbc	23 10 08.1	-0.2
	comp=Z,17nm,1.3s,SNR=5.7						
STR	Strasbourg	150.32	357	PKP	PKPbc	23 10 09.6	+1.2
PKS9	Tamasi	150.37	342⇑	*e*PKPdf	PKPbc	23 10 08.1	-0.5
FUR	Furstenfeldbru	150.40	352	*e*PKPbc	PKPbc	23 10 09.1	+0.4
FUR	Furstenfeldbru	150.40	352	*e*PKIKP	PKPbc	23 10 09.1	+0.4
CSS	Prodhromos	150.40	308	*e*PKPbc	PKPbc	23 10 09.4	+0.3
WLS	Welschbruch	150.51	357	PKP	PKPbc	23 10 09.2	+0.2
BFO	Black Forest	150.54	356	*e*PKPbc	PKPbc	23 10 09.3	+0.3
BFO	Black Forest	150.54	356	*e*PKIKP	PKPbc	23 10 09.3	+0.3
BFO	Black Forest	150.54	356	*e*PKPbc	PKPbc	23 10 09.2	+0.2
RJOB	Jochberg	150.58	350	*e*PKPbc	PKPbc	23 10 09.4	+0.2
PKSM	Moragy	150.59	341	⇓PKIKP	PKPbc	23 10 09.1	0.0
PKSM	Moragy	150.59	341	⇓*i*P	PKPbc	23 10 09.1	0.0
PKSM	Moragy	150.59	341	⇓*e*PKPdf	PKPbc	23 10 09.2	+0.1
ECH	Echery	150.72	357	PKP	PKPbc	23 10 07.6	-1.8
THEF	They Montfort	150.74	359	PKP	PKPbc	23 10 09.3	-0.2
BEHE	Becsehely	150.90	343⇓	*e*PKPdf	PKPbc	23 10 10.3	+0.4
ISP	Isparta	150.97	316	*e*PKIKP	PKPbc	23 10 09.7	-0.8
ISP	Isparta	150.97	316	*e*PKPbc	PKPbc	23 10 09.7	-0.8
ISP	Isparta	150.97	316	⇓*i*P	PKPbc	23 10 10.3	-0.2
MOF	Molkenrain	151.08	357	PKP	PKPbc	23 10 10.0	-0.4
KBA	Koelnbreinsper	151.12	348	⇓*i*PKPbc	PKPbc	23 10 09.9	-0.7
	comp=Z,16nm,0.7s,SNR=7.2						
RETA	Reutte	151.13	352⇑	*i*PKPbc	PKPbc	23 10 10.5	0.0
	comp=Z,28nm,1.3s,SNR=8.4						
PERS	Pernice	151.16	346	*i*PKPbc	PKPbc	23 10 10.3	-0.3
MOTA	Moosalm	151.22	352	⇓*i*PKPbc	PKPbc	23 10 10.4	-0.4
	comp=Z,35nm,1.0s,SNR=16						
WTTA	Wattenberg	151.23	351	⇓*i*PKiKP	PKPbc	23 10 11.0	+0.1
	comp=Z,34nm,0.6s,SNR=15						
DAVA	Damuels	151.43	353	*i*PKiKP	PKPbc	23 10 11.4	+0.1
	comp=Z,41nm,1.0s,SNR=13						
ABTA	Abfaltersbach	151.59	349	⇓*i*PKPbc	PKPbc	23 10 11.0	-0.5
	comp=Z,49nm,1.1s,SNR=13						
FETA	Feichten	151.59	352	⇓*i*PKiKP	PKPbc	23 10 11.8	+0.1
	comp=Z,31nm,1.0s,SNR=8.1						
LOMF	Lomont	151.59	358	PKP	PKPbc	23 10 11.4	-0.2
LJU	Ljubljana	151.86	346	*i*PKPbc	PKPbc	23 10 12.4	+0.3
VTS	Vitosha	151.89	331	⇓PKIKP	PKPbc	23 10 12.7	+0.2
VTS	Vitosha	151.89	331	⇓*i*P	PKPbc	23 10 12.7	+0.2
JAVS	Javornik	152.10	347	*i*PKPbc	PKPbc	23 10 12.6	-0.2
BOJS	Bojanci	152.19	345	*i*PKPbc	PKPbc	23 10 13.3	+0.5
TUE	Stuetta	152.29	354	*e*PKPbc	PKPbc	23 10 12.7	-0.7
SSB	Saint Sauveur	153.69	1	*e*PKIKP	PKPbc	23 10 16.3	0.0
SSB	Saint Sauveur	153.69	1	*e*PKPbc	PKPbc	23 10 16.3	0.0
ESDC	Sonseca Array	157.83	19	PKP	PKPdf	23 10 13.3	-0.7
ESDC				PKPab	PKPab	23 10 48.0	+0.6
ESDC	Sonseca Array	157.83	19	PKP	PKPdf	23 10 13.3	-0.7
	comp=Z,0.3nm,0.6s,baz=0.0,slow=4.9,SNR=5.2						
ESDC				PKPab	PKPab	23 10 48.0	+0.6
	comp=Z,1.7nm,0.9s,baz=341,slow=1.8,SNR=9.5						
TORD	Torodi Ar. Bea	173.35	149	PKP	PKPdf	23 10 26.0	-1.3
TORD				PKPab	PKPab	23 11 56.4	+0.3
TORD				PP	PP	23 15 46.6	-0.4
TORD	Torodi Ar. Bea	173.35	149	PKP	PKPdf	23 10 26.0	-1.3
	comp=Z,3.5nm,1.0s,baz=32,slow=1.4,SNR=12						
TORD				PKPab	PKPab	23 11 56.4	+0.3
	comp=Z,5.0nm,1.1s,baz=231,slow=3.8,SNR=12						
TORD				PP	PP	23 15 46.6	-0.4
	comp=Z,0.7nm,0.9s,baz=210,slow=5.0,SNR=2.3						

SKO 06 22:53:37.5, 41°.26N×22°.64E, h10km, M0.2, ML0.8, 1C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAY	Valandovo	0.08	319⇑	*i*Pg	Pg	22 53 39.7	-0.1
VAY				*i* Sg	Sg	22 53 41.5	0.0
VAY				*e*Lg	Lg	22 53 41.6	
	comp=E,49nm,0.3s						
VAY				*e*Lg	Lg	22 53 41.7	
	comp=N,76nm,0.3s						

*SKO **06** 22:57:44.9, 41°.51N×20°.49E, h12km, M2.1, ML2.4*
*CSEM **06** 22:57:45.3±0.3, 41°.43N×20°.44E, h2km, ML2.3, Error ellipse: s-maj=7.8km s-min=4.0km az=13.0*
*PDG **06** 22:57:45.4±0.3, 41°.53N×20°.47E, h3km±1km, ML2.7/8, Error ellipse: s-maj=0.5km s-min=0.6km az=0.0*
*BEO **06** 22:57:46.4±0.3, 41°.49N×20°.47E, h0km, ML2.3/9*

ISC 06 22:57:45.1±1.2, 41°.51N±0°.03×20°.46E±0°.02, h1km±10km, n48, σ1s07/87, 7C-12D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	Tirane	0.48	251	*e*Pg	Pg	22 57 54.6	+0.3
TIR	Tirane	0.48	251	*e*Pg	Pg	22 57 54.6	+0.3
BIA	Bitola	0.81	127	*i* Pg	Pg	22 58 00.8	+0.1
BIA				*i* Sg	Sb	22 58 14.4	+0.9
BIA	Bitola	0.81	127	*i* Pg	Pg	22 58 00.3	-0.4
BIA				*i* Sg	Sb	22 58 13.8	+0.3
SKO	Skopje	0.87	57	*e*Pg	Pb	22 58 02.7	-0.2
SKO				*e*Sg	Sb	22 58 14.1	-0.9
SKO	Skopje	0.87	57	*i* Pg	Pg	22 58 01.4	-0.3
SKO				*i* Sg	Sb	22 58 15.5	+0.5
SKO				*e*Lg	Lg	22 58 16.1	
	comp=N,217nm,0.3s						
SKO				*e*Lg	Lg	22 58 16.4	
	comp=E,88nm,0.3s						
SKO	Skopje	0.87	57	*e*Pg	Pb	22 58 02.7	-0.2
SKO				*e*Sg	Sb	22 58 14.1	-0.9
SKO				*e*Lg	Lg	22 58 15.4	
	comp=E,88nm,0.3s						
ULC	Ulcinj	1.02	297	⇓*i*Pg	Pg	22 58 03.9	-0.8
ULC				*e*Sg	Sb	22 58 19.8	+0.4
ULC	Ulcinj	1.02	297	⇓*i*Pg	Pg	22 58 03.9	-0.8
ULC				*e*Sg	Sb	22 58 19.8	+0.4
PVY	Plav	1.15	341	⇓*i*Pg	Pg	22 58 05.9	-1.2
PVY				*e*Sg	Sn	22 58 24.1	-0.7
PVY	Plav	1.15	341	⇓*i*Pg	Pg	22 58 05.9	-1.2
PVY				*e*Sg	Sn	22 58 24.1	-0.7
DRME	Dracevica, Mon	1.17	306	⇓*i*Pg	Pg	22 58 06.8	-0.8
DRME				*e*Sg	Sn	22 58 25.3	+0.1
DRME	Dracevica, Mon	1.17	306	⇓*i*Pg	Pg	22 58 06.8	-0.8
DRME				*e*Sg	Sn	22 58 25.3	+0.1
PDG	Podgorica	1.29	316	⇓*i*Pg	Pg	22 58 08.8	-1.0
PDG				*e*Sg	Sn	22 58 28.7	+0.7
PDG	Podgorica	1.29	316	⇓*i*Pg	Pg	22 58 08.8	-1.0
PDG				*e*Sg	Sn	22 58 28.7	+0.7
TTG	Podgorica	1.29	316	*e*Pg	Pg	22 58 08.4	-1.4
TTG				*e*Sg	Sn	22 58 29.4	+1.4
BUM	Brajici-Budva	1.41	305	⇓*i*Pg	Pn	22 58 11.2	-0.8
BUM				*e*Sg	Sn	22 58 32.9	+1.6
BUM	Brajici-Budva	1.41	305	⇓*i*Pg	Pn	22 58 11.2	-0.8
BUM				*e*Sg	Sn	22 58 32.9	+1.6
VAY	Valandovo	1.60	96	⇑*i*Pn	Pn	22 58 13.7	-0.7
VAY				*e*Sg	Sg	22 58 36.4	0.0
VAY	Valandovo	1.60	96	*i* Pn	Pn	22 58 14.4	0.0
VAY				*e*Sn	Sb	22 58 35.7	-0.3
VAY				*e*Lg	Lg	22 58 39.5	
	comp=E,17nm,0.6s						
VAY				*e*Lg	Lg	22 58 40.6	
	comp=N,146nm,2.2s						
VAY	Valandovo	1.60	96	*i* Pn	Pn	22 58 13.9	-0.5
VAY				*e*Sn	Sn	22 58 35.1	-0.5
VAY				*e*Sg	Sg	22 58 36.4	0.0
VAY				*e*Lg	Lg	22 58 40.0	
	comp=N,146nm,2.2s						
BARS	Barje	1.65	37	*e*Pn	Pg	22 58 17.8	+1.1
BARS				*e*Sg	Sg	22 58 40.0	+1.9
NKME	Niksic	1.69	319⇑	*i*Pn	Pb	22 58 16.4	-0.5
NKME				*e*Sn	Sg	22 58 42.2	+2.9
NKME	Niksic	1.69	319⇑	*i*Pn	Pb	22 58 16.4	-0.5
NKME				*e*Sn	Sg	22 58 42.2	+2.9
HCY	Herceg Novi	1.74	303	⇓*i*Pn	Pb	22 58 16.8	-1.1
HCY				*e*Sn	Sg	22 58 43.2	+2.1
HCY	Herceg Novi	1.74	303	⇓*i*Pn	Pb	22 58 16.8	-1.1
HCY				*e*Sn	Sg	22 58 43.2	+2.1
SELS	Selova	1.78	16	*e*Pn	Pg	22 58 18.6	-0.6
SJES	Sjenica	1.79	348	*e*Pn	Pb	22 58 18.4	-0.3
SJES				*e*Sg	Sg	22 58 43.0	+0.4
SJES				*e*Sg	Sg	22 58 43.8	+1.2
SJES	Sjenica	1.79	348	*e*Pn	Pb	22 58 18.4	-0.3
SJES				*e*Sg	Sg	22 58 43.8	+1.2
TREB	Trebinje	1.98	308	*e*Pn	Pb	22 58 20.7	-1.3
TREB				*e*Sg	Sg	22 58 48.6	-0.2
TREB	Trebinje	1.98	308	*e*Pn	Pb	22 58 20.7	-1.3
TREB				*e*Sg	Sg	22 58 48.6	-0.2
PLE	Pljevlja	1.99	337⇑	*i*Pn	Pb	22 58 21.7	-0.4
PLE				*e*Sn	Sg	22 58 49.5	+0.5
PLE	Pljevlja	1.99	337⇑	*i*Pn	Pb	22 58 21.7	-0.4
PLE				*e*Sn	Sg	22 58 49.5	+0.5
BRY	Bratogost	2.00	315⇑	*i*Pn	Pb	22 58 21.1	-1.2
BRY				*e*Sn	Sg	22 58 49.3	+0.1
BRY	Bratogost	2.00	315⇑	*i*Pn	Pb	22 58 21.1	-1.2
BRY				*e*Sn	Sg	22 58 49.3	+0.1
VTS	Vitosha	2.31	61	*e*Pn	Pn	22 58 25.6	+1.1
VTS				*e*Sn	Sb	22 58 55.9	-0.9
VTS	Vitosha	2.31	61	*e*Pn	Pn	22 58 25.6	+1.1
VTS				*e*Sn	Sb	22 58 55.9	-0.9
GRUS	Gruza	2.39	4	*e*Pn	Pn	22 58 26.2	+0.9
GRUS	Gruza	2.39	4	*e*Pn	Pn	22 58 26.2	+0.9
ZAPS	Zavoj	2.39	42	*e*Pn	Pb	22 58 27.0	-1.9
ZAPS	Zavoj	2.39	42	*e*Pn	Pb	22 58 27.0	-1.9
STON	Ston	2.46	304	*e*Pn	Pb	22 58 29.1	-1.0
STON				*e*Sn	Sb	22 59 00.5	-0.5
STON	Ston	2.46	304	*e*Pn	Pb	22 58 28.6	-1.6
STON				Sn	Sb	22 58 59.5	-1.4
STON	Ston	2.46	304	*e*Pn	Pb	22 58 29.1	-1.0
STON				*e*Sn	Sb	22 59 00.5	-0.5
DIVS	Divibare	2.61	353	*e*Pn	Pn	22 58 30.0	+1.5
DIVS	Divibare	2.61	353	*e*Pn	Pn	22 58 30.0	+1.5
BZS	Buzias	4.19	11	*e*Pn	Pn	22 58 51.3	+1.2
BZS	Buzias	4.19	11	*e*Pn	Pn	22 58 51.3	+1.2

*CSEM **06** 23:07:22.2, 42°.60N×13°.09E, h11km, MD1.8/6, After ROM*

ROM 06 23:07:22.2±0.1, 42°.60N×13°.09E, h11km, Md1.8/6, Ml1.3/3, Error ellipse: s-maj=1.7km s-min=1.0km az=56.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNSS	Leonessa	0.04	274	Pg	Pg	23 07 24.7	+0.3
LNSS				Sg	Sg	23 07 26.1	+0.1
LNSS	Leonessa	0.04	274	Pg	Pg	23 07 24.7	+0.3
LNSS				Sg	Sg	23 07 26.1	+0.1
NRCA	Norcia	0.23	4	Pg	Pg	23 07 27.5	+0.3
NRCA				Sg	Sg	23 07 31.2	+0.6
NRCA	Norcia	0.23	4	Pg	Pg	23 07 27.5	+0.3
NRCA				Sg	Sg	23 07 31.2	+0.6
CESI	CESI - Serrava	0.43	341	Pg	Pg	23 07 31.0	+0.2
CESI				Sg	Sb	23 07 37.8	-0.7
	14nm,1.0s						
CESI	CESI - Serrava	0.43	341	Pg	Pg	23 07 31.0	+0.2
CESI				Sg	Sb	23 07 37.8	-0.7
	14nm,1.0s						
FDMO	Fiordimonte	0.44	359	Pg	Pg	23 07 30.9	0.0
FDMO				Sg	Sb	23 07 37.9	-0.8
	21nm,0.2s						
FDMO	Fiordimonte	0.44	359	Pg	Pg	23 07 30.9	0.0
FDMO				Sg	Sb	23 07 37.9	-0.8
	21nm,0.2s						

DJA 06 23:23:39.3±0.7, 9°S±13°×11°1E±°, h58km±19km, M3.7/7, MLv3.7/7, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGM	Wanagama	0.88	358	P	Pn	23 23 55.6	-0.2
UGM				S	Sn	23 24 09.6	+1.7
YOGI	Yogyakarta	1.01	345	P	Pn	23 23 57.8	+0.4
YOGI				S	Sn	23 24 11.0	+0.2
PWJI	Pagerwojo	1.46	58	S	Sn	23 24 22.6	+1.0
BJII	Banjamegara	1.68	330	P	Pn	23 24 06.7	+0.2
KPJI	Karang Pucung	2.17	312	P	Pn	23 24 02.5	-11
GMJI	Gumukmas	2.91	80	P	Pn	23 24 23.2	0.0
CISI	Cisompet, Garu	2.98	294	P	Pn	23 24 23.9	-0.3
BLJI	Banyuglugur	3.19	71	P	Pn	23 24 26.8	-0.2
KMMI	Kalianget	3.81	63	P	Pn	23 24 34.7	-0.7

*ATH **06** 23:31:29.9, 41°.64N×20°.50E, h4km±1km, MD3.5/12*
*TIR **06** 23:31:30.8±1.3, 41°.52N×20°.43E, h15km±43km, ML3.3*
*SKO **06** 23:31:31.5, 41°.40N×20°.45E, h15km, M2.8, ML3.3*
*THE **06** 23:31:31.6, 41°.50N×20°.47E, h0km±1km, ML3.2/5, Error ellipse: s-maj=1.8km s-min=0.6km az=286.0*
*PDG **06** 23:31:31.6±0.4, 41°.50N×20°.44E, h9km, ML3.0/9, Error ellipse: s-maj=0.6km s-min=0.7km az=0.0*
*BEO **06** 23:31:32.1±0.3, 41°.41N×20°.46E, h4km±2km, ML3.0/1*
*CSEM **06** 23:31:32.3±0.1, 41°.49N×20°.44E, h2km, ML3.3, Error ellipse: s-maj=2.9km s-min=2.0km az=53.0*
*SOF **06** 23:31:39.1, 41°.65N×21°.14E, h2km, MD2.7*

ISC 06 23:31:30.0±0.5, 41°.48N±0°.01×20°.47E±0°.01, h7km±4km, n175, σ1s50/230, 21C-21D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHP	Peshkopia	0.21	353	*i* Pg	Pb	23 31 35.3	+1.1
PHP				*i* SG	Sg	23 31 37.0	0.0
PHP	Peshkopia	0.21	353	P	Pb	23 31 35.2	+1.1
PHP				S	Sg	23 31 38.5	+1.5
PHP	Peshkopia	0.21	353	*i* Pg	Pb	23 31 35.3	+1.1
	SNR=100						
PHP				S	Sg	23 31 38.5	+1.5
TIR	Tirane	0.48	254	*i* PG	Pb	23 31 40.4	-0.3
TIR				*i* SG	Sb	23 31 48.1	+0.1
TIR	Tirane	0.48	254	P	Pb	23 31 39.8	-0.9
TIR				S	Sb	23 31 48.0	+0.1
TIR	Tirane	0.48	254	*e*Pg	Pb	23 31 40.2	-0.5
TIR	Tirane	0.48	254	P	Pb	23 31 39.8	-0.9
TIR	Tirane	0.48	254	*e*Pg	Pb	23 31 40.7	0.0
TIR				S	Sb	23 31 48.0	+0.1
PUK	Puka	0.71	323	*i* PG	Pb	23 31 44.4	-0.4
PUK				*i* SG	Sb	23 31 54.4	-0.4
PUK	Puka	0.71	323	*i* Pg	Pb	23 31 44.3	-0.4
	SNR=93						
PUK				*i* Sg	Sb	23 31 54.4	-0.4
	SNR=93						
BIA	Bitola	0.79	125	P	Pb	23 31 46.1	+0.1
BIA				S	Sn	23 31 58.6	-1.1
BIA	Bitola	0.79	125	*i* Pg	Pb	23 31 46.6	+0.6
BIA				*i* Sg	Sn	23 31 59.4	-0.3
BIA	Bitola	0.79	125	P	Pb	23 31 46.1	+0.1
BIA				S	Sn	23 31 58.6	-1.1
SKO	Skopje	0.88	55	P	Pn	23 31 48.9	+0.2
SKO				S	Sn	23 32 02.5	+0.7
SKO	Skopje	0.88	55	⇓*i*Pg	Pn	23 31 48.8	+0.1
SKO				*e*Sg	Sn	23 32 01.9	+0.1
SKO	Skopje	0.88	55	*i* Pg	Pn	23 31 50.0	+1.3
SKO				*i* Lg	Lg	23 32 01.5	
	comp=N,816nm,0.6s						
SKO				*i* Lg	Lg	23 32 01.6	
	comp=E,769nm,0.6s						
SKO				*i* Sg	Sn	23 32 01.8	0.0
SKO	Skopje	0.88	55	*i* Pg	Pn	23 31 49.0	+0.2
SKO				*i* Sg	Sn	23 32 01.8	0.0
SKO				S	Sn	23 32 02.5	+0.7
SKO				*i* Lg	Lg	23 32 02.6	
	comp=E,769nm,0.6s						
KBN	Korca	0.89	164	P	Pn	23 31 49.0	+0.1
KBN				S	Sn	23 32 02.6	+0.5
KBN	Korca	0.89	164	P	Pn	23 31 49.0	+0.1
KBN				S	Sn	23 32 02.6	+0.5
BCI	Bajram Curri	0.94	341	*i* PG	Pn	23 31 49.4	-0.2
BCI	Bajram Curri	0.94	341	*i* Pg	Pn	23 31 49.4	-0.2
	SNR=92						
FNA	Florina	0.97	135	P	Pn	23 31 50.0	-0.1
FNA				S	Sn	23 32 04.8	+0.6
FNA	Florina	0.97	135	*e*PG	Pn	23 31 50.1	-0.1
FNA				*e*SG	Sn	23 32 04.8	+0.6
FNA	Florina	0.97	135	*e*Pg	Pn	23 31 50.1	-0.1
FNA				S	Sn	23 32 04.8	+0.6
ULC	Ulcinj	1.04	298⇑	*i*Pg	Pg	23 31 49.4	-0.5
ULC				*e*Sg	Sn	23 32 06.0	+0.2
ULC	Ulcinj	1.04	298⇑	*i*Pg	Pg	23 31 49.4	-0.5
ULC				*e*Sg	Sn	23 32 06.0	+0.2
NEST	Nestorio	1.15	158	P	Pg	23 31 53.8	+1.8
NEST				S	Sn	23 32 11.4	+2.8
NEST	Nestorio	1.15	158	P	Pg	23 31 53.8	+1.8
NEST				S	Sn	23 32 11.4	+2.8
PVY	Plav	1.18	341	⇓*i*Pg	Pg	23 31 52.7	+0.1
PVY				*e*Sg	Sn	23 32 11.2	+1.8
PVY	Plav	1.18	341	⇓*i*Pg	Pg	23 31 52.7	+0.1
PVY				*e*Sg	Sn	23 32 11.2	+1.8
DRME	Dracevica, Mon	1.20	307	⇓*i*Pg	Pg	23 31 52.8	-0.1
DRME				*e*Sg	Sn	23 32 11.7	+2.1
DRME	Dracevica, Mon	1.20	307	⇓*i*Pg	Pg	23 31 52.8	-0.1
DRME				*e*Sg	Sn	23 32 11.7	+2.1
PDG	Podgorica	1.31	317	P	Pg	23 31 55.1	-0.1
PDG				S	Sg	23 32 15.2	+3.0
PDG	Podgorica	1.31	317	*e*Pg	Pg	23 31 54.9	-0.3
PDG				*e*Sg	Sg	23 32 16.2	+4.0
PDG	Podgorica	1.31	317	⇓*i*Pg	Pg	23 31 54.8	-0.4
PDG	Podgorica	1.31	317	P	Pg	23 31 55.1	-0.1
PDG				*e*Sg	Sg	23 32 15.3	+3.0
TTG	Podgorica	1.31	317	⇓*i*Pg	Pg	23 31 54.8	-0.4
TTG				*e*Sg	Sg	23 32 15.3	+3.0
BUM	Brajici-Budva	1.44	305⇑	*i*Pg	Pg	23 31 57.3	-0.2
BUM				*e*Sg	Sg	23 32 19.1	+2.9
BUM	Brajici-Budva	1.44	305⇑	*i*Pg	Pg	23 31 57.3	-0.2
BUM				*e*Sg	Sg	23 32 19.1	+2.9
KZN	Kozani	1.53	140	*e*PB	Pg	23 32 01.2	+1.9
KZN				*e*SB	Sg	23 32 23.8	+4.7
KZN	Kozani	1.53	140	*e*Pb	Pg	23 32 01.2	+1.9
KZN				*e*Sb	Sg	23 32 23.8	+4.7
VAY	Valandovo	1.58	95	P	Pb	23 31 59.9	+0.3
VAY				S	Sg	23 32 21.9	+1.0
VAY	Valandovo	1.58	95	⇓*i*Pn	Pb	23 31 59.8	+0.2
VAY				*e*Sg	Sg	23 32 21.9	+1.0
VAY	Valandovo	1.58	95	*i* Pn	Pg	23 32 00.4	+0.1
VAY				*i* Sn	Sg	23 32 21.2	+0.3
VAY	Valandovo	1.58	95	P	Pb	23 31 59.9	+0.3
VAY				*i* Sn	Sb	23 32 20.7	+0.9
VAY				S	Sg	23 32 21.9	+1.0
BARS	Barje	1.67	36	*e*Pn	Pg	23 32 02.6	+0.7
BARS				*e*Sn	Sg	23 32 25.8	+2.2
BARS	Barje	1.67	36	*e*Pn	Pg	23 32 02.6	+0.7
BARS				*e*Sn	Sg	23 32 25.8	+2.2
NKME	Niksic	1.71	319⇓	*i*Pn	Pg	23 32 02.0	-0.8
NKME				*e*Sn	Sg	23 32 26.9	+1.9
NKME	Niksic	1.71	319⇓	*i*P

DIVS	**Divibare**	**2.64**	**352**	*e*Pn	**Pb**	**23 32 16.9**	**-0.8**
DIVS				*e*Sn	**Sb**	**23 32 50.5**	**+0.2**
DIVS	**Divibare**	**2.64**	**352**	P	**Pb**	**23 32 15.5**	**-2.2**
DIVS	**Divibare**	**2.64**	**352**	*e*Pn	**Pb**	**23 32 16.9**	**-0.8**
DIVS				*e*Sn	**Sb**	**23 32 50.5**	**+0.2**
LKD2	**Lefkada island**	**2.69**	**177**	P	Pb	23 32 16.2	-2.3
LKD2	**Lefkada island**	**2.69**	**177**	*e*PN	**Pb**	**23 32 17.7**	**-0.8**
LKD2	**Lefkada island**	**2.69**	**177**	P	Pb	23 32 16.2	-2.3
LKD2	**Lefkada island**	**2.69**	**177**	*e*Pn	**Pb**	**23 32 17.7**	**-0.8**
EVR	**Evrytania**	**2.76**	**158**	*e*PB	**Pb**	**23 32 20.1**	**+0.5**
EVR	**Evrytania**	**2.76**	**158**	*e*Pb	**Pb**	**23 32 20.1**	**+0.5**
AGG	**Agios Georgios**	**2.84**	**149**	*e*PN	**Pb**	**23 32 19.7**	**-1.2**
AGG	**Agios Georgios**	**2.84**	**149**	*e*Pn	**Pb**	**23 32 19.7**	**-1.2**
SVIS	**Svilajnac**	**2.84**	**11**	*e*Pn	**Pb**	**23 32 19.9**	**-1.0**
SVIS				*e*Sn	**Sb**	**23 32 54.7**	**-1.2**
PAIG	**Paliouri**	**2.89**	**121**	*e*PN	Pb	23 32 19.5	-2.3
PAIG	**Paliouri**	**2.89**	**121**	*e*Pn	Pb	23 32 19.5	-2.3
MPEP	**Malo Peshtene**	**3.06**	**51**	P	Pb	23 32 22.2	-2.6
TEKS	**Tekeris**	**3.15**	**348**	*e*Pn	**Pb**	**23 32 24.5**	**-1.7**
TEKS	**Tekeris**	**3.15**	**348**	*e*Pn	**Pb**	**23 32 24.5**	**-1.7**
PLD	**Plovdiv**	**3.22**	**77**	*e*Pn	Pn	23 32 24.1	+3.1
PLD				*e*Sn	**Sn**	**23 33 02.6**	**+2.9**
PLD	**Plovdiv**	**3.22**	**77**	*e*Pn	Pn	23 32 24.1	+3.1
PLD				*e*Sn	**Sn**	**23 33 02.6**	**+2.9**
EFP	**Efpalio**	**3.24**	**160**	*e*PN	**Pb**	**23 32 26.8**	**-1.0**
EFP	**Efpalio**	**3.24**	**160**	*e*Pn	**Pb**	**23 32 26.8**	**-1.0**
VLS	**Valsamata**	**3.30**	**178**	*e*PN	**Pb**	**23 32 26.6**	**-2.2**
VLS	**Valsamata**	**3.30**	**178**	*e*Pn	**Pb**	**23 32 26.6**	**-2.2**
KALE	**Kalithea**	**3.34**	**157**	*e*PN	**Pb**	**23 32 28.2**	**-1.3**
KALE	**Kalithea**	**3.34**	**157**	*e*Pn	**Pb**	**23 32 28.2**	**-1.3**
TRIZ	**Trizonia**	**3.34**	**158**	*e*PN	**Pb**	**23 32 27.4**	**-2.2**
TRIZ	**Trizonia**	**3.34**	**158**	*e*Pn	**Pb**	**23 32 27.4**	**-2.2**
LAKA	**Lakka**	**3.44**	**160**	*e*PN	Pb	23 32 28.7	-2.5
LAKA	**Lakka**	**3.44**	**160**	*e*Pn	Pb	23 32 28.7	-2.5
KLV	**Kalavryta, Ach**	**3.67**	**159**	*e*PN	Pb	23 32 32.0	-3.1
KLV	**Kalavryta, Ach**	**3.67**	**159**	*e*Pn	Pb	23 32 32.0	-3.1
FGSL	**Fruska Gora**	**3.71**	**353**	*e*Pn	Pn	23 32 30.6	+2.9
FGSL				*e*Sn	Sb	23 33 15.2	-5.8
FRGS	**Fruska Gora**	**3.71**	**353**	*e*Pn	Pn	23 32 30.6	+2.9
FRGS				*e*Sn	Sb	23 33 15.2	-5.8
GUR	**Goura**	**3.82**	**157**	*e*PN	Pb	23 32 34.8	-3.0
GUR	**Goura**	**3.82**	**157**	*e*Pn	Pb	23 32 34.8	-3.0
BZS	**Buzias**	**4.22**	**11**	⇓*i*P	**Pn**	**23 32 36.4**	**+1.7**
BZS	**Buzias**	**4.22**	**11**	*e*Pn	**Pn**	**23 32 36.3**	**+1.6**
BZS				*e*Sn	**Sn**	**23 33 26.9**	**+2.7**
BZS	**Buzias**	**4.22**	**11**	⇓*i*P	**Pn**	**23 32 36.4**	**+1.7**
BZS				*e*Sn	**Sn**	**23 33 26.9**	**+2.7**
GZR	**Gura Zlata**	**4.26**	**22**	⇑*i*P	**Pn**	**23 32 37.6**	**+2.3**
GZR	**Gura Zlata**	**4.26**	**22**	⇑*i*P	**Pn**	**23 32 37.6**	**+2.3**
LOT	**Lotru**	**4.64**	**30**	⇓*i*P	**Pn**	**23 32 42.9**	**+2.4**
LOT	**Lotru**	**4.64**	**30**	⇓*i*P	**Pn**	**23 32 42.9**	**+2.4**
JMB	**Yambol**	**4.66**	**76**	*e*Pn	Pn	23 32 44.6	+3.8
JMB	**Yambol**	**4.66**	**76**	*e*Pn	Pn	23 32 44.6	+3.8
PKSM	**Moragy**	**4.91**	**345**	⇓*i*P	Pn	23 32 47.8	+3.6
PKSM	**Moragy**	**4.91**	**345**	⇓*i*P	Pn	23 32 47.8	+3.6
ARR	**Arges**	**4.93**	**37**	⇑*i*P	Pn	23 32 47.3	+2.8
ARR	**Arges**	**4.93**	**37**	⇑*i*P	Pn	23 32 47.3	+2.8
PKS2	**Kecel**	**5.09**	**350**	*e*	Sn	23 33 53.1	+7.4
PKS2	**Kecel**	**5.09**	**350**	*e*S	Sn	23 33 53.1	+7.4
NVLJ	**Novalja**	**5.13**	**309**	*i* Pn	**Pn**	**23 32 49.5**	**+2.3**
NVLJ				Sn	**Sn**	**23 33 48.8**	**+2.1**
VOIR		**5.17**	**39**	⇑*i*P	Pn	23 32 51.3	+3.5
VOIR		**5.17**	**39**	⇑*i*P	Pn	23 32 51.3	+3.5
PKS9	**Tamasi**	**5.35**	**344**	*e*	Pn	23 32 54.3	+4.1
PKS9	**Tamasi**	**5.35**	**344**	*e*P	Pn	23 32 54.3	+4.1
BOJS	**Bojanci**	**5.53**	**318**	*i* Pn	Pn	23 32 55.7	+3.0
BOJS				*i* Sn	Sn	23 34 03.4	+6.9
BOJS	**Bojanci**	**5.53**	**318**	*i* Pn	Pn	23 32 55.7	+3.0
DRGR		**5.55**	**16**	⇑*i*P	Pn	23 32 55.6	+2.6
DRGR		**5.55**	**16**	⇑*i*P	Pn	23 32 55.6	+2.6
PKS7	**Kunszentmiklos**	**5.65**	**351**	*e*	**Sn**	**23 34 03.4**	**+4.1**
PKS7	**Kunszentmiklos**	**5.65**	**351**	*e*S	**Sn**	**23 34 03.4**	**+4.1**
VISS	**Visnje**	**5.95**	**318**	*i* Pn	Pn	23 33 01.4	+3.0
VISS				*i* Sn	**Sn**	**23 34 10.3**	**+3.5**
VISS	**Visnje**	**5.95**	**318**	*i* Pn	Pn	23 33 01.4	+3.0
VISS				*i* Sn	**Sn**	**23 34 10.3**	**+3.5**
PKST	**T"'s**	**6.04**	**344**	*e*	Pn	23 33 04.0	+4.3
PKST				*e*		23 34 15.4	
PKST	**T"'s**	**6.04**	**344**	*e*P	Pn	23 33 04.0	+4.3
PKSG		**6.10**	**347**	⇑*e*	Pn	23 33 06.2	+5.7
PKSG				*e*		23 34 11.7	
PKSG		**6.10**	**347**	*e*S	**Sn**	**23 34 11.7**	**+1.3**
JAVS	**Javornik**	**6.41**	**316**	*i* Pn	Pn	23 33 07.5	+2.7
JAVS				*i* Sn	**Sn**	**23 34 20.1**	**+1.8**
JAVS	**Javornik**	**6.41**	**316**	*i* Pn	Pn	23 33 07.5	+2.7
JAVS				*i* Sn	**Sn**	**23 34 20.1**	**+1.8**
PERS	**Pernice**	**6.44**	**325**	*i* Pn	Pn	23 33 08.1	+2.9
PERS	**Pernice**	**6.44**	**325**	*i* Pn	Pn	23 33 08.1	+2.9
PERS				*i* Sn	**Sn**	**23 34 20.2**	**+1.2**
KBA	**Koelnbreinsper**	**7.58**	**320**	⇓*i*Pn	**Pn**	**23 33 23.2**	**+2.2**
KBA	**Koelnbreinsper**	**7.58**	**320**	Pn	**Pn**	**23 33 23.2**	**+2.2**
ABTA	**Abfaltersbach**	**7.78**	**315**	⇑*i*Pn	**Pn**	**23 33 25.7**	**+2.1**
ABTA	**Abfaltersbach**	**7.78**	**315**	Pn	**Pn**	**23 33 25.7**	**+2.1**

DJA 06 23:53:50.6±0.6, 8°S±3°×10°7E±°, h15km±7km, M3.7/10, MLv3.7/10, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.76**	**39**	P	Pg	23 54 05.3	-0.1
CISI				S	Sg	23 54 13.6	-1.9
LEM	**Lembang**	**1.34**	**12**	P	Pn	23 54 14.9	-0.2
LEM				S	Sb	23 54 32.9	0.0
SKJI	**Sukabumi**	**1.38**	**326**	P	Pn	23 54 13.6	-1.7
SKJI				S	Sn	23 54 30.6	-2.7
DBJI	**Dramaga**	**1.69**	**340**	P	Pn	23 54 19.5	-0.1
KPJI	**Karang Pucung**	**1.77**	**63**	P	Pn	23 54 20.5	-0.2
KPJI				S	Sn	23 54 43.0	-0.1
TGJI	**Tegal**	**2.18**	**54**	P	Pn	23 54 26.4	+0.1
TGJI				S	Sn	23 54 52.6	-0.4
BJII	**Banjamegara**	**2.48**	**71**	P	Pn	23 54 31.8	+1.2
UGM	**Wanagama**	**3.16**	**86**	P	Pn	23 54 39.1	-0.8
UGM				S	Sn	23 55 13.9	-3.5

ATH ***06*** *23:58:59.3, 41°64N±20°47E, h5km±2km, MD3.5/14*
IDC ***06*** *23:59:00.6±1.3, 41°50N±20°28E, h0km, mb3.3/4, mb1 3.5/9, mb1mx3.4/30, mbtmp3.4/9, ML3.2/5, Error ellipse: s-maj=21.1km s-min=15.2km az=48.0*
SKO ***06*** *23:59:00.7, 41°46N±20°47E, h11km, M3.1, ML3.5*
TIR ***06*** *23:59:00.0±0.7, 41°52N±20°44E, h12km±7km, ML3.5*
PDG ***06*** *23:59:00.5±0.4, 41°47N±20°40E, h9km, MD3.7/6, ML3.6/11, Error ellipse: s-maj=0.6km s-min=0.7km az=0.0*
THE ***06*** *23:59:01.4, 41°55N±20°47E, h0km±1km, ML3.2/8, Error ellipse: s-maj=1.8km s-min=0.8km az=311.0*
CSEM ***06*** *23:59:01.4±0.1, 41°53N±20°44E, h2km, ML3.2/8, Error ellipse: s-maj=2.9km s-min=1.9km az=55.0*
BEO ***06*** *23:59:01.4±0.3, 41°49N±20°44E, h1km±2km, ML3.2/1*
PRU ***06*** *23:59:02.9, 41°55N±20°23E, h0km*
ISC 06 23:59:00.3±0.4, 41°517N±0°009×20°47E±0°01, h4km±3km, n201, σ1§44/281, 28C-28D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHP	**Peshkopia**	**0.17**	**353**	*i* PG	**Pg**	**23 59 04.3**	**+0.7**
PHP				*i* SG	**Sg**	**23 59 07.2**	**+1.3**
PHP	**Peshkopia**	**0.17**	**353**	P	**Pg**	**23 59 04.3**	**+0.7**
PHP				S	**Sg**	**23 59 07.3**	**+1.3**
PHP	**Peshkopia**	**0.17**	**353**	P	**Pg**	**23 59 04.3**	**+0.7**
PHP				*i* Sg	**Sg**	**23 59 07.2**	**+1.3**
	SNR=118						
TIR	**Tirane**	**0.48**	**250**	*i* PG	**Pb**	**23 59 10.0**	**-1.4**
TIR				*i* SG	**Sb**	**23 59 16.9**	**-1.9**
TIR	**Tirane**	**0.48**	**250**	P	**Pb**	**23 59 09.9**	**-1.5**
TIR				S	**Sb**	**23 59 17.2**	**-1.7**
TIR	**Tirane**	**0.48**	**250**	⇑*i*Pg	**Pg**	**23 59 09.3**	**-0.3**
TIR	**Tirane**	**0.48**	**250**	*i* Pg	**Pb**	**23 59 10.0**	**-1.4**
	SNR=98						
TIR				*i* Sg	**Sb**	**23 59 16.9**	**-1.9**
	SNR=98						
TIR				S	**Sb**	**23 59 17.2**	**-1.7**
PUK	**Puka**	**0.68**	**321**	*i* PG	**Pg**	**23 59 13.0**	**-0.3**
PUK				*i* SG	**Sb**	**23 59 23.9**	**-0.7**
PUK	**Puka**	**0.68**	**321**	*i* Pg	**Pg**	**23 59 13.0**	**-0.3**
	SNR=95						
PUK				*i* Sg	**Sb**	**23 59 23.9**	**-0.7**
	SNR=95						
BIA	**Bitola**	**0.81**	**127**	P	**Pg**	**23 59 15.8**	**-0.1**
BIA				S	**Sn**	**23 59 29.0**	**-2.2**
BIA	**Bitola**	**0.81**	**127**	*i* Pg	**Pg**	**23 59 16.4**	**+0.5**
BIA				*i* Sg	**Sn**	**23 59 29.6**	**-1.5**
BIA	**Bitola**	**0.81**	**127**	P	**Pg**	**23 59 15.8**	**-0.1**
BIA				S	**Sn**	**23 59 29.0**	**-2.2**
SKO	**Skopje**	**0.86**	**58**	P	**Pg**	**23 59 16.9**	**+0.2**
SKO				S	**Sn**	**23 59 30.2**	**-2.0**
SKO	**Skopje**	**0.86**	**58**	⇑*i*Pg	**Pg**	**23 59 16.9**	**+0.2**
SKO				*e*Sg	**Sb**	**23 59 29.9**	**+0.3**
SKO	**Skopje**	**0.86**	**58**	*i* Pg	**Pn**	**23 59 17.9**	**-1.2**
SKO				*i* Sg	**Sn**	**23 59 30.7**	**-1.5**
SKO				*e*Lg	Lg	23 59 31.8	
	comp=N,2μm,0.4s						
SKO				*e*Lg	Lg	23 59 31.9	
	comp=E,2μm,0.7s						
SKO	**Skopje**	**0.86**	**58**	P	**Pg**	**23 59 16.9**	**+0.2**
SKO				*i* Sg	**Sb**	**23 59 29.7**	**+0.1**
SKO				S	**Sn**	**23 59 30.2**	**-2.0**
SKO				*e*Lg	Lg	23 59 30.9	
	comp=E,2μm,0.7s						
BCI	**Bajram Curri**	**0.90**	**341**	*i* PG	**Pb**	**23 59 17.9**	**-0.6**
BCI	**Bajram Curri**	**0.90**	**341**	*i* Pg	**Pb**	**23 59 17.9**	**-0.6**
	SNR=94						
KBN	**Korca**	**0.92**	**165**	P	**Pb**	**23 59 18.6**	**-0.3**
KBN				S	**Sn**	**23 59 34.1**	**+0.2**
KBN	**Korca**	**0.92**	**165**	P	**Pb**	**23 59 18.6**	**-0.3**
KBN				S	**Sn**	**23 59 34.1**	**+0.2**
FNA	**Florina**	**1.00**	**137**	P	**Pg**	**23 59 19.8**	**+0.3**
FNA				S	**Sn**	**23 59 35.5**	**-0.3**
FNA	**Florina**	**1.00**	**137**	*e*PB	**Pg**	**23 59 20.0**	**+0.5**
FNA				*e*SB	**Sn**	**23 59 34.7**	**-1.1**
FNA	**Florina**	**1.00**	**137**	*e*Pb	**Pg**	**23 59 20.0**	**+0.5**
FNA				*e*Sb	**Sn**	**23 59 34.7**	**-1.1**
FNA				S	**Sn**	**23 59 35.5**	**-0.3**
ULC	**Ulcinj**	**1.02**	**296**	⇑*i*Pg	**Pg**	**23 59 18.5**	**-1.3**
ULC				*e*Sg	**Sn**	**23 59 34.3**	**-1.9**
ULC	**Ulcinj**	**1.02**	**296**	⇑*i*Pg	**Pg**	**23 59 18.5**	**-1.3**
ULC				*e*Sg	**Sn**	**23 59 34.3**	**-1.9**
PVY	**Plav**	**1.14**	**341**	⇓*i*Pg	**Pb**	**23 59 21.4**	**-1.3**
PVY				*e*Sg	**Sn**	**23 59 39.8**	**+0.4**
PVY	**Plav**	**1.14**	**341**	⇓*i*Pg	**Pb**	**23 59 21.4**	**-1.3**
PVY				*e*Sg	**Sn**	**23 59 39.8**	**+0.4**
DRME	**Dracevica, Mon**	**1.17**	**305**	⇓*i*Pg	**Pb**	**23 59 21.4**	**-1.7**
DRME				*e*Sg	**Sn**	**23 59 40.1**	**+0.2**
DRME	**Dracevica, Mon**	**1.17**	**305**	⇓*i*Pg	**Pb**	**23 59 21.4**	**-1.7**
DRME				*e*Sg	**Sn**	**23 59 40.1**	**+0.2**
NEST	**Nestorio**	**1.19**	**158**	P	**Pg**	**23 59 23.4**	**+0.4**
NEST				S	**Sn**	**23 59 42.3**	**+1.9**
NEST	**Nestorio**	**1.19**	**158**	P	**Pg**	**23 59 23.4**	**+0.4**
NEST				S	**Sn**	**23 59 42.3**	**+1.9**
PDG	**Podgorica**	**1.28**	**316**	P	**Pb**	**23 59 23.7**	**-1.3**
PDG				S	**Sg**	**23 59 44.3**	**+2.7**
PDG	**Podgorica**	**1.28**	**316**	*e*Pg	**Pn**	**23 59 23.6**	**-1.4**
PDG				*e*Sg	**Sg**	**23 59 43.2**	**+1.6**
PDG	**Podgorica**	**1.28**	**316**	P	**Pb**	**23 59 23.7**	**-1.3**
PDG				*e*Sg	**Sg**	**23 59 43.2**	**+1.6**
PDG				S	**Sg**	**23 59 44.3**	**+2.7**
TTG	**Podgorica**	**1.28**	**316**	⇓*i*Pg	**Pb**	**23 59 23.9**	**-1.1**
TTG				*e*Sg	**Sg**	**23 59 44.9**	**+3.3**
BUM	**Brajici-Budva**	**1.41**	**304**	⇓*i*Pg	**Pb**	**23 59 26.4**	**-0.9**
BUM				*e*Sg	**Sg**	**23 59 47.8**	**+2.1**
BUM	**Brajici-Budva**	**1.41**	**304**	⇓*i*Pg	**Pb**	**23 59 26.4**	**-0.9**
BUM				*e*Sg	**Sg**	**23 59 47.8**	**+2.1**
KZN	**Kozani**	**1.56**	**140**	*e*PB	**Pg**	**23 59 30.7**	**+0.5**
KZN				*e*SB	**Sg**	**23 59 54.2**	**+3.8**
KZN	**Kozani**	**1.56**	**140**	*e*Pb	**Pg**	**23 59 30.7**	**+0.5**
KZN				*e*Sb	**Sg**	**23 59 54.2**	**+3.8**
VAY	**Valandovo**	**1.59**	**96**	P	**Pb**	**23 59 29.6**	**-0.7**
VAY				S	**Sg**	**23 59 51.9**	**+0.5**
VAY	**Valandovo**	**1.59**	**96**	⇑*i*Pn	**Pb**	**23 59 29.5**	**-0.7**
VAY	**Valandovo**	**1.59**	**96**	*i* Pg	**Pb**	**23 59 30.0**	**-0.2**
VAY				*e*Sg	**Sg**	**23 59 52.4**	**+1.0**
VAY				*e*Lg	Lg	23 59 56.0	
	comp=E,211nm,0.4s						
VAY				*e*Lg	Lg	23 59 56.5	
	comp=N,311nm,0.5s						
VAY	**Valandovo**	**1.59**	**96**	P	**Pb**	**23 59 29.6**	**-0.7**
VAY				S	**Sg**	**23 59 51.9**	**+0.5**
VAY				*e*Lg	Lg	23 59 56.0	
	comp=N,311nm,0.5s						
BARS	**Barje**	**1.64**	**37**	*e*Pn	**Pg**	**23 59 31.9**	**+0.2**
BARS				*e*Sn	**Sg**	**23 59 55.1**	**+2.1**
BARS	**Barje**	**1.64**	**37**	*e*Pn	**Pg**	**23 59 31.9**	**+0.2**
BARS				*e*Sn	**Sg**	**23 59 55.1**	**+2.1**
SRN	**Sarande**	**1.67**	**192**	P	**Pg**	**23 59 32.2**	**-0.1**
SRN				S	**Sg**	**23 59 55.2**	**+1.2**
SRN	**Sarande**	**1.67**	**192**	P	**Pg**	**23 59 32.2**	**-0.1**
SRN				S	**Sg**	**23 59 55.2**	**+1.2**
NKME	**Niksic**	**1.68**	**318**	⇓*i*Pn	**Pb**	**23 59 30.8**	**-1.1**
NKME				*e*Sn	**Sg**	**23 59 55.6**	**+1.2**
NKME	**Niksic**	**1.68**	**318**	⇓*i*Pn	**Pb**	**23 59 30.8**	**-1.1**
NKME				*e*Sn	**Sg**	**23 59 55.6**	**+1.2**
NKY	**Niksic**	**1.70**	**320**	⇑*i*Pn	**Pb**	**23 59 31.3**	**-0.8**
NKY				*e*Sn	**Sg**	**23 59 55.8**	**+1.0**
NKY	**Niksic**	**1.70**	**320**	⇑*i*Pn	**Pb**	**23 59 31.3**	**-0.8**
NKY				*e*Sn	**Sg**	**23 59 55.8**	**+1.0**
HCY	**Herceg Novi**	**1.74**	**303**	⇑*i*Pn	**Pb**	**23 59 31.6**	**-1.2**
HCY				*e*Sn	**Sg**	**23 59 56.5**	**+0.3**
HCY	**Herceg Novi**	**1.74**	**303**	⇑*i*Pn	**Pb**	**23 59 31.6**	**-1.2**
HCY				*e*Sn	**Sg**	**23 59 56.5**	**+0.3**
SELS	**Selova**	**1.77**	**16**	*e*Pn	**Pb**	**23 59 32.5**	**-0.8**
SELS				*e*Sn	**Sg**	**23 59 57.1**	**0.0**
SJES	**Sjenica**	**1.78**	**348**	*e*Pn	**Pb**	**23 59 32.2**	**-1.4**
SJES	**Sjenica**	**1.78**	**348**	*e*Pn	**Pb**	**23 59 32.2**	**-1.4**
KNT	**Kendrikon**	**1.86**	**100**	P	**Pb**	**23 59 34.3**	**-0.6**
KNT				S	**Sg**	**23 59 59.6**	**-0.5**
KNT	**Kendrikon**	**1.86**	**100**	P	**Pb**	**23 59 34.3**	**-0.6**
KNT				S	**Sg**	**23 59 59.6**	**-0.5**
KEK	**Kerkira**	**1.87**	**196**	P	**Pb**	**23 59 34.5**	**-0.6**
KEK				S	**Sg**	**00 00 00.5**	**+0.1**
KEK	**Kerkira**	**1.87**	**196**	*e*PN	**Pg**	**23 59 35.5**	**-0.7**
KEK				*e*SN	**Sg**	**00 00 02.8**	**+2.4**
KEK	**Kerkira**	**1.87**	**196**	P	**Pb**	**23 59 34.5**	**-0.6**
KEK	**Kerkira**	**1.87**	**196**	*e*Pn	**Pg**	**23 59 35.5**	**-0.7**
KEK				S	**Sg**	**00 00 00.5**	**+0.1**
JAN	**Janina**	**1.88**	**171**	P	**Pg**	**23 59 35.8**	**-0.5**
JAN				S	**Sg**	**00 00 00.8**	**+0.1**
JAN	**Janina**	**1.88**	**171**	*e*PG	**Pg**	**23 59 37.0**	**+0.7**
JAN				*e*SN	**Sg**	**00 00 03.4**	**+2.7**
JAN	**Janina**	**1.88**	**171**	P	**Pg**	**23 59 35.8**	**-0.5**
JAN	**Janina**	**1.88**	**171**	*e*Pg	**Pg**	**23 59 37.0**	**+0.7**
JAN				S	**Sg**	**00 00 00.8**	**+0.1**
PLE	**Pljevlja**	**1.98**	**337**	⇑*i*Pn	**Pb**	**23 59 35.9**	**-1.1**
PLE				*e*Sn	**Sg**	**00 00 03.0**	**-0.9**
PLE	**Pljevlja**	**1.98**	**337**	⇑*i*Pn	**Pb**	**23 59 35.9**	**-1.1**
PLE				*e*Sn	**Sg**	**00 00 03.0**	**-0.9**
TREB	**Trebinje**	**1.98**	**308**	*e*Pn	**Pb**	**23 59 36.3**	**-0.6**
TREB				*e*Sn	**Sb**	**00 00 01.5**	**-0.5**
TREB	**Trebinje**	**1.98**	**308**	*e*Pn	**Pb**	**23 59 36.3**	**-0.6**
TREB				*e*Sn	**Sb**	**00 00 01.5**	**-0.5**
IGT	**Igoumenitsa**	**1.98**	**183**	P	**Pb**	**23 59 36.1**	**-0.9**
IGT				S	**Sg**	**00 00 03.5**	**-0.5**
IGT	**Igoumenitsa**	**1.98**	**183**	P	**Pb**	**23 59 36.1**	**-0.9**
IGT				S	**Sg**	**00 00 03.5**	**-0.5**
BRY	**Bratogost**	**1.99**	**315**	⇓*i*Pn	**Pb**	**23 59 36.0**	**-1.2**
BRY				*e*Sn	**Sg**	**00 00 02.9**	**-1.4**
BRY	**Bratogost**	**1.99**	**315**	⇓*i*Pn	**Pb**	**23 59 36.0**	**-1.2**
BRY				*e*Sn	**Sg**	**00 00 02.9**	**-1.4**
UPM	**Unac-Piva**	**2.04**	**326**	⇑*i*Pn	**Pb**	**23 59 37.1**	**-1.0**
UPM				*e*Sn	**Sg**	**00 00 04.7**	**-1.3**
UPM	**Unac-Piva**	**2.04**	**326**	⇑*i*Pn	**Pb**	**23 59 37.1**	**-1.0**
UPM				*e*Sn	**Sg**	**00 00 04.7**	**-1.3**
THE	**Thessaloniki**	**2.08**	**114**	P	**Pb**	**23 59 37.4**	**-1.2**
THE	**Thessaloniki**	**2.08**	**114**	P	**Pb**	**23 59 37.4**	**-1.2**
HORT	**Hortiatis**	**2.19**	**114**	P	**Pb**	**23 59 38.9**	**-1.6**
HORT				S	**Sb**	**00 00 07.3**	**-0.8**
HORT	**Hortiatis**	**2.19**	**114**	P	**Pb**	**23 59 38.9**	**-1.6**
HORT				S	**Sb**	**00 00 07.3**	**-0.8**
THL	**Klokotos Trika**	**2.28**	**148**	P	**Pb**	**23 59 41.0**	**-1.0**
THL				S	**Sb**	**00 00 10.8**	**+0.3**
THL	**Klokotos Trika**	**2.28**	**148**	*e*PN	**Pb**	**23 59 41.0**	**-1.0**
THL				*e*SN	**Sb**	**00 00 11.6**	**+1.1**
THL	**Klokotos Trika**	**2.28**	**148**	P	**Pb**	**23 59 41.0**	**-1.0**
THL				S	**Sb**	**00 00 10.8**	**+0.3**
SOH	**Sokhos**	**2.29**	**107**	P	**Pb**	**23 59 40.3**	**-1.8**
SOH	**Sokhos**	**2.29**	**107**	*e*PN	**Pb**	**23 59 41.3**	**-0.8**
SOH	**Sokhos**	**2.29**	**107**	P	**Pb**	**23 59 40.3**	**-1.8**
SOH	**Sokhos**	**2.29**	**107**	*e*Pn	**Pb**	**23 59 41.3**	**-0.8**
VTS	**Vitosha**	**2.31**	**61**	P	**Pb**	**23 59 41.3**	**-1.2**
VTS	**Vitosha**	**2.31**	**61**	⇑*i*P	**Pb**	**23 59 41.4**	**-1.1**
VTS	**Vitosha**	**2.31**	**61**	⇑*i*Pn	**Pb**	**23 59 41.3**	**-1.2**
VTS				*e*Sn	**Sb**	**00 00 10.2**	**-1.2**
VTS	**Vitosha**	**2.31**	**61**	P	**Pb**	**23 59 41.3**	**-1.2**
VTS				*e*Sn	**Sb**	**00 00 10.2**	**-1.2**
GRUS	**Gruza**	**2.38**	**4**	*e*Pn	**Pb**	**23 59 41.5**	**-2.2**
GRUS				*e*Sn	**Sb**	**00 00 12.5**	**-0.9**
GRUS	**Gruza**	**2.38**	**4**	*e*Pn	**Pb**	**23 59 41.5**	**-2.2**
GRUS				*e*Sn	**Sb**	**00 00 12.5**	**-0.9**
ZAPS	**Zavoj**	**2.38**	**42**	*e*Pn	**Pb**	**23 59 42.8**	**-0.9**
ZAPS				*e*Sn	**Sb**	**00 00 11.7**	**-1.7**
ZAPS	**Zavoj**	**2.38**	**42**	*e*Pn	**Pb**	**23 59 42.8**	**-0.9**
ZAPS				*e*Sn	**Sb**	**00 00 11.7**	**-1.7**
SRS	**Serrai**	**2.39**	**99**	P	**Pb**	**23 59 41.6**	**-2.2**
SRS				S	**Sb**	**00 00 12.1**	**-1.5**
SRS	**Serrai**	**2.39**	**99**	P	**Pb**	**23 59 41.6**	**-2.2**
SRS				S	**Sb**	**00 00 12.1**	**-1.5**
STON	**Ston**	**2.46**	**304**	*e*Pn	Pb	23 59 41.9	-3.2
STON	**Ston**	**2.46**	**304**	*e*Pn	Pb	23 59 41.9	-3.2
BBLS	**Lazići**	**2.48**	**342**	⇑*i*Pn	**Pb**	**23 59 43.5**	**-1.9**
BBLS	**Lazići**	**2.48**	**342**	⇑*i*Pn	**Pb**	**23 59 43.5**	**-1.9**
PLG	**Polygyros**	**2.53**	**116**	P	**Pb**	**23 59 43.7**	**-2.5**
PLG				S	**Sb**	**00 00 15.4**	**-2.3**
PLG	**Polygyros**	**2.53**	**116**	P	**Pb**	**23 59 43.7**	**-2.5**
PLG				S	**Sb**	**00 00 15.4**	**-2.3**
BOLS	**Boljevac**	**2.56**	**25**	*e*Pn	**Pb**	**23 59 44.8**	**-1.9**
BOLS	**Boljevac**	**2.56**	**25**	*e*Pn	**Pb**	**23 59 44.8**	**-1.9**
NVR	**Nevrokopi**	**2.56**	**93**	P	**Pn**	**23 59 43.8**	**+1.2**
NVR				S	**Sb**	**00 00 17.1**	**-1.5**
NVR	**Nevrokopi**	**2.56**	**93**	*e*PN	**Pb**	**23 59 44.3**	**-2.4**
NVR				*e*SN	**Sb**	**00 00 16.9**	**-1.7**
NVR	**Nevrokopi**	**2.56**	**93**	P	**Pn**	**23 59 43.8**	**+1.2**
NVR	**Nevrokopi**	**2.56**	**93**	*e*Pn	**Pb**	**23 59 44.3**	**-2.4**
NVR				S	**Sb**	**00 00 17.1**	**-1.5**
DIVS	**

comp=N,0.4nm,0.3s,baz=177,slow=9.7,SNR=4.4
NOA NORSAR Array B 20.35 347 P Pn 00 03 38.3 -1.2
comp=N,1.3nm,0.9s,baz=162,slow=8.4,SNR=3.8
TORD Torodi Ar. Bea 32.66 216 P **P** **00 05 34.4 +0.8**
comp=N,0.1nm,0.5s,baz=8.9,slow=10,SNR=3.1
MKAR Makanchi Array 43.66 61 P **P** **00 07 07.0 +1.1**
comp=N,0.2nm,0.4s,baz=279,slow=8.4,SNR=4.7

*ATH **07** 00:11:11.1,41°.61N×20°.40E,h4km±3km,MD3.8/18,ML3.9*
*IDC **07** 00:11:12.9±0.8,41°.47N×20°.39E,h0km,mb3.7/12,*
mb1 3.8/19,mb1mx3.7/34,mbtmp3.6/19,ML3.4/7,MS3.1/2,
Ms1 3.1/2,ms1mx2.1/51,Error ellipse: s-maj=14.8km
s-min=13.9km az=19.0
*ISCJB **07** 00:11:12.9±0.3,41°.46N±0°.01×20°.44E±0°.02,h2km±2km,*
mb3.7/9,MS3.4/1,Error ellipse: s-maj=2.6km s-min=1.7km
az=143.3
*BEO **07** 00:11:13.9±0.4,41°.42N×20°.48E,h1km±2km,ML3.5/1*
*SKO **07** 00:11:13.3,41°.43N×20°.48E,h9km,M3.2,ML3.7*
*PDG **07** 00:11:13.2±0.3,41°.44N×20°.44E,h10km,MD3.8/6,*
ML3.7/11,Error ellipse: s-maj=0.6km s-min=0.6km az=0.0
*THE **07** 00:11:14.0,41°.47N×20°.47E,h2km±2km,ML3.8/3,Error*
ellipse: s-maj=2.9km s-min=1.0km az=207.0
*PRU **07** 00:11:14.5,41°.26N×20°.64E,h0km*
*CSEM **07** 00:11:14.5±0.1,41°.46N×20°.49E,h2km,ML3.8/3,Error*
ellipse: s-maj=3.4km s-min=1.9km az=62.0
*LDG **07** 00:11:14.8±0.1,41°.46N×20°.43E,h10km,Ml3.7/7,Error*
ellipse: s-maj=4.7km s-min=2.8km az=34.0
ISC 07 00:11:14.0±1.0,41°.46N±0°.02×20°.43E±0°.02,h7km±7km,
n248,σ1§47/332,mb3.7/9,31C-44D,Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHP	**Peshkopia**	**0.22**	**3**	P	**Pg**	**00 11 18.0**	**-0.5**
PHP				S	**Sg**	**00 11 22.8**	**+1.2**
PHP	**Peshkopia**	**0.22**	**3**	P	**Pg**	**00 11 18.0**	**-0.5**
PHP				S	**Sg**	**00 11 22.8**	**+1.2**
TIR	**Tirane**	**0.44**	**255**	P	**Pg**	**00 11 21.5**	**-1.0**
TIR				S	**Sb**	**00 11 30.4**	**-0.3**
TIR	**Tirane**	**0.44**	**255**	⇑*i*Pg	**Pg**	**00 11 21.4**	**-1.0**
TIR	**Tirane**	**0.44**	**255**	⇑*i*Pg	**Pg**	**00 11 21.4**	**-1.0**
TIR	**Tirane**	**0.44**	**255**	*e*Pb	**Pg**	**00 11 22.1**	**-0.3**
TIR				*e*Sb	**Sb**	**00 11 30.7**	**0.0**
BIA	**Bitola**	**0.81**	**123**	P	**Pg**	**00 11 28.0**	**-1.5**
BIA				S	**Sg**	**00 11 40.4**	**+0.4**
BIA	**Bitola**	**0.81**	**123**	*i* Pg	**Pg**	**00 11 28.5**	**-1.0**
BIA				*i* Sg	**Sb**	**00 11 41.0**	**-0.6**
BIA	**Bitola**	**0.81**	**123**	P	**Pg**	**00 11 28.0**	**-1.5**
BIA				S	**Sg**	**00 11 40.4**	**+0.4**
KBN	**Korca**	**0.88**	**162**	P	**Pg**	**00 11 30.2**	**-0.7**
KBN				S	**Sb**	**00 11 44.1**	**+0.5**
KBN	**Korca**	**0.88**	**162**	P	**Pg**	**00 11 30.2**	**-0.7**
KBN				S	**Sb**	**00 11 44.1**	**+0.5**
SKO	**Skopje**	**0.92**	**56**	*e*Pg	**Pg**	**00 11 29.8**	**-1.8**
SKO				*e*Sg	**Sg**	**00 11 43.1**	**-0.4**
SKO	**Skopje**	**0.92**	**56**	*i* Pg	**Pg**	**00 11 31.0**	**-0.5**
SKO				*i* Sg	**Sb**	**00 11 44.5**	**-0.1**
SKO				*e*Lg	Lg	00 11 44.6	
	comp=E,2μm,0.6s						
SKO				*e*Lg	Lg	00 11 45.8	
	comp=N,2μm,0.5s						
SKO	**Skopje**	**0.92**	**56**	*i* Pg	**Pg**	**00 11 30.0**	**-1.6**
SKO				*e*Sg	**Sg**	**00 11 43.1**	**-0.4**
SKO				*e*Lg	Lg	00 11 44.7	
	comp=N,2μm,0.5s						
FNA	**Florina**	**0.99**	**133**	P	**Pg**	**00 11 31.7**	**-1.2**
FNA				S	**Sb**	**00 11 46.4**	**-0.2**
FNA	**Florina**	**0.99**	**133**	*e*PB	**Pg**	**00 11 32.0**	**-0.9**
FNA				*e*SB	**Sb**	**00 11 46.9**	**+0.3**
FNA	**Florina**	**0.99**	**133**	P	**Pg**	**00 11 31.7**	**-1.2**
FNA	**Florina**	**0.99**	**133**	*e*Pg	**Pg**	**00 11 32.0**	**-0.9**
FNA				S	**Sb**	**00 11 46.4**	**-0.2**
ULC	**Ulcinj**	**1.02**	**300**	⇓*i*Pg	**Pg**	**00 11 32.1**	**-1.4**
ULC				*e*Sg	**Sb**	**00 11 48.3**	**+0.8**
ULC	**Ulcinj**	**1.02**	**300**	⇓*i*Pg	**Pg**	**00 11 32.1**	**-1.4**
ULC				*e*Sg	**Sb**	**00 11 48.3**	**+0.8**
NEST	**Nestorio**	**1.15**	**155**	P	**Pg**	**00 11 35.0**	**-1.0**
NEST				S	**Sb**	**00 11 52.0**	**+0.7**
NEST	**Nestorio**	**1.15**	**155**	P	**Pg**	**00 11 35.0**	**-1.0**
NEST				S	**Sb**	**00 11 52.0**	**+0.7**
DRME	**Dracevica, Mon**	**1.18**	**308**	⇓*i*Pg	**Pg**	**00 11 35.1**	**-1.5**
DRME				*e*Sg	**Sn**	**00 11 54.4**	**+1.2**
DRME	**Dracevica, Mon**	**1.18**	**308**	⇓*i*Pg	**Pg**	**00 11 35.1**	**-1.5**
DRME				*e*Sg	**Sn**	**00 11 54.4**	**+1.2**
PVY	**Plav**	**1.19**	**343**	⇑*i*Pg	**Pg**	**00 11 35.6**	**-1.1**
PVY				*e*Sg	**Sn**	**00 11 54.0**	**+0.5**
PVY	**Plav**	**1.19**	**343**	⇑*i*Pg	**Pg**	**00 11 35.6**	**-1.1**
PVY				*e*Sg	**Sn**	**00 11 54.0**	**+0.5**
PDG	**Podgorica**	**1.30**	**318**	P	**Pn**	**00 11 37.3**	**-1.3**
PDG				S	**Sn**	**00 11 58.4**	**+2.2**
PDG	**Podgorica**	**1.30**	**318**	*e*Pg	**Pn**	**00 11 37.4**	**-1.2**
PDG				*e*Sg	**Sn**	**00 11 57.7**	**+1.5**
PDG	**Podgorica**	**1.30**	**318**	*e*Pg	**Pn**	**00 11 37.4**	**-1.2**
PDG				*e*Sg	**Sn**	**00 11 57.9**	**+1.7**
PDG				S	**Sn**	**00 11 58.4**	**+2.2**
TTG	**Podgorica**	**1.30**	**318**	⇓*i*Pg	**Pn**	**00 11 37.6**	**-1.0**
TTG				*e*Sg	**Sn**	**00 11 57.9**	**+1.7**
BUM	**Brajici-Budva**	**1.42**	**307**	⇑*i*Pg	**Pn**	**00 11 39.8**	**-0.4**
BUM				*e*Sg	**Sg**	**00 12 01.2**	**+1.6**
BUM	**Brajici-Budva**	**1.42**	**307**	⇑*i*Pg	**Pn**	**00 11 39.8**	**-0.4**
BUM				*e*Sg	**Sg**	**00 12 01.2**	**+1.6**
KZN	**Kozani**	**1.54**	**138**	P	**Pn**	**00 11 41.8**	**-0.1**
KZN				S	**Sg**	**00 12 03.8**	**+0.3**
KZN	**Kozani**	**1.54**	**138**	*e*PG	**Pn**	**00 11 42.1**	**+0.2**
KZN				*e*SB	**Sg**	**00 12 05.8**	**+2.3**
KZN	**Kozani**	**1.54**	**138**	P	**Pn**	**00 11 41.8**	**-0.1**
KZN	**Kozani**	**1.54**	**138**	*e*Pg	**Pn**	**00 11 42.1**	**+0.2**
KZN				S	**Sg**	**00 12 03.8**	**+0.3**
KZN				*e*Sb	**Sg**	**00 12 05.8**	**+2.3**
VAY	**Valandovo**	**1.62**	**94**	P	**Pn**	**00 11 41.1**	**-1.8**
VAY				S	**Sn**	**00 12 04.3**	**+0.2**
VAY	**Valandovo**	**1.62**	**94**	⇓*i*Pn	**Pn**	**00 11 42.1**	**-0.8**
VAY				*e*Sg	**Sn**	**00 12 04.2**	**+0.2**
VAY	**Valandovo**	**1.62**	**94**	*i* Pg	**Pn**	**00 11 42.6**	**-0.3**
VAY				*e*Lg	Lg	00 12 01.3	
	comp=E,585nm,0.6s						
VAY				*e*Lg	Lg	00 12 01.4	
	comp=N,963nm,0.8s						
VAY				*i* Sg	**Sn**	**00 12 02.0**	**-2.1**
VAY	**Valandovo**	**1.62**	**94**	P	**Pn**	**00 11 41.1**	**-1.8**
VAY	**Valandovo**	**1.62**	**94**	⇓*i*Pn	**Pn**	**00 11 42.1**	**-0.8**
VAY				S	**Sn**	**00 12 04.3**	**+0.2**
VAY				*e*Lg	Lg	00 12 05.7	
	comp=N,585nm,0.6s						
BARS	**Barje**	**1.70**	**37**	⇑*i*Pn	**Pn**	**00 11 44.6**	**+0.5**
BARS				*e*Sn	**Sb**	**00 12 07.9**	**+0.6**
BARS	**Barje**	**1.70**	**37**	⇑*i*Pn	**Pn**	**00 11 44.6**	**+0.5**
BARS				*e*Sn	**Sb**	**00 12 07.9**	**+0.6**
NKME	**Niksic**	**1.70**	**320**	⇓*i*Pn	**Pn**	**00 11 44.4**	**+0.2**
NKME				*e*Sn	**Sg**	**00 12 09.2**	**+0.4**
NKME	**Niksic**	**1.70**	**320**	⇓*i*Pn	**Pn**	**00 11 44.4**	**+0.2**
NKME				*e*Sn	**Sg**	**00 12 09.2**	**+0.4**
NKY	**Niksic**	**1.72**	**322**	⇑*i*Pn	**Pn**	**00 11 45.2**	**+0.8**
NKY				*e*Sn	**Sg**	**00 12 09.8**	**+0.5**
NKY	**Niksic**	**1.72**	**322**	⇑*i*Pn	**Pn**	**00 11 45.2**	**+0.8**
NKY				*e*Sn	**Sg**	**00 12 09.8**	**+0.5**
HCY	**Herceg Novi**	**1.75**	**305**	⇓*i*Pn	**Pn**	**00 11 45.1**	**+0.4**
HCY				*e*Sn	**Sg**	**00 12 10.4**	**+0.3**
HCY	**Herceg Novi**	**1.75**	**305**	⇓*i*Pn	**Pn**	**00 11 45.1**	**+0.4**
HCY				*e*Sn	**Sg**	**00 12 10.4**	**+0.3**
KEK	**Kerkira**	**1.81**	**195**	P	**Pn**	**00 11 46.1**	**+0.6**
KEK	**Kerkira**	**1.81**	**195**	*e*PN	**Pn**	**00 11 46.8**	**+1.2**
KEK				*e*SN	**Sg**	**00 12 13.2**	**+1.1**
KEK	**Kerkira**	**1.81**	**195**	P	**Pn**	**00 11 46.1**	**+0.6**
KEK	**Kerkira**	**1.81**	**195**	*e*Pn	**Pn**	**00 11 46.8**	**+1.2**
KEK				*e*Sn	**Sg**	**00 12 13.2**	**+1.1**
SJES	**Sjenica**	**1.83**	**350**	⇑*i*Pn	**Pn**	**00 11 46.3**	**+0.3**
JAN	**Janina**	**1.83**	**170**	*e*PG	**Pb**	**00 11 47.5**	**-0.3**
JAN	**Janina**	**1.83**	**170**	*e*Pn	**Pb**	**00 11 47.5**	**-0.3**
SELS	**Selova**	**1.83**	**16**	⇑*i*Pn	**Pn**	**00 11 45.2**	**-0.7**
SELS				*e*Sn	**Sb**	**00 12 11.5**	**+0.5**
TREB	**Trebinje**	**1.99**	**310**	*e*Pn	**Pb**	**00 11 49.8**	**-0.7**
TREB				*e*Sn	**Sb**	**00 12 16.6**	**+1.1**
TREB	**Trebinje**	**1.99**	**310**	*e*Pn	**Pb**	**00 11 49.8**	**-0.7**
TREB				*e*Sn	**Sb**	**00 12 16.6**	**+1.1**
BRY	**Bratogost**	**2.01**	**316**	⇑*i*Pn	**Pn**	**00 11 49.2**	**+0.8**
BRY				*e*Sn	**Sb**	**00 12 16.7**	**+0.5**
BRY	**Bratogost**	**2.01**	**316**	⇑*i*Pn	**Pn**	**00 11 49.2**	**+0.8**
BRY				*e*Sn	**Sb**	**00 12 16.7**	**+0.5**
PLE	**Pljevlja**	**2.02**	**338**	⇓*i*Pn	**Pn**	**00 11 49.3**	**+0.7**
PLE				*e*Sn	**Sb**	**00 12 17.2**	**+0.7**
PLE	**Pljevlja**	**2.02**	**338**	⇓*i*Pn	**Pn**	**00 11 49.3**	**+0.7**
PLE				*e*Sn	**Sb**	**00 12 17.2**	**+0.7**
UPM	**Unac-Piva**	**2.07**	**328**	⇓*i*Pn	**Pn**	**00 11 49.9**	**+0.5**
UPM				*e*Sn	**Sb**	**00 12 18.4**	**+0.3**
UPM	**Unac-Piva**	**2.07**	**328**	⇓*i*Pn	**Pn**	**00 11 49.9**	**+0.5**
UPM				*e*Sn	**Sb**	**00 12 18.4**	**+0.3**
THL	**Klokotos Trika**	**2.25**	**147**	*e*PN	**Pn**	**00 11 53.0**	**+1.4**
THL	**Klokotos Trika**	**2.25**	**147**	*e*Pn	**Pn**	**00 11 53.0**	**+1.4**
SOH	**Sokhos**	**2.30**	**105**	*e*PN	**Pn**	**00 11 53.0**	**+0.6**
SOH	**Sokhos**	**2.30**	**105**	*e*Pn	**Pn**	**00 11 53.0**	**+0.6**
VTS	**Vitosha**	**2.36**	**60**	⇑*i*P	**Pn**	**00 11 54.4**	**+1.1**
VTS				S	**Sb**	**00 12 24.9**	**-1.4**
VTS	**Vitosha**	**2.36**	**60**	⇑*i*Pn	**Pn**	**00 11 54.3**	**+1.0**
VTS				*e*Sn	**Sn**	**00 12 24.2**	**+1.6**
VTS	**Vitosha**	**2.36**	**60**	⇑*i*Pn	**Pn**	**00 11 54.3**	**+1.0**
VTS				*e*Sn	**Sn**	**00 12 24.2**	**+1.6**
GRUS	**Gruza**	**2.44**	**5**	*e*Pn	**Pn**	**00 11 55.1**	**+0.9**
GRUS				*e*Sn	**Sb**	**00 12 26.7**	**-1.6**
GRUS	**Gruza**	**2.44**	**5**	*e*Pn	**Pn**	**00 11 55.1**	**+0.9**
GRUS				*e*Sn	**Sb**	**00 12 26.7**	**-1.6**
ZAPS	**Zavoj**	**2.44**	**41**	*e*Pn	**Pn**	**00 11 55.3**	**+1.0**
ZAPS				*e*Sn	**Sn**	**00 12 26.2**	**+1.8**
ZAPS	**Zavoj**	**2.44**	**41**	*e*Pn	**Pn**	**00 11 55.3**	**+1.0**
ZAPS				*e*Sn	**Sn**	**00 12 26.2**	**+1.8**
STON	**Ston**	**2.47**	**306**	*i* Pn	**Pn**	**00 11 55.4**	**+0.8**
STON				Sn	**Sb**	**00 12 28.0**	**-1.2**
BBLS	**Lazići**	**2.52**	**343**	*e*Pn	**Pn**	**00 11 57.1**	**+1.7**
BBLS				*e*Sn	**Sn**	**00 12 29.1**	**+2.7**
BBLS	**Lazići**	**2.52**	**343**	*e*Pn	**Pn**	**00 11 57.1**	**+1.7**
BBLS				*e*Sn	**Sn**	**00 12 29.1**	**+2.7**
PLG	**Polygyros**	**2.53**	**114**	*e*PB	**Pn**	**00 11 56.2**	**+0.7**
PLG	**Polygyros**	**2.53**	**114**	*e*Pb	**Pn**	**00 11 56.2**	**+0.7**
NVR	**Nevrokopi**	**2.59**	**91**	*e*PN	**Pn**	**00 11 57.0**	**+0.7**
NVR	**Nevrokopi**	**2.59**	**91**	*e*Pn	**Pn**	**00 11 57.0**	**+0.7**
BOLS	**Boljevac**	**2.62**	**25**	*e*Pn	**Pn**	**00 11 55.8**	**-0.9**
BOLS	**Boljevac**	**2.62**	**25**	*e*Pn	**Pn**	**00 11 55.8**	**-0.9**
DIVS	**Divibare**	**2.66**	**353**	P	**Pn**	**00 11 57.5**	**+0.2**
DIVS	**Divibare**	**2.66**	**353**	*e*Pn	**Pn**	**00 11 57.5**	**+0.2**
DIVS				*e*Sn	**Sn**	**00 12 31.8**	**+2.1**
DIVS	**Divibare**	**2.66**	**353**	P	**Pn**	**00 11 57.5**	**+0.2**
DIVS				*e*Sn	**Sn**	**00 12 31.8**	**+2.1**
LKD2	**Lefkada island**	**2.67**	**176**	*e*PN	**Pn**	**00 11 58.8**	**+1.3**
LKD2	**Lefkada island**	**2.67**	**176**	*e*Pn	**Pn**	**00 11 58.8**	**+1.3**
BAI	**Bari**	**2.69**	**264**	*e*Pn	**Pn**	**00 11 57.1**	**-0.6**
BAI				*e*Sn	**Sn**	**00 12 30.5**	**0.0**
EVR	**Evrytania**	**2.75**	**157**	*e*PB	**Pn**	**00 12 01.2**	**+2.6**
EVR	**Evrytania**	**2.75**	**157**	*e*Pb	**Pn**	**00 12 01.2**	**+2.6**
AGG	**Agios Georgios**	**2.84**	**148**	*e*PN	**Pn**	**00 12 00.6**	**+0.9**
AGG	**Agios Georgios**	**2.84**	**148**	*e*Pn	**Pn**	**00 12 00.6**	**+0.9**
SVIS	**Svilajnac**	**2.86**	**11**	*e*Pn	**Pn**	**00 12 00.2**	**+0.2**
PAIG	**Paliouri**	**2.91**	**121**	*e*PN	**Pn**	**00 12 01.0**	**+0.3**
PAIG	**Paliouri**	**2.91**	**121**	*e*Pn	**Pn**	**00 12 01.0**	**+0.3**
NEO	**Neokhori**	**3.03**	**134**	*e*PN	**Pn**	**00 12 02.8**	**+0.4**
NEO	**Neokhori**	**3.03**	**134**	*e*Pn	**Pn**	**00 12 02.8**	**+0.4**
TEKS	**Tekeris**	**3.16**	**348**	*e*Pn	**Pn**	**00 12 06.0**	**+1.9**
TEKS	**Tekeris**	**3.16**	**348**	*e*Pn	**Pn**	**00 12 06.0**	**+1.9**
EFP	**Efpalio**	**3.24**	**159**	*e*PB	**Pn**	**00 12 08.2**	**+3.0**
EFP	**Efpalio**	**3.24**	**159**	*e*Pb	**Pn**	**00 12 08.2**	**+3.0**
PLD	**Plovdiv**	**3.26**	**77**	*e*Pn	**Pn**	**00 12 06.7**	**+1.2**
PLD				*e*Sn	**Sn**	**00 12 44.8**	**+0.2**
PLD	**Plovdiv**	**3.26**	**77**	*e*Pn	**Pn**	**00 12 06.7**	**+1.2**
PLD				*e*Sn	**Sn**	**00 12 44.8**	**+0.2**
VLS	**Valsamata**	**3.28**	**178**	*e*PN	**Pn**	**00 12 06.1**	**+0.3**
VLS	**Valsamata**	**3.28**	**178**	*e*Pn	**Pn**	**00 12 06.1**	**+0.3**
KALE	**Kalithea**	**3.34**	**156**	*e*PN	**Pn**	**00 12 09.2**	**+2.6**
KALE	**Kalithea**	**3.34**	**156**	*e*Pn	**Pn**	**00 12 09.2**	**+2.6**
TRIZ	**Trizonia**	**3.34**	**157**	*e*PB	Pn	00 12 09.9	+3.3
TRIZ	**Trizonia**	**3.34**	**157**	*e*Pb	Pn	00 12 09.9	+3.3
LAKA	**Lakka**	**3.43**	**159**	*e*PN	**Pn**	**00 12 10.6**	**+2.7**
LAKA	**Lakka**	**3.43**	**159**	*e*Pn	**Pn**	**00 12 10.6**	**+2.7**
LKR	**Lokris**	**3.43**	**144**	*e*PN	**Pn**	**00 12 08.6**	**+0.8**
LKR	**Lokris**	**3.43**	**144**	*e*Pn	**Pn**	**00 12 08.6**	**+0.8**
RLS	**Riolos of Patr**	**3.49**	**166**	*e*PN	**Pn**	**00 12 11.3**	**+2.6**
RLS	**Riolos of Patr**	**3.49**	**166**	*e*Pn	**Pn**	**00 12 11.3**	**+2.6**
DJES	**Djerdap**	**3.55**	**25**	*e*Pn	**Pn**	**00 12 09.4**	**-0.1**
DJES				*e*Sn	**Sn**	**00 12 52.6**	**+0.8**
KLV	**Kalavryta, Ach**	**3.66**	**158**	*e*PN	**Pn**	**00 12 13.6**	**+2.5**
KLV	**Kalavryta, Ach**	**3.66**	**158**	*e*Pn	**Pn**	**00 12 13.6**	**+2.5**
FGSL	**Fruska Gora**	**3.72**	**353**	⇑*i*Pn	**Pn**	**00 12 12.0**	**+0.1**
FGSL				*e*Sn	**Sn**	**00 12 57.0**	**+1.0**
FRGS	**Fruska Gora**	**3.72**	**353**	⇑*i*Pn	**Pn**	**00 12 12.0**	**+0.1**
FRGS				*e*Sn	**Sn**	**00 12 57.0**	**+1.0**
GUR	**Goura**	**3.82**	**157**	*e*PN	**Pn**	**00 12 15.5**	**+2.2**
GUR	**Goura**	**3.82**	**157**	*e*Pn	**Pn**	**00 12 15.5**	**+2.2**
LTK	**Loutraki**	**3.95**	**149**	*e*PN	**Pn**	**00 12 16.7**	**+1.7**
LTK	**Loutraki**	**3.95**	**149**	*e*Pn	**Pn**	**00 12 16.7**	**+1.7**
SMTH	**Samothraki Isl**	**3.99**	**103**	*e*PN	**Pn**	**00 12 15.8**	**+0.3**
SMTH	**Samothraki Isl**	**3.99**	**103**	*e*Pn	**Pn**	**00 12 15.8**	**+0.3**
AMT	**Artemida-Makis**	**4.05**	**165**	*e*PN	**Pn**	**00 12 18.6**	**+2.3**
AMT	**Artemida-Makis**	**4.05**	**165**	*e*Pn	**Pn**	**00 12 18.6**	**+2.3**
BZS	**Buzias**	**4.24**	**11**	⇑*i*P	**Pn**	**00 12 18.7**	**-0.2**
BZS	**Buzias**	**4.24**	**11**	*e*Pn	**Pn**	**00 12 18.8**	**-0.2**
BZS	**Buzias**	**4.24**	**11**	*e*Pn	**Pn**	**00 12 18.8**	**-0.2**
GZR	**Gura Zlata**	**4.29**	**23**	⇓*i*P	**Pn**	**00 12 20.1**	**+0.4**
GZR	**Gura Zlata**	**4.29**	**23**	⇓*i*P	**Pn**	**00 12 20.1**	**+0.4**
ATH	**Athens Observa**	**4.31**	**143**	*e*PN	**Pn**	**00 12 21.2**	**+1.3**
ATH	**Athens Observa**	**4.31**	**143**	*e*Pn	**Pn**	**00 12 21.2**	**+1.3**
PTL	**Penteli**	**4.32**	**141**	*e*PN	**Pn**	**00 12 22.5**	**+2.4**
PTL	**Penteli**	**4.32**	**141**	*e*Pn	**Pn**	**00 12 22.5**	**+2.4**
ITM	**Ithomi**	**4.43**	**164**	*e*PN	**Pn**	**00 12 23.8**	**+2.2**
ITM	**Ithomi**	**4.43**	**164**	*e*Pn	**Pn**	**00 12 23.8**	**+2.2**
DID	**Didima**	**4.51**	**150**	*e*PN	**Pn**	**00 12 24.1**	**+1.4**
DID	**Didima**	**4.51**	**150**	*e*Pn	**Pn**	**00 12 24.1**	**+1.4**
HUMR	**Humele**	**4.53**	**46**	⇓*i*P	**Pn**	**00 12 24.2**	**+1.2**
HUMR	**Humele**	**4.53**	**46**	⇓*i*P	**Pn**	**00 12 24.2**	**+1.2**
LOT	**Lotru**	**4.67**	**30**	⇑*i*P	**Pn**	**00 12 25.6**	**+0.6**
LOT	**Lotru**	**4.67**	**30**	⇑*i*P	**Pn**	**00 12 25.6**	**+0.6**
PYL	**PYLOS**	**4.67**	**167**	*e*PN	**Pn**	**00 12 25.5**	**+0.6**
PYL	**PYLOS**	**4.67**	**167**	*e*Pn	**Pn**	**00 12 25.5**	**+0.6**
JMB	**Yambol**	**4.70**	**76**	*e*Pn	**Pn**	**00 12 25.8**	**+0.5**
JMB				*e*Sn	**Sn**	**00 13 17.7**	**-2.3**
JMB	**Yambol**	**4.70**	**76**	*e*Pn	**Pn**	**00 12 25.8**	**+0.5**
JMB				*e*Sn	**Sn**	**00 13 17.7**	**-2.3**
DEV	**Deva**	**4.77**	**21**	⇑*i*P	Pb	00 12 32.9	-5.0
PKSM	**Moragy**	**4.92**	**345**	⇓*i*P	**Pn**	**00 12 28.7**	**+0.4**
PKSM	**Moragy**	**4.92**	**345**	⇓*e*	**Pn**	**00 12 28.6**	**+0.3**
PKSM				*e*		00 13 26.7	
PKSM	**Moragy**	**4.92**	**345**	⇓*e*P	**Pn**	**00 12 28.6**	**+0.3**
PKSM				*e*S	**Sn**	**00 13 26.7**	**+1.2**
ARR	**Arges**	**4.96**	**37**	⇑*i*P	**Pn**	**00 12 30.0**	**+1.0**
ARR	**Arges**	**4.96**	**37**	⇑*i*P	**Pn**	**00 12 30.0**	**+1.0**
PRK	**Paraskevi**	**4.98**	**114**	*e*PN	**Pn**	**00 12 30.9**	**+1.7**
PRK	**Paraskevi**	**4.98**	**114**	*e*Pn	**Pn**	**00 12 30.9**	**+1.7**
PKS2	**Kecel**	**5.11**	**351**	⇓*e*	**Pn**	**00 12 32.8**	**+2.0**
PKS2				*e*		00 13 32.6	
PKS2	**Kecel**	**5.11**	**351**	⇓*e*P	**Pn**	**00 12 32.8**	**+2.0**
PKS2				*e*S	**Sn**	**00 13 32.6**	**+2.6**
NVLJ	**Novalja**	**5.12**	**309**	*e*Pn	**Pn**	**00 12 31.7**	**+0.7**
NVLJ				Sn	**Sn**	**00 13 30.6**	**+0.3**
VLI	**Veliai**	**5.12**	**157**	*e*PN	**Pn**	**00 12 31.7**	**+0.6**
VLI	**Veliai**	**5.12**	**157**	*e*Pn	**Pn**	**00 12 31.7**	**+0.6**
VOIR		**5.21**	**39**	⇓*i*P	**Pn**	**00 12 34.3**	**+2.0**
VOIR		**5.21**	**39**	⇓*i*P	**Pn**	**00 12 34.3**	**+2.0**
PKS9	**Tamasi**	**5.35**	**344**	⇓*e*	**Pn**	**00 12 33.4**	**-0.8**
PKS9	**Tamasi**	**5.35**	**344**	⇓*e*P	**Pn**	**00 12 33.4**	**-0.8**
BEHE	**Becsehely**	**5.66**	**333**	⇓*e*	**Pn**	**00 12 41.3**	**+2.9**
BEHE	**Becsehely**	**5.66**	**333**	⇓*e*P	**Pn**	**00 12 41.3**	**+2.9**
CRES	**Cresnjev**	**5.66**	**322**	*i* Pn	**Pn**	**00 12 40.0**	**+1.5**
CRES	**Cresnjev**	**5.66**	**322**	Pn	**Pn**	**00 12 40.0**	**+1.5**
PKS7	**Kunszentmiklos**	**5.66**	**351**	⇓*e*	**Pn**	**00 12 41.0**	**+2.6**
PKS7	**Kunszentmiklos**	**5.66**	**351**	⇓*e*P	**Pn**	**00 12 41.0**	**+2.6**
MLR	**Muntele Rosu**	**5.69**	**43**	⇓*i*P	Pn	00 12 42.7	+3.7
MLR	**Muntele Rosu**	**5.69**	**43**	Pn	**Pn**	**00 12 40.8**	**+1.9**
	comp=N,0.4nm,0.3s,baz=175,slow=18,SNR=14						
KOGS	**Kog**	**5.83**	**330**	*i* Pn	**Pn**	**00 12 43.1**	**+2.4**
KOGS	**Kog**	**5.83**	**330**	*i* Pn	**Pn**	**00 12 43.1**	**+2.4**
PKST	**T"'s**	**6.04**	**344**	⇓*e*	**Pn**	**00 12 46.6**	**+2.8**
PKST				*e*		00 13 55.7	
PKST	**T"'s**	**6.04**	**344**	⇓*e*P	**Pn**	**00 12 46.6**	**+2.8**
PKST				*e*S	**Sn**	**00 13 55.7**	**+2.5**
BUD	**Budapest**	**6.11**	**351**	⇓*e*	**Pn**	**00 12 47.2**	**+2.7**
BUD	**Budapest**	**6.11**	**351**	⇓*e*P	**Pn**	**00 12 47.2**	**+2.7**
PKSG		**6.11**	**347**	⇓*e*	**Pn**	**00 12 47.0**	**+2.4**
PKSG				*e*		00 13 57.9	
PKSG		**6.11**	**347**	⇓*e*P	**Pn**	**00 12 47.0**	**+2.4**
PKSG				*e*S	**Sn**	**00 13 57.9**	**+3.3**
GRER		**6.17**	**48**	⇓*i*P	**Pn**	**00 12 47.5**	**+2.0**
GRER		**6.17**	**48**	⇓*i*P	**Pn**	**00 12 47.5**	**+2.0**
VNDS	**Vrh nad Dolski**	**6.22**	**320**	*i* Pn	**Pn**	**00 12 48.0**	**+1.8**
PLOR	**Plostina**	**6.29**	**44**	⇑*i*P	**Pn**	**00 12 48.7**	**+1.5**
PLOR	**Plostina**	**6.29**	**44**	⇑*i*P	**Pn**	**00 12 48.7**	**+1.5**
VRI	**Vrincioaia**	**6.35**	**44**	⇑*i*P	**Pn**	**00 12 50.1**	**+2.2**
VRI	**Vrincioaia**	**6.35**	**44**	⇑*i*P	**Pn**	**00 12 50.1**	**+2.2**
VOY	**Vojsko**	**6.58**	**316**	*e*Pn	**Pn**	**00 12 53.0**	**+1.9**
VOY				*e*Sn	**Sn**	**00 14 06.7**	**+0.4**
VOY	**Vojsko**	**6.58**	**316**	*e*Pn	**Pn**	**00 12 53.0**	**+1.9**
VOY				*e*Sn	**Sn**	**00 14 06.7**	**+0.4**
SOP	**Sopron**	**6.81**	**337**	*e*	**Sn**	**00 14 13.1**	**+1.2**
SOP	**Sopron**	**6.81**	**337**	*e*S	**Sn**	**00 14 13.1**	**+1.2**
KECS	**Kecovo**	**7.02**	**0**	*e*PN	**Pn**	**00 12 58.0**	**+0.8**
KECS				*e*SN	**Sn**	**00 14 18.9**	**+1.7**
**KECS

*BEO **07** 00:34:24.9±0.3, 41°.42N×20°.47E, h0km±2km, ML3.1/1*
*IDC **07** 00:34:24.1±1.3, 41°.62N×20°.34E, h0km, mb3.3/5, mb1 3.5/9, mb1mx3.4/29, mbtmp3.4/9, ML3.0/4, Error ellipse: s-maj=21.0km s-min=17.6km az=178.0*
*THE **07** 00:34:24.6, 41°.45N×20°.47E, h2km±54km, ML3.5/2, Error ellipse: s-maj=54.2km s-min=1.0km az=0.0*
*PDG **07** 00:34:24.6±0.5, 41°.45N×20°.44E, h11km, MD3.5/1, ML3.4/8, Error ellipse: s-maj=0.7km s-min=0.9km az=0.0*
*CSEM **07** 00:34:25.5±0.1, 41°.47N×20°.47E, h2km, MD3.6, Error ellipse: s-maj=3.8km s-min=2.2km az=62.0*

ISC 07 00:34:24.7±1.1, 41°.46N±0°.01×20°.45E±0°.02, h1km±8km, n168, σ1§22/242, mb3.3/3, 22C-23D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHP	**Peshkopia**	**0.22**	**357**	*i* PG	**Pg**	**00 34 29.2**	**+0.2**
PHP				*i* SG	**Sg**	**00 34 33.3**	**+1.4**
PHP	**Peshkopia**	**0.22**	**357**	P	**Pg**	**00 34 29.1**	**+0.1**
PHP				S	**Sg**	**00 34 33.2**	**+1.4**
PHP	**Peshkopia**	**0.22**	**357**	*i* Pg	**Pg**	**00 34 29.2**	**+0.2**
	SNR=108						
PHP				*i* Sg	**Sg**	**00 34 33.3**	**+1.4**
	SNR=108						
TIR	**Tirane**	**0.46**	**255**	*i* PG	**Pg**	**00 34 32.9**	**-0.6**
TIR				*i* SG	**Sg**	**00 34 40.2**	**+0.7**
TIR	**Tirane**	**0.46**	**255**	P	**Pg**	**00 34 32.3**	**-1.2**
TIR				S	**Sg**	**00 34 40.1**	**+0.7**
TIR	**Tirane**	**0.46**	**255**	*e*Pg	**Pg**	**00 34 33.5**	**0.0**
TIR	**Tirane**	**0.46**	**255**	P	**Pg**	**00 34 32.3**	**-1.2**
TIR	**Tirane**	**0.46**	**255**	*i* Pg	**Pg**	**00 34 32.9**	**-0.6**
	SNR=98						
TIR				*e*Sb	**Sg**	**00 34 40.4**	**+0.9**
PUK	**Puka**	**0.71**	**324**	*i* PG	**Pg**	**00 34 38.2**	**-0.3**
PUK				*i* SG	**Sb**	**00 34 49.4**	**-0.9**
PUK	**Puka**	**0.71**	**324**	*i* Pg	**Pg**	**00 34 38.2**	**-0.3**
	SNR=95						
PUK				*i* Sg	**Sb**	**00 34 49.4**	**-0.9**
	SNR=95						
BIA	**Bitola**	**0.79**	**124**	P	**Pg**	**00 34 38.4**	**-1.5**
BIA				S	**Sg**	**00 34 49.7**	**-0.5**
BIA	**Bitola**	**0.79**	**124**	*i* Pg	**Pg**	**00 34 39.1**	**-0.8**
BIA				*i* Sg	**Sg**	**00 34 51.4**	**+1.2**
BIA	**Bitola**	**0.79**	**124**	*i* Pg	**Pg**	**00 34 38.6**	**-1.3**
BIA				S	**Sg**	**00 34 49.7**	**-0.5**
BIA				*i* Sg	**Sb**	**00 34 50.8**	**-1.7**
KBN	**Korca**	**0.88**	**163**	P	**Pg**	**00 34 41.3**	**-0.2**
KBN				S	**Sg**	**00 34 53.8**	**+0.9**
KBN	**Korca**	**0.88**	**163**	P	**Pg**	**00 34 41.3**	**-0.2**
KBN				S	**Sg**	**00 34 53.8**	**+0.9**
SKO	**Skopje**	**0.90**	**55**	⇓*i*Pg	**Pg**	**00 34 41.6**	**-0.3**
SKO				*e*Sg	**Sb**	**00 34 54.5**	**-0.9**
SKO	**Skopje**	**0.90**	**55**	*i* Pg	**Pb**	**00 34 42.7**	**-0.4**
SKO				*i* Sg	**Sb**	**00 34 55.7**	**+0.2**
SKO				*e*Lg	Lg	00 34 57.9	
	comp=E,978nm,1.0s						
SKO				*e*Lg	Lg	00 35 00.6	
	comp=N,931nm,0.4s						
SKO	**Skopje**	**0.90**	**55**	⇓*i*Pg	**Pg**	**00 34 41.6**	**-0.3**
SKO				*i* Sg	**Sb**	**00 34 54.6**	**-0.9**
SKO				*e*Lg	Lg	00 34 59.6	
	comp=N,931nm,0.4s						
BCI	**Bajram Curri**	**0.95**	**342**	*i* PG	**Pg**	**00 34 43.1**	**+0.2**
BCI	**Bajram Curri**	**0.95**	**342**	*i* Pg	**Pg**	**00 34 43.1**	**+0.2**
	SNR=93						
FNA	**Florina**	**0.97**	**134**	P	**Pg**	**00 34 42.2**	**-1.2**
FNA				S	**Sg**	**00 34 56.5**	**+0.5**
FNA	**Florina**	**0.97**	**134**	*e*PG	**Pg**	**00 34 42.9**	**-0.5**
FNA				*e*SG	**Sb**	**00 34 57.4**	**-0.3**
FNA	**Florina**	**0.97**	**134**	P	**Pg**	**00 34 42.2**	**-1.2**
FNA	**Florina**	**0.97**	**134**	*e*Pg	**Pg**	**00 34 42.9**	**-0.5**
FNA				S	**Sg**	**00 34 56.5**	**+0.5**
FNA				*e*Sb	**Sb**	**00 34 57.4**	**-0.3**
NEST	**Nestorio**	**1.14**	**157**	P	**Pg**	**00 34 46.0**	**-0.6**
NEST				S	**Sb**	**00 35 03.1**	**+0.5**
NEST	**Nestorio**	**1.14**	**157**	P	**Pg**	**00 34 46.0**	**-0.6**
NEST				S	**Sb**	**00 35 03.1**	**+0.5**
PVY	**Plav**	**1.19**	**342**	⇓*i*Pg	**Pg**	**00 34 47.2**	**-0.3**
PVY				*e*Sg	**Sn**	**00 35 05.1**	**-0.3**
PVY	**Plav**	**1.19**	**342**	⇓*i*Pg	**Pg**	**00 34 47.2**	**-0.3**
PVY				*e*Sg	**Sn**	**00 35 05.1**	**-0.3**
PDG	**Podgorica**	**1.32**	**318**	*e*Sg	**Sn**	**00 35 09.0**	**+0.7**
PDG	**Podgorica**	**1.32**	**318**	⇑*i*Pg	**Pg**	**00 34 48.4**	**-1.6**
PDG				*e*Sg	**Sn**	**00 35 09.0**	**+0.7**
TTG	**Podgorica**	**1.32**	**318**	⇑*i*Pg	**Pg**	**00 34 48.4**	**-1.6**
TTG				*e*Sg	**Sn**	**00 35 09.8**	**+1.4**
BUM	**Brajici-Budva**	**1.43**	**306**	⇓*i*Pg	**Pn**	**00 34 50.2**	**-1.7**
BUM				*e*Sg	**Sn**	**00 35 12.8**	**+1.4**
BUM	**Brajici-Budva**	**1.43**	**306**	⇓*i*Pg	**Pn**	**00 34 50.2**	**-1.7**
BUM				*e*Sg	**Sn**	**00 35 12.8**	**+1.4**
KZN	**Kozani**	**1.53**	**139**	*e*PB	**Pn**	**00 34 53.2**	**0.0**
KZN				*e*SB	**Sg**	**00 35 15.3**	**+1.5**
KZN	**Kozani**	**1.53**	**139**	*e*Pg	**Pn**	**00 34 53.2**	**0.0**
KZN				*e*Sb	**Sg**	**00 35 15.3**	**+1.5**
VAY	**Valandovo**	**1.60**	**94**	⇑*i*Pg	**Pn**	**00 34 52.9**	**-1.2**
VAY				*e*Sg	**Sn**	**00 35 14.0**	**-1.3**
VAY	**Valandovo**	**1.60**	**94**	*i* Pn	**Pn**	**00 34 52.9**	**-1.2**
VAY				*i* Pn	**Sn**	**00 35 13.3**	**-2.0**
VAY				*i* Sn	**Sn**	**00 35 14.7**	**-0.6**
VAY				*e*Lg	Lg	00 35 15.9	
	comp=N,416nm,1.0s						
VAY				*e*Lg	Lg	00 35 16.1	
	comp=E,176nm,0.5s						
VAY	**Valandovo**	**1.60**	**94**	⇑*i*Pg	**Pn**	**00 34 52.9**	**-1.2**
VAY	**Valandovo**	**1.60**	**94**	*i* Pn	**Sn**	**00 35 12.7**	**-2.6**
VAY				*i* Sn	**Sn**	**00 35 14.2**	**-1.1**
VAY				*e*Lg	Lg	00 35 15.5	
	comp=E,176nm,0.5s						
BARS	**Barje**	**1.69**	**36**	*e*Pn	**Pn**	**00 34 55.6**	**+0.2**
BARS				*e*Sn	**Sg**	**00 35 19.1**	**+0.1**
BARS	**Barje**	**1.69**	**36**	*e*Pn	**Pn**	**00 34 55.6**	**+0.2**
BARS				*e*Sn	**Sg**	**00 35 19.1**	**+0.1**
NKME	**Niksic**	**1.71**	**320**	⇑*i*Pn	**Pn**	**00 34 55.8**	**0.0**
NKME				*e*Sn	**Sg**	**00 35 20.0**	**+0.1**
NKME	**Niksic**	**1.71**	**320**	⇑*i*Pn	**Pn**	**00 34 55.8**	**0.0**
NKME				*e*Sn	**Sg**	**00 35 20.0**	**+0.1**
NKY	**Niksic**	**1.73**	**322**	⇑*i*Pn	**Pn**	**00 34 55.8**	**-0.2**
NKY				*e*Sn	**Sb**	**00 35 20.0**	**+0.4**
NKY	**Niksic**	**1.73**	**322**	⇑*i*Pn	**Pn**	**00 34 55.8**	**-0.2**
NKY				*e*Sn	**Sb**	**00 35 20.0**	**+0.4**
HCY	**Herceg Novi**	**1.76**	**305**	⇑*i*Pn	**Pn**	**00 34 56.2**	**-0.1**
HCY				*e*Sn	**Sg**	**00 35 21.2**	**-0.1**
HCY	**Herceg Novi**	**1.76**	**305**	⇑*i*Pn	**Pn**	**00 34 56.2**	**-0.1**
HCY				*e*Sn	**Sg**	**00 35 21.2**	**-0.1**
KEK	**Kerkira**	**1.82**	**196**	*e*PG	**Pn**	**00 34 58.0**	**+0.9**
KEK	**Kerkira**	**1.82**	**196**	*e*Pn	**Pn**	**00 34 58.0**	**+0.9**
SELS	**Selova**	**1.82**	**15**	*e*Pn	**Pn**	**00 34 56.6**	**-0.6**
SELS				*e*Sn	**Sb**	**00 35 22.1**	**-0.1**
JAN	**Janina**	**1.83**	**170**	*e*PG	**Pb**	**00 34 59.0**	**0.0**
JAN	**Janina**	**1.83**	**170**	*e*Pg	**Pb**	**00 34 59.0**	**0.0**
SJES	**Sjenica**	**1.83**	**349**	⇑*i*Pn	**Pn**	**00 34 57.4**	**0.0**
SJES				*e*Sg	**Sg**	**00 35 24.2**	**+0.6**
TREB	**Trebinje**	**2.00**	**309**	*e*Pn	**Pn**	**00 35 00.8**	**+1.1**
TREB				*e*Sg	**Sg**	**00 35 28.7**	**-0.5**
TREB	**Trebinje**	**2.00**	**309**	*e*Pn	**Pn**	**00 35 00.8**	**+1.1**
TREB				*e*Sg	**Sg**	**00 35 28.7**	**-0.5**
PLE	**Pljevlja**	**2.02**	**337**	*e*Pn	**Pn**	**00 35 00.8**	**+0.7**
PLE				*e*Sn	**Sb**	**00 35 27.9**	**-0.2**
PLE	**Pljevlja**	**2.02**	**337**	*e*Pn	**Pn**	**00 35 00.8**	**+0.7**
PLE				*e*Sn	**Sb**	**00 35 27.9**	**-0.2**
UPM	**Unac-Piva**	**2.08**	**327**	⇑*i*Pn	**Pn**	**00 35 01.4**	**+0.5**
UPM				*e*Sn	**Sn**	**00 35 29.0**	**+1.4**
UPM	**Unac-Piva**	**2.08**	**327**	⇑*i*Pn	**Pn**	**00 35 01.4**	**+0.5**
UPM				*e*Sn	**Sn**	**00 35 29.0**	**+1.4**
THL	**Klokotos Trika**	**2.24**	**147**	*e*PN	**Pb**	**00 35 05.1**	**-0.8**
THL	**Klokotos Trika**	**2.24**	**147**	*e*Pn	**Pb**	**00 35 05.1**	**-0.8**
SOH	**Sokhos**	**2.28**	**105**	*e*PN	**Pn**	**00 35 03.9**	**+0.4**
SOH	**Sokhos**	**2.28**	**105**	*e*Pn	**Pn**	**00 35 03.9**	**+0.4**
VTS	**Vitosha**	**2.34**	**60**	⇓*i*P	**Pn**	**00 35 05.6**	**+1.2**
VTS	**Vitosha**	**2.34**	**60**	*e*Pn	**Pn**	**00 35 05.4**	**+1.0**
VTS				*e*Sn	**Sn**	**00 35 35.1**	**+1.2**
VTS	**Vitosha**	**2.34**	**60**	⇓*i*P	**Pn**	**00 35 05.6**	**+1.2**
VTS				*e*Sn	**Sn**	**00 35 35.1**	**+1.2**
ZAPS	**Zavoj**	**2.42**	**41**	*e*Pn	**Pn**	**00 35 05.7**	**+0.2**
ZAPS	**Zavoj**	**2.42**	**41**	*e*Pn	**Pn**	**00 35 05.7**	**+0.2**
GRUS	**Gruza**	**2.43**	**4**	*e*Pn	**Pn**	**00 35 07.0**	**+1.5**
GRUS				*e*Sn	**Sn**	**00 35 37.8**	**+1.9**
GRUS	**Gruza**	**2.43**	**4**	*e*Pn	**Pn**	**00 35 07.0**	**+1.5**
GRUS				*e*Sn	**Sn**	**00 35 37.8**	**+1.9**
STON	**Ston**	**2.48**	**305**	*e*Pn	**Pn**	**00 35 07.2**	**+1.0**
STON				*e*Sn	**Sn**	**00 35 38.9**	**+1.8**
STON	**Ston**	**2.48**	**305**	*i* Pn	**Pb**	**00 35 08.6**	**-1.5**
STON				Sn	**Sb**	**00 35 39.3**	**-1.8**
STON	**Ston**	**2.48**	**305**	*e*Pn	**Pn**	**00 35 07.2**	**+1.0**
STON				*e*Sn	**Sn**	**00 35 38.9**	**+1.8**
PLG	**Polygyros**	**2.52**	**115**	*e*PB	**Pn**	**00 35 07.6**	**+0.9**
PLG	**Polygyros**	**2.52**	**115**	*e*Pn	**Pn**	**00 35 07.6**	**+0.9**
BBLS	**Lazići**	**2.52**	**342**	*e*Pn	**Pn**	**00 35 06.8**	**-0.1**
BBLS	**Lazići**	**2.52**	**342**	*e*Pn	**Pn**	**00 35 06.8**	**-0.1**
NVR	**Nevrokopi**	**2.57**	**91**	*e*PN	**Pn**	**00 35 08.1**	**+0.7**
NVR	**Nevrokopi**	**2.57**	**91**	*e*Pn	**Pn**	**00 35 08.1**	**+0.7**
DIVS	**Divibare**	**2.66**	**353**	*e*Pn	**Pn**	**00 35 08.6**	**-0.1**
DIVS				*e*Sn	**Sn**	**00 35 43.6**	**+2.1**
DIVS	**Divibare**	**2.66**	**353**	*e*Pn	**Pn**	**00 35 08.6**	**-0.1**
DIVS				*e*Sn	**Sn**	**00 35 43.6**	**+2.1**
LKD2	**Lefkada island**	**2.68**	**177**	*e*PN	**Pn**	**00 35 09.8**	**+0.9**
LKD2	**Lefkada island**	**2.68**	**177**	*e*Pb	**Pn**	**00 35 09.8**	**+0.9**
EVR	**Evrytania**	**2.75**	**157**	*e*PB	**Pb**	**00 35 12.5**	**-2.2**
EVR	**Evrytania**	**2.75**	**157**	*e*Pn	**Pb**	**00 35 12.5**	**-2.2**
TRUS	**Trudelj**	**2.76**	**359**	*e*Pn	**Pn**	**00 35 10.0**	**0.0**
TRUS	**Trudelj**	**2.76**	**359**	*e*Pn	**Pn**	**00 35 10.0**	**0.0**
AGG	**Agios Georgios**	**2.83**	**149**	*e*PN	**Pn**	**00 35 12.6**	**+1.5**
AGG	**Agios Georgios**	**2.83**	**149**	*e*Pn	**Pn**	**00 35 12.6**	**+1.5**
SVIS	**Svilajnac**	**2.85**	**11**	*e*Pn	**Pn**	**00 35 11.2**	**-0.2**
PAIG	**Paliouri**	**2.89**	**121**	*e*PN	**Pn**	**00 35 12.1**	**+0.2**
TEKS	**Tekeris**	**3.16**	**348**	*e*Pn	**Pn**	**00 35 17.1**	**+1.6**
TEKS	**Tekeris**	**3.16**	**348**	*e*Pn	**Pn**	**00 35 17.1**	**+1.6**
EFP	**Efpalio**	**3.23**	**159**	*e*PN	**Pn**	**00 35 18.9**	**+2.4**
PLD	**Plovdiv**	**3.24**	**77**	*e*Pn	**Pn**	**00 35 17.9**	**+1.2**
PLD				*e*Sn	**Sn**	**00 35 56.1**	**+0.2**
PLD	**Plovdiv**	**3.24**	**77**	*e*Pn	**Pn**	**00 35 17.9**	**+1.2**
PLD				*e*Sn	**Sn**	**00 35 56.1**	**+0.2**
KALE	**Kalithea**	**3.33**	**157**	*e*PB	**Pn**	**00 35 20.7**	**+2.7**
KALE	**Kalithea**	**3.33**	**157**	*e*Pb	**Pn**	**00 35 20.7**	**+2.7**
TRIZ	**Trizonia**	**3.34**	**158**	*e*PN	**Pn**	**00 35 20.0**	**+2.0**
TRIZ	**Trizonia**	**3.34**	**158**	*e*Pn	**Pn**	**00 35 20.0**	**+2.0**
LAKA	**Lakka**	**3.43**	**159**	*e*PN	**Pn**	**00 35 21.6**	**+2.3**
LAKA	**Lakka**	**3.43**	**159**	*e*Pn	**Pn**	**00 35 21.6**	**+2.3**
RLS	**Riolos of Patr**	**3.49**	**167**	*e*PN	**Pn**	**00 35 22.4**	**+2.3**
RLS	**Riolos of Patr**	**3.49**	**167**	*e*Pn	**Pn**	**00 35 22.4**	**+2.3**
KLV	**Kalavryta, Ach**	**3.66**	**159**	*e*PN	**Pn**	**00 35 24.7**	**+2.2**
KLV	**Kalavryta, Ach**	**3.66**	**159**	*e*Pn	**Pn**	**00 35 24.7**	**+2.2**
FGSL	**Fruska Gora**	**3.72**	**353**	*e*Pn	**Pn**	**00 35 23.5**	**+0.2**
FGSL				*e*Sn	**Sn**	**00 36 08.2**	**+0.5**
FRGS	**Fruska Gora**	**3.72**	**353**	*e*Pn	**Pn**	**00 35 23.5**	**+0.2**
FRGS				*e*Sn	**Sn**	**00 36 08.2**	**+0.4**
SRE	**Strehaia**	**3.78**	**31**	⇓*i*P	**Pn**	**00 35 24.5**	**+0.4**
SRE	**Strehaia**	**3.78**	**31**	⇓*i*P	**Pn**	**00 35 24.5**	**+0.4**
GUR	**Goura**	**3.81**	**157**	*e*PN	**Pn**	**00 35 26.9**	**+2.3**
GUR	**Goura**	**3.81**	**157**	*e*Pn	**Pn**	**00 35 26.9**	**+2.3**
LTK	**Loutraki**	**3.94**	**150**	*e*PN	**Pn**	**00 35 27.6**	**+1.2**
LTK	**Loutraki**	**3.94**	**150**	*e*Pn	**Pn**	**00 35 27.6**	**+1.2**
BZS	**Buzias**	**4.24**	**11**	⇑*i*P	**Pn**	**00 35 29.7**	**-0.6**
BZS	**Buzias**	**4.24**	**11**	*e*Pn	**Pn**	**00 35 30.2**	**-0.1**
BZS				*e*Sn	**Sn**	**00 36 21.0**	**+0.6**
BZS	**Buzias**	**4.24**	**11**	⇑*i*Pn	**Pn**	**00 35 29.7**	**-0.6**
BZS	**Buzias**	**4.24**	**11**	*e*Pn	**Pn**	**00 35 30.2**	**-0.1**
BZS				*e*Sn	**Sn**	**00 36 21.0**	**+0.6**
GZR	**Gura Zlata**	**4.28**	**23**	⇑*i*P	**Pn**	**00 35 31.5**	**+0.5**
GZR	**Gura Zlata**	**4.28**	**23**	⇑*i*P	**Pn**	**00 35 31.5**	**+0.5**
VLX	**Vlachokerasia**	**4.35**	**159**	*e*PN	**Pn**	**00 35 34.8**	**+2.8**
VLX	**Vlachokerasia**	**4.35**	**159**	*e*Pn	**Pn**	**00 35 34.8**	**+2.8**
ITM	**Ithomi**	**4.43**	**165**	*e*PN	**Pn**	**00 35 34.4**	**+1.4**
ITM	**Ithomi**	**4.43**	**165**	*e*Pn	**Pn**	**00 35 34.4**	**+1.4**
DID	**Didima**	**4.50**	**151**	*e*PN	**Pn**	**00 35 35.5**	**+1.5**
DID	**Didima**	**4.50**	**151**	*e*Pn	**Pn**	**00 35 35.5**	**+1.5**
HUMR	**Humele**	**4.52**	**46**	⇓*i*P	**Pn**	**00 35 34.9**	**+0.7**
HUMR	**Humele**	**4.52**	**46**	⇓*i*P	**Pn**	**00 35 34.9**	**+0.7**
JMB	**Yambol**	**4.68**	**76**	*e*Pn	**Pn**	**00 35 36.7**	**+0.3**
JMB				*e*Sn	**Sn**	**00 36 29.7**	**-1.6**
JMB	**Yambol**	**4.68**	**76**	*e*Pn	**Pn**	**00 35 36.7**	**+0.3**
JMB				*e*Sn	**Sn**	**00 36 29.7**	**-1.6**
PKSM	**Moragy**	**4.92**	**345**	⇑*i*P	**Pn**	**00 35 39.2**	**-0.6**
PKSM	**Moragy**	**4.92**	**345**	⇑*i*P	**Pn**	**00 35 39.2**	**-0.6**
ARR	**Arges**	**4.95**	**37**	⇓*i*P	**Pn**	**00 35 40.6**	**+0.4**
ARR	**Arges**	**4.95**	**37**	⇓*i*P	**Pn**	**00 35 40.6**	**+0.4**
NVLJ	**Novalja**	**5.13**	**309**	*e*Pn	**Pn**	**00 35 41.4**	**-1.2**
NVLJ				Sn	**Sn**	**00 36 42.6**	**+0.1**
VOIR		**5.19**	**39**	⇓*i*P	**Pn**	**00 35 44.9**	**+1.3**
VOIR		**5.19**	**39**	⇓*i*P	**Pn**	**00 35 44.9**	**+1.3**
DRGR		**5.57**	**16**	⇓*i*P	**Pn**	**00 35 50.2**	**+1.5**
DRGR		**5.57**	**16**	⇓*i*P	**Pn**	**00 35 50.2**	**+1.5**
MLR	**Muntele Rosu**	**5.67**	**43**	⇓*i*P	**Pn**	**00 35 53.3**	**+3.1**
MLR	**Muntele Rosu**	**5.67**	**43**	Pn	**Pn**	**00 35 50.9**	**+0.7**
	comp=E,0.2nm,0.3s,baz=262,slow=8.4,SNR=7.7						
MLR	**Muntele Rosu**	**5.67**	**43**	⇓*i*P	**Pn**	**00 35 53.3**	**+3.1**
VRI	**Vrincioaia**	**6.33**	**44**	⇓*i*P	**Pn**	**00 36 00.8**	**+1.7**
VRI	**Vrincioaia**	**6.33**	**44**	⇓*i*P	**Pn**	**00 36 00.8**	**+1.7**
SOKA	**Soboth**	**6.51**	**325**	⇑*i*Pn	**Pn**	**00 36 00.9**	**-0.8**
SOKA	**Soboth**	**6.51**	**325**	Pn	**Pn**	**00 36 00.9**	**-0.8**
VOY	**Vojsko**	**6.59**	**316**	*e*Pn	**Pn**	**00 36 03.7**	**+1.0**
VOY				*e*Sn	**Sn**	**00 37 19.7**	**+1.2**
VOY	**Vojsko**	**6.59**	**316**	Pn	**Pn**	**00 36 03.7**	**+1.0**
VOY				*e*Sn	**Sn**	**00 37 19.7**	**+1.2**
GHRR		**6.81**	**45**	⇓*i*P	Pg	00 36 39.9	+4.7
KECS	**Kecovo**	**7.02**	**0**	*e*PN	**Pn**	**00 36 09.9**	**+1.4**
KECS				*e*SN	**Sn**	**00 37 29.5**	**+0.6**
KECS	**Kecovo**	**7.02**	**0**	*e*Pn	**Pn**	**00 36 10.0**	**+1.4**
KECS				*e*Sn	**Sn**	**00 37 29.5**	**+0.6**
VYHS	**Vyhne**	**7.12**	**351**	*e*PN	**Pn**	**00 36 11.4**	**+1.4**
VYHS				*e*SN	**Sn**	**00 37 31.4**	**-0.1**
VYHS	**Vyhne**	**7.12**	**351**	*e*Pn	**Pn**	**00 36 11.4**	**+1.4**
VYHS				*e*Sn	**Sn**	**00 37 31.5**	**-0.1**
CRVS	**Cervenica-Dubn**	**7.47**	**5**	*e*PN	Pn	00 36 21.8	+7.0
KOLS	**Kolonicke sedl**	**7.58**	**9**	*e*PN	Pn	00 36 24.4	+8.2
STHS	**Stebnicka Huta**	**7.97**	**4**	*e*PN	Pn	00 36 29.5	+7.8
GERES	**GERESS Array B**	**8.78**	**329**	Pn	**Pn**	**00 36 30.0**	**-2.8**
	comp=E,0.1nm,0.3s,baz=152,slow=11,SNR=2.3						
MOTA	**Moosalm**	**8.90**	**314**	⇑*i*Pn	**Pn**	**00 36 37.1**	**+2.5**
MOTA				⇑*i*Sn	**Sn**	**00 38 17.5**	**+2.0**
MOTA	**Moosalm**	**8.90**	**314**	Pn	**Pn**	**00 36 37.1**	**+2.5**
MOTA				Sn	**Sn**	**00 38 17.5**	**+2.0**
DAVOX	**Davos/Dischmat**	**9.27**	**309**	Pn	**Pn**	**00 36 38.3**	**-1.4**
	comp=E,0.2nm,0.3s,baz=105,slow=17,SNR=3.5						
DAVOX				Sn	**Sn**	**00 38 23.2**	**-1.4**
	comp=E,0.1nm,0.3s,baz=192,slow=20,SNR=3.2						
HFS	**Hagfors**	**19.16**	**350**	P	**P**	**00 38 48.4**	**-0.8**
	comp=E,0.2nm,0.3s,baz=169,slow=8.6,SNR=6.4						
FINES	**FINESS Array B**	**20.30**	**8**	P	**P**	**00 38 59.3**	**-2.3**
	comp=E,1.8nm,0.9s,baz=205,slow=6.2,SNR=2.6						
NB2	**NORSAR Subarra**	**20.40**	**347**	P	**P**	**00 39 01.8**	**-1.0**
	comp=Z,1.5nm,0.6s,baz=164,slow=11						
NB2	**NORSAR Subarra**	**20.40**	**347**	P	**P**	**00 39 01.8**	**-1.0**
	comp=Z,1.5nm,0.6s,baz=164,slow=10,SNR=4.4						
NOA	**NORSAR Array B**	**20.40**	**347**	P	**P**	**00 39 02.0**	**-0.8**
	comp=Z,1.2nm,0.7s,baz=155,slow=10,SNR=4.3						
TORD	**Torodi Ar. Bea**	**32.61**	**216**	P	**P**	**00 40 58.3**	**+0.4**
	comp=Z,0.3nm,0.8s,baz=27,slow=7.5,SNR=2.9						
ZALV	**Zalesovo Beam**	**43.59**	**51**	P	**P**	**00 42 28.2**	**-1.9**
	comp=Z,0.4nm,0.4s,baz=306,slow=5.2,SNR=2.5						
MKAR	**Makanchi Array**	**43.70**	**61**	P	**P**	**00 42 30.6**	**-0.4**
	comp=Z,0.2nm,0.5s,baz=284,slow=7.1,SNR=4.1						

*IDC **07** 00:41:29.1±5.3, 54°.70N×158°.60W, h0km, mb3.9/7, mb1 3.9/10, mb1mx3.7/31, mbtmp3.8/10, ML3.7/3, MS3.5/2, Ms1 3.5/2, ms1mx2.6/42, Error ellipse: s-maj=130.1km s-min=28.6km az=153.0*
*ISCJB **07** 00:41:42.6±0.7, 55°.69N±0°.08×158°.38W±0°.09, h72km±5km, mb3.7/7, Error ellipse: s-maj=14.5km s-min=4.1km az=149.7*
*NEIC **07** 00:41:44.9, 55°.68N×158°.38W, h23km, ML3.4(AEIC), After AEIC.*

ISC 07 00:41:42.8±1.3, 55°.65N±0°.08×158°.31W±0°.06, h61km±10km, n46, σ1§26/54, mb4.0/7, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHGN	**Chignik**	**0.65**	**355**	P	**Pn**	**00 41 56.3**	**-0.2**
CHGN				S	**Sn**	**00 42 05.8**	**-0.7**
VNHG	**Veniaminof 1**	**0.75**	**320**	P	**Pn**	**00 41 58.2**	**+0.5**
VNSW	**Veniaminof 7**	**0.82**	**301**	P	**Pn**	**00 41 58.8**	**+0.2**
VNSW				S	**Sn**	**00 42 09.3**	**-0.9**
VNWF	**Veniaminof 8**	**0.86**	**306**	P	**Pn**	**00 41 59.6**	**+0.4**
VNFG	**Veniaminof 2**	**0.94**	**313**	P	**Pn**	**00 42 00.7**	**+0.5**
VNFG				S	**Sn**	**00 42 12.5**	**-0.6**
ANPB	**Aniakchak Plen**	**1.15**	**1**	P	**Pn**	**00 42 03.3**	**+0.4**
SDPT	**Sand Point**	**1.27**	**257**	P	**Pn**	**00 42 04.8**	**+0.4**
SDPT				S	**Sn**	**00 42 20.6**	**+0.1**
ANNW	**Aniakchak Nort**	**1.32**	**2**	P	**Pn**	**00 42 06.0**	**+0.9**
PS4A	**Pavlof South-4**	**2.04**	**263**	P	**Pn**	**00 42 15.0**	**+0.2**
DOL	**Dolgoi Island**	**2.09**	**257**	P	**Pn**	**00 42 15.7**	**+0.3**
DTNA	**Dutton South F**	**2.31**	**259**	P	**Pn**	**00 42 18.8**	**+0.4**
DTNA				S	**Sn**	**00 42 45.5**	**-0.1**
DT1	**Dutton Round H**	**2.33**	**258**	P	**Pn**	**00 42 19.0**	**+0.3**
PLK1	**Peulik 1**	**2.35**	**23**	P	**Pn**	**00 42 20.8**	**+1.8**
DRIA	**Deer Island**	**2.36**	**255**	P	**Pn**	**00 42 19.5**	**+0.3**
KJL	**Kejulik**	**2.84**	**31**	P	**Pn**	**00 42 28.0**	**+2.3**
CAHL	**Cahill**	**2.92**	**33**	P	**Pn**	**00 42 28.6**	**+1.8**
FALS	**False Pass**	**3.03**	**257**	P	**Pn**	**00 42 29.2**	**+1.0**
FALS				S	**Sn**	**00 43 06.2**	**+2.9**
KABR	**Katmai Barrier**	**3.09**	**35**	P	**Pn**	**00 42 30.8**	**+1.8**
KELA	**Mount Kelaz**	**3.13**	**26**	P	**Pn**	**00 42 31.2**	**+1.5**
KAKN	**Katmai Knife C**	**3.19**	**32**	P	**Pn**	**00 42 32.8**	**+2.2**
KAKN				S	**Sn**	**00 43 10.0**	**+2.6**
OHAK	**Old Harbor**	**3.20**	**58**	P	**Pn**	**00 42 31.6**	**+1.0**
OHAK				S	**Sn**	**00 43 08.4**	**+1.0**
KAPH	**Katmai Pasha**	**3.66**	**35**	P	**Pn**	**00 42 38.9**	**+2.0**
KDAK	**Kodiak Island**	**3.81**	**54**	P	**Pn**	**00 42 39.8**	**+0.9**
KDAK				Sn	**Sn**	**00 43 21.2**	**-1.1**
KDAK	**Kodiak Island**	**3.81**	**54**	Pn	**Pn**	**00 42 39.8**	**+0.9**
	2.3nm,

SIVA	**Sivas**	**0.72**	**72**	*e*PN	**Pb**	**02 06 48.7**	**+0.3**
SIVA				*e*SN	**Sn**	**02 07 00.3**	**+0.6**
SIVA	**Sivas**	**0.72**	**72**	P	**Pb**	**02 06 48.6**	**+0.2**
SIVA				S	**Sn**	**02 07 00.0**	**+0.3**
IDI	**Anoyia**	**0.90**	**57**	P	**Pb**	**02 06 51.3**	**-0.1**
IDI	**Anoyia**	**0.90**	**57**	*e*PN	**Pn**	**02 06 53.0**	**+1.2**
IDI				*e*SN	**Sn**	**02 07 05.5**	**+1.4**
IDI	**Anoyia**	**0.90**	**57**	Pg	**Pb**	**02 06 51.3**	**-0.1**
	19nm,0.3s,baz=239,slow=16,SNR=72						
IDI				Lg	Lg	02 07 08.3	
	36nm,0.3s,baz=310,slow=17,SNR=14						
IDI	**Anoyia**	**0.90**	**57**	P	**Pb**	**02 06 51.3**	**-0.1**
IDI	**Anoyia**	**0.90**	**57**	*e*Pn	**Pn**	**02 06 53.0**	**+1.2**
IDI				*e*Sn	**Sn**	**02 07 05.5**	**+1.4**
ANKY	**Antikythira Is**	**1.20**	**333**	*e*PN	**Pb**	**02 06 58.9**	**+2.4**
ANKY	**Antikythira Is**	**1.20**	**333**	*e*Pn	**Pb**	**02 06 58.9**	**+2.4**
LAST	**Lasithi**	**1.29**	**73**	*e*PN	**Pb**	**02 06 58.7**	**+0.6**
LAST	**Lasithi**	**1.29**	**73**	*e*Pn	**Pb**	**02 06 58.7**	**+0.6**
NPS	**Neapolis**	**1.43**	**70**	*e*PN	**Pb**	**02 07 02.3**	**+2.0**
NPS	**Neapolis**	**1.43**	**70**	*e*Pn	**Pb**	**02 07 02.3**	**+2.0**
ZKR	**Zakros**	**1.87**	**80**	*e*PN	**Pb**	**02 07 09.1**	**+1.2**
SANT	**Santorini**	**1.99**	**37**	*e*PB	**Pb**	**02 07 09.2**	**-0.7**
SANT	**Santorini**	**1.99**	**37**	*e*Pb	**Pb**	**02 07 09.2**	**-0.7**
VLI	**Veliai**	**2.10**	**337**	*e*PN	**Pb**	**02 07 12.8**	**+1.1**
APE	**Apeiranthos**	**2.60**	**29**	*e*PN	**Pn**	**02 07 16.9**	**+1.8**
APE	**Apeiranthos**	**2.60**	**29**	*e*Pn	**Pn**	**02 07 16.9**	**+1.8**
PTL	**Penteli**	**3.25**	**359**	*e*PN	**Pn**	**02 07 26.1**	**+2.1**
PTL	**Penteli**	**3.25**	**359**	*e*Pn	**Pn**	**02 07 26.1**	**+2.1**
KLV	**Kalavryta, Ach**	**3.56**	**336**	*e*PN	Pn	02 07 31.8	+3.5
KLV	**Kalavryta, Ach**	**3.56**	**336**	*e*Pn	Pn	02 07 31.8	+3.5
RLS	**Riolos of Patr**	**3.83**	**329**	*e*PN	Pn	02 07 35.3	+3.3
RLS	**Riolos of Patr**	**3.83**	**329**	*e*Pn	Pn	02 07 35.3	+3.3
LKR	**Lokris**	**3.93**	**349**	*e*PN	**Pn**	**02 07 35.2**	**+1.9**
LKR	**Lokris**	**3.93**	**349**	*e*Pn	**Pn**	**02 07 35.2**	**+1.9**
EVR	**Evrytania**	**4.46**	**338**	*e*PN	Pn	02 07 44.6	+3.8
EVR	**Evrytania**	**4.46**	**338**	*e*Pn	Pn	02 07 44.6	+3.8
BRTR	**Keskin Array B**	**9.14**	**55**	Pn	**Pn**	**02 08 47.0**	**+1.9**
	0.0nm,0.3s,baz=236,slow=15,SNR=3.4						
GERES	**GERESS Array B**	**15.97**	**335**	Pn	**Pn**	**02 10 16.7**	**-0.8**
	0.1nm,0.3s,baz=152,slow=17,SNR=2.3						
AKASG	**Malin Array Be**	**16.35**	**12**	Pn	**P**	**02 10 26.5**	**+1.4**
	1.1nm,0.3s,baz=208,slow=9.4,SNR=4.8						
HFS	**Hagfors**	**26.22**	**348**	P	**P**	**02 12 06.1**	**-1.2**
	1.3nm,0.4s,baz=156,slow=11,SNR=9.5						
FINES	**FINESS Array B**	**26.70**	**2**	P	**P**	**02 12 10.9**	**-0.7**
	2.0nm,0.9s,baz=196,slow=14,SNR=2.5						
NOA	**NORSAR Array B**	**27.52**	**347**	P	**P**	**02 12 17.9**	**-1.2**
	0.4nm,0.6s,baz=154,slow=10,SNR=4.4						
TORD	**Torodi Ar. Bea**	**29.51**	**229**	P	**P**	**02 12 36.2**	**-0.9**
	0.2nm,0.6s,baz=36,slow=8.2,SNR=5.6						
ARCES	**ARCESS Array B**	**34.80**	**1**	P	**P**	**02 13 20.9**	**-2.1**
	1.6nm,0.3s,baz=174,slow=10.0,SNR=3.4						
MKAR	**Makanchi Array**	**44.79**	**56**	P	**P**	**02 14 46.0**	**-0.3**
	0.5nm,0.5s,baz=277,slow=7.5,SNR=6.7						
ZALV	**Zalesovo Beam**	**45.96**	**46**	P	**P**	**02 14 54.6**	**-0.8**
	0.7nm,0.5s,baz=264,slow=10.0,SNR=2.9						

*SKO **07** 02:06:47.2,41°.59N×20°.55E,h4km,M2.0,ML2.5*
*TIR **07** 02:06:48.5±0.5,41°.43N×20°.52E,h19km±4km,ML2.7*
*PDG **07** 02:06:50.0±0.3,41°.46N×20°.47E,h11km,ML2.7/8,Error ellipse: s-maj=0.6km s-min=0.6km az=90.0*
*ATH **07** 02:06:49.7,41°.52N×20°.44E,h14km±6km,MD3.2/4*
*BEO **07** 02:06:50.8±0.4,41°.35N×20°.50E,h2km±2km,ML2.4/1*
*CSEM **07** 02:06:50.4±0.2,41°.42N×20°.46E,h2km,ML2.7,Error ellipse: s-maj=5.5km s-min=3.6km az=31.0*

ISC 07 02:06:49.9±1.0,41°.46N±0°.02×20°.50E±0°.02,h9km±8km, n58,σ1°.04/102,12C-3D,Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHP	**Peshkopia**	**0.23**	**349**	*i* PG	**Pg**	**02 06 54.6**	**-0.2**
PHP				*i* SG	**Sg**	**02 06 59.0**	**+1.0**
PHP	**Peshkopia**	**0.23**	**349**	*i* Pg	**Pg**	**02 06 54.6**	**-0.2**
	SNR=122						
PHP				*i* Sg	**Sg**	**02 06 59.0**	**+1.0**
	SNR=122						
TIR	**Tirane**	**0.49**	**258**	*i* PG	**Pg**	**02 06 58.9**	**-0.6**
TIR				*i* SG	**Sg**	**02 07 07.0**	**+1.1**
TIR	**Tirane**	**0.49**	**258**	⇓*i* Pg	**Pg**	**02 06 58.6**	**-0.9**
TIR				*e*Sg	**Sg**	**02 07 06.8**	**+0.9**
TIR	**Tirane**	**0.49**	**258**	*i* Pg	**Pg**	**02 06 58.9**	**-0.6**
	SNR=103						
TIR				*e*Sb	**Sg**	**02 07 06.1**	**+0.2**
PUK	**Puka**	**0.74**	**322**	*i* PG	**Pg**	**02 07 03.5**	**-0.8**
PUK				*i* SG	**Sb**	**02 07 15.0**	**-0.4**
PUK	**Puka**	**0.74**	**322**	*i* Pg	**Pg**	**02 07 03.5**	**-0.8**
	SNR=97						
PUK				*i* Sg	**Sb**	**02 07 15.0**	**-0.4**
	SNR=97						
BIA	**Bitola**	**0.76**	**125**	*i* Pg	**Pg**	**02 07 01.9**	**-2.6**
BIA				*i* Sg	**Sn**	**02 07 17.5**	**-0.9**
BIA	**Bitola**	**0.76**	**125**	*i* Pg	**Pg**	**02 07 04.3**	**-0.2**
BIA				*i* Sg	**Sb**	**02 07 17.0**	**+1.3**
SKO	**Skopje**	**0.87**	**53**	*e*Pg	**Pg**	**02 07 06.9**	**+0.2**
SKO				*e*Sg	**Sn**	**02 07 20.0**	**-1.2**
SKO	**Skopje**	**0.87**	**53**	*i* Pg	Pg	02 07 02.0	-4.7
SKO				*i* Sg	**Sn**	**02 07 21.6**	**+0.4**
SKO				*i* Lg	Lg	02 07 22.2	
	comp=E,92nm,0.6s						
SKO				*i* Lg	Lg	02 07 23.4	
	comp=N,180nm,0.3s						
SKO	**Skopje**	**0.87**	**53**	*e*Pg	**Pg**	**02 07 06.9**	**+0.2**
SKO				*i* Sg	**Sn**	**02 07 20.5**	**-0.7**
SKO				*i* Lg	Lg	02 07 22.4	
	comp=N,180nm,0.3s						
FNA	**Florina**	**0.94**	**135**	*e*PG	**Pg**	**02 07 08.4**	**+0.4**
FNA				*e*SB	**Sn**	**02 07 23.2**	**+0.2**
FNA	**Florina**	**0.94**	**135**	*e*Pg	**Pg**	**02 07 08.4**	**+0.4**
FNA				*e*Sb	**Sn**	**02 07 23.2**	**+0.2**
BCI	**Bajram Curri**	**0.97**	**341**	*i* PG	**Pg**	**02 07 08.1**	**-0.5**
BCI	**Bajram Curri**	**0.97**	**341**	*i* Pg	**Pg**	**02 07 08.1**	**-0.5**
	SNR=95						
ULC	**Ulcinj**	**1.07**	**299**	⇑*i* Pg	**Pb**	**02 07 08.8**	**-1.8**
ULC				*e*Sg	**Sn**	**02 07 25.3**	**-0.8**
ULC	**Ulcinj**	**1.07**	**299**	⇑*i* Pg	**Pb**	**02 07 08.8**	**-1.8**
ULC				*e*Sg	**Sn**	**02 07 25.3**	**-0.8**
PVY	**Plav**	**1.21**	**341**	⇑*i* Pg	**Pn**	**02 07 12.4**	**-0.7**
PVY				*e*Sg	**Sn**	**02 07 31.2**	**+1.5**
PVY	**Plav**	**1.21**	**341**	⇑*i* Pg	**Pn**	**02 07 12.4**	**-0.7**
PVY				*e*Sg	**Sn**	**02 07 31.2**	**+1.5**
DRME	**Dracevica, Mon**	**1.23**	**307**	⇑*i* Pg	**Pn**	**02 07 11.9**	**-1.4**
DRME				*e*Sg	**Sn**	**02 07 31.9**	**+1.5**
DRME	**Dracevica, Mon**	**1.23**	**307**	⇑*i* Pg	**Pn**	**02 07 11.9**	**-1.4**
DRME				*e*Sg	**Sn**	**02 07 31.5**	**+1.5**
PDG	**Podgorica**	**1.35**	**317**	*e*Pg	**Pg**	**02 07 17.2**	**+1.4**
PDG				*e*Sg	**Sg**	**02 07 35.6**	**+2.3**
PDG	**Podgorica**	**1.35**	**317**	*e*Pg	**Pg**	**02 07 17.2**	**+1.4**
PDG				*e*Sg	**Sg**	**02 07 35.3**	**+2.0**
TTG	**Podgorica**	**1.35**	**317**	⇑*i* Pg	**Pn**	**02 07 14.3**	**-0.6**
TTG				*e*Sg	**Sg**	**02 07 35.3**	**+2.0**
BUM	**Brajici-Budva**	**1.47**	**306**	⇓*i* Pg	**Pn**	**02 07 16.4**	**-0.2**
BUM				*e*Sg	**Sg**	**02 07 38.3**	**+1.1**
BUM	**Brajici-Budva**	**1.47**	**306**	⇓*i* Pg	**Pn**	**02 07 16.4**	**-0.2**
BUM				*e*Sg	**Sg**	**02 07 38.3**	**+1.1**
KZN	**Kozani**	**1.50**	**140**	*e*PB	**Pg**	**02 07 19.5**	**+0.9**
KZN	**Kozani**	**1.50**	**140**	*e*Pb	**Pg**	**02 07 19.5**	**+0.9**
VAY	**Valandovo**	**1.56**	**94**	⇑*i* Pn	**Pb**	**02 07 18.5**	**-0.4**
VAY				*e*Sg	**Sg**	**02 07 40.9**	**+0.8**
VAY	**Valandovo**	**1.56**	**94**	*i* Pn	**Pb**	**02 07 19.1**	**+0.1**
VAY				*i* Sn	**Sg**	**02 07 40.5**	**+0.3**
VAY				*i* Lg	Lg	02 07 43.6	
	comp=N,33nm,0.8s						
VAY				*i* Lg	Lg	02 07 44.3	
	comp=E,21nm,0.5s						
VAY	**Valandovo**	**1.56**	**94**	*i* Pn	**Pb**	**02 07 18.6**	**-0.4**
VAY				*i* Sn	**Sg**	**02 07 39.9**	**-0.2**
VAY				*e*Sg	**Sg**	**02 07 40.9**	**+0.8**
VAY				*i* Lg	Lg	02 07 43.8	
	comp=E,21nm,0.5s						
BARS	**Barje**	**1.68**	**35**	*e*Pn	**Pg**	**02 07 22.5**	**+0.4**
BARS				*e*Sn	**Sg**	**02 07 44.8**	**+1.0**
BARS	**Barje**	**1.68**	**35**	*e*Pn	**Pg**	**02 07 22.5**	**+0.4**
BARS				*e*Sn	**Sg**	**02 07 44.8**	**+1.0**
NKME	**Niksic**	**1.75**	**319**	*e*Pn	**Pb**	**02 07 21.3**	**-0.9**
NKME				*e*Sn	**Sg**	**02 07 45.2**	**-0.9**
NKME	**Niksic**	**1.75**	**319**	*e*Pn	**Pb**	**02 07 21.3**	**-0.9**
NKME				*e*Sn	**Sg**	**02 07 45.2**	**-0.9**
HCY	**Herceg Novi**	**1.80**	**304**	⇑*i* Pn	**Pn**	**02 07 21.4**	**+0.3**
HCY				*e*Sn	**Sg**	**02 07 46.6**	**-1.1**
HCY	**Herceg Novi**	**1.80**	**304**	⇑*i* Pn	**Pn**	**02 07 21.4**	**+0.3**
HCY				*e*Sn	**Sg**	**02 07 46.6**	**-1.1**
KEK	**Kerkira**	**1.82**	**197**	*e*PN	**Pb**	**02 07 23.4**	**0.0**
KEK	**Kerkira**	**1.82**	**197**	*e*Pn	**Pb**	**02 07 23.4**	**0.0**
SJES	**Sjenica**	**1.85**	**348**	*e*Pn	**Pb**	**02 07 24.0**	**+0.1**
SJES				*e*Sn	**Sg**	**02 07 50.0**	**+0.7**
TREB	**Trebinje**	**2.04**	**309**	*e*Pn	**Pb**	**02 07 26.1**	**-1.0**
TREB				*e*Sn	**Sb**	**02 07 53.3**	**+0.7**
TREB	**Trebinje**	**2.04**	**309**	*e*Pn	**Pb**	**02 07 26.1**	**-1.0**
TREB				*e*Sn	**Sb**	**02 07 53.3**	**+0.7**
BRY	**Bratogost**	**2.05**	**315**	⇑*i* Pn	**Pn**	**02 07 25.7**	**+0.9**
BRY				*e*Sn	**Sb**	**02 07 52.6**	**-0.6**
BRY	**Bratogost**	**2.05**	**315**	⇑*i* Pn	**Pn**	**02 07 25.7**	**+0.9**
BRY				*e*Sn	**Sb**	**02 07 52.6**	**-0.6**
VTS	**Vitosha**	**2.31**	**60**	*e*Pn	**Pb**	**02 07 31.0**	**-0.9**
VTS	**Vitosha**	**2.31**	**60**	*e*Pn	**Pb**	**02 07 31.0**	**-0.9**
GRUS	**Gruza**	**2.44**	**4**	*e*Pn	**Pb**	**02 07 33.7**	**-0.2**
GRUS				*e*Sn	**Sb**	**02 08 03.6**	**-0.5**
GRUS	**Gruza**	**2.44**	**4**	*e*Pn	**Pb**	**02 07 33.7**	**-0.2**
GRUS				*e*Sn	**Sb**	**02 08 03.6**	**-0.5**
STON	**Ston**	**2.52**	**305**	*i* Pn	**Pn**	**02 07 32.8**	**+1.8**
STON				Sn	**Sb**	**02 08 07.5**	**+1.2**
NVR	**Nevrokopi**	**2.53**	**91**	*e*PN	**Pb**	**02 07 33.5**	**-2.0**
NVR	**Nevrokopi**	**2.53**	**91**	*e*Pn	**Pb**	**02 07 33.5**	**-2.0**
BBLS	**Lazići**	**2.54**	**342**	*e*Pn	**Pb**	**02 07 34.6**	**-1.1**
BBLS				*e*Sn	**Sb**	**02 08 08.2**	**+1.1**
BBLS	**Lazići**	**2.54**	**342**	*e*Pn	**Pb**	**02 07 34.6**	**-1.1**
BBLS				*e*Sn	**Sb**	**02 08 08.2**	**+1.1**
DIVS	**Divibare**	**2.67**	**352**	*e*Pn	**Pb**	**02 07 36.3**	**-1.6**
DIVS				*e*Sn	**Sb**	**02 08 09.9**	**-0.9**
DIVS	**Divibare**	**2.67**	**352**	*e*Pn	**Pb**	**02 07 36.3**	**-1.6**
DIVS				*e*Sn	**Sb**	**02 08 09.9**	**-0.9**
FGSL	**Fruska Gora**	**3.73**	**352**	*e*Pn	Pn	02 07 51.0	+3.2
FRGS	**Fruska Gora**	**3.74**	**352**	*e*Pn	Pn	02 07 51.0	+3.2

MAN 07 02:41:09,8°.06N×124°.98E,h1km,mb4.1,ML2.9,MS2.6, 1C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	**Musuan**	**0.20**	**157**	*e*P	Pg	02 41 14.0	+1.1
BUKP				*e*S	Sg	02 41 19.6	+4.1
CGP	**Cagayan de Oro**	**0.48**	**324**	⇑*i*P	Pg	02 41 19.1	+0.9
CGP				*i* S	Sb	02 41 27.8	-0.2
BUTP	**Butuan**	**1.10**	**35**	*e*P	Pn	02 41 31.3	-0.3
CTBH	**Cotabato--PC H**	**1.11**	**221**	⇓*i*P	Pb	02 41 31.1	0.0
CTBH				*i* S	Sn	02 41 48.6	+0.9
PAGZ	**Pagadian**	**1.60**	**262**	*e*P	Pg	02 41 40.8	+1.1

*ISCJB **07** 02:50:03.8±0.4,31°.61N±0°.03×115°.98W±0°.03,h20km±4km, mb3.1/1,Error ellipse: s-maj=4.5km s-min=3.2km az=30.2*
*IDC **07** 02:50:04.4±2.6,31°.71N×115°.88W,h0km,mb3.2/1, mb1 3.6/3,mb1mx3.5/24,mbtmp3.2/3,ML3.5/2,Error ellipse: s-maj=47.5km s-min=11.3km az=49.0*
*ECX **07** 02:50:04.5±0.6,31°.63N×115°.97W,h8km,MD3.4,ML3.7*
*NEIC **07** 02:50:04.5,31°.63N×115°.97W,h8km,ML3.6(ECX),After ECX.*
NEIC Felt at Ramona, California.

ISC 07 02:50:03.9±1.0,31°.65N±0°.03×115°.96W±0°.02,h9km±8km, n51,σ1°.28/79,18C-2D,Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RDX	**Rancho Dawling**	**0.28**	**3**	⇑*e*P	**Pb**	**02 50 10.5**	**-0.8**
RDX				*e*S	**Sg**	**02 50 14.8**	**+1.3**
RDX	**Rancho Dawling**	**0.28**	**3**	⇑*e*P	**Pb**	**02 50 10.5**	**-0.8**
RDX				*e*S	**Sg**	**02 50 14.8**	**+1.3**
ZAX	**El Zacaton**	**0.30**	**244**	⇑*e*P	**Pg**	**02 50 09.8**	**0.0**
ZAX				*e*S	**Sg**	**02 50 14.0**	**+0.2**
ECNX	**Esteban Cantu**	**0.54**	**271**	⇑*e*P	**Pg**	**02 50 14.1**	**-0.3**
ECNX	**Esteban Cantu**	**0.54**	**271**	⇑*e*P	**Pg**	**02 50 14.1**	**-0.3**
PBX	**Punta Banda**	**0.66**	**279**	⇑*e*P	**Pg**	**02 50 16.1**	**-0.5**
PBX				*e*S	**Sg**	**02 50 24.8**	**-0.4**
PBX	**Punta Banda**	**0.66**	**279**	⇑*e*P	**Pg**	**02 50 16.1**	**-0.5**
PBX				*e*S	**Sg**	**02 50 24.8**	**-0.4**
PBX				⇑*e*		02 50 26.7	
	comp=E,2μm,0.4s						
PBX				⇓*e*		02 50 27.1	
	comp=N,3μm,0.3s						
EMX	**El Mayor**	**0.70**	**61**	⇑*e*P	**Pg**	**02 50 17.3**	**-0.2**
EMX				*e*S	**Sb**	**02 50 27.2**	**-0.9**
EMX	**El Mayor**	**0.70**	**61**	⇑*e*P	**Pg**	**02 50 17.3**	**-0.2**
EMX				*e*S	**Sb**	**02 50 27.2**	**-0.9**
EMX				⇑*e*		02 50 29.0	
	comp=N,3μm,0.2s						
SPX	**San Pedro Mart**	**0.73**	**144**	⇑*e*P	**Pg**	**02 50 17.8**	**-0.4**
SPX	**San Pedro Mart**	**0.73**	**144**	⇑*e*P	**Pg**	**02 50 17.8**	**-0.4**
SPX				*e*S	**Sg**	**02 50 27.3**	**-0.5**
SPX				⇑*e*		02 50 28.6	
	comp=N,3μm,0.4s						
SPX				⇑*e*		02 50 30.6	
	comp=E,2μm,0.6s						
ECBX	**El Chinero**	**0.80**	**102**	⇑*e*P	**Pg**	**02 50 19.1**	**-0.2**
ECBX				*e*S	**Sb**	**02 50 29.9**	**-0.9**
ECBX				⇓*e*		02 50 37.0	
	comp=N,2μm,0.5s						
CBX	**Cerro Bola**	**0.89**	**318**	⇑*e*P	**Pg**	**02 50 20.2**	**-0.9**
CBX				*e*S	**Sg**	**02 50 32.2**	**-0.5**
CPBX	**Cerro Prieto**	**0.95**	**36**	⇑*e*P	**Pb**	**02 50 22.6**	**0.0**
RMX	**La Rumorosa**	**0.96**	**354**	*e*P	**Pg**	**02 50 22.0**	**-0.4**
RMX				*e*S	**Sg**	**02 50 34.7**	**-0.1**
DVTC	**Desert V Tower**	**1.02**	**353**	P	**Pg**	**02 50 23.1**	**-0.4**
	baz=1.0						
DVTC				S	**Sg**	**02 50 36.0**	**-0.7**
	baz=1.0						
BAR	**Barrett**	**1.19**	**330**	*e*Pn	**Pg**	**02 50 25.2**	**-1.6**
BAR				*e*S	**Sg**	**02 50 40.0**	**-2.4**
SWSC	**Sam W. Stewart**	**1.30**	**6**	P	**Pn**	**02 50 27.4**	**-0.8**
	baz=1.3						
MONP	**Monument Peak**	**1.30**	**343**	P	**Pn**	**02 50 27.7**	**-0.7**
	baz=1.3						
MONP				S	**Sb**	**02 50 44.3**	**-1.2**
	baz=1.3						
109C	**Camp Elliot, M**	**1.57**	**322**	P	**Pn**	**02 50 31.2**	**-0.8**
	baz=1.6						
109C				S	**Sn**	**02 50 51.2**	**-1.3**
	baz=1.6						
GLA	**Glamis**	**1.70**	**34**	*e*Pn	**Pn**	**02 50 32.8**	**-1.1**
GLA				*e*S	**Sn**	**02 50 55.2**	**-0.6**
GLA	**Glamis**	**1.70**	**34**	P	**Pn**	**02 50 32.9**	**-0.9**
	baz=1.7						
PFO	**Pinyon Flat Ob**	**2.00**	**348**	*e*Pn	**Pn**	**02 50 37.7**	**-0.3**
PFO				Pg	**Pb**	**02 50 40.9**	**+0.3**
PFO				Lg	Lg	02 51 06.2	
PFO				*e*S	**Sb**	**02 51 06.4**	**+0.7**
PFO	**Pinyon Flat Ob**	**2.00**	**348**	Pn	**Pn**	**02 50 37.8**	**-0.2**
	comp=N,17nm,0.3s,baz=170,slow=17,SNR=156						
PFO				Pg	**Pb**	**02 50 40.9**	**+0.3**
	comp=N,20nm,0.3s,baz=173,slow=16,SNR=89						
PFO				Lg	Lg	02 51 06.2	
	comp=N,121nm,0.3s,baz=207,slow=2.3,SNR=31						
PFO	**Pinyon Flat Ob**	**2.00**	**348**	P	**Pn**	**02 50 37.7**	**-0.3**
	baz=2.0						
PFO				Sb	**Sb**	**02 51 06.0**	**+0.3**
	baz=2.0						
113A	**Mohawk Valley,**	**2.17**	**58**	P	**Pn**	**02 50 39.5**	**-0.7**
	baz=2.2						
113A				S	**Sn**	**02 51 05.1**	**-2.1**
	baz=2.2						
MURC	**Murrieta**	**2.21**	**332**	P	**Pn**	**02 50 41.3**	**+0.4**
	baz=2.2						
MURC				Sb	**Sb**	**02 51 10.8**	**-0.8**
	baz=2.2						
BELC	**Belle Mtn. Jos**	**2.35**	**359**	P	**Pn**	**02 50 42.8**	**0.0**
	baz=2.4						
SCI	**San Clemente I**	**2.56**	**302**	P	**Pn**	**02 50 44.6**	**-1.0**
	baz=2.6						
SCI				S	**Sn**	**02 51 15.7**	**-1.2**
	baz=2.6						
214A	**Organ Pipe Nat**	**2.70**	**83**	P	**Pn**	**02 50 46.6**	**-1.0**
	baz=2.7						
CIS	**Catalina Islan**	**2.71**	**311**	P	**Pn**	**02 50 46.0**	**-1.6**
	baz=2.7						
BBRC	**Big Bear Solar**	**2.73**	**343**	Sb	**Sb**	**02 51 27.4**	**+0.6**
	baz=2.7						
BFSC	**Mount Baldy Ra**	**2.95**	**332**	Sb	**Sb**	**02 51 32.7**	**-0.3**
	baz=3.0						
Z14A	**Wintersburg**	**3.07**	**55**	P	**Pn**	**02 50 52.6**	**0.0**
	baz=3.1						
MWC	**Mount Wilson**	**3.12**	**326**	*e*Pn	**Pn**	**02 50 53.7**	**+0.3**
MWC				*e*S	**Sb**	**02 51 37.8**	**0.0**
PASC	**Pasadena Art C**	**3.14**	**324**	*e*Pn	**Pn**	**02 50 53.2**	**-0.3**
PASC				*e*S	**Sb**	**02 51 38.4**	**+0.2**
HEC	**Hector,Ludlow**	**3.19**	**355**	Pb	**Pb**	**02 50 59.6**	**-1.2**
	baz=3.2						
GSC	**Goldstone**	**3.71**	**349**	*e*Pn	**Pn**	**02 51 03.6**	**+2.1**
GSC				*e*S	**Sg**	**02 51 59.7**	**-3.4**
OSI	**Osito Adit**	**3.76**	**323**	*e*Pn	**Pn**	**02 51 02.6**	**+0.4**
OSI				*e*S	**Sn**	**02 51 46.1**	**-0.4**
OSI	**Osito Adit**	**3.76**	**323**	S	**Sn**	**02 51 45.4**	**-1.2**
	baz=3.8						
TUC	**Tucson**	**4.45**	**80**	*e*Pn	**Pn**	**02 51 10.4**	**-1.2**
ISA	**Isabella**	**4.52**	**333**	*e*Pn	**Pn**	**02 51 14.2**	**+1.6**
ISA				*e*S	**Sb**	**02 52 23.3**	**+5.2**
SHPR	**Sheep Range**	**4.89**	**8**	*e*Pn	**Pn**	**02 51 19.6**	**+1.7**
CCUT	**Cedar City**	**6.27**	**19**	*e*Pn	**Pn**	**02 51 39.3**	**+2.6**
ARUT	**Antelope Range**	**6.47**	**18**	*e*Pn	**Pn**	**02 51 40.9**	**+1.4**
NVAR	**Mina Array Bea**	**7.03**	**345**	Pn	**Pn**	**02 51 49.3**	**+2.0**
NVAR				Pg	Pg	02 52 15.1	-3.5
NVAR	**Mina Array Bea**	**7.03**	**345**	Pn	**Pn**	**02 51 49.3**	**+2.0**
	comp=N,0.2nm,0.3s,baz=164,slow=17,SNR=2.5						
NVAR				Pg	Pg	02 52 15.1	-3.5
	comp=N,0.4nm,0.3s,baz=170,slow=18,SNR=5.7						
TXAR	**Lajitas Array**	**10.85**	**99**	Pn	**Pn**	**02 52 41.8**	**+2.2**
TXAR	**Lajitas Array**	**10.85**	**99**	Pn	**Pn**	**02 52 41.8**	**+2.2**
	comp=N,0.2nm,0.3s,baz=278,slow=12,SNR=18						
ILAR	**Eielson Array**	**38.25**	**339**	P	**P**	**02 57 25.4**	**+1.3**
ILAR	**Eielson Array**	**38.25**	**339**	P	**P**	**02 57 25.4**	**+1.3**
	comp=N,0.2nm,0.5s,baz=142,slow=7.4,SNR=5.4						

IDC 07 03:07:13.6±5.3,1°.67S×99°.53E,h0km,mb3.5/4,mb1 3.7/4, mb1mx3.4/24,mbtmp3.5/4,MS2.7/1,Ms1 2.7/1, ms1mx2.5/30,Error ellipse: s-maj=268.0km s-min=23.2km az=54.0,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.49**	**352**	LR	LR	03 10 11.3	
	comp=Z,86nm,18.5s,baz=277,slow=41						
WRA	**Warramunga Arr**	**38.56**	**121**	P	P	03 14 38.3	-0.1
	0.6nm,0.5s,baz=298,slow=8.9,SNR=8.6						
ASAR	**Alice Springs**	**39.82**	**126**	P	P	03 14 48.9	-0.1
	0.2nm,0.4s,baz=295,slow=7.8,SNR=4.4						
MKAR	**Makanchi Array**	**50.59**	**345**	P	P	03 16 13.8	-0.4
	0.2nm,0.5s,baz=159,slow=9.0,SNR=4.0						
ZALV	**Zalesovo Beam**	**56.76**	**350**	P	P	03 16 59.5	+0.2
	0.6nm,0.4s,baz=150,slow=9.1,SNR=3.1						
TXAR	**Lajitas Array**	**144.72**	**37**	PKP	PKPbc	03 26 52.5	+0.4
	0.3nm,0.6s,baz=276,slow=1.6,SNR=6.9						

IDC 07 03:10:02.7±16.0,9°.54S×154°.99E,h0km,mb4.1/3, mb1 4.4/3,mb1mx3.8/17,mbtmp4.2/3,MS3.7/4,Ms1 3.7/4, ms1mx3.1/25,Error ellipse: s-maj=275.0km s-min=86.5km az=31.0,D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.73**	**270**	LR	LR	03 14 57.5	
	comp=Z,739nm,19.6s,baz=248,slow=38						
DZM	**Mont Dzumac**	**16.62**	**140**	*e*LR	LR	03 17 43.8	
	962nm,24.1s						
**WRA

KNRA	**Kununurra**	**8.82 185**	P	Pn	03 47 13.3	+2.3
	baz=6.7,SNR=4.5					
KNRA			S	**Sn**	**03 48 46.9**	**-2.0**
	baz=6.7,SNR=5.8					
FITZ	**Fitzroy Crossi**	**11.82 198**	Pn	Pn	03 47 45.0	-5.8
	0.2nm,0.3s,baz=0.0,slow=12,SNR=3.1					
FITZ			Sn	Sn	03 49 53.7	-7.6
	0.3nm,0.3s,baz=343,slow=11,SNR=4.7					
WRA	**Warramunga Arr**	**13.86 161**	Pn	**Pn**	**03 48 15.8**	**-1.5**
	0.3nm,0.3s,baz=338,slow=13,SNR=16					
WRA			Sn	Sn	03 50 42.2	-8.5
	0.5nm,0.3s,baz=347,slow=19,SNR=6.6					
COEN	**Coen**	**15.21 119**	P	**P**	**03 48 37.7**	**+1.8**
	baz=14,SNR=5.5					
ASAR	**Alice Springs**	**17.27 166**	P	**Pn**	**03 49 01.4**	**+2.0**
	0.2nm,0.3s,baz=346,slow=10,SNR=10					
ASAR			S	**S**	**03 52 08.2**	**-3.5**
	0.2nm,0.3s,baz=353,slow=28,SNR=5.4					
MKAR	**Makanchi Array**	**67.81 327**	P	**P**	**03 55 49.9**	**+0.3**
	0.2nm,0.4s,baz=119,slow=8.0,SNR=4.1					

*CSEM **07** 03:51:17.4±0.3,41°.39N×20°.43E,h2km,ML2.4,Error ellipse: s-maj=8.1km s-min=4.0km az=18.0*
*SKO **07** 03:51:17.8,41°.48N×20°.44E,h15km,M2.0,ML2.5*
*PDG **07** 03:51:18.3±0.3,41°.50N×20°.43E,h6km,ML2.7/9,Error ellipse: s-maj=0.6km s-min=0.6km az=90.0*
*BEO **07** 03:51:18.9±0.4,41.44N×20.44E,h4km±3km,ML2.4/1*
ISC 07 03:51:18.1±1.2,41.46N±0.03×20.43E±0.02,h3km±10km, n49,σ0.94/77,17C-13D,Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.44**	**255**	↑iPg	**Pg**	**03 51 26.8**	**+0.3**
TIR	**Tirane**	**0.44**	**255**	↑iPg	**Pg**	**03 51 26.8**	**+0.3**
BIA	**Bitola**	**0.81**	**123**	*i* Pg	**Pg**	**03 51 33.5**	**-0.1**
BIA				*i* Sg	**Sb**	**03 51 46.3**	**+0.3**
BIA	**Bitola**	**0.81**	**123**	*i* Pg	**Pg**	**03 51 32.9**	**-0.6**
BIA				*i* Sg	**Sb**	**03 51 45.8**	**-0.2**
SKO	**Skopje**	**0.91**	**56**	↓iPg	**Pg**	**03 51 35.2**	**-0.4**
SKO				*e*Sg	**Sb**	**03 51 48.2**	**-0.9**
SKO	**Skopje**	**0.91**	**56**	*i* Pg	**Pb**	**03 51 36.3**	**-0.3**
SKO				*i* Sg	**Sb**	**03 51 48.8**	**-0.3**
SKO				*i* Lg	Lg	03 51 50.5	
	comp=N,273nm,0.6s						
SKO				*i* Lg	Lg	03 51 50.9	
	comp=E,149nm,0.6s						
SKO	**Skopje**	**0.91**	**56**	↓iPg	**Pg**	**03 51 35.2**	**-0.4**
SKO				*i* Sg	**Sg**	**03 51 47.7**	**+0.2**
SKO				*i* Lg	Lg	03 51 49.8	
	comp=E,149nm,0.6s						
ULC	**Ulcinj**	**1.02**	**300**	↑iPg	**Pg**	**03 51 36.0**	**-1.6**
ULC				*e*Sg	**Sb**	**03 51 52.3**	**+0.2**
ULC	**Ulcinj**	**1.02**	**300**	↑iPg	**Pg**	**03 51 36.0**	**-1.6**
ULC				*e*Sg	**Sb**	**03 51 52.3**	**+0.2**
DRME	**Dracevica, Mon**	**1.18**	**308**	↑iPg	**Pg**	**03 51 39.4**	**-1.2**
DRME				*e*Sg	**Sn**	**03 51 58.1**	**+0.2**
DRME	**Dracevica, Mon**	**1.18**	**308**	↑iPg	**Pg**	**03 51 39.4**	**-1.2**
DRME				*e*Sg	**Sn**	**03 51 58.1**	**+0.2**
PVY	**Plav**	**1.19**	**343**	↓iPg	**Pg**	**03 51 39.2**	**-1.6**
PVY				*e*Sg	**Sn**	**03 51 58.3**	**0.0**
PVY	**Plav**	**1.19**	**343**	↓iPg	**Pg**	**03 51 39.2**	**-1.6**
PVY				*e*Sg	**Sn**	**03 51 58.3**	**0.0**
PDG	**Podgorica**	**1.30**	**318**	*e*Pg	**Pn**	**03 51 41.5**	**-1.6**
PDG				*e*Sg	**Sn**	**03 52 00.6**	**-0.4**
PDG	**Podgorica**	**1.30**	**318**	↓iPg	**Pn**	**03 51 41.7**	**-1.4**
PDG				*e*Sg	**Sn**	**03 52 02.1**	**+1.1**
TTG	**Podgorica**	**1.30**	**318**	↓iPg	**Pn**	**03 51 41.7**	**-1.4**
TTG				*e*Sg	**Sn**	**03 52 02.1**	**+1.1**
BUM	**Brajici-Budva**	**1.42**	**307**	↑iPg	**Pn**	**03 51 43.8**	**-1.0**
BUM				*e*Sg	**Sg**	**03 52 06.0**	**+2.3**
BUM	**Brajici-Budva**	**1.42**	**307**	↑iPg	**Pn**	**03 51 43.8**	**-1.0**
BUM				*e*Sg	**Sg**	**03 52 06.0**	**+2.3**
BEY	**Berane**	**1.46**	**344**	↓iPg	**Pn**	**03 51 45.1**	**-0.3**
BEY				*e*Sg	**Sg**	**03 52 06.6**	**+1.5**
IVA	**Berane**	**1.46**	**344**	↓iPg	**Pn**	**03 51 45.1**	**-0.3**
IVA				*e*Sg	**Sg**	**03 52 06.6**	**+1.5**
VAY	**Valandovo**	**1.62**	**94**	↑iPn	**Pn**	**03 51 46.5**	**-0.9**
VAY	**Valandovo**	**1.62**	**94**	*i* Pg	**Pn**	**03 51 47.3**	**-0.1**
VAY				*i* Sg	Sn	03 52 01.6	-7.2
VAY				*i* Lg	Lg	03 52 12.0	
	comp=N,33nm,0.8s						
VAY				*i* Lg	Lg	03 52 12.1	
	comp=E,41nm,0.7s						
VAY	**Valandovo**	**1.62**	**94**	↑iPn	**Pn**	**03 51 46.5**	**-0.9**
VAY	**Valandovo**	**1.62**	**94**	*i* Pg	**Pn**	**03 51 46.8**	**-0.6**
VAY				*i* Sg	**Sb**	**03 52 09.0**	**-0.3**
VAY				*i* Lg	Lg	03 52 11.5	
	comp=E,41nm,0.7s						
BARS	**Barje**	**1.70**	**37**	*e*Pn	**Pg**	**03 51 50.5**	**-0.2**
BARS				*e*Sn	**Sg**	**03 52 12.9**	**+0.1**
NKME	**Niksic**	**1.70**	**320**	↓iPn	**Pn**	**03 51 49.3**	**+0.6**
NKME				*e*Sn	**Sg**	**03 52 13.6**	**+0.8**
NKME	**Niksic**	**1.70**	**320**	↓iPn	**Pn**	**03 51 49.3**	**+0.6**
NKME				*e*Sn	**Sg**	**03 52 13.6**	**+0.8**
HCY	**Herceg Novi**	**1.75**	**305**	↓iPn	**Pn**	**03 51 49.3**	**+0.1**
HCY				*e*Sn	**Sg**	**03 52 14.5**	**+0.3**
HCY	**Herceg Novi**	**1.75**	**305**	↓iPn	**Pn**	**03 51 49.3**	**+0.1**
HCY				*e*Sn	**Sg**	**03 52 14.5**	**+0.3**
SJES	**Sjenica**	**1.83**	**350**	*e*Pn	**Pn**	**03 51 50.8**	**+0.3**
SELS	**Selova**	**1.83**	**16**	*e*Pn	**Pn**	**03 51 50.3**	**-0.1**
TREB	**Trebinje**	**1.99**	**310**	*e*Pn	**Pb**	**03 51 53.9**	**-1.0**
TREB	**Trebinje**	**1.99**	**310**	*e*Pn	**Pb**	**03 51 53.9**	**-1.0**
PLE	**Pljevlja**	**2.02**	**338**	↑iPn	**Pn**	**03 51 54.1**	**+1.0**
PLE				*e*Sn	**Sb**	**03 52 21.3**	**+0.3**
PLE	**Pljevlja**	**2.02**	**338**	↑iPn	**Pn**	**03 51 54.1**	**+1.0**
PLE				*e*Sn	**Sb**	**03 52 21.3**	**+0.3**
UPM	**Unac-Piva**	**2.07**	**328**	↑iPn	**Pn**	**03 51 54.6**	**+0.7**
UPM				*e*Sn	**Sb**	**03 52 22.9**	**+0.2**
UPM	**Unac-Piva**	**2.07**	**328**	↑iPn	**Pn**	**03 51 54.6**	**+0.7**
UPM				*e*Sn	**Sb**	**03 52 22.9**	**+0.2**
VTS	**Vitosha**	**2.36**	**60**	↑iP	**Pn**	**03 51 58.4**	**+0.7**
VTS	**Vitosha**	**2.36**	**60**	↑iPn	**Pn**	**03 51 58.5**	**+0.7**
VTS	**Vitosha**	**2.36**	**60**	↑iPn	**Pn**	**03 51 58.5**	**+0.7**
GRUS	**Gruza**	**2.44**	**5**	*e*Pn	**Pn**	**03 51 59.6**	**+0.9**
GRUS	**Gruza**	**2.44**	**5**	*e*Pn	**Pn**	**03 51 59.6**	**+0.9**
ZAPS	**Zavoj**	**2.44**	**41**	*e*Pn	**Pn**	**03 52 00.1**	**+1.3**
ZAPS	**Zavoj**	**2.44**	**41**	*e*Pn	**Pn**	**03 52 00.1**	**+1.3**
BBLS	**Lazići**	**2.52**	**343**	*e*Pn	**Pn**	**03 52 01.5**	**+1.6**
BBLS	**Lazići**	**2.52**	**343**	*e*Pn	**Pn**	**03 52 01.5**	**+1.6**
DIVS	**Divibare**	**2.66**	**353**	*e*Pn	**Pn**	**03 52 02.6**	**+0.8**
DIVS	**Divibare**	**2.66**	**353**	*e*Pn	**Pn**	**03 52 02.6**	**+0.8**
GZR	**Gura Zlata**	**4.29**	**23**	↓iP	**Pn**	**03 52 24.2**	**0.0**

*ISCJB **07** 03:53:18.5±0.6,8°.81S±0°.06×159°.20E±0°.06,h162km±6km, mb4.6/56,Error ellipse: s-maj=11.6km s-min=6.7km az=41.9*
*IDC **07** 03:53:19.2±0.4,8°.90S×159°.31E,h161km±4km,mb4.2/21, mb1 4.3/23,mb1mx4.3/24,mbtmp4.2/23,MS4.5/1, Ms1 4.5/1,ms1mx3.2/33,Error ellipse: s-maj=14.3km s-min=10.2km az=99.0*
*NEIC **07** 03:53:20.1±0.8,8°.86S×159°.26E,h166km±7km,mb4.7/26, Error ellipse: s-maj=9.8km s-min=5.9km az=134.0*
*BJI **07** 03:53:21.2,8°.91S×159°.51E,h204km,mB4.7/19,mb4.7/32*
*AUST **07** 03:53:43.2±8.1,9°.69S×158°.79E,h351km±1km,Error ellipse: s-maj=4.3km s-min=1.3km az=41.0*
ISC 07 03:53:20.0±0.5,8°.86S±0°.06×159°.28E±0°.07,h168km±4km, n120,σ1.66/152,mb4.6/55,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.87**	**131**	P	**Pn**	**03 53 44.4**	**-1.2**
HNR				S	**Sn**	**03 54 03.1**	**-2.2**
HNR	**Honiara**	**0.87**	**131**	P	**Pn**	**03 53 44.3**	**-1.2**
	704nm,0.3s,baz=342,slow=3.2,SNR=170						
HNR				S	**Sn**	**03 54 03.1**	**-2.2**
	661nm,0.3s,baz=79,slow=18,SNR=9.6						
PMG	**Port Moresby**	**11.98**	**266**	*e*Pn	**Pn**	**03 56 08.3**	**+2.7**
PMG	**Port Moresby**	**11.98**	**266**	P	**Pn**	**03 56 07.0**	**+1.4**
	0.8nm,0.3s,baz=60,slow=20,SNR=3.4						
COEN	**Coen**	**16.58**	**251**	*e*Pn	**Pn**	**03 57 03.9**	**+1.0**
	119nm,0.8s						
COEN	**Coen**	**16.58**	**251**	P	**Pn**	**03 57 06.0**	**+3.0**
	baz=16,SNR=5.4						
CTA	**Charters Tower**	**16.83**	**227**	P	**Pn**	**03 57 06.8**	**+0.8**
CTA	**Charters Tower**	**16.83**	**227**	P	**Pn**	**03 57 06.8**	**+0.8**
	0.7nm,0.3s,baz=59,slow=13,SNR=16						
MTSU	**Mount Surprise**	**17.21**	**236**	P	**Pn**	**03 57 12.8**	**+2.2**
	baz=16,SNR=11						

EIDS	**Eidsvold**	**18.18**	**204**	*e*Pn	**Pn**	**03 57 21.1**	**-0.8**
	19nm,0.8s						
EIDS	**Eidsvold**	**18.18**	**204**	P	**Pn**	**03 57 22.4**	**+0.5**
	baz=17,SNR=6.8						
RMQ	**Roma**	**20.17**	**208**	P	Pn	03 57 43.9	-1.6
	baz=19,SNR=6.3						
LHI	**Lord Howe Isla**	**22.55**	**180**	S	S	04 01 39.3	-21
	baz=22,SNR=3.1						
ARMA	**Armidale**	**22.61**	**197**	*e*P	**P**	**03 58 08.7**	**+2.0**
	36nm,1.1s						
ARMA	**Armidale**	**22.61**	**197**	P	**P**	**03 58 08.7**	**+2.0**
	baz=22,SNR=6.5						
WRAB	**Tennant Creek**	**26.50**	**243**	*e*P	**P**	**03 58 42.1**	**+0.2**
	87nm,1.7s						
WRA	**Warramunga Arr**	**26.51**	**243**	P	**P**	**03 58 42.0**	**0.0**
WRA				PcP	**PcP**	**04 02 00.6**	**-2.0**
WRA	**Warramunga Arr**	**26.51**	**243**	P	**P**	**03 58 42.0**	**0.0**
	7.4nm,0.4s,baz=68,slow=9.3,SNR=190						
WRA				PcP	**PcP**	**04 02 00.6**	**-2.0**
	2.0nm,0.9s,baz=70,slow=2.4,SNR=6.2						
MTN	**Manton Dam**	**27.92**	**259**	P	**P**	**03 58 56.1**	**+1.4**
	baz=27,SNR=4.2						
STKA	**Stephens Creek**	**28.18**	**213**	*e*P	**P**	**03 58 57.4**	**+0.6**
	0.8nm,0.4s						
STKA	**Stephens Creek**	**28.18**	**213**	P	**P**	**03 58 57.1**	**+0.3**
	3.6nm,0.3s,baz=45,slow=14,SNR=22						
STKA	**Stephens Creek**	**28.18**	**213**	P	**P**	**03 58 57.4**	**+0.6**
	baz=27,SNR=17						
AS01	**Alice Springs**	**28.35**	**236**	*e*P	**P**	**03 58 57.7**	**-0.7**
AS31	**Alice Springs**	**28.39**	**236**	*e*P	**P**	**03 58 58.5**	**-0.3**
ASAR	**Alice Springs**	**28.39**	**236**	P	**P**	**03 58 58.4**	**-0.4**
ASAR				PcP	**PcP**	**04 02 07.2**	**0.0**
ASAR	**Alice Springs**	**28.39**	**236**	P	**P**	**03 58 58.4**	**-0.4**
	3.0nm,0.4s,baz=65,slow=9.1,SNR=43						
ASAR				PcP	**PcP**	**04 02 07.2**	**0.0**
	1.2nm,0.7s,baz=56,slow=2.3,SNR=5.4						
KNRA	**Kununurra**	**30.55**	**254**	P	**P**	**03 59 18.1**	**+0.1**
	baz=30,SNR=13						
BBOO	**Buckleboo**	**32.08**	**219**	*e*P	**P**	**03 59 31.2**	**0.0**
	406nm,0.9s						
BBOO	**Buckleboo**	**32.08**	**219**	P	**P**	**03 59 31.2**	**0.0**
	baz=31,SNR=14						
FITZ	**Fitzroy Crossi**	**33.92**	**251**	*e*P	**P**	**03 59 46.8**	**-0.5**
	5.3nm,0.8s						
FITZ	**Fitzroy Crossi**	**33.92**	**251**	P	**P**	**03 59 46.8**	**-0.5**
	2.5nm,0.3s,baz=94,slow=5.3,SNR=22						
FITZ	**Fitzroy Crossi**	**33.92**	**251**	P	**P**	**03 59 46.9**	**-0.5**
	baz=33,SNR=18						
MMRI	**Maumere**	**36.60**	**267**	*e*P	**P**	**04 00 10.3**	**0.0**
	83nm,0.9s						
WSI	**Waingapu**	**38.47**	**266**	S	S	04 05 48.8	-20
	baz=38,SNR=4.0						
KAPI	**Kappang**	**39.41**	**273**	*e*P	**P**	**04 00 32.9**	**-0.9**
	24nm,0.8s						
MBWA	**Marble Bar**	**39.99**	**248**	*e*P	**P**	**04 00 38.2**	**-0.3**
	18nm,0.7s						
MEEK	**Meekatharra**	**42.34**	**240**	P	**P**	**04 00 58.2**	**+0.5**
	baz=42,SNR=13						
JAGI	**Jajag, Banyuwa**	**44.59**	**267**	P	**P**	**04 01 14.3**	**-1.6**
	baz=44,SNR=3.4						
KLBR	**Kellerberrin**	**44.67**	**234**	P	**P**	**04 01 16.4**	**+0.2**
	baz=44,SNR=12						
BLDU	**Ballidu**	**45.17**	**235**	P	**P**	**04 01 21.3**	**+1.1**
	baz=44,SNR=6.3						
MORW	**Morawa**	**45.23**	**238**	P	**P**	**04 01 21.1**	**+0.4**
	baz=44,SNR=11						
SBUM	**Sibu**	**48.23**	**281**	*e*P	**P**	**04 01 43.2**	**-1.0**
	111nm,1.7s						
MJAR	**Matsushiro Arr**	**49.31**	**338**	P	**P**	**04 01 51.5**	**-0.6**
MJAR	**Matsushiro Arr**	**49.31**	**338**	P	**P**	**04 01 51.5**	**-0.6**
	3.9nm,0.7s,baz=170,slow=9.1,SNR=12						
MJAR				LR	LR	04 21 48.4	
	comp=Z,521nm,20.1s,baz=195,slow=35						
MAT	**Matsushiro**	**49.31**	**338**	P	**P**	**04 01 51.6**	**-0.5**
JNU	**Nakatsue**	**49.74**	**328**	P	**P**	**04 01 55.8**	**+0.4**
JNU	**Nakatsue**	**49.74**	**328**	P	**P**	**04 01 55.8**	**+0.4**
	13nm,1.0s,baz=310,slow=16,SNR=5.3						
KSM	**Kuching**	**49.87**	**279**	P	P	04 02 05.1	+8.4
	baz=50,SNR=3.4						
KSRS	**Korea Array**	**54.62**	**329**	P	**P**	**04 02 32.1**	**+0.9**
	7.2nm,0.7s,baz=142,slow=7.3,SNR=20						
KSAR	**Wonju Array Be**	**54.63**	**329**	P	**P**	**04 02 32.1**	**+0.8**
KS01	**Wonju Array Si**	**54.66**	**329**	*e*P	**P**	**04 02 31.9**	**+0.4**
ASAJ	**Asahikawa**	**54.85**	**345**	P	**P**	**04 02 33.8**	**+1.0**
ASAJ	**Asahikawa**	**54.85**	**345**	P	**P**	**04 02 33.8**	**+1.0**
	4.6nm,0.6s,baz=250,slow=13,SNR=4.0						
NJ2	**Nanjing**	**56.08**	**318**	*e*P	**P**	**04 02 43.2**	**+1.4**
NJ2				pmax	pmax		
	comp=Z,30nm,0.6s						
USRK	**Ussuriysk Arra**	**58.31**	**337**	P	**P**	**04 02 58.3**	**+1.2**
	comp=Z,11nm,0.8s,baz=153,slow=7.0,SNR=22						
MDJ	**Mudanjiang**	**59.60**	**336**	P	**P**	**04 03 07.7**	**+1.6**
MDJ				pP	**PcP**	**04 03 53.5**	**+2.0**
MDJ				sP	sP	04 04 15.2	+12
MDJ				PP	**PP**	**04 05 22.3**	**+2.5**
MDJ				S	**S**	**04 11 04.4**	**+1.5**
MDJ				sS	sS	04 12 23.1	+12
MDJ				SS	**SS**	**04 15 04.1**	**+2.5**
MDJ				pmax	pmax		
	comp=Z,8.0nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,54nm,4.4s						
MDJ				LR	LR		
	comp=N,230nm,24.9s						
MDJ				LR	LR		
	comp=E,200nm,28.7s						
MDJ				LR	LR		
	comp=Z,240nm,23.3s						
CN2	**Changchun**	**60.73**	**332**	*e*P	**P**	**04 03 14.6**	**+0.8**
CN2				PcP	**PcP**	**04 03 55.9**	**-0.2**
CN2				*e*sP	sP	04 04 23.8	+12
CN2				*e*S	**S**	**04 11 14.4**	**-3.0**
CN2				pmax	pmax		
	comp=Z,30nm,0.8s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
PEA0	**Petropavlovsk-**	**61.74**	**359**	*e*P	**P**	**04 03 21.0**	**+0.6**
PETK	**Petropavlovsk-**	**61.74**	**359**	P	**P**	**04 03 20.9**	**+0.5**
PETK	**Petropavlovsk-**	**61.74**	**359**	P	**P**	**04 03 20.9**	**+0.5**
	comp=Z,4.5nm,0.7s,baz=166,slow=8.4,SNR=14						
GYA	**Guiyang**	**61.96**	**306**	*e*P	**P**	**04 03 23.8**	**+1.3**
GYA				pP	PcP	04 04 10.7	+9.1
GYA				sP	sP	04 04 33.6	+13
GYA				PP	**PP**	**04 05 44.2**	**+3.1**
GYA				ScP	**ScP**	**04 07 43.8**	**-3.8**
GYA				PcS	**PcS**	**04 08 04.0**	**-1.2**
GYA				S	**S**	**04 11 30.2**	**-3.5**
GYA				sS	**SKKSac**	**04 12 52.3**	**-6.1**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
FX1	**Attu Island--F**	**62.63**	**9**	*e*P	**P**	**04 03 26.8**	**+0.5**
XAN	**Xi'an**	**64.00**	**315**	P	**P**	**04 03 34.8**	**-1.0**
XAN				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KMI	**Kunming**	**64.58**	**303**	P	**P**	**04 03 41.2**	**+1.3**
KMI				sP	sP	04 04 50.7	+13
KMI				pmax	pmax		
	comp=Z,11nm,1.0s						
KMI				pmax	pmax		
	comp=Z,61nm,6.8s						
CM01	**Chiang Mai Arr**	**65.39**	**295**	*e*P	**P**	**04 03 45.7**	**+0.7**
CMAR	**Chiang Mai Arr**	**65.41**	**295**	P	**P**	**04 03 45.7**	**+0.5**
CMAR	**Chiang Mai Arr**	**65.41**	**295**	P	**P**	**04 03 45.7**	**+0.5**
	comp=Z,2.3nm,0.4s,baz=122,slow=5.6,SNR=12						
HHC	**Hu-ho-hao-te**	**66.13**	**322**	*e*P	**P**	**04 03 51.7**	**+2.3**
HHC				PcP	**PcP**	**04 04 20.1**	**+1.7**
HHC				pP	pP	04 04 39.5	+10
HHC				sP	sP	04 05 02.3	+15
HHC				PP	**PP**	**04 06 21.3**	**+3.9**
HHC				ScP		04 08 02.6	
HHC				S	**S**	**04 12 22.2**	**-2.3**
HHC				ScS	**SKSac**	**04 13 24.6**	**-4.9**
HHC				sS	SKiKP	04 13 46.2	+9.0
HHC				SS	**SS**	**04 16 43.6**	**-0.3**
HHC				pmax	pmax		
	comp=Z,45nm,1.0s						
HHC				pmax	pmax		
	comp=Z,290nm,7.1s						
HHC				LR	LR		
	comp=N,680nm,20.2s						
HHC				LR	LR		
	comp=E,600nm,19.0s						
HHC				LR	LR		
	comp=Z,1μm,21.4s						
CD2	**Chengdu**	**66.26**	**309**	P	**P**	**04 03 52.2**	**+1.8**

CD2				pP	pP	04 04 40.2	+10
CD2				S	**S**	**04 12 23.4**	**-3.0**
CD2				sS	SKiKP	04 13 46.9	+9.3
CD2				SS	**SS**	**04 16 45.4**	**-0.7**
CD2				pmax	pmax		
	comp=Z,20nm,1.0s						
CD2				pmax	pmax		
	comp=Z,80nm,4.7s						
LZH	**Lanzhou**	**68.63**	**314**	*e*P	**P**	**04 04 07.7**	**+2.4**
LZH				pP	pP	04 04 54.8	+9.3
LZH				sP	sP	04 05 15.2	+12
LZH				pmax	pmax		
	comp=Z,15nm,0.9s						
VNDA	**Vanda**	**68.65**	**179**	P	**P**	**04 04 04.5**	**0.0**
VNDA	**Vanda**	**68.65**	**179**	P	**P**	**04 04 04.5**	**0.0**
	comp=Z,1.4nm,0.8s,baz=323,slow=5.5,SNR=5.8						
ULN	**Ulaanbaatar**	**72.87**	**326**	*e*P	**P**	**04 04 32.0**	**+1.3**
	comp=Z,13nm,1.2s						
GTA	**Gaotai**	**73.01**	**316**	*e*P	**P**	**04 04 33.3**	**+1.6**
GTA				pP	pP	04 05 21.6	+9.3
GTA				sP	sP	04 05 43.7	+13
GTA				S	**S**	**04 13 41.7**	**-3.4**
GTA				sS	sS	04 15 07.1	+11
GTA				SS	**SS**	**04 18 29.8**	**0.0**
GTA				pmax	pmax		
	comp=Z,9.0nm,1.4s						
GTA				pmax	pmax		
	comp=Z,100nm,6.9s						
GTA				LR	LR		
	comp=N,400nm,23.3s						
GTA				LR	LR		
	comp=E,410nm,22.3s						
GTA				LR	LR		
	comp=Z,670nm,22.3s						
SONM	**Songino Array**	**73.22**	**326**	P	**P**	**04 04 33.7**	**+1.0**
SONM				pP	**pP**	**04 05 11.6**	**-1.8**
SONM	**Songino Array**	**73.22**	**326**	P	**P**	**04 04 33.7**	**+1.0**
	comp=Z,6.5nm,0.9s,baz=141,slow=5.9,SNR=31						
SONM				pP	**pP**	**04 05 11.6**	**-1.8**
	comp=Z,1.1nm,0.7s,baz=131,slow=5.9,SNR=2.5						
SVW2	**Sparrevohn**	**78.18**	**21**	*e*P	**P**	**04 05 01.7**	**+1.3**
	comp=Z,8.2nm,0.8s						
RC01	**Rabbit Creek A**	**80.30**	**23**	*e*P	**P**	**04 05 11.9**	**0.0**
	comp=Z,7.5nm,0.6s						
PPLA	**Purkeypile**	**80.58**	**20**	*e*P	**P**	**04 05 13.2**	**-0.4**
	comp=Z,1.9nm,0.5s						
PMR	**Palmer**	**80.84**	**22**	*e*P	**P**	**04 05 15.1**	**+0.4**
	comp=Z,10nm,0.8s						
CAST	**Castle Rocks**	**80.96**	**20**	*e*P	**P**	**04 05 15.5**	**+0.1**
	comp=Z,10nm,0.7s						
QSPA	**South Pole Qui**	**81.13**	**180**	*e*P	**P**	**04 05 16.4**	**-0.1**
	comp=Z,3.1nm,0.7s						
SML	**Sawmill**	**81.27**	**22**	*e*P	**P**	**04 05 18.1**	**+1.0**
	comp=Z,2.3nm,0.8s						
TRF	**Thorofare Moun**	**81.59**	**20**	*e*P	**P**	**04 05 17.9**	**-1.0**
	comp=Z,8.8nm,0.8s						
BPAW	**Bear Paw Mtn.**	**81.78**	**20**	*e*P	**P**	**04 05 19.1**	**-0.5**
	comp=Z,12nm,1.5s						
IMA2	**Indian Mountai**	**82.24**	**18**	*e*P	**P**	**04 05 22.8**	**+0.7**
MCK	**McKinley**	**82.24**	**21**	*e*P	**P**	**04 05 22.1**	**0.0**
	comp=Z,28nm,1.0s						
WMQ	**Urumqi**	**83.08**	**316**	P	**P**	**04 05 27.4**	**+0.4**
WMQ				pP	pP	04 06 17.4	+8.8
WMQ				sP	sP	04 06 39.0	+13
WMQ				pmax	pmax		
	comp=Z,18nm,0.8s						
WMQ				pmax	pmax		
	comp=Z,110nm,5.4s						
COLA	**College**	**83.32**	**20**	*e*P	**P**	**04 05 27.5**	**-0.1**
	comp=Z,16nm,0.8s						
IL1	**Eielson Array**	**83.59**	**20**	*e*P	**P**	**04 05 28.2**	**-0.8**
IL1				*e*pP	**pP**	**04 06 09.6**	**-1.1**
ILAR	**Eielson Array**	**83.59**	**20**	P	**P**	**04 05 28.4**	**-0.6**
ILAR				pP	**pP**	**04 06 09.3**	**-1.3**
ILAR	**Eielson Array**	**83.59**	**20**	P	**P**	**04 05 28.4**	**-0.6**
	comp=Z,3.5nm,0.4s,baz=246,slow=5.0,SNR=66						
ILAR				pP	**pP**	**04 06 09.3**	**-1.3**
	comp=Z,0.9nm,0.8s,baz=248,slow=3.8,SNR=2.3						
MAW	**Mawson**	**84.31**	**202**	P	**P**	**04 05 32.7**	**0.0**
MAW	**Mawson**	**84.31**	**202**	P	**P**	**04 05 32.7**	**0.0**
	comp=Z,3.9nm,0.8s,baz=91,slow=6.3,SNR=7.5						
DIB	**Dawson Inlet,**	**84.37**	**34**	T	T	05 38 21.9	
	SNR=28						
HYT	**Haines Junctio**	**85.14**	**26**	*e*P	**P**	**04 05 38.3**	**+1.3**
DAWY	**Dawson**	**85.92**	**23**	*e*P	**P**	**04 05 42.5**	**+1.7**
MK01	**Makanchi Array**	**87.60**	**318**	*e*P	**P**	**04 05 48.9**	**-0.3**
MKAR	**Makanchi Array**	**87.61**	**318**	P	**P**	**04 05 49.2**	**-0.1**
MKAR				pP	**pP**	**04 06 28.7

tensor: Scale 10^{16}Nm; M_{rr}3.05±.19; $M_{\theta\theta}$0.22±.12; $M_{\phi\phi}$-3.26±.15; $M_{r\theta}$1.51±.19; $M_{r\phi}$-0.48±.09; $M_{\theta\phi}$1.54±.20; Best double couple: $M_0$3.90000×10^{16} NP1:ϕ_s27.00000°, δ62.00000°,λ110.00000°. NP2:ϕ_s170.00000°,δ34.00000°, λ58.00000°. Principal axes: T 3.9200, Plg67.0000°, Azm334.0000°; N -0.1200, Plg17.0000°, Azm197.0000°; P -3.7900, Plg15.0000°, Azm103.0000°; Data Used: II IU IC G CN.

*AUST **07** 03:58:43.0±0.5, 0.85N×128.7°17E, h187km Error ellipse: s-maj=1.4km s-min=1.4km az=8.0*

ISC 07 03:58:09.1±0.3,**3°21N**±0°04×**127°07E**±0°07,**h44**km, **h44**km:**pP-P,n170,**σ1ŝ**72**/206,**mb4.7**/68,**MS4.2**/26,**3C-4D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.61**	**287**	P	**Pn**	**03 58 35.1**	**0.0**
SGSI				S	**Sn**	**03 58 56.5**	**+1.7**
TNTI	**Ternate**	**2.44**	**173**	*e*Pn	**Pn**	**03 58 47.7**	**+1.3**
TNTI	**Ternate**	**2.44**	**173**	P	**Pn**	**03 58 48.7**	**+2.3**
LBMI	**Labuha**	**3.84**	**174**	P	Pn	03 59 09.9	+4.1
GTOI	**Gorontalo**	**4.79**	**238**	P	**Pn**	**03 59 20.9**	**+2.0**
106nm,1.0s,2μm0.4nm							
CTBH	**Cotabato--PC H**	**4.88**	**325**	||*i*P	**Pn**	**03 59 17.7**	**-2.4**
MRSI	**Marisa**	**5.80**	**242**	P	Pn	03 59 35.2	+2.5
177nm,1.2s,2μm0.6nm							
SWI	**Sorong**	**5.82**	**134**	P	**Pn**	**03 59 34.2**	**+1.3**
113nm,1.3s,2μm0.4nm							
SWI	**Sorong**	**5.82**	**134**	P	**Pn**	**03 59 35.3**	**+2.4**
baz=3.5,SNR=4.6							
LUWI	**Luwuk**	**6.02**	**226**	P	Pn	03 59 41.6	+5.9
157nm,1.1s,2μm0.7nm							
FAKI	**Fak Fak**	**7.99**	**140**	P	**Pn**	**04 00 04.3**	**+1.6**
baz=5.5,SNR=7.7							
SKSI	**Soroako, Sulaw**	**8.08**	**225**	P	Pn	04 00 07.0	+2.9
SOEI	**Soe**	**13.18**	**192**	S	Sn	04 03 06.6	-33
baz=11,SNR=16							
MTN	**Manton Dam**	**16.45**	**166**	P	Pn	04 01 49.6	-7.3
baz=14,SNR=4.4							
KNRA	**Kununurra**	**18.84**	**175**	P	**Pn**	**04 02 25.3**	**-1.0**
baz=16,SNR=4.4							
FITZ	**Fitzroy Crossi**	**21.22**	**184**	P	**P**	**04 02 49.7**	**-1.6**
FITZ	**Fitzroy Crossi**	**21.22**	**184**	P	**P**	**04 02 49.7**	**-1.6**
5.3nm,0.7s,baz=25,slow=11,SNR=8.8							
FITZ	**Fitzroy Crossi**	**21.22**	**184**	P	P	04 03 00.0	+8.7
baz=19,SNR=10							
SSLB	**Suanglung**	**21.30**	**344**	*e*P	**P**	**04 02 49.5**	**-2.7**
21nm,0.8s							
YHNB	**Yeheng**	**22.04**	**346**	P	**P**	**04 02 59.5**	**-0.7**
13nm,0.5s							
QIZ	**Qiongzhong**	**23.05**	**314**	P	**P**	**04 03 11.4**	**+0.5**
QIZ				S	**S**	**04 07 21.3**	**+2.6**
QIZ				LR	LR		
comp=N,480nm,16.0s							
QIZ				LR	LR		
comp=E,160nm,16.3s							
QIZ				LR	LR		
comp=Z,660nm,23.8s							
WRAB	**Tennant Creek**	**24.08**	**163**	*e*P	**P**	**04 03 19.5**	**-1.1**
WRAB				pmax	pmax		
comp=Z,18nm,0.8s							
WRAB	**Tennant Creek**	**24.08**	**163**	*e*P	**P**	**04 03 19.5**	**-1.1**
comp=Z,18nm,0.8s							
WRA	**Warramunga Arr**	**24.09**	**163**	P	**P**	**04 03 19.2**	**-1.5**
WRA	**Warramunga Arr**	**24.09**	**163**	P	**P**	**04 03 19.2**	**-1.5**
comp=Z,9.7nm,0.6s,baz=334,slow=10,SNR=48							
PPI	**Padang Panjang**	**26.91**	**263**	S	S	04 08 44.8	+24
baz=28,SNR=5.6							
AS31	**Alice Springs**	**27.52**	**166**	*e*P	**P**	**04 03 50.9**	**-1.0**
ASAR	**Alice Springs**	**27.53**	**166**	P	**P**	**04 03 51.0**	**-0.9**
ASAR				PcP	**PcP**	**04 07 09.7**	**+0.4**
ASAR	**Alice Springs**	**27.53**	**166**	P	**P**	**04 03 51.0**	**-0.9**
comp=Z,1.9nm,0.5s,baz=349,slow=7.4,SNR=22							
ASAR				PcP	**PcP**	**04 07 09.7**	**+0.4**
comp=Z,0.9nm,0.6s,baz=357,slow=2.2,SNR=4.0							
AS01	**Alice Springs**	**27.54**	**166**	*e*P	**P**	**04 03 51.0**	**-0.9**
PSI	**Prapat**	**28.11**	**270**	P	**P**	**04 03 56.3**	**-1.0**
PSI	**Prapat**	**28.11**	**270**	P	**P**	**04 03 56.3**	**-1.0**
comp=Z,2.0nm,0.5s,baz=107,slow=11,SNR=3.0							
SSE	**Sheshan**	**28.29**	**349**	P	**P**	**04 03 57.7**	**-0.8**
SSE				sP	**sP**	**04 04 10.6**	**-5.0**
SSE				S	**S**	**04 08 43.5**	**+1.6**
SSE				pmax	pmax		
comp=Z,26nm,0.7s							
SSE				pmax	pmax		
comp=Z,100nm,3.2s							
SSE				LR	LR		
comp=N,170nm,22.5s							
SSE				LR	LR		
comp=E,260nm,22.6s							
SSE				LR	LR		
comp=Z,240nm,24.3s							
NJ2	**Nanjing**	**29.72**	**346**	*e*P	**P**	**04 04 13.3**	**+2.1**
NJ2				pmax	pmax		
comp=Z,20nm,0.8s							
JNU	**Nakatsue**	**29.98**	**6**	LR	LR	04 15 45.0	
comp=Z,459nm,21.3s,baz=190,slow=35							
GYA	**Guiyang**	**30.29**	**322**	P	**P**	**04 04 18.3**	**+1.8**
GYA				pP	**pP**	**04 04 28.6**	**+0.3**
GYA				sP	**sP**	**04 04 33.0**	**-0.6**
GYA				PP	**PnPn**	**04 05 20.4**	**+4.6**
GYA				PcP	**PcP**	**04 07 17.2**	**+0.9**
GYA				S	**S**	**04 09 15.8**	**+2.1**
GYA				sS	**sS**	**04 09 33.0**	**-0.5**
GYA				ScP	**ScP**	**04 10 55.9**	**+0.5**
GYA				ScS	**ScS**	**04 14 50.8**	**-0.7**
GYA				pmax	pmax		
comp=Z,10.0nm,0.8s							
GYA				pmax	pmax		
comp=Z,90nm,4.9s							
GYA				LR	LR		
comp=N,460nm,17.6s							
GYA				LR	LR		
comp=E,380nm,18.0s							
GYA				LR	LR		
comp=Z,430nm,17.3s							
MEEK	**Meekatharra**	**30.77**	**195**	P	**P**	**04 04 21.8**	**+1.1**
baz=29,SNR=4.2							
CMAR	**Chiang Mai Arr**	**31.43**	**301**	P	**P**	**04 04 24.0**	**-2.6**
CMAR	**Chiang Mai Arr**	**31.43**	**301**	P	**P**	**04 04 24.0**	**-2.6**
comp=Z,2.1nm,0.3s,baz=112,slow=6.9,SNR=5.1							
CHTO	**Chiang Mai**	**31.59**	**302**	*e*P	**P**	**04 04 30.0**	**+2.1**
comp=Z,10.0nm,1.1s							
KMI	**Kunming**	**31.99**	**315**	P	**P**	**04 04 31.1**	**-0.5**
KMI				pP	**pP**	**04 04 43.3**	**-0.2**
KMI				sP	**sP**	**04 04 47.4**	**-1.3**
KMI				PP	**PP**	**04 05 41.7**	**-2.8**
KMI				S	**S**	**04 09 44.7**	**+4.1**
KMI				sS	**sS**	**04 10 00.5**	**+0.2**
KMI				SS	SnSn	04 11 42.6	+10
KMI				pmax	pmax		
comp=Z,7.0nm,1.0s							
KMI				pmax	pmax		
comp=Z,87nm,4.4s							
KMI				LR	LR		
comp=N,450nm,24.1s							
KMI				LR	LR		
comp=E,290nm,24.1s							
KMI				LR	LR		
comp=Z,390nm,20.8s							
KSAR	**Wonju Array Be**	**34.08**	**1**	P	**P**	**04 04 50.1**	**+0.7**
KSRS	**Korea Array**	**34.09**	**1**	P	**P**	**04 04 50.1**	**+0.6**
comp=Z,2.9nm,0.8s,baz=177,slow=10,SNR=8.1							
XAN	**Xi'an**	**35.04**	**333**	P	**P**	**04 04 56.4**	**-1.4**
XAN				pmax	pmax		
comp=Z,3.0nm,0.9s							
CD2	**Chengdu**	**35.27**	**324**	P	**P**	**04 05 02.7**	**+2.8**
CD2				pP	**pP**	**04 05 12.8**	**+1.0**
CD2				sP	**sP**	**04 05 17.0**	**0.0**
CD2				PP	**PP**	**04 06 23.0**	**+2.5**
CD2				S	**S**	**04 10 34.4**	**+3.6**
CD2				sS	**sS**	**04 10 51.2**	**+0.5**
CD2				SS	**SnSn**	**04 12 53.6**	**+1.9**
CD2				pmax	pmax		
comp=Z,10.0nm,0.5s							
CD2				pmax	pmax		
comp=Z,140nm,4.9s							
CD2				LR	LR		
comp=N,870nm,21.4s							
CD2				LR	LR		
comp=Z,600nm,20.2s							
NWAO	**Narrogin (SRO)**	**37.12**	**194**	P	**P**	**04 05 15.4**	**-0.2**
NWAO	**Narrogin (SRO)**	**37.12**	**194**	P	**P**	**04 05 15.4**	**-0.2**
comp=Z,11nm,0.9s,baz=16,slow=15,SNR=3.7							
STKA	**Stephens Creek**	**37.52**	**159**	*e*P	**P**	**04 05 18.6**	**-0.4**
comp=Z,4.1nm,0.9s							
STKA	**Stephens Creek**	**37.52**	**159**	P	**P**	**04 05 18.4**	**-0.6**
comp=Z,7.9nm,0.7s,baz=325,slow=7.7,SNR=13							
STKA	**Stephens Creek**	**37.52**	**159**	P	**P**	**04 05 18.6**	**-0.4**
baz=35,SNR=6.7							
BJT	**Baijiatuau**	**37.95**	**346**	*e*P	**P**	**04 05 22.6**	**0.0**
comp=Z,57nm,1.2s							
BJI	**Beijing**	**37.97**	**346**	P	**P**	**04 05 23.1**	**+0.4**
BJI				S	**S**	**04 11 16.6**	**+4.9**
BJI				pmax	pmax		
comp=Z,35nm,1.4s							
BJI				pmax	pmax		
comp=Z,100nm,3.5s							
BJI				LR	LR		
comp=N,300nm,19.8s							
BJI				LR	LR		
comp=E,330nm,20.8s							
BJI				LR	LR		
comp=Z,150nm,29.1s							
LZH	**Lanzhou**	**39.13**	**330**	*e*P	**P**	**04 05 33.3**	**+0.6**
LZH				pP	**pP**	**04 05 43.0**	**-1.7**
LZH				sP	**sP**	**04 05 46.3**	**-3.6**
LZH				pmax	pmax		
comp=Z,23nm,1.2s							
LZH				pmax	pmax		
comp=Z,110nm,4.8s							
LZH				LR	LR		
comp=N,460nm,15.4s							
LZH				LR	LR		
comp=E,450nm,13.9s							
LZH				LR	LR		
comp=Z,940nm,16.0s							
HHC	**Hu-ho-hao-te**	**40.00**	**342**	*e*P	**P**	**04 05 42.9**	**+3.1**
HHC				pP	**pP**	**04 05 52.9**	**+1.0**
HHC				sP	**sP**	**04 05 56.9**	**-0.2**
HHC				PP	**PnPn**	**04 07 20.9**	**+4.8**
HHC				PcP	**PcP**	**04 07 47.2**	**+2.8**
HHC				ScP	**ScP**	**04 11 32.6**	**+2.6**
HHC				S	**S**	**04 11 48.2**	**+5.7**
HHC				sS	**sS**	**04 12 03.8**	**+1.2**
HHC				SS	**SS**	**04 14 40.8**	**-0.1**
HHC				ScS	**ScS**	**04 15 43.2**	**-0.1**
HHC				pmax	pmax		
comp=Z,25nm,1.2s							
HHC				pmax	pmax		
comp=Z,260nm,5.9s							
HHC				LR	LR		
comp=N,720nm,15.5s							
HHC				LR	LR		
comp=E,670nm,15.9s							
HHC				LR	LR		
comp=Z,1μm,17.8s							
CN2	**Changchun**	**40.45**	**358**	*e*P	**P**	**04 05 45.8**	**+2.5**
CN2				*e*S	**S**	**04 11 52.9**	**+4.0**
CN2				pmax	pmax		
comp=Z,10.0nm,0.6s							
CN2				pmax	pmax		
comp=Z,200nm,4.0s							
CN2				LR	LR		
comp=N,200nm,15.0s							
CN2				LR	LR		
comp=E,200nm,15.0s							
CN2				LR	LR		
comp=Z,200nm,17.0s							
ARMA	**Armidale**	**40.84**	**147**	*e*P	**P**	**04 05 46.4**	**-0.5**
comp=Z,16nm,0.9s							
ARMA	**Armidale**	**40.84**	**147**	P	**P**	**04 05 48.4**	**+1.5**
baz=38,SNR=4.1							
USRK	**Ussuriysk Arra**	**41.05**	**5**	P	**P**	**04 05 48.1**	**-0.2**
comp=Z,2.4nm,0.6s,baz=199,slow=7.6,SNR=5.3							
MDJ	**Mudanjiang**	**41.30**	**3**	P	**P**	**04 05 50.5**	**+0.2**
MDJ				pP	**pP**	**04 05 59.5**	**-2.9**
MDJ				sP	**sP**	**04 06 03.2**	**-4.4**
MDJ				S	**S**	**04 12 04.2**	**+2.7**
MDJ				SS	**SS**	**04 15 05.3**	**-1.1**
MDJ				pmax	pmax		
comp=Z,9.0nm,1.4s							
MDJ				pmax	pmax		
comp=Z,78nm,4.6s							
MDJ				LR	LR		
comp=N,230nm,25.6s							
MDJ				LR	LR		
comp=E,150nm,31.1s							
MDJ				LR	LR		
comp=Z,240nm,23.8s							
ASAJ	**Asahikawa**	**42.99**	**16**	P	**P**	**04 06 04.1**	**-0.1**
ASAJ	**Asahikawa**	**42.99**	**16**	P	**P**	**04 06 04.1**	**-0.1**
comp=Z,2.5nm,0.3s,baz=221,slow=20,SNR=3.1							
LSA	**Lhasa**	**43.04**	**312**	P	**P**	**04 06 03.1**	**-2.2**
LSA	**Lhasa**	**43.04**	**312**	*e*P	**P**	**04 06 04.6**	**-0.7**
LSA				pmax	pmax		
comp=Z,12nm,0.8s							
LSA	**Lhasa**	**43.04**	**312**	*e*P	**P**	**04 06 04.6**	**-0.7**
comp=Z,12nm,0.8s							
GTA	**Gaotai**	**43.72**	**329**	*e*P	P	04 06 14.8	+4.5
GTA				pP	pP	04 06 19.3	-3.1
GTA				sP	sP	04 06 21.9	-5.7
GTA				S	S	04 12 46.1	+8.5
GTA				SS	**SS**	**04 15 55.0**	**+0.6**
GTA				pmax	pmax		
comp=Z,6.0nm,1.5s							
GTA				pmax	pmax		
comp=Z,71nm,5.2s							
GTA				LR	LR		
comp=N,400nm,22.8s							
GTA				LR	LR		
comp=E,410nm,22.3s							
GTA				LR	LR		
comp=Z,670nm,22.8s							
TAPN	**Taplejung**	**44.60**	**307**	*e*P	**P**	**04 06 16.5**	**-1.2**
comp=Z,7.5nm,0.4s							
ODAN	**Odare**	**44.65**	**306**	*e*P	**P**	**04 06 17.9**	**-0.2**
comp=Z,16nm,0.7s							
RAMN	**Ramite**	**45.33**	**305**	*e*P	**P**	**04 06 23.4**	**-0.1**
comp=Z,60nm,0.3s							
JIRN	**Jiri**	**45.95**	**306**	*e*P	**P**	**04 06 27.2**	**-1.3**
comp=Z,18nm,0.7s							
KLR	**Kul'dur**	**46.03**	**4**	*e*P	P	04 06 23.8	-4.5
GUN	**Gumba**	**46.31**	**306**	*e*P	**P**	**04 06 29.6**	**-1.7**
comp=Z,21nm,0.6s							
PKI	**Pulchoki**	**46.55**	**306**	*e*P	**P**	**04 06 31.7**	**-1.5**
PKIN	**Phulchoki**	**46.56**	**306**	*e*P	**P**	**04 06 31.6**	**-1.6**
comp=Z,5.5nm,0.6s							
KKN	**Kakani**	**46.74**	**306**	*e*P	**P**	**04 06 32.9**	**-1.7**
comp=Z,9.3nm,0.5s							
DMN	**Daman**	**46.81**	**306**	*e*P	**P**	**04 06 33.8**	**-1.3**
comp=Z,20nm,0.7s							
ULN	**Ulaanbaatar**	**47.72**	**342**	*e*P	**P**	**04 06 42.1**	**+0.4**
comp=Z,8.8nm,1.0s							
SONM	**Songino Array**	**47.90**	**341**	P	**P**	**04 06 43.4**	**+0.2**
SONM	**Songino Array**	**47.90**	**341**	P	**P**	**04 06 43.4**	**+0.2**
comp=Z,1.9nm,0.6s,baz=166,slow=7.6,SNR=6.1							
KOLN	**Koldanda**	**48.10**	**305**	*e*P	**P**	**04 06 43.3**	**-1.8**
comp=Z,34nm,0.6s							
DANN	**Dangsing**	**48.20**	**306**	*e*P	**P**	**04 06 43.1**	**-2.8**
comp=Z,53nm,0.7s							
PYUN	**Piuthan**	**48.73**	**305**	*e*P	**P**	**04 06 47.9**	**-2.0**
comp=Z,106nm,0.8s							
TLY	**Talaya**	**52.13**	**342**	*e*P	**P**	**04 07 15.5**	**+0.5**
TLY				pmax	pmax		
comp=Z,24nm,1.9s							
TLY				MLR	MLR		
comp=Z,347nm,23.0s							
MOY	**Mondy**	**52.99**	**340**	*e*P	**P**	**04 07 22.3**	**+0.8**
WMQ	**Urumqi**	**53.35**	**325**	P	**P**	**04 07 25.0**	**+0.8**
WMQ				pP	**pP**	**04 07 34.9**	**-1.7**
WMQ				sP	**sP**	**04 07 39.0**	**-2.8**
WMQ				PcP	**PcP**	**04 08 32.0**	**+0.8**
WMQ				PP	**PP**	**04 09 26.6**	**+1.7**
WMQ				S	**S**	**04 14 52.6**	**-0.5**
WMQ				sS	**sS**	**04 15 09.0**	**-4.8**
WMQ				ScS	**ScS**	**04 17 08.5**	**-1.8**
WMQ				SS	**SS**	**04 18 32.0**	**-1.6**
WMQ				pmax	pmax		
comp=Z,11nm,1.2s							
WMQ				pmax	pmax		
comp=Z,76nm,3.6s							
WMQ				LR	LR		
comp=N,760nm,26.0s							
WMQ				LR	LR		
comp=E,290nm,24.2s							
WMQ				LR	LR		
comp=Z,380nm,24.6s							
PEA0	**Petropavlovsk-**	**55.78**	**22**	*e*P	**P**	**04 07 42.0**	**+0.4**
PETK	**Petropavlovsk-**	**55.78**	**22**	P	**P**	**04 07 42.2**	**+0.6**
PETK	**Petropavlovsk-**	**55.78**	**22**	P	**P**	**04 07 42.2**	**+0.6**
comp=Z,2.3nm,0.6s,baz=183,slow=3.9,SNR=11							
PETK				LR	LR	04 32 41.4	
comp=Z,107nm,18.3s,baz=31,slow=37							
MK01	**Makanchi Array**	**58.16**	**325**	*e*P	**P**	**04 07 57.6**	**-0.9**
MK31	**Makanchi Array**	**58.18**	**325**	*e*P	**P**	**04 07 58.3**	**-0.5**
MK31	**Makanchi Array**	**58.18**	**325**	*e*P	**P**	**04 07 58.2**	**-0.5**
MKAR	**Makanchi Array**	**58.18**	**325**	P	**P**	**04 07 58.2**	**-0.5**
MKAR				pmax	pmax		
comp=Z,3.0nm,0.6s							
MKAR	**Makanchi Array**	**58.18**	**325**	*e*P	**P**	**04 07 58.3**	**-0.4**
MKAR	**Makanchi Array**	**58.18**	**325**	P	**P**	**04 07 58.2**	**-0.5**
comp=Z,3.3nm,0.6s,baz=124,slow=8.1,SNR=20							
KSH	**Kashi**	**58.65**	**315**	*e*P	P	04 08 06.2	+3.9
KSH				pP	pP	04 08 16.4	+1.5
KSH				PP	PP	04 10 19.6	+7.2
KSH				PcS	**PcS**	**04 12 55.9**	**+2.1**
KSH				S	**S**	**04 16 09.7**	**+5.8**
KSH				SS	SS	04 20 05.1	+7.7
KSH				pmax	pmax		
comp=Z,77nm,6.0s							
KSH				LR	LR		
comp=N,57nm,5.3s							
KSH				LR	LR		
comp=E,110nm,5.2s							
KSH				LR	LR		
comp=Z,130nm,6.4s							
AAK	**Ala-Archa**	**60.97**	**318**	⇑*i*P	**P**	**04 08 18.6**	**+0.4**
AAK				pmax	pmax		
comp=Z,8.0nm,1.6s							
ZAA0	**Zalesovo Array**	**61.21**	**333**	*e*P	**P**	**04 08 18.2**	**-1.1**
ZALV	**Zalesovo Beam**	**61.21**	**333**	*i* P	**P**	**04 08 18.6**	**-0.8**
ZALV				pmax	pmax		
comp=Z,2.0nm,0.4s							
ZALV	**Zalesovo Beam**	**61.21**	**333**	P	**P**	**04 08 17.9**	**-1.4**
ZALV	**Zalesovo Beam**	**61.21**	**333**	P	**P**	**04 08 17.9**	**-1.4**
comp=Z,1.5nm,0.4s,baz=133,slow=6.1,SNR=9.9							
ZALV				LR	LR	04 39 47.1	
comp=Z,126nm,19.8s,baz=72,slow=41							
EKS2	**Erkin-Say**	**61.47**	**318**	*e*P	**P**	**04 08 20.8**	**-0.7**
EKS2				pmax	pmax		
comp=Z,4.0nm,1.1s							
EKS2	**Erkin-Say**	**61.47**	**318**	*e*P	**P**	**04 08 20.8**	**-0.7**
comp=Z,4.0nm,1.1s							
KURBB	**Kurchatov Arra**	**62.36**	**327**	P	**P**	**04 08 25.8**	**-1.4**
comp=Z,2.3nm,0.5s,baz=126,slow=6.2,SNR=19							
KURK	**Kurchatov**	**62.36**	**328**	P	**P**	**04 08 25.8**	**-1.4**
KURK	**Kurchatov**	**62.36**	**328**	P	**P**	**04 08 25.8**	**-1.4**
SEY	**Seymchan**	**62.46**	**13**	*ce*P	**P**	**04 08 26.9**	**-0.7**
NVS	**Novosibirsk**	**62.49**	**333**	*e*P	**P**	**04 08 25.6**	**-2.4**
VOSK	**Vostochnaya**	**67.49**	**327**	*e*P	**P**	**04 08 59.4**	**-1.1**
VOSK				pmax	pmax		
comp=Z,5.0nm,0.6s							
VOSK	**Vostochnaya**	**67.49**	**327**	*e*P	**P**	**04 08 59.4**	**-1.1**
comp=Z,4.9nm,0.6s							
BVAR	**Borovoye Array**	**67.94**	**327**	P	**P**	**04 09 03.8**	**+0.4**
BVAR	**Borovoye Array**	**67.94**	**327**	P	**P**	**04 09 03.8**	**+0.4**
BVAR	**Borovoye Array**	**67.94**	**327**	P	**P**	**04 09 03.8**	**+0.4**
comp=Z,5.1nm,0.9s,baz=145,slow=10,SNR=12							
BRVK	**Borovoye**	**68.02**	**327**	||*i*P	**P**	**04 09 03.7**	**-0.1**
BRVK				pmax	pmax		
comp=Z,12nm,1.2s							
BRVK	**Borovoye**	**68.02**	**327**	*e*P	**P**	**04 09 04.4**	**+0.6**
comp=Z,9.9nm,0.9s							
ABKAR	**Akbulak array**	**72.77**	**321**	*e*P	**P**	**04 09 32.4**	**-0.6**
comp=Z,1.5nm,0.6s							
AKTO	**Aktyubinsk**	**74.28**	**322**	P	**P**	**04 09 41.5**	**-0.3**
AKTO	**Aktyubinsk**	**74.28**	**322**	P	**P**	**04 09 41.5**	**-0.3**
AKTO	**Aktyubinsk**	**74.28**	**322**	P	**P**	**04 09 41.5**	**-0.3**
comp=Z,1.9nm,0.5s,baz=94,slow=10,SNR=9.9							
SVE	**Sverdlovsk**	**74.58**	**328**	||*e*P	**P**	**04 09 43.2**	**-0.2**
SVE				pmax	pmax		
comp=Z,32nm,1.4s							
ARU	**Arti**	**75.56**	**328**	*d i*P	**P**	**04 09 48.1**	**-1.0**
ARU				S	**S**	**04 19 27.2**	**+0.7**
ARU				pmax	pmax		
comp=Z,28nm,1.7s							
MIB	**Mutribah**	**79.51**	**300**	*e*P	**P**	**04 10 10.7**	**-1.0**
MIB				AMb	AMB	04 10 11.3	
comp=Z,18nm,0.6s							
NAY	**Al-Naaiem**	**79.57**	**299**	*e*P	**P**	**04 10 10.7**	**-1.4**
NAY				AMb	AMB	04 10 11.2	
comp=Z,0.4nm,0.6s							
RST	**Umm Al-Ruwaisa**	**79.79**	**299**	*e*P	**P**	**04 10 11.8**	**-1.4**
RST				AMb	AMB	04 10 12.3	
comp=Z,84nm,0.6s							
IM04	**Indian Mountai**	**82.67**	**24**	*e*P	**P**	**04 10 27.9**	**+0.1**
IMA2	**Indian Mountai**	**82.72**	**24**	*e*P	**P**	**04 10 28.8**	**+0.6**
ZEI	**Tsey**	**82.82**	**313**	*e*P	**P**	**04 10 28.7**	**-0.6**
ZEI				pmax	pmax		
comp=Z,14nm,1.3s							
VNDA	**Vanda**	**82.87**	**173**	*e*P	**P**	**04 10 27.1**	**-1.4**
comp=Z,11nm,1.4s							
VNDA	**Vanda**	**82.87**	**173**	P	**P**	**04 10 28.9**	**+0.4**
comp=Z,1.9nm,0.8s,baz=318,slow=4.2,SNR=7.2							
CAST	**Castle Rocks**	**83.05**	**27**	*e*P	**P**	**04 10 30.8**	**+1.0**
comp=Z,11nm,1.2s							
MAW	**Mawson**	**83.38**	**200**	P	**P**	**04 10 31.8**	**+0.5**
MAW	**Mawson**	**83.38**	**200**	P	**P**	**04 10 31.8**	**+0.5**
comp=Z,0.9nm,0.5s,baz=51,slow=10,SNR=2.6							
MAW				LR	LR	04 43 38.5	
comp=Z,103nm,20.3s,baz=236,slow=33							
KBZ	**Khabaz**	**83.59**	**313**	LR	LR	04 53 41.0	
comp=Z,146nm,21.0s,baz=264,slow=40							
BPAW	**Bear Paw Mtn.**	**83.61**	**26**	*e*P	**P**	**04 10 33.4**	**+0.8**
comp=Z,10nm,1.2s							
ATD	**Arta Tunnel**	**83.71**	**281**	LR	LR	04 47 10.3	
comp=Z,66nm,18.6s,baz=132,slow=35							
TRF	**Thorofare Moun**	**83.85**	**27**	*e*P	**P**	**04 10 33.5**	**-0.6**
comp=Z,13nm,1.1s							
COLD	**Coldfoot**	**84.24**	**23**	*e*P	**P**	**04 10 37.1**	**+1.3**
comp=Z,11nm,1.1s							
PMR	**Palmer**	**84.24**	**29**	*e*P	**P**	**04 10 36.1**	**+0.2**
PMR				pmax	pmax		
comp=Z,12nm,1.2s							
PMR	**Palmer**	**84.24**	**29**	*e*P	**P**	**04 10 36.1**	**+0.2**
comp=Z,12nm,1.2s							
MCK	**McKinley**	**84.48**	**26**	*e*P	**P**	**04 10 36.9**	**-0.2**
MCK				pmax	pmax		
comp=Z,17nm,1.3s							
MCK	**McKinley**	**84.48**	**26**	*e*P	**P**	**04 10 36.9**	**-0.2**
comp=Z,17nm,1.3s							
PPT	**Papeete**	**84.63**	**108**	LR	LR	04 42 07.9	
comp=Z,260nm,19.9s,baz=143,slow=31							
VRHR	**Novokhopersk**	**84.66**	**321**	*e*P	**P**	**04 10 37.2**	**-1.0**
VRHR				pmax	pmax		
comp=Z,40nm,1.7s							
VRHR				pmax	pmax		
comp=N,20nm,0.8s							
VRHR				pmax	pmax		
comp=E,20nm,1.2s							
ILAR	**Eielson Array**	**85.43**	**25**	P	**P**	**04 10 41.8**	**-0.1

ARCES	**ARCESS Array B**	**91.06 340**	P		**P**	**04 11 07.0**	**-1.6**
ARCES	**ARCESS Array B**	**91.06 340**	P		**P**	**04 11 07.0**	**-1.6**
	comp=Z,3.3nm,1.0s,baz=79,slow=7.5,SNR=7.7						
ARCES			LR		LR	04 58 28.8	
	comp=Z,71nm,18.6s,baz=237,slow=40						
BR231	**Keskin MP Arra**	**91.27 310**	*e*P		**P**	**04 11 07.5**	**-2.9**
FINES	**FINESS Array B**	**92.45 332**	P		**P**	**04 11 13.7**	**-1.5**
FINES	**FINESS Array B**	**92.45 332**	P		**P**	**04 11 13.7**	**-1.5**
	comp=Z,0.6nm,0.6s,baz=135,slow=0.8,SNR=2.2						
FINES			LR		LR	04 59 58.6	
	comp=Z,99nm,19.3s,baz=73,slow=40						
AKASG	**Malin Array Be**	**92.51 321**	LR		LR	04 57 58.7	
	comp=Z,137nm,22.0s,baz=75,slow=39						
BUR04	**Bucovina Ar. S**	**95.62 318**	*e*P		**P**	**04 11 29.6**	**-0.7**
CRVS	**Cervenica-Dubn**	**97.79 320**	*i* P		Pdif	04 11 40.2	+0.3
CRVS	**Cervenica-Dubn**	**97.79 320**	*e*P		Pdif	04 11 40.1	+0.2
NOA	**NORSAR Array B**	**99.41 334**	LR		LR	05 02 43.0	
	comp=Z,106nm,19.3s,baz=70,slow=39						
SCHQ	**Schefferville**	**121.03 9**	PKP		**PKPdf**	**04 16 59.4**	**+2.4**
SCHQ	**Schefferville**	**121.03 9**	PKP		**PKPdf**	**04 16 59.4**	**+2.4**
	comp=Z,3.9nm,0.7s,baz=337,slow=15,SNR=3.1						
TXAR	**Lajitas Array**	**121.65 53**	PKP		**PKPdf**	**04 17 00.5**	**+1.5**
TXAR	**Lajitas Array**	**121.65 53**	PKP		**PKPdf**	**04 17 00.5**	**+1.5**
	comp=Z,0.1nm,0.4s,baz=5.7,slow=1.8,SNR=3.9						
TORD	**Torodi Ar. Bea**	**123.41 288**	PKP		**PKPdf**	**04 17 02.9**	**+0.3**
TORD	**Torodi Ar. Bea**	**123.41 288**	PKP		**PKPdf**	**04 17 02.9**	**+0.3**
	comp=Z,1.6nm,0.8s,baz=81,slow=1.7,SNR=12						
DBIC	**Dimbokro**	**131.02 282**	PKP		**PKPdf**	**04 17 17.8**	**+0.6**
DBIC	**Dimbokro**	**131.02 282**	PKP		**PKPdf**	**04 17 17.8**	**+0.6**
	comp=Z,2.1nm,0.8s,baz=133,slow=4.7,SNR=3.8						

*TIR **07** 04:03:36.8±0.6, 41°.42N×20°.51E, h23km±4km, ML3.0*
*SKO **07** 04:03:37.4, 41°.41N×20°.41E, h26km, M2.6, ML2.9*
*CSEM **07** 04:03:37.5±0.2, 41°.42N×20°.46E, h2km, ML3.0/2, Error ellipse: s-maj=4.3km s-min=3.0km az=33.0*
*PDG **07** 04:03:37.5±0.3, 41°.47N×20°.47E, h7km, ML3.0/9, Error ellipse: s-maj=0.5km s-min=0.5km az=90.0*
*BEO **07** 04:03:38.2±0.4, 41°.38N×20°.45E, h10km±2km, ML2.8/1*
*THE **07** 04:03:38.0, 41°.47N×20°.47E, h9km±2km, ML3.0/2, Error ellipse: s-maj=2.8km s-min=1.0km az=6.0*

ISC 07 04:03:37.1±1.0, 41°.43N±0°.02×20°.48E±0°.02, h5km±9km, n68, σ0s97/128, 20C-7D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHP	**Peshkopia**	**0.26**	**353**	*i* PG	**Pg**	**04 03 42.1**	**-0.1**
PHP				*i* SG	**Sg**	**04 03 46.2**	**+0.6**
PHP	**Peshkopia**	**0.26**	**353**	P	**Pg**	**04 03 42.1**	**-0.1**
PHP				S	**Sg**	**04 03 46.5**	**+0.9**
PHP	**Peshkopia**	**0.26**	**353**	P	**Pg**	**04 03 42.1**	**-0.1**
PHP				*i* Sg	**Sg**	**04 03 46.2**	**+0.6**
	SNR=123						
TIR	**Tirane**	**0.47**	**260**	*i* PG	**Pg**	**04 03 46.2**	**0.0**
TIR				*i* SG	**Sb**	**04 03 53.9**	**-1.2**
TIR	**Tirane**	**0.47**	**260**	P	**Pg**	**04 03 46.2**	**0.0**
TIR				S	**Sb**	**04 03 54.5**	**-0.6**
TIR	**Tirane**	**0.47**	**260**	||*i* Pg	**Pg**	**04 03 46.1**	**0.0**
TIR	**Tirane**	**0.47**	**260**	P	**Pg**	**04 03 46.2**	**0.0**
TIR				*i* Sg	**Sb**	**04 03 53.9**	**-1.2**
	SNR=102						
TIR				S	**Sb**	**04 03 54.5**	**-0.6**
BIA	**Bitola**	**0.75**	**123**	P	**Pg**	**04 03 51.7**	**+0.1**
BIA				S	**Sn**	**04 04 05.0**	**-1.2**
BIA	**Bitola**	**0.75**	**123**	*i* Pg	**Pg**	**04 03 52.3**	**+0.7**
BIA				*i* Sg	**Sg**	**04 04 01.9**	**+0.6**
BIA	**Bitola**	**0.75**	**123**	P	**Pg**	**04 03 51.7**	**+0.1**
BIA				*i* Sg	**Sn**	**04 04 05.4**	**-0.8**
PUK	**Puka**	**0.76**	**324**	*i* PG	**Pg**	**04 03 51.2**	**-0.5**
PUK				*i* SG	**Sg**	**04 04 01.5**	**0.0**
PUK	**Puka**	**0.76**	**324**	*i* Pg	**Pg**	**04 03 51.2**	**-0.5**
	SNR=95						
PUK				*i* Sg	**Sg**	**04 04 01.5**	**0.0**
	SNR=95						
KBN	**Korca**	**0.84**	**164**	P	**Pb**	**04 03 54.4**	**+0.3**
KBN				S	**Sn**	**04 04 08.1**	**-0.2**
KBN	**Korca**	**0.84**	**164**	P	**Pb**	**04 03 54.4**	**+0.3**
SKO	**Skopje**	**0.90**	**52**	*e*Pg	**Pb**	**04 03 55.6**	**+0.4**
SKO				*e*Sg	**Sb**	**04 04 08.5**	**+1.1**
SKO	**Skopje**	**0.90**	**52**	*i* Pg	**Pn**	**04 03 56.3**	**-0.1**
SKO				*i* Sg	**Sg**	**04 04 01.6**	**-4.4**
SKO				*i* Lg	Lg	04 04 10.1	
	comp=E,252nm,0.6s						
SKO				*i* Lg	Lg	04 04 10.8	
	comp=N,487nm,0.3s						
SKO	**Skopje**	**0.90**	**52**	*i* Pg	**Pb**	**04 03 55.2**	**0.0**
SKO				*e*Sg	**Sb**	**04 04 08.5**	**+1.1**
SKO				*i* Lg	Lg	04 04 09.8	
	comp=N,487nm,0.3s						
FNA	**Florina**	**0.93**	**133**	P	**Pb**	**04 03 55.8**	**0.0**
FNA				S	**Sn**	**04 04 10.1**	**-0.5**
FNA	**Florina**	**0.93**	**133**	P	**Pb**	**04 03 55.8**	**0.0**
BCI	**Bajram Curri**	**0.99**	**342**	*i* PG	**Pg**	**04 03 55.6**	**-0.5**
BCI	**Bajram Curri**	**0.99**	**342**	*i* Pg	**Pg**	**04 03 55.6**	**-0.5**
	SNR=93						
ULC	**Ulcinj**	**1.07**	**300**	⇑*i* Pg	**Pg**	**04 03 56.1**	**-1.6**
ULC				*e*Sg	**Sb**	**04 04 12.6**	**+0.2**
ULC	**Ulcinj**	**1.07**	**300**	⇑*i* Pg	**Pg**	**04 03 56.1**	**-1.6**
ULC				*e*Sg	**Sb**	**04 04 12.6**	**+0.2**
NEST	**Nestorio**	**1.10**	**157**	P	**Pn**	**04 03 59.1**	**-0.1**
NEST				S	**Sn**	**04 04 16.2**	**+1.4**
NEST	**Nestorio**	**1.10**	**157**	P	**Pn**	**04 03 59.1**	**-0.1**
PVY	**Plav**	**1.23**	**342**	⇑*i* Pg	**Pg**	**04 03 59.4**	**-1.3**
PVY				*e*Sg	**Sn**	**04 04 18.1**	**0.0**
PVY	**Plav**	**1.23**	**342**	⇑*i* Pg	**Pg**	**04 03 59.4**	**-1.3**
PVY				*e*Sg	**Sn**	**04 04 18.1**	**0.0**
DRME	**Dracevica, Mon**	**1.23**	**308**	⇓*i* Pg	**Pg**	**04 03 59.2**	**-1.5**
DRME				*e*Sg	**Sn**	**04 04 18.4**	**+0.4**
DRME	**Dracevica, Mon**	**1.23**	**308**	⇓*i* Pg	**Pg**	**04 03 59.2**	**-1.5**
DRME				*e*Sg	**Sn**	**04 04 18.4**	**+0.4**
PDG	**Podgorica**	**1.36**	**318**	⇓*i* Pg	**Pn**	**04 04 01.9**	**-0.8**
PDG				*e*Sg	**Sn**	**04 04 22.4**	**+1.4**
PDG	**Podgorica**	**1.36**	**318**	⇓*i* Pg	**Pn**	**04 04 01.9**	**-0.8**
PDG				*e*Sg	**Sn**	**04 04 22.3**	**+1.3**
TTG	**Podgorica**	**1.36**	**318**	⇑*i* Pg	**Pn**	**04 04 01.7**	**-1.0**
TTG				*e*Sg	**Sn**	**04 04 22.3**	**+1.3**
BUM	**Brajici-Budva**	**1.47**	**307**	⇑*i* Pg	**Pn**	**04 04 04.2**	**-0.1**
BUM				*e*Sg	**Sg**	**04 04 26.2**	**+1.7**
BUM	**Brajici-Budva**	**1.47**	**307**	⇑*i* Pg	**Pn**	**04 04 04.2**	**-0.1**
BUM				*e*Sg	**Sg**	**04 04 26.2**	**+1.7**
VAY	**Valandovo**	**1.57**	**93**	⇑*i* Pn	**Pn**	**04 04 05.9**	**+0.3**
VAY				*e*Sg	**Sg**	**04 04 28.1**	**+0.4**
VAY	**Valandovo**	**1.57**	**93**	*i* Pg	Pn	04 04 01.4	-4.2
VAY				*i* Sg	**Sg**	**04 04 28.7**	**+1.0**
VAY				*i* Lg	Lg	04 04 29.1	
	comp=N,158nm,1.0s						
VAY				*i* Lg	Lg	04 04 31.5	
	comp=E,77nm,0.5s						
VAY	**Valandovo**	**1.57**	**93**	*i* Pg	**Pn**	**04 04 05.9**	**+0.3**
VAY				*e*Sg	**Sg**	**04 04 28.1**	**+0.4**
VAY				*i* Lg	Lg	04 04 30.9	
	comp=E,77nm,0.5s						
BARS	**Barje**	**1.71**	**35**	*e*Pn	**Pb**	**04 04 08.7**	**-0.2**
BARS				*e*Sn	**Sb**	**04 04 30.8**	**+0.2**
NKME	**Niksic**	**1.76**	**320**	⇑*i* Pn	**Pb**	**04 04 09.5**	**-0.3**
NKME				*e*Sn	**Sg**	**04 04 34.1**	**+0.5**
NKME	**Niksic**	**1.76**	**320**	⇑*i* Pn	**Pb**	**04 04 09.5**	**-0.3**
NKME				*e*Sn	**Sg**	**04 04 34.1**	**+0.5**
HCY	**Herceg Novi**	**1.80**	**305**	*e*Pn	**Pn**	**04 04 09.1**	**+0.3**
HCY				*e*Sn	**Sg**	**04 04 34.7**	**-0.2**
HCY	**Herceg Novi**	**1.80**	**305**	*e*Pn	**Pn**	**04 04 09.1**	**+0.3**
HCY				*e*Sn	**Sg**	**04 04 34.7**	**-0.2**
SELS	**Selova**	**1.85**	**15**	*e*Pn	**Pb**	**04 04 09.8**	**+0.3**
SELS				*e*Sn	**Sb**	**04 04 35.9**	**+1.0**
SJES	**Sjenica**	**1.87**	**348**	*e*Pn	**Pb**	**04 04 11.0**	**-0.8**
SJES				*e*Sn	**Sb**	**04 04 36.1**	**+0.6**
TREB	**Trebinje**	**2.04**	**310**	⇑*i* Pn	**Pb**	**04 04 14.0**	**-0.7**
TREB				*e*Sn	**Sn**	**04 04 37.8**	**-0.2**
TREB	**Trebinje**	**2.04**	**310**	⇑*i* Pn	**Pb**	**04 04 14.0**	**-0.7**
TREB				*e*Sn	**Sn**	**04 04 37.8**	**-0.2**
BRY	**Bratogost**	**2.06**	**316**	⇑*i* Pn	**Pn**	**04 04 12.7**	**+0.2**
BRY				*e*Sn	**Sb**	**04 04 41.5**	**+0.4**
BRY	**Bratogost**	**2.06**	**316**	⇑*i* Pn	**Pn**	**04 04 12.7**	**+0.2**
BRY				*e*Sn	**Sb**	**04 04 41.5**	**+0.4**
PLE	**Pljevlja**	**2.07**	**337**	*e*Pn	**Pn**	**04 04 13.2**	**+0.7**
PLE				*e*Sn	**Sb**	**04 04 41.2**	**0.0**
PLE	**Pljevlja**	**2.07**	**337**	*e*Pn	**Pn**	**04 04 13.2**	**+0.7**
PLE				*e*Sn	**Sb**	**04 04 41.2**	**0.0**
UPM	**Unac-Piva**	**2.12**	**327**	⇓*i* Pn	**Pn**	**04 04 14.1**	**+0.7**
UPM				*e*Sn	**Sb**	**04 04 43.1**	**+0.2**
UPM	**Unac-Piva**	**2.12**	**327**	⇓*i* Pn	**Pn**	**04 04 14.1**	**+0.7**
UPM				*e*Sn	**Sb**	**04 04 43.1**	**+0.2**
VTS	**Vitosha**	**2.34**	**59**	⇑*i* Pn	**Pb**	**04 04 18.5**	**-1.3**
VTS				*e*Sn	**Sb**	**04 04 47.9**	**-1.1**
VTS	**Vitosha**	**2.34**	**59**	⇑*i* Pn	**Pb**	**04 04 18.5**	**-1.3**
VTS				*e*Sn	**Sb**	**04 04 47.9**	**-1.1**
ZAPS	**Zavoj**	**2.44**	**40**	⇑*i* Pn	**Pn**	**04 04 19.4**	**+1.8**
ZAPS				*e*Sn	**Sb**	**04 04 50.0**	**-1.7**
ZAPS	**Zavoj**	**2.44**	**40**	⇑*i* Pn	**Pn**	**04 04 19.4**	**+1.8**
ZAPS				*e*Sn	**Sb**	**04 04 50.0**	**-1.7**
GRUS	**Gruza**	**2.46**	**4**	*e*Pn	**Pn**	**04 04 19.5**	**+1.6**
GRUS				*e*Sn	**Sn**	**04 04 48.7**	**+0.3**
GRUS	**Gruza**	**2.46**	**4**	*e*Pn	**Pn**	**04 04 19.5**	**+1.6**
GRUS				*e*Sn	**Sn**	**04 04 48.7**	**+0.3**
STON	**Ston**	**2.52**	**306**	*e*Pn	**Pn**	**04 04 19.4**	**+0.7**
STON				Sn	**Sg**	**04 04 58.8**	**+0.6**
BBLS	**Lazići**	**2.56**	**342**	*e*Pn	**Pn**	**04 04 20.4**	**+1.1**
BBLS				*e*Sn	**Sn**	**04 04 51.6**	**+0.7**
BBLS	**Lazići**	**2.56**	**342**	*e*Pn	**Pn**	**04 04 20.4**	**+1.1**
BBLS				*e*Sn	**Sn**	**04 04 51.6**	**+0.7**
DIVS	**Divibare**	**2.69**	**352**	*e*Pn	**Pn**	**04 04 22.8**	**+1.7**
DIVS				*e*Sn	**Sn**	**04 04 55.4**	**+1.3**
DIVS	**Divibare**	**2.69**	**352**	*e*Pn	**Pn**	**04 04 22.8**	**+1.7**
DIVS				*e*Sn	**Sn**	**04 04 55.4**	**+1.3**
FGSL	**Fruska Gora**	**3.76**	**353**	⇑*i* Pn	**Pn**	**04 04 37.7**	**+2.0**
FRGS	**Fruska Gora**	**3.76**	**353**	⇑*i* Pn	**Pn**	**04 04 37.7**	**+2.0**
BZS	**Buzias**	**4.27**	**11**	*e*Pn	**Pn**	**04 04 43.2**	**+0.5**
BZS				*e*Sn	**Sn**	**04 05 31.7**	**-1.1**
BZS	**Buzias**	**4.27**	**11**	*e*Pn	**Pn**	**04 04 43.2**	**+0.5**
BZS				*e*Sn	**Sn**	**04 05 31.7**	**-1.1**
NVLJ	**Novalja**	**5.17**	**309**	*e*Pn	**Pn**	**04 04 55.6**	**+0.5**
NVLJ				Sn	**Sn**	**04 05 55.1**	**0.0**

*IDC **07** 04:31:40.6±1.4, 9°.35S×107°.20E, h0km, mb3.9/9, mb1 4.1/9, mb1mx3.9/24, mbtmp3.9/9, MS3.4/2, Ms1 3.4/2, ms1mx3.0/33, Error ellipse: s-maj=82.7km s-min=18.7km az=47.0*
*ISCJB **07** 04:31:42.0±0.5, 9°.47S±0°.06×107°.20E±0°.05, h22km, mb3.8/9, Error ellipse: s-maj=10.0km s-min=5.5km az=139.2*
*AUST **07** 04:31:41.7±1.9, 9°.66S×107°.34E, h17km, Error ellipse: s-maj=1.2km s-min=0.7km az=332.0*
*DJA **07** 04:31:57.3±1.8, 8°S±10°×10°7E±°, h25km±15km, M3.8/4, MLv3.8/4*

ISC 07 04:31:43.3±0.7, 9°.42S±0°.05×107°.20E±0°.06, h22km, n25, σ1s46/24, mb4.0/9, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XMI	**Christmas Isla**	**1.81**	**235**	P	**Pn**	**04 32 13.1**	**0.0**
	baz=1.8,SNR=16						
XMI				S	**Sn**	**04 32 34.3**	**-1.2**
	baz=1.8,SNR=4.6						
XMIS	**Christmas Isla**	**1.86**	**235**	P	**Pn**	**04 32 13.6**	**-0.2**
	baz=1.9,SNR=37						
XMIS				S	**Sn**	**04 32 33.7**	**-2.9**
	baz=1.9,SNR=5.3						
CISI	**Cisompet, Garu**	**1.95**	**18**	P	**Pn**	**04 32 15.1**	**-0.1**
CISI				S	Sn	04 32 28.7	-10
CISI	**Cisompet, Garu**	**1.95**	**18**	P	**Pn**	**04 32 15.0**	**-0.1**
	baz=2.2,SNR=10						
CISI				S	**Sn**	**04 32 37.2**	**-1.8**
	baz=2.2,SNR=7.0						
LEM	**Lembang**	**2.61**	**9**	P	**Pb**	**04 32 27.7**	**-1.8**
LEM	**Lembang**	**2.61**	**9**	P	**Pb**	**04 32 26.4**	**-3.0**
	baz=2.8,SNR=4.7						
LEM				S	**Sb**	**04 33 01.9**	**+0.7**
	baz=2.8,SNR=4.6						
KPJI	**Karang Pucung**	**2.69**	**40**	P	**Pb**	**04 32 28.0**	**-2.7**
DBJI	**Dramaga**	**2.88**	**351**	P	**Pn**	**04 32 30.1**	**+2.2**
UGM	**Wanagama**	**3.61**	**66**	P	**Pn**	**04 32 37.7**	**-0.3**
	baz=3.6,SNR=5.6						
JAGI	**Jajag, Banyuwa**	**6.93**	**83**	P	**Pn**	**04 33 23.8**	**+0.2**
	baz=6.8,SNR=8.3						
KAPI	**Kappang**	**13.19**	**71**	LR	LR	04 40 16.0	
	comp=Z,130nm,19.5s,baz=4.8,slow=39						
FITZ	**Fitzroy Crossi**	**19.86**	**118**	LR	LR	04 43 34.2	
	comp=Z,117nm,18.7s,baz=235,slow=36						
MTN	**Manton Dam**	**23.72**	**100**	P	P	04 36 48.5	-5.5
	baz=24,SNR=8.5						
KDU	**Kakadu**	**25.01**	**100**	P	P	04 36 58.4	-7.4
	baz=25,SNR=3.8						
WRA	**Warramunga Arr**	**28.21**	**115**	P	**P**	**04 37 35.0**	**+0.3**
	0.2nm,0.5s,baz=291,slow=10.0,SNR=2.9						
CMAR	**Chiang Mai Arr**	**28.88**	**344**	P	**P**	**04 37 40.4**	**-0.2**
	1.2nm,0.3s,baz=177,slow=9.3,SNR=8.5						
ASAR	**Alice Springs**	**29.18**	**122**	P	**P**	**04 37 44.5**	**+1.2**
	0.2nm,0.4s,baz=299,slow=9.5,SNR=3.0						
PALU	**Palau**	**31.87**	**59**	S	S	04 42 59.0	-18
	baz=32,SNR=3.9						
STKA	**Stephens Creek**	**38.91**	**130**	P	**P**	**04 39 08.9**	**+1.4**
	3.2nm,1.0s,baz=336,slow=20,SNR=3.1						
MKAR	**Makanchi Array**	**60.22**	**341**	P	**P**	**04 41 50.4**	**+0.7**
	0.9nm,0.5s,baz=142,slow=8.0,SNR=10						
KURBB	**Kurchatov Arra**	**64.78**	**340**	P	**P**	**04 42 20.8**	**+0.7**
	0.3nm,0.2s,baz=152,slow=5.9,SNR=4.4						
BVAR	**Borovoye Array**	**69.66**	**337**	P	**P**	**04 42 51.0**	**0.0**
	0.7nm,0.5s,baz=152,slow=10,SNR=4.1						
KBZ	**Khabaz**	**78.57**	**318**	P	**P**	**04 43 44.4**	**+1.2**
	2.0nm,0.8s,baz=151,slow=8.1,SNR=3.7						
BRTR	**Keskin Array B**	**83.58**	**312**	P	**P**	**04 44 10.4**	**+0.2**
	0.5nm,0.6s,baz=56,slow=4.2,SNR=2.4						
TXAR	**Lajitas Array**	**144.96**	**51**	PKP	**PKPdf**	**04 51 20.6**	**+1.0**
	0.3nm,0.8s,baz=205,slow=1.9,SNR=4.2						

*IDC **07** 04:32:51.1±0.5, 3°.59N×126°.82E, h0km, mb4.2/20, mb1 4.3/20, mb1mx4.2/30, mbtmp4.2/20, Error ellipse: s-maj=30.4km s-min=11.8km az=68.0*
*ISCJB **07** 04:32:56.1±0.3, 3°.60N±0°.07×126°.7E±0°.1, h48km, mb4.2/22, Error ellipse: s-maj=18.8km s-min=6.1km az=155.5*
*NEIC **07** 04:32:56.2±0.3, 3°.56N×126°.82E, h35km, mb4.5/2, Error ellipse: s-maj=18.2km s-min=6.5km az=68.0*
*AUST **07** 04:33:36.0, 1°.00N×128°.00E, h200km*

ISC 07 04:32:57.9±0.5, 3°.61N±0°.09×126°.8E±0°.2, h48km, n54, σ0s98/55, mb4.3/22, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**4.40**	**325**	⇑*i* P	Pn	04 34 06.5	+4.3
SWI	**Sorong**	**6.29**	**135**	P	Pn	04 34 30.9	+2.8
	baz=3.8,SNR=5.3						
FAKI	**Fak Fak**	**8.46**	**140**	P	Pn	04 35 01.7	+3.7
	baz=5.8,SNR=5.7						
MTN	**Manton Dam**	**16.90**	**165**	P	**Pn**	**04 36 50.6**	**-0.6**
	baz=14,SNR=5.3						
MTN				S	Sn	04 39 24.2	-34
	baz=14,SNR=3.5						
KDU	**Kakadu**	**17.14**	**161**	P	**Pn**	**04 36 53.8**	**-0.3**
	baz=14,SNR=6.6						
KNRA	**Kununurra**	**19.26**	**174**	P	**P**	**04 37 18.9**	**+0.3**
	baz=17,SNR=4.6						
FITZ	**Fitzroy Crossi**	**21.61**	**183**	P	**P**	**04 37 41.8**	**-2.1**
FITZ	**Fitzroy Crossi**	**21.61**	**183**	P	**P**	**04 37 41.8**	**-2.1**
	3.0nm,0.5s,baz=29,slow=8.8,SNR=11						
FITZ	**Fitzroy Crossi**	**21.61**	**183**	P	**P**	**04 37 43.4**	**-0.5**
	baz=19,SNR=3.1						
PMG	**Port Moresby**	**24.05**	**123**	P	**P**	**04 38 07.1**	**-1.7**
PMG	**Port Moresby**	**24.05**	**123**	P	**P**	**04 38 07.1**	**-1.7**
	7.3nm,0.5s,baz=248,slow=19,SNR=3.1						
WRAB	**Tennant Creek**	**24.54**	**163**	*e*P	**P**	**04 38 12.5**	**-0.7**
	5.7nm,0.6s						
WRA	**Warramunga Arr**	**24.55**	**163**	P	**P**	**04 38 12.5**	**-0.8**
WRA	**Warramunga Arr**	**24.55**	**163**	P	**P**	**04 38 12.5**	**-0.8**
	3.4nm,0.4s,baz=336,slow=10,SNR=67						
ASAR	**Alice Springs**	**27.98**	**166**	P	**P**	**04 38 43.9**	**-0.4**
ASAR				PcP	**PcP**	**04 41 59.6**	**+1.0**
ASAR	**Alice Springs**	**27.98**	**166**	P	**P**	**04 38 43.9**	**-0.4**
	0.6nm,0.5s,baz=346,slow=7.2,SNR=12						
ASAR				PcP	**PcP**	**04 41 59.6**	**+1.0**
	0.6nm,0.5s,baz=350,slow=2.3,SNR=5.5						
CMAR	**Chiang Mai Arr**	**31.00**	**301**	P	**P**	**04 39 10.7**	**-0.4**
CMAR	**Chiang Mai Arr**	**31.00**	**301**	P	**P**	**04 39 10.7**	**-0.4**
	1.2nm,0.4s,baz=100,slow=7.4,SNR=3.6						
KSAR	**Wonju Array Be**	**33.68**	**2**	P	**P**	**04 39 33.8**	**-0.5**
KSRS	**Korea Array**	**33.70**	**2**	P	**P**	**04 39 33.8**	**-0.6**
	0.9nm,0.5s,baz=185,slow=11,SNR=3.4						
STKA	**Stephens Creek**	**37.99**	**159**	P	**P**	**04 40 10.8**	**-0.5**
STKA	**Stephens Creek**	**37.99**	**159**	P	**P**	**04 40 10.8**	**-0.5**
	2.8nm,0.6s,baz=320,slow=9.9,SNR=5.9						
STKA	**Stephens Creek**	**37.99**	**159**	P	**P**	**04 40 12.8**	**+1.5**
	baz=35,SNR=5.3						
SONM	**Songino Array**	**47.44**	**341**	P	**P**	**04 41 28.5**	**+0.6**
SONM	**Songino Array**	**47.44**	**341**	P	**P**	**04 41 28.5**	**+0.6**
	0.8nm,0.5s,baz=179,slow=9.8,SNR=5.9						
PETK	**Petropavlovsk-**	**55.51**	**22**	P	**P**	**04 42 28.8**	**+0.8**
PETK				PcP	**PcP**	**04 43 26.2**	**-1.3**
PETK	**Petropavlovsk-**	**55.51**	**22**	P	**P**	**04 42 28.8**	**+0.8**
	1.0nm,0.7s,baz=210,slow=11,SNR=4.1						
PETK				PcP	**PcP**	**04 43 26.2**	**-1.3**
	1.4nm,0.7s,baz=200,slow=3.9,SNR=3.6						
MK31	**Makanchi Array**	**57.70**	**325**	*e*P	**P**	**04 42 44.1**	**+0.4**
MKAR	**Makanchi Array**	**57.70**	**325**	P	**P**	**04 42 44.2**	**+0.6**
MKAR	**Makanchi Array**	**57.70**	**325**	P	**P**	**04 42 44.2**	**+0.6**
	3.1nm,0.5s,baz=119,slow=7.8,SNR=17						
AAK	**Ala-Archa**	**60.50**	**318**	P	**P**	**04 43 04.0**	**+0.7**
AAK	**Ala-Archa**	**60.50**	**318**	P	**P**	**04 43 04.0**	**+0.7**
	0.9nm,0.3s,baz=180,slow=15,SNR=2.3						
ZALV	**Zalesovo Beam**	**60.73**	**333**	P	**P**	**04 43 04.4**	**-0.1**
ZALV	**Zalesovo Beam**	**60.73**	**333**	P	**P**	**04 43 04.4**	**-0.1**
	0.9nm,0.4s,baz=130,slow=4.6,SNR=3.6						
KURBB	**Kurchatov Arra**	**61.88**	**327**	P	**P**	**04 43 12.3**	**0.0**
	5.3nm,0.7s,baz=127,slow=6.3,SNR=34						
KURK	**Kurchatov**	**61.88**	**328**	P	**P**	**04 43 12.3**	**0.0**
MCQ	**Macquarie Isla**	**63.76**	**160**	P	**P**	**04 43 27.1**	**+2.5**
	baz=61,SNR=5.7						
BVAR	**Borovoye Array**	**67.46**	**327**	P	**P**	**04 43 49.1**	**+0.5**
BVAR	**Borovoye Array**	**67.46**	**327**	P	**P**	**04 43 49.1**	**+0.5**
	1.3nm,0.5s,baz=103,slow=4.6,SNR=6.0						
BRVK	**Borovoye**	**67.53**	**327**	*e*P	**P**	**04 43 48.8**	**-0.3**
	3.8nm,0.7s						
AKTO	**Aktyubinsk**	**73.80**	**322**	P	**P**	**04 44 27.9**	**+0.6**
AKTO	**Aktyubinsk**	**73.80**	**322**	P	**P**	**04 44 27.9**	**+0.6**
	2.1nm,0.6s,baz=93,slow=8.3,SNR=8.4						
VNDA	**Vanda**	**83.30**	**173**	P	**P**	**04 45 19.6**	**+0.6**
VNDA	**Vanda**	**83.30**	**173**	P	**P**	**04 45 19.6**	**+0.6**
	0.4nm,0.5s,baz=245,slow=2.1,SNR=3.5						
BRTR	**Keskin Array B**	**90.16**	**310**	P	**P**	**04 45 52.6**	**-0.9**
BRTR	**Keskin Array B**	**90.16**	**310**	P	**P**	**04 45 52.6**	**-0.9**
	1.5nm,0.8s,baz=110,slow=5.7,SNR=6.9						
ARCES	**ARCESS Array B**	**90.59**	**340**	P	**P**	**04 45 54.6**	**-0.1**
ARCES	**ARCESS Array B**	**90.59**	**340**	P	**P**	**04 45 54.6**	**-0.1**
	1.3nm,0.6s,baz=76,slow=5.1,SNR=6.5						
FINES	**FINESS Array B**	**91.97**	**332**	P	**P**	**04 46 00.4**	**-0.8**
FINES	**FINESS Array B**	**91.97**	**332**	P	**P**	**04 46 00.4**	**-0.8**
	0.8nm,0.6s,baz=353,slow=5.6,SNR=3.2						
QSPA	**South Pole Qui**	**93.52**	**180**	P	**P**	**04 46 09.8**	**+1.4**
QSPA	**South Pole Qui**	**93.52**	**180**	P	**P**	**04 46 09.8**	**+1.4**
	1.0nm,1.0s,baz=305,slow=1.0,SNR=4.7						
TORD	**Torodi Ar. Bea**	**123.03**	**288**	PKP	**PKPdf**	**04 51 48.6**	**-1.5**
TORD	**Torodi Ar. Bea**	**123.03**	**288**	PKP	**PKPdf**	**04 51 48.7**	**-1.5**
	0.4nm,0.6s,baz=86,slow=1.9,SNR

KURBB **Kurchatov Arra** **46.14 307** P **P** **04 50 59.1 -0.1**
comp=Z,7.4nm,0.8s,baz=81,slow=8.1,SNR=59
ILAR **Eielson Array** **47.50 33** P **P** **04 51 10.3 +0.6**
ILAR **Eielson Array** **47.50 33** P **P** **04 51 10.3 +0.6**
comp=Z,0.6nm,0.8s,baz=258,slow=6.1,SNR=7.2
TKM2 **Tokmak 2** **50.10 298** *e*P **P** **04 51 30.2 0.0**
TKM2 pmax pmax
comp=Z,9.0nm,0.9s
TKM2 **Tokmak 2** **50.10 298** *e*P **P** **04 51 30.2 0.0**
comp=Z,9.4nm,0.9s
BVAR **Borovoye Array** **50.56 312** P **P** **04 51 33.4 +0.1**
BVAR 04 52 50.8
BVAR pmax pmax
comp=Z,1.0nm,0.6s
BVAR pmax pmax
comp=Z,1.0nm,0.7s
BVAR **Borovoye Array** **50.56 312** P **P** **04 51 33.4 +0.1**
BVAR PcP **PcP** **04 52 50.8 0.0**
BVAR **Borovoye Array** **50.56 312** P **P** **04 51 33.4 +0.1**
comp=Z,1.1nm,0.6s,baz=82,slow=11,SNR=4.4
BVAR PcP **PcP** **04 52 50.8 0.0**
comp=Z,1.3nm,0.7s,baz=59,slow=5.6,SNR=3.9
BRVK **Borovoye** **50.61 312** *e*P **P** **04 51 33.3 -0.4**
BRVK pmax pmax
comp=Z,3.0nm,1.7s
AAK **Ala-Archa** **50.96 298** P **P** **04 51 36.6 0.0**
AAK pmax pmax
comp=Z,2.0nm,0.5s
AAK **Ala-Archa** **50.96 298** P **P** **04 51 36.6 0.0**
AAK **Ala-Archa** **50.96 298** P **P** **04 51 36.6 0.0**
comp=Z,1.5nm,0.5s,baz=106,slow=9.2,SNR=3.7
KKAR **Karatay Array** **53.53 300** *e*P **P** **04 51 55.7 +0.1**
KKAR pmax pmax
comp=Z,2.0nm,0.6s
KKAR **Karatay Array** **53.53 300** *e*P **P** **04 51 55.7 +0.1**
comp=Z,1.6nm,0.6s
ABKAR **Akbulak array** **57.99 310** *e*P **P** **04 52 27.2 -0.3**
comp=Z,2.0nm,0.6s
AKTO **Aktyubinsk** **58.67 312** P **P** **04 52 31.8 -0.4**
AKTO pmax pmax
comp=Z,3.0nm,1.0s
AKTO **Aktyubinsk** **58.67 312** P **P** **04 52 31.8 -0.4**
AKTO **Aktyubinsk** **58.67 312** P **P** **04 52 31.8 -0.4**
comp=Z,1.7nm,0.7s,baz=70,slow=9.8,SNR=6.7
WRA **Warramunga Arr** **58.75 190** P **P** **04 52 31.4 -1.5**
WRA **Warramunga Arr** **58.75 190** P **P** **04 52 31.4 -1.5**
comp=Z,1.5nm,0.7s,baz=7.3,slow=6.9,SNR=14
ASAR **Alice Springs** **62.48 190** P **P** **04 52 57.5 -0.8**
ASAR **Alice Springs** **62.48 190** P **P** **04 52 57.5 -0.8**
comp=Z,0.6nm,0.7s,baz=12,slow=7.7,SNR=6.2
ARCES **ARCESS Array B** **63.05 340** P **P** **04 53 02.0 +0.4**
ARCES **ARCESS Array B** **63.05 340** P **P** **04 53 02.0 +0.4**
comp=Z,1.7nm,0.9s,baz=50,slow=8.1,SNR=3.6
OBN **Obninsk** **67.69 323** *e*P P 04 53 36.0 +4.2
OBN pmax pmax
comp=Z,5.0nm,0.6s
FINES **FINESS Array B** **68.10 333** P **P** **04 53 34.2 -0.1**
FINES **FINESS Array B** **68.10 333** P **P** **04 53 34.2 -0.1**
comp=Z,3.6nm,0.8s,baz=45,slow=5.7,SNR=7.0
NB2 **NORSAR Subarra** **73.31 338** P **P** **04 54 06.0 -0.1**
comp=Z,0.9nm,0.6s,baz=35,slow=6.2
NOA **NORSAR Array B** **73.31 338** P **P** **04 54 06.3 +0.2**
NOA **NORSAR Array B** **73.31 338** P **P** **04 54 06.3 +0.2**
comp=Z,2.2nm,0.8s,baz=38,slow=6.1,SNR=5.8
AKASG **Malin Array Be** **73.92 323** P **P** **04 54 09.6 -0.2**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKASG **Malin Array Be** **73.92 323** P **P** **04 54 09.6 -0.2**
AKASG **Malin Array Be** **73.92 323** P **P** **04 54 09.6 -0.2**
comp=Z,2.4nm,0.6s,baz=45,slow=5.8,SNR=8.4
KIEV **Kiev** **73.93 323** *e*P **P** **04 54 09.9 +0.1**
KIEV pmax pmax
comp=Z,5.0nm,1.0s
KIEV **Kiev** **73.93 323** *e*P **P** **04 54 09.9 +0.1**
comp=Z,5.2nm,1.0s
PDAR **Pinedale Array** **75.66 47** P **P** **04 54 20.9 +0.6**
PDAR **Pinedale Array** **75.66 47** P **P** **04 54 20.9 +0.6**
comp=Z,0.3nm,0.5s,baz=293,slow=1.1,SNR=3.5
BRTR **Keskin Array B** **78.84 312** P **P** **04 54 38.0 -0.2**
BRTR **Keskin Array B** **78.84 312** P **P** **04 54 38.0 -0.2**
comp=Z,0.3nm,0.5s,baz=70,slow=7.3,SNR=4.0
GERES **GERESS Array B** **82.12 329** P **P** **04 54 54.9 -0.6**
GERES **GERESS Array B** **82.12 329** P **P** **04 54 54.9 -0.6**
comp=Z,0.5nm,0.6s,baz=38,slow=6.8,SNR=4.6
TXAR **Lajitas Array** **88.14 53** P **P** **04 55 26.8 +0.8**
TXAR **Lajitas Array** **88.14 53** P **P** **04 55 26.8 +0.8**
comp=Z,0.2nm,0.7s,baz=299,slow=2.6,SNR=3.8

IDC 07 04:51:13.0±49.0, 15°.95S×173°.34W, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.8/20, mbtmp4.2/3, Error ellipse: s-maj=935.7km s-min=176.7km az=79.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**43.81**	**240**	P	P	04 59 21.2	+0.3
	1.6nm,0.4s,baz=84,slow=11,SNR=5.6						
WRA	**Warramunga Arr**	**49.77**	**257**	P	P	05 00 07.5	-0.3
	0.6nm,0.5s,baz=95,slow=7.0,SNR=18						
ASAR	**Alice Springs**	**50.00**	**252**	P	P	05 00 09.3	-0.2
	5.7nm,0.6s,baz=88,slow=8.3,SNR=69						

*NEIC **07** 05:33:41.9, 19°.62N×67°.80W, h16km, MD3.4(RSPR), After RSPR.*

RSPR 07 05:33:41.9, 19°.62N×67°.80W, h16km±5km, MD3.4/6, 23C-2D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**1.32**	**150⇑**	*e*P	Pn	05 34 01.6	-4.1
AGPR	**Aguadilla, PR**	**1.32**	**150⇑**	*e*P	Pn	05 34 01.6	-4.1
AGPR				*e*S	Sn	05 34 19.8	-3.2
LSP	**Las Mesas**	**1.59**	**155⇑**	*e*P	Pn	05 34 06.6	-2.9
LSP	**Las Mesas**	**1.59**	**155⇑**	*e*P	Pn	05 34 06.6	-2.9
LRS	**Lares**	**1.60**	**146⇓**	*e*P	Pn	05 34 06.7	-2.9
LRS	**Lares**	**1.60**	**146⇓**	*e*P	Pn	05 34 06.7	-2.9
AOPR	**Arecibo Observ**	**1.61**	**142⇑**	*e*P	Pn	05 34 06.9	-2.8
AOPR	**Arecibo Observ**	**1.61**	**142⇑**	*e*P	Pn	05 34 06.9	-2.8
DR12	**Loma Pena Alta**	**1.71**	**241⇑**	*e*P	Pn	05 34 08.2	-3.0
DR12				*e*S	Sn	05 34 29.0	-3.8
DR12	**Loma Pena Alta**	**1.71**	**241⇑**	*e*P	Pn	05 34 08.2	-3.0
DR12				*e*S	Sn	05 34 29.0	-3.8
CRPR	**Cabo Rojo, PR**	**1.73**	**158⇑**	*e*P	Pn	05 34 08.6	-2.8
CRPR	**Cabo Rojo, PR**	**1.73**	**158⇑**	*e*P	Pn	05 34 08.6	-2.8
CRPR				*e*S	Sn	05 34 29.4	-3.8
CELP	**Cerrillos**	**1.92**	**143**	*e*Pn	Pn	05 34 11.3	-2.7
CELP				*e*Sn	Sn	05 34 32.4	-5.5
OBIP	**Obispado Ponce**	**1.94**	**144⇑**	*e*P	Pn	05 34 11.8	-2.3
OBIP	**Obispado Ponce**	**1.94**	**144⇑**	*e*P	Pn	05 34 11.8	-2.3
OBIP				*e*S	Sn	05 34 34.1	-4.1
SJG	**San Juan**	**2.17**	**134⇑**	*e*P	Pn	05 34 14.4	-2.9
SJG	**San Juan**	**2.17**	**134⇑**	*e*P	Pn	05 34 15.7	-1.6
SJG				*e*S	Sn	05 34 40.2	-3.7
SJG	**San Juan**	**2.17**	**134⇑**	*e*P	Pn	05 34 15.7	-1.6
SJG				*e*S	Sn	05 34 40.0	-3.8
SJG				*e*S	Sb	05 34 40.2	-7.2
CBYP	**Canovanas**	**2.28**	**126⇑**	*e*P	Pn	05 34 16.6	-2.4
CBYP	**Canovanas**	**2.28**	**126⇑**	*e*P	Pn	05 34 16.6	-2.4
HUMP	**Col San Antoni**	**2.36**	**128⇑**	*e*P	Pn	05 34 17.8	-2.1
HUMP	**Col San Antoni**	**2.36**	**128⇑**	*e*P	Pn	05 34 17.8	-2.1
CPD	**Cerro la Pandu**	**2.38**	**131⇑**	*e*P	Pn	05 34 17.5	-2.8
CPD	**Cerro la Pandu**	**2.38**	**131⇑**	*e*P	Pn	05 34 17.5	-2.8
CPD				*e*S	Sn	05 34 46.0	-3.2
MTP	**Monte Pirata**	**2.61**	**125⇑**	*e*P	Pn	05 34 20.9	-2.6
MTP	**Monte Pirata**	**2.61**	**125⇑**	*e*P	Pn	05 34 20.9	-2.6
SDDR	**Presa de Saban**	**3.36**	**260**	*e*Pn	Pn	05 34 34.1	+0.3
SDDR				*e*Sg	Sg	05 35 27.0	-3.0

IDC 07 05:35:06.2±4.4, 9°.49S×156°.04E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/18, mbtmp3.6/3, MS3.2/4, Ms1 3.2/4, ms1mx2.9/30, Error ellipse: s-maj=117.4km s-min=37.0km az=117.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.86**	**90**	LR	LR	05 37 22.3	
	comp=Z,140nm,18.3s,baz=189,slow=35						
PMG	**Port Moresby**	**8.76**	**270**	LR	LR	05 40 26.6	
	comp=Z,173nm,20.4s,baz=88,slow=37						
WRA	**Warramunga Arr**	**23.39**	**241**	P	P	05 40 15.5	-1.4
	1.5nm,0.8s,baz=66,slow=9.8,SNR=8.7						
ASAR	**Alice Springs**	**25.41**	**234**	P	P	05 40 36.4	+0.6
	0.9nm,0.8s,baz=60,slow=11,SNR=8.1						
KSRS	**Korea Array**	**53.61**	**332**	LR	LR	06 05 39.5	
	comp=Z,26nm,19.1s,baz=145,slow=34						
PETK	**Petropavlovsk-**	**62.36**	**1**	LR	LR	06 07 51.0	
	comp=Z,22nm,21.4s,baz=299,slow=32						
SONM	**Songino Array**	**71.98**	**327**	P	P	05 46 32.4	+0.6
	0.9nm,1.0s,baz=132,slow=4.1,SNR=3.5						

IDC 07 05:57:24.9±1.4, 30°.24S×177°.07W, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.8/19, mbtmp3.8/5, ML3.3/1, Error ellipse: s-maj=28.5km s-min=24.5km az=87.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.23**	**323**	Pn	Pn	05 57 49.5	+0.1
	89nm,0.3s,baz=108,slow=18,SNR=3.8						
RAO				Sn	Sn	05 58 06.8	0.0
	388nm,0.3s,baz=107,slow=19,SNR=8.1						
URZ	**Urewera**	**9.34**	**209**	Pn	Pn	05 59 39.6	-1.1
	0.3nm,0.3s,baz=35,slow=16,SNR=3.0						
STKA	**Stephens Creek**	**35.30**	**257**	P	P	06 04 21.8	+0.1
	1.3nm,0.6s,baz=90,slow=14,SNR=2.3						
ASAR	**Alice Springs**	**43.92**	**266**	P	P	06 05 34.1	+0.4
	0.8nm,0.7s,baz=109,slow=7.9,SNR=7.3						
WRA	**Warramunga Arr**	**44.90**	**271**	P	P	06 05 41.1	-0.4
	0.6nm,0.5s,baz=111,slow=8.1,SNR=13						
NVAR	**Mina Array Bea**	**87.58**	**42**	P	P	06 10 15.0	-0.1
	0.6nm,0.9s,baz=210,slow=7.0,SNR=3.4						
FINES	**FINESS Array B**	**145.27**	**341**	PKPbc	PKPbc	06 17 02.6	-0.9
	3.4nm,0.8s,baz=57,slow=5.1,SNR=7.1						

DJA 07 06:17:31.2±2.4, 1°N±19°.9°8E±1°4, h24km±10km, M3.8/3, MLv3.8/3, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**0.61**	**310**	P	Pb	06 17 43.6	+0.2
GSI				S	Sn	06 17 53.1	-0.5
SNSI	**Sinabang, Aceh**	**2.28**	**311**	P	Pn	06 18 07.5	+0.2
KCSI	**Kotacane, Aceh**	**2.61**	**354**	P	Pn	06 18 12.1	+0.2

*IDC **07** 06:21:37.9±0.9, 53°.53N×165°.08W, h0km, mb4.0/17, mb1 4.2/20, mb1mx4.1/32, mbtmp4.0/20, ML4.2/3, MS3.3/1, Ms1 3.3/1, ms1mx2.3/39, Error ellipse: s-maj=26.0km s-min=11.6km az=174.0*

*MOS **07** 06:21:38.4±1.2, 53°.56N×164°.84W, h14km, mb4.6/13, Error ellipse: s-maj=15.5km s-min=8.8km az=82.3*

*ISCJB **07** 06:21:39.8±0.6, 53°.12N±0°.05×164°.78W±0°.04, h35km±4km, mb4.2/34, MS3.3/1, Error ellipse: s-maj=8.0km s-min=3.3km az=162.9*

*NEIC **07** 06:21:41.3, 53°.13N×164°.78W, h25km, mb3.9/3, ML3.9(AEIC), After AEIC.*

ISC 07 06:21:42.5±0.5, 53°.22N±0°.07×164°.87W±0°.03, h39km±2km, n128, σ1°.23/131, mb4.3/34, 2C-2D, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKSA	**Akutan Strait**	**1.04**	**332**	P	**Pn**	**06 21 60.0**	**-0.6**
AKSA				S	**Sn**	**06 22 14.0**	**+0.1**
AKUT	**Akutan**	**1.07**	**330**	P	**Pn**	**06 22 00.5**	**-0.4**
AKUT				S	**Sn**	**06 22 15.7**	**+1.3**
ZRO	**Akutan Zero**	**1.10**	**323**	P	**Pn**	**06 22 00.9**	**-0.4**
AKRB	**Akutan Reef Bi**	**1.16**	**322**	P	**Pn**	**06 22 01.8**	**-0.4**
AKRB				S	**Sn**	**06 22 18.7**	**+1.9**
LVA	**Lava Point**	**1.17**	**324**	P	**Pn**	**06 22 01.9**	**-0.5**
AKGG	**Akutan Green G**	**1.19**	**326**	P	**Pn**	**06 22 02.2**	**-0.4**
AKGG				S	**Sn**	**06 22 17.3**	**-0.2**
MREP	**Makushin Rep't**	**1.27**	**299**	P	**Pn**	**06 22 03.8**	**0.0**
WESE	**West Dahl East**	**1.27**	**7**	P	**Pn**	**06 22 03.0**	**-0.8**
MTBL	**Makushin Table**	**1.32**	**306**	P	**Pn**	**06 22 04.2**	**-0.2**
MGOD	**Makushin Gods**	**1.33**	**297**	P	**Pn**	**06 22 04.0**	**-0.6**
MGOD				S	**Sn**	**06 22 21.0**	**0.0**
MSW	**Makushin Switc**	**1.34**	**302**	P	**Pn**	**06 22 04.3**	**-0.3**
MCIR	**Makushin Cirqu**	**1.41**	**302**	P	**Pn**	**06 22 05.7**	**0.0**
BRPK	**Brown Peak**	**1.58**	**25**	P	**Pn**	**06 22 06.9**	**-1.0**
BRPK				S	**Sn**	**06 22 27.6**	**+0.4**
SSBA	**Shishaldin**	**1.62**	**15**	P	**Pn**	**06 22 07.7**	**-0.8**
SSBA				S	**Sn**	**06 22 29.3**	**+1.2**
SSLW	**Shishaldin Wes**	**1.62**	**15**	P	**Pn**	**06 22 07.9**	**-0.6**
OKFG	**Magazine Ridge**	**1.84**	**277**	P	**Pn**	**06 22 10.5**	**-1.0**
OKFG				S	**Sn**	**06 22 32.6**	**-0.8**
FALS	**False Pass**	**1.85**	**27**	P	**Pn**	**06 22 11.0**	**-0.7**
FALS				S	**Sn**	**06 22 35.1**	**+1.3**
OKTU	**Okmok Mt. Tuli**	**1.91**	**276**	P	**Pn**	**06 22 12.3**	**-0.2**
OKSO	**Okmok South**	**1.98**	**275**	P	**Pn**	**06 22 12.6**	**-0.9**
OKSO				S	**Sn**	**06 22 35.2**	**-1.8**
OKCE	**Okmok Cone E**	**1.99**	**277**	P	**Pn**	**06 22 13.2**	**-0.4**
OKSP	**Okmok Steeple**	**2.06**	**272**	P	**Pn**	**06 22 13.9**	**-0.6**
DRIA	**Deer Island**	**2.33**	**40**	P	**Pn**	**06 22 17.0**	**-1.2**
NIKH	**Nikolski High**	**2.42**	**266**	P	Pn	06 22 18.2	-1.2
NIKH				S	**Sn**	**06 22 46.5**	**-1.2**
DT1	**Dutton Round H**	**2.43**	**38**	P	**Pn**	**06 22 18.9**	**-0.7**
DTNA	**Dutton South F**	**2.47**	**37**	P	**Pn**	**06 22 19.5**	**-0.7**
DOL	**Dolgoi Island**	**2.62**	**41**	P	**Pn**	**06 22 21.4**	**-0.8**
PS4A	**Pavlof South-4**	**2.77**	**38**	P	**Pn**	**06 22 24.0**	**-0.3**
PVV	**Pavlof Volcano**	**2.81**	**39**	P	**Pn**	**06 22 24.4**	**-0.5**
SDPT	**Sand Point**	**3.34**	**49**	P	**Pn**	**06 22 31.4**	**-0.8**
SDPT				S	**Sn**	**06 23 08.9**	**-1.7**
VNHG	**Veniaminof 1**	**4.47**	**45**	P	**Pn**	**06 22 48.4**	**+0.7**
CHGN	**Chignik**	**4.85**	**48**	*e*Pn	**Pn**	**06 22 52.0**	**-0.8**
CHGN				*e*Sn	**Sn**	**06 23 46.1**	**-1.5**
SPIA	**Saint Paul Isl**	**5.02**	**324**	P	**Pn**	**06 22 55.3**	**+0.1**
ANPK	**Aniakchak Peak**	**5.31**	**44**	P	**Pn**	**06 22 58.8**	**-0.5**
ATKA	**Atka Island**	**5.76**	**264**	P	**Pn**	**06 23 05.1**	**-0.3**
OHAK	**Old Harbor**	**7.74**	**54**	*e*Pn	Pn	06 23 29.6	-2.8
	20nm,0.5s						
KDAK	**Kodiak Island**	**8.34**	**52**	*e*Pn	Pn	06 23 37.9	-2.7
KDAK				Sn	Sn	06 25 06.5	-6.8
KDAK	**Kodiak Island**	**8.34**	**52**	Pn	Pn	06 23 37.8	-2.8
	5.8nm,0.3s,baz=262,slow=5.4,SNR=47						
KDAK				Sn	Sn	06 25 06.5	-6.8
	0.7nm,0.3s,baz=144,slow=19,SNR=2.9						
RSO	**Redoubt South**	**9.82**	**38**	*e*Pn	**Pn**	**06 24 01.3**	**+0.1**
	19nm,0.7s						
RC01	**Rabbit Creek A**	**11.36**	**40**	*e*Pn	**Pn**	**06 24 20.3**	**-1.8**
	8.1nm,0.3s						
PPLA	**Purkeypile**	**11.77**	**30**	*e*Pn	**Pn**	**06 24 29.2**	**+1.4**
	10nm,0.8s						
SML	**Sawmill**	**12.34**	**39**	*e*P	Pn	06 24 31.4	-4.0
SML				pmax	pmax		
	comp=Z,1.0nm,0.5s						
SML	**Sawmill**	**12.34**	**39**	*e*Pn	Pn	06 24 31.4	-4.0
	comp=Z,1.2nm,0.5s						
TRF	**Thorofare Moun**	**12.76**	**31**	*e*Pn	**Pn**	**06 24 39.2**	**-2.1**
	comp=Z,14nm,1.4s						
BPAW	**Bear Paw Mtn.**	**13.05**	**28**	*e*Pn	**Pn**	**06 24 45.4**	**+0.4**
	comp=Z,7.9nm,0.6s						
FX1	**Attu Island--F**	**13.21**	**277**	*e*Pn	**Pn**	**06 24 48.6**	**+1.3**
FX1				Sn	**Sn**	**06 27 15.4**	**+2.7**
FX1	**Attu Island--F**	**13.21**	**277**	Pn	**Pn**	**06 24 47.4**	**+0.1**
	comp=Z,3.2nm,0.3s,baz=102,slow=3.3,SNR=33						
FX1				Sn	**Sn**	**06 27 15.4**	**+2.7**
	comp=Z,0.4nm,0.3s,baz=300,slow=20,SNR=2.4						
BMRM	**Bremner River**	**13.43**	**47**	*e*Pn	**Pn**	**06 24 48.4**	**-1.9**
	comp=Z,15nm,1.0s						
IMA2	**Indian Mountai**	**14.04**	**19**	*e*Pn	**Pn**	**06 24 58.9**	**+0.3**
PAX	**Paxson**	**14.10**	**39**	*e*P	Pn	06 24 56.2	-3.3
PAX				pmax	pmax		
	comp=Z,6.0nm,0.7s						
PAX	**Paxson**	**14.10**	**39**	*e*Pn	Pn	06 24 56.1	-3.3
	comp=Z,6.3nm,0.7s						
COLA	**College**	**14.53**	**30**	*e*P	Pn	06 25 01.1	-4.0
COLA				pmax	pmax		
	comp=Z,9.0nm,0.9s						
ILAR	**Eielson Array**	**14.76**	**31**	Pn	Pn	06 25 03.2	-5.0
ILAR	**Eielson Array**	**14.76**	**31**	Pn	Pn	06 25 03.2	-5.0
	comp=Z,0.5nm,0.3s,baz=222,slow=12,SNR=19						
COLD	**Coldfoot**	**15.76**	**21**	*e*Pn	**P**	**06 25 21.6**	**-3.1**
	comp=Z,7.6nm,1.1s						
EGAK	**Eagle**	**16.70**	**37**	*e*Pn	**Pn**	**06 25 30.1**	**-3.0**
	comp=Z,9.4nm,0.8s						
DAWY	**Dawson**	**17.00**	**40**	*e*Pn	**Pn**	**06 25 34.4**	**-2.6**
DLBC	**Dease Lake**	**20.09**	**61**	*e*P	**P**	**06 26 13.6**	**+1.0**
DLBC	**Dease Lake**	**20.09**	**61**	P	**Pn**	**06 26 13.9**	**-0.6**
	comp=Z,2.3nm,0.8s,baz=287,slow=11,SNR=6.2						
INK	**Inuvik**	**21.15**	**32**	P	**P**	**06 26 21.3**	**-2.5**
INK	**Inuvik**	**21.15**	**32**	P	**P**	**06 26 21.3**	**-2.5**
	comp=Z,2.9nm,0.5s,baz=218,slow=11,SNR=11						
PETK	**Petropavlovsk-**	**22.28**	**285**	P	**P**	**06 26 33.5**	**-2.5**
PETK	**Petropavlovsk-**	**22.28**	**285**	P	**P**	**06 26 33.5**	**-2.5**
PETK	**Petropavlovsk-**	**22.28**	**285**	P	**P**	**06 26 33.5**	**-2.5**
	comp=Z,1.7nm,0.4s,baz=90,slow=12,SNR=7.4						
SEY	**Seymchan**	**24.15**	**311⇑**	*i*P	**P**	**06 26 54.0**	**-0.5**
YKA	**Yellowknife Ar**	**27.61**	**50**	P	**P**	**06 27 26.6**	**+0.8**
YKA	**Yellowknife Ar**	**27.61**	**50**	P	**P**	**06 27 26.6**	**+0.8**
	comp=Z,1.2nm,0.5s,baz=275,slow=9.3,SNR=6.5						
NVAR	**Mina Array Bea**	**34.99**	**96**	P	**P**	**06 28 33.6**	**+2.5**
NVAR	**Mina Array Bea**	**34.99**	**96**	P	**P**	**06 28 33.6**	**+2.5**
	comp=Z,0.3nm,0.5s,baz=297,slow=12,SNR=2.8						
PDAR	**Pinedale Array**	**37.57**	**83**	P	**P**	**06 28 54.1**	**+1.0**
PDAR	**Pinedale Array**	**37.57**	**83**	P	**P**	**06 28 54.1**	**+1.0**
	comp=Z,0.8nm,1.1s,baz=316,slow=6.3,SNR=3.2						
MJAR	**Matsushiro Arr**	**42.44**	**270**	LR	LR	06 45 42.1	
	comp=Z,42nm,19.5s,baz=175,slow=34						
CN2	**Changchun**	**45.39**	**287**	*e*P	**P**	**06 29 55.4**	**-1.5**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
KSRS	**Korea Array**	**47.99**	**279**	P	**P**	**06 30 17.4**	**+0.1**
	comp=Z,1.7nm,0.6s,baz=46,slow=7.4,SNR=7.1						
KSAR	**Wonju Array Be**	**48.03**	**279**	P	**P**	**06 30 17.4**	**-0.2**
TXAR	**Lajitas Array**	**50.03**	**93**	P	**P**	**06 30 33.2**	**+0.1**
TXAR	**Lajitas Array**	**50.03**	**93**	P	**P**	**06 30 33.2**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=298,slow=5.7,SNR=4.5						
SONM	**Songino Array**	**53.18**	**303**	P	**P**	**06 30 55.7**	**-0.8**
SONM	**Songino Array**	**53.18**	**303**	P	**P**	**06 30 55.7**	**-0.8**
	comp=Z,1.6nm,0.7s,baz=46,slow=6.4,SNR=8.4						
HVS	**Khovu-Aksy**	**56.95**	**313⇓**	*i*P	**P**	**06 31 22.7**	**-0.9**
ARCES	**ARCESS Array B**	**57.32**	**356**	P	**P**	**06 31 24.9**	**-0.9**
ARCES	**ARCESS Array B**	**57.32**	**356**	P	**P**	**06 31 24.9**	**-0.9**
	comp=Z,1.1nm,0.3s,baz=10,0,slow=7.5,SNR=24						
ZALV	**Zalesovo Beam**	**58.60**	**319**	*i* P	**P**	**06 31 34.4**	**-0.6**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZALV	**Zalesovo Beam**	**58.60**	**319**	P	**P**	**06 31 33.9**	**-1.0**
ZALV	**Zalesovo Beam**	**58.60**	**319**	P	**P**	**06 31 33.9**	**-1.0**
	comp=Z,1.4nm,0.3s,baz=39,slow=6.5,SNR=6.0						
JOF	**Joensuu**	**63.51**	**352**	*e*P	P	06 32 11.6	+3.5
JOF	**Joensuu**	**63.51**	**352**	*e*p	P	06 32 11.6	+3.5
BRVK	**Borovoye**	**64.56**	**327**	*e*P	**P**	**06 32 14.7**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,7.0nm,2.5s						
KAF	**Kangasniemi**	**64.67**	**354**	*e*P	**P**	**06 32 15.4**	**-0.4**
KAF				pmax	pmax		
	comp=Z,4.0nm,0.4s						
KAF	**Kangasniemi**	**64.67**	**354**	*e*p	**P**	**06 32 15.4**	**-0.4**
	comp=Z,3.5nm,0.4s						
ARU	**Arti**	**65.06**	**335**	*d i*P	**P**	**06 32 17.7**	**-0.6**
ARU						06 34 36.8	
ARU				S	**S**	**06 40 57.0**	**-0.4**
ARU				SS	**SS**	**06 45 04.8**	**-4.0**
ARU				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MKAR	**Makanchi Array**	**65.16**	**316**	P	**P**	**06 32 18.1**	**-1.1**
MKAR	**Makanchi Array**	**65.16**	**316**	P	**P**	**06 32 18.1**	**-1.1**
MKAR	**Makanchi Array**	**65.16**	**316**	P	**P**	**06 32 18.1**	**-1.1**
	comp=Z,1.2nm,0.5s,baz=47,slow=5.9,SNR=11						
FINES	**FINESS Array B**	**65.36**	**354**	P	**P**	**06 32 19.1**	**-1.1**
FINES	**FINESS Array B**	**65.36**	**354**	P	**P**	**06 32 19.1**	**-1.1**
	comp=Z,1.5nm,0.4s,baz=3.5,slow=7.9,SNR=11						
GYA	**Guiyang**	**68.38**	**285**	*e*P	**P**	**06 32 41.0**	**+0.9**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ABKAR	**Akbulak array**	**71.09**	**331**	*e*P	**P**	**06 32 56.2**	**-0.1**
	comp=Z,0.5nm,0.3s						
AAK	**Ala-Archa**	**71.76**	**318**	*e*P	**P**	**06 33 01.0**	**+0.3**
AAK				pmax	pmax		
	comp=Z,19nm,2.5s						
AKASG	**Malin Array Be**	**75.78**	**351**	*ce*P	**P**	**06 33 23.1**	**-0.8**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.4s						
AKASG	**Malin Array Be**	**75.78**	**351**	P	**P**	**06 33 23.0**	**-0.8**
AKASG	**Malin Array Be**	**75.78**	**351**	P	**P**	**06 33 23.0**	**-0.8**
	comp=Z,1.5nm,0.4s,baz=13,slow=6.0,SNR=5.3						
STHS	**Stebnicka Huta**	**77.61**	**356**	*e*P	**P**	**06 33 35.6**	**+1.3**
STHS				pmax	pmax		
	comp=Z,5.0nm,0.7s						
STHS	**Stebnicka Huta**	**77.61**	**356**	*e*P	**P**	**06 33 35.6**	**+1.3**
CRVS	**Cervenica-Dubn**	**78.11**	**356**	*e*P	**P**	**06 33 37.8**	**+0.7**
CRVS				pmax	pmax		
	comp=Z,3.0nm,0.9s						
CRVS	**Cervenica-Dubn**	**78.11**	**356**	*e*P	**P**	**06 33 37.8**	**+0.7**
PAGF	**Fort de Pagny**	**78.29**	**6**	*e*P	**P**	**06 33 38.5**	**+0.5**
GERES	**GERESS Array B**	**

SAN				*i* S	Sb	06 35 37.2	-0.3
SAN				AML	AML	06 35 38.2	
comp=N,1μm,0.2s							
CLCH	**Cerro Calan**	**1.13**	**134**	⇓*i*P	Pn	06 35 22.9	+0.6
CLCH				*i* S	Sb	06 35 38.2	-0.3
CLCH				AML	AML	06 35 39.5	
comp=N,702nm,0.5s							
TACH	**Talagante**	**1.14**	**155**	⇑*i*P	Pn	06 35 22.9	+0.5
TACH				*i* S	Sb	06 35 38.3	-0.4
ANTU	**Antumapu**	**1.21**	**142**	⇓*i*P	Pn	06 35 24.0	+0.7
ANTU				*i* S	Sb	06 35 40.1	-0.4
ANTU				AML	AML	06 35 44.0	
comp=E,940nm,0.5s							
PCH	**Pirque**	**1.31**	**140**	⇓*i*P	Pn	06 35 25.6	+0.8
PCH				*i* S	Sb	06 35 43.6	+0.1
LNV	**Longovilo**	**1.34**	**176**	*e*P	Pn	06 35 25.6	+0.6
CHCH	**Chadas Angostu**	**1.50**	**151**	*e*P	Pb	06 35 28.7	-1.4
CHCH				*i* S	Sb	06 35 48.5	-0.3
CMCH	**Combarbala**	**1.50**	**17**	⇓*i*P	Pn	06 35 28.5	+1.1
CMCH				*i* S	Sb	06 35 48.3	-0.7
CMCH				AML	AML	06 35 51.2	
comp=E,4μm,0.7s							
LMEL	**Las Melosas**	**1.65**	**139**	⇓*i*P	Pn	06 35 30.8	+1.2
LMEL				*i* S	Sb	06 35 52.7	-0.7
LMEL				AML	AML	06 35 56.4	
comp=N,1μm,0.1s							
CACH	**El Canelo**	**1.68**	**153**	*e*P	Pb	06 35 31.9	-1.4
CACH				*i* S	Sb	06 35 54.5	+0.2
NICH	**Los Niches**	**2.39**	**174**	*e*P	Pn	06 35 41.1	+1.6
NICH				*e*S	Sn	06 36 10.1	+2.4
NICH				AML	AML	06 36 22.9	
comp=E,474nm,0.2s							
TLL	**Tololo Astrono**	**2.52**	**14**	*e*P	Pn	06 35 43.3	+1.8
TLL				*e*S	Sn	06 36 14.1	+2.8
TLL				AML	AML	06 36 26.7	
comp=N,192nm,0.6s							
LCO	**Las Campanas**	**3.66**	**11**	*e*P	Pn	06 35 58.1	+0.8
LCO				*e*S	Sn	06 36 40.9	+1.3
LCO				AML	AML	06 36 57.7	
comp=E,82nm,0.3s							

IDC ***07*** *06:45:59.6±0.7,6˚.52S×101˚.82E,h0km,mb4.4/20,*
mb1 4.4/21,mb1mx4.3/30,mbtmp4.4/21,ML3.6/1,MS3.5/1,
Ms1 3.5/1,ms1mx2.8/32,Error ellipse: s-maj=24.2km
s-min=11.9km az=51.0
ISCJB ***07*** *06:45:59.9±1.5,6˚.66S±0˚.04×101˚.73E±0˚.05,h17km±10km,*
mb4.6/41,MS4.0/6,Error ellipse: s-maj=8.5km
s-min=6.2km az=140.6
BJI ***07*** *06:46:03.2,6˚.70S×101˚.70E,h35km,mB5.1/20,mb4.9/28,*
Ms4.7/12,Ms7 4.3/13
NEIC ***07*** *06:46:03.5±1.7,6˚.68S×101˚.68E,h30km±12km,mb4.6/9,*
Error ellipse: s-maj=7.3km s-min=5.0km az=55.0
DJA ***07*** *06:46:07.7±0.9,6˚.5±.9˚×10˚.2E±˚,h89km±10km,M5.0/9,*
mb5.1/3,mB5.6/3,MLv5.0/9,Mw(mB)5.1/3
AUST ***07*** *06:46:34.9,6˚.84S×104˚.40E,h100km*
ISC 07 06:46:04.7±0.6,**6.74S**±0˚.05×**101˚.71E**±0˚.06,**h34**km±1km,
n182,σ1$**26**/189,**mb4.6**/41,**MS4.0**/6,**41C-38D,Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGSI	**Enggano, Bengk**	**1.49**	**22**	P	Pn	06 46 25.6	-3.5
EGSI				S	**Sn**	**06 46 42.6**	**-4.7**
MNAI	**Manna**	**2.67**	**28**	*e*Pn	**Pn**	**06 46 42.9**	**-2.4**
KASI	**Kota Agung**	**3.02**	**67**	P	**Pn**	**06 46 47.7**	**-2.5**
KASI				S	Sn	06 47 18.9	-6.3
KSI	**Kapahiang**	**3.19**	**16**	P	Pn	06 46 48.8	-3.8
MASI	**Maura Aman, Be**	**3.61**	**8**	P	**Pn**	**06 46 55.8**	**-2.6**
PMBI	**Palembang**	**4.86**	**39**	P	**Pb**	**06 47 31.0**	**+1.7**
baz=3.9,SNR=3.7							
DBJI	**Dramaga**	**5.01**	**88**	P	**Pn**	**06 47 16.4**	**-1.1**
CBJI	**Citeko**	**5.12**	**87**	P	**Pn**	**06 47 18.8**	**-0.2**
XMIS	**Christmas Isla**	**5.39**	**134**	S	Sn	06 48 13.6	-10
baz=3.8,SNR=6.8							
XMI	**Christmas Isla**	**5.39**	**133**	S	Sn	06 48 14.3	-9.4
baz=3.8,SNR=4.4							
LEM	**Lembang**	**5.87**	**91**	P	**Pn**	**06 47 29.5**	**0.0**
350nm,0.9s,4μm1.1nm							
LEM	**Lembang**	**5.87**	**91**	P	**Pn**	**06 47 29.4**	**0.0**
baz=3.2,SNR=11							
PDSI	**Padang**	**5.92**	**348**	P	Pn	06 47 26.4	-3.7
146nm,0.4s,37μm4.0nm							
CISI	**Cisompet, Garu**	**6.11**	**98**	P	Pn	06 47 29.7	-3.0
CISI	**Cisompet, Garu**	**6.11**	**98**	P	Pn	06 47 29.8	-2.9
baz=3.5,SNR=24							
CISI				S	Sn	06 48 08.3	-33
baz=3.5,SNR=15							
PPI	**Padang Panjang**	**6.38**	**348**	P	Pn	06 47 32.7	-3.6
COCO	**West Island**	**7.24**	**221**	*e*Pn	**Pn**	**06 47 47.6**	**-0.6**
UGM	**Wanagama**	**8.82**	**98**	P	**Pn**	**06 48 07.8**	**-2.1**
baz=6.2,SNR=4.6							
PSI	**Prapat**	**9.88**	**344**	Pn	Pn	06 48 20.1	-4.4
PSI				Sn	Sn	06 50 03.7	-11
PSI	**Prapat**	**9.88**	**344**	Pn	Pn	06 48 20.1	-4.4
0.5nm,0.3s,baz=169,slow=18,SNR=2.5							
PSI				Sn	Sn	06 50 03.7	-11
0.8nm,0.3s,baz=208,slow=15,SNR=3.0							
SBUM	**Sibu**	**13.91**	**49**	*e*Pn	**Pn**	**06 49 19.6**	**0.0**
KAPI	**Kappang**	**18.03**	**86**	LR	LR	06 58 08.5	
comp=Z,135nm,18.2s,baz=300,slow=41							
WSI	**Waingapu**	**18.62**	**100**	S	Sn	06 53 10.1	-37
baz=16,SNR=4.2							
LUWI	**Luwuk**	**21.75**	**76**	S	S	06 54 24.9	-28
baz=19,SNR=3.8							
BATI	**Baumata**	**21.98**	**101**	P	**P**	**06 50 56.4**	**+0.4**
BATI	**Baumata**	**21.98**	**101**	P	**P**	**06 50 56.4**	**+0.4**
38nm,0.7s,baz=270,slow=13,SNR=3.6							
CMAR	**Chiang Mai Arr**	**25.19**	**354**	P	**P**	**06 51 26.8**	**-0.5**
CMAR	**Chiang Mai Arr**	**25.19**	**354**	P	**P**	**06 51 26.8**	**-0.5**
8.9nm,0.7s,baz=188,slow=8.3,SNR=26							
CHTO	**Chiang Mai**	**25.54**	**354**	*e*P	**P**	**06 51 29.5**	**-1.0**
10.0nm,0.9s							
FITZ	**Fitzroy Crossi**	**25.91**	**118**	P	**P**	**06 51 34.1**	**+0.2**
FITZ	**Fitzroy Crossi**	**25.91**	**118**	P	**P**	**06 51 34.1**	**+0.2**
2.7nm,0.6s,baz=292,slow=7.4,SNR=11							
FITZ	**Fitzroy Crossi**	**25.91**	**118**	P	**P**	**06 51 34.2**	**+0.2**
baz=24,SNR=5.6							
FAKI	**Fak Fak**	**30.66**	**84**	P	**P**	**06 52 14.4**	**-2.0**
baz=28,SNR=5.0							
KDU	**Kakadu**	**30.87**	**103**	S	**S**	**06 57 17.8**	**-2.4**
baz=28,SNR=3.9							
KMI	**Kunming**	**31.69**	**2**	P	**P**	**06 52 25.9**	**+0.4**
KMI				pP	**pP**	**06 52 36.4**	**+1.1**
KMI				sP	**sP**	**06 52 42.5**	**+3.0**
KMI				S	**S**	**06 57 36.4**	**+3.4**
KMI				sS	**sS**	**06 57 53.0**	**+3.7**
KMI				pmax	pmax		
comp=Z,10.0nm,1.0s							
KMI				pmax	pmax		
comp=Z,50nm,5.4s							
KMI				LR	LR		
comp=N,120nm,18.3s							
KMI				LR	LR		
comp=E,120nm,17.3s							
KMI				LR	LR		
comp=Z,99nm,12.7s							
GYA	**Guiyang**	**33.35**	**8**	*e*P	P	06 52 42.8	+2.9
GYA				pP	pP	06 52 52.3	+2.5
GYA				PP	**PP**	**06 53 55.0**	**-0.8**
GYA				S	**S**	**06 58 01.7**	**+3.0**
GYA				sS	sS	06 58 17.8	+2.8
GYA				ScP	**ScP**	**06 59 03.5**	**+0.1**
GYA				pmax	pmax		
comp=Z,10.0nm,0.8s							
GYA				pmax	pmax		
comp=Z,80nm,4.8s							
GYA				LR	LR		
comp=N,420nm,17.9s							
GYA				LR	LR		
comp=E,350nm,17.5s							
GYA				LR	LR		
comp=Z,400nm,17.8s							
WRA	**Warramunga Arr**	**34.27**	**116**	P	**P**	**06 52 47.0**	**-0.9**
WRA	**Warramunga Arr**	**34.27**	**116**	P	**P**	**06 52 47.0**	**-0.9**
comp=Z,5.9nm,0.7s,baz=284,slow=12,SNR=47							
WRAB	**Tennant Creek**	**34.27**	**116**	*e*P	**P**	**06 52 47.6**	**-0.3**
comp=Z,2.6nm,0.6s							
AS31	**Alice Springs**	**35.20**	**122**	*e*P	**P**	**06 52 55.5**	**-0.5**
ASAR	**Alice Springs**	**35.20**	**122**	P	**P**	**06 52 55.4**	**-0.6**
ASAR				PcP	**PcP**	**06 55 26.4**	**-0.3**
ASAR	**Alice Springs**	**35.20**	**122**	P	**P**	**06 52 55.4**	**-0.6**
comp=Z,3.7nm,0.9s,baz=301,slow=8.1,SNR=29							
ASAR				PcP	**PcP**	**06 55 26.4**	**-0.3**
comp=Z,0.8nm,0.6s,baz=285,slow=2.0,SNR=5.4							
CD2	**Chengdu**	**37.49**	**3**	P	**P**	**06 53 17.4**	**+2.1**
CD2				pmax	pmax		
comp=Z,20nm,0.5s							
CD2				pmax	pmax		
comp=Z,130nm,5.3s							
ENH	**Enshi**	**37.55**	**11**	*e*P	**P**	**06 53 14.5**	**-1.4**
comp=Z,10nm,0.8s							
XAN	**Xi'an**	**41.13**	**9**	P	**P**	**06 53 43.7**	**-2.0**
XAN				pP	**pP**	**06 53 56.4**	**+0.7**
XAN				pmax	pmax		
comp=Z,3.0nm,0.8s							
NJ2	**Nanjing**	**41.90**	**22**	*e*P	**P**	**06 53 53.8**	**+1.8**
NJ2				pmax	pmax		
comp=Z,20nm,0.7s							
STKA	**Stephens Creek**	**44.79**	**129**	P	**P**	**06 54 15.2**	**-0.3**
STKA	**Stephens Creek**	**44.79**	**129**	P	**P**	**06 54 15.2**	**-0.3**
comp=Z,3.4nm,0.7s,baz=295,slow=7.5,SNR=8.9							
STKA	**Stephens Creek**	**44.79**	**129**	P	**P**	**06 54 15.6**	**+0.2**
baz=43,SNR=5.8							
CTA	**Charters Tower**	**45.16**	**112**	P	**P**	**06 54 18.5**	**0.0**
CTA	**Charters Tower**	**45.16**	**112**	P	**P**	**06 54 18.5**	**0.0**
comp=Z,2.3nm,0.6s,baz=302,slow=8.6,SNR=4.5							
GTA	**Gaotai**	**45.95**	**358**	*e*P	**P**	**06 54 24.5**	**-0.1**
GTA				pP	**pP**	**06 54 34.1**	**-0.6**
GTA				sP	**sP**	**06 54 37.9**	**-0.9**
GTA				S	**S**	**07 01 06.8**	**-0.4**
GTA				sS	**sS**	**07 01 22.9**	**-1.0**
GTA				SS	**ScS**	**07 04 23.9**	**+5.9**
GTA				pmax	pmax		
comp=Z,9.0nm,0.9s							
GTA				pmax	pmax		
comp=Z,74nm,4.3s							
GTA				LR	LR		
comp=N,80nm,16.4s							
GTA				LR	LR		
comp=E,59nm,17.6s							
GTA				LR	LR		
comp=Z,85nm,15.7s							
HHC	**Hu-ho-hao-te**	**48.22**	**10**	*e*P	P	06 54 44.8	+2.6
HHC				pP	pP	06 54 54.7	+2.3
HHC				sP	sP	06 54 58.2	+1.8
HHC				PcP	**PcP**	**06 56 11.0**	**+1.9**
HHC				PP	**PP**	**06 56 37.4**	**+2.5**
HHC				ScP	**ScP**	**07 00 02.4**	**+1.1**
HHC				S	**S**	**07 01 42.7**	**+3.3**
HHC				sS	sS	07 01 58.2	+2.0
HHC				ScS	**ScS**	**07 04 32.3**	**-0.5**
HHC				SS	**SS**	**07 05 07.5**	**-1.8**
HHC				pmax	pmax		
comp=Z,55nm,1.0s							
HHC				pmax	pmax		
comp=Z,240nm,3.6s							
HHC				LR	LR		
comp=N,290nm,16.7s							
HHC				LR	LR		
comp=E,570nm,16.7s							
HHC				LR	LR		
comp=Z,200nm,19.0s							
JNU	**Nakatsue**	**48.37**	**33**	P	**P**	**06 54 41.3**	**-2.1**
JNU	**Nakatsue**	**48.37**	**33**	P	**P**	**06 54 41.3**	**-2.1**
comp=Z,8.6nm,1.0s,baz=166,slow=8.3,SNR=2.6							
KSAR	**Wonju Array Be**	**50.29**	**27**	P	**P**	**06 54 56.3**	**-1.7**
KSRS	**Korea Array**	**50.32**	**27**	P	**P**	**06 54 56.3**	**-1.9**
comp=Z,1.7nm,0.5s,baz=236,slow=7.5,SNR=7.2							
KSH	**Kashi**	**51.82**	**335**	P	**P**	**06 55 07.3**	**-2.3**
KSH				sP	**sP**	**06 55 21.4**	**-2.5**
KSH				PP	**PP**	**06 57 04.7**	**-3.0**
KSH				PcS	**PcS**	**07 00 18.9**	**-1.6**
KSH				S	S	07 02 21.7	-8.1
KSH				SS	SS	07 05 55.3	-12
KSH				pmax	pmax		
comp=Z,5.0nm,0.7s							
KSH				pmax	pmax		
comp=Z,120nm,4.6s							
KSH				LR	LR		
comp=N,81nm,4.8s							
KSH				LR	LR		
comp=E,130nm,4.9s							
KSH				LR	LR		
comp=Z,200nm,5.8s							
WMQ	**Urumqi**	**51.90**	**347**	P	**P**	**06 55 10.7**	**+0.7**
WMQ				pP	**pP**	**06 55 20.7**	**+0.4**
WMQ				sP	**sP**	**06 55 24.7**	**+0.3**
WMQ				PcP	**PcP**	**06 56 23.7**	**+1.2**
WMQ				PP	**PP**	**06 57 09.2**	**+0.9**
WMQ				pmax	pmax		
comp=Z,23nm,0.8s							
WMQ				pmax	pmax		
comp=Z,100nm,4.1s							
WMQ				LR	LR		
comp=Z,28nm,19.0s							
ULN	**Ulaanbaatar**	**54.57**	**4**	*e*P	**P**	**06 55 29.6**	**-0.1**
comp=Z,6.8nm,0.9s							
CN2	**Changchun**	**54.70**	**21**	*e*P	P	06 55 33.4	+2.9
CN2				*e*sP	sP	06 55 47.7	+2.8
CN2				pmax	pmax		
comp=Z,10.0nm,0.6s							
CN2				pmax	pmax		
comp=Z,100nm,4.0s							
CN2				LR	LR		
comp=N,100nm,15.0s							
CN2				LR	LR		
comp=E,100nm,15.0s							
CN2				LR	LR		
comp=Z,200nm,17.0s							
TKM2	**Tokmak 2**	**54.83**	**337**	*e*P	**P**	**06 55 31.2**	**-0.6**
comp=Z,5.4nm,0.8s							
MJAR	**Matsushiro Arr**	**54.98**	**36**	P	P	06 55 29.8	-3.0
MJAR	**Matsushiro Arr**	**54.98**	**36**	P	P	06 55 29.8	-3.0
comp=Z,1.5nm,0.6s,baz=228,slow=5.6,SNR=5.0							
AAK	**Ala-Archa**	**55.03**	**336**	P	**P**	**06 55 31.8**	**-1.4**
AAK	**Ala-Archa**	**55.03**	**336**	P	**P**	**06 55 31.8**	**-1.4**
comp=Z,0.9nm,0.4s,baz=84,slow=10,SNR=2.9							
EKS2	**Erkin-Say**	**55.35**	**335**	*e*P	**P**	**06 55 35.1**	**-0.4**
comp=Z,6.7nm,0.8s							
MK31	**Makanchi Array**	**56.02**	**344**	*e*P	**P**	**06 55 39.1**	**-1.0**
MKAR	**Makanchi Array**	**56.02**	**344**	*e*P	**P**	**06 55 39.2**	**-0.9**
MKAR	**Makanchi Array**	**56.02**	**344**	P	**P**	**06 55 39.0**	**-1.1**
comp=Z,4.2nm,0.8s,baz=142,slow=7.3,SNR=28							
USRK	**Ussuriysk Arra**	**57.60**	**25**	P	**P**	**06 55 49.8**	**-1.4**
comp=Z,5.9nm,0.7s,baz=219,slow=7.2,SNR=13							
IPAR	**Pars**	**59.19**	**311**	*e*P	**P**	**06 56 03.7**	**+0.7**
KURBB	**Kurchatov Arra**	**60.55**	**343**	P	**P**	**06 56 10.6**	**-1.0**
comp=Z,2.0nm,0.7s,baz=161,slow=6.5,SNR=12							
KURK	**Kurchatov**	**60.61**	**343**	P	**P**	**06 56 10.6**	**-1.4**
ZAA0	**Zalesovo Array**	**62.12**	**349**	*e*P	**P**	**06 56 21.2**	**-0.9**
ZALV	**Zalesovo Beam**	**62.12**	**349**	P	**P**	**06 56 20.9**	**-1.2**
ZALV	**Zalesovo Beam**	**62.12**	**349**	P	**P**	**06 56 20.9**	**-1.2**
comp=Z,12nm,0.9s,baz=159,slow=4.6,SNR=22							
RDF	**Al-Radifah**	**63.02**	**307**	*e*P	**P**	**06 56 28.8**	**+0.1**
RDF				AMb	AMB	06 56 29.5	
comp=Z,22nm,0.7s							
NAY	**Al-Naaiem**	**63.40**	**307**	*e*P	**P**	**06 56 30.8**	**-0.4**
NAY				AMb	AMB	06 56 31.4	
comp=Z,0.5nm,0.8s							
RST	**Umm Al-Ruwaisa**	**63.70**	**307**	*e*P	**P**	**06 56 32.5**	**-0.7**
RST				AMb	AMB	06 56 33.6	
comp=Z,110nm,0.9s							
VOSK	**Vostochnaya**	**64.74**	**340**	*e*P	**P**	**06 56 38.1**	**-1.4**
comp=Z,4.1nm,0.7s							
MAW	**Mawson**	**66.16**	**195**	P	P	06 56 51.8	+3.4
MAW	**Mawson**	**66.16**	**195**	P	P	06 56 51.8	+3.4
comp=Z,0.6nm,0.7s,baz=0.0,slow=11,SNR=3.5							
ABKAR	**Akbulak array**	**66.59**	**332**	*e*P	**P**	**06 56 50.5**	**-1.0**
comp=Z,2.5nm,0.6s							
KBZ	**Khabaz**	**72.99**	**320**	P	**P**	**06 57 30.6**	**-0.4**
KBZ	**Khabaz**	**72.99**	**320**	P	**P**	**06 57 30.6**	**-0.4**
comp=Z,4.1nm,0.9s,baz=8.9,slow=2.5,SNR=5.4							
PETK	**Petropavlovsk-**	**76.00**	**31**	P	**P**	**06 57 46.8**	**-1.5**
PETK	**Petropavlovsk-**	**76.00**	**31**	P	**P**	**06 57 46.8**	**-1.5**
comp=Z,4.0nm,0.8s,baz=200,slow=6.8,SNR=7.7							
BR131	**Keskin Array S**	**77.77**	**313**	*e*P	**P**	**06 57 57.7**	**-1.1**
comp=Z,0.9nm,0.5s							
BRTR	**Keskin Array B**	**77.77**	**313**	P	**P**	**06 57 57.5**	**-1.3**
BRTR	**Keskin Array B**	**77.77**	**313**	P	**P**	**06 57 57.5**	**-1.3**
comp=Z,2.0nm,0.6s,baz=131,slow=6.9,SNR=12							
NIUE	**Niue**	**86.29**	**109**	P	P	06 58 55.4	+12
baz=84,SNR=3.1							
KOLS	**Kolonicke sedl**	**88.14**	**320**	*e*P	**P**	**06 58 52.5**	**+0.4**
STHS	**Stebnicka Huta**	**88.90**	**320**	*e*P	**P**	**06 58 56.0**	**+0.3**
FINES	**FINESS Array B**	**89.07**	**332**	P	**P**	**06 58 55.8**	**-0.3**
FINES	**FINESS Array B**	**89.07**	**332**	P	**P**	**06 58 55.8**	**-0.3**
comp=Z,1.7nm,0.9s,baz=79,slow=7.5,SNR=3.3							
N24A	**Carr**	**138.58**	**31**	⇑PKPdf	**PKPdf**	**07 05 25.7**	**-1.8**
baz=138							
M26A	**McRoberts Ranc**	**138.96**	**29**	⇓PKPdf	**PKPdf**	**07 05 26.8**	**-1.4**
baz=139							
P31A	**Stockton**	**142.25**	**27**	⇑PKPdf	**PKPdf**	**07 05 32.3**	**-1.8**
baz=142							
Z24A	**Sheeppen Canyo**	**143.53**	**40**	⇑PKPdf	PKPbc	07 05 34.7	+0.7
baz=143							
Y25A	**Mesa, Roswell**	**143.56**	**38**	⇑PKPdf	PKPbc	07 05 34.9	+0.9
baz=143							
W27A	**Bowe Ranch, En**	**143.75**	**36**	⇑PKPdf	PKPbc	07 05 34.9	+0.3
baz=144							
124A	**Stringfield Ra**	**143.88**	**41**	⇑PKPdf	PKPab	07 05 35.1	+0.6
baz=144							
Z25A	**Roswell**	**143.97**	**39**	⇑PKPdf	PKPab	07 05 35.4	+0.7
baz=144							
U30A	**WK&E Inc. Balk**	**143.99**	**31**	⇑PKPdf	PKPab	07 05 35.4	+0.8
baz=144							
V29A	**Stinnett**	**144.02**	**33**	⇑PKPdf	**PKPab**	**07 05 35.4**	**+0.7**
baz=144							
X27A	**F and S Farms,**	**144.02**	**36**	⇓PKPdf	**PKPab**	**07 05 35.4**	**+0.5**
baz=144							
T31A	**Randall Ranch,**	**144.04**	**30**	⇓PKPdf	**PKPab**	**07 05 35.4**	**+0.7**
baz=144							
224A	**Cornudas Mount**	**144.22**	**42**	⇓PKPdf	**PKPab**	**07 05 36.5**	**+0.7**
baz=144							
125A	**Gardner Draw,**	**144.41**	**40**	⇑PKPdf	**PKPab**	**07 05 36.6**	**+0.2**
baz=144							
Z26A	**Caprock**	**144.44**	**39**	⇓PKPdf	**PKPab**	**07 05 36.5**	**+0.1**
baz=144							
W29A	**Amraillo**	**144.51**	**34**	⇑PKPdf	**PKPab**	**07 05 37.0**	**+0.4**
baz=144							
Y27A	**Causey**	**144.52**	**37**	⇓PKPdf	**PKPab**	**07 05 36.5**	**-0.2**
baz=144							
U31A	**Nine Bar Ranch**	**144.52**	**31**	⇓PKPdf	**PKPab**	**07 05 36.8**	**+0.3**
baz=144							
MNTX	**Cornudas Mount**	**144.55**	**42**	*e*PKPdf	PKPbc	07 05 37.5	+0.5
X28A	**Dimmitt**	**144.64**	**35**	⇑PKPdf	**PKPab**	**07 05 37.1**	**-0.1**
baz=144							
324A	**Moseley Ranch,**	**144.65**	**42**	⇑PKPdf	**PKPab**	**07 05 36.9**	**-0.4**
baz=144							
225A	**Deer Hill, Car**	**144.66**	**41**	⇑PKPdf	**PKPab**	**07 05 36.7**	**-0.7**
baz=145							
MSTX	**Muleshoe**	**144.69**	**37**	⇑PKPdf	**PKPab**	**07 05 36.9**	**-0.5**
baz=145							
126A	**Clayton Basin,**	**144.83**	**39**	⇓PKPdf	**PKPab**	**07 05 37.3**	**-0.5**
baz=145							
Z27A	**Tatum**	**144.88**	**38**	⇓PKPdf	**PKPab**	**07 05 37.5**	**-0.6**
baz=145							
GDL2	**Guadalupe Moun**	**144.90**	**40**	*e*PKPdf	**PKPab**	**07 05 38.7**	**+0.6**
X29A	**Tulia**	**144.97**	**35**	⇓PKPdf	**PKPab**	**07 05 37.5**	**-0.8**
baz=145							
V31A	**Spring Creek L**	**144.99**	**31**	⇓PKPdf	**PKPab**	**07 05 37.3**	**-1.0**
baz=145							
325A	**Bean Ranch, Si**	**145.03**	**42**	⇑PKPdf	**PKPbc**	**07 05 37.8**	**-1.0**
baz=145							
Y28A	**McKinney Farm,**	**145.04**	**36**	⇓PKPdf	**PKPbc**	**07 05 37.7**	**-0.9**
baz=145							
226B	**Tecolote Peak,**	**145.11**	**40**	⇑PKPdf	**PKPbc**	**07 05 38.6**	**-0.3**
baz=145							
127A	**Arkansas Junct**	**145.22**	**39**	⇓PKPdf	**PKPbc**	**07 05 38.8**	**-0.5**
baz=145							
425A	**Indio Mountain**	**145.39**	**43**	⇓PKPdf	**PKPbc**	**07 05 39.6**	**-0.2**
baz=145							
W31A	**Holland Ranch,**	**145.39**	**32**	⇓PKPdf	**PKPbc**	**07 05 39.1**	**-0.5**
baz=145							
Z28A	**Tucker Farm, M**	**145.40**	**37**	⇓PKPdf	**PKPbc**	**07 05 39.0**	**-0.8**
baz=145							
Y29A	**Porterfield Fa**	**145.41**	**36**	⇓PKPdf	**PKPbc**	**07 05 39.2**	**-0.6**
baz=145							
326A	**Caldwell Ranch**	**145.72**	**41**	⇓PKPdf	**PKPdf**	**07 05 40.3**	**-0.1**
baz=146							
X31A	**McDonald Ranch**	**145.79**	**33**	⇑PKPdf	**PKPdf**	**07 05 39.9**	**-0.5**
baz=146							
128A	**Castleberry Fa**	**145.80**	**38**	⇑PKPdf	**PKPdf**	**07 05 40.0**	**-0.5**
baz=146							
Z29A	**Hungry Hill Ra**	**145.82**	**36**	⇑PKPdf	**PKPdf**	**07 05 40.4**	**-0.2**
baz=146							
Y30A	**Stafford Cattl**	**145.84**	**35**	⇓PKPdf	**PKPdf**	**07 05 40.4**	**-0.1**
baz=146							
426A	**McDonald Obser**	**146.10**	**42**	⇑PKPdf	**PKPdf**	**07 05 41.2**	**-0.1**
baz=146							
Y31A	**Rekieta Farm,**	**146.13**	**34**	⇑PKPdf	**PKPdf**	**07 05 40.1**	**-1.0**
baz=146							
Z30A	**Sanderson Ranc**	**146.14**	**36**	⇑PKPdf	**PKPdf**	**07 05 40.9**	**-0.2**
baz=146							
427A	**Hayter Ranch,**	**146.40**	**41**	⇓PKiKP	**PKPdf**	**07 05 42.4**	**+0.7**
baz=146							
328A	**Wristen Ranch,**	**146.43**	**40**	⇓PKiKP	**PKPdf**	**07 05 42.5**	**+0.8**
baz=146							
526A	**Mary Lane Ranc**	**146.44**	**43**	⇑PKiKP	**PKPdf**	**07 05 42.6**	**+0.8**
baz=146							
Y32A	**R-V Farms, Ver**	**146.55**	**33**	⇑PKiKP	**PKPdf**	**07 05 42.7**	**+1.0**
baz=146							
229A	**Bryant Ranch,**	**146.66**	**38**	⇓PKiKP	**PKPdf**	**07 05 43.0**	**+1.0**
baz=146							
Z31A	**Sharp Cattle R**	**146.68**	**35**	⇓PKiKP	**PKPdf**	**07 05 43.0**	**+1.0**
baz=146							
527A	**Woodward Ranch**	**146.71**	**42**	⇑PKiKP	**PKPbc**	**07 05 44.0**	**+0.1**
baz=147							
626A	**Big Bend Ranch**	**146.72**	**44**	⇓PKiKP	**PKPbc**	**07 05 43.9**	**0.

632A	Uvalde	149.62	39	⇑PKiKP	PKPbc	07 05 51.5	0.0
	baz=150						
KMSC	Kings Mountain	151.60	5	⇑PKiKP	PKPbc	07 05 54.9	-1.0
	baz=151						

*IDC **07** 06:47:09.4±0.9, 5°.63N×126°.32E, h0km, mb4.1/9, mb1 4.2/9, mb1mx3.9/25, mbtmp4.1/9, Error ellipse: s-maj=64.2km s-min=17.8km az=74.0*
*NEIC **07** 06:47:10.8±0.5, 5°.60N×126°.29E, h10km, mb4.0/2, Error ellipse: s-maj=33.4km s-min=9.5km az=72.0*
*MAN **07** 06:47:20, 5°.52N×126°.45E, h97km, mb4.7, ML3.6, MS3.5*

ISC 07 06:47:18.3±0.7, 5°.36N±0°.08×126°.34E±0°.10, h66km, n30, σ1§56/31, mb4.3/10, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	General Santos	1.56	298	⇓iP	Pn	06 47 45.7	+1.6
GSPH				iS	Sn	06 48 04.6	+1.1
MATI	Mati	1.58	357	ePn	Pn	06 47 46.6	+2.3
MATI				eS	Sn	06 48 05.4	+1.6
DAV	Davao City (W)	1.86	336	ePn	Pn	06 47 38.9	-9.1
DAV				eSn	Sn	06 47 55.2	-15
KCP	Kidapawan	2.06	323	⇓eP	Pn	06 47 52.7	+1.9
KCP				iS	Sn	06 48 15.5	+0.1
CTBH	Cotabato--PC H	2.78	312	⇑eP	Pn	06 48 03.1	+2.5
BUKP	Musuan	2.81	333	eP	Pn	06 48 03.9	+3.0
PAGZ	Pagadian	3.84	310	eP	Pn	06 48 19.7	+4.7
FITZ	Fitzroy Crossi	23.32	182	eP	P	06 52 21.6	+0.7
	1.3nm,0.4s						
FITZ	Fitzroy Crossi	23.32	182	P	P	06 52 22.3	+1.4
	1.5nm,0.5s,baz=0.0,slow=10,SNR=4.7						
ASAR	Alice Springs	29.78	166	P	P	06 53 20.6	+1.6
ASAR				PcP	PcP	06 56 22.1	+0.7
ASAR	Alice Springs	29.78	166	P	P	06 53 20.6	+1.6
	1.0nm,0.6s,baz=346,slow=7.2,SNR=12						
ASAR				PcP	PcP	06 56 22.1	+0.7
	0.5nm,0.5s,baz=348,slow=2.8,SNR=5.2						
SONM	Songino Array	45.64	341	P	P	06 55 29.0	-3.4
SONM	Songino Array	45.64	341	P	P	06 55 29.0	-3.4
	8.3nm,0.8s,baz=181,slow=9.2,SNR=49						
MK31	Makanchi Array	56.01	325	eP	P	06 56 48.8	-1.4
MKAR	Makanchi Array	56.01	325	P	P	06 56 48.9	-1.3
MKAR	Makanchi Array	56.01	325	P	P	06 56 48.9	-1.3
	1.7nm,0.4s,baz=118,slow=7.4,SNR=23						
ZALV	Zalesovo Beam	58.97	333	P	P	06 57 09.4	-1.5
ZALV	Zalesovo Beam	58.97	333	P	P	06 57 09.4	-1.5
	1.4nm,0.5s,baz=157,slow=6.3,SNR=2.7						
KURBB	Kurchatov Arra	60.17	327	P	P	06 57 17.4	-1.7
	2.0nm,0.5s,baz=129,slow=6.6,SNR=13						
KURK	Kurchatov	60.17	327	P	P	06 57 17.4	-1.7
ABKAR	Akbulak array	70.65	320	eP	P	06 58 25.2	-1.7
	1.0nm,0.7s						
ILAR	Eielson Array	83.81	25	P	P	06 59 39.9	-0.5
ILAR	Eielson Array	83.81	25	P	P	06 59 39.9	-0.5
	0.2nm,0.5s,baz=253,slow=5.4,SNR=5.0						
ARCES	ARCESS Array B	88.79	340	P	P	07 00 03.3	-1.3
ARCES	ARCESS Array B	88.79	340	P	P	07 00 03.3	-1.3
	1.2nm,0.6s,baz=87,slow=6.5,SNR=6.4						
FINES	FINESS Array B	90.22	332	P	P	07 00 10.3	-1.1
FINES	FINESS Array B	90.22	332	P	P	07 00 10.3	-1.1
	0.8nm,0.5s,baz=50,slow=4.3,SNR=6.9						
GSC	Goldstone	108.33	50	ePKPdf	PKiKP	07 05 39.3	-0.5
TORD	Torodi Ar. Bea	122.03	289	PKP	PKPdf	07 06 05.3	-1.1
TORD	Torodi Ar. Bea	122.03	289	PKP	PKPdf	07 06 05.3	-1.1
	0.5nm,0.5s,baz=49,slow=1.3,SNR=10.0						

*ISCJB **07** 06:57:52.8±1.3, 6°.07S±0°.10×129°.09E±0°.07, h264km, mb3.5/2, Error ellipse: s-maj=13.8km s-min=9.4km az=158.7*
*IDC **07** 06:57:54.2±3.3, 5°.95S×128°.89E, h317km±29km, mb3.1/2, mb1 3.6/6, mb1mx3.2/21, mbtmp3.4/6, Error ellipse: s-maj=54.9km s-min=18.7km az=62.0*
*AUST **07** 06:58:26.6±0.0, 9°.00S×129°.79E, h424km±1km, Error ellipse: s-maj=2.3km s-min=1.0km az=280.0*

ISC 07 06:57:50.4±1.0, 5°.94S±0°.08×128°.92E±0°.10, h264km, n16, σ3§03/14, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLE	Tual	3.81	86	P	S	06 59 46.4	+4.1
	baz=4.5,SNR=6.9						
FAKI	Fak Fak	4.48	48	P	S	07 00 05.8	+9.4
	baz=6.5,SNR=6.3						
SWI	Sorong	5.56	25	P	S	07 00 26.4	+6.4
	baz=8.3,SNR=3.7						
BATI	Baumata	6.71	230	P	Pn	06 59 31.6	+4.0
	32nm,0.3s,baz=66,slow=20,SNR=18						
BATI				S	S	07 00 48.2	+2.4
	22nm,0.3s,baz=94,slow=20,SNR=14						
KDU	Kakadu	7.57	153	P	Pn	06 59 43.1	+4.7
	baz=4.5,SNR=97						
WSI	Waingapu	9.31	246	S	S	07 02 19.5	+34
	baz=9.4,SNR=7.9						
KNRA	Kununurra	9.68	181	P	P	07 00 08.2	-2.2
	baz=6.8,SNR=38						
KNRA				S	S	07 01 59.3	+5.3
	baz=6.8,SNR=3.6						
FITZ	Fitzroy Crossi	12.51	195	P	Pn	07 00 40.6	+0.7
	0.8nm,0.3s,baz=27,slow=10,SNR=26						
FITZ				S	S	07 02 56.7	-2.4
	0.2nm,0.3s,baz=81,slow=11,SNR=4.1						
FITZ	Fitzroy Crossi	12.51	195	P	P	07 00 43.1	+1.2
	baz=10.0,SNR=4.3						
WRA	Warramunga Arr	14.88	160	P	Pn	07 01 09.5	+0.7
	2.5nm,0.3s,baz=341,slow=12,SNR=77						
WRA				S	S	07 03 47.8	-4.8
	0.2nm,0.3s,baz=342,slow=20,SNR=5.0						
COEN	Coen	16.14	121	P	Pn	07 01 24.8	+1.1
	baz=14,SNR=21						
ASAR	Alice Springs	18.27	165	P	P	07 01 46.5	+1.4
	1.3nm,0.3s,baz=344,slow=10,SNR=89						
ASAR				S	S	07 04 55.8	-4.4
	0.4nm,0.3s,baz=346,slow=21,SNR=35						
ASAR				ScP	ScP	07 09 06.3	-8.7
	0.0nm,0.3s,baz=352,slow=2.4,SNR=5.2						
MANU	Manus Island	18.80	79	S	S	07 05 17.6	+6.8
	baz=19,SNR=4.0						
PATS	Pohnpei	31.96	67	S	S	07 08 46.5	+2.5
	baz=32,SNR=3.5						
CMAR	Chiang Mai Arr	38.23	310	P	P	07 04 44.8	-0.7
	1.1nm,0.6s,baz=141,slow=7.7,SNR=4.9						
MKAR	Makanchi Array	66.75	327	P	P	07 08 12.1	-1.5
	0.5nm,0.5s,baz=117,slow=8.0,SNR=11						

KRSC 07 07:04:31.8±1.1, 49°.87N×157°.26E, h50km±50km, ML3.9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.10	318	P	Pn	07 04 51.2	+0.4
SKR				S	Sn	07 05 05.2	+0.4
PAU	Pauzhetka	1.62	350	P	Pn	07 04 59.9	+1.9
PAU				S	Sn	07 05 20.3	+2.6
MIPR	Malaya Ipel'ka	2.43	353	P	Pn	07 05 12.1	+3.1
ASAK	Asacha	2.55	9	P	Pn	07 05 13.5	+2.8
MTVR	Mutnovka	2.68	12	S	Sn	07 05 46.7	+2.7
RUS	Russkaya	2.69	17	P	Pn	07 05 14.1	+1.6
AVH	Avacha	3.52	15	P	Pn	07 05 27.5	+3.4
SMAR	Somma	3.53	15	P	Pn	07 05 26.9	+2.5
KOK	Koryaka	3.53	14	P	Pn	07 05 28.3	+4.1
SDLR	Sedlovina	3.56	16	P	Pn	07 05 27.2	+2.5
KRER	Koryakskii	3.56	15	P	Pn	07 05 28.2	+3.4
KRX	Arik	3.60	13	P	Pn	07 05 28.3	+3.1
GNL	Ganaly	3.85	6	P	Pn	07 05 33.0	+4.3
MKZ	Mys Kozlova	5.44	29	P	Pn	07 05 52.0	+1.8

*PDG **07** 07:18:29.6±0.3, 41°.43N×20°.43E, h11km, ML2.6/9, Error ellipse: s-maj=0.6km s-min=0.7km az=0.0*
*CSEM **07** 07:18:29.0±0.3, 41°.38N×20°.46E, h2km, ML2.2, Error ellipse: s-maj=6.8km s-min=4.3km az=15.0*
*SKO **07** 07:18:29.1, 41°.40N×20°.45E, h18km, M2.0, ML2.4*
*BEO **07** 07:18:30.4±0.4, 41°.40N×20°.48E, h5km±3km, ML2.2/6*

ISC 07 07:18:29.0±1.1, 41°.39N±0°.03×20°.46E±0°.02, h7km±10km, n38, σ0§97/71, 9C-6D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	Tirane	0.45	264	ePg	Pg	07 18 37.8	+0.1
TIR				eSg	Sb	07 18 46.3	+0.2
TIR	Tirane	0.45	264	ePg	Pg	07 18 37.8	+0.1
TIR				eSg	Sb	07 18 46.3	+0.2
BIA	Bitola	0.75	119	iPg	Pb	07 18 44.1	-0.3
BIA				iSg	Sn	07 18 58.0	+0.2
BIA	Bitola	0.75	119	iPg	Pg	07 18 43.6	+0.1
SKO	Skopje	0.94	52	ePg	Pg	07 18 46.7	-0.3
SKO				eSg	Sb	07 19 00.3	+0.1
SKO	Skopje	0.94	52	iPg	Pb	07 18 47.7	+0.1
SKO				eLg	Lg	07 19 01.1	
	comp=E,49nm,0.3s						
SKO				iSg	Sn	07 19 01.7	-0.6
SKO				eLg	Lg	07 19 02.0	
	comp=N,169nm,0.3s						
SKO	Skopje	0.94	52	ePg	Pg	07 18 46.7	-0.3
SKO				eSg	Sb	07 19 00.3	+0.1
SKO				eLg	Lg	07 19 01.1	
	comp=N,49nm,0.3s						
ULC	Ulcinj	1.07	303	⇑iPg	Pg	07 18 48.3	-1.3
ULC				eSg	Sb	07 19 04.8	+0.6
ULC	Ulcinj	1.07	303	⇑iPg	Pg	07 18 48.3	-1.3
ULC				eSg	Sb	07 19 04.8	+0.6
DRME	Dracevica, Mon	1.24	310	⇑iPg	Pn	07 18 51.2	-1.6
DRME				eSg	Sn	07 19 10.4	+0.6
DRME	Dracevica, Mon	1.24	310	⇑iPg	Pn	07 18 51.2	-1.6
DRME				eSg	Sn	07 19 10.4	+0.6
PVY	Plav	1.26	343	⇓iPg	Pn	07 18 51.7	-1.4
PVY				eSg	Sn	07 19 11.4	+1.0
PVY	Plav	1.26	343	⇓iPg	Pn	07 18 51.7	-1.4
PVY				eSg	Sn	07 19 11.4	+1.0
PDG	Podgorica	1.37	320	ePg	Pg	07 18 56.7	+1.4
PDG				eSg	Sg	07 19 14.6	+1.5
PDG	Podgorica	1.37	320	ePg	Pg	07 18 56.7	+1.4
PDG				eSg	Sg	07 19 14.6	+1.5
TTG	Podgorica	1.37	320	⇑iPg	Pn	07 18 54.3	-0.3
TTG				eSg	Sg	07 19 15.7	+2.6
BUM	Brajici-Budva	1.48	308	⇑iPg	Pn	07 18 55.9	-0.2
BUM				eSg	Sg	07 19 18.4	+1.9
BUM	Brajici-Budva	1.48	308	⇑iPg	Pn	07 18 55.9	-0.2
BUM				eSg	Sg	07 19 18.4	+1.9
BEY	Berane	1.54	344	⇑iPg	Pb	07 18 57.9	0.0
BEY				eSg	Sg	07 19 19.7	+1.3
IVA	Berane	1.54	344	⇑iPg	Pb	07 18 57.9	0.0
IVA				eSg	Sg	07 19 19.7	+1.3
VAY	Valandovo	1.59	92	ePn	Pn	07 18 57.9	+0.3
VAY				eSg	Sg	07 19 20.1	-0.1
VAY	Valandovo	1.59	92	iPn	Pb	07 18 58.2	-0.5
VAY				eSn	Sg	07 19 20.7	+0.5
VAY				eLg	Lg	07 19 21.4	
	comp=N,23nm,0.8s						
VAY				eLg	Lg	07 19 22.9	
	comp=E,16nm,0.5s						
VAY	Valandovo	1.59	92	ePn	Pn	07 18 57.9	+0.3
VAY				eSg	Sg	07 19 20.1	-0.1
VAY				eLg	Lg	07 19 22.4	
	comp=E,16nm,0.5s						
BARS	Barje	1.75	35	eSg	Sg	07 19 25.5	+0.4
BARS	Barje	1.75	35	eSg	Sg	07 19 25.5	+0.4
NKME	Niksic	1.77	321	⇓iPn	Pn	07 19 00.7	+0.6
NKME				eSn	Sg	07 19 25.8	-0.1
NKME	Niksic	1.77	321	⇓iPn	Pn	07 19 00.7	+0.6
NKME				eSn	Sg	07 19 25.8	-0.1
HCY	Herceg Novi	1.80	306	ePn	Pn	07 19 00.8	+0.2
HCY				eSn	Sg	07 19 26.4	-0.6
HCY	Herceg Novi	1.80	306	ePn	Pn	07 19 00.8	+0.2
HCY				eSn	Sg	07 19 26.4	-0.6
SELS	Selova	1.89	15	ePn	Pn	07 19 02.8	+1.0
SELS				eSg	Sg	07 19 29.3	-0.5
SJES	Sjenica	1.90	349	ePn	Pn	07 19 02.6	+0.6
SJES				eSg	Sg	07 19 29.7	-0.4
SJES	Sjenica	1.90	349	ePn	Pn	07 19 02.6	+0.6
SJES				eSg	Sg	07 19 29.7	-0.4
TREB	Trebinje	2.05	311	ePn	Pb	07 19 05.6	-1.0
TREB				eSg	Sg	07 19 34.0	-0.9
TREB	Trebinje	2.05	311	ePn	Pb	07 19 05.6	-1.0
TREB				eSg	Sg	07 19 34.0	-0.9
PLE	Pljevlja	2.09	338	⇓iPn	Pn	07 19 05.2	+0.6
PLE				eSn	Sb	07 19 33.0	-0.6
PLE	Pljevlja	2.09	338	⇓iPn	Pn	07 19 05.2	+0.6
PLE				eSn	Sb	07 19 33.0	-0.6
DIVS	Divibare	2.73	353	ePn	Pb	07 19 15.9	-2.2
DIVS	Divibare	2.73	353	ePn	Pb	07 19 15.9	-2.2

*AUST **07** 07:38:36.3, 8°.37S×107°.38E, h0km*
*ISCJB **07** 07:38:38.6±1.1, 8°.20S±0°.04×107°.26E±0°.04, h23km±9km, Error ellipse: s-maj=6.3km s-min=5.9km az=33.6*
*DJA **07** 07:38:40.2±0.8, 8°.S±4°×10°.7E±°, h18km±7km, M4.7/12, mb5.5/1, MLv4.3/12*

ISC 07 07:38:38.3±1.6, 8°.19S±0°.04×107°.29E±0°.04, h18km±6km, n24, σ1§23/27, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	Cisompet, Garu	0.82	40	P	Pb	07 38 54.5	+0.4
CISI				S	Sg	07 39 04.4	-0.9
CISI	Cisompet, Garu	0.82	40	P	Pg	07 38 54.2	-0.2
	baz=0.9,SNR=353						
CISI				S	Sg	07 39 04.5	-0.8
	baz=0.9,SNR=12						
SKJI	Sukabumi	1.38	328	P	Pn	07 39 02.3	-0.4
SKJI				S	Sn	07 39 18.7	-1.9
LEM	Lembang	1.40	14	P	Pn	07 39 03.8	+0.8
LEM				S	Sn	07 39 21.5	+0.4
LEM	Lembang	1.40	14	P	Pn	07 39 03.6	+0.6
	baz=1.6,SNR=72						
DBJI	Dramaga	1.71	342	P	Pn	07 39 08.0	+0.7
DBJI				S	Sn	07 39 28.5	-0.2
KPJI	Karang Pucung	1.84	62	P	Pn	07 39 10.3	+1.3
TGJI	Tegal	2.25	54	P	Pn	07 39 16.2	+1.6
SBJI	Serang	2.36	331	P	Pb	07 39 20.1	-0.1
BJII	Banjamegara	2.55	71	P	Pn	07 39 19.5	+0.7
XMI	Christmas Isla	2.74	215	P	Pn	07 39 22.5	+1.1
	baz=2.7,SNR=12						
XMI				S	Sn	07 39 53.3	-0.8
	baz=2.7,SNR=3.8						
XMIS	Christmas Isla	2.79	215	P	Pn	07 39 22.8	+0.8
	baz=2.7,SNR=28						
YOGI	Yogyakarta	3.00	83	P	Pn	07 39 26.4	+1.4
UGM	Wanagama	3.22	85	P	Pn	07 39 28.9	+0.9
UGM	Wanagama	3.22	85	P	Pn	07 39 28.5	+0.5
	baz=3.1,SNR=11						
KASI	Kota Agung	3.83	314	P	Pn	07 39 37.6	+1.2
EGSI	Enggano, Bengk	5.72	299	P	Pn	07 40 04.9	+2.5
MNAI	Manna	5.75	311	P	Pn	07 40 04.5	+1.7
	baz=5.9,SNR=5.0						
JAGI	Jajag, Banyuwa	6.80	93	P	Pn	07 40 20.8	+3.5
	baz=6.7,SNR=9.1						
LUWI	Luwuk	16.98	66	S	Sn	07 45 43.6	0.0
	baz=17,SNR=3.8						
MEEK	Meekatharra	21.26	151	S	S	07 47 17.0	-2.5
	baz=21,SNR=5.9						
PALU	Palau	31.19	61	P	P	07 45 02.8	+6.1
	baz=31,SNR=3.3						
STKA	Stephens Creek	39.64	131	P	P	07 46 09.5	+0.3
	baz=40,SNR=6.5						
KMBO	Kilima Mbogo	70.08	272	P	P	07 49 59.4	+9.1
	baz=70,SNR=4.2						

IDC 07 08:02:35.4±4.0, 9°.67N×84°.46W, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.4/21, mbtmp3.7/2, Error ellipse: s-maj=82.8km s-min=63.1km az=169.0, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	Lajitas Array	26.58	320	P	P	08 08 15.5	0.0
	0.1nm,0.4s,baz=138,slow=10.0,SNR=9.1						
SCHQ	Schefferville	47.18	14	P	P	08 11 09.4	-0.2
	3.1nm,0.9s,baz=228,slow=16,SNR=3.6						
ASAR	Alice Springs	140.84	244	PKP	PKPdf	08 22 08.1	-0.1
	0.2nm,0.5s,baz=88,slow=2.6,SNR=2.8						
WRA	Warramunga Arr	141.21	250	PKP	PKPdf	08 22 08.2	-0.8
	0.6nm,1.0s,baz=103,slow=3.1,SNR=6.3						

TRN 07 08:03:12.7, 15°.71N×60°.81W, h32km, MD3.6, 11C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DWS	Wesley	0.51	254	eP	Pn	08 03 25.6	+2.0
DWS				eS	Sn	08 03 34.5	+3.2
MGG	Marie-Galante	0.53	292	⇑iP	Pn	08 03 25.0	+1.0
DVCT	Vielle Casse P	0.59	260	eP	Pn	08 03 26.7	+2.0
DBCT	Belle View Cho	0.68	230	eP	Pb	08 03 27.2	+0.9
DBCT				eS	Sn	08 03 38.2	+2.5
MDN	Morne-Daniel	0.69	235	eP	Pb	08 03 27.6	+1.3
MDN				eS	Sn	08 03 38.1	+2.3
DPMT	Pointe Michel	0.71	231	eP	Pb	08 03 28.1	+1.5
DPMT				eS	Sn	08 03 39.1	+2.8
DSHT	Scott's Head	0.74	228	eP	Pb	08 03 28.1	+0.9
DSHT				eS	Sb	08 03 38.8	+1.8
TBG	Guadaloupe-3	0.82	280	⇑iP	Pb	08 03 29.1	+0.5
DOG	Dongo Capester	0.84	292	⇑iP	Pb	08 03 29.7	+0.7
PHG	Guadaloupe-2	0.86	290	⇑iP	Pb	08 03 30.0	+0.6
ECG	Echelle	0.88	292	⇑iP	Pb	08 03 30.2	+0.5
LKG	Breislack	0.89	292	⇑iP	Pb	08 03 30.3	+0.5
CRG	Carmichael	0.89	292	⇑eP	Pb	08 03 30.4	+0.5
SCG	Saint Claude	0.90	290	⇑iP	Pb	08 03 30.4	+0.5
HMG	Houelmont	0.90	287	⇑iP	Pb	08 03 30.5	+0.6
FNG	Fond-Bernard	0.92	292	eP	Pb	08 03 30.5	+0.3
SSG	Sans Toucher	0.92	294	⇑eP	Pb	08 03 30.7	+0.3
SVN	Savane Anatole	0.94	202	eP	Pn	08 03 29.9	+0.3
SEG	Port Louis	0.96	316	⇑iP	Pb	08 03 30.9	+0.1
BPA	Boggy Peak	1.67	323	eP	Pb	08 03 42.0	-0.8
BPA				eS	Sb	08 04 02.6	-0.9
SLW	Petit Monier	1.69	184	eP	Pn	08 03 40.2	+0.2
MCLT	Moule a Chique	2.00	184	eP	Pn	08 03 45.8	+1.6
MCLT				eS	Sb	08 04 10.9	-2.0
ANWB	Willy Bob	2.16	334	eP	Pn	08 03 46.9	+0.5
SKI	Saint Kitts	2.46	311	eP	Pn	08 03 53.0	+2.4
SKI	Saint Kitts	2.46	311	eP	Pn	08 03 53.0	+2.4
SKI				eS	Sn	08 04 21.1	+1.6
SVB	Belmont	2.47	190	eP	Pn	08 03 52.5	+1.8
SVB				eS	Sn	08 04 21.8	+2.1
GRHS	Sauteurs	3.56	193	eP	Pn	08 04 07.8	+2.0
GRW	Mount Saint Ca	3.63	193	eP	Pn	08 04 08.8	+2.0
GRW				eS	Sn	08 04 50.2	+1.6
TOSP	Speyside	4.40	177	eP	Pn	08 04 19.5	+2.3

*IDC **07** 08:03:33.2±2.8, 59°.33N×24°.55E, h0km, mb1 3.6/4, mb1mx3.2/27, mbtmp3.6/4, ML3.3/4, Error ellipse: s-maj=34.5km s-min=11.1km az=149.0*
*ISCJB **07** 08:03:35.3±0.3, 59°.68N±0°.02×24°.04E±0°.05, h0km, Error ellipse: s-maj=4.0km s-min=2.9km az=36.3*
*CSEM **07** 08:03:36.6±0.1, 59°.67N×24°.11E, h2km, ML2.9, Error ellipse: s-maj=3.6km s-min=2.5km az=131.0, Mining explosion.*
*BER **07** 08:03:36.9±3.4, 59°.68N×24°.17E, h0km, ML2.3(NAO), Suspected explosion*
*NAO **07** 08:03:36.1±1.0, 59°.67N×24°.17E, ML2.3*
*HEL **07** 08:03:37.3±0.1, 59°.67N×24°.13E, h0km, ML2.5, ML2.3(UPP), Explosion*
*UPP **07** 08:03:39.6, 59°.71N×23°.68E, h0km, ML2.3, Suspected Mining explosion.*

ISC 07 08:03:35.7±0.7, 59°.68N±0°.02×24°.03E±0°.03, h0km, n96, σ1§20/124, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	Metsahovi	0.56	19	eP	Pg	08 03 46.9	+0.3
MEF				eS	Sg	08 03 53.5	-0.3
MEF	Metsahovi	0.56	19	P	Pg	08 03 46.9	+0.3
MEF				eS	Sg	08 03 54.0	+0.1
	484nm,0.6s,SNR=90						
MTSE	Matsula	0.98	187	eP	Pg	08 03 54.2	-0.3
MTSE				eS	Sg	08 04 08.1	+0.9
MTSE	Matsula	0.98	187	P	Pg	08 03 54.2	-0.3
MTSE				S	Sg	08 04 08.0	+0.9
PVF	Pernaja	1.26	46	eP	Pg	08 03 59.2	-0.6
PVF				eS	Sg	08 04 15.3	-0.8
PVF				MSG		08 04 23.7	
	comp=Z,37nm,0.2s						
PVF	Pernaja	1.26	46	P	Pg	08 03 59.2	-0.6
PVF				S	Sg	08 04 15.3	-0.8
RAF	Rauma	1.75	321	eP	Pb	08 04 09.4	+0.7
RAF				eS	Sb	08 04 31.9	+0.5
RAF				MSG		08 04 36.9	
	comp=Z,35nm,0.2s						
RAF	Rauma	1.75	321	P	Pb	08 04 09.4	+0.7
RAF				S	Sb	08 04 31.8	+0.5
VSU	Vasula	1.86	130	Pg	Pn	08 04 08.8	+0.1
VSU				Lg	Lg	08 04 32.4	
VSU	Vasula	1.86	130	Pg	Pn	08 04 08.8	+0.1
VSU				Lg	Lg	08 04 32.4	
VSU	Vasula	1.86	130	eP	Pn	08 04 09.2	+0.5
VSU				eS	Sn	08 04 32.6	-0.2
VSU	Vasula	1.86	130	Pg	Pn	08 04 08.8	+0.1
	SNR=90						
VSU	Vasula	1.86	130	P	Pn	08 04 09.2	+0.5
VSU				Lg	Lg	08 04 32.4	
VSU				eS	Sn	08 04 32.7	-0.2
	comp=Z,620nm,0.6s,SNR=50						
VJF	Virojoki	1.96	63	eP	Pn	08 04 10.1	-0.1
VJF				eS	Sn	08 04 36.4	+1.0
VJF				MSG		08 04 39.5	
	comp=Z,59nm,0.2s						
VJF	Virojoki	1.96	63	P	Pn	08 04 10.1	-0.1
VJF				S	Sn	08 04 36.4	+1.0
FIA0	FINESS Array S	2.03	29	Pn	Pn	08 04 12.4	+1.2
	baz=196,slow=14						
FIA0				Lg	Lg	08 04 38.9	
	baz=202,slow=37						
FIA0				Rg	Rg	08 04 50.1	
	baz=198,slow=37						
FIA0	FINESS Array S	2.03	29	Pn	Pn	08 04 12.4	+1.2
	baz=196,slow=14						
FIA0				Lg	Lg	08 04 38.9	
	baz=202,slow=37						
FIA0				Rg	Rg	08 04 50.1	
	baz=198,slow=37						
FIA0	FINESS Array S	2.03	29	eP	Pn	08 04 12.8	+1.5
FIA0				eS	Sn	08 04 38.9	+1.6
FIA0	FINESS Array S	2.03	29	Pn	Pn	08 04 12.4	+1.2
	baz=196,slow=14,SNR=50						
FIA0	FINESS Array S	2.03	29	P	Pn	08 04 12.7	+1.5
FIA0				S	Sn	08 04 38.8	+1.6
FINES	FINESS Array B	2.03	29	Pn	Pn	08 04 12.4	+1.2
	comp=Z,12nm,0.3s,baz=203,slow=15,SNR=446						
FINES				Sn	Sn

NRAU	Nora	4.57	272	P	Pn	08 04 46.7	+0.7
NRAU	Nora	4.57	272	P	Pn	08 04 46.7	+0.7
ASKU	Askersund	4.79	264	P	Pn	08 04 50.3	+1.3
ASKU	Askersund	4.79	264	P	Pn	08 04 50.3	+1.3
SOLU	Sollefteaa	4.83	321	P	Pn	08 04 51.4	+1.8
SOLU	Sollefteaa	4.83	321	P	Pn	08 04 51.3	+1.8
OSKU	Oskarshamn	4.86	243	P	Pn	08 04 52.0	+1.9
OSKU	Oskarshamn	4.86	243	P	Pn	08 04 51.9	+1.9
BREU	Bredtraesk	4.95	331	P	Pn	08 04 54.1	+2.9
BREU	Bredtraesk	4.95	331	P	Pn	08 04 54.1	+2.9
HFS	Hagfors	5.22	279	Pn	Pn	08 04 55.8	+0.7
	baz=90,slow=14						
HFS				Sn	Sn	08 05 55.5	-0.4
	baz=98,slow=28						
HFS				Lg	Lg	08 06 16.3	
	baz=85,slow=22						
HFS	Hagfors	5.22	279	Pn	Pn	08 04 55.8	+0.7
	baz=90,slow=14						
HFS				Sn	Sn	08 05 55.5	-0.4
	baz=98,slow=28						
HFS				Lg	Lg	08 06 16.3	
	baz=85,slow=22						
HFS	Hagfors	5.22	279	Pn	Pn	08 04 55.7	+0.7
	comp=Z,0.7nm,0.3s,baz=96,slow=12,SNR=39						
HFS				Pg	Pb	08 05 06.0	-1.9
	comp=Z,0.7nm,0.3s,baz=99,slow=13,SNR=12						
HFS				Sn	Sn	08 05 57.0	+1.1
	comp=Z,1.1nm,0.3s,baz=89,slow=27,SNR=5.2						
HFS				Lg	Lg	08 06 13.5	
	comp=Z,1.7nm,0.3s,baz=93,slow=28,SNR=7.6						
HFS	Hagfors	5.22	279	Pn	Pn	08 04 55.8	+0.7
	baz=90,slow=13,SNR=50						
HFS				Sn	Sn	08 05 55.5	-0.4
	baz=98,slow=25,SNR=50						
HFS				Lg	Lg	08 06 16.3	
	baz=85,slow=20,SNR=5.7						
SVAU	Svanoeiden	5.26	338	P	Pn	08 04 56.8	+1.3
SVAU	Svanoeiden	5.26	338	P	Pn	08 04 56.8	+1.3
BLEU	Blekinge	5.53	236	P	Pn	08 05 00.1	+0.9
BLEU	Blekinge	5.53	236	P	Pn	08 05 00.1	+0.9
LILU	Lilltraesk	5.95	343	P	Pn	08 05 06.2	+1.3
LILU	Lilltraesk	5.95	343	P	Pn	08 05 06.2	+1.3
SJUU	Sjulsmark	5.95	350	P	Pn	08 05 06.5	+1.5
SJUU	Sjulsmark	5.95	350	P	Pn	08 05 06.4	+1.5
BORU	Boraas	6.23	256	P	Pn	08 05 09.9	+1.2
BORU	Boraas	6.23	256	P	Pn	08 05 09.9	+1.2
NB2	NORSAR Subarra	6.50	288	Pn	Pn	08 05 12.6	-0.1
	baz=95,slow=12						
NB2				Sn	Sn	08 06 25.4	-2.0
	baz=95,slow=22						
NB2				Lg	Lg	08 06 59.3	
	baz=93,slow=28						
NB2	NORSAR Subarra	6.50	288	Pn	Pn	08 05 12.6	-0.1
	baz=95,slow=12						
NB2				Sn	Sn	08 06 25.4	-2.0
	baz=95,slow=22						
NB2				Lg	Lg	08 06 59.3	
	baz=93,slow=28						
NB2	NORSAR Subarra	6.50	288	Pn	Pn	08 05 12.6	-0.1
	baz=95,slow=12,SNR=50						
NB2				Lg	Lg	08 06 59.3	
	baz=93,slow=28,SNR=3.2						
NOA	NORSAR Array B	6.50	288	Pn	Pn	08 05 12.0	-0.6
	comp=Z,0.6nm,0.3s,baz=94,slow=12,SNR=21						
NOA				Sn	Sn	08 06 24.8	-2.7
	comp=Z,0.6nm,0.3s,baz=74,slow=17,SNR=3.0						
NOA				Lg	Lg	08 06 57.0	
	comp=Z,1.4nm,0.3s,baz=98,slow=18,SNR=5.1						
STRU	Stroemstad	6.60	270	P	Pn	08 05 13.7	-0.2
STRU	Stroemstad	6.60	270	P	Pn	08 05 13.7	-0.2
HARU	Harads	6.65	349	P	Pn	08 05 15.7	+1.2
HARU	Harads	6.65	349	P	Pn	08 05 15.7	+1.2
APA0	Apatity Array	8.88	23	Pn	Pn	08 05 44.3	-0.9
	baz=217,slow=14						
APA0	Apatity Array	8.88	23	Pn	Pn	08 05 44.3	-0.9
	baz=217,slow=14						
APA0	Apatity Array	8.88	23	Pn	Pn	08 05 44.3	-0.9
	baz=217,slow=13,SNR=50						
ARA0	ARCESS Array S	9.91	3	Pn	Pn	08 05 58.9	-0.4
	baz=175,slow=14						
ARA0	ARCESS Array S	9.91	3	Pn	Pn	08 05 58.9	-0.4
	baz=175,slow=14						
ARA0	ARCESS Array S	9.91	3	Pn	Pn	08 05 58.9	-0.4
	baz=175,slow=14,SNR=50						
ARCES	ARCESS Array B	9.91	3	Pn	Pn	08 05 58.8	-0.5
	comp=Z,0.5nm,0.3s,baz=177,slow=14,SNR=41						
ARCES				Sn	Sn	08 07 49.5	-1.5
	comp=Z,0.5nm,0.3s,baz=188,slow=23,SNR=5.7						
ARCES				Lg	Lg	08 08 42.2	
	comp=Z,0.5nm,0.3s,baz=165,slow=33,SNR=5.1						
SPA0	Spitsbergen Ar	18.75	355	P	P	08 07 56.3	+0.5
	baz=148,slow=14						
SPA0	Spitsbergen Ar	18.75	355	P	P	08 07 56.3	+0.5
	baz=148,slow=14						
SPA0	Spitsbergen Ar	18.75	355	P	P	08 07 56.3	+0.5
	baz=148,slow=12,SNR=47						

*UPP **07** 08:12:34.6, 59°.38N×24°.30E, h0km, ML1.9, Suspected Mining explosion.*
*ISCJB **07** 08:12:36.3±0.3, 59°.33N±0°.02×23°.73E±0°.05, h0km, Error ellipse: s-maj=4.2km s-min=2.9km az=32.3*
*HEL **07** 08:12:37.6±0.1, 59°.31N×23°.76E, h0km, ML2.1, ML1.9(UPP), Explosion*
*IDC **07** 08:12:37.4±2.2, 59°.33N×23°.91E, h0km, mb1 3.1/4, mb1mx3.0/27, mbtmp3.0/4, ML2.8/4, Error ellipse: s-maj=25.2km s-min=8.0km az=157.0*
*CSEM **07** 08:12:37.5±0.1, 59°.32N×23°.81E, h2km, ML2.1, Error ellipse: s-maj=3.5km s-min=2.4km az=127.0, Mining explosion.*

ISC 07 08:12:36.6±0.8, 59°.32N±0°.02×23°.80E±0°.03, h0km, n49, σ0°99/73, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTSE	Matsula	0.60	179	eP	Pg	08 12 48.1	-0.1
MTSE				eS	Sg	08 12 56.2	+0.1
MTSE	Matsula	0.60	179	P	Pg	08 12 48.1	-0.1
MTSE				S	Sg	08 12 56.1	+0.1
MEF	Metsahovi	0.95	18	eP	Pg	08 12 55.2	+0.4
MEF				eS	Sg	08 13 07.5	+0.3
MEF	Metsahovi	0.95	18	P	Pg	08 12 55.2	+0.4
MEF				S	Sg	08 13 07.5	+0.3
PVF	Pernaja	1.61	39	eP	Pn	08 13 05.8	-0.4
PVF				eS	Sn	08 13 27.2	-0.6
PVF				MSG		08 13 30.5	
	comp=Z,11nm,0.1s						
PVF	Pernaja	1.61	39	P	Pn	08 13 05.8	-0.4
PVF				S	Sn	08 13 27.1	-0.6
VSU	Vasula	1.75	118	eP	Pb	08 13 09.2	-0.4
VSU				eS	Sb	08 13 31.1	-0.9
VSU	Vasula	1.75	118	eP	Pb	08 13 09.0	-0.5
	SNR=50						
VSU				eS	Sg	08 13 31.6	-1.2
	comp=Z,217nm,0.3s,SNR=50						
SLIT	Slitere, Latvi	1.87	206	eP	Pn	08 13 10.2	+0.4
	SNR=50						
SLIT				eS	Sb	08 13 36.0	+0.5
	SNR=50						
RAF	Rauma	1.99	330	eP	Pn	08 13 12.5	+1.0
RAF				eS	Sn	08 13 37.3	+0.3
RAF				MSG		08 13 41.0	
	comp=Z,11nm,0.1s						
RAF	Rauma	1.99	330	P	Pn	08 13 12.4	+1.0
RAF				S	Sn	08 13 37.3	+0.3
VJF	Virojoki	2.25	55	eP	Pb	08 13 16.7	-1.4
VJF				eS	Sn	08 13 44.6	+1.1
VJF				MSG		08 13 49.0	
	comp=Z,12nm,0.1s						
VJF	Virojoki	2.25	55	P	Pb	08 13 16.7	-1.4
VJF				S	Sn	08 13 44.6	+1.1
FIA0	FINESS Array S	2.42	27	eP	Pn	08 13 18.7	+1.4
FIA0				eS	Sn	08 13 48.0	+0.4
FIA0	FINESS Array S	2.42	27	P	Pn	08 13 18.7	+1.4
FIA0				S	Sn	08 13 47.9	+0.4
FINES	FINESS Array B	2.42	27	Pn	Pn	08 13 18.1	+0.8
	comp=Z,2.6nm,0.3s,baz=204,slow=14,SNR=61						
FINES				Pg	Pb	08 13 19.7	-1.2
	comp=Z,2.6nm,0.3s,baz=204,slow=15,SNR=63						
FINES				Sn	Sn	08 13 48.9	+1.3
	comp=Z,3.4nm,0.3s,baz=205,slow=24,SNR=21						
KEF	Keuruu	2.91	10	eP	Pn	08 13 25.2	+1.1
KEF				eS	Sn	08 14 00.6	+0.8
KEF	Keuruu	2.91	10	P	Pn	08 13 25.2	+1.1
KEF				S	Sn	08 14 00.5	+0.8
NYNU	Nynaeshamn	3.00	266	P	Pn	08 13 26.8	+1.5
NYNU	Nynaeshamn	3.00	266	P	Pn	08 13 26.8	+1.5
KAF	Kangasniemi	3.06	23	eP	Pn	08 13 27.1	+0.8
KAF				eS	Sn	08 14 04.3	+0.8
KAF	Kangasniemi	3.06	23	P	Pn	08 13 27.0	+0.8
KAF				S	Sn	08 14 04.3	+0.8
FLYU	Flymyra	3.10	288	P	Pn	08 13 27.3	+0.6
FLYU	Flymyra	3.10	288	P	Pn	08 13 27.3	+0.6
GOTU	Gotland	3.19	241	P	Pn	08 13 29.0	+1.0
GOTU	Gotland	3.19	241	P	Pn	08 13 29.0	+1.0
BACU	Backbrunna	3.44	282	P	Pn	08 13 32.7	+1.3
BACU	Backbrunna	3.44	282	P	Pn	08 13 32.7	+1.3
SUF	Sumiainen	3.60	18	eP	Pn	08 13 34.9	+1.2
SUF				eSB	Sb	08 14 25.7	+0.5
SUF	Sumiainen	3.60	18	P	Pn	08 13 34.8	+1.2
IGGU	Iggoen	3.60	298	P	Pn	08 13 33.6	0.0
IGGU	Iggoen	3.60	298	P	Pn	08 13 33.6	0.0
ARNU	Arnoeviken	3.97	310	P	Pn	08 13 38.8	+0.2
ARNU	Arnoeviken	3.97	310	P	Pn	08 13 38.8	+0.2
VSTU	Vaestervik	4.16	250	P	Pn	08 13 42.4	+1.2
VSTU	Vaestervik	4.16	250	P	Pn	08 13 42.4	+1.2
FALU	Falun	4.18	290	P	Pn	08 13 41.6	0.0
FALU	Falun	4.18	290	P	Pn	08 13 41.6	0.0
ASPU	Aespoe	4.24	246	P	Pn	08 13 43.5	+1.1
ASPU	Aespoe	4.24	246	P	Pn	08 13 43.5	+1.1
OSKU	Oskarshamn	4.59	246	P	Pn	08 13 48.0	+0.8
OSKU	Oskarshamn	4.59	246	P	Pn	08 13 48.0	+0.8
ASKU	Askersund	4.64	269	P	Pn	08 13 49.0	+1.1
ASKU	Askersund	4.64	269	P	Pn	08 13 49.0	+1.1
HFS	Hagfors	5.18	283	Pn	Pn	08 13 55.5	+0.2
	comp=Z,0.3nm,0.3s,baz=101,slow=15,SNR=6.6						
HFS				Sn	Sn	08 14 55.6	0.0
	comp=Z,0.4nm,0.3s,baz=100,slow=24,SNR=4.5						
HFS				Lg	Lg	08 15 18.0	
	comp=Z,0.8nm,0.3s,baz=87,slow=29,SNR=7.1						
VANU	Vaenersborg	6.13	267	P	Pn	08 14 09.3	+1.0
VANU	Vaenersborg	6.13	267	P	Pn	08 14 09.3	+1.0
NOA	NORSAR Array B	6.51	291	Pn	Pn	08 14 12.5	-1.1
	comp=Z,0.2nm,0.3s,baz=101,slow=9.2,SNR=2.4						
NOA				Sn	Sn	08 15 24.8	-3.7
	comp=Z,0.1nm,0.3s,baz=110,slow=20,SNR=2.6						
NOA				Lg	Lg	08 15 56.5	
	comp=Z,0.6nm,0.3s,baz=67,slow=21,SNR=5.2						
ARCES	ARCESS Array B	10.29	3	Pn	Pn	08 15 03.7	-1.6
	comp=Z,0.2nm,0.3s,baz=182,slow=12,SNR=14						
ARCES				Sn	Sn	08 16 53.0	-8.1
	comp=Z,0.2nm,0.3s,baz=179,slow=22,SNR=2.9						
ARCES				Lg	Lg	08 17 52.2	
	comp=Z,0.2nm,0.3s,baz=170,slow=33,SNR=2.7						

TAP 07 08:14:29.8, 21°.96N×120°.42E, h56km, ML3.6, 4D, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEN	Hengchun	0.30	81	⇓iP	Pn	08 14 40.0	+0.5
	baz=81						
HEN				i S	Sn	08 14 47.4	+0.9
	baz=81						
TWK1	Hengchun	0.36	92	⇓iP	Pn	08 14 40.8	+0.7
	baz=92						
TWK1				S	Sn	08 14 48.4	+1.0
	baz=92						
TWP	Hsiaoliuchiu	0.39	352	i P	Pn	08 14 40.6	+0.2
	baz=353						
TWP				S	Sn	08 14 48.9	+0.9
	baz=353						
SCZT	Fangliau	0.45	24	⇓iP	Pn	08 14 40.8	-0.2
	baz=25						
SCZT				eS	Sn	08 14 48.0	-1.1
	baz=25						
TAW	Tawu	0.59	48	P	Pn	08 14 43.1	+0.5
	baz=48						
TAW				eS	Sn	08 14 52.9	+1.0
	baz=48						
KAU	Kaohsiung	0.62	350	eP	Pn	08 14 44.1	+1.2
	baz=350						
KAU				eS	Sn	08 14 53.6	+1.3
	baz=350						
SGLT	Jiouru	0.77	5	eP	Pn	08 14 45.4	+0.7
	baz=5.0						
SGLT				eS	Sn	08 14 57.8	+2.2
	baz=5.0						
TWM1	Shoushan	0.86	0	eP	Pn	08 14 47.5	+1.5
TWM1				eS	Sn	08 14 59.5	+1.7
TWG	Pinlang	1.05	35	P	Pn	08 14 49.6	+1.2
	baz=35						
TWG				S	Sn	08 15 03.0	+0.8
	baz=35						
LAY	Lan-yu	1.05	85	⇓iP	Pn	08 14 49.1	+0.7
	baz=85						
LAY				S	Sn	08 15 03.2	+1.0
	baz=85						
CHN3	Shinhua	1.11	357	eP	Pn	08 14 50.8	+1.5
	baz=357						
CHN3				eS	Sn	08 15 05.6	+1.9
	baz=357						
SGST	Jiashian	1.13	8	eP	Pn	08 14 50.7	+1.2
	baz=8.0						
SGST				eS	Sn	08 15 05.0	+0.9
	baz=8.0						
CHN1	Nanshi	1.23	5	eP	Pn	08 14 51.6	+0.8
	baz=4.0						
CHN1				eS	Sn	08 15 07.5	+1.0
	baz=4.0						
SCLT	Jiali	1.23	350	eP	Pn	08 14 51.2	+0.4
	baz=350						
WTP	Ta-pu	1.29	8	eP	Pn	08 14 52.4	+0.6
	baz=8.0						
WTP				eS	Sn	08 15 08.5	+0.3
	baz=8.0						
ELDTW	Lidau	1.34	24	eP	Pn	08 14 53.6	+1.1
	baz=24						
CHN4	Tsaushan	1.40	6	eP	Pn	08 14 53.6	+0.5
	baz=6.0						
CHKT	Chengkung	1.43	37	eP	Pn	08 14 54.9	+1.4
	baz=37						
CHKT				eS	Sn	08 15 13.1	+1.8
	baz=37						
WDGT	Dungji	1.48	332	eP	Pn	08 14 53.4	-0.7
	baz=331						
WDGT				eS	Sn	08 15 11.1	-1.2
	baz=331						
TWF1	Yuli	1.61	30	eP	Pn	08 14 57.3	+1.4
	baz=30						
TWF1				S	Sn	08 15 17.1	+1.5
	baz=30						
CHN5	Tsauling	1.65	8	P	Pn	08 14 57.0	+0.4
	baz=8.0						
CHN5				eS	Sn	08 15 16.3	-0.5
	baz=8.0						
WSF	Szhu	1.68	354	eP	Pn	08 14 57.0	+0.1
	baz=353						
WSF				eS	Sn	08 15 16.8	-0.6
	baz=353						
WGK	Gukeng	1.73	4	eP	Pn	08 14 56.4	-1.1
	baz=4.0						
EHY	Hungye	1.75	28	eP	Pn	08 14 58.9	+1.0
	baz=28						
EHY				S	Sn	08 15 21.0	+1.8
	baz=28						
SMLT	Sun Moon Lake	1.97	13	eP	Pn	08 15 02.0	+1.1
	baz=13						
SMLT				eS	Sn	08 15 24.8	+0.2
	baz=13						
TYC	Yuchr	1.98	12	eP	Pn	08 15 01.9	+1.0
	baz=12						
TYC				eS	Sn	08 15 24.5	-0.1
	baz=12						
ESL	Shilin	2.07	27	eP	Pn	08 15 03.5	+1.3
	baz=27						
ESL				eS	Sn	08 15 27.6	+0.7
	baz=27						
TCU	Taichung	2.19	6	eP	Pn	08 15 04.2	+0.4
	baz=6.0						
WHF	Hehuan Shan	2.31	19	eP	Pn	08 15 07.8	+1.7
	baz=19						
WHF				eS	Sn	08 15 34.1	+0.4
	baz=19						
TWQ1	Liyutan	2.40	8	eP	Pn	08 15 06.9	+0.1
	baz=7.0						
TWQ1				eS	Sn	08 15 36.3	+1.3
	baz=7.0						
NNS	Nan Shan	2.62	19	eP	Pn	08 15 11.1	+1.2
	baz=19						
NNS				eS	Sn	08 15 41.6	+1.0
	baz=19						
NSTT	Nanjuang	2.71	11	eP	Pn	08 15 11.6	+0.6
	baz=11						
NSTT				eS	Sn	08 15 42.8	+0.1
	baz=11						
NSK	Sanguang	2.84	17	eP	Pn	08 15 14.5	+1.7
	baz=17						
NSK				eS	Sn	08 15 46.6	+0.7
	baz=17						

*IDC **07** 08:32:48.4±1.8, 5°.02S×128°.44E, h0km, mb3.8/2, mb1 3.9/4, mb1mx3.5/22, mbtmp3.7/4, ML3.6/2, MS3.4/1, Ms1 3.4/1, ms1mx2.2/37, Error ellipse: s-maj=162.8km s-min=26.7km az=68.0*
*AUST **07** 08:33:13.8±2.5, 5°.62S×130°.70E, h0km, Error ellipse: s-maj=2.2km s-min=1.0km az=289.0*

ISC 07 08:32:53.9±1.3, 6°.0S±0°.1×127°.2E±0°.2, h35km, n10, σ3°38/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	Bandanaira	3.07	62	P	Pn	08 33 39.8	-0.1
	baz=1.4,SNR=6.0						
SOEI	Soe	4.73	218	P	Sn	08 35 05.8	+9.2
	baz=7.6,SNR=5.3						
FAKI	Fak Fak	5.89	59	P	Pn	08 34 03.9	-15
	baz=3.1,SNR=17						
FAKI				S	Sn	08 34 44.0	-41
	baz=3.1,SNR=22						
SWI	Sorong	6.52	39	P	Pn	08 34 17.4	-10
	baz=4.8,SNR=4.7						
SWI				S	Sn	08 35 07.8	-33
	baz=4.8,SNR=9.7						
KDU	Kakadu	8.44	142	P	Pn	08 35 01.4	+7.7
	baz=7.3,SNR=10.0						
WRA	Warramunga Arr	15.50	154	Pn	P	08 36 35.7	+1.7
	0.1nm,0.3s,baz=341,slow=13,SNR=7.8						
WRA				Sn	Sn	08 39 18.6	-2.1
	0.4nm,0.3s,baz=346,slow=21,SNR=9.2						
ASAR	Alice Springs	18.71	161	P	Pn	08 37 14.1	+3.9
	0.5nm,0.3s,baz=349,slow=11,SNR=60						
ASAR				S	Sn	08 40 34.0	-4.5
	0.1nm,0.3s,baz=347,slow=20,SNR=6.2						
PMG	Port Moresby	20.06	101	LR	LR	08 45 24.7	
	comp=Z,96nm,18.5s,baz=233,slow=40						
MKAR	Makanchi Array	65.89	328	P	P	08 43 35.6	-0.6
	0.6nm,0.6s,baz=135,slow=8.1,SNR=4.6						
KURBB	Kurchatov Arra	70.23	329	P	P	08 44 01.7	-1.6
	0.7nm,0.6s,baz=127,slow=4.7,SNR=10.0						

*BJI **07** 09:01:51.0, 36°.51N×70°.50E, h186km, mB4.6/4, mb4.5/12*
*MOS **07** 09:01:52.8±0.7, 36°.47N×70°.72E, h200km, mb4.2/17, Error ellipse: s-maj=10.9km s-min=4.7km az=76.4*
*ISCJB **07** 09:01:52.1±0.2, 36°.47N±0°.02×70°.74E±0°.04, h188km, mb4.2/26, Error ellipse: s-maj=4.4km s-min=3.0km az=9.0*
*NEIC **07** 09:01:53.6±0.7, 36°.45N×70°.73E, h195km±6km, mb4.9/9, Error ellipse: s-maj=7.6km s-min=7.1km az=101.0*
*IDC **07** 09:01:54.3±2.7, 36°.41N×70°.74E, h204km±25km, mb3.8/18, mb1 3.9/22, mb1mx3.8/32, mbtmp3.8/22, Error ellipse: s-maj=14.8km s-min=10.4km az=25.0*
*NNC **07** 09:01:58.5±2.5, 36°.92N×70°.63E, h193km±21km, mb3.9, mpv5.3, Error ellipse: s-maj=21.3km s-min=16.1km az=26.0*

ISC 07 09:01:53.0±0.4, 36°.48N±0°.04×70°.79E±0°.04, h188km, n144, σ1°71/169, mb4.1/27, 11C-7D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	Kabul	2.40	217	ePN	Pn	09 02 36.1	+0.8
KBL				e		09 03 07.6	
KBL	Kabul	2.40	217	ePn	Pn	09 02 36.1	+0.8
KBL				eSn	Sn	09 03 07.6	-0.5
CEP	Cherat	2.80	161	⇓P	Pn	09 02 41.6	+1.8
CEP				S	Sn	09 03 17.0	+0.7
THW	Thamme Wali	3.75	168	⇑P	Pn	09 02 52.7	+1.3
KSH	Kashi	5.10	52	P	Pn	09 03 05.3	-3.1
KSH				S	Sn	09 03 56.0	-12
KSH				smax	smax		
	comp=N,560nm,0.6s						
KSH				smax	smax		
	comp=E,410nm,0.8s						
THN	Thein Dam	5.73	133	eP	Pn	09 03 15.3	-1.3
THN				eS	Sn	09 04 17.0	-5.4
DLH	Dalhousie	5.80	131	eP	Pn	09 03 18.0	+0.3
DLH				ex	S	09 04 24.0	
AML	Almayashu	6.08	21	i PN	Pn	09 03 22.1	+0.7
AML	Almayashu	6.08	21	P	Pn	09 03 22.1	+0.7
	SNR=730						
DHRM	DHARAMSHALA	6.21	131	eP	Pn	09 03 23.6	+0.6
DHRM				eS	Sn	09 04 29.4	-4.7
UCH	Uchtor	6.43	26	i PN	Pn	09 03 26.9	+0.9
UCH	Uchtor	6.43	26	P	Pn	09 03 26.9	+0.9
	SNR=40						
KZA	Kyzart	6.58	30	i PN	Pn	09 03 28.3	+0.4
KZA	Kyzart	6.58	30	P	Pn	09 03 28.3	+0.4
	SNR=46						
EKS2	Erkin-Say	6.59	20	ePN	Pn	09 03 28.6	+0.7
EKS2				pmax	pmax		
	comp=Z,100nm,0.4s						
EKS2	Erkin-Say	6.59	20	P	Pn	09 03 28.9	+1.0
	SNR=78						
EKS2	Erkin-Say	6.59	20	ePn	Pn	09 03 28.6	+0.7
	comp=Z,100nm,0.4s						
EKS2				eSn	Sn	09 04 40.9	-2.1
KK31	Karatay Array	6.62	358	⇓P	Pn	09 03 28.5	+0.4
	comp=Z,73nm,0.5s,baz=180,slow=12,SNR=747						
KK31				⇓S	Sn	09 04 39.0	-4.4
	comp=Z,115nm,0.6s,baz=186,slow=22,SNR=16						
KKAR	Karatay Array	6.62	358	ePN	Pn	09 03 28.5	+0.3
KKAR				pmax	pmax		
	comp=Z,111nm,0.4s						
KKAR	Karatay Array	6.62	358	ePn	Pn	09 03 28.5	+0.3
	comp=Z,111nm,0.4s						
AAK	Ala-Archa	6.78	24	ePN	Pn	09 03 31.3	+1.0
AAK				e		09 04 47.7	
AAK				pmax	pmax		
	comp=Z,130nm,0.4s						
AAK	Ala-Archa	6.78	24	P	Pn	09 03 31.4	+1.0
	SNR=144						
AAK	Ala-Archa	6.78	24	ePn	Pn	09 03 31.3	+1.0
	comp=Z,130nm,0.4s						
AAK				S	Sn	09 04 46.7	-0.7
AAK				eSn	Sn	09 04 47.7	+0.1
AAK	Ala-Archa	6.78	24	P	Pn	09 03 31.4	+1.0
	comp=Z,50nm,0.3s,baz=179,slow=6.1,SNR=267						
AAK				S	Sn	09 04 46.7	-0.7
	comp=Z,26nm,0.3s,baz=308,slow=23,SNR=32						
BHK	Bhakra	6.88	136	e4	Px	09 04 26.0	
KBK	Karagaybulak	6.96	26	i PN	Pn	09 03 33.9	+1.2
KBK	Karagaybulak	6.96	26	P	Pn	09 03 34.0	+1.2
	SNR=100						
FRU	Bishkek	7.00	24	⇓ePN	Pn	09 03 34.0	+0.9
FRU				i S	Sn	09 04 52.0	-0.4
FRU				pmax	pmax		
	comp=Z,90nm,1.0s						
FRU				smax	smax		
	comp=N,600nm,1.6s						
SDNR	Sundarnagar	7.14	132	e4	Pn	09 03 30.0	-5.0
SDNR				ex	S	09 04 53.0	
ULHL	Ulahol	7.14	35	i PN	Pn	09 03 35.6	+0.4
ULHL	Ulahol	7.14	35	P	Pn	09 03 35

SNR=338
TKM2 Tokmak 2 7.43 28 *e*Pn **Pn 09 03 39.7 +0.8**
comp=N,264nm,0.5s
SMLA Simla 7.52 133 *e*P **Pn 09 03 40.3 +0.3**
SMLA *e*S **Sn 09 05 02.7 -2.1**
AAA Alma-Ata 8.27 33 *e*PN **Pn 09 03 50.6 +0.8**
AAA *e*S **Sn 09 05 21.5 -1.1**
AAA pmax pmax
comp=Z,400nm,1.3s
AAA smax smax
comp=E,300nm,2.4s
DDI Dehra Dun 8.63 133 *e*S Sn 09 05 24.8 -6.6
DDI AML AML 09 05 41.8
comp=E,443nm,0.2s
DDI AML AML 09 05 46.9
comp=N,403nm,0.1s
NDI New Delhi 9.47 143 *ex* Pn 09 04 00.0 -5.6
MK31 Makanchi Array 13.41 36 ⇑P **Pn 09 04 56.9 +0.9**
comp=N,14nm,0.7s,baz=218,slow=14,SNR=109
MK31 Makanchi Array 13.41 36 *e*P **Pn 09 04 56.8 +0.9**
MK31 Makanchi Array 13.41 36 *e*Pn **Pn 09 04 56.8 +0.9**
MKAR Makanchi Array 13.41 36 P **Pn 09 04 56.6 +0.7**
MKAR pmax pmax
comp=Z,1.0nm,0.3s
MKAR Makanchi Array 13.41 36 P **Pn 09 04 56.6 +0.7**
MKAR Makanchi Array 13.41 36 P **Pn 09 04 56.6 +0.7**
comp=Z,1.3nm,0.3s,baz=221,slow=14,SNR=30
BHPL Bhopal 14.38 155 *e*P **P 09 05 11.3 +1.4**
BHPL *ex* x 09 07 35.3
WMQ Urumqi 14.85 55 *e*P P 09 05 18.7 +3.8
WMQ pmax pmax
comp=Z,19nm,0.7s
WMQ pmax pmax
comp=Z,110nm,4.8s
WMQ LR LR
comp=N,21nm,15.8s
WMQ LR LR
comp=Z,22nm,16.7s
AB31 Akbulak array 15.02 332 ⇓P **Pn 09 05 14.9 -0.9**
comp=Z,3.2nm,0.5s,baz=144,slow=12,SNR=63
AB31 Akbulak array 15.02 332 *i* P **Pn 09 05 14.7 -1.1**
AB31 pmax pmax
comp=Z,3.0nm,0.3s
ABKAR Akbulak array 15.02 332 *e*P **Pn 09 05 14.7 -1.1**
comp=Z,8.3nm,0.6s
KURBB Kurchatov Arra 15.20 19 P **Pn 09 05 16.6 -1.3**
comp=Z,2.5nm,0.3s,baz=210,slow=10,SNR=31
KURBB S **S 09 08 05.7 -1.9**
baz=217,slow=17,SNR=3.1
KURK Kurchatov 15.31 19 P **Pn 09 05 16.6 -2.7**
KURK S **S 09 08 05.7 -4.2**
KURK pmax pmax
comp=Z,3.0nm,0.3s
KURK Kurchatov 15.31 19 P **Pn 09 05 16.6 -2.7**
KURK S **S 09 08 05.7 -4.2**
VOSK Vostochnaya 16.25 0 ⇑P **Pn 09 05 30.9 +0.3**
comp=Z,4.8nm,0.4s
VOSK Vostochnaya 16.25 0 P **Pn 09 05 31.5 +0.9**
VOSK pmax pmax
comp=Z,5.0nm,0.4s
BVA0 Borovoye Array 16.55 359 ⇑P **Pn 09 05 34.9 +0.6**
comp=Z,6.3nm,0.6s,baz=155,slow=11,SNR=28
BVA0 S **S 09 08 35.3 -1.2**
comp=Z,0.3nm,0.8s,baz=169,slow=25,SNR=7.5
BVA0 Borovoye Array 16.55 359 *i* P **Pn 09 05 34.6 +0.3**
BVA0 pmax pmax
comp=Z,8.0nm,0.7s
BVAR Borovoye Array 16.55 359 P **Pn 09 05 34.3 0.0**
BVAR S **S 09 08 33.7 -2.8**
BVAR pmax pmax
comp=Z,4.0nm,0.3s
BVAR Borovoye Array 16.55 359 P **Pn 09 05 34.3 0.0**
BVAR S **S 09 08 33.7 -2.8**
BVAR Borovoye Array 16.55 359 P **Pn 09 05 34.3 0.0**
comp=Z,3.6nm,0.3s,baz=156,slow=12,SNR=30
BVAR S **S 09 08 33.7 -2.8**
comp=Z,0.4nm,0.3s,baz=188,slow=19,SNR=3.9
BRVK Borovoye 16.59 359 *c i* P **Pn 09 05 35.1 +0.4**
BRVK pmax pmax
comp=Z,22nm,1.2s
BRVK Borovoye 16.59 359 *e*P **Pn 09 05 35.0 +0.3**
comp=Z,13nm,0.6s
AKL Akola 16.63 159 *ex* **S 09 08 33.1 -5.7**
AKTO Aktyubinsk 16.72 331 ⇓P **Pn 09 05 36.3 0.0**
comp=Z,16nm,0.6s
AKTO ⇑S **S 09 08 34.1 -6.0**
comp=Z,7.9nm,0.8s
AKTO Aktyubinsk 16.72 331 P **Pn 09 05 36.3 0.0**
AKTO S **S 09 08 35.4 -4.6**
AKTO pmax pmax
comp=Z,3.0nm,0.3s
AKTO Aktyubinsk 16.72 331 P **Pn 09 05 36.3 0.0**
AKTO S **S 09 08 35.4 -4.6**
AKTO Aktyubinsk 16.72 331 P **Pn 09 05 36.3 0.0**
comp=Z,2.7nm,0.3s,baz=137,slow=11,SNR=53
AKTO S **S 09 08 35.4 -4.6**
comp=Z,0.3nm,0.3s,baz=126,slow=15,SNR=5.0
LSA Lhasa 18.33 106 P **Pn 09 05 56.5 +0.5**
LSA Lhasa 18.33 106 *e*P **Pn 09 05 56.0 -0.1**
LSA pmax pmax
comp=Z,8.0nm,0.5s
LSA Lhasa 18.33 106 *e*P **Pn 09 05 56.0 -0.1**
comp=Z,8.1nm,0.5s
ZAA0 Zalesovo Array 20.01 25 *e*P **P 09 06 11.6 +0.5**
ZALV Zalesovo Beam 20.01 25 *i* P **P 09 06 11.6 +0.5**
ZALV pmax pmax
comp=Z,19nm,0.3s
ZALV Zalesovo Beam 20.01 25 P **P 09 06 11.6 +0.5**
ZALV S **S 09 09 42.4 -3.0**
ZALV Zalesovo Beam 20.01 25 P **P 09 06 11.6 +0.5**
comp=Z,19nm,0.3s,baz=220,slow=11,SNR=92
ZALV S **S 09 09 42.4 -3.0**
comp=Z,2.6nm,0.7s,baz=221,slow=19,SNR=3.6
NVS Novosibirsk 20.27 21 ⇑*i* P **P 09 06 13.6 -0.1**
NVS *i* S **S 09 09 48.4 -2.0**
NVS pmax pmax
comp=N,11nm,0.5s
NVS pmax pmax
comp=E,2.0nm,0.5s
NVS pmax pmax
comp=Z,12nm,0.5s
NVS smax smax
comp=N,2.0nm,0.4s
NVS smax smax
comp=E,18nm,1.0s
UMR Umm Al-Rimmam 20.52 257 *e*P **P 09 06 16.6 0.0**
UMR AMb AMB 09 06 23.7
comp=Z,74nm,0.5s
KBD Kabd 20.70 256 *e*P **P 09 06 18.7 +0.1**
KBD AMb AMB 09 06 24.0
comp=Z,37nm,0.5s
MIB Mutribah 20.71 258 *e*P **P 09 06 18.4 -0.3**
MIB AMb AMB 09 06 24.6
comp=Z,60nm,0.6s
QRN Al-Qurain 20.72 255 *e*P **P 09 06 18.2 -0.6**
QRN AMb AMB 09 06 19.9
comp=Z,32nm,0.3s
RDF Al-Radifah 20.92 256 *e*P **P 09 06 20.7 -0.3**
RDF AMb AMB 09 06 27.3
comp=Z,48nm,0.5s
NAY Al-Naaiem 21.02 257 *e*P **P 09 06 21.3 -0.7**
NAY AMb AMB 09 06 24.4
comp=Z,1.1nm,0.9s
ARU Arti 21.60 341 *d i* P **P 09 06 28.5 +0.6**
ARU 09 06 59.4
ARU S **S 09 10 18.0 +3.6**
ARU pmax pmax
comp=Z,17nm,1.2s
HVS Khovu-Aksy 21.97 41 *c i* P **P 09 06 33.2 +1.5**
GTA Gaotai 23.04 74 P **P 09 06 43.9 +2.2**
GTA pmax pmax
comp=Z,9.0nm,0.7s
ANN Anapa 26.50 299 *e*P **P 09 07 14.6 +1.8**
ANN *e*S **S 09 11 39.3 +6.6**
ANN pmax pmax
comp=Z,88nm,1.4s
ZAK Zakamensk 27.13 49 *e*P **P 09 07 20.2 +1.6**
ZAK *e* 09 08 03.8
ZAK pmax pmax
comp=Z,2.0nm,0.8s
SONM Songino Array 28.49 55 P **P 09 07 32.2 +1.6**
SONM Songino Array 28.49 55 P **P 09 07 32.2 +1.6**
comp=Z,3.5nm,0.8s,baz=260,slow=9.7,SNR=21
BRTR Keskin Array B 29.28 288 pP pP 09 08 19.6 +3.3
BRTR Keskin Array B 29.28 288 pP pP 09 08 19.6 +3.3
comp=Z,0.9nm,0.7s,baz=102,slow=10,SNR=3.6
OBN Obninsk 29.85 320 *e*P **P 09 07 42.5 +0.2**
OBN *e**PP **pP 09 08 21.5 +0.6**
OBN *e**SP **sP 09 08 43.5 +0.8**
OBN *e* 09 10 39.6
OBN *e*S **S 09 12 23.3 -1.7**
OBN pmax pmax
comp=Z,4.0nm,0.8s
CMAR Chiang Mai Arr 30.59 118 P **P 09 07 50.7 +1.3**
CMAR Chiang Mai Arr 30.59 118 P **P 09 07 50.7 +1.3**
comp=Z,2.2nm,0.6s,baz=301,slow=8.4,SNR=11
AKASG Malin Array Be 32.83 309 P **P 09 08 08.9 +0.4**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 32.83 309 P **P 09 08 08.9 +0.4**
AKASG Malin Array Be 32.83 309 P **P 09 08 08.9 +0.4**
comp=Z,0.6nm,0.4s,baz=81,slow=8.1,SNR=2.9
FIA1 FINESS Array S 37.41 326 P **P 09 08 49.7 +2.2**
ARCES ARCESS Array B 41.10 338 P **P 09 09 18.9 +1.0**
ARCES ARCESS Array B 41.10 338 P **P 09 09 18.9 +1.0**
comp=Z,3.1nm,0.6s,baz=106,slow=7.7,SNR=16
HFS Hagfors 42.98 322 P **P 09 09 33.4 +0.1**
HFS Hagfors 42.98 322 P **P 09 09 33.3 +0.1**
comp=Z,1.7nm,0.2s,baz=98,slow=11,SNR=7.4
YAK Yakutsk 44.09 35 *i* P **P 09 09 42.2 +0.2**
YAK pmax pmax
comp=Z,18nm,0.8s
NB2 NORSAR Subarra 44.30 323 P **P 09 09 43.6 -0.2**
comp=Z,2.0nm,0.5s,baz=95,slow=7.9
NOA NORSAR Array B 44.30 323 P **P 09 09 43.7 -0.1**
NOA NORSAR Array B 44.30 323 P **P 09 09 43.7 -0.1**
comp=Z,2.9nm,0.7s,baz=97,slow=7.9,SNR=11
KSAR Wonju Array Be 45.02 71 P **P 09 09 50.2 +0.4**
KSRS Korea Array 45.05 71 P **P 09 09 50.2 +0.2**
comp=Z,0.6nm,0.3s,baz=284,slow=6.7,SNR=3.6
TIXI Tiksi 45.86 22 *c i* P **P 09 09 56.5 +0.6**
TIXI pmax pmax
comp=Z,14nm,0.9s
SPITS Spitsbergen Ar 47.48 347 P **P 09 10 09.7 +1.3**
SPITS Spitsbergen Ar 47.48 347 P **P 09 10 09.7 +1.3**
comp=Z,1.6nm,0.5s,baz=134,slow=10,SNR=6.1
KMBO Kilima Mbogo 48.69 227 P **P 09 10 19.3 +0.6**
KMBO Kilima Mbogo 48.69 227 P **P 09 10 19.3 +0.6**
comp=Z,1.0nm,0.5s,baz=66,slow=20,SNR=4.2
SEY Seymchan 54.53 34 *e*P **P 09 11 01.2 +0.1**
ESDC Sonseca Array 57.32 298 pP pP 09 12 06.2 +2.1
ESDC Sonseca Array 57.32 298 pP pP 09 12 06.2 +2.1
comp=Z,0.3nm,0.3s,baz=60,slow=8.8,SNR=1.5
PETK Petropavlovsk- 60.10 44 P **P 09 11 40.1 -0.1**
PETK pmax pmax
comp=Z,1.0nm,0.5s
PETK Petropavlovsk- 60.10 44 P **P 09 11 40.1 -0.1**
PETK Petropavlovsk- 60.10 44 P **P 09 11 40.1 -0.1**
comp=Z,0.6nm,0.5s,baz=280,slow=2.6,SNR=3.9
TOA0 Torodi Ar. Sit 65.55 269 *e*P **P 09 12 15.1 -1.6**
TORD Torodi Ar. Bea 65.55 269 P **P 09 12 15.0 -1.7**
TORD pP **pP 09 13 00.1 -0.5**
TORD Torodi Ar. Bea 65.55 269 P **P 09 12 15.0 -1.7**
comp=Z,1.5nm,0.5s,baz=50,slow=5.7,SNR=27
TORD pP **pP 09 13 00.1 -0.5**
comp=Z,1.0nm,0.7s,baz=45,slow=5.7,SNR=3.0
COLA College 74.55 16 *e*P **P 09 13 10.8 +0.2**
COLA pmax pmax
comp=Z,27nm,1.0s
COLA College 74.55 16 *e*P **P 09 13 10.8 +0.2**
comp=Z,27nm,1.0s
ILAR Eielson Array 74.85 16 P **P 09 13 11.8 -0.6**
ILAR Eielson Array 74.85 16 P **P 09 13 11.8 -0.6**
comp=Z,1.6nm,0.8s,baz=318,slow=4.2,SNR=18
FITZ Fitzroy Crossi 75.02 126 P **P 09 13 13.7 -0.2**
FITZ Fitzroy Crossi 75.02 126 P **P 09 13 13.7 -0.2**
comp=Z,2.5nm,0.8s,baz=311,slow=5.6,SNR=4.1
SML Sawmill 77.06 18 *e*P **P 09 13 24.4 -0.6**
SML pmax pmax
comp=Z,3.0nm,1.0s
SML Sawmill 77.06 18 *e*P **P 09 13 24.4 -0.6**
comp=Z,2.8nm,1.0s
YKA Yellowknife Ar 81.28 3 P **P 09 13 48.0 +0.3**
YKA Yellowknife Ar 81.28 3 P **P 09 13 48.0 +0.3**
comp=Z,1.4nm,0.3s,baz=348,slow=5.3,SNR=15
WRA Warramunga Arr 82.12 122 P **P 09 13 51.4 -1.4**
WRA Warramunga Arr 82.12 122 P **P 09 13 51.4 -1.4**
comp=Z,4.0nm,0.7s,baz=322,slow=4.9,SNR=64
ASAR Alice Springs 84.38 125 P **P 09 14 03.1 -1.2**
ASAR Alice Springs 84.38 125 P **P 09 14 03.1 -1.2**
comp=Z,3.0nm,0.7s,baz=310,slow=5.0,SNR=48
CTA Charters Tower 90.69 115 P **P 09 14 33.5 -1.0**
CTA Charters Tower 90.69 115 P **P 09 14 33.5 -1.0**
comp=Z,1.6nm,0.3s,baz=334,slow=4.5,SNR=3.8
SDMD Soldier's Deli 98.81 335 *e*P **P 09 15 10.4 -1.0**
CFAA Coronel Fontan 145.89 266 PKPbc **PKPdf 09 21 09.0 -0.4**
CFAA Coronel Fontan 145.89 266 PKPbc **PKPdf 09 21 09.0 -0.4**
comp=Z,0.1nm,0.5s,baz=135,slow=2.9,SNR=4.1

*ISCJB **07** 09:07:48.8±0.3, 59°.67N±0°.02×24°.55E±0°.05, h0km, Error ellipse: s-maj=4.0km s-min=2.9km az=25.7*
*IDC **07** 09:07:49.3±2.2, 59°.56N×24°.83E, h0km, mb1 3.8/3, mb1mx3.2/26, mbtmp3.7/3, ML3.7/3, Error ellipse: s-maj=25.2km s-min=9.2km az=150.0*
*CSEM **07** 09:07:50.3±0.1, 59°.66N×24°.58E, h2km, ML2.9, Error ellipse: s-maj=4.1km s-min=2.8km az=125.0, Mining explosion.*
*NAO **07** 09:07:50.3±0.9, 59°.69N×24°.46E, ML2.6*
*HEL **07** 09:07:50.9±0.1, 59°.67N×24°.55E, h0km, ML2.5, ML1.9(UPP), Explosion*
*BER **07** 09:07:51.0±3.1, 59°.61N×24°.55E, h0km, ML2.5, ML2.6(NAO), Suspected explosion*
*UPP **07** 09:07:53.4, 59°.68N×24°.16E, h0km, ML1.9, Suspected Mining explosion.*
ISC 07 09:07:49.1±0.7, 59°.68N±0°.02×24°.46E±0°.03, h0km, n78, σ1§52/109, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**0.55**	**356**	*e*P	**Pg**	**09 08 00.7**	**+1.2**
MEF				*e*S	**Sg**	**09 08 07.7**	**+1.1**
MEF	**Metsahovi**	**0.55**	**356**	*e*P	**Pb**	**09 08 00.9**	**-0.6**
	SNR=90						
MEF				*e*S	**Sg**	**09 08 07.9**	**+1.3**
	443nm,0.5s,SNR=90						
MTSE	**Matsula**	**1.02**	**199**	*e*P	**Pg**	**09 08 09.1**	**+0.4**
MTSE				*e*S	**Sg**	**09 08 22.3**	**+0.5**
MTSE	**Matsula**	**1.02**	**199**	P	**Pg**	**09 08 09.0**	**+0.4**
MTSE				S	**Sg**	**09 08 22.3**	**+0.5**
PVF	**Pernaja**	**1.12**	**38**	*e*P	**Pg**	**09 08 10.5**	**-0.1**
PVF				*e*S	**Sg**	**09 08 25.3**	**+0.2**
PVF	**Pernaja**	**1.12**	**38**	P	**Pg**	**09 08 10.4**	**-0.1**
PVF				S	**Sg**	**09 08 25.2**	**+0.2**
VSU	**Vasula**	**1.69**	**135**	Pg	**Pn**	**09 08 20.2**	**+0.4**
VSU				Lg	Lg	09 08 41.7	
VSU	**Vasula**	**1.69**	**135**	Pg	**Pn**	**09 08 20.2**	**+0.4**
VSU				Lg	Lg	09 08 41.7	
VSU	**Vasula**	**1.69**	**135**	*e*P	**Pn**	**09 08 20.3**	**+0.4**
VSU				*e*S	**Sn**	**09 08 42.2**	**0.0**
VSU	**Vasula**	**1.69**	**135**	P	**Pn**	**09 08 20.2**	**+0.4**
VSU				Lg	Lg	09 08 41.7	
VSU				S	**Sn**	**09 08 42.1**	**0.0**
VJF	**Virojoki**	**1.77**	**59**	*e*P	**Pn**	**09 08 21.5**	**+0.5**
VJF				*e*S	**Sn**	**09 08 43.8**	**-0.4**
VJF				MSG		09 08 47.3	
	comp=Z,46nm,0.1s						
VJF	**Virojoki**	**1.77**	**59**	P	**Pn**	**09 08 21.5**	**+0.5**
VJF				S	**Sn**	**09 08 43.8**	**-0.4**
RAF	**Rauma**	**1.91**	**316**	*e*P	**Pb**	**09 08 25.3**	**+0.6**
RAF				*e*S	**Sg**	**09 08 50.6**	**+0.3**
RAF				MSG		09 08 53.3	
	comp=Z,34nm,0.2s						
RAF	**Rauma**	**1.91**	**316**	P	**Pb**	**09 08 25.3**	**+0.6**
RAF				S	**Sg**	**09 08 50.5**	**+0.3**
FIA0	**FINESS Array S**	**1.94**	**23**	Pg	**Pb**	**09 08 25.3**	**-0.1**
	baz=196,slow=18						
FIA0				Lg	Lg	09 08 50.2	
	baz=193,slow=37						
FIA0	**FINESS Array S**	**1.94**	**23**	Pg	**Pb**	**09 08 25.3**	**-0.1**
	baz=196,slow=18						
FIA0				Lg	Lg	09 08 50.2	
	baz=193,slow=37						
FIA0	**FINESS Array S**	**1.94**	**23**	*e*P	**Pb**	**09 08 25.4**	**0.0**
FIA0				*e*S	**Sn**	**09 08 49.4**	**+0.9**
FIA0				MSG		09 08 52.9	
	comp=Z,41nm,0.2s						
FIA0	**FINESS Array S**	**1.94**	**23**	P	**Pb**	**09 08 25.4**	**0.0**
FIA0				S	**Sn**	**09 08 49.3**	**+0.9**
FIA0				Lg	Lg	09 08 50.2	
	baz=193,slow=30,SNR=35						
FINES	**FINESS Array B**	**1.94**	**23**	Pn	**Pb**	**09 08 25.3**	**-0.1**
	comp=Z,17nm,0.3s,baz=196,slow=16,SNR=413						
FINES				Sn	**Sb**	**09 08 50.3**	**+0.2**
	comp=Z,15nm,0.3s,baz=196,slow=28,SNR=16						
SLIT	**Slitere, Latvi**	**2.35**	**210**	*e*P	**Pb**	**09 08 31.5**	**-0.7**
	SNR=50						
KEF	**Keuruu**	**2.51**	**4**	*e*PB	**Pb**	**09 08 34.3**	**-0.7**
KEF				*e*SB	**Sb**	**09 09 06.7**	**+0.3**
KEF	**Keuruu**	**2.51**	**4**	Pb	**Pb**	**09 08 34.2**	**-0.7**
KEF				Sb	**Sb**	**09 09 06.6**	**+0.3**
KAF	**Kangasniemi**	**2.61**	**19**	*e*PB	**Pb**	**09 08 35.0**	**-1.7**
KAF				*e*SB	**Sb**	**09 09 08.6**	**-0.6**
KAF	**Kangasniemi**	**2.61**	**19**	Pb	**Pb**	**09 08 34.9**	**-1.7**
KAF				Sb	**Sb**	**09 09 08.5**	**-0.6**
NRTU	**Norrtaelje**	**2.96**	**273**	P	**Pn**	**09 08 39.3**	**+2.0**
NRTU	**Norrtaelje**	**2.96**	**273**	P	**Pn**	**09 08 39.3**	**+2.0**
SUF	**Sumiainen**	**3.16**	**14**	*e*P	**Pn**	**09 08 42.4**	**+2.3**
SUF				*e*S	**Sn**	**09 09 19.0**	**+0.5**
SUF	**Sumiainen**	**3.16**	**14**	P	**Pn**	**09 08 42.3**	**+2.3**
SUF				S	**Sn**	**09 09 18.9**	**+0.5**
FORU	**Forsmark**	**3.23**	**285**	P	**Pn**	**09 08 43.6**	**+2.6**
FORU	**Forsmark**	**3.23**	**285**	P	**Pn**	**09 08 43.6**	**+2.6**
FLYU	**Flymyra**	**3.35**	**281**	P	**Pn**	**09 08 44.0**	**+1.4**
FLYU	**Flymyra**	**3.35**	**281**	P	**Pn**	**09 08 44.0**	**+1.4**
NYNU	**Nynaeshamn**	**3.38**	**261**	P	**Pn**	**09 08 44.9**	**+1.9**
NYNU	**Nynaeshamn**	**3.38**	**261**	P	**Pn**	**09 08 44.9**	**+1.9**
GOTU	**Gotland**	**3.67**	**240**	P	**Pn**	**09 08 49.1**	**+2.1**
GOTU	**Gotland**	**3.67**	**240**	P	**Pn**	**09 08 49.1**	**+2.1**
BACU	**Backbrunna**	**3.73**	**276**	P	**Pn**	**09 08 50.1**	**+2.2**
BACU	**Backbrunna**	**3.73**	**276**	P	**Pn**	**09 08 50.0**	**+2.2**
ARNU	**Arnoeviken**	**4.03**	**303**	P	**Pn**	**09 08 53.7**	**+1.7**
ARNU	**Arnoeviken**	**4.03**	**303**	P	**Pn**	**09 08 53.7**	**+1.7**
ESKU	**Eskilstuna**	**4.14**	**267**	P	**Pn**	**09 08 55.8**	**+2.3**
ESKU	**Eskilstuna**	**4.14**	**267**	P	**Pn**	**09 08 55.8**	**+2.3**
HEMU	**Hemsoen**	**4.33**	**317**	P	**Pn**	**09 08 58.6**	**+2.5**
HEMU	**Hemsoen**	**4.33**	**317**	P	**Pn**	**09 08 58.6**	**+2.5**
FALU	**Falun**	**4.40**	**284**	P	**Pn**	**09 08 58.6**	**+1.6**
FALU	**Falun**	**4.40**	**284**	P	**Pn**	**09 08 58.6**	**+1.6**
HASU	**Hassela**	**4.57**	**306**	P	**Pn**	**09 09 01.2**	**+1.9**
HASU	**Hassela**	**4.57**	**306**	P	**Pn**	**09 09 01.2**	**+1.9**
VSTU	**Vaestervik**	**4.61**	**247**	P	**Pn**	**09 09 01.8**	**+1.9**
VSTU	**Vaestervik**	**4.61**	**247**	P	**Pn**	**09 09 01.8**	**+1.9**
ASPU	**Aespoe**	**4.70**	**245**	P	**Pn**	**09 09 03.1**	**+1.9**
ASPU	**Aespoe**	**4.70**	**245**	P	**Pn**	**09 09 03.1**	**+1.9**
NRAU	**Nora**	**4.79**	**273**	P	**Pn**	**09 09 04.3**	**+2.0**
NRAU	**Nora**	**4.79**	**273**	P	**Pn**	**09 09 04.3**	**+2.0**
SOLU	**Sollefteaa**	**4.98**	**319**	P	**Pn**	**09 09 07.2**	**+2.3**
SOLU	**Sollefteaa**	**4.98**	**319**	P	**Pn**	**09 09 07.2**	**+2.3**
HFS	**Hagfors**	**5.44**	**279**	Pn	**Pn**	**09 09 12.4**	**+1.1**
	baz=95,slow=12						
HFS				Sn	**Sn**	**09 10 11.1**	**-3.5**
	baz=94,slow=28						
HFS				Lg	Lg	09 10 37.7	
	baz=93,slow=37						
HFS	**Hagfors**	**5.44**	**279**	Pn	**Pn**	**09 09 12.4**	**+1.1**
	baz=95,slow=12						
HFS				Sn	**Sn**	**09 10 11.1**	**-3.5**
	baz=94,slow=28						
HFS				Lg	Lg	09 10 37.7	
	baz=93,slow=37						
HFS	**Hagfors**	**5.44**	**279**	Pn	**Pn**	**09 09 13.0**	**+1.6**
	comp=Z,0.9nm,0.3s,baz=97,slow=12,SNR=46						
HFS				Sn	**Sn**	**09 10 14.5**	**-0.1**
	comp=Z,1.0nm,0.3s,baz=96,slow=30,SNR=6.8						
HFS				Lg	Lg	09 10 37.9	
	comp=Z,2.7nm,0.3s,baz=89,slow=32,SNR=9.1						
HFS	**Hagfors**	**5.44**	**279**	Pn	**Pn**	**09 09 12.4**	**+1.1**
	baz=95,slow=12,SNR=50						
HFS				Lg	Lg	09 10 37.7	
	baz=93,slow=32,SNR=4.9						
BLEU	**Blekinge**	**5.71**	**237**	P	**Pn**	**09 09 16.0**	**+1.0**
BLEU	**Blekinge**	**5.71**	**237**	P	**Pn**	**09 09 16.0**	**+1.0**
NB2	**NORSAR Subarra**	**6.71**	**287**	Pn	**Pn**	**09 09 29.1**	**+0.1**
	baz=101,slow=14						
NB2				Sn	**Sn**	**09 10 44.0**	**-2.0**
NB2				Lg	Lg	09 11 19.6	
	baz=95,slow=37						
NB2	**NORSAR Subarra**	**6.71**	**287**	Pn	**Pn**	**09 09 29.1**	**+0.1**
	baz=101,slow=14						
NB2				Sn	**Sn**	**09 10 44.0**	**-2.0**
NB2				Lg	Lg	09 11 19.6	
	baz=95,slow=37						
NB2	**NORSAR Subarra**	**6.71**	**287**	Pn	**Pn**	**09 09 29.0**	**+0.1**
	baz=101,slow=13,SNR=50						
NB2				Lg	Lg	09 11 19.6	
	baz=95,slow=36,SNR=3.1						
NOA	**NORSAR Array B**	**6.71**	**287**	Pn	**Pn**	**09 09 29.3**	**+0.4**
	comp=Z,0.9nm,0.3s,baz=90,slow=14,SNR=24						
NOA				Sn	**Sn**	**09 10 44.8**	**-1.2**
	comp=Z,1.0nm,0.3s,baz=79,slow=17,SNR=4.9						
NOA				Lg	Lg	09 11 17.5	
	comp=Z,1.7nm,0.3s,baz=79,slow=17,SNR=6.2						
MOR8	**Moi Rana**	**7.95**	**329**	*e*Pn	**Pn**	**09 09 47.3**	**+1.5**
MOR8				*e*Sn	**Sn**	**09 11 13.9**	**-2.5**
MOR8				AML	AML	09 11 16.9	
	comp=Z,3.2nm,0.3s						
MOR8	**Moi Rana**	**7.95**	**329**	*e*Pn	**Pn**	**09 09 47.3**	**+1.5**
	SNR=50						
FLOS	**Flostrand**	**8.36**	**328**	*e*Pn	Pn	09 09 54.9	+3.5
FLOS				*e*Sn	**Sn**	**09 11 24.8**	**-1.6**
FLOS				AML	AML	09 11 29.2	
	comp=Z,7.5nm,0.7s						
STOK	**Stokkvaagen**	**8.46**	**327**	*e*Pn	**Pn**	**09 09 54.9**	**+2.2**
STOK				*e*Sn	**Sn**	**09 11 27.0**	**-1.6**
STOK				AML	AML	09 11 37.2	
	comp=N,2.4nm,0.1s						
KONS	**Konsvik**	**8.55**	**328**	*e*Pn	**Pn**	**09 09 56.9**	**+2.9**
KONS				*e*Sn	**Sn**	**09 11 29.1**	**-1.9**
KONS				AML	AML	09 11 45.8	
	comp=Z,5.2nm,0.8s						
APA0	**Apatity Array**	**8.81**	**22**	Pn	**Pn**	**09 09 58.2**	**+0.7**
	baz=210,slow=11						
APA0	**Apatity Array**	**8.81**	**22**	Pn	**Pn**	**09 09 58.2**	**+0.7**
	baz=210,slow=11						
APA0	**Apatity Array**	**8.81**	**22**	Pn	**Pn**	**09 09 58.2**	**+0.7**
	baz=210,slow=11,SNR=50						
ARA0	**ARCESS Array S**	**9.91**	**2**	Pn	**Pn**	**09 10 11.9**	**-0.7**
	baz=174,slow=16						
ARA0	**ARCESS Array S**	**9.91**	**2**	Pn	**Pn**	**09 10 11.9**	**-0.7**
	baz=174,slow=16						
ARA0	**ARCESS Array S**	**9.91**	**2**	Pn	**Pn**	**09 10 11.9**	**-0.7**
	baz=174,slow=15,SNR=50						
ARCES	**ARCESS Array B**	**9.91**	**2**	Pn	**Pn**	**09 10 11.8**	**-0.8**
	comp=Z,1.6nm,0.3s,baz=180,slow=13,SNR=62						
ARCES				Sn	**Sn**	**09 12 00.7**	**-3.7**
	comp=Z,0.4nm,0.3s,baz=186,slow=24,SNR=3.9						
ARCES				Lg	Lg	09 12 54.3	
	comp=Z,0.6nm,0.3s,baz=178,slow=30,SNR=5.1						

IDC 07 09:20:51.6±46.0, 16°.53S×173°.61W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/19, mbtmp3.9/3, Error ellipse: s-maj=880.7km s-min=177.5km az=79.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**43.30**	**241**	P	P	09 28 56.2	+0.7
	0.7nm,0.4s,baz=102,slow=9.3,SNR=5.4						
WRA	**Warramunga Arr**	**49.40**	**258**	P	P	09 29 43.1	-0.5
	0.2nm,0.3s,baz=97,slow=7.3,SNR=11						
ASAR	**Alice Springs**	**49.58**	**253**	P	P	09 29 44.5	-0.4
	2.7nm,0.6s,baz=89,slow=8.2,SNR=15						

*IDC **07** 09:22:17.0±1.0, 34°.87N×23°.81E, h0km, mb4.3/15, mb1 4.2/19, mb1mx4.1/33, mbtmp4.2/19, ML3.8/4, MS3.2/2, Ms1 3.2/2, ms1mx2.3/42, Error ellipse: s-maj=22.7km s-min=12.7km az=172.0*
*ISCJB **07** 09:22:18.4±1.0, 34°.59N±0°.05×24°.00E±0°.04, h23km±5km, mb4.1/16, MS3.1/2, Error ellipse: s-maj=9.5km s-min=5.0km az=18.0*
*THE **07** 09:22:21.9, 34°.89N×23°.95E, h15km±1km, Error ellipse: s-maj=4.4km s-min=1.9km az=205.0*
*ATH **07** 09:22:21.3, 34°.91N×24°.02E, h21km±1km, MD3.6/22, ML3.7*
*CSEM **07** 09:22:22.3±0.2, 34°.98N×24°.09E, h2km, MD3.6, Error ellipse: s-maj=5.4km s-min=3.4km az=31.0*

ISC 07 09:22:20.6±0.8, **34°75N**±0°06×**24°02E**±0°03, **h25**km±4km, **n118**, σ1$60/132, **mb4.2**/16, **Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.11**	**31**	*e*PB	**Pb**	**09 22 24.9**	**-0.5**
GVD				S	**Sb**	**09 22 28.6**	**+0.1**
GVD	**Gavdhos**	**0.11**	**31**	*e*PB	**Pb**	**09 22 25.2**	**-0.2**
GVD				*e*SB	**Sb**	**09 22 28.1**	**-0.4**
GVD	**Gavdhos**	**0.11**	**31**	P	**Pb**	**09 22 24.9**	**-0.5**
GVD	**Gavdhos**	**0.11**	**31**	*e*Pb	**Pb**	**09 22 25.2**	**-0.2**
GVD				*e*Sb	**Sb**	**09 22 28.1**	**-0.4**
KARN	**Karanos**	**0.66**	**353**	P	**Pb**	**09 22 32.2**	**-1.3**
KARN				S	**Sn**	**09 22 46.2**	**+2.2**
KARN	**Karanos**	**0.66**	**353**	*e*PN	**Pb**	**09 22 32.7**	**-0.8**
KARN	**Karanos**	**0.66**	**353**	P	**Pb**	**09 22 32.2**	**-1.3**
KARN				S	**Sn**	**09 22 46.2**	**+2.2**
VAM	**Vamos**	**0.67**	**12**	P	**Pb**	**09 22 33.0**	**-0.8**
VAM				S	**Sn**	**09 22 45.3**	**+1.0**
VAM	**Vamos**	**0.67**	**12**	*e*PN	**Pb**	**09 22 33.0**	**-0.8**
VAM	**Vamos**	**0.67**	**12**	P	**Pb**	**09 22 33.0**	**-0.8**
VAM				S	**Sn**	**09 22 45.3**	**+1.0**
SIVA	**Sivas**	**0.70**	**67**	P	**Pn**	**09 22 34.8**	**-0.2**
SIVA				S	**Sn**	**09 22 47.2**	**+2.2**
SIVA	**Sivas**	**0.70**	**67**	*e*PN	**Pn**	**09 22 34.7**	**-0.2**
SIVA	**Sivas**	**0.70**	**67**	P	**Pn**	**09 22 34.8**	**-0.2**
SIVA				S	**Sn**	**09 22 47.2**	**+2.2**
IDI	**Anoyia**	**0.89**	**53**	P	**Pb**	**09 22 36.7**	**-0.8**
IDI				S	**Sn**	**09 22 49.8**	**0.0**
IDI	**Anoyia**	**0.89**	**53**	*e*PN	**Pb**	**09 22 37.2**	**-0.3**
IDI				*e*SN	**Sb**	**09 22 47.8**	**-1.3**
IDI	**Anoyia**	**0.89**	**53**	Pg	**Pb**	**09 22 37.5**	**0.0**
	95nm,0.3s,baz=239,slow=16,SNR=55						
IDI				Lg	Lg	09 22 53.8	
	235nm,0.3s,baz=344,slow=20,SNR=14						
IDI	**Anoyia**	**0.89**	**53**	P	**Pb**	**09 22 36.7**	**-0.8**
IDI	**Anoyia**	**0.89**	**53**	*e*Pn	**Pb**	**09 22 37.2**	**-0.3**
IDI				S	**Sn**	**09 22 49.8**	**0.0**
ANKY	**Antikythira Is**	**1.26**	**332**	P	**Pn**	**09 22 41.5**	**-1.2**
ANKY	**Antikythira Is**	**1.26**	**332**	*e*PN	**Pb**	**09 22 43.6**	**-0.1**
ANKY	**Antikythira Is**	**1.26**	**332**	P	**Pn**	**09 22 41.5**	**-1.2**
ANKY	**Antikythira Is**	**1.26**	**332**	*e*Pn	**Pb**	**09 22 43.6**	**-0.1**
LAST	**Lasithi**	**1.27**	**71**	P	**Pb**	**09 22 43.8**	**0.0**
LAST	**Lasithi**	**1.27**	**71**	*e*PN	**Pb**	**09 22 44.7**	**+0.9**
LAST				*e*SN	**Sb**	**09 23 01.8**	**+2.1**
LAST	**Lasithi**	**1.27**	**71**	P	**Pb**	**09 22 43.8**	**0.0**
LAST	**Lasithi**	**1.27**	**71**	*e*Pn	**Pb**	**09 22 44.7**	**+0.9**
LAST				*e*Sn	**Sb**	**09 23 01.8**	**+2.1**
NPS	**Neapolis**	**1.40**	**68**	*e*PN	**Pb**	**09 22 47.2**	**+1.1**
NPS	**Neapolis**	**1.40**	**68**	*e*Pn	**Pb**	**09 22 47.2**	**+1.1**
KYTH	**Kithira**	**1.73**	**333**	*e*PN	**Pb**	**09 22 51.4**	**-0.3**
KYTH	**Kithira**	**1.73**	**333**	*e*Pn	**Pb**	**09 22 51.4**	**-0.3**
ZKR	**Zakros**	**1.84**	**78**	P	**Pb**	**09 22 53.5**	**-0.1**
ZKR	**Zakros**	**1.84**	**78**	*e*PN	**Pb**	**09 22 53.9**	**+0.3**
ZKR	**Zakros**	**1.84**	**78**	P	**Pb**	**09 22 53.5**	**-0.1**
ZKR	**Zakros**	**1.84**	**78**	*e*Pn	**Pb**	**09 22 53.9**	**+0.3**
SANT	**Santorini**	**2.00**	**35**	*e*PB	**Pn**	**09 22 53.7**	**+0.9**
SANT	**Santorini**	**2.00**	**35**	*e*Pb	**Pn**	**09 22 53.7**	**+0.9**
VLI	**Veliai**	**2.15**	**336**	*e*PN	**Pn**	**09 22 57.1**	**+2.2**
VLI	**Veliai**	**2.15**	**336**	*e*Pn	**Pn**	**09 22 57.1**	**+2.2**
DYR	**Agios Nikonas**	**2.43**	**326**	*e*PB	**Pn**	**09 23 01.4**	**+2.6**
DYR	**Agios Nikonas**	**2.43**	**326**	*e*Pb	**Pn**	**09 23 01.4**	**+2.6**
APE	**Apeiranthos**	**2.62**	**27**	*e*PN	**Pn**	**09 23 02.6**	**+1.2**
APE	**Apeiranthos**	**2.62**	**27**	*e*Pn	**Pn**	**09 23 02.6**	**+1.2**
KARP	**Karpathos**	**2.69**	**72**	P	**Pn**	**09 23 04.9**	**+2.5**
KARP	**Karpathos**	**2.69**	**72**	*e*PB	**Pb**	**09 23 05.9**	**-2.2**
KARP	**Karpathos**	**2.69**	**72**	P	**Pn**	**09 23 04.9**	**+2.5**
KARP	**Karpathos**	**2.69**	**72**	*e*Pb	**Pb**	**09 23 05.9**	**-2.2**
DID	**Didima**	**2.83**	**347**	P	**Pn**	**09 23 05.4**	**+1.2**
DID	**Didima**	**2.83**	**347**	*e*PN	**Pn**	**09 23 05.4**	**+1.2**
DID	**Didima**	**2.83**	**347**	P	**Pn**	**09 23 05.4**	**+1.2**
PYL	**PYLOS**	**2.83**	**320**	*e*PN	**Pn**	**09 23 05.9**	**+1.7**
PYL	**PYLOS**	**2.83**	**320**	*e*Pn	**Pn**	**09 23 05.9**	**+1.7**
VLX	**Vlachokerasia**	**2.94**	**334**	*e*PB	**Pb**	**09 23 09.4**	**-2.9**
VLX	**Vlachokerasia**	**2.94**	**334**	*e*Pb	**Pb**	**09 23 09.4**	**-2.9**
ITM	**Ithomi**	**2.96**	**326**	*e*PN	**Pn**	**09 23 08.3**	**+2.2**
ITM	**Ithomi**	**2.96**	**326**	*e*Pn	**Pn**	**09 23 08.3**	**+2.2**
ATH	**Athens Observa**	**3.23**	**356**	*e*PN	**Pn**	**09 23 10.9**	**+1.2**
ATH	**Athens Observa**	**3.23**	**356**	*e*Pn	**Pn**	**09 23 10.9**	**+1.2**
PTL	**Penteli**	**3.30**	**358**	*e*PN	**Pn**	**09 23 12.4**	**+1.7**
PTL	**Penteli**	**3.30**	**358**	*e*Pn	**Pn**	**09 23 12.4**	**+1.7**
AMT	**Artemida-Makis**	**3.35**	**327**	*e*PB	Pn	09 23 15.5	+4.1
AMT	**Artemida-Makis**	**3.35**	**327**	*e*Pb	Pn	09 23 15.5	+4.1
LTK	**Loutraki**	**3.38**	**346**	P	**Pn**	**09 23 13.7**	**+1.9**
LTK	**Loutraki**	**3.38**	**346**	*e*PN	**Pn**	**09 23 13.7**	**+1.9**
LTK	**Loutraki**	**3.38**	**346**	P	**Pn**	**09 23 13.7**	**+1.9**
GUR	**Goura**	**3.46**	**337**	*e*PN	**Pn**	**09 23 15.0**	**+2.0**
GUR	**Goura**	**3.46**	**337**	*e*Pn	**Pn**	**09 23 15.0**	**+2.0**
KLV	**Kalavryta, Ach**	**3.62**	**336**	*e*PN	**Pn**	**09 23 17.8**	**+2.7**
KLV	**Kalavryta, Ach**	**3.62**	**336**	*e*Pn	**Pn**	**09 23 17.8**	**+2.7**
SMG	**Samos**	**3.73**	**37**	*e*PN	**Pn**	**09 23 18.5**	**+1.9**
SMG	**Samos**	**3.73**	**37**	*e*Pn	**Pn**	**09 23 18.5**	**+1.9**
LAKA	**Lakka**	**3.85**	**335**	*e*PN	**Pn**	**09 23 20.0**	**+1.7**
LAKA	**Lakka**	**3.85**	**335**	*e*Pn	**Pn**	**09 23 20.0**	**+1.7**
RLS	**Riolos of Patr**	**3.89**	**329**	*e*PN	**Pn**	**09 23 20.2**	**+1.4**
RLS	**Riolos of Patr**	**3.89**	**329**	*e*Pn	**Pn**	**09 23 20.2**	**+1.4**
TRIZ	**Trizonia**	**3.94**	**337**	*e*PN	**Pn**	**09 23 21.2**	**+1.8**
TRIZ	**Trizonia**	**3.94**	**337**	*e*Pn	**Pn**	**09 23 21.2**	**+1.8**
KALE	**Kalithea**	**3.94**	**338**	*e*PN	**Pn**	**09 23 21.6**	**+2.1**
KALE	**Kalithea**	**3.94**	**338**	*e*Pn	**Pn**	**09 23 21.6**	**+2.1**
LKR	**Lokris**	**3.98**	**348**	*e*PN	**Pn**	**09 23 21.4**	**+1.4**
LKR	**Lokris**	**3.98**	**348**	*e*Pn	**Pn**	**09 23 21.4**	**+1.4**
EFP	**Efpalio**	**4.05**	**336**	*e*PN	**Pn**	**09 23 22.1**	**+1.2**
EFP	**Efpalio**	**4.05**	**336**	*e*Pn	**Pn**	**09 23 22.1**	**+1.2**
VLS	**Valsamata**	**4.40**	**322**	*e*PN	**Pn**	**09 23 28.4**	**+2.6**
VLS	**Valsamata**	**4.40**	**322**	*e*Pn	**Pn**	**09 23 28.4**	**+2.6**
AGG	**Agios Georgios**	**4.48**	**343**	*e*PN	**Pn**	**09 23 28.3**	**+1.4**
AGG	**Agios Georgios**	**4.48**	**343**	*e*Pn	**Pn**	**09 23 28.3**	**+1.4**
EVR	**Evrytania**	**4.52**	**338**	*e*PN	**Pn**	**09 23 29.4**	**+1.8**
EVR	**Evrytania**	**4.52**	**338**	*e*Pn	**Pn**	**09 23 29.4**	**+1.8**
NEO	**Neokhori**	**4.59**	**352**	*e*PN	**Pn**	**09 23 29.9**	**+1.4**
NEO	**Neokhori**	**4.59**	**352**	*e*Pn	**Pn**	**09 23 29.9**	**+1.4**
LKD2	**Lefkada island**	**4.85**	**327**	*e*PN	**Pn**	**09 23 34.9**	**+2.9**
LKD2	**Lefkada island**	**4.85**	**327**	*e*Pn	**Pn**	**09 23 34.9**	**+2.9**
THL	**Klokotos Trika**	**5.07**	**342**	*e*PN	**Pn**	**09 23 37.0**	**+2.1**
THL	**Klokotos Trika**	**5.07**	**342**	*e*Pn	**Pn**	**09 23 37.0**	**+2.1**
BRTR	**Keskin Array B**	**9.13**	**54**	Pn	**Pn**	**09 24 31.8**	**+0.9**
	0.3nm,0.3s,baz=228,slow=15,SNR=8.0						
BRTR				Sn	**Sn**	**09 26 12.8**	**-0.2**
	0.1nm,0.3s,baz=234,slow=21,SNR=2.6						
MMAI	**Mount Meron Ar**	**9.62**	**97**	Pn	**Pn**	**09 24 39.2**	**+1.7**
	1.7nm,0.3s,baz=304,slow=10,SNR=3.5						
MMAI				Sn	**Sn**	**09 26 21.2**	**-3.6**
	1.8nm,0.3s,baz=297,slow=22,SNR=2.9						
EIL	**Elat**	**10.55**	**116**	Pn	**Pn**	**09 24 50.6**	**+0.4**
	0.5nm,0.3s,baz=330,slow=18,SNR=4.8						
EIL				Sn	**Sn**	**09 26 42.7**	**-4.9**
	1.2nm,0.3s,baz=12,slow=14,SNR=2.6						
GERES	**GERESS Array B**	**16.03**	**335**	Pn	**P**	**09 26 08.2**	**+0.6**
	0.3nm,0.3s,baz=148,slow=11,SNR=15						
AKASG	**Malin Array Be**	**16.39**	**12**	Pn	**Pn**	**09 26 08.4**	**-0.3**
	1.8nm,0.3s,baz=199,slow=10,SNR=3.8						
KBZ	**Khabaz**	**17.12**	**53**	P	**P**	**09 26 20.1**	**+0.5**
	0.2nm,0.3s,baz=233,slow=8.5,SNR=5.7						
ESDC	**Sonseca Array**	**22.78**	**291**	P	**P**	**09 27 19.3**	**-1.9**
	0.2nm,0.3s,baz=130,slow=13,SNR=2.5						
HFS	**Hagfors**	**26.28**	**348**	P	**P**	**09 27 52.9**	**-0.8**
	4.8nm,0.4s,baz=153,slow=11,SNR=30						
FINES	**FINESS Array B**	**26.75**	**2**	P	**P**	**09 27 55.3**	**-2.6**
	2.0nm,0.6s,baz=160,slow=12,SNR=6.2						
NB2	**NORSAR Subarra**	**27.57**	**347**	P	**P**	**09 28 04.3**	**-1.1**
	comp=Z,1.1nm,0.4s,baz=156,slow=9.3						
NOA	**NORSAR Array B**	**27.57**	**347**	P	**P**	**09 28 04.2**	**-1.1**
	comp=Z,1.9nm,0.6s,baz=150,slow=9.6,SNR=10						
ATD	**Arta Tunnel**	**28.77**	**139**	LR	LR	09 40 26.7	
	comp=Z,50nm,19.3s,baz=237,slow=38						
AKTO	**Aktyubinsk**	**29.21**	**47**	P	**P**	**09 28 20.0**	**-0.1**
	comp=Z,1.8nm,0.5s,baz=250,slow=11,SNR=6.9						
TORD	**Torodi Ar. Bea**	**29.51**	**229**	P	**P**	**09 28 23.2**	**+0.1**
	comp=Z,1.1nm,0.6s,baz=36,slow=7.6,SNR=11						
ARCES	**ARCESS Array B**	**34.85**	**1**	P	**P**	**09 29 07.7**	**-1.6**
	comp=Z,1.5nm,0.5s,baz=185,slow=9.7,SNR=18						
BVAR	**Borovoye Array**	**37.31**	**46**	P	**P**	**09 29 30.7**	**+0.2**
	comp=Z,0.6nm,0.4s,baz=284,slow=6.0,SNR=5.8						
AAK	**Ala-Archa**	**39.68**	**63**	P	**P**	**09 29 52.0**	**+1.2**
	comp=Z,1.8nm,0.3s,baz=297,slow=4.5,SNR=3.2						
KURBB	**Kurchatov Arra**	**42.10**	**51**	P	**P**	**09 30 10.6**	**+0.1**
	comp=Z,5.4nm,0.7s,baz=278,slow=8.6,SNR=66						
MKAR	**Makanchi Array**	**44.78**	**56**	P	**P**	**09 30 32.6**	**+0.5**
	comp=Z,3.8nm,0.4s,baz=270,slow=7.9,SNR=54						
ZALV	**Zalesovo Beam**	**45.96**	**46**	P	**P**	**09 30 41.0**	**-0.3**
	comp=Z,5.4nm,0.5s,baz=268,slow=9.7,SNR=12						
ZALV				LR	LR	09 50 06.7	
	comp=Z,22nm,21.3s,baz=249,slow=36						
SONM	**Songino Array**	**60.47**	**50**	P	**P**	**09 32 28.8**	**+0.5**
	comp=Z,1.4nm,0.5s,baz=284,slow=7.2,SNR=11						
SCHQ	**Schefferville**	**62.89**	**319**	P	**P**	**09 32 44.5**	**+0.1**
	comp=Z,5.5nm,0.8s,baz=63,slow=4.5,SNR=3.3						
USRK	**Ussuriysk Arra**	**77.79**	**44**	P	**P**	**09 34 15.7**	**+0.1**
	comp=Z,0.9nm,0.5s,baz=319,slow=5.7,SNR=3.7						
ILAR	**Eielson Array**	**80.55**	**356**	P	**P**	**09 34 30.4**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=1.5,slow=3.8,SNR=5.7						

TIR ***07*** *09:48:34.9±0.9, 41°.45N×20°.44E, h22km±8km, ML3.5*
BEO ***07*** *09:48:37.7±0.4, 41°.37N×20°.47E, h2km±2km, ML3.2/1*
ATH ***07*** *09:48:37.1, 41°.48N×20°.47E, h12km±3km, MD3.5/15*
PDG ***07*** *09:48:37.6±0.5, 41°.39N×20°.41E, h12km, MD3.7/2, ML3.6/12, Error ellipse: s-maj=0.7km s-min=0.8km az=0.0*
CSEM ***07*** *09:48:37.9±0.1, 41°.43N×20°.45E, h2km, ML3.6/2, Error ellipse: s-maj=3.6km s-min=2.2km az=54.0*
THE ***07*** *09:48:38.0, 41°.50N×20°.60E, h2km±2km, ML3.6/2, Error ellipse: s-maj=3.0km s-min=0.9km az=81.0*
IDC ***07*** *09:48:38.2±1.4, 41°.45N×20°.31E, h0km, mb3.3/3, mb1 3.5/7, mb1mx3.4/29, mbtmp3.4/7, ML3.1/3, MS2.5/1, Ms1 2.5/1, ms1mx1.8/25, Error ellipse: s-maj=16.8km s-min=14.0km az=177.0*
SKO ***07*** *09:48:38.6, 41°.39N×20°.44E, h12km, M3.1, ML3.4*

ISC 07 09:48:37.5±1.0, **41°46N**±0°02×**20°53E**±0°01, **h4**km±8km, **n161**, σ1$**40**/226, **18C-29D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHP	**Peshkopia**	**0.23**	**344**	*i* PG	**Pg**	**09 48 42.4**	**+0.3**
PHP				*i* SG	**Sg**	**09 48 46.9**	**+1.7**
PHP	**Peshkopia**	**0.23**	**344**	P	**Pg**	**09 48 42.4**	**+0.3**
PHP				S	**Sg**	**09 48 46.6**	**+1.4**
PHP	**Peshkopia**	**0.23**	**344**	P	**Pg**	**09 48 42.4**	**+0.3**
PHP				S	**Sg**	**09 48 46.6**	**+1.4**
TIR	**Tirane**	**0.51**	**258**	*i* PG	Pg	09 48 45.8	-1.6
TIR				*i* SG	**Sg**	**09 48 53.5**	**-0.5**
TIR	**Tirane**	**0.51**	**258**	P	**Pg**	**09 48 45.9**	**-1.4**
TIR				S	**Sg**	**09 48 53.2**	**-0.7**
TIR	**Tirane**	**0.51**	**258**	⇓*i*Pg	**Pg**	**09 48 45.9**	**-1.4**
TIR				*e*Sg	**Sg**	**09 48 53.1**	**-0.8**
TIR	**Tirane**	**0.51**	**258**	*e*Pb	**Pg**	**09 48 46.0**	**-1.4**
TIR				*e*Sb	**Sg**	**09 48 52.3**	**-1.6**
TIR				*e*Sg	**Sg**	**09 48 53.1**	**-0.8**
BIA	**Bitola**	**0.75**	**126**	P	**Pg**	**09 48 51.3**	**-0.5**
BIA				S	**Sn**	**09 49 04.8**	**-1.9**
BIA	**Bitola**	**0.75**	**126**	*i* Pg	**Pg**	**09 48 51.9**	**+0.1**
BIA				*i* Sg	**Sg**	**09 49 01.2**	**-0.3**
BIA	**Bitola**	**0.75**	**126**	*i* Pg	**Pg**	**09 48 51.4**	**-0.4**
BIA				*i* Sg	**Sn**	**09 49 04.7**	**-1.9**
PUK	**Puka**	**0.75**	**321**	*i* PG	**Pg**	**09 48 51.0**	**-1.0**
PUK				*i* SG	**Sg**	**09 49 02.8**	**+1.1**
PUK	**Puka**	**0.75**	**321**	*i* Pg	**Pg**	**09 48 51.0**	**-1.0**
	SNR=93						
PUK				*i* Sg	**Sg**	**09 49 02.8**	**+1.1**
	SNR=93						
SKO	**Skopje**	**0.85**	**53**	P	**Pg**	**09 48 53.4**	**-0.6**
SKO				S	**Sn**	**09 49 08.3**	**-1.0**
SKO	**Skopje**	**0.85**	**53**	*e*Pg	**Pb**	**09 48 54.4**	**-0.5**
SKO				*e*Sg	**Sn**	**09 49 08.6**	**-0.7**
SKO	**Skopje**	**0.85**	**53**	*i* Pg	**Pn**	**09 48 56.3**	**0.0**
SKO				*i* Sg	**Sg**	**09 49 01.7**	**-3.4**
SKO				*e*Lg	Lg	09 49 11.4	
	comp=E,485nm,0.3s						
SKO				*e*Lg	Lg	09 49 14.3	
	comp=N,2μm,0.4s						
SKO	**Skopje**	**0.85**	**53**	*i* Pg	**Pn**	**09 48 55.3**	**-1.0**
SKO				S	**Sn**	**09 49 08.3**	**-1.0**
SKO				*e*Lg	Lg	09 49 13.3	
	comp=N,2μm,0.4s						
KBN	**Korca**	**0.86**	**167**	P	**Pg**	**09 48 54.1**	**+0.1**
KBN				S	**Sb**	**09 49 08.2**	**+1.3**
KBN	**Korca**	**0.86**	**167**	P	**Pg**	**09 48 54.1**	**+0.1**
FNA	**Florina**	**0.93**	**136**	P	**Pg**	**09 48 55.1**	**-0.3**
FNA				S	**Sb**	**09 49 09.5**	**+0.5**
FNA	**Florina**	**0.93**	**136**	*e*PG	**Pg**	**09 48 55.3**	**-0.1**
FNA				*e*SB	**Sb**	**09 49 08.4**	**-0.6**
FNA	**Florina**	**0.93**	**136**	*e*Pg	**Pg**	**09 48 55.3**	**-0.1**
FNA				*e*Sb	**Sb**	**09 49 08.4**	**-0.6**
FNA				S	**Sb**	**09 49 09.5**	**+0.5**
BCI	**Bajram Curri**	**0.97**	**340**	*i* PG	**Pg**	**09 48 54.1**	**-2.0**
BCI	**Bajram Curri**	**0.97**	**340**	*i* Pg	**Pg**	**09 48 54.1**	**-2.0**
	SNR=92						
ULC	**Ulcinj**	**1.08**	**298**	⇓*i*Pg	Pb	09 48 56.2	-2.6
ULC				*e*Sg	**Sb**	**09 49 13.1**	**-0.2**
ULC	**Ulcinj**	**1.08**	**298**	⇓*i*Pg	Pb	09 48 56.2	-2.6
ULC				*e*Sg	**Sb**	**09 49 13.1**	**-0.2**
NEST	**Nestorio**	**1.12**	**159**	P	**Pb**	**09 48 58.8**	**-0.6**
NEST				S	**Sn**	**09 49 15.8**	**0.0**
NEST	**Nestorio**	**1.12**	**159**	P	**Pb**	**09 48 58.8**	**-0.6**
PVY	**Plav**	**1.21**	**340**	⇑*i*Pg	**Pb**	**09 49 00.9**	**-0.2**
PVY				*e*Sg	**Sn**	**09 49 20.4**	**+2.2**
PVY	**Plav**	**1.21**	**340**	⇑*i*Pg	**Pb**	**09 49 00.9**	**-0.2**
PVY				*e*Sg	**Sn**	**09 49 20.4**	**+2.2**
DRME	**Dracevica, Mon**	**1.24**	**306**	⇓*i*Pg	**Pn**	**09 48 59.2**	**-2.4**
DRME				*e*Sg	**Sn**	**09 49 18.9**	**+0.2**
DRME	**Dracevica, Mon**	**1.24**	**306**	⇓*i*Pg	**Pn**	**09 48 59.2**	**-2.4**
DRME				*e*Sg	**Sn**	**09 49 18.9**	**+0.2**
PDG	**Podgorica**	**1.36**	**316**	P	**Pn**	**09 49 01.8**	**-1.4**
PDG				S	**Sg**	**09 49 23.1**	**+2.0**
PDG	**Podgorica**	**1.36**	**316**	⇓*i*Pg	**Pn**	**09 49 01.7**	**-1.4**
PDG				*e*Sg	**Sg**	**09 49 22.0**	**+0.9**
PDG	**Podgorica**	**1.36**	**316**	P	**Pn**	**09 49 01.8**	**-1.4**
PDG				*e*Sg	**Sg**	**09 49 22.0**	**+0.9**
PDG				S	**Sg**	**09 49 23.1**	**+2.0**
TTG	**Podgorica**	**1.36**	**316**	⇑*i*Pg	**Pn**	**09 49 01.7**	**-1.4**
TTG				*e*Sg	**Sg**	**09 49 23.2**	**+2.1**
BUM	**Brajici-Budva**	**1.48**	**305**	⇑*i*Pg	**Pn**	**09 49 04.1**	**-0.9**
BUM				*e*Sg	**Sg**	**09 49 26.5**	**+1.4**
BUM	**Brajici-Budva**	**1.48**	**305**	⇑*i*Pg	**Pn**	**09 49 04.1**	**-0.9**
BUM				*e*Sg	**Sg**	**09 49 26.5**	**+1.4**
BEY	**Berane**	**1.49**	**342**	⇓*i*Pg	**Pb**	**09 49 05.5**	**-0.3**
BEY				*e*Sg	**Sg**	**09 49 27.3**	**+1.9**
IVA	**Berane**	**1.49**	**342**	⇓*i*Pg	**Pb**	**09 49 05.5**	**-0.3**
IVA				*e*Sg	**Sg**	**09 49 27.3**	**+1.9**
KZN	**Kozani**	**1.49**	**140**	*e*PB	**Pb**	**09 49 06.1**	**+0.3**
KZN				*e*SB	**Sg**	**09 49 27.9**	**+2.5**
KZN	**Kozani**	**1.49**	**140**	*e*Pb	**Pb**	**09 49 06.1**	**+0.3**
KZN				*e*Sb	**Sg**	**09 49 27.9**	**+2.5**
VAY	**Valandovo**	**1.54**	**94**	P	**Pb**	**09 49 05.8**	**-0.9**
VAY				S	**Sg**	**09 49 28.2**	**+1.0**
VAY	**Valandovo**	**1.54**	**94**	⇑*i*Pn	**Pb**	**09 49 05.6**	**-1.1**
VAY				*e*Sg	**Sg**	**09 49 27.6**	**+0.4**
VAY	**Valandovo**	**1.54**	**94**	*i* Pn	Pn	09 49 01.2	-4.6
VAY				*e*Lg	Lg	09 49 34.5	
	comp=N,290nm,0.6s						
VAY				*e*Lg	Lg	09 49 36.3	
	comp=E,232nm,0.6s						
VAY	**Valandovo**	**1.54**	**94**	P	**Pb**	**09 49 05.8**	**-0.9**
VAY				*e*Sg	**Sg**	**09 49 27.6**	**+0.4**
VAY				S	**Sg**	**09 49 28.2**	**+1.0**
VAY				*e*Lg	Lg	09 49 35.7	
	comp=E,232nm,0.6s						
BARS	**Barje**	**1.66**	**35**	*e*Pn	**Pg**	**09 49 09.2**	**-0.2**
BARS	**Barje**	**1.66**	**35**	*e*Pn	**Pg**	**09 49 09.2**	**-0.2**
NKME	**Niksic**	**1.75**	**319**	⇑*i*Pn	**Pn**	**09 49 08.7**	**0.0**
NKME				*e*Sn	**Sb**	**09 49 33.8**	**+1.2**
NKME	**Niksic**	**1.75**	**319**	⇑*i*Pn	**Pn**	**09 49 08.7**	**0.0**
NKME				*e*Sn	**Sb**	**09 49 33.8**	**+1.2**
NKY	**Niksic**	**1.77**	**320**	⇓*i*Pn	**Pn**	**09 49 09.2**	**+0.2**
NKY				*e*Sn	**Sb**	**09 49 34.1**	**+1.0**
NKY	**Niksic**	**1.77**	**320**	⇓*i*Pn	**Pn**	**09 49 09.2**	**+0.2**
NKY				*e*Sn	**Sb**	**09 49 34.1**	**+1.0**
HCY	**Herceg Novi**	**1.81**	**304**	⇓*i*Pn	**Pn**	**09 49 09.1**	**-0.3**
HCY				*e*Sn	**Sb**	**09 49 34.3**	**+0.1**
HCY	**Herceg Novi**	**1.81**	**304**	⇓*i*Pn	**Pn**	**09 49 09.1**	**-0.3**
HCY				*e*Sn	**Sb**	**09 49 34.3**	**+0.1**
SELS	**Selova**	**1.81**	**14**	*e*Pn	**Pb**	**09 49 10.1**	**-1.2**
JAN	**Janina**	**1.82**	**172**	*e*PG	**Pb**	**09 49 11.9**	**+0.5**
JAN	**Janina**	**1.82**	**172**	*e*Pg	**Pb**	**09 49 11.9**	**+0.5**
KEK	**Kerkira**	**1.83**	**198**	P	**Pn**	**09 49 10.1**	**+0.4**
KEK	**Kerkira**	**1.83**	**198**	*e*PN	**Pn**	**09 49 09.6**	**-0.1**
KEK				*e*SN	**Sn**	**09 49 34.3**	**+1.0**
KEK	**Kerkira**	**1.83**	**198**	*e*Pn	**Pn**	**09 49 09.6**	**-0.1**
KEK	**Kerkira**	**1.83**	**198**	P	**Pn**	**09 49 10.1**	**+0.4**
KEK				*e*Sn	**Sn**	**09 49 34.3**	**+1.0**
SJES	**Sjenica**	**1.85**	**347**	⇓*i*Pn	**Pb**	**09 49 11.3**	**-0.6**
SJES				*e*Sg	**Sg**	**09 49 37.8**	**+0.9**
IGT	**Igoumenitsa**	**1.93**	**184**	P	**Pn**	**09 49 12.4**	**+1.3**
IGT	**Igoumenitsa**	**1.93**	**184**	P	**Pn**	**09 49 12.4**	**+1.3**
LIT	**Litokhoron**	**2.02**	**132**	*e*PN	**Pb**	**09 49 13.7**	**-1.0**
LIT	**Litokhoron**	**2.02**	**132**	*e*PN	**Pb**	**09 49 13.7**	**-1.0**
TREB	**Trebinje**	**2.05**	**309**	*e*Pn	**Pn**	**09 49 13.4**	**+0.7**
TREB				*e*Sg	**Sg**	**09 49 44.3**	**+0.9**
TREB	**Trebinje**	**2.05**	**309**	*e*Pn	**Pn**	**09 49 13.4**	**+0.7**
TREB				*e*Sg	**Sg**	**09 49 44.3**	**+0.9**
PLE	**Pljevlja**	**2.05**	**336**	⇑*i*Pn	**Pb**	**09 49 14.0**	**-1.4**
PLE				*e*Sn	**Sb**	**09 49 41.7**	**+0.5**
PLE	**Pljevlja**	**2.05**	**336**	⇑*i*Pn	**Pb**	**09 49 14.0**	**-1.4**
PLE				*e*Sn	**Sb**	**09 49 41.7**	**+0.5**
BRY	**Bratogost**	**2.06**	**315**	⇓*i*Pn	**Pn**	**09 49 13.6**	**+0.5**
BRY				*e*Sn	**Sb**	**09 49 41.1**	**-0.5**
BRY	**Bratogost**	**2.06**	**315**	⇓*i*Pn	**Pn**	**09 49 13.6**	**+0.5**
BRY				*e*Sn	**Sb**	**09 49 41.1**	**-0.5**
UPM	**Unac-Piva**	**2.12**	**326**	⇑*i*Pn	**Pn**	**09 49 14.2**	**+0.4**
UPM				*e*Sn	**Sb**	**09 49 42.6**	**-0.6**
UPM	**Unac-Piva**	**2.12**	**326**	⇑*i*Pn	**Pn**	**09 49 14.2**	**+0.4**
UPM				*e*Sn	**Sb**	**09 49 42.6**	**-0.6**
THL	**

LBRS	Las Brisas	0.72	56	⇓*i*P	Pn	09 52 50.6	+0.4
RBDL	Robledal	0.78	358	*e*P	Pn	09 52 51.5	+0.4
SNVI	San Vicente	0.85	71	⇓*e*P	Pn	09 52 51.6	-0.4
SNVI				*e*S	Sn	09 53 03.5	+0.1
VSM	San Miguel	1.35	86	*e*P	Pn	09 52 58.6	-0.5
VSM				*e*S	Sn	09 53 17.3	+1.3
NBG	Las Nubes	1.42	332	*e*P	Pn	09 53 01.3	+1.3
CAHU	Cacacuatique	1.47	73	*e*P	Pn	09 53 00.5	-0.2
FUG	Fuego 3	1.60	314	*e*P	Pn	09 53 02.5	+0.1
FUG				*e*S	Sn	09 53 23.0	+1.1
MRL	Marmol	1.73	359	*e*P	Pn	09 53 05.9	+1.8
CNCH	Conchagua	1.78	92	*e*P	Pn	09 53 04.2	-0.5
CNCH				*e*S	Sn	09 53 26.9	+0.6
JAT	Jato	2.16	297	*e*P	Pn	09 53 10.3	+0.5
JAT				*e*S	Sn	09 53 35.6	+0.3

WEL 07 10:17:00.3±0.3, 38°59S×175°72E, h160km±2km, ML3.7/17, 18C-2D, Error ellipse: s-maj=1.6km s-min=1.4km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLZ	Tolley Road	0.30	331	PN	Pn	10 17 22.3	+0.1
TLZ				SN	Sn	10 17 38.8	-0.1
KATZ	Kakaramea	0.38	183	PN	Pn	10 17 22.5	-0.1
KRVZ	Karewarewa	0.51	187	PN	Pn	10 17 23.0	0.0
TWVZ	Taurewa	0.53	205	⇑PN	Pn	10 17 23.0	-0.1
WTVZ	West Tongariro	0.53	191	⇑PN	Pn	10 17 23.2	+0.1
WTVZ				SN	Sn	10 17 40.2	-0.6
OTVZ	Oturere	0.57	184	PN	Pn	10 17 23.4	0.0
OTVZ				SN	Sn	10 17 40.5	-0.7
NGZ	Ngauruhoe	0.59	189	PN	Pn	10 17 23.3	-0.2
WPVZ	Whakapapa	0.63	193	⇑PN	Pn	10 17 23.7	+0.1
FWVZ	Far West T-bar	0.68	191	⇑PN	Pn	10 17 24.1	0.0
TUVZ	Tukino	0.68	185	⇑PN	Pn	10 17 24.1	+0.1
TUVZ				SN	Sn	10 17 41.3	-0.9
HIZ	Hauiti	0.68	276	⇑PN	Pn	10 17 23.8	0.0
HIZ				SN	Sn	10 17 41.4	-0.4
WHVZ	Whangaehu Hut	0.70	189	⇑PN	Pn	10 17 24.3	0.0
TRVZ	Turoa	0.72	191	PN	Pn	10 17 24.4	+0.1
WNVZ	Wahianoa	0.74	187	⇑PN	Pn	10 17 24.5	+0.1
PKVZ	Pokaka	0.76	203	⇑PN	Pn	10 17 24.3	0.0
MOVZ	Moawhango	0.81	178	⇑PN	Pn	10 17 24.6	-0.2
MTVZ	Mangateitei	0.82	194	PN	Pn	10 17 24.7	-0.1
BKZ	Black Stump Fm	0.83	134	⇑PN	Pn	10 17 24.9	0.0
BKZ				AML	AML	10 17 42.6	
VRZ	Vera Road	0.92	234	PN	Pn	10 17 25.4	-0.1
BHHZ	Black Hill Sta	0.93	164	PN	Pn	10 17 25.5	-0.2
NMHZ	Naumai	0.99	121	PN	Pn	10 17 27.1	+1.1
URZ	Urewera	1.14	74	⇓PN	Pn	10 17 26.8	-0.4
MCHZ	McNeill Hill	1.14	139	PN	Pn	10 17 28.3	+1.0
WAZ	Wanganui	1.30	206	⇑PN	Pn	10 17 28.6	-0.1
PNHZ	Pukenui	1.37	164	⇑PN	Pn	10 17 29.3	-0.1
MWZ	Matawai	1.44	80	⇓PN	Pn	10 17 30.0	-0.1
KAHZ	Kahuranaki	1.50	144	PN	Pn	10 17 31.1	+0.4
WPHZ	Waipukurau	1.57	160	PN	Pn	10 17 31.4	0.0
KNZ	Kokohu	1.58	106	⇑PN	Pn	10 17 31.8	+0.4
PXZ	Pawanui	1.69	149	⇑PN	Pn	10 17 32.6	0.0
PRGZ	Paritu Road	1.72	102	PN	Pn	10 17 33.2	+0.2
DVHZ	Dannevirke	1.74	162	⇑PN	Pn	10 17 32.6	-0.6
MHGZ	Mahia Peninsul	1.79	109	PN	Pn	10 17 34.3	+0.5
POWZ	Post Office Ro	1.80	179	⇑PN	Pn	10 17 33.1	-0.7
PRHZ	Porangahau	1.82	157	PN	Pn	10 17 33.9	-0.1
ANWZ	Angora Road	1.96	163	PN	Pn	10 17 35.3	-0.2
PRWZ	Pori Road	1.97	174	PN	Pn	10 17 35.1	-0.6
PUZ	Puketiti	2.06	76	PN	Pn	10 17 36.6	-0.2
MRZ	Mangatainoka R	2.07	183	⇑PN	Pn	10 17 35.8	-1.1
MRZ				AML	AML	10 18 04.2	
MRZ				AML	AML	10 18 04.3	
BFZ	Birch Farm	2.13	169	PN	Pn	10 17 36.8	-0.7
TIWZ	Tintock	2.19	177	PN	Pn	10 17 37.2	-1.0
OGWZ	Otaki Gorge	2.26	191	PN	Pn	10 17 38.0	-1.1
MXZ	Matakaoa Point	2.28	64	PN	Pn	10 17 39.5	+0.1
HOWZ	Holdsworth Sta	2.31	184	PN	Pn	10 17 38.2	-1.5
KIW	Kapiti Island	2.35	195	PN	Pn	10 17 38.7	-1.4
TMWZ	Te Maipa	2.52	177	PN	Pn	10 17 40.7	-1.5
CAW	Cannon Point	2.56	191	PN	Pn	10 17 41.0	-1.6
MTW	Mount Morrison	2.57	184	PN	Pn	10 17 40.9	-1.8
DUWZ	D'Urville Isla	2.61	212	PN	Pn	10 17 41.5	-1.7
PAWZ	Paruwai Farm	2.80	185	PN	Pn	10 17 43.5	-2.0
TRWZ	Traveller	2.80	181	PN	Pn	10 17 43.8	-1.8
MSWZ	Moikau Station	2.84	187	PN	Pn	10 17 44.0	-2.1
TCW	Tory Channel	2.84	203	PN	Pn	10 17 44.1	-1.9
BHW	Baring Head	2.89	193	PN	Pn	10 17 44.4	-2.2
PLWZ	Palliser	3.00	187	PN	Pn	10 17 45.7	-2.4
TUWZ	Tuamarina	3.15	205	PN	Pn	10 17 47.3	-2.6
NNZ	Nelson	3.18	214	PN	Pn	10 17 47.8	-2.5
QRZ	Quartz Range	3.32	227	PN	Pn	10 17 49.3	-2.8
THZ	Tophouse	3.83	213	PN	Pn	10 17 55.9	-2.8
KHZ	Kahutara	4.17	203	PN	Pn	10 18 00.3	-2.6
LTZ	Lake Taylor	4.94	211	*e*PN	Pn	10 18 09.3	-3.8
MQZ	McQueen's Vall	5.61	203	PN	Pn	10 18 17.3	-4.5

MEX 07 10:17:52.9±0.8, 15°51N×93°10W, h97km±6km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		0.23	329	*e*P	Pn	10 18 05.1	-1.8
PCIG				*i* S	Sn	10 18 15.9	-1.3
THIG		1.00	127	*i* P	Pn	10 18 11.9	-1.2
THIG				*i* S	Sn	10 18 26.0	-2.2
CCIG	Comitan	1.20	50	*e*P	Pn	10 18 14.7	-0.9
CCIG				*i* S	Sn	10 18 31.7	-1.1
TGIG		1.26	359	*e*P	Pn	10 18 14.8	-1.4
TGIG				*i* S	Sn	10 18 31.9	-2.0
CMIG	Matias Romero	2.33	313	*i* P	Pn	10 18 29.1	-0.6
CMIG				*i* S	Sn	10 18 56.5	-1.4

IDC 07 10:36:40.6±8.9, 14°48S×167°31E, h186km±94km, mb3.1/3, mb1 3.3/4, mb1mx3.1/20, mbtmp3.1/4, Error ellipse: s-maj=83.9km s-min=27.9km az=161.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	7.60	186	P	Pn	10 38 29.9	+1.2
	0.6nm,0.3s,baz=40,slow=16,SNR=7.0						
DZM				S	Sn	10 39 53.1	-1.3
	0.1nm,0.3s,baz=209,slow=19,SNR=1.8						
WRA	Warramunga Arr	31.92	256	P	P	10 42 48.9	0.0
	0.2nm,0.4s,baz=86,slow=9.3,SNR=12						
ASAR	Alice Springs	32.80	249	P	P	10 42 56.5	-0.1
	0.3nm,0.4s,baz=75,slow=9.6,SNR=15						
ILAR	Eielson Array	86.28	18	P	P	10 49 00.6	-0.3
	0.5nm,0.7s,baz=233,slow=5.2,SNR=8.4						
ARCES	ARCESS Array B	120.02	345	PKP	PKPdf	10 55 08.7	+0.2
	1.6nm,0.9s,baz=90,slow=1.3,SNR=3.9						

MEX 07 10:41:19.0±0.3, 16°03N×97°61W, h29km±22km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.62	306	*e*P	Pb	10 41 29.4	-2.0
PNIG				*i* S	Sb	10 41 37.5	-2.3
HUIG	Huatulco	1.47	100	*i* P	Pn	10 41 41.4	-2.1
HUIG				*i* S	Sn	10 41 58.8	-3.0
CMIG	Matias Romero	2.82	68	*e*P	Pn	10 42 01.0	-1.1
CMIG				*i* S	Sn	10 42 32.5	-2.6

IDC 07 10:52:33.1±4.3, 15°88S×174°86W, h70km±66km, mb3.5/4, mb1 3.7/5, mb1mx3.4/19, mbtmp3.6/5, ML2.3/1, Error ellipse: s-maj=131.5km s-min=25.9km az=132.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	3.57	57	P	Pn	10 53 26.0	-0.2
	14nm,0.3s,baz=267,slow=23,SNR=28						
AFI				S	Sn	10 54 01.3	-6.0
	66nm,0.3s,baz=18,slow=23,SNR=19						
STKA	Stephens Creek	42.58	240	P	P	11 00 22.8	+0.4
	1.2nm,0.7s,baz=76,slow=12,SNR=2.8						
WRA	Warramunga Arr	48.36	257	P	P	11 01 08.2	-0.1
	0.2nm,0.5s,baz=91,slow=7.5,SNR=14						
WRA				pP	pP	11 01 22.5	-3.4
	0.3nm,0.7s,baz=96,slow=6.0,SNR=2.5						
ASAR	Alice Springs	48.62	252	P	P	11 01 09.8	-0.5
	1.3nm,0.7s,baz=88,slow=8.0,SNR=24						
PETK	Petropavlovsk-	72.67	343	P	P	11 03 53.5	+0.4
	1.5nm,0.9s,baz=111,slow=7.9,SNR=3.1						
BRTR	Keskin Array B	145.62	319	PKPbc	PKPdf	11 12 02.9	-1.0
	0.9nm,0.9s,baz=75,slow=1.6,SNR=2.9						

KRSC 07 11:19:37.5±1.0, 49°05N×156°44E, h5km±5km, ML3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.65	353	P	Pn	11 20 06.3	-0.8
SKR				S	Sn	11 20 27.1	-1.5
PAU	Pauzhetka	2.43	5	P	Pn	11 20 18.1	+0.3
PAU				S	Sn	11 20 48.3	+0.3
MIPR	Malaya Ipel'ka	3.24	3	P	Pn	11 20 30.3	+1.4
ASAK	Asacha	3.46	15	P	Pn	11 20 34.6	+2.4
ASAK				S	Sn	11 21 16.4	+2.8
MTVR	Mutnovka	3.61	17	P	Pn	11 20 35.1	+0.8
MTVR				S	Sn	11 21 17.5	+0.1
RUS	Russkaya	3.63	20	P	Pn	11 20 36.4	+2.0
RUS				S	Sn	11 21 19.4	+1.8
PET	Petropavlovsk	4.22	18	P	Pn	11 20 45.6	+3.2
PET				S	Sn	11 21 35.6	+3.7
UGLR	Uglovaya	4.43	19	P	Pn	11 20 48.0	+2.6
AVH	Avacha	4.46	18	P	Pn	11 20 49.1	+3.2
KOK	Koryaka	4.47	17	P	Pn	11 20 49.1	+3.1
KRER	Koryakskii	4.50	18	P	Pn	11 20 49.6	+3.0
SDLR	Sedlovina	4.50	19	P	Pn	11 20 48.3	+1.8
KRX	Arik	4.53	17	P	Pn	11 20 49.4	+2.5
SPN	Mys Shipunski	4.64	28	P	Pn	11 20 50.0	+1.8
SPN				S	Sn	11 21 42.6	+0.2
GNL	Ganaly	4.75	11	P	Pn	11 20 52.5	+2.7
MKZ	Mys Kozlova	6.42	29	P	Pn	11 21 13.4	+0.9
KBTR	Krutoberegovo	8.15	26	P	Pn	11 21 37.9	+1.6

*ISCJB **07** 11:28:13.0±0.4, 59°03N±0°03×22°18E±0°05, h0km, Error ellipse: s-maj=4.4km s-min=3.8km az=0.3*
*CSEM **07** 11:28:13.8±0.2, 58°98N×22°16E, h1km, ML1.9, Error ellipse: s-maj=5.0km s-min=3.6km az=1.0, Mining explosion.*
*UPP **07** 11:28:14.2, 58°97N×22°05E, h0km, ML2.0, Suspected Mining explosion.*
*HEL **07** 11:28:15.4±0.3, 59°04N×22°27E, h0km, ML1.9, ML2.0(UPP), Explosion*
*IDC **07** 11:28:16.4±3.2, 59°22N×22°00E, h0km, mb1 3.1/3, mb1mx2.9/27, mbtmp2.9/3, ML3.0/2, Error ellipse: s-maj=39.6km s-min=10.8km az=170.0*

ISC 07 11:28:12.5±0.8, 59°01N±0°03×22°09E±0°03, h0km, n40, σ1§43/57, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTSE	Matsula	0.94	107	*e*P	Pg	11 28 30.7	+0.2
MTSE				*e*S	Sg	11 28 41.9	-0.8
MTSE	Matsula	0.94	107	P	Pg	11 28 30.7	+0.2
MTSE				S	Sg	11 28 41.9	-0.8
SLIT	Slitere, Latvi	1.39	176	*e*P	Pg	11 28 38.8	-0.2
	SNR=50						
SLIT				*e*S	Sn	11 29 00.0	+2.0
	SNR=50						
MEF	Metsahovi	1.69	43	*e*P	Pb	11 28 44.0	-0.3
MEF				*e*S	Sn	11 29 05.2	-0.2
MEF				MSG		11 29 10.7	
	comp=Z,9.2nm,0.1s						
MEF	Metsahovi	1.69	43	P	Pb	11 28 44.0	-0.3
MEF				*e*S	Sn	11 29 05.7	+0.3
	comp=Z,14nm,0.5s,SNR=50						
NRTU	Norrtaelje	1.90	292	P	Pb	11 28 47.6	-0.3
NRTU	Norrtaelje	1.90	292	P	Pb	11 28 47.5	-0.3
RAF	Rauma	2.03	356	*e*P	Pb	11 28 50.0	-0.1
RAF				*e*S	Sb	11 29 15.8	-0.1
RAF				MSG		11 29 19.4	
	comp=Z,6.6nm,0.1s						
RAF	Rauma	2.03	356	*e*P	Pb	11 28 49.6	-0.5
	SNR=50						
RAF				S	Sb	11 29 15.8	-0.1
NYNU	Nynaeshamn	2.11	272	P	Pb	11 28 50.7	-0.9
NYNU	Nynaeshamn	2.11	272	P	Pb	11 28 50.7	-0.9
FORU	Forsmark	2.42	307	P	Pb	11 28 56.3	-0.5
FORU	Forsmark	2.42	307	P	Pb	11 28 56.3	-0.5
FLYU	Flymyra	2.42	299	P	Pn	11 28 55.0	+1.8
FLYU	Flymyra	2.42	299	P	Pn	11 28 55.0	+1.8
PVF	Pernaja	2.45	49	*e*P	Pb	11 28 55.8	-1.6
PVF				*e*S	Sn	11 29 24.2	-0.1
PVF				MSG		11 29 30.6	
	comp=Z,7.5nm,0.1s						
PVF	Pernaja	2.45	49	P	Pb	11 28 55.7	-1.6
PVF				S	Sn	11 29 24.1	-0.1
VSU	Vasula	2.48	101	*e*P	Pb	11 28 56.4	-1.5
VSU				*e*S	Sn	11 29 24.6	-0.5
VSU	Vasula	2.48	101	P	Pb	11 28 56.3	-1.5
VSU				S	Sn	11 29 24.5	-0.5
BACU	Backbrunna	2.68	291	P	Pn	11 28 58.5	+1.7
BACU	Backbrunna	2.68	291	P	Pn	11 28 58.5	+1.7
ESKU	Eskilstuna	2.95	277	P	Pn	11 29 02.3	+1.9
ESKU	Eskilstuna	2.95	277	P	Pn	11 29 02.3	+1.9
IGGU	Iggoen	3.04	310	P	Pn	11 29 03.5	+1.7
IGGU	Iggoen	3.04	310	P	Pn	11 29 03.5	+1.7
FIA0	FINESS Array S	3.15	37	*e*P	Pn	11 29 05.4	+2.2
FIA0				*e*S	Sn	11 29 41.2	-0.3
FIA0	FINESS Array S	3.15	37	P	Pn	11 29 05.4	+2.2
FIA0				S	Sn	11 29 41.2	-0.3
FINES	FINESS Array B	3.15	37	Pn	Pn	11 29 05.3	+2.0
	comp=Z,0.1nm,0.3s,baz=220,slow=12,SNR=6.7						
FINES				Sn	Sn	11 29 42.4	+0.9
	comp=Z,0.6nm,0.3s,baz=227,slow=20,SNR=5.4						
VSTU	Vaesterwik	3.23	248	P	Pn	11 29 05.7	+1.4
VSTU	Vaesterwik	3.23	248	P	Pn	11 29 05.7	+1.4
KEF	Keuruu	3.45	22	*e*P	Pn	11 29 09.9	+2.4
KEF				*e*S	Sn	11 29 48.3	-0.7
KEF	Keuruu	3.45	22	P	Pn	11 29 09.8	+2.4
KEF				S	Sn	11 29 48.2	-0.7
ARNU	Arnoeviken	3.57	321	P	Pn	11 29 10.6	+1.6
ARNU	Arnoeviken	3.57	321	P	Pn	11 29 10.6	+1.6
NRAU	Nora	3.66	282	P	Pn	11 29 12.2	+1.9
NRAU	Nora	3.66	282	P	Pn	11 29 12.1	+1.9
HASU	Hassela	4.15	322	P	Pn	11 29 18.3	+1.3
HASU	Hassela	4.15	322	P	Pn	11 29 18.3	+1.3
NOA	NORSAR Array B	5.82	295	Pn	Pn	11 29 40.5	+0.5
	comp=Z,0.3nm,0.3s,baz=102,slow=13,SNR=5.2						
NOA				Sn	Sn	11 30 43.3	-4.1
	comp=Z,0.1nm,0.3s,baz=110,slow=15,SNR=2.3						
NOA				Lg	Lg	11 31 13.9	
	comp=Z,0.5nm,0.3s,baz=75,slow=19,SNR=7.2						
ARCES	ARCESS Array B	10.67	6	Pn	Pn	11 30 44.9	-1.5
	comp=Z,0.2nm,0.3s,baz=188,slow=13,SNR=3.2						

WEL 07 11:29:04.5±0.3, 36°90S×177°21E, h178km±3km, ML3.7/13, 3C, Error ellipse: s-maj=4.5km s-min=3.4km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.10	127	PN	Pn	11 29 32.7	0.0
MXZ				SN	Sn	11 29 54.7	+0.1
URZ	Urewera	1.36	183	⇑PN	Pn	11 29 35.0	+0.1
URZ				SN	Sn	11 29 58.4	-0.2
PUZ	Puketiti	1.44	145	⇑PN	Pn	11 29 35.7	+0.1
PUZ				SN	Sn	11 29 59.1	-0.8
TARZ	Mount Tarawera	1.45	203	*e*PN	Pn	11 29 37.0	+1.1
MWZ	Matawai	1.45	170	PN	Pn	11 29 35.9	+0.1
MWZ				SN	Sn	11 30 00.3	-0.1
MWZ				AML	AML	11 30 01.7	
MWZ				AML	AML	11 30 01.8	
MWZ				AML	AML	11 30 02.1	
CNGZ	Carnagh Statio	1.77	154	PN	Pn	11 29 39.2	+0.3
RAHZ	Arahi	2.02	183	PN	Pn	11 29 41.6	+0.1
PRGZ	Paritu Road	2.09	165	PN	Pn	11 29 41.9	-0.5
KNZ	Kokohu	2.15	170	⇑PN	Pn	11 29 42.4	-0.5
KNZ				*e*SN	Sn	11 30 11.7	-1.3
NMHZ	Naumai	2.22	188	PN	Pn	11 29 43.8	-0.1
MHGZ	Mahia Peninsul	2.31	166	PN	Pn	11 29 44.2	-0.7
BKZ	Black Stump Fm	2.33	194	PN	Pn	11 29 44.3	-0.9
MCHZ	McNeill Hill	2.57	189	PN	Pn	11 29 47.4	-0.5
TUVZ	Tukino	2.66	207	PN	Pn	11 29 48.7	-0.4
FWVZ	Far West T-bar	2.69	209	PN	Pn	11 29 49.2	-0.3
WHVZ	Whangaehu Hut	2.70	208	PN	Pn	11 29 49.1	-0.6
WNVZ	Wahianoa	2.74	207	PN	Pn	11 29 49.3	-0.7
BHHZ	Black Hill Sta	2.74	199	PN	Pn	11 29 48.6	-1.3
MOVZ	Moawhango	2.75	204	PN	Pn	11 29 48.9	-1.2
KAHZ	Kahuranaki	2.90	185	PN	Pn	11 29 50.8	-1.0
PNHZ	Pukenui	3.11	194	PN	Pn	11 29 52.5	-1.9
PXZ	Pawanui	3.14	185	PN	Pn	11 29 52.8	-1.8
WPHZ	Waipukurau	3.22	191	PN	Pn	11 29 53.8	-1.8
PRHZ	Porangahau	3.39	187	PN	Pn	11 29 55.9	-1.9
DVHZ	Dannevirke	3.49	193	PN	Pn	11 29 56.5	-2.6
ANWZ	Angora Road	3.60	189	PN	Pn	11 29 58.3	-2.1
PRWZ	Pori Road	3.78	195	PN	Pn	11 30 00.4	-2.2
BFZ	Birch Farm	3.85	191	PN	Pn	11 30 00.9	-2.6
MRZ	Mangatainoka R	3.97	198	PN	Pn	11 30 02.1	-2.9
TIWZ	Tintock	4.01	195	PN	Pn	11 30 02.7	-2.8
HOWZ	Holdsworth Sta	4.21	198	PN	Pn	11 30 04.7	-3.4
OGWZ	Otaki Gorge	4.22	202	PN	Pn	11 30 05.2	-3.0
TMWZ	Te Maipa	4.33	193	PN	Pn	11 30 06.6	-3.1
KIW	Kapiti Island	4.34	204	PN	Pn	11 30 06.6	-3.3
MTW	Mount Morrison	4.46	197	PN	Pn	11 30 07.5	-3.8
CAW	Cannon Point	4.52	201	PN	Pn	11 30 08.4	-3.7
TCW	Tory Channel	4.87	207	PN	Pn	11 30 13.1	-3.6
PLWZ	Palliser	4.90	197	PN	Pn	11 30 12.9	-4.3
TUWZ	Tuamarina	5.19	208	PN	Pn	11 30 16.4	-4.3
THZ	Tophouse	5.89	213	PN	Pn	11 30 26.1	-3.9
KHZ	Kahutara	6.19	206	PN	Pn	11 30 29.3	-4.5

IDC 07 11:54:09.3±1.2, 12°30N×143°76E, h0km, mb3.8/5, mb1 4.1/5, mb1mx3.6/24, mbtmp3.8/5, Error ellipse: s-maj=87.7km s-min=28.5km az=110.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	33.35	196	P	P	12 00 49.3	-0.1
	0.4nm,0.8s,baz=22,slow=9.7,SNR=3.1						
ILAR	Eielson Array	70.19	25	P	P	12 05 23.1	-0.7
	0.3nm,0.5s,baz=254,slow=5.7,SNR=9.9						
YKA	Yellowknife Ar	84.49	27	P	P	12 06 44.4	+0.5
	1.6nm,0.8s,baz=280,slow=5.0,SNR=3.4						
NVAR	Mina Array Bea	88.56	51	P	P	12 07 05.6	+0.9
	0.2nm,0.6s,baz=268,slow=6.0,SNR=3.7						
FINES	FINESS Array B	91.87	335	P	P	12 07 18.9	-0.4
	0.8nm,0.4s,baz=71,slow=6.0,SNR=4.4						

*IDC **07** 11:55:29.9±2.1, 22°09S×67°00W, h160km±20km, mb3.9/1, mb1 3.8/3, mb1mx3.4/16, mbtmp3.8/3, Error ellipse: s-maj=31.1km s-min=19.7km az=97.0*
*GUC **07** 11:55:31.3±0.7, 22°10S×67°78W, h200km±22km, ML4.1*

ISC 07 11:55:28.1±1.1, 22°14S±0°06×67°2W±0°1, h158km±16km, n14, σ1§89/22, 7C-2D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	Plate Boundary	1.93	280	⇑*i*P	Pn	11 56 05.8	+2.7
PB09				*e*S	Sn	11 56 32.1	+2.1
PB09				AML	AML	11 56 36.9	
	comp=E,858nm,0.5s						
PB04	Plate Boundary	2.12	266	⇓*i*P	Pn	11 56 13.6	+8.5
PB04				*i* S	Sn	11 56 45.9	+12
PB04				AML	AML	11 56 47.7	
	comp=N,616nm,0.2s						
PB01	Plate Boundary	2.39	297	⇑*i*P	Pn	11 56 10.0	+1.6
PB01				*i* S	Sn	11 56 39.6	+0.1
PB01				AML	AML	11 56 41.6	
	comp=N,564nm,0.3s						
PB07	Plate Boundary	2.53	279	⇑*i*P	Pn	11 56 11.3	+1.2
PB07				*i* S	Sn	11 56 41.6	-1.0
PB07				AML	AML	11 56 43.5	
	comp=N,601nm,0.2s						
HMBC	Humberstone	3.12	306	⇑*i*P	Pn	11 56 17.8	+0.3
HMBC				*i* S	Sn	11 56 53.6	-2.0
HMBC				AML	AML	11 56 56.8	
	comp=N,403nm,0.5s						
ANCH	Antofagasta	3.33	242	⇑*i*P	Pn	11 56 21.5	+1.6
ANCH				*i* S	Sn	11 56 58.9	-1.3
ANCH				AML	AML	11 57 00.8	
	comp=E,505nm,0.1s						
PB10	Plate Boundary	3.38	246	⇓*i*P	Pn	11 56 21.5	+1.0
PB10				*i* S	Sn	11 56 59.0	-2.3
PB10				AML	AML	11 56 59.7	
	comp=N,495nm,0.3s						
PSGC	Pisagua	3.73	312	⇑*i*P	Pn	11 56 24.6	-0.6
PSGC				*i* S	Sn	11 57 06.6	-2.9
PSGC				AML	AML	11 57 13.0	
	comp=N,80nm,0.5s						
MNMC	Minimini	3.74	323	⇑*i*P	Pn	11 56 26.9	+1.3
MNMC				*i* S	Sn	11 57 09.8	-0.4
MNMC				AML	AML	11 57 14.9	
	comp=N,381nm,0.6s						
LPAZ	La Paz	5.89	351	P	Pn	11 56 56.8	+2.7
	comp=N,1.3nm,0.3s,baz=172,slow=9.6,SNR=28						
LPAZ				S	Sn	11 58 01.9	+0.7
	baz=5.1,slow=18,SNR=3.1						
SIV	San Ignacio	8.43	44	P	Pn	11 57 28.3	+1.1
	comp=N,8.0nm,0.3s,baz=241,slow=11,SNR=113						
SIV				S	Sn	11 58 57.7	-3.5
	comp=N,0.8nm,0.3s,baz=315,slow=20,SNR=6.1						
CFAA	Coronel Fontan	9.47	185	P	Pn	11 57 43.0	+2.1
	comp

531A **Rocksprings** 16.76 338 ⇑P P 12 09 33.5 +1.6
baz=17
530A **J-C Ranch, Com** 17.04 336 ⇓P P 12 09 36.5 +1.5
baz=17
628A **Black Gap, Mar** 17.14 331 ⇑P P 12 09 38.1 +2.0
baz=17
432A **Menard** 17.15 341 ⇓P P 12 09 38.0 +1.7
baz=17
431A **Sonora** 17.25 339 ⇓P P 12 09 38.3 +0.9
baz=17
627A **Terlingua Ranc** 17.35 330 ⇓P P 12 09 40.2 +1.6
baz=17,SNR=13
529A **Stev Forest Ra** 17.38 334 ⇑P P 12 09 40.4 +1.5
baz=18
TXAR **Lajitas Array** 17.39 329 P Pn 12 09 39.7 +2.0
0.0nm,0.3s,baz=145,slow=14,SNR=4.8
430A **Baggett Ranch,** 17.57 337 ⇑P P 12 09 41.9 +1.0
baz=18
332A **Millersview** 17.61 342 ⇑P Pn 12 09 41.8 +1.5
baz=18
528A **Cox Ranch, San** 17.66 332 ⇓P Pn 12 09 41.4 +0.3
baz=18
429A **Davenport Ranc** 17.68 335 ⇓P P 12 09 43.4 +1.2
baz=18,SNR=7.8
626A **Big Bend Ranch** 17.81 328 ⇓P P 12 09 45.8 +2.1
baz=18
527A **Woodward Ranch** 18.04 330 ⇓P Pn 12 09 46.8 +1.1
baz=18
232A **Coleman** 18.05 343 ⇑P Pn 12 09 45.9 +0.2
baz=18
428A **Kincaid Ranch,** 18.10 333 ⇓P Pn 12 09 47.1 +0.7
baz=18
526A **Mary Lane Ranc** 18.20 329 ⇑P Pn 12 09 48.6 +0.9
baz=18
329A **Wagon Wheel Ra** 18.48 336 ⇑P P 12 09 50.2 -0.8
baz=19
230A **Sterling City** 18.52 339 ⇑P P 12 09 51.2 -0.2
baz=19
427A **Hayter Ranch,** 18.53 332 ⇑P P 12 09 51.7 +0.2
baz=19
426A **McDonald Obser** 18.67 330 ⇓P Pn 12 09 54.9 +1.4
baz=19
328A **Wristen Ranch,** 18.72 334 ⇑P P 12 09 54.2 +0.6
baz=19
ABTX **Abilene, Hawle** 18.75 343 ⇓P P 12 09 53.1 -0.7
baz=19
326A **Caldwell Ranch** 19.18 331 ⇓P Pn 12 10 00.8 +1.2
baz=19
425A **Indio Mountain** 19.24 328 ⇑P P 12 10 01.1 +1.8
baz=19
228A **UT Block 9, Go** 19.28 336 ⇑P P 12 09 59.7 -0.1
baz=19
129A **Stewart Farms,** 19.46 338 ⇑P P 12 10 02.4 +0.7
baz=20
227A **Bennet, Jal** 19.47 334 ⇑P P 12 10 02.7 +0.9
baz=20
Z31A **Sharp Cattle R** 19.54 343 ⇑P P 12 10 02.8 +0.3
baz=20
128A **Castleberry Fa** 19.68 337 ⇑P P 12 10 04.9 +0.7
baz=20,SNR=6.6
325A **Bean Ranch, Si** 19.70 329 ⇑P P 12 10 06.1 +1.6
baz=20
Z30A **Sanderson Ranc** 19.81 341 ⇓P P 12 10 05.1 -0.4
baz=20,SNR=5.3
226B **Tecolote Peak,** 19.91 332 ⇑P P 12 10 08.0 +1.3
baz=20
Z29A **Hungry Hill Ra** 19.97 339 ⇑P P 12 10 07.7 +0.4
baz=20
Y32A **R-V Farms, Ver** 20.00 345 ⇑P P 12 10 06.9 -0.6
baz=20
324A **Moseley Ranch,** 20.02 329 ⇑P P 12 10 10.1 +2.2
baz=20
127A **Arkansas Junct** 20.08 335 ⇓P P 12 10 09.9 +1.3
baz=20
Y31A **Rekieta Farm,** 20.18 343 ⇑P P 12 10 09.9 +0.4
baz=20
225A **Deer Hill, Car** 20.24 331 ⇓P P 12 10 12.5 +2.1
baz=20
Z28A **Tucker Farm, M** 20.24 338 ⇑P P 12 10 10.9 +0.6
baz=20
Y30A **Stafford Cattl** 20.28 342 ⇓P P 12 10 10.8 +0.2
baz=20
126A **Clayton Basin,** 20.33 333 ⇑P P 12 10 12.6 +1.4
baz=20
Y29A **Porterfield Fa** 20.51 340 ⇓P P 12 10 13.5 +0.3
baz=21
224A **Cornudas Mount** 20.55 329 ⇑P P 12 10 14.4 +0.7
baz=21,SNR=5.8
Z27A **Tatum** 20.58 336 ⇓P P 12 10 14.2 +0.2
baz=21,SNR=9.3
125A **Gardner Draw,** 20.62 332 ⇓P P 12 10 14.8 +0.4
baz=21,SNR=10.0
X31A **McDonald Ranch** 20.73 345 ⇑P P 12 10 15.3 -0.2
baz=21
Y28A **McKinney Farm,** 20.75 339 ⇓P P 12 10 16.0 +0.2
baz=21
Z26A **Caprock** 20.85 334 ⇑P P 12 10 16.9 0.0
baz=21,SNR=10
MSTX **Muleshoe** 20.99 338 ⇓P P 12 10 18.5 0.0
baz=21
124A **Stringfield Ra** 21.03 331 ⇑P P 12 10 20.9 +1.9
baz=21,SNR=7.6
X29A **Tulia** 21.06 341 ⇑P P 12 10 19.5 +0.4
baz=21
Y27A **Causey** 21.06 337 ⇓P P 12 10 20.3 +1.1
baz=21
Z25A **Roswell** 21.18 333 ⇓P P 12 10 20.4 0.0
baz=21
Y26A **Elida** 21.36 336 ⇓P P 12 10 21.2 -1.2
baz=22
123A **Bell Site, Whi** 21.37 329 ⇑P P 12 10 22.8 +0.3
baz=22
222A **Williams Famil** 21.38 327 ⇓P P 12 10 23.4 +0.7
baz=22
Z24A **Sheeppen Canyo** 21.51 332 ⇓P P 12 10 24.9 +0.8
baz=22,SNR=5.8
320A **Kipp Ranch, An** 21.60 323 ⇑P P 12 10 27.1 +2.0
baz=22
W29A **Amraillo** 21.66 341 ⇓P P 12 10 24.8 -0.9
baz=22
221A **Mesquite Ranch** 21.68 325 ⇓P P 12 10 26.1 +0.2
baz=22
Y25A **Mesa, Roswell** 21.71 334 ⇓P P 12 10 25.1 -1.1
baz=22
X27A **F and S Farms,** 21.72 338 ⇓P P 12 10 24.8 -1.5
baz=22
V31A **Spring Creek L** 21.79 346 ⇓P P 12 10 25.2 -1.6
baz=22
Z23A **Rita Site, Whi** 21.86 330 ⇓P P 12 10 29.5 +1.7
baz=22,SNR=6.2
220A **Playas Peak, P** 22.02 324 ⇓P P 12 10 30.3 +0.7
baz=22
Y24A **Capitan** 22.04 332 ⇓P P 12 10 28.9 -0.8
baz=22
121A **Cookes Peak, D** 22.08 326 ⇑P P 12 10 32.3 +2.1
baz=22,SNR=11
319A **Douglas** 22.08 322 ⇑P P 12 10 32.3 +2.2
baz=22
W27A **Bowe Ranch, En** 22.08 339 ⇓P P 12 10 28.3 -1.8
baz=22
Z22A **Elephant Butte** 22.22 329 ⇑P P 12 10 29.9 -1.7
baz=22
Y23A **Lovelace Mesa,** 22.33 331 ⇓P P 12 10 31.7 -1.2
baz=22
V28A **Channing** 22.42 341 ⇑P P 12 10 30.9 -2.9
baz=22
120A **U Bar Ranch, L** 22.55 325 ⇑P P 12 10 35.7 +0.4
baz=23
TKL **Tuckaleechee C** 22.61 21 LR LR 12 21 20.2
comp=Z,42nm,18.2s,baz=259,slow=42
Z21A **St. Cloud Mine** 22.62 328 ⇓P P 12 10 35.5 -0.5
baz=23
U30A **WK&E Inc. Balk** 22.70 345 ⇓P P 12 10 34.0 -2.7
baz=23
W25A **X Bar L Ranch,** 22.74 336 ⇑P P 12 10 34.9 -2.3
baz=23
Y22D **IRIS PASSCAL I** 22.85 330 ⇑P P 12 10 37.4 -1.0
baz=23
Z20A **Nine Sixteen R** 22.96 326 ⇓P P 12 10 39.7 +0.2
baz=23
V26A **Tequesquite Ra** 23.00 338 ⇑P P 12 10 36.4 -3.4
baz=23
U28A **Mallet** 23.00 342 ⇑P P 12 10 37.4 -2.5
baz=23
W24A **Lazy 6 Ranch,** 23.12 334 ⇑P P 12 10 39.0 -2.2
baz=23
U27A **Thompson Grove** 23.23 340 ⇑P P 12 10 40.6 -1.7
baz=23

ANMO **Albuquerque** 23.35 332 P P 12 10 44.1 +0.5
0.9nm,0.7s,baz=149,slow=12,SNR=5.1
Y20A **Horse Springs,** 23.45 327 ⇓P P 12 10 42.6 -2.0
baz=24
V24A **Rampart Ranch,** 23.51 335 ⇑P P 12 10 42.0 -3.2
baz=24
U26A **Atchley Ranch,** 23.52 339 ⇑P P 12 10 44.5 -0.8
baz=24,SNR=5.7
X21A **Alamocita Cree** 23.58 329 ⇑P P 12 10 43.8 -2.1
baz=24
T28A **Walsh** 23.66 342 ⇑P P 12 10 43.1 -3.4
baz=24
U25A **Circle Dot Ran** 23.76 338 ⇑P P 12 10 45.0 -2.6
baz=24
S29A **Ulysses** 23.85 345 ⇓P P 12 10 45.7 -2.6
baz=24
V23A **Ortiz Mt. (NFS** 23.90 334 ⇑P P 12 10 47.2 -1.8
baz=24
X20A **Quemado** 24.01 328 ⇑P P 12 10 48.0 -2.0
baz=24
R31A **Burdett** 24.13 348 ⇑P P 12 10 46.5 -4.5
baz=24
T26A **Comanche Natio** 24.17 340 ⇓P P 12 10 49.1 -2.4
baz=24
R30A **Dighton** 24.29 347 ⇑P P 12 10 48.4 -4.0
baz=24
V22A **San Miguel Ran** 24.36 333 ⇑P P 12 10 51.3 -2.0
baz=24
U23A **El Rito** 24.40 334 ⇓P P 12 10 50.5 -3.2
baz=24
T25A **Trinidad** 24.42 338 ⇑P P 12 10 51.0 -2.8
baz=24
W20A **Ramah** 24.47 329 ⇑P P 12 10 52.1 -2.3
baz=25
V21A **Milan** 24.60 331 ⇓P P 12 10 53.9 -1.7
baz=25
R28A **Tribune** 24.71 344 ⇓P P 12 10 52.4 -3.9
baz=25
X18A **Snowflake** 24.77 326 ⇑P P 12 10 57.3 +0.4
baz=25
S25A **Robets Cordova** 24.89 339 ⇑P P 12 10 55.6 -2.4
baz=25
R27A **Eads** 24.94 342 ⇓P P 12 10 56.1 -2.2
baz=25
Q29A **Oakley** 25.02 346 ⇓P P 12 10 56.9 -2.2
baz=25
W18A **Petrified Fore** 25.10 327 ⇓P P 12 11 00.1 +0.2
baz=25
R26A **Arlington** 25.15 341 ⇓P P 12 11 00.0 -0.3
baz=25
S24A **Houchin Ranch,** 25.16 338 ⇑P P 12 10 59.8 -0.7
baz=25
R25A **Fountain Ranch** 25.28 340 ⇓P P 12 11 00.6 -0.9
baz=25
T22A **Edith** 25.29 334 ⇑P P 12 11 01.1 -0.6
baz=25
P31A **Stockton** 25.30 349 ⇓P P 12 10 59.5 -2.0
baz=25
U20A **Newcomb** 25.48 331 ⇑P P 12 11 01.9 -1.4
baz=26
X16A **Lo Mia Camp, P** 25.52 324 ⇓P P 12 11 04.1 +0.4
baz=26
R24A **Sanders Place,** 25.64 338 ⇓P P 12 11 02.3 -2.6
baz=26
P29A **Atwood** 25.69 347 ⇑P P 12 11 02.3 -2.8
baz=26
R23A **Moffat** 25.87 337 ⇓P P 12 11 04.6 -2.4
baz=26
S22A **4UR Ranch, Cre** 25.88 335 ⇓P P 12 11 04.6 -2.5
baz=26
MVCO **Mesa Verde** 26.15 332 ⇓P P 12 11 07.3 -2.2
baz=26
S21A **Coal Bank Pass** 26.21 333 ⇓P P 12 11 08.6 -1.6
baz=26
Q22A **Crested Butte,** 26.87 336 ⇑P P 12 11 16.1 0.0
baz=27
P23A **Jefferson** 26.92 338 ⇑P P 12 11 16.3 -0.3
baz=27
N21A **Black Mountain** 28.75 337 ⇓P P 12 11 35.8 +3.0
baz=29
Q16A **Castle Valley** 28.77 330 ⇓P P 12 11 34.9 +1.9
baz=29
O19A **Miners Draw (B** 28.99 335 ⇓P P 12 11 38.3 +3.5
baz=29
N20A **Spence Gulch,** 29.10 336 ⇑P P 12 11 38.8 +2.9
baz=29
PDAR **Pinedale Array** 31.25 337 P P 12 11 55.1 +0.2
0.8nm,0.9s,baz=166,slow=5.3,SNR=4.4
I20A **Worland** 31.77 340 ⇓P P 12 11 57.8 -1.5
baz=32
I19A **Meeteetse** 32.14 339 ⇓P P 12 12 01.6 -1.1
baz=32
I18A **Diamond G Ranc** 32.15 337 ⇓P P 12 12 01.4 -1.4
baz=32
H20A **Greybull** 32.20 340 ⇑P P 12 12 01.6 -1.5
baz=32
NVAR **Mina Array Bea** 32.29 322 P P 12 12 05.3 +1.2
1.5nm,0.8s,baz=140,slow=8.8,SNR=15
H18A **Shoshone NF, C** 32.93 338 ⇓P P 12 12 08.9 -0.8
baz=33,SNR=5.1
H16A **Russell Place,** 33.54 337 ⇓P P 12 12 13.5 -1.5
baz=34
F18A **Big Timber** 34.02 339 ⇓P P 12 12 17.7 -1.2
baz=34
D22A **Cohagen** 34.08 344 ⇑P P 12 12 18.0 -1.4
baz=34
D21A **La Casta Ranch** 34.22 343 ⇑P P 12 12 21.8 +1.1
baz=34
F17A **Fitzpatrick Pl** 34.35 338 ⇓P P 12 12 21.3 -0.5
baz=34
A29A **Manning Farm,** 34.48 353 ⇑P P 12 12 20.2 -2.7
baz=35
D19A **Cripps Ranch,** 34.86 341 ⇑P P 12 12 25.0 -1.2
baz=35
SIV **San Ignacio** 44.15 132 P P 12 13 39.0 -4.9
1.1nm,0.8s,baz=318,slow=12,SNR=3.1
SCHQ **Schefferville** 45.08 21 LR LR 12 34 22.7
comp=Z,62nm,20.0s,baz=289,slow=38
YKA **Yellowknife Ar** 50.06 347 P P 12 14 27.4 -2.1
2.4nm,0.7s,baz=156,slow=6.9,SNR=4.3
ILAR **Eielson Array** 61.68 337 P P 12 15 49.9 -2.8
0.8nm,0.9s,baz=128,slow=4.3,SNR=9.5
CMAR **Chiang Mai Arr** 144.90 339 PKPbc PKPab 12 25 07.0 -5.2
1.2nm,0.7s,baz=338,slow=2.9,SNR=8.3

IDC ***07*** *12:09:08.8±0.5, 8°.66S×127°.08E, h0km, mb4.5/15, mb1 4.5/16, mb1mx4.5/21, mbtmp4.6/16, ML4.5/1, MS4.2/16, Ms1 4.1/16, ms1mx3.9/34, Error ellipse: s-maj=18.8km s-min=12.1km az=75.0*
ISCJB ***07*** *12:09:10.8±0.2, 9°.05S±0°.02×127°.20E±0°.03, h33km, mb4.7/52, MS4.2/20, Error ellipse: s-maj=3.7km s-min=2.9km az=168.3*
MOS ***07*** *12:09:10.6±2.0, 8°.83S×127°.28E, h33km, mb5.1/13, Error ellipse: s-maj=15.3km s-min=7.3km az=114.6*
AUST ***07*** *12:09:11.7±1.5, 9°.07S×127°.10E, h8km, Error ellipse: s-maj=0.6km s-min=0.5km az=28.0*
NEIC ***07*** *12:09:12.5±0.3, 8°.90S×127°.30E, h35km, mb4.8/14, Error ellipse: s-maj=10.5km s-min=6.7km az=53.0*
BJI ***07*** *12:09:12.6, 9°.10S×127°.20E, h62km, mB5.1/25, mb4.8/34, Ms4.6/21, Ms7 4.3/21*
GCMT ***07*** *12:09:14.7±0.2, 8°.96S×127°.24E, h20km, MW5.0, Moment Tensor Solution. s37,c49; s61,c95; Moment tensor: Scale 10^16^Nm; Mrr2.89±.16; Mθθ-2.56±.10; Mφφ-0.34±.13; Mrθ1.53±.19; Mθφ-1.29±.07; Mφr0.12±.24; Best double couple: M0 3.40000×10^16^ NP1:φ75.00000°, δ58.00000°, λ101.00000°. NP2:φ235.00000°, δ33.00000°, λ73.00000°. Principal axes: T 3.3000, Plg74.0000°, Azm13.0000°; N 0.1700, Plg9.0000°, Azm249.0000°; P -3.4800, Plg13.0000°, Azm157.0000°; Data Used: II IU IC G CN.*
TEH ***07*** *12:09:15.0, 9°.14S×127°.23E, h63km, ML4.7*
DJA ***07*** *12:09:15.8±0.3, 9°S±2°×12°7E±°, h45km±7km, M4.8/34, mB5.3/17, mb5.0/34, MLv5.0/13, Mw(mB)4.7/17*
BKK ***07*** *12:09:20.2±0.4, 9°S±4°×12°7E±°, h133km±6km, M4.8/16, mB5.2/6, mb4.8/16, MLv5.0/4, Mw(mB)4.6/6*
ISC 07 12:09:13.6±0.2, 9°.05S±0°.03×127°.19E±0°.03, h35km, n206, σ2.32/224, mb4.8/52, MS4.1/20, 1C-2D, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**2.97**	**256**	P	**Pn**	**12 10 00.2**	**+1.8**
SOEI				S	**Sn**	**12 10 38.5**	**+5.6**
SOEI	**Soe**	**2.97**	**256**	P	**Pn**	**12 10 00.1**	**+1.7**
baz=2.9,SNR=172
BATI **Baumata** 3.66 252 Pn **Pn** **12 10 08.9 +1.1**
BATI Sn **Sn** **12 10 54.7 +4.8**
BATI **Baumata** 3.66 252 P **Pn** **12 10 09.7 +1.9**
BATI S Sn 12 10 56.3 +6.4
BATI **Baumata** 3.66 252 Pn **Pn** **12 10 08.9 +1.1**
34nm,0.3s,baz=46,slow=2.3,SNR=34
BATI Sn **Sn** **12 10 54.7 +4.8**
163nm,0.3s,baz=72,slow=20,SNR=11
SAUI **Saumlaki** 4.20 76 P Pn 12 10 30.5 +15
MMRI **Maumere** 4.91 274 *e*Pn **Pn** **12 10 25.8 +0.8**
MMRI **Maumere** 4.91 274 P Pn 12 10 28.6 +3.6
BNDI **Bandanaira** 5.25 31 P **Pn** **12 10 31.1 +1.5**
360nm,0.5s,6μm2.4nm
BNDI S **Sn** **12 11 31.4 +2.5**
360nm,0.5s,6μm2.4nm
BNDI **Bandanaira** 5.25 31 P **Pn** **12 10 31.5 +1.9**
baz=5.3,SNR=3.8
MTN **Manton Dam** 5.40 135 P **Pn** **12 10 34.5 +2.8**
baz=5.5,SNR=264
MTN S **Sn** **12 11 38.2 +5.6**
baz=5.5,SNR=5.8
AAI **Ambon** 5.42 11 P **Pn** **12 10 33.1 +1.1**
174nm,0.8s,0.5nm
AAI **Ambon** 5.42 11 P **Pn** **12 10 33.2 +1.2**
baz=5.5,SNR=4.0
NLAI **Namlea** 5.78 359 P Pn 12 10 39.4 +2.5
141nm,0.7s,2μm0.5nm
BBSI **Bau Bau** 5.79 307 P **Pn** **12 10 39.0 +1.9**
373nm,1.0s,2μm1.1nm
KDU **Kakadu** 6.32 125 P **Pn** **12 10 45.9 +1.6**
baz=6.4,SNR=155
TLE **Tual** 6.46 59 P **Pn** **12 10 47.4 +1.1**
136nm,0.9s,1.6nm
TLE S **Sn** **12 12 00.7 +1.8**
136nm,0.9s,1.6nm
TLE **Tual** 6.46 59 P **Pn** **12 10 47.4 +1.1**
baz=6.6,SNR=6.1
KNRA **Kununurra** 6.76 167 P **Pn** **12 10 52.0 +1.7**
baz=6.8,SNR=1000
KNRA S **Sn** **12 12 09.3 +3.1**
baz=6.8,SNR=9.5
WSI **Waingapu** 6.83 264 P Pn 12 11 11.2 +20
WSI **Waingapu** 6.83 264 P Pn 12 11 00.7 +9.3
baz=6.7,SNR=3.1
LBFI **Labuhan Bajo,** 7.24 274 P Pn 12 11 01.7 +4.7
140nm,0.7s,2μm0.5nm
KKSI **Kolaka, Sulawe** 7.34 311 P Pn 12 11 17.6 +19
FAKI **Fak Fak** 7.90 40 P **Pn** **12 11 07.3 +1.2**
78nm,0.7s,1μm0.3nm
FAKI **Fak Fak** 7.90 40 P **Pn** **12 11 06.7 +0.6**
baz=8.0,SNR=5.8
FAKI S **Sn** **12 12 35.2 +0.9**
baz=8.0,SNR=6.6
BKSI **Bulukumba** 7.93 297 P **Pn** **12 11 07.4 +0.9**
71nm,1.1s,931nm0.3nm
LBMI **Labuha** 8.37 2 P Pn 12 11 16.3 +3.8
95nm,1.4s,2μm
KAPI **Kappang** 8.40 298 Pn **Pn** **12 11 11.5 -1.5**
KAPI Sn **Sn** **12 12 51.7 +5.0**
KAPI **Kappang** 8.40 298 P Pn 12 11 16.9 +3.9
43nm,1.2s,707nm
KAPI **Kappang** 8.40 298 Pn **Pn** **12 11 15.9 +2.9**
1.2nm,0.3s,baz=127,slow=14,SNR=5.2
KAPI Sn **Sn** **12 12 51.7 +5.0**
0.9nm,0.3s,baz=127,slow=20,SNR=2.7
KAPI LR LR 12 14 11.5
comp=Z,1μm,19.3s,baz=127,slow=37
SKSI **Soroako, Sulaw** 8.71 318 P **Pn** **12 11 19.5 +2.2**
48nm,1.0s,633nm
SPSI **Sidrap Palu** 8.94 304 P Pn 12 11 23.6 +3.3
47nm,1.3s
SWI **Sorong** 9.09 27 P **Pn** **12 11 24.2 +1.8**
102nm,1.1s,2μm
SWI **Sorong** 9.09 27 P Pn 12 11 26.3 +3.9
baz=9.2,SNR=4.7
LUWI **Luwuk** 9.10 331 P **Pn** **12 11 24.6 +2.1**
162nm,1.0s,2μm
FITZ **Fitzroy Crossi** 9.12 189 *e*Pn **Pn** **12 11 23.0 +0.2**
FITZ Sn **Sn** **12 13 05.1 +0.8**
FITZ **Fitzroy Crossi** 9.12 189 Pn **Pn** **12 11 23.2 +0.4**
8.8nm,0.3s,baz=24,slow=11,SNR=323
FITZ Sn **Sn** **12 13 05.1 +0.8**
14nm,0.3s,baz=106,slow=19,SNR=7.6
FITZ LR LR 12 15 47.5
comp=Z,1μm,19.0s,baz=12,slow=42
FITZ **Fitzroy Crossi** 9.12 189 P **Pn** **12 11 23.0 +0.2**
baz=9.1,SNR=71
FITZ S **Sn** **12 13 06.6 +2.4**
baz=9.1,SNR=4.9
TTSI **Tana Toraja** 9.45 309 P Pn 12 11 31.5 +4.1
34nm,0.7s
RKPI **Ransiki, Papua** 10.22 43 P **Pn** **12 11 37.5 -0.4**
198nm,0.8s,4μm
MRSI **Marisa** 10.82 331 P **Pn** **12 11 48.5 +2.4**
51nm,1.2s
BAKI **Biak** 11.82 49 P **Pn** **12 11 59.1 -0.7**
93nm,1.3s
WAMI **Wamena** 12.54 67 P **P** **12 12 20.4 -0.4**
WRAB **Tennant Creek** 12.84 148 *e*P **Pn** **12 12 12.2 -1.5**
WRAB *e* 12 14 32.8
WRAB pmax pmax
comp=Z,67nm,0.8s
WRAB **Tennant Creek** 12.84 148 *e*Pn **Pn** **12 12 12.2 -1.5**
comp=Z,67nm,0.8s
WRAB *e*Sn **Sn** **12 14 32.8 -2.7**
WRA **Warramunga Arr** 12.84 148 Pn **Pn** **12 12 11.9 -1.9**
WRA Sn **Sn** **12 14 32.9 -2.7**
WRA **Warramunga Arr** 12.84 148 Pn **Pn** **12 12 11.9 -1.9**
comp=Z,9.4nm,0.3s,baz=321,slow=14,SNR=120
WRA Sn **Sn** **12 14 32.8 -2.7**
comp=Z,7.4nm,0.3s,baz=325,slow=22,SNR=11
WRA LR LR 12 17 42.5
comp=Z,1μm,18.2s,baz=330,slow=39
JAGI **Jajag, Banyuwa** 12.90 272 P **Pn** **12 12 15.2 +0.5**
baz=13,SNR=5.0
MBWA **Marble Bar** 14.02 210 *e*Pn **Pn** **12 12 28.2 -1.6**
MBWA *e*Sn **Sn** **12 15 00.3 -3.9**
AS31 **Alice Springs** 15.89 157 *e*Pn **Pn** **12 12 52.7 -2.0**
AS31 *e*Sn **Sn** **12 15 44.0 -5.7**
ASAR **Alice Springs** 15.89 157 Pn **Pn** **12 12 52.0 -2.6**
ASAR Sn **Sn** **12 15 47.7 -2.1**
ASAR **Alice Springs** 15.89 157 Pn **Pn** **12 12 52.0 -2.6**
comp=Z,1.7nm,0.3s,baz=327,slow=12,SNR=119
ASAR Sn **Sn** **12 15 47.7 -2.1**
comp=Z,2.3nm,0.3s,baz=322,slow=23,SNR=8.4
ASAR LR LR 12 19 53.4
comp=Z,1μm,19.8s,baz=326,slow=40
COEN **Coen** 16.40 109 *e*Pn **Pn** **12 12 59.7 -1.5**
comp=Z,229nm,0.8s
COEN *e*Sn Sn 12 15 52.0 -10
COEN **Coen** 16.40 109 P **Pn** **12 12 59.6 -1.6**
baz=16,SNR=116
COEN S Sn 12 15 50.7 -12
baz=16,SNR=9.1
UGM **Wanagama** 16.53 273 P **Pn** **12 13 04.1 +1.2**
baz=16,SNR=4.7
KKM **Kota Kinabalu** 18.57 324 *e*P **P** **12 13 27.6 -0.2**
comp=Z,64nm,1.2s
KKM **Kota Kinabalu** 18.57 324 P Pn 12 13 34.0 +5.8
baz=19,SNR=3.8
SBUM **Sibu** 18.80 307 *e*P **P** **12 13 30.0 -0.2**
SBUM **Sibu** 18.80 307 P **Pn** **12 13 30.7 -0.2**
comp=Z,27nm,0.9s
MTSU **Mount Surprise** 18.92 120 P **P** **12 13 31.6 +0.1**
baz=19,SNR=47
MTSU S **Sn** **12 16 56.5 -6.8**
baz=19,SNR=4.2
CISI **Cisompet, Garu** 19.23 273 P **P** **12 13 33.5 -1.6**
comp=Z,124nm,1.0s,comp=Z,2μm
CISI **Cisompet, Garu** 19.23 273 P **P** **12 13 33.3 -1.8**
baz=19,SNR=7.7
CISI S **S** **12 17 16.3 +5.1**
baz=19,SNR=5.0
MEEK **Meekatharra** 19.29 204 P **Pn** **12 13 37.2 +0.5**
baz=19,SNR=74
MEEK S S 12 17 04.6 -7.5
baz=19,SNR=4.0
PMG **Port Moresby** 19.71 93 *e*P **P** **12 13 39.4 -0.9**
PMG **Port Moresby** 19.71 93 P **Pn** **12 13 42.8 +0.9**
comp=Z,73nm,1.2s
PMG **Port Moresby** 19.71 93 P **P** **12 13 36.7 -3.6**
comp=Z,0.4nm,0.3s,baz=266,slow=14,SNR=2.6
KSM **Kuching** 19.81 301 *e*P **P** **12 13 40.5 -0.8**
comp=Z,42nm,1.0s
KSM **Kuching** 19.81 301 P **P** **12 13 40.5 -0.8**
comp=Z,44nm,1.0s

KSM	Kuching	19.81	301	P	P	12 13 40.6	-0.8
	baz=20,SNR=13						
CBJI	Citeko	20.32	276	P	P	12 13 44.9	-2.0
	comp=Z,264nm,0.7s						
CTA	Charters Tower	21.44	123	P	P	12 14 02.5	+3.5
CTA	Charters Tower	21.44	123	P	P	12 14 02.5	+3.5
	comp=Z,14nm,0.8s,baz=302,slow=13,SNR=14						
FORT	Forrest	21.63	178	eP	P	12 14 02.7	+1.9
	comp=Z,61nm,0.9s						
FORT	Forrest	21.63	178	P	P	12 14 03.4	+2.5
	baz=22,SNR=18						
MORW	Morawa	22.50	206	P	P	12 14 11.5	+1.3
	baz=22,SNR=8.4						
BLDU	Ballidu	23.58	203	P	P	12 14 22.7	+1.6
	baz=24,SNR=12						
KLBR	Kellerberrin	24.08	200	P	P	12 14 27.8	+1.9
	baz=24,SNR=4.7						
BBOO	Buckleboo	25.02	162	eP	P	12 14 37.4	+2.9
	comp=Z,4μm,2.1s						
BBOO	Buckleboo	25.02	162	P	P	12 14 37.3	+2.9
	baz=25,SNR=19						
NWAO	Narrogin (SRO)	25.48	200	P	P	12 14 40.4	+1.8
NWAO	Narrogin (SRO)	25.48	200	P	P	12 14 40.4	+1.8
	comp=Z,9.1nm,0.8s,baz=30,slow=6.4,SNR=13						
NWAO				LR	LR	12 26 24.2	
	comp=Z,659nm,20.9s,baz=12,slow=40						
STKA	Stephens Creek	26.36	152	P	P	12 14 49.3	+2.8
	comp=Z,42nm,0.8s						
STKA	Stephens Creek	26.36	152	P	P	12 14 49.3	+2.8
	comp=Z,13nm,0.7s,baz=322,slow=9.0,SNR=43						
STKA				LR	LR	12 25 33.0	
	comp=Z,517nm,19.8s,baz=306,slow=37						
STKA	Stephens Creek	26.36	152	P	P	12 14 49.2	+2.8
	baz=26,SNR=38						
RMQ	Roma	26.80	133	P	P	12 14 59.1	+8.5
	baz=27,SNR=4.8						
CMSA	Cobar Meteorol	28.22	145	P	P	12 15 06.4	+3.2
	baz=28,SNR=28						
PSI	Prapat	30.54	291	LR	LR	12 27 31.5	
	comp=Z,1μm,20.7s,baz=23,slow=36						
PSI	Prapat	30.54	291	P	P	12 15 23.4	-0.8
	baz=30,SNR=3.7						
ARPS	Mount Arapiles	30.63	157	P	P	12 15 28.3	+3.8
	baz=31,SNR=11						
YNG	Young	31.79	145	P	P	12 15 38.5	+3.7
	baz=32,SNR=7.2						
HNR	Honiara	32.33	93	P	P	12 15 41.3	+1.5
HNR	Honiara	32.33	93	P	P	12 15 41.3	+1.5
	comp=Z,25nm,0.4s,baz=146,slow=12,SNR=4.3						
HNR				LR	LR	12 30 29.5	
	comp=Z,508nm,18.4s,baz=263,slow=40						
QIZ	Qiongzhong	32.73	329	P	P	12 15 43.9	+0.7
QIZ				pP	pP	12 15 58.6	+5.3
QIZ				sP	sP	12 16 06.1	+8.5
QIZ				S	S	12 20 58.3	+0.6
QIZ				pmax	pmax		
	comp=Z,10.0nm,1.3s						
QIZ				pmax	pmax		
	comp=Z,100nm,3.9s						
TOO	Toolangi	32.86	153	P	P	12 15 48.9	+4.7
	baz=33,SNR=9.2						
UTHA	Uthaitani	36.79	311	P	P	12 16 17.5	-0.8
	comp=Z,6.0nm,1.0s						
CM31	Chiang Mai Arr	39.04	315	eP	P	12 16 35.4	-1.9
	comp=Z,12nm,0.8s						
CMAR	Chiang Mai Arr	39.04	315	P	P	12 16 35.5	-1.9
CMAR	Chiang Mai Arr	39.04	315	P	P	12 16 35.5	-1.9
	comp=Z,14nm,0.7s,baz=142,slow=6.8,SNR=69						
CHTO	Chiang Mai	39.28	315	eP	P	12 16 37.2	-2.2
CHTO				pmax	pmax		
	comp=Z,17nm,0.8s						
CHTO	Chiang Mai	39.28	315	eP	P	12 16 37.2	-2.2
	comp=Z,17nm,0.8s						
CHTO	Chiang Mai	39.28	315	P	P	12 16 37.6	-1.7
	comp=Z,32nm,0.8s						
DZM	Mont Dzumac	39.84	114	eS	S	12 22 50.9	+4.3
	comp=Z,263nm,28.8s						
DZM				eLR	LR	12 27 47.4	
	comp=Z,948nm,22.8s						
CMAI	Chiengmai2	39.97	316	P	P	12 16 43.8	-1.4
	comp=Z,46nm,0.7s						
GYA	Guiyang	40.54	331	eP	P	12 16 51.0	+1.2
GYA				pP	pP	12 17 08.4	+8.3
GYA				PP	PnPn	12 18 30.0	+2.2
GYA				ScP	ScP	12 22 35.8	-3.0
GYA				S	S	12 22 57.6	+0.6
GYA				SS	SS	12 25 53.4	-4.4
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,90nm,5.0s						
GYA				LR	LR		
	comp=N,460nm,18.3s						
GYA				LR	LR		
	comp=E,390nm,19.0s						
GYA				LR	LR		
	comp=Z,440nm,18.4s						
KMI	Kunming	41.49	326	P	P	12 16 56.8	-1.0
KMI				pP	pP	12 17 15.9	+7.8
KMI				sP	sP	12 17 23.0	+11
KMI				PP	PnPn	12 18 39.7	+0.7
KMI				S	S	12 23 11.4	0.0
KMI				sS	sS	12 23 38.9	+11
KMI				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KMI				pmax	pmax		
	comp=Z,140nm,4.1s						
KMI				LR	LR		
	comp=N,150nm,18.7s						
KMI				LR	LR		
	comp=E,250nm,23.1s						
KMI				LR	LR		
	comp=Z,210nm,18.7s						
NJ2	Nanjing	41.64	349	eP	P	12 17 00.2	+1.6
NJ2				pmax	pmax		
	comp=Z,30nm,0.6s						
CD2	Chengdu	45.65	331	P	P	12 17 32.4	+1.4
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,4.9s						
XAN	Xi'an	46.23	339	P	P	12 17 31.7	-3.8
XAN				pP	pP	12 17 44.6	-1.3
XAN				S	S	12 24 20.7	+0.8
XAN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
XAN				LR	LR		
	comp=N,150nm,17.4s						
XAN				LR	LR		
	comp=E,49nm,18.4s						
XAN				LR	LR		
	comp=Z,67nm,17.4s						
KSAR	Wonju Array Be	46.26	1	P	P	12 17 33.5	-2.1
KSAR				PcP	PcP	12 19 10.3	-0.4
KSRS	Korea Array	46.27	1	P	P	12 17 33.5	-2.2
	comp=Z,26nm,0.8s,baz=172,slow=10,SNR=8.9						
KSRS				PcP	PcP	12 19 10.3	-0.4
	comp=Z,0.9nm,0.7s,baz=173,slow=3.1,SNR=4.7						
KSRS				LR	LR	12 37 07.9	
	comp=Z,124nm,21.4s,baz=185,slow=37						
MJAR	Matsushiro Arr	46.52	12	P	P	12 17 33.5	-4.2
MJAR	Matsushiro Arr	46.52	12	P	P	12 17 33.5	-4.2
	comp=Z,0.7nm,0.5s,baz=185,slow=8.5,SNR=3.9						
LZH	Lanzhou	50.00	335	eP	P	12 18 02.6	-2.1
LZH				pP	pP	12 18 18.4	+3.2
LZH				sP	sP	12 18 23.6	+4.2
LZH				pmax	pmax		
	comp=Z,56nm,1.5s						
LZH				pmax	pmax		
	comp=Z,98nm,4.4s						
RPZ	Rata Peaks	51.39	140	P	P	12 18 18.0	+3.0
RPZ	Rata Peaks	51.39	140	P	P	12 18 18.0	+3.0
	comp=Z,8.7nm,0.5s,baz=335,slow=3.1,SNR=9.9						
HHC	Hu-ho-hao-te	51.70	345	eP	P	12 18 19.3	+1.9
HHC				pP	pP	12 18 35.1	+7.1
HHC				sP	sP	12 18 42.3	+10
HHC				PcP	PcP	12 19 31.0	+0.4
HHC				PP	PP	12 20 18.6	+3.2
HHC				ScP	ScP	12 23 21.8	-3.1
HHC				S	S	12 25 36.9	+0.1
HHC				sS	sS	12 26 03.5	+9.4
HHC				ScS	ScS	12 28 01.2	-4.0
HHC				pmax	pmax		
	comp=Z,32nm,1.1s						
HHC				pmax	pmax		
	comp=Z,300nm,7.1s						
HHC				LR	LR		
	comp=N,340nm,15.5s						
HHC				LR	LR		
	comp=E,360nm,15.5s						
HHC				LR	LR		
	comp=Z,400nm,21.4s						
LSA	Lhasa	51.84	319	P	P	12 18 16.1	-3.0
ODAN	Odare	52.58	314	eP	P	12 18 22.2	-2.2
	comp=Z,36nm,0.8s						
CN2	Changchun	52.63	358	eP	P	12 18 26.9	+2.8
CN2				eS	S	12 25 49.7	+0.6
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,100nm,3.0s						
CN2				LR	LR		
	comp=N,100nm,16.0s						
CN2				LR	LR		
	comp=E,100nm,16.0s						
CN2				LR	LR		
	comp=Z,200nm,17.0s						
TAPN	Taplejung	52.65	315	eP	P	12 18 22.8	-2.2
	comp=Z,41nm,0.9s						
USRK	Ussuriysk Arra	53.18	4	P	P	12 18 26.2	-2.0
	comp=Z,3.6nm,0.6s,baz=191,slow=5.7,SNR=11						
RAMN	Ramite	53.20	314	eP	P	12 18 25.8	-3.2
	comp=Z,102nm,0.8s						
MDJ	Mudanjiang	53.46	2	P	P	12 18 31.0	+0.8
MDJ				pP	pP	12 18 47.0	+6.2
MDJ				sP	sP	12 18 54.1	+9.2
MDJ				PP	PP	12 20 31.7	+0.6
MDJ				S	S	12 26 01.0	+0.6
MDJ				sS	sS	12 26 28.2	+10
MDJ				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MDJ				pmax	pmax		
	comp=Z,60nm,4.9s						
MDJ				LR	LR		
	comp=N,74nm,28.6s						
MDJ				LR	LR		
	comp=E,56nm,23.0s						
MDJ				LR	LR		
	comp=Z,110nm,30.8s						
JIRN	Jiri	53.92	314	eP	P	12 18 32.2	-2.2
	comp=Z,40nm,0.8s						
GUN	Gumba	54.29	314	eP	P	12 18 34.8	-2.2
	comp=Z,78nm,0.8s						
PKI	Pulchoki	54.42	313	eP	P	12 18 35.5	-2.5
	comp=Z,26nm,0.7s						
PKIN	Phulchoki	54.43	313	eP	P	12 18 35.5	-2.5
	comp=Z,22nm,0.7s						
GTA	Gaotai	54.51	334	P	P	12 18 36.1	-2.1
GTA				pP	pP	12 18 52.0	+3.3
GTA				sP	sP	12 18 58.7	+5.9
GTA				S	S	12 26 10.8	-4.2
GTA				sS	sS	12 26 37.6	+5.2
GTA				SS	SS	12 29 55.3	-2.9
GTA				pmax	pmax		
	comp=Z,15nm,0.9s						
GTA				pmax	pmax		
	comp=Z,130nm,5.5s						
GTA				LR	LR		
	comp=N,100nm,19.0s						
GTA				LR	LR		
	comp=E,190nm,19.5s						
GTA				LR	LR		
	comp=Z,160nm,17.3s						
KKN	Kakani	54.64	313	eP	P	12 18 37.2	-2.3
	comp=Z,22nm,0.7s						
DMN	Daman	54.66	313	eP	P	12 18 37.5	-2.2
	comp=Z,49nm,1.0s						
KOLN	Koldanda	55.85	312	eP	P	12 18 45.1	-3.0
	comp=Z,58nm,0.8s						
DANN	Dangsing	56.06	313	eP	P	12 18 47.4	-2.4
	comp=Z,72nm,0.8s						
PYUN	Piuthan	56.48	312	eP	P	12 18 50.7	-1.9
	comp=Z,202nm,0.8s						
ULN	Ulaanbaatar	59.41	344	eP	P	12 19 10.5	-2.3
	comp=Z,5.2nm,0.9s						
SONM	Songino Array	59.56	344	P	P	12 19 11.4	-2.4
SONM	Songino Array	59.56	344	P	P	12 19 11.4	-2.4
	comp=Z,2.7nm,0.8s,baz=161,slow=8.1,SNR=19						
SONM				LR	LR	12 47 00.3	
	comp=Z,89nm,18.8s,baz=181,slow=38						
ZAK	Zakamensk	62.74	343	eP	P	12 19 33.1	-2.2
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.5s						
WMQ	Urumqi	63.65	329	P	P	12 19 41.0	-0.4
WMQ				pP	pP	12 19 57.2	+5.1
WMQ				sP	sP	12 20 04.2	+8.0
WMQ				PP	PP	12 22 03.0	+1.2
WMQ				S	S	12 28 09.2	-4.1
WMQ				sS	sS	12 28 36.0	+5.0
WMQ				ScS	SKSac	12 29 25.0	-7.3
WMQ				SS	SS	12 32 19.0	-2.6
WMQ				pmax	pmax		
	comp=Z,15nm,0.8s						
WMQ				pmax	pmax		
	comp=Z,140nm,4.2s						
WMQ				LR	LR		
	comp=N,94nm,18.0s						
WMQ				LR	LR		
	comp=E,140nm,22.0s						
WMQ				LR	LR		
	comp=Z,140nm,24.8s						
MOY	Mondy	64.56	342	eP	P	12 19 47.0	-0.2
HVS	Khovu-Aksy	66.57	338	eP	P	12 19 57.2	-3.0
PETK	Petropavlovsk-	67.15	19	P	P	12 20 01.5	-2.2
PETK	Petropavlovsk-	67.15	19	P	P	12 20 01.5	-2.2
PETK	Petropavlovsk-	67.15	19	P	P	12 20 01.5	-2.2
	comp=Z,4.5nm,0.8s,baz=193,slow=6.1,SNR=7.6						
PET	Petropavlovsk	67.40	20	eP	P	12 20 11.1	+5.8
KSH	Kashi	67.70	319	P	P	12 20 06.6	-1.1
KSH				pP	pP	12 20 23.7	+5.2
KSH				PP	PP	12 22 38.2	+0.8
KSH				PcS		12 24 37.1	
KSH				S	S	12 28 58.5	-4.5
KSH				SS	SS	12 33 21.4	-3.4
KSH				pmax	pmax		
	comp=Z,6.0nm,1.1s						
KSH				pmax	pmax		
	comp=Z,53nm,3.6s						
KSH				LR	LR		
	comp=N,84nm,5.5s						
KSH				LR	LR		
	comp=E,120nm,6.9s						
KSH				LR	LR		
	comp=Z,190nm,6.1s						
MKAR	Makanchi Array	68.46	329	P	P	12 20 10.1	-2.1
MKAR	Makanchi Array	68.46	329	P	P	12 20 10.1	-2.1
MKAR	Makanchi Array	68.46	329	P	P	12 20 10.1	-2.1
	comp=Z,8.4nm,0.7s,baz=126,slow=7.8,SNR=36						
MKAR				LR	LR	12 50 40.2	
	comp=Z,77nm,21.7s,baz=142,slow=37						
TKM2	Tokmak 2	69.84	322	eP	P	12 20 18.8	-2.3
TKM2				pmax	pmax		
	comp=Z,4.0nm,0.9s						
TKM2	Tokmak 2	69.84	322	eP	P	12 20 18.8	-2.3
	comp=Z,3.6nm,0.9s						
KBL	Kabul	70.00	312	eP	P	12 20 20.0	-2.2
KBL				pmax	pmax		
	comp=Z,5.0nm,0.6s						
KBL	Kabul	70.00	312	eP	P	12 20 20.0	-2.2
	comp=Z,5.0nm,0.6s						
AAK	Ala-Archa	70.35	321	eP	P	12 20 23.0	-1.2
AAK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
AAK	Ala-Archa	70.35	321	eP	P	12 20 23.0	-1.2
	comp=Z,2.5nm,0.6s						
VNDA	Vanda	70.77	172	P	P	12 20 28.6	+2.7
VNDA	Vanda	70.77	172	P	P	12 20 28.6	+2.7
	comp=Z,0.3nm,0.3s,baz=335,slow=6.1,SNR=9.1						
VNDA				LR	LR	12 52 41.2	
	comp=Z,346nm,18.2s,baz=335,slow=37						
YAK	Yakutsk	70.89	1	eP	P	12 20 24.0	-2.7
YAK				pmax	pmax		
	comp=Z,16nm,0.9s						
YAK				pmax	pmax		
	comp=N,9.0nm,1.3s						
MAW	Mawson	72.04	201	P	P	12 20 35.4	+1.7
MAW	Mawson	72.04	201	P	P	12 20 35.4	+1.7
	comp=N,2.4nm,1.1s,baz=100,slow=7.0,SNR=5.2						
MAW				LR	LR	12 49 46.8	
	comp=N,228nm,19.5s,baz=224,slow=34						
ZAA0	Zalesovo Array	72.23	335	eP	P	12 20 31.8	-3.2
ZALV	Zalesovo Beam	72.23	335	P	P	12 20 32.0	-3.0
ZALV	Zalesovo Beam	72.23	335	P	P	12 20 32.0	-3.0
	comp=N,16nm,0.8s,baz=127,slow=4.5,SNR=38						
NVS	Novosibirsk	73.52	335	iP	P	12 20 38.2	-4.4
NVS				pmax	pmax		
	comp=Z,17nm,1.0s						
NVS				pmax	pmax		
	comp=N,7.0nm,1.1s						
NVS				pmax	pmax		
	comp=E,14nm,1.6s						
SEY	Seymchan	74.34	12c	iP	P	12 20 45.8	-1.5
IDAH	Dahanechah	76.31	307	eP	P	12 20 56.9	-2.7
IMYA	Miami	77.40	310	eP	P	12 21 04.6	-1.0
IMOG	Moghan	77.89	310	eP	P	12 21 07.2	-1.3
BRVK	Borovoye	78.42	329	eP	P	12 21 08.6	-2.0
BRVK				pmax	pmax		
	comp=Z,24nm,1.2s						
BRVK	Borovoye	78.42	329	eP	P	12 21 08.6	-2.0
	comp=Z,24nm,1.2s						
IAKL	Akhelmad	78.50	310	eP	P	12 21 09.7	-2.1
TBI	Tubuai	80.40	112	eLR	LR	12 46 32.9	
	comp=Z,206nm,25.0s						
TIXI	Tiksi	80.54	1d	iP	P	12 21 19.5	-2.2
TIXI				pmax	pmax		
	comp=Z,7.0nm,0.8s						
ISRV	Sarvestan	80.78	302	eP	P	12 21 25.8	+1.4
PPT2	Papeete2	80.91	106	eS	S	12 31 33.2	+1.3
	comp=Z,40nm,24.5s						
PPT2	Papeete2	80.91	106	eLR	LR	12 46 50.0	
	comp=Z,277nm,33.8s						
IPAR	Pars	80.96	302	eP	P	12 21 24.5	-0.9
ABKAR	Akbulak array	82.41	322	eP	P	12 21 29.8	-2.3
	comp=Z,2.0nm,0.7s						
AKTO	Aktyubinsk	84.01	323	LR	LR	13 00 40.1	
	comp=Z,44nm,19.9s,baz=331,slow=37						
SVE	Sverdlovsk	85.10	330	eP	P	12 21 44.5	-1.2
SVE				pmax	pmax		
	comp=Z,18nm,1.4s						
NAY	Al-Naaiem	85.72	300	eP	P	12 21 47.3	-2.2
NAY				AMb	AMB	12 21 48.8	
	comp=Z,0.4nm,0.9s						
MIB	Mutribah	85.76	301	eP	P	12 21 47.5	-2.2
MIB				AMb	AMB	12 21 49.1	
	comp=Z,22nm,1.3s						
RST	Umm Al-Ruwaisa	85.98	301	eP	P	12 21 48.8	-2.0
RST				AMb	AMB	12 21 57.5	
	comp=Z,150nm,0.9s						
ARU	Arti	85.99	329d	iP	P	12 21 48.2	-2.0
ARU						12 25 05.9	
ARU				S	S	12 32 11.4	-10
ARU				pmax	pmax		
	comp=Z,15nm,1.7s						
KBZ	Khabaz	92.09	314	LR	LR	13 10 27.7	
	comp=Z,69nm,18.5s,baz=277,slow=40						
RSO	Redoubt South	92.94	29	P	P	12 22 29.2	+6.1
	comp=Z,17nm,0.4s						
ILAR	Eielson Array	96.38	25	P	P	12 22 33.2	-5.4
ILAR	Eielson Array	96.38	25	P	P	12 22 33.2	-5.4
	comp=Z,0.5nm,1.0s,baz=261,slow=3.5,SNR=3.4						
OBN	Obninsk	97.71	325	eP	P	12 22 41.8	-2.9
OBN				ePS	PS	12 35 34.5	-0.7
OBN				pmax	pmax		
	comp=Z,6.0nm,1.4s						
BRTR	Keskin Array B	98.44	309	LR	LR	13 09 46.1	
	comp=Z,64nm,18.7s,baz=100,slow=37						
NVAR	Mina Array Bea	114.74	52	PKP	PKPdf	12 27 53.4	+2.3
NVAR	Mina Array Bea	114.74	52	PKP	PKPdf	12 27 53.4	+2.3
	comp=Z,0.8nm,0.8s,baz=249,slow=1.7,SNR=6.0						
PDAR	Pinedale Array	120.30	46	PKP	PKPdf	12 28 02.5	+0.8
PDAR	Pinedale Array	120.30	46	PKP	PKPdf	12 28 02.5	+0.8
	comp=Z,1.0nm,0.7s,baz=210,slow=0.8,SNR=12						
ANMO	Albuquerque	124.76	54	PKP	PKPdf	12 28 10.4	0.0
ANMO	Albuquerque	124.76	54	PKP	PKPdf	12 28 10.4	0.0
	comp=Z,0.6nm,0.4s,baz=216,slow=3.9,SNR=6.1						
TORD	Torodi Ar. Bea	126.44	280	PKP	PKPdf	12 28 14.4	+0.5
TORD	Torodi Ar. Bea	126.44	280	PKP	PKPdf	12 28 14.4	+0.5
	comp=Z,2.1nm,0.7s,baz=88,slow=2.3,SNR=11						
TXAR	Lajitas Array	128.36	60	PKP	PKPdf	12 28 17.6	+0.3
TXAR	Lajitas Array	128.36	60	PKP	PKPdf	12 28 17.6	+0.3
	comp=Z,0.3nm,0.6s,baz=277,slow=2.4,SNR=5.7						
TKL	Tuckaleechee C	141.30	42	PKP	PKPdf	12 28 41.5	+0.3
TKL	Tuckaleechee C	141.30	42	PKP	PKPdf	12 28 41.5	+0.3
	comp=Z,3.5nm,0.7s,baz=146,slow=6.1,SNR=5.4						
CPUP	Villa Florida	144.55	173	PKP	PKPdf	12 28 48.2	+1.0
CPUP	Villa Florida	144.55	173	PKP	PKPdf	12 28 48.2	+1.0
	comp=Z,3.1nm,0.6s,baz=187,slow=3.2,SNR=6.8						
LPAZ	La Paz	150.61	149	PKPbc	PKPbc	12 29 06.1	+2.5
LPAZ				PKPab	PKPab	12 29 14.4	+4.1
LPAZ	La Paz	150.61	149	PKPbc	PKPbc	12 29 06.1	+2.5
	comp=Z,4.2nm,1.0s,baz=284,slow=3.1,SNR=7.2						
LPAZ				PKPab	PKPab	12 29 14.4	+4.1
	comp=Z,5.8nm,0.6s,baz=236,slow=2.5,SNR=16						

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*IDC **07** 12:19:30.4±0.8, 8°.70S×127°.31E, h0km, mb4.3/5, mb1 4.4/8, mb1mx4.1/20, mbtmp4.3/8, ML4.1/3, Error ellipse: s-maj=28.2km s-min=18.1km az=60.0*

*ISCJB **07** 12:19:32.6±0.4, 8°.92S±0°.04×127°.34E±0°.05, h33km, mb4.1/6, Error ellipse: s-maj=7.8km s-min=5.4km az=150.3*

*NEIC **07** 12:19:34.5±0.5, 8°.90S×127°.36E, h35km, mb4.3/3, Error ellipse: s-maj=12.2km s-min=6.8km az=55.0*

*AUST **07** 12:19:36.6, 8°.99S×127°.54E, h30km*

ISC 07 12:19:35.5±0.5, 8°.95S±0°.06×127°.34E±0°.05, h35km, n51, σ2°.21/60, mb4.3/6, Timor region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
SOEI	Soe	3.14	255	P	Pn	12 20 23.1	+0.5
	baz=3.3,SNR=24						
BATI	Baumata	3.84	251	Pn	Pn	12 20 31.9	-0.2
BATI				Sn	Sn	12 21 19.1	+3.1
BATI	Baumata	3.84	251	Pn	Pn	12 20 31.9	-0.2
	16nm,0.3s,baz=86,slow=2.9,SNR=15						
BATI				Sn	Sn	12 21 19.1	+3.1
	42nm,0.3s,baz=97,slow=20,SNR=6.8						
BNDI	Bandanaira	5.08	30	P	Pn	12 20 52.9	+3.6
	baz=5.0,SNR=3.5						
MTN	Manton Dam	5.37	136	P	Pn	12 20 56.7	+3.6
	baz=5.2,SNR=100						
KDU	Kakadu	6.26	127	P	Pn	12 21 07.9	+2.5
	baz=6.1,SNR=59						
TLE	Tual	6.28	59	P	Pn	12 21 08.6	+2.8
	baz=6.1,SNR=3.6						
KNRA	Kununurra	6.83	168	P	Pn	12 21 14.5	+1.3
	baz=6.8,SNR=194						
KNRA				S	Sn	12 22 30.6	+0.9
	baz=6.8,SNR=16						
FAKI	Fak Fak	7.73	39	P	Pn	12 21 26.7	+1.0
	baz=7.7,SNR=52						
KAPI	Kappang	8.49	297	Pn	Pn	12 21 34.6	-1.5
KAPI	Kappang	8.49	297	Pn	Pn	12 21 34.6	-1.5
	0.3nm,0.3s,baz=135,slow=10.0,SNR=2.3						
FITZ	Fitzroy Crossi	9.24	190	Pn	Pn	12 21 46.7	+0.3
FITZ				Sn	Sn	12 23 28.0	-1.2
FITZ	Fitzroy Crossi	9.24	190	Pn	Pn	12 21 46.7	+0.3
	4.5nm,0.3s,baz=27,slow=11,SNR=32						
FITZ				Sn	Sn	12 23 28.0	-1.2
	8.3nm,0.3s,baz=246,slow=15,SNR=5.7						
FITZ	Fitzroy Crossi	9.24	190	P	Pn	12 21 46.5	+0.1
	baz=9.3,SNR=34						
WRAB	Tennant Creek	12.85	149	ePn	Pn	12 22 34.5	-1.3
WRA	Warramunga Arr	12.85	149	Pn	Pn	12 22 34.2	-1.7
WRA				Sn	Sn	12 24 53.9	-3.8
WRA	Warramunga Arr	12.85	149	Pn	Pn	12 22 34.2	-1.7
	5.1nm,0.3s,baz=316,slow=14,SNR=86						
WRA				Sn	Sn	12 24 53.9	-3.8
	5.4nm,0.3s,baz=323,slow=23,SNR=8.5						
MBWA	Marble Bar	14.18	210	ePn	Pn	12 22 54.6	+0.7
AS31	Alice Springs	15.92	158	ePn	Pn	12 23 15.5	-1.6
ASAR	Alice Springs	15.92	158	Pn	Pn	12 23 15.4	-1.7
ASAR				Sn	Sn	12 26 08.0	-4.6
ASAR	Alice Springs	15.92	158

baz=19,SNR=19
CISI Cisompet, Garu 19.38 273 P Pn 12 24 00.3 +0.5
baz=20,SNR=5.4
MEEK Meekatharra 19.44 204 P Pn 12 24 00.9 +0.5
baz=20,SNR=14
KSM Kuching 19.89 301 *e*P **P 12 24 02.9 -1.2**
5.7nm,0.6s
CTA Charters Tower 21.37 123 P P 12 24 24.5 +4.4
CTA Charters Tower 21.37 123 P P 12 24 24.5 +4.4
1.4nm,0.4s,baz=244,slow=17,SNR=3.0
MORW Morawa 22.65 206 P P 12 24 44.8 +11
baz=23,SNR=6.0
STKA Stephens Creek 26.37 152 P P 12 25 09.2 +0.6
STKA Stephens Creek 26.37 152 P P 12 25 09.2 +0.6
2.7nm,0.4s,baz=316,slow=4.7,SNR=12
STKA Stephens Creek 26.37 152 P P 12 25 11.7 +3.1
baz=26,SNR=9.1
CMAR Chiang Mai Arr 39.08 314 P P 12 26 58.0 -1.6
CMAR Chiang Mai Arr 39.08 314 P P 12 26 58.0 -1.6
4.3nm,0.7s,baz=142,slow=6.8,SNR=31
SONM Songino Array 59.51 344 P P 12 29 33.8 -1.5
SONM Songino Array 59.51 344 P P 12 29 33.8 -1.5
0.6nm,0.7s,baz=158,slow=8.6,SNR=3.2
MKAR Makanchi Array 68.46 328 P P 12 30 32.5 -1.5
MKAR Makanchi Array 68.46 328 P P 12 30 32.5 -1.5
1.8nm,0.5s,baz=128,slow=7.8,SNR=10.0
ZAA0 Zalesovo Array 72.20 335 *e*P **P 12 30 53.8 -3.0**
ZALV Zalesovo Beam 72.20 335 P P 12 30 54.5 -2.2
ZALV Zalesovo Beam 72.20 335 P P 12 30 54.5 -2.2
2.6nm,0.4s,baz=131,slow=4.8,SNR=11
PDAR Pinedale Array 120.13 45 PKP PKPdf 12 38 24.3 +1.0
PDAR Pinedale Array 120.13 45 PKP PKPdf 12 38 24.3 +1.0
0.3nm,0.7s,baz=257,slow=2.4,SNR=2.7
TORD Torodi Ar. Bea 126.57 280 PKP PKPdf 12 38 36.4 +0.3
TORD Torodi Ar. Bea 126.57 280 PKP PKPdf 12 38 36.4 +0.3
0.9nm,0.8s,baz=87,slow=2.6,SNR=4.6
TXAR Lajitas Array 128.18 60 PKP PKPdf 12 38 39.3 +0.3
TXAR Lajitas Array 128.18 60 PKP PKPdf 12 38 39.3 +0.3
0.1nm,0.6s,baz=212,slow=4.9,SNR=3.1
LPAZ La Paz 150.62 149 PKPbc PKPbc 12 39 28.2 +2.6
LPAZ PKPab **PKPab 12 39 34.5 +2.2**
LPAZ La Paz 150.62 149 PKPbc PKPbc 12 39 28.2 +2.6
1.5nm,0.8s,baz=73,slow=2.4,SNR=5.1
LPAZ PKPab **PKPab 12 39 34.5 +2.2**
1.8nm,0.6s,baz=216,slow=5.0,SNR=6.9

TIR ***07*** *12:21:37.5±12.0, 41.42N×20.42E, h2km±62km, ML3.4*
SKO ***07*** *12:21:44.6, 41.48N×20.46E, h9km, M2.9, ML3.3*
ATH ***07*** *12:21:44.0, 41.58N×20.41E, h11km±2km, MD3.5/8*
PDG ***07*** *12:21:45.9±0.4, 41.40N×20.40E, h13km, MD3.6/3, ML3.4/11, Error ellipse: s-maj=0.6km s-min=0.7km az=0.0*
BEO ***07*** *12:21:46.3±0.4, 41.39N×20.45E, h2km±2km, ML3.1/1*
THE ***07*** *12:21:46.3, 41.44N×20.47E, h0km±3km, ML3.5/2, Error ellipse: s-maj=3.0km s-min=0.9km az=272.0*
CSEM ***07*** *12:21:46.4±0.1, 41.44N×20.44E, h2km, ML3.5/2, Error ellipse: s-maj=3.4km s-min=2.3km az=57.0*
ISC 07 12:21:45.9±1.1, 41.45N±0.01×20.44E±0.01, h1km±9km, n143, σ1§24/210, 28C-18D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHP	**Peshkopia**	**0.24**	**1**	*i* PG	Pg	12 21 45.7	-4.8
PHP				*i* SG	**Sg**	**12 21 49.9**	**-3.7**
PHP	**Peshkopia**	**0.24**	**1**	P	**Pg**	**12 21 51.0**	**+0.5**
PHP				S	**Sg**	**12 21 55.5**	**+1.9**
PHP	**Peshkopia**	**0.24**	**1**	P	**Pg**	**12 21 51.0**	**+0.5**
PHP				S	**Sg**	**12 21 55.5**	**+1.9**
TIR	**Tirane**	**0.44**	**257**	*i* PG	Pg	12 21 50.3	-4.0
TIR				*i* SG	**Sg**	**12 22 00.7**	**+0.6**
TIR	**Tirane**	**0.44**	**257**	P	**Pg**	**12 21 54.5**	**+0.2**
TIR				S	**Sg**	**12 22 01.4**	**+1.4**
TIR	**Tirane**	**0.44**	**257**	⇑*i*Pg	**Pg**	**12 21 53.8**	**-0.6**
TIR	**Tirane**	**0.44**	**257**	⇑*i*Pg	**Pg**	**12 21 53.8**	**-0.6**
TIR	**Tirane**	**0.44**	**257**	*e*Pb	**Pg**	**12 21 54.6**	**+0.2**
TIR				*i* Sg	**Sg**	**12 22 00.7**	**+0.6**
	SNR=139						
TIR				*e*Sb	**Sg**	**12 22 01.5**	**+1.4**
PUK	**Puka**	**0.72**	**326**	*i* PG	Pg	12 21 54.4	-5.3
PUK				*i* SG	**Sg**	**12 22 07.7**	**-1.4**
BIA	**Bitola**	**0.79**	**122**	P	**Pg**	**12 22 00.1**	**-1.0**
BIA				S	**Sg**	**12 22 11.7**	**+0.3**
BIA	**Bitola**	**0.79**	**122**	⇓*i*Pg	**Pg**	**12 22 00.6**	**-0.5**
BIA				*i* Sg	**Sb**	**12 22 12.5**	**-1.2**
BIA	**Bitola**	**0.79**	**122**	P	**Pg**	**12 22 00.1**	**-1.0**
BIA				S	**Sg**	**12 22 11.7**	**+0.3**
BIA				*i* Sg	**Sb**	**12 22 12.0**	**-1.7**
KBN	**Korca**	**0.86**	**162**	*i* PG	Pg	12 21 58.8	-3.6
KBN				*i* SG	**Sg**	**12 22 13.6**	**0.0**
KBN	**Korca**	**0.86**	**162**	P	**Pg**	**12 22 02.4**	**0.0**
KBN				S	**Sb**	**12 22 15.2**	**-0.6**
KBN	**Korca**	**0.86**	**162**	*i* Pg	Pg	12 21 58.8	-3.6
	SNR=100						
KBN	**Korca**	**0.86**	**162**	P	**Pg**	**12 22 02.4**	**0.0**
KBN				*i* Sg	**Sg**	**12 22 13.6**	**0.0**
	SNR=100						
KBN				S	**Sb**	**12 22 15.2**	**-0.6**
SKO	**Skopje**	**0.92**	**55**	P	**Pb**	**12 22 04.0**	**-0.6**
SKO				S	**Sn**	**12 22 18.2**	**-1.5**
SKO	**Skopje**	**0.92**	**55**	*i* Pg	**Pg**	**12 22 03.7**	**+0.3**
SKO				*e*Sg	**Sb**	**12 22 16.6**	**-0.6**
SKO	**Skopje**	**0.92**	**55**	*i* Pg	**Pg**	**12 22 01.8**	**-1.6**
SKO				*i* Sg	**Sn**	**12 22 18.3**	**-1.5**
SKO				*e*Lg	Lg	12 22 21.7	
	comp=E,667nm,0.4s						
SKO				*e*Lg	Lg	12 22 22.6	
	comp=N,1μm,0.6s						
SKO	**Skopje**	**0.92**	**55**	P	**Pb**	**12 22 04.0**	**-0.6**
SKO				*e*Sg	**Sb**	**12 22 16.6**	**-0.6**
SKO				S	**Sn**	**12 22 18.2**	**-1.5**
SKO				*e*Lg	Lg	12 22 21.5	
	comp=N,1μm,0.6s						
BCI	**Bajram Curri**	**0.96**	**343**	*i* PG	Pg	12 21 58.6	-5.7
BCI				*i* SG	**Sg**	**12 22 16.0**	**-0.8**
BCI	**Bajram Curri**	**0.96**	**343**	*i* Sg	**Sg**	**12 22 16.0**	**-0.8**
	SNR=90						
FNA	**Florina**	**0.97**	**133**	P	**Pg**	**12 22 03.8**	**-0.7**
FNA				S	**Sb**	**12 22 17.8**	**-1.0**
FNA	**Florina**	**0.97**	**133**	*e*PG	Pg	**12 22 03.8**	**-0.7**
FNA	**Florina**	**0.97**	**133**	P	**Pg**	**12 22 03.8**	**-0.7**
FNA				S	**Sb**	**12 22 17.8**	**-1.0**
ULC	**Ulcinj**	**1.03**	**300**	⇓*i*Pg	**Pg**	**12 22 04.5**	**-1.2**
ULC				*e*Sg	**Sn**	**12 22 21.0**	**-1.6**
ULC	**Ulcinj**	**1.03**	**300**	⇓*i*Pg	**Pg**	**12 22 04.5**	**-1.2**
ULC				*e*Sg	**Sn**	**12 22 21.0**	**-1.6**
NEST	**Nestorio**	**1.13**	**156**	P	**Pb**	**12 22 07.0**	**-1.3**
NEST				S	**Sn**	**12 22 24.2**	**-0.9**
NEST	**Nestorio**	**1.13**	**156**	P	**Pb**	**12 22 07.0**	**-1.3**
NEST				S	**Sn**	**12 22 24.2**	**-0.9**
DRME	**Dracevica, Mon**	**1.19**	**309**	⇓*i*Pg	**Pb**	**12 22 07.9**	**-1.4**
DRME				*e*Sg	**Sn**	**12 22 26.7**	**+0.2**
DRME	**Dracevica, Mon**	**1.19**	**309**	⇓*i*Pg	**Pb**	**12 22 07.9**	**-1.4**
DRME				*e*Sg	**Sn**	**12 22 26.7**	**+0.2**
PVY	**Plav**	**1.20**	**343**	⇑*i*Pg	**Pn**	**12 22 08.8**	**-1.1**
PVY				*e*Sg	**Sn**	**12 22 28.4**	**+1.5**
PVY	**Plav**	**1.20**	**343**	⇑*i*Pg	**Pn**	**12 22 08.8**	**-1.1**
PVY				*e*Sg	**Sn**	**12 22 28.4**	**+1.5**
PDG	**Podgorica**	**1.32**	**318**	*e*Pg	**Pn**	**12 22 10.2**	**-1.2**
PDG				*e*Sg	**Sg**	**12 22 30.5**	**+2.2**
PDG	**Podgorica**	**1.32**	**318**	*e*Pg	**Pn**	**12 22 10.2**	**-1.2**
PDG				*e*Sg	**Sg**	**12 22 30.5**	**+2.2**
TTG	**Podgorica**	**1.32**	**318**	⇓*i*Pg	**Pn**	**12 22 10.1**	**-1.3**
TTG				*e*Sg	**Sg**	**12 22 31.6**	**+3.3**
BUM	**Brajici-Budva**	**1.44**	**307**	⇓*i*Pg	**Pn**	**12 22 12.4**	**-0.7**
BUM				*e*Sg	**Sg**	**12 22 33.9**	**+1.9**
BUM	**Brajici-Budva**	**1.44**	**307**	⇓*i*Pg	**Pn**	**12 22 12.4**	**-0.7**
BUM				*e*Sg	**Sg**	**12 22 33.9**	**+1.9**
BEY	**Berane**	**1.48**	**344**	*e*Pg	**Pb**	**12 22 13.7**	**-0.5**
BEY				*e*Sg	**Sg**	**12 22 35.7**	**+2.2**
IVA	**Berane**	**1.48**	**344**	*e*Pg	**Pb**	**12 22 13.7**	**-0.5**
IVA				*e*Sg	**Sg**	**12 22 35.7**	**+2.2**
KZN	**Kozani**	**1.52**	**138**	*e*PB	**Pg**	**12 22 14.9**	**-0.2**
KZN				*e*SB	**Sg**	**12 22 38.0**	**+3.2**
KZN	**Kozani**	**1.52**	**138**	*e*Pb	**Pg**	**12 22 14.9**	**-0.2**
KZN				*e*Sb	**Sg**	**12 22 38.0**	**+3.2**
GRG	**Griva**	**1.56**	**108**	P	**Pb**	**12 22 14.6**	**-1.0**
GRG	**Griva**	**1.56**	**108**	P	**Pb**	**12 22 14.6**	**-1.0**
SRN	**Sarande**	**1.60**	**192**	P	**Pb**	**12 22 15.5**	**-0.7**
SRN	**Sarande**	**1.60**	**192**	P	**Pb**	**12 22 15.5**	**-0.7**
VAY	**Valandovo**	**1.61**	**94**	P	**Pn**	**12 22 14.3**	**-1.1**
VAY				S	**Sb**	**12 22 36.1**	**-1.1**
VAY	**Valandovo**	**1.61**	**94**	⇑*i*Pg	**Pn**	**12 22 14.2**	**-1.1**
VAY				*e*Sg	**Sb**	**12 22 36.3**	**-0.9**
VAY	**Valandovo**	**1.61**	**94**	*i* Pn	**Pn**	**12 22 14.4**	**-1.1**
VAY				*i* Sn	**Sb**	**12 22 37.0**	**-0.2**
VAY				*e*Lg	Lg	12 22 40.2	
	comp=E,299nm,0.8s						
VAY				*e*Lg	Lg	12 22 42.1	
	comp=N,279nm,0.6s						
VAY	**Valandovo**	**1.61**	**94**	*i* Pn	**Pn**	**12 22 13.8**	**-1.6**
VAY	**Valandovo**	**1.61**	**94**	⇑*i*Pg	**Pn**	**12 22 14.2**	**-1.1**
VAY				S	**Sb**	**12 22 36.1**	**-1.1**
VAY				*e*Lg	Lg	12 22 41.6	
	comp=N,279nm,0.6s						
BARS	**Barje**	**1.71**	**36**	*i* Pg	**Pb**	**12 22 17.1**	**-1.0**
BARS				*e*Sg	**Sg**	**12 22 42.5**	**+1.7**
BARS	**Barje**	**1.71**	**36**	*i* Pg	**Pb**	**12 22 17.1**	**-1.0**
BARS				*e*Sg	**Sg**	**12 22 42.5**	**+1.7**
NKME	**Niksic**	**1.72**	**321**	⇑*i*Pn	**Pb**	**12 22 17.2**	**-1.1**
NKME				*e*Sn	**Sg**	**12 22 41.1**	**-0.1**
NKME	**Niksic**	**1.72**	**321**	⇑*i*Pn	**Pb**	**12 22 17.2**	**-1.1**
NKY	**Niksic**	**1.74**	**322**	⇑*i*Pn	**Pn**	**12 22 16.7**	**-0.6**
NKY				*e*Sn	**Sg**	**12 22 41.4**	**-0.3**
NKY	**Niksic**	**1.74**	**322**	⇑*i*Pn	**Pn**	**12 22 16.7**	**-0.6**
HCY	**Herceg Novi**	**1.76**	**305**	⇓*i*Pn	**Pb**	**12 22 17.8**	**-1.2**
HCY				*e*Sn	**Sg**	**12 22 42.1**	**-0.4**
HCY	**Herceg Novi**	**1.76**	**305**	⇓*i*Pn	**Pb**	**12 22 17.8**	**-1.2**
HCY				*e*Sn	**Sg**	**12 22 42.1**	**-0.4**
KEK	**Kerkira**	**1.80**	**196**	P	**Pb**	**12 22 18.5**	**-1.1**
KEK	**Kerkira**	**1.80**	**196**	*e*PN	**Pn**	**12 22 17.9**	**-0.1**
KEK				*e*SN	**Sg**	**12 22 44.6**	**+0.9**
KEK	**Kerkira**	**1.80**	**196**	*e*Pb	**Pn**	**12 22 17.9**	**-0.1**
KEK	**Kerkira**	**1.80**	**196**	P	**Pb**	**12 22 18.5**	**-1.1**
KEK				*e*Sn	**Sg**	**12 22 44.6**	**+0.9**
JAN	**Janina**	**1.82**	**170**	*e*PG	**Pb**	**12 22 20.0**	**+0.1**
JAN				*e*SN	**Sg**	**12 22 45.1**	**+0.9**
JAN	**Janina**	**1.82**	**170**	*e*Pg	**Pb**	**12 22 20.0**	**+0.1**
JAN				*e*Sn	**Sg**	**12 22 45.1**	**+0.9**
SELS	**Selova**	**1.84**	**16**	⇑*i*Pn	**Pn**	**12 22 18.1**	**-0.6**
SELS				*e*Sn	**Sb**	**12 22 43.9**	**0.0**
SJES	**Sjenica**	**1.85**	**349**	*e*Pn	**Pb**	**12 22 19.2**	**-1.3**
SJES				*e*Sg	**Sg**	**12 22 45.7**	**+0.5**
TREB	**Trebinje**	**2.01**	**310**	*e*Pn	**Pb**	**12 22 22.1**	**-1.1**
TREB	**Trebinje**	**2.01**	**310**	*e*Pn	**Pb**	**12 22 22.1**	**-1.1**
BRY	**Bratogost**	**2.03**	**316**	⇓*i*Pn	**Pn**	**12 22 21.5**	**+0.2**
BRY				*e*Sn	**Sb**	**12 22 48.9**	**-0.4**
BRY	**Bratogost**	**2.03**	**316**	⇓*i*Pn	**Pn**	**12 22 21.5**	**+0.2**
BRY				*e*Sn	**Sb**	**12 22 48.9**	**-0.4**
PLE	**Pljevlja**	**2.04**	**338**	⇓*i*Pn	**Pn**	**12 22 21.2**	**-0.2**
PLE				*e*Sn	**Sb**	**12 22 48.9**	**-0.7**
UPM	**Unac-Piva**	**2.09**	**328**	⇓*i*Pn	**Pb**	**12 22 22.9**	**-1.8**
UPM				*e*Sn	**Sb**	**12 22 50.2**	**-1.0**
THL	**Klokotos Trika**	**2.23**	**147**	*e*PN	**Pb**	**12 22 24.9**	**-2.1**
THL	**Klokotos Trika**	**2.23**	**147**	*e*Pn	**Pb**	**12 22 24.9**	**-2.1**
SOH	**Sokhos**	**2.29**	**105**	*e*PN	**Pn**	**12 22 25.5**	**+0.7**
SOH	**Sokhos**	**2.29**	**105**	*e*Pn	**Pn**	**12 22 25.5**	**+0.7**
VTS	**Vitosha**	**2.36**	**60**	P	**Pn**	**12 22 25.8**	**-0.1**
VTS	**Vitosha**	**2.36**	**60**	⇑*i*P	**Pn**	**12 22 26.9**	**+1.0**
VTS	**Vitosha**	**2.36**	**60**	⇑*i*Pn	**Pn**	**12 22 26.8**	**+0.9**
VTS				*e*Sn	**Sn**	**12 22 56.1**	**+0.6**
VTS	**Vitosha**	**2.36**	**60**	P	**Pn**	**12 22 25.8**	**-0.1**
VTS				*e*Sn	**Sn**	**12 22 56.1**	**+0.6**
SRS	**Serrai**	**2.40**	**97**	P	**Pn**	**12 22 26.7**	**+0.4**
SRS	**Serrai**	**2.40**	**97**	P	**Pn**	**12 22 26.7**	**+0.4**
ZAPS	**Zavoj**	**2.45**	**41**	⇑*i*Pn	**Pn**	**12 22 28.1**	**+1.1**
ZAPS				*e*Sg	**Sg**	**12 23 06.1**	**+1.6**
ZAPS	**Zavoj**	**2.45**	**41**	⇑*i*Pn	**Pn**	**12 22 28.1**	**+1.1**
ZAPS				*e*Sg	**Sg**	**12 23 06.1**	**+1.6**
GRUS	**Gruza**	**2.45**	**5**	⇑*i*Pn	**Pb**	**12 22 28.3**	**-2.4**
GRUS				*e*Sg	**Sg**	**12 23 04.4**	**-0.2**
GRUS	**Gruza**	**2.45**	**5**	⇑*i*Pn	**Pb**	**12 22 28.3**	**-2.4**
GRUS				*e*Sg	**Sg**	**12 23 04.4**	**-0.2**
STON	**Ston**	**2.48**	**306**	⇑*i*Pn	**Pn**	**12 22 28.5**	**+1.1**
STON	**Ston**	**2.48**	**306**	*e*Pn	**Pn**	**12 22 28.4**	**+1.1**
STON				Sn	**Sb**	**12 23 01.5**	**-0.8**
PLG	**Polygyros**	**2.52**	**114**	*e*PN	**Pn**	**12 22 28.2**	**+0.3**
PLG				*e*SN	**Sn**	**12 22 59.2**	**-0.1**
PLG	**Polygyros**	**2.52**	**114**	*e*Pb	**Pn**	**12 22 28.2**	**+0.3**
PLG				*e*Sn	**Sn**	**12 22 59.2**	**-0.1**
BBLS	**Lazići**	**2.54**	**343**	⇑*i*Pn	**Pn**	**12 22 29.1**	**+0.9**
BBLS	**Lazići**	**2.54**	**343**	⇑*i*Pn	**Pn**	**12 22 29.1**	**+0.9**
NVR	**Nevrokopi**	**2.58**	**91**	P	**Pn**	**12 22 29.5**	**+0.7**
NVR	**Nevrokopi**	**2.58**	**91**	*e*PN	**Pn**	**12 22 29.3**	**+0.5**
NVR				*e*SN	**Sn**	**12 23 00.3**	**-0.4**
NVR	**Nevrokopi**	**2.58**	**91**	*e*Pn	**Pn**	**12 22 29.3**	**+0.5**
NVR				*e*Sn	**Sn**	**12 23 00.3**	**-0.4**
LKD2	**Lefkada island**	**2.66**	**176**	*e*PN	**Pn**	**12 22 30.6**	**+0.7**
LKD2	**Lefkada island**	**2.66**	**176**	*e*Pn	**Pn**	**12 22 30.6**	**+0.7**
DIVS	**Divibare**	**2.67**	**353**	P	**Pn**	**12 22 30.3**	**+0.2**
DIVS	**Divibare**	**2.67**	**353**	*e*Pn	**Pn**	**12 22 30.5**	**+0.4**
DIVS	**Divibare**	**2.67**	**353**	*e*Pn	**Pn**	**12 22 30.5**	**+0.4**
EVR	**Evrytania**	**2.74**	**157**	*e*PB	**Pb**	**12 22 33.0**	**-2.6**
EVR	**Evrytania**	**2.74**	**157**	*e*Pb	**Pb**	**12 22 33.0**	**-2.6**
AGG	**Agios Georgios**	**2.82**	**148**	*e*PN	**Pn**	**12 22 32.8**	**+0.7**
AGG	**Agios Georgios**	**2.82**	**148**	*e*Pn	**Pn**	**12 22 32.8**	**+0.7**
PAIG	**Paliouri**	**2.90**	**121**	*e*PN	**Pn**	**12 22 33.3**	**+0.2**
PAIG	**Paliouri**	**2.90**	**121**	*e*Pn	**Pn**	**12 22 33.3**	**+0.2**
TEKS	**Tekeris**	**3.17**	**348**	*e*Pn	**Pn**	**12 22 38.9**	**+2.0**
TEKS	**Tekeris**	**3.17**	**348**	*e*Pn	**Pn**	**12 22 38.9**	**+2.0**
VLS	**Valsamata**	**3.27**	**178**	*e*PN	**Pn**	**12 22 39.3**	**+1.1**
VLS	**Valsamata**	**3.27**	**178**	*e*Pn	**Pn**	**12 22 39.3**	**+1.1**
KALE	**Kalithea**	**3.32**	**156**	*e*PN	**Pn**	**12 22 40.0**	**+1.0**
KALE	**Kalithea**	**3.32**	**156**	*e*Pn	**Pn**	**12 22 40.0**	**+1.0**
LAKA	**Lakka**	**3.42**	**159**	*e*PN	**Pn**	**12 22 41.5**	**+1.2**
LAKA	**Lakka**	**3.42**	**159**	*e*Pn	**Pn**	**12 22 41.5**	**+1.2**
RLS	**Riolos of Patr**	**3.48**	**166**	*e*PN	**Pn**	**12 22 42.2**	**+1.1**
RLS	**Riolos of Patr**	**3.48**	**166**	*e*Pn	**Pn**	**12 22 42.2**	**+1.1**
KLV	**Kalavryta, Ach**	**3.65**	**158**	*e*PN	**Pn**	**12 22 45.5**	**+2.0**
KLV	**Kalavryta, Ach**	**3.65**	**158**	*e*Pn	**Pn**	**12 22 45.5**	**+2.0**
GUR	**Goura**	**3.80**	**157**	*e*PN	**Pn**	**12 22 46.9**	**+1.3**
GUR	**Goura**	**3.80**	**157**	*e*Pn	**Pn**	**12 22 46.9**	**+1.3**
BZS	**Buzias**	**4.26**	**11**	⇑P	**Pn**	**12 22 53.5**	**+1.7**
BZS	**Buzias**	**4.26**	**11**	S	**Sn**	**12 23 40.8**	**-1.3**
BZS	**Buzias**	**4.26**	**11**	⇑P	**Pn**	**12 22 53.5**	**+1.7**
GZR	**Gura Zlata**	**4.30**	**23**	⇑P	**Pn**	**12 22 53.0**	**+0.6**
GZR	**Gura Zlata**	**4.30**	**23**	⇑P	**Pn**	**12 22 53.0**	**+0.6**
ITM	**Ithomi**	**4.42**	**164**	*e*PN	**Pn**	**12 22 56.5**	**+2.5**
ITM	**Ithomi**	**4.42**	**164**	*e*Pn	**Pn**	**12 22 56.5**	**+2.5**
PKSM	**Moragy**	**4.94**	**345**	⇓*i*P	**Pn**	**12 23 04.4**	**+3.3**
PKSM	**Moragy**	**4.94**	**345**	⇓*i*P	**Pn**	**12 23 04.4**	**+3.3**
NVLJ	**Novalja**	**5.13**	**309**	*e*Pn	**Pn**	**12 23 03.8**	**0.0**
NVLJ				Sn	**Sn**	**12 24 02.9**	**-0.8**
VOIR		**5.21**	**39**	⇑*i*P	**Pn**	**12 23 05.6**	**+0.6**
VOIR		**5.21**	**39**	⇑*i*P	**Pn**	**12 23 05.6**	**+0.6**
MLR	**Muntele Rosu**	**5.69**	**43**	⇓*i*P	**Pn**	**12 23 13.4**	**+1.8**
MLR	**Muntele Rosu**	**5.69**	**43**	⇓*i*P	**Pn**	**12 23 13.4**	**+1.8**
VRI	**Vrincioaia**	**6.35**	**44**	⇑*i*P	**Pn**	**12 23 21.7**	**+1.1**
VRI	**Vrincioaia**	**6.35**	**44**	⇑*i*P	**Pn**	**12 23 21.7**	**+1.1**
VOY	**Vojsko**	**6.59**	**316**	*e*Pn	**Pn**	**12 23 25.1**	**+1.1**
VOY				*e*Sn	**Sn**	**12 24 40.0**	**+0.2**
VOY	**Vojsko**	**6.59**	**316**	Pn	**Pn**	**12 23 25.1**	**+1.1**
VOY				*e*Sn	**Sn**	**12 24 40.0**	**+0.2**
KECS	**Kecovo**	**7.04**	**0**	*e*PN	**Pn**	**12 23 32.0**	**+2.0**
KECS	**Kecovo**	**7.04**	**0**	*e*Pn	**Pn**	**12 23 32.0**	**+2.0**
VYHS	**Vyhne**	**7.14**	**351**	*e*PN	**Pn**	**12 23 33.3**	**+1.9**
VYHS				*e*SN	**Sn**	**12 24 55.5**	**+2.4**
VYHS	**Vyhne**	**7.14**	**351**	*e*Pn	**Pn**	**12 23 33.3**	**+1.9**
VYHS				*e*Sn	**Sn**	**12 24 55.5**	**+2.4**

AUST ***07*** *12:55:32.6±43.0, 18.41S×176.47W, h466km±2km, Error ellipse: s-maj=14.9km s-min=3.7km az=263.0*
IDC ***07*** *12:55:41.0±4.8, 18.69S×178.01W, h441km±52km, mb3.5/11, mb1 3.8/12, mb1mx3.7/18, mbtmp3.5/12, Error ellipse: s-maj=21.4km s-min=19.9km az=63.0*
ISCJB ***07*** *12:55:41.3±0.7, 18.6S±0.1×178.1W±0.1, h450km, mb3.9/11, Error ellipse: s-maj=16.4km s-min=12.1km az=40.0*
ISC 07 12:55:41.9±0.7, 18.7S±0.1×178.0W±0.1, h450km, n31, σ1§07/33, mb3.9/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**19.98**	**191**	P	**P**	**12 59 40.5**	**-2.5**
	1.3nm,0.3s,baz=344,slow=6.2,SNR=12						
ARMA	**Armidale**	**29.88**	**241**	P	**P**	**13 01 13.0**	**+1.5**
	baz=31,SNR=5.6						
RMQ	**Roma**	**31.57**	**250**	P	**P**	**13 01 27.4**	**+1.3**
	baz=33,SNR=5.0						
CNB	**Canberra Magne**	**33.26**	**233**	P	**P**	**13 01 41.8**	**+1.3**
	baz=35,SNR=8.4						
PATS	**Pohnpei**	**34.44**	**315**	S	**S**	**13 06 45.5**	**-0.4**
	baz=35,SNR=3.3						
CMSA	**Cobar Meteorol**	**35.10**	**241**	P	**P**	**13 01 56.5**	**+0.5**
	baz=36,SNR=12						
MTSU	**Mount Surprise**	**35.69**	**265**	P	**P**	**13 02 01.1**	**-0.1**
	baz=37,SNR=5.8						
COEN	**Coen**	**37.47**	**271**	P	**P**	**13 02 16.2**	**+0.3**
	baz=39,SNR=8.8						
STKA	**Stephens Creek**	**38.59**	**242**	P	**P**	**13 02 25.6**	**+0.8**
	4.7nm,0.4s,baz=92,slow=9.1,SNR=18						
STKA	**Stephens Creek**	**38.59**	**242**	P	**P**	**13 02 25.6**	**+0.8**
	baz=40,SNR=8.4						
BBOO	**Buckleboo**	**43.36**	**242**	P	**P**	**13 03 03.3**	**+0.2**
	baz=45,SNR=11						
WRA	**Warramunga Arr**	**44.85**	**260**	P	**P**	**13 03 14.1**	**-0.8**
	3.2nm,0.4s,baz=98,slow=6.4,SNR=90						
WRA				PcP	**PcP**	**13 04 47.3**	**-0.2**
	0.5nm,0.4s,baz=88,slow=3.7,SNR=3.1						
ASAR	**Alice Springs**	**44.94**	**255**	P	**P**	**13 03 15.5**	**-0.1**
	32nm,0.6s,baz=90,slow=8.6,SNR=838						
ASAR				PcP	**PcP**	**13 04 47.5**	**-0.4**
	0.8nm,0.5s,baz=103,slow=4.1,SNR=4.3						
KDU	**Kakadu**	**47.91**	**270**	P	**P**	**13 03 37.8**	**-0.5**
	baz=49,SNR=12						
MTN	**Manton Dam**	**49.14**	**269**	P	**P**	**13 03 46.9**	**-0.6**
	baz=51,SNR=4.0						
KNRA	**Kununurra**	**50.77**	**265**	P	**P**	**13 03 59.0**	**-0.5**
	baz=52,SNR=8.2						
SOEI	**Soe**	**56.43**	**271**	P	**P**	**13 04 41.7**	**+1.5**
	baz=58,SNR=7.5						
MEEK	**Meekatharra**	**58.51**	**250**	P	**P**	**13 04 53.3**	**-0.8**
	baz=60,SNR=7.1						
VNDA	**Vanda**	**59.73**	**185**	P	**P**	**13 05 02.7**	**+1.3**
	0.6nm,0.5s,baz=26,slow=6.6,SNR=4.0						
MJAR	**Matsushiro Arr**	**68.72**	**323**	P	**P**	**13 05 59.0**	**-0.5**
	1.7nm,0.6s,baz=151,slow=5.6,SNR=6.8						
PETK	**Petropavlovsk-**	**74.49**	**345**	P	**P**	**13 06 33.1**	**+0.1**
	6.3nm,0.8s,baz=134,slow=9.0,SNR=16						
KSRS	**Korea Array**	**75.50**	**318**	P	**P**	**13 06 40.3**	**+1.4**
	0.7nm,0.6s,baz=121,slow=7.8,SNR=3.6						
TXAR	**Lajitas Array**	**86.09**	**57**	P	**P**	**13 07 36.3**	**+1.8**
	1.0nm,0.8s,baz=217,slow=5.9,SNR=10.0						
ILAR	**Eielson Array**	**86.53**	**13**	P	**P**	**13 07 34.4**	**-1.2**
	1.1nm,0.4s,baz=223,slow=4.9,SNR=40						
PDAR	**Pinedale Array**	**87.65**	**43**	P	**P**	**13 07 42.2**	**+0.5**
	0.5nm,0.6s,baz=236,slow=1.5,SNR=3.8						
CMAR	**Chiang Mai Arr**	**89.47**	**290**	P	**P**	**13 07 51.3**	**+0.8**

OGWZ	Otaki Gorge	1.84	75	PN	Pn	13 17 03.9	-0.3
PLWZ	Palliser	1.84	99	PN	Pn	13 17 03.7	-0.6
PAWZ	Paruwai Farm	1.96	93	PN	Pn	13 17 04.9	-0.7
PAWZ				AML	AML	13 17 31.3	
PAWZ				AML	AML	13 17 33.4	
MTW	Mount Morrison	2.02	87	PN	Pn	13 17 05.5	-0.8
MTW				AML	AML	13 17 32.7	
MTW				AML	AML	13 17 32.9	
NMEZ	Namu Road	2.06	23	PN	Pn	13 17 07.4	+0.7
HOWZ	Holdsworth Sta	2.07	79	PN	Pn	13 17 06.2	-0.7
OXZ	Oxford	2.10	196	PN	Pn	13 17 06.2	-1.0
TRWZ	Traveller	2.15	93	PN	Pn	13 17 07.5	-0.4
TRWZ				AML	AML	13 17 36.9	
TRWZ				AML	AML	13 17 37.3	
MRZ	Mangatainoka R	2.18	74	⇓PN	Pn	13 17 07.3	-1.0
MRZ				AML	AML	13 17 37.0	
MRZ				AML	AML	13 17 37.3	
NWEZ	Newall Road	2.18	22	PN	Pn	13 17 08.9	+0.6
DFE	Dawson Falls	2.21	27	PN	Pn	13 17 09.2	+0.5
KHEZ	Kahui Hut	2.21	25	PN	Pn	13 17 09.0	+0.3
NEZ	North Egmont	2.25	26	*e*PN	Pn	13 17 09.7	+0.5
WAZ	Wanganui	2.26	47	PN	Pn	13 17 09.8	+0.5
CRLZ	Canterbury Las	2.27	184	PN	Pn	13 17 08.4	-0.8
PKE	Pukeiti	2.29	23	⇑PN	Pn	13 17 10.0	+0.4
TMWZ	Te Maipa	2.32	86	PN	Pn	13 17 09.2	-0.7
WVZ	Waitaha Valley	2.35	221	PN	Pn	13 17 09.1	-1.2
DREZ	Durham Road	2.36	27	⇑PN	Pn	13 17 10.7	+0.2
TIWZ	Tintock	2.37	78	PN	Pn	13 17 09.9	-0.8
MQZ	McQueen's Vall	2.40	183	PN	Pn	13 17 09.8	-1.0
POWZ	Post Office Ro	2.41	69	PN	Pn	13 17 10.1	-1.0
PRWZ	Pori Road	2.50	74	PN	Pn	13 17 11.4	-0.8
VRZ	Vera Road	2.63	35	⇓PN	Pn	13 17 14.1	+0.2
BFZ	Birch Farm	2.66	77	PN	Pn	13 17 13.3	-0.9
DVHZ	Dannevirke	2.73	69	PN	Pn	13 17 13.8	-1.2
RPZ	Rata Peaks	2.74	208	PN	Pn	13 17 13.6	-1.5
MTVZ	Mangateitei	2.79	47	PN	Pn	13 17 16.1	+0.2
PKVZ	Pokaka	2.79	45	⇓PN	Pn	13 17 16.0	+0.1
TRVZ	Turoa	2.89	47	PN	Pn	13 17 17.0	-0.4
ANWZ	Angora Road	2.89	74	PN	Pn	13 17 16.4	-0.7
WNVZ	Wahianoa	2.90	48	PN	Pn	13 17 17.1	-0.3
PNHZ	Pukenui	2.92	63	PN	Pn	13 17 16.2	-1.4
FWVZ	Far West T-bar	2.92	46	PN	Pn	13 17 17.6	-0.3
WHVZ	Whangaehu Hut	2.92	47	PN	Pn	13 17 16.9	-1.0
MOVZ	Moawhango	2.93	51	PN	Pn	13 17 16.9	-0.9
WPVZ	Whakapapa	2.96	46	PN	Pn	13 17 17.8	-0.3
TUVZ	Tukino	2.97	48	PN	Pn	13 17 18.2	-0.2
TWVZ	Taurewa	3.00	43	PN	Pn	13 17 18.2	-0.4
NGZ	Ngauruhoe	3.01	46	PN	Pn	13 17 18.3	-0.6
WTVZ	West Tongariro	3.04	45	PN	Pn	13 17 18.5	-0.7
OTVZ	Oturere	3.05	46	PN	Pn	13 17 19.0	-0.4
BHHZ	Black Hill Sta	3.07	55	PN	Pn	13 17 18.3	-1.2
KRVZ	Karewarewa	3.09	45	PN	Pn	13 17 19.1	-0.7
HIZ	Hauiti	3.20	30	⇓PN	Pn	13 17 20.5	-0.6
KATZ	Kakaramea	3.20	44	PN	Pn	13 17 20.6	-0.7
FOZ	Fox Glacier	3.24	225	PN	Pn	13 17 18.8	-2.7
PXZ	Pawanui	3.32	69	PN	Pn	13 17 21.5	-1.1
KAHZ	Kahuranaki	3.44	65	PN	Pn	13 17 22.9	-1.3
MCHZ	McNeill Hill	3.49	59	PN	Pn	13 17 23.6	-1.3
BKZ	Black Stump Fm	3.53	54	PN	Pn	13 17 24.0	-1.4
BKZ				AML	AML	13 18 06.0	
BKZ				AML	AML	13 18 06.9	
LBZ	Lake Benmore	3.64	211	PN	Pn	13 17 24.3	-2.5
ODZ	Otahua Downs	4.06	202	⇓PN	Pn	13 17 30.8	-1.5
JCZ	Jackson Bay	4.08	226	⇓PN	Pn	13 17 30.6	-2.0
TOZ	Tahuroa Road	4.13	31	PN	Pn	13 17 32.8	-0.4
KNZ	Kokohu	4.36	60	PN	Pn	13 17 33.6	-2.6
MHGZ	Mahia Peninsul	4.44	63	PN	Pn	13 17 35.2	-2.2
WKZ	Wanaka	4.49	217	PN	Pn	13 17 35.5	-2.5
MKAZ	Moumakai	4.57	24	PN	Pn	13 17 39.1	+0.1

*IDC **07** 13:29:06.2±0.8, 4°.25S×133°.74E, h0km, mb3.8/7, mb1 4.2/12, mb1mx4.0/21, mbtmp4.0/12, ML4.2/5, MS3.4/4, Ms1 3.4/4, ms1mx2.9/41, Error ellipse: s-maj=31.0km s-min=11.9km az=82.0*

*AUST **07** 13:29:09.0, 3°.96S×134°.02E, h100km*

*ISCJB **07** 13:29:09.2±0.4, 4°.33S±0°.03×133°.76E±0°.06, h33km, mb3.8/7, MS3.5/2, Error ellipse: s-maj=8.4km s-min=4.3km az=15.9*

*DJA **07** 13:29:10.7±0.4, 4°.S±3°×13°.4E±°, h10km, M4.6/7, mb5.1/3, mB5.2/1, MLv4.3/7, Mw(mB)4.6/1*

ISC 07 13:29:11.2±0.6, 4°.26S±0°.05×133°.75E±0°.06, h35km, n34, σ1§94/35, mb4.0/7, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMPI	Kaimana, Papua	0.60	355	P	Pn	13 29 16.2	-7.0
TLE	Tual	1.70	216	P	**Pn**	**13 29 41.4**	**+3.1**
TLE	Tual	1.70	216	P	**Pn**	**13 29 40.8**	**+2.4**
	baz=2.1,SNR=11						
TLE				S	Sn	13 30 09.3	+10
	baz=2.1,SNR=4.6						
FAKI	Fak Fak	2.01	312	P	**Pn**	**13 29 43.9**	**+1.3**
FAKI	Fak Fak	2.01	312	P	**Pn**	**13 29 40.7**	**-1.9**
	baz=2.1,SNR=16						
RKPI	Ransiki, Papua	2.77	9	P	**Pn**	**13 29 52.3**	**-0.8**
RKPI				S	**Sn**	**13 30 26.3**	**+1.0**
BNDI	Bandanaira	3.84	266	P	Pn	13 30 11.7	+3.8
BNDI	Bandanaira	3.84	266	P	**Pn**	**13 30 09.5**	**+1.6**
	baz=4.1,SNR=4.7						
BAKI	Biak	3.85	38	P	**Pn**	**13 30 08.6**	**+0.6**
BAKI				S	**Sn**	**13 30 55.5**	**+3.4**
SWI	Sorong	4.20	324	P	**Pn**	**13 30 15.7**	**+3.0**
SWI	Sorong	4.20	324	P	**Pn**	**13 30 12.0**	**-0.7**
	baz=4.2,SNR=5.0						
AAI	Ambon	5.57	276	P	**Pn**	**13 30 33.5**	**+1.8**
	91nm,0.4s,2μm						
AAI	Ambon	5.57	276	P	**Pn**	**13 30 32.5**	**+0.9**
	baz=5.8,SNR=9.7						
KDU	Kakadu	8.46	189	P	**Pn**	**13 31 12.4**	**+1.1**
	baz=8.9,SNR=50						
MTN	Manton Dam	8.91	197	P	**Pn**	**13 31 18.7**	**+1.2**
	baz=9.3,SNR=33						
MTN				S	**Sn**	**13 32 59.4**	**+2.7**
	baz=9.3,SNR=4.8						
SOEI	Soe	10.88	239	P	**Pn**	**13 31 47.5**	**+2.9**
	baz=11,SNR=7.1						
BATI	Baumata	11.62	239	Pn	**Pn**	**13 31 54.4**	**-0.2**
	5.1nm,0.3s,baz=63,slow=4.5,SNR=10						
KNRA	Kununurra	12.36	203	P	**Pn**	**13 32 03.8**	**-0.9**
	baz=13,SNR=47						
KNRA				S	**Sn**	**13 34 19.1**	**-2.2**
	baz=13,SNR=3.7						
COEN	Coen	13.38	137	P	**Pn**	**13 32 15.6**	**-3.1**
	baz=14,SNR=12						
PMG	Port Moresby	14.26	112	LR	LR	13 37 32.9	
	comp=Z,107nm,20.7s,baz=325,slow=36						
WRA	Warramunga Arr	15.60	178	Pn	**Pn**	**13 32 45.8**	**-2.7**
	0.3nm,0.3s,baz=359,slow=13,SNR=17						
WRA				Sn	Sn	13 35 26.3	-14
	baz=340,slow=26,SNR=3.9						
FITZ	Fitzroy Crossi	15.88	209	Pn	**Pn**	**13 32 50.5**	**-1.7**
	0.7nm,0.3s,baz=41,slow=11,SNR=30						
FITZ				Sn	Sn	13 35 36.8	-10
	0.2nm,0.3s,baz=83,slow=16,SNR=3.4						
FITZ	Fitzroy Crossi	15.88	209	S	**Sn**	**13 35 44.3**	**-2.9**
	baz=16,SNR=4.5						
ASAR	Alice Springs	19.29	180	P	**P**	**13 33 33.9**	**+0.7**
	0.5nm,0.3s,baz=5.0,slow=12,SNR=65						
ASAR				S	**S**	**13 37 11.4**	**+1.6**
	0.1nm,0.3s,baz=358,slow=24,SNR=3.7						
ASAR				LR	LR	13 41 20.3	
	comp=Z,107nm,19.5s,baz=350,slow=38						
CTA	Charters Tower	19.89	143	P	**Pn**	**13 33 40.8**	**-0.8**
	0.9nm,0.3s,baz=322,slow=12,SNR=15						
STKA	Stephens Creek	28.44	166	P	**P**	**13 35 03.5**	**+0.7**
	3.9nm,0.8s,baz=329,slow=17,SNR=3.6						
STKA				LR	LR	13 46 28.2	
	comp=Z,129nm,19.2s,baz=201,slow=37						
PMBI	Palembang	28.95	272	S	**S**	**13 39 52.9**	**-3.4**
	baz=29,SNR=3.4						
CMAR	Chiang Mai Arr	41.06	304	P	**P**	**13 36 52.5**	**+0.8**
	0.7nm,0.6s,baz=136,slow=7.5,SNR=5.9						
KSRS	Korea Array	41.86	353	LR	LR	13 52 25.8	
	comp=Z,58nm,18.8s,baz=230,slow=34						
SONM	Songino Array	57.17	338	P	**P**	**13 38 55.5**	**+0.9**
	0.2nm,0.4s,baz=104,slow=4.6,SNR=3.4						
PETK	Petropavlovsk-	60.62	16	P	**P**	**13 39 18.8**	**+0.4**
	1.1nm,0.9s,baz=214,slow=10,SNR=2.8						
MKAR	Makanchi Array	68.08	325	P	**P**	**13 40 07.2**	**-0.2**
	1.0nm,0.6s,baz=118,slow=7.9,SNR=8.4						
KURBB	Kurchatov Arra	72.22	327	P	**P**	**13 40 32.1**	**-0.5**
	0.3nm,0.7s,baz=130,slow=5.6,SNR=5.1						
ILAR	Eielson Array	89.30	25	P	**P**	**13 42 03.4**	**-0.1**
	0.7nm,0.9s,baz=262,slow=5.1,SNR=6.2						

*ATH **07** 13:42:29.8, 41°.54N×20°.49E, h5km, MD3.4/9*

*TIR **07** 13:42:30.1±0.9, 41°.44N×20°.46E, h11km±15km, ML3.3*

*THE **07** 13:42:31.5, 41°.46N×20°.46E, h2km±1km, ML3.2/4, Error ellipse: s-maj=1.4km s-min=0.6km az=313.0*

*CSEM **07** 13:42:31.5±0.1, 41°.42N×20°.42E, h2km, ML3.2/4, Error ellipse: s-maj=3.9km s-min=2.3km az=51.0*

*SKO **07** 13:42:31.1, 41°.39N×20°.42E, h15km, M2.9, ML3.2*

*PDG **07** 13:42:31.4±0.4, 41°.44N×20°.40E, h14km, MD3.4/2, ML3.3/12, Error ellipse: s-maj=0.5km s-min=0.6km az=0.0*

*BEO **07** 13:42:32.0±0.4, 41°.40N×20°.44E, h6km±3km, ML3.0/1*

ISC 07 13:42:31.6±1.0, 41°.43N±0°.01×20°.43E±0°.02, h3km±9km, n137, σ1§02/212, 33C-21D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHP	Peshkopia	0.26	2	*i* Pg	Pg	13 42 36.0	-0.5
PHP				*i* Sg	Sg	13 42 40.0	+0.1
PHP	Peshkopia	0.26	2	P	Pg	13 42 36.1	-0.5
PHP				S	Sg	13 42 40.0	+0.1
PHP	Peshkopia	0.26	2	P	Pg	13 42 36.1	-0.5
PHP				S	Sg	13 42 40.0	+0.1
TIR	Tirane	0.43	259	*i* PG	Pg	13 42 39.9	0.0
TIR				*i* SG	Sg	13 42 47.1	+1.6
TIR	Tirane	0.43	259	P	Pg	13 42 39.9	0.0
TIR				S	Sg	13 42 46.6	+1.1
TIR	Tirane	0.43	259	*i* Pg	Pg	13 42 39.9	0.0
TIR				*e*Sg	Sg	13 42 47.1	+1.6
TIR	Tirane	0.43	259	P	Pg	13 42 39.9	0.0
TIR				S	Sg	13 42 46.6	+1.1
TIR				*e*Sg	Sg	13 42 47.1	+1.6
PUK	Puka	0.73	327	*i* PG	Pg	13 42 44.7	-0.9
PUK				*i* SG	Sb	13 42 56.8	-0.7
PUK	Puka	0.73	327	*i* Pg	Pg	13 42 44.7	-0.9
	SNR=94						
PUK				*i* Sg	Sb	13 42 56.8	-0.7
	SNR=94						
BIA	Bitola	0.79	121	P	Pg	13 42 45.6	-1.1
BIA				S	Sg	13 42 57.8	+0.8
BIA	Bitola	0.79	121	*i* Pg	Pg	13 42 45.9	-0.8
BIA				*i* Sg	Sb	13 42 58.7	-0.4
BIA	Bitola	0.79	121	*i* Pg	Pg	13 42 45.3	-1.4
BIA	Bitola	0.79	121	P	Pg	13 42 45.6	-1.1
BIA				S	Sg	13 42 57.8	+0.8
BIA				*i* Sg	Sb	13 42 58.2	-0.9
KBN	Korca	0.85	161	*i* PG	Pg	13 42 47.7	-0.2
KBN				*i* SG	Sg	13 42 58.9	0.0
KBN	Korca	0.85	161	P	Pg	13 42 47.6	-0.2
KBN				S	Sb	13 43 01.1	+0.3
KBN	Korca	0.85	161	*i* Pg	Pg	13 42 47.7	-0.2
	SNR=94						
KBN				*i* Sg	Sg	13 42 58.9	0.0
	SNR=94						
KBN				S	Sb	13 43 01.1	+0.3
SKO	Skopje	0.93	54	P	Pg	13 42 49.4	0.0
SKO				S	Sb	13 43 02.8	-0.3
SKO	Skopje	0.93	54	⇓*i*Pg	Pg	13 42 49.1	-0.3
SKO				*e*Sg	Sb	13 43 02.2	-0.9
SKO	Skopje	0.93	54	*i* Pg	Pb	13 42 50.2	-0.2
SKO				*e*Lg	Lg	13 43 01.4	
	comp=N,1μm,0.4s						
SKO				*i* Sg	Sg	13 43 01.6	+0.1
SKO				*e*Lg	Lg	13 43 01.7	
	comp=E,1μm,1.0s						
SKO	Skopje	0.93	54	P	Pg	13 42 49.4	0.0
SKO				*e*Sg	Sb	13 43 02.2	-0.9
SKO				*e*Lg	Lg	13 43 06.7	
	comp=E,1μm,1.0s						
FNA	Florina	0.96	132	P	Pg	13 42 50.2	+0.1
FNA				S	Sb	13 43 03.6	-0.5
FNA	Florina	0.96	132	*e*PB	Pg	13 42 49.2	-0.9
FNA				*e*SB	Sb	13 43 03.8	-0.3
FNA	Florina	0.96	132	*e*Pg	Pg	13 42 49.2	-0.9
FNA	Florina	0.96	132	P	Pg	13 42 50.2	+0.1
FNA				S	Sb	13 43 03.6	-0.5
BCI	Bajram Curri	0.97	344	*i* PG	Pg	13 42 49.5	-0.8
BCI				*i* SG	Sb	13 43 04.0	-0.3
BCI	Bajram Curri	0.97	344	*i* Pg	Pg	13 42 49.5	-0.8
	SNR=93						
BCI				*i* Sg	Sb	13 43 04.1	-0.3
	SNR=93						
ULC	Ulcinj	1.03	301	⇑*i*Pg	Pg	13 42 49.8	-1.6
ULC				*e*Sg	Sb	13 43 05.7	-0.5
ULC	Ulcinj	1.03	301	⇑*i*Pg	Pg	13 42 49.8	-1.6
ULC				*e*Sg	Sb	13 43 05.7	-0.5
NEST	Nestorio	1.12	155	P	Pg	13 42 52.8	-0.2
NEST				S	Sn	13 43 09.6	-0.5
NEST	Nestorio	1.12	155	P	Pg	13 42 52.8	-0.2
NEST				S	Sn	13 43 09.6	-0.5
DRME	Dracevica, Mon	1.20	310	⇑*i*Pg	Pg	13 42 53.1	-1.5
DRME				*e*Sg	Sn	13 43 12.1	0.0
DRME	Dracevica, Mon	1.20	310	⇑*i*Pg	Pg	13 42 53.1	-1.5
DRME				*e*Sg	Sn	13 43 12.1	0.0
PVY	Plav	1.22	343	⇓*i*Pg	Pg	13 42 53.3	-1.6
PVY				*e*Sg	Sn	13 43 12.4	-0.2
PVY	Plav	1.22	343	⇓*i*Pg	Pg	13 42 53.3	-1.6
PVY				*e*Sg	Sn	13 43 12.4	-0.2
PDG	Podgorica	1.33	319	*e*Pg	Pn	13 42 55.2	-1.8
PDG				*e*Sg	Sn	13 43 15.1	-0.1
PDG	Podgorica	1.33	319	*e*Pg	Pn	13 42 55.2	-1.8
PDG				*e*Sg	Sn	13 43 15.1	-0.1
TTG	Podgorica	1.33	319	⇑*i*Pg	Pn	13 42 55.1	-1.9
TTG				*e*Sg	Sn	13 43 16.2	+1.0
BUM	Brajici-Budva	1.44	308	⇓*i*Pg	Pn	13 42 57.8	-0.8
BUM				*e*Sg	Sg	13 43 18.9	+1.0
BUM	Brajici-Budva	1.44	308	⇓*i*Pg	Pn	13 42 57.8	-0.8
BUM				*e*Sg	Sg	13 43 18.9	+1.0
BEY	Berane	1.50	345	⇑*i*Pg	Pn	13 42 58.9	-0.5
BEY				*e*Sg	Sg	13 43 20.6	+1.0
IVA	Berane	1.50	345	⇑*i*Pg	Pn	13 42 58.9	-0.5
IVA				*e*Sg	Sg	13 43 20.6	+1.0
KZN	Kozani	1.51	137	P	Pn	13 42 59.1	-0.6
KZN				S	Sb	13 43 20.1	+0.1
KZN	Kozani	1.51	137	*e*PB	Pn	13 42 59.5	-0.2
KZN				*e*SB	Sg	13 43 21.0	+0.8
KZN	Kozani	1.51	137	P	Pn	13 42 59.1	-0.6
KZN	Kozani	1.51	137	*e*Pb	Pn	13 42 59.5	-0.2
KZN				S	Sb	13 43 20.1	+0.1
KZN				*e*Sb	Sg	13 43 21.0	+0.8
GRG	Griva	1.56	107	P	Pn	13 42 59.8	-0.5
GRG	Griva	1.56	107	P	Pn	13 42 59.8	-0.5
VAY	Valandovo	1.61	93	P	Pn	13 42 59.7	-1.2
VAY	Valandovo	1.61	93	⇑*i*Pn	Pn	13 42 59.6	-1.4
VAY	Valandovo	1.61	93	*i* Pn	Pn	13 43 00.1	-0.8
VAY				*e*Lg	Lg	13 43 25.2	
	comp=N,241nm,0.8s						
VAY				*e*Lg	Lg	13 43 26.1	
	comp=E,156nm,0.6s						
VAY	Valandovo	1.61	93	P	Pn	13 42 59.7	-1.2
VAY				*e*Lg	Lg	13 43 25.6	
	comp=E,156nm,0.6s						
BARS	Barje	1.73	36	*e*Pn	Pn	13 43 02.6	+0.1
BARS				*e*Sn	Sg	13 43 26.7	-0.4
NKME	Niksic	1.73	321	⇑*i*Pn	Pn	13 43 01.5	-1.1
NKME				*e*Sn	Sb	13 43 25.9	-0.3
NKME	Niksic	1.73	321	⇑*i*Pn	Pn	13 43 01.5	-1.1
NKME				*e*Sn	Sb	13 43 25.9	-0.3
NKY	Niksic	1.75	323	⇑*i*Pn	Pn	13 43 02.0	-0.9
NKY				*e*Sn	Sb	13 43 26.1	-0.6
NKY	Niksic	1.75	323	⇑*i*Pn	Pn	13 43 02.0	-0.9
NKY				*e*Sn	Sb	13 43 26.1	-0.6
HCY	Herceg Novi	1.77	306	⇓*i*Pn	Pn	13 43 02.9	-0.2
HCY				*e*Sn	Sb	13 43 27.0	-0.2
HCY	Herceg Novi	1.77	306	⇓*i*Pn	Pn	13 43 02.9	-0.2
HCY				*e*Sn	Sb	13 43 27.0	-0.2
JAN	Janina	1.80	170	P	Pn	13 43 02.4	-1.1
JAN				S	Sb	13 43 27.7	-0.5
JAN	Janina	1.80	170	*e*PG	Pb	13 43 04.9	-0.3
JAN	Janina	1.80	170	P	Pn	13 43 02.4	-1.1
JAN	Janina	1.80	170	*e*Pn	Pb	13 43 04.9	-0.3
JAN				S	Sb	13 43 27.7	-0.5
SELS	Selova	1.86	16	*e*Pn	Pn	13 43 03.4	-1.0
SELS				*e*Sn	Sn	13 43 27.7	-0.7
SJES	Sjenica	1.86	350	⇑*i*Pn	Pn	13 43 04.2	-0.3
SJES				*e*Sn	Sb	13 43 30.3	+0.3
KNT	Kendrikon	1.88	97	P	Pn	13 43 04.2	-0.4
KNT	Kendrikon	1.88	97	P	Pn	13 43 04.2	-0.4
TREB	Trebinje	2.01	310	*e*Pn	Pn	13 43 07.2	+0.8
TREB				*e*Sn	Sb	13 43 32.9	-1.4
TREB	Trebinje	2.01	310	*e*Pn	Pn	13 43 07.2	+0.8
TREB				*e*Sn	Sb	13 43 32.9	-1.4
BRY	Bratogost	2.03	317	⇓*i*Pn	Pn	13 43 06.2	-0.7
BRY				*e*Sn	Sn	13 43 33.4	+0.5
BRY	Bratogost	2.03	317	⇓*i*Pn	Pn	13 43 06.2	-0.7
BRY				*e*Sn	Sn	13 43 33.4	+0.5
PLE	Pljevlja	2.05	338	⇑*i*Pn	Pn	13 43 07.0	-0.1
PLE				*e*Sn	Sn	13 43 33.9	+0.7
PLE	Pljevlja	2.05	338	⇑*i*Pn	Pn	13 43 07.0	-0.1
PLE				*e*Sn	Sn	13 43 33.9	+0.7
UPM	Unac-Piva	2.10	328	⇓*i*Pn	Pn	13 43 08.0	+0.2
UPM				*e*Sn	Sn	13 43 35.5	+0.9
UPM	Unac-Piva	2.10	328	⇓*i*Pn	Pn	13 43 08.0	+0.2
UPM				*e*Sn	Sn	13 43 35.5	+0.9
THL	Klokotos Trika	2.22	147	*e*PG	Pb	13 43 11.8	-0.5
THL	Klokotos Trika	2.22	147	*e*Pn	Pb	13 43 11.8	-0.5
SOH	Sokhos	2.29	104	*e*PN	Pn	13 43 10.0	-0.3
SOH	Sokhos	2.29	104	*e*Pb	Pn	13 43 10.0	-0.3
VTS	Vitosha	2.37	60	P	Pn	13 43 10.1	-1.5
VTS	Vitosha	2.37	60	⇑*i*P	Pn	13 43 12.2	+0.6
VTS				S	Sn	13 43 42.1	+0.9
VTS	Vitosha	2.37	60	⇑*i*Pn	Pn	13 43 12.0	+0.4
VTS				*e*Sn	Sn	13 43 42.1	+0.9
VTS	Vitosha	2.37	60	P	Pn	13 43 10.1	-1.5
VTS	Vitosha	2.37	60	⇑*i*Pn	Pn	13 43 12.0	+0.4
VTS				*e*Sn	Sn	13 43 42.1	+0.9
ZAPS	Zavoj	2.46	41	*e*Pn	Pn	13 43 14.0	+1.3
ZAPS				*e*Sn	Sn	13 43 42.9	-0.4
ZAPS	Zavoj	2.46	41	*e*Pn	Pn	13 43 14.0	+1.3
ZAPS				*e*Sn	Sn	13 43 42.9	-0.4
GRUS	Gruza	2.47	5	*e*Pn	Pn	13 43 13.3	+0.6
GRUS				*e*Sn	Sn	13 43 44.2	+0.9
GRUS	Gruza	2.47	5	*e*Pn	Pn	13 43 13.3	+0.6
GRUS				*e*Sn	Sn	13 43 44.2	+0.9
STON	Ston	2.49	306	*e*Pn	Pn	13 43 13.1	+0.2
STON				Sn	Sb	13 43 47.7	-0.2
PLG	Polygyros	2.52	114	*e*PN	Pn	13 43 14.3	+0.9
PLG	Polygyros	2.52	114	*e*Pb	Pn	13 43 14.3	+0.9
BBLS	Lazići	2.55	343	*e*Pn	Pn	13 43 15.1	+1.2
BBLS	Lazići	2.55	343	*e*Pn	Pn	13 43 15.1	+1.2
NVR	Nevrokopi	2.58	91	*e*PN	Pn	13 43 15.1	+0.8
NVR	Nevrokopi	2.58	91	*e*Pn	Pn	13 43 15.1	+0.8
BOLS	Boljevac	2.65	25	*e*Sn	Sn	13 43 48.9	+1.1
BOLS	Boljevac	2.65	25	*e*Sn	Sn	13 43 48.9	+1.1
DIVS	Divibare	2.69	353	P	Pn	13 43 15.2	-0.6
DIVS	Divibare	2.69	353	*e*Pn	Pn	13 43 15.4	-0.4
DIVS	Divibare	2.69	353	*e*Pn	Pn	13 43 15.4	-0.4
EVR	Evrytania	2.72	157	*e*PN	Pb	13 43 20.0	-1.0
EVR	Evrytania	2.72	157	*e*Pb	Pb	13 43 20.0	-1.0
AGG	Agios Georgios	2.81	148	*e*PN	Pn	13 43 19.1	+1.7
AGG	Agios Georgios	2.81	148	*e*Pn	Pn	13 43 19.1	+1.7
TEKS	Tekeris	3.19	348	*e*Pn	Pn	13 43 24.9	+2.3
TEKS	Tekeris	3.19	348	*e*Pn	Pn	13 43 24.9	+2.3
FGSL	Fruska Gora	3.75	353	*e*Pn	Pn	13 43 31.1	+0.7
FGSL				*e*Sn	Sn	13 44 14.5	-0.6
FRGS	Fruska Gora	3.75	353	*e*Pn	Pn	13 43 31.1	+0.7
FRGS				*e*Sn	Sn	13 44 14.5	-0.6
BZS	Buzias	4.27	11	*e*Pn	Pn	13 43 36.8	-0.7
BZS				*e*Sn	Sn	13 44 26.0	-1.9
BZS	Buzias	4.27	11	*e*Pn	Pn	13 43 36.8	-0.7
BZS				*e*Sn	Sn	13 44 26.0	-1.9
GZR	Gura Zlata	4.32	23	⇓*i*P	Pn	13 43 38.0	-0.1
GZR	Gura Zlata	4.32	23	⇓*i*P	Pn	13 43 38.0	-0.1
SIRR	Siria	4.92	10	⇑*i*P	Pn	13 43 47.8	+1.4
SIRR	Siria	4.92	10	⇑*i*P	Pn	13 43 47.8	+1.4
PKSM	Moragy	4.95	345	⇑*i*P	Pn	13 43 47.8	+1.0
PKSM	Moragy	4.95	345	⇑*e*	Pn	13 43 48.0

*DMN **07** 14:17:47.7±1.0, 30°.59N×91°.20E, h10km, Ml4.4/1, Error ellipse: s-maj=24.2km s-min=13.7km az=79.0*
*ISCJB **07** 14:17:55.9±0.5, 29°.80N±0°.06×90°.47E±0°.04, h7km, mb3.8/8, MS2.7/1, Error ellipse: s-maj=9.1km s-min=5.2km az=174.2*
*IDC **07** 14:17:55.7±0.9, 29°.65N×90°.20E, h0km, mb3.8/8, mb1 4.0/10, mb1mx3.8/29, mbtmp3.8/10, ML3.6/2, MS2.8/1, Ms1 2.8/1, ms1mx2.4/36, Error ellipse: s-maj=36.2km s-min=17.0km az=63.0*

ISC 07 14:17:57.1±0.7, 29°.82N±0°.08×90°.51E±0°.05, h7km, n21, σ1§13/23, **mb3.8/8, Xizang**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**0.57**	**102**		Pg		**Pg**	**14 18 07.9**	**-0.2**
LSA					Sg		**Sb**	**14 18 16.6**	**-1.5**
LSA					smax		smax		
	comp=E,8μm,0.3s								
TAPN	**Taplejung**	**3.48**	**226**	*e*Pn			**Pn**	**14 18 53.6**	**+1.7**
TAPN				*e*Sn			**Sb**	**14 19 41.8**	**0.0**
	comp=E,372nm,0.8s								
ODAN	**Odare**	**4.03**	**224**	*e*Pn			**Pn**	**14 19 00.3**	**+0.9**
JIRN	**Jiri**	**4.36**	**242**	*e*Pn			**Pn**	**14 19 05.0**	**+0.9**
GUN	**Gumba**	**4.48**	**246**	*e*Pn			**Pn**	**14 19 06.4**	**+0.6**
PKI	**Pulchoki**	**5.01**	**245**	*e*Pn			**Pn**	**14 19 13.2**	**+0.2**
KKN	**Kakani**	**5.01**	**248**	*e*Pn			**Pn**	**14 19 12.5**	**-0.5**
PKIN	**Phulchoki**	**5.02**	**245**	*e*Pn			**Pn**	**14 19 13.1**	**+0.1**
DMN	**Daman**	**5.23**	**246**	*e*Pn			**Pn**	**14 19 15.8**	**-0.2**
DANN	**Dangsing**	**6.09**	**258**	*e*Pn			**Pn**	**14 19 25.9**	**-1.8**
KOLN	**Koldanda**	**6.40**	**253**	*e*Pn			**Pn**	**14 19 31.1**	**-0.9**
CMAR	**Chiang Mai Arr**	**13.67**	**144**	Pn			**Pn**	**14 21 10.6**	**-0.8**
	comp=E,0.1nm,0.3s,baz=316,slow=14,SNR=7.4								
MKAR	**Makanchi Array**	**18.12**	**342**	P			**Pn**	**14 22 09.4**	**+0.2**
	comp=E,0.1nm,0.3s,baz=150,slow=9.8,SNR=10								
SONM	**Songino Array**	**21.76**	**30**	P			**P**	**14 22 51.2**	**+1.9**
	comp=E,6.7nm,1.1s,baz=218,slow=12,SNR=25								
KURBB	**Kurchatov Arra**	**22.65**	**340**	P			**P**	**14 22 59.2**	**+0.6**
	comp=E,1.3nm,0.7s,baz=156,slow=9.8,SNR=8.2								
ZALV	**Zalesovo Beam**	**24.46**	**352**	P			**P**	**14 23 17.6**	**+1.1**
	comp=E,0.4nm,0.3s,baz=157,slow=8.0,SNR=3.9								
ZALV				LR			LR	14 33 08.1	
	comp=E,22nm,19.2s,baz=251,slow=37								
AKASG	**Malin Array Be**	**49.66**	**313**	P			**P**	**14 26 47.6**	**-1.7**
	comp=E,0.5nm,0.4s,baz=69,slow=8.5,SNR=4.2								
WRA	**Warramunga Arr**	**65.03**	**134**	P			**P**	**14 28 38.4**	**+0.1**
	comp=E,2.6nm,0.8s,baz=325,slow=6.5,SNR=18								
ASAR	**Alice Springs**	**67.57**	**137**	P			**P**	**14 28 54.9**	**+0.4**
	comp=E,1.7nm,0.7s,baz=322,slow=6.7,SNR=22								
ILAR	**Eielson Array**	**75.74**	**22**	P			**P**	**14 29 44.9**	**+1.8**
	comp=E,0.9nm,0.9s,baz=298,slow=4.8,SNR=8.5								
TORD	**Torodi Ar. Bea**	**82.57**	**281**	P			**P**	**14 30 20.0**	**-1.3**
	comp=E,0.2nm,0.6s,baz=72,slow=4.7,SNR=2.2								

*ATH **07** 14:19:30.9, 41°.52N×20°.51E, h11km±4km, MD3.6/17*
*TIR **07** 14:19:30.6±1.0, 41°.44N×20°.46E, h14km±13km, ML3.3*
*BEO **07** 14:19:31.1±0.4, 41°.33N×20°.45E, h5km±3km, ML3.1/1*
*SKO **07** 14:19:31.6, 41°.40N×20°.40E, h8km, M3.0, ML3.3*
*PDG **07** 14:19:31.2±0.4, 41°.41N×20°.45E, h9km, ML3.2/11, Error ellipse: s-maj=0.6km s-min=0.7km az=0.0*
*THE **07** 14:19:31.7, 41°.45N×20°.49E, h0km±2km, ML3.4/4, Error ellipse: s-maj=2.3km s-min=0.7km az=287.0*
*CSEM **07** 14:19:31.6±0.1, 41°.43N×20°.45E, h2km, ML3.3, Error ellipse: s-maj=3.6km s-min=2.2km az=50.0*

ISC 07 14:19:31.7±1.1, 41°.43N±0°.01×20°.44E±0°.02, h2km±9km, n139, σ0§98/214, **17C-23D, Albania**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PHP	**Peshkopia**	**0.26**	**0**	*i* PG			**Pg**	**14 19 36.2**	**-0.5**
PHP				*i* SG			**Sg**	**14 19 40.5**	**+0.5**
PHP	**Peshkopia**	**0.26**	**0**	P			**Pg**	**14 19 36.2**	**-0.5**
PHP				S			**Sg**	**14 19 40.4**	**+0.3**
PHP	**Peshkopia**	**0.26**	**0**	P			**Pg**	**14 19 36.2**	**-0.5**
PHP				*i* Sg			**Sg**	**14 19 40.5**	**+0.5**
	SNR=109								
TIR	**Tirane**	**0.44**	**260**	*i* PG			**Pg**	**14 19 39.3**	**-0.9**
TIR				*i* SG			**Sg**	**14 19 47.1**	**+1.3**
TIR	**Tirane**	**0.44**	**260**	P			**Pg**	**14 19 40.0**	**-0.2**
TIR				S			**Sb**	**14 19 48.7**	**-0.5**
TIR	**Tirane**	**0.44**	**260**	⇑*i*Pg			**Pg**	**14 19 39.0**	**-1.2**
TIR	**Tirane**	**0.44**	**260**	*e*Pb			**Pg**	**14 19 39.4**	**-0.8**
TIR	**Tirane**	**0.44**	**260**	P			**Pg**	**14 19 40.0**	**-0.2**
TIR				*i* Sg			**Sg**	**14 19 47.2**	**+1.3**
	SNR=99								
TIR				S			**Sb**	**14 19 48.7**	**-0.5**
PUK	**Puka**	**0.74**	**327**	*i* PG			**Pg**	**14 19 44.8**	**-1.1**
PUK				*i* SG			**Sg**	**14 19 56.7**	**+1.2**
PUK	**Puka**	**0.74**	**327**	*i* Pg			**Pg**	**14 19 44.8**	**-1.1**
	SNR=95								
PUK				*i* Sg			**Sg**	**14 19 56.7**	**+1.2**
	SNR=95								
BIA	**Bitola**	**0.78**	**121**	P			**Pg**	**14 19 45.5**	**-1.2**
BIA				S			**Sg**	**14 19 57.3**	**+0.4**
BIA	**Bitola**	**0.78**	**121**	*i* Pg			**Pg**	**14 19 45.6**	**-1.2**
BIA				*i* Sg			**Sg**	**14 19 57.8**	**+0.9**
BIA	**Bitola**	**0.78**	**121**	*i* Pg			**Pg**	**14 19 45.0**	**-1.7**
BIA	**Bitola**	**0.78**	**121**	P			**Pg**	**14 19 45.5**	**-1.2**
BIA				*i* Sg			**Sg**	**14 19 57.2**	**+0.4**
KBN	**Korca**	**0.85**	**162**	*i* PG			**Pg**	**14 19 47.5**	**-0.4**
KBN				*i* SG			**Sb**	**14 20 01.0**	**-0.1**
KBN	**Korca**	**0.85**	**162**	P			**Pg**	**14 19 48.0**	**+0.1**
KBN				S			**Sb**	**14 20 00.9**	**-0.1**
KBN	**Korca**	**0.85**	**162**	*i* Pg			**Pg**	**14 19 47.5**	**-0.4**
	SNR=94								
KBN	**Korca**	**0.85**	**162**	P			**Pg**	**14 19 48.0**	**+0.1**
KBN				S			**Sb**	**14 20 00.9**	**-0.1**
SKO	**Skopje**	**0.93**	**54**	P			**Pg**	**14 19 49.2**	**-0.3**
SKO				S			**Sb**	**14 20 04.0**	**+0.7**
SKO	**Skopje**	**0.93**	**54**	⇑*i*Pg			**Pg**	**14 19 49.0**	**-0.5**
SKO				*e*Sg			**Sg**	**14 20 02.0**	**+0.5**
SKO	**Skopje**	**0.93**	**54**	*i* Pg			**Pg**	**14 19 50.1**	**+0.6**
SKO				*i* Sg			**Sg**	**14 20 01.4**	**-0.1**
SKO				*e*Lg			Lg	14 20 01.9	
	comp=N,814nm,0.3s								
SKO				*e*Lg			Lg	14 20 01.9	
	comp=E,1μm,1.0s								
SKO	**Skopje**	**0.93**	**54**	P			**Pg**	**14 19 49.2**	**-0.3**
SKO				*e*Sg			**Sg**	**14 20 02.0**	**+0.5**
SKO				S			**Sb**	**14 20 04.0**	**+0.7**
SKO				*e*Lg			Lg	14 20 06.9	
	comp=E,1μm,1.0s								
FNA	**Florina**	**0.96**	**132**	P			**Pg**	**14 19 49.0**	**-1.1**
FNA				S			**Sg**	**14 20 03.2**	**+0.8**
FNA	**Florina**	**0.96**	**132**	*e*PG			**Pg**	**14 19 49.2**	**-0.9**
FNA				*e*SB			**Sg**	**14 20 03.3**	**+0.8**
FNA	**Florina**	**0.96**	**132**	*e*Pb			**Pg**	**14 19 49.2**	**-0.9**
FNA				S			**Sg**	**14 20 03.2**	**+0.8**
BCI	**Bajram Curri**	**0.98**	**344**	*i* PG			**Pg**	**14 19 50.1**	**-0.4**
BCI				*i* SG			**Sg**	**14 20 04.4**	**+1.2**
BCI	**Bajram Curri**	**0.98**	**344**	*i* Pg			**Pg**	**14 19 50.1**	**-0.4**
	SNR=94								
BCI				*i* Sg			**Sg**	**14 20 04.4**	**+1.2**
	SNR=94								
ULC	**Ulcinj**	**1.04**	**301**	⇓*i*Pg			**Pg**	**14 19 49.9**	**-1.8**
ULC				*e*Sg			**Sb**	**14 20 06.9**	**+0.3**
ULC	**Ulcinj**	**1.04**	**301**	⇓*i*Pg			**Pg**	**14 19 49.9**	**-1.8**
ULC				*e*Sg			**Sb**	**14 20 06.9**	**+0.3**
NEST	**Nestorio**	**1.11**	**155**	P			**Pg**	**14 19 52.5**	**-0.6**
NEST				S			**Sn**	**14 20 09.4**	**-1.0**
NEST	**Nestorio**	**1.11**	**155**	P			**Pg**	**14 19 52.5**	**-0.6**
NEST				S			**Sn**	**14 20 09.4**	**-1.0**
DRME	**Dracevica, Mon**	**1.21**	**309**	⇓*i*Pg			**Pb**	**14 19 53.6**	**-1.7**
DRME				*e*Sg			**Sn**	**14 20 13.1**	**+0.6**
DRME	**Dracevica, Mon**	**1.21**	**309**	⇓*i*Pg			**Pb**	**14 19 53.6**	**-1.7**
DRME				*e*Sg			**Sn**	**14 20 13.1**	**+0.6**
PVY	**Plav**	**1.22**	**343**	⇑*i*Pg			**Pn**	**14 19 54.1**	**-1.8**
PVY				*e*Sg			**Sn**	**14 20 14.0**	**+0.9**
PVY	**Plav**	**1.22**	**343**	⇑*i*Pg			**Pn**	**14 19 54.1**	**-1.8**
PVY				*e*Sg			**Sn**	**14 20 14.0**	**+0.9**
PDG	**Podgorica**	**1.33**	**319**	*e*Pg			**Pn**	**14 19 55.7**	**-1.7**
PDG				*e*Sg			**Sg**	**14 20 16.1**	**+1.5**
PDG	**Podgorica**	**1.33**	**319**	⇓*i*Pg			**Pn**	**14 19 55.7**	**-1.7**
PDG				*e*Sg			**Sg**	**14 20 16.1**	**+1.5**
TTG	**Podgorica**	**1.33**	**319**	⇓*i*Pg			**Pn**	**14 19 55.7**	**-1.7**
TTG				*e*Sg			**Sg**	**14 20 16.7**	**+2.1**
BUM	**Brajici-Budva**	**1.45**	**308**	⇓*i*Pg			**Pn**	**14 19 57.9**	**-1.1**
BUM				*e*Sg			**Sg**	**14 20 20.5**	**+2.3**
BUM	**Brajici-Budva**	**1.45**	**308**	⇓*i*Pg			**Pn**	**14 19 57.9**	**-1.1**
BUM				*e*Sg			**Sg**	**14 20 20.5**	**+2.3**
BEY	**Berane**	**1.50**	**344**	*e*Pg			**Pn**	**14 19 59.9**	**+0.2**
BEY				*e*Sg			**Sg**	**14 20 21.5**	**+1.6**
IVA	**Berane**	**1.50**	**344**	*e*Pg			**Pn**	**14 19 59.9**	**+0.2**
IVA				*e*Sg			**Sg**	**14 20 21.5**	**+1.6**
KZN	**Kozani**	**1.51**	**138**	P			**Pn**	**14 19 58.9**	**-0.9**
KZN				S			**Sg**	**14 20 20.9**	**+0.7**
KZN	**Kozani**	**1.51**	**138**	*e*PB			**Pb**	**14 20 00.3**	**-0.2**
KZN				*e*SB			**Sg**	**14 20 21.5**	**+1.3**
KZN	**Kozani**	**1.51**	**138**	P			**Pn**	**14 19 58.9**	**-0.9**
KZN	**Kozani**	**1.51**	**138**	*e*Pb			**Pb**	**14 20 00.3**	**-0.2**
KZN				S			**Sg**	**14 20 20.9**	**+0.7**
KZN				*e*Sb			**Sg**	**14 20 21.5**	**+1.3**
GRG	**Griva**	**1.55**	**107**	P			**Pn**	**14 19 59.8**	**-0.6**
GRG	**Griva**	**1.55**	**107**	P			**Pn**	**14 19 59.8**	**-0.6**
VAY	**Valandovo**	**1.61**	**93**	⇑*i*Pn			**Pn**	**14 19 59.6**	**-1.5**
VAY	**Valandovo**	**1.61**	**93**	*i* Pn			**Pn**	**14 20 00.0**	**-1.1**
VAY				*i* Sn			**Sn**	**14 20 22.1**	**-0.4**
VAY				*e*Lg			Lg	14 20 25.2	
	comp=E,289nm,0.8s								
VAY				*e*Lg			Lg	14 20 25.4	
	comp=N,352nm,0.8s								
VAY	**Valandovo**	**1.61**	**93**	⇑*i*Pn			**Pn**	**14 19 59.6**	**-1.5**
VAY				*i* Sn			**Sn**	**14 20 21.5**	**-0.9**
VAY				*e*Lg			Lg	14 20 24.8	
	comp=N,352nm,0.8s								
BARS	**Barje**	**1.73**	**36**	*e*Pn			**Pn**	**14 20 02.4**	**-0.4**
BARS				*e*Sn			**Sg**	**14 20 27.7**	**+0.6**
BARS	**Barje**	**1.73**	**36**	*e*Pn			**Pn**	**14 20 02.4**	**-0.4**
BARS				*e*Sn			**Sg**	**14 20 27.7**	**+0.6**
NKME	**Niksic**	**1.74**	**321**	⇓*i*Pn			**Pn**	**14 20 02.4**	**-0.6**
NKME				*e*Sn			**Sg**	**14 20 27.8**	**+0.3**
NKME	**Niksic**	**1.74**	**321**	⇓*i*Pn			**Pn**	**14 20 02.4**	**-0.6**
NKME				*e*Sn			**Sg**	**14 20 27.8**	**+0.3**
HCY	**Herceg Novi**	**1.77**	**306**	⇓*i*Pn			**Pn**	**14 20 03.1**	**-0.3**
HCY				*e*Sn			**Sg**	**14 20 28.9**	**+0.2**
HCY	**Herceg Novi**	**1.77**	**306**	⇓*i*Pn			**Pn**	**14 20 03.1**	**-0.3**
HCY				*e*Sn			**Sg**	**14 20 28.9**	**+0.2**
KEK	**Kerkira**	**1.78**	**196**	*e*PN			**Pb**	**14 20 05.1**	**0.0**
KEK	**Kerkira**	**1.78**	**196**	*e*Pn			**Pb**	**14 20 05.1**	**0.0**
JAN	**Janina**	**1.80**	**170**	P			**Pn**	**14 20 02.7**	**-1.1**
JAN	**Janina**	**1.80**	**170**	*e*PN			**Pb**	**14 20 05.2**	**-0.2**
JAN	**Janina**	**1.80**	**170**	P			**Pn**	**14 20 02.7**	**-1.1**
JAN	**Janina**	**1.80**	**170**	*e*Pn			**Pb**	**14 20 05.2**	**-0.2**
SELS	**Selova**	**1.86**	**16**	*e*Pn			**Pn**	**14 20 03.5**	**-1.1**
SELS				*e*Sn			**Sn**	**14 20 28.6**	**-0.1**
SJES	**Sjenica**	**1.86**	**349**	*e*Pn			**Pn**	**14 20 04.5**	**-0.3**
SJES				*e*Sn			**Sn**	**14 20 29.3**	**+0.3**
SJES				*e*Sn			**Sb**	**14 20 31.4**	**+1.0**
KNT	**Kendrikon**	**1.87**	**97**	P			**Pn**	**14 20 04.6**	**-0.2**
KNT				S			**Sn**	**14 20 28.2**	**-0.8**
KNT	**Kendrikon**	**1.87**	**97**	P			**Pn**	**14 20 04.6**	**-0.2**
KNT				S			**Sn**	**14 20 28.2**	**-0.8**
TREB	**Trebinje**	**2.02**	**310**	*e*Pn			**Pn**	**14 20 06.1**	**-0.7**
TREB				*e*Sn			**Sb**	**14 20 34.1**	**-0.6**
TREB	**Trebinje**	**2.02**	**310**	*e*Pn			**Pn**	**14 20 06.1**	**-0.7**
TREB				*e*Sn			**Sb**	**14 20 34.1**	**-0.6**
BRY	**Bratogost**	**2.04**	**317**	⇑*i*Pn			**Pn**	**14 20 07.8**	**+0.6**
BRY				*e*Sn			**Sb**	**14 20 35.4**	**-0.1**
BRY	**Bratogost**	**2.04**	**317**	⇑*i*Pn			**Pn**	**14 20 07.8**	**+0.6**
BRY				*e*Sn			**Sb**	**14 20 35.4**	**-0.1**
LIT	**Litokhoron**	**2.05**	**130**	*e*PN			**Pn**	**14 20 07.3**	**+0.1**
LIT	**Litokhoron**	**2.05**	**130**	*e*Pn			**Pn**	**14 20 07.3**	**+0.1**
PLE	**Pljevlja**	**2.05**	**338**	⇓*i*Pn			**Pn**	**14 20 08.0**	**+0.6**
PLE				*e*Sn			**Sb**	**14 20 35.5**	**-0.3**
PLE	**Pljevlja**	**2.05**	**338**	⇓*i*Pn			**Pn**	**14 20 08.0**	**+0.6**
PLE				*e*Sn			**Sb**	**14 20 35.5**	**-0.3**
UPM	**Unac-Piva**	**2.11**	**328**	⇑*i*Pn			**Pn**	**14 20 08.6**	**+0.4**
UPM				*e*Sn			**Sb**	**14 20 37.1**	**-0.3**
UPM	**Unac-Piva**	**2.11**	**328**	⇑*i*Pn			**Pn**	**14 20 08.6**	**+0.4**
UPM				*e*Sn			**Sb**	**14 20 37.1**	**-0.3**
THL	**Klokotos Trika**	**2.21**	**147**	*e*PN			**Pn**	**14 20 10.2**	**+0.7**
THL	**Klokotos Trika**	**2.21**	**147**	*e*Pn			**Pn**	**14 20 10.2**	**+0.7**
SOH	**Sokhos**	**2.28**	**104**	*e*PN			**Pn**	**14 20 10.5**	**0.0**
SOH	**Sokhos**	**2.28**	**104**	*e*Pn			**Pn**	**14 20 10.5**	**0.0**
VTS	**Vitosha**	**2.37**	**60**	P			**Pn**	**14 20 11.2**	**-0.5**
VTS	**Vitosha**	**2.37**	**60**	⇑*i*P			**Pn**	**14 20 12.4**	**+0.7**
VTS	**Vitosha**	**2.37**	**60**	*e*Pn			**Pn**	**14 20 12.2**	**+0.5**
VTS				*e*Sn			**Sn**	**14 20 42.3**	**+0.8**
VTS	**Vitosha**	**2.37**	**60**	P			**Pn**	**14 20 11.2**	**-0.5**
VTS	**Vitosha**	**2.37**	**60**	*e*Pn			**Pn**	**14 20 12.2**	**+0.5**
VTS				*e*Sn			**Sn**	**14 20 42.3**	**+0.8**
SRS	**Serrai**	**2.40**	**96**	P			**Pn**	**14 20 11.1**	**-0.9**
SRS	**Serrai**	**2.40**	**96**	P			**Pn**	**14 20 11.1**	**-0.9**
ZAPS	**Zavoj**	**2.46**	**41**	⇑*i*Pn			**Pn**	**14 20 13.4**	**+0.5**
ZAPS	**Zavoj**	**2.46**	**41**	⇑*i*Pn			**Pn**	**14 20 13.4**	**+0.5**
GRUS	**Gruza**	**2.47**	**5**	*e*Pn			**Pn**	**14 20 13.2**	**+0.2**
GRUS				*e*Sn			**Sn**	**14 20 45.6**	**+1.9**
GRUS	**Gruza**	**2.47**	**5**	*e*Pn			**Pn**	**14 20 13.2**	**+0.2**
GRUS				*e*Sn			**Sn**	**14 20 45.6**	**+1.9**
STON	**Ston**	**2.50**	**306**	*e*Pn			**Pb**	**14 20 17.1**	**-0.1**
STON				Sn			**Sb**	**14 20 48.9**	**+0.5**
PLG	**Polygyros**	**2.51**	**114**	*e*PN			**Pn**	**14 20 13.7**	**+0.1**
PLG	**Polygyros**	**2.51**	**114**	*e*PN			**Pn**	**14 20 13.7**	**+0.1**
NVR	**Nevrokopi**	**2.58**	**91**	P			**Pn**	**14 20 14.0**	**-0.5**
NVR	**Nevrokopi**	**2.58**	**91**	*e*PN			**Pn**	**14 20 14.8**	**+0.3**
NVR	**Nevrokopi**	**2.58**	**91**	P			**Pn**	**14 20 14.0**	**-0.5**
NVR	**Nevrokopi**	**2.58**	**91**	*e*Pn			**Pn**	**14 20 14.8**	**+0.3**
LKD2	**Lefkada island**	**2.64**	**176**	*e*PB			**Pn**	**14 20 16.0**	**+0.6**
LKD2	**Lefkada island**	**2.64**	**176**	*e*Pb			**Pn**	**14 20 16.0**	**+0.6**
DIVS	**Divibare**	**2.69**	**353**	*e*Pn			**Pn**	**14 20 15.8**	**-0.3**
DIVS				*e*Sn			**Sn**	**14 20 49.2**	**-0.1**
DIVS	**Divibare**	**2.69**	**353**	*e*Pn			**Pn**	**14 20 15.8**	**-0.3**
DIVS				*e*Sn			**Sn**	**14 20 49.2**	**-0.1**
EVR	**Evrytania**	**2.72**	**157**	*e*PB			**Pb**	**14 20 18.8**	**-2.3**
EVR	**Evrytania**	**2.72**	**157**	*e*Pn			**Pb**	**14 20 18.8**	**-2.3**
TRUS	**Trudelj**	**2.79**	**360**	⇓*i*Pn			**Pn**	**14 20 16.7**	**-0.8**
TRUS	**Trudelj**	**2.79**	**360**	⇓*i*Pn			**Pn**	**14 20 16.7**	**-0.8**
AGG	**Agios Georgios**	**2.81**	**148**	*e*PN			**Pn**	**14 20 18.2**	**+0.6**
AGG	**Agios Georgios**	**2.81**	**148**	*e*Pb			**Pn**	**14 20 18.2**	**+0.6**
PAIG	**Paliouri**	**2.88**	**120**	*e*PN			**Pn**	**14 20 18.4**	**-0.3**
PAIG	**Paliouri**	**2.88**	**120**	*e*Pb			**Pn**	**14 20 18.4**	**-0.3**
NEO	**Neokhori**	**3.00**	**134**	*e*PN			**Pn**	**14 20 21.2**	**+0.9**
NEO	**Neokhori**	**3.00**	**134**	*e*Pn			**Pn**	**14 20 21.2**	**+0.9**
EFP	**Efpalio**	**3.20**	**159**	*e*PB			Pn	14 20 25.9	+2.9
EFP	**Efpalio**	**3.20**	**159**	*e*Pb			Pn	14 20 25.9	+2.9
KALE	**Kalithea**	**3.30**	**156**	*e*PN			**Pn**	**14 20 26.2**	**+1.7**
KALE	**Kalithea**	**3.30**	**156**	*e*Pn			**Pn**	**14 20 26.2**	**+1.7**
LAKA	**Lakka**	**3.40**	**159**	*e*PN			**Pn**	**14 20 27.9**	**+2.1**
LAKA	**Lakka**	**3.40**	**159**	*e*Pn			**Pn**	**14 20 27.9**	**+2.1**
FGSL	**Fruska Gora**	**3.76**	**353**	*e*Pn			**Pn**	**14 20 29.6**	**-1.1**
FGSL				*e*Sn			**Sn**	**14 21 16.8**	**+1.3**
FRGS	**Fruska Gora**	**3.76**	**353**	*e*Pn			**Pn**	**14 20 29.6**	**-1.1**
FRGS				*e*Sn			**Sn**	**14 21 16.8**	**+1.3**
BZS	**Buzias**	**4.27**	**11**	*e*Pn			**Pn**	**14 20 36.5**	**-1.3**
BZS				*e*Sn			**Sn**	**14 21 27.0**	**-1.2**
BZS	**Buzias**	**4.27**	**11**	*e*Pn			**Pn**	**14 20 36.5**	**-1.3**
BZS				*e*Sn			**Sn**	**14 21 27.0**	**-1.2**
GZR	**Gura Zlata**	**4.31**	**22**	⇓*i*P			**Pn**	**14 20 38.1**	**-0.3**
GZR	**Gura Zlata**	**4.31**	**22**	⇓*i*P			**Pn**	**14 20 38.1**	**-0.3**
PKSM	**Moragy**	**4.96**	**345**	⇑*i*P			**Pn**	**14 20 48.1**	**+1.0**
PKSM	**Moragy**	**4.96**	**345**	⇑*i*P			**Pn**	**14 20 48.1**	**+1.0**
NVLJ	**Novalja**	**5.15**	**309**	*e*Pn			**Pn**	**14 20 49.1**	**-0.6**
NVLJ				Sn			**Sn**	**14 21 49.0**	**-0.7**
VOIR		**5.23**	**38**	⇓*i*P			**Pn**	**14 20 50.3**	**-0.7**
VOIR		**5.23**	**38**	⇓*i*P			**Pn**	**14 20 50.3**	**-0.7**
MLR	**Muntele Rosu**	**5.70**	**43**	⇓*i*P			**Pn**	**14 20 58.9**	**+1.3**
MLR	**Muntele Rosu**	**5.70**	**43**	⇓*i*P			**Pn**	**14 20 58.9**	**+1.3**
DOPR	**Dopca**	**5.78**	**37**	⇓*i*P			Pn	14 20 52.8	-5.7
PLOR	**Plostina**	**6.31**	**43**	⇑*i*P			Pn	14 20 59.5	-6.3
VRI	**Vrincioaia**	**6.36**	**44**	⇑*i*P			Pn	14 21 00.3	-6.2
KECS	**Kecovo**	**7.05**	**0**	*e*PN			**Pn**	**14 21 18.0**	**+2.0**
KECS				*e*SN			**Sn**	**14 22 36.2**	**-0.5**
KECS	**Kecovo**	**7.05**	**0**	*e*Pn			**Pn**	**14 21 18.0**	**+2.0**
KECS				*e*Sn			**Sn**	**14 22 36.2**	**-0.5**
VYHS	**Vyhne**	**7.16**	**351**	*e*PN			**Pn**	**14 21 18.2**	**+0.8**
VYHS				*e*SN			**Sn**	**14 22 36.3**	**-2.9**
VYHS	**Vyhne**	**7.16**	**351**	*e*Pn			**Pn**	**14 21 18.2**	**+0.8**

*SKHL **07** 14:24:39.0±4.4, 48°.23N×156°.24E, h52km±17km, mb4.8/3, Ms3.9/3, msh4.8/1*
*ISCJB **07** 14:24:47.0±0.5, 48°.55N±0°.07×155°.09E±0°.08, h43km, mb4.1/19, MS3.6/9, Error ellipse: s-maj=11.4km s-min=4.4km az=142.8*
*MOS **07** 14:24:46.2±1.3, 48°.59N×155°.07E, h38km, mb4.2/11, Error ellipse: s-maj=14.0km s-min=8.3km az=57.1*
*NEIC **07** 14:24:47.3±0.4, 48°.50N×154°.94E, mb4.7/3, Error ellipse: s-maj=13.0km s-min=6.5km az=143.0*
*IDC **07** 14:24:47.6±0.8, 48°.55N×154°.89E, h31km±6km, mb3.8/15, mb1 4.0/19, mb1mx3.9/30, mbtmp3.8/19, ML3.7/3, MS3.6/12, Ms1 3.6/12, ms1mx3.3/43, Error ellipse: s-maj=18.9km s-min=11.7km az=149.0*

ISC 07 14:24:48.6±0.5, 48°.58N±0°.07×155°.13E±0°.07, h43km, n78, σ1§86/82, **mb4.0/19, MS3.6/9, 1C-2D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.20**	**17**	*e*PN			Pn	14 25 16.5	-6.1
SKR				*e*S			**Sn**	**14 25 44.6**	**-3.9**
SKR				pmax			pmax		
	comp=N,60nm,0.5s								
SKR				pmax			pmax		
	comp=E,60nm,0.5s								
SKR				pmax			pmax		
	comp=Z,90nm,0.5s								
SKR				smax			smax		
	comp=N,630nm,0.5s								
SKR				smax			smax		
	comp=E,390nm,0.5s								
SKR				smax			smax		
	comp=N,1μm,2.0s								
SKR				smax			smax		
	comp=E,1μm,2.0s								
SKR				MLR			MLR		
	comp=E,1μm,14.0s								
SKR				MLR			MLR		
	comp=Z,1μm,14.0s								
SKR	**Severo-Kuril's**	**2.20**	**17**	*e*P			Pn	14 25 16.5	-6.1
SKR				AMB			AMB	14 25 18.5	
	comp=Z,60nm,0.5s								
SKR				AMB			AMB	14 25 18.5	
	comp=Z,90nm,0.5s								
SKR				*e*S			**Sn**	**14 25 44.6**	**-3.9**
SKR				A			A	14 25 51.0	
	comp=Z,1μm,2.0s					

h15km:pP-P,n162,σ1.95/211,mb4.6/59,MS3.6/21,1C-3D, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**1.44**	**321**	P	**Pn**	**14 42 49.1**	**-0.2**
JOGS				S	**Sn**	**14 43 06.7**	**-1.2**
JMJ	**Miyako jima 2**	**1.54**	**319**	P	**Pn**	**14 42 50.4**	**-0.4**
JMJ				S	**Sn**	**14 43 09.0**	**-1.6**
JTJ	**Tarama**	**1.84**	**303**	P	**Pn**	**14 42 54.0**	**-0.9**
JTJ				S	**Sn**	**14 43 15.0**	**-2.9**
JIJ	**Ishigaki jima**	**2.19**	**290**	P	**Pn**	**14 42 58.4**	**-1.2**
JIJ				S	**Sn**	**14 43 21.9**	**-4.5**
JKRS	**Kuro-shima**	**2.27**	**286**	P	**Pn**	**14 42 59.8**	**-0.9**
JKRS				S	**Sn**	**14 43 24.7**	**-3.7**
HATJ	**Hateruma jima**	**2.41**	**280**	P	**Pn**	**14 43 01.4**	**-1.3**
HATJ				*e*S	**Sn**	**14 43 27.6**	**-4.3**
IRIF	**Iriomote-Funau**	**2.54**	**286**	P	**Pn**	**14 43 03.4**	**-1.0**
IRIF				S	**Sn**	**14 43 31.0**	**-4.1**
JKE	**Kume jima 2**	**2.70**	**7**	P	**Pn**	**14 43 06.3**	**-0.4**
JJT2	**Tamagusuku 2**	**2.77**	**26**	P	**Pn**	**14 43 07.4**	**-0.3**
JAGN	**Aguni-jima**	**3.03**	**14**	P	**Pn**	**14 43 10.9**	**-0.4**
JAGN				S	**Sn**	**14 43 45.4**	**-1.9**
YOJ	**Yonaguni jima**	**3.20**	**285**	P	**Pn**	**14 43 12.4**	**-1.2**
YOJ				S	**Sn**	**14 43 46.6**	**-4.9**
JOW	**Kunigami**	**3.60**	**28**	P	**Pn**	**14 43 18.6**	**-0.6**
JOW	**Kunigami**	**3.60**	**28**	*e*Pn	**Pn**	**14 43 18.6**	**-0.6**
JIH	**Iheya**	**3.67**	**22**	P	**Pn**	**14 43 19.7**	**-0.3**
JIH				S	**Sn**	**14 44 00.2**	**-2.7**
NACB	**Ninganchiao**	**4.43**	**278**	*e*Pn	**Pn**	**14 43 28.1**	**-2.4**
TATO	**Taipei**	**4.67**	**288**	*e*P	**Pn**	**14 43 33.2**	**-0.6**
YULB	**Yu-li**	**4.69**	**268**	*e*Pn	**Pn**	**14 43 30.9**	**-3.1**
YHNB	**Yeheng**	**4.70**	**284**	*e*Pn	**Pn**	**14 43 33.6**	**-0.7**
JTK	**Tokunoshima**	**4.73**	**29**	P	**Pn**	**14 43 33.7**	**-0.9**
JTK				*e*S	**Sn**	**14 44 24.3**	**-4.8**
JMZ	**Minamidaito 2**	**4.89**	**63**	P	**Pn**	**14 43 35.2**	**-1.6**
JMZ				*e*S	Sn	14 44 25.5	-7.7
TWG	**Pinlang**	**4.97**	**262**	*e*P	Pn	14 43 34.0	-3.9
SSLB	**Suanglung**	**4.99**	**273**	*e*Pn	**Pn**	**14 43 36.4**	**-1.9**
JAMN	**Amaminishikomi**	**5.22**	**28**	P	**Pn**	**14 43 40.4**	**-0.9**
TPUB	**Ta-pu**	**5.31**	**267**	*e*Pn	**Pn**	**14 43 41.1**	**-1.5**
JAM	**Amami Oshima**	**5.56**	**31**	P	**Pn**	**14 43 44.9**	**-1.1**
JAM				*e*S	Sn	14 44 43.2	-6.4
JNU	**Nakatsue**	**10.23**	**22**	*e*Pn	**Pn**	**14 44 49.6**	**-0.6**
JNU				Sn	**Sn**	**14 46 43.2**	**-1.5**
JNU	**Nakatsue**	**10.23**	**22**	Pn	**Pn**	**14 44 49.6**	**-0.6**
	8.9nm,0.3s,baz=191,slow=5.2,SNR=53						
JNU				Sn	**Sn**	**14 46 43.2**	**-1.5**
	2.8nm,0.3s,baz=69,slow=24,SNR=8.8						
JNU				LR	LR	14 49 11.3	
	comp=Z,347nm,18.7s,baz=59,slow=40						
NJ2	**Nanjing**	**10.71**	**323**	*e*P	**Pn**	**14 44 56.2**	**-0.5**
NJ2				pmax	pmax		
	comp=Z,20nm,1.0s						
TJN	**Taejon**	**12.72**	**4**	*i* P	**Pn**	**14 45 24.9**	**+0.7**
KSAR	**Wonju Array Be**	**13.82**	**5**	Pn	**Pn**	**14 45 39.5**	**+0.4**
KSRS	**Korea Array**	**13.83**	**5**	Pn	**Pn**	**14 45 39.5**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=180,slow=14,SNR=16						
KSRS				LR	LR	14 51 27.7	
	comp=Z,193nm,19.9s,baz=61,slow=39						
KS01	**Wonju Array Si**	**13.85**	**5**	*e*Pn	**Pn**	**14 45 39.9**	**+0.3**
QIZ	**Qiongzhong**	**16.09**	**257**	P	**Pn**	**14 46 08.3**	**-1.3**
QIZ				S	**Sn**	**14 49 06.1**	**-1.8**
QIZ				pmax	pmax		
	comp=Z,14nm,1.8s						
QIZ				pmax	pmax		
	comp=Z,63nm,4.9s						
MAT	**Matsushiro**	**16.41**	**36**	P	**Pn**	**14 46 13.1**	**-0.5**
MJAR	**Matsushiro Arr**	**16.41**	**36**	Pn	**P**	**14 46 15.4**	**-0.9**
MJAR	**Matsushiro Arr**	**16.41**	**36**	Pn	**P**	**14 46 15.4**	**-0.9**
	comp=Z,0.7nm,0.3s,baz=218,slow=7.2,SNR=8.1						
ENH	**Enshi**	**16.45**	**297**	P	**P**	**14 46 16.1**	**-0.8**
	comp=Z,13nm,0.8s						
GYA	**Guiyang**	**18.10**	**283**	P	**Pn**	**14 46 34.2**	**-0.7**
GYA				PP	**PnPn**	**14 46 49.4**	**+3.4**
GYA				S	**Sn**	**14 49 52.3**	**-4.4**
GYA				SS	**SnSn**	**14 50 16.9**	**+6.5**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,90nm,4.3s						
GYA				LR	LR		
	comp=N,660nm,14.6s						
GYA				LR	LR		
	comp=E,590nm,15.0s						
GYA				LR	LR		
	comp=Z,640nm,14.8s						
XAN	**Xi'an**	**18.46**	**308**	P	**P**	**14 46 38.7**	**-0.4**
XAN				pP	**pP**	**14 46 45.4**	**+2.0**
XAN				pmax	pmax		
	comp=Z,5.0nm,0.7s						
XAN				pmax	pmax		
	comp=Z,36nm,6.5s						
XAN				LR	LR		
	comp=N,150nm,20.4s						
CN2	**Changchun**	**20.12**	**358**	*e*P	**P**	**14 46 55.7**	**-1.5**
CN2				*e*pP	Pn	14 46 59.5	+0.5
CN2				*e*sP	**sP**	**14 47 02.4**	**-1.1**
CN2				*e*S	**S**	**14 50 36.9**	**-5.8**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,200nm,10.0s						
CN2				LR	LR		
	comp=E,200nm,10.0s						
CN2				LR	LR		
	comp=Z,200nm,12.0s						
USRK	**Ussuriysk Arra**	**21.02**	**11**	P	**P**	**14 47 07.8**	**+1.1**
	comp=Z,6.5nm,0.5s,baz=196,slow=10,SNR=18						
USRK				LR	LR	14 55 24.4	
	comp=Z,144nm,19.4s,baz=316,slow=37						
MDJ	**Mudanjiang**	**21.09**	**6**	P	**P**	**14 47 08.4**	**+0.8**
MDJ				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MDJ				pmax	pmax		
	comp=Z,57nm,5.5s						
MDJ				LR	LR		
	comp=N,96nm,22.9s						
MDJ				LR	LR		
	comp=E,88nm,17.6s						
MDJ				LR	LR		
	comp=Z,120nm,21.5s						
HHC	**Hu-ho-hao-te**	**21.20**	**328**	⇓P	**P**	**14 47 09.1**	**+0.1**
HHC				pP	**pP**	**14 47 13.4**	**0.0**
HHC				sP	**sP**	**14 47 15.8**	**+0.4**
HHC				PP	**PnPn**	**14 47 32.4**	**+3.9**
HHC				S	**S**	**14 50 57.6**	**-6.8**
HHC				sS	sS	14 51 04.5	-6.8
HHC				PcP	**PcP**	**14 51 16.3**	**+2.1**
HHC				SS	**SnSn**	**14 51 32.3**	**+5.8**
HHC				ScP	**ScP**	**14 54 51.5**	**+0.9**
HHC				pmax	pmax		
	comp=Z,62nm,1.0s						
HHC				pmax	pmax		
	comp=Z,200nm,6.9s						
HHC				LR	LR		
	comp=N,650nm,14.9s						
HHC				LR	LR		
	comp=E,430nm,14.9s						
HHC				LR	LR		
	comp=Z,480nm,11.9s						
CD2	**Chengdu**	**21.36**	**295**	P	**P**	**14 47 11.0**	**+0.2**
CD2				pP	**pP**	**14 47 15.1**	**0.0**
CD2				sP	**sP**	**14 47 18.1**	**+1.0**
CD2				PP	**PnPn**	**14 47 34.6**	**+3.9**
CD2				S	**S**	**14 51 02.7**	**-4.9**
CD2				sS	sS	14 51 08.9	-5.7
CD2				SS	**SnSn**	**14 51 36.6**	**+6.2**
CD2				pmax	pmax		
	comp=Z,40nm,0.8s						
CD2				pmax	pmax		
	comp=Z,150nm,5.7s						
CD2				LR	LR		
	comp=N,290nm,6.5s						
CD2				LR	LR		
	comp=Z,240nm,5.5s						
PANO	**Nakornpanom**	**21.41**	**256**	P	**P**	**14 47 15.0**	**+3.8**
	comp=Z,21nm,1.4s						
KMI	**Kunming**	**21.60**	**279**	P	**P**	**14 47 13.8**	**+0.3**
KMI				pP	**pP**	**14 47 19.4**	**+1.6**
KMI				sP	**sP**	**14 47 22.0**	**+2.2**
KMI				PP	**PnPn**	**14 47 38.0**	**+3.9**
KMI				S	**S**	**14 51 07.5**	**-5.1**
KMI				sS	sS	14 51 12.2	-7.3
KMI				SS	**SnSn**	**14 51 42.4**	**+6.0**
KMI				pmax	pmax		
	comp=Z,9.0nm,1.3s						
KMI				pmax	pmax		
	comp=Z,44nm,3.1s						
KMI				LR	LR		
	comp=N,250nm,19.9s						
KMI				LR	LR		
	comp=E,76nm,15.8s						
KMI				LR	LR		
	comp=Z,130nm,17.2s						
NONG	**Nongkai**	**22.41**	**260**	P	**P**	**14 47 25.5**	**+3.4**
	comp=Z,16nm,1.4s,comp=Z,3μm						
TNTI	**Ternate**	**22.75**	**177**	P	**P**	**14 47 26.1**	**+0.5**
	comp=Z,141nm,1.1s						
LZH	**Lanzhou**	**23.10**	**308**	*e*P	**P**	**14 47 28.5**	**-0.8**
LZH				pP	**pP**	**14 47 31.9**	**-1.8**
LZH				sP	**sP**	**14 47 33.0**	**-2.7**
LZH				pmax	pmax		
	comp=Z,21nm,1.0s						
MRSI	**Marisa**	**23.43**	**191**	P	**P**	**14 47 33.1**	**+0.6**
	comp=Z,21nm,1.1s						
LBMI	**Labuha**	**24.16**	**177**	P	**P**	**14 47 44.0**	**+4.5**
	comp=Z,64nm,1.1s						
LOEI	**Loei**	**24.29**	**260**	P	**P**	**14 47 38.0**	**-2.8**
	comp=Z,36nm,1.3s,comp=Z,3μm						
ASAJ	**Asahikawa**	**24.37**	**29**	*e*P	**P**	**14 47 41.4**	**+0.1**
	comp=Z,36nm,1.2s						
ASAJ	**Asahikawa**	**24.37**	**29**	P	**P**	**14 47 41.9**	**+0.7**
	comp=Z,10nm,0.6s,baz=232,slow=13,SNR=19						
ASAJ				LR	LR	14 57 31.0	
	comp=Z,96nm,18.0s,baz=336,slow=37						
PBKT	**Sadao Pong**	**24.87**	**258**	P	**P**	**14 47 46.6**	**+0.6**
	comp=Z,16nm,1.2s						
PBKT	**Sadao Pong**	**24.87**	**258**	P	**P**	**14 47 47.1**	**+1.1**
	comp=Z,16nm,1.0s						
SBUM	**Sibu**	**25.14**	**215**	*e*P	**P**	**14 47 48.1**	**-0.4**
	comp=Z,43nm,1.1s						
SBUM	**Sibu**	**25.14**	**215**	P	**P**	**14 47 48.6**	**+0.1**
	comp=Z,38nm,1.2s						
HABR	**Khabarovsk**	**25.72**	**13**	*e*P	**P**	**14 47 52.1**	**-1.3**
HABR				*e**PP	**pP**	**14 47 55.2**	**-2.9**
HABR				PPP	PPP	14 48 36.9	
HABR				*e*S	**S**	**14 52 22.3**	**+0.8**
HABR				*e**SS	**sS**	**14 52 27.5**	**-1.7**
HABR				*e*SS	**SnSn**	**14 53 19.0**	**+2.4**
HABR				*e*		14 58 50.2	
HABR				pmax	pmax		
	comp=Z,18nm,1.4s						
HABR				MLR	MLR		
	comp=Z,161nm,18.0s						
KLR	**Kul'dur**	**25.89**	**8**	*e*P	**P**	**14 47 51.2**	**-3.8**
CHTO	**Chiang Mai**	**26.02**	**265**	*e*P	**P**	**14 47 56.9**	**+0.4**
CHTO				pmax	pmax		
	comp=Z,11nm,1.4s						
CHTO	**Chiang Mai**	**26.02**	**265**	*e*P	**P**	**14 47 56.9**	**+0.4**
	comp=Z,10nm,1.4s						
CM01	**Chiang Mai Arr**	**26.11**	**264**	*e*P	**P**	**14 47 56.8**	**-0.5**
CMAR	**Chiang Mai Arr**	**26.11**	**264**	P	**P**	**14 47 58.1**	**+0.8**
CMAR	**Chiang Mai Arr**	**26.11**	**264**	P	**P**	**14 47 58.1**	**+0.8**
	comp=Z,2.2nm,0.7s,baz=66,slow=7.9,SNR=16						
SKSI	**Soroako, Sulaw**	**26.47**	**191**	P	**P**	**14 48 03.2**	**+2.6**
	comp=Z,30nm,0.8s						
YSS	**Yuzh-Sakhalins**	**26.71**	**25**	⇓*i* P	P	14 48 07.9	+5.5
YSS				*e*		14 48 20.0	
YSS				pmax	pmax		
	comp=N,40nm,1.0s						
YSS				pmax	pmax		
	comp=E,40nm,1.0s						
YSS				pmax	pmax		
	comp=Z,60nm,1.0s						
KSM	**Kuching**	**27.00**	**218**	*e*P	**P**	**14 48 05.2**	**0.0**
	comp=Z,17nm,0.9s						
KSM	**Kuching**	**27.00**	**218**	P	**P**	**14 48 05.4**	**+0.1**
	comp=Z,24nm,1.2s						
GTA	**Gaotai**	**27.44**	**311**	*e*P	**P**	**14 48 09.1**	**-0.2**
GTA				pP	**pP**	**14 48 13.8**	**-0.2**
GTA				sP	**sP**	**14 48 16.2**	**+0.3**
GTA				S	**S**	**14 52 48.0**	**-1.4**
GTA				sS	**sS**	**14 52 54.2**	**-2.9**
GTA				pmax	pmax		
	comp=Z,7.0nm,1.4s						
GTA				pmax	pmax		
	comp=Z,71nm,5.7s						
GTA				LR	LR		
	comp=N,110nm,15.7s						
GTA				LR	LR		
	comp=E,85nm,15.7s						
GTA				LR	LR		
	comp=Z,130nm,17.1s						
ULN	**Ulaanbaatar**	**28.66**	**332**	*e*P	**P**	**14 48 19.1**	**-1.0**
	comp=Z,2.4nm,0.6s						
ULN	**Ulaanbaatar**	**28.66**	**332**	P	**P**	**14 48 20.5**	**+0.4**
	comp=Z,5.0nm,2.1s,comp=Z,380nm						
SONM	**Songino Array**	**28.93**	**332**	P	**P**	**14 48 21.8**	**-0.6**
SONM	**Songino Array**	**28.93**	**332**	P	**P**	**14 48 21.8**	**-0.6**
	comp=Z,1.5nm,0.6s,baz=144,slow=10,SNR=9.0						
SONM				LR	LR	15 01 38.8	
	comp=Z,163nm,20.1s,baz=74,slow=40						
KAPI	**Kappang**	**29.21**	**194**	LR	LR	14 59 43.6	
	comp=Z,139nm,19.7s,baz=76,slow=36						
IPM	**Ipoh**	**31.01**	**236**	*e*P	**P**	**14 48 40.5**	**-0.6**
	comp=Z,180nm,2.6s						
PSI	**Prapat**	**33.69**	**236**	P	**P**	**14 49 04.0**	**-0.7**
PSI	**Prapat**	**33.69**	**236**	P	**P**	**14 49 04.0**	**-0.7**
	comp=Z,11nm,0.7s,baz=322,slow=2.4,SNR=6.9						
HVS	**Khovu-Aksy**	**37.26**	**326**	*e*P	**P**	**14 49 33.7**	**-1.3**
WMQ	**Urumqi**	**37.52**	**312**	*e*P	**P**	**14 49 37.0**	**-0.3**
WMQ				pP	**pP**	**14 49 41.5**	**-0.5**
WMQ				sP	**sP**	**14 49 44.0**	**+0.1**
WMQ				PP	**PnPn**	**14 51 05.0**	**+1.3**
WMQ				pmax	pmax		
	comp=Z,12nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,170nm,4.5s						
WMQ				LR	LR		
	comp=N,51nm,16.9s						
WMQ				LR	LR		
	comp=E,63nm,16.9s						
WMQ				LR	LR		
	comp=Z,69nm,20.5s						
PEA0	**Petropavlovsk-**	**37.76**	**31**	*e*P	**P**	**14 49 40.0**	**+0.9**
PETK	**Petropavlovsk-**	**37.76**	**31**	P	**P**	**14 49 39.0**	**-0.1**
PETK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
PETK				MLR	MLR		
	comp=Z,37nm,19.0s						
PETK	**Petropavlovsk-**	**37.76**	**31**	P	**P**	**14 49 39.0**	**-0.1**
PETK	**Petropavlovsk-**	**37.76**	**31**	P	**P**	**14 49 39.0**	**-0.1**
	comp=Z,2.5nm,0.9s,baz=201,slow=7.3,SNR=9.7						
PETK				LR	LR	15 05 07.9	
	comp=Z,37nm,19.0s,baz=242,slow=36						
YAK	**Yakutsk**	**38.44**	**2**	*e*P	**P**	**14 49 43.8**	**-0.8**
YAK				pmax	pmax		
	comp=Z,13nm,0.8s						
YAK				pmax	pmax		
	comp=N,9.0nm,1.0s						
PMG	**Port Moresby**	**38.61**	**146**	LR	LR	15 04 20.7	
	comp=N,98nm,18.5s,baz=274,slow=34						
KRAR	**Krasnoyarsk**	**40.60**	**332**	*e*P	**P**	**14 50 03.0**	**+0.3**
COEN	**Coen**	**40.81**	**155**	*e*P	**P**	**14 50 04.6**	**-0.3**
	comp=N,110nm,0.9s						
FITZ	**Fitzroy Crossi**	**41.49**	**181**	*e*P	**P**	**14 50 09.1**	**-1.4**
	comp=N,13nm,0.7s						
FITZ	**Fitzroy Crossi**	**41.49**	**181**	P	**P**	**14 50 09.0**	**-1.4**
	comp=N,15nm,0.7s,baz=14,slow=7.4,SNR=48						
MK01	**Makanchi Array**	**42.07**	**314**	*e*P	**P**	**14 50 15.3**	**+0.3**
MK31	**Makanchi Array**	**42.09**	**314**	*e*P	**P**	**14 50 15.5**	**+0.3**
MK31				pmax	pmax		
	comp=Z,8.0nm,0.6s						
MK31	**Makanchi Array**	**42.09**	**314**	*e*P	**P**	**14 50 15.6**	**+0.5**
MKAR	**Makanchi Array**	**42.09**	**314**	P	**P**	**14 50 15.7**	**+0.5**
MKAR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
MKAR				MLR	MLR		
	comp=Z,40nm,19.2s						
MKAR	**Makanchi Array**	**42.09**	**314**	P	**P**	**14 50 15.7**	**+0.5**
MKAR	**Makanchi Array**	**42.09**	**314**	P	**P**	**14 50 15.7**	**+0.5**
	comp=Z,9.9nm,0.7s,baz=95,slow=11,SNR=68						
MKAR				LR	LR	15 08 27.2	
	comp=Z,40nm,19.2s,baz=354,slow=37						
SEY	**Seymchan**	**42.97**	**17**	*e*P	**P**	**14 50 24.1**	**+2.1**
ZAA0	**Zalesovo Array**	**43.35**	**325**	*e*P	**P**	**14 50 24.6**	**-0.7**
ZALV	**Zalesovo Beam**	**43.35**	**325**	P	**P**	**14 50 24.9**	**-0.4**

IDC 07 14:26:26.7±2.0, 4°.86N×126°.13E, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.5/24, mbtmp3.6/4, 1D, Error ellipse: s-maj=121.2km s-min=26.0km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**3.00**	**322**	⇓*i* P	Pg	14 27 25.0	+0.7
FITZ	**Fitzroy Crossi**	**22.82**	**181**	P	P	14 31 32.0	+0.6
	2.3nm,0.8s,baz=12,slow=9.3,SNR=4.9						
WRA	**Warramunga Arr**	**25.93**	**162**	P	P	14 32 00.8	-0.2
	0.7nm,0.7s,baz=339,slow=10,SNR=14						
ASAR	**Alice Springs**	**29.35**	**165**	P	P	14 32 31.3	-0.3
	0.3nm,0.5s,baz=346,slow=6.9,SNR=10						
MKAR	**Makanchi Array**	**56.29**	**325**	P	P	14 36 09.2	-0.1
	0.5nm,0.9s,baz=131,slow=6.7,SNR=4.1						

CASC 07 14:39:35.8±2.8, 11°.51N×87°.44W, h36km±999km, MD4.3, 1C, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**1.07**	**51**	*e*P	Pn	14 39 54.0	-0.3
CNCH	**Conchagua**	**1.79**	**348**	*e*P	Pn	14 40 04.4	0.0
NY14	**Universidad de**	**2.06**	**114**	*i* P	Pn	14 40 08.2	+0.3
NY14				*i* S	Sn	14 40 33.0	+0.6
BUEV	**Buena Vista**	**2.12**	**109**	*i* P	Pn	14 40 05.6	-3.2
MESS	**Mesas**	**2.34**	**109**	*i* P	Pn	14 40 13.6	+1.8
CUI	**Cuipilapa**	**2.39**	**111**	*i* P	Pn	14 40 13.8	+1.2
LFRS	**El Faro**	**2.63**	**323**	*e*P	Pn	14 40 16.5	+0.6
LFRS				*e*S	Sn	14 40 46.3	-0.3
JCR	**Jicaral**	**2.83**	**126**	*e*P	Pn	14 40 18.3	-0.2
JCR				*e*S	Sn	14 40 50.4	-1.0
CGA2	**Cerro Gallo 2**	**3.28**	**117**	*e*S	Sn	14 41 02.4	-0.4
URSC	**Urasca**	**3.97**	**114**	⇑*e*P	Pn	14 40 37.6	+3.2
URSC				*e*S	Sn	14 41 25.1	+5.2
BUS	**Buena Vista**	**4.11**	**118**	*e*P	Pn	14 40 37.5	+0.7
BUS				*e*S	Sn	14 41 25.2	+1.2

NIED ***07*** *14:42:00, 23°.90N×126°.20E, h20km, Mw4.4 Best double couple: M0:4.18000×10^15 NP1:φs=259.00000°, δ76.00000°, λ-66.00000°. NP2:φs=17.00000°, δ28.00000°, λ-149.00000°.*

BJI ***07*** *14:42:20.8, 23°.67N×126°.38E, h5km, mB4.7/30, mb4.5/41, Ms4.2/27, Ms7 3.9/26*

IDC ***07*** *14:42:21.3±0.5, 23°.57N×126°.42E, h0km, mb4.4/20, mb1 4.5/23, mb1mx4.5/28, mbtmp4.4/23, ML4.5/3, MS3.6/15, Ms1 3.6/15, ms1mx3.4/42, Error ellipse: s-maj=18.0km s-min=11.1km az=83.0*

NEIC ***07*** *14:42:22.9±0.3, 23°.59N×126°.33E, h10km, mb4.8/14, MW4.3(NIED), Error ellipse: s-maj=5.7km s-min=5.0km az=116.0*

MOS ***07*** *14:42:22.6±1.0, 23°.61N×126°.39E, h20km, mb4.7/28, Error ellipse: s-maj=11.5km s-min=6.5km az=104.3*

ISCJB ***07*** *14:42:22.5±1.0, 23°.65N±0°.03×126°.37E±0°.03, h15km±6km, mb4.5/59, MS3.6/21, Error ellipse: s-maj=4.3km s-min=3.8km az=151.2*

JMA ***07*** *14:42:25.8±0.3, 23°.86N×126°.17E, h116km, M4.3*

BKK ***07*** *14:42:26.0±0.7, 24°N±7°×12°6E±°, h10km, M4.7/11, mB5.5/3, mb4.8/11, MLv4.5/1, Mw(mB)5.0/3*

DJA ***07*** *14:42:28.2±3.4, 24°N±7°×12°6E±1°1, h36km±26km, M4.6/9, mB5.2/1, mb4.8/9, MLv4.5/1, Mw(mB)4.6/1*

ISC 07 14:42:23.8±0.5, 23°.64N±0°.04×126°.40E±0°.03, h15km±2km,

ZALV				pmax	pmax		
	comp=Z,11nm,0.5s						
ZALV				MLR	MLR		
	comp=Z,68nm,18.0s						
ZALV	**Zalesovo Beam**	**43.35**	**325**	P	**P**	**14 50 24.9**	**-0.4**
ZALV	**Zalesovo Beam**	**43.35**	**325**	P	**P**	**14 50 24.9**	**-0.4**
	comp=Z,11nm,0.5s,baz=109,slow=8.3,SNR=56						
ZALV				LR	LR	15 10 24.3	
	comp=Z,68nm,18.0s,baz=248,slow=39						
WRAB	**Tennant Creek**	**44.00**	**169**	*eP*	**P**	**14 50 30.0**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,43nm,0.9s						
WRAB	**Tennant Creek**	**44.00**	**169**	*eP*	**P**	**14 50 30.0**	**-0.8**
	comp=Z,43nm,0.9s						
WRA	**Warramunga Arr**	**44.01**	**169**	P	**P**	**14 50 30.2**	**-0.6**
WRA	**Warramunga Arr**	**44.01**	**169**	P	**P**	**14 50 30.2**	**-0.6**
	comp=Z,35nm,0.7s,baz=350,slow=8.8,SNR=263						
NVS	**Novosibirsk**	**44.59**	**326**	*eP*	**P**	**14 50 32.8**	**-2.3**
KSH	**Kashi**	**45.20**	**303**	*eP*	**P**	**14 50 42.7**	**+2.2**
KSH				sP	**sP**	**14 50 50.2**	**+3.0**
KSH				PP	**PP**	**14 52 29.4**	**+3.3**
KSH				PcS	**PcS**	**14 56 15.4**	**+0.9**
KSH				S	**S**	**14 57 23.1**	**+3.1**
KSH				SS	**ScS**	**15 00 37.3**	**+0.1**
KSH				pmax	pmax		
	comp=Z,97nm,4.6s						
KSH				LR	LR		
	comp=N,66nm,5.4s						
KSH				LR	LR		
	comp=E,69nm,4.8s						
KSH				LR	LR		
	comp=Z,230nm,5.5s						
TKM2	**Tokmak 2**	**45.87**	**308**	P	**P**	**14 50 47.1**	**+1.3**
TKM2				pmax	pmax		
	comp=Z,7.0nm,0.7s						
TKM2	**Tokmak 2**	**45.87**	**308**	*eP*	**P**	**14 50 47.0**	**+1.1**
	comp=Z,5.8nm,0.6s						
AAK	**Ala-Archa**	**46.64**	**307**	*eP*	**P**	**14 50 51.6**	**-0.2**
AAK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
AS31	**Alice Springs**	**47.59**	**171**	*eP*	**P**	**14 50 59.1**	**-0.1**
ASAR	**Alice Springs**	**47.59**	**171**	P	**P**	**14 50 58.9**	**-0.2**
ASAR				PcP	**PcP**	**14 52 28.8**	**-0.1**
ASAR	**Alice Springs**	**47.59**	**171**	P	**P**	**14 50 58.9**	**-0.2**
	comp=Z,7.5nm,0.5s,baz=354,slow=13,SNR=236						
ASAR				PcP	**PcP**	**14 52 28.8**	**-0.1**
	comp=Z,1.7nm,0.8s,baz=1.0,slow=3.8,SNR=4.8						
AS01	**Alice Springs**	**47.59**	**171**	*eP*	**P**	**14 50 59.0**	**-0.2**
KKAR	**Karatay Array**	**49.60**	**307**	P	**P**	**14 51 15.1**	**+0.6**
KKAR	**Karatay Array**	**49.60**	**307**	P	**P**	**14 51 15.1**	**+0.6**
KBL	**Kabul**	**50.70**	**296**	P	**P**	**14 51 23.6**	**+0.3**
KBL				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KBL	**Kabul**	**50.70**	**296**	P	**P**	**14 51 23.6**	**+0.3**
	comp=Z,4.9nm,0.8s						
VOSK	**Vostochnaya**	**50.72**	**320**	*eP*	**P**	**14 51 22.8**	**0.0**
VOSK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
VOSK	**Vostochnaya**	**50.72**	**320**	*eP*	**P**	**14 51 22.8**	**0.0**
	comp=Z,7.1nm,0.8s						
BVA0	**Borovoye Array**	**51.14**	**320**	P	**P**	**14 51 26.2**	**+0.2**
BVA0				pmax	pmax		
	comp=Z,8.0nm,1.0s						
BRVK	**Borovoye**	**51.21**	**320**	*c iP*	**P**	**14 51 27.2**	**+0.7**
BRVK				pmax	pmax		
	comp=Z,18nm,1.2s						
BRVK	**Borovoye**	**51.21**	**320**	*eP*	**P**	**14 51 27.0**	**+0.5**
	comp=Z,10nm,0.7s						
STKA	**Stephens Creek**	**57.09**	**165**	P	**P**	**14 52 09.3**	**-0.2**
STKA	**Stephens Creek**	**57.09**	**165**	P	**P**	**14 52 09.3**	**-0.2**
	comp=Z,4.3nm,0.6s,baz=342,slow=7.1,SNR=13						
AB31	**Akbulak array**	**57.23**	**314**	*i* P	**P**	**14 52 10.9**	**+0.4**
AB31				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ABKAR	**Akbulak array**	**57.23**	**314**	*eP*	**P**	**14 52 11.2**	**+0.8**
SVE	**Sverdlovsk**	**57.31**	**323**	*eP*	**P**	**14 52 12.1**	**+1.2**
SVE				pmax	pmax		
	comp=Z,31nm,1.0s						
SVE				MLR	MLR		
	comp=Z,198nm,20.0s						
ARU	**Arti**	**58.42**	**323**	*d iP*	**P**	**14 52 18.4**	**-0.3**
ARU						14 54 23.5	
ARU				S	**S**	**15 00 23.4**	**+2.4**
ARU				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ILAR	**Eielson Array**	**67.49**	**28**	P	**P**	**14 53 19.1**	**+0.2**
ILAR	**Eielson Array**	**67.49**	**28**	P	**P**	**14 53 19.1**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=250,slow=5.3,SNR=4.9						
KBZ	**Khabaz**	**69.52**	**310**	P	**P**	**14 53 33.2**	**+1.3**
KBZ				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KBZ	**Khabaz**	**69.52**	**310**	P	**P**	**14 53 33.2**	**+1.3**
KBZ	**Khabaz**	**69.52**	**310**	P	**P**	**14 53 33.2**	**+1.3**
	comp=Z,2.3nm,0.9s,baz=78,slow=9.3,SNR=4.0						
SPITS	**Spitsbergen Ar**	**71.01**	**348**	LR	LR	15 28 33.8	
	comp=Z,52nm,18.2s,baz=15,slow=39						
JOF	**Joensuu**	**71.50**	**331**	*eP*	**P**	**14 53 45.2**	**+1.5**
JOF				pmax	pmax		
	comp=Z,3.0nm,0.5s						
JOF	**Joensuu**	**71.50**	**331**	*ep*	**P**	**14 53 45.2**	**+1.5**
	comp=Z,2.8nm,0.5s						
ARCES	**ARCESS Array B**	**71.80**	**339**	P	**P**	**14 53 45.9**	**+0.5**
ARCES	**ARCESS Array B**	**71.80**	**339**	P	**P**	**14 53 45.9**	**+0.5**
	comp=Z,1.7nm,0.8s,baz=57,slow=8.8,SNR=5.6						
ARCES				LR	LR	15 28 16.4	
	comp=Z,48nm,20.6s,baz=233,slow=38						
KAF	**Kangasniemi**	**73.96**	**331**	*eP*	P	14 53 50.3	-8.0
KAF				pmax	pmax		
	comp=Z,1.0nm,0.2s						
KAF	**Kangasniemi**	**73.96**	**331**	*ep*	P	14 53 50.3	-8.0
	comp=Z,0.5nm,0.2s						
FINES	**FINESS Array B**	**74.29**	**331**	P	**P**	**14 54 00.7**	**+0.5**
FINES	**FINESS Array B**	**74.29**	**331**	P	**P**	**14 54 00.7**	**+0.5**
	comp=Z,3.8nm,0.6s,baz=71,slow=6.7,SNR=13						
FINES				LR	LR	15 30 26.7	
	comp=Z,49nm,20.7s,baz=191,slow=39						
AKASG	**Malin Array Be**	**76.41**	**320**	P	**P**	**14 54 12.5**	**-0.2**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**76.41**	**320**	P	**P**	**14 54 12.5**	**-0.2**
AKASG	**Malin Array Be**	**76.41**	**320**	P	**P**	**14 54 12.5**	**-0.2**
	comp=Z,1.2nm,0.5s,baz=63,slow=6.1,SNR=2.6						
BRTR	**Keskin Array B**	**77.30**	**308**	P	**P**	**14 54 18.9**	**+0.8**
BRTR	**Keskin Array B**	**77.30**	**308**	P	**P**	**14 54 18.9**	**+0.8**
	comp=Z,1.2nm,0.8s,baz=80,slow=6.8,SNR=4.5						
URZ	**Urewera**	**77.80**	**141**	P	**P**	**14 54 19.6**	**-0.8**
URZ	**Urewera**	**77.80**	**141**	P	**P**	**14 54 19.6**	**-0.8**
	comp=Z,5.7nm,1.0s,baz=315,slow=4.3,SNR=4.9						
BR231	**Keskin MP Arra**	**77.89**	**308**	*eP*	**P**	**14 54 18.4**	**-3.0**
RPZ	**Rata Peaks**	**78.56**	**149**	P	**P**	**14 54 23.7**	**-0.9**
RPZ	**Rata Peaks**	**78.56**	**149**	P	**P**	**14 54 23.7**	**-0.9**
	comp=Z,12nm,0.9s,baz=315,slow=4.4,SNR=4.0						
HFS	**Hagfors**	**80.33**	**332**	LR	LR	15 34 39.4	
	comp=Z,63nm,19.6s,baz=231,slow=39						
JMIC	**Jan Mayen**	**80.53**	**346**	LR	LR	15 31 41.6	
	comp=Z,32nm,18.1s,baz=92,slow=37						
NB2	**NORSAR Subarra**	**80.89**	**334**	P	**P**	**14 54 37.1**	**-0.1**
	comp=Z,1.9nm,0.6s,baz=54,slow=5.6						
NOA	**NORSAR Array B**	**80.89**	**334**	P	**P**	**14 54 38.1**	**+1.0**
NOA	**NORSAR Array B**	**80.89**	**334**	P	**P**	**14 54 38.1**	**+1.0**
	comp=Z,1.8nm,0.6s,baz=53,slow=5.7,SNR=4.9						
GERES	**GERESS Array B**	**86.24**	**322**	P	**P**	**14 55 05.6**	**+0.6**
GERES	**GERESS Array B**	**86.24**	**322**	P	**P**	**14 55 05.6**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=50,slow=7.9,SNR=2.9						
VNA2	**Neumayer--Watz**	**125.82**	**197**	*e*PKP	**PKPdf**	**15 01 24.3**	**+0.1**
VNA3	**Neumayer Olymp**	**126.22**	**196**	*e*PKP	**PKPdf**	**15 01 24.8**	**-0.2**

*ISCJB **07** 15:00:23.9±0.5, 59°.31N±0°.02×23°.87E±0°.09, h0km, Error ellipse: s-maj=6.4km s-min=3.5km az=10.6*
*CSEM **07** 15:00:24.9±0.2, 59°.31N×23°.88E, h2km, ML1.9, Error ellipse: s-maj=7.5km s-min=4.0km az=101.0, Mining explosion.*
*IDC **07** 15:00:24.1±3.7, 59°.29N×23°.82E, h0km, mb1 3.2/3, mb1mx3.0/25, mbtmp3.1/3, ML2.8/3, Error ellipse: s-maj=43.6km s-min=14.5km az=160.0*
*HEL **07** 15:00:24.8±0.2, 59°.29N×23°.80E, h0km, ML1.9, Explosion*
ISC 07 15:00:24.1±0.9, 59°.32N±0°.03×23°.78E±0°.05, h0km, n22, σ0.94/41, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTSE	**Matsula**	**0.61**	**178**	*eP*	**Pg**	**15 00 35.4**	**-0.3**
MTSE				*eS*	**Sg**	**15 00 42.0**	**-1.6**
MTSE	**Matsula**	**0.61**	**178**	P	**Pg**	**15 00 35.3**	**-0.3**
MEF	**Metsahovi**	**0.95**	**19**	*eP*	**Pg**	**15 00 41.8**	**-0.6**
MEF				*eS*	**Sg**	**15 00 55.3**	**+0.7**
MEF	**Metsahovi**	**0.95**	**19**	P	**Pg**	**15 00 41.7**	**-0.6**
MEF				S	**Sg**	**15 00 55.3**	**+0.7**
PVF	**Pernaja**	**1.62**	**40**	*eP*	**Pn**	**15 00 53.4**	**-0.4**
PVF				*eS*	**Sn**	**15 01 14.4**	**-0.9**
PVF				MSG		15 01 20.4	
	comp=Z,6.8nm,0.1s						
PVF	**Pernaja**	**1.62**	**40**	P	**Pn**	**15 00 53.3**	**-0.4**
PVF				S	**Sn**	**15 01 14.3**	**-0.9**
VSU	**Vasula**	**1.76**	**118**	*eP*	**Pn**	**15 00 56.1**	**+0.4**
VSU				*eS*	**Sn**	**15 01 18.4**	**-0.4**
VSU	**Vasula**	**1.76**	**118**	P	**Pn**	**15 00 56.1**	**+0.4**
VSU				S	**Sn**	**15 01 18.4**	**-0.4**
SLIT	**Slitere, Latvi**	**1.87**	**205**	*eP*	**Pn**	**15 00 58.1**	**+0.9**
	SNR=50						
SLIT				*eS*	**Sb**	**15 01 23.5**	**+0.7**
	comp=Z,115nm,0.5s,SNR=50						
RAF	**Rauma**	**1.98**	**330**	*eP*	**Pn**	**15 00 59.9**	**+1.0**
RAF				*eS*	**Sb**	**15 01 25.8**	**-0.3**
RAF				MSG		15 01 29.3	
	comp=Z,8.2nm,0.1s						
RAF	**Rauma**	**1.98**	**330**	P	**Pn**	**15 00 59.8**	**+1.0**
RAF				S	**Sb**	**15 01 25.8**	**-0.3**
VJF	**Virojoki**	**2.26**	**56**	*eP*	**Pn**	**15 01 02.6**	**0.0**
VJF				*eS*	**Sn**	**15 01 31.2**	**0.0**
VJF				MSG		15 01 36.3	
	comp=Z,6.9nm,0.1s						
VJF	**Virojoki**	**2.26**	**56**	P	**Pn**	**15 01 02.6**	**0.0**
VJF				S	**Sn**	**15 01 31.1**	**0.0**
FIA0	**FINESS Array S**	**2.42**	**27**	*eP*	**Pn**	**15 01 05.9**	**+1.1**
FIA0				*eS*	**Sn**	**15 01 35.9**	**+0.9**
FIA0	**FINESS Array S**	**2.42**	**27**	P	**Pn**	**15 01 05.9**	**+1.1**
FIA0				S	**Sn**	**15 01 35.9**	**+0.9**
FINES	**FINESS Array B**	**2.42**	**27**	Pn	**Pn**	**15 01 05.7**	**+0.9**
	comp=Z,1.8nm,0.3s,baz=206,slow=14,SNR=49						
FINES				Sn	**Sb**	**15 01 37.6**	**-1.1**
	comp=Z,3.4nm,0.3s,baz=213,slow=22,SNR=23						
KEF	**Keuruu**	**2.91**	**10**	*eP*	**Pn**	**15 01 13.0**	**+1.5**
KEF				*eS*	**Sn**	**15 01 47.6**	**+0.4**
KEF	**Keuruu**	**2.91**	**10**	P	**Pn**	**15 01 13.0**	**+1.5**
KEF				S	**Sn**	**15 01 47.5**	**+0.4**
KAF	**Kangasniemi**	**3.06**	**23**	*eP*	**Pn**	**15 01 15.5**	**+1.7**
KAF				*eS*	**Sn**	**15 01 51.0**	**-0.1**
KAF	**Kangasniemi**	**3.06**	**23**	P	**Pn**	**15 01 15.4**	**+1.7**
KAF				S	**Sn**	**15 01 50.9**	**-0.1**
NOA	**NORSAR Array B**	**6.50**	**291**	Pn	**Pn**	**15 01 60.0**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=107,slow=10,SNR=2.7						
NOA				Lg	Lg	15 03 46.0	
	comp=Z,0.5nm,0.3s,baz=127,slow=24,SNR=5.5						
ARCES	**ARCESS Array B**	**10.28**	**3**	Pn	**Pn**	**15 02 50.4**	**-2.3**
	comp=Z,0.2nm,0.3s,baz=180,slow=13,SNR=7.9						

*CSEM **07** 15:05:41.9±0.2, 36°.87N×23°.21E, h8km, MD2.7, Error ellipse: s-maj=5.5km s-min=3.6km az=84.0*
*ISCJB **07** 15:05:42.6±0.6, 36°.85N±0°.02×23°.19E±0°.05, h19km±7km, Error ellipse: s-maj=6.6km s-min=3.8km az=2.8*
*THE **07** 15:05:42.6, 36°.88N×23°.18E, h11km±1km, ML2.8/7, Error ellipse: s-maj=1.8km s-min=0.9km az=264.0*
*ATH **07** 15:05:42.3, 36°.87N×23°.18E, h18km±1km, MD2.7/10*
ISC 07 15:05:42.2±0.9, 36°.88N±0°.02×23°.20E±0°.03, h13km±8km, n51, σ0.40/71, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLI	**Veliai**	**0.26**	**232**	P	**Pg**	**15 05 47.8**	**0.0**
VLI				S	**Sg**	**15 05 51.7**	**+0.2**
VLI	**Veliai**	**0.26**	**232**	*e*PB	**Pg**	**15 05 47.8**	**0.0**
VLI				*e*SB	**Sg**	**15 05 51.7**	**+0.2**
VLI	**Veliai**	**0.26**	**232**	P	**Pg**	**15 05 47.8**	**0.0**
VLI				S	**Sg**	**15 05 51.7**	**+0.2**
DIDY	**Didyma**	**0.60**	**1**	P	**Pg**	**15 05 53.7**	**-0.3**
DIDY				S	**Sb**	**15 06 03.5**	**+0.5**
DIDY	**Didyma**	**0.60**	**1**	P	**Pg**	**15 05 53.7**	**-0.3**
DIDY				S	**Sb**	**15 06 03.5**	**+0.5**
KYTH	**Kithira**	**0.61**	**192**	P	**Pb**	**15 05 54.5**	**-0.2**
KYTH	**Kithira**	**0.61**	**192**	*e*PN	**Pg**	**15 05 54.3**	**+0.1**
KYTH	**Kithira**	**0.61**	**192**	*e*Pn	**Pg**	**15 05 54.3**	**+0.1**
DID	**Didima**	**0.63**	**3**	P	**Pg**	**15 05 54.6**	**+0.1**
DID				S	**Sb**	**15 06 04.3**	**+0.5**
DID	**Didima**	**0.63**	**3**	*e*PB	**Pg**	**15 05 54.6**	**+0.1**
DID				*e*SN	**Sb**	**15 06 04.4**	**+0.6**
DID	**Didima**	**0.63**	**3**	P	**Pg**	**15 05 54.6**	**+0.1**
DID				*e*Sn	**Sb**	**15 06 04.4**	**+0.6**
DYR	**Agios Nikonas**	**0.70**	**261**	P	**Pg**	**15 05 55.9**	**0.0**
DYR	**Agios Nikonas**	**0.70**	**261**	*e*PN	**Pg**	**15 05 55.9**	**0.0**
DYR	**Agios Nikonas**	**0.70**	**261**	P	**Pg**	**15 05 55.9**	**0.0**
VLX	**Vlachokerasia**	**0.82**	**307**	P	**Pg**	**15 05 58.1**	**0.0**
VLX				S	**Sg**	**15 06 08.3**	**-0.5**
VLX	**Vlachokerasia**	**0.82**	**307**	*e*PN	**Pg**	**15 05 58.1**	**0.0**
VLX				*e*SN	**Sb**	**15 06 09.6**	**+0.3**
VLX	**Vlachokerasia**	**0.82**	**307**	P	**Pg**	**15 05 58.1**	**0.0**
VLX				S	**Sg**	**15 06 08.3**	**-0.5**
VLX				*e*Sn	**Sb**	**15 06 09.6**	**+0.3**
NAIG	**Nisos Aigina**	**0.91**	**15**	*e*PN	**Pg**	**15 05 59.7**	**-0.2**
NAIG	**Nisos Aigina**	**0.91**	**15**	*e*Pn	**Pg**	**15 05 59.7**	**-0.2**
ANKY	**Antikythira Is**	**1.01**	**175**	P	**Pg**	**15 06 01.5**	**-0.2**
ANKY	**Antikythira Is**	**1.01**	**175**	*e*PN	**Pg**	**15 06 01.6**	**-0.2**
ANKY				*e*SN	**Sb**	**15 06 15.1**	**+0.3**
ANKY	**Antikythira Is**	**1.01**	**175**	*e*Pn	**Pg**	**15 06 01.6**	**-0.2**
ANKY				*e*Sn	**Sb**	**15 06 15.1**	**+0.3**
ACOR	**Acrocorinthos**	**1.04**	**346**	P	**Pb**	**15 06 01.7**	**-0.5**
ACOR	**Acrocorinthos**	**1.04**	**346**	P	**Pb**	**15 06 01.7**	**-0.5**
ITM	**Ithomi**	**1.06**	**287**	P	**Pb**	**15 06 01.3**	**-1.1**
ITM	**Ithomi**	**1.06**	**287**	*e*PB	**Pb**	**15 06 01.7**	**-0.7**
ITM	**Ithomi**	**1.06**	**287**	P	**Pb**	**15 06 01.3**	**-1.1**
ITM	**Ithomi**	**1.06**	**287**	*e*Pb	**Pb**	**15 06 01.7**	**-0.7**
LTK	**Loutraki**	**1.16**	**351**	*e*PN	**Pb**	**15 06 04.3**	**+0.2**
LTK	**Loutraki**	**1.16**	**351**	*e*Pn	**Pb**	**15 06 04.3**	**+0.2**
ATHU	**Athens Univers**	**1.18**	**23**	P	**Pn**	**15 06 04.0**	**-0.5**
ATHU				S	**Sb**	**15 06 19.9**	**+0.1**
ATHU	**Athens Univers**	**1.18**	**23**	P	**Pn**	**15 06 04.0**	**-0.5**
ATHU				S	**Sb**	**15 06 19.9**	**+0.1**
GUR	**Goura**	**1.26**	**328**	P	**Pn**	**15 06 05.2**	**-0.4**
GUR				S	**Sn**	**15 06 22.7**	**+0.3**
GUR	**Goura**	**1.26**	**328**	*e*PN	**Pn**	**15 06 05.9**	**+0.3**
GUR	**Goura**	**1.26**	**328**	P	**Pn**	**15 06 05.2**	**-0.4**
GUR	**Goura**	**1.26**	**328**	*e*Pn	**Pn**	**15 06 05.9**	**+0.3**
GUR				S	**Sn**	**15 06 22.7**	**+0.3**
AMT	**Artemida-Makis**	**1.35**	**299**	*e*PN	**Pg**	**15 06 08.4**	**+0.1**
AMT	**Artemida-Makis**	**1.35**	**299**	*e*Pn	**Pg**	**15 06 08.4**	**+0.1**
KLV	**Kalavryta, Ach**	**1.43**	**325**	P	**Pn**	**15 06 08.1**	**+0.2**
KLV				S	**Sg**	**15 06 28.0**	**-0.4**
KLV	**Kalavryta, Ach**	**1.43**	**325**	*e*PN	**Pb**	**15 06 09.1**	**+0.3**
KLV	**Kalavryta, Ach**	**1.43**	**325**	P	**Pn**	**15 06 08.1**	**+0.2**
KLV	**Kalavryta, Ach**	**1.43**	**325**	*e*Pn	**Pb**	**15 06 09.1**	**+0.3**
KLV				S	**Sg**	**15 06 28.0**	**-0.4**
LAKA	**Lakka**	**1.67**	**325**	*e*PN	**Pb**	**15 06 12.5**	**-0.3**
LAKA	**Lakka**	**1.67**	**325**	*e*Pn	**Pb**	**15 06 12.5**	**-0.3**
VAM	**Vamos**	**1.68**	**151**	P	**Pn**	**15 06 10.7**	**-0.6**
VAM	**Vamos**	**1.68**	**151**	*e*PN	**Pb**	**15 06 13.2**	**+0.2**
VAM	**Vamos**	**1.68**	**151**	P	**Pn**	**15 06 10.7**	**-0.6**
VAM	**Vamos**	**1.68**	**151**	*e*Pn	**Pb**	**15 06 13.2**	**+0.2**
KALE	**Kalithea**	**1.73**	**331**	*e*PN	**Pb**	**15 06 13.8**	**0.0**
KALE	**Kalithea**	**1.73**	**331**	*e*Pn	**Pb**	**15 06 13.8**	**0.0**
TRIZ	**Trizonia**	**1.73**	**329**	*e*PB	**Pn**	**15 06 12.9**	**+0.9**

*CSEM **07** 15:11:42.7±0.2, 41°.37N×20°.44E, h2km, ML2.8/2, Error ellipse: s-maj=5.7km s-min=3.3km az=39.0*
*PDG **07** 15:11:42.9±0.4, 41°.41N×20°.41E, h7km, ML2.7/11, Error ellipse: s-maj=0.7km s-min=0.7km az=90.0*
*THE **07** 15:11:42.8, 41°.43N×20°.49E, h4km±16km, ML2.8/2, Error ellipse: s-maj=16.8km s-min=0.6km az=358.0*
*BEO **07** 15:11:43.3±0.5, 41°.35N×20°.47E, h0km±3km, ML2.3/8*
ISC 07 15:11:42.1±1.1, 41°.42N±0°.02×20°.48E±0°.02, h5km±9km, n57, σ1.95/100, 10C-15D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHP	**Peshkopia**	**0.27**	**353**	P	**Pg**	**15 11 47.8**	**+0.4**
PHP				S	**Sg**	**15 11 51.8**	**+0.8**
PHP	**Peshkopia**	**0.27**	**353**	P	**Pg**	**15 11 47.8**	**+0.4**
PHP				S	**Sg**	**15 11 51.8**	**+0.8**
TIR	**Tirane**	**0.47**	**262**	P	**Pg**	**15 11 51.2**	**0.0**
TIR	**Tirane**	**0.47**	**262**	⇑*i*Pg	**Pg**	**15 11 51.0**	**-0.2**
TIR	**Tirane**	**0.47**	**262**	P	**Pg**	**15 11 51.2**	**0.0**
BIA	**Bitola**	**0.75**	**122**	P	**Pg**	**15 11 56.8**	**+0.3**
BIA				S	**Sb**	**15 12 07.3**	**-0.9**
BIA	**Bitola**	**0.75**	**122**	P	**Pg**	**15 11 56.8**	**+0.3**
BIA				S	**Sb**	**15 12 07.3**	**-0.9**
BIA	**Bitola**	**0.75**	**122**	*i* Pg	**Pb**	**15 11 57.5**	**-0.2**
BIA				*i* Sg	**Sg**	**15 12 01.9**	**-4.3**
KBN	**Korca**	**0.82**	**164**	P	**Pg**	**15 11 58.5**	**+0.6**
KBN	**Korca**	**0.82**	**164**	P	**Pg**	**15 11 58.5**	**+0.6**
SKO	**Skopje**	**0.91**	**52**	P	**Pb**	**15 12 00.4**	**0.0**
SKO	**Skopje**	**0.91**	**52**	*e*Pg	**Pb**	**15 12 00.3**	**-0.1**
SKO				*e*Sg	**Sn**	**15 12 14.3**	**-0.8**
SKO	**Skopje**	**0.91**	**52**	P	**Pb**	**15 12 00.4**	**0.0**
SKO				*e*Sg	**Sn**	**15 12 14.3**	**-0.8**
SKO	**Skopje**	**0.91**	**52**	*i* Pg	**Pn**	**15 12 01.7**	**+0.1**
SKO				*i* Sg	**Sn**	**15 12 14.6**	**-0.5**
SKO				*i* Lg	Lg	15 12 15.7	
	comp=E,115nm,0.5s						
SKO				*i* Lg	Lg	15 12 16.0	
	comp=N,276nm,0.5s						
FNA	**Florina**	**0.92**	**133**	P	**Pb**	**15 12 00.7**	**0.0**
FNA				S	**Sb**	**15 12 13.5**	**+0.2**
FNA	**Florina**	**0.92**	**133**	P	**Pb**	**15 12 00.7**	**0.0**
FNA				S	**Sb**	**15 12 13.5**	**+0.2**
ULC	**Ulcinj**	**1.08**	**301**	⇑*i*Pg	**Pg**	**15 12 01.3**	**-1.5**
ULC				*e*Sg	**Sb**	**15 12 17.6**	**-0.1**
ULC	**Ulcinj**	**1.08**	**301**	⇑*i*Pg	**Pg**	**15 12 01.3**	**-1.5**
ULC				*e*Sg	**Sb**	**15 12 17.6**	**-0.1**
NEST	**Nestorio**	**1.09**	**157**	P	**Pb**	**15 12 03.7**	**+0.2**
NEST				S	**Sn**	**15 12 19.6**	**-0.1**
NEST	**Nestorio**	**1.09**	**157**	P	**Pb**	**15 12 03.7**	**+0.2**
DRME	**Dracevica, Mon**	**1.24**	**309**	⇓*i*Pg	**Pg**	**15 12 04.7**	**-1.2**
DRME				*e*Sg	**Sn**	**15 12 23.9**	**+0.6**
DRME	**Dracevica, Mon**	**1.24**	**309**	⇓*i*Pg	**Pg**	**15 12 04.7**	**-1.2**
DRME				*e*Sg	**Sn**	**15 12 23.9**	**+0.6**
PVY	**Plav**	**1.24**	**342**	⇓*i*Pg	**Pn**	**15 12 06.2**	**-0.1**
PVY				*e*Sg	**Sn**	**15 12 24.9**	**+1.4**
PVY	**Plav**	**1.24**	**342**	⇓*i*Pg	**Pn**	**15 12 06.2**	**-0.1**
PVY				*e*Sg	**Sn**	**15 12 24.9**	**+1.4**
PDG	**Podgorica**	**1.37**	**318**	*e*Pg	**Pn**	**15 12 07.4**	**-0.5**
PDG				*e*Sg	**Sn**	**15 12 27.7**	**+1.3**
PDG	**Podgorica**	**1.37**	**318**	*e*Pg	**Pn**	**15 12 07.4**	**-0.5**
PDG				*e*Sg	**Sn**	**15 12 27.7**	**+1.3**
TTG	**Podgorica**	**1.37**	**318**	⇑*i*Pg	**Pn**	**15 12 06.9**	**-1.0**
TTG				*e*Sg	**Sn**	**15 12 28.5**	**+2.1**
BUM	**Brajici-Budva**	**1.48**	**307**	⇓*i*Pg	**Pn**	**15 12 09.5**	**0.0**
BUM				*e*Sg	**Sg**	**15 12 31.8**	**+2.1**
BUM	**Brajici-Budva**	**1.48**	**307**	⇓*i*Pg	**Pn**	**15 12 09.5**	**0.0**
BUM				*e*Sg	**Sg**	**15 12 31.8**	**+2.1**
BEY	**Berane**	**1.52**	**343**	⇓*i*Pg	**Pg**	**15 12 11.1**	**-0.2**
BEY				*e*Sg	**Sg**	**15 12 33.6**	**+2.6**
IVA	**Berane**	**1.52**	**343**	⇓*i*Pg	**Pg**	**15 12 11.1**	**-0.2**
IVA				*e*Sg	**Sg**	**15 12 33.6**	**+2.6**
VAY	**Valandovo**	**1.57**	**93**	⇑*i*Pg	**Pb**	**15 12 11.1**	**-0.6**
VAY	**Valandovo**	**1.57**	**93**	⇑*i*Pg	**Pb**	**15 12 11.1**	**-0.6**
VAY	**Valandovo**	**1.57**	**93**	*i* Pn	**Pg**	**15 12 13.6**	**+1.3**
VAY				*e*Sg	**Sg**	**15 12 34.2**	**+1.6**
	comp=E,36nm,0.4s						
VAY				*i* Lg	Lg	15 12 35.6	
VAY				*i* Lg	Lg	15 12 36.2	
	comp=N,60nm,0.6s						
BARS	**Barje**	**1.71**	**35**	*e*Pn	**Pg**	**15 12 15.3**	**+0.3**
BARS				*e*Sn	**Sg**	**15 12 38.0**	**+0.8**
NKME	**Niksic**	**1.77**	**320**	*e*Pn	**

SKO	**Skopje**	**0.94**	**54**	P	**Pg**	15 20 47.2	-0.9
SKO				S	**Sb**	15 21 01.6	+0.4
SKO	**Skopje**	**0.94**	**54**	⇑*i*Pg	**Pg**	15 20 47.1	-1.0
SKO				*e*Sg	**Sg**	15 21 00.5	+0.2
SKO	**Skopje**	**0.94**	**54**	*i* Pg	**Pg**	15 20 47.8	-0.2
SKO				*e*Lg	Lg	15 21 01.0	
	comp=N,3μm,0.4s						
SKO				*e*Lg	Lg	15 21 01.3	
	comp=E,3μm,0.7s						
SKO				*i* Sg	**Sb**	15 21 01.6	+0.4
SKO	**Skopje**	**0.94**	**54**	P	**Pg**	15 20 47.2	-0.9
SKO				*e*Sg	**Sg**	15 21 00.5	+0.2
SKO				*e*Lg	Lg	15 21 05.3	
	comp=E,3μm,0.7s						
FNA	**Florina**	**0.96**	**131**	P	**Pg**	15 20 47.1	-1.4
FNA				S	**Sb**	15 21 02.0	+0.2
FNA	**Florina**	**0.96**	**131**	*e*PB	**Pg**	15 20 47.5	-1.0
FNA				*e*SB	**Sb**	15 21 02.1	+0.2
FNA	**Florina**	**0.96**	**131**	P	**Pg**	15 20 47.1	-1.4
FNA	**Florina**	**0.96**	**131**	*e*Pg	**Pg**	15 20 47.5	-1.0
FNA				S	**Sb**	15 21 02.0	+0.2
BCI	**Bajram Curri**	**0.98**	**345**	*i* PG	**Sg**	15 21 02.6	+1.1
ULC	**Ulcinj**	**1.03**	**302**	⇓*i*Pg	**Pg**	15 20 48.1	-1.7
ULC				*e*Sg	**Sn**	15 21 04.9	-0.5
ULC	**Ulcinj**	**1.03**	**302**	⇓*i*Pg	**Pg**	15 20 48.1	-1.7
ULG				*e*Sg	**Sn**	15 21 04.9	-0.5
NEST	**Nestorio**	**1.11**	**154**	P	**Pg**	15 20 50.6	-0.7
NEST				S	**Sn**	15 21 08.0	+0.5
NEST	**Nestorio**	**1.11**	**154**	P	**Pg**	15 20 50.6	-0.7
NEST				S	**Sn**	15 21 08.0	+0.5
DRME	**Dracevica, Mon**	**1.20**	**310**	⇑*i*Pg	**Pb**	15 20 50.9	-2.0
DRME				*e*Sg	**Sn**	15 21 10.7	+1.2
DRME	**Dracevica, Mon**	**1.20**	**310**	⇑*i*Pg	**Pb**	15 20 50.9	-2.0
DRME				*e*Sg	**Sn**	15 21 10.7	+1.2
PVY	**Plav**	**1.22**	**344**	⇓*i*Pg	**Pb**	15 20 51.8	-1.6
PVY				*e*Sg	**Sn**	15 21 11.8	+1.6
PVY	**Plav**	**1.22**	**344**	⇓*i*Pg	**Pb**	15 20 51.8	-1.6
PVY				*e*Sg	**Sn**	15 21 11.8	+1.6
PDG	**Podgorica**	**1.33**	**320**	*e*Pg	**Pn**	15 20 53.6	-1.2
PDG				*e*Sg	**Sg**	15 21 13.9	+1.2
PDG	**Podgorica**	**1.33**	**320**	⇑*i*Pg	**Pn**	15 20 53.4	-1.4
PDG				*e*Sg	**Sg**	15 21 13.9	+1.2
TTG	**Podgorica**	**1.33**	**320**	⇑*i*Pg	**Pn**	15 20 53.4	-1.4
TTG				*e*Sg	**Sg**	15 21 15.0	+2.3
BUM	**Brajici-Budva**	**1.44**	**308**	⇑*i*Pg	**Pn**	15 20 55.7	-0.7
BUM				*e*Sg	**Sg**	15 21 18.6	+2.4
BUM	**Brajici-Budva**	**1.44**	**308**	⇑*i*Pg	**Pn**	15 20 55.7	-0.7
BUM				*e*Sg	**Sg**	15 21 18.6	+2.4
BEY	**Berane**	**1.50**	**345**	*e*Pg	**Pn**	15 20 57.4	+0.1
BEY				*e*Sg	**Sg**	15 21 20.1	+1.9
IVA	**Berane**	**1.50**	**345**	*e*Pg	**Pn**	15 20 57.4	+0.1
IVA				*e*Sg	**Sg**	15 21 20.1	+1.9
KZN	**Kozani**	**1.51**	**137**	P	**Pn**	15 20 57.8	+0.4
KZN				S	**Sg**	15 21 19.1	+0.5
KZN	**Kozani**	**1.51**	**137**	*e*PG	**Pn**	15 20 57.8	+0.4
KZN				*e*SB	**Sg**	15 21 21.1	+2.5
KZN	**Kozani**	**1.51**	**137**	P	**Pn**	15 20 57.8	+0.4
KZN				S	**Sg**	15 21 19.1	+0.5
KZN				*e*Sb	**Sg**	15 21 21.1	+2.5
GRG	**Griva**	**1.57**	**107**	P	**Pn**	15 20 58.0	-0.1
GRG				S	**Sg**	15 21 20.1	-0.2
GRG	**Griva**	**1.57**	**107**	P	**Pn**	15 20 58.0	-0.1
GRG				S	**Sg**	15 21 20.1	-0.2
SRN	**Sarande**	**1.57**	**192**	P	**Pg**	15 21 00.2	+0.1
SRN	**Sarande**	**1.57**	**192**	P	**Pg**	15 21 00.2	+0.1
VAY	**Valandovo**	**1.62**	**93**	P	**Pn**	15 20 57.7	-1.1
VAY				S	**Sn**	15 21 19.8	-0.1
VAY	**Valandovo**	**1.62**	**93**	⇑*i*Pn	**Pn**	15 20 57.6	-1.2
VAY				*e*Sg	**Sn**	15 21 19.7	-0.1
VAY	**Valandovo**	**1.62**	**93**	⇑*i*Pn	**Pn**	15 20 58.2	-0.6
VAY				*i* Sn	**Sb**	15 21 20.3	-0.4
VAY				*e*Lg	Lg	15 21 23.0	
	comp=N,761nm,0.5s						
VAY				*e*Lg	Lg	15 21 23.7	
	comp=E,721nm,0.5s						
VAY	**Valandovo**	**1.62**	**93**	P	**Pn**	15 20 57.7	-1.1
VAY				S	**Sn**	15 21 19.8	-0.1
VAY				*e*Lg	Lg	15 21 23.1	
	comp=E,721nm,0.5s						
NKME	**Niksic**	**1.73**	**321**	⇓*i*Pn	**Pn**	15 21 00.5	+0.1
NKME				*e*Sn	**Sg**	15 21 25.6	0.0
NKME	**Niksic**	**1.73**	**321**	⇓*i*Pn	**Pn**	15 21 00.5	+0.1
NKME				*e*Sn	**Sg**	15 21 25.6	0.0
BARS	**Barje**	**1.74**	**36**	*e*Sg	**Sb**	15 21 24.4	+0.3
BARS	**Barje**	**1.74**	**36**	*e*Sg	**Sb**	15 21 24.4	+0.3
NKY	**Niksic**	**1.75**	**323**	⇑*i*Pn	**Pn**	15 21 00.9	+0.2
NKY				*e*Sn	**Sg**	15 21 26.3	+0.1
NKY	**Niksic**	**1.75**	**323**	⇑*i*Pn	**Pn**	15 21 00.9	+0.2
NKY				*e*Sn	**Sg**	15 21 26.3	+0.1
HCY	**Herceg Novi**	**1.76**	**306**	⇑*i*Pn	**Pn**	15 21 01.4	+0.6
HCY				*e*Sn	**Sg**	15 21 26.6	0.0
HCY	**Herceg Novi**	**1.76**	**306**	⇑*i*Pn	**Pn**	15 21 01.4	+0.6
HCY				*e*Sn	**Sg**	15 21 26.6	0.0
KEK	**Kerkira**	**1.77**	**196**	P	**Pb**	15 21 02.2	-0.4
KEK				S	**Sg**	15 21 27.8	+1.0
KEK	**Kerkira**	**1.77**	**196**	*e*PG	**Pb**	15 21 02.4	-0.2
KEK	**Kerkira**	**1.77**	**196**	*e*Pn	**Pb**	15 21 02.4	-0.2
KEK				S	**Sg**	15 21 27.8	+1.0
JAN	**Janina**	**1.79**	**169**	P	**Pb**	15 21 02.9	-0.2
JAN	**Janina**	**1.79**	**169**	*e*PG	**Pg**	15 21 04.1	-0.2
JAN	**Janina**	**1.79**	**169**	P	**Pb**	15 21 02.9	-0.2
JAN	**Janina**	**1.79**	**169**	*e*Pg	**Pg**	15 21 04.1	-0.2
SJES	**Sjenica**	**1.87**	**350**	*e*Pn	**Pn**	15 21 02.7	+0.4
SJES				*e*Sg	**Sb**	15 21 28.8	+0.9
SELS	**Selova**	**1.87**	**16**	⇑*i*Pn	**Pn**	15 21 01.7	-0.6
SELS				*e*Sg	**Sb**	15 21 28.2	+0.3
KNT	**Kendrikon**	**1.89**	**97**	P	**Pn**	15 21 03.2	+0.7
KNT				S	**Sn**	15 21 26.9	+0.4
KNT	**Kendrikon**	**1.89**	**97**	P	**Pn**	15 21 03.2	+0.7
KNT				S	**Sn**	15 21 26.9	+0.4
IGT	**Igoumenitsa**	**1.89**	**182**	P	**Pb**	15 21 04.5	-0.1
IGT				S	**Sg**	15 21 29.7	-0.9
IGT	**Igoumenitsa**	**1.89**	**182**	P	**Pb**	15 21 04.5	-0.1
IGT				S	**Sg**	15 21 29.7	-0.9
TREB	**Trebinje**	**2.01**	**311**	*e*Pn	**Pb**	15 21 05.7	-1.1
TREB	**Trebinje**	**2.01**	**311**	*e*Pn	**Pb**	15 21 05.7	-1.1
BRY	**Bratogost**	**2.04**	**317**	⇑*i*Pn	**Pn**	15 21 05.3	+0.7
BRY				*e*Sn	**Sb**	15 21 32.9	+0.1
BRY	**Bratogost**	**2.04**	**317**	⇑*i*Pn	**Pn**	15 21 05.3	+0.7
BRY				*e*Sn	**Sb**	15 21 32.9	+0.1
PLE	**Pljevlja**	**2.05**	**339**	⇓*i*Pn	**Pn**	15 21 05.9	+1.0
PLE				*e*Sn	**Sb**	15 21 33.8	+0.5
PLE	**Pljevlja**	**2.05**	**339**	⇓*i*Pn	**Pn**	15 21 05.9	+1.0
PLE				*e*Sn	**Sb**	15 21 33.8	+0.5
UPM	**Unac-Piva**	**2.10**	**328**	⇑*i*Pn	**Pn**	15 21 06.9	+1.3
UPM				*e*Sn	**Sb**	15 21 35.0	+0.2
UPM	**Unac-Piva**	**2.10**	**328**	⇑*i*Pn	**Pn**	15 21 06.9	+1.3
UPM				*e*Sn	**Sb**	15 21 35.0	+0.2
HORT	**Hortiatis**	**2.19**	**111**	P	**Pn**	15 21 07.0	+0.3
HORT				S	**Sn**	15 21 34.2	+0.2
HORT	**Hortiatis**	**2.19**	**111**	P	**Pn**	15 21 07.0	+0.3
HORT				S	**Sn**	15 21 34.2	+0.2
THL	**Klokotos Trika**	**2.22**	**146**	P	**Pn**	15 21 08.3	+1.2
THL	**Klokotos Trika**	**2.22**	**146**	*e*PN	**Pn**	15 21 08.2	+1.2
THL	**Klokotos Trika**	**2.22**	**146**	*e*Pn	**Pn**	15 21 08.2	+1.2
SOH	**Sokhos**	**2.30**	**104**	P	**Pn**	15 21 09.0	+0.8
SOH	**Sokhos**	**2.30**	**104**	*e*PN	**Pn**	15 21 08.7	+0.5
SOH	**Sokhos**	**2.30**	**104**	*e*Pn	**Pn**	15 21 08.7	+0.5
SOH	**Sokhos**	**2.30**	**104**	P	**Pn**	15 21 09.0	+0.8
PE1	**Pezze di Greco**	**2.34**	**256**	*e*Pn	**Pn**	15 21 08.3	-0.4
VTS	**Vitosha**	**2.38**	**60**	P	**Pn**	15 21 10.3	+0.8
VTS				S	**Sn**	15 21 39.2	+0.2
VTS	**Vitosha**	**2.38**	**60**	⇑*i*P	**Pn**	15 21 10.9	+1.4
VTS	**Vitosha**	**2.38**	**60**	⇑*i*Pn	**Pn**	15 21 10.2	+0.8
VTS				*e*Sn	**Sn**	15 21 39.9	+0.9
VTS	**Vitosha**	**2.38**	**60**	⇑*i*Pn	**Pn**	15 21 10.2	+0.8
VTS				S	**Sn**	15 21 39.2	+0.2
SRS	**Serrai**	**2.41**	**96**	P	**Pn**	15 21 10.0	+0.3
SRS	**Serrai**	**2.41**	**96**	P	**Pn**	15 21 10.0	+0.3
ZAPS	**Zavoj**	**2.47**	**41**	⇑*i*Pn	**Pn**	15 21 11.5	+0.9
GRUS	**Gruza**	**2.48**	**5**	*e*Pn	**Pn**	15 21 10.7	+0.1
GRUS	**Gruza**	**2.48**	**5**	*e*Pn	**Pn**	15 21 10.7	+0.1
STON	**Ston**	**2.49**	**307**	*e*Pn	**Pn**	15 21 11.9	+1.2
STON	**Ston**	**2.49**	**307**	*e*Pn	**Pn**	15 21 11.3	+0.6
STON				Sn	**Sb**	15 21 44.7	-0.9
STON	**Ston**	**2.49**	**307**	*e*Pn	**Pn**	15 21 11.9	+1.2
PLG	**Polygyros**	**2.52**	**114**	P	**Pn**	15 21 11.9	+0.7
PLG				S	**Sn**	15 21 42.8	+0.6
PLG	**Polygyros**	**2.52**	**114**	*e*PN	**Pn**	15 21 11.7	+0.5
PLG	**Polygyros**	**2.52**	**114**	P	**Pn**	15 21 11.9	+0.7
PLG				S	**Sn**	15 21 42.8	+0.6
BBLS	**Lazići**	**2.56**	**343**	*e*Pn	**Pn**	15 21 13.2	+1.5
BBLS	**Lazići**	**2.56**	**343**	*e*Pn	**Pn**	15 21 13.2	+1.5
NVR	**Nevrokopi**	**2.59**	**90**	P	**Pn**	15 21 12.6	+0.4
NVR	**Nevrokopi**	**2.59**	**90**	*e*PN	**Pn**	15 21 12.9	+0.7
NVR	**Nevrokopi**	**2.59**	**90**	P	**Pn**	15 21 12.6	+0.4
NVR	**Nevrokopi**	**2.59**	**90**	*e*Pn	**Pn**	15 21 12.9	+0.7
LKD2	**Lefkada island**	**2.64**	**176**	*e*PN	**Pn**	15 21 14.5	+1.7
LKD2	**Lefkada island**	**2.64**	**176**	*e*Pn	**Pn**	15 21 14.5	+1.7
BOLS	**Boljevac**	**2.66**	**25**	*e*Pn	**Pn**	15 21 11.7	-1.4
BOLS	**Boljevac**	**2.66**	**25**	*e*Pn	**Pn**	15 21 11.7	-1.4
BAI	**Bari**	**2.69**	**264**	*e*Pn	**Pn**	15 21 13.1	-0.3
DIVS	**Divibare**	**2.69**	**353**	P	**Pn**	15 21 13.6	-0.1
DIVS	**Divibare**	**2.69**	**353**	*e*Pn	**Pn**	15 21 14.2	+0.5
DIVS	**Divibare**	**2.69**	**353**	P	**Pn**	15 21 13.6	-0.1
DIVS	**Divibare**	**2.69**	**353**	*e*Pn	**Pn**	15 21 14.2	+0.5
EVR	**Evrytania**	**2.72**	**156**	P	**Pn**	15 21 14.8	+0.8
EVR	**Evrytania**	**2.72**	**156**	*e*PG	**Pb**	15 21 17.9	-1.0
EVR	**Evrytania**	**2.72**	**156**	P	**Pn**	15 21 14.8	+0.8
EVR	**Evrytania**	**2.72**	**156**	*e*Pb	**Pb**	15 21 17.9	-1.0
MAKR	**Makrakomi, Fth**	**2.74**	**151**	P	**Pn**	15 21 15.0	+0.8
MAKR	**Makrakomi, Fth**	**2.74**	**151**	P	**Pn**	15 21 15.0	+0.8
TRUS	**Trudelj**	**2.80**	**360**	⇑*i*Pn	**Pn**	15 21 14.6	-0.4
TRUS	**Trudelj**	**2.80**	**360**	⇑*i*Pn	**Pn**	15 21 14.6	-0.4
AGG	**Agios Georgios**	**2.81**	**148**	P	**Pn**	15 21 15.5	+0.3
AGG	**Agios Georgios**	**2.81**	**148**	*e*PB	**Pn**	15 21 16.1	+0.9
AGG	**Agios Georgios**	**2.81**	**148**	P	**Pn**	15 21 15.5	+0.3
AGG	**Agios Georgios**	**2.81**	**148**	*e*Pn	**Pn**	15 21 16.1	+0.9
PAIG	**Paliouri**	**2.90**	**120**	*e*PN	**Pn**	15 21 16.6	+0.3
PAIG	**Paliouri**	**2.90**	**120**	*e*Pn	**Pn**	15 21 16.6	+0.3
SVIS	**Svilajnac**	**2.90**	**11**	*e*Pn	**Pn**	15 21 18.4	+2.0
NEO	**Neokhori**	**3.01**	**134**	*e*PN	**Pn**	15 21 16.6	-1.3
NEO	**Neokhori**	**3.01**	**134**	*e*Pn	**Pn**	15 21 16.6	-1.3
TEKS	**Tekeris**	**3.19**	**349**	*e*Pn	**Pn**	15 21 21.4	+0.9
TEKS	**Tekeris**	**3.19**	**349**	*e*Pn	**Pn**	15 21 21.4	+0.9
EFP	**Efpalio**	**3.20**	**159**	*e*PB	**Pn**	15 21 23.6	+3.1
EFP	**Efpalio**	**3.20**	**159**	*e*Pb	**Pn**	15 21 23.6	+3.1
VLS	**Valsamata**	**3.24**	**178**	*e*PN	**Pn**	15 21 21.7	+0.6
VLS	**Valsamata**	**3.24**	**178**	*e*Pn	**Pn**	15 21 21.7	+0.6
KALE	**Kalithea**	**3.30**	**156**	*e*PN	**Pn**	15 21 23.5	+1.5
KALE	**Kalithea**	**3.30**	**156**	*e*Pn	**Pn**	15 21 23.5	+1.5
TRIZ	**Trizonia**	**3.31**	**157**	*e*PB	**Pn**	15 21 25.0	+3.0
TRIZ	**Trizonia**	**3.31**	**157**	*e*Pb	**Pn**	15 21 25.0	+3.0
LAKA	**Lakka**	**3.40**	**159**	*e*PN	**Pn**	15 21 25.7	+2.4
LAKA	**Lakka**	**3.40**	**159**	*e*Pn	**Pn**	15 21 25.7	+2.4
LKR	**Lokris**	**3.40**	**144**	*e*PN	**Pn**	15 21 23.5	+0.2
LKR	**Lokris**	**3.40**	**144**	*e*Pn	**Pn**	15 21 23.5	+0.2
RLS	**Riolos of Patr**	**3.46**	**166**	*e*PB	**Pn**	15 21 26.8	+2.8
RLS	**Riolos of Patr**	**3.46**	**166**	*e*Pn	**Pn**	15 21 26.8	+2.8
KLV	**Kalavryta, Ach**	**3.63**	**158**	*e*PN	**Pn**	15 21 28.9	+2.4
KLV	**Kalavryta, Ach**	**3.63**	**158**	*e*Pn	**Pn**	15 21 28.9	+2.4
FGSL	**Fruska Gora**	**3.76**	**353**	*e*Pn	**Pn**	15 21 29.8	+1.6
FRGS	**Fruska Gora**	**3.76**	**353**	*e*Pn	**Pn**	15 21 29.8	+1.5
GUR	**Goura**	**3.78**	**156**	*e*PN	**Pn**	15 21 30.2	+1.5
GUR	**Goura**	**3.78**	**156**	*e*Pn	**Pn**	15 21 30.2	+1.5
AMT	**Artemida-Makis**	**4.01**	**165**	*e*PN	**Pn**	15 21 33.8	+2.1
AMT	**Artemida-Makis**	**4.01**	**165**	*e*Pn	**Pn**	15 21 33.8	+2.1
BZS	**Buzias**	**4.28**	**11**	⇓*i*Pn	**Pn**	15 21 34.6	-0.8
BZS	**Buzias**	**4.28**	**11**	⇓*i*Pn	**Pn**	15 21 34.6	-0.8
VLX	**Vlachokerasia**	**4.32**	**159**	*e*PN	**Pn**	15 21 37.6	+1.6
VLX	**Vlachokerasia**	**4.32**	**159**	*e*Pn	**Pn**	15 21 37.6	+1.6
ITM	**Ithomi**	**4.39**	**164**	*e*PN	**Pn**	15 21 39.1	+2.1
ITM	**Ithomi**	**4.39**	**164**	*e*Pn	**Pn**	15 21 39.1	+2.1
DID	**Didima**	**4.48**	**150**	*e*PN	**Pn**	15 21 39.4	+1.3
DID	**Didima**	**4.48**	**150**	*e*Pn	**Pn**	15 21 39.4	+1.3
PYL	**PYLOS**	**4.63**	**167**	*e*PN	**Pn**	15 21 41.1	+0.8
PYL	**PYLOS**	**4.63**	**167**	*e*Pn	**Pn**	15 21 41.1	+0.8
DYR	**Agios Nikonas**	**4.88**	**162**	*e*PN	**Pn**	15 21 44.8	+1.1
DYR	**Agios Nikonas**	**4.88**	**162**	*e*Pn	**Pn**	15 21 44.8	+1.1
PKSM	**Moragy**	**4.96**	**346**	⇓*i*P	**Pn**	15 21 45.7	+1.0
PKSM	**Moragy**	**4.96**	**346**	⇑*i*e	**Pn**	15 21 47.3	+2.6
PKSM				*e*		15 22 52.1	
PKSM	**Moragy**	**4.96**	**346**	⇑*i*eP	**Pn**	15 21 47.3	+2.6
ARR	**Arges**	**5.00**	**36**	⇑*i*P	**Pn**	15 21 46.1	+0.8
ARR	**Arges**	**5.00**	**36**	⇑*i*P	**Pn**	15 21 46.1	+0.8
VLI	**Veliai**	**5.09**	**157**	*e*PN	**Pn**	15 21 47.0	+0.5
VLI	**Veliai**	**5.09**	**157**	*e*Pn	**Pn**	15 21 47.0	+0.5
NVLJ	**Novalja**	**5.14**	**310**	*e*Pn	**Pn**	15 21 47.7	+0.6
NVLJ				Sn	**Sn**	15 22 46.7	+0.2
PKS2	**Kecel**	**5.14**	**351**	⇓*i*e	**Pn**	15 21 50.0	+2.8
PKS2	**Kecel**	**5.14**	**351**	⇓*i*eP	**Pn**	15 21 50.0	+2.8
VOIR		**5.24**	**38**	⇓*i*P	**Pn**	15 21 49.6	+0.9
VOIR		**5.24**	**38**	⇓*i*P	**Pn**	15 21 49.6	+0.9
PKS9	**Tamasi**	**5.39**	**344**	⇑*i*e	**Pn**	15 21 52.5	+1.9
DRGR		**5.62**	**16**	⇑*i*P	**Pn**	15 21 55.8	+2.0
DRGR		**5.62**	**16**	⇑*i*P	**Pn**	15 21 55.8	+2.0
CRES	**Cresnjev**	**5.69**	**322**	*e*Pn	**Pn**	15 21 56.6	+1.9
CRES	**Cresnjev**	**5.69**	**322**	Pn	**Pn**	15 21 56.6	+1.9
BEHE	**Becsehely**	**5.69**	**334**	⇓*i*e	Pn	15 21 58.1	+3.4
PKS7	**Kunszentmiklos**	**5.70**	**351**	⇓*i*e	Pn	15 21 58.6	+3.8
PKS7				*e*	**Sn**	15 23 05.3	+5.0
PKS7	**Kunszentmiklos**	**5.70**	**351**	⇓*i*eP	Pn	15 21 58.6	+3.8
MLR	**Muntele Rosu**	**5.72**	**43**	⇑*i*P	**Pn**	15 21 57.3	+2.0
MLR	**Muntele Rosu**	**5.72**	**43**	⇑*i*P	**Pn**	15 21 57.3	+2.0
PKST	**T``s**	**6.08**	**344**	⇑*i*e	Pn	15 22 03.8	+3.7
PKST				*e*	**Sn**	15 23 15.7	+5.8
PKST	**T``s**	**6.08**	**344**	⇑*i*eP	Pn	15 22 03.8	+3.7
BUD	**Budapest**	**6.14**	**351**	*e*	**Sn**	15 23 15.5	+4.2
PKSG		**6.14**	**347**	⇓*i*e	**Pn**	15 22 03.6	+2.7
PKSG				*e*	**Sn**	15 23 15.1	+3.8
PKSG		**6.14**	**347**	⇓*i*eP	**Pn**	15 22 03.6	+2.7
PKSG				*e*S	**Sn**	15 23 15.1	+3.8
VNDS	**Vrh nad Dolski**	**6.25**	**320**	*i* Pn	**Pn**	15 22 04.6	+2.2
LJU	**Ljubljana**	**6.29**	**319**	*i* Pn	**Pn**	15 22 05.7	+2.8
LJU	**Ljubljana**	**6.29**	**319**	*i* Pn	**Pn**	15 22 05.7	+2.8
PLOR	**Plostina**	**6.33**	**44**	⇑*i*P	**Pn**	15 22 05.6	+2.1
PLOR	**Plostina**	**6.33**	**44**	⇑*i*P	**Pn**	15 22 05.6	+2.1
VRI	**Vrincioaia**	**6.38**	**44**	⇑*i*P	**Pn**	15 22 06.3	+2.1
VRI	**Vrincioaia**	**6.38**	**44**	⇑*i*P	**Pn**	15 22 06.3	+2.1
JAVS	**Javornik**	**6.42**	**316**	*i* Pn	**Pn**	15 22 06.1	+1.3
JAVS	**Javornik**	**6.42**	**316**	*i* Pn	**Pn**	15 22 06.1	+1.3
TLB	**Topalu**	**6.42**	**58**	⇑*i*P	Pn	15 22 10.1	+5.4
PSZ	**Piszkesteto**	**6.51**	**357**	⇓*i*e	**Pn**	15 22 06.5	+0.5
PSZ				*e*		15 23 27.2	
PSZ	**Piszkesteto**	**6.51**	**357**	⇓*i*eP	**Pn**	15 22 06.5	+0.5
SOKA	**Soboth**	**6.53**	**325**	⇑*i*Pn	**Pn**	15 22 08.2	+1.9
	comp=E,9.2nm,0.4s,SNR=12						
SOKA				⇓*i*Sn	**Sn**	15 23 24.7	+3.6
SOKA	**Soboth**	**6.53**	**325**	Pn	**Pn**	15 22 08.2	+1.9
	comp=E,9.2nm,0.4s,SNR=12						
SOKA				Sn	**Sn**	15 23 24.7	+3.6
VOY	**Vojsko**	**6.60**	**316**	*e*Pn	**Pn**	15 22 08.8	+1.5
VOY				*e*Sn	**Sn**	15 23 23.2	+0.4
VOY	**Vojsko**	**6.60**	**316**	*e*Pn	**Pn**	15 22 08.8	+1.5
VOY				*e*Sn	**Sn**	15 23 23.2	+0.4
OBKA	**Obir**	**6.62**	**322**	⇓*i*Pn	**Pn**	15 22 10.6	+3.1
	comp=E,1.9nm,0.3s						
OBKA	**Obir**	**6.62**	**322**	Pn	**Pn**	15 22 10.6	+3.1
	comp=E,1.9nm,0.3s						
ARSA	**Arzberg**	**6.80**	**331**	⇑*i*Pn	**Pn**	15 22 12.2	+2.2
	comp=E,3.2nm,0.4s						
ARSA	**Arzberg**	**6.80**	**331**	Pn	**Pn**	15 22 12.2	+2.2
	comp=E,3.2nm,0.4s						
IDI	**Anoyia**	**7.06**	**149**	Pn	**Pn**	15 22 11.8	-1.8
	comp=E,0.8nm,0.3s,baz=352,slow=14,SNR=3.7						
IDI				Sn	**Sn**	15 23 33.1	-0.9
	comp=E,1.5nm,0.3s,baz=350,slow=17,SNR=3.6						
KECS	**Kecovo**	**7.06**	**0**	*e*PN	**Pn**	15 22 14.9	+1.4
KECS				*e*SN	**Sn**	15 23 36.4	+2.5
KECS	**Kecovo**	**7.06**	**0**	*e*Pn	**Pn**	15 22 14.9	+1.4
KECS				*e*Sn	**Sn**	15 23 36.5	+2.5
BURAR	**Bucovina Array**	**7.08**	**27**	⇓*i*P	**Pn**	15 22 15.1	+1.2
BURAR	**Bucovina Array**	**7.08**	**27**	⇓*i*P	**Pn**	15 22 15.1	+1.2
MYKA	**Terra Mystica**	**7.14**	**319**	⇓*i*ePn	**Pn**	15 22 16.6	+2.0
	comp=E,2.1nm,0.3s						
MYKA	**Terra Mystica**	**7.14**	**319**	Pn	**Pn**	15 22 16.6	+2.0
	comp=E,2.1nm,0.3s						
VYHS	**Vyhne**	**7.16**	**352**	*e*PN	**Pn**	15 22 17.7	+2.8
VYHS				*e*SN	**Sn**	15 23 36.0	-0.4
VYHS	**Vyhne**	**7.16**	**352**	*e*Pn	**Pn**	15 22 17.7	+2.8
VYHS				*e*Sn	**Sn**	15 23 36.0	-0.4
TLCR		**7.19**	**56**	⇑*i*P	**Pn**	15 22 18.0	+2.7
TLCR		**7.19**	**56**	⇑*i*P	**Pn**	15 22 18.0	+2.7
CRVS	**Cervenica-Dubn**	**7.52**	**5**	*e*PN	**Pn**	15 22 20.6	+0.8
CRVS				*e*SN	**Sn**	15 23 47.2	+2.0
CRVS	**Cervenica-Dubn**	**7.52**	**5**	*e*Pn	**Pn**	15 22 20.6	+0.8
CRVS				*e*Sn	**Sn**	15 23 47.2	+2.0
KOLS	**Kolonicke sedl**	**7.62**	**9**	*e*PN	**Pn**	15 22 22.5	+1.2
KOLS				*e*SN	**Sn**	15 23 52.1	+4.3
KOLS	**Kolonicke sedl**	**7.62**	**9**	*e*Pn	**Pn**	15 22 22.5	+1.2
MOA	**Molln**	**7.78**	**328**	⇑*i*Pn	**Pn**	15 22 26.6	+3.2
	comp=E,2.5nm,0.4s						
MOA				⇑*e*Sn	**Sn**	15 23 55.3	+3.6
	comp=E,2.0nm,0.2s						
MOA	**Molln**	**7.78**	**328**	Pn	**Pn**	15 22 26.6	+3.2
	comp=E,2.5nm,0.4s						
MOA				Sn	**Sn**	15 23 55.3	+3.6
	comp=E,2.0nm,0.2s						
ABTA	**Abfaltersbach**	**7.79**	**316**	⇑*i*Pn	**Pn**	15 22 25.3	+1.7
	comp=E,2.5nm,0.3s,SN

4.6nm,0.7s,baz=96,slow=5.1,SNR=6.3
CPUP Villa Florida 144.25 217 PKP **PKPdf 15 44 34.0 -0.3**
4.6nm,0.7s,baz=113,slow=3.0,SNR=12
TXAR Lajitas Array 144.77 36 PKP **PKPdf 15 44 35.1 -0.1**
1.8nm,0.4s,baz=240,slow=1.0,SNR=34

*IDC **07** 15:34:30.1±1.2, 60°.95S×20°.41W, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.9/17, mbtmp4.1/4, ML4.7/1, MS3.6/6, Ms1 3.5/6, ms1mx3.4/24, Error ellipse: s-maj=52.0km s-min=31.8km az=55.0*
*ISCJB **07** 15:34:31.6±0.8, 61°.00S±0°.09×19°.6W±0°.3, h10km, mb4.0/3, MS3.6/5, Error ellipse: s-maj=22.6km s-min=10.5km az=160.1*
*NEIC **07** 15:34:37.1±3.0, 60°.91S×19°.59W, h40km±28km, mb4.5/2, Error ellipse: s-maj=22.5km s-min=20.0km az=190.0*
ISC 07 15:34:32.7±0.9,**61°.0S**±0°.1×**20°.0W**±0°.3,**h10**km,**n26**, σ1§37/17,**mb4.1**/3,**MS3.6**/5,**East of South Sandwich Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**10.82**	**159**	*e*Pn	**Pn**	**15 37 09.1**	**+1.6**
VNA1	**Neumayer--Stat**	**10.82**	**159**	*e*Sn	**Sn**	**15 39 05.3**	**-3.1**
VNA3	**Neumayer Olymp**	**11.12**	**162**	*e*Pn	**Pn**	**15 37 12.3**	**+0.8**
VNA3	**Neumayer Olymp**	**11.12**	**162**	*e*Sn	Sn	15 39 07.9	-7.7
VNA2	**Neumayer--Watz**	**11.21**	**158**	*e*Pn	**Pn**	**15 37 13.8**	**+1.0**
VNA2	**Neumayer--Watz**	**11.21**	**158**	*e*Sn	Sn	15 39 09.1	-8.9
SNAA	**Sanae**	**12.70**	**155**	*e*Pn	**Pn**	**15 37 34.0**	**+0.8**
SNAA	**Sanae**	**12.70**	**155**	*e*Sn	Sn	15 39 44.4	-10
SNAA	**Sanae**	**12.70**	**155**	Pn	**Pn**	**15 37 33.9**	**+0.8**
SNAA				Sn	Sn	15 39 43.2	-11
SNAA	**Sanae**	**12.70**	**155**	Pn	**Pn**	**15 37 33.9**	**+0.8**
	3.8nm,0.3s,baz=328,slow=16,SNR=230						
SNAA				Sn	Sn	15 39 43.2	-11
	0.6nm,0.3s,baz=199,slow=21,SNR=6.0						
SNAA				LR	LR	15 40 59.5	
	comp=Z,62nm,18.9s,baz=330,slow=30						
PMSA	**Palmer Station**	**20.11**	**240**	*e*P	Pn	15 39 09.5	+1.4
	14nm,0.3s						
QSPA	**South Pole Qui**	**29.27**	**180**	P	**P**	**15 40 36.5**	**+1.7**
MAW	**Mawson**	**33.96**	**137**	LR	LR	15 52 57.9	
	comp=Z,112nm,21.4s,baz=101,slow=32						
PLCA	**Paso Flores**	**36.58**	**280**	LR	LR	15 55 09.8	
	comp=Z,97nm,20.2s,baz=138,slow=34						
CPUP	**Villa Florida**	**42.84**	**307**	LR	LR	15 59 48.7	
	comp=Z,31nm,18.3s,baz=314,slow=36						
BOSA	**Boshof**	**44.13**	**64**	LR	LR	15 57 05.9	
	comp=Z,150nm,18.1s,baz=194,slow=31						
TSUM	**Tsumeb**	**49.41**	**49**	LR	LR	15 59 50.5	
	comp=Z,122nm,21.0s,slow=31						
LPAZ	**La Paz**	**56.21**	**301**	P	**P**	**15 44 13.9**	**+0.4**
	2.9nm,1.0s						
LPAZ	**La Paz**	**56.21**	**301**	P	**P**	**15 44 11.1**	**-2.4**
	1.3nm,0.9s,baz=111,slow=11,SNR=2.6						
TOA0	**Torodi Ar. Sit**	**75.87**	**22**	*e*P	**P**	**15 46 19.4**	**+0.4**
TORD	**Torodi Ar. Bea**	**75.87**	**22**	P	**P**	**15 46 18.8**	**-0.2**
TORD	**Torodi Ar. Bea**	**75.87**	**22**	P	**P**	**15 46 18.8**	**-0.2**
	1.8nm,0.8s,baz=192,slow=6.4,SNR=7.0						
ASAR	**Alice Springs**	**93.06**	**156**	P	**P**	**15 47 46.0**	**-0.5**
ASAR	**Alice Springs**	**93.06**	**156**	P	**P**	**15 47 46.0**	**-0.5**
	0.3nm,0.7s,baz=196,slow=5.0,SNR=4.1						
SONM	**Songino Array**	**147.16**	**89**	PKPbc	**PKPdf**	**15 54 13.0**	**+0.1**
SONM	**Songino Array**	**147.16**	**89**	PKPbc	**PKPdf**	**15 54 13.0**	**+0.1**
	0.4nm,0.7s,baz=222,slow=1.9,SNR=2.6						

DJA 07 15:40:29.3±1.0,**8°S**±6°×**10°7E**±°,**h18**km±8km,**M4.1**/6, **MLv4.1**/6,**Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.72**	**42**	P	Pb	15 40 42.9	-0.6
CISI				S	Sb	15 40 52.6	-0.5
LEM	**Lembang**	**1.30**	**13**	P	Pn	15 40 52.0	-0.8
LEM				S	Sb	15 41 10.1	+0.2
SKJI	**Sukabumi**	**1.33**	**325**	P	Pn	15 40 52.7	-0.3
SKJI				S	Sn	15 41 07.8	-2.5
DBJI	**Dramaga**	**1.64**	**339**	P	Pn	15 40 56.8	-0.5
KPJI	**Karang Pucung**	**1.76**	**64**	P	Pn	15 40 59.0	+0.1
TGJI	**Tegal**	**2.16**	**56**	P	Pn	15 41 03.4	-1.0

ROM 07 15:54:49.6±0.1,**42°.39N**×**13°.43E**,**h6**km±2km,**Md1.8**/5, **Ml1.3**/4,**Error ellipse: s-maj=1.3km s-min=0.9km az=129.0**,**Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAGN	**Fagnano**	**0.16**	**137**	Pg	Pg	15 54 53.6	+0.6
	114nm,0.4s						
FIAM	**Fiamignano**	**0.26**	**244**	Pg	Pg	15 54 55.4	+0.5
	76nm,1.3s						
TERO	**Teramo**	**0.27**	**28**	Pg	Pg	15 54 55.6	+0.6
TERO				Sg	Sg	15 55 00.1	+1.4
	40nm,0.4s						

*BGS **07** 16:08:15.4±5.8, 10°.20S×110°.63E, h23km, MS5.9*
*AUST **07** 16:12:18.7, 10°.40S×110°.35E, h0km*
*IDC **07** 16:12:18.8±0.3, 10°.15S×110°.70E, h0km, mb5.8/31, mb1 5.9/34, mb1mx5.9/35, mbtmp5.8/34, ML5.4/3, MS5.8/32, Ms1 5.9/32, ms1mx5.7/40, Error ellipse: s-maj=13.4km s-min=9.2km az=68.0*
*BJI **07** 16:12:20.6, 10°.20S×110°.60E, h23km, mB6.5/51, mb6.1/63, Ms6.1/77, Ms7 5.9/71*
*BKK **07** 16:12:21.4±0.2, 10°S±3°×11°1E±°, h10km, M6.3/59, mb6.1/59, mB6.5/55, MLv7.0/5, Mw(mB)6.2/55*
*NEIC **07** 16:12:22.6±0.1, 10°.20S×110°.63E, h23km, mb6.1/88, ME6.4, MS5.9/130, MW6.1, MW6.2, MW6.2(USGS), Error ellipse: s-maj=4.0km s-min=3.1km az=51.0, Moment Tensor Solution. s37 Moment tensor: Scale 10^18^Nm; M_{rr}-1.38; $M_{\theta\theta}$2.20; $M_{\phi\phi}$-0.82; $M_{r\theta}$0.23; $M_{\theta\phi}$-0.74; $M_{\phi r}$-0.20; Best double couple: $M_0$2.10000×10^18^ NP1:ϕ_s299.00000°, δ52.00000°, λ-67.00000°. NP2:ϕ_s85.00000°, δ44.00000°, λ-116.00000°. Principal axes: T 2.3900, Plg4.0000°, Azm13.0000°; N -0.9500, Plg17.0000°, Azm104.0000°; P -1.4400, Plg71.0000°, Azm270.0000°; Broadband fault plane solution: P waves. NP1:ϕ_s47.00000°, δ38.00000°, λ-126.00000°. NP2:ϕ_s270.00000°, δ60.0000°, λ-65.00000°. Principal axes: T Plg12.0000°, Azm342.0000°; N Plg0.0000°, Azm0.0000°; P Plg65.0000°, Azm226.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [IV] at Bantul, Sleman, Wonosari and Yogyakarta; [III] at Cilacap, Gunung Kidul, Karangkates, Klaten, Pacitan, Pameungpeuk amd Pangandaran. Also felt at Blitar, Cikarang, Gamping, Jakarta, Jember, Jetis, Kasihan, Malang, Ngaglik, Salatiga, Sewon, Surakarta, Trenggalek and Tulungagung. Felt [II] at Kuta, Bali. Also felt at Denpasar and Ubud.
*ISCJB **07** 16:12:22.8±0.3, 10°.19S±0°.02×110°.66E±0°.01, h36km±2km, mb6.1/219, MS5.9/237 Error ellipse: s-maj=3.3km s-min=2.3km az=14.3*
*DJA **07** 16:12:23.5±0.5, 10°S±2°×11°1E±°, h26km±5km, M6.3/120, mb6.2/120, mB6.6/112, MLv6.8/30, Mw(mB)6.4/112, Mwp6.2/54*
*MOS **07** 16:12:24.3±1.1, 10°.00S×110°.65E, h43km, mb6.4/86, MS5.8/93, Error ellipse: s-maj=7.9km s-min=4.4km az=117.8*
*GCMT **07** 16:12:27.5±0.1, 10°.36S×110°.72E, h36km, MW6.2, Moment Tensor Solution. s104, c236; s92, c158; Moment tensor: Scale 10^18^Nm; M_{rr}-2.05±.02; $M_{\theta\theta}$2.19±.01; $M_{\phi\phi}$-0.14±.01; $M_{r\theta}$0.03±.02; $M_{\theta\phi}$-0.74±.01; $M_{\phi r}$-0.16±.02; Best double couple: $M_0$2.20000×10^18^ NP1:ϕ_s291.00000°, δ46.00000°, λ-83.00000°. NP2: ϕ_s101.00000°, δ44.00000°, λ-97.00000°. Principal axes: T 2.4100, Plg1.0000°, Azm16.0000°; N -0.3400, Plg5.0000°, Azm106.0000°; P -2.0600, Plg85.0000°, Azm275.0000°; Data Used: II IU CN IC G. Surface waves: sta=105, comp=232, per= 50.*
*NEIC **07** 16:12:37.4±0.0, 10°.47S×110°.68E, h34km, Moment Tensor Solution. s141 Moment tensor: Scale 10^18^Nm; M_{rr}-2.41; $M_{\theta\theta}$2.28; $M_{\phi\phi}$0.13; $M_{r\theta}$-0.10; $M_{\theta\phi}$-0.63; $M_{\phi r}$0.12;*

Best double couple: $M_0$2.40000×10^18^ NP1:ϕ_s283.00000°, δ44.00000°, λ-92.00000°. NP2:ϕ_s107.00000°, δ46.00000°, λ-86.00000°. Principal axes: T 2.4600, Plg1.0000°, Azm195.0000°; N -0.0400, Plg2.0000°, Azm285.0000°; P -2.4200, Plg87.0000°, Azm70.0000°;
ISC 07 16:12:23.6±0.3,**10°.12S**±0°.02×**110°.67E**±0°.03,**h32**km±1km, **h32**km:**pP-P**,**n1832**,σ1§**68**/1955,**mb6.2**/221,**MS5.9**/238, **249C-320D**,**South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGM	**Wanagama**	**2.19**	**356**	P	**Pb**	**16 13 01.0**	**-1.7**
UGM	**Wanagama**	**2.19**	**356**	P	**Pb**	**16 13 00.9**	**-1.8**
	baz=2.5,SNR=1000						
YOGI	**Yogyakarta**	**2.31**	**351**	P	**Pb**	**16 13 02.6**	**-2.1**
PWJI	**Pagerwojo**	**2.36**	**28**	P	**Pb**	**16 13 03.0**	**-2.5**
BJII	**Banjamegara**	**2.92**	**341**	P	**Pn**	**16 13 10.1**	**+2.1**
KPJI	**Karang Pucung**	**3.25**	**328**	P	**Pn**	**16 13 15.3**	**+2.9**
GMJI	**Gumukmas**	**3.29**	**56**	P	**Pn**	**16 13 15.1**	**+2.1**
TGJI	**Tegal**	**3.57**	**334**	P	**Pn**	**16 13 17.8**	**+1.0**
GRJI	**Gresik**	**3.65**	**30**	P	Pn	16 13 21.4	+3.5
BLJI	**Banyuglugur**	**3.73**	**51**	P	Pn	16 13 22.9	+4.0
BLJI				S	**Sn**	**16 14 06.3**	**+4.5**
CISI	**Cisompet, Garu**	**3.80**	**312**	P	**Pn**	**16 13 20.6**	**+0.6**
CISI				S	**Sn**	**16 14 03.7**	**+0.1**
CISI	**Cisompet, Garu**	**3.80**	**312**	P	**Pn**	**16 13 20.5**	**+0.5**
	baz=3.8,SNR=401						
CISI				S	**Sn**	**16 14 03.5**	**-0.1**
	baz=3.8,SNR=5.3						
JAGI	**Jajag, Banyuwa**	**3.81**	**65**	P	**Pn**	**16 13 22.5**	**+2.4**
	baz=4.2,SNR=1000						
JAGI				S	**Sn**	**16 14 04.4**	**+0.7**
	baz=4.2,SNR=12						
BYJI	**Banyuwangi**	**4.10**	**63**	P	**Pn**	**16 13 27.1**	**+3.0**
BYJI				S	**Sn**	**16 14 16.4**	**+5.4**
ABJI	**Asem Bagus**	**4.21**	**57**	P	Pn	16 13 29.4	+3.8
ABJI				S	**Sn**	**16 14 17.7**	**+4.1**
LEM	**Lembang**	**4.45**	**317**	P	**Pn**	**16 13 30.6**	**+1.6**
LEM	**Lembang**	**4.45**	**317**	P	Pn	16 13 32.8	+3.7
	baz=4.5,SNR=110						
KMMI	**Kalianget**	**4.46**	**47**	P	**Pn**	**16 13 31.8**	**+2.8**
IGBI	**Denpasar**	**4.60**	**74**	P	**Pn**	**16 13 33.3**	**+2.4**
DNP	**Denpasar**	**4.70**	**73**	P	**Pn**	**16 13 34.7**	**+2.3**
DNP				S	**Sn**	**16 14 27.1**	**+1.3**
XMI	**Christmas Isla**	**4.91**	**266**	P	**Pn**	**16 13 33.8**	**-1.5**
	baz=4.6,SNR=103						
XMI				S	Sn	16 14 22.3	-8.8
	baz=4.6,SNR=23						
SRBI	**Singaraja**	**4.92**	**66**	P	**Pn**	**16 13 38.0**	**+2.7**
	32μm,0.8s,324μm219μm114nn						
SRBI				S	**Sn**	**16 14 32.4**	**+1.2**
	32μm,0.8s,324μm219μm114nn						
XMIS	**Christmas Isla**	**4.95**	**265**	*e*Pn	**Pn**	**16 13 34.0**	**-1.8**
XMIS				*e*Sn	Sn	16 14 24.3	-7.8
XMIS	**Christmas Isla**	**4.95**	**265**	P	**Pn**	**16 13 33.9**	**-1.8**
	baz=4.6,SNR=190						
XMIS				S	Sn	16 14 22.9	-9.2
	baz=4.6,SNR=19						
SKJI	**Sukabumi**	**5.11**	**307**	P	**Pn**	**16 13 38.5**	**+0.6**
	8μm,0.9s,542μm143μm208nm						
SKJI				S	**Sn**	**16 14 38.1**	**+2.2**
	8μm,0.9s,542μm143μm208nm						
DBJI	**Dramaga**	**5.25**	**312**	P	**Pn**	**16 13 41.5**	**+1.6**
	5μm,1.1s,260μm229μm79nm						
DBJI				S	**Sn**	**16 14 42.5**	**+3.1**
	5μm,1.1s,260μm229μm79nm						
TNG	**Tangerang**	**5.59**	**314**	P	Pn	16 13 48.2	+3.7
	6μm,1.1s,273μm331μm96nm						
MTNI	**Mataram**	**5.62**	**75**	P	**Pn**	**16 13 47.2**	**+2.2**
	6μm,0.7s						
SBJI	**Seng**	**6.00**	**311**	P	**Pn**	**16 13 52.6**	**+2.5**
	3μm,1.0s,203μm268μm65nm						
BLSI	**Bandar Lampung**	**7.15**	**311**	P	**Pn**	**16 14 07.9**	**+1.9**
	2μm,1.0s,56μm105μm22nm						
BLSI				S	**Sn**	**16 15 28.7**	**+2.5**
	2μm,1.0s,56μm105μm22nm						
PBKI	**Pangkalan Bun**	**7.43**	**8**	P	**Pn**	**16 14 13.0**	**+3.1**
	7μm,0.9s,63μm236μm19nm						
KASI	**Kota Agung**	**7.63**	**306**	P	**Pn**	**16 14 13.3**	**+0.7**
	2μm,1.0s,55μm125μm30nm						
KLI	**Kotabumi**	**7.77**	**312**	P	**Pn**	**16 14 16.5**	**+1.9**
	2μm,0.7s,35μm137μm18nm						
BBKI	**Banjar Baru**	**7.80**	**32**	P	**Pn**	**16 14 18.0**	**+3.1**
	5μm,1.0s,80μm223μm17nm						
TPI	**Tanjungpandan**	**7.90**	**338**	P	**Pn**	**16 14 18.5**	**+2.2**
	339nm,2.1s,10μm119μm3.7nm						
PPBI	**Pangkal Pinang**	**9.10**	**330**	P	**Pn**	**16 14 34.6**	**+1.9**
	826nm,1.9s,16μm80μm						
PMBI	**Palembang**	**9.23**	**320**	P	Pn	16 14 38.1	+3.5
	792nm,1.3s,24μm131μm						
LBFI	**Labuhan Bajo,**	**9.24**	**81**	P	**Pn**	**16 14 35.0**	**+0.2**
	4μm,0.9s,56μm						
LHSI	**Lahat**	**9.45**	**311**	P	**Pn**	**16 14 38.9**	**+1.3**
	1μm,0.9s,20μm88μm						
WSI	**Waingapu**	**9.50**	**88**	P	**Pn**	**16 14 38.4**	**+0.2**
	5μm,0.7s,64μm						
WSI	**Waingapu**	**9.50**	**88**	P	**Pn**	**16 14 39.9**	**+1.6**
	baz=9.8,SNR=33						
WSI				S	**Sn**	**16 16 21.3**	**-2.6**
	baz=9.8,SNR=5.3						
MNAI	**Manna**	**9.55**	**306**	P	**Pn**	**16 14 37.6**	**-1.4**
	3μm,0.9s,48μm						
MNAI	**Manna**	**9.55**	**306**	P	**Pn**	**16 14 39.5**	**+0.5**
	baz=9.5,SNR=31						
MNAI				S	**Sn**	**16 16 24.5**	**-0.8**
	baz=9.5,SNR=6.0						
EGSI	**Enggano, Bengk**	**9.57**	**299**	P	**Pn**	**16 14 38.7**	**-0.5**
MTKI	**Muara Teweh, K**	**10.04**	**25**	P	**Pn**	**16 14 48.3**	**+2.7**
	1μm,1.7s,25μm						
STKI	**Sintang**	**10.15**	**5**	P	**Pn**	**16 14 49.6**	**+2.5**
	1μm,1.8s,29μm117μm						
KSI	**Kapahiang**	**10.27**	**308**	P	**Pn**	**16 14 49.5**	**+0.6**
	5μm,0.7s,44μm						
KAPI	**Kappang**	**10.33**	**61**	Pn	**Pn**	**16 14 51.5**	**+1.9**
	4μm,0.8s,SNR=63						
KAPI	**Kappang**	**10.33**	**61**	P	**Pn**	**16 14 51.9**	**+2.2**
	SNR=78						
KAPI	**Kappang**	**10.33**	**61**	*e*P	**Pn**	**16 14 51.3**	**+1.6**
	2μm,1.2s						
KAPI				Sn	**Sn**	**16 16 42.1**	**-2.3**
KAPI	**Kappang**	**10.33**	**61**	P	**Pn**	**16 14 50.5**	**+0.9**
	1μm,1.8s,22μm109μm						
KAPI	**Kappang**	**10.33**	**61**	Pn	**Pn**	**16 14 49.7**	**+0.1**
	27nm,0.3s,baz=244,slow=12,SNR=97						
KAPI				Sn	**Sn**	**16 16 42.1**	**-2.3**
	22nm,0.3s,baz=135,slow=20,SNR=3.2						
KAPI				LR	LR	16 19 31.9	
	comp=Z,46μm,21.7s,baz=252,slow=42						
BKSI	**Bulukumba**	**10.51**	**64**	P	**Pn**	**16 14 54.7**	**+2.6**
	2μm,0.7s,22μm123μm						
MJSI	**Majene**	**10.52**	**52**	P	**Pn**	**16 14 54.5**	**+2.3**
	2μm,0.8s,31μm						
BKB	**Balikpapan**	**10.76**	**36**	P	Pn	16 15 00.0	+4.5
	883nm,3.1s,42μm223μm						
MASI	**Maura Aman, Be**	**10.87**	**309**	P	**Pn**	**16 14 56.8**	**-0.2**
	3μm,0.7s,38μm						
SPSI	**Sidrap Palu**	**10.90**	**57**	P	**Pn**	**16 14 59.1**	**+1.6**
	1μm,1.9s,29μm90μm						
MMSI	**Mamuju**	**11.02**	**49**	P	**Pn**	**16 15 01.8**	**+2.7**
	3μm,1.1s,46μm143μm						
TTSI	**Tana Toraja**	**11.48**	**53**	P	**Pn**	**16 15 08.2**	**+2.8**
	1μm,2.0s,31μm110μm						
MMRI	**Maumere**	**11.51**	**84**	P	**Pn**	**16 15 03.9**	**-1.9**
	2μm,0.9s,17μm91μm						
KSM	**Kuching**	**11.52**	**358**	*e*P	**Pn**	**16 15 08.2**	**+2.2**
	654nm,1.3s						
KSM	**Kuching**	**11.52**	**358**	P	Pn	16 15 09.3	+3.4
KSM	**Kuching**	**11.52**	**358**	P	**Pn**	**16 15 08.1**	**+2.2**
	499nm,1.5s,12μm154μm						
KSM	**Kuching**	**11.52**	**358**	P	**Pn**	**16 15 08.6**	**+2.6**
	baz=12,SNR=58						
SMKI	**Samarinda**	**11.60**	**34**	P	Pn	16 15 18.9	+12
KKSI	**Kolaka, Sulawe**	**12.39**	**62**	P	Pn	16 15 21.4	+3.5
	2μm,0.7s,26μm						
SBUM	**Sibu**	**12.58**	**7**	P	Pn	16 15 25.2	+4.8
SBUM	**Sibu**	**12.58**	**7**	P	**Pn**	**16 15 23.3**	**+2.9**
	732nm,2.0s,21μm187μm						
BBSI	**Bau Bau**	**12.65**	**70**	P	**Pn**	**16 15 23.0**	**+1.5**
	842nm,1.1s,15μm56μm						
RGRI	**Rengat**	**12.76**	**319**	P	**Pn**	**16 15 25.2**	**+2.2**
	400nm,1.2s						
BATI	**Baumata**	**12.79**	**92**	Pn	**Pn**	**16 15 22.5**	**-0.9**
BATI				Sn	Sn	16 17 34.4	-10
BATI	**Baumata**	**12.79**	**92**	P	**Pn**	**16 15 21.8**	**-1.6**
	772nm,0.7s,8μm2μm						
BATI	**Baumata**	**12.79**	**92**	Pn	**Pn**	**16 15 22.5**	**-0.9**
	53nm,0.3s,baz=306,slow=1.5,SNR=67						
BATI				Sn	Sn	16 17 34.4	-10
	151nm,0.3s,baz=345,slow=20,SNR=8.1						
SKSI	**Soroako, Sulaw**	**13.00**	**55**	P	**Pn**	**16 15 29.3**	**+3.0**
	690nm,2.1s,21μm						
BTDF	**Bukit Timah Da**	**13.31**	**329**	P	**Pn**	**16 15 32.8**	**+2.4**
	baz=14,SNR=4.5						
BTDF				P	**Pn**	**16 15 32.8**	**+2.4**
	baz=14,SNR=4.5						
SOEI	**Soe**	**13.40**	**90**	P	**Pn**	**16 15 31.5**	**-0.3**
	2μm,0.8s,21μm64μm						
SOEI	**Soe**	**13.40**	**90**	P	**Pn**	**16 15 31.5**	**-0.3**
	baz=14,SNR=180						
BTM	**Bintulu**	**13.44**	**10**	P	Pn	16 15 36.3	+4.0
MYKOM	**Kota Tinggi**	**13.64**	**330**	P	**Pn**	**16 15 36.4**	**+1.5**
MYKOM	**Kota Tinggi**	**13.64**	**330**	P	**Pn**	**16 15 35.5**	**+0.6**
	288nm,1.4s,9μm78μm						
PDSI	**Padang**	**13.66**	**311**	P	Pn	16 15 31.6	-3.7
	701nm,0.6s,12μm93μm						
COCO	**West Island**	**13.73**	**260**	*i* P	**Pn**	**16 15 37.5**	**+1.3**
COCO	**West Island**	**13.73**	**260**	*e*P	Pn	16 15 31.6	-4.5
	658nm,0.8s						
COCO	**West Island**	**13.73**	**260**	P	**Pn**	**16 15 34.3**	**-1.9**
	1μm,1.3s,17μm						
PPI	**Padang Panjang**	**14.02**	**313**	P	Pn	16 15 36.2	-3.9
	344nm,0.9s,6μm62μm						
PPI	**Padang Panjang**	**14.02**	**313**	P	**Pn**	**16 15 39.1**	**-0.9**
	baz=14,SNR=7.9						
PPI				S	**Sn**	**16 18 08.9**	**-5.8**
	baz=14,SNR=3.8						
MBWA	**Marble Bar**	**14.02**	**143**	Pn	Pn	16 15 34.9	-5.1
	SNR=27						
MBWA	**Marble Bar**	**14.02**	**143**	*e*P	Pn	16 15 33.5	-6.6
	295nm,0.6s						
MBWA				*e*S	Sn	16 17 52.2	-22
KGM	**Kluang**	**14.10**	**328**	P	Pn	16 15 44.7	+3.5
BKNI	**Bangkinang**	**14.12**	**317**	P	**Pn**	**16 15 39.1**	**-2.4**
	654nm,1.4s,8μm						
BKNI	**Bangkinang**	**14.12**	**317**	P	**Pn**	**16 15 41.2**	**-0.3**
	baz=14,SNR=6.3						
LUWI	**Luwuk**	**15.03**	**54**	P	**P**	**16 15 56.6**	**-2.3**
	3μm,1.1s,39μm101μm						
LUWI	**Luwuk**	**15.03**	**54**	P	**P**	**16 15 56.8**	**-2.1**
	baz=16,SNR=20						
TOLI	**Toli-Toli**	**15.04**	**43**	P	**Pn**	**16 15 56.3**	**+2.4**
	2μm,1.2s,33μm134μm						
MRSI	**Marisa**	**15.38**	**47**	P	**Pn**	**16 15 59.4**	**+1.0**
	2μm,1.2s,17μm55μm						
TSM	**Tawau**	**16.01**	**27**	P	**P**	**16 16 11.7**	**+2.0**
FRIM	**Kepong**	**16.03**	**325**	P	**Pn**	**16 16 07.0**	**+0.1**
GTOI	**Gorontalo**	**16.27**	**50**	P	**Pn**	**16 16 11.2**	**+1.2**
	3μm,1.1s,50μm111μm						
FITZ	**Fitzroy Crossi**	**16.54**	**120**	*e*P	**Pn**	**16 16 10.8**	**-2.4**
	172nm,0.6s						
FITZ				Sn	Sn	16 18 57.6	-18
FITZ	**Fitzroy Crossi**	**16.54**	**120**	Pn	**Pn**	**16 16 10.7**	**-2.6**
	5.9nm,0.3s,baz=293,slow=11,SNR=96						
FITZ				Sn	Sn	16 18 57.6	-18
	22nm,0.3s,baz=167,slow=21,SNR=8.7						
FITZ				LR	LR	16 22 10.0	
	comp=Z,29μm,20.1s,baz=300,slow=36						
FITZ	**Fitzroy Crossi**	**16.54**	**120**	P	**Pn**	**16 16 10.3**	**-2.9**
	baz=17,SNR=298						
FITZ				S	Sn	16 18 57.1	-19
	baz=17,SNR=8.7						
SDKM	**Sandakan**	**16.95**	**23**	P	**P**	**16 16 20.6**	**+0.4**
KKM	**Kota Kinabalu**	**16.98**	**19**	*e*P	**Pn**	**16 16 18.9**	**0.0**
	173nm,0.6s						
KKM	**Kota Kinabalu**	**16.98**	**19**	P	**P**	**16 16 20.5**	**0.0**
KKM	**Kota Kinabalu**	**16.98**	**19**	P	**Pn**	**16 16 18.8**	**-0.1**
	519nm,1.9s,15μm95μm						
KKM	**Kota Kinabalu**	**16.98**	**19**	P	**Pn**	**16 16 19.3**	**+0.4**
	baz=18,SNR=8.5						
KKM				S	**S**	**16 19 36.1**	**0.0**
	baz=18,SNR=7.3						
KTGM	**Kuala Trenggan**	**17.08**	**334**	P	**P**	**16 16 21.3**	**-0.3**
MYLDM	**Lahad Datu**	**17.08**	**28**	P	**P**	**16 16 26.1**	**+4.5**
MYLDM	**Lahad Datu**	**17.08**	**28**	P	**P**	**16 16 23.7**	**+2.1**
	3μm,2.0s,65μm201μm						
GSI	**Gunungsitoli**	**17.28**	**310**	P	Pn	16 16 16.3	-6.3
	540nm,1.0s,10μm55μm						
PSI	**Prapat**	**17.36**	**317**	Pn	Pn	16 16 17.9	-5.9
PSI				Sn	Sn	16 19 27.3	-9.0
PSI	**Prapat**	**17.36**	**317**	Pn	Pn	16 16 17.9	-5.9
	3.7nm,0.3s,baz=141,slow=11,SNR=22						
PSI				Sn	Sn	16 19 27.3	-9.0
	1.0nm,0.3s,baz=190,slow=18,SNR=3.9						
PSI				LR	LR	16 23 50.7	
	comp=Z,39μm,19.4s,baz=128,slow=40						
PSI	**Prapat**	**17.36**	**317**	P	Pn	16 16 18.4	-5.4
	baz=17,SNR=19						
PSI				S	**Sn**	**16 19 33.3**	**-2.9**
	baz=17,SNR=6.4						
IPM	**Ipoh**	**17.39**	**326**	*e*P	**Pn**	**16 16 23.8**	**-0.3**
	155nm,0.6s						
IPM	**Ipoh**	**17.39**	**326**	P	**P**	**16 16 24.7**	**-0.4**
IPM	**Ipoh**	**17.39**	**326**	P	**Pn**	**16 16 23.5**	**-0.5**
	256nm,0.8s,7μm						
NLAI	**Namlea**	**17.68**	**68**	P	**P**	**16 16 28.9**	**+0.6**
	835nm,1.6s,17μm41μm						
KDM	**Kudat**	**18.00**	**20**	P	**P**	**16 16 34.1**	**+2.4**
MEEK	**Meekatharra**	**18.07**	**156**	P	Pn	16 16 27.3	-5.0
	baz=18,SNR=1000						
MEEK

916nm,0.9s,10μm23μm
FAKI Fak Fak 22.59 73 P P 16 17 19.0 -2.6
baz=23,SNR=16
FAKI S S 16 21 16.1 -11
baz=23,SNR=8.1
DMPH Davao City--Mi 22.59 41⇑ eP P 16 17 20.9 -0.7
DMPH eS S 16 21 30.8 +3.4
DAV Davao City (W) 22.63 42 P P 16 17 24.9 +2.9
SNR=26
DAV Davao City (W) 22.63 42 P P 16 17 24.5 +2.5
3μm,1.6s
DAV LR LR
comp=Z,23μm,22.0s
DAV Davao City (W) 22.63 42 P P 16 17 24.8 +2.8
comp=Z,1μm,1.9s,comp=Z,47μm
NWAO Narrogin (SRO) 23.50 166 P P 16 17 28.9 -1.8
NWAO S S 16 21 39.9 -2.5
NWAO Narrogin (SRO) 23.50 166 P P 16 17 28.9 -1.8
comp=Z,107nm,0.9s,baz=340,slow=13,SNR=14
NWAO S S 16 21 39.9 -2.5
comp=Z,156nm,0.5s,baz=264,slow=18,SNR=6.1
NWAO LR LR 16 27 10.8
comp=Z,44μm,18.2s,baz=332,slow=38
KMPI Kaimana, Papua 23.74 76 P P 16 17 33.8 +0.6
comp=Z,2μm,0.9s,comp=Z,22μm
CHBT CHBT 24.18 340 P P 16 17 38.8 +1.6
comp=Z,517nm,1.9s,comp=Z,12μm
CHBT CHBT 24.18 340 P P 16 17 39.4 +2.2
comp=Z,518nm,1.8s,comp=Z,12μm
LLP Lapu-Lapu 24.23 33⇑ eP P 16 17 39.3 +1.5
LLP eS S 16 21 59.4 +5.0
KALP Kalibo 24.56 28⇑ iP P 16 17 43.9 +3.2
RCP Roxas 24.65 29⇑ eP P 16 17 42.9 +1.3
SCPH Surigao 24.66 37⇓ eP P 16 17 42.4 +0.8
WRA Warramunga Arr 24.83 116 P P 16 17 42.7 -0.5
WRA PcP PcP 16 21 19.5 +0.3
WRA S S 16 22 12.7 +8.6
WRA e 16 50 51.9
WRA Warramunga Arr 24.83 116 P P 16 17 42.7 -0.5
comp=Z,328nm,0.8s,baz=291,slow=11,SNR=897
WRA PcP PcP 16 21 19.5 +0.3
comp=Z,31nm,0.6s,baz=296,slow=1.5,SNR=4.8
WRA S S 16 22 12.7 +8.6
comp=Z,36nm,0.7s,baz=282,slow=24,SNR=4.6
WRA LR LR 16 27 24.4
comp=Z,23μm,20.7s,baz=290,slow=36
WRA P3KPbc 16 50 51.9
comp=Z,1.1nm,0.8s,baz=109,slow=4.1,SNR=7.2
WRAB Tennant Creek 24.84 116 P P 16 17 43.0 -0.3
comp=Z,3μm,1.3s
WRAB Tennant Creek 24.84 116 eP P 16 17 43.2 -0.1
WRAB pmax pmax
comp=Z,512nm,0.9s
WRAB MLR MLR
comp=Z,24μm,20.0s
WRAB Tennant Creek 24.84 116 eP P 16 17 43.2 -0.1
comp=Z,512nm,0.9s
WRAB LR LR
comp=Z,24μm,20.0s
RKPI Ransiki, Papua 24.88 71 P P 16 17 43.9 +0.2
comp=Z,2μm,1.4s,comp=Z,28μm
PHET Kaeng Krachan 25.37 334 P P 16 17 49.3 +1.3
comp=Z,2μm,0.6s,comp=Z,17μm
PHET Kaeng Krachan 25.37 334 P P 16 17 49.5 +1.5
comp=Z,2μm,0.6s,comp=Z,17μm
PLP Palo 25.48 34⇑ eP P 16 17 50.3 +1.2
UBPT Khong Chiam 25.75 348 P P 16 17 53.3 +1.8
comp=Z,159nm,2.2s,comp=Z,5μm
UBPT Khong Chiam 25.75 348 P P 16 17 53.8 +2.3
comp=Z,183nm,1.7s,comp=Z,5μm
AS31 Alice Springs 25.94 124 eP P 16 17 53.0 -0.3
ASAR Alice Springs 25.94 124 P P 16 17 52.9 -0.4
ASAR PcP PcP 16 21 22.3 +0.7
ASAR S S 16 22 40.7 +19
ASAR e 16 50 40.1
ASAR PKKKP 16 51 40.1
ASAR Alice Springs 25.94 124 P P 16 17 52.9 -0.4
comp=Z,257nm,0.6s,baz=297,slow=9.3,SNR=1036
ASAR PcP PcP 16 21 22.3 +0.7
comp=Z,59nm,0.8s,baz=314,slow=1.8,SNR=11
ASAR S S 16 22 40.7 +19
comp=Z,101nm,1.0s,baz=299,slow=23,SNR=8.8
ASAR LR LR 16 28 14.9
comp=Z,25μm,20.0s,baz=297,slow=37
ASAR P3KPbc 16 50 40.1
comp=Z,0.4nm,0.6s,baz=119,slow=3.7,SNR=8.3
ASAR P3KP 16 51 40.1
comp=Z,1.3nm,0.8s,baz=52,slow=2.1,SNR=5.9
TGY Tagaytay City 26.13 23 P P 16 17 58.0 +3.0
TGY Tagaytay City 26.13 23 eP P 16 18 00.9 +5.9
TGY Tagaytay City 26.13 23 P P 16 17 58.0 +3.0
comp=Z,596nm,0.6s,baz=167,slow=8.1,SNR=20
AUQP San Andres 26.14 27 eP P 16 17 59.8 +4.6
FORT Forrest 26.16 144 eP P 16 17 54.3 -0.8
comp=Z,966nm,0.9s
FORT eS S 16 22 30.6 +5.7
FORT Forrest 26.16 144 P P 16 17 55.2 +0.1
baz=26,SNR=25
LQP Lukban 26.38 24 eP P 16 18 09.0 +12
GQP Guinayangan 26.57 26⇓ eP P 16 18 01.7 +2.7
SRPI Serui, Papua 26.70 74 P P 16 18 00.4 +0.2
comp=Z,2μm,1.0s,comp=Z,17μmcomp=Z,22μm
BAKI Biak 26.80 72 P P 16 18 00.5 -0.6
comp=Z,945nm,1.0s,comp=Z,13μm
PVCP Virac 27.09 30⇑ eP P 16 18 04.6 +0.9
PVCP eS Px 16 18 47.8
CHAI Chaiyaphum 27.24 341 P P 16 18 06.7 +1.7
comp=Z,304nm,0.6s,comp=Z,3μm
PANO Nakornpanom 27.74 347 P P 16 18 11.2 +1.8
comp=Z,674nm,1.2s,comp=Z,8μm
UTHA Uthaitani 27.83 336 P P 16 18 11.8 +1.6
comp=Z,176nm,0.7s,comp=Z,2μm
BALP Baler 27.87 23 eP P 16 18 13.2 +2.6
BOLP Bolinao 27.87 19 eP P 16 18 12.2 +1.6
PBA Port Blair 28.02 320 eP P 16 18 13.9 +1.9
BCPH Baguio City Da 28.09 21⇑ iP P 16 18 13.8 +1.0
PBKT Sadao Pong 28.20 340 P P 16 18 14.6 +1.1
comp=Z,718nm,0.7s,comp=Z,10μm
PBKT Sadao Pong 28.20 340 P P 16 18 14.7 +1.2
comp=Z,718nm,0.7s,comp=Z,10μm
NONG Nongkai 28.97 345 P P 16 18 21.9 +1.5
comp=Z,476nm,1.5s,comp=Z,9μm
QIZ Qiongzhong 28.97 358 P P 16 18 23.3 +2.9
QIZ pP pP 16 18 28.9 -0.8
QIZ sP sP 16 18 33.0 -0.6
QIZ S S 16 23 12.5 +3.1
QIZ pmax pmax
comp=Z,250nm,2.4s
QIZ pmax pmax
comp=Z,2μm,6.7s
QIZ LR LR
comp=N,17μm,22.0s
QIZ LR LR
comp=E,4μm,22.0s
QIZ LR LR
comp=Z,23μm,23.4s
QIZ Qiongzhong 28.97 358 eP P 16 18 23.5 +3.1
comp=Z,1μm,2.0s
QIZ LR LR
comp=Z,18μm,22.0s
LOEI Loei 28.98 341 P P 16 18 20.4 -0.1
comp=Z,246nm,0.7s,comp=Z,8μm
CAUP Cauayan 29.06 22 eP P 16 18 21.9 +0.7
ABRA Dolores 29.32 20 eP P 16 18 24.7 +1.3
MMPI Merauke 29.36 89 P P 16 18 23.0 -1.0
comp=Z,569nm,1.2s,comp=Z,9μm
PALU Palau 29.37 55 P P 16 18 29.1 +5.1
baz=30,SNR=6.7
PALP Palanan 29.40 23 eP P 16 18 26.9 +2.7
SIPP Brgy, Tapao 29.49 19⇓ eP P 16 18 27.5 +2.5
APYP Conner 29.70 21 eP P 16 18 26.9 +0.1
CM31 Chiang Mai Arr 30.66 338 eP P 16 18 37.3 +1.9
comp=Z,170nm,0.7s
CM31 ePcP PcP 16 21 35.0 +1.7
CMAR Chiang Mai Arr 30.66 338 P P 16 18 37.2 +1.8
CMAR PcP PcP 16 21 35.0 +1.8
CMAR e 16 50 24.0
CMAR Chiang Mai Arr 30.66 338 P P 16 18 37.2 +1.8
comp=Z,157nm,0.7s,baz=173,slow=8.2,SNR=701
CMAR PcP PcP 16 21 35.0 +1.8
comp=Z,73nm,1.0s,baz=191,slow=3.3,SNR=7.0
CMAR LR LR 16 32 53.8
comp=Z,20μm,18.2s,baz=349,slow=40
CMAR P3KPbc 16 50 24.0
comp=Z,1.3nm,0.8s,baz=328,slow=5.3,SNR=9.9
JAY Jayapura 30.77 78 P P 16 18 35.6 -0.9
comp=Z,146nm,1.6s,comp=Z,3μm
CHTO Chiang Mai 30.98 338 eP P 16 18 40.0 +1.8
CHTO e 16 21 35.2
CHTO pmax pmax
comp=Z,993nm,1.6s
CHTO MLR MLR
comp=Z,18μm,20.0s
CHTO Chiang Mai 30.98 338 P P 16 18 40.5 +2.2
SNR=96
CHTO Chiang Mai 30.98 338 eP P 16 18 40.0 +1.8
comp=Z,993nm,1.6s
CHTO ePcP PcP 16 21 35.2 +1.1
CHTO LR LR
comp=Z,18μm,20.0s
CHTO Chiang Mai 30.98 338 P P 16 18 40.0 +1.8
comp=Z,344nm,1.4s,comp=Z,8μmcomp=Z,13μm
CHTO Chiang Mai 30.98 338 P P 16 18 39.7 +1.5
comp=Z,344nm,1.4s,comp=Z,8μm
CMAI Chiengmai2 31.98 339 P P 16 18 48.7 +1.6
comp=Z,237nm,1.0s
COEN Coen 32.00 100 eP P 16 18 47.4 0.0
comp=Z,67nm,0.4s
COEN Coen 32.00 100 P P 16 18 47.6 +0.3
baz=32,SNR=30
BBOO Buckleboo 32.52 138 eP P 16 18 51.1 -0.6
comp=Z,7μm,1.0s
BBOO Buckleboo 32.52 138 P P 16 18 51.2 -0.4
baz=33,SNR=115
GZH Guangzhou 33.10 5 P P 16 19 03.9 +7.2
GZH PP PP 16 20 22.9 +11
GZH S S 16 24 23.9 +10
GZH SS SS 16 26 43.0 +5.5
GZH LR LR
comp=N,19μm,18.1s
GZH LR LR
comp=E,14μm,18.0s
GZH LR LR
comp=Z,38μm,17.6s
MTSU Mount Surprise 33.54 108 P P 16 19 02.0 +1.2
baz=34,SNR=108
TWG Pinlang 34.28 17 eP P 16 19 08.3 +1.2
comp=Z,5μm,1.8s
PALK Pallekele 34.48 299 P P 16 19 11.7 +2.7
comp=Z,867nm,1.0s,SNR=9.4
PALK Pallekele 34.48 299 P P 16 19 11.8 +2.8
SNR=13
PALK Pallekele 34.48 299 eP P 16 19 10.3 +1.3
comp=Z,967nm,1.6s
PALK Pallekele 34.48 299 P P 16 19 11.2 +2.2
comp=Z,311nm,1.6s,comp=Z,6μmcomp=Z,13μm
TPUB Ta-pu 34.61 16 eP P 16 19 11.1 +1.2
comp=Z,986nm,1.4s
YULB Yu-li 34.89 17 eP P 16 19 13.6 +1.3
comp=Z,173nm,0.6s
SSLB Suanglung 35.16 16 eP P 16 19 15.7 +1.0
comp=Z,326nm,0.8s
QZH Quanzhou 35.69 12⇑ iP P 16 19 18.3 -0.8
QZH pP pP 16 19 28.1 -0.5
QZH pmax pmax
comp=Z,420nm,1.4s
QZH LR LR
comp=N,17μm,16.0s
QZH LR LR
comp=E,16μm,18.3s
QZH LR LR
comp=Z,39μm,24.4s
NACB Ninganchiao 35.71 17 eP P 16 19 20.8 +1.4
comp=Z,171nm,0.6s
KMI Kunming 35.87 348 P P 16 19 24.6 +3.6
KMI PP PP 16 20 46.0 +3.1
KMI S S 16 25 00.1 +3.0
KMI SS SnSn 16 27 24.9 +3.0
KMI pmax pmax
comp=Z,3μm,3.1s
KMI LR LR
comp=N,10μm,22.3s
KMI LR LR
comp=E,22μm,17.1s
KMI LR LR
comp=Z,24μm,20.7s
STKA Stephens Creek 35.87 132 eP P 16 19 20.8 +0.1
STKA ePcP PcP 16 21 47.8 +0.1
STKA Stephens Creek 35.87 132 P P 16 19 20.9 +0.1
comp=Z,379nm,0.8s,baz=302,slow=9.4,SNR=421
STKA LR LR 16 35 17.3
comp=Z,21μm,19.0s,baz=298,slow=38
STKA Stephens Creek 35.87 132 P P 16 19 20.9 +0.1
baz=36,SNR=531
STKA S S 16 25 11.9 +15
baz=36,SNR=5.2
PMG Port Moresby 35.96 92 eP P 16 19 22.9 +1.2
comp=Z,85nm,0.8s
PMG Port Moresby 35.96 92 P P 16 19 22.5 +0.8
comp=Z,134nm,1.0s,comp=Z,3μm
PMG Port Moresby 35.96 92 LR LR 16 32 55.8
comp=Z,5μm,19.3s,baz=70,slow=34
YHNB Yeheng 36.12 17 eP P 16 19 24.0 +1.0
comp=Z,303nm,0.8s
YHNB LR LR
comp=Z,27μm,22.0s
TATO Taipei 36.44 17 P P 16 19 28.3 +2.8
SNR=14
TATO Taipei 36.44 17 eP P 16 19 26.4 +0.8
comp=Z,199nm,0.6s
TATO LR LR
comp=Z,18μm,21.0s
GYA Guiyang 36.56 354⇑ iP P 16 19 30.9 +4.2
GYA pP pP 16 19 38.6 +2.4
GYA PP PP 16 20 57.2 +6.8
GYA PcP PcP 16 21 52.5 +2.6
GYA S S 16 25 14.0 +6.6
GYA pmax pmax
comp=Z,70nm,0.8s
GYA pmax pmax
comp=Z,4μm,6.9s
GYA LR LR
comp=N,19μm,15.6s
GYA LR LR
comp=E,13μm,16.0s
GYA LR LR
comp=Z,25μm,15.8s
MANU Manus Island 37.33 80 P P 16 19 34.6 +1.2
baz=38,SNR=4.1
DGAR Diego Garcia 37.85 271 PFAKE 16 19 50.0 +12
DGAR LR LR
comp=Z,20μm,20.0s
MDRS Chennai 37.98 307 eP P 16 19 40.6 +1.8
MDRS AMB AMB 16 19 41.9
comp=Z,347nm,0.6s
TRD Trivandrum 38.32 298 eP P 16 19 41.7 0.0
TRD AMB AMB 16 19 51.4
comp=Z,463nm,0.6s
VIS Vishakhapatnam 38.66 316 iP P 16 19 45.7 +1.2
VIS AMB AMB 16 19 48.3
comp=Z,326nm,1.8s
VIS ix x 16 20 01.9
ARPS Mount Arapiles 38.69 138 P P 16 19 45.0 +0.4
baz=39,SNR=59
CMSA Cobar Meteorol 38.80 129 P P 16 19 45.9 +0.3
baz=39,SNR=83
KAAM Kaadhehdhoo 38.94 283 P P 16 19 47.7 +0.8
comp=Z,427nm,1.9s
RMQ Roma 39.47 120 P P 16 19 52.9 +1.6
baz=40,SNR=8.8
SHL Shillong 39.91 333 eP P 16 19 56.0 +0.9
SHL AMB AMB 16 19 59.0
comp=Z,784nm,2.5s
SHL ex x 16 25 38.0
ENH Enshi 40.17 358 eP P 16 19 58.3 +1.4
comp=Z,270nm,0.7s
ENH LR LR
comp=Z,71nm,20.0s
JOW Kunigami 40.51 25 eP P 16 20 01.8 +2.0
comp=Z,187nm,1.1s
WHN Wuhan 40.58 5 P P 16 20 03.0 +2.7
WHN pP pP 16 20 12.1 +2.3
WHN S S 16 26 07.8 +0.1
WHN pmax pmax
comp=Z,3μm,1.7s
WHN LR LR
comp=N,17μm,15.2s
WHN LR LR
comp=E,9μm,14.3s
WHN LR LR
comp=Z,33μm,19.6s
EIDS Eidsvold 41.18 117 eP P 16 20 06.1 +0.7
comp=Z,81nm,1.1s
EIDS Eidsvold 41.18 117 P P 16 20 09.2 +3.7
baz=41,SNR=3.2
GUMO Guam 41.31 56 P P 16 20 07.0 +0.5
comp=Z,667nm,1.4s
GUMO LR LR
comp=Z,7μm,22.0s
CD2 Chengdu 41.33 351 P P 16 20 07.4 +0.9
CD2 pP pP 16 20 12.2 -3.8
CD2 PP PnPn 16 21 47.4 +0.3
CD2 PcP PcP 16 22 04.8 +0.1
CD2 S S 16 26 18.0 -1.0
CD2 SS SS 16 29 25.1 +1.5
CD2 pmax pmax
comp=Z,670nm,1.4s
CD2 pmax pmax
comp=Z,5μm,8.9s
CD2 LR LR
comp=N,21μm,17.8s
CD2 LR LR
comp=Z,21μm,20.2s
TOO Toolangi 41.56 137 P P 16 20 09.5 +1.1
baz=42,SNR=18
MNCY Minicoy 41.68 295 ex P 16 20 12.0 +2.4
MNCY ex x 16 21 16.0
HYB Hyderabad 41.90 311⇓ iP P 16 20 12.0 +0.6
comp=Z,171nm,0.8s
HYB epP pP 16 20 20.0 -0.9
HYB eS S 16 26 30.0 +2.2
HYB Hyderabad 41.90 311 eP P 16 20 11.8 +0.3
HYB AMB AMB 16 20 13.6
comp=Z,191nm,0.6s
YNG Young 42.04 131 P P 16 20 12.9 +0.4
baz=42,SNR=50
SSE Sheshan 42.20 13 P P 16 20 16.5 +2.9
SSE sP sP 16 20 25.6 -1.3
SSE S S 16 26 38.8 +7.1
SSE sS sS 16 26 49.8 +2.4
SSE pmax pmax
comp=Z,170nm,0.7s
SSE LR LR
comp=N,10μm,24.0s
SSE LR LR
comp=E,8μm,24.0s
SSE LR LR
comp=Z,14μm,23.7s
SLGI Shiliguri 42.50 330 eP P 16 20 17.4 +1.3
NJ2 Nanjing 42.65 10 eP P 16 20 20.5 +3.3
NJ2 pP pP 16 20 27.0 +0.2
NJ2 sP sP 16 20 30.1 -0.5
NJ2 S S 16 26 39.0 +0.6
NJ2 sS sS 16 26 55.0 +0.9
NJ2 pmax pmax
comp=Z,640nm,0.5s
NJ2 LR LR
comp=N,14μm,19.0s
NJ2 LR LR
comp=E,8μm,23.8s
NJ2 LR LR
comp=Z,23μm,23.8s
CAN Canberra 42.94 132 eP P 16 20 20.1 +0.4
CAN pmax pmax
comp=Z,390nm,1.6s
CAN MLR MLR
comp=Z,25μm,20.0s
CAN Canberra 42.94 132 eP P 16 20 20.1 +0.4
comp=Z,390nm,1.6s
CAN LR LR
comp=Z,25μm,20.0s
ARMA Armidale 43.09 124 eP P 16 20 22.3 +1.2
comp=Z,489nm,2.1s
ARMA Armidale 43.09 124 P P 16 20 22.6 +1.5
baz=43,SNR=18
CNB Canberra Magne 43.20 132 P P 16 20 23.5 +1.7
baz=43,SNR=7.4
MGCD Mangrove Creek 43.66 128 P P 16 20 26.9 +1.4
baz=44,SNR=29
LSA Lhasa 43.83 335 P P 16 20 28.9 +1.6
LSA pP pP 16 20 34.6 -2.3
LSA S S 16 26 51.7 -4.9
LSA sS sS 16 27 14.7 +2.3
LSA LR LR
comp=E,11μm,20.2s
LSA LR LR
comp=Z,20μm,20.2s
LSA Lhasa 43.83 335 eP P 16 20 28.9 +1.6
LSA pmax pmax
comp=Z,555nm,0.8s
LSA MLR MLR
comp=Z,22μm,22.0s
LSA Lhasa 43.83 335 eP P 16 20 28.9 +1.6
comp=Z,555nm,0.8s
LSA LR LR
comp=Z,22μm,22.0s
NGP Nagpur 43.94 315 eP P 16 20 27.2 -0.6
NGP ex x 16 26 53.7
XAN Xi'an 43.94 358 P P 16 20 28.8 +1.1
XAN pP pP 16 20 37.3 0.0
XAN PP PcP 16 22 13.6 +0.3
XAN S S 16 26 54.3 -3.1
XAN pmax pmax
comp=Z,170nm,1.0s
XAN pmax pmax
comp=Z,1μm,5.6s
XAN LR LR
comp=N,9μm,22.5s
XAN LR LR
comp=E,4μm,21.4s
XAN LR LR
comp=Z,5μm,22.5s
GOA Goa 44.49 304 eP P 16 20 33.8 +1.5
AKL Akola 45.09 313⇓ iP P 16 20 36.4 -0.7
AKL AMP 16 20 44.8
comp=Z,402nm,1.8s
AKL ix x 16 27 10.4
KAD Karad 45.20 307 eP P 16 20 38.7 +0.7
MOO Moorlands 45.33 142 P P 16 20 40.5 +1.9
baz=45,SNR=3.9
TAU Tasmania Unive 45.67 142 PFAKE 16 20 50.0 +8.6
TAU LR LR
comp=Z,12μm,20.0s
POO Poona 46.15 308⇓ iP P 16 20 45.0 -0.5
comp=Z,660nm,1.0s
POO eP pP 16 20 46.3 -8.8
POO AMB AMB 16 20 48.2
comp=Z,513nm,3.2s
POO eSCS 16 30 40.0
LZH Lanzhou 46.40 352 ⇓P P 16 20 49.2 +1.9
LZH pP pP 16 20 57.4 +0.4
LZH sP sP 16 21 01.0 +0.2
LZH S S 16 27 33.0 -0.1
LZH SS SS 16 30 54.1 -5.3
LZH pmax pmax
comp=Z,1μm,1.0s
LZH pmax pmax
comp=Z,5μm,4.0s
LZH LR LR
comp=N,10μm,14.7s
LZH LR LR
comp=E,4μm,14.3s
LZH LR LR
comp=Z,18μm,19.5s
BHPL Bhopal 46.45 316 eP P 16 20 47.6 -0.2
BHPL AMB AMB 16 20 50.9
comp=Z,183nm,1.1s
TIA Tai'an 46.48 7 ⇓P P 16 20 47.6 -0.1
TIA pmax pmax
comp=Z,560nm,0.6s
TIA pmax pmax
comp=Z,5μm,7.7s
TIA LR LR
comp=N,15μm,21.3s
TIA LR LR
comp=E,8μm,20.2s
TIA LR LR
comp=Z,20μm,22.0s
JNU Nakatsue 47.11 23 eP P 16 20 53.1 +0.3
comp=Z,62nm,1.1s
JNU Nakatsue 47.11 23 P P 16 20 53.4 +0.6
comp=Z,29nm,0.6s,baz=239,slow=3.3,SNR=38
JNU LR LR 16 41 44.3
comp=Z,7μm,21.7s,baz=11,slow=38
TIY Taiyuan 47.60 2⇑ iP P 16 20 59.4 +2.8
TIY PP PP 16 22 52.0 +3.4
TIY S S 16 27 48.8 -1.3
TIY pmax pmax
comp=Z,360nm,0.6s

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TIY                                  pmax    pmax
     comp=Z,4µm,4.1s
TIY                                  LR      LR
     comp=N,10µm,17.8s
TIY                                  LR      LR
     comp=E,3µm,20.1s
TIY                                  LR      LR
     comp=Z,10µm,19.2s
TJN  Taejon          48.84  18  i P          P       16 21 07.9 +1.8
INCN Inchon          49.66  17  P            P       16 21 14.9 +2.6
     SNR=9.6
INCN Inchon          49.66  17  eP           P       16 21 14.3 +2.0
     comp=Z,54nm,0.7s
INCN                                 LR      LR
     comp=Z,4µm,20.0s
DL2  Dalian          49.83  11  P            P       16 21 13.0 -0.5
DL2                                  S       S       16 28 15.9 -5.2
DL2                                  pmax    pmax
     comp=Z,350nm,0.6s
DL2                                  pmax    pmax
     comp=Z,770nm,4.0s
DL2                                  LR      LR
     comp=N,6µm,20.8s
DL2                                  LR      LR
     comp=Z,9µm,16.9s
KSAR Wonju Array Be  49.98  18  P            P       16 21 15.2 +0.4
KSRS Korea Array     50.01  18  P            P       16 21 15.2 +0.2
     comp=Z,28nm,0.8s,baz=202,slow=7.3,SNR=60
BJT  Baijiatuau      50.14   6  eP           P       16 21 16.4 +0.5
     comp=Z,630nm,0.6s
BJT                                  LR      LR
     comp=Z,7µm,19.0s
BJI  Beijing         50.16   6  P            P       16 21 17.5 +1.5
BJI                                  PP      PP      16 23 15.3 +3.7
BJI                                  S       S       16 28 34.0 +8.3
BJI                                  pmax    pmax
     comp=Z,900nm,0.6s
BJI                                  pmax    pmax
     comp=Z,4µm,4.0s
BJI                                  LR      LR
     comp=N,8µm,23.0s
BJI                                  LR      LR
     comp=E,8µm,22.5s
BJI                                  LR      LR
     comp=Z,6µm,28.5s
GTA  Gaotai          50.30 349 ⇓P            P       16 21 19.0 +1.7
GTA                                  pP      pP      16 21 25.4 -1.6
GTA                                  sP      sP      16 21 28.3 -2.5
GTA                                  PP      PP      16 23 15.3 +2.2
GTA                                  S       S       16 28 28.2 +0.2
GTA                                  sS      sS      16 28 40.8 -3.1
GTA                                  SS      SS      16 31 58.4 -3.7
GTA                                  pmax    pmax
     comp=Z,96nm,2.0s
GTA                                  pmax    pmax
     comp=Z,9µm,7.1s
GTA                                  LR      LR
     comp=N,10µm,22.1s
GTA                                  LR      LR
     comp=E,10µm,20.0s
GTA                                  LR      LR
     comp=Z,15µm,21.8s
NDI  New Delhi       50.32 321  ex           P       16 21 14.0 -3.5
NDI                                  ex      S       16 28 28.0 -0.4
BTO  Baotou          50.47 359  eP           P       16 21 19.0 +0.5
HHC  Hu-ho-hao-te    50.72   1 ⇓P            P       16 21 21.2 +0.8
HHC                                  pP      pP      16 21 29.7 -0.4
HHC                                  sP      sP      16 21 32.3 -1.6
HHC                                  PcP     PcP     16 22 37.5 +0.2
HHC                                  PP      PP      16 23 18.6 +1.8
HHC                                  ScP     ScP     16 26 30.6 -0.7
HHC                                  S       S       16 28 34.3 +0.6
HHC                                  sS      sS      16 28 47.4 -2.3
HHC                                  ScS     ScS     16 31 07.7 -1.3
HHC                                  SS      SS      16 32 06.4 -2.3
HHC                                  pmax    pmax
     comp=Z,600nm,1.9s
HHC                                  pmax    pmax
     comp=Z,10µm,7.1s
HHC                                  LR      LR
     comp=N,12µm,15.5s
HHC                                  LR      LR
     comp=E,10µm,17.8s
HHC                                  LR      LR
     comp=Z,14µm,19.0s
DDI  Dehra Dun       50.99 323  eP           P       16 21 21.0 -1.6
DDI                                  eP      P       16 21 22.2 -0.3
DDI                                  AMB     AMB     16 21 27.0
     comp=Z,993nm,1.2s
DDI                                  ex      x       16 22 20.6
PAF  Port-aux-Franc  51.54 213  PFAKE                16 21 40.0 +14
PAF                                  LR      LR
     comp=Z,39µm,20.0s
BHJ  Bhuj            52.06 310  eP           P       16 21 32.6 +1.9
BHJ                                  AMB     AMB     16 21 33.9
     comp=Z,390nm,2.9s
SMLA Simla           52.10 323  i P          P       16 21 30.4 -0.4
SMLA                                 AMB     AMB     16 21 35.0
     comp=Z,705nm,0.5s
SMLA                                 i x     x       16 28 48.0
MRIV Mauritius Mete  52.11 252  eP           P       16 21 31.9 +0.7
SDNR Sundarnagar     52.48 323  ex           P       16 21 33.0 -0.7
SDNR                                 eS      S       16 29 01.0 +2.8
BHK  Bhakra          52.75 323  eP           P       16 21 37.0 +1.3
SNY  Shenyang        53.03  12 ⇓P            P       16 21 36.7 -0.8
SNY                                  pmax    pmax
     comp=Z,65nm,1.4s
SNY                                  pmax    pmax
     comp=Z,2µm,3.8s
SNY                                  LR      LR
     comp=N,6µm,19.6s
SNY                                  LR      LR
     comp=E,7µm,20.1s
SNY                                  LR      LR
     comp=Z,12µm,21.2s
MAT  Matsushiro      53.15  28  P            P       16 21 36.9 -1.6
MAT                                  S       S       16 29 00.6 -6.6
MJAR Matsushiro Arr  53.15  28  P            P       16 21 36.7 -1.8
MJAR Matsushiro Arr  53.15  28  P            P       16 21 36.7 -1.8
     comp=Z,37nm,0.9s,baz=211,slow=7.4,SNR=42
MJAR                                 LR      LR      16 44 06.8
     comp=Z,6µm,20.9s,baz=220,slow=36
DHRM DHARAMSHALA     53.41 323  eP           P       16 21 40.5 -0.3
DHRM                                 AMB     AMB     16 21 46.0
     comp=Z,618nm,2.5s
DLH  Dalhousie       53.82 323  eP           P       16 21 44.0 +0.2
THN  Thein Dam       53.89 323  eP           P       16 21 44.2 +0.2
THN                                  ex      x       16 29 15.5
DZM  Mont Dzumac     54.63 110  eP           P       16 21 50.2 +0.5
     comp=Z,144nm,1.1s
DZM                                  eS      S       16 29 22.7 -5.2
     comp=Z,3µm,26.1s
DZM                                  eSS     SS      16 33 07.2 -3.8
     comp=Z,5µm,23.6s
DZM                                  eLR     LR      16 37 34.3
     comp=Z,18µm,23.1s
DZM  Mont Dzumac     54.63 110  LR           LR      16 43 59.3
     comp=Z,7µm,21.0s,baz=67,slow=35
MSEY Mahe Island     54.94 271  eP           P       16 21 53.5 +1.4
     comp=Z,163nm,1.3s
MSEY                                 LR      LR
     comp=Z,12µm,20.0s
CN2  Changchun       55.32  13  eP           P       16 21 52.7 -1.4
CN2                                  epP     pP      16 22 02.8 -1.1
CN2                                  esP     sP      16 22 06.9 -0.8
CN2                                  PcP     PcP     16 22 55.7 +1.2
CN2                                  PP      PP      16 23 58.2  0.0
CN2                                  eS      S       16 29 34.3 -1.8
CN2                                  pmax    pmax
     comp=Z,30nm,0.6s
CN2                                  pmax    pmax
     comp=Z,4µm,6.0s
CN2                                  LR      LR
     comp=N,5µm,21.0s
CN2                                  LR      LR
     comp=E,9µm,21.0s
CN2                                  LR      LR
     comp=Z,11µm,22.0s
CASY Casey           56.09 180  eP           P       16 21 58.1 -1.3
     comp=Z,60nm,1.0s
CASY                                 LR      LR
     comp=Z,11µm,21.0s
VLA  Vladivostok     56.41  19 d iP          P       16 22 01.5 -0.4
VLA                                  e                16 22 58.0
VLA                                  e                16 24 06.6
VLA                                  i S      S       16 29 50.9 +0.3
VLA                                  pmax    pmax
     comp=Z,165nm,1.7s
NFK  Norfolk Island  56.60 118  P            P       16 22 06.9 +3.1
     baz=57,SNR=3.9
MDJ  Mudanjiang      57.11  16  P            P       16 22 06.3 -0.6
MDJ                                  pP      pP      16 22 12.7 -4.0
MDJ                                  sP      sP      16 22 15.4 -5.1
MDJ                                  S       S       16 29 58.5 -1.3
MDJ                                  ScS     ScS     16 31 53.4 -0.5
MDJ                                  SS      SS      16 33 48.4 -0.9
MDJ                                  pmax    pmax
     comp=Z,520nm,6.6s
MDJ                                  LR      LR
     comp=N,3µm,29.0s
MDJ                                  LR      LR
     comp=E,3µm,26.2s
MDJ                                  LR      LR
     comp=Z,4µm,27.6s
MDJ  Mudanjiang      57.11  16  eP           P       16 22 06.6 -0.3
     comp=Z,209nm,1.3s
MDJ                                  LR      LR
     comp=Z,5µm,20.0s
USRK Ussuriysk Arra  57.42  18  P            P       16 22 08.7 -0.4
     comp=Z,57nm,0.8s,baz=192,slow=5.3,SNR=71
USRK                                 PKPPKP  P'P'df   16 51 54.5 +0.7
     comp=Z,4.3nm,1.1s,baz=26,slow=3.7,SNR=4.1
WMQ  Urumqi          57.60 340  P            P       16 22 13.0 +2.5
WMQ                                  pP      pP      16 22 20.6 +0.3
WMQ                                  sP      sP      16 22 24.0 -0.1
WMQ                                  PcP     PcP     16 23 05.6 +2.1
WMQ                                  PP      PP      16 24 22.6 +3.9
WMQ                                  ScP     ScP     16 27 02.7 +1.4
WMQ                                  PcS     PcS     16 27 05.0 +0.3
WMQ                                  S       S       16 30 08.4 +1.9
WMQ                                  sS      sS      16 30 21.0 -1.7
WMQ                                  ScS     ScS     16 31 57.1 -0.6
WMQ                                  SS      SS      16 34 00.1 +2.8
WMQ                                  pmax    pmax
     comp=Z,340nm,0.9s
WMQ                                  pmax    pmax
     comp=Z,7µm,6.3s
WMQ                                  LR      LR
     comp=N,9µm,23.3s
WMQ                                  LR      LR
     comp=E,10µm,28.0s
WMQ                                  LR      LR
     comp=Z,8µm,25.0s
MIR  Mirnyy          57.63 188 ⇓i P          P       16 22 11.0 +0.7
MIR                                  eS      S       16 30 08.0 +1.9
MIR                                  ePS     PnS     16 30 28.0 +7.9
MIR                                  eSS     SS      16 34 04.0 +7.5
MIR                                  eSSS    SSS     16 36 26.0
MIR                                  pmax    pmax
     comp=Z,2µm,3.0s
MIR                                  pmax    pmax
     comp=Z,592nm,2.0s
ULN  Ulaanbaatar     57.81 357  P            P       16 22 12.9 +0.9
     SNR=165
ULN  Ulaanbaatar     57.81 357  eP           P       16 22 12.5 +0.5
     comp=Z,273nm,0.6s
ULN                                  LR      LR
     comp=Z,11µm,21.0s
ULN  Ulaanbaatar     57.81 357  P            P       16 22 12.2 +0.2
     comp=Z,496nm,0.6s,comp=Z,6µm
SONM Songino Array   57.82 357  P            P       16 22 12.6 +0.6
SONM Songino Array   57.82 357  P            P       16 22 12.6 +0.6
     comp=Z,256nm,0.5s,baz=174,slow=9.1,SNR=286
SONM                                 LR      LR      16 52 00.9
     comp=Z,7µm,20.1s,baz=180,slow=41
MCQ  Macquarie Isla  58.41 149  eP           P       16 22 16.9 +1.0
MCQ  Macquarie Isla  58.41 149  eP           P       16 22 16.9 +1.0
     comp=Z,20µm,0.8s
MCQ  Macquarie Isla  58.41 149  P            P       16 22 16.2 +0.3
     baz=58,SNR=7.9
KSH  Kashi           58.96 329 ⇓i P          P       16 22 19.0 -1.2
KSH                                  sP      sP      16 22 34.1 +0.3
KSH                                  PP      PP      16 24 31.1 +0.2
KSH                                  PcS     PcS     16 27 09.4 -1.6
KSH                                  S       S       16 30 17.6 -6.9
KSH                                  SS      SS      16 34 14.0 -4.9
KSH                                  pmax    pmax
     comp=Z,55nm,1.0s
KSH                                  pmax    pmax
     comp=Z,2µm,6.0s
KSH                                  LR      LR
     comp=N,5µm,18.0s
KSH                                  LR      LR
     comp=E,4µm,15.8s
KSH                                  LR      LR
     comp=Z,9µm,21.7s
KBL  Kabul           59.40 320  eP           P       16 22 22.5 -0.9
KBL                                  pmax    pmax
     comp=Z,464nm,1.4s
KBL  Kabul           59.40 320  eP           P       16 22 22.5 -0.9
     comp=Z,464nm,1.4s
KBL  Kabul           59.40 320  P            P       16 22 22.8 -0.6
     baz=60,SNR=12
HIA  Hailar          59.66   7  eP           P       16 22 24.2 -0.5
     comp=Z,242nm,1.4s
HIA                                  LR      LR
     comp=Z,16µm,20.0s
DRV  Dumont d'Urvil  59.87 167  PP           PP      16 24 37.0 -1.1
DRV                                  S       S       16 30 21.0 -14
DRV                                  SS      SS      16 34 25.0 -6.7
DRV                                  L       L       16 36 00.0
DRV                                  R               16 40 00.0
WBK  Wadi Bani Khal  60.18 303  P            P       16 22 29.8 +1.0
     SNR=19
ZAK  Zakamensk       60.59 355  eP           P       16 22 31.4 +0.3
ZAK                                  pmax    pmax
     comp=Z,105nm,1.7s
JMDO Jabal Madar     60.79 303  P            P       16 22 33.7 +0.7
     SNR=24
ULHL Ulahol          60.91 331  i P          P       16 22 33.3 -0.3
ULHL Ulahol          60.91 331  P            P       16 22 33.3 -0.3
     SNR=16
SMDO Samad           61.14 303  P            P       16 22 36.3 +0.9
     SNR=28
ASAJ Asahikawa       61.26  26  eP           P       16 22 34.9 -0.7
     comp=Z,25nm,0.8s
ASAJ Asahikawa       61.26  26  P            P       16 22 35.1 -0.5
     comp=Z,25nm,0.8s,baz=257,slow=3.6,SNR=15
ASAJ                                 LR      LR      16 48 33.6
     comp=Z,6µm,21.9s,baz=292,slow=36
KZA  Kyzart          61.26 331  i P          P       16 22 36.9 +0.7
KZA  Kyzart          61.26 331  P            P       16 22 36.9 +0.7
     SNR=52
AAA  Alma-Ata        61.38 332  i P          P       16 22 37.2 +0.6
AAA                                  eS      S       16 30 53.5 -1.8
AAA                                  pmax    pmax
     comp=Z,6µm,8.5s
AAA                                  MLR     MLR
     comp=Z,4µm,22.0s
BSY  Bisya           61.71 303  P            P       16 22 39.9 +0.8
     SNR=24
UCH  Uchtor          61.73 330  i P          P       16 22 41.8 +2.4
UCH  Uchtor          61.73 330  P            P       16 22 41.9 +2.4
     SNR=9.6
TKM2 Tokmak 2        61.73 331  eP           P       16 22 39.6 +0.4
TKM2                                 pmax    pmax
     comp=Z,237nm,0.6s
TKM2                                 MLR     MLR
     comp=Z,6µm,20.0s
TKM2 Tokmak 2        61.73 331  P            P       16 22 39.8 +0.6
     SNR=112
TKM2 Tokmak 2        61.73 331  eP           P       16 22 39.6 +0.4
     comp=Z,237nm,0.6s
TKM2                                 LR      LR
     comp=Z,6µm,20.0s
ABPO Ambohimpanom    61.77 254  P            P       16 22 41.3 +1.4
     comp=Z,362nm,0.8s,SNR=9.9
ABPO Ambohimpanom    61.77 254  eP           P       16 22 40.7 +0.8
ABPO                                 pmax    pmax
     comp=Z,323nm,0.9s
ABPO                                 MLR     MLR
     comp=Z,11µm,19.0s
ABPO Ambohimpanom    61.77 254  eP           P       16 22 40.7 +0.8
     comp=Z,323nm,0.9s
ABPO                                 LR      LR
     comp=Z,11µm,19.0s
RPZ  Rata Peaks      61.77 134  eP           P       16 22 38.7 -0.6
     comp=Z,396nm,1.1s
RPZ  Rata Peaks      61.77 134  P            P       16 22 39.2 -0.1
     comp=Z,270nm,1.0s,baz=274,slow=0.9,SNR=21
RPZ                                  LR      LR      16 47 48.3
     comp=Z,15µm,21.3s,baz=281,slow=34
ODZ  Otahua Downs    61.81 136  eP           P       16 22 39.2 -0.3
     comp=Z,60nm,0.9s
KBK  Karagaybulak    61.84 331  i P          P       16 22 40.5 +0.6
KBK  Karagaybulak    61.84 331  P            P       16 22 40.5 +0.6
     SNR=65
TLY  Talaya          61.84 355 d iP          P       16 22 40.3 +0.8
TLY                                  ePPP    PPP     16 26 29.0
TLY                                  eS      S       16 30 56.5 -4.3
TLY                                  e                16 32 25.4
TLY                                  eSS     SS      16 35 02.7 -0.8
TLY                                  pmax    pmax
     comp=Z,321nm,1.8s
TLY                                  MLR     MLR
     comp=Z,6µm,15.0s
TLY  Talaya          61.84 355       P       P       16 22 40.6 +1.1
     comp=Z,654nm,0.6s,SNR=23
KLR  Kul'dur         61.93  15  eP           P       16 22 34.0 -6.1
KLR                                  e                16 24 58.0
KLR                                  eS      S       16 30 52.5 -9.4
KLR                                  pmax    pmax
     comp=Z,200nm,1.6s
KLR                                  pmax    pmax
     comp=Z,4µm,9.0s
KLR                                  MLR     MLR
     comp=Z,3µm,17.0s
CIT  Chita           61.93   2  eP           P       16 22 41.2 +1.1
CIT                                  e                16 22 55.4
CIT                                  e                16 23 17.8
CIT                                  e                16 24 53.8
CIT                                  eS      S       16 31 04.0 +2.0
CIT                                  pmax    pmax
     comp=Z,1µm,2.0s
HOQ  Hoqain          61.98 304  P            P       16 22 41.8 +0.8
     SNR=22
AAK  Ala-Archa       62.04 330  P            P       16 22 41.9 +0.7
     comp=Z,812nm,1.2s,SNR=36
AAK  Ala-Archa       62.04 330  i P          P       16 22 41.9 +0.7
AAK                                  pmax    pmax
     comp=Z,338nm,1.1s
AAK                                  MLR     MLR
     comp=Z,16µm,20.0s
AAK  Ala-Archa       62.04 330  P            P       16 22 42.2 +1.0
     SNR=127
AAK  Ala-Archa       62.04 330  P            P       16 22 41.9 +0.7
     SNR=30
AAK  Ala-Archa       62.04 330  eP           P       16 22 41.7 +0.5
AAK                                  LR      LR
     comp=Z,8µm,22.0s
AAK  Ala-Archa       62.04 330  P            P       16 22 41.6 +0.4
     comp=Z,45nm,0.9s,baz=145,slow=9.2,SNR=41
AML  Almayashu       62.06 330  i P          P       16 22 42.1 +0.5
AML  Almayashu       62.06 330  P            P       16 22 42.1 +0.5
     SNR=30
MK31 Makanchi Array  62.07 338  i P          P       16 22 41.7 +0.6
MK31                                 pmax    pmax
     comp=Z,260nm,0.5s
MK31 Makanchi Array  62.07 338  eP           P       16 22 41.6 +0.5
MKAR Makanchi Array  62.07 338  P            P       16 22 41.3 +0.2
MKAR                                 pmax    pmax
     comp=Z,191nm,0.6s
MKAR                                 MLR     MLR
     comp=Z,8µm,20.9s
MKAR Makanchi Array  62.07 338  P            P       16 22 41.2 +0.2
MKAR                                 P'P'    16 51 48.6
MKAR                                 e       16 59 39.0
MKAR Makanchi Array  62.07 338  P            P       16 22 41.3 +0.2
     comp=Z,189nm,0.6s,baz=150,slow=7.2,SNR=406
MKAR                                 PKPPKP  P'P'df   16 51 48.6 +1.7
     comp=Z,1.7nm,0.8s,baz=318,slow=1.9,SNR=5.3
MKAR                                 LR      LR      16 52 38.2
     comp=Z,8µm,20.9s,baz=155,slow=39
MKAR                                 P4KPbc          16 59 39.0
     comp=Z,1.6nm,0.9s,baz=122,slow=5.9,SNR=7.1
MOY  Mondy           62.09 353  eP           P       16 22 41.8 +0.5
MOY                                  pmax    pmax
     comp=Z,785nm,2.4s
FRU  Bishkek         62.13 331 ⇓i P          P       16 22 42.0 +0.3
FRU                                  eS      S       16 31 05.0 +0.1
FRU                                  pmax    pmax
     comp=Z,3µm,4.0s
FRU                                  pmax    pmax
     comp=Z,800nm,2.0s
FRU                                  smax    smax
     comp=E,4µm,8.0s
FRU                                  MLR     MLR
     comp=Z,8µm,20.0s
OUZ  Omahuta         62.15 124  eP           P       16 22 42.9 +1.0
     comp=Z,211nm,1.6s
RBK  Rabkut          62.16 296  P            P       16 22 43.7 +1.3
     SNR=8.1
HABR Khabarovsk      62.19  18 c iP          P       16 22 40.2 -1.6
HABR                                 e*SP    sP      16 22 49.1 -6.4
HABR                                 e                16 23 20.3
HABR                                 e                16 24 56.9
HABR                                 eS      S       16 31 03.5 -1.6
HABR                                 *SS     sS      16 31 15.5 -6.0
HABR                                 e                16 32 31.0
HABR                                 eSS     SS      16 35 08.9  0.0
HABR                                 pmax    pmax
     comp=Z,146nm,2.3s
HABR                                 pmax    pmax
     comp=N,45nm,2.3s
HABR                                 pmax    pmax
     comp=Z,3µm,4.8s
HABR                                 MLR     MLR
     comp=Z,5µm,21.0s
CHMS Chumysh         62.20 331  i P          P       16 22 42.2 +0.1
CHMS Chumysh         62.20 331  P            P       16 22 42.1 +0.1
     SNR=23
IRK  Irkutsk         62.35 356  eP           P       16 22 42.6 -0.3
IRK                                  e                16 25 02.2
IRK                                  eS      S       16 31 05.8 -1.3
IRK                                  pmax    pmax
     comp=Z,604nm,2.0s
EKS2 Erkin-Say       62.41 330  eP           P       16 22 44.2 +0.6
EKS2                                 pmax    pmax
     comp=Z,179nm,0.7s
EKS2                                 MLR     MLR
     comp=Z,8µm,21.0s
EKS2 Erkin-Say       62.41 330  P            P       16 22 44.4 +0.8
     SNR=35
EKS2 Erkin-Say       62.41 330  eP           P       16 22 44.2 +0.6
     comp=Z,179nm,0.7s
EKS2                                 LR      LR
     comp=Z,8µm,21.0s
USP  Ospenovka       62.52 331  i P          P       16 22 44.6 +0.4
USP  Ospenovka       62.52 331  P            P       16 22 44.6 +0.4
     SNR=54
ARQ  Araqi           62.52 303  P            P       16 22 44.9 +0.3
     SNR=22
YUK  Yuzh-Kuril'sk   62.64  28 d iP          P       16 22 38.4 -6.5
YUK                                  i                16 23 22.3
YUK                                  i                16 25 06.7
YUK                                  i S      S       16 31 02.6 -8.5
YUK                                  i                16 32 31.8
YUK                                  i SS     SS      16 35 19.0 +2.8
YUK                                  pmax    pmax
     comp=Z,2µm,2.2s
YUK                                  pmax    pmax
     comp=E,443nm,1.5s
YUK                                  pmax    pmax
     comp=N,251nm,0.8s
YUK                                  pmax    pmax
     comp=Z,980nm,1.5s
YUK                                  MLR     MLR
     comp=Z,2µm,21.0s
YUK                                  MLR     MLR
     comp=N,590nm,21.0s
YUK                                  MLR     MLR
     comp=E,2µm,21.0s
HVS  Khovu-Aksy      62.75 348 d iP          P       16 22 46.0 +0.3
ABTO Aybut           62.92 295  P            P       16 22 48.2 +0.8
     SNR=17
TARA Tarawa          62.99  83  P            P       16 22 46.3 -1.6
     comp=E,203nm,1.2s
KHZ  Kahutara        63.27 132  eP           P       16 22 48.3 -1.0
     comp=E,123nm,0.9s
UOSS Wadi Hilu       63.49 304  P            P       16 22 51.0  0.0
     comp=E,909nm,1.1s,SNR=16
ASHO Ashiyiah        63.49 304  P            P       16 22 51.8 +0.7
     SNR=22
YSS  Yuzh-Sakhalins  63.62  24 κ iP          P       16 22 52.0 +0.7
YSS                                  e*SP    sP      16 23 06.0 +1.0
YSS                                  e                16 23 11.8
YSS                                  i S      S       16 31 20.0 -3.1
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YSS *e*PS **PnS** **16 31 35.0 -7.8**
YSS *e*PPS PPS 16 31 48.0
YSS *e* 16 32 40.0
YSS *e*SS **SS** **16 35 26.0 -5.3**
YSS pmax pmax
comp=Z,110nm,1.0s
YSS pmax pmax
comp=Z,2μm,6.0s
YSS smax smax
comp=N,3μm,11.0s
YSS smax smax
comp=E,2μm,9.0s
YSS MLR MLR
comp=N,6μm,20.0s
YSS MLR MLR
comp=E,4μm,20.0s
YSS MLR MLR
comp=Z,5μm,20.0s
BANOM Banah **63.85 305** P **P** **16 22 55.0 +1.6**
SNR=5.9
SNZO South Karori **63.93 131** *e*P **P** **16 22 52.5 -1.1**
comp=Z,163nm,0.8s
SNZO LR LR
comp=Z,12μm,22.0s
KK31 Karatay Array **64.38 328** *i* P **P** **16 22 56.0 -0.5**
KK31 pmax pmax
comp=Z,74nm,0.9s
KKAR Karatay Array **64.38 328** *e*P **P** **16 22 56.0 -0.5**
KKAR pmax pmax
comp=Z,30nm,0.6s
KKAR Karatay Array **64.38 328** *e*P **P** **16 22 56.0 -0.5**
comp=Z,30nm,0.6s
IDAH Dahanechah **64.50 314** *e*P **P** **16 22 58.2 +0.4**
IMON Monand **64.88 314** *e*P **P** **16 23 00.3 0.0**
IKOO Kooshah **64.95 313** *e*P **P** **16 23 00.7 -0.1**
URZ Urewera **65.33 127** *e*P **P** **16 23 01.5 -1.4**
comp=Z,61nm,1.0s
URZ Urewera **65.33 127** P **P** **16 23 01.7 -1.2**
comp=Z,30nm,0.8s,baz=324,slow=5.1,SNR=18
URZ LR LR 16 51 08.5
comp=Z,16μm,19.9s,baz=296,slow=36
ITEG Tejag **65.38 313** *e*P **P** **16 23 03.5 0.0**
MAW Mawson **65.50 198** *e*P **P** **16 23 03.0 -0.4**
comp=Z,29nm,1.0s
MAW Mawson **65.50 198** P **P** **16 23 03.0 -0.4**
comp=Z,88nm,0.8s,baz=46,slow=7.3,SNR=183
MAW LR LR 16 45 10.7
comp=Z,15μm,22.0s,baz=67,slow=30
MAW Mawson **65.50 198** P **P** **16 23 03.2 -0.2**
baz=65,SNR=51
MSVF Nonsavu **65.56 105** P **P** **16 23 06.2 +1.4**
comp=Z,370nm,0.9s,SNR=8.9
MSVF Nonsavu **65.56 105** *e*P **P** **16 23 06.2 +1.4**
MSVF pmax pmax
comp=Z,994nm,2.1s
MSVF MLR MLR
comp=Z,7μm,19.0s
MSVF Nonsavu **65.56 105** *e*P **P** **16 23 06.2 +1.4**
comp=Z,994nm,2.1s
MSVF LR LR
comp=Z,7μm,19.0s
MUKL Al Mukalla **65.81 291** *e*P **P** **16 23 07.7 +1.4**
KURBB Kurchatov Arra **66.64 338** P **P** **16 23 11.1 +0.2**
comp=Z,36nm,0.5s,baz=154,slow=6.0,SNR=221
KURK Kurchatov **66.68 338** P **P** **16 23 11.1 -0.1**
KURK pmax pmax
comp=Z,36nm,0.5s
KURK Kurchatov **66.68 338** P **P** **16 23 11.1 -0.1**
IBAF Bafgh **67.06 311** *e*P **P** **16 23 14.4 +0.2**
IAKL Akhelmad **67.34 317** *e*P **P** **16 23 16.2 +0.1**
ZAA0 Zalesovo Array **67.48 344** *e*P **P** **16 23 16.1 -0.1**
ZALV Zalesovo Beam **67.48 344** P **P** **16 23 16.0 -0.2**
ZALV pmax pmax
comp=Z,52nm,0.5s
ZALV MLR MLR
comp=Z,5μm,19.0s
ZALV Zalesovo Beam **67.48 344** P **P** **16 23 16.0 -0.2**
ZALV P'P' 16 51 31.6
ZALV Zalesovo Beam **67.48 344** P **P** **16 23 16.0 -0.2**
comp=Z,52nm,0.5s,baz=147,slow=5.5,SNR=223
ZALV PKPPKP P'P'df 16 51 31.6 -6.1
comp=Z,1.8nm,0.9s,baz=342,slow=1.8,SNR=4.9
ZALV LR LR 16 55 11.7
comp=Z,5μm,19.0s,baz=329,slow=38
KRAR Krasnoyarsk **67.53 349***d* *i*P **P** **16 23 18.9 +2.5**
IMEH Mehriz **67.68 310** *e*P **P** **16 23 18.1 -0.2**
CLNS Chul'man **67.74 8** *e*P **P** **16 23 18.5 +0.7**
CLNS *e**PP **pP** **16 23 32.7 +4.9**
CLNS *e* 16 23 44.4
CLNS *e* 16 25 49.5
CLNS *e*S **S** **16 32 13.7 +0.4**
CLNS *e* 16 33 10.7
CLNS *e*SS **SS** **16 36 29.4 -5.8**
CLNS pmax pmax
comp=Z,177nm,1.1s
CLNS pmax pmax
comp=E,50nm,1.3s
CLNS pmax pmax
comp=N,131nm,1.1s
CLNS pmax pmax
comp=E,17nm,1.2s
CLNS pmax pmax
comp=Z,27nm,1.5s
CLNS pmax pmax
comp=N,62nm,1.5s
CLNS smax smax
comp=N,4μm,11.9s
CLNS smax smax
comp=E,2μm,13.3s
CLNS MLR MLR
comp=N,4μm,17.0s
CLNS MLR MLR
comp=Z,6μm,18.0s
CLNS MLR MLR
comp=E,2μm,17.0s
IEMG Emamgholi **67.86 317** *e*P **P** **16 23 19.8 +0.5**
ISFR Sfrayin **68.10 317** *e*P **P** **16 23 21.2 +0.4**
ICHK Chekchek **68.24 311** *e*P **P** **16 23 21.5 -0.2**
ISHV Shirvan **68.56 317** *e*P **P** **16 23 24.7 +1.1**
ISAD Sadrabad **68.62 310** *e*P **P** **16 23 24.4 +0.2**
NVS Novosibirsk **68.70 343**⇑ *i*P **P** **16 23 22.5 -1.3**
NVS *e*S **S** **16 32 19.9 -4.8**
NVS pmax pmax
comp=N,544nm,2.3s
NVS pmax pmax
comp=E,579nm,2.3s
NVS pmax pmax
comp=Z,1μm,2.3s
NVS smax smax
comp=N,236nm,2.6s
NVS smax smax
comp=E,116nm,2.7s
BDHA Al Bayda' **68.87 289** *e*P **P** **16 23 27.4 +1.4**
BDHA AMb AMB 16 23 28.3
comp=Z,131nm,0.5s
RAO Raoul Island **68.95 117** LR LR 16 54 11.4
comp=Z,6μm,18.2s,baz=230,slow=36
TRBA At Turbah **70.01 288** *e*P **P** **16 23 34.5 +1.4**
IGAR Gharneh **70.09 310** *e*P **P** **16 23 33.0 -0.2**
IZEF Zefreh **70.09 310** *e*P **P** **16 23 32.3 -1.0**
DAMY Dhamar **70.13 290** P **P** **16 23 36.1 +2.3**
baz=70,SNR=41
IANJ Anjilo **70.13 313** *e*P **P** **16 23 33.8 +0.4**
IKIA Kiasar **70.65 314** *e*P **P** **16 23 37.2 +0.6**
ISHM Shahmirzad **70.74 314** *e*P **P** **16 23 37.8 +0.6**
ILAS Lasjerd **70.78 313** *e*P **P** **16 23 37.5 +0.1**
ISFB Sefidab **70.82 312** *e*P **P** **16 23 38.1 +0.6**
IFIR Firoozkooh **71.05 313** *e*P **P** **16 23 39.1 0.0**
IALA Alasht **71.22 314** *e*P **P** **16 23 40.7 +0.6**
IVRN Varamin **71.49 312** *e*P **P** **16 23 42.2 +0.7**
IDMV Damavand **71.54 313** *e*P **P** **16 23 42.3 +0.3**
IPRN Peran **71.63 314** *e*P **P** **16 23 42.5 +0.1**
BVA0 Borovoye Array **71.66 336** P **P** **16 23 41.8 -0.2**
BVA0 pmax pmax
comp=Z,503nm,2.0s
BVAR Borovoye Array **71.66 336** P **P** **16 23 42.1 +0.1**
BVAR pmax pmax
comp=Z,177nm,0.9s
BVAR Borovoye Array **71.66 336** P **P** **16 23 42.1 +0.1**
BVAR Borovoye Array **71.66 336** P **P** **16 23 42.1 +0.1**
comp=Z,177nm,0.9s,baz=138,slow=8.9,SNR=452
BRVK Borovoye **71.73 336** P **P** **16 23 42.4 0.0**
comp=Z,884nm,1.3s,SNR=87
BRVK Borovoye **71.73 336** *e*P **P** **16 23 42.7 +0.3**
BRVK pmax pmax
comp=Z,171nm,1.0s
BRVK MLR MLR
comp=Z,9μm,21.0s
BRVK Borovoye **71.73 336** P **P** **16 23 43.1 +0.7**
SNR=114
BRVK Borovoye **71.73 336** *e*P **P** **16 23 42.7 +0.3**
comp=Z,171nm,1.0s
BRVK LR LR
comp=Z,9μm,21.0s
QRN Al-Qurain **71.80 305** *e*P **P** **16 23 43.4 0.0**
QRN AMb AMB 16 23 47.1
comp=Z,603nm,1.2s
RAYN Ar Rayn **71.92 299** P **P** **16 23 44.0 -0.3**
comp=Z,702nm,1.1s,SNR=74
KBD Kabd **72.14 305** *e*P **P** **16 23 45.4 0.0**
KBD AMb AMB 16 23 48.3
comp=Z,320nm,1.6s
RDF Al-Radifah **72.16 305** *e*P **P** **16 23 45.8 +0.2**
RDF AMb AMB 16 23 48.8
comp=Z,650nm,1.7s
IR3 Iran Long-Peri **72.22 312** *e*P **P** **16 23 46.6 +0.7**
SKR Severo-Kuril's **72.25 28**⇓ *i*P P 16 23 38.0 -7.6
SKR *e* 16 23 56.0
SKR *e*PPP PPP 16 28 18.0
SKR *i* S S 16 32 57.0 -9.2
SKR *e* 16 33 36.0
SKR pmax pmax
comp=Z,220nm,1.0s
SKR pmax pmax
comp=N,2μm,8.0s
SKR pmax pmax
comp=E,3μm,8.0s
SKR pmax pmax
comp=Z,4μm,8.0s
SKR smax smax
comp=N,4μm,14.0s
SKR smax smax
comp=E,7μm,14.0s
SKR MLR MLR
comp=N,2μm,18.0s
SKR MLR MLR
comp=E,2μm,18.0s
SKR MLR MLR
comp=Z,3μm,18.0s
VNDA Vanda **72.27 170** *e*P **P** **16 23 44.8 -0.5**
comp=Z,165nm,0.9s
VNDA Vanda **72.27 170** P **P** **16 23 45.0 -0.4**
comp=Z,144nm,0.8s,baz=303,slow=7.2,SNR=328
VNDA LR LR 16 53 33.3
comp=Z,8μm,19.7s,baz=322,slow=34
UMR Umm Al-Rimmam **72.27 305** *e*P **P** **16 23 46.2 0.0**
UMR AMb AMB 16 23 47.7
comp=Z,621nm,0.8s
IR5 Iran Long-Peri **72.43 312** *e*P **P** **16 23 47.8 +0.6**
NAY Al-Naaiem **72.54 305** *e*P **P** **16 23 47.3 -0.5**
NAY AMb AMB 16 23 49.9
comp=Z,21nm,1.0s
MIB Mutribah **72.67 306** *e*P **P** **16 23 48.4 -0.2**
MIB AMb AMB 16 23 51.5
comp=Z,628nm,1.9s
RST Umm Al-Ruwaisa **72.83 305** *e*P **P** **16 23 49.3 -0.2**
RST AMb AMB 16 23 51.5
comp=Z,11μm,0.9s
IRAZ Razeghan **72.99 312** *e*P **P** **16 23 51.0 +0.4**
SBA Scott Base **73.33 169** *e*P **P** **16 23 51.9 +0.3**
SBA pmax pmax
comp=Z,149nm,1.0s
SBA MLR MLR
comp=Z,6μm,20.0s
SBA Scott Base **73.33 169** *e*P **P** **16 23 51.9 +0.3**
comp=Z,149nm,1.0s
SBA LR LR
comp=Z,6μm,20.0s
YAK Yakutsk **73.44 9***d* *i*P **P** **16 23 52.2 -0.2**
YAK *e**PP **pP** **16 24 01.0 -1.5**
YAK *e* 16 24 10.0
YAK *e* 16 26 44.5
YAK *i* S **S** **16 33 14.9 -4.4**
YAK *e* 16 33 58.9
YAK *e*SS **SS** **16 38 03.3 +0.8**
YAK pmax pmax
comp=Z,161nm,0.9s
YAK pmax pmax
comp=N,54nm,1.1s
YAK pmax pmax
comp=Z,634nm,3.0s
YAK pmax pmax
comp=N,401nm,2.6s
YAK smax smax
comp=N,4μm,4.2s
YAK MLR MLR
comp=N,4μm,18.0s
YAK MLR MLR
comp=Z,6μm,19.0s
KMBO Kilima Mbogo **73.48 272**⇓ *i*P **P** **16 23 55.3 +1.3**
KMBO Kilima Mbogo **73.48 272** P **P** **16 23 55.6 +1.5**
SNR=46
KMBO Kilima Mbogo **73.48 272** *e*P **P** **16 23 55.1 +1.1**
comp=Z,133nm,1.0s
KMBO Kilima Mbogo **73.48 272** P **P** **16 23 55.1 +1.1**
comp=Z,104nm,1.0s,baz=99,slow=7.4,SNR=127
KMBO LR LR 16 52 14.1
comp=Z,11μm,19.3s,baz=92,slow=33
KMBO Kilima Mbogo **73.48 272** P **P** **16 23 55.4 +1.3**
baz=73,SNR=21
SYO Syowa Base **73.87 201**⇑ *i*P **P** **16 23 53.0 -1.9**
AB31 Akbulak array **73.94 328** P **P** **16 23 56.0 +0.4**
AB31 pmax pmax
comp=Z,244nm,0.6s
ABKAR Akbulak array **73.94 328** *e*P **P** **16 23 56.0 +0.3**
comp=Z,247nm,0.6s
IKOM Komasi **74.27 310** *e*P **P** **16 23 57.6 -0.5**
PEA0B Petropavlovsk- **74.61 27** *e*P **P** **16 23 59.2 -0.3**
PETK Petropavlovsk- **74.61 27** P **P** **16 23 59.3 -0.1**
PETK pmax pmax
comp=Z,34nm,0.6s
PETK MLR MLR
comp=Z,3μm,20.6s
PETK Petropavlovsk- **74.61 27** P **P** **16 23 59.3 -0.1**
PETK Petropavlovsk- **74.61 27** P **P** **16 23 59.3 -0.1**
comp=Z,35nm,0.6s,baz=206,slow=3.8,SNR=180
PETK LR LR 16 55 38.0
comp=Z,3μm,20.6s,baz=224,slow=35
IVIS Veis **74.92 310** *e*P **P** **16 24 00.7 -1.1**
PET Petropavlovsk **74.98 28***d* *i*P **P** **16 24 01.4 -0.2**
PET *e* 16 26 52.6
PET *e*PPP PPP 16 28 35.3
PET *i* S **S** **16 33 35.8 -1.2**
PET *e*PS **PnS** **16 34 12.1 -3.1**
PET *e*PPS PPS 16 34 24.8
PET *e*SS **SS** **16 38 31.4 +5.0**
PET pmax pmax
comp=Z,59nm,0.6s
PET pmax pmax
comp=Z,4μm,10.5s
PET pmax pmax
comp=Z,2μm,13.0s
PET pmax pmax
comp=Z,400nm,10.7s
PET MLR MLR
comp=Z,2μm,20.0s
ILIN Lien **74.99 310** *e*P **P** **16 24 01.6 -0.8**
IGHG Ghaleghazi **75.05 310** *e*P **P** **16 24 02.0 -0.7**
IDHR Dehrash **75.33 310** *e*P **P** **16 24 03.3 -1.0**
AKTO Aktyubinsk **75.65 328** P **P** **16 24 05.8 +0.3**
AKTO pmax pmax
comp=Z,91nm,0.8s
AKTO Aktyubinsk **75.65 328** P **P** **16 24 05.8 +0.3**
AKTO Aktyubinsk **75.65 328** P **P** **16 24 05.8 +0.3**
comp=Z,91nm,0.8s,baz=137,slow=5.1,SNR=143
AFI Afiamalu **75.66 102** PFAKE 16 24 20.0 +14
AFI LR LR
comp=Z,3μm,19.0s
POGA Pongola **75.76 244**⇓ *i*P **P** **16 24 07.0 +0.3**
POGA AMB AMB 16 24 08.7
comp=Z,301nm,1.1s
KSD Kokstad **77.44 241**⇓ *i*P **P** **16 24 16.9 +0.6**
MSNA Messina **77.64 249**⇓ *i*P **P** **16 24 17.8 +0.4**
MSNA AMB AMB 16 24 18.8
comp=Z,192nm,3.3s
MAK Makhachkala **78.00 318** *e*P **P** **16 24 16.9 -2.0**
MAK *e* 16 24 29.5
MAK *e*S **S** **16 34 08.7 -1.8**
MAK *e* 16 34 42.5
MAK *e*SS **SS** **16 39 19.0 +6.5**
MAK pmax pmax
comp=Z,176nm,0.5s
SVE Sverdlovsk **78.35 335***c* *i*P **P** **16 24 21.3 +0.8**
SVE *e* 16 27 19.6
SVE *e*S **S** **16 34 11.4 -2.3**
SVE *e* 16 34 54.2
SVE *e*SS **SS** **16 39 11.4 -5.7**
SVE pmax pmax
comp=Z,316nm,1.6s
SVE MLR MLR
comp=Z,9μm,23.0s
HAKT HAKKARI **78.44 312** *i*P **P** **16 24 21.7 -0.1**
GNI Garni **78.71 314** P **P** **16 24 24.3 +1.1**
SNR=8.5
GNI Garni **78.71 314** *e*P **P** **16 24 24.1 +0.9**
comp=Z,96nm,0.8s
GNI LR LR
comp=Z,2μm,20.0s
DGRG David-gareji **78.80 316** P **P** **16 24 25.2 +1.8**
DGRG S **S** **16 34 15.3 -3.9**
ERPM east rand prop **78.85 245** *e*P **P** **16 24 24.9 +0.6**
ERPM AMB AMB 16 24 25.5
comp=Z,207nm,3.6s
SLR Silverton **78.87 246**⇓ *i*P **P** **16 24 24.6 +0.3**
SLR AMB AMB 16 24 26.4
comp=Z,436nm,1.0s
ARU Arti **79.00 333***d* *i*P **P** **16 24 24.3 +0.2**
ARU PPP PPP 16 29 08.3
ARU S **S** **16 34 19.6 -1.0**
ARU SSS SSS 16 42 50.5
ARU pmax pmax
comp=Z,428nm,2.5s
ARU MLR MLR
comp=Z,13μm,24.0s
ARU Arti **79.00 333** P **P** **16 24 24.0 -0.1**
comp=Z,644nm,1.2s,SNR=46
BLWY Bulawayo **79.19 251** *i*P P 16 24 19.2 -7.0
BLWY *i* 16 24 20.5
baz=344,slow=22
SEK Senekal **79.19 243**⇓ *i*P **P** **16 24 26.2 0.0**
SEK AMB AMB 16 24 27.2
comp=Z,235nm,2.7s
GEVA Gevas **79.20 312** *i*P **P** **16 24 26.2 +0.3**
DYDN Diyadin **79.22 314** *i*P **P** **16 24 26.5 +0.5**
MIDW Midway **79.22 59** PFAKE 16 24 40.0 +14
MIDW LR LR
comp=Z,3μm,22.0s
TBLG Delisi **79.35 316** *i*P **P** **16 24 27.7 +1.3**
TBLG *i* S **S** **16 34 19.4 -5.6**
TBLG Delisi **79.35 316** P **P** **16 24 27.7 +1.3**
TBLG S **S** **16 34 19.4 -5.6**
KLOF Kloof **79.41 245**⇓ *i*P **P** **16 24 28.0 +0.6**
KLOF AMB AMB 16 24 28.6
comp=Z,205nm,2.9s
KZR Kazreti **79.43 316** P **P** **16 24 28.1 +1.2**
DUS Dusheti **79.52 316** P **P** **16 24 30.1 +2.7**
DUS S **S** **16 34 23.7 -3.2**
SEY Seymchan **79.57 18***d* *i*P **P** **16 24 27.7 +0.6**
PRYS Parys **79.57 244**⇓ *i*P **P** **16 24 28.2 0.0**
PRYS AMB AMB 16 24 30.0
comp=Z,165nm,1.1s
GRM Grahamstown **79.67 238**⇓ *i*P **P** **16 24 29.3 +0.8**
GRM AMB AMB 16 24 31.8
comp=Z,207nm,2.5s
DIGO Kars **79.78 314** *i*P **P** **16 24 30.0 +1.0**
TATV Tatvan **79.85 312** *i*P **P** **16 24 31.3 +1.8**
QSPA South Pole Qui **79.89 180** PKKPbc PKKPbc 16 43 14.8 -3.1
QSPA South Pole Qui **79.89 180** PKKPbc PKKPbc 16 43 14.8 -3.1
comp=Z,4.8nm,0.7s,baz=176,slow=2.2,SNR=13
QSPA LR LR 16 56 28.2
comp=Z,9μm,20.0s,baz=14,slow=33
MBAR Mbarara **79.98 271**⇓ *i*P **P** **16 24 30.8 +0.1**
MBAR Mbarara **79.98 271** P **P** **16 24 31.6 +0.9**
comp=Z,479nm,1.0s,SNR=42
AKH Akhalkalaki **80.08 315** P **P** **16 24 31.9 +1.3**
AKH S **S** **16 34 28.5 -4.6**
KSR Koster **80.10 245** *e*P **P** **16 24 32.3 +1.2**
KSR AMB AMB 16 24 41.6
comp=Z,31nm,1.0s
MZRK Al-Mazaregh **80.11 309** *i*P **P** **16 24 33.0 +2.4**
LSZ Lusaka **80.21 256**⇓ *i*P **P** **16 24 32.1 +0.3**
LSZ Lusaka **80.21 256** *e*P **P** **16 24 32.1 +0.3**
comp=Z,112nm,0.9s
LSZ LR LR
comp=Z,9μm,20.0s
ZEI Tsey **80.34 317** *e*P **P** **16 24 32.6 +0.6**
ZEI pmax pmax
comp=Z,400nm,2.1s
BEST Besiri **80.36 311** *i*P **P** **16 24 33.3 +1.2**
KIG Kigali **80.41 270** *e*P **P** **16 24 34.9 +1.9**
KIG AMB AMB 16 24 35.4
comp=Z,147nm,2.8s
SOE Somerset East **80.52 238** *e*P **P** **16 24 33.9 +0.7**
SOE AMB AMB 16 24 35.6
comp=Z,146nm,1.4s
MARD Mardin **80.53 311** *i*P **P** **16 24 34.4 +1.4**
ONI Oni **80.56 316** P **P** **16 24 34.6 +1.6**
ONI S **S** **16 34 33.6 -4.4**
HOMI Horasan **80.68 314** *i*P **P** **16 24 34.7 +0.8**
HVD Gariep Dam **80.80 240** *e*P **P** **16 24 35.2 +0.5**
HVD AMB AMB 16 24 36.2
comp=Z,157nm,3.3s
BNGL BINGOL **80.83 312** *i*P **P** **16 24 35.9 +1.2**
ERZM Erzurum **81.01 313** *i*P **P** **16 24 37.7 +2.0**
DAGI Agillar **81.05 314** *i*P **P** **16 24 36.4 +0.7**
BUFB Buffelsbos **81.06 237** *e*P **P** **16 24 35.5 -0.3**
BUFB AMB AMB 16 24 37.7
comp=Z,24nm,2.4s
DDEM Demirkent **81.10 314** *i*P **P** **16 24 36.6 +0.6**
DBAD Bademkaya **81.19 314** *i*P **P** **16 24 37.4 +0.9**
BOSA Boshof **81.24 242**⇓ *i*P **P** **16 24 37.4 +0.3**
BOSA AMB AMB 16 24 38.1
comp=Z,226nm,2.9s
BOSA Boshof **81.24 242** *e*P **P** **16 24 37.0 -0.1**
comp=Z,155nm,1.0s
BOSA PKKPbc **PKKPbc** **16 43 12.6 -0.2**
BOSA Boshof **81.24 242** P **P** **16 24 37.2 +0.2**
comp=Z,132nm,0.9s,baz=104,slow=6.3,SNR=87
BOSA PKKPbc **PKKPbc** **16 43 12.6 -0.2**
comp=Z,6.1nm,0.9s,baz=318,slow=2.9,SNR=6.4
BOSA LR LR 16 56 13.1
comp=Z,17μm,18.5s,baz=108,slow=32
DBOC Borcka **81.33 315** *i*P **P** **16 24 37.9 +0.8**
SWZ Schweizer **81.34 244**⇓ *i*P **P** **16 24 37.9 +0.2**
SWZ AMB AMB 16 24 39.6
comp=Z,371nm,1.1s
LBTB Lobatse **81.37 246**⇓ *i*P **P** **16 24 38.0 +0.2**
LBTB AMB AMB 16 24 39.8
comp=Z,205nm,1.1s
LBTB Lobatse **81.37 246** *e*P **P** **16 24 38.0 +0.2**
comp=Z,182nm,1.0s
LBTB *e* 16 24 55.4
KBZ Khabaz **81.38 317** P **P** **16 24 38.2 +1.0**
KBZ pmax pmax
comp=Z,265nm,0.9s
KBZ Khabaz **81.38 317** P **P** **16 24 38.2 +1.0**
KBZ PKKPbc **PKKPbc** **16 43 13.6 +0.1**
KBZ Khabaz **81.38 317** P **P** **16 24 38.2 +1.0**
comp=Z,265nm,0.9s,baz=105,slow=6.2,SNR=189
KBZ PKKPbc **PKKPbc** **16 43 13.6 +0.1**
comp=Z,9,8nm,0.8s,baz=359,slow=3.0,SNR=19
KIV Kislovodsk **81.61 317***d* *i*P **P** **16 24 39.5 +0.9**
KIV *e* 16 27 49.0
KIV *e*S **S** **16 34 48.5 -0.3**
KIV pmax pmax
comp=Z,241nm,1.0s
KIV pmax pmax
comp=Z,864nm,3.5s
KIV MLR MLR
comp=Z,2μm,19.0s
KIV Kislovodsk **81.61 317** P **P** **16 24 39.2 +0.6**
comp=Z,1μm,0.9s,SNR=25
SOKR Solikamsk **81.66 335***d* *i*P **P** **16 24 38.7 +0.4**
SOKR S **S** **16 34 44.4 -4.0**
SOKR SS **SS** **16 40 02.2 -4.3**
SOKR pmax pmax
comp=Z,230nm,1.3s
SOKR MLR MLR
comp=Z,6μm,27.0s
KOPT Kop Dagi **81.68 313** *i*P **P** **16 24 40.7 +1.4**
ZALF Zalf **81.77 305** *i*P **P** **16 24 41.7 +2.0**
ASF Jabal al Asfar **81.90 305** P **P** **16 24 42.0 +1.6**
ASF Jabal al Asfar **81.90 305** P **P** **16 24 42.0 +1.6**
comp=Z,152nm,0.9s,baz=76,slow=2.5,SNR=150

FX1	Attu Island--F	82.14	33	eP	P	16 24 40.9	-0.2
FX1	Attu Island--F	82.14	33	P	P	16 24 41.4	+0.4
	comp=Z,26nm,0.8s,baz=252,slow=7.8,SNR=11						
ROOS	tl_alroos	82.19	307	iP	P	16 24 43.9	+2.1
SALA	Sala	82.19	305	iP	P	16 24 44.1	+2.0
ELZG	Elazig	82.26	311	iP	P	16 24 44.3	+2.1
SLMH	Al Salmeh	82.32	309	iP	P	16 24 44.1	+1.6
ATAB	Bozova	82.44	310	iP	P	16 24 44.5	+1.4
TIXI	Tiksi	82.48	6d	iP	P	16 24 42.0	-0.4
TIXI				pmax	pmax		
	comp=Z,516nm,2.5s						
TIXI				MLR	MLR		
	comp=Z,9μm,22.0s						
MALT	Malatya	82.62	311	⇓iP	P	16 24 45.6	+1.6
KELT	Kelkit	82.62	313	iP	P	16 24 45.7	+1.6
TOTH	TOTAH	82.63	306	iP	P	16 24 46.0	+1.8
MARH	Ras Al Marh	82.78	306	iP	P	16 24 47.4	+2.1
KEMA	Kemaliye	82.88	312	iP	P	16 24 47.0	+1.6
FKH	Fakeheh	82.90	307	eP	P	16 24 47.4	+1.7
GZT	Gaziantep	82.96	310	iP	P	16 24 47.5	+1.6
AKCD	Akcadag	82.99	311	iP	P	16 24 47.8	+1.7
HAWK	Haweek	82.99	307	iP	P	16 24 48.1	+2.0
RCY	Rachaya	83.14	306	eP	P	16 24 49.1	+2.2
KUZU	Kuzuini	83.15	309	iP	P	16 24 48.3	+1.5
WRDH	Warideh	83.28	308	iP	P	16 24 48.8	+1.3
HWQ	Hawqa	83.28	306	eP	P	16 24 49.5	+1.9
SUSE	Susehri	83.40	313	iP	P	16 24 51.0	+2.9
BTCH	Batrach	83.40	308	iP	P	16 24 50.4	+2.3
BHL	Bhannes	83.40	306	eP	P	16 24 50.2	+2.0
MAIT	Maitri	83.45	199	eP	P	16 24 45.8	-1.9
SOC	Sochi	83.47	316d	iP	P	16 24 48.7	+0.5
SOC				e		16 28 00.6	
SOC				e		16 34 57.5	
SOC				eS	S	16 35 08.9	+1.2
SOC				eSS	SS	16 40 37.2	+3.0
SOC				pmax	pmax		
	comp=Z,486nm,0.9s						
SOC				MLR	MLR		
	comp=N,4μm,19.0s						
SOC				MLR	MLR		
	comp=E,1μm,19.0s						
SOC				MLR	MLR		
	comp=Z,4μm,19.0s						
GRSN	GIRESUNGRSN	83.58	313	iP	P	16 24 49.7	+0.8
YAYL	Yayladag	83.67	308	iP	P	16 24 51.7	+2.1
ARNB	Al Arnab	83.72	308	iP	P	16 24 51.3	+1.5
SCER	sogukcermik	84.07	312	iP	P	16 24 53.9	+2.3
PINB	Pinarbasi	84.24	311	iP	P	16 24 53.5	+1.0
YURE	YUREGIR	84.27	309	iP	P	16 24 54.0	+1.5
SUR	Sutherland	84.55	238	eP	P	16 24 55.3	+1.1
SUR				AMB	AMB	16 24 57.6	
	comp=Z,110nm,3.3s						
SUR	Sutherland	84.55	238	P	P	16 24 55.7	+1.4
	comp=Z,552nm,1.3s,SNR=12						
SUR	Sutherland	84.55	238	eP	P	16 24 55.4	+1.2
	comp=Z,126nm,1.1s						
SUR				e		16 25 13.1	
SUR	Sutherland	84.55	238	LR	LR	16 57 38.8	
	comp=Z,13μm,19.2s,baz=106,slow=32						
ERBA	Erbaa	84.60	313	iP	P	16 24 54.9	+0.8
TOKA	Tokat	84.69	312	iP	P	16 24 56.7	+2.1
PHNC	Paralimni	85.00	307	P	P	16 24 58.9	+2.7
	comp=Z,4.8nm,0.8s						
VRHR	Novokhopersk	85.03	324	eP	P	16 24 55.5	-0.4
VRHR				eS	S	16 35 18.3	-4.6
VRHR				pmax	pmax		
	comp=Z,420nm,1.2s						
VRHR				pmax	pmax		
	comp=N,40nm,0.8s						
VRHR				pmax	pmax		
	comp=E,180nm,0.8s						
VRHR				smax	smax		
	comp=E,1μm,2.6s						
VRHR				smax	smax		
	comp=Z,310nm,2.2s						
VRHR				smax	smax		
	comp=N,430nm,1.7s						
GULE	Gulek	85.06	309	iP	P	16 24 58.4	+1.7
KIZK	Mersin	85.32	308	iP	P	16 24 59.1	+1.4
ANN	Anapa	85.43	317	⇓iP	P	16 24 58.1	0.0
ANN				pmax	pmax		
	comp=N,106nm,1.0s						
ANN				pmax	pmax		
	comp=E,88nm,1.0s						
ANN				pmax	pmax		
	comp=Z,463nm,1.0s						
ANN				pmax	pmax		
	comp=N,370nm,8.2s						
ANN				pmax	pmax		
	comp=E,690nm,8.2s						
ANN				pmax	pmax		
	comp=Z,2μm,8.2s						
HAVZ	Havza	85.47	313	iP	P	16 24 59.6	+1.2
CSS	Prodhromos	85.54	307	P	P	16 25 00.2	+1.2
	comp=Z,4.6nm,1.0s						
CSS	Prodhromos	85.54	307	eP	P	16 25 00.1	+1.2
	comp=Z,683nm,0.9s						
CSS				LR	LR		
	comp=Z,7μm,20.0s						
CER	Ceres	85.66	237	eP	P	16 25 00.4	+0.8
CER				AMB	AMB	16 25 02.0	
	comp=Z,130nm,3.0s						
MAMC	Mammari	85.69	307	P	P	16 25 01.1	+1.5
RAR	Rarotonga	85.99	111	LR	LR	17 00 58.5	
	comp=Z,4μm,19.4s,baz=315,slow=34						
CTKT	Corum	86.00	312	iP	P	16 25 02.8	+1.5
CDAG	Cicekdag	86.03	311	iP	P	16 25 01.9	+0.6
ALFC	Alevga	86.17	307	P	P	16 25 02.8	+0.8
	comp=Z,1.8nm,0.5s						
PPCY	Paphos	86.30	306	P	P	16 25 03.3	+0.7
ERMK	Ermenek	86.32	308	iP	P	16 25 03.7	+0.8
VORD	Divnogorie	86.35	323	eP	P	16 25 01.9	-0.6
VORD				eS	S	16 35 32.0	-3.8
VORD				pmax	pmax		
	comp=Z,340nm,1.4s						
VORD				pmax	pmax		
	comp=N,100nm,0.8s						
VORD				pmax	pmax		
	comp=E,240nm,0.9s						
VORD				smax	smax		
	comp=E,3μm,5.6s						
VORD				smax	smax		
	comp=Z,1μm,5.6s						
VORD				smax	smax		
	comp=N,980nm,2.7s						
AKMC	Akamas	86.35	306	P	P	16 25 03.6	+0.7
VSR	Storozhevoye	86.51	323	eP	P	16 25 02.7	-0.6
VSR				eS	S	16 35 32.5	-5.0
VSR				pmax	pmax		
	comp=Z,690nm,1.1s						
VSR				pmax	pmax		
	comp=N,100nm,0.9s						
VSR				pmax	pmax		
	comp=E,550nm,1.0s						
VSR				smax	smax		
	comp=E,2μm,4.2s						
VSR				smax	smax		
	comp=Z,550nm,4.5s						
VSR				smax	smax		
	comp=N,1μm,3.2s						
BR131	Keskin Array S	86.60	311	eP	P	16 25 04.8	+0.6
	comp=N,260nm,0.9s						
BR131				e		16 25 16.1	
BRTR	Keskin Array B	86.60	311	P	P	16 25 04.6	+0.4
BRTR				PKKPbc	PKKPbc	16 43 00.5	-0.8
BRTR				P'P'		16 51 09.4	
BRTR	Keskin Array B	86.60	311	P	P	16 25 04.6	+0.4
	comp=N,226nm,0.9s,baz=130,slow=5.6,SNR=500						
BRTR				PKKPbc	PKKPbc	16 43 00.5	-0.8
	comp=N,2.4nm,0.8s,baz=310,slow=1.3,SNR=10						
BRTR				PKPPKP	P'P'df	16 51 09.4	+3.0
	comp=N,1.2nm,0.9s,baz=304,slow=3.3,SNR=3.8						
BRTR				LR	LR	17 04 14.6	
	comp=N,5μm,22.0s,baz=89,slow=36						
GAZI	Gazipasa	86.67	308	iP	P	16 25 04.5	0.0
VOR	Voronezh	86.68	324	eP	P	16 25 04.0	-0.1
VOR				eS	S	16 35 36.0	-3.0
VOR				pmax	pmax		
	comp=Z,740nm,1.6s						
ILGA	Ilgaz	86.91	312	iP	P	16 25 06.3	+0.5
BBAL	Bala	86.93	311	iP	P	16 25 06.7	+0.9
ELDT	Eldivan	86.96	312	iP	P	16 25 06.3	+0.3
ANTO	Ankara	87.26	311	eP	P	16 25 07.7	+0.4
ANTO				pmax	pmax		
	comp=Z,174nm,1.0s						
ANTO				MLR	MLR		
	comp=Z,4μm,22.0s						
ANTO	Ankara	87.26	311	P	P	16 25 08.6	+1.2
	SNR=38						
ANTO	Ankara	87.26	311	eP	P	16 25 07.7	+0.4
	comp=Z,174nm,1.0s						
ANTO				LR	LR		
	comp=Z,4μm,22.0s						
ANTO	Ankara	87.26	311	⇓iP	P	16 25 08.2	+0.9
ADK	Adak	87.41	36	eP	P	16 25 07.4	-0.2
ADK				pmax	pmax		
	comp=Z,1μm,1.3s						
ADK				MLR	MLR		
	comp=Z,2μm,22.0s						
ADK	Adak	87.41	36	eP	P	16 25 07.4	-0.2
	comp=Z,1μm,1.3s						
ADK				LR	LR		
	comp=Z,2μm,22.0s						
SNAA	Sanae	87.64	197	eP	P	16 25 08.5	-0.1
SNAA	Sanae	87.64	197	ePKKPbc	PKKPbc	16 42 56.0	-3.3
SNAA	Sanae	87.64	197	⇓iP	P	16 25 08.5	-0.1
SNAA	Sanae	87.64	197	PKKP	PKKPbc	16 42 53.7	-5.5
	comp=Z,2.7nm,0.7s,baz=291,slow=2.5,SNR=22						
SNAA				PKPPKP	P'P'df	16 50 58.6	-7.3
	comp=Z,1.0nm,0.8s,baz=340,slow=1.6,SNR=12						
SNAA				LR	LR	17 00 52.1	
	comp=Z,5μm,19.3s,baz=106,slow=33						
SIM	Simferopol'	87.72	316d	eP	P	16 25 10.1	+0.8
SIM				e		16 28 44.0	
SIM				e		16 35 32.0	
SIM				eS	S	16 35 48.0	-1.4
SIM				eSS	SS	16 41 32.0	-4.6
SIM				pmax	pmax		
	comp=Z,304nm,0.9s						
SIM				pmax	pmax		
	comp=Z,1μm,10.0s						
SIM				pmax	pmax		
	comp=Z,950nm,10.0s						
RUDU	RUNDU	87.83	252	eP	P	16 25 11.7	+1.1
RUDU				AMB	AMB	16 25 12.2	
	comp=Z,209nm,3.0s						
BOLV	Bolvadin	88.35	310	iP	P	16 25 13.5	+0.9
KORT	Korkueli	88.40	308	iP	P	16 25 13.1	+0.2
ISP	Isparta	88.46	309	eP	P	16 25 12.4	-0.8
ISP				pmax	pmax		
	comp=Z,162nm,1.0s						
ISP				MLR	MLR		
	comp=Z,5μm,20.0s						
ISP	Isparta	88.46	309	eP	P	16 25 12.3	-0.8
	comp=Z,162nm,1.0s						
ISP				LR	LR		
	comp=Z,5μm,20.0s						
ISP	Isparta	88.46	309	⇓iP	P	16 25 13.2	+0.1
AKAS	Kas	88.80	307	iP	P	16 25 13.3	-1.5
MOS	Moscow	88.94	327	eP	P	16 25 14.8	0.0
MOS				e		16 25 29.6	
MOS				e		16 28 41.7	
MOS				i		16 35 57.0	
MOS				eSS	SS	16 41 46.5	-7.3
MOS				pmax	pmax		
	comp=Z,2μm,3.0s						
MOS				pmax	pmax		
	comp=Z,368nm,1.4s						
BORA	Eskisehir	89.01	311	iP	P	16 25 16.0	+0.3
GOLH	Golhisar	89.06	308	iP	P	16 25 16.1	+0.1
VNA2	Neumayer--Watz	89.28	197	eP	P	16 25 16.6	+0.3
	baz=96,slow=4.2						
VNA2	Neumayer--Watz	89.28	197	ePKiKP	PKiKP	16 30 13.8	-0.6
	baz=96,slow=4.2						
VNA2	Neumayer--Watz	89.28	197	esPKiKP	sPKiKP	16 30 19.2	-9.4
	baz=96,slow=4.2						
VNA2	Neumayer--Watz	89.28	197	eSKS	SKSac	16 35 48.7	+5.0
	baz=96,slow=4.2						
VNA2	Neumayer--Watz	89.28	197	eS	S	16 36 02.3	-1.1
	baz=96,slow=4.2						
VNA2	Neumayer--Watz	89.28	197	ePKKPbc	PKKPbc	16 42 51.8	-3.3
	baz=96,slow=4.2						
OBN	Obninsk	89.30	326d	iP	P	16 25 16.7	+0.2
OBN				e*PP	pP	16 25 26.9	+0.1
OBN				e		16 25 33.9	
OBN				e		16 28 46.2	
OBN				eS	SKSac	16 35 45.8	+1.8
OBN				ePS	PnS	16 37 11.9	-0.3
OBN				pmax	pmax		
	comp=Z,485nm,1.7s						
OBN				MLR	MLR		
	comp=Z,5μm,23.0s						
OBN	Obninsk	89.30	326	P	P	16 25 16.9	+0.4
	comp=Z,1μm,1.1s,SNR=22						
DNZL	Cakiroluk	89.57	308	iP	P	16 25 17.4	-1.1
TSUM	Tsumeb	89.60	251	eP	P	16 25 19.6	+0.6
TSUM	Tsumeb	89.60	251	eP	P	16 25 18.9	0.0
	comp=Z,116nm,1.2s						
TSUM				e		16 25 36.8	
TSUM				LR	LR		
	comp=Z,8μm,21.0s						
VNA1	Neumayer--Stat	89.67	197	eP	P	16 25 18.5	+0.5
VNA1	Neumayer--Stat	89.67	197	ePKKPbc	PKKPbc	16 42 52.2	-1.9
VNA3	Neumayer Olymp	89.76	196	eP	P	16 25 18.7	+0.2
VNA3	Neumayer Olymp	89.76	196	eS	S	16 36 09.8	+1.9
VNA3	Neumayer Olymp	89.76	196	ePKKPbc	PKKPbc	16 42 50.8	-3.2
KLMR	Klimovskoe	89.80	332de	eP	P	16 25 18.7	0.0
KLMR				i		16 28 51.1	
KLMR				iS	SKSac	16 35 45.4	-1.3
KLMR				pmax	pmax		
	comp=Z,2μm,2.1s						
KLMR				pmax	pmax		
	comp=Z,504nm,1.2s						
KLMR				MLR	MLR		
	comp=Z,6μm,19.0s						
ULDT	Uludag	90.05	311	iP	P	16 25 21.9	+1.2
DEMI	Demirci	90.12	310	iP	P	16 25 21.9	+1.0
DURS	Dursunbey	90.43	310	iP	P	16 25 21.5	-0.8
AYDN	Tasoluk	90.46	308	iP	P	16 25 23.8	+1.3
BDRM	Kayabasi	90.68	307	iP	P	16 25 23.9	+0.4
AKHS	Akhisar	90.77	309	iP	P	16 25 25.3	+1.5
BALY	Balya	91.10	310	iP	P	16 25 24.7	-0.7
TLCR		91.42	316	⇓P	P	16 25 27.5	+0.9
TLCR		91.42	316	⇓iP	P	16 25 27.5	+0.9
TIRR	Tirgusor	91.53	315	eP	P	16 25 26.9	-0.3
TIRR				pmax	pmax		
	comp=Z,78nm,1.0s						
TIRR	Tirgusor	91.53	315	eP	P	16 25 26.9	-0.3
	comp=Z,78nm,1.0s						
TIRR	Tirgusor	91.53	315	⇓iP	P	16 25 27.3	+0.1
TMCR	Tamitsa	91.61	335	eP	P	16 25 26.9	-0.1
TMCR				pmax	pmax		
	comp=Z,151nm,0.5s						
KIS	Kishinev	91.82	317	⇓iP	P	16 25 28.0	-0.4
	comp=Z,200nm,2.0s						
KIS	Kishinev	91.82	317	iPS	PS	16 37 40.0	-1.1
KIS				eSS	SS	16 41 05.0	-91
KIS				LRM	MLR	17 11 25.0	
	comp=Z,3μm,20.0s						
KIS	Kishinev	91.82	317κ	iP	P	16 25 28.0	-0.4
KIS				e		16 35 56.0	
KIS				iS	S	16 36 25.0	-2.3
KIS				iPS	PS	16 37 40.0	-1.1
KIS				pmax	pmax		
	comp=Z,200nm,2.0s						
KIS				pmax	pmax		
	comp=Z,1μm,11.0s						
KIS				pmax	pmax		
	comp=Z,2μm,16.0s						
KIS				smax	smax		
	comp=E,800nm,8.0s						
KIS				smax	smax		
	comp=E,3μm,15.0s						
KIS				MLR	MLR		
	comp=Z,1μm,16.0s						
KIS				MLR	MLR		
	comp=N,900nm,15.0s						
KIS				MLR	MLR		
	comp=E,1μm,17.0s						
KIS				MLR	MLR		
	comp=Z,3μm,20.0s						
TLB	Topalu	91.82	315	⇓P	P	16 25 28.9	+0.4
TLB	Topalu	91.82	315	⇓iP	P	16 25 28.9	+0.4
LASI	Lasithi	91.86	305	ePN	P	16 25 30.4	+1.4
CFR	Carcaliu	91.88	315	⇓P	P	16 25 30.7	+2.0
CFR	Carcaliu	91.88	315	⇓iP	P	16 25 30.7	+2.0
PRD	Provadia	91.98	313	eP	P	16 25 29.8	+0.5
LEOM	Leova	92.08	317	⇓P	P	16 25 31.0	+1.4
LEOM	Leova	92.08	317	⇓iP	P	16 25 31.0	+1.4
SANT	Santorini	92.10	306	PFAKE		16 25 40.0	+10
SANT				LR	LR		
	comp=Z,2μm,20.0s						
APE	Apeiranthos	92.18	307	⇑P	P	16 25 30.6	+0.2
APE	Apeiranthos	92.18	307	⇑iP	P	16 25 30.6	+0.2
XMAS	Kiritimati	92.21	88	PFAKE		16 25 40.0	+9.0
XMAS				LR	LR		
	comp=Z,2μm,20.0s						
IDI	Anoyia	92.35	305	eP	P	16 25 32.5	+1.2
	comp=Z,158nm,1.2s						
SIVA	Sivas	92.37	305	ePB	P	16 25 33.0	+1.7
AKASG	Malin Array Be	92.38	321	P	P	16 25 29.9	-1.1
AKASG						16 29 09.6	
AKASG				pmax	pmax		
	comp=Z,82nm,0.9s						
AKASG				pmax	pmax		
	comp=Z,18nm,1.0s						
AKASG				MLR	MLR		
	comp=Z,4μm,19.1s						
AKASG	Malin Array Be	92.38	321	P	P	16 25 29.9	-1.1
AKASG				PP	PP	16 29 09.6	-2.5
AKASG	Malin Array Be	92.38	321	P	P	16 25 29.9	-1.1
	comp=Z,62nm,0.9s,baz=82,slow=5.0,SNR=68						
AKASG				PP	PP	16 29 09.6	-2.5
	comp=Z,18nm,1.0s,baz=87,slow=6.4,SNR=6.3						
AKASG				LR	LR	17 15 59.1	
	comp=Z,4μm,19.1s,baz=95,slow=41						
KIEV	Kiev	92.39	321	eP	P	16 25 30.0	-1.0
KIEV				pmax	pmax		
	comp=Z,49nm,0.8s						
KIEV				MLR	MLR		
	comp=Z,4μm,20.0s						
KIEV	Kiev	92.39	321	eP	P	16 25 30.0	-1.0
	comp=Z,49nm,0.8s						
KIEV				LR	LR		
	comp=Z,4μm,20.0s						
JMB	Yambol	92.42	313	eP	P	16 25 32.5	+1.1
GHRR		92.57	316	⇑iP	P	16 25 34.3	+2.4
SMTH	Samothraki Isl	92.82	310	ePN	P	16 25 33.5	+0.3
VRI	Vrincioaia	92.99	316	⇑P	P	16 25 34.7	+0.8
VRI	Vrincioaia	92.99	316	⇑iP	P	16 25 34.7	+0.8
PLOR	Plostina	93.04	316	⇑P	P	16 25 34.9	+0.7
PLOR	Plostina	93.04	316	⇑iP	P	16 25 34.9	+0.7
SZH	Strazhica	93.05	313	eP	P	16 25 32.9	-1.3
SULR		93.09	315	⇑iP	P	16 25 35.8	+1.5
TESR	Tescani	93.17	317	⇑iP	P	16 25 35.3	+0.6
MLR	Muntele Rosu	93.46	315	⇓iP	P	16 25 37.0	+0.8
ZIMR		93.53	314	⇑P	P	16 25 37.9	+1.5
ZIMR		93.53	314	⇑iP	P	16 25 37.9	+1.5
PRAR	RASCA	93.62	317	⇑iP	P	16 25 37.8	+1.0
RZN	Rozhen	93.64	312	eP	P	16 25 37.3	0.0
PUL	Pulkovo	93.84	330	eP	P	16 25 38.8	+1.4
PUL				pmax	pmax		
	comp=Z,161nm,1.1s						
DOPR	Dopca	93.93	316	⇑iP	P	16 25 40.4	+2.1
MICGM	Minsk	93.99	325	⇓iP	P	16 25 35.0	-3.3
MNK	Minsk	94.02	325	⇓iP	P	16 25 35.0	-3.4
MNK				e		16 29 20.0	
MNK				e		16 36 10.0	
MNK				eS	S	16 36 36.0	-11
MNK				ePS	PS	16 37 56.0	-9.2
MNK				eSS	SS	16 43 08.0	+1.0
MNK				pmax	pmax		
	comp=Z,130nm,1.0s						
MNK				MLR	MLR		
	comp=Z,6μm,20.0s						
GOLR		94.02	315	⇑iP	P	16 25 31.2	-7.5
DID	Didima	94.06	307	ePG	P	16 25 38.3	-0.7
VOIR		94.07	315	⇑P	P	16 25 39.0	0.0
VOIR		94.07	315	⇑iP	P	16 25 39.0	0.0
LVZ	Lovozero	94.10	338	eP	P	16 25 38.0	-0.5
LVZ				pmax	pmax		
	comp=Z,38nm,1.0s						
JOF	Joensuu	94.12	333	eP	P	16 25 39.6	+0.9
JOF				pmax	pmax		
	comp=Z,36nm,0.9s						
JOF	Joensuu	94.12	333	epkp	P	16 25 39.6	+0.9
	comp=Z,36nm,0.9s						
VLI	Veliai	94.16	306	ePG	P	16 25 39.1	-0.4
PGB	Panagyurishte	94.20	312	eP	P	16 25 39.0	-0.6
BURAR	Bucovina Array	94.34	317	⇓P	P	16 25 40.9	+0.7
BURAR	Bucovina Array	94.34	317	⇓iP	P	16 25 40.9	+0.7
ARR	Arges	94.35	315	⇑iP	P	16 25 40.5	+0.3
BUR08	Bucovina Ar. S	94.36	317	eP	P	16 25 40.9	+0.6
AKUT	Akutan	94.36	36	eP	P	16 25 39.7	-0.3
	comp=Z,188nm,0.8s						
APA	Apatity	94.46	338	⇓iP	P	16 25 48.4	+8.2
APA				i		16 36 12.0	
APA				i		16 36 36.0	
APA				pmax	pmax		
	comp=Z,146nm,1.6s						
APA				MLR	MLR		
	comp=Z,9μm,20.0s						
MPEP	Malo Peshtene	94.64	313	eP	P	16 25 41.0	-0.6
DYR	Agios Nikonas	94.65	306	ePN	P	16 25 42.4	+0.6
NACGM	Naroch	94.70	325	eP	P	16 25 38.0	-3.5
GUR	Goura	94.82	308	ePB	P	16 25 42.5	-0.2
KIP	Kipapa	94.84	69	PFAKE		16 25 50.0	+7.1
KIP				LR	LR		
	comp=Z,3μm,20.0s						
VTS	Vitosha	94.90	312	⇓P	P	16 25 42.9	-0.1
VTS	Vitosha	94.90	312	⇓iP	P	16 25 42.9	-0.1
VTS	Vitosha	94.90	312	eP	P	16 25 41.8	-1.2
TBI	Tubuai	94.95	115	ePP	PP	16 29 28.7	-4.1
	comp=Z,626nm,26.0s						
TBI				eSKSac	SKSac	16 36 14.9	-2.4
	comp=Z,1μm,26.5s						
TBI	Tubuai	94.95	115	ePS	PS	16 38 13.2	-3.3
	comp=Z,2μm,29.5s						
TBI				eSS	SS	16 43 15.1	-6.3
	comp=Z,2μm,28.0s						
TBI				eLQ	LQ	16 51 45.0	
	comp=Z,3μm,29.8s						
TBI				eLR	LR	16 56 18.3	
	comp=Z,6μm,24.0s						
LOT	Lotru	94.96	315	⇓iP	P	16 25 43.2	+0.1
KLV	Kalavryta, Ach	94.99	308	ePB	P	16 25 43.5	+0.1
ITM	Ithomi	95.03	307	ePN	P	16 25 43.6	+0.1
KALE	Kalithea	95.05	308	ePN	P	16 25 43.1	-0.5
PYL	PYLOS	95.14	306	ePN	P	16 25 43.1	-0.9
LAKA	Lakka	95.16	308	ePN	P	16 25 43.7	-0.4
VAY	Valandovo	95.17	311	iP	P	16 25 44.1	+0.1
VAY	Valandovo	95.17	311	eP	P	16 25 42.9	-1.1
AMT	Artemida-Makis	95.26	307	ePN	P	16 25 43.8	-0.8
CJR	Cluj-Napoca	95.28	316	⇓P	P	16 25 45.4	+0.9
CJR	Cluj-Napoca	95.28	316	⇓iP	P	16 25 45.4	+0.9
VSU	Vasula	95.38	328d	iP	P	16 25 44.7	+0.2
VSU				pmax	pmax		
	comp=Z,209nm,1.0s						
EVR	Evrytania	95.39	308	ePN	P	16 25 45.4	+0.2
LVV	L'vov	95.48	319	eP	P	16 25 44.7	-0.5
LVV				e		16 29 36.5	
LVV				e		16 36 10.1	
LVV				eS	S	16 36 55.7	-3.8
LVV				eSS	SS	16 43 25.1	-3.0
LVV				MLR	MLR		
	comp=N,2μm,22.0s						
LVV				MLR	MLR		
	comp=E,3μm,22.0s						
LVV				MLR	MLR		
	comp=Z,4μm,22.0s						
DEV	Deva	95.63	315	⇓P	P	16 25 48.3	+2.3
DEV	Deva	95.63	315	⇓iP	P	16 25 48.3	+2.3
DRGR		95.89	316	⇑P	P	16 25 48.6	+1.3
DRGR		95.89	316	⇑iP	P	16 25 48.6	+1.3
BIA	Bitola	96.06	310	eP	P	16 25 49.0	+0.8
SKO	Skopje	96.11	311	eP	P	16 25 49.9	+1.7
PPT2	Papeete2	96.12	109	ePP	PP	16 29 32.7	-9.4
	comp=Z,561nm,25.8s						
PPT2				eSKSac	SKSac	16 36 18.8	-5.1
	comp=Z,1μm,29.4s						
PPT2				eSP	SP	16 38 20.1	-5.3
	comp=Z,3μm,25.2s						
PPT2				eSS	SS	16 43 36.4	-2.1
	comp=Z,2μm,28.5s						
PPT2

FINES			PKKP	**PKKPbc**	**16 42 35.0**	**-2.3**
FINES	**FINESS Array B**	**96.22 331**	P	**P**	**16 25 48.5**	**+0.2**
	comp=Z,36nm,1.0s,baz=97,slow=5.7,SNR=43					
FINES			PP	**PP**	**16 29 40.0**	**-1.8**
	comp=Z,13nm,0.8s,baz=111,slow=11,SNR=4.2					
FINES			PKKP	**PKKPbc**	**16 42 35.0**	**-2.3**
	comp=Z,2.4nm,0.8s,baz=243,slow=6.1,SNR=4.2					
FINES			LR	LR	17 16 50.8	
	comp=Z,4μm,20.6s,baz=97,slow=40					
KAF	**Kangasniemi**	**96.23 332**	*e*P	**P**	**16 25 48.3**	**0.0**
KAF			pmax	pmax		
	comp=Z,14nm,0.8s					
KAF	**Kangasniemi**	**96.23 332**	*e*pkp	**P**	**16 25 48.3**	**0.0**
	comp=Z,14nm,0.8s					
KWP	**Kalwaria Pacla**	**96.30 319**	*e*P	**P**	**16 25 48.7**	**-0.3**
KWP			pmax	pmax		
	comp=Z,71nm,0.6s					
KWP			MLR	MLR		
	comp=Z,3μm,20.0s					
KWP	**Kalwaria Pacla**	**96.30 319**	*e*P	**P**	**16 25 48.7**	**-0.3**
	comp=Z,71nm,0.6s					
KWP			LR	LR		
	comp=Z,3μm,20.0s					
KWP	**Kalwaria Pacla**	**96.30 319**	*e*P	**P**	**16 25 49.1**	**+0.1**
KWP			*e*PP	**PP**	**16 29 42.9**	**+0.1**
KWP			*e*SKSac	**SKSac**	**16 36 24.0**	**+0.7**
KWP			*e*SS	**SS**	**16 43 38.1**	**-1.7**
KWP			LMZ	LR	17 15 52.5	
UZH	**Uzhgorod**	**96.43 318**	*e*P	**P**	**16 25 49.6**	**0.0**
UZH			*e*		16 25 59.4	
UZH			*i*		16 26 10.8	
UZH			*e*		16 29 48.0	
UZH			*e*		16 36 19.0	
UZH			MLR	MLR		
	comp=N,800nm,21.0s					
UZH			MLR	MLR		
	comp=E,2μm,21.0s					
KOLS	**Kolonicke sedl**	**96.49 318**	*i* P	**P**	**16 25 50.5**	**+0.6**
KOLS			*e*		16 29 42.9	
KOLS	**Kolonicke sedl**	**96.49 318**	*e*P	**P**	**16 25 50.5**	**+0.6**
KOLS			*e*PP	**PP**	**16 29 42.9**	**-1.3**
SUW	**Suwalki**	**96.63 324**	*e*P	**P**	**16 25 49.8**	**-0.5**
SUW			pmax	pmax		
	comp=Z,143nm,1.1s					
SUW	**Suwalki**	**96.63 324**	*e*P	**P**	**16 25 49.8**	**-0.5**
	comp=Z,143nm,1.1s					
SUW	**Suwalki**	**96.63 324**	*e*P	**P**	**16 25 50.0**	**-0.3**
SUW			*e*SKSac	**SKSac**	**16 36 24.2**	**-0.5**
SUW			*e*SS	**SS**	**16 43 39.7**	**-4.3**
SUW			LMZ	LR	17 08 41.5	
CRVS	**Cervenica-Dubn**	**97.02 318**	*i* P	**P**	**16 25 52.3**	**+0.1**
CRVS			*e*		16 29 45.5	
CRVS	**Cervenica-Dubn**	**97.02 318**	*e*P	**P**	**16 25 52.3**	**+0.1**
CRVS			*e*PP	**PP**	**16 29 45.5**	**-2.8**
TIR	**Tirane**	**97.19 311**	PFAKE		16 26 00.0	+6.7
TIR			LR	LR		
	comp=Z,3μm,20.0s					
STHS	**Stebnicka Huta**	**97.22 319**	*i* P	Pdif	16 25 53.9	+0.6
STHS			*e*		16 29 48.1	
STHS	**Stebnicka Huta**	**97.22 319**	*e*P	Pdif	16 25 53.9	+0.6
STHS			*e*PP	**PP**	**16 29 48.1**	**-1.8**
SDPT	**Sand Point**	**97.58 35**	*e*P	**P**	**16 25 54.2**	**-0.4**
	comp=Z,109nm,0.7s					
KECS	**Kecovo**	**97.61 318**	*e*P	**P**	**16 25 54.9**	**0.0**
KECS			*e*PP	**PP**	**16 29 52.1**	**-0.7**
ARCES	**ARCESS Array B**	**97.71 339**	P	**P**	**16 25 54.7**	**-0.2**
ARCES			PP	**PP**	**16 29 54.8**	**+1.8**
ARCES	**ARCESS Array B**	**97.71 339**	P	**P**	**16 25 54.7**	**-0.2**
	comp=Z,11nm,0.8s,baz=98,slow=5.6,SNR=19					
ARCES			PP	**PP**	**16 29 54.8**	**+1.8**
	comp=Z,3.7nm,0.6s,baz=104,slow=7.5,SNR=3.4					
ARCES			LR	LR	17 17 16.2	
	comp=Z,5μm,19.9s,baz=109,slow=40					
ARE0	**ARCESS Array S**	**97.71 339**	*e*P	**P**	**16 25 54.5**	**-0.4**
ARE0			*e*SKS	**SKSac**	**16 36 29.0**	**-0.8**
ARE0	**ARCESS Array S**	**97.71 339**	*e*P	**P**	**16 25 54.5**	**-0.4**
BEL	**Belsk**	**97.79 321**	*e*P	Pdif	16 25 56.0	+0.3
BEL			*e*PP	PP	16 30 00.8	+6.7
BEL			*e*SKSac	**SKSac**	**16 36 32.0**	**+1.2**
BEL			*e*SS	**SS**	**16 44 02.2**	**+1.7**
BEL			LMZ	LR	17 13 33.0	
NIE	**Niedzica**	**97.83 319**	⇓*e*P	Pdif	16 25 56.2	+0.2
NIE			*e*		16 29 53.8	
NIE			*e*		16 36 31.1	
NIE			*e*SS	SS	16 44 00.6	-0.7
NIE	**Niedzica**	**97.83 319**	*e*P	Pdif	16 25 56.2	+0.2
NIE			*e*PP	**PP**	**16 29 53.8**	**-0.7**
NIE			*e*SKSac	**SKSac**	**16 36 31.1**	**-0.1**
NIE			*e*SS	**SS**	**16 44 00.6**	**-0.7**
NIE			L	L	17 19 59.0	
	comp=Z,3μm,19.9s					
PSZ	**Piszkesteto**	**97.94 317**	⇓*e*P	**P**	**16 25 55.9**	**-0.6**
OJC	**Ojcow**	**98.24 320**	⇓*e*P	**P**	**16 25 57.4**	**-0.3**
OJC			*e*		16 29 55.8	
OJC			*e*		16 36 32.4	
OJC			*e*SS	SS	16 44 03.1	-3.9
OJC	**Ojcow**	**98.24 320**	*e*P	**P**	**16 25 57.4**	**-0.3**
OJC			*e*PP	**PP**	**16 29 55.8**	**-1.9**
OJC			*e*SKSac	**SKSac**	**16 36 32.1**	**-1.1**
OJC			*e*SS	**SS**	**16 44 03.1**	**-3.9**
OJC			L	L	17 16 59.0	
	comp=Z,4μm,21.3s					
BUD	**Budapest**	**98.48 317**	⇓*e*Pdif	**P**	**16 25 58.2**	**-0.6**
PKSM	**Moragy**	**98.61 315**	⇓P	**P**	**16 25 59.3**	**-0.2**
PKSM	**Moragy**	**98.61 315**	⇓*i*P	**P**	**16 25 59.3**	**-0.2**
PKSM	**Moragy**	**98.61 315**	⇓*e*Pdif	**P**	**16 25 59.1**	**-0.4**
VYHS	**Vyhne**	**98.70 318**	*i* P	**P**	**16 25 59.4**	**-0.4**
VYHS			*e*		16 30 00.8	
VYHS	**Vyhne**	**98.70 318**	PDIF	**P**	**16 25 59.4**	**-0.4**
VYHS			*e*PP	**PP**	**16 30 00.8**	**-0.4**
PKSG		**98.89 317**	⇓*e*Pdif	**P**	**16 26 00.7**	**0.0**
PKST	**T``s**	**99.12 316**	⇓*e*Pdif	**Pdif**	**16 26 01.4**	**-0.4**
RAC	**Raciborz**	**99.26 319**	*e*P	**Pdif**	**16 26 03.2**	**+1.0**
RAC			*e*		16 30 06.0	
RAC			*e*		16 36 39.1	
RAC			MLR	MLR		
	comp=Z,2μm,22.6s					
OKC	**Ostrava-Krasne**	**99.27 319**	*i* P	**Pdif**	**16 26 02.5**	**+0.2**
OKC			*e*		16 30 05.8	
OKC			*e*		16 36 38.8	
OKC			*e*SS	SS	16 44 13.6	-7.8
OKC			MLR	MLR		
	comp=Z,2μm,22.5s					
OKC	**Ostrava-Krasne**	**99.27 319**	*i* PDIFF	**Pdif**	**16 26 02.5**	**+0.2**
OKC			*e*pP	**pP**	**16 26 10.6**	**-2.0**
OKC			*e*x	x	16 29 29.7	
OKC			*e*PP	**PP**	**16 30 05.8**	**+0.3**
OKC			*e*SKS	**SKSac**	**16 36 38.8**	**+0.4**
OKC			*e*x	x	16 44 13.6	
OKC			AMS	AMS	17 17 40.0	
	comp=Z,2μm,22.5s					
MORC	**Moravsky Berou**	**99.65 319**	*e*P	**Pdif**	**16 26 04.0**	**-0.1**
MORC			pmax	pmax		
	comp=Z,31nm,1.2s					
MORC	**Moravsky Berou**	**99.65 319**	*e*Pdif	**Pdif**	**16 26 04.0**	**-0.1**
	comp=Z,31nm,1.2s					
CEL	**Celeste**	**99.91 307**	PFAKE		16 26 20.0	+14
CEL			LR	LR		
	comp=Z,2μm,21.0s					
BEHE	**Becsehely**	**99.92 316**	⇓*e*Pdif	**Pdif**	**16 26 06.0**	**+0.7**
BJO	**Bjornoya**	**100.07 344**	AMS	AMS	17 06 42.0	
	comp=Z,3μm,21.9s					
GKP	**Gorka Klasztor**	**100.07 322**	*e*P	**Pdif**	**16 26 03.5**	**-2.3**
GKP			*e*PP	**PP**	**16 30 08.8**	**-2.7**
GKP			*e*SKSac	**SKSac**	**16 36 42.0**	**-0.1**
GKP			*e*SS	**SS**	**16 44 25.3**	**-7.1**
GKP			LMZ	LR	17 15 34.5	
CUC	**Castrocucco**	**100.12 309**	*e*Pdif	**Pdif**	**16 26 05.8**	**-0.6**
	comp=Z,19nm,1.1s					
CUC			LR	LR		
	comp=Z,2μm,22.0s					
KOGS	**Kog**	**100.28 316**	*e*Pdiff	**Pdif**	**16 26 06.1**	**-0.8**
KOGS			*e*SKSac	**SKSac**	**16 36 43.0**	**-0.5**
KOGS			*e*SKKSac	**SKKSac**	**16 37 11.7**	**-5.8**
DPC	**Dobruska-Polom**	**100.47 319**	*i* P	**Pdif**	**16 26 08.2**	**+0.5**
DPC			*e*		16 30 13.2	
DPC			*e*		16 36 44.1	
DPC	**Dobruska-Polom**	**100.47 319**	*i* PDIFF	**Pdif**	**16 26 08.2**	**+0.5**
DPC			*e*pP	pP	16 26 16.3	-1.8
DPC			*e*x	x	16 29 37.2	
DPC			*e*PP	**PP**	**16 30 13.2**	**-1.5**
DPC			*e*SKS		16 36 44.1	
DPC			*e*x	x	16 44 20.5	
DPC			AMS	AMS	17 22 20.0	
KSP	**Ksiaz**	**100.52 320**	*e*P	**Pdif**	**16 26 08.0**	**+0.1**
KSP			*e*		16 30 13.3	
KSP			*e*		16 36 44.8	
KSP			*e*SP	SP	16 39 07.0	-4.5
KSP			*e*SS	**SS**	**16 44 34.0**	**-4.8**
KSP			MLR	MLR		
	comp=Z,7μm,24.0s					
KSP	**Ksiaz**	**100.52 320**	*e*P	**Pdif**	**16 26 08.2**	**+0.3**
KSP			*e*PP	PP	16 30 21.9	+6.9
KSP			*e*SKSac	**SKSac**	**16 36 45.3**	**+0.8**
KSP			*e*SS	**SS**	**16 44 34.7**	**-4.1**
KSP			LMZ	LR	17 13 58.6	
CONA	**Conrad Observa**	**100.64 317**	⇓*e*Pdiff	**Pdif**	**16 26 08.5**	**-0.1**
	comp=Z,5.6nm,1.1s					
CONA	**Conrad Observa**	**100.64 317**	P	PKiKP	16 30 27.5	-7.2
	comp=Z,27nm,1.4s					
UPC	**Upice**	**100.68 320**	*i* P	**Pdif**	**16 26 08.5**	**-0.1**
UPC	**Upice**	**100.68 320**	*i* PDIFF	**Pdif**	**16 26 08.5**	**-0.1**
UPC			*e*pP	pP	16 26 19.7	+0.7
UPC			*e*PP	**PP**	**16 30 11.2**	**-5.0**
GOLS	**Golise**	**100.69 315**	*e*Pdiff	**Pdif**	**16 26 08.4**	**-0.4**
SPA0	**Spitsbergen Ar**	**100.72 348**	*e*P	**Pdif**	**16 26 05.9**	**-2.3**
SPA0			*e*SKS		16 36 43.6	
SPITS	**Spitsbergen Ar**	**100.72 348**	P	**Pdif**	**16 26 07.4**	**-0.9**
SPITS	**Spitsbergen Ar**	**100.72 348**	P	**Pdif**	**16 26 07.4**	**-0.9**
	comp=Z,31nm,1.0s,baz=116,slow=6.6,SNR=2.4					
HSP	**Hornsund**	**100.94 347**	*e*P	**Pdif**	**16 26 08.7**	**-0.5**
HSP			*e*S	**SS**	**16 44 44.9**	**+1.5**
TREC	**Trest**	**100.96 318**	*i* P	**Pdif**	**16 26 09.9**	**0.0**
TREC			*e*		16 30 17.6	
TREC			*e*		16 36 45.3	
TREC			MLR	MLR		
	comp=Z,2μm,20.4s					
TREC	**Trest**	**100.96 318**	*i* PDIFF	**Pdif**	**16 26 09.9**	**0.0**
TREC			*e*PP	**PP**	**16 30 17.6**	**-0.8**
TREC			*e*SKS	**SKSac**	**16 36 45.3**	**-1.5**
TREC			*e*x	x	16 44 34.6	
TREC			AMS	AMS	17 20 20.0	
	comp=Z,2μm,20.4s					
PERS	**Pernice**	**101.08 316**	*e*Pdiff	**Pdif**	**16 26 09.6**	**-1.0**
PERS			*e*		16 26 19.9	
PERS			*e*PP	**PP**	**16 30 16.1**	**-3.3**
PERS			*e*SKSac	**SKSac**	**16 36 46.1**	**-1.4**
PERS			*e*SKKSac	SKKSac	16 37 15.4	-8.0
PERS			*e*SS	**SS**	**16 44 40.8**	**-6.2**
SOKA	**Soboth**	**101.14 316**	⇓*e*Pdiff	**Pdif**	**16 26 10.9**	**+0.1**
	comp=Z,14nm,1.4s					
IM04	**Indian Mountai**	**101.43 25**	*e*Pdif	**Pdif**	**16 26 12.6**	**+0.9**
LJU	**Ljubljana**	**101.45 315**	*e*Pdiff	**Pdif**	**16 26 11.8**	**-0.3**
LJU			*e*PP	PP	16 30 15.4	-6.8
LJU			*e*SKSac	**SKSac**	**16 36 49.3**	**+0.1**
LJU			*e*SKKSac	**SKKSac**	**16 37 18.9**	**-7.0**
LJU			*e*		16 37 45.7	
LJU			*e*		16 38 03.2	
LJU			*e*		16 49 07.3	
IMA2	**Indian Mountai**	**101.47 24**	*e*Pdif	**Pdif**	**16 26 12.7**	**+0.7**
BSD	**Bornholm Skovb**	**101.51 324**	*i* P	PKiKP	16 30 29.1	-6.9
BSD						
	comp=Z,3μm,23.0s					
KBS	**Kingsbay**	**101.54 349**	*e*P	**Pdif**	**16 26 09.3**	**-2.5**
KBS			*e*PP	**PP**	**16 30 20.5**	**-1.4**
KBS			AMS	AMS	17 21 17.5	
	comp=Z,5μm,20.1s					
KBS	**Kingsbay**	**101.54 349**	PFAKE		16 26 20.0	+8.2
KBS			LR	LR		
	comp=Z,6μm,19.0s					
PRU	**Pruhonice**	**101.60 319**	*i* P	**Pdif**	**16 26 12.9**	**+0.2**
PRU			*e*		16 30 20.1	
PRU			*e*		16 36 49.8	
PRU			MLR	MLR		
	comp=Z,3μm,20.2s					
PRU	**Pruhonice**	**101.60 319**	*i* PDIFF	**Pdif**	**16 26 12.9**	**+0.2**
PRU			*e*pP	pP	16 26 20.8	-2.4
PRU			*e*x	x	16 29 37.6	
PRU			*e*PP	**PP**	**16 30 20.1**	**-3.1**
PRU			*e*SKS	**SKSac**	**16 36 49.8**	**0.0**
PRU			*e*x	x	16 44 42.6	
PRU			AMS	AMS	17 17 40.0	
	comp=Z,3μm,20.2s					
PVCC	**Panska Ves**	**101.60 320**	*i* P	**Pdif**	**16 26 10.0**	**-2.7**
PVCC			*e*		16 30 22.5	
PVCC			*e*		16 36 47.3	
PVCC			*e*SS	SS	16 44 45.2	-8.7
PVCC			MLR	MLR		
	comp=Z,3μm,20.9s					
PVCC	**Panska Ves**	**101.60 320**	*i* PDIFF	**Pdif**	**16 26 10.0**	**-2.7**
PVCC			*e*PP	**PP**	**16 30 22.5**	**-0.7**
PVCC			*e*SKS	**SKSac**	**16 36 47.3**	**-2.4**
PVCC			*e*x	x	16 44 45.2	
PVCC			AMS	AMS	17 20 10.0	
	comp=Z,3μm,20.9s					
MOR8	**Moi Rana**	**101.70 336**	*e*P	**Pdif**	**16 26 12.3**	**-0.5**
RSO	**Redoubt South**	**101.97 30**	*e*Pdif	**Pdif**	**16 26 15.5**	**+1.1**
	comp=Z,13nm,0.7s					
BRG	**Berggiesshubel**	**102.01 320**	*e*P	**Pdif**	**16 26 16.0**	**+1.5**
	comp=Z,32nm,1.8s					
BRG			*e*		16 26 33.2	
	comp=Z,23nm,1.6s					
BRG			PP	PP	16 30 21.0	-5.2
BRG			SKS	**SKSac**	**16 36 53.0**	**+1.3**
BRG			SS	SS	16 44 27.0	-32
BRG						
	comp=N,1μm,21.0s					
BRG						
	comp=E,2μm,19.2s					
BRG						
	comp=Z,3μm,19.1s					
BRG	**Berggiesshubel**	**102.01 320**	*e*Pdiff	**Pdif**	**16 26 14.8**	**+0.3**
BRG			*e*PP	**PP**	**16 30 29.4**	**+3.2**
BRG	**Berggiesshubel**	**102.01 320**	*e*P	**Pdif**	**16 26 16.0**	**+1.5**
BRG					16 36 53.0	
BRG			pmax	pmax		
	comp=Z,32nm,1.8s					
BRG			MLR	MLR		
	comp=N,1μm,21.0s					
BRG			MLR	MLR		
	comp=E,2μm,19.2s					
BRG			MLR	MLR		
	comp=Z,3μm,19.1s					
KDAK	**Kodiak Island**	**102.08 33**	P	**Pdif**	**16 26 14.7**	**+0.1**
KDAK			LR	LR		
	comp=Z,2μm,22.0s					
KDAK	**Kodiak Island**	**102.08 33**	P	**Pdif**	**16 26 14.7**	**+0.1**
	comp=Z,5.1nm,0.6s,baz=270,slow=5.1,SNR=4.7					
MYKA	**Terra Mystica**	**102.09 316**	⇓*i*Pdiff	**Pdif**	**16 26 14.9**	**-0.2**
	comp=Z,3.9nm,0.9s					
GEC2	**GERESS Array S**	**102.12 318**	*e*Pdiff	**Pdif**	**16 26 15.3**	**+0.1**
GEC2	**GERESS Array S**	**102.12 318**	*e*P	**Pdif**	**16 26 15.3**	**+0.1**
GERES	**GERESS Array B**	**102.12 318**	P	**Pdif**	**16 26 14.9**	**-0.3**
GERES			PKiKP	**PKiKP**	**16 30 38.5**	**+1.0**
GERES			PKKPbc	**PKKPbc**	**16 42 19.3**	**-1.0**
GERES	**GERESS Array B**	**102.12 318**	P	**Pdif**	**16 26 14.9**	**-0.3**
	comp=Z,3.9nm,0.9s,baz=86,slow=5.2,SNR=26					
GERES			PKiKP	**PKiKP**	**16 30 38.5**	**+1.0**
	comp=Z,5.0nm,0.9s,baz=108,slow=3.2,SNR=4.6					
GERES			PKKPbc	**PKKPbc**	**16 42 19.3**	**-1.0**
	comp=Z,1.1nm,0.8s,baz=298,slow=2.1,SNR=6.9					
PPLA	**Purkeypile**	**102.19 28**	Pdif	**Pdif**	**16 26 15.7**	**+0.5**
	comp=Z,73nm,1.6s					
KHC	**Kasperske Hory**	**102.20 318**	*i* P	**Pdif**	**16 26 14.9**	**-0.6**
KHC			*e*		16 32 40.0	
KHC			*e*		16 36 52.4	
KHC			*e*SS	SS	16 44 53.8	-8.6
KHC			MLR	MLR		
	comp=Z,2μm,23.6s					
KHC	**Kasperske Hory**	**102.20 318**	*i* PDIFF	**Pdif**	**16 26 14.9**	**-0.6**
KHC			*e*pP		16 26 22.7	
KHC			*e*x	x	16 29 36.9	
KHC			*e*PP	PP	16 30 22.2	-5.6
KHC			*e*x	x	16 32 40.0	
KHC			*e*SKS		16 36 52.4	
KHC			*e*x	x	16 44 53.8	
KHC			AMS	AMS	17 16 40.0	
	comp=Z,2μm,23.6s					
KHC	**Kasperske Hory**	**102.20 318**	*e*Pdif	**Pdif**	**16 26 14.9**	**-0.6**
	comp=Z,6.1nm,1.1s					
CLL	**Collm**	**102.61 320**	*e*Pdiff	**Pdif**	**16 26 17.2**	**+0.1**
CLL	**Collm**	**102.61 320**	*e*P	**Pdif**	**16 26 17.0**	**-0.1**
CLL			*e*		16 30 32.0	
CLL			*e*		16 36 55.0	
CLL			*e*S	**Sdif**	**16 37 59.0**	**-0.7**
CLL			pmax	pmax		
	comp=Z,23nm,1.6s					
CLL			MLR	MLR		
	comp=Z,3μm,21.5s					
CLL	**Collm**	**102.61 320**	*e*Pdif	**Pdif**	**16 26 17.0**	**-0.1**
	comp=Z,23nm,1.6s					
CLL			*e*		16 26 35.0	
CLL			*i*		16 29 51.8	
CLL			*e*		16 30 18.0	
CLL			*e*PP	**PP**	**16 30 32.0**	**+1.3**
CLL			*e*		16 30 54.0	
CLL			*e*		16 31 43.0	
CLL			*e*SKSac	**SKSac**	**16 36 55.0**	**+0.5**
CLL			*e*Sdif	**Sdif**	**16 37 59.0**	**-0.7**
CLL			*e*PS	**PS**	**16 39 33.0**	**-5.2**
CLL			*e*PPS	PPS	16 40 30.0	
CLL			*i* PKKPbc	**PKKPbc**	**16 42 17.9**	**-0.9**
CLL			*e*SS	SS	16 44 54.0	-14
CLL			*e*SSSS		16 52 48.0	
CLL			*e*		16 56 06.0	
CLL			LmV		17 20 00.0	
	comp=Z,3μm,21.5s					
WET	**Wettzell**	**102.67 318**	*e*Pdiff	**Pdif**	**16 26 17.8**	**+0.3**
WET	**Wettzell**	**102.67 318**	*e*P	**Pdif**	**16 26 17.8**	**+0.3**
BPAW	**Bear Paw Mtn.**	**102.68 26**	*e*Pdif	**Pdif**	**16 26 17.7**	**+0.5**
	comp=Z,79nm,1.8s					
COP	**Copenhagen**	**102.93 325**	*i* P	**PP**	**16 30 33.4**	**+0.5**
COP						
	comp=Z,1μm,22.0s					
TANN	**Tannenbergstha**	**102.95 319**	*e*Pdiff	**Pdif**	**16 26 19.0**	**+0.2**
TRF	**Thorofare Moun**	**103.03 27**	*e*Pdif	**Pdif**	**16 26 19.6**	**+0.6**
	comp=Z,100nm,1.8s					
ROTZ	**Rotzenmuhle**	**103.11 319**	*e*Pdiff	**Pdif**	**16 26 20.3**	**+0.9**
NC602	**NORSAR Array S**	**103.22 330**	*e*P	**Pdif**	**16 26 24.4**	**+4.7**
NC602			*e*PP	**PP**	**16 30 34.5**	**-0.5**
NC602			*e*SKS	**SKSac**	**16 36 58.0**	**+1.1**
NB2	**NORSAR Subarra**	**103.36 330**	P	**Pdif**	**16 26 20.2**	**-0.1**
	comp=Z,28nm,1.4s,baz=90,slow=4.4					
NB2	**NORSAR Subarra**	**103.36 330**	P	**Pdif**	**16 26 20.2**	**-0.1**
	baz=90,slow=4.4					
NOA	**NORSAR Array B**	**103.36 330**	Pdif	**Pdif**	**16 26 19.9**	**-0.4**
NOA			PP	**PKiKP**	**16 30 43.7**	**+4.5**
NOA	**NORSAR Array B**	**103.36 330**	Pdiff	**Pdif**	**16 26 19.9**	**-0.4**
	comp=Z,6.7nm,0.9s,baz=88,slow=4.5,SNR=7.8					
NOA			PP	**PKiKP**	**16 30 43.7**	**+4.5**
	comp=Z,5.6nm,0.8s,baz=93,slow=7.5,SNR=5.4					
WTTA	**Wattenberg**	**103.48 316**	⇓*e*Pdiff	**Pdif**	**16 26 21.5**	**+0.1**
	comp=Z,12nm,1.1s					
WTTA			⇑*i*PKiKP	**PKiKP**	**16 30 41.2**	**+1.2**
	comp=Z,69nm,1.7s					
MOX	**Moxa**	**103.49 320**	*e*Pdiff	**Pdif**	**16 26 21.4**	**+0.3**
MOX			*e*L	L	17 20 51.0	
	comp=Z,3μm,22.0s					
MOX	**Moxa**	**103.49 320**	*e*P	**Pdif**	**16 26 21.4**	**+0.3**
MOX			MLR	MLR		
	comp=Z,3μm,22.0s					
MCK	**McKinley**	**103.61 27**	*e*P	**Pdif**	**16 26 21.5**	**+0.1**
MCK			pmax	pmax		
	comp=Z,9.0nm,0.3s					
MCK	**McKinley**	**103.61 27**	*e*Pdif	**Pdif**	**16 26 21.5**	**+0.1**
	comp=Z,9.4nm,0.3s					
TBLU	**Trondheim**	**103.66 333**	*e*	**Pdif**	**16 26 22.8**	**+1.3**
TBLU			AMS	AMS	17 17 44.0	
	comp=Z,6μm,20.3s					
PMR	**Palmer**	**103.69 29**	*e*P	**Pdif**	**16 26 21.9**	**+0.2**
PMR			pmax	pmax		
	comp=Z,6.0nm,1.0s					
PMR	**Palmer**	**103.69 29**	*e*Pdif	**Pdif**	**16 26 21.9**	**+0.2**
	comp=Z,5.6nm,1.0s					
GRF	**Grafenberg Arr**	**103.75 319**	*e*Pdiff	**Pdif**	**16 26 22.8**	**+0.5**
GRF			*e*L	L	17 19 17.8	
	comp=Z,2μm,21.4s					
GRF	**Grafenberg Arr**	**103.75 319**	*e*P	**Pdif**	**16 26 22.8**	**+0.5**
GRF			MLR	MLR		
	comp=Z,2μm,21.4s					
MOTA	**Moosalm**	**103.84 316**	⇓*e*Pdiff	**Pdif**	**16 26 21.9**	**-1.1**
	comp=Z,3.0nm,0.5s					
COLA	**College**	**103.97 26**	PFAKE		16 26 30.0	+7.1
COLA			LR	LR		
	comp=Z,2μm,22.0s					
SML	**Sawmill**	**104.05 29**	*e*P	**Pdif**	**16 26 23.6**	**+0.2**
SML			pmax	pmax		
	comp=Z,8.0nm,0.9s					
SML	**Sawmill**	**104.05 29**	*e*Pdif	**Pdif**	**16 26 23.6**	**+0.2**
	comp=Z,7.5nm,0.9s					
RETA	**Reutte**	**104.07 316**	⇓*e*Pdiff	**Pdif**	**16 26 23.5**	**-0.4**
	comp=Z,10nm,1.0s					
RETA			⇓*i*PKiKP	**PKiKP**	**16 30 39.5**	**-1.5**
	comp=Z,31nm,1.5s					
FETA	**Feichten**	**104.10 316**	⇓*e*Pdiff	**Pdif**	**16 26 24.2**	**+0.2**
	comp=Z,9.6nm,1.5s					
BSEG	**Bad Segeberg**	**104.20 323**	*e*Pdiff	**Pdif**	**16 26 24.8**	**+0.7**
BSEG	**Bad Segeberg**	**104.20 323**	*e*P	**Pdif**	**16 26 24.8**	**+0.7**
CLZ	**Clausthal**	**104.24 321**	*e*Pdiff	**Pdif**	**16 26 24.6**	**+0.1**
CLZ	**Clausthal**	**104.24 321**	*e*P	**Pdif**	**16 26 24.6**	**+0.1**
KONO	**Kongsberg**	**104.26 329**	*e*P	**Pdif**	**16 26 22.9**	**-1.3**
KONO			*e*PP	**PKiKP**	**16 30 40.9**	**+0.1**
KONO			*e*SKS	**SKSac**	**16 37 01.0**	**-0.8**
KONO			AMS	AMS	17 18 54.0	
	comp=Z,3μm,19.3s					
KONO	**Kongsberg**	**104.26 329**	PFAKE		16 26 40.0	+16
KONO			LR	LR		
	comp=Z,4μm,20.0s					
VLC	**Villacollemand**	**104.34 313**	PFAKE		16 26 40.0	+15
VLC			LR	LR		
	comp=Z,4μm,21.0s					
NRDL	**Niedersach Rie**	**104.39 322**	*e*Pdiff	**Pdif**	**16 26 25.5**	**+0.6**
ILAR	**Eielson Array**	**104.39 26**	Pdif	**Pdif**	**16 26 23.7**	**-1.1**
ILAR			PP	**PKiKP**	**16 30 39.1**	**-1.8**
ILAR			PKKPbc	**PKKPbc**	**16 42 10.3**	**-3.6**
ILAR			PKKP	**PKKPab**	**16 42 29.0**	**-0.8**
ILAR			P'P'		16 50 31.1	
ILAR	**Eielson Array**	**104.39 26**	Pdiff	**Pdif**	**16 26 23.7**	**-1.1**
	comp=Z,1.0nm,0.7s,baz=268,slow=4.1,SNR=11					
ILAR			PP	**PKiKP**	**16 30 39.1**	**-1.8**
	comp=Z,1.5nm,0.7s,baz=286,slow=5.6,SNR=8.2					
ILAR		

CDF Champ du Feu 106.39 318 *e*P **Pdif** **16 26 35.0 +0.9**
ECH Echery 106.47 317 PFAKE 16 31 00.0
ECH LR LR
comp=Z,2µm,20.0s
SUE Sulen 106.48 331 *e* **Pdif** **16 26 28.1 -6.0**
KMY Karmoy 106.52 329 *e* PP 16 31 12.5 +13
HINF Hinteralfeld 106.70 317 *e*P **Pdif** **16 26 36.0 +0.5**
HINF Hinteralfeld 106.70 317 *e*P **Pdif** **16 26 36.0 +0.5**
HINF Hinteralfeld 106.70 317 *e*P **Pdif** **16 26 36.0 +0.5**
EGAK Eagle 106.81 25 PFAKE 16 31 00.0
EGAK LR LR
comp=Z,2µm,21.0s
LPG La Plagne 106.89 314 *e*P **Pdif** **16 26 36.5 -0.2**
LPG La Plagne 106.89 314 *e*P **Pdif** **16 26 36.5 -0.2**
LPG La Plagne 106.89 314 *e*P **Pdif** **16 26 36.5 -0.2**
LPL La Plagne 106.91 315 *e*P **Pdif** **16 26 36.7 0.0**
LPL La Plagne 106.91 315 *e*P **Pdif** **16 26 36.7 0.0**
LPL La Plagne 106.91 315 *e*P **Pdif** **16 26 36.7 0.0**
MBDF Montbardon 106.92 314 *e*P **Pdif** **16 26 36.5 -0.2**
comp=Z,3.4nm,0.7s
MBDF Montbardon 106.92 314 *e*P **Pdif** **16 26 36.5 -0.2**
MBDF pmax pmax
comp=Z,3.0nm,0.7s
MBDF Montbardon 106.92 314 *e*P **Pdif** **16 26 36.5 -0.2**
comp=Z,3.4nm,0.7s
BNI Bardonecchia 106.97 314 PFAKE 16 31 00.0
BNI LR LR
comp=Z,3µm,20.0s
HAU Haudompre 107.03 317 *e*P **Pdif** **16 26 36.7 -0.2**
HAU Haudompre 107.03 317 *e*P **Pdif** **16 26 36.7 -0.2**
HAU Haudompre 107.03 317 *e*P **Pdif** **16 26 36.7 -0.2**
WLF Walferdange 107.04 319 PFAKE 16 31 00.0
WLF LR LR
comp=Z,2µm,20.0s
LMR La Mourre 107.16 312 *e*P **Pdif** **16 26 37.8 +0.2**
comp=Z,39nm,1.3s
LMR La Mourre 107.16 312 *e*P **Pdif** **16 26 37.8 +0.2**
LMR pmax pmax
comp=Z,39nm,1.3s
LMR La Mourre 107.16 312 *e*P **Pdif** **16 26 37.8 +0.2**
comp=Z,39nm,1.3s
CABF La Chapelle 107.30 316 *e*P **Pdif** **16 26 37.6 -0.6**
comp=Z,11nm,1.0s
CABF La Chapelle 107.30 316 *e*P **Pdif** **16 26 37.6 -0.6**
CABF pmax pmax
comp=Z,11nm,1.0s
CABF La Chapelle 107.30 316 *e*P **Pdif** **16 26 37.6 -0.6**
comp=Z,11nm,1.0s
TAM Tamanrasset 107.74 291 PFAKE 16 31 00.0
TAM LR LR
comp=Z,5µm,20.0s
RKT Rikitea 107.80 118 *e*PP PP 16 31 06.2 -3.5
comp=Z,683nm,27.2s
RKT *e*SKSac **SKSac** **16 37 14.3 -4.9**
comp=Z,667nm,26.5s
RKT *e*SP **SP** **16 40 25.3 -3.7**
comp=Z,2µm,24.5s
RKT *e*SS **SS** **16 46 17.3 -2.4**
comp=Z,2µm,33.2s
RKT Rikitea 107.80 118 *e*LQ LQ 16 57 16.5
comp=Z,3µm,37.5s
RKT *e*LR LR 17 02 15.2
comp=Z,5µm,29.2s
SFTF Sexfontaines 107.89 317 *e*P **Pdif** **16 26 41.8 +1.1**
SFTF Sexfontaines 107.89 317 *e*P **Pdif** **16 26 41.8 +1.1**
DOU Dourbes 108.00 319 PKP **PKiKP** **16 30 49.5 +1.4**
BAIF Baives 108.25 319 *e*P **Pdif** **16 26 43.7 +1.4**
BAIF Baives 108.25 319 *e*P **Pdif** **16 26 43.7 +1.4**
BAIF Baives 108.25 319 *e*P **Pdif** **16 26 43.7 +1.4**
SSB Saint Sauveur 108.46 314 PFAKE 16 31 00.0
SSB LR LR
comp=Z,2µm,20.0s
INK Inuvik 108.75 21 PKiKP **PKiKP** **16 30 48.5 -0.4**
INK Inuvik 108.75 21 PKiKP **PKiKP** **16 30 48.5 -0.4**
comp=Z,4.8nm,0.6s,baz=272,slow=2.6,SNR=7.1
LOR Lormes 108.77 316 *e*P **Pdif** **16 26 43.9 -0.8**
comp=Z,24nm,1.3s,baz=107
LOR Lormes 108.77 316 *e*P **Pdif** **16 26 43.9 -0.8**
comp=Z,24nm,1.3s
JMIC Jan Mayen 108.79 342 *e*P **Pdif** **16 26 44.5 +0.3**
JMIC AMS AMS 17 21 25.0
comp=Z,4µm,20.4s
SMF Signal de Mont 108.84 316 *e*P **Pdif** **16 26 46.1 +1.1**
SMF Signal de Mont 108.84 316 *e*P **Pdif** **16 26 46.1 +1.1**
SMF Signal de Mont 108.84 316 *e*P **Pdif** **16 26 46.1 +1.1**
SSF Saint Saulge 109.03 316 *e*P **Pdif** **16 26 47.0 +1.2**
SSF Saint Saulge 109.03 316 *e*P **Pdif** **16 26 47.0 +1.2**
SSF Saint Saulge 109.03 316 *e*P **Pdif** **16 26 47.0 +1.2**
AVF Avril sur Loir 109.16 316 *e*P **Pdif** **16 26 47.4 +1.0**
comp=Z,7.9nm,0.8s
AVF Avril sur Loir 109.16 316 *e*P **Pdif** **16 26 47.4 +1.0**
AVF Avril sur Loir 109.16 316 *e*P **Pdif** **16 26 47.4 +1.0**
ELSH Elham, Standar 110.05 321 *e*P **Pdif** **16 26 40.5 -10**
ELSH AMS AMS 17 24 34.8
comp=Z,3µm,19.8s
TORD Torodi Ar. Bea 110.57 280 Pdif **Pdif** **16 26 52.7 -0.6**
TORD PKiKP **PKiKP** **16 30 53.1 -0.8**
TORD PKKPbc **PKKPbc** **16 41 53.4 +0.4**
TORD P'P'
TORD Torodi Ar. Bea 110.57 280 Pdiff **Pdif** **16 26 52.7 -0.6**
comp=Z,1.0nm,0.9s,baz=91,slow=1.2,SNR=5.3
TORD PKiKP **PKiKP** **16 30 53.1 -0.8**
comp=Z,7.1nm,0.8s,baz=75,slow=1.8,SNR=17
TORD PKKPbc **PKKPbc** **16 41 53.4 +0.4**
comp=Z,1.9nm,0.8s,baz=306,slow=4.0,SNR=6.3
TORD PKPPKP **P'P'df** **16 50 27.1 +3.7**
comp=Z,0.6nm,1.1s,baz=300,slow=2.3,SNR=3.6
HMNX Herstmonceux 110.60 321 *e*P **Pdif** **16 26 43.8 -8.8**
HMNX AMS AMS 17 24 15.3
comp=Z,3µm,20.6s
DRUM Mains of Drumt 111.00 327 *e*P **Pdif** **16 26 44.6 -10**
DRUM AMS AMS 17 22 22.6
comp=Z,3µm,23.5s
HPK Haverah Park 111.19 324 *e*P **Pdif** **16 26 47.3 -8.0**
HPK AMS AMS 17 22 37.2
comp=Z,2µm,23.4s
WOL Wolverton 111.49 321 *e*P Pdif 16 26 45.6 -11
WOL AMS AMS 17 22 14.3
comp=Z,2µm,25.2s
EDI Edinburgh 111.62 326 *e*P **Pdif** **16 26 47.3 -10**
EDI AMS AMS 17 25 26.7
comp=Z,4µm,21.3s
SOFL Sornfelli, Far 111.65 333 *e*P **Pdif** **16 26 48.2 -9.0**
STNC Stoke 111.72 323 *e*P **Pdif** **16 26 48.0 -10**
STNC AMS AMS 17 25 21.1
comp=Z,2µm,21.5s
ESK Eskdalemuir 111.78 326 *e*P Pdif 16 26 44.4 -13
ESK AMS AMS 17 22 07.2
comp=Z,4µm,22.5s
ESK Eskdalemuir 111.78 326 PFAKE 16 31 10.0
ESK LR LR
comp=Z,5µm,22.0s
SWN1 Swindon 111.80 322 *e*P Pdif 16 26 43.6 -14
KESW Keswick, Cumbr 111.90 325 *e*P **Pdif** **16 26 49.4 -9.0**
KESW AMS AMS 17 25 01.7
comp=Z,3µm,17.9s
SHEL Horse Pasture 111.94 248 PFAKE 16 31 10.0
SHEL LR LR
comp=Z,6µm,20.0s
FOEL Foel Wylfa 112.35 323 *e*P Pdif 16 26 50.5 -10
FOEL AMS AMS 17 26 12.0
comp=Z,3µm,19.7s
PGBU Glenifferbraes 112.35 326 *e*P Pdif 16 26 49.5 -11
PGBU AMS AMS 17 26 09.9
comp=Z,3µm,21.3s
MCH1 Michaelchurch 112.43 322 *e*P **Pdif** **16 26 51.4 -9.4**
MCH1 AMS AMS 17 24 18.6
comp=Z,3µm,21.9s
JSA Saint Aubin 112.49 319 *e*P **Pdif** **16 26 51.4 -10**
JSA AMS AMS 17 27 19.9
comp=Z,3µm,20.7s
KPL Plockton 112.54 328 *e*P Pdif 16 26 50.9 -10
KPL AMS AMS 17 25 17.4
comp=Z,4µm,20.9s
GAL1 Galloway 112.73 326 *e*P Pdif 16 26 51.9 -10
GAL1 AMS AMS 17 22 37.2
comp=Z,3µm,17.8s
SCO Scoresbysund 112.86 344 *i* P **PP** **16 31 45.5 +0.7**
SCO
comp=Z,2µm,16.0s
WLF1 Llynfaes 112.95 324 *e*P Pdif 16 26 51.8 -11
WLF1 AMS AMS 17 26 41.2
comp=Z,2µm,21.9s
LPW Lampeter 113.05 323 *e*P Pdif 16 26 51.9 -12
LPW AMS AMS 17 26 09.6
comp=Z,34µm,21.1s
WRAK Wrangell Islan 113.16 33 *e*PKiKP **PKiKP** **16 30 58.4 +0.8**
WRAK LR LR
comp=Z,1µm,19.0s
DYA Yadsworthy 113.35 321 *e*P **Pdif** **16 26 55.0 -10**
DYA AMS AMS 17 29 26.7
comp=Z,2µm,17.1s
HTL Hartland 113.56 321 *e*P **Pdif** **16 26 56.2 -10**
HTL AMS AMS 17 25 24.6
comp=Z,3µm,21.5s
DLBC Dease Lake 113.70 30 *e*PKPdf **PKiKP** **16 30 59.2 +0.5**
DLBC PKKPbc **PKKPbc** **16 41 41.6 -2.3**
DLBC Dease Lake 113.70 30 PKKPbc PKKPbc 16 41 41.6 -2.4
comp=Z,3.9nm,0.8s,baz=280,slow=5.4,SNR=8.5
SUMG Summit 114.90 350 *i* PKIKP PKPdf 16 31 01.5 +0.4
SUMG pmax pmax
comp=Z,14nm,0.8s
SUMG Summit 114.90 350 *i* P PKPdf 16 31 01.5 +0.4
comp=Z,14nm,0.8s
SUMG Summit 114.90 350 *i* P PP 16 32 11.1 +11
SUMG
comp=Z,4µm,22.0s
SUMG Summit 114.90 350 *e*PKiKP **PKiKP** **16 31 01.1 0.0**
ESDC Sonseca Array 115.32 309 PKP **PKPdf** **16 31 02.6 +0.2**
ESDC PP **PP** **16 32 05.0 +1.5**
ESDC PKKPbc **PKKPbc** **16 41 37.5 -0.3**
ESDC Sonseca Array 115.32 309 PKP **PKPdf** **16 31 02.6 +0.2**
comp=Z,8.2nm,0.9s,baz=33,slow=2.6,SNR=21
ESDC PP **PP** **16 32 05.0 +1.5**
comp=Z,4.6nm,0.9s,baz=80,slow=5.2,SNR=3.8
ESDC PKKPbc **PKKPbc** **16 41 37.5 -0.3**
comp=Z,1.7nm,0.7s,baz=276,slow=3.4,SNR=6.4
ESLA Sonseca Array 115.32 309 *e*PKPdf **PKPdf** **16 31 02.5 0.0**
PAB San Pablo 115.64 309 *e*PKIKP **PKPdf** **16 31 03.1 +0.1**
PAB MLR MLR
comp=Z,3µm,21.0s
PAB San Pablo 115.64 309 *e*PKPdf **PKPdf** **16 31 03.1 +0.1**
PAB LR LR
comp=Z,3µm,21.0s
KIC Kosan Boka 116.05 272 *e*PKIKP **PKPdf** **16 31 03.9 -0.6**
comp=Z,42nm,0.8s
BORG Borgarnes 116.12 339 PFAKE 16 31 20.0 +17
BORG LR LR
comp=Z,4µm,22.0s
DBIC Dimbokro 116.21 272 *e*PKPdf **PKPdf** **16 31 04.0 -0.8**
DBIC PKP **PKPdf** **16 31 04.1 -0.6**
DBIC PKKPbc **PKKPab** **16 41 36.9 -2.0**
DBIC Dimbokro 116.21 272 PKP **PKPdf** **16 31 04.1 -0.6**
comp=Z,17nm,0.8s,baz=101,slow=2.7,SNR=19
DBIC PKKPbc **PKKPab** **16 41 36.9 -2.0**
comp=Z,3.6nm,0.7s,baz=285,slow=13,SNR=4.5
LIC Lamto 116.31 272 *e*PKIKP **PKPdf** **16 31 04.4 -0.5**
comp=Z,42nm,0.7s
LIC Lamto 116.31 272 *e*PKIKP **PKPdf** **16 31 04.3 -0.6**
comp=Z,68nm,0.7s
LIC Lamto 116.31 272 *e*PKPdf **PKPdf** **16 31 04.4 -0.5**
TIC Toumodi 116.36 272 *e*PKIKP **PKPdf** **16 31 04.5 -0.6**
comp=Z,51nm,0.8s
MDT Midelt 116.63 302 PKKPbc PKKPbc 16 41 35.9 +2.8
MDT Midelt 116.63 302 PKKPbc PKKPbc 16 41 35.9 +2.8
comp=Z,3.3nm,0.8s,baz=308,slow=3.8,SNR=4.9
BBB Bella Bella 116.85 36 PKP **PKPdf** **16 31 05.2 +0.4**
BBB Bella Bella 116.85 36 PKP **PKPdf** **16 31 05.2 +0.4**
comp=Z,30nm,0.8s,baz=348,slow=3.6,SNR=13
PBRG Braganca 117.05 312 *e*PKP **PKPdf** **16 31 06.1 +0.4**
PBRG Braganca 117.05 312 *e*PP PP 16 32 10.1 -5.4
MVO Moncorvo 117.39 311 *e*PKP **PKPdf** **16 31 07.0 +0.7**
MVO Moncorvo 117.39 311 *e*PP PP 16 32 24.3 +6.4
MVO Moncorvo 117.39 311 *e*LQ LQ 17 03 26.1
MVO *e*LR LR 17 12 23.8
comp=Z,2µm,20.0s
EFI East Falkland 117.70 188 PFAKE 16 31 20.0 +13
EFI LR LR
comp=Z,5µm,21.0s
PVRL Vila Real 117.87 311 *e*PKP **PKPdf** **16 31 08.4 +1.2**
PVRL Vila Real 117.87 311 *e*PP PP 16 32 20.7 -0.5
POLO Lamas de Olo 117.91 312 *e*PKP **PKPdf** **16 31 08.3 +0.9**
POLO Lamas de Olo 117.91 312 *e*PP PP 16 32 22.0 +0.4
MTE Manteigas 117.91 310 *e*PKP **PKPdf** **16 31 08.2 +0.8**
MTE Manteigas 117.91 310 *e*PP PP 16 32 26.8 +5.2
MTE Manteigas 117.91 310 *e*LR LR 17 11 05.4
comp=Z,2µm,20.0s
MTE Manteigas 117.91 310 PFAKE 16 31 20.0 +13
MTE LR LR
comp=Z,2µm,20.0s
PBAR Barrancos 117.92 308 *e*PKP **PKPdf** **16 31 08.5 +1.1**
PBAR Barrancos 117.92 308 *e*PP PP 16 32 23.9 +2.3
PBAR Barrancos 117.92 308 *e*SS SS 16 48 37.5 +4.0
PCBR Castelo Branco 117.97 310 *e*PKP **PKPdf** **16 31 08.2 +0.8**
PCBR Castelo Branco 117.97 310 *e*PP PP 16 32 27.1 +5.2
PMRV Marv??o 117.98 309 *e*PKP **PKPdf** **16 31 07.8 +0.3**
PMRV Marv??o 117.98 309 *e*PP PP 16 32 24.9 +2.9
PMRV Marv??o 117.98 309 *e*SS SS 16 48 44.9 +11
PMRV Marv??o 117.98 309 *e*LR LR 17 14 08.2
comp=Z,3µm,18.0s
PCAB Cabril 118.01 312 *e*PKP **PKPdf** **16 31 08.1 +0.6**
PCAB Cabril 118.01 312 *e*PP PP 16 32 20.7 -1.5
PVIS Viseu 118.11 311 *e*PKP **PKPdf** **16 31 08.8 +1.1**
PVIS Viseu 118.11 311 *e*PP PP 16 32 24.6 +1.6
PGAV Gavieira, Arco 118.14 312 *e*PKP **PKPdf** **16 31 08.4 +0.6**
PGAV Gavieira, Arco 118.14 312 *e*PP PP 16 32 18.6 -4.5
PGAV Gavieira, Arco 118.14 312 A A 17 36 35.5
comp=Z,2µm,18.0s
PESTR Estremoz 118.23 309 *e*PKP **PKPdf** **16 31 08.6 +0.6**
PESTR Estremoz 118.23 309 *e*PP PP 16 32 24.3 +0.5
PESTR Estremoz 118.23 309 *e*SS SS 16 48 42.1 +4.6
RTC Rabat Centre 118.37 303 PFAKE 16 31 20.0 +12
RTC LR LR
comp=Z,3µm,19.0s
YKA Yellowknife Ar 118.44 22 PKP **PKPdf** **16 31 07.5 -0.2**
YKA Yellowknife Ar 118.44 22 PKP **PKPdf** **16 31 07.4 -0.2**
comp=Z,33nm,0.8s,baz=316,slow=1.7,SNR=34
PVAQ Vaqueiros 118.58 307 *e*PKP **PKPdf** **16 31 09.6 +1.0**
PVAQ Vaqueiros 118.58 307 *e*PP PP 16 32 30.3 +4.1
PVAQ Vaqueiros 118.58 307 *e*SS SS 16 48 43.5 +1.4
PVAQ Vaqueiros 118.58 307 *e*LR LR 17 14 09.9
comp=Z,1µm,20.0s
PBEJ Beja 118.59 308 *e*PKP **PKPdf** **16 31 09.6 +0.9**
PBEJ Beja 118.59 308 *e*PP PP 16 32 29.2 +2.9
EVO Evora 118.61 308 ⇓*i*PKIKP **PKPdf** **16 31 09.0 +0.3**
comp=Z,78nm,1.2s
EVO Evora 118.61 308 *e*PKP **PKPdf** **16 31 10.1 +1.4**
EVO Evora 118.61 308 *e*PP PP 16 32 24.3 -2.1
PMTG Montargil 118.68 309 *e*PKP **PKPdf** **16 31 09.4 +0.6**
PMTG Montargil 118.68 309 *e*PP PP 16 32 29.0 +2.2
PMTG Montargil 118.68 309 *e*SS SS 16 48 53.4 +10
PCAS Casmilo, Conde 118.70 310 *e*PKP **PKPdf** **16 31 09.8 +1.0**
PCAS Casmilo, Conde 118.70 310 *e*PP PP 16 32 30.0 +3.0
PCAS Casmilo, Conde 118.70 310 *e*SS SS 16 48 51.5 +8.0
EVOP Sao Brissos 118.70 308 ⇓*i*PKIKP **PKPdf** **16 31 09.0 +0.2**
EVOP Sao Brissos 118.70 308 ⇓*i*PKPdf **PKPdf** **16 31 09.0 +0.2**
PBDV Barranco-do-Ve 118.77 307 *e*PKP **PKPdf** **16 31 10.4 +1.3**
PBDV Barranco-do-Ve 118.77 307 *e*PP PP 16 32 26.7 -0.9
PCVE Castro Verde 118.79 307 *e*PKP **PKPdf** **16 31 10.1 +1.0**
PCVE Castro Verde 118.79 307 *e*PP PP 16 32 31.1 +3.4
PNCL Nicolau / Gran 119.09 308 *e*PKP **PKPdf** **16 31 10.5 +0.9**
PNCL Nicolau / Gran 119.09 308 *e*PP PP 16 32 30.9 +1.2
PNCL Nicolau / Gran 119.09 308 *e*SS SS 16 48 56.1 +7.5
MORF Marmelete 119.33 307 *e*PKP **PKPdf** **16 31 11.1 +0.9**
MORF Marmelete 119.33 307 *e*PP PP 16 32 35.7 +4.2
MORF Marmelete 119.33 307 *e*PKIKP **PKPdf** **16 31 10.9 +0.7**
MORF *e* 16 32 31.9
LIS Lisbon 119.45 309 *e*P **PKPdf** **16 31 10.8 +0.5**
LIS *e*PP **PP** **16 32 31.3 -0.8**
LIS AMS AMS 17 40 05.4
comp=E,2µm,21.2s
LIS Lisbon 119.45 309 *e*P **PKPdf** **16 31 10.8 +0.5**
LIS Lisbon 119.45 309 *e*PKIKP **PKPdf** **16 31 10.8 +0.5**
LIS *e* 16 32 32.4
PMST Lisbon--Monsan 119.48 309 *e*PP PP 16 32 40.1 +7.8
PFVI Vila Bisbo 119.50 307 *e*PKP **PKPdf** **16 31 11.7 +1.3**
PFVI Vila Bisbo 119.50 307 *e*PP PP 16 32 36.3 +3.8
PFVI Vila Bisbo 119.50 307 *e*SS SS 16 49 00.7 +6.8
PMAFR Mafra 119.51 309 *e*PP PP 16 32 35.1 +2.5
PMAFR Mafra 119.51 309 *e*SS SS 16 48 58.6 +4.6
PGC Sidney 120.88 39 *e*PKPdf **PKPdf** **16 31 13.4 +0.7**
OSD Olympics--Snow 121.03 40 P **PKPdf** **16 31 15.0 +1.7**
NLWA Neilton Lookou 121.08 40 PFAKE 16 31 30.0 +17
NLWA LR LR
comp=Z,1µm,21.0s
CMW Cultus Mountai 121.79 39 P **PKPdf** **16 31 15.6 +1.0**
SFJD Kangerlussuaq 121.80 351 *i* P **PKPdf** **16 31 13.0 -0.9**
comp=Z,29nm,0.8s
SFJD Kangerlussuaq 121.80 351 *i* P PP 16 32 37.0 -10
SFJD
comp=Z,4µm,24.0s
SFJD Kangerlussuaq 121.80 351 PKP **PKPdf** **16 31 14.4 +0.5**
SFJD LR LR
comp=Z,6µm,21.0s
SFJD Kangerlussuaq 121.80 351 PKP **PKPdf** **16 31 14.4 +0.5**
comp=Z,33nm,0.8s,baz=37,slow=3.1,SNR=9.7
ASCN Ascension 122.41 254 PFAKE 16 31 30.0 +13
ASCN LR LR
comp=Z,1µm,20.0s
FL2 Flat Top 2 122.48 41 P **PKPdf** **16 31 17.3 +1.2**
LON Longmire 122.62 40 *e*PKIKP **PKPdf** **16 31 17.1 +0.8**
LON Longmire 122.62 40 *e*PKPdf **PKPdf** **16 31 17.1 +0.8**
WRW Wenatchee Ridg 122.77 39 P **PKPdf** **16 31 17.4 +0.8**
WPW White Pass 122.81 40 P **PKPdf** **16 31 17.6 +1.0**
ASR Mount Adams--S 122.98 41 P **PKPdf** **16 31 18.0 +1.0**
H04A Detroit Lake 123.12 43 P **PKPdf** **16 31 17.6 +0.3**
VLL Laurance Lake 123.18 42 P **PKPdf** **16 31 18.8 +1.4**
KTRM Thompson Ridge 123.21 46 P **PKPdf** **16 31 19.2 +1.6**
KHMM Horse Mountain 123.26 48 *e*PKPdf **PKPdf** **16 31 19.4 +1.7**
HUMO Hull Mountain 123.28 45 *e*PKPdf **PKPdf** **16 31 19.0 +1.4**
VFP Flag Point 123.37 42 P **PKPdf** **16 31 19.1 +1.3**
KCPM Cahto Peak 123.70 49 *e*PKPdf **PKPdf** **16 31 19.9 +1.3**
YBH Yreka Blue Hor 123.73 46 *e*PKPdf **PKPdf** **16 31 19.4 +0.9**
YBH Yreka Blue Hor 123.73 46 PKP **PKPdf** **16 31 19.5 +0.9**
comp=Z,18nm,0.8s,baz=355,slow=3.7,SNR=37
KIPM Iron Peak 123.74 49 *e*PKPdf **PKPdf** **16 31 20.1 +1.4**
HAWA Hanford 124.21 40 *e*PKPdf **PKPdf** **16 31 19.9 +0.7**
HAWA LR LR
comp=Z,2µm,22.0s
WDC Whiskeytown Da 124.21 48 *e*PKIKP **PKPdf** **16 31 20.0 +0.6**
WDC Whiskeytown Da 124.21 48 *e*PKPdf **PKPdf** **16 31 20.0 +0.6**
HOPS Hopland 124.28 50 *e*PKPdf **PKPdf** **16 31 20.9 +1.4**
EDM Edmonton 124.42 30 *e*PKIKP **PKPdf** **16 31 20.1 +0.7**
EDM Edmonton 124.42 30 *e*PKPdf **PKPdf** **16 31 20.1 +0.7**
NEW Newport 124.88 37 *e*PKPdf **PKPdf** **16 31 20.9 +0.4**
NEW PKP **PKPdf** **16 31 21.5 +1.0**
NEW PP **PP** **16 33 13.1 +4.6**
NEW LR LR
comp=Z,2µm,20.0s
NEW Newport 124.88 37 PKP **PKPdf** **16 31 21.5 +1.0**
comp=Z,38nm,0.8s,baz=278,slow=0.8,SNR=64
NEW PP **PP** **16 33 13.1 +4.6**
comp=Z,3.7nm,1.1s,baz=287,slow=7.6,SNR=4.0
NEW Newport 124.88 37 ⇓PKiKP **PKiKP** **16 31 21.1 +0.2**
baz=125
BEKR Beckworth 126.02 48 *e*PKPdf **PKPdf** **16 31 24.0 +0.9**
NRS Narsarsuaq 126.09 346 *i* PKIKP **PKPdf** **16 31 22.7 +0.4**
NRS pmax pmax
comp=Z,99nm,0.8s
BMO Blue Mountains 126.26 41 *e*PKIKP **PKPdf** **16 31 23.3 -0.1**
BMO MLR MLR
comp=Z,2µm,21.0s
BMO Blue Mountains 126.26 41 *e*PKPdf **PKPdf** **16 31 23.3 -0.1**
BMO LR LR
comp=Z,2µm,21.0s
PMPST Porto Santo, M 126.32 304 *e*PKP **PKPdf** **16 31 25.2 +1.5**
PMPST Porto Santo, M 126.32 304 *e*PP PP 16 33 20.5 +1.7
PMPS Porto Santo 126.33 304 *e*PP PP 16 33 22.2 +3.4
WVOR Wild Horse Val 126.34 44 *e*PKIKP **PKPdf** **16 31 24.6 +1.0**
WVOR MLR MLR
comp=Z,2µm,22.0s
WVOR Wild Horse Val 126.34 44 *e*PKPdf **PKPdf** **16 31 24.6 +1.0**
WVOR LR LR
comp=Z,2µm,22.0s
WALA Waterton Lakes 126.35 35 *e*PKPdf **PKPdf** **16 31 23.8 +0.4**
BSMT Bassoo Peak 126.45 37 *e*PKPdf **PKPdf** **16 31 24.0 +0.3**
CMB Columbia Colle 126.57 50 *e*PKIKP **PKPdf** **16 31 24.6 +0.5**
CMB Columbia Colle 126.57 50 *e*PKPdf **PKPdf** **16 31 24.6 +0.5**
BLMT Blacktail Moun 126.62 36 *e*PKPdf **PKPdf** **16 31 24.2 +0.2**
PAHR Pah Rah Range 126.78 48 *e*PKPdf **PKPdf** **16 31 25.8 +1.2**
SWMT Swartz Lake 127.09 37 *e*PKPdf **PKPdf** **16 31 24.9 +0.1**
PMOZ Porto Moniz, M 127.09 304 *e*PKP **PKPdf** **16 31 27.0 +1.7**
PMOZ Porto Moniz, M 127.09 304 *e*PP PP 16 33 23.7 -0.3
PMOZ Porto Moniz, M 127.09 304 *e*LR LR 17 16 18.6
comp=Z,2µm,20.0s
WAKR Walker 127.13 49 *e*PKPdf **PKPdf** **16 31 26.5 +1.2**
MSO Missoula 127.46 37 ⇑PKiKP **PKiKP** **16 31 25.9 -0.2**
baz=128
SLMT Seeley Lake 127.52 37 *e*PKPdf **PKPdf** **16 31 25.6 -0.2**
SMMC Simmler 127.65 53 ⇓PKiKP **PKiKP** **16 31 27.5 +0.8**
baz=128
CHMT Chamberlain Mo 127.82 37 *e*PKPdf **PKPdf** **16 31 26.6 +0.2**
MFID Camas Ranch 127.84 42 ⇓PKiKP **PKiKP** **16 31 27.4 +0.4**
baz=128
MLAC Mammoth Lakes 127.86 50 ⇑PKiKP **PKiKP** **16 31 27.8 +0.4**
baz=128
PKM Peak Mountain 127.90 53 ⇑PKiKP **PKiKP** **16 31 28.4 +0.9**
baz=128
RCTC Rector, Farmer 127.96 52 ⇑PKiKP **PKiKP** **16 31 27.2 0.0**
baz=128
NVAR Mina Array Bea 128.00 49 PKP **PKPdf** **16 31 28.4 +1.4**
NVAR Mina Array Bea 128.00 49 PKP **PKPdf** **16 31 28.4 +1.4**
comp=Z,25nm,0.7s,baz=259,slow=1.7,SNR=93
BMN Battle Mountai 128.08 46 PKIKP **PKPdf** **16 31 28.2 +1.2**
BMN MLR MLR
comp=Z,1µm,20.0s
BMN Battle Mountai 128.08 46 PKPdf **PKPdf** **16 31 28.1 +1.2**
BMN LR LR
comp=Z,1µm,20.0s
NV11 Mina Array Sit 128.11 49 *e*PKPdf **PKPdf** **16 31 28.6 +1.4**
SBC Santa Barbara 128.11 54 ⇓PKiKP **PKiKP** **16 31 27.3 +0.3**
baz=128
VES Vestal, Richgr 128.21 52 ⇓PKiKP **PKiKP** **16 31 27.6 -0.2**
baz=128
BSC Santa Cruz Isl 128.29 55 ⇓PKiKP **PKPdf** **16 31 27.7 +0.3**
baz=128
TIN Tinemaha 128.50 50 ⇓PKiKP **PKiKP** **16 31 28.5 0.0**
baz=129
ARVC Arvin 128.62 53 ⇑PKiKP **PKiKP** **16 31 29.0 +0.3**
baz=129
HLID Hailey 128.70 41 *e*PKPdf **PKPdf** **16 31 29.4 +1.2**
HLID LR LR
comp=Z,2µm,21.0s
HLID Hailey 128.70 41 ⇑PKiKP **PKiKP** **16 31 29.5 +0.7**
baz=129
BLG Laguna Peak 128.72 54 ⇑PKiKP **PKPdf** **16 31 28.4 +0.2**
baz=129
ISA Isabella 128.74 52 PKIKP **PKPdf** **16 31 28.7 +0.4**
ISA Isabella 128.74 52 PKPdf **PKPdf** **16 31 28.7 +0.4**
ISA Isabella 128.74 52 ⇑PKiKP **PKPdf** **16 31 28.7 +0.4**
baz=129
HRY Holter Researc 128.77 37 *e*PKPdf **PKPdf** **16 31 28.1 +0.1**
CWC Cottonwood Cre 128.81 51 ⇓PKiKP **PKiKP** **16 31 29.7 +0.5**
baz=129
OSI Osito Adit 128.85 54 *e*PKPdf **PKPdf** **16 31 30.4 +1.9**
OSI Osito Adit 128.85 54 ⇓PKiKP **PKPdf** **16 31 28.5 0.0**
baz=129
LRM Limekiln Ridge 128.85 38 *e*PKPdf **PKPdf** **16 31 28.4 -0.1**
TPH Tonopah 128.92 49 PFAKE 16 31 40.0 +11
TPH LR LR
comp=Z,2µm,22.0s
DLMT Dillon 128.99 38 *e*PKPdf **PKPdf** **16 31 30.0 +1.4**
MCMT McKenzie Canyo 129.10 39 *e*PKPdf **PKPdf** **16 31 30.1 +1.1**
GRAC Grapevine Rang 129.17 50 ⇓PKiKP **PKiKP** **16 31 30.3 +0.5**
baz=129
D17A Six Diamond Ra 129.19 36 ⇑PKiKP **PKPdf** **16 31 29.1 +0.2**
baz=129
EGMT Eagleton 129.24 34 *e*PKPdf **PKPdf** **16 31 29.6 +0.8**
EGMT LR LR
comp=Z,2µm,19.0s
EGMT Eagleton 129.24 34 ⇑PKiKP **PKPdf** **16 31 29.7 +0.8**
baz=129
DECC Green Verdugo 129.26 54 ⇓PKiKP **PKPdf** **16 31 29.3 0.0**
baz=129
A19A Klindworth Far 129.26 33 ⇓PKiKP **PKPdf** **16 31 29.1 +0.2**
baz=129
ELK Elko 129.35 45 *e*PKPdf **PKPdf** **16 31 30.4 +0.8**
EDW2 Edwards Air Fo 129.35 53 ⇑PKiKP **PKiKP** **16 31 30.6 +0.4**
baz=129
MPMC Manual Prospec 129.38 51 ⇓PKiKP **PKiKP** **16 31 30.7 +0.3**
baz=129
PLCA Paso Flores 129.40 179 PKP **PKPdf** **16 31 29.4 -0.1**
PLCA *e*PKPdf **PKiKP** **16 31 30.0 -0.2**
PLCA Paso Flores 129.40 179 PKP **PKPdf** **16 31 29.4 -0.1**
comp=Z,33nm,1.1s,baz=175,slow=2.4,SNR=6.4
PASC Pasadena Art C 129.40 54 *e*PKPdf **PKPdf** **16 31 28.8 -0.7**
LRMC Laurel Mountai 129.41 52 ⇑PKiKP **PKiKP** **16 31 30.4 0.0**
baz=130
SCI San Clemente I 129.43 55 ⇑PKiKP **PKPdf** **16 31 29.8 +0.2**
baz=130
B19A Brinkman Farms 129.43 33 ⇑PKiKP **PKPdf** **16 31 29.5 +0.3**
baz=130
CIS Catalina Islan 129.43 55 ⇓PKiKP **PKPdf** **16 31 29.5 -0.1**

	baz=130						
BOZ	Bozeman (W)	129.44	38	ePKIKP	PKPdf	16 31 30.5	+1.0
BOZ				MLR	MLR		
	comp=Z,2μm,20.0s						
BOZ	Bozeman (W)	129.44	38	ePKPdf	PKPdf	16 31 30.5	+1.0
BOZ				LR	LR		
	comp=Z,2μm,20.0s						
FMP	Fort Macarthur	129.44	54	⇓PKiKP	PKPdf	16 31 29.9	+0.3
	baz=130						
E17A	Martinsdale	129.47	36	⇑PKiKP	PKiKP	16 31 30.2	0.0
	baz=130						
MWC	Mount Wilson	129.49	54	ePKPdf	PKPdf	16 31 30.2	+0.3
MWC	Mount Wilson	129.49	54	ePKPdf	PKPdf	16 31 30.2	+0.3
D18A	Linhart Farms,	129.68	35	⇑PKiKP	PKiKP	16 31 30.5	0.0
	baz=130						
A20A	Cobblestone Ra	129.72	32	⇓PKiKP	PKPdf	16 31 29.8	+0.1
	baz=130						
FURC	Furnace Creek,	129.73	51	⇑PKiKP	PKiKP	16 31 30.8	+0.1
	baz=130						
C19A	Slack Wire Ran	129.79	34	⇓PKiKP	PKiKP	16 31 31.0	+0.3
	baz=130						
BFSC	Mount Baldy Ra	129.80	54	⇑PKiKP	PKPdf	16 31 30.2	-0.2
	baz=130						
F17A	Fitzpatrick Pl	129.88	37	⇑PKiKP	PKiKP	16 31 31.4	+0.3
	baz=130						
B20A	Solberg Farm,	129.94	33	⇓PKiKP	PKiKP	16 31 30.7	-0.2
	baz=130						
E18A	Harlowton	129.96	36	⇓PKiKP	PKPdf	16 31 30.8	+0.4
	baz=130						
QLMT	Earthquake Lak	129.98	38	ePKPdf	PKPdf	16 31 31.9	+1.3
R11A	Troy Canyon, C	130.03	48	eP	PKPdf	16 31 31.6	+0.8
R11A	Troy Canyon, C	130.03	48	⇑PKiKP	PKiKP	16 31 32.0	+0.4
	baz=130						
RRX	Edison Barstow	130.13	53	⇓PKiKP	PKiKP	16 31 32.2	+0.5
	baz=130						
G17A	Pierce Place,	130.14	38	⇓PKiKP	PKiKP	16 31 31.5	-0.1
	baz=130						
GSC	Goldstone	130.15	52	ePKIKP	PKPdf	16 31 32.6	+1.6
GSC	Goldstone	130.15	52	ePKPdf	PKPdf	16 31 32.6	+1.6
GSC	Goldstone	130.15	52	⇓PKiKP	PKiKP	16 31 32.2	+0.4
	baz=130						
A21A	Bergtoll Ranch	130.18	32	⇓PKiKP	PKPdf	16 31 30.6	0.0
	baz=130						
D19A	Cripps Ranch,	130.21	35	⇑PKiKP	PKPdf	16 31 30.9	+0.1
	baz=130						
YMR	Madison River	130.34	38	ePKPdf	PKPdf	16 31 32.6	+1.3
MURC	Murrieta	130.35	54	⇑PKiKP	PKiKP	16 31 32.5	+0.3
	baz=130						
SHOC	Shoshone	130.36	51	⇓PKiKP	PKiKP	16 31 32.4	+0.3
	baz=130						
BBRC	Big Bear Solar	130.38	53	⇑PKiKP	PKPdf	16 31 31.5	-0.1
	baz=130						
C20A	Veseth Ranch,	130.38	34	⇑PKiKP	PKiKP	16 31 31.9	+0.1
	baz=130						
I16A	Newdale	130.42	40	⇑PKiKP	PKiKP	16 31 32.5	+0.3
	baz=130						
F18A	Big Timber	130.44	36	⇑PKiKP	PKiKP	16 31 31.9	-0.2
	baz=130						
B21A	Ellsworth Farm	130.48	32	⇑PKiKP	PKPdf	16 31 31.3	+0.1
	baz=130						
YNR	Norris Junctio	130.49	38	ePKPdf	PKPdf	16 31 33.2	+1.6
GCMT	Greycliff	130.53	37	ePKPdf	PKPdf	16 31 32.6	+1.1
YFT	Old Faithful	130.53	39	ePKPdf	PKPdf	16 31 34.4	+2.8
HVU	Hansel Valley	130.58	43	ePKIKP	PKPdf	16 31 33.1	+1.3
HVU	Hansel Valley	130.58	43	ePKPdf	PKPdf	16 31 33.1	+1.3
109C	Camp Elliot, M	130.62	55	⇑PKiKP	PKPdf	16 31 31.8	-0.1
	baz=131						
E19A	Rath Farm, Rou	130.66	35	⇑PKiKP	PKPdf	16 31 31.9	+0.2
	baz=131						
HEC	Hector,Ludlow	130.67	52	⇑PKiKP	PKiKP	16 31 32.6	-0.3
	baz=131						
D20A	Manuel Ranch,	130.67	34	⇓PKiKP	PKPdf	16 31 32.0	+0.4
	baz=131						
A22A	Carney Farms,	130.70	31	⇓PKiKP	PKiKP	16 31 32.2	-0.3
	baz=131						
H17A	Grant Village	130.72	39	⇑PKiKP	PKiKP	16 31 33.1	+0.1
	baz=131						
LKWY	Lake	130.74	38	PFAKE		16 31 40.0	+7.9
LKWY				LR	LR		
	comp=Z,3μm,20.0s						
IMW	Indian Meadow	130.75	39	ePKPdf	PKPdf	16 31 33.5	+1.3
RRI2	Red Ridge	130.79	40	ePKPpre	PKPpre	16 31 21.0	
RRI2				ePKPdf	PKiKP	16 31 32.9	-0.3
TUQ	Turquoise Moun	130.79	52	⇓PKiKP	PKiKP	16 31 33.3	+0.1
	baz=131						
BGU	Big Grassy Mou	130.79	44	ePKPdf	PKPdf	16 31 33.3	+1.1
C21A	Desert Coulee	130.80	33	⇓PKiKP	PKiKP	16 31 32.7	0.0
	baz=131						
FLWY	Flagg Ranch	130.81	39	ePKPdf	PKPdf	16 31 33.9	+1.7
G18A	Lazy EL Ranch,	130.85	37	⇑PKiKP	PKPdf	16 31 32.2	+0.1
	baz=131						
F19A	Roth Farm, Mol	130.91	36	⇑PKiKP	PKPdf	16 31 32.6	+0.4
	baz=131						
PFO	Pinyon Flat Ob	130.94	54	ePKPdf	PKPdf	16 31 34.1	+1.5
PFO				LR	LR		
	comp=Z,3μm,22.0s						
PFO	Pinyon Flat Ob	130.94	54	⇑PKiKP	PKiKP	16 31 33.6	+0.1
	baz=131						
MOOW	Moose Ponds	130.95	39	ePKPdf	PKPdf	16 31 33.0	+0.6
TPAW	Teton Pass	130.95	40	ePKPdf	PKPdf	16 31 33.7	+1.2
I17A	Pilgrim Ck.	130.97	39	⇓PKiKP	PKiKP	16 31 33.4	0.0
	baz=131						
SHPR	Sheep Range	131.01	50	ePKPdf	PKPdf	16 31 34.4	+1.7
E20A	Meyer Farm, Mu	131.01	35	⇑PKiKP	PKiKP	16 31 33.3	0.0
	baz=131						
BAR	Barrett	131.03	55	ePKPdf	PKPdf	16 31 33.3	+0.6
REDW	Red Top Meadow	131.07	40	ePKPdf	PKPdf	16 31 33.9	+1.2
SNOW	Snow King Moun	131.09	40	ePKPdf	PKPdf	16 31 34.1	+1.3
B22A	Reddig Ranch S	131.09	32	⇑PKiKP	PKiKP	16 31 33.3	0.0
	baz=131						
LOHW	Long Hollow	131.10	39	ePKPdf	PKPdf	16 31 33.7	+1.0
RLMT	Red Lodge	131.13	37	PKPdf	PKPdf	16 31 34.1	+1.4
RLMT				LR	LR		
	comp=Z,2μm,22.0s						
H18A	Shoshone NF, C	131.13	38	⇑PKiKP	PKiKP	16 31 33.5	-0.2
	baz=131						
MONP	Monument Peak	131.18	55	⇑PKiKP	PKiKP	16 31 34.4	+0.3
	baz=131						
BELC	Belle Mtn. Jos	131.18	53	⇓PKiKP	PKPdf	16 31 33.6	+0.5
	baz=131						
GMRC	Granite Mounta	131.20	52	⇓PKiKP	PKiKP	16 31 34.7	+0.7
	baz=131						
AHID	Auburn Hatcher	131.21	41	ePKPdf	PKPdf	16 31 33.8	+0.9
AHID				LR	LR		
	comp=Z,3μm,21.0s						
A23A	Redstone	131.24	31	⇓PKiKP	PKiKP	16 31 33.4	-0.1
	baz=131						
DUG	Dugway	131.26	45	ePKIKP	PKPdf	16 31 34.4	+1.3
DUG				MLR	MLR		
	comp=Z,1μm,19.0s						
DUG	Dugway	131.26	45	ePKPdf	PKPdf	16 31 34.4	+1.3
DUG				LR	LR		
	comp=Z,1μm,19.0s						
DUG	Dugway	131.26	45	⇓PKiKP	PKiKP	16 31 34.2	+0.2
	baz=131						
D21A	La Casta Ranch	131.31	34	⇓PKiKP	PKPdf	16 31 33.3	+0.5
	baz=131						
F20A	Billings	131.41	36	⇓PKiKP	PKiKP	16 31 33.7	-0.3
	baz=131						
HWUT	Hardware Ranch	131.46	42	ePKPdf	PKPdf	16 31 32.5	-0.9
HWUT				LR	LR		
	comp=Z,2μm,21.0s						
C22A	Vida	131.50	32	⇑PKiKP	PKiKP	16 31 33.8	-0.3
	baz=132						
DVTC	Desert V Tower	131.50	55	⇑PKiKP	PKiKP	16 31 34.8	+0.2
	baz=132						
B23A	Brockton	131.51	31	⇓PKiKP	PKiKP	16 31 34.1	0.0
	baz=132						
H19A	Powell	131.54	37	⇓PKiKP	PKiKP	16 31 34.6	+0.2
	baz=132						
I18A	Diamond G Ranc	131.55	39	⇓PKiKP	PKiKP	16 31 34.4	-0.2
	baz=132						
E21A	Keefer Ranch,	131.58	34	⇓PKiKP	PKiKP	16 31 34.3	0.0
	baz=132						
TRQA	Tornquist	131.59	188	ePKPdf	PKPdf	16 31 32.6	-1.0
TRQA				LR	LR		
	comp=Z,4μm,20.0s						
SWSC	Sam W. Stewart	131.66	55	⇑PKiKP	PKiKP	16 31 34.5	-0.4
	baz=132						
G20A	Bridger	131.69	36	⇓PKiKP	PKPdf	16 31 34.2	+0.4
	baz=132						
A24A	Westby	131.70	30	⇑PKiKP	PKiKP	16 31 34.4	-0.1
	baz=132						
D22A	Cohagen	131.71	33	⇓PKiKP	PKiKP	16 31 34.9	+0.4
	baz=132						
BC3	Big Chuckawall	131.72	54	⇑PKiKP	PKiKP	16 31 35.6	+0.5
	baz=132						
CTU	Camp Tracy	131.76	43	ePKPdf	PKPdf	16 31 35.9	+1.9
BART	Pico Bartolome	131.77	312	ePP	PP	16 33 54.5	+0.3
IRM	Iron Mountain	131.80	53	⇑PKiKP	PKiKP	16 31 35.5	+0.3
	baz=132						
ARUT	Antelope Range	131.81	48	ePKIKP	PKPdf	16 31 35.4	+1.2
ARUT	Antelope Range	131.81	48	ePKPdf	PKPdf	16 31 35.4	+1.2
C23A	Lambert	131.83	32	⇑PKiKP	PKiKP	16 31 34.8	0.0
	baz=132						
NLU	North Lily Min	131.87	44	ePKPdf	PKPdf	16 31 35.5	+1.2
I19A	Meeteetse	131.88	38	⇓PKiKP	PKiKP	16 31 35.0	-0.2
	baz=132						
DGMT	Dagmar	131.91	31	ePKPdf	PKPdf	16 31 35.9	+2.0
DGMT				LR	LR		
	comp=Z,2μm,20.0s						
DGMT	Dagmar	131.91	31	⇑PKiKP	PKiKP	16 31 34.5	-0.3
	baz=132						
CCUT	Cedar City	131.95	48	PKPdf	PKPdf	16 31 36.4	+1.8
LAO	LASA Array	131.97	34	ePKPdf	PKPdf	16 31 35.7	+1.6
LAO				LR	LR		
	comp=Z,2μm,21.0s						
F21A	Absaloka Mine,	131.98	35	⇓PKiKP	PKPdf	16 31 34.6	+0.4
	baz=132						
PSMN	Pico do Norte,	131.99	311	ePP	PP	16 33 56.2	+0.6
PSMN	Pico do Norte,	131.99	311	eLQ	LQ	17 09 07.0	
JLU	Jordanelle	132.01	43	ePKPdf	PKPdf	16 31 35.8	+1.2
CMLA	Cha da Macela	132.04	312	ePP	PP	16 33 57.0	+1.2
CMLA	Cha da Macela	132.04	312	eLQ	LQ	17 08 59.0	
CMLA	Cha da Macela	132.04	312	PFAKE		16 31 50.0	+16
CMLA				LR	LR		
	comp=Z,3μm,20.0s						
M17A	Scullys Gap (B	132.12	42	⇓PKiKP	PKPdf	16 31 35.1	+0.3
	baz=132						
A25A	Svangstu Ranch	132.13	30	⇓PKiKP	PKiKP	16 31 35.2	-0.1
	baz=132						
MPU	Maple Canyon	132.15	44	ePKPdf	PKPdf	16 31 36.1	+1.3
PSET	Sete Cidades	132.16	313	ePP	PP	16 33 58.6	+2.0
BW06	Boulder Array	132.19	40	ePKPdf	PKPdf	16 31 35.6	+0.7
BW06				LR	LR		
	comp=Z,2μm,21.0s						
PDAR	Pinedale Array	132.19	40	PKPpre	PKPpre	16 31 21.8	
PDAR				PKP	PKPdf	16 31 35.1	+0.3
PDAR	Pinedale Array	132.19	40	PKhKP	PKPpre	16 31 21.8	
	comp=Z,0.4nm,0.7s,baz=191,slow=3.9,SNR=3.9						
PDAR				PKP	PKPdf	16 31 35.1	+0.3
	comp=Z,15nm,0.7s,baz=278,slow=0.6,SNR=43						
DAU	Daniels Canyon	132.22	44	ePKIKP	PKPdf	16 31 36.4	+1.3
DAU	Daniels Canyon	132.22	44	ePKPdf	PKPdf	16 31 36.4	+1.3
H20A	Greybull	132.23	37	⇓PKiKP	PKiKP	16 31 35.4	-0.4
	baz=132						
J19A	Crowheart	132.25	39	⇑PKiKP	PKPdf	16 31 35.4	+0.6
	baz=132						
E22A	Miles City	132.27	34	⇓PKiKP	PKiKP	16 31 35.5	-0.2
	baz=132						
G21A	Lodge Grass	132.28	36	⇑PKiKP	PKiKP	16 31 35.5	-0.4
	baz=132						
L18A	Fontenelle, Gr	132.31	41	⇓PKiKP	PKiKP	16 31 36.1	-0.1
	baz=132						
C24A	Savage	132.40	32	⇑PKiKP	PKiKP	16 31 35.5	-0.5
	baz=132						
GLA	Glamis	132.41	54	ePKIKP	PKPdf	16 31 37.0	+1.7
GLA	Glamis	132.41	54	ePKPdf	PKPdf	16 31 37.0	+1.7
GLA	Glamis	132.41	54	⇑PKiKP	PKiKP	16 31 36.7	+0.3
	baz=132						
Y12C	Blythe	132.43	53	⇓PKiKP	PKiKP	16 31 36.3	-0.1
	baz=132						
I20A	Worland	132.45	38	⇓PKiKP	PKiKP	16 31 35.9	-0.3
	baz=132						
W13A	Hualapai Mount	132.47	51	⇑PKiKP	PKiKP	16 31 36.8	+0.1
	baz=132						
F22A	Rosebud	132.49	35	⇑PKiKP	PKiKP	16 31 36.0	-0.2
	baz=132						
PDMCI	Parker Dam,Lak	132.55	52	⇓PKiKP	PKiKP	16 31 36.4	-0.2
	baz=133						
B25A	Knox Farm, Ray	132.55	30	⇓PKiKP	PKiKP	16 31 35.9	-0.3
	baz=133						
E23A	Ismay	132.58	33	⇓PKiKP	PKiKP	16 31 36.1	-0.3
	baz=133						
K19A	Absolon Red Bu	132.61	40	⇑PKiKP	PKPdf	16 31 35.9	+0.3
	baz=133						
L19A	Farson	132.66	41	⇑PKiKP	PKiKP	16 31 36.6	-0.3
	baz=133						
A26A	Wade Farm, Ken	132.68	29	⇓PKiKP	PKPdf	16 31 35.9	+0.6
	baz=133						
D24A	Glendive	132.72	32	⇓PKiKP	PKPdf	16 31 35.8	+0.4
	baz=133						
H21A	Big Horn, Sher	132.72	36	⇑PKiKP	PKiKP	16 31 36.4	-0.3
	baz=133						
TMUT	Trail Mountain	132.76	45	ePKPdf	PKPdf	16 31 36.9	+0.7
J20A	Shoshoni	132.80	38	⇓PKiKP	PKPdf	16 31 36.3	+0.5
	baz=133						
G22A	Birney	132.81	35	⇑PKiKP	PKPdf	16 31 36.4	+0.6
	baz=133						
C25A	Freed Ranch, W	132.88	31	⇑PKiKP	PKiKP	16 31 37.0	+0.1
	baz=133						
B26A	Jensen Ranch,	132.94	30	⇓PKiKP	PKiKP	16 31 37.0	0.0
	baz=133						
Q16A	Castle Valley	132.96	45	ePKPdf	PKPdf	16 31 37.7	+1.3
Q16A	Castle Valley	132.96	45	⇑PKiKP	PKiKP	16 31 37.4	-0.2
	baz=133						
F23A	Volborg	133.00	34	⇑PKiKP	PKPdf	16 31 36.5	+0.4
	baz=133						
A27A	Ledoux Ranch,	133.01	28	⇓PKiKP	PKPdf	16 31 36.5	+0.6
	baz=133						
K20A	Yellowstone Ra	133.02	39	⇓PKiKP	PKPdf	16 31 36.6	+0.3
	baz=133						
I21A	Big Trails, Te	133.03	38	⇓PKiKP	PKPdf	16 31 36.6	+0.3
	baz=133						
E24A	Baker	133.08	33	⇑PKiKP	PKiKP	16 31 36.9	-0.5
	baz=133						
M19A	Rock Springs	133.09	41	⇓PKiKP	PKPdf	16 31 37.0	+0.4
	baz=133						
H22A	Clearmont	133.14	36	⇑PKiKP	PKPdf	16 31 37.0	+0.5
	baz=133						
U15A	North Rim	133.18	49	⇑PKiKP	PKiKP	16 31 38.8	+0.6
	baz=133						
J21A	Lysite	133.20	38	⇑PKiKP	PKPdf	16 31 37.0	+0.3
	baz=133						
D25A	Fairfield	133.22	32	⇓PKiKP	PKiKP	16 31 37.4	-0.3
	baz=133						
PGRA	Graciosa	133.25	315	ePP	PP	16 34 05.1	+1.6
PGRA	Graciosa	133.25	315	eLQ	LQ	17 09 02.0	
SRU	San Rafael	133.32	45	ePKIKP	PKPdf	16 31 36.2	-0.8
SRU	San Rafael	133.32	45	ePKPdf	PKPdf	16 31 36.2	-0.8
G23A	Biddle	133.33	35	⇓PKiKP	PKiKP	16 31 37.8	-0.1
	baz=133						
113A	Mohawk Valley,	133.34	54	⇑PKiKP	PKPdf	16 31 37.3	+0.4
	baz=133						
L20A	Wamsutter	133.36	40	⇓PKiKP	PKPdf	16 31 37.6	+0.6
	baz=133						
C26A	Wahner Farm, P	133.38	30	⇑PKiKP	PKPdf	16 31 37.3	+0.6
	baz=133						
B27A	Peters Farms,	133.39	29	⇓PKiKP	PKiKP	16 31 37.3	-0.6
	baz=133						
F24A	Ekalaka	133.46	34	⇑PKiKP	PKPdf	16 31 37.3	+0.4
	baz=134						
I22A	9 Mile Ranch,	133.47	37	⇓PKiKP	PKPdf	16 31 37.0	-0.1
	baz=134						
A28A	Rude Farm, Bot	133.50	28	⇑PKiKP	PKPdf	16 31 37.1	+0.3
	baz=134						
Y14A	Wickenburg	133.56	52	⇑PKiKP	PKPdf	16 31 38.0	+0.5
	baz=134						
ROSA	Rosais	133.57	315	ePP	PP	16 34 07.5	+1.9
ROSA	Rosais	133.57	315	eLQ	LQ	17 09 04.5	
E25A	Miller Ranch,	133.60	32	⇓PKiKP	PKiKP	16 31 37.8	-0.6
	baz=134						
H23A	Clabaugh Cattl	133.71	36	⇓PKiKP	PKPdf	16 31 37.5	0.0
	baz=134						
K21A	Alcova	133.71	39	⇓PKiKP	PKPdf	16 31 37.9	+0.2
	baz=134						
M20A	Sweetwater, Wa	133.73	41	⇓PKiKP	PKiKP	16 31 38.6	-0.5
	baz=134						
J22A	Midwest	133.74	38	⇑PKiKP	PKPdf	16 31 37.6	-0.1
	baz=134						
C27A	Sayler Ranch,	133.75	30	⇑PKiKP	PKPdf	16 31 37.7	+0.4
	baz=134						
B28A	Dugan Ranch, T	133.78	28	⇑PKiKP	PKPdf	16 31 37.9	+0.6
	baz=134						
G24A	Alzada	133.79	34	⇑PKiKP	PKPdf	16 31 37.8	+0.2
	baz=134						
Z14A	Wintersburg	133.80	53	⇑PKiKP	PKPdf	16 31 37.8	0.0
	baz=134						
F25A	Bowman	133.94	33	⇓PKiKP	PKPdf	16 31 38.5	+0.6
	baz=134						
LPA	La Plata	133.94	193	PKIKP	PKPdf	16 31 39.0	+0.9
LPA				SKP	SKPbc	16 35 05.0	0.0
LPA				SKIKP		16 35 11.0	
LPA				PSP	PSP	16 46 10.0	
A29A	Manning Farm,	133.96	27	⇑PKiKP	PKPdf	16 31 37.9	+0.2
	baz=134						
L21A	Rawlins	134.00	40	⇓PKiKP	PKPdf	16 31 38.4	+0.2
	baz=134						
N20A	Spence Gulch,	134.01	42	⇓PKiKP	PKiKP	16 31 39.1	-0.6
	baz=134						
I23A	Meade Ranch, G	134.03	36	⇑PKiKP	PKPdf	16 31 38.3	+0.1
	baz=134						
H24A	Dirks Ranch, A	134.08	35	⇑PKiKP	PKPdf	16 31 38.3	+0.2
	baz=134						
K22A	Casper	134.15	38	⇓PKiKP	PKPdf	16 31 38.8	+0.4
	baz=134						
D27A	Center	134.16	30	⇑PKiKP	PKPdf	16 31 38.5	+0.3
	baz=134						
M21A	Separation Pea	134.19	40	⇑PKiKP	PKPdf	16 31 39.1	+0.4
	baz=134						
WUAZ	Wupatki	134.22	50	ePKPpre	PKPpre	16 31 27.4	
WUAZ				LR	LR		
	comp=Z,1μm,20.0s						
WUAZ	Wupatki	134.22	50	⇑PKiKP	PKiKP	16 31 39.9	-0.3
	baz=134						
B29A	Wagenman Farm,	134.24	28	⇓PKiKP	PKPdf	16 31 38.5	+0.3
	baz=134						
RWWY	Rawlins	134.24	40	ePKPdf	PKPdf	16 31 39.2	+0.4
C28A	Hausauer Farms	134.29	29	⇓PKiKP	PKPdf	16 31 38.7	+0.4
	baz=134						
J23A	Dilts Ranch, B	134.30	37	⇑PKiKP	PKPdf	16 31 38.8	+0.1
	baz=134						
A30A	Hoffart Farm,	134.36	27	⇑PKiKP	PKPdf	16 31 38.6	+0.2
	baz=134						
214A	Organ Pipe Nat	134.37	55	⇓PKiKP	PKiKP	16 31 39.9	-0.5
	baz=134						
O20A	White River Ci	134.38	42	ePKPdf	PKPdf	16 31 40.3	+1.3
O20A	White River Ci	134.38	42	⇑PKiKP	PKiKP	16 31 39.8	-0.6
	baz=134						
F26A	Lodgepole	134.41	33	⇓PKiKP	PKPdf	16 31 39.1	+0.4
	baz=134						
G25A	Newell	134.43	34	⇓PKiKP	PKPdf	16 31 39.2	+0.5
	baz=134						
N21A	Black Mountain	134.54	41	⇓PKiKP	PKPdf	16 31 39.9	+0.6
	baz=135						
L22A	Ellis Ranch, M	134.54	39	⇑PKiKP	PKPdf	16 31 39.8	+0.6
	baz=135						
MDND	Maddock	134.57	28	ePKPdf	PKPdf	16 31 39.5	+0.6
MDND	Maddock	134.57	28	⇓PKiKP	PKPdf	16 31 39.4	+0.5
	baz=135						
D28A	Regan	134.57	30	⇑PKiKP	PKiKP	16 31 39.8	-0.6
	baz=135						
G27A	Dupree	134.57	33	⇓PKiKP	PKiKP	16 31 40.2	-0.2
	baz=135						
I24A	Kuemmerle Ranc	134.57	36	⇓PKiKP	PKPdf	16 31 39.1	0.0
	baz=135						
X16A	Lo Mia Camp, P	134.59	51	⇓PKiKP	PKiKP	16 31 40.5	-0.4
	baz=135						
P20A	De Beque	134.60	43	⇓PKiKP	PKPdf	16 31 40.0	+0.6
	baz=135						
E27A	Carson	134.60	31	⇑PKiKP	PKPdf	16 31 39.7	+0.7
	baz=135						
H25A	Fruitdale	134.69	34	⇑PKiKP	PKPdf	16 31 39.5	+0.2
	baz=135						
B30A	Myrvik Farm, E	134.71	27	⇑PKiKP	PKPdf	16 31 39.4	+0.3
	baz=135						
F27A	Lemmon	134.73	32	⇑PKiKP	PKiKP	16 31 40.1	-0.7
	baz=135						
RSSD	Black Hills	134.75	35	ePKHKP	PKPpre	16 31 23.9	
RSSD				e		16 31 39.2	
RSSD	Black Hills	134.75	35	ePKPpre	PKPpre	16 31 23.9	
RSSD				ePKPdf	PKPdf	16 31 39.2	-0.4
G26A	Maurine	134.81	33	⇑PKiKP	PKPdf	16 31 39.9	+0.5
	baz=135						
O21A	Pagoda	134.85	42	⇑PKiKP	PKPdf	16 31 40.1	+0.2
	baz=135						
J24A	Dixon Ranch, L	134.87	37	⇑PKiKP	PKPdf	16 31 39.8	+0.1
	baz=135						
Q20A	Ridgley Place,	134.93	44	⇓PKiKP	PKiKP	16 31 41.0	-0.5
	baz=135						
E28A	Huff	134.94	30	⇑PKiKP	PKPdf	16 31 39.9	+0.3
	baz=135						
L23A	Garrett	134.95	39	⇓PKiKP	PKPdf	16 31 40.3	+0.3
	baz=135						
I25A	Rochford	134.99	35	⇓PKiKP	PKPdf	16 31 40.3	+0.3
	baz=135						
D29A	Pettibone, Tap	135.13	29	⇓PKiKP	PKPdf	16 31 39.8	-0.2
	baz=135						
K24A	Anderson Ranch	135.14	37	⇑PKiKP	PKPdf	16 31 40.4	+0.1
	baz=135						
H26A	Fairpoint	135.15	34	⇓PKiKP	PKPdf	16 31 40.4	+0.3
	baz=135						
C30A	Mose, Pekin	135.20	28	⇑PKiKP	PKPdf	16 31 40.8	+0.7
	baz=135						
N22A	Wattenberg Ran	135.20	41	⇓PKiKP	PKPdf	16 31 41.3	+0.7
	baz=135						
P21A	Newcastle	135.22	43	⇑PKiKP	PKiKP	16 31 41.7	-0.4
	baz=135						
R20A	Redvale	135.24	45	⇓PKiKP	PKiKP	16 31 41.9	-0.3
	baz=135						
M23A	Laramie	135.30	39

AGMN	Agassiz Nation	135.90	25	ePKPdf	PKPdf	16 31 41.3	-0.1
AGMN				LR	LR		
	comp=Z,3µm,20.0s						
Q22A	Crested Butte,	135.91	43	⇓PKiKP	PKiKP	16 31 43.2	-0.5
	baz=136						
U20A	Newcomb	135.97	47	⇑PKiKP	PKiKP	16 31 43.3	-0.4
	baz=136						
L25A	Engebretsen Ra	135.98	37	⇑PKiKP	PKPdf	16 31 42.5	+0.6
	baz=136						
K26A	Motz Farm, Whi	136.12	36	⇑PKiKP	PKPdf	16 31 42.1	+0.1
	baz=136						
N24A	Carr	136.18	40	⇑PKiKP	PKiKP	16 31 43.2	-0.8
	baz=136						
V20A	Brimhall	136.26	48	⇓PKiKP	PKPdf	16 31 43.5	+0.8
	baz=136						
ISCO	Idaho Springs	136.28	41	ePKIKP	PKPdf	16 31 43.7	+1.0
ISCO				MLR	MLR		
	comp=Z,2µm,20.0s						
ISCO	Idaho Springs	136.28	41	ePKPdf	PKPdf	16 31 43.7	+1.0
ISCO				LR	LR		
	comp=Z,2µm,20.0s						
ISCO	Idaho Springs	136.28	41	⇑PKiKP	PKPdf	16 31 43.4	+0.7
	baz=136						
R22A	Saguache, Gunn	136.33	44	⇓PKiKP	PKiKP	16 31 43.9	-0.7
	baz=136						
P23A	Jefferson	136.36	42	⇑PKiKP	PKiKP	16 31 44.0	-0.6
	baz=136						
T21A	Navajo Lake	136.39	46	⇓PKiKP	PKiKP	16 31 44.2	-0.4
	baz=136						
J27A	Elkhorn Farm,	136.44	35	⇓PKiKP	PKPdf	16 31 43.2	+0.6
	baz=136						
O24A	Longmont	136.45	41	⇑PKiKP	PKiKP	16 31 43.8	-0.7
	baz=136						
S22A	4UR Ranch, Cre	136.52	45	⇑PKiKP	PKiKP	16 31 44.6	-0.3
	baz=137						
W20A	Ramah	136.53	49	⇓PKiKP	PKiKP	16 31 44.7	-0.2
	baz=137						
U21A	Nageezi	136.56	47	⇑PKiKP	PKiKP	16 31 44.8	-0.2
	baz=137						
L26A	Underwood Farm	136.58	37	⇓PKiKP	PKPdf	16 31 43.3	+0.4
	baz=137						
Q23A	Hartsel	136.61	43	⇓PKiKP	PKPdf	16 31 44.3	+0.9
	baz=137						
K27A	Flueckinger Fa	136.66	36	⇑PKiKP	PKPdf	16 31 43.1	+0.1
	baz=137						
N25A	Grover	136.69	39	⇓PKiKP	PKPdf	16 31 43.8	+0.5
	baz=137						
J28A	Allard Ranch,	136.76	34	⇓PKiKP	PKPdf	16 31 43.8	+0.6
	baz=137						
X20A	Quemado	136.78	50	⇓PKiKP	PKiKP	16 31 45.2	-0.3
	baz=137						
T22A	Edith	136.82	46	⇓PKiKP	PKiKP	16 31 45.5	0.0
	baz=137						
V21A	Milan	136.86	47	⇑PKiKP	PKiKP	16 31 45.3	-0.3
	baz=137						
M26A	McRoberts Ranc	136.88	38	⇑PKiKP	PKPdf	16 31 44.4	+0.8
	baz=137						
P24A	Kohler Place,	136.89	41	⇑PKiKP	PKiKP	16 31 44.7	-0.9
	baz=137						
R23A	Moffat	136.98	43	⇑PKiKP	PKiKP	16 31 45.6	-0.3
	baz=137						
L27A	T5 Ranch, Ells	137.00	36	⇑PKiKP	PKPdf	16 31 44.0	+0.3
	baz=137						
Q24A	Divide	137.03	42	⇑PKiKP	PKPdf	16 31 44.9	+0.8
	baz=137						
O25A	Wiggins	137.07	40	⇓PKiKP	PKPdf	16 31 44.8	+0.9
	baz=137						
S23A	Nye Farm, Mont	137.11	44	⇑PKiKP	PKiKP	16 31 45.4	-0.7
	baz=137						
Y20A	Horse Springs,	137.13	50	⇑PKiKP	PKiKP	16 31 45.9	-0.3
	baz=137						
K28A	Ten Mile Ranch	137.15	35	⇑PKiKP	PKPdf	16 31 44.5	+0.6
	baz=137						
W21A	San Fidel	137.16	48	⇓PKiKP	PKiKP	16 31 46.4	+0.2
	baz=137						
U22A	Llaves	137.16	46	⇑PKiKP	PKiKP	16 31 45.9	-0.3
	baz=137						
N26A	Koester Ranch,	137.21	39	⇓PKiKP	PKPdf	16 31 44.7	+0.6
	baz=137						
Z20A	Nine Sixteen R	137.28	52	⇓PKiKP	PKiKP	16 31 46.2	-0.2
	baz=137						
BRSD	Miller	137.29	31	⇑PKiKP	PKPdf	16 31 44.1	+0.1
	baz=137						
M27A	Reverse DX Ran	137.30	37	⇓PKiKP	PKPdf	16 31 44.6	+0.4
	baz=137						
V22A	San Miguel Ran	137.34	47	⇑PKiKP	PKiKP	16 31 46.1	-0.5
	baz=137						
X21A	Alamocita Cree	137.35	49	⇓PKiKP	PKiKP	16 31 46.4	-0.3
	baz=137						
P25A	Willow Gulch B	137.37	41	⇑PKiKP	PKPdf	16 31 45.4	+0.8
	baz=137						
319A	Douglas	137.39	54	⇓PKiKP	PKiKP	16 31 46.2	-0.5
	baz=138						
T23A	Casias Ranch,	137.42	45	⇑PKiKP	PKiKP	16 31 46.2	-0.5
	baz=138						
SDCO	Great Sand Dun	137.43	44	ePKPdf	PKPdf	16 31 45.7	+0.8
SDCO				LR	LR		
	comp=Z,3µm,21.0s						
R24A	Sanders Place,	137.45	43	⇓PKiKP	PKiKP	16 31 46.2	-0.5
	baz=138						
120A	U Bar Ranch, L	137.47	52	⇑PKiKP	PKiKP	16 31 46.0	-0.9
	baz=138						
O26A	Horse Wrangler	137.50	39	⇓PKiKP	PKPdf	16 31 44.9	+0.2
	baz=138						
L28A	Connealy Angus	137.51	36	⇑PKiKP	PKPdf	16 31 44.9	+0.3
	baz=138						
Y21A	Point of Rocks	137.62	50	⇓PKiKP	PKiKP	16 31 46.5	-0.7
	baz=138						
N27A	Anderson Farm,	137.64	38	⇓PKiKP	PKPdf	16 31 45.2	+0.2
	baz=138						
Q25A	Bedland, Calha	137.65	42	⇓PKiKP	PKPdf	16 31 45.8	+0.6
	baz=138						
U23A	El Rito	137.65	46	⇑PKiKP	PKiKP	16 31 46.8	-0.4
	baz=138						
S24A	Houchin Ranch,	137.68	44	⇑PKiKP	PKiKP	16 31 46.8	-0.5
	baz=138						
W22A	Albuquerque	137.75	48	⇓PKiKP	PKiKP	16 31 47.2	-0.2
	baz=138						
220A	Playas Peak, P	137.80	53	⇓PKiKP	PKPdf	16 31 46.5	+1.0
	baz=138						
LAZ	Ladron	137.85	49	ePKPdf	PKPdf	16 31 46.8	+1.1
T24B	San Luis	137.86	45	⇓PKiKP	PKiKP	16 31 47.3	-0.4
	baz=138						
OGNE	Ogallala	137.87	38	PFAKE		16 32 00.0	+15
OGNE				LR	LR		
	comp=Z,3µm,22.0s						
OGNE	Ogallala	137.87	38	⇑PKiKP	PKPdf	16 31 45.8	+0.5
	baz=138						
P26A	Davis Ranch, A	137.87	40	⇓PKiKP	PKPdf	16 31 46.4	+1.0
	baz=138						
X22A	Bernardo	137.90	49	⇓PKiKP	PKiKP	16 31 47.6	-0.1
	baz=138						
Z21A	St. Cloud Mine	137.91	51	⇑PKiKP	PKiKP	16 31 47.2	-0.5
	baz=138						
EYMN	Ely	137.92	22	ePKPpre	PKPpre	16 31 37.9	
EYMN				LR	LR		
	comp=Z,3µm,21.0s						
V23A	Ortiz Mt. (NFS	137.94	47	⇑PKiKP	PKiKP	16 31 47.4	-0.4
	baz=138						
M28A	Bar X Bar Ranc	137.98	37	⇓PKiKP	PKPdf	16 31 45.9	+0.4
	baz=138						
320A	Kipp Ranch, An	138.01	54	⇑PKiKP	PKiKP	16 31 47.7	-0.3
	baz=138						
R25A	Fountain Ranch	138.04	43	⇓PKiKP	PKPdf	16 31 46.6	+0.8
	baz=138						
O27A	Beecher Island	138.05	39	⇓PKiKP	PKPdf	16 31 46.3	+0.6
	baz=138						
L29A	Maesberg Ranch	138.07	35	⇓PKiKP	PKPdf	16 31 45.4	-0.2
	baz=138						
LENM	Lemitar	138.07	49	PKPdf	PKPdf	16 31 46.7	+0.7
ANMO	Albuquerque	138.11	48	ePKPdf	PKPpre	16 31 35.8	
ANMO				PKPpre	PKPpre	16 31 37.4	
ANMO				LR	LR		
	comp=Z,3µm,22.0s						
ANMO	Albuquerque	138.11	48	PKhKP	PKPpre	16 31 37.4	
	comp=Z,3.8nm,0.8s,baz=285,slow=4.6,SNR=13						
Q26A	Hugo	138.12	41	⇑PKiKP	PKPdf	16 31 46.6	+0.7
	baz=138						
121A	Cookes Peak, D	138.14	52	⇑PKiKP	PKiKP	16 31 47.5	-0.7
	baz=138						
Y22D	IRIS PASSCAL I	138.15	49	⇓PKiKP	PKiKP	16 31 47.3	-0.9
	baz=138						
Y22A	Socorro	138.18	50	⇓PKiKP	PKiKP	16 31 47.4	-0.9
	baz=138						
S25A	Robets Cordova	138.20	43	⇓PKiKP	PKPdf	16 31 47.0	+0.9
	baz=138						
W23A	Werner Place,	138.24	47	⇓PKiKP	PKiKP	16 31 47.5	-0.9
	baz=138						
U24A	Moreno Valley	138.26	45	⇑PKiKP	PKiKP	16 31 47.9	-0.6
	baz=138						
N28A	Pribbeno Ranch	138.32	38	⇓PKiKP	PKPdf	16 31 46.4	+0.2
	baz=138						
BNM	Barren Site	138.34	49	ePKPdf	PKPdf	16 31 47.8	+1.2
221A	Mesquite Ranch	138.35	53	⇑PKiKP	PKiKP	16 31 47.8	-0.8
	baz=138						
M29A	Burnside Ranch	138.35	36	⇓PKiKP	PKPdf	16 31 46.3	+0.1
	baz=138						
P27A	Ficken Ranch,	138.36	40	⇑PKiKP	PKPdf	16 31 46.7	+0.4
	baz=138						
Z22A	Elephant Butte	138.47	51	⇑PKiKP	PKiKP	16 31 47.9	-1.0
	baz=138						
X23A	Hourglass Bar	138.47	48	⇓PKiKP	PKiKP	16 31 47.9	-1.0
	baz=138						
T25A	Trinidad	138.49	44	⇑PKiKP	PKiKP	16 31 48.2	-0.7
	baz=138						
CFAA	Coronel Fontan	138.50	181	PKPpre	PKPpre	16 31 35.9	
CFAA				PKP	PKPdf	16 31 47.1	+0.4
CFAA				PP	PP	16 34 35.5	+0.2
CFAA	Coronel Fontan	138.50	181	PKhKP	PKPpre	16 31 35.9	
	baz=210,slow=4.1						
CFAA				PKP	PKPdf	16 31 47.1	+0.4
	comp=Z,4.7nm,0.8s,baz=199,slow=3.1						
CFAA				PP	PP	16 34 35.6	+0.2
	comp=Z,0.8nm,0.9s,baz=191,slow=10,SNR=4.2						
R26A	Arlington	138.51	42	⇑PKiKP	PKiKP	16 31 47.7	-1.0
	baz=138						
V24A	Rampart Ranch,	138.60	46	⇓PKiKP	PKiKP	16 31 48.5	-0.7
	baz=139						
KSCO	Kaye Shedlock'	138.64	40	ePKPdf	PKPdf	16 31 47.7	+0.9
KSCO	Kaye Shedlock'	138.64	40	⇓PKiKP	PKPdf	16 31 47.7	+0.9
	baz=139						
122A	Conniff Cattle	138.68	51	⇓PKiKP	PKiKP	16 31 48.5	-0.8
	baz=139						
W24A	Lazy 6 Ranch,	138.75	47	⇑PKiKP	PKiKP	16 31 48.6	-0.8
	baz=139						
M30A	Dale-Ortello V	138.76	35	⇑PKiKP	PKPdf	16 31 46.9	0.0
	baz=139						
N29A	Votaw Ranch, W	138.78	37	⇑PKiKP	PKPdf	16 31 47.6	+0.6
	baz=139						
222A	Williams Famil	138.84	52	⇓PKiKP	PKPdf	16 31 48.3	+0.9
	baz=139						
Y23A	Lovelace Mesa,	138.86	49	⇓PKiKP	PKPdf	16 31 48.2	+0.7
	baz=139						
U25A	Circle Dot Ran	138.87	45	⇓PKiKP	PKiKP	16 31 48.6	-1.0
	baz=139						
R27A	Eads	138.94	41	⇓PKiKP	PKPdf	16 31 48.3	+0.8
	baz=139						
ECSD	EROS Data Cent	138.99	30	ePKPpre	PKPpre	16 31 38.4	
ECSD				LR	LR		
	comp=Z,2µm,20.0s						
Z23A	Rita Site, Whi	139.02	50	⇓PKiKP	PKiKP	16 31 49.3	-0.7
	baz=139						
T26A	Comanche Natio	139.02	43	⇓PKiKP	PKPdf	16 31 48.6	+0.9
	baz=139						
X24A	Lazy VL Ranch,	139.03	48	⇓PKiKP	PKPdf	16 31 47.8	0.0
	baz=139						
O29A	4D Ranch, Culb	139.11	38	⇓PKiKP	PKPdf	16 31 47.9	+0.3
	baz=139						
Q28A	Sharon Springs	139.12	40	⇓PKiKP	PKPdf	16 31 48.3	+0.6
	baz=139						
S27A	Las Animas	139.21	42	⇑PKiKP	PKPdf	16 31 48.1	+0.2
	baz=139						
123A	Bell Site, Whi	139.27	51	⇑PKiKP	PKPdf	16 31 49.0	+0.8
	baz=139						
Y24A	Capitan	139.32	49	⇑PKiKP	PKiKP	16 31 49.6	-1.1
	baz=139						
U26A	Atchley Ranch,	139.33	44	⇓PKiKP	PKPdf	16 31 49.1	+0.8
	baz=139						
P29A	Atwood	139.35	38	⇑PKiKP	PKPdf	16 31 48.4	+0.3
	baz=139						
223A	Chaparral, Ant	139.40	52	⇓PKiKP	PKPdf	16 31 48.8	+0.4
	baz=140						
W25A	X Bar L Ranch,	139.42	46	⇑PKiKP	PKPdf	16 31 48.9	+0.4
	baz=140						
O30A	MW Ranch, Wils	139.52	37	⇓PKiKP	PKPdf	16 31 48.4	+0.1
	baz=140						
R28A	Tribune	139.55	41	⇓PKiKP	PKPdf	16 31 49.1	+0.6
	baz=140						
V26A	Tequesquite Ra	139.61	45	⇑PKiKP	PKPdf	16 31 49.2	+0.5
	baz=140						
X25A	Clemmons Ranch	139.61	47	⇓PKiKP	PKPdf	16 31 49.0	+0.2
	baz=140						
SPMN	St. Paul	139.62	26	ePKPdf	PKPdf	16 31 48.2	0.0
SPMN	St. Paul	139.62	26	⇑PKiKP	PKPdf	16 31 49.0	+0.7
	baz=140						
Z24A	Sheeppen Canyo	139.65	50	⇑PKiKP	PKPdf	16 31 49.9	+0.9
	baz=140						
T27A	Campo	139.67	43	⇓PKiKP	PKPdf	16 31 49.6	+0.8
	baz=140						
Q29A	Oakley	139.75	39	⇑PKiKP	PKPdf	16 31 49.6	+0.8
	baz=140						
P30A	Selden	139.80	38	⇓PKiKP	PKPdf	16 31 49.1	+0.2
	baz=140						
BGNE	Belgrade	139.81	34	ePKPdf	PKPdf	16 31 48.9	+0.1
BGNE	Belgrade	139.81	34	⇓PKiKP	PKPdf	16 31 48.9	+0.1
	baz=140						
124A	Stringfield Ra	139.85	50	⇑PKiKP	PKPdf	16 31 50.1	+0.7
	baz=140						
Y25A	Mesa, Roswell	139.87	48	⇓PKiKP	PKPdf	16 31 49.8	+0.5
	baz=140						
S28A	Manter	139.92	42	⇑PKiKP	PKPdf	16 31 49.5	+0.3
	baz=140						
R29A	Marienthal	139.93	40	⇑PKiKP	PKPdf	16 31 49.8	+0.6
	baz=140						
U27A	Thompson Grove	139.95	44	⇑PKiKP	PKPdf	16 31 50.2	+0.9
	baz=140						
W26A	Owens Ranch, T	139.98	46	⇓PKiKP	PKPdf	16 31 50.6	+1.2
	baz=140						
T28A	Walsh	140.04	42	⇑PKiKP	PKPdf	16 31 50.4	+0.9
	baz=140						
224A	Cornudas Mount	140.07	51	⇓PKiKP	PKPdf	16 31 50.9	+1.2
	baz=140						
Z25A	Roswell	140.15	49	⇓PKiKP	PKPdf	16 31 50.7	+0.9
	baz=140						
Q30A	Quinter	140.17	39	⇓PKiKP	PKPdf	16 31 50.0	+0.4
	baz=140						
X26A	CR and CF Fran	140.22	47	⇑PKiKP	PKPdf	16 31 50.9	+1.0
	baz=140						
V27A	Dan Oppiter Fa	140.29	45	⇑PKiKP	PKPdf	16 31 50.4	+0.5
	baz=140						
MNTX	Cornudas Mount	140.34	52	ePKPpre	PKPpre	16 31 42.7	
MNTX				ePKPdf	PKPdf	16 31 51.3	+1.3
MNTX				LR	LR		
	comp=Z,1µm,20.0s						
P31A	Stockton	140.34	37	⇓PKiKP	PKPdf	16 31 49.9	+0.1
	baz=140						
COWI	Conover	140.35	22	ePKPdf	PKPdf	16 31 50.2	+0.7
COWI				LR	LR		
	comp=Z,2µm,20.0s						
324A	Moseley Ranch,	140.37	52	⇑PKiKP	PKPdf	16 31 51.1	+0.8
	baz=140						
U28A	Mallet	140.38	43	⇓PKiKP	PKPdf	16 31 50.3	+0.3
	baz=140						
S29A	Ulysses	140.41	41	⇑PKiKP	PKPdf	16 31 51.0	+1.0
	baz=140						
125A	Gardner Draw,	140.48	50	⇑PKiKP	PKPdf	16 31 51.4	+1.0
	baz=140						
W27A	Bowe Ranch, En	140.49	46	⇑PKiKP	PKPdf	16 31 50.8	+0.5
	baz=140						
Y26A	Elida	140.51	48	⇓PKiKP	PKPdf	16 31 50.9	+0.5
	baz=141						
R30A	Dighton	140.56	40	⇓PKiKP	PKPdf	16 31 50.9	+0.6
	baz=141						
T29A	Hugoton	140.56	42	⇓PKiKP	PKPdf	16 31 51.4	+1.1
	baz=141						
225A	Deer Hill, Car	140.59	51	⇑PKiKP	PKPdf	16 31 51.3	+0.6
	baz=141						
Q31A	Ellis	140.66	38	⇓PKiKP	PKPdf	16 31 51.0	+0.5
	baz=141						
X27A	F and S Farms,	140.68	46	⇓PKiKP	PKPdf	16 31 51.0	+0.3
	baz=141						
Z26A	Caprock	140.70	49	⇓PKiKP	PKPdf	16 31 51.2	+0.4
	baz=141						
V28A	Channing	140.72	44	⇓PKiKP	PKPdf	16 31 51.6	+0.9
	baz=141						
325A	Bean Ranch, Si	140.79	52	⇓PKiKP	PKPdf	16 31 51.7	+0.6
	baz=141						
S30A	Montezuma	140.82	41	⇑PKiKP	PKPdf	16 31 51.6	+0.8
	baz=141						
GDL2	Guadalupe Moun	140.90	51	ePKPpre	PKPpre	16 31 46.4	
126A	Clayton Basin,	140.96	50	⇑PKiKP	PKPdf	16 31 52.1	+0.9
	baz=141						
U29A	Oasis Ranch, S	140.98	43	⇓PKiKP	PKPdf	16 31 51.5	+0.4
	baz=141						
W28A	Vega	140.99	45	⇑PKiKP	PKPdf	16 31 52.2	+1.0
	baz=141						
Y27A	Causey	141.01	47	⇑PKiKP	PKPdf	16 31 51.7	+0.4
	baz=141						
R31A	Burdett	141.02	39	⇑PKiKP	PKPdf	16 31 51.9	+0.8
	baz=141						
425A	Indio Mountain	141.02	53	⇓PKiKP	PKPdf	16 31 52.5	+1.0
	baz=141						
LCO	Las Campanas	141.08	178	ePKPdf	PKPdf	16 31 52.5	+0.7
LCO				LR	LR		
	comp=Z,6µm,19.0s						
226B	Tecolote Peak,	141.11	51	⇓PKiKP	PKPdf	16 31 51.9	+0.4
	baz=141						
T30A	Plains	141.12	41	⇓PKiKP	PKPdf	16 31 51.8	+0.5
	baz=141						
V29A	Stinnett	141.13	44	⇑PKiKP	PKPdf	16 31 52.3	+0.9
	baz=141						
CLNB	Carlsbad	141.24	50	ePKPdf	PKPdf	16 31 50.6	-1.2
Z27A	Tatum	141.25	48	⇓PKiKP	PKPdf	16 31 52.6	+0.9
	baz=141						
MSTX	Muleshoe	141.25	47	ePKPpre	PKPpre	16 31 46.1	
MSTX				ePKPdf	PKPdf	16 31 52.5	+0.7
MSTX	Muleshoe	141.25	47	⇓PKiKP	PKPdf	16 31 52.4	+0.7
	baz=141						
U30A	WK&E Inc. Balk	141.35	42	⇓PKiKP	PKPdf	16 31 52.7	+0.9
	baz=141						
X28A	Dimmitt	141.38	46	⇑PKiKP	PKPdf	16 31 52.4	+0.4
	baz=141						
127A	Arkansas Junct	141.44	49	⇑PKiKP	PKPdf	16 31 52.7	+0.6
	baz=142						
W29A	Amrillo	141.45	45	⇓PKiKP	PKPdf	16 31 52.6	+0.6
	baz=142						
S31A	Mullinville	141.46	40	⇓PKiKP	PKPdf	16 31 52.5	+0.6
	baz=142						
326A	Caldwell Ranch	141.58	52	⇑PKiKP	PKPdf	16 31 52.7	+0.4
	baz=142						
T31A	Randall Ranch,	141.65	41	⇑PKiKP	PKPdf	16 31 52.8	+0.6
	baz=142						
Y28A	McKinney Farm,	141.66	47	⇓PKiKP	PKPdf	16 31 53.1	+0.7
	baz=142						
V30A	Spur Ranch, Mi	141.75	43	⇑PKiKP	PKPdf	16 31 53.7	+1.1
	baz=142						
X29A	Tulia	141.77	46	⇓PKiKP	PKPdf	16 31 53.8	+1.2
	baz=142						
227A	Bennet, Jal	141.80	50	⇓PKiKP	PKPdf	16 31 53.0	+0.3
	baz=142						
426A	McDonald Obser	141.82	53	⇑PKiKP	PKPdf	16 31 54.0	+1.0
	baz=142						
Z28A	Tucker Farm, M	141.87	48	⇓PKiKP	PKPdf	16 31 53.2	+0.4
	baz=142						
327A	Balmorhea Ranc	141.94	51	⇓PKiKP	PKPdf	16 31 53.8	+0.9
	baz=142						
CPUP	Villa Florida	141.94	198	ePKPpre	PKPpre	16 31 47.2	
CPUP				PKPpre	PKPpre	16 31 47.3	
CPUP	Villa Florida	141.94	198	PKhKP	PKPpre	16 31 47.3	
	comp=Z,19nm,0.8s,baz=191,slow=1.4,SNR=38						
U31A	Nine Bar Ranch	141.97	42	⇑PKiKP	PKPdf	16 31 54.0	+1.2
	baz=142						
SCIA	State Center	142.01	29	PKPdf	PKPdf	16 31 52.9	+0.2
SCIA				LR	LR		
	comp=Z,3µm,21.0s						
526A	Mary Lane Ranc	142.03	53	⇓PKiKP	PKPdf	16 31 54.4	+1.1
	baz=142						
Y29A	Porterfield Fa	142.09	46	⇑PKiKP	PKPdf	16 31 54.0	+0.8
	baz=142						
128A	Castleberry Fa	142.12	49	⇑PKiKP	PKPdf	16 31 54.2	+0.9
	baz=142						
W30A	Crocket Farms	142.15	44	⇓PKiKP	PKPdf	16 31 54.1	+0.8
	baz=142						
626A	Big Bend Ranch	142.19	54	⇑PKiKP	PKPdf	16 31 54.4	+0.9
	baz=142						
427A	Hayter Ranch,	142.23	52	⇓PKiKP	PKPdf	16 31 54.6	+1.1
	baz=142						
KSU1	Kansas State U	142.24	36	ePKPpre	PKPpre	16 31 49.7	
KSU1				LR	LR		
	comp=Z,3µm,21.0s						
228A	UT Block 9, Go	142.28	50	⇑PKiKP	PKPdf	16 31 54.6	+1.0
	baz=142						
V31A	Spring Creek L	142.31	42	⇑PKiKP	PKPdf	16 31 55.0	+1.5
	baz=142						
X30A	Coker Ranch, T	142.35	45	⇓PKPdf	PKPdf	16 31 49.0	-4.6
	baz=142						
527A	Woodward Ranch	142.37	53	⇑PKPdf	PKPdf	16 31 49.2	-4.7
	baz=142						
Z29A	Hungry Hill Ra	142.38	47	⇑PKPdf	PKPdf	16 31 49.3	-4.4
	baz=142						
328A	Wristen Ranch,	142.45	51	⇓PKPdf	PKPdf	16 31 49.3	-4.6
	baz=142						
JFWS	Jewell Farm	142.57	26	ePKHKP	PKPpre	16 31 49.2	
JFWS				MLR	MLR		
	comp=Z,3µm,20.0s						
JFWS	Jewell Farm	142.57	26	ePKPpre	PKPpre	16 31 49.1	
JFWS				LR	LR		
	comp=Z,3µm,20.0s						
129A	Stewart Farms,	142.57	48	⇑PKPdf	PKPdf	16 31 49.6	-4.5
	baz=143						
W31A	Holland Ranch,	142.58	43	⇑PKPdf	PKPdf	16 31 50.8	-3.2
	baz=143						
Y30A	Stafford Cattl	142.64	46	⇑PKPdf	PKPdf	16 31 51.1	-3.1
	baz=143						
TXAR	Lajitas Array	142.66	54	PKPpre	PKPpre	16 31 50.2	
TXAR	Lajitas Array	142.66	54	PKhKP	PKPpre	16 31 50.2	
	comp=Z,19nm,0.7s,baz=246,slow=1.8,SNR=113						
Z30A	Sanderson Ranc	142.78	47	⇓PKPdf	PKPdf	16 31 51.3	-3.1
	baz=143						
627A	Terlingua Ranc	142.83	54	⇓PKPdf	PKPdf	16 31 51.4	-3.3
	baz=143						
428A	Kincaid Ranch,	142.84	52	⇑PKPdf	PKPdf	16 31 51.5	-3.1
	baz=143						
X31A	McDonald Ranch	142.87	44	⇑PKPdf	PKPdf	16 31 51.5	-3.0
	baz=143						
229A	Bryant Ran

TUL1	**Tulsa**	**144.83**	**39**	⇓PKPdf	PKPbc	16 31 57.4	+0.5
	baz=145						
HDIL	**Hopedale**	**144.90**	**27**	*e*PKP	PKPbc	16 31 57.1	+0.2
HDIL				LR	LR		
	comp=Z,4μm,22.0s						
432A	**Menard**	**144.97**	**49**	⇓PKPdf	**PKPdf**	**16 31 58.2**	**0.0**
	baz=145						
PKME	**Peaks-Kenny Pk**	**144.98**	**360**	*e*PKPbc	**PKPdf**	**16 31 57.8**	**0.0**
PKME				LR	LR		
	comp=Z,3μm,21.0s						
631A	**Perdido Creek**	**145.06**	**52**	⇑PKPdf	**PKPdf**	**16 31 58.5**	**0.0**
	baz=145						
JCT	**Junction City**	**145.16**	**50**	*e*PKIKP	**PKPdf**	**16 31 59.1**	**+0.5**
JCT				MLR	MLR		
	comp=Z,2μm,21.0s						
JCT	**Junction City**	**145.16**	**50**	*e*PKP	**PKPdf**	**16 31 59.1**	**+0.5**
JCT				LR	LR		
	comp=Z,2μm,21.0s						
JCT	**Junction City**	**145.16**	**50**	⇓PKPdf	**PKPdf**	**16 31 58.9**	**+0.3**
	baz=145						
FRNY	**Flat Rock**	**145.21**	**5**	*e*PKPbc	**PKPbc**	**16 31 57.7**	**-0.1**
532A	**Rocksprings**	**145.25**	**51**	⇓PKPdf	**PKPdf**	**16 31 59.4**	**+0.6**
	baz=145						
LONY	**Lake Ozonia**	**145.32**	**7**	*e*PKPdf	**PKPab**	**16 31 58.4**	**0.0**
LONY				LR	LR		
	comp=Z,2μm,20.0s						
EMMW	**East Machias**	**145.49**	**358**	*e*PKP	**PKPbc**	**16 31 58.7**	**0.0**
632A	**Uvalde**	**145.63**	**52**	⇓PKPdf	**PKPab**	**16 32 00.7**	**+0.7**
	baz=146						
WVL	**Waterville**	**145.68**	**0**	*e*PKPdf	**PKPbc**	**16 31 59.2**	**0.0**
732A	**Laxson Ranch,**	**145.84**	**53**	⇓PKPdf	**PKPab**	**16 32 01.1**	**+0.4**
	baz=146						
LBNH	**Lisbon**	**145.93**	**3**	*e*PKP2	**PKPbc**	**16 32 00.0**	**-0.1**
LBNH				MLR	MLR		
	comp=Z,4μm,22.0s						
LBNH	**Lisbon**	**145.93**	**3**	*e*PKPdf	**PKPbc**	**16 32 00.0**	**-0.1**
LBNH				LR	LR		
	comp=Z,4μm,22.0s						
SFIN	**Scholer Farm**	**145.99**	**25**	*e*PKPdf	**PKPdf**	**16 31 59.9**	**+0.2**
SFIN	**Scholer Farm**	**145.99**	**25**	⇑PKPdf	**PKPab**	**16 32 00.8**	**-0.1**
	baz=146						
NCB	**Newcomb**	**146.00**	**6**	*e*PKPdf	**PKPbc**	**16 32 00.3**	**0.0**
NCB				LR	LR		
	comp=Z,2μm,20.0s						
MDV	**Middlebury**	**146.08**	**5**	*e*PKPdf	**PKPbc**	**16 32 00.3**	**-0.2**
WHTX	**Lake Whitney**	**146.09**	**46**	*e*PKPdf	**PKPbc**	**16 32 01.1**	**+0.1**
WHTX	**Lake Whitney**	**146.09**	**46**	⇓PKPdf	**PKPbc**	**16 32 01.3**	**+0.3**
	baz=146						
HNH	**Hanover**	**146.44**	**4**	*e*PKPdf	**PKPbc**	**16 32 01.5**	**-0.1**
ACCN	**Adirondack Com**	**146.64**	**6**	*e*PKPbc	**PKPbc**	**16 32 01.9**	**-0.4**
BDFB	**Brasilia**	**146.82**	**220**	PKPbc	**PKPdf**	**16 32 02.4**	**+0.4**
BDFB	**Brasilia**	**146.82**	**220**	PKPbc	**PKPdf**	**16 32 02.4**	**+0.4**
	comp=Z,273nm,1.0s,baz=136,slow=2.9,SNR=87						
OLIL	**Olney**	**146.92**	**27**	*e*PKPdf	**PKPdf**	**16 32 01.9**	**+0.7**
MIAR	**Mount Ida**	**147.10**	**39**	*e*PKIKP	**PKPdf**	**16 32 02.2**	**+0.4**
MIAR				*e*		16 32 05.0	
MIAR				MLR	MLR		
	comp=Z,3μm,20.0s						
MIAR	**Mount Ida**	**147.10**	**39**	*e*PKPdf	**PKPdf**	**16 32 02.1**	**+0.4**
MIAR				*e*PKPbc	**PKPab**	**16 32 05.0**	**-0.4**
MIAR				LR	LR		
	comp=Z,3μm,20.0s						
ALLY	**Alegheny Colle**	**147.18**	**15**	*e*PKPbc	**PKPbc**	**16 32 03.6**	**-0.3**
SIUC	**Southern Illin**	**147.20**	**30**	*e*PKPdf	**PKPdf**	**16 32 02.2**	**+0.4**
BLO	**Bloomington**	**147.24**	**25**	*e*PKIKP	**PKPdf**	**16 32 02.3**	**+0.5**
BLO	**Bloomington**	**147.24**	**25**	*e*PKPdf	**PKPdf**	**16 32 02.3**	**+0.5**
LVC	**Limon Verde**	**147.47**	**181**	*e*PKPbc	**PKPbc**	**16 32 04.8**	**-0.8**
LVC				LR	LR		
	comp=Z,4μm,20.0s						
BINY	**Binghamton**	**147.51**	**9**	*e*PKPdf	**PKPdf**	**16 32 02.6**	**+0.4**
BINY				*e*PKPbc	**PKPbc**	**16 32 05.3**	**+0.5**
BINY				LR	LR		
	comp=Z,4μm,21.0s						
ACSO	**Alum Creek Sta**	**147.65**	**20**	*e*PKPdf	**PKPdf**	**16 32 02.9**	**+0.4**
ACSO				*e*PKPbc	**PKPbc**	**16 32 05.7**	**+0.5**
ACSO				LR	LR		
	comp=Z,3μm,19.0s						
HRV	**Adam Dziewonsk**	**147.68**	**3**	*e*PKIKP	**PKPdf**	**16 32 03.0**	**+0.6**
HRV				*e*		16 32 06.0	
HRV	**Adam Dziewonsk**	**147.68**	**3**	*e*PKPdf	**PKPdf**	**16 32 03.0**	**+0.6**
HRV				*e*PKPbc	**PKPbc**	**16 32 06.0**	**+0.9**
UALR	**University of**	**147.69**	**37**	*e*PKPdf	**PKPdf**	**16 32 03.3**	**+0.7**
UALR				*e*PKPbc	**PKPbc**	**16 32 06.1**	**+0.6**
USIN	**University of**	**147.74**	**28**	*e*PKPdf	**PKPdf**	**16 32 02.8**	**+0.2**
USIN				*e*PKPbc	**PKPbc**	**16 32 05.7**	**+0.2**
PARMO	**Parma**	**147.75**	**32**	*e*PKPdf	**PKPdf**	**16 32 03.3**	**+0.6**
PARMO				*e*PKPbc	**PKPbc**	**16 32 06.2**	**+0.6**
WES	**Weston**	**147.81**	**3**	*e*PKP2	**PKPbc**	**16 32 05.7**	**+0.2**
WES	**Weston**	**147.81**	**3**	*e*PKPbc	**PKPbc**	**16 32 05.7**	**+0.2**
QUA2	**Belchertown**	**147.85**	**4**	*e*PKPbc	**PKPbc**	**16 32 05.5**	**-0.2**
PVMO	**Portageville**	**147.97**	**32**	*e*PKPbc	**PKPbc**	**16 32 06.2**	**0.0**
KVTX	**Kingsville**	**148.01**	**53**	PKPbc	**PKPbc**	**16 32 07.9**	**+1.3**
KVTX				LR	LR		
	comp=Z,3μm,22.0s						
HBAR	**Harrisburg**	**148.09**	**34**	*e*PKPdf	**PKPdf**	**16 32 03.6**	**+0.3**
HBAR				*e*PKPbc	**PKPbc**	**16 32 07.2**	**+0.7**
WCI	**Wyandotte Cave**	**148.13**	**26**	*e*PKIKP	**PKPdf**	**16 32 03.9**	**+0.5**
WCI				*e*		16 32 07.2	
WCI	**Wyandotte Cave**	**148.13**	**26**	*e*PKPdf	**PKPdf**	**16 32 03.9**	**+0.5**
WCI				*e*PKPbc	**PKPbc**	**16 32 07.2**	**+0.6**
GNAR	**Gosnell**	**148.14**	**33**	*e*PKPbc	**PKPbc**	**16 32 07.5**	**+0.9**
NATX	**Nacogdoches**	**148.16**	**44**	*e*PKPdf	**PKPdf**	**16 32 04.4**	**+0.8**
NATX				*e*PKPbc	**PKiKP**	**16 32 08.2**	**-0.4**
NATX				LR	LR		
	comp=Z,3μm,20.0s						
BRYW	**Bryant College**	**148.26**	**3**	*e*PKPbc	**PKPbc**	**16 32 06.4**	**-0.4**
GLAT	**Glass**	**148.29**	**32**	*e*PKPbc	**PKPbc**	**16 32 07.4**	**+0.4**
HKT	**Hockley**	**148.37**	**48**	*e*PKIKP	**PKPdf**	**16 32 05.2**	**+1.3**
HKT	**Hockley**	**148.37**	**48**	*e*PKPdf	**PKPdf**	**16 32 05.2**	**+1.3**
HALT	**Halls**	**148.54**	**32**	PKPdf	**PKPdf**	**16 32 04.0**	**0.0**
HALT				*e*PKPbc	**PKPbc**	**16 32 07.7**	**0.0**
SSPA	**Standing Stone**	**148.67**	**13**	*e*PKPdf	**PKPdf**	**16 32 04.2**	**+0.1**
SSPA				*e*PKPbc	**PKPbc**	**16 32 08.3**	**+0.5**
YLE	**Yale**	**148.76**	**5**	*e*PKPbc	**PKPbc**	**16 32 08.2**	**+0.1**
MCWV	**Mont Chateau**	**149.12**	**16**	*e*PKPdf	**PKPdf**	**16 32 05.4**	**+0.5**
MCWV				*e*PKPbc	**PKPbc**	**16 32 09.3**	**+0.3**
MCWV				LR	LR		
	comp=Z,4μm,19.0s						
WVT	**Waverly**	**149.13**	**30**	*e*PKIKP	**PKPdf**	**16 32 05.1**	**+0.1**
WVT				*e*		16 32 09.4	
WVT	**Waverly**	**149.13**	**30**	*e*PKPdf	**PKPdf**	**16 32 05.1**	**+0.1**
WVT				*e*PKPbc	**PKPbc**	**16 32 09.4**	**+0.2**
BRNJ	**Basking Ridge**	**149.21**	**8**	*e*PKPbc	**PKPbc**	**16 32 10.4**	**+1.2**
BESB	**Sao Joao Dos P**	**149.40**	**238**	⇓*i*P	**PKPdf**	**16 32 06.5**	**+0.4**
BESB				*i*		16 32 11.0	
BESB				*i*		16 32 16.4	
BESB				*i*		16 32 29.6	
BESB				*i*		16 32 33.7	
BESB				*i*		16 32 41.7	
BESB				*i*		16 32 54.6	
BESB				*i*		16 32 54.7	
OXF	**Oxford**	**149.55**	**34**	*e*PKPdf	**PKPdf**	**16 32 06.2**	**+0.4**
OXF				*e*PKPbc	**PKPbc**	**16 32 10.8**	**+0.6**
OXF				LR	LR		
	comp=Z,3μm,21.0s						
SDMD	**Soldier's Deli**	**150.07**	**12**	*e*PKPbc	**PKPbc**	**16 32 11.3**	**-0.1**
VBMS	**Vicksburg**	**150.55**	**39**	PFAKE		16 32 20.0	+0.6
VBMS				LR	LR		
	comp=Z,3μm,20.0s						
TZTN	**Tazewell**	**150.71**	**24**	*e*PKPdf	**PKPdf**	**16 32 07.8**	**+0.2**
TZTN				*e*PKPbc	**PKiKP**	**16 32 13.6**	**-0.1**
SWET	**Sewanee**	**150.79**	**29**	*e*PKPdf	**PKPdf**	**16 32 07.5**	**-0.3**
SWET				*e*PKPbc	**PKPbc**	**16 32 13.2**	**-0.1**
CBN	**Corbin**	**151.11**	**13**	*e*PKPdf	**PKPdf**	**16 32 08.9**	**+0.9**
CBN				*e*PKPbc	**PKiKP**	**16 32 14.5**	**0.0**
CBN				LR	LR		
	comp=Z,3μm,20.0s						
BLA	**Blacksburg**	**151.22**	**19**	*e*PKIKP	**PKPdf**	**16 32 08.6**	**+0.2**
BLA				*e*		16 32 23.2	
BLA				MLR	MLR		
	comp=Z,4μm,21.0s						
BLA	**Blacksburg**	**151.22**	**19**	*e*PKPdf	**PKPdf**	**16 32 08.6**	**+0.2**
BLA				*e*PKPbc	**PKPbc**	**16 32 14.5**	**+0.2**
BLA				*e*PKPab	**PKPab**	**16 32 23.2**	**+1.1**
BLA				LR	LR		
	comp=Z,4μm,21.0s						
CPCT	**Cooper Cave**	**151.23**	**26**	*e*PKPdf	**PKPdf**	**16 32 08.7**	**+0.3**
CPCT				*e*PKPbc	**PKiKP**	**16 32 14.8**	**0.0**
VWCC	**Virginia Weste**	**151.33**	**18**	*e*PKPdf	**PKPdf**	**16 32 08.6**	**+0.1**
VWCC				*e*PKPbc	**PKPbc**	**16 32 14.6**	**+0.1**
TKL	**Tuckaleechee C**	**151.38**	**25**	*e*PKPdf	**PKPdf**	**16 32 09.2**	**+0.6**
TKL				PKP	**PKPdf**	**16 32 09.3**	**+0.7**
TKL				*e*PKPbc	**PKiKP**	**16 32 15.2**	**0.0**
TKL	**Tuckaleechee C**	**151.38**	**25**	PKP	**PKPdf**	**16 32 09.3**	**+0.7**
	comp=Z,29nm,0.9s,baz=134,slow=2.4,SNR=24						
TKL				PKPbc	**PKiKP**	**16 32 15.1**	**0.0**
	comp=Z,195nm,0.7s,baz=158,slow=2.1,SNR=111						
JSRW	**J. Sargeant Re**	**151.48**	**14**	*e*PKPdf	**PKPdf**	**16 32 09.3**	**+0.7**
JSRW				*e*PKPbc	**PKiKP**	**16 32 15.2**	**0.0**
LRAL	**Lakeview Retre**	**151.98**	**33**	*e*PKPdf	**PKPdf**	**16 32 10.0**	**+0.5**
LRAL				*e*PKPbc	**PKiKP**	**16 32 16.4**	**0.0**
LRAL				LR	LR		
	comp=Z,3μm,22.0s						
KMSC	**Kings Mountain**	**152.79**	**22**	*e*PKPdf	**PKPdf**	**16 32 11.1**	**+0.4**
KMSC				*e*PKPbc	**PKiKP**	**16 32 18.0**	**0.0**
KMSC				*e*PKPab	**PKPab**	**16 32 29.1**	**+0.5**
KMSC	**Kings Mountain**	**152.79**	**22**	⇑PKPdf	**PKPdf**	**16 32 11.3**	**+0.6**
	baz=153						
SIV	**San Ignacio**	**152.80**	**198**	PKP	**PKPdf**	**16 32 12.2**	**+1.0**
SIV				PKPbc	**PKiKP**	**16 32 18.7**	**+0.1**
SIV				PKPab	**PKPab**	**16 32 29.4**	**+0.3**
SIV	**San Ignacio**	**152.80**	**198**	PKP	**PKPdf**	**16 32 12.2**	**+1.0**
	comp=Z,40nm,1.0s,baz=152,slow=2.1,SNR=76						
SIV				PKPbc	**PKiKP**	**16 32 18.7**	**+0.1**
	comp=Z,125nm,0.9s,baz=178,slow=2.3,SNR=60						
SIV				PKPab	**PKPab**	**16 32 29.4**	**+0.3**
	comp=Z,95nm,0.9s,baz=179,slow=4.9,SNR=12						
LPAZ	**La Paz**	**153.74**	**183**	*e*PKPdf	**PKPdf**	**16 32 14.1**	**+0.8**
LPAZ				PKP	**PKPdf**	**16 32 14.2**	**+0.9**
LPAZ				*e*PKPbc	**PKiKP**	**16 32 22.1**	**+0.8**
LPAZ				PKPab	**PKPab**	**16 32 33.2**	**-0.5**
LPAZ	**La Paz**	**153.74**	**183**	PKP	**PKPdf**	**16 32 14.2**	**+0.9**
	comp=Z,24nm,0.9s,baz=146,slow=3.8,SNR=65						
LPAZ				PKPbc	**PKiKP**	**16 32 22.1**	**+0.8**
	comp=Z,57nm,0.9s,baz=136,slow=4.3,SNR=30						
LPAZ				PKPab	**PKPab**	**16 32 33.2**	**-0.5**
	comp=Z,50nm,0.9s,baz=181,slow=4.2,SNR=10						
CNNC	**Cliffs of the**	**153.80**	**16**	*e*PKPdf	**PKPdf**	**16 32 12.6**	**+0.5**
CNNC				*e*PKPbc	**PKiKP**	**16 32 20.5**	**+0.4**
CNNC				LR	LR		
	comp=Z,3μm,19.0s						
CMIG	**Matias Romero**	**154.23**	**72**	PKP	**PKPdf**	**16 32 13.9**	**+0.7**
CMIG				PKPbc	**PKiKP**	**16 32 22.2**	**+0.7**
CMIG				PKPab	**PKPab**	**16 32 36.0**	**+0.6**
CMIG	**Matias Romero**	**154.23**	**72**	PKP	**PKPdf**	**16 32 13.9**	**+0.7**
	comp=Z,17nm,0.9s,baz=326,slow=2.3,SNR=28						
CMIG				PKPbc	**PKiKP**	**16 32 22.2**	**+0.7**
	comp=Z,25nm,0.8s,baz=298,slow=2.9,SNR=22						
CMIG				PKPab	**PKPab**	**16 32 36.0**	**+0.6**
	comp=Z,33nm,0.8s,baz=302,slow=5.1,SNR=13						
TIGA	**Tifton**	**155.00**	**30**	*e*PKPdf	**PKPdf**	**16 32 15.1**	**+1.2**
TIGA				*e*PKPbc	**PKPbc**	**16 32 23.5**	**+0.8**
TIGA				*e*PKPab	**PKPab**	**16 32 38.7**	**+0.6**
NNA	**Nana**	**156.81**	**161**	PKP	**PKPdf**	**16 32 17.9**	**+1.0**
NNA				*e*PKPdf	**PKPdf**	**16 32 18.1**	**+1.2**
NNA				PKPab	**PKPab**	**16 32 45.7**	**-0.5**
NNA				LR	LR		
	comp=Z,3μm,22.0s						
NNA	**Nana**	**156.81**	**161**	PKP	**PKPdf**	**16 32 17.8**	**+1.0**
	comp=Z,33nm,0.9s,baz=288,slow=1.1						
NNA				PKPab	**PKPab**	**16 32 45.7**	**-0.5**
	comp=Z,38nm,0.9s,baz=245,slow=5.4,SNR=4.0						
BBSR	**BB Station**	**157.44**	**350**	*e*PKPdf	**PKPdf**	**16 32 17.6**	**+0.6**
BBSR				LR	LR		
	comp=Z,3μm,21.0s						
TEIG	**Tepich**	**159.16**	**59**	PKP	**PKPdf**	**16 32 19.4**	**0.0**
TEIG				*e*PKPdf	**PKPdf**	**16 32 19.8**	**+0.3**
TEIG				LR	LR		
	comp=Z,5μm,20.0s						
TEIG	**Tepich**	**159.16**	**59**	PKP	**PKPdf**	**16 32 19.5**	**0.0**
	comp=Z,32nm,0.9s,baz=0.0,slow=2.0,SNR=13						
SAML	**Samuel**	**160.10**	**198**	*e*PKPdf	**PKPdf**	**16 32 20.9**	**+0.2**
SAML				*e*PKPab	**PKPab**	**16 32 60.0**	**-0.4**
SAML				LR	LR		
	comp=Z,4μm,19.0s						
OTAV	**Otavalo**	**166.64**	**137**	*e*PKPdf	**PKPdf**	**16 32 28.4**	**+0.8**
OTAV				LR	LR		
	comp=Z,4μm,19.0s						
GRTK	**Grand Turk**	**168.54**	**8**	*e*PKPdf	**PKPdf**	**16 32 28.8**	**+0.7**
GRTK				LR	LR		
	comp=Z,5μm,21.0s						
GTBY	**Guantanamo Bay**	**168.76**	**29**	*e*PKPdf	**PKPdf**	**16 32 28.3**	**0.0**
GTBY				LR	LR		
	comp=Z,5μm,20.0s						
ANWB	**Willy Bob**	**169.51**	**317**	PFAKE		16 32 40.0	+11
ANWB				LR	LR		
	comp=Z,3μm,20.0s						
BCIP	**Isla Barro Col**	**169.60**	**94**	PFAKE		16 32 40.0	+11
BCIP				LR	LR		
	comp=Z,5μm,22.0s						
BBGH	**Gun Hill**	**169.97**	**288**	PFAKE		16 32 40.0	+11
BBGH				LR	LR		
	comp=Z,5μm,21.0s						
STVI	**Saint Thomas**	**170.78**	**333**	*e*PKPdf	**PKPdf**	**16 32 28.9**	**-0.5**
SDDR	**Presa de Saban**	**170.98**	**12**	*e*PKPdf	**PKPdf**	**16 32 29.7**	**0.0**
SDDR				LR	LR		
	comp=Z,5μm,22.0s						
CDVI	**St. Croix**	**171.21**	**330**	*e*PKPdf	**PKPdf**	**16 32 30.0**	**+0.3**
SJG	**San Juan**	**171.47**	**339**	*e*PKPdf	**PKPdf**	**16 32 29.4**	**-0.4**
SJG				LR	LR		
	comp=Z,2μm,20.0s						
LRS	**Lares**	**171.52**	**344**	*e*PKPdf	**PKPdf**	**16 32 29.6**	**-0.3**
CELP	**Cerrillos**	**171.65**	**342**	*e*PKPdf	**PKPdf**	**16 32 29.9**	**0.0**
OBIP	**Obispado Ponce**	**171.69**	**342**	*e*PKPdf	**PKPdf**	**16 32 29.1**	**-0.8**
CRPR	**Cabo Rojo, PR**	**171.87**	**345**	*e*PKPdf	**PKPdf**	**16 32 30.1**	**+0.2**
ROSC	**El Rosal**	**172.80**	**136**	PKP	**PKPdf**	**16 32 31.0**	**-0.1**
ROSC				*e*PKPdf	PKPdf	16 32 31.5	+0.4
ROSC	**El Rosal**	**172.80**	**136**	PKP	**PKPdf**	**16 32 31.0**	**-0.1**
	comp=Z,17nm,0.5s,baz=117,slow=4.5,SNR=22						
SDV	**Santo Domingo**	**178.23**	**133**	*e*PKPdf	**PKPdf**	**16 32 31.3**	**-0.9**
SDV				LR	LR		
	comp=Z,2μm,21.0s						
STVI	**Saint Thomas**	**3.95**	**107**	⇓*e*P	Pn	16 24 43.9	+0.4
STVI	**Saint Thomas**	**3.95**	**107**	*e*S	Sn	16 25 27.0	-1.6

MEX 07 16:20:21.8±0.8, 16°.89N×99°.85W, h5km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.43**	**291**	*e*P	Pg	16 20 29.4	-0.7
CAIG				*i* S	Sg	16 20 35.8	0.0
MEIG	**Mezcala**	**1.05**	**12**	*e*P	Pg	16 20 38.9	-3.2
MEIG				*i* S	Sg	16 20 52.9	-3.1
PLIG	**Platanillo**	**1.53**	**12**	*e*P	Pn	16 20 46.9	-3.0
PLIG				*i* S	Sn	16 21 04.9	-5.5
ZIIG	**Zihuatanejo**	**1.70**	**295**	*e*P	Pn	16 20 49.1	-3.0
ZIIG				*i* S	Sn	16 21 10.1	-4.2
PNIG	**Pinotepa**	**1.72**	**106**	*e*P	Pn	16 20 48.6	-3.9
PNIG				*i* S	Sn	16 21 10.5	-4.5
PPM	**Popocatepetl**	**2.46**	**28**	*i* P	Pn	16 21 00.6	-2.6
PPM				*i* S	Sn	16 21 30.5	-3.6
MOIG	**Morelia**	**3.05**	**336**	*i* P	Pn	16 21 10.6	-0.5
MMIG	**Aquila**	**3.61**	**293**	*i* P	Pn	16 21 12.7	-5.8

RSPR 07 16:23:45.4, 19°.56N×68°.93W, h68km±12km, MD3.8/9, 9C-3D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DR12	**Loma Pena Alta**	**0.88**	**209**	⇑*i*P	Pn	16 24 01.6	-0.8
DR12				*e*S	Sn	16 24 14.2	-0.7
IMO	**Isla Mona**	**1.74**	**146**	*e*S	Sn	16 24 34.1	-0.6
IDE	**Isla Desecheo**	**1.81**	**130**	⇓*e*P	Pn	16 24 14.5	+0.1
IDE	**Isla Desecheo**	**1.81**	**130**	*e*S	Sn	16 24 36.5	+0.1
AGPR	**Aguadilla, PR**	**2.03**	**122**	⇓*e*P	Pn	16 24 19.3	+1.9
AGPR	**Aguadilla, PR**	**2.03**	**122**	*e*S	Sn	16 24 43.6	+1.7
LSP	**Las Mesas**	**2.22**	**128**	⇑*e*P	Pn	16 24 20.1	+0.1
LSP	**Las Mesas**	**2.22**	**128**	*e*S	Sn	16 24 46.6	+0.1
SDDR	**Presa de Saban**	**2.30**	**256**	⇑*e*P	Pn	16 24 20.2	-1.0
SDDR	**Presa de Saban**	**2.30**	**256**	*e*S	Sn	16 24 47.3	-1.2
CRPR	**Cabo Rojo, PR**	**2.31**	**132**	⇑*e*P	Pn	16 24 20.1	-1.1
CRPR	**Cabo Rojo, PR**	**2.31**	**132**	*e*S	Sn	16 24 47.6	-1.0
AOPR	**Arecibo Observ**	**2.39**	**120**	⇑*e*P	Pn	16 24 22.4	+0.1
AOPR	**Arecibo Observ**	**2.39**	**120**	*e*S	Sn	16 24 50.1	-0.4
OBIP	**Obispado Ponce**	**2.67**	**124**	⇑*e*P	Pn	16 24 25.6	-0.4
OBIP	**Obispado Ponce**	**2.67**	**124**	*e*S	Sn	16 24 56.7	-0.6
CELP	**Cerrillos**	**2.67**	**123**	⇑*e*P	Pn	16 24 26.0	-0.1
CELP				*e*S	Sn	16 24 57.5	+0.2
SJG	**San Juan**	**3.00**	**118**	*e*S	Sn	16 25 05.3	0.0
SJG	**San Juan**	**3.00**	**118**	*e*S	Sn	16 25 04.2	-1.1
CBYP	**Canovanas**	**3.18**	**113**	⇑*e*P	Pn	16 24 32.8	-0.3
CBYP	**Canovanas**	**3.18**	**113**	*e*S	Sn	16 25 08.5	-1.4
HUMP	**Col San Antoni**	**3.24**	**115**	⇑*e*P	Pn	16 24 33.6	-0.2
HUMP	**Col San Antoni**	**3.24**	**115**	*e*S	Sn	16 25 10.2	-1.0
MTP	**Monte Pirata**	**3.51**	**114**	⇑*e*P	Pn	16 24 37.6	0.0
MTP	**Monte Pirata**	**3.51**	**114**	*e*S	Sn	16 25 17.0	-1.0

NIED ***07*** *16:24:00, 42°.20N×143°.00E, h53km, Mw4.8 Best double couple: M0=1.73000×10^16 NP1:φs=25.00000°, δ69.00000°, λ86.00000°. NP2:φs=215.00000°, δ21.00000°, λ100.00000°.*

NSSC ***07*** *16:24:05.9±1.1, 39°.21N×143°.51E, h0km±999km*

BKK ***07*** *16:24:21.1±1.6, 42°.N±10°×14°.3E±2°.7, h10km, M5.7/16, mB5.6/2, mb5.7/16, Mw(mB)5.1/2*

MOS ***07*** *16:24:24.7±0.8, 42°.18N×142°.86E, h58km, mb5.1/38, Error ellipse: s-maj=7.3km s-min=4.8km az=113.7*

ISCJB ***07*** *16:24:25.3±0.3, 42°.16N±0°.03×142°.88E±0°.03, h63km±2km, mb5.1/134, Error ellipse: s-maj=4.7km s-min=2.9km az=158.7*

BJI ***07*** *16:24:25.9, 42°.13N×142°.88E, h72km, mB5.7/22, mb5.2/38, Ms5.5/23, Ms7 5.4/20*

IDC ***07*** *16:24:26.1±1.8, 42°.22N×142°.88E, h56km±15km, mb4.5/32, mb1 4.6/37, mb1mx4.6/40, mbtmp4.5/37, Error ellipse: s-maj=12.6km s-min=9.6km az=150.0*

JMA ***07*** *16:24:26.6±0.1, 42°.19N×142°.97E, h51km±1km, M4.8 Broadband fault plane solution: P waves. NP1: φs=24.00000°, δ68.00000°, λ82.00000°. NP2:φs=224.00000°, δ23.00000°, λ109.00000°. Principal axes: T Plg66.0000°, Azm280.0000°; N Plg7.0000°, Azm27.0000°; P Plg23.0000°, Azm120.0000°;*

JMA Felt IV J1.

NEIC ***07*** *16:24:26.4±0.6, 42°.20N×142°.86E, h59km±5km, mb5.0/17, MW4.8(NIED) Error ellipse: s-maj=5.7km s-min=3.8km az=138.0*

NEIC Felt at Sapporo. Also felt at Misawa, Honshu. Recorded [4 JMA] in southern Hokkaido and [2 JMA] in central and western Hokkaido. Also recorded [2 JMA] in Aomori and [1 JMA] in Iwate, Honshu.

DJA ***07*** *16:24:27.1±6.7, 42°.N±11°×14°.3E±3°.4, h52km±50km, M5.2/10, mB5.6/1, mb5.2/10, Mw(mB)5.1/1*

TEH ***07*** *16:24:28.0, 42°.17N×142°.82E, h71km, ML5.0*

ISC 07 16:24:26.4±0.4, 42°.18N±0°.04×142°.96E±0°.03, h60km±2km, h59km:pP-P, n514, σ0°.96/566, mb5.0/134, MS5.3/5, 40C-13D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.18**	**302**	⇓P	**Pn**	**16 24 34.9**	**-0.8**
JNBK				*e*S	**Sn**	**16 24 41.5**	**-1.0**
JEM	**Erimo**	**0.22**	**139**	⇑P	**Pn**	**16 24 35.2**	**-0.7**
JEM				*e*S	**Sn**	**16 24 42.0**	**-0.8**
JCH	**Churui**	**0.52**	**34**	⇑P	**Pn**	**16 24 38.0**	**-0.6**
JCH				*e*S	**Sn**	**16 24 46.8**	**-0.6**
JBT2	**Biratori 2**	**0.74**	**323**	⇓P	**Pn**	**16 24 41.0**	**-0.1**
JBT2				*e*S	**Sn**	**16 24 52.7**	**+0.8**
JOB	**Onbets**	**0.96**	**42**	⇑P	**Pn**	**16 24 44.6**	**+0.6**
JOB				*e*S	**Sn**	**16 24 58.2**	**+1.2**
JFR	**Furan**	**1.02**	**345**	⇓P	**Pn**	**16 24 43.8**	**-0.9**
JAR	**Ashorobuto**	**1.26**	**28**	⇑P	**Pn**	**16 24 47.6**	**-0.3**
JAR				*e*S	**Sn**	**16 25 03.5**	**-0.4**
JEW	**Eniwo**	**1.30**	**301**	⇓P	**Pn**	**16 24 48.8**	**+0.5**
JEW				*e*S	**Sn**	**16 25 04.1**	**-0.7**
JAB	**Ashibetsu**	**1.43**	**338**	⇓P

BJT Baijiatuau 20.28 273 *eP* **P 16 28 55.1 -2.0**
YAK Yakutsk 21.40 343 *eP* **P 16 29 05.1 -3.7**
YAK *e* 16 29 22.7
YAK *eS* S 16 32 53.5 -9.3
YAK *e* 16 40 30.8
YAK pmax pmax
comp=Z,83nm,1.0s
YAK pmax pmax
comp=N,18nm,1.0s
YAK pmax pmax
comp=Z,39nm,0.8s
YAK smax smax
comp=N,116nm,2.0s
SEY Seymchan 21.51 12 *d iP* **P 16 29 06.5 -3.5**
NJ2 Nanjing 21.66 250 *eP* P 16 29 21.1 +9.3
NJ2 pmax pmax
comp=Z,40nm,0.8s
FX1 Attu Island--F 22.86 52 *eP* **P 16 29 25.8 +1.3**
FX1 Attu Island--F 22.86 52 P **P 16 29 24.2 -0.3**
comp=Z,4.3nm,0.5s,baz=203,slow=2.2,SNR=9.5
HHC Hu-ho-hao-te 23.48 277 *eP* **P 16 29 29.2 -1.6**
HHC pP **pP 16 29 43.8 -0.9**
HHC sP **sP 16 29 50.6 -1.4**
HHC PcP **PcP 16 33 17.7 +2.8**
HHC S **S 16 33 33.6 -6.4**
HHC SS **SnSn 16 34 23.1 +2.2**
HHC ScP **ScP 16 36 47.8 0.0**
HHC ScS **ScS 16 40 32.8 -1.5**
HHC pmax pmax
comp=Z,85nm,2.5s
HHC pmax pmax
comp=Z,2μm,6.9s
HHC LR LR
comp=N,7μm,20.8s
HHC LR LR
comp=E,9μm,20.8s
HHC LR LR
comp=Z,11μm,24.8s
TATO Taipei 24.68 233 *eP* **P 16 29 41.2 -0.5**
comp=Z,64nm,0.6s
YHNB Yeheng 24.98 232 *eP* **P 16 29 43.0 -1.5**
comp=Z,51nm,0.6s
WHN Wuhan 25.68 252 ⇓*P* **P 16 29 51.3 +0.6**
ULN Ulaanbaatar 25.84 295 *eP* **P 16 29 51.8 -0.5**
ULN Ulaanbaatar 25.84 295 P **P 16 29 51.5 -0.8**
comp=Z,30nm,1.2s,comp=Z,1μm
YULB Yu-li 26.01 231 P **P 16 29 51.8 -2.0**
comp=Z,11nm,0.6s
SONM Songino Array 26.29 295 P **P 16 29 55.9 -0.4**
SONM PcP **PcP 16 33 21.3 +0.3**
SONM Songino Array 26.29 295 P **P 16 29 55.9 -0.4**
comp=Z,25nm,0.8s,baz=83,slow=8.7,SNR=48
SONM PcP **PcP 16 33 21.3 +0.3**
comp=Z,1.3nm,0.4s,baz=121,slow=2.7,SNR=4.9
TPUB Ta-pu 26.46 232 *eP* **P 16 29 55.9 -2.0**
comp=Z,43nm,1.1s
TWG Pinlang 26.58 230 P **P 16 30 02.5 +3.6**
comp=Z,101nm,0.6s
TLY Talaya 28.17 303 *eP* **P 16 30 13.0 0.0**
TLY pmax pmax
comp=Z,45nm,0.8s
TLY Talaya 28.17 303 P **P 16 30 12.8 -0.2**
comp=Z,347nm,0.8s,SNR=7.0
ZAK Zakamensk 28.34 301 ⇑*iP* **P 16 30 13.7 -0.9**
ZAK pmax pmax
comp=Z,15nm,1.0s
ENH Enshi 29.32 257 *eP* **P 16 30 22.0 -1.3**
comp=Z,29nm,0.8s
MOY Mondy 29.82 303 *eP* **P 16 30 27.7 0.0**
LZH Lanzhou 30.75 272 *eP* **P 16 30 36.5 +0.4**
LZH pP **pP 16 30 52.4 +1.5**
LZH sP sP 16 31 02.2 +4.3
LZH pmax pmax
comp=Z,74nm,1.5s
LZH pmax pmax
comp=Z,370nm,5.1s
GTA Gaotai 32.53 280 P **P 16 30 52.1 +0.4**
GTA pP **pP 16 31 07.1 +0.6**
GTA sP **sP 16 31 17.1 +3.6**
GTA pmax pmax
comp=Z,44nm,0.7s
CD2 Chengdu 33.18 263 P **P 16 30 58.1 +0.8**
CD2 pmax pmax
comp=Z,30nm,0.5s
GYA Guiyang 33.54 254 P **P 16 31 01.0 +0.4**
GYA pP **pP 16 31 18.8 +3.3**
GYA sP sP 16 31 28.0 +5.5
GYA PP **PnPn 16 32 14.5 +0.8**
GYA PcP **PcP 16 33 40.9 +0.8**
GYA S **S 16 36 15.4 -3.2**
GYA sS **sS 16 36 45.9 +2.0**
GYA ScP **ScP 16 37 17.5 -1.9**
GYA PcS **PcS 16 37 26.0 -0.2**
GYA ScS **ScS 16 41 17.2 -3.7**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,130nm,5.3s
GYA LR LR
comp=N,860nm,17.6s
GYA LR LR
comp=E,690nm,18.0s
GYA LR LR
comp=Z,840nm,17.8s
HVS Khovu-Aksy 34.40 302 *c iP* **P 16 31 07.6 -0.1**
KRAR Krasnoyarsk 34.78 311 *eP* **P 16 31 11.5 +0.7**
QIZ Qiongzhong 36.32 241 P **P 16 31 25.0 +0.6**
QIZ S **S 16 36 59.7 -1.5**
QIZ LR LR
comp=N,5μm,17.8s
QIZ LR LR
comp=E,1μm,17.5s
QIZ LR LR
comp=Z,8μm,17.4s
KMI Kunming 37.16 256 P **P 16 31 32.2 +0.4**
KMI pP **pP 16 31 48.6 +1.7**
KMI sP sP 16 31 58.2 +4.4
KMI pmax pmax
comp=Z,35nm,1.2s
ZAA0 Zalesovo Array 39.51 308 *eP* **P 16 31 50.3 -0.6**
ZALV Zalesovo Beam 39.51 308 P **P 16 31 50.4 -0.5**
ZALV 16 33 57.7
ZALV pmax pmax
comp=Z,73nm,0.8s
ZALV pmax pmax
comp=Z,10.0nm,0.6s
ZALV pmax pmax
comp=Z,7.0nm,0.7s
ZALV Zalesovo Beam 39.51 308 P **P 16 31 50.4 -0.5**
ZALV PcP **PcP 16 33 57.7 +0.3**
ZALV pPcP 16 34 20.3
ZALV Zalesovo Beam 39.51 308 P **P 16 31 50.4 -0.5**
comp=Z,72nm,0.8s,baz=88,slow=7.4,SNR=79
ZALV PcP **PcP 16 33 57.7 +0.3**
comp=Z,10.0nm,0.6s,baz=100,slow=3.1,SNR=7.4
ZALV pPcP 16 34 20.3
comp=Z,7.3nm,0.7s,baz=95,slow=2.4,SNR=4.4
WMQ Urumqi 39.81 292 *eP* **P 16 31 53.4 -0.3**
WMQ pP **pP 16 32 11.7 +2.9**
WMQ sP sP 16 32 20.8 +5.0
WMQ PP **PnPn 16 33 30.4 +0.7**
WMQ pmax pmax
comp=Z,35nm,1.2s
WMQ pmax pmax
comp=Z,2μm,7.0s
WMQ LR LR
comp=N,3μm,19.0s
WMQ LR LR
comp=E,2μm,22.0s
WMQ LR LR
comp=Z,2μm,19.0s
NVS Novosibirsk 40.32 309 *eP* **P 16 31 56.2 -1.4**
NONG Nongkai 41.47 247 P P 16 32 11.4 +3.9
comp=Z,305nm,2.0s
IMA2 Indian Mountai 41.68 33 *eP* **P 16 32 09.5 +0.6**
KDAK Kodiak Island 42.55 46 P **P 16 32 15.4 -0.5**
KDAK PcP **PcP 16 34 07.9 +0.7**
KDAK Kodiak Island 42.55 46 P **P 16 32 15.4 -0.5**
comp=Z,6.2nm,0.4s,baz=286,slow=6.0,SNR=8.7
KDAK PcP **PcP 16 34 07.9 +0.7**
comp=Z,5.7nm,0.6s,baz=259,slow=5.2,SNR=4.6
MK31 Makanchi Array 42.59 298 *i* P **P 16 32 16.0 -0.3**
MK31 pmax pmax
comp=Z,24nm,0.6s
MK31 Makanchi Array 42.59 298 *eP* **P 16 32 16.1 -0.3**
MKAR Makanchi Array 42.59 298 P **P 16 32 15.9 -0.5**
MKAR 16 34 07.9
MKAR pmax pmax
comp=Z,32nm,0.9s
MKAR pmax pmax
comp=Z,5.0nm,0.6s
MKAR Makanchi Array 42.59 298 P **P 16 32 15.9 -0.5**
MKAR PcP **PcP 16 34 07.9 +0.2**
MKAR Makanchi Array 42.59 298 P **P 16 32 15.9 -0.5**
comp=Z,31nm,0.8s,baz=84,slow=9.8,SNR=78
MKAR PcP **PcP 16 34 07.9 +0.2**
comp=Z,4.9nm,0.6s,baz=63,slow=2.4,SNR=5.1
CMAI Chiengmai2 43.08 253 P **P 16 32 21.5 +0.7**
comp=Z,115nm,0.7s
LOEI Loei 43.15 248 P **P 16 32 19.2 -2.0**
comp=Z,161nm,0.8s
LSA Lhasa 43.15 271 P **P 16 32 22.9 +1.3**
LSA Lhasa 43.15 271 *eP* **P 16 32 22.3 +0.7**
LSA Lhasa 43.15 271 *eP* **P 16 32 22.3 +0.7**
CHAI Chaiyaphum 43.77 246 P **P 16 32 26.4 +0.2**
comp=Z,17nm,0.7s
KURK Kurchatov 43.86 304 P **P 16 32 26.9 +0.4**
KURK pmax pmax
comp=Z,39nm,0.5s
KURK Kurchatov 43.86 304 P **P 16 32 26.9 +0.4**
CHTO Chiang Mai 43.88 252 *eP* **P 16 32 27.5 +0.4**
CHTO Chiang Mai 43.88 252 *eP* **P 16 32 27.5 +0.4**
CHTO Chiang Mai 43.88 252 P **P 16 32 27.5 +0.4**
comp=Z,46nm,1.5s
CHTO Chiang Mai 43.88 252 P **P 16 32 27.6 +0.4**
comp=Z,173nm,0.7s
KURBB Kurchatov Arra 43.94 304 P **P 16 32 26.9 -0.3**
comp=Z,39nm,0.5s,baz=78,slow=9.0,SNR=146
PBKT Sadao Pong 44.00 247 P **P 16 32 28.2 +0.2**
comp=Z,27nm,0.7s
PBKT Sadao Pong 44.00 247 P **P 16 32 28.5 +0.5**
comp=Z,104nm,0.9s
CM31 Chiang Mai Arr 44.12 251 *eP* **P 16 32 29.6 +0.5**
comp=Z,17nm,0.7s
CMAR Chiang Mai Arr 44.12 251 P **P 16 32 29.4 +0.4**
CMAR Chiang Mai Arr 44.12 251 P **P 16 32 29.4 +0.4**
comp=Z,13nm,0.6s,baz=42,slow=7.6,SNR=108
ILAR Eielson Array 44.55 35 P **P 16 32 31.6 -0.2**
ILAR Eielson Array 44.55 35 P **P 16 32 31.6 -0.2**
comp=Z,4.3nm,0.8s,baz=262,slow=5.6,SNR=14
PAX Paxson 45.37 38 *eP* **P 16 32 39.5 +1.0**
PAX Paxson 45.37 38 *eP* **P 16 32 39.5 +1.0**
CHBT CHBT 45.81 242 P **P 16 32 40.4 -2.0**
comp=Z,41nm,0.8s
CHBT CHBT 45.81 242 P **P 16 32 44.0 +1.6**
comp=Z,336nm,0.9s
PHET Kaeng Krachan 47.49 245 P **P 16 32 57.0 +1.4**
comp=Z,208nm,0.7s
VOSK Vostochnaya 47.87 309 P **P 16 32 57.5 -0.6**
VOSK pmax pmax
comp=Z,42nm,1.4s
BVA0 Borovoye Array 48.12 309 P **P 16 32 59.9 -0.1**
BVA0 pmax pmax
comp=Z,8.0nm,0.4s
BVAR Borovoye Array 48.12 309 P **P 16 33 00.0 0.0**
BVAR 16 34 27.2
BVAR pmax pmax
comp=Z,18nm,0.3s
BVAR pmax pmax
comp=Z,10.0nm,0.6s
BVAR Borovoye Array 48.12 309 P **P 16 32 60.0 0.0**
BVAR PcP **PcP 16 34 27.2 +0.5**
BVAR Borovoye Array 48.12 309 P **P 16 32 60.0 0.0**
comp=Z,18nm,0.3s,baz=78,slow=9.1,SNR=148
BVAR PcP **PcP 16 34 27.2 +0.5**
comp=Z,9.7nm,0.6s,baz=86,slow=4.4,SNR=7.6
BRVK Borovoye 48.17 309 P **P 16 33 00.8 +0.5**
comp=Z,159nm,0.4s,SNR=10
BRVK Borovoye 48.17 309 *c iP* **P 16 33 00.5 +0.1**
BRVK pmax pmax
comp=Z,55nm,2.5s
BRVK Borovoye 48.17 309 *eP* **P 16 33 00.1 -0.2**
ULHL Ulahol 48.22 294 *i P* **P 16 33 01.8 +0.6**
ULHL Ulahol 48.22 294 P **P 16 33 01.9 +0.6**
SNR=5.8
TKM2 Tokmak 2 48.39 295 *eP* **P 16 33 02.7 +0.2**
TKM2 pmax pmax
comp=Z,49nm,0.7s
TKM2 Tokmak 2 48.39 295 P **P 16 33 02.9 +0.4**
SNR=15
TKM2 Tokmak 2 48.39 295 *eP* **P 16 33 02.7 +0.2**
comp=Z,49nm,0.7s
KBK Karagaybulak 48.93 295 *i* P **P 16 33 06.8 +0.2**
KBK Karagaybulak 48.93 295 P **P 16 33 06.8 +0.2**
SNR=12
USP Ospenovka 48.99 296 *i* P **P 16 33 06.7 -0.1**
USP Ospenovka 48.99 296 P **P 16 33 06.8 -0.1**
SNR=5.9
AAK Ala-Archa 49.25 295 P **P 16 33 08.0 -1.0**
AAK pmax pmax
comp=Z,9.0nm,0.4s
AAK Ala-Archa 49.25 295 *eP* **P 16 33 08.6 -0.5**
AAK Ala-Archa 49.25 295 P **P 16 33 08.0 -1.0**
comp=Z,9.4nm,0.4s,baz=107,slow=5.0,SNR=19
INK Inuvik 49.29 29 P **P 16 33 08.4 -0.3**
INK Inuvik 49.29 29 P **P 16 33 08.4 -0.3**
comp=Z,5.5nm,0.5s,baz=295,slow=6.5,SNR=26
HYT Haines Junctio 49.51 39 *eP* **P 16 33 12.1 +1.4**
KSH Kashi 49.55 291 *eP* P 16 33 14.9 +3.6
KSH sP sP 16 33 42.3 +8.5
KSH PP **PP 16 35 10.6 +4.7**
KSH PcS **PcS 16 38 30.1 +0.9**
KSH S **S 16 40 17.4 +2.5**
KSH SS **SS 16 43 47.6 +0.4**
KSH pmax pmax
comp=Z,750nm,5.9s
KSH LR LR
comp=N,2μm,15.2s
KSH LR LR
comp=E,3μm,19.6s
KSH LR LR
comp=Z,2μm,14.1s
EKS2 Erkin-Say 49.72 295 *eP* **P 16 33 12.2 -0.4**
EKS2 pmax pmax
comp=Z,12nm,0.8s
EKS2 Erkin-Say 49.72 295 P **P 16 33 12.6 0.0**
SNR=5.6
EKS2 Erkin-Say 49.72 295 *eP* **P 16 33 12.2 -0.4**
comp=Z,12nm,0.8s
KSM Kuching 50.01 225 *eP* **P 16 33 15.8 +0.9**
KSM Kuching 50.01 225 P **P 16 33 15.9 +1.0**
comp=Z,19nm,1.2s
KRAB Krabi 51.22 241 P **P 16 33 25.3 +1.3**
comp=Z,70nm,0.7s,comp=Z,538nm
KK31 Karatay Array 51.71 297 *eP* **P 16 33 26.8 -0.6**
KK31 pmax pmax
comp=Z,13nm,0.6s
KKAR Karatay Array 51.71 297 *eP* **P 16 33 26.7 -0.7**
KKAR pmax pmax
comp=Z,10.0nm,0.6s
KKAR Karatay Array 51.71 297 *eP* **P 16 33 26.7 -0.7**
comp=Z,9.6nm,0.6s
SVE Sverdlovsk 52.16 316 ⇓*iP* **P 16 33 30.0 -0.5**
SVE pmax pmax
comp=Z,61nm,0.9s
SOKR Solikamsk 53.05 321 *c iP* **P 16 33 36.6 -0.4**
SOKR pmax pmax
comp=Z,50nm,1.3s
ARU Arti 53.37 316 *c iP* **P 16 33 39.0 -0.4**
ARU *e* 16 34 45.9
ARU 16 35 38.4
ARU S **S 16 41 08.0 +1.3**
ARU pmax pmax
comp=Z,93nm,1.7s
ARU Arti 53.37 316 P **P 16 33 39.1 -0.4**
comp=Z,295nm,0.7s,SNR=8.9
PSI Prapat 55.52 237 P **P 16 33 55.1 -0.5**
PSI Prapat 55.52 237 P **P 16 33 55.1 -0.5**
comp=Z,5.2nm,0.6s,baz=37,slow=5.1,SNR=4.0
AB31 Akbulak array 55.62 308 P **P 16 33 55.6 -0.3**
AB31 pmax pmax
comp=Z,20nm,0.6s
ABKAR Akbulak array 55.62 308 *eP* **P 16 33 55.8 -0.1**
comp=Z,16nm,0.6s
SPA0 Spitsbergen Ar 55.72 348 *eP* **P 16 33 55.0 -1.2**
SPITS Spitsbergen Ar 55.72 348 P **P 16 33 55.2 -1.0**
SPITS Spitsbergen Ar 55.72 348 P **P 16 33 55.2 -1.0**
comp=Z,7.5nm,0.7s,baz=90,slow=5.8,SNR=15
COEN Coen 55.86 180 *eP* **P 16 33 58.7 +0.9**
comp=Z,1μm,2.2s
AKTO Aktyubinsk 56.20 310 P **P 16 33 59.0 -1.0**
AKTO pmax pmax
comp=Z,6.0nm,0.6s
AKTO Aktyubinsk 56.20 310 P **P 16 33 59.0 -1.0**
AKTO Aktyubinsk 56.20 310 P **P 16 33 59.0 -1.0**
comp=Z,6.2nm,0.6s,baz=68,slow=17,SNR=13
YKA Yellowknife Ar 58.78 32 P **P 16 34 17.7 -0.2**
YKA Yellowknife Ar 58.78 32 P **P 16 34 17.7 -0.2**
comp=Z,2.2nm,0.5s,baz=306,slow=6.5,SNR=6.4
TMCR Tamitsa 58.84 330 *eP* **P 16 34 16.7 -1.5**
TMCR pmax pmax
comp=Z,39nm,0.4s
ARCES ARCESS Array B 59.62 339 P **P 16 34 22.9 -0.8**
ARCES ARCESS Array B 59.62 339 P **P 16 34 22.9 -0.8**
comp=Z,2.4nm,0.5s,baz=45,slow=8.2,SNR=22
ARE0 ARCESS Array S 59.62 339 *eP* **P 16 34 22.7 -0.9**
JOF Joensuu 62.01 331 *eP* **P 16 34 39.5 -0.4**
JOF pmax pmax
comp=Z,8.0nm,0.4s
JOF Joensuu 62.01 331 *ep* **P 16 34 39.5 -0.4**
comp=Z,8.0nm,0.4s
WRA Warramunga Arr 62.33 189 P **P 16 34 41.9 -0.6**
WRA Warramunga Arr 62.33 189 P **P 16 34 41.9 -0.6**
comp=Z,4.7nm,0.7s,baz=5.8,slow=6.8,SNR=16
IEMG Emamgholi 62.39 297 *eP* **P 16 34 43.4 +0.1**
IMOG Moghan 62.65 295 *eP* **P 16 34 44.7 -0.3**
IAKL Akhelmad 62.77 296 *eP* **P 16 34 45.5 -0.3**
IKRD Kardeh 62.84 296 *eP* P 16 34 42.7 -3.5
ISHV Shirvan 62.95 297 *eP* **P 16 34 46.5 -0.4**
ISFR Sfrayin 63.02 297 *eP* **P 16 34 46.8 -0.7**
OBN Obninsk 64.72 322 *c iP* **P 16 34 57.2 -0.7**
OBN *e**PP **pP 16 35 13.4 -0.7**
OBN *e**SP **sP 16 35 19.4 -1.4**
OBN *e* 16 35 30.6
OBN *e* 16 37 19.6
OBN pmax pmax
comp=Z,16nm,0.8s
FIA1 FINESS Array S 64.83 332 *eP* **P 16 34 57.5 -1.0**
FINES FINESS Array B 64.83 332 P **P 16 34 57.8 -0.7**
FINES FINESS Array B 64.83 332 P **P 16 34 57.8 -0.7**
comp=Z,15nm,0.4s,baz=53,slow=7.1,SNR=86
MOR8 Moi Rana 64.96 339 *eP* **P 16 34 57.2 -2.1**
MOR8 AMB AMB 16 34 59.2
comp=Z,37nm,1.5s
SUMG Summit 65.54 0 ⇑*iP* **P 16 35 03.6 +0.1**
SUMG pmax pmax
comp=Z,25nm,0.8s
SUMG Summit 65.54 0 ⇑*iP* **P 16 35 03.6 +0.1**
comp=Z,25nm,0.8s
SUMG Summit 65.54 0 *eP* **P 16 35 03.5 +0.1**
comp=Z,19nm,0.7s
NEW Newport 65.65 46 P **P 16 35 04.7 +0.5**
NEW Newport 65.65 46 P **P 16 35 04.7 +0.5**
comp=Z,5.4nm,0.8s,baz=319,slow=6.5,SNR=4.0
NEW Newport 65.65 46 P **P 16 35 04.7 +0.5**
baz=66
VSR Storozhevoye 65.88 318 *i* P **P 16 35 05.0 -0.5**
VSR pmax pmax
comp=Z,21nm,0.8s
ASAR Alice Springs 66.05 189 P **P 16 35 06.9 0.0**
ASAR Alice Springs 66.05 189 P **P 16 35 06.9 0.0**
comp=Z,2.1nm,0.8s,baz=360,slow=4.7,SNR=7.8
YBH Yreka Blue Hor 66.31 55 P **P 16 35 09.8 +1.2**
YBH Yreka Blue Hor 66.31 55 P **P 16 35 09.8 +1.2**
comp=Z,4.1nm,0.7s,baz=349,slow=4.1,SNR=8.0
VSU Vasula 66.64 329 *eP* **P 16 35 09.3 -0.9**
VSU pmax pmax
comp=Z,48nm,0.9s
MSO Missoula 68.24 46 P **P 16 35 21.3 +0.6**
baz=68
KIV Kislovodsk 68.47 310 *eP* **P 16 35 22.0 -0.2**
KIV pmax pmax
comp=Z,52nm,1.1s
KIV Kislovodsk 68.47 310 P **P 16 35 23.2 +1.0**
comp=Z,268nm,0.7s,SNR=5.0
KBZ Khabaz 68.49 310 P **P 16 35 22.8 +0.7**
KBZ pmax pmax
comp=Z,9.0nm,0.8s
KBZ Khabaz 68.49 310 P **P 16 35 22.8 +0.7**
KBZ Khabaz 68.49 310 P **P 16 35 22.8 +0.7**
comp=Z,9.0nm,0.8s,baz=73,slow=6.3,SNR=16
FCC Fort Churchill 68.88 28 *eP* **P 16 35 24.1 -0.2**
FCC Fort Churchill 68.88 28 *eP* **P 16 35 24.1 -0.2**
NACGM Naroch 69.10 326 *e* **P 16 35 23.0 -2.8**
MFID Camas Ranch 69.33 50 P **P 16 35 28.4 +0.8**
baz=69
A19A Klindworth Far 69.57 42 P **P 16 35 29.2 +0.3**
baz=69
EGMT Eagleton 69.66 43 P **P 16 35 29.7 +0.2**
baz=69
B19A Brinkman Farms 69.78 42 P **P 16 35 30.5 +0.3**
baz=70
NB2 NORSAR Subarra 69.90 337 P **P 16 35 29.9 -0.8**
comp=Z,15nm,0.7s,baz=36,slow=6.5
NB2 NORSAR Subarra 69.90 337 P **P 16 35 29.9 -0.8**
baz=36,slow=6.5
NOA NORSAR Array B 69.90 337 P **P 16 35 29.9 -0.8**
NOA NORSAR Array B 69.90 337 P **P 16 35 29.9 -0.8**
comp=Z,12nm,0.7s,baz=38,slow=6.2,SNR=34
E17A Martinsdale 70.11 45 P **P 16 35 32.3 0.0**
baz=70
D18A Linhart Farms, 70.17 44 P **P 16 35 33.0 +0.3**
baz=70
C19A Slack Wire Ran 70.20 43 P **P 16 35 32.8 -0.1**
baz=70
A21A Bergtoll Ranch 70.42 41 P **P 16 35 33.7 -0.4**
baz=70
F17A Fitzpatrick Pl 70.57 45 P **P 16 35 36.4 +1.2**
baz=70
D19A Cripps Ranch, 70.67 43 P **P 16 35 35.4 -0.3**
baz=70
C20A Veseth Ranch, 70.75 43 P **P 16 35 36.2 +0.1**
baz=70
B21A Ellsworth Farm 70.76 42 P **P 16 35 36.7 +0.6**
baz=70
ANN Anapa 70.84 313 *eP* **P 16 35 36.1 -0.5**
ANN pmax pmax
comp=Z,56nm,1.7s
A22A Carney Farms, 70.91 41 P **P 16 35 37.5 +0.4**
baz=71
G17A Pierce Place, 70.91 46 P **P 16 35 37.5 +0.2**
baz=71
AKASG Malin Array Be 70.97 322 P **P 16 35 36.4 -0.9**
AKASG pmax pmax
comp=Z,8.0nm,0.6s
AKASG Malin Array Be 70.97 322 P **P 16 35 36.4 -0.9**
AKASG Malin Array Be 70.97 322 P **P 16 35 36.4 -0.9**
comp=Z,7.8nm,0.5s,baz=43,slow=7.4,SNR=26
KIEV Kiev 70.98 322 *eP* **P 16 35 36.5 -0.9**
KIEV Kiev 70.98 322 *eP* **P 16 35 36.5 -0.9**
NVAR Mina Array Bea 71.00 55 P **P 16 35 39.0 +1.0**
NVAR Mina Array Bea 71.00 55 P **P 16 35 39.0 +1.0**
comp=Z,4.9nm,0.7s,baz=302,slow=5.2,SNR=12
F18A Big Timber 71.07 45 P **P 16 35 39.1 +0.9**
baz=71
D20A Manuel Ranch, 71.10 43 P **P 16 35 39.1 +0.9**
baz=71
C21A Desert Coulee 71.12 42 P **P 16 35 38.9 +0.5**
baz=71
UOSS Wadi Hilu 71.41 287 P **P 16 35 40.9 +0.5**
comp=Z,271nm,0.6s,SNR=6.8
A23A Redstone 71.44 40 P **P 16 35 39.9 -0.3**
baz=71
E20A Meyer Farm, Mu 71.49 44 P **P 16 35 41.0 +0.3**
baz=71
F19A Roth Farm, Mol 71.51 44 P **P 16 35 41.1 +0.3**
baz=71
B23A Brockton 71.72 41 P **P 16 35 42.1 +0.2**
baz=72
GRAC Grapevine Rang 72.48 56 P **P 16 35 48.2 +1.5**
baz=72
H20A Greybull 72.92 45 P **P 16 35 49.6 +0.4**
baz=73
D24A Glendive 72.98 41 P **P 16 35 49.4 -0.1**
baz=73
MPMC Manual Prospec 73.01 57 P **P 16 35 50.5 +0.4**
baz=73
C25A Freed Ranch, W 73.08 40 P **P 16 35 50.6 +0.5**
baz=73
DUG Dugway 73.13 51 P **P 16 35 51.2 +0.6**
baz=73
FURC Furnace Creek, 73.14 56 P **P 16 35 50.3 -0.2**
baz=73
A27A Ledoux Ranch, 73.15 38 P **P 16 35 51.0 +0.6**
baz=73
PDAR Pinedale Array 73.25 47 P **P 16 35 51.6 +0.2**

PDAR Pinedale Array 73.25 47 P P 16 35 51.6 +0.2
comp=Z,4.1nm,0.7s,baz=290,slow=2.6,SNR=9.6
LRMC Laurel Mountai 73.26 57 P P 16 35 51.8 +0.3
baz=73
H21A Big Horn, Sher 73.33 44 P P 16 35 52.1 +0.4
baz=73
F23A Volborg 73.41 43 P P 16 35 52.2 +0.1
baz=73
EDW2 Edwards Air Fo 73.45 58 P P 16 35 53.0 +0.5
baz=73
J20A Shoshoni 73.65 46 P P 16 35 54.2 +0.6
baz=73
E25A Miller Ranch, 73.86 41 P P 16 35 54.8 +0.1
baz=74
B28A Dugan Ranch, T 73.92 38 P P 16 35 54.4 -0.5
baz=74
GSC Goldstone 73.92 57 P P 16 35 55.9 +0.7
baz=74
K20A Yellowstone Ra 73.98 47 P P 16 35 55.0 -0.6
baz=74
BFSC Mount Baldy Ra 74.08 58 P P 16 35 56.6 +0.4
baz=74
A29A Manning Farm, 74.09 37 P P 16 35 55.8 -0.1
baz=74
CIS Catalina Islan 74.14 59 P P 16 35 57.2 +0.7
baz=74
UMR Umm Al-Rimmam 74.39 296 eP P 16 35 57.1 -0.8
UMR AMb AMB 16 35 57.9
comp=Z,74nm,0.5s
L20A Wamsutter 74.42 47 P P 16 35 58.2 0.0
baz=74
MIB Mutribah 74.48 296 eP P 16 35 57.7 -0.8
MIB AMb AMB 16 35 58.8
comp=Z,100nm,0.8s
MALT Malatya 74.55 308 ⇑P P 16 36 00.4 +1.5
MALT Malatya 74.55 308 ⇑iP P 16 36 00.4 +1.5
KWP Kalwaria Pacla 74.64 324 ⇑P P 16 35 59.2 +0.1
KWP Kalwaria Pacla 74.64 324 eP P 16 35 59.2 +0.1
comp=Z,14nm,0.8s
KWP Kalwaria Pacla 74.64 324 ⇑iP P 16 35 59.2 +0.1
D28A Regan 74.73 39 P P 16 35 60.0 +0.3
baz=74
QRN Al-Qurain 74.77 295 eP P 16 35 59.7 -0.5
QRN AMb AMB 16 36 00.3
comp=Z,132nm,0.4s
B30A Myrvik Farm, E 74.84 37 P P 16 36 00.4 +0.1
baz=75
M20A Sweetwater, Wa 74.86 47 P P 16 36 01.2 +0.4
baz=75
MZRK Al-Mazaregh 74.86 305 iP P 16 36 00.2 -0.4
NAY Al-Naaiem 74.90 296 eP P 16 36 00.1 -0.9
NAY AMb AMB 16 36 00.8
comp=Z,2.2nm,0.7s
RDF Al-Radifah 74.90 295 eP P 16 36 00.8 -0.1
RDF AMb AMB 16 36 01.5
comp=Z,96nm,0.6s
RST Umm Al-Ruwaisa 74.90 296 eP P 16 35 59.7 -1.3
RST AMb AMB 16 36 01.4
comp=Z,620nm,0.8s
GMRC Granite Mounta 74.98 57 P P 16 36 02.0 +0.6
baz=75
BUR08 Bucovina Ar. S 75.00 322 eP P 16 36 01.4 +0.1
BURAR Bucovina Array 75.02 322 ⇑P P 16 36 01.6 +0.2
BURAR Bucovina Array 75.02 322 ⇑iP P 16 36 01.6 +0.2
TESR Tescani 75.15 320 ⇑iP P 16 36 02.0 -0.1
RWWY Rawlins 75.26 47 eP P 16 36 03.3 +0.1
BELC Belle Mtn. Jos 75.28 57 P P 16 36 03.0 -0.2
baz=75
KOLS Kolonicke sedl 75.36 324 eP P 16 36 02.6 -0.6
KOLS pmax pmax
comp=Z,6.0nm,1.0s
KOLS Kolonicke sedl 75.36 324 eP P 16 36 02.6 -0.6
CFR Carcaliu 75.39 318 ⇓iP P 16 36 02.8 -0.6
STHS Stebnicka Huta 75.44 325 eP P 16 36 04.3 +0.6
STHS pmax pmax
comp=Z,5.0nm,0.7s
STHS Stebnicka Huta 75.44 325 eP P 16 36 04.3 +0.6
CRVS Cervenica-Dubn 75.73 325 eP P 16 36 05.6 +0.2
CRVS pmax pmax
comp=Z,39nm,2.4s
CRVS Cervenica-Dubn 75.73 325 eP P 16 36 05.6 +0.2
TIRR Tirgusor 75.77 318 ⇑iP P 16 36 27.8 +22
L23A Garrett 75.77 46 P P 16 36 05.7 -0.3
baz=76
TRPA Tarpa 75.84 323 ⇑iP P 16 36 05.9 -0.1
TLB Topalu 75.86 318 ⇓P P 16 36 06.6 +0.5
TLB Topalu 75.86 318 ⇓iP P 16 36 06.6 +0.5
PDMCI Parker Dam,Lak 76.23 56 P P 16 36 09.0 +0.5
baz=76
BR131 Keskin Array S 76.34 311 eP P 16 36 08.9 -0.2
comp=Z,4.7nm,0.7s
BRTR Keskin Array B 76.34 311 P P 16 36 09.4 +0.2
BRTR Keskin Array B 76.34 311 P P 16 36 09.4 +0.2
comp=Z,5.5nm,0.7s,baz=86,slow=3.3,SNR=26
H28A Mission Ridge 76.34 41 P P 16 36 08.6 -0.4
baz=76
KSP Ksiaz 76.35 328 eP P 16 36 09.0 +0.2
OKC Ostrava-Krasne 76.40 327 iP P 16 36 09.3 +0.2
OKC Ostrava-Krasne 76.40 327 iP P 16 36 09.3 +0.2
KECS Kecovo 76.47 325 eP P 16 36 09.3 -0.3
O22A Kremmling 76.68 48 P P 16 36 11.9 +0.6
baz=76
MORC Moravsky Berou 76.69 327 eP P 16 36 10.3 -0.6
MORC pmax pmax
comp=Z,8.0nm,0.8s
MORC Moravsky Berou 76.69 327 eP P 16 36 10.2 -0.6
comp=Z,8.4nm,0.8s
VOIR 76.69 320 ⇑P P 16 36 11.4 +0.4
VOIR 76.69 320 ⇑iP P 16 36 11.4 +0.4
ANTO Ankara 76.71 312 eP P 16 36 11.6 +0.5
ANTO pmax pmax
comp=Z,16nm,0.7s
ANTO Ankara 76.71 312 eP P 16 36 11.6 +0.5
comp=Z,16nm,0.7s
ANTO Ankara 76.71 312 ⇓iP P 16 36 12.3 +1.2
UPC Upice 76.72 328 iP P 16 36 11.5 +0.5
UPC Upice 76.72 328 iP P 16 36 11.5 +0.5
DPC Dobruska-Polom 76.73 328 iP P 16 36 11.5 +0.4
DPC e 16 36 32.7
DPC Dobruska-Polom 76.73 328 iP P 16 36 11.5 +0.4
DPC esP sP 16 36 32.7 -1.5
P22A Eagle 76.96 48 P P 16 36 13.7 +0.9
baz=77
J28A Allard Ranch, 77.14 42 P P 16 36 13.8 +0.2
baz=77
VYHS Vyhne 77.16 326 eP P 16 36 13.7 +0.2
VYHS pmax pmax
comp=Z,23nm,2.3s
VYHS Vyhne 77.16 326 eP P 16 36 13.7 +0.2
Y14A Wickenburg 77.17 56 P P 16 36 14.6 +0.8
baz=77
CLL Collm 77.22 330 ⇑iP P 16 36 13.2 -0.5
CLL i *SP sP 16 36 34.7 -2.2
CLL pmax pmax
comp=Z,18nm,1.0s
CLL Collm 77.22 330 ⇑iP P 16 36 13.2 -0.5
comp=Z,18nm,1.0s
CLL i PcP PcP 16 36 24.9 +0.7
CLL i sP sP 16 36 34.7 -2.2
CLL ePP PP 16 39 05.0 -2.5
PVCC Panska Ves 77.27 329 iP P 16 36 12.9 -1.1
PVCC Panska Ves 77.27 329 iP P 16 36 12.9 -1.1
MVCO Mesa Verde 77.63 51 P P 16 36 17.0 +0.4
baz=77
PRU Pruhonice 77.71 329 iP P 16 36 16.7 +0.2
PRU e 16 36 37.2
PRU Pruhonice 77.71 329 iP P 16 36 16.7 +0.2
PRU esP sP 16 36 37.2 -2.5
S21A Coal Bank Pass 77.72 50 P P 16 36 17.8 +0.6
baz=78
X16A Lo Mia Camp, P 77.81 55 P P 16 36 18.4 +0.9
baz=78
R22A Saguache, Gunn 77.91 49 P P 16 36 16.3 -1.9
baz=78
ROOS tl_alroos 78.02 305 eP P 16 36 19.2 +0.6
BZS Buzias 78.16 322 ⇑iP P 16 36 18.4 -0.6
Q24A Divide 78.29 48 P P 16 36 19.1 -1.2
baz=78
HAWK Haweek 78.31 306 eP P 16 36 19.5 -0.8
MARH Ras Al Marh 78.61 306 eP P 16 36 22.0 -0.1
X18A Snowflake 78.63 54 P P 16 36 21.6 -0.4
baz=78
KHC Kasperske Hory 78.77 329 iP P 16 36 22.5 +0.1
KHC e 16 36 37.7
KHC Kasperske Hory 78.77 329 iP P 16 36 22.5 +0.1
KHC epP pP 16 36 37.7 -1.3
KHC Kasperske Hory 78.77 329 eP P 16 36 22.4 -0.1
comp=Z,6.7nm,0.8s
R24A Sanders Place, 78.83 48 P P 16 36 23.4 +0.2
baz=79
CONA Conrad Observa 78.84 327 ⇑eP P 16 36 23.6 +0.7
comp=Z,4.6nm,0.7s
GERES GERESS Array B 78.96 329 P P 16 36 23.1 -0.4
GERES GERESS Array B 78.96 329 P P 16 36 23.1 -0.4
comp=Z,2.9nm,0.8s,baz=39,slow=6.3,SNR=11
R25A Fountain Ranch 79.34 48 P P 16 36 25.6 -0.3
baz=79
SALA Sala 79.36 305 eP P 16 36 25.2 -0.9
ASF Jabal al Asfar 79.62 304 P P 16 36 27.6 +0.2
ASF Jabal al Asfar 79.62 304 P P 16 36 27.6 +0.2
comp=Z,3.7nm,0.6s,baz=337,slow=4.8,SNR=6.5
R26A Arlington 79.69 47 P P 16 36 27.5 -0.2
baz=80
VTS Vitosha 79.70 319 ⇑P P 16 36 28.0 +0.2
VTS Vitosha 79.70 319 ⇑iP P 16 36 28.0 +0.2
RAYN Ar Rayn 79.81 292 P P 16 36 28.0 -0.5
comp=Z,140nm,0.8s,SNR=7.1
X21A Alamocita Cree 79.97 52 P P 16 36 30.3 +0.8
baz=80
Y20A Horse Springs, 80.00 53 P P 16 36 30.5 +0.9
baz=80
T25A Trinidad 80.00 49 P P 16 36 30.0 +0.5
baz=80
SCHQ Schefferville 80.06 17 P P 16 36 29.2 -0.1
SCHQ Schefferville 80.06 17 P P 16 36 29.2 -0.1
comp=Z,9.8nm,0.7s,baz=325,slow=7.3,SNR=3.6
GROS Grobnik 80.16 326 iP P 16 36 29.8 -0.2
PERS Pernice 80.17 326 iP P 16 36 30.1 0.0
SOKA Soboth 80.18 327 ⇑iP P 16 36 30.3 +0.1
comp=Z,10nm,0.7s,SNR=8.1
W23A Werner Place, 80.42 51 P P 16 36 31.6 -0.2
baz=80
T26A Comanche Natio 80.42 48 P P 16 36 31.3 -0.6
baz=80
OBKA Obir 80.51 327 ⇑iP P 16 36 31.8 -0.1
comp=Z,7.9nm,0.7s,SNR=4.7
MYKA Terra Mystica 80.78 327 ⇑iP P 16 36 32.9 -0.5
comp=Z,4.9nm,0.7s
120A U Bar Ranch, L 80.79 54 P P 16 36 34.3 +0.4
baz=81
Z21A St. Cloud Mine 80.83 53 P P 16 36 34.8 +0.7
baz=81
P31A Stockton 80.96 44 P P 16 36 34.5 0.0
baz=81
BOJS Bojanci 81.03 326 iP P 16 36 34.3 -0.3
WTTA Wattenberg 81.05 329 ⇑iP P 16 36 35.0 +0.1
comp=Z,12nm,0.8s,SNR=4.6
MOTA Moosalm 81.19 329 ⇑iP P 16 36 35.5 -0.2
comp=Z,15nm,0.9s,SNR=5.9
RETA Reutte 81.20 329 ⇑eP P 16 36 35.7 +0.1
comp=Z,16nm,1.0s
319A Douglas 81.21 56 P P 16 36 36.6 +0.6
baz=81
220A Playas Peak, P 81.31 55 P P 16 36 37.4 +0.8
baz=81
V26A Tequesquite Ra 81.31 49 P P 16 36 36.3 -0.2
baz=81
121A Cookes Peak, D 81.31 54 P P 16 36 37.2 +0.6
baz=81
Y23A Lovelace Mesa, 81.35 52 P P 16 36 36.4 -0.3
baz=81
FETA Feichten 81.60 329 ⇑iP P 16 36 37.8 0.0
comp=Z,8.1nm,1.0s,SNR=5.7
CDF Champ du Feu 81.69 332 eP P 16 36 37.8 -0.4
CDF Champ du Feu 81.69 332 eP P 16 36 37.8 -0.4
CDF Champ du Feu 81.69 332 eP P 16 36 37.8 -0.4
DAVA Damuels 81.69 330 ⇑eP P 16 36 38.3 0.0
comp=Z,13nm,0.9s
PAGF Fort de Pagny 82.10 333 eP P 16 36 40.2 0.0
comp=Z,3.9nm,0.6s
PAGF Fort de Pagny 82.10 333 eP P 16 36 40.2 0.0
HINF Hinteralfeld 82.34 332 eP P 16 36 40.8 -0.8
HINF Hinteralfeld 82.34 332 eP P 16 36 40.8 -0.8
HINF Hinteralfeld 82.34 332 eP P 16 36 40.8 -0.8
HAU Haudompre 82.36 332 eP P 16 36 41.0 -0.6
HAU Haudompre 82.36 332 eP P 16 36 41.0 -0.6
HAU Haudompre 82.36 332 eP P 16 36 41.0 -0.6
MEZF Maizieres J'vi 82.37 333 eP P 16 36 41.6 0.0
MEZF Maizieres J'vi 82.37 333 eP P 16 36 41.6 0.0
LOR Lormes 83.84 333 eP P 16 36 48.8 -0.5
comp=Z,25nm,1.0s
LOR Lormes 83.84 333 eP P 16 36 48.8 -0.5
FLN La Foliniere 83.88 337 eP P 16 36 48.8 -0.6
comp=Z,9.4nm,0.7s
FLN La Foliniere 83.88 337 eP P 16 36 48.8 -0.6
FLN La Foliniere 83.88 337 eP P 16 36 48.8 -0.6
LDF La Druitiere 83.93 336 eP P 16 36 49.1 -0.6
LDF La Druitiere 83.93 336 eP P 16 36 49.1 -0.6
LDF La Druitiere 83.93 336 eP P 16 36 49.1 -0.6
SSF Saint Saulge 84.14 333 eP P 16 36 50.4 -0.4
comp=Z,20nm,1.0s
SSF Saint Saulge 84.14 333 eP P 16 36 50.4 -0.4
SSF Saint Saulge 84.14 333 eP P 16 36 50.4 -0.4
425A Indio Mountain 84.23 53 P P 16 36 52.5 +0.8
baz=84
GRR Gorron 84.33 337 eP P 16 36 51.4 -0.3
comp=Z,28nm,0.9s
GRR Gorron 84.33 337 eP P 16 36 51.4 -0.3
GRR Gorron 84.33 337 eP P 16 36 51.4 -0.3
Z29A Hungry Hill Ra 84.33 50 P P 16 36 52.9 +0.7
baz=84
LPL La Plagne 84.35 331 eP P 16 36 52.2 0.0
comp=Z,9.1nm,0.8s
LPL La Plagne 84.35 331 eP P 16 36 52.2 0.0
LPL La Plagne 84.35 331 eP P 16 36 52.2 0.0
128A Castleberry Fa 84.36 50 P P 16 36 53.2 +1.0
baz=84
LPG La Plagne 84.36 331 eP P 16 36 52.4 +0.1
comp=Z,12nm,0.7s
LPG La Plagne 84.36 331 eP P 16 36 52.4 +0.1
LPG La Plagne 84.36 331 eP P 16 36 52.4 +0.1
SMF Signal de Mont 84.39 333 eP P 16 36 51.8 -0.3
comp=Z,20nm,0.8s
SMF Signal de Mont 84.39 333 eP P 16 36 51.8 -0.3
SMF Signal de Mont 84.39 333 eP P 16 36 51.8 -0.3
AVF Avril sur Loir 84.43 333 eP P 16 36 52.1 -0.1
comp=Z,29nm,0.9s
AVF Avril sur Loir 84.43 333 eP P 16 36 52.1 -0.1
AVF Avril sur Loir 84.43 333 eP P 16 36 52.1 -0.1
326A Caldwell Ranch 84.44 52 P P 16 36 53.4 +0.7
baz=84
Z30A Sanderson Ranc 84.64 49 P P 16 36 54.1 +0.5
baz=84
228A UT Block 9, Go 84.66 51 P P 16 36 54.6 +0.8
baz=84
BGF Bois d'Agland 84.80 334 eP P 16 36 54.3 +0.2
BGF Bois d'Agland 84.80 334 eP P 16 36 54.3 +0.2
BGF Bois d'Agland 84.80 334 eP P 16 36 54.3 +0.2
426A McDonald Obser 84.88 53 P P 16 36 55.1 0.0
baz=85
SGMF Saint Gilles 84.94 338 eP P 16 36 54.8 0.0
SGMF Saint Gilles 84.94 338 eP P 16 36 54.8 0.0
SGMF Saint Gilles 84.94 338 eP P 16 36 54.8 0.0
MBDF Montbardon 85.02 330 eP P 16 36 54.8 -0.6
comp=Z,10.0nm,0.7s
MBDF Montbardon 85.02 330 eP P 16 36 54.8 -0.6
MBDF Montbardon 85.02 330 eP P 16 36 54.8 -0.6
ROSF Rostrenen 85.06 338 eP P 16 36 55.6 +0.2
comp=Z,30nm,1.0s
ROSF Rostrenen 85.06 338 eP P 16 36 55.6 +0.2
ROSF Rostrenen 85.06 338 eP P 16 36 55.6 +0.2
328A Wristen Ranch, 85.08 52 P P 16 36 56.7 +0.9
baz=85
427A Hayter Ranch, 85.12 52 P P 16 36 56.8 +0.7
baz=85
ORIF Oris-en-Rattie 85.18 331 eP P 16 36 56.2 0.0
comp=Z,12nm,0.8s
ORIF Oris-en-Rattie 85.18 331 eP P 16 36 56.2 0.0
ORIF Oris-en-Rattie 85.18 331 eP P 16 36 56.2 0.0
229A Bryant Ranch, 85.22 50 P P 16 36 56.7 +0.1
baz=85
130A Snyder 85.24 50 P P 16 36 56.9 +0.2
baz=85
TCF Toulx Ste Croi 85.24 334 eP P 16 36 56.4 0.0
comp=Z,5.9nm,0.7s
TCF Toulx Ste Croi 85.24 334 eP P 16 36 56.4 0.0
TCF Toulx Ste Croi 85.24 334 eP P 16 36 56.4 0.0
526A Mary Lane Ranc 85.28 53 P P 16 36 58.2 +1.2
baz=85
QUIF Quistinic 85.42 338 eP P 16 36 57.0 -0.1
comp=Z,10nm,0.7s
QUIF Quistinic 85.42 338 eP P 16 36 57.0 -0.1
QUIF Quistinic 85.42 338 eP P 16 36 57.0 -0.1
329A Wagon Wheel Ra 85.48 51 P P 16 36 59.0 +1.1
baz=85
SBF Sospel 85.50 329 eP P 16 36 57.0 -0.8
comp=Z,10nm,0.5s
SBF Sospel 85.50 329 eP P 16 36 57.0 -0.8
SBF Sospel 85.50 329 eP P 16 36 57.0 -0.8
131A Roby 85.51 49 P P 16 36 58.8 +0.8
baz=85
TUL1 Tulsa 85.54 44 P P 16 36 58.6 +0.6
baz=85
428A Kincaid Ranch, 85.63 52 P P 16 36 59.1 +0.5
baz=85
VIVF Saint-Julien-I 85.66 332 eP P 16 36 58.6 +0.1
comp=Z,15nm,0.7s
VIVF Saint-Julien-I 85.66 332 eP P 16 36 58.6 +0.1
VIVF Saint-Julien-I 85.66 332 eP P 16 36 58.6 +0.1
230A Sterling City 85.68 50 P P 16 36 59.7 +0.8
baz=86
MFF Saint Martin d 85.71 335 eP P 16 36 58.9 +0.2
comp=Z,23nm,0.9s
MFF Saint Martin d 85.71 335 eP P 16 36 58.9 +0.2
MFF Saint Martin d 85.71 335 eP P 16 36 58.9 +0.2
PGF Pioggiola 86.02 328 eP P 16 37 00.8 +0.4
comp=Z,27nm,1.1s
PGF Pioggiola 86.02 328 eP P 16 37 00.8 +0.4
PGF Pioggiola 86.02 328 eP P 16 37 00.8 +0.4
FRF La Foret Royal 86.06 330 eP P 16 36 59.7 -0.8
FRF La Foret Royal 86.06 330 eP P 16 36 59.7 -0.8
FRF La Foret Royal 86.06 330 eP P 16 36 59.7 -0.8
TXAR Lajitas Array 86.06 53 P P 16 37 01.8 +0.9
TXAR Lajitas Array 86.06 53 P P 16 37 01.8 +0.9
comp=Z,7.1nm,0.6s,baz=294,slow=3.6,SNR=16
231A Bronte 86.10 50 P P 16 37 01.1 +0.2
baz=86
SMRF Simiane la Rot 86.10 331 eP P 16 37 00.7 0.0
SMRF Simiane la Rot 86.10 331 eP P 16 37 00.7 0.0
LMR La Mourre 86.31 330 eP P 16 37 01.2 -0.5
comp=Z,19nm,0.8s
LMR La Mourre 86.31 330 eP P 16 37 01.2 -0.5
LMR La Mourre 86.31 330 eP P 16 37 01.2 -0.5
RJF Les Rejaudoux 86.34 334 eP P 16 37 02.1 +0.3
RJF Les Rejaudoux 86.34 334 eP P 16 37 02.1 +0.3
RJF Les Rejaudoux 86.34 334 eP P 16 37 02.1 +0.3
CAF Calviac 86.49 333 eP P 16 37 03.3 +0.7
comp=Z,25nm,0.8s
CAF Calviac 86.49 333 eP P 16 37 03.3 +0.7
CAF Calviac 86.49 333 eP P 16 37 03.3 +0.7
331A San Angelo 86.50 50 P P 16 37 03.4 +0.5
baz=86
232A Coleman 86.51 49 P P 16 37 03.4 +0.5
baz=86
LASF Ste Croix 86.63 332 eP P 16 37 03.6 +0.3
LASF Ste Croix 86.63 332 eP P 16 37 03.6 +0.3
530A J-C Ranch, Com 86.84 51 P P 16 37 05.0 +0.4
baz=87
LFF La Frestale 86.92 334 eP P 16 37 05.3 +0.7
comp=Z,31nm,0.9s
LFF La Frestale 86.92 334 eP P 16 37 05.3 +0.7
LFF La Frestale 86.92 334 eP P 16 37 05.3 +0.7
432A Menard 87.19 50 P P 16 37 05.9 -0.4
baz=87
MTLF Montolieu 87.84 332 eP P 16 37 09.6 +0.5
comp=Z,18nm,1.2s
MTLF Montolieu 87.84 332 eP P 16 37 09.6 +0.5
MTLF Montolieu 87.84 332 eP P 16 37 09.6 +0.5
ETSF Etsaut 89.16 334 eP P 16 37 16.2 +0.8
comp=Z,9.0nm,0.6s
ETSF Etsaut 89.16 334 eP P 16 37 16.2 +0.8
ETSF Etsaut 89.16 334 eP P 16 37 16.2 +0.8
ESDC Sonseca Array 93.17 335 P P 16 37 34.1 0.0
ESDC Sonseca Array 93.17 335 P P 16 37 34.1 0.0
comp=Z,0.3nm,0.3s,baz=28,slow=3.7,SNR=5.1
KMBO Kilima Mbogo 102.37 280 P Pdif 16 38 16.2 0.0
KMBO Kilima Mbogo 102.37 280 P Pdif 16 38 16.2 0.0
comp=Z,0.6nm,0.3s,baz=229,slow=23,SNR=4.1
TORD Torodi Ar. Bea 114.43 318 PKP PKPdf 16 42 59.1 -0.8
TORD Torodi Ar. Bea 114.43 318 PKP PKPdf 16 42 59.1 -0.8
comp=Z,1.1nm,0.5s,baz=15,slow=2.3,SNR=13
DBIC Dimbokro 123.21 321 PKP PKPdf 16 43 16.2 -0.5
DBIC Dimbokro 123.21 321 PKP PKPdf 16 43 16.2 -0.5
comp=Z,4.2nm,0.6s,baz=18,slow=2.5,SNR=7.1
LIC Lamto 123.68 321 ePKIKP PKPdf 16 43 16.9 -0.8
LIC Lamto 123.68 321 ePKPdf PKPdf 16 43 16.9 -0.8
QSPA South Pole Qui 131.92 180 PKP PKPdf 16 43 31.9 +0.1
QSPA South Pole Qui 131.92 180 PKP PKPdf 16 43 31.9 +0.1
comp=Z,4.8nm,0.8s,baz=221,slow=2.3,SNR=5.3
SNAA Sanae 146.01 199 ePKPdf PKPdf 16 43 57.6 +0.3
SNAA Sanae 146.01 199 ePKPdf PKPdf 16 43 57.3 -0.1
SNAA PKPbc PKPbc 16 43 57.9 -0.3
SNAA Sanae 146.01 199 PKPbc PKPbc 16 43 57.9 -0.3
comp=Z,2.2nm,0.6s,baz=185,slow=2.8,SNR=15
SIV San Ignacio 146.72 46 PKPbc PKPbc 16 44 02.4 +0.5
SIV San Ignacio 146.72 46 PKPbc PKPbc 16 44 02.4 +0.5
comp=Z,24nm,0.8s,baz=320,slow=3.8,SNR=32
LVC Limon Verde 147.03 64 ePKPbc PKPbc 16 44 03.9 +1.0
VNA2 Neumayer--Watz 147.59 198 ePKPdf PKPbc 16 44 03.2 +0.5
VNA2 Neumayer--Watz 147.59 198 ePKP PKPab 16 44 07.6 +2.6
VNA3 Neumayer Olymp 147.84 196 ePKPdf PKPbc 16 44 03.0 -0.4
VNA1 Neumayer--Stat 147.99 198 ePKPdf PKPdf 16 44 02.1 +1.6
BDFB Brasilia 151.91 23 PKPbc PKPbc 16 44 15.1 0.0
BDFB Brasilia 151.91 23 PKPbc PKPbc 16 44 15.1 0.0
comp=Z,8.6nm,0.7s,baz=180,slow=2.0,SNR=9.1
CPUP Villa Florida 157.04 53 PKPab PKPab 16 44 45.9 +0.1
CPUP Villa Florida 157.04 53 PKPab PKPab 16 44 45.9 +0.1
comp=Z,1.0nm,0.5s,baz=333,slow=2.3,SNR=3.8

IDC 07 16:24:26.4±2.2,29.89S×177.28W,h0km,mb4.0/2, mb1 4.2/3,mb1mx3.8/19,mbtmp4.0/3,MS4.5/1,Ms1 4.5/1, ms1mx3.5/36,Error ellipse: s-maj=45.1km s-min=25.6km az=84.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	0.84	319	Pn	Pn	16 24 45.5	0.0
	993nm,0.3s,baz=50,slow=20,SNR=40						
RAO				Sn	Sb	16 24 55.1	-0.7
	baz=90,slow=20						
URZ	Urewera	9.56	208	Pn	Pn	16 26 45.4	+0.1
	baz=269,slow=6.0,SNR=6.6						
URZ				Sn	Sn	16 28 33.7	+0.3
	0.5nm,0.3s,baz=137,slow=19,SNR=6.6						
PPT	Papeete	28.09	70	LR	LR	16 39 02.3	
	comp=Z,1μm,21.8s,baz=252,slow=31						
ASAR	Alice Springs	43.76	266	P	P	16 32 33.8	-0.2
	0.8nm,0.6s,baz=105,slow=7.2,SNR=5.1						
WRA	Warramunga Arr	44.71	271	P	P	16 32 41.4	-0.1
	3.2nm,0.7s,baz=109,slow=8.0,SNR=18						
FINES	FINESS Array B	144.87	341	PKP	PKPab	16 44 03.8	0.0
	4.1nm,0.5s,baz=62,slow=3.6,SNR=24						
AKASG	Malin Array Be	151.26	324	PKPbc	PKPbc	16 44 21.4	-0.1
	1.3nm,0.6s,baz=44,slow=2.4,SNR=5.0						

IDC 07 16:46:59.2±2.5,33.97S×178.65W,h0km,mb4.1/5, mb1 4.2/6,mb1mx3.9/19,mbtmp4.1/6,ML4.2/1,MS5.1/2, Ms1 5.1/2,ms1mx4.1/37,Error ellipse: s-maj=60.0km s-min=30.0km az=129.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	5.49	217	Pn	Pn	16 48 23.3	+1.0
	7.0nm,0.3s,baz=322,slow=2.4,SNR=30						
URZ				Sn	Sn	16 49 26.2	+0.2
	8.9nm,0.3s,baz=119,slow=21,SNR=10						
STKA	Stephens Creek	33.29	262	P	P	16 53 38.5	-0.1
	1.8nm,0.9s,baz=109,slow=14,SNR=3.0						
CTA	Charters Tower	34.00	285	P	P	16 53 45.5	+0.6
	2.5nm,0.6s,baz=104,slow=12,SNR=5.5						
ASAR	Alice Springs	42.49	271	P	P	16 54 56.2	-0.2
	1.7nm,0.6s,baz=114,slow=7.7,SNR=39						
WRA	Warramunga Arr	43.80	276	P	P	16 55 06.4	-0.7
	1.7nm,0.4s,baz=117,slow=7.5,SNR=7.9						
NWAO	Narrogin (SRO)	52.70	252	LR	LR	17 15 23.5	
	comp=Z,1μm,18.1s,baz=0.3,slow=32						
PETK	Petropavlovsk-	89.12	346	P	P	16 59 56.9	+0.9
	0.3nm,0.5s,baz=131,slow=4.4,SNR=3.5						
ATAH	Atahualpa	94.49	102	LR	LR	17 32 57.6	
	comp=Z,2μm,21.6s,baz=270,slow=29						
FINES	FINESS Array B	148.26	338	PKPbc	PKPbc	17 06 45.1	-1.4
	2.0nm,0.6s,baz=66,slow=3.8,SNR=7.4						

JMA 07 16:50:12.7±0.3, 43°.92N×147°.76E, h0km, M3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.57**	**250**	P	Pn	16 50 41.9	+0.2
NEM2				*e*S	Sb	16 51 02.9	0.0
JRA	**Rausu**	**1.91**	**271**	P	Pn	16 50 46.9	+0.5
JNK	**Nakash**	**2.23**	**262**	P	Pn	16 50 51.5	+0.6
JNK				*e*S	Sn	16 51 19.7	+0.6
JAK	**Akkeshi**	**2.41**	**249**	P	Pn	16 50 54.0	+0.6
JAK				*e*S	Sn	16 51 24.1	+0.5
JTKR	**Abashiri--Toko**	**2.78**	**272**	P	Pn	16 50 59.0	+0.5
JAR	**Ashorobuto**	**2.96**	**259**	P	Pn	16 51 02.8	+1.8
JAR				*e*S	Sb	16 51 40.5	-2.7
JOB	**Onbets**	**3.04**	**252**	P	Pn	16 51 03.3	+1.4
JMP	**Maruseppu**	**3.18**	**273**	P	Pn	16 51 04.7	+0.7
JCH	**Churui**	**3.47**	**249**	P	Pn	16 51 08.5	+0.6
JNBK	**Urakawa-nobuka**	**4.02**	**248**	P	Pn	16 51 16.4	+1.0

*IDC **07** 16:51:23.5±1.0, 8°.72S×127°.42E, h0km, mb4.0/5, mb1 4.2/9, mb1mx3.9/22, mbtmp4.1/9, ML4.3/4, MS4.0/1, Ms1 4.0/1, ms1mx3.1/33, Error ellipse: s-maj=41.0km s-min=17.9km az=66.0*
*AUST **07** 16:51:26.1±7.7, 9°.01S×127°.23E, h0km, Error ellipse: s-maj=1.1km s-min=0.8km az=305.0*
*ISCJB **07** 16:51:27.3±0.6, 8°.97S±0°.05×127°.41E±0°.05, h33km, mb3.9/5, Error ellipse: s-maj=7.6km s-min=6.8km az=175.7*
ISC 07 16:51:30.1±0.8, 9°.02S±0°.07×127°.38E±0°.07, h35km, n22, σ2§17/23, mb4.0/5, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**3.15**	**256**	P	**Pn**	**16 52 16.9**	**-0.5**
	baz=3.0,SNR=12						
BATI	**Baumata**	**3.85**	**252**	Pn	**Pn**	**16 52 26.7**	**-0.1**
	9.7nm,0.3s,baz=112,slow=2.0,SNR=23						
BATI				Sn	**Sn**	**16 53 13.5**	**+2.6**
	21nm,0.3s,baz=281,slow=19,SNR=9.5						
BATI				LR	LR	16 54 19.6	
	comp=Z,2μm,19.8s,baz=310,slow=44						
MTN	**Manton Dam**	**5.29**	**136**	P	Pn	16 52 50.9	+4.2
	baz=5.4,SNR=41						
TLE	**Tual**	**6.29**	**58**	P	Pn	16 52 55.5	-4.8
	baz=6.4,SNR=3.5						
KNRA	**Kununurra**	**6.75**	**169**	P	**Pn**	**16 53 08.5**	**+1.7**
	baz=6.8,SNR=252						
KNRA				S	**Sn**	**16 54 25.1**	**+2.7**
	baz=6.8,SNR=8.1						
FAKI	**Fak Fak**	**7.76**	**39**	P	**Pn**	**16 53 21.0**	**+0.4**
	baz=7.9,SNR=18						
SWI	**Sorong**	**8.98**	**26**	P	**Pn**	**16 53 38.5**	**+1.1**
	baz=9.1,SNR=3.3						
FITZ	**Fitzroy Crossi**	**9.18**	**190**	Pn	**Pn**	**16 53 39.6**	**-0.5**
	1.6nm,0.3s,baz=351,slow=13,SNR=63						
FITZ				Sn	**Sn**	**16 55 21.1**	**-1.2**
	5.9nm,0.3s,baz=120,slow=20,SNR=9.1						
FITZ	**Fitzroy Crossi**	**9.18**	**190**	P	**Pn**	**16 53 39.4**	**-0.7**
	baz=9.2,SNR=48						
WRA	**Warramunga Arr**	**12.77**	**149**	Pn	**Pn**	**16 54 27.7**	**-1.6**
	2.6nm,0.3s,baz=319,slow=13,SNR=107						
WRA				Sn	**Sn**	**16 56 47.3**	**-3.1**
	1.9nm,0.3s,baz=323,slow=28,SNR=7.7						
ASAR	**Alice Springs**	**15.85**	**158**	Pn	**Pn**	**16 55 09.9**	**-0.7**
	0.7nm,0.3s,baz=329,slow=9.8,SNR=52						
ASAR				Sn	**Sn**	**16 58 01.6**	**-3.7**
	0.4nm,0.3s,baz=320,slow=20,SNR=6.8						
COEN	**Coen**	**16.24**	**109**	P	**Pn**	**16 55 16.0**	**+0.4**
	baz=16,SNR=7.1						
MTSU	**Mount Surprise**	**18.78**	**121**	P	**Pn**	**16 55 50.4**	**+3.2**
	baz=19,SNR=7.1						
MEEK	**Meekatharra**	**19.39**	**204**	P	**Pn**	**16 55 55.1**	**+0.6**
	baz=19,SNR=12						
MEEK				S	S	16 59 18.5	-12
	baz=19,SNR=3.3						
MORW	**Morawa**	**22.61**	**207**	P	P	16 56 42.4	+15
	baz=23,SNR=3.8						
STKA	**Stephens Creek**	**26.30**	**152**	P	**P**	**16 57 03.9**	**+1.4**
	2.6nm,0.7s,baz=324,slow=11,SNR=9.3						
STKA	**Stephens Creek**	**26.30**	**152**	P	**P**	**16 57 05.5**	**+3.1**
	baz=26,SNR=7.3						
CMAR	**Chiang Mai Arr**	**39.15**	**314**	P	P	16 58 51.1	-3.6
	1.4nm,0.7s,baz=141,slow=6.7,SNR=18						
MKAR	**Makanchi Array**	**68.53**	**328**	P	**P**	**17 02 26.4**	**-2.7**
	0.8nm,0.6s,baz=123,slow=7.3,SNR=8.6						
ZALV	**Zalesovo Beam**	**72.28**	**335**	P	**P**	**17 02 48.7**	**-3.0**
	1.8nm,0.7s,baz=139,slow=5.3,SNR=7.1						
KURBB	**Kurchatov Arra**	**72.91**	**330**	P	**P**	**17 02 52.9**	**-2.7**
	0.7nm,0.7s,baz=137,slow=4.8,SNR=12						
TORD	**Torodi Ar. Bea**	**126.62**	**280**	PKP	**PKPdf**	**17 10 31.3**	**+0.6**
	0.4nm,0.8s,baz=102,slow=1.8,SNR=2.7						

*ISCJB **07** 17:13:13.8±2.1, 8°.21S±0°.09×107°.23E±0°.06, h17km±13km, Error ellipse: s-maj=16.0km s-min=8.2km az=26.4*
*DJA **07** 17:13:15.2±1.0, 8°.5±6°×10°.7E±°, h17km±8km, M3.6/6, MLv3.6/6*
*AUST **07** 17:13:25.8±0.7, 7°.32S×108°.05E, h13km, Error ellipse: s-maj=1.2km s-min=0.9km az=256.0*
ISC 07 17:13:12.0±2.1, 8°.22S±0°.06×107°.16E±0°.06, h5km±13km, n10, σ1§35/16, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.93**	**44**	P	**Pg**	**17 13 31.3**	**+1.6**
CISI				S	**Sg**	**17 13 40.0**	**-1.8**
CISI	**Cisompet, Garu**	**0.93**	**44**	P	**Pg**	**17 13 29.7**	**-0.1**
	baz=0.3,SNR=150						
CISI				S	**Sg**	**17 13 40.1**	**-1.6**
	baz=0.3,SNR=12						
SKJI	**Sukabumi**	**1.35**	**334**	P	**Pn**	**17 13 37.6**	**+0.1**
SKJI				S	**Sn**	**17 13 55.6**	**-0.2**
LEM	**Lembang**	**1.46**	**18**	P	**Pn**	**17 13 41.0**	**+1.9**
LEM				S	**Sn**	**17 13 58.3**	**-0.4**
LEM	**Lembang**	**1.46**	**18**	P	**Pn**	**17 13 39.2**	**+0.1**
	baz=0.7,SNR=18						
DBJI	**Dramaga**	**1.71**	**346**	P	**Pn**	**17 13 43.4**	**+1.0**
DBJI				S	**Sn**	**17 14 04.5**	**-0.2**
KPJI	**Karang Pucung**	**1.96**	**63**	P	**Pn**	**17 13 45.4**	**-0.6**
KPJI				S	**Sn**	**17 14 09.8**	**-1.2**
XMIS	**Christmas Isla**	**2.69**	**213**	P	**Sn**	**17 14 27.5**	**-1.7**
	baz=3.9,SNR=3.5						
UGM	**Wanagama**	**3.34**	**85**	P	**Pn**	**17 14 06.4**	**+1.4**
	baz=2.5,SNR=5.4						
JAGI	**Jajag, Banyuwa**	**6.92**	**93**	P	**Pn**	**17 14 55.7**	**+1.5**
	baz=6.2,SNR=4.4						

MAN 07 17:17:54, 17°.85N×120°.38E, h25km, mb4.5, ML3.4, MS3.3, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIPP	**Brgy, Tapao**	**0.11**	**45⇑**	*i*P	Pn	17 18 00.3	+0.1
SIPP				*i*S	Sb	17 18 05.9	+4.0
ABRA	**Dolores**	**0.37**	**122**	*e*P	Pb	17 18 02.7	+0.6
ABRA				*e*S	Sn	17 18 10.0	-0.3
APYP	**Conner**	**0.82**	**89**	*e*P	Pn	17 18 10.5	+0.5
APYP				*e*S	Sn	17 18 23.5	+2.1
CAUP	**Cauayan**	**1.65**	**123**	*e*P	Pb	17 18 22.7	-1.0

*IGQ **07** 17:30:06.0, 2°.42S×77°.05W, h111km±16km, Mb4.3, Ms4.1, Error ellipse: s-maj=6.0km s-min=1.9km az=11.6*
*IDC **07** 17:30:06.9±3.1, 2°.22S×77°.20W, h129km±30km, mb3.3/5, mb1 3.7/8, mb1mx3.6/23, mbtmp3.5/8, Error ellipse: s-maj=31.3km s-min=17.0km az=56.0*
*ISCJB **07** 17:30:07.5±0.5, 2°.37S±0°.04×77°.10W±0°.06, h111km, mb3.7/4, Error ellipse: s-maj=8.8km s-min=4.3km az=156.3*
ISC 07 17:30:05.1±0.7, 2°.38S±0°.05×77°.04W±0°.08, h111km, n57, σ2§09/55, mb3.5/4, 4C-21D, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BPAT	**Tungurahua Vol**	**1.64**	**302**	⇓P	**Pn**	**17 30 35.8**	**+1.7**
BPAT	**Tungurahua Vol**	**1.64**	**302**	⇓S	**Sn**	**17 30 56.5**	**+0.3**
PAT1	**Patacocha**	**1.64**	**302**	⇓P	**Pn**	**17 30 35.7**	**+1.6**
ULBA	**Ulba**	**1.65**	**304**	⇓P	**Pn**	**17 30 35.7**	**+1.6**
BULB	**Ulba Tungurahu**	**1.66**	**304**	⇓P	**Pn**	**17 30 35.7**	**+1.5**
BULB	**Ulba Tungurahu**	**1.66**	**304**	⇓S	**Sn**	**17 30 56.9**	**+0.6**
ARRY	**Arrayan**	**1.66**	**301**	⇓P	**Pn**	**17 30 35.6**	**+1.4**
BRUN	**Tungurahua Vol**	**1.67**	**305**	⇓S	**Sn**	**17 30 57.2**	**+0.7**
BRUN	**Tungurahua Vol**	**1.67**	**305**	⇓P	**Pn**	**17 30 36.0**	**+1.7**
RETU	**Refugio**	**1.68**	**303**	P	**Pn**	**17 30 36.1**	**+1.5**
BMAS	**Trigal station**	**1.68**	**301**	⇓S	**Sn**	**17 30 56.5**	**-0.3**
BMAS	**Trigal station**	**1.68**	**301**	⇓P	**Pn**	**17 30 36.0**	**+1.5**
RUN5	**Runtun**	**1.68**	**305**	⇓S	**Sn**	**17 30 59.2**	**+2.5**
RUN5	**Runtun**	**1.68**	**305**	⇓P	**Pn**	**17 30 36.1**	**+1.6**
JUI6	**Juive**	**1.71**	**304**	S	**Sn**	**17 30 59.0**	**+1.6**
JUI6	**Juive**	**1.71**	**304**	P	**Pn**	**17 30 36.2**	**+1.4**
BIL2	**Estacion Bilba**	**1.72**	**302**	P	**Pn**	**17 30 36.7**	**+1.8**
IGUA	**Igualata**	**1.82**	**299**	P	**Pn**	**17 30 38.1**	**+1.7**
PISA	**Pisayambo**	**1.88**	**314**	⇑S	**Sn**	**17 31 05.0**	**+3.6**
PISA	**Pisayambo**	**1.88**	**314**	⇑P	**Pn**	**17 30 38.8**	**+1.8**
TAMB	**Tambo**	**2.13**	**322**	⇓P	**Pn**	**17 30 42.8**	**+2.5**
COV1	**Cotopaxi Volc**	**2.14**	**323**	P	Pn	17 30 44.1	+3.6
BMOR	**Cotopaxi Volca**	**2.16**	**319**	⇓S	**Sn**	**17 31 09.6**	**+1.6**
BMOR	**Cotopaxi Volca**	**2.16**	**319**	⇓P	**Pn**	**17 30 43.2**	**+2.5**
BTAM	**Cotopaxi Volca**	**2.17**	**321**	⇓P	**Pn**	**17 30 43.1**	**+2.3**
VC1	**Cotopaxi 1**	**2.19**	**322**	P	**Pn**	**17 30 43.6**	**+2.5**
BREF	**Cotopaxi Volca**	**2.20**	**320**	⇓P	**Pn**	**17 30 43.7**	**+2.5**
ANTI	**Antisana**	**2.22**	**330**	⇓P	**Pn**	**17 30 43.5**	**+2.0**
BNAS	**Cotopaxi Volca**	**2.22**	**320**	⇓P	**Pn**	**17 30 43.9**	**+2.5**
PITA	**Cotopaxi Volc**	**2.28**	**322**	P	**Pn**	**17 30 44.6**	**+2.5**
LAV4	**Lava4-Reventad**	**2.34**	**345**	P	**Pn**	**17 30 44.3**	**+1.5**
CHAR	**Charly**	**2.36**	**345**	P	**Pn**	**17 30 45.4**	**+2.3**
CONE	**Cono NE Rev Vo**	**2.37**	**345**	⇓P	**Pn**	**17 30 45.4**	**+2.2**
CAYR	**Refugio Cayamb**	**2.56**	**338**	P	**Pn**	**17 30 48.8**	**+2.8**
CAYA	**Cayambe**	**2.61**	**339**	⇑P	**Pn**	**17 30 49.4**	**+2.9**
JUA2	**San Juan 2**	**2.66**	**324**	P	**Pn**	**17 30 48.6**	**+1.5**
GGP	**Refugio Guagua**	**2.68**	**325**	P	**Pn**	**17 30 49.3**	**+1.8**
TERV	**Terraza Guagua**	**2.69**	**324**	P	**Pn**	**17 30 49.6**	**+2.1**
PINO	**Pino**	**2.70**	**325**	P	**Pn**	**17 30 49.4**	**+1.7**
CATE	**Catamayo**	**2.81**	**236**	⇑P	**Pn**	**17 30 50.0**	**+1.2**
OTAV	**Otavalo**	**2.95**	**332**	P	**Pn**	**17 30 50.7**	**-0.2**
COTA	**Cotacachi**	**2.99**	**334**	P	**Pn**	**17 30 53.6**	**+2.1**
PECV	**Mancha de Ca P**	**3.40**	**298**	P	**Pn**	**17 30 58.9**	**+2.4**
ATAH	**Atahualpa**	**4.92**	**196**	P	Pn	17 31 22.1	+4.9
	27nm,0.3s,baz=23,slow=12,SNR=106						
ATAH				S	**Sn**	**17 32 16.9**	**+3.7**
	18nm,0.3s,baz=233,slow=20,SNR=12						
NNA	**Nana**	**9.55**	**179**	P	Pn	17 32 24.5	+4.8
	5.3nm,0.3s,baz=328,slow=9.5,SNR=5.8						
NNA				S	**Sn**	**17 34 00.9**	**-4.3**
	6.8nm,0.3s,baz=114,slow=20,SNR=7.4						
LPAZ	**La Paz**	**16.37**	**148**	P	**P**	**17 33 53.9**	**+4.0**
	0.3nm,0.3s,baz=342,slow=8.9,SNR=7.1						
SIV	**San Ignacio**	**20.75**	**132**	P	Pn	17 34 40.5	-0.1
	1.0nm,0.5s,baz=328,slow=12,SNR=3.6						
PLCA	**Paso Flores**	**38.63**	**172**	P	**P**	**17 37 19.9**	**+2.2**
	2.6nm,0.5s,baz=348,slow=7.0,SNR=7.0						
TXAR	**Lajitas Array**	**40.55**	**323**	P	**P**	**17 37 32.0**	**-1.8**
	0.5nm,0.8s,baz=150,slow=9.3,SNR=4.1						
PDAR	**Pinedale Array**	**53.66**	**331**	P	**P**	**17 39 13.6**	**-2.0**
	0.4nm,0.5s,baz=130,slow=9.5,SNR=5.8						
NVAR	**Mina Array Bea**	**55.64**	**321**	P	**P**	**17 39 28.5**	**-1.4**
	baz=129,slow=8.2						
TORD	**Torodi Ar. Bea**	**79.58**	**76**	P	**P**	**17 41 59.8**	**-0.9**
	0.3nm,0.4s,baz=254,slow=4.0,SNR=7.0						
MKAR	**Makanchi Array**	**132.24**	**19**	PKP	**PKPdf**	**17 49 05.4**	**-0.9**
	0.2nm,0.4s,baz=294,slow=2.8,SNR=5.2						
SONM	**Songino Array**	**134.62**	**357**	PKP	**PKPdf**	**17 49 10.0**	**-0.9**
	0.3nm,0.4s,baz=20,slow=1.7,SNR=3.1						
ASAR	**Alice Springs**	**140.29**	**228**	PKhKP	PKPpre	17 49 10.9	
	0.5nm,0.6s,baz=118,slow=3.5,SNR=7.3						
ASAR				PKP	**PKPdf**	**17 49 20.4**	**-1.5**
	0.6nm,0.8s,baz=120,slow=2.0,SNR=7.2						
WRA	**Warramunga Arr**	**142.05**	**233**	PKhKP	PKPpre	17 49 18.9	
	0.6nm,0.7s,baz=125,slow=2.5,SNR=3.1						
WRA				PKP	**PKPdf**	**17 49 23.7**	**-1.5**
	0.8nm,0.5s,baz=122,slow=2.1,SNR=5.0						
FITZ	**Fitzroy Crossi**	**149.78**	**227**	PKPbc	**PKPbc**	**17 49 42.1**	**-1.0**
	1.8nm,0.7s,baz=35,slow=1.7,SNR=9.7						

*ISCJB **07** 17:30:06.9±0.4, 59°.31N±0°.02×23°.66E±0°.06, h0km, Error ellipse: s-maj=4.7km s-min=3.4km az=19.3*
*CSEM **07** 17:30:08.5±0.2, 59°.31N×23°.78E, h2km, ML1.9, Error ellipse: s-maj=5.4km s-min=4.1km az=106.0, Mining explosion.*
*IDC **07** 17:30:09.2±2.1, 59°.30N×23°.97E, h0km, mb1 3.0/4, mb1mx2.9/26, mbtmp3.0/4, ML2.7/4, Error ellipse: s-maj=22.5km s-min=8.0km az=151.0*
*BER **07** 17:30:09.6±3.9, 59°.32N×23°.80E, h0km±20km, ML2.4(NAO)*
*NAO **07** 17:30:09.2±1.1, 59°.32N×23°.86E, ML2.4*
*HEL **07** 17:30:09.4±0.1, 59°.29N×23°.82E, h0km, ML1.9, Explosion*
ISC 07 17:30:07.5±0.7, 59°.31N±0°.02×23°.72E±0°.03, h0km, n40, σ1§33/63, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTSE	**Matsula**	**0.60**	**175**	*e*P	**Pg**	**17 30 19.8**	**+0.8**
MTSE				*e*S	**Sg**	**17 30 27.2**	**+0.5**
MTSE	**Matsula**	**0.60**	**175**	P	**Pg**	**17 30 19.7**	**+0.8**
MTSE				S	**Sg**	**17 30 27.2**	**+0.5**
MEF	**Metsahovi**	**0.97**	**20**	*e*P	**Pg**	**17 30 26.6**	**+0.5**
MEF				*e*S	**Sg**	**17 30 39.5**	**+0.7**
MEF	**Metsahovi**	**0.97**	**20**	*e*P	**Pg**	**17 30 26.1**	**-0.1**
	SNR=90						
PVF	**Pernaja**	**1.64**	**40**	*e*P	**Pn**	**17 30 38.3**	**+0.7**
PVF				*e*S	**Sn**	**17 30 59.1**	**-0.4**
PVF				MSG		17 31 03.9	
	comp=Z,6.6nm,0.1s						
PVF	**Pernaja**	**1.64**	**40**	P	**Pn**	**17 30 38.3**	**+0.7**
PVF				S	**Sn**	**17 30 59.0**	**-0.4**
VSU	**Vasula**	**1.78**	**117**	Pg	**Pn**	**17 30 40.6**	**+1.1**
VSU				Lg	Lg	17 31 03.2	
VSU	**Vasula**	**1.78**	**117**	Pg	**Pn**	**17 30 40.6**	**+1.1**
VSU				Lg	Lg	17 31 03.2	
VSU	**Vasula**	**1.78**	**117**	*e*P	**Pn**	**17 30 40.9**	**+1.4**
VSU				*e*S	**Sn**	**17 31 02.5**	**-0.4**
VSU	**Vasula**	**1.78**	**117**	Pg	**Pn**	**17 30 40.6**	**+1.1**
	SNR=90						
VSU	**Vasula**	**1.78**	**117**	P	**Pn**	**17 30 40.9**	**+1.4**
VSU				S	**Sn**	**17 31 02.5**	**-0.4**
VSU				Lg	Lg	17 31 03.2	
	SNR=30						
SLIT	**Slitere, Latvi**	**1.84**	**205**	*e*P	**Pb**	**17 30 42.5**	**+0.4**
	SNR=50						
RAF	**Rauma**	**1.98**	**331**	*e*P	**Pb**	**17 30 44.7**	**+0.4**
RAF				*e*S	**Sb**	**17 31 10.5**	**+1.0**
RAF				MSG		17 31 13.6	
	comp=Z,5.8nm,0.1s						
RAF	**Rauma**	**1.98**	**331**	*e*P	**Pb**	**17 30 44.6**	**+0.3**
	SNR=50						
RAF				S	**Sb**	**17 31 10.4**	**+1.0**
VJF	**Virojoki**	**2.29**	**56**	*e*P	**Pn**	**17 30 47.4**	**+0.8**
VJF				*e*S	**Sn**	**17 31 16.8**	**+1.3**
VJF				MSG		17 31 21.0	
	comp=Z,10.0nm,0.1s						
VJF	**Virojoki**	**2.29**	**56**	P	**Pn**	**17 30 47.3**	**+0.8**
VJF				S	**Sn**	**17 31 16.7**	**+1.3**
FIA0	**FINESS Array S**	**2.44**	**28**	Pn	**Pn**	**17 30 50.6**	**+2.0**
	baz=206,slow=12						
FIA0				Lg	Lg	17 31 23.1	
	baz=201,slow=28						
FIA0	**FINESS Array S**	**2.44**	**28**	Pn	**Pn**	**17 30 50.6**	**+2.0**
	baz=206,slow=12						
FIA0				Lg	Lg	17 31 23.1	
	baz=201,slow=28						
FIA0	**FINESS Array S**	**2.44**	**28**	*e*P	**Pn**	**17 30 49.9**	**+1.3**
FIA0				*e*S	**Sn**	**17 31 20.3**	**+1.2**
FIA0	**FINESS Array S**	**2.44**	**28**	P	**Pn**	**17 30 49.9**	**+1.3**
FIA0	**FINESS Array S**	**2.44**	**28**	Pn	**Pn**	**17 30 50.6**	**+2.0**
	baz=206,slow=12,SNR=50						
FIA0				S	**Sn**	**17 31 20.3**	**+1.2**
FIA0				Lg	Lg	17 31 23.1	
	baz=201,slow=26,SNR=7.8						
FINES	**FINESS Array B**	**2.44**	**28**	Pn	**Pn**	**17 30 50.5**	**+1.9**
	comp=Z,1.5nm,0.3s,baz=204,slow=14,SNR=44						
FINES				Lg	Lg	17 31 23.6	
	comp=Z,5.3nm,0.3s,baz=206,slow=26,SNR=18						
KEF	**Keuruu**	**2.92**	**11**	*e*PB	Pn	17 30 58.7	+3.4
KEF				*e*SB	**Sb**	**17 31 36.5**	**-0.2**
KEF	**Keuruu**	**2.92**	**11**	Pb	Pn	17 30 58.6	+3.4
KEF				Sb	**Sb**	**17 31 36.5**	**-0.2**
KAF	**Kangasniemi**	**3.09**	**23**	*e*P	**Pn**	**17 30 59.5**	**+2.0**
KAF				*e*S	**Sn**	**17 31 35.6**	**+0.6**
KAF	**Kangasniemi**	**3.09**	**23**	P	**Pn**	**17 30 59.5**	**+2.0**
KAF				S	**Sn**	**17 31 35.6**	**+0.6**
HFS	**Hagfors**	**5.14**	**284**	Pn	**Pn**	**17 31 27.5**	**+1.9**
	baz=99,slow=14						
HFS				Sn	**Sn**	**17 32 26.9**	**+1.3**
	baz=102,slow=28						
HFS				Lg	Lg	17 32 47.0	
	baz=99,slow=37						
HFS	**Hagfors**	**5.14**	**284**	Pn	**Pn**	**17 31 27.5**	**+1.9**
	baz=99,slow=14						
HFS				Sn	**Sn**	**17 32 26.9**	**+1.3**
	baz=102,slow=28						
HFS				Lg	Lg	17 32 47.0	
	baz=99,slow=37						
HFS	**Hagfors**	**5.14**	**284**	Pn	**Pn**	**17 31 27.9**	**+2.3**
	comp=Z,0.2nm,0.3s,baz=96,slow=13,SNR=7.2						
HFS				Sn	**Sn**	**17 32 28.5**	**+2.9**
	comp=Z,0.4nm,0.3s,baz=98,slow=30,SNR=4.5						
HFS				Lg	Lg	17 32 51.4	
	comp=Z,0.8nm,0.3s,baz=102,slow=33,SNR=6.7						
HFS	**Hagfors**	**5.14**	**284**	Pn	**Pn**	**17 31 27.5**	**+1.9**
	baz=99,slow=13,SNR=50						
HFS				Sn	**Sn**	**17 32 26.9**	**+1.3**
	baz=102,slow=28,SNR=50						
HFS				Lg	Lg	17 32 47.0	
	baz=99,slow=30,SNR=19						
BSD	**Bornholm Skovb**	**6.37**	**232**	*i*P	**Pn**	**17 31 43.2**	**+0.7**
BSD				*i*S	**Sn**	**17 32 55.1**	**-0.6**
BSD	**Bornholm Skovb**	**6.37**	**232**	*i*P	**Pn**	**17 31 43.2**	**+0.7**
BSD				*i*S	**Sn**	**17 32 55.1**	**-0.6**
NB2	**NORSAR Subarra**	**6.47**	**291**	Pn	**Pn**	**17 31 44.5**	**+0.5**
	baz=99,slow=12						
NB2				Lg	Lg	17 33 28.9	
NB2	**NORSAR Subarra**	**6.47**	**291**	Pn	**Pn**	**17 31 44.5**	**+0.5**
	baz=99,slow=12						
NB2				Lg	Lg	17 33 28.9	
NB2	**NORSAR Subarra**	**6.47**	**291**	Pn	**Pn**	**17 31 44.5**	**+0.5**
	baz=99,slow=12,SNR=50						
NB2				Lg	Lg	17 33 29.0	
	SNR=19						
NOA	**NORSAR Array B**	**6.47**	**291**	Pn	**Pn**	**17 31 44.4**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=94,slow=14,SNR=2.6						
NOA				Sn	**Sn**	**17 32 57.2**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=242,slow=18,SNR=2.4						
NOA				Lg	Lg	17 33 29.8	
	comp=Z,0.6nm,0.3s,baz=97,slow=18,SNR=6.4						
ARA0	**ARCESS Array S**	**10.30**	**4**	Pn	**Pn**	**17 32 36.2**	**-0.1**
	baz=179,slow=14						
ARA0	**ARCESS Array S**	**10.30**	**4**	Pn	**Pn**	**17 32 36.2**	**-0.1**
	baz=179,slow=14						
ARA0	**ARCESS Array S**	**10.30**	**4**	Pn	**Pn**	**17 32 36.2**	**-0.1**
	baz=179,slow=14,SNR=50						
ARCES	**ARCESS Array B**	**10.30**	**4**	Pn	**Pn**	**17 32 35.5**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=181,slow=13,SNR=14						
ARCES				Sn	**Sn**	**17 34 27.5**	**-4.8**
	comp=Z,0.1nm,0.3s,baz=182,slow=23,SNR=2.9						

*IDC **07** 17:30:18.4±1.6, 7°.77S×126°.66E, h0km, mb3.7/2, mb1 4.2/4, mb1mx3.7/19, mbtmp4.0/4, ML4.2/2, Error ellipse: s-maj=215.1km s-min=25.6km az=61.0*
*ISCJB **07** 17:30:35.5±1.1, 7°.91S±0°.08×128°.04E±0°.08, h100km, mb3.4/2, Error ellipse: s-maj=11.4km s-min=10.9km az=149.8*
*AUST **07** 17:30:37.3, 7°.99S×128°.04E, h100km*
ISC 07 17:30:36.9±2.0, 7°.9S±0°.1×128°.0E±0°.1, h100km, n11, σ1§83/13, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**4.11**	**244**	P	Pn	17 31 39.6	+1.9
	baz=4.1,SNR=8.5						
TLE	**Tual**	**5.23**	**64**	P	**Pn**	**17 31 53.1**	**+0.4**
	baz=5.2,SNR=4.9						
MTN	**Manton Dam**	**5.77**	**148**	P	**Pn**	**17 32 02.0**	**+1.9**
	baz=5.7,SNR=70						
MTN				S	**Sn**	**17 33 08.0**	**+3.0**
	baz=5.7,SNR=7.7						
KDU	**Kakadu**	**6.46**	**137**	P	**Pn**	**17 32 11.2**	**+1.8**
	baz=6.4,SNR=49						
KDU				S	**Sn**	**17 33 21.3**	**-0.3**
	baz=6.4,SNR=17						
KNRA	**Kununurra**	**7.73**	**175**	P	**Pn**	**17 32 28.1**	**+1.3**
	baz=7.7,SNR=54						
KNRA				S	**Sn**	**17 33 53.6**	**+0.8**
	baz=7.7,SNR=11						
FITZ	**Fitzroy Crossi**	**10.37**	**193**	P	**Pn**	**17 33 02.2**	**-0.4**
	baz=10,SNR=5.5						
WRA	**Warramunga Arr**	**13.43**	**153**	Pn	**Pn**	**17 33 40.9**	**-2.6**
	1.1nm,0.3s,baz=322,slow=14,SNR=33						
WRA				Sn	Sn	17 36 04.1	-7.2
	0.7nm,0.3s,baz=332,slow=22,SNR=9.0						

IDC 07 17:55:10.4±1.1, 56°36S×23°88W, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.7/16, mbtmp3.8/3, Error ellipse: s-maj=46.3km s-min=32.4km az=79.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	15.86	161	ePn	P	17 59 00.3	+1.8
VNA3	Neumayer Olymp	16.12	163	ePn	Pn	17 58 57.8	-0.3
VNA2	Neumayer--Watz	16.25	161	ePn	Pn	17 58 59.5	-0.1
	baz=322,slow=14						
SNAA	Sanae	17.74	158	ePn	P	17 59 19.2	-0.2
VNDA	Vanda	46.34	182	P	P	18 03 37.2	-0.2
	1.2nm,0.8s,baz=164,slow=13,SNR=4.4						
LPAZ	La Paz	52.09	302	P	P	18 04 22.6	-0.2
	0.7nm,0.8s,baz=141,slow=8.9,SNR=3.5						
TORD	Torodi Ar. Bea	72.46	26	P	P	18 06 38.5	0.0
	0.8nm,0.7s,baz=198,slow=6.4,SNR=4.0						
SONM	Songino Array	148.91	85	PKPbc	PKPbc	18 14 58.7	-0.5
	0.5nm,0.7s,baz=220,slow=2.8,SNR=4.2						
ILAR	Eielson Array	151.71	311	PKPbc	PKPbc	18 15 05.2	-0.1
	0.6nm,0.7s,baz=108,slow=2.0,SNR=5.3						

IDC 07 18:06:10.5±6.2, 21°08N×121°51E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/23, mbtmp3.2/3, Error ellipse: s-maj=497.0km s-min=30.4km az=61.0, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	40.81	318	P	P	18 13 53.5	-0.2
	0.2nm,0.5s,baz=106,slow=9.4,SNR=2.6						
WRA	Warramunga Arr	42.66	162	P	P	18 14 07.2	-1.8
	0.2nm,0.7s,baz=341,slow=8.5,SNR=3.2						
ASAR	Alice Springs	46.09	164	P	P	18 14 37.7	+1.2
	0.5nm,1.1s,baz=344,slow=6.7,SNR=5.3						

*ISCJB **07** 18:12:48.0±0.6, 47°00N±0°03×141°74E±0°07, h12km, Error ellipse: s-maj=6.7km s-min=4.1km az=169.8*
*SKHL **07** 18:12:47.6±0.8, 47°00N×141°70E, h10km, mb4.1/1*
*JMA **07** 18:12:48.5±0.7, 47°07N×141°83E, h26km, M3.2*

ISC 07 18:12:49.6±1.0, 46°94N±0°05×141°99E±0°07, h12km, n9, σ0§49/14, 1D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	Yuzh-Sakhalins	0.53	88	⇓iPg	Pn	18 13 02.5	-0.5
YSS				eSg	Sn	18 13 12.0	+0.2
YSS				A	A	18 13 19.5	
	630nm,0.5s						
YSS				A	A	18 13 19.5	
	1μm,0.5s						
YSS				AMS	AMS	18 13 28.0	
	600nm,5.0s						
JWK2	Keihoku	1.62	182	P	Pn	18 13 18.1	+0.1
JWK2				eS	Sn	18 13 38.5	-0.3
JRR	Rishiri	1.86	195	P	Pn	18 13 21.5	+0.2
JRR				eS	Sb	18 13 45.7	-1.0
JSE	Soyaes	2.02	168	P	Pn	18 13 23.6	+0.1
JSE				eS	Sn	18 13 49.2	+0.5
UGL	Uglegorsk	2.14	1	ePg	Pb	18 13 29.0	+0.6
UGL				AMB	AMB	18 13 34.0	
	56nm,0.7s						
UGL				A	A	18 13 57.5	
	84nm,0.7s						
UGL				A	A	18 13 57.5	
	110nm,0.7s						
UGL				eSg	Sg	18 13 58.2	-0.3
ASAJ	Asahikawa	2.85	171	P	Pn	18 13 35.3	+0.3
JMP	Maruseppu	3.08	161	P	Pn	18 13 38.4	+0.2
JTKR	Abashiri--Toko	3.26	155	P	Pn	18 13 40.7	+0.2
GRNR	Gornyy	5.31	318	eSg	Sg	18 15 39.5	-0.5
GRNR				A	A	18 15 47.0	
	10.0nm,0.6s						

*AUST **07** 18:20:32.5±7.3, 3°19S×146°28E, h1km, Error ellipse: s-maj=1.6km s-min=1.1km az=304.0*
*IDC **07** 18:20:35.3±0.8, 3°54S×145°86E, h0km, mb4.2/12, mb1 4.4/16, mb1mx4.3/22, mbtmp4.4/16, ML3.6/3, MS4.2/11, Ms1 4.2/11, ms1mx3.9/29, Error ellipse: s-maj=23.6km s-min=14.6km az=88.0*
*ISCJB **07** 18:20:37.1±0.5, 3°53S±0°06×145°96E±0°08, h25km, mb4.2/12, MS4.2/8, Error ellipse: s-maj=11.4km s-min=8.6km az=173.3*

ISC 07 18:20:38.4±0.6, 3°53S±0°08×146°1E±0°1, h25km, n30, σ1§54/24, mb4.2/12, MS4.2/8, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	Manus Island	1.92	40	P	Pn	18 21 02.5	-7.0
	baz=1.6,SNR=744						
PMG	Port Moresby	5.93	170	Pn	Pn	18 22 05.0	+0.3
	3.2nm,0.3s,baz=7.2,slow=5.1,SNR=11						
PMG				LR	LR	18 24 14.2	
	comp=Z,752nm,20.1s,baz=356,slow=37						
COEN	Coen	10.77	196	P	Pn	18 23 12.2	+1.1
	baz=11,SNR=9.7						
MTSU	Mount Surprise	14.63	187	P	P	18 24 13.2	+3.3
	baz=15,SNR=6.7						
HNR	Honiara	14.92	114	Pn	P	18 24 10.9	-2.3
	4.7nm,0.3s,baz=286,slow=4.6,SNR=7.9						
HNR				LR	LR	18 29 18.0	
	comp=Z,484nm,20.9s,baz=291,slow=34						
KDU	Kakadu	16.29	235	P	P	18 24 27.7	-0.7
	baz=17,SNR=4.3						
CTA	Charters Tower	16.46	180	Pn	Pn	18 24 28.3	+0.5
	0.1nm,0.3s,baz=10,slow=11,SNR=1.8						
MTN	Manton Dam	17.48	237	P	Pn	18 24 40.7	0.0
	baz=18,SNR=7.1						
WRA	Warramunga Arr	19.97	214	P	P	18 25 07.7	-1.2
	0.7nm,0.3s,baz=35,slow=12,SNR=34						
WRA				LR	LR	18 33 03.0	
	comp=Z,654nm,19.6s,baz=35,slow=38						
KNRA	Kununurra	20.93	234	P	P	18 25 19.8	+0.4
	baz=21,SNR=12						
KNRA				S	Sn	18 29 38.2	+20
	baz=21,SNR=3.0						
SOEI	Soe	22.57	253	P	P	18 25 43.2	+5.9
	baz=23,SNR=4.1						
RMQ	Roma	22.97	174	P	P	18 25 42.1	+1.0
	baz=23,SNR=5.1						
ASAR	Alice Springs	23.25	209	P	P	18 25 42.4	-1.7
	14nm,0.9s,baz=39,slow=9.4,SNR=40						
ASAR				LR	LR	18 35 10.0	
	comp=Z,289nm,18.6s,baz=35,slow=38						
BATI	Baumata	23.26	252	P	P	18 25 41.8	-2.5
	37nm,0.9s,baz=119,slow=1.9,SNR=7.1						
FITZ	Fitzroy Crossi	24.75	233	P	P	18 25 55.1	-3.1
	35nm,1.1s,baz=53,slow=9.1,SNR=26						
FITZ				LR	LR	18 36 13.0	
	comp=Z,668nm,19.0s,baz=56,slow=38						
FITZ	Fitzroy Crossi	24.75	233	P	P	18 25 55.6	-2.6
	baz=25,SNR=17						
DZM	Mont Dzumac	26.98	135	P	P	18 26 20.5	+2.0
	15nm,1.1s,baz=344,slow=18,SNR=3.6						
DZM				LR	LR	18 35 54.2	
	comp=Z,835nm,18.8s,baz=188,slow=34						
STKA	Stephens Creek	28.52	188	P	P	18 26 34.0	+2.0
	4.2nm,0.8s,baz=37,slow=10,SNR=7.3						
STKA				LR	LR	18 38 55.1	
	comp=Z,647nm,18.0s,baz=8.3,slow=39						
STKA	Stephens Creek	28.52	188	P	P	18 26 36.3	+4.3
	baz=29,SNR=6.9						
NWAO	Narrogin (SRO)	39.83	219	LR	LR	18 44 48.0	
	comp=Z,597nm,20.9s,baz=237,slow=37						
MJAR	Matsushiro Arr	40.54	350	P	P	18 28 16.4	+0.7
	2.0nm,1.0s,baz=174,slow=11,SNR=4.3						
KSRS	Korea Array	44.15	339	LR	LR	18 44 02.8	
	comp=Z,259nm,20.8s,baz=30,slow=32						
USRK	Ussuriysk Arra	49.18	347	P	P	18 29 25.6	+1.3
	3.0nm,0.8s,baz=173,slow=7.3,SNR=5.8						
CMAR	Chiang Mai Arr	51.35	297	P	P	18 29 41.5	+0.3
	1.2nm,0.9s,baz=113,slow=6.9,SNR=7.5						
CMAR				LR	LR	18 52 33.0	
	comp=Z,66nm,18.3s,baz=25,slow=38						
SONM	Songino Array	61.84	331	P	P	18 30 54.8	-0.8
	0.4nm,0.7s,baz=140,slow=5.6,SNR=3.0						
SONM				LR	LR	18 57 54.9	
	comp=Z,512nm,21.1s,baz=20,slow=36						
MKAR	Makanchi Array	75.06	320	P	P	18 32 17.7	-0.4
	1.6nm,0.9s,baz=114,slow=5.3,SNR=8.0						
ZALV	Zalesovo Beam	76.47	328	P	P	18 32 25.4	-0.5
	1.4nm,0.8s,baz=99,slow=4.8,SNR=5.2						
ILAR	Eielson Array	83.56	23	P	P	18 33 04.2	+0.1
	1.3nm,0.9s,baz=248,slow=4.5,SNR=3.4						
TORD	Torodi Ar. Bea	143.59	287	PKP	PKPdf	18 40 11.6	-0.6
	0.6nm,0.9s,baz=95,slow=2.2,SNR=2.7						
DBIC	Dimbokro	150.94	277	PKPbc	PKPbc	18 40 31.8	+1.7
	6.9nm,1.1s,baz=79,slow=2.2,SNR=2.7						

*IDC **07** 18:37:16.8±0.7, 0°81S×133°06E, h0km, mb4.2/12, mb1 4.3/14, mb1mx4.1/25, mbtmp4.2/14, ML4.4/3, Error ellipse: s-maj=34.7km s-min=11.4km az=80.0*
*AUST **07** 18:37:18.8±2.2, 0°79S×133°34E, h10km, Error ellipse: s-maj=1.2km s-min=0.9km az=300.0*
*ISCJB **07** 18:37:22.4±0.8, 0°77S±0°05×133°14E±0°04, h56km±7km, mb4.1/12, Error ellipse: s-maj=8.3km s-min=6.0km az=14.1*
*DJA **07** 18:37:23.1±1.1, 1°S±4°×13°3E±°, h28km±15km, M4.8/11, mb5.3/5, mB5.2/4, MLv4.7/11, Mw(mB)4.6/4*

ISC 07 18:37:22.2±0.6, 0°72S±0°06×133°14E±0°04, h39km±4km, n48, σ1§94/55, mb4.2/12, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKPI	Ransiki, Papua	1.30	127	P	Pn	18 37 44.6	+0.6
RKPI				S	Sn	18 38 04.2	+4.0
SWI	Sorong	1.88	266	P	Pn	18 37 52.3	+0.4
SWI				S	Sn	18 38 15.8	+1.4
FAKI	Fak Fak	2.36	202	P	Pn	18 37 58.0	-0.4
FAKI				S	Sn	18 38 26.6	+0.5
FAKI	Fak Fak	2.36	202	P	Pn	18 37 58.4	0.0
	baz=2.4,SNR=89						
FAKI				S	Sn	18 38 28.2	+2.1
	baz=2.4,SNR=5.3						
BAKI	Biak	3.01	99	P	Pn	18 38 06.6	-0.8
SRPI	Serui, Papua	3.31	110	P	Pn	18 38 16.1	+4.6
TLE	Tual	4.90	185	P	Pn	18 38 35.0	+1.6
TLE				S	Sn	18 39 34.0	+5.1
TLE	Tual	4.90	185	P	Pn	18 38 35.0	+1.6
	baz=4.9,SNR=45						
TLE				S	Sn	18 39 33.9	+4.9
	baz=4.9,SNR=16						
BNDI	Bandanaira	4.97	220	P	Pn	18 38 35.5	+1.2
BNDI				S	Sn	18 39 32.9	+2.4
BNDI	Bandanaira	4.97	220	P	Pn	18 38 36.2	+1.8
	baz=5.1,SNR=18						
LBMI	Labuha	5.63	271	P	Pn	18 38 47.0	+3.5
	58nm,0.5s,0.3nm						
LBMI				S	Sn	18 39 49.6	+2.6
	58nm,0.5s,0.3nm						
AAI	Ambon	5.75	239	P	Pn	18 38 46.0	+0.9
	196nm,0.6s,2μm0.6nm						
AAI				S	Sn	18 39 53.7	+3.9
	196nm,0.6s,2μm0.6nm						
AAI	Ambon	5.75	239	P	Pn	18 38 46.4	+1.3
	baz=5.9,SNR=20						
NLAI	Namlea	6.53	247	P	Pn	18 38 57.0	+1.2
	140nm,0.6s,1μm0.5nm						
PALU	Palau	8.12	9	P	Pn	18 39 17.7	0.0
	baz=8.2,SNR=3.7						
KDU	Kakadu	11.91	183	P	Pn	18 40 07.6	-1.9
	baz=12,SNR=29						
KDU				S	Sn	18 42 14.7	-6.5
	baz=12,SNR=8.0						
MTN	Manton Dam	12.21	189	P	Pn	18 40 11.4	-2.3
	baz=12,SNR=174						
MTN				S	Sn	18 42 23.2	-5.3
	baz=12,SNR=14						
SOEI	Soe	12.59	224	P	Pn	18 40 20.7	+1.8
	baz=13,SNR=3.9						
BATI	Baumata	13.32	225	Pn	Pn	18 40 27.8	-1.1
	5.2nm,0.3s,baz=158,slow=1.2,SNR=26						
KAPI	Kappang	14.03	252	Pn	Pn	18 40 39.2	+0.6
	0.9nm,0.3s,baz=80,slow=9.6,SNR=6.8						
MANU	Manus Island	14.29	95	S	S	18 43 36.6	-1.9
	baz=14,SNR=7.4						
KNRA	Kununurra	15.47	196	P	Pn	18 40 54.3	-3.5
	baz=16,SNR=76						
KNRA				S	Sn	18 43 37.7	-11
	baz=16,SNR=5.5						
COEN	Coen	16.48	143	P	Pn	18 41 11.6	+0.9
	baz=16,SNR=6.2						
FITZ	Fitzroy Crossi	18.78	203	P	P	18 41 36.5	-1.7
	0.7nm,0.3s,baz=24,slow=12,SNR=31						
FITZ				S	Sn	18 44 53.9	-14
	0.7nm,0.3s,baz=197,slow=20,SNR=7.5						
FITZ	Fitzroy Crossi	18.78	203	P	P	18 41 36.1	-2.1
	baz=19,SNR=25						
FITZ				S	Sn	18 44 54.7	-14
	baz=19,SNR=4.9						
WRA	Warramunga Arr	19.14	177	P	P	18 41 41.2	-1.1
	0.9nm,0.3s,baz=3.4,slow=12,SNR=36						
WRA				S	Sn	18 45 06.6	-10
	0.4nm,0.3s,baz=357,slow=23,SNR=5.2						
MTSU	Mount Surprise	20.50	148	P	P	18 41 57.5	+0.3
	baz=20,SNR=8.0						
ASAR	Alice Springs	22.82	178	P	P	18 42 21.8	-0.2
	5.0nm,0.3s,baz=357,slow=11,SNR=130						
ASAR				S	S	18 46 30.3	+1.6
	2.1nm,0.9s,baz=358,slow=24,SNR=6.3						
CTA	Charters Tower	23.14	147	P	P	18 42 25.4	+0.2
	8.2nm,0.8s,baz=338,slow=12,SNR=8.4						
CISI	Cisompet, Garu	26.14	254	S	S	18 47 45.9	+23
	baz=26,SNR=9.4						
STKA	Stephens Creek	32.00	166	P	P	18 43 44.5	-0.5
	4.5nm,0.6s,baz=351,slow=9.5,SNR=27						
STKA	Stephens Creek	32.00	166	P	P	18 43 44.8	-0.2
	baz=32,SNR=12						
BBOO	Buckleboo	32.04	175	P	P	18 43 45.2	0.0
	baz=32,SNR=5.4						
BLDU	Balidu	33.57	206	P	P	18 43 59.4	+0.7
	baz=34,SNR=6.9						
ARMA	Armidale	34.37	151	P	P	18 44 06.4	+0.7
	baz=34,SNR=3.9						
ARPS	Mount Arapiles	36.76	168	P	P	18 44 26.7	+0.7
	baz=37,SNR=18						
LHI	Lord Howe Isla	39.24	144	S	S	18 51 14.9	+30
	baz=39,SNR=3.5						
PETK	Petropavlovsk-	57.43	17	P	P	18 47 07.1	+0.2
	1.5nm,0.9s,baz=228,slow=8.7,SNR=2.8						
MKAR	Makanchi Array	64.87	324	P	P	18 47 58.3	+0.8
	1.1nm,0.4s,baz=111,slow=8.4,SNR=8.8						
ZALV	Zalesovo Beam	67.48	331	P	P	18 48 14.8	+0.8
	0.6nm,0.5s,baz=124,slow=7.7,SNR=3.7						
KURBB	Kurchatov Arra	68.94	326	P	P	18 48 24.0	+0.7
	1.9nm,0.7s,baz=121,slow=5.7,SNR=16						
BVAR	Borovoye Array	74.54	326	P	P	18 48 57.5	+0.7
	0.7nm,0.6s,baz=114,slow=6.5,SNR=4.7						
VNDA	Vanda	78.29	174	P	P	18 49 18.1	+0.5
	1.3nm,0.9s,baz=22,slow=11,SNR=4.6						
MAW	Mawson	81.90	201	P	P	18 49 36.6	-0.6
	1.6nm,0.8s,baz=67,slow=8.7,SNR=3.9						
ILAR	Eielson Array	86.37	25	P	P	18 50 01.4	+1.3
	0.4nm,0.6s,baz=258,slow=5.3,SNR=2.9						
ARCES	ARCESS Array B	96.79	340	P	P	18 50 48.7	+0.1
	2.5nm,1.0s,baz=64,slow=6.1,SNR=6.4						
TORD	Torodi Ar. Bea	130.35	287	PKP	PKPdf	18 56 29.0	-0.6
	0.3nm,0.7s,baz=60,slow=1.0,SNR=2.4						
CPUP	Villa Florida	151.27	160	PKPbc	PKPbc	18 57 13.2	+0.8
	1.3nm,0.6s,baz=345,slow=4.7,SNR=5.9						

IDC 07 18:44:41.5±4.2, 7°41S×128°32E, h135km±37km, mb3.4/4, mb1 3.8/8, mb1mx3.5/21, mbtmp3.6/8, Error ellipse: s-maj=36.6km s-min=19.6km az=59.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Baumata	5.38	239	P	Pn	18 46 01.6	+1.8
	17nm,0.3s,baz=121,slow=2.6,SNR=58						
BATI				S	Sn	18 47 00.6	-0.3
	33nm,0.3s,baz=200,slow=0.2,SNR=16						
FITZ	Fitzroy Crossi	10.95	194	P	Pn	18 47 12.6	-1.8
	2.5nm,0.3s,baz=27,slow=12,SNR=51						
FITZ				S	Sn	18 49 07.0	-8.2
	1.6nm,0.3s,baz=310,slow=17,SNR=4.1						
WRA	Warramunga Arr	13.76	156	P	Pn	18 47 50.3	-0.8
	1.8nm,0.3s,baz=337,slow=13,SNR=24						
WRA				S	Sn	18 50 13.9	-9.4
	3.1nm,0.3s,baz=325,slow=24,SNR=11						
ASAR	Alice Springs	17.03	162	P	Pn	18 48 32.9	+1.1
	1.0nm,0.3s,baz=344,slow=12,SNR=33						
ASAR				S	Sn	18 51 35.9	-6.1
	0.7nm,0.3s,baz=346,slow=25,SNR=7.5						
CMAR	Chiang Mai Arr	38.74	312	P	P	18 51 53.2	+0.3
	0.6nm,0.7s,baz=139,slow=7.4,SNR=5.9						
MKAR	Makanchi Array	67.66	328	P	P	18 55 24.2	+0.1
	0.3nm,0.3s,baz=129,slow=8.5,SNR=3.6						
ZALV	Zalesovo Beam	71.22	335	P	P	18 55 45.1	-0.6
	0.4nm,0.3s,baz=143,slow=6.2,SNR=3.3						
MAW	Mawson	73.97	201	P	P	18 56 02.1	+0.3
	0.7nm,0.5s,baz=68,slow=5.4,SNR=4.4						

IDC 07 19:12:02.3±2.9, 9°65S×152°11E, h0km, mb3.6/6, mb1 3.7/7, mb1mx3.6/16, mbtmp3.6/7, ML3.2/1, Error ellipse: s-maj=93.3km s-min=25.2km az=107.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.89	272	Pn	Pn	19 13 21.6	+4.5
	0.3nm,0.3s,baz=138,slow=14,SNR=2.8						
WRA	Warramunga Arr	19.97	237	P	P	19 16 36.1	-0.4
	0.1nm,0.3s,baz=62,slow=10,SNR=17						
ASAR	Alice Springs	22.28	229	P	P	19 17 01.6	+0.2
	1.1nm,0.8s,baz=59,slow=9.4,SNR=18						
STKA	Stephens Creek	24.17	202	P	P	19 17 20.4	0.0
	1.9nm,0.6s,baz=14,slow=8.3,SNR=4.1						
SONM	Songino Array	70.08	329	P	P	19 23 16.5	0.0
	0.6nm,0.9s,baz=126,slow=7.3,SNR=3.1						
MKAR	Makanchi Array	83.53	320	P	P	19 24 33.0	+0.7
	0.6nm,0.9s,baz=106,slow=4.7,SNR=3.9						
ZALV	Zalesovo Beam	84.80	327	P	P	19 24 38.0	-0.6
	0.2nm,0.3s,baz=108,slow=4.7,SNR=2.5						
KURBB	Kurchatov Arra	87.18	322	P	P	19 24 50.3	-0.2
	0.1nm,0.3s,baz=120,slow=3.6,SNR=3.7						

IDC 07 19:26:10.3±5.3, 22°70N×94°74E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.2/27, mbtmp3.3/4, MS4.0/1, Ms1 4.0/1, ms1mx2.8/29, Error ellipse: s-maj=456.9km s-min=23.0km az=60.0, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	26.06	340	P	P	19 31 45.6	+0.2
	0.3nm,0.4s,baz=148,slow=10,SNR=9.9						
KURBB	Kurchatov Arra	30.62	340	P	P	19 32 25.7	-0.2
	0.2nm,0.5s,baz=157,slow=7.0,SNR=4.2						
WRA	Warramunga Arr	57.36	135	P	P	19 36 00.4	-0.2
	0.3nm,0.7s,baz=321,slow=7.5,SNR=5.7						
NWAO	Narrogin (SRO)	59.33	158	LR	LR	20 03 29.6	
	comp=Z,118nm,19.3s,baz=27,slow=38						
ASAR	Alice Springs	59.78	138	P	P	19 36 17.6	+0.2
	0.1nm,0.5s,baz=323,slow=6.8,SNR=3.5						

*IDC **07** 19:40:06.2±3.0, 0°16S×133°21E, h0km, mb3.6/2, mb1 3.7/3, mb1mx3.4/21, mbtmp3.5/3, ML3.6/1, Error ellipse: s-maj=149.3km s-min=28.9km az=74.0*
*ISCJB **07** 19:40:10.5±1.3, 0°48S±0°07×132°55E±0°08, h32km, mb3.5/2, Error ellipse: s-maj=13.3km s-min=8.6km az=145.6*
*AUST **07** 19:40:13.1, 0°49S×132°50E, h60km*

ISC 07 19:40:13.1±1.6, 0°5S±0°1×132°5E±0°1, h32km, n11, σ1§89/15, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	Sorong	1.31	253	P	Pn	19 40 31.4	-3.7
	baz=1.3,SNR=76						
SWI				S	Sn	19 40 50.7	-0.7
	baz=1.3,SNR=11						
FAKI	Fak Fak	2.43	186	P	Pn	19 40 53.0	+2.4
	baz=2.4,SNR=90						
BNDI	Bandanaira	4.78	213	P	Pn	19 41 25.9	+3.0
	baz=4.8,SNR=3.8						
AAI	Ambon	5.36	234	P	Pn	19 41 32.5	+1.7
	baz=5.4,SNR=3.4						
KDU	Kakadu	12.12	180	P	Pn	19 43 04.3	+0.6
	baz=12,SNR=13						
KDU				S	Sn	19 45 18.3	+0.5
	baz=12,SNR=3.1						
MTN	Manton Dam	12.35	186	P	Pn	19 43 06.4	-0.4
	baz=12,SNR=38						
MTN				S	Sn	19 45 23.4	-0.1
	baz=12,SNR=5.4						
KNRA	Kununurra	15.54	194	P	Pn	19 43 49.3	-0.7
	baz=16,SNR=4.7						
KNRA				S	Sn	19 46 41.0	-0.2
	baz=16,SNR=3.4						
FITZ	Fitzroy Crossi	18.76	201	P	P	19 44 29.0	-0.6
	baz=19,SNR=5.0						
WRA	Warramunga Arr	19.42	175	P	P	19 44 37.2	+0.3
	0.2nm,0.3s,baz=356,slow=11,SNR=10						
WRA				S	S	19 48 10.1	-4.7
	0.1nm,0.3s,baz=351,slow=24,SNR=3.9						
ASAR	Alice Springs	23.08	177	P	P	19 45 16.8	+0.5
	2.0nm,0.8s,baz=356,slow=10,SNR=22						
MKAR	Makanchi Array	64.31	324	P	P	19 50 44.7	-0.9
	0.4nm,0.7s,baz=107,slow=7.7,SNR=3.2						

*TIR **07** 20:24:31.9±5.7, 41°46N×20°47E, h2km±70km, ML3.5*
*IDC **07** 20:24:33.9±0.8, 41°43N×20°47E, h0km, mb3.6/12, mb1 3.8/17, mb1mx3.7/31, mbtmp3.7/17, ML3.3/4, MS3.2/2, Ms1 3.2/2, ms1mx2.5/36, Error ellipse: s-maj=13.1km s-min=11.6km az=49.0*
*ATH **07** 20:24:33.9, 41°53N×20°51E, h5km±2km, MD3.4/9*
*PDG **07** 20:24:34.5±0.4, 41°40N×20°42E, h9km, MD3.8/6, ML3.7/12, Error ellipse: s-maj=0.5km s-min=0.6km az=0.0*
*BEO **07** 20:24:34.4±0.4, 41°33N×20°47E, h1km±2km, ML3.4/1*
*SKO **07** 20:24:34.4, 41°36N×20°44E, h25km, M3.4, ML3.8*
*ISCJB **07** 20:24:34.7±0.3, 41°45N±0°01×20°43E±0°02, h5km±2km, mb3.7/9, MS3.8/1, Error ellipse: s-maj=2.6km s-min=1.6km az=145.2*
*CSEM **07** 20:24:35.6±0.1, 41°43N×20°49E, h2km, ML3.6/6, Error ellipse: s-maj=3.1km s-min=2.1km az=54.0*
*PRU **07** 20:24:35.4, 41°35N×20°43E, h0km*
*THE **07** 20:24:35.5, 41°46N×20°49E, h0km±2km, ML3.7/3, Error ellipse: s-maj=2.4km s-min=0.9km az=303.0*
*LDG **07** 20:24:36.2±0.1, 41°47N×20°49E, h10km, Ml3.7/6, Error ellipse: s-maj=3.6km s-min=2.2km az=49.0*

ISC 07 20:24:35.1±0.9, 41°45N±0°01×20°49E±0°01, h8km±7km, n237, σ1§47/349, mb3.7/9, 46C-34D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHP	Peshkopia	0.24	351	iPG	Pg	20 24 39.7	-0.2
PHP				iSG	Sg	20 24 44.0	+0.8
PHP	Peshkopia	0.24	351	P	Pg	20 24 39.7	-0.2
PHP				S	Sg	20 24 44.2	+1.1
PHP	Peshkopia	0.24	351	P	Pg	20 24 39.7	-0.2
PHP				S	Sg	20 24 44.2	+1.1
TIR	Tirane	0.48	258	iPG	Pn	20 24 48.5	+0.2
TIR				iSG	Sb	20 25 00.1	+7.1
TIR	Tirane	0.48	258	P	Pg	20 24 43.4	-0.9
TIR

SKO S Sn 20 25 06.8 -0.1
FNA Florina 0.94 134 P Pg 20 24 52.8 -0.4
FNA S Sb 20 25 06.7 +0.3
FNA Florina 0.94 134 *e*PB Pg 20 24 52.7 -0.4
FNA *e*SB Sb 20 25 06.8 +0.3
FNA Florina 0.94 134 P Pg 20 24 52.8 -0.4
FNA S Sb 20 25 06.7 +0.3
BCI Bajram Curri 0.97 341 *i* PG Pg 20 24 52.5 -1.2
BCI *i* SG Sb 20 25 08.0 +0.8
BCI Bajram Curri 0.97 341 *i* Pg Pg 20 24 52.5 -1.2
SNR=90
BCI *i* Sg Sb 20 25 08.0 +0.8
SNR=90
ULC Ulcinj 1.06 299 *e*Pg Pg 20 24 53.2 -2.2
ULC *e*Sg Sb 20 25 09.7 -0.2
ULC Ulcinj 1.06 299 P Pg 20 24 53.3 -2.2
ULC *e*Sg Sb 20 25 09.7 -0.2
NEST Nestorio 1.11 157 P Pg 20 24 56.0 -0.5
NEST S Sn 20 25 13.3 +0.6
NEST Nestorio 1.11 157 P Pg 20 24 56.0 -0.5
NEST S Sn 20 25 13.3 +0.6
PEJK Peje 1.21 353 P Pb 20 24 56.8 -1.4
PVY Plav 1.21 341 ⇓*i*Pg Pb 20 24 57.3 -1.1
PVY *e*Sg Sn 20 25 16.4 +1.2
PVY Plav 1.21 341 ⇓*i*Pg Pb 20 24 57.3 -1.1
PVY *e*Sg Sn 20 25 16.4 +1.2
DRME Dracevica, Mon 1.22 308 ⇑*i*Pg Pb 20 24 56.7 -1.8
DRME *e*Sg Sn 20 25 15.9 +0.6
DRME Dracevica, Mon 1.22 308 ⇑*i*Pg Pb 20 24 56.7 -1.8
DRME *e*Sg Sn 20 25 15.9 +0.6
PDG Podgorica 1.35 317 *e*Pg Pn 20 24 59.2 -1.0
PDG *e*Sg Sn 20 25 19.4 +1.1
PDG Podgorica 1.35 317 ⇓*i*Pg Pn 20 24 58.8 -1.4
PDG *e*Sg Sn 20 25 19.4 +1.1
TTG Podgorica 1.35 317 ⇓*i*Pg Pn 20 24 58.8 -1.4
TTG *e*Sg Sn 20 25 20.3 +2.0
SMRK Smrekonice 1.46 13 P Pb 20 25 02.9 +0.3
BUM Brajici-Budva 1.47 306 ⇑*i*Pg Pn 20 25 01.3 -0.6
BUM *e*Sg Sg 20 25 23.5 +1.3
BUM Brajici-Budva 1.47 306 ⇑*i*Pg Pn 20 25 01.3 -0.6
BUM *e*Sg Sg 20 25 23.5 +1.3
BEY Berane 1.49 343 ⇓*i*Pg Pn 20 25 02.6 +0.3
BEY Berane 1.49 343 P Pb 20 25 03.3 +0.2
BEY *e*Sg Sg 20 25 25.4 +2.4
IVA Berane 1.49 343 ⇓*i*Pg Pn 20 25 02.6 +0.3
IVA *e*Sg Sg 20 25 25.4 +2.4
KZN Kozani 1.50 139 *e*PB Sg 20 25 03.9 +0.1
KZN *e*SB Sg 20 25 23.9 +0.7
KZN Kozani 1.50 139 *e*Pb Pg 20 25 03.9 +0.1
KZN *e*Sb Sg 20 25 23.9 +0.7
GRG Griva 1.52 108 P Pb 20 25 03.3 -0.3
GRG Griva 1.52 108 P Pb 20 25 03.3 -0.3
VAY Valandovo 1.57 94 P Pn 20 25 03.2 -0.1
VAY S Sg 20 25 25.6 0.0
VAY Valandovo 1.57 94 ⇑*i*Pn Pn 20 25 03.0 -0.3
VAY *e*Sg Sg 20 25 25.2 -0.4
VAY Valandovo 1.57 94 *e*Pn Pn 20 25 01.0 -2.3
VAY *e*Sn Sn 20 25 23.5 -0.4
VAY *e*Lg Lg 20 25 25.3
comp=E,597nm,0.5s
VAY *e*Lg Lg 20 25 25.5
comp=N,530nm,0.6s
VAY Valandovo 1.57 94 P Pn 20 25 03.2 -0.1
VAY *e*Sn Sn 20 25 22.9 -0.9
VAY *e*Lg Lg 20 25 25.0
comp=N,530nm,0.6s
VAY *e*Sg Sg 20 25 25.2 -0.4
SRN Sarande 1.61 193 *i* PG Pg 20 25 06.2 +0.3
SRN *i* SG Sg 20 25 29.8 +3.1
SRN Sarande 1.61 193 P Pb 20 25 05.2 +0.2
SRN Sarande 1.61 193 P Pb 20 25 05.2 +0.2
SRN Sarande 1.61 193 *i* Pg Pg 20 25 06.2 +0.3
SNR=90
BARS Barje 1.69 35 ⇑*i*Pn Pb 20 25 06.0 -0.4
BARS *e*Sn Sg 20 25 29.7 +0.4
BARS Barje 1.69 35 ⇑*i*Pn Pb 20 25 06.0 -0.4
BARS *e*Sn Sg 20 25 29.7 +0.4
NKME Niksic 1.75 320 ⇓*i*Pn Pn 20 25 05.7 0.0
NKME *e*Sn Sg 20 25 31.4 +0.3
NKME Niksic 1.75 320 ⇓*i*Pn Pn 20 25 05.7 0.0
NKME *e*Sn Sg 20 25 31.4 +0.3
NKY Niksic 1.76 321 ⇓*i*Pn Pn 20 25 06.7 +0.7
NKY *e*Sn Sg 20 25 31.2 -0.4
NKY Niksic 1.76 321 ⇓*i*Pn Pn 20 25 06.7 +0.7
NKY *e*Sn Sg 20 25 31.2 -0.4
HCY Herceg Novi 1.79 305 ⇑*i*Pn Pn 20 25 06.5 +0.2
HCY *e*Sn Sg 20 25 32.0 -0.6
HCY Herceg Novi 1.79 305 ⇑*i*Pn Pn 20 25 06.5 +0.2
HCY *e*Sn Sg 20 25 32.0 -0.6
JAN Janina 1.81 171 P Pb 20 25 07.9 -0.6
JAN Janina 1.81 171 *e*PG Pg 20 25 09.6 -0.1
JAN *e*SN Sg 20 25 35.1 +1.9
JAN Janina 1.81 171 P Pb 20 25 07.9 -0.6
JAN Janina 1.81 171 *e*Pg Pg 20 25 09.6 -0.1
JAN *e*Sn Sg 20 25 35.1 +1.9
KEK Kerkira 1.81 197 P Pn 20 25 07.0 +0.4
KEK S Sg 20 25 32.8 -0.4
KEK Kerkira 1.81 197 *e*PN Pb 20 25 08.6 +0.1
KEK *e*SN Sg 20 25 34.3 +1.1
KEK Kerkira 1.81 197 P Pn 20 25 07.0 +0.4
KEK Kerkira 1.81 197 *e*Pn Pb 20 25 08.6 +0.1
KEK S Sg 20 25 32.8 -0.4
KEK *e*Sn Sg 20 25 34.3 +1.1
SELS Selova 1.83 15 ⇑*i*Pn Pn 20 25 07.0 +0.1
SELS *e*Sn Sb 20 25 33.2 +1.2
KNT Kendrikon 1.84 98 P Pb 20 25 08.1 -0.8
KNT S Sb 20 25 32.9 +0.8
KNT Kendrikon 1.84 98 P Pb 20 25 08.1 -0.8
KNT S Sb 20 25 32.9 +0.8
SJES Sjenica 1.85 348 *e*Pn Pn 20 25 08.0 +0.7
SJES *e*Sn Sb 20 25 33.3 +0.6
SJES Sjenica 1.85 348 *e*Pn Pn 20 25 08.0 +0.7
SJES *e*Sn Sb 20 25 33.3 +0.6
IGT Igoumenitsa 1.92 184 P Pb 20 25 09.9 -0.4
IGT S Sb 20 25 34.9 +0.5
IGT Igoumenitsa 1.92 184 P Pb 20 25 09.9 -0.4
IGT S Sb 20 25 34.9 +0.5
LIT Litokhoron 2.03 131 *e*PN Pn 20 25 10.7 +1.1
LIT Litokhoron 2.03 131 *e*Pn Pn 20 25 10.7 +1.1
TREB Trebinje 2.04 309 *e*Pn Pb 20 25 11.1 -1.2
TREB *e*Sn Sb 20 25 37.8 0.0
TREB Trebinje 2.04 309 *e*Pn Pb 20 25 11.1 -1.2
TREB *e*Sn Sb 20 25 37.8 0.0
PLE Pljevlja 2.05 337 *e*Pn Pn 20 25 11.2 +1.2
PLE *e*Sn Sb 20 25 38.5 +0.1
PLE Pljevlja 2.05 337 *e*Pn Pn 20 25 11.2 +1.2
PLE *e*Sn Sb 20 25 38.5 +0.1
BRY Bratogost 2.05 316 ⇓*i*Pn Pn 20 25 10.9 +0.8
BRY *e*Sn Sb 20 25 38.5 +0.1
BRY Bratogost 2.05 316 ⇓*i*Pn Pn 20 25 10.9 +0.8
BRY *e*Sn Sb 20 25 38.5 +0.1
UPM Unac-Piva 2.11 327 ⇓*i*Pn Pn 20 25 12.0 +1.1
UPM *e*Sn Sb 20 25 40.3 +0.1
UPM Unac-Piva 2.11 327 ⇓*i*Pn Pn 20 25 12.0 +1.1
UPM Unac-Piva 2.11 327 P Pb 20 25 14.1 +0.4
UPM *e*Sn Sb 20 25 40.3 +0.1
HORT Hortiatis 2.15 112 P Pn 20 25 12.2 +0.9
HORT Hortiatis 2.15 112 P Pn 20 25 12.2 +0.9
THL Klokotos Trika 2.21 148 P Pb 20 25 13.7 -1.6
THL Klokotos Trika 2.21 148 *e*PN Pb 20 25 14.0 -1.3
THL *e*SN Sb 20 25 44.3 +1.5
THL Klokotos Trika 2.21 148 P Pb 20 25 13.7 -1.6
THL Klokotos Trika 2.21 148 *e*Pn Pb 20 25 14.0 -1.3
THL *e*Sn Sb 20 25 44.3 +1.5
SOH Sokhos 2.25 105 P Pn 20 25 14.3 +1.6
SOH Sokhos 2.25 105 *e*PN Pb 20 25 14.9 -1.1
SOH Sokhos 2.25 105 P Pn 20 25 14.3 +1.6
SOH Sokhos 2.25 105 *e*Pn Pb 20 25 14.9 -1.1
VTS Vitosha 2.33 60 P Pn 20 25 15.0 +1.2
VTS Vitosha 2.33 60 ⇑*i*P Pn 20 25 15.7 +1.9
VTS Vitosha 2.33 60 *e*Pn Pn 20 25 15.6 +1.8
VTS Vitosha 2.33 60 *e*Pn Pn 20 25 15.8 +1.9
VTS *e*Sn Sb 20 25 45.7 -0.7
VTS Vitosha 2.33 60 P Pn 20 25 15.0 +1.2
VTS Vitosha 2.33 60 *e*Pn Pn 20 25 15.6 +1.8
VTS *e*Sn Sb 20 25 45.7 -0.7
SRS Serrai 2.36 97 P Pn 20 25 15.3 +1.1
SRS Serrai 2.36 97 P Pn 20 25 15.3 +1.1
ZAPS Zavoj 2.42 40 ⇑*i*Pn Pn 20 25 16.9 +1.9
ZAPS *e*Sn Sb 20 25 48.5 -0.4

GRUS Gruza 2.45 4 *e*Pn Pn 20 25 16.3 +1.0
GRUS *e*Sn Sb 20 25 49.3 -0.3
GRUS Gruza 2.45 4 *e*Pn Pn 20 25 16.3 +1.0
GRUS *e*Sn Sb 20 25 49.3 -0.3
PLG Polygyros 2.48 115 P Pn 20 25 17.1 +1.2
PLG Polygyros 2.48 115 P Pn 20 25 17.1 +1.2
STON Ston 2.52 305 *e*Pn Pn 20 25 17.9 +1.7
STON Sn Sb 20 25 51.8 +0.2
NVR Nevrokopi 2.54 91 P Pn 20 25 18.0 +1.3
NVR Nevrokopi 2.54 91 *e*PN Pn 20 25 18.2 +1.5
NVR *e*SN Sn 20 25 49.8 +2.0
NVR Nevrokopi 2.54 91 P Pn 20 25 18.0 +1.3
NVR *e*Sn Sn 20 25 49.8 +2.0
BBLS Lazići 2.55 342 *e*Pn Pn 20 25 19.0 +2.2
BBLS *e*Sn Sb 20 25 52.0 -0.6
BBLS Lazići 2.55 342 *e*Pn Pn 20 25 19.0 +2.2
BBLS *e*Sn Sb 20 25 52.0 -0.6
DIVS Divibare 2.67 352 P Pn 20 25 18.8 +0.2
DIVS Divibare 2.67 352 ⇑*i*Pn Pn 20 25 19.1 +0.5
DIVS Divibare 2.67 352 P Pn 20 25 18.8 +0.2
DIVS Divibare 2.67 352 ⇑*i*Pn Pn 20 25 19.1 +0.5
EVR Evrytania 2.72 158 *e*PN Pb 20 25 23.0 -1.1
EVR Evrytania 2.72 158 *e*Pn Pb 20 25 23.0 -1.1
BAI Bari 2.74 264 *e*Pn Pn 20 25 16.7 -2.7
TRUS Trudelj 2.78 359 *e*Pn Pn 20 25 20.4 +0.5
TRUS Trudelj 2.78 359 *e*Pn Pn 20 25 20.4 +0.5
AGG Agios Georgios 2.80 149 *e*PB Pn 20 25 22.0 +1.7
AGG *e*SN Sb 20 25 58.1 -1.8
AGG Agios Georgios 2.80 149 *e*Pb Pn 20 25 22.0 +1.7
AGG *e*Sn Sb 20 25 58.1 -1.8
PAIG Paliouri 2.86 121 *e*PB Pn 20 25 22.1 +1.1
PAIG Paliouri 2.86 121 *e*Pb Pn 20 25 22.1 +1.1
TEKS Tekeris 3.18 348 ⇑*i*Pn Pn 20 25 28.1 +2.7
TEKS Tekeris 3.18 348 ⇑*i*Pn Pn 20 25 28.1 +2.7
DJES Djerdap 3.54 24 *e*Pn Pn 20 25 31.0 +0.6
FGSL Fruska Gora 3.74 353 *e*Sn Sn 20 26 20.3 +2.9
FRGS Fruska Gora 3.74 353 *e*Sn Sn 20 26 20.3 +2.9
BZS Buzias 4.25 11 ⇑*i*P Pn 20 25 40.3 +0.2
BZS Buzias 4.25 11 *e*Pn Pn 20 25 40.1 0.0
BZS *e*Sn Sn 20 26 30.9 +1.0
BZS Buzias 4.25 11 ⇑*i*P Pn 20 25 40.3 +0.2
BZS *e*Sn Sn 20 26 30.9 +1.0
GZR Gura Zlata 4.28 22 ⇑*i*P Pn 20 25 41.7 +1.1
GZR Gura Zlata 4.28 22 ⇑*i*P Pn 20 25 41.7 +1.1
ITM Ithomi 4.41 165 *e*PN Pn 20 25 46.0 +3.7
ITM Ithomi 4.41 165 *e*Pn Pn 20 25 46.0 +3.7
PKSM Moragy 4.95 345 ⇑*i*P Pn 20 25 50.2 +0.5
PKSM Moragy 4.95 345 ⇑*e* Pn 20 25 51.0 +1.3
PKSM *e* 20 26 48.6
PKSM Moragy 4.95 345 ⇑*e*P Pn 20 25 51.0 +1.3
PKSM *e*S Sn 20 26 48.6 +1.5
PKS2 Kecel 5.13 350 ⇑*e* Pn 20 25 54.7 +2.6
PKS2 Kecel 5.13 350 ⇑*e*P Pn 20 25 54.7 +2.6
NVLJ Novalja 5.16 309 *e*Pn Pn 20 25 53.6 +1.0
NVLJ Sn Sn 20 26 52.5 +0.1
PKS9 Tamasi 5.38 344 ⇓*e* Pn 20 25 58.0 +2.4
PKS9 Tamasi 5.38 344 ⇓*e*P Pn 20 25 58.0 +2.4
PKSN Nyarlorinc 5.47 356 ⇓*e* Pn 20 26 00.9 +4.1
PKSN Nyarlorinc 5.47 356 ⇓*e*P Pn 20 26 00.9 +4.1
DRGR 5.58 16 ⇑*i*P Pn 20 25 58.5 +0.1
DRGR 5.58 16 ⇑*i*P Pn 20 25 58.5 +0.1
MLR Muntele Rosu 5.67 43 ⇑*i*P Pn 20 26 01.9 +2.2
MLR Muntele Rosu 5.67 43 Pn Pn 20 26 01.7 +2.0
comp=N,0.5nm,0.3s,baz=212,slow=14,SNR=18
MLR Sn Sn 20 27 07.5 +2.5
comp=N,0.2nm,0.3s,baz=342,slow=22,SNR=2.4
MLR Muntele Rosu 5.67 43 ⇑*i*P Pn 20 26 01.9 +2.2
PKS7 Kunszentmiklos 5.68 351 ⇑*e* Pn 20 26 03.8 +4.1
PKS7 *e* 20 27 07.8
PKS7 Kunszentmiklos 5.68 351 ⇑*e*P Pn 20 26 03.8 +4.1
PKS7 *e*S Sn 20 27 07.8 +2.7
PKST T"'s 6.07 344 ⇓*e* Pn 20 26 07.0 +1.9
PKST *e* 20 27 18.8
PKST T"'s 6.07 344 ⇓*e*P Pn 20 26 07.0 +1.9
PKST *e*S Sn 20 27 18.8 +4.0
PKSG 6.13 347 ⇓*e* Pn 20 26 10.0 +4.1
PKSG *e* 20 27 19.3
PKSG 6.13 347 ⇓*e*P Pn 20 26 10.0 +4.1
PKSG *e*S Sn 20 27 19.3 +3.1
PSZ Piszkesteto 6.48 356 ⇑*i*P Pn 20 26 10.5 -0.4
PSZ Piszkesteto 6.48 356 ⇑*e* Pn 20 26 13.7 +2.8
PSZ *e* 20 27 25.3
PSZ Piszkesteto 6.48 356 ⇑*e*P Pn 20 26 13.7 +2.8
PSZ *e*S Sn 20 27 25.3 +0.2
SOKA Soboth 6.54 325 ⇓*e*Pn Pn 20 26 13.7 +2.0
comp=N,5.7nm,0.4s,SNR=11
SOKA ⇓*i*Sn Sn 20 27 30.0 +3.5
comp=N,2.9nm,0.5s
SOKA Soboth 6.54 325 Pn Pn 20 26 13.7 +2.0
comp=N,5.7nm,0.4s,SNR=11
SOKA Sn Sn 20 27 30.0 +3.5
comp=N,2.9nm,0.5s
VOY Vojsko 6.62 316 *e*Pn Pn 20 26 13.9 +1.2
VOY *e*Sn Sn 20 27 28.3 -0.1
VOY Vojsko 6.62 316 *e*Pn Pn 20 26 13.9 +1.2
VOY *e*Sn Sn 20 27 28.3 -0.1
OBKA Obir 6.63 322 ⇑*i*Pn Pn 20 26 16.0 +3.1
comp=N,3.7nm,0.3s
OBKA ⇓Sg Sg 20 28 13.7 +5.9
comp=N,19nm,0.7s
OBKA Obir 6.63 322 Pn Pn 20 26 16.0 +3.1
comp=N,3.7nm,0.3s
ARSA Arzberg 6.80 330 ⇓*i*Pn Pn 20 26 18.0 +2.8
comp=N,2.8nm,0.3s,SNR=6.1
ARSA ⇓*e*Sn Sn 20 27 35.1 +2.2
comp=N,3.3nm,0.5s
ARSA Arzberg 6.80 330 Pn Pn 20 26 18.0 +2.8
comp=N,2.8nm,0.3s,SNR=6.1
ARSA Sn Sn 20 27 35.1 +2.2
comp=N,3.3nm,0.5s
BURAR Bucovina Array 7.03 27 ⇑*i*P Pn 20 26 19.6 +1.2
BURAR Bucovina Array 7.03 27 ⇑*i*P Pn 20 26 19.6 +1.2
KECS Kecovo 7.04 360 *e*PN Pn 20 26 20.1 +1.7
KECS *e*SN Sn 20 27 39.2 +0.7
KECS Kecovo 7.04 360 *e*Pn Pn 20 26 20.1 +1.7
KECS *e*Sn Sn 20 27 39.2 +0.7
IDI Anoyia 7.05 149 Pn Pn 20 26 19.5 +0.8
comp=N,0.4nm,0.3s,baz=315,slow=13,SNR=2.9
IDI Sn Sn 20 27 41.6 +2.5
comp=N,0.4nm,0.3s,baz=168,slow=18,SNR=2.5
IDI LR LR 20 29 13.6
comp=N,50nm,20.7s,baz=284,slow=40
VYHS Vyhne 7.14 351 *e*PN Pn 20 26 23.3 +3.4
VYHS *e*SN Sn 20 27 39.7 -1.5
VYHS Vyhne 7.14 351 *e*Pn Pn 20 26 23.4 +3.5
MYKA Terra Mystica 7.15 319 ⇓*i*Pn Pn 20 26 21.7 +1.7
comp=N,0.5nm,0.1s
MYKA Terra Mystica 7.15 319 Pn Pn 20 26 21.7 +1.7
comp=N,0.5nm,0.1s
SMOL Smolenice 7.39 344 *e*PN Pn 20 26 28.9 +5.7
SMOL *e*SN Sn 20 27 46.2 -1.1
CRVS Cervenica-Dubn 7.49 5 *e*PN Pn 20 26 25.9 +1.3
CRVS *e*SN Sn 20 27 50.5 +0.9
CRVS Cervenica-Dubn 7.49 5 *e*Pn Pn 20 26 25.9 +1.3
CRVS *e*Sn Sn 20 27 50.5 +0.9
KOLS Kolonicke sedl 7.59 9 *e*PN Pn 20 26 27.8 +1.8
KOLS *e*SN Sn 20 27 51.7 -0.5
KOLS Kolonicke sedl 7.59 9 *e*Pn Pn 20 26 27.8 +1.8
MOA Molln 7.79 327 ⇑*i*Pn Pn 20 26 31.2 +2.5
comp=N,1.1nm,0.3s
MOA ⇓*e*Sn Sn 20 27 59.8 +2.8
comp=N,7.3nm,0.6s
MOA Molln 7.79 327 Pn Pn 20 26 31.2 +2.5
comp=N,1.1nm,0.3s
MOA Sn Sn 20 27 59.8 +2.8
comp=N,7.3nm,0.6s
ABTA Abfaltersbach 7.81 315 ⇑*e*Pn Pn 20 26 30.5 +1.4
comp=N,2.5nm,0.3s
ABTA ⇓*e*Sn Sn 20 28 00.9 +3.2
comp=N,14nm,0.8s
ABTA Abfaltersbach 7.81 315 Pn Pn 20 26 30.5 +1.4
comp=N,2.5nm,0.3s
ABTA Sn Sn 20 28 00.9 +3.2
comp=N,14nm,0.8s
STHS Stebnicka Huta 7.99 4 *e*PN Pn 20 26 38.5 +7.1
STHS *e*SN Sn 20 28 07.2 +5.2
VRAC Vranov 8.32 342 Pn Pn 20 26 29.9 -6.2
comp=N,0.8nm,0.3s,baz=158,slow=19,SNR=3.9

WTTA Wattenberg 8.60 316 ⇓*i*Pn Pn 20 26 42.0 +2.0
comp=N,2.7nm,0.2s
WTTA ⇑*e*Sn Sn 20 28 19.2 +1.9
comp=N,3.6nm,0.3s
WTTA Wattenberg 8.60 316 Pn Pn 20 26 42.0 +2.0
comp=N,2.7nm,0.2s
WTTA Sn Sn 20 28 19.2 +1.9
comp=N,3.6nm,0.3s
GERES GERESS Array B 8.81 329 Pn Pn 20 26 43.8 +1.0
comp=N,0.2nm,0.3s,baz=154,slow=13,SNR=13
GERES Sn Sn 20 28 22.4 +0.1
comp=N,0.2nm,0.3s,baz=147,slow=24,SNR=2.9
MOTA Moosalm 8.94 314 ⇓*e*Pn Pn 20 26 46.2 +1.7
comp=N,20nm,0.8s
MOTA Moosalm 8.94 314 Pn Pn 20 26 46.2 +1.7
comp=N,20nm,0.8s
KHC Kasperske Hory 9.09 330 *e*PN Pn 20 26 48.8 +2.2
KHC *e*SN Sn 20 28 29.8 +0.6
KHC Kasperske Hory 9.09 330 Pn Pn 20 26 48.8 +2.2
KHC Sn Sn 20 28 29.8 +0.6
RETA Reutte 9.21 314 ⇑*i*Pn Pn 20 26 50.3 +2.1
comp=N,0.5nm,0.2s
RETA ⇓*e*Sn Sn 20 28 34.3 +2.3
comp=N,2.9nm,0.3s
RETA Reutte 9.21 314 Pn Pn 20 26 50.3 +2.1
comp=N,0.5nm,0.2s
RETA Sn Sn 20 28 34.3 +2.3
comp=N,2.9nm,0.3s
DAVOX Davos/Dischmat 9.30 309 Pn Pn 20 26 50.8 +1.1
baz=137,slow=19
DAVOX Sn Sn 20 28 36.2 +1.6
comp=N,0.4nm,0.3s,baz=308,slow=19,SNR=3.1
DAVA Damuels 9.58 311 ⇓*i*Pn Pn 20 26 55.9 +2.5
comp=N,1.5nm,0.3s
DAVA ⇑*i*Sn Sn 20 28 43.9 +2.7
DAVA Damuels 9.58 311 Pn Pn 20 26 55.9 +2.5
comp=N,1.5nm,0.3s
DAVA Sn Sn 20 28 43.9 +2.7
SBF Sospel 9.92 288 *e*Pn Pn 20 26 55.7 -2.2
SBF *e*Sn Sn 20 28 41.9 -7.5
comp=N,10nm,0.7s
MBDF Montbardon 10.55 293 *e*Pn Pn 20 27 04.5 -2.3
MBDF *e*Sn Sn 20 28 56.7 -8.5
comp=N,2.4nm,0.5s
LPG La Plagne 10.77 297 *e*Pn Pn 20 27 09.2 -0.6
LPG *e*Sn Sn 20 29 02.6 -8.1
comp=N,9.6nm,0.6s
LPG La Plagne 10.77 297 *e*Pn Pn 20 27 09.2 -0.6
LPL La Plagne 10.79 297 *e*Pn Pn 20 27 09.2 -0.8
LPL *e*Sn Sn 20 29 01.7 -9.4
comp=N,4.3nm,0.5s
LPL La Plagne 10.79 297 *e*Pn Pn 20 27 09.2 -0.8
CABF La Chapelle 11.58 301 *e*Pn Pn 20 27 17.9 -2.8
HINF Hinteralfeld 11.61 308 *e*Pn Pn 20 27 20.1 -0.9
HINF *e*Sn Sn 20 29 22.2 -8.6
comp=N,1.8nm,0.5s
CDF Champ du Feu 11.66 311 *e*Pn Pn 20 27 19.8 -2.0
CDF *e*Sn Sn 20 29 22.0 -10
comp=N,1.9nm,0.5s
HAU Haudompre 12.00 308 *e*Pn Pn 20 27 23.9 -2.4
LOR Lormes 13.24 302 *e*Pn Pn 20 27 41.5 -1.8
HFS Hagfors 19.18 350 P P 20 28 59.2 +0.3
comp=N,0.5nm,0.3s,baz=166,slow=13,SNR=10
FINES FINESS Array B 20.31 8 P P 20 29 11.5 +0.3
comp=N,1.4nm,0.8s,baz=181,slow=11,SNR=6.4
NB2 NORSAR Subarra 20.42 347 P P 20 29 12.8 +0.3
comp=Z,1.4nm,0.6s,baz=152,slow=11
NB2 NORSAR Subarra 20.42 347 P P 20 29 12.8 +0.3
comp=Z,1.4nm,0.6s,SNR=5.3
NOA NORSAR Array B 20.42 347 P P 20 29 11.9 -0.6
comp=Z,0.7nm,0.6s,baz=154,slow=10,SNR=5.3
EKA Eskdalemuir Ar 20.83 320 P P 20 29 17.1 +0.3
comp=Z,0.8nm,0.6s,baz=126,slow=12,SNR=3.2
ARCES ARCESS Array B 28.27 4 P P 20 30 27.1 -1.4
comp=Z,0.7nm,0.6s,baz=183,slow=12,SNR=3.4
TORD Torodi Ar. Bea 32.62 216 P P 20 31 08.1 +0.8
comp=Z,0.6nm,0.9s,baz=16,slow=7.5,SNR=8.6
KURBB Kurchatov Arra 40.38 57 P P 20 32 14.2 +1.0
comp=Z,0.3nm,0.6s,baz=276,slow=9.2,SNR=3.9
ZALV Zalesovo Beam 43.58 51 P P 20 32 38.9 -0.4
comp=Z,1.4nm,0.6s,baz=279,slow=9.2,SNR=6.7
MKAR Makanchi Array 43.68 61 P P 20 32 40.9 +0.6
comp=Z,0.5nm,0.4s,baz=281,slow=7.5,SNR=13
SONM Songino Array 58.44 52 P P 20 34 30.7 -0.7
comp=Z,0.5nm,0.7s,baz=287,slow=7.9,SNR=4.2
CMAR Chiang Mai Arr 69.49 83 P P 20 35 42.8 -1.6
comp=Z,0.9nm,0.9s,baz=302,slow=7.4,SNR=6.3
BOSA Boshof 69.85 176 P P 20 35 46.7 +0.4
comp=Z,3.9nm,0.9s,baz=304,slow=7.3,SNR=3.1
PDAR Pinedale Array 84.84 326 LR LR 21 11 48.4
comp=Z,43nm,20.8s,baz=67,slow=33
TXAR Lajitas Array 92.70 314 P P 20 37 46.8 -1.2
comp=Z,0.2nm,0.5s,baz=35,slow=6.6,SNR=3.0

NNC 07 20:34:09.6±2.5, **42°.37N**×**81°.53E, h0**km, **mb3.7, mpv3.3, 4C-4D, Error ellipse: s-maj=25.2km s-min=11.7km az=138.0, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKM2	**Tokmak 2**	**4.41**	**279**	⇓Pn	Pn	20 35 18.8	+0.7
	3.8nm,0.6s						
TKM2				⇑Lg	Lg	20 36 27.7	
	4.7nm,0.3s						
MK31	**Makanchi Array**	**4.45**	**7**	⇑Pn	Pn	20 35 18.5	+0.1
	1.1nm,0.3s,baz=189,slow=13,SNR=123						
MK31				⇑Pg	Pb	20 35 30.2	+1.4
	1.0nm,0.3s,baz=187,slow=17,SNR=4.2						
MK31				Lg	Lg	20 36 30.4	
	6.8nm,0.5s,baz=183,slow=27,SNR=3.5						
KK31	**Karatay Array**	**8.14**	**279**	⇓Lg	Lg	20 38 24.5	
	0.8nm,0.5s,baz=84,slow=27,SNR=3.6						
KURBB	**Kurchatov Arra**	**8.51**	**347**	⇓Pn	Pn	20 36 12.6	-1.4
	2.0nm,0.6s						
KURBB				⇑Sn	Sn	20 37 53.2	+2.6
	2.1nm,0.6s						
KURBB				⇓Lg	Lg	20 38 44.9	
	3.8nm,0.6s						

IDC 07 21:04:02.9±58.0, **23°.55S**×**177°.06W, h0**km, **mb3.7/3, mb1 3.8/3, mb1mx3.6/17, mbtmp3.7/3, Error ellipse: s-maj=1060.0km s-min=160.7km az=88.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.35**	**248**	P	P	21 11 17.4	+0.1
	1.9nm,1.1s,baz=85,slow=12,SNR=2.3						
ASAR	**Alice Springs**	**44.75**	**260**	P	P	21 12 18.2	-0.2
	0.2nm,0.4s,baz=96,slow=8.5,SNR=6.1						
WRA	**Warramunga Arr**	**45.12**	**265**	P	P	21 12 21.1	-0.3
	0.7nm,0.6s,baz=104,slow=8.3,SNR=10						

DDA ***07*** *21:05:27.6, 42°.92N×42°.76E, h7km, MD3.1*
TIF ***07*** *21:05:28.3, 42°.55N×43°.47E, h11km±2km*
CSEM ***07*** *21:05:30.1±0.2, 42°.59N×43°.54E, h15km, mb4.3, Error ellipse: s-maj=8.0km s-min=3.4km az=133.0*
MOS ***07*** *21:05:32.9±1.6, 42°.73N×43°.68E, h10km, mb4.3/1, Error ellipse: s-maj=14.7km s-min=7.8km az=56.8*
NNC ***07*** *21:05:33.3±5.5, 42°.77N×44°.18E, h0km, mb3.5, Error ellipse: s-maj=93.1km s-min=49.8km az=122.0*

ISC 07 21:05:30.0±0.9, **42°.59N**±0°.03×**43°.54E**±0°.03, **h15**km±6km, **n41**, σ1§**10**/74, **8C-7D, Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIGR	**Digorskoe uzhe**	**0.31**	**5**	⇓*i*PG	Pg	21 05 35.8	-0.9
DIGR				*i* S	Sg	21 05 41.0	-0.3
DIGR	**Digorskoe uzhe**	**0.31**	**5**	*i* Pg	Pg	21 05 35.8	-0.9
DIGR				*i* Sg	Sg	21 05 41.0	-0.3
ZEI	**Tsey**	**0.33**	**52**	⇓*i*PG	Pg	21 05 36.7	-0.3
ZEI				*i* S	Sg	21 05 42.6	+0.8
ZEI	**Tsey**	**0.33**	**52**	*i* Pg	Pg	21 05 36.7	-0.3
ZEI				*i* Sg	Sg	21 05 42.6	+0.8
LACR	**Lac**	**0.61**	**66**	⇓*i*PG	Pg	21 05 41.6	-0.4
LACR				*i* S	Sb	21 05 50.9	+0.2
LACR	**Lac**	**0.61**	**66**	*i* Pg	Pg	21 05 41.6	-0.4
LACR				*i* Sg	Sb	21 05 50.9	+0.2
KORR	**Kora**	**0.63**	**38**	⇑*i*PG	Pg	21 05 42.5	+0.1
KORR				*i* S	Sb	21 05 52.3	+0.9
KORR	**Kora**	**0.63**	**38**	*i* Pg	Pg	21 05 42.5	+0.1
KORR				*i* Sg	Sb	21 05 52.3	+0.9

LSNR	**Lesken**	**0.72**	**17**	⇓*i*PG	**Pg**	**21 05 43.9**	**-0.2**
LSNR				*e*S	**Sb**	**21 05 54.6**	**+0.6**
LSNR	**Lesken**	**0.72**	**17**	*i* Pg	**Pg**	**21 05 43.9**	**-0.2**
LSNR				*e*Sg	**Sb**	**21 05 54.6**	**+0.6**
STDR	**Stavd-Durt**	**0.87**	**26**	⇑*i*PG	**Pn**	**21 05 47.9**	**+0.2**
STDR				*i* S	**Sn**	**21 06 00.6**	**+0.5**
STDR	**Stavd-Durt**	**0.87**	**26**	*i* Pg	**Pn**	**21 05 47.9**	**+0.2**
STDR				*i* Sg	**Sn**	**21 06 00.6**	**+0.5**
VLKR	**Vladikavkaz**	**0.95**	**61**	*e*PG	**Pn**	**21 05 49.1**	**+0.2**
VLKR				*e*S	**Sn**	**21 06 03.0**	**+0.8**
VLKR	**Vladikavkaz**	**0.95**	**61**	*e*Pg	**Pn**	**21 05 49.1**	**+0.2**
VLKR				*e*Sg	**Sn**	**21 06 03.0**	**+0.8**
SNJR	**Sundja**	**1.05**	**62**	⇓*i*PG	**Pg**	**21 05 50.7**	**+0.4**
SNJR				*e*S	**Sn**	**21 06 05.9**	**+1.3**
SNJR	**Sundja**	**1.05**	**62**	*i* Pg	**Pg**	**21 05 50.7**	**+0.4**
SNJR				*e*Sg	**Sn**	**21 06 05.9**	**+1.3**
BTKR	**Batakoyurt**	**1.07**	**43**	⇑*i*PG	**Pg**	**21 05 52.4**	**+1.6**
BTKR				*e*S	**Sn**	**21 06 08.1**	**+2.9**
BTKR	**Batakoyurt**	**1.07**	**43**	*i* Pg	**Pg**	**21 05 52.4**	**+1.6**
PRTR	**Priterechnaya**	**1.28**	**25**	*e*PG	**Pg**	**21 05 54.7**	**0.0**
PRTR				*e*S	**Sg**	**21 06 13.1**	**+1.6**
PRTR	**Priterechnaya**	**1.28**	**25**	*e*Pg	**Pg**	**21 05 54.7**	**0.0**
PRTR				*e*Sg	**Sg**	**21 06 13.1**	**+1.6**
TRKR	**Terskaya**	**1.43**	**37**	*e*PG	**Pb**	**21 05 57.0**	**+0.7**
TRKR				*e*S	**Sg**	**21 06 17.4**	**+1.2**
TRKR	**Terskaya**	**1.43**	**37**	*e*Pg	**Pb**	**21 05 57.0**	**+0.7**
TRKR				*e*Sg	**Sg**	**21 06 17.4**	**+1.2**
GRO	**Groznyy**	**1.78**	**65**	⇓*i*PG	**Pb**	**21 06 02.9**	**+0.7**
GRO				*e*S	**Sg**	**21 06 27.3**	**+0.1**
GRO	**Groznyy**	**1.78**	**65**	*i* Pg	**Pb**	**21 06 02.9**	**+0.7**
GRO				*e*Sg	**Sg**	**21 06 27.3**	**+0.1**
ARTV	**Artvin**	**1.85**	**221**	*i* P	**Pn**	**21 06 01.3**	**0.0**
ARTV				*i* S	**Sn**	**21 06 26.2**	**+1.7**
ARTV	**Artvin**	**1.85**	**221**	*i* P	**Pn**	**21 06 01.3**	**0.0**
ARTV				*i* S	**Sn**	**21 06 26.2**	**+1.7**
DBOC	**Borcka**	**1.87**	**229**	*i* P	**Pn**	**21 06 00.9**	**-0.5**
DBOC				*i* S	**Sn**	**21 06 25.9**	**+1.2**
DBOC	**Borcka**	**1.87**	**229**	*i* P	**Pn**	**21 06 00.9**	**-0.5**
DBOC				*i* S	**Sn**	**21 06 25.9**	**+1.2**
DAGI	**Agillar**	**1.94**	**219**	*i* P	**Pb**	**21 06 04.5**	**-0.6**
DAGI				*i* S	**Sb**	**21 06 28.8**	**-0.3**
DBAD	**Bademkaya**	**2.09**	**222**	*i* P	**Pn**	**21 06 05.2**	**+0.7**
DBAD				*i* S	**Sb**	**21 06 33.9**	**+0.5**
DBAD	**Bademkaya**	**2.09**	**222**	*i* P	**Pn**	**21 06 05.2**	**+0.7**
DBAD				*i* S	**Sb**	**21 06 33.9**	**+0.5**
DDEM	**Demirkent**	**2.16**	**219**	*i* P	**Pn**	**21 06 06.8**	**+1.3**
DDEM				*i* S	**Sb**	**21 06 36.2**	**+0.8**
DDEM	**Demirkent**	**2.16**	**219**	*i* P	**Pn**	**21 06 06.8**	**+1.3**
DDEM				*i* S	**Sb**	**21 06 36.2**	**+0.8**
SOC	**Sochi**	**2.98**	**291**	*e*PN	**Pb**	**21 06 23.8**	**+1.2**
SOC				*e*		21 06 58.3	
SOC				pmax	pmax		
	comp=Z,25nm,0.6s						
SOC				smax	smax		
	comp=N,22nm,0.6s						
SOC				smax	smax		
	comp=E,48nm,0.7s						
AKTO	**Aktyubinsk**	**12.67**	**47**	⇑Pn	Pn	21 08 26.2	-3.3
	comp=E,0.4nm,0.4s						
AKTO				⇑Sn	**Sn**	**21 10 47.7**	**-2.6**
	comp=E,1.0nm,0.7s						
AB31	**Akbulak array**	**13.21**	**54**	⇑Pn	**Pn**	**21 08 35.1**	**-1.7**
	comp=E,0.5nm,0.4s,baz=246,slow=11,SNR=4.6						
AB31				⇓Sn	**Sn**	**21 10 58.9**	**-4.4**
	comp=E,0.9nm,0.7s,baz=241,slow=19						
AB31	**Akbulak array**	**13.21**	**54**	Pn	**Pn**	**21 08 35.1**	**-1.7**
	comp=E,0.5nm,0.4s,baz=246,SNR=4.6						
KK31	**Karatay Array**	**19.76**	**79**	⇑P	**Pn**	**21 10 00.5**	**-0.2**
	comp=E,1.0nm,0.7s,baz=269,slow=11,SNR=7.6						
KK31	**Karatay Array**	**19.76**	**79**	P	**Pn**	**21 10 00.5**	**-0.2**
	comp=E,1.0nm,0.7s,baz=269,SNR=7.6						
BVA0	**Borovoye Array**	**20.71**	**50**	⇑P	**P**	**21 10 09.7**	**+0.2**
	comp=E,1.8nm,1.0s,baz=222,slow=8.0,SNR=8.4						
BVA0	**Borovoye Array**	**20.71**	**50**	P	**P**	**21 10 09.7**	**+0.2**
	comp=E,1.8nm,1.0s,SNR=8.4						

IDC 07 21:18:17.0±1.1,**3°92N**×**126°78E,h0**km,**mb3.5**/8,
mb1 3.7/8,**mb1mx3.5**/26,**mbtmp3.5**/8,**Error ellipse:**
s-maj=92.8km s-min=16.1km az=70.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.91**	**183**	P	P	21 23 12.1	+0.1
	2.0nm,0.8s,baz=7.1,slow=8.1,SNR=3.7						
WRA	**Warramunga Arr**	**24.85**	**163**	P	P	21 23 42.2	+0.9
	0.6nm,0.6s,baz=343,slow=10,SNR=9.8						
ASAR	**Alice Springs**	**28.28**	**166**	P	P	21 24 12.5	+0.2
	0.2nm,0.4s,baz=336,slow=6.9,SNR=5.6						
STKA	**Stephens Creek**	**38.29**	**159**	P	P	21 25 38.0	-1.3
	1.1nm,0.6s,baz=336,slow=10.0,SNR=3.1						
SONM	**Songino Array**	**47.14**	**341**	P	P	21 26 50.9	-0.3
	0.3nm,0.5s,baz=159,slow=7.0,SNR=4.2						
MKAR	**Makanchi Array**	**57.43**	**325**	P	P	21 28 06.7	-0.9
	0.2nm,0.4s,baz=121,slow=7.1,SNR=7.6						
KURBB	**Kurchatov Arra**	**61.61**	**327**	P	P	21 28 36.0	-0.3
	0.2nm,0.6s,baz=129,slow=6.7,SNR=6.3						
BVAR	**Borovoye Array**	**67.19**	**327**	P	P	21 29 14.5	+1.6
	0.2nm,0.4s,baz=111,slow=7.9,SNR=2.9						

STR ***07*** *21:26:19.7*±*4.7,37°78N*×*14°30E,h10*km*,Ml4.2,Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
PRU ***07*** *21:26:27.7,38°64N*×*13°58E,h0*km*,M4.8*
BJI ***07*** *21:26:27.7,38°73N*×*14°04E,h10*km*,mB5.2/29,mb4.8/42, Ms5.0/25,Ms7 4.7/24*
ROM ***07*** *21:26:29.6*±*0.1,38°73N*×*14°04E,h26*km*±2*km*,Ml4.5/26, Error ellipse: s-maj=2.2km s-min=2.0km az=157.0*
ISCJB ***07*** *21:26:30.3*±*0.3,38°69N*±*0°01*×*14°06E*±*0°01,h19*km*±2*km*, mb4.8/108,MS4.1/29,Error ellipse: s-maj=2.0km s-min=1.6km az=33.0*
BKK ***07*** *21:26:30.9*±*0.9,39°9N*±*9°*×*1°4E*±*1°3,h10*km*,M4.8/11, mB5.1/2,mb4.8/11,Mw(mB)4.5/2*
LDG ***07*** *21:26:31.5*±*0.2,38°63N*×*14°02E,h30*km*,Ml4.2/10,Error ellipse: s-maj=4.7km s-min=3.0km az=21.0*
PDG ***07*** *21:26:31.7*±*0.9,38°60N*×*14°15E,h30*km*±2*km*,ML4.2/9, Error ellipse: s-maj=1.1km s-min=1.4km az=0.0*
CSEM ***07*** *21:26:31.6*±*0.1,38°62N*×*14°08E,h20*km*,ML4.5,Mw4.8, Error ellipse: s-maj=2.5km s-min=2.1km az=50.0*
CRAAG ***07*** *21:26:31.0,38°50N*×*14°00E,MW4.9*
NEIC ***07*** *21:26:32.0*±*0.9,38°60N*×*14°07E,h20*km*±6*km*,mb4.9/46, MW4.8(ROM),Error ellipse: s-maj=3.5km s-min=2.7km az=56.0*
NEIC Felt [III] at Bagheria, Barcellona-Pozzo di Gotto, Campofelice di Roccella, Cefalu, Ficarazzi, Misilmeri, Palermo and Termini Imerese. Also felt at Xewkija, Malta.
MOS ***07*** *21:26:32.7*±*1.5,38°73N*×*14°01E,h42*km*,mb4.9/48, MS4.0/29,Error ellipse: s-maj=4.0km s-min=2.4km az=87.4*
TEH ***07*** *21:26:32.0,38°59N*×*14°11E,h21*km*,ML4.9*
IDC ***07*** *21:26:34.9*±*1.5,38°71N*×*14°01E,h43*km*±14*km*,mb4.3/30, mb1 4.3/41,mb1mx4.3/44,mbtmp4.2/41,ML4.0/11, MS4.1/19,Ms1 4.1/19,ms1mx3.7/50,Error ellipse: s-maj=12.5km s-min=9.7km az=132.0*
DJA ***07*** *21:26:34.3*±*6.4,39°N*±*10°*×*1°4E*±*2°0,h23*km*±42*km*, M4.7/10,mB4.8/2,mb4.7/10,Mw(mB)4.1/2*
GCMT ***07*** *21:26:37.5*±*0.4,38°73N*×*13°98E,h18*km*±1*km*,MW4.8, Moment Tensor Solution. s12,c13; s59,c88; Moment tensor: Scale 10*16*Nm; M*rr*2.02±.18; M*θθ*-1.95±.12; M*φφ*-0.07±.10; M*rθ*-0.68±.22; M*θφ*-0.43±.06; M*φr*0.51±.32; Best double couple: M*0*2.20000×10*16* NP1:*φ*s273.00000°, δ55.00000°, λ109.00000°. NP2:*φ*s63.00000°, δ39.00000°, λ65.00000°. Principal axes: T 2.2800, Plg73.0000°, Azm234.0000°; N -0.1500, Plg15.0000°, Azm82.0000°; P -2.1200, Plg8.0000°, Azm350.0000°; Data Used: IU CN II IC G.*

ISC 07 21:26:31.4±0.3,**38°68N**±0°02×**14°03E**±0°02,**h18**km±1km,
n1121,σ**1°53**/117,**mb4.9**/108,**MS4.1**/29,**51C-38D,Sicily**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IACL	**Alicudi**	**0.29**	**119**	Pg	**Pg**	**21 26 37.1**	**-0.8**
IACL				Sg	**Sg**	**21 26 42.3**	**+0.1**
	142μm,0.6s						
IACL	**Alicudi**	**0.29**	**119**	Pg	**Pg**	**21 26 37.1**	**-0.8**
IACL				Sg	**Sg**	**21 26 42.3**	**+0.1**
	142μm,0.6s						
USI	**Ustica**	**0.67**	**273**	⇑*i*Pg	**Pb**	**21 26 42.7**	**-1.8**
USI				Sg	**Sb**	**21 26 52.1**	**-1.2**
USI	**Ustica**	**0.67**	**273**	P	**Pb**	**21 26 42.4**	**-2.1**
USI				S	**Sb**	**21 26 51.9**	**-1.4**
USI	**Ustica**	**0.67**	**273**	P	**Pb**	**21 26 42.4**	**-2.1**
USI				S	**Sb**	**21 26 51.9**	**-1.4**
GIB	**Gibilmanna**	**0.69**	**180**	P	**Pb**	**21 26 43.9**	**-1.0**
GIB	**Gibilmanna**	**0.69**	**180**	Pg	**Pb**	**21 26 43.9**	**-1.0**
	1μm,1.1s						
GIB	**Gibilmanna**	**0.69**	**180**	P	**Pb**	**21 26 43.9**	**-1.0**
GIB	**Gibilmanna**	**0.69**	**180**	Pg	**Pb**	**21 26 43.9**	**-1.0**
	1μm,1.1s						
PLLN	**Pollina**	**0.69**	**172**	⇓*e*Pg	**Pb**	**21 26 43.9**	**-1.0**
PLLN				Sg	**Sg**	**21 26 55.1**	**+0.9**
	78μm,0.9s						
PLLN	**Pollina**	**0.69**	**172**	⇓*e*Pg	**Pb**	**21 26 43.9**	**-1.0**
CSLB	**Castelbuono**	**0.74**	**178**	Pg	**Pb**	**21 26 44.3**	**-1.5**
CSLB	**Castelbuono**	**0.74**	**178**	P	**Pb**	**21 26 44.3**	**-1.5**
CSLB	**Castelbuono**	**0.74**	**178**	Pg	**Pb**	**21 26 44.3**	**-1.5**
LLI	**Lipari**	**0.76**	**108**	Pg	**Pb**	**21 26 44.9**	**-1.2**
	140μm,1.0s						
LLI	**Lipari**	**0.76**	**108**	Pg	**Pb**	**21 26 44.9**	**-1.2**
	140μm,1.0s						
VPL	**Vulcano Piano**	**0.81**	**111**	Pg	**Pb**	**21 26 45.3**	**-1.6**
VPL	**Vulcano Piano**	**0.81**	**111**	Pg	**Pb**	**21 26 45.3**	**-1.6**
MNO	**Monte Soro**	**0.91**	**145**	P	**Pb**	**21 26 48.3**	**-0.5**
MNO	**Monte Soro**	**0.91**	**145**	⇓*e*Pg	**Pb**	**21 26 48.3**	**-0.5**
MNO				Sg	**Sg**	**21 27 01.7**	**+0.5**
	113μm,2.4s						
MNO	**Monte Soro**	**0.91**	**145**	P	**Pb**	**21 26 48.2**	**-0.5**
MNO	**Monte Soro**	**0.91**	**145**	⇓*e*Pg	**Pb**	**21 26 48.3**	**-0.5**
STR4	**STROMBOLI 4**	**0.93**	**84**	Pg	**Pb**	**21 26 47.0**	**-2.0**
ALJA	**Alia**	**0.95**	**193**	Pg	**Pb**	**21 26 48.6**	**-0.8**
	175μm,1.4s						
ALJA	**Alia**	**0.95**	**193**	P	**Pb**	**21 26 48.6**	**-0.8**
ALJA	**Alia**	**0.95**	**193**	Pg	**Pb**	**21 26 48.6**	**-0.8**
	175μm,1.4s						
MILZ	**Milazzo**	**1.03**	**113**	Pg	**Pb**	**21 26 48.1**	**-2.6**
	28μm,0.9s						
MILZ	**Milazzo**	**1.03**	**113**	Pg	**Pb**	**21 26 48.1**	**-2.6**
	28μm,0.9s						
RESU	**Resuttano**	**1.03**	**179**	Pg	**Pb**	**21 26 50.5**	**-0.2**
	41μm,0.8s						
RESU	**Resuttano**	**1.03**	**179**	P	**Pb**	**21 26 50.6**	**-0.1**
RESU	**Resuttano**	**1.03**	**179**	Pg	**Pb**	**21 26 50.5**	**-0.2**
	41μm,0.8s						
CRJA	**Costa Raja**	**1.19**	**223**	Pg	**Pn**	**21 26 52.1**	**-1.1**
CRJA	**Costa Raja**	**1.19**	**223**	P	**Pn**	**21 26 52.1**	**-1.1**
CRJA	**Costa Raja**	**1.19**	**223**	Pg	**Pn**	**21 26 52.1**	**-1.1**
ECNV	**Catenanuova**	**1.21**	**153**	Pg	**Pn**	**21 26 53.8**	**+0.4**
	41μm,0.9s						
ECNV	**Catenanuova**	**1.21**	**153**	Pg	**Pn**	**21 26 53.8**	**+0.4**
	41μm,0.9s						
MMME	**Mongiuffi-Meli**	**1.22**	**127**	Pg	**Pn**	**21 26 51.6**	**-2.0**
	11μm,0.7s						
MMME	**Mongiuffi-Meli**	**1.22**	**127**	Pg	**Pn**	**21 26 51.6**	**-2.0**
	11μm,0.7s						
ESLN	**Serra La Nave**	**1.23**	**142**	Pg	**Pn**	**21 26 53.8**	**-0.1**
	59μm,1.2s						
ESLN	**Serra La Nave**	**1.23**	**142**	Pg	**Pn**	**21 26 53.8**	**-0.1**
	59μm,1.2s						
MSRU	**Castanea**	**1.23**	**109**	Pg	**Pn**	**21 26 51.2**	**-2.6**
MSRU				Sg	**Sb**	**21 27 07.3**	**-2.5**
	11μm,0.8s						
MSRU	**Castanea**	**1.23**	**109**	Pg	**Pn**	**21 26 51.2**	**-2.6**
MSRU				Sg	**Sb**	**21 27 07.3**	**-2.5**
	11μm,0.8s						
MTGR	**Montagna Grand**	**1.27**	**232**	Pg	**Pn**	**21 26 52.6**	**-1.7**
MTGR	**Montagna Grand**	**1.27**	**232**	Pg	**Pn**	**21 26 52.6**	**-1.7**
MMGO	**Monte Magaggia**	**1.31**	**220**	Pg	**Pn**	**21 26 53.6**	**-1.2**
MMGO	**Monte Magaggia**	**1.31**	**220**	P	**Pn**	**21 26 53.6**	**-1.2**
MMGO	**Monte Magaggia**	**1.31**	**220**	Pg	**Pn**	**21 26 53.6**	**-1.2**
FAVR	**Favara**	**1.44**	**192**	Pg	**Pb**	**21 26 58.2**	**+0.6**
FAVR	**Favara**	**1.44**	**192**	P	**Pb**	**21 26 58.3**	**+0.6**
FAVR	**Favara**	**1.44**	**192**	Pg	**Pb**	**21 26 58.2**	**+0.6**
MSCL	**Scilla**	**1.45**	**107**	Pg	**Pn**	**21 26 54.2**	**-2.6**
MSCL	**Scilla**	**1.45**	**107**	Pg	**Pn**	**21 26 54.2**	**-2.6**
JOPP	**Joppolo**	**1.46**	**92**	Pg	**Pn**	**21 26 54.2**	**-2.7**
JOPP				Sg	**Sn**	**21 27 13.9**	**-1.6**
	6μm,1.5s						
JOPP	**Joppolo**	**1.46**	**92**	P	**Pn**	**21 26 54.5**	**-2.4**
JOPP	**Joppolo**	**1.46**	**92**	Pg	**Pn**	**21 26 54.2**	**-2.7**
JOPP	**Joppolo**	**1.46**	**92**	P	**Pn**	**21 26 54.5**	**-2.4**
JOPP				Sg	**Sn**	**21 27 13.9**	**-1.6**
	6μm,1.5s						
MTTG	**Motta San Giov**	**1.47**	**117**	Pg	**Pn**	**21 26 55.3**	**-1.8**
	11μm,0.7s						
MTTG	**Motta San Giov**	**1.47**	**117**	P	**Pn**	**21 26 55.5**	**-1.6**
MTTG	**Motta San Giov**	**1.47**	**117**	P	**Pn**	**21 26 55.5**	**-1.6**
RAFF	**Raffo Rosso**	**1.48**	**170**	Pg	**Pn**	**21 26 57.3**	**+0.2**
RAFF	**Raffo Rosso**	**1.48**	**170**	P	**Pb**	**21 26 58.2**	**-0.1**
RAFF	**Raffo Rosso**	**1.48**	**170**	Pg	**Pn**	**21 26 57.3**	**+0.2**
RAFF	**Raffo Rosso**	**1.48**	**170**	P	**Pb**	**21 26 58.2**	**-0.1**
CEL	**Celeste**	**1.52**	**105**	Pg	**Pn**	**21 26 55.3**	**-2.5**
CEL	**Celeste**	**1.52**	**105**	*e*Pn	**Pn**	**21 26 55.2**	**-2.5**
CEL				*e*Sn	**Sn**	**21 27 17.4**	**+0.2**
CEL	**Celeste**	**1.52**	**105**	Pg	**Pn**	**21 26 55.3**	**-2.5**
CEL				*e*Sn	**Sn**	**21 27 17.4**	**+0.2**
HCRL	**Carlentini**	**1.60**	**150**	Pg	**Pn**	**21 26 57.7**	**-1.1**
	7μm,0.6s						
HCRL	**Carlentini**	**1.60**	**150**	Pg	**Pn**	**21 26 57.7**	**-1.1**
	7μm,0.6s						
SOI	**Samo**	**1.70**	**110**	P	**Pn**	**21 26 58.4**	**-1.8**
SOI	**Samo**	**1.70**	**110**	Pg	**Pn**	**21 26 58.2**	**-2.0**
	8μm,1.0s						
SOI	**Samo**	**1.70**	**110**	P	**Pn**	**21 26 58.4**	**-1.8**
SOI	**Samo**	**1.70**	**110**	P	**Pn**	**21 26 58.4**	**-1.8**
AGST	**Augusta-Monte**	**1.71**	**146**	Pg	**Pn**	**21 26 58.9**	**-1.3**
	8μm,0.8s						
AGST	**Augusta-Monte**	**1.71**	**146**	P	**Pn**	**21 26 59.7**	**-0.5**
AGST	**Augusta-Monte**	**1.71**	**146**	Pg	**Pn**	**21 26 58.9**	**-1.3**
	8μm,0.8s						
AGST	**Augusta-Monte**	**1.71**	**146**	P	**Pn**	**21 26 59.7**	**-0.5**
MPAZ	**Palizzi**	**1.72**	**114**	Pg	**Pn**	**21 26 58.5**	**-1.9**
	8μm,0.7s						
MPAZ	**Palizzi**	**1.72**	**114**	Pg	**Pn**	**21 26 58.5**	**-1.9**
	8μm,0.7s						
SSY	**Sortino**	**1.73**	**151**	Pg	**Pn**	**21 26 59.5**	**-1.1**
	20μm,1.0s						
SSY	**Sortino**	**1.73**	**151**	P	**Pn**	**21 26 59.1**	**-1.5**
SSY	**Sortino**	**1.73**	**151**	P	**Pn**	**21 26 59.1**	**-1.5**
SSY	**Sortino**	**1.73**	**151**	Pg	**Pn**	**21 26 59.5**	**-1.1**
	20μm,1.0s						
BULG	**Bulgheria - Ca**	**1.75**	**36**	P	Pg	21 27 11.3	+6.3
BULG				S	**Sn**	**21 27 19.2**	**-3.5**
GRI	**Girifalco**	**1.88**	**85**	P	**Pn**	**21 27 00.6**	**-2.1**
GRI	**Girifalco**	**1.88**	**85**	Pg	**Pn**	**21 27 00.5**	**-2.1**
	4μm,1.1s						
GRI	**Girifalco**	**1.88**	**85**	P	**Pn**	**21 27 00.6**	**-2.1**
GRI	**Girifalco**	**1.88**	**85**	P	**Pn**	**21 27 00.6**	**-2.1**
	3μm,0.8s						
PLAC	**Placanica**	**1.90**	**96**	Pg	**Pn**	**21 27 01.2**	**-1.8**
	3μm,0.8s						
PLAC	**Placanica**	**1.90**	**96**	Pg	**Pn**	**21 27 01.2**	**-1.8**
	3μm,0.8s						
CUC	**Castrocucco**	**1.91**	**46**	Pg	**Pn**	**21 27 01.3**	**-1.8**
	1μm,0.7s						
CUC	**Castrocucco**	**1.91**	**46**	*e*Pn	**Pn**	**21 27 01.3**	**-1.8**
CUC				*e*Sn	**Sn**	**21 27 26.7**	**-0.1**
CUC	**Castrocucco**	**1.91**	**46**	Pg	**Pn**	**21 27 01.3**	**-1.8**
	1μm,0.7s						
CUC				*e*Sn	**Sn**	**21 27 26.7**	**-0.1**
HAVL	**Avola**	**1.92**	**153**	Pg	**Pn**	**21 27 02.4**	**-0.9**
	10μm,1.0s						
HAVL	**Avola**	**1.92**	**153**	P	**Pn**	**21 27 02.7**	**-0.6**
HAVL	**Avola**	**1.92**	**153**	Pg	**Pn**	**21 27 02.4**	**-0.9**
	10μm,1.0s						
HAVL	**Avola**	**1.92**	**153**	P	**Pn**	**21 27 02.7**	**-0.6**
MMN	**Mormanno**	**1.95**	**51**	P	Pn	21 26 59.3	-4.2
MMN	**Mormanno**	**1.95**	**51**	P	Pn	21 26 59.3	-4.2
CDRU	**Civita di Ruta**	**2.06**	**28**	Pg	**Pn**	**21 27 03.2**	**-2.0**
	630nm,1.0s						
CDRU	**Civita di Ruta**	**2.06**	**28**	Pg	**Pn**	**21 27 03.2**	**-2.0**
	630nm,1.0s						
SERS	**Sersale**	**2.11**	**79**	Pg	**Pn**	**21 27 04.1**	**-1.8**
	2μm,1.3s						
SERS	**Sersale**	**2.11**	**79**	Pg	**Pn**	**21 27 04.1**	**-1.8**
	2μm,1.3s						
MCEL	**Monticello**	**2.14**	**39**	P	**Pn**	**21 27 05.7**	**-0.6**
MCEL	**Monticello**	**2.14**	**39**	P	**Pn**	**21 27 05.7**	**-0.6**
OVO	**Vesuviano**	**2.17**	**7**	Pg	**Pn**	**21 27 05.7**	**-0.9**
OVO	**Vesuviano**	**2.17**	**7**	Pg	**Pn**	**21 27 05.7**	**-0.9**
VENT	**Ventotene**	**2.17**	**348**	Pg	**Pn**	**21 27 04.4**	**-2.2**
VENT	**Ventotene**	**2.17**	**348**	P	**Pn**	**21 27 04.9**	**-1.7**
VENT	**Ventotene**	**2.17**	**348**	P	**Pn**	**21 27 04.9**	**-1.7**
ORI	**Oriolo Calabro**	**2.33**	**53**	P	**Pn**	**21 27 09.5**	**+0.6**
ORI	**Oriolo Calabro**	**2.33**	**53**	P	**Pn**	**21 27 09.5**	**+0.6**
ORI	**Oriolo Calabro**	**2.33**	**53**	P	**Pn**	**21 27 09.5**	**+0.6**
MRLC	**Muro Lucano**	**2.36**	**28**	Pg	**Pn**	**21 27 09.1**	**-0.2**
	4μm,2.8s						
MRLC	**Muro Lucano**	**2.36**	**28**	P	**Pn**	**21 27 08.9**	**-0.4**
MRLC	**Muro Lucano**	**2.36**	**28**	Pg	**Pn**	**21 27 09.1**	**-0.2**
	4μm,2.8s						
PTRP	**Pietrapertosa**	**2.42**	**40**	P	**Pn**	**21 27 12.3**	**+2.2**
PTRP	**Pietrapertosa**	**2.42**	**40**	P	**Pn**	**21 27 12.4**	**+2.2**
SNAL	**S. Angelo Dei**	**2.42**	**22**	Pg	**Pn**	**21 27 10.2**	**0.0**
	2μm,1.2s						
SNAL	**S. Angelo Dei**	**2.42**	**22**	Pg	**Pn**	**21 27 10.2**	**0.0**
	2μm,1.2s						
PTS	**Pantelleria**	**2.46**	**221**	P	**Pn**	**21 27 09.9**	**-0.7**
PTS	**Pantelleria**	**2.46**	**221**	Pg	**Pn**	**21 27 09.6**	**-1.0**
	2μm,1.0s						
PTS	**Pantelleria**	**2.46**	**221**	P	**Pn**	**21 27 09.9**	**-0.7**
PTS	**Pantelleria**	**2.46**	**221**	Pg	**Pn**	**21 27 09.6**	**-1.0**
	2μm,1.0s						
PTS	**Pantelleria**	**2.46**	**221**	P	**Pn**	**21 27 09.9**	**-0.7**
MODR	**Mondragone**	**2.47**	**357**	Pg	**Pn**	**21 27 10.1**	**-0.6**
	443nm,0.9s						
MODR	**Mondragone**	**2.47**	**357**	Pg	**Pn**	**21 27 10.1**	**-0.6**
	443nm,0.9s						
CAFE	**Carife**	**2.52**	**21**	Pg	**Pn**	**21 27 11.7**	**+0.1**
	5μm,2.7s						
CAFE	**Carife**	**2.52**	**21**	Pg	**Pn**	**21 27 11.7**	**+0.1**
	5μm,2.7s						
MRB1	**Monte Rocchett**	**2.55**	**16**	P	**Pn**	**21 27 12.9**	**+1.0**
MRB1	**Monte Rocchett**	**2.55**	**16**	P	**Pn**	**21 27 12.9**	**+1.0**
ACER	**Acerenza**	**2.57**	**34**	P	**Pn**	**21 27 12.1**	**-0.1**
ACER	**Acerenza**	**2.57**	**34**	P	**Pn**	**21 27 12.1**	**-0.1**
PSB1	**Pescosannita**	**2.61**	**13**	P	**Pn**	**21 27 14.0**	**+1.2**
PSB1	**Pescosannita**	**2.61**	**13**	P	**Pn**	**21 27 14.0**	**+1.2**
MIGL	**Miglionico**	**2.68**	**43**	P	**Pn**	**21 27 15.5**	**+1.8**
MIGL	**Miglionico**	**2.68**	**43**	P	**Pn**	**21 27 15.5**	**+1.8**
PALZ	**Palazzo San Ge**	**2.71**	**33**	P	**Pn**	**21 27 15.2**	**+1.1**
PALZ	**Palazzo San Ge**	**2.71**	**33**	P	**Pn**	**21 27 15.1**	**+1.1**
SGG	**Gregorio Mates**	**2.72**	**6**	Pg	**Pn**	**21 27 14.6**	**+0.3**
SGG	**Gregorio Mates**	**2.72**	**6**	P	**Pn**	**21 27 12.2**	**-2.0**
SGG	**Gregorio Mates**	**2.72**	**6**	P	**Pn**	**21 27 12.2**	**-2.0**
SGG	**Gregorio Mates**	**2.72**	**6**	Pg	**Pn**	**21 27 14.6**	**+0.3**
GIUL	**Giuliano Di Ro**	**2.94**	**349**	Pg	**Pn**	**21 27 15.9**	**-1.3**
GIUL	**Giuliano Di Ro**	**2.94**	**349**	P	**Pn**	**21 27 16.2**	**-1.0**
GIUL	**Giuliano Di Ro**	**2.94**	**349**	Pg	**Pn**	**21 27 15.9**	**-1.3**
GIUL	**Giuliano Di Ro**	**2.94**	**349**	P	**Pn**	**21 27 16.2**	**-1.0**
MIDA	**Miranda**	**2.97**	**3**	P	**Pn**	**21 27 19.1**	**+1.4**
MIDA	**Miranda**	**2.97**	**3**	P	**Pn**	**21 27 19.0**	**+1.4**
RNI2	**Rionero Sannit**	**3.02**	**2**	P	**Pn**	**21 27 19.8**	**+1.3**
RNI2	**Rionero Sannit**	**3.02**	**2**	P	**Pn**	**21 27 19.8**	**+1.3**
SDI	**San Donato**	**3.03**	**357**	P	**Pn**	**21 27 18.9**	**+0.4**
**S

LKD2	Lefkada island	5.19	87	P	Pn	21 27 47.9	-0.2
LKD2	Lefkada island	5.19	87	ePN	Pn	21 27 48.5	+0.4
LKD2	Lefkada island	5.19	87	P	Pn	21 27 47.9	-0.2
LKD2	Lefkada island	5.19	87	P	Pn	21 27 47.9	-0.2
TIR	Tirane	5.21	57	eP	Pn	21 27 48.1	-0.4
TIR	Tirane	5.21	57	ePN	Pn	21 27 46.3	-2.2
TIR	Tirane	5.21	57	ePn	Pn	21 27 48.1	-0.4
TIR	Tirane	5.21	57	eP	Pn	21 27 48.1	-0.4
DRME	Dracevica, Mon	5.27	47⇑	iPn	Pn	21 27 49.4	+0.2
DRME				eSn	Sn	21 28 48.1	-1.4
DRME	Dracevica, Mon	5.27	47⇑	iPn	Pn	21 27 49.4	+0.2
DRME				eSn	Sn	21 28 48.1	-1.4
RSM	Repubblica di	5.38	348	P	Pn	21 27 56.7	+5.9
RSM	Repubblica di	5.38	348	P	Pn	21 27 56.7	+5.9
JAN	Janina	5.39	77	ePN	Pn	21 27 51.6	+0.6
BRY	Bratogost	5.43	38⇓	iPn	Pn	21 27 52.2	+0.6
BRY				eSn	Sn	21 28 52.0	-1.7
BRY	Bratogost	5.43	38⇓	iPn	Pn	21 27 52.2	+0.6
BRY				eSn	Sn	21 28 52.0	-1.7
PGF	Pioggiola	5.44	317	eP	Pn	21 27 52.2	+0.5
PGF				eSn	Sn	21 28 48.7	-5.1
	420nm,0.5s,SNR=1.0						
PGF	Pioggiola	5.44	317	eP	Pn	21 27 52.2	+0.5
PGF				e		21 28 48.7	
PGF	Pioggiola	5.44	317	eP	Pn	21 27 52.2	+0.5
PGF				eSn	Sn	21 28 48.7	-5.1
PGF	Pioggiola	5.44	317	eP	Pn	21 27 52.2	+0.5
PDG	Podgorica	5.47	45⇑	iPn	Pn	21 27 52.1	+0.2
TTG	Podgorica	5.47	45⇑	iPn	Pn	21 27 52.1	+0.2
SFI	Santa Sofia	5.47	343	P	Pn	21 27 55.8	+3.7
SFI	Santa Sofia	5.47	343	P	Pn	21 27 55.8	+3.7
NKME	Niksic	5.54	41⇓	iPn	Pn	21 27 53.5	+0.5
NKME				eSn	Sn	21 28 54.8	-1.4
NKME	Niksic	5.54	41⇓	iPn	Pn	21 27 53.5	+0.5
NKME				eSn	Sn	21 28 54.8	-1.4
NKY	Niksic	5.59	41⇓	iPn	Pn	21 27 54.2	+0.4
NKY				eSn	Sn	21 28 56.1	-1.5
NKY	Niksic	5.59	41⇓	iPn	Pn	21 27 54.2	+0.4
NKY				eSn	Sn	21 28 56.1	-1.5
VMG	Vicchio	5.60	341	P	Pn	21 27 56.6	+2.8
VMG	Vicchio	5.60	341	P	Pn	21 27 56.6	+2.8
CMAH	Djebel Manchou	5.63	251	P	Pn	21 27 53.0	-1.3
CMAH	Djebel Manchou	5.63	251	P	Pn	21 27 53.0	-1.3
PII	Pisa	5.69	333	P	Pn	21 27 56.6	+1.6
PII	Pisa	5.69	333	P	Pn	21 27 56.6	+1.6
PII	Pisa	5.69	333	P	Pn	21 27 56.6	+1.6
ABSA	Djebel Ababsia	5.74	247	P	Pn	21 27 54.0	-1.7
ABSA	Djebel Ababsia	5.74	247	P	Pn	21 27 54.0	-1.7
SEI	Scarperia	5.74	340	P	Pn	21 28 00.2	+4.6
PHP	Peshkopia	5.76	57	P	Pn	21 27 55.7	-0.3
PHP	Peshkopia	5.76	57	P	Pn	21 27 55.7	-0.3
PHP	Peshkopia	5.76	57	P	Pn	21 27 55.7	-0.3
PHP	Peshkopia	5.76	57	P	Pn	21 27 55.7	-0.3
RLS	Riolos of Patr	5.88	94	ePN	Pn	21 27 58.5	+0.9
FNVD	Fontana Vidola	5.90	339	P	Pn	21 28 00.7	+2.7
FNVD	Fontana Vidola	5.90	339	P	Pn	21 28 00.7	+2.7
NVLJ	Novalja	5.92	6	P	Pn	21 27 58.7	+0.7
BDI	Bagni Di Lucca	5.97	335	P	Pn	21 28 00.6	+1.8
BDI	Bagni Di Lucca	5.97	335	P	Pn	21 28 00.6	+1.8
BDI	Bagni Di Lucca	5.97	335	P	Pn	21 28 00.6	+1.8
PVY	Plav	5.97	47⇑	iPn	Pn	21 27 59.0	0.0
PVY				eSn	Sn	21 29 05.7	-1.3
PVY	Plav	5.97	47⇑	iPn	Pn	21 27 59.0	0.0
PVY				eSn	Sn	21 29 05.7	-1.3
FNA	Florina	6.04	67	P	Pn	21 27 59.7	-0.2
FNA	Florina	6.04	67	P	Pn	21 27 59.7	-0.2
FNA	Florina	6.04	67	ePN	Pn	21 28 00.0	+0.1
FNA	Florina	6.04	67	P	Pn	21 27 59.7	-0.2
FNA	Florina	6.04	67	P	Pn	21 27 59.7	-0.2
BIA	Bitola	6.08	65	ePn	Pn	21 27 59.1	-1.3
EVR	Evrytania	6.08	85	ePN	Pn	21 28 02.1	+1.6
BEY	Berane	6.11	45⇑	iPn	Pn	21 28 01.2	+0.3
BEY				eSn	Sn	21 29 08.4	-2.0
IVA	Berane	6.11	45⇑	iPn	Pn	21 28 01.2	+0.3
IVA				eSn	Sn	21 29 08.4	-2.0
ZCCA	Zocca	6.11	339	P	Pn	21 28 06.1	+5.3
VLC	Villacollemand	6.12	335	ePn	Pn	21 28 03.3	+2.3
VLC	Villacollemand	6.12	335	ePn	Pn	21 28 03.3	+2.3
AMT	Artemida-Makis	6.17	98	ePN	Pn	21 28 05.8	+4.2
PLE	Pljevlja	6.17	39⇑	iPn	Pn	21 28 03.2	+1.5
PLE				eSn	Sn	21 29 10.3	-1.5
PLE	Pljevlja	6.17	39⇑	iPn	Pn	21 28 03.2	+1.5
PLE				eSn	Sn	21 29 10.3	-1.5
EFP	Efpalio	6.18	90	ePN	Pn	21 28 02.5	+0.8
KZN	Kozani	6.21	72	ePN	Pn	21 28 05.8	+3.6
GSCL	Gusciola	6.23	337	P	Pn	21 28 04.8	+2.4
GSCL	Gusciola	6.23	337	P	Pn	21 28 04.8	+2.4
CKFL	Kef-Lekhel	6.24	251	P	Pn	21 28 03.5	+0.9
CKFL	Kef-Lekhel	6.24	251	P	Pn	21 28 03.5	+0.9
FIU	Minerbio Fiu	6.25	343	P	Pn	21 28 09.0	+6.3
LAKA	Lakka	6.25	92	ePN	Pn	21 28 04.2	+1.4
THL	Klokotos Trika	6.27	79	ePN	Pn	21 28 04.8	+1.8
TRIZ	Trizonia	6.32	90	P	Pn	21 28 04.1	+0.5
TRIZ	Trizonia	6.32	90	ePN	Pn	21 28 04.4	+0.8
ERBM	Eremo	6.34	336	P	Pn	21 28 08.0	+3.9
PYL	PYLOS	6.36	104	ePN	Pn	21 28 03.8	-0.5
KALE	Kalithea	6.37	90	P	Pn	21 28 04.8	+0.4
KALE	Kalithea	6.37	90	ePN	Pn	21 28 05.3	+0.9
KALE	Kalithea	6.37	90	P	Pn	21 28 04.8	+0.4
KALE	Kalithea	6.37	90	P	Pn	21 28 04.8	+0.4
KLV	Kalavryta, Ach	6.42	93	ePN	Pn	21 28 05.5	+0.5
ITM	Ithomi	6.42	101	ePN	Pn	21 28 04.5	-0.6
RAVA	Ravarino	6.45	341	P	Pn	21 28 10.0	+4.5
CASM	Ain Smara	6.46	250	P	Pn	21 28 04.0	-1.7
CASM	Ain Smara	6.46	250	P	Pn	21 28 04.0	-1.7
AGG	Agios Georgios	6.49	84	ePN	Pn	21 28 06.6	+0.6
BLY	Banja Luka	6.51	20	P	Pn	21 28 07.6	+1.4
BLY	Banja Luka	6.51	20	P	Pn	21 28 07.6	+1.4
SKO	Skopje	6.55	58	ePn	Pn	21 28 01.3	-5.5
GUR	Goura	6.58	94	ePN	Pn	21 28 08.9	+1.6
GHAR	Gharyan	6.59	187	i P	Pn	21 28 08.2	+0.8
	44nm,0.9s,SNR=76						
NOVE	Novellara	6.60	339	P	Pn	21 28 11.4	+4.0
LIT	Litokhoron	6.71	75	ePN	Pn	21 28 10.1	+1.1
VLX	Vlachokerasia	6.72	99	ePN	Pn	21 28 12.4	+3.1
DFRA	Djebel Bou Aff	6.81	254	P	Pn	21 28 08.0	-2.5
DYR	Agios Nikonas	6.86	104	ePN	Pn	21 28 11.0	-0.1
BOB	Bobbio (Coli)	6.98	332	P	Pn	21 28 16.6	+3.8
BOB	Bobbio (Coli)	6.98	332	P	Pn	21 28 16.6	+3.8
SISC	Sisak	7.01	14	P	Pn	21 28 14.7	+1.6
LKR	Lokris	7.02	87	ePN	Pn	21 28 13.0	-0.3
TRI	Trieste	7.03	358	eP	Pn	21 28 18.5	+5.1
TRI	Trieste	7.03	358	ePn	Pn	21 28 18.4	+5.1
LTK	Loutraki	7.06	93	ePN	Pn	21 28 16.1	+2.3
VAY	Valandovo	7.07	65	i Pn	Pn	21 28 13.3	-0.6
QLNO	Quiliano	7.07	325	P	Pn	21 28 15.1	+1.1
QLNO	Quiliano	7.07	325	P	Pn	21 28 15.1	+1.1
SBF	Sospel	7.17	318	ePn	Pn	21 28 14.1	-1.3
	SNR=1.0						
SBF	Sospel	7.17	318	eP	Pn	21 28 17.6	+2.2
SBF				eSn	Sn	21 29 29.2	-7.3
	94nm,0.4s,SNR=1.0						
SBF	Sospel	7.17	318	eP	Pn	21 28 14.1	-1.3
SBF				e		21 29 29.2	
SBF	Sospel	7.17	318	ePn	Pn	21 28 14.1	-1.3
SBF				eSn	Sn	21 29 29.2	-7.3
SBF	Sospel	7.17	318	ePn	Pn	21 28 14.1	-1.3
	SNR=1.0						
SBF	Sospel	7.17	318	eP	Pn	21 28 17.6	+2.2
NEO	Neokhori	7.19	82	ePN	Pn	21 28 16.2	+0.6
SAOF	Saorge	7.20	320	P	Pn	21 28 16.2	+0.4
SAOF	Saorge	7.20	320	P	Pn	21 28 16.2	+0.4
LUCF	Luceram	7.24	318	P	Pn	21 28 16.5	+0.1
LUCF	Luceram	7.24	318	P	Pn	21 28 16.5	+0.1
AUTN	L'Aution	7.27	319	P	Pn	21 28 16.8	-0.1
AUTN	L'Aution	7.27	319	P	Pn	21 28 16.8	-0.1
GCIS	Gornji Cirnik	7.28	9	i Pn	Pn	21 28 17.6	+0.7
GCIS	Gornji Cirnik	7.28	9	Pn	Pn	21 28 17.6	+0.7
SET	Setif	7.29	253	P	Pn	21 28 19.0	+1.8
SET	Setif	7.29	253	P	Pn	21 28 19.0	+1.8
LMR	La Mourre	7.34	312	ePn	Pn	21 28 15.5	-2.2
	SNR=1.0						
LMR				eSn	Sn	21 29 33.0	-7.6
	21nm,0.3s,SNR=1.0						
LMR	La Mourre	7.34	312	eP	Pn	21 28 15.5	-2.2
LMR				e		21 29 33.0	
LMR	La Mourre	7.34	312	ePn	Pn	21 28 15.5	-2.2
LMR				eSn	Sn	21 29 33.0	-7.6
VOY	Vojsko	7.35	359	ePn	Pn	21 28 19.2	+1.3
VOY				e		21 28 23.8	
VOY				e		21 28 37.4	
VOY				e		21 28 49.4	
VOY	Vojsko	7.35	359	ePn	Pn	21 28 19.2	+1.3
DID	Didima	7.36	96	ePN	Pn	21 28 18.3	+0.4
LJU	Ljubljana	7.37	3	i Pn	Pn	21 28 19.0	+0.9
LJU				e		21 29 15.9	
LJU	Ljubljana	7.37	3	i Pn	Pn	21 28 19.0	+0.9
TOUF	Mont Tournerai	7.38	318	P	Pn	21 28 17.9	-0.4
TOUF	Mont Tournerai	7.38	318	P	Pn	21 28 17.9	-0.4
CALN	Calern	7.39	316	P	Pn	21 28 18.5	0.0
CALN	Calern	7.39	316	P	Pn	21 28 18.5	0.0
FRF	La Foret Royal	7.40	314	ePn	Pn	21 28 16.8	-1.7
	SNR=1.0						
FRF				eSn	Sn	21 29 34.1	-7.9
	24nm,0.4s,SNR=1.0						
FRF	La Foret Royal	7.40	314	eP	Pn	21 28 16.8	-1.7
FRF				e		21 29 34.1	
FRF	La Foret Royal	7.40	314	ePn	Pn	21 28 16.8	-1.7
FRF				eSn	Sn	21 29 34.1	-7.9
GOLS	Golise	7.42	9	i Pn	Pn	21 28 19.4	+0.6
GOLS	Golise	7.42	9	i Pn	Pn	21 28 19.4	+0.6
PLG	Polygyros	7.47	74	ePN	Pn	21 28 18.9	-0.6
SOH	Sokhos	7.50	70	ePN	Pn	21 28 19.7	-0.2
STV	Sant Anna di V	7.50	320	P	Pn	21 28 21.6	+1.7
STV	Sant Anna di V	7.50	320	P	Pn	21 28 21.6	+1.7
STV	Sant Anna di V	7.50	320	P	Pn	21 28 21.6	+1.7
NAIG	Nisos Aigina	7.50	94	ePN	Pn	21 28 22.2	+2.3
MAGA	Magasa	7.53	342	P	Pn	21 28 21.4	+1.1
MAGA	Magasa	7.53	342	P	Pn	21 28 21.4	+1.1
CADS	Cadrg	7.55	358	i Pn	Pn	21 28 22.7	+2.1
CADS	Cadrg	7.55	358	i Pn	Pn	21 28 22.7	+2.1
KYTH	Kithira	7.55	106	ePN	Pn	21 28 20.6	0.0
CTI	Castel Tesino	7.57	347	P	Pn	21 28 17.3	-3.6
CTI	Castel Tesino	7.57	347	P	Pn	21 28 17.3	-3.6
PAIG	Paliouri	7.59	78	ePN	Pn	21 28 23.3	+2.2
KKB	Krupnik	7.62	62	eP	Pn	21 28 23.6	+2.1
ATH	Athens Observa	7.65	92	ePN	Pn	21 28 22.3	+0.4
DOI	San Damiano	7.72	321	P	Pn	21 28 26.7	+3.7
DOI	San Damiano	7.72	321	P	Pn	21 28 26.7	+3.7
PTCC	Patocco-Chiusa	7.74	357	P	Pn	21 28 26.0	+2.8
PTCC	Patocco-Chiusa	7.74	357	P	Pn	21 28 26.0	+2.8
MABI	Malga Bissina	7.82	342	P	Pn	21 28 25.4	+1.1
MABI	Malga Bissina	7.82	342	P	Pn	21 28 25.5	+1.1
OBKA	Obir	7.84	3⇓	ePn	Pn	21 28 25.6	+1.1
	18nm,0.6s,SNR=9.0						
MYKA	Terra Mystica	7.95	358	⇓ iPn	Pn	21 28 27.5	+1.4
	14nm,0.5s,SNR=10						
MMB	Musomiste	7.98	66	eP	Pn	21 28 27.7	+1.2
VTS	Vitosha	8.00	58	P	Pn	21 28 26.7	-0.2
VTS	Vitosha	8.00	58	P	Pn	21 28 26.7	-0.2
VTS	Vitosha	8.00	58	P	Pn	21 28 26.7	-0.2
VTS	Vitosha	8.00	58	⇑ iP	Pn	21 28 28.0	+1.1
VTS	Vitosha	8.00	58	eP	Pn	21 28 28.4	+1.5
VTS	Vitosha	8.00	58	P	Pn	21 28 26.7	-0.2
NVR	Nevrokopi	8.01	67	ePN	Pn	21 28 26.8	0.0
SOKA	Soboth	8.03	5	⇑ iPn	Pn	21 28 27.4	+0.2
	2.7nm,0.3s						
BEHE	Becsehely	8.05	14	⇑ ePn	Pn	21 28 27.7	+0.4
MBDF	Montbardon	8.12	320	ePn	Pn	21 28 26.9	-1.6
	SNR=1.0						
MBDF	Montbardon	8.12	320	eP	Pn	21 28 31.2	+2.7
MBDF				eSn	Sn	21 29 52.3	-7.6
	70nm,0.5s,SNR=1.0						
MBDF	Montbardon	8.12	320	eP	Pn	21 28 26.9	-1.6
MBDF				e		21 29 52.3	
MBDF	Montbardon	8.12	320	ePn	Pn	21 28 26.9	-1.6
MBDF				eSn	Sn	21 29 52.3	-7.6
MBDF	Montbardon	8.12	320	eP	Pn	21 28 31.2	+2.7
ABTA	Abfaltersbach	8.14	353	⇓ iPn	Pn	21 28 30.6	+1.9
	56nm,0.6s,SNR=32						
OG25	Le Caire	8.24	316	P	Pn	21 28 30.8	+0.7
OG25	Le Caire	8.24	316	P	Pn	21 28 30.8	+0.7
PKSM	Moragy	8.26	23	⇓ P	Pn	21 28 30.7	+0.4
PKSM	Moragy	8.26	23	⇓ iP	Pn	21 28 30.7	+0.4
PKSM	Moragy	8.26	23	⇑ ePn	Pn	21 28 30.5	+0.2
PKSM	Moragy	8.26	23	⇑ eP	Pn	21 28 30.5	+0.2
SMRF	Simiane la Rot	8.27	312	ePn	Pn	21 28 28.9	-1.6
	SNR=1.0						
SMRF				eSn	Sn	21 29 55.8	-7.6
	14nm,0.6s						
SMRF	Simiane la Rot	8.27	312	ePn	Pn	21 28 28.9	-1.6
SMRF				eSn	Sn	21 29 55.8	-7.6
SMRF	Simiane la Rot	8.27	312	ePn	Pn	21 28 28.9	-1.6
	SNR=1.0						
BNI	Bardonecchia	8.40	322	eP	Pn	21 28 35.5	+3.2
BNI				e		21 30 07.9	
BNI	Bardonecchia	8.40	322	ePn	Pn	21 28 35.5	+3.2
BNI				eSn	Sn	21 30 07.9	+1.2
BNI	Bardonecchia	8.40	322	eP	Pn	21 28 35.5	+3.2
BNI				eS	Sn	21 30 07.9	+1.2
FUORN	Ofenpass-Fuorn	8.41	342	ePn	Pn	21 28 34.8	+2.3
FUORN	Ofenpass-Fuorn	8.41	342	ePn	Pn	21 28 34.8	+2.3
KBA	Koelnbreinsper	8.41	357	⇓ ePn	Pn	21 28 34.2	+1.7
	14nm,0.6s						
PKS9	Tamasi	8.50	20	⇓ eP	Pn	21 28 34.0	+0.4
PKS9	Tamasi	8.50	20	⇓ eP	Pn	21 28 34.0	+0.4
TUE	Stuetta	8.52	338	ePn	Pn	21 28 35.9	+1.8
TUE	Stuetta	8.52	338	ePn	Pn	21 28 35.8	+1.8
KARN	Karanos	8.56	109	ePN	Pn	21 28 33.8	-0.6
ARSA	Arzberg	8.64	7	⇓ ePn	Pn	21 28 36.0	+0.5
	5.5nm,0.4s						
DAVOX	Davos/Dischmat	8.65	341	P	Pn	21 28 37.5	+1.7
DAVOX	Davos/Dischmat	8.65	341	P	Pn	21 28 37.5	+1.7
	2.1nm,0.3s,baz=147,slow=18,SNR=29						
DAVOX				LR	LR	21 32 32.7	
	comp=Z,2µm,18.1s,baz=153,slow=42						
DAVOX	Davos/Dischmat	8.65	341	P	Pn	21 28 37.5	+1.7
	2µm,18.2s						
LSHF	Shwairf	8.67	179	i P	Pn	21 28 37.0	+1.0
	67nm,1.2s,SNR=76						
LSHF				eS	Sn	21 30 13.4	+0.1
	SNR=76						
FETA	Feichten	8.68	345	⇓ iPn	Pn	21 28 38.8	+2.5
	26nm,0.7s,SNR=16						
PKS2	Kecel	8.69	24	⇓ eP	Pn	21 28 39.3	+3.1
LPG	La Plagne	8.70	324	eP	Pn	21 28 39.0	+2.5
LPG	La Plagne	8.70	324	eP	Pn	21 28 39.0	+2.5
LPG	La Plagne	8.70	324	eP	Pn	21 28 39.0	+2.5
LPG	La Plagne	8.70	324	eP	Pn	21 28 39.0	+2.5
MPEP	Malo Peshtene	8.70	54	eP	Pn	21 28 37.5	+1.2
ORIF	Oris-en-Rattie	8.71	318	ePn	Pn	21 28 34.4	-2.1
	SNR=1.0						
ORIF	Oris-en-Rattie	8.71	318	eP	Pn	21 28 38.3	+1.8
ORIF				eSn	Sn	21 30 06.6	-7.7
	8.4nm,0.3s						
ORIF	Oris-en-Rattie	8.71	318	eP	Pn	21 28 34.4	-2.1
ORIF				e		21 30 06.6	
ORIF	Oris-en-Rattie	8.71	318	ePn	Pn	21 28 34.4	-2.1
ORIF				eSn	Sn	21 30 06.6	-7.7
ORIF	Oris-en-Rattie	8.71	318	eP	Pn	21 28 38.3	+1.8
LPL	La Plagne	8.72	324	eP	Pn	21 28 39.5	+2.7
LPL	La Plagne	8.72	324	eP	Pn	21 28 39.5	+2.7
LPL	La Plagne	8.72	324	eP	Pn	21 28 39.5	+2.7
LPL	La Plagne	8.72	324	eP	Pn	21 28 39.5	+2.7
LIA	Limnos Island	8.74	78	ePN	Pn	21 28 40.7	+3.9
WTTA	Wattenberg	8.76	349	⇓ ePn	Pn	21 28 40.4	+3.1
	16nm,0.6s,SNR=8.9						
VAM	Vamos	8.76	109	ePN	Pn	21 28 36.5	-0.7
OG26	St.-Nazaire-De	8.80	315	P	Pn	21 28 37.8	+0.1
OG26	St.-Nazaire-De	8.80	315	P	Pn	21 28 37.8	+0.1
RSL	Roselend	8.90	324	P	Pn	21 28 41.6	+2.4
RSL	Roselend	8.90	324	P	Pn	21 28 41.6	+2.4
MOTA	Moosalm	8.92	347	⇑ ePn	Pn	21 28 41.9	+2.4
	28nm,0.7s,SNR=23						
BZS	Buzias	8.93	37	⇑ P	Pn	21 28 39.7	+0.2
BZS	Buzias	8.93	37	⇑ iP	Pn	21 28 39.7	+0.2
BZS	Buzias	8.93	37	P	Pn	21 28 39.7	+0.2
PKST	T`ts	9.06	18	⇓ eP	Pn	21 28 41.5	+0.2
PKST	T`ts	9.06	18	⇓ eP	Pn	21 28 41.5	+0.2
RETA	Reutte	9.12	346	⇓ ePn	Pn	21 28 44.8	+2.7
	23nm,1.0s						
DAVA	Damuels	9.12	342	⇑ iPn	Pn	21 28 45.0	+2.7
	21nm,0.6s,SNR=23						
SENIN	Lac Senin/Sane	9.14	329	ePn	Pn	21 28 46.1	+3.5
MOA	Molln	9.17	1	⇓ iPn	Pn	21 28 44.3	+1.6
	46nm,0.6s,SNR=45						
PKS7	Kunszentmiklos	9.17	23	⇓ eP	Pn	21 28 48.4	+5.7
SOP	Sopron	9.19	11	⇓ eP	Pn	21 28 43.5	+0.5
SOP	Sopron	9.19	11	⇓ eP	Pn	21 28 43.5	+0.5
KDZ	Kurdzhali	9.21	68	eP	Pn	21 28 43.0	-0.3
APE	Apeiranthos	9.24	96	eP	Pn	21 28 46.2	+2.5
PKSG		9.28	19	⇑ eP	Pn	21 28 44.6	+0.4
PKSG		9.28	19	⇑ eP	Pn	21 28 44.6	+0.4
SJAF	Saint Jean de	9.29	298	P	Pn	21 28 43.0	-1.4
SJAF	Saint Jean de	9.29	298	P	Pn	21 28 43.0	-1.4
VIVF	Saint-Julien-l	9.32	314	ePn	Pn	21 28 43.5	-1.4
	SNR=1.0						
VIVF				eSn	Sn	21 30 21.1	-8.1
	6.4nm,0.6s,SNR=1.0						
VIVF	Saint-Julien-l	9.32	314	eP	Pn	21 28 43.5	-1.4
VIVF				e		21 30 21.1	
VIVF	Saint-Julien-l	9.32	314	ePn	Pn	21 28 43.5	-1.4
VIVF				eSn	Sn	21 30 21.1	-8.1
VIVF	Saint-Julien-l	9.32	314	ePn	Pn	21 28 43.5	-1.4
	SNR=1.0						
IDI	Anoyia	9.32	108	ePB	Pn	21 28 45.4	+0.4
IDI	Anoyia	9.32	108	P	Pn	21 28 45.8	+0.8
IDI				S	Sn	21 30 25.5	-3.9
IDI	Anoyia	9.32	108	P	Pn	21 28 45.8	+0.8
	1.8nm,0.3s,baz=292,slow=12,SNR=8.6						
IDI				S	Sn	21 30 25.5	-3.9
	2.0nm,0.3s,baz=330,slow=20,SNR=4.1						
IDI	Anoyia	9.32	108	P	Pn	21 28 45.8	+0.8
IDI				S	Sn	21 30 25.5	-3.9
CONA	Conrad Observa	9.34	8	⇑ ePn	Pn	21 28 45.3	+0.1
	6.9nm,0.6s,SNR=16						
GZR	Gura Zlata	9.34	41	⇑ iP	Pn	21 28 46.3	+1.1
LASF	Ste Croix	9.35	308	ePn	Pn	21 28 42.2	-3.1
	SNR=1.0						
LASF				eSn	Sn	21 30 20.9	-9.1
	5.4nm,0.4s						
LASF	Ste Croix	9.35	308	ePn	Pn	21 28 42.2	-3.1
LASF				eSn	Sn	21 30 20.9	-9.1
OG01	Vacheresse	9.37	327	P	Pn	21 28 47.0	+1.4
OG01	Vacheresse	9.37	327	P	Pn	21 28 47.0	+1.4
CHOS	Chios island	9.43	88	ePN	Pn	21 28 49.9	+3.5
LGHD	Ghdames	9.43	205	i P	Pn	21 28 45.3	-1.1
	47nm,1.2s,SNR=76						
LGHD				eS	Sn	21 30 30.6	-1.5
	SNR=76						
SIRR	Siria	9.45	34	⇑ iP	Pn	21 28 47.2	+0.7
FILF	Fillols	9.54	298	P	Pn	21 28 46.6	-1.3
FILF	Fillols	9.54	298	P	Pn	21 28 46.6	-1.3
OG35	Corcelles	9.66	322	P	Pn	21 28 51.0	+1.5
SSB	Saint Sauveur	9.66	316	eP	Pn	21 28 49.7	+0.2
SSB				pmax	pmax		
	comp=Z,8.0nm,0.8s						
SSB	Saint Sauveur	9.66	316	ePn	Pn	21 28 49.7	+0.2
	comp=Z,8.1nm,0.8s						
SSB	Saint Sauveur	9.66	316	eP	Pn	21 28 49.7	+0.2
	comp=Z,8.0nm,0.8s						
LJFR	Jufra	9.66	171	i P	Pn	21 28 48.7	-0.9
	comp=Z,51nm,0.7s,SNR=76						
LJFR				eS	Sn	21 30 35.9	-1.8
	SNR=76						
PVL	Pavlikeni	9.68	58	eP	Pn	21 28 49.7	0.0
LRDF	Laroque-de-Fa	9.69	300	P	Pn	21 28 47.1	-2.8
CABF	La Chapelle	9.85	326	ePn	Pn	21 28 49.7	-2.4
	SNR=1.0						
CABF	La Chapelle	9.85	326	eP	Pn	21 28 55.3	+3.2
CABF	La Chapelle	9.85	326	eP	Pn	21 28 49.7	-2.4
CABF	La Chapelle	9.85	326	ePn	Pn	21 28 49.7	-2.

CAF	Calviac	10.89	309	*e*Pn	Pn	21 29 04.0	-2.3
	SNR=1.0						
CAF				*e*Sn	Sn	21 30 58.0	-10
	comp=Z,7.3nm,0.5s,SNR=1.0						
CAF	Calviac	10.89	309	*e*P	Pn	21 29 04.0	-2.3
CAF	Calviac	10.89	309	*e*Pn	Pn	21 29 04.0	-2.3
CAF				*e*Sn	Sn	21 30 58.0	-10
SMF	Signal de Mont	10.93	320	*e*Pn	Pn	21 29 03.8	-3.1
	SNR=1.0						
SMF	Signal de Mont	10.93	320	*e*P	Pn	21 29 09.5	+2.6
SMF	Signal de Mont	10.93	320	*e*P	Pn	21 29 03.8	-3.1
SMF	Signal de Mont	10.93	320	*e*Pn	Pn	21 29 03.8	-3.1
SMF	Signal de Mont	10.93	320	*e*P	Pn	21 29 09.5	+2.6
AYDN	Tasoluk	10.95	91	*i* P	Pn	21 29 13.0	+5.7
DOPR	Dopca	11.12	45⇓	*i*P	Pn	21 29 14.7	+5.3
MLR	Muntele Rosu	11.16	49	P	Pn	21 29 12.8	+2.6
MLR	Muntele Rosu	11.16	49⇑	*i*P	Pn	21 29 12.8	+2.6
MLR	Muntele Rosu	11.16	49	P	Pn	21 29 12.8	+2.6
	comp=Z,0.2nm,0.3s,baz=234,slow=11,SNR=9.2						
THEF	They Montfort	11.18	331	P	Pn	21 29 11.3	+1.0
THEF	They Montfort	11.18	331	P	Pn	21 29 11.3	+1.0
GRA1	Grafenberg Arr	11.19	351	*e*P	Pn	21 29 09.9	-0.5
	comp=Z,2μm,20.2s						
GRF	Grafenberg Arr	11.19	351	*e*Pn	Pn	21 29 09.9	-0.5
GRF				*e*L	L	21 33 56.0	
	comp=Z,2μm,20.2s						
GRF	Grafenberg Arr	11.19	351	*e*P	Pn	21 29 09.9	-0.5
GRF				MLR	MLR		
	comp=Z,2μm,20.2s						
GRFO	Grafenberg	11.19	351	*e*P	Pn	21 29 10.3	-0.1
GRFO	Grafenberg	11.19	351	*e*Pn	Pn	21 29 10.3	-0.1
GRFO	Grafenberg	11.19	351	*e*P	Pn	21 29 10.3	-0.1
LANF	Langenberg	11.23	338	P	Pn	21 29 11.6	+0.6
LANF	Langenberg	11.23	338	P	Pn	21 29 11.6	+0.6
EPF	Esparros	11.24	297	*e*P	Pn	21 29 14.1	+3.0
EPF	Esparros	11.24	297	*e*P	Pn	21 29 14.1	+3.0
EPF	Esparros	11.24	297	*e*P	Pn	21 29 14.1	+3.0
EPF	Esparros	11.24	297	*e*P	Pn	21 29 14.1	+3.0
AVF	Avril sur Loir	11.28	319	*e*P	Pn	21 29 13.1	+1.5
AVF	Avril sur Loir	11.28	319	*e*P	Pn	21 29 13.1	+1.5
AVF	Avril sur Loir	11.28	319	*e*P	Pn	21 29 13.1	+1.5
AVF	Avril sur Loir	11.28	319	*e*P	Pn	21 29 13.1	+1.5
TRPA	Tarpa	11.29	30⇑	*i*P	Pn	21 29 12.7	+1.0
PRU	Pruhonice	11.31	2	*e*P	Pn	21 29 12.1	0.0
PRU				MLR	MLR		
	comp=Z,2μm,15.0s						
PRU	Pruhonice	11.31	2	*e*PN	Pn	21 29 12.1	0.0
PRU				*ex*	x	21 29 17.0	
PRU				*ex*	x	21 29 27.9	
PRU				AMS	AMS	21 34 00.0	
	comp=Z,2μm,15.0s						
PRU	Pruhonice	11.31	2	Pn	Pn	21 29 12.1	0.0
LOR	Lormes	11.36	322	*e*P	Pn	21 29 13.9	+1.2
	baz=140						
LOR	Lormes	11.36	322	*e*P	Pn	21 29 13.9	+1.2
LOR	Lormes	11.36	322	*e*P	Pn	21 29 13.9	+1.2
	baz=140						
MANT	Manisa	11.38	86	*i* P	Pn	21 29 17.4	+4.2
MORC	Moravsky Berou	11.38	12	*e*P	Pn	21 29 13.5	+0.5
MORC	Moravsky Berou	11.38	12	*e*Pn	Pn	21 29 13.5	+0.5
MORC	Moravsky Berou	11.38	12	*e*P	Pn	21 29 13.5	+0.5
SSF	Saint Saulge	11.38	321	*e*P	Pn	21 29 13.9	+0.9
SSF	Saint Saulge	11.38	321	*e*P	Pn	21 29 13.9	+0.9
SSF	Saint Saulge	11.38	321	*e*P	Pn	21 29 13.9	+0.9
SSF	Saint Saulge	11.38	321	*e*P	Pn	21 29 13.9	+0.9
RJF	Les Rejaudoux	11.42	309	*e*Pn	Pn	21 29 11.4	-2.1
RJF	Les Rejaudoux	11.42	309	*e*P	Pn	21 29 16.4	+2.9
RJF	Les Rejaudoux	11.42	309	*e*P	Pn	21 29 16.4	+2.9
RJF	Les Rejaudoux	11.42	309	*e*P	Pn	21 29 16.4	+2.9
RJF	Les Rejaudoux	11.42	309	*e*P	Pn	21 29 16.4	+2.9
CRVS	Cervenica-Dubn	11.54	25	*e*P	Pn	21 29 21.9	+6.7
CRVS	Cervenica-Dubn	11.54	25	*e*PN	Pn	21 29 21.9	+6.7
OKC	Ostrava-Krasne	11.54	13	*e*P	Pn	21 29 16.5	+1.4
OKC				MLR	MLR		
	comp=Z,2μm,11.3s						
OKC	Ostrava-Krasne	11.54	13	*e*PN	Pn	21 29 16.5	+1.4
OKC				*ex*	x	21 29 21.3	
OKC				AMS	AMS	21 34 50.0	
	comp=Z,2μm,11.3s						
OKC	Ostrava-Krasne	11.54	13	Pn	Pn	21 29 16.5	+1.4
SFTF	Sexfontaines	11.54	329	*e*P	Pn	21 29 16.2	+1.0
	baz=147						
SFTF	Sexfontaines	11.54	329	*e*P	Pn	21 29 16.2	+1.0
SFTF	Sexfontaines	11.54	329	*e*P	Pn	21 29 16.2	+1.0
	baz=147						
PAGF	Fort de Pagny	11.55	331	*e*P	Pn	21 29 16.5	+1.1
PAGF	Fort de Pagny	11.55	331	*e*P	Pn	21 29 16.5	+1.1
PAGF	Fort de Pagny	11.55	331	*e*P	Pn	21 29 16.5	+1.1
TCF	Toulx Ste Croi	11.56	315	*e*Pn	Pn	21 29 14.4	-1.2
	SNR=1.0						
TCF	Toulx Ste Croi	11.56	315	*e*P	Pn	21 29 14.4	-1.2
TCF	Toulx Ste Croi	11.56	315	*e*Pn	Pn	21 29 14.4	-1.2
TCF	Toulx Ste Croi	11.56	315	*e*Pn	Pn	21 29 14.4	-1.2
	SNR=1.0						
UZH	Uzhgorod	11.60	28⇓	*i*P	Pn	21 29 21.2	+5.2
UZH				*e*S	Sn	21 31 32.5	+7.5
NIE	Niedzica	11.65	21	*e*P	Pn	21 29 23.0	+6.4
NIE	Niedzica	11.65	21	*e*P	Pn	21 29 23.0	+6.4
TURN	Turunc	11.68	94	*i* P	Pn	21 29 17.7	+0.6
TURN	Turunc	11.68	94	*i* P	Pn	21 29 17.7	+0.6
MEZF	Maizieres J'vi	11.77	329	*e*P	Pn	21 29 19.7	+1.4
	baz=148						
MEZF	Maizieres J'vi	11.77	329	*e*P	Pn	21 29 19.7	+1.4
MEZF	Maizieres J'vi	11.77	329	*e*P	Pn	21 29 19.7	+1.4
	baz=148						
PLOR	Plostina	11.77	48⇑	P	Pn	21 29 21.3	+2.9
PLOR	Plostina	11.77	48⇑	*i*P	Pn	21 29 21.3	+2.9
ULDT	Uludag	11.78	78	*i* P	Pn	21 29 21.6	+2.9
DPC	Dobruska-Polom	11.78	7	*e*P	Pn	21 29 20.2	+1.6
DPC	Dobruska-Polom	11.78	7	*e*PN	Pn	21 29 20.2	+1.6
DPC				*ex*	x	21 29 26.7	
DPC				AMS	AMS	21 34 20.0	
DPC	Dobruska-Polom	11.78	7	*e*Pn	Pn	21 29 23.6	+5.0
DPC	Dobruska-Polom	11.78	7	Pn	Pn	21 29 20.2	+1.6
VRI	Vrincioaia	11.83	49	⇑P	Pn	21 29 21.4	+2.3
VRI	Vrincioaia	11.83	49⇑	*i*P	Pn	21 29 21.4	+2.3
VRI	Vrincioaia	11.83	49	P	Pn	21 29 21.4	+2.3
ETSF	Etsaut	11.83	296	*e*P	Pn	21 29 21.6	+2.3
ETSF	Etsaut	11.83	296	*e*P	Pn	21 29 21.6	+2.3
ETSF	Etsaut	11.83	296	*e*P	Pn	21 29 21.6	+2.3
ETSF	Etsaut	11.83	296	*e*P	Pn	21 29 21.6	+2.3
KOLS	Kolonicke sedl	11.85	27	*e*P	Pn	21 29 21.9	+2.5
KOLS				*e*	e	21 31 29.4	
KOLS	Kolonicke sedl	11.85	27	*e*PN	Pn	21 29 21.8	+2.4
KOLS	Kolonicke sedl	11.85	27	*e*SN	Sn	21 31 29.4	-1.7
KOLS	Kolonicke sedl	11.85	27	*e*P	Pn	21 29 21.9	+2.5
KOLS				*e*S	Sn	21 31 29.4	-1.7
PVCC	Panska Ves	11.86	2	*e*P	Pn	21 29 20.3	+0.8
PVCC				MLR	MLR		
	comp=Z,2μm,16.0s						
PVCC	Panska Ves	11.86	2	*e*PN	Pn	21 29 20.3	+0.8
PVCC				*ex*	x	21 29 24.9	
PVCC				*ex*	x	21 29 36.6	
PVCC				AMS	AMS	21 34 10.0	
	comp=Z,2μm,16.0s						
PVCC	Panska Ves	11.86	2	Pn	Pn	21 29 20.3	+0.8
UPC	Upice	11.91	6	*e*P	Pn	21 29 21.0	+0.7
UPC	Upice	11.91	6	*e*PN	Pn	21 29 21.0	+0.7
UPC	Upice	11.91	6	Pn	Pn	21 29 21.0	+0.7
STHS	Stebnicka Huta	11.92	23	*e*P	Pn	21 29 24.8	+4.4
STHS				*e*		21 31 35.0	
STHS	Stebnicka Huta	11.92	23	*e*PN	Pn	21 29 24.8	+4.4
STHS	Stebnicka Huta	11.92	23	*e*SN	Sn	21 31 35.0	+2.2
STHS	Stebnicka Huta	11.92	23	*e*S	Sn	21 31 35.0	+2.2
TLB	Topalu	12.03	56	⇓P	Pn	21 29 25.3	+3.5
TLB	Topalu	12.03	56⇓	*i*P	Pn	21 29 25.3	+3.5
MOX	Moxa	12.09	353	*e*L	L	21 34 34.1	
	comp=Z,2μm,18.5s						
BURAR	Bucovina Array	12.09	39	⇑P	Pn	21 29 24.2	+1.3
BURAR	Bucovina Array	12.09	39	⇑*i*P	Pn	21 29 24.1	+1.2
RUP	Ruppelstein	12.10	338	P	Pn	21 29 24.2	+1.4
BUR08	Bucovina Ar. S	12.11	39	*e*Pn	Pn	21 29 25.9	+2.9
ABH	Alteburg	12.12	340	P	Pn	21 29 24.1	+1.0
KHAL	Karahalli	12.12	87	*i* P	P	21 29 29.7	-6.2
BRG	Berggiesshubel	12.20	360	*e*P	Pn	21 29 27.3	+3.2
	comp=Z,9.1nm,1.1s						
BRG				S	Sn	21 32 07.0	+27
BRG							
	comp=N,2μm,17.5s						
BRG							
	comp=E,707nm,9.8s						
BRG							
	comp=Z,2μm,16.7s						
BRG	Berggiesshubel	12.20	360	*e*P	Pn	21 29 27.3	+3.2
BRG				pmax	pmax		
	comp=Z,9.0nm,1.1s						
BRG				MLR	MLR		
	comp=N,2μm,17.5s						
BRG				MLR	MLR		
	comp=E,707nm,9.9s						
BRG				MLR	MLR		
	comp=Z,2μm,16.7s						
BRG	Berggiesshubel	12.20	360	*e*P	Pn	21 29 27.3	+3.2
	comp=Z,2μm,16.7s						
OJC	Ojcow	12.25	18	*e*P	P	21 29 32.4	-4.8
OJC	Ojcow	12.25	18	*e*Pn	P	21 29 32.4	-4.8
KSP	Ksiaz	12.27	7	*e*P	P	21 29 31.7	-5.7
KSP	Ksiaz	12.27	7	*e*P	P	21 29 32.2	-5.2
CFR	Carcaliu	12.34	54	⇑P	Pn	21 29 29.5	+3.4
CFR	Carcaliu	12.34	54	⇑*i*P	Pn	21 29 29.5	+3.4
WLF	Walferdange	12.34	335	P	Pn	21 29 28.5	+2.3
	comp=Z,42nm,1.2s						
WLF	Walferdange	12.34	335	*e*P	Pn	21 29 29.0	+2.8
WLF				pmax	pmax		
	comp=Z,54nm,0.9s						
WLF	Walferdange	12.34	335	*e*Pn	Pn	21 29 29.0	+2.8
	comp=Z,54nm,0.9s						
WLF	Walferdange	12.34	335	*e*P	Pn	21 29 29.0	+2.8
	comp=Z,54nm,0.9s						
GOLH	Golhisar	12.35	92	*i* P	Pn	21 29 27.9	+1.5
GOLH	Golhisar	12.35	92	*i* P	Pn	21 29 27.9	+1.5
LUMB	Murzuk	12.52	177	*i* P	Pn	21 29 26.7	-2.0
	comp=Z,24nm,1.5s,SNR=76						
KWP	Kalwaria Pacla	12.59	27	⇑P	Pn	21 29 30.9	+1.4
KWP	Kalwaria Pacla	12.59	27	*e*Pn	Pn	21 29 31.9	+2.4
	comp=Z,81nm,1.3s						
KWP	Kalwaria Pacla	12.59	27	⇑*i*P	Pn	21 29 30.9	+1.4
KWP	Kalwaria Pacla	12.59	27	*e*P	P	21 29 36.7	-4.3
KWP	Kalwaria Pacla	12.59	27	P	Pn	21 29 30.9	+1.4
KWP	Kalwaria Pacla	12.59	27	*e*Pn	Pn	21 29 31.9	+2.4
	comp=Z,81nm,1.3s						
AKAS	Kas	12.62	96	*i* P	Pn	21 29 32.5	+2.4
CLL	Collm	12.65	357	*e*P	Pn	21 29 29.0	-1.3
CLL				pmax	pmax		
	comp=Z,18nm,1.4s						
CLL				MLR	MLR		
	comp=Z,2μm,18.0s						
CLL	Collm	12.65	357	*e*P	Pn	21 29 31.0	+0.7
	comp=Z,18nm,1.4s						
CLL				*i* (sPP)		21 29 48.3	
	comp=Z,30nm,1.2s						
CLL				*e*(SS)		21 32 36.0	
CLL				Lmax		21 34 00.0	
CLL				Lm	MLR	21 34 00.0	
	comp=Z,2μm,18.0s						
CLL	Collm	12.65	357	*e*P	Pn	21 29 29.0	-1.3
	comp=Z,2μm,18.0s						
TLCR		12.78	55	⇑P	Pn	21 29 32.3	+0.2
TLCR		12.78	55	⇑*i*P	Pn	21 29 32.3	+0.2
TLCR		12.78	55	P	Pn	21 29 32.3	+0.2
ISP	Isparta	13.00	89	*e*P	Pn	21 29 37.9	+2.7
MFF	Saint Martin d	13.09	312	*e*Pn	Pn	21 29 34.0	-2.3
MFF	Saint Martin d	13.09	312	*e*P	Pn	21 29 34.0	-2.3
MFF	Saint Martin d	13.09	312	*e*Pn	Pn	21 29 34.0	-2.3
GIVF	Givet	13.17	333	*e*P	Pn	21 29 40.0	+2.6
GIVF	Givet	13.17	333	*e*P	Pn	21 29 40.0	+2.6
GIVF	Givet	13.17	333	*e*P	Pn	21 29 40.0	+2.6
GIVF	Givet	13.17	333	*e*P	Pn	21 29 40.0	+2.6
MEM	Membach	13.21	337	P	Pn	21 29 40.2	+2.1
	comp=Z,8.1nm,1.1s						
MEM	Membach	13.21	337	*e*P	Pn	21 29 40.6	+2.6
MEM	Membach	13.21	337	*e*Pn	Pn	21 29 40.6	+2.6
MEM	Membach	13.21	337	*e*P	Pn	21 29 40.6	+2.6
LVV	L'vov	13.23	29	*e*P	Pn	21 29 37.1	-1.2
LVV				*e*S	Sn	21 32 03.1	-1.8
LVV				MLR	MLR		
	comp=N,300nm,12.0s						
LVV				MLR	MLR		
	comp=E,300nm,12.0s						
LVV				MLR	MLR		
	comp=Z,400nm,12.0s						
LVV	L'vov	13.23	29	*e*P	Pn	21 29 37.1	-1.2
DOU	Dourbes	13.24	333	P	Pn	21 29 40.9	+2.5
	comp=Z,12nm,1.2s						
DOU	Dourbes	13.24	333	P	Pn	21 29 40.9	+2.5
	comp=Z,12nm,1.2s						
BCLA	Clavier	13.27	335	P	Pn	21 29 40.5	+1.7
BCLA	Clavier	13.27	335	P	Pn	21 29 40.5	+1.7
BAIF	Baives	13.36	332	*e*P	Pn	21 29 42.0	+2.0
BAIF	Baives	13.36	332	*e*P	Pn	21 29 42.0	+2.0
BAIF	Baives	13.36	332	*e*P	Pn	21 29 42.0	+2.0
BAIF	Baives	13.36	332	*e*P	Pn	21 29 42.0	+2.0
KIS	Kishinev	13.65	48	*e*P	Pn	21 29 46.0	+2.0
KIS				LRM	MLR	21 36 38.0	
	comp=Z,500nm,13.0s						
KIS	Kishinev	13.65	48	*e*P	Pn	21 29 46.0	+2.0
KIS				MLR	MLR		
	comp=Z,500nm,13.0s						
KIS				MLR	MLR		
	comp=Z,600nm,16.0s						
KIS	Kishinev	13.65	48	*e*P	Pn	21 29 46.0	+2.0
	comp=Z,600nm,16.0s						
BEL	Belsk	13.98	18	*e*P	P	21 29 56.0	-0.4
BEL	Belsk	13.98	18	*e*P	P	21 29 56.1	-0.4
ESDC	Sonseca Array	14.00	280	P	Pn	21 29 48.6	-0.2
ESDC	Sonseca Array	14.00	280	P	Pn	21 29 48.6	-0.2
	comp=Z,0.2nm,0.3s,baz=90,slow=12,SNR=6.8						
LDF	La Druitiere	14.23	319	*e*Pn	Pn	21 29 49.5	-2.4
LDF	La Druitiere	14.23	319	*e*P	Pn	21 29 49.5	-2.4
LDF	La Druitiere	14.23	319	*e*Pn	Pn	21 29 49.5	-2.4
GKP	Gorka Klasztor	14.76	8	*e*P	P	21 30 07.8	+2.8
GKP	Gorka Klasztor	14.76	8	*e*P	P	21 30 07.9	+2.9
BR131	Keskin Array S	15.24	80	*e*Pn	Pn	21 30 04.2	-1.6
	comp=Z,2.6nm,0.7s						
BR131	Keskin Array S	15.24	80	*e*Pn	Pn	21 30 04.2	-1.6
	comp=Z,2.6nm,0.7s						
BRTR	Keskin Array B	15.24	80	P	P	21 30 08.7	-2.0
BRTR	Keskin Array B	15.24	80	P	P	21 30 08.7	-2.0
	comp=Z,0.1nm,0.3s,baz=251,slow=10,SNR=4.0						
BRTR	Keskin Array B	15.24	80	P	P	21 30 08.7	-2.0
TZK	Tazeka	15.36	258	*i* P	P	21 30 13.0	+0.9
ROSF	Rostrenen	15.80	313	*e*Pn	Pn	21 30 10.5	-2.4
ROSF	Rostrenen	15.80	313	*e*P	Pn	21 30 10.5	-2.4
ROSF	Rostrenen	15.80	313	*e*Pn	Pn	21 30 10.5	-2.4
CDAG	Cicekdag	15.81	80	*i* P	P	21 30 16.9	-0.1
CDAG	Cicekdag	15.81	80	*i* P	P	21 30 16.9	-0.1
CSS	Prodhromos	15.89	98	*e*Pn	Pn	21 30 12.9	-1.3
	comp=Z,50nm,1.2s						
CSS	Prodhromos	15.89	98	*e*Pn	Pn	21 30 12.9	-1.3
	comp=Z,50nm,1.2s						
TGT	Taghat	16.04	259	*i* P	P	21 30 20.0	+0.6
KIZK	Mersin	16.10	92	*i* P	P	21 30 20.7	+0.7
KIZK	Mersin	16.10	92	*i* P	P	21 30 20.7	+0.7
KIEV	Kiev	16.11	37	*e*P	Pn	21 30 17.9	+1.1
KIEV				pmax	pmax		
	comp=Z,24nm,1.0s						
KIEV	Kiev	16.11	37	*e*Pn	Pn	21 30 17.9	+1.1
	comp=Z,24nm,1.0s						
KIEV	Kiev	16.11	37	*e*P	Pn	21 30 17.9	+1.1
	comp=Z,24nm,1.0s						
AKASG	Malin Array Be	16.12	37	P	Pn	21 30 18.4	+1.4
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKASG	Malin Array Be	16.12	37	P	Pn	21 30 18.4	+1.4
AKASG	Malin Array Be	16.12	37	P	Pn	21 30 18.4	+1.4
	comp=Z,1.2nm,0.3s,baz=233,slow=11,SNR=9.7						
AKASG	Malin Array Be	16.12	37	P	Pn	21 30 18.4	+1.4
	comp=Z,1.0nm,0.3s						
MDT	Midelt	16.22	255	P	P	21 30 20.9	-0.6
MDT	Midelt	16.22	255	P	P	21 30 20.9	-0.6
	comp=Z,0.4nm,0.3s,baz=81,slow=13,SNR=21						
MDT				LR	LR	21 37 01.8	
	comp=Z,178nm,18.1s,baz=26,slow=39						
MDT	Midelt	16.22	255	P	P	21 30 20.9	-0.6
SIM	Simferopol'	16.22	61	*e*P	P	21 30 26.1	+4.8
SIM				*e*S	Sn	21 33 23.0	+5.4
SIM				pmax	pmax		
	comp=Z,14nm,1.0s						
SIM				MLR	MLR		
	comp=Z,300nm,16.0s						
AVNT	Avonos	16.26	83	*i* P	P	21 30 23.9	+2.0
MVO	Moncorvo	16.34	285	*e*P	P	21 30 23.8	+1.1
	comp=Z,27nm,1.6s						
MVO	Moncorvo	16.34	285	*e*P	P	21 30 23.8	+1.1
	comp=Z,27nm,1.6s						
CZD	Col de Zad	16.45	256	*i* P	P	21 30 26.0	+1.8
BSD	Bornholm Skovb	16.45	2	*e*P	P	21 30 23.7	-0.1
BSD				MLR	MLR		
	comp=Z,1μm,14.0s						
BSD	Bornholm Skovb	16.45	2	*i* P	P	21 30 23.7	-0.1
BSD							
	comp=Z,1μm,14.0s						
BSD	Bornholm Skovb	16.45	2	*e*P	P	21 30 23.7	-0.1
	comp=Z,1μm,14.0s						
PBAR	Barrancos	16.52	275	*e*P	P	21 30 26.0	+1.4
	comp=Z,33nm,1.5s						
PBAR	Barrancos	16.52	275	*e*P	P	21 30 26.0	+1.4
	comp=Z,33nm,1.5s						
SUW	Suwalki	16.57	19	*e*P	P	21 30 24.9	-0.1
SUW				pmax	pmax		
	comp=Z,129nm,1.0s						
SUW	Suwalki	16.57	19	*e*Pn	P	21 30 24.9	-0.1
	comp=Z,129nm,1.0s						
SUW	Suwalki	16.57	19	*e*P	P	21 30 27.5	+2.5
SUW	Suwalki	16.57	19	*e*P	P	21 30 24.9	-0.1
	comp=Z,129nm,1.0s						
PMRV	Marv??o	16.66	279	*e*P	P	21 30 25.8	-0.4
	comp=Z,41nm,1.4s						
PMRV	Marv??o	16.66	279	*e*P	P	21 30 25.8	-0.4
	comp=Z,41nm,1.4s						
MTE	Manteigas	16.73	283	*e*P	P	21 30 27.9	+0.9
MTE	Manteigas	16.73	283	*e*P	P	21 30 27.9	+0.9
PESTR	Estremoz	16.86	277	*e*P	P	21 30 28.2	-0.2
	comp=Z,23nm,1.7s						
PESTR	Estremoz	16.86	277	*e*P	P	21 30 28.2	-0.2
	comp=Z,23nm,1.7s						
POLO	Lamas de Olo	16.93	286	*e*P	P	21 30 29.1	-0.1
	comp=Z,18nm,1.7s						
POLO	Lamas de Olo	16.93	286	*e*P	P	21 30 29.1	-0.1
	comp=Z,18nm,1.7s						
COP	Copenhagen	17.05	357	*e*P	P	21 30 30.7	+0.3
COP				MLR	MLR		
	comp=Z,560nm,15.0s						
COP	Copenhagen	17.05	357	*i* P	P	21 30 30.7	+0.3
COP							
	comp=Z,560nm,15.0s						
COP	Copenhagen	17.05	357	*e*P	P	21 30 30.7	+0.3
	comp=Z,560nm,15.0s						
KIB	El Ksiba	17.40	256	*i* P	Pn	21 30 34.0	+0.7
TAM	Tamanrasset	17.43	207	*e*P	Pn	21 30 34.3	+0.6
TAM				pmax	pmax		
	comp=Z,16nm,1.3s						
TAM	Tamanrasset	17.43	207	*e*Pn	Pn	21 30 34.3	+0.6
	comp=Z,16nm,1.3s						
TAM	Tamanrasset	17.43	207	*e*P	Pn	21 30 34.3	+0.6
	comp=Z,16nm,1.3s						
PINB	Pinarbasi	17.47	83	*i* P	P	21 30 37.6	+2.1
ERBA	Erbaa	17.60	76	*i* P	P	21 30 40.8	+4.1
YAYL	Yayladag	17.75	92	*i* P	P	21 30 40.4	+2.0
MUD	Monsted U'grnd	18.08	351	*e*P	P	21 30 43.7	+2.0
MUD	Monsted U'grnd	18.08	351	*i* P	P	21 30 43.7	+2.0
MUD	Monsted U'grnd	18.08	351	*e*P	P	21 30 43.7	+2.0
NACGM	Naroch	18.38	24	*e*	Pn	21 30 47.0	+1.9
MNK	Minsk	18.40	26	*e*P	P	21 30 44.0	-1.2
MNK	Minsk	18.40	26	*e*P	P	21 30 44.0	-1.2
MICGM	Minsk	18.41	26	*e*P	P	21 30 44.0	-1.4
ANN	Anapa	18.48	63	*e*P	P	21 30 43.7	-2.5
ANN				*e*S	Sn	21 34 09.4	-2.9
ANN				pmax	pmax		
	comp=Z,90nm,1.8s						
ANN	Anapa	18.48	63	*e*P	P	21 30 43.7	-2.5
	comp=Z,90nm,1.8s						
SUSE	Susehri	18.72	78	*i* P	Pn	21 30 50.4	+0.8
SUSE	Susehri	18.72	78	*i* P	Pn	21 30 50.4	+0.8
GRSN	GIRESUNGRSN	18.75	75	*i* P	Pn	21 30 52.0	+2.3
KEMA	Kemaliye	19.02	81	*i* P	Pn	21 30 53.9	+0.7
KEMA	Kemaliye	19.02	81	*i* P	Pn	21 30 53.9	+0.7
ELZG	Elazig	19.50	83	*i* P	Pn	21 31 05.4	+6.4
KELT	Kelkit	19.53	78	*i* P	Pn	21 31 00.3	+0.9
ASF	Jabal al Asfar	19.71	102	P	Pn	21 31 01.7	+0.3
ASF	Jabal al Asfar	19.71	102	P	Pn	21 31 01.7	+0.3
	comp=Z,0.2nm,0.3s,baz=292,slow=5.4,SNR=6.8						
SOC	Sochi	19.93	68	*c i*P	P	21 31 02.6	+0.5
SOC				*e*		21 34 43.7	
SOC				pmax	pmax		
	comp=Z,301nm,1.0s						
SOC				MLR	MLR		
	comp=Z,42nm,5.0s						
SOC	Sochi	19.93	68	*i* P	P	21 31 02.6	+0.5
	comp=Z,301nm,

NOA	**NORSAR Array B**	**22.45**	**356**	P	**P**	**21 31 29.5**	**+0.2**
NOA	**NORSAR Array B**	**22.45**	**356**	P	**P**	**21 31 29.5**	**+0.2**
	comp=Z,34nm,1.0s,baz=174,slow=10,SNR=22						
NOA				LR	LR	21 41 31.4	
	comp=Z,862nm,18.1s,baz=175,slow=40						
NOA	**NORSAR Array B**	**22.45**	**356**	P	**P**	**21 31 29.5**	**+0.2**
	comp=Z,862nm,18.2s						
DIGO	**Kars**	**22.65**	**76**	*i* P	**P**	**21 31 32.2**	**+0.4**
DIGO	**Kars**	**22.65**	**76**	*i* P	**P**	**21 31 32.2**	**+0.4**
ZEI	**Tsey**	**22.95**	**70**	*e*P	**P**	**21 31 36.2**	**+1.4**
ZEI				pmax	pmax		
	comp=Z,81nm,1.8s						
ZEI	**Tsey**	**22.95**	**70**	*e*P	**P**	**21 31 36.2**	**+1.4**
	comp=Z,81nm,1.8s						
VRHR	**Novokhopersk**	**23.01**	**48**	*e*P	**P**	**21 31 36.4**	**+1.3**
VRHR				pmax	pmax		
	comp=Z,40nm,1.3s						
VRHR				pmax	pmax		
	comp=N,20nm,1.5s						
VRHR				pmax	pmax		
	comp=E,50nm,1.5s						
VRHR	**Novokhopersk**	**23.01**	**48**	*e*P	**P**	**21 31 36.4**	**+1.3**
	comp=E,40nm,1.3s						
MOS	**Moscow**	**23.23**	**35**	*e*P	**P**	**21 31 36.6**	**-0.7**
MOS				pmax	pmax		
	comp=Z,152nm,1.5s						
MOS	**Moscow**	**23.23**	**35**	*e*P	**P**	**21 31 36.6**	**-0.7**
	comp=Z,152nm,1.5s						
HAKT	**HAKKARI**	**23.34**	**83**	*i* P	**P**	**21 31 41.2**	**+2.4**
GNI	**Garni**	**23.72**	**77**	*e*P	**P**	**21 31 42.7**	**+0.1**
	comp=Z,122nm,1.4s						
FINES	**FINESS Array B**	**23.99**	**14**	P	**P**	**21 31 44.7**	**+0.1**
FINES	**FINESS Array B**	**23.99**	**14**	P	**P**	**21 31 44.7**	**+0.1**
	comp=Z,25nm,0.8s,baz=185,slow=7.5,SNR=35						
FINES				LR	LR	21 43 04.9	
	comp=Z,356nm,18.8s,baz=312,slow=41						
FIA1	**FINESS Array S**	**23.99**	**14**	*e*P	**P**	**21 31 44.7**	**+0.1**
KAF	**Kangasniemi**	**24.65**	**14**	*e*P	**P**	**21 31 50.4**	**-0.3**
KAF				pmax	pmax		
	comp=Z,23nm,0.8s						
KAF	**Kangasniemi**	**24.65**	**14**	*e*p	**P**	**21 31 50.4**	**-0.3**
	comp=Z,23nm,0.8s						
MAK	**Makhachkala**	**25.59**	**70**	*e*P	**P**	**21 31 57.5**	**-1.9**
MAK				MLR	MLR		
	comp=Z,129nm,13.0s						
KLMR	**Klimovskoe**	**27.31**	**27**	*e*P	**P**	**21 32 12.2**	**-2.5**
KLMR				pmax	pmax		
	comp=Z,86nm,1.6s						
KLMR				MLR	MLR		
	comp=Z,650nm,14.0s						
TOA0	**Torodi Ar. Sit**	**27.68**	**207**	*e*P	**P**	**21 32 18.8**	**+0.3**
TORD	**Torodi Ar. Bea**	**27.68**	**207**	P	**P**	**21 32 18.6**	**+0.2**
TORD	**Torodi Ar. Bea**	**27.68**	**207**	P	**P**	**21 32 18.6**	**+0.2**
	comp=Z,6.0nm,0.7s,baz=15,slow=9.6,SNR=68						
TORD				LR	LR	21 45 48.9	
	comp=Z,587nm,18.4s,baz=15,slow=42						
IRAZ	**Razeghan**	**28.73**	**85**	*e*P	**P**	**21 32 28.2**	**+0.2**
IRAZ	**Razeghan**	**28.73**	**85**	*e*P	**P**	**21 32 28.2**	**+0.2**
TMCR	**Tamitsa**	**29.22**	**21**	*e*P	**P**	**21 32 33.1**	**+1.4**
TMCR				*e*		21 33 20.5	
TMCR				pmax	pmax		
	comp=Z,32nm,1.0s						
RAYN	**Ar Rayn**	**30.71**	**110**	*e*P	**P**	**21 32 47.6**	**+2.1**
	comp=Z,4.7nm,1.0s						
IFIR	**Firoozkooh**	**30.86**	**83**	*e*P	**P**	**21 32 47.5**	**+0.6**
IFIR	**Firoozkooh**	**30.86**	**83**	*e*P	**P**	**21 32 47.5**	**+0.6**
ISHM	**Shahmirzad**	**31.23**	**83**	*e*P	**P**	**21 32 49.5**	**-0.7**
ISHM	**Shahmirzad**	**31.23**	**83**	*e*P	**P**	**21 32 49.5**	**-0.7**
ARCES	**ARCESS Array B**	**31.53**	**8**	P	**P**	**21 32 51.1**	**-1.0**
ARCES	**ARCESS Array B**	**31.53**	**8**	P	**P**	**21 32 51.1**	**-1.0**
	comp=Z,10nm,0.9s,baz=186,slow=7.3,SNR=14						
ARCES				LR	LR	21 46 41.6	
	comp=Z,518nm,20.8s,baz=202,slow=38						
ISAD	**Sadrabad**	**32.87**	**90**	*e*P	**P**	**21 33 03.3**	**-1.3**
ISAD	**Sadrabad**	**32.87**	**90**	*e*P	**P**	**21 33 03.3**	**-1.3**
AKTO	**Aktyubinsk**	**33.01**	**55**	P	**P**	**21 33 05.7**	**+0.4**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AKTO	**Aktyubinsk**	**33.01**	**55**	P	**P**	**21 33 05.7**	**+0.4**
AKTO	**Aktyubinsk**	**33.01**	**55**	P	**P**	**21 33 05.7**	**+0.4**
	comp=Z,1.0nm,0.5s,baz=275,slow=12,SNR=6.6						
BORG	**Borgarnes**	**33.27**	**333**	LR	LR	21 46 14.7	
	comp=Z,172nm,19.0s,baz=198,slow=36						
ISRV	**Sarvestan**	**33.48**	**94**	*e*P	**P**	**21 33 10.7**	**+0.7**
ISRV	**Sarvestan**	**33.48**	**94**	*e*P	**P**	**21 33 10.7**	**+0.7**
IMEH	**Mehriz**	**33.80**	**90**	*e*P	**P**	**21 33 12.2**	**-0.5**
IMEH	**Mehriz**	**33.80**	**90**	*e*P	**P**	**21 33 12.2**	**-0.5**
SOKR	**Solikamsk**	**34.09**	**38**	*e*P	**P**	**21 33 15.4**	**+0.9**
SOKR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
SOKR				MLR	MLR		
	comp=Z,120nm,14.0s						
ARU	**Arti**	**34.16**	**44***c*	*i*P	**P**	**21 33 14.9**	**-0.3**
ARU						21 34 25.2	
ARU						21 35 52.8	
ARU				S	**S**	**21 38 41.9**	**+1.4**
ARU				SS	**SnSn**	**21 40 47.3**	**-1.4**
ARU				pmax	pmax		
	comp=Z,42nm,1.7s						
ABKAR	**Akbulak array**	**34.21**	**57**	*e*P	**P**	**21 33 16.4**	**+0.6**
JMIC	**Jan Mayen**	**34.42**	**347**	LR	LR	21 48 22.2	
	comp=Z,182nm,18.9s,baz=76,slow=38						
ISFR	**Sfrayin**	**34.51**	**79**	*e*P	**P**	**21 33 18.4**	**-0.4**
ISFR	**Sfrayin**	**34.51**	**79**	*e*P	**P**	**21 33 18.4**	**-0.4**
SVE	**Sverdlovsk**	**35.36**	**44**	*e*P	**P**	**21 33 25.0**	**-0.6**
SVE				pmax	pmax		
	comp=Z,81nm,1.4s						
SVE				MLR	MLR		
	comp=Z,172nm,16.0s						
IMOG	**Moghan**	**35.81**	**80**	*e*P	**P**	**21 33 29.4**	**-0.7**
IMOG	**Moghan**	**35.81**	**80**	*e*P	**P**	**21 33 29.4**	**-0.7**
ISRO	**Mashad**	**35.85**	**79**	*e*P	**P**	**21 33 28.2**	**-2.0**
ISRO	**Mashad**	**35.85**	**79**	*e*P	**P**	**21 33 28.2**	**-2.0**
DBIC	**Dimbokro**	**36.15**	**213**	*e*P	**P**	**21 33 33.8**	**+1.1**
DBIC	**Dimbokro**	**36.15**	**213**	P	**P**	**21 33 33.5**	**+0.7**
	comp=Z,4.7nm,0.5s,baz=358,slow=11,SNR=13						
DBIC				LR	LR	21 50 13.6	
	comp=Z,162nm,21.0s,baz=9.2,slow=39						
TIC	**Toumodi**	**36.24**	**213**	*e*P	**P**	**21 33 33.3**	**-0.3**
	comp=Z,6.1nm,0.2s						
IMYA	**Miami**	**36.33**	**79**	*e*P	**P**	**21 33 35.7**	**+1.3**
IMYA	**Miami**	**36.33**	**79**	*e*P	**P**	**21 33 35.7**	**+1.3**
KIC	**Kosan Boka**	**36.38**	**213**	*e*P	**P**	**21 33 33.2**	**-1.5**
	comp=Z,121nm,1.5s						
ITEG	**Tejag**	**36.45**	**85**	*e*P	**P**	**21 33 36.0**	**+0.5**
ITEG	**Tejag**	**36.45**	**85**	*e*P	**P**	**21 33 36.0**	**+0.5**
LIC	**Lamto**	**36.62**	**213**	*e*P	**P**	**21 33 36.8**	**0.0**
	comp=Z,49nm,0.6s						
IDAH	**Dahanechah**	**37.39**	**85**	*e*P	**P**	**21 33 44.3**	**+0.8**
IDAH	**Dahanechah**	**37.39**	**85**	*e*P	**P**	**21 33 44.3**	**+0.8**
SPITS	**Spitsbergen Ar**	**39.62**	**1**	P	**P**	**21 34 01.4**	**-0.1**
SPITS	**Spitsbergen Ar**	**39.62**	**1**	P	**P**	**21 34 01.4**	**-0.1**
	comp=Z,7.2nm,0.9s,baz=181,slow=7.2,SNR=3.0						
BRVK	**Borovoye**	**40.65**	**50**	*e*P	**P**	**21 34 10.8**	**+0.5**
BRVK				pmax	pmax		
	comp=Z,32nm,1.1s						
BRVK	**Borovoye**	**40.65**	**50**	*e*P	**P**	**21 34 10.8**	**+0.5**
	comp=Z,32nm,1.1s						
BVAR	**Borovoye Array**	**40.72**	**50**	P	**P**	**21 34 11.5**	**+0.7**
BVAR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BVAR				MLR	MLR		
	comp=Z,75nm,18.8s						
BVAR	**Borovoye Array**	**40.72**	**50**	P	**P**	**21 34 11.5**	**+0.7**
BVAR	**Borovoye Array**	**40.72**	**50**	P	**P**	**21 34 11.5**	**+0.7**
	comp=Z,2.9nm,1.0s,baz=258,slow=5.5,SNR=14						
BVAR				LR	LR	21 54 25.3	
	comp=Z,75nm,18.8s,baz=108,slow=41						
VOSK	**Vostochnaya**	**41.09**	**51**	*e*P	**P**	**21 34 14.2**	**+0.3**
VOSK				pmax	pmax		
	comp=Z,13nm,1.3s						
VOSK	**Vostochnaya**	**41.09**	**51**	*e*P	**P**	**21 34 14.2**	**+0.3**
	comp=Z,13nm,1.3s						
KK31	**Karatay Array**	**42.24**	**65***c*	*e*P	**P**	**21 34 25.3**	**+1.8**
KK31				pmax	pmax		
	comp=Z,8.0nm,0.9s						
KKAR	**Karatay Array**	**42.24**	**65**	*e*P	**P**	**21 34 25.8**	**+2.3**
KKAR	**Karatay Array**	**42.24**	**65**	*e*P	**P**	**21 34 25.8**	**+2.3**
KBL	**Kabul**	**43.80**	**78**	*e*P	**P**	**21 34 37.5**	**+1.1**
KBL				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KBL	**Kabul**	**43.80**	**78**	*e*P	**P**	**21 34 37.5**	**+1.1**
	comp=Z,5.1nm,0.8s						
EKS2	**Erkin-Say**	**44.68**	**65**	*e*P	**P**	**21 34 43.8**	**+0.6**
EKS2				pmax	pmax		
	comp=Z,83nm,1.8s						
EKS2	**Erkin-Say**	**44.68**	**65**	*e*P	**P**	**21 34 43.8**	**+0.6**
	comp=Z,82nm,1.8s						
KMBO	**Kilima Mbogo**	**45.01**	**146**	*e*P	**P**	**21 34 48.6**	**+2.4**
KMBO	**Kilima Mbogo**	**45.01**	**146**	P	**P**	**21 34 46.8**	**+0.6**
	comp=Z,2.8nm,0.9s,baz=299,slow=10,SNR=4.9						
AAK	**Ala-Archa**	**45.19**	**65**	P	**P**	**21 34 47.7**	**+0.3**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AAK	**Ala-Archa**	**45.19**	**65**	*e*P	**P**	**21 34 48.4**	**+1.0**
AAK	**Ala-Archa**	**45.19**	**65**	P	**P**	**21 34 47.7**	**+0.3**
	comp=Z,2.1nm,0.5s,baz=270,slow=4.0,SNR=7.5						
FRU	**Bishkek**	**45.22**	**65**	*e*P	**P**	**21 34 48.0**	**+0.5**
TKM2	**Tokmak 2**	**45.89**	**64**	*e*P	**P**	**21 34 55.1**	**+2.2**
TKM2				pmax	pmax		
	comp=Z,8.0nm,1.1s						
TKM2	**Tokmak 2**	**45.89**	**64**	*e*P	**P**	**21 34 55.1**	**+2.2**
	comp=Z,7.9nm,1.1s						
KURBB	**Kurchatov Arra**	**46.02**	**53**	P	**P**	**21 34 53.8**	**+0.2**
	comp=Z,5.7nm,1.0s,baz=285,slow=8.8,SNR=25						
KURK	**Kurchatov**	**46.06**	**53**	P	**P**	**21 34 53.8**	**-0.1**
KURK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KURK	**Kurchatov**	**46.06**	**53**	P	**P**	**21 34 53.8**	**-0.1**
KSH	**Kashi**	**47.22**	**68**	P	**P**	**21 35 02.8**	**-0.5**
KSH				sP	**sP**	**21 35 08.6**	**-2.6**
KSH				PP	**PP**	**21 36 51.2**	**-3.0**
KSH				PcS	**PcS**	**21 40 28.2**	**-1.6**
KSH				S	**S**	**21 41 50.1**	**-5.4**
KSH				SS	SS	21 45 10.2	-12
KSH				pmax	pmax		
	comp=Z,4.0nm,0.4s						
KSH				pmax	pmax		
	comp=Z,200nm,4.9s						
KSH				LR	LR		
	comp=N,110nm,4.9s						
KSH				LR	LR		
	comp=E,79nm,4.7s						
KSH				LR	LR		
	comp=Z,200nm,5.1s						
NVS	**Novosibirsk**	**48.05**	**47**⇑	*i*P	**P**	**21 35 08.6**	**-0.8**
NVS				pmax	pmax		
	comp=Z,73nm,1.7s						
NVS				pmax	pmax		
	comp=E,28nm,1.6s						
ZAA0	**Zalesovo Array**	**49.14**	**48**	*e*P	**P**	**21 35 17.7**	**-0.1**
ZALV	**Zalesovo Beam**	**49.14**	**48**	*i* P	**P**	**21 35 17.5**	**-0.3**
ZALV				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ZALV	**Zalesovo Beam**	**49.14**	**48**	P	**P**	**21 35 17.5**	**-0.3**
ZALV	**Zalesovo Beam**	**49.14**	**48**	P	**P**	**21 35 17.5**	**-0.3**
	comp=Z,10nm,1.0s,baz=286,slow=7.6,SNR=24						
MK31	**Makanchi Array**	**49.35**	**57***ce*	P	**P**	**21 35 19.2**	**-0.4**
MK31				pmax	pmax		
	comp=Z,22nm,1.1s						
MK31	**Makanchi Array**	**49.35**	**57**	*e*P	**P**	**21 35 19.6**	**0.0**
MKAR	**Makanchi Array**	**49.35**	**57**	P	**P**	**21 35 19.7**	**+0.1**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MKAR	**Makanchi Array**	**49.35**	**57**	*e*P	**P**	**21 35 19.8**	**+0.1**
MKAR	**Makanchi Array**	**49.35**	**57**	P	**P**	**21 35 19.7**	**+0.1**
	comp=Z,3.3nm,0.8s,baz=280,slow=6.4,SNR=24						
WMQ	**Urumqi**	**53.93**	**59**	P	**P**	**21 35 56.3**	**+2.4**
WMQ				pP	**pP**	**21 36 02.4**	**+2.8**
WMQ				sP	**sP**	**21 36 05.3**	**+3.5**
WMQ				PP	**PP**	**21 37 58.9**	**+3.9**
WMQ				*e*S	**S**	**21 43 29.0**	**+0.5**
WMQ				sS	**sS**	**21 43 38.3**	**+0.4**
WMQ				SS	**SS**	**21 47 09.3**	**0.0**
WMQ				pmax	pmax		
	comp=Z,11nm,1.2s						
WMQ				pmax	pmax		
	comp=Z,160nm,4.3s						
WMQ				LR	LR		
	comp=N,150nm,18.7s						
WMQ				LR	LR		
	comp=E,94nm,24.0s						
WMQ				LR	LR		
	comp=Z,86nm,20.5s						
SCHQ	**Schefferville**	**54.58**	**315**	LR	LR	21 58 37.4	
	comp=Z,96nm,20.8s,baz=95,slow=35						
HVS	**Khovu-Aksy**	**55.13**	**49***c*	*i*P	**P**	**21 36 02.3**	**-0.2**
LSZ	**Lusaka**	**55.28**	**163**	*e*P	**P**	**21 36 04.8**	**+0.9**
	comp=Z,12nm,1.2s						
TSUM	**Tsumeb**	**57.67**	**176**	LR	LR	22 02 58.0	
	comp=Z,459nm,18.7s,baz=331,slow=38						
ZAK	**Zakamensk**	**61.01**	**47**	*e*P	**P**	**21 36 40.9**	**-2.8**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.3s						
LSA	**Lhasa**	**62.70**	**73**	P	**P**	**21 36 55.2**	**-0.7**
LSA	**Lhasa**	**62.70**	**73**	*e*P	**P**	**21 36 55.6**	**-0.3**
LSA				pmax	pmax		
	comp=Z,11nm,1.1s						
LSA	**Lhasa**	**62.70**	**73**	*e*P	**P**	**21 36 55.6**	**-0.3**
	comp=Z,11nm,1.1s						
LONY	**Lake Ozonia**	**63.31**	**307**	*e*P	**P**	**21 36 59.5**	**+0.4**
	comp=Z,14nm,1.2s						
ACCN	**Adirondack Com**	**63.33**	**305**	*e*P	**P**	**21 37 00.2**	**+1.0**
	comp=Z,16nm,1.1s						
SONM	**Songino Array**	**64.02**	**48**	P	**P**	**21 37 04.0**	**+0.2**
SONM	**Songino Array**	**64.02**	**48**	P	**P**	**21 37 04.0**	**+0.2**
	comp=Z,7.9nm,1.0s,baz=292,slow=5.5,SNR=36						
GTA	**Gaotai**	**64.02**	**59**	*e*P	**P**	**21 37 03.9**	**-0.1**
GTA				pP	**pP**	**21 37 10.1**	**+0.2**
GTA				sP	**sP**	**21 37 13.4**	**+1.4**
GTA				S	**S**	**21 45 38.4**	**-1.2**
GTA				sS	**sS**	**21 45 49.5**	**+0.3**
GTA				SS	**SS**	**21 49 49.4**	**+1.6**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.3s						
GTA				pmax	pmax		
	comp=Z,59nm,4.3s						
GTA				LR	LR		
	comp=N,140nm,18.5s						
GTA				LR	LR		
	comp=E,160nm,19.5s						
GTA				LR	LR		
	comp=Z,140nm,18.5s						
LBTB	**Lobatse**	**64.28**	**168**	*e*P	**P**	**21 37 07.5**	**+1.9**
	comp=Z,64nm,1.8s						
ULN	**Ulaanbaatar**	**64.39**	**48**	*e*P	**P**	**21 37 06.6**	**+0.3**
	comp=Z,16nm,1.4s						
ULN	**Ulaanbaatar**	**64.39**	**48**	P	**P**	**21 37 07.0**	**+0.7**
	comp=Z,8.2nm,1.6s						
BOSA	**Boshof**	**67.76**	**169**	P	**P**	**21 37 29.2**	**+1.3**
BOSA	**Boshof**	**67.76**	**169**	P	**P**	**21 37 29.2**	**+1.3**
	comp=Z,5.7nm,0.9s,baz=36,slow=7.8,SNR=5.7						
BOSA				LR	LR	22 08 11.0	
	comp=Z,231nm,18.8s,baz=355,slow=37						
LZH	**Lanzhou**	**68.47**	**61**	*e*P	**P**	**21 37 32.9**	**+0.2**
LZH				pP	**pP**	**21 37 39.1**	**+0.6**
LZH				sP	**sP**	**21 37 42.5**	**+1.8**
LZH				pmax	pmax		
	comp=Z,24nm,1.2s						
LZH				pmax	pmax		
	comp=Z,86nm,4.0s						
HHC	**Hu-ho-hao-te**	**70.88**	**53**	*e*P	**P**	**21 37 47.7**	**+0.3**
HHC				pP	**pP**	**21 37 52.3**	**-0.9**
HHC				sP	**sP**	**21 37 54.7**	**-0.7**
HHC				PcP	**PcP**	**21 38 08.8**	**+0.9**
HHC				PP	**PP**	**21 40 25.7**	**+1.7**
HHC				S	**S**	**21 47 00.6**	**-1.3**
HHC				sS	**sS**	**21 47 07.7**	**-3.9**
HHC				SKS	**SKSac**	**21 47 44.6**	**-4.4**
HHC				ScS	**SKKSac**	**21 47 48.2**	**-0.9**
HHC				SS	**SS**	**21 51 32.9**	**-0.9**
HHC				pmax	pmax		
	comp=Z,31nm,0.9s						
HHC				pmax	pmax		
	comp=Z,240nm,7.1s						
HHC				LR	LR		
	comp=N,270nm,16.7s						
HHC				LR	LR		
	comp=E,600nm,15.5s						
HHC				LR	LR		
	comp=Z,540nm,15.5s						
ACSO	**Alum Creek Sta**	**70.90**	**306**	*e*P	**P**	**21 37 48.6**	**+1.3**
	comp=Z,23nm,1.1s						
YKA	**Yellowknife Ar**	**71.08**	**337**	P	**P**	**21 37 47.2**	**-0.8**
YKA	**Yellowknife Ar**	**71.08**	**337**	P	**P**	**21 37 47.2**	**-0.8**
	comp=Z,1.3nm,0.6s,baz=45,slow=7.0,SNR=3.0						
COWI	**Conover**	**71.16**	**314**	*e*P	**P**	**21 37 48.2**	**-0.7**
	comp=Z,14nm,0.9s						
CD2	**Chengdu**	**71.26**	**65**	P	**P**	**21 37 51.3**	**+1.5**
CD2				pP	**pP**	**21 37 56.0**	**+0.3**
CD2				sP	**sP**	**21 37 58.3**	**+0.5**
CD2				PP	**PP**	**21 40 31.0**	**+3.4**
CD2				S	**S**	**21 47 06.4**	**-0.1**
CD2				sS	**sS**	**21 47 13.7**	**-2.5**
CD2				SS	**SS**	**21 51 41.5**	**+1.4**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,280nm,5.1s						
CD2				LR	LR		
	comp=N,440nm,6.0s						
CD2				LR	LR		
	comp=Z,310nm,5.1s						
EYMN	**Ely**	**71.34**	**317**	*e*P	**P**	**21 37 50.2**	**+0.2**
	comp=Z,30nm,1.4s						
XAN	**Xi'an**	**73.06**	**60**	P	**P**	**21 38 00.0**	**-0.5**
XAN				pP	**PcP**	**21 38 12.2**	**-5.1**
XAN				pmax	pmax		
	comp=Z,4.0nm,1.4s						
XAN				LR	LR		
	comp=N,120nm,21.4s						
XAN				LR	LR		
	comp=Z,64nm,23.5s						
SFIN	**Scholer Farm**	**73.37**	**309**	*e*P	**P**	**21 38 02.1**	**0.0**
	comp=Z,51nm,1.5s						
SEY	**Seymchan**	**73.39**	**18**	*e*P	**P**	**21 38 01.2**	**-0.6**
COLD	**Coldfoot**	**73.74**	**354**	*e*P	**P**	**21 38 05.0**	**+1.2**
KMI	**Kunming**	**73.81**	**71**	P	P	21 38 00.4	-4.9
KMI				pP	pP	21 38 08.5	-2.7
KMI				sP	sP	21 38 10.7	-2.7
KMI				S	**SKiKP**	**21 47 33.9**	**+0.2**
KMI	**Kunming**	**73.81**	**71**	SS	SS	21 52 18.3	-1.5
KMI				pmax	pmax		
	comp=Z,11nm,1.6s						
KMI				pmax	pmax		
	comp=Z,93nm,4.3s						
KMI				LR	LR		
	comp=N,120nm,14.3s						
KMI				LR	LR		
	comp=E,110nm,14.8s						
KMI				LR	LR		
	comp=Z,100nm,13.3s						
CMAI	**Chiengmai2**	**74.05**	**77**	P	**P**	**21 38 07.1**	**+0.5**
	comp=Z,432nm,0.9s						
WCI	**Wyandotte Cave**	**74.15**	**306**	*e*P	**P**	**21 38 06.6**	**-0.3**
WCI				pmax	pmax		
	comp=Z,13nm,1.0s						
WCI	**Wyandotte Cave**	**74.15**	**306**	*e*P	**P**	**21 38 06.5**	**-0.3**
	comp=Z,13nm,1.0s						
BJI	**Beijing**	**74.19**	**51**	P	**P**	**21 38 06.6**	**-0.4**
BJI				S	**S**	**21 47 38.7**	**-0.8**
BJI				SS	**SS**	**21 52 24.5**	**+0.3**
BJI				pmax	pmax		
	comp=Z,16nm,0.9s						
BJI				pmax	pmax		
	comp=Z,110nm,4.2s						
BJI				LR	LR		
	comp=N,260nm,15.3s						
BJI				LR	LR		
	comp=E,330nm,16.0s						
BJI				LR	LR		
	comp=Z,200nm,26.7s						
CHTO	**Chiang Mai**	**74.62**	**78**	*e*P	**P**	**21 38 10.3**	**+0.5**
CHTO				pmax	pmax		
	comp=Z,12nm,1.0s						
CHTO	**Chiang Mai**	**74.62**	**78**	*e*P	**P**	**21 38 10.3**	**+0.5**
	comp=Z,12nm,1.0s						
CHTO	**Chiang Mai**	**74.62**	**78**	P	**P**	**21 38 10.0**	**+0.2**
SDDR	**Presa de Saban**	**74.83**	**282**	*e*P	**P**	**21 38 11.5**	**+0.5**
	comp=Z,24nm,1.1s						
CMAR	**Chiang Mai Arr**	**74.83**	**78**	P	**P**	**21 38 10.9**	**-0.1**
CMAR	**Chiang Mai Arr**	**74.83**	**78**	P	**P**	**21 38 10.9**	**-0.1**
	comp=Z,5.2nm,0.9s,baz=304,slow=6.3,SNR=25						
OLIL	**Olney**	**74.98**	**308**	*e*P	**P**	**21 38 11.5**	**0.0**
	comp=Z,18nm,1.0s						
IMA2	**Indian Mountai**	**75.15**	**355**	*e*P	**P**	**21 38 12.7**	**+0.5**
USIN	**University of**	**75.17**	**307**	*e*P	**P**	**21 38 12.3**	**-0.4**
IM04	**Indian Mountai**	**75.25**	**355**	*e*P	**P**	**21 38 13.7**	**+1.0**
DAWY	**Dawson**	**75.45**	**348**	*e*P	**P**	**21 38 13.8**	**-0.1**
DAWY				*e*PcP	**PcP**	**21 38 27.2**	**+0.2**
ENH	**Enshi**	**75.66**	**63**	*e*P	**P**	**21 38 16.2**	**+0.5**
	comp=Z,14nm,1.1s						
ILAR	**Eielson Array**	**75.80**	**352**	P	**P**	**21 38 16.5**	**+0.7**
ILAR	**Eielson Array**	**75.80**	**352**	P	**P**	**21 38 16.5**	**+0.7**
	comp=Z,2.7nm,1.0s,baz=8.3,slow=4.4,SNR=16						
COLA	**College**	**75.81**	**352**	*e*P	P	21 38 19.1	+3.3
COLA	**College**	**75.81**	**352**	*e*P	P	21 38 19.1	+3.3
GYA	**Guiyang**	**75.91**	**67**	*e*P	**P**	**21 38 16.9**	**-0.3**
GYA				pP	**pP**	**21 38 25.0**	**+1.8**
GYA				PP	**PP**	**21 41 08.9**	**+1.6**
GYA				S	**S**	**21 47 56.8**	**-2.5**
GYA				SKS	**SKSac**	**21 48 21.0**	**-6.3**
GYA				SS	**SS**	**21 52 51.3**	**+0.1**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GYA				pmax	pmax		
	comp=Z,90nm,5.6s						
GYA				LR	LR		
	comp=N,460nm,20.4s						
GYA				LR	LR		
	comp=E,390nm,21.5s						
GYA				LR	LR		
	comp=Z,440nm,20.3s						
KLR	**Kul'dur**	**76.63**	**37**	*e*P	**P**	**21 38 21.2**	**+0.4**
ECSD	**EROS Data Cent**	**76.78**	**316**	*e*P	**P**	**21 38 21.9**	**+0.1**
	comp=Z,10nm,1.0s						
BPAW	**Bear Paw Mtn.**	**76.87**	**353**	*e*P	**P**	**21 38 22.3**	**+0.3**
MCK	**McKinley**	**77.03**	**352**	*e*P	**P**	**21 38 24.1**	**+1.2**
MCK				pmax	pmax		
	comp=Z,14nm,1.2s						
MCK	**McKinley**	**77.03**	**352**	*e*P	**P**	**21 38 24.1**	**+1.2**
	comp=Z,14nm,1.2s						
CN2	**Changchun**	**77.16**	**44**	*e*P	**P**	**21 38 23.8**	**-0.1**
CN2		

comp=Z,13nm,1.5s
QIZ pmax pmax
comp=Z,70nm,6.2s
KSAR Wonju Array Be 82.83 47 P **P 21 38 54.1 -0.6**
KSRS Korea Array 82.84 47 P **P 21 38 54.1 -0.6**
comp=Z,6.2nm,0.9s,baz=327,slow=4.8,SNR=7.7
KSRS LR LR 22 22 21.3
comp=Z,47nm,18.7s,baz=170,slow=40
BOZ Bozeman (W) 82.91 325 *eP* **P 21 38 56.5 +1.4**
BOZ pmax pmax
comp=Z,4.0nm,0.3s
BOZ Bozeman (W) 82.91 325 *eP* **P 21 38 56.5 +1.4**
comp=Z,4.0nm,0.3s
PHWY Pilot Hill 83.17 319 *eP* **P 21 38 57.9 +1.1**
comp=Z,8.4nm,1.0s
PETK Petropavlovsk- 83.32 21 LR LR 22 24 41.4
comp=Z,78nm,18.3s,baz=319,slow=42
IMW Indian Meadow 83.93 323 *eP* P 21 38 54.2 -6.4
comp=Z,30nm,0.3s
LOHW Long Hollow 83.99 323 *eP* **P 21 38 59.9 -0.9**
comp=Z,44nm,2.3s
WMOK Wichita Mounta 84.08 310 *eP* **P 21 39 01.4 +0.2**
WMOK pmax pmax
comp=Z,7.0nm,1.1s
WMOK Wichita Mounta 84.08 310 *eP* **P 21 39 01.4 +0.2**
comp=Z,6.6nm,1.1s
KULM Kulim 84.09 88 *eP* **P 21 39 01.1 -0.4**
comp=Z,81nm,1.8s
PDAR Pinedale Array 84.13 322 P **P 21 39 01.4 -0.3**
PDAR Pinedale Array 84.13 322 P **P 21 39 01.4 -0.3**
comp=Z,2.9nm,1.1s,baz=63,slow=4.7,SNR=11
TPAW Teton Pass 84.25 323 *eP* **P 21 39 02.3 +0.1**
PSI Prapat 84.28 91 P **P 21 39 02.7 +0.1**
PSI Prapat 84.28 91 P **P 21 39 02.7 +0.1**
comp=Z,3.2nm,0.4s,baz=137,slow=2.6,SNR=3.4
ISCO Idaho Springs 84.34 318 *eP* **P 21 39 03.9 +1.1**
ISCO Idaho Springs 84.34 318 *eP* **P 21 39 03.9 +1.1**
RRI2 Red Ridge 84.53 323 *eP* **P 21 39 04.0 +0.3**
comp=Z,6.9nm,0.8s
E09A Wood Farm, Sta 85.00 329 *eP* **P 21 39 06.0 +0.4**
comp=Z,13nm,1.4s
SAML Samuel 85.70 255 *eP* **P 21 39 09.4 -0.1**
comp=Z,21nm,1.6s
ROSC El Rosal 85.72 273 P **P 21 39 11.2 +1.1**
ROSC El Rosal 85.72 273 P **P 21 39 11.2 +1.1**
comp=Z,5.6nm,0.4s,baz=87,slow=22,SNR=4.0
SDCO Great Sand Dun 85.78 316 *eP* **P 21 39 10.2 +0.1**
comp=Z,3.0nm,1.2s
ABTX Abilene, Hawle 86.06 309 *eP* **P 21 39 11.8 +0.6**
BGU Big Grassy Mou 87.21 323 *eP* **P 21 39 19.5 +2.7**
DUG Dugway 87.67 322 *eP* **P 21 39 20.6 +1.5**
DUG pmax pmax
comp=Z,6.0nm,1.0s
DUG Dugway 87.67 322 *eP* **P 21 39 20.6 +1.5**
comp=Z,5.6nm,1.0s
WVOR Wild Horse Val 88.53 327 *eP* **P 21 39 23.7 +0.6**
WVOR Wild Horse Val 88.53 327 *eP* **P 21 39 23.7 +0.6**
GDL2 Guadalupe Moun 89.17 312 *eP* **P 21 39 29.3 +3.0**
TXAR Lajitas Array 90.82 309 P **P 21 39 34.4 +0.4**
TXAR Lajitas Array 90.82 309 P **P 21 39 34.4 +0.4**
comp=Z,1.2nm,0.9s,baz=90,slow=5.0,SNR=7.8
OTAV Otavalo 91.70 272 *eP* **P 21 39 40.2 +1.1**
TUC Tucson 92.71 316 *eP* **P 21 39 43.6 +0.9**
TUC Tucson 92.71 316 *eP* **P 21 39 43.6 +0.9**
CPUP Villa Florida 92.87 238 P **P 21 39 41.8 -1.3**
CPUP Villa Florida 92.87 238 P **P 21 39 41.8 -1.3**
comp=Z,4.0nm,0.9s,baz=48,slow=11,SNR=3.3
CPUP LR LR 22 23 51.0
comp=Z,100nm,18.4s,baz=238,slow=37
LPAZ La Paz 94.07 253 P **P 21 39 48.5 -1.1**
LPAZ La Paz 94.07 253 P **P 21 39 48.5 -1.1**
comp=Z,0.6nm,0.8s,baz=27,slow=4.5,SNR=2.9
WRA Warramunga Arr 125.64 88 PKP **PKPdf 21 45 29.2 -2.9**
WRA Warramunga Arr 125.64 88 PKP **PKPdf 21 45 29.2 -2.9**
comp=Z,0.5nm,0.9s,baz=331,slow=1.4,SNR=3.4
ASAR Alice Springs 127.30 92 PKP **PKPdf 21 45 33.7 -1.5**
ASAR Alice Springs 127.30 92 PKP **PKPdf 21 45 33.7 -1.5**
comp=Z,1.2nm,1.0s,baz=293,slow=2.0,SNR=7.0

*IDC **07** 21:28:50.0±1.1, 3°.56S×146°.58E, h0km, mb4.1/15, mb1 4.2/15, mb1mx4.2/20, mbtmp4.1/15, MS4.0/15, Ms1 4.0/15, ms1mx3.9/27, Error ellipse: s-maj=37.1km s-min=15.0km az=102.0*
*AUST **07** 21:28:51.3, 2°.86S×146°.53E, h35km*
*ISCJB **07** 21:28:53.5±0.5, 3°.44S±0°.05×146°.19E±0°.08, h20km, mb4.1/17, MS4.1/13, Error ellipse: s-maj=12.1km s-min=7.0km az=3.2*
*NEIC **07** 21:28:57.4±0.5, 3°.46S×146°.15E, h35km, mb4.7/5, Error ellipse: s-maj=12.7km s-min=7.0km az=86.0*
*GCMT **07** 21:28:59.1±0.3, 3°.37S×146°.09E, h19km±1km, MW5.0, Moment Tensor Solution. s23,c29; s72,c108; Moment tensor: Scale 10^{16}Nm; M_{rr}0.40±.17; $M_{\theta\theta}$-0.34±.14; $M_{\phi\phi}$-0.07±.16; $M_{r\theta}$-0.88±.29; $M_{\theta\phi}$3.64±.12; $M_{r\phi}$-0.65±.30; Best double couple: $M_0$3.80000×10^{16} NP1:ϕ_s270.00000°, δ79.00000°, λ15.00000°. NP2:ϕ_s178.00000°, δ76.00000°, λ169.00000°. Principal axes: T 3.7800, Plg18.0000°, Azm134.0000°; N 0.0700, Plg72.0000°, Azm306.0000°; P -3.8500, Plg3.0000°, Azm44.0000°; Data Used: II IU IC G CN.*

ISC 07 21:28:54.9±0.6, 3°.39S±0°.07×146°.2E±0°.1, h20km, n58, σ1§23/49, mb4.0/17, MS4.1/13, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**1.75**	**40**	S	Sn	21 29 22.2	-24
	baz=1.2,SNR=88						
PMG	**Port Moresby**	**6.04**	**171**	Pn	**Pn**	**21 30 23.3**	**0.0**
PMG	**Port Moresby**	**6.04**	**171**	Pn	**Pn**	**21 30 23.3**	**0.0**
	3.5nm,0.3s,baz=128,slow=8.2,SNR=10						
PMG				LR	LR	21 32 31.9	
	comp=Z,637nm,20.5s,baz=358,slow=38						
COEN	**Coen**	**10.92**	**196**	*e*Pn	**Pn**	**21 31 32.0**	**+1.8**
	16nm,1.0s						
COEN	**Coen**	**10.92**	**196**	P	**Pn**	**21 31 32.3**	**+2.1**
	baz=12,SNR=7.3						
MTSU	**Mount Surprise**	**14.77**	**187**	P	**P**	**21 32 31.0**	**+2.3**
	baz=15,SNR=7.1						
HNR	**Honiara**	**14.88**	**114**	Pn	**Pn**	**21 32 25.8**	**+1.3**
HNR	**Honiara**	**14.88**	**114**	Pn	**Pn**	**21 32 25.7**	**+1.3**
	9.8nm,0.3s,baz=216,slow=8.7,SNR=2.5						
HNR				LR	LR	21 36 00.4	
	comp=Z,141nm,19.8s,baz=98,slow=30						
KDU	**Kakadu**	**16.45**	**235**	P	**P**	**21 32 45.4**	**-2.0**
	baz=17,SNR=16						
CTA	**Charters Tower**	**16.59**	**180**	Pn	**Pn**	**21 32 47.4**	**+0.8**
CTA	**Charters Tower**	**16.59**	**180**	Pn	**Pn**	**21 32 47.4**	**+0.8**
	0.2nm,0.3s,baz=355,slow=19,SNR=2.0						
MTN	**Manton Dam**	**17.64**	**237**	P	**Pn**	**21 32 58.9**	**-0.8**
	baz=18,SNR=7.6						
WRAB	**Tennant Creek**	**20.12**	**214**	*e*P	**P**	**21 33 27.1**	**-0.7**
	51nm,1.0s						
WRA	**Warramunga Arr**	**20.13**	**214**	P	**P**	**21 33 27.2**	**-0.7**
WRA	**Warramunga Arr**	**20.13**	**214**	P	**P**	**21 33 27.2**	**-0.7**
	26nm,1.0s,baz=37,slow=12,SNR=68						
WRA				LR	LR	21 41 21.2	
	comp=Z,598nm,20.7s,baz=35,slow=37						
KNRA	**Kununurra**	**21.09**	**233**	P	**P**	**21 33 37.1**	**-1.2**
	baz=22,SNR=22						
SOEI	**Soe**	**22.71**	**253**	P	**P**	**21 33 57.8**	**+2.0**
	baz=23,SNR=4.1						
RMQ	**Roma**	**23.09**	**174**	P	P	21 34 05.2	+5.6
	baz=24,SNR=4.5						
BATI	**Baumata**	**23.40**	**252**	P	**P**	**21 34 02.3**	**-0.5**
BATI	**Baumata**	**23.40**	**252**	P	**P**	**21 34 02.3**	**-0.5**
	23nm,0.8s,baz=99,slow=3.3,SNR=6.1						
AS31	**Alice Springs**	**23.41**	**210**	*e*P	**P**	**21 34 01.6**	**-1.3**
ASAR	**Alice Springs**	**23.41**	**210**	P	**P**	**21 34 01.9**	**-1.1**
ASAR				PcP	**PcP**	**21 37 48.8**	**-0.5**
ASAR	**Alice Springs**	**23.41**	**210**	P	**P**	**21 34 01.9**	**-1.1**
	5.9nm,0.7s,baz=40,slow=8.5,SNR=60						
ASAR				PcP	**PcP**	**21 37 48.8**	**-0.5**
	0.6nm,0.9s,baz=34,slow=2.5,SNR=3.1						
ASAR				LR	LR	21 43 51.6	
	comp=Z,233nm,18.9s,baz=35,slow=38						
FITZ	**Fitzroy Crossi**	**24.91**	**233**	*e*P	**P**	**21 34 15.3**	**-1.6**
	13nm,0.6s						
FITZ	**Fitzroy Crossi**	**24.91**	**233**	P	**P**	**21 34 15.5**	**-1.4**
	11nm,0.7s,baz=45,slow=7.0,SNR=16						
FITZ				LR	LR	21 44 41.5	
	comp=Z,752nm,20.1s,baz=55,slow=38						
FITZ	**Fitzroy Crossi**	**24.91**	**233**	P	**P**	**21 34 15.4**	**-1.4**
	baz=26,SNR=11						
STKA	**Stephens Creek**	**28.67**	**188**	P	**P**	**21 34 47.7**	**-2.9**
	2.5nm,1.0s,baz=0.0,slow=20,SNR=2.3						
STKA				LR	LR	21 47 13.5	
	comp=Z,600nm,18.6s,baz=7.6,slow=39						
STKA	**Stephens Creek**	**28.67**	**188**	P	P	21 34 55.6	+5.1
	baz=29,SNR=5.4						
MJAR	**Matsushiro Arr**	**40.43**	**350**	P	**P**	**21 36 30.5**	**-1.6**
MJAR	**Matsushiro Arr**	**40.43**	**350**	P	**P**	**21 36 30.5**	**-1.6**
	0.4nm,0.3s,baz=179,slow=4.9,SNR=2.9						
AFI	**Afiamalu**	**42.73**	**107**	LR	LR	21 52 08.7	
	comp=Z,117nm,19.0s,baz=65,slow=33						
KSRS	**Korea Array**	**44.06**	**339**	P	**P**	**21 37 02.4**	**+0.8**
	1.4nm,0.7s,baz=162,slow=8.4,SNR=3.5						
KSRS				LR	LR	21 52 09.5	
	comp=Z,176nm,21.2s,baz=161,slow=32						
KSAR	**Wonju Array Be**	**44.06**	**339**	P	**P**	**21 37 02.4**	**+0.8**
URZ	**Urewera**	**44.70**	**145**	LR	LR	21 53 15.9	
	comp=Z,299nm,21.2s,baz=174,slow=33						
USRK	**Ussurisk Arra**	**49.07**	**346**	P	**P**	**21 37 40.8**	**+0.1**
	1.8nm,0.7s,baz=157,slow=10,SNR=5.2						
CMAR	**Chiang Mai Arr**	**51.38**	**297**	P	**P**	**21 37 59.4**	**+0.6**
CMAR	**Chiang Mai Arr**	**51.38**	**297**	P	**P**	**21 37 59.4**	**+0.6**
	1.1nm,0.9s,baz=113,slow=5.6,SNR=3.9						
CMAR				LR	LR	21 58 20.3	
	comp=Z,56nm,20.5s,baz=324,slow=34						
PETK	**Petropavlovsk-**	**57.12**	**8**	LR	LR	21 58 59.7	
	comp=Z,77nm,19.3s,baz=348,slow=32						
ULN	**Ulaanbaatar**	**61.47**	**331**	*e*P	**P**	**21 39 10.6**	**+0.3**
	11nm,1.4s						
SONM	**Songino Array**	**61.77**	**331**	P	**P**	**21 39 13.3**	**+0.9**
SONM	**Songino Array**	**61.77**	**331**	P	**P**	**21 39 13.3**	**+0.9**
	1.0nm,1.0s,baz=150,slow=5.5,SNR=2.6						
SONM				LR	LR	22 06 12.8	
	comp=Z,295nm,19.4s,baz=142,slow=36						
MK31	**Makanchi Array**	**75.02**	**320**	*e*P	**P**	**21 40 36.4**	**+1.3**
MKAR	**Makanchi Array**	**75.02**	**320**	P	**P**	**21 40 35.1**	**0.0**
MKAR	**Makanchi Array**	**75.02**	**320**	P	**P**	**21 40 35.2**	**0.0**
	1.0nm,0.9s,baz=111,slow=7.9,SNR=4.1						
MKAR				LR	LR	22 11 34.0	
	comp=Z,103nm,20.1s,baz=353,slow=34						
ZALV	**Zalesovo Beam**	**76.41**	**328**	P	**P**	**21 40 44.9**	**+2.0**
ZALV	**Zalesovo Beam**	**76.41**	**328**	P	**P**	**21 40 44.9**	**+2.0**
	0.5nm,0.6s,baz=104,slow=6.1,SNR=2.3						
ZALV				LR	LR	22 12 51.2	
	comp=Z,178nm,21.4s,baz=69,slow=34						
KURK	**Kurchatov**	**78.68**	**323**	P	**P**	**21 40 56.9**	**+1.2**
KURBB	**Kurchatov Arra**	**78.70**	**323**	P	**P**	**21 40 56.9**	**+1.1**
	1.8nm,1.1s,baz=110,slow=4.2,SNR=6.9						
KBL	**Kabul**	**81.40**	**306**	P	**P**	**21 41 11.3**	**+0.2**
ILAR	**Eielson Array**	**83.40**	**23**	P	P	21 41 17.1	-3.5
ILAR	**Eielson Array**	**83.40**	**23**	P	P	21 41 17.1	-3.5
	0.6nm,0.8s,baz=245,slow=5.6,SNR=4.3						
BVAR	**Borovoye Array**	**84.23**	**324**	P	**P**	**21 41 24.8**	**-0.3**
BVAR	**Borovoye Array**	**84.23**	**324**	P	**P**	**21 41 24.7**	**-0.3**
	1.4nm,0.9s,baz=111,slow=7.9,SNR=4.1						
BRVK	**Borovoye**	**84.30**	**324**	*e*P	**P**	**21 41 25.6**	**+0.2**
	5.3nm,0.9s						
ABKAR	**Akbulak array**	**90.12**	**319**	*e*P	**P**	**21 41 53.7**	**0.0**
	3.6nm,1.4s						
YBH	**Yreka Blue Hor**	**93.03**	**49**	LR	LR	22 14 06.3	
	comp=Z,255nm,21.0s,baz=348,slow=29						
TORD	**Torodi Ar. Bea**	**143.64**	**288**	PKP	PKPab	21 48 25.8	-0.4
TORD	**Torodi Ar. Bea**	**143.64**	**288**	PKP	PKPab	21 48 25.8	-0.4
	0.3nm,0.6s,baz=79,slow=3.3,SNR=3.4						

*ATH **07** 22:15:28.7, 41°.71N×20°.52E, h5km±3km, MD3.6/10*
*TIR **07** 22:15:30.5±1.5, 41°.53N×20°.40E, h2km±15km, ML2.7*
*PDG **07** 22:15:30.9±0.5, 41°.46N×20°.43E, h6km, MD3.8/5, ML3.7/12, Error ellipse: s-maj=0.6km s-min=0.8km az=0.0*
*IDC **07** 22:15:31.7±1.0, 41°.57N×20°.62E, h0km, mb3.6/10, mb1 3.8/15, mb1mx3.8/30, mbtmp3.7/15, ML3.5/5, MS2.8/3, Ms1 2.8/3, ms1mx2.4/39, Error ellipse: s-maj=22.2km s-min=12.1km az=52.0*
*SKO **07** 22:15:31.3, 41°.41N×20°.49E, h19km, M3.0, ML3.4*
*CSEM **07** 22:15:31.9±0.1, 41°.47N×20°.46E, h2km, ML3.8/7, Error ellipse: s-maj=3.3km s-min=2.3km az=49.0*
*PRU **07** 22:15:31.9, 41°.35N×20°.74E, h0km*
*BEO **07** 22:15:31.8±0.3, 41°.45N×20°.44E, h4km±2km, ML3.5/1*
*ISCJB **07** 22:15:31.1±0.3, 41°.50N±0°.01×20°.43E±0°.02, h5km±2km, mb3.6/7, MS2.6/1, Error ellipse: s-maj=2.5km s-min=1.7km az=143.2*
*THE **07** 22:15:31.7, 41°.48N×20°.48E, h0km±2km, ML3.3/3, Error ellipse: s-maj=2.2km s-min=0.7km az=310.0*
*LDG **07** 22:15:33.1±0.1, 41°.47N×20°.44E, h10km, Ml3.8/7, Error ellipse: s-maj=3.9km s-min=2.4km az=42.0*

ISC 07 22:15:31.6±1.0, 41°.48N±0°.01×20°.46E±0°.01, h3km±7km, n248, σ1§40/349, mb3.6/7, 46C-41D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHP	**Peshkopia**	**0.21**	**357**	*i* PG	**Pg**	**22 15 35.2**	**-0.5**
PHP				*i* SG	**Sg**	**22 15 38.9**	**+0.5**
PHP	**Peshkopia**	**0.21**	**357**	P	**Pg**	**22 15 35.3**	**-0.3**
PHP				S	**Sg**	**22 15 39.8**	**+1.4**
PHP	**Peshkopia**	**0.21**	**357**	P	**Pg**	**22 15 35.3**	**-0.3**
PHP				*i* Sg	**Sg**	**22 15 38.9**	**+0.5**
	SNR=120						
PHP				S		22 15 39.8	
TIR	**Tirane**	**0.46**	**254**	*i* PG	**Pg**	**22 15 39.7**	**-0.8**
TIR	**Tirane**	**0.46**	**254**	P	**Pg**	**22 15 40.0**	**-0.5**
TIR	**Tirane**	**0.46**	**254**	*i* Pg	**Pg**	**22 15 39.0**	**-1.5**
TIR				*e*Sg	**Sg**	**22 15 47.7**	**+1.1**
TIR	**Tirane**	**0.46**	**254**	*i* Pg	**Pg**	**22 15 39.7**	**-0.8**
	SNR=101						
TIR	**Tirane**	**0.46**	**254**	P	**Pg**	**22 15 40.0**	**-0.5**
TIR	**Tirane**	**0.46**	**254**	*e*Pb	**Pg**	**22 15 40.2**	**-0.3**
TIR				*e*Sg	**Sg**	**22 15 47.7**	**+1.1**
TIR				*e*Sb	**Sb**	**22 15 48.9**	**-0.8**
PUK	**Puka**	**0.70**	**323**	*i* PG	**Pg**	**22 15 43.6**	**-1.5**
PUK				*i* SG	**Sg**	**22 15 55.8**	**+1.5**
PUK	**Puka**	**0.70**	**323**	*i* Pg	**Pg**	**22 15 43.7**	**-1.5**
	SNR=97						
PUK				*i* Sg	**Sg**	**22 15 55.8**	**+1.5**
	SNR=97						
BIA	**Bitola**	**0.80**	**125**	P	**Pg**	**22 15 45.8**	**-1.1**
BIA				S	**Sg**	**22 15 57.3**	**0.0**
BIA	**Bitola**	**0.80**	**125**	*i* Pg	**Pg**	**22 15 46.1**	**-0.8**
BIA				*e*Sg	**Sb**	**22 15 58.5**	**-0.9**
BIA	**Bitola**	**0.80**	**125**	P	**Pg**	**22 15 45.8**	**-1.1**
BIA				S	**Sg**	**22 15 57.3**	**0.0**
SKO	**Skopje**	**0.89**	**56**	P	**Pg**	**22 15 48.8**	**+0.2**
SKO				S	**Sb**	**22 16 02.7**	**+0.9**
SKO	**Skopje**	**0.89**	**56**	*i* Pg	**Pg**	**22 15 48.2**	**-0.4**
SKO				*e*Sg	**Sb**	**22 16 01.6**	**-0.3**
SKO	**Skopje**	**0.89**	**56**	*e*Pg	**Pb**	**22 15 49.5**	**-0.1**
SKO				*e*Sg	**Sb**	**22 16 01.6**	**-0.3**
SKO				*e*Lg	Lg	22 16 01.9	
	comp=E,928nm,0.8s						
SKO				*e*Lg	Lg	22 16 01.9	
	comp=N,1μm,0.4s						
SKO	**Skopje**	**0.89**	**56**	*e*Pg	**Pg**	**22 15 48.5**	**-0.1**
SKO	**Skopje**	**0.89**	**56**	P	**Pg**	**22 15 48.8**	**+0.2**
SKO				*e*Sg	**Sb**	**22 16 01.5**	**-0.3**
SKO				S	**Sb**	**22 16 02.7**	**+0.9**
KBN	**Korca**	**0.89**	**164**	*i* SG	**Sb**	**22 16 02.7**	**+0.7**
KBN	**Korca**	**0.89**	**164**	P	**Pg**	**22 15 48.5**	**-0.2**
KBN				S	**Sb**	**22 16 01.7**	**-0.3**
KBN	**Korca**	**0.89**	**164**	P	**Pg**	**22 15 48.5**	**-0.2**
KBN				S	**Sb**	**22 16 01.7**	**-0.3**
BCI	**Bajram Curri**	**0.93**	**342**	*i* PG	**Pg**	**22 15 48.2**	**-1.3**
BCI				*i* SG	**Sg**	**22 16 02.5**	**+0.9**
BCI	**Bajram Curri**	**0.93**	**342**	*i* Pg	**Pg**	**22 15 48.2**	**-1.3**
	SNR=95						
BCI				*i* Sg	**Sg**	**22 16 02.5**	**+0.9**
	SNR=95						
FNA	**Florina**	**0.98**	**135**	P	**Pg**	**22 15 49.5**	**-0.9**
FNA				S	**Sb**	**22 16 04.7**	**0.0**
FNA	**Florina**	**0.98**	**135**	*e*PG	**Pg**	**22 15 49.5**	**-0.9**
FNA				*e*SB	**Sn**	**22 16 05.7**	**-1.1**
FNA	**Florina**	**0.98**	**135**	P	**Pg**	**22 15 49.5**	**-0.9**
FNA				S	**Sb**	**22 16 04.7**	**0.0**
FNA				*e*Sb	**Sn**	**22 16 05.7**	**-1.1**
ULC	**Ulcinj**	**1.03**	**298**	*i* Pg	**Pg**	**22 15 49.2**	**-2.1**
ULC				*e*Sg	**Sb**	**22 16 05.7**	**-0.3**
ULC	**Ulcinj**	**1.03**	**298**	*i* Pg	**Pg**	**22 15 49.2**	**-2.1**
ULC				*e*Sg	**Sb**	**22 16 05.7**	**-0.3**
NEST	**Nestorio**	**1.15**	**157**	P	**Pg**	**22 15 53.0**	**-0.7**
NEST				S	**Sn**	**22 16 10.4**	**-0.7**
NEST	**Nestorio**	**1.15**	**157**	P	**Pg**	**22 15 53.0**	**-0.7**
NEST				S	**Sn**	**22 16 10.4**	**-0.7**
PVY	**Plav**	**1.18**	**342**	⇓*i* Pg	**Pg**	**22 15 52.7**	**-1.5**
PVY				*e*Sg	**Sb**	**22 16 11.0**	**+0.7**
PVY	**Plav**	**1.18**	**342**	⇓*i* Pg	**Pg**	**22 15 52.7**	**-1.5**
PVY				*e*Sg	**Sb**	**22 16 11.0**	**+0.7**
DRME	**Dracevica, Mon**	**1.19**	**307**	⇓*i* Pg	**Pg**	**22 15 52.4**	**-1.9**
DRME				*e*Sg	**Sn**	**22 16 11.3**	**-0.4**
DRME	**Dracevica, Mon**	**1.19**	**307**	⇓*i* Pg	**Pg**	**22 15 52.4**	**-1.9**
DRME				*e*Sg	**Sn**	**22 16 11.3**	**-0.4**
PDG	**Podgorica**	**1.31**	**317**	*i* Pg	**Pg**	**22 15 54.6**	**-2.1**
PDG				*e*Sg	**Sb**	**22 16 14.0**	**+0.1**
PDG	**Podgorica**	**1.31**	**317**	⇑*i* Pg	**Pg**	**22 15 54.8**	**-1.9**
PDG				*e*Sg	**Sb**	**22 16 14.0**	**+0.1**
TTG	**Podgorica**	**1.31**	**317**	⇑*i* Pg	**Pg**	**22 15 54.8**	**-1.9**
TTG				*e*Sg	**Sn**	**22 16 15.3**	**+0.6**
BUM	**Brajici-Budva**	**1.43**	**306**	⇑*i* Pg	**Pn**	**22 15 57.2**	**-1.3**
BUM				*e*Sg	**Sn**	**22 16 19.1**	**+1.3**
BUM	**Brajici-Budva**	**1.43**	**306**	⇑*i* Pg	**Pn**	**22 15 57.2**	**-1.3**
BUM				*e*Sg	**Sn**	**22 16 19.1**	**+1.3**
BEY	**Berane**	**1.45**	**343**	*e*Pg	**Pn**	**22 15 58.0**	**-0.9**
BEY				*e*Sg	**Sg**	**22 16 20.6**	**+2.3**
IVA	**Berane**	**1.45**	**343**	*e*Pg	**Pn**	**22 15 58.0**	**-0.9**
IVA				*e*Sg	**Sg**	**22 16 20.6**	**+2.3**
KZN	**Kozani**	**1.54**	**139**	*e*PN	**Pg**	**22 16 01.2**	**+0.1**
KZN	**Kozani**	**1.54**	**139**	*e*Pn	**Pg**	**22 16 01.2**	**+0.1**
GRG	**Griva**	**1.56**	**109**	P	**Pn**	**22 15 59.9**	**-0.3**
GRG	**Griva**	**1.56**	**109**	P	**Pn**	**22 15 59.9**	**-0.3**
VAY	**Valandovo**	**1.60**	**95**	P	**Pn**	**22 15 59.6**	**-1.1**
VAY				S	**Sg**	**22 16 22.7**	**-0.2**
VAY	**Valandovo**	**1.60**	**95**	⇑*i* Pn	**Pn**	**22 15 59.4**	**-1.3**
VAY				*e*Sg	**Sg**	**22 16 23.3**	**+0.4**
VAY	**Valandovo**	**1.60**	**95**	*i* Pn	**Pn**	**22 16 00.0**	**-0.7**
VAY				*e*Sn	**Sn**	**22 16 20.4**	**-1.4**
VAY				*e*Lg	Lg	22 16 24.7	
	comp=E,483nm,1.1s						
VAY				*e*Lg	Lg	22 16 24.8	
	comp=N,834nm,1.3s						
VAY	**Valandovo**	**1.60**	**95**	P	**Pn**	**22 15 59.6**	**-1.1**
VAY				*e*Sn	**Sn**	**22 16 19.9**	**-1.9**
VAY				S	**Sg**	**22 16 22.7**	**-0.2**
VAY				*e*Sg	**Sg**	**22 16 23.3**	**+0.4**
VAY				*e*Lg	Lg	22 16 24.3	
	comp=N,834nm,1.3s						
SRN	**Sarande**	**1.64**	**192**	P	**Pn**	**22 16 01.3**	**+0.1**
SRN				S	**Sb**	**22 16 23.6**	**+0.2**
SRN	**Sarande**	**1.64**	**192**	P	**Pn**	**22 16 01.3**	**+0.1**
SRN				S	**Sb**	**22 16 23.6**	**+0.2**
BARS	**Barje**	**1.68**	**37**	*e*Pn	**Pn**	**22 16 02.2**	**+0.4**
BARS	**Barje**	**1.68**	**37**	*e*Pn	**Pn**	**22 16 02.2**	**+0.4**
NKME	**Niksic**	**1.71**	**319**	⇑*i* Pn	**Pn**	**22 16 02.0**	**-0.3**
NKME				*e*Sn	**Sg**	**22 16 27.4**	**+1.0**
NKME	**Niksic**	**1.71**	**319**	⇑*i* Pn	**Pn**	**22 16 02.0**	**-0.3**
NKME				*e*Sn	**Sg**	**22 16 27.4**	**+1.0**
NKY	**Niksic**	**1.72**	**321**	⇑*i* Pn	**Pn**	**22 16 02.7**	**+0.1**
NKY				*e*Sn	**Sg**	**22 16 27.1**	**+0.2**
NKY	**Niksic**	**1.72**	**321**	⇑*i* Pn	**Pn**	**22 16 02.7**	**+0.1**
NKY				*e*Sn	**Sg**	**22 16 27.1**	**+0.2**
HCY	**Herceg Novi**	**1.75**	**304**	⇓*i* Pn	**Pn**	**22 16 02.5**	**-0.4**
HCY				*e*Sn	**Sg**	**22 16 27.9**	**-0.1**
HCY	**Herceg Novi**	**1.75**	**304**	⇓*i* Pn	**Pn**	**22 16 02.5**	**-0.4**
HCY				*e*Sn	**Sg**	**22 16 27.9**	**-0.1**
SELS	**Selova**	**1.81**	**16**	*e*Pn	**Pn**	**22 16 02.8**	**-0.9**
SELS				*e*Sg	**Sg**	**22 16 30.2**	**+0.5**
SJES	**Sjenica**	**1.82**	**349**	⇓*i* Pn	**Pn**	**22 16 03.8**	**-0.1**
SJES				*e*Sg	**Sg**	**22 16 29.9**	**-0.1**
KEK	**Kerkira**	**1.83**	**196**	*e*PN	**Pb**	**22 16 06.2**	**+0.4**
KEK				*e*SN	**Sg**	**22 16 35.3**	**+4.8**
KEK	**Kerkira**	**1.83**	**196**	*e*Pn	**Pb**	**22 16 06.2**	**+0.4**
JAN	**Janina**	**1.84**	**171**	P	**Pn**	**22 16 04.4**	**+0.2**
JAN				S	**Sb**	**22 16 28.9**	**-0.6**
JAN	**Janina**	**1.84**	**171**	*e*PG	**Pg**	**22 16 07.0**	**0.0**
JAN				*e*SN	**Sg**	**22 16 35.1**	**+4.2**
JAN	**Janina**	**1.84**	**171**	P	**Pn**	**22 16 04.4**	**+0.2**
JAN	**Janina**	**1.84**	**171**	*e*Pg	**Pg**	**22 16 07.0**	**0.0**
JAN				S	**Sb**	**22 16 28.9**	**-0.6**
KNT	**Kendrikon**	**1.87**	**99**	P	**Pn**	**22 16 04.3**	**-0.1**
KNT	**Kendrikon**	**1.87**	**99**	P	**Pn**	**22 16 04.3**	**-0.1**
IGT	**Igoumenitsa**	**1.95**	**183**	P	**Pn**	**22 16 06.3**	**+0.7**
IGT	**Igoumenitsa**	**1.95**	**183**	P	**Pn**	**22 16 06.3**	**+0.7**
TREB	**Trebinje**	**2.00**	**309**	*e*Pn	**Pn**	**22 16 06.8**	**+0.6**
TREB				*e*Sg	**Sb**	**22 16 35.0**	**+1.2**
TREB	**Trebinje**	**2.00**	**309**	*e*Pn	**Pn**	**22 16 06.8**	**+0.6**
TREB				*e*Sg	**

SIRR	Siria	4.87	10⇑	*iP*	Pn	22 16 45.9	+0.2
PKSM	Moragy	4.91	345⇓	*iP*	Pn	22 16 46.2	0.0
PKSM	Moragy	4.91	345⇓	*e*	Pn	22 16 47.1	+0.9
PKSM				*e*		22 17 44.3	
PKSM	Moragy	4.91	345⇓	*iP*	Pn	22 16 46.2	0.0
PKSM				*eS*	Sn	22 17 44.3	+0.8
PKS2	Kecel	5.09	350⇓	*e*	Pn	22 16 49.8	+1.1
PKS2				*e*		22 17 52.6	
PKS2	Kecel	5.09	350⇓	*eP*	Pn	22 16 49.8	+1.1
PKS2				*eS*	Sn	22 17 52.6	+4.6
NVLJ	Novalja	5.12	309	*ePn*	Pn	22 16 48.6	-0.6
NVLJ				Sn	Sn	22 17 48.2	-0.6
PKS9	Tamasi	5.34	344⇓	*e*	Pn	22 16 53.3	+1.1
PKS9	Tamasi	5.34	344⇓	*eP*	Pn	22 16 53.3	+1.1
PKSN	Nyarlorinc	5.43	356⇓	*e*	Pn	22 16 56.0	+2.6
PKSN				*e*		22 17 59.1	
PKSN	Nyarlorinc	5.43	356⇓	*eP*	Pn	22 16 56.0	+2.6
PKSN				*eS*	Sn	22 17 59.1	+2.7
DRGR		5.55	16⇑	*iP*	Pn	22 16 55.1	-0.1
DRGR		5.55	16⇑	*iP*	Pn	22 16 55.1	-0.1
PKS7	Kunszentmiklos	5.64	351⇓	*e*	Pn	22 16 59.4	+3.1
PKS7				*e*		22 18 03.8	
PKS7	Kunszentmiklos	5.64	351	*eS*	Sn	22 18 03.8	+2.2
BEHE	Becsehely	5.65	333	*e*	Pn	22 17 00.1	+3.6
BEHE				*e*		22 18 02.1	
BEHE	Becsehely	5.65	333	*eS*	Sn	22 18 02.1	+0.3
MLR	Muntele Rosu	5.66	43⇑	*iP*	Pn	22 17 01.6	+4.9
MLR	Muntele Rosu	5.66	43	Pn	Pn	22 17 00.5	+3.8
	comp=N,0.2nm,0.3s,baz=160,slow=14,SNR=5.6						
CRES	Cresnjev	5.66	322	*ePn*	Pn	22 16 57.6	+1.0
CRES	Cresnjev	5.66	322	*ePn*	Pn	22 16 57.6	+1.0
KOGS	Kog	5.82	330	*i Pn*	Pn	22 17 01.8	+3.0
KOGS	Kog	5.82	330	*i Pn*	Pn	22 17 01.8	+3.0
PKST	T"'s	6.03	344⇑	*e*	Pn	22 17 04.2	+2.5
PKST				*e*		22 18 16.6	
PKST	T"'s	6.03	344⇑	*eP*	Pn	22 17 04.2	+2.5
PDKS	Podkum	6.05	321	*ePn*	Pn	22 17 03.0	+1.0
PDKS	Podkum	6.05	321	*ePn*	Pn	22 17 03.0	+1.0
BUD	Budapest	6.09	351⇑	*e*	Pn	22 17 05.6	+3.1
BUD				*e*		22 18 14.2	
BUD	Budapest	6.09	351	*eS*	Sn	22 18 14.2	+1.6
PKSG		6.09	347⇓	*e*	Pn	22 17 04.9	+2.4
PKSG				*e*		22 18 15.1	
PKSG		6.09	347⇓	*eP*	Pn	22 17 04.9	+2.4
PKSG				*eS*	Sn	22 18 15.1	+2.4
PSZ	Piszkesteto	6.45	357⇓	*iP*	Pn	22 17 08.4	+0.9
PSZ	Piszkesteto	6.45	357⇓	*iP*	Pn	22 17 09.7	+2.2
PSZ				*e*		22 18 25.5	
PSZ	Piszkesteto	6.45	357⇓	*eP*	Pn	22 17 09.7	+2.2
SOKA	Soboth	6.50	325⇑	*ePn*	Pn	22 17 09.2	+1.0
	comp=N,9.8nm,0.6s,SNR=16						
SOKA			⇑	*iSn*	Sn	22 18 24.9	+2.1
	comp=N,2.1nm,0.3s						
SOKA	Soboth	6.50	325	Pn	Pn	22 17 09.2	+1.0
	comp=N,9.8nm,0.6s,SNR=16						
SOKA				Sn	Sn	22 18 24.9	+2.1
	comp=N,2.1nm,0.3s						
VOY	Vojsko	6.58	316	*ePn*	Pn	22 17 10.3	+1.0
VOY				*eSn*	Sn	22 18 23.8	-1.0
VOY	Vojsko	6.58	316	*ePn*	Pn	22 17 10.3	+1.0
VOY				*eSn*	Sn	22 18 23.8	-1.0
ARSA	Arzberg	6.77	330⇑	*iPn*	Pn	22 17 14.2	+2.4
	comp=N,4.1nm,0.3s						
ARSA			⇑	*iSn*	Sn	22 18 31.4	+2.1
	comp=N,4.7nm,0.5s						
ARSA	Arzberg	6.77	330	Pn	Pn	22 17 14.2	+2.4
	comp=N,4.1nm,0.3s						
ARSA				Sn	Sn	22 18 31.4	+2.1
	comp=N,4.7nm,0.5s						
KECS	Kecovo	7.00	0	*ePN*	Pn	22 17 17.1	+2.1
KECS				*eSN*	Sn	22 18 36.6	+1.5
KECS	Kecovo	7.00	0	*ePn*	Pn	22 17 17.1	+2.1
KECS				*eSn*	Sn	22 18 36.6	+1.5
BURAR	Bucovina Array	7.01	27⇑	*iP*	Pn	22 17 16.8	+1.6
BURAR	Bucovina Array	7.01	27⇑	*iP*	Pn	22 17 16.8	+1.6
IDI	Anoyia	7.09	149	Pn	Pn	22 17 18.3	+2.0
	comp=N,0.3nm,0.3s,baz=318,slow=15,SNR=2.8						
IDI				Sn	Sn	22 18 39.1	+1.7
	comp=N,0.2nm,0.3s,baz=182,slow=19,SNR=2.0						
IDI				LR	LR	22 20 45.7	
	comp=N,67nm,18.4s,baz=239,slow=44						
VYHS	Vyhne	7.11	351	*ePN*	Pn	22 17 18.1	+1.6
VYHS				*eSN*	Sn	22 18 36.7	-1.0
VYHS	Vyhne	7.11	351	*ePn*	Pn	22 17 18.1	+1.6
VYHS				*eSn*	Sn	22 18 36.7	-1.0
CONA	Conrad Observa	7.23	335⇓	*iPn*	Pn	22 17 20.5	+2.3
	comp=N,1.7nm,0.6s						
CONA			⇑	*iSn*	Sn	22 18 43.3	+2.5
	comp=N,3.6nm,0.5s						
CONA	Conrad Observa	7.23	335	Pn	Pn	22 17 20.5	+2.3
	comp=N,1.7nm,0.6s						
CONA				Sn	Sn	22 18 43.3	+2.5
	comp=N,3.6nm,0.5s						
SMOL	Smolenice	7.35	344	*ePN*	Pn	22 17 23.9	+4.1
SMOL				*eSN*	Sn	22 18 44.2	+0.5
CRVS	Cervenica-Dubn	7.46	5	*ePN*	Pn	22 17 22.8	+1.6
CRVS				*eSN*	Sn	22 18 50.7	+4.4
CRVS	Cervenica-Dubn	7.46	5	*ePn*	Pn	22 17 22.8	+1.6
KOLS	Kolonicke sedl	7.56	9	*ePN*	Pn	22 17 24.5	+1.8
KOLS				*eSN*	Sn	22 18 59.8	+11
KOLS	Kolonicke sedl	7.56	9	*ePn*	Pn	22 17 24.5	+1.8
KBA	Koelnbreinsper	7.57	320⇑	*iPn*	Pn	22 17 23.9	+0.9
	comp=N,5.6nm,0.4s,SNR=4.8						
KBA	Koelnbreinsper	7.57	320	Pn	Pn	22 17 23.9	+0.9
	comp=N,5.6nm,0.4s,SNR=4.8						
MOA	Molln	7.75	327⇑	*iPn*	Pn	22 17 27.8	+2.6
	comp=N,1.9nm,0.3s,SNR=7.4						
MOA			⇑	*eSn*	Sn	22 18 56.6	+3.2
	comp=N,8.6nm,0.6s						
MOA	Molln	7.75	327	Pn	Pn	22 17 27.8	+2.6
	comp=N,1.9nm,0.3s,SNR=7.4						
MOA				Sn	Sn	22 18 56.6	+3.2
	comp=N,8.6nm,0.6s						
ABTA	Abfaltersbach	7.77	315⇑	*eSn*	Sn	22 18 55.3	+1.2
	comp=N,16nm,0.7s						
ABTA	Abfaltersbach	7.77	315	Sn	Sn	22 18 55.3	+1.2
	comp=N,16nm,0.7s						
STHS	Stebnicka Huta	7.96	4	*ePN*	Pn	22 17 30.6	+2.5
STHS				*eSN*	Sn	22 19 02.6	+4.0
STHS	Stebnicka Huta	7.96	4	*ePn*	Pn	22 17 30.6	+2.5
VRAC	Vranov	8.29	342	Pn	Pn	22 17 32.5	-0.1
	comp=N,0.2nm,0.3s,baz=124,slow=3.6,SNR=2.6						
KWP	Kalwaria Pacla	8.30	10⇑	*iP*	Pn	22 17 36.2	+3.3
OKC	Ostrava-Krasne	8.51	350	*eSN*	Sn	22 19 11.5	-0.7
TREC	Trest	8.56	338	*eSN*	Sn	22 19 13.7	+0.3
TREC				AMS	AMS	22 21 10.0	
	comp=N,100nm,10.4s						
TREC	Trest	8.56	338	Sn	Sn	22 19 13.7	+0.3
WTTA	Wattenberg	8.56	315⇓	*iPn*	Pn	22 17 38.4	+1.8
	comp=N,9.8nm,0.5s						
WTTA			⇑	*iSn*	Sn	22 19 13.0	-0.7
	comp=N,17nm,0.7s						
WTTA	Wattenberg	8.56	315	Pn	Pn	22 17 38.4	+1.8
	comp=N,9.8nm,0.5s						
WTTA				Sn	Sn	22 19 13.0	-0.7
	comp=N,17nm,0.7s						
PGF	Pioggiola	8.60	281	*eP*	Pn	22 17 40.1	+3.1
PGF	Pioggiola	8.60	281	*eP*	Pn	22 17 40.1	+3.1
GERES	GERESS Array B	8.77	329	Pn	Pn	22 17 40.6	+1.3
	comp=N,0.3nm,0.3s,baz=154,slow=13,SNR=20						
GERES				Sn	Sn	22 19 20.3	+1.5
	comp=N,0.3nm,0.3s,baz=134,slow=19,SNR=3.4						
MOTA	Moosalm	8.89	314⇑	*iPn*	Pn	22 17 42.7	+1.6
	comp=N,4.4nm,0.4s,SNR=7.5						
MOTA	Moosalm	8.89	314	Pn	Pn	22 17 42.7	+1.6
	comp=N,4.4nm,0.4s,SNR=7.5						
FETA	Feichten	8.91	312⇓	*iPn*	Pn	22 17 43.4	+2.1
	comp=N,2.2nm,0.5s						
FETA	Feichten	8.91	312	Pn	Pn	22 17 43.4	+2.1
	comp=N,2.2nm,0.5s						
KHC	Kasperske Hory	9.05	330	*ePN*	Pn	22 17 45.7	+2.5
KHC				*eSN*	Sn	22 19 25.7	+0.1
KHC				*ex*	x	22 19 41.0	
KHC	Kasperske Hory	9.05	330	Pn	Pn	22 17 45.7	+2.5
KHC				Sn	Sn	22 19 25.7	+0.1
DAVOX	Davos/Dischmat	9.27	308	Pn	Pn	22 17 47.5	+1.3
	comp=N,0.7nm,0.3s,baz=131,slow=15,SNR=9.9						
DAVOX				Sn	Sn	22 19 33.3	+2.3
	comp=N,0.4nm,0.3s,baz=298,slow=17,SNR=3.8						
DPC	Dobruska-Polom	9.33	343	*ePN*	Pn	22 17 49.2	+2.3
DPC				*eSN*	Sn	22 19 31.9	-0.4
DPC	Dobruska-Polom	9.33	343	Pn	Pn	22 17 49.2	+2.3
DPC				Sn	Sn	22 19 31.9	-0.4
PRU	Pruhonice	9.46	336	*eSN*	Sn	22 19 35.3	-0.1
PRU				AMS	AMS	22 21 40.0	
	comp=N,200nm,10.1s						
PRU	Pruhonice	9.46	336	Sn	Sn	22 19 35.3	-0.1
DAVA	Damuels	9.54	311⇓	*ePn*	Pn	22 17 51.7	+1.8
	comp=N,4.7nm,0.8s						
DAVA			⇑	*eSn*	Sn	22 19 38.2	+0.6
	comp=N,9.4nm,0.5s						
DAVA	Damuels	9.54	311	Pn	Pn	22 17 51.7	+1.8
	comp=N,4.7nm,0.8s						
DAVA				Sn	Sn	22 19 38.2	+0.6
	comp=N,9.4nm,0.5s						
SBF	Sospel	9.88	288	*ePn*	Pn	22 17 53.7	-0.9
SBF				*eSn*	Sn	22 19 37.5	-8.5
	comp=N,7.7nm,0.7s						
SBF	Sospel	9.88	288	*ePn*	Pn	22 17 53.7	-0.9
MBDF	Montbardon	10.52	293	*ePn*	Pn	22 18 00.9	-2.5
MBDF				*eSn*	Sn	22 19 52.8	-9.0
	comp=N,17nm,1.2s						
LPG	La Plagne	10.74	297	*ePn*	Pn	22 18 05.1	-1.4
LPG				*eSn*	Sn	22 19 57.9	-9.3
	comp=N,11nm,0.8s						
LPG	La Plagne	10.74	297	*ePn*	Pn	22 18 05.1	-1.4
LPL	La Plagne	10.76	297	*ePn*	Pn	22 18 05.4	-1.2
LPL				*eSn*	Sn	22 19 57.9	-10
	comp=N,5.2nm,0.6s						
LPL	La Plagne	10.76	297	*ePn*	Pn	22 18 05.4	-1.2
CABF	La Chapelle	11.54	301	*ePn*	Pn	22 18 14.4	-2.8
HINF	Hinteralfeld	11.57	308	*ePn*	Pn	22 18 15.3	-2.3
HINF				*eSn*	Sn	22 20 17.4	-10
	comp=N,3.2nm,0.5s						
CDF	Champ du Feu	11.62	311	*ePn*	Pn	22 18 15.8	-2.6
CDF				*eSn*	Sn	22 20 19.3	-9.3
	comp=N,3.1nm,0.6s						
HAU	Haudompre	11.96	308	*ePn*	Pn	22 18 20.5	-2.4
HAU				*eSn*	Sn	22 20 26.5	-10
	comp=N,3.0nm,0.5s						
SMF	Signal de Mont	13.01	299	*ePn*	Pn	22 18 34.8	-2.5
LOR	Lormes	13.20	302	*ePn*	Pn	22 18 36.3	-3.6
ASF	Jabal al Asfar	16.09	120	LR	LR	22 26 14.6	
	comp=N,40nm,19.6s,baz=269,slow=40						
HFS	Hagfors	19.14	350	P	P	22 19 55.8	+0.2
	comp=N,0.3nm,0.3s,baz=155,slow=11,SNR=8.1						
FINES	FINESS Array B	20.28	8	P	P	22 20 07.8	-0.3
	comp=N,3.0nm,0.8s,baz=188,slow=9.6,SNR=7.1						
NB2	NORSAR Subarra	20.38	347	P	P	22 20 08.0	-1.3
	comp=Z,1.4nm,0.7s,baz=164,slow=12						
NB2	NORSAR Subarra	20.38	347	P	P	22 20 08.0	-1.3
	comp=Z,1.4nm,0.7s,baz=164,slow=12,SNR=7.8						
NOA	NORSAR Array B	20.38	347	P	P	22 20 08.5	-0.8
	comp=Z,3.8nm,0.8s,baz=164,slow=10,SNR=7.2						
EKA	Eskdalemuir Ar	20.79	320	P	Pn	22 20 15.0	-1.0
	comp=Z,2.6nm,0.8s,baz=108,slow=11,SNR=7.3						
MDT	Midelt	21.72	255	LR	LR	22 29 16.1	
	comp=Z,22nm,18.2s,baz=343,slow=38						
TORD	Torodi Ar. Bea	32.63	216	P	P	22 22 06.6	+1.9
	comp=Z,0.6nm,1.0s,baz=35,slow=7.6,SNR=4.2						
ZALV	Zalesovo Beam	43.58	51	P	P	22 23 36.2	-0.4
	comp=Z,0.5nm,0.4s,baz=278,slow=9.8,SNR=3.5						
MKAR	Makanchi Array	43.69	61	P	P	22 23 36.6	-1.0
	comp=Z,0.5nm,0.7s,baz=289,slow=9.0,SNR=3.4						
SONM	Songino Array	58.44	52	P	P	22 25 28.2	-0.4
	comp=Z,0.5nm,0.8s,baz=286,slow=7.6,SNR=4.5						
ILAR	Eielson Array	73.62	354	P	P	22 27 07.4	+1.6
	comp=Z,0.4nm,0.7s,baz=1.2,slow=2.5,SNR=4.4						
PDAR	Pinedale Array	84.80	326	P	P	22 28 07.0	-0.6
	comp=Z,0.5nm,0.8s,baz=79,slow=4.8,SNR=3.0						
TXAR	Lajitas Array	92.66	314	P	P	22 28 45.4	+0.2
	comp=Z,0.8nm,1.0s,baz=94,slow=2.7,SNR=4.9						

NSSC ***07*** *22:41:19.0±1.4, 43°.93N×44°.25E, h0km±999km*

IDC ***07*** *22:41:34.7±0.3, 42°.58N×43°.43E, h0km, mb5.3/33, mb1 5.4/41, mb1mx5.4/41, mbtmp5.3/41, ML4.4/8, MS5.9/37, Ms1 5.9/37, ms1mx5.7/45, Error ellipse: s-maj=7.0km s-min=5.9km az=23.0*

BGS ***07*** *22:41:34.5±2.1, 42°.27N×43°.38E, h10km, mb5.4, MS5.9*

BJI ***07*** *22:41:34.4, 42°.70N×43°.40E, h10km, mB6.2/57, mb5.7/55, Ms6.4/78, Ms7 6.2/63*

MOS ***07*** *22:41:34.6±1.1, 42°.55N×43°.34E, h8km, mb5.9/126, MS5.8/82, Error ellipse: s-maj=3.4km s-min=2.5km az=42.8 Broadband fault plane solution: P waves. $M_0$3.80000×10^18^ NP1:φs289.00000°, δ32.00000°, λ81.00000°. NP2:φs120.00000°, δ58.00000°, λ96.00000°. Principal axes: T Plg76.0000°, Azm46.0000°; N Plg5.0000°, Azm297.0000°; P Plg13.0000°, Azm205.0000°;*

MOS Fault plane solution: P-wave C174, D43 . Felt (VI) at Oni; (V) at Tbilisi; (IV-V) at Tskhinval; (III-IV) at Ardon, Vladikavkaz; (III) at Grozny, Makhachkala.

ISCJB ***07*** *22:41:35.6±0.2, 42°.621N±0°.008×43°.404E±0°.009, h12km±1km, mb5.6/423, MS5.8/248 Error ellipse: s-maj=1.4km s-min=1.1km az=17.1*

DDA ***07*** *22:41:35.9, 42°.70N×43°.41E, h11km, ML6.2*

TIF ***07*** *22:41:35.7, 42°.57N×43°.48E, h12km*

CSEM ***07*** *22:41:36.9±0.0, 42°.70N×43°.42E, h10km, mb5.8/99, Ms5.7, Mw6.0, Error ellipse: s-maj=1.5km s-min=1.2km az=11.0*

ISN ***07*** *22:41:36.9±52.0, 42°.58N×43°.28E, h0km±482km, ML5.5*

IGIL ***07*** *22:41:36.8, 42°.72N×43°.47E, h10km, mb5.6*

SZGRF ***07*** *22:41:36.7, 42°.37N×43°.12E, h33km, mb5.6, MS5.1, Western Caucasus*

SFS ***07*** *22:41:36.5, 42°.66N×43°.42E, h10km, ML5.9*

PDA ***07*** *22:41:37.4, 42°.67N×43°.43E, h15km, mb5.7*

NEIC ***07*** *22:41:37.4±0.1, 42°.66N×43°.44E, h15km, mb5.7/202, ME5.6, MS5.8/146, MW5.8, MW5.9, MW5.9(USGS), Error ellipse: s-maj=2.8km s-min=1.8km az=176.0, Moment Tensor Solution. s96 Moment tensor: Scale 10^17^Nm; M_{rr}6.33; $M_{\theta\theta}$-4.94; $M_{\phi\phi}$-1.39; $M_{r\theta}$2.91; $M_{\theta\phi}$2.92; $M_{\phi r}$-1.62; Best double couple: $M_0$7.30000×10^17^ NP1:φs119.00000°, δ59.00000°, λ90.00000°. NP2:φs299.00000°, δ31.00000°, λ90.00000°. Principal axes: T 7.1400, Plg76.0000°, Azm28.0000°; N 0.2500, Plg0.0000°, Azm119.0000°; P -7.3900, Plg13.0000°, Azm209.0000°; Broadband fault plane solution: P waves. NP1:φs295.00000°, δ25.00000°, λ90.00000°. NP2:φs115.00000°, δ65.00000°, λ90.00000°. Principal axes: T Plg70.0000°, Azm25.0000°; N Plg0.0000°, Azm0.0000°; P Plg20.0000°, Azm205.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC One person injured at Oni. At least 1,000 houses damaged or destroyed in northwestern Georgia. Felt [IV] at Tbilisi and [III] at Rustavi. Also felt at Bat'umi, Borjomi, K'ut'aisi, Lagodekhi, Mameuli, Poti, Sach'khere, Sokhumi, T'elavi and Zugdidi. Felt [II] at Rostov, Russia. Also felt at Alagir, Babayurt, Derbent, Il'inka, Makhachkala, Maykop, Nal'chik, Pavlodol'skaya, Pokrovskoye, Sochi, Stavropol' and Vladikavkaz. Felt at Ach'ajur, Dilijan, Gyumri, Noyemberyan, Spitak, Step'anavan and Yerevan, Armenia. Also felt at Ardahan, Kars, Rize and Trabzon, Turkey.

BKK ***07*** *22:41:37.6±0.6, 43°N±10°×4°3E±°, h10km, M6.0/40, mb5.8/40, mB6.3/33, MLv5.9/1, Mw(mB)6.0/33*

TEH ***07*** *22:41:37.0, 42°.67N×43°.43E, h15km, ML5.9*

NSSP ***07*** *22:41:37.0, 42°.67N×43°.43E, h10km, Ms5.9*

AZER ***07*** *22:41:38.8, 42°.28N×43°.50E, h14km*

NNC ***07*** *22:41:40.8±1.6, 42°.84N×44°.13E, h0km, mb6.1, Error ellipse: s-maj=28.3km s-min=15.7km az=112.0*

GCMT ***07*** *22:41:40.9±0.1, 42°.61N×43°.51E, h13km, MW6.0 Best double couple: NP1:φs116.00000°, δ63.00000°, λ81.00000°. NP2:φs314.00000°, δ28.00000°, λ106.00000°. Principal axes: T 1.1500, Plg71.0000°, Azm7.0000°; N 0.0200, Plg8.0000°, Azm120.0000°; P -1.1700, Plg17.0000°, Azm212.0000°; Data Used: II IU IC G CN. Surface waves: sta=108, comp=257, per= 50.*

DJA ***07*** *22:41:43.4±1.5, 43°N±15°×4°3E±1°3, h65km±15km, M6.0/26, mB6.3/22, mb5.7/26, MLv5.9/1, Mw(mB)6.0/22, Mwp6.0/5*

NEIC ***07*** *22:41:53.5±0.0, 43°.33N×43°.53E, h10km, Moment Tensor Solution. s138 Moment tensor: Scale 10^17^Nm; M_{rr}7.45; $M_{\theta\theta}$-4.92; $M_{\phi\phi}$-2.53; $M_{r\theta}$4.11; $M_{\theta\phi}$3.75; $M_{\phi r}$-0.38; Best double couple: $M_0$8.60000×10^17^ NP1:φs319.00000°, δ34.00000°, λ113.00000°. NP2:φs112.00000°, δ59.00000°, λ75.00000°. Principal axes: T 8.7400, Plg71.0000°, Azm347.0000°; N -0.2600, Plg12.0000°, Azm120.0000°; P -8.4800, Plg12.0000°, Azm212.0000°;*

ISC 07 22:41:37.2±0.2, 42°.58N±0°.01×43°.45E±0°.01, h15km±1km, h14km; pP-P, n2833, σ1.31/3162, mb5.7/418, MS5.9/251, 755C-336D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	Oni	0.01	1	P	Pg	22 41 38.2	-1.6
DIGR	Digorskoe uzhe	0.33	17⇓	*iPG*	Pg	22 41 43.3	-0.8
DIGR				*i* S	Sg	22 41 49.0	+0.2
DIGR	Digorskoe uzhe	0.33	17	*i* Pg	Pg	22 41 43.3	-0.8
DIGR				*i* Sg	Sg	22 41 49.0	+0.2
ZEI	Tsey	0.39	58⇓	*iPG*	Pg	22 41 44.3	-0.8
ZEI				*eS*	Sg	22 41 50.9	+0.3
ZEI	Tsey	0.39	58	*i* Pg	Pg	22 41 44.3	-0.8
ZEI				*eSg*	Sg	22 41 50.9	+0.3
LACR	Lac	0.67	68⇓	*iPG*	Pg	22 41 49.2	-1.1
LACR				*i* S	Sg	22 41 59.5	+0.4
LACR	Lac	0.67	68	*i* Pg	Pg	22 41 49.2	-1.1
LACR				*i* Sg	Sg	22 41 59.5	+0.4
KORR	Kora	0.68	42⇑	*iPG*	Pg	22 41 50.2	-0.2
KORR				*eS*	Sb	22 42 00.6	+0.6
KORR	Kora	0.68	42	*i* Pg	Pg	22 41 50.2	-0.2
KORR				*eSg*	Sb	22 42 00.6	+0.6
LSNR	Lesken	0.75	21⇓	*iPG*	Pg	22 41 51.5	-0.2
LSNR				*i* S	Sb	22 42 02.5	+0.5
LSNR	Lesken	0.75	21	*i* Pg	Pg	22 41 51.5	-0.2
LSNR				*i* Sg	Sb	22 42 02.5	+0.5
NCK	Nalchik	0.92	7	*i* PG	Pb	22 41 55.0	+0.2
NCK				*i* S	Sn	22 42 09.1	+0.5
NCK	Nalchik	0.92	7	*i* Pg	Pb	22 41 55.0	+0.2
NCK				*i* Sg	Sn	22 42 09.1	+0.5
VLKR	Vladikavkaz	1.01	62⇓	*iPG*	Pn	22 41 57.0	+0.1
VLKR				*eS*	Sn	22 42 11.8	+0.8
VLKR	Vladikavkaz	1.01	62	*i* Pg	Pn	22 41 57.0	+0.1
VLKR				*eSg*	Sn	22 42 11.8	+0.8
DUS	Dusheti	1.05	118	PG	Pn	22 41 57.7	+0.2
DUS				S	Sn	22 42 12.1	+0.2
DUS	Dusheti	1.05	118	Pg	Pn	22 41 57.7	+0.2
DUS				Sg	Sn	22 42 12.1	+0.2
DUS	Dusheti	1.05	118	P	Pb	22 41 56.3	-0.8
DUS				S	Sg	22 42 11.6	+0.4
SNJR	Sundja	1.11	64⇑	*iPG*	Pb	22 41 58.3	+0.2
SNJR				*eS*	Sg	22 42 14.4	+1.3
SNJR	Sundja	1.11	64	*i* Pg	Pb	22 41 58.3	+0.2
SNJR				*eSg*	Sg	22 42 14.4	+1.3
BTKR	Batakoyurt	1.12	45⇑	*iPG*	Pg	22 41 59.9	+1.1
BTKR				*eS*	Sg	22 42 16.1	+2.6
BTKR	Batakoyurt	1.12	45	*i* Pg	Pg	22 41 59.9	+1.1
BTKR				*eSg*	Sg	22 42 16.1	+2.6
AKH	Akhalkalaki	1.17	179	PG	Pn	22 41 57.9	-1.3
AKH				S	Sb	22 42 15.0	+0.7
AKH	Akhalkalaki	1.17	179	Pg	Pn	22 41 57.9	-1.3
AKH				Sg	Sb	22 42 15.0	+0.7
AKH	Akhalkalaki	1.17	179	P	Pn	22 41 57.7	-1.6
AKH				S	Sb	22 42 14.1	-0.3
KBZ	Khabaz	1.22	341	PG	Pn	22 41 59.2	-0.4
KBZ				pmax	pmax		
	comp=N,3.0nm,0.3s						
KBZ	Khabaz	1.22	341	Pg	Pn	22 41 59.2	-0.4
KBZ				Lg	Lg	22 42 15.5	
KBZ	Khabaz	1.22	341	Pg	Pn	22 41 59.2	-0.4
	comp=N,2μm,0.3s,baz=177,slow=8.8,SNR=8045						
KBZ				Lg	Lg	22 42 15.5	
	comp=N,3μm,0.3s,baz=107,slow=11,SNR=17						
KBZ	Khabaz	1.22	341	Pg	Pn	22 41 59.2	-0.4
	comp=N,3.0nm,0.3s						
KBZ				Lg	Lg	22 42 15.5	
KUBR	Kubataba	1.22	359⇓	*iPG*	Pb	22 42 00.5	+0.5
KUBR				*i* S	Sg	22 42 18.1	+1.6
KUBR	Kubataba	1.22	359	*i* Pg	Pb	22 42 00.5	+0.5
KUBR				*i* Sg	Sg	22 42 18.1	+1.6
TBLG	Delisi	1.28	131	PG	Pn	22 42 00.3	-0.3
TBLG				S	Sn	22 42 17.9	+0.4
TBLG	Delisi	1.28	131	Pg	Pn	22 42 00.3	-0.3
TBLG				Sg	Sn	22 42 17.9	+0.4
TBLG	Delisi	1.28	131	P	Pn	22 41 59.7	-0.9
TBLG				S	Sn	22 42 17.6	+0.1
SHAR	Shatzhatmas	1.29	334⇓	*iPG*	Pn	22 42 01.0	0.0
SHAR				*eS*	Sn	22 42 18.9	+0.8
SHAR	Shatzhatmas	1.29	334	*i* Pg	Pn	22 42 01.0	0.0
SHAR				*eSg*	Sn	22 42 18.9	+0.8
PRTR	Priterechnaya	1.32	27⇑	*iPG*	Pg	22 42 02.5	0.0
PRTR				*i* S	Sg	22 42 21.1	+1.5
PRTR	Priterechnaya	1.32	27	*i* Pg	Pg	22 42 02.5	0.0
PRTR				*i* Sg	Sg	22 42 21.1	+1.5
KZR	Kazreti	1.40	149	P	Pn	22 42 01.1	-1.2

SNR=4941
GNI Garni 2.62 158 *e*Pn **Pn 22 42 20.6 +1.5**
GNI *e*Sn **Sn 22 42 52.2 +1.5**
GNI Garni 2.62 158 P **Pn 22 42 20.6 +1.5**
SNR=1000
GNI Garni 2.62 158 *e*Pn **Pb 22 42 23.1 -0.8**
GNI *e*Sn **Sn 22 42 52.2 +1.5**
ARRZ Ararat 2.88 161 *e*P **Pg 22 42 35.0 +2.6**
GANJ Ganja 2.89 131 ⇑P **Pn 22 42 23.3 +0.5**
SNR=147
GANJ ⇑S **Sb 22 43 01.5 -2.2**
GANJ Ganja 2.89 131 ⇑Pn **Pn 22 42 23.3 +0.5**
SNR=147
GANJ ⇑Sn **Sb 22 43 01.5 -2.2**
GANJ Ganja 2.89 131 P **Pn 22 42 23.3 +0.5**
SNR=147
GANJ S **Sb 22 43 01.5 -2.2**
SOC Sochi 2.91 291 *c i*PN **Pn 22 42 22.9 -0.1**
SOC *e*PPP PPP 22 42 29.5
SOC *e* 22 42 58.6
SOC pmax pmax
comp=Z,755nm,0.8s
SOC MLR MLR
comp=Z,131μm,12.0s
SOC Sochi 2.91 291 *i* Pn **Pn 22 42 22.9 -0.1**
comp=Z,755nm,0.8s
SOC Sochi 2.91 291 *e*Pg **Pb 22 42 29.5 +0.7**
comp=Z,31μm,12.0s
SOC *e*Sn **Sn 22 42 58.6 +0.8**
VADZ Vardenis 2.96 144 ⇑*i*P **Pb 22 42 28.0 -1.8**
VADZ ⇑*i*S **Sg 22 43 12.0 -0.4**
VADZ Vardenis 2.96 144 ⇑P **Pb 22 42 28.0 -1.8**
MAK Makhachkala 3.01 81 *c i*PN **Pn 22 42 27.1 +2.8**
MAK *e* 22 43 08.5
MAK *e* 22 43 17.8
MAK pmax pmax
comp=Z,6μm,0.8s
MAK MLR MLR
comp=Z,186μm,9.0s
MAK Makhachkala 3.01 81 *i* Pn **Pn 22 42 27.1 +2.8**
comp=Z,6μm,0.8s
MAK *e*Sb **Sb 22 43 08.5 +1.5**
MAK *e*Sg **Sg 22 43 17.8 +4.0**
comp=Z,86μm,9.0s
AGRB Hanur-Agry 3.02 187 *e*PN **Pn 22 42 26.4 +1.7**
AGRB Hanur-Agry 3.02 187 *e*Pn **Pn 22 42 26.4 +1.7**
SEKA Sheki 3.12 115 ⇑P **Pn 22 42 26.6 +0.8**
SNR=658
SEKA ⇓S **Sn 22 43 06.0 +3.2**
SEKA Sheki 3.12 115 ⇑Pn **Pn 22 42 26.6 +0.8**
SNR=658
SEKA ⇓Sn **Sn 22 43 06.0 +3.2**
SEKA Sheki 3.12 115 P **Pn 22 42 26.6 +0.8**
SNR=658
SEKA S **Sn 22 43 06.0 +3.2**
BAYT Ayd¨–ntepe-Bay 3.31 230 *e*PN **Pn 22 42 29.5 +0.8**
BAYT Ayd¨–ntepe-Bay 3.31 230 *e*Pn **Pn 22 42 29.5 +0.8**
CLDR Caldiran 3.45 174 *e*PN **Pn 22 42 33.2 +2.5**
CLDR Caldiran 3.45 174 *e*Pn **Pn 22 42 33.2 +2.5**
MTKZ Martakert 3.48 132 ⇑*i*P **Pn 22 42 30.9 +0.1**
MTKZ ⇑*i*S **Sb 22 43 18.6 -1.9**
MTKZ Martakert 3.48 132 ⇑P **Pn 22 42 30.9 +0.1**
MTKZ S **Sb 22 43 18.6 -1.9**
BRDA Brd 3.64 128 ⇑P **Pn 22 42 34.8 +1.9**
SNR=343
BRDA ⇑S **Sb 22 43 26.0 +1.0**
BRDA Brd 3.64 128 ⇑Pn **Pn 22 42 34.8 +1.9**
SNR=343
BRDA ⇑Sb **Sb 22 43 26.0 +1.0**
BRDA Brd 3.64 128 P **Pn 22 42 34.8 +1.9**
SNR=343
GUMT Gumushane 3.66 236 *e*PN **Pn 22 42 33.1 -0.3**
GUMT Gumushane 3.66 236 *e*Pn **Pn 22 42 33.1 -0.3**
STKZ 3.72 137 ⇑P **Pb 22 42 40.5 -2.2**
STKZ S **Sn 22 43 22.6 +4.8**
VRTB Varto-Mus 3.74 205 *e*PN **Pn 22 42 36.3 +1.8**
VRTB Varto-Mus 3.74 205 *e*Pn **Pn 22 42 36.3 +1.8**
NAX Nakhchivan 3.74 155 ⇑P **Pn 22 42 36.4 +2.0**
SNR=1196
NAX ⇑S **Sb 22 43 26.1 -2.1**
NAX Nakhchivan 3.74 155 ⇑Pn **Pn 22 42 36.4 +2.0**
SNR=1196
NAX ⇑Sn **Sb 22 43 26.1 -2.1**
NAX Nakhchivan 3.74 155 P **Pn 22 42 36.4 +2.0**
SNR=1000
NAX S **Sb 22 43 26.1 -2.1**
ESPY Espiye-Giresun 3.91 246 *e*PN **Pn 22 42 35.9 -0.8**
ESPY Espiye-Giresun 3.91 246 *e*Pn **Pn 22 42 35.9 -0.8**
QUBA Quba, Azerbaij 3.95 106 ⇑P **Pn 22 42 39.7 +2.3**
SNR=65
QUBA ⇓S **Sg 22 43 42.4 -1.7**
QUBA Quba, Azerbaij 3.95 106 ⇑pPn **Pn 22 42 39.7 +2.3**
SNR=65
QUBA ⇓Sb **Sg 22 43 42.4 -1.7**
QUBA Quba, Azerbaij 3.95 106 P **Pn 22 42 39.7 +2.3**
SNR=65
IML Ismayilli 3.97 115 ⇑P **Pn 22 42 39.0 +1.4**
SNR=612
IML ⇓S **Sb 22 43 34.1 -0.5**
IML Ismayilli 3.97 115 ⇑Pn **Pn 22 42 39.0 +1.4**
SNR=612
IML ⇓Sb **Sb 22 43 34.1 -0.5**
IML Ismayilli 3.97 115 P **Pn 22 42 39.0 +1.4**
SNR=612
ERZN Erzincan 4.11 225 *e*PN **Pn 22 42 40.8 +1.2**
BNGB Bing¶l 4.16 211 *e*PN **Pn 22 42 41.2 +0.9**
EZC Erzincan 4.19 229 *e*PN **Pn 22 42 41.8 +1.1**
EZC Erzincan 4.19 229 *e*Pn **Pn 22 42 40.8 +0.1**
PQL Pirkuli 4.25 113 ⇑P **Pn 22 42 43.8 +2.3**
SNR=392
PQL ⇑S **Sg 22 43 53.8 +0.3**
PQL Pirkuli 4.25 113 ⇑pPn **Pn 22 42 43.8 +2.3**
SNR=392
PQL ⇑Sg **Sg 22 43 53.8 +0.3**
PQL Pirkuli 4.25 113 P **Pn 22 42 43.8 +2.3**
SNR=392
BINT Bingol 4.33 212 *e*Pn **Pn 22 42 41.2 -1.5**
SIZA Siyzn 4.34 108 ⇑P **Pn 22 42 44.5 +1.8**
SNR=86
SIZA ⇑S **Sg 22 43 56.8 +0.3**
SIZA Siyzn 4.34 108 ⇑pPn **Pn 22 42 44.5 +1.8**
SNR=86
SIZA ⇑Sg **Sg 22 43 56.8 +0.3**
SIZA Siyzn 4.34 108 P **Pn 22 42 44.5 +1.8**
SNR=86
ATGJ Altiaghaj 4.45 111 ⇑P **Pn 22 42 46.6 +2.4**
ATGJ ⇑S **Sb 22 43 47.8 -0.9**
ATGJ Altiaghaj 4.45 111 ⇑pPn **Pn 22 42 46.6 +2.4**
ATGJ ⇑Sb **Sb 22 43 47.8 -0.9**
ATGJ Altiaghaj 4.45 111 P **Pn 22 42 46.7 +2.4**
ISHB Shabestar 4.60 158 *e*P Pn 22 42 51.2 +4.8
ISHB Shabestar 4.60 158 *e*P Pn 22 42 51.2 +4.8
PTK Pertek 4.81 221 *e*PN **Pn 22 42 50.9 +1.7**
PTK Pertek 4.81 221 *e*Pn **Pn 22 42 50.9 +1.7**
ITBZ Tabriz 4.81 154 *e*P Pn 22 42 53.4 +4.2
ITBZ Tabriz 4.81 154 *e*P Pn 22 42 53.4 +4.2
ILIC ilic-Erzincan 4.84 231 *e*PN **Pn 22 42 50.6 +1.0**
ILIC ilic-Erzincan 4.84 231 *e*Pn **Pn 22 42 50.6 +1.0**
ANN Anapa 4.89 299 *e*PN **Pn 22 42 50.2 0.0**
ANN *e*S **Sn 22 43 47.9 +1.3**
ANN pmax pmax
comp=N,431nm,1.7s
ANN pmax pmax
comp=E,261nm,1.7s
ANN pmax pmax
comp=Z,1μm,1.7s
ANN MLR MLR
comp=N,13μm,6.0s
ANN MLR MLR
comp=E,29μm,6.0s
ANN MLR MLR
comp=Z,23μm,6.0s
ANN Anapa 4.89 299 *e*Pn **Pn 22 42 50.2 0.0**
ANN *e*Sn **Sn 22 43 47.9 +1.3**
ALIB Äli-Bayra 4.94 120 ⇑P Pn 22 42 54.4 +3.6
SNR=94
ALIB Äli-Bayra 4.94 120 ⇑pPn Pn 22 42 54.4 +3.6
SNR=94
ALIB Äli-Bayra 4.94 120 P Pn 22 42 54.4 +3.6
SNR=94
GLBA Clilabad 5.01 130 ⇑P **Pn 22 42 53.1 +1.2**
SNR=76
GLBA ⇓S **Sb 22 44 09.5 +4.8**
GLBA Clilabad 5.01 130 ⇑Pn **Pn 22 42 53.1 +1.2**
SNR=76
GLBA ⇓Sb **Sb 22 44 09.5 +4.8**
GLBA Clilabad 5.01 130 P **Pn 22 42 53.1 +1.2**
SNR=76
IHRS Heris 5.06 146 *e*P Pn 22 42 59.1 +6.3
IHRS Heris 5.06 146 *e*P Pn 22 42 59.1 +6.3
IFTB Fath-abad 5.08 153 *e*P Pb 22 43 01.6 -4.4
RSDY Resadiye-TOKAT 5.09 247 *e*PN **Pn 22 42 53.2 +0.2**
RSDY Resadiye-TOKAT 5.09 247 *e*Pn **Pn 22 42 53.2 +0.2**
SIRT Sirnak 5.13 189 *e*PN **Pn 22 42 56.6 +2.9**
SIRT Sirnak 5.13 189 *e*Pn **Pn 22 42 56.6 +2.9**
GOBA Gobu 5.20 113 ⇑P **Pn 22 42 57.4 +3.0**
SNR=100
GOBA ⇑S **Sg 22 44 21.4 -2.5**
GOBA Gobu 5.20 113 ⇑pPn **Pn 22 42 57.4 +3.0**
SNR=100
GOBA ⇑Sb **Sg 22 44 21.4 -2.5**
GOBA Gobu 5.20 113 P **Pn 22 42 57.4 +3.0**
SNR=100
DIY Diyarbakir 5.29 209 *e*PN **Pn 22 42 57.7 +1.9**
DIY Diyarbakir 5.29 209 *e*Pn **Pn 22 42 57.7 +1.9**
NDR Nardaran 5.29 110 ⇑P Pn 22 43 00.8 +5.1
SNR=17
NDR Nardaran 5.29 110 ⇑sPn Pn 22 43 00.8 +5.1
SNR=17
NDR Nardaran 5.29 110 P Pn 22 43 00.8 +5.1
SNR=17
CUKT Cukurca 5.33 179 *e*PN Pn 22 43 00.4 +4.0
CUKT Cukurca 5.33 179 *e*Pn Pn 22 43 00.4 +4.0
GALA Gala 5.48 111 ⇓S **Sg 22 44 28.6 -4.4**
GALA Gala 5.48 111 ⇓Sb **Sg 22 44 28.6 -4.4**
SVSK Karacayir 5.55 243 *e*PN **Pn 22 42 59.9 +0.7**
SVSK Karacayir 5.55 243 *e*Pn **Pn 22 42 59.9 +0.7**
LKRN Lenkeran, Azer 5.60 132 ⇑P **Pn 22 43 01.3 +1.4**
SNR=28
LKRN ⇑S **Sb 22 44 16.9 -4.7**
LKRN Lenkeran, Azer 5.60 132 ⇑Pn **Pn 22 43 01.3 +1.4**
SNR=28
LKRN ⇑Sn **Sb 22 44 16.9 -4.7**
LKRN Lenkeran, Azer 5.60 132 P **Pn 22 43 01.3 +1.4**
SNR=28
MAZI Mazidag 5.61 205 *e*PN **Pn 22 43 02.1 +1.9**
MAZI Mazidag 5.61 205 *e*Pn **Pn 22 43 02.1 +1.9**
TOKT Tokat 5.66 249 *e*PN **Pn 22 43 01.3 +0.5**
TOKT Tokat 5.66 249 *e*Pn **Pn 22 43 01.3 +0.5**
KVT Kavak 5.73 257 *e*PN **Pn 22 43 02.0 +0.2**
KVT Kavak 5.73 257 *e*Pn **Pn 22 43 02.0 +0.2**
MALT Malatya 5.73 224 *e*PN **Pn 22 43 03.9 +2.0**
MALT Malatya 5.73 224 ⇓P **Pn 22 43 03.3 +1.4**
MALT Malatya 5.73 224 ⇓*i*P **Pn 22 43 03.3 +1.4**
MALT Malatya 5.73 224 ⇓*i*P **Pn 22 43 03.3 +1.4**
MALT Malatya 5.73 224 *e*Pn **Pn 22 43 03.9 +2.0**
KERU Kerch 5.74 301 *e*P **Pn 22 43 04.5 +2.7**
KERU *e*S **Sn 22 44 11.2 +3.9**
KERU Kerch 5.74 301 *e*P **Pn 22 43 04.5 +2.7**
KERU *e*S **Sn 22 44 11.2 +3.9**
ISRB Sarab 5.74 144 *e*P Pn 22 43 06.9 +4.8
ISRB Sarab 5.74 144 *e*P Pn 22 43 06.9 +4.8
DARE Darende-Malaty 6.06 231 *e*PN **Pn 22 43 08.3 +1.9**
DIKM Dikmen 6.17 264 *e*PN **Pn 22 43 07.7 0.0**
DIKM Dikmen 6.17 264 *e*Pn **Pn 22 43 07.7 0.0**
URFA Urfa 6.25 216 *e*PN **Pn 22 43 10.3 +1.4**
URFA Urfa 6.25 216 *e*Pn **Pn 22 43 10.3 +1.4**
FEO Feodosiya 6.32 295 *e*P **Pn 22 43 11.0 +1.2**
FEO *e*S **Sn 22 44 23.6 +1.9**
FEO Feodosiya 6.32 295 *e*P **Pn 22 43 11.0 +1.2**
FEO *e*S **Sn 22 44 23.6 +1.9**
SUDU Sudak 6.54 294 ⇑*e*P **Pn 22 43 11.1 -1.7**
SUDU *e*S **Sn 22 44 25.6 -1.6**
SUDU Sudak 6.54 294 *e*P **Pn 22 43 11.1 -1.7**
SUDU *e*S **Sn 22 44 25.6 -1.6**
BYBT Boyabat 6.56 263 *e*PN **Pn 22 43 13.4 +0.3**
BYBT Boyabat 6.56 263 *e*Pn **Pn 22 43 13.4 +0.3**
YOZ Yozgat 6.81 247 *e*PN **Pn 22 43 17.6 +0.9**
YOZ Yozgat 6.81 247 *e*Pn **Pn 22 43 17.6 +0.9**
BNN Bunyan 6.88 240 *e*PN **Pn 22 43 18.1 +0.5**
BNN Bunyan 6.88 240 *e*Pn **Pn 22 43 18.1 +0.5**
ALU Alushta 6.89 291 *e*P **Pn 22 43 17.1 -0.5**
ALU *e*S **Sn 22 44 34.4 -1.4**
ALU Alushta 6.89 291 *e*P **Pn 22 43 17.1 -0.5**
ALU *e*S **Sn 22 44 34.4 -1.4**
YAL Yalta 7.02 289 ⇑*e*P **Pn 22 43 19.1 -0.3**
YAL *e*S **Sn 22 44 37.9 -1.0**
YAL MLR MLR
comp=Z,52μm,15.6s
YAL Yalta 7.02 289 *e*P **Pn 22 43 19.1 -0.3**
comp=Z,52μm,15.6s
YAL *e*S **Sn 22 44 37.9 -1.0**
BZK Bozkurt 7.04 268 *e*PN **Pn 22 43 19.9 +0.3**
BZK Bozkurt 7.04 268 *e*Pn **Pn 22 43 19.9 +0.3**
CORM Corum 7.06 253 *e*PN **Pn 22 43 20.3 +0.2**
CORM Corum 7.06 253 *e*Pn **Pn 22 43 20.3 +0.2**
KMRS Kahramanmaras 7.14 227 *e*PN **Pn 22 43 23.0 +1.9**
KMRS Kahramanmaras 7.14 227 *e*Pn **Pn 22 43 23.0 +1.9**
SIM Simferopol' 7.16 292 *ce*P **Pn 22 43 21.0 -0.3**
SIM S **Sn 22 44 40.0 -2.4**
SIM pmax pmax
comp=Z,130nm,0.4s
SIM Simferopol' 7.16 292 *e*P **Pn 22 43 21.0 -0.3**
comp=Z,130nm,0.4s
SIM S **Sn 22 44 40.0 -2.4**
TOS Tosya 7.21 261 *e*PN **Pn 22 43 22.5 +0.3**
TOS Tosya 7.21 261 *e*Pn **Pn 22 43 22.5 +0.3**
SEV Sevastopol' 7.37 289 ⇓*e*P **Pn 22 43 22.4 -1.8**
SEV *e*S **Sn 22 44 43.8 -3.8**
SEV Sevastopol' 7.37 289 *e*P **Pn 22 43 22.4 -1.8**
SEV *e*S **Sn 22 44 43.8 -3.8**
KOZT Kozan 7.76 231 *e*PN **Pn 22 43 31.8 +2.2**
KOZT Kozan 7.76 231 *e*Pn **Pn 22 43 31.8 +2.2**
BR131 Keskin Array S 7.94 252 *e*Pn **Pn 22 43 32.8 +0.7**
comp=Z,134nm,0.7s
BR131 *e*Sn **Sn 22 45 02.8 +1.1**
BR131 Keskin Array S 7.94 252 *e*Pn **Pn 22 43 32.8 +0.7**
comp=Z,134nm,0.7s
BR131 *e*Sn **Sn 22 45 02.8 +1.1**
BRTR Keskin Array B 7.94 252 Pn **Pn 22 43 33.1 +1.0**
BRTR Sn **Sn 22 45 02.4 +0.7**
BRTR PcP **PcP 22 50 09.8 +0.4**
BRTR PKiKP **PKiKP 22 58 09.1 -1.0**
BRTR Keskin Array B 7.94 252 Pn **Pn 22 43 33.1 +1.0**
comp=Z,11nm,0.3s,baz=52,slow=10,SNR=148
BRTR Sn **Sn 22 45 02.4 +0.7**
comp=Z,1.2nm,0.3s,baz=51,slow=28,SNR=3.9
BRTR LR LR 22 47 06.6
comp=Z,41μm,18.2s,baz=61,slow=42
BRTR PcP **PcP 22 50 09.8 +0.4**
comp=Z,0.1nm,0.3s,baz=70,slow=2.7,SNR=3.9
BRTR PKiKP **PKiKP 22 58 09.1 -1.0**
comp=Z,0.1nm,0.3s,baz=239,slow=1.6,SNR=6.7
BRTR Keskin Array B 7.94 252 P **Pn 22 43 33.1 +1.0**
comp=Z,11nm,0.3s
BRTR S **Sn 22 45 02.4 +0.7**
comp=Z,41μm,18.2s
KAMT Kaman 8.04 250 *e*PN **Pn 22 43 34.3 +0.8**
KAMT Kaman 8.04 250 *e*Pn **Pn 22 43 34.3 +0.8**
NIG Nigde 8.10 239 *e*PN **Pn 22 43 35.6 +1.2**
NIG Nigde 8.10 239 *e*Pn **Pn 22 43 35.6 +1.2**
CEYT Ceyhan 8.13 229 *e*PN **Pn 22 43 36.1 +1.4**
CEYT Ceyhan 8.13 229 *e*Pn **Pn 22 43 36.1 +1.4**
SAFT Safranbolu 8.14 264 *e*PN **Pn 22 43 34.6 -0.1**
SAFT Safranbolu 8.14 264 *e*Pn **Pn 22 43 34.7 -0.1**
IDHR Dehrash 8.20 163 *e*P Pn 22 43 40.5 +4.7
IDHR Dehrash 8.20 163 *e*P Pn 22 43 40.5 +4.7
KARA Karaisali 8.36 233 *e*PN **Pn 22 43 39.7 +1.9**
KARA Karaisali 8.36 233 *e*Pn **Pn 22 43 39.7 +1.9**
AFSR Af¨ar-Bala (A 8.45 252 *e*PN **Pn 22 43 40.1 +1.0**
AFSR Af¨ar-Bala (A 8.45 252 *e*Pn **Pn 22 43 40.2 +1.0**
IVIS Veis 8.47 161 *e*P Pn 22 43 43.0 +3.5
IVIS Veis 8.47 161 *e*P Pn 22 43 43.0 +3.5
ANTO Ankara 8.48 255 *e*PN **Pn 22 43 40.6 +1.2**
ANTO Ankara 8.48 255 ⇓*e*P **Pn 22 43 38.9 -0.6**
ANTO *e* 22 45 13.3
ANTO Ankara 8.48 255 Pn **Pn 22 43 42.4 +2.9**
SNR=29
ANTO Ankara 8.48 255 ⇓*e*Pn **Pn 22 43 38.9 -0.6**
ANTO *e*Sn **Sn 22 45 13.3 -1.6**
ANTO Ankara 8.48 255 ⇓*i*P **Pn 22 43 39.7 +0.2**
ANTO Ankara 8.48 255 ⇓*i*P **Pn 22 43 39.7 +0.2**
ANTO Ankara 8.48 255 *e*Pn **Pn 22 43 40.7 +1.2**
ANTO *e*S **Sn 22 45 13.3 -1.6**
HTY Hatay 8.58 224 *e*PN **Pn 22 43 42.4 +1.5**
HTY Hatay 8.58 224 *e*Pn **Pn 22 43 42.4 +1.5**
IGHG Ghaleghazi 8.60 162 *e*P Pn 22 43 45.6 +4.3
IGHG Ghaleghazi 8.60 162 *e*P Pn 22 43 45.6 +4.3
VRHR Novokhopersk 8.61 352 *e*P **Pn 22 43 42.0 +0.9**
VRHR pmax pmax
comp=Z,350nm,1.1s
VRHR pmax pmax
comp=N,680nm,1.2s
VRHR pmax pmax
comp=E,340nm,1.0s
VRHR MLR MLR
comp=N,17μm,14.0s
VRHR MLR MLR
comp=Z,86μm,14.0s
VRHR MLR MLR
comp=E,38μm,15.0s
VRHR Novokhopersk 8.61 352 *e*P **Pn 22 43 42.0 +0.9**
comp=E,680nm,1.2s
SULT Sultanhani-AKS 8.75 243 *e*PN **Pn 22 43 44.6 +1.3**
SULT Sultanhani-AKS 8.75 243 *e*Pn **Pn 22 43 44.6 +1.3**
IRAZ Razeghan 8.76 143 *e*P Pn 22 43 48.1 +4.6
IRAZ Razeghan 8.76 143 *e*P Pn 22 43 48.1 +4.6
VORD Divnogorie 8.86 343 *e*P **Pn 22 43 47.2 +2.7**
VORD pmax pmax
comp=Z,440nm,0.9s
VORD pmax pmax
comp=N,1μm,1.1s
VORD pmax pmax
comp=E,340nm,0.7s
VORD MLR MLR
comp=Z,77μm,14.0s
VORD MLR MLR
comp=N,63μm,12.0s
VORD MLR MLR
comp=E,13μm,9.0s
VORD Divnogorie 8.86 343 *e*P **Pn 22 43 47.2 +2.7**
comp=E,63μm,12.0s
IMHD Mahdasht 8.88 139 *e*P Pn 22 43 49.6 +4.6
IMHD Mahdasht 8.88 139 *e*P Pn 22 43 49.6 +4.6
IKOM Komasi 8.98 158 *e*P Pn 22 43 51.1 +4.6
IKOM Komasi 8.98 158 *e*P Pn 22 43 51.1 +4.6
KDZE Karadeniz Ereo 9.04 266 *e*PN **Pn 22 43 46.9 -0.2**
KDZE Karadeniz Ereo 9.04 266 *e*Pn **Pn 22 43 46.9 -0.2**
VSR Storozhevoye 9.12 343 *e*P **Pn 22 43 48.1 -0.1**
VSR pmax pmax
comp=Z,850nm,1.4s
VSR pmax pmax
comp=N,1μm,1.7s
VSR pmax pmax
comp=E,790nm,1.7s
VSR MLR MLR
comp=Z,61μm,10.0s
VSR MLR MLR
comp=N,58μm,14.0s
VSR MLR MLR
comp=E,25μm,15.0s
VSR Storozhevoye 9.12 343 *e*P **Pn 22 43 48.1 -0.1**
comp=E,58μm,14.0s
IR5 Iran Long-Peri 9.22 141 *e*P Pn 22 43 54.8 +5.1
BHD Baghdad 9.33 175 *i* P **Pn 22 43 50.5 -0.5**
baz=355
BHD *i* S **Sn 22 45 32.0 -3.7**
IPRN Peran 9.34 130 *e*P **Pn 22 43 51.4 0.0**
MDUB Mudurnu 9.43 261 *e*PN **Pn 22 43 52.4 -0.2**
MDUB Mudurnu 9.43 261 *e*Pn **Pn 22 43 52.4 -0.2**
LADK Ladik-KONYA 9.52 246 *e*PN **Pn 22 43 54.0 +0.2**
LADK Ladik-KONYA 9.52 246 *e*Pn **Pn 22 43 54.0 +0.2**
KIZT Kizilcal 9.53 251 *e*PN **Pn 22 43 54.1 +0.2**
KIZT Kizilcal 9.53 251 *e*Pn **Pn 22 43 54.2 +0.2**
SVRH Sivrihisar-ESK 9.54 255 *e*PN **Pn 22 43 54.4 +0.2**
SVRH Sivrihisar-ESK 9.54 255 *e*Pn **Pn 22 43 54.4 +0.2**
VOR Voronezh 9.60 344 *e*P **Pn 22 43 53.0 -1.7**
VOR pmax pmax
comp=Z,960nm,1.6s
VOR Voronezh 9.60 344 *e*P **Pn 22 43 53.0 -1.7**
comp=Z,960nm,1.6s
IBDR Badra 9.66 168 *i* P **Pn 22 43 58.1 +2.5**
baz=348
IBDR *i* S **Sn 22 45 47.0 +3.2**
IBDR Badra 9.66 168 *i* P **Pn 22 43 58.1 +2.5**
baz=348,SNR=39
IBDR *i* S **Sn 22 45 47.0 +3.2**
SNR=39
KONT Konya--Tatoy 9.66 245 *e*PN **Pn 22 43 56.3 +0.7**
KONT Konya--Tatoy 9.66 245 *e*Pn **Pn 22 43 56.3 +0.7**
IDMV Damavand 9.66 134 *e*P Pn 22 43 59.8 +3.9
IDMV Damavand 9.66 134 *e*P Pn 22 43 59.8 +3.9
ROOS tl_alroos 9.69 212 *i* P Pn 22 43 59.6 +3.4
IALA Alasht 9.73 129 *e*P **Pn 22 43 56.3 -0.5**
HAWK Haweek 9.76 217 *i* P **Pn 22 43 59.6 +2.5**
HAWK Haweek 9.76 217 *i* P **Pn 22 43 59.6 +2.5**
SNR=46
IKL Isikli 9.86 233 *e*PN **Pn 22 43 59.0 +0.7**
IKL Isikli 9.86 233 *e*Pn **Pn 22 43 59.1 +0.7**
GULT Gulveren 9.94 262 *e*PN **Pn 22 43 59.4 -0.1**
GULT Gulveren 9.94 262 *e*Pn **Pn 22 43 59.4 -0.1**
IVRN Varamin 9.95 137 *e*P Pn 22 44 04.1 +4.4
IVRN Varamin 9.95 137 *e*P Pn 22 44 04.1 +4.4
ESKT Eskisehir 10.00 256 *e*PN **Pn 22 44 00.3 -0.1**
ESKT Eskisehir 10.00 256 *e*Pn **Pn 22 44 00.3 -0.1**
IFIR Firoozkooh 10.01 131 *e*P **Pn 22 44 03.2 +2.5**
IFIR Firoozkooh 10.01 131 *e*P **Pn 22 44 03.2 +2.5**
IGLO Ghaloghah 10.05 124 *e*P **Pn 22 44 01.6 +0.4**
HDMB Hadim 10.13 240 *e*PN **Pn 22 44 02.2 -0.1**
HDMB Hadim 10.13 240 *e*Pn **Pn 22 44 02.2 -0.1**
GPA Golpazari 10.13 261 *e*PN **Pn 22 44 01.9 -0.2**
GPA Golpazari 10.13 261 *e*Pn **Pn 22 44 01.9 -0.2**
MARH Ras Al Marh 10.14 215 *i* P Pn 22 44 06.7 +4.1
IKIA Kiasar 10.16 125 *e*P **Pn 22 44 02.5 -0.2**
IKIA Kiasar 10.16 125 *e*P **Pn 22 44 02.5 -0.2**
HWQ Hawqa 10.16 218 *e*P **Pn 22 44 03.8 +1.1**
HWQ Hawqa 10.16 218 *e*P **Pn 22 44 03.8 +1.1**
ISHM Shahmirzad 10.20 128 *e*P **Pn 22 44 04.5 +1.2**
ISHM Shahmirzad 10.20 128 *e*P **Pn 22 44 04.5 +1.2**
ILAS Lasjerd 10.31 131 *e*P **Pn 22 44 07.9 +3.1**
ILAS Lasjerd 10.31 131 *e*P **Pn 22 44 07.9 +3.1**
PHNC Paralimni 10.54 227 P Pn 22 44 12.2 +4.4
comp=Z,53nm,2.6s
IMND Minoodasht 10.61 116 *e*P **Pn 22 44 09.0 +0.4**
IMND Minoodasht 10.61 116 *e*P **Pn 22 44 09.0 +0.4**
BHL Bhannes 10.61 218 *e*P **Pn 22 44 09.2 +0.5**
BHL Bhannes 10.61 218 *e*P **Pn 22 44 09.2 +0.5**
QASN Qassioun 10.65 214 *i* P Pn 22 44 13.7 +4.4
ISFB Sefidab 10.72 137 *e*P Pn 22 44 14.1 +3.9
ISFB Sefidab 10.72 137 *e*P Pn 22 44 14.1 +3.9
TOTH TOTAH 10.74 213 *i* P Pn 22 44 15.2 +4.7
SUTC Sutluce-Ispart 10.82 246 *e*PN **Pn 22 44 11.7 0.0**
SUTC Sutluce-Ispart 10.82 246 *e*Pn **Pn 22 44 11.7 0.0**
RCY Rachaya 10.87 216 *e*P **Pn 22 44 14.8 +2.4**
MAMC Mammari 10.88 230 P Pn 22 44 15.5 +3.2
MAMC Mammari 10.88 230 P Pn 22 44 15.5 +3.2
TLCR 10.88 289 ⇑P **Pn 22 44 11.3 -1.0**
TLCR 10.88 289 ⇑*i*P **Pn 22 44 11.3 -1.0**
TLCR 10.88 289 ⇑*i*P **Pn 22 44 11.3 -1.0**
BRBR Barbar 10.90 215 *i* P Pn 22 44 16.1 +3.3
BRBR *i* P Pn 22 44 17.4 +4.6
BRBR Barbar 10.90 215 *i* P Pn 22 44 16.1 +3.3
SNR=45
EFOR EFORIE 10.90 283 ⇑*i*P **Pn 22 44 10.9 -1.7**
EFOR EFORIE 10.90 283 ⇑*i*P **Pn 22 44 10.9 -1.7**
MANR Mangalia 10.93 282 ⇑*i*P **Pn 22 44 11.9 -1.0**
MANR Mangalia 10.93 282 ⇑*i*P **Pn 22 44 11.9 -1.0**
CSS Prodhromos 10.96 229 P Pn 22 44 17.5 +4.0
comp=Z,85nm,3.2s
CSS Prodhromos 10.96 229 ⇓*i*Pn **Pn 22 44 13.8 +0.3**
CSS *e*Sn **Sn 22 46 16.4 +0.5**
CSS Prodhromos 10.96 229 ⇓*i*Pn **Pn 22 44 13.8 +0.3**
CSS *e*Sn **Sn 22 46 16.4 +0.5**
ISP Isparta 10.97 249 *e*PN **Pn 22 44 12.6 -1.1**
ISP Isparta 10.97 249 ⇓*i*P **Pn 22 44 15.3 +1.6**
ISP *e* 22 46 13.7
ISP Isparta 10.97 249 ⇓*i*Pn **Pn 22 44 15.3 +1.6**
ISP *e*Sn **Sn 22 46 13.7 -2.5**
ISP Isparta 10.97 249 ⇑*i*P **Pn 22 44 14.5 +0.8**
ISP Isparta 10.97 249 ⇑*i*P **Pn 22 44 14.5 +0.8**
ISP Isparta 10.97 249 ⇓*i*Pn **Pn 22 44 15.3 +1.6**
ISP *e*S **Sn 22 46 13.7 -2.5**
TIRR Tirgusor 11.08 285 *e*P **Pn 22 44 12.2 -2.9**
TIRR *e* 22 46 12.1
TIRR Tirgusor 11.08 285 *e*Pn **Pn 22 44 12.2 -2.9**
TIRR *e*Sn Sn 22 46 12.1 -6.6
TIRR Tirgusor 11.08 285 ⇑*i*P **Pn 22 44 12.8 -2.3**
TIRR Tirgusor 11.08 285 *e*Pn **Pn 22 44 12.2 -2.9**
TIRR Tirgusor 11.08 285 ⇑*i*P **Pn 22 44 12.8 -2.3**

TIRR *e*S Sn 22 46 12.1 -6.6
BCK Bucak 11.11 247 *e*PN **Pn 22 44 15.0 -0.5**
BCK Bucak 11.11 247 *e*Pn **Pn 22 44 15.0 -0.5**
SALA Sala 11.20 211 *i* P Pn 22 44 20.4 +3.5
SALA Sala 11.20 211 *i* P Pn 22 44 20.4 +3.5
SNR=45
PSN Preselentsi 11.22 281 *e*P **Pn 22 44 14.6 -2.3**
PSN Preselentsi 11.22 281 *e*P **Pn 22 44 14.6 -2.3**
ALFC Alevga 11.24 232 P **Pn 22 44 18.3 +1.0**
comp=Z,5.9nm,0.9s
ALFC Alevga 11.24 232 P **Pn 22 44 18.3 +1.0**
comp=Z,5.9nm,0.9s
KIS Kishinev 11.29 298 *e*P **Pn 22 44 16.0 -2.0**
comp=Z,500nm,1.4s
KIS *i* S Sn 22 46 30.0 +6.1
KIS LRM MLR 22 49 40.0
comp=Z,43μm,15.0s
KIS Kishinev 11.29 298 *e*P **Pn 22 44 16.0 -2.0**
KIS *i* S Sn 22 46 30.0 +6.1
KIS pmax pmax
comp=Z,500nm,1.4s
KIS pmax pmax
comp=Z,4μm,13.0s
KIS pmax pmax
comp=Z,3μm,15.0s
KIS MLR MLR
comp=N,28μm,14.0s
KIS MLR MLR
comp=E,36μm,14.0s
KIS MLR MLR
comp=Z,44μm,14.0s
KIS MLR MLR
comp=Z,43μm,15.0s
KIS Kishinev 11.29 298⇑*i*P **Pn 22 44 16.9 -1.1**
KIS Kishinev 11.29 298 *e*P **Pn 22 44 16.0 -2.0**
comp=Z,500nm,1.4s
KIS *i* S Sn 22 46 30.0 +6.1
comp=Z,43μm,15.0s
CVD Cernavoda 11.35 284⇑P **Pn 22 44 17.0 -1.7**
CVD Cernavoda 11.35 284⇑*i*P **Pn 22 44 17.0 -1.7**
CVD Cernavoda 11.35 284⇑*i*P **Pn 22 44 17.0 -1.7**
CFR Carcaliu 11.36 288⇓P **Pn 22 44 17.5 -1.3**
CFR Carcaliu 11.36 288⇓*i*P **Pn 22 44 17.5 -1.3**
CFR Carcaliu 11.36 288⇓*i*P **Pn 22 44 17.5 -1.3**
TLB Topalu 11.36 285⇑P **Pn 22 44 16.6 -2.2**
TLB Topalu 11.36 285⇑*i*P **Pn 22 44 17.0 -1.8**
TLB Topalu 11.36 285⇑*i*P **Pn 22 44 17.0 -1.8**
SZAC Souni-Zanaja 11.36 230 P Pn 22 44 22.9 +3.9
HARR Harsova 11.45 286⇑P **Pn 22 44 19.7 -0.3**
HARR Harsova 11.45 286⇑*i*P **Pn 22 44 19.7 -0.3**
HARR Harsova 11.45 286⇑*i*P **Pn 22 44 19.7 -0.3**
MMAI Mount Meron Ar 11.47 216 Pn **Pn 22 44 21.2 +0.7**
MMAI Sn **Sn 22 46 32.0 +3.6**
MMAI Mount Meron Ar 11.47 216 Pn **Pn 22 44 21.2 +0.7**
comp=Z,0.9nm,0.3s,baz=28,slow=7.5,SNR=23
MMAI Sn **Sn 22 46 32.0 +3.6**
comp=Z,0.5nm,0.3s,baz=20,slow=26,SNR=2.6
MMAI LR LR 22 48 48.7
comp=Z,15μm,21.9s,baz=25,slow=38
MMAI Mount Meron Ar 11.47 216 Pn **Pn 22 44 21.2 +0.7**
MMAI Sn **Sn 22 46 32.0 +3.6**
AKMC Akamas 11.49 233 P **Pn 22 44 23.6 +2.9**
AKMC Akamas 11.49 233 P **Pn 22 44 23.6 +2.9**
LEOM Leova 11.53 295⇑P **Pn 22 44 20.0 -1.1**
LEOM Leova 11.53 295⇑*i*P **Pn 22 44 20.0 -1.1**
LEOM Leova 11.53 295⇑*i*P **Pn 22 44 20.0 -1.1**
TCHB Talchebab 11.53 213 *i* P Pn 22 44 25.5 +4.2
PPCY Paphos 11.58 232 P Pn 22 44 25.3 +3.4
PPCY Paphos 11.58 232 P Pn 22 44 25.3 +3.4
ASF Jabal al Asfar 11.62 209 Pn **Pn 22 44 21.9 -0.6**
ASF Jabal al Asfar 11.62 209 Pn **Pn 22 44 21.9 -0.6**
comp=Z,0.3nm,0.3s,baz=337,slow=7.6,SNR=28
ASF LR LR 22 49 21.7
comp=Z,26μm,20.5s,baz=347,slow=40
PRD Provadia 11.79 278 *e*P **Pn 22 44 24.3 -0.5**
PRD Provadia 11.79 278 *e*P **Pn 22 44 24.3 -0.5**
AMRR Amara 11.86 285⇓P **Pn 22 44 24.0 -1.7**
AMRR Amara 11.86 285⇓*i*P **Pn 22 44 24.0 -1.7**
AMRR Amara 11.86 285⇓*i*P **Pn 22 44 24.0 -1.7**
GHRR 12.01 292⇓*i*P **Pn 22 44 27.0 -0.7**
GHRR 12.01 292⇓*i*P **Pn 22 44 27.0 -0.7**
PETR Petresti 12.07 291⇓*i*P **Pn 22 44 29.4 +0.9**
PETR Petresti 12.07 291⇓*i*P **Pn 22 44 29.4 +0.9**
PGOR Pogoanele 12.14 287⇑*i*P **Pn 22 44 29.3 -0.2**
PGOR Pogoanele 12.14 287⇑*i*P **Pn 22 44 29.3 -0.2**
IAS Iasi 12.17 298⇓P **Pn 22 44 28.4 -1.6**
IAS Iasi 12.17 298⇓*i*P **Pn 22 44 28.4 -1.6**
IAS Iasi 12.17 298⇓*i*P **Pn 22 44 28.4 -1.6**
GRER 12.20 289⇑*i*P **Pn 22 44 31.2 +0.9**
GRER 12.20 289⇑*i*P **Pn 22 44 31.2 +0.9**
VRI Vrincioaia 12.44 291⇓P **Pn 22 44 32.3 -1.3**
VRI Vrincioaia 12.44 291⇓*i*P **Pn 22 44 32.3 -1.3**
VRI Vrincioaia 12.44 291⇓*i*P **Pn 22 44 32.3 -1.3**
ISFR Sfrayin 12.47 111 *e*P **Pn 22 44 32.8 -1.5**
ISR Istrita 12.47 287⇑P **Pn 22 44 32.4 -1.7**
ISR Istrita 12.47 287⇑*i*P **Pn 22 44 32.4 -1.7**
ISR Istrita 12.47 287⇑*i*P **Pn 22 44 32.4 -1.7**
PLOR Plostina 12.49 291⇓P **Pn 22 44 33.9 -0.5**
PLOR Plostina 12.49 291⇓*i*P **Pn 22 44 33.9 -0.5**
PLOR Plostina 12.49 291⇓*i*P **Pn 22 44 33.9 -0.5**
TESR Tescani 12.61 294⇑*i*P **Pn 22 44 35.6 -0.4**
TESR Tescani 12.61 294⇑*i*P **Pn 22 44 35.6 -0.4**
SULR 12.64 285⇑*i*P **Pn 22 44 34.7 -1.6**
SULR 12.64 285⇑*i*P **Pn 22 44 34.7 -1.6**
AKASG Malin Array Be 12.69 315 P **Pn 22 44 34.5 -2.5**
AKASG 22 46 56.8
AKASG pmax pmax
comp=Z,6.0nm,0.3s
AKASG smax smax
comp=N,3.0nm,0.3s
AKASG Malin Array Be 12.69 315 Pn **Pn 22 44 34.5 -2.5**
AKASG Sn **Sn 22 46 56.8 -1.2**
AKASG Malin Array Be 12.69 315 Pn **Pn 22 44 34.5 -2.5**
comp=N,6.2nm,0.3s,baz=123,slow=13,SNR=25
AKASG Sn **Sn 22 46 56.8 -1.2**
comp=N,3.0nm,0.3s,baz=292,slow=32,SNR=2.9
AKASG Malin Array Be 12.69 315 P **Pn 22 44 34.5 -2.5**
comp=N,6.0nm,0.3s
AKASG S **Sn 22 46 56.8 -1.2**
comp=N,3.0nm,0.3s
KIEV Kiev 12.70 315 *e*P **Pn 22 44 34.6 -2.5**
KIEV *e* 22 47 03.7
KIEV Kiev 12.70 315 *e*Pn **Pn 22 44 34.6 -2.5**
KIEV *e*Sn **Sn 22 47 03.7 +5.6**
KIEV Kiev 12.70 315 *e*P **Pn 22 44 34.6 -2.5**
KIEV *e*S **Sn 22 47 03.7 +5.6**
AKTK Aktyubinsk 12.72 47 P **Pn 22 44 34.4 -3.1**
comp=N,80μm,18.9s
AKTO Aktyubinsk 12.72 47⇓Pn **Pn 22 44 35.0 -2.5**
comp=N,465nm,0.8s
AKTO ⇓Sn Sn 22 46 51.3 -7.6
comp=N,1μm,0.9s
AKTO Aktyubinsk 12.72 47 P **Pn 22 44 34.4 -3.1**
AKTO pmax pmax
comp=Z,5.0nm,0.3s
AKTO MLR MLR
comp=Z,80μm,18.9s
AKTO Aktyubinsk 12.72 47 Pn **Pn 22 44 34.4 -3.1**
AKTO Sn Sn 22 46 52.0 -6.8
AKTO Aktyubinsk 12.72 47 Pn **Pn 22 44 34.4 -3.1**
comp=Z,5.0nm,0.3s,baz=245,slow=12,SNR=206
AKTO Sn Sn 22 46 52.0 -6.8
comp=Z,6.2nm,0.3s,baz=81,slow=19,SNR=2.6
AKTO LR LR 22 51 15.7
comp=Z,80μm,18.9s,baz=253,slow=46
AKTO Aktyubinsk 12.72 47 Pn **Pn 22 44 34.4 -3.1**
AKTO Sn Sn 22 46 52.0 -6.8
IEMG Emamgholi 12.74 109 *e*P **Pn 22 44 36.3 -1.8**
BUC1 Bucharest 12.78 284⇑P **Pn 22 44 36.6 -1.8**
BUC1 Bucharest 12.78 284⇑*i*P **Pn 22 44 36.5 -1.8**
BUC1 Bucharest 12.78 284⇑*i*P **Pn 22 44 36.5 -1.8**
SECR 12.80 287⇓*i*P **Pn 22 44 38.2 -0.3**
SECR 12.80 287⇓*i*P **Pn 22 44 38.2 -0.3**
SZH Strazhica 12.86 279 *e*P Pn 22 44 36.3 -3.1
MLR Muntele Rosu 12.93 289 Pn **Pn 22 44 41.4 +1.0**
MLR Sn **Sn 22 47 04.5 +0.4**
MLR Muntele Rosu 12.93 289⇑*i*P **Pn 22 44 40.3 -0.1**
MLR Muntele Rosu 12.93 289 Pn **Pn 22 44 41.4 +1.0**
comp=Z,1.2nm,0.3s,baz=180,slow=5.0,SNR=36
MLR Sn **Sn 22 47 04.5 +0.4**
comp=Z,1.2nm,0.3s,baz=225,slow=14,SNR=3.2
MLR Muntele Rosu 12.93 289⇑*i*P **Pn 22 44 40.3 -0.1**
MLR Muntele Rosu 12.93 289 Pn **Pn 22 44 41.4 +1.0**

MLR S **Sn 22 47 04.5 +0.4**
comp=Z,1.0nm,0.3s
IKRD Kardeh 12.96 112 *e*P P 22 44 47.9 -3.8
MIB Mutribah 13.13 165 *e*P **Pn 22 44 44.2 +1.0**
MIB AMb AMB 22 44 51.6
comp=Z,2μm,1.4s
MIB Mutribah 13.13 165 *e*P **Pn 22 44 44.2 +1.0**
comp=Z,2μm,1.4s
IAKL Akhelmad 13.22 112 *e*P **Pn 22 44 42.1 -2.5**
IAKL *e* 22 45 00.6
comp=Z,4μm,0.3s
ZIMR 13.26 281⇑P **Pn 22 44 44.1 -0.7**
ZIMR 13.26 281⇑*i*P **Pn 22 44 44.1 -0.7**
ZIMR 13.26 281⇑*i*P **Pn 22 44 44.1 -0.7**
AB31 Akbulak array 13.27 54⇑Pn **Pn 22 44 43.2 -1.7**
comp=Z,675nm,0.8s,baz=239,slow=10,SNR=6996
AB31 ⇑Sn **Sn 22 47 06.9 -5.2**
comp=Z,438nm,0.8s,baz=238,slow=21,SNR=7.1
AB31 Akbulak array 13.27 54 *i* P **Pn 22 44 42.5 -2.4**
AB31 pmax pmax
comp=Z,836nm,0.7s
AB31 Akbulak array 13.27 54 *i* P **Pn 22 44 42.5 -2.4**
comp=Z,836nm,0.7s
AB31 Akbulak array 13.27 54 Pn **Pn 22 44 43.2 -1.7**
comp=Z,674nm,0.7s,baz=239,SNR=1000
ABKAR Akbulak array 13.27 54⇑*i*Pn **Pn 22 44 42.7 -2.2**
ABKAR *e*Sn **Sn 22 47 06.9 -5.1**
ABKAR Akbulak array 13.27 54⇑*i*Pn **Pn 22 44 42.7 -2.2**
ABKAR *e*Sn **Sn 22 47 06.9 -5.1**
PVL Pavlikeni 13.30 279 *e*P **Pn 22 44 46.8 +1.4**
PVL Pavlikeni 13.30 279 *e*P **Pn 22 44 46.8 +1.4**
OBN Obninsk 13.32 343*c i*P **Pn 22 44 43.6 -2.0**
OBN *i* S **Sn 22 47 09.6 -3.8**
OBN pmax pmax
comp=Z,142nm,1.3s
OBN MLR MLR
comp=Z,77μm,17.0s
OBN Obninsk 13.32 343 Pn **Pn 22 44 45.0 -0.6**
comp=Z,993nm,1.3s,SNR=10.0
OBN Obninsk 13.32 343 *i* P **Pn 22 44 43.6 -2.0**
comp=Z,142nm,1.3s
OBN *i* S **Sn 22 47 09.6 -3.8**
comp=Z,77μm,17.0s
DOPR Dopca 13.38 291⇑*i*P **Pn 22 44 45.1 -1.3**
DOPR Dopca 13.38 291⇑*i*P **Pn 22 44 45.1 -1.3**
ISAD Sadrabad 13.40 139 *e*P Pn 22 44 50.3 +3.3
ISAD Sadrabad 13.40 139 *e*P Pn 22 44 50.3 +3.3
PRK Paraskevi 13.41 261 *e*PN Pn 22 44 50.2 +3.3
UMR Umm Al-Rimmam 13.45 164 *e*P **Pn 22 44 47.9 +0.4**
UMR AMb AMB 22 44 55.2
comp=Z,1μm,1.5s
UMR Umm Al-Rimmam 13.45 164 *e*P **Pn 22 44 47.9 +0.4**
comp=Z,1μm,1.5s
IPAY Payeh 13.46 112 *e*P **Pn 22 44 47.0 -0.9**
ICHK Chekchek 13.49 136 *e*P Pn 22 44 51.6 +3.4
ICHK Chekchek 13.49 136 *e*P Pn 22 44 51.6 +3.4
MTUR Matau 13.52 288⇑P **Pn 22 44 48.3 -0.2**
MTUR Matau 13.52 288⇑*i*P **Pn 22 44 48.3 -0.2**
MTUR Matau 13.52 288⇑*i*P **Pn 22 44 48.3 -0.2**
HUMR Humele 13.54 285⇓*i*P **Pn 22 44 46.7 -1.9**
HUMR Humele 13.54 285⇓*i*P **Pn 22 44 46.7 -1.9**
VOIR 13.55 288⇓P **Pn 22 44 47.0 -1.9**
VOIR 13.55 288⇓*i*P **Pn 22 44 47.0 -1.9**
VOIR 13.55 288⇓*i*P **Pn 22 44 47.0 -1.9**
SMG Samos 13.61 255 *e*PN **Pn 22 44 50.9 +1.3**
NAY Al-Naaiem 13.65 166 *e*P **Pn 22 44 50.6 +0.4**
NAY AMb AMB 22 44 57.2
comp=Z,26nm,1.6s
NAY Al-Naaiem 13.65 166 *e*P **Pn 22 44 50.6 +0.4**
comp=Z,26nm,1.6s
MOS Moscow 13.70 346*a i*P **Pn 22 44 48.0 -2.7**
MOS *e*S **Sn 22 47 17.4 -5.1**
MOS pmax pmax
comp=N,1μm,2.2s
MOS pmax pmax
comp=E,500nm,2.2s
MOS pmax pmax
comp=Z,1μm,2.2s
MOS pmax pmax
comp=Z,414nm,1.4s
MOS pmax pmax
comp=N,414nm,1.4s
MOS pmax pmax
comp=E,136nm,1.2s
MOS MLR MLR
comp=N,56μm,14.0s
MOS MLR MLR
comp=Z,81μm,14.0s
MOS MLR MLR
comp=E,23μm,13.0s
MOS Moscow 13.70 346 *i* P **Pn 22 44 48.0 -2.7**
comp=E,414nm,1.4s
MOS *e*S **Sn 22 47 17.4 -5.1**
KBD Kabd 13.81 164 *e*P **Pn 22 44 52.8 +0.4**
KBD AMb AMB 22 45 00.2
comp=Z,449nm,1.6s
KBD Kabd 13.81 164 *e*P **Pn 22 44 52.8 +0.4**
comp=Z,449nm,1.6s
BURAR Bucovina Array 13.82 298⇑P **Pn 22 44 51.1 -1.5**
BURAR Bucovina Array 13.82 298⇑*i*P **Pn 22 44 51.1 -1.5**
BURAR Bucovina Array 13.82 298⇑*i*P **Pn 22 44 51.1 -1.5**
ARR Arges 13.84 288⇓*i*P **Pn 22 44 51.8 -0.9**
ARR Arges 13.84 288⇓*i*P **Pn 22 44 51.8 -0.9**
BUR08 Bucovina Ar. S 13.84 298 *e*Pn **Pn 22 44 49.9 -3.0**
BUR08 *e*Sn **Sn 22 47 24.4 -1.8**
BUR08 Bucovina Ar. S 13.84 298 *e*Pn **Pn 22 44 49.8 -3.0**
BUR08 *e*Sn **Sn 22 47 24.4 -1.8**
ISRO Mashad 13.87 112 *e*P **Pn 22 44 52.1 -1.1**
IMOG Moghan 13.88 112 *e*P **Pn 22 44 51.4 -2.2**
CHOS Chios island 13.89 258 P **Pn 22 44 53.6 +0.1**
CHOS Chios island 13.89 258 *e*PN P 22 44 58.6 -3.1
CHOS Chios island 13.89 258 P **Pn 22 44 53.6 +0.1**
CHOS Chios island 13.89 258 P **Pn 22 44 53.6 +0.1**
RDF Al-Radifah 14.03 165 *e*P **Pn 22 44 56.3 +1.0**
RDF AMb AMB 22 45 02.7
comp=Z,1μm,1.4s
MDB Medias 14.10 291⇓P **Pn 22 44 56.0 -0.3**
MDB Medias 14.10 291⇓*i*P **Pn 22 44 56.0 -0.3**
MDB Medias 14.10 291⇓*i*P **Pn 22 44 56.0 -0.3**
ARCR ARCALIA 14.27 295⇑*i*P Pn 22 44 54.5 -4.2
QRN Al-Qurain 14.27 164 *e*P **Pn 22 44 59.4 +0.6**
QRN AMb AMB 22 45 11.1
comp=Z,804nm,0.8s
IMEH Mehriz 14.28 138 *e*P **Pn 22 45 00.3 +1.2**
IMYA Miami 14.28 110 *e*P **Pn 22 44 56.7 -2.3**
LOT Lotru 14.45 288⇓*i*P **Pn 22 45 00.9 -0.3**
MPEP Malo Peshtene 14.46 280 *e*P **Pn 22 44 58.2 -3.0**
KARP Karpathos 14.46 246 *e*PB **P 22 45 09.8 +1.7**
EIL Elat 14.59 211 Pn **Pn 22 45 03.4 +0.3**
EIL Sn Sn 22 47 51.4 +6.8
EIL Elat 14.59 211 Pn **Pn 22 45 03.4 +0.3**
comp=Z,0.5nm,0.3s,baz=14,slow=7.6,SNR=64
EIL Sn Sn 22 47 51.4 +6.8
comp=Z,0.1nm,0.3s,baz=6.7,slow=17,SNR=1.9
EIL LR LR 22 51 06.7
comp=Z,22μm,21.0s,baz=41,slow=39
EIL Elat 14.59 211 Pn **Pn 22 45 03.4 +0.3**
EIL Sn Sn 22 47 51.4 +6.8
IBAF Bafgh 14.61 135 *e*P **Pn 22 45 04.6 +1.1**
NVR Nevrokopi 14.63 272 *e*PN Pn 22 45 06.8 +3.2
CJR Cluj-Napoca 14.72 293⇓P **Pn 22 45 03.9 -0.9**
CJR Cluj-Napoca 14.72 293⇓*i*P **Pn 22 45 03.9 -0.9**
CJR Cluj-Napoca 14.72 293 P **Pn 22 45 03.9 -0.9**
SRE Strehaia 14.81 285⇓P **Pn 22 45 04.0 -2.0**
SRE Strehaia 14.81 285⇓*i*P **Pn 22 45 04.0 -2.0**
SRE Strehaia 14.81 285 P **Pn 22 45 04.0 -2.0**
APE Apeiranthos 14.82 254⇓P **P 22 45 11.6 -0.5**
APE Apeiranthos 14.82 254⇓*i*P **P 22 45 11.6 -0.5**
APE Apeiranthos 14.82 254⇓*i*P **P 22 45 11.6 -0.5**
VTS Vitosha 14.91 277⇑P **Pn 22 45 05.8 -1.8**
VTS Vitosha 14.91 277⇑*i*P **Pn 22 45 05.8 -1.8**
VTS Vitosha 14.91 277 *e*P **Pn 22 45 07.8 +0.2**
VTS Vitosha 14.91 277 P **Pn 22 45 05.8 -1.8**
DEV Deva 15.09 290⇓P **Pn 22 45 09.5 -0.2**
DEV Deva 15.09 290⇓*i*P **Pn 22 45 09.5 -0.2**
DEV Deva 15.09 290 P **Pn 22 45 09.5 -0.2**
PAIG Paliouri 15.11 267 *e*PN **P 22 45 17.5 +2.3**
SOH Sokhos 15.12 270 *e*PN **P 22 45 13.2 -2.1**
GZR Gura Zlata 15.14 288⇑*i*P **Pn 22 45 08.9 -1.6**
PLG Polygyros 15.16 268 P **P 22 45 14.2 -1.6**
PLG Polygyros 15.16 268 P **P 22 45 14.2 -1.6**
PLG Polygyros 15.16 268 *e*PN **P 22 45 14.2 -1.6**
PLG Polygyros 15.16 268 P **P 22 45 14.2 -1.6**

PLG Polygyros 15.16 268 P **P 22 45 14.2 -1.6**
SANT Santorini 15.21 252⇓*e*Pn **Pn 22 45 11.3 -0.1**
comp=Z,180nm,0.9s
SANT *e*Sn **Sn 22 48 00.4 +0.9**
SANT Santorini 15.21 252⇓*e*Pn **Pn 22 45 11.3 -0.1**
comp=Z,180nm,0.9s
SANT *e*Sn **Sn 22 48 00.4 +0.9**
LVV L'vov 15.24 305 *e*P **Pn 22 45 08.8 -3.0**
LVV *e*S **Sn 22 47 58.7 -1.6**
LVV MLR MLR
comp=N,13μm,9.0s
LVV MLR MLR
comp=E,10μm,9.0s
LVV MLR MLR
comp=Z,12μm,9.0s
LVV L'vov 15.24 305 *e*P **Pn 22 45 08.8 -3.0**
LVV *e*S **Sn 22 47 58.7 -1.6**
DRGR 15.33 293⇓P **Pn 22 45 11.0 -2.0**
DRGR 15.33 293⇓*i*P **Pn 22 45 11.0 -2.0**
DRGR 15.33 293 P **Pn 22 45 11.0 -2.0**
ZKR Zakros 15.34 247 P **Pn 22 45 15.1 +1.9**
ZKR Zakros 15.34 247 P **Pn 22 45 15.1 +1.9**
ZKR Zakros 15.34 247 P **Pn 22 45 15.1 +1.9**
HORT Hortiatis 15.36 269 P **P 22 45 20.1 +2.0**
HORT Hortiatis 15.36 269 P **P 22 45 20.1 +2.0**
HORT Hortiatis 15.36 269 P **P 22 45 20.1 +2.0**
KNT Kendrikon 15.38 272 P **Pn 22 45 14.1 +0.5**
KNT Kendrikon 15.38 272 P **Pn 22 45 14.1 +0.5**
KNT Kendrikon 15.38 272 P **Pn 22 45 14.1 +0.5**
KNT Kendrikon 15.38 272 P **Pn 22 45 14.1 +0.5**
ITEG Tejag 15.47 124 *e*P **Pn 22 45 14.5 -0.5**
VAY Valandovo 15.59 272 *e*P **Pn 22 45 17.4 +1.1**
PTL Penteli 15.61 260 *e*PN **P 22 45 19.3 -1.5**
NEO Neokhori 15.63 265 *e*PN **P 22 45 24.8 +3.8**
TRPA Tarpa 15.69 298⇑*i*P **Pn 22 45 15.4 -2.2**
MICGM Minsk 15.72 325⇓*e*P Pn 22 45 12.0 -5.9
MNK Minsk 15.74 325⇓*e*P Pn 22 45 12.0 -6.2
MNK *e*S Sn 22 48 03.0 -9.2
MNK pmax pmax
comp=Z,530nm,1.2s
MNK pmax pmax
comp=E,910nm,1.2s
MNK pmax pmax
comp=N,660nm,1.0s
MNK pmax pmax
comp=E,5μm,5.0s
MNK pmax pmax
comp=N,650nm,6.0s
MNK pmax pmax
comp=Z,5μm,8.0s
MNK MLR MLR
comp=E,79μm,15.0s
MNK MLR MLR
comp=Z,100μm,15.0s
MNK MLR MLR
comp=N,77μm,18.0s
MNK Minsk 15.74 325 *e*P Pn 22 45 12.0 -6.2
comp=N,5μm,8.0s
MNK *e*S Sn 22 48 03.0 -9.2
comp=N,77μm,18.0s
ATH Athens Observa 15.74 260 *e*PN **P 22 45 21.0 -1.2**
GRG Griva 15.79 271 P **P 22 45 22.7 -0.1**
GRG Griva 15.79 271 P **P 22 45 22.7 -0.1**
GRG Griva 15.79 271 P **P 22 45 22.7 -0.1**
GRG Griva 15.79 271 P **P 22 45 22.7 -0.1**
IMON Monand 15.84 121 *e*P **Pn 22 45 20.0 +0.1**
IKOO Kooshah 15.95 124 *e*P **Pn 22 45 22.0 +0.7**
BZS Buzias 15.97 288⇓P **Pn 22 45 21.2 0.0**
BZS Buzias 15.97 288⇓*i*P **Pn 22 45 21.2 0.0**
BZS Buzias 15.97 288 P **Pn 22 45 21.2 0.0**
UZH Uzhgorod 15.97 300 *e*P **Pn 22 45 18.0 -3.2**
UZH *e*S **Sn 22 48 12.0 -5.9**
UZH MLR MLR
comp=Z,22μm,13.0s
UZH Uzhgorod 15.97 300 *e*P **Pn 22 45 18.0 -3.2**
comp=Z,22μm,13.0s
UZH *e*S **Sn 22 48 12.0 -5.9**
SIRR Siria 15.99 291⇓*i*P **Pn 22 45 21.5 0.0**
KWP Kalwaria Pacla 15.99 303 *e*P **Pn 22 45 20.7 -0.8**
KWP *e* 22 48 14.6
KWP pmax pmax
comp=Z,663nm,1.1s
KWP Kalwaria Pacla 15.99 303 *e*Pn **Pn 22 45 20.7 -0.8**
comp=Z,663nm,1.1s
KWP *e*Sn **Sn 22 48 14.6 -3.9**
KWP Kalwaria Pacla 15.99 303⇑*i*P **Pn 22 45 21.4 -0.1**
KWP Kalwaria Pacla 15.99 303 *e*P **Pn 22 45 21.6 +0.1**
KWP *e*pP **P 22 45 26.0 +1.1**
KWP *e*S **S 22 48 32.4 +0.2**
KWP LMZ LR 22 53 59.8
KWP Kalwaria Pacla 15.99 303 *e*Sn **Sn 22 48 14.6 -3.9**
KWP *e*S **S 22 48 32.5 +0.2**
NAIG Nisos Aigina 15.99 259 *e*PN **P 22 45 23.9 -1.1**
LKR Lokris 16.01 263 *e*PN **P 22 45 23.9 -1.3**
KOLS Kolonicke sedl 16.06 301 *e*P **Pn 22 45 20.2 -2.2**
KOLS pmax pmax
comp=Z,247nm,1.7s
KOLS Kolonicke sedl 16.06 301 *e*PN **Pn 22 45 20.2 -2.2**
KOLS Kolonicke sedl 16.06 301 *e*S **S 22 48 33.8 +0.1**
KOLS Kolonicke sedl 16.06 301 *e*P **Pn 22 45 20.2 -2.2**
comp=Z,247nm,1.7s
KOLS *e*S **S 22 48 33.8 +0.1**
IDI Anoyia 16.16 249 *e*Pn **Pn 22 45 24.5 +0.7**
comp=Z,140nm,0.8s
IDI *e*Sn **Sn 22 48 22.5 -0.2**
IDI Anoyia 16.16 249 Pn **P 22 45 26.2 -0.7**
comp=Z,1.7nm,0.3s,baz=44,slow=10.0,SNR=5.9
IDI Sn **Sn 22 48 17.3 -5.4**
baz=270,slow=20,SNR=2.0
IDI Anoyia 16.16 249 *e*Pn **Pn 22 45 24.5 +0.7**
comp=Z,140nm,0.8s
IDI *e*Sn **Sn 22 48 22.5 -0.2**
LTK Loutraki 16.27 261 *e*PN **P 22 45 29.4 +1.3**
IDAH Dahanechah 16.27 122 *e*P **Pn 22 45 25.5 +0.1**
DID Didima 16.28 259 *e*PN **P 22 45 29.6 +1.4**
SKO Skopje 16.30 275 *e*P **P 22 45 27.5 -0.9**
SKO Skopje 16.30 275 *e*P **Pn 22 45 26.5 +1.0**
AGG Agios Georgios 16.38 265 *e*PN **P 22 45 31.0 +1.7**
KZN Kozani 16.41 269 *e*PN P 22 45 34.7 +5.0
THL Klokotos Trika 16.44 267 P **P 22 45 29.1 -0.9**
THL Klokotos Trika 16.44 267 *e*PN **P 22 45 30.4 +0.4**
THL Klokotos Trika 16.44 267 P **P 22 45 29.1 -0.9**
NACGM Naroch 16.46 324⇑*i*P Pn 22 45 21.0 -6.4
BIA Bitola 16.57 272 *e*P **P 22 45 32.2 +0.7**
BIA Bitola 16.57 272 *e*P **P 22 45 31.7 +0.2**
CRVS Cervenica-Dubn 16.57 300 *e*PN **Pn 22 45 26.3 -2.6**
CRVS Cervenica-Dubn 16.57 300 *e*S **S 22 48 45.7 +1.6**
CRVS Cervenica-Dubn 16.57 300 *e*S **S 22 48 45.7 +1.6**
VAM Vamos 16.57 251 *e*PN **P 22 45 32.5 +1.0**
FNA Florina 16.59 271 P **P 22 45 31.4 -0.3**
FNA Florina 16.59 271 P **P 22 45 31.4 -0.3**
FNA Florina 16.59 271 *e*PN **P 22 45 33.5 +1.8**
FNA Florina 16.59 271 P **P 22 45 31.4 -0.3**
FNA Florina 16.59 271 P **P 22 45 31.4 -0.3**
GRUS Gruza 16.62 282 *e*P **Pn 22 45 29.6 +0.1**
KALE Kalithea 16.74 263 *e*PN **P 22 45 35.6 +2.3**
GUR Goura 16.76 261 *e*PN **P 22 45 35.4 +1.8**
IDID Didziasalis 16.76 325 *e*P **Pn 22 45 29.4 -1.8**
IDID Didziasalis 16.76 325 *e*P **Pn 22 45 29.4 -1.8**
TRIZ Trizonia 16.80 263 *e*PN **P 22 45 36.3 +2.4**
EVR Evrytania 16.80 265 *e*PN **P 22 45 37.2 +3.2**
VLI Veliai 16.84 256 *e*PN **P 22 45 34.1 -0.3**
STHS Stebnicka Huta 16.84 302 *e*P **Pn 22 45 29.6 -2.7**
STHS pmax pmax
comp=Z,74nm,1.3s
STHS Stebnicka Huta 16.84 302 *e*PN **Pn 22 45 29.6 -2.7**
STHS Stebnicka Huta 16.84 302 *e*P **Pn 22 45 29.6 -2.7**
comp=Z,74nm,1.3s
KLV Kalavryta, Ach 16.86 262 *e*PN **P 22 45 38.2 +3.5**
EFP Efpalio 16.89 263 *e*PN **P 22 45 36.7 +1.7**
LAKA Lakka 16.91 262 *e*PN **P 22 45 38.3 +3.1**
ARU Arti 16.92 30*d i*P Pn 22 45 27.8 -5.5
ARU S Sn 22 48 32.6 -8.3
ARU pmax pmax
comp=Z,236nm,1.7s
ARU MLR MLR
comp=Z,62μm,16.0s
ARU Arti 16.92 30 Pn Pn 22 45 28.3 -5.0
comp=Z,3μm,1.1s,SNR=62
PSA1 Psathopyrgos 16.95 263 *e*PN **P 22 45 36.2 +0.6**
GVD Gavdhos 16.95 249 *e*Pn **Pn 22 45 34.5 +0.7**
comp=Z,1μm,1.0s
GVD *e*Sn **Sn 22 48 42.8 +0.9**

GVD	**Gavdhos**	**16.95 249**	*e*Pn	**Pn**	**22 45 34.5 +0.7**
	comp=Z,1μm,1.0s				
GVD			*e*Sn	**Sn**	**22 48 42.8 +0.9**
VLX	**Vlachokerasia**	**16.96 259**	*e*PN	**P**	**22 45 37.8 +2.0**
ANKY	**Antikythira Is**	**16.97 253**	*e*PN	P	22 45 42.5 +6.6
IIGN	**Ignalina**	**17.00 325**	*e*P	**Pn**	**22 45 31.8 -2.4**
IIGN	**Ignalina**	**17.00 325**	*e*P	**Pn**	**22 45 31.8 -2.4**
KECS	**Kecovo**	**17.11 298**	*e*PN	**Pn**	**22 45 34.0 -1.7**
DIVS	**Divibare**	**17.12 283**⇑	*i*P	**Pn**	**22 45 36.4 +0.4**
FGSL	**Fruska Gora**	**17.23 287**⇑	*i*P	**Pn**	**22 45 37.8 +0.6**
DYR	**Agios Nikonas**	**17.25 257**	*e*PN	**P**	**22 45 39.5 +0.5**
JAN	**Janina**	**17.27 268**	*e*PN	**P**	**22 45 42.3 +3.1**
PKSN	**Nyarlorinc**	**17.28 293**⇓	*e*Pn	**P**	**22 45 41.3 +2.1**
PKSN	**Nyarlorinc**	**17.28 293**⇓	*e*P	**P**	**22 45 41.3 +2.1**
PVY	**Plav**	**17.29 278**⇑	*i*P	**P**	**22 45 40.0 +0.4**
BEY	**Berane**	**17.31 279**⇑	*i*P	**P**	**22 45 40.2 +0.6**
IVA	**Berane**	**17.31 279**⇑	*i*P	**P**	**22 45 40.2 +0.6**
RLS	**Riolos of Patr**	**17.35 262**	*e*PN	**P**	**22 45 41.3 +1.2**
ITM	**Ithomi**	**17.36 259**	*e*PN	**P**	**22 45 41.8 +1.6**
AMT	**Artemida-Makis**	**17.38 260**	*e*PN	**P**	**22 45 42.6 +2.2**
PSZ	**Piszkesteto**	**17.40 296**⇑	*e*P	**Pn**	**22 45 38.1 -1.2**
PSZ			*e*		22 48 54.4
PSZ			pmax	pmax	
	comp=Z,246nm,1.1s				
PSZ	**Piszkesteto**	**17.40 296**⇑	*e*Pn	**Pn**	**22 45 38.1 -1.2**
	comp=Z,246nm,1.1s				
PSZ			*e*Sn	**Sn**	**22 48 54.4 +1.8**
PSZ	**Piszkesteto**	**17.40 296**⇑	*e*Pn	**Pn**	**22 45 38.0 -1.2**
PSZ	**Piszkesteto**	**17.40 296**	*e*P	**Pn**	**22 45 38.1 -1.2**
	comp=Z,246nm,1.1s				
PSZ			*e*S	**Sn**	**22 48 54.4 +1.8**
NIE	**Niedzica**	**17.43 301**⇑	*e*P	**Pn**	**22 45 37.4 -2.3**
NIE	**Niedzica**	**17.43 301**	*e*P	**Pn**	**22 45 37.4 -2.3**
NIE			*e*S	**S**	**22 49 02.4 +0.8**
NIE			L	L	22 50 40.0
	comp=Z,30μm,12.7s				
TEKS	**Tekeris**	**17.44 285**	*e*P	**Pn**	**22 45 39.9 +0.1**
BBLS	**Lazići**	**17.56 282**⇑	*i*P	**P**	**22 45 42.3 -0.2**
TIR	**Tirane**	**17.58 274**⇑	*e*P	**P**	**22 45 43.2 +0.6**
TIR			pmax	pmax	
	comp=Z,2μm,2.2s				
TIR	**Tirane**	**17.58 274**⇑	*e*Pn	**P**	**22 45 43.2 +0.6**
	comp=Z,2μm,2.2s				
TIR			*e*S	**S**	**22 49 05.7 +1.1**
TIR	**Tirane**	**17.58 274**	*e*P	**P**	**22 45 43.2 +0.6**
	comp=Z,2μm,2.2s				
TIR			*e*S	**S**	**22 49 05.7 +1.1**
SUW	**Suwalki**	**17.61 317**⇑	*e*P	**Pn**	**22 45 38.1 -3.7**
SUW			*e*		22 48 58.8
SUW			pmax	pmax	
	comp=Z,1μm,1.0s				
SUW	**Suwalki**	**17.61 317**⇑	*e*Pn	**Pn**	**22 45 38.1 -3.7**
	comp=Z,1μm,1.0s				
SUW			*e*Sn	**Sn**	**22 48 58.8 +1.3**
SUW	**Suwalki**	**17.61 317**	*e*P	**Pn**	**22 45 38.9 -2.9**
SUW			*e*pP	**P**	**22 45 43.1 +0.3**
SUW			*e*S	**S**	**22 49 04.3 -0.8**
SUW			LMZ	LR	22 53 14.5
PYL	**PYLOS**	**17.62 258**	*e*PN	**P**	**22 45 42.9 -0.1**
PLE	**Pljevlja**	**17.62 281**⇑	*i*P	**P**	**22 45 44.0 +0.8**
PLE	**Pljevlja**	**17.62 281**⇑	*i*P	**P**	**22 45 44.0 +0.8**
LKD2	**Lefkada island**	**17.69 265**	*e*PN	**P**	**22 45 45.2 +1.4**
PKS2	**Kecel**	**17.70 291**⇓	*e*Pn	**P**	**22 45 46.3 +2.5**
PKS2	**Kecel**	**17.70 291**⇓	*e*P	**P**	**22 45 46.3 +2.5**
PKS7	**Kunszentmiklos**	**17.78 293**⇑	*e*Pn	**Pn**	**22 45 44.0 +0.1**
PKS7	**Kunszentmiklos**	**17.78 293**⇑	*e*P	**Pn**	**22 45 44.0 +0.1**
PDG	**Podgorica**	**17.83 278**⇑	*i*P	**P**	**22 45 47.0 +1.6**
TTG	**Podgorica**	**17.83 278**⇑	*i*P	**P**	**22 45 46.9 +1.6**
BEL	**Belsk**	**17.90 309**	*e*P	**Pn**	**22 45 44.5 -0.9**
BEL			*e*pP	**P**	**22 45 47.0 +1.0**
BEL			*e*S	**S**	**22 49 09.5 -1.5**
BEL			LMZ	LR	22 53 02.0
BEL	**Belsk**	**17.90 309**	*e*P	**Pn**	**22 45 44.5 -0.9**
BEL			*e*S	**S**	**22 49 09.5 -1.5**
ULC	**Ulcinj**	**17.92 276**⇑	*i*P	**P**	**22 45 48.0 +1.7**
ULC	**Ulcinj**	**17.92 276**⇑	*i*P	**P**	**22 45 48.0 +1.7**
BUD	**Budapest**	**17.92 294**⇑	*e*Pn	**Pn**	**22 45 45.7 0.0**
BUD	**Budapest**	**17.92 294**⇑	*e*P	**Pn**	**22 45 45.7 0.0**
DRME	**Dracevica, Mon**	**17.92 277**⇑	*i*P	**P**	**22 45 48.5 +2.1**
DRME	**Dracevica, Mon**	**17.92 277**⇑	*i*P	**P**	**22 45 48.5 +2.1**
VLS	**Valsamata**	**17.95 263**	*e*PN	**P**	**22 45 46.9 +0.2**
OJC	**Ojcow**	**17.96 303**⇑	*e*P	**Pn**	**22 45 42.9 -3.3**
OJC			*e*S	**S**	**22 49 12.0 -0.3**
OJC	**Ojcow**	**17.96 303**	*e*Pn	**Pn**	**22 45 43.8 -2.4**
OJC	**Ojcow**	**17.96 303**	*e*P	**Pn**	**22 45 42.9 -3.3**
OJC			*e*S	**S**	**22 49 12.0 -0.3**
OJC			L	L	22 54 42.0
	comp=Z,29μm,13.6s				
OJC	**Ojcow**	**17.96 303**	*e*Pn	**Pn**	**22 45 43.8 -2.4**
OJC			*e*S	**S**	**22 49 12.0 -0.3**
NKY	**Niksic**	**17.97 279**⇑	*i*P	**P**	**22 45 48.5 +1.5**
NKY	**Niksic**	**17.97 279**⇑	*i*P	**P**	**22 45 48.5 +1.5**
UPM	**Unac-Piva**	**17.99 280**⇑	*i*P	**P**	**22 45 48.5 +1.2**
UPM	**Unac-Piva**	**17.99 280**⇑	*i*P	**P**	**22 45 48.5 +1.2**
SVE	**Sverdlovsk**	**18.00 32***d*	*i*P	**Pn**	**22 45 42.5 -4.1**
SVE			pmax	pmax	
	comp=Z,2μm,1.4s				
SVE			MLR	MLR	
	comp=Z,52μm,12.0s				
NKME	**Niksic**	**18.00 279**⇑	*i*P	**P**	**22 45 48.8 +1.5**
NKME	**Niksic**	**18.00 279**⇑	*i*P	**P**	**22 45 48.8 +1.5**
KEK	**Kerkira**	**18.03 269**	*e*PB	P	22 45 55.0 +7.4
PKSM	**Moragy**	**18.07 290**	⇓P	**P**	**22 45 48.1 +0.1**
PKSM	**Moragy**	**18.07 290**⇓	*i*P	**P**	**22 45 48.1 +0.1**
PKSM	**Moragy**	**18.07 290**⇓	*e*Pn	**P**	**22 45 48.9 +0.9**
PKSM	**Moragy**	**18.07 290**⇓	*e*P	**P**	**22 45 48.9 +0.9**
BUM	**Brajici-Budva**	**18.12 277**⇑	*i*P	**P**	**22 45 50.5 +1.9**
BUM	**Brajici-Budva**	**18.12 277**⇑	*i*P	**P**	**22 45 50.5 +1.9**
VYHS	**Vyhne**	**18.19 297**	*e*P	**Pn**	**22 45 48.5 -0.5**
VYHS			pmax	pmax	
	comp=Z,75nm,1.5s				
VYHS	**Vyhne**	**18.19 297**	*e*P	**Pn**	**22 45 48.5 -0.5**
VYHS			*e*S	**S**	**22 49 16.8 -0.2**
VYHS	**Vyhne**	**18.19 297**	*e*P	**Pn**	**22 45 48.5 -0.5**
	comp=Z,75nm,1.5s				
VYHS			*e*S	**S**	**22 49 16.8 -0.2**
BRY	**Bratogost**	**18.29 279**⇑	*i*P	**P**	**22 45 52.5 +2.0**
BRY	**Bratogost**	**18.29 279**⇑	*i*P	**P**	**22 45 52.6 +2.0**
PKSG		**18.34 294**⇑	*e*P	**P**	**22 45 52.3 +1.5**
PKSG		**18.34 294**⇑	*e*P	**P**	**22 45 52.3 +1.5**
PKS9	**Tamasi**	**18.34 291**⇓	*e*P	**P**	**22 45 52.8 +1.8**
PKS9	**Tamasi**	**18.34 291**⇓	*e*P	**P**	**22 45 52.8 +1.8**
HCY	**Herceg Novi**	**18.39 278**⇑	*i*P	**Pn**	**22 45 53.3 +1.8**
HCY	**Herceg Novi**	**18.39 278**⇑	*i*P	**Pn**	**22 45 53.4 +1.9**
KLMR	**Klimovskoe**	**18.45 354***c*	*i*P	**P**	**22 45 48.5 -3.5**
KLMR			*i*S	**S**	**22 49 21.4 -0.7**
KLMR			pmax	pmax	
	comp=Z,982nm,1.5s				
KLMR			MLR	MLR	
	comp=Z,87μm,13.0s				
IBND	**Bandar-abas**	**18.48 141**	*e*P	**P**	**22 45 52.5 -0.1**
IBND			*e*P	**Pn**	**22 45 52.8 +0.1**
IBND	**Bandar-abas**	**18.48 141**	*e*P	**Pn**	**22 45 52.8 +0.1**
PKST	**T''s**	**18.56 293**⇓	*e*P	**Pn**	**22 45 55.0 +1.4**
PKST	**T''s**	**18.56 293**⇓	*e*P	**Pn**	**22 45 55.0 +1.4**
LTBQ	**Tobruq**	**18.71 242**	*i*P	**P**	**22 45 53.7 -1.4**
	comp=Z,1μm,2.3s,SNR=35				
OKC	**Ostrava-Krasne**	**18.90 301**	*e*P	**P**	**22 45 56.0 -1.0**
OKC			*e*S	**S**	**22 49 34.0 +2.7**
OKC			MLR	MLR	
	comp=Z,14μm,10.6s				
OKC	**Ostrava-Krasne**	**18.90 301**⇑	*e*P	**P**	**22 45 56.0 -1.0**
OKC			*e*pP	**Pn**	**22 45 59.2 +1.6**
OKC			*e*x	x	22 46 06.4
OKC			*e*S	**S**	**22 49 34.0 +2.7**
OKC			AMS	AMS	22 55 30.0
	comp=Z,14μm,10.6s				
OKC	**Ostrava-Krasne**	**18.90 301**	P	**P**	**22 45 56.0 -1.0**
STON	**Ston**	**18.90 280**	P	**P**	**22 45 57.3 +0.1**
SOKR	**Solikamsk**	**18.92 21***c*	*i*P	**P**	**22 45 53.7 -3.4**
SOKR			pmax	pmax	
	comp=Z,640nm,1.3s				
SOKR			MLR	MLR	
	comp=Z,37μm,15.0s				
SOKR	**Solikamsk**	**18.92 21**	*i*P	**P**	**22 45 53.7 -3.4**
	comp=Z,37μm,15.0s				
RAC	**Raciborz**	**18.92 302**	*e*P	**P**	**22 45 55.0 -2.3**
RAC			*e*S	**S**	**22 49 33.6 +1.8**
RAC			MLR	MLR	
	comp=N,23μm,23.4s				
RAC			MLR	MLR	
	comp=E,16μm,17.0s				
RAC			MLR	MLR	
	comp=Z,15μm,16.9s				
RAC	**Raciborz**	**18.92 302**	*e*P	**P**	**22 45 55.0 -2.3**
RAC			*e*S	**S**	**22 49 33.6 +1.8**
PUL	**Pulkovo**	**19.01 339**	*e*P	**P**	**22 45 57.7 -0.4**
PUL			MLR	MLR	
	comp=Z,66μm,18.0s				
PUL	**Pulkovo**	**19.01 339**	*e*P	**P**	**22 45 57.7 -0.4**
	comp=Z,66μm,18.0s				
VSU	**Vasula**	**19.03 332***c*	*i*P	**P**	**22 45 56.1 -2.3**
VSU			MLR	MLR	
	comp=Z,72μm,15.0s				
VSU	**Vasula**	**19.03 332**	*e*P	**P**	**22 45 56.0 -2.3**
	SNR=39				
RAYN	**Ar Rayn**	**19.09 174**	P	**Pn**	**22 46 00.6 +0.5**
	comp=Z,1μm,1.3s,SNR=42				
RAYN	**Ar Rayn**	**19.09 174**	*e*P	**Pn**	**22 45 59.9 -0.2**
RAYN	**Ar Rayn**	**19.09 174**	*e*P	**Pn**	**22 45 59.9 -0.2**
SMOL	**Smolenice**	**19.12 297**	*e*P	**Pn**	**22 46 01.3 +1.0**
SMOL	**Smolenice**	**19.12 297**	*e*P	**Pn**	**22 46 01.2 +1.0**
SMOL	**Smolenice**	**19.12 297**	*e*P	**Pn**	**22 46 01.3 +1.0**
TAS	**Tashkent**	**19.24 85**	*e*P	**P**	**22 46 01.2 +0.3**
MORC	**Moravsky Berou**	**19.27 301**⇑	*i*P	**P**	**22 46 00.3 -0.8**
MORC			*e*S	**Sn**	**22 49 37.2 -0.6**
MORC	**Moravsky Berou**	**19.27 301**⇑	*i*Pn	**P**	**22 46 00.3 -0.8**
MORC			*e*S	**Sn**	**22 49 37.2 -0.6**
MORC	**Moravsky Berou**	**19.27 301**⇑	*i*Pn	**P**	**22 46 00.3 -0.8**
MORC	**Moravsky Berou**	**19.27 301**	*e*P	**P**	**22 46 01.5 +0.4**
MORC			*e*S	**Sn**	**22 49 37.2 -0.6**
ZST	**Bratislava**	**19.29 296**	*e*S	**Sn**	**22 49 37.2 -1.1**
ZST	**Bratislava**	**19.29 296**	*e*S	**Sn**	**22 49 37.2 -1.1**
BEHE	**Becsehely**	**19.38 291**⇑	*e*P	**Pn**	**22 46 03.8 +0.4**
BEHE	**Becsehely**	**19.38 291**⇑	*e*P	**Pn**	**22 46 03.8 +0.4**
PE1	**Pezze di Greco**	**19.50 274**	*e*Pn	**Pn**	**22 46 06.0 +1.1**
SOP	**Sopron**	**19.60 294**⇓	*e*P	**Pn**	**22 46 05.9 -0.2**
SOP	**Sopron**	**19.60 294**⇓	*e*P	**Pn**	**22 46 05.9 -0.2**
SISC	**Sisak**	**19.65 288**	P	**Pn**	**22 46 06.3 -0.4**
BANOM	**Banah**	**19.68 144**	P	**Pn**	**22 46 07.0 -0.2**
	SNR=19				
BANOM	**Banah**	**19.68 144**	P	**Pn**	**22 46 07.1 -0.2**
	SNR=21				
BANOM	**Banah**	**19.68 144**	P	**Pn**	**22 46 07.0 -0.2**
	SNR=19				
KOGS	**Kog**	**19.74 291**	*e*P	**Pn**	**22 46 07.2 -0.5**
KOGS			*e*S	**Sn**	**22 49 50.0 +0.9**
KOGS	**Kog**	**19.74 291**	P	**Pn**	**22 46 07.2 -0.5**
KOGS			*e*S	**Sn**	**22 49 50.0 +0.9**
VRAC	**Vranov**	**19.79 299**	P	**P**	**22 46 07.6 +0.8**
VRAC			S	**S**	**22 49 48.5 -0.7**
VRAC	**Vranov**	**19.79 299**	P	**P**	**22 46 07.6 +0.8**
	comp=Z,0.4nm,0.3s,baz=118,slow=12,SNR=13				
VRAC			S	**S**	**22 49 48.5 -0.7**
	comp=Z,0.5nm,0.3s,baz=42,slow=15,SNR=1.7				
VRAC	**Vranov**	**19.79 299**	P	**P**	**22 46 07.6 +0.8**
	comp=Z,1.0nm,0.3s				
VRAC			S	**S**	**22 49 48.5 -0.7**
KK31	**Karatay Array**	**19.82 79**	⇑P	**P**	**22 46 07.3 +0.1**
	comp=Z,638nm,1.0s				
KK31	**Karatay Array**	**19.82 79***ce*	P	**P**	**22 46 07.3 +0.1**
KK31			pmax	pmax	
	comp=Z,508nm,0.8s				
KK31	**Karatay Array**	**19.82 79**	P	**P**	**22 46 07.3 +0.1**
	comp=Z,638nm,1.0s				
KKAR	**Karatay Array**	**19.82 79**⇑	*i*P	**P**	**22 46 07.2 0.0**
KKAR			*e*S	**S**	**22 49 48.4 -1.6**
KKAR	**Karatay Array**	**19.82 79**⇑	*i*P	**P**	**22 46 07.2 0.0**
KKAR			*e*S	**S**	**22 49 48.4 -1.6**
KKAR	**Karatay Array**	**19.82 79**	*i*P	**P**	**22 46 07.2 0.0**
KKAR			*e*S	**S**	**22 49 48.4 -1.6**
BAI	**Bari**	**19.83 275**	*e*Pn	**Pn**	**22 46 09.2 +0.4**
CONA	**Conrad Observa**	**20.09 295**	*i*Pn	**P**	**22 46 11.2 +1.1**
	comp=Z,179nm,1.3s,SNR=56				
CONA	**Conrad Observa**	**20.09 295**	P	**P**	**22 46 11.2 +1.1**
	comp=Z,179nm,1.3s,SNR=56				
SLIT	**Slitere, Latvi**	**20.14 326**	*e*P	**P**	**22 46 09.5 -1.0**
	SNR=38				
DPC	**Dobruska-Polom**	**20.16 302**⇑	*i*P	**P**	**22 46 11.4 +0.6**
DPC			*e*		22 46 16.1
DPC			*e*S	Sn	22 49 59.7 +0.4
DPC	**Dobruska-Polom**	**20.16 302**⇑	*i*P	**P**	**22 46 11.4 +0.6**
DPC			*e*pP	**pP**	**22 46 16.1 +1.1**
DPC			*e*sP	**sP**	**22 46 20.4 +3.5**
DPC			*e*S	Sn	22 49 59.7 +0.4
DPC			AMS	AMS	22 56 30.0
DPC	**Dobruska-Polom**	**20.16 302**	*e*Pn	**P**	**22 46 11.4 +0.6**
	comp=Z,5μm,1.9s				
DPC	**Dobruska-Polom**	**20.16 302**	P	**P**	**22 46 11.4 +0.6**
DPC			*e*S	Sn	22 49 59.7 +0.4
NAZ	**Nazwa, Dubai**	**20.23 146**	P	**P**	**22 46 12.1 +0.3**
ARSA	**Arzberg**	**20.27 293**⇑	*i*Pn	**P**	**22 46 13.0 +0.9**
	comp=Z,128nm,1.4s,SNR=42				
ARSA	**Arzberg**	**20.27 293**	P	**P**	**22 46 13.0 +0.9**
	comp=Z,128nm,1.4s,SNR=42				
KSP	**Ksiaz**	**20.28 303**⇑	*e*P	**P**	**22 46 12.2 +0.1**
KSP			*e**PP	Pn	22 46 14.2 0.0
KSP			*e*S	**S**	**22 50 00.0 +1.0**
KSP			MLR	MLR	
	comp=Z,34μm,17.6s				
KSP	**Ksiaz**	**20.28 303**	*e*P	**P**	**22 46 12.5 +0.4**
KSP			*e*S	Sn	22 50 05.6 +3.4
KSP			LMZ	LR	22 56 00.6
KSP	**Ksiaz**	**20.28 303**⇑	*e*P	**P**	**22 46 12.2 +0.1**
KSP			*e*S	**S**	**22 50 00.0 +1.0**
UPC	**Upice**	**20.38 302**	*e*P	**P**	**22 46 13.6 +0.4**
UPC	**Upice**	**20.38 302**⇑	*e*P	**P**	**22 46 13.6 +0.4**
UPC			*e*pP	pP	22 46 22.9 +5.5
UPC	**Upice**	**20.38 302**	P	**P**	**22 46 13.6 +0.4**
MS1	**Monte Sant'Ang**	**20.39 277**	*e*Pn	**P**	**22 46 13.7 +0.3**
FAQ	**Al Faqa, Dubai**	**20.42 147**	P	**P**	**22 46 13.7 -0.1**
ASUD	**Al Ashush, Dub**	**20.42 148**	P	**P**	**22 46 14.5 +0.7**
BOJS	**Bojanci**	**20.44 288**	*e*P	**P**	**22 46 14.8 +1.0**
BOJS			*e*S	**S**	**22 50 03.0 +0.8**
BOJS	**Bojanci**	**20.44 288**	*e*P	**P**	**22 46 14.9 +1.0**
BOJS			*e*S	**S**	**22 50 03.0 +0.8**
GKP	**Gorka Klasztor**	**20.45 311**	*e*P	**P**	**22 46 14.1 +0.2**
GKP			*e*S	**S**	**22 50 03.8 +1.6**
GKP			LMZ	LR	22 54 58.8
GKP	**Gorka Klasztor**	**20.45 311**	*e*P	**P**	**22 46 14.1 +0.2**
GKP			*e*S	**S**	**22 50 03.9 +1.7**
UOSS	**Wadi Hilu**	**20.50 145**	P	**P**	**22 46 15.0 +0.4**
	comp=Z,2μm,1.1s,SNR=25				
TREC	**Trest**	**20.50 299**⇑	*i*P	**P**	**22 46 15.0 +0.5**
TREC			*e*		22 46 18.9
TREC			*e*S	Sn	22 50 06.9 -0.6
TREC			MLR	MLR	
	comp=Z,16μm,12.8s				
TREC	**Trest**	**20.50 299**⇑	*i*P	**P**	**22 46 15.0 +0.5**
TREC			*e*pP	**pP**	**22 46 18.9 +0.2**
TREC			*e*S	Sn	22 50 06.9 -0.6
TREC			AMS	AMS	22 56 50.0
	comp=Z,16μm,12.8s				
TREC	**Trest**	**20.50 299**	P	**P**	**22 46 15.0 +0.5**
TREC			*e*S	Sn	22 50 06.9 -0.6
	comp=Z,16μm,12.8s				
HATD	**Hatta, Dubai**	**20.57 145**	P	**P**	**22 46 15.4 -0.1**
SOKA	**Soboth**	**20.58 291**⇑	*i*Pn	**P**	**22 46 16.5 +1.0**
	comp=Z,288nm,1.4s,SNR=93				
SOKA			⇓S	**S**	**22 50 04.8 -0.4**
	comp=Z,40nm,1.1s				
SOKA	**Soboth**	**20.58 291**	P	**P**	**22 46 16.5 +1.0**
	comp=Z,288nm,1.4s,SNR=93				
SOKA			S	**S**	**22 50 04.8 -0.4**
	comp=Z,40nm,1.1s				
ASHO	**Ashiyiah**	**20.67 146**	P	**P**	**22 46 17.0 +0.5**
	SNR=76				
ASHO	**Ashiyiah**	**20.67 146**	P	**P**	**22 46 17.4 +0.9**
	SNR=15				
ASHO	**Ashiyiah**	**20.67 146**	P	**P**	**22 46 17.0 +0.5**
	SNR=76				
VISS	**Visnje**	**20.72 289**	*e*P	**P**	**22 46 17.9 +1.0**
VISS	**Visnje**	**20.72 289**	*e*P	**P**	**22 46 17.9 +1.0**
BRVK	**Borovoye**	**20.72 50**	Pn	**P**	**22 46 17.9 +1.0**
	comp=Z,10μm,0.8s				
BRVK	**Borovoye**	**20.72 50**⇑	*i*P	**P**	**22 46 16.9 0.0**
BRVK			*e*S	**S**	**22 50 05.4 -2.3**
BRVK			pmax	pmax	
	comp=Z,1μm,0.8s				
BRVK			MLR	MLR	
	comp=Z,61μm,20.0s				
BRVK	**Borovoye**	**20.72 50**	P	**P**	**22 46 17.1 +0.3**
	SNR=621				
BRVK	**Borovoye**	**20.72 50**⇑	*i*P	**P**	**22 46 16.9 0.0**
	comp=Z,1μm,0.8s				
BRVK			*e*S	**S**	**22 50 05.4 -2.3**
BRVK			LR	LR	
	comp=Z,61μm,20.0s				
BRVK	**Borovoye**	**20.72 50**	*i*P	**P**	**22 46 16.9 0.0**
	comp=Z,1μm,0.8s				
BRVK			*e*S	**S**	**22 50 05.4 -2.3**
	comp=Z,61μm,20.0s				
NVLJ	**Novalja**	**20.76 285**	P	**P**	**22 46 17.1 -0.3**
BVA0	**Borovoye Array**	**20.77 51**	⇑P	**P**	**22 46 17.4 0.0**
	comp=Z,1μm,1.1s				
BVA0	**Borovoye Array**	**20.77 51**	P	**P**	**22 46 17.4 0.0**
	comp=Z,1μm,1.1s				
BVAR	**Borovoye Array**	**20.77 51**	P	**P**	**22 46 17.4 0.0**
BVAR			S	**S**	**22 50 05.5 -3.1**
BVAR			pmax	pmax	
	comp=Z,758nm,0.9s				
BVAR			smax	smax	
	comp=N,64nm,0.8s				
BVAR			MLR	MLR	
	comp=Z,64μm,18.9s				
BVAR	**Borovoye Array**	**20.77 51**	P	**P**	**22 46 17.4 0.0**
BVAR			S	**S**	**22 50 05.5 -3.1**
BVAR	**Borovoye Array**	**20.77 51**	P	**P**	**22 46 17.4 0.0**
	comp=Z,767nm,0.9s,baz=240,slow=7.9,SNR=704				
BVAR			S	**S**	**22 50 05.5 -3.1**
	comp=Z,64nm,0.8s,baz=251,slow=16,SNR=4.8				
BVAR			LR	LR	22 55 57.2
	comp=Z,64μm,18.9s,baz=261,slow=42				
BVAR	**Borovoye Array**	**20.77 51**	P	**P**	**22 46 17.4 0.0**
	comp=Z,758nm,0.9s				
CUC	**Castrocucco**	**20.89 272**	*e*P	**P**	**22 46 19.9 +1.0**
	comp=Z,528nm,1.1s				
CUC			*e*S	**S**	**22 50 11.2 -0.2**
CUC			LR	LR	
	comp=Z,9μm,22.0s				
CUC	**Castrocucco**	**20.89 272**	*e*P	**P**	**22 46 19.9 +1.0**
	comp=Z,528nm,1.1s				
CUC			*e*S	**S**	**22 50 11.2 -0.2**
OBKA	**Obir**	**20.91 291**⇑	*i*Pn	**P**	**22 46 20.3 +1.2**
	comp=Z,136nm,1.2s,SNR=21				
OBKA	**Obir**	**20.91 291**	P	**P**	**22 46 20.3 +1.2**
	comp=Z,136nm,1.2s,SNR=21				
LJU	**Ljubljana**	**20.93 289**	*e*P	**P**	**22 46 20.4 +1.2**
LJU			*e*S	**S**	**22 50 14.4 +2.4**
LJU	**Ljubljana**	**20.93 289**	*e*P	**P**	**22 46 20.4 +1.2**
LJU			*e*S	**S**	**22 50 14.4 +2.4**
VOSK	**Vostochnaya**	**21.01 52**	⇑P	**P**	**22 46 19.9 -0.1**
	comp=Z,1μm,1.3s				
VOSK	**Vostochnaya**	**21.01 52**	*e*P	**P**	**22 46 19.9 -0.1**
VOSK	**Vostochnaya**	**21.01 52**	*e*Pn	**P**	**22 46 19.9 -0.1**
VOSK	**Vostochnaya**	**21.01 52**	*e*P	**P**	**22 46 19.9 -0.1**
MEF	**Metsahovi**	**21.14 333**	*e*P	**P**	**22 46 21.2 -0.1**
	SNR=37				
MOA	**Molln**	**21.15 294**⇑	*i*P	**P**	**22 46 22.0 +0.4**
	comp=Z,76nm,1.6s,SNR=22				
MOA	**Molln**	**21.15 294**	P	**P**	**22 46 22.0 +0.4**
	comp=Z,76nm,1.6s,SNR=22				
PRU	**Pruhonice**	**21.21 300**⇑	*i*P	**P**	**22 46 22.6 +0.4**
PRU			*e*S	Sn	22 50 21.7 -2.9
PRU			MLR	MLR	
	comp=Z,18μm,11.5s				
PRU	**Pruhonice**	**21.21 300**⇑	*i*P	**P**	**22 46 22.6 +0.4**
PRU			*e*x	x	22 46 36.7
PRU			*e*S	Sn	22 50 21.7 -2.9
PRU			AMS	AMS	22 56 50.0
	comp=Z,18μm,11.5s				
PRU	**Pruhonice**	**21.21 300**	P	**P**	**22 46 22.6 +0.4**
PRU			*e*S	Sn	22 50 21.7 -2.9
	comp=Z,18μm,11.5s				
PVCC	**Panska Ves**	**21.29 302**⇑	*i*P	**P**	**22 46 23.7 +0.7**
PVCC			*e*		22 46 29.5
PVCC			*e*S	**S**	**22 50 22.6 +3.6**
PVCC			MLR	MLR	
	comp=Z,19μm,11.9s				
PVCC	**Panska Ves**	**21.29 302**⇑	*i*P	**P**	**22 46 23.7 +0.7**
PVCC			*e*pP	**pP**	**22 46 29.5 +2.3**
PVCC			*e*sP	sP	22 46 34.8 +5.7
PVCC			*e*S	**S**	**22 50 22.6 +3.6**
PVCC			AMS	AMS	22 57 00.0
	comp=Z,19μm,11.9s				
PVCC	**Panska Ves**	**21.29 302**	P	**P**	**22 46 23.7 +0.7**
PRA	**Prague**	**21.30 301**	⇑P	**P**	**22 46 23.0 -0.1**
PRA			S	**S**	**22 50 22.0 +2.9**
VOY	**Vojsko**	**21.37 289**	*e*P	**P**	**22 46 24.4 +0.3**
VOY			*e*		22 46 30.7
VOY			*e*		22 46 36.8
VOY	**Vojsko**	**21.37 289**	*e*P	**P**	**22 46 24.4 +0.3**
CEL	**Celeste**	**21.38 268**	*e*P	**P**	**22 46 26.4 +2.3**
	comp=Z,610nm,1.2s				
CEL			LR	LR	
	comp=Z,9μm,21.0s				
CEL	**Celeste**	**21.38 268**	*e*P	**P**	**22 46 26.4 +2.3**
	comp=Z,610nm,1.2s				
TRI	**Trieste**	**21.47 289**	*e*P	**P**	**22 46 25.8 +0.8**
TRI	**Trieste**	**21.47 289**	*e*P	**P**

comp=N,12μm,12.5s
BRG
comp=E,19μm,12.2s
BRG
comp=Z,25μm,13.4s
BRG Berggiesshubel 21.75 303 *e*P **P 22 46 28.5 +0.5**
comp=Z,242nm,1.2s
BRG Berggiesshubel 21.75 303 *i* P **P 22 46 28.4 +0.5**
BRG S **S 22 50 28.0 +0.1**
BRG MLR MLR
comp=N,12μm,12.5s
BRG MLR MLR
comp=E,19μm,12.2s
BRG MLR MLR
comp=Z,25μm,13.4s
BRG Berggiesshubel 21.75 303 *i* P **P 22 46 28.4 +0.5**
BRG S **S 22 50 28.0 +0.1**
comp=Z,25μm,13.4s
KBA Koelnbreinsper 21.75 292⇑*i*P **P 22 46 29.1 +0.9**
comp=Z,311nm,1.2s,SNR=62
KBA Koelnbreinsper 21.75 292 P **P 22 46 29.1 +0.9**
comp=Z,311nm,1.2s,SNR=62
TMCR Tamitsa 21.84 354 *e*P **P 22 46 29.9 +1.1**
TMCR *e* 22 46 52.4
TMCR *e* 22 50 27.1
TMCR *e*S **S 22 50 33.3 +3.7**
TMCR pmax pmax
comp=Z,889nm,1.2s
TMCR Tamitsa 21.84 354 *e*P **P 22 46 29.9 +1.1**
comp=Z,889nm,1.2s
TMCR Tamitsa 21.84 354 *e*PcP **PcP 22 50 27.1 -0.8**
LJBD Adjabya 21.90 245 *i* P **P 22 46 28.8 -0.9**
comp=Z,767nm,2.0s,SNR=34
LJBD *e*S **S 22 50 32.0 +0.8**
SNR=36
KAF Kangasniemi 22.05 338 *e*P **P 22 46 30.8 -0.3**
KAF pmax pmax
comp=Z,218nm,0.8s
KAF Kangasniemi 22.05 338 *e*p **P 22 46 30.8 -0.3**
comp=Z,218nm,0.8s
KAF Kangasniemi 22.05 338 *e*P **P 22 46 30.8 -0.3**
comp=Z,218nm,0.8s
ARQ Araqi 22.05 146 P **P 22 46 31.7 +0.3**
SNR=94
ARQ Araqi 22.05 146 P **P 22 46 35.0 +3.5**
SNR=8.5
ARQ Araqi 22.05 146 P **P 22 46 31.7 +0.3**
SNR=94
HOQ Hoqain 22.17 144 P **P 22 46 33.0 +0.4**
SNR=95
HOQ Hoqain 22.17 144 P **P 22 46 33.0 +0.4**
SNR=95
WET Wettzell 22.18 298 *e*P **P 22 46 32.7 +0.1**
comp=Z,354nm,2.0s
WET Wettzell 22.18 298 *e*P **P 22 46 32.7 +0.1**
WET pmax pmax
comp=Z,354nm,2.0s
WET Wettzell 22.18 298 *e*P **P 22 46 32.7 +0.1**
comp=Z,354nm,2.0s
RUE Ruedersdorf 22.20 307⇑*i*P **P 22 46 32.4 -0.4**
comp=Z,1μm,1.3s
RUE *e*S **S 22 50 36.4 -0.2**
RUE Ruedersdorf 22.20 307⇑*i*P **P 22 46 32.4 -0.4**
comp=Z,1μm,1.3s
RUE *e*S **S 22 50 36.4 -0.2**
EKS2 Erkin-Say 22.26 79 *e*P **P 22 46 34.1 +0.4**
EKS2 MLR MLR
comp=Z,36μm,19.0s
EKS2 Erkin-Say 22.26 79 P **P 22 46 34.3 +0.6**
SNR=394
EKS2 Erkin-Say 22.26 79 *e*P **P 22 46 34.1 +0.4**
EKS2 LR LR
comp=Z,36μm,19.0s
EKS2 Erkin-Say 22.26 79 *e*P **P 22 46 34.1 +0.4**
comp=Z,36μm,19.0s
AML Almayashu 22.30 81 *i* P **P 22 46 35.1 +0.7**
AML Almayashu 22.30 81 P **P 22 46 35.1 +0.7**
SNR=102
AML Almayashu 22.30 81 *i* P **P 22 46 35.1 +0.7**
ABTA Abfaltersbach 22.32 291⇑*i*P **P 22 46 34.4 +0.2**
comp=Z,166nm,1.1s,SNR=54
ABTA ⇑*e*PcP **PcP 22 50 28.7 -0.6**
comp=Z,59nm,1.0s
ABTA ⇓*i*S **S 22 50 40.0 +0.9**
ABTA Abfaltersbach 22.32 291 P **P 22 46 34.4 +0.2**
comp=Z,166nm,1.1s,SNR=54
LUJL Ujela 22.34 240 *i* P **P 22 46 34.1 -0.3**
comp=Z,1μm,1.6s,SNR=34
LUJL *e*S **S 22 50 40.5 +0.9**
SNR=36
BSD Bornholm Skovb 22.39 314 *i* P **P 22 46 33.1 -1.7**
BSD pmax pmax
comp=Z,130nm,1.0s
BSD MLR MLR
comp=Z,15μm,13.0s
BSD Bornholm Skovb 22.39 314 *i* P **P 22 46 33.1 -1.7**
comp=Z,134nm,0.9s
BSD
comp=Z,15μm,13.0s
BSD Bornholm Skovb 22.39 314 *i* P **P 22 46 33.1 -1.7**
comp=Z,134nm,1.0s
CLL Collm 22.41 303 *e*P **P 22 46 35.6 +0.6**
comp=Z,618nm,1.5s
CLL Collm 22.41 303⇑*i*P **P 22 46 35.6 +0.6**
CLL *i* 22 46 41.2
CLL pmax pmax
comp=Z,250nm,1.2s
CLL Collm 22.41 303⇑*i*P **P 22 46 35.6 +0.6**
comp=Z,250nm,1.2s
CLL *e*Plp 22 46 38.0
comp=Z,5μm,19.5s
CLL *i* sP **sP 22 46 41.2 +0.1**
comp=Z,523nm,1.4s
CLL *i* 22 46 47.3
CLL *e*PP **PnPn 22 46 56.0 -1.9**
CLL *e*S **S 22 50 46.0 +5.4**
comp=N,18μm,23.1s
CLL *e*S **S 22 50 46.0 +5.4**
comp=E,3μm,29.0s
CLL Lmax 22 57 00.0
CLL LV 22 58 00.0
comp=Z,10μm,18.1s
CLL Collm 22.41 303 *i* P **P 22 46 35.6 +0.6**
comp=Z,250nm,1.2s
TANN Tannenbergstha 22.60 301 *e*P **P 22 46 37.4 +0.3**
comp=Z,218nm,1.3s
RAF Rauma 22.63 332 *e*P **P 22 46 36.2 -1.0**
SNR=29
RAF *e*S **S 22 50 45.0 +0.7**
SNR=150
ROTZ Rotzenmuhle 22.68 299 *e*P **P 22 46 37.9 0.0**
comp=Z,223nm,1.6s
USP Ospenovka 22.68 78 *i* P **P 22 46 37.4 -0.7**
USP Ospenovka 22.68 78 P **P 22 46 37.4 -0.7**
SNR=177
USP Ospenovka 22.68 78 *i* P **P 22 46 37.4 -0.7**
AAK Ala-Archa 22.79 79 P **P 22 46 39.0 -0.3**
comp=Z,3μm,1.3s
AAK Ala-Archa 22.79 79 *e*P **P 22 46 39.6 +0.3**
AAK S **S 22 50 52.9 +5.0**
AAK pmax pmax
comp=Z,840nm,1.2s
AAK MLR MLR
comp=Z,35μm,19.0s
AAK Ala-Archa 22.79 79 P **P 22 46 40.0 +0.6**
SNR=379
AAK Ala-Archa 22.79 79 P **P 22 46 39.7 +0.4**
SNR=337
AAK Ala-Archa 22.79 79 *e*P **P 22 46 39.6 +0.3**
comp=Z,840nm,1.2s
AAK S **S 22 50 52.9 +5.0**
AAK LR LR
comp=Z,35μm,19.0s
AAK Ala-Archa 22.79 79 P **P 22 46 39.9 +0.5**
comp=Z,383nm,1.0s,baz=251,slow=6.6,SNR=203
AAK S **S 22 50 52.9 +5.0**
comp=Z,24nm,0.9s,baz=234,slow=17,SNR=2.0
AAK LR LR 22 57 00.2
comp=Z,31μm,18.5s,baz=276,slow=41
AAK Ala-Archa 22.79 79 *e*P **P 22 46 39.6 +0.3**
comp=Z,840nm,1.2s
FRU Bishkek 22.84 79⇑*i*P **P 22 46 39.0 -0.7**
FRU *e* 22 47 18.0
FRU *i* S **S 22 50 48.0 -0.6**
FRU pmax pmax
comp=Z,2μm,1.6s
FRU pmax pmax
comp=Z,8μm,4.0s
FRU smax smax
comp=E,30μm,8.0s
FRU Bishkek 22.84 79 *i* P **P 22 46 39.0 -0.7**
comp=E,8μm,4.0s
FRU *i* S **S 22 50 48.0 -0.6**
BSY Bisya 22.86 146 P **P 22 46 40.0 -0.1**
SNR=61
UCH Uchtor 22.88 80 *i* P **P 22 46 43.1 +2.5**
UCH Uchtor 22.88 80 P **P 22 46 43.0 +2.5**
SNR=9.2
UCH Uchtor 22.88 80 *i* P **P 22 46 43.1 +2.5**
BSYO Bisya 22.89 146 P **P 22 46 40.0 -0.3**
SNR=61
CHMS Chumysh 22.91 78 *i* P **P 22 46 40.1 -0.4**
CHMS Chumysh 22.91 78 P **P 22 46 40.1 -0.4**
SNR=62
CHMS Chumysh 22.91 78 *i* P **P 22 46 40.1 -0.4**
WTTA Wattenberg 22.91 293⇑*i*P **P 22 46 40.4 -0.2**
comp=E,530nm,1.0s,SNR=141
WTTA ⇓*i*PcP **PcP 22 50 31.0 +0.3**
comp=E,103nm,0.9s
WTTA ⇓*i*S **S 22 50 51.0 +0.9**
WTTA Wattenberg 22.91 293 P **P 22 46 40.4 -0.2**
comp=E,530nm,1.0s,SNR=141
WTTA Wattenberg 22.91 293 PcP **PcP 22 50 31.0 +0.3**
comp=E,103nm,0.9s
WTTA S **S 22 50 51.0 +0.9**
SMDO Samad 22.95 143 P **P 22 46 41.3 +0.3**
SNR=106
SMDO Samad 22.95 143 P **P 22 46 41.3 +0.3**
SNR=106
RGN Rugen 23.06 312⇑*e*P **P 22 46 41.3 -0.5**
comp=E,1μm,1.3s
RGN *e*S **S 22 50 53.0 +1.0**
RGN Rugen 23.06 312⇑*e*P **P 22 46 41.3 -0.5**
comp=E,1μm,1.3s
RGN *e*S **S 22 50 53.0 +1.0**
KBK Karagaybulak 23.11 79 *i* P **P 22 46 43.2 +0.5**
KBK Karagaybulak 23.11 79 P **P 22 46 43.2 +0.5**
SNR=50
KBK Karagaybulak 23.11 79 *i* P **P 22 46 43.2 +0.5**
MOX Moxa 23.17 301 *e*P **P 22 46 43.1 +0.1**
comp=Z,220nm,1.6s
MOX *e*L L 22 57 41.6
comp=Z,7μm,21.1s
MOX Moxa 23.17 301 *e*P **P 22 46 43.1 +0.1**
MOX pmax pmax
comp=Z,220nm,1.6s
MOX MLR MLR
comp=Z,7μm,21.1s
MOX Moxa 23.17 301 *e*P **P 22 46 43.1 +0.1**
comp=Z,7μm,21.1s
FUR Furstenfeldbru 23.17 295 *e*P **P 22 46 44.0 +0.9**
comp=Z,1μm,1.7s
FUR Furstenfeldbru 23.17 295 *e*P **P 22 46 44.0 +0.9**
FUR pmax pmax
comp=Z,1μm,1.7s
FUR Furstenfeldbru 23.17 295 *e*P **P 22 46 44.0 +0.9**
comp=Z,1μm,1.7s
MOTA Moosalm 23.28 293⇑*i*P **P 22 46 43.4 -0.9**
comp=Z,563nm,1.4s,SNR=174
MOTA ⇑*i*PcP **PcP 22 50 29.9 -1.6**
comp=Z,50nm,1.1s
MOTA Moosalm 23.28 293 P **P 22 46 43.4 -0.9**
comp=Z,563nm,1.4s,SNR=174
GRA1 Grafenberg Arr 23.31 299 *e*P **P 22 46 44.7 +0.3**
comp=Z,8μm,21.3s
GRF Grafenberg Arr 23.31 299 *e*P **P 22 46 44.7 +0.3**
comp=Z,329nm,1.9s
GRF *e*L L 22 56 35.0
comp=Z,8μm,21.3s
GRF Grafenberg Arr 23.31 299 *e*P **P 22 46 44.7 +0.3**
GRF pmax pmax
comp=Z,329nm,1.9s
GRF MLR MLR
comp=Z,8μm,21.3s
GRFO Grafenberg 23.31 299 *e*P **P 22 46 44.8 +0.4**
GRFO Grafenberg 23.31 299 *e*P **P 22 46 44.8 +0.4**
GRFO Grafenberg 23.31 299 *e*P **P 22 46 44.8 +0.4**
KZA Kyzart 23.45 80 *i* P **P 22 46 48.9 +2.6**
KZA Kyzart 23.45 80 P **P 22 46 48.9 +2.6**
SNR=5.4
KZA Kyzart 23.45 80 *i* P **P 22 46 48.9 +2.6**
RETA Reutte 23.51 293⇑*i*P **P 22 46 45.8 -0.7**
comp=Z,262nm,1.4s,SNR=84
RETA Reutte 23.51 293 P **P 22 46 45.8 -0.7**
comp=Z,262nm,1.4s,SNR=84
TKM2 Tokmak 2 23.54 78⇑P **P 22 46 46.9 -0.2**
comp=Z,700nm,1.1s
TKM2 Tokmak 2 23.54 78 *e*P **P 22 46 46.8 -0.2**
TKM2 MLR MLR
comp=Z,22μm,22.0s
TKM2 Tokmak 2 23.54 78 P **P 22 46 49.1 +2.1**
SNR=8.3
TKM2 Tokmak 2 23.54 78 *e*P **P 22 46 46.8 -0.2**
TKM2 LR LR
comp=Z,22μm,22.0s
TKM2 Tokmak 2 23.54 78 *e*P **P 22 46 46.8 -0.2**
comp=Z,22μm,22.0s
FETA Feichten 23.54 292⇑*i*P **P 22 46 46.4 -0.5**
comp=Z,570nm,1.3s,SNR=225
FETA ⇓*e*PcP **PcP 22 50 33.4 +1.5**
comp=Z,52nm,1.0s
FETA ⇓*i*S **S 22 51 00.1 -0.3**
FETA Feichten 23.54 292 P **P 22 46 46.4 -0.5**
comp=Z,570nm,1.3s,SNR=225
JMDO Jabal Madar 23.58 144 P **P 22 46 48.6 +1.3**
SNR=48
JMDO Jabal Madar 23.58 144 P **P 22 46 48.6 +1.3**
SNR=48
WBK Wadi Bani Khal 23.75 142 P **P 22 46 49.8 +0.8**
SNR=31
WBK Wadi Bani Khal 23.75 142 P **P 22 46 49.8 +0.8**
SNR=31
FUORN Ofenpass-Fuorn 23.87 291⇑*i*P **P 22 46 50.3 0.0**
comp=Z,872nm,1.8s
FUORN Ofenpass-Fuorn 23.87 291 *e*P **P 22 46 50.2 0.0**
FUORN Ofenpass-Fuorn 23.87 291 *e*P **P 22 46 50.2 0.0**
LLD Lille Linde 23.92 313 *i* P **P 22 46 50.9 +0.6**
LLD pmax pmax
comp=Z,190nm,1.0s
LLD Lille Linde 23.92 313 *i* P **P 22 46 50.9 +0.6**
comp=Z,193nm,0.9s
LLD Lille Linde 23.92 313 *i* P **P 22 46 50.9 +0.6**
comp=Z,194nm,1.0s
COP Copenhagen 23.92 314⇑*i*P **P 22 46 50.8 +0.5**
COP pmax pmax
comp=Z,91nm,1.1s
COP MLR MLR
comp=Z,7μm,12.0s
COP Copenhagen 23.92 314⇑*i*P **P 22 46 50.8 +0.5**
comp=Z,91nm,1.0s
COP
comp=Z,7μm,11.0s
COP Copenhagen 23.92 314⇑*i*P **P 22 46 50.8 +0.5**
comp=Z,91nm,1.1s
VLC Villacollemand 24.00 285 *e*P **P 22 46 52.4 +1.2**
VLC LR LR
comp=Z,8μm,20.0s
VLC Villacollemand 24.00 285 *e*P **P 22 46 52.4 +1.2**
BERNI Berninapass 24.05 291⇑*i*P **P 22 46 52.2 +0.3**
comp=Z,950nm,1.7s
BERNI Berninapass 24.05 291⇑*i*P **P 22 46 52.2 +0.3**
comp=Z,950nm,1.7s
DAVA Damuels 24.11 293⇑*i*P **P 22 46 51.8 -0.6**
comp=Z,620nm,1.6s,SNR=136
DAVA ⇑*i*PcP **PcP 22 50 34.3 +1.1**
comp=Z,101nm,0.9s,SNR=11
DAVA ⇑*i*S **S 22 51 07.9 -1.7**
DAVA Damuels 24.11 293 P **P 22 46 51.8 -0.6**
comp=Z,620nm,1.6s,SNR=136
CLZ Clausthal 24.12 304 *e*P **P 22 46 53.4 +1.1**
comp=Z,788nm,1.9s
CLZ Clausthal 24.12 304 *e*P **P 22 46 53.4 +1.1**
CLZ pmax pmax
comp=Z,788nm,1.9s
CLZ Clausthal 24.12 304 *e*P **P 22 46 53.4 +1.1**
comp=Z,788nm,1.9s
DAVOX Davos/Dischmat 24.13 292⇑*i*P **P 22 46 52.4 -0.1**
comp=Z,772nm,1.5s
DAVOX Davos/Dischmat 24.13 292 P **P 22 46 52.5 -0.1**
DAVOX PcP **PcP 22 50 33.5 +0.2**
DAVOX S **S 22 51 08.8 -1.1**
DAVOX Davos/Dischmat 24.13 292 P **P 22 46 52.5 -0.1**
comp=Z,90nm,0.6s,baz=94,slow=7.2,SNR=125
DAVOX PcP **PcP 22 50 33.5 +0.2**
comp=Z,36nm,0.9s,baz=227,slow=3.4,SNR=4.4
DAVOX S **S 22 51 08.8 -1.1**
comp=Z,8.9nm,1.0s,baz=155,slow=17,SNR=1.8
DAVOX LR LR 22 58 49.9
comp=Z,11μm,18.6s,baz=86,slow=43
DAVOX Davos/Dischmat 24.13 292 P **P 22 46 52.5 -0.1**
comp=Z,90nm,0.6s
DAVOX Davos/Dischmat 24.13 292 PcP **PcP 22 50 33.5 +0.2**
DAVOX S **S 22 51 08.8 -1.1**
comp=Z,11μm,18.6s
ULHL Ulahol 24.13 80 *i* P **P 22 46 54.3 +1.6**
ULHL Ulahol 24.13 80 P **P 22 46 54.3 +1.6**
SNR=20
ULHL Ulahol 24.13 80 *i* P **P 22 46 54.3 +1.6**
UBBA Unterbreizbach 24.21 301 *e*P **P 22 46 53.5 +0.6**
comp=Z,280nm,1.7s
LSRT Sirt 24.22 251 *i* P **P 22 46 54.1 +0.8**
comp=Z,732nm,1.8s,SNR=28
LSRT *e*S **S 22 51 15.7 +4.5**
SNR=29
LIENZ Kamor/St.Gall 24.37 293⇑*i*P **P 22 46 54.3 -0.5**
comp=Z,928nm,1.5s
LIENZ Kamor/St.Gall 24.37 293⇑*i*P **P 22 46 54.3 -0.5**
comp=Z,928nm,1.5s
NRDL Niedersach Rie 24.39 306 *e*P **P 22 46 55.9 +1.3**
comp=Z,192nm,1.2s
VDL Val di Lei 24.44 291⇑*i*P **P 22 46 55.0 -0.4**
comp=Z,556nm,1.2s
AAA Alma-Ata 24.45 77 *i* P **P 22 46 56.7 +1.3**
AAA *e*S **S 22 51 14.1 -0.7**
AAA pmax pmax
comp=Z,13μm,5.8s
AAA smax smax
comp=E,19μm,9.3s
AAA MLR MLR
comp=Z,69μm,12.0s
AAA Alma-Ata 24.45 77 *i* P **P 22 46 56.7 +1.3**
comp=Z,13μm,5.8s
AAA *e*S **S 22 51 14.1 -0.7**
comp=Z,69μm,12.0s
PLONS Plons/SG 24.46 292⇑*i*P **P 22 46 55.5 0.0**
comp=Z,1μm,2.2s
PLONS Plons/SG 24.46 292⇑*i*P **P 22 46 55.5 0.0**
comp=Z,1μm,2.2s
KNDC Almaty 24.47 77⇑P **P 22 46 57.0 +1.4**
KNDC Almaty 24.47 77 P **P 22 46 57.0 +1.4**
TUE Stuetta 24.51 291 *e*P **P 22 46 54.9 -1.3**
comp=Z,2μm,2.3s
TUE LR LR
comp=Z,8μm,22.0s
TUE Stuetta 24.51 291 *e*P **P 22 46 54.8 -1.3**
comp=Z,2μm,2.3s
STU Stuttgart 24.58 296 *e*P **P 22 46 56.5 0.0**
comp=Z,347nm,0.9s
STU Stuttgart 24.58 296 *e*P **P 22 46 56.4 0.0**
STU pmax pmax
comp=Z,301nm,0.9s
STU Stuttgart 24.58 296 *e*P **P 22 46 56.4 0.0**
comp=Z,301nm,0.9s
STU Stuttgart 24.58 296 *e*P **P 22 46 56.4 0.0**
comp=Z,301nm,0.9s
BSEG Bad Segeberg 24.58 309 *e*P **P 22 46 57.4 +1.0**
comp=Z,249nm,1.3s
BSEG Bad Segeberg 24.58 309 *e*P **P 22 46 57.4 +1.0**
BSEG pmax pmax
comp=Z,249nm,1.3s
BSEG Bad Segeberg 24.58 309 *e*P **P 22 46 57.4 +1.0**
comp=Z,249nm,1.3s
KSH Kashi 24.63 86⇑*i*P **P 22 46 57.4 +0.2**
KSH sP **sP 22 47 04.3 +0.8**
KSH PP **PnPn 22 47 34.3 +5.7**
KSH PcP **PcP 22 50 36.1 +1.7**
KSH S **S 22 51 15.4 -2.7**
KSH SS **SnSn 22 52 11.4 +7.9**
KSH pmax pmax
comp=Z,240nm,1.1s
KSH pmax pmax
comp=Z,10μm,11.7s
KSH LR LR
comp=N,19μm,13.1s
KSH LR LR
comp=E,17μm,9.9s
KSH LR LR
comp=Z,20μm,14.3s
LMSR Misrath 24.70 255 *i* P **P 22 46 58.2 +0.6**
comp=Z,264nm,2.0s,SNR=28
LMSR *e*S **S 22 51 22.0 +3.1**
SNR=29
LLS Linth-Limmern 24.72 292⇑*i*P **P 22 46 57.5 -0.5**
comp=Z,374nm,1.4s
LLS Linth-Limmern 24.72 292⇑*i*P **P 22 46 57.5 -0.5**
comp=Z,374nm,1.4s
MUGIO Muggio 24.76 290⇑*i*P **P 22 46 57.9 -0.3**
comp=Z,352nm,1.3s
MUGIO Muggio 24.76 290⇑*i*P **P 22 46 57.9 -0.3**
comp=Z,352nm,1.3s
STEIN Stein am Rhein 24.79 294⇑*i*P **P 22 46 57.7 -0.7**
comp=Z,447nm,1.3s
STEIN Stein am Rhein 24.79 294⇑*i*P **P 22 46 57.7 -0.7**
comp=Z,447nm,1.3s
SPAK Spaichingen-Ko 24.84 295 *e*P **P 22 46 58.7 -0.2**
LKFR Kufra 24.86 229 *i* P **P 22 46 59.4 +0.2**
comp=Z,590nm,1.4s,SNR=28
LKFR *e*S **S 22 51 22.8 +1.2**
SNR=29
TOD Tromm 24.87 298 *e*P **P 22 46 59.1 0.0**
TRULL Truellikon 24.92 294⇑*i*P **P 22 46 59.0 -0.5**
comp=Z,586nm,1.4s
TRULL Truellikon 24.92 294⇑*i*P **P 22 46 59.0 -0.5**
comp=Z,586nm,1.4s
MUO Muotathal 24.97 292⇑*i*P **P 22 46 59.6 -0.6**
comp=Z,601nm,1.5s
MUO Muotathal 24.97 292⇑*i*P **P 22 46 59.6 -0.6**
comp=Z,601nm,1.5s
FUSIO Fusio 24.98 291⇑*i*P **P 22 46 59.9 -0.4**
comp=Z,345nm,1.5s
FUSIO Fusio 24.98 291⇑*i*P **P 22 46 59.9 -0.4**
comp=Z,345nm,1.5s
ZUR Degenried 24.99 293⇑*i*P **P 22 46 59.8 -0.4**
comp=Z,546nm,1.2s
ZUR Degenried 24.99 293⇑*i*P **P 22 46 59.8 -0.4**
comp=Z,546nm,1.2s
FLACH Flaach 25.00 294⇑*i*P **P 22 46 59.7 -0.5**
comp=Z,428nm,1.3s
FLACH Flaach 25.00 294⇑*i*P **P 22 46 59.7 -0.5**
comp=Z,428nm,1.3s
SLE Schleitheim 25.04 294⇑*i*P **P 22 47 00.0 -0.7**
comp=Z,294nm,1.2s
SLE Schleitheim 25.04 294⇑*i*P **P 22 47 00.0 -0.7**
comp=Z,294nm,1.2s
BNALP Bannalp 25.12 292⇑*i*P **P 22 47 01.0 -0.5**
comp=Z,429nm,1.8s
BNALP Bannalp 25.12 292⇑*i*P **P 22 47 01.0 -0.5**
comp=Z,429nm,1.8s
TNS Taunus Mts 25.14 300 *e*P **P 22 47 02.0 +0.5**
comp=Z,147nm,1.6s
TNS Taunus Mts 25.14 300 *e*P **P 22 47 02.0 +0.5**
TNS pmax pmax
comp=Z,147nm,1.6s
TNS Taunus Mts 25.14 300 *e*P **P 22 47 02.0 +0.5**
comp=Z,147nm,1.6s
BFO Black Forest 25.14 295 P **P 22 47 01.8 +0.2**
comp=Z,378nm,1.1s,SNR=8.7
BFO Black Forest 25.14 295 *e*P **P 22 47 01.1 -0.5**
comp=Z,98nm,1.3s
BFO Black Forest 25.14 295 *e*P **P 22 47 01.1 -0.5**
BFO pmax pmax
comp=Z,98nm,1.3s
BFO Black Forest 25.14 295⇑*i*P **P 22 47 01.1 -0.5**
comp=Z,144nm,1.3s
BFO *e*S **S 22 51 25.5 -0.4**
BFO LR LR
comp=Z,7μm,21.0s
BFO Black Forest 25.14 295 *e*P **P 22 47 01.1 -0.5**
comp=Z,98nm,1.3s
BFO *e*S **S 22 51 25.5 -0.4**
LZLA Zalla 25.16 245 *i* P **P 22 47 03.0 +1.1**
comp=Z,448nm,1.3s,SNR=28
LZLA *e*S **S 22 51 28.8 +2.3**
SNR=29
KURBB Kurchatov Arra 25.21 59⇑P **P 22 47 02.9 +0.8**
comp=Z,620nm,1.1s
KURBB Kurchatov Arra 25.21 59 P **P 22 47 02.3 +0.1**
comp=Z,346nm,1.1s,baz=273,slow=9.6,SNR=180
KURBB Kurchatov Arra 25.21 59 P **P 22 47 02.9 +0.8**
comp=Z,620nm,1.1s
HFS Hagfors 25.23 324 P **P 22 47 02.4 +0.2**

HFS S **S** **22 51 29.4 +2.4**
HFS Hagfors 25.23 324 P **P** **22 47 02.4 +0.2**
comp=Z,246nm,1.1s,baz=120,slow=5.8,SNR=67
HFS S **S** **22 51 29.4 +2.4**
comp=Z,7.4nm,0.7s,baz=78,slow=27,SNR=2.1
HFS LR LR 22 58 11.7
comp=Z,24µm,19.6s,baz=120,slow=40
HFS Hagfors 25.23 324 P **P** **22 47 02.4 +0.2**
comp=Z,246nm,1.1s
PGF Pioggiola 25.27 282⇑*i*P **P** **22 47 03.0 +0.1**
comp=Z,837nm,1.4s
PGF Pioggiola 25.27 282⇑*i*P **P** **22 47 03.0 +0.1**
PGF pmax pmax
comp=Z,837nm,1.4s
PGF Pioggiola 25.27 282⇑*i*P **P** **22 47 03.0 +0.1**
comp=Z,837nm,1.4s
PGF Pioggiola 25.27 282 *i*P **P** **22 47 03.0 +0.1**
comp=Z,837nm,1.4s
KURK Kurchatov 25.28 59 P **P** **22 47 02.3 -0.4**
KURK pmax pmax
comp=Z,391nm,1.1s
KURK Kurchatov 25.28 59 P **P** **22 47 02.3 -0.4**
KURK Kurchatov 25.28 59 P **P** **22 47 02.3 -0.4**
comp=Z,391nm,1.1s
SULZ Cheisacher 25.30 293⇑*i*P **P** **22 47 02.3 -0.8**
comp=Z,570nm,1.3s
SULZ Cheisacher 25.30 293⇑*i*P **P** **22 47 02.3 -0.8**
comp=Z,570nm,1.3s
HASLI Hasliberg/Brie 25.31 292⇑*i*P **P** **22 47 02.6 -0.7**
comp=Z,359nm,1.4s
HASLI Hasliberg/Brie 25.31 292⇑*i*P **P** **22 47 02.6 -0.7**
comp=Z,359nm,1.4s
KTD Kalmit 25.32 298 *e*P **P** **22 47 03.7 +0.5**
OSPF L'Ospedale 25.33 280 *e*P **P** **22 47 03.4 0.0**
OSPF L'Ospedale 25.33 280 *e*P **P** **22 47 03.4 0.0**
FELD Feldberg im Sc 25.37 294 *e*P **P** **22 47 02.9 -0.9**
MMK Mattmark 25.50 290⇑*i*P **P** **22 47 04.3 -0.8**
comp=Z,208nm,0.7s
MMK Mattmark 25.50 290⇑*i*P **P** **22 47 04.3 -0.8**
comp=Z,208nm,0.7s
LANF Langenberg 25.50 297 *e*P **P** **22 47 05.2 +0.4**
LANF Langenberg 25.50 297 *e*P **P** **22 47 05.2 +0.4**
BALST Balsthal 25.59 293⇑*i*P **P** **22 47 04.8 -0.9**
comp=Z,348nm,1.5s
BALST Balsthal 25.59 293⇑*i*P **P** **22 47 04.8 -0.9**
comp=Z,348nm,1.5s
APA Apatity 25.62 351⇓*i*P **P** **22 47 09.4 +3.7**
APA *i* 22 47 52.0
APA *i*S **S** **22 51 37.0 +4.0**
APA *i*SS **SnSn** **22 52 30.0 +3.0**
APA pmax pmax
comp=Z,577nm,2.0s
APA MLR MLR
comp=Z,47µm,14.0s
LIBD Limburg 25.63 295 *e*P **P** **22 47 05.9 -0.1**
WIMIS Wimmis 25.68 292⇑*i*P **P** **22 47 05.9 -0.6**
comp=Z,405nm,1.2s
WIMIS Wimmis 25.68 292⇑*i*P **P** **22 47 05.9 -0.6**
comp=Z,405nm,1.2s
ABH Alteburg 25.70 299 *e*P **P** **22 47 07.3 +0.7**
LKBD Leukerbad 25.70 291⇑*i*P **P** **22 47 06.3 -0.5**
comp=Z,332nm,0.9s
LKBD Leukerbad 25.70 291⇑*i*P **P** **22 47 06.3 -0.5**
comp=Z,332nm,0.9s
BBS Basel-Blauen 25.71 293 *e*P **P** **22 47 05.7 -1.1**
VSL Villasalto 25.78 275 *e*P **P** **22 47 07.7 +0.2**
comp=Z,438nm,1.3s
VSL *e*S **S** **22 51 36.0 -0.2**
VSL LR LR
comp=Z,9µm,21.0s
VSL Villasalto 25.78 275 *e*P **P** **22 47 07.7 +0.2**
comp=Z,438nm,1.3s
VSL *e*S **S** **22 51 36.0 -0.2**
IBBN Ibbenburen 25.79 305 *e*P **P** **22 47 08.7 +1.4**
comp=Z,782nm,1.6s
WLS Welschbruch 25.80 296 *e*P **P** **22 47 06.8 -0.7**
WLS Welschbruch 25.80 296 *e*P **P** **22 47 06.8 -0.7**
LVZ Lovozero 25.81 352 *d*i*P **P** **22 47 06.2 -1.2**
LVZ pmax pmax
comp=Z,138nm,1.4s
LVZ MLR MLR
comp=Z,35µm,20.0s
LVZ Lovozero 25.81 352 P **P** **22 47 10.4 +3.0**
comp=Z,1µm,1.0s,SNR=5.5
LVZ Lovozero 25.81 352 *i*P **P** **22 47 06.2 -1.2**
comp=Z,35µm,20.0s
CDF Champ du Feu 25.85 296⇑*i*P **P** **22 47 07.2 -0.9**
comp=Z,210nm,1.3s
CDF Champ du Feu 25.85 296⇑*i*P **P** **22 47 07.2 -0.9**
CDF pmax pmax
comp=Z,210nm,1.3s
CDF Champ du Feu 25.85 296⇑*i*P **P** **22 47 07.2 -0.9**
comp=Z,210nm,1.3s
CDF Champ du Feu 25.85 296 *i*P **P** **22 47 07.2 -0.9**
comp=Z,210nm,1.3s
DIX Grande Dixence 25.88 290⇑*i*P **P** **22 47 08.4 -0.2**
comp=Z,339nm,1.0s
DIX Grande Dixence 25.88 290⇑*i*P **P** **22 47 08.4 -0.2**
comp=Z,339nm,1.0s
MUD Monsted U'grnd 25.90 314⇑*i*P **P** **22 47 09.3 +1.0**
MUD pmax pmax
comp=Z,70nm,1.0s
MUD MLR MLR
comp=Z,19µm,11.0s
MUD Monsted U'grnd 25.90 314⇑*i*P **P** **22 47 09.3 +1.0**
comp=Z,70nm,1.0s
MUD
comp=Z,19µm,11.0s
MUD Monsted U'grnd 25.90 314⇑*i*P **P** **22 47 09.3 +1.0**
comp=Z,70nm,1.0s
BOURR Bourrignon 25.91 293⇑*i*P **P** **22 47 07.8 -0.8**
comp=Z,162nm,1.0s
BOURR Bourrignon 25.91 293⇑*i*P **P** **22 47 07.8 -0.8**
comp=Z,162nm,1.0s
SENIN Lac Senin/Sane 25.93 291⇑*i*P **P** **22 47 08.5 -0.5**
comp=Z,435nm,1.3s
SENIN Lac Senin/Sane 25.93 291⇑*i*P **P** **22 47 08.5 -0.5**
comp=Z,435nm,1.3s
ECH Echery 25.93 295⇑*i*P **P** **22 47 08.2 -0.5**
ECH *e* 22 50 44.6
ECH *e*S **S** **22 51 38.4 +0.1**
ECH pmax pmax
comp=Z,129nm,1.3s
ECH MLR MLR
comp=Z,6µm,22.0s
ECH Echery 25.93 295 *e*P **P** **22 47 08.2 -0.5**
ECH Echery 25.93 295⇑*i*P **P** **22 47 08.2 -0.5**
comp=Z,129nm,1.3s
ECH *e*PcP PcP 22 50 44.6 +7.6
ECH *e*S **S** **22 51 38.4 +0.1**
ECH LR LR
comp=Z,6µm,22.0s
ECH Echery 25.93 295 *e*P **P** **22 47 08.2 -0.5**
ECH *e*S **S** **22 51 38.4 +0.1**
MOF Molkenrain 25.95 294 *e*P **P** **22 47 08.6 -0.4**
MOF Molkenrain 25.95 294 *e*P **P** **22 47 08.6 -0.4**
BUG Bochum--Univer 25.98 303 *e*P **P** **22 47 10.5 +1.4**
comp=Z,283nm,1.7s
LJFR Jufra 26.00 248 *i*P **P** **22 47 09.4 -0.1**
comp=Z,1µm,1.5s,SNR=28
LJFR *e*S **S** **22 51 43.4 +3.7**
SNR=29
RUP Ruppelstein 26.00 299 *e*P **P** **22 47 10.0 +0.6**
SAOF Saorge 26.05 285 *e*P **P** **22 47 10.4 +0.6**
SAOF Saorge 26.05 285 *e*P **P** **22 47 10.4 +0.6**
GRYON Gryon 26.07 291⇑*i*P **P** **22 47 09.5 -0.6**
comp=Z,206nm,0.9s
GRYON Gryon 26.07 291⇑*i*P **P** **22 47 09.5 -0.6**
comp=Z,206nm,0.9s
AUTN L'Aution 26.14 285 *e*P **P** **22 47 11.7 +0.8**
AUTN L'Aution 26.14 285 *e*P **P** **22 47 11.7 +0.8**
HINF Hinteralfeld 26.14 294⇑*i*P **P** **22 47 09.6 -1.1**
comp=Z,60nm,0.9s
HINF Hinteralfeld 26.14 294⇑*i*P **P** **22 47 09.6 -1.1**
HINF pmax pmax
comp=Z,60nm,0.9s
HINF Hinteralfeld 26.14 294⇑*i*P **P** **22 47 09.6 -1.1**
comp=Z,60nm,0.9s
HINF Hinteralfeld 26.14 294 *i*P **P** **22 47 09.6 -1.1**
comp=Z,60nm,0.9s
SBF Sospel 26.15 285⇑*i*P **P** **22 47 11.3 +0.5**
comp=Z,562nm,1.1s
SBF Sospel 26.15 285⇑*i*P **P** **22 47 11.3 +0.5**
SBF pmax pmax
comp=Z,562nm,1.1s
SBF Sospel 26.15 285⇑*i*P **P** **22 47 11.3 +0.5**
comp=Z,562nm,1.1s
SBF Sospel 26.15 285 *i*P **P** **22 47 11.3 +0.5**
comp=Z,562nm,1.1s
AIGLE Aigle 26.17 291⇑*i*P **P** **22 47 10.3 -0.7**
comp=Z,332nm,0.9s
AIGLE Aigle 26.17 291⇑*i*P **P** **22 47 10.3 -0.7**
comp=Z,332nm,0.9s
GHAR Gharyan 26.17 257 *i*P **P** **22 47 12.4 +1.3**
comp=Z,472nm,1.7s,SNR=28
GHAR *e*S **S** **22 51 46.7 +4.2**
SNR=29
SALAN Lac Salanfe 26.17 290⇑*i*P **P** **22 47 10.6 -0.6**
comp=Z,152nm,0.8s
SALAN Lac Salanfe 26.17 290⇑*i*P **P** **22 47 10.6 -0.6**
comp=Z,152nm,0.8s
LOMF Lomont 26.18 293 *e*P **P** **22 47 10.4 -0.7**
LOMF Lomont 26.18 293 *e*P **P** **22 47 10.4 -0.7**
LUCF Luceram 26.21 285 *e*P **P** **22 47 12.0 +0.6**
LUCF Luceram 26.21 285 *e*P **P** **22 47 12.0 +0.6**
REVF Revere 26.22 285 *e*P **P** **22 47 12.0 +0.6**
REVF Revere 26.22 285 *e*P **P** **22 47 12.0 +0.6**
EMV Vieux Emosson 26.23 290⇑*i*P **P** **22 47 11.3 -0.4**
comp=Z,242nm,1.0s
EMV Vieux Emosson 26.23 290⇑*i*P **P** **22 47 11.3 -0.4**
comp=Z,242nm,1.0s
TOUF Mont Tournerai 26.26 286 *e*P **P** **22 47 13.0 +1.1**
TOUF Mont Tournerai 26.26 286 *e*P **P** **22 47 13.0 +1.1**
MVIF Mont Vial 26.35 285 *e*P **P** **22 47 13.5 +0.8**
MVIF Mont Vial 26.35 285 *e*P **P** **22 47 13.5 +0.8**
OG01 Vacheresse 26.36 291 *e*P **P** **22 47 12.3 -0.4**
OG01 Vacheresse 26.36 291 *e*P **P** **22 47 12.3 -0.4**
LPG La Plagne 26.40 289⇑*i*P **P** **22 47 13.2 -0.1**
comp=Z,808nm,1.4s
LPG La Plagne 26.40 289⇑*i*P **P** **22 47 13.2 -0.1**
LPG pmax pmax
comp=Z,808nm,1.4s
LPG La Plagne 26.40 289⇑*i*P **P** **22 47 13.2 -0.1**
comp=Z,808nm,1.4s
LPG La Plagne 26.40 289 *i*P **P** **22 47 13.2 -0.1**
comp=Z,808nm,1.4s
LPL La Plagne 26.41 289⇑*i*P **P** **22 47 13.3 0.0**
comp=Z,529nm,1.1s
LPL La Plagne 26.41 289⇑*i*P **P** **22 47 13.3 0.0**
LPL pmax pmax
comp=Z,529nm,1.1s
LPL La Plagne 26.41 289⇑*i*P **P** **22 47 13.3 0.0**
comp=Z,529nm,1.1s
LPL La Plagne 26.41 289 *i*P **P** **22 47 13.3 0.0**
comp=Z,529nm,1.1s
NC602 NORSAR Array S 26.46 324 *e*P **P** **22 47 16.9 +3.6**
RSL Roselend 26.46 289 *e*P **P** **22 47 13.7 0.0**
RSL Roselend 26.46 289 *e*P **P** **22 47 13.7 0.0**
HAU Haudompre 26.48 295⇑*i*P **P** **22 47 12.9 -0.8**
comp=Z,650nm,1.7s
HAU *e*R
comp=Z,6µm,20.5s
HAU Haudompre 26.48 295⇑*i*P **P** **22 47 12.9 -0.8**
HAU pmax pmax
comp=Z,650nm,1.7s
HAU Haudompre 26.48 295⇑*i*P **P** **22 47 12.9 -0.8**
comp=Z,650nm,1.7s
HAU Haudompre 26.48 295 *i*P **P** **22 47 12.9 -0.8**
comp=Z,650nm,1.7s
MBDF Montbardon 26.49 287⇑*i*P **P** **22 47 14.2 +0.3**
comp=Z,374nm,0.8s
MBDF Montbardon 26.49 287⇑*i*P **P** **22 47 14.2 +0.3**
MBDF pmax pmax
comp=Z,374nm,0.8s
MBDF Montbardon 26.49 287⇑*i*P **P** **22 47 14.2 +0.3**
comp=Z,374nm,0.8s
MBDF Montbardon 26.49 287 *i*P **P** **22 47 14.2 +0.3**
comp=Z,374nm,0.8s
SURF Saint Ours 26.49 287 *e*P **P** **22 47 14.6 +0.5**
SURF Saint Ours 26.49 287 *e*P **P** **22 47 14.6 +0.5**
BNI Bardonecchia 26.50 288 *e*P **P** **22 47 14.4 +0.3**
BNI MLR MLR
comp=Z,8µm,22.0s
BNI Bardonecchia 26.50 288 *e*P **P** **22 47 14.4 +0.3**
BNI LR LR
comp=Z,8µm,22.0s
BNI Bardonecchia 26.50 288 *e*P **P** **22 47 14.4 +0.3**
comp=Z,8µm,22.0s
ABTO Aybut 26.51 159 P **P** **22 47 15.6 +1.4**
SNR=12
ABTO Aybut 26.51 159 P **P** **22 47 15.6 +1.4**
SNR=12
LSHF Shwairf 26.55 251 *i*P **P** **22 47 14.3 -0.1**
comp=Z,565nm,1.7s,SNR=28
LSHF *e*S **S** **22 51 49.7 +1.3**
SNR=29
CALN Calern 26.56 285 *e*P **P** **22 47 15.3 +0.7**
CALN Calern 26.56 285 *e*P **P** **22 47 15.3 +0.7**
WLF Walferdange 26.59 298 P **P** **22 47 15.6 +0.9**
comp=Z,85nm,1.7s
WLF Walferdange 26.59 298 *e*P **P** **22 47 15.9 +1.2**
comp=Z,159nm,1.4s
WLF Walferdange 26.59 298⇑*i*P **P** **22 47 15.6 +0.9**
WLF *e* 22 50 40.1
WLF *e*S **S** **22 51 53.2 +4.5**
WLF pmax pmax
comp=Z,147nm,1.4s
WLF MLR MLR
comp=Z,7µm,20.0s
WLF Walferdange 26.59 298⇑*i*P **P** **22 47 15.6 +0.9**
comp=Z,147nm,1.4s
WLF *e*PcP **PcP** **22 50 40.1 +1.6**
WLF *e*S **S** **22 51 53.2 +4.5**
WLF LR LR
comp=Z,7µm,20.0s
WLF Walferdange 26.59 298⇑*i*P **P** **22 47 15.6 +0.9**
comp=Z,147nm,1.4s
GIMEL St. Georges / 26.63 291⇑*i*P **P** **22 47 15.0 -0.1**
comp=Z,150nm,0.9s
GIMEL St. Georges / 26.63 291⇑*i*P **P** **22 47 15.0 -0.1**
comp=Z,150nm,0.9s
RBK Rabkut 26.63 157 P **P** **22 47 15.5 +0.3**
SNR=19
RBK Rabkut 26.63 157 P **P** **22 47 15.5 +0.3**
SNR=19
THEF They Montfort 26.71 295 *e*P **P** **22 47 15.0 -0.8**
THEF They Montfort 26.71 295 *e*P **P** **22 47 15.0 -0.8**
MEM Membach 26.72 300 P **P** **22 47 17.4 +1.6**
comp=Z,94nm,1.6s
MEM Membach 26.72 300 P **P** **22 47 17.3 +1.6**
comp=Z,94nm,1.6s
CABF La Chapelle 26.74 292⇑*i*P **P** **22 47 15.9 -0.3**
comp=Z,505nm,1.3s
CABF La Chapelle 26.74 292⇑*i*P **P** **22 47 15.9 -0.3**
CABF pmax pmax
comp=Z,505nm,1.3s
CABF La Chapelle 26.74 292⇑*i*P **P** **22 47 15.9 -0.3**
comp=Z,505nm,1.3s
CABF La Chapelle 26.74 292 *i*P **P** **22 47 15.9 -0.3**
comp=Z,505nm,1.3s
NB2 NORSAR Subarra 26.75 325 P **P** **22 47 15.1 -0.9**
comp=Z,192nm,1.2s,baz=120,slow=9.3
NB2 NORSAR Subarra 26.75 325 P **P** **22 47 15.1 -0.9**
baz=120,slow=9.3
NB2 NORSAR Subarra 26.75 325 P **P** **22 47 15.1 -0.9**
baz=120,slow=9.0,SNR=28
NOA NORSAR Array B 26.75 325 P **P** **22 47 15.1 -0.9**
NOA S S 22 52 01.5 +10
NOA NORSAR Array B 26.75 325 P **P** **22 47 15.1 -0.9**
comp=Z,44nm,1.1s,baz=120,slow=9.1,SNR=14
NOA S S 22 52 01.5 +10
comp=Z,3.9nm,0.9s,baz=11,slow=18,SNR=2.3
NOA LR LR 22 58 32.8
comp=Z,36µm,18.4s,baz=120,slow=38
NOA NORSAR Array B 26.75 325 P **P** **22 47 15.1 -0.9**
comp=Z,36µm,18.4s
FRF La Foret Royal 26.77 285⇑*i*P **P** **22 47 16.6 +0.3**
comp=Z,225nm,1.0s
FRF La Foret Royal 26.77 285⇑*i*P **P** **22 47 16.6 +0.3**
FRF pmax pmax
comp=Z,225nm,1.0s
FRF La Foret Royal 26.77 285⇑*i*P **P** **22 47 16.6 +0.3**
comp=Z,225nm,1.0s
FRF La Foret Royal 26.77 285 *i*P **P** **22 47 16.6 +0.3**
comp=Z,225nm,1.0s
NAO01 NORSAR Array S 26.80 324 *e*P **P** **22 47 16.3 -0.1**
comp=Z,68nm,1.2s
NAO01 S **S** **22 51 47.4 -4.3**
NAO01 NORSAR Array S 26.80 324 *e*P **P** **22 47 16.3 -0.1**
comp=Z,68nm,1.2s
HOMB Homborsund 26.84 318 *e*P **P** **22 47 17.2 +0.5**
HOMB Homborsund 26.84 318 *e*P **P** **22 47 17.2 +0.5**
SNR=28
KONO Kongsberg 26.84 321 *e*P **P** **22 47 14.8 -2.0**
KONO *e*S **S** **22 51 52.2 -0.3**
KONO AMS AMS 22 58 10.6
comp=Z,22µm,15.2s
KONO Kongsberg 26.84 321 *e*P **P** **22 47 16.9 +0.1**
KONO S **S** **22 51 56.3 +3.9**
KONO pmax pmax
comp=Z,131nm,1.1s
KONO MLR MLR
comp=Z,19µm,22.0s
KONO Kongsberg 26.84 321 *e*P **P** **22 47 16.9 +0.1**
comp=Z,132nm,1.1s
KONO S **S** **22 51 56.3 +3.9**
KONO LR LR
comp=Z,19µm,22.0s
KONO Kongsberg 26.84 321 *e*P **P** **22 47 16.9 +0.1**
comp=Z,131nm,1.1s
ALAS Alassa 26.86 259 *i*P **P** **22 47 17.9 +0.7**
comp=Z,298nm,1.5s,SNR=28
ALAS *e*S **S** **22 51 55.3 +2.1**
SNR=28
PAGF Fort de Pagny 26.88 296⇑*i*P **P** **22 47 17.1 -0.1**
comp=Z,112nm,1.3s,baz=109
PAGF Fort de Pagny 26.88 296⇑*i*P **P** **22 47 17.1 -0.1**
comp=Z,112nm,1.3s
PAGF Fort de Pagny 26.88 296⇑*i*P **P** **22 47 17.1 -0.1**
comp=Z,112nm,1.3s
GDM Grand'Maison 26.88 288 *e*P **P** **22 47 17.5 0.0**
GDM Grand'Maison 26.88 288 *e*P **P** **22 47 17.5 0.0**
LMR La Mourre 26.91 284⇑*i*P **P** **22 47 17.6 0.0**
comp=Z,554nm,1.7s
LMR La Mourre 26.91 284⇑*i*P **P** **22 47 17.6 0.0**
LMR pmax pmax
comp=Z,554nm,1.7s
LMR La Mourre 26.91 284⇑*i*P **P** **22 47 17.6 0.0**
comp=Z,554nm,1.7s
LMR La Mourre 26.91 284 *i*P **P** **22 47 17.6 0.0**
comp=Z,554nm,1.7s
BEBN Eben Emael 26.94 301 P **P** **22 47 19.1 +1.3**
comp=Z,30nm,1.8s
BEBN Eben Emael 26.94 301 P **P** **22 47 19.0 +1.3**
comp=Z,30nm,1.8s
OG25 Le Caire 27.03 287 *e*P **P** **22 47 18.2 -0.6**
OG25 Le Caire 27.03 287 *e*P **P** **22 47 18.2 -0.6**
ORIF Oris-en-Rattie 27.09 288⇑*i*P **P** **22 47 18.5 -0.8**
comp=Z,315nm,1.3s
ORIF *e*R
comp=Z,7µm,19.0s
ORIF Oris-en-Rattie 27.09 288⇑*i*P **P** **22 47 18.5 -0.8**
ORIF pmax pmax
comp=Z,315nm,1.3s
ORIF Oris-en-Rattie 27.09 288⇑*i*P **P** **22 47 18.5 -0.8**
comp=Z,315nm,1.3s
ORIF Oris-en-Rattie 27.09 288 *i*P **P** **22 47 18.5 -0.8**
comp=Z,315nm,1.3s
GRN Grenoble 27.13 289 *e*P **P** **22 47 19.7 0.0**
GRN Grenoble 27.13 289 *e*P **P** **22 47 19.7 0.0**
BCLA Clavier 27.16 300 P **P** **22 47 20.9 +1.1**
comp=Z,48nm,2.5s
BCLA Clavier 27.16 300 P **P** **22 47 20.9 +1.1**
comp=Z,48nm,2.5s
KEST Kesra 27.19 267⇑*e*P **P** **22 47 21.2 +1.0**
KEST PcP **PcP** **22 50 40.8 +0.5**
KEST *e*PcP PcP 22 50 41.0 +0.7
KEST S **S** **22 51 55.5 -3.0**
KEST *e*S S 22 51 58.5 -0.1
KEST Kesra 27.19 267 P **P** **22 47 21.2 +1.0**
comp=Z,25nm,0.9s,baz=322,slow=2.3,SNR=29
KEST PcP **PcP** **22 50 40.8 +0.5**
comp=Z,13nm,0.9s,baz=327,slow=1.7,SNR=6.1
KEST S **S** **22 51 55.5 -3.0**
comp=Z,3.6nm,1.1s,baz=266,slow=13,SNR=1.3
KEST Kesra 27.19 267⇑*e*P **P** **22 47 21.2 +1.0**
MEZF Maizieres J'vi 27.32 296⇑*i*P **P** **22 47 21.0 -0.3**
comp=Z,151nm,1.2s,baz=100
MEZF Maizieres J'vi 27.32 296⇑*i*P **P** **22 47 21.0 -0.3**
comp=Z,151nm,1.2s
MEZF Maizieres J'vi 27.32 296⇑*i*P **P** **22 47 21.0 -0.3**
comp=Z,151nm,1.2s
SFTF Sexfontaines 27.35 295⇑*i*P **P** **22 47 20.9 -0.6**
comp=Z,394nm,1.2s,baz=95
SFTF Sexfontaines 27.35 295⇑*i*P **P** **22 47 20.9 -0.6**
comp=Z,394nm,1.2s
SFTF Sexfontaines 27.35 295⇑*i*P **P** **22 47 20.9 -0.6**
comp=Z,394nm,1.2s
THN Thein Dam 27.38 101 *e*P **P** **22 47 22.0 +0.1**
THN *ex* x 22 55 14.0
SMRF Simiane la Rot 27.45 286⇑*i*P **P** **22 47 22.7 +0.2**
comp=Z,359nm,1.4s
SMRF Simiane la Rot 27.45 286⇑*i*P **P** **22 47 22.7 +0.2**
comp=Z,359nm,1.4s
SMRF Simiane la Rot 27.45 286⇑*i*P **P** **22 47 22.7 +0.2**
comp=Z,359nm,1.4s
GIVF Givet 27.46 299⇑*i*P **P** **22 47 23.8 +1.3**
comp=Z,1µm,1.9s
GIVF Givet 27.46 299⇑*i*P **P** **22 47 23.8 +1.3**
GIVF pmax pmax
comp=Z,1µm,1.9s
GIVF Givet 27.46 299⇑*i*P **P** **22 47 23.8 +1.3**
comp=Z,1µm,1.9s
GIVF Givet 27.46 299 *i*P **P** **22 47 23.8 +1.3**
comp=Z,1µm,1.9s
DOU Dourbes 27.61 299 P **P** **22 47 25.1 +1.3**
comp=Z,82nm,2.3s
DOU Dourbes 27.61 299 P **P** **22 47 25.0 +1.3**
comp=Z,82nm,2.3s
MK31 Makanchi Array 27.73 68⇑P **P** **22 47 25.4 +0.4**
comp=Z,248nm,0.9s
MK31 Makanchi Array 27.73 68⇑*i*P **P** **22 47 25.4 +0.4**
MK31 S **S** **22 52 02.7 -4.2**
MK31 Makanchi Array 27.73 68⇑*i*P **P** **22 47 25.4 +0.4**
MK31 S **S** **22 52 02.7 -4.2**
MK31 Makanchi Array 27.73 68 P **P** **22 47 25.4 +0.4**
comp=Z,248nm,0.9s
MKAR Makanchi Array 27.73 68 P **P** **22 47 25.5 +0.5**
MKAR pmax pmax
comp=Z,65nm,0.7s
MKAR MLR MLR
comp=Z,44µm,18.2s
MKAR Makanchi Array 27.73 68 P **P** **22 47 25.5 +0.5**
MKAR Makanchi Array 27.73 68 P **P** **22 47 25.5 +0.5**
comp=Z,64nm,0.7s,baz=274,slow=7.2,SNR=200
MKAR LR LR 23 00 31.5
comp=Z,44µm,18.2s,baz=274,slow=41
MKAR Makanchi Array 27.73 68 P **P** **22 47 25.5 +0.5**
comp=Z,44µm,18.2s
UCC Uccle 27.77 301 P **P** **22 47 26.2 +0.9**
UCC Uccle 27.77 301 P **P** **22 47 26.1 +0.9**
PONG Pong 27.80 102 *ex* x 22 47 13.5
SNF Seneffe 27.81 300 P **P** **22 47 27.6 +2.0**
SNF Seneffe 27.81 300 P **P** **22 47 27.6 +2.0**
BAIF Baives 27.86 299⇑*i*P **P** **22 47 27.4 +1.4**
comp=Z,551nm,1.7s
BAIF Baives 27.86 299⇑*i*P **P** **22 47 27.4 +1.4**
BAIF pmax pmax
comp=Z,551nm,1.7s
BAIF Baives 27.86 299⇑*i*P **P** **22 47 27.4 +1.4**
comp=Z,551nm,1.7s
BAIF Baives 27.86 299 *i*P **P** **22 47 27.4 +1.4**
comp=Z,551nm,1.7s
DHRM DHARAMSHALA 27.90 101 *e*P **P** **22 47 28.8 +2.0**
DHRM AMB AMB 22 47 43.9
comp=Z,736nm,2.4s
DAMY Dhamar 27.92 178 *e*P **P** **22 47 29.8 +2.6**
DAMY Dhamar 27.92 178 *e*P **P** **22 47 29.8 +2.6**
VIVF Saint-Julien-I 27.94 288⇑*i*P **P** **22 47 26.6 -0.3**
comp=Z,165nm,1.3s
VIVF Saint-Julien-I 27.94 288⇑*i*P **P** **22 47 26.6 -0.3**
VIVF pmax pmax
comp=Z,165nm,1.3s
VIVF Saint-Julien-I 27.94 288⇑*i*P **P** **22 47 26.6 -0.3**
comp=Z,165nm,1.3s
VIVF Saint-Julien-I 27.94 288 *i*P **P** **22 47 26.6 -0.3**
comp=Z,165nm,1.3s
SSB Saint Sauveur 27.97 289⇑*i*P **P** **22 47 26.9 -0.2**
SSB *e* 22 50 42.7
SSB *e*S **S** **22 52 11.4 +0.8**
SSB pmax pmax
comp=Z,187nm,1.3s
SSB MLR MLR
comp=Z,5µm,21.0s
SSB Saint Sauveur 27.97 289 *e*P **P** **22 47 27.2 +0.1**
SSB Saint Sauveur 27.97 289⇑*i*P **P** **22 47 26.9 -0.2**
comp=Z,187nm,1.3s
SSB *e*PcP **PcP** **22 50 42.7 +0.7**

SSB *eS* **S** **22 52 11.4 +0.8**
SSB LR LR
comp=Z,5μm,21.0s
SSB Saint Sauveur 27.97 289 *eP* **P** **22 47 27.2 +0.1**
LOR Lormes 28.20 293⇑ *iP* **P** **22 47 28.3 -0.9**
comp=Z,119nm,1.2s,baz=87
LOR *eR*
comp=Z,7μm,19.5s
LOR Lormes 28.20 293⇑ *iP* **P** **22 47 28.3 -0.9**
comp=Z,119nm,1.2s
LOR Lormes 28.20 293 *i* P **P** **22 47 28.3 -0.9**
comp=Z,119nm,1.2s
BLS5 Blasjo 28.24 319 *eP* **P** **22 47 32.0 +2.7**
CMAH Djebel Manchou 28.24 270 P **P** **22 47 30.0 +0.3**
CMAH Djebel Manchou 28.24 270 P **P** **22 47 30.0 +0.3**
TBLU Trondheim 28.25 328 *eP* **P** **22 47 30.0 +0.6**
TBLU AMS AMS 22 59 33.6
comp=Z,53μm,14.5s
TBLU Trondheim 28.25 328 *eP* **P** **22 47 30.0 +0.6**
SNR=28
SMF Signal de Mont 28.28 292⇑ *iP* **P** **22 47 29.4 -0.4**
comp=Z,252nm,1.3s
SMF Signal de Mont 28.28 292⇑ *iP* **P** **22 47 29.4 -0.4**
SMF pmax pmax
comp=Z,252nm,1.3s
SMF Signal de Mont 28.28 292⇑ *iP* **P** **22 47 29.4 -0.4**
comp=Z,252nm,1.3s
SMF Signal de Mont 28.28 292 *i* P **P** **22 47 29.4 -0.4**
comp=Z,252nm,1.3s
NSS Namsos 28.33 332 AMS AMS 22 58 54.2
comp=Z,11μm,13.0s
ODD1 Odda 28.33 320 *eP* **P** **22 47 31.1 +0.9**
ODD1 AMS AMS 22 59 38.8
comp=Z,24μm,13.5s
ODD1 Odda 28.33 320 *eP* **P** **22 47 31.1 +0.9**
SNR=28
ABSA Djebel Ababsia 28.34 269 P **P** **22 47 31.0 +0.4**
ABSA Djebel Ababsia 28.34 269 P **P** **22 47 31.0 +0.4**
BHK Bhakra 28.42 102 *eP* **P** **22 47 33.0 +1.8**
SSF Saint Saulge 28.46 293⇑ *iP* **P** **22 47 30.8 -0.7**
comp=Z,89nm,1.0s
SSF Saint Saulge 28.46 293⇑ *iP* **P** **22 47 30.8 -0.7**
SSF pmax pmax
comp=Z,89nm,1.0s
SSF Saint Saulge 28.46 293⇑ *iP* **P** **22 47 30.8 -0.7**
comp=Z,89nm,1.0s
SSF Saint Saulge 28.46 293 *i* P **P** **22 47 30.8 -0.7**
comp=Z,89nm,1.0s
MOR8 Moi Rana 28.54 336 *eP* **P** **22 47 32.4 +0.4**
MOR8 Moi Rana 28.54 336 *eP* **P** **22 47 32.4 +0.4**
SNR=28
NVS Novosibirsk 28.57 51⇑ *iP* **P** **22 47 31.6 -0.7**
NVS *e* 22 48 21.4
NVS *eS* **S** **22 52 19.7 0.0**
NVS pmax pmax
comp=Z,328nm,1.4s
NVS pmax pmax
comp=N,115nm,1.6s
NVS pmax pmax
comp=E,142nm,1.3s
NVS pmax pmax
comp=Z,303nm,1.3s
NVS pmax pmax
comp=E,177nm,1.2s
NVS smax smax
comp=E,250nm,2.1s
NVS smax smax
comp=N,245nm,2.7s
NVS Novosibirsk 28.57 51 *i* P **P** **22 47 31.6 -0.7**
comp=N,115nm,1.6s
NVS *eS* **S** **22 52 19.7 0.0**
comp=N,245nm,2.7s
ARCES ARCESS Array B 28.57 347 P **P** **22 47 31.9 -0.2**
ARCES ARCESS Array B 28.57 347 P **P** **22 47 31.9 -0.2**
comp=N,12nm,0.9s,baz=140,slow=4.6,SNR=15
ARCES LR LR 22 59 31.0
comp=N,48μm,18.4s,baz=147,slow=38
ARCES ARCESS Array B 28.57 347 P **P** **22 47 32.0 -0.2**
comp=N,48μm,18.4s
ARE0 ARCESS Array S 28.57 347 *eP* **P** **22 47 31.6 -0.6**
ARE0 ARCESS Array S 28.57 347 *eP* **P** **22 47 31.7 -0.5**
ARE0 PcP PcP 22 50 37.7 -5.2
ARE0 ARCESS Array S 28.57 347 *eP* **P** **22 47 31.7 -0.5**
AVF Avril sur Loir 28.60 292⇑ *iP* **P** **22 47 32.3 -0.3**
comp=N,277nm,1.1s
AVF Avril sur Loir 28.60 292⇑ *iP* **P** **22 47 32.3 -0.3**
AVF pmax pmax
comp=Z,277nm,1.1s
AVF Avril sur Loir 28.60 292⇑ *iP* **P** **22 47 32.3 -0.3**
comp=Z,277nm,1.1s
AVF Avril sur Loir 28.60 292 *i* P **P** **22 47 32.3 -0.3**
comp=Z,277nm,1.1s
CAEH 'Ain El Ouahch 28.60 271 P **P** **22 47 35.0 +2.2**
CAEH 'Ain El Ouahch 28.60 271 P **P** **22 47 35.0 +2.2**
LUMB Murzuk 28.63 244 *i* P **P** **22 47 33.5 +0.3**
comp=Z,308nm,1.7s,SNR=28
LUMB *eS* **S** **22 52 22.2 +0.9**
SNR=28
LASF Ste Croix 28.65 287⇑ *iP* **P** **22 47 33.2 0.0**
comp=Z,104nm,1.1s
LASF Ste Croix 28.65 287⇑ *iP* **P** **22 47 33.2 0.0**
comp=Z,104nm,1.1s
LASF Ste Croix 28.65 287⇑ *iP* **P** **22 47 33.2 0.0**
comp=Z,104nm,1.1s
KMY Karmoy 28.75 319 *eP* **P** **22 47 34.2 +0.4**
SDNR Sundarnagar 28.77 102 *ex* x 22 47 36.0
AGO Saint Agoulin 28.84 291 *eP* **P** **22 47 34.7 -0.1**
AGO Saint Agoulin 28.84 291 *eP* **P** **22 47 34.7 -0.1**
CKFL Kef-Lekhel 28.85 270 P **P** **22 47 36.0 +0.9**
CKFL Kef-Lekhel 28.85 270 P **P** **22 47 36.0 +0.9**
LBL Lubilhac 28.88 289 *eP* **P** **22 47 34.6 -0.7**
LBL Lubilhac 28.88 289 *eP* **P** **22 47 34.6 -0.7**
PYM Petit Puy Mans 28.97 290 *eP* **P** **22 47 36.1 +0.1**
PYM Petit Puy Mans 28.97 290 *eP* **P** **22 47 36.1 +0.1**
BGF Bois d'Agland 28.97 292⇑ *iP* **P** **22 47 35.7 -0.3**
comp=Z,219nm,1.2s
BGF Bois d'Agland 28.97 292⇑ *iP* **P** **22 47 35.7 -0.3**
BGF pmax pmax
comp=Z,219nm,1.2s
BGF Bois d'Agland 28.97 292⇑ *iP* **P** **22 47 35.7 -0.3**
comp=Z,219nm,1.2s
BGF Bois d'Agland 28.97 292 *i* P **P** **22 47 35.7 -0.3**
comp=Z,219nm,1.2s
HYA Hoyanger 29.00 323 *eP* P 22 47 40.0 +4.0
HYA AMS AMS 22 59 36.7
comp=Z,27μm,13.2s
MOL Molde 29.00 326 *eP* **P** **22 47 38.8 +2.7**
MOL *eS* **S** **22 52 26.9 +0.6**
MOL AMS AMS 22 59 56.1
comp=Z,37μm,16.8s
MOL Molde 29.00 326 *eS* **S** **22 52 27.0 +0.6**
SNR=28
HYF Humbligny 29.03 293⇑ *iP* **P** **22 47 36.5 0.0**
HYF Humbligny 29.03 293⇑ *iP* **P** **22 47 36.5 0.0**
HYF Humbligny 29.03 293⇑ *iP* **P** **22 47 36.5 0.0**
BHJ Bhuj 29.06 123 *eP* **P** **22 47 37.1 +0.2**
BHJ AMB AMB 22 47 47.4
comp=Z,122nm,0.5s
CASM Ain Smara 29.08 270 P **P** **22 47 37.0 -0.1**
CASM Ain Smara 29.08 270 P **P** **22 47 37.0 -0.1**
RUND Rundenannen 29.10 321 *eP* **P** **22 47 37.7 +0.8**
BER Bergen 29.10 321 *eP* **P** **22 47 37.7 +0.8**
BER IAMS 23 01 48.1
comp=Z,29μm,12.5s
BER AMS AMS 23 01 51.3
comp=Z,23μm,11.4s
BER IAMS 23 01 52.5
comp=Z,29μm,12.1s
BER Bergen 29.10 321 *eP* **P** **22 47 37.7 +0.8**
SNR=28
EGD Espegrend 29.11 321 *eP* **P** **22 47 39.9 +2.9**
SMLA Simla 29.12 102 *eP* **P** **22 47 38.8 +1.5**
SMLA AMB AMB 22 47 49.3
comp=Z,289nm,0.6s
KONS Konsvik 29.16 335 *eP* **P** **22 47 38.6 +1.2**
ASK Askoy 29.20 321 *eP* **P** **22 47 39.0 +1.2**
VERF Verneugheol 29.33 290 *eP* **P** **22 47 39.7 +0.5**
VERF Verneugheol 29.33 290 *eP* **P** **22 47 39.7 +0.5**
FRNF Fournols 29.33 290 *eP* **P** **22 47 39.9 +0.7**
FRNF Fournols 29.33 290 *eP* **P** **22 47 39.9 +0.7**
ZAA0 Zalesovo Array 29.37 53⇑ *iP* **P** **22 47 38.7 -0.7**
ZAA0 *eS* **S** **22 52 32.2 -0.2**
ZAA0 Zalesovo Array 29.37 53⇑ *iP* **P** **22 47 38.7 -0.7**
ZAA0 *eS* **S** **22 52 32.2 -0.2**
ZALV Zalesovo Beam 29.37 53 P **P** **22 47 38.8 -0.6**
ZALV pmax pmax
comp=Z,66nm,0.8s
ZALV MLR MLR
comp=Z,26μm,18.7s
ZALV Zalesovo Beam 29.37 53 P **P** **22 47 38.8 -0.6**
ZALV S S 22 52 23.1 -9.3
ZALV *e* 23 19 45.8
ZALV Zalesovo Beam 29.37 53 P **P** **22 47 38.8 -0.6**
comp=Z,66nm,0.8s,baz=266,slow=7.8,SNR=76
ZALV S S 22 52 23.1 -9.3
comp=Z,7.3nm,0.8s,baz=243,slow=22,SNR=2.9
ZALV LR LR 23 01 12.9
comp=Z,26μm,18.7s,baz=341,slow=40
ZALV P3KPbc 23 19 45.8
comp=Z,1.5nm,0.7s,baz=83,slow=4.6,SNR=8.8
ZALV Zalesovo Beam 29.37 53 P **P** **22 47 38.8 -0.6**
comp=Z,26μm,18.7s
MAHO Mahon 29.41 278 *iP* **P** **22 47 39.3 -0.6**
MAHO *iS* **S** **22 52 33.4 +0.2**
DFRA Djebel Bou Aff 29.41 271 P **P** **22 47 39.0 -1.2**
DFRA Djebel Bou Aff 29.41 271 P **P** **22 47 39.0 -1.2**
TCF Toulx Ste Croi 29.44 292⇑ *iP* **P** **22 47 40.4 +0.2**
comp=Z,363nm,1.4s
TCF Toulx Ste Croi 29.44 292⇑ *iP* **P** **22 47 40.4 +0.2**
TCF pmax pmax
comp=Z,363nm,1.4s
TCF Toulx Ste Croi 29.44 292⇑ *iP* **P** **22 47 40.4 +0.2**
comp=Z,363nm,1.4s
TCF Toulx Ste Croi 29.44 292 *i* P **P** **22 47 40.4 +0.2**
comp=Z,363nm,1.4s
SUE Sulen 29.60 322 *eP* **P** **22 47 42.0 +0.6**
SUE Sulen 29.60 322 *eP* **P** **22 47 42.0 +0.6**
SNR=28
CAF Calviac 29.76 289⇑ *iP* **P** **22 47 43.2 +0.2**
comp=Z,65nm,0.9s
CAF Calviac 29.76 289⇑ *iP* **P** **22 47 43.2 +0.2**
CAF pmax pmax
comp=Z,65nm,0.9s
CAF Calviac 29.76 289⇑ *iP* **P** **22 47 43.2 +0.2**
comp=Z,65nm,0.9s
CAF Calviac 29.76 289 *i* P **P** **22 47 43.2 +0.2**
comp=Z,65nm,0.9s
ELSH Elham, Standar 29.82 301 AMS AMS 23 01 50.9
comp=Z,10μm,16.3s
LRDF Laroque-de-Fa 29.83 285 *eP* **P** **22 47 42.6 -1.1**
LRDF Laroque-de-Fa 29.83 285 *eP* **P** **22 47 42.6 -1.1**
SET Setif 29.91 271 P P 22 47 48.0 +3.5
FILF Fillols 29.91 284 *eP* **P** **22 47 44.2 -0.2**
FILF Fillols 29.91 284 *eP* **P** **22 47 44.2 -0.2**
TRO Tromso 29.91 343 *eP* **P** **22 47 46.5 +2.5**
TRO Tromso 29.91 343 *eP* **P** **22 47 46.5 +2.5**
SNR=2.0
MTLF Montolieu 29.97 286⇑ *iP* **P** **22 47 44.8 -0.1**
comp=Z,214nm,1.7s
MTLF Montolieu 29.97 286⇑ *iP* **P** **22 47 44.8 -0.1**
MTLF pmax pmax
comp=Z,215nm,1.7s
MTLF Montolieu 29.97 286⇑ *iP* **P** **22 47 44.8 -0.1**
comp=Z,214nm,1.7s
MTLF Montolieu 29.97 286 *i* P **P** **22 47 44.8 -0.1**
comp=Z,215nm,1.7s
RJF Les Rejaudoux 30.07 290⇑ *iP* **P** **22 47 46.4 +0.6**
comp=Z,267nm,1.2s
RJF *eR*
comp=Z,10μm,19.5s
RJF Les Rejaudoux 30.07 290⇑ *iP* **P** **22 47 46.4 +0.6**
RJF pmax pmax
comp=Z,267nm,1.2s
RJF Les Rejaudoux 30.07 290⇑ *iP* **P** **22 47 46.4 +0.6**
comp=Z,267nm,1.2s
RJF Les Rejaudoux 30.07 290 *i* P **P** **22 47 46.4 +0.6**
comp=Z,267nm,1.2s
LOF Lofoten 30.12 338 *eP* **P** **22 47 45.1 -0.8**
LOF Lofoten 30.12 338 *eP* **P** **22 47 45.1 -0.8**
SNR=27
DDI Dehra Dun 30.20 102 *eP* **P** **22 47 46.7 -0.3**
DDI AMB AMB 22 47 58.1
comp=Z,296nm,0.6s
CARF Carcanieres 30.20 285 *eP* **P** **22 47 46.1 -0.9**
CARF Carcanieres 30.20 285 *eP* **P** **22 47 46.1 -0.9**
VALF Valcebollere 30.34 284 *eP* **P** **22 47 48.2 -0.1**
VALF Valcebollere 30.34 284 *eP* **P** **22 47 48.2 -0.1**
NDI New Delhi 30.53 106 *eP* **P** **22 47 49.0 -0.9**
NDI *eS* **S** **22 52 53.0 +2.0**
LFF La Frestale 30.68 289⇑ *iP* **P** **22 47 51.3 +0.2**
comp=Z,167nm,1.2s
LFF La Frestale 30.68 289⇑ *iP* **P** **22 47 51.3 +0.2**
LFF pmax pmax
comp=Z,167nm,1.3s
LFF La Frestale 30.68 289⇑ *iP* **P** **22 47 51.3 +0.2**
comp=Z,167nm,1.3s
LFF La Frestale 30.68 289 *i* P **P** **22 47 51.3 +0.2**
comp=Z,167nm,1.3s
LDF La Druitiere 30.75 296⇑ *iP* **P** **22 47 51.3 -0.4**
comp=Z,130nm,1.1s
LDF La Druitiere 30.75 296⇑ *iP* **P** **22 47 51.3 -0.4**
LDF pmax pmax
comp=Z,130nm,1.1s
LDF La Druitiere 30.75 296⇑ *iP* **P** **22 47 51.3 -0.4**
comp=Z,130nm,1.1s
LDF La Druitiere 30.75 296 *i* P **P** **22 47 51.3 -0.4**
comp=Z,130nm,1.1s
MLS Moulis 30.86 285 *eP* **P** **22 47 52.6 -0.1**
MLS Moulis 30.86 285 *eP* **P** **22 47 52.6 -0.1**
FLN La Foliniere 30.97 297⇑ *iP* **P** **22 47 53.3 -0.3**
comp=Z,334nm,1.6s,baz=87
FLN *eR*
comp=Z,14μm,17.0s
FLN La Foliniere 30.97 297⇑ *iP* **P** **22 47 53.3 -0.3**
FLN pmax pmax
comp=Z,334nm,1.6s
FLN La Foliniere 30.97 297⇑ *iP* **P** **22 47 53.3 -0.3**
comp=Z,334nm,1.6s
FLN La Foliniere 30.97 297 *i* P **P** **22 47 53.3 -0.3**
comp=Z,334nm,1.6s
MFF Saint Martin d 31.01 293⇑ *iP* **P** **22 47 53.4 -0.6**
comp=Z,126nm,1.1s
MFF Saint Martin d 31.01 293⇑ *iP* **P** **22 47 53.4 -0.6**
MFF pmax pmax
comp=Z,126nm,1.1s
MFF Saint Martin d 31.01 293⇑ *iP* **P** **22 47 53.4 -0.6**
comp=Z,126nm,1.1s
MFF Saint Martin d 31.01 293 *i* P **P** **22 47 53.4 -0.6**
comp=Z,126nm,1.1s
SKP1 Kophill 31.03 303⇑ *eP* **P** **22 47 53.8 -0.3**
SKP1 Kophill 31.03 303⇑ *eP* **P** **22 47 53.8 -0.3**
MELF Melles 31.12 285 *eP* **P** **22 47 55.6 +0.5**
MELF Melles 31.12 285 *eP* **P** **22 47 55.6 +0.5**
GRR Gorron 31.26 296⇑ *iP* **P** **22 47 55.6 -0.6**
comp=Z,238nm,1.1s
GRR Gorron 31.26 296⇑ *iP* **P** **22 47 55.6 -0.6**
GRR pmax pmax
comp=Z,238nm,1.1s
GRR Gorron 31.26 296⇑ *iP* **P** **22 47 55.6 -0.6**
comp=Z,238nm,1.1s
GRR Gorron 31.26 296 *i* P **P** **22 47 55.6 -0.6**
comp=Z,238nm,1.1s
WOL Wolverton 31.30 302 AMS AMS 23 03 51.9
comp=Z,10μm,13.9s
EPF Esparros 31.38 286⇑ *iP* **P** **22 47 56.0 -1.4**
comp=Z,52nm,1.1s
EPF Esparros 31.38 286⇑ *iP* **P** **22 47 56.0 -1.4**
EPF pmax pmax
comp=Z,53nm,1.1s
EPF Esparros 31.38 286⇑ *iP* **P** **22 47 56.0 -1.4**
comp=Z,52nm,1.1s
EPF Esparros 31.38 286 *i* P **P** **22 47 56.0 -1.4**
comp=Z,53nm,1.1s
RESF Ens 31.43 285 *eP* **P** **22 47 58.4 +0.5**
RESF Ens 31.43 285 *eP* **P** **22 47 58.4 +0.5**
KBI1 Birley Grange 31.48 306⇑ *eP* **P** **22 47 57.6 -0.4**
KBI1 Birley Grange 31.48 306⇑ *eP* **P** **22 47 57.6 -0.4**
HPK Haverah Park 31.56 307⇑ *eP* **P** **22 47 58.8 0.0**
HPK AMB AMB 22 48 02.3
comp=Z,180nm,2.1s
HPK AMS AMS 23 03 46.5
comp=Z,30μm,15.6s
HPK Haverah Park 31.56 307⇑ *eP* **P** **22 47 58.8 0.0**
LABF Labassere 31.56 286 *eP* **P** **22 47 58.0 -1.0**
LABF Labassere 31.56 286 *eP* **P** **22 47 58.0 -1.0**
VIEF Viey 31.64 286 *eP* **P** **22 47 59.9 +0.2**
VIEF Viey 31.64 286 *eP* **P** **22 47 59.9 +0.2**
SWN1 Swindon 31.65 302 *eP* **P** **22 47 59.9 +0.3**
SWN1 AMB AMB 22 48 03.0
comp=Z,269nm,1.7s
SWN1 *eS* **S** **22 53 08.3 +0.2**
SWN1 AMS AMS 23 04 01.6
comp=Z,10μm,13.4s
SWN1 Swindon 31.65 302 *eP* **P** **22 47 59.9 +0.3**
SWN1 *eS* **S** **22 53 08.3 +0.2**
SSW Stow on the Wo 31.67 303⇑ *eP* **P** **22 47 59.2 -0.6**
SSW Stow on the Wo 31.67 303⇑ *eP* **P** **22 47 59.2 -0.6**
EMHD Djebel Mahouad 31.71 272 P **P** **22 48 03.0 +2.5**
EMHD Djebel Mahouad 31.71 272 P **P** **22 48 03.0 +2.5**
STNC Stoke 31.89 305 AMS AMS 23 03 57.7
comp=Z,25μm,16.2s
REYF Montagne du Re 31.89 286 *eP* **P** **22 48 01.1 -0.8**
REYF Montagne du Re 31.89 286 *eP* **P** **22 48 01.1 -0.8**
XAL Allendale 31.95 309⇑ *eP* **P** **22 48 01.4 -0.8**
XAL Allendale 31.95 309⇑ *eP* **P** **22 48 01.4 -0.8**
WMQ Urumqi 31.99 72 P **P** **22 48 04.1 +1.4**
WMQ pP **pP** **22 48 08.5 +1.3**
WMQ sP **sP** **22 48 11.1 +2.1**
WMQ PP **PnPn** **22 49 09.5 +1.7**
WMQ PcP **PcP** **22 50 54.1 +1.7**
WMQ S **S** **22 53 13.4 -0.3**
WMQ sS **sS** **22 53 20.2 -0.9**
WMQ ScP **ScP** **22 54 36.1 +0.8**
WMQ SS **SnSn** **22 55 04.6 +1.9**
WMQ ScS **ScS** **22 58 33.1 -0.7**
WMQ pmax pmax
comp=Z,310nm,0.8s
WMQ pmax pmax
comp=Z,3μm,6.2s
WMQ LR LR
comp=N,51μm,24.6s
WMQ LR LR
comp=E,35μm,16.7s
WMQ LR LR
comp=Z,45μm,15.3s
JSA Saint Aubin 32.04 298 AMB AMB 22 48 12.1
comp=Z,58nm,2.1s
JSA AMS AMS 23 03 48.9
comp=Z,8μm,11.7s
ETSF Etsaut 32.05 286⇑ *iP* **P** **22 48 03.1 -0.2**
comp=Z,80nm,0.9s
ETSF Etsaut 32.05 286⇑ *iP* **P** **22 48 03.1 -0.2**
ETSF pmax pmax
comp=Z,80nm,0.9s
ETSF Etsaut 32.05 286⇑ *iP* **P** **22 48 03.1 -0.2**
comp=Z,80nm,0.9s
ETSF Etsaut 32.05 286 *i* P **P** **22 48 03.1 -0.2**
comp=Z,80nm,0.9s
ATE Arette 32.10 286 *eP* **P** **22 48 03.6 -0.1**
ATE Arette 32.10 286 *eP* **P** **22 48 03.6 -0.1**
ESY Stoneypath 32.26 311 *eP* **P** **22 48 04.6 -0.3**
ESY Stoneypath 32.26 311 *eP* **P** **22 48 04.6 -0.3**
DRUM Mains of Drumt 32.28 312⇑ *eP* **P** **22 48 03.9 -1.2**
DRUM AMB AMB 22 48 08.7
comp=Z,192nm,2.5s
DRUM AMS AMS 23 03 03.7
comp=Z,14μm,17.0s
DRUM Mains of Drumt 32.28 312⇑ *eP* **P** **22 48 03.9 -1.2**
HLM1 Long Mynd 32.30 304⇑ *eP* **P** **22 48 05.0 -0.3**
HLM1 AMB AMB 22 48 08.3
comp=Z,81nm,1.5s
HLM1 Long Mynd 32.30 304⇑ *eP* **P** **22 48 05.0 -0.3**
LARF Larrau 32.32 286 *eP* **P** **22 48 05.6 0.0**
LARF Larrau 32.32 286 *eP* **P** **22 48 05.6 0.0**
MCH1 Michaelchurch 32.38 303⇑ *eP* **P** **22 48 03.8 -2.2**
MCH1 AMB AMB 22 48 07.8
comp=Z,99nm,1.4s
MCH1 AMS AMS 23 04 28.1
comp=Z,16μm,13.8s
MCH1 Michaelchurch 32.38 303⇑ *eP* **P** **22 48 03.8 -2.2**
SGMF Saint Gilles 32.40 296⇑ *iP* **P** **22 48 06.0 -0.2**
comp=Z,552nm,1.8s
SGMF Saint Gilles 32.40 296⇑ *iP* **P** **22 48 06.0 -0.2**
SGMF pmax pmax
comp=Z,552nm,1.8s
SGMF Saint Gilles 32.40 296⇑ *iP* **P** **22 48 06.0 -0.2**
comp=Z,552nm,1.8s
SGMF Saint Gilles 32.40 296 *i* P **P** **22 48 06.0 -0.2**
comp=Z,552nm,1.8s
KESW Keswick, Cumbr 32.45 308⇑ *eP* **P** **22 48 06.5 -0.1**
KESW AMB AMB 22 48 09.7
comp=Z,120nm,1.4s
KESW AMS AMS 23 05 12.6
comp=Z,28μm,13.8s
KESW Keswick, Cumbr 32.45 308⇑ *eP* **P** **22 48 06.5 -0.1**
SJPF Ste Jean 32.47 286 *eP* **P** **22 48 06.5 -0.4**
comp=Z,52nm,1.1s
SJPF Ste Jean 32.47 286 *eP* **P** **22 48 06.5 -0.4**
SJPF pmax pmax
comp=Z,52nm,1.1s
SJPF Ste Jean 32.47 286 *eP* **P** **22 48 06.5 -0.4**
comp=Z,52nm,1.1s
SJPF Ste Jean 32.47 286 *eP* **P** **22 48 06.5 -0.4**
comp=Z,52nm,1.1s
EBL Broad Law 32.48 310⇑ *iP* **P** **22 48 07.0 +0.1**
EBL Broad Law 32.48 310⇑ *iP* **P** **22 48 06.9 +0.1**
FOEL Foel Wylfa 32.49 305⇑ *eP* **P** **22 48 06.9 -0.1**
FOEL AMB AMB 22 48 09.4
comp=Z,86nm,1.5s
FOEL AMS AMS 23 04 18.7
comp=Z,18μm,16.1s
FOEL Foel Wylfa 32.49 305⇑ *eP* **P** **22 48 06.9 -0.1**
ECK Cauldkaine Hil 32.49 309⇑ *iP* **P** **22 48 06.3 -0.6**
ECK Cauldkaine Hil 32.49 309⇑ *iP* **P** **22 48 06.3 -0.6**
EKA Eskdalemuir Ar 32.52 309 P **P** **22 48 06.7 -0.5**
EKA PcP **PcP** **22 50 53.6 +0.1**
EKA Eskdalemuir Ar 32.52 309 P **P** **22 48 06.7 -0.5**
comp=Z,28nm,0.8s,baz=98,slow=9.5,SNR=21
EKA PcP **PcP** **22 50 53.6 +0.1**
comp=Z,12nm,0.8s,baz=94,slow=3.6,SNR=5.8
EKA Eskdalemuir Ar 32.52 309 P **P** **22 48 06.7 -0.5**
comp=Z,28nm,0.8s
EKA Eskdalemuir Ar 32.52 309 PcP **PcP** **22 50 53.6 +0.1**
ESK Eskdalemuir 32.55 309 *eP* **P** **22 48 06.5 -0.9**
ESK AMB AMB 22 48 07.2
comp=Z,73nm,2.9s
ESK *eS* **S** **22 53 25.6 +3.6**
ESK AMS AMS 23 05 35.5
comp=Z,14μm,13.3s
ESK Eskdalemuir 32.55 309 P **P** **22 48 07.2 -0.2**
comp=Z,308nm,1.1s,SNR=5.8
ESK Eskdalemuir 32.55 309 *eP* **P** **22 48 07.1 -0.3**
ESK pmax pmax
comp=Z,63nm,1.1s
ESK MLR MLR
comp=Z,13μm,20.0s
ESK Eskdalemuir 32.55 309 *eP* **P** **22 48 07.1 -0.3**
comp=Z,63nm,1.1s
ESK LR LR
comp=Z,13μm,20.0s
ESK Eskdalemuir 32.55 309 *eP* **P** **22 48 07.1 -0.3**
comp=Z,13μm,20.0s
EDI Edinburgh 32.58 311⇑ *eP* **P** **22 48 06.4 -1.3**
EDI AMB AMB 22 48 09.6
comp=Z,209nm,1.5s
EDI *eS* **S** **22 53 23.9 +1.5**
EDI AMS AMS 23 06 05.8
comp=Z,10μm,12.4s
EDI Edinburgh 32.58 311⇑ *eP* **P** **22 48 06.4 -1.3**
EDI *eS* **S** **22 53 23.9 +1.5**
MME1 Meikle Cairn 32.59 313⇑ *eP* **P** **22 48 07.4 -0.3**
MME1 Meikle Cairn 32.59 313⇑ *eP* **P** **22 48 07.4 -0.3**
EBNR Beni Rached 32.73 273 P **P** **22 48 09.0 -0.2**
EBNR Beni Rached 32.73 273 P **P** **22 48 09.0 -0.2**
MCD Coleburn Disti 32.77 314⇑ *eP* **P** **22 48 08.6 -0.7**
MCD Coleburn Disti 32.77 314⇑ *eP* **P** **22 48 08.6 -0.7**
QUIF Quistinic 32.85 296⇑ *iP* **P** **22 48 09.8 -0.3**
comp=Z,124nm,1.1s
QUIF Quistinic 32.85 296⇑ *iP* **P** **22 48 09.8 -0.3**
QUIF pmax pmax
comp=Z,124nm,1.1s
QUIF Quistinic 32.85 296⇑ *iP* **P** **22 48 09.8 -0.3**
comp=Z,124nm,1.1s
QUIF Quistinic 32.85 296 *i* P **P** **22 48 09.8 -0.3**
comp=Z,124nm,1.1s
ROSF Rostrenen 32.86 296⇑ *iP* **P** **22 48 10.1 -0.2**
comp=Z,241nm,1.1s
ROSF Rostrenen 32.86 296⇑ *iP* **P** **22 48 10.1 -0.2**
ROSF pmax pmax
comp=Z,241nm,1.1s
ROSF Rostrenen 32.86 296⇑ *iP* **P** **22 48 10.1 -0.2**
comp=Z,241nm,1.1s
ROSF Rostrenen 32.86 296 *i* P **P** **22 48 10.1 -0.2**
comp=Z,241nm,1.1s
ECHA Ech Chlef 32.90 273 P **P** **22 48 10.5 -0.2**
ECHA Ech Chlef 32.90 273 P **P** **22 48 10.5 -0.2**

WPM1	**Penmaenmawr**	**32.91 306⇑**	*e*P		**P**	**22 48 10.4 -0.2**
WPM1	**Penmaenmawr**	**32.91 306⇑**	*e*P		**P**	**22 48 10.4 -0.2**
GCD	**Castle Douglas**	**32.95 309⇑**	*e*P		**P**	**22 48 10.9 0.0**
GCD	**Castle Douglas**	**32.95 309⇑**	*e*P		**P**	**22 48 10.9 0.0**
LPW	**Lampeter**	**33.04 303**	AMS		AMS	23 04 51.9
	comp=Z,156μm,14.8s					
DYA	**Yadsworthy**	**33.06 300⇑**	*e*P		**P**	**22 48 10.4 -1.6**
DYA			AMB		AMB	22 48 16.8
	comp=Z,102nm,1.7s					
DYA			AMS		AMS	23 03 54.1
	comp=Z,9μm,19.1s					
DYA	**Yadsworthy**	**33.06 300⇑**	*e*P		**P**	**22 48 10.4 -1.6**
EANR	**'Ain N'Sour**	**33.18 273**	P		**P**	**22 48 13.0 -0.3**
EANR	**'Ain N'Sour**	**33.18 273**	P		**P**	**22 48 13.0 -0.3**
WLF1	**Llynfaes**	**33.20 306**	AMS		AMS	23 04 46.9
	comp=Z,25μm,16.9s					
EAB	**Aberfoyle**	**33.24 311⇑**	*e*P		**P**	**22 48 12.5 -1.0**
EAB	**Aberfoyle**	**33.24 311⇑**	*e*P		**P**	**22 48 12.5 -1.0**
ETRT	**Tiaret**	**33.27 272**	P		P	22 48 19.0 +4.9
PGBU	**Glenifferbraes**	**33.30 310**	*e*P		**P**	**22 48 13.6 -0.4**
PGBU			AMB		AMB	22 48 16.2
	comp=Z,95nm,1.5s					
PGBU			AMS		AMS	23 05 49.0
	comp=Z,13μm,16.2s					
PGBU	**Glenifferbraes**	**33.30 310**	*e*P		**P**	**22 48 13.6 -0.4**
MVH1	**Achvaich**	**33.31 314⇑**	*e*P		**P**	**22 48 13.6 -0.4**
MVH1	**Achvaich**	**33.31 314⇑**	*e*P		**P**	**22 48 13.6 -0.4**
YRC	**Rhoscolyn**	**33.31 306⇑**	*e*P		**P**	**22 48 12.3 -1.7**
YRC	**Rhoscolyn**	**33.31 306⇑**	*e*P		**P**	**22 48 12.3 -1.7**
GAL1	**Galloway**	**33.40 309**	AMS		AMS	23 05 57.2
	comp=Z,24μm,14.0s					
KAC	**Achnashellach**	**33.86 313⇑**	*e*P		**P**	**22 48 18.0 -0.8**
KAC	**Achnashellach**	**33.86 313⇑**	*e*P		**P**	**22 48 18.0 -0.8**
CCA1	**Carnmenellis**	**33.91 300⇑**	*e*P		**P**	**22 48 18.0 -1.4**
CCA1			AMB		AMB	22 48 20.4
	comp=Z,139nm,1.7s					
CCA1			AMS		AMS	23 05 18.2
	comp=Z,9μm,13.9s					
CCA1	**Carnmenellis**	**33.91 300⇑**	*e*P		**P**	**22 48 18.0 -1.4**
KPL	**Plockton**	**34.04 313**	*e*P		**P**	**22 48 18.5 -1.9**
KPL			AMB		AMB	22 48 21.1
	comp=Z,111nm,1.6s					
KPL			AMS		AMS	23 03 53.1
	comp=Z,17μm,16.3s					
KPL	**Plockton**	**34.04 313**	*e*P		**P**	**22 48 18.5 -1.9**
CART	**Cartagena**	**34.08 277**	*i* P		**P**	**22 48 20.4 -0.5**
BHPL	**Bhopal**	**34.12 114**	*e*P		**P**	**22 48 23.2 +1.7**
BHPL			AMB		AMB	22 48 36.4
	comp=Z,191nm,2.2s					
KRAR	**Krasnoyarsk**	**34.14 49**	*e*P		**P**	**22 48 22.4 +1.1**
KRAR			MLR		MLR	
	comp=Z,29μm,19.0s					
KRAR	**Krasnoyarsk**	**34.14 49**	*e*P		**P**	**22 48 22.4 +1.1**
	comp=Z,29μm,19.0s					
HVS	**Khovu-Aksy**	**34.80 58***c*	*i*P		**P**	**22 48 27.8 +0.6**
HVS	**Khovu-Aksy**	**34.80 58**	*i* P		**P**	**22 48 27.8 +0.6**
POO	**Poona**	**35.18 124**	*e*P		**P**	**22 48 31.0 +0.3**
	comp=Z,964nm,1.5s					
POO			*e*P		**pP**	**22 48 31.9 -3.2**
POO			AMB		AMB	22 48 37.5
	comp=Z,95nm,2.2s					
ESDC	**Sonseca Array**	**35.47 282**	P		**P**	**22 48 32.3 -0.7**
ESDC			PcP		**PcP**	**22 51 01.1 -1.3**
ESDC	**Sonseca Array**	**35.47 282**	P		**P**	**22 48 32.3 -0.7**
	comp=Z,29nm,0.8s,baz=66,slow=8.8,SNR=56					
ESDC			PcP		**PcP**	**22 51 01.1 -1.3**
	comp=Z,11nm,1.0s,baz=48,slow=3.4,SNR=6.4					
ESDC	**Sonseca Array**	**35.47 282**	P		**P**	**22 48 32.3 -0.7**
ESLA	**Sonseca Array**	**35.47 282⇑**	*e*P		**P**	**22 48 32.5 -0.5**
	comp=Z,9.8nm,0.9s					
ESLA			*e*PP		**PP**	**22 49 54.5 +1.0**
ESLA	**Sonseca Array**	**35.47 282⇑**	*e*P		**P**	**22 48 32.5 -0.5**
	comp=Z,9.8nm,0.9s					
AKL	**Akola**	**35.60 117**	*e*P		**P**	**22 48 34.6 +0.3**
AKL			AMP			22 48 41.5
	comp=Z,108nm,2.1s					
AKL			*i* x		x	22 54 08.2
PAB	**San Pablo**	**35.79 282**	*e*P		**P**	**22 48 35.3 -0.6**
PAB			*e*			22 49 57.3
PAB			*e*			22 51 04.2
PAB			pmax		pmax	
	comp=Z,245nm,1.1s					
PAB			MLR		MLR	
	comp=Z,4μm,22.0s					
PAB	**San Pablo**	**35.79 282**	*e*P		**P**	**22 48 35.3 -0.6**
	comp=Z,244nm,1.1s					
PAB			*e*PP		**PP**	**22 49 57.2 +0.2**
PAB			*e*PcP		**PcP**	**22 51 04.2 +0.8**
PAB			LR		LR	
	comp=Z,4μm,22.0s					
PAB	**San Pablo**	**35.79 282**	*e*P		**P**	**22 48 35.3 -0.6**
	comp=Z,245nm,1.1s					
KAD	**Karad**	**36.31 124**	*e*P		**P**	**22 48 42.2 +1.8**
HSP	**Hornsund**	**36.45 350**	*e*P		**P**	**22 48 41.3 +0.4**
HSP			*e*S		**S**	**22 54 22.7 +1.0**
NGP	**Nagpur**	**36.64 114**	*e*P		**P**	**22 48 44.0 +0.9**
NGP			AMP			22 48 52.5
	comp=Z,162nm,1.4s					
NGP			*e*S		**S**	**22 54 29.7 +3.9**
PBRG	**Braganca**	**36.75 286**	*e*P		**P**	**22 48 43.2 -0.8**
	comp=Z,57nm,1.3s					
PBRG	**Braganca**	**36.75 286**	*e*PP		PP	22 50 17.3 +10
PBRG			*e*S		**S**	**22 54 28.5 +1.3**
PBRG	**Braganca**	**36.75 286**	*e*P		**P**	**22 48 43.2 -0.8**
	comp=Z,57nm,1.3s					
PBRG			*e*S		**S**	**22 54 28.5 +1.3**
VAL	**Valentia**	**36.85 304**	*e*P		**P**	**22 48 44.0 -0.6**
VAL			*e*S		**S**	**22 54 29.2 +0.8**
EMAL	**Malaga-Limoner**	**36.91 277**	*i* P		**P**	**22 48 43.7 -1.6**
TAM	**Tamanrasset**	**37.13 250**	*e*P		**P**	**22 48 48.4 +0.9**
TAM			*e*			22 50 12.1
TAM			*e*S		**S**	**22 54 37.0 +3.5**
TAM			pmax		pmax	
	comp=Z,47nm,1.0s					
TAM			MLR		MLR	
	comp=Z,4μm,19.0s					
TAM	**Tamanrasset**	**37.13 250**	*e*P		**P**	**22 48 48.4 +0.9**
	comp=Z,47nm,1.0s					
TAM			*e*PP		**PP**	**22 50 12.1 0.0**
TAM			*e*S		**S**	**22 54 37.0 +3.5**
TAM			LR		LR	
	comp=Z,4μm,19.0s					
TAM	**Tamanrasset**	**37.13 250**	*e*P		**P**	**22 48 48.3 +0.8**
	comp=Z,47nm,1.0s					
TAM	**Tamanrasset**	**37.13 250**	*e*PP		PP	22 50 12.1 0.0
TAM			*e*S		**S**	**22 54 37.0 +3.5**
MVO	**Moncorvo**	**37.16 285**	*e*P		**P**	**22 48 46.8 -0.7**
	comp=Z,63nm,1.5s					
MVO	**Moncorvo**	**37.16 285**	*e*PP		PP	22 50 17.0 +4.8
MVO			*e*S		**S**	**22 54 33.5 -0.1**
MVO			*e*LR		LR	22 57 28.1
	comp=Z,5μm,18.0s					
MVO	**Moncorvo**	**37.16 285**	*e*P		**P**	**22 48 46.8 -0.7**
	comp=Z,63nm,1.5s					
MVO			*e*S		**S**	**22 54 33.5 -0.1**
SPA0	**Spitsbergen Ar**	**37.32 351**	*e*P		**P**	**22 48 48.5 +0.2**
SPA0	**Spitsbergen Ar**	**37.32 351**	*e*P		**P**	**22 48 48.5 +0.2**
	SNR=26					
GOA	**Goa**	**37.51 127**	*e*P		**P**	**22 48 52.0 +1.5**
GOA			AMB		AMB	22 48 57.9
	comp=Z,84nm,4.0s					
LIJA	**Lijar**	**37.57 278**	*i* P		**P**	**22 48 53.0 +2.0**
PVRL	**Vila Real**	**37.62 286**	*e*P		**P**	**22 48 51.0 -0.3**
	comp=Z,59nm,1.5s					
PVRL	**Vila Real**	**37.62 286**	*e*PP		PP	22 50 28.7 +12
PVRL	**Vila Real**	**37.62 286**	*e*P		**P**	**22 48 51.0 -0.3**
	comp=Z,59nm,1.5s					
POLO	**Lamas de Olo**	**37.64 286**	*e*P		**P**	**22 48 51.3 -0.3**
	comp=Z,29nm,1.4s					
POLO	**Lamas de Olo**	**37.64 286**	*e*PP		PP	22 50 26.0 +8.6
POLO			*e*S		**S**	**22 54 40.9 +0.1**
POLO	**Lamas de Olo**	**37.64 286**	*e*P		**P**	**22 48 51.3 -0.3**
	comp=Z,29nm,1.4s					
POLO			*e*S		**S**	**22 54 40.9 +0.1**
PCAB	**Cabril**	**37.69 287**	*e*P		**P**	**22 48 52.0 0.0**
	comp=Z,74nm,1.3s					
PCAB	**Cabril**	**37.69 287**	*e*P		**P**	**22 48 52.0 0.0**
	comp=Z,74nm,1.3s					
PGAV	**Gavieira, Arco**	**37.78 287**	*e*P		**P**	**22 48 53.3 +0.5**
	comp=Z,133nm,1.5s					
PGAV	**Gavieira, Arco**	**37.78 287**	*e*PP		PP	22 50 19.3 +0.3
PGAV	**Gavieira, Arco**	**37.78 287**	*e*PP		PP	22 50 30.4 +11
PGAV			*e*S		**S**	**22 54 44.4 +1.4**
PGAV			*e*LR		LR	22 57 52.1
	comp=Z,3μm,18.0s					
PGAV	**Gavieira, Arco**	**37.78 287**	*e*P		**P**	**22 48 53.3 +0.5**
	comp=Z,133nm,1.5s					
PGAV			*e*S		**S**	**22 54 44.4 +1.4**
MTE	**Manteigas**	**37.79 284**	*e*P		**P**	**22 48 52.1 -0.7**
	comp=Z,78nm,1.2s					
MTE	**Manteigas**	**37.79 284**	*e*PP		PP	22 50 29.3 +10
MTE			*e*S		**S**	**22 54 43.7 +0.6**
MTE			*e*LR		LR	22 57 46.1
	comp=Z,4μm,18.0s					
MTE	**Manteigas**	**37.79 284**	*e*P		**P**	**22 48 52.5 -0.3**
	comp=Z,51nm,0.9s					
MTE			*e*PP		**PP**	**22 50 19.2 +0.2**
MTE			PcP		**PcP**	**22 51 10.0 +0.7**
MTE			LR		LR	
	comp=Z,4μm,19.0s					
MTE	**Manteigas**	**37.79 284**	*e*P		**P**	**22 48 52.1 -0.7**
	comp=Z,78nm,1.2s					
MTE			*e*S		**S**	**22 54 43.7 +0.6**
PVIS	**Viseu**	**37.93 285**	*e*P		**P**	**22 48 53.6 -0.4**
	comp=Z,67nm,1.3s					
PVIS	**Viseu**	**37.93 285**	*e*PP		PP	22 50 32.6 +12
PVIS	**Viseu**	**37.93 285**	*e*P		**P**	**22 48 53.6 -0.4**
	comp=Z,67nm,1.3s					
PCBR	**Castelo Branco**	**37.94 284**	*e*P		**P**	**22 48 53.7 -0.3**
	comp=Z,71nm,1.3s					
PCBR	**Castelo Branco**	**37.94 284**	*e*PP		PP	22 50 32.5 +12
PCBR	**Castelo Branco**	**37.94 284**	*e*P		**P**	**22 48 53.7 -0.3**
	comp=Z,71nm,1.3s					
PMRV	**Marv??o**	**38.03 283**	*e*P		**P**	**22 48 54.4 -0.4**
	comp=Z,85nm,1.3s					
PMRV	**Marv??o**	**38.03 283**	*e*PP		PP	22 50 29.2 +7.5
PMRV			*e*S		**S**	**22 54 46.2 -0.5**
PMRV			*e*LR		LR	22 57 54.5
	comp=Z,3μm,22.0s					
PMRV	**Marv??o**	**38.03 283**	*e*P		**P**	**22 48 54.4 -0.4**
	comp=Z,85nm,1.3s					
PMRV			*e*S		**S**	**22 54 46.2 -0.5**
JMIC	**Jan Mayen**	**38.18 335⇑**	*i*P		**P**	**22 48 56.0 +0.4**
JMIC			AMS		AMS	23 04 34.7
	comp=Z,12μm,15.5s					
JMIC	**Jan Mayen**	**38.18 335**	LR		LR	23 04 24.9
	comp=Z,7μm,19.1s,baz=313,slow=36					
JMIC	**Jan Mayen**	**38.18 335⇑**	*i*P		**P**	**22 48 56.0 +0.4**
	SNR=26					
PBAR	**Barrancos**	**38.25 281**	*e*P		**P**	**22 48 56.0 -0.7**
	comp=Z,85nm,1.7s					
PBAR	**Barrancos**	**38.25 281**	*e*PP		PP	22 50 34.6 +11
PBAR			*e*SS		SS	22 57 42.5 +4.4
PBAR	**Barrancos**	**38.25 281**	*e*P		**P**	**22 48 56.0 -0.7**
	comp=Z,85nm,1.7s					
PESTR	**Estremoz**	**38.39 282**	*e*P		**P**	**22 48 57.3 -0.5**
	comp=Z,158nm,1.2s					
PESTR	**Estremoz**	**38.39 282**	*e*PP		PP	22 50 32.8 +7.3
PESTR			*e*S		**S**	**22 54 52.6 +0.6**
PESTR	**Estremoz**	**38.39 282**	*e*P		**P**	**22 48 57.3 -0.5**
	comp=Z,158nm,1.2s					
PESTR			*e*S		**S**	**22 54 52.6 +0.6**
KBS	**Kingsbay**	**38.45 351⇑**	*i*P		**P**	**22 48 57.5 -0.3**
KBS			*e*SS		SS	22 57 38.9 -2.0
KBS			AMS		AMS	23 05 50.6
	comp=Z,28μm,13.1s					
KBS	**Kingsbay**	**38.45 351**	*e*P		P	22 49 02.8 +5.0
KBS			pmax		pmax	
	comp=Z,115nm,1.5s					
KBS			MLR		MLR	
	comp=Z,8μm,20.0s					
KBS	**Kingsbay**	**38.45 351**	*e*P		P	22 49 02.8 +5.0
	comp=Z,115nm,1.5s					
KBS			LR		LR	
	comp=Z,8μm,20.0s					
KBS	**Kingsbay**	**38.45 351⇑**	*i*P		**P**	**22 48 57.5 -0.3**
	SNR=26					
PCAS	**Casmilo, Conde**	**38.60 284**	*e*P		**P**	**22 48 59.5 -0.1**
	comp=Z,77nm,1.5s					
PCAS	**Casmilo, Conde**	**38.60 284**	*e*PP		PP	22 50 38.0 +10
PCAS			*e*ScP		**ScP**	**22 54 57.8 -1.4**
PCAS	**Casmilo, Conde**	**38.60 284**	*e*P		**P**	**22 48 59.5 -0.1**
	comp=Z,77nm,1.5s					
PCAS			*e*ScP		**ScP**	**22 54 57.8 -1.4**
PTOM	**Tomar**	**38.70 284**	*e*P		**P**	**22 49 00.3 -0.1**
	comp=Z,112nm,1.6s					
PTOM	**Tomar**	**38.70 284**	*e*PP		PP	22 50 41.6 +13
PTOM	**Tomar**	**38.70 284**	*e*P		**P**	**22 49 00.3 -0.1**
	comp=Z,112nm,1.6s					
PMTG	**Montargil**	**38.77 283**	*e*P		**P**	**22 49 00.4 -0.6**
	comp=Z,90nm,1.3s					
PMTG	**Montargil**	**38.77 283**	*e*PP		PP	22 50 37.7 +8.0
PMTG			*e*S		**S**	**22 54 59.1 +1.4**
PMTG	**Montargil**	**38.77 283**	*e*P		**P**	**22 49 00.4 -0.6**
	comp=Z,90nm,1.3s					
PMTG			*e*S		**S**	**22 54 59.1 +1.4**
MDT	**Midelt**	**38.81 272**	P		**P**	**22 49 01.6 +0.1**
MDT	**Midelt**	**38.81 272**	P		**P**	**22 49 01.6 +0.1**
	comp=Z,24nm,0.9s,baz=77,slow=8.3,SNR=9.8					
MDT	**Midelt**	**38.81 272**	P		**P**	**22 49 01.6 +0.1**
EVO	**Evora**	**38.82 282**	*e*P		**P**	**22 49 00.5 -0.9**
	comp=Z,103nm,1.4s					
EVO			*e*R			
	comp=Z,5μm,20.2s					
EVO	**Evora**	**38.82 282**	*e*P		**P**	**22 49 00.7 -0.7**
EVO	**Evora**	**38.82 282**	*e*PP		PP	22 50 39.3 +9.0
EVO	**Evora**	**38.82 282**	*e*P		**P**	**22 49 00.7 -0.7**
EVOP	**Sao Brissos**	**38.90 282**	*e*P		**P**	**22 49 00.5 -1.6**
EVOP			pmax		pmax	
	comp=Z,103nm,1.4s					
EVOP	**Sao Brissos**	**38.90 282**	*e*P		**P**	**22 49 00.5 -1.6**
	comp=Z,103nm,1.4s					
EVOP	**Sao Brissos**	**38.90 282**	*e*P		**P**	**22 49 00.5 -1.6**
	comp=Z,103nm,1.4s					
PBEJ	**Beja**	**38.91 281**	*e*P		**P**	**22 49 02.5 +0.3**
PBEJ	**Beja**	**38.91 281**	*e*PP		PP	22 50 43.8 +13
PBEJ	**Beja**	**38.91 281**	*e*P		**P**	**22 49 02.5 +0.3**
HYB	**Hyderabad**	**38.97 119⇑**	*i*P		**P**	**22 49 02.5 -0.4**
	comp=Z,143nm,0.8s					
HYB			*e*PP		PnPn	22 50 45.0 +10
HYB			*e*S		**S**	**22 55 04.0 +2.8**
HYB	**Hyderabad**	**38.97 119**	*e*P		**P**	**22 49 03.1 +0.2**
HYB			AMB		AMB	22 49 08.4
	comp=Z,123nm,1.2s					
ALMR	**Almeirim**	**38.99 283**	*e*P		**P**	**22 49 03.1 +0.3**
ALMR			*e*PP		**PP**	**22 50 32.2 +0.1**
ALMR	**Almeirim**	**38.99 283**	*e*P		**P**	**22 49 03.1 +0.3**
ALMR	**Almeirim**	**38.99 283**	*e*P		**P**	**22 49 03.1 +0.3**
PVAQ	**Vaqueiros**	**39.05 280**	*e*P		**P**	**22 49 03.4 0.0**
	comp=Z,95nm,1.5s					
PVAQ	**Vaqueiros**	**39.05 280**	*e*PP		PP	22 50 41.7 +8.9
PVAQ			*e*S		**S**	**22 55 01.8 -0.3**
PVAQ			*e*LR		LR	22 58 19.4
	comp=Z,3μm,20.0s					
PVAQ	**Vaqueiros**	**39.05 280**	*e*P		**P**	**22 49 03.4 0.0**
	comp=Z,95nm,1.5s					
PVAQ			*e*S		**S**	**22 55 01.8 -0.3**
MOY	**Mondy**	**39.26 56**	*e*P		**P**	**22 49 06.0 +0.9**
MOY			pmax		pmax	
	comp=Z,262nm,3.4s					
MOY	**Mondy**	**39.26 56**	*e*P		**P**	**22 49 06.0 +0.9**
	comp=Z,262nm,3.4s					
PBDV	**Barranco-do-Ve**	**39.27 280**	*e*P		**P**	**22 49 07.0 +1.7**
PBDV	**Barranco-do-Ve**	**39.27 280**	*e*PP		PP	22 50 43.8 +8.5
PBDV			*e*SS		SS	22 58 03.7 +5.0
PBDV	**Barranco-do-Ve**	**39.27 280**	*e*P		**P**	**22 49 07.0 +1.7**
PACT	**Alcochete**	**39.32 283**	*e*P		**P**	**22 49 05.7 +0.1**
PACT	**Alcochete**	**39.32 283**	*e*PP		PP	22 50 44.3 +8.6
PACT	**Alcochete**	**39.32 283**	*e*P		**P**	**22 49 05.7 +0.1**
PNCL	**Nicolau / Gran**	**39.36 281**	*e*P		**P**	**22 49 05.7 -0.2**
	comp=Z,106nm,1.9s					
PNCL	**Nicolau / Gran**	**39.36 281**	*e*PP		PP	22 50 43.5 +7.4
PNCL			*e*S		**S**	**22 55 08.9 +2.3**
PNCL	**Nicolau / Gran**	**39.36 281**	*e*P		**P**	**22 49 05.7 -0.2**
	comp=Z,106nm,1.9s					
PNCL			*e*S		**S**	**22 55 08.9 +2.3**
LIS	**Lisbon**	**39.57 283**	*e*P		**P**	**22 49 08.1 +0.4**
LIS			AMb		AMB	22 49 15.0
	comp=Z,222nm,1.4s					
LIS			*e*PP		**PP**	**22 50 38.7 +0.3**
LIS			*e*S		**S**	**22 55 11.5 +1.7**
LIS	**Lisbon**	**39.57 283**	*e*P		**P**	**22 49 08.1 +0.4**
	comp=Z,222nm,1.4s					
LIS	**Lisbon**	**39.57 283**	*e*P		**P**	**22 49 08.1 +0.4**
	comp=Z,222nm,1.4s					
PMAFR	**Mafra**	**39.57 283**	*e*P		**P**	**22 49 07.9 +0.2**
PMAFR	**Mafra**	**39.57 283**	*e*PP		PP	22 50 46.4 +7.9
PMAFR			*e*S		**S**	**22 55 12.8 +2.9**
PMAFR	**Mafra**	**39.57 283**	*e*P		**P**	**22 49 07.9 +0.2**
PMAFR			*e*S		**S**	**22 55 12.8 +2.9**
PMST	**Lisbon--Monsan**	**39.59 283**	*e*P		**P**	**22 49 08.1 +0.3**
PMST	**Lisbon--Monsan**	**39.59 283**	*e*PP		PP	22 50 47.1 +8.5
PMST	**Lisbon--Monsan**	**39.59 283**	*e*P		**P**	**22 49 08.1 +0.3**
MORF	**Marmelete**	**39.77 280**	*e*P		P	22 49 15.8 +6.3
MORF	**Marmelete**	**39.77 280**	*e*PP		PP	22 50 47.9 +7.2
MORF			*e*S		**S**	**22 55 15.2 +2.2**
MORF	**Marmelete**	**39.77 280**	*e*P		**P**	**22 49 09.7 +0.2**
MORF			*e*			22 50 40.6
MORF			*e*S		**S**	**22 55 14.3 +1.3**
RTC	**Rabat Centre**	**39.91 275**	PFAKE			22 49 20.0 +9.5
RTC			LR		LR	
	comp=Z,2μm,21.0s					
PFVI	**Vila Bisbo**	**39.97 280**	*e*P		**P**	**22 49 12.8 +1.8**
PFVI	**Vila Bisbo**	**39.97 280**	*e*PP		PP	22 50 49.6 +6.8
PFVI			*e*S		**S**	**22 55 17.4 +1.5**
PFVI	**Vila Bisbo**	**39.97 280**	*e*P		**P**	**22 49 12.8 +1.8**
PFVI			*e*S		**S**	**22 55 17.4 +1.5**
LSA	**Lhasa**	**40.11 93**	P		**P**	**22 49 14.2 +1.4**
LSA			PP		**PP**	**22 50 45.2 +0.2**
LSA			S		**S**	**22 55 18.2 -0.8**
LSA			LR		LR	
	comp=N,8μm,18.9s					
LSA			LR		LR	
	comp=E,12μm,26.3s					
LSA			LR		LR	
	comp=Z,13μm,25.0s					
LSA	**Lhasa**	**40.11 93⇑**	*i*P		**P**	**22 49 14.0 +1.2**
LSA			*e*			22 50 44.9
LSA			*e*			22 51 14.5
LSA			*e*S		**S**	**22 55 18.1 -0.9**
LSA			pmax		pmax	
	comp=Z,120nm,0.8s					
LSA			MLR		MLR	
	comp=Z,7μm,21.0s					
LSA	**Lhasa**	**40.11 93⇑**	*i*P		**P**	**22 49 14.0 +1.2**
	comp=Z,120nm,0.8s					
LSA			*e*PP		**PP**	**22 50 44.9 -0.1**
LSA			*e*PcP		**PcP**	**22 51 14.4 -2.8**
LSA			*e*S		**S**	**22 55 18.1 -0.9**
LSA			LR		LR	
	comp=Z,7μm,21.0s					
LSA	**Lhasa**	**40.11 93⇑**	*i*P		**P**	**22 49 14.0 +1.2**
	comp=Z,120nm,0.8s					
TLY	**Talaya**	**40.87 56***c*	*i*P		**P**	**22 49 19.6 +1.2**
TLY			*e*			22 50 53.7
TLY			*e*PPP		PPP	22 51 17.6
TLY			*e*S		**S**	**22 55 33.7 +4.6**
TLY			*e*SS		**SS**	**22 58 27.3 -2.9**
TLY			pmax		pmax	
	comp=Z,51nm,0.9s					
TLY			MLR		MLR	
	comp=Z,28μm,16.0s					
TLY	**Talaya**	**40.87 56**	P		**P**	**22 49 19.9 +1.5**
	comp=Z,255nm,1.0s,SNR=7.7					
TLY	**Talaya**	**40.87 56**	*i* P		**P**	**22 49 19.6 +1.2**
	comp=Z,51nm,0.9s					
TLY	**Talaya**	**40.87 56**	*e*PcP		**PcP**	**22 51 17.6 -1.2**
ZAK	**Zakamensk**	**40.93 58**	*e*P		**P**	**22 49 19.8 +0.9**
ZAK			*e*			22 51 15.9
ZAK			pmax		pmax	
	comp=Z,31nm,1.3s					
ZAK	**Zakamensk**	**40.93 58**	*e*P		**P**	**22 49 19.8 +0.9**
	comp=Z,31nm,1.3s					
IRK	**Irkutsk**	**41.14 55**	*e*P		P	22 49 15.8 -4.7
IRK			*e*			22 50 54.7
IRK			pmax		pmax	
	comp=Z,217nm,3.1s					
VIS	**Vishakhapatnam**	**41.91 114**	*e*P		**P**	**22 49 25.5 -1.7**
VIS			AMB		AMB	22 49 28.2
	comp=Z,77nm,1.8s					
BORG	**Borgarnes**	**41.93 324**	*e*P		**P**	**22 49 26.5 -0.3**
BORG			LR		LR	
	comp=Z,14μm,19.0s					
BORG	**Borgarnes**	**41.93 324**	*e*P		**P**	**22 49 26.5 -0.3**
	comp=Z,14μm,19.0s					
GTA	**Gaotai**	**41.99 75**	⇑P		**P**	**22 49 28.9 +1.1**
GTA			pP		**pP**	**22 49 33.4 +1.0**
GTA			sP		**sP**	**22 49 35.9 +1.7**
GTA			PP		**PnPn**	**22 51 11.1 +1.1**
GTA			ScP		**ScP**	**22 55 14.0 +1.3**
GTA			S		**S**	**22 55 49.6 +3.5**
GTA			sS		**sS**	**22 55 57.2 +3.6**
GTA			SS		**SS**	**22 58 52.5 -0.4**
GTA			pmax		pmax	
	comp=Z,86nm,1.4s					
GTA			pmax		pmax	
	comp=Z,3μm,8.1s					
GTA			LR		LR	
	comp=N,22μm,17.8s					
GTA			LR		LR	
	comp=E,16μm,17.1s					
GTA			LR		LR	
	comp=Z,24μm,16.9s					
SCO	**Scoresbysund**	**42.41 333**	*i* P		**P**	**22 49 32.5 +1.8**
SCO			pmax		pmax	
	comp=Z,28nm,1.0s					
SCO			MLR		MLR	
	comp=Z,9μm,19.0s					
SCO	**Scoresbysund**	**42.41 333**	*i* P		**P**	**22 49 32.5 +1.8**
	comp=Z,28nm,1.0s					
SCO						
	comp=Z,9μm,18.0s					
SCO	**Scoresbysund**	**42.41 333**	*i* P		**P**	**22 49 32.5 +1.8**
	comp=Z,28nm,1.0s					
SHL	**Shillong**	**42.95 97**	*e*P		**P**	**22 49 36.1 +0.3**
SHL			AMB		AMB	22 49 36.5
	comp=Z,153nm,1.2s					
SHL			*e*x		x	22 56 10.0
MDRS	**Chennai**	**43.30 122**	*e*P		**P**	**22 49 40.2 +1.8**
MDRS			AMB		AMB	22 49 45.8
	comp=Z,210nm,1.0s					
SONM	**Songino Array**	**43.57 61**	P		**P**	**22 49 40.6 +0.1**
SONM			PcP		**PcP**	**22 51 27.6 -0.4**
SONM	**Songino Array**	**43.57 61**	P		**P**	**22 49 40.6 +0.1**
	comp=Z,12nm,0.8s,baz=281,slow=6.2,SNR=47					
SONM			PcP		**PcP**	**22 51 27.6 -0.4**
	comp=Z,20nm,1.0s,baz=295,slow=5.3,SNR=4.3

LZH pmax pmax
comp=Z,280nm,1.1s
LZH pmax pmax
comp=Z,2μm,5.0s
LZH LR LR
comp=N,18μm,13.2s
LZH LR LR
comp=E,24μm,14.4s
LZH LR LR
comp=Z,28μm,17.6s
TORD Torodi Ar. Bea 46.44 244 P **P 22 50 02.5 -1.1**
TORD S **S 22 56 48.1 -3.0**
TORD Torodi Ar. Bea 46.44 244 P **P 22 50 02.5 -1.1**
comp=Z,27nm,0.8s,baz=34,slow=5.3,SNR=75
TORD S **S 22 56 48.1 -3.0**
comp=Z,2.3nm,1.0s,baz=40,slow=8.5,SNR=3.5
TORD LR LR 23 11 25.2
comp=Z,3μm,21.8s,baz=10.0,slow=39
TORD Torodi Ar. Bea 46.44 244 P **P 22 50 02.5 -1.1**
CIT Chita 46.73 53 *e*P **P 22 50 05.8 +0.3**
CIT pmax pmax
comp=Z,261nm,3.4s
CIT Chita 46.73 53 *e*P **P 22 50 05.8 +0.3**
comp=Z,261nm,3.4s
PMPST Porto Santo, M 47.29 279 *e*P **P 22 50 11.8 +1.8**
PMPST Porto Santo, M 47.29 279 *e*PP PP 22 52 11.4 +10
PMPST *e*S S 22 57 12.6 +10
PMPST Porto Santo, M 47.29 279 *e*P **P 22 50 11.8 +1.8**
PMPS Porto Santo 47.30 279 *e*P **P 22 50 11.6 +1.5**
PMPS Porto Santo 47.30 279 *e*PP PP 22 52 15.7 +15
PMPS Porto Santo 47.30 279 *e*P **P 22 50 11.6 +1.5**
SUMG Summit 47.61 336 *e*P **P 22 50 12.6 +0.2**
SUMG *e* 22 51 41.8
SUMG *e* 22 52 03.1
SUMG pmax pmax
comp=Z,68nm,1.1s
SUMG Summit 47.61 336 *i* P **P 22 50 14.0 +1.5**
comp=Z,33nm,0.8s
SUMG *i* 22 52 05.8
SUMG
comp=Z,5μm,22.0s
SUMG Summit 47.61 336 *e*P **P 22 50 12.6 +0.2**
comp=Z,68nm,1.1s
SUMG *e*PcP **PcP 22 51 41.8 -0.1**
SUMG *e*PP **PP 22 52 03.1 -0.5**
SUMG Summit 47.61 336 *e*P **P 22 50 12.6 +0.2**
comp=Z,68nm,1.1s
PMAR Madeira 47.89 279 *e*P **P 22 50 15.5 +0.6**
PMAR Madeira 47.89 279 *e*PP PP 22 52 18.0 +11
PMAR Madeira 47.89 279 *e*P **P 22 50 15.5 +0.6**
PMOZ Porto Moniz, M 48.05 279 *e*P P 22 50 20.2 +4.2
PMOZ *e*S **S 22 57 15.4 +1.5**
PMOZ A A 23 16 22.3
comp=Z,2μm,18.0s
PALK Pallekele 48.09 126 *e*P **P 22 50 16.9 +0.5**
comp=Z,148nm,1.5s
PALK *e*PcP **PcP 22 51 45.1 +1.0**
PALK Pallekele 48.09 126 *e*P **P 22 50 16.9 +0.5**
comp=Z,148nm,1.5s
MSEY Mahe Island 48.29 164 PFAKE 22 50 30.0 +12
MSEY LR LR
comp=Z,17μm,20.0s
BTO Baotou 48.65 69 *e*P **P 22 50 21.3 +0.7**
CD2 Chengdu 48.77 83⇑*i*P **P 22 50 22.9 +1.3**
CD2 pP **pP 22 50 27.4 +1.2**
CD2 sP **sP 22 50 29.9 +1.9**
CD2 PcP **PcP 22 51 48.7 +2.3**
CD2 S **S 22 57 23.8 -0.3**
CD2 sS **sS 22 57 31.2 -0.5**
CD2 SS **SS 23 00 49.2 -5.1**
CD2 pmax pmax
comp=Z,170nm,1.1s
CD2 pmax pmax
comp=Z,3μm,9.8s
CD2 LR LR
comp=N,13μm,23.2s
CD2 LR LR
comp=Z,16μm,16.6s
TIXI Tiksi 48.84 25*c i*P **P 22 50 21.9 +0.5**
TIXI pmax pmax
comp=Z,153nm,1.2s
TIXI Tiksi 48.84 25 *i* P **P 22 50 21.9 +0.5**
comp=Z,153nm,1.2s
HHC Hu-ho-hao-te 49.60 68 *e*P **P 22 50 29.0 +1.1**
HHC pP **pP 22 50 33.3 +0.8**
HHC sP **sP 22 50 36.6 +2.3**
HHC PcP **PcP 22 51 49.4 +0.1**
HHC PP **PP 22 52 26.2 +4.2**
HHC ScP **ScP 22 55 42.5 -1.7**
HHC S **S 22 57 37.8 +2.2**
HHC sS **sS 22 57 45.0 +1.8**
HHC ScS **ScS 23 00 17.2 -1.9**
HHC SS **SS 23 01 03.6 -3.8**
HHC pmax pmax
comp=Z,320nm,1.3s
HHC pmax pmax
comp=Z,4μm,7.1s
HHC LR LR
comp=N,61μm,17.8s
HHC LR LR
comp=E,36μm,20.2s
XAN Xi'an 50.93 77 P **P 22 50 38.6 +0.6**
XAN PP **PP 22 52 39.1 +4.9**
XAN S **S 22 57 53.5 -0.6**
XAN ScS **ScS 23 00 23.5 -4.8**
XAN SS **SS 23 01 30.9 +2.2**
XAN pmax pmax
comp=Z,50nm,1.2s
XAN pmax pmax
comp=Z,590nm,9.1s
XAN LR LR
comp=N,13μm,24.5s
XAN LR LR
comp=E,5μm,24.5s
XAN LR LR
comp=Z,7μm,15.3s
KMI Kunming 51.20 90 P **P 22 50 40.4 +0.1**
KMI pP **pP 22 50 46.7 +1.8**
KMI sP **sP 22 50 50.3 +3.6**
KMI PP **PP 22 52 41.0 +4.0**
KMI S **S 22 57 57.2 -1.2**
KMI sS **sS 22 58 09.4 +3.4**
KMI SS **SS 23 01 32.1 -1.5**
KMI pmax pmax
comp=Z,2μm,7.1s
KMI LR LR
comp=N,5μm,16.2s
KMI LR LR
comp=E,8μm,13.9s
KMI LR LR
comp=Z,11μm,19.9s
HIA Hailar 51.39 55 *e*P **P 22 50 41.0 -0.2**
comp=Z,62nm,0.8s
HIA *e*PcP **PcP 22 51 55.7 +0.1**
HIA LR LR
comp=Z,25μm,19.0s
HIA Hailar 51.39 55 *e*P **P 22 50 41.0 -0.2**
comp=Z,62nm,0.8s
CLNS Chul'man 51.42 44 *e*P **P 22 50 42.5 +1.2**
CLNS *e* 22 51 50.9
CLNS *e* 22 52 43.9
CLNS *e*PPP PPP 22 53 46.1
CLNS *e*S S 22 58 10.4 +10
CLNS pmax pmax
comp=Z,100nm,1.3s
CLNS pmax pmax
comp=E,43nm,1.1s
CLNS pmax pmax
comp=N,64nm,1.2s
CLNS pmax pmax
comp=N,46nm,1.2s
CLNS pmax pmax
comp=Z,43nm,1.1s
CLNS pmax pmax
comp=E,39nm,1.1s
CLNS smax smax
comp=E,2μm,13.1s
CLNS smax smax
comp=N,2μm,14.4s
CLNS MLR MLR
comp=N,12μm,13.0s
CLNS MLR MLR
comp=E,14μm,13.0s
CLNS MLR MLR
comp=Z,19μm,15.0s

CLNS Chul'man 51.42 44 *e*P **P 22 50 42.5 +1.2**
comp=Z,64nm,1.2s
CMLA Cha da Macela 51.60 289 *e*P **P 22 50 42.1 -0.8**
comp=Z,47nm,1.1s
CMLA *e*S **S 22 58 04.6 +1.3**
CMLA Cha da Macela 51.60 289 PFAKE 22 50 50.0 +7.1
CMLA LR LR
comp=Z,2μm,20.0s
CMLA Cha da Macela 51.60 289 *e*P **P 22 50 42.1 -0.8**
comp=Z,47nm,1.1s
CMLA *e*S **S 22 58 04.6 +1.3**
CMAI Chiengmai2 51.60 98 P **P 22 50 43.8 +0.5**
comp=Z,57nm,0.7s,comp=Z,7μm
MSKU Masuku 51.61 219 PFAKE 22 51 00.0 +17
MSKU LR LR
comp=Z,2.0nm,21.0s
TIY Taiyuan 51.63 71 *e*P **P 22 50 44.5 +1.3**
TIY PcP **PcP 22 51 58.9 +2.1**
TIY PP **PP 22 52 42.6 +2.1**
TIY S **S 22 58 04.5 +0.7**
TIY pmax pmax
comp=Z,170nm,1.2s
TIY pmax pmax
comp=Z,2μm,7.6s
TIY LR LR
comp=N,9μm,12.4s
TIY LR LR
comp=E,7μm,10.8s
TIY LR LR
comp=Z,17μm,17.5s
PSMN Pico do Norte, 51.64 288 *e*P **P 22 50 44.8 +1.6**
comp=Z,123nm,1.5s
PSMN *e*S **S 22 58 09.6 +5.8**
PSMN Pico do Norte, 51.64 288 *e*P **P 22 50 44.8 +1.6**
comp=Z,123nm,1.5s
DGPR DIGLIPUR 51.68 109 *e*P **P 22 50 44.6 +1.0**
DGPR AMB AMB 22 51 01.1
comp=Z,321nm,1.5s
PSET Sete Cidades 51.71 289 *e*P **P 22 50 41.4 -2.3**
comp=Z,140nm,1.1s
YAK Yakutsk 51.87 37*c i*P **P 22 50 44.0 -0.5**
YAK *e**PP **pP 22 50 48.3 -0.8**
YAK *e* 22 52 40.9
YAK *e*S **S 22 58 06.4 +0.2**
YAK *e**SS **sS 22 58 12.3 -1.5**
YAK pmax pmax
comp=Z,489nm,1.4s
YAK pmax pmax
comp=N,125nm,1.4s
YAK pmax pmax
comp=Z,996nm,4.5s
YAK pmax pmax
comp=N,383nm,3.8s
YAK smax smax
comp=N,610nm,4.6s
YAK MLR MLR
comp=Z,38μm,15.0s
YAK MLR MLR
comp=N,12μm,14.0s
YAK Yakutsk 51.87 37 *i* P **P 22 50 44.0 -0.5**
comp=N,125nm,1.4s
YAK *e*S **S 22 58 06.4 +0.2**
KULLO Kullorsuaq 52.19 341 *i* P **P 22 50 47.6 +0.9**
KULLO MLR MLR
comp=Z,8μm,18.0s
KULLO Kullorsuaq 52.19 341 *i* P **P 22 50 47.6 +0.9**
comp=Z,8μm,18.0s
CHTO Chiang Mai 52.23 99⇑*i*P **P 22 50 47.7 -0.1**
CHTO *e* 22 51 59.1
CHTO *e* 22 52 43.9
CHTO *e*S **S 22 58 16.6 +4.3**
CHTO pmax pmax
comp=Z,118nm,0.9s
CHTO MLR MLR
comp=Z,6μm,22.0s
CHTO Chiang Mai 52.23 99 P **P 22 50 48.2 +0.4**
SNR=36
CHTO Chiang Mai 52.23 99⇑*i*P **P 22 50 47.7 -0.1**
comp=Z,118nm,0.9s
CHTO *e*PcP **PcP 22 51 59.1 -0.1**
CHTO *e*PP **PP 22 52 43.9 -2.4**
CHTO *e*S **S 22 58 16.6 +4.3**
CHTO LR LR
comp=Z,6μm,22.0s
CHTO Chiang Mai 52.23 99 P **P 22 50 48.0 +0.2**
comp=Z,198nm,0.9s,comp=Z,4μm
CHTO Chiang Mai 52.23 99 P **P 22 50 48.2 +0.4**
SNR=36
CRAI Chiangrai 52.39 97 P **P 22 50 47.2 -1.8**
comp=Z,300nm,2.1s
CM31 Chiang Mai Arr 52.46 99 *e*P **P 22 50 50.0 +0.5**
comp=Z,45nm,0.8s
CM31 Chiang Mai Arr 52.46 99 *e*P **P 22 50 50.0 +0.5**
comp=Z,45nm,0.8s
CMAR Chiang Mai Arr 52.46 99 P **P 22 50 49.8 +0.3**
CMAR S **S 22 58 12.2 -3.2**
CMAR Chiang Mai Arr 52.46 99 P **P 22 50 49.8 +0.3**
comp=Z,45nm,0.8s,baz=303,slow=8.0,SNR=126
CMAR S **S 22 58 12.2 -3.2**
comp=Z,0.7nm,0.4s,baz=320,slow=22,SNR=2.9
CMAR LR LR 23 16 17.9
comp=Z,5μm,20.8s,baz=140,slow=40
CMAR Chiang Mai Arr 52.46 99 P **P 22 50 49.8 +0.3**
comp=Z,45nm,0.8s
CMAR S **S 22 58 12.2 -3.2**
comp=Z,5μm,20.8s
ILULI Ilulissat 52.50 333 *i* P **P 22 50 49.5 +0.5**
ILULI MLR MLR
comp=Z,9μm,16.0s
ILULI Ilulissat 52.50 333 *i* P **P 22 50 49.5 +0.5**
SNR=23
PGRA Graciosa 52.70 292 *e*P **P 22 50 51.6 +0.6**
comp=Z,216nm,1.0s
PGRA *e*S **S 22 58 21.1 +2.8**
PGRA Graciosa 52.70 292 *e*P **P 22 50 51.6 +0.6**
comp=Z,216nm,1.0s
PGRA *e*S **S 22 58 21.1 +2.8**
PMAN Manadas 52.96 291 *e*P **P 22 50 53.9 +0.9**
comp=Z,189nm,1.5s
PMAN Manadas 52.96 291 *e*P **P 22 50 53.9 +0.9**
comp=Z,189nm,1.5s
ROSA Rosais 53.03 292 *e*P **P 22 50 54.9 +1.4**
comp=Z,121nm,1.2s
ROSA *e*S **S 22 58 26.6 +3.9**
ROSA Rosais 53.03 292 *e*P **P 22 50 54.9 +1.4**
comp=Z,121nm,1.2s
BJI Beijing 53.10 66 P **P 22 50 54.6 +0.7**
BJI PcP **PcP 22 52 01.8 -0.4**
BJI PP **PP 22 52 52.0 -1.6**
BJI S **S 22 58 21.1 -2.5**
BJI SS **SS 23 02 01.5 -1.1**
BJI pmax pmax
comp=Z,110nm,1.0s
BJI pmax pmax
comp=Z,2μm,11.7s
BJI LR LR
comp=N,34μm,15.1s
BJI LR LR
comp=E,46μm,15.7s
BJI LR LR
comp=Z,32μm,19.7s
BJT Baijiatuau 53.11 66⇑*i*P **P 22 50 54.5 +0.5**
comp=Z,98nm,0.8s
BJT *e*PcP **PcP 22 52 01.5 -0.7**
BJT *e*PP **PP 22 52 55.5 +1.8**
BJT *e*S **S 22 58 25.1 +1.3**
BJT LR LR
comp=Z,14μm,21.0s
BJT Baijiatuau 53.11 66 *i* P **P 22 50 54.5 +0.5**
comp=Z,98nm,0.8s
PPNO Prainha do Nor 53.16 291 *e*P **P 22 50 55.0 +0.5**
comp=Z,228nm,1.1s
PPNO Prainha do Nor 53.16 291 *e*P **P 22 50 55.0 +0.5**
comp=Z,228nm,1.1s
SFJD Kangerlussuaq 53.18 331 PFAKE 22 51 10.0 +16
SFJD LR LR
comp=Z,14μm,19.0s
ENH Enshi 53.30 80 *e*P **P 22 50 55.5 -0.1**
comp=Z,106nm,1.0s
ENH *e*PcP **PcP 22 52 03.8 +0.6**
ENH *e*PP **PP 22 52 56.2 +0.6**
ENH LR LR
comp=Z,61nm,19.0s
ENH Enshi 53.30 80 *e*P **P 22 50 55.5 -0.1**
comp=Z,106nm,1.0s
PCAN Candelaria 53.32 291 *e*P P 22 51 00.9 +5.3

comp=Z,154nm,0.8s
GYA Guiyang 53.33 86⇑*i*P **P 22 50 57.4 +1.4**
GYA PP **PP 22 52 58.6 +2.4**
GYA ScP **ScP 22 56 01.0 +0.5**
GYA S **S 22 58 27.4 0.0**
GYA SS **SS 23 02 04.8 -2.3**
GYA pmax pmax
comp=Z,50nm,1.0s
GYA LR LR
comp=N,5μm,19.4s
GYA LR LR
comp=E,4μm,20.5s
GYA LR LR
comp=Z,5μm,20.8s
NRS Narsarsuaq 53.37 323 *e*P **P 22 50 55.1 -0.5**
NRS Narsarsuaq 53.37 323 *e*P **P 22 50 55.1 -0.5**
SNR=23
PCED Cedros 53.39 292 *e*P P 22 50 59.6 +3.5
comp=Z,108nm,1.0s
UTHA Uthaitani 54.70 102 P **P 22 51 07.2 +1.3**
comp=Z,35nm,0.8s,comp=Z,318nm
LOEI Loei 54.76 99 P **P 22 51 08.1 +1.7**
comp=Z,44nm,1.4s,comp=Z,5μm
PBKT Sadao Pong 55.15 100 P **P 22 51 09.8 +0.7**
comp=Z,144nm,2.4s,comp=Z,4μm
PBKT Sadao Pong 55.15 100 P **P 22 51 09.8 +0.7**
comp=Z,144nm,2.4s,comp=Z,4μm
DBIC Dimbokro 55.55 244⇓*i*P **P 22 51 11.2 -0.8**
DBIC Dimbokro 55.55 244 *e*P **P 22 51 11.3 -0.8**
comp=Z,58nm,0.9s
DBIC S S 22 58 47.2 -10
DBIC Dimbokro 55.55 244 P **P 22 51 10.8 -1.3**
comp=Z,19nm,0.7s,baz=28,slow=9.3,SNR=35
DBIC S S 22 58 47.2 -10
comp=Z,2.4nm,0.9s,baz=146,slow=15,SNR=1.9
DBIC LR LR 23 19 49.4
comp=Z,3μm,19.8s,baz=273,slow=41
DBIC Dimbokro 55.55 244 P **P 22 51 10.8 -1.3**
comp=Z,19nm,0.7s
TIA Tai'an 55.63 70⇑P **P 22 51 13.1 +0.6**
TIA S **S 22 59 02.7 +4.7**
TIA pmax pmax
comp=Z,110nm,1.2s
TIA pmax pmax
comp=Z,3μm,8.6s
TIA LR LR
comp=N,19μm,23.3s
TIA LR LR
comp=E,14μm,22.2s
TIA LR LR
comp=Z,24μm,17.4s
TIC Toumodi 55.67 244 *e*P **P 22 51 11.7 -1.3**
comp=Z,204nm,0.9s
KIC Kosan Boka 55.70 244 *e*P **P 22 51 11.8 -1.4**
comp=Z,168nm,1.0s
NONG Nongkai 55.78 97 P **P 22 51 13.8 +0.1**
comp=Z,114nm,1.0s
LIC Lamto 55.99 244 *e*P **P 22 51 13.9 -1.3**
comp=Z,250nm,0.9s,baz=47
LIC *e*R
comp=Z,5μm,19.0s
LIC Lamto 55.99 244 *e*P **P 22 51 13.8 -1.4**
comp=Z,352nm,0.9s
LIC Lamto 55.99 244 *e*P **P 22 51 13.9 -1.3**
comp=Z,250nm,0.9s
LIC Lamto 55.99 244 *e*P **P 22 51 13.9 -1.3**
comp=Z,250nm,0.9s
CHAI Chaiyaphum 56.32 100 P **P 22 51 18.3 +0.7**
comp=Z,30nm,0.8s,comp=Z,289nm
DGAR Diego Garcia 56.34 145 PFAKE 22 51 30.0 +12
DGAR LR LR
comp=Z,5μm,19.0s
PHET Kaeng Krachan 56.60 104 P **P 22 51 21.1 +1.5**
comp=Z,443nm,0.9s,comp=Z,5μm
PHET Kaeng Krachan 56.60 104 P **P 22 51 20.7 +1.1**
comp=Z,443nm,0.9s,comp=Z,5μm
WHN Wuhan 56.67 77⇑P **P 22 51 20.8 +0.9**
WHN S **S 22 59 15.6 +3.8**
WHN LR LR
comp=N,25μm,14.8s
WHN LR LR
comp=E,23μm,14.4s
WHN LR LR
comp=Z,24μm,16.2s
SNY Shenyang 57.14 61⇑P **P 22 51 22.2 -0.9**
SNY S **S 22 59 13.2 -4.5**
SNY pmax pmax
comp=Z,2μm,9.3s
SNY LR LR
comp=N,16μm,18.5s
SNY LR LR
comp=E,29μm,15.9s
SNY LR LR
comp=Z,32μm,17.1s
DL2 Dalian 57.33 65⇑*i*P **P 22 51 24.6 +0.1**
DL2 S **S 22 59 22.7 +2.4**
DL2 pmax pmax
comp=Z,330nm,1.0s
DL2 pmax pmax
comp=Z,2μm,9.0s
DL2 LR LR
comp=N,12μm,14.8s
DL2 LR LR
comp=E,10μm,15.3s
DL2 LR LR
comp=Z,18μm,16.3s
CN2 Changchun 57.35 58⇑*i*P **P 22 51 24.8 +0.2**
CN2 *e*pP **pP 22 51 29.4 +0.1**
CN2 *e*sP **sP 22 51 31.8 +0.7**
CN2 PP **PP 22 53 33.1 +1.5**
CN2 *e*S **S 22 59 16.9 -3.6**
CN2 pmax pmax
comp=Z,3μm,9.0s
CN2 LR LR
comp=N,29μm,14.0s
CN2 LR LR
comp=E,23μm,14.0s
PANO Nakornpanom 57.44 96 P **P 22 51 25.7 +0.2**
comp=E,156nm,1.1s
KLR Kul'dur 58.43 50⇓*e*P P 22 51 28.5 -3.6
KLR *e*S **S 22 59 33.0 -1.5**
KLR pmax pmax
comp=E,170nm,2.2s
KLR pmax pmax
comp=Z,350nm,2.2s
KLR pmax pmax
comp=E,1μm,10.5s
KLR pmax pmax
comp=Z,3μm,10.5s
CHBT CHBT 58.65 102 P **P 22 51 35.7 +1.8**
comp=Z,90nm,1.0s,comp=Z,2μm
CHBT CHBT 58.65 102 P **P 22 51 35.8 +1.8**
comp=Z,90nm,1.0s,comp=Z,2μm
NJ2 Nanjing 59.06 73 *e*P **P 22 51 36.9 +0.2**
NJ2 pP **pP 22 51 39.4 -2.0**
NJ2 PP **PP 22 53 52.0 +5.0**
NJ2 S **S 22 59 45.8 +2.7**
NJ2 sS **sS 22 59 50.0 -0.8**
NJ2 pmax pmax
comp=Z,1μm,7.0s
NJ2 LR LR
comp=N,16μm,12.4s
NJ2 LR LR
comp=E,12μm,13.2s
NJ2 LR LR
comp=Z,12μm,12.4s
PKDT Phuket 59.15 109 P **P 22 51 38.7 +1.2**
comp=Z,136nm,1.3s
LSZ Lusaka 59.26 197⇓*i*P **P 22 51 38.2 0.0**
LSZ Lusaka 59.26 197 P **P 22 51 38.7 +0.4**
SNR=18
LSZ Lusaka 59.26 197 *e*P **P 22 51 39.0 +0.7**
comp=Z,302nm,2.0s
LSZ *e*PP **PP 22 53 50.6 +1.1**
LSZ LR LR
comp=Z,6μm,21.0s
LSZ Lusaka 59.26 197 *e*P **P 22 51 39.0 +0.7**
comp=Z,302nm,2.0s
UBPT Khong Chiam 59.27 97 P P 22 51 45.6 +7.3
MDJ Mudanjiang 59.51 56 P **P 22 51 38.4 -1.2**
MDJ pP **pP 22 51 41.5 -2.8**
MDJ PP **PP 22 53 49.3 -1.4**
MDJ S **S 22 59 47.0 -1.6**
MDJ ScS **ScS 23 01 28.7 -0.6**
MDJ SS **SS 23 03 42.6 -0.6**
MDJ pmax pmax

comp=Z,2μm,9.9s
MDJ LR LR
comp=N,16μm,15.9s
MDJ LR LR
comp=E,10μm,14.8s
MDJ LR LR
comp=Z,20μm,14.8s
MDJ Mudanjiang 59.51 56 *e*P **P 22 51 39.2 -0.4**
comp=Z,10nm,0.6s
MDJ *e*PcP **PcP 22 52 27.8 +0.7**
MDJ *e*PP **PP 22 53 51.2 +0.5**
MDJ LR LR
comp=Z,13μm,21.0s
MDJ Mudanjiang 59.51 56 *e*P **P 22 51 39.2 -0.4**
comp=Z,10nm,0.6s
KRAB Krabi 59.52 108 P **P 22 51 40.5 +0.5**
comp=Z,54nm,0.8s,comp=Z,493nm
QIZ Qiongzhong 60.11 91 P **P 22 51 43.9 -0.2**
QIZ S **S 22 59 56.9 0.0**
QIZ pmax pmax
comp=Z,2μm,10.6s
QIZ LR LR
comp=N,5μm,20.2s
QIZ LR LR
comp=E,3μm,19.3s
QIZ LR LR
comp=Z,7μm,16.3s
QIZ Qiongzhong 60.11 91 *e*P **P 22 51 43.9 -0.2**
comp=Z,111nm,1.2s
QIZ *e*PcP **PcP 22 52 30.5 +0.7**
QIZ LR LR
comp=Z,5μm,20.0s
QIZ Qiongzhong 60.11 91 *e*P **P 22 51 43.9 -0.2**
comp=Z,111nm,1.2s
GZH Guangzhou 60.22 85 P **P 22 51 44.8 0.0**
GZH PP **PP 22 53 56.0 -1.5**
GZH S **S 22 59 59.0 +0.8**
GZH SS **SS 23 03 59.7 +4.4**
GZH pmax pmax
comp=Z,5μm,9.9s
GZH LR LR
comp=N,13μm,21.4s
GZH LR LR
comp=E,12μm,22.0s
GZH LR LR
comp=Z,24μm,20.7s
SEY Seymchan 60.67 30*c i*P **P 22 51 48.5 +1.2**
SEY Seymchan 60.67 30 *i* P **P 22 51 48.5 +1.2**
HABR Khabarovsk 60.69 50*c i*P **P 22 51 47.4 -0.2**
HABR *e**PP **pP 22 51 49.9 -2.5**
HABR *e**SP **sP 22 51 51.1 -3.0**
HABR *e* 22 52 30.4
HABR *e* 22 54 00.3
HABR *e*S **S 23 00 04.7 +1.1**
HABR *e* 23 01 37.5
HABR SS **SS 23 04 04.7 +3.2**
HABR pmax pmax
comp=Z,139nm,2.0s
HABR pmax pmax
comp=N,22nm,1.0s
HABR pmax pmax
comp=E,20nm,1.0s
HABR pmax pmax
comp=Z,1μm,4.1s
HABR MLR MLR
comp=N,15μm,16.0s
HABR MLR MLR
comp=E,27μm,17.0s
HABR MLR MLR
comp=Z,34μm,16.0s
HABR Khabarovsk 60.69 50 *i* P **P 22 51 47.4 -0.2**
comp=Z,1μm,4.1s
HABR Khabarovsk 60.69 50 *e*PcP **PcP 22 52 30.4 -1.3**
USRK Ussuriysk Arra 61.19 55 P **P 22 51 50.6 -0.4**
comp=Z,28nm,1.0s,baz=307,slow=4.8,SNR=33
USRK LR LR 23 23 33.9
comp=Z,8μm,19.1s,baz=286,slow=41
SSE Sheshan 61.24 73 P **P 22 51 51.9 +0.2**
SSE pP **pP 22 51 54.7 -1.7**
SSE PP **PP 22 54 05.0 -1.3**
SSE S **S 23 00 11.7 +0.6**
SSE sS **sS 23 00 18.6 -0.3**
SSE pmax pmax
comp=Z,120nm,1.2s
SSE pmax pmax
comp=Z,2μm,6.6s
SSE LR LR
comp=N,10μm,21.1s
SSE LR LR
comp=E,6μm,21.1s
SSE LR LR
comp=Z,11μm,16.5s
SKLT Songkhla 61.25 108 P **P 22 51 51.6 -0.3**
comp=Z,75nm,0.8s
SKLT Songkhla 61.25 108 P **P 22 51 51.4 -0.5**
comp=Z,75nm,0.8s
HKC Hong Kong Obse 61.30 85 P **P 22 51 54.0 +1.8**
ABPO Ambohimpanom 61.39 176 *e*P **P 22 51 52.6 -0.2**
ABPO pmax pmax
comp=Z,140nm,1.4s
ABPO MLR MLR
comp=Z,5μm,19.0s
ABPO Ambohimpanom 61.39 176 *e*P **P 22 51 52.6 -0.2**
comp=Z,140nm,1.4s
ABPO LR LR
comp=Z,5μm,19.0s
ABPO Ambohimpanom 61.39 176 *e*P **P 22 51 52.6 -0.2**
comp=Z,5μm,19.0s
INCN Inchon 61.43 64 P **P 22 51 53.5 +0.6**
SNR=5.4
INCN Inchon 61.43 64 *e*P **P 22 51 52.9 0.0**
comp=Z,158nm,1.1s
INCN *e*PcP **PcP 22 52 34.8 -0.1**
INCN LR LR
comp=Z,24μm,22.0s
INCN Inchon 61.43 64 *e*P **P 22 51 52.9 0.0**
comp=Z,158nm,1.1s
VLA Vladivostok 61.71 56⇑*i*P **P 22 51 53.7 -0.9**
VLA *e*S **S 23 00 17.3 +0.6**
VLA pmax pmax
comp=Z,70nm,1.0s
VLA MLR MLR
comp=E,240μm,16.0s
VLA Vladivostok 61.71 56 *i* P **P 22 51 53.7 -0.9**
comp=E,70nm,1.0s
SNSI Sinabang, Aceh 61.74 115 P **P 22 51 54.8 -0.4**
comp=E,202nm,1.2s
KCSI Kotacane, Aceh 61.89 113 P **P 22 51 54.3 -2.0**
comp=E,78nm,1.2s,comp=E,1μm
KSAR Wonju Array Be 62.28 63 P **P 22 51 58.5 -0.1**
KSAR Wonju Array Be 62.28 63 P **P 22 51 58.5 -0.1**
KSRS Korea Array 62.30 63 P **P 22 51 58.5 -0.2**
comp=E,98nm,1.0s,baz=298,slow=5.8,SNR=85
KSRS LR LR 23 22 27.7
comp=E,38μm,18.0s,baz=300,slow=39
KSRS Korea Array 62.30 63 P **P 22 51 58.5 -0.2**
comp=E,38μm,18.0s
TJN Taejon 62.53 65 *i* P **P 22 52 00.0 -0.2**
TJN Taejon 62.53 65 *i* P **P 22 52 00.0 -0.2**
KULM Kulim 62.60 109 *e*P **P 22 52 00.2 -0.8**
comp=E,38nm,0.8s
KULM LR LR
comp=Z,3μm,19.0s
KULM Kulim 62.60 109 P **P 22 52 00.8 -0.2**
KULM Kulim 62.60 109 P **P 22 51 59.8 -1.2**
comp=Z,79nm,0.9s,comp=Z,2μm
KULM Kulim 62.60 109 *e*P **P 22 52 00.2 -0.8**
comp=Z,38nm,0.8s
QZH Quanzhou 62.95 80⇑*i*P **P 22 52 01.2 -2.0**
QZH PP **PP 22 54 20.3 -1.2**
QZH S **S 23 00 27.0 -5.9**
QZH SS **SS 23 04 35.3 -2.7**
QZH pmax pmax
comp=Z,430nm,1.6s
QZH pmax pmax
comp=Z,2μm,5.1s
QZH LR LR
comp=N,15μm,14.4s
QZH LR LR
comp=E,24μm,15.5s
PSI Prapat 63.20 113 LR LR 23 23 49.1
comp=E,3μm,21.4s,baz=304,slow=40
GSI Gunungsitoli 63.39 115 P **P 22 52 06.1 -0.1**
comp=E,217nm,0.9s
IPM Ipoh 63.44 110 *e*P **P 22 52 05.0 -1.7**
comp=E,101nm,0.8s
IPM Ipoh 63.44 110 P **P 22 52 06.1 -0.5**
IPM Ipoh 63.44 110 P **P 22 52 05.5 -1.1**
comp=E,158nm,1.3s,comp=E,3μm
IPM Ipoh 63.44 110 *e*P **P 22 52 04.9 -1.7**
comp=E,101nm,0.8s
BLWY Bulawayo 63.89 196 *i* P P 22 52 04.4 -5.1
BLWY *i* 22 52 05.0
baz=153,slow=28
RUDU RUNDU 64.04 205 *e*P **P 22 52 11.4 +1.0**
RUDU AMB AMB 22 52 15.8
comp=Z,117nm,2.1s
KTGM Kuala Trenggan 64.31 107 P **P 22 52 12.5 +0.2**
FRIM Kepong 64.74 110 P **P 22 52 14.5 -0.6**
TATO Taipei 65.04 78 *e*P **P 22 52 17.6 +0.7**
comp=Z,185nm,0.8s
TATO LR LR
comp=Z,7μm,19.0s
TATO Taipei 65.04 78 *e*P **P 22 52 17.6 +0.7**
comp=Z,185nm,0.8s
YHNB Yeheng 65.14 79 *e*P **P 22 52 18.7 +1.0**
comp=Z,258nm,0.9s
YHNB LR LR
comp=Z,7μm,19.0s
YHNB Yeheng 65.14 79 *e*P **P 22 52 18.7 +1.0**
comp=Z,258nm,0.9s
SSLB Suanglung 65.37 80⇑*e*P **P 22 52 20.0 +0.9**
comp=Z,114nm,1.1s
SSLB Suanglung 65.37 80⇑*e*P **P 22 52 20.0 +0.9**
comp=Z,114nm,1.1s
TPUB Ta-pu 65.43 80 *e*P **P 22 52 20.9 +1.4**
comp=Z,165nm,1.0s
TPUB Ta-pu 65.43 80 *e*P **P 22 52 20.9 +1.4**
comp=Z,165nm,1.0s
NACB Ninganchiao 65.60 79⇑*e*P **P 22 52 20.8 +0.2**
comp=Z,71nm,1.0s
NACB *e*PP **PP 22 54 44.8 +0.1**
NACB Ninganchiao 65.60 79⇑*e*P **P 22 52 20.8 +0.2**
comp=Z,71nm,1.0s
MSNA Messina 65.78 194⇓*i*P **P 22 52 21.7 +0.1**
MSNA AMB AMB 22 52 27.2
comp=Z,143nm,2.1s
YSS Yuzh-Sakhalins 65.83 48α *i*P **P 22 52 22.6 +0.8**
YSS *e**SP **sP 22 52 29.0 +0.7**
YSS *e* 22 52 50.2
YSS *e* 22 54 50.0
YSS *e*PPP PPP 22 56 24.0
YSS *e*S **S 23 01 06.0 -1.9**
YSS *e*PPS PPS 23 01 40.0
YSS pmax pmax
comp=Z,180nm,1.2s
YSS pmax pmax
comp=Z,2μm,7.0s
YSS MLR MLR
comp=N,15μm,17.0s
YSS MLR MLR
comp=Z,19μm,17.0s
YSS MLR MLR
comp=E,19μm,16.0s
YSS Yuzh-Sakhalins 65.83 48 *i* P **P 22 52 22.6 +0.8**
comp=E,2μm,7.0s
YULB Yu-li 65.86 80 *e*P **P 22 52 23.3 +1.0**
comp=E,91nm,1.1s
YULB *e*PP **PP 22 54 48.1 +1.1**
YULB Yu-li 65.86 80 *e*P **P 22 52 23.3 +1.0**
comp=E,91nm,1.1s
TSUM Tsumeb 65.94 207 *e*P **P 22 52 22.4 -0.4**
TSUM Tsumeb 65.94 207 *e*P **P 22 52 22.8 -0.1**
comp=E,39nm,1.0s
TSUM *e*PP **PP 22 54 48.2 -0.1**
TSUM LR LR
comp=Z,5μm,19.0s
TSUM Tsneb 65.94 207 *e*P **P 22 52 22.8 -0.1**
comp=Z,39nm,1.0s
TWG Pinlang 66.04 80 *e*P **P 22 52 25.0 +1.5**
comp=Z,524nm,0.9s
TWG Pinlang 66.04 80 *e*P **P 22 52 25.0 +1.5**
comp=Z,524nm,0.9s
SCHQ Schefferville 66.31 324 *e*P **P 22 52 24.0 -0.8**
comp=Z,251nm,1.9s
SCHQ *e*PcP **PcP 22 52 53.5 -1.2**
SCHQ Schefferville 66.31 324 P **P 22 52 23.8 -1.0**
comp=Z,15nm,0.8s,baz=65,slow=5.2,SNR=11
SCHQ LR LR 23 22 16.9
comp=Z,3μm,18.0s,baz=61,slow=37
SCHQ Schefferville 66.31 324 *e*P **P 22 52 24.0 -0.8**
comp=Z,251nm,1.9s
BKNI Bangkinang 66.44 113 P **P 22 52 24.9 -1.2**
comp=Z,268nm,1.1s,comp=Z,4μm
PPI Padang Panjang 66.58 114 P **P 22 52 26.5 -0.4**
comp=Z,90nm,2.1s,comp=Z,2μm
JNU Nakatsue 66.77 66 LR LR 23 25 55.2
comp=Z,16μm,18.3s,baz=313,slow=40
KGM Kluang 66.79 110 P **P 22 52 28.6 +0.2**
PDSI Padang 66.96 114 P **P 22 52 28.2 -1.2**
comp=Z,164nm,1.4s,comp=Z,4μm
MYKOM Kota Tinggi 67.32 110 P **P 22 52 31.6 0.0**
MYKOM Kota Tinggi 67.32 110 P **P 22 52 31.8 +0.1**
comp=Z,69nm,1.1s,comp=Z,2μm
ASAJ Asahikawa 67.47 50 *e*P **P 22 52 32.0 -0.3**
comp=Z,35nm,1.0s
ASAJ Asahikawa 67.47 50 P **P 22 52 32.0 -0.3**
baz=309,slow=7.0
ASAJ LR LR 23 25 21.2
comp=Z,22μm,18.3s,baz=194,slow=39
ASAJ Asahikawa 67.47 50 *e*P **P 22 52 32.0 -0.3**
comp=Z,35nm,1.0s
JKA Kamikawa-asahi 67.47 50 P **P 22 52 32.0 -0.3**
comp=Z,22μm,18.3s
JOW Kunigami 68.76 73 *e*P **P 22 52 40.3 -0.4**
comp=Z,47nm,1.1s
JOW Kunigami 68.76 73 *e*P **P 22 52 40.3 -0.4**
comp=Z,47nm,1.1s
ERM Erimo 69.10 52 P **P 22 52 43.2 +0.7**
comp=Z,645nm,1.0s,SNR=7.8
ERM Erimo 69.10 52*d i*P **P 22 52 42.8 +0.3**
ERM pmax pmax
comp=Z,180nm,1.4s
ERM Erimo 69.10 52 *e*P **P 22 52 43.2 +0.7**
ERM LR LR
comp=Z,9μm,22.0s
ERM Erimo 69.10 52 *i* P **P 22 52 42.8 +0.3**
comp=Z,180nm,1.4s
PETK Petropavlovsk- 69.20 36 P **P 22 52 42.0 -1.0**
PETK 22 55 14.0
PETK pmax pmax
comp=Z,60nm,1.0s
PETK pmax pmax
comp=Z,9.0nm,0.9s
PETK MLR MLR
comp=Z,11μm,18.4s
PETK Petropavlovsk- 69.20 36 P **P 22 52 42.0 -1.0**
PETK PP **PP 22 55 13.9 -1.4**
PETK Petropavlovsk- 69.20 36 P **P 22 52 42.0 -1.0**
comp=Z,60nm,1.0s,baz=0.0,slow=1.5,SNR=51
PETK PP **PP 22 55 13.9 -1.4**
comp=Z,9.2nm,0.9s,baz=214,slow=1.6,SNR=3.5
PETK LR LR 23 27 26.6
comp=Z,11μm,18.4s,baz=140,slow=40
PETK Petropavlovsk- 69.20 36 P **P 22 52 42.0 -1.0**
comp=Z,60nm,1.0s
PETK Petropavlovsk- 69.20 36 PP PP 22 55 13.9 -1.5
LBTB Lobatse 69.25 197⇓*i*P **P 22 52 44.1 +0.6**
LBTB AMB AMB 22 52 49.3
comp=Z,155nm,2.5s
LBTB Lobatse 69.25 197 *e*P **P 22 52 43.8 +0.2**
comp=Z,135nm,1.0s
LBTB Lobatse 69.25 197 *e*P **P 22 52 43.8 +0.2**
comp=Z,135nm,1.0s
YUK Yuzh-Kuril'sk 69.36 49*c i*P P 22 52 38.4 -5.7
YUK *i* PPP PPP 22 56 56.2
YUK *i* S **S 23 01 51.4 +1.2**
YUK *e*SS **SS 23 06 20.9 +4.5**
YUK *i* SSS SSS 23 09 29.6
SLR Silverton 69.40 195⇓*i*P **P 22 52 44.7 +0.1**
SLR AMB AMB 22 52 51.2
comp=Z,140nm,4.8s
INK Inuvik 69.41 359 *e*P **P 22 52 43.0 -0.9**
comp=Z,74nm,1.3s
INK *e*PP **PP 22 55 17.2 +0.5**
INK Inuvik 69.41 359 *e*P **P 22 52 43.0 -0.9**
comp=Z,74nm,1.3s
TNA Tin City 69.47 13 *e*P **P 22 52 44.2 -0.2**
comp=Z,84nm,1.2s
TNA Tin City 69.47 13 *e*P **P 22 52 44.2 -0.2**
comp=Z,84nm,1.2s
MAT Matsushiro 69.49 59 P **P 22 52 44.1 -1.0**
MAT S **S 23 01 52.2 +0.1**
MJAR Matsushiro Arr 69.49 59 P **P 22 52 44.5 -0.6**
MJAR Matsushiro Arr 69.49 59 P **P 22 52 44.5 -0.6**
comp=Z,54nm,1.1s,baz=305,slow=7.9,SNR=64
MJAR LR LR 23 24 37.5
comp=Z,8μm,19.9s,baz=325,slow=37
MJAR Matsushiro Arr 69.49 59 P **P 22 52 44.5 -0.6**
comp=Z,8μm,19.9s
PET Petropavlovsk 69.68 36 *e*P P 22 52 42.5 -3.4
PET *e* 22 55 19.5
PET *e*PPP PPP 22 56 56.5
PET *e*S **S 23 01 54.5 +0.8**
PET *e*SS SS 23 06 29.1 +8.3
PET pmax pmax
comp=Z,31nm,1.0s
PET pmax pmax
comp=Z,2μm,13.2s
PET pmax pmax
comp=Z,2μm,7.2s
PET pmax pmax
comp=Z,1μm,12.9s
PET MLR MLR
comp=Z,16μm,19.0s
PET MLR MLR
comp=Z,14μm,18.0s
KUR Kuril'sk 69.69 47⇑*i*P P 22 52 39.1 -7.0
KUR pmax pmax
comp=Z,360nm,1.8s
KUR pmax pmax
comp=N,264nm,1.8s
KUR pmax pmax
comp=E,197nm,1.8s
KUR MLR MLR
comp=N,12μm,23.0s
KUR MLR MLR
comp=Z,12μm,23.0s
KUR MLR MLR
comp=E,14μm,23.0s
KSR Koster 69.79 196⇓*i*P **P 22 52 46.9 -0.1**
KSR AMB AMB 22 52 49.9
comp=Z,48nm,2.0s
MASI Maura Aman, Be 69.79 114 P **P 22 52 47.0 -0.2**
comp=Z,521nm,0.9s,comp=Z,7μm
ERPM east rand prop 70.00 195 *e*P **P 22 52 48.1 -0.2**
ERPM AMB AMB 22 52 50.6
comp=Z,115nm,4.9s
COLD Coldfoot 70.02 6 *e*P **P 22 52 48.1 +0.3**
comp=Z,62nm,0.9s
COLD *e*PP **PP 22 55 22.1 +0.1**
COLD Coldfoot 70.02 6 *e*P **P 22 52 48.1 +0.3**
comp=Z,62nm,0.9s
KLOF Kloof 70.13 195 *e*P **P 22 52 49.8 +0.7**
KLOF AMB AMB 22 52 54.4
comp=Z,98nm,2.1s
SKR Severo-Kuril's 70.18 39 *e*P P 22 52 36.0 -13
SKR *e*PPP PPP 22 57 03.0
SKR *e*SSS SSS 23 09 42.0
SKR pmax pmax
comp=Z,180nm,1.0s
SKR pmax pmax
comp=N,1μm,12.0s
SKR pmax pmax
comp=E,1μm,12.0s
SKR pmax pmax
comp=Z,1μm,12.0s
SKR MLR MLR
comp=N,10μm,18.0s
SKR MLR MLR
comp=E,17μm,18.0s
SKR MLR MLR
comp=Z,20μm,18.0s
KSI Kapahiang 70.40 115 P **P 22 52 51.1 +0.2**
comp=Z,383nm,0.9s,comp=Z,11μm
POGA Pongola 70.46 191⇓*i*P **P 22 52 51.0 +0.2**
POGA AMB AMB 22 52 56.0
comp=Z,172nm,1.5s
PRYS Parys 70.74 195⇓*i*P **P 22 52 52.3 -0.4**
PRYS AMB AMB 22 52 55.2
comp=Z,48nm,1.6s
IMA2 Indian Mountai 70.87 7 *e*P **P 22 52 53.0 -0.2**
IMA2 Indian Mountai 70.87 7 *e*P **P 22 52 53.0 -0.2**
IM04 Indian Mountai 70.96 7 *e*P **P 22 52 53.5 -0.1**
IM04 Indian Mountai 70.96 7 *e*P **P 22 52 53.5 -0.1**
LHSI Lahat 71.16 114 P **P 22 52 55.2 -0.2**
comp=Z,88nm,2.9s,comp=Z,3μm
SWZ Schweizer 71.40 197⇓*i*P **P 22 52 56.7 0.0**
SWZ AMB AMB 22 53 01.7
comp=Z,163nm,2.3s
PPBI Pangkal Pinang 71.73 111 P **P 22 52 58.9 0.0**
comp=Z,78nm,1.4s,comp=Z,2μm
SEK Senekal 72.05 195 *e*P **P 22 53 00.3 -0.3**
SEK AMB AMB 22 53 03.3
comp=Z,129nm,1.6s
KSM Kuching 72.10 105 *e*P **P 22 53 01.4 +0.2**
comp=Z,100nm,1.4s
KSM *e*PP **PP 22 55 41.7 +0.3**
KSM LR LR
comp=Z,3μm,19.0s
KSM Kuching 72.10 105 P **P 22 53 01.8 +0.7**
KSM Kuching 72.10 105 P **P 22 53 02.5 +1.4**
comp=Z,79nm,2.4s,comp=Z,2μm
KSM Kuching 72.10 105 *e*P **P 22 53 01.4 +0.2**
comp=Z,100nm,1.4s
COLA College 72.52 5 *e*P **P 22 53 03.2 +0.3**
COLA *e* 22 55 42.7
COLA pmax pmax
comp=Z,277nm,0.9s
COLA MLR MLR
comp=Z,4μm,21.0s
COLA College 72.52 5 *e*P **P 22 53 03.2 +0.3**
comp=Z,277nm,0.9s
COLA *e*PP **PP 22 55 42.7 -0.7**
COLA LR LR
comp=Z,4μm,21.0s
COLA College 72.52 5 *e*P **P 22 53 03.2 +0.3**
comp=Z,277nm,0.9s
ILAR Eielson Array 72.68 5 P **P 22 53 03.3 -0.6**
ILAR PP PP 22 55 35.1 -10
ILAR Eielson Array 72.68 5 P **P 22 53 03.3 -0.6**
comp=Z,9.6nm,0.9s,baz=336,slow=3.0,SNR=45
ILAR PP PP 22 55 35.1 -10
comp=Z,4.7nm,1.0s,baz=342,slow=5.7,SNR=4.1
ILAR LR LR 23 26 20.0
comp=Z,5μm,20.5s,baz=344,slow=37
ILAR Eielson Array 72.68 5 P **P 22 53 03.3 -0.6**
comp=Z,5μm,20.5s
ASCN Ascension 72.71 241 PFAKE 22 53 20.0 +15
ASCN LR LR
comp=Z,522nm,21.0s
SBUM Sibu 72.79 103 P **P 22 53 07.2 +1.9**
BOSA Boshof 72.80 197⇑*i*P **P 22 53 04.8 -0.3**
BOSA AMB AMB 22 53 13.8
comp=Z,96nm,1.6s
BOSA Boshof 72.80 197 *e*P **P 22 53 05.1 0.0**
comp=Z,153nm,1.1s
BOSA Boshof 72.80 197 P **P 22 53 05.2 +0.1**
comp=Z,72nm,1.0s,baz=11,slow=6.5,SNR=48
BOSA LR LR 23 25 15.0
comp=Z,7μm,18.0s,baz=274,slow=36
BOSA Boshof 72.80 197 P **P 22 53 05.2 +0.1**
comp=Z,7μm,18.0s
EGAK Eagle 72.92 2 *e*P **P 22 53 05.4 +0.1**
comp=Z,50nm,0.9s
EGAK *e*PP **PP 22 55 43.5 -3.3**
EGAK LR LR
comp=Z,4μm,19.0s
EGAK Eagle 72.92 2 *e*P **P 22 53 05.4 +0.1**
comp=Z,50nm,0.9s
BPAW Bear Paw Mtn. 73.05 7 *e*P **P 22 53 05.7 -0.4**
comp=Z,13nm,1.5s
BPAW Bear Paw Mtn. 73.05 7 *e*P **P 22 53 05.7 -0.4**
comp=Z,13nm,1.5s
FCC Fort Churchill 73.06 338 *e*P **P 22 53 05.8 -0.4**
FCC Fort Churchill 73.06 338 *e*P **P 22 53 05.8 -0.4**
comp=Z,2.6nm,1.3s
FCC Fort Churchill 73.06 338 *e*P **P 22 53 05.8 -0.4**
KASI Kota Agung 73.06 114 P **P 22 53 07.3 +0.5**
comp=Z,152nm,1.1s,comp=Z,3μm
KDM Kudat 73.12 96 P **P 22 53 07.4 +0.2**
COCO West Island 73.19 125 PFAKE 22 53 20.0 +13
COCO LR LR
comp=Z,2μm,21.0s
TPI Tanjungpandan 73.21 110 P **P 22 53 08.9 +1.2**
comp=Z,60nm,0.9s,comp=Z,1μm
KKM Kota Kinabalu 73.25 97 PFAKE 22 53 20.0 +12
KKM LR LR

comp=Z,4μm,19.0s
KKM Kota Kinabalu 73.25 97 P P 22 53 09.0 +0.9
MCK McKinley 73.57 6⇑eP P 22 53 08.0 -1.2
MCK pmax pmax
comp=Z,76nm,1.2s
MCK McKinley 73.57 6⇑eP P 22 53 08.0 -1.2
comp=Z,76nm,1.2s
MCK McKinley 73.57 6 eP P 22 53 08.0 -1.2
comp=Z,76nm,1.2s
DAWY Dawson 73.67 1 eP P 22 53 09.5 -0.3
DAWY Dawson 73.67 1 eP P 22 53 09.5 -0.3
YKW3 Yellowknife Ar 73.73 350 eP P 22 53 09.9 -0.2
comp=Z,2.9nm,1.5s
YKW3 Yellowknife Ar 73.73 350 eP P 22 53 09.9 -0.2
comp=Z,2.9nm,1.5s
SHEL Horse Pasture 73.74 229 PFAKE 22 53 20.0 +9.2
SHEL LR LR
comp=Z,1μm,20.0s
TRF Thorofare Moun 73.75 6 eP P 22 53 10.2 -0.2
comp=Z,55nm,1.2s
TRF ePP **PP 22 55 54.3 +0.2**
TRF Thorofare Moun 73.75 6 eP P 22 53 10.2 -0.2
comp=Z,55nm,1.2s
YKA Yellowknife Ar 73.80 350 P P 22 53 10.2 -0.4
YKA Yellowknife Ar 73.80 350 P P 22 53 10.1 -0.4
comp=Z,25nm,1.0s,baz=14,slow=6.4,SNR=20
YKA Yellowknife Ar 73.80 350 P P 22 53 10.1 -0.4
comp=Z,26nm,1.0s
KSD Kokstad 73.90 193 eP P 22 53 10.2 -1.4
KSD AMB AMB 22 53 15.2
comp=Z,126nm,2.1s
STKI Sintang 73.91 105 P P 22 53 13.1 +1.2
PKME Peaks-Kenny Pk 74.00 317 eP P 22 53 12.2 +0.2
comp=Z,53nm,1.2s
PKME LR LR
comp=Z,4μm,20.0s
PKME Peaks-Kenny Pk 74.00 317 eP P 22 53 12.1 +0.2
comp=Z,53nm,1.2s
PPLA Purkeypile 74.12 7 eP P 22 53 12.1 -0.5
comp=Z,108nm,1.3s
PPLA Purkeypile 74.12 7 eP P 22 53 12.1 -0.5
comp=Z,108nm,1.3s
SDKM Sandakan 74.24 97 P P 22 53 14.3 +0.4
HVD Gariep Dam 74.68 196 eP P 22 53 16.3 +0.2
HVD AMB AMB 22 53 22.1
comp=Z,126nm,4.2s
ATTU Attu Island--F 75.50 29 P P 22 53 19.7 -0.9
comp=Z,8μm,20.3s
FX1 Attu Island--F 75.50 29 eP P 22 53 20.4 -0.2
FX1 ePP **PP 22 56 07.9 -1.2**
FX1 Attu Island--F 75.50 29 P P 22 53 19.6 -0.9
comp=Z,68nm,0.9s,baz=346,slow=4.5,SNR=29
FX1 LR LR 23 31 39.2
comp=Z,8μm,20.3s,baz=90,slow=40
FX1 Attu Island--F 75.50 29 eP P 22 53 20.4 -0.2
MYLDM Lahad Datu 75.51 96 P P 22 53 20.0 -1.2
SML Sawmill 75.52 6 eP P 22 53 20.0 -0.6
SML *e* 22 56 08.8
SML pmax pmax
comp=Z,20nm,0.9s
SML Sawmill 75.52 6 eP P 22 53 20.0 -0.6
comp=Z,20nm,0.9s
SML ePP **PP 22 56 08.8 -0.2**
SML Sawmill 75.52 6 eP P 22 53 20.0 -0.6
comp=Z,20nm,0.9s
PMR Palmer 75.68 6 eP P 22 53 20.5 -0.9
PMR *e* 22 56 10.5
PMR pmax pmax
comp=Z,69nm,1.2s
PMR Palmer 75.68 6 eP P 22 53 20.5 -0.9
comp=Z,69nm,1.2s
PMR ePP **PP 22 56 10.5 +0.2**
PMR Palmer 75.68 6 eP P 22 53 20.5 -0.9
comp=Z,69nm,1.2s
LBNH Lisbon 76.04 318 eP P 22 53 23.6 -0.2
LBNH *e* 22 53 35.9
LBNH pmax pmax
comp=Z,27nm,1.0s
LBNH MLR MLR
comp=Z,3μm,20.0s
LBNH Lisbon 76.04 318 eP P 22 53 23.6 -0.2
comp=Z,27nm,1.0s
LBNH ePcP **PcP 22 53 35.9 -0.2**
LBNH LR LR
comp=Z,3μm,20.0s
LBNH Lisbon 76.04 318 eP P 22 53 23.6 -0.2
comp=Z,27nm,1.0s
RC01 Rabbit Creek A 76.12 7 eP P 22 53 23.3 -0.7
comp=Z,85nm,1.1s
RC01 ePP **PP 22 56 16.3 +2.3**
RC01 Rabbit Creek A 76.12 7 eP P 22 53 23.3 -0.7
comp=Z,85nm,1.1s
DIV Divide 76.37 5 eP P 22 53 25.5 0.0
comp=Z,134nm,1.1s
DIV Divide 76.37 5 eP P 22 53 25.5 0.0
comp=Z,134nm,1.1s
FRNY Flat Rock 76.42 319 eP P 22 53 25.6 -0.3
comp=Z,38nm,1.4s
FRNY ePcP **PcP 22 53 38.2 +0.5**
FRNY Flat Rock 76.42 319 eP P 22 53 25.6 -0.3
comp=Z,38nm,1.4s
RSO Redoubt South 76.46 8 eP P 22 53 25.4 -0.7
comp=Z,127nm,1.1s
RSO Redoubt South 76.46 8 eP P 22 53 25.4 -0.7
comp=Z,127nm,1.1s
FFD Franklin Falls 76.47 317 eP P 22 53 26.0 -0.2
comp=Z,14nm,0.3s
FFD Franklin Falls 76.47 317 eP P 22 53 26.0 -0.2
comp=Z,14nm,0.3s
BMRM Bremner River 76.59 4 eP P 22 53 26.3 -0.4
comp=Z,40nm,1.0s
BMRM Bremner River 76.59 4 eP P 22 53 26.3 -0.4
comp=Z,40nm,1.0s
HNH Hanover 76.61 318 eP P 22 53 27.5 +0.5
comp=Z,110nm,1.3s
HNH Hanover 76.61 318 eP P 22 53 27.5 +0.5
comp=Z,110nm,1.3s
SOE Somerset East 76.71 195 eP P 22 53 27.6 +0.1
SOE AMB AMB 22 53 33.5
comp=Z,213nm,2.0s
HYT Haines Junctio 76.94 0 eP P 22 53 29.0 +0.2
HYT Haines Junctio 76.94 0 eP P 22 53 29.0 +0.2
LONY Lake Ozonia 77.05 320 eP P 22 53 29.2 -0.4
comp=Z,60nm,1.2s
LONY LR LR
comp=Z,3μm,20.0s
LONY Lake Ozonia 77.05 320 eP P 22 53 29.2 -0.4
comp=Z,60nm,1.2s
NCB Newcomb 77.36 319 eP P 22 53 31.4 +0.1
comp=Z,11nm,1.2s
NCB LR LR
comp=Z,5μm,19.0s
NCB Newcomb 77.36 319 eP P 22 53 31.4 +0.1
comp=Z,11nm,1.2s
SUR Sutherland 77.44 199 PFAKE 22 53 40.0 +8.1
SUR LR LR
comp=Z,7μm,21.0s
ACCN Adirondack Com 77.53 318 eP P 22 53 32.1 -0.1
comp=Z,92nm,1.5s
ACCN Adirondack Com 77.53 318 eP P 22 53 32.1 -0.1
comp=Z,92nm,1.5s
BRYW Bryant College 77.53 316 eP P 22 53 33.2 +0.9
comp=Z,29nm,1.0s
BRYW Bryant College 77.53 316 eP P 22 53 33.2 +0.9
comp=Z,29nm,1.0s
QUA2 Belchertown 77.69 317 eP P 22 53 33.0 -0.1
comp=Z,196nm,1.6s
QUA2 Belchertown 77.69 317 eP P 22 53 33.0 -0.1
comp=Z,196nm,1.6s
CBIJ Chichi jima 78.14 64 LR LR 23 31 29.5
comp=Z,16μm,18.4s,baz=305,slow=38
SKAG Skagway 78.31 359 eP P 22 53 35.6 -0.6
comp=Z,28nm,1.0s
SKAG Skagway 78.31 359 eP P 22 53 35.7 -0.6
comp=Z,28nm,1.0s
CTBH Cotabato--PC H 78.38 91⇑eP P 22 53 37.6 +0.3
FFC Flin Flon 78.67 340 P P 22 53 38.0 -0.4
comp=Z,254nm,1.0s,SNR=7.7
FFC Flin Flon 78.67 340 eP P 22 53 39.1 +0.7
FFC pmax pmax
comp=Z,96nm,1.0s
FFC MLR MLR
comp=Z,3μm,19.0s
FFC Flin Flon 78.67 340 eP P 22 53 39.1 +0.7
comp=Z,96nm,1.0s
FFC LR LR
comp=Z,3μm,19.0s
FFC Flin Flon 78.67 340 eP P 22 53 39.1 +0.7
comp=Z,3μm,19.0s
KDAK Kodiak Island 79.10 9 P P 22 53 41.0 +0.4
comp=Z,486nm,1.6s,SNR=6.4
KDAK Kodiak Island 79.10 9 eP P 22 53 40.5 -0.1
comp=Z,170nm,1.3s
KDAK LR LR
comp=Z,8μm,21.0s
KDAK Kodiak Island 79.10 9 eP P 22 53 40.5 -0.1
comp=Z,8μm,21.0s
DLBC Dease Lake 79.20 357 eP P 22 53 41.5 +0.2
DLBC Dease Lake 79.20 357 eP P 22 53 41.5 +0.2
DAV Davao City (W) 79.47 90 PFAKE 22 53 50.0 +6.7
DAV LR LR
comp=Z,5μm,19.0s
BINY Binghamton 79.55 319 eP P 22 53 42.9 -0.5
BINY LR LR
comp=Z,5μm,21.0s
BINY Binghamton 79.55 319 eP P 22 53 42.9 -0.5
OHAK Old Harbor 79.57 9 eP P 22 53 43.1 -0.1
comp=Z,208nm,1.3s
OHAK ePcP **PcP 22 53 51.2 +0.2**
OHAK Old Harbor 79.57 9 eP P 22 53 43.1 -0.1
comp=Z,208nm,1.3s
ADK Adak 79.68 24 PFAKE 22 54 00.0 +16
ADK LR LR
comp=Z,6μm,19.0s
BBSR BB Station 80.53 305 PFAKE 22 54 00.0 +11
BBSR LR LR
comp=Z,1μm,19.0s
SIT Sitka 80.72 359 eP P 22 53 49.8 +0.4
SIT pmax pmax
comp=Z,39nm,1.1s
SIT Sitka 80.72 359 eP P 22 53 49.8 +0.4
comp=Z,38nm,1.1s
SIT Sitka 80.72 359 eP P 22 53 49.8 +0.4
comp=Z,39nm,1.1s
WRAK Wrangell Islan 81.30 358 eP P 22 53 53.0 +0.5
comp=Z,89nm,1.1s
WRAK LR LR
comp=Z,5μm,19.0s
WRAK Wrangell Islan 81.30 358 eP P 22 53 53.0 +0.5
comp=Z,89nm,1.1s
EYMN Ely 81.47 331 eP P 22 53 53.5 -0.2
comp=Z,109nm,1.1s
EYMN LR LR
comp=Z,7μm,19.0s
EYMN Ely 81.47 331 eP P 22 53 53.5 -0.2
comp=Z,109nm,1.1s
SSPA Standing Stone 81.66 319 eP P 22 53 54.5 -0.2
comp=Z,129nm,1.8s
SSPA Standing Stone 81.66 319 eP P 22 53 54.5 -0.2
comp=Z,129nm,1.8s
ALLY Alegheny Colle 81.95 321 eP P 22 53 56.0 -0.3
comp=Z,27nm,0.9s
ALLY Alegheny Colle 81.95 321 eP P 22 53 56.0 -0.3
comp=Z,27nm,0.9s
COWI Conover 82.16 329 eP P 22 53 56.7 -0.6
comp=Z,60nm,1.1s
COWI LR LR
comp=Z,6μm,19.0s
COWI Conover 82.16 329 eP P 22 53 56.7 -0.6
comp=Z,60nm,1.1s
CRAG Craig 82.28 358 eP P 22 53 57.8 +0.2
comp=Z,38nm,1.2s
CRAG ePP **PP 22 57 05.5 +0.2**
CRAG Craig 82.28 358 eP P 22 53 57.8 +0.2
comp=Z,38nm,1.2s
EDM Edmonton 82.50 346 eP P 22 53 58.3 -0.7
EDM Edmonton 82.50 346 eP P 22 53 58.3 -0.7
EDM Edmonton 82.50 346 eP P 22 53 58.3 -0.7
AGMN Agassiz Nation 82.65 334 eP P 22 53 59.0 -0.8
comp=Z,59nm,1.2s
AGMN LR LR
comp=Z,8μm,22.0s
AGMN Agassiz Nation 82.65 334 eP P 22 53 59.0 -0.8
comp=Z,59nm,1.2s
A30A Hoffart Farm, 82.85 336 ⇓P P 22 54 00.6 -0.3
baz=82,SNR=16
A29A Manning Farm, 83.15 336 ⇑P P 22 54 01.8 -0.5
baz=83,SNR=42
CBN Corbin 83.28 317 PFAKE 22 54 10.0 +6.8
CBN LR LR
comp=Z,3μm,19.0s
B30A Myrvik Farm, E 83.30 335 ⇑P P 22 54 02.6 -0.5
baz=83,SNR=5.1
KAPI Kappang 83.35 103 P P 22 54 02.8 -1.1
comp=Z,723nm,1.7s,SNR=11
KAPI Kappang 83.35 103 P P 22 54 03.0 -0.9
SNR=25
KAPI Kappang 83.35 103 eP P 22 54 03.0 -0.9
comp=Z,334nm,1.4s
KAPI LR LR
comp=Z,2μm,20.0s
KAPI Kappang 83.35 103 P P 22 54 02.8 -1.1
comp=Z,75nm,1.0s,baz=288,slow=7.1,SNR=22
KAPI Kappang 83.35 103 P P 22 54 03.0 -0.9
SNR=25
MCWV Mont Chateau 83.36 319 eP P 22 54 03.5 -0.2
comp=Z,181nm,1.2s
MCWV LR LR
comp=Z,4μm,20.0s
MCWV Mont Chateau 83.36 319 eP P 22 54 03.5 -0.2
comp=Z,181nm,1.2s
A28A Rude Farm, Bot 83.46 337 ⇑P P 22 54 04.0 -0.1
baz=83
B29A Wagenman Farm, 83.59 336 ⇑P P 22 54 04.4 -0.3
baz=83,SNR=10.0
A27A Ledoux Ranch, 83.70 337 ⇑P P 22 54 04.9 -0.3
baz=83
B28A Dugan Ranch, T 83.91 337 ⇑P P 22 54 06.4 +0.1
baz=84
A26A Wade Farm, Ken 83.98 338 ⇓P P 22 54 06.9 +0.3
baz=84
C30A Mose, Pekin 84.01 335 ⇓P P 22 54 06.4 -0.4
baz=84,SNR=9.0
B27A Peters Farms, 84.20 337 ⇑P P 22 54 07.8 -0.1
baz=84
MDND Maddock 84.22 336 eP P 22 54 07.7 -0.2
MDND Maddock 84.22 336 eP P 22 54 07.7 -0.2
MDND Maddock 84.22 336 ⇑P P 22 54 07.7 -0.2
baz=84
A25A Svangstu Ranch 84.23 339 ⇑P P 22 54 08.0 0.0
baz=84,SNR=8.0
SPMN St. Paul 84.27 331 ⇓P P 22 54 08.0 -0.2
baz=84
ACSO Alum Creek Sta 84.38 322 eP P 22 54 07.7 -1.1
comp=Z,71nm,1.1s
ACSO LR LR
comp=Z,4μm,19.0s
ACSO Alum Creek Sta 84.38 322 eP P 22 54 07.7 -1.1
comp=Z,71nm,1.1s
A24A Westby 84.48 339 ⇑P P 22 54 09.5 +0.3
baz=84,SNR=23
B26A Jensen Ranch, 84.50 338 ⇑P P 22 54 09.6 +0.3
baz=84
C28A Hausauer Farms 84.57 336 ⇓P P 22 54 10.0 +0.3
baz=84,SNR=31
D30A Buchanan 84.62 335 ⇓P P 22 54 09.5 -0.4
baz=84
A23A Redstone 84.68 340 ⇓P P 22 54 10.1 -0.1
baz=84,SNR=6.3
B25A Knox Farm, Ray 84.86 338 ⇓P P 22 54 11.8 +0.6
baz=84,SNR=7.3
C27A Sayler Ranch, 84.90 337 ⇑P P 22 54 10.9 -0.4
baz=84
A22A Carney Farms, 84.91 340 ⇓P P 22 54 11.5 +0.1
baz=84,SNR=26
D29A Pettibone, Tap 84.92 336 ⇓P P 22 54 11.4 0.0
baz=84
DGMT Dagmar 84.95 339 eP P 22 54 11.9 +0.3
comp=Z,155nm,1.3s
DGMT LR LR
comp=Z,9μm,21.0s
DGMT Dagmar 84.95 339 eP P 22 54 11.9 +0.3
comp=Z,155nm,1.3s
DGMT Dagmar 84.95 339 ⇑P P 22 54 11.8 +0.2
baz=84,SNR=6.8
C26A Wahner Farm, P 84.97 338 ⇓P P 22 54 11.9 +0.2
baz=84,SNR=16
D28A Regan 85.10 336 ⇑P P 22 54 12.3 -0.1
baz=85,SNR=8.5
A21A Bergtoll Ranch 85.16 341 ⇓P P 22 54 12.4 -0.3
baz=85,SNR=10
B23A Brockton 85.17 340 ⇓P P 22 54 12.3 -0.4
baz=85
E30A Jud 85.21 335 ⇑P P 22 54 12.5 -0.4
baz=85
JFWS Jewell Farm 85.27 328 eP P 22 54 12.8 -0.5
JFWS pmax pmax
comp=Z,111nm,1.1s
JFWS MLR MLR
comp=Z,7μm,19.0s
JFWS Jewell Farm 85.27 328 eP P 22 54 12.8 -0.5
comp=Z,111nm,1.1s
JFWS LR LR
comp=Z,7μm,19.0s
JFWS Jewell Farm 85.27 328 eP P 22 54 12.8 -0.5
comp=Z,7μm,19.0s
E29A Napoleon 85.38 335 ⇑P P 22 54 13.1 -0.7
baz=85
C25A Freed Ranch, W 85.39 338 ⇑P P 22 54 14.6 +0.8
baz=85,SNR=18
D27A Center 85.45 337 ⇑P P 22 54 14.7 +0.5
baz=85,SNR=9.5
A20A Cobblestone Ra 85.50 342 ⇑P P 22 54 14.4 0.0
baz=85,SNR=7.4
BLA Blacksburg 85.56 318 eP P 22 54 14.2 -0.7
BLA pmax pmax
comp=Z,31nm,1.2s
BLA MLR MLR
comp=Z,3μm,20.0s
BLA Blacksburg 85.56 318 eP P 22 54 14.2 -0.7
comp=Z,31nm,1.2s
BLA LR LR
comp=Z,3μm,20.0s
BLA Blacksburg 85.56 318 eP P 22 54 14.2 -0.7
comp=Z,3μm,20.0s
B22A Reddig Ranch S 85.57 340 ⇑P P 22 54 15.1 +0.4
baz=85,SNR=27
A19A Klindworth Far 85.64 342 ⇓P P 22 54 15.2 +0.1
baz=85,SNR=28
E28A Huff 85.69 336 ⇓P P 22 54 15.4 +0.1
baz=85,SNR=10
B21A Ellsworth Farm 85.71 341 ⇑P P 22 54 15.3 -0.1
baz=85
CNNC Cliffs of the 85.83 315 PFAKE 22 54 30.0 +14
CNNC LR LR
comp=Z,4μm,19.0s
C23A Lambert 85.83 339 ⇓P P 22 54 16.0 0.0
baz=85,SNR=11
C24A Savage 85.88 339 ⇓P P 22 54 16.4 +0.1
baz=85,SNR=7.8
D25A Fairfield 85.92 338 ⇑P P 22 54 17.4 +0.9
baz=86,SNR=24
B20A Solberg Farm, 85.94 341 ⇑P P 22 54 17.0 +0.5
baz=86
C22A Vida 86.06 340 ⇑P P 22 54 17.2 0.0
baz=86,SNR=25
E27A Carson 86.08 337 ⇑P P 22 54 17.3 0.0
baz=86,SNR=5.7
SFIN Scholer Farm 86.08 324 eP P 22 54 16.9 -0.5
SFIN Scholer Farm 86.08 324 eP P 22 54 16.9 -0.5
SFIN Scholer Farm 86.08 324 ⇓P P 22 54 16.3 -1.1
baz=86
F29A Eureka 86.09 335 ⇑P P 22 54 16.5 -0.8
baz=86
RCBR Riachuelo 86.11 259 PFAKE 22 54 30.0 +12
RCBR LR LR
comp=Z,1μm,20.0s
B19A Brinkman Farms 86.14 342 ⇑P P 22 54 17.5 0.0
baz=86,SNR=66
D24A Glendive 86.23 339 ⇓P P 22 54 18.3 +0.3
baz=86,SNR=16
C21A Desert Coulee 86.29 341 ⇑P P 22 54 18.7 +0.4
baz=86,SNR=53
E26A Carlson Angus 86.30 337 ⇑P P 22 54 18.7 +0.3
baz=86,SNR=11
F28A McLaughlin 86.38 336 ⇑P P 22 54 18.7 -0.1
baz=86,SNR=12
D23A Lindsay 86.41 339 ⇓P P 22 54 19.7 +0.7
baz=86,SNR=10
E25A Miller Ranch, 86.54 338 ⇑P P 22 54 20.1 +0.5
baz=86,SNR=6.7
WALA Waterton Lakes 86.59 345 eP P 22 54 19.3 -0.6
comp=Z,2.1nm,1.1s
WALA Waterton Lakes 86.59 345 eP P 22 54 19.3 -0.6
comp=Z,2.1nm,1.1s
C20A Veseth Ranch, 86.61 341 ⇓P P 22 54 20.0 +0.1
baz=86,SNR=56
D22A Cohagen 86.69 340 ⇑P P 22 54 20.8 +0.5
baz=86,SNR=24
F27A Lemmon 86.72 337 ⇑P P 22 54 20.1 -0.3
baz=86,SNR=17
EGMT Eagleton 86.72 342 eP P 22 54 20.3 -0.2
comp=Z,70nm,1.1s
EGMT LR LR
comp=Z,8μm,19.0s
EGMT Eagleton 86.72 342 eP P 22 54 20.3 -0.2
comp=Z,70nm,1.1s
EGMT Eagleton 86.72 342 ⇑P P 22 54 20.2 -0.3
baz=86,SNR=20
E24A Baker 86.74 338 ⇓P P 22 54 20.8 +0.2
baz=86,SNR=10
C19A Slack Wire Ran 86.84 342 ⇓P P 22 54 21.2 +0.2
baz=86,SNR=53
HDIL Hopedale 86.86 326 eP P 22 54 20.9 -0.3
comp=Z,112nm,1.2s
HDIL LR LR
comp=Z,3μm,19.0s
HDIL Hopedale 86.86 326 eP P 22 54 20.9 -0.3
comp=Z,112nm,1.2s
ECSD EROS Data Cent 86.91 332 eP P 22 54 20.8 -0.6
comp=Z,39nm,0.8s
ECSD LR LR
comp=Z,5μm,21.0s
ECSD EROS Data Cent 86.91 332 eP P 22 54 20.8 -0.6
comp=Z,39nm,0.8s
F26A Lodgepole 86.93 337 ⇑P P 22 54 21.4 -0.1
baz=86,SNR=23
D21A La Casta Ranch 86.97 340 ⇓P P 22 54 22.0 +0.3
baz=86,SNR=62
D21A ⇓S **S 23 04 58.2 -1.5**
baz=86
BRSD Miller 87.06 334 eP P 22 54 21.9 -0.2
BRSD Miller 87.06 334 eP P 22 54 21.9 -0.2
BRSD Miller 87.06 334 ⇑P P 22 54 22.0 -0.2
baz=87
E23A Ismay 87.06 339 ⇑P P 22 54 22.3 +0.1
baz=87,SNR=28
F25A Bowman 87.08 338 ⇓P P 22 54 22.1 -0.1
baz=87
G28A Parade 87.11 336 ⇑P P 22 54 22.4 +0.1
baz=87
LAO LASA Array 87.12 340 eP P 22 54 22.5 +0.1
comp=Z,149nm,1.1s
LAO LR LR
comp=Z,6μm,19.0s
LAO LASA Array 87.12 340 eP P 22 54 22.5 +0.1
comp=Z,149nm,1.1s
D20A Manuel Ranch, 87.23 341 ⇓P P 22 54 22.8 -0.1
baz=87,SNR=57
SCIA State Center 87.27 329 eP P 22 54 23.2 +0.1
comp=Z,100nm,0.8s
SCIA LR LR
comp=Z,6μm,19.0s
SCIA State Center 87.27 329 eP P 22 54 23.2 +0.1
comp=Z,100nm,0.8s
E22A Miles City 87.29 339 ⇓P P 22 54 23.6 +0.4
baz=87,SNR=32
D19A Cripps Ranch, 87.33 342 ⇑P P 22 54 23.3 -0.2
baz=87,SNR=37
G26A Maurine 87.41 337 ⇑P P 22 54 23.8 -0.1
baz=87,SNR=55
F24A Ekalaka 87.43 338 ⇓P P 22 54 24.2 +0.2
baz=87,SNR=36
G27A Dupree 87.43 337 ⇑P P 22 54 21.8 -2.1
baz=87,SNR=20
E21A Keefer Ranch, 87.48 340 ⇑P P 22 54 24.5 +0.4
baz=87,SNR=16
H28A Mission Ridge 87.50 335 ⇑P P 22 54 24.1 -0.2
baz=87
WCI Wyandotte Cave 87.50 323 eP P 22 54 23.3 -1.1
WCI pmax pmax
comp=Z,15nm,0.9s
WCI Wyandotte Cave 87.50 323 eP P 22 54 23.3 -1.1
comp=Z,15nm,0.9s
WCI Wyandotte Cave 87.50 323 eP P 22 54 23.3 -1.1
comp=Z,15nm,0.9s
D18A Linhart Farms, 87.52 342 ⇓P P 22 54 24.3 -0.1
baz=87,SNR=18
KMSC Kings Mountain 87.65 318 eP P 22 54 24.8 -0.3
KMSC Kings Mountain 87.65 318 eP P 22 54 24.8 -0.3
KMSC Kings Mountain 87.65 318 ⇑P P 22 54 24.7 -0.3
baz=87
G25A Newell 87.74 337 ⇑P P 22 54 25.1 -0.3

baz=87,SNR=46
D17A Six Diamond Ra 87.76 343 ⇑P P 22 54 25.3 -0.3
baz=87,SNR=41
YBMT Yellow Bay 87.76 345 eP P 22 54 25.3 -0.2
comp=Z,49nm,1.1s
YBMT Yellow Bay 87.76 345 eP P 22 54 25.3 -0.2
comp=Z,49nm,1.1s
E20A Meyer Farm, Mu 87.77 341 ⇓P P 22 54 25.4 -0.1
baz=87,SNR=20
F23A Volborg 87.81 339 ⇓P P 22 54 25.9 +0.1
baz=87,SNR=33
H27A Howes 87.86 336 ⇓P P 22 54 25.6 -0.4
baz=87,SNR=24
OLIL Olney 87.88 324 eP P 22 54 25.8 -0.3
comp=Z,39nm,0.8s
OLIL Olney 87.88 324 eP P 22 54 25.8 -0.3
comp=Z,39nm,0.8s
G24A Alzada 87.90 338 ⇑P P 22 54 25.8 -0.4
baz=88,SNR=16
NEW Newport 87.93 347⇑eP P 22 54 26.3 +0.1
comp=Z,184nm,1.1s
NEW PP PP 22 57 50.7 -0.7
NEW Newport 87.93 347 LR LR 23 34 23.9
comp=Z,7μm,21.0s,baz=15,slow=36
NEW Newport 87.93 347 eP P 22 54 26.3 +0.1
comp=Z,184nm,1.1s
NEW Newport 87.93 347 ⇑P P 22 54 26.4 +0.2
baz=88
E19A Rath Farm, Rou 87.97 341 ⇓P P 22 54 26.7 +0.2
baz=88,SNR=43
F22A Rosebud 87.98 339 ⇑P P 22 54 26.8 +0.3
baz=88,SNR=36
H26A Fairpoint 88.08 337 ⇑P P 22 54 26.9 -0.2
baz=88,SNR=20
E18A Harlowton 88.14 342 ⇓P P 22 54 27.4 0.0
baz=88,SNR=36
I28A Midland 88.16 335 ⇑P P 22 54 27.1 -0.3
baz=88
F21A Absaloka Mine, 88.16 340 ⇑P P 22 54 27.3 -0.1
baz=88
G23A Biddle 88.28 339 ⇓P P 22 54 28.1 +0.1
baz=88,SNR=24
H25A Fruitdale 88.32 337 ⇓P P 22 54 28.2 0.0
baz=88,SNR=38
USIN University of 88.33 323 eP P 22 54 27.2 -1.1
comp=Z,55nm,0.8s
USIN University of 88.33 323 eP P 22 54 27.2 -1.1
comp=Z,55nm,0.8s
I27A Quinn 88.37 336 ⇑P P 22 54 28.2 -0.2
baz=88,SNR=12
HRY Holter Researc 88.42 343 eP P 22 54 28.8 +0.1
comp=Z,106nm,1.2s
HRY Holter Researc 88.42 343 eP P 22 54 28.8 +0.1
comp=Z,106nm,1.2s
TKL Tuckaleechee C 88.43 320 eP P 22 54 28.0 -0.8
TKL Tuckaleechee C 88.43 320 LR LR 23 34 03.5
comp=Z,4μm,21.4s,baz=46,slow=36
TKL Tuckaleechee C 88.43 320 eP P 22 54 28.0 -0.8
F20A Billings 88.44 341 ⇓P P 22 54 29.0 +0.2
baz=88,SNR=29
H24A Dirks Ranch, A 88.47 338 ⇓P P 22 54 28.2 -0.8
baz=88,SNR=36
G22A Birney 88.51 339 ⇓P P 22 54 29.1 0.0
baz=88,SNR=16
CHMT Chamberlain Mo 88.52 344 P P 22 54 29.1 -0.2
CHMT Chamberlain Mo 88.52 344 P P 22 54 29.1 -0.2
F19A Roth Farm, Mol 88.58 341 ⇑P P 22 54 29.5 +0.1
baz=88,SNR=44
I26A New Underwood 88.64 336 ⇑P P 22 54 29.9 +0.1
baz=88,SNR=18
JCW Jim Creek 88.69 350 P P 22 54 29.1 -0.7
JCW Jim Creek 88.69 350 P P 22 54 29.1 -0.7
J28A Allard Ranch, 88.70 335 ⇑P P 22 54 30.3 +0.3
baz=88
F18A Big Timber 88.72 342 ⇓P P 22 54 30.4 +0.3
baz=88,SNR=34
G21A Lodge Grass 88.74 340 ⇑P P 22 54 30.5 +0.3
baz=88,SNR=17
MSO Missoula 88.74 345 ⇓P P 22 54 30.0 -0.2
baz=88
SLM Saint Louis 88.87 325 eP P 22 54 29.4 -1.4
SLM Saint Louis 88.87 325 eP P 22 54 29.4 -1.4
SLM Saint Louis 88.87 325 eP P 22 54 29.4 -1.4
H23A Clabaugh Cattl 88.88 338 ⇑P P 22 54 30.6 -0.3
baz=88
RSSD Black Hills 88.90 937 eP P 22 54 31.0 -0.1
RSSD pmax pmax
comp=Z,59nm,1.2s
RSSD Black Hills 88.90 937 eP P 22 54 31.0 -0.1
comp=Z,58nm,1.2s
RSSD Black Hills 88.90 937 eP P 22 54 31.0 -0.1
comp=Z,59nm,1.2s
I25A Rochford 88.91 337 ⇓P P 22 54 31.4 +0.2
baz=88,SNR=54
WTV Waterville 88.91 349 P P 22 54 31.1 +0.2
WTV Waterville 88.91 349 P P 22 54 31.1 +0.2
F17A Fitzpatrick Pl 88.93 342 ⇑P P 22 54 31.8 +0.6
baz=88,SNR=77
ANWB Willy Bob 88.95 293 PFAKE 22 54 40.0 +8.5
ANWB LR LR
comp=Z,1μm,20.0s
G20A Bridger 89.00 340 ⇓P P 22 54 31.6 +0.2
baz=89,SNR=36
K29A Lazy Trails An 89.01 334 ⇑P P 22 54 31.5 0.0
baz=89
OD2 Odessa Site #2 89.03 348 P P 22 54 32.0 +0.6
OD2 Odessa Site #2 89.03 348 P P 22 54 32.0 +0.6
J27A Elkhorn Farm, 89.09 336 ⇓P P 22 54 31.9 0.0
baz=89
H22A Clearmont 89.10 339 ⇑P P 22 54 32.1 +0.2
baz=89,SNR=11
GUMO Guam 89.13 72 PFAKE 22 54 40.0 +7.7
GUMO LR LR
comp=Z,5μm,19.0s
SIUC Southern Illin 89.21 324 eP P 22 54 31.9 -0.4
comp=Z,48nm,0.9s
SIUC Southern Illin 89.21 324 eP P 22 54 32.0 -0.4
comp=Z,48nm,0.9s
G18A Lazy EL Ranch, 89.23 341 ⇑P P 22 54 32.5 -0.1
baz=89,SNR=8.0
H21A Big Horn, Sher 89.25 339 ⇑P P 22 54 33.0 +0.3
baz=89,SNR=24
I24A Kuemmerle Ranc 89.31 338 ⇓P P 22 54 33.0 +0.1
baz=89,SNR=18
RLMT Red Lodge 89.35 341 PFAKE 22 54 40.0 +6.8
RLMT LR LR
comp=Z,9μm,21.0s
J26A Sides Ranch, S 89.36 336 ⇑P P 22 54 33.4 +0.3
baz=89,SNR=16
K28A Ten Mile Ranch 89.38 335 ⇓P P 22 54 33.5 +0.3
baz=89
BOZ Bozeman (W) 89.39 343 eP P 22 54 33.5 +0.2
BOZ pmax pmax
comp=Z,46nm,1.2s
BOZ MLR MLR
comp=Z,6μm,19.0s
BOZ Bozeman (W) 89.39 343 eP P 22 54 33.5 +0.2
comp=Z,46nm,1.2s
BOZ LR LR
comp=Z,6μm,19.0s
BOZ Bozeman (W) 89.39 343 eP P 22 54 33.5 +0.2
comp=Z,6μm,19.0s
LRM Limekiln Ridge 89.40 343 eP P 22 54 32.6 -0.9
comp=Z,364nm,1.1s
LRM Limekiln Ridge 89.40 343 eP P 22 54 32.6 -0.9
comp=Z,364nm,1.1s
I23A Meade Ranch, G 89.45 338 ⇑P P 22 54 33.4 -0.2
baz=89
BGNE Belgrade 89.49 332 eP P 22 54 32.9 -0.8
BGNE Belgrade 89.49 332 eP P 22 54 32.9 -0.8
BGNE Belgrade 89.49 332 ⇑P P 22 54 33.4 -0.4
baz=89
G17A Pierce Place, 89.50 342 ⇓P P 22 54 34.8 +1.0
baz=89,SNR=12
J25A Sunshine Ranch 89.50 337 ⇓P P 22 54 34.1 +0.2
baz=89,SNR=32
H20A Greybull 89.63 340 ⇑P P 22 54 34.8 +0.4
baz=89,SNR=43
K27A Flueckinger Fa 89.66 335 ⇓P P 22 54 34.5 -0.1
baz=89
L29A Maesberg Ranch 89.69 334 ⇓P P 22 54 34.8 +0.2
baz=89
H19A Powell 89.70 341 ⇑P P 22 54 35.5 +0.8
baz=89,SNR=25
NLWA Neilton Lookou 89.71 351 PFAKE 22 54 50.0 +15
NLWA LR LR
comp=Z,5μm,20.0s
I22A 9 Mile Ranch, 89.79 339 ⇑P P 22 54 35.4 +0.2
baz=89,SNR=28
J24A Dixon Ranch, L 89.81 337 ⇑P P 22 54 35.6 +0.3
baz=89,SNR=11
H18A Shoshone NF, C 89.86 341 ⇑P P 22 54 35.8 +0.1
baz=89,SNR=43
K26A Motz Farm, Whi 89.95 336 ⇓P P 22 54 35.9 0.0
baz=90,SNR=13
M30A Dale-Ortello V 89.96 333 ⇓P P 22 54 35.9 -0.1
baz=90
J23A Dilts Ranch, B 89.99 338 ⇓P P 22 54 35.8 -0.3
baz=90
YNR Norris Junctio 90.06 342 eP P 22 54 36.9 +0.3
comp=Z,62nm,1.3s
YNR Norris Junctio 90.06 342 eP P 22 54 36.9 +0.3
comp=Z,62nm,1.3s
L28A Connealy Angus 90.07 335 ⇑P P 22 54 36.4 -0.1
baz=90
I21A Big Trails, Te 90.08 339 ⇑P P 22 54 36.2 -0.4
baz=90,SNR=58
LON Longmire 90.09 350 eP P 22 54 35.4 -1.1
LON pmax pmax
comp=Z,21nm,1.1s
LON Longmire 90.09 350 eP P 22 54 35.4 -1.1
comp=Z,21nm,1.1s
LON Longmire 90.09 350 eP P 22 54 35.4 -1.1
comp=Z,21nm,1.1s
HAWA Hanford 90.13 348 eP P 22 54 37.0 +0.4
comp=Z,68nm,1.1s
HAWA LR LR
comp=Z,10μm,21.0s
HAWA Hanford 90.13 348 eP P 22 54 37.0 +0.4
comp=Z,68nm,1.1s
LKWY Lake 90.14 342 PFAKE 22 54 50.0 +13
LKWY LR LR
comp=Z,13μm,21.0s
I20A Worland 90.17 340 ⇑P P 22 54 37.2 +0.3
baz=90,SNR=43
YMR Madison River 90.17 342 eP P 22 54 37.2 +0.1
comp=Z,70nm,1.2s
YMR Madison River 90.17 342 eP P 22 54 37.2 +0.1
comp=Z,70nm,1.2s
J22A Midwest 90.23 339 ⇓P P 22 54 36.8 -0.5
baz=90,SNR=51
K25A Mack Ranch, Ha 90.24 337 ⇓P P 22 54 37.5 +0.2
baz=90,SNR=22
L27A T5 Ranch, Ells 90.25 335 ⇑P P 22 54 37.0 -0.4
baz=90
I19A Meeteetse 90.30 341 ⇓P P 22 54 38.0 +0.3
baz=90,SNR=22
M29A Burnside Ranch 90.31 334 ⇑P P 22 54 36.9 -0.7
baz=90
H17A Grant Village 90.34 342 eP P 22 54 38.8 +0.9
H17A Grant Village 90.34 342 eP P 22 54 38.8 +0.9
H17A Grant Village 90.34 342 ⇓P P 22 54 39.4 +1.5
baz=90,SNR=12
YFT Old Faithful 90.35 342 eP P 22 54 38.8 +0.8
comp=Z,125nm,1.1s
YFT Old Faithful 90.35 342 eP P 22 54 38.8 +0.8
comp=Z,125nm,1.1s
TRW Toppenish Ridg 90.37 349 P P 22 54 38.4 +0.6
TRW Toppenish Ridg 90.37 349 P P 22 54 38.4 +0.6
K24A Anderson Ranch 90.41 337 ⇓P P 22 54 38.0 -0.1
baz=90,SNR=14
L26A Underwood Farm 90.53 336 ⇓P P 22 54 38.6 0.0
baz=90
BBGH Gun Hill 90.55 288 PFAKE 22 54 50.0 +11
BBGH LR LR
comp=Z,2μm,21.0s
J21A Lysite 90.55 339 ⇓P P 22 54 38.5 -0.3
baz=90,SNR=28
M28A Bar X Bar Ranc 90.58 334 ⇑P P 22 54 38.7 -0.1
baz=90
K23A Bowen Ranch, D 90.61 338 ⇑P P 22 54 38.0 -1.1
baz=90,SNR=9.9
ASR Mount Adams--S 90.65 350 P P 22 54 39.8 +0.6
ASR Mount Adams--S 90.65 350 P P 22 54 39.8 +0.6
FLWY Flagg Ranch 90.67 342 eP P 22 54 40.1 +0.7
comp=Z,146nm,1.4s
FLWY Flagg Ranch 90.67 342 eP P 22 54 40.1 +0.7
comp=Z,146nm,1.4s
L25A Engebretsen Ra 90.68 336 ⇑P P 22 54 39.3 -0.1
baz=90,SNR=6.9
N30A Hueftle Ranch, 90.70 333 ⇑P P 22 54 38.6 -0.8
baz=90
FL2 Flat Top 2 90.71 350 P P 22 54 39.5 +0.1
FL2 Flat Top 2 90.71 350 P P 22 54 39.5 +0.1
J20A Shoshoni 90.71 340 ⇑P P 22 54 40.1 +0.6
baz=90,SNR=50
M27A Reverse DX Ran 90.78 335 ⇑P P 22 54 40.2 +0.4
baz=90,SNR=8.1
I17A Pilgrim Ck. 90.79 342 ⇓P P 22 54 40.6 +0.6
baz=90
I18A Diamond G Ranc 90.82 341 ⇓P P 22 54 41.0 +0.8
baz=90,SNR=10
N29A Votaw Ranch, W 90.86 334 ⇑P P 22 54 39.8 -0.3
baz=90
IMW Indian Meadow 90.90 342 eP P 22 54 41.2 +0.6
comp=Z,54nm,1.3s
IMW ePP PP 22 58 15.6 +0.2
IMW Indian Meadow 90.90 342 eP P 22 54 41.2 +0.6
comp=Z,54nm,1.3s
K22A Casper 90.95 338 ⇓P P 22 54 39.8 -0.9
baz=90,SNR=34
KSU1 Kansas State U 90.98 330 eP P 22 54 39.6 -1.1
comp=Z,38nm,0.8s
KSU1 LR LR
comp=Z,10μm,19.0s
KSU1 Kansas State U 90.98 330 eP P 22 54 39.6 -1.1
comp=Z,38nm,0.8s
MOOW Moose Ponds 90.99 342 eP P 22 54 41.1 +0.2
comp=Z,59nm,1.2s
MOOW ePP PP 22 58 17.2 +1.1
MOOW Moose Ponds 90.99 342 eP P 22 54 41.1 +0.2
comp=Z,59nm,1.2s
J19A Crowheart 91.04 340 ⇓P P 22 54 41.4 +0.3
baz=91,SNR=39
I16A Newdale 91.04 342 ⇓P P 22 54 42.4 +1.3
baz=91
M26A McRoberts Ranc 91.07 336 ⇓P P 22 54 41.3 +0.1
baz=91
L24A Wheatland 91.07 337 ⇓P P 22 54 41.2 0.0
baz=91,SNR=6.2
LOHW Long Hollow 91.09 341 eP P 22 54 42.3 +0.9
comp=Z,62nm,1.3s
LOHW ePP PP 22 58 16.7 -0.2
LOHW Long Hollow 91.09 341 eP P 22 54 42.3 +0.9
comp=Z,62nm,1.3s
K21A Alcova 91.17 339 ⇓P P 22 54 40.8 -0.9
baz=91,SNR=18
OGNE Ogallala 91.19 335 eP P 22 54 42.0 +0.2
OGNE LR LR
comp=Z,7μm,22.0s
OGNE Ogallala 91.19 335 eP P 22 54 42.0 +0.2
OGNE Ogallala 91.19 335 ⇓P P 22 54 41.6 -0.1
baz=91
L23A Garrett 91.22 338 ⇑P P 22 54 41.2 -0.8
baz=91,SNR=31
O30A MW Ranch, Wils 91.24 333 ⇓P P 22 54 41.0 -0.9
baz=91
SNOW Snow King Moun 91.27 342 eP P 22 54 43.0 +0.8
comp=Z,87nm,1.2s
SNOW Snow King Moun 91.27 342 eP P 22 54 43.0 +0.8
comp=Z,87nm,1.2s
BMO Blue Mountains 91.27 346 eP P 22 54 37.9 -4.1
comp=Z,31nm,1.3s
BMO LR LR
comp=Z,8μm,19.0s
TPAW Teton Pass 91.28 342 eP P 22 54 42.9 +0.5
comp=Z,89nm,1.2s
TPAW Teton Pass 91.28 342 eP P 22 54 42.9 +0.5
comp=Z,89nm,1.2s
M25A Palm-Egli Farm 91.37 336 ⇓P P 22 54 42.1 -0.5
baz=91
REDW Red Top Meadow 91.38 342 eP P 22 54 43.3 +0.6
comp=Z,108nm,1.2s
REDW ePP PP 22 58 19.5 +0.2
REDW Red Top Meadow 91.38 342 eP P 22 54 43.3 +0.6
comp=Z,108nm,1.2s
K19A Absolon Red Bu 91.40 340 ⇓P P 22 54 42.0 -0.8
baz=91,SNR=21
K20A Yellowstone Ra 91.43 340 ⇑P P 22 54 42.6 -0.3
baz=91,SNR=23
N27A Anderson Farm, 91.48 335 ⇑P P 22 54 43.1 0.0
baz=91,SNR=9.7
L22A Ellis Ranch, M 91.50 338 ⇑P P 22 54 43.6 +0.3
baz=91,SNR=14
RRI2 Red Ridge 91.50 342 eP P 22 54 43.7 +0.3
comp=Z,36nm,1.3s
RRI2 ePP PP 22 58 20.4 +0.2
RRI2 Red Ridge 91.50 342 eP P 22 54 43.7 +0.3
comp=Z,36nm,1.3s
O29A 4D Ranch, Culb 91.54 333 ⇑P P 22 54 42.7 -0.6
baz=91
SJG San Juan 91.57 296 PFAKE 22 54 50.0 +6.3
SJG LR LR
comp=Z,1μm,20.0s
M24A Cheyenne 91.57 337 ⇓P P 22 54 43.4 -0.2
baz=91,SNR=13
P31A Stockton 91.60 332 ⇓P P 22 54 43.0 -0.5
baz=91
BW06 Boulder Array 91.63 340 eP P 22 54 43.2 -0.7
comp=Z,21nm,1.2s
BW06 ePP PP 22 58 20.8 -0.5
BW06 LR LR
comp=Z,8μm,19.0s
BW06 Boulder Array 91.63 340 eP P 22 54 43.2 -0.7
comp=Z,21nm,1.2s
PDAR Pinedale Array 91.63 340 P P 22 54 43.0 -0.9
PDAR PP PP 22 58 21.4 +0.2
PDAR PKKPbc PKKPbc 23 12 00.5 -1.7
PDAR Pinedale Array 91.63 340 P P 22 54 43.0 -0.9
comp=Z,11nm,1.1s,baz=29,slow=3.4,SNR=36
PDAR PP PP 22 58 21.4 +0.2
comp=Z,6.8nm,1.2s,baz=28,slow=6.7,SNR=4.7
PDAR PKKPbc PKKPbc 23 12 00.5 -1.7
comp=Z,1.0nm,1.0s,baz=145,slow=5.4,SNR=4.9
PDAR LR LR 23 37 26.4
comp=Z,6μm,18.6s,baz=19,slow=37
PDAR Pinedale Array 91.63 340 P P 22 54 43.0 -0.9
PDAR Pinedale Array 91.63 340 PP PP 22 58 21.4 +0.1
N26A Koester Ranch, 91.67 335 ⇓P P 22 54 43.9 -0.1
baz=91
TIGA Tifton 91.74 317 eP P 22 54 44.8 +0.5
TIGA Tifton 91.74 317 eP P 22 54 44.8 +0.5
TIGA Tifton 91.74 317 ⇑P P 22 54 43.8 -0.5
baz=91
L21A Rawlins 91.82 339 ⇓P P 22 54 44.2 -0.6
baz=91,SNR=32
M23A Laramie 91.83 337 ⇓P P 22 54 44.7 -0.1
baz=91,SNR=25
P30A Selden 91.88 333 ⇑P P 22 54 43.3 -1.6
baz=92
N25A Grover 91.95 336 ⇑P P 22 54 45.7 +0.4
baz=92,SNR=12
HLID Hailey 91.97 344 PFAKE 22 55 00.0 +15
HLID LR LR
comp=Z,6μm,19.0s
HLID Hailey 91.97 344 ⇑P P 22 54 45.4 0.0
baz=92
OXF Oxford 91.98 323 PFAKE 22 55 00.0 +15
OXF LR LR
comp=Z,5μm,21.0s
AHID Auburn Hatcher 92.01 342 eP P 22 54 46.2 +0.6
comp=Z,46nm,1.1s
AHID LR LR
comp=Z,7μm,20.0s
AHID Auburn Hatcher 92.01 342 eP P 22 54 46.2 +0.6
comp=Z,46nm,1.1s
O27A Beecher Island 92.02 335 ⇓P P 22 54 45.5 -0.2
baz=92
RWWY Rawlins 92.03 338 eP P 22 54 45.2 -0.6
comp=Z,56nm,1.1s
RWWY Rawlins 92.03 338 eP P 22 54 45.2 -0.6
comp=Z,56nm,1.1s
L20A Wamsutter 92.04 339 ⇓P P 22 54 45.2 -0.6
baz=92,SNR=8.0
P29A Atwood 92.05 333 ⇑P P 22 54 44.3 -1.5
baz=92
Q31A Ellis 92.07 332 ⇓P P 22 54 44.8 -0.9
baz=92
LRAL Lakeview Retre 92.10 320 PFAKE 22 55 00.0 +14
LRAL LR LR
comp=Z,5μm,20.0s
M22A Cedar Creek Ra 92.13 338 ⇑P P 22 54 45.9 -0.4
baz=92
M21A Separation Pea 92.15 339 ⇑P P 22 54 46.0 -0.4
baz=92,SNR=23
N24A Carr 92.17 337 ⇓P P 22 54 46.2 -0.1
baz=92
L19A Farson 92.21 340 ⇓P P 22 54 46.2 -0.4
baz=92,SNR=10
O26A Horse Wrangler 92.24 335 ⇓P P 22 54 46.1 -0.6
baz=92
GRTK Grand Turk 92.31 302 PFAKE 22 55 00.0 +13
GRTK LR LR
comp=Z,2μm,19.0s
P28A Saint Francis 92.35 334 ⇓P P 22 54 46.5 -0.6
baz=92
Q30A Quinter 92.38 332 ⇓P P 22 54 46.1 -1.1
baz=92
MFID Camas Ranch 92.39 345 ⇑P P 22 54 47.5 +0.2
baz=92
N23A Red Feather La 92.42 337 ⇑P P 22 54 47.6 0.0
baz=92,SNR=46
M20A Sweetwater, Wa 92.48 339 ⇓P P 22 54 47.6 -0.2
baz=92,SNR=18
L18A Fontenelle, Gr 92.55 341 ⇓P P 22 54 47.9 -0.3
baz=92,SNR=10.0
O25A Wiggins 92.60 336 ⇓P P 22 54 48.1 -0.2
baz=92
P27A Ficken Ranch, 92.63 334 ⇓P P 22 54 47.9 -0.6
baz=92
N22A Wattenberg Ran 92.65 338 ⇓P P 22 54 48.4 -0.3
baz=92,SNR=16
Q29A Oakley 92.71 333 ⇓P P 22 54 47.4 -1.4
baz=92
M19A Rock Springs 92.72 340 ⇑P P 22 54 48.5 -0.5
baz=92
R31A Burdett 92.75 332 ⇑P P 22 54 48.1 -0.8
baz=92
Q28A Sharon Springs 92.84 334 ⇑P P 22 54 49.0 -0.4
baz=92
P26A Davis Ranch, A 92.87 335 ⇑P P 22 54 49.0 -0.6
baz=92
O24A Longmont 92.88 336 ⇑P P 22 54 49.4 -0.3
baz=92,SNR=12
N21A Black Mountain 92.98 338 ⇑P P 22 54 49.5 -0.8
baz=93,SNR=29
R30A Dighton 93.02 332 ⇓P P 22 54 49.6 -0.6
baz=93
O23A Lake Granby, G 93.05 337 ⇑P P 22 54 50.6 0.0
baz=93,SNR=18
N20A Spence Gulch, 93.12 339 ⇑P P 22 54 50.4 -0.4
baz=93,SNR=28
M17A Scullys Gap (B 93.13 341 ⇑P P 22 54 50.2 -0.6
baz=93
KSCO Kaye Shedlock' 93.14 334 ⇑P P 22 54 50.1 -0.7
baz=93
P25A Willow Gulch B 93.17 335 ⇑P P 22 54 51.1 +0.1
baz=93,SNR=6.8
R29A Marienthal 93.18 333 ⇑P P 22 54 50.2 -0.7
baz=93
HWUT Hardware Ranch 93.21 342 eP P 22 54 50.7 -0.5
comp=Z,56nm,1.5s
HWUT LR LR
comp=Z,7μm,21.0s
HWUT Hardware Ranch 93.21 342 eP P 22 54 50.7 -0.5
comp=Z,56nm,1.5s
O22A Kremmling 93.27 337 ⇑P P 22 54 51.4 -0.2
baz=93,SNR=52
S31A Mullinville 93.33 331 ⇑P P 22 54 50.6 -1.1
baz=93
ISCO Idaho Springs 93.34 337 eP P 22 54 50.8 -1.2
ISCO pmax pmax
comp=Z,21nm,1.1s
ISCO MLR MLR
comp=Z,5μm,22.0s
ISCO Idaho Springs 93.34 337 eP P 22 54 50.8 -1.2
comp=Z,21nm,1.1s
ISCO LR LR
comp=Z,5μm,22.0s
ISCO Idaho Springs 93.34 337 eP P 22 54 50.8 -1.2
comp=Z,5μm,22.0s
ISCO Idaho Springs 93.34 337 ⇓P P 22 54 51.4 -0.6
baz=93,SNR=22
P24A Kohler Place, 93.39 336 ⇑P P 22 54 51.6 -0.4
baz=93
TUL1 Tulsa 93.47 328 eP P 22 54 51.7 -0.5
TUL1 Tulsa 93.47 328 eP P 22 54 51.7 -0.5
TUL1 Tulsa 93.47 328 ⇑P P 22 54 51.1 -1.1
baz=93
O21A Pagoda 93.48 338 ⇓P P 22 54 51.9 -0.7
baz=93

R28A	Tribune	93.48	333	⇓P	P	22 54 51.2	-1.2
	baz=93						
Q26A	Hugo	93.51	335	⇓P	P	22 54 52.0	-0.5
	baz=93						
S30A	Montezuma	93.66	332	⇑P	P	22 54 52.7	-0.5
	baz=93						
Q25A	Bedland, Calha	93.74	335	⇑P	P	22 54 53.1	-0.6
	baz=93,SNR=7.9						
MIAR	Mount Ida	93.75	326	eP	P	22 54 52.8	-0.8
MIAR				pmax	pmax		
MIAR	comp=Z,29nm,1.1s			MLR	MLR		
MIAR	Mount Ida	93.75	326	eP	P	22 54 52.8	-0.8
	comp=Z,29nm,1.1s						
MIAR				LR	LR		
MIAR	comp=Z,5µm,19.0s						
MIAR	Mount Ida	93.75	326	eP	P	22 54 52.8	-0.8
	comp=Z,5µm,19.0s						
O20A	White River Ci	93.76	339	⇑P	P	22 54 53.7	-0.1
	baz=93,SNR=11						
P23A	Jefferson	93.80	337	⇓P	P	22 54 53.8	-0.3
	baz=93,SNR=16						
BRAL	Brewton	93.80	319	PFAKE		22 55 00.0	+6.2
BRAL				LR	LR		
	comp=Z,3µm,20.0s						
WVOR	Wild Horse Val	93.84	347	eP	P	22 54 54.3	+0.3
WVOR				pmax	pmax		
WVOR	comp=Z,28nm,1.1s			MLR	MLR		
	comp=Z,7µm,19.0s						
WVOR	Wild Horse Val	93.84	347	eP	P	22 54 54.3	+0.3
	comp=Z,28nm,1.1s						
WVOR				LR	LR		
	comp=Z,7µm,19.0s						
WVOR	Wild Horse Val	93.84	347	eP	P	22 54 54.3	+0.3
	comp=Z,7µm,19.0s						
O19A	Miners Draw (B	93.84	339	⇑P	P	22 54 53.8	-0.3
	baz=93						
P22A	Eagle	93.86	337	⇑P	P	22 54 54.1	-0.1
	baz=93,SNR=16						
R27A	Eads	93.86	334	⇓P	P	22 54 53.5	-0.6
	baz=93						
T31A	Randall Ranch,	93.87	331	⇑P	P	22 54 53.3	-0.8
	baz=94						
S29A	Ulysses	93.90	333	⇑P	P	22 54 53.9	-0.4
	baz=94						
Q24A	Divide	93.97	336	⇓P	P	22 54 54.3	-0.6
	baz=94,SNR=11						
R26A	Arlington	94.05	334	⇓P	P	22 54 54.6	-0.5
	baz=94,SNR=9.1						
P21A	Newcastle	94.12	338	⇑P	P	22 54 54.9	-0.5
	baz=94,SNR=28						
JLU	Jordanelle	94.14	341	eP	P	22 54 54.5	-1.1
	comp=Z,39nm,1.5s						
JLU	Jordanelle	94.14	341	eP	P	22 54 54.5	-1.1
	comp=Z,39nm,1.5s						
TRIS	Tristan da Cun	94.15	222	PFAKE		22 55 10.0	+15
TRIS				LR	LR		
	comp=Z,2µm,19.0s						
S28A	Manter	94.19	333	⇑P	P	22 54 54.9	-0.8
	baz=94,SNR=7.5						
T30A	Plains	94.21	332	⇑P	P	22 54 55.0	-0.7
	baz=94						
Q23A	Hartsel	94.23	336	⇑P	P	22 54 55.0	-1.1
	baz=94,SNR=6.0						
SDDR	Presa de Saban	94.27	300	eP	P	22 54 56.9	+0.7
	comp=Z,25nm,0.9s						
SDDR				LR	LR		
	comp=Z,3µm,20.0s						
SDDR	Presa de Saban	94.27	300	eP	P	22 54 56.9	+0.7
	comp=Z,25nm,0.9s						
HUMO	Hull Mountain	94.31	350	eP	P	22 54 56.5	+0.5
	comp=Z,45nm,1.3s						
HUMO	Hull Mountain	94.31	350	eP	P	22 54 56.5	+0.5
	comp=Z,45nm,1.3s						
T29A	Hugoton	94.38	332	⇑P	P	22 54 55.7	-0.8
	baz=94						
P20A	De Beque	94.40	339	⇓P	P	22 54 56.3	-0.3
	baz=94,SNR=8.5						
VBMS	Vicksburg	94.41	322	PFAKE		22 55 10.0	+13
VBMS				LR	LR		
	comp=Z,2µm,20.0s						
P19A	Cripple Cowboy	94.43	339	⇑P	P	22 54 57.0	+0.1
	baz=94,SNR=29						
S27A	Las Animas	94.44	334	⇓P	P	22 54 56.7	-0.1
	baz=94						
R25A	Fountain Ranch	94.46	335	⇑P	P	22 54 56.0	-0.9
	baz=94,SNR=11						
MBWA	Marble Bar	94.50	115	PFAKE		22 55 10.0	+13
MBWA				LR	LR		
	comp=Z,2µm,22.0s						
Q22A	Crested Butte,	94.58	337	⇑P	P	22 54 57.4	-0.3
	baz=94,SNR=28						
U31A	Nine Bar Ranch	94.58	331	⇓P	P	22 54 56.6	-0.8
	baz=94						
R24A	Sanders Place,	94.63	336	⇑P	P	22 54 57.7	-0.1
	baz=94						
T28A	Walsh	94.69	333	⇑P	P	22 54 57.5	-0.4
	baz=94,SNR=7.7						
U30A	WK&E Inc. Balk	94.72	332	⇑P	P	22 54 57.8	-0.3
	baz=94						
Q21A	Lamborn Mesa,	94.80	338	⇓P	P	22 54 58.4	-0.1
	baz=94,SNR=17						
ELK	Elko	94.84	344	eP	P	22 54 59.1	+0.3
	comp=Z,23nm,0.4s						
ELK	Elko	94.84	344	eP	P	22 54 59.1	+0.3
	comp=Z,23nm,0.4s						
DUG	Dugway	94.84	342	PFAKE		22 55 10.0	+11
DUG				LR	LR		
	comp=Z,5µm,21.0s						
DUG	Dugway	94.84	342	⇓P	P	22 54 59.4	+0.8
	baz=94						
Q20A	Ridgley Place,	94.88	338	⇑P	P	22 54 58.3	-0.6
	baz=94,SNR=25						
R23A	Moffat	94.89	336	⇓P	P	22 54 58.6	-0.5
	baz=94,SNR=21						
T27A	Campo	94.95	333	⇑P	P	22 54 58.8	-0.4
	baz=94						
S25A	Robets Cordova	94.95	335	⇑P	P	22 54 58.8	-0.5
	baz=94,SNR=6.6						
U29A	Oasis Ranch, S	95.01	332	⇓P	P	22 54 59.1	-0.3
	baz=95						
V31A	Spring Creek L	95.11	331	⇓P	P	22 54 59.4	-0.5
	baz=95						
R22A	Saguache, Gunn	95.12	337	⇑P	P	22 55 00.4	+0.2
	baz=95,SNR=10						
T26A	Comanche Natio	95.13	334	⇑P	P	22 54 59.7	-0.3
	baz=95,SNR=9.4						
YBH	Yreka Blue Hor	95.14	350	LR	LR	23 39 01.6	
	comp=Z,7µm,20.7s,baz=10,slow=36						
SDCO	Great Sand Dun	95.20	336	PFAKE		22 55 10.0	+9.5
SDCO				LR	LR		
	comp=Z,8µm,20.0s						
S24A	Houchin Ranch,	95.21	336	⇑P	P	22 54 59.9	-0.6
	baz=95,SNR=5.2						
S23A	Nye Farm, Mont	95.39	336	⇓P	P	22 55 01.0	-0.3
	baz=95						
U28A	Mallet	95.40	333	⇑P	P	22 55 00.6	-0.6
	baz=95						
T25A	Trinidad	95.42	335	⇓P	P	22 55 00.6	-0.9
	baz=95						
V30A	Spur Ranch, Mi	95.43	331	⇓P	P	22 55 00.7	-0.7
	baz=95						
BMN	Battle Mountai	95.53	345	PFAKE		22 55 10.0	+8.2
BMN				LR	LR		
	comp=Z,5µm,19.0s						
U27A	Thompson Grove	95.56	333	⇑P	P	22 55 01.7	-0.2
	baz=95						
S22A	4UR Ranch, Cre	95.59	337	⇑P	P	22 55 02.1	-0.3
	baz=95,SNR=21						
V29A	Stinnett	95.62	332	⇓P	P	22 55 02.4	+0.2
	baz=95						
R20A	Redvale	95.62	338	⇑P	P	22 55 02.4	+0.1
	baz=95,SNR=32						
WMOK	Wichita Mounta	95.65	330	eP	P	22 55 00.9	-1.4
WMOK				pmax	pmax		
WMOK	comp=Z,28nm,0.9s			MLR	MLR		
	comp=Z,9µm,19.0s						
WMOK	Wichita Mounta	95.65	330	eP	P	22 55 00.9	-1.4
	comp=Z,28nm,0.9s						
WMOK				LR	LR		
	comp=Z,9µm,19.0s						
WMOK	Wichita Mounta	95.65	330	eP	P	22 55 00.9	-1.4
	comp=Z,9µm,19.0s						
Q16A	Castle Valley	95.67	340	⇓P	P	22 55 02.6	+0.1
	baz=95						
W31A	Holland Ranch,	95.67	331	⇓P	P	22 55 01.9	-0.5
	baz=95						
T24B	San Luis	95.79	335	⇑P	P	22 55 03.6	+0.4
	baz=95,SNR=12						
U26A	Atchley Ranch,	95.89	334	⇑P	P	22 55 03.0	-0.6
	baz=96						
W30A	Crocket Farms	95.91	331	⇓P	P	22 55 02.9	-0.6
	baz=96						
S21A	Coal Bank Pass	95.95	337	⇓P	P	22 55 03.5	-0.4
	baz=96,SNR=27						
S20A	Disappointment	95.95	338	⇑P	P	22 55 04.3	+0.4
	baz=96,SNR=24						
GTBY	Guantanamo Bay	95.96	304	PFAKE		22 55 10.0	+6.2
GTBY				LR	LR		
	comp=Z,1µm,20.0s						
V28A	Channing	95.97	333	⇓P	P	22 55 03.0	-0.8
	baz=96						
T23A	Casias Ranch,	96.02	336	⇓P	P	22 55 04.1	-0.1
	baz=96						
U25A	Circle Dot Ran	96.10	334	⇓P	P	22 55 04.5	0.0
	baz=96,SNR=9.3						
V27A	Dan Oppiter Fa	96.17	333	⇓P	P	22 55 03.9	-0.9
	baz=96						
X31A	McDonald Ranch	96.19	330	⇓P	P	22 55 05.4	+0.7
	baz=96						
WDC	Whiskeytown Da	96.25	349	eP	P	22 55 04.0	-0.9
WDC				pmax	pmax		
	comp=Z,12nm,1.0s						
WDC	Whiskeytown Da	96.25	349	eP	P	22 55 04.0	-0.9
	comp=Z,12nm,1.0s						
WDC	Whiskeytown Da	96.25	349	eP	P	22 55 04.0	-0.9
	comp=Z,12nm,1.0s						
T22A	Edith	96.30	337	⇑P	P	22 55 05.5	0.0
	baz=96,SNR=26						
MVU	Marysvale	96.31	341	PFAKE		22 55 20.0	+14
MVU				LR	LR		
	comp=Z,5µm,19.0s						
W29A	Amraillo	96.34	332	⇓P	P	22 55 04.7	-0.8
	baz=96						
U24A	Moreno Valley	96.36	335	⇑P	P	22 55 06.3	+0.5
	baz=96						
W28A	Vega	96.41	332	⇑P	P	22 55 05.5	-0.4
	baz=96						
V26A	Tequesquite Ra	96.45	334	⇑P	P	22 55 05.0	-1.0
	baz=96						
FITZ	Fitzroy Crossi	96.47	108	P	P	22 55 05.5	-0.5
FITZ	Fitzroy Crossi	96.47	108	P	P	22 55 05.5	-0.5
	comp=Z,19nm,0.9s,baz=288,slow=4.8,SNR=24						
FITZ	Fitzroy Crossi	96.47	108	P	P	22 55 05.5	-0.5
T21A	Navajo Lake	96.50	337	⇓P	P	22 55 06.0	-0.3
	baz=96						
Y32A	R-V Farms, Ver	96.55	330	⇓P	P	22 55 05.4	-0.9
	baz=96						
MVCO	Mesa Verde	96.57	338	eP	P	22 55 05.8	-0.9
	comp=Z,32nm,1.2s						
MVCO				ePP	PP	22 59 01.0	+1.1
MVCO				LR	LR		
	comp=Z,6µm,20.0s						
MVCO	Mesa Verde	96.57	338	eP	P	22 55 05.8	-0.9
	comp=Z,32nm,1.2s						
MVCO	Mesa Verde	96.57	338	ePP	PP	22 59 01.0	+1.1
MVCO	Mesa Verde	96.57	338	⇑P	P	22 55 06.1	-0.6
	baz=96,SNR=5.9						
NATX	Nacogdoches	96.62	325	PFAKE		22 55 20.0	+13
NATX				LR	LR		
	comp=Z,3µm,20.0s						
PAHR	Pah Rah Range	96.62	347	eP	P	22 55 06.5	-0.3
	comp=Z,26nm,1.2s						
PAHR	Pah Rah Range	96.62	347	eP	P	22 55 06.5	-0.3
	comp=Z,26nm,1.2s						
BEKR	Beckworth	96.63	348	eP	P	22 55 06.2	-0.6
	comp=Z,9.3nm,1.2s						
BEKR	Beckworth	96.63	348	eP	P	22 55 06.2	-0.6
	comp=Z,9.3nm,1.2s						
X30A	Coker Ranch, T	96.67	331	⇓P	P	22 55 06.0	-1.0
	baz=96						
U23A	El Rito	96.72	336	⇓P	P	22 55 06.8	-0.6
	baz=96,SNR=10						
U22A	Llaves	96.87	336	⇑P	P	22 55 08.0	-0.1
	baz=96,SNR=15						
W27A	Bowe Ranch, En	96.88	333	⇓P	P	22 55 07.0	-1.0
	baz=96						
Y31A	Rekieta Farm,	96.89	330	⇑P	P	22 55 07.4	-0.5
	baz=96						
X29A	Tulia	96.97	332	⇑P	P	22 55 09.0	+0.7
	baz=97						
V24A	Rampart Ranch,	96.99	335	⇓P	P	22 55 07.9	-0.7
	baz=97						
U21A	Nageezi	97.06	337	⇑P	P	22 55 08.2	-0.7
	baz=97,SNR=15						
X28A	Dimmitt	97.08	332	⇑P	P	22 55 07.2	-1.6
	baz=97						
W26A	Owens Ranch, T	97.09	333	⇑P	P	22 55 08.1	-0.8
	baz=97						
Z32A	Haskell	97.18	329	⇑P	P	22 55 08.3	-1.0
	baz=97,SNR=10						
Y30A	Stafford Cattl	97.19	331	⇓P	P	22 55 08.4	-0.9
	baz=97						
W25A	X Bar L Ranch,	97.20	334	⇑P	P	22 55 09.0	-0.5
	baz=97						
R11A	Troy Canyon, C	97.22	344	eP	P	22 55 09.0	-0.6
R11A				ePP	PP	22 59 05.0	+0.2
R11A	Troy Canyon, C	97.22	344	eP	P	22 55 09.0	-0.6
R11A	Troy Canyon, C	97.22	344	ePP	PP	22 59 05.0	+0.2
R11A	Troy Canyon, C	97.22	344	⇑P	P	22 55 09.4	-0.1
	baz=97						
V23A	Ortiz Mt. (NFS	97.25	336	⇓P	P	22 55 09.8	+0.1
	baz=97,SNR=6.2						
X27A	F and S Farms,	97.27	333	⇓P	P	22 55 09.6	-0.2
	baz=97						
V22A	San Miguel Ran	97.32	336	⇑P	P	22 55 09.5	-0.6
	baz=97,SNR=15						
U20A	Newcomb	97.36	338	⇓P	P	22 55 10.1	0.0
	baz=97						
Z31A	Sharp Cattle R	97.42	330	⇓P	P	22 55 09.3	-1.0
	baz=97						
Y29A	Porterfield Fa	97.49	331	⇓P	P	22 55 10.1	-0.6
	baz=97						
CCUT	Cedar City	97.50	342	eP	Pdif	22 55 11.4	+0.5
	comp=Z,34nm,1.1s						
CCUT	Cedar City	97.50	342	eP	Pdif	22 55 11.4	+0.5
	comp=Z,34nm,1.1s						
W24A	Lazy 6 Ranch,	97.51	335	⇓P	P	22 55 10.5	-0.4
	baz=97,SNR=6.3						
WHTX	Lake Whitney	97.56	327	eP	P	22 55 09.5	-1.5
WHTX	Lake Whitney	97.56	327	eP	P	22 55 09.5	-1.5
WHTX	Lake Whitney	97.56	327	⇑P	P	22 55 10.2	-0.8
	baz=97						
X26A	CR and CF Fran	97.59	333	⇓P	P	22 55 10.5	-0.7
	baz=97						
V21A	Milan	97.64	337	⇓P	P	22 55 11.2	-0.3
	baz=97						
Y28A	McKinney Farm,	97.64	332	⇑P	P	22 55 10.3	-1.1
	baz=97						
NV11	Mina Array Sit	97.65	346	eP	Pdif	22 55 11.7	+0.2
NV11	Mina Array Sit	97.65	346	eP	Pdif	22 55 11.7	+0.2
NVAR	Mina Array Bea	97.68	346	P	Pdif	22 55 12.0	+0.3
NVAR				PKKPbc	PKKPdf	23 11 47.8	+1.0
NVAR	Mina Array Bea	97.68	346	P	Pdif	22 55 12.0	+0.3
	comp=Z,3.7nm,1.0s,baz=31,slow=3.7						
NVAR				PKKPbc	PKKPdf	23 11 47.8	+1.0
	comp=Z,0.3nm,0.3s,baz=232,slow=7.3,SNR=4.0						
NVAR				LR	LR	23 44 45.1	
	comp=Z,5µm,19.8s,baz=351,slow=39						
NVAR	Mina Array Bea	97.68	346	P	Pdif	22 55 12.0	+0.3
MSTX	Muleshoe	97.77	332	eP	P	22 55 10.4	-1.6
MSTX	Muleshoe	97.77	332	eP	P	22 55 10.4	-1.6
MSTX	Muleshoe	97.77	332	⇓P	P	22 55 10.9	-1.1
	baz=97,SNR=5.3						
W23A	Werner Place,	97.78	335	⇑P	P	22 55 12.1	-0.1
	baz=97						
WAKR	Walker	97.81	347	eP	P	22 55 12.2	0.0
	comp=Z,8.3nm,1.0s						
WAKR	Walker	97.81	347	eP	P	22 55 12.2	0.0
	comp=Z,8.3nm,1.0s						
Z30A	Sanderson Ranc	97.81	331	⇑P	P	22 55 10.8	-1.3
	baz=97						
TPH	Tonopah	97.82	345	PFAKE		22 55 20.0	+7.7
TPH				LR	LR		
	comp=Z,6µm,20.0s						
ABTX	Abilene, Hawle	97.85	329	⇑P	P	22 55 11.2	-1.1
	baz=98						
V20A	Brimhall	97.88	337	⇓P	P	22 55 12.0	-0.6
	baz=98,SNR=17						
X25A	Clemmons Ranch	97.90	334	⇑P	P	22 55 12.5	-0.1
	baz=98						
Y27A	Causey	97.98	332	⇑P	P	22 55 12.6	-0.4
	baz=98,SNR=6.1						
Z29A	Hungry Hill Ra	98.04	331	⇓P	P	22 55 12.1	-1.1
	baz=98,SNR=9.9						
ANMO	Albuquerque	98.08	335	eP	P	22 55 13.0	-0.5
	comp=Z,10nm,1.2s						
ANMO				LR	LR		
	comp=Z,6µm,19.0s						
ANMO	Albuquerque	98.08	335	eP	P	22 55 13.0	-0.5
	comp=Z,6µm,19.0s						
W22A	Albuquerque	98.09	336	⇓P	P	22 55 13.3	-0.2
	baz=98						
131A	Roby	98.09	330	⇓P	P	22 55 12.6	-0.8
	baz=98						
X24A	Lazy VL Ranch,	98.11	334	⇓P	P	22 55 13.0	-0.7
	baz=98						
Y26A	Elida	98.17	333	⇑P	P	22 55 13.8	-0.1
	baz=98						
Z28A	Tucker Farm, M	98.26	332	⇓P	P	22 55 12.5	-1.6
	baz=98,SNR=5.6						
W21A	San Fidel	98.28	336	⇑P	Pdif	22 55 14.5	+0.1
	baz=98						
U15A	North Rim	98.31	340	⇓P	P	22 55 14.6	0.0
	baz=98						
X23A	Hourglass Bar	98.33	335	⇑P	P	22 55 14.7	0.0
	baz=98						
130A	Snyder	98.37	330	⇓P	P	22 55 14.0	-0.7
	baz=98						
Y25A	Mesa, Roswell	98.46	334	⇓P	P	22 55 14.2	-1.0
	baz=98						
232A	Coleman	98.51	329	⇓P	P	22 55 14.2	-1.0
	baz=98,SNR=11						
W20A	Ramah	98.52	337	⇓P	P	22 55 15.3	-0.1
	baz=98,SNR=6.2						
Z27A	Tatum	98.52	332	⇓P	P	22 55 14.5	-0.9
	baz=98						
MLAC	Mammoth Lakes	98.55	346	⇑P	P	22 55 14.2	-1.4
	baz=98						
X22A	Bernardo	98.66	336	⇓P	P	22 55 15.6	-0.4
	baz=98						
129A	Stewart Farms,	98.67	331	⇓P	P	22 55 14.9	-1.1
	baz=98						
Y24A	Capitan	98.70	334	⇑P	P	22 55 15.7	-0.6
	baz=98						
231A	Bronte	98.72	329	⇑P	P	22 55 15.3	-0.9
	baz=98						
LAZ	Ladron	98.79	336	eP	Pdif	22 55 17.1	+0.3
	comp=Z,7.7nm,1.1s						
LAZ	Ladron	98.79	336	eP	Pdif	22 55 17.0	+0.3
	comp=Z,7.7nm,1.1s						
Z26A	Caprock	98.82	333	⇓Pdiff	P	22 55 16.5	-0.2
	baz=98						
BNM	Barren Site	98.87	335	eP	P	22 55 17.1	0.0
	comp=Z,15nm,1.2s						
BNM	Barren Site	98.87	335	eP	P	22 55 17.1	0.0
	comp=Z,15nm,1.2s						
W18A	Petrified Fore	98.87	338	⇑Pdiff	P	22 55 16.5	-0.5
	baz=98						
GRAC	Grapevine Rang	98.89	345	⇑Pdiff	P	22 55 16.1	-0.7
	baz=98						
Y23A	Lovelace Mesa,	98.89	335	⇓Pdiff	P	22 55 16.8	-0.3
	baz=98						
128A	Castleberry Fa	98.89	331	⇓Pdiff	P	22 55 16.0	-1.0
	baz=98						
SHPR	Sheep Range	98.90	343	eP	Pdif	22 55 17.8	+0.6
	comp=Z,9.8nm,1.3s						
SHPR	Sheep Range	98.90	343	eP	Pdif	22 55 17.8	+0.7
	comp=Z,9.8nm,1.3s						
WUAZ	Wupatki	98.94	339	eP	Pdif	22 55 17.8	+0.5
	comp=Z,32nm,1.1s						
WUAZ				ePP	PP	22 59 18.2	+0.2
WUAZ				LR	LR		
	comp=Z,6µm,20.0s						
WUAZ	Wupatki	98.94	339	eP	Pdif	22 55 17.8	+0.5
	comp=Z,32nm,1.1s						
WUAZ	Wupatki	98.94	339	⇑Pdiff	P	22 55 15.9	-1.3
	baz=98						
X21A	Alamocita Cree	98.94	336	⇓Pdiff	P	22 55 17.4	0.0
	baz=98						
332A	Millersview	99.00	329	⇓Pdiff	P	22 55 17.2	-0.3
	baz=99						
TIN	Tinemaha	99.00	345	⇓Pdiff	P	22 55 17.1	-0.3
	baz=99						
Y22D	IRIS PASSCAL I	99.03	335	⇑Pdiff	Pdif	22 55 17.3	-0.4
	baz=99						
Z25A	Roswell	99.06	333	⇑Pdiff	Pdif	22 55 17.3	-0.5
	baz=99						
230A	Sterling City	99.06	330	⇑Pdiff	Pdif	22 55 17.0	-0.7
	baz=99						
X20A	Quemado	99.06	337	⇑Pdiff	Pdif	22 55 17.9	0.0
	baz=99						
127A	Arkansas Junct	99.15	332	⇓Pdiff	Pdif	22 55 17.1	-1.1
	baz=99						
Y22A	Socorro	99.17	335	⇓Pdiff	Pdif	22 55 17.8	-0.6
	baz=99						
Z24A	Sheeppen Canyo	99.22	334	⇑Pdiff	Pdif	22 55 18.1	-0.6
	baz=99						
229A	Bryant Ranch,	99.24	331	⇓Pdiff	Pdif	22 55 17.8	-0.7
	baz=99						
WAKE	Wake Island	99.25	53	PFAKE		22 55 30.0	+11
WAKE				LR	LR		
	comp=Z,2µm,20.0s						
FURC	Furnace Creek,	99.30	344	⇓Pdiff	Pdif	22 55 17.6	-1.0
	baz=99						
Y21A	Point of Rocks	99.32	336	⇑Pdiff	Pdif	22 55 18.4	-0.7
	baz=99						
331A	San Angelo	99.32	329	⇑Pdiff	Pdif	22 55 18.2	-0.7
	baz=99						
228A	UT Block 9, Go	99.39	331	⇑Pdiff	Pdif	22 55 18.3	-0.9
	baz=99						
126A	Clayton Basin,	99.40	333	⇑Pdiff	Pdif	22 55 18.1	-1.2
	baz=99						
432A	Menard	99.47	329	⇑Pdiff	Pdif	22 55 18.9	-0.7
	baz=99						
X18A	Snowflake	99.49	338	⇑Pdiff	Pdif	22 55 17.7	-2.1
	baz=99						
330A	Mertzon	99.52	330	⇑Pdiff	Pdif	22 55 18.9	-0.9
	baz=99						
Z23A	Rita Site, Whi	99.56	335	⇑Pdiff	Pdif	22 55 19.2	-0.9
	baz=99						
CWC	Cottonwood Cre	99.57	345	⇓Pdiff	Pdif	22 55 19.8	-0.3
	baz=99						
125A	Gardner Draw,	99.61	333	⇑Pdiff	Pdif	22 55 19.8	-0.5
	baz=99						
Y20A	Horse Springs,	99.62	337	⇓Pdiff	Pdif	22 55 18.9	-1.6
	baz=99						
SHOC	Shoshone	99.73	343	⇓Pdiff	Pdif	22 55 19.2	-1.3
	baz=99						
227A	Bennet, Jal	99.73	332	⇑Pdiff	Pdif	22 55 20.4	-0.4
	baz=99						
329A	Wagon Wheel Ra	99.74	331	⇓Pdiff	Pdif	22 55 20.0	-0.8
	baz=99						
Z22A	Elephant Butte	99.80	335	⇓Pdiff	Pdif	22 55 20.5	-0.7
	baz=99						
MPMC	Manual Prospec	99.82	344	⇓Pdiff	Pdif	22 55 20.3	-1.0
	baz=99						
JCT	Junction City	99.83	328	PFAKE		22 55 30.0	+8.8
JCT				LR	LR		
	comp=Z,4µm,19.0s						
JCT	Junction City	99.83	328	⇓Pdiff	Pdif	22 55 20.9	-0.3
	baz=99						
124A	Stringfield Ra	99.83	334	⇓Pdiff	Pdif	22 55 20.4	-1.0
	baz=99						
RCTC	Rector, Farmer	99.91	346	⇓Pdiff	Pdif	22 55 19.9	-1.4
	baz=100						
431A	Sonora	99.95	329	⇑Pdiff	Pdif	22 55 21.4	-0.3
	baz=100						
W13A	Hualapai Mount	99.96	341

	baz=100						
122A	Conniff Cattle	100.33	335	⇑Pdiff	Pdif	22 55 22.6	-0.9
	baz=100						
VES	Vestal, Richgr	100.33	346	⇑Pdiff	Pdif	22 55 22.7	-0.6
	baz=100						
327A	Balmorhea Ranc	100.39	332	⇑Pdiff	Pdif	22 55 22.8	-0.9
	baz=100						
531A	Rocksprings	100.39	329	⇓Pdiff	Pdif	22 55 22.7	-1.0
	baz=100						
ISA	Isabella	100.39	345	⇑Pdiff	Pdif	22 55 22.7	-0.9
	baz=100						
GSC	Goldstone	100.41	344	⇓Pdiff	Pdif	22 55 23.0	-0.7
	baz=100						
LRMC	Laurel Mountai	100.42	344	⇓Pdiff	Pdif	22 55 21.8	-2.0
	baz=100						
Z20A	Nine Sixteen R	100.42	336	⇓Pdiff	Pdif	22 55 22.8	-1.1
	baz=100						
224A	Cornudas Mount	100.43	334	⇑Pdiff	Pdif	22 55 23.4	-0.6
	baz=100						
429A	Davenport Ranc	100.48	330	⇓Pdiff	Pdif	22 55 23.6	-0.5
	baz=100						
326A	Caldwell Ranch	100.60	332	⇑Pdiff	Pdif	22 55 24.1	-0.6
	baz=100						
GMRC	Granite Mounta	100.67	343	⇑Pdiff	Pdif	22 55 23.8	-1.1
	baz=100						
428A	Kincaid Ranch,	100.68	331	⇓Pdiff	Pdif	22 55 24.2	-0.8
	baz=100						
632A	Uvalde	100.69	328	⇓Pdiff	Pdif	22 55 24.2	-0.8
	baz=100						
530A	J-C Ranch, Com	100.71	329	⇓Pdiff	Pdif	22 55 24.6	-0.5
	baz=100						
121A	Cookes Peak, D	100.72	336	⇑Pdiff	Pdif	22 55 24.9	-0.4
	baz=100						
MNTX	Cornudas Mount	100.73	333	*e*Pdif	Pdif	22 55 24.3	-0.8
	comp=Z,4.1nm,0.8s						
MNTX				*e*PP	PP	22 59 30.7	-0.8
MNTX				LR	LR		
	comp=Z,5μm,21.0s						
HEC	Hector,Ludlow	100.77	343	⇓Pdiff	Pdif	22 55 24.3	-1.1
	baz=100						
PDMCI	Parker Dam,Lak	100.78	341	⇓Pdiff	Pdif	22 55 24.3	-0.9
	baz=100						
223A	Chaparral, Ant	100.79	334	⇑Pdiff	Pdif	22 55 24.7	-0.8
	baz=100						
427A	Hayter Ranch,	100.83	331	⇓Pdiff	Pdif	22 55 25.1	-0.6
	baz=100						
Y14A	Wickenburg	100.85	340	⇑Pdiff	Pdif	22 55 25.9	+0.2
	baz=100						
RRX	Edison Barstow	100.86	344	⇓Pdiff	Pdif	22 55 24.7	-1.0
	baz=100						
325A	Bean Ranch, Si	100.89	333	⇑Pdiff	Pdif	22 55 24.9	-1.2
	baz=100						
222A	Williams Famil	100.91	335	⇑Pdiff	Pdif	22 55 23.9	-2.2
	baz=100						
120A	U Bar Ranch, L	100.97	336	⇓Pdiff	Pdif	22 55 25.5	-0.8
	baz=101						
ARVC	Arvin	100.98	345	⇓Pdiff	Pdif	22 55 25.7	-0.5
	baz=100						
324A	Moseley Ranch,	101.00	333	⇑Pdiff	Pdif	22 55 25.8	-0.7
	baz=101						
SMMC	Simmler	101.02	346	⇑Pdiff	Pdif	22 55 25.5	-0.8
	baz=101						
529A	Stev Forest Ra	101.06	330	⇓Pdiff	Pdif	22 55 25.9	-0.8
	baz=101						
EDW2	Edwards Air Fo	101.06	345	⇑Pdiff	Pdif	22 55 26.2	-0.4
	baz=101						
631A	Perdido Creek	101.08	329	⇑Pdiff	Pdif	22 55 25.9	-0.8
	baz=101						
IRM	Iron Mountain	101.15	342	⇓Pdiff	Pdif	22 55 26.5	-0.5
	baz=101						
221A	Mesquite Ranch	101.21	335	⇓Pdiff	Pdif	22 55 26.4	-1.0
	baz=101						
426A	McDonald Obser	101.21	332	⇓Pdiff	Pdif	22 55 26.3	-1.2
	baz=101						
528A	Cox Ranch, San	101.23	331	⇑Pdiff	Pdif	22 55 26.9	-0.6
	baz=101						
Z14A	Wintersburg	101.38	340	⇑Pdiff	Pdif	22 55 28.0	+0.1
	baz=101						
PKM	Peak Mountain	101.39	346	⇑Pdiff	Pdif	22 55 27.5	-0.7
	baz=101						
Y12C	Blythe	101.40	341	⇑Pdiff	Pdif	22 55 27.3	-0.7
	baz=101						
425A	Indio Mountain	101.43	333	⇓Pdiff	Pdif	22 55 27.4	-1.0
	baz=101						
BBRC	Big Bear Solar	101.44	344	⇑Pdiff	Pdif	22 55 28.9	+0.3
	baz=101						
732A	Laxson Ranch,	101.45	328	⇓Pdiff	Pdif	22 55 28.1	-0.3
	baz=101						
OSI	Osito Adit	101.46	345	⇓Pdiff	Pdif	22 55 26.3	-2.1
	baz=101						
BDFB	Brasilia	101.47	259	PP	PP	22 59 37.5	-1.2
BDFB	Brasilia	101.47	259	PP	PP	22 59 37.5	-1.2
	comp=Z,7.4nm,1.0s,baz=60,slow=5.0,SNR=5.8						
BELC	Belle Mtn. Jos	101.49	343	⇑Pdiff	Pdif	22 55 28.6	0.0
	baz=101						
220A	Playas Peak, P	101.53	336	⇓Pdiff	Pdif	22 55 28.3	-0.6
	baz=101						
527A	Woodward Ranch	101.54	331	⇑Pdiff	Pdif	22 55 28.2	-0.8
	baz=101						
BFSC	Mount Baldy Ra	101.61	344	⇑Pdiff	Pdif	22 55 28.5	-0.7
	baz=101						
KVTX	Kingsville	101.65	326	PFAKE		22 55 40.0	+11
KVTX				LR	LR		
	comp=Z,3μm,19.0s						
BC3	Big Chuckawall	101.70	342	⇑Pdiff	Pdif	22 55 29.4	-0.1
	baz=101						
DECC	Green Verdugo	101.74	345	⇓Pdiff	Pdif	22 55 29.4	-0.2
	baz=101						
526A	Mary Lane Ranc	101.79	332	⇓Pdiff	Pdif	22 55 28.5	-1.5
	baz=101						
TUC	Tucson	101.81	338	*e*P	Pdif	22 55 30.1	+0.1
TUC				pmax	pmax		
	comp=Z,7.0nm,1.3s						
TUC				MLR	MLR		
	comp=Z,5μm,19.0s						
TUC	Tucson	101.81	338	*e*Pdif	Pdif	22 55 30.1	+0.1
	comp=Z,6.7nm,1.3s						
TUC				LR	LR		
	comp=Z,5μm,19.0s						
TUC	Tucson	101.81	338	*e*P	Pdif	22 55 30.1	+0.1
	comp=Z,5μm,19.0s						
SBC	Santa Barbara	101.81	346	⇓Pdiff	Pdif	22 55 30.0	+0.1
	baz=101						
628A	Black Gap, Mar	101.88	330	⇓Pdiff	Pdif	22 55 29.1	-1.3
	baz=102						
PFO	Pinyon Flat Ob	101.97	343	PFAKE		22 55 40.0	+9.2
PFO				LR	LR		
	comp=Z,4μm,20.0s						
PFO	Pinyon Flat Ob	101.97	343	⇑Pdiff	Pdif	22 55 29.7	-1.0
	baz=102						
BLG	Laguna Peak	102.01	345	⇓Pdiff	Pdif	22 55 29.9	-0.9
	baz=102						
320A	Kipp Ranch, An	102.06	336	⇓Pdiff	Pdif	22 55 30.4	-0.8
	baz=102						
627A	Terlingua Ranc	102.09	331	⇑Pdiff	Pdif	22 55 31.0	-0.4
	baz=102						
MURC	Murrieta	102.14	344	⇓Pdiff	Pdif	22 55 30.0	-1.4
	baz=102						
GLA	Glamis	102.14	341	⇑Pdiff	Pdif	22 55 31.1	-0.3
	baz=102						
113A	Mohawk Valley,	102.15	341	⇓Pdiff	Pdif	22 55 30.8	-0.6
	baz=102						
FMP	Fort Macarthur	102.25	345	⇑Pdiff	Pdif	22 55 31.0	-0.8
	baz=102						
319A	Douglas	102.25	336	⇑Pdiff	Pdif	22 55 31.0	-1.1
	baz=102						
626A	Big Bend Ranch	102.26	331	⇑Pdiff	Pdif	22 55 31.4	-0.7
	baz=102						
TXAR	Lajitas Array	102.30	331	P	Pdif	22 55 32.2	-0.1
TXAR				PKKP	PKKPdf	23 11 38.3	-0.2
TXAR				PKKPab	PKKPbc	23 11 54.7	+22
TXAR	Lajitas Array	102.30	331	P	Pdif	22 55 32.2	-0.1
	comp=Z,3.3nm,1.1s,baz=66,slow=3.1,SNR=17						
TXAR				PKKP	PKKPdf	23 11 38.3	-0.2
	comp=Z,0.5nm,0.8s,baz=168,slow=6.4,SNR=4.3						
TXAR				PKKPab	PKKPbc	23 11 54.7	+22
	comp=Z,1.2nm,1.0s,baz=183,slow=7.1,SNR=6.3						
TXAR	Lajitas Array	102.30	331	P	Pdif	22 55 32.2	-0.1
	comp=Z,3.0nm,1.1s						
SWSC	Sam W. Stewart	102.47	342	⇑Pdiff	Pdif	22 55 31.8	-1.0
	baz=102						
CIS	Catalina Islan	102.57	345	⇑Pdiff	Pdif	22 55 32.2	-1.1
	baz=102						
MONP	Monument Peak	102.66	343	⇑Pdiff	Pdif	22 55 32.5	-1.4
	baz=102						
214A	Organ Pipe Nat	102.69	339	⇑Pdiff	Pdif	22 55 34.2	+0.4
	baz=102						
109C	Camp Elliot, M	102.80	343	⇑Pdiff	Pdif	22 55 33.0	-1.2
	baz=102						
DVTC	Desert V Tower	102.81	342	⇓Pdiff	Pdif	22 55 33.7	-0.7
	baz=102						
SCI	San Clemente I	103.01	345	⇓Pdiff	Pdif	22 55 34.3	-0.9
	baz=103						
TEIG	Tepich	103.29	314	PFAKE		22 55 50.0	+13
TEIG				LR	LR		
	comp=Z,2μm,22.0s						
WRA	Warramunga Arr	103.85	104	Pdif	Pdif	22 55 37.8	-1.2
WRA				PKiKP	PKiKP	22 59 55.4	-1.5
WRA				PKKPab	PKKPdf	23 11 49.1	+12
WRA	Warramunga Arr	103.85	104	Pdiff	Pdif	22 55 37.8	-1.2
	comp=Z,2.9nm,0.8s,baz=318,slow=4.2,SNR=10						
WRA				PKiKP	PKiKP	22 59 55.4	-1.5
	comp=Z,2.8nm,0.9s,baz=325,slow=2.6,SNR=6.0						
WRA				PKKPab	PKKPdf	23 11 49.1	+12
	comp=Z,0.8nm,0.3s,baz=133,slow=3.8,SNR=7.0						
WRA	Warramunga Arr	103.85	104	P	Pdif	22 55 37.8	-1.2
	comp=Z,3.0nm,0.8s						
WRA	Warramunga Arr	103.85	104	PKiKP	PKiKP	22 59 55.3	-1.5
WRAB	Tennant Creek	103.85	104	PFAKE		22 55 50.0	+11
WRAB				LR	LR		
	comp=Z,1μm,21.0s						
ASAR	Alice Springs	105.93	108	Pdif	Pdif	22 55 47.4	-0.8
ASAR				PKiKP	PKiKP	23 00 00.6	0.0
ASAR				PKKPab	PKKPab	23 11 39.2	+1.1
ASAR	Alice Springs	105.93	108	Pdiff	Pdif	22 55 47.4	-0.8
	comp=Z,1.8nm,1.0s,baz=322,slow=5.0,SNR=10						
ASAR				PKiKP	PKiKP	23 00 00.6	0.0
	comp=Z,2.2nm,0.9s,baz=332,slow=1.2,SNR=5.2						
ASAR				PKKPab	PKKPab	23 11 39.2	+1.1
	comp=Z,2.7nm,1.1s,baz=118,slow=4.8,SNR=7.4						
ASAR	Alice Springs	105.93	108	P	Pdif	22 55 47.4	-0.8
	comp=Z,2.0nm,1.0s						
ASAR	Alice Springs	105.93	108	PKiKP	PKiKP	23 00 00.6	0.0
PMG	Port Moresby	106.39	88	PFAKE		23 00 10.0	
PMG				LR	LR		
	comp=Z,2μm,20.0s						
BCIP	Isla Barro Col	107.07	300	PFAKE		23 00 10.0	
BCIP				LR	LR		
	comp=Z,1μm,19.0s						
SAML	Samuel	108.25	275	PFAKE		23 00 20.0	
SAML				LR	LR		
	comp=Z,862nm,20.0s						
MAW	Mawson	110.84	172	PKiKP	PKiKP	23 00 08.0	-0.3
MAW	Mawson	110.84	172	PKiKP	PKiKP	23 00 08.0	-0.3
	comp=Z,1.8nm,0.7s,baz=322,slow=3.0,SNR=5.6						
MAW	Mawson	110.84	172	PKiKP	PKiKP	23 00 08.0	-0.3
CTA	Charters Tower	112.58	97	PKiKP	PKiKP	23 00 12.7	-0.4
CTA	Charters Tower	112.58	97	PKiKP	PKiKP	23 00 12.7	-0.4
	comp=Z,7.4nm,0.8s,baz=194,slow=4.1,SNR=8.4						
CTA	Charters Tower	112.58	97	PKiKP	PKiKP	23 00 12.7	-0.4
OTAV	Otavalo	112.80	293	PFAKE		23 00 30.0	
OTAV				LR	LR		
	comp=Z,1μm,20.0s						
KIP	Kipapa	113.30	22	PFAKE		23 00 30.0	
KIP				LR	LR		
	comp=Z,3μm,20.0s						
CPUP	Villa Florida	114.92	256	*e*PKiKP	PKPdf	23 00 15.8	-1.6
CPUP	Villa Florida	114.92	256	PKP	PKPdf	23 00 15.7	-1.7
	comp=Z,9.1nm,0.9s,baz=16,slow=1.5,SNR=12						
CPUP	Villa Florida	114.92	256	*e*PKiKP	PKPdf	23 00 15.8	-1.6
MAIT	Maitri	115.34	191	*e*P	PKPdf	23 00 14.4	-2.4
HNR	Honiara	115.78	79	PFAKE		23 00 30.0	+11
HNR				LR	LR		
	comp=Z,200nm,20.0s						
STKA	Stephens Creek	116.31	110	PKP	PKPdf	23 00 18.8	-1.2
STKA	Stephens Creek	116.31	110	PKP	PKPdf	23 00 18.8	-1.2
	comp=Z,5.2nm,0.9s,baz=337,slow=5.9,SNR=7.3						
STKA	Stephens Creek	116.31	110	PKiKP	PKPdf	23 00 18.8	-1.2
LPAZ	La Paz	116.67	272	PKP	PKPdf	23 00 20.8	-1.1
LPAZ				*e*PKPdf	PKPdf	23 00 21.0	-0.8
LPAZ				*e*PP	PP	23 01 27.9	-1.8
LPAZ				PKKPab	PKKPab	23 10 53.1	+0.5
LPAZ	La Paz	116.67	272	PKP	PKPdf	23 00 20.8	-1.1
	comp=Z,5.8nm,1.0s,baz=29,slow=5.7,SNR=13						
LPAZ				PKKPab	PKKPab	23 10 53.1	+0.5
	comp=Z,1.2nm,0.9s,baz=292,slow=4.5,SNR=4.7						
LPAZ	La Paz	116.67	272	*e*PKiKP	PKPdf	23 00 21.0	-0.8
SNAA	Sanae	118.56	195	*e*PKPdf	PKPdf	23 00 23.1	0.0
SNAA	Sanae	118.56	195	*e*PKP	PKPdf	23 00 27.6	+4.5
SNAA	Sanae	118.56	195	*e*PKKPab	PKKPab	23 10 40.4	+0.7
SNAA	Sanae	118.56	195	*e*P	PKPdf	23 00 22.9	-0.3
SNAA	Sanae	118.56	195	*e*PKPdf	PKPdf	23 00 22.2	-1.0
SNAA				*e*PP	PP	23 01 42.3	+0.9
VNA1	Neumayer--Stat	118.89	197	*e*PKPdf	PKPdf	23 00 24.6	+0.9
VNA2	Neumayer--Watz	118.91	197	*e*PKPdf	PKPdf	23 00 23.2	-0.5
	baz=28,slow=3.6						
VNA2	Neumayer--Watz	118.91	197	*e*PKP	PKPdf	23 00 28.4	+4.7
	baz=28,slow=3.6						
VNA2	Neumayer--Watz	118.91	197	*e*PKKPab	PKKPab	23 10 41.8	+3.7
	baz=28,slow=3.6						
CASY	Casey	120.01	155	PFAKE		23 00 40.0	+14
CASY				LR	LR		
	comp=Z,4μm,19.0s						
NNA	Nana	120.24	282	PFAKE		23 00 40.0	+12
NNA				LR	LR		
	comp=Z,840nm,20.0s						
LVC	Limon Verde	121.16	267	*e*PKPdf	PKPdf	23 00 29.8	-0.1
LVC				*e*PP	PP	23 01 59.2	-1.2
LVC				LR	LR		
	comp=Z,793nm,19.0s						
LVC	Limon Verde	121.16	267	*e*PKiKP	PKPdf	23 00 29.8	-0.1
PAYG	Puerto Ayora	121.23	302	PFAKE		23 00 40.0	+10
PAYG				LR	LR		
	comp=Z,889nm,19.0s						
CAN	Canberra	123.36	109	PFAKE		23 00 50.0	+17
CAN				LR	LR		
	comp=Z,1μm,20.0s						
TRQA	Tornquist	124.68	248	*e*PKPdf	PKPdf	23 00 35.2	-0.7
TRQA				LR	LR		
	comp=Z,2μm,19.0s						
TRQA	Tornquist	124.68	248	*e*PKiKP	PKPdf	23 00 35.2	-0.7
TAU	Tasmania Unive	125.97	118	PFAKE		23 00 50.0	+12
TAU				LR	LR		
	comp=Z,1μm,19.0s						
LCO	Las Campanas	126.16	262	PFAKE		23 00 50.0	+11
LCO				LR	LR		
	comp=Z,1μm,20.0s						
EFI	East Falkland	128.27	231	PFAKE		23 00 50.0	+7.8
EFI				LR	LR		
	comp=Z,1μm,21.0s						
DZM	Mont Dzumac	128.68	85	PKP	PKPdf	23 00 44.5	+0.4
DZM	Mont Dzumac	128.68	85	PKP	PKPdf	23 00 44.5	+0.4
	comp=Z,16nm,0.9s,baz=48,slow=14,SNR=5.6						
DZM	Mont Dzumac	128.68	85	PKiKP	PKPdf	23 00 44.5	+0.4
DRV	Dumont d'Urvil	130.69	149	PP	PP	23 02 44.0	-19
XMAS	Kiritimati	131.73	29	PFAKE		23 01 00.0	+10
XMAS				LR	LR		
	comp=Z,3μm,20.0s						
QSPA	South Pole Qui	132.41	180	*e*PKPdf	PKPdf	23 00 46.3	-3.5
QSPA				LR	LR		
	comp=Z,3μm,19.0s						
MSVF	Nonsavu	134.29	71	PFAKE		23 01 10.0	+15
MSVF				LR	LR		
	comp=Z,3μm,19.0s						
PMSA	Palmer Station	134.78	215	PFAKE		23 01 10.0	+16
PMSA				LR	LR		
	comp=Z,2μm,19.0s						
VNDA	Vanda	137.26	164	PKP	PKPdf	23 00 59.9	+1.4
VNDA	Vanda	137.26	164	PKP	PKPdf	23 00 59.9	+1.4
	comp=Z,1.4nm,0.8s,baz=225,slow=7.1,SNR=5.5						
VNDA	Vanda	137.26	164	PKiKP	PKPdf	23 00 59.9	+1.4
SBA	Scott Base	138.14	165	PFAKE		23 01 10.0	+10
SBA				LR	LR		
	comp=Z,3μm,20.0s						
AFI	Afiamalu	138.32	57	PFAKE		23 01 10.0	+7.7
AFI				LR	LR		
	comp=Z,4μm,19.0s						
KHZ	Kahutara	143.64	107	*e*PKPdf	PKPab	23 01 08.0	+0.4
SNZO	South Karori	144.12	105	PFAKE		23 01 20.0	+8.2
SNZO				LR	LR		
	comp=Z,2μm,20.0s						
RAO	Raoul Island	144.30	82	PFAKE		23 01 20.0	+7.4
RAO				LR	LR		
	comp=Z,2μm,19.0s						
URZ	Urewera	144.80	99	*e*PKPdf	PKPab	23 01 09.2	-2.9
URZ				PKP	PKPbc	23 01 10.3	-2.0
URZ	Urewera	144.80	99	PKP	PKPab	23 01 10.3	-1.9
	comp=Z,157nm,0.8s,baz=283,slow=2.1						
PMOR	Pomariorio Ree	150.83	23	*e*PKPbc	PKPbc	23 01 28.4	-0.9
	comp=Z,270nm,1.0s						
PPT2	Papeete2	152.72	28	*e*PP	PP	23 05 02.9	-13
	comp=Z,824nm,27.8s						
PPT2	Papeete2	152.72	28	*e*LR	LR	23 52 23.2	
	comp=Z,6μm,24.5s						
TBI	Tubuai	158.02	33	*e*PP	PP	23 05 39.2	-6.7
	comp=Z,712nm,27.0s						
TBI	Tubuai	158.02	33	*e*LR	LR	23 54 37.8	
	comp=Z,2μm,23.5s						
RKT	Rikitea	160.55	356	*e*PP	PP	23 05 56.2	-3.0
	comp=Z,854nm,27.2s						
RKT	Rikitea	160.55	356	*e*LR	LR	23 56 00.8	
	comp=Z,2μm,35.8s						

TIR 07 22:42:56.7±0.8, 41°.39N×20°.63E, h7km±15km, ML2.6, Albania

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PHP	Peshkopia	0.33	335	*i* PG		Pg	22 43 03.2	-0.1
PHP				*i* SG		Sg	22 43 07.5	-0.3
TIR	Tirane	0.58	266	*i* PG		Pg	22 43 07.8	-0.1
TIR				*i* SG		Sb	22 43 16.4	-1.0
PUK	Puka	0.86	320	*i* PG		Pg	22 43 12.9	-0.4
PUK				*i* SG		Sb	22 43 25.9	+0.1

ATH 07 22:43:12.1, 34°.13N×24°.12E, h31km±1km, MD3.1/5, Crete

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
GVD	Gavdhos	0.71	358	*e*PN		Pb	22 43 26.5	+0.5
GVD				*e*SN		Sn	22 43 36.9	+1.0
SIVA	Sivas	1.05	33	*e*PN		Pb	22 43 31.9	+0.1
VAM	Vamos	1.28	3	*e*PN		Pb	22 43 35.8	+0.2
KARN	Karanos	1.28	353	*e*PN		Pb	22 43 35.5	-0.2
IDI	Anoyia	1.32	29	*e*PN		Pb	22 43 36.3	-0.1

TIF 07 22:45:08.4, 42°.55N×43°.49E, h14km, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
ONI	Oni	0.05	330	P		Pg	22 45 11.4	+0.2
ONI				S		Sg	22 45 13.4	+0.4

TIF 07 22:45:55.7, 42°.57N×43°.49E, h12km±1km
MOS 07 22:45:57.3±1.1, 42°.60N×43°.55E, h8km, mb4.4/1, Error ellipse: s-maj=11.8km s-min=6.3km az=74.9

ISC 07 22:45:56.4±0.9, 42°.55N±0°.02×43°.47E±0°.03, h9km±6km, n21, σ0°.56/42, 5C-10D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
ONI	Oni	0.05	344	P		Pg	22 45 58.3	0.0
ONI				S		Sg	22 45 60.0	+0.4
DIGR	Digorskoe uzhe	0.36	13	⇓*i* PG		Pg	22 46 03.0	-0.6
DIGR				*i* S		Sg	22 46 08.4	0.0
ZEI	Tsey	0.40	53	⇓*i* PG		Pg	22 46 03.8	-0.5
ZEI				*i* S		Sg	22 46 09.5	-0.1
LACR	Lac	0.67	65	⇓*i* PG		Pg	22 46 08.6	-0.8
LACR				*i* S		Sg	22 46 17.8	-0.4
KORR	Kora	0.70	39	⇑*i* PG		Pg	22 46 09.7	-0.1
KORR				*i* S		Sb	22 46 19.4	-1.1
LSNR	Lesken	0.78	20	⇓*i* PG		Pg	22 46 10.9	-0.5
LSNR				*e*S		Sg	22 46 21.5	0.0
NCK	Nalchik	0.95	6	⇓*i* PG		Pb	22 46 14.8	-0.3
NCK				*i* S		Sn	22 46 29.0	-0.8
VLKR	Vladikavkaz	1.02	60	⇓*i* PG		Pb	22 46 16.1	-0.2
VLKR				*e*S		Sb	22 46 30.0	+0.2
DUS	Dusheti	1.02	116	P		Pn	22 46 17.4	+0.4
DUS				S		Sn	22 46 32.5	+1.0
SNJR	Sundja	1.12	62	⇓*i* PG		Pb	22 46 17.7	-0.2
SNJR				*e*S		Sb	22 46 32.8	+0.2
AKH	Akhalkalaki	1.14	179	P		Pb	22 46 17.5	-0.8
AKH				S		Sg	22 46 33.6	+0.7
BTKR	Batakoyurt	1.14	43	⇑*i* PG		Pn	22 46 19.4	+0.8
BTKR				*e*S		Sn	22 46 35.1	+0.7
TBLG	Delisi	1.25	130	P		Pn	22 46 20.0	0.0
TBLG				S		Sn	22 46 37.4	+0.4
KUBR	Kubataba	1.25	358	⇓*e*PG		Pg	22 46 20.8	+0.3
KUBR				*e*S		Sn	22 46 38.2	+1.0
SHAR	Shatzhatmas	1.33	334	⇓*e*PG		Pn	22 46 21.2	-0.2
SHAR				*e*S		Sb	22 46 38.6	-0.4
PRTR	Priterechnaya	1.34	26	⇓*i* PG		Pg	22 46 22.3	+0.1
PRTR				*e*S		Sg	22 46 40.3	+0.7
KZR	Kazreti	1.36	148	P		Pn	22 46 20.9	-0.7
KZR				S		Sb	22 46 39.0	-0.6
TRKR	Terskaya	1.50	38	⇑*i* PG		Pg	22 46 24.9	-0.2
TRKR				*i* S		Sg	22 46 44.9	+0.4
PYA	Pyatigorsk	1.52	349	⇑*e*PG		Pg	22 46 25.1	-0.4
PYA				*e*S		Sg	22 46 44.8	-0.3
DOMR	Dombai	1.55	299	⇑*e*PG		Pb	22 46 25.2	-0.1
DOMR				*e*S		Sg	22 46 47.3	+1.2
DGRG	David-gareji	1.79	127	P		Pb	22 46 29.8	+0.4
DGRG				S		Sg	22 46 54.5	+0.5

TIF 07 22:46:30.1, 42°.53N×43°.52E, h11km±2km
CSEM 07 22:46:30.1, 42°.59N×43°.53E, h18km, mb4.3, After OBN
MOS 07 22:46:30.7±0.7, 42°.59N×43°.53E, h18km, mb4.3/1, Error ellipse: s-maj=56.3km s-min=19.9km az=63.7

ISC 07 22:46:28.6±2.2, 42°.44N±0°.10×43°.41E±0°.09, h18km±4km, n11, σ0°.28/22, 2D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
ONI	Oni	0.15	12	P		Pg	22 46 33.2	+0.3
ONI				S		Sb	22 46 34.9	+0.2
DIGR	Digorskoe uzhe	0.47	15	⇓*i* PG		Pb	22 46 38.5	0.0
DIGR				*i* S		Sg	22 46 44.5	-0.3
DIGR

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KORR				*e*Sg	**Sb**	**22 47 49.8**	**-1.0**
LSNR	**Lesken**	**0.81**	**18**	⇑*i*PG	**Pg**	**22 47 40.9**	**-0.4**
LSNR				*e*S	**Sg**	**22 47 52.0**	**+0.1**
LSNR	**Lesken**	**0.81**	**18**	*i* Pg	**Pg**	**22 47 40.9**	**-0.4**
LSNR				*e*Sg	**Sg**	**22 47 52.0**	**+0.1**
STDR	**Stavd-Durt**	**0.96**	**26**	*e*PG	**Pg**	**22 47 44.0**	**-0.2**
STDR				*e*S	**Sb**	**22 47 57.3**	**-0.3**
STDR	**Stavd-Durt**	**0.96**	**26**	*e*Pg	**Pg**	**22 47 44.0**	**-0.2**
STDR				*e*Sg	**Sb**	**22 47 57.3**	**-0.3**
NCK	**Nalchik**	**0.99**	**5**	⇑*e*PG	**Pg**	**22 47 44.9**	**+0.2**
NCK				*i* S	**Sn**	**22 47 59.4**	**-0.9**
NCK	**Nalchik**	**0.99**	**5**	*e*Pg	**Pg**	**22 47 44.9**	**+0.2**
NCK				*i* Sg	**Sn**	**22 47 59.4**	**-0.9**
VLKR	**Vladikavkaz**	**1.03**	**58**	*e*PG	**Pg**	**22 47 45.8**	**+0.2**
VLKR				*e*S	**Sn**	**22 48 00.2**	**-1.2**
VLKR	**Vladikavkaz**	**1.03**	**58**	*e*Pg	**Pg**	**22 47 45.8**	**+0.2**
VLKR				*e*Sg	**Sn**	**22 48 00.2**	**-1.2**
AKH	**Akhalkalaki**	**1.10**	**179**	P	**Pb**	**22 47 46.0**	**-1.2**
AKH				S	**Sb**	**22 48 01.9**	**+0.2**
SNJR	**Sundja**	**1.13**	**60**	⇑*i*PG	**Pb**	**22 47 47.0**	**-0.6**
SNJR				*i* S	**Sn**	**22 48 02.8**	**-1.0**
SNJR	**Sundja**	**1.13**	**60**	*i* Pg	**Pb**	**22 47 47.0**	**-0.6**
SNJR				*i* Sg	**Sn**	**22 48 02.8**	**-1.0**
BTKR	**Batakoyurt**	**1.17**	**42**	⇓*i*PG	**Pg**	**22 47 49.6**	**+1.5**
BTKR				*e*S	**Sn**	**22 48 05.8**	**+1.2**
BTKR	**Batakoyurt**	**1.17**	**42**	*i* Pg	**Pg**	**22 47 49.6**	**+1.5**
BTKR				*e*Sg	**Sn**	**22 48 05.8**	**+1.2**
TBLG	**Delisi**	**1.22**	**129**	P	**Pn**	**22 47 48.6**	**-0.5**
TBLG				S	**Sn**	**22 48 05.7**	**-0.3**
KUBR	**Kubataba**	**1.29**	**358**	⇓*e*PG	**Pb**	**22 47 50.5**	**+0.1**
KUBR				*e*S	**Sg**	**22 48 08.2**	**+0.9**
KUBR	**Kubataba**	**1.29**	**358**	*e*Pg	**Pb**	**22 47 50.5**	**+0.1**
KUBR				*e*Sg	**Sg**	**22 48 08.2**	**+0.9**
KZR	**Kazreti**	**1.33**	**148**	P	**Pn**	**22 47 49.7**	**-1.0**
KZR				S	**Sb**	**22 48 07.5**	**-0.6**
SHAR	**Shatzhatmas**	**1.37**	**335**	⇑*e*PG	**Pn**	**22 47 51.1**	**-0.3**
SHAR				*e*S	**Sn**	**22 48 09.4**	**-0.5**
SHAR	**Shatzhatmas**	**1.37**	**335**	*e*Pg	**Pn**	**22 47 51.1**	**-0.3**
SHAR				*e*Sg	**Sn**	**22 48 09.4**	**-0.5**
PRTR	**Priterechnaya**	**1.38**	**25**	*e*PG	**Pg**	**22 47 54.3**	**+2.2**
PRTR				*e*S	**Sg**	**22 48 13.2**	**+3.3**
PRTR	**Priterechnaya**	**1.38**	**25**	*e*Pg	**Pg**	**22 47 54.3**	**+2.2**
PRTR				*e*Sg	**Sg**	**22 48 13.2**	**+3.3**
TRKR	**Terskaya**	**1.52**	**37**	*e*PG	**Pg**	**22 47 54.7**	**-0.2**
TRKR				*e*S	**Sg**	**22 48 15.7**	**+1.0**
TRKR	**Terskaya**	**1.52**	**37**	*e*Pg	**Pg**	**22 47 54.7**	**-0.2**
TRKR				*e*Sg	**Sg**	**22 48 15.7**	**+1.0**
KIV	**Kislovodsk**	**1.56**	**339**	⇑*e*PG	**Pn**	**22 47 54.4**	**+0.5**
KIV				*e*S	**Sb**	**22 48 15.2**	**+0.4**
KIV	**Kislovodsk**	**1.56**	**339**	*e*Pg	**Pn**	**22 47 54.4**	**+0.5**
KIV				*e*Sg	**Sb**	**22 48 15.2**	**+0.4**
DGRG	**David-gareji**	**1.77**	**126**	P	**Pb**	**22 47 59.1**	**+0.7**
DGRG				S	**Sg**	**22 48 26.6**	**+4.2**

ISCJB ***07*** *22:48:02.1±0.7, 42°.54N×0°.03×43°.57E±0°.07, h22km±7km, Error ellipse: s-maj=9.4km s-min=5.2km az=16.2*
CSEM ***07*** *22:48:02.0, 42°.52N×43°.62E, h11km, After OBN*
MOS ***07*** *22:48:02.0±1.0, 42°.52N×43°.62E, h11km, mb4.2/1, Error ellipse: s-maj=55.8km s-min=17.5km az=71.4*
TIF ***07*** *22:48:02.1, 42°.47N×43°.61E, h9km±4km*
ISC 07 22:48:02.0±1.0, **42°.52N**±0°.04×**43°.62E**±0°.04, **h15**km±8km, **n14**, σ0**s31**/28, **3D, Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.14**	**302**	P	**Pb**	**22 48 06.8**	**+0.3**
ONI				S	**Sg**	**22 48 08.8**	**+0.4**
ZEI	**Tsey**	**0.34**	**37**	⇓*i*PG	**Pg**	**22 48 09.1**	**0.0**
ZEI				*i* S	**Sg**	**22 48 14.1**	**+0.1**
ZEI	**Tsey**	**0.34**	**37**	*i* Pg	**Pg**	**22 48 09.1**	**0.0**
ZEI				*i* Sg	**Sg**	**22 48 14.1**	**+0.1**
DIGR	**Digorskoe uzhe**	**0.39**	**356**	⇓*i*PG	**Pg**	**22 48 09.6**	**-0.3**
DIGR				*e*S	**Sg**	**22 48 15.1**	**-0.1**
DIGR	**Digorskoe uzhe**	**0.39**	**356**	*i* Pg	**Pg**	**22 48 09.6**	**-0.3**
DIGR				*e*Sg	**Sg**	**22 48 15.1**	**-0.1**
LACR	**Lac**	**0.59**	**58**	⇓*i*PG	**Pg**	**22 48 13.5**	**-0.1**
LACR				*i* S	**Sg**	**22 48 22.0**	**+0.6**
LACR	**Lac**	**0.59**	**58**	*i* Pg	**Pg**	**22 48 13.5**	**-0.1**
LACR				*i* Sg	**Sg**	**22 48 22.0**	**+0.6**
KORR	**Kora**	**0.66**	**30**	*e*PG	**Pg**	**22 48 14.9**	**0.0**
KORR				*e*S	**Sb**	**22 48 24.2**	**-0.1**
KORR	**Kora**	**0.66**	**30**	*e*Pg	**Pg**	**22 48 14.9**	**0.0**
KORR				*e*Sg	**Sb**	**22 48 24.2**	**-0.1**
LSNR	**Lesken**	**0.78**	**11**	*e*PG	**Pg**	**22 48 16.8**	**-0.3**
LSNR				*e*S	**Sg**	**22 48 27.4**	**0.0**
LSNR	**Lesken**	**0.78**	**11**	*e*Pg	**Pg**	**22 48 16.8**	**-0.3**
LSNR				*e*Sg	**Sg**	**22 48 27.4**	**0.0**
AKH	**Akhalkalaki**	**1.11**	**185**	P	**Pb**	**22 48 22.4**	**-0.5**
AKH				S	**Sb**	**22 48 37.6**	**+0.4**
TBLG	**Delisi**	**1.14**	**133**	P	**Pb**	**22 48 23.0**	**-0.4**
TBLG				S	**Sn**	**22 48 39.5**	**+0.5**
KZR	**Kazreti**	**1.28**	**152**	P	**Pn**	**22 48 25.2**	**-0.2**
KZR				S	**Sb**	**22 48 42.4**	**+0.3**

BJI ***07*** *22:49:26.9, 42°.70N×43°.50E, h5km, mB5.6/14, mb4.8/18, Ms5.8/13, Ms7 5.7/11*
MOS ***07*** *22:49:26.9±0.9, 42°.34N×43°.48E, h10km, mb4.9/46, Error ellipse: s-maj=5.1km s-min=4.2km az=91.5*
IDC ***07*** *22:49:27.1±0.6, 42°.46N×43°.47E, h0km, mb4.4/22, mb1 4.6/27, mb1mx4.5/34, mbtmp4.5/27, ML4.1/5, Error ellipse: s-maj=11.3km s-min=8.6km az=177.0*
ISCJB ***07*** *22:49:29.9±0.3, 42°.58N±0°.02×43°.45E±0°.02, h22km±2km, mb4.6/87, MS5.9/4, Error ellipse: s-maj=2.8km s-min=2.3km az=158.0*
NEIC ***07*** *22:49:29.4±0.2, 42°.62N×43°.49E, h10km, mb4.8/49, Error ellipse: s-maj=6.1km s-min=3.2km az=175.0*
TIF ***07*** *22:49:29.1, 42°.49N×43°.55E, h10km±2km*
CSEM ***07*** *22:49:30.2±0.1, 42°.59N×43°.48E, h15km, mb4.7/67, MD3.4, Error ellipse: s-maj=3.1km s-min=2.3km az=149.0*
NNC ***07*** *22:49:33.8±8.5, 43°.27N×43°.76E, h0km, mb5.2, Error ellipse: s-maj=136.1km s-min=77.4km az=123.0*
DDA ***07*** *22:49:40.5, 41°.90N×43°.07E, h28km, MD3.4*
AZER ***07*** *22:49:52.2, 41°.53N×45°.45E, h12km*
ISC 07 22:49:29.9±0.4, **42°.51N**±0°.01×**43°.52E**±0°.01, **h17**km±2km, **n495**, σ1**s32**/571, **mb4.7**/87, **MS5.7**/4, **32C-25D, Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.10**	**331**	P	**Pg**	**22 49 32.4**	**-1.0**
ONI				S	**Sg**	**22 49 34.8**	**-1.0**
DIGR	**Digorskoe uzhe**	**0.40**	**7**	⇓*i*PG	**Pg**	**22 49 36.8**	**-1.3**
DIGR	**Digorskoe uzhe**	**0.40**	**7**	*i* Pg	**Pg**	**22 49 36.8**	**-1.3**
ZEI	**Tsey**	**0.40**	**45**	⇓*i*PG	**Pg**	**22 49 36.9**	**-1.3**
ZEI				*i* S	**Sg**	**22 49 42.7**	**-1.1**
ZEI	**Tsey**	**0.40**	**45**	*i* Pg	**Pg**	**22 49 36.9**	**-1.3**
ZEI				*i* Sg	**Sg**	**22 49 42.7**	**-1.1**
LACR	**Lac**	**0.66**	**61**	⇓*i*PG	**Pg**	**22 49 41.5**	**-1.4**
LACR				*i* S	**Sg**	**22 49 50.3**	**-1.4**
LACR	**Lac**	**0.66**	**61**	*i* Pg	**Pg**	**22 49 41.5**	**-1.4**
LACR				*i* Sg	**Sg**	**22 49 50.3**	**-1.4**
KORR	**Kora**	**0.71**	**35**	⇑*i*PG	**Pg**	**22 49 42.9**	**-0.9**
KORR				*i* S	**Sg**	**22 49 52.7**	**-0.5**
KORR	**Kora**	**0.71**	**35**	*i* Pg	**Pg**	**22 49 42.9**	**-0.9**
KORR				*i* Sg	**Sg**	**22 49 52.7**	**-0.5**
LSNR	**Lesken**	**0.80**	**16**	⇓*i*PG	**Pb**	**22 49 44.7**	**-0.8**
LSNR				*e*S	**Sb**	**22 49 55.8**	**-0.3**
LSNR	**Lesken**	**0.80**	**16**	*i* Pg	**Pb**	**22 49 44.7**	**-0.8**
LSNR				*e*Sg	**Sb**	**22 49 55.8**	**-0.3**
DUS	**Dusheti**	**0.97**	**115**	P	**Pb**	**22 49 48.2**	**-0.2**
DUS				S	**Sg**	**22 50 02.2**	**+0.6**
NCK	**Nalchik**	**0.99**	**3**	⇓*i*PG	**Pb**	**22 49 48.4**	**-0.2**
NCK				*e*S	**Sg**	**22 50 02.5**	**+0.4**
NCK	**Nalchik**	**0.99**	**3**	*i* Pg	**Pb**	**22 49 48.4**	**-0.2**
NCK				*e*Sg	**Sg**	**22 50 02.5**	**+0.4**
VLKR	**Vladikavkaz**	**1.01**	**57**	*i* PG	**Pg**	**22 49 49.3**	**+0.3**
VLKR				*i* S	**Sg**	**22 50 02.8**	**0.0**
VLKR	**Vladikavkaz**	**1.01**	**57**	*i* Pg	**Pb**	**22 49 49.3**	**+0.3**
VLKR				*i* Sg	**Sg**	**22 50 02.8**	**0.0**
AKH	**Akhalkalaki**	**1.10**	**181**	P	**Pb**	**22 49 50.2**	**-0.3**
AKH				S	**Sn**	**22 50 05.3**	**-0.2**
SNJR	**Sundja**	**1.11**	**59**	⇑*i*PG	**Pb**	**22 49 50.5**	**-0.1**
SNJR				*e*S	**Sb**	**22 50 05.2**	**+0.4**
SNJR	**Sundja**	**1.11**	**59**	*i* Pg	**Pb**	**22 49 50.5**	**-0.1**
SNJR				*e*Sg	**Sb**	**22 50 05.2**	**+0.4**
BTKR	**Batakoyurt**	**1.15**	**41**	⇑*i*PG	**Pg**	**22 49 52.6**	**+0.5**
BTKR				*e*S	**Sg**	**22 50 08.1**	**+1.0**
BTKR	**Batakoyurt**	**1.15**	**41**	*i* Pg	**Pg**	**22 49 52.6**	**+0.5**
BTKR				*e*Sg	**Sg**	**22 50 08.1**	**+1.0**
TBLG	**Delisi**	**1.20**	**130**	P	**Pn**	**22 49 51.6**	**-0.3**
TBLG				S	**Sn**	**22 50 08.3**	**+0.6**
KUBR	**Kubataba**	**1.29**	**357**	⇓*i*PG	**Pb**	**22 49 54.1**	**+0.3**
KUBR				*i* S	**Sg**	**22 50 13.0**	**+1.2**
KUBR	**Kubataba**	**1.29**	**357**	*i* Pg	**Pb**	**22 49 54.1**	**+0.3**
KUBR				*i* Sg	**Sg**	**22 50 13.0**	**+1.2**
KBZ	**Khabaz**	**1.30**	**340**	PG	**Pn**	**22 49 53.2**	**-0.1**
KBZ				pmax	pmax		
	comp=N,1.0nm,0.3s						
KBZ				pmax	pmax		
	comp=Z,362nm,0.3s						
KBZ	**Khabaz**	**1.30**	**340**	Pg	**Pn**	**22 49 53.2**	**-0.1**
KBZ				Lg	Lg	22 50 10.5	
KBZ	**Khabaz**	**1.30**	**340**	Pg	**Pn**	**22 49 53.2**	**-0.1**
	comp=Z,362nm,0.3s,baz=172,slow=13,SNR=30						
KBZ				Lg	Lg	22 50 10.5	
	comp=Z,674nm,0.3s,baz=106,slow=3.3,SNR=11						
KBZ	**Khabaz**	**1.30**	**340**	Pg	**Pn**	**22 49 53.2**	**-0.1**
KBZ				Lg	Lg	22 50 10.5	
KZR	**Kazreti**	**1.31**	**149**	P	**Pn**	**22 49 53.3**	**-0.2**
KZR				S	**Sb**	**22 50 11.1**	**+0.5**
PRTR	**Priterechnaya**	**1.36**	**24**	⇑*i*PG	**Pb**	**22 49 55.4**	**+0.4**
PRTR				*i* S	**Sg**	**22 50 13.9**	**-0.1**
PRTR	**Priterechnaya**	**1.36**	**24**	*i* Pg	**Pb**	**22 49 55.4**	**+0.4**
PRTR				*i* Sg	**Sg**	**22 50 13.9**	**-0.1**
SHAR	**Shatzhatmas**	**1.38**	**334**	⇓*i*PG	**Pn**	**22 49 55.0**	**+0.4**
SHAR				*i* S	**Sb**	**22 50 13.3**	**+0.4**
SHAR	**Shatzhatmas**	**1.38**	**334**	*i* Pg	**Pn**	**22 49 55.0**	**+0.4**
SHAR				*i* Sg	**Sb**	**22 50 13.3**	**+0.4**
TRKR	**Terskaya**	**1.51**	**36**	⇑*i*PN	**Pb**	**22 49 57.4**	**0.0**
TRKR				*e*S	**Sb**	**22 50 17.5**	**+1.2**
TRKR	**Terskaya**	**1.51**	**36**	*i* Pn	**Pb**	**22 49 57.4**	**0.0**
TRKR				*e*Sg	**Sb**	**22 50 17.5**	**+1.2**
PYA	**Pyatigorsk**	**1.56**	**348**	⇓*i*PN	**Pb**	**22 49 58.0**	**-0.4**
PYA	**Pyatigorsk**	**1.56**	**348**	*i* Pn	**Pb**	**22 49 58.0**	**-0.4**
KIV	**Kislovodsk**	**1.57**	**338**	⇓*e*PN	**Pb**	**22 49 58.2**	**-0.3**
KIV	**Kislovodsk**	**1.57**	**338**	*e*Pn	**Pb**	**22 49 58.2**	**-0.3**
DOMR	**Dombai**	**1.60**	**300**	⇓*e*PN	**Pb**	**22 49 59.4**	**+0.4**
DOMR				*e*S	**Sg**	**22 50 22.0**	**+0.6**
DOMR	**Dombai**	**1.60**	**300**	*e*Pn	**Pb**	**22 49 59.4**	**+0.4**
DOMR				*e*Sg	**Sg**	**22 50 22.0**	**+0.6**
DGRG	**David-gareji**	**1.74**	**127**	P	**Pb**	**22 50 01.8**	**+0.4**
DGRG				S	**Sg**	**22 50 25.5**	**-0.4**
BCA	**Borcka**	**1.77**	**234**	*e*PN	**Pn**	**22 50 00.3**	**+0.6**
BCA	**Borcka**	**1.77**	**234**	*e*Pn	**Pn**	**22 50 00.3**	**+0.6**
ARTV	**Artvin**	**1.77**	**222**	*i* P	**Pb**	**22 50 01.6**	**-0.5**
ARTV				*i* S	**Sb**	**22 50 24.8**	**+0.6**
ARTV	**Artvin**	**1.77**	**222**	*i* P	**Pb**	**22 50 01.6**	**-0.5**
ARTV				*i* S	**Sb**	**22 50 24.8**	**+0.6**
DBOC	**Borcka**	**1.80**	**231**	*i* P	**Pn**	**22 50 01.1**	**+0.9**
DBOC				*i* S	**Sb**	**22 50 26.1**	**+1.3**
DBOC	**Borcka**	**1.80**	**231**	*i* P	**Pn**	**22 50 01.1**	**+0.9**
DBOC				*i* S	**Sb**	**22 50 26.1**	**+1.3**
GRO	**Groznyy**	**1.83**	**63**	⇑*i*PN	**Pb**	**22 50 02.3**	**-0.6**
GRO				*e*S	**Sb**	**22 50 26.0**	**+0.4**
GRO	**Groznyy**	**1.83**	**63**	*i* Pn	**Pb**	**22 50 02.3**	**-0.6**
GRO				*e*Sg	**Sb**	**22 50 26.0**	**+0.4**
DAGI	**Agillar**	**1.86**	**221**	*i* P	**Pb**	**22 50 02.9**	**-0.6**
DAGI				*i* S	**Sb**	**22 50 27.4**	**+0.8**
KARS	**Kars**	**1.91**	**190**	*e*PN	**Pb**	**22 50 04.3**	**+0.1**
KARS	**Kars**	**1.91**	**190**	*e*Pn	**Pb**	**22 50 04.4**	**+0.1**
DBAD	**Bademkaya**	**2.02**	**223**	*i* P	**Pb**	**22 50 05.3**	**-0.9**
DBAD				*i* S	**Sb**	**22 50 32.4**	**+1.4**
DBAD	**Bademkaya**	**2.02**	**223**	*i* P	**Pb**	**22 50 05.3**	**-0.9**
DBAD				*i* S	**Sb**	**22 50 32.4**	**+1.4**
DDEM	**Demirkent**	**2.08**	**220**	*i* P	**Pn**	**22 50 05.6**	**+1.4**
DDEM				*i* S	**Sb**	**22 50 34.5**	**+1.5**
DDEM	**Demirkent**	**2.08**	**220**	*i* P	**Pn**	**22 50 05.6**	**+1.4**
DDEM				*i* S	**Sb**	**22 50 34.5**	**+1.5**
DIGO	**Kars**	**2.09**	**183**	*i* P	**Pn**	**22 50 06.1**	**+1.7**
DIGO				*i* S	**Sg**	**22 50 35.8**	**-1.4**
DIGO	**Kars**	**2.09**	**183**	*i* P	**Pn**	**22 50 06.1**	**+1.7**
DIGO				*i* S	**Sg**	**22 50 35.8**	**-1.4**
PZAR	**Pazar-Rize**	**2.36**	**237**	*e*PN	**Pn**	**22 50 08.2**	**+0.3**
PZAR	**Pazar-Rize**	**2.36**	**237**	*e*Pn	**Pn**	**22 50 08.2**	**+0.3**
GNI	**Garni**	**2.53**	**158**	*e*PN	**Pb**	**22 50 15.3**	**+0.4**
GNI	**Garni**	**2.53**	**158**	*e*Pn	**Pb**	**22 50 14.7**	**-0.2**
GNI				*e*Sn	**Sg**	**22 50 50.1**	**-1.1**
GNI	**Garni**	**2.53**	**158**	*e*Pn	**Pb**	**22 50 14.7**	**-0.2**
GNI				*e*Sg	**Sg**	**22 50 50.1**	**-1.1**
GANJ	**Ganja**	**2.81**	**131**	⇓P	**Pn**	**22 50 15.4**	**+1.3**
	SNR=15						
GANJ				⇑S	**Sb**	**22 50 53.9**	**+0.1**
GANJ	**Ganja**	**2.81**	**131**	⇓Pn	**Pn**	**22 50 15.4**	**+1.3**
	SNR=15						
GANJ				⇑Sn	**Sb**	**22 50 53.9**	**+0.1**
GANJ	**Ganja**	**2.81**	**131**	P	**Pn**	**22 50 15.4**	**+1.3**
	SNR=15						
GANJ				S	**Sb**	**22 50 53.9**	**+0.1**
AGRB	**Hanur-Agry**	**2.96**	**188**	*e*PN	**Pn**	**22 50 18.7**	**+2.5**
AGRB	**Hanur-Agry**	**2.96**	**188**	*e*Pn	**Pn**	**22 50 18.7**	**+2.5**
MAK	**Makhachkala**	**2.97**	**80**	*e*PN	**Pn**	**22 50 17.6**	**+1.3**
MAK				*e*		22 50 23.7	
MAK				*e*		22 50 54.6	
MAK				*e*		22 51 03.8	
MAK				pmax	pmax		
	comp=Z,558nm,0.5s						
MAK				smax	smax		
	comp=N,2μm,0.6s						
MAK				smax	smax		
	comp=E,2μm,0.7s						
MAK				MLR	MLR		
	comp=Z,15μm,7.0s						
MAK	**Makhachkala**	**2.97**	**80**	*e*Pn	**Pn**	**22 50 17.6**	**+1.3**
	comp=Z,558nm,0.5s						
MAK	**Makhachkala**	**2.97**	**80**	*e*Pb	**Pb**	**22 50 23.7**	**+1.3**
MAK				*e*Sn	**Sn**	**22 50 54.6**	**+3.1**
	comp=Z,15μm,7.0s						
MAK				*e*Sb	**Sg**	**22 51 03.8**	**-1.6**
SOC	**Sochi**	**2.98**	**292**	*e*PN	**Pb**	**22 50 21.5**	**-1.1**
SOC				*e*		22 50 54.2	
SOC				pmax	pmax		
	comp=Z,226nm,0.7s						
SOC				smax	smax		
	comp=N,602nm,0.6s						
SOC				smax	smax		
	comp=E,1μm,0.5s						
SOC	**Sochi**	**2.98**	**292**	*e*Pn	**Pb**	**22 50 21.5**	**-1.1**
	comp=E,226nm,0.7s						
SOC				*e*Sn	**Sn**	**22 50 54.2**	**+2.4**
	comp=E,602nm,0.6s						
SEKA	**Sheki**	**3.04**	**114**	⇓P	**Pn**	**22 50 18.6**	**+1.3**
	SNR=10						
SEKA				⇓S	**Sn**	**22 50 56.1**	**+2.7**
SEKA	**Sheki**	**3.04**	**114**	⇓Pn	**Pn**	**22 50 18.6**	**+1.3**
	SNR=10						
SEKA				⇓Sn	**Sn**	**22 50 56.1**	**+2.7**
SEKA	**Sheki**	**3.04**	**114**	P	**Pn**	**22 50 18.6**	**+1.3**
	SNR=10						
SEKA				S	**Sn**	**22 50 56.1**	**+2.7**
TUTA	**Tutak**	**3.15**	**190**	*i* P	**Pn**	**22 50 21.4**	**+2.5**
TUTA				*i* S	**Sg**	**22 51 12.4**	**+1.5**
TUTA	**Tutak**	**3.15**	**190**	*i* P	**Pn**	**22 50 21.4**	**+2.5**
BAYT	**Ayd¨–ntepe-Bay**	**3.30**	**231**	*e*PN	**Pn**	**22 50 22.7**	**+1.8**
BAYT	**Ayd¨–ntepe-Bay**	**3.30**	**231**	*e*Pn	**Pn**	**22 50 22.7**	**+1.8**
KOPT	**Kop Dagi**	**3.37**	**223**	*i* P	**Pn**	**22 50 24.8**	**+2.8**
KOPT				*i* S	**Sg**	**22 51 19.3**	**+1.1**
KOPT	**Kop Dagi**	**3.37**	**223**	*i* P	**Pn**	**22 50 24.8**	**+2.8**
CLDR	**Caldiran**	**3.37**	**175**	*e*PN	Pn	22 50 25.3	+3.3
CLDR	**Caldiran**	**3.37**	**175**	*e*Pn	Pn	22 50 25.3	+3.3
BRDA	**Brd**	**3.55**	**128**	⇑P	**Pn**	**22 50 26.3**	**+2.1**
	SNR=7.3						
BRDA				⇑S	**Sb**	**22 51 18.5**	**+3.4**
BRDA	**Brd**	**3.55**	**128**	⇑Pn	**Pn**	**22 50 26.3**	**+2.1**
	SNR=7.3						
BRDA				⇑Sn	**Sb**	**22 51 18.5**	**+3.4**
BRDA	**Brd**	**3.55**	**128**	P	**Pn**	**22 50 26.3**	**+2.1**
	SNR=7.3						
NAX	**Nakhchivan**	**3.65**	**155**	⇑P	**Pb**	**22 50 34.0**	**0.0**
	SNR=8.7						
NAX				⇑S	**Sg**	**22 51 23.4**	**-3.7**
NAX	**Nakhchivan**	**3.65**	**155**	⇑Pn	**Pb**	**22 50 34.0**	**0.0**
	SNR=8.7						
NAX				⇑Sn	**Sg**	**22 51 23.4**	**-3.7**
GUMT	**Gumushane**	**3.66**	**237**	*e*PN	**Pn**	**22 50 25.8**	**0.0**
GUMT	**Gumushane**	**3.66**	**237**	*e*Pn	**Pn**	**22 50 25.8**	**0.0**
VRTB	**Varto-Mus**	**3.69**	**206**	*e*PN	**Pn**	**22 50 28.0**	**+1.7**
VRTB	**Varto-Mus**	**3.69**	**206**	*e*Pn	**Pn**	**22 50 28.0**	**+1.7**
ESPY	**Espiye-Giresun**	**3.92**	**248**	*e*PN	**Pn**	**22 50 28.7**	**-0.6**
ESPY	**Espiye-Giresun**	**3.92**	**248**	*e*Pn	**Pn**	**22 50 28.7**	**-0.6**
ERZN	**Erzincan**	**4.09**	**226**	*e*PN	**Pn**	**22 50 33.8**	**+2.0**
BNGB	**Bing¨¶l**	**4.12**	**212**	*e*PN	**Pn**	**22 50 33.5**	**+1.3**
PQL	**Pirkuli**	**4.17**	**113**	⇓P	**Pn**	**22 50 35.8**	**+2.9**
	SNR=6.4						
PQL	**Pirkuli**	**4.17**	**113**	⇓Pn	**Pn**	**22 50 35.8**	**+2.9**
	SNR=6.4						
PQL	**Pirkuli**	**4.17**	**113**	P	**Pn**	**22 50 35.8**	**+2.9**
	SNR=6.4						
EZC	**Erzincan**	**4.18**	**230**	*e*PN	**Pn**	**22 50 33.5**	**+0.5**
EZC	**Erzincan**	**4.18**	**230**	*e*Pn	**Pn**	**22 50 33.5**	**+0.5**
SIZA	**Siyzn**	**4.27**	**108**	⇑P	Pn	22 50 38.7	+4.5
	SNR=11						
SIZA	**Siyzn**	**4.27**	**108**	⇑Pn	Pn	22 50 38.7	+4.5
	SNR=11						
SIZA	**Siyzn**	**4.27**	**108**	P	Pn	22 50 38.7	+4.5
	SNR=11						
BINT	**Bingol**	**4.29**	**213**	*e*Pn	**Pn**	**22 50 33.5**	**-1.1**
PTK	**Pertek**	**4.78**	**222**	*e*PN	**Pn**	**22 50 42.0**	**+0.7**
PTK	**Pertek**	**4.78**	**222**	*e*Pn	**Pn**	**22 50 42.0**	**+0.7**
ILIC	**ilic-Erzincan**	**4.83**	**232**	*e*PN	**Pn**	**22 50 43.2**	**+1.3**
ILIC	**ilic-Erzincan**	**4.83**	**232**	*e*Pn	**Pn**	**22 50 43.2**	**+1.3**
GLBA	**Clilabad**	**4.93**	**130**	⇑P	**Pn**	**22 50 45.4**	**+2.2**
	SNR=3.7						
GLBA	**Clilabad**	**4.93**	**130**	⇑Pn	**Pn**	**22 50 45.4**	**+2.2**
	SNR=3.7						
GLBA	**Clilabad**	**4.93**	**130**	P	**Pn**	**22 50 45.4**	**+2.2**
	SNR=3.7						
ANN	**Anapa**	**4.97**	**300**	*e*PN	**Pn**	**22 50 46.0**	**+2.3**
ANN				*e*S	**Sn**	**22 51 45.7**	**+4.9**
ANN				pmax	pmax		
	comp=Z,36nm,0.4s						
ANN	**Anapa**	**4.97**	**300**	*e*Pn	**Pn**	**22 50 46.0**	**+2.3**
	comp=Z,36nm,0.4s						
ANN				*e*Sn	**Sn**	**22 51 45.7**	**+4.9**
SIRT	**Sirnak**	**5.07**	**190**	*e*P	**Pn**	**22 50 48.2**	**+3.1**
SIRT	**Sirnak**	**5.07**	**190**	*e*P	**Pn**	**22 50 48.3**	**+3.1**
RSDY	**Resadiye-TOKAT**	**5.11**	**248**	*e*PN	**Pn**	**22 50 47.5**	**+1.9**
RSDY	**Resadiye-TOKAT**	**5.11**	**248**	*e*Pn	**Pn**	**22 50 47.5**	**+1.9**
DIY	**Diyarbakir**	**5.25**	**210**	*e*PN	**Pn**	**22 50 47.1**	**-0.6**
DIY	**Diyarbakir**	**5.25**	**210**	*e*Pn	**Pn**	**22 50 47.1**	**-0.6**
BRTR	**Keskin Array B**	**7.96**	**253**	Pn	**Pn**	**22 51 25.3**	**+0.4**
BRTR				Sn	**Sn**	**22 52 54.8**	**+0.2**
BRTR	**Keskin Array B**	**7.96**	**253**	Pn	**Pn**	**22 51 25.3**	**+0.4**
	comp=Z,3.8nm,0.3s,baz=52,slow=11,SNR=48						
BRTR				Sn	**Sn**	**22 52 54.8**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=41,slow=13,SNR=2.7						
BRTR	**Keskin Array B**	**7.96**

comp=N,38nm,1.1s
CUC Castrocucco 20.94 272 *e*P **P 22 54 12.4 +0.5**
comp=N,38nm,1.1s
VOSK Vostochnaya 21.02 51 *e*P **P 22 54 12.7 +0.1**
VOSK pmax pmax
comp=Z,68nm,0.9s
VOSK Vostochnaya 21.02 51 *e*P **P 22 54 12.7 +0.1**
comp=Z,68nm,0.9s
VOSK Vostochnaya 21.02 51 *e*P **P 22 54 12.6 0.0**
comp=Z,68nm,0.9s
CEL Celeste 21.42 268 *e*P **P 22 54 17.6 +0.6**
comp=Z,46nm,1.2s
CEL Celeste 21.42 268 *e*P **P 22 54 17.6 +0.6**
comp=Z,46nm,1.2s
TRI Trieste 21.54 289 *e*P **P 22 54 17.4 -0.8**
TRI pmax pmax
comp=Z,34nm,1.1s
TRI Trieste 21.54 289 *e*P **P 22 54 17.4 -0.8**
comp=Z,34nm,1.1s
TRI Trieste 21.54 289 *e*P **P 22 54 17.4 -0.8**
comp=Z,34nm,1.1s
FINES FINESS Array B 21.66 337 P **P 22 54 18.6 -0.7**
FINES FINESS Array B 21.66 337 P **P 22 54 18.6 -0.7**
comp=Z,14nm,0.7s,baz=144,slow=10,SNR=5.6
FINES FINESS Array B 21.66 337 P **P 22 54 18.6 -0.7**
GEC2 GERESS Array S 21.68 297 *e*P **P 22 54 21.7 +1.9**
GEC2 GERESS Array S 21.68 297 *e*P **P 22 54 21.7 +1.9**
GEC2 GERESS Array S 21.68 297 *e*P **P 22 54 21.7 +1.9**
GERES GERESS Array B 21.68 297 P **P 22 54 21.2 +1.4**
GERES GERESS Array B 21.68 297 P **P 22 54 21.2 +1.4**
comp=Z,6.6nm,0.6s,baz=93,slow=9.6,SNR=19
GERES GERESS Array B 21.68 297 P **P 22 54 21.2 +1.4**
comp=Z,7.0nm,0.6s
KHC Kasperske Hory 21.80 298 *e*P **P 22 54 23.5 +2.6**
KHC pmax pmax
comp=Z,49nm,1.3s
KHC Kasperske Hory 21.80 298 *e*P **P 22 54 23.5 +2.6**
comp=Z,49nm,1.3s
KBA Koelnbreinsper 21.82 292⇓*es*P sP 22 54 24.2 -4.1
comp=Z,18nm,0.7s,SNR=4.2
EKS2 Erkin-Say 22.23 79 *e*P **P 22 54 26.4 +0.6**
EKS2 Erkin-Say 22.23 79 *e*P **P 22 54 26.4 +0.6**
comp=Z,2µm,2.6s
EKS2 Erkin-Say 22.23 79 *e*P **P 22 54 26.4 +0.6**
AAK Ala-Archa 22.76 79 P **P 22 54 30.6 -0.8**
AAK pmax pmax
comp=Z,41nm,1.1s
AAK Ala-Archa 22.76 79 *e*P **P 22 54 31.4 0.0**
AAK Ala-Archa 22.76 79 P **P 22 54 30.6 -0.8**
comp=Z,40nm,1.1s,baz=248,slow=19,SNR=2.3
AAK Ala-Archa 22.76 79 *e*P **P 22 54 31.4 0.0**
WTTA Wattenberg 22.99 293⇑*r*pP **P 22 54 34.8 +1.0**
comp=Z,31nm,0.7s,SNR=9.1
WTTA Wattenberg 22.99 293 P **P 22 54 34.8 +1.0**
comp=Z,31nm,0.7s,SNR=9.1
MOTA Moosalm 23.35 293⇑*i*P **P 22 54 36.4 -1.1**
comp=Z,17nm,0.9s,SNR=5.6
MOTA Moosalm 23.35 293 P **P 22 54 36.4 -1.1**
comp=Z,17nm,0.9s,SNR=5.6
TKM2 Tokmak 2 23.50 78 *e*P **P 22 54 37.8 -1.3**
TKM2 Tokmak 2 23.50 78 *e*P **P 22 54 37.8 -1.3**
comp=Z,872nm,2.3s
TKM2 Tokmak 2 23.50 78 *e*P **P 22 54 37.8 -1.3**
RETA Reutte 23.58 293⇑*i*P **P 22 54 40.3 +0.7**
comp=Z,15nm,0.7s,SNR=6.3
RETA Reutte 23.58 293 P **P 22 54 40.3 +0.7**
comp=Z,15nm,0.7s,SNR=6.3
FETA Feichten 23.61 292⇓*i*P **P 22 54 39.7 -0.3**
comp=Z,39nm,1.2s,SNR=9.3
FETA Feichten 23.61 292 P **P 22 54 39.7 -0.3**
comp=Z,39nm,1.2s,SNR=9.3
FUORN Ofenpass-Fuorn 23.94 291 *e*P **P 22 54 42.1 -1.2**
comp=Z,21nm,0.9s
FUORN Ofenpass-Fuorn 23.94 291 *e*P **P 22 54 42.1 -1.2**
comp=Z,21nm,0.9s
VLC Villacollemand 24.07 285 *e*P **P 22 54 44.4 +0.1**
comp=Z,39nm,1.2s
VLC Villacollemand 24.07 285 *e*P **P 22 54 44.4 +0.1**
comp=Z,39nm,1.2s
DAVA Damuels 24.18 293⇓*i*P **P 22 54 45.0 -0.4**
comp=Z,20nm,0.8s,SNR=7.5
DAVA Damuels 24.18 293 P **P 22 54 45.0 -0.4**
comp=Z,20nm,0.8s,SNR=7.5
DAVOX Davos/Dischmat 24.20 292 P **P 22 54 45.8 +0.1**
DAVOX Davos/Dischmat 24.20 292 P **P 22 54 45.8 +0.1**
comp=Z,14nm,0.6s,baz=92,slow=8.2,SNR=33
DAVOX Davos/Dischmat 24.20 292 P **P 22 54 45.8 +0.1**
comp=Z,14nm,0.6s
TUE Stuetta 24.58 291 *e*P **P 22 54 48.9 -0.2**
comp=Z,43nm,1.5s
TUE Stuetta 24.58 291 *e*P **P 22 54 48.9 -0.2**
comp=Z,43nm,1.5s
KSH Kashi 24.59 86 *e*P **P 22 54 50.6 +1.4**
KSH sP **sP 22 54 57.8 +1.4**
KSH PP **PnPn 22 55 27.2 +6.7**
KSH S **S 22 59 08.6 -1.0**
KSH pmax pmax
comp=Z,3µm,8.5s
KSH LR LR
comp=N,7µm,9.8s
KSH LR LR
comp=E,5µm,11.2s
KSH LR LR
comp=Z,10µm,10.8s
STU Stuttgart 24.65 297 *e*P **P 22 54 49.0 -0.5**
STU Stuttgart 24.65 297 *e*P **P 22 54 49.0 -0.5**
STU Stuttgart 24.65 297 *e*P **P 22 54 49.0 -0.5**
KURBB Kurchatov Arra 25.21 59 P **P 22 54 56.5 +2.0**
comp=Z,17nm,1.0s,baz=274,slow=11,SNR=3.2
BFO Black Forest 25.22 296 *i*P **P 22 54 57.7 +3.0**
BFO Black Forest 25.22 296 *i*P **P 22 54 57.7 +3.0**
KURK Kurchatov 25.28 59 P **P 22 54 56.5 +1.4**
KURK pmax pmax
comp=Z,14nm,0.9s
KURK Kurchatov 25.28 59 P **P 22 54 56.5 +1.4**
KURK Kurchatov 25.28 59 P **P 22 54 56.5 +1.4**
comp=Z,14nm,0.9s
HFS Hagfors 25.32 324 P **P 22 54 56.6 +1.2**
HFS Hagfors 25.32 324 P **P 22 54 56.6 +1.2**
comp=Z,21nm,0.8s,baz=138,slow=11,SNR=6.0
HFS Hagfors 25.32 324 P **P 22 54 56.6 +1.2**
comp=Z,21nm,0.8s
PGF Pioggiola 25.34 282 *e*P **P 22 54 56.3 +0.4**
comp=Z,26nm,0.8s
PGF Pioggiola 25.34 282 *e*P **P 22 54 56.3 +0.4**
PGF pmax pmax
comp=Z,26nm,0.8s
PGF Pioggiola 25.34 282 *e*P **P 22 54 56.3 +0.4**
comp=Z,26nm,0.8s
PGF Pioggiola 25.34 282 *e*P **P 22 54 56.3 +0.4**
comp=Z,26nm,0.8s
APA Apatity 25.71 351 *i*P P 22 55 04.0 +5.2
APA *i* 22 55 50.0
APA *i*S S 22 59 34.0 +7.5
VSL Villasalto 25.84 275 *e*P **P 22 55 01.4 +1.1**
comp=Z,38nm,1.1s
VSL Villasalto 25.84 275 *e*P **P 22 55 01.4 +1.1**
comp=Z,38nm,1.1s
SENIN Lac Senin/Sane 26.00 291 *e*P **P 22 55 02.0 0.0**
comp=Z,12nm,0.8s
SENIN Lac Senin/Sane 26.00 291 *e*P **P 22 55 02.0 0.0**
comp=Z,12nm,0.8s
SBF Sospel 26.22 285 *e*P **P 22 55 04.6 +0.8**
comp=Z,30nm,0.8s
SBF Sospel 26.22 285 *e*P **P 22 55 04.6 +0.8**
SBF pmax pmax
comp=Z,31nm,0.8s
SBF Sospel 26.22 285 *e*P **P 22 55 04.6 +0.8**
comp=Z,30nm,0.8s
SBF Sospel 26.22 285 *e*P **P 22 55 04.6 +0.8**
comp=Z,31nm,0.8s
LPG La Plagne 26.47 289 *e*P **P 22 55 06.5 +0.2**
comp=Z,38nm,1.0s
LPG La Plagne 26.47 289 *e*P **P 22 55 06.5 +0.2**
LPG pmax pmax
comp=Z,38nm,1.0s
LPG La Plagne 26.47 289 *e*P **P 22 55 06.5 +0.2**
comp=Z,38nm,1.0s
LPG La Plagne 26.47 289 *e*P **P 22 55 06.5 +0.2**
comp=Z,38nm,1.0s
LPL La Plagne 26.48 289 *e*P **P 22 55 06.5 +0.2**
comp=Z,19nm,0.8s
LPL La Plagne 26.48 289 *e*P **P 22 55 06.5 +0.2**
LPL pmax pmax
comp=Z,19nm,0.8s
LPL La Plagne 26.48 289 *e*P **P 22 55 06.5 +0.2**
comp=Z,19nm,0.8s
LPL La Plagne 26.48 289 *e*P **P 22 55 06.5 +0.2**
comp=Z,19nm,0.8s
HAU Haudompre 26.55 295 *e*P **P 22 55 06.4 -0.3**
comp=Z,8.8nm,0.7s
HAU Haudompre 26.55 295 *e*P **P 22 55 06.4 -0.3**
HAU pmax pmax
comp=Z,9.0nm,0.7s
HAU Haudompre 26.55 295 *e*P **P 22 55 06.4 -0.3**
comp=Z,8.8nm,0.7s
HAU Haudompre 26.55 295 *e*P **P 22 55 06.4 -0.3**
comp=Z,9.0nm,0.7s
MBDF Montbardon 26.55 287 *e*P **P 22 55 07.5 +0.6**
comp=Z,41nm,0.7s
MBDF Montbardon 26.55 287 *e*P **P 22 55 07.5 +0.6**
MBDF pmax pmax
comp=Z,41nm,0.7s
MBDF Montbardon 26.55 287 *e*P **P 22 55 07.5 +0.6**
comp=Z,41nm,0.7s
MBDF Montbardon 26.55 287 *e*P **P 22 55 07.5 +0.6**
comp=Z,41nm,0.7s
BNI Bardonecchia 26.57 288 *e*P **P 22 55 07.5 +0.4**
BNI pmax pmax
comp=Z,19nm,1.2s
BNI Bardonecchia 26.57 288 *e*P **P 22 55 07.5 +0.4**
comp=Z,19nm,1.2s
BNI Bardonecchia 26.57 288 *e*P **P 22 55 07.5 +0.4**
comp=Z,19nm,1.2s
MEM Membach 26.80 301 P **P 22 55 10.9 +2.1**
comp=Z,8.4nm,1.2s
CABF La Chapelle 26.81 292⇑*i*P **P 22 55 09.2 0.0**
comp=Z,15nm,0.7s
CABF La Chapelle 26.81 292⇑*i*P **P 22 55 09.2 0.0**
CABF pmax pmax
comp=Z,15nm,0.7s
CABF La Chapelle 26.81 292⇑*i*P **P 22 55 09.2 0.0**
comp=Z,15nm,0.7s
CABF La Chapelle 26.81 292 *i*P **P 22 55 09.2 0.0**
comp=Z,15nm,0.7s
FRF La Foret Royal 26.83 285 *e*P **P 22 55 09.9 +0.6**
comp=Z,27nm,0.7s
FRF La Foret Royal 26.83 285 *e*P **P 22 55 09.9 +0.6**
FRF pmax pmax
comp=Z,27nm,0.7s
FRF La Foret Royal 26.83 285 *e*P **P 22 55 09.9 +0.6**
comp=Z,27nm,0.7s
FRF La Foret Royal 26.83 285 *e*P **P 22 55 09.9 +0.6**
comp=Z,27nm,0.7s
PAGF Fort de Pagny 26.95 296 *e*P **P 22 55 10.5 +0.2**
comp=Z,7.3nm,1.1s
PAGF Fort de Pagny 26.95 296 *e*P **P 22 55 10.5 +0.2**
comp=Z,7.3nm,1.1s
PAGF Fort de Pagny 26.95 296 *e*P **P 22 55 10.5 +0.2**
comp=Z,7.0nm,1.1s
LMR La Mourre 26.97 284 *e*P **P 22 55 10.8 +0.3**
comp=Z,6.9nm,0.8s
LMR La Mourre 26.97 284 *e*P **P 22 55 10.8 +0.3**
LMR pmax pmax
comp=Z,7.0nm,0.8s
LMR La Mourre 26.97 284 *e*P **P 22 55 10.8 +0.3**
comp=Z,6.9nm,0.8s
LMR La Mourre 26.97 284 *e*P **P 22 55 10.8 +0.3**
comp=Z,7.0nm,0.8s
KEST Kesra 27.23 267 *e*P **P 22 55 13.3 +0.3**
KEST Kesra 27.23 267 P **P 22 55 13.2 +0.2**
comp=Z,3.1nm,0.9s,baz=352,slow=7.3,SNR=5.9
KEST Kesra 27.23 267 *e*P **P 22 55 13.3 +0.3**
MEZF Maizieres J'vi 27.40 296 *e*P **P 22 55 14.2 -0.1**
MEZF Maizieres J'vi 27.40 296 *e*P **P 22 55 14.2 -0.1**
MEZF Maizieres J'vi 27.40 296 *e*P **P 22 55 14.2 -0.1**
SFTF Sexfontaines 27.42 295 *e*P **P 22 55 14.2 -0.3**
comp=Z,9.1nm,0.7s,baz=100
SFTF Sexfontaines 27.42 295 *e*P **P 22 55 14.2 -0.3**
comp=Z,9.1nm,0.7s
SFTF Sexfontaines 27.42 295 *e*P **P 22 55 14.2 -0.3**
comp=Z,9.0nm,0.7s
SMRF Simiane la Rot 27.52 286 *e*P **P 22 55 16.0 +0.5**
comp=Z,8.6nm,0.9s
SMRF Siane la Rot 27.52 286 *e*P **P 22 55 16.0 +0.5**
comp=Z,8.6nm,0.9s
SMRF Simiane la Rot 27.52 286 *e*P **P 22 55 16.0 +0.5**
comp=Z,8.0nm,0.9s
GIVF Givet 27.54 299 *e*P **P 22 55 16.9 +1.4**
GIVF Givet 27.54 299 *e*P **P 22 55 16.9 +1.4**
GIVF Givet 27.54 299 *e*P **P 22 55 16.9 +1.4**
GIVF Givet 27.54 299 *e*P **P 22 55 16.9 +1.4**
MKAR Makanchi Array 27.72 68 P **P 22 55 17.9 +0.6**
MKAR pmax pmax
comp=Z,9.0nm,0.6s
MKAR Makanchi Array 27.72 68 *e*P **P 22 55 18.3 +1.1**
MKAR Makanchi Array 27.72 68 P **P 22 55 17.9 +0.6**
comp=Z,9.0nm,0.6s,baz=280,slow=7.2,SNR=9.8
MKAR Makanchi Array 27.72 68 P **P 22 55 17.9 +0.6**
comp=Z,9.0nm,0.6s
BAIF Baives 27.93 299 *e*P **P 22 55 20.5 +1.4**
comp=Z,17nm,1.1s
BAIF Baives 27.93 299 *e*P **P 22 55 20.5 +1.4**
BAIF pmax pmax
comp=Z,17nm,1.1s
BAIF Baives 27.93 299 *e*P **P 22 55 20.5 +1.4**
comp=Z,17nm,1.1s
BAIF Baives 27.93 299 *e*P **P 22 55 20.5 +1.4**
comp=Z,17nm,1.1s
VIVF Saint-Julien-l 28.01 288 *e*P **P 22 55 20.1 +0.2**
comp=Z,8.0nm,0.7s
VIVF Saint-Julien-l 28.01 288 *e*P **P 22 55 20.1 +0.2**
VIVF pmax pmax
comp=Z,8.0nm,0.7s
VIVF Saint-Julien-l 28.01 288 *e*P **P 22 55 20.1 +0.2**
comp=Z,8.0nm,0.7s
VIVF Saint-Julien-l 28.01 288 *e*P **P 22 55 20.1 +0.2**
comp=Z,8.0nm,0.7s
SSB Saint Sauveur 28.04 289 *e*P **P 22 55 20.0 -0.1**
SSB Saint Sauveur 28.04 289 *e*P **P 22 55 20.0 -0.1**
SSB Saint Sauveur 28.04 289 *e*P **P 22 55 20.0 -0.1**
LOR Lormes 28.28 293 *e*P **P 22 55 21.6 -0.6**
comp=Z,5.2nm,0.7s
LOR Lormes 28.28 293 *e*P **P 22 55 21.6 -0.6**
comp=Z,5.2nm,0.7s
LOR Lormes 28.28 293 *e*P **P 22 55 21.6 -0.6**
comp=Z,5.0nm,0.7s
SMF Signal de Mont 28.35 292 *e*P **P 22 55 22.6 -0.3**
comp=Z,18nm,1.1s
SMF Signal de Mont 28.35 292 *e*P **P 22 55 22.6 -0.3**
SMF pmax pmax
comp=Z,19nm,1.1s
SMF Signal de Mont 28.35 292 *e*P **P 22 55 22.6 -0.3**
comp=Z,18nm,1.1s
SMF Signal de Mont 28.35 292 *e*P **P 22 55 22.6 -0.3**
comp=Z,19nm,1.1s
SSF Saint Saulge 28.54 293 *e*P **P 22 55 23.9 -0.6**
comp=Z,6.7nm,0.7s
SSF Saint Saulge 28.54 293 *e*P **P 22 55 23.9 -0.6**
SSF pmax pmax
comp=Z,7.0nm,0.7s
SSF Saint Saulge 28.54 293 *e*P **P 22 55 23.9 -0.6**
comp=Z,6.7nm,0.7s
SSF Saint Saulge 28.54 293 *e*P **P 22 55 23.9 -0.6**
comp=Z,7.0nm,0.7s
AVF Avril sur Loir 28.67 293⇑*i*P **P 22 55 25.6 -0.1**
comp=Z,26nm,0.8s
AVF Avril sur Loir 28.67 293⇑*i*P **P 22 55 25.6 -0.1**
AVF pmax pmax
comp=Z,26nm,0.8s
AVF Avril sur Loir 28.67 293⇑*i*P **P 22 55 25.6 -0.1**
comp=Z,26nm,0.8s
AVF Avril sur Loir 28.67 293 *i*P **P 22 55 25.6 -0.1**
comp=Z,26nm,0.8s
LASF Ste Croix 28.72 287 *e*P **P 22 55 26.5 +0.3**
comp=Z,7.4nm,0.6s
LASF Ste Croix 28.72 287 *e*P **P 22 55 26.5 +0.3**
comp=Z,7.4nm,0.6s
LASF Ste Croix 28.72 287 *e*P **P 22 55 26.5 +0.3**
comp=Z,7.0nm,0.6s
BGF Bois d'Agland 29.04 292 *e*P **P 22 55 29.4 +0.4**
comp=Z,8.0nm,0.7s
BGF Bois d'Agland 29.04 292 *e*P **P 22 55 29.4 +0.4**
BGF pmax pmax
comp=Z,8.0nm,0.7s
BGF Bois d'Agland 29.04 292 *e*P **P 22 55 29.4 +0.4**
comp=Z,8.0nm,0.7s
BGF Bois d'Agland 29.04 292 *e*P **P 22 55 29.4 +0.4**
comp=Z,8.0nm,0.7s
ZALV Zalesovo Beam 29.38 53 P **P 22 55 31.5 -0.4**
ZALV pmax pmax
comp=Z,15nm,1.0s
ZALV Zalesovo Beam 29.38 53 P **P 22 55 31.5 -0.4**
comp=Z,15nm,1.0s,baz=260,slow=9.3,SNR=2.8
ZALV Zalesovo Beam 29.38 53 P **P 22 55 31.5 -0.4**
comp=Z,15nm,1.0s
TCF Toulx Ste Croi 29.51 292 *e*P **P 22 55 33.7 +0.5**
comp=Z,5.6nm,0.7s
TCF Toulx Ste Croi 29.51 292 *e*P **P 22 55 33.7 +0.5**
TCF pmax pmax
comp=Z,6.0nm,0.7s
TCF Toulx Ste Croi 29.51 292 *e*P **P 22 55 33.7 +0.5**
comp=Z,5.6nm,0.7s
TCF Toulx Ste Croi 29.51 292 *e*P **P 22 55 33.7 +0.5**
comp=Z,6.0nm,0.7s
CAF Calviac 29.83 289 *e*P **P 22 55 36.5 +0.5**
comp=Z,10nm,0.8s
CAF Calviac 29.83 289 *e*P **P 22 55 36.5 +0.5**
CAF pmax pmax
comp=Z,11nm,0.8s
CAF Calviac 29.83 289 *e*P **P 22 55 36.5 +0.5**
comp=Z,10nm,0.8s
CAF Calviac 29.83 289 *e*P **P 22 55 36.5 +0.5**
comp=Z,11nm,0.8s
MTLF Montolieu 30.04 286 *e*P **P 22 55 38.0 +0.2**
comp=Z,4.3nm,0.8s
MTLF Montolieu 30.04 286 *e*P **P 22 55 38.0 +0.2**
MTLF pmax pmax
comp=Z,4.0nm,0.8s
MTLF Montolieu 30.04 286 *e*P **P 22 55 38.0 +0.2**
comp=Z,4.3nm,0.8s
MTLF Montolieu 30.04 286 *e*P **P 22 55 38.0 +0.2**
comp=Z,4.0nm,0.8s
RJF Les Rejaudoux 30.14 290 *e*P **P 22 55 39.7 +0.9**
RJF Les Rejaudoux 30.14 290 *e*P **P 22 55 39.7 +0.9**
RJF Les Rejaudoux 30.14 290 *e*P **P 22 55 39.7 +0.9**
RJF Les Rejaudoux 30.14 290 *e*P **P 22 55 39.7 +0.9**
LFF La Frestale 30.75 289 *e*P **P 22 55 44.7 +0.6**
comp=Z,12nm,0.5s
LFF La Frestale 30.75 289 *e*P **P 22 55 44.7 +0.6**
LFF pmax pmax
comp=Z,12nm,0.5s
LFF La Frestale 30.75 289 *e*P **P 22 55 44.7 +0.6**
comp=Z,12nm,0.5s
LFF La Frestale 30.75 289 *e*P **P 22 55 44.7 +0.6**
comp=Z,12nm,0.5s
MFF Saint Martin d 31.08 293 *e*P **P 22 55 46.5 -0.5**
MFF Saint Martin d 31.08 293 *e*P **P 22 55 46.5 -0.5**
MFF Saint Martin d 31.08 293 *e*P **P 22 55 46.5 -0.5**
MFF Saint Martin d 31.08 293 *e*P **P 22 55 46.5 -0.5**
GRR Gorron 31.33 296 *e*P **P 22 55 48.9 -0.3**
comp=Z,8.5nm,0.7s
GRR Gorron 31.33 296 *e*P **P 22 55 48.9 -0.3**
GRR pmax pmax
comp=Z,9.0nm,0.7s
GRR Gorron 31.33 296 *e*P **P 22 55 48.9 -0.3**
comp=Z,8.5nm,0.7s
GRR Gorron 31.33 296 *e*P **P 22 55 48.9 -0.3**
comp=Z,9.0nm,0.7s
EPF Esparros 31.44 286 *e*P **P 22 55 49.3 -1.0**
comp=Z,5.6nm,0.7s
EPF Esparros 31.44 286 *e*P **P 22 55 49.3 -1.0**
EPF pmax pmax
comp=Z,6.0nm,0.7s
EPF Esparros 31.44 286 *e*P **P 22 55 49.3 -1.0**
comp=Z,5.6nm,0.7s
EPF Esparros 31.44 286 *e*P **P 22 55 49.3 -1.0**
comp=Z,6.0nm,0.7s
WMQ Urumqi 31.97 72 *e*P **P 22 55 58.0 +3.1**
WMQ pP **pP 22 56 02.3 +2.2**
WMQ sP **sP 22 56 05.0 +2.8**
WMQ pmax pmax
comp=Z,42nm,1.0s
WMQ pmax pmax
comp=Z,630nm,6.2s
WMQ LR LR
comp=N,6µm,14.0s
WMQ LR LR
comp=E,9µm,13.0s
WMQ LR LR
comp=Z,7µm,15.0s
ETSF Etsaut 32.12 286 *e*P **P 22 55 56.4 +0.1**
comp=Z,18nm,1.2s
ETSF Etsaut 32.12 286 *e*P **P 22 55 56.4 +0.1**
ETSF pmax pmax
comp=Z,18nm,1.2s
ETSF Etsaut 32.12 286 *e*P **P 22 55 56.4 +0.1**
comp=Z,18nm,1.2s
ETSF Etsaut 32.12 286 *e*P **P 22 55 56.4 +0.1**
comp=Z,18nm,1.2s
ETSF Etsaut 32.12 286 *e*P **P 22 55 56.4 +0.1**
comp=Z,18nm,1.2s
SGMF Saint Gilles 32.48 296 *e*P **P 22 55 59.3 +0.1**
comp=Z,12nm,0.8s
SGMF Saint Gilles 32.48 296 *e*P **P 22 55 59.3 +0.1**
SGMF pmax pmax
comp=Z,12nm,0.8s
SGMF Saint Gilles 32.48 296 *e*P **P 22 55 59.3 +0.1**
comp=Z,12nm,0.8s
SGMF Saint Gilles 32.48 296 *e*P **P 22 55 59.3 +0.1**
comp=Z,12nm,0.8s
EKA Eskdalemuir Ar 32.61 310 P **P 22 56 00.2 -0.1**
EKA Eskdalemuir Ar 32.61 310 P **P 22 56 00.2 -0.1**
comp=Z,3.4nm,0.7s,baz=106,slow=8.4,SNR=8.2
EKA Eskdalemuir Ar 32.61 310 P **P 22 56 00.2 -0.1**
comp=Z,3.0nm,0.7s
QUIF Quistinic 32.92 296 *e*P **P 22 56 03.1 -0.1**
comp=Z,15nm,0.8s
QUIF Quistinic 32.92 296 *e*P **P 22 56 03.1 -0.1**
QUIF pmax pmax
comp=Z,15nm,0.8s
QUIF Quistinic 32.92 296 *e*P **P 22 56 03.1 -0.1**
comp=Z,15nm,0.8s
QUIF Quistinic 32.92 296 *e*P **P 22 56 03.1 -0.1**
comp=Z,15nm,0.8s
ROSF Rostrenen 32.94 297 *e*P **P 22 56 03.1 -0.2**
comp=Z,16nm,0.9s
ROSF Rostrenen 32.94 297 *e*P **P 22 56 03.1 -0.2**
ROSF pmax pmax
comp=Z,16nm,0.9s
ROSF Rostrenen 32.94 297 *e*P **P 22 56 03.1 -0.2**
comp=Z,16nm,0.9s
ROSF Rostrenen 32.94 297 *e*P **P 22 56 03.1 -0.2**
comp=Z,16nm,0.9s
ESDC Sonseca Array 35.53 282 P **P 22 56 25.7 -0.3**
ESDC Sonseca Array 35.53 282 P **P 22 56 25.7 -0.3**
comp=Z,3.2nm,0.8s,baz=65,slow=8.5,SNR=12
ESDC Sonseca Array 35.53 282 P **P 22 56 25.7 -0.3**
PAB San Pablo 35.85 282 *e*P **P 22 56 28.3 -0.5**
PAB San Pablo 35.85 282 *e*P **P 22 56 28.3 -0.5**
comp=Z,270nm,1.9s
PAB San Pablo 35.85 282 *e*P **P 22 56 28.3 -0.5**
EVO Evora 38.88 282 *e*P **P 22 56 53.8 -0.5**
EVOP Sao Brissos 38.96 282 *e*P **P 22 56 53.8 -1.2**
EVOP Sao Brissos 38.96 282 *e*P **P 22 56 53.8 -1.2**
EVOP Sao Brissos 38.96 282 *e*P **P 22 56 53.8 -1.2**
LSA Lhasa 40.06 93 *e*P **P 22 57 05.4 +0.6**
LSA pmax pmax
comp=Z,15nm,1.0s
LSA Lhasa 40.06 93 *e*P **P 22 57 05.3 +0.6**
comp=Z,15nm,1.0s
LSA Lhasa 40.06 93 *e*P **P 22 57 05.3 +0.5**
comp=Z,15nm,1.0s
GTA Gaotai 41.97 75 P P 22 57 26.9 +6.9
GTA pP pP 22 57 31.2 +6.0
GTA sP sP 22 57 33.9 +6.6
GTA pmax pmax
comp=Z,13nm,1.0s
SONM Songino Array 43.57 60 P **P 22 57 32.5 -0.4**
SONM Songino Array 43.57 60 P **P 22 57 32.5 -0.4**
comp=Z,1.5nm,0.8s,baz=279,slow=10,SNR=3.0
SONM Songino Array 43.57 60 P **P 22 57 32.5 -0.4**
comp=Z,2.0nm,0.8s
ULN Ulaanbaatar 43.98 60 *e*P **P 22 57 37.2 +1.0**
ULN Ulaanbaatar 43.98 60 *e*P **P 22 57 37.2 +1.0**
LZH Lanzhou 46.27 77 *e*P **P 22 57 54.8 +0.2**
LZH pP **pP 22 57 58.4 -1.4**
LZH sP **sP 22 58 00.2 -1.7**
LZH pmax pmax
comp=Z,39nm,1.2s
TORD Torodi Ar. Bea 46.45 244 P **P 22 57 55.5 -0.5**
TORD Torodi Ar. Bea 46.45 244 P **P 22 57 55.5 -0.5**
comp=Z,8.1nm,1.2s,baz=39,slow=6.1,SNR=8.1
TORD Torodi Ar. Bea 46.45 244 P **P 22 57 55.5 -0.5**
TIXI Tiksi 48.89 25 *e*P **P 22 58 15.7 +1.5**
TIXI pmax pmax
comp=Z,11nm,1.3s
TIXI Tiksi 48.89 25 *e*P **P 22 58 15.7 +1.5**
comp=Z,11nm,1.3s
HHC Hu-ho-hao-te 49.59 68 *e*P **P 22 58 17.4 -2.7**

HHC				pP	**pP**	**22 58 21.9**	**-3.5**
HHC				sP	**sP**	**22 58 24.7**	**-2.8**
HHC				PcP	**PcP**	**22 59 40.4**	**-1.2**
HHC				PP	**PP**	**23 00 11.3**	**-3.0**
HHC				ScP	**ScP**	**23 03 34.7**	**-1.5**
HHC				S	S	23 05 21.7	-5.8
HHC				ScS	**ScS**	**23 08 05.9**	**-5.3**
HHC				SS	SS	23 08 51.1	-8.2
HHC				pmax	pmax		
	comp=Z,42nm,1.0s						
HHC				pmax	pmax		
	comp=Z,2μm,6.0s						
HHC				LR	LR		
	comp=N,61μm,20.2s						
HHC				LR	LR		
	comp=E,38μm,19.0s						
HHC				LR	LR		
	comp=Z,53μm,16.7s						
KMI	**Kunming**	**51.15**	**90**	P	P	22 58 37.9	+5.6
KMI				pmax	pmax		
	comp=Z,12nm,1.0s						
CMAR	**Chiang Mai Arr**	**52.40**	**99**	P	**P**	**22 58 42.0**	**+0.5**
CMAR	**Chiang Mai Arr**	**52.40**	**99**	P	**P**	**22 58 42.0**	**+0.5**
	comp=Z,2.2nm,0.4s,baz=305,slow=8.4,SNR=10						
CMAR	**Chiang Mai Arr**	**52.40**	**99**	P	**P**	**22 58 42.0**	**+0.5**
	comp=Z,2.0nm,0.5s						
GYA	**Guiyang**	**53.29**	**86**	P	**P**	**22 58 50.8**	**+2.7**
GYA				PP	**PP**	**23 00 51.6**	**+3.4**
GYA				ScP	**ScP**	**23 03 54.4**	**+1.9**
GYA				S	**S**	**23 06 20.5**	**+1.5**
GYA				SS	**SS**	**23 09 58.9**	**+0.3**
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,120nm,6.0s						
DBIC	**Dimbokro**	**55.55**	**244**	P	**P**	**22 59 03.4**	**-1.1**
DBIC	**Dimbokro**	**55.55**	**244**	P	**P**	**22 59 03.4**	**-1.1**
	comp=Z,3.0nm,0.6s,baz=50,slow=10.0,SNR=7.3						
DBIC	**Dimbokro**	**55.55**	**244**	P	**P**	**22 59 03.4**	**-1.1**
	comp=Z,3.0nm,0.6s						
LIC	**Lamto**	**56.00**	**244**	*e*P	P	22 59 03.2	-4.5
	comp=Z,19nm,0.7s,baz=51						
WHN	**Wuhan**	**56.64**	**77**	P	**P**	**22 59 11.2**	**-0.9**
CN2	**Changchun**	**57.35**	**58**	*e*P	**P**	**22 59 18.1**	**+1.1**
CN2				*e*S	**S**	**23 07 11.5**	**-1.2**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CN2				pmax	pmax		
	comp=Z,400nm,4.0s						
CN2				LR	LR		
	comp=N,5μm,12.0s						
CN2				LR	LR		
	comp=E,5μm,12.0s						
CN2				LR	LR		
	comp=Z,5μm,13.0s						
NJ2	**Nanjing**	**59.04**	**73**	*e*P	**P**	**22 59 29.1**	**+0.2**
KSAR	**Wonju Array Be**	**62.27**	**63**	P	**P**	**22 59 51.1**	**+0.2**
KSAR	**Wonju Array Be**	**62.27**	**63**	P	**P**	**22 59 51.1**	**+0.2**
KSRS	**Korea Array**	**62.29**	**63**	P	**P**	**22 59 51.1**	**+0.1**
	comp=Z,4.9nm,0.8s,baz=308,slow=6.2,SNR=8.8						
KSRS	**Korea Array**	**62.29**	**63**	P	**P**	**22 59 51.1**	**+0.1**
	comp=Z,5.0nm,0.8s						
MJAR	**Matsushiro Arr**	**69.49**	**59**	P	**P**	**23 00 37.7**	**+0.2**
MJAR	**Matsushiro Arr**	**69.49**	**59**	P	**P**	**23 00 37.7**	**+0.2**
	comp=Z,1.8nm,0.8s,baz=306,slow=7.6,SNR=5.4						
MJAR	**Matsushiro Arr**	**69.49**	**59**	P	**P**	**23 00 37.7**	**+0.2**
	comp=Z,1.0nm,0.3s						
COLD	**Coldfoot**	**70.10**	**6**	*e*P	**P**	**23 00 41.5**	**+0.9**
	comp=Z,6.3nm,1.0s						
COLD	**Coldfoot**	**70.10**	**6**	*e*P	**P**	**23 00 41.5**	**+0.9**
	comp=Z,6.3nm,1.0s						
IMA2	**Indian Mountai**	**70.94**	**7**	*e*P	**P**	**23 00 45.7**	**-0.3**
IMA2	**Indian Mountai**	**70.94**	**7**	*e*P	**P**	**23 00 45.7**	**-0.3**
COLA	**College**	**72.59**	**5**	*e*P	**P**	**23 00 55.9**	**+0.2**
COLA	**College**	**72.59**	**5**	*e*P	**P**	**23 00 55.9**	**+0.2**
COLA	**College**	**72.59**	**5**	*e*P	**P**	**23 00 55.9**	**+0.2**
BOSA	**Boshof**	**72.74**	**197**	P	**P**	**23 00 56.5**	**-0.6**
BOSA	**Boshof**	**72.74**	**197**	P	**P**	**23 00 56.5**	**-0.6**
	comp=Z,11nm,1.1s,baz=57,slow=7.8,SNR=6.8						
BOSA	**Boshof**	**72.74**	**197**	P	**P**	**23 00 56.5**	**-0.6**
	comp=Z,11nm,1.1s						
ILAR	**Eielson Array**	**72.75**	**5**	P	**P**	**23 00 56.5**	**-0.2**
ILAR	**Eielson Array**	**72.75**	**5**	P	**P**	**23 00 56.5**	**-0.2**
	comp=Z,0.8nm,0.9s,baz=345,slow=6.5,SNR=3.1						
ILAR	**Eielson Array**	**72.75**	**5**	P	**P**	**23 00 56.5**	**-0.2**
	comp=Z,1.0nm,1.0s						
CAST	**Castle Rocks**	**73.69**	**7**	*e*P	**P**	**23 01 02.6**	**+0.3**
	comp=Z,10nm,1.0s						
CAST	**Castle Rocks**	**73.69**	**7**	*e*P	**P**	**23 01 02.6**	**+0.3**
	comp=Z,10nm,1.0s						
YKA	**Yellowknife Ar**	**73.88**	**350**	P	**P**	**23 01 02.8**	**-0.5**
YKA	**Yellowknife Ar**	**73.88**	**350**	P	**P**	**23 01 02.8**	**-0.5**
	comp=Z,1.6nm,0.7s,baz=13,slow=5.7,SNR=3.4						
YKA	**Yellowknife Ar**	**73.88**	**350**	P	**P**	**23 01 02.8**	**-0.5**
	comp=Z,2.0nm,0.8s						
ATTU	**Attu Island--F**	**75.55**	**29**	*e*P	**P**	**23 01 13.6**	**+0.4**
FX1	**Attu Island--F**	**75.55**	**29**	*e*P	**P**	**23 01 13.6**	**+0.4**
FX1	**Attu Island--F**	**75.55**	**29**	*e*P	**P**	**23 01 13.6**	**+0.4**
EDM	**Edmonton**	**82.59**	**346**	*e*P	**P**	**23 01 51.6**	**-0.2**
EDM	**Edmonton**	**82.59**	**346**	*e*P	**P**	**23 01 51.6**	**-0.2**
EDM	**Edmonton**	**82.59**	**346**	*e*P	**P**	**23 01 51.6**	**-0.2**
KAPI	**Kappang**	**83.29**	**103**	*e*P	**P**	**23 01 57.2**	**+1.3**
	comp=Z,26nm,1.2s						
KAPI	**Kappang**	**83.29**	**103**	*e*P	**P**	**23 01 57.2**	**+1.3**
	comp=Z,26nm,1.2s						
BRSD	**Miller**	**87.15**	**334**	*e*P	**P**	**23 02 15.7**	**+0.8**
BRSD	**Miller**	**87.15**	**334**	*e*P	**P**	**23 02 15.7**	**+0.8**
LAO	**LASA Array**	**87.21**	**340**	*e*P	**P**	**23 02 16.6**	**+1.4**
LAO	**LASA Array**	**87.21**	**340**	*e*P	**P**	**23 02 16.6**	**+1.4**
NEW	**Newport**	**88.01**	**347**	*e*P	**P**	**23 02 19.9**	**+0.9**
	comp=Z,11nm,1.0s						
NEW	**Newport**	**88.01**	**347**	*e*P	**P**	**23 02 19.9**	**+0.9**
	comp=Z,11nm,1.0s						
SWMT	**Swartz Lake**	**88.18**	**345**	*e*P	**P**	**23 02 18.4**	**-1.5**
SWMT	**Swartz Lake**	**88.18**	**345**	*e*P	**P**	**23 02 18.4**	**-1.5**
SLMT	**Seeley Lake**	**88.34**	**345**	*e*P	**P**	**23 02 21.2**	**+0.5**
SLMT	**Seeley Lake**	**88.34**	**345**	*e*P	**P**	**23 02 21.2**	**+0.5**
CHMT	**Chamberlain Mo**	**88.61**	**344**	*e*P	**P**	**23 02 22.4**	**+0.3**
CHMT	**Chamberlain Mo**	**88.61**	**344**	*e*P	**P**	**23 02 22.4**	**+0.3**
REDW	**Red Top Meadow**	**91.47**	**342**	*e*P	**P**	**23 02 37.2**	**+1.7**
	comp=Z,8.0nm,1.1s						
REDW	**Red Top Meadow**	**91.47**	**342**	*e*P	**P**	**23 02 37.2**	**+1.7**
	comp=Z,8.0nm,1.1s						
PDAR	**Pinedale Array**	**91.72**	**341**	P	**P**	**23 02 35.9**	**-0.8**
PDAR	**Pinedale Array**	**91.72**	**341**	P	**P**	**23 02 35.9**	**-0.8**
	comp=Z,0.8nm,0.9s,baz=329,slow=1.7,SNR=3.1						
PDAR	**Pinedale Array**	**91.72**	**341**	P	**P**	**23 02 35.9**	**-0.8**
PHWY	**Pilot Hill**	**91.99**	**337**	*e*P	**P**	**23 02 38.7**	**+0.6**
	comp=Z,9.0nm,1.1s						
PHWY	**Pilot Hill**	**91.99**	**337**	*e*P	**P**	**23 02 38.7**	**+0.6**
	comp=Z,9.0nm,1.1s						
URZ	**Urewera**	**144.74**	**99**	PKP	**PKPab**	**23 09 02.4**	**-1.8**
URZ	**Urewera**	**144.74**	**99**	PKP	**PKPab**	**23 09 02.4**	**-1.8**
	comp=Z,12nm,0.8s,baz=204,slow=5.4,SNR=7.5						

TIF 07 22:51:24.1, 42°.55N×43°.52E, h10km±2km, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.06**	**307**	P	Pg	22 51 26.6	+0.3
ONI				S	Sg	22 51 28.2	+0.3
AKH	**Akhalkalaki**	**1.14**	**181**	P	Pb	22 51 46.0	-0.2
AKH				S	Sn	22 52 02.0	-0.2
TBLG	**Delisi**	**1.23**	**132**	P	Pb	22 51 47.4	0.0
TBLG				S	Sn	22 52 05.4	+1.5
KZR	**Kazreti**	**1.35**	**150**	P	Pg	22 51 50.6	+0.5
KZR				S	Sg	22 52 08.0	+0.3

ISCJB 07 22:51:54.2±1.4, 42°.50N±0°.06×43°.50E±0°.05, h10km±5km,
Error ellipse: s-maj=10.6km s-min=6.6km az=10.8
TIF 07 22:51:54.1, 42°.50N×43°.57E, h10km±2km
CSEM 07 22:51:55.1, 42°.56N×43°.60E, h9km, After OBN
MOS 07 22:51:55.7±0.9, 42°.56N×43°.60E, h9km, mb4.0/1, Error ellipse: s-maj=22.1km s-min=7.9km az=82.3

ISC 07 22:51:55.3±1.4, 42°.55N±0°.07×43°.56E±0°.05, h10km±7km, n21, σ0°.48/42, 2C-4D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.09**	**297**	P	**Pg**	**22 51 57.9**	**0.0**
ONI				S	**Sg**	**22 51 59.7**	**0.0**
ZEI	**Tsey**	**0.35**	**47**	↓*i*PG	**Pb**	**22 52 03.1**	**-0.6**
ZEI				*i* S	**Sb**	**22 52 08.6**	**-0.8**
ZEI	**Tsey**	**0.35**	**47**	*i* Pg	**Pb**	**22 52 03.1**	**-0.6**
ZEI				*i* Sg	**Sb**	**22 52 08.6**	**-0.8**
DIGR	**Digorskoe uzhe**	**0.35**	**3**	↓*i*PG	**Pg**	**22 52 02.3**	**-0.1**
DIGR				*i* S	**Sg**	**22 52 07.4**	**+0.3**
DIGR	**Digorskoe uzhe**	**0.35**	**3**	*i* Pg	**Pg**	**22 52 02.3**	**-0.1**
DIGR				*i* Sg	**Sg**	**22 52 07.4**	**+0.3**
LACR	**Lac**	**0.61**	**63**	↓*i*PG	**Pb**	**22 52 08.0**	**-0.2**
LACR				*i* S	**Sb**	**22 52 17.0**	**+0.1**
LACR	**Lac**	**0.61**	**63**	*i* Pg	**Pb**	**22 52 08.0**	**-0.2**
LACR				*i* Sg	**Sb**	**22 52 17.0**	**+0.1**
KORR	**Kora**	**0.65**	**35**	↑*i*PG	**Pb**	**22 52 08.9**	**+0.1**
KORR				*e*S	**Sb**	**22 52 18.2**	**+0.2**
KORR	**Kora**	**0.65**	**35**	*i* Pg	**Pb**	**22 52 08.9**	**+0.1**
KORR				*e*Sg	**Sb**	**22 52 18.2**	**+0.2**
LSNR	**Lesken**	**0.75**	**15**	↓*i*PG	**Pb**	**22 52 10.3**	**-0.3**
LSNR				*e*S	**Sb**	**22 52 20.6**	**-0.3**
LSNR	**Lesken**	**0.75**	**15**	*i* Pg	**Pb**	**22 52 10.3**	**-0.3**
LSNR				*e*Sg	**Sb**	**22 52 20.6**	**-0.3**
STDR	**Stavd-Durt**	**0.90**	**24**	*e*PG	**Pn**	**22 52 14.4**	**+0.4**
STDR				*e*S	**Sn**	**22 52 27.1**	**0.0**
STDR	**Stavd-Durt**	**0.90**	**24**	*e*Pg	**Pn**	**22 52 14.4**	**+0.4**
STDR				*e*Sg	**Sn**	**22 52 27.1**	**0.0**
NCK	**Nalchik**	**0.94**	**2**	*i* PG	**Pb**	**22 52 14.0**	**+0.2**
NCK				*i* S	**Sn**	**22 52 27.8**	**-0.5**
NCK	**Nalchik**	**0.94**	**2**	*i* Pg	**Pb**	**22 52 14.0**	**+0.2**
NCK				*i* Sg	**Sn**	**22 52 27.8**	**-0.5**
KUBR	**Kubataba**	**1.25**	**355**	↑*e*PG	**Pg**	**22 52 19.8**	**+0.4**
KUBR				*e*S	**Sn**	**22 52 37.2**	**+1.3**
KUBR	**Kubataba**	**1.25**	**355**	*e*Pg	**Pg**	**22 52 19.8**	**+0.4**
KUBR				*e*Sg	**Sn**	**22 52 37.2**	**+1.3**
SHAR	**Shatzhatmas**	**1.36**	**332**	*e*PG	**Pn**	**22 52 20.7**	**+0.2**
SHAR				*e*S	**Sb**	**22 52 38.0**	**-0.5**
SHAR	**Shatzhatmas**	**1.36**	**332**	*e*Pg	**Pn**	**22 52 20.7**	**+0.2**
SHAR				*e*Sg	**Sb**	**22 52 38.0**	**-0.5**
PYA	**Pyatigorsk**	**1.53**	**346**	*e*PG	**Pg**	**22 52 24.1**	**-0.5**
PYA				*e*S	**Sg**	**22 52 44.0**	**-0.4**
PYA	**Pyatigorsk**	**1.53**	**346**	*e*Pg	**Pg**	**22 52 24.1**	**-0.5**
PYA				*e*Sg	**Sg**	**22 52 44.0**	**-0.4**

TIF 07 22:52:10.0, 42°.55N×43°.47E, h11km±2km
MOS 07 22:52:11.3±1.1, 42°.60N×43°.54E, h8km, mb4.3/1, Error ellipse: s-maj=15.5km s-min=6.5km az=72.7
CSEM 07 22:52:11.3, 42°.60N×43°.54E, h8km, After OBN

ISC 07 22:52:10.7±0.9, 42°.56N±0°.02×43°.56E±0°.03, h8km±6km, n34, σ0°.82/68, 2C-5D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.05**	**316**	P	**Pg**	**22 52 12.3**	**-0.1**
ONI				S	**Sg**	**22 52 13.8**	**+0.1**
DIGR	**Digorskoe uzhe**	**0.35**	**10**	↓*i*PG	**Pg**	**22 52 17.5**	**-0.1**
DIGR				*i* S	**Sg**	**22 52 23.3**	**+1.0**
DIGR	**Digorskoe uzhe**	**0.35**	**10**	*i* Pg	**Pg**	**22 52 17.5**	**-0.1**
DIGR				*i* Sg	**Sg**	**22 52 23.3**	**+1.0**
ZEI	**Tsey**	**0.38**	**52**	↓*i*PG	**Pg**	**22 52 18.6**	**+0.4**
ZEI				*i* S	**Sb**	**22 52 24.6**	**-1.4**
ZEI	**Tsey**	**0.38**	**52**	*i* Pg	**Pg**	**22 52 18.6**	**+0.4**
ZEI				*i* Sg	**Sb**	**22 52 24.6**	**-1.4**
LACR	**Lac**	**0.65**	**65**	↓*i*PG	**Pg**	**22 52 23.2**	**0.0**
LACR				*i* S	**Sb**	**22 52 32.9**	**-0.8**
LACR	**Lac**	**0.65**	**65**	*i* Pg	**Pg**	**22 52 23.2**	**0.0**
LACR				*i* Sg	**Sb**	**22 52 32.9**	**-0.8**
KORR	**Kora**	**0.68**	**38**	↓*i*PG	**Pb**	**22 52 24.4**	**-0.4**
KORR				*e*S	**Sb**	**22 52 34.4**	**0.0**
KORR	**Kora**	**0.68**	**38**	*i* Pg	**Pb**	**22 52 24.4**	**-0.4**
KORR				*e*Sg	**Sb**	**22 52 34.4**	**0.0**
LSNR	**Lesken**	**0.76**	**18**	↓*i*PG	**Pb**	**22 52 25.8**	**-0.5**
LSNR				*e*S	**Sb**	**22 52 36.8**	**0.0**
LSNR	**Lesken**	**0.76**	**18**	*i* Pg	**Pb**	**22 52 25.8**	**-0.5**
LSNR				*e*Sg	**Sb**	**22 52 36.8**	**0.0**
STDR	**Stavd-Durt**	**0.91**	**27**	*e*PG	**Pn**	**22 52 30.0**	**+0.1**
STDR				*e*S	**Sn**	**22 52 43.2**	**-0.1**
STDR	**Stavd-Durt**	**0.91**	**27**	*e*Pg	**Pn**	**22 52 30.0**	**+0.1**
STDR				*e*Sg	**Sn**	**22 52 43.2**	**-0.1**
NCK	**Nalchik**	**0.94**	**4**	↑*e*PG	**Pg**	**22 52 27.0**	**-1.8**
NCK				*e*S	**Sn**	**22 52 43.9**	**-0.1**
NCK	**Nalchik**	**0.94**	**4**	*e*Pg	**Pg**	**22 52 27.0**	**-1.8**
NCK				*e*Sg	**Sn**	**22 52 43.9**	**-0.1**
VLKR	**Vladikavkaz**	**1.00**	**60**	*e*PG	**Pb**	**22 52 30.1**	**-0.2**
VLKR				*e*S	**Sn**	**22 52 44.4**	**-1.0**
VLKR	**Vladikavkaz**	**1.00**	**60**	*e*Pg	**Pb**	**22 52 30.1**	**-0.2**
VLKR				*e*Sg	**Sn**	**22 52 44.4**	**-1.0**
DUS	**Dusheti**	**1.01**	**117**	P	**Pg**	**22 52 30.8**	**+0.8**
DUS				S	**Sn**	**22 52 45.5**	**-0.2**
SNJR	**Sundja**	**1.09**	**62**	*e*PG	**Pb**	**22 52 32.0**	**+0.1**
SNJR				*e*S	**Sn**	**22 52 47.4**	**-0.4**
SNJR	**Sundja**	**1.09**	**62**	*e*Pg	**Pb**	**22 52 32.0**	**+0.1**
SNJR				*e*Sg	**Sn**	**22 52 47.4**	**-0.4**
AKH	**Akhalkalaki**	**1.15**	**180**	P	**Pb**	**22 52 31.9**	**-1.0**
AKH				S	**Sg**	**22 52 47.8**	**+0.3**
TBLG	**Delisi**	**1.24**	**131**	P	**Pn**	**22 52 34.3**	**-0.1**
TBLG				S	**Sg**	**22 52 51.5**	**+1.0**
KUBR	**Kubataba**	**1.25**	**357**	↑*e*PG	**Pg**	**22 52 35.5**	**+0.9**
KUBR				*e*S	**Sn**	**22 52 54.5**	**+3.0**
KUBR	**Kubataba**	**1.25**	**357**	*e*Pg	**Pg**	**22 52 35.5**	**+0.9**
KUBR				*e*Sg	**Sn**	**22 52 54.5**	**+3.0**
PRTR	**Priterechnaya**	**1.33**	**25**	*e*PG	**Pg**	**22 52 35.8**	**-0.3**
PRTR				*e*S	**Sn**	**22 52 54.3**	**+0.9**
PRTR	**Priterechnaya**	**1.33**	**25**	*e*Pg	**Pg**	**22 52 35.8**	**-0.3**
PRTR				*e*Sg	**Sn**	**22 52 54.3**	**+0.9**
SHAR	**Shatzhatmas**	**1.33**	**333**	*e*PG	**Pn**	**22 52 35.6**	**-0.3**
SHAR				*e*S	**Sb**	**22 52 53.1**	**-0.3**
SHAR	**Shatzhatmas**	**1.33**	**333**	*e*Pg	**Pn**	**22 52 35.6**	**-0.3**
SHAR				*e*Sg	**Sb**	**22 52 53.1**	**-0.3**
KZR	**Kazreti**	**1.36**	**149**	P	**Pn**	**22 52 35.4**	**-0.7**
KZR				S	**Sb**	**22 52 54.0**	**0.0**
TRKR	**Terskaya**	**1.48**	**37**	*e*PG	**Pn**	**22 52 37.7**	**+0.1**
TRKR				*e*S	**Sg**	**22 52 58.3**	**+0.1**
TRKR	**Terskaya**	**1.48**	**37**	*e*Pg	**Pn**	**22 52 37.7**	**+0.1**
TRKR				*e*Sg	**Sg**	**22 52 58.3**	**+0.1**
PYA	**Pyatigorsk**	**1.51**	**348**	*e*PG	**Pb**	**22 52 38.9**	**-0.1**
PYA				*e*S	**Sg**	**22 52 59.6**	**+0.3**
PYA	**Pyatigorsk**	**1.51**	**348**	*e*Pg	**Pb**	**22 52 38.9**	**-0.1**
PYA				*e*Sg	**Sg**	**22 52 59.6**	**+0.3**
DGRG	**David-gareji**	**1.78**	**128**	P	**Pb**	**22 52 44.5**	**+0.9**
DGRG				S	**Sg**	**22 53 08.6**	**+0.7**

ISCJB 07 23:01:38.9±0.4, 42°.57N±0°.02×43°.45E±0°.03, h1km±3km,
Error ellipse: s-maj=3.4km s-min=2.9km az=40.6
DDA 07 23:01:38.9, 42°.76N×43°.29E, h12km, MD3.0
TIF 07 23:01:38.6, 42°.54N×43°.48E, h9km±1km
CSEM 07 23:01:39.1±0.1, 42°.57N×43°.44E, h2km, mb4.2, Error ellipse: s-maj=3.4km s-min=2.3km az=129.0
MOS 07 23:01:40.2±0.7, 42°.61N×43°.53E, h9km, mb4.2/1, Error ellipse: s-maj=10.4km s-min=5.7km az=74.2

ISC 07 23:01:39.5±0.8, 42°.58N±0°.02×43°.50E±0°.02, h7km±5km, n54, σ0°.82/107, 2C-7D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.04**	**286**	P	**Pg**	**23 01 40.9**	**-0.1**
ONI				S	**Sg**	**23 01 42.5**	**+0.5**
DIGR	**Digorskoe uzhe**	**0.32**	**11**	↓*i*PG	**Pg**	**23 01 45.4**	**-0.5**
DIGR				*i* S	**Sg**	**23 01 50.7**	**+0.4**
DIGR	**Digorskoe uzhe**	**0.32**	**11**	*i* Pg	**Pg**	**23 01 45.4**	**-0.5**
DIGR				*i* Sg	**Sg**	**23 01 50.7**	**+0.4**
ZEI	**Tsey**	**0.36**	**55**	↓*i*PG	**Pg**	**23 01 46.5**	**-0.1**
ZEI				*i* S	**Sg**	**23 01 52.2**	**+0.8**
ZEI	**Tsey**	**0.36**	**55**	*i* Pg	**Pg**	**23 01 46.5**	**-0.1**
ZEI				*i* Sg	**Sg**	**23 01 52.2**	**+0.8**
LACR	**Lac**	**0.64**	**67**	↓*i*PG	**Pg**	**23 01 51.4**	**-0.4**
LACR				*i* S	**Sg**	**23 02 00.6**	**+0.5**
LACR	**Lac**	**0.64**	**67**	*i* Pg	**Pg**	**23 01 51.4**	**-0.4**
LACR				*i* Sg	**Sg**	**23 02 00.6**	**+0.5**
KORR	**Kora**	**0.66**	**39**	↑*i*PG	**Pg**	**23 01 52.3**	**+0.2**
KORR				*e*S	**Sb**	**23 02 02.0**	**-0.7**
KORR	**Kora**	**0.66**	**39**	*i* Pg	**Pg**	**23 01 52.3**	**+0.2**
KORR				*e*Sg	**Sb**	**23 02 02.0**	**-0.7**
LSNR	**Lesken**	**0.74**	**19**	↓*i*PG	**Pg**	**23 01 53.7**	**0.0**
LSNR				*e*S	**Sb**	**23 02 04.2**	**-0.8**
LSNR	**Lesken**	**0.74**	**19**	*i* Pg	**Pg**	**23 01 53.7**	**0.0**
LSNR				*e*Sg	**Sb**	**23 02 04.2**	**-0.8**
STDR	**Stavd-Durt**	**0.89**	**27**	↓*i*PG	**Pn**	**23 01 57.9**	**-0.6**
STDR				*i* S	**Sn**	**23 02 10.6**	**-1.0**
STDR	**Stavd-Durt**	**0.89**	**27**	*i* Pg	**Pn**	**23 01 57.9**	**-0.6**
STDR				*i* Sg	**Sn**	**23 02 10.6**	**-1.0**
NCK	**Nalchik**	**0.92**	**4**	*e*PG	**Pg**	**23 01 57.3**	**+0.2**
NCK				*e*S	**Sb**	**23 02 10.4**	**+0.2**
NCK	**Nalchik**	**0.92**	**4**	*e*Pg	**Pg**	**23 01 57.3**	**+0.2**
NCK				*e*Sg	**Sb**	**23 02 10.4**	**+0.2**
VLKR	**Vladikavkaz**	**0.98**	**61**	*e*PG	**Pg**	**23 01 58.7**	**+0.3**
VLKR				*e*S	**Sb**	**23 02 12.7**	**+0.6**
VLKR	**Vladikavkaz**	**0.98**	**61**	*e*Pg	**Pg**	**23 01 58.7**	**+0.3**
VLKR				*e*Sg	**Sb**	**23 02 12.7**	**+0.6**
SNJR	**Sundja**	**1.08**	**63**	↑*i*PG	**Pb**	**23 02 00.4**	**-0.2**
SNJR				*e*S	**Sn**	**23 02 15.6**	**-0.8**
SNJR	**Sundja**	**1.08**	**63**	*i* Pg	**Pb**	**23 02 00.4**	**-0.2**
SNJR				*e*Sg	**Sn**	**23 02 15.6**	**-0.8**
BTKR	**Batakoyurt**	**1.10**	**44**	↓*i*PG	**Pn**	**23 02 02.3**	**+0.9**
BTKR				*e*S	**Sn**	**23 02 17.6**	**+0.7**
BTKR	**Batakoyurt**	**1.10**	**44**	*i* Pg	**Pn**	**23 02 02.3**	**+0.9**
BTKR				*e*Sg	**Sn**	**23 02 17.6**	**+0.7**
AKH	**Akhalkalaki**	**1.17**	**180**	P	**Pb**	**23 02 00.4**	**-1.7**
AKH				S	**Sb**	**23 02 16.6**	**-1.0**
KUBR	**Kubataba**	**1.22**	**357**	*e*PG	**Pg**	**23 02 03.2**	**+0.3**
KUBR				*i* S	**Sn**	**23 02 20.8**	**+1.0**
KUBR	**Kubataba**	**1.22**	**357**	*e*Pg	**Pg**	**23 02 03.2**	**+0.3**
KUBR				*i* Sg	**Sn**	**23 02 20.8**	**+1.0**
TBLG	**Delisi**	**1.25**	**132**	P	**Pn**	**23 02 02.5**	**-0.9**
TBLG				S	**Sb**	**23 02 20.4**	**+0.6**
PRTR	**Priterechnaya**	**1.30**	**26**	*e*PG	**Pg**	**23 02 04.7**	**+0.2**
PRTR				*e*S	**Sg**	**23 02 22.5**	**+1.1**
PRTR	**Priterechnaya**	**1.30**	**26**	*e*Pg	**Pg**	**23 02 04.7**	**+0.2**
PRTR				*e*Sg	**Sg**	**23 02 22.5**	**+1.1**
SHAR	**Shatzhatmas**	**1.31**	**333**	*e*PG	**Pn**	**23 02 03.8**	**-0.7**
SHAR				*e*S	**Sb**	**23 02 20.7**	**-1.0**
SHAR	**Shatzhatmas**	**1.31**	**333**	*e*Pg	**Pn**	**23 02 03.8**	**-0.7**
SHAR				*e*Sg	**Sb**	**23 02 20.7**	**-1.0**
KZR	**Kazreti**	**1.38**	**150**	P	**Pn**	**23 02 04.0**	**-1.2**
KZR				S	**Sn**	**23 02 22.3**	**-1.4**
TRKR	**Terskaya**	**1.46**	**38**	*e*PG	**Pg**	**23 02 07.6**	**+0.2**
TRKR				*e*S	**Sg**	**23 02 27.6**	**+1.3**
TRKR	**Terskaya**	**1.46**	**38**	*e*Pg	**Pg**	**23 02 07.6**	**+0.2**
TRKR				*e*Sg	**Sg**	**23 02 27.6**	**+1.3**
PYA	**Pyatigorsk**	**1.49**	**348**	*e*PG	**Pb**	**23 02 07.1**	**-0.4**
PYA				*e*S	**Sg**	**23 02 26.8**	**-0.5**
PYA	**Pyatigorsk**	**1.49**	**348**	*e*Pg	**Pb**	**23 02 07.1**	**-0.4**
PYA				*e*Sg	**Sg**	**23 02 26.8**	**-0.5**
KIV	**Kislovodsk**	**1.50**	**337**	*e*PG	**Pb**	**23 02 07.4**	**-0.3**
KIV				*i* S	**Sn**	**23 02 26.2**	**-0.5**
KIV	**Kislovodsk**	**1.50**	**337**	*e*Pg	**Pb**	**23 02 07.4**	**-0.3**
KIV				*i* Sg	**Sn**	**23 02 26.2**	**-0.5**
DOMR	**Dombai**	**1.55**	**298**	*e*PG	**Pb**	**23 02 08.7**	**+0.1**
DOMR				*e*S	**Sg**	**23 02 30.1**	**+0.8**
DOMR	**Dombai**	**1.55**	**298**	*e*Pg	**Pb**	**23 02 08.7**	**+0.1**
DOMR				*e*Sg	**Sg**	**23 02 30.1**	**+0.8**
DGRG	**David-gareji**	**1.79**	**128**	P	**Pb**	**23 02 12.8**	**+0.1**
DGRG				S	**Sg**	**23 02 37.9**	**+0.7**
GRO	**Groznyy**	**1.81**	**65**	↓*i*PN	**Pb**	**23 02 12.2**	**-0.7**
GRO				*e*S	**Sb**	**23 02 36.1**	**+0.3**
GRO	**Grozn

comp=Z,56nm,0.3s
KUBR Kubataba 1.27 359 ⇓*i*PG **Pg 23 03 01.0 +0.2**
KUBR *i* S **Sg 23 03 19.9 +2.6**
KUBR Kubataba 1.27 359 *i* Pg **Pg 23 03 01.0 +0.2**
KUBR *i* Sg **Sg 23 03 19.9 +2.6**
SHAR Shatzhatmas 1.34 335 ⇓*i*PG **Pb 23 03 01.5 0.0**
SHAR *i* S **Sn 23 03 19.2 +0.5**
SHAR Shatzhatmas 1.34 335 *i* Pg **Pb 23 03 01.5 0.0**
SHAR *i* Sg **Sn 23 03 19.2 +0.5**
PRTR Priterechnaya 1.36 26 *e*PG **Pg 23 03 02.2 -0.5**
PRTR *i* S **Sg 23 03 21.0 +0.6**
PRTR Priterechnaya 1.36 26 *e*Pg **Pg 23 03 02.2 -0.5**
PRTR *i* Sg **Sg 23 03 21.0 +0.6**
TRKR Terskaya 1.52 38 ⇑*i*PG **Pg 23 03 05.3 -0.3**
TRKR *e*S **Sg 23 03 26.0 +0.6**
TRKR Terskaya 1.52 38 *i* Pg **Pg 23 03 05.3 -0.3**
TRKR *e*Sg **Sg 23 03 26.0 +0.6**
KIV Kislovodsk 1.53 339 ⇓*i*PG **Pb 23 03 04.7 +0.1**
KIV *i* S **Sg 23 03 25.4 -0.2**
KIV Kislovodsk 1.53 339 *i* Pg **Pb 23 03 04.7 +0.1**
KIV *i* Sg **Sg 23 03 25.4 -0.2**
PYA Pyatigorsk 1.53 350 ⇓*e*PG **Pb 23 03 05.0 +0.4**
PYA *e*S **Sg 23 03 25.7 +0.1**
PYA Pyatigorsk 1.53 350 *e*Pg **Pb 23 03 05.0 +0.4**
PYA *e*Sg **Sg 23 03 25.7 +0.1**
DOMR Dombai 1.54 300 *e*PG **Pg 23 03 05.8 -0.1**
DOMR *e*S **Sg 23 03 26.4 +0.5**
DOMR Dombai 1.54 300 *e*Pg **Pg 23 03 05.8 -0.1**
DOMR *e*Sg **Sg 23 03 26.4 +0.5**
ARTV Artvin 1.76 221 *i* P **Pn 23 03 07.5 +0.7**
ARTV *i* S **Sb 23 03 31.1 +0.4**
ARTV Artvin 1.76 221 *i* P **Pn 23 03 07.5 +0.7**
ARTV *i* S **Sb 23 03 31.1 +0.4**
DBOC Borcka 1.78 229 *i* P **Pn 23 03 07.5 +0.6**
DBOC *i* S **Sb 23 03 31.1 0.0**
DBOC Borcka 1.78 229 *i* P **Pn 23 03 07.5 +0.6**
DBOC *i* S **Sb 23 03 31.1 0.0**
DAGI Agillar 1.85 219 *i* P **Pn 23 03 09.1 +1.2**
DAGI *i* S **Sb 23 03 33.7 +0.6**
GRO Groznyy 1.87 64 ⇓*i*PN **Pb 23 03 10.7 +0.3**
GRO *e*S **Sb 23 03 34.9 +1.2**
GRO Groznyy 1.87 64 *i* Pn **Pb 23 03 10.7 +0.3**
GRO *e*Sg **Sb 23 03 34.9 +1.2**
DBAD Bademkaya 2.00 221 *i* P **Pb 23 03 11.7 -1.0**
DBAD *i* S **Sb 23 03 38.4 +0.9**
DBAD Bademkaya 2.00 221 *i* P **Pb 23 03 11.7 -1.0**
DBAD *i* S **Sb 23 03 38.4 +0.9**
DDEM Demirkent 2.07 218 *i* P **Pb 23 03 13.3 -0.6**
DDEM *i* S **Sb 23 03 40.0 +0.4**
DDEM Demirkent 2.07 218 *i* P **Pb 23 03 13.3 -0.6**
DDEM *i* S **Sb 23 03 40.0 +0.4**
DIGO Kars 2.12 181 *i* P **Pb 23 03 13.8 -1.0**
DIGO *i* S **Sb 23 03 42.6 +1.6**
DIGO Kars 2.12 181 *i* P **Pb 23 03 13.8 -1.0**
DIGO *i* S **Sb 23 03 42.6 +1.6**
SOC Sochi 2.92 292 *e*PN **Pg 23 03 31.3 -1.2**
SOC *e* 23 04 07.4
SOC pmax pmax
comp=Z,61nm,0.8s
SOC smax smax
comp=N,111nm,0.6s
SOC smax smax
comp=E,187nm,0.8s
SOC Sochi 2.92 292 *e*Pn **Pg 23 03 31.3 -1.2**
comp=E,61nm,0.8s
SOC *e*Sb **Sg 23 04 07.4 -3.0**
comp=E,111nm,0.6s
BRTR Keskin Array B 7.91 253 Pn **Pn 23 04 32.2 +0.9**
comp=E,0.3nm,0.3s,baz=52,slow=13,SNR=8.6
BRTR Sn **Sn 23 06 02.4 +1.7**
comp=E,0.0nm,0.3s,baz=79,slow=29,SNR=2.6
BRTR Keskin Array B 7.91 253 P **Pn 23 04 32.2 +0.9**
BRTR S **Sn 23 06 02.4 +1.7**
AKTK Aktyubinsk 12.77 47 P **Pn 23 05 36.3 -1.2**
comp=E,1.0nm,0.3s
AKTO Aktyubinsk 12.77 47 ⇑Pn **Pn 23 05 36.0 -1.5**
comp=E,2.2nm,0.5s
AKTO ⇓Sn **Sn 23 07 55.7 -3.7**
comp=E,3.1nm,0.9s
AKTO Aktyubinsk 12.77 47 P **Pn 23 05 36.3 -1.2**
AKTO pmax pmax
comp=Z,1.0nm,0.3s
AKTO Aktyubinsk 12.77 47 Pn **Pn 23 05 36.3 -1.2**
comp=Z,0.6nm,0.3s,baz=230,slow=13,SNR=7.6
AKTO Aktyubinsk 12.77 47 Pn **Pn 23 05 36.0 -1.5**
comp=Z,2.2nm,0.5s
AKTO Sn **Sn 23 07 55.7 -3.7**
comp=Z,3.1nm,0.9s
AB31 Akbulak array 13.30 54 Pn **Pn 23 05 43.5 -1.3**
comp=Z,1.6nm,0.5s,baz=246,slow=14,SNR=22
AB31 ⇑Sn **Sn 23 08 08.3 -4.2**
comp=Z,2.8nm,0.8s,baz=244,slow=24,SNR=5.0
AB31 Akbulak array 13.30 54 Pn **Pn 23 05 43.5 -1.3**
comp=Z,1.6nm,0.5s,baz=246,SNR=22
AB31 Sn **Sn 23 08 08.3 -4.2**
comp=Z,2.8nm,0.8s,baz=244,SNR=5.0
KK31 Karatay Array 19.84 79 ⇓P **Pn 23 07 10.7 +2.2**
comp=Z,2.6nm,1.0s,baz=302,slow=11,SNR=4.8
KK31 Karatay Array 19.84 79 P **Pn 23 07 10.7 +2.2**
comp=Z,2.6nm,1.0s,SNR=4.8
BVAR Borovoye Array 20.81 50 P Pn 23 07 18.8 -1.0
BVAR Borovoye Array 20.81 50 P Pn 23 07 18.8 -0.9
comp=Z,2.1nm,0.7s,baz=236,slow=12,SNR=7.9
BVAR Borovoye Array 20.81 50 P Pn 23 07 18.8 -1.0
FINES FINESS Array B 21.62 337 P **P 23 07 26.1 +0.2**
comp=Z,3.0nm,0.9s,baz=140,slow=14,SNR=2.5
FINES FINESS Array B 21.62 337 P **P 23 07 26.1 +0.2**
MKAR Makanchi Array 27.76 68 P **P 23 08 26.5 +1.8**
MKAR Makanchi Array 27.76 68 P **P 23 08 26.5 +1.8**
comp=Z,0.3nm,0.5s,baz=268,slow=9.6,SNR=7.5
MKAR Makanchi Array 27.76 68 P **P 23 08 26.5 +1.8**

*CSEM **07** 23:04:21.9, 42°.56N×43°.55E, h10km, After OBN*
MOS 07 23:04:21.9±1.3, 42°.56N×43°.55E, h10km, mb4.1/1, 1C-6D,
Error ellipse: s-maj=18.1km s-min=7.2km az=72.3,
Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIGR	**Digorskoe uzhe**	**0.34**	**4**	⇓*i*PG	Pg	23 04 28.2	-0.9
DIGR				*i* S	Sg	23 04 34.0	+0.1
DIGR	**Digorskoe uzhe**	**0.34**	**4**	*i* Pg	Pg	23 04 28.2	-0.9
DIGR				*i* Sg	Sg	23 04 34.0	+0.1
ZEI	**Tsey**	**0.35**	**48**	⇓*i*PG	Pg	23 04 28.9	-0.2
ZEI				*i* S	Sb	23 04 35.2	-1.1
ZEI	**Tsey**	**0.35**	**48**	*i* Pg	Pg	23 04 28.9	-0.2
ZEI				*i* Sg	Sb	23 04 35.2	-1.1
LACR	**Lac**	**0.61**	**64**	⇓*i*PG	Pg	23 04 33.6	-0.4
LACR				*e*S	Sb	23 04 43.4	-0.3
LACR	**Lac**	**0.61**	**64**	*i* Pg	Pg	23 04 33.6	-0.4
LACR				*e*Sg	Sb	23 04 43.4	-0.3
KORR	**Kora**	**0.65**	**36**	⇓*i*PG	Pg	23 04 35.0	+0.4
KORR				*i* S	Sb	23 04 45.5	+0.8
KORR	**Kora**	**0.65**	**36**	*i* Pg	Pg	23 04 35.0	+0.4
KORR				*i* Sg	Sb	23 04 45.5	+0.8
LSNR	**Lesken**	**0.75**	**16**	⇓*i*PG	Pg	23 04 36.5	0.0
LSNR				*e*S	Sb	23 04 47.7	+0.2
LSNR	**Lesken**	**0.75**	**16**	*i* Pg	Pg	23 04 36.5	0.0
LSNR				*e*Sg	Sb	23 04 47.7	+0.2
STDR	**Stavd-Durt**	**0.90**	**25**	⇓*i*PG	Pn	23 04 40.5	-0.1
STDR				*e*S	Sn	23 04 54.0	+0.4
STDR	**Stavd-Durt**	**0.90**	**25**	*i* Pg	Pn	23 04 40.5	-0.1
STDR				*e*Sg	Sn	23 04 54.0	+0.4
NCK	**Nalchik**	**0.94**	**2**	*e*PG	Pg	23 04 40.1	0.0
NCK				*e*S	Sn	23 04 54.5	-0.3
NCK	**Nalchik**	**0.94**	**2**	*e*Pg	Pg	23 04 40.1	0.0
NCK				*e*Sg	Sn	23 04 54.5	-0.3
VLKR	**Vladikavkaz**	**0.96**	**59**	*e*PG	Pn	23 04 42.0	+0.4
VLKR				*e*S	Sn	23 04 56.5	+1.1
VLKR	**Vladikavkaz**	**0.96**	**59**	*e*Pg	Pn	23 04 42.0	+0.4
VLKR				*e*Sg	Sn	23 04 56.5	+1.1
SNJR	**Sundja**	**1.06**	**61**	*e*PG	Pg	23 04 42.3	-0.1
SNJR				*e*S	Sn	23 04 58.0	+0.2
SNJR	**Sundja**	**1.06**	**61**	*e*Pg	Pg	23 04 42.3	-0.1
SNJR				*e*Sg	Sn	23 04 58.0	+0.2
KUBR	**Kubataba**	**1.25**	**355**	⇑*e*PG	Pg	23 04 46.0	0.0
KUBR				*e*S	Sn	23 05 04.1	+1.7
KUBR	**Kubataba**	**1.25**	**355**	*e*Pg	Pg	23 04 46.0	0.0
KUBR				*e*Sg	Sn	23 05 04.1	+1.7
PRTR	**Priterechnaya**	**1.31**	**24**	*e*PG	Pg	23 04 47.8	+0.8
PRTR				*e*S	Sg	23 05 06.6	+2.5
PRTR	**Priterechnaya**	**1.31**	**24**	*e*Pg	Pg	23 04 47.8	+0.8
PRTR				*e*Sg	Sg	23 05 06.6	+2.5
SHAR	**Shatzhatmas**	**1.35**	**332**	*i* PG	Pn	23 04 46.5	-0.6
SHAR				*e*S	Sb	23 05 04.2	-1.0
SHAR	**Shatzhatmas**	**1.35**	**332**	*i* Pg	Pn	23 04 46.5	-0.6
SHAR				*e*Sg	Sb	23 05 04.2	-1.0
SHAR				*e*Sg	Sb	23 07 39.4	-1.4
TRKR	**Terskaya**	**1.49**	**36**	*e*PG	Pb	23 07 24.8	-0.1
TRKR				*e*S	Sg	23 07 44.9	0.0
TRKR	**Terskaya**	**1.49**	**36**	*e*Pg	Pb	23 07 24.8	-0.1
TRKR				*e*Sg	Sg	23 07 44.9	0.0
PYA	**Pyatigorsk**	**1.54**	**348**	⇑*e*PG	Pb	23 07 25.6	-0.2
PYA				*e*S	Sb	23 07 45.5	0.0
PYA	**Pyatigorsk**	**1.54**	**348**	*e*Pg	Pb	23 07 25.6	-0.2
PYA				*e*Sg	Sb	23 07 45.5	0.0
KIV	**Kislovodsk**	**1.54**	**337**	⇑*e*PG	Pn	23 07 25.2	+0.2
KIV				*e*S	Sn	23 07 44.8	-0.5
KIV	**Kislovodsk**	**1.54**	**337**	*e*Pg	Pn	23 07 25.2	+0.2
KIV				*e*Sg	Sn	23 07 44.8	-0.5

*TIF **07** 23:06:16.7, 42°.54N×43°.48E, h10km±1km*
*CSEM **07** 23:06:17.2±0.2, 42°.55N×43°.42E, h2km, mb4.0, Error ellipse: s-maj=4.3km s-min=2.7km az=131.0*
*MOS **07** 23:06:18.2±1.1, 42°.58N×43°.50E, h9km, mb4.0/1, Error ellipse: s-maj=11.9km s-min=5.8km az=72.7*
*DDA **07** 23:06:19.5, 42°.51N×43°.30E, h11km, MD3.0*
ISC 07 23:06:17.1±1.2, 42°.54N±0°.03×43°.42E±0°.03, h1km±10km,
n43, σ0°.43/84, 5C-9D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIGR	**Digorskoe uzhe**	**0.38**	**19**	⇓*i*PG	Pg	23 06 24.1	-0.3
DIGR				*i* S	Sg	23 06 29.4	0.0
DIGR	**Digorskoe uzhe**	**0.38**	**19**	*i* Pg	Pg	23 06 24.1	-0.3
DIGR				*i* Sg	Sg	23 06 29.4	0.0
ZEI	**Tsey**	**0.44**	**55**	⇓*i*PG	Pg	23 06 25.1	-0.4
ZEI				*i* S	Sg	23 06 31.1	0.0
ZEI	**Tsey**	**0.44**	**55**	*i* Pg	Pg	23 06 25.1	-0.4
ZEI				*i* Sg	Sg	23 06 31.1	0.0
LACR	**Lac**	**0.71**	**66**	⇓*i*PG	Pg	23 06 30.0	-0.7
LACR				*i* S	Sg	23 06 39.3	-0.6
LACR	**Lac**	**0.71**	**66**	*i* Pg	Pg	23 06 30.0	-0.7
LACR				*i* Sg	Sg	23 06 39.3	-0.6
KORR	**Kora**	**0.73**	**41**	⇑*i*PG	Pg	23 06 30.9	-0.1
KORR				*e*S	Sg	23 06 40.8	+0.3
KORR	**Kora**	**0.73**	**41**	*i* Pg	Pg	23 06 30.9	-0.1
KORR				*e*Sg	Sg	23 06 40.8	+0.3
LSNR	**Lesken**	**0.80**	**22**	⇓*i*PG	Pg	23 06 32.3	-0.1
LSNR				*i* S	Sg	23 06 43.0	+0.3
LSNR	**Lesken**	**0.80**	**22**	*i* Pg	Pg	23 06 32.3	-0.1
LSNR				*i* Sg	Sg	23 06 43.0	+0.3
STDR	**Stavd-Durt**	**0.96**	**30**	⇑*i*PG	Pb	23 06 36.5	+0.1
STDR				*i* S	Sb	23 06 49.6	0.0
STDR	**Stavd-Durt**	**0.96**	**30**	*i* Pg	Pb	23 06 36.5	+0.1
STDR				*i* Sg	Sb	23 06 49.6	0.0
NCK	**Nalchik**	**0.96**	**8**	⇓*i*PG	Pg	23 06 35.9	+0.3
NCK	**Nalchik**	**0.96**	**8**	*i* Pg	Pg	23 06 35.9	+0.3
VLKR	**Vladikavkaz**	**1.06**	**61**	*e*PG	Pg	23 06 37.0	-0.3
VLKR				*e*S	Sg	23 06 51.2	+0.1
VLKR	**Vladikavkaz**	**1.06**	**61**	*e*Pg	Pg	23 06 37.0	-0.3
VLKR				*e*Sg	Sg	23 06 51.2	+0.1
SNJR	**Sundja**	**1.16**	**62**	⇑*i*PG	Pg	23 06 39.0	-0.2
SNJR				*e*S	Sg	23 06 54.5	+0.3
SNJR	**Sundja**	**1.16**	**62**	*i* Pg	Pg	23 06 39.0	-0.2
SNJR				*e*Sg	Sg	23 06 54.5	+0.3
BTKR	**Batakoyurt**	**1.17**	**44**	⇓*i*PG	Pn	23 06 41.0	+0.4
BTKR				*e*S	Sn	23 06 56.8	-0.5
BTKR	**Batakoyurt**	**1.17**	**44**	*i* Pg	Pn	23 06 41.0	+0.4
BTKR				*e*Sg	Sn	23 06 56.8	-0.5
KUBR	**Kubataba**	**1.26**	**360**	*e*PG	Pn	23 06 41.9	+0.1
KUBR				*e*S	Sn	23 07 00.0	+0.6
KUBR	**Kubataba**	**1.26**	**360**	*e*Pg	Pn	23 06 41.9	+0.1
KUBR				*e*Sg	Sn	23 07 00.0	+0.6
SHAR	**Shatzhatmas**	**1.32**	**336**	⇑*e*PG	Pg	23 06 42.5	+0.1
SHAR				*e*S	Sg	23 06 59.4	-0.2
SHAR	**Shatzhatmas**	**1.32**	**336**	*e*Pg	Pg	23 06 42.5	+0.1
SHAR				*e*Sg	Sg	23 06 59.4	-0.2
PRTR	**Priterechnaya**	**1.37**	**27**	⇓*i*PG	Pb	23 06 43.6	+0.2
PRTR				*e*S	Sn	23 07 02.1	+0.1
PRTR	**Priterechnaya**	**1.37**	**27**	*i* Pg	Pb	23 06 43.6	+0.2
PRTR				*e*Sg	Sn	23 07 02.1	+0.1
KIV	**Kislovodsk**	**1.51**	**340**	⇓*e*PG	Pn	23 06 45.1	-0.2
KIV				*e*S	Sn	23 07 04.0	-1.7
KIV	**Kislovodsk**	**1.51**	**340**	*e*Pg	Pn	23 06 45.1	-0.2
KIV				*e*Sg	Sn	23 07 04.0	-1.7
PYA	**Pyatigorsk**	**1.52**	**350**	⇑*e*PG	Pn	23 06 45.6	+0.3
PYA				*i* S	Sn	23 07 05.4	-0.3
PYA	**Pyatigorsk**	**1.52**	**350**	*e*Pg	Pn	23 06 45.6	+0.3
PYA				*i* Sg	Sn	23 07 05.4	-0.3
TRKR	**Terskaya**	**1.53**	**39**	⇓*i*PG	Pn	23 06 45.5	+0.1
TRKR				*i* S	Sb	23 07 05.7	-0.2
TRKR	**Terskaya**	**1.53**	**39**	*i* Pg	Pn	23 06 45.5	+0.1
TRKR				*i* Sg	Sb	23 07 05.7	-0.2
ARTV	**Artvin**	**1.75**	**220**	*i* P	Pn	23 06 48.8	+0.1
ARTV				*i* S	Sn	23 07 11.3	-0.4
ARTV	**Artvin**	**1.75**	**220**	*i* P	Pn	23 06 48.8	+0.1
ARTV				*i* S	Sn	23 07 11.3	-0.4
DBOC	**Borcka**	**1.77**	**228**	*i* P	Pn	23 06 48.2	-0.5
DBOC				*i* S	Sb	23 07 12.9	0.0
DBOC	**Borcka**	**1.77**	**228**	*i* P	Pn	23 06 48.3	-0.5
DBOC				*i* S	Sb	23 07 12.9	0.0
DAGI	**Agillar**	**1.84**	**218**	*i* P	Pn	23 06 50.3	+0.5
DAGI				*i* S	Sb	23 07 15.0	-0.1
GRO	**Groznyy**	**1.88**	**65**	*e*PN	Pn	23 06 50.8	+0.5
GRO				*e*S	Sn	23 07 14.8	+0.1
GRO	**Groznyy**	**1.88**	**65**	*e*Pn	Pn	23 06 50.8	+0.5
GRO				*e*Sg	Sn	23 07 14.8	+0.1
DBAD	**Bademkaya**	**1.99**	**221**	*i* P	Pn	23 06 51.9	0.0
DBAD				*i* S	Sb	23 07 19.7	+0.3
DBAD	**Bademkaya**	**1.99**	**221**	*i* P	Pn	23 06 51.9	0.0
DBAD				*i* S	Sb	23 07 19.7	+0.3
DDEM	**Demirkent**	**2.06**	**218**	*i* P	Pn	23 06 53.5	+0.6
DDEM				*i* S	Sb	23 07 22.3	+0.8
DDEM	**Demirkent**	**2.06**	**218**	*i* P	Pn	23 06 53.5	+0.6
DDEM				*i* S	Sb	23 07 22.3	+0.8

*CSEM **07** 23:06:57.0, 42°.53N×43°.51E, h8km, After OBN*
MOS 07 23:06:57.0±0.8, 42°.53N×43°.51E, h8km, mb4.1/1, 2C-8D,
Error ellipse: s-maj=15.2km s-min=6.1km az=75.4,
Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIGR	**Digorskoe uzhe**	**0.37**	**8**	⇓*i*PG	Pg	23 07 04.0	-0.6
DIGR				*i* S	Sg	23 07 09.5	-0.2
DIGR	**Digorskoe uzhe**	**0.37**	**8**	*i* Pg	Pg	23 07 04.0	-0.6
DIGR				*i* Sg	Sg	23 07 09.5	-0.2
ZEI	**Tsey**	**0.39**	**48**	⇓*i*PG	Pg	23 07 05.1	+0.2
ZEI				*i* S	Sg	23 07 11.1	+0.9
ZEI	**Tsey**	**0.39**	**48**	*i* Pg	Pg	23 07 05.1	+0.2
ZEI				*i* Sg	Sg	23 07 11.1	+0.9
LACR	**Lac**	**0.65**	**63**	⇓*i*PG	Pg	23 07 10.0	+0.3
LACR				*i* S	Sb	23 07 19.6	-0.5
LACR	**Lac**	**0.65**	**63**	*i* Pg	Pg	23 07 10.0	+0.3
LACR				*i* Sg	Sb	23 07 19.6	-0.5
KORR	**Kora**	**0.69**	**36**	⇓*i*PG	Pb	23 07 11.0	-0.4
KORR				*i* S	Sb	23 07 21.0	-0.1
KORR	**Kora**	**0.69**	**36**	*i* Pg	Pb	23 07 11.0	-0.4
KORR				*i* Sg	Sb	23 07 21.0	-0.1
LSNR	**Lesken**	**0.78**	**17**	⇓*i*PG	Pg	23 07 12.2	+0.1
LSNR				*i* S	Sg	23 07 23.0	+0.6
LSNR	**Lesken**	**0.78**	**17**	*i* Pg	Pg	23 07 12.2	+0.1
LSNR				*i* Sg	Sg	23 07 23.0	+0.6
STDR	**Stavd-Durt**	**0.93**	**26**	⇓*i*PG	Pn	23 07 16.6	+0.2
STDR				*e*S	Sn	23 07 29.5	-0.4
STDR	**Stavd-Durt**	**0.93**	**26**	*i* Pg	Pn	23 07 16.6	+0.2
STDR				*e*Sg	Sn	23 07 29.5	-0.4
NCK	**Nalchik**	**0.96**	**4**	⇓*e*PG	Pb	23 07 15.9	-0.1
NCK				*i* S	Sb	23 07 29.9	+0.9
NCK	**Nalchik**	**0.96**	**4**	*e*Pg	Pb	23 07 15.9	-0.1
NCK				*i* Sg	Sb	23 07 29.9	+0.9
VLKR	**Vladikavkaz**	**1.00**	**59**	*e*PG	Pb	23 07 16.6	-0.1
VLKR				*e*S	Sn	23 07 31.0	-0.8
VLKR	**Vladikavkaz**	**1.00**	**59**	*e*Pg	Pb	23 07 16.6	-0.1
VLKR				*e*Sg	Sn	23 07 31.0	-0.8
SNJR	**Sundja**	**1.10**	**60**	*e*PG	Pb	23 07 18.5	+0.2
SNJR				*e*S	Sn	23 07 33.9	-0.3
SNJR	**Sundja**	**1.10**	**60**	*e*Pg	Pb	23 07 18.5	+0.2
SNJR				*e*Sg	Sn	23 07 33.9	-0.3
KUBR	**Kubataba**	**1.27**	**357**	⇓*e*PG	Pg	23 07 21.9	+0.4
KUBR				*i* S	Sn	23 07 39.6	+1.2
KUBR	**Kubataba**	**1.27**	**357**	*e*Pg	Pg	23 07 21.9	+0.4
KUBR				*i* Sg	Sn	23 07 39.6	+1.2
PRTR	**Priterechnaya**	**1.34**	**25**	*e*PG	Pn	23 07 22.1	+0.1
PRTR				*e*S	Sg	23 07 40.6	+0.4
PRTR	**Priterechnaya**	**1.34**	**25**	*e*Pg	Pn	23 07 22.1	+0.1
PRTR				*e*Sg	Sg	23 07 40.6	+0.4
SHAR	**Shatzhatmas**	**1.36**	**333**	*e*PG	Pn	23 07 21.6	-1.0
SHAR				*e*S	Sb	23 07 39.4	-1.4
SHAR	**Shatzhatmas**	**1.36**	**333**	*e*Pg	Pn	23 07 21.6	-1.0

IDC 07 23:10:21.1±2.1, 2°.04N×126°.42E, h0km, mb3.4/3,
mb1 3.6/3, mb1mx3.4/21, mbtmp3.4/3, Error ellipse:
s-maj=182.8km s-min=24.8km az=66.0, Northern
Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.19**	**161**	P	P	23 15 29.8	0.0
	1.0nm,0.6s,baz=340,slow=11,SNR=4.9						
ASAR	**Alice Springs**	**26.57**	**165**	P	P	23 16 01.3	+0.2
	0.1nm,0.3s,baz=336,slow=10,SNR=3.7						
MKAR	**Makanchi Array**	**58.76**	**326**	P	P	23 20 20.9	-0.2
	0.4nm,0.4s,baz=120,slow=8.0,SNR=14						

TIF 07 23:11:52.4, 42°.53N×43°.51E, h9km±2km, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.07**	**323**	P	Pg	23 11 55.0	+0.2
ONI				S	Sg	23 11 56.5	+0.1

*CSEM **07** 23:12:44.6, 42°.55N×43°.52E, h8km, After OBN*
MOS 07 23:12:44.6±1.1, 42°.55N×43°.52E, h8km, mb4.1/1, 3C-5D,
Error ellipse: s-maj=13.9km s-min=6.4km az=73.6,
Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIGR	**Digorskoe uzhe**	**0.36**	**7**	⇓*i*PG	Pg	23 12 51.2	-0.7
DIGR				*i* S	Sg	23 12 56.7	-0.2
DIGR	**Digorskoe uzhe**	**0.36**	**7**	*i* Pg	Pg	23 12 51.2	-0.7
DIGR				*i* Sg	Sg	23 12 56.7	-0.2
ZEI	**Tsey**	**0.37**	**49**	⇓*i*PG	Pg	23 12 52.0	-0.2
ZEI				*i* S	Sg	23 12 57.9	+0.6
ZEI	**Tsey**	**0.37**	**49**	*i* Pg	Pg	23 12 52.0	-0.2
ZEI				*i* Sg	Sg	23 12 57.9	+0.6
LACR	**Lac**	**0.64**	**63**	*e*PG	Pg	23 12 56.5	-0.6
LACR				*i* S	Sg	23 13 05.9	+0.4
LACR	**Lac**	**0.64**	**63**	*e*Pg	Pg	23 12 56.5	-0.6
LACR				*i* Sg	Sg	23 13 05.9	+0.4
KORR	**Kora**	**0.67**	**36**	⇑*i*PG	Pg	23 12 57.9	+0.2
KORR				*e*S	Sb	23 13 07.8	-0.4
KORR	**Kora**	**0.67**	**36**	*i* Pg	Pg	23 12 57.9	+0.2
KORR				*e*Sg	Sb	23 13 07.8	-0.4
LSNR	**Lesken**	**0.77**	**17**	⇓*i*PG	Pg	23 12 59.3	-0.2
LSNR				*i* S	Sg	23 13 10.1	+0.6
LSNR	**Lesken**	**0.77**	**17**	*i* Pg	Pg	23 12 59.3	-0.2
LSNR				*i* Sg	Sg	23 13 10.1	+0.6
NCK	**Nalchik**	**0.95**	**3**	⇓*i*PG	Pg	23 13 03.0	0.0
NCK				*e*S	Sb	23 13 16.6	+0.4
NCK	**Nalchik**	**0.95**	**3**	*i* Pg	Pg	23 13 03.0	0.0
NCK				*e*Sg	Sb	23 13 16.6	+0.4
VLKR	**Vladikavkaz**	**0.99**	**59**	*e*PG	Pb	23 13 04.0	0.0
VLKR				*e*S	Sb	23 13 18.0	+0.8
VLKR	**Vladikavkaz**	**0.99**	**59**	*e*Pg	Pb	23 13 04.0	0.0
VLKR				*e*Sg	Sb	23 13 18.0	+0.8
SNJR	**Sundja**	**1.08**	**61**	*e*PG	Pb	23 13 05.7	0.0
SNJR				*e*S	Sn	23 13 21.1	-0.3
SNJR	**Sundja**	**1.08**	**61**	*e*Pg	Pb	23 13 05.7	0.0
SNJR				*e*Sg	Sn	23 13 21.1	-0.3
BTKR	**Batakoyurt**	**1.11**	**42**	*e*PG	Pn	23 13 07.7	+1.1
BTKR				*e*S	Sn	23 13 23.7	+1.5
BTKR	**Batakoyurt**	**1.11**	**42**	*e*Pg	Pn	23 13 07.7	+1.1
BTKR				*e*Sg	Sn	23 13 23.7	+1.5
KUBR	**Kubataba**	**1.26**	**356**	*i* PG	Pg	23 13 09.1	+0.3
KUBR				*e*S	Sn	23 13 26.8	+1.1
KUBR	**Kubataba**	**1.26**	**356**	*i* Pg	Pg	23 13 09.1	+0.3
KUBR				*e*Sg	Sn	23 13 26.8	+1.1
PRTR	**Priterechnaya**	**1.33**	**24**	*e*PG	Pg	23 13 10.2	+0.1
PRTR				*e*S	Sg	23 13 28.5	+1.2
PRTR	**Priterechnaya**	**1.33**	**24**	*e*Pg	Pg	23 13 10.2	+0.1
PRTR				*e*Sg	Sg	23 13 28.5	+1.2
SHAR	**Shatzhatmas**	**1.35**	**333**	⇑*e*PG	Pn	23 13 09.3	-0.8
SHAR				*i* S	Sb	23 13 27.0	-1.2
SHAR	**Shatzhatmas**	**1.35**	**333**	*e*

PRTR				*i* Sg	Sn	23 15 58.7	+0.1
TRKR	**Terskaya**	**1.48**	**37**	⇓*i*PG	Pb	23 15 42.8	-0.3
TRKR				*e*S	Sg	23 16 02.7	+0.1
TRKR	**Terskaya**	**1.48**	**37**	*i* Pg	Pb	23 15 42.8	-0.3
TRKR				*e*Sg	Sg	23 16 02.7	+0.1
PYA	**Pyatigorsk**	**1.52**	**348**	⇑*e*PG	Pn	23 15 43.0	0.0
PYA				*e*S	Sn	23 16 02.9	-0.4
PYA	**Pyatigorsk**	**1.52**	**348**	*e*Pg	Pn	23 15 43.0	0.0
PYA				*e*Sg	Sn	23 16 02.9	-0.4
DOMR	**Dombai**	**1.57**	**299**	*e*PG	Pb	23 15 44.4	-0.2
DOMR				*e*S	Sg	23 16 06.0	+0.6
DOMR	**Dombai**	**1.57**	**299**	*e*Pg	Pb	23 15 44.4	-0.2
DOMR				*e*Sg	Sg	23 16 06.0	+0.6
ARTV	**Artvin**	**1.80**	**221**	*i* P	Pn	23 15 46.9	0.0
ARTV				*i* S	Sn	23 16 10.2	-0.1
ARTV	**Artvin**	**1.80**	**221**	*i* P	Pn	23 15 46.9	0.0
ARTV				*i* S	Sn	23 16 10.2	-0.1
DBOC	**Borcka**	**1.82**	**229**	*i* P	Pn	23 15 46.9	-0.2
DBOC				*i* S	Sb	23 16 11.8	-0.2
DBOC	**Borcka**	**1.82**	**229**	*i* P	Pn	23 15 46.9	-0.2
DBOC				*i* S	Sb	23 16 11.8	-0.2
DAGI	**Agillar**	**1.89**	**220**	*i* P	Pn	23 15 48.4	+0.3
DAGI				*i* S	Sb	23 16 13.6	-0.3
DBAD	**Bademkaya**	**2.04**	**222**	*i* P	Pn	23 15 51.0	+0.9
DBAD				*i* S	Sb	23 16 18.5	+0.2
DBAD	**Bademkaya**	**2.04**	**222**	*i* P	Pn	23 15 51.0	+0.9
DBAD				*i* S	Sb	23 16 18.5	+0.2

*TIF **07** 23:16:36.8, 42.°64N×43.°42E, h15km±1km*
*DDA **07** 23:16:38.1, 42.°71N×43.°41E, h11km, MD3.0*
*MOS **07** 23:16:39.7±1.2, 42.°59N×43.°53E, h10km, mb4.1/1, Error ellipse: s-maj=11.9km s-min=6.1km az=74.0*
*CSEM **07** 23:16:39.0±0.2, 42.°55N×43.°44E, h2km, mb4.1, Error ellipse: s-maj=4.2km s-min=2.5km az=128.0*

ISC 07 23:16:39.0±0.8, 42.°57N±0.°02×43.°48E±0.°02, h6km±5km, n49, σ0°77/98, 6C-7D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.03**	**324**	P	Pg	23 16 40.3	-0.2
ONI				S	Sg	23 16 41.8	+0.4
DIGR	**Digorskoe uzhe**	**0.34**	**13**	⇓*i*PG	Pg	23 16 45.5	-0.3
DIGR				*i* S	Sg	23 16 51.0	+0.6
DIGR	**Digorskoe uzhe**	**0.34**	**13**	*i* Pg	Pg	23 16 45.5	-0.3
DIGR				*i* Sg	Sg	23 16 51.0	+0.6
ZEI	**Tsey**	**0.38**	**54**	⇓*i*PG	Pg	23 16 46.5	-0.1
ZEI				*i* S	Sg	23 16 52.3	+0.6
ZEI	**Tsey**	**0.38**	**54**	*i* Pg	Pg	23 16 46.5	-0.1
ZEI				*i* Sg	Sg	23 16 52.3	+0.6
LACR	**Lac**	**0.66**	**66**	⇓*i*PG	Pg	23 16 51.3	-0.4
LACR				*i* S	Sg	23 17 00.7	+0.4
LACR	**Lac**	**0.66**	**66**	*i* Pg	Pg	23 16 51.3	-0.4
LACR				*i* Sg	Sg	23 17 00.7	+0.4
KORR	**Kora**	**0.68**	**40**	⇑*i*PG	Pg	23 16 52.4	+0.3
KORR				*i* S	Sb	23 17 02.3	-0.6
KORR	**Kora**	**0.68**	**40**	*i* Pg	Pg	23 16 52.4	+0.3
KORR				*i* Sg	Sb	23 17 02.3	-0.6
LSNR	**Lesken**	**0.76**	**20**	⇓*i*PG	Pg	23 16 53.7	+0.1
LSNR				*e*S	Sb	23 17 04.7	-0.5
LSNR	**Lesken**	**0.76**	**20**	*i* Pg	Pg	23 16 53.7	+0.1
LSNR				*e*Sg	Sb	23 17 04.7	-0.5
STDR	**Stavd-Durt**	**0.91**	**28**	⇑*i*PG	Pn	23 16 57.8	-0.6
STDR				*i* S	Sn	23 17 10.7	-1.1
STDR	**Stavd-Durt**	**0.91**	**28**	*i* Pg	Pn	23 16 57.8	-0.6
STDR				*i* Sg	Sn	23 17 10.7	-1.1
NCK	**Nalchik**	**0.93**	**5**	⇓*i*PG	Pb	23 16 57.3	-0.3
NCK				*i* S	Sn	23 17 11.3	-1.1
NCK	**Nalchik**	**0.93**	**5**	*i* Pg	Pb	23 16 57.3	-0.3
NCK				*i* Sg	Sn	23 17 11.3	-1.1
VLKR	**Vladikavkaz**	**1.01**	**61**	*e*PG	Pg	23 16 58.1	-0.2
VLKR				*e*S	Sb	23 17 12.1	-0.3
VLKR	**Vladikavkaz**	**1.01**	**61**	*e*Pg	Pg	23 16 58.1	-0.2
VLKR				*e*Sg	Sb	23 17 12.1	-0.3
DUS	**Dusheti**	**1.02**	**117**	P	Pb	23 16 59.3	+0.1
DUS				S	Sn	23 17 14.4	-0.2
SNJR	**Sundja**	**1.10**	**62**	⇑*i*PG	Pb	23 17 00.4	-0.1
SNJR				*e*S	Sg	23 17 15.5	+1.0
SNJR	**Sundja**	**1.10**	**62**	*i* Pg	Pb	23 17 00.4	-0.1
SNJR				*e*Sg	Sg	23 17 15.5	+1.0
BTKR	**Batakoyurt**	**1.12**	**44**	⇑*i*PG	Pn	23 17 02.2	+0.9
BTKR				*e*S	Sn	23 17 17.8	+0.7
BTKR	**Batakoyurt**	**1.12**	**44**	*i* Pg	Pn	23 17 02.2	+0.9
BTKR				*e*Sg	Sn	23 17 17.8	+0.7
AKH	**Akhalkalaki**	**1.15**	**179**	P	Pb	23 16 59.9	-1.6
AKH				S	Sb	23 17 16.0	-0.8
KUBR	**Kubataba**	**1.24**	**358**	⇑*i*PG	Pg	23 17 03.0	+0.3
KUBR				*i* S	Sn	23 17 21.1	+1.2
KUBR	**Kubataba**	**1.24**	**358**	*i* Pg	Pg	23 17 03.0	+0.3
KUBR				*i* Sg	Sn	23 17 21.1	+1.2
TBLG	**Delisi**	**1.25**	**131**	P	Pn	23 17 02.2	-0.8
TBLG				S	Sb	23 17 20.1	+0.6
SHAR	**Shatzhatmas**	**1.32**	**334**	⇑*e*PG	Pn	23 17 03.4	-0.8
SHAR				*e*S	Sb	23 17 20.9	-0.6
SHAR	**Shatzhatmas**	**1.32**	**334**	*e*Pg	Pn	23 17 03.4	-0.8
SHAR				*e*Sg	Sb	23 17 20.9	-0.6
PRTR	**Priterechnaya**	**1.32**	**26**	*e*PG	Pg	23 17 04.8	+0.4
PRTR				*i* S	Sg	23 17 23.1	+1.5
PRTR	**Priterechnaya**	**1.32**	**26**	*e*Pg	Pg	23 17 04.8	+0.4
PRTR				*i* Sg	Sg	23 17 23.1	+1.5
KZR	**Kazreti**	**1.37**	**149**	P	Pn	23 17 03.7	-1.0
KZR				S	Sn	23 17 21.8	-1.5
TRKR	**Terskaya**	**1.48**	**38**	⇓*i*PG	Pg	23 17 07.6	+0.2
TRKR				*e*S	Sg	23 17 27.9	+1.4
TRKR	**Terskaya**	**1.48**	**38**	*i* Pg	Pg	23 17 07.6	+0.2
TRKR				*e*Sg	Sg	23 17 27.9	+1.4
PYA	**Pyatigorsk**	**1.50**	**348**	⇓*e*PG	Pb	23 17 06.8	-0.5
PYA				*e*S	Sg	23 17 27.1	-0.1
PYA	**Pyatigorsk**	**1.50**	**348**	*e*Pg	Pb	23 17 06.8	-0.5
PYA				*e*Sg	Sg	23 17 27.1	-0.1
DOMR	**Dombai**	**1.54**	**299**	*e*PG	Pg	23 17 09.0	+0.4
DOMR				*i* S	Sg	23 17 30.0	+1.3
DOMR	**Dombai**	**1.54**	**299**	*e*Pg	Pg	23 17 09.0	+0.4
DOMR				*i* Sg	Sg	23 17 30.0	+1.3
DGRG	**David-gareji**	**1.80**	**128**	P	Pb	23 17 12.2	-0.1
DGRG				S	Sg	23 17 37.4	+0.6
ARTV	**Artvin**	**1.80**	**221**	*i* P	Pn	23 17 10.2	-0.6
ARTV				*i* S	Sn	23 17 33.2	-0.8
ARTV	**Artvin**	**1.80**	**221**	*i* P	Pn	23 17 10.2	-0.6
ARTV				*i* S	Sn	23 17 33.2	-0.8
DBOC	**Borcka**	**1.82**	**229**	*i* P	Pn	23 17 09.5	-1.4
DBOC				*i* S	Sn	23 17 34.0	-0.2
DBOC	**Borcka**	**1.82**	**229**	*i* P	Pn	23 17 09.5	-1.4
DBOC				*i* S	Sn	23 17 34.0	-0.2
DAGI	**Agillar**	**1.89**	**219**	*i* P	Pn	23 17 11.0	-0.9
DAGI				*i* S	Sn	23 17 36.6	+0.6
DBAD	**Bademkaya**	**2.04**	**221**	*i* P	Pn	23 17 14.0	0.0
DBAD				*i* S	Sb	23 17 42.7	+0.5
DBAD	**Bademkaya**	**2.04**	**221**	*i* P	Pn	23 17 14.0	0.0
DBAD				*i* S	Sb	23 17 42.7	+0.5
DDEM	**Demirkent**	**2.11**	**218**	*i* P	Pn	23 17 15.9	+0.9
DDEM				*i* S	Sn	23 17 43.0	+1.5
DDEM	**Demirkent**	**2.11**	**218**	*i* P	Pn	23 17 15.9	+0.9
DDEM				*i* S	Sn	23 17 43.0	+1.5
DIGO	**Kars**	**2.15**	**182**	*i* P	Pn	23 17 16.3	+0.7
DIGO				*i* S	Sb	23 17 45.7	+0.2
DIGO	**Kars**	**2.15**	**182**	*i* P	Pn	23 17 16.3	+0.7
DIGO				*i* S	Sb	23 17 45.7	+0.2

*NEIC **07** 23:18:03.3±1.3, 23.°02N×109.°10W, h10km, mb4.1/28, Error ellipse: s-maj=21.1km s-min=7.1km az=205.0*
*IDC **07** 23:18:06.7±2.2, 23.°90N×108.°86W, h0km, mb3.8/3, mb1 4.1/9, mb1mx3.9/29, mbtmp3.8/9, ML3.6/6, MS3.8/1, Ms1 3.8/1, ms1mx3.2/39, Error ellipse: s-maj=35.0km s-min=20.3km az=175.0*

ISC 07 23:18:07.8±1.1, 23.°66N±0.°10×108.°49W±0.°06, h10km, n241, σ1°37/228, mb4.3/13, 89C-76D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**1.72**	**285**	Pg	Pn	23 18 31.1	-6.8
LPIG				Lg	Lg	23 18 47.2	
LPIG	**La Paz**	**1.72**	**285**	Pg	Pn	23 18 31.1	-6.8
	59nm,0.3s,baz=95,slow=6.3,SNR=48						
LPIG				Lg	Lg	23 18 47.2	
	163nm,0.3s,baz=225,slow=5.7,SNR=21						
626A	**Big Bend Ranch**	**7.04**	**33**	⇑P	Pn	23 19 51.3	+0.2
	baz=7.9						
626A				⇓S	Sn	23 21 07.8	-3.5
	baz=7.9						
TXAR	**Lajitas Array**	**7.11**	**36**	Pn	Pn	23 19 51.5	-0.5
TXAR				Sn	Sn	23 21 11.5	-1.4
TXAR				Lg	Lg	23 21 43.0	
TXAR	**Lajitas Array**	**7.11**	**36**	Pn	Pn	23 19 51.5	-0.5
	0.5nm,0.3s,baz=206,slow=14,SNR=20						
TXAR				Sn	Sn	23 21 11.5	-1.4
	0.7nm,0.3s,baz=210,slow=30,SNR=3.4						
TXAR				Lg	Lg	23 21 43.0	
	0.8nm,0.3s,baz=217,slow=18,SNR=3.5						
526A	**Mary Lane Ranc**	**7.48**	**31**	⇓P	Pn	23 19 56.6	-0.7
	baz=8.3						
526A				⇑S	Sn	23 21 18.5	-3.8
	baz=8.3						
319A	**Douglas**	**7.71**	**355**	⇓P	Pn	23 19 59.6	-0.8
	baz=8.4						
319A				⇑S	Sn	23 21 23.4	-4.4
	baz=8.4						
425A	**Indio Mountain**	**7.75**	**23**	⇓P	Pn	23 20 00.5	-0.3
	baz=8.6						
425A				⇓S	Sn	23 21 25.6	-3.1
	baz=8.6						
527A	**Woodward Ranch**	**7.79**	**33**	⇑P	Pn	23 20 01.5	+0.1
	baz=8.6						
527A				⇑S	Sn	23 21 27.8	-1.9
	baz=8.6						
426A	**McDonald Obser**	**8.03**	**29**	⇑P	Pn	23 20 03.7	-1.0
	baz=8.9						
426A				⇓S	Sn	23 21 32.8	-2.9
	baz=8.9						
324A	**Moseley Ranch,**	**8.20**	**18**	P	Pn	23 20 06.0	-1.0
	baz=9.0,SNR=8.2						
324A				⇑S	Sn	23 21 35.1	-4.6
	baz=9.0						
220A	**Playas Peak, P**	**8.21**	**360**	⇑P	Pn	23 20 06.1	-1.0
	baz=8.9						
325A	**Bean Ranch, Si**	**8.29**	**21**	⇑P	Pn	23 20 07.4	-0.8
	baz=9.1						
MNTX	**Cornudas Mount**	**8.46**	**18**	*e*Pn	Pn	23 20 09.3	-1.2
	4.6nm,0.7s						
MNTX				*e*Sn	Sn	23 21 58.8	+13
427A	**Hayter Ranch,**	**8.47**	**31**	⇓P	Pn	23 20 10.8	+0.1
	baz=9.3						
427A				⇓S	Sn	23 21 43.9	-2.5
	baz=9.3						
529A	**Stev Forest Ra**	**8.53**	**40**	⇑P	Pn	23 20 12.6	+1.1
	baz=9.4						
326A	**Caldwell Ranch**	**8.61**	**27**	⇑P	Pn	23 20 11.7	-0.9
	baz=9.5						
326A				⇓S	Sn	23 21 47.1	-2.8
	baz=9.5						
428A	**Kincaid Ranch,**	**8.73**	**35**	⇓P	Pn	23 20 14.2	0.0
	baz=9.6						
224A	**Cornudas Mount**	**8.78**	**17**	⇓P	Pn	23 20 13.7	-1.3
	baz=9.6,SNR=6.1						
224A				⇑S	Sn	23 21 49.5	-4.7
	baz=9.6						
TUC	**Tucson**	**8.85**	**347**	*e*Pn	Pn	23 20 10.8	-5.0
TUC				*e*Sn	Sn	23 22 00.6	+4.8
120A	**U Bar Ranch, L**	**8.85**	**359**	⇓P	Pn	23 20 15.4	-0.5
	baz=9.5						
121A	**Cookes Peak, D**	**8.86**	**4**	⇓P	Pn	23 20 15.0	-1.1
	baz=9.6						
225A	**Deer Hill, Car**	**9.02**	**20**	P	Pn	23 20 17.9	-0.4
	baz=9.8,SNR=6.7						
225A				⇑S	Sn	23 21 55.8	-4.2
	baz=9.8						
530A	**J-C Ranch, Com**	**9.08**	**43**	⇓P	Pn	23 20 20.0	+1.0
	baz=9.9						
429A	**Davenport Ranc**	**9.09**	**39**	⇑P	Pn	23 20 20.5	+1.4
	baz=10.0						
214A	**Organ Pipe Nat**	**9.10**	**336**	⇑P	Pn	23 20 18.2	-1.1
	baz=9.5						
631A	**Perdido Creek**	**9.11**	**49**	⇑P	Pn	23 20 21.1	+1.7
	baz=10.0,SNR=5.0						
732A	**Laxson Ranch,**	**9.16**	**55**	⇓P	Pn	23 20 23.6	+3.5
	baz=10.0						
226B	**Tecolote Peak,**	**9.21**	**24**	⇑P	Pn	23 20 21.8	+0.9
	baz=10						
124A	**Stringfield Ra**	**9.39**	**16**	⇓P	Pn	23 20 23.5	+0.1
	baz=10						
Z20A	**Nine Sixteen R**	**9.42**	**359**	⇑P	Pn	23 20 23.2	-0.5
	baz=10						
125A	**Gardner Draw,**	**9.58**	**20**	P	Pn	23 20 26.4	+0.5
	baz=10,SNR=7.8						
531A	**Rocksprings**	**9.60**	**46**	⇓P	Pn	23 20 28.9	+2.8
	baz=10						
Z21A	**St. Cloud Mine**	**9.64**	**4**	P	Pn	23 20 28.6	+1.8
	baz=10,SNR=6.2						
632A	**Uvalde**	**9.72**	**51**	⇑P	Pn	23 20 30.6	+2.8
	baz=11						
431A	**Sonora**	**9.90**	**43**	⇑P	Pn	23 20 32.6	+2.3
	baz=11						
532A	**Rocksprings**	**10.00**	**48**	⇓P	Pn	23 20 35.6	+3.9
	baz=11						
Z24A	**Sheeppen Canyo**	**10.01**	**15**	⇓P	Pn	23 20 32.8	+0.8
	baz=11						
330A	**Mertzon**	**10.08**	**38**	⇑P	Pn	23 20 35.1	+2.4
	baz=11						
Z25A	**Roswell**	**10.14**	**18**	⇑P	Pn	23 20 34.5	+0.9
	baz=11						
113A	**Mohawk Valley,**	**10.19**	**334**	⇑P	Pn	23 20 35.2	+1.0
	baz=11						
Y20A	**Horse Springs,**	**10.21**	**1**	⇓P	Pn	23 20 35.3	+0.6
	baz=11						
Y22A	**Socorro**	**10.32**	**7**	⇓P	Pn	23 20 36.8	+0.6
	baz=11						
128A	**Castleberry Fa**	**10.38**	**29**	⇓P	Pn	23 20 39.3	+2.5
	baz=11						
331A	**San Angelo**	**10.45**	**41**	⇓P	Pn	23 20 39.2	+1.4
	baz=11						
Y23A	**Lovelace Mesa,**	**10.45**	**11**	⇓P	Pn	23 20 38.4	+0.5
	baz=11						
432A	**Menard**	**10.55**	**45**	⇓P	Pn	23 20 41.6	+2.4
	baz=11						
129A	**Stewart Farms,**	**10.67**	**32**	⇓P	Pn	23 20 42.8	+1.9
	baz=12						
Z27A	**Tatum**	**10.67**	**25**	⇓P	Pn	23 20 41.4	+0.5
	baz=12						
Y25A	**Mesa, Roswell**	**10.75**	**17**	⇓P	Pn	23 20 42.2	+0.2
	baz=12						
LAZ	**Ladron**	**10.77**	**6**	*e*Pn	Pn	23 20 42.4	+0.2
	4.1nm,1.3s						
LAZ				*e*Sn	Sn	23 22 52.3	+9.3
GLA	**Glamis**	**10.89**	**331**	⇓P	Pn	23 20 44.6	+0.8
	baz=11						
X18A	**Snowflake**	**10.90**	**354**	⇑P	Pn	23 20 44.7	+0.5
	baz=12						
332A	**Millersview**	**10.92**	**43**	⇓P	Pn	23 20 47.7	+3.4
	baz=12						
231A	**Bronte**	**10.96**	**39**	⇓P	Pn	23 20 46.8	+2.0
	baz=12						
Y14A	**Wickenburg**	**10.97**	**340**	⇓P	Pn	23 20 46.2	+1.2
	baz=11						
Z28A	**Tucker Farm, M**	**10.99**	**28**	⇓P	Pn	23 20 45.8	+0.7
	baz=12						
X23A	**Hourglass Bar**	**11.06**	**10**	⇑P	Pn	23 20 47.4	+1.1
	baz=12						
Z29A	**Hungry Hill Ra**	**11.27**	**30**	⇑P	Pn	23 20 49.9	+0.9
	baz=12						
Y12C	**Blythe**	**11.36**	**334**	P	Pn	23 20 51.8	+1.6
	baz=12,SNR=5.6						
ANMO	**Albuquerque**	**11.38**	**8**	*e*Pn	Pn	23 20 57.1	+6.4
ANMO				Lg	Lg	23 24 10.2	
ANMO	**Albuquerque**	**11.38**	**8**	Pn	Pn	23 20 48.6	-2.1
	0.1nm,0.3s,baz=162,slow=13,SNR=2.6						
ANMO				Lg	Lg	23 24 10.2	
	0.1nm,0.3s,baz=112,slow=16,SNR=4.5						
MONP	**Monument Peak**	**11.54**	**325**	⇑P	Pn	23 20 52.8	-0.1
	baz=12						
Z30A	**Sanderson Ranc**	**11.56**	**32**	P	Pn	23 20 55.2	+2.2
	baz=12,SNR=5.9						
X26A	**CR and CF Fran**	**11.59**	**20**	⇓P	Pn	23 20 54.0	+0.5
	baz=12						
PDMCI	**Parker Dam,Lak**	**11.69**	**336**	⇑P	Pn	23 20 55.4	+0.7
	baz=12						
IRM	**Iron Mountain**	**11.97**	**332**	P	Pn	23 20 59.7	+1.1
	baz=12,SNR=14						
WUAZ	**Wupatki**	**12.08**	**349**	*e*Pn	Pn	23 21 02.8	+2.7
	11nm,1.5s						
Z31A	**Sharp Cattle R**	**12.09**	**35**	⇑P	Pn	23 21 00.3	0.0
	baz=13						
W26A	**Owens Ranch, T**	**12.11**	**19**	⇑P	Pn	23 21 00.8	+0.2
	baz=13						
PFO	**Pinyon Flat Ob**	**12.12**	**327**	*e*Pn	Pn	23 20 59.9	-0.9
PFO	**Pinyon Flat Ob**	**12.12**	**327**	Pn	Pn	23 20 56.2	-4.6
	0.1nm,0.3s,baz=135,slow=16,SNR=2.3						
PFO	**Pinyon Flat Ob**	**12.12**	**327**	⇓P	Pn	23 21 02.7	+1.9
	baz=12						
Y30A	**Stafford Cattl**	**12.15**	**31**	⇑P	Pn	23 21 01.6	+0.4
	baz=13						
BELC	**Belle Mtn. Jos**	**12.22**	**329**	⇑P	Pn	23 21 02.6	+0.5
	baz=12						
W27A	**Bowe Ranch, En**	**12.30**	**21**	⇓P	Pn	23 21 04.3	+1.1
	baz=13						
X30A	**Coker Ranch, T**	**12.63**	**30**	⇑P	Pn	23 21 08.8	+1.2
	baz=14						
GMRC	**Granite Mounta**	**12.72**	**332**	⇓P	Pn	23 21 09.4	+0.5
	baz=13						
U21A	**Nageezi**	**12.74**	**3**	⇓P	Pn	23 21 08.3	-1.0
	baz=14						
V26A	**Tequesquite Ra**	**12.76**	**18**	⇓P	Pn	23 21 10.0	+0.5
	baz=14						
U23A	**El Rito**	**12.78**	**8**	⇓P	Pn	23 21 08.6	-1.2
	baz=14						
HEC	**Hector,Ludlow**	**13.06**	**330**	⇑P	Pn	23 21 14.3	+0.8
	baz=13						
U15A	**North Rim**	**13.14**	**346**	⇓P	Pn	23 21 15.5	+0.8
	baz=14						
U25A	**Circle Dot Ran**	**13.17**	**15**	⇓P	Pn	23 21 16.8	+1.6
	baz=14						
X31A	**McDonald Ranch**	**13.21**	**32**	⇑P	Pn	23 21 16.8	+1.3
	baz=14						
TUQ	**Turquoise Moun**	**13.39**	**333**	⇓P	Pn	23 21 19.7	+1.6
	baz=14						
T24B	**San Luis**	**13.62**	**11**	⇑P	Pn	23 21 19.4	-2.0
	baz=14						
GSC	**Goldstone**	**13.66**	**330**	*e*Pn	Pn	23 21 22.9	+1.1
GSC	**Goldstone**	**13.66**	**330**	⇑P	Pn	23 21 23.3	+1.5
	baz=14						
W31A	**Holland Ranch,**	**13.68**	**31**	⇓P	Pn	23 21 22.6	+0.7
	baz=14						
T25A	**Trinidad**	**13.88**	**14**	⇓P	Pn	23 21 26.5	+1.6
	baz=15						
EDW2	**Edwards Air Fo**	**13.91**	**326**	⇑P	Pn	23 21 26.3	+1.2
	baz=14						
SHOC	**Shoshone**	**13.94**	**333**	P	Pn	23 21 26.5	+1.1
	baz=14,SNR=6.3						
S21A	**Coal Bank Pass**	**13.97**	**2**	⇑P	Pn	23 21 26.2	+0.1
	baz=15						
SHPR	**Sheep Range**	**14.04**	**337**	*e*Pn	Pn	23 21 28.2	+1.3
S20A	**Disappointment**	**14.12**	**0**	⇓P	Pn	23 21 29.4	+1.2
	baz=15						
S24A	**Houchin Ranch,**	**14.21**	**11**	⇓P	Pn	23 21 30.9	+1.4
	baz=15						
CMIG	**Matias Romero**	**14.33**	**115**	Pn	P	23 21 36.5	-1.6
CMIG	**Matias Romero**	**14.33**	**115**	Pn	P	23 21 36.5	-1.6
	0.2nm,0.3s,baz=308,slow=12,SNR=2.4						
CMIG				LR	LR	23 27 28.5	
	comp=Z,366nm,19.6s,baz=19,slow=38						
CCUT	**Cedar City**	**14.46**	**344**	*e*Pn	P	23 21 35.9	-3.8
R20A	**Redvale**	**14.48**	**0**	⇑P	Pn	23 21 34.3	+1.2
	baz=15						
T28A	**Walsh**	**14.49**	**21**	⇑P	Pn	23 21 33.9	+0.8
	baz=15						
MPMC	**Manual Prospec**	**14.60**	**330**	⇑P	Pn	23 21 35.1	+0.4
	baz=15						
R23A	**Moffat**	**14.66**	**8**	⇑P	P	23 21 39.7	-2.2
	baz=15,SNR=6.1						
FURC	**Furnace Creek,**	**14.67**	**332**	P	Pn	23 21 36.0	+0.7
	baz=15,SNR=6.8						
ISA	**Isabella**	**14.76**	**326**	⇓P	Pn	23 21 37.4	+0.6
	baz=15						
VES	**Vestal, Richgr**	**15.21**	**325**	⇑P	P	23 21 46.1	-1.7
	baz=16						
R27A	**Eads**	**15.37**	**17**	⇓P	Pn	23 21 46.8	+1.9
	baz=16						
Q16A	**Castle Valley**	**15.38**	**352**	*e*Pn	Pn	23 21 46.2	+1.1
Q16A	**Castle Valley**	**15.38**	**352**	⇓P	Pn	23 21 45.7	+0.6
	baz=16						
SMCO	**Snowmass**	**15.52**	**4**	*e*Pn	P	23 21 51.8	+0.2
	5.8nm,0.9s						
R11A	**Troy Canyon, C**	**15.84**	**339**	*e*Pn	Pn	23 21 51.8	+0.7
R11A	**Troy Canyon, C**	**15.84**	**339**	⇓P	Pn	23 21 51.9	+0.7
	baz=16						
ISCO	**Idaho Springs**	**16.27**	**8**	*e*Pn	P	23 22 02.0	+2.2
	16nm,1.5s						
ISCO	**Idaho Springs**	**16.27**	**8**	⇑P	P	23 21 59.4	-0.4
	baz=17,SNR=7.3						
TUL1	**Tulsa**	**16.42**	**39**	*e*Pn	P	23 22 04.7	+3.5
	19nm,1.3s						
O22A	**Kremmling**	**16.53**	**5**	⇑P	P	23 22 02.3	-0.5
	baz=17						
O23A	**Lake Granby, G**	**16.64**	**7**	⇑P	P	23 22 03.4	-0.5
	baz=17						
O25A	**Wiggins**	**16.81**	**12**	⇓P	Pn	23 22 04.8	+1.3
	baz=18						
NV11	**Mina Array Sit**	**16.88**	**333**	*e*Pn	P	23 22 04.4	-1.9
DUG	**Dugway**	**16.88**	**349**	*e*Pn	P	23 22 07.3	+0.9
	25nm,1.4s						
DUG	**Dugway**	**16.88**	**349**	⇑P	P	23 22 06.9	+0.4
	baz=18						
NVAR	**Mina Array Bea**	**16

	baz=21						
I19A	Meeteetse	20.33	359	⇑P	Pn	23 22 45.1	-1.2
	baz=21						
HLID	Hailey	20.44	348	eP	Pn	23 22 46.1	-1.6
	11nm,1.2s						
HLID	Hailey	20.44	348	⇑P	Pn	23 22 46.0	-1.7
	baz=21						
WVOR	Wild Horse Val	20.53	338	eP	P	23 22 46.5	0.0
	22nm,1.4s						
MFID	Camas Ranch	20.61	345	⇓P	P	23 22 47.6	+0.3
	baz=21						
I25A	Rochford	20.68	10	⇓P	Pn	23 22 50.8	+0.3
	baz=22						
H20A	Greybull	20.78	1	⇓P	P	23 22 50.1	+1.0
	baz=22,SNR=6.1						
H21A	Big Horn, Sher	20.95	3	⇓P	P	23 22 51.8	+0.8
	baz=22						
H19A	Powell	20.96	359	⇑P	P	23 22 52.8	+1.7
	baz=22,SNR=7.3						
H18A	Shoshone NF, C	20.98	358	⇑P	P	23 22 52.0	+0.5
	baz=22						
I27A	Quinn	21.03	13	⇑P	P	23 22 53.9	+2.1
	baz=22						
I28A	Midland	21.16	15	⇑P	P	23 22 55.0	+1.9
	baz=22						
H24A	Dirks Ranch, A	21.28	8	⇑P	P	23 22 55.6	+1.1
	baz=22						
H25A	Fruitdale	21.29	10	⇑P	P	23 22 56.2	+1.6
	baz=22						
J08A	Circle Bar Ran	21.30	340	eP	P	23 22 57.3	+2.5
	22nm,1.4s						
MCMT	McKenzie Canyo	21.41	351	eP	P	23 22 57.4	+1.3
	5.0nm,1.1s						
H26A	Fairpoint	21.42	11	⇑P	P	23 22 56.8	+0.9
	baz=22						
G20A	Bridger	21.51	1	⇓P	P	23 22 57.6	+0.6
	baz=22						
G21A	Lodge Grass	21.54	2	⇓P	P	23 22 57.8	+0.5
	baz=22						
YBH	Yreka Blue Hor	21.58	330	P	P	23 22 54.0	-3.7
YBH	Yreka Blue Hor	21.58	330	P	P	23 22 54.0	-3.7
	1.2nm,0.8s,baz=149,slow=14,SNR=1.5						
G22A	Birney	21.58	4	P	P	23 22 58.5	+0.8
	baz=22,SNR=7.2						
K05A	Summer Lake	21.62	335	eP	P	23 22 59.5	+1.2
	35nm,1.4s						
G18A	Lazy EL Ranch,	21.62	358	P	P	23 22 58.9	+0.6
	baz=22,SNR=8.6						
G23A	Biddle	21.63	6	⇑P	P	23 22 58.9	+0.7
	baz=22						
SIUC	Southern Illin	21.64	45	eP	P	23 23 03.9	+5.6
	32nm,1.3s						
G17A	Pierce Place,	21.68	356	⇑P	P	23 22 59.8	+0.9
	baz=22						
G24A	Alzada	21.87	8	⇓P	P	23 23 02.6	+1.9
	baz=23						
G25A	Newell	21.87	10	⇑P	P	23 23 00.7	-0.1
	baz=23						
F20A	Billings	22.09	1	P	P	23 23 03.5	+0.3
	baz=23,SNR=6.3						
G27A	Dupree	22.13	10	⇑P	P	23 23 06.9	+3.3
	baz=23						
F22A	Rosebud	22.14	4	⇑P	P	23 23 03.4	-0.3
	baz=23						
F19A	Roth Farm, Mol	22.14	359	⇓P	P	23 23 03.5	-0.3
	baz=23						
F23A	Volborg	22.15	6	⇑P	P	23 23 04.2	+0.4
	baz=23						
F18A	Big Timber	22.21	358	P	P	23 23 05.0	+0.5
	baz=23,SNR=11						
F17A	Fitzpatrick Pl	22.26	356	⇓P	P	23 23 06.7	+1.6
	baz=23,SNR=6.3						
ECSD	EROS Data Cent	22.28	23	eP	P	23 23 07.6	+2.4
	22nm,1.5s						
BMO	Blue Mountains	22.33	343	eP	P	23 23 05.7	0.0
	12nm,1.6s						
F24A	Ekalaka	22.37	7	⇑P	P	23 23 07.1	+0.9
	baz=23						
F25A	Bowman	22.58	9	⇑P	P	23 23 09.5	+1.1
	baz=23						
F26A	Lodgepole	22.63	11	⇑P	P	23 23 09.8	+0.9
	baz=23						
E19A	Rath Farm, Rou	22.75	359	P	P	23 23 09.9	-0.3
	baz=23,SNR=8.0						
E20A	Meyer Farm, Mu	22.79	1	⇑P	P	23 23 10.8	+0.2
	baz=24						
USIN	University of	22.80	46	eP	P	23 23 15.6	+4.9
	27nm,0.8s						
E22A	Miles City	22.82	5	⇓P	P	23 23 11.6	+0.7
	baz=24						
E18A	Harlowton	22.88	357	P	P	23 23 12.3	+0.7
	baz=24,SNR=8.0						
F28A	McLaughlin	22.99	14	⇑P	P	23 23 13.4	+0.7
	baz=24						
D20A	Manuel Ranch,	23.38	1	P	P	23 23 17.9	+1.2
	baz=24,SNR=8.4						
D21A	La Casta Ranch	23.38	3	P	P	23 23 17.6	+0.9
	baz=24,SNR=6.4						
D19A	Cripps Ranch,	23.45	359	P	P	23 23 18.2	+0.8
	baz=24,SNR=9.9						
D17A	Six Diamond Ra	23.50	356	⇑P	P	23 23 17.7	-0.4
	baz=24						
D22A	Cohagen	23.51	4	P	P	23 23 18.6	+0.7
	baz=24,SNR=5.7						
CHMT	Chamberlain Mo	23.51	352	eP	P	23 23 18.9	+0.7
	20nm,1.9s						
MSO	Missoula	23.53	351	eP	P	23 23 18.6	+0.5
	24nm,1.6s						
MSO	Missoula	23.53	351	⇑P	P	23 23 18.2	0.0
	baz=24						
D23A	Lindsay	23.61	6	⇓P	P	23 23 18.6	-0.3
	baz=24						
D24A	Glendive	23.64	7	⇑P	P	23 23 19.6	+0.4
	baz=24						
CPCT	Cooper Cave	23.86	55	eP	P	23 23 25.0	+3.6
C20A	Veseth Ranch,	24.00	1	P	P	23 23 23.1	+0.4
	baz=25,SNR=7.1						
C19A	Slack Wire Ran	24.02	359	P	P	23 23 23.4	+0.4
	baz=25,SNR=5.5						
C22A	Vida	24.12	4	⇑P	P	23 23 23.8	0.0
	baz=25						
C21A	Desert Coulee	24.14	2	P	P	23 23 24.2	+0.3
	baz=25,SNR=5.9						
TKL	Tuckaleechee C	24.51	55	eP	P	23 23 31.8	+4.3
TKL	Tuckaleechee C	24.51	55	P	P	23 23 29.4	+2.0
	7.5nm,0.9s,baz=200,slow=15,SNR=4.8						
SFIN	Scholer Farm	24.53	42	eP	P	23 23 30.9	+3.3
SFIN	Scholer Farm	24.53	42	⇑P	P	23 23 28.2	+0.6
	baz=25						
B20A	Solberg Farm,	24.73	1	⇑P	P	23 23 30.4	+1.0
	baz=25						
B21A	Ellsworth Farm	24.74	2	⇓P	P	23 23 30.5	+1.0
	baz=26						
B19A	Brinkman Farms	24.75	359	⇓P	P	23 23 31.0	+1.5
	baz=25						
SPMN	St. Paul	25.01	27	⇑P	P	23 23 33.9	+2.0
	baz=26						
A20A	Cobblestone Ra	25.17	1	P	P	23 23 34.4	+1.1
	baz=26,SNR=6.3						
A19A	Klindworth Far	25.22	360	⇑P	P	23 23 35.1	+1.3
	baz=26						
C30A	Mose, Pekin	25.29	16	⇓P	P	23 23 35.4	+1.0
	baz=26						
A21A	Bergtoll Ranch	25.31	2	⇑P	P	23 23 35.1	+0.6
	baz=26						
A22A	Carney Farms,	25.36	4	⇓P	P	23 23 35.4	+0.3
	baz=26						
NEW	Newport	25.49	347	⇓P	P	23 23 36.7	+0.4
	baz=26						
COWI	Conover	27.30	30	eP	P	23 23 53.5	+0.9
	22nm,1.0s						
BINY	Binghamton	32.68	48	eP	P	23 24 42.6	+2.3
ILAR	Eielson Array	48.04	339	P	P	23 26 45.6	-1.4
ILAR	Eielson Array	48.04	339	P	P	23 26 45.6	-1.4
	1.3nm,0.9s,baz=150,slow=6.8,SNR=9.7						

*CSEM **07** 23:18:10.6, 42°.49N×43°.46E, h11km, After OBN*
MOS 07 23:18:10.6±1.2, 42°.49N×43°.46E, h11km, mb4.1/1, 3C-5D, Error ellipse: s-maj=17.4km s-min=6.2km az=70.9, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIGR	Digorskoe uzhe	0.42	13	⇓iPG	Pg	23 18 18.2	-1.1
DIGR	Digorskoe uzhe	0.42	13	i Pg	Pg	23 18 18.2	-1.1
ZEI	Tsey	0.45	47	⇓iPG	Pg	23 18 19.2	-0.5
ZEI				i S	Sg	23 18 24.5	-1.4
ZEI	Tsey	0.45	47	i Pg	Pg	23 18 19.2	-0.5
ZEI				i Sg	Sg	23 18 24.5	-1.4
LACR	Lac	0.71	61	⇓iPG	Pg	23 18 24.0	-0.5
LACR				i S	Sg	23 18 32.9	-1.1
LACR	Lac	0.71	61	i Pg	Pg	23 18 24.0	-0.5
LACR				i Sg	Sg	23 18 32.9	-1.1
KORR	Kora	0.75	37	⇑iPG	Pg	23 18 24.9	-0.3
KORR				i S	Sg	23 18 34.1	-1.0
KORR	Kora	0.75	37	i Pg	Pg	23 18 24.9	-0.3
KORR				i Sg	Sg	23 18 34.1	-1.0
LSNR	Lesken	0.84	19	⇓iPG	Pg	23 18 26.3	-0.6
LSNR				i S	Sg	23 18 36.5	-1.4
LSNR	Lesken	0.84	19	i Pg	Pg	23 18 26.3	-0.6
LSNR				i Sg	Sg	23 18 36.5	-1.4
STDR	Stavd-Durt	0.99	27	⇑iPG	Pn	23 18 30.4	-0.1
STDR				i S	Sg	23 18 42.7	0.0
STDR	Stavd-Durt	0.99	27	i Pg	Pn	23 18 30.4	-0.1
STDR				i Sg	Sg	23 18 42.7	0.0
NCK	Nalchik	1.01	6	⇓iPG	Pg	23 18 30.0	-0.2
NCK				eS	Sg	23 18 43.4	-0.1
NCK	Nalchik	1.01	6	i Pg	Pg	23 18 30.0	-0.2
NCK				eSg	Sg	23 18 43.4	-0.1
VLKR	Vladikavkaz	1.06	58	ePG	Pb	23 18 31.0	-0.1
VLKR				eS	Sg	23 18 44.6	-0.4
VLKR	Vladikavkaz	1.06	58	ePg	Pb	23 18 31.0	-0.1
VLKR				eSg	Sg	23 18 44.6	-0.4
SNJR	Sundja	1.16	59	ePG	Pb	23 18 32.5	-0.2
SNJR				eS	Sb	23 18 47.3	-0.5
SNJR	Sundja	1.16	59	ePg	Pb	23 18 32.5	-0.2
SNJR				eSg	Sb	23 18 47.3	-0.5
BTKR	Batakoyurt	1.19	42	ePG	Pg	23 18 34.8	+1.2
BTKR				eS	Sn	23 18 49.8	+0.2
BTKR	Batakoyurt	1.19	42	ePg	Pg	23 18 34.8	+1.2
BTKR				eSg	Sn	23 18 49.8	+0.2
KUBR	Kubataba	1.31	359	⇑iPG	Pb	23 18 35.6	+0.2
KUBR				eS	Sn	23 18 52.7	+0.1
KUBR	Kubataba	1.31	359	i Pg	Pb	23 18 35.6	+0.2
KUBR				eSg	Sn	23 18 52.7	+0.1
SHAR	Shatzhatmas	1.38	336	ePG	Pn	23 18 35.3	-0.9
SHAR				eS	Sn	23 18 53.2	-1.5
SHAR	Shatzhatmas	1.38	336	ePg	Pn	23 18 35.3	-0.9
SHAR				eSg	Sn	23 18 53.2	-1.5
PRTR	Priterechnaya	1.40	25	ePG	Pg	23 18 37.7	+0.1
PRTR				eS	Sg	23 18 55.5	-0.3
PRTR	Priterechnaya	1.40	25	ePg	Pg	23 18 37.7	+0.1
PRTR				eSg	Sg	23 18 55.5	-0.3
TRKR	Terskaya	1.55	37	ePG	Pb	23 18 39.8	+0.5
TRKR				eS	Sb	23 18 59.6	+0.6
TRKR	Terskaya	1.55	37	ePg	Pb	23 18 39.8	+0.5
TRKR				eSg	Sb	23 18 59.6	+0.6
PYA	Pyatigorsk	1.57	350	i PG	Pb	23 18 39.6	-0.2
PYA				eS	Sn	23 18 58.8	-0.2
PYA	Pyatigorsk	1.57	350	i Pg	Pb	23 18 39.6	-0.2
PYA				eSg	Sn	23 18 58.8	-0.2

*IDC **07** 23:21:01.4±0.9, 42°.62N×43°.46E, h0km, mb3.9/10, mb1 4.0/13, mb1mx3.8/31, mbtmp3.9/13, ML3.8/3, Error ellipse: s-maj=12.4km s-min=9.1km az=3.0*
*DDA **07** 23:21:02.8, 42°.71N×43°.41E, h12km, MD3.5*
*TIF **07** 23:21:02.6, 42°.57N×43°.47E, h12km±1km*
*MOS **07** 23:21:02.1±1.2, 42°.52N×43°.40E, h13km, mb4.4/20, Error ellipse: s-maj=4.8km s-min=4.0km az=97.8*
*ISCJB **07** 23:21:03.2±0.3, 42°.65N±0°.02×43°.37E±0°.02, h15km±2km, mb4.0/29, Error ellipse: s-maj=2.5km s-min=2.0km az=9.5*
*CSEM **07** 23:21:03.5±0.1, 42°.63N×43°.39E, h10km, mb4.2/23, MD3.5, Error ellipse: s-maj=3.2km s-min=2.4km az=156.0*
*NEIC **07** 23:21:03.4±0.3, 42°.70N×43°.42E, h10km, mb4.5/9, Error ellipse: s-maj=7.1km s-min=3.8km az=180.0*
*NNC **07** 23:21:06.9±3.1, 42°.83N×44°.17E, h0km, mb4.1, Error ellipse: s-maj=58.3km s-min=30.1km az=118.0*
*AZER **07** 23:21:23.4, 41°.74N×45°.18E, h10km*
ISC 07 23:21:03.4±0.6, 42°.57N±0°.01×43°.46E±0°.02, h10km±3km, n358, σ1§23/420, mb4.1/29, 33C-24D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	Oni	0.02	344	P	Pg	23 21 05.2	-0.2
ONI				S	Sg	23 21 06.9	+0.2
DIGR	Digorskoe uzhe	0.34	15	⇓iPG	Pg	23 21 09.6	-0.7
DIGR				i S	Sg	23 21 14.8	0.0
DIGR	Digorskoe uzhe	0.34	15	i Pg	Pg	23 21 09.6	-0.7
DIGR				i Sg	Sg	23 21 14.8	0.0
ZEI	Tsey	0.39	57	⇓iPG	Pg	23 21 10.6	-0.6
ZEI				i S	Sg	23 21 16.2	-0.2
ZEI	Tsey	0.39	57	i Pg	Pg	23 21 10.6	-0.6
ZEI				i Sg	Sg	23 21 16.2	-0.2
LACR	Lac	0.67	67	⇓iPG	Pg	23 21 15.4	-1.0
LACR				i S	Sg	23 21 24.7	-0.5
LACR	Lac	0.67	67	i Pg	Pg	23 21 15.4	-1.0
LACR				i Sg	Sg	23 21 24.7	-0.5
KORR	Kora	0.68	41	⇑iPG	Pg	23 21 16.4	-0.2
KORR				i S	Sg	23 21 26.0	+0.5
KORR	Kora	0.68	41	i Pg	Pg	23 21 16.4	-0.2
KORR				i Sg	Sg	23 21 26.0	+0.5
LSNR	Lesken	0.75	21	⇓iPG	Pg	23 21 17.8	-0.2
LSNR				i S	Sg	23 21 28.3	+0.4
LSNR	Lesken	0.75	21	i Pg	Pg	23 21 17.8	-0.2
LSNR				i Sg	Sg	23 21 28.3	+0.4
STDR	Stavd-Durt	0.91	29	⇑iPG	Pb	23 21 21.4	+0.1
STDR				eS	Sb	23 21 34.3	+0.8
STDR	Stavd-Durt	0.91	29	i Pg	Pb	23 21 21.4	+0.1
STDR				eSg	Sb	23 21 34.3	+0.8
NCK	Nalchik	0.93	6	⇓iPG	Pb	23 21 21.4	-0.2
NCK				i S	Sn	23 21 35.2	-0.7
NCK	Nalchik	0.93	6	i Pg	Pb	23 21 21.4	-0.2
NCK				i Sg	Sn	23 21 35.2	-0.7
VLKR	Vladikavkaz	1.01	62	⇓iPG	Pn	23 21 23.5	-0.2
VLKR				eS	Sb	23 21 37.3	+0.8
VLKR	Vladikavkaz	1.01	62	i Pg	Pn	23 21 23.5	-0.2
VLKR				eSg	Sb	23 21 37.3	+0.8
DUS	Dusheti	1.04	117	P	Pg	23 21 22.9	-0.5
DUS				S	Sn	23 21 38.4	-0.4
SNJR	Sundja	1.11	63	⇑iPG	Pb	23 21 24.5	-0.3
SNJR				eS	Sb	23 21 39.6	+0.3
SNJR	Sundja	1.11	63	i Pg	Pb	23 21 24.5	-0.3
SNJR				eSg	Sb	23 21 39.6	+0.3
BTKR	Batakoyurt	1.13	45	⇑iPG	Pn	23 21 26.2	+0.9
BTKR				i S	Sn	23 21 41.7	+0.8
BTKR	Batakoyurt	1.13	45	i Pg	Pn	23 21 26.2	+0.9
BTKR				i Sg	Sn	23 21 41.7	+0.8
AKH	Akhalkalaki	1.16	179	P	Pb	23 21 24.5	-1.2
AKH				S	Sb	23 21 40.8	-0.1
KBZ	Khabaz	1.23	341	PG	Pn	23 21 25.7	-0.9
KBZ				pmax	pmax		
	comp=Z,126nm,0.3s						
KBZ	Khabaz	1.23	341	Pg	Pn	23 21 25.7	-0.9
KBZ				Lg	Lg	23 21 41.9	
KBZ	Khabaz	1.23	341	Pg	Pn	23 21 25.7	-0.9
	comp=Z,126nm,0.3s,baz=179,slow=4.1,SNR=93						
KBZ				Lg	Lg	23 21 41.9	
	comp=Z,186nm,0.3s,baz=29,slow=19,SNR=21						
KBZ	Khabaz	1.23	341	Pg	Pn	23 21 25.7	-0.9
	comp=Z,126nm,0.3s						
KBZ				Lg	Lg	23 21 41.9	
KUBR	Kubataba	1.23	358	⇓iPG	Pg	23 21 26.9	-0.1
KUBR				eS	Sn	23 21 43.9	+0.6
KUBR	Kubataba	1.23	358	i Pg	Pg	23 21 26.9	-0.1
KUBR				eSg	Sn	23 21 43.9	+0.6
TBLG	Delisi	1.27	131	P	Pn	23 21 26.7	-0.5
TBLG				S	Sg	23 21 45.6	+1.3
SHAR	Shatzhatmas	1.30	334	⇑ePG	Pn	23 21 27.4	-0.5
SHAR				i S	Sb	23 21 45.0	0.0
SHAR	Shatzhatmas	1.30	334	ePg	Pn	23 21 27.4	-0.5
SHAR				i Sg	Sb	23 21 45.0	0.0
PRTR	Priterechnaya	1.32	27	⇑iPG	Pg	23 21 28.7	-0.1
PRTR				i S	Sg	23 21 46.8	+0.8
PRTR	Priterechnaya	1.32	27	i Pg	Pg	23 21 28.7	-0.1
PRTR				i Sg	Sg	23 21 46.8	+0.8
KZR	Kazreti	1.39	149	P	Pn	23 21 27.9	-1.0
KZR				S	Sn	23 21 46.5	-0.9
TRKR	Terskaya	1.48	39	⇑iPG	Pb	23 21 31.0	0.0
TRKR				i S	Sg	23 21 51.1	+0.1
TRKR	Terskaya	1.48	39	i Pg	Pb	23 21 31.0	0.0
TRKR				i Sg	Sg	23 21 51.1	+0.1
PYA	Pyatigorsk	1.49	349	⇓iPG	Pb	23 21 30.7	-0.5
PYA				eS	Sg	23 21 50.7	-0.6
PYA	Pyatigorsk	1.49	349	i Pg	Pb	23 21 30.7	-0.5
PYA				eSg	Sg	23 21 50.7	-0.6
KIV	Kislovodsk	1.49	338	⇓iPG	Pn	23 21 30.6	+0.2
KIV				i S	Sb	23 21 50.5	+0.2
KIV	Kislovodsk	1.49	338	i Pg	Pn	23 21 30.6	+0.2
KIV				i Sg	Sb	23 21 50.5	+0.2
DOMR	Dombai	1.53	299	⇓ePG	Pb	23 21 32.0	+0.1
DOMR				eS	Sg	23 21 54.1	+1.5
DOMR	Dombai	1.53	299	ePg	Pb	23 21 32.0	+0.1
DOMR				eSg	Sg	23 21 54.1	+1.5
BCA	Borcka	1.77	231	ePN	Pn	23 21 34.2	0.0
BCA				eSN	Sn	23 21 56.4	-0.4
BCA	Borcka	1.77	231	ePn	Pn	23 21 34.2	0.0
BCA				eSn	Sn	23 21 56.4	-0.4
ARTV	Artvin	1.80	220	i P	Pn	23 21 34.5	-0.2
ARTV				i S	Sn	23 21 58.8	+1.2
ARTV	Artvin	1.80	220	i P	Pn	23 21 34.5	-0.2
ARTV				i S	Sn	23 21 58.8	+1.2
DBOC	Borcka	1.81	228	i P	Pn	23 21 34.9	+0.1
DBOC				i S	Sn	23 21 57.4	-0.4
DBOC	Borcka	1.81	228	i P	Pn	23 21 34.9	+0.1
DBOC				i S	Sn	23 21 57.4	-0.4
DGRG	David-gareji	1.81	128	P	Pb	23 21 36.7	-0.1
DGRG				S	Sg	23 22 02.2	+0.4
GRO	Groznyy	1.84	65	⇑iPN	Pb	23 21 36.5	-0.6
GRO				i S	Sb	23 22 00.6	+0.4
GRO	Groznyy	1.84	65	i Pn	Pb	23 21 36.5	-0.6
GRO				i Sg	Sb	23 22 00.6	+0.4
DAGI	Agillar	1.89	218	i P	Pn	23 21 36.7	+0.9
DAGI				i S	Sb	23 22 01.8	+0.1
KARS	Kars	1.96	188	ePN	Pb	23 21 38.5	-0.9
KARS	Kars	1.96	188	ePn	Pb	23 21 38.5	-0.9
DBAD	Bademkaya	2.04	221	i P	Pn	23 21 38.9	+1.0
DBAD				i S	Sb	23 22 06.2	+0.2
DBAD	Bademkaya	2.04	221	i P	Pn	23 21 38.9	+1.0
DBAD				i S	Sb	23 22 06.2	+0.2
DDEM	Demirkent	2.11	218	i P	Pn	23 21 39.6	+0.7
DDEM				i S	Sb	23 22 09.5	+1.4
DDEM	Demirkent	2.11	218	i P	Pn	23 21 39.6	+0.7
DIGO	Kars	2.16	182	i P	Pn	23 21 40.4	+0.7
DIGO				i S	Sg	23 22 13.2	+0.4
DIGO	Kars	2.16	182	i P	Pn	23 21 40.4	+0.7
PZAR	Pazar-Rize	2.37	235	ePN	Pn	23 21 41.9	-0.4
PZAR	Pazar-Rize	2.37	235	ePn	Pn	23 21 41.9	-0.4
GNI	Garni	2.61	158	ePN	Pb	23 21 49.1	-1.2
GNI	Garni	2.61	158	ePn	Pb	23 21 48.5	-1.8
GNI				eSn	Sb	23 22 23.1	+0.6
GNI	Garni	2.61	158	ePn	Pb	23 21 48.5	-1.8
GNI				eSn	Sb	23 22 23.1	+0.6
GANJ	Ganja	2.88	131	⇓P	Pn	23 21 51.9	+2.5
	SNR=8.4						
GANJ				⇓S	Sn	23 22 26.8	+2.6
GANJ	Ganja	2.88	131	P	Pn	23 21 51.9	+2.5
	SNR=8.4						
GANJ				S	Sn	23 22 26.8	+2.6
SOC	Sochi	2.92	291	ePN	Pn	23 21 50.0	+0.1
SOC				e		23 21 56.2	
SOC				e		23 22 26.2	
SOC				pmax	pmax		
	comp=Z,24nm,0.6s						
SOC				smax	smax		
	comp=E,445nm,0.7s						
SOC	Sochi	2.92	291	ePn	Pn	23 21 50.0	+0.1
	comp=E,24nm,0.6s						
SOC	Sochi	2.92	291	ePb	Pb	23 21 56.2	+0.6
SOC				eSn	Sn	23 22 26.2	+1.1
MAK	Makhachkala	3.00	81	ePN	Pb	23 21 55.1	-1.9
MAK				e		23 22 00.9	
MAK				e		23 22 03.2	
MAK				e		23 22 29.8	
MAK				e		23 22 40.6	
MAK				pmax	pmax		
	comp=Z,85nm,0.5s						
MAK				smax	smax		
	comp=N,398nm,0.7s						
MAK	Makhachkala	3.00	81	ePn	Pb	23 21 55.1	-1.9
	comp=N,85nm,0.5s						
MAK	Makhachkala	3.00	81	ePb	Pg	23 22 00.9	-0.1
MAK	Makhachkala	3.00	81	ePg	Pg	23 22 03.2	+2.2
MAK				eSn	Sn	23 22 29.8	+2.7
	comp=N,398nm,0.7s						
MAK				eSb	Sg	23 22 40.6	+0.7
AGRB	Hanur-Agry	3.02	187	ePN	Pn	23 21 53.5	+2.1
AGRB	Hanur-Agry	3.02	187	ePn	Pn	23 21 53.5	+2.1
SEKA	Sheki	3.11	115	⇓P	Pn	23 21 53.8	+1.2
	SNR=12						
SEKA	Sheki	3.11	115	P	Pn	23 21 53.8	+1.2
	SNR=12						
KTUT	Trabzon	3.18	241	ePN	Pn	23 21 52.8	-0.7
KTUT	Trabzon	3.18	241	ePn	Pn	23 21 52.8	-0.7
MACK	Trabzon	3.21	241	i P	Pn	23 21 51.8	-2.1
MACK				i S	Sn	23 22 31.3	-0.8
MACK	Trabzon	3.21	241	i P	Pn	23 21 51.8	-2.1
MACK				i S	Sn	23 22 31.3	-0.8
BAYT	Ayd¨–ntepe-Bay	3.31	230	ePN	Pn	23 21 55.7	+0.2
BAYT	Ayd¨–ntepe-Bay	3.31	230	ePn	Pn	23 21 55.7	+0.2
CLDR	Caldiran	3.44	174	ePN	Pn	23 21 59.9	+2.6
CLDR	Caldiran	3.44	174	ePn	Pn	23 21 59.9	+2.6
BRDA	Brd	3.63	128	⇑P	Pn	23 22 02.1	+2.5
	SNR=9.0						
BRDA				⇓S	Sb	23 22 52.6	+0.9
BRDA	Brd	3.63	128	P	Pn	23 22 02.1	+2.5
	SNR=9.0						
GUMT	Gumushane	3.66	236	ePN	Pn	23 21 59.7	-0.5
GUMT	Gumushane	3.66	236	ePn	Pn	23 21 59.7	-0.5
NAX	Nakhchivan	3.73	155	⇑P	Pb	23 22 08.5	-0.9
	SNR=15						
NAX				⇓S	Sg	23 23 00.3	-2.9
ESPY	Espiye-Giresun	3.91	247	ePN	Pn	23 22 02.9	-0.6
ESPY	Espiye-Giresun	3.91	247	ePn	Pn	23 22 02.9	-0.6
QUBA	Quba, Azerbaij	3.95	106	⇑P	Pn	23 22 08.1	+4.1
	SNR=5.6						
QUBA				⇑S	Sg	23 23 07.2	-3.0
QUBA	Quba, Azerbaij	3

SEV *e*S **Sn** **23 24 11.4 -3.5**
BR131 Keskin Array S 7.94 252 *e*Pn **Pn** **23 22 58.9 -0.1**
comp=Z,1.6nm,0.4s
BR131 *e*Sn **Sn** **23 24 25.7 -3.2**
BR131 Keskin Array S 7.94 252 *e*Pn **Pn** **23 22 58.9 -0.1**
comp=Z,1.6nm,0.4s
BR131 *e*Sn **Sn** **23 24 25.7 -3.2**
BRTR Keskin Array B 7.94 252 Pn **Pn** **23 23 00.0 +1.0**
BRTR Sn **Sn** **23 24 28.5 -0.4**
BRTR Keskin Array B 7.94 252 Pn **Pn** **23 23 00.0 +1.0**
comp=Z,0.5nm,0.3s,baz=46,slow=11,SNR=21
BRTR Sn **Sn** **23 24 28.5 -0.4**
comp=Z,0.3nm,0.3s,baz=63,slow=29,SNR=3.4
BRTR Keskin Array B 7.94 252 P **Pn** **23 23 00.0 +1.0**
comp=Z,1.0nm,0.3s
BRTR S **Sn** **23 24 28.5 -0.4**
BR231 Keskin MP Arra 8.50 255 *e*Pn Pn 23 23 00.6 -6.1
BR231 Keskin MP Arra 8.50 255 *e*Pn Pn 23 23 00.6 -6.1
VRHR Novokhopersk 8.62 352 *e*P **Pn** **23 23 09.1 +1.0**
VRHR pmax pmax
comp=N,20nm,0.7s
VRHR pmax pmax
comp=Z,6.0nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.6s
VRHR Novokhopersk 8.62 352 *e*P **Pn** **23 23 09.1 +1.0**
VORD Divnogorie 8.87 343 *e*P **Pn** **23 23 13.2 +1.7**
VORD pmax pmax
comp=Z,4.0nm,0.9s
VORD pmax pmax
comp=N,8.0nm,0.6s
VORD pmax pmax
comp=E,20nm,0.9s
VORD Divnogorie 8.87 343 *e*P **Pn** **23 23 13.2 +1.7**
comp=E,8.0nm,0.6s
VSR Storozhevoye 9.13 343 *e*P **Pn** **23 23 17.0 +1.9**
VSR pmax pmax
comp=Z,5.0nm,0.5s
VSR pmax pmax
comp=N,10.0nm,0.8s
VSR pmax pmax
comp=E,10.0nm,1.3s
VSR Storozhevoye 9.13 343 *e*P **Pn** **23 23 17.0 +1.9**
comp=E,10.0nm,0.8s
TIRR Tirgusor 11.09 285 *e*P Pn 23 23 38.3 -3.7
TIRR Tirgusor 11.09 285 *e*Pn Pn 23 23 38.3 -3.7
TIRR Tirgusor 11.09 285 ⇓*i*P Pn 23 23 38.6 -3.4
TIRR Tirgusor 11.09 285 *e*Pn Pn 23 23 38.3 -3.7
TIRR Tirgusor 11.09 285 ⇓*i*P Pn 23 23 38.6 -3.4
KIS Kishinev 11.30 298 *e*P Pn 23 23 50.0 +5.1
KIS Kishinev 11.30 298 *e*P Pn 23 23 50.0 +5.1
KIS Kishinev 11.30 298 *e*P Pn 23 23 50.0 +5.1
CFR Carcaliu 11.36 288 ⇑*i*P **Pn** **23 23 44.7 -1.0**
CFR Carcaliu 11.36 288 ⇑*i*P **Pn** **23 23 44.7 -1.0**
TLB Topalu 11.37 285 ⇓*i*P **Pn** **23 23 42.9 -2.8**
TLB Topalu 11.37 285 ⇓*i*P **Pn** **23 23 42.9 -2.8**
KIEV Kiev 12.71 315 *e*P **Pn** **23 24 04.9 +0.9**
KIEV Kiev 12.71 315 *e*P **Pn** **23 24 04.9 +0.9**
AKTK Aktyubinsk 12.73 47 P Pn 23 24 00.5 -3.8
comp=E,1.0nm,0.3s
AKTO Aktyubinsk 12.73 47 ⇑Pn **Pn** **23 24 01.6 -2.7**
comp=E,6.0nm,0.6s
AKTO ⇑Sn Sn 23 26 18.6 -7.4
comp=E,7.7nm,0.8s
AKTO Aktyubinsk 12.73 47 P Pn 23 24 00.5 -3.8
AKTO pmax pmax
comp=Z,1.0nm,0.3s
AKTO Aktyubinsk 12.73 47 Pn Pn 23 24 00.5 -3.8
AKTO Sn Sn 23 26 16.7 -9.3
AKTO Aktyubinsk 12.73 47 Pn Pn 23 24 00.5 -3.8
comp=Z,1.0nm,0.3s,baz=239,slow=12,SNR=13
AKTO Sn Sn 23 26 16.7 -9.3
comp=Z,0.2nm,0.3s,baz=108,slow=20,SNR=2.5
AKTO Aktyubinsk 12.73 47 Pn Pn 23 24 00.5 -3.8
AKTO Sn Sn 23 26 16.7 -9.3
MLR Muntele Rosu 12.94 289 Pn **Pn** **23 24 06.9 -0.4**
MLR Sn **Sn** **23 26 29.2 -2.1**
MLR Muntele Rosu 12.94 289 Pn **Pn** **23 24 06.9 -0.4**
comp=Z,0.1nm,0.3s,baz=211,slow=18,SNR=2.3
MLR Sn **Sn** **23 26 29.2 -2.1**
comp=Z,0.1nm,0.3s,baz=257,slow=19,SNR=2.7
MLR Muntele Rosu 12.94 289 P **Pn** **23 24 06.9 -0.4**
MLR S **Sn** **23 26 29.2 -2.1**
AB31 Akbulak array 13.27 54 Pn **Pn** **23 24 09.8 -1.8**
comp=Z,5.6nm,0.6s,baz=243,slow=10,SNR=62
AB31 ⇑Sn Sn 23 26 30.3 -8.9
comp=Z,5.1nm,0.7s
AB31 Akbulak array 13.27 54 *i*P **Pn** **23 24 09.8 -1.8**
AB31 pmax pmax
comp=Z,4.0nm,0.3s
AB31 Akbulak array 13.27 54 Pn **Pn** **23 24 09.9 -1.8**
comp=Z,5.6nm,0.6s,baz=243,SNR=62
ABKAR Akbulak array 13.27 54 *e*Pn **Pn** **23 24 09.9 -1.8**
ABKAR Akbulak array 13.27 54 *e*Pn **Pn** **23 24 09.9 -1.8**
OBN Obninsk 13.34 343 *e*P **Pn** **23 24 13.5 +0.9**
OBN pmax pmax
comp=Z,4.0nm,0.7s
OBN Obninsk 13.34 343 *e*P **Pn** **23 24 13.5 +0.9**
comp=Z,4.0nm,0.7s
BURAR Bucovina Array 13.83 298 ⇑*i*P **Pn** **23 24 18.2 -1.3**
BURAR Bucovina Array 13.83 298 ⇑*i*P **Pn** **23 24 18.2 -1.3**
BUR04 Bucovina Ar. S 13.83 298 *e*Pn **Pn** **23 24 17.6 -2.0**
BUR04 Bucovina Ar. S 13.83 298 *e*Pn **Pn** **23 24 17.6 -2.0**
BUR08 Bucovina Ar. S 13.85 298 *e*Pn Pn 23 24 16.4 -3.3
BUR08 Bucovina Ar. S 13.85 298 *e*Pn Pn 23 24 16.4 -3.3
APE Apeiranthos 14.82 254 *e*P **Pn** **23 24 34.7 +1.6**
APE Apeiranthos 14.82 254 *e*P **Pn** **23 24 34.7 +1.6**
KWP Kalwaria Pacla 16.00 303 *e*P **Pn** **23 24 46.6 -1.9**
KWP pmax pmax
comp=Z,10.0nm,0.6s
KWP Kalwaria Pacla 16.00 303 *e*P **Pn** **23 24 46.6 -1.9**
comp=Z,9.9nm,0.6s
KOLS Kolonicke sedl 16.07 301 *e*P **P** **23 24 51.9 -0.8**
KOLS pmax pmax
comp=Z,4.0nm,1.1s
KOLS Kolonicke sedl 16.07 301 *e*P **P** **23 24 51.9 -0.8**
KOLS Kolonicke sedl 16.07 301 *e*P **P** **23 24 51.9 -0.8**
comp=Z,3.5nm,1.1s
CRVS Cervenica-Dubn 16.58 300 *e*P **P** **23 24 58.3 -0.1**
CRVS Cervenica-Dubn 16.58 300 *e*P **P** **23 24 58.4 0.0**
comp=Z,4.1nm,1.0s
STHS Stebnicka Huta 16.85 302 *e*P **Pn** **23 24 59.5 +0.2**
STHS pmax pmax
comp=Z,4.0nm,1.7s
STHS Stebnicka Huta 16.85 302 *e*P **Pn** **23 24 59.5 +0.2**
STHS Stebnicka Huta 16.85 302 *e*P **Pn** **23 24 59.5 +0.2**
comp=Z,3.7nm,1.7s
ARU Arti 16.93 30 *d*i*P **P** **23 25 01.4 -0.8**
ARU S **Sn** **23 28 09.6 +1.4**
ARU pmax pmax
comp=Z,5.0nm,0.8s
ARU Arti 16.93 30 *i*P **P** **23 25 01.4 -0.8**
comp=Z,5.0nm,0.8s
ARU S **Sn** **23 28 09.6 +1.4**
KECS Kecovo 17.12 298 *e*P **P** **23 25 04.4 +0.1**
KECS Kecovo 17.12 298 *e*P **P** **23 25 04.4 +0.1**
comp=Z,1.8nm,0.8s
SVE Sverdlovsk 18.00 32⇑*e*P **Pn** **23 25 10.8 -2.7**
SVE pmax pmax
comp=Z,16nm,0.9s
SVE MLR MLR
comp=Z,1μm,13.0s
VYHS Vyhne 18.20 297 *e*P **P** **23 25 18.4 +2.1**
VYHS pmax pmax
comp=Z,2.0nm,1.3s
VYHS Vyhne 18.20 297 *e*P **P** **23 25 18.4 +2.1**
VYHS Vyhne 18.20 297 *e*P **P** **23 25 18.4 +2.1**
comp=Z,2.0nm,1.3s
KLMR Klimovskoe 18.46 354 *e*P **P** **23 25 16.5 -2.5**
KLMR pmax pmax
comp=Z,26nm,1.8s
KLMR Klimovskoe 18.46 354 *e*P **P** **23 25 16.5 -2.5**
comp=Z,26nm,1.8s
OKC Ostrava-Krasne 18.91 301 *e*P **Pn** **23 25 25.8 +1.2**
OKC Ostrava-Krasne 18.91 301 *e*P **Pn** **23 25 25.8 +1.2**
OKC Ostrava-Krasne 18.91 301 *e*P **Pn** **23 25 25.8 +1.2**
SOKR Solikamsk 18.92 21 *e*P **Pn** **23 25 28.1 +3.4**
SOKR pmax pmax
comp=Z,10.0nm,0.9s
KK31 Karatay Array 19.82 79 P **P** **23 25 34.9 +0.7**
comp=Z,3.3nm,0.7s,baz=288,slow=10,SNR=29
KK31 Karatay Array 19.82 79 *ce*P **P** **23 25 34.8 +0.7**
KK31 pmax pmax
comp=Z,3.0nm,0.5s
KK31 Karatay Array 19.82 79 P **P** **23 25 34.8 +0.7**
comp=Z,3.3nm,0.7s,baz=288,SNR=29
KKAR Karatay Array 19.82 79 *e*P **P** **23 25 34.1 0.0**
KKAR Karatay Array 19.82 79 *e*P **P** **23 25 34.1 0.0**
KKAR Karatay Array 19.82 79 *e*P **P** **23 25 34.1 0.0**
DPC Dobruska-Polom 20.16 302 *e*P Pn 23 25 40.0 +0.3
DPC Dobruska-Polom 20.16 302 *e*P Pn 23 25 40.0 +0.3
DPC Dobruska-Polom 20.16 302 *e*P Pn 23 25 40.0 +0.3
BRVK Borovoye 20.72 50 *c i*P **P** **23 25 43.8 0.0**
BRVK pmax pmax
comp=Z,11nm,1.0s
BRVK Borovoye 20.72 50 *e*P **P** **23 25 43.0 -0.8**
comp=Z,8.6nm,0.8s
BRVK Borovoye 20.72 50 *e*P **P** **23 25 43.0 -0.8**
comp=Z,8.6nm,0.8s
BVA0 Borovoye Array 20.77 50 ⇓P **P** **23 25 44.0 -0.3**
comp=Z,8.6nm,0.8s
BVA0 Borovoye Array 20.77 50 P **P** **23 25 44.0 -0.3**
comp=Z,8.6nm,0.8s
BVAR Borovoye Array 20.77 50 P **P** **23 25 44.4 +0.1**
BVAR S **S** **23 29 34.2 -1.8**
BVAR pmax pmax
comp=Z,5.0nm,0.7s
BVAR smax smax
comp=N,1.0nm,0.8s
BVAR Borovoye Array 20.77 50 P **P** **23 25 44.4 +0.1**
BVAR S **S** **23 29 34.2 -1.8**
BVAR Borovoye Array 20.77 50 P **P** **23 25 44.4 +0.1**
comp=N,4.8nm,0.7s,baz=232,slow=7.5,SNR=29
BVAR S **S** **23 29 34.2 -1.8**
comp=N,1.2nm,0.8s,baz=259,slow=28,SNR=4.7
BVAR Borovoye Array 20.77 50 P **P** **23 25 44.4 +0.1**
comp=N,5.0nm,0.7s
BVAR S **S** **23 29 34.2 -1.8**
comp=N,1.0nm,0.8s
VOSK Vostochnaya 21.01 52 ⇑P **P** **23 25 46.5 -0.5**
comp=N,6.5nm,0.7s
VOSK Vostochnaya 21.01 52 *e*P **P** **23 25 46.5 -0.5**
VOSK pmax pmax
comp=Z,7.0nm,0.7s
VOSK Vostochnaya 21.01 52 *e*P **P** **23 25 46.5 -0.5**
comp=Z,7.0nm,0.7s
FINES FINESS Array B 21.58 337 P **P** **23 25 51.4 -1.5**
FINES FINESS Array B 21.58 337 P **P** **23 25 51.4 -1.5**
comp=Z,1.4nm,0.4s,baz=148,slow=11,SNR=12
FINES FINESS Array B 21.58 337 P **P** **23 25 51.4 -1.5**
JOF Joensuu 21.59 345 *e*P **P** **23 25 54.4 +1.4**
JOF pmax pmax
comp=Z,4.0nm,0.6s
JOF Joensuu 21.59 345 *e*p **P** **23 25 54.4 +1.4**
comp=Z,3.8nm,0.6s
JOF Joensuu 21.59 345 *e*P **P** **23 25 54.4 +1.4**
comp=Z,3.8nm,0.6s
GERES GERESS Array B 21.62 297 P **P** **23 25 53.1 -0.5**
GERES GERESS Array B 21.62 297 P **P** **23 25 53.1 -0.5**
comp=Z,1.4nm,0.7s,baz=103,slow=11,SNR=12
GERES GERESS Array B 21.62 297 P **P** **23 25 53.1 -0.5**
KHC Kasperske Hory 21.73 298 *i*P **P** **23 25 57.0 +2.3**
KHC pmax pmax
comp=Z,24nm,1.7s
KHC Kasperske Hory 21.73 298 *e*P **P** **23 25 56.5 +1.8**
KHC *ex* x 23 26 03.1
KHC Kasperske Hory 21.73 298 *i*P **P** **23 25 57.0 +2.3**
comp=Z,24nm,1.7s
KAF Kangasniemi 22.06 338 *e*P P 23 26 03.3 +5.2
KAF pmax pmax
comp=Z,6.0nm,0.7s
KAF Kangasniemi 22.06 338 *e*p P 23 26 03.3 +5.2
comp=Z,5.9nm,0.7s
CLL Collm 22.42 303 *i*P **P** **23 26 02.0 0.0**
CLL *e* 23 26 06.0
CLL pmax pmax
comp=Z,5.0nm,0.7s
CLL Collm 22.42 303 *i*P **P** **23 26 02.0 0.0**
comp=Z,5.0nm,0.7s
CLL *es*P **sP** **23 26 06.0 -0.2**
CLL *e* 23 26 13.0
CLL Collm 22.42 303 *i*P **P** **23 26 02.0 0.0**
comp=Z,5.0nm,0.7s
AAK Ala-Archa 22.79 79 *e*P **P** **23 26 06.6 +0.4**
AAK pmax pmax
comp=Z,17nm,1.7s
AAK Ala-Archa 22.79 79 *e*P **P** **23 26 06.2 0.0**
comp=Z,86nm,2.7s
AAK Ala-Archa 22.79 79 P **P** **23 26 06.2 0.0**
comp=Z,1.8nm,0.6s,baz=270,slow=19,SNR=4.5
AAK Ala-Archa 22.79 79 *e*P **P** **23 26 06.2 0.0**
comp=Z,86nm,2.7s
WTTA Wattenberg 22.92 293⇑*i*pP **P** **23 26 08.0 +0.4**
comp=Z,5.6nm,0.7s,SNR=5.4
WTTA Wattenberg 22.92 293 P **P** **23 26 08.0 +0.4**
comp=Z,5.6nm,0.7s,SNR=5.4
MOTA Moosalm 23.29 293⇑*i*pP **P** **23 26 09.8 -1.5**
comp=Z,3.1nm,0.6s,SNR=4.9
MOTA Moosalm 23.29 293 P **P** **23 26 09.8 -1.5**
comp=Z,3.1nm,0.6s,SNR=4.9
RETA Reutte 23.52 293⇑*i*pP **P** **23 26 12.8 -0.7**
comp=Z,4.5nm,0.9s
RETA Reutte 23.52 293 P **P** **23 26 12.8 -0.7**
comp=Z,4.5nm,0.9s
TKM2 Tokmak 2 23.53 78 ⇑P **P** **23 26 12.6 -1.3**
comp=Z,4.9nm,1.1s
TKM2 Tokmak 2 23.53 78 *e*P **P** **23 26 13.7 -0.2**
TKM2 pmax pmax
comp=Z,4.0nm,0.9s
TKM2 Tokmak 2 23.53 78 *e*P **P** **23 26 13.7 -0.2**
comp=Z,3.9nm,0.9s
TKM2 Tokmak 2 23.53 78 *e*P **P** **23 26 13.7 -0.2**
comp=Z,4.0nm,0.9s
FETA Feichten 23.55 292⇑*e*pP **P** **23 26 13.4 -0.5**
comp=Z,13nm,1.2s
FETA Feichten 23.55 292 P **P** **23 26 13.4 -0.5**
comp=Z,13nm,1.2s
DAVA Damuels 24.12 293⇑*i*pP **P** **23 26 19.2 -0.2**
comp=Z,12nm,1.0s,SNR=5.0
DAVA Damuels 24.12 293 P **P** **23 26 19.2 -0.2**
comp=Z,12nm,1.0s,SNR=5.0
DAVOX Davos/Dischmat 24.13 292 P **P** **23 26 18.9 -0.7**
DAVOX Davos/Dischmat 24.13 292 P **P** **23 26 18.9 -0.7**
comp=Z,3.9nm,0.5s,baz=92,slow=8.4,SNR=14
DAVOX Davos/Dischmat 24.13 292 P **P** **23 26 18.9 -0.7**
comp=Z,4.0nm,0.5s
STU Stuttgart 24.59 296 *e*P **P** **23 26 22.5 -1.0**
STU pmax pmax
comp=Z,8.0nm,0.6s
STU Stuttgart 24.59 296 *e*P **P** **23 26 22.5 -1.0**
comp=Z,7.5nm,0.6s
STU Stuttgart 24.59 296 *e*P **P** **23 26 22.5 -1.0**
comp=Z,8.0nm,0.6s
KURBB Kurchatov Arra 25.21 59 ⇑P **P** **23 26 27.7 -1.4**
comp=Z,3.3nm,0.8s
KURBB Kurchatov Arra 25.21 59 P **P** **23 26 28.8 -0.4**
comp=Z,2.2nm,0.2s,baz=281,slow=10,SNR=11
KURBB Kurchatov Arra 25.21 59 P **P** **23 26 27.7 -1.4**
comp=Z,3.3nm,0.8s
HFS Hagfors 25.25 324 P **P** **23 26 29.6 +0.3**
HFS Hagfors 25.25 324 P **P** **23 26 29.6 +0.3**
comp=Z,2.0nm,0.6s,baz=112,slow=12,SNR=4.9
HFS Hagfors 25.25 324 P **P** **23 26 29.6 +0.3**
comp=Z,2.0nm,0.6s
KURK Kurchatov 25.28 59 P **P** **23 26 28.8 -0.9**
KURK pmax pmax
comp=Z,1.0nm,0.4s
KURK Kurchatov 25.28 59 P **P** **23 26 28.8 -0.9**
KURK Kurchatov 25.28 59 P **P** **23 26 28.8 -0.9**
comp=Z,1.0nm,0.4s
PGF Pioggiola 25.28 282 *e*P **P** **23 26 29.8 -0.1**
PGF Pioggiola 25.28 282 *e*P **P** **23 26 29.8 -0.1**
PGF Pioggiola 25.28 282 *e*P **P** **23 26 29.8 -0.1**
PGF Pioggiola 25.28 282 *e*P **P** **23 26 29.8 -0.1**
HINF Hinteralfeld 26.15 294 *e*P **P** **23 26 36.2 -1.5**
HINF Hinteralfeld 26.15 294 *e*P **P** **23 26 36.2 -1.5**
HINF Hinteralfeld 26.15 294 *e*P **P** **23 26 36.2 -1.5**
HINF Hinteralfeld 26.15 294 *e*P **P** **23 26 36.2 -1.5**
SBF Sospel 26.16 285 *e*P **P** **23 26 38.1 +0.3**
SBF Sospel 26.16 285 *e*P **P** **23 26 38.1 +0.3**
SBF Sospel 26.16 285 *e*P **P** **23 26 38.1 +0.3**
SBF Sospel 26.16 285 *e*P **P** **23 26 38.1 +0.3**
LPG La Plagne 26.41 289 *e*P **P** **23 26 40.0 -0.3**
comp=Z,8.3nm,0.9s
LPG La Plagne 26.41 289 *e*P **P** **23 26 40.0 -0.3**
LPG pmax pmax
comp=Z,8.0nm,0.9s
LPG La Plagne 26.41 289 *e*P **P** **23 26 40.0 -0.3**
comp=Z,8.3nm,0.9s
LPG La Plagne 26.41 289 *e*P **P** **23 26 40.0 -0.3**
comp=Z,8.0nm,0.9s
LPL La Plagne 26.42 289 *e*P **P** **23 26 40.1 -0.2**
LPL La Plagne 26.42 289 *e*P **P** **23 26 40.1 -0.2**
LPL La Plagne 26.42 289 *e*P **P** **23 26 40.1 -0.2**
LPL La Plagne 26.42 289 *e*P **P** **23 26 40.1 -0.2**
MBDF Montbardon 26.49 287 *e*P **P** **23 26 41.6 +0.6**
comp=Z,10nm,0.8s
MBDF Montbardon 26.49 287 *e*P **P** **23 26 41.6 +0.6**
MBDF pmax pmax
comp=Z,11nm,0.8s
MBDF Montbardon 26.49 287 *e*P **P** **23 26 41.6 +0.6**
comp=Z,10nm,0.8s
MBDF Montbardon 26.49 287 *e*P **P** **23 26 41.6 +0.6**
comp=Z,10.0nm,0.8s
CABF La Chapelle 26.75 292 *e*P **P** **23 26 42.5 -0.7**
comp=Z,29nm,1.4s
CABF La Chapelle 26.75 292 *e*P **P** **23 26 42.5 -0.7**
CABF pmax pmax
comp=Z,29nm,1.4s
CABF La Chapelle 26.75 292 *e*P **P** **23 26 42.5 -0.7**
comp=Z,29nm,1.4s
CABF La Chapelle 26.75 292 *e*P **P** **23 26 42.5 -0.7**
comp=Z,28nm,1.4s
FRF La Foret Royal 26.77 285 *e*P **P** **23 26 43.7 +0.4**
FRF La Foret Royal 26.77 285 *e*P **P** **23 26 43.7 +0.4**
FRF La Foret Royal 26.77 285 *e*P **P** **23 26 43.7 +0.4**
FRF La Foret Royal 26.77 285 *e*P **P** **23 26 43.7 +0.4**
LMR La Mourre 26.92 284 *e*P **P** **23 26 44.3 -0.3**
comp=Z,17nm,1.2s
LMR La Mourre 26.92 284 *e*P **P** **23 26 44.3 -0.3**
LMR pmax pmax
comp=Z,17nm,1.2s
LMR La Mourre 26.92 284 *e*P **P** **23 26 44.3 -0.3**
comp=Z,17nm,1.2s
LMR La Mourre 26.92 284 *e*P **P** **23 26 44.3 -0.3**
comp=Z,17nm,1.2s
ORIF Oris-en-Rattie 27.09 288 *e*P **P** **23 26 44.7 -1.6**
ORIF Oris-en-Rattie 27.09 288 *e*P **P** **23 26 44.7 -1.6**
ORIF Oris-en-Rattie 27.09 288 *e*P **P** **23 26 44.7 -1.6**
ORIF Oris-en-Rattie 27.09 288 *e*P **P** **23 26 44.7 -1.6**
MK31 Makanchi Array 27.73 68 ⇑P **P** **23 26 51.7 -0.3**
comp=Z,1.7nm,0.7s,baz=273,slow=7.2,SNR=13
MK31 Makanchi Array 27.73 68 *e*P **P** **23 26 51.7 -0.3**
MK31 Makanchi Array 27.73 68 *e*P **P** **23 26 51.7 -0.3**
MK31 Makanchi Array 27.73 68 P **P** **23 26 51.7 -0.3**
comp=Z,1.7nm,0.7s,baz=273,SNR=13
MKAR Makanchi Array 27.73 68 *e*P **P** **23 26 51.9 -0.1**
MKAR pmax pmax
comp=Z,1.0nm,0.4s
MKAR Makanchi Array 27.73 68 *e*P **P** **23 26 52.2 +0.3**
MKAR Makanchi Array 27.73 68 P **P** **23 26 51.9 -0.1**
comp=Z,0.8nm,0.6s,baz=269,slow=8.7,SNR=13
MKAR Makanchi Array 27.73 68 *e*P **P** **23 26 52.2 +0.3**
MK01 Makanchi Array 27.74 68 *e*P **P** **23 26 51.9 -0.1**
MK01 Makanchi Array 27.74 68 *e*P **P** **23 26 51.9 -0.1**
SMF Signal de Mont 28.29 292 *e*P **P** **23 26 56.0 -0.9**
SMF Signal de Mont 28.29 292 *e*P **P** **23 26 56.0 -0.9**
SMF Signal de Mont 28.29 292 *e*P **P** **23 26 56.0 -0.9**
SMF Signal de Mont 28.29 292 *e*P **P** **23 26 56.0 -0.9**
NVS Novosibirsk 28.57 51 *e*P **P** **23 27 01.4 +2.2**
NVS Novosibirsk 28.57 51 *e*P **P** **23 27 01.4 +2.2**
AVF Avril sur Loir 28.61 292 *e*P **P** **23 26 58.8 -0.9**
AVF Avril sur Loir 28.61 292 *e*P **P** **23 26 58.8 -0.9**
AVF Avril sur Loir 28.61 292 *e*P **P** **23 26 58.8 -0.9**
AVF Avril sur Loir 28.61 292 *e*P **P** **23 26 58.8 -0.9**
LASF Ste Croix 28.66 287 *e*P **P** **23 26 59.7 -0.5**
LASF Ste Croix 28.66 287 *e*P **P** **23 26 59.7 -0.5**
LASF Ste Croix 28.66 287 *e*P **P** **23 26 59.7 -0.5**
CAF Calviac 29.77 289 *e*P **P** **23 27 10.0 0.0**
CAF Calviac 29.77 289 *e*P **P** **23 27 10.0 0.0**
CAF Calviac 29.77 289 *e*P **P** **23 27 10.0 0.0**
CAF Calviac 29.77 289 *e*P **P** **23 27 10.0 0.0**
ETSF Etsaut 32.06 286 *e*P **P** **23 27 29.0 -1.3**
ETSF Etsaut 32.06 286 *e*P **P** **23 27 29.0 -1.3**
ETSF Etsaut 32.06 286 *e*P **P** **23 27 29.0 -1.3**
ETSF Etsaut 32.06 286 *e*P **P** **23 27 29.0 -1.3**
SJPF Ste Jean 32.48 286 *e*P **P** **23 27 33.6 -0.3**
SJPF Ste Jean 32.48 286 *e*P **P** **23 27 33.6 -0.3**
SJPF Ste Jean 32.48 286 *e*P **P** **23 27 33.6 -0.3**
SJPF Ste Jean 32.48 286 *e*P **P** **23 27 33.6 -0.3**
EVO Evora 38.83 282 *e*P **P** **23 28 27.0 -1.4**
EVOP Sao Brissos 38.91 282 *e*P **P** **23 28 27.0 -2.1**
EVOP Sao Brissos 38.91 282 *e*P **P** **23 28 27.0 -2.1**
EVOP Sao Brissos 38.91 282 *e*P **P** **23 28 27.0 -2.1**
TLY Talaya 40.87 56 *e*P **P** **23 28 45.9 +0.6**
TLY pmax pmax
comp=Z,15nm,1.2s
TLY Talaya 40.87 56 *e*P **P** **23 28 45.9 +0.6**
comp=Z,15nm,1.2s
ULN Ulaanbaatar 43.98 60 *e*P **P** **23 29 11.9 +1.0**
comp=Z,1.0nm,1.0s
TORD Torodi Ar. Bea 46.44 244 P **P** **23 29 29.5 -1.0**
TORD Torodi Ar. Bea 46.44 244 P **P** **23 29 29.5 -1.0**
comp=Z,0.9nm,0.8s,baz=38,slow=6.9,SNR=4.8
TORD Torodi Ar. Bea 46.44 244 P **P** **23 29 29.5 -1.0**
CMAR Chiang Mai Arr 52.45 99 P **P** **23 30 16.5 +0.1**
CMAR Chiang Mai Arr 52.45 99 P **P** **23 30 16.5 +0.1**
comp=Z,0.2nm,0.4s,baz=307,slow=8.9,SNR=2.6
CMAR Chiang Mai Arr 52.45 99 P **P** **23 30 16.5 +0.1**

IDC ***07*** *23:33:47.9±1.1, 42°.58N×43°.60E, h0km, mb3.7/10, mb1 3.8/12, mb1mx3.6/30, mbtmp3.7/12, ML3.7/2, Error ellipse: s-maj=14.9km s-min=10.7km az=5.0*
TIF ***07*** *23:33:48.9, 42°.52N×43°.57E, h12km±2km*
DDA ***07*** *23:33:48.7, 42°.62N×43°.54E, h5km, MD3.2*
MOS ***07*** *23:33:49.4±1.6, 42°.51N×43°.63E, h15km, mb4.1/9, Error ellipse: s-maj=7.2km s-min=4.5km az=84.4*
CSEM ***07*** *23:33:50.9±0.3, 42°.62N×43°.54E, h18km±2km, mb4.1, mb3.9/8, Error ellipse: s-maj=4.7km s-min=3.6km az=4.0*
ISCJB ***07*** *23:33:50.5±0.3, 42°.54N±0°.02×43°.56E±0°.02, h18km±3km, mb3.6/12, Error ellipse: s-maj=2.9km s-min=2.5km az=2.8*
NNC ***07*** *23:33:57.2±4.2, 42°.67N×44°.84E, h0km, mb4.0, Error ellipse: s-maj=68.9km s-min=37.4km az=112.0*

ISC 07 23:33:49.7±0.8, 42°.54N±0°.02×43°.58E±0°.02, h13km±5km, n140, σ1§17/194, mb3.7/12, 14C-13D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.11**	**300**	P	**Pg**	**23 33 52.4**	**-0.4**
ONI				S	**Sg**	**23 33 54.8**	**-0.3**
ZEI	**Tsey**	**0.35**	**43**	⇓*i*PG	**Pg**	**23 33 56.8**	**0.0**
ZEI				*i* S	**Sg**	**23 34 02.0**	**+0.4**
ZEI	**Tsey**	**0.35**	**43**	*i* Pg	**Pg**	**23 33 56.8**	**0.0**
ZEI				*i* Sg	**Sg**	**23 34 02.0**	**+0.4**
DIGR	**Digorskoe uzhe**	**0.36**	**0**	⇓*i*PG	**Pg**	**23 33 56.8**	**-0.3**
DIGR				*i* S	**Sg**	**23 34 02.3**	**+0.2**
DIGR	**Digorskoe uzhe**	**0.36**	**0**	*i* Pg	**Pg**	**23 33 56.8**	**-0.3**
DIGR				*i* Sg	**Sg**	**23 34 02.3**	**+0.2**
LACR	**Lac**	**0.60**	**61**	⇓*i*PG	**Pg**	**23 34 01.4**	**-0.1**
LACR				*i* S	**Sg**	**23 34 09.8**	**+0.3**
LACR	**Lac**	**0.60**	**61**	*i* Pg	**Pg**	**23 34 01.4**	**-0.1**
LACR				*i* Sg	**Sg**	**23 34 09.8**	**+0.3**
KORR	**Kora**	**0.66**	**33**	⇑*i*PG	**Pb**	**23 34 02.8**	**-0.2**
KORR				*i* S	**Sb**	**23 34 12.1**	**0.0**
KORR	**Kora**	**0.66**	**33**	*i* Pg	**Pb**	**23 34 02.8**	**-0.2**
KORR				*i* Sg	**Sb**	**23 34 12.1**	**0.0**
LSNR	**Lesken**	**0.76**	**14**	⇓*i*PG	**Pg**	**23 34 04.6**	**+0.1**
LSNR				*i* S	**Sb**	**23 34 15.3**	**+0.1**
LSNR	**Lesken**	**0.76**	**14**	*i* Pg	**Pg**	**23 34 04.6**	**+0.1**
LSNR				*i* Sg	**Sb**	**23 34 15.3**	**+0.1**
STDR	**Stavd-Durt**	**0.91**	**23**	⇑*i*PG	**Pn**	**23 34 08.0**	**-0.1**
STDR				*e*S	**Sn**	**23 34 20.8**	**-0.3**
STDR	**Stavd-Durt**	**0.91**	**23**	*i* Pg	**Pn**	**23 34 08.0**	**-0.1**
STDR				*e*Sg	**Sn**	**23 34 20.8**	**-0.3**
DUS	**Dusheti**	**0.94**	**118**	P	**Pg**	**23 34 08.0**	**+0.1**
DUS				S	**Sn**	**23 34 21.6**	**-0.5**
VLKR	**Vladikavkaz**	**0.96**	**57**	*e*PG	**Pn**	**23 34 09.0**	**+0.2**
VLKR				*e*S	**Sn**	**23 34 22.2**	**-0.2**
VLKR	**Vladikavkaz**	**0.96**	**57**	*e*Pg	**Pn**	**23 34 09.0**	**+0.2**
VLKR				*e*Sg	**Sn**	**23 34 22.2**	**-0.2**
NCK	**Nalchik**	**0.96**	**1**	⇓*i*PG	**Pg**	**23 34 08.4**	**+0.2**
NCK				*e*S	**Sn**	**23 34 22.7**	**+0.3**
NCK	**Nalchik**	**0.96**	**1**	*i* Pg	**Pg**	**23 34 08.4**	**+0.2**
NCK				*e*Sg	**Sn**	**23 34 22.7**	**+0.3**
BTKR	**Batakoyurt**	**1.09**	**40**	⇑*i*PG	**Pg**	**23 34 12.4**	**+1.6**
BTKR				*i* S	**Sn**	**23 34 27.3**	**+1.5**
BTKR	**Batakoyurt**	**1.09**	**40**	*i* Pg	**Pg**	**23 34 12.4**	**+1.6**
BTKR				*i* Sg	**Sn**	**23 34 27.3**	**+1.5**
AKH	**Akhalkalaki**	**1.13**	**183**	P	**Pb**	**23 34 10.2**	**-0.9**
AKH				S	**Sb**	**23 34 26.0**	**+0.2**
TBLG	**Delisi**	**1.18**	**133**	P	**Pn**	**23 34 11.6**	**-0.3**

TBLG				S	Sn	23 34 28.0	+0.2
KUBR	**Kubataba**	**1.27**	**354**	⇓*i*PG	**Pg**	**23 34 14.2**	**+0.1**
KUBR				*i* S	**Sg**	**23 34 32.0**	**+1.4**
KUBR	**Kubataba**	**1.27**	**354**	*i* Pg	**Pg**	**23 34 14.2**	**+0.1**
KUBR				*i* Sg	**Sg**	**23 34 32.0**	**+1.4**
KBZ	**Khabaz**	**1.29**	**338**	PG	**Pn**	**23 34 13.2**	**-0.2**
KBZ				pmax	pmax		
	comp=Z,73nm,0.3s						
KBZ	**Khabaz**	**1.29**	**338**	Pg	**Pn**	**23 34 13.2**	**-0.2**
	comp=Z,73nm,0.3s,baz=178,slow=9.3,SNR=161						
KBZ				Lg	Lg	23 34 29.9	
	comp=Z,124nm,0.3s,baz=241,slow=23,SNR=15						
KBZ	**Khabaz**	**1.29**	**338**	Pg	**Pn**	**23 34 13.2**	**-0.2**
	comp=Z,73nm,0.3s						
KZR	**Kazreti**	**1.31**	**151**	P	**Pn**	**23 34 13.2**	**-0.5**
KZR				S	**Sb**	**23 34 31.2**	**+0.2**
PRTR	**Priterechnaya**	**1.32**	**23**	⇑*i*PG	**Pg**	**23 34 15.3**	**+0.3**
PRTR				*eS*	**Sg**	**23 34 33.2**	**+1.0**
PRTR	**Priterechnaya**	**1.32**	**23**	*i* Pg	**Pg**	**23 34 15.3**	**+0.3**
PRTR				*eSg*	**Sg**	**23 34 33.2**	**+1.0**
SHAR	**Shatzhatmas**	**1.38**	**331**	⇓*i*PG	**Pn**	**23 34 15.0**	**+0.2**
SHAR				*i* S	**Sn**	**23 34 33.2**	**+0.2**
SHAR	**Shatzhatmas**	**1.38**	**331**	*i* Pg	**Pn**	**23 34 15.0**	**+0.2**
SHAR				*i* Sg	**Sn**	**23 34 33.2**	**+0.2**
TRKR	**Terskaya**	**1.46**	**35**	⇑*i*PG	**Pg**	**23 34 17.6**	**0.0**
TRKR				*i* S	**Sg**	**23 34 37.3**	**+0.7**
TRKR	**Terskaya**	**1.46**	**35**	*i* Pg	**Pg**	**23 34 17.6**	**0.0**
TRKR				*i* Sg	**Sg**	**23 34 37.3**	**+0.7**
PYA	**Pyatigorsk**	**1.54**	**346**	⇓*i*PG	**Pb**	**23 34 18.1**	**0.0**
PYA				*eS*	**Sb**	**23 34 38.5**	**+0.9**
PYA	**Pyatigorsk**	**1.54**	**346**	*i* Pg	**Pb**	**23 34 18.1**	**0.0**
PYA				*eSg*	**Sb**	**23 34 38.5**	**+0.9**
DOMR	**Dombai**	**1.62**	**298**	⇑*e*PN	**Pb**	**23 34 19.5**	**-0.1**
DOMR				*eS*	**Sg**	**23 34 41.7**	**-0.2**
DOMR	**Dombai**	**1.62**	**298**	*e*Pn	**Pb**	**23 34 19.5**	**-0.1**
DOMR				*eSg*	**Sg**	**23 34 41.7**	**-0.2**
DGRG	**David-gareji**	**1.72**	**128**	P	**Pb**	**23 34 21.8**	**+0.6**
DGRG				S	**Sg**	**23 34 46.4**	**+1.4**
GRO	**Groznyy**	**1.78**	**63**	⇑*i*PN	**Pb**	**23 34 22.3**	**+0.2**
GRO				*eS*	**Sg**	**23 34 45.4**	**-1.4**
GRO	**Groznyy**	**1.78**	**63**	*i* Pn	**Pb**	**23 34 22.3**	**+0.2**
GRO				*eSg*	**Sg**	**23 34 45.4**	**-1.4**
ARTV	**Artvin**	**1.83**	**223**	*i* P	**Pn**	**23 34 21.4**	**+0.4**
ARTV				*i* S	**Sn**	**23 34 45.6**	**+1.5**
ARTV	**Artvin**	**1.83**	**223**	*i* P	**Pn**	**23 34 21.4**	**+0.4**
ARTV				*i* S	**Sn**	**23 34 45.6**	**+1.5**
DBOC	**Borcka**	**1.86**	**231**	*i* P	**Pn**	**23 34 21.0**	**-0.2**
DBOC				*i* S	**Sn**	**23 34 45.2**	**+0.6**
DBOC	**Borcka**	**1.86**	**231**	*i* P	**Pn**	**23 34 21.0**	**-0.2**
DBOC				*i* S	**Sn**	**23 34 45.2**	**+0.6**
DAGI	**Agillar**	**1.92**	**221**	*i* P	**Pn**	**23 34 23.2**	**+1.1**
DAGI				*i* S	**Sb**	**23 34 48.2**	**-0.2**
DBAD	**Bademkaya**	**2.07**	**224**	*i* P	**Pn**	**23 34 24.5**	**+0.3**
DBAD				*i* S	**Sb**	**23 34 52.1**	**-0.7**
DBAD	**Bademkaya**	**2.07**	**224**	*i* P	**Pn**	**23 34 24.5**	**+0.3**
DBAD				*i* S	**Sb**	**23 34 52.1**	**-0.7**
DIGO	**Kars**	**2.13**	**184**	*i* P	**Pn**	**23 34 25.7**	**+0.6**
DIGO				*i* S	**Sb**	**23 34 54.7**	**+0.1**
DIGO	**Kars**	**2.13**	**184**	*i* P	**Pn**	**23 34 25.7**	**+0.6**
DIGO				*i* S	**Sb**	**23 34 54.7**	**+0.1**
DDEM	**Demirkent**	**2.14**	**220**	*i* P	**Pn**	**23 34 25.7**	**+0.6**
DDEM				*i* S	**Sb**	**23 34 54.2**	**-0.5**
DDEM	**Demirkent**	**2.14**	**220**	*i* P	**Pn**	**23 34 25.7**	**+0.6**
DDEM				*i* S	**Sb**	**23 34 54.2**	**-0.5**
GNI	**Garni**	**2.54**	**159**	*e*Pn	**Pb**	**23 34 35.3**	**+0.1**
	comp=Z,68nm,0.6s						
GANJ	**Ganja**	**2.79**	**132**	P	**Pn**	**23 34 35.0**	**+0.9**
	SNR=12						
GANJ				S	**Sb**	**23 35 13.5**	**-0.1**
MAK	**Makhachkala**	**2.92**	**80**	*e*PN	**Pg**	**23 34 45.3**	**-0.4**
MAK				*e*		23 35 18.4	
MAK				smax	smax		
	comp=N,1μm,1.6s						
MAK				smax	smax		
	comp=E,572nm,1.0s						
MAK	**Makhachkala**	**2.92**	**80**	*e*Pn	**Pg**	**23 34 45.3**	**-0.4**
	comp=E,1μm,1.6s						
MAK				*e*Sb	**Sb**	**23 35 18.4**	**+1.2**
SEKA	**Sheki**	**3.01**	**115**	P	**Pn**	**23 34 38.6**	**+1.5**
	SNR=17						
SEKA				S	**Sb**	**23 35 20.7**	**+0.8**
SOC	**Sochi**	**3.02**	**292**	*e*PN	**Pb**	**23 34 42.4**	**-0.8**
SOC				*e*		23 35 15.3	
SOC				pmax	pmax		
	comp=Z,19nm,0.9s						
SOC				smax	smax		
	comp=N,87nm,0.7s						
SOC				smax	smax		
	comp=E,80nm,0.9s						
SOC	**Sochi**	**3.02**	**292**	*e*Pn	**Pb**	**23 34 42.4**	**-0.8**
	comp=E,19nm,0.9s						
SOC				*e*Sn	**Sn**	**23 35 15.3**	**+2.2**
	comp=E,87nm,0.7s						
BRDA	**Brd**	**3.54**	**129**	P	**Pn**	**23 34 45.9**	**+1.7**
	SNR=5.4						
BRDA				S	**Sb**	**23 35 32.4**	**-2.4**
NAX	**Nakhchivan**	**3.66**	**156**	S	**Sn**	**23 35 29.6**	**+0.5**
IML	**Ismayilli**	**3.86**	**115**	P	**Pn**	**23 34 51.1**	**+2.3**
	SNR=25						
IML				S	**Sn**	**23 35 37.8**	**+3.7**
PQL	**Pirkuli**	**4.14**	**113**	P	Pn	23 34 56.0	+3.3
	SNR=7.1						
SIZA	**Siyzn**	**4.24**	**108**	P	Pn	23 34 57.9	+3.9
	SNR=4.2						
GLBA	**Clilabad**	**4.91**	**130**	P	**Pn**	**23 35 05.5**	**+2.3**
	SNR=2.9						
ANN	**Anapa**	**5.00**	**299**	*e*PN	**Pn**	**23 35 05.9**	**+1.6**
ANN				*eS*	**Sn**	**23 36 06.1**	**+4.2**
ANN				pmax	pmax		
	comp=Z,12nm,0.5s						
ANN				MLR	MLR		
	comp=N,150nm,11.0s						
ANN				MLR	MLR		
	comp=E,155nm,11.0s						
ANN				MLR	MLR		
	comp=Z,618nm,11.0s						
ANN	**Anapa**	**5.00**	**299**	*e*Pn	**Pn**	**23 35 05.9**	**+1.6**
	comp=Z,12nm,0.5s						
ANN				*e*Sn	**Sn**	**23 36 06.1**	**+4.2**
YAL	**Yalta**	**7.12**	**289**	*e*P	**Pn**	**23 35 34.8**	**+1.3**
YAL				*eS*	**Sn**	**23 36 53.6**	**-0.7**
YAL	**Yalta**	**7.12**	**289**	*e*P	**Pn**	**23 35 34.8**	**+1.3**
YAL				*eS*	**Sn**	**23 36 53.6**	**-0.7**
SEV	**Sevastopol'**	**7.48**	**289**	*e*P	**Pn**	**23 35 36.4**	**-1.9**
SEV	**Sevastopol'**	**7.48**	**289**	*e*P	**Pn**	**23 35 36.4**	**-1.9**
BRTR	**Keskin Array B**	**8.01**	**253**	Pn	**Pn**	**23 35 47.6**	**+1.8**
	comp=Z,0.7nm,0.3s,baz=38,slow=10.0,SNR=25						
BRTR				Sn	**Sn**	**23 37 14.7**	**-1.7**
	comp=Z,0.0nm,0.3s,baz=52,slow=25,SNR=3.0						
BRTR	**Keskin Array B**	**8.01**	**253**	P	**Pn**	**23 35 47.7**	**+1.8**
	comp=Z,1.0nm,0.3s						
BRTR				S	**Sn**	**23 37 14.7**	**-1.7**
VRHR	**Novokhopersk**	**8.67**	**352**	*e*P	Pn	23 35 59.5	+4.9
VRHR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
VRHR				pmax	pmax		
	comp=N,10.0nm,0.6s						
VRHR				pmax	pmax		
	comp=E,10.0nm,0.9s						
VRHR	**Novokhopersk**	**8.67**	**352**	*e*P	Pn	23 35 59.5	+4.9
	comp=E,10.0nm,0.6s						
VORD	**Divnogorie**	**8.93**	**342**	*e*P	Pn	23 36 08.5	+10
VORD				pmax	pmax		
	comp=Z,4.0nm,0.5s						
VORD				pmax	pmax		
	comp=N,20nm,1.1s						
VORD				pmax	pmax		
	comp=E,10.0nm,0.5s						
VORD	**Divnogorie**	**8.93**	**342**	*e*P	Pn	23 36 08.5	+10
	comp=E,20nm,1.1s						
VSR	**Storozhevoye**	**9.19**	**342**	*e*P	Pn	23 36 07.9	+6.1
VSR				pmax	pmax		
	comp=Z,20nm,1.3s						
VSR				pmax	pmax		
	comp=N,30nm,1.1s						
VSR				pmax	pmax		
	comp=E,10.0nm,1.2s						
VSR	**Storozhevoye**	**9.19**	**342**	*e*P	Pn	23 36 07.9	+6.1
	comp=E,30nm,1.1s						
KIS	**Kishinev**	**11.40**	**298**	*e*P	Pn	23 36 42.0	+10
KIS	**Kishinev**	**11.40**	**298**	*e*P	Pn	23 36 42.0	+10
KIS	**Kishinev**	**11.40**	**298**	*e*P	Pn	23 36 42.0	+10
AKTK	**Aktyubinsk**	**12.69**	**47**	P	**Pn**	**23 36 47.9**	**-1.8**
	comp=E,1.0nm,0.3s						
AKTO	**Aktyubinsk**	**12.69**	**47**	⇓Pn	**Pn**	**23 36 48.8**	**-0.9**
	comp=E,4.6nm,0.8s						
AKTO				⇓Sn	Sn	23 39 03.1	-7.6
	comp=E,4.5nm,0.8s						
AKTO	**Aktyubinsk**	**12.69**	**47**	P	**Pn**	**23 36 47.9**	**-1.8**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKTO	**Aktyubinsk**	**12.69**	**47**	Pn	**Pn**	**23 36 47.9**	**-1.8**
	comp=Z,0.6nm,0.3s,baz=236,slow=12,SNR=9.3						
AKTO				Sn	Sn	23 39 01.4	-9.4
	comp=Z,0.2nm,0.3s,baz=62,slow=18,SNR=2.3						
AKTO	**Aktyubinsk**	**12.69**	**47**	Pn	**Pn**	**23 36 48.8**	**-0.9**
	comp=Z,4.6nm,0.8s						
AB31	**Akbulak array**	**13.22**	**54**	Pn	**Pn**	**23 36 55.8**	**-1.1**
	comp=Z,2.9nm,0.6s,baz=241,slow=11,SNR=26						
AB31				⇑Sn	Sn	23 39 14.0	-10
	comp=Z,2.9nm,0.6s,baz=240,slow=25,SNR=13						
AB31	**Akbulak array**	**13.22**	**54**	*i* P	**Pn**	**23 36 55.8**	**-1.1**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.2s						
AB31	**Akbulak array**	**13.22**	**54**	Pn	**Pn**	**23 36 55.8**	**-1.1**
	comp=Z,2.9nm,0.6s,baz=241,SNR=26						
OBN	**Obninsk**	**13.40**	**342**	*e*P	**Pn**	**23 36 59.6**	**+0.3**
OBN				pmax	pmax		
	comp=Z,4.0nm,0.7s						
OBN	**Obninsk**	**13.40**	**342**	*e*P	**Pn**	**23 36 59.6**	**+0.3**
	comp=Z,4.0nm,0.7s						
ARU	**Arti**	**16.92**	**30**	*d i*P	**Pn**	**23 37 42.7**	**-3.2**
ARU				S	**Sn**	**23 40 49.2**	**-4.4**
ARU				pmax	pmax		
	comp=Z,6.0nm,1.7s						
SVE	**Sverdlovsk**	**17.99**	**31**	⇓*e*P	**Pn**	**23 37 58.0**	**-1.2**
SVE				pmax	pmax		
	comp=Z,18nm,1.2s						
SVE	**Sverdlovsk**	**17.99**	**31**	*e*P	**Pn**	**23 37 58.0**	**-1.2**
	comp=Z,18nm,1.2s						
KLMR	**Klimovskoe**	**18.51**	**354**	*e*P	**P**	**23 38 03.3**	**-2.1**
KLMR				pmax	pmax		
	comp=Z,27nm,1.8s						
KLMR	**Klimovskoe**	**18.51**	**354**	*e*P	**P**	**23 38 03.3**	**-2.1**
	comp=Z,27nm,1.8s						
KK31	**Karatay Array**	**19.74**	**79**	⇑P	**Pn**	**23 38 20.3**	**-0.2**
	comp=Z,2.6nm,0.6s,baz=295,slow=11,SNR=26						
KK31	**Karatay Array**	**19.74**	**79**	*ce*P	**Pn**	**23 38 20.6**	**+0.1**
KK31				pmax	pmax		
	comp=Z,5.0nm,0.6s						
KK31	**Karatay Array**	**19.74**	**79**	*e*P	**Pn**	**23 38 20.6**	**+0.1**
	comp=Z,5.0nm,0.6s						
BRVK	**Borovoye**	**20.68**	**50**	*d i*P	**P**	**23 38 29.8**	**+0.7**
BRVK				pmax	pmax		
	comp=Z,13nm,1.0s						
BRVK	**Borovoye**	**20.68**	**50**	*i* P	**P**	**23 38 29.8**	**+0.7**
	comp=Z,13nm,1.0s						
BVA0	**Borovoye Array**	**20.73**	**50**	⇑P	**P**	**23 38 30.0**	**+0.3**
	comp=Z,6.7nm,0.8s						
BVA0	**Borovoye Array**	**20.73**	**50**	P	**P**	**23 38 30.0**	**+0.3**
	comp=Z,6.7nm,0.8s						
BVAR	**Borovoye Array**	**20.73**	**50**	P	**P**	**23 38 30.4**	**+0.7**
BVAR				S	**S**	**23 42 20.0**	**-0.7**
BVAR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BVAR				smax	smax		
	comp=N,1.0nm,1.0s						
BVAR	**Borovoye Array**	**20.73**	**50**	P	**P**	**23 38 30.4**	**+0.7**
	comp=N,5.4nm,0.8s,baz=232,slow=7.3,SNR=24						
BVAR				S	**S**	**23 42 20.0**	**-0.7**
	comp=N,1.4nm,1.0s,baz=246,slow=22,SNR=2.4						
BVAR	**Borovoye Array**	**20.73**	**50**	P	**P**	**23 38 30.4**	**+0.7**
	comp=N,5.0nm,0.8s						
BVAR				S	**S**	**23 42 20.0**	**-0.7**
	comp=N,1.0nm,1.0s						
VOSK	**Vostochnaya**	**20.97**	**51**	⇑P	**P**	**23 38 32.4**	**+0.1**
	comp=N,5.8nm,0.8s						
VOSK	**Vostochnaya**	**20.97**	**51**	*i* P	**P**	**23 38 32.3**	**0.0**
VOSK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
VOSK	**Vostochnaya**	**20.97**	**51**	*i* P	**P**	**23 38 32.3**	**0.0**
	comp=Z,7.0nm,0.8s						
FINES	**FINESS Array B**	**21.65**	**337**	P	**P**	**23 38 39.0**	**-0.5**
	comp=Z,2.2nm,0.8s,baz=149,slow=10,SNR=7.9						
FINES	**FINESS Array B**	**21.65**	**337**	P	**P**	**23 38 39.0**	**-0.5**
	comp=Z,2.0nm,0.8s						
GERES	**GERESS Array B**	**21.71**	**297**	P	**P**	**23 38 40.6**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=98,slow=9.6,SNR=7.1						
GERES	**GERESS Array B**	**21.71**	**297**	P	**P**	**23 38 40.7**	**+0.3**
KHC	**Kasperske Hory**	**21.82**	**298**	*e*P	**P**	**23 38 42.5**	**+1.0**
KHC	**Kasperske Hory**	**21.82**	**298**	*e*P	**P**	**23 38 42.5**	**+1.0**
KHC				*ex*	x	23 38 56.2	
KHC	**Kasperske Hory**	**21.82**	**298**	*e*P	**P**	**23 38 42.5**	**+1.0**
CLL	**Collm**	**22.51**	**304**	*e*P	**P**	**23 38 53.0**	**+4.1**
CLL	**Collm**	**22.51**	**304**	*es*P	**P**	**23 38 53.0**	**+4.1**
CLL				*e*		23 39 04.0	
AAK	**Ala-Archa**	**22.70**	**79**	*e*P	**P**	**23 38 52.0**	**+0.8**
AAK				pmax	pmax		
	comp=Z,17nm,1.7s						
AAK	**Ala-Archa**	**22.70**	**79**	P	**P**	**23 38 52.5**	**+1.3**
	comp=Z,1.8nm,0.6s,baz=221,slow=6.7,SNR=5.2						
AAK	**Ala-Archa**	**22.70**	**79**	*e*P	**P**	**23 38 52.0**	**+0.8**
	comp=Z,17nm,1.7s						
TKM2	**Tokmak 2**	**23.45**	**78**	⇑P	**P**	**23 38 59.1**	**+0.2**
	comp=Z,3.7nm,0.9s						
TKM2	**Tokmak 2**	**23.45**	**78**	P	**P**	**23 38 59.1**	**+0.2**
	comp=Z,3.7nm,0.9s						
DAVOX	**Davos/Dischmat**	**24.23**	**292**	P	**P**	**23 39 06.1**	**-0.2**
	comp=Z,1.2nm,0.5s,baz=150,slow=9.5,SNR=5.5						
DAVOX	**Davos/Dischmat**	**24.23**	**292**	P	**P**	**23 39 06.1**	**-0.2**
	comp=Z,1.0nm,0.5s						
KURBB	**Kurchatov Arra**	**25.16**	**59**	P	**P**	**23 39 13.5**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=272,slow=11,SNR=8.1						
KURK	**Kurchatov**	**25.22**	**59**	P	**P**	**23 39 13.5**	**-1.5**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.2s						
KURK	**Kurchatov**	**25.22**	**59**	P	**P**	**23 39 13.5**	**-1.5**
	comp=Z,1.0nm,0.2s						
HFS	**Hagfors**	**25.33**	**324**	P	**P**	**23 39 16.4**	**+0.6**
	comp=Z,2.3nm,0.9s,baz=134,slow=10,SNR=3.2						
HFS	**Hagfors**	**25.33**	**324**	P	**P**	**23 39 16.4**	**+0.6**
	comp=Z,2.0nm,0.9s						
MK31	**Makanchi Array**	**27.66**	**68**	⇑P	**P**	**23 39 37.5**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=275,slow=8.2,SNR=6.8						
MK31	**Makanchi Array**	**27.66**	**68**	P	**P**	**23 39 37.5**	**+0.4**
	comp=Z,0.9nm,0.6s,SNR=6.8						
MKAR	**Makanchi Array**	**27.66**	**68**	P	**P**	**23 39 37.9**	**+0.8**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**27.66**	**68**	P	**P**	**23 39 37.9**	**+0.8**
	comp=Z,0.8nm,0.5s,baz=268,slow=8.9,SNR=13						
MKAR	**Makanchi Array**	**27.66**	**68**	P	**P**	**23 39 37.9**	**+0.8**
	comp=Z,1.0nm,0.5s						
ZALV	**Zalesovo Beam**	**29.33**	**53**	P	**P**	**23 39 51.1**	**-0.7**
ZALV	**Zalesovo Beam**	**29.33**	**53**	P	**P**	**23 39 51.1**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=282,slow=7.2,SNR=2.8						
ZALV	**Zalesovo Beam**	**29.33**	**53**	P	**P**	**23 39 51.1**	**-0.7**
TORD	**Torodi Ar. Bea**	**46.51**	**244**	P	**P**	**23 42 15.9**	**-0.9**
	comp=Z,1.5nm,1.3s,baz=50,slow=7.2,SNR=3.1						

*ISCJB **07** 23:34:53.9±0.6, 42°.53N±0°.03×43°.39E±0°.04, h11km±5km, Error ellipse: s-maj=5.8km s-min=4.6km az=149.8*
*TIF **07** 23:34:53.7, 42°.52N×43°.48E, h11km±1km*
*CSEM **07** 23:34:54.1, 42°.53N×43°.53E, h10km, After OBN*
*MOS **07** 23:34:54.8±1.0, 42°.53N×43°.53E, h10km, mb4.0/1, Error ellipse: s-maj=17.8km s-min=7.1km az=80.1*
ISC 07 23:34:54.3±1.0, 42°.51N±0°.03×43°.49E±0°.04, h10km±6km, n27, σ0°.73/54, 5C-4D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.09**	**340**	P	**Pg**	**23 34 56.7**	**-0.1**
ONI				S	**Sg**	**23 34 58.4**	**-0.1**
DIGR	**Digorskoe uzhe**	**0.39**	**10**	⇓*i*PG	**Pg**	**23 35 01.9**	**-0.2**
DIGR				*i* S	**Sg**	**23 35 08.1**	**+0.7**
DIGR	**Digorskoe uzhe**	**0.39**	**10**	*i* Pg	**Pg**	**23 35 01.9**	**-0.2**
DIGR				*i* Sg	**Sg**	**23 35 08.1**	**+0.7**
ZEI	**Tsey**	**0.41**	**47**	⇓*i*PG	**Pb**	**23 35 02.9**	**-0.9**
ZEI				*i* S	**Sb**	**23 35 09.1**	**-1.1**
ZEI	**Tsey**	**0.41**	**47**	*i* Pg	**Pb**	**23 35 02.9**	**-0.9**
ZEI				*i* Sg	**Sb**	**23 35 09.1**	**-1.1**
LACR	**Lac**	**0.67**	**62**	⇓*i*PG	**Pb**	**23 35 07.4**	**-0.8**
LACR				*i* S	**Sb**	**23 35 17.1**	**-0.5**
LACR	**Lac**	**0.67**	**62**	*i* Pg	**Pb**	**23 35 07.4**	**-0.8**
LACR				*i* Sg	**Sb**	**23 35 17.1**	**-0.5**
KORR	**Kora**	**0.71**	**36**	⇑*i*PG	**Pb**	**23 35 08.9**	**0.0**
KORR				*eS*	**Sb**	**23 35 19.3**	**+0.5**
KORR	**Kora**	**0.71**	**36**	*i* Pg	**Pb**	**23 35 08.9**	**0.0**
KORR				*eSg*	**Sb**	**23 35 19.3**	**+0.5**
LSNR	**Lesken**	**0.81**	**18**	*e*PG	**Pb**	**23 35 10.2**	**-0.2**
LSNR				*i* S	**Sb**	**23 35 21.7**	**+0.3**
LSNR	**Lesken**	**0.81**	**18**	*e*Pg	**Pb**	**23 35 10.2**	**-0.2**
LSNR				*i* Sg	**Sb**	**23 35 21.7**	**+0.3**
STDR	**Stavd-Durt**	**0.95**	**26**	⇑*i*PG	**Pn**	**23 35 14.1**	**+0.3**
STDR				*eS*	**Sn**	**23 35 27.6**	**+0.1**
STDR	**Stavd-Durt**	**0.95**	**26**	*i* Pg	**Pn**	**23 35 14.1**	**+0.3**
STDR				*eSg*	**Sn**	**23 35 27.6**	**+0.1**
NCK	**Nalchik**	**0.99**	**4**	⇓*i*PG	**Pn**	**23 35 13.6**	**-0.7**
NCK				*eS*	**Sn**	**23 35 28.3**	**0.0**
NCK	**Nalchik**	**0.99**	**4**	*i* Pg	**Pn**	**23 35 13.6**	**-0.7**
NCK				*eSg*	**Sn**	**23 35 28.3**	**0.0**
VLKR	**Vladikavkaz**	**1.02**	**58**	*e*PG	**Pn**	**23 35 15.0**	**+0.2**
VLKR				*eS*	**Sn**	**23 35 29.4**	**+0.2**
VLKR	**Vladikavkaz**	**1.02**	**58**	*e*Pg	**Pn**	**23 35 15.0**	**+0.2**
VLKR				*eSg*	**Sn**	**23 35 29.4**	**+0.2**
AKH	**Akhalkalaki**	**1.10**	**180**	P	**Pb**	**23 35 15.1**	**-0.4**
AKH				S	**Sb**	**23 35 30.4**	**+0.4**
TBLG	**Delisi**	**1.21**	**130**	P	**Pg**	**23 35 17.6**	**+0.1**
TBLG				S	**Sn**	**23 35 34.5**	**+0.7**
KUBR	**Kubataba**	**1.29**	**357**	⇑*e*PG	**Pg**	**23 35 19.5**	**+0.5**
KUBR				*i* S	**Sg**	**23 35 38.5**	**+2.7**
KUBR	**Kubataba**	**1.29**	**357**	*e*Pg	**Pg**	**23 35 19.5**	**+0.5**
KUBR				*i* Sg	**Sg**	**23 35 38.5**	**+2.7**
SHAR	**Shatzhatmas**	**1.37**	**334**	⇑*e*PG	**Pb**	**23 35 20.2**	**0.0**
SHAR				*i* S	**Sg**	**23 35 38.4**	**0.0**
SHAR	**Shatzhatmas**	**1.37**	**334**	*e*Pg	**Pb**	**23 35 20.2**	**0.0**
SHAR				*i* Sg	**Sg**	**23 35 38.4**	**0.0**
PYA	**Pyatigorsk**	**1.55**	**348**	*e*PG	**Pg**	**23 35 23.4**	**-0.7**
PYA				*eS*	**Sg**	**23 35 44.0**	**-0.3**
PYA	**Pyatigorsk**	**1.55**	**348**	*e*Pg	**Pg**	**23 35 23.4**	**-0.7**
PYA				*eSg*	**Sg**	**23 35 44.0**	**-0.3**
KIV	**Kislovodsk**	**1.56**	**338**	⇑*e*PG	**Pn**	**23 35 22.1**	**-0.1**
KIV				*eS*	**Sg**	**23 35 44.0**	**-0.4**
KIV	**Kislovodsk**	**1.56**	**338**	*e*Pg	**Pn**	**23 35 22.1**	**-0.1**
KIV				*eSg*	**Sg**	**23 35 44.0**	**-0.4**

*TIF **07** 23:36:05.4, 42°.55N×43°.46E, h10km±1km*
*DDA **07** 23:36:05.7, 42°.78N×43°.32E, h11km, MD3.4*
*ISCJB **07** 23:36:06.0±0.4, 42°.60N±0°.02×43°.43E±0°.03, h8km±3km, mb3.5/5, Error ellipse: s-maj=3.2km s-min=3.0km az=147.2*
*IDC **07** 23:36:06.1±1.5, 42°.65N×43°.52E, h0km, mb3.4/4, mb1 3.5/5, mb1mx3.3/25, mbtmp3.5/5, ML3.1/1, Error ellipse: s-maj=23.2km s-min=15.4km az=71.0*
*MOS **07** 23:36:06.1±1.5, 42°.57N×43°.42E, h11km, mb4.1/2, Error ellipse: s-maj=8.6km s-min=5.1km az=75.9*
*CSEM **07** 23:36:06.4±0.2, 42°.58N×43°.42E, h2km, mb4.1, Error ellipse: s-maj=4.2km s-min=2.9km az=131.0*
ISC 07 23:36:06.1±1.0, 42°.53N±0°.02×43°.45E±0°.02, h2km±8km, n76, σ0°.70/129, mb3.5/5, 3C-11D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.06**	**5**	P	**Pg**	**23 36 07.7**	**+0.4**
ONI				S	**Sg**	**23 36 09.2**	**+1.1**
DIGR	**Digorskoe uzhe**	**0.38**	**15**	⇓*i*PG	**Pg**	**23 36 12.8**	**-0.6**
DIGR				*i* S	**Sg**	**23 36 18.1**	**-0.3**
DIGR	**Digorskoe uzhe**	**0.38**	**15**	*i* Pg	**Pg**	**23 36 12.8**	**-0.6**
DIGR				*i* Sg	**Sg**	**23 36 18.1**	**-0.3**
ZEI	**Tsey**	**0.42**	**53**	⇓*i*PG	**Pg**	**23 36 13.8**	**-0.4**
ZEI				*i* S	**Sg**	**23 36 19.6**	**-0.1**
ZEI	**Tsey**	**0.42**	**53**	*i* Pg	**Pg**	**23 36 13.8**	**-0.4**
ZEI				*i* Sg	**Sg**	**23 36 19.6**	**-0.1**
LACR	**Lac**	**0.69**	**65**	⇓*i*PG	**Pg**	**23 36 18.6**	**-0.8**
LACR				*i* S	**Sg**	**23 36 28.0**	**-0.4**
LACR	**Lac**	**0.69**	**65**	*i* Pg	**Pg**	**23 36 18.6**	**-0.8**
LACR				*i* Sg	**Sg**	**23 36 28.0**	**-0.4**
KORR	**Kora**	**0.72**	**39**	⇑*i*PG	**Pg**	**23 36 19.6**	**-0.2**
KORR				*eS*	**Sg**

DIGO	**Kars**	**2.12**	**181**	*i* P	**Pb**	**23 36 44.4**	**-1.0**
DIGO				*i* S	**Sb**	**23 37 12.0**	**-0.2**
DIGO	**Kars**	**2.12**	**181**	*i* P	**Pb**	**23 36 44.4**	**-1.0**
DIGO				*i* S	**Sb**	**23 37 12.0**	**-0.2**
GNI	**Garni**	**2.57**	**157**	*e*Pn	**Pb**	**23 36 52.8**	**-0.3**
ANN	**Anapa**	**4.92**	**299**	*e*PN	**Pn**	**23 37 21.6**	**+0.7**
ANN				*e*S	**Sn**	**23 38 20.6**	**+2.3**
ANN				pmax	pmax		
	comp=Z,11nm,1.2s						
ANN	**Anapa**	**4.92**	**299**	*e*Pn	**Pn**	**23 37 21.6**	**+0.7**
	comp=Z,11nm,1.2s						
ANN				*e*Sn	**Sn**	**23 38 20.6**	**+2.3**
BRTR	**Keskin Array B**	**7.92**	**253**	Pn	**Pn**	**23 38 02.1**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=44,slow=11,SNR=5.1						
BRTR				Sn	**Sn**	**23 39 31.9**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=78,slow=23,SNR=3.2						
BRTR	**Keskin Array B**	**7.92**	**253**	P	**Pn**	**23 38 02.1**	**-0.2**
BRTR				S	**Sn**	**23 39 31.9**	**-0.6**
VSR	**Storozhevoye**	**9.16**	**343**	*e*P	**Pn**	**23 38 20.1**	**+0.9**
VSR	**Storozhevoye**	**9.16**	**343**	*e*P	**Pn**	**23 38 20.1**	**+0.9**
OBN	**Obninsk**	**13.37**	**343**	P	**Pn**	**23 39 16.4**	**-0.3**
OBN				pmax	pmax		
	comp=Z,5.0nm,1.6s						
OBN	**Obninsk**	**13.37**	**343**	P	**Pn**	**23 39 16.4**	**-0.3**
	comp=Z,5.0nm,1.6s						
BRVK	**Borovoye**	**20.75**	**50**	*e*P	**P**	**23 40 46.7**	**-1.2**
BRVK	**Borovoye**	**20.75**	**50**	*e*P	**P**	**23 40 46.7**	**-1.2**
BVAR	**Borovoye Array**	**20.80**	**50**	P	**P**	**23 40 48.0**	**-0.5**
BVAR	**Borovoye Array**	**20.80**	**50**	P	**P**	**23 40 48.0**	**-0.5**
	comp=Z,2.2nm,0.8s,baz=262,slow=7.1,SNR=4.4						
BVAR	**Borovoye Array**	**20.80**	**50**	P	**P**	**23 40 48.0**	**-0.5**
FINES	**FINESS Array B**	**21.62**	**337**	P	**P**	**23 40 57.0**	**-0.1**
	comp=Z,1.9nm,0.9s,baz=142,slow=14,SNR=2.9						
FINES	**FINESS Array B**	**21.62**	**337**	P	**P**	**23 40 57.0**	**-0.1**
KHC	**Kasperske Hory**	**21.74**	**298**	*e*P	**P**	**23 40 59.8**	**+1.2**
KHC				pmax	pmax		
	comp=Z,9.0nm,1.3s						
KHC	**Kasperske Hory**	**21.74**	**298**	*e*P	**P**	**23 40 59.8**	**+1.2**
	comp=Z,9.0nm,1.3s						
AAK	**Ala-Archa**	**22.80**	**79**	*e*P	**P**	**23 41 10.8**	**+0.6**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
AAK	**Ala-Archa**	**22.80**	**79**	*e*P	**P**	**23 41 10.8**	**+0.6**
	comp=Z,3.0nm,1.0s						
MKAR	**Makanchi Array**	**27.76**	**68**	P	**P**	**23 41 55.2**	**-0.8**
MKAR	**Makanchi Array**	**27.76**	**68**	P	**P**	**23 41 55.2**	**-0.8**
	comp=Z,0.4nm,0.7s,baz=264,slow=7.8,SNR=3.5						
MKAR	**Makanchi Array**	**27.76**	**68**	P	**P**	**23 41 55.2**	**-0.8**
TORD	**Torodi Ar. Bea**	**46.42**	**244**	P	**P**	**23 44 36.0**	**+1.7**
	comp=Z,0.3nm,0.7s,baz=58,slow=6.0,SNR=2.9						

DDA ***07*** *23:39:34.9, 42.°70N×43.°40E, h11km, MD3.2*
TIF ***07*** *23:39:35.9, 42.°54N×43.°50E, h12km±3km*
CSEM ***07*** *23:39:36.0±0.2, 42.°55N×43.°46E, h2km, mb4.2, Error ellipse: s-maj=3.5km s-min=2.7km az=135.0*
MOS ***07*** *23:39:37.5±1.1, 42.°63N×43.°56E, h10km, mb4.2/1, Error ellipse: s-maj=10.3km s-min=5.8km az=75.1*

ISC 07 23:39:36.2±0.8, 42.°55N±0.°02×43.°51E±0.°02, h11km±5km, n49, σ0°61/98, 8C-9D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.06**	**311**	P		**Pg**		**23 39 38.5**	**-0.1**
ONI				S		**Sg**		**23 39 40.6**	**+0.2**
DIGR	**Digorskoe uzhe**	**0.35**	**9**	⇓*i*PG		**Pg**		**23 39 42.8**	**-0.5**
DIGR				*i* S		**Sg**		**23 39 48.2**	**+0.1**
DIGR	**Digorskoe uzhe**	**0.35**	**9**	*i* Pg		**Pg**		**23 39 42.8**	**-0.5**
DIGR				*i* Sg		**Sg**		**23 39 48.2**	**+0.1**
ZEI	**Tsey**	**0.37**	**51**	⇓*e*PG		**Pg**		**23 39 43.3**	**-0.4**
ZEI				*i* S		**Sg**		**23 39 48.9**	**+0.2**
ZEI	**Tsey**	**0.37**	**51**	*e*Pg		**Pg**		**23 39 43.3**	**-0.4**
ZEI				*i* Sg		**Sg**		**23 39 48.9**	**+0.2**
LACR	**Lac**	**0.64**	**65**	⇓*i*PG		**Pg**		**23 39 48.0**	**-0.7**
LACR				*i* S		**Sg**		**23 39 57.0**	**-0.2**
LACR	**Lac**	**0.64**	**65**	*i* Pg		**Pg**		**23 39 48.0**	**-0.7**
LACR				*i* Sg		**Sg**		**23 39 57.0**	**-0.2**
KORR	**Kora**	**0.67**	**37**	⇑*i*PG		**Pg**		**23 39 49.2**	**-0.1**
KORR				*e*S		**Sb**		**23 39 58.9**	**-0.4**
KORR	**Kora**	**0.67**	**37**	*i* Pg		**Pg**		**23 39 49.2**	**-0.1**
KORR				*e*Sg		**Sb**		**23 39 58.9**	**-0.4**
LSNR	**Lesken**	**0.76**	**18**	⇓*i*PG		**Pg**		**23 39 50.8**	**-0.2**
LSNR				*i* S		**Sb**		**23 40 01.5**	**-0.4**
LSNR	**Lesken**	**0.76**	**18**	*i* Pg		**Pg**		**23 39 50.8**	**-0.2**
LSNR				*i* Sg		**Sb**		**23 40 01.5**	**-0.4**
STDR	**Stavd-Durt**	**0.91**	**26**	⇑*i*PG		**Pb**		**23 39 54.3**	**+0.3**
STDR				*i* S		**Sn**		**23 40 07.1**	**-1.0**
STDR	**Stavd-Durt**	**0.91**	**26**	*i* Pg		**Pb**		**23 39 54.3**	**+0.3**
STDR				*i* Sg		**Sn**		**23 40 07.1**	**-1.0**
NCK	**Nalchik**	**0.94**	**4**	⇓*i*PG		**Pb**		**23 39 54.5**	**-0.1**
NCK				*e*S		**Sn**		**23 40 08.4**	**-0.5**
NCK	**Nalchik**	**0.94**	**4**	*i* Pg		**Pb**		**23 39 54.5**	**-0.1**
NCK				*e*Sg		**Sn**		**23 40 08.4**	**-0.5**
VLKR	**Vladikavkaz**	**0.99**	**60**	⇓*i*PG		**Pb**		**23 39 55.7**	**+0.3**
VLKR				*e*S		**Sn**		**23 40 09.4**	**-0.7**
VLKR	**Vladikavkaz**	**0.99**	**60**	*i* Pg		**Pb**		**23 39 55.7**	**+0.3**
VLKR				*e*Sg		**Sn**		**23 40 09.4**	**-0.7**
DUS	**Dusheti**	**1.00**	**117**	P		**Pn**		**23 39 56.2**	**0.0**
DUS				S		**Sn**		**23 40 11.1**	**+0.8**
SNJR	**Sundja**	**1.09**	**61**	⇑*i*PG		**Pb**		**23 39 56.9**	**-0.2**
SNJR				*e*S		**Sn**		**23 40 11.9**	**-0.6**
SNJR	**Sundja**	**1.09**	**61**	*i* Pg		**Pb**		**23 39 56.9**	**-0.2**
SNJR				*e*Sg		**Sn**		**23 40 11.9**	**-0.6**
BTKR	**Batakoyurt**	**1.11**	**42**	⇑*i*PG		**Pn**		**23 39 58.9**	**+1.1**
BTKR				*e*S		**Sn**		**23 40 14.1**	**+0.9**
BTKR	**Batakoyurt**	**1.11**	**42**	*i* Pg		**Pn**		**23 39 58.9**	**+1.1**
BTKR				*e*Sg		**Sn**		**23 40 14.1**	**+0.9**
AKH	**Akhalkalaki**	**1.14**	**181**	P		**Pb**		**23 39 57.0**	**-1.0**
AKH				S		**Sb**		**23 40 13.0**	**0.0**
TBLG	**Delisi**	**1.23**	**132**	P		**Pn**		**23 39 58.8**	**-0.5**
TBLG				S		**Sn**		**23 40 16.3**	**+0.3**
KUBR	**Kubataba**	**1.25**	**357**	⇑*e*PG		**Pg**		**23 40 00.1**	**-0.1**
KUBR				*i* S		**Sn**		**23 40 17.7**	**+1.3**
KUBR	**Kubataba**	**1.25**	**357**	*e*Pg		**Pg**		**23 40 00.1**	**-0.1**
KUBR				*i* Sg		**Sn**		**23 40 17.7**	**+1.3**
PRTR	**Priterechnaya**	**1.32**	**25**	*e*PG		**Pg**		**23 40 01.6**	**-0.1**
PRTR				*e*S		**Sg**		**23 40 19.9**	**+1.0**
PRTR	**Priterechnaya**	**1.32**	**25**	*e*Pg		**Pg**		**23 40 01.6**	**-0.1**
PRTR				*e*Sg		**Sg**		**23 40 19.9**	**+1.0**
SHAR	**Shatzhatmas**	**1.34**	**333**	⇑*e*PG		**Pb**		**23 40 01.4**	**-0.1**
SHAR				*i* S		**Sn**		**23 40 18.9**	**0.0**
SHAR	**Shatzhatmas**	**1.34**	**333**	*e*Pg		**Pb**		**23 40 01.4**	**-0.1**
SHAR				*i* Sg		**Sn**		**23 40 18.9**	**0.0**
KZR	**Kazreti**	**1.35**	**150**	P		**Pn**		**23 40 00.2**	**-0.9**
KZR				S		**Sb**		**23 40 18.5**	**-0.3**
TRKR	**Terskaya**	**1.47**	**37**	⇓*i*PG		**Pg**		**23 40 04.1**	**-0.4**
TRKR				*e*S		**Sg**		**23 40 24.2**	**+0.6**
TRKR	**Terskaya**	**1.47**	**37**	*i* Pg		**Pg**		**23 40 04.1**	**-0.4**
TRKR				*e*Sg		**Sg**		**23 40 24.2**	**+0.6**
PYA	**Pyatigorsk**	**1.52**	**348**	⇓*i*PG		**Pb**		**23 40 04.2**	**-0.2**
PYA				*i* S		**Sg**		**23 40 24.7**	**-0.3**
PYA	**Pyatigorsk**	**1.52**	**348**	*i* Pg		**Pb**		**23 40 04.2**	**-0.2**
PYA				*i* Sg		**Sg**		**23 40 24.7**	**-0.3**
KIV	**Kislovodsk**	**1.52**	**337**	⇑*e*PG		**Pb**		**23 40 04.3**	**-0.3**
KIV				*e*S		**Sg**		**23 40 24.9**	**-0.4**
KIV	**Kislovodsk**	**1.52**	**337**	*e*Pg		**Pb**		**23 40 04.3**	**-0.3**
KIV				*e*Sg		**Sg**		**23 40 24.9**	**-0.4**
DOMR	**Dombai**	**1.57**	**299**	⇓*e*PG		**Pb**		**23 40 06.0**	**+0.6**
DOMR				*e*S		**Sg**		**23 40 27.1**	**+0.3**
DOMR	**Dombai**	**1.57**	**299**	*e*Pg		**Pb**		**23 40 06.0**	**+0.6**
DOMR				*e*Sg		**Sg**		**23 40 27.1**	**+0.3**
DGRG	**David-gareji**	**1.77**	**128**	P		**Pb**		**23 40 08.9**	**+0.2**
DGRG				S		**Sg**		**23 40 34.7**	**+1.4**
GRO	**Groznyy**	**1.81**	**64**	⇑*i*PN		**Pb**		**23 40 09.8**	**+0.4**
GRO				*i* S		**Sg**		**23 40 33.7**	**-0.9**
GRO	**Groznyy**	**1.81**	**64**	*i* Pn		**Pb**		**23 40 09.8**	**+0.4**
GRO				*i* Sg		**Sg**		**23 40 33.7**	**-0.9**
DBOC	**Borcka**	**1.83**	**229**	*i* P		**Pn**		**23 40 07.2**	**-0.4**
DBOC				*i* S		**Sb**		**23 40 32.6**	**0.0**
DBOC	**Borcka**	**1.83**	**229**	*i* P		**Pn**		**23 40 07.2**	**-0.4**
DBOC				*i* S		**Sb**		**23 40 32.6**	**0.0**
DAGI	**Agillar**	**1.90**	**220**	*i* P		**Pn**		**23 40 07.5**	**-1.1**
DAGI				*i* S		**Sb**		**23 40 34.2**	**-0.5**
DDEM	**Demirkent**	**2.12**	**219**	*i* P		**Pn**		**23 40 11.1**	**-0.6**
DDEM				*i* S		**Sb**		**23 40 41.2**	**+0.2**
DDEM	**Demirkent**	**2.12**	**219**	*i* P		**Pn**		**23 40 11.1**	**-0.6**
DDEM				*i* S		**Sb**		**23 40 41.2**	**+0.2**
DIGO	**Kars**	**2.14**	**183**	*i* P		**Pn**		**23 40 13.3**	**+1.2**
DIGO				*i* S		**Sb**		**23 40 43.0**	**+1.2**
DIGO	**Kars**	**2.14**	**183**	*i* P		**Pn**		**23 40 13.3**	**+1.2**
DIGO				*i* S		**Sb**		**23 40 43.0**	**+1.2**

DDA ***07*** *23:40:48.6, 42.°71N×43.°41E, h11km, MD3.4*
ISCJB ***07*** *23:40:50.0±0.5, 42.°58N±0.°02×43.°40E±0.°02, h2km±4km, Error ellipse: s-maj=3.7km s-min=2.8km az=172.6*
CSEM ***07*** *23:40:50.3±0.2, 42.°53N×43.°46E, h2km, mb4.3, Error ellipse: s-maj=5.2km s-min=3.5km az=140.0*
MOS ***07*** *23:40:50.0±1.0, 42.°49N×43.°47E, h9km, mb4.3/1, Error ellipse: s-maj=10.0km s-min=5.4km az=73.6*
TIF ***07*** *23:40:50.5, 42.°55N×43.°47E, h9km±2km*

ISC 07 23:40:50.6±0.8, 42.°53N±0.°01×43.°48E±0.°02, h8km±5km, n69, σ1°02/122, 6C-9D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.06**	**339**	P		**Pg**		**23 40 52.6**	**+0.1**
ONI				S		**Sg**		**23 40 54.2**	**+0.4**
DIGR	**Digorskoe uzhe**	**0.37**	**11**	⇓*i*PG		**Pg**		**23 40 57.2**	**-0.8**
DIGR	**Digorskoe uzhe**	**0.37**	**11**	*i* Pg		**Pg**		**23 40 57.2**	**-0.8**
ZEI	**Tsey**	**0.40**	**51**	⇓*i*PG		**Pg**		**23 40 58.1**	**-0.4**
ZEI				*i* S		**Sg**		**23 41 03.7**	**-0.1**
ZEI	**Tsey**	**0.40**	**51**	*i* Pg		**Pg**		**23 40 58.1**	**-0.4**
ZEI				*i* Sg		**Sg**		**23 41 03.7**	**-0.1**
LACR	**Lac**	**0.67**	**64**	⇓*i*PG		**Pg**		**23 41 03.0**	**-0.5**
LACR				*i* S		**Sg**		**23 41 12.1**	**-0.2**
LACR	**Lac**	**0.67**	**64**	*i* Pg		**Pg**		**23 41 03.0**	**-0.5**
LACR				*i* Sg		**Sg**		**23 41 12.1**	**-0.2**
KORR	**Kora**	**0.70**	**38**	⇑*i*PG		**Pg**		**23 41 03.9**	**-0.2**
KORR				*i* S		**Sg**		**23 41 13.4**	**+0.2**
KORR	**Kora**	**0.70**	**38**	*i* Pg		**Pg**		**23 41 03.9**	**-0.2**
KORR				*i* Sg		**Sg**		**23 41 13.4**	**+0.2**
LSNR	**Lesken**	**0.79**	**19**	⇓*i*PG		**Pg**		**23 41 05.3**	**-0.4**
LSNR				*i* S		**Sg**		**23 41 15.8**	**-0.1**
LSNR	**Lesken**	**0.79**	**19**	*i* Pg		**Pg**		**23 41 05.3**	**-0.4**
LSNR				*i* Sg		**Sg**		**23 41 15.8**	**-0.1**
STDR	**Stavd-Durt**	**0.94**	**27**	⇑*i*PG		**Pb**		**23 41 09.4**	**+0.2**
STDR				*i* S		**Sb**		**23 41 22.2**	**+0.4**
STDR	**Stavd-Durt**	**0.94**	**27**	*i* Pg		**Pb**		**23 41 09.4**	**+0.2**
STDR				*i* Sg		**Sb**		**23 41 22.2**	**+0.4**
NCK	**Nalchik**	**0.96**	**5**	⇓*i*PG		**Pg**		**23 41 08.9**	**-0.2**
NCK				*e*S		**Sb**		**23 41 22.3**	**-0.3**
NCK	**Nalchik**	**0.96**	**5**	*i* Pg		**Pg**		**23 41 08.9**	**-0.2**
NCK				*e*Sg		**Sb**		**23 41 22.3**	**-0.3**
DUS	**Dusheti**	**1.01**	**116**	P		**Pn**		**23 41 11.4**	**+0.2**
DUS				S		**Sn**		**23 41 26.3**	**+0.7**
VLKR	**Vladikavkaz**	**1.02**	**59**	*e*PG		**Pg**		**23 41 10.3**	**+0.1**
VLKR				*e*S		**Sb**		**23 41 24.1**	**0.0**
VLKR	**Vladikavkaz**	**1.02**	**59**	*e*Pg		**Pg**		**23 41 10.3**	**+0.1**
VLKR				*e*Sg		**Sb**		**23 41 24.1**	**0.0**
SNJR	**Sundja**	**1.11**	**61**	⇑*i*PG		**Pg**		**23 41 12.0**	**0.0**
SNJR				*e*S		**Sg**		**23 41 26.9**	**+0.4**
SNJR	**Sundja**	**1.11**	**61**	*i* Pg		**Pg**		**23 41 12.0**	**0.0**
SNJR				*e*Sg		**Sg**		**23 41 26.9**	**+0.4**
AKH	**Akhalkalaki**	**1.12**	**180**	P		**Pg**		**23 41 12.0**	**-0.2**
AKH				S		**Sb**		**23 41 28.3**	**+1.0**
BTKR	**Batakoyurt**	**1.14**	**43**	⇓*i*PG		**Pn**		**23 41 14.0**	**+1.0**
BTKR				*e*S		**Sn**		**23 41 29.3**	**+0.4**
BTKR	**Batakoyurt**	**1.14**	**43**	*i* Pg		**Pn**		**23 41 14.0**	**+1.0**
BTKR				*e*Sg		**Sn**		**23 41 29.3**	**+0.4**
TBLG	**Delisi**	**1.23**	**130**	P		**Pg**		**23 41 13.9**	**-0.3**
TBLG				S		**Sn**		**23 41 31.8**	**+0.8**
KUBR	**Kubataba**	**1.27**	**358**	*e*PG		**Pg**		**23 41 14.5**	**-0.4**
KUBR				*e*S		**Sn**		**23 41 32.2**	**+0.2**
KUBR	**Kubataba**	**1.27**	**358**	*e*Pg		**Pg**		**23 41 14.5**	**-0.4**
KUBR				*e*Sg		**Sn**		**23 41 32.2**	**+0.2**
KZR	**Kazreti**	**1.35**	**149**	P		**Pn**		**23 41 15.5**	**-0.3**
KZR				S		**Sg**		**23 41 34.0**	**+0.2**
SHAR	**Shatzhatmas**	**1.35**	**334**	⇑*e*PG		**Pn**		**23 41 15.6**	**-0.4**
SHAR				*i* S		**Sg**		**23 41 32.5**	**-1.4**
SHAR	**Shatzhatmas**	**1.35**	**334**	*e*Pg		**Pn**		**23 41 15.6**	**-0.4**
SHAR				*i* Sg		**Sg**		**23 41 32.5**	**-1.4**
PRTR	**Priterechnaya**	**1.35**	**25**	⇓*i*PG		**Pg**		**23 41 16.9**	**+0.4**
PRTR				*i* S		**Sn**		**23 41 35.1**	**+1.1**
PRTR	**Priterechnaya**	**1.35**	**25**	*i* Pg		**Pg**		**23 41 16.9**	**+0.4**
PRTR				*i* Sg		**Sn**		**23 41 35.0**	**+1.1**
TRKR	**Terskaya**	**1.50**	**37**	⇓*i*PG		**Pg**		**23 41 19.1**	**-0.3**
TRKR				*e*S		**Sg**		**23 41 39.0**	**+0.2**
TRKR	**Terskaya**	**1.50**	**37**	*i* Pg		**Pg**		**23 41 19.1**	**-0.3**
TRKR				*e*Sg		**Sg**		**23 41 39.0**	**+0.2**
PYA	**Pyatigorsk**	**1.53**	**348**	*i* PG		**Pn**		**23 41 18.9**	**+0.6**
PYA				*e*S		**Sn**		**23 41 38.3**	**-0.1**
PYA	**Pyatigorsk**	**1.53**	**348**	*i* Pg		**Pn**		**23 41 18.9**	**+0.6**
PYA				*e*Sg		**Sn**		**23 41 38.3**	**-0.1**
KIV	**Kislovodsk**	**1.54**	**338**	⇑*e*PG		**Pn**		**23 41 18.8**	**+0.4**
KIV				*e*S		**Sn**		**23 41 38.2**	**-0.5**
KIV	**Kislovodsk**	**1.54**	**338**	*e*Pg		**Pn**		**23 41 18.8**	**+0.4**
KIV				*e*Sg		**Sn**		**23 41 38.2**	**-0.5**
DOMR	**Dombai**	**1.56**	**300**	⇑*e*PG		**Pb**		**23 41 19.8**	**-0.1**
DOMR				*e*S		**Sb**		**23 41 40.3**	**+0.4**
DOMR	**Dombai**	**1.56**	**300**	*e*Pg		**Pb**		**23 41 19.8**	**-0.1**
DOMR				*e*Sg		**Sb**		**23 41 40.3**	**+0.4**
BCA	**Borcka**	**1.76**	**232**	*e*PN		**Pn**		**23 41 21.3**	**-0.2**
DGRG	**David-gareji**	**1.78**	**127**	P		**Pg**		**23 41 24.7**	**0.0**
DGRG				S		**Sg**		**23 41 50.4**	**+2.7**
ARTV	**Artvin**	**1.78**	**221**	*i* P		**Pn**		**23 41 20.1**	**-1.8**
ARTV				*i* S		**Sn**		**23 41 44.6**	**-0.2**
ARTV	**Artvin**	**1.78**	**221**	*i* P		**Pn**		**23 41 20.1**	**-1.8**
ARTV				*i* S		**Sn**		**23 41 44.6**	**-0.2**
DBOC	**Borcka**	**1.80**	**229**	*i* P		Pn		23 41 19.0	-3.0
DBOC				*i* S		**Sn**		**23 41 45.7**	**+0.6**
DBOC	**Borcka**	**1.80**	**229**	*i* P		Pn		23 41 19.0	-3.0
DBOC				*i* S		**Sn**		**23 41 45.7**	**+0.6**
GRO	**Groznyy**	**1.84**	**64**	⇓*i*PN		**Pg**		**23 41 25.3**	**-0.6**
GRO				*e*S		**Sg**		**23 41 49.3**	**-0.5**
GRO	**Groznyy**	**1.84**	**64**	*i* Pn		**Pg**		**23 41 25.3**	**-0.6**
GRO				*e*Sg		**Sg**		**23 41 49.3**	**-0.5**
DAGI	**Agillar**	**1.87**	**219**	*i* P		**Pn**		**23 41 22.2**	**-0.8**
DAGI				*i* S		**Sb**		**23 41 48.9**	**+0.2**
KARS	**Kars**	**1.93**	**189**	*e*PN		**Pg**		**23 41 28.0**	**+0.4**
KARS				*e*SN		**Sg**		**23 41 52.4**	**-0.2**
DBAD	**Bademkaya**	**2.02**	**222**	*i* P		**Pn**		**23 41 24.3**	**-0.8**
DBAD				*i* S		**Sb**		**23 41 54.2**	**+1.2**
DBAD	**Bademkaya**	**2.02**	**222**	*i* P		**Pn**		**23 41 24.3**	**-0.8**
DBAD				*i* S		**Sb**		**23 41 54.2**	**+1.2**
DDEM	**Demirkent**	**2.09**	**219**	*i* P		**Pb**		**23 41 28.6**	**-0.3**
DDEM				*i* S		**Sb**		**23 41 54.2**	**-0.8**
DDEM	**Demirkent**	**2.09**	**219**	*i* P		**Pb**		**23 41 28.6**	**-0.3**
DDEM				*i* S		**Sb**		**23 41 54.2**	**-0.8**
DIGO	**Kars**	**2.12**	**182**	*i* P		**Pn**		**23 41 25.4**	**-1.2**
DIGO				*i* S		**Sg**		**23 42 00.6**	**+1.9**
DIGO	**Kars**	**2.12**	**182**	*i* P		**Pn**		**23 41 25.4**	**-1.2**
DIGO				*i* S		**Sg**		**23 42 00.6**	**+1.9**
PZAR	**Pazar-Rize**	**2.36**	**236**	*e*PN		**Pn**		**23 41 28.3**	**-1.4**
GNI	**Garni**	**2.56**	**158**	*e*PN		**Pg**		**23 41 40.3**	**+0.6**
SOC	**Sochi**	**2.95**	**292**	*e*PN		**Pg**		**23 41 46.3**	**-0.8**
SOC				*e*				23 41 49.7	
SOC				*e*				23 42 18.6	
SOC				pmax		pmax			
	comp=Z,14nm,0.4s								
SOC				smax		smax			
	comp=N,25nm,0.5s								
SOC				smax		smax			
	comp=E,37nm,0.6s								
SOC	**Sochi**	**2.95**	**292**	*e*Pn		**Pg**		**23 41 46.3**	**-0.8**
	comp=E,14nm,0.4s								
SOC	**Sochi**	**2.95**	**292**	*e*Pg		**Pg**		**23 41 49.7**	**+2.6**
	comp=E,25nm,0.5s								
SOC				*e*Sn		**Sb**		**23 42 18.6**	**-1.1**
AGRB	**Hanur-Agry**	**2.98**	**187**	*e*PN		**Pb**		**23 41 42.7**	**-1.4**
GUMT	**Gumushane**	**3.65**	**237**	*e*PN		**Pn**		**23 41 46.7**	**-0.8**
ANN	**Anapa**	**4.94**	**299**	*e*PN		**Pn**		**23 42 06.5**	**+1.4**
ANN				*e*S		**Sn**		**23 43 07.4**	**+5.0**
ANN				pmax		pmax			
	comp=Z,9.0nm,1.4s								
ANN	**Anapa**	**4.94**	**299**	*e*Pn		**Pn**		**23 42 06.5**	**+1.4**
	comp=Z,9.0nm,1.4s								
ANN				*e*Sn		**Sn**		**23 43 07.4**	**+5.0**
BRTR	**Keskin Array B**	**7.94**	**253**	P		**Pn**		**23 42 47.6**	**+1.1**
OBN	**Obninsk**	**13.38**	**343**	P		**Pn**		**23 43 59.9**	**-0.7**
OBN				pmax		pmax			
	comp=Z,2.0nm,0.6s								
OBN	**Obninsk**	**13.38**	**343**	P		**Pn**		**23 43 59.9**	**-0.7**
	comp=Z,2.0nm,0.6s								
BRVK	**Borovoye**	**20.73**	**50**	*e*P		**P**		**23 45 31.8**	**+0.3**
BRVK				pmax		pmax			
	comp=Z,2.0nm,1.0s								
BRVK	**Borovoye**	**20.73**	**50**	*e*P		**P**		**23 45 31.8**	**+0.3**
	comp=Z,2.0nm,1.0s								

TIF ***07*** *23:49:29.9, 42.°55N×43.°50E, h10km±2km*

CSEM ***07*** *23:49:30.8±0.2, 42.°55N×43.°42E, h2km, mb4.1, Error ellipse: s-maj=4.0km s-min=2.5km az=130.0*
DDA ***07*** *23:49:30.3, 42.°71N×43.°41E, h11km, MD3.2*
MOS ***07*** *23:49:34.1±1.7, 42.°73N×43.°59E, h9km, mb4.1/1, Error ellipse: s-maj=9.6km s-min=6.0km az=74.5*

ISC 07 23:49:30.9±0.9, 42.°55N±0.°02×43.°45E±0.°02, h7km±6km, n51, σ0°79/101, 7C-8D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.04**	**7**	P		**Pg**		**23 49 32.5**	**0.0**
ONI				S		**Sg**		**23 49 34.0**	**+0.4**
DIGR	**Digorskoe uzhe**	**0.37**	**16**	⇓*i*PG		**Pg**		**23 49 37.8**	**-0.3**
DIGR				*i* S		**Sg**		**23 49 43.4**	**+0.4**
DIGR	**Digorskoe uzhe**	**0.37**	**16**	*i* Pg		**Pg**		**23 49 37.8**	**-0.3**
DIGR				*i* Sg		**Sg**		**23 49 43.4**	**+0.4**
ZEI	**Tsey**	**0.41**	**54**	⇓*i*PG		**Pg**		**23 49 38.6**	**-0.4**
ZEI				*i* S		**Sg**		**23 49 44.6**	**+0.2**
ZEI	**Tsey**	**0.41**	**54**	*i* Pg		**Pg**		**23 49 38.6**	**-0.4**
ZEI				*i* Sg		**Sg**		**23 49 44.6**	**+0.2**
LACR	**Lac**	**0.69**	**66**	⇓*i*PG		**Pg**		**23 49 43.4**	**-0.7**
LACR				*i* S		**Sg**		**23 49 52.9**	**-0.2**
LACR	**Lac**	**0.69**	**66**	*i* Pg		**Pg**		**23 49 43.4**	**-0.7**
LACR				*i* Sg		**Sg**		**23 49 52.9**	**-0.2**
KORR	**Kora**	**0.71**	**40**	⇑*i*PG		**Pg**		**23 49 44.5**	**0.0**
KORR				*i* S		**Sb**		**23 49 54.4**	**-1.1**
KORR	**Kora**	**0.71**	**40**	*i* Pg		**Pg**		**23 49 44.5**	**0.0**
KORR				*i* Sg		**Sb**		**23 49 54.4**	**-1.1**
LSNR	**Lesken**	**0.78**	**21**	⇓*i*PG		**Pg**		**23 49 46.0**	**+0.1**
LSNR				*i* S		**Sb**		**23 49 56.9**

STDR				*i* Sg		**Sb**	**23 58 28.4**	**+0.2**
NCK	**Nalchik**	**0.95**	**7**	⇓*i* PG		**Pg**	**23 58 15.0**	**-0.1**
NCK				*e*S		**Sb**	**23 58 27.9**	**-0.8**
NCK	**Nalchik**	**0.95**	**7**	*i* Pg		**Pg**	**23 58 15.0**	**-0.1**
NCK				*e*Sg		**Sb**	**23 58 27.9**	**-0.8**
VLKR	**Vladikavkaz**	**1.04**	**61**	*e*PG		**Pg**	**23 58 15.7**	**-1.0**
VLKR				*e*S		**Sg**	**23 58 29.6**	**-0.5**
VLKR	**Vladikavkaz**	**1.04**	**61**	*e*Pg		**Pg**	**23 58 15.7**	**-1.0**
VLKR				*e*Sg		**Sg**	**23 58 29.6**	**-0.5**
DUS	**Dusheti**	**1.04**	**116**	P		**Pg**	**23 58 16.8**	**0.0**
DUS				S		**Sb**	**23 58 31.6**	**+0.4**
SNJR	**Sundja**	**1.13**	**62**	⇓*i* PG		**Pg**	**23 58 17.9**	**-0.7**
SNJR				*e*S		**Sg**	**23 58 33.0**	**-0.3**
SNJR	**Sundja**	**1.13**	**62**	*i* Pg		**Pg**	**23 58 17.9**	**-0.7**
SNJR				*e*Sg		**Sg**	**23 58 33.0**	**-0.3**
AKH	**Akhalkalaki**	**1.14**	**178**	P		**Pg**	**23 58 17.4**	**-1.3**
AKH				S		**Sg**	**23 58 33.5**	**0.0**
BTKR	**Batakoyurt**	**1.15**	**44**	⇑*i* PG		**Pg**	**23 58 19.8**	**+0.2**
BTKR				*i* S		**Sn**	**23 58 35.5**	**-0.2**
BTKR	**Batakoyurt**	**1.15**	**44**	*i* Pg		**Pn**	**23 58 19.8**	**+0.2**
BTKR				*i* Sg		**Sn**	**23 58 35.5**	**-0.2**
KUBR	**Kubataba**	**1.25**	**359**	⇑*e*PG		**Pb**	**23 58 20.6**	**-0.3**
KUBR				*e*S		**Sn**	**23 58 37.9**	**-0.2**
KUBR	**Kubataba**	**1.25**	**359**	*e*Pg		**Pb**	**23 58 20.6**	**-0.3**
KUBR				*e*Sg		**Sn**	**23 58 37.9**	**-0.2**
TBLG	**Delisi**	**1.27**	**130**	P		**Pg**	**23 58 20.0**	**-1.0**
TBLG				S		**Sg**	**23 58 37.0**	**-0.5**
SHAR	**Shatzhatmas**	**1.32**	**335**	⇑*e*PG		**Pn**	**23 58 21.1**	**-1.0**
SHAR				*e*S		**Sg**	**23 58 38.5**	**-0.7**
SHAR	**Shatzhatmas**	**1.32**	**335**	*e*Pg		**Pn**	**23 58 21.1**	**-1.0**
SHAR				*e*Sg		**Sg**	**23 58 38.5**	**-0.7**
PRTR	**Priterechnaya**	**1.35**	**27**	⇓*i* PG		**Pg**	**23 58 22.7**	**0.0**
PRTR				*i* S		**Sn**	**23 58 40.8**	**+0.3**
PRTR	**Priterechnaya**	**1.35**	**27**	*i* Pg		**Pg**	**23 58 22.7**	**0.0**
PRTR				*i* Sg		**Sn**	**23 58 40.8**	**+0.3**
KZR	**Kazreti**	**1.38**	**148**	P		**Pn**	**23 58 20.8**	**-1.8**
KZR				S		**Sb**	**23 58 38.9**	**-2.0**
TRKR	**Terskaya**	**1.50**	**38**	⇓*i* PG		**Pb**	**23 58 25.0**	**-0.2**
TRKR				*e*S		**Sg**	**23 58 45.2**	**0.0**
TRKR	**Terskaya**	**1.50**	**38**	*i* Pg		**Pb**	**23 58 25.0**	**-0.2**
TRKR				*e*Sg		**Sg**	**23 58 45.2**	**0.0**
KIV	**Kislovodsk**	**1.51**	**339**	⇑*e*PG		**Pn**	**23 58 24.3**	**-0.2**
KIV				*e*S		**Sn**	**23 58 44.2**	**-0.4**
KIV	**Kislovodsk**	**1.51**	**339**	*e*Pg		**Pn**	**23 58 24.3**	**-0.2**
KIV				*e*Sg		**Sn**	**23 58 44.2**	**-0.4**
PYA	**Pyatigorsk**	**1.51**	**349**	*e*PG		**Pn**	**23 58 24.6**	**+0.1**
PYA				*i* S		**Sg**	**23 58 44.6**	**-0.7**
PYA	**Pyatigorsk**	**1.51**	**349**	*e*Pg		**Pn**	**23 58 24.6**	**+0.1**
PYA				*i* Sg		**Sg**	**23 58 44.6**	**-0.7**
DOMR	**Dombai**	**1.53**	**300**	*e*PG		**Pg**	**23 58 26.1**	**0.0**
DOMR				*e*S		**Sg**	**23 58 46.6**	**+0.7**
DOMR	**Dombai**	**1.53**	**300**	*e*Pg		**Pg**	**23 58 26.1**	**0.0**
DOMR				*e*Sg		**Sg**	**23 58 46.6**	**+0.7**
BCA	**Borcka**	**1.75**	**231**	*e*P		**Pn**	**23 58 26.8**	**-1.0**
BCA	**Borcka**	**1.75**	**231**	*e*Pn		**Pn**	**23 58 25.8**	**-2.0**
BCA				*e*Sn		**Sn**	**23 58 48.6**	**-1.8**
ARTV	**Artvin**	**1.77**	**220**	*i* P		**Pn**	**23 58 27.8**	**-0.4**
ARTV				*i* S		**Sn**	**23 58 51.2**	**0.0**
ARTV	**Artvin**	**1.77**	**220**	*i* P		**Pn**	**23 58 27.8**	**-0.4**
ARTV				*i* S		**Sn**	**23 58 51.2**	**0.0**
DBOC	**Borcka**	**1.79**	**228**	*i* P		**Pn**	**23 58 27.5**	**-0.8**
DBOC				*i* S		**Sn**	**23 58 50.9**	**-0.5**
DBOC	**Borcka**	**1.79**	**228**	*i* P		**Pn**	**23 58 27.5**	**-0.8**
DBOC				*i* S		**Sn**	**23 58 50.9**	**-0.5**
DGRG	**David-gareji**	**1.81**	**127**	P		**Pn**	**23 58 29.5**	**+0.9**
DGRG				S		**Sg**	**23 58 54.9**	**-0.1**
DAGI	**Agillar**	**1.86**	**218**	*i* P		**Pn**	**23 58 28.2**	**-1.2**
DAGI				*i* S		**Sn**	**23 58 54.1**	**+0.7**
KARS	**Kars**	**1.94**	**188**	*e*P		**Pn**	**23 58 32.0**	**+1.5**
KARS	**Kars**	**1.94**	**188**	*e*Pn		**Pn**	**23 58 32.0**	**+1.5**
KARS				*e*Sn		**Sg**	**23 59 00.0**	**+0.8**
DBAD	**Bademkaya**	**2.01**	**221**	*i* P		Pg	23 58 46.6	+11
DBAD				*i* S		**Sb**	**23 58 59.0**	**-0.2**
DDEM	**Demirkent**	**2.08**	**218**	*i* P		**Pn**	**23 58 33.2**	**+0.7**
DDEM				*i* S		**Sn**	**23 59 00.3**	**+1.5**
DDEM	**Demirkent**	**2.08**	**218**	*i* P		**Pn**	**23 58 33.2**	**+0.7**
DDEM				*i* S		**Sn**	**23 59 00.3**	**+1.5**
GNI	**Garni**	**2.59**	**157**	*e*P		**Pn**	**23 58 41.1**	**+1.6**
GNI	**Garni**	**2.59**	**157**	*e*Pn		**Pb**	**23 58 43.4**	**-0.4**
GNI				*e*Sn		**Sg**	**23 59 19.1**	**-0.9**
SOC	**Sochi**	**2.92**	**292**	*e*PN		**Pn**	**23 58 42.5**	**-1.3**
SOC				*e*			23 59 18.2	
SOC				*e*			23 59 27.1	
SOC				pmax	pmax			
	comp=Z,7.0nm,0.7s							
SOC				smax	smax			
	comp=N,19nm,0.8s							
SOC				smax	smax			
	comp=E,18nm,1.0s							
SOC	**Sochi**	**2.92**	**292**	*e*Pn		**Pn**	**23 58 42.5**	**-1.3**
	comp=E,7.0nm,0.7s							
SOC				*e*Sn		**Sn**	**23 59 18.2**	**-1.0**
	comp=E,19nm,0.8s							
SOC				*e*Sb		**Sb**	**23 59 27.1**	**+1.9**
AGRB	**Hanur-Agry**	**2.99**	**187**	*e*P		**Pn**	**23 58 47.1**	**+2.1**
AGRB	**Hanur-Agry**	**2.99**	**187**	*e*Pn		**Pn**	**23 58 46.5**	**+1.5**
BAYT	**Ayd¨–ntepe-Bay**	**3.29**	**230**	*e*P		**Pn**	**23 58 48.5**	**-0.6**
BAYT	**Ayd¨–ntepe-Bay**	**3.29**	**230**	*e*Pn		**Pn**	**23 58 47.0**	**-2.0**
CLDR	**Caldiran**	**3.42**	**174**	*e*P		**Pn**	**23 58 53.0**	**+2.1**
CLDR	**Caldiran**	**3.42**	**174**	*e*Pn		**Pn**	**23 58 53.5**	**+2.5**
GUMT	**Gumushane**	**3.63**	**236**	*e*P		**Pn**	**23 58 52.7**	**-1.1**
GUMT	**Gumushane**	**3.63**	**236**	*e*Pn		**Pn**	**23 58 50.8**	**-3.0**
GUMT				*e*Sn		**Sn**	**23 59 34.2**	**-2.9**
ANN	**Anapa**	**4.90**	**299**	*e*PN		**Pn**	**23 59 11.9**	**+0.8**
ANN				*e*S		**Sn**	**00 00 09.9**	**+1.8**
ANN				pmax	pmax			
	comp=Z,6.0nm,0.8s							
ANN	**Anapa**	**4.90**	**299**	*e*Pn		**Pn**	**23 59 11.9**	**+0.8**
	comp=Z,6.0nm,0.8s							
KIEV	**Kiev**	**12.71**	**315**	*e*P		**Pn**	**00 00 57.3**	**-0.8**
KIEV	**Kiev**	**12.71**	**315**	*e*P		**Pn**	**00 00 57.3**	**-0.8**
KHC	**Kasperske Hory**	**21.73**	**298**	*e*P		**P**	**00 02 50.3**	**+1.6**
KHC				pmax	pmax			
	comp=Z,7.0nm,1.3s							
KHC	**Kasperske Hory**	**21.73**	**298**	*e*P		**P**	**00 02 50.3**	**+1.6**
	comp=Z,7.0nm,1.3s							
AAK	**Ala-Archa**	**22.80**	**79**	*e*P		**P**	**00 03 00.6**	**+0.2**
AAK				pmax	pmax			
	comp=Z,3.0nm,1.3s							
AAK	**Ala-Archa**	**22.80**	**79**	*e*P		**P**	**00 03 00.6**	**+0.2**
	comp=Z,3.0nm,1.3s							

*DDA **07** 23:59:03.8, 42°.71N×43°.42E, h11km, MD3.2*
*ISCJB **07** 23:59:04.3±0.6, 42°.55N±0°.02×43°.38E±0°.03, h1km±5km, Error ellipse: s-maj=4.3km s-min=3.5km az=171.7*
*CSEM **07** 23:59:04.7±0.2, 42°.54N×43°.37E, h2km, mb4.0, Error ellipse: s-maj=4.7km s-min=3.2km az=131.0*
*TIF **07** 23:59:04.8, 42°.55N×43°.47E, h10km±1km*
*MOS **07** 23:59:06.2±1.2, 42°.61N×43°.51E, h8km, mb4.0/1, Error ellipse: s-maj=12.2km s-min=5.9km az=74.1*

ISC 07 23:59:04.9±0.9, 42°.54N±0°.02×43°.41E±0°.03, h9km±6km, n46, σ0s64/83, 4C-10D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.06**	**34**	P	**Pg**	**23 59 07.0**	**+0.1**
ONI				S	**Sg**	**23 59 08.6**	**+0.2**
DIGR	**Digorskoe uzhe**	**0.38**	**20**	⇓*i* PG	**Pg**	**23 59 11.9**	**-0.6**
DIGR				*i* S	**Sg**	**23 59 17.1**	**-0.4**
DIGR	**Digorskoe uzhe**	**0.38**	**20**	*i* Pg	**Pg**	**23 59 11.9**	**-0.6**
DIGR				*i* Sg	**Sg**	**23 59 17.1**	**-0.4**
ZEI	**Tsey**	**0.44**	**56**	⇓*i* PG	**Pg**	**23 59 13.1**	**-0.5**
ZEI				*i* S	**Sg**	**23 59 18.9**	**-0.5**
ZEI	**Tsey**	**0.44**	**56**	*i* Pg	**Pg**	**23 59 13.1**	**-0.5**
ZEI				*i* Sg	**Sg**	**23 59 18.9**	**-0.5**
LACR	**Lac**	**0.72**	**66**	⇓*i* PG	**Pg**	**23 59 18.0**	**-0.7**
LACR				*i* S	**Sg**	**23 59 27.4**	**-0.7**
LACR	**Lac**	**0.72**	**66**	*i* Pg	**Pg**	**23 59 18.0**	**-0.7**
LACR				*i* Sg	**Sg**	**23 59 27.4**	**-0.7**
KORR	**Kora**	**0.73**	**42**	⇑*i* PG	**Pg**	**23 59 18.8**	**-0.2**
KORR				*i* S	**Sg**	**23 59 28.6**	**+0.1**
KORR	**Kora**	**0.73**	**42**	*i* Pg	**Pg**	**23 59 18.8**	**-0.2**
KORR				*i* Sg	**Sg**	**23 59 28.6**	**+0.1**
LSNR	**Lesken**	**0.80**	**23**	⇓*i* PG	**Pg**	**23 59 20.1**	**-0.2**
LSNR				*i* S	**Sg**	**23 59 30.6**	**-0.1**
LSNR	**Lesken**	**0.80**	**23**	*i* Pg	**Pg**	**23 59 20.1**	**-0.2**
LSNR				*i* Sg	**Sg**	**23 59 30.6**	**-0.1**
STDR	**Stavd-Durt**	**0.96**	**30**	⇓*i* PG	**Pn**	**23 59 24.4**	**-0.2**
STDR				*i* S	**Sn**	**23 59 37.2**	**-1.2**
STDR	**Stavd-Durt**	**0.96**	**30**	*i* Pg	**Pn**	**23 59 24.4**	**-0.2**
STDR				*i* Sg	**Sn**	**23 59 37.2**	**-1.2**
NCK	**Nalchik**	**0.96**	**8**	⇓*e*PG	**Pb**	**23 59 23.6**	**-0.2**
NCK				*i* S	**Sb**	**23 59 37.5**	**+0.8**
NCK	**Nalchik**	**0.96**	**8**	*e*Pg	**Pb**	**23 59 23.6**	**-0.2**
NCK				*i* Sg	**Sb**	**23 59 37.5**	**+0.8**
VLKR	**Vladikavkaz**	**1.06**	**61**	*e*PG	**Pg**	**23 59 25.1**	**-0.2**
VLKR				*e*S	**Sb**	**23 59 39.2**	**-0.4**
VLKR	**Vladikavkaz**	**1.06**	**61**	*e*Pg	**Pg**	**23 59 25.1**	**-0.2**
VLKR				*e*Sg	**Sb**	**23 59 39.2**	**-0.4**
AKH	**Akhalkalaki**	**1.13**	**177**	P	**Pg**	**23 59 26.6**	**-0.1**
AKH				S	**Sn**	**23 59 42.8**	**-0.1**
SNJR	**Sundja**	**1.16**	**63**	*e*PG	**Pg**	**23 59 26.6**	**-0.6**
SNJR				*e*S	**Sg**	**23 59 41.9**	**-0.4**
SNJR	**Sundja**	**1.16**	**63**	*e*Pg	**Pg**	**23 59 26.6**	**-0.6**
SNJR				*e*Sg	**Sg**	**23 59 41.9**	**-0.4**
BTKR	**Batakoyurt**	**1.18**	**45**	⇓*i* PG	**Pn**	**23 59 29.5**	**+1.8**
BTKR				*i* S	**Sn**	**23 59 45.0**	**+1.1**
BTKR	**Batakoyurt**	**1.18**	**45**	*i* Pg	**Pn**	**23 59 29.5**	**+1.8**
BTKR				*i* Sg	**Sn**	**23 59 45.0**	**+1.1**
KUBR	**Kubataba**	**1.26**	**0**	⇑*i* PG	**Pg**	**23 59 29.2**	**+0.1**
KUBR				*e*S	**Sn**	**23 59 46.7**	**+0.8**
KUBR	**Kubataba**	**1.26**	**0**	*i* Pg	**Pg**	**23 59 29.2**	**+0.1**
KUBR				*e*Sg	**Sn**	**23 59 46.7**	**+0.8**
TBLG	**Delisi**	**1.28**	**129**	P	**Pb**	**23 59 29.0**	**-0.2**
TBLG				S	**Sn**	**23 59 46.7**	**+0.3**
SHAR	**Shatzhatmas**	**1.32**	**336**	⇑*e*PG	**Pn**	**23 59 29.5**	**-0.3**
SHAR				*e*S	**Sb**	**23 59 46.6**	**-0.5**
SHAR	**Shatzhatmas**	**1.32**	**336**	*e*Pg	**Pn**	**23 59 29.5**	**-0.3**
SHAR				*e*Sg	**Sb**	**23 59 46.6**	**-0.5**
PRTR	**Priterechnaya**	**1.37**	**28**	⇓*i* PG	**Pg**	**23 59 31.3**	**+0.1**
PRTR				*i* S	**Sg**	**23 59 49.5**	**+0.6**
PRTR	**Priterechnaya**	**1.37**	**28**	*i* Pg	**Pg**	**23 59 31.3**	**+0.1**
PRTR				*i* Sg	**Sg**	**23 59 49.5**	**+0.6**
KZR	**Kazreti**	**1.38**	**147**	P	**Pn**	**23 59 30.1**	**-0.4**
KZR				S	**Sb**	**23 59 48.7**	**0.0**
KIV	**Kislovodsk**	**1.51**	**340**	⇓*e*PG	**Pb**	**23 59 32.8**	**-0.4**
KIV				*e*S	**Sn**	**23 59 51.9**	**-0.2**
KIV	**Kislovodsk**	**1.51**	**340**	*e*Pg	**Pb**	**23 59 32.8**	**-0.4**
KIV				*e*Sg	**Sn**	**23 59 51.9**	**-0.2**
PYA	**Pyatigorsk**	**1.51**	**350**	⇑*e*PG	**Pb**	**23 59 33.2**	**0.0**
PYA				*e*S	**Sb**	**23 59 52.7**	**+0.2**
PYA	**Pyatigorsk**	**1.51**	**350**	*e*Pg	**Pb**	**23 59 33.2**	**0.0**
PYA				*e*Sg	**Sb**	**23 59 52.7**	**+0.2**
TRKR	**Terskaya**	**1.53**	**39**	⇓*i* PG	**Pg**	**23 59 34.1**	**-0.1**
TRKR				*e*S	**Sg**	**23 59 54.3**	**+0.2**
TRKR	**Terskaya**	**1.53**	**39**	*i* Pg	**Pg**	**23 59 34.1**	**-0.1**
TRKR				*e*Sg	**Sg**	**23 59 54.3**	**+0.2**
ARTV	**Artvin**	**1.75**	**220**	*i* P	**Pb**	**23 59 37.6**	**+0.3**
ARTV	**Artvin**	**1.75**	**220**	*i* P	**Pb**	**23 59 37.6**	**+0.3**
DBOC	**Borcka**	**1.76**	**228**	*i* P	**Pn**	**23 59 34.4**	**-1.3**
DBOC	**Borcka**	**1.76**	**228**	*i* P	**Pn**	**23 59 34.4**	**-1.3**
DGRG	**David-gareji**	**1.83**	**126**	P	**Pg**	**23 59 39.3**	**-0.6**
DGRG				S	**Sg**	**00 00 05.0**	**+1.4**
DAGI	**Agillar**	**1.84**	**218**	*i* P	**Pn**	**23 59 36.5**	**-0.3**
DBAD	**Bademkaya**	**1.99**	**221**	*i* P	**Pn**	**23 59 39.7**	**+0.8**
DBAD	**Bademkaya**	**1.99**	**221**	*i* P	**Pn**	**23 59 39.7**	**+0.8**
DDEM	**Demirkent**	**2.06**	**218**	*i* P	**Pn**	**23 59 40.8**	**+0.9**
DDEM	**Demirkent**	**2.06**	**218**	*i* P	**Pn**	**23 59 40.8**	**+0.9**

*CSEM **08** 00:04:01.9±0.2, 36°.05N×7°.89W, h10km, ML3.8, Error ellipse: s-maj=4.0km s-min=2.6km az=55.0*
*ISCJB **08** 00:04:02.2±0.3, 36°.07N±0°.02×7°.83W±0°.02, h30km, mb3.9/5, Error ellipse: s-maj=2.9km s-min=1.7km az=138.8*
*MDD **08** 00:04:04.5±0.4, 35°.99N×7°.95W, h40km±17km, mb4.9/39, mbLg3.8/36, Error ellipse: s-maj=4.6km s-min=2.9km az=61.0, PRXIMO*
MDD EMS: III INTENSIDAD MAXIMA-PORTUGAL.
*NEIC **08** 00:04:04.5, 36°.09N×7°.93W, h21km, ML4.3(LDG), MN3.8(MDD), After MDD.*
*IGIL **08** 00:04:05.3, 36°.00N×7°.94W, h32km, ML4.2*
*CNRM **08** 00:04:05.5, 35°.91N×7°.89W, h30km*
*INMG **08** 00:04:05.2±1.6, 36°.00N×7°.94W, h31km±7km, MD3.3, ML4.0, Error ellipse: s-maj=3.5km s-min=2.3km az=66.0*
*LDG **08** 00:04:06.8±0.5, 36°.32N×7°.51W, h20km, Ml4.3/19, Error ellipse: s-maj=9.5km s-min=5.5km az=27.0*
*IDC **08** 00:04:07.0±1.2, 35°.99N×7°.68W, h61km±9km, mb3.5/6, mb1 3.7/8, mb1mx3.4/32, mbtmp3.5/8, Error ellipse: s-maj=31.6km s-min=16.9km az=92.0*
*SFS **08** 00:04:09.0, 36°.08N×7°.93W, h21km, ML3.8*
*STR **08** 00:04:39.3±0.2, 38°.15N×5°.86W, h10km, Ml4.3, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 08 00:04:02.3±0.6, 35°.97N±0°.02×7°.96W±0°.03, h30km, n365, σ1s75/551, mb4.0/5, 12C-18D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBDV	**Barranco-do-Ve**	**1.27**	**1**	*i* P	**Pn**	**00 04 25.1**	**+1.0**
PBDV				*e*S	**Sn**	**00 04 39.9**	**-0.3**
PBDV				A	A	00 04 45.9	
	1μm,0.6s						
PBDV	**Barranco-do-Ve**	**1.27**	**1**	⇓P	**Pn**	**00 04 25.1**	**+1.0**
PBDV				S	**Sn**	**00 04 39.9**	**-0.3**
	1μm,0.6s						
PBDV	**Barranco-do-Ve**	**1.27**	**1**	P	**Pn**	**00 04 25.1**	**+1.0**
	SNR=1.0						
PBDV				S	**Sn**	**00 04 39.9**	**-0.3**
	1μm,0.6s,SNR=1.0						
PFVI	**Vila Bisbo**	**1.36**	**329**	*i* P	**Pn**	**00 04 26.2**	**+1.0**
PFVI				*e*S	**Sn**	**00 04 42.0**	**-0.2**
PFVI				A	A	00 04 49.3	
	750nm,0.3s						
PFVI	**Vila Bisbo**	**1.36**	**329**	⇓P	**Pn**	**00 04 26.2**	**+1.0**
	213nm,0.2s,SNR=18						
PFVI				S	**Sn**	**00 04 41.6**	**-0.6**
	1μm,0.1s,SNR=10						
PFVI	**Vila Bisbo**	**1.36**	**329**	P	**Pn**	**00 04 26.2**	**+1.0**
PFVI				S	**Sn**	**00 04 41.5**	**-0.6**
PFVI	**Vila Bisbo**	**1.36**	**329**	P	**Pn**	**00 04 26.2**	**+1.0**
	213nm,0.2s,SNR=1.0						
PFVI				S	**Sn**	**00 04 41.5**	**-0.6**
PVAQ	**Vaqueiros**	**1.45**	**8**	*e*P	**Pn**	**00 04 27.3**	**+0.9**
PVAQ				*e*S	**Sn**	**00 04 43.5**	**-0.9**
PVAQ				A	A	00 04 45.3	
	2μm,0.4s						
PVAQ	**Vaqueiros**	**1.45**	**8**	P	**Pn**	**00 04 27.3**	**+0.9**
PVAQ				S	**Sn**	**00 04 43.5**	**-0.9**
	2μm,0.4s						
PVAQ	**Vaqueiros**	**1.45**	**8**	P	**Pn**	**00 04 27.3**	**+0.9**
	SNR=1.0						
PVAQ				S	**Sn**	**00 04 43.5**	**-0.9**
	2μm,0.4s,SNR=1.0						
MORF	**Marmelete**	**1.45**	**338**	*i* P	**Pn**	**00 04 27.6**	**+1.1**
MORF				*e*S	**Sn**	**00 04 44.1**	**-0.4**
MORF				A	A	00 04 44.5	
	2μm,0.2s						
MORF	**Marmelete**	**1.45**	**338**	⇓P	**Pn**	**00 04 27.6**	**+1.1**
MORF				S	**Sn**	**00 04 44.1**	**-0.4**
	2μm,0.2s						
MORF	**Marmelete**	**1.45**	**338**	P	**Pn**	**00 04 27.6**	**+1.1**
	SNR=1.0						
MORF				S	**Sn**	**00 04 44.1**	**-0.4**
	2μm,0.2s,SNR=1.0						
CNIL	**Conil**	**1.59**	**75**	P	**Pn**	**00 04 30.0**	**+1.6**
CNIL				S	**Sn**	**00 04 47.3**	**-0.7**
CNIL	**Conil**	**1.59**	**75**	P	**Pn**	**00 04 30.0**	**+1.6**
	SNR=1.0						
CNIL				S	**Sn**	**00 04 47.3**	**-0.7**
	SNR=1.0						
EGRO	**El Granado**	**1.61**	**14**	⇓P	**Pn**	**00 04 29.6**	**+0.9**
	20nm,0.1s,SNR=18						
EGRO				S	**Sn**	**00 04 47.3**	**-1.1**
	2μm,0.2s,SNR=37						
EGRO	**El Granado**	**1.61**	**14**	P	**Pn**	**00 04 29.6**	**+0.9**
EGRO				S	**Sn**	**00 04 47.3**	**-1.1**
EGRO	**El Granado**	**1.61**	**14**	P	**Pn**	**00 04 29.6**	**+0.9**
	20nm,0.1s,SNR=1.0						
EGRO				S	**Sn**	**00 04 47.3**	**-1.1**
	2μm,0.2s,SNR=1.0						
ESPR	**Espera**	**1.92**	**61**	⇑P	**Pn**	**00 04 33.8**	**+0.9**
	94nm,0.2s,SNR=18						
ESPR				S	**Sn**	**00 04 54.4**	**-1.6**
	2μm,0.3s,SNR=11						
ESPR	**Espera**	**1.92**	**61**	P	**Pn**	**00 04 33.8**	**+0.9**
ESPR				S	**Sn**	**00 04 55.6**	**-0.4**
ESPR	**Espera**	**1.92**	**61**	P	**Pn**	**00 04 33.8**	**+0.9**
	94nm,0.2s,SNR=1.0						
ESPR				S	**Sn**	**00 04 55.6**	**-0.4**
RSA	**Sarsar**	**2.05**	**121**	P	**Pn**	**00 04 36.0**	**+1.2**
RSA				S	**Sn**	**00 04 58.0**	**-1.4**
RSA	**Sarsar**	**2.05**	**121**	P	**Pn**	**00 04 36.0**	**+1.2**
RSA				S	**Sn**	**00 04 58.0**	**-1.4**
PBEJ	**Beja**	**2.06**	**2**	*i* Pn	**Pn**	**00 04 35.6**	**+0.8**
PBEJ				*e*Sn	**Sn**	**00 04 58.4**	**-1.1**
PBEJ				A	A	00 04 59.0	
	556nm,0.2s						
PBEJ	**Beja**	**2.06**	**2**	⇓P	**Pn**	**00 04 35.6**	**+0.8**
PBEJ				S	**Sn**	**00 04 58.4**	**-1.1**
	278nm,0.2s						
PBEJ	**Beja**	**2.06**	**2**	P	**Pn**	**00 04 35.6**	**+0.8**
	SNR=1.0						
PBEJ				S	**Sn**	**00 04 58.4**	**-1.1**
	278nm,0.2s,SNR=1.0						
EJIF	**Jimena Fronter**	**2.07**	**76**	P	**Pn**	**00 04 37.0**	**+2.0**
	13nm,0.2s,SNR=7.9						
EJIF				S	**Sn**	**00 04 59.1**	**-0.7**
	190nm,0.6s,SNR=7.9						
EJIF	**Jimena Fronter**	**2.07**	**76**	P	**Pn**	**00 04 37.0**	**+2.0**
EJIF				S	**Sn**	**00 04 59.1**	**-0.7**
EJIF	**Jimena Fronter**	**2.07**	**76**	P	**Pn**	**00 04 37.0**	**+2.0**
	13nm,0.2s,SNR=1.0						
EJIF				S	**Sn**	**00 04 59.1**	**-0.7**
	190nm,0.6s,SNR=1.0						
EMIN	**Mina Concepcio**	**2.07**	**29**	P	**Pn**	**00 04 35.5**	**+0.5**
	19nm,0.1s,SNR=141						
EMIN				S	**Sn**	**00 04 57.2**	**-2.6**
	572nm,0.3s,SNR=6.8						
EMIN	**Mina Concepcio**	**2.07**	**29**	P	**Pn**	**00 04 35.5**	**+0.5**
EMIN				S	**Sn**	**00 04 58.0**	**-1.9**
EMIN	**Mina Concepcio**	**2.07**	**29**	P	**Pn**	**00 04 35.5**	**+0.5**
	19nm,0.1s,SNR=1.0						
EMIN				S	**Sn**	**00 04 58.0**	**-1.9**
ECEU	**Ceuta**	**2.10**	**91**	⇓P	**Pn**	**00 04 37.4**	**+2.1**
	19nm,0.2s,SNR=18						
ECEU				S	**Sn**	**00 05 00.8**	**+0.4**
	102nm,0.2s,SNR=9.8						
ECEU	**Ceuta**	**2.10**	**91**	P	**Pn**	**00 04 37.4**	**+2.1**
	19nm,0.2s,SNR=1.0						
ECEU				S	**Sn**	**00 05 00.8**	**+0.4**
	102nm,0.2s,SNR=1.0						
DKH	**Dar Kharkhour**	**2.17**	**102**	P	**Pn**	**00 04 38.0**	**+1.6**
DKH				S	**Sn**	**00 05 01.0**	**-1.3**
DKH	**Dar Kharkhour**	**2.17**	**102**	P	**Pn**	**00 04 38.0**	**+1.6**
	SNR=1.0						
DKH				S	**Sn**	**00 05 01.0**	**-1.3**
	SNR=1.0						
RTC	**Rabat Centre**	**2.17**	**155**	P	**Pn**	**00 04 38.0**	**+1.7**
RTC				S	**Sn**	**00 05 01.0**	**-1.2**
RTC	**Rabat Centre**	**2.17**	**155**	P	**Pn**	**00 04 38.0**	**+1.7**
RTC				S	**Sn**	**00 05 01.0**	**-1.2**
PNCL	**Nicolau / Gran**	**2.19**	**348**	*i* Pn	**Pn**	**00 04 37.5**	**+0.9**
PNCL				*e*Sn	**Sn**	**00 05 01.3**	**-1.4**
PNCL				A	A	00 05 03.3	
	484nm,0.2s						
LIJA	**Lijar**	**2.26**	**65**	⇓P	**Pn**	**00 04 38.8**	**+1.1**
LIJA				S	**Sn**	**00 05 02.0**	**-2.7**
LIJA	**Lijar**	**2.26**	**65**	P	**Pn**	**00 04 38.8**	**+1.1**
	SNR=1.0						
LIJA				S	**Sn**	**00 05 02.0**	**-2.7**
	SNR=1.0						
REAL	**Reales**	**2.28**	**76**	⇑P	**Pn**	**00 04 40.1**	**+2.0**
REAL				S	**Sn**	**00 05

comp=E,334nm,0.3s
PMST Lisbon--Monsan 2.93 341 Pn **Pn 00 04 48.3 +1.5**
SNR=1.0
PMST Sn **Sn 00 05 20.9 -0.1**
comp=E,334nm,0.3s,SNR=1.0
EMAL Malaga-Limoner 2.96 73 P **Pn 00 04 48.3 +1.2**
EMAL S **Sn 00 05 19.9 -1.7**
EMAL Malaga-Limoner 2.96 73 P **Pn 00 04 48.3 +1.2**
SNR=1.0
EMAL S **Sn 00 05 19.9 -1.7**
SNR=1.0
TGT Taghat 3.04 128 P **Pn 00 04 50.0 +1.6**
TGT S **Sn 00 05 22.0 -1.9**
TGT Taghat 3.04 128 P **Pn 00 04 50.0 +1.6**
TGT S **Sn 00 05 22.0 -1.9**
PMTG Montargil 3.10 356 *i* Pn **Pn 00 04 50.0 +0.8**
PMTG *e*Sn **Sn 00 05 23.3 -2.0**
PMTG A A 00 05 24.9
comp=E,609nm,0.1s
PMAFR Mafra 3.16 341 *e*Pn **Pn 00 04 51.4 +1.4**
PMAFR *e*Sn **Sn 00 05 25.7 -1.1**
PMAFR A A 00 05 28.2
comp=E,937nm,0.3s
PMAFR Mafra 3.16 341 ⇓P **Pn 00 04 51.4 +1.4**
comp=E,264nm,0.2s,SNR=18
PMAFR S **Sn 00 05 25.8 -0.9**
comp=E,1µm,0.3s,SNR=30
PMAFR Mafra 3.16 341 P **Pn 00 04 51.4 +1.4**
PMAFR S **Sn 00 05 26.1 -0.6**
PMAFR Mafra 3.16 341 P **Pn 00 04 51.4 +1.4**
comp=E,264nm,0.2s,SNR=1.0
PMAFR S **Sn 00 05 26.1 -0.6**
ALMR Almeirim 3.22 351 *e*P **Pn 00 04 51.8 +1.0**
ALMR *e*S **Sn 00 05 26.1 -2.0**
ALMR AML AML 00 05 28.4
comp=E,623nm,0.4s
ALMR Almeirim 3.22 351 *e*P **Pn 00 04 51.8 +1.0**
ALMR *e*S **Sn 00 05 26.1 -2.0**
ALMR Almeirim 3.22 351 P **Pn 00 04 51.8 +1.0**
ALMR S **Sn 00 05 26.1 -2.0**
ALMR Almeirim 3.22 351 P **Pn 00 04 51.8 +1.0**
SNR=1.0
ALMR S **Sn 00 05 26.1 -2.0**
SNR=1.0
ELOJ Sierra Loja 3.28 68 P **Pn 00 04 53.2 +1.5**
comp=E,16nm,0.2s,SNR=27
ELOJ S **Sn 00 05 28.8 -1.0**
comp=E,58nm,0.2s,SNR=8.8
ELOJ Sierra Loja 3.28 68 P **Pn 00 04 53.5 +1.7**
ELOJ S **Sn 00 05 28.8 -1.0**
ELOJ Sierra Loja 3.28 68 P **Pn 00 04 53.5 +1.7**
ELOJ S **Sn 00 05 28.8 -1.0**
comp=E,58nm,0.2s,SNR=1.0
MPAL Palemas 3.36 102 P **Pn 00 04 54.0 +1.3**
MPAL S **Sn 00 05 31.0 -0.5**
MPAL Palemas 3.36 102 P **Pn 00 04 54.0 +1.3**
SNR=1.0
MPAL S **Sn 00 05 31.0 -0.5**
SNR=1.0
ELUQ Luque 3.37 61 ⇑P **Pn 00 04 53.7 +0.9**
comp=E,49nm,0.2s,SNR=18
ELUQ S **Sn 00 05 29.9 -1.9**
comp=E,91nm,0.4s,SNR=7.9
ELUQ Luque 3.37 61 P **Pn 00 04 53.7 +0.9**
ELUQ S **Sn 00 05 29.9 -1.9**
ELUQ Luque 3.37 61 P **Pn 00 04 53.7 +0.9**
comp=E,49nm,0.2s,SNR=1.0
ELUQ S **Sn 00 05 29.9 -1.9**
comp=E,91nm,0.4s,SNR=1.0
EADA Adamuz 3.48 50 ⇑P **Pn 00 04 55.3 +0.8**
comp=E,60nm,0.2s,SNR=18
EADA S **Sn 00 05 31.5 -3.2**
comp=E,268nm,0.1s,SNR=20
EADA Adamuz 3.48 50 P **Pn 00 04 55.3 +0.8**
EADA S **Sn 00 05 32.6 -2.1**
EADA Adamuz 3.48 50 P **Pn 00 04 55.3 +0.8**
comp=E,60nm,0.2s,SNR=1.0
EADA S **Sn 00 05 32.6 -2.1**
PMRV Marv??o 3.49 7 *i* Pn **Pn 00 04 55.3 +0.9**
PMRV *e*Sn **Sn 00 05 32.1 -2.6**
PMRV A A 00 05 35.0
comp=E,300nm,0.3s
PMRV Marv??o 3.49 7 ⇓P **Pn 00 04 55.3 +0.9**
PMRV S **Sn 00 05 32.1 -2.6**
comp=E,300nm,0.3s
PMRV Marv??o 3.49 7 P **Pn 00 04 55.3 +0.9**
SNR=1.0
PMRV S **Sn 00 05 32.1 -2.6**
comp=E,300nm,0.3s,SNR=1.0
ERON Agron 3.51 71 P **Pn 00 04 56.5 +1.6**
comp=E,28nm,0.3s,SNR=7.9
ERON S **Sn 00 05 34.4 -1.0**
comp=E,48nm,0.3s,SNR=7.9
ERON Agron 3.51 71 P **Pn 00 04 56.5 +1.6**
ERON S **Sn 00 05 36.0 +0.6**
ERON Agron 3.51 71 P **Pn 00 04 56.5 +1.6**
comp=E,28nm,0.3s,SNR=1.0
ERON S **Sn 00 05 36.0 +0.6**
TOU Touzarine 3.58 105 P **Pn 00 04 57.0 +1.2**
TOU S **Sn 00 05 36.0 -1.1**
TOU Touzarine 3.58 105 P **Pn 00 04 57.0 +1.2**
SNR=1.0
TOU S **Sn 00 05 36.0 -1.1**
SNR=1.0
EGUA Guajares 3.65 75 P **Pn 00 04 57.9 +1.2**
comp=E,36nm,0.2s,SNR=7.9
EGUA S **Sn 00 05 37.7 -1.0**
comp=E,90nm,0.2s,SNR=7.9
EGUA Guajares 3.65 75 P **Pn 00 04 57.9 +1.2**
EGUA S **Sn 00 05 38.0 -0.8**
EGUA Guajares 3.65 75 P **Pn 00 04 57.9 +1.2**
comp=E,36nm,0.2s,SNR=1.0
EGUA S **Sn 00 05 38.0 -0.8**
PTOM Tomar 3.66 355 *i* Pn **Pn 00 04 58.0 +1.1**
PTOM *e*Sn **Sn 00 05 36.4 -2.6**
PTOM A A 00 05 38.6
comp=E,479nm,0.3s
PTOM Tomar 3.66 355 ⇓P **Pn 00 04 58.0 +1.1**
PTOM S **Sn 00 05 36.4 -2.6**
comp=E,240nm,0.3s
PTOM Tomar 3.66 355 P **Pn 00 04 58.0 +1.1**
SNR=1.0
PTOM S **Sn 00 05 36.4 -2.6**
comp=E,240nm,0.3s
KIB El Ksiba 3.74 154 P **Pn 00 04 59.0 +1.0**
KIB S **Sn 00 05 40.0 -1.0**
KIB El Ksiba 3.74 154 P **Pn 00 04 59.0 +1.0**
KIB S **Sn 00 05 40.0 -1.0**
ECOG Cogollos-Vega 3.77 68 ⇓P **Pn 00 05 00.0 +1.6**
comp=E,59nm,0.2s,SNR=18
ECOG S **Sn 00 05 40.1 -1.7**
comp=E,88nm,0.2s,SNR=7.9
ECOG Cogollos-Vega 3.77 68 P **Pn 00 05 00.0 +1.6**
ECOG S **Sn 00 05 40.1 -1.7**
ECOG Cogollos-Vega 3.77 68 P **Pn 00 05 00.0 +1.6**
comp=E,59nm,0.2s,SNR=1.0
ECOG S **Sn 00 05 40.1 -1.7**
comp=E,88nm,0.2s,SNR=1.0
CZD Col de Zad 3.79 140 P **Pn 00 05 00.5 +1.6**
CZD S **Sn 00 05 41.0 -1.6**
CZD Col de Zad 3.79 140 P **Pn 00 05 00.5 +1.6**
CZD S **Sn 00 05 41.0 -1.6**
EQUE Quentar 3.84 70 ⇑P **Pn 00 05 00.9 +1.5**
comp=E,17nm,0.3s,SNR=18
EQUE S **Sn 00 05 41.2 -2.4**
comp=E,63nm,0.3s,SNR=5.8
EQUE Quentar 3.84 70 P **Pn 00 05 00.9 +1.5**
comp=E,17nm,0.3s,SNR=1.0
EQUE S **Sn 00 05 41.2 -2.4**
comp=E,63nm,0.3s,SNR=1.0
PCBR Castelo Branco 3.89 5 *i* Pn **Pn 00 05 00.8 +0.9**
PCBR *e*Sn **Sn 00 05 42.0 -2.5**
PCBR A A 00 05 43.7
comp=E,146nm,0.3s
PCBR Castelo Branco 3.89 5 ⇓P **Pn 00 05 00.8 +0.9**
PCBR S **Sn 00 05 42.0 -2.5**
comp=E,73nm,0.3s
PCBR Castelo Branco 3.89 5 P **Pn 00 05 00.8 +0.9**
SNR=1.0
PCBR S **Sn 00 05 42.0 -2.5**
comp=E,73nm,0.3s,SNR=1.0
EBAN Banos Encina 3.99 55 ⇑P **Pn 00 05 02.0 +0.6**
comp=E,25nm,0.2s,SNR=18
EBAN S **Sn 00 05 44.4 -2.9**
comp=E,31nm,0.2s,SNR=15
EBAN Banos Encina 3.99 55 P **Pn 00 05 02.0 +0.6**
EBAN S **Sn 00 05 44.7 -2.6**
EBAN Banos Encina 3.99 55 P **Pn 00 05 02.0 +0.6**
comp=E,25nm,0.2s,SNR=1.0
EBAN S **Sn 00 05 44.7 -2.6**
TZC Tazercounte 4.00 162 P **Pn 00 05 03.0 +1.3**
TZC S **Sn 00 05 45.0 -2.6**
TZC Tazercounte 4.00 162 P **Pn 00 05 03.0 +1.3**
TZC S **Sn 00 05 45.0 -2.6**
PCAS Casmilo, Conde 4.10 354 *e*Pn **Pn 00 05 03.9 +1.0**
PCAS *e*Sn **Sn 00 05 47.1 -2.8**
PCAS A A 00 05 50.3
comp=E,245nm,0.6s
PCAS Casmilo, Conde 4.10 354 Pn **Pn 00 05 03.9 +1.0**
SNR=1.0
PCAS *e*Sn **Sn 00 05 47.1 -2.8**
comp=E,245nm,0.6s
EMEL Melilla 4.13 98 P **Pn 00 05 03.4 +0.2**
comp=E,75nm,0.2s,SNR=7.9
EMEL S **Sn 00 05 48.9 -1.7**
comp=E,228nm,0.2s,SNR=7.9
EMLI Melilla 4.13 98 P **Pn 00 05 03.4 +0.1**
comp=E,75nm,0.2s,SNR=1.0
EMLI S **Sn 00 05 48.9 -1.7**
comp=E,228nm,0.2s,SNR=1.0
MDT Midelt 4.18 138 P **Pn 00 05 05.2 +1.0**
comp=E,79nm,0.3s,baz=318,slow=13,SNR=1641
MDT S **Sn 00 05 49.0 -3.1**
comp=E,125nm,0.3s,baz=177,slow=21,SNR=27
EBER Berja 4.19 76 P **Pn 00 05 05.0 +0.7**
comp=E,0.7nm,0.3s,SNR=26
EBER S **Sn 00 05 49.6 -2.8**
comp=E,49nm,0.2s,SNR=4.7
EBER Berja 4.19 76 P **Pn 00 05 06.0 +1.7**
EBER S **Sn 00 05 52.0 -0.4**
EBER Berja 4.19 76 P **Pn 00 05 05.0 +0.7**
comp=E,0.7nm,0.3s,SNR=1.0
EBER S **Sn 00 05 52.0 -0.4**
EQES Quesada 4.33 63 P **Pn 00 05 06.8 +0.7**
comp=E,16nm,0.2s,SNR=89
EQES S **Sn 00 05 53.9 -1.7**
comp=E,84nm,0.2s,SNR=18
EQES Quesada 4.33 63 P **Pn 00 05 06.8 +0.7**
EQES S **Sn 00 05 53.9 -1.7**
EQES Quesada 4.33 63 P **Pn 00 05 06.8 +0.7**
comp=E,16nm,0.2s,SNR=1.0
EQES S **Sn 00 05 53.8 -1.7**
SNR=1.0
EPLA Plasencia 4.35 19 ⇓P **Pn 00 05 06.8 +0.4**
comp=E,7.9nm,0.1s,SNR=18
EPLA S **Sn 00 05 52.9 -3.2**
comp=E,216nm,0.2s,SNR=21
EPLA Plasencia 4.35 19 P **Pn 00 05 06.8 +0.4**
EPLA S **Sn 00 05 52.9 -3.2**
EPLA Plasencia 4.35 19 P **Pn 00 05 06.8 +0.4**
comp=E,7.9nm,0.1s,SNR=1.0
EPLA S **Sn 00 05 52.9 -3.2**
comp=E,216nm,0.2s,SNR=21
ZAI Zaio 4.37 102 P **Pn 00 05 07.0 +0.4**
ZAI S **Sn 00 05 54.0 -2.6**
ZAI Zaio 4.37 102 P **Pn 00 05 07.0 +0.4**
SNR=1.0
ZAI *i* S **Sn 00 05 54.0 -2.6**
MTE Manteigas 4.44 4 *e*Pn **Pn 00 05 08.3 +0.7**
MTE *e*Sn **Sn 00 05 55.5 -2.8**
MTE A A 00 05 56.7
comp=E,260nm,0.9s
MTE Manteigas 4.44 4 ⇓P **Pn 00 05 08.3 +0.7**
MTE S **Sn 00 05 55.5 -2.8**
comp=E,130nm,0.9s
MTE Manteigas 4.44 4 P **Pn 00 05 08.3 +0.7**
SNR=1.0
MTE S **Sn 00 05 55.5 -2.8**
comp=E,130nm,0.9s,SNR=1.0
CIA Chichaoua 4.44 189 P **Pn 00 05 10.0 +2.4**
CIA S **Sn 00 05 57.0 -1.3**
CIA Chichaoua 4.44 189 P **Pn 00 05 10.0 +2.4**
CIA S **Sn 00 05 57.0 -1.3**
EHUE Huescar 4.68 65 P **Pn 00 05 11.5 +0.6**
comp=E,9.7nm,0.3s,SNR=7.9
EHUE S **Sn 00 06 01.2 -3.1**
comp=E,46nm,0.2s,SNR=7.9
EHUE Huescar 4.68 65 P **Pn 00 05 11.7 +0.7**
EHUE S **Sn 00 06 01.2 -3.1**
EHUE Huescar 4.68 65 P **Pn 00 05 11.5 +0.6**
comp=E,9.7nm,0.3s,SNR=1.0
EHUE S **Sn 00 06 01.2 -3.1**
comp=E,46nm,0.2s,SNR=1.0
ENIJ Nijar 4.74 76 P **Pn 00 05 13.5 +1.8**
comp=E,2.7nm,0.2s,SNR=7.9
ENIJ S **Sn 00 06 01.9 -3.8**
comp=E,28nm,0.3s,SNR=7.9
ENIJ Nijar 4.74 76 P **Pn 00 05 13.5 +1.8**
ENIJ S **Sn 00 06 04.1 -1.6**
ENIJ Nijar 4.74 76 P **Pn 00 05 13.5 +1.8**
comp=E,2.7nm,0.2s,SNR=1.0
ENIJ S **Sn 00 06 04.1 -1.6**
PVIS Viseu 4.74 1 *e*Pn **Pn 00 05 12.4 +0.7**
PVIS *e*Sn **Sn 00 06 03.3 -2.4**
PVIS A A 00 06 05.1
comp=E,106nm,0.8s
PVIS Viseu 4.74 1 P **Pn 00 05 12.4 +0.7**
PVIS S **Sn 00 06 03.3 -2.4**
comp=E,53nm,0.8s
PVIS Viseu 4.74 1 P **Pn 00 05 12.4 +0.7**
SNR=1.0
PVIS S **Sn 00 06 03.3 -2.4**
comp=E,53nm,0.8s,SNR=1.0
OUK Oukaimeden 4.75 179 P **Pn 00 05 13.0 +0.9**
OUK S **Sn 00 06 03.0 -3.2**
OUK Oukaimeden 4.75 179 P **Pn 00 05 13.0 +0.9**
OUK S **Sn 00 06 03.0 -3.2**
ESDC Sonseca Array 4.87 39 ⇑P **Pn 00 05 13.9 +0.4**
comp=E,11nm,0.1s,baz=225,slow=13,SNR=18
ESDC S Sn 00 06 03.8 -5.1
comp=E,19nm,0.1s,baz=223,slow=23,SNR=8.4
ESDC Sonseca Array 4.87 39 P **Pn 00 05 13.9 +0.4**
ESDC S **Sn 00 06 05.4 -3.5**
ESDC Sonseca Array 4.87 39 P **Pn 00 05 13.9 +0.4**
comp=E,6.3nm,0.3s,baz=222,slow=13,SNR=66
ESDC S **Sn 00 06 04.2 -4.6**
comp=E,64nm,0.3s,baz=224,slow=24,SNR=39
ESDC Sonseca Array 4.87 39 P **Pn 00 05 13.9 +0.4**
comp=E,11nm,0.1s,SNR=1.0
ESDC S **Sn 00 06 05.4 -3.5**
EVIA Vianos 5.10 57 ⇑P **Pn 00 05 16.6 -0.2**
comp=E,96nm,0.3s,SNR=18
EVIA S Sn 00 06 08.8 -5.8
comp=E,149nm,0.4s,SNR=9.8
EVIA Vianos 5.10 57 P **Pn 00 05 16.6 -0.2**
EVIA S **Sn 00 06 12.2 -2.5**
EVIA Vianos 5.10 57 P **Pn 00 05 16.6 -0.2**
comp=E,96nm,0.3s,SNR=1.0
EVIA S **Sn 00 06 12.2 -2.5**
SNR=1.0
PTO Porto 5.19 355 *e*Pn **Pn 00 05 18.5 +0.7**
PTO *e*Sn **Sn 00 06 12.7 -3.9**
PTO Porto 5.19 355 P **Pn 00 05 18.5 +0.7**
PTO S **Sn 00 06 12.7 -3.9**
PTO Porto 5.19 355 P **Pn 00 05 18.5 +0.7**
SNR=1.0
PTO S **Sn 00 06 12.7 -3.9**
MVO Moncorvo 5.24 8 *e*Pn **Pn 00 05 19.0 +0.4**
MVO *e*Sn **Sn 00 06 13.8 -4.2**
MVO A A 00 06 16.6
comp=E,295nm,0.6s
MVO Moncorvo 5.24 8 ⇓P **Pn 00 05 19.1 +0.4**
comp=E,20nm,0.1s,SNR=18
MVO S **Sn 00 06 13.7 -4.4**
comp=E,247nm,0.2s,SNR=36
MVO Moncorvo 5.24 8 P **Pn 00 05 19.1 +0.4**
MVO S **Sn 00 06 15.1 -3.0**
MVO Moncorvo 5.24 8 Pn **Pn 00 05 19.0 +0.4**
SNR=1.0
MVO S **Sn 00 06 15.1 -3.0**
PVRL Vila Real 5.30 2 *e*Pn **Pn 00 05 20.1 +0.6**
PVRL *e*Sn **Sn 00 06 15.7 -3.9**
PVRL A A 00 06 18.1
comp=E,118nm,0.3s
PVRL Vila Real 5.30 2 P **Pn 00 05 20.1 +0.6**
PVRL S **Sn 00 06 15.7 -3.9**
comp=E,59nm,0.3s
PVRL Vila Real 5.30 2 P **Pn 00 05 20.1 +0.6**
SNR=1.0
PVRL S **Sn 00 06 15.7 -3.9**
comp=E,59nm,0.3s
POLO Lamas de Olo 5.40 1 *e*Pn **Pn 00 05 21.5 +0.7**
POLO *e*Sn **Sn 00 06 17.5 -4.5**
POLO A A 00 06 20.9
comp=E,70nm,0.4s
POLO Lamas de Olo 5.40 1 Pn **Pn 00 05 21.5 +0.7**
SNR=1.0
POLO *e*Sn **Sn 00 06 17.5 -4.5**
comp=E,70nm,0.4s
GUD Guadarrama 5.55 32 P **Pn 00 05 23.8 +0.9**
comp=E,16nm,0.2s,SNR=7.9
GUD S **Sn 00 06 22.7 -2.9**
comp=E,43nm,0.2s,SNR=7.9
GUD Guadarrama 5.55 32 P **Pn 00 05 23.8 +0.9**
GUD S **Sn 00 06 23.3 -2.3**
GUD Guadarrama 5.55 32 P **Pn 00 05 23.8 +0.9**
comp=E,16nm,0.2s,SNR=1.0
GUD S **Sn 00 06 23.3 -2.3**
AFS Agadir Fac de 5.68 194 P **Pn 00 05 27.0 +2.4**
AFS S **Sn 00 06 27.0 -1.8**
AFS Agadir Fac de 5.68 194 P **Pn 00 05 27.0 +2.4**
AFS S **Sn 00 06 27.0 -1.8**
PCAB Cabril 5.74 359 *e*Pn **Pn 00 05 26.1 +0.7**
PCAB *e*Sn **Sn 00 06 25.6 -4.6**
PCAB A A 00 06 29.9
comp=E,80nm,0.3s
PCAB Cabril 5.74 359 P **Pn 00 05 26.1 +0.7**
PCAB S **Sn 00 06 25.6 -4.6**
comp=E,40nm,0.3s
PCAB Cabril 5.74 359 P **Pn 00 05 26.1 +0.7**
SNR=1.0
PCAB S **Sn 00 06 25.6 -4.6**
comp=E,40nm,0.3s
ETOB Tobarra 5.77 60 ⇑P **Pn 00 05 25.8 -0.1**
comp=E,11nm,0.1s,SNR=18
ETOB S **Sn 00 06 26.4 -4.7**
comp=E,104nm,0.3s,SNR=7.9
ETOB Tobarra 5.77 60 P **Pn 00 05 25.8 -0.1**
ETOB S **Sn 00 06 26.4 -4.7**
ETOB Tobarra 5.77 60 P **Pn 00 05 25.8 -0.1**
comp=E,11nm,0.1s,SNR=1.0
ETOB S **Sn 00 06 26.4 -4.7**
comp=E,104nm,0.3s,SNR=7.9
ELOB Lobios 5.89 359 ⇑P **Pn 00 05 28.2 +0.6**
comp=E,30nm,0.2s,SNR=18
ELOB S Sn 00 06 29.1 -5.1
comp=E,100nm,0.1s,SNR=18
ELOB Lobios 5.89 359 P **Pn 00 05 28.3 +0.7**
ELOB S Sn 00 06 29.1 -5.1
ELOB Lobios 5.89 359 P **Pn 00 05 28.2 +0.6**
comp=E,30nm,0.2s,SNR=1.0
ELOB S Sn 00 06 29.1 -5.1
comp=E,100nm,0.1s,SNR=18
PBRG Braganca 5.91 9 *e*Pn **Pn 00 05 28.1 +0.4**
PBRG *e*Sn **Sn 00 06 29.8 -4.6**
PBRG A A 00 06 31.7
comp=E,77nm,0.4s
PBRG Braganca 5.91 9 P **Pn 00 05 28.1 +0.4**
PBRG S **Sn 00 06 29.8 -4.6**
comp=E,38nm,0.4s
PBRG Braganca 5.91 9 P **Pn 00 05 28.1 +0.4**
SNR=1.0
PBRG S **Sn 00 06 29.8 -4.6**
comp=E,38nm,0.4s
PGAV Gavieira, Arco 6.00 358 *e*Pn **Pn 00 05 29.6 +0.6**
PGAV *e*Sn **Sn 00 06 32.4 -4.3**
PGAV A A 00 06 36.0
comp=E,95nm,0.8s
PGAV Gavieira, Arco 6.00 358 Pn **Pn 00 05 29.6 +0.6**
SNR=1.0
PGAV *e*Sn **Sn 00 06 32.4 -4.3**
comp=E,95nm,0.8s
ECAL Calabor 6.04 9 P **Pn 00 05 30.2 +0.6**
comp=E,14nm,0.2s,SNR=107
ECAL S **Sn 00 06 33.6 -4.2**
comp=E,203nm,0.3s,SNR=15
ECAL Calabor 6.04 9 P **Pn 00 05 30.3 +0.6**
ECAL S **Sn 00 06 33.6 -4.2**
ECAL Calabor 6.04 9 P **Pn 00 05 30.2 +0.6**
comp=E,14nm,0.2s,SNR=1.0
ECAL S **Sn 00 06 33.6 -4.2**
comp=E,203nm,0.3s,SNR=15
EZAM Zamans 6.20 355 P **Pn 00 05 32.5 +0.8**
comp=E,11nm,0.3s,SNR=7.9
EZAM S **Sn 00 06 37.4 -4.2**
comp=E,37nm,0.2s,SNR=7.9
EZAM Zamans 6.20 355 P **Pn 00 05 32.5 +0.8**
EZAM S **Sn 00 06 37.4 -4.2**
EZAM Zamans 6.20 355 P **Pn 00 05 32.5 +0.8**
comp=E,11nm,0.3s,SNR=1.0
EZAM S **Sn 00 06 37.4 -4.2**
comp=E,37nm,0.2s,SNR=7.9
EBEN Beniarda 6.74 64 P **Pn 00 05 39.0 -0.2**
comp=E,5.7nm,0.2s,SNR=43
EBEN S Sn 00 06 50.1 -4.9
comp=E,17nm,0.3s,SNR=10.0
EBEN Beniarda 6.74 64 P **Pn 00 05 39.0 -0.2**
EBEN S **Sn 00 06 50.3 -4.7**
EBEN Beniarda 6.74 64 P **Pn 00 05 39.0 -0.2**
comp=E,5.7nm,0.2s,SNR=1.0
EBEN S **Sn 00 06 50.3 -4.7**
STS Santiago 6.93 356 P **Pn 00 05 42.2 +0.5**
comp=E,7.0nm,0.1s,SNR=23
STS S Sn 00 06 54.3 -5.1
comp=E,14nm,0.2s,SNR=7.9
STS Santiago 6.93 356 P **Pn 00 05 42.7 +1.0**
STS S Sn 00 06 54.3 -5.1
STS Santiago 6.93 356 P **Pn 00 05 42.2 +0.5**
comp=E,7.0nm,0.1s,SNR=1.0
STS S Sn 00 06 54.3 -5.1
comp=E,14nm,0.2s,SNR=7.9
EMAZ Mazaricos 7.02 354 P **Pn 00 05 43.9 +1.0**
comp=E,16nm,0.1s,SNR=92
EMAZ S Sn 00 06 55.6 -6.2
comp=E,88nm,0.4s,SNR=13
EMAZ Mazaricos 7.02 354 P **Pn 00 05 44.0 +1.0**
EMAZ S Sn 00 06 55.5 -6.2
EMAZ Mazaricos 7.02 354 P **Pn 00 05 43.9 +1.0**
comp=E,16nm,0.1s,SNR=1.0
EMAZ S Sn 00 06 55.5 -6.2
EMOS Mosqueruela 7.35 51 P **Pn 00 05 48.7 +1.0**
comp=E,2.9nm,0.2s,SNR=19
EMOS S Sn 00 07 03.5 -6.6
comp=E,13nm,0.2s,SNR=8.8
EMOS Mosqueruela 7.35 51 P **Pn 00 05 48.9 +1.2**
EMOS S **Sn 00 07 05.6 -4.6**
EMOS Mosqueruela 7.35 51 P **Pn 00 05 48.7 +1.0**
comp=E,2.9nm,0.2s,SNR=1.0
EMOS S **Sn 00 07 05.6 -4.6**
EPON Pontenova 7.38 5 P **Pn 00 05 49.1 +1.2**
comp=E,2.3nm,0.2s,SNR=5.7
EPON S Sn 00 07 05.2 -5.4
comp=E,9.3nm,0.2s,SNR=7.9
EPON Pontenova 7.38 5 P **Pn 00 05 49.6 +1.7**
EPON S Sn 00 07 05.2 -5.4
EPON Pontenova 7.38 5 P **Pn 00 05 49.6 +1.7**
EPON S Sn 00 07 05.2 -5.4
comp=E,9.3nm,0.2s,SNR=7.9
EARI Arriondas 7.63 15 P **Pn 00 05 51.8 +0.5**
comp=E,1.2nm,0.1s,SNR=20
EARI S Sn 00 07 11.4 -5.3
comp=E,8.7nm,0.2s,SNR=7.7
EARI Arriondas 7.63 15 P **Pn 00 05 51.2 -0.1**
EARI S Sn 00 07 11.4 -5.3
EARI Arriondas 7.63 15 P **Pn 00 05 51.2 -0.1**
SNR=1.0
EARI S Sn 00 07 11.4 -5.3
comp=E,8.7nm,0.2s,SNR=7.7
ERTA Horta de San J 8.19 50 P **Pn 00 05 59.4 +0.3**
comp=E,0.6nm,0.1s,SNR=6.8
ERTA S Sn 00 07 25.0 -5.6
comp=E,6.5nm,0.3s,SNR=7.9
ERTA Horta de San J 8.19 50 P **Pn 00 06 00.7 +1.6**
ERTA S Sn 00 07 25.0 -5.6
ERTA Horta de San J 8.19 50 P **Pn 00 05 59.4 +0.3**
comp=E,0.6nm,0.1s,SNR=1.0
ERTA S Sn 00 07 25.0 -5.6
comp=E,6.5nm,0.3s,SNR=7.9
ESAC San Caprasio 8.19 43 P **Pn 00 05 59.8 +0.6**
comp=E,12nm,0.2s,SNR=7.5
ESAC S Sn 00 07 24.4 -6.3
comp=E,141nm,0.5s,SNR=7.9
ESAC San Caprasio 8.19 43 P **Pn 00 06 00.5 +1.3**
ESAC S **Sn 00 07 26.1 -4.6**
ESAC San Caprasio 8.19 43 P **Pn 00 06 00.4 +1.3**
ESAC S **Sn 00 07 26.1 -4.6**

EFAM	Famara	8.28	216	S		Sn	00 07 25.6	-7.2
	SNR=7.9							
EFAM	Famara	8.28	216	S		Sn	00 07 25.6	-7.2
	SNR=7.9							
EARA	Aranguren	8.40	34	P		Pn	00 06 01.9	0.0
	comp=E,3.0nm,0.1s,SNR=7.9							
EARA				S		Sn	00 07 30.2	-5.5
	comp=E,32nm,0.3s,SNR=7.9							
EARA	Aranguren	8.40	34	P		Pn	00 06 01.9	0.0
	comp=E,3.0nm,0.1s,SNR=1.0							
EARA				S		Sn	00 07 30.2	-5.5
	comp=E,32nm,0.3s,SNR=7.9							
IUNC	Unciti	8.42	34	P		Pn	00 06 04.0	+1.7
	comp=E,1.0nm,0.4s,SNR=7.9							
IUNC				S		Sn	00 07 29.5	-6.9
	comp=E,103nm,0.7s,SNR=7.9							
IUNC	Unciti	8.42	34	P		Pn	00 06 04.0	+1.7
	comp=E,1.0nm,0.4s,SNR=1.0							
IUNC				S		Sn	00 07 29.5	-6.9
	comp=E,103nm,0.7s,SNR=7.9							
IZUN	Zunzarren	8.53	34	P		Pn	00 06 05.4	+1.7
	comp=E,2.2nm,0.2s,SNR=7.9							
IZUN				S		Sn	00 07 32.5	-6.3
	comp=E,14nm,0.2s,SNR=7.9							
IZUN	Zunzarren	8.53	34	P		Pn	00 06 05.4	+1.7
	comp=E,2.2nm,0.2s,SNR=1.0							
IZUN				S		Sn	00 07 32.5	-6.3
	comp=E,14nm,0.2s,SNR=7.9							
IEPA	Eparoz	8.55	35	P		Pn	00 06 05.4	+1.4
	comp=E,1.7nm,0.1s,SNR=7.9							
IEPA				S		Sn	00 07 33.4	-6.0
	comp=E,28nm,0.3s,SNR=7.9							
IEPA	Eparoz	8.55	35	P		Pn	00 06 05.4	+1.4
	comp=E,1.7nm,0.1s,SNR=1.0							
IEPA				S		Sn	00 07 33.4	-6.0
	comp=E,28nm,0.3s,SNR=7.9							
IUSE	Utxeti	8.55	33	P		Pn	00 06 05.6	+1.5
	comp=E,3.4nm,0.2s,SNR=7.9							
IUSE				S		Sn	00 07 33.9	-5.6
	comp=E,8.8nm,0.2s,SNR=7.9							
IUSE	Utxeti	8.55	33	P		Pn	00 06 05.6	+1.5
	comp=E,3.4nm,0.2s,SNR=1.0							
IUSE				S		Sn	00 07 33.9	-5.6
	comp=E,8.8nm,0.2s,SNR=7.9							
IELO	Elcoad	8.61	35	P		Pn	00 06 06.3	+1.4
	comp=E,4.6nm,0.2s,SNR=7.9							
IELO				S		Sn	00 07 35.4	-5.6
	comp=E,24nm,0.4s,SNR=7.9							
IELO	Elcoad	8.61	35	P		Pn	00 06 06.3	+1.4
	comp=E,4.6nm,0.2s,SNR=1.0							
IELO				S		Sn	00 07 35.4	-5.6
	comp=E,24nm,0.4s,SNR=7.9							
ELIZ	Elizondo	8.73	33	P		Pn	00 06 07.9	+1.4
	comp=E,5.0nm,0.2s,SNR=35							
ELIZ				S		Sn	00 07 37.0	-6.9
	comp=E,8.5nm,0.2s,SNR=7.9							
ELIZ	Elizondo	8.73	33	P		Pn	00 06 07.9	+1.4
ELIZ				S		Sn	00 07 37.0	-6.9
ELIZ	Elizondo	8.73	33	P		Pn	00 06 07.9	+1.4
	comp=E,5.0nm,0.2s,SNR=1.0							
ELIZ				S		Sn	00 07 37.0	-6.9
	comp=E,8.5nm,0.2s,SNR=7.9							
EALK	Alkurruntz	8.79	33	P		Pn	00 06 09.0	+1.8
	comp=E,4.4nm,0.2s,SNR=36							
EALK				S		Sn	00 07 37.8	-7.3
	comp=E,98nm,0.4s,SNR=7.9							
EALK	Alkurruntz	8.79	33	P		Pn	00 06 09.0	+1.8
EALK				S		Sn	00 07 37.8	-7.3
EALK	Alkurruntz	8.79	33	P		Pn	00 06 09.0	+1.8
	comp=E,4.4nm,0.2s,SNR=1.0							
EALK				S		Sn	00 07 37.8	-7.3
	comp=E,98nm,0.4s,SNR=7.9							
SJPF	Ste Jean	8.83	34	*e*P		Pn	00 06 09.3	+1.5
SJPF				*e*Sn		Sn	00 07 32.9	-13
	comp=E,76nm,0.5s							
SJPF	Ste Jean	8.83	34	*e*P		Pn	00 06 09.3	+1.5
SJPF				*e*Sn		Sn	00 07 32.9	-13
SJPF	Ste Jean	8.83	34	P		Pn	00 06 09.3	+1.5
	SNR=1.0							
SJPF				S		Sn	00 07 32.9	-13
	comp=E,19nm,0.5s							
CFUE	Fuerteventura	8.88	216	P		Pn	00 06 08.8	+0.3
	comp=E,1.4nm,0.2s,SNR=7.9							
CFUE				S		Sn	00 07 40.9	-6.6
	comp=E,11nm,0.2s,SNR=7.9							
CFUE	Fuerteventura	8.88	216	P		Pn	00 06 08.8	+0.3
	comp=E,1.4nm,0.2s,SNR=7.9							
CFUE				S		Sn	00 07 40.9	-6.6
	comp=E,11nm,0.2s,SNR=7.9							
EPOB	Poblet	8.88	50	P		Pn	00 06 09.1	+0.5
	comp=E,1.3nm,0.2s,SNR=5.5							
EPOB				S		Sn	00 07 41.2	-6.4
	comp=E,1.3nm,0.2s,SNR=7.9							
EPOB	Poblet	8.88	50	P		Pn	00 06 08.0	-0.6
EPOB				S		Sn	00 07 41.2	-6.4
EPOB	Poblet	8.88	50	P		Pn	00 06 09.1	+0.5
	comp=E,1.3nm,0.2s,SNR=1.0							
EPOB				S		Sn	00 07 41.2	-6.4
	comp=E,1.3nm,0.2s,SNR=7.9							
LARF	Larrau	8.88	35	P		Pn	00 06 09.7	+1.2
LARF	Larrau	8.88	35	P		Pn	00 06 09.7	+1.2
OSSF	Osses	8.93	33	P		Pn	00 06 10.4	+1.3
OSSF				S		Sn	00 07 26.1	-22
OSSF	Osses	8.93	33	P		Pn	00 06 10.4	+1.3
ETSF	Etsaut	8.98	37	*e*P		Pn	00 06 11.1	+1.2
ETSF				*e*Sn		Sn	00 07 36.2	-14
	comp=E,33nm,0.4s							
ETSF	Etsaut	8.98	37	*e*P		Pn	00 06 11.1	+1.2
ETSF				*e*Sn		Sn	00 07 36.2	-14
ETSF	Etsaut	8.98	37	P		Pn	00 06 11.1	+1.2
	SNR=1.0							
ETSF				S		Sn	00 07 36.2	-14
	comp=E,8.2nm,0.4s							
ORDF	Ordiarp	9.04	35	P		Pn	00 06 12.3	+1.6
ORDF	Ordiarp	9.04	35	P		Pn	00 06 12.3	+1.6
ATE	Arette	9.05	36	P		Pn	00 06 12.1	+1.2
ATE	Arette	9.05	36	P		Pn	00 06 12.1	+1.2
EBIE	Bielsa	9.19	41	P		Pn	00 06 14.1	+1.2
	comp=E,3.4nm,0.1s,SNR=98							
EBIE				S		Sn	00 07 47.9	-7.4
	comp=E,18nm,0.5s,SNR=7.9							
EBIE	Bielsa	9.19	41	P		Pn	00 06 14.1	+1.2
EBIE				S		Sn	00 07 47.9	-7.4
EBIE	Bielsa	9.19	41	P		Pn	00 06 14.1	+1.2
	comp=E,3.4nm,0.1s,SNR=98							
EBIE				S		Sn	00 07 47.9	-7.4
	comp=E,18nm,0.5s,SNR=7.9							
REYF	Montagne du Re	9.19	37	P		Pn	00 06 14.0	+1.2
REYF	Montagne du Re	9.19	37	P		Pn	00 06 14.0	+1.2
VIEF	Viey	9.26	39	P		Pn	00 06 14.6	+0.8
VIEF	Viey	9.26	39	P		Pn	00 06 14.6	+0.8
ETOS	Mallorca	9.32	63	P		Pn	00 06 14.9	+0.3
	comp=E,0.7nm,0.2s,SNR=4.0							
ETOS				S		Sn	00 07 51.9	-6.6
	comp=E,2.2nm,0.2s,SNR=7.9							
ETOS	Mallorca	9.32	63	P		Pn	00 06 14.9	+0.3
ETOS				S		Sn	00 07 51.9	-6.6
ETOS	Mallorca	9.32	63	P		Pn	00 06 14.9	+0.3
	comp=E,0.7nm,0.2s,SNR=1.0							
ETOS				S		Sn	00 07 51.8	-6.6
RESF	Ens	9.37	41	P		Pn	00 06 16.5	+1.1
RESF				S		Sn	00 07 37.3	-23
RESF	Ens	9.37	41	P		Pn	00 06 16.5	+1.1
LABF	Labassere	9.41	39	P		Pn	00 06 16.9	+1.2
LABF				S		Sn	00 07 39.3	-21
LABF	Labassere	9.41	39	P		Pn	00 06 16.9	+1.2
EMIR	Miracle	9.48	48	P		Pn	00 06 16.9	+0.2
	comp=E,2.2nm,0.2s,SNR=9.9							
EMIR				S		Sn	00 07 55.4	-6.8
	comp=E,2.6nm,0.3s,SNR=7.9							
EMIR	Miracle	9.48	48	P		Pn	00 06 16.9	+0.2
EMIR				S		Sn	00 07 55.5	-6.8
EMIR	Miracle	9.48	48	P		Pn	00 06 16.9	+0.2
	comp=E,2.2nm,0.2s,SNR=1.0							
EMIR				S		Sn	00 07 55.5	-6.8
CSOR	Sort	9.53	45	P		Pn	00 06 18.1	+0.7
	comp=E,1.3nm,0.1s,SNR=17							
CSOR				S		Sn	00 07 56.1	-7.4
	comp=E,5.1nm,0.2s,SNR=7.9							
CSOR	Sort	9.53	45	P		Pn	00 06 19.2	+1.8
CSOR				S		Sn	00 07 56.1	-7.4
CSOR	Sort	9.53	45	P		Pn	00 06 19.2	+1.8
CSOR				S		Sn	00 07 56.1	-7.4
	comp=E,5.1nm,0.2s,SNR=7.9							
EPF	Esparros	9.53	40	*e*P		Pn	00 06 19.3	+1.9
EPF				*e*Sn		Sn	00 07 48.6	-15
	comp=E,49nm,0.4s							
EPF	Esparros	9.53	40	*e*P		Pn	00 06 19.3	+1.9
EPF				*e*Sn		Sn	00 07 48.6	-15
EPF	Esparros	9.53	40	P		Pn	00 06 19.3	+1.9
	SNR=1.0							
EPF				S		Sn	00 07 48.6	-15
	comp=E,12nm,0.4s							
MELF	Melles	9.64	42	P		Pn	00 06 20.4	+1.4
MELF	Melles	9.64	42	P		Pn	00 06 20.4	+1.4
CFON	Fontmartina	9.96	51	P		Pn	00 06 23.5	+0.2
	comp=E,1.5nm,0.3s,SNR=6.4							
CFON				S		Sn	00 08 06.0	-8.0
	comp=E,2.7nm,0.2s,SNR=7.9							
CFON	Fontmartina	9.96	51	P		Pn	00 06 23.8	+0.5
CFON				S		Sn	00 08 07.6	-6.4
CFON	Fontmartina	9.96	51	P		Pn	00 06 23.5	+0.2
	comp=E,1.5nm,0.3s,SNR=1.0							
CFON				S		Sn	00 08 07.6	-6.4
CLLI	Llivia	10.08	47	P		Pn	00 06 25.5	+0.5
	comp=E,0.5nm,0.1s,SNR=15							
CLLI				S		Sn	00 08 09.3	-7.8
	comp=E,3.3nm,0.2s,SNR=7.9							
CLLI	Llivia	10.08	47	P		Pn	00 06 26.2	+1.2
CLLI				S		Sn	00 08 09.3	-7.8
CLLI	Llivia	10.08	47	P		Pn	00 06 25.5	+0.5
	comp=E,0.5nm,0.1s,SNR=1.0							
CLLI				S		Sn	00 08 09.3	-7.8
	comp=E,3.3nm,0.2s,SNR=7.9							
EJON	La Jonquera	10.61	49	P		Pn	00 06 33.3	+1.1
	comp=E,0.5nm,0.2s,SNR=7.9							
EJON				S		Sn	00 08 22.4	-7.6
	comp=E,1.3nm,0.3s,SNR=7.9							
EJON	La Jonquera	10.61	49	P		Pn	00 06 33.3	+1.1
EJON				S		Sn	00 08 22.4	-7.6
EJON	La Jonquera	10.61	49	P		Pn	00 06 33.3	+1.1
	comp=E,0.5nm,0.2s,SNR=1.0							
EJON				S		Sn	00 08 22.4	-7.6
	comp=E,1.3nm,0.3s,SNR=7.9							
MTLF	Montolieu	10.75	44	*e*P		Pn	00 06 35.2	+1.0
MTLF				*e*Sn		Sn	00 08 18.2	-15
	comp=E,4.1nm,0.4s,SNR=1.0							
MTLF	Montolieu	10.75	44	*e*P		Pn	00 06 35.2	+1.0
MTLF				*e*Sn		Sn	00 08 18.2	-15
MTLF	Montolieu	10.75	44	P		Pn	00 06 35.2	+1.0
	SNR=1.0							
MTLF				S		Sn	00 08 18.2	-15
	comp=E,1.0nm,0.4s							
LFF	La Frestale	11.14	34	*e*Pn		Pn	00 06 39.4	0.0
	SNR=1.0							
LFF				*e*Sn		Sn	00 08 30.7	-12
	comp=E,9.6nm,0.3s,SNR=1.0							
LFF	La Frestale	11.14	34	*e*Pn		Pn	00 06 39.4	0.0
LFF				*e*Sn		Sn	00 08 30.7	-12
LFF	La Frestale	11.14	34	P		Pn	00 06 39.4	0.0
	SNR=1.0							
LFF				S		Sn	00 08 30.7	-12
	comp=E,2.4nm,0.3s							
CAF	Calviac	11.76	37	*e*Pn		Pn	00 06 47.4	-0.5
	SNR=1.0							
CAF				*e*Sn		Sn	00 08 45.5	-13
	comp=E,8.0nm,0.4s,SNR=1.0							
CAF	Calviac	11.76	37	*e*Pn		Pn	00 06 47.4	-0.5
CAF				*e*Sn		Sn	00 08 45.5	-13
CAF	Calviac	11.76	37	P		Pn	00 06 47.4	-0.5
	SNR=1.0							
CAF				S		Sn	00 08 45.5	-13
	comp=E,2.0nm,0.4s							
RJF	Les Rejaudoux	11.77	35	*e*Pn		Pn	00 06 47.5	-0.6
	SNR=1.0							
RJF				*e*Sn		Sn	00 08 43.6	-15
	comp=E,21nm,0.7s							
RJF	Les Rejaudoux	11.77	35	*e*Pn		Pn	00 06 47.5	-0.6
RJF				*e*Sn		Sn	00 08 43.6	-15
RJF	Les Rejaudoux	11.77	35	P		Pn	00 06 47.5	-0.6
	SNR=1.0							
RJF				S		Sn	00 08 43.6	-15
	comp=E,5.3nm,0.7s							
MFF	Saint Martin d	12.13	26	*e*Pn		Pn	00 06 53.0	0.0
	SNR=1.0							
MFF				*e*Sn		Sn	00 08 51.0	-16
	comp=E,18nm,0.6s							
MFF	Saint Martin d	12.13	26	*e*Pn		Pn	00 06 53.0	0.0
MFF				*e*Sn		Sn	00 08 51.0	-16
MFF	Saint Martin d	12.13	26	P		Pn	00 06 53.0	0.0
	SNR=1.0							
MFF				S		Sn	00 08 51.0	-16
	comp=E,4.4nm,0.6s							
LASF	Ste Croix	12.14	45	*e*P		Pn	00 06 53.4	+0.3
LASF				*e*Sn		Sn	00 08 52.4	-15
	comp=E,3.5nm,0.4s							
LASF	Ste Croix	12.14	45	*e*P		Pn	00 06 53.4	+0.3
LASF				*e*Sn		Sn	00 08 52.4	-15
LASF	Ste Croix	12.14	45	P		Pn	00 06 53.4	+0.3
	SNR=1.0							
LASF				S		Sn	00 08 52.4	-15
	comp=E,0.9nm,0.4s							
QUIF	Quistinic	12.46	15	*e*Pn		Pn	00 06 56.0	-1.4
	SNR=1.0							
QUIF				*e*Sn		Sn	00 09 03.2	-12
	comp=E,9.8nm,0.4s,SNR=1.0							
QUIF	Quistinic	12.46	15	*e*Pn		Pn	00 06 56.0	-1.4
QUIF				*e*Sn		Sn	00 09 03.2	-12
QUIF	Quistinic	12.46	15	P		Pn	00 06 56.0	-1.4
QUIF				S		Sn	00 09 03.2	-12
	comp=E,2.5nm,0.4s							
TCF	Toulx Ste Croi	12.84	33	*e*Pn		Pn	00 07 00.3	-2.3
TCF				*e*Sn		Sn	00 09 10.5	-14
	comp=E,6.3nm,0.6s,SNR=1.0							
TCF	Toulx Ste Croi	12.84	33	*e*Pn		Pn	00 07 00.3	-2.3
TCF				*e*Sn		Sn	00 09 10.5	-14
TCF	Toulx Ste Croi	12.84	33	P		Pn	00 07 00.3	-2.3
TCF				S		Sn	00 09 10.5	-14
	comp=E,1.6nm,0.6s							
ROSF	Rostrenen	12.84	14	*e*Pn		Pn	00 07 01.7	-0.9
	SNR=1.0							
ROSF				*e*Sn		Sn	00 09 14.1	-10
	comp=E,7.9nm,0.5s,SNR=1.0							
ROSF	Rostrenen	12.84	14	*e*Pn		Pn	00 07 01.7	-0.9
ROSF				*e*Sn		Sn	00 09 14.1	-10
ROSF	Rostrenen	12.84	14	P		Pn	00 07 01.7	-0.9
ROSF				S		Sn	00 09 14.1	-10
	comp=E,2.0nm,0.5s							
SGMF	Saint Gilles	12.91	16	*e*Pn		Pn	00 07 02.3	-1.3
	SNR=1.0							
SGMF				*e*Sn		Sn	00 09 13.5	-13
	comp=E,5.2nm,0.4s,SNR=1.0							
SGMF	Saint Gilles	12.91	16	*e*Pn		Pn	00 07 02.3	-1.3
SGMF				*e*Sn		Sn	00 09 13.5	-13
SGMF	Saint Gilles	12.91	16	P		Pn	00 07 02.3	-1.3
	SNR=1.0							
SGMF				S		Sn	00 09 13.5	-13
	comp=E,1.3nm,0.4s							
VIVF	Saint-Julien-l	13.08	43	*e*Sn		Sn	00 09 13.9	-17
	comp=E,3.3nm,0.7s							
VIVF	Saint-Julien-l	13.08	43	*e*Sn		Sn	00 09 13.9	-17
VIVF	Saint-Julien-l	13.08	43	S		Sn	00 09 13.9	-17
	comp=E,0.8nm,0.7s							
BGF	Bois d'Agland	13.33	34	*e*Pn		Pn	00 07 06.0	-3.3
	SNR=1.0							
BGF				*e*Sn		Sn	00 09 20.4	-16
	comp=E,16nm,0.4s							
BGF	Bois d'Agland	13.33	34	*e*Pn		Pn	00 07 06.0	-3.3
BGF				*e*Sn		Sn	00 09 20.4	-16
BGF	Bois d'Agland	13.33	34	P		Pn	00 07 06.0	-3.3
BGF				S		Sn	00 09 20.4	-16
	comp=E,4.0nm,0.4s							
GRR	Gorron	13.47	21	*e*Pn		Pn	00 07 09.4	-1.9
	SNR=1.0							
GRR				*e*Sn		Sn	00 09 24.3	-16
	comp=E,7.6nm,0.4s							
GRR	Gorron	13.47	21	*e*Pn		Pn	00 07 09.4	-1.9
GRR				*e*Sn		Sn	00 09 24.3	-16
GRR	Gorron	13.47	21	P		Pn	00 07 09.4	-1.9
GRR				S		Sn	00 09 24.3	-16
	comp=E,1.9nm,0.4s							
AVF	Avril sur Loir	13.73	35	*e*Pn		Pn	00 07 12.5	-2.3
	SNR=1.0							
AVF	Avril sur Loir	13.73	35	*e*Pn		Pn	00 07 12.5	-2.3
AVF	Avril sur Loir	13.73	35	P		Pn	00 07 12.5	-2.3
LDF	La Druitiere	13.88	22	*e*Pn		Pn	00 07 15.8	-1.0
	SNR=1.0							
LDF	La Druitiere	13.88	22	*e*Pn		Pn	00 07 15.8	-1.0
LDF	La Druitiere	13.88	22	Pn		Pn	00 07 15.8	-1.0
	SNR=1.0							
FLN	La Foliniere	13.92	21	*e*Pn		Pn	00 07 16.5	-0.9
	baz=203,SNR=1.0							
FLN				*e*Sn		Sn	00 09 35.4	-15
	comp=E,4.2nm,0.4s							
FLN	La Foliniere	13.92	21	*e*Pn		Pn	00 07 16.5	-0.9
FLN				*e*Sn		Sn	00 09 35.4	-15
FLN	La Foliniere	13.92	21	Pn		Pn	00 07 16.5	-0.9
	SNR=1.0							
FLN				S		Sn	00 09 35.4	-15
	comp=E,1.1nm,0.4s							
LOR	Lormes	14.32	34	*e*P		Pn	00 07 23.3	+0.4
LOR	Lormes	14.32	34	*e*P		Pn	00 07 23.3	+0.4
LOR	Lormes	14.32	34	P		Pn	00 07 23.3	+0.4
LPL	La Plagne	14.64	45	*e*P		Pn	00 07 29.0	+1.5
LPL	La Plagne	14.64	45	*e*P		Pn	00 07 29.0	+1.5
LPL	La Plagne	14.64	45	*e*P		Pn	00 07 29.0	+1.5
EKA	Eskdalemuir Ar	19.65	8	P		P	00 08 29.0	+0.6
	baz=189,slow=13,SNR=3.6							
GERES	GERESS Array B	20.44	44	P		P	00 08 37.5	+0.3
	comp=E,0.4nm,0.5s,baz=231,slow=9.7,SNR=6.1							
TORD	Torodi Ar. Bea	24.33	157	P		P	00 09 18.6	+1.2
	comp=E,4.4nm,0.5s,baz=341,slow=8.8,SNR=98							
TORD				pP		pP	00 09 33.3	+7.2
	comp=E,1.4nm,0.7s,baz=332,slow=9.0,SNR=5.0							
ARCES	ARCESS Array B	38.24	18	P		P	00 11 20.0	+0.8
	comp=E,3.1nm,1.1s,baz=228,slow=9.4,SNR=3.6							
KURBB	Kurchatov Arra	61.16	47	P		P	00 14 14.1	+0.4
	comp=E,0.9nm,0.6s,baz=297,slow=7.9,SNR=8.4							
KURBB				pP		pP	00 14 29.9	+7.0
	comp=E,0.6nm,0.7s,baz=292,slow=7.8,SNR=3.8							
MKAR	Makanchi Array	65.01	49	P		P	00 14 39.5	0.0
	comp=E,0.7nm,0.8s,baz=303,slow=6.7,SNR=3.9							
MKAR				pP		pP	00 14 56.6	+7.8
	comp=E,0.4nm,0.7s,baz=306,slow=5.2,SNR=2.1							
TXAR	Lajitas Array	77.61	297	P		P	00 15 57.8	+1.8
	comp=E,0.3nm,0.6s,baz=88,slow=5.9,SNR=5.2							
ASAR	Alice Springs	144.93	80	PKP		PKPab	00 23 37.0	+0.9
	comp=E,0.5nm,0.5s,baz=308,slow=3.4,SNR=5.0							

IDC ***08*** *00:07:17.8±1.3, 42°.66N×43°.37E, h0km, mb3.3/4, mb1 3.4/6, mb1mx3.2/26, mbtmp3.4/6, ML3.3/2, MS4.3/1, Ms1 4.3/1, ms1mx3.2/30, Error ellipse: s-maj=17.3km s-min=12.2km az=60.0*

CSEM ***08*** *00:07:17.4±0.1, 42°.56N×43°.40E, h5km, mb4.1, Error ellipse: s-maj=4.7km s-min=2.5km az=129.0*

TIF ***08*** *00:07:17.2, 42°.56N×43°.44E, h11km±2km*

ISCJB ***08*** *00:07:17.2±0.3, 42°.60N±0°.02×43°.35E±0°.02, h8km±3km, mb3.4/6, MS4.2/1, Error ellipse: s-maj=3.1km s-min=2.7km az=141.7*

MOS ***08*** *00:07:17.8±1.1, 42°.58N×43°.42E, h10km, mb4.1/2, Error ellipse: s-maj=9.4km s-min=5.0km az=74.7*

DDA ***08*** *00:07:17.7, 42°.76N×42°.85E, h17km, MD3.3*

ISC 08 00:07:17.9±0.8, 42°.56N±0°.01×43°.40E±0°.02, h6km±6km, n120, σ1°.12/174, mb3.4/6, 6C-13D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	Oni	0.05	52	P	Pg	00 07 19.5	+0.2
ONI				S	Sg	00 07 21.1	+0.7
DIGR	Digorskoe uzhe	0.36	21	⇓*i*PG	Pg	00 07 24.4	-0.6
DIGR				*i* S	Sg	00 07 29.7	-0.2
DIGR	Digorskoe uzhe	0.36	21	*i* Pg	Pg	00 07 24.4	-0.6
DIGR				*i* Sg	Sg	00 07 29.7	-0.2
ZEI	Tsey	0.43	58	⇓*i*PG	Pg	00 07 25.5	-0.8
ZEI				*i* S	Sg	00 07 31.2	-0.9
ZEI	Tsey	0.43	58	*i* Pg	Pg	00 07 25.5	-0.8
ZEI				*i* Sg	Sg	00 07 31.2	-0.9
LACR	Lac	0.71	68	⇓*i*PG	Pg	00 07 30.4	-1.2
LACR				*i* S	Sg	00 07 39.7	-1.2
LACR	Lac	0.71	68	*i* Pg	Pg	00 07 30.4	-1.2
LACR				*i* Sg	Sg	00 07 39.7	-1.2
KORR	Kora	0.72	43	⇑*i*PG	Pg	00 07 31.3	-0.4
KORR				*e*S	Sg	00 07 40.9	-0.2
KORR	Kora	0.72	43	*i* Pg	Pg	00 07 31.3	-0.4
KORR				*e*Sg	Sg	00 07 40.9	-0.2
LSNR	Lesken	0.78	23	⇓*i*PG	Pg	00 07 32.6	-0.3
LSNR				*e*S	Sg	00 07 43.2	+0.1
LSNR	Lesken	0.78	23	*i* Pg	Pg	00 07 32.6	-0.3
LSNR				*e*Sg	Sg	00 07 43.2	+0.1
STDR	Stavd-Durt	0.94	31	⇓*i*PG	Pb	00 07 36.4	-0.3
STDR				*e*S	Sb	00 07 49.3	-0.2
STDR	Stavd-Durt	0.94	31	*i* Pg	Pb	00 07 36.4	-0.3
STDR				*e*Sg	Sb	00 07 49.3	-0.2
NCK	Nalchik	0.95	9	⇓*i*PG	Pb	00 07 36.1	-0.6
NCK				*i* S	Sb	00 07 50.1	+0.5
NCK	Nalchik	0.95	9	*i* Pg	Pb	00 07 36.1	-0.6
NCK				*i* Sg	Sb	00 07 50.1	+0.5
VLKR	Vladikavkaz	1.06	62	*e*PG	Pg	00 07 37.5	-0.7
VLKR				*e*S	Sg	00 07 51.5	-0.4
VLKR	Vladikavkaz	1.06	62	*e*Pg	Pg	00 07 37.5	-0.7
VLKR				*e*Sg	Sg	00 07 51.5	-0.4
DUS	Dusheti	1.07	116	P	Pg	00 07 38.5	+0.1
DUS			

DDEM				*e*S	Sb	00 08 23.0	+0.9
DDEM	**Demirkent**	**2.07**	**217**	*e*P	Pn	00 07 54.1	+0.7
DDEM				*e*S	Sb	00 08 23.0	+0.9
DIGO	**Kars**	**2.14**	**181**	*e*P	Pn	00 07 55.3	+0.8
DIGO				*e*S	Sb	00 08 24.8	+0.6
DIGO	**Kars**	**2.14**	**181**	*e*P	Pn	00 07 55.3	+0.8
DIGO				*e*S	Sb	00 08 24.8	+0.6
PZAR	**Pazar-Rize**	**2.32**	**234**	*e*PN	Pn	00 07 55.4	-1.3
PZAR	**Pazar-Rize**	**2.32**	**234**	*e*Pn	Pn	00 07 55.4	-1.3
GNI	**Garni**	**2.61**	**157**	*e*PN	Pb	00 08 04.2	-0.9
GNI	**Garni**	**2.61**	**157**	*e*Pn	Pb	00 08 04.3	-0.9
HOMI	**Horasan**	**2.75**	**205**	*e*P	Pb	00 08 07.7	+0.1
SOC	**Sochi**	**2.89**	**292**	*e*PN	Pg	00 08 12.9	-0.3
SOC				*e*		00 08 46.9	
SOC				pmax	pmax		
	comp=Z,21nm,0.6s						
SOC				smax	smax		
	comp=N,37nm,0.4s						
SOC				smax	smax		
	comp=E,54nm,0.5s						
SOC	**Sochi**	**2.89**	**292**	*e*Sb	Sb	00 08 46.9	+1.6
	comp=E,37nm,0.4s						
AGRB	**Hanur-Agry**	**3.00**	**186**	*e*PN	Pn	00 08 07.5	+1.4
AGRB	**Hanur-Agry**	**3.00**	**186**	*e*Pn	Pn	00 08 07.5	+1.4
KTUT	**Trabzon**	**3.14**	**241**	*e*PN	Pn	00 08 06.8	-1.1
KTUT	**Trabzon**	**3.14**	**241**	*e*Pn	Pn	00 08 06.8	-1.1
MACK	**Trabzon**	**3.16**	**240**	*e*P	Pn	00 08 06.8	-1.4
MACK				*e*S	Sn	00 08 43.1	-3.2
MACK	**Trabzon**	**3.16**	**240**	*e*P	Pn	00 08 06.8	-1.4
MACK				*e*S	Sn	00 08 43.1	-3.2
BAYT	**Ayd¨–ntepe-Bay**	**3.27**	**230**	*e*PN	Pn	00 08 09.0	-0.9
BAYT	**Ayd¨–ntepe-Bay**	**3.27**	**230**	*e*Pn	Pn	00 08 09.0	-0.9
CLDR	**Caldiran**	**3.44**	**173**	*e*PN	Pn	00 08 14.8	+2.6
CLDR	**Caldiran**	**3.44**	**173**	*e*Pn	Pn	00 08 14.8	+2.6
GUMT	**Gumushane**	**3.62**	**236**	*e*PN	Pn	00 08 13.4	-1.2
GUMT	**Gumushane**	**3.62**	**236**	*e*Pn	Pn	00 08 13.4	-1.2
VRTB	**Varto-Mus**	**3.70**	**204**	*e*PN	Pn	00 08 16.9	+1.2
VRTB	**Varto-Mus**	**3.70**	**204**	*e*Pn	Pn	00 08 17.0	+1.2
ESPY	**Espiye-Giresun**	**3.86**	**246**	*e*PN	Pn	00 08 16.3	-1.6
ESPY	**Espiye-Giresun**	**3.86**	**246**	*e*Pn	Pn	00 08 16.3	-1.6
ERZN	**Erzincan**	**4.07**	**224**	*e*PN	Pn	00 08 20.8	0.0
BNGB	**Bing¶l**	**4.12**	**211**	*e*PN	Pn	00 08 22.2	+0.7
EZC	**Erzincan**	**4.15**	**229**	*e*Pn	Pn	00 08 20.8	-1.1
BINT	**Bingol**	**4.29**	**212**	*e*Pn	Pn	00 08 22.2	-1.7
PTK	**Pertek**	**4.76**	**221**	*e*PN	Pn	00 08 30.8	+0.4
PTK	**Pertek**	**4.76**	**221**	*e*Pn	Pn	00 08 30.8	+0.4
ILIC	**ilic-Erzincan**	**4.80**	**231**	*e*PN	Pn	00 08 30.7	-0.1
ANN	**Anapa**	**4.87**	**299**	*e*PN	Pn	00 08 32.8	+1.1
ANN				pmax	pmax		
	comp=Z,46nm,1.4s						
ANN	**Anapa**	**4.87**	**299**	*e*Pn	Pn	00 08 32.8	+1.1
	comp=Z,46nm,1.4s						
RSDY	**Resadiye-TOKAT**	**5.05**	**247**	*e*PN	Pn	00 08 33.4	-0.8
RSDY	**Resadiye-TOKAT**	**5.05**	**247**	*e*Pn	Pn	00 08 33.4	-0.8
SVSK	**Karacayir**	**5.50**	**243**	*e*PN	Pn	00 08 40.0	-0.4
SVSK	**Karacayir**	**5.50**	**243**	*e*Pn	Pn	00 08 40.0	-0.4
BRTR	**Keskin Array B**	**7.89**	**252**	Pn	Pn	00 09 14.3	+1.0
	comp=Z,0.2nm,0.3s,baz=51,slow=12,SNR=11						
BRTR				Sn	Sn	00 10 43.1	+0.1
	comp=Z,0.1nm,0.3s,baz=60,slow=35,SNR=2.8						
BRTR	**Keskin Array B**	**7.89**	**252**	P	Pn	00 09 14.3	+1.0
BRTR				S	Sn	00 10 43.1	+0.1
VSR	**Storozhevoye**	**9.13**	**343**	*e*P	Pn	00 09 30.7	+0.6
VSR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
VSR	**Storozhevoye**	**9.13**	**343**	*e*P	Pn	00 09 30.7	+0.6
	comp=Z,3.0nm,0.7s						
AKTK	**Aktyubinsk**	**12.77**	**47**	P	Pn	00 10 17.7	-2.2
AKTO	**Aktyubinsk**	**12.77**	**47**	⇑Pn	Pn	00 10 17.1	-2.8
	comp=Z,4.3nm,1.3s						
AKTO				⇑Sn	Sn	00 12 33.8	-8.5
	comp=Z,3.2nm,1.4s						
AKTO	**Aktyubinsk**	**12.77**	**47**	P	Pn	00 10 17.7	-2.2
AKTO	**Aktyubinsk**	**12.77**	**47**	Pn	Pn	00 10 17.7	-2.2
	comp=Z,0.3nm,0.3s,baz=220,slow=12,SNR=9.6						
AKTO	**Aktyubinsk**	**12.77**	**47**	Pn	Pn	00 10 17.1	-2.8
	comp=Z,4.3nm,1.3s						
AB31	**Akbulak array**	**13.31**	**54**	⇓Pn	Pn	00 10 24.5	-2.8
	comp=Z,1.8nm,0.7s,baz=242,slow=11,SNR=17						
AB31				⇓Sn	Sn	00 12 48.0	-7.5
	comp=Z,1.0nm,0.7s,baz=238,slow=20,SNR=4.1						
AB31	**Akbulak array**	**13.31**	**54**	Pn	Pn	00 10 24.5	-2.8
	comp=Z,1.8nm,0.7s,baz=242,SNR=17						
SVE	**Sverdlovsk**	**18.04**	**32**	*e*P	Pn	00 11 25.2	-3.8
BRVK	**Borovoye**	**20.76**	**50**	*e*P	P	00 11 59.4	+0.1
BRVK	**Borovoye**	**20.76**	**50**	*e*P	P	00 11 59.4	+0.1
BVAR	**Borovoye Array**	**20.81**	**50**	P	P	00 11 59.1	-0.8
BVAR	**Borovoye Array**	**20.81**	**50**	P	P	00 11 59.1	-0.8
	comp=Z,1.4nm,0.8s,baz=233,slow=6.3,SNR=7.5						
BVAR	**Borovoye Array**	**20.81**	**50**	P	P	00 11 59.1	-0.8
FINES	**FINESS Array B**	**21.58**	**337**	P	P	00 12 10.1	+2.1
	comp=Z,1.3nm,0.8s,baz=171,slow=11,SNR=4.1						
FINES	**FINESS Array B**	**21.58**	**337**	P	P	00 12 10.1	+2.1
KHC	**Kasperske Hory**	**21.70**	**298**	*e*P	P	00 12 12.3	+2.9
KHC				pmax	pmax		
	comp=Z,10.0nm,1.7s						
AAK	**Ala-Archa**	**22.83**	**79**	*e*P	P	00 12 23.1	+1.3
AAK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
AAK	**Ala-Archa**	**22.83**	**79**	*e*P	P	00 12 23.1	+1.3
	comp=Z,3.0nm,1.0s						
DAVOX	**Davos/Dischmat**	**24.10**	**292**	LR	LR	00 22 04.7	
	comp=Z,753nm,19.8s,baz=21,slow=37						
KURBB	**Kurchatov Arra**	**25.26**	**59**	P	P	00 12 44.6	0.0
	comp=Z,0.2nm,0.8s,baz=269,slow=11,SNR=4.4						
KURK	**Kurchatov**	**25.32**	**59**	P	P	00 12 44.6	-0.6
KURK	**Kurchatov**	**25.32**	**59**	P	P	00 12 44.6	-0.6
MKAR	**Makanchi Array**	**27.78**	**68**	P	P	00 13 08.2	+0.7
MKAR	**Makanchi Array**	**27.78**	**68**	P	P	00 13 08.2	+0.7
	comp=Z,0.4nm,0.8s,baz=270,slow=8.9,SNR=2.9						
MKAR	**Makanchi Array**	**27.78**	**68**	P	P	00 13 08.2	+0.7
TORD	**Torodi Ar. Bea**	**46.40**	**244**	P	P	00 15 46.6	+1.3
	comp=Z,0.3nm,0.7s,baz=36,slow=6.8,SNR=2.6						

ATH ***08*** *00:13:14.8, 39°.92N×24°.00E, h29km±1km, MD2.8/9*
ISCJB ***08*** *00:13:15.6±0.6, 39°.92N±0°.02×24°.01E±0°.03, h13km±4km, Error ellipse: s-maj=4.0km s-min=3.0km az=11.2*
THE ***08*** *00:13:15.6, 39°.94N×23°.99E, h5km±1km, ML2.5/7, Error ellipse: s-maj=1.7km s-min=0.6km az=210.0*
CSEM ***08*** *00:13:15.4±0.1, 39°.92N×24°.01E, h15km, ML2.5/7, Error ellipse: s-maj=2.9km s-min=2.3km az=103.0*
ISC 08 00:13:15.5±0.9, 39°.93N±0°.02×24°.00E±0°.02, h15km±7km, n51, σ0°39/91, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAIG	**Paliouri**	**0.24**	**269**	P	Pg	00 13 21.0	+0.1
PAIG				S	Sg	00 13 24.4	-0.2
PAIG	**Paliouri**	**0.24**	**269**	*e*PB	Pg	00 13 21.0	+0.1
PAIG	**Paliouri**	**0.24**	**269**	P	Pg	00 13 21.0	+0.1
PAIG				S	Sg	00 13 24.4	-0.2
OUR	**Ouranopolis**	**0.40**	**358**	P	Pb	00 13 24.2	-0.2
OUR				S	Sg	00 13 29.8	+0.5
OUR	**Ouranopolis**	**0.40**	**358**	P	Pb	00 13 24.2	-0.2
OUR				S	Sg	00 13 29.8	+0.5
PLG	**Polygyros**	**0.61**	**316**	P	Pg	00 13 26.9	-0.7
PLG				S	Sg	00 13 35.3	-0.5
PLG	**Polygyros**	**0.61**	**316**	*e*PN	Pg	00 13 27.0	-0.7
PLG				*e*SN	Sg	00 13 36.1	+0.3
PLG	**Polygyros**	**0.61**	**316**	P	Pg	00 13 26.9	-0.7
PLG				S	Sg	00 13 35.3	-0.5
PLG				*e*Sn	Sg	00 13 36.1	+0.3
AOS	**Alonnisos**	**0.77**	**187**	P	Pb	00 13 30.3	-0.2
AOS				S	Sb	00 13 41.2	+0.5
AOS	**Alonnisos**	**0.77**	**187**	P	Pb	00 13 30.3	-0.2
AOS				S	Sb	00 13 41.2	+0.5
XOR	**Xorichti**	**0.84**	**228**	P	Pg	00 13 31.7	-0.2
XOR				S	Sb	00 13 43.3	+0.4
XOR	**Xorichti**	**0.84**	**228**	P	Pg	00 13 31.7	-0.2
XOR				S	Sb	00 13 43.3	+0.4
NEO	**Neokhori**	**0.86**	**224**	P	Pg	00 13 32.3	0.0
NEO				S	Sg	00 13 44.1	+0.4
NEO	**Neokhori**	**0.86**	**224**	*e*PN	Pg	00 13 32.3	0.0
NEO				*e*SN	Sg	00 13 43.8	+0.1
NEO	**Neokhori**	**0.86**	**224**	P	Pg	00 13 32.3	0.0
NEO				*e*Sn	Sg	00 13 43.8	+0.1
NEO				S	Sg	00 13 44.1	+0.4
SKIA	**Skiathos**	**0.87**	**208**	P	Pg	00 13 32.3	-0.1
SKIA				S	Sg	00 13 44.1	+0.3
SKIA	**Skiathos**	**0.87**	**208**	P	Pg	00 13 32.3	-0.1
SKIA				S	Sg	00 13 44.1	+0.3
LIA	**Limnos Island**	**0.91**	**92**	P	Pn	00 13 33.4	-0.4
LIA				S	Sg	00 13 45.4	+0.2
LIA	**Limnos Island**	**0.91**	**92**	*e*PN	Pb	00 13 32.9	-0.1
LIA				*e*SN	Sg	00 13 45.3	+0.1
LIA	**Limnos Island**	**0.91**	**92**	*e*Pn	Pb	00 13 32.9	-0.1
LIA	**Limnos Island**	**0.91**	**92**	P	Pn	00 13 33.4	-0.4
LIA				S	Sg	00 13 45.4	+0.2
HORT	**Hortiatis**	**0.96**	**314**	P	Pb	00 13 33.1	-0.8
HORT				S	Sb	00 13 46.5	+0.1
HORT	**Hortiatis**	**0.96**	**314**	P	Pb	00 13 33.1	-0.8
HORT				S	Sb	00 13 46.5	+0.1
SOH	**Sokhos**	**1.02**	**331**	P	Pb	00 13 35.0	+0.1
SOH				S	Sg	00 13 48.7	+0.1
SOH	**Sokhos**	**1.02**	**331**	*e*PN	Pb	00 13 34.8	-0.1
SOH				*e*SN	Sb	00 13 48.3	+0.2
SOH	**Sokhos**	**1.02**	**331**	P	Pb	00 13 35.0	+0.1
SOH				*e*Sn	Sb	00 13 48.3	+0.2
THE	**Thessaloniki**	**1.06**	**312**	P	Pb	00 13 35.5	0.0
THE				S	Sn	00 13 50.1	-0.1
THE	**Thessaloniki**	**1.06**	**312**	P	Pb	00 13 35.5	0.0
THE				S	Sn	00 13 50.1	-0.1
KAVA	**Kavala**	**1.14**	**20**	P	Pn	00 13 36.2	-0.7
KAVA				S	Sg	00 13 52.6	+0.3
KAVA	**Kavala**	**1.14**	**20**	P	Pn	00 13 36.2	-0.7
KAVA				S	Sg	00 13 52.6	+0.3
LIT	**Litokhoron**	**1.17**	**279**	P	Pb	00 13 37.4	-0.1
LIT	**Litokhoron**	**1.17**	**279**	*e*PN	Pb	00 13 37.4	-0.1
LIT	**Litokhoron**	**1.17**	**279**	P	Pb	00 13 37.4	-0.1
SRS	**Serrai**	**1.23**	**345**	P	Pb	00 13 38.7	+0.3
SRS				S	Sg	00 13 55.1	-0.1
SRS	**Serrai**	**1.23**	**345**	P	Pb	00 13 38.7	+0.3
SRS				S	Sg	00 13 55.1	-0.1
SMTH	**Samothraki Isl**	**1.29**	**65**	*e*PN	Pn	00 13 38.4	-0.6
SMTH	**Samothraki Isl**	**1.29**	**65**	*e*Pn	Pn	00 13 38.4	-0.6
NVR	**Nevrokopi**	**1.42**	**356**	P	Pn	00 13 40.8	0.0
NVR				S	Sb	00 14 00.5	+0.8
NVR	**Nevrokopi**	**1.42**	**356**	*e*PN	Pn	00 13 41.1	+0.3
NVR				*e*SN	Sn	00 13 59.6	+0.3
NVR	**Nevrokopi**	**1.42**	**356**	P	Pn	00 13 40.8	0.0
NVR	**Nevrokopi**	**1.42**	**356**	*e*Pn	Pn	00 13 41.1	+0.3
NVR				*e*Sn	Sn	00 13 59.6	+0.3
NVR				S	Sb	00 14 00.5	+0.8
KNT	**Kendrikon**	**1.49**	**326**	P	Pn	00 13 42.1	+0.4
KNT				S	Sg	00 14 03.0	-0.5
KNT	**Kendrikon**	**1.49**	**326**	P	Pn	00 13 42.1	+0.4
KNT				S	Sg	00 14 03.0	-0.5
LKR	**Lokris**	**1.50**	**212**	*e*PN	Pn	00 13 41.3	-0.5
LKR	**Lokris**	**1.50**	**212**	*e*Pn	Pn	00 13 41.3	-0.5
THL	**Klokotos Trika**	**1.57**	**257**	*e*PN	Pb	00 13 43.5	-0.8
THL				*e*SN	Sn	00 14 02.9	0.0
THL	**Klokotos Trika**	**1.57**	**257**	*e*Pn	Pb	00 13 43.5	-0.8
THL				*e*Sn	Sn	00 14 02.9	0.0
AGG	**Agios Georgios**	**1.58**	**235**	*e*PN	Pn	00 13 43.0	0.0
AGG	**Agios Georgios**	**1.58**	**235**	*e*Pn	Pn	00 13 43.0	0.0
GRG	**Griva**	**1.59**	**311**	P	Pn	00 13 43.9	+0.7
GRG	**Griva**	**1.59**	**311**	P	Pn	00 13 43.9	+0.7

TIF ***08*** *00:15:46.8, 42°.55N×43°.47E, h10km±3km*
ISCJB ***08*** *00:15:47.1±0.4, 42°.58N±0°.02×43°.40E±0°.03, h6km±3km, Error ellipse: s-maj=3.5km s-min=3.3km az=2.0*
CSEM ***08*** *00:15:47.2±0.1, 42°.55N×43°.39E, h2km, mb4.2, Error ellipse: s-maj=3.3km s-min=2.4km az=115.0*
DDA ***08*** *00:15:48.1, 42°.49N×43°.21E, h12km, MD3.2*
MOS ***08*** *00:15:51.1±1.5, 42°.75N×43°.62E, h9km, mb4.2/1, Error ellipse: s-maj=10.2km s-min=6.2km az=74.3*
ISC 08 00:15:47.3±0.8, 42°.55N±0°.02×43°.41E±0°.02, h9km±5km, n67, σ0°77/117, 10C-7D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.05**	**38**	P	Pg	00 15 49.2	-0.1
ONI				S	Sg	00 15 50.6	+0.1
DIGR	**Digorskoye uzhe**	**0.37**	**20**	⇓*i*PG	Pg	00 15 54.2	-0.5
DIGR				*i* S	Sg	00 15 59.6	0.0
DIGR	**Digorskoye uzhe**	**0.37**	**20**	*i* Pg	Pg	00 15 54.2	-0.5
DIGR				*i* Sg	Sg	00 15 59.6	0.0
ZEI	**Tsey**	**0.43**	**57**	⇓*i*PG	Pg	00 15 55.3	-0.5
ZEI				*i* S	Sg	00 16 01.4	-0.1
ZEI	**Tsey**	**0.43**	**57**	*i* Pg	Pg	00 15 55.3	-0.5
ZEI				*i* Sg	Sg	00 16 01.4	-0.1
LACR	**Lac**	**0.71**	**67**	⇓*i*PG	Pg	00 16 00.2	-0.8
LACR				*i* S	Sg	00 16 09.9	-0.4
LACR	**Lac**	**0.71**	**67**	*i* Pg	Pg	00 16 00.2	-0.8
LACR				*i* Sg	Sg	00 16 09.9	-0.4
KORR	**Kora**	**0.72**	**42**	⇑*i*PG	Pg	00 16 01.1	-0.1
KORR				*e*S	Sg	00 16 11.0	+0.4
KORR	**Kora**	**0.72**	**42**	*i* Pg	Pg	00 16 01.1	-0.1
KORR				*e*Sg	Sg	00 16 11.0	+0.4
LSNR	**Lesken**	**0.79**	**23**	⇓*i*PG	Pg	00 16 02.5	0.0
LSNR				*e*S	Sg	00 16 13.0	+0.2
LSNR	**Lesken**	**0.79**	**23**	*i* Pg	Pg	00 16 02.5	0.0
LSNR				*e*Sg	Sg	00 16 13.0	+0.2
STDR	**Stavd-Durt**	**0.95**	**30**	⇑*i*PG	Pb	00 16 06.1	+0.2
STDR				*e*S	Sb	00 16 19.2	+0.6
STDR	**Stavd-Durt**	**0.95**	**30**	*i* Pg	Pb	00 16 06.1	+0.2
STDR				*e*Sg	Sb	00 16 19.2	+0.6
NCK	**Nalchik**	**0.95**	**8**	⇓*i*PG	Pb	00 16 06.0	0.0
NCK				*i* S	Sn	00 16 20.2	-0.5
NCK	**Nalchik**	**0.95**	**8**	*i* Pg	Pb	00 16 06.0	0.0
NCK				*i* Sg	Sn	00 16 20.2	-0.5
VLKR	**Vladikavkaz**	**1.06**	**62**	*e*PG	Pg	00 16 07.6	0.0
VLKR				*e*S	Sb	00 16 21.9	+0.2
VLKR	**Vladikavkaz**	**1.06**	**62**	*e*Pg	Pg	00 16 07.6	0.0
VLKR				*e*Sg	Sb	00 16 21.9	+0.2
DUS	**Dusheti**	**1.06**	**115**	P	Pb	00 16 08.1	+0.2
DUS				S	Sg	00 16 21.9	+0.4
AKH	**Akhalkalaki**	**1.14**	**177**	P	Pb	00 16 09.1	-0.2
AKH				S	Sb	00 16 25.1	+0.8
SNJR	**Sundja**	**1.15**	**63**	*e*PG	Pb	00 16 09.2	-0.2
SNJR				*e*S	Sb	00 16 24.7	+0.2
SNJR	**Sundja**	**1.15**	**63**	*e*Pg	Pb	00 16 09.2	-0.2
SNJR				*e*Sg	Sb	00 16 24.7	+0.2
BTKR	**Batakoyurt**	**1.17**	**45**	⇓*i*PG	Pn	00 16 11.2	+1.3
BTKR				*e*S	Sn	00 16 26.9	+0.9
BTKR	**Batakoyurt**	**1.17**	**45**	*i* Pg	Pn	00 16 11.2	+1.3
BTKR				*e*Sg	Sn	00 16 26.9	+0.9
KUBR	**Kubataba**	**1.25**	**360**	⇑*e*PG	Pg	00 16 11.6	+0.3
KUBR				*e*S	Sn	00 16 29.5	+1.5
KUBR	**Kubataba**	**1.25**	**360**	*e*Pg	Pg	00 16 11.6	+0.3
KUBR				*e*Sg	Sn	00 16 29.5	+1.5
TBLG	**Delisi**	**1.28**	**129**	P	Pn	00 16 11.0	-0.4
TBLG				S	Sb	00 16 28.5	+0.3
SHAR	**Shatzhatmas**	**1.31**	**336**	⇑*e*PG	Pn	00 16 12.1	+0.1
SHAR				*e*S	Sb	00 16 29.6	+0.4
SHAR	**Shatzhatmas**	**1.31**	**336**	*e*Pg	Pn	00 16 12.1	+0.1
SHAR				*e*Sg	Sb	00 16 29.6	+0.4
PRTR	**Priterechnaya**	**1.36**	**28**	⇑*i*PG	Pg	00 16 13.6	+0.2
PRTR				*e*S	Sg	00 16 31.8	+0.8
PRTR	**Priterechnaya**	**1.36**	**28**	*i* Pg	Pg	00 16 13.6	+0.2
PRTR				*e*Sg	Sg	00 16 31.8	+0.8
KZR	**Kazreti**	**1.39**	**147**	P	Pn	00 16 12.2	-0.7
KZR				S	Sb	00 16 30.6	-0.7
KIV	**Kislovodsk**	**1.50**	**340**	⇑*e*PG	Pb	00 16 15.4	0.0
KIV				*i* S	Sb	00 16 35.0	+0.4
KIV	**Kislovodsk**	**1.50**	**340**	*e*Pg	Pb	00 16 15.4	0.0
KIV				*i* Sg	Sb	00 16 35.0	+0.4
PYA	**Pyatigorsk**	**1.50**	**350**	*e*PG	Pb	00 16 15.4	0.0
PYA				*e*S	Sg	00 16 35.4	-0.3
PYA	**Pyatigorsk**	**1.50**	**350**	*e*Pg	Pb	00 16 15.4	0.0
PYA				*e*Sg	Sg	00 16 35.4	-0.3
TRKR	**Terskaya**	**1.52**	**39**	⇑*i*PG	Pg	00 16 16.2	-0.2
TRKR				*e*S	Sg	00 16 36.6	+0.5
TRKR	**Terskaya**	**1.52**	**39**	*i* Pg	Pg	00 16 16.2	-0.2
TRKR				*e*Sg	Sg	00 16 36.6	+0.5
ARTV	**Artvin**	**1.76**	**220**	*e*P	Pn	00 16 19.0	+0.8
ARTV				*e*S	Sn	00 16 41.5	+0.7
ARTV	**Artvin**	**1.76**	**220**	*e*P	Pn	00 16 19.0	+0.8
ARTV				*e*S	Sn	00 16 41.5	+0.7
DBOC	**Borcka**	**1.77**	**228**	*e*P	Pn	00 16 17.8	-0.4
DBOC				*e*S	Sn	00 16 41.5	+0.6
DBOC	**Borcka**	**1.77**	**228**	*e*P	Pn	00 16 17.8	-0.4
DBOC				*e*S	Sn	00 16 41.5	+0.6
DGRG	**David-gareji**	**1.83**	**126**	P	Pb	00 16 21.0	0.0
DGRG				S	Sg	00 16 47.2	+1.1
DAGI	**Agillar**	**1.85**	**218**	*e*P	Pn	00 16 20.5	+1.2
DAGI				*e*S	Sn	00 16 43.6	+0.7
GRO	**Groznyy**	**1.88**	**65**	⇓*i*PN	Pb	00 16 21.6	-0.2
GRO				*e*S	Sb	00 16 46.0	+0.6
GRO	**Groznyy**	**1.88**	**65**	*i* Pn	Pb	00 16 21.6	-0.2
GRO				*e*Sg	Sb	00 16 46.0	+0.6
DBAD	**Bademkaya**	**2.00**	**221**	*i* P	Pn	00 16 22.5	+1.2
DBAD	**Bademkaya**	**2.00**	**221**	*i* P	Pn	00 16 22.5	+1.2
DDEM	**Demirkent**	**2.07**	**217**	*e*P	Pb	00 16 24.2	-0.9
DDEM				*e*S	Sb	00 16 50.6	-0.4
DDEM	**Demirkent**	**2.07**	**217**	*e*P	Pb	00 16 24.2	-0.9
DDEM				*e*S	Sb	00 16 50.6	-0.4
DIGO	**Kars**	**2.13**	**181**	*e*P	Pn	00 16 24.7	+1.4
DIGO				*e*S	Sb	00 16 54.0	+1.0
DIGO	**Kars**	**2.13**	**181**	*e*S	Sb	00 16 54.0	+1.0
HOMI	**Horasan**	**2.75**	**205**	*e*P	Pb	00 16 38.5	+1.8
GANJ	**Ganja**	**2.90**	**130**	P	Pn	00 16 35.0	+1.4
	SNR=5.6						
GANJ				S	Sb	00 17 13.8	-0.9
SOC	**Sochi**	**2.90**	**292**	*e*PN	Pg	00 16 42.3	-0.5
SOC				*e*		00 17 16.8	
SOC				pmax	pmax		
	comp=Z,20nm,0.6s						
SOC				smax	smax		
	comp=N,102nm,0.9s						
SOC				smax	smax		
	comp=E,47nm,0.5s						
SEKA	**Sheki**	**3.13**	**114**	P	Pn	00 16 37.9	+1.0
	SNR=6.6						
MACK	**Trabzon**	**3.16**	**241**	*e*P	Pn	00 16 37.6	+0.3
MACK	**Trabzon**	**3.16**	**241**	*e*P	Pn	00 16 37.6	+0.3
BRDA	**Brd**	**3.64**	**128**	P	Pn	00 16 45.8	+2.0
IML	**Ismayilli**	**3.98**	**115**	P	Pn	00 16 50.1	+1.5
	SNR=4.1						
PQL	**Pirkuli**	**4.26**	**113**	P	Pn	00 16 54.9	+2.4
SIZA	**Siyzn**	**4.36**	**108**	P	Pn	00 16 54.5	+0.7
ATGJ	**Altiaghaj**	**4.47**	**110**	P	Pn	00 16 55.4	+0.1
GLBA	**Ciilabad**	**5.02**	**130**	P	Pn	00 17 01.9	-0.8
AKTO	**Aktyubinsk**	**12.77**	**47**	⇑Pn	Pn	00 18 48.5	-0.4
	comp=E,1.0nm,0.6s						
AKTO				⇑Sn	Sn	00 21 08.3	-2.8
	comp=E,3.1nm,1.4s						
AKTO	**Aktyubinsk**	**12.77**	**47**	Pn	Pn	00 18 48.5	-0.4
	comp=E,1.0nm,0.6s						
AB31	**Akbulak array**	**13.31**	**54**	Pn	Pn	00 18 55.0	-1.3
	comp=E,0.5nm,0.4s,baz=243,slow=13,SNR=14						
AB31				⇑Sn	Sn	00 21 12.5	-12
	comp=E,0.7nm,0.6s,baz=241,slow=24,SNR=3.8						
AB31	**Akbulak array**	**13.31**	**54**	Pn	Pn	00 18 55.0	-1.3
	comp=E,0.5nm,0.4s,baz=243,SNR=14						

MAN 08 00:16:46, 17°.70N×119°.73E, h10km, mb4.4, ML3.3, MS3.1, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIPP	**Brgy, Tapao**	**0.72**	**72**	⇑*i*P	Pg	00 16 60.0	-0.1
BOLP	**Bolinao**	**1.32**	**172**	*e*P	Pn	00 17 09.8	-0.7
BOLP				*e*S	Sn	00 17 28.3	0.0
APYP	**Conner**	**1.45**	**83**	*e*P	Pn	00 17 10.9	-1.4
CAUP	**Cauayan**	**2.13**	**110**	*e*P	Pn	00 17 23.2	+1.5
BALP	**Baler**	**2.63**	**138**	*e*P	Pn	00 17 29.7	+1.1

*DD

DBC	**Dubki**	**2.62**	**77**⇑	*i*PN	**Pg**	**00 19 30.4**	**+0.9**
DBC				*i* S	**Sb**	**00 20 00.1**	**+0.5**
AGRB	**Hanur-Agry**	**2.93**	**185**	*e*PN	**Pn**	**00 19 29.0**	**+2.1**
AGRB	**Hanur-Agry**	**2.93**	**185**	*e*Pn	**Pn**	**00 19 29.0**	**+2.1**
BAYT	**Ayd¨–ntepe-Bay**	**3.19**	**230**	*e*PN	**Pn**	**00 19 30.7**	**+0.1**
BAYT	**Ayd¨–ntepe-Bay**	**3.19**	**230**	*e*Pn	**Pn**	**00 19 30.7**	**+0.1**
ESPY	**Espiye-Giresun**	**3.80**	**247**	*e*PN	**Pn**	**00 19 39.3**	**+0.6**
ESPY	**Espiye-Giresun**	**3.80**	**247**	*e*Pn	**Pn**	**00 19 39.3**	**+0.6**
ANN	**Anapa**	**4.87**	**300**	*e*PN	**Pn**	**00 19 50.6**	**-2.7**
ANN				*e*S	**Sn**	**00 20 48.5**	**-1.7**
ANN				pmax	pmax		
	comp=Z,49nm,1.6s						
VSR	**Storozhevoye**	**9.18**	**343**	*e*P	**Pn**	**00 20 53.5**	**+1.0**
VSR				pmax	pmax		
	comp=Z,7.0nm,1.3s						
VSR	**Storozhevoye**	**9.18**	**343**	*e*P	**Pn**	**00 20 53.5**	**+1.0**
	comp=Z,7.0nm,1.3s						
VSU	**Vasula**	**19.07**	**333**	*e*P	**Pn**	**00 23 04.9**	**+1.6**
VSU				pmax	pmax		
	comp=Z,25nm,1.0s						
VSU	**Vasula**	**19.07**	**333**	*e*P	**Pn**	**00 23 04.9**	**+1.6**
	comp=Z,25nm,1.0s						
AAK	**Ala-Archa**	**22.88**	**79**	*i* P	**P**	**00 23 44.9**	**+0.7**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.2s						
AAK	**Ala-Archa**	**22.88**	**79**	*i* P	**P**	**00 23 44.9**	**+0.7**
	comp=Z,3.0nm,1.2s						

*IDC **08** 00:19:44.4±1.9, 18.°07N×61.°47W, h0km, mb3.7/7, mb1 4.0/7, mb1mx3.7/26, mbtmp3.7/7, Error ellipse: s-maj=65.2km s-min=25.0km az=12.0*
*ISCJB **08** 00:19:47.1±0.6, 18.°13N±0.°04×61.°54W±0.°07, h26km, mb3.6/7, Error ellipse: s-maj=9.3km s-min=5.3km az=174.5*
*TRN **08** 00:19:47.1, 18.°05N×61.°67W, h22km, MD3.9*
ISC 08 00:19:48.0±0.8, 17.°99N±0.°06×61.°49W±0.°08, h26km, n32, σ1§40/34, mb3.7/7, 1C-8D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANWB	**Willy Bob**	**0.43**	**221**⇓	*e*P	**Pn**	**00 19 57.5**	**-1.0**
BPA	**Boggy Peak**	**1.00**	**201**	*e*P	**Pb**	**00 20 06.6**	**-0.2**
BPA				*e*S	**Sn**	**00 20 22.5**	**+2.8**
SKI	**Saint Kitts**	**1.36**	**241**⇓	*e*P	**Pn**	**00 20 11.8**	**+0.5**
SKI	**Saint Kitts**	**1.36**	**241**	*e*P	**Pn**	**00 20 11.9**	**+0.5**
SKI				*e*S	**Sb**	**00 20 28.8**	**-1.1**
MBWH		**1.41**	**208**⇓	*i*P	**Pb**	**00 20 12.5**	**-1.2**
MBRY		**1.43**	**206**⇓	*i*P	**Pb**	**00 20 13.1**	**-0.9**
MLYT	**Lee's Yard**	**1.43**	**208**⇓	*i*P	**Pb**	**00 20 12.9**	**-1.0**
MLYT	**Lee's Yard**	**1.43**	**208**⇓	*i*P	**Pb**	**00 20 13.0**	**-1.0**
MLYT				*i* S	**Sb**	**00 20 31.5**	**-0.3**
MBGB		**1.44**	**210**⇓	*e*P	**Pb**	**00 20 13.0**	**-1.1**
MBBY		**1.46**	**208**⇓	*i*P	**Pb**	**00 20 13.2**	**-1.2**
SEG	**Port Louis**	**1.58**	**181**	*e*P	**Pb**	**00 20 16.0**	**-0.6**
LZG	**Guadaloupe-1**	**1.86**	**189**⇑	*e*P	**Pb**	**00 20 19.2**	**-2.2**
FNG	**Fond-Bernard**	**1.93**	**186**	*e*P	**Pb**	**00 20 21.6**	**-1.0**
MLG	**Mont-d'or**	**1.93**	**186**	*e*P	**Pb**	**00 20 21.4**	**-1.2**
CRG	**Carmichael**	**1.93**	**185**	*e*P	**Pb**	**00 20 21.1**	**-1.6**
ECG	**Echelle**	**1.94**	**185**	*e*P	**Pb**	**00 20 21.7**	**-1.2**
DOG	**Dongo Capester**	**1.95**	**184**	*e*P	**Pb**	**00 20 21.4**	**-1.5**
SCG	**Saint Claude**	**1.96**	**185**	*e*P	**Pb**	**00 20 21.4**	**-1.7**
PHG	**Guadaloupe-2**	**1.97**	**184**	*e*P	**Pb**	**00 20 22.3**	**-1.0**
HMG	**Houelmont**	**2.01**	**186**	*e*P	**Pb**	**00 20 21.9**	**-2.0**
MGG	**Marie-Galante**	**2.07**	**175**	*e*P	**Pb**	**00 20 23.8**	**-1.1**
TBG	**Guadaloupe-3**	**2.13**	**184**	*e*P	**Pb**	**00 20 24.0**	**-2.0**
DWS	**Wesley**	**2.41**	**176**	*e*S	**Sb**	**00 20 58.7**	**-1.4**
MCLT	**Moule a Chique**	**4.29**	**173**	*e*P	Pn	00 20 54.7	+3.1
MCLT				*e*S	**Sn**	**00 21 44.4**	**+3.5**
TOSP	**Speyside**	**6.72**	**172**	*e*P	Pn	00 21 29.5	+4.5
TEIG	**Tepich**	**25.40**	**279**	P	**P**	**00 25 14.0**	**+0.4**
	3.3nm,0.6s,baz=128,slow=20,SNR=4.3						
TKL	**Tuckaleechee C**	**26.45**	**316**	P	**P**	**00 25 23.6**	**+0.7**
	1.3nm,0.7s,baz=110,slow=12,SNR=2.7						
TXAR	**Lajitas Array**	**40.05**	**294**	P	**P**	**00 27 21.6**	**+0.2**
	0.2nm,0.5s,baz=108,slow=7.8,SNR=6.1						
PDAR	**Pinedale Array**	**47.47**	**312**	P	**P**	**00 28 19.8**	**-1.3**
	0.4nm,0.7s,baz=106,slow=6.7,SNR=2.9						
YKA	**Yellowknife Ar**	**57.51**	**334**	P	**P**	**00 29 34.9**	**+0.1**
	0.9nm,0.5s,baz=120,slow=8.0,SNR=4.5						
TORD	**Torodi Ar. Bea**	**60.82**	**85**	P	**P**	**00 29 58.8**	**+0.3**
	0.6nm,0.9s,baz=283,slow=6.8,SNR=6.4						
ILAR	**Eielson Array**	**71.94**	**333**	P	**P**	**00 31 09.0**	**+0.2**
	0.3nm,0.7s,baz=78,slow=6.5,SNR=3.4						

*NAO **08** 00:23:45.2±0.8, 66.°73N×31.°28E, ML2.2*
*CSEM **08** 00:23:46.4±0.3, 66.°83N×30.°95E, h5km, ML2.1, Error ellipse: s-maj=5.9km s-min=3.4km az=98.0*
*ISCJB **08** 00:23:46.5±0.9, 66.°84N±0.°02×30.°89E±0.°09, h12km±7km, Error ellipse: s-maj=5.9km s-min=3.7km az=14.8*
*IDC **08** 00:23:46.9±1.8, 66.°77N×30.°88E, h0km, mb1 3.2/4, mb1mx3.0/29, mbtmp3.1/4, ML2.3/4, Error ellipse: s-maj=21.4km s-min=8.2km az=89.0*
*BER **08** 00:23:47.2±1.8, 66.°79N×31.°07E, h0km±11km, ML2.2(NAO)*
*HEL **08** 00:23:48.0±0.1, 66.°82N×30.°96E, h15km±1km, ML2.1, ML2.2(NAO)*
ISC 08 00:23:46.4±1.1, 66.°79N±0.°02×31.°14E±0.°04, h15km±8km, n48, σ1§11/87, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KU4	**Liikasenvaara**	**0.76**	**237**	*i* P	**Pg**	**00 24 01.1**	**0.0**
KU4				*i* S	**Sg**	**00 24 10.7**	**-0.4**
KU4	**Liikasenvaara**	**0.76**	**237**	P	**Pg**	**00 24 01.1**	**0.0**
KU4				S	**Sg**	**00 24 10.6**	**-0.4**
KU6	**Riekki**	**0.92**	**214**	*e*P	**Pg**	**00 24 03.8**	**-0.3**
KU6				*e*S	**Sg**	**00 24 15.5**	**-0.6**
KU6	**Riekki**	**0.92**	**214**	P	**Pg**	**00 24 03.8**	**-0.3**
KU6				S	**Sg**	**00 24 15.4**	**-0.6**
APA0	**Apatity Array**	**1.09**	**40**	Pg	**Pn**	**00 24 07.8**	**+0.7**
	baz=219,slow=16						
APA0				Lg	Lg	00 24 21.7	
	baz=216,slow=28						
APA0	**Apatity Array**	**1.09**	**40**	Pg	**Pn**	**00 24 07.8**	**+0.7**
	baz=219,slow=16						
APA0				Lg	Lg	00 24 21.7	
	baz=216,slow=28						
APA0	**Apatity Array**	**1.09**	**40**	*e*P	**Pn**	**00 24 07.8**	**+0.7**
APA0				*e*S	**Sg**	**00 24 22.1**	**+0.3**
APA0	**Apatity Array**	**1.09**	**40**	Pg	**Pn**	**00 24 07.8**	**+0.7**
	baz=219,slow=15,SNR=90						
APA0				Lg	Lg	00 24 21.7	
	baz=216,slow=28,SNR=50						
APA0				S	**Sg**	**00 24 22.0**	**+0.3**
VRF	**Varrio**	**1.14**	**329**	*e*P	**Pg**	**00 24 07.9**	**-0.4**
VRF				*e*S	**Sg**	**00 24 22.5**	**-0.6**
VRF	**Varrio**	**1.14**	**329**	P	**Pg**	**00 24 07.9**	**-0.4**
VRF				S	**Sg**	**00 24 22.4**	**-0.6**
MSF	**Maaselka**	**1.22**	**225**	*e*P	**Pn**	**00 24 09.1**	**+0.2**
MSF				*e*S	**Sb**	**00 24 24.2**	**-0.6**
MSF	**Maaselka**	**1.22**	**225**	P	**Pn**	**00 24 09.1**	**+0.2**
MSF				S	**Sb**	**00 24 24.1**	**-0.6**
KU7	**Kasma**	**1.38**	**222**	*e*P	**Pn**	**00 24 11.6**	**+0.6**
KU7				*e*S	**Sb**	**00 24 29.1**	**0.0**
KU2	**Taivalkoski**	**1.60**	**229**	*e*P	**Pn**	**00 24 15.1**	**+0.9**
KU2				*e*S	**Sn**	**00 24 35.1**	**+0.6**
KU2	**Taivalkoski**	**1.60**	**229**	P	**Pn**	**00 24 15.0**	**+0.9**
KU2				S	**Sn**	**00 24 35.0**	**+0.6**
SGF	**Sodankyl**	**1.92**	**292**	*e*P	**Pn**	**00 24 19.7**	**+1.1**
SGF				*e*SG	**Sb**	**00 24 44.9**	**+0.1**
SGF	**Sodankyl**	**1.92**	**292**	P	**Pn**	**00 24 19.6**	**+1.1**
SGF				Sg	**Sb**	**00 24 44.9**	**+0.1**
RNF	**Rovaniemi**	**2.05**	**267**	*e*P	**Pn**	**00 24 21.4**	**+1.2**
RNF				*e*S	**Sn**	**00 24 46.5**	**+1.0**
RNF	**Rovaniemi**	**2.05**	**267**	P	**Pn**	**00 24 21.4**	**+1.2**
RNF				S	**Sn**	**00 24 46.5**	**+1.0**
OUL	**Oulu**	**2.75**	**234**	*e*P	**Pn**	**00 24 30.9**	**+1.0**
OUL				*e*S	**Sn**	**00 25 04.1**	**+1.4**
OUL				*e*SB	**Sb**	**00 25 07.2**	**-1.3**
OUL	**Oulu**	**2.75**	**234**	P	**Pn**	**00 24 30.8**	**+1.0**
OUL				S	**Sn**	**00 25 04.1**	**+1.4**
KJN	**Kajaani**	**3.07**	**209**	*e*P	**Pn**	**00 24 36.0**	**+1.7**
KJN				*e*S	**Sn**	**00 25 11.3**	**+0.6**
KJN				MSG		00 25 14.7	
	comp=Z,6.2nm,0.2s						
KJN	**Kajaani**	**3.07**	**209**	P	**Pn**	**00 24 36.0**	**+1.7**
KJN				S	**Sn**	**00 25 11.2**	**+0.6**
HEF	**Hetta**	**3.29**	**303**	*e*P	**Pn**	**00 24 37.8**	**+0.3**
HEF				*e*S	**Sn**	**00 25 14.8**	**-1.5**
HEF	**Hetta**	**3.29**	**303**	P	**Pn**	**00 24 37.7**	**+0.3**
HEF				S	**Sn**	**00 25 14.7**	**-1.5**
ARA0	**ARCESS Array S**	**3.47**	**325**	Pn	**Pn**	**00 24 40.5**	**+0.6**
	baz=139,slow=16						
ARA0				Pg	**Pb**	**00 24 48.5**	**+1.0**
	baz=142,slow=16						
ARA0				Lg	Lg	00 25 33.0	
	baz=138,slow=28						
ARA0	**ARCESS Array S**	**3.47**	**325**	Pn	**Pn**	**00 24 40.5**	**+0.6**
	baz=139,slow=16						
ARA0				Pg	**Pb**	**00 24 48.5**	**+1.0**
	baz=142,slow=16						
ARA0				Lg	Lg	00 25 33.0	
	baz=138,slow=28						
ARA0	**ARCESS Array S**	**3.47**	**325**	*e*P	**Pn**	**00 24 40.5**	**+0.6**
ARA0				*e*PG	**Pb**	**00 24 48.5**	**+1.0**
ARA0				*e*SG	**Sb**	**00 25 33.0**	**+3.6**
ARA0	**ARCESS Array S**	**3.47**	**325**	P	**Pn**	**00 24 40.4**	**+0.6**
ARA0	**ARCESS Array S**	**3.47**	**325**	Pg	**Pb**	**00 24 48.5**	**+1.0**
ARA0				Lg	Lg	00 25 33.0	
	baz=138,slow=27,SNR=28						
ARCES	**ARCESS Array B**	**3.47**	**325**	Pn	**Pn**	**00 24 40.6**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=143,slow=14,SNR=12						
ARCES				Pg	**Pb**	**00 24 47.6**	**+0.2**
	comp=Z,1.2nm,0.3s,baz=139,slow=16,SNR=38						
ARCES				Sn	**Sn**	**00 25 19.1**	**-1.5**
	comp=Z,1.2nm,0.3s,baz=143,slow=23,SNR=7.8						
ARCES				Lg	Lg	00 25 32.6	
	comp=Z,2.7nm,0.3s,baz=140,slow=29,SNR=4.8						
LANU	**Lannavaara**	**3.75**	**294**	*e*P	**Pn**	**00 24 44.5**	**+0.8**
LANU				*e*PG	**Pb**	**00 24 53.3**	**+1.1**
LANU				*e*S	**Sn**	**00 25 26.5**	**-1.0**
LANU	**Lannavaara**	**3.75**	**294**	P	**Pn**	**00 24 44.5**	**+0.8**
JOF	**Joensuu**	**3.89**	**179**	MSG		00 25 53.2	
	comp=Z,4.8nm,0.2s						
KIF	**Kilpisjarvi**	**4.50**	**304**	*e*P	**Pn**	**00 24 55.2**	**+1.4**
KIF				*e*S	**Sn**	**00 25 44.3**	**-1.4**
KIF	**Kilpisjarvi**	**4.50**	**304**	P	**Pn**	**00 24 55.2**	**+1.4**
KIF				S	**Sn**	**00 25 44.3**	**-1.4**
SUF	**Sumiainen**	**4.61**	**210**	*e*P	**Pn**	**00 24 57.2**	**+1.7**
SUF				*e*S	**Sn**	**00 25 48.4**	**-0.2**
SUF				MSG		00 26 09.3	
	comp=Z,1.8nm,0.2s						
SUF	**Sumiainen**	**4.61**	**210**	P	**Pn**	**00 24 57.1**	**+1.7**
SUF				S	**Sn**	**00 25 48.3**	**-0.2**
KAF	**Kangasniemi**	**5.14**	**206**	*e*P	**Pn**	**00 25 04.3**	**+1.6**
KAF				*e*S	**Sn**	**00 26 01.2**	**-0.4**
KAF				MSG		00 26 26.6	
	comp=Z,1.5nm,0.2s						
KAF	**Kangasniemi**	**5.14**	**206**	P	**Pn**	**00 25 04.2**	**+1.6**
KAF				S	**Sn**	**00 26 01.2**	**-0.4**
VAF	**Ylistaro**	**5.21**	**228**	MSG		00 26 32.2	
	comp=Z,1.8nm,0.2s						
FIA0	**FINESS Array S**	**5.80**	**205**	Pn	**Pn**	**00 25 12.4**	**+0.6**
	baz=24,slow=14						
FIA0				Sn	**Sn**	**00 26 15.8**	**-2.2**
	baz=28,slow=28						
FIA0				Lg	Lg	00 26 46.2	
	baz=18,slow=37						
FIA0	**FINESS Array S**	**5.80**	**205**	Pn	**Pn**	**00 25 12.4**	**+0.6**
	baz=24,slow=14						
FIA0				Sn	**Sn**	**00 26 15.8**	**-2.2**
	baz=28,slow=28						
FIA0				Lg	Lg	00 26 46.2	
	baz=18,slow=37						
FIA0	**FINESS Array S**	**5.80**	**205**	MSG		00 26 53.9	
	comp=Z,1.5nm,0.2s						
FIA0	**FINESS Array S**	**5.80**	**205**	Pn	**Pn**	**00 25 12.4**	**+0.6**
	baz=24,slow=13,SNR=50						
FIA0				Sn	**Sn**	**00 26 15.8**	**-2.2**
	baz=28,slow=24,SNR=50						
FIA0				Lg	Lg	00 26 46.2	
	baz=18,slow=28,SNR=3.5						
FINES	**FINESS Array B**	**5.80**	**205**	Pn	**Pn**	**00 25 12.2**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=25,slow=13,SNR=13						
FINES				Sn	**Sn**	**00 26 15.9**	**-2.1**
	comp=Z,0.3nm,0.3s,baz=22,slow=26,SNR=6.6						
FINES				Lg	Lg	00 26 44.6	
	comp=Z,0.8nm,0.3s,baz=30,slow=26,SNR=6.4						
HFS	**Hagfors**	**10.24**	**238**	Pn	**Pn**	**00 26 12.2**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=44,slow=13,SNR=4.7						
HFS				Lg	Lg	00 29 02.7	
	comp=Z,0.2nm,0.3s,baz=55,slow=18,SNR=3.0						
NOA	**NORSAR Array B**	**10.46**	**246**	Pn	**Pn**	**00 26 14.4**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=58,slow=13,SNR=2.8						
NOA				Sn	Sn	00 28 03.4	-9.0
	comp=Z,0.1nm,0.3s,baz=57,slow=22,SNR=2.9						
NOA				Lg	Lg	00 29 12.4	
	comp=Z,0.2nm,0.3s,baz=42,slow=22,SNR=3.0						

*CSEM **08** 00:41:54.6±0.2, 42.°55N×43.°39E, h2km, mb3.9, Error ellipse: s-maj=4.8km s-min=2.4km az=126.0*
*TIF **08** 00:41:54.2, 42.°55N×43.°45E, h9km±1km*
*DDA **08** 00:41:55.1, 42.°73N×42.°71E, h7km, MD3.1*
*MOS **08** 00:41:59.5±1.9, 42.°80N×43.°71E, h8km, mb3.9/1, Error ellipse: s-maj=9.9km s-min=6.6km az=83.3*
ISC 08 00:41:55.2±0.8, 42.°57N±0.°02×43.°44E±0.°02, h7km±5km, n66, σ0§90/117, 4C-9D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.03**	**28**	P	**Pg**	**00 41 56.5**	**-0.1**
ONI				S	**Sg**	**00 41 58.0**	**+0.3**
DIGR	**Digorskoe uzhe**	**0.35**	**18**⇓	*i*PG	**Pg**	**00 42 01.8**	**-0.3**
DIGR				*i* S	**Sg**	**00 42 07.4**	**+0.7**
DIGR	**Digorskoe uzhe**	**0.35**	**18**	*i* Pg	**Pg**	**00 42 01.8**	**-0.3**
DIGR				*i* Sg	**Sg**	**00 42 07.4**	**+0.7**
ZEI	**Tsey**	**0.41**	**57**⇓	*i*PG	**Pg**	**00 42 02.8**	**-0.4**
ZEI				*i* S	**Sg**	**00 42 09.0**	**+0.4**
ZEI	**Tsey**	**0.41**	**57**	*i* Pg	**Pg**	**00 42 02.8**	**-0.4**
ZEI				*i* Sg	**Sg**	**00 42 09.0**	**+0.4**
LACR	**Lac**	**0.69**	**67**⇓	*i*PG	**Pg**	**00 42 07.7**	**-0.7**
LACR				*i* S	**Sg**	**00 42 17.6**	**+0.2**
LACR	**Lac**	**0.69**	**67**	*i* Pg	**Pg**	**00 42 07.7**	**-0.7**
LACR				*i* Sg	**Sg**	**00 42 17.6**	**+0.2**
KORR	**Kora**	**0.70**	**42**⇑	*i*PG	**Pg**	**00 42 08.7**	**+0.1**
KORR				*e*S	**Sb**	**00 42 18.9**	**-0.6**
KORR	**Kora**	**0.70**	**42**	*i* Pg	**Pg**	**00 42 08.7**	**+0.1**
KORR				*e*Sg	**Sb**	**00 42 18.9**	**-0.6**
LSNR	**Lesken**	**0.77**	**22**⇓	*i*PG	**Pg**	**00 42 10.0**	**+0.1**
LSNR				*e*S	**Sb**	**00 42 21.0**	**-0.5**
LSNR	**Lesken**	**0.77**	**22**	*i* Pg	**Pg**	**00 42 10.0**	**+0.1**
LSNR				*e*Sg	**Sb**	**00 42 21.0**	**-0.5**
STDR	**Stavd-Durt**	**0.93**	**30**⇓	*i*PG	**Pn**	**00 42 14.0**	**-0.6**
STDR				*e*S	**Sn**	**00 42 27.1**	**-1.0**
STDR	**Stavd-Durt**	**0.93**	**30**	*i* Pg	**Pn**	**00 42 14.0**	**-0.6**
STDR				*e*Sg	**Sn**	**00 42 27.1**	**-1.0**
NCK	**Nalchik**	**0.94**	**7**⇓	*i*PG	**Pb**	**00 42 13.6**	**-0.1**
NCK				*e*S	**Sb**	**00 42 26.1**	**-0.3**
NCK	**Nalchik**	**0.94**	**7**	*i* Pg	**Pb**	**00 42 13.6**	**-0.1**
NCK				*e*Sg	**Sb**	**00 42 26.1**	**-0.3**
VLKR	**Vladikavkaz**	**1.03**	**62**	*e*PG	**Pg**	**00 42 14.4**	**-0.6**
VLKR				*e*S	**Sg**	**00 42 28.8**	**+0.4**
VLKR	**Vladikavkaz**	**1.03**	**62**	*e*Pg	**Pg**	**00 42 14.4**	**-0.6**
VLKR				*e*Sg	**Sg**	**00 42 28.8**	**+0.4**
SNJR	**Sundja**	**1.13**	**63**	*e*PG	**Pg**	**00 42 16.1**	**-0.8**
SNJR				*e*S	**Sg**	**00 42 31.7**	**+0.2**
SNJR	**Sundja**	**1.13**	**63**	*e*Pg	**Pg**	**00 42 16.1**	**-0.8**
SNJR				*e*Sg	**Sg**	**00 42 31.7**	**+0.2**
BTKR	**Batakoyurt**	**1.14**	**45**⇑	*i*PG	**Pn**	**00 42 18.5**	**+0.9**
BTKR				*e*S	**Sn**	**00 42 34.4**	**+0.8**
BTKR	**Batakoyurt**	**1.14**	**45**	*i* Pg	**Pn**	**00 42 18.5**	**+0.9**
BTKR				*e*Sg	**Sn**	**00 42 34.4**	**+0.8**
AKH	**Akhalkalaki**	**1.16**	**178**	P	**Pg**	**00 42 16.3**	**-1.1**
AKH				S	**Sg**	**00 42 31.9**	**-0.4**
KUBR	**Kubataba**	**1.23**	**359**⇓	*i*PG	**Pg**	**00 42 19.9**	**+1.1**
KUBR				*e*S	**Sn**	**00 42 36.1**	**+0.3**
KUBR	**Kubataba**	**1.23**	**359**	*i* Pg	**Pg**	**00 42 19.9**	**+1.1**
KUBR				*e*Sg	**Sn**	**00 42 36.1**	**+0.3**
TBLG	**Delisi**	**1.28**	**130**	P	**Pn**	**00 42 18.6**	**-0.8**
TBLG				S	**Sb**	**00 42 36.0**	**-0.2**
SHAR	**Shatzhatmas**	**1.30**	**335**⇑	*e*PG	**Pn**	**00 42 19.7**	**-0.3**
SHAR				*e*S	**Sb**	**00 42 36.5**	**-0.6**
SHAR	**Shatzhatmas**	**1.30**	**335**	*e*Pg	**Pn**	**00 42 19.7**	**-0.3**
SHAR				*e*Sg	**Sb**	**00 42 36.5**	**-0.6**
PRTR	**Priterechnaya**	**1.34**	**27**	*e*PG	**Pn**	**00 42 20.1**	**-0.1**
PRTR				*e*S	**Sn**	**00 42 38.8**	**+0.6**
PRTR	**Priterechnaya**	**1.34**	**27**	*e*Pg	**Pn**	**00 42 20.1**	**-0.1**
PRTR				*e*Sg	**Sn**	**00 42 38.8**	**+0.6**
KZR	**Kazreti**	**1.39**	**148**	P	**Pn**	**00 42 20.4**	**-0.6**
KZR				S	**Sb**	**00 42 38.3**	**-1.1**
KIV	**Kislovodsk**	**1.49**	**339**⇑	*e*PG	**Pb**	**00 42 23.3**	**0.0**
KIV				*e*S	**Sg**	**00 42 42.7**	**-0.4**
KIV	**Kislovodsk**	**1.49**	**339**	*e*Pg	**Pb**	**00 42 23.3**	**0.0**
KIV				*e*Sg	**Sg**	**00 42 42.7**	**-0.4**
PYA	**Pyatigorsk**	**1.49**	**349**⇓	*i*PG	**Pg**	**00 42 23.8**	**0.0**
PYA				*e*S	**Sg**	**00 42 43.2**	**+0.1**
PYA	**Pyatigorsk**	**1.49**	**349**	*i* Pg	**Pg**	**00 42 23.8**	**0.0**
PYA				*e*Sg	**Sg**	**00 42 43.2**	**+0.1**
TRKR	**Terskaya**	**1.50**	**39**⇓	*i*PG	**Pn**	**00 42 22.7**	**+0.3**
TRKR				*e*S	**Sg**	**00 42 43.1**	**-0.1**
TRKR	**Terskaya**	**1.50**	**39**	*i* Pg	**Pn**	**00 42 22.7**	**+0.3**
TRKR				*e*Sg	**Sg**	**00 42 43.1**	**-0.1**
BCA	**Borcka**	**1.75**	**231**	PN	**Pn**	**00 42 24.9**	**-1.1**
BCA				*e*SN	**Sn**	**00 42 47.5**	**-1.1**
BCA	**Borcka**	**1.75**	**231**	*i* Pn	**Pn**	**00 42 24.9**	**-1.1**
BCA				*e*Sn	**Sn**	**00 42 47.5**	**-1.1**
ARTV	**Artvin**	**1.78**	**220**	*e*P	**Pn**	**00 42 26.4**	**-0.1**
ARTV				*e*S	**Sn**	**00 42 49.8**	**+0.3**
ARTV	**Artvin**	**1.78**	**220**	*e*P	**Pn**	**00 42 26.4**	**-0.1**
ARTV				*e*S	**Sn**	**00 42 49.8**	**+0.3**
DBOC	**Borcka**	**1.80**	**228**	*e*P	**Pn**	**00 42 25.5**	**-1.1**
DBOC				*e*S	**Sn**	**00 42 49.8**	**+0.1**
DBOC	**Borcka**	**1.80**	**228**	*e*P	**Pn**	**00 42 25.5**	**-1.1**
DBOC				*e*S	**Sn**	**00 42 49.8**	**+0.1**
DGRG	**David-gareji**	**1.82**	**127**	P	**Pb**	**00 42 28.6**	**-0.2**
DGRG				S	**Sg**	**00 42 54.4**	**+0.7**
DAGI	**Agillar**	**1.87**	**218**	*e*P	**Pn**	**00 42 27.4**	**-0.3**
DAGI				*e*S	**Sn**	**00 42 52.1**	**+0.5**
KARS	**Kars**	**1.96**	**188**	*e*PN	**Pb**	**00 42 31.0**	**-0.1**
KARS	**Kars**	**1.96**	**188**	*e*Pn	**Pb**	**00 42 31.0**	**-0.1**
DBAD	**Bademkaya**	**2.02**	**221**	*e*P	**Pn**	**00 42 30.2**	**+0.5**
DBAD				*e*S	**Sn**	**00 42 56.5**	**+1.2**
DBAD	**Bademkaya**	**2.02**	**221**	*e*P	**Pn**	**00 42 30.2**	**+0.5**
DBAD				*e*S	**Sn**	**00 42 56.5**	**+1.2**
DDEM	**Demirkent**	**2.10**	**218**	*e*P	**Pn**	**00 42 31.5**	**+0.7**
DDEM				*e*S	**Sb**	**00 42 59.1**	**-0.6**
DDEM	**Demirkent**	**2.10**	**218**	*e*P	**Pn**	**00 42 31.5**	**+0.7**
DDEM				*e*S	**Sb**	**00 42 59.1**	**-0.6**
DIGO	**Kars**	**2.15**	**181**	*e*P	**Pn**	**00 42 32.8**	**+1.2**
DIGO				*e*S	**Sn**	**00 42 59.4**	**+0.8**
DIGO	**Kars**	**2.15**	**181**	*e*P	**Pn**	**00 42 32.8**	**+1.2**
DIGO				*e*S	**Sn**	**00 42 59.4**	**+0.8**
GNI	**Garni**	**2.61**	**157**	*e*PN	**Pb**	**00 42 43.0**	**+0.7**
GNI				*e*SN	**Sg**	**00 43 18.6**	**-0.3**
SOC	**Sochi**	**2.91**	**292**	*e*PN	**Pg**	**00 42 53.6**	**+2.7**
SOC				*e*		00 43 29.1	
SOC				pmax	pmax		
	comp=Z,22nm,0.6s						
SOC				smax	smax		
	comp=N,62nm,0.9s						
SOC				smax	smax		
	comp=E,38nm,0.7s						
AGRB	**Hanur-Agry**	**3.01**	**187**	*e*PN	**Pn**	**00 42 46.3**	**+3.0**
AGRB	**Hanur-Agry**	**3.01**	**187**	*e*Pn	**Pn**	**00 42 46.3**	**+3.0**
MACK	**Trabzon**	**3.19**	**241**	*e*P	**Pn**	**00 42 43.7**	**-2.0**
MACK	**Trabzon**	**3.19**	**241**	*e*P	**Pn**	**00 42 43.7**	**-2.0**
BAYT	**Ayd¨–ntepe-Bay**	**3.29**	**230**	*e*PN	**Pn**	**00 42 46.2**	**-1.1**
BAYT	**Ayd¨–ntepe-Bay**	**3.29**	**230**	*e*Pn	**Pn**	**00 42 46.2**	**-1.1**
GUMT	**Gumushane**	**3.64**

STDR					*e*S		Sn	00 59 30.2	-1.1
STDR	**Stavd-Durt**	**0.94**	**27**		*i* Pg		Pn	00 59 17.0	-0.5
STDR					*e*Sg		Sn	00 59 30.2	-1.1
NCK	**Nalchik**	**0.97**	**5**	⇓	*i*PG		Pg	00 59 16.6	+0.2
NCK					*e*S		Sb	00 59 30.8	+0.7
NCK	**Nalchik**	**0.97**	**5**		*i* Pg		Pg	00 59 16.6	+0.2
NCK					*e*Sg		Sb	00 59 30.8	+0.7
VLKR	**Vladikavkaz**	**1.02**	**59**	⇓	*i*PG		Pn	00 59 18.5	-0.1
VLKR					*e*S		Sn	00 59 32.5	-0.8
VLKR	**Vladikavkaz**	**1.02**	**59**		*i* Pg		Pn	00 59 18.5	-0.1
VLKR					*e*Sg		Sn	00 59 32.5	-0.8
AKH	**Akhalkalaki**	**1.11**	**179**		P		Pg	00 59 18.8	-0.3
AKH					S		Sb	00 59 35.0	+0.8
SNJR	**Sundja**	**1.12**	**61**	⇑	*i*PG		Pb	00 59 19.5	0.0
SNJR					*e*S		Sb	00 59 34.8	+0.5
SNJR	**Sundja**	**1.12**	**61**		*i* Pg		Pb	00 59 19.5	0.0
SNJR					*e*Sg		Sb	00 59 34.8	+0.5
BTKR	**Batakoyurt**	**1.15**	**42**	⇑	*i*PG		Pn	00 59 21.4	+1.0
BTKR					*e*S		Sn	00 59 37.2	+0.8
BTKR	**Batakoyurt**	**1.15**	**42**		*i* Pg		Pn	00 59 21.4	+1.0
BTKR					*e*Sg		Sn	00 59 37.2	+0.8
TBLG	**Delisi**	**1.23**	**130**		P		Pb	00 59 21.0	-0.3
TBLG					S		Sn	00 59 38.3	0.0
KBZ	**Khabaz**	**1.27**	**341**		PG		Pn	00 59 20.8	-1.2
KBZ					pmax	pmax			
	comp=Z,12nm,0.3s								
KBZ	**Khabaz**	**1.27**	**341**		Pg		Pn	00 59 20.8	-1.2
	comp=Z,12nm,0.3s,baz=166,slow=8.3,SNR=31								
KBZ					Lg	Lg		00 59 37.3	
	comp=Z,25nm,0.3s,baz=22,slow=19,SNR=20								
KBZ	**Khabaz**	**1.27**	**341**		Pg		Pn	00 59 20.8	-1.2
	comp=Z,12nm,0.3s								
KUBR	**Kubataba**	**1.27**	**358**	⇑	*i*PG		Pg	00 59 22.3	+0.1
KUBR					*e*S		Sn	00 59 39.9	+0.4
KUBR	**Kubataba**	**1.27**	**358**		*i* Pg		Pg	00 59 22.3	+0.1
KUBR					*e*Sg		Sn	00 59 39.9	+0.4
KZR	**Kazreti**	**1.34**	**148**		P		Pn	00 59 22.6	-0.4
KZR					S		Sb	00 59 40.8	+0.2
SHAR	**Shatzhatmas**	**1.35**	**334**	⇑	*e*PG		Pn	00 59 22.7	-0.6
SHAR					*e*S		Sb	00 59 40.5	-0.7
SHAR	**Shatzhatmas**	**1.35**	**334**		*e*Pg		Pn	00 59 22.7	-0.6
SHAR					*e*Sg		Sb	00 59 40.5	-0.7
PRTR	**Priterechnaya**	**1.36**	**25**		*e*PG		Pg	00 59 23.8	0.0
PRTR					*e*S		Sg	00 59 42.1	+0.7
PRTR	**Priterechnaya**	**1.36**	**25**		*e*Pg		Pg	00 59 23.8	0.0
PRTR					*e*Sg		Sg	00 59 42.1	+0.7
TRKR	**Terskaya**	**1.51**	**37**	⇓	*i*PG		Pg	00 59 26.8	+0.2
TRKR					*e*S		Sg	00 59 47.1	+0.9
TRKR	**Terskaya**	**1.51**	**37**		*i* Pg		Pg	00 59 26.8	+0.2
TRKR					*e*Sg		Sg	00 59 47.1	+0.9
PYA	**Pyatigorsk**	**1.54**	**349**	⇑	*e*PG		Pb	00 59 26.3	-0.3
PYA					*e*S		Sb	00 59 46.5	+0.2
PYA	**Pyatigorsk**	**1.54**	**349**		*e*Pg		Pb	00 59 26.3	-0.3
PYA					*e*Sg		Sb	00 59 46.5	+0.2
KIV	**Kislovodsk**	**1.54**	**338**	⇑	*e*PG		Pn	00 59 26.0	+0.2
KIV					*e*S		Sb	00 59 46.6	+0.1
KIV	**Kislovodsk**	**1.54**	**338**		*e*Pg		Pn	00 59 26.0	+0.2
KIV					*e*Sg		Sb	00 59 46.6	+0.1
BCA	**Borcka**	**1.76**	**233**		*e*PN		Pn	00 59 28.4	-0.3
BCA					*e*SN		Sn	00 59 51.5	+0.2
BCA	**Borcka**	**1.76**	**233**		*e*Pn		Pn	00 59 28.4	-0.3
BCA					*e*Sn		Sn	00 59 51.5	+0.2
DGRG	**David-gareji**	**1.77**	**127**		P		Pb	00 59 30.9	+0.2
DGRG					S		Sg	00 59 56.5	+1.8
KARS	**Kars**	**1.92**	**189**		*e*PN		Pg	00 59 34.5	-0.1
KARS	**Kars**	**1.92**	**189**		*e*Pn		Pg	00 59 34.5	-0.1
PZAR	**Pazar-Rize**	**2.35**	**236**		*e*PN		Pn	00 59 36.6	-0.2
PZAR	**Pazar-Rize**	**2.35**	**236**		*e*Pn		Pn	00 59 36.6	-0.2
GNI	**Garni**	**2.56**	**158**		*e*PN		Pb	00 59 44.9	+0.8
GNI	**Garni**	**2.56**	**158**		*e*Pn		Pb	00 59 44.9	+0.8
AGRB	**Hanur-Agry**	**2.97**	**187**		*e*PN		Pb	00 59 49.1	-2.0
AGRB	**Hanur-Agry**	**2.97**	**187**		*e*Pn		Pb	00 59 49.1	-2.0
BAYT	**Ayd¨–ntepe-Bay**	**3.29**	**231**		*e*PN		Pn	00 59 49.9	0.0
BAYT	**Ayd¨–ntepe-Bay**	**3.29**	**231**		*e*Pn		Pn	00 59 49.9	0.0
CLDR	**Caldiran**	**3.40**	**174**		*e*PN		Pb	00 59 56.2	-2.2
CLDR	**Caldiran**	**3.40**	**174**		*e*Pn		Pb	00 59 56.2	-2.2
GUMT	**Gumushane**	**3.64**	**237**		*e*PN		Pn	00 59 54.8	+0.1
GUMT	**Gumushane**	**3.64**	**237**		*e*Pn		Pn	00 59 54.8	+0.1
ESPY	**Espiye-Giresun**	**3.90**	**247**		*e*PN		Pn	00 59 57.5	-0.7
ESPY	**Espiye-Giresun**	**3.90**	**247**		*e*Pn		Pn	00 59 57.5	-0.7
ILIC	**ilic-Erzincan**	**4.82**	**232**		*e*PN		Pn	01 00 11.9	+1.0
ILIC	**ilic-Erzincan**	**4.82**	**232**		*e*Pn		Pn	01 00 11.9	+1.0
ANN	**Anapa**	**4.94**	**299**		*e*PN		Pn	01 00 12.5	+0.1
ANN					*e*S		Sn	01 01 11.0	+1.2
ANN					pmax	pmax			
	comp=Z,8.0nm,0.6s								
ANN	**Anapa**	**4.94**	**299**		*e*Pn		Pn	01 00 12.5	+0.1
	comp=Z,8.0nm,0.6s								
ANN					*e*Sn		Sn	01 01 11.0	+1.2
BRTR	**Keskin Array B**	**7.94**	**253**		Pn		Pn	01 00 54.0	+0.3
	comp=Z,0.1nm,0.3s,baz=48,slow=12,SNR=4.2								
BRTR	**Keskin Array B**	**7.94**	**253**		*i* P		Pn	01 00 55.0	+1.3
AB31	**Akbulak array**	**13.28**	**54**	⇑	Pn		Pn	01 02 05.2	-1.5
	comp=Z,0.5nm,0.5s,baz=245,slow=13,SNR=16								
AB31				⇓	Sn		Sn	01 04 30.4	-4.1
	comp=Z,0.7nm,0.6s,baz=243,slow=23								
AB31	**Akbulak array**	**13.28**	**54**		Pn		Pn	01 02 05.2	-1.5
	comp=Z,0.5nm,0.5s,baz=245,SNR=16								
BRVK	**Borovoye**	**20.74**	**50**		*e*P		P	01 03 37.8	-1.0
BRVK	**Borovoye**	**20.74**	**50**		*e*P		P	01 03 37.8	-1.0
KHC	**Kasperske Hory**	**21.76**	**298**		*e*P		P	01 03 53.9	+4.0
AAK	**Ala-Archa**	**22.78**	**79**		*e*P		P	01 04 00.9	-0.1
AAK	**Ala-Archa**	**22.78**	**79**		*e*P		P	01 04 00.9	-0.1
MKAR	**Makanchi Array**	**27.74**	**68**		P		P	01 04 48.8	+2.0
MKAR	**Makanchi Array**	**27.74**	**68**		P		P	01 04 48.8	+2.0
	comp=Z,0.1nm,0.5s,baz=266,slow=7.8,SNR=3.0								
MKAR	**Makanchi Array**	**27.74**	**68**		P		P	01 04 48.8	+2.0

*ISCJB **08** 01:02:55.0±0.5, 35°.69N±0°.04×140°.16E±0°.06, h53km±4km, mb3.8/8, Error ellipse: s-maj=8.3km s-min=5.8km az=154.9*
*JMA **08** 01:02:55.4±0.1, 35°.76N×140°.09E, h41km±2km, M4.1 Broadband fault plane solution: P waves. NP1: ϕs=158.00000°, δ60.00000°, λ121.00000°. NP2: ϕs=287.00000°, δ42.00000°, λ48.00000°. Principal axes: T Plg61.0000°, Azm117.0000°; N Plg27.0000°, Azm321.0000°; P Plg10.0000°, Azm226.0000°;*
JMA Felt II J1.
*IDC **08** 01:02:58.1±3.0, 35°.58N×139°.93E, h63km±26km, mb3.4/7, mb1 3.6/8, mb1mx3.4/25, mbtmp3.4/8 Error ellipse: s-maj=28.4km s-min=18.1km az=85.0*
*NIED **08** 01:03:00, 35°.80N×140°.10E, h41km, Mw3.9 Best double couple: M0=6.75000×10^14 NP1:ϕs=171.00000°, δ87.00000°, λ136.00000°. NP2:ϕs=264.00000°, δ47.00000°, λ4.00000°.*

ISC 08 01:02:56.6±0.7, 35°.69N±0°.04×140°.13E±0°.05, h48km±6km, n20, σ1°48/30, mb3.8/8, 2C-3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.28**	**167**	⇑P	**Pn**	01 03 04.8	-0.5
JCN				S	**Sn**	01 03 12.8	+1.3
TOK	**Tokyo**	**0.30**	**269**	P	**Pn**	01 03 04.0	-1.4
TOK				S	**Sn**	01 03 11.1	-0.6
JYT	**Yasato**	**0.54**	**6**	⇓P	**Pn**	01 03 05.9	-2.3
JYT				S	**Sn**	01 03 13.9	-2.6
JAG	**Ashikaga**	**0.91**	**324**	⇑P	**Pn**	01 03 11.2	-1.9
BSO3	**Boso 3**	**0.94**	**160**	⇓P	**Pn**	01 03 12.4	-0.8
BSO3				S	**Sn**	01 03 26.1	+0.6
JOD2	**Odawara 2**	**0.95**	**244**	P	**Pn**	01 03 11.7	-1.9
JOD2				S	**Sn**	01 03 24.6	-1.5
JRY	**Ryogami san**	**1.05**	**288**	⇓P	**Pn**	01 03 13.8	-1.1
JRY				S	**Sn**	01 03 28.6	+0.1
JIM2	**Oshima 3**	**1.13**	**211**	P	**Pn**	01 03 13.8	-2.2
JIM2				S	**Sn**	01 03 29.7	-0.7
MJAR	**Matsushiro Arr**	**1.77**	**299**	P	**Pn**	01 03 24.6	-0.2
	26nm,0.3s,baz=138,slow=14,SNR=108						
MJAR				S	**Sn**	01 03 47.8	+1.7
	32nm,0.3s,baz=111,slow=27,SNR=9.5						
MAT	**Matsushiro**	**1.77**	**299**	P	**Pn**	01 03 24.3	-0.5
MAT				S	**Sn**	01 03 48.1	+1.9
USRK	**Ussuriysk Arra**	**10.54**	**326**	P	**Pn**	01 05 27.0	+2.2
	baz=143,slow=12,SNR=2.7						
ZALV	**Zalesovo Beam**	**42.07**	**313**	P	**P**	01 10 43.3	-0.2
	0.5nm,0.5s,baz=111,slow=7.9,SNR=3.0						
MKAR	**Makanchi Array**	**43.97**	**303**	P	**P**	01 10 58.9	0.0
	0.4nm,0.5s,baz=82,slow=10,SNR=7.3						
KURBB	**Kurchatov Arra**	**46.02**	**309**	P	**P**	01 11 14.0	-1.2
	3.8nm,0.4s,baz=88,slow=7.9,SNR=5.3						
ILAR	**Eielson Array**	**51.18**	**32**	P	**P**	01 11 55.0	+0.4
	0.2nm,0.6s,baz=253,slow=6.3,SNR=2.6						
WRA	**Warramunga Arr**	**55.60**	**187**	P	**P**	01 12 25.9	-1.6
	1.4nm,0.4s,baz=2.6,slow=7.5,SNR=8.4						
ASAR	**Alice Springs**	**59.33**	**187**	P	**P**	01 12 53.1	-0.6
	0.9nm,0.5s,baz=18,slow=12,SNR=21						
ASAR				pP	**pP**	01 13 08.4	+1.4
	0.4nm,0.5s,baz=16,slow=14,SNR=2.7						
ARCES	**ARCESS Array B**	**64.88**	**339**	P	**P**	01 13 30.5	+0.1
	2.0nm,0.8s,baz=60,slow=7.6,SNR=3.2						
PDAR	**Pinedale Array**	**79.35**	**45**	P	**P**	01 14 59.4	+1.8
	0.1nm,0.3s,baz=326,slow=7.6,SNR=2.3						
TORD	**Torodi Ar. Bea**	**117.52**	**313**	PKP	**PKPdf**	01 21 36.2	-1.5
	0.1nm,0.6s,baz=350,slow=1.3,SNR=4.1						

*TIF **08** 01:09:45.8, 42°.51N×43°.48E, h10km±2km*
*ISCJB **08** 01:09:46.6±0.7, 42°.58N±0°.08×43°.43E±0°.04, h11km±7km, Error ellipse: s-maj=13.6km s-min=4.8km az=5.9*
*DDA **08** 01:09:47.0, 42°.45N×43°.31E, h10km, MD3.0*
*CSEM **08** 01:09:47.4±0.7, 42°.55N×43°.25E, h2km, MD3.5, Error ellipse: s-maj=13.9km s-min=7.9km az=20.0*
*ISK **08** 01:09:47.8, 42°.40N×43°.12E, h5km, MD3.5*

ISC 08 01:09:46.1±1.0, 42°.47N±0°.04×43°.43E±0°.03, h6km±10km, n35, σ1°.05/56, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.12**	**8**	P	**Pg**	01 09 48.8	+1.0
ONI				S	**Sg**	01 09 50.5	+0.1
DUS	**Dusheti**	**1.02**	**111**	P	**Pn**	01 10 06.1	-0.9
DUS				S	**Sn**	01 10 20.7	-1.0
AKH	**Akhalkalaki**	**1.06**	**177**	P	**Pn**	01 10 07.1	-0.6
AKH				S	**Sn**	01 10 22.7	-0.2
TBLG	**Delisi**	**1.22**	**127**	P	**Pg**	01 10 09.3	-0.2
TBLG				S	**Sn**	01 10 25.9	-0.8
KZR	**Kazreti**	**1.31**	**146**	P	**Pg**	01 10 10.8	-0.5
KZR				S	**Sg**	01 10 28.9	+0.6
BCA	**Borcka**	**1.69**	**233**	*e*PN	**Pn**	01 10 15.8	-0.4
BCA				*e*SN	**Sn**	01 10 37.7	-0.6
BCA	**Borcka**	**1.69**	**233**	*e*Pn	**Pn**	01 10 15.9	-0.4
BCA				*e*Sn	**Sn**	01 10 37.7	-0.6
ARTV	**Artvin**	**1.71**	**222**	*i* P	**Pb**	01 10 18.0	0.0
ARTV				*i* S	**Sb**	01 10 40.7	+0.9
ARTV	**Artvin**	**1.71**	**222**	*i* P	**Pb**	01 10 18.0	0.0
ARTV				*i* S	**Sb**	01 10 40.7	+0.9
DBOC	**Borcka**	**1.73**	**230**	*e*P	**Pb**	01 10 17.6	-0.7
DBOC				*e*S	**Sb**	01 10 41.1	+0.8
DBOC	**Borcka**	**1.73**	**230**	*e*P	**Pb**	01 10 17.6	-0.7
DBOC				*e*S	**Sb**	01 10 41.1	+0.8
DGRG	**David-gareji**	**1.77**	**124**	P	**Pg**	01 10 19.6	-0.4
DGRG				S	**Sg**	01 10 44.8	+1.8
DAGI	**Agillar**	**1.79**	**220**	*e*P	**Pb**	01 10 19.3	-0.2
DAGI				*e*S	**Sg**	01 10 43.8	0.0
KARS	**Kars**	**1.86**	**188**	*e*PN	**Pg**	01 10 21.0	-0.7
KARS				*e*SN	**Sb**	01 10 45.0	+0.9
KARS	**Kars**	**1.86**	**188**	*e*Pn	**Pg**	01 10 21.0	-0.7
KARS				*e*Sn	**Sb**	01 10 45.0	+0.9
DBAD	**Bademkaya**	**1.95**	**222**	*e*P	**Pb**	01 10 22.1	0.0
DBAD				*e*S	**Sb**	01 10 48.0	+1.4
DBAD	**Bademkaya**	**1.95**	**222**	*e*P	**Pb**	01 10 22.1	0.0
DBAD				*e*S	**Sb**	01 10 48.0	+1.4
DDEM	**Demirkent**	**2.02**	**219**	*e*P	**Pb**	01 10 22.8	-0.4
DDEM				*e*S	**Sg**	01 10 51.0	+0.1
DDEM	**Demirkent**	**2.02**	**219**	*e*P	**Pb**	01 10 22.8	-0.4
DDEM				*e*S	**Sg**	01 10 51.0	+0.1
DIGO	**Kars**	**2.05**	**181**	*e*P	**Pb**	01 10 24.0	0.0
DIGO				*e*S	**Sg**	01 10 51.9	-0.1
DIGO	**Kars**	**2.05**	**181**	*e*P	**Pb**	01 10 24.0	0.0
DIGO				*e*S	**Sg**	01 10 51.9	-0.1
PZAR	**Pazar-Rize**	**2.29**	**237**	*e*PN	**Pb**	01 10 25.8	-2.0
PZAR	**Pazar-Rize**	**2.29**	**237**	*e*Pn	**Pb**	01 10 25.8	-2.0
GNI	**Garni**	**2.52**	**156**	*e*PN	**Pb**	01 10 32.3	+0.5
GNI	**Garni**	**2.52**	**156**	*e*Pn	**Pb**	01 10 32.3	+0.5
AGRB	**Hanur-Agry**	**2.91**	**187**	*e*PN	**Pb**	01 10 35.7	-2.8
AGRB	**Hanur-Agry**	**2.91**	**187**	*e*Pn	**Pb**	01 10 35.7	-2.8
BAYT	**Ayd¨–ntepe-Bay**	**3.23**	**231**	*e*PN	**Pn**	01 10 38.4	+0.9
BAYT	**Ayd¨–ntepe-Bay**	**3.23**	**231**	*e*Pn	**Pn**	01 10 38.4	+0.9
GUMT	**Gumushane**	**3.58**	**237**	*e*PN	**Pn**	01 10 43.3	+1.0
GUMT	**Gumushane**	**3.58**	**237**	*e*Pn	**Pn**	01 10 43.3	+1.0
VRTB	**Varto-Mus**	**3.63**	**205**	*e*PN	**Pn**	01 10 45.0	+2.0
VRTB	**Varto-Mus**	**3.63**	**205**	*e*Pn	**Pn**	01 10 45.0	+2.0
ESPY	**Espiye-Giresun**	**3.85**	**248**	*e*PN	**Pn**	01 10 46.9	+1.0
ESPY	**Espiye-Giresun**	**3.85**	**248**	*e*Pn	**Pn**	01 10 46.9	+1.0
SHAR				*e*S	**Sn**	01 25 38.5	-0.3
SHAR	**Shatzhatmas**	**1.34**	**337**	*e*Pg	**Pb**	01 25 20.6	0.0
SHAR				*e*Sg	**Sn**	01 25 38.5	-0.3
KZR	**Kazreti**	**1.36**	**146**	P	**Pn**	01 25 19.6	-0.8
KZR				S	**Sg**	01 25 37.6	-0.8
PRTR	**Priterechnaya**	**1.40**	**27**	⇑	*i*PG	**Pn**	01 25 21.0	0.0
PRTR				*e*S	**Sn**	01 25 39.5	-0.3
PRTR	**Priterechnaya**	**1.40**	**27**	*i* Pg	**Pn**	01 25 21.0	0.0
PRTR				*e*Sg	**Sn**	01 25 39.5	-0.3
PYA	**Pyatigorsk**	**1.54**	**351**	⇑	*e*PG	**Pg**	01 25 24.1	-0.2
PYA				*e*S	**Sg**	01 25 44.5	+0.2
PYA	**Pyatigorsk**	**1.54**	**351**	*e*Pg	**Pg**	01 25 24.1	-0.2
PYA				*e*Sg	**Sg**	01 25 44.5	+0.2
TRKR	**Terskaya**	**1.56**	**38**	*e*PG	**Pb**	01 25 23.8	-0.3
TRKR				*e*S	**Sg**	01 25 44.2	-0.6
TRKR	**Terskaya**	**1.56**	**38**	*e*Pg	**Pb**	01 25 23.8	-0.3
TRKR				*e*Sg	**Sg**	01 25 44.2	-0.6
BCA	**Borcka**	**1.70**	**232**	PN	**Pn**	01 25 25.3	+0.2
BCA				*e*SN	**Sn**	01 25 45.3	-2.0
BCA	**Borcka**	**1.70**	**232**	*i* Pn	**Pn**	01 25 25.3	+0.2
BCA				*e*Sn	**Sn**	01 25 45.3	-2.0
ARTV	**Artvin**	**1.72**	**220**	*i* P	**Pb**	01 25 26.8	-0.2
ARTV				*i* S	**Sn**	01 25 49.0	+0.9
ARTV	**Artvin**	**1.72**	**220**	*i* P	**Pb**	01 25 26.8	-0.2
ARTV				*i* S	**Sn**	01 25 49.0	+0.9
DBOC	**Borcka**	**1.74**	**229**	*e*P	**Pn**	01 25 26.3	+0.6
DBOC				*e*S	**Sb**	01 25 49.7	+0.3
DBOC	**Borcka**	**1.74**	**229**	*e*P	**Pn**	01 25 26.3	+0.6
DBOC				*e*S	**Sb**	01 25 49.7	+0.3
DAGI	**Agillar**	**1.81**	**218**	*i* P	**Pb**	01 25 28.5	+0.1
DAGI				*i* S	**Sb**	01 25 52.0	+0.5
DGRG	**David-gareji**	**1.81**	**125**	P	**Pb**	01 25 28.6	+0.1
DGRG				S	**Sg**	01 25 54.3	+1.3
KARS	**Kars**	**1.90**	**187**	*e*PN	**Pb**	01 25 30.8	+0.9
KARS	**Kars**	**1.90**	**187**	*e*Pn	**Pb**	01 25 30.8	+0.9
DDEM	**Demirkent**	**2.03**	**218**	*e*P	**Pb**	01 25 31.7	-0.6
DDEM				*e*S	**Sb**	01 25 58.7	+0.8
DDEM	**Demirkent**	**2.03**	**218**	*e*P	**Pb**	01 25 31.7	-0.6
DDEM				*e*S	**Sb**	01 25 58.7	+0.8
DIGO	**Kars**	**2.09**	**181**	*e*P	**Pb**	01 25 33.3	-0.1
DIGO				*e*S	**Sb**	01 26 01.2	+1.4
DIGO	**Kars**	**2.09**	**181**	*e*P	**Pb**	01 25 33.3	-0.1
DIGO				*e*S	**Sb**	01 26 01.2	+1.4
PZAR	**Pazar-Rize**	**2.29**	**235**	*e*PN	**Pn**	01 25 33.4	+0.2
PZAR	**Pazar-Rize**	**2.29**	**235**	*e*Pn	**Pn**	01 25 33.4	+0.2
GNI	**Garni**	**2.57**	**156**	*e*PN	**Pb**	01 25 42.7	+1.4
GNI	**Garni**	**2.57**	**156**	*e*Pn	**Pb**	01 25 41.3	-0.1
SOC	**Sochi**	**2.90**	**293**	*e*PN	**Pg**	01 25 50.7	+0.3
SOC				*e*		01 26 25.8	
SOC				pmax	pmax		
	comp=Z,16nm,0.6s						
SOC				smax	smax		
	comp=N,58nm,0.8s						
SOC				smax	smax		
	comp=E,57nm,0.7s						
SOC				smax	smax		
	comp=N,33nm,0.9s						
SOC				smax	smax		
	comp=E,53nm,0.9s						
SOC				smax	smax		
	comp=N,33nm,0.9s						
SOC	**Sochi**	**2.90**	**293**	*e*Sb	**Sg**	01 26 25.8	-2.2
	comp=N,33nm,0.9s						
MACK	**Trabzon**	**3.14**	**241**	*e*P	**Pn**	01 25 45.4	+0.5
MACK				*e*S	**Sn**	01 26 20.7	-2.0
BAYT	**Ayd¨–ntepe-Bay**	**3.23**	**230**	*e*PN	**Pn**	01 25 47.0	+0.6
CLDR	**Caldiran**	**3.39**	**173**	*e*PN	**Pb**	01 25 53.0	-2.4
CLDR	**Caldiran**	**3.39**	**173**	*e*Pn	**Pb**	01 25 53.0	-2.4
GUMT	**Gumushane**	**3.59**	**236**	*e*PN	**Pn**	01 25 51.8	+0.6
GUMT	**Gumushane**	**3.59**	**236**	*e*Pn	**Pn**	01 25 51.8	+0.6
ESPY	**Espiye-Giresun**	**3.84**	**247**	*e*PN	**Pn**	01 25 55.3	+0.7
ESPY	**Espiye-Giresun**	**3.84**	**247**	*e*Pn	**Pn**	01 25 55.3	+0.7
BRTR	**Keskin Array B**	**7.88**	**253**	Pn	**Pn**	01 26 51.1	+1.1
	comp=N,0.1nm,0.3s,baz=50,slow=12,SNR=4.7						
BRTR	**Keskin Array B**	**7.88**	**253**	*i* P	**Pn**	01 26 52.5	+2.4
AKTK	**Aktyubinsk**	**12.80**	**47**	P	**Pn**	01 27 55.4	-2.0
AKTO	**Aktyubinsk**	**12.80**	**47**	P	**Pn**	01 27 55.4	-2.0
AKTO	**Aktyubinsk**	**12.80**	**47**	Pn	**Pn**	01 27 55.4	-2.0
	comp=N,0.2nm,0.3s,baz=236,slow=15,SNR=3.5						
AB31	**Akbulak array**	**13.34**	**54**	Pn	**Pn**	01 28 02.8	-1.9
	comp=N,0.6nm,0.5s,baz=231,slow=8.5,SNR=19						
AB31				⇑Sn	Sn	01 30 24.4	-8.9
	comp=N,1.5nm,0.8s						
SMRK	**Smrekonice**	**16.52**	**279**	S	**S**	01 32 02.4	-0.5
BRVK	**Borovoye**	**20.80**	**50**	*e*P	**P**	01 29 36.9	+0.2
BRVK	**Borovoye**	**20.80**	**50**	*e*P	**P**	01 29 36.9	+0.2
BVAR	**Borovoye Array**	**20.84**	**50**	P	**P**	01 29 37.3	+0.1
BVAR	**Borovoye Array**	**20.84**	**50**	P	**P**	01 29 37.3	+0.1
	comp=N,0.5nm,0.5s,baz=243,slow=9.1,SNR=4.4						
BVAR	**Borovoye Array**	**20.84**	**50**	P	**P**	01 29 37.3	+0.1
KURBB	**Kurchatov Arra**	**25.29**	**59**	P	**P**	01 30 24.2	+2.3
	comp=N,0.1nm,0.2s,baz=276,slow=9.2,SNR=2.9						
KURK	**Kurchatov**	**25.35**	**59**	P	**P**	01 30 24.2	+1.7
KURK	**Kurchatov**	**25.35**	**59**	P	**P**	01 30 24.2	+1.7
MKAR	**Makanchi Array**	**27.80**	**68**	P	**P**	01 30 47.1	+2.4
MKAR	**Makanchi Array**	**27.80**	**68**	P	**P**	01 30 47.1	+2.4
	comp=N,0.2nm,0.5s,baz=273,slow=10,SNR=2.8						
MKAR	**Makanchi Array**	**27.80**	**68**	P	**P**	01 30 47.1	+2.4

MEX 08 01:30:57.1±0.4, 15°.19N×93°.93W, h16km±7km, MD4.0, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.85**	**53**	*e*P	Pb	01 31 10.5	-3.1
PCIG				*i* S	Sb	01 31 20.9	-3.9
THIG		**1.63**	**100**	*e*P	Pn	01 31 21.8	-3.4
THIG				*i* S	Sn	01 31 40.2	-5.7
TGIG		**1.76**	**26**	*e*P	Pn	01 31 23.4	-3.7
TGIG				*i* S	Sn	01 31 44.0	-5.2
CCIG	**Comitan**	**2.04**	**58**	*e*P	Pn	01 31 27.8	-3.2
CCIG				*i* S	Sn	01 31 51.4	-4.9
HUIG	**Huatulco**	**2.18**	**286**	*e*P	Pn	01 31 29.9	-2.8
HUIG				*i* S	Sn	01 31 53.8	-5.7

WEL 08 01:33:24.4±0.1, 43°.21S×172°.35E, h5km, ML3.6/13, 1C-2D, Error ellipse: s-maj=1.0km s-min=0.6km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OXZ	**Oxford**	**0.25**	**244**	PG	Pg	01 33 29.6	+0.2
OXZ				SG	Sg	01 33 33.6	+0.8
**C

JCZ	**Jackson Bay**	**2.75**	**251**	PN	Pn	01 34 08.0	-1.2
JCZ				AML	AML	01 35 06.2	
CAW	**Cannon Point**	**2.92**	**45**	PN	Pn	01 34 09.2	-2.3
CAW				AML	AML	01 34 48.2	
CAW				AML	AML	01 35 24.0	
EAZ	**Earnscleugh**	**2.98**	**226**	PN	Pn	01 34 10.2	-2.1
EAZ				AML	AML	01 35 00.6	
EAZ				AML	AML	01 35 08.5	
KIW	**Kapiti Island**	**3.02**	**40**	PN	Pn	01 34 12.3	-0.7
OGWZ	**Otaki Gorge**	**3.19**	**42**	PN	Pn	01 34 12.7	-2.5
TUZ	**Tuapeka**	**3.36**	**214**	PN	Pn	01 34 16.2	-1.3
MRZ	**Mangatainoka R**	**3.51**	**44**	PN	Pn	01 34 16.6	-2.9
SYZ	**Scrubby Hill**	**4.03**	**213**	PN	Pn	01 34 25.1	-1.7
KHEZ	**Kahui Hut**	**4.11**	**18**	PN	Pn	01 34 28.1	+0.1
WHVZ	**Whangaehu Hut**	**4.62**	**33**	PN	Pn	01 34 33.8	-1.4
TUVZ	**Tukino**	**4.66**	**33**	PN	Pn	01 34 35.3	-0.4
HIZ	**Hauiti**	**5.06**	**23**	PN	Pn	01 34 41.6	+0.7

ISCJB ***08*** *01:38:28.6±0.4, 49°.17S±0°.06×121°.6E±0°.2, h13km, mb4.5/15, MS4.3/15, Error ellipse: s-maj=15.7km s-min=7.6km az=18.2*
IDC ***08*** *01:38:28.4±0.6, 49°.13S×121°.58E, h0km, mb4.6/11, mb1 4.6/12, mb1mx4.5/17, mbtmp4.5/12, ML2.5/1, MS4.3/16, Ms1 4.3/16, ms1mx4.2/25, Error ellipse: s-maj=24.9km s-min=14.0km az=112.0*
NEIC ***08*** *01:38:30.4±0.4, 49°.17S×121°.60E, h10km, mb4.9/7, Error ellipse: s-maj=17.7km s-min=9.5km az=106.0*
GCMT ***08*** *01:38:32.2±0.2, 49°.21S×121°.57E, h12km±1km, MW5.1, Moment Tensor Solution. s34,c45; s77,c123; Moment tensor: Scale 10^16^Nm; Mrr-0.36±.15; Mθθ-1.99±.15; Mφφ2.34±.17; Mrθ0.25±.34; Mθφ-4.14±.12; Mφr1.76±.47; Best double couple: Mo5.00000×10^16^ NP1:φs193.00000°, δ90.00000°, λ-21.00000°. NP2:φs284.00000°, δ69.00000°, λ-180.00000°. Principal axes: T 5.2000, Plg14.0000°, Azm240.0000°; N -0.4100, Plg69.0000°, Azm12.0000°; P -4.7900, Plg15.0000°, Azm147.0000°; Data Used: II IU G IC CN.*

ISC 08 01:38:31.0±0.4, 49°.17S±0°.08×121°.6E±0°.1, h13km, n145, σ1§17/124, mb4.6/15, MS4.2/15, 23C-37D, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**16.55**	**347**	Pn	**Pn**	**01 42 23.3**	**+0.6**
NWAO	**Narrogin (SRO)**	**16.55**	**347**	Pn	**Pn**	**01 42 23.3**	**+0.6**
	1.0nm,0.3s,baz=166,slow=17,SNR=2.9						
NWAO				LR	LR	01 47 17.2	
	comp=Z,624nm,19.7s,baz=160,slow=32						
CASY	**Casey**	**18.09**	**194**	*e*Pn	**Pn**	**01 42 39.8**	**-1.8**
	35nm,0.9s						
BBOO	**Buckleboo**	**19.61**	**39**	*e*P	**P**	**01 42 58.4**	**-0.5**
	203nm,0.8s						
BBOO	**Buckleboo**	**19.61**	**39**	P	**P**	**01 42 58.7**	**-0.3**
	baz=34,SNR=5.9						
DRV	**Dumont d'Urvil**	**19.94**	**158**	P	P	01 42 53.0	-9.2
DRV				R		01 47 00.0	
STKA	**Stephens Creek**	**22.91**	**48**	*e*P	**P**	**01 43 33.6**	**-0.9**
	14nm,1.5s						
STKA	**Stephens Creek**	**22.91**	**48**	P	**P**	**01 43 32.8**	**-1.7**
	5.7nm,0.9s,baz=192,slow=12,SNR=6.2						
STKA				LR	LR	01 51 00.7	
	comp=Z,931nm,18.8s,baz=205,slow=33						
STKA	**Stephens Creek**	**22.91**	**48**	P	**P**	**01 43 35.6**	**+1.1**
	baz=37,SNR=8.9						
CMSA	**Cobar Meteorol**	**25.29**	**55**	P	**P**	**01 43 58.6**	**+1.6**
	baz=40,SNR=11						
ASAR	**Alice Springs**	**27.25**	**25**	P	**P**	**01 44 13.1**	**-1.8**
ASAR	**Alice Springs**	**27.25**	**25**	P	**P**	**01 44 13.1**	**-1.8**
	6.1nm,0.9s,baz=194,slow=9.1,SNR=32						
ASAR				LR	LR	01 53 22.2	
	comp=Z,582nm,21.0s,baz=194,slow=33						
AS31	**Alice Springs**	**27.25**	**25**	*e*P	**P**	**01 44 13.8**	**-1.0**
WRA	**Warramunga Arr**	**30.91**	**24**	P	**P**	**01 44 45.7**	**-1.7**
WRA	**Warramunga Arr**	**30.91**	**24**	P	**P**	**01 44 45.7**	**-1.7**
	2.4nm,0.8s,baz=201,slow=8.6,SNR=4.9						
WRA				LR	LR	01 55 14.5	
	comp=Z,412nm,19.2s,baz=180,slow=33						
VNDA	**Vanda**	**32.29**	**165**	*e*P	**P**	**01 44 59.0**	**0.0**
	14nm,0.8s						
VNDA	**Vanda**	**32.29**	**165**	P	**P**	**01 44 59.1**	**+0.1**
	14nm,0.7s,baz=307,slow=9.6,SNR=54						
VNDA				LR	LR	01 56 48.8	
	comp=Z,851nm,21.1s,baz=318,slow=34						
EIDS	**Eidsvold**	**33.05**	**55**	S	S	01 50 08.1	-16
	baz=43,SNR=9.6						
SBA	**Scott Base**	**33.35**	**164**	*e*P	**P**	**01 45 09.2**	**+1.0**
	9.0nm,0.9s						
MAW	**Mawson**	**34.15**	**216**	P	**P**	**01 45 14.4**	**-0.8**
MAW	**Mawson**	**34.15**	**216**	P	**P**	**01 45 14.4**	**-0.8**
	20nm,1.0s,baz=79,slow=14,SNR=23						
MAW				LR	LR	01 57 49.1	
	comp=Z,318nm,18.4s,baz=78,slow=34						
CTA	**Charters Tower**	**35.10**	**43**	P	**P**	**01 45 23.2**	**-0.8**
CTA	**Charters Tower**	**35.10**	**43**	P	**P**	**01 45 23.2**	**-0.8**
	2.5nm,0.5s,baz=172,slow=12,SNR=3.4						
CTA				LR	LR	01 58 59.2	
	comp=Z,627nm,18.6s,baz=219,slow=35						
URZ	**Urewera**	**40.75**	**96**	P	**P**	**01 46 10.5**	**-0.9**
URZ	**Urewera**	**40.75**	**96**	P	**P**	**01 46 10.5**	**-0.9**
	7.2nm,0.7s,baz=256,slow=3.3,SNR=6.6						
QSPA	**South Pole Qui**	**40.95**	**180**	*e*P	**P**	**01 46 12.5**	**-0.6**
	53nm,1.5s						
QSPA	**South Pole Qui**	**40.95**	**180**	P	**P**	**01 46 13.1**	**0.0**
	7.7nm,0.6s,baz=316,slow=1.4,SNR=145						
DZM	**Mont Dzumac**	**44.50**	**69**	*e*S	S	01 53 25.5	+8.3
	184nm,27.1s						
DZM				*e*LR	LR	01 59 15.6	
	570nm,22.6s						
PMG	**Port Moresby**	**45.04**	**37**	LR	LR	02 04 42.5	
	comp=Z,228nm,18.1s,baz=35,slow=35						
SNAA	**Sanae**	**53.24**	**199**	*e*P	**P**	**01 47 48.0**	**-0.7**
SNAA	**Sanae**	**53.24**	**199**	*e*I	x	01 47 56.5	
SNAA	**Sanae**	**53.24**	**199**	*e*I	x	01 48 05.4	
SNAA	**Sanae**	**53.24**	**199**	*e*P	**P**	**01 47 48.1**	**-0.7**
	39nm,0.9s						
SNAA	**Sanae**	**53.24**	**199**	P	**P**	**01 47 48.0**	**-0.7**
	8.6nm,1.0s,baz=144,slow=11,SNR=63						
VNA2	**Neumayer--Watz**	**54.77**	**198**	*e*P	**P**	**01 47 59.4**	**-0.3**
VNA2	**Neumayer--Watz**	**54.77**	**198**	*e*I	x	01 48 07.5	
VNA2	**Neumayer--Watz**	**54.77**	**198**	*e*I	x	01 48 16.6	
VNA1	**Neumayer--Stat**	**55.16**	**198**	*e*P	**P**	**01 48 02.3**	**-0.3**
VNA1	**Neumayer--Stat**	**55.16**	**198**	*e*I	x	01 48 10.6	
VNA1	**Neumayer--Stat**	**55.16**	**198**	*e*I	x	01 48 20.2	
PSI	**Prapat**	**55.36**	**332**	P	**P**	**01 48 05.8**	**+1.0**
PSI	**Prapat**	**55.36**	**332**	P	**P**	**01 48 05.8**	**+1.0**
	1.7nm,0.2s,baz=204,slow=10.0,SNR=6.2						
PMSA	**Palmer Station**	**66.31**	**177**	LR	LR	02 19 42.6	
	comp=Z,154nm,20.3s,baz=226,slow=37						
CMAR	**Chiang Mai Arr**	**70.27**	**337**	P	**P**	**01 49 43.5**	**-0.3**
CMAR	**Chiang Mai Arr**	**70.27**	**337**	P	**P**	**01 49 43.5**	**-0.3**
	1.4nm,0.5s,baz=180,slow=6.4,SNR=4.5						
CMAR				LR	LR	02 20 16.3	
	comp=Z,89nm,18.9s,baz=40,slow=36						
TBI	**Tubuai**	**72.05**	**105**	*e*LR	LR	02 11 57.6	
	168nm,30.5s						
SUR	**Sutherland**	**72.63**	**241**	LR	LR	02 15 06.6	
	comp=Z,292nm,20.3s,baz=202,slow=30						
BOSA	**Boshof**	**72.78**	**246**	P	**P**	**01 49 57.7**	**-1.6**
BOSA	**Boshof**	**72.78**	**246**	P	**P**	**01 49 57.7**	**-1.6**
	5.5nm,1.0s,baz=135,slow=4.3,SNR=3.5						
BOSA				LR	LR	02 16 50.4	
	comp=Z,223nm,18.0s,baz=166,slow=32						
LBTB	**Lobatse**	**75.21**	**249**	LR	LR	02 17 21.6	
	comp=Z,317nm,18.7s,baz=148,slow=31						
USHA	**Ushuaia**	**76.03**	**174**	LR	LR	02 21 00.3	
	comp=Z,270nm,21.5s,baz=83,slow=34						
PPT2	**Papeete2**	**76.17**	**101**	*e*LR	LR	02 13 46.0	
	101nm,21.8s						
PPT	**Papeete**	**76.18**	**101**	LR	LR	02 18 34.1	
	comp=Z,178nm,19.7s,baz=301,slow=32						
MJAR	**Matsushiro Arr**	**86.61**	**13**	P	P	01 51 17.1	+3.5
MJAR	**Matsushiro Arr**	**86.61**	**13**	P	P	01 51 17.1	+3.5
	1.4nm,0.8s,baz=157,slow=6.5,SNR=2.5						
PLCA	**Paso Flores**	**89.84**	**171**	P	**P**	**01 51 32.1**	**+2.7**
PLCA	**Paso Flores**	**89.84**	**171**	P	**P**	**01 51 32.1**	**+2.7**
	5.2nm,0.9s,baz=217,slow=5.4,SNR=3.4						
PLCA				LR	LR	02 33 33.6	
	comp=Z,64nm,18.3s,baz=136,slow=37						
BRTR	**Keskin Array B**	**117.52**	**300**	PKP	**PKPdf**	**01 57 17.3**	**+1.2**
BRTR	**Keskin Array B**	**117.52**	**300**	PKP	**PKPdf**	**01 57 17.3**	**+1.2**
	0.6nm,0.8s,baz=90,slow=5.8,SNR=3.1						
TORD	**Torodi Ar. Bea**	**119.27**	**256**	PKP	**PKPdf**	**01 57 18.7**	**-1.3**

TORD	**Torodi Ar. Bea**	**119.27**	**256**	PKP	**PKPdf**	**01 57 18.7**	**-1.3**
	1.0nm,0.9s,baz=85,slow=1.3,SNR=8.0						
ILAR	**Eielson Array**	**133.57**	**36**	PKP	**PKPdf**	**01 57 48.3**	**+2.5**
ILAR	**Eielson Array**	**133.57**	**36**	PKP	**PKPdf**	**01 57 48.3**	**+2.5**
	0.3nm,0.7s,baz=270,slow=3.6,SNR=2.7						
GERES	**GERESS Array B**	**134.38**	**298**	PKP	**PKPdf**	**01 57 46.0**	**-1.9**
GERES	**GERESS Array B**	**134.38**	**298**	PKP	**PKPdf**	**01 57 46.0**	**-1.9**
	0.2nm,0.5s,baz=156,slow=6.9,SNR=4.0						
DAVOX	**Davos/Dischmat**	**135.62**	**294**	PKP	**PKPdf**	**01 57 52.0**	**+1.5**
DAVOX	**Davos/Dischmat**	**135.62**	**294**	PKP	**PKPdf**	**01 57 52.0**	**+1.5**
	2.6nm,0.9s,baz=316,slow=22,SNR=3.6						
NVAR	**Mina Array Bea**	**136.53**	**81**	PKP	**PKPdf**	**01 57 52.1**	**-0.3**
NVAR	**Mina Array Bea**	**136.53**	**81**	PKP	**PKPdf**	**01 57 52.1**	**-0.3**
	0.4nm,0.6s,baz=218,slow=4.0,SNR=3.8						
TXAR	**Lajitas Array**	**140.47**	**103**	PKPpre	PKPpre	01 57 52.8	
TXAR				PKP	**PKPdf**	**01 57 60.0**	**+0.2**
TXAR	**Lajitas Array**	**140.47**	**103**	PKhKP	PKPpre	01 57 52.8	
	0.3nm,0.9s,baz=188,slow=4.6,SNR=2.9						
TXAR				PKP	**PKPdf**	**01 57 60.0**	**+0.2**
	0.5nm,0.7s,baz=210,slow=4.9,SNR=7.2						
MNTX	**Cornudas Mount**	**140.93**	**99**	*e*PKPdf	**PKPdf**	**01 58 02.2**	**+1.7**
IMW	**Indian Meadow**	**144.10**	**78**	*e*PKPdf	PKPbc	01 58 04.9	+0.7
LOHW	**Long Hollow**	**144.19**	**79**	*e*PKPdf	PKPbc	01 58 05.0	+0.7
BOZ	**Bozeman (W)**	**144.44**	**75**	*e*PKPdf	PKPbc	01 58 05.6	+0.6
BW06	**Boulder Array**	**144.47**	**81**	*e*PKPdf	**PKPdf**	**01 58 06.2**	**-0.5**
PDAR	**Pinedale Array**	**144.47**	**81**	PKP	**PKPab**	**01 58 04.7**	**-0.3**
PDAR	**Pinedale Array**	**144.47**	**81**	PKP	**PKPab**	**01 58 04.7**	**-0.3**
	2.4nm,1.0s,baz=186,slow=2.7,SNR=12						
I18A	**Diamond G Ranc**	**144.74**	**79**	⇑P	**PKPdf**	**01 58 09.6**	**+2.5**
	baz=145						
G17A	**Pierce Place,**	**144.87**	**76**	⇑P	**PKPdf**	**01 58 08.6**	**+1.4**
	baz=145						
L20A	**Wamsutter**	**144.89**	**82**	⇓P	**PKPdf**	**01 58 07.2**	**-0.2**
	baz=145						
K19A	**Absolon Red Bu**	**144.96**	**81**	⇓P	**PKPdf**	**01 58 07.7**	**+0.2**
	baz=145						
J19A	**Crowheart**	**145.03**	**80**	⇑P	**PKPdf**	**01 58 08.2**	**+0.7**
	baz=145						
F17A	**Fitzpatrick Pl**	**145.16**	**75**	⇓P	**PKPdf**	**01 58 08.2**	**+0.6**
	baz=145						
K20A	**Yellowstone Ra**	**145.20**	**81**	⇑P	**PKPab**	**01 58 07.7**	**0.0**
	baz=145						
ABTX	**Abilene, Hawle**	**145.23**	**103**	PKPdf	**PKPdf**	**01 58 10.3**	**+2.3**
H18A	**Shoshone NF, C**	**145.27**	**78**	⇑P	**PKPdf**	**01 58 08.3**	**+0.3**
	baz=145						
I19A	**Meeteetse**	**145.42**	**79**	⇓P	**PKPbc**	**01 58 07.7**	**-0.5**
	baz=146						
L21A	**Rawlins**	**145.50**	**83**	⇑P	**PKPab**	**01 58 10.0**	**+1.1**
	baz=146						
ISCO	**Idaho Springs**	**145.56**	**88**	*e*PKPdf	**PKPbc**	**01 58 08.9**	**-0.1**
G18A	**Lazy EL Ranch,**	**145.61**	**77**	⇓P	**PKPab**	**01 58 09.6**	**+0.5**
	baz=146						
D17A	**Six Diamond Ra**	**145.65**	**73**	⇓P	**PKPbc**	**01 58 08.7**	**-0.1**
	baz=146						
J20A	**Shoshoni**	**145.69**	**81**	⇓P	**PKPdf**	**01 58 08.3**	**-0.3**
	baz=146						
H19A	**Powell**	**145.71**	**78**	⇓P	**PKPdf**	**01 58 07.7**	**-1.0**
	baz=146						
F18A	**Big Timber**	**145.76**	**76**	⇑P	**PKPdf**	**01 58 08.8**	**+0.2**
	baz=146						
K21A	**Alcova**	**145.90**	**82**	⇓P	**PKPab**	**01 58 10.3**	**0.0**
	baz=146						
N23A	**Red Feather La**	**145.90**	**86**	⇑P	**PKPab**	**01 58 12.3**	**+1.8**
	baz=146						
E18A	**Harlowton**	**145.91**	**74**	⇑P	**PKPab**	**01 58 10.1**	**0.0**
	baz=146						
I20A	**Worland**	**145.94**	**80**	⇓P	**PKPbc**	**01 58 09.4**	**-0.4**
	baz=146						
J21A	**Lysite**	**146.10**	**81**	⇓P	**PKPdf**	**01 58 09.6**	**+0.2**
	baz=146						
L22A	**Ellis Ranch, M**	**146.14**	**84**	⇑P	**PKPab**	**01 58 11.5**	**+0.2**
	baz=146						
H20A	**Greybull**	**146.26**	**79**	⇓P	**PKPdf**	**01 58 08.7**	**-0.8**
	baz=146						
K22A	**Casper**	**146.38**	**83**	⇓P	**PKPdf**	**01 58 09.6**	**-0.3**
	baz=146						
PHWY	**Pilot Hill**	**146.43**	**85**	PKPbc	**PKPab**	**01 58 12.2**	**-0.2**
G20A	**Bridger**	**146.44**	**77**	⇑P	**PKPdf**	**01 58 10.4**	**+0.6**
	baz=146						
E19A	**Rath Farm, Rou**	**146.58**	**75**	⇓P	**PKPdf**	**01 58 10.1**	**+0.1**
	baz=147						
J22A	**Midwest**	**146.76**	**81**	⇓P	**PKPbc**	**01 58 12.4**	**+0.2**
	baz=147						
D19A	**Cripps Ranch,**	**146.79**	**74**	⇑P	**PKPbc**	**01 58 12.6**	**+0.4**
	baz=147,SNR=8.2						
C19A	**Slack Wire Ran**	**146.90**	**73**	⇓P	**PKPbc**	**01 58 11.5**	**-0.9**
	baz=147						
YKA	**Yellowknife Ar**	**146.91**	**45**	PKPbc	**PKPbc**	**01 58 11.5**	**-0.4**
YKA	**Yellowknife Ar**	**146.91**	**45**	PKPbc	**PKPbc**	**01 58 11.5**	**-0.4**
	7.6nm,0.9s,baz=278,slow=2.3,SNR=7.4						
I22A	**9 Mile Ranch,**	**146.97**	**81**	⇓P	**PKPdf**	**01 58 11.7**	**+0.9**
	baz=147						
E20A	**Meyer Farm, Mu**	**147.01**	**75**	⇓P	**PKPbc**	**01 58 12.2**	**-0.5**
	baz=147						
L24A	**Wheatland**	**147.13**	**85**	⇓P	**PKPab**	**01 58 16.1**	**+1.1**
	baz=147						
WMOK	**Wichita Mounta**	**147.13**	**101**	PKPbc	**PKPab**	**01 58 15.0**	**0.0**
B19A	**Brinkman Farms**	**147.23**	**72**	⇓P	**PKPab**	**01 58 14.6**	**-0.5**
	baz=147						
D20A	**Manuel Ranch,**	**147.24**	**74**	⇑P	**PKPbc**	**01 58 13.2**	**-0.2**
	baz=147,SNR=7.1						
D21A	**La Casta Ranch**	**147.95**	**75**	⇓P	**PKPbc**	**01 58 16.3**	**+1.0**
	baz=148						
K25A	**Mack Ranch, Ha**	**148.09**	**84**	⇓P	**PKPab**	**01 58 19.3**	**+0.5**
	baz=148						
C21A	**Desert Coulee**	**148.16**	**74**	⇑P	**PKPab**	**01 58 17.5**	**-1.3**
	baz=148						
F23A	**Volborg**	**148.44**	**78**	⇑P	**PKPbc**	**01 58 17.2**	**+0.5**
	baz=148						
J25A	**Sunshine Ranch**	**148.49**	**83**	⇓P	**PKPbc**	**01 58 17.1**	**+0.3**
	baz=149,SNR=6.2						
H24A	**Dirks Ranch, A**	**148.59**	**80**	⇓P	**PKPbc**	**01 58 15.2**	**-1.9**
	baz=149,SNR=5.0						
RSSD	**Black Hills**	**148.66**	**82**	*e*PKPbc	**PKPbc**	**01 58 17.4**	**-0.1**
RSSD				*e*PKPab	**PKPab**	**01 58 20.1**	**-1.1**
A21A	**Bergtoll Ranch**	**148.67**	**72**	⇑P	**PKPbc**	**01 58 18.2**	**+1.1**
	baz=149						
I25A	**Rochford**	**148.82**	**82**	⇑P	**PKPbc**	**01 58 17.5**	**-0.3**
	baz=149,SNR=8.3						
G24A	**Alzada**	**148.92**	**79**	⇑P	**PKPbc**	**01 58 18.4**	**+0.5**
	baz=149						
J26A	**Sides Ranch, S**	**148.93**	**84**	⇓P	**PKPbc**	**01 58 18.5**	**+0.5**
	baz=149,SNR=8.1						
B22A	**Reddig Ranch S**	**149.02**	**73**	⇓P	**PKPab**	**01 58 20.4**	**-1.8**
	baz=149						
F24A	**Ekalaka**	**149.11**	**78**	⇓P	**PKPbc**	**01 58 18.5**	**+0.1**
	baz=149						
D23A	**Lindsay**	**149.12**	**76**	⇓P	**PKPbc**	**01 58 20.5**	**+2.1**
	baz=149						
A22A	**Carney Farms,**	**149.30**	**72**	⇓P	**PKPbc**	**01 58 20.4**	**+1.8**
	baz=149						
C23A	**Lambert**	**149.36**	**74**	⇓P	**PKPab**	**01 58 21.4**	**-2.2**
	baz=150						
I26A	**New Underwood**	**149.39**	**83**	⇑P	**PKPbc**	**01 58 21.0**	**+1.9**
	baz=150						
E24A	**Baker**	**149.47**	**77**	⇓P	**PKPbc**	**01 58 20.7**	**+1.5**
	baz=150						
G25A	**Newell**	**149.51**	**80**	⇓P	**PKPbc**	**01 58 19.5**	**+0.2**
	baz=150						
H26A	**Fairpoint**	**149.69**	**82**	⇓P	**PKPbc**	**01 58 20.3**	**+0.5**
	baz=150,SNR=8.4						
F25A	**Bowman**	**149.78**	**79**	⇓P	**PKPbc**	**01 58 21.6**	**+1.6**
	baz=150						
G27A	**Dupree**	**149.90**	**80**	⇑P	**PKPbc**	**01 58 22.3**	**+2.0**
	baz=151						
I27A	**Quinn**	**149.93**	**83**	⇓P	**PKPbc**	**01 58 21.4**	**+1.0**
	baz=150,SNR=5.8						
G26A	**Maurine**	**150.08**	**80**	⇑P	**PKPbc**	**01 58 20.8**	**+0.1**
	baz=150						
DGMT	**Dagmar**	**150.21**	**74**	⇓P	**PKPbc**	**01 58 23.1**	**+2.2**
	baz=150						
F26A	**Lodgepole**	**150.26**	**79**	⇓P	**PKPbc**	**01 58 21.1**	**0.0**
	baz=150						
A24A	**Westby**	**150.47**	**73**	⇑P	**PKPbc**	**01 58 24.1**	**+2.6**
	baz=151						
F27A	**Lemmon**	**150.68**	**80**	⇑P	**PKPbc**	**01 58 22.3**	**+0.2**

IDC ***08*** *01:39:44.5±1.6, 8°.66S×127°.55E, h0km, mb3.4/2, mb1 3.6/5, mb1mx3.4/21, mbtmp3.4/5, ML3.6/3, Error ellipse: s-maj=90.9km s-min=25.3km az=72.0*

ISC 08 01:39:45.7±1.4, 8°.9S±0°.1×127°.6E±0°.2, h10km, n8, σ2§30/8, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTN	**Manton Dam**	**5.26**	**139**	P	Pb	01 41 12.7	-5.1
	baz=22,SNR=16						
KDU	**Kakadu**	**6.12**	**129**	P	Pn	01 41 23.4	+7.3
	baz=23,SNR=6.5						
FITZ	**Fitzroy Crossi**	**9.38**	**192**	Pn	**Pn**	**01 42 04.1**	**+3.1**
	0.5nm,0.3s,baz=10,slow=11,SNR=20						
FITZ				Sn	**Sn**	**01 43 43.8**	**-2.8**
	0.6nm,0.3s,baz=106,slow=18,SNR=3.5						
FITZ	**Fitzroy Crossi**	**9.38**	**192**	S	Sn	01 43 38.6	-8.1
	baz=18,SNR=3.2						
WRA	**Warramunga Arr**	**12.80**	**150**	Pn	**Pn**	**01 42 49.9**	**+2.0**
	0.3nm,0.3s,baz=322,slow=14,SNR=7.6						
WRA				Sn	**Sn**	**01 45 09.2**	**-1.4**
	0.5nm,0.3s,baz=322,slow=28,SNR=4.9						
ASAR	**Alice Springs**	**15.91**	**158**	Pn	**P**	**01 43 32.6**	**-1.0**
	0.2nm,0.3s,baz=337,slow=11,SNR=6.6						
ASAR				Sn	**Sn**	**01 46 26.0**	**-0.5**
	0.2nm,0.3s,baz=323,slow=20,SNR=4.2						
MKAR	**Makanchi Array**	**68.51**	**328**	P	**P**	**01 50 47.1**	**-1.2**
	0.2nm,0.6s,baz=134,slow=7.6,SNR=3.1						
KURBB	**Kurchatov Arra**	**72.88**	**330**	P	**P**	**01 51 14.5**	**-0.2**
	0.2nm,0.5s,baz=141,slow=5.2,SNR=3.8						

TIF ***08*** *01:40:39.8, 42°.56N×43°.47E, h11km±1km*
CSEM ***08*** *01:40:40.6±0.1, 42°.56N×43°.43E, h5km, mb4.2, Error ellipse: s-maj=4.5km s-min=2.3km az=127.0*
MOS ***08*** *01:40:40.1±0.9, 42°.51N×43°.45E, h9km, mb4.2/1, Error ellipse: s-maj=12.3km s-min=5.4km az=73.5*
ISCJB ***08*** *01:40:40.1±0.4, 42°.59N±0°.02×43°.37E±0°.03, h6km±3km, mb3.3/2, MS3.3/1, Error ellipse: s-maj=3.3km s-min=3.0km az=141.9*
DDA ***08*** *01:40:41.6, 42°.46N×43°.27E, h8km, MD3.3*
IDC ***08*** *01:40:41.1±2.0, 42°.68N×43°.38E, h0km, mb3.3/3, mb1 3.4/5, mb1mx3.2/26, mbtmp3.4/5, ML3.1/2, MS3.5/1, Ms1 3.5/1, ms1mx2.7/26, Error ellipse: s-maj=26.3km s-min=13.8km az=46.0*
ISK ***08*** *01:40:44.2, 42°.28N×43°.00E, h5km, MD3.7*

ISC 08 01:40:40.5±0.8, 42°.55N±0°.02×43°.40E±0°.02, h6km±6km, n94, σ0§94/148, 8C-10D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.06**	**42**	P	**Pg**	**01 40 42.3**	**+0.1**
ONI				S	**Sg**	**01 40 43.7**	**+0.4**
DIGR	**Digorskoe uzhe**	**0.38**	**21**	⇓*i*PG	**Pg**	**01 40 47.3**	**-0.6**
DIGR				*i* S	**Sg**	**01 40 52.5**	**-0.3**
DIGR	**Digorskoe uzhe**	**0.38**	**21**	*i* Pg	**Pg**	**01 40 47.3**	**-0.6**
DIGR				*i* Sg	**Sg**	**01 40 52.5**	**-0.3**
ZEI	**Tsey**	**0.44**	**57**	⇓*i*PG	**Pg**	**01 40 48.3**	**-0.8**
ZEI				*i* S	**Sg**	**01 40 54.1**	**-0.7**
ZEI	**Tsey**	**0.44**	**57**	*i* Pg	**Pg**	**01 40 48.3**	**-0.8**
ZEI				*i* Sg	**Sg**	**01 40 54.1**	**-0.7**
LACR	**Lac**	**0.72**	**67**	⇓*i*PG	**Pg**	**01 40 53.2**	**-1.1**
LACR				*i* S	**Sg**	**01 41 02.5**	**-1.1**
LACR	**Lac**	**0.72**	**67**	*i* Pg	**Pg**	**01 40 53.2**	**-1.1**
LACR				*i* Sg	**Sg**	**01 41 02.5**	**-1.1**
KORR	**Kora**	**0.73**	**42**	⇑*i*PG	**Pg**	**01 40 54.2**	**-0.3**
KORR				*e*S	**Sg**	**01 41 03.8**	**-0.1**
KORR	**Kora**	**0.73**	**42**	*i* Pg	**Pg**	**01 40 54.2**	**-0.3**
KORR				*e*Sg	**Sg**	**01 41 03.8**	**-0.1**
LSNR	**Lesken**	**0.79**	**23**	⇓*i*PG	**Pg**	**01 40 55.5**	**-0.2**
LSNR				*e*S	**Sg**	**01 41 06.0**	**-0.1**
LSNR	**Lesken**	**0.79**	**23**	*i* Pg	**Pg**	**01 40 55.5**	**-0.2**
LSNR				*e*Sg	**Sg**	**01 41 06.0**	**-0.1**
STDR	**Stavd-Durt**	**0.95**	**30**	⇓*i*PG	**Pb**	**01 40 59.7**	**+0.3**
STDR				*e*S	**Sb**	**01 41 12.6**	**+0.3**
STDR	**Stavd-Durt**	**0.95**	**30**	*i* Pg	**Pb**	**01 40 59.7

GNI	Garni	2.60	157	ePN	Pb	01 41 28.2	+0.6
GNI	Garni	2.60	157	ePn	Pb	01 41 28.2	+0.6
AGRB	Hanur-Agry	2.99	186	ePN	Pn	01 41 29.9	+1.4
AGRB	Hanur-Agry	2.99	186	ePn	Pn	01 41 29.9	+1.4
KTUT	Trabzon	3.13	241	ePN	Pn	01 41 31.1	+0.7
KTUT	Trabzon	3.13	241	ePn	Pn	01 41 31.1	+0.7
MACK	Trabzon	3.16	241	eP	Pn	01 41 30.0	-0.7
MACK	Trabzon	3.16	241	eP	Pn	01 41 30.0	-0.7
BAYT	Ayd¨–ntepe-Bay	3.26	230	ePN	Pn	01 41 32.1	-0.2
BAYT	Ayd¨–ntepe-Bay	3.26	230	ePn	Pn	01 41 32.1	-0.2
GUMT	Gumushane	3.61	236	ePN	Pn	01 41 37.3	+0.3
GUMT	Gumushane	3.61	236	ePn	Pn	01 41 37.3	+0.3
ESPY	Espiye-Giresun	3.86	247	ePN	Pn	01 41 41.0	+0.6
ESPY	Espiye-Giresun	3.86	247	ePn	Pn	01 41 41.0	+0.6
BNGB	Bing ¶ll	4.11	211	ePN	Pn	01 41 45.0	+1.1
BINT	Bingol	4.29	212	ePN	Pn	01 41 45.0	-1.3
ILIC	ilic-Erzincan	4.79	231	ePN	Pn	01 41 53.9	+0.6
ILIC	ilic-Erzincan	4.79	231	ePn	Pn	01 41 53.9	+0.6
RSDY	Resadiye-TOKAT	5.04	247	ePN	Pn	01 41 58.7	+2.1
RSDY	Resadiye-TOKAT	5.04	247	ePn	Pn	01 41 58.7	+2.1
BRTR	Keskin Array B	7.89	252	Pn	Pn	01 42 37.6	+1.8
	comp=Z,0.1nm,0.3s,baz=44,slow=10,SNR=6.3						
BRTR				Sn	Sn	01 44 06.0	+0.5
	comp=Z,0.1nm,0.3s,baz=38,slow=16,SNR=2.4						
BRTR	Keskin Array B	7.89	252	P	Pn	01 42 37.6	+1.8
BRTR				S	Sn	01 44 06.0	+0.5
AKTK	Aktyubinsk	12.78	47	P	Pn	01 43 40.3	-2.2
AKTO	Aktyubinsk	12.78	47	⇑Pn	Pn	01 43 37.6	-4.9
	comp=Z,1.5nm,0.8s						
AKTO				⇓Sn	Sn	01 45 55.7	-9.2
	comp=Z,1.3nm,0.8s						
AKTO	Aktyubinsk	12.78	47	P	Pn	01 43 40.3	-2.2
AKTO	Aktyubinsk	12.78	47	Pn	Pn	01 43 40.3	-2.2
	comp=Z,0.2nm,0.3s,baz=242,slow=9.0,SNR=3.5						
AB31	Akbulak array	13.32	54	⇓Pn	Pn	01 43 47.7	-2.2
	comp=Z,0.4nm,0.4s,baz=247,slow=13,SNR=14						
AB31				⇑Sn	Sn	01 46 09.6	-8.6
	comp=Z,0.7nm,0.6s,baz=248,slow=24,SNR=3.6						
AB31	Akbulak array	13.32	54	Pn	Pn	01 43 47.7	-2.2
	comp=Z,0.4nm,0.4s,baz=247,SNR=14						
BVAR	Borovoye Array	20.82	50	P	P	01 45 22.5	0.0
BVAR	Borovoye Array	20.82	50	P	P	01 45 22.5	0.0
	comp=Z,0.7nm,0.6s,baz=256,slow=12,SNR=4.6						
BVAR	Borovoye Array	20.82	50	P	P	01 45 22.5	0.0
FINES	FINESS Array B	21.59	337	P	P	01 45 32.4	+1.8
	comp=Z,1.8nm,0.7s,baz=169,slow=16,SNR=2.9						
FINES	FINESS Array B	21.59	337	P	P	01 45 32.4	+1.8
AAK	Ala-Archa	22.83	79	LR	LR	01 56 52.7	
	comp=Z,118nm,21.1s,baz=251,SNR=43						
MKAR	Makanchi Array	27.78	68	P	P	01 46 31.2	+1.2
MKAR	Makanchi Array	27.78	68	P	P	01 46 31.2	+1.2
	comp=Z,0.2nm,0.6s,baz=282,slow=7.6,SNR=3.4						
MKAR	Makanchi Array	27.78	68	P	P	01 46 31.2	+1.2

*NEIC **08** 01:48:43.1, 18°.61N×66°.79W, $h5^{km}$, MD2.9(RSPR), After RSPR.*

RSPR 08 01:48:42.9, 18°.64N×66°.84W, $h10^{km}$±1km, MD2.5/6, 9C-6D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOPR	Arecibo Observ	0.30	165	⇑eP	Pg	01 48 48.9	-0.1
AOPR	Arecibo Observ	0.30	165	eS	Sg	01 48 53.6	+0.5
AOPR	Arecibo Observ	0.30	165	⇓eP	Pg	01 48 48.9	-0.1
AOPR	Arecibo Observ	0.30	165	⇓eP	Pg	01 48 49.1	0.0
AOPR				eS	Sg	01 48 53.9	+0.8
AOPR	Arecibo Observ	0.30	165	⇓eP	Pg	01 48 48.9	-0.1
AGPR	Aguadilla, PR	0.31	237	⇓eP	Pg	01 48 49.1	-0.1
AGPR	Aguadilla, PR	0.31	237	eS	Sg	01 48 54.1	+0.7
AGPR	Aguadilla, PR	0.31	237	ePg	Pg	01 48 49.3	+0.1
AGPR				eS	Sg	01 48 53.7	+0.3
LRS	Lares	0.35	181	eS	Sg	01 48 54.6	+0.1
LRS	Lares	0.35	181	Pg	Pg	01 48 50.0	+0.2
LRS				eS	Sg	01 48 54.9	+0.4
LSP	Las Mesas	0.52	207	eS	Sg	01 49 00.9	+0.9
LSP	Las Mesas	0.52	207	Pg	Pg	01 48 51.8	-1.3
LSP				eS	Sg	01 49 00.6	+0.6
OBIP	Obispado Ponce	0.63	160	⇑eP	Pg	01 48 54.2	-1.0
OBIP	Obispado Ponce	0.63	160	⇑eP	Pg	01 48 54.1	-1.1
OBIP	Obispado Ponce	0.63	160	eS	Sg	01 49 03.3	-0.1
OBIP	Obispado Ponce	0.63	160	⇑eP	Pg	01 48 54.1	-1.1
OBIP				eS	Sg	01 49 03.3	-0.1
CRPR	Cabo Rojo, PR	0.68	203	⇑eP	Pg	01 48 55.1	-1.0
CRPR	Cabo Rojo, PR	0.68	203	eS	Sg	01 49 04.7	-0.3
CRPR	Cabo Rojo, PR	0.68	203	Pg	Pn	01 48 57.9	-0.7
CRPR				eS	Sg	01 49 05.2	+0.2
CBYP	Canovanas	1.00	111	eS	Sg	01 49 12.9	-2.4
CBYP	Canovanas	1.00	111	Pg	Pg	01 48 59.9	-2.4
CBYP				eS	Sg	01 49 12.6	-2.7
HUMP	Col San Antoni	1.06	118	⇑eP	Pg	01 49 00.8	-2.5
HUMP	Col San Antoni	1.06	118	⇑eP	Pg	01 49 00.8	-2.5
HUMP	Col San Antoni	1.06	118	eS	Sg	01 49 14.1	-3.0
HUMP	Col San Antoni	1.06	118	⇑eP	Pg	01 49 00.8	-2.5
HUMP				eS	Sg	01 49 14.1	-3.0
MTP	Monte Pirata	1.33	114	⇑eP	Pn	01 49 04.9	-2.8
MTP	Monte Pirata	1.33	114	eS	Sb	01 49 21.7	-3.5
MTP	Monte Pirata	1.33	114	⇓eP	Pn	01 49 04.7	-2.9
MTP	Monte Pirata	1.33	114	⇓eP	Pn	01 49 04.7	-2.9
MTP				eS	Sb	01 49 21.7	-3.5

*IDC **08** 02:02:01.4±10.0, 36°.10S×178°.83E, $h0^{km}$, mb3.6/2, mb1 3.9/2, mb1mx3.6/16, mbtmp3.6/2, Error ellipse: s-maj=381.0km s-min=46.9km az=36.0*
*ISCJB **08** 02:02:26.0±0.9, 37°.3S±0°.1×177°.4E±0°.2, $h176^{km}$±10^{km}, mb3.4/3, Error ellipse: s-maj=24.0km s-min=12.7km az=40.7.*
*WEL **08** 02:02:26.3±0.3, 36°.97S×177°.32E, $h142^{km}$±3^{km}, ML3.9/5, Error ellipse: s-maj=4.1km s-min=3.2km az=90.0*

ISC 08 02:02:26.4±1.3, 37°.2S±0°.1×177.4E±0°.1, $h164^{km}$±11km, n43, σ0.94/42, 4C, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.83	119	⇑PN	Pn	02 02 50.3	-1.0
MXZ				SN	Sn	02 03 08.9	-1.5
MXZ				AML	AML	02 03 09.5	
MXZ				AML	AML	02 03 15.4	
URZ	Urewera	1.12	191	⇑PN	Pn	02 02 53.5	0.0
URZ				SN	Sn	02 03 14.0	-0.4
URZ				AML	AML	02 03 15.0	
PUZ	Puketiti	1.14	143	⇑PN	Pn	02 02 53.4	-0.3
PUZ				SN	Sn	02 03 14.4	-0.3
PUZ				AML	AML	02 03 21.2	
MWZ	Matawai	1.18	175	⇑PN	Pn	02 02 54.0	0.0
MWZ				SN	Sn	02 03 14.8	-0.6
MWZ				AML	AML	02 03 15.3	
MWZ				AML	AML	02 03 15.4	
MWZ				AML	AML	02 03 16.3	
CNGZ	Carnagh Statio	1.47	154	PN	Pn	02 02 57.4	+0.6
RAHZ	Arahi	1.77	188	PN	Pn	02 03 00.5	+0.7
PRGZ	Paritu Road	1.80	168	PN	Pn	02 03 00.6	+0.4
KNZ	Kokohu	1.87	173	PN	Pn	02 03 01.1	+0.2
NMHZ	Naumai	1.99	193	PN	Pn	02 03 03.5	+1.2
NMHZ				SN	Sn	02 03 30.8	+0.7
MHGZ	Mahia Peninsul	2.03	169	PN	Pn	02 03 03.3	+0.6
BKZ	Black Stump Fm	2.12	199	PN	Pn	02 03 04.9	+1.1
MCHZ	McNeill Hill	2.34	193	PN	Pn	02 03 07.5	+1.2
CKHZ	Cape Kidnapper	2.51	186	PN	Pn	02 03 08.9	+0.7
BHHZ	Black Hill Sta	2.55	204	PN	Pn	02 03 09.1	+0.3
WHVZ	Whangaehu Hut	2.55	213	PN	Pn	02 03 09.8	+0.8
MOVZ	Moawhango	2.59	209	PN	Pn	02 03 09.4	+0.1
KAHZ	Kahuranaki	2.66	189	PN	Pn	02 03 10.3	+0.1
PXZ	Pawanui	2.90	188	PN	Pn	02 03 12.7	-0.3
PXZ				AML	AML	02 03 49.9	
PXZ				AML	AML	02 03 49.9	
PNHZ	Pukenui	2.90	198	PN	Pn	02 03 12.8	-0.4
WPHZ	Waipukurau	2.99	194	PN	Pn	02 03 13.8	-0.5
PRHZ	Porangahau	3.16	191	PN	Pn	02 03 15.9	-0.4
DVHZ	Dannevirke	3.28	197	PN	Pn	02 03 17.2	-0.6
ANWZ	Angora Road	3.37	192	PN	Pn	02 03 18.5	-0.4
POWZ	Post Office Ro	3.47	201	PN	Pn	02 03 19.3	-0.9
PRWZ	Pori Road	3.57	198	PN	Pn	02 03 20.8	-0.6
BFZ	Birch Farm	3.63	194	PN	Pn	02 03 22.0	-0.2
MRZ	Mangatainoka R	3.77	201	PN	Pn	02 03 22.5	-1.5
TIWZ	Tintock	3.80	198	PN	Pn	02 03 23.2	-1.2
HOWZ	Holdsworth Sta	4.01	201	PN	Pn	02 03 25.3	-1.8
OGWZ	Otaki Gorge	4.04	205	PN	Pn	02 03 25.9	-1.6
TMWZ	Te Maipa	4.11	196	PN	Pn	02 03 26.8	-1.6
KIW	Kapiti Island	4.17	207	PN	Pn	02 03 27.4	-1.8
CAW	Cannon Point	4.33	204	PN	Pn	02 03 29.2	-2.1
DUWZ	D'Urville Isla	4.53	216	PN	Pn	02 03 33.2	-0.7
MSWZ	Moikau Station	4.56	201	PN	Pn	02 03 32.3	-2.0
PLWZ	Palliser	4.70	200	PN	Pn	02 03 33.6	-2.6
TCW	Tory Channel	4.71	210	PN	Pn	02 03 33.8	-2.4
THZ	Tophouse	5.76	216	PN	Pn	02 03 48.3	-1.7
KHZ	Kahutara	6.03	208	PN	Pn	02 03 51.5	-2.0
DSZ	Denniston Nort	6.30	222	PN	Pn	02 03 54.4	-2.7
ASAR	Alice Springs	39.51	277	P	P	02 09 42.2	+0.9
	0.5nm,0.5s,baz=120,slow=8.0,SNR=5.4						
WRA	Warramunga Arr	41.14	283	P	P	02 09 55.1	+0.5
	0.3nm,0.3s,baz=123,slow=7.4,SNR=2.9						
TORD	Torodi Ar. Bea	155.78	190	PKPab	PKPab	02 22 29.1	+0.6
	0.1nm,0.3s,baz=168,slow=4.2,SNR=7.3						

*ISCJB **08** 02:03:25.8±0.4, 42°.57N±0°.02×43°.40E±0°.03, $h3^{km}$±4^{km}, Error ellipse: s-maj=3.2km s-min=3.1km az=167.5*
*DDA **08** 02:03:25.6, 42°.53N×43°.37E, $h11^{km}$, MD3.2*
*TIF **08** 02:03:25.6, 42°.56N×43°.45E, $h11^{km}$±2^{km}*
*MOS **08** 02:03:26.6±1.2, 42°.58N×43°.47E, $h9^{km}$, mb4.1/1, Error ellipse: s-maj=11.9km s-min=5.6km az=74.2*
*CSEM **08** 02:03:26.2±0.1, 42°.56N×43°.40E, $h2^{km}$, mb4.1, Error ellipse: s-maj=4.3km s-min=2.2km az=128.0*

ISC 08 02:03:25.8±0.8, 42°.55N±0°.02×43°.47E±0°.02, h11km±5km, n75, σ1.15/129, 10C-6D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	Oni	0.05	342	P	Pg	02 03 28.0	0.0
ONI				S	Sg	02 03 29.4	-0.2
DIGR	Digorskoe uzhe	0.36	13	⇓iPG	Pg	02 03 32.9	-0.2
DIGR				iS	Sg	02 03 38.2	+0.2
DIGR	Digorskoe uzhe	0.36	13	iPg	Pg	02 03 32.9	-0.2
DIGR				iSg	Sg	02 03 38.2	+0.2
ZEI	Tsey	0.40	53	⇓iPG	Pg	02 03 34.0	+0.2
ZEI				iS	Sg	02 03 39.7	+0.6
ZEI	Tsey	0.40	53	iPg	Pg	02 03 34.0	+0.2
ZEI				iSg	Sg	02 03 39.7	+0.6
LACR	Lac	0.67	65	⇓iPG	Pg	02 03 38.9	+0.1
LACR				iS	Sg	02 03 48.1	+0.4
LACR	Lac	0.67	65	iPg	Pg	02 03 38.9	+0.1
LACR				iSg	Sg	02 03 48.1	+0.4
KORR	Kora	0.69	39	⇑iPG	Pg	02 03 39.8	+0.5
KORR				eS	Sg	02 03 49.5	+1.1
KORR	Kora	0.69	39	iPg	Pg	02 03 39.8	+0.5
KORR				eSg	Sg	02 03 49.5	+1.1
LSNR	Lesken	0.78	19	⇓iPG	Pg	02 03 41.1	+0.3
LSNR				iS	Sg	02 03 51.7	+0.7
LSNR	Lesken	0.78	19	iPg	Pg	02 03 41.1	+0.3
LSNR				iSg	Sg	02 03 51.7	+0.7
STDR	Stavd-Durt	0.93	28	⇑iPG	Pn	02 03 45.3	+0.4
STDR				eS	Sn	02 03 58.1	-0.1
STDR	Stavd-Durt	0.93	28	iPg	Pn	02 03 45.3	+0.4
STDR				eSg	Sn	02 03 58.1	-0.1
NCK	Nalchik	0.95	5	⇓ePG	Pb	02 03 44.8	+0.4
NCK				eS	Sn	02 03 58.6	-0.3
NCK	Nalchik	0.95	5	ePg	Pb	02 03 44.8	+0.4
NCK				eSg	Sn	02 03 58.6	-0.3
VLKR	Vladikavkaz	1.02	60	ePG	Pb	02 03 45.8	+0.3
VLKR				eS	Sg	02 03 59.8	+1.1
VLKR	Vladikavkaz	1.02	60	ePg	Pb	02 03 45.8	+0.3
VLKR				eSg	Sg	02 03 59.8	+1.1
DUS	Dusheti	1.02	116	P	Pn	02 03 47.1	+0.9
DUS				S	Sn	02 04 01.9	+1.4
SNJR	Sundja	1.12	62	iPG	Pn	02 03 47.8	+0.3
SNJR				eS	Sn	02 04 03.0	+0.1
SNJR	Sundja	1.12	62	iPg	Pn	02 03 47.8	+0.3
SNJR				eSg	Sn	02 04 03.0	+0.1
AKH	Akhalkalaki	1.14	179	P	Pb	02 03 47.6	-0.1
AKH				S	Sg	02 04 03.5	+1.0
BTKR	Batakoyurt	1.14	43	⇑iPG	Pg	02 03 49.7	+1.9
BTKR				eS	Sn	02 04 05.3	+1.8
BTKR	Batakoyurt	1.14	43	iPg	Pg	02 03 49.7	+1.9
BTKR				eSg	Sn	02 04 05.3	+1.8
TBLG	Delisi	1.25	130	P	Pn	02 03 49.5	+0.2
TBLG				S	Sg	02 04 07.1	+1.2
KUBR	Kubataba	1.25	358	⇑ePG	Pg	02 03 50.6	+0.7
KUBR				eS	Sg	02 04 08.0	+1.8
KUBR	Kubataba	1.25	358	ePg	Pg	02 03 50.6	+0.7
KUBR				eSg	Sg	02 04 08.0	+1.8
SHAR	Shatzhatmas	1.33	334	⇑ePG	Pn	02 03 50.8	+0.2
SHAR				eS	Sb	02 04 07.8	-0.4
SHAR	Shatzhatmas	1.33	334	ePg	Pn	02 03 50.8	+0.2
SHAR				eSg	Sb	02 04 07.8	-0.4
PRTR	Priterechnaya	1.34	26	⇑iPG	Pg	02 03 52.3	+0.7
PRTR				eS	Sg	02 04 10.6	+1.6
PRTR	Priterechnaya	1.34	26	iPg	Pg	02 03 52.3	+0.7
PRTR				eSg	Sg	02 04 10.6	+1.6
KZR	Kazreti	1.36	149	P	Pn	02 03 51.1	+0.3
KZR				S	Sb	02 04 09.6	+0.8
TRKR	Terskaya	1.50	38	⇓iPG	Pg	02 03 55.0	+0.5
TRKR				eS	Sg	02 04 14.9	+1.0
TRKR	Terskaya	1.50	38	iPg	Pg	02 03 55.0	+0.5
TRKR				eSg	Sg	02 04 14.9	+1.0
PYA	Pyatigorsk	1.52	349	⇑ePG	Pb	02 03 54.5	+0.5
PYA				eS	Sb	02 04 14.3	+1.0
PYA	Pyatigorsk	1.52	349	ePg	Pb	02 03 54.5	+0.5
PYA				eSg	Sb	02 04 14.3	+1.0
KIV	Kislovodsk	1.52	338	⇑ePG	Pb	02 03 54.1	0.0
KIV				eS	Sn	02 04 12.7	-0.3
KIV	Kislovodsk	1.52	338	ePg	Pb	02 03 54.1	0.0
KIV				eSg	Sn	02 04 12.7	-0.3
BCA	Borcka	1.76	232	ePN	Pn	02 03 56.8	+0.4
BCA	Borcka	1.76	232	ePn	Pn	02 03 56.8	+0.4
ARTV	Artvin	1.78	221	iP	Pn	02 03 57.9	+1.1
ARTV				iS	Sb	02 04 21.5	+0.4
ARTV	Artvin	1.78	221	iP	Pn	02 03 57.9	+1.1
ARTV				iS	Sb	02 04 21.5	+0.4
DGRG	David-gareji	1.79	127	P	Pb	02 03 59.7	+1.0
DGRG				S	Sg	02 04 25.1	+1.7
DBOC	Borcka	1.80	229	iP	Pn	02 03 57.8	+0.9
DBOC				iS	Sb	02 04 20.9	-0.6
DBOC	Borcka	1.80	229	iP	Pn	02 03 57.8	+0.9
DBOC				iS	Sb	02 04 21.0	-0.6
DAGI	Agillar	1.87	219	iP	Pb	02 03 59.6	-0.5
DAGI				iS	Sb	02 04 23.5	-0.1
KARS	Kars	1.94	189	ePN	Pb	02 04 02.4	+1.1
KARS				eSN	Sg	02 04 28.7	+0.5
KARS	Kars	1.94	189	ePn	Pb	02 04 02.4	+1.1
KARS				eSn	Sg	02 04 28.7	+0.5
DDEM	Demirkent	2.10	219	iP	Pb	02 04 03.3	-0.6
DDEM				iS	Sb	02 04 30.6	+0.6
DDEM	Demirkent	2.10	219	iP	Pb	02 04 03.3	-0.6
DDEM				iS	Sb	02 04 30.6	+0.6
DIGO	Kars	2.13	182	iP	Pb	02 04 04.0	-0.6
DIGO				iS	Sb	02 04 32.3	+1.1
DIGO	Kars	2.13	182	iP	Pb	02 04 04.0	-0.6
DIGO				iS	Sb	02 04 32.3	+1.1
PZAR	Pazar-Rize	2.36	235	ePN	Pn	02 04 04.4	-0.1
PZAR	Pazar-Rize	2.36	235	ePn	Pn	02 04 04.4	-0.1
GNI	Garni	2.58	158	ePN	Pb	02 04 13.3	+1.1
GNI	Garni	2.58	158	ePn	Pb	02 04 13.3	+1.1
AGRB	Hanur-Agry	2.99	187	ePN	Pb	02 04 17.4	-1.8
AGRB	Hanur-Agry	2.99	187	ePn	Pb	02 04 17.4	-1.8
BAYT	Ayd¨–ntepe-Bay	3.30	230	ePN	Pn	02 04 18.4	+0.8
BAYT	Ayd¨–ntepe-Bay	3.30	230	ePn	Pn	02 04 18.4	+0.8
GUMT	Gumushane	3.65	237	ePN	Pn	02 04 22.2	-0.2
GUMT	Gumushane	3.65	237	ePn	Pn	02 04 22.2	-0.2
ESPY	Espiye-Giresun	3.91	247	ePN	Pn	02 04 25.2	-0.6
ESPY	Espiye-Giresun	3.91	247	ePn	Pn	02 04 25.2	-0.6
KELT	Kelkit	3.98	234	iP	Pn	02 04 27.7	+0.8
KELT				iS	Sn	02 05 13.1	-0.6
KELT	Kelkit	3.98	234	iP	Pn	02 04 27.7	+0.8
KELT				iS	Sn	02 05 13.1	-0.6
SUSE	Susehri	4.60	241	iP	Pn	02 04 37.0	+1.5
SUSE				iS	Sn	02 05 31.0	+2.0
SUSE	Susehri	4.60	241	iP	Pn	02 04 37.0	+1.5
SUSE				iS	Sn	02 05 31.0	+2.0
ILIC	ilic-Erzincan	4.83	232	ePN	Pn	02 04 39.8	+1.2
ILIC	ilic-Erzincan	4.83	232	ePn	Pn	02 04 39.8	+1.2
ANN	Anapa	4.92	299	ePN	Pn	02 04 42.3	+2.5
ANN				eS	Sn	02 05 41.3	+4.6
ANN				pmax	pmax		
	comp=Z,8.0nm,0.8s						
ANN	Anapa	4.92	299	ePn	Pn	02 04 42.3	+2.5
	comp=Z,8.0nm,0.8s						
AB31	Akbulak array	13.28	54	⇑Pn	Pn	02 06 31.5	-2.6
	comp=Z,0.7nm,0.6s,baz=240,slow=11,SNR=10						
AB31				⇑Sn	Sn	02 08 58.2	-3.5
	comp=Z,0.3nm,0.3s,baz=244,slow=20,SNR=3.9						
AB31	Akbulak array	13.28	54	Pn	Pn	02 06 31.5	-2.6
	comp=Z,0.7nm,0.6s,SNR=10						
AB31				Sn	Sn	02 08 58.2	-3.5
	comp=Z,0.3nm,0.3s,SNR=3.9						
BRVK	Borovoye	20.73	50	eP	Pn	02 08 08.1	-0.5
BRVK	Borovoye	20.73	50	eP	Pn	02 08 08.1	-0.5

MEX 08 02:09:06.1±0.9, 17°.32N×100°.19W, $h49^{km}$±12^{km}, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	El Cayaco	0.28	195	iP	Pn	02 09 13.4	-1.6
CAIG				iS	Sn	02 09 19.9	-1.4
MEIG	Mezcala	0.82	42	iP	Pn	02 09 19.4	-2.1
MEIG				iS	Sn	02 09 30.6	-2.1
PLIG	Platanillo	1.26	31	iP	Pn	02 09 26.4	-1.0
PLIG				eS	Sn	02 09 41.2	-2.1
PNIG	Pinotepa	2.18	115	iP	Pn	02 09 35.1	-4.9
PNIG				iS	Sn	02 10 04.0	-1.8
PPM	Popocatepetl	2.29	40	eP	Pn	02 09 40.9	-1.2
PPM				iS	Sn	02 10 07.8	-1.8

*DDA **08** 02:11:17.6, 42°.76N×43°.30E, $h7^{km}$, MD3.2*
*IDC **08** 02:11:19.4±1.5, 42°.54N×43°.54E, $h0^{km}$, mb3.3/5, mb1 3.4/7, mb1mx3.3/28, mbtmp3.4/7, ML3.2/2, MS3.7/1, Ms1 3.7/1, ms1mx2.5/32, Error ellipse: s-maj=20.2km s-min=14.2km az=26.0*
*TIF **08** 02:11:20.0, 42°.49N×43°.55E, $h9^{km}$±1^{km}*
*MOS **08** 02:11:20.3±0.8, 42°.51N×43°.54E, $h10^{km}$, mb4.0/1, Error ellipse: s-maj=9.6km s-min=5.0km az=75.9*
*ISCJB **08** 02:11:20.4±0.4, 42°.58N±0°.02×43°.54E±0°.02, $h14^{km}$±4^{km}, mb3.2/5, MS3.7/1, Error ellipse: s-maj=4.0km s-min=3.1km az=0.1*
*NNC **08** 02:11:21.9±6.5, 41°.82N×45°.15E, $h0^{km}$, mb3.6, Error ellipse: s-maj=355.5km s-min=64.9km az=132.0*
*CSEM **08** 02:11:21.2±0.1, 42°.60N×43°.51E, $h15^{km}$, mb4.0, Error ellipse: s-maj=5.1km s-min=2.9km az=129.0*

ISC 08 02:11:20.1±0.8, 42°.50N±0°.02×43°.56E±0°.02, $h12^{km}$±6^{km}, n119, σ1.14/173, mb3.5/6, 9C-14D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	Oni	0.12	320	P	Pg	02 11 23.3	0.0
ONI				S	Sg	02 11 25.8	+0.2
ZEI	Tsey	0.39	41	⇓iPG	Pg	02 11 27.5	-0.4
ZEI				iS	Sg	02 11 32.9	-0.2
ZEI	Tsey	0.39	41	iPg	Pg	02 11 27.5	-0.4
ZEI				iSg	Sg	02 11 32.9	-0.2
DIGR	Digorskoe uzhe	0.40	2	⇓iPG	Pg	02 11 27.7	-0.5
DIGR				iS	Sg	02 11 33.5	-0.1
DIGR	Digorskoe uzhe	0.40	2	iPg	Pg	02 11 27.7	-0.5
DIGR				iSg	Sg	02 11 33.5	-0.1
LACR	Lac	0.64	59	⇓iPG	Pg	02 11 32.0	-0.5
LACR				eS	Sg	02 11 40.7	-0.2
LACR	Lac	0.64	59	iPg	Pg	02 11 32.0	-0.5
LACR				eSg	Sg	02 11 40.7	-0.2
KORR	Kora	0.70	32	⇑iPG	Pg	02 11 33.6	-0.1
KORR				eS	Sg	02 11 43.2	+0.4
KORR	Kora	0.70	32	iPg	Pg	02 11 33.6	-0.1
KORR				eSg	Sg	02 11 43.2	+0.4
LSNR	Lesken	0.80	14	⇓iPG	Pg	02 11 35.5	-0.2
LSNR				iS	Sg	02 11 46.5	+0.3
LSNR	Lesken	0.80	14	iPg	Pg	02 11 35.5	-0.2
LSNR				iSg	Sg	02 11 46.5	+0.3
STDR	Stavd-Durt	0.95	23	⇑iPG	Pn	02 11 39.4	+0.2
STDR				eS	Sn	02 11 52.4	-0.3
STDR	Stavd-Durt	0.95	23	iPg	Pn	02 11 39.4	+0.2
VLKR	Vladikavkaz	0.99	56	⇓iPG	Pn	02 11 40.1	+0.2
VLKR				eS	Sn	02 11 53.4	-0.4

PZAR	**Pazar-Rize**	**2.38 237**	*e*PN	**Pn**	**02 11 58.6**	**-0.3**
PZAR	**Pazar-Rize**	**2.38 237**	*e*Pn	**Pn**	**02 11 58.6**	**-0.3**
GNI	**Garni**	**2.51 159**	*e*PN	**Pb**	**02 12 05.5**	**+0.3**
GNI	**Garni**	**2.51 159**	*e*Pn	**Pb**	**02 12 05.5**	**+0.3**
AGRB	**Hanur-Agry**	**2.95 189**	*e*PN	**Pb**	**02 12 10.8**	**-1.9**
AGRB	**Hanur-Agry**	**2.95 189**	*e*Pn	**Pb**	**02 12 10.8**	**-1.9**
SOC	**Sochi**	**3.02 292**	*e*PN	**Pg**	**02 12 18.6**	**+0.7**
SOC			*e*		02 12 55.7	
SOC			pmax	pmax		
	comp=Z,24nm,0.6s					
SOC			smax	smax		
	comp=N,51nm,0.6s					
SOC			smax	smax		
	comp=E,42nm,0.5s					
SOC	**Sochi**	**3.02 292**	*e*Sb	**Sg**	**02 12 55.7**	**-1.3**
	comp=E,51nm,0.6s					
KTUT	**Trabzon**	**3.21 243**	*e*PN	**Pn**	**02 12 09.7**	**-0.7**
KTUT	**Trabzon**	**3.21 243**	*e*Pn	**Pn**	**02 12 09.7**	**-0.7**
MACK	**Trabzon**	**3.23 243**	*i* P	**Pn**	**02 12 10.9**	**+0.2**
MACK			*i* S	**Sn**	02 12 45.3	-3.8
MACK	**Trabzon**	**3.23 243**	*i* P	**Pn**	**02 12 10.9**	**+0.2**
BAYT	**Ayd¨–ntepe-Bay**	**3.32 232**	*e*PN	**Pn**	**02 12 12.3**	**+0.3**
BAYT	**Ayd¨–ntepe-Bay**	**3.32 232**	*e*Pn	**Pn**	**02 12 12.3**	**+0.3**
CLDR	**Caldiran**	**3.36 175**	*e*PN	**Pb**	**02 12 17.5**	**-2.3**
CLDR	**Caldiran**	**3.36 175**	*e*Pn	**Pb**	**02 12 17.5**	**-2.3**
GUMT	**Gumushane**	**3.68 238**	*e*PN	**Pn**	**02 12 16.7**	**-0.2**
GUMT	**Gumushane**	**3.68 238**	*e*Pn	**Pn**	**02 12 16.7**	**-0.2**
VRTB	**Varto-Mus**	**3.70 206**	*e*PN	**Pn**	**02 12 20.0**	**+2.9**
VRTB	**Varto-Mus**	**3.70 206**	*e*Pn	**Pn**	**02 12 20.0**	**+2.9**
ESPY	**Espiye-Giresun**	**3.95 248**	*e*PN	**Pn**	**02 12 19.6**	**-0.9**
ESPY	**Espiye-Giresun**	**3.95 248**	*e*Pn	**Pn**	**02 12 19.6**	**-0.9**
KELT	**Kelkit**	**4.00 236**	*i* P	**Pn**	**02 12 23.0**	**+1.6**
KELT			*i* S	**Sn**	02 13 05.5	-2.8
KELT	**Kelkit**	**4.00 236**	*i* P	**Pn**	**02 12 23.0**	**+1.6**
KELT			*i* S	**Sn**	02 13 05.5	-2.8
BNGB	**Bing¶ll**	**4.13 213**	*e*PN	**Pn**	**02 12 25.6**	**+2.5**
BINT	**Bingol**	**4.30 214**	*e*Pn	**Pn**	**02 12 25.6**	**+0.1**
ILIC	**ilic-Erzincan**	**4.85 233**	*e*PN	**Pn**	**02 12 33.9**	**+0.9**
ILIC	**ilic-Erzincan**	**4.85 233**	*e*Pn	**Pn**	**02 12 33.9**	**+0.9**
ANN	**Anapa**	**5.00 299**	*e*PN	Pn	02 12 39.2	+4.3
ANN			*e*S	**Sn**	**02 13 38.2**	**+5.5**
ANN			pmax	pmax		
	comp=Z,7.0nm,0.6s					
RSDY	**Resadiye-TOKAT**	**5.13 248**	*e*PN	**Pn**	**02 12 36.4**	**-0.3**
RSDY	**Resadiye-TOKAT**	**5.13 248**	*e*Pn	**Pn**	**02 12 36.4**	**-0.3**
ERBA	**Erbaa**	**5.41 253**	*i* P	**Pn**	**02 12 41.3**	**+0.7**
ERBA	**Erbaa**	**5.41 253**	*i* P	**Pn**	**02 12 41.3**	**+0.7**
BRTR	**Keskin Array B**	**7.98 253**	Pn	**Pn**	**02 13 18.4**	**+2.4**
	comp=Z,0.3nm,0.3s,baz=42,slow=9.8,SNR=11					
BRTR			Sn	**Sn**	**02 14 45.6**	**-0.7**
	comp=Z,0.0nm,0.3s,baz=64,slow=18,SNR=2.7					
BRTR	**Keskin Array B**	**7.98 253**	P	**Pn**	**02 13 18.5**	**+2.4**
BRTR			S	**Sn**	02 14 45.6	-0.7
AKTK	**Aktyubinsk**	**12.73 46**	P	**Pn**	02 14 19.4	-1.4
AKTO	**Aktyubinsk**	**12.73 46**	⇑Pn	**Pn**	**02 14 19.2**	**-1.6**
	comp=Z,1.5nm,0.7s					
AKTO			⇑Sn	**Sn**	**02 16 40.5**	**-1.8**
	comp=Z,4.7nm,1.5s					
AKTO	**Aktyubinsk**	**12.73 46**	P	**Pn**	02 14 19.4	-1.4
AKTO	**Aktyubinsk**	**12.73 46**	Pn	**Pn**	02 14 19.4	-1.4
	comp=Z,0.2nm,0.3s,baz=238,slow=13,SNR=7.2					
AKTO	**Aktyubinsk**	**12.73 46**	Pn	**Pn**	**02 14 19.2**	**-1.6**
	comp=Z,1.5nm,0.7s					
AKTO			Sn	**Sn**	**02 16 40.5**	**-1.8**
	comp=Z,4.7nm,1.5s					
AB31	**Akbulak array**	**13.25 54**	⇓Pn	**Pn**	**02 14 26.1**	**-1.8**
	comp=Z,0.3nm,0.3s,baz=241,slow=10,SNR=10					
AB31			⇑Sn	Sn	02 16 46.4	-8.7
	comp=Z,0.5nm,0.4s,baz=241,slow=20,SNR=4.4					
AB31	**Akbulak array**	**13.25 54**	Pn	**Pn**	**02 14 26.1**	**-1.8**
	comp=Z,0.3nm,0.3s,baz=241,SNR=10					
BRVK	**Borovoye**	**20.71 50**	*e*P	**P**	**02 16 01.0**	**+0.9**
BRVK	**Borovoye**	**20.71 50**	*e*P	**P**	**02 16 01.0**	**+0.9**
BVA0	**Borovoye Array**	**20.76 50**	⇑P	**P**	**02 15 57.4**	**-3.3**
	comp=Z,2.1nm,0.7s,baz=230,slow=10,SNR=11					
BVAR	**Borovoye Array**	**20.76 50**	P	**P**	**02 16 00.5**	**-0.1**
BVAR	**Borovoye Array**	**20.76 50**	P	**P**	**02 16 00.5**	**-0.1**
	comp=Z,2.3nm,0.8s,baz=243,slow=13,SNR=9.4					
BVAR	**Borovoye Array**	**20.76 50**	P	**P**	**02 16 00.5**	**-0.1**
VOSK	**Vostochnaya**	**21.00 51**	⇓P	**P**	**02 16 03.2**	**0.0**
	comp=Z,4.0nm,1.4s					
GERES	**GERESS Array B**	**21.72 297**	P	**P**	**02 16 12.9**	**+1.9**
	comp=Z,0.2nm,0.5s,baz=106,slow=10,SNR=3.1					
GERES	**GERESS Array B**	**21.72 297**	P	**P**	**02 16 12.9**	**+1.9**
AAK	**Ala-Archa**	**22.73 79**	*e*P	**P**	**02 16 23.4**	**+1.4**
AAK			pmax	pmax		
	comp=Z,4.0nm,1.0s					
AAK	**Ala-Archa**	**22.73 79**	*e*P	**P**	**02 16 23.4**	**+1.4**
	comp=Z,4.0nm,1.0s					
DAVOX	**Davos/Dischmat**	**24.23 292**	P	**P**	**02 16 37.2**	**+0.3**
	comp=Z,0.8nm,0.5s,baz=102,slow=19,SNR=2.7					
DAVOX	**Davos/Dischmat**	**24.23 292**	P	**P**	**02 16 37.2**	**+0.3**
KURBB	**Kurchatov Arra**	**25.19 59**	P	**P**	**02 16 46.6**	**+1.3**
	comp=Z,0.4nm,0.8s,baz=274,slow=10,SNR=7.6					
KURK	**Kurchatov**	**25.26 59**	P	**P**	**02 16 46.6**	**+0.8**
KURK	**Kurchatov**	**25.26 59**	P	**P**	**02 16 46.6**	**+0.8**
MKAR	**Makanchi Array**	**27.69 68**	*e*P	**P**	**02 17 08.6**	**+0.6**
MKAR	**Makanchi Array**	**27.69 68**	P	**P**	**02 17 08.6**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=282,slow=8.1,SNR=4.0					
MKAR	**Makanchi Array**	**27.69 68**	*e*P	**P**	**02 17 08.6**	**+0.6**
TORD	**Torodi Ar. Bea**	**46.48 244**	LR	LR	02 44 04.1	
	comp=Z,82nm,19.1s,baz=160,slow=42					

IDC 08 02:11:44.2±1.5, 34°.79S×54°.33E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.7/26, mbtmp3.8/6, Error ellipse: s-maj=54.9km s-min=24.1km az=118.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**47.15**	**201**	P	P	02 20 18.0	0.0
	0.9nm,1.1s,baz=89,slow=8.4,SNR=7.2						
QSPA	**South Pole Qui**	**55.39**	**180**	P	P	02 21 19.4	-0.6
	2.1nm,0.6s,baz=260,slow=2.0,SNR=26						
VNDA	**Vanda**	**59.97**	**166**	P	P	02 21 52.4	+0.7
	0.3nm,0.6s,baz=255,slow=6.1,SNR=3.6						
CMAR	**Chiang Mai Arr**	**67.83**	**46**	P	P	02 22 44.7	+0.4
	0.5nm,0.3s,baz=231,slow=5.7,SNR=4.2						
ASAR	**Alice Springs**	**68.70**	**105**	P	P	02 22 49.9	0.0
	0.6nm,0.8s,baz=236,slow=6.5,SNR=4.2						
WRA	**Warramunga Arr**	**70.92**	**101**	P	P	02 23 03.3	-0.3
	0.7nm,0.4s,baz=234,slow=5.3,SNR=7.8						
ILAR	**Eielson Array**	**147.36**	**17**	PKPbc	PKPdf	02 31 27.6	+1.1
	0.4nm,0.8s,baz=303,slow=3.9,SNR=4.2						

ISCJB ***08*** *02:57:51.0±0.3, 42°.59N±0°.02×43°.42E±0°.02, h11km±2km, mb3.5/8, Error ellipse: s-maj=3.0km s-min=2.6km az=33.0*
TIF ***08*** *02:57:50.3, 42°.56N×43°.47E, h12km±1km*
ISK ***08*** *02:57:50.9, 42°.43N×43°.35E, h5km, MD3.8*
CSEM ***08*** *02:57:51.9±0.1, 42°.60N×43°.45E, h15km, mb4.1, Error ellipse: s-maj=3.9km s-min=2.2km az=127.0*
MOS ***08*** *02:57:51.0±1.0, 42°.53N×43°.44E, h10km, mb4.1/4, Error ellipse: s-maj=9.4km s-min=4.9km az=76.6*
IDC ***08*** *02:57:51.4±1.2, 42°.67N×43°.45E, h0km, mb3.5/7, mb1 3.6/9, mb1mx3.5/28, mbtmp3.6/9, ML3.3/2, MS2.9/2, Ms1 2.9/2, ms1mx2.3/38, Error ellipse: s-maj=15.6km s-min=13.1km az=66.0*
DDA ***08*** *02:57:53.4, 42°.64N×43°.18E, h21km, MD3.6*
NNC ***08*** *02:57:55.9±2.0, 42°.85N×44°.10E, h0km, mb3.8, Error ellipse: s-maj=43.4km s-min=21.7km az=129.0*
ISC 08 02:57:51.2±0.8, 42°.55N±0°.02×43°.48E±0°.02, h7km±5km, n129, σ1°.07/180, mb3.7/8, 12C-12D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.05**	**331**	P	**Pg**	**02 57 53.0**	**+0.1**
ONI				S	**Sg**	**02 57 54.5**	**+0.5**
DIGR	**Digorskoe uzhe**	**0.36**	**12**	⇓*i*PG	**Pg**	**02 57 58.0**	**-0.2**
DIGR				*i* S	**Sg**	**02 58 03.5**	**+0.5**
DIGR	**Digorskoe uzhe**	**0.36**	**12**	*i* Pg	**Pg**	**02 57 58.0**	**-0.2**
DIGR				*i* Sg	**Sg**	**02 58 03.5**	**+0.5**
ZEI	**Tsey**	**0.39**	**52**	⇓*i*PG	**Pg**	**02 57 59.0**	**+0.1**
ZEI				*i* S	**Sg**	**02 58 04.8**	**+0.8**
ZEI	**Tsey**	**0.39**	**52**	*i* Pg	**Pg**	**02 57 59.0**	**+0.1**
ZEI				*i* Sg	**Sg**	**02 58 04.8**	**+0.8**
LACR	**Lac**	**0.66**	**65**	⇓*i*PG	**Pg**	**02 58 03.8**	**-0.1**
LACR				*i* S	**Sg**	**02 58 13.1**	**+0.5**
LACR	**Lac**	**0.66**	**65**	*i* Pg	**Pg**	**02 58 03.8**	**-0.1**
LACR				*i* Sg	**Sg**	**02 58 13.1**	**+0.5**
KORR	**Kora**	**0.69**	**39**	⇑*i*PG	**Pg**	**02 58 04.8**	**+0.4**
KORR				*e*S	**Sb**	**02 58 14.7**	**-0.5**
KORR	**Kora**	**0.69**	**39**	*i* Pg	**Pg**	**02 58 04.8**	**+0.4**
KORR				*e*Sg	**Sb**	**02 58 14.7**	**-0.5**
LSNR	**Lesken**	**0.77**	**19**	⇓*i*PG	**Pg**	**02 58 06.2**	**+0.2**
LSNR				*e*S	**Sg**	**02 58 16.9**	**+0.9**
LSNR	**Lesken**	**0.77**	**19**	*i* Pg	**Pg**	**02 58 06.2**	**+0.2**
LSNR				*e*Sg	**Sg**	**02 58 16.9**	**+0.9**
STDR	**Stavd-Durt**	**0.92**	**27**	⇑*i*PG	**Pn**	**02 58 10.3**	**-0.3**
STDR				*e*S	**Sn**	**02 58 23.2**	**-0.9**
STDR	**Stavd-Durt**	**0.92**	**27**	*i* Pg	**Pn**	**02 58 10.3**	**-0.3**
STDR				*e*Sg	**Sn**	**02 58 23.2**	**-0.9**
NCK	**Nalchik**	**0.95**	**5**	⇓*e*PG	**Pb**	**02 58 09.9**	**-0.1**
NCK				*e*S	**Sn**	**02 58 24.0**	**-0.7**
NCK	**Nalchik**	**0.95**	**5**	*e*Pg	**Pb**	**02 58 09.9**	**-0.1**
VLKR	**Vladikavkaz**	**1.01**	**60**	*e*PG	**Pn**	**02 58 11.5**	**-0.3**
VLKR				*e*S	**Sn**	**02 58 25.4**	**-0.9**
VLKR	**Vladikavkaz**	**1.01**	**60**	*e*Pg	**Pn**	**02 58 11.5**	**-0.3**
VLKR				*e*Sg	**Sn**	**02 58 25.4**	**-0.9**
DUS	**Dusheti**	**1.01**	**117**	P	**Pb**	**02 58 11.3**	**+0.2**
DUS				S	**Sn**	**02 58 25.7**	**-0.7**
SNJR	**Sundja**	**1.11**	**62**	*e*PG	**Pg**	**02 58 12.9**	**+0.5**
SNJR				*e*S	**Sn**	**02 58 28.1**	**-0.6**
SNJR	**Sundja**	**1.11**	**62**	*e*Pg	**Pg**	**02 58 12.9**	**+0.5**
SNJR				*e*Sg	**Sn**	**02 58 28.1**	**-0.6**
BTKR	**Batakoyurt**	**1.13**	**43**	⇓*i*PG	**Pn**	**02 58 15.0**	**+1.5**
BTKR				*e*S	**Sn**	**02 58 30.5**	**+1.2**
BTKR	**Batakoyurt**	**1.13**	**43**	*i* Pg	**Pn**	**02 58 15.0**	**+1.5**
BTKR				*e*Sg	**Sn**	**02 58 30.5**	**+1.2**
AKH	**Akhalkalaki**	**1.14**	**180**	P	**Pb**	**02 58 12.2**	**-1.1**
AKH				S	**Sb**	**02 58 28.4**	**0.0**
TBLG	**Delisi**	**1.24**	**131**	P	**Pn**	**02 58 14.5**	**-0.4**
TBLG				S	**Sn**	**02 58 31.9**	**0.0**
KUBR	**Kubataba**	**1.25**	**358**	⇑*e*PG	**Pg**	**02 58 15.6**	**+0.4**
KUBR				*e*S	**Sn**	**02 58 33.4**	**+1.2**
KUBR	**Kubataba**	**1.25**	**358**	*e*Pg	**Pg**	**02 58 15.6**	**+0.4**
KBZ	**Khabaz**	**1.25**	**340**	PG	**Pn**	**02 58 14.2**	**-0.9**
KBZ				pmax	pmax		
	comp=Z,32nm,0.3s						
KBZ	**Khabaz**	**1.25**	**340**	Pg	**Pn**	**02 58 14.2**	**-0.9**
	comp=Z,32nm,0.3s,baz=171,slow=12,SNR=160						
KBZ				Lg	Lg	02 58 30.5	
	comp=Z,54nm,0.3s,baz=270,slow=20,SNR=20						
KBZ	**Khabaz**	**1.25**	**340**	Pg	**Pn**	**02 58 14.2**	**-0.9**
	comp=Z,32nm,0.3s						
SHAR	**Shatzhatmas**	**1.33**	**334**	⇓*e*PG	**Pn**	**02 58 16.3**	**-0.1**
SHAR				*e*S	**Sb**	**02 58 33.2**	**-0.8**
SHAR	**Shatzhatmas**	**1.33**	**334**	*e*Pg	**Pn**	**02 58 16.3**	**-0.1**
SHAR				*e*Sg	**Sb**	**02 58 33.2**	**-0.8**
PRTR	**Priterechnaya**	**1.34**	**26**	*e*PG	**Pb**	**02 58 16.6**	**+0.1**
PRTR				*e*S	**Sg**	**02 58 35.0**	**+0.9**
PRTR	**Priterechnaya**	**1.34**	**26**	*e*Pg	**Pb**	**02 58 16.6**	**+0.1**
PRTR				*e*Sg	**Sg**	**02 58 35.0**	**+0.9**
KZR	**Kazreti**	**1.36**	**149**	P	**Pn**	**02 58 15.6**	**-1.0**
KZR				S	**Sb**	**02 58 34.2**	**-0.4**
TRKR	**Terskaya**	**1.49**	**38**	*e*PG	**Pg**	**02 58 20.2**	**+0.5**
TRKR				*e*S	**Sg**	**02 58 40.5**	**+1.5**
TRKR	**Terskaya**	**1.49**	**38**	*e*Pg	**Pg**	**02 58 20.2**	**+0.5**
TRKR				*e*Sg	**Sg**	**02 58 40.5**	**+1.5**
PYA	**Pyatigorsk**	**1.52**	**348**	⇑*e*PG	**Pb**	**02 58 19.7**	**+0.1**
PYA				*e*S	**Sg**	**02 58 39.6**	**-0.3**
PYA	**Pyatigorsk**	**1.52**	**348**	*e*Pg	**Pg**	**02 58 19.7**	**+0.1**
PYA				*e*Sg	**Sg**	**02 58 39.6**	**-0.3**
KIV	**Kislovodsk**	**1.52**	**338**	⇑*e*PG	**Pb**	**02 58 19.3**	**-0.4**
KIV				*e*S	**Sb**	**02 58 38.9**	**-0.3**
KIV	**Kislovodsk**	**1.52**	**338**	*e*Pg	**Pb**	**02 58 19.3**	**-0.4**
KIV				*e*Sg	**Sb**	**02 58 38.9**	**-0.3**
BCA	**Borcka**	**1.77**	**232**	*e*PN	**Pn**	**02 58 21.6**	**-0.7**
BCA				*e*SN	**Sn**	**02 58 44.6**	**-0.4**
BCA	**Borcka**	**1.77**	**232**	*e*Pn	**Pn**	**02 58 21.6**	**-0.7**
BCA				*e*Sn	**Sn**	**02 58 44.6**	**-0.4**
DGRG	**David-gareji**	**1.79**	**127**	P	**Pb**	**02 58 24.4**	**+0.2**
DGRG				S	**Sg**	**02 58 51.2**	**+2.7**
ARTV	**Artvin**	**1.79**	**221**	*i* P	**Pn**	**02 58 22.9**	**+0.2**
ARTV				*i* S	**Sn**	**02 58 46.4**	**+0.6**
ARTV	**Artvin**	**1.79**	**221**	*i* P	**Pn**	**02 58 22.9**	**+0.2**
ARTV				*i* S	**Sn**	**02 58 46.4**	**+0.6**
DBOC	**Borcka**	**1.81**	**229**	*i* P	**Pn**	**02 58 22.3**	**-0.5**
DBOC				*i* S	**Sn**	**02 58 46.0**	**0.0**
DBOC	**Borcka**	**1.81**	**229**	*i* P	**Pn**	**02 58 22.3**	**-0.5**
DBOC				*i* S	**Sn**	**02 58 46.0**	**0.0**
DAGI	**Agillar**	**1.88**	**219**	*i* P	**Pn**	**02 58 24.4**	**+0.5**
DAGI				*i* S	**Sb**	**02 58 48.9**	**-0.7**
KARS	**Kars**	**1.94**	**189**	*e*PN	**Pn**	**02 58 25.3**	**+0.6**
KARS	**Kars**	**1.94**	**189**	*e*Pn	**Pn**	**02 58 25.3**	**+0.6**
DBAD	**Bademkaya**	**2.03**	**222**	*i* P	**Pn**	**02 58 26.3**	**+0.4**
DBAD				*i* S	**Sb**	**02 58 53.7**	**-0.3**
DBAD	**Bademkaya**	**2.03**	**222**	*i* P	**Pn**	**02 58 26.3**	**+0.4**
DBAD				*i* S	**Sb**	**02 58 53.7**	**-0.3**
DDEM	**Demirkent**	**2.10**	**219**	*i* P	**Pn**	**02 58 28.0**	**+1.1**
DDEM				*i* S	**Sb**	**02 58 56.1**	**+0.1**
DDEM	**Demirkent**	**2.10**	**219**	*i* P	**Pn**	**02 58 28.0**	**+1.1**
DDEM				*i* S	**Sb**	**02 58 56.1**	**+0.1**
DIGO	**Kars**	**2.13**	**182**	*i* P	**Pn**	**02 58 28.2**	**+0.8**
DIGO				*i* S	**Sb**	**02 58 56.2**	**-0.9**
DIGO	**Kars**	**2.13**	**182**	*i* P	**Pn**	**02 58 28.2**	**+0.8**
DIGO				*i* S	**Sb**	**02 58 56.2**	**-0.9**
PZAR	**Pazar-Rize**	**2.37**	**235**	*e*PN	**Pn**	**02 58 30.3**	**-0.1**
PZAR	**Pazar-Rize**	**2.37**	**235**	*e*Pn	**Pn**	**02 58 30.3**	**-0.1**
GNI	**Garni**	**2.58**	**158**	*e*PN	**Pn**	**02 58 35.0**	**+1.5**
GNI	**Garni**	**2.58**	**158**	*e*Pn	**Pn**	**02 58 35.0**	**+1.5**
SOC	**Sochi**	**2.95**	**292**	*e*PN	**Pb**	**02 58 44.3**	**+0.3**
SOC				*e*		02 59 18.4	
SOC				pmax	pmax		
	comp=Z,36nm,1.0s						
SOC				smax	smax		
	comp=N,143nm,0.9s						
SOC				smax	smax		
	comp=E,110nm,0.6s						
AGRB	**Hanur-Agry**	**3.00**	**187**	*e*PN	**Pn**	**02 58 38.9**	**-0.3**
AGRB	**Hanur-Agry**	**3.00**	**187**	*e*Pn	**Pn**	**02 58 38.9**	**-0.3**
MACK	**Trabzon**	**3.21**	**241**	*i* P	**Pn**	**02 58 39.8**	**-2.2**
MACK				*i* S	**Sn**	**02 59 17.7**	**-2.8**
MACK	**Trabzon**	**3.21**	**241**	*i* P	**Pn**	**02 58 39.8**	**-2.2**
MACK				*i* S	**Sn**	**02 59 17.7**	**-2.8**
BAYT	**Ayd¨–ntepe-Bay**	**3.31**	**230**	*e*PN	**Pn**	**02 58 43.4**	**-0.1**
BAYT	**Ayd¨–ntepe-Bay**	**3.31**	**230**	*e*Pn	**Pn**	**02 58 43.4**	**-0.1**
CLDR	**Caldiran**	**3.42**	**174**	*e*PN	**Pn**	**02 58 45.8**	**+0.7**
CLDR	**Caldiran**	**3.42**	**174**	*e*Pn	**Pn**	**02 58 45.8**	**+0.7**
GUMT	**Gumushane**	**3.66**	**237**	*e*PN	**Pn**	**02 58 48.7**	**+0.4**
GUMT	**Gumushane**	**3.66**	**237**	*e*Pn	**Pn**	**02 58 48.7**	**+0.4**
VRTB	**Varto-Mus**	**3.72**	**205**	*e*PN	**Pn**	**02 58 48.6**	**-0.5**
VRTB	**Varto-Mus**	**3.72**	**205**	*e*Pn	**Pn**	**02 58 48.6**	**-0.5**
ESPY	**Espiye-Giresun**	**3.92**	**247**	*e*PN	**Pn**	**02 58 52.9**	**+1.2**
ESPY	**Espiye-Giresun**	**3.92**	**247**	*e*Pn	**Pn**	**02 58 52.9**	**+1.2**
ERZN	**Erzincan**	**4.10**	**225**	*e*PN	**Pn**	**02 58 54.8**	**+0.4**
BNGB	**Bing¶ll**	**4.14**	**212**	*e*PN	**Pn**	**02 58 55.0**	**+0.1**
EZC	**Erzincan**	**4.19**	**229**	*e*Pn	**Pn**	**02 58 54.8**	**-0.8**
BINT	**Bingol**	**4.32**	**213**	*e*Pn	**Pn**	**02 58 55.0**	**-2.3**
PTK	**Pertek**	**4.80**	**222**	*e*PN	**Pn**	**02 59 04.4**	**+0.4**
PTK	**Pertek**	**4.80**	**222**	*e*Pn	**Pn**	**02 59 04.4**	**+0.4**
ILIC	**ilic-Erzincan**	**4.84**	**232**	*e*PN	**Pn**	**02 59 05.2**	**+0.7**
ILIC	**ilic-Erzincan**	**4.84**	**232**	*e*Pn	**Pn**	**02 59 05.2**	**+0.7**
ANN	**Anapa**	**4.93**	**299**	*e*PN	**Pn**	**02 59 07.6**	**+2.0**
ANN				*e*S	**Sn**	**03 00 07.3**	**+4.5**
ANN				pmax	pmax		
	comp=Z,11nm,0.7s						
RSDY	**Resadiye-TOKAT**	**5.10**	**247**	*e*PN	**Pn**	**02 59 09.7**	**+1.7**
RSDY	**Resadiye-TOKAT**	**5.10**	**247**	*e*Pn	**Pn**	**02 59 09.7**	**+1.7**
BRTR	**Keskin Array B**	**7.95**	**252**	Pn	**Pn**	**02 59 47.5**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=41,slow=12,SNR=12						
BRTR				Sn	**Sn**	**03 01 16.9**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=46,slow=19,SNR=3.6						
BRTR	**Keskin Array B**	**7.95**	**252**	P	**Pn**	**02 59 47.5**	**+0.3**
VSR	**Storozhevoye**	**9.16**	**343**	*e*P	Pn	03 00 06.9	+3.3
AKTK	**Aktyubinsk**	**12.73**	**47**	P	**Pn**	**03 00 50.3**	**-2.2**
	comp=Z,79nm,19.3s						
AKTO	**Aktyubinsk**	**12.73**	**47**	⇓Pn	**Pn**	**03 00 50.2**	**-2.2**
	comp=Z,5.0nm,1.4s						
AKTO				⇓Sn	**Sn**	**03 03 10.8**	**-3.6**
	comp=Z,4.4nm,1.1s						
AKTO	**Aktyubinsk**	**12.73**	**47**	P	**Pn**	**03 00 50.3**	**-2.2**
AKTO				MLR	MLR		
	comp=Z,79nm,19.3s						
AKTO	**Aktyubinsk**	**12.73**	**47**	Pn	**Pn**	**03 00 50.3**	**-2.2**
	comp=Z,0.2nm,0.3s,baz=233,slow=13,SNR=9.6						
AKTO				LR	LR	03 07 31.0	
	comp=Z,79nm,19.3s,baz=291,slow=46						
AKTO	**Aktyubinsk**	**12.73**	**47**	Pn	**Pn**	**03 00 50.2**	**-2.2**
	comp=Z,5.0nm,1.4s						
AB31	**Akbulak array**	**13.27**	**54**	⇑Pn	**Pn**	**03 00 57.6**	**-2.2**
	comp=Z,2.3nm,0.6s,baz=243,slow=11,SNR=35						
AB31				⇑Sn	Sn	03 03 19.7	-7.8
	comp=Z,1.8nm,0.7s,baz=244,slow=22,SNR=5.0						
AB31	**Akbulak array**	**13.27**	**54**	Pn	**Pn**	**03 00 57.6**	**-2.2**
	comp=Z,2.3nm,0.6s,baz=243,SNR=35						
OBN	**Obninsk**	**13.36**	**343**	⇓*e*P	**Pn**	**03 01 00.0**	**-1.0**
OBN				*e*S	**Sn**	**03 03 31.4**	**+1.7**
OBN				pmax	pmax		
	comp=Z,4.0nm,0.7s						
OBN				MLR	MLR		
	comp=Z,100nm,14.0s						
OBN	**Obninsk**	**13.36**	**343**	*e*P	**Pn**	**03 01 00.0**	**-1.0**
	comp=Z,4.0nm,0.7s						
EIL	**Elat**	**14.57**	**211**	LR	LR	03 06 44.8	
	comp=Z,35nm,20.3s,baz=144,slow=36						
CRVS	**Cervenica-Dubn**	**16.61**	**300**	*e*	Pn	03 01 34.4	-10
ARU	**Arti**	**16.94**	**30**	*d i* P	**P**	**03 01 50.2**	**-0.2**
ARU				S	**Sn**	**03 04 59.4**	**+2.7**
ARU				pmax	pmax		
	comp=Z,33nm,5.0s						
ARU	**Arti**	**16.94**	**30**	*i* P	**P**	**03 01 50.2**	**-0.2**
	comp=Z,33nm,5.0s						
KK31	**Karatay Array**	**19.81**	**79**	⇑P	**P**	**03 02 22.7**	**+0.6**
	comp=Z,0.7nm,0.5s,baz=284,slow=11,SNR=11						
KK31	**Karatay Array**	**19.81**	**79**	P	**P**	**03 02 22.7**	**+0.6**
	comp=Z,0.7nm,0.5s,SNR=11						
BRVK	**Borovoye**	**20.72**	**50**	⇑P	**P**	**03 02 31.9**	**-0.1**
	comp=Z,7.3nm,0.7s						
BRVK	**Borovoye**	**20.72**	**50**	*d i* P	**P**	**03 02 32.4**	**+0.4**
BRVK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
BRVK	**Borovoye**	**20.72**	**50**	*i* P	**P**	**03 02 32.4**	**+0.4**
	comp=Z,6.0nm,1.0s						
BVA0	**Borovoye Array**	**20.77**	**50**	⇑P	**P**	**03 02 32.5**	**0.0**
	comp=Z,5.7nm,1.1s						
BVA0	**Borovoye Array**	**20.77**	**50**	P	**P**	**03 02 32.5**	**0.0**
	comp=Z,5.7nm,1.1s						
BVAR	**Borovoye Array**	**20.77**	**50**	P	**P**	**03 02 32.8**	**+0.3**
BVAR	**Borovoye Array**	**20.77**	**50**	P	**P**	**03 02 32.8**	**+0.3**
	comp=Z,2.7nm,0.8s,baz=232,slow=7.3,SNR=11						
BVAR	**Borovoye Array**	**20.77**

BCA	**Borcka**	**1.75**	**231**	*e*Pn	**Pn**	**03 15 59.3**	**+0.2**
ARTV	**Artvin**	**1.77**	**220**	*i* P	**Pb**	**03 16 01.4**	**-0.1**
ARTV				*i* S	**Sb**	**03 16 24.5**	**+0.8**
ARTV	**Artvin**	**1.77**	**220**	*i* P	**Pb**	**03 16 01.4**	**-0.1**
ARTV				*i* S	**Sb**	**03 16 24.5**	**+0.8**
DBOC	**Borcka**	**1.79**	**228**	*i* P	**Pb**	**03 16 01.2**	**-0.5**
DBOC				*i* S	**Sb**	**03 16 24.6**	**+0.6**
DBOC	**Borcka**	**1.79**	**228**	*i* P	**Pb**	**03 16 01.2**	**-0.5**
DBOC				*i* S	**Sb**	**03 16 24.6**	**+0.6**
DGRG	**David-gareji**	**1.82**	**127**	P	**Pb**	**03 16 03.1**	**+0.8**
DGRG				S	**Sg**	**03 16 29.5**	**+1.9**
DAGI	**Agillar**	**1.86**	**218**	*i* P	**Pb**	**03 16 03.2**	**+0.2**
DAGI				*i* S	**Sb**	**03 16 27.7**	**+1.5**
KARS	**Kars**	**1.95**	**188**	*e*PN	**Pb**	**03 16 05.8**	**+1.4**
KARS	**Kars**	**1.95**	**188**	*e*Pn	**Pb**	**03 16 05.8**	**+1.4**
DBAD	**Bademkaya**	**2.01**	**221**	*i* P	**Pb**	**03 16 05.3**	**-0.2**
DBAD				*i* S	**Sb**	**03 16 32.1**	**+1.6**
DBAD	**Bademkaya**	**2.01**	**221**	*i* P	**Pb**	**03 16 05.3**	**-0.2**
DBAD				*i* S	**Sb**	**03 16 32.1**	**+1.6**
DDEM	**Demirkent**	**2.09**	**218**	*i* P	**Pb**	**03 16 06.6**	**-0.2**
DDEM				*i* S	**Sb**	**03 16 34.4**	**+1.8**
DDEM	**Demirkent**	**2.09**	**218**	*i* P	**Pb**	**03 16 06.6**	**-0.2**
DDEM				*i* S	**Sb**	**03 16 34.4**	**+1.8**
DIGO	**Kars**	**2.14**	**181**	*e*P	**Pb**	**03 16 07.6**	**-0.2**
DIGO				*i* S	**Sb**	**03 16 36.1**	**+1.7**
DIGO	**Kars**	**2.14**	**181**	*e*P	**Pb**	**03 16 07.6**	**-0.2**
PZAR	**Pazar-Rize**	**2.34**	**235**	*e*PN	**Pn**	**03 16 07.2**	**+0.1**
PZAR	**Pazar-Rize**	**2.34**	**235**	*e*Pn	**Pn**	**03 16 07.2**	**+0.1**
GNI	**Garni**	**2.60**	**157**	*e*PN	**Pb**	**03 16 16.4**	**+0.8**
MACK	**Trabzon**	**3.18**	**241**	*i* P	**Pn**	**03 16 19.4**	**+0.6**
MACK				*i* S	**Sn**	**03 16 55.3**	**-1.2**
MACK	**Trabzon**	**3.18**	**241**	*i* P	**Pn**	**03 16 19.4**	**+0.6**
MACK				*i* S	**Sn**	**03 16 55.3**	**-1.2**
GUMT	**Gumushane**	**3.63**	**236**	*e*PN	**Pn**	**03 16 25.3**	**+0.3**
GUMT	**Gumushane**	**3.63**	**236**	*e*Pn	**Pn**	**03 16 25.3**	**+0.3**
ESPY	**Espiye-Giresun**	**3.88**	**247**	*e*PN	**Pn**	**03 16 27.2**	**-1.2**
ESPY	**Espiye-Giresun**	**3.88**	**247**	*e*Pn	**Pn**	**03 16 27.2**	**-1.2**
AKTO	**Aktyubinsk**	**12.75**	**47**	⇑Pn	**Pn**	**03 18 28.3**	**-1.6**
	4.1nm,1.2s						
AB31	**Akbulak array**	**13.29**	**54**	Pn	**Pn**	**03 18 36.8**	**-0.5**
	0.7nm,0.6s,baz=242,slow=12,SNR=12						
AB31				⇓Sn	**Sn**	**03 20 59.4**	**-5.4**
	0.9nm,0.7s,baz=245,slow=17						
AB31	**Akbulak array**	**13.29**	**54**	Pn	**Pn**	**03 18 36.8**	**-0.5**
	0.7nm,0.6s,baz=242,SNR=12						

TIF ***08*** *03:26:37.5, 42°.54N×43°.46E, h13km±1km*
MOS ***08*** *03:26:38.8±1.1, 42°.50N×43°.42E, h10km, mb4.0/1, Error ellipse: s-maj=7.5km s-min=4.2km az=82.5*
CSEM ***08*** *03:26:38.7±0.1, 42°.51N×43°.42E, h2km, mb4.0, Error ellipse: s-maj=3.6km s-min=2.3km az=124.0*
DDA ***08*** *03:26:38.2, 42°.64N×43°.13E, h17km, MD3.4*
IDC ***08*** *03:26:38.3±1.1, 42°.56N×43°.37E, h0km, mb3.4/8, mb1 3.6/10, mb1mx3.5/29, mbtmp3.5/10, ML3.5/2, MS2.8/2, Ms1 2.8/2, ms1mx2.1/31, Error ellipse: s-maj=14.0km s-min=13.5km az=64.0*
NNC ***08*** *03:26:45.6±1.1, 43°.07N×44°.07E, h0km, mb3.9, Error ellipse: s-maj=73.4km s-min=11.9km az=140.0*
AZER ***08*** *03:26:53.2, 42°.15N×44°.70E, h25km*
ISC 08 03:26:38.3±0.8, 42°.49N±0°.01×43°.42E±0°.02, h0km±6km, n143, σ1§09/208, mb3.7/8, 12C-20D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.10**	**15**	PG	**Pg**	**03 26 40.6**	**+0.3**
ONI	**Oni**	**0.10**	**15**	P	**Pg**	**03 26 40.6**	**+0.3**
ONI				S	**Sg**	**03 26 42.5**	**+0.9**
DIGR	**Digorskoe uzhe**	**0.42**	**16**	⇓*i*PG	**Pg**	**03 26 46.0**	**-0.5**
DIGR				*i* S	**Sg**	**03 26 52.0**	**+0.1**
DIGR	**Digorskoe uzhe**	**0.42**	**16**	*i* Pg	**Pg**	**03 26 46.0**	**-0.5**
DIGR				*i* Sg	**Sg**	**03 26 52.0**	**+0.1**
ZEI	**Tsey**	**0.46**	**50**	⇓*i*PG	**Pg**	**03 26 46.5**	**-0.7**
ZEI				*i* S	**Sg**	**03 26 52.9**	**-0.3**
ZEI	**Tsey**	**0.46**	**50**	*i* Pg	**Pg**	**03 26 46.5**	**-0.7**
ZEI				*i* Sg	**Sg**	**03 26 52.9**	**-0.3**
LACR	**Lac**	**0.73**	**62**	⇓*i*PG	**Pg**	**03 26 51.2**	**-1.1**
LACR				*i* S	**Sg**	**03 27 01.2**	**-0.6**
LACR	**Lac**	**0.73**	**62**	*i* Pg	**Pg**	**03 26 51.2**	**-1.1**
LACR				*i* Sg	**Sg**	**03 27 01.2**	**-0.6**
KORR	**Kora**	**0.76**	**39**	⇑*i*PG	**Pg**	**03 26 52.6**	**-0.3**
KORR				*i* S	**Sg**	**03 27 03.0**	**+0.2**
KORR	**Kora**	**0.76**	**39**	*i* Pg	**Pg**	**03 26 52.6**	**-0.3**
KORR				*i* Sg	**Sg**	**03 27 03.0**	**+0.2**
LSNR	**Lesken**	**0.84**	**21**	⇓*i*PG	**Pg**	**03 26 54.5**	**+0.1**
LSNR				*e*S	**Sg**	**03 27 05.8**	**+0.5**
LSNR	**Lesken**	**0.84**	**21**	*i* Pg	**Pg**	**03 26 54.5**	**+0.1**
LSNR				*e*Sg	**Sg**	**03 27 05.8**	**+0.5**
STDR	**Stavd-Durt**	**0.99**	**28**	⇓*i*PG	**Pb**	**03 26 58.6**	**+0.1**
STDR				*i* S	**Sb**	**03 27 12.2**	**+0.1**
STDR	**Stavd-Durt**	**0.99**	**28**	*i* Pg	**Pb**	**03 26 58.6**	**+0.1**
STDR				*i* Sg	**Sb**	**03 27 12.2**	**+0.1**
CHVG	**Ch'k'valeri**	**1.01**	**283**	P	**Pg**	**03 26 58.0**	**+0.3**
CHVG				S	**Sb**	**03 27 12.9**	**+0.4**
NCK	**Nalchik**	**1.01**	**7**	⇓*e*PG	**Pg**	**03 26 58.1**	**+0.4**
NCK				*e*S	**Sb**	**03 27 11.7**	**-0.9**
NCK	**Nalchik**	**1.01**	**7**	*e*Pg	**Pg**	**03 26 58.1**	**+0.4**
NCK				*e*Sg	**Sb**	**03 27 11.7**	**-0.9**
DUS	**Dusheti**	**1.03**	**112**	PG	**Pg**	**03 26 58.5**	**+0.4**
DUS				S	**Sb**	**03 27 12.8**	**-0.5**
DUS	**Dusheti**	**1.03**	**112**	Pg	**Pg**	**03 26 58.5**	**+0.4**
DUS				Sg	**Sb**	**03 27 12.8**	**-0.5**
DUS	**Dusheti**	**1.03**	**112**	P	**Pg**	**03 26 58.5**	**+0.4**
DUS				S	**Sb**	**03 27 12.8**	**-0.5**
VLKR	**Vladikavkaz**	**1.08**	**59**	⇓*i*PG	**Pg**	**03 26 59.4**	**+0.4**
VLKR				*e*S	**Sb**	**03 27 14.0**	**-0.6**
VLKR	**Vladikavkaz**	**1.08**	**59**	*i* Pg	**Pg**	**03 26 59.4**	**+0.4**
VLKR				*e*Sg	**Sb**	**03 27 14.0**	**-0.6**
AKH	**Akhalkalaki**	**1.08**	**177**	PG	**Pg**	**03 26 58.6**	**-0.5**
AKH				S	**Sb**	**03 27 14.9**	**+0.1**
AKH	**Akhalkalaki**	**1.08**	**177**	Pg	**Pg**	**03 26 58.6**	**-0.5**
AKH				Sg	**Sb**	**03 27 14.9**	**+0.1**
AKH	**Akhalkalaki**	**1.08**	**177**	P	**Pg**	**03 26 58.6**	**-0.5**
AKH				S	**Sb**	**03 27 15.0**	**+0.1**
SNJR	**Sundja**	**1.18**	**60**	⇓*i*PG	**Pg**	**03 27 00.5**	**-0.4**
SNJR				*i* S	**Sg**	**03 27 16.4**	**+0.3**
SNJR	**Sundja**	**1.18**	**60**	*i* Pg	**Pg**	**03 27 00.5**	**-0.4**
SNJR				*i* Sg	**Sg**	**03 27 16.4**	**+0.3**
BTKR	**Batakoyurt**	**1.21**	**43**	⇑*i*PG	**Pn**	**03 27 02.5**	**0.0**
BTKR				*i* S	**Sn**	**03 27 18.6**	**-1.0**
BTKR	**Batakoyurt**	**1.21**	**43**	*i* Pg	**Pn**	**03 27 02.5**	**0.0**
BTKR				*i* Sg	**Sn**	**03 27 18.6**	**-1.0**
TBLG	**Delisi**	**1.24**	**127**	PG	**Pg**	**03 27 01.4**	**-0.7**
TBLG				S	**Sg**	**03 27 18.5**	**+0.3**
TBLG	**Delisi**	**1.24**	**127**	Pg	**Pg**	**03 27 01.4**	**-0.7**
TBLG				Sg	**Sg**	**03 27 18.5**	**+0.3**
TBLG	**Delisi**	**1.24**	**127**	P	**Pg**	**03 27 01.4**	**-0.7**
TBLG				S	**Sg**	**03 27 18.5**	**+0.3**
KBZ	**Khabaz**	**1.29**	**343**	PG	**Pg**	**03 27 02.3**	**-0.8**
KBZ				pmax	pmax		
	comp=Z,33nm,0.3s						
KBZ	**Khabaz**	**1.29**	**343**	Pg	**Pg**	**03 27 02.3**	**-0.8**
	comp=Z,33nm,0.3s,baz=153,slow=15,SNR=304						
KBZ				Lg	Lg	03 27 19.3	
	comp=Z,87nm,0.3s,baz=40,slow=20,SNR=45						
KBZ	**Khabaz**	**1.29**	**343**	Pg	**Pg**	**03 27 02.3**	**-0.8**
	comp=Z,33nm,0.3s						
KUBR	**Kubataba**	**1.31**	**360**	⇑*e*PG	**Pb**	**03 27 03.8**	**0.0**
KUBR				*e*S	**Sn**	**03 27 21.1**	**-1.0**
KUBR	**Kubataba**	**1.31**	**360**	*e*Pg	**Pb**	**03 27 03.8**	**0.0**
KUBR				*e*Sg	**Sn**	**03 27 21.1**	**-1.0**
KZR	**Kazreti**	**1.34**	**146**	P	**Pn**	**03 27 02.7**	**-1.6**
KZR				S	**Sg**	**03 27 20.6**	**-0.6**
SHAR	**Shatzhatmas**	**1.36**	**337**	⇑*e*PG	**Pn**	**03 27 04.4**	**-0.4**
SHAR				*e*S	**Sb**	**03 27 22.3**	**-0.7**
SHAR	**Shatzhatmas**	**1.36**	**337**	*e*Pg	**Pn**	**03 27 04.4**	**-0.4**
SHAR				*e*Sg	**Sb**	**03 27 22.3**	**-0.7**
PRTR	**Priterechnaya**	**1.41**	**26**	⇓*i*PG	**Pg**	**03 27 05.6**	**+0.3**
PRTR				*i* S	**Sn**	**03 27 24.3**	**-0.2**
PRTR	**Priterechnaya**	**1.41**	**26**	*i* Pg	**Pg**	**03 27 05.6**	**+0.3**
PRTR				*i* Sg	**Sn**	**03 27 24.3**	**-0.2**
KIV	**Kislovodsk**	**1.56**	**340**	⇑*e*PG	**Pb**	**03 27 07.6**	**-0.5**
KIV				*e*S	**Sb**	**03 27 28.0**	**-0.4**
KIV	**Kislovodsk**	**1.56**	**340**	*e*Pg	**Pb**	**03 27 07.6**	**-0.5**
KIV				*e*Sg	**Sb**	**03 27 28.0**	**-0.4**
TRKR	**Terskaya**	**1.56**	**38**	⇓*i*PG	**Pb**	**03 27 08.0**	**-0.1**
TRKR				*i* S	**Sg**	**03 27 28.8**	**+0.3**
TRKR	**Terskaya**	**1.56**	**38**	*i* Pg	**Pb**	**03 27 08.0**	**-0.1**
TRKR				*i* Sg	**Sg**	**03 27 28.8**	**+0.3**
PYA	**Pyatigorsk**	**1.56**	**350**	*e*PG	**Pb**	**03 27 07.7**	**-0.4**
PYA				*e*S	**Sg**	**03 27 28.4**	**-0.1**
PYA	**Pyatigorsk**	**1.56**	**350**	*e*Pg	**Pb**	**03 27 07.7**	**-0.4**
PYA				*e*Sg	**Sg**	**03 27 28.4**	**-0.1**
BCA	**Borcka**	**1.70**	**233**	*e*PN	**Pn**	**03 27 08.6**	**-0.6**
BCA				*e*SN	**Sb**	**03 27 33.1**	**+0.7**
BCA	**Borcka**	**1.70**	**233**	*e*Pn	**Pn**	**03 27 08.6**	**-0.6**
BCA				*e*Sn	**Sb**	**03 27 33.1**	**+0.7**
ARTV	**Artvin**	**1.72**	**221**	*i* P	**Pn**	**03 27 09.7**	**0.0**
ARTV				*i* S	**Sb**	**03 27 33.2**	**+0.1**
ARTV	**Artvin**	**1.72**	**221**	*i* P	**Pn**	**03 27 09.7**	**0.0**
ARTV				*i* S	**Sb**	**03 27 33.2**	**+0.1**
DBOC	**Borcka**	**1.74**	**229**	*i* P	**Pn**	**03 27 09.7**	**-0.1**
DBOC				*i* S	**Sb**	**03 27 33.4**	**-0.1**
DBOC	**Borcka**	**1.74**	**229**	*i* P	**Pn**	**03 27 09.7**	**-0.1**
DBOC				*i* S	**Sb**	**03 27 33.4**	**-0.1**
DGRG	**David-gareji**	**1.79**	**125**	PN	**Pb**	**03 27 11.8**	**-0.2**
DGRG				S	**Sg**	**03 27 38.0**	**+2.1**
DGRG	**David-gareji**	**1.79**	**125**	Pn	**Pb**	**03 27 11.8**	**-0.2**
DGRG				Sg	**Sg**	**03 27 38.0**	**+2.1**
DGRG	**David-gareji**	**1.79**	**125**	P	**Pb**	**03 27 11.8**	**-0.2**
DGRG				S	**Sg**	**03 27 38.0**	**+2.1**
DAGI	**Agillar**	**1.81**	**219**	*i* P	**Pn**	**03 27 10.9**	**+0.1**
DAGI				*i* S	**Sb**	**03 27 35.7**	**+0.1**
GRO	**Groznyy**	**1.90**	**63**	⇓*i*PN	**Pb**	**03 27 13.6**	**-0.3**
GRO				*e*S	**Sb**	**03 27 38.0**	**-0.2**
GRO	**Groznyy**	**1.90**	**63**	*i* Pn	**Pb**	**03 27 13.6**	**-0.3**
GRO				*e*Sg	**Sb**	**03 27 38.0**	**-0.2**
DBAD	**Bademkaya**	**1.96**	**222**	*i* P	**Pn**	**03 27 13.5**	**+0.6**
DBAD				*i* S	**Sb**	**03 27 39.9**	**0.0**
DBAD	**Bademkaya**	**1.96**	**222**	*i* P	**Pn**	**03 27 13.5**	**+0.6**
DBAD				*i* S	**Sb**	**03 27 39.9**	**0.0**
DDEM	**Demirkent**	**2.03**	**219**	*i* P	**Pn**	**03 27 14.8**	**+0.9**
DDEM				*i* S	**Sb**	**03 27 42.7**	**+0.8**
DDEM	**Demirkent**	**2.03**	**219**	*i* P	**Pn**	**03 27 14.8**	**+0.9**
DDEM				*i* S	**Sb**	**03 27 42.7**	**+0.8**
DIGO	**Kars**	**2.08**	**181**	*i* P	**Pn**	**03 27 15.8**	**+1.1**
DIGO				*i* S	**Sn**	**03 27 41.1**	**-0.3**
DIGO	**Kars**	**2.08**	**181**	*i* P	**Pn**	**03 27 15.8**	**+1.1**
DIGO				*i* S	**Sn**	**03 27 41.1**	**-0.3**
PZAR	**Pazar-Rize**	**2.30**	**236**	*e*PN	**Pn**	**03 27 16.8**	**-0.6**
PZAR	**Pazar-Rize**	**2.30**	**236**	*e*Pn	**Pn**	**03 27 16.8**	**-0.6**
GNI	**Garni**	**2.54**	**157**	*e*PN	**Pb**	**03 27 24.1**	**-0.8**
GNI	**Garni**	**2.54**	**157**	*e*Pn	**Pb**	**03 27 24.1**	**-0.8**
GANJ	**Ganja**	**2.85**	**129**	⇓P	**Pn**	**03 27 27.2**	**+2.1**
	SNR=4.6						
GANJ				⇓S	**Sb**	**03 28 03.7**	**-2.0**
SOC	**Sochi**	**2.92**	**293**	*e*PN	**Pb**	**03 27 32.5**	**+1.2**
SOC				*e*		03 28 08.4	
SOC				pmax	pmax		
	comp=Z,52nm,0.6s						
SOC				smax	smax		
	comp=N,281nm,0.9s						
SOC				smax	smax		
	comp=E,213nm,0.8s						
AGRB	**Hanur-Agry**	**2.93**	**186**	*e*PN	**Pb**	**03 27 29.2**	**-2.4**
AGRB	**Hanur-Agry**	**2.93**	**186**	*e*Pn	**Pb**	**03 27 29.2**	**-2.4**
SEKA	**Sheki**	**3.10**	**113**	⇑P	**Pn**	**03 27 28.5**	**0.0**
	SNR=6.8						
SEKA				⇓S	**Sn**	**03 28 07.6**	**+1.2**
KTUT	**Trabzon**	**3.12**	**242**	*e*PN	**Pn**	**03 27 27.7**	**-1.0**
KTUT	**Trabzon**	**3.12**	**242**	*e*Pn	**Pn**	**03 27 27.7**	**-1.0**
MACK	**Trabzon**	**3.14**	**242**	*i* P	**Pn**	**03 27 27.8**	**-1.3**
MACK				*i* S	**Sn**	**03 28 03.9**	**-3.4**
MACK	**Trabzon**	**3.14**	**242**	*i* P	**Pn**	**03 27 27.8**	**-1.3**
MACK				*i* S	**Sn**	**03 28 03.9**	**-3.4**
BAYT	**Ayd¨–ntepe-Bay**	**3.24**	**231**	*e*PN	**Pn**	**03 27 30.8**	**+0.3**
BAYT	**Ayd¨–ntepe-Bay**	**3.24**	**231**	*e*Pn	**Pn**	**03 27 30.8**	**+0.3**
GUMT	**Gumushane**	**3.59**	**237**	*e*PN	**Pn**	**03 27 34.7**	**-0.6**
GUMT	**Gumushane**	**3.59**	**237**	*e*Pn	**Pn**	**03 27 34.7**	**-0.6**
BRDA	**Brd**	**3.60**	**127**	⇑S	**Sb**	**03 28 26.1**	**-1.0**
VRTB	**Varto-Mus**	**3.65**	**205**	*e*PN	**Pn**	**03 27 38.9**	**+2.7**
VRTB	**Varto-Mus**	**3.65**	**205**	*e*Pn	**Pn**	**03 27 38.9**	**+2.7**
NAX	**Nakhchivan**	**3.67**	**154**	⇓P	**Pb**	**03 27 43.2**	**-0.9**
	SNR=8.0						
NAX				⇑S	**Sb**	**03 28 28.7**	**-0.5**
ESPY	**Espiye-Giresun**	**3.85**	**247**	*e*PN	**Pn**	**03 27 37.5**	**-1.3**
ESPY	**Espiye-Giresun**	**3.85**	**247**	*e*Pn	**Pn**	**03 27 37.5**	**-1.3**
ERZN	**Erzincan**	**4.03**	**225**	*e*PN	**Pn**	**03 27 42.4**	**+1.0**
BNGB	**Bing¨¶l**	**4.07**	**212**	*e*PN	**Pn**	**03 27 44.0**	**+2.1**
EZC	**Erzincan**	**4.11**	**230**	*e*Pn	**Pn**	**03 27 42.4**	**-0.2**
PQL	**Pirkuli**	**4.24**	**112**	⇓P	**Pn**	**03 27 45.9**	**+1.7**
	SNR=3.0						
BINT	**Bingol**	**4.25**	**213**	*e*Pn	**Pn**	**03 27 44.0**	**-0.3**
ATGJ	**Altiaghaj**	**4.44**	**110**	⇓P	**Pn**	**03 27 48.0**	**+1.0**
PTK	**Pertek**	**4.72**	**222**	*e*PN	**Pn**	**03 27 52.6**	**+1.6**
PTK	**Pertek**	**4.72**	**222**	*e*Pn	**Pn**	**03 27 52.6**	**+1.6**
ILIC	**ilic-Erzincan**	**4.76**	**232**	*e*PN	**Pn**	**03 27 52.2**	**+0.7**
ILIC	**ilic-Erzincan**	**4.76**	**232**	*e*Pn	**Pn**	**03 27 52.2**	**+0.7**
ANN	**Anapa**	**4.92**	**300**	*e*PN	**Pn**	**03 27 55.3**	**+1.9**
ANN				*e*S	**Sn**	**03 28 54.4**	**+3.4**
ANN				pmax	pmax		
	comp=Z,13nm,0.4s						
ANN	**Anapa**	**4.92**	**300**	*e*Pn	**Pn**	**03 27 55.3**	**+1.9**
	comp=Z,13nm,0.4s						
BRTR	**Keskin Array B**	**7.88**	**253**	Pn	**Pn**	**03 28 35.1**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=43,slow=11,SNR=12						
BRTR				Sn	**Sn**	**03 30 04.0**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=77,slow=20,SNR=2.7						
BRTR	**Keskin Array B**	**7.88**	**253**	P	**Pn**	**03 28 35.1**	**+0.8**
BRTR				S	**Sn**	**03 30 04.0**	**-0.3**
VRHR	**Novokhopersk**	**8.69**	**352**	*e*P	Pn	03 28 51.4	+6.2
VRHR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
VRHR				pmax	pmax		
	comp=N,10.0nm,0.6s						
VRHR				pmax	pmax		
	comp=E,10.0nm,0.6s						
VORD	**Divnogorie**	**8.94**	**343**	*e*P	Pn	03 28 51.8	+3.3
VORD				pmax	pmax		
	comp=Z,5.0nm,0.9s						
VORD				pmax	pmax		
	comp=N,40nm,0.6s						
VORD				pmax	pmax		
	comp=E,70nm,0.7s						
VSR	**Storozhevoye**	**9.20**	**343**	*e*P	Pn	03 28 56.2	+4.1
VSR				pmax	pmax		
	comp=Z,10.0nm,1.3s						
VSR				pmax	pmax		
	comp=N,20nm,1.1s						
VSR				pmax	pmax		
	comp=E,9.0nm,0.8s						
AKTO	**Aktyubinsk**	**12.80**	**47**	⇓Pn	**Pn**	**03 29 38.7**	**-2.8**
	comp=E,2.6nm,0.6s						
AKTO				⇓Sn	Sn	03 31 54.7	-10
	comp=E,3.9nm,0.8s						
AKTO	**Aktyubinsk**	**12.80**	**47**	P	Pn	03 29 38.3	-3.2
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKTO	**Aktyubinsk**	**12.80**	**47**	Pn	Pn	03 29 38.3	-3.2
	comp=Z,0.5nm,0.3s,baz=240,slow=11,SNR=14						
AB31	**Akbulak array**	**13.34**	**54**	Pn	**Pn**	**03 29 45.8**	**-3.0**
	comp=Z,2.3nm,0.6s,baz=239,slow=9.9,SNR=43						
AB31				⇑Sn	Sn	03 32 09.1	-8.6
	comp=Z,2.7nm,0.8s,baz=243,slow=17,SNR=6.3						
OBN	**Obninsk**	**13.40**	**343**	⇑*e*P	**Pn**	**03 29 51.9**	**+2.3**
OBN				*e*S	**Sn**	**03 32 17.8**	**-1.4**
OBN				pmax	pmax		
	comp=Z,6.0nm,0.5s						
OBN				MLR	MLR		
	comp=Z,100nm,13.0s						
OBN	**Obninsk**	**13.40**	**343**	*e*P	**Pn**	**03 29 51.9**	**+2.3**
	comp=Z,6.0nm,0.5s						
OBN				*e*S	**Sn**	**03 32 17.8**	**-1.4**
	comp=Z,100nm,13.0s						
EIL	**Elat**	**14.50**	**211**	LR	LR	03 36 06.7	
	comp=Z,38nm,18.2s,baz=35,slow=39						
APE	**Apeiranthos**	**14.78**	**254**	*e*P	**P**	**03 30 17.5**	**+2.7**
APE	**Apeiranthos**	**14.78**	**254**	*e*P	**P**	**03 30 17.5**	**+2.7**
SVE	**Sverdlovsk**	**18.09**	**32**	*e*P	**Pn**	**03 30 46.4**	**-4.4**
SVE				pmax	pmax		
	comp=Z,14nm,0.9s						
BRVK	**Borovoye**	**20.80**	**50**	⇑P	**P**	**03 31 20.4**	**-0.6**
	comp=Z,3.6nm,0.5s						
BRVK	**Borovoye**	**20.80**	**50**	*e*P	**P**	**03 31 21.3**	**+0.4**
BRVK	**Borovoye**	**20.80**	**50**	*e*P	**P**	**03 31 21.3**	**+0.4**
BVA0	**Borovoye Array**	**20.84**	**50**	⇓P	**P**	**03 31 20.7**	**-0.8**
	comp=Z,3.3nm,1.0s,baz=229,slow=9.6,SNR=11						
BVA0	**Borovoye Array**	**20.84**	**50**	P	**P**	**03 31 20.7**	**-0.8**
	comp=Z,3.3nm,1.0s,SNR=11						
BVAR	**Borovoye Array**	**20.84**	**50**	P	**P**	**03 31 20.9**	**-0.6**
BVAR	**Borovoye Array**	**20.84**	**50**	P	**P**	**03 31 20.9**	**-0.6**
	comp=Z,2.0nm,0.7s,baz=241,slow=8.2,SNR=9.3						
BVAR	**Borovoye Array**	**20.84**	**50**	P	**P**	**03 31 20.9**	**-0.6**
VOSK	**Vostochnaya**	**21.09**	**51**	⇑P	**P**	**03 31 23.4**	**-0.7**
	comp=Z,4.9nm,1.2s						
GERES	**GERESS Array B**	**21.63**	**297**	P	**P**	**03 31 30.0**	**0.0**
	comp=Z,0.5nm,0.9s,baz=110,slow=13,SNR=3.0						
GERES	**GERESS Array B**	**21.63**	**297**	P	**P**	**03 31 30.0**	**0.0**
FINES	**FINESS Array B**	**21.65**	**337**	P	**P**	**03 31 30.4**	**+0.5**
	comp=Z,3.7nm,1.0s,baz=158,slow=15,SNR=2.5						
FINES	**FINESS Array B**	**21.65**	**337**	P	**P**	**03 31 30.4**	**+0.5**
	comp=Z,4.0nm,1.0s						
AAK	**Ala-Archa**	**22.83**	**79**	*e*P	**P**	**03 31 45.4**	**+2.4**
AAK	**Ala-Archa**	**22.83**	**79**	LR	LR	03 42 04.9	
	comp=Z,21nm,19.4s,baz=133,slow=40						
AAK	**Ala-Archa**	**22.83**	**79**	*e*P	**P**	**03 31 45.4**	**+2.4**
DAVOX	**Davos/Dischmat**	**24.14**	**292**	P	**P**	**03 31 56.4**	**+0.4**
	comp=Z,1.2nm,0.6s,baz=66,slow=10.0,SNR=3.7						
DAVOX	**Davos/Dischmat**	**24.14**	**292**	P	**P**	**03 31 56.4**	**+0.4**
KURBB	**Kurchatov Arra**	**25.28**	**59**	P	**P**	**03 32 06.8**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=270,slow=12,SNR=6.7						
HFS	**Hagfors**	**25.29**	**324**	P	**P**	**03 32 04.7**	**-1.4**
	comp=Z,1.9nm,0.8s,baz=123,slow=7.1,SNR=2.4						
HFS	**Hagfors**	**25.29**	**324**	P	**P**	**03 32 04.7**	**-1.4**
KURK	**Kurchatov**	**25.35**	**59**	P	**P**	**03 32 06.8**	**+0.1**
KURK	**Kurchatov**	**25.35**	**59**	P	**P**	**03 32 06.8**	**+0.1**
MKAR	**Makanchi Array**	**27.79**	**68**	P	**P**	**03 32 29.1**	**+0.2**
MKAR	**Makanchi Array**	**27.79**	**68**	P	**P**	**03 32 29.1**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=268,slow=7.8,SNR=5.4						
MKAR	**Makanchi Array**	**27.79**	**68**	P	**P**	**03 32 29.1**	**+0.2**
TORD	**Torodi Ar. Bea**	**46.38**	**244**	P	**P**	**03 35 05.7**	**-0.8**
	comp=Z,0.6nm,1.0s,baz=46,slow=7.8,SNR=3.1						

NIED ***08*** *03:33:00, 23°.80N×121°.90E, h5km, Mw3.9 Best double couple: M0 9.22000×10^14 NP1:φ=47.00000°, δ=77.00000°, λ=93.00000°. NP2:φ=212.00000°, δ=13.00000°, λ=75.00000°.*
IDC ***08*** *03:33:15.9±0.8, 23°.67N×121°.19E, h0km, mb3.6/9, mb1 3.7/10, mb1mx3.6/27, mbtmp3.6/10, ML3.6/1, MS2.9/1, Ms1 2.9/1, ms1mx2.2/31, Error ellipse: s-maj=42.0km s-min=15.5km az=66.0*
TAP ***08*** *03:33:16.7, 23°.99N×121°.75E, h6km, ML4.2, C*
JMA ***08*** *03:33:17.2±0.4, 23°.79N×121°.86E, h7km, M3.6*
ISC 08 03:33:17.1±0.9, 23°.94N±0°.02×121°.77E±0°.02, h10km±6km, n74, σ1§11/117, mb3.6/9, 18D, Taiwan

| Code | Station Name | Δ° | AZ°

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWS1				*e*S	**Sn**	**03 33 58.5**	**+2.3**
	baz=345						
CHN4	**Tsaushan**	**1.23**	**242**	*e*P	**Pg**	**03 33 41.0**	**+0.2**
	baz=236						
CHN4				*e*S	**Sn**	**03 33 59.7**	**+2.7**
	baz=236						
YOJ	**Yonaguni jima**	**1.24**	**65**	*e*P	**Pn**	**03 33 40.5**	**0.0**
	baz=67						
YOJ	**Yonaguni jima**	**1.24**	**65**	P	**Pb**	**03 33 40.7**	**0.0**
YOJ				*e*S	**Sb**	**03 33 56.8**	**0.0**
WTP	**Ta-pu**	**1.27**	**237**	⇓*e*P	**Pg**	**03 33 41.4**	**-0.2**
	baz=232						
WTP				*e*S	**Sn**	**03 34 00.5**	**+2.5**
	baz=232						
TWG	**Pinlang**	**1.29**	**210**	*e*P	**Pn**	**03 33 39.9**	**-1.2**
	baz=195						
CHY	**Chiayi**	**1.31**	**251**	*e*P	**Pg**	**03 33 42.9**	**+0.5**
	baz=244						
CHY				*e*S	**Sg**	**03 34 00.4**	**+0.9**
	baz=244						
TWY	**Chenhua**	**1.34**	**353**	*e*P	**Pg**	**03 33 42.8**	**0.0**
	baz=354						
TWY				*e*S	**Sg**	**03 34 03.0**	**+2.7**
	baz=354						
WTCT	**Ta-ch'eng**	**1.37**	**267**	*e*P	**Pb**	**03 33 42.6**	**-0.2**
	baz=261						
WTCT				*e*S	**Sg**	**03 34 02.9**	**+1.7**
	baz=261						
CHN1	**Nanshi**	**1.37**	**237**	*e*P	**Pg**	**03 33 43.4**	**-0.1**
	baz=232						
CHN1				S	**Sg**	**03 34 04.0**	**+2.7**
	baz=232						
SGST	**Jiashian**	**1.39**	**232**	*e*P	**Pg**	**03 33 43.9**	**+0.1**
	baz=212						
SGST				*e*S	**Sg**	**03 34 03.8**	**+2.0**
	baz=212						
WSF	**Szhu**	**1.45**	**258**	*e*P	**Pg**	**03 33 44.8**	**-0.2**
	baz=252						
WSF				*e*S	**Sg**	**03 34 06.8**	**+2.9**
	baz=252						
CHN3	**Shinhua**	**1.55**	**237**	*e*P	**Pg**	**03 33 46.2**	**-0.7**
	baz=233						
SCLT	**Jiali**	**1.64**	**243**	*e*P	**Pb**	**03 33 46.6**	**-0.8**
	baz=238						
TWM1	**Shoushan**	**1.67**	**228**	*e*P	**Pg**	**03 33 48.4**	**-0.8**
	baz=215						
SGLT	**Jiouru**	**1.69**	**224**	*e*P	**Pb**	**03 33 48.1**	**-0.2**
	baz=207						
PCYT	**Pengchaiyu**	**1.70**	**9**	*e*P	**Pn**	**03 33 46.5**	**-0.4**
	baz=6.0						
IRIF	**Iriomote-Funau**	**1.83**	**77**	P	**Pn**	**03 33 49.2**	**+0.6**
IRIF				*e*S	**Sb**	**03 34 13.5**	**-0.2**
HATJ	**Hateruma jima**	**1.86**	**86**	P	**Pn**	**03 33 48.9**	**-0.2**
HATJ				*e*S	**Sn**	**03 34 12.8**	**+0.2**
SCZT	**Fangliau**	**1.89**	**214**	*e*P	**Pb**	**03 33 51.2**	**-0.5**
	baz=197						
SCZT				*e*S	**Sg**	**03 34 16.9**	**-1.0**
	baz=197						
TWP	**Hsiaoliuchiu**	**2.05**	**220**	*e*P	**Pg**	**03 33 55.6**	**-0.9**
	baz=218						
WDGT	**Dungji**	**2.05**	**251**	*e*P	**Pn**	**03 33 51.4**	**-0.3**
	baz=244						
JKRS	**Kuro-shima**	**2.06**	**81**	P	**Pn**	**03 33 52.7**	**+0.9**
JKRS				*e*S	**Sb**	**03 34 20.7**	**+0.3**
PNG	**Penghu**	**2.07**	**260**	*e*P	**Pn**	**03 33 52.6**	**+0.8**
	baz=250						
PNG				*e*S	**Sb**	**03 34 19.0**	**-1.4**
	baz=250						
HEN	**Hengchun**	**2.15**	**207**	*e*P	**Pb**	**03 33 54.5**	**-1.7**
	baz=193						
TWK1	**Hengchun**	**2.18**	**204**	*e*P	**Pn**	**03 33 53.3**	**-0.1**
	baz=194						
JIJ	**Ishigaki jima**	**2.21**	**79**	P	**Pn**	**03 33 53.9**	**+0.1**
JIJ				*e*S	**Sn**	**03 34 21.7**	**+0.6**
JTJ	**Tarama**	**2.76**	**75**	P	**Pn**	**03 34 02.0**	**+0.6**
JTJ				*e*S	**Sn**	**03 34 35.1**	**+0.3**
QZH	**Quanzhou**	**3.06**	**290**	Pn	**Pn**	**03 34 03.6**	**-2.0**
QZH				Sn	**Sn**	**03 34 37.0**	**-5.3**
QZH				smax	smax		
	comp=N,390nm,0.8s						
QZH				smax	smax		
	comp=E,280nm,0.7s						
QZH				LR	LR		
	comp=N,520nm,4.0s						
QZH				LR	LR		
	comp=E,2μm,7.7s						
QZH				LR	LR		
	comp=Z,3μm,7.6s						
KNM	**Kinmen**	**3.09**	**279**	*e*P	**Pn**	**03 34 07.5**	**+1.6**
	baz=269						
JOGS	**Gusukube**	**3.41**	**75**	*e*S	**Sn**	**03 34 53.4**	**+2.5**
KSRS	**Korea Array**	**14.46**	**20**	Pn	**P**	**03 36 48.4**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=202,slow=12,SNR=5.4						
KSRS				LR	LR	03 43 41.5	
	comp=Z,47nm,18.1s,baz=210,slow=42						
SONM	**Songino Array**	**26.80**	**337**	P	**P**	**03 38 57.8**	**+0.3**
	comp=Z,1.0nm,0.7s,baz=165,slow=12,SNR=4.9						
MKAR	**Makanchi Array**	**38.88**	**316**	P	**P**	**03 40 41.9**	**-0.8**
	comp=Z,0.5nm,0.5s,baz=105,slow=9.9,SNR=3.8						
ZALV	**Zalesovo Beam**	**40.74**	**327**	P	**P**	**03 40 55.8**	**-2.2**
	comp=Z,0.5nm,0.4s,baz=112,slow=6.4,SNR=2.4						
KURBB	**Kurchatov Arra**	**42.64**	**320**	P	**P**	**03 41 13.2**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=110,slow=10,SNR=3.7						
WRA	**Warramunga Arr**	**45.31**	**163**	P	**P**	**03 41 34.4**	**-0.9**
	comp=Z,0.8nm,0.8s,baz=344,slow=8.6,SNR=3.2						
BVAR	**Borovoye Array**	**48.20**	**321**	P	**P**	**03 41 58.2**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=96,slow=13,SNR=2.6						
ASAR	**Alice Springs**	**48.77**	**165**	P	**P**	**03 42 01.7**	**-0.7**
	comp=Z,0.3nm,0.7s,baz=338,slow=7.2,SNR=3.0						
STKA	**Stephens Creek**	**58.65**	**160**	P	**P**	**03 43 14.7**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=320,slow=7.9,SNR=2.5						
ILAR	**Eielson Array**	**69.18**	**27**	P	P	03 44 27.2	+3.6
	comp=Z,0.2nm,0.7s,baz=269,slow=5.7,SNR=3.5						

BKK ***08*** *03:39:45.5±0.7, 5°N±5°×9°4E±°, h10km, M5.0/18, mB5.3/9, mb5.2/18, MLv5.3/4, Mw(mB)4.7/9*
BJI ***08*** *03:39:47.4, 4°.91N×94°.25E, h49km, mB5.0/30, mb5.1/57, Ms4.6/40, Ms7 4.4/39*
MOS ***08*** *03:39:49.0±0.9, 5°.37N×94°.36E, h38km, mb5.3/104, MS4.1/15, Error ellipse: s-maj=7.8km s-min=4.0km az=120.5*
ISCJB ***08*** *03:39:49.5±0.5, 5°.24N±0°.02×94°.29E±0°.02, h45km±4km, mb5.0/188, MS4.2/46, Error ellipse: s-maj=4.7km s-min=2.9km az=43.7*
IDC ***08*** *03:39:51.0±0.4, 5°.30N×94°.36E, h42km±3km, mb4.6/44, mb1 4.6/45, mb1mx4.6/47, mbtmp4.6/45, ML5.0/1, MS4.2/33, Ms1 4.2/33, ms1mx4.1/38, Error ellipse: s-maj=10.7km s-min=8.1km az=44.0*
GCMT ***08*** *03:39:51.2±0.4, 5°.17N×94°.14E, h36km±1km, MW5.0, Moment Tensor Solution. s35,c39; s50,c65; Moment tensor: Scale 10^16^Nm; Mrr2.36±.20; Mθθ-0.24±.12; Mφφ-2.12±.14; Mrθ-0.19±.17; Mθφ1.57±.13; Mφr-2.05±.17; Best double couple: M0 3.40000×10^16^ NP1:φs172.00000°, δ65.00000°, λ113.00000°. NP2:φs307.00000°, δ33.00000°, λ50.00000°. Principal axes: T 3.3300, Plg63.0000°, Azm119.0000°; N 0.2000, Plg21.0000°, Azm342.0000°; P -3.5200, Plg17.0000°, Azm245.0000°; Data Used: IU IC G II CN.*
TEH ***08*** *03:39:51.0, 5°.17N×94°.15E, h55km, ML5.1*
SZGRF ***08*** *03:39:51.0, 5°.34N×94°.54E, h44km, mb4.9, MS4.0, Northern Sumatera, Indonesia*
AUST ***08*** *03:39:52.2±0.0, 5°.14N×94°.28E, h54km, Error ellipse: s-maj=1.4km s-min=0.8km az=24.0*
NEIC ***08*** *03:39:52.6±0.6, 5°.26N×94°.32E, h58km±5km, mb5.1/83, Error ellipse: s-maj=4.5km s-min=3.3km az=45.0*
NEIC Felt [III] at Banda Aceh.
DJA ***08*** *03:39:52.6±0.4, 5°N±3°×9°4E±°, h46km±4km, M5.6/10, mB5.8/1, mb5.6/10, Mw(mB)5.3/1*
ISC 08 03:39:51.6±0.3, 5°.21N±0°.03×94°.24E±0°.03, h51km±2km, h51km:pP-P, n751, σ1§27/859, mb5.1/187, MS4.3/46, 39C-14D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**3.48**	**143**	P	**Pn**	**03 40 40.9**	**-2.4**
SNSI				S	**Sn**	**03 41 22.4**	**-0.8**
KCSI	**Kotacane, Aceh**	**3.90**	**115**	P	**Pn**	**03 40 49.2**	**+0.1**
KCSI				S	**Sn**	**03 41 33.8**	**+0.1**
GSI	**Gunungsitoli**	**5.12**	**139**	P	**Pn**	**03 41 02.8**	**-3.0**
GSI				S	**Sn**	**03 42 02.9**	**-0.7**
PSI	**Prapat**	**5.25**	**117**	P	**Pn**	**03 41 07.7**	**0.0**
PSI				S	**Sn**	**03 42 04.1**	**-3.0**
PSI	**Prapat**	**5.25**	**117**	P	**Pn**	**03 41 07.7**	**0.0**
	47nm,0.3s,baz=304,slow=11,SNR=159						
PSI				S	**Sn**	**03 42 04.1**	**-3.0**
	14nm,0.3s,baz=286,slow=15,SNR=1.8						
PSI				LR	LR	03 43 38.5	
	comp=Z,4μm,18.9s,baz=289,slow=43						
PSI	**Prapat**	**5.25**	**117**	P	**Pn**	**03 41 07.8**	**0.0**
	baz=5.2,SNR=180						
KULM	**Kulim**	**6.39**	**89**	*e*Pn	**Pn**	**03 41 22.8**	**-0.4**
KULM				*e*S	**Sn**	**03 42 38.0**	**+3.2**
KULM	**Kulim**	**6.39**	**89**	P	**Pn**	**03 41 23.8**	**+0.6**
KULM	**Kulim**	**6.39**	**89**	P	**Pn**	**03 41 23.3**	**+0.1**
PBA	**Port Blair**	**6.57**	**347**	*e*P	Pn	03 41 26.2	+0.5
PBA				*e*S	Sn	03 42 37.4	-1.9
SKLT	**Songkhla**	**6.64**	**73**	P	**Pn**	**03 41 26.9**	**+0.3**
IPM	**Ipoh**	**6.80**	**96**	*e*Pn	**Pn**	**03 41 28.3**	**-0.6**
IPM				*e*S	Sn	03 42 35.2	-10
IPM	**Ipoh**	**6.80**	**96**	P	**Pn**	**03 41 28.9**	**-0.1**
IPM	**Ipoh**	**6.80**	**96**	P	**Pn**	**03 41 28.3**	**-0.6**
FRIM	**Kepong**	**7.62**	**105**	P	**Pn**	**03 41 39.5**	**-0.7**
DGPR	**DIGLIPUR**	**8.02**	**351**	*e*P	**Pn**	**03 41 46.3**	**+0.7**
DGPR				*ex*	**Sn**	**03 43 12.0**	**-3.0**
PPI	**Padang Panjang**	**8.34**	**132**	P	**Pn**	**03 41 48.8**	**-1.2**
PPI	**Padang Panjang**	**8.34**	**132**	P	**Pn**	**03 41 49.4**	**-0.6**
	baz=8.3,SNR=3.3						
BKNI	**Bangkinang**	**8.35**	**125**	P	**Pn**	**03 41 48.2**	**-1.9**
BKNI	**Bangkinang**	**8.35**	**125**	P	**Pn**	**03 41 48.6**	**-1.5**
	baz=8.3,SNR=3.6						
PDSI	**Padang**	**8.70**	**134**	P	**Pn**	**03 41 54.5**	**-0.4**
KTGM	**Kuala Trenggan**	**8.86**	**89**	P	**Pn**	**03 41 57.6**	**+0.4**
PHET	**Kaeng Krachan**	**9.32**	**34**	P	**Pn**	**03 42 04.2**	**+0.8**
KGM	**Kluang**	**9.60**	**109**	P	**Pn**	**03 42 06.5**	**-0.8**
MYKOM	**Kota Tinggi**	**10.18**	**109**	P	**Pn**	**03 42 14.2**	**-1.0**
MYKOM	**Kota Tinggi**	**10.18**	**109**	P	**Pn**	**03 42 14.6**	**-0.6**
KSI	**Kapahiang**	**12.13**	**136**	P	**Pn**	**03 42 41.7**	**-0.2**
MNAI	**Manna**	**12.89**	**137**	P	**Pn**	**03 42 52.9**	**+0.6**
	baz=13,SNR=4.4						
LHSI	**Lahat**	**12.91**	**134**	P	**Pn**	**03 42 51.9**	**-0.6**
PBKT	**Sadao Pong**	**13.08**	**30**	P	**Pn**	**03 42 57.9**	**+3.2**
PBKT	**Sadao Pong**	**13.08**	**30**	P	**Pn**	**03 42 57.0**	**+2.3**
	76nm,0.9s						
PMBI	**Palembang**	**13.27**	**127**	S	S	03 45 54.0	+8.4
	baz=13,SNR=3.5						
PALK	**Pallekele**	**13.61**	**279**	Pn	**Pn**	**03 43 02.0**	**-0.1**
	226nm,0.8s,SNR=6.1						
PALK	**Pallekele**	**13.61**	**279**	*e*Pn	**Pn**	**03 43 01.8**	**-0.4**
PALK				*e*S	Sn	03 45 18.3	-14
PALK	**Pallekele**	**13.61**	**279**	P	**Pn**	**03 43 03.5**	**+1.4**
CM01	**Chiang Mai Arr**	**13.91**	**19**	*e*Pn	**Pn**	**03 43 07.2**	**+1.0**
CM31	**Chiang Mai Arr**	**13.94**	**19**	*e*Pn	**Pn**	**03 43 08.3**	**+1.8**
	49nm,0.6s						
CMAR	**Chiang Mai Arr**	**13.94**	**19**	P	**Pn**	**03 43 07.8**	**+1.3**
CMAR				ScP	**ScP**	**03 51 57.4**	**+2.4**
CMAR	**Chiang Mai Arr**	**13.94**	**19**	P	**Pn**	**03 43 07.8**	**+1.3**
	4.2nm,0.3s,baz=206,slow=14,SNR=31						
CMAR				LR	LR	03 48 03.1	
	comp=Z,602nm,21.2s,baz=68,slow=36						
CMAR				ScP	**ScP**	**03 51 57.4**	**+2.4**
	1.0nm,0.3s,baz=233,slow=3.3,SNR=16						
PPBI	**Pangkal Pinang**	**13.96**	**121**	P	**P**	**03 43 13.9**	**+0.4**
CHTO	**Chiang Mai**	**14.28**	**18**	*e*P	**Pn**	**03 43 11.5**	**+0.4**
CHTO	**Chiang Mai**	**14.28**	**18**	*e*Pn	**Pn**	**03 43 11.5**	**+0.4**
CHTO	**Chiang Mai**	**14.28**	**18**	P	**Pn**	**03 43 11.5**	**+0.4**
CHTO	**Chiang Mai**	**14.28**	**18**	P	**Pn**	**03 43 12.0**	**+0.9**
	177nm,0.7s,1μm						
KASI	**Kota Agung**	**14.79**	**136**	P	**P**	**03 43 22.1**	**-0.6**
UBPT	**Khong Chiam**	**14.90**	**47**	P	**Pn**	**03 43 20.0**	**+0.8**
UBPT	**Khong Chiam**	**14.90**	**47**	P	**P**	**03 43 24.4**	**+0.5**
	176nm,0.8s						
VIS	**Vishakhapatnam**	**16.38**	**320**	*i* P	**P**	**03 43 39.9**	**-0.5**
VIS				*i* x	x	03 46 24.2	
KSM	**Kuching**	**16.47**	**102**	*e*Pn	**Pn**	**03 43 39.7**	**+0.4**
	93nm,0.7s						
KSM	**Kuching**	**16.47**	**102**	P	**P**	**03 43 41.6**	**+0.3**
KSM	**Kuching**	**16.47**	**102**	P	**P**	**03 43 40.8**	**-0.5**
KSM	**Kuching**	**16.47**	**102**	P	**P**	**03 43 41.3**	**0.0**
	baz=16,SNR=18						
DBJI	**Dramaga**	**17.11**	**133**	P	**P**	**03 43 48.6**	**+0.2**
COCO	**West Island**	**17.48**	**172**	*e*P	**P**	**03 43 55.4**	**+2.9**
COCO	**West Island**	**17.48**	**172**	*e*P	**P**	**03 43 55.4**	**+2.9**
STKI	**Sintang**	**17.96**	**106**	P	**P**	**03 43 58.6**	**+0.8**
SBUM	**Sibu**	**18.15**	**98**	*e*P	**P**	**03 43 59.3**	**-0.6**
	94nm,1.5s						
SBUM	**Sibu**	**18.15**	**98**	P	**P**	**03 43 59.9**	**-0.1**
SBUM	**Sibu**	**18.15**	**98**	P	**P**	**03 43 59.2**	**-0.7**
BTM	**Bintulu**	**18.90**	**95**	P	**Pn**	**03 44 10.2**	**+0.9**
PBKI	**Pangkalan Bun**	**19.11**	**114**	P	**Pn**	**03 44 12.8**	**+1.1**
KPJI	**Karang Pucung**	**19.24**	**130**	P	**P**	**03 44 09.9**	**-2.0**
HYB	**Hyderabad**	**19.56**	**310**	*i* P	**P**	**03 44 16.0**	**+0.6**
HYB				*e*S	**Sn**	**03 47 56.0**	**-0.1**
HYB	**Hyderabad**	**19.56**	**310**	*e*P	**P**	**03 44 16.2**	**+0.7**
SHL	**Shillong**	**20.36**	**354**	*e*P	**P**	**03 44 21.7**	**-2.6**
SHL				*i* x	x	03 48 02.0	
QIZ	**Qiongzhong**	**20.50**	**47**	P	**P**	**03 44 26.3**	**+0.7**
QIZ				pP	**pP**	**03 44 37.8**	**+0.5**
QIZ				sP	**sP**	**03 44 44.4**	**+0.7**
QIZ				S	**S**	**03 48 13.9**	**+1.6**
QIZ				pmax	pmax		
	comp=Z,49nm,1.0s						
QIZ				pmax	pmax		
	comp=Z,100nm,3.0s						
QIZ				LR	LR		
	comp=N,1μm,15.7s						
QIZ				LR	LR		
	comp=E,480nm,16.5s						
QIZ				LR	LR		
	comp=Z,1μm,19.0s						
QIZ	**Qiongzhong**	**20.50**	**47**	*e*P	**P**	**03 44 25.7**	**+0.1**
	comp=Z,65nm,0.8s						
NGJI	**Ngawi**	**21.25**	**126**	P	**P**	**03 44 34.4**	**+0.7**
KMI	**Kunming**	**21.41**	**22**	P	**P**	**03 44 36.8**	**+1.2**
KMI				pP	**pP**	**03 44 49.9**	**+2.5**
KMI				sP	**sP**	**03 44 54.1**	**+0.3**
KMI				PP	**PnPn**	**03 45 03.2**	**+5.8**
KMI				S	**S**	**03 48 28.8**	**-1.9**
KMI				sS	**sS**	**03 48 52.2**	**+2.4**
KMI				SS	SnSn	03 49 07.3	+10
KMI				pmax	pmax		
	comp=Z,65nm,1.0s						
KMI				pmax	pmax		
	comp=Z,150nm,3.4s						
KMI				LR	LR		
	comp=N,530nm,17.4s						
KMI				LR	LR		
	comp=E,530nm,15.4s						
KMI				LR	LR		
	comp=Z,660nm,19.2s						
MTKI	**Muara Teweh, K**	**21.52**	**106**	P	**P**	**03 44 37.8**	**+1.2**
NGP	**Nagpur**	**21.64**	**318**	*e*P	**P**	**03 44 36.2**	**-1.6**
LATR	**Latur**	**21.68**	**309**	*e*P	**P**	**03 44 35.6**	**-2.6**
LATR				*e*S	**S**	**03 48 32.6**	**-3.1**
GRJI	**Gresik**	**21.83**	**123**	P	**P**	**03 44 40.4**	**+0.5**
KKM	**Kota Kinabalu**	**21.89**	**87**	*e*P	**P**	**03 44 41.2**	**+0.6**
	comp=Z,49nm,0.9s						
KKM	**Kota Kinabalu**	**21.89**	**87**	P	**P**	**03 44 42.3**	**+1.7**
KKM	**Kota Kinabalu**	**21.89**	**87**	P	**P**	**03 44 42.3**	**+1.7**
KKM	**Kota Kinabalu**	**21.89**	**87**	P	**P**	**03 44 43.0**	**+2.3**
	baz=22,SNR=6.2						
PWJI	**Pagerwojo**	**21.91**	**127**	P	**P**	**03 44 41.4**	**+0.7**
BBKI	**Banjar Baru**	**22.31**	**112**	P	**P**	**03 44 45.1**	**0.0**
KDM	**Kudat**	**22.53**	**85**	P	**P**	**03 44 47.8**	**+0.3**
AKL	**Akola**	**22.73**	**314**	*e*P	**P**	**03 44 48.4**	**-1.1**
SDKM	**Sandakan**	**22.86**	**88**	P	**P**	**03 44 49.9**	**-1.1**
KAD	**Karad**	**23.02**	**303**	*ex*	pP	03 45 05.6	+1.1
KMMI	**Kalianget**	**23.15**	**122**	P	**P**	**03 44 54.2**	**+0.4**
BLJI	**Banyuglugur**	**23.21**	**124**	P	**P**	**03 44 55.1**	**+0.7**
TSM	**Tawau**	**23.57**	**91**	P	**P**	**03 44 56.8**	**-1.1**
POO	**Poona**	**23.90**	**305**	*ex*	S	03 49 25.0	+11
MYLDM	**Lahad Datu**	**24.16**	**89**	P	**P**	**03 45 04.7**	**+1.4**
MYLDM	**Lahad Datu**	**24.16**	**89**	P	**P**	**03 45 04.3**	**+1.0**
BHPL	**Bhopal**	**24.17**	**319**	*e*P	**P**	**03 45 00.9**	**-2.5**
GYA	**Guiyang**	**24.24**	**28**	⇑*i* P	**P**	**03 45 03.3**	**-0.7**
GYA				pP	**pP**	**03 45 17.6**	**+0.5**
GYA				PP	**PnPn**	**03 45 42.0**	**+6.1**
GYA				PcP	**PcP**	**03 48 44.2**	**+0.7**
GYA				S	**S**	**03 49 18.0**	**-1.3**
GYA				SS	**SnSn**	**03 50 13.9**	**+8.2**
GYA				ScP	**ScP**	**03 52 16.5**	**-1.5**
GYA				pmax	pmax		
	comp=Z,30nm,0.7s						
GYA				pmax	pmax		
	comp=Z,230nm,4.9s						
GYA				LR	LR		
	comp=N,860nm,16.8s						
GYA				LR	LR		
	comp=E,790nm,17.3s						
GYA				LR	LR		
	comp=Z,940nm,16.6s						
LSA	**Lhasa**	**24.53**	**354**	*e*P	**P**	**03 45 06.6**	**-0.4**
LSA				pmax	pmax		
	comp=Z,43nm,0.6s						
LSA	**Lhasa**	**24.53**	**354**	*e*P	**P**	**03 45 06.6**	**-0.4**
	comp=Z,43nm,0.6s						
SRBI	**Singaraja**	**24.74**	**122**	P	**P**	**03 45 09.2**	**+0.6**
MMSI	**Mamuju**	**25.87**	**107**	P	**P**	**03 45 20.0**	**+1.2**
MJSI	**Majene**	**26.20**	**109**	P	**P**	**03 45 22.1**	**+0.2**
TTSI	**Tana Toraja**	**26.84**	**107**	P	**P**	**03 45 29.0**	**+1.4**
SPSI	**Sidrap Palu**	**27.08**	**109**	P	**P**	**03 45 28.6**	**-1.2**
CD2	**Chengdu**	**27.09**	**18**	P	**P**	**03 45 28.7**	**-1.0**
CD2				pP	**pP**	**03 45 42.0**	**-0.7**
CD2				sP	**sP**	**03 45 48.4**	**-0.4**
CD2				PP	**PnPn**	**03 46 17.8**	**+3.1**
CD2				S	**S**	**03 50 02.8**	**-1.5**
CD2				sS	**sS**	**03 50 24.5**	**-2.0**
CD2				SS	**SnSn**	**03 51 20.2**	**+5.1**
CD2				pmax	pmax		
	comp=Z,70nm,0.7s						
CD2				pmax	pmax		
	comp=Z,230nm,6.6s						
CD2				LR	LR		
	comp=N,380nm,8.3s						
CD2				LR	LR		
	comp=Z,450nm,12.5s						
KAPI	**Kappang**	**27.43**	**111**	P	**P**	**03 45 31.3**	**-1.6**
	comp=Z,423nm,0.7s,SNR=9.0						
KAPI	**Kappang**	**27.43**	**111**	*e*P	**P**	**03 45 31.5**	**-1.4**
	comp=Z,44nm,0.6s						
KAPI	**Kappang**	**27.43**	**111**	P	**P**	**03 45 31.9**	**-1.0**
KAPI	**Kappang**	**27.43**	**111**	P	**P**	**03 45 31.5**	**-1.4**
	comp=Z,42nm,0.7s,baz=294,slow=7.6,SNR=34						
KAPI				LR	LR	03 57 28.7	
	comp=Z,357nm,20.0s,baz=79,slow=39						
TGY	**Tagaytay City**	**27.73**	**70**	P	**P**	**03 45 35.5**	**-0.2**
TGY	**Tagaytay City**	**27.73**	**70**	P	**P**	**03 45 35.5**	**-0.2**
	comp=Z,203nm,0.3s,baz=190,slow=5.6,SNR=5.1						
BKSI	**Bulukumba**	**27.89**	**112**	P	**P**	**03 45 36.5**	**-0.5**
MRSI	**Marisa**	**28.06**	**99**	P	**P**	**03 45 37.9**	**-0.6**
SKSI	**Soroako, Sulaw**	**28.14**	**105**	P	**P**	**03 45 40.0**	**+0.7**
NDI	**New Delhi**	**28.38**	**327**	*e*P	P	03 45 38.0	-3.2
ENH	**Enshi**	**28.78**	**28**	*e*P	**P**	**03 45 43.6**	**-1.2**
	comp=Z,48nm,0.6s						
GTOI	**Gorontalo**	**29.09**	**98**	P	**P**	**03 45 46.5**	**-1.2**
LUWI	**Luwuk**	**29.17**	**102**	P	**P**	**03 45 48.6**	**+0.2**
LUWI	**Luwuk**	**29.17**	**102**	P	**P**	**03 45 50.7**	**+2.3**
	baz=29,SNR=3.4						
LUWI				S	S	03 50 12.9	-25
	baz=29,SNR=3.9						
DDI	**Dehra Dun**	**29.27**	**330**	*e*P	**P**	**03 45 46.3**	**-2.8**
DDI				AMB	AMB	03 46 53.3	
	comp=Z,119nm,1.4s						
BHJ	**Bhuj**	**29.73**	**310**	*e*P	**P**	**03 45 51.3**	**-2.0**
BHJ				AMB	AMB	03 46 31.2	
	comp=Z,49nm,1.6s						
MMRI	**Maumere**	**31.13**	**116**	*e*P	**P**	**03 46 04.0**	**-1.7**
	comp=Z,38nm,0.9s						
WHN	**Wuhan**	**31.52**	**35**	⇑P	**P**	**03 46 09.1**	**+0.1**
WHN				pmax	pmax		
	comp=Z,110nm,0.9s						
WHN				LR	LR		
	comp=Z,2μm,18.5s						
SSLB	**Suanglung**	**31.67**	**52**	*e*P	**P**	**03 46 11.6**	**+1.2**
	comp=Z,20nm,0.7s						
DHRM	**DHARAMSHALA**	**31.70**	**330**	*e*P	**P**	**03 46 08.9**	**-1.9**
YULB	**Yu-li**	**31.74**	**53**	*e*P	**P**	**03 46 12.2**	**+1.2**
	comp=Z,18nm,0.8s						
XAN	**Xi'an**	**31.76**	**24**	P	**P**	**03 46 09.7**	**-1.4**
XAN				pP	**pP**	**03 46 23.4**	**-0.9**
XAN				S	**S**	**03 51 15.5**	**-2.1**
XAN				pmax	pmax		
	comp=Z,41nm,0.7s						
XAN				pmax	pmax		
	comp=Z,27nm,3.6s						
XAN				LR	LR		
	comp=N,360nm,20.5s						
XAN				LR	LR		
	comp=E,130nm,21.5s						
XAN				LR	LR		
	comp=Z,200nm,20.5s						
LZH	**Lanzhou**	**31.97**	**15**	⇑P	**P**	**03 46 12.3**	**-0.8**
LZH				pP	**pP**	**03 46 21.2**	**-5.0**
LZH				pmax	pmax		
	comp=Z,44nm,0.9s						
YHNB	**Yeheng**	**32.46**	**51**	*e*P	**P**	**03 46 18.5**	**+1.1**
	comp=Z,25nm,0.7s						
SOEI	**Soe**	**33.41**	**116**	P	P	03 46 22.3	-3.6
SOEI	**Soe**	**33.41**	**116**	P	P	03 46 22.4	-3.5
	baz=33,SNR=7.3						
GTA	**Gaotai**	**34.42**	**8**	P	**P**	**03 46 33.9**	**-0.4**
GTA				pP	**pP**	**03 46 46.4**	**-1.2**
GTA				sP	**sP**	**03 46 51.4**	**-2.2**
GTA				PcP	**PcP**	**03 49 09.6**	**+0.6**
GTA				S	**S**	**03 51 57.6**	**-1.3**
GTA				sS	**sS**	**03 52 18.4**	**-2.9**
GTA				SS

comp=E,650nm,13.2s
HHC LR LR
comp=Z,670nm,13.2s
FAKI Fak Fak 38.82 101 P **P** **03 47 11.0 -1.0**
baz=39,SNR=8.8
WMQ Urumqi 38.88 352 P **P** **03 47 13.0 +0.8**
WMQ pP **pP** **03 47 26.0 +0.4**
WMQ sP **sP** **03 47 33.0 +1.4**
WMQ PP **PnPn** **03 48 47.1 +2.3**
WMQ S **S** **03 53 07.0 +0.2**
WMQ sS **sS** **03 53 32.0 +2.7**
WMQ SS **SS** **03 55 51.0 -8.8**
WMQ pmax pmax
comp=Z,54nm,0.8s
WMQ pmax pmax
comp=Z,240nm,4.8s
WMQ LR LR
comp=N,170nm,23.6s
WMQ LR LR
comp=E,340nm,28.8s
WMQ LR LR
comp=Z,180nm,21.2s
JOW Kunigami 38.93 53 *e*P **P** **03 47 13.3 +0.5**
comp=Z,71nm,0.6s
MEEK Meekatharra 39.49 144 P **P** **03 47 18.3 +0.8**
baz=40,SNR=3.1
BJT Baijiatuau 39.89 27 *e*P **P** **03 47 21.1 +0.5**
comp=Z,31nm,0.6s
BJI Beijing 39.91 27 P **P** **03 47 21.4 +0.7**
BJI SS SS 03 56 20.5 +0.1
BJI pmax pmax
comp=Z,57nm,0.7s
BJI pmax pmax
comp=Z,82nm,3.1s
BJI LR LR
comp=N,450nm,20.3s
BJI LR LR
comp=E,350nm,22.6s
BJI LR LR
comp=Z,280nm,25.4s
TLE Tual 39.92 105 P **P** **03 47 20.4 -0.8**
comp=Z,79nm,0.8s
KNRA Kununurra 39.99 122 P **P** **03 47 20.2 -1.5**
baz=40,SNR=14
MORW Morawa 40.02 150 P sP 03 47 39.1 -2.1
baz=40,SNR=3.1
KZA Kyzart 40.42 338 *i* P **P** **03 47 26.2 +0.8**
KZA Kyzart 40.42 338 P **P** **03 47 26.2 +0.8**
SNR=5.2
RKPI Ransiki, Papua 40.45 98 P **P** **03 47 27.0 +1.4**
comp=Z,92nm,0.8s
MTN Manton Dam 40.81 116 P **P** **03 47 27.3 -1.2**
baz=41,SNR=3.7
TKM2 Tokmak 2 41.02 339 *e*P **P** **03 47 30.4 +0.2**
TKM2 pmax pmax
comp=Z,83nm,2.0s
TKM2 Tokmak 2 41.02 339 P **P** **03 47 30.6 +0.5**
SNR=9.8
TKM2 Tokmak 2 41.02 339 *e*P **P** **03 47 30.4 +0.2**
comp=Z,84nm,2.0s
KBK Karagaybulak 41.03 338 *i* P **P** **03 47 31.3 +1.1**
KBK Karagaybulak 41.03 338 P **P** **03 47 31.3 +1.1**
SNR=12
AML Almayashu 41.06 337 *i* P **P** **03 47 31.4 +0.7**
AML Almayashu 41.06 337 P **P** **03 47 31.4 +0.7**
SNR=21
AAK Ala-Archa 41.18 338 P **P** **03 47 32.4 +1.0**
AAK 03 49 31.3
AAK pmax pmax
comp=Z,7.0nm,0.7s
AAK pmax pmax
comp=Z,7.0nm,0.5s
AAK Ala-Archa 41.18 338 *e*P **P** **03 47 30.8 -0.6**
comp=Z,27nm,0.9s
AAK PcP **PcP** **03 49 31.3 +1.4**
AAK Ala-Archa 41.18 338 P **P** **03 47 32.4 +1.0**
comp=Z,6.5nm,0.7s,baz=182,slow=2.0,SNR=14
AAK PcP **PcP** **03 49 31.3 +1.4**
comp=Z,7.2nm,0.5s,baz=132,slow=4.9,SNR=6.1
EKS2 Erkin-Say 41.48 337 *e*P **P** **03 47 34.4 +0.6**
EKS2 pmax pmax
comp=Z,16nm,0.8s
EKS2 Erkin-Say 41.48 337 P **P** **03 47 34.6 +0.9**
SNR=13
EKS2 Erkin-Say 41.48 337 *e*P **P** **03 47 34.4 +0.6**
comp=Z,16nm,0.8s
USP Ospenovka 41.72 338 *i* P **P** **03 47 36.1 +0.4**
USP Ospenovka 41.72 338 P **P** **03 47 36.1 +0.4**
SNR=15
KDU Kakadu 41.95 115 P **P** **03 47 36.2 -1.7**
baz=42,SNR=20
IDAH Dahanechah 42.15 315 *e*P **P** **03 47 41.4 +1.8**
BAKI Biak 42.30 97 P **P** **03 47 39.6 -1.2**
comp=Z,107nm,0.9s
IKOO Kooshah 42.60 314 *e*P **P** **03 47 43.8 +0.6**
MK01 Makanchi Array 42.67 348 *e*P **P** **03 47 42.7 -0.6**
MK31 Makanchi Array 42.69 348 *c e*P **P** **03 47 43.2 -0.3**
MK31 pmax pmax
comp=Z,23nm,0.6s
MK31 Makanchi Array 42.69 348 *e*P **P** **03 47 43.7 +0.3**
MKAR Makanchi Array 42.69 348 P **P** **03 47 43.7 +0.2**
MKAR 03 49 34.7
MKAR S **S** **03 54 04.6 +1.3**
MKAR pmax pmax
comp=Z,24nm,0.6s
MKAR pmax pmax
comp=Z,4.0nm,0.6s
MKAR MLR MLR
comp=Z,263nm,21.5s
MKAR Makanchi Array 42.69 348 P **P** **03 47 43.6 +0.2**
MKAR PcP **PcP** **03 49 34.7 +0.1**
MKAR S **S** **03 54 04.6 +1.3**
MKAR Makanchi Array 42.69 348 P **P** **03 47 43.6 +0.2**
comp=Z,24nm,0.6s,baz=169,slow=8.1,SNR=278
MKAR PcP **PcP** **03 49 34.7 +0.1**
comp=Z,3.6nm,0.6s,baz=131,slow=2.7,SNR=3.5
MKAR S **S** **03 54 04.6 +1.3**
comp=Z,0.4nm,0.7s,baz=168,slow=7.4,SNR=2.7
MKAR LR LR 04 08 09.3
comp=Z,263nm,21.5s,baz=159,slow=40
KLBR Kellerberrin 42.92 150 P sP 03 48 02.9 -2.2
baz=43,SNR=4.7
ITEG Tejag 43.03 314 *e*P **P** **03 47 47.2 +0.6**
KKAR Karatay Array 43.18 334 *e*P **P** **03 47 47.5 0.0**
KKAR *e* 03 49 37.4
KKAR pmax pmax
comp=Z,13nm,0.7s
KKAR Karatay Array 43.18 334 *e*P **P** **03 47 47.5 0.0**
comp=Z,13nm,0.7s
KKAR *e*PcP **PcP** **03 49 37.4 +1.2**
SONM Songino Array 43.73 12 P **P** **03 47 51.3 -0.6**
SONM PcP **PcP** **03 49 38.6 +0.4**
SONM pPcP 03 49 51.2
SONM ScP **ScP** **03 53 26.1 +0.4**
SONM Songino Array 43.73 12 P **P** **03 47 51.3 -0.6**
comp=Z,33nm,0.9s,baz=192,slow=8.4,SNR=128
SONM PcP **PcP** **03 49 38.6 +0.4**
comp=Z,9.6nm,0.8s,baz=195,slow=3.7,SNR=6.9
SONM pPcP 03 49 51.2
comp=Z,4.3nm,0.6s,baz=203,slow=4.8,SNR=3.8
SONM ScP **ScP** **03 53 26.1 +0.4**
comp=Z,0.6nm,0.4s,baz=198,slow=4.2,SNR=3.8
SONM LR LR 04 08 20.3
comp=Z,213nm,20.8s,baz=197,slow=39
SONA1 Songino Array 43.74 12 *e*P **P** **03 47 51.4 -0.7**
ULN Ulaanbaatar 43.89 12 *e*P **P** **03 47 52.6 -0.7**
comp=Z,15nm,0.6s
ULN Ulaanbaatar 43.89 12 P **P** **03 47 52.7 -0.6**
comp=Z,32nm,0.8s
JNU Nakatsue 43.97 46 *e*P **P** **03 47 53.7 -0.3**
comp=Z,27nm,1.0s
JNU ScP **ScP** **03 53 27.6 +0.7**
JNU Nakatsue 43.97 46 P **P** **03 47 53.5 -0.5**
comp=Z,21nm,0.9s,baz=227,slow=1.8,SNR=9.3
JNU ScP **ScP** **03 53 27.6 +0.7**
comp=Z,11nm,0.9s,baz=226,slow=7.7,SNR=3.6
IMYA Miami 44.04 319 *e*P **P** **03 47 54.6 -0.1**
KSAR Wonju Array Be 44.40 39 P **P** **03 47 57.3 0.0**
KSAR PcP **PcP** **03 49 40.5 0.0**
IMOG Moghan 44.41 319 *e*P **P** **03 47 57.6 -0.2**
KS01 Wonju Array Si 44.42 39 *e*P **P** **03 47 56.7 -0.8**
KSRS Korea Array 44.43 39 P **P** **03 47 57.3 -0.3**
comp=Z,4.6nm,0.8s,baz=224,slow=8.5,SNR=8.5
KSRS PcP **PcP** **03 49 40.5 -0.1**
comp=Z,1.9nm,0.5s,baz=245,slow=3.0,SNR=4.2
KSRS LR LR 04 08 35.3
comp=Z,372nm,18.1s,baz=236,slow=39
IBAF Bafgh 44.72 311 *e*P **P** **03 48 01.2 +1.0**
IPAY Payeh 44.83 319 *e*P **P** **03 48 01.3 +0.2**
IAKL Akhelmad 45.07 319 *e*P **P** **03 48 02.8 -0.3**
IKRD Kardeh 45.33 319 *e*P P 03 48 00.8 -4.3
IEMG Emamgholi 45.61 320 *e*P **P** **03 48 08.1 +0.7**
ZAK Zakamensk 45.65 8 *e*P **P** **03 48 06.7 -0.5**
ZAK pmax pmax
comp=Z,7.0nm,1.1s
ICHK Chekchek 45.89 311 *e*P **P** **03 48 09.6 0.0**
IPAR Pars 45.90 307 *e*P **P** **03 48 11.3 +1.5**
ISAD Sadrabad 46.29 310 *e*P **P** **03 48 10.8 -2.0**
ISHV Shirvan 46.30 319 *e*P **P** **03 48 13.4 +0.7**
MOY Mondy 46.64 6 *e*P **P** **03 48 15.1 +0.1**
WRA Warramunga Arr 46.68 124 P **P** **03 48 15.1 -0.6**
WRA S **S** **03 54 59.5 -2.3**
WRA Warramunga Arr 46.68 124 P **P** **03 48 15.1 -0.6**
comp=Z,46nm,0.6s,baz=302,slow=9.2,SNR=6.8
WRA S **S** **03 54 59.5 -2.3**
comp=Z,0.8nm,0.9s,baz=291,slow=16,SNR=3.7
WRA LR LR 04 08 44.8
comp=Z,286nm,21.7s,baz=305,slow=37
WRAB Tennant Creek 46.69 124 P **P** **03 48 15.0 -0.7**
comp=Z,614nm,0.6s,SNR=31
WRAB Tennant Creek 46.69 124 *e*P **P** **03 48 15.4 -0.3**
WRAB pmax pmax
comp=Z,121nm,1.0s
WRAB Tennant Creek 46.69 124 *e*P **P** **03 48 15.4 -0.3**
comp=Z,121nm,1.0s
IKAZ Kazeroun 46.84 307 *e*P **P** **03 48 18.2 +1.0**
JAY Jayapura 47.05 98 P **P** **03 48 16.5 -2.2**
baz=47,SNR=4.5
KURBB Kurchatov Arra 47.14 346 P **P** **03 48 19.2 +0.5**
comp=Z,32nm,0.5s,baz=172,slow=6.9,SNR=350
KURBB PcP **PcP** **03 49 50.4 +0.7**
comp=Z,8.4nm,0.7s,baz=167,slow=3.5,SNR=4.6
KURBB S **S** **03 55 01.8 -5.7**
comp=Z,0.9nm,0.9s,baz=162,slow=13,SNR=4.5
KURK Kurchatov 47.20 347 P **P** **03 48 19.2 0.0**
KURK 03 49 50.4
KURK S S 03 55 01.8 -6.6
KURK pmax pmax
comp=Z,32nm,0.5s
KURK pmax pmax
comp=Z,8.0nm,0.7s
KURK smax smax
comp=N,1.0nm,0.9s
KURK Kurchatov 47.20 347 P **P** **03 48 19.2 0.0**
KURK PcP **PcP** **03 49 50.4 +0.4**
KURK S S 03 55 01.8 -6.6
CN2 Changchun 47.24 31 ⇑P **P** **03 48 19.2 -0.4**
CN2 *e*pP **pP** **03 48 29.8 -3.5**
CN2 *e*PcP **PcP** **03 49 49.7 -0.6**
CN2 *e*S **S** **03 55 07.2 -1.9**
CN2 pmax pmax
comp=Z,20nm,0.8s
CN2 LR LR
comp=N,330nm,18.0s
CN2 LR LR
comp=E,420nm,18.0s
CN2 LR LR
comp=Z,280nm,18.0s
ASAR Alice Springs 48.17 128 P **P** **03 48 26.8 -0.4**
ASAR S **S** **03 55 19.2 -3.8**
ASAR Alice Springs 48.17 128 P **P** **03 48 26.8 -0.4**
comp=Z,16nm,0.7s,baz=303,slow=7.6,SNR=153
ASAR S **S** **03 55 19.2 -3.8**
comp=Z,1.8nm,1.0s,baz=294,slow=14,SNR=7.6
ASAR LR LR 04 12 25.9
comp=Z,233nm,18.2s,baz=298,slow=41
AS31 Alice Springs 48.17 128 *e*P **P** **03 48 26.6 -0.7**
AS01 Alice Springs 48.21 128 *e*P **P** **03 48 26.7 -0.8**
FORT Forrest 48.23 140 *e*P **P** **03 48 27.7 +0.2**
comp=Z,116nm,1.6s
ZAA0 Zalesovo Array 49.19 353 *e*P **P** **03 48 34.8 +0.3**
ZALV Zalesovo Beam 49.19 353 P **P** **03 48 34.8 +0.3**
ZALV pmax pmax
comp=Z,25nm,0.5s
ZALV MLR MLR
comp=Z,245nm,20.4s
ZALV Zalesovo Beam 49.19 353 P **P** **03 48 34.8 +0.3**
ZALV Zalesovo Beam 49.19 353 P **P** **03 48 34.8 +0.3**
comp=Z,30nm,0.6s,baz=187,slow=7.6,SNR=86
ZALV LR LR 04 13 13.1
comp=Z,245nm,20.4s,baz=253,slow=41
DAMY Dhamar 49.88 285 *e*P P 03 48 34.9 -5.9
MDJ Mudanjiang 49.96 33 P **P** **03 48 41.3 +0.7**
MDJ pP **pP** **03 48 54.1 -0.3**
MDJ sP **sP** **03 49 00.6 +0.3**
MDJ PcP **PcP** **03 49 59.3 -0.8**
MDJ PP **PP** **03 50 36.4 +0.5**
MDJ S **S** **03 55 47.9 +0.4**
MDJ sS **sS** **03 56 15.3 +4.6**
MDJ ScS **ScS** **03 58 25.4 -2.2**
MDJ pmax pmax
comp=Z,21nm,1.2s
MDJ pmax pmax
comp=Z,180nm,5.7s
MDJ LR LR
comp=N,210nm,20.3s
MDJ LR LR
comp=E,190nm,17.4s
MDJ LR LR
comp=Z,310nm,21.8s
MDJ Mudanjiang 49.96 33 *e*P **P** **03 48 41.2 +0.6**
comp=Z,12nm,0.8s
RDF Al-Radifah 50.03 304 *e*P **P** **03 48 43.0 +1.7**
RDF AMb AMB 03 48 46.9
comp=Z,34nm,0.8s
NVS Novosibirsk 50.27 352 *e*P **P** **03 48 41.2 -1.5**
NVS *e* 03 55 51.2
NVS pmax pmax
comp=Z,36nm,0.9s
NVS pmax pmax
comp=N,17nm,0.6s
NVS pmax pmax
comp=E,21nm,0.6s
VLA Vladivostok 50.29 36 *e*P **P** **03 48 42.0 -1.1**
VLA pmax pmax
comp=Z,24nm,0.8s
RAYN Ar Rayn 50.30 296 *e*P **P** **03 48 45.7 +2.2**
comp=Z,29nm,1.6s
NAY Al-Naaiem 50.40 304 *e*P **P** **03 48 45.0 +0.9**
NAY AMb AMB 03 48 48.6
comp=Z,0.9nm,1.0s
MIB Mutribah 50.50 305 *e*P **P** **03 48 45.9 +1.0**
MIB AMb AMB 03 48 54.8
comp=Z,54nm,1.0s
KRAR Krasnoyarsk 50.67 359 *e*P **P** **03 48 44.9 -0.7**
KRAR pmax pmax
comp=Z,37nm,1.2s
MAT Matsushiro 50.90 46 P **P** **03 48 47.2 -0.6**
MJAR Matsushiro Arr 50.90 46 P **P** **03 48 47.8 0.0**
MJAR PcP **PcP** **03 50 03.8 0.0**
MJAR Matsushiro Arr 50.90 46 P **P** **03 48 47.8 0.0**
comp=Z,3.2nm,0.6s,baz=232,slow=6.0,SNR=16
MJAR PcP **PcP** **03 50 03.8 0.0**
comp=Z,5.4nm,0.8s,baz=237,slow=3.6,SNR=6.5
MJAR LR LR 04 13 31.9
comp=Z,261nm,18.4s,baz=255,slow=40
USRK Ussuriysk Arra 51.02 35 P **P** **03 48 48.0 -0.5**
comp=Z,5.9nm,0.6s,baz=238,slow=7.3,SNR=14
USRK LR LR 04 12 31.2
comp=Z,341nm,18.8s,baz=197,slow=38
VOSK Vostochnaya 51.09 342 *e*P **P** **03 48 48.8 -0.1**
VOSK pmax pmax
comp=Z,36nm,0.9s
VOSK Vostochnaya 51.09 342 *e*P **P** **03 48 48.8 -0.1**
comp=Z,36nm,0.9s
BVA0 Borovoye Array 51.53 342 *i* P **P** **03 48 51.6 -0.6**
BVA0 pmax pmax
comp=Z,17nm,0.8s
BVAR Borovoye Array 51.53 342 P **P** **03 48 52.0 -0.2**
BVAR *PP **pP** **03 49 04.5 -1.5**
BVAR pmax pmax
comp=Z,11nm,0.6s
BVAR pmax pmax
comp=Z,17nm,0.7s
BVAR Borovoye Array 51.53 342 P **P** **03 48 52.0 -0.2**
BVAR pP **pP** **03 49 04.5 -1.5**
BVAR Borovoye Array 51.53 342 P **P** **03 48 52.0 -0.2**
comp=Z,11nm,0.6s,baz=143,slow=9.4,SNR=50
BVAR pP **pP** **03 49 04.5 -1.5**
comp=Z,17nm,0.7s,baz=136,slow=9.7,SNR=7.8
BRVK Borovoye 51.59 342 P **P** **03 48 52.4 -0.2**
comp=Z,180nm,0.6s,SNR=12
BRVK Borovoye 51.59 342 *c i*P **P** **03 48 52.3 -0.3**
BRVK pmax pmax
comp=Z,18nm,0.8s
BRVK Borovoye 51.59 342 *e*P **P** **03 48 52.1 -0.5**
comp=Z,23nm,0.7s
OPO Ambohidratompo 52.04 242 P **P** **03 48 59.6 +2.8**
OPO Ambohidratompo 52.04 242 P **P** **03 48 59.6 +2.8**
comp=Z,2.5nm,0.7s,baz=84,slow=9.2,SNR=2.4
COEN Coen 52.16 112 *e*P **P** **03 48 55.9 -1.7**
comp=Z,92nm,0.8s
COEN Coen 52.16 112 P **P** **03 48 56.1 -1.4**
baz=52,SNR=25
AB31 Akbulak array 52.61 332 *c e*P **P** **03 49 00.2 -0.1**
AB31 pmax pmax
comp=Z,9.0nm,0.5s
ABKAR Akbulak array 52.61 332 *e*P **P** **03 49 00.5 +0.2**
comp=Z,5.6nm,0.4s
KLR Kul'dur 54.12 30 *e*P P 03 49 07.6 -3.8
KLR pmax pmax
comp=Z,67nm,2.0s
AKTO Aktyubinsk 54.33 332 P **P** **03 49 12.5 -0.4**
AKTO pmax pmax
comp=Z,5.0nm,0.6s
AKTO Aktyubinsk 54.33 332 P **P** **03 49 12.4 -0.4**
AKTO Aktyubinsk 54.33 332 P **P** **03 49 12.4 -0.4**
comp=Z,5.3nm,0.6s,baz=134,slow=8.2,SNR=23
MTSU Mount Surprise 54.56 116 P **P** **03 49 12.6 -2.6**
baz=54,SNR=10
PMG Port Moresby 54.70 105 *e*P **P** **03 49 14.9 -1.3**
comp=Z,22nm,0.6s
PMG Port Moresby 54.70 105 P **P** **03 49 15.2 -1.0**
PMG Port Moresby 54.70 105 P **P** **03 49 15.1 -1.0**
comp=Z,21nm,0.7s,baz=1.0,slow=1.5,SNR=11
BBOO Buckleboo 54.81 137 P **P** **03 49 16.2 -0.4**
baz=55,SNR=8.3
CTA Charters Tower 56.96 118 P **P** **03 49 31.3 -1.0**
CTA Charters Tower 56.96 118 P **P** **03 49 31.3 -1.0**
comp=Z,9.0nm,0.8s,baz=296,slow=11,SNR=11
KMBO Kilima Mbogo 57.26 265 *e*P **P** **03 49 36.5 +1.7**
comp=Z,1.7nm,0.6s
KMBO pP **pP** **03 49 48.1 -0.8**
KMBO Kilima Mbogo 57.26 265 P **P** **03 49 37.3 +2.4**
comp=Z,1.0nm,0.4s,baz=56,slow=7.3,SNR=3.3
KMBO pP **pP** **03 49 48.1 -0.8**
comp=Z,10.0nm,0.9s,baz=52,slow=10,SNR=9.0
KMBO LR LR 04 09 34.1
comp=Z,394nm,21.0s,baz=75,slow=31
ASAJ Asahikawa 57.37 40 P **P** **03 49 34.5 -0.3**
ASAJ Asahikawa 57.37 40 P **P** **03 49 34.5 -0.3**
comp=Z,11nm,0.6s,baz=238,slow=8.0,SNR=7.3
SVE Sverdlovsk 57.90 339 ⇑*i*P **P** **03 49 38.6 +0.4**
SVE *e*S S 03 57 43.6 +9.3
SVE pmax pmax
comp=Z,50nm,0.9s
SVE MLR MLR
comp=Z,387nm,23.0s
STKA Stephens Creek 58.23 133 *e*P **P** **03 49 40.7 -0.3**
comp=Z,4.7nm,0.9s
STKA Stephens Creek 58.23 133 P **P** **03 49 40.8 -0.2**
comp=Z,11nm,0.7s,baz=311,slow=7.0,SNR=23
STKA LR LR 04 14 06.4
comp=Z,221nm,21.2s,baz=24,slow=35
STKA Stephens Creek 58.23 133 P **P** **03 49 40.8 -0.2**
baz=58,SNR=9.0
ARU Arti 58.37 338 *c i*P **P** **03 49 41.2 -0.3**
ARU 03 51 48.7
ARU S **S** **03 57 44.1 +3.7**
ARU SS **SS** **04 01 32.8 -0.4**
ARU pmax pmax
comp=Z,17nm,1.0s
ARU MLR MLR
comp=Z,285nm,21.0s
YSS Yuzh-Sakhalins 58.83 37 *i*P **P** **03 49 45.3 +0.4**
YSS pmax pmax
comp=Z,70nm,1.7s
KBZ Khabaz 59.12 319 LR LR 04 18 33.8
comp=Z,72nm,20.1s,baz=359,slow=39
ASF Jabal al Asfar 59.76 304 LR LR 04 16 29.9
comp=Z,203nm,20.7s,baz=233,slow=37
EIL Elat 60.85 301 LR LR 04 16 32.6
comp=Z,441nm,19.3s,baz=316,slow=36
CMSA Cobar Meteorol 61.12 130 P **P** **03 50 01.2 +0.2**
baz=61,SNR=36
MMAI Mount Meron Ar 61.19 305 LR LR 04 19 30.7
comp=Z,257nm,18.3s,baz=135,slow=39
RMQ Roma 61.44 124 P **P** **03 50 04.2 +0.9**
baz=61,SNR=6.0
YAK Yakutsk 62.48 18 *e*P **P** **03 50 07.6 -1.8**
YAK pmax pmax
comp=Z,33nm,0.8s
YAK pmax pmax
comp=N,13nm,1.3s
ANN Anapa 63.16 318 *e*P **P** **03 50 11.9 -2.4**
ANN pmax pmax
comp=Z,34nm,0.9s
VRHR Novokhopersk 63.17 326 *e*P **P** **03 50 12.7 -1.6**
VRHR pmax pmax
comp=Z,20nm,0.6s
VRHR pmax pmax
comp=N,10.0nm,1.6s
VRHR pmax pmax
comp=E,20nm,1.7s
TOO Toolangi 63.87 136 P **P** **03 50 20.7 +1.6**
baz=64,SNR=6.5
BR131 Keskin Array S 64.25 312 *e*P **P** **03 50 21.4 -0.5**
comp=E,6.8nm,0.6s
BRTR Keskin Array B 64.25 312 P **P** **03 50 21.1 -0.7**
BRTR Keskin Array B 64.25 312 P **P** **03 50 21.1 -0.7**
comp=E,8.7nm,0.6s,baz=131,slow=7.4,SNR=63
BRTR LR LR 04 22 57.2
comp=E,52nm,18.2s,baz=328,slow=40
YNG Young 64.40 132 P **P** **03 50 23.2 +0.5**
baz=64,SNR=4.6
VORD Divnogorie 64.43 325 *e*P **P** **03 50 21.1 -1.5**
VORD pmax pmax
comp=Z,10.0nm,0.7s
VORD pmax pmax
comp=N,8.0nm,0.8s
VORD pmax pmax
comp=E,10.0nm,1.8s
VSR Storozhevoye 64.61 325 *e*P **P** **03 50 22.0 -1.7**
VSR pmax pmax
comp=Z,10.0nm,0.6s
VSR pmax pmax
comp=N,10.0nm,0.8s
VSR pmax pmax
comp=E,10.0nm,0.7s
BR231 Keskin MP Arra 64.92 312 *e*P P 03 50 22.0 -4.2
ARMA Armidale 65.28 127 P **P** **03 50 29.4 +0.8**
baz=65,SNR=3.8
CAN Canberra 65.30 133 *e*P **P** **03 50 29.1 +0.5**
CAN pmax pmax
comp=Z,53nm,1.0s
CAN Canberra 65.30 133 *e*P **P** **03 50 29.1 +0.5**
comp=Z,53nm,1.0s
MOS Moscow 67.39 329 *e*P **P** **03 50 40.7 -0.8**
MOS *e* 03 50 53.2
OBN Obninsk 67.67 328 ⇓*i*P **P** **03 50 43.0 -0.3**
OBN *e* 03 53 12.6
OBN *e*S S 03 59 29.9 -6.9
OBN pmax pmax
comp=Z,19nm,0.6s
OBN MLR MLR
comp=Z,100nm,22.0s
SKR Severo-Kuril's 68.39 37 *e*P P 03 50 40.0 -7.9
SKR pmax pmax
comp=Z,80nm,0.5s
LSZ Lusaka 68.50 251 *e*P **P** **03 50 51.1 +1.7**
comp=Z,15nm,1.6s
KLMR Klimovskoe 68.88 335 *e*P **P** **03 50 49.1 -1.7**
KLMR pmax pmax
comp=Z,22nm,0.7s
TIRR Tirgusor 69.20 316 ⇑P **P** **03 50 52.8 -0.3**
TIRR Tirgusor 69.20 316 ⇑*i*P **P** **03 50 52.8 -0.3**
CFR Carcaliu 69.56 316 ⇓P **P** **03 50 53.6 -1.7**
CFR Carcaliu 69.56 316 ⇓*i*P **P** **03 50 53.6 -1.7**
TIXI Tiksi 69.81 11 *c i*P **P** **03 50 55.1 -1.2**
TIXI pmax pmax
comp=Z,28nm,0.6s
PEA0 Petropavlovsk- 70.11 35 *e*P **P** **03 50 56.5 -2.0**
PETK Petropavlovsk- 70.11 35 P **P** **03 50 57.2 -1.3**
PETK pmax pmax
comp=Z,4.0nm,0.9s
PETK MLR MLR
comp=Z,100nm,19.3s

PETK Petropavlovsk- 70.11 35 P **P 03 50 57.2 -1.3**
PETK Petropavlovsk- 70.11 35 P **P 03 50 57.2 -1.3**
comp=Z,3.3nm,0.9s,baz=204,slow=5.8,SNR=5.1
PETK LR LR 04 25 41.4
comp=Z,100nm,19.3s,baz=251,slow=39
IDI Anoyia 70.17 306 P **P 03 50 59.7 +0.4**
IDI Anoyia 70.17 306 P **P 03 50 59.7 +0.4**
comp=Z,10.0nm,0.8s,baz=113,slow=13,SNR=4.1
AKASG Malin Array Be 70.30 322 P **P 03 50 58.6 -1.1**
AKASG pmax pmax
comp=Z,5.0nm,0.5s
AKASG Malin Array Be 70.30 322 P **P 03 50 58.5 -1.1**
AKASG Malin Array Be 70.30 322 P **P 03 50 58.5 -1.1**
comp=Z,2.5nm,0.5s,baz=85,slow=5.8,SNR=13
AKASG LR LR 04 28 39.3
comp=Z,59nm,18.3s,baz=45,slow=42
KIEV Kiev 70.30 322 *e*P **P 03 50 58.6 -1.2**
KIEV pmax pmax
comp=Z,4.0nm,0.5s
KIEV Kiev 70.30 322 *e*P **P 03 50 58.5 -1.2**
comp=Z,4.2nm,0.5s
PET Petropavlovsk 70.63 35 *e*P **P 03 50 59.6 -2.0**
PET pmax pmax
comp=Z,28nm,1.7s
VRI Vrincioaia 70.69 317 ⇑P **P 03 51 03.2 +1.0**
VRI Vrincioaia 70.69 317 ⇑*i*P **P 03 51 03.2 +1.0**
PLOR Plostina 70.73 317 ⇓P **P 03 51 03.6 +1.0**
PLOR Plostina 70.73 317 ⇓*i*P **P 03 51 03.6 +1.0**
TESR Tescani 70.88 317 ⇓*i*P **P 03 51 03.6 +0.2**
MLR Muntele Rosu 71.14 316 P **P 03 51 05.6 +0.4**
MLR Muntele Rosu 71.14 316 ⇑*i*P **P 03 51 05.8 +0.7**
MLR Muntele Rosu 71.14 316 P **P 03 51 05.6 +0.4**
comp=Z,3.2nm,0.7s,baz=150,slow=3.9,SNR=13
SEY Seymchan 71.30 24 ⇑*i*P **P 03 51 04.6 -0.9**
VOIR 71.75 316 ⇓P **P 03 51 08.6 -0.1**
VOIR 71.75 316 ⇓*i*P **P 03 51 08.6 -0.1**
ARR Arges 72.02 316 ⇑*i*P **P 03 51 09.8 -0.6**
BURAR Bucovina Array 72.08 318 ⇑P **P 03 51 11.0 +0.3**
BURAR Bucovina Array 72.08 318 ⇑*i*P **P 03 51 11.0 +0.3**
BUR08 Bucovina Ar. S 72.10 318 *e*P **P 03 51 11.3 +0.5**
MICGM Minsk 72.17 326 *e* **P 03 51 09.0 -1.9**
MNK Minsk 72.19 326 *e*P **P 03 51 09.0 -2.1**
CASY Casey 72.29 173 *e*P **P 03 51 12.5 +1.2**
comp=Z,13nm,1.1s
VTS Vitosha 72.55 313 ⇑P **P 03 51 13.6 -0.1**
VTS Vitosha 72.55 313 ⇑*i*P **P 03 51 13.6 -0.1**
NACGM Naroch 72.89 326 *e* **P 03 51 13.0 -2.2**
LBTB Lobatse 73.07 242 *e*P **P 03 51 18.2 +1.1**
comp=Z,22nm,1.4s
JOF Joensuu 73.28 335 *e*P **P 03 51 17.7 +0.3**
JOF pmax pmax
comp=Z,10.0nm,0.6s
DRGR 73.60 317 ⇑P **P 03 51 20.3 +0.6**
DRGR 73.60 317 ⇑*i*P **P 03 51 20.3 +0.6**
VSU Vasula 73.91 330*c i*P **P 03 51 20.8 -0.3**
VSU pmax pmax
comp=Z,65nm,0.9s
TRPA Tarpa 73.95 319 ⇓*i*P **P 03 51 22.3 +0.7**
KWP Kalwaria Pacla 74.11 320 *e*P **P 03 51 22.7 +0.2**
KWP pmax pmax
comp=Z,17nm,0.9s
KWP Kalwaria Pacla 74.11 320 *e*P **P 03 51 22.7 +0.2**
comp=Z,17nm,0.9s
KWP Kalwaria Pacla 74.11 320 ⇑*i*P **P 03 51 23.1 +0.5**
KWP Kalwaria Pacla 74.11 320 *e*P **P 03 51 23.0 +0.5**
BZS Buzias 74.15 316 ⇓P **P 03 51 23.5 +0.6**
BZS Buzias 74.15 316 ⇓*i*P **P 03 51 23.5 +0.6**
UZH Uzhgorod 74.20 319 *e*P P 03 51 28.5 +5.5
UZH *e* 03 51 35.9
KOLS Kolonicke sedl 74.27 319 *e*P **P 03 51 23.8 +0.3**
KOLS pmax pmax
comp=Z,7.0nm,1.0s
KOLS Kolonicke sedl 74.27 319 *e*P **P 03 51 23.8 +0.3**
BOSA Boshof 74.27 238 P **P 03 51 25.3 +1.3**
BOSA pP **pP 03 51 37.6 -0.9**
BOSA Boshof 74.27 238 P **P 03 51 25.3 +1.3**
comp=Z,6.6nm,0.9s,baz=79,slow=6.4,SNR=6.7
BOSA pP **pP 03 51 37.6 -0.9**
comp=Z,20nm,0.8s,baz=74,slow=6.6,SNR=10
BOSA LR LR 04 18 07.8
comp=Z,298nm,19.6s,baz=118,slow=31
APA Apatity 74.36 340 ⇑*i*P **P 03 51 24.0 +0.4**
APA *i* 03 51 35.0
SUW Suwalki 74.71 325 *e*P **P 03 51 25.5 -0.4**
CRVS Cervenica-Dubn 74.79 319 *e*P **P 03 51 27.0 +0.5**
CRVS pmax pmax
comp=Z,11nm,1.4s
CRVS Cervenica-Dubn 74.79 319 *e*P **P 03 51 27.0 +0.5**
STHS Stebnicka Huta 75.01 320 *e*P **P 03 51 28.5 +0.6**
STHS pmax pmax
comp=Z,6.0nm,0.8s
STHS Stebnicka Huta 75.01 320 *e*P **P 03 51 28.4 +0.6**
FIA1 FINESS Array S 75.10 333 *e*P **P 03 51 27.7 -0.3**
FINES FINESS Array B 75.10 333 P **P 03 51 27.7 -0.3**
FINES pP **PcP 03 51 40.5 -0.9**
FINES FINESS Array B 75.10 333 P **P 03 51 27.7 -0.3**
comp=Z,13nm,0.5s,baz=96,slow=5.6,SNR=82
FINES pP **PcP 03 51 40.5 -0.9**
comp=Z,9.5nm,0.6s,baz=114,slow=8.5,SNR=6.6
FINES LR LR 04 28 41.7
comp=Z,180nm,20.4s,baz=16,slow=39
KAF Kangasniemi 75.19 333 *e*P **P 03 51 28.6 +0.1**
KAF pmax pmax
comp=Z,15nm,0.6s
KECS Kecovo 75.36 319 *e*P **P 03 51 30.0 +0.2**
KECS pmax pmax
comp=Z,4.0nm,0.7s
KECS Kecovo 75.36 319 *e*P **P 03 51 30.0 +0.2**
PSZ Piszkesteto 75.67 318 *e*P **P 03 51 30.7 -0.9**
PSZ pmax pmax
comp=Z,4.0nm,0.5s
PSZ Piszkesteto 75.67 318 *e*P **P 03 51 30.7 -0.9**
comp=Z,3.8nm,0.5s
PSZ Piszkesteto 75.67 318 ⇑*i*P **P 03 51 29.4 -2.2**
BEL Belsk 75.71 322 *e*P **P 03 51 32.0 +0.3**
MAW Mawson 75.97 192 P **P 03 51 34.4 +1.7**
MAW epP **pP 03 51 48.0 +0.6**
MAW Mawson 75.97 192 P **P 03 51 34.4 +1.7**
comp=Z,1.4nm,0.6s,baz=338,slow=5.4,SNR=5.1
MAW LR LR 04 20 27.6
comp=Z,126nm,18.3s,baz=271,slow=32
MAW Mawson 75.97 192 P pP 03 51 48.6 +1.3
baz=76,SNR=5.5
OJC Ojcow 76.07 320 *e*P **P 03 51 33.4 -0.4**
OJC pmax pmax
comp=Z,20nm,0.7s
OJC Ojcow 76.07 320 *e*P **P 03 51 33.4 -0.4**
comp=Z,20nm,0.7s
OJC Ojcow 76.07 320 *e*P **P 03 51 34.1 +0.3**
PKSM Moragy 76.29 316 ⇑P **P 03 51 35.3 +0.2**
PKSM Moragy 76.29 316 ⇑*i*P **P 03 51 35.3 +0.2**
VYHS Vyhne 76.44 319 *e*P **P 03 51 36.0 0.0**
VYHS pmax pmax
comp=Z,2.0nm,0.7s
VYHS Vyhne 76.44 319 *e*P **P 03 51 36.0 0.0**
OKC Ostrava-Krasne 77.07 320 *e*P **P 03 51 39.6 +0.2**
OKC *e* 03 51 48.7
OKC Ostrava-Krasne 77.07 320 *e*P **P 03 51 39.6 +0.2**
OKC *e*PCP **PcP 03 51 48.7 -1.5**
SMOL Smolenice 77.38 318 *e*P **P 03 51 41.6 +0.4**
SMOL Smolenice 77.38 318 *e*P **P 03 51 41.6 +0.4**
MORC Moravsky Berou 77.45 320 *e*P **P 03 51 42.3 +0.7**
MORC pmax pmax
comp=Z,12nm,0.9s
MORC Moravsky Berou 77.45 320 *e*P **P 03 51 42.3 +0.7**
comp=Z,12nm,0.9s
ARCES ARCESS Array B 77.79 340 P **P 03 51 43.1 +0.1**
ARCES ARCESS Array B 77.79 340 P **P 03 51 43.1 +0.1**
comp=Z,2.3nm,0.5s,baz=92,slow=6.3,SNR=20
ARCES LR LR 04 28 42.5
comp=Z,240nm,20.4s,baz=102,slow=38
ARE0 ARCESS Array S 77.79 340 *e*P **P 03 51 42.3 -0.8**
VRAC Vranov 78.01 319 P **P 03 51 44.9 +0.2**
VRAC Vranov 78.01 319 P **P 03 51 44.9 +0.2**
comp=Z,1.4nm,0.5s,baz=10,slow=4.3,SNR=3.1
GKP Gorka Klasztor 78.07 323 *e*P **P 03 51 45.2 +0.3**
DPC Dobruska-Polom 78.30 320 *e*P **P 03 51 47.5 +1.1**
DPC *e* 03 51 55.6
DPC *e* 03 52 00.2
DPC Dobruska-Polom 78.30 320 *e*P **P 03 51 47.5 +1.1**
DPC *e*PCP **PcP 03 51 55.6 0.0**
DPC *e*pP **pP 03 52 00.2 -0.8**
DPC Dobruska-Polom 78.30 320 *e*P **P 03 51 47.5 +1.1**
CONA Conrad Observa 78.36 318 ⇑*e*P **P 03 51 47.0 +0.2**
comp=Z,4.6nm,0.8s
KSP Ksiaz 78.36 321 *e*P **P 03 51 47.5 +0.8**
KSP Ksiaz 78.36 321 *e*P **P 03 51 47.7 +1.0**
UPC Upice 78.51 320 *e*P **P 03 51 48.0 +0.5**
UPC *e* 03 52 00.7
UPC Upice 78.51 320 *e*P **P 03 51 48.0 +0.5**
UPC *e*pP **pP 03 52 00.7 -1.4**
ARSA Arzberg 78.53 317 ⇑*e*P **P 03 51 48.4 +0.7**
BOJS Bojanci 78.58 315 *i* P **P 03 51 48.2 +0.2**
TREC Trest 78.73 319 *e*P **P 03 51 49.2 +0.5**
TREC *e* 03 51 57.6
TREC *e* 03 52 02.2
TREC Trest 78.73 319 *e*P **P 03 51 49.2 +0.5**
TREC *e*PCP **PcP 03 51 57.6 +0.1**
TREC *e*pP **pP 03 52 02.2 -1.2**
PERS Pernice 78.76 316 *i* P **P 03 51 49.4 +0.4**
SOKA Soboth 78.82 316 ⇑*e*P **P 03 51 50.1 +0.7**
comp=Z,15nm,1.0s,SNR=7.6
VISS Visnje 78.89 316 *i* P **P 03 51 50.0 +0.3**
SUR Sutherland 78.91 236 P **P 03 51 52.7 +2.4**
SUR Sutherland 78.91 236 P **P 03 51 52.7 +2.4**
comp=Z,20nm,0.9s,baz=129,slow=5.9,SNR=3.7
OBKA Obir 79.14 316 ⇓*e*P **P 03 51 51.7 +0.6**
comp=Z,18nm,1.6s
FX1 Attu Island--F 79.18 37 *e*P **P 03 51 50.4 -0.7**
PRU Pruhonice 79.40 320 *e*P **P 03 51 53.0 +0.6**
PRU *e* 03 52 01.4
PRU Pruhonice 79.40 320 *e*P **P 03 51 53.0 +0.6**
PRU *e*PCP **PcP 03 52 01.4 +1.1**
JAVS Javornik 79.44 316 *i* P **P 03 51 50.2 -2.6**
PRA Prague 79.48 320 P **P 03 51 53.0 +0.2**
BRG Berggiesshubel 79.85 321 *e*P **P 03 51 55.4 +0.6**
comp=Z,8.0nm,0.9s
BRG *i* 03 52 08.2
comp=Z,14nm,0.9s
BRG Berggiesshubel 79.85 321 *e*P **P 03 51 55.4 +0.6**
comp=Z,8.0nm,0.9s
BRG *e*pP **pP 03 52 08.2 -1.3**
BRG Berggiesshubel 79.85 321 *e*P **P 03 51 55.4 +0.6**
BRG *i* 03 52 08.2
BRG pmax pmax
comp=Z,8.0nm,0.9s
BRG pmax pmax
comp=Z,14nm,1.0s
GEC2 GERESS Array S 79.87 319 *e*P **P 03 51 55.6 +0.6**
comp=Z,12nm,0.9s
GEC2 *e*pP **pP 03 52 08.6 -1.1**
GEC2 GERESS Array S 79.87 319 *e*P **P 03 51 55.6 +0.6**
GEC2 *e**PP **pP 03 52 08.6 -1.1**
GEC2 pmax pmax
comp=Z,12nm,0.9s
GEC2 GERESS Array S 79.87 319 *e*P **P 03 51 55.5 +0.4**
GERES GERESS Array B 79.87 319 P **P 03 51 55.7 +0.6**
GERES GERESS Array B 79.87 319 P **P 03 51 55.7 +0.6**
comp=Z,4.6nm,0.6s,baz=106,slow=4.7,SNR=60
GERES LR LR 04 27 59.0
comp=Z,60nm,18.2s,baz=199,slow=36
KHC Kasperske Hory 79.97 319 *e*P **P 03 51 55.3 -0.2**
KHC *e* 03 52 03.4
KHC *e* 03 52 09.5
KHC Kasperske Hory 79.97 319 *e*P **P 03 51 55.3 -0.2**
KHC *e*PCP **PcP 03 52 03.4 +0.5**
KHC *e*pP **pP 03 52 09.5 -0.7**
KHC Kasperske Hory 79.97 319 *e*P **P 03 51 55.8 +0.3**
comp=Z,2.4nm,0.8s
RJOB Jochberg 80.41 317 *e*pP pP 03 52 10.9 -1.7
WET Wettzell 80.43 319 *e*P **P 03 51 58.6 +0.6**
comp=Z,10.0nm,1.2s
WET *e*pP **pP 03 52 11.5 -1.2**
WET Wettzell 80.43 319 *e*P **P 03 51 58.6 +0.6**
WET *e**PP **pP 03 52 11.5 -1.2**
WET pmax pmax
comp=Z,10.0nm,1.2s
CLL Collm 80.47 321 *e*P **P 03 51 58.4 +0.3**
comp=Z,6.0nm,1.0s
CLL *e*pP **pP 03 52 11.1 -1.7**
CLL Collm 80.47 321 ⇑*i*P **P 03 51 58.2 +0.1**
CLL *i* 03 52 11.0
CLL pmax pmax
comp=Z,7.0nm,1.0s
CLL Collm 80.47 321 *e*(S) **ScS 04 02 21.0 +0.8**
ABTA Abfaltersbach 80.56 316 ⇑*e*P **P 03 51 58.4 -0.4**
comp=Z,7.3nm,1.5s
TANN Tannenbergstha 80.76 320 *e*pP pP 03 52 13.0 -1.5
HFS Hagfors 80.79 330 P **P 03 51 59.4 -0.2**
HFS Hagfors 80.79 330 P **P 03 51 59.4 -0.2**
comp=Z,7.7nm,0.5s,baz=104,slow=6.3,SNR=63
ROTZ Rotzenmuhle 80.89 319 *e*P **P 03 52 01.5 +1.1**
comp=Z,7.0nm,0.8s
ROTZ *e*pP **pP 03 52 14.4 -0.8**
WTTA Wattenberg 81.17 317 ⇑*i*P **P 03 52 02.0 -0.2**
comp=Z,7.9nm,0.6s,SNR=5.4
MOX Moxa 81.31 320 *e*P **P 03 52 03.2 +0.6**
comp=Z,5.0nm,0.7s
MOX *e*pP **pP 03 52 15.9 -1.5**
MOX *e*L L 04 37 03.2
comp=Z,75nm,18.7s
MOX Moxa 81.31 320 *e*P **P 03 52 03.2 +0.6**
MOX *e**PP **pP 03 52 15.9 -1.5**
MOX pmax pmax
comp=Z,5.0nm,0.7s
GRF Grafenberg Arr 81.53 319 *e*P **P 03 52 04.8 +1.0**
comp=Z,11nm,0.9s
GRF *e*pP **pP 03 52 17.5 -1.1**
GRF *e*L L 04 33 26.3
comp=Z,58nm,21.0s
GRF Grafenberg Arr 81.53 319 *e*P **P 03 52 04.8 +1.0**
GRF *e**PP **pP 03 52 17.5 -1.1**
GRF pmax pmax
comp=Z,11nm,0.9s
GRFO Grafenberg 81.53 319 *e*P **P 03 52 02.4 -1.4**
GRFO pmax pmax
comp=Z,9.0nm,1.0s
GRFO Grafenberg 81.53 319 *e*P **P 03 52 02.4 -1.4**
comp=Z,8.9nm,1.0s
MOTA Moosalm 81.54 317 ⇑*i*P **P 03 52 03.8 -0.3**
comp=Z,5.7nm,0.6s,SNR=8.1
RETA Reutte 81.77 317 ⇑*i*P **P 03 52 05.3 +0.1**
comp=Z,10.0nm,0.5s,SNR=16
FETA Feichten 81.79 317 ⇑*e*P **P 03 52 05.7 +0.3**
comp=Z,4.3nm,0.7s,SNR=5.1
NB2 NORSAR Subarra 82.08 331 P **P 03 52 06.0 -0.5**
comp=Z,3.0nm,0.6s,baz=98,slow=5.1
NOA NORSAR Array B 82.08 331 P **P 03 52 05.3 -1.2**
NOA pP **pP 03 52 19.2 -2.0**
NOA NORSAR Array B 82.08 331 P **P 03 52 05.3 -1.2**
comp=Z,4.0nm,0.7s,baz=99,slow=5.6,SNR=11
NOA pP **pP 03 52 19.2 -2.0**
comp=Z,4.5nm,0.9s,baz=95,slow=5.4,SNR=5.7
NOA LR LR 04 31 35.3
comp=Z,120nm,21.6s,baz=85,slow=38
FUORN Ofenpass-Fuorn 82.10 316 *e*P **P 03 52 08.2 +1.1**
CLZ Clausthal 82.14 321 *e*P **P 03 52 07.4 +0.4**
comp=Z,10.0nm,0.9s
CLZ *e*pP **pP 03 52 20.2 -1.5**
CLZ Clausthal 82.14 321 *e*P **P 03 52 07.4 +0.4**
CLZ *e**PP **pP 03 52 20.2 -1.5**
CLZ pmax pmax
comp=Z,10.0nm,0.9s
BSEG Bad Segeberg 82.23 324 *e*P **P 03 52 07.9 +0.6**
comp=Z,20nm,0.8s
BSEG *e*pP **pP 03 52 20.8 -1.3**
BSEG Bad Segeberg 82.23 324 *e*P **P 03 52 07.9 +0.6**
BSEG *e**PP **pP 03 52 20.8 -1.3**
BSEG pmax pmax
comp=Z,20nm,0.8s
NRDL Niedersach Rie 82.32 322 *e*P **P 03 52 08.5 +0.8**
comp=Z,24nm,1.5s
NRDL *e*pP **pP 03 52 21.5 -1.0**
UBBA Unterbreizbach 82.34 320 *e*pP pP 03 52 21.1 -1.6
DAVOX Davos/Dischmat 82.36 316 P **P 03 52 09.1 +0.6**
DAVOX Davos/Dischmat 82.36 316 P **P 03 52 09.1 +0.6**
comp=Z,15nm,0.6s,baz=131,slow=4.9,SNR=39
DAVA Damuels 82.37 317 ⇑*i*P **P 03 52 08.4 -0.1**
comp=Z,6.4nm,0.7s
SPITS Spitsbergen Ar 82.44 348 P **P 03 52 09.4 +1.3**
SPITS Spitsbergen Ar 82.44 348 P **P 03 52 09.4 +1.3**
comp=Z,6.9nm,0.7s,baz=97,slow=10,SNR=11
TUE Stuetta 82.73 316 *e*P **P 03 52 09.8 -0.7**
KEST Kesra 82.84 305 *e*P **P 03 52 12.5 +1.5**
KEST Kesra 82.84 305 P **P 03 52 12.1 +1.1**
comp=Z,1.4nm,0.9s,baz=42,slow=9.7,SNR=3.8
KEST LR LR 04 30 24.6
comp=Z,60nm,19.6s,baz=281,slow=37
STU Stuttgart 82.84 318 *e*pP pP 03 52 24.2 -1.2
SYO Syowa Base 82.91 197 ⇓*e*P **P 03 52 10.8 +0.3**
SYO Syowa Base 82.91 197 ⇓*e*pP pP 03 52 25.7 +0.5
TNS Taunus Mts 83.33 320 *e*P **P 03 52 13.9 +0.7**
comp=Z,8.0nm,0.7s
TNS *e*pP **pP 03 52 26.4 -1.6**
TNS Taunus Mts 83.33 320 *e*P **P 03 52 13.9 +0.7**
TNS *e**PP **pP 03 52 26.4 -1.6**
TNS pmax pmax
comp=Z,8.0nm,0.7s
BFO Black Forest 83.42 318 *e*P **P 03 52 13.7 +0.1**
comp=Z,6.0nm,0.8s
BFO Black Forest 83.42 318 *e*P **P 03 52 13.8 +0.1**
BFO pmax pmax
comp=Z,10.0nm,0.8s
BFO Black Forest 83.42 318 *e*P **P 03 52 13.8 +0.1**
comp=Z,10nm,0.8s
BUG Bochum--Univer 84.07 321 *e*P **P 03 52 17.5 +0.6**
comp=Z,12nm,1.0s
SBF Sospel 84.12 313 *e*P **P 03 52 17.7 +0.3**
comp=Z,43nm,0.7s
SBF Sospel 84.12 313 *e*P **P 03 52 17.7 +0.3**
SBF pmax pmax
comp=Z,43nm,0.7s
SBF Sospel 84.12 313 *e*P **P 03 52 17.7 +0.3**
comp=Z,43nm,0.7s
CDF Champ du Feu 84.12 318 *e*P **P 03 52 17.2 -0.2**
comp=Z,9.6nm,0.8s
CDF Champ du Feu 84.12 318 *e*P **P 03 52 17.2 -0.2**
CDF pmax pmax
comp=Z,10.0nm,0.8s
CDF Champ du Feu 84.12 318 *e*P **P 03 52 17.2 -0.2**
comp=Z,9.6nm,0.8s
ECH Echery 84.20 318 *e*P **P 03 52 18.4 +0.7**
ECH pmax pmax
comp=Z,7.0nm,0.9s
ECH Echery 84.20 318 *e*P **P 03 52 18.4 +0.7**
comp=Z,7.3nm,0.9s
HINF Hinteralfeld 84.42 317 *e*P **P 03 52 18.7 -0.1**
HINF Hinteralfeld 84.42 317 *e*P **P 03 52 18.7 -0.1**
HINF Hinteralfeld 84.42 317 *e*P **P 03 52 18.7 -0.1**
LPG La Plagne 84.56 315 *e*P **P 03 52 20.3 +0.4**
comp=Z,40nm,0.9s
LPG La Plagne 84.56 315 *e*P **P 03 52 20.3 +0.4**
LPG pmax pmax
comp=Z,40nm,0.9s
LPG La Plagne 84.56 315 *e*P **P 03 52 20.3 +0.4**
comp=Z,40nm,0.9s
MBDF Montbardon 84.57 314 *e*P **P 03 52 20.2 +0.4**
comp=Z,11nm,0.6s
MBDF Montbardon 84.57 314 *e*P **P 03 52 20.2 +0.4**
MBDF pmax pmax
comp=Z,11nm,0.6s
MBDF Montbardon 84.57 314 *e*P **P 03 52 20.2 +0.4**
comp=Z,11nm,0.6s
LPL La Plagne 84.57 315 *e*P **P 03 52 20.3 +0.4**
comp=Z,28nm,0.9s
LPL La Plagne 84.57 315 *e*P **P 03 52 20.3 +0.4**
LPL pmax pmax
comp=Z,28nm,0.9s
LPL La Plagne 84.57 315 *e*P **P 03 52 20.3 +0.4**
comp=Z,28nm,0.9s
BNI Bardonecchia 84.62 315 *e*P **P 03 52 20.0 -0.1**
BNI pmax pmax
comp=Z,10.0nm,0.9s
BNI Bardonecchia 84.62 315 *e*P **P 03 52 20.0 -0.1**
comp=Z,10nm,0.9s
FRF La Foret Royal 84.70 313 *e*P **P 03 52 20.7 +0.4**
comp=Z,18nm,0.7s
FRF La Foret Royal 84.70 313 *e*P **P 03 52 20.7 +0.4**
FRF pmax pmax
comp=Z,18nm,0.7s
FRF La Foret Royal 84.70 313 *e*P **P 03 52 20.7 +0.4**
comp=Z,18nm,0.7s
HAU Haudompre 84.75 318 *e*P **P 03 52 20.4 -0.1**
comp=Z,33nm,0.8s
HAU *e*R
comp=Z,66nm,22.0s
HAU Haudompre 84.75 318 *e*P **P 03 52 20.4 -0.1**
HAU pmax pmax
comp=Z,33nm,0.8s
HAU Haudompre 84.75 318 *e*P **P 03 52 20.4 -0.1**
comp=Z,33nm,0.8s
LMR La Mourre 84.81 313 *e*P **P 03 52 21.2 +0.4**
comp=Z,26nm,1.0s
LMR La Mourre 84.81 313 *e*P **P 03 52 21.2 +0.4**
LMR pmax pmax
comp=Z,26nm,1.0s
LMR La Mourre 84.81 313 *e*P **P 03 52 21.2 +0.4**
comp=Z,26nm,1.0s
CABF La Chapelle 84.98 316 *e*P **P 03 52 22.2 +0.5**
comp=Z,34nm,1.0s
CABF La Chapelle 84.98 316 *e*P **P 03 52 22.2 +0.5**
CABF pmax pmax
comp=Z,34nm,1.0s
CABF La Chapelle 84.98 316 *e*P **P 03 52 22.2 +0.5**
comp=Z,34nm,1.0s
ORIF Oris-en-Rattie 85.19 315 *e*P **P 03 52 23.4 +0.5**
comp=Z,17nm,0.8s
ORIF *e*R
comp=Z,105nm,20.8s
ORIF Oris-en-Rattie 85.19 315 *e*P **P 03 52 23.4 +0.5**
ORIF pmax pmax
comp=Z,17nm,0.8s
ORIF Oris-en-Rattie 85.19 315 *e*P **P 03 52 23.4 +0.5**
comp=Z,17nm,0.8s
SMRF Simiane la Rot 85.45 314 *e*P **P 03 52 25.0 +0.9**
SMRF Simiane la Rot 85.45 314 *e*P **P 03 52 25.0 +0.9**
MEZF Maizieres J'vi 85.59 318 *e*P **P 03 52 24.9 +0.3**
MEZF Maizieres J'vi 85.59 318 *e*P **P 03 52 24.9 +0.3**
SFTF Sexfontaines 85.62 318 *e*P **P 03 52 24.9 +0.1**
comp=Z,50nm,0.9s
SFTF Sexfontaines 85.62 318 *e*P **P 03 52 24.9 +0.1**
comp=Z,50nm,0.9s
GIVF Givet 85.66 320 *e*P **P 03 52 25.4 +0.4**
GIVF Givet 85.66 320 *e*P **P 03 52 25.4 +0.4**
GIVF Givet 85.66 320 *e*P **P 03 52 25.4 +0.4**
VIVF Saint-Julien-I 86.05 315 *e*P **P 03 52 27.3 +0.2**
comp=Z,15nm,0.9s
VIVF Saint-Julien-I 86.05 315 *e*P **P 03 52 27.3 +0.2**
VIVF pmax pmax
comp=Z,15nm,0.9s
VIVF Saint-Julien-I 86.05 315 *e*P **P 03 52 27.3 +0.2**
comp=Z,15nm,0.9s
LOR Lormes 86.47 317 *e*P **P 03 52 29.1 +0.1**
comp=Z,43nm,1.0s
LOR *e*R
comp=Z,56nm,22.8s
LOR Lormes 86.47 317 *e*P **P 03 52 29.1 +0.1**
comp=Z,43nm,1.0s
SMF Signal de Mont 86.52 316 *e*P **P 03 52 29.4 +0.1**
comp=Z,24nm,0.8s
SMF Signal de Mont 86.52 316 *e*P **P 03 52 29.4 +0.1**
SMF pmax pmax
comp=Z,24nm,0.8s
SMF Signal de Mont 86.52 316 *e*P **P 03 52 29.4 +0.1**
comp=Z,24nm,0.8s
LASF Ste Croix 86.69 314 *e*P **P 03 52 30.3 +0.1**
comp=Z,8.7nm,0.9s
LASF Ste Croix 86.69 314 *e*P **P 03 52 30.3 +0.1**
comp=Z,8.7nm,0.9s
SSF Saint Saulge 86.72 317 *e*P **P 03 52 30.8 +0.5**
comp=Z,14nm,1.0s
SSF Saint Saulge 86.72 317 *e*P **P 03 52 30.8 +0.5**
SSF pmax pmax
comp=Z,14nm,1.0s
SSF Saint Saulge 86.72 317 *e*P **P 03 52 30.8 +0.5**
comp=Z,14nm,1.0s
TAM Tamanrasset 86.82 292 *e*P **P 03 52 32.8 +1.4**
TAM pmax pmax
comp=Z,3.0nm,1.0s
TAM Tamanrasset 86.82 292 *e*P **P 03 52 32.8 +1.4**
comp=Z,3.4nm,1.0s
AVF Avril sur Loir 86.85 317 *e*P **P 03 52 30.9 +0.1**
comp=Z,17nm,0.9s
AVF Avril sur Loir 86.85 317 *e*P **P 03 52 30.9 +0.1**
AVF pmax pmax
comp=Z,17nm,0.9s
AVF Avril sur Loir 86.85 317 *e*P **P 03 52 30.9 +0.1**
comp=Z,17nm,0.9s
BGF Bois d'Agland 87.21 316 *e*P **P 03 52 33.2 +0.5**
comp=Z,20nm,1.0s
BGF Bois d'Agland 87.21 316 *e*P **P 03 52 33.2 +0.5**
BGF pmax pmax
comp=Z,21nm,1.0s
BGF Bois d'Agland 87.21 316 *e*P **P 03 52 33.2 +0.5**

comp=Z,20nm,1.0s
URZ Urewera 87.61 129 *e*P **P 03 52 33.9 -0.8**
comp=Z,12nm,1.0s
TCF Toulx Ste Croi 87.67 316 *e*P **P 03 52 35.3 +0.4**
comp=Z,5.1nm,0.6s
TCF Toulx Ste Croi 87.67 316 *e*P **P 03 52 35.3 +0.4**
TCF pmax pmax
comp=Z,5.0nm,0.6s
TCF Toulx Ste Croi 87.67 316 *e*P **P 03 52 35.3 +0.4**
comp=Z,5.1nm,0.6s
CAF Calviac 87.90 315 *e*P **P 03 52 36.7 +0.7**
comp=Z,26nm,1.3s
CAF Calviac 87.90 315 *e*P **P 03 52 36.7 +0.7**
CAF pmax pmax
comp=Z,27nm,1.3s
CAF Calviac 87.90 315 *e*P **P 03 52 36.7 +0.7**
comp=Z,26nm,1.3s
MTLF Montolieu 87.93 313 *e*P **P 03 52 36.8 +0.6**
comp=Z,7.3nm,0.9s
MTLF Montolieu 87.93 313 *e*P **P 03 52 36.8 +0.6**
MTLF pmax pmax
comp=Z,7.0nm,0.9s
MTLF Montolieu 87.93 313 *e*P **P 03 52 36.8 +0.6**
comp=Z,7.3nm,0.9s
RJF Les Rejaudoux 88.25 315 *e*P **P 03 52 38.4 +0.8**
comp=Z,9.7nm,0.7s
RJF *e*R
comp=Z,81nm,21.5s
RJF Les Rejaudoux 88.25 315 *e*P **P 03 52 38.4 +0.8**
RJF pmax pmax
comp=Z,10.0nm,0.7s
RJF Les Rejaudoux 88.25 315 *e*P **P 03 52 38.4 +0.8**
comp=Z,9.7nm,0.7s
LFF La Frestale 88.83 315 *e*P **P 03 52 41.4 +1.0**
comp=Z,16nm,1.0s
LFF La Frestale 88.83 315 *e*P **P 03 52 41.4 +1.0**
LFF pmax pmax
comp=Z,16nm,1.0s
LFF La Frestale 88.83 315 *e*P **P 03 52 41.4 +1.0**
comp=Z,16nm,1.0s
LDF La Druitiere 89.01 319 *e*P **P 03 52 41.5 +0.4**
comp=Z,37nm,1.2s
LDF La Druitiere 89.01 319 *e*P **P 03 52 41.5 +0.4**
LDF pmax pmax
comp=Z,37nm,1.2s
LDF La Druitiere 89.01 319 *e*P **P 03 52 41.5 +0.4**
comp=Z,37nm,1.2s
FLN La Foliniere 89.23 319 *e*P **P 03 52 42.6 +0.5**
comp=Z,25nm,0.9s
FLN *e*R
comp=Z,109nm,20.2s
FLN La Foliniere 89.23 319 *e*P **P 03 52 42.6 +0.5**
FLN pmax pmax
comp=Z,25nm,0.9s
FLN La Foliniere 89.23 319 *e*P **P 03 52 42.6 +0.5**
comp=Z,25nm,0.9s
MFF Saint Martin d 89.26 317 *e*P **P 03 52 42.7 +0.3**
comp=Z,15nm,0.9s
MFF Saint Martin d 89.26 317 *e*P **P 03 52 42.7 +0.3**
MFF pmax pmax
comp=Z,15nm,0.9s
MFF Saint Martin d 89.26 317 *e*P **P 03 52 42.7 +0.3**
comp=Z,15nm,0.9s
EPF Esparros 89.33 313 *e*P **P 03 52 43.1 +0.3**
EPF Esparros 89.33 313 *e*P **P 03 52 43.1 +0.3**
EPF Esparros 89.33 313 *e*P **P 03 52 43.1 +0.3**
GRR Gorron 89.52 318 *e*P **P 03 52 44.3 +0.8**
comp=Z,28nm,1.2s
GRR Gorron 89.52 318 *e*P **P 03 52 44.3 +0.8**
GRR pmax pmax
comp=Z,28nm,1.2s
GRR Gorron 89.52 318 *e*P **P 03 52 44.3 +0.8**
comp=Z,28nm,1.2s
EKA Eskdalemuir Ar 89.95 325 P **P 03 52 45.7 +0.3**
EKA pP **pP 03 52 58.6 -1.7**
EKA Eskdalemuir Ar 89.95 325 P **P 03 52 45.7 +0.3**
comp=Z,9.6nm,0.7s,baz=96,slow=5.4,SNR=24
EKA pP **pP 03 52 58.6 -1.7**
comp=Z,3.1nm,0.6s,baz=103,slow=5.2,SNR=6.0
ETSF Etsaut 90.00 313 *e*P **P 03 52 47.1 +1.1**
comp=Z,6.0nm,0.6s
ETSF Etsaut 90.00 313 *e*P **P 03 52 47.1 +1.1**
ETSF pmax pmax
comp=Z,6.0nm,0.6s
ETSF Etsaut 90.00 313 *e*P **P 03 52 47.1 +1.1**
comp=Z,6.0nm,0.6s
VNDA Vanda 90.32 168 *e*P **P 03 52 47.5 +0.9**
comp=Z,18nm,1.5s
VNDA Vanda 90.32 168 P **P 03 52 47.5 +0.9**
comp=Z,2.1nm,0.9s,baz=293,slow=5.7,SNR=14
VNDA LR LR 04 30 49.6
comp=Z,143nm,18.3s,baz=300,slow=34
SJPF Ste Jean 90.46 313 *e*P **P 03 52 48.5 +0.5**
comp=Z,7.2nm,0.8s
SJPF Ste Jean 90.46 313 *e*P **P 03 52 48.5 +0.5**
SJPF pmax pmax
comp=Z,7.0nm,0.8s
SJPF Ste Jean 90.46 313 *e*P **P 03 52 48.5 +0.5**
comp=Z,7.2nm,0.8s
SGMF Saint Gilles 90.67 318 *e*P **P 03 52 49.3 +0.4**
comp=Z,30nm,1.1s
SGMF Saint Gilles 90.67 318 *e*P **P 03 52 49.3 +0.4**
SGMF pmax pmax
comp=Z,30nm,1.1s
SGMF Saint Gilles 90.67 318 *e*P **P 03 52 49.3 +0.4**
comp=Z,30nm,1.1s
QUIF Quistinic 91.12 318 *e*P **P 03 52 51.2 +0.2**
QUIF Quistinic 91.12 318 *e*P **P 03 52 51.2 +0.2**
QUIF Quistinic 91.12 318 *e*P **P 03 52 51.2 +0.2**
ROSF Rostrenen 91.12 319 *e*P **P 03 52 51.5 +0.5**
comp=Z,36nm,1.2s
ROSF Rostrenen 91.12 319 *e*P **P 03 52 51.5 +0.5**
ROSF pmax pmax
comp=Z,36nm,1.2s
ROSF Rostrenen 91.12 319 *e*P **P 03 52 51.5 +0.5**
comp=Z,36nm,1.2s
TORD Torodi Ar. Bea 91.30 283 P **P 03 52 52.6 +0.1**
TORD PKKP **PKKPbc 04 10 14.1 0.0**
TORD Torodi Ar. Bea 91.30 283 P **P 03 52 52.6 +0.1**
comp=Z,1.2nm,0.8s,baz=89,slow=4.4,SNR=6.2
TORD PKKP **PKKPbc 04 10 14.1 0.0**
comp=Z,0.9nm,1.1s,baz=314,slow=2.9,SNR=6.1
TORD LR LR 04 32 51.1
comp=Z,155nm,19.0s,baz=130,slow=35
SBA Scott Base 91.42 168 *e*P **P 03 52 53.8 +2.1**
SBA pmax pmax
comp=Z,38nm,1.6s
SBA Scott Base 91.42 168 *e*P **P 03 52 53.8 +2.1**
comp=Z,38nm,1.6s
ESDC Sonseca Array 93.00 310 P **P 03 53 00.4 +0.5**
ESDC Sonseca Array 93.00 310 P **P 03 53 00.4 +0.5**
comp=Z,0.3nm,0.4s,baz=43,slow=3.6,SNR=5.2
ESDC LR LR 04 40 02.2
comp=Z,66nm,18.4s,baz=80,slow=39
IM04 Indian Mountai 94.03 22 *e*P **P 03 53 04.4 +0.3**
IMA2 Indian Mountai 94.03 22 *e*P **P 03 53 04.2 0.0**
COLD Coldfoot 94.83 21 *e*P **P 03 53 08.4 +0.7**
comp=Z,2.7nm,1.0s
BPAW Bear Paw Mtn. 95.87 24 *e*P **P 03 53 12.7 +0.2**
comp=Z,10nm,1.1s
ILAR Eielson Array 97.16 22 P **P 03 53 16.9 -1.5**
ILAR PP **PP 03 57 14.8 +0.2**
ILAR Eielson Array 97.16 22 P **P 03 53 16.9 -1.5**
comp=Z,0.7nm,0.8s,baz=288,slow=3.4,SNR=8.0
ILAR PP **PP 03 57 14.8 +0.2**
comp=Z,1.3nm,1.0s,baz=306,slow=6.1,SNR=5.3
ILAR LR LR 04 42 04.6
comp=Z,126nm,21.6s,baz=319,slow=38
DBIC Dimbokro 98.39 277 LR LR 04 34 22.5
comp=Z,120nm,21.5s,baz=59,slow=33
INK Inuvik 99.50 16 P **Pdif 03 53 28.8 0.0**
INK Inuvik 99.50 16 P **Pdif 03 53 28.8 0.0**
comp=Z,1.5nm,0.5s,baz=336,slow=6.7,SNR=6.4
INK LR LR 04 42 35.1
comp=Z,132nm,20.4s,baz=71,slow=38
SCHQ Schefferville 118.13 348 PKP **PKPdf 03 58 33.1 +0.2**
SCHQ Schefferville 118.13 348 PKP **PKPdf 03 58 33.1 +0.2**
comp=Z,2.9nm,0.5s,baz=50,slow=7.9,SNR=8.1
MSO Missoula 122.49 23 P **PKPdf 03 58 41.6 -0.2**
baz=122
A20A Cobblestone Ra 122.76 17 P **PKPdf 03 58 42.0 -0.2**
baz=122
A21A Bergtoll Ranch 122.95 16 P **PKPdf 03 58 42.3 -0.2**
baz=123
EGMT Eagleton 122.95 19 *e*PKPdf **PKPdf 03 58 43.1 +0.5**
EGMT Eagleton 122.95 19 P **PKPdf 03 58 42.6 0.0**
baz=123

B20A Solberg Farm, 123.12 18 P **PKPdf 03 58 42.8 0.0**
baz=123
A22A Carney Farms, 123.22 16 P **PKPdf 03 58 43.3 +0.3**
baz=123
D17A Six Diamond Ra 123.40 20 P **PKPdf 03 58 43.4 -0.1**
baz=123
B21A Ellsworth Farm 123.43 17 P **PKPdf 03 58 43.8 +0.4**
baz=123
C19A Slack Wire Ran 123.43 19 P **PKPdf 03 58 44.1 +0.6**
baz=123
D18A Linhart Farms, 123.66 19 P **PKPdf 03 58 44.4 +0.5**
baz=123
C20A Veseth Ranch, 123.78 18 P **PKPdf 03 58 44.5 +0.4**
baz=124
A24A Westby 123.78 14 P **PKPdf 03 58 44.5 +0.5**
baz=124
B23A Brockton 123.95 15 P **PKPdf 03 58 44.6 +0.2**
baz=124
WVOR Wild Horse Val 123.96 29 *e*PKIKP **PKPdf 03 58 45.7 +1.0**
WVOR Wild Horse Val 123.96 29 *e*PKPdf **PKPdf 03 58 45.7 +1.0**
A25A Svangstu Ranch 123.98 14 P **PKPdf 03 58 44.7 +0.3**
baz=124
D19A Cripps Ranch, 123.99 19 P **PKPdf 03 58 44.8 +0.3**
baz=124
DGMT Dagmar 124.15 15 P **PKPdf 03 58 45.2 +0.4**
baz=124
E18A Harlowton 124.17 20 P **PKPdf 03 58 45.1 +0.1**
baz=124
DLMT Dillon 124.23 23 *e*PKPdf **PKPdf 03 58 45.8 +0.6**
D20A Manuel Ranch, 124.29 18 P **PKPdf 03 58 45.4 +0.3**
baz=124
A27A Ledoux Ranch, 124.39 12 P **PKPdf 03 58 45.7 +0.5**
baz=124
F17A Fitzpatrick Pl 124.48 21 P **PKPdf 03 58 46.2 +0.5**
baz=124
MFID Camas Ranch 124.49 26 P **PKPdf 03 58 45.8 +0.1**
baz=124
C23A Lambert 124.51 16 P **PKPdf 03 58 46.3 +0.8**
baz=124
E19A Rath Farm, Rou 124.64 19 P **PKPdf 03 58 45.9 +0.1**
baz=124
D21A La Casta Ranch 124.66 18 P **PKPdf 03 58 46.0 +0.1**
baz=124
B26A Jensen Ranch, 124.72 13 P **PKPdf 03 58 45.8 0.0**
baz=124
E20A Meyer Farm, Mu 124.81 19 P **PKPdf 03 58 46.4 +0.2**
baz=124
F18A Big Timber 124.81 20 P **PKPdf 03 58 46.4 +0.2**
baz=124
A29A Manning Farm, 124.82 11 P **PKPdf 03 58 45.9 -0.1**
baz=124
D22A Cohagen 124.83 17 P **PKPdf 03 58 46.5 +0.4**
baz=125
B27A Peters Farms, 124.91 13 P **PKPdf 03 58 46.4 +0.2**
baz=125
HLID Hailey 124.98 25 *e*PKPdf **PKPdf 03 58 47.3 +0.6**
HLID Hailey 124.98 25 P **PKPdf 03 58 47.1 +0.4**
baz=125
F20A Billings 125.43 19 P **PKPdf 03 58 47.5 +0.1**
baz=125
C27A Sayler Ranch, 125.50 13 P **PKPdf 03 58 47.6 +0.2**
baz=125
E22A Miles City 125.54 17 P **PKPdf 03 58 47.9 +0.4**
baz=125
D25A Fairfield 125.60 15 P **PKPdf 03 58 48.1 +0.5**
baz=125
E23A Ismay 125.67 17 P **PKPdf 03 58 48.4 +0.7**
baz=125
E24A Baker 125.89 16 P **PKPdf 03 58 48.8 +0.6**
baz=126
G20A Bridger 125.92 19 P **PKPdf 03 58 48.7 +0.3**
baz=126
H19A Powell 126.14 20 P **PKPdf 03 58 49.6 +0.8**
baz=126
RRI2 Red Ridge 126.42 23 *e*PKPdf **PKPdf 03 58 50.7 +1.1**
G22A Birney 126.54 18 P **PKPdf 03 58 50.0 +0.5**
baz=126
SNOW Snow King Moun 126.54 23 *e*PKPdf **PKPdf 03 58 50.9 +1.1**
REDW Red Top Meadow 126.59 23 *e*PKPdf **PKPdf 03 58 50.6 +0.7**
H20A Greybull 126.64 20 P **PKPdf 03 58 50.0 +0.2**
baz=126
D30A Buchanan 126.65 11 P **PKPdf 03 58 49.8 +0.2**
baz=126
G23A Biddle 126.83 17 P **PKPdf 03 58 50.3 +0.2**
baz=126
EYMN Ely 126.83 5 *e*PKPdf **PKPdf 03 58 50.3 +0.4**
F26A Lodgepole 126.97 15 P **PKPdf 03 58 51.0 +0.7**
baz=127
G24A Alzada 126.99 16 P **PKPdf 03 58 50.8 +0.4**
baz=127
I20A Worland 127.07 20 P **PKPdf 03 58 51.1 +0.5**
baz=127
F27A Lemmon 127.11 14 P **PKPdf 03 58 51.0 +0.5**
baz=127
NVAR Mina Array Bea 127.12 32 PKP **PKPdf 03 58 52.1 +1.1**
NVAR Mina Array Bea 127.12 32 PKP **PKPdf 03 58 52.1 +1.1**
comp=Z,2.1nm,0.8s,baz=308,slow=1.9,SNR=16
G27A Dupree 127.35 15 P **PKPdf 03 58 51.8 +0.8**
baz=127
I21A Big Trails, Te 127.47 20 P **PKPdf 03 58 51.5 0.0**
baz=127
H24A Dirks Ranch, A 127.48 17 P **PKPdf 03 58 51.5 +0.1**
baz=127
G26A Maurine 127.51 15 P **PKPdf 03 58 51.5 +0.2**
baz=127
PDAR Pinedale Array 127.59 22 PKP **PKPdf 03 58 51.7 -0.1**
PDAR Pinedale Array 127.59 22 PKP **PKPdf 03 58 51.7 -0.1**
comp=Z,2.2nm,0.8s,baz=79,slow=1.1,SNR=19
J20A Shoshoni 127.61 20 P **PKPdf 03 58 52.0 +0.3**
baz=127
I22A 9 Mile Ranch, 127.67 19 P **PKPdf 03 58 51.9 +0.2**
baz=127
K19A Absolon Red Bu 127.80 21 P **PKPdf 03 58 52.1 0.0**
baz=128
H26A Fairpoint 128.09 15 P **PKPdf 03 58 53.0 +0.5**
baz=128
J22A Midwest 128.10 19 P **PKPdf 03 58 52.6 -0.1**
baz=128
RSSD Black Hills 128.21 17 *e*PKIKP **PKPdf 03 58 51.1 -1.8**
RSSD Black Hills 128.21 17 *e*PKPdf **PKPdf 03 58 51.1 -1.8**
H27A Howes 128.26 15 P **PKPdf 03 58 53.1 +0.3**
baz=128
M17A Scullys Gap (B 128.26 24 P **PKPdf 03 58 53.3 +0.2**
baz=128
DUG Dugway 128.42 26 P **PKPdf 03 58 54.4 +1.0**
baz=128
K21A Alcova 128.53 20 P **PKPdf 03 58 53.8 +0.2**
baz=128
R11A Troy Canyon, C 128.58 30 *e*PKPdf **PKPdf 03 58 54.4 +0.7**
R11A Troy Canyon, C 128.58 30 P **PKPdf 03 58 54.5 +0.7**
baz=128
L20A Wamsutter 128.70 22 P **PKPdf 03 58 54.1 +0.2**
baz=128
I27A Quinn 128.79 15 P **PKPdf 03 58 54.7 +0.8**
baz=128
M19A Rock Springs 128.83 23 P **PKPdf 03 58 54.3 +0.1**
baz=129
L21A Rawlins 129.08 21 P **PKPdf 03 58 54.4 -0.2**
baz=129
J26A Sides Ranch, S 129.22 16 P **PKPdf 03 58 55.4 +0.7**
baz=129
MPMC Manual Prospec 129.31 33 P **PKPdf 03 58 56.1 +0.9**
baz=129
SPMN St. Paul 129.40 6 P **PKPdf 03 58 55.0 +0.2**
baz=129
M21A Separation Pea 129.40 21 P **PKPdf 03 58 55.2 -0.1**
baz=129
L23A Garrett 129.52 19 P **PKPdf 03 58 55.2 -0.3**
baz=129
J28A Allard Ranch, 129.61 15 P **PKPdf 03 58 55.7 +0.3**
baz=129
K26A Motz Farm, Whi 129.76 17 P **PKPdf 03 58 55.8 0.0**
baz=130
N21A Black Mountain 130.09 22 P **PKPdf 03 58 56.6 -0.1**
baz=130
Q16A Castle Valley 130.19 26 *e*PKPdf **PKPdf 03 58 58.0 +1.1**
Q16A Castle Valley 130.19 26 P **PKPdf 03 58 56.8 0.0**
baz=130
ECSD EROS Data Cent 130.30 10 *e*PKPdf **PKPdf 03 58 56.5 -0.1**
O20A White River Ci 130.36 23 *e*PKPdf **PKPdf 03 58 58.1 +1.0**
O20A White River Ci 130.36 23 P **PKPdf 03 58 58.0 +0.9**
baz=130
N23A Red Feather La 130.53 20 P **PKPdf 03 58 58.2 +0.7**
baz=130
P20A De Beque 130.85 23 P **PKPdf 03 58 58.1 0.0**
baz=131
O23A Lake Granby, G 131.14 21 P **PKPdf 03 58 59.2 +0.5**
baz=131

U15A North Rim 131.70 29 P **PKPdf 03 59 00.9 +1.0**
baz=131
R25A Fountain Ranch 133.55 20 P **PKPdf 03 59 03.7 +0.6**
baz=133
X16A Lo Mia Camp, P 133.73 30 P **PKPdf 03 59 05.2 +1.5**
baz=134
U21A Nageezi 133.78 25 P **PKPdf 03 59 04.9 +1.1**
baz=134
S25A Robets Cordova 133.94 21 P **PKPdf 03 59 03.4 -0.5**
baz=134
R28A Tribune 134.18 18 P **PKPdf 03 59 03.3 -1.0**
baz=134
S26A Kim 134.30 20 P **PKPdf 03 59 04.5 0.0**
baz=134
T25A Trinidad 134.41 21 P **PKPdf 03 59 05.6 +0.8**
baz=134
W20A Ramah 134.53 26 P **PKPdf 03 59 05.9 +0.7**
baz=134
SFIN Scholer Farm 134.62 1 P **PKPdf 03 59 05.3 +0.5**
baz=134
T26A Comanche Natio 134.67 20 P **PKPdf 03 59 06.1 +0.7**
baz=134
X21A Alamocita Cree 135.41 26 P **PKPdf 03 59 07.1 +0.3**
baz=135
Y23A Lovelace Mesa, 136.59 25 P **PKPdf 03 59 09.0 0.0**
baz=136
Y25A Mesa, Roswell 137.16 23 P **PKPdf 03 59 10.3 +0.4**
baz=137
220A Playas Peak, P 137.19 29 P **PKPdf 03 59 09.4 -0.6**
baz=137
320A Kipp Ranch, An 137.65 29 P **PKPdf 03 59 11.4 +0.4**
baz=137
527A Woodward Ranch 140.90 25 P PKPdf 03 59 09.8 -7.1
baz=141
331A San Angelo 141.08 20 P PKPdf 03 59 09.7 -7.4
baz=141
626A Big Bend Ranch 141.19 26 P PKPdf 03 59 10.2 -7.2
baz=141
332A Millersview 141.24 19 P PKPdf 03 59 10.2 -7.1
baz=141
WHTX Lake Whitney 141.36 16 P PKPdf 03 59 10.7 -6.8
baz=141
BDFB Brasilia 141.52 251 PKP **PKPdf 03 59 18.6 +0.3**
BDFB Brasilia 141.52 251 PKP **PKPdf 03 59 18.6 +0.3**
comp=Z,1.9nm,0.7s,baz=358,slow=10,SNR=3.2
TXAR Lajitas Array 141.58 26 PKPpre PKPpre 03 59 12.2
TXAR PP **PP 04 02 22.4 +1.8**
TXAR Lajitas Array 141.58 26 PKhKP PKPpre 03 59 12.2
comp=Z,0.8nm,0.5s,baz=221,slow=0.4,SNR=20
TXAR PP **PP 04 02 22.4 +1.8**
comp=Z,0.7nm,0.8s,baz=352,slow=4.6,SNR=3.8
431A Sonora 141.59 21 P PKPdf 03 59 11.6 -6.4
baz=141
627A Terlingua Ranc 141.60 25 P PKPdf 03 59 11.2 -6.9
baz=141
432A Menard 141.69 20 P PKPdf 03 59 11.7 -6.5
baz=141
628A Black Gap, Mar 141.78 25 P PKPdf 03 59 12.5 -5.9
baz=142
530A J-C Ranch, Com 141.80 22 P PKPdf 03 59 12.7 -5.7
baz=142
JCT Junction City 142.05 20 *e*PKPdf PKPdf 03 59 13.2 -5.7
JCT Junction City 142.05 20 P PKPdf 03 59 13.1 -5.7
baz=142
531A Rocksprings 142.08 21 P PKPdf 03 59 12.7 -6.2
baz=142
532A Rocksprings 142.34 20 P PKPdf 03 59 13.9 -5.5
baz=142
631A Perdido Creek 142.75 22 P **PKPdf 03 59 15.5 -4.6**
baz=142
632A Uvalde 142.94 21 P **PKPdf 03 59 16.6 -3.8**
baz=143
TIGA Tifton 143.50 357 P PKPab 03 59 17.6 0.0
baz=143
732A Laxson Ranch, 143.59 21 P PKPab 03 59 18.3 +0.3
baz=143
CPUP Villa Florida 145.67 229 *e*PKPdf **PKPab 03 59 25.9 +0.1**
CPUP pPKPbc pPKPbc 03 59 38.7 -2.1
CPUP Villa Florida 145.67 229 PKPbc **PKPab 03 59 25.9 +0.1**
comp=Z,6.1nm,0.6s,baz=101,slow=3.2,SNR=19
CPUP pPKPbc pPKPbc 03 59 38.7 -2.1
comp=Z,4.6nm,0.5s,baz=57,slow=3.1,SNR=7.6
MTP Monte Pirata 149.44 320 *e*PKPbc **PKPbc 03 59 36.2 +0.1**
CBYP Canovanas 149.50 320 *e*PKPbc **PKPbc 03 59 36.3 0.0**
CELP Cerillos 150.10 321 *e*PKPbc **PKPbc 03 59 38.4 +0.6**
OBIP Obispado Ponce 150.15 321 *e*PKPbc **PKPbc 03 59 38.2 +0.4**
CRPR Cabo Rojo, PR 150.49 322 *e*PKPdf **PKPdf 03 59 33.2 -0.1**
CRPR *e*PKPbc **PKiKP 03 59 39.0 -0.3**
SDDR Presa de Saban 152.05 330 *e*PKPbc **PKPbc 03 59 43.8 +1.4**
LPAZ La Paz 159.50 236 PKP **PKPdf 03 59 46.9 +0.5**
LPAZ pPKP **pPKPdf 03 59 59.6 -2.3**
LPAZ PKPab **PKPab 04 00 24.8 +0.3**
LPAZ La Paz 159.50 236 PKP **PKPdf 03 59 46.9 +0.5**
comp=Z,1.5nm,0.9s,baz=204,slow=4.2,SNR=5.5
LPAZ pPKP **pPKPdf 03 59 59.6 -2.3**
comp=Z,1.5nm,0.8s,baz=253,slow=7.0,SNR=4.0
LPAZ PKPab **PKPab 04 00 24.8 +0.3**
comp=Z,1.0nm,0.6s,baz=103,slow=4.8,SNR=4.5
ROSC El Rosal 164.82 311 PKP **PKPdf 03 59 51.9 +0.3**
ROSC El Rosal 164.82 311 PKP **PKPdf 03 59 51.9 +0.3**
comp=Z,2.8nm,0.5s,baz=35,slow=8.9,SNR=3.8

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*TIF **08** 04:04:28.9,42°.58N×43°.47E,h14km±1km*
*ISCJB **08** 04:04:29.6±0.4,42°.56N±0°.02×43°.40E±0°.03,h4km±4km,*
Error ellipse: s-maj=3.6km s-min=3.3km az=39.9
*CSEM **08** 04:04:30.4±0.2,42°.58N×43°.43E,h10km,mb4.2,Error*
ellipse: s-maj=5.8km s-min=3.1km az=123.0
*MOS **08** 04:04:30.2±1.2,42°.52N×43°.52E,h10km,mb4.2/1,Error*
ellipse: s-maj=15.1km s-min=5.9km az=74.8
*DDA **08** 04:04:30.2,42°.73N×43°.48E,h11km,MD3.2*
ISC 08 04:04:29.6±0.8,42°.54N±0°.02×43°.42E±0°.02,h10km±6km,
n66,σ0=80/115,4C-10D,Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.06**	**24**	P	**Pg**	**04 04 31.9**	**+0.2**
ONI				S	**Sg**	**04 04 33.5**	**+0.2**
DIGR	**Digorskoe uzhe**	**0.38**	**18**	⇓*i*PG	**Pg**	**04 04 36.9**	**-0.3**
DIGR				*i* S	**Sg**	**04 04 42.4**	**+0.2**
DIGR	**Digorskoe uzhe**	**0.38**	**18**	*i* Pg	**Pg**	**04 04 36.9**	**-0.3**
DIGR				*i* Sg	**Sg**	**04 04 42.4**	**+0.2**
ZEI	**Tsey**	**0.43**	**55**	⇓*i*PG	**Pg**	**04 04 37.8**	**-0.4**
ZEI				*i* S	**Sg**	**04 04 43.8**	**-0.1**
ZEI	**Tsey**	**0.43**	**55**	*i* Pg	**Pg**	**04 04 37.8**	**-0.4**
ZEI				*i* Sg	**Sg**	**04 04 43.8**	**-0.1**
LACR	**Lac**	**0.71**	**66**	⇓*i*PG	**Pg**	**04 04 42.6**	**-0.7**
LACR				*i* S	**Sg**	**04 04 52.0**	**-0.6**
LACR	**Lac**	**0.71**	**66**	*i* Pg	**Pg**	**04 04 42.6**	**-0.7**
LACR				*i* Sg	**Sg**	**04 04 52.0**	**-0.6**
KORR	**Kora**	**0.73**	**41**	⇑*i*PG	**Pg**	**04 04 43.7**	**+0.1**
KORR				*e*S	**Sg**	**04 04 53.6**	**+0.5**
KORR	**Kora**	**0.73**	**41**	*i* Pg	**Pg**	**04 04 43.7**	**+0.1**
KORR				*e*Sg	**Sg**	**04 04 53.6**	**+0.5**
LSNR	**Lesken**	**0.80**	**22**	⇓*i*PG	**Pg**	**04 04 45.1**	**+0.1**
LSNR				*i* S	**Sg**	**04 04 55.9**	**+0.5**
LSNR	**Lesken**	**0.80**	**22**	*i* Pg	**Pg**	**04 04 45.1**	**+0.1**
LSNR				*i* Sg	**Sg**	**04 04 55.9**	**+0.5**
STDR	**Stavd-Durt**	**0.96**	**29**	⇓*i*PG	**Pn**	**04 04 49.3**	**+0.2**
STDR				*e*S	**Sn**	**04 05 02.3**	**-0.6**
STDR	**Stavd-Durt**	**0.96**	**29**	*i* Pg	**Pn**	**04 04 49.3**	**+0.2**
STDR				*e*Sg	**Sn**	**04 05 02.3**	**-0.6**
NCK	**Nalchik**	**0.97**	**8**	⇓*e*PG	**Pn**	**04 04 49.1**	**-0.2**
NCK				*e*S	**Sn**	**04 05 03.1**	**-0.1**
NCK	**Nalchik**	**0.97**	**8**	*e*Pg	**Pn**	**04 04 49.1**	**-0.2**
NCK				*e*Sg	**Sn**	**04 05 03.1**	**-0.1**
DUS	**Dusheti**	**1.05**	**115**	P	**Pn**	**04 04 51.0**	**+0.5**
DUS				S	**Sb**	**04 05 04.7**	**+0.9**
VLKR	**Vladikavkaz**	**1.06**	**61**	*e*PG	**Pg**	**04 04 49.4**	**-0.5**
VLKR				*e*S	**Sg**	**04 05 03.5**	**-0.1**
VLKR	**Vladikavkaz**	**1.06**	**61**	*e*Pg	**Pg**	**04 04 49.4**	**-0.5**
VLKR				*e*Sg	**Sg**	**04 05 03.5**	**-0.1**
AKH	**Akhalkalaki**	**1.13**	**177**	P	**Pg**	**04 04 51.0**	**-0.2**
AKH				S	**Sb**	**04 05 07.1**	**+1.0**
SNJR	**Sundja**	**1.15**	**62**	⇓*i*PG	**Pg**	**04 04 51.3**	**-0.4**
SNJR				*e*S	**Sg**	**04 05 06.7**	**0.0**
SNJR	**Sundja**	**1.15**	**62**	*i* Pg	**Pg**	**04 04 51.3**	**-0.4**
SNJR				*e*Sg	**Sg**	**04 05 06.7**	**0.0**
BTKR	**Batakoyurt**	**1.17**	**44**	⇑*i*PG	**Pn**	**04 04 53.7**	**+1.5**
BTKR				*i* S	**Sn**	**04 05 09.6**	**+1.3**
BTKR	**Batakoyurt**	**1.17**	**44**	*i* Pg	**Pn**	**04 04 53.7**	**+1.5**
BTKR				*i* Sg	**Sn**	**04 05 09.6**	**+1.3**
KUBR	**Kubataba**	**1.26**	**360**	⇓*e*PG	**Pg**	**04 04 54.6**	**+0.8**

KUBR				*e*S		**Sn**	**04 05 11.5 +1.0**
KUBR	**Kubataba**	**1.26**	**360**	*e*Pg		**Pg**	**04 04 54.6 +0.8**
KUBR				*e*Sg		**Sn**	**04 05 11.5 +1.0**
TBLG	**Delisi**	**1.27**	**129**	P		**Pn**	**04 04 53.1 -0.3**
TBLG				S		**Sn**	**04 05 10.8 +0.3**
SHAR	**Shatzhatmas**	**1.32**	**336**	*e*PG		**Pb**	**04 04 54.9 +0.2**
SHAR				*e*S		**Sb**	**04 05 12.2 +0.3**
SHAR	**Shatzhatmas**	**1.32**	**336**	*e*Pg		**Pb**	**04 04 54.9 +0.2**
SHAR				*e*Sg		**Sb**	**04 05 12.2 +0.3**
PRTR	**Priterechnaya**	**1.37**	**27**	*i* PG		**Pg**	**04 04 56.4 +0.6**
PRTR				*e*S		**Sg**	**04 05 14.9 +1.3**
PRTR	**Priterechnaya**	**1.37**	**27**	*i* Pg		**Pg**	**04 04 56.4 +0.6**
PRTR				*e*Sg		**Sg**	**04 05 14.9 +1.3**
KZR	**Kazreti**	**1.37**	**147**	P		**Pn**	**04 04 54.5 -0.4**
KZR				S		**Sb**	**04 05 13.0 -0.1**
KIV	**Kislovodsk**	**1.52**	**340**	⇓*e*PG		**Pb**	**04 04 58.2 +0.3**
KIV				*e*S		**Sb**	**04 05 17.8 +0.6**
KIV	**Kislovodsk**	**1.52**	**340**	*e*Pg		**Pb**	**04 04 58.2 +0.3**
KIV				*e*Sg		**Sb**	**04 05 17.8 +0.6**
PYA	**Pyatigorsk**	**1.52**	**350**	⇑*e*PG		**Pg**	**04 04 58.6 -0.1**
PYA				*e*S		**Sg**	**04 05 18.7 +0.3**
PYA	**Pyatigorsk**	**1.52**	**350**	*e*Pg		**Pg**	**04 04 58.6 -0.1**
PYA				*e*Sg		**Sg**	**04 05 18.7 +0.3**
TRKR	**Terskaya**	**1.53**	**39**	*e*PG		**Pb**	**04 04 57.8 -0.2**
TRKR				*e*S		**Sg**	**04 05 18.2 -0.4**
TRKR	**Terskaya**	**1.53**	**39**	*e*Pg		**Pb**	**04 04 57.8 -0.2**
TRKR				*e*Sg		**Sg**	**04 05 18.2 -0.4**
BCA	**Borcka**	**1.73**	**231**	*e*PN		**Pn**	**04 04 59.7 -0.1**
BCA	**Borcka**	**1.73**	**231**	*e*Pn		**Pn**	**04 04 59.7 -0.1**
ARTV	**Artvin**	**1.75**	**220**	*i* P		**Pn**	**04 05 01.5 +1.2**
ARTV				*i* S		**Sb**	**04 05 24.6 +0.5**
ARTV	**Artvin**	**1.75**	**220**	*i* P		**Pn**	**04 05 01.5 +1.2**
ARTV				*i* S		**Sb**	**04 05 24.6 +0.5**
DBOC	**Borcka**	**1.77**	**228**	*i* P		**Pb**	**04 05 01.8 -0.4**
DBOC				*i* S		**Sn**	**04 05 23.8 +0.9**
DBOC	**Borcka**	**1.77**	**228**	*i* P		**Pb**	**04 05 01.8 -0.4**
DBOC				*i* S		**Sn**	**04 05 23.8 +0.9**
DGRG	**David-gareji**	**1.82**	**126**	P		**Pb**	**04 05 03.4 +0.4**
DGRG				S		**Sg**	**04 05 30.3 +2.3**
DAGI	**Agillar**	**1.84**	**218**	*i* P		**Pb**	**04 05 03.1 -0.4**
DAGI				*i* S		**Sn**	**04 05 24.4 -0.5**
KARS	**Kars**	**1.93**	**188**	*e*PN		**Pb**	**04 05 05.9 +1.0**
KARS				*e*SN		**Sg**	**04 05 32.1 +0.7**
KARS	**Kars**	**1.93**	**188**	*e*Pn		**Pb**	**04 05 05.9 +1.0**
KARS				*e*Sn		**Sg**	**04 05 32.1 +0.7**
DBAD	**Bademkaya**	**1.99**	**221**	*i* P		**Pb**	**04 05 05.7 -0.3**
DBAD	**Bademkaya**	**1.99**	**221**	*i* P		**Pb**	**04 05 05.7 -0.3**
DDEM	**Demirkent**	**2.06**	**218**	*i* P		**Pb**	**04 05 06.7 -0.5**
DDEM				*i* S		**Sn**	**04 05 31.1 +0.7**
DDEM	**Demirkent**	**2.06**	**218**	*i* P		**Pb**	**04 05 06.7 -0.5**
DDEM				*i* S		**Sn**	**04 05 31.1 +0.7**
DIGO	**Kars**	**2.12**	**181**	*i* P		**Pb**	**04 05 07.3 -1.0**
DIGO				*i* S		**Sb**	**04 05 36.3 +1.5**
DIGO	**Kars**	**2.12**	**181**	*i* P		**Pb**	**04 05 07.3 -1.0**
DIGO				*i* S		**Sb**	**04 05 36.3 +1.5**
GNI	**Garni**	**2.58**	**157**	*e*PN		**Pb**	**04 05 17.2 +1.1**
GNI	**Garni**	**2.58**	**157**	*e*Pn		**Pb**	**04 05 17.2 +1.1**
AGRB	**Hanur-Agry**	**2.98**	**186**	*e*PN		**Pb**	**04 05 21.0 -1.9**
AGRB	**Hanur-Agry**	**2.98**	**186**	*e*Pn		**Pb**	**04 05 21.0 -1.9**
BAYT	**Ayd¨–ntepe-Bay**	**3.27**	**230**	*e*PN		**Pn**	**04 05 20.7 -0.3**
BAYT	**Ayd¨–ntepe-Bay**	**3.27**	**230**	*e*Pn		**Pn**	**04 05 20.7 -0.3**
KOPT	**Kop Dagi**	**3.34**	**222**	*i* P		**Pb**	**04 05 30.4 +1.2**
GUMT	**Gumushane**	**3.62**	**236**	*e*PN		**Pn**	**04 05 25.3 -0.5**
GUMT	**Gumushane**	**3.62**	**236**	*e*Pn		**Pn**	**04 05 25.3 -0.5**
ESPY	**Espiye-Giresun**	**3.87**	**247**	*e*PN		**Pn**	**04 05 27.4 -1.8**
ESPY	**Espiye-Giresun**	**3.87**	**247**	*e*Pn		**Pn**	**04 05 27.4 -1.8**
AB31	**Akbulak array**	**13.31**	**54**	⇑Pn		**Pn**	**04 07 36.8 -1.7**
	0.7nm,0.5s,baz=243,slow=11,SNR=12						
AB31				⇓Sn		Sn	04 09 52.2 -14
	1.5nm,0.8s,baz=243,slow=22						
AB31	**Akbulak array**	**13.31**	**54**	Pn		**Pn**	**04 07 36.8 -1.7**
	0.7nm,0.5s,SNR=12						

DJA 08 04:05:08.8±1.5,1°S±10°×9°9E±1°1,h10km,M4.3/3, MLv4.3/3,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.13**	**65**	P	Pb	04 05 28.6	-1.8
PDSI				S	Sn	04 05 46.1	-0.2
PPI	**Padang Panjang**	**1.33**	**46**	P	Pb	04 05 33.7	-0.2
PPI				S	Sg	04 05 51.6	-0.1
SDSI	**Sungai Dareh**	**2.04**	**77**	P	Pb	04 05 44.7	-1.3
BKNI	**Bangkinang**	**2.34**	**43**	P	Pg	04 05 58.2	+4.5

NIED ***08*** *04:31:00,27°.80N×127°.70E,h5km,Mw4.0 Best double couple: M₀1.00000×10¹⁵ NP1:φs355.00000°,δ78.00000°, λ-156.00000°. NP2:φs259.00000°,δ67.00000°, λ-13.00000°.*
IDC ***08*** *04:31:03.9±1.2,27°.57N×127°.19E,h0km,mb3.5/5, mb1 3.7/6,mb1mx3.5/26,mbtmp3.6/6,ML2.9/1,MS3.0/3, Ms1 3.0/3,ms1mx2.7/24,Error ellipse: s-maj=49.5km s-min=20.2km az=70.0*
JMA ***08*** *04:31:04.1±0.2,27°.85N×127°.74E,h18km±3km,M3.5*
ISCJB ***08*** *04:31:05.5±1.5,27°.79N±0°.05×127°.78E±0°.05, h32km±11km,mb3.5/5,MS3.0/1,Error ellipse: s-maj=8.9km s-min=6.7km az=142.0*

ISC 08 04:31:04.7±3.7,27°.80N±0°.05×127°.80E±0°.06,h16km±25km, n15,σ1°06/18,mb3.5/5,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIH	**Iheya**	**0.77**	**169**	P	**Pb**	**04 31 19.7**	**0.0**
JIH				*e*S	**Sb**	**04 31 30.7**	**+0.7**
JTK	**Tokunoshima**	**1.02**	**90**	P	**Pb**	**04 31 23.6**	**-0.5**
JTK				*e*S	**Sb**	**04 31 37.7**	**+0.4**
JOW	**Kunigami**	**1.05**	**156**	P	**Pn**	**04 31 24.7**	**-0.1**
JOW				*e*S	**Sb**	**04 31 38.5**	**+0.5**
JAGN	**Aguni-jima**	**1.30**	**202**	P	**Pn**	**04 31 27.6**	**-0.6**
JAGN				*e*S	**Sn**	**04 31 44.7**	**-0.5**
JAMN	**Amaminishikomi**	**1.30**	**70**	P	**Pn**	**04 31 27.9**	**-0.3**
JAMN				*e*S	**Sb**	**04 31 45.6**	**+0.4**
JAM	**Amami Oshima**	**1.71**	**69**	P	**Pn**	**04 31 34.0**	**+0.1**
JKE	**Kume jima 2**	**1.72**	**212**	P	**Pn**	**04 31 33.8**	**-0.1**
JMZ	**Minamidaito 2**	**3.64**	**122**	*e*S	**Sn**	**04 32 42.1**	**-0.9**
JNU	**Nakatsue**	**5.94**	**26**	Pn	Pb	04 32 38.9	-8.9
	0.3nm,0.3s,baz=196,slow=7.4,SNR=1.6						
JNU				LR	LR	04 35 08.6	
	comp=Z,58nm,19.7s,baz=144,slow=38						
MJAR	**Matsushiro Arr**	**12.40**	**43**	LR	LR	04 39 16.6	
	comp=Z,103nm,21.5s,baz=210,slow=38						
SONM	**Songino Array**	**26.04**	**326**	P	**P**	**04 36 39.6**	**+2.3**
	1.2nm,0.9s,baz=128,slow=9.2,SNR=5.1						
SONM				LR	LR	04 48 22.7	
	comp=Z,45nm,18.2s,baz=12,slow=40						
MKAR	**Makanchi Array**	**40.21**	**311**	P	**P**	**04 38 39.1**	**-1.4**
	0.5nm,0.8s,baz=94,slow=9.4,SNR=3.8						
KURBB	**Kurchatov Arra**	**43.46**	**315**	P	**P**	**04 39 05.8**	**-1.1**
	0.4nm,0.5s,baz=103,slow=8.7,SNR=5.2						
WRA	**Warramunga Arr**	**47.88**	**172**	P	**P**	**04 39 41.2**	**-0.9**
	0.4nm,0.6s,baz=351,slow=7.4,SNR=3.8						
ASAR	**Alice Springs**	**51.50**	**173**	P	**P**	**04 40 11.6**	**+1.9**
	0.2nm,0.3s,baz=2.1,slow=10,SNR=2.2						

IDC ***08*** *04:47:60.0±0.9,55°.29N×162°.46E,h0km,mb3.5/6, mb1 3.7/8,mb1mx3.5/27,mbtmp3.4/8,ML3.0/2,Error ellipse: s-maj=28.5km s-min=15.6km az=168.0*
KRSC ***08*** *04:47:59.9±0.6,55°.30N×162°.68E,h22km±21km,ML3.9*
ISCJB ***08*** *04:48:00.2±0.7,55°.29N±0°.02×162°.73E±0°.06,h21km±6km, mb3.4/6,Error ellipse: s-maj=5.3km s-min=3.5km az=3.2*
MOS ***08*** *04:48:01.1±1.1,55°.34N×162°.52E,h23km,mb3.9/3,Error ellipse: s-maj=32.5km s-min=18.3km az=60.3*

ISC 08 04:47:59.4±1.5,55°.33N±0°.03×162°.68E±0°.05,h4km±10km, n47,σ1°25/66,mb3.5/6,1C,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.89**	**5**	P	**Pb**	**04 48 17.0**	**-0.3**
KBTR				*i* S	**Sg**	**04 48 28.7**	**+0.9**
MKZ	**Mys Kozlova**	**0.95**	**216**	P	**Pg**	**04 48 17.1**	**-0.4**
MKZ				*i* S	**Sg**	**04 48 29.1**	**-0.7**
ZLN	**Zelenaya**	**1.27**	**304**	P	**Pn**	**04 48 23.5**	**-0.5**
ZLN				*i* S	**Sg**	**04 48 40.7**	**+0.6**
BZGR	**Bezymyannyi-Gr**	**1.28**	**299**	P	**Pn**	**04 48 23.6**	**-0.6**
BZGR				*i* S	**Sb**	**04 48 40.7**	**-0.3**
CIRR	**Tsirk**	**1.35**	**307**	P	**Pn**	**04 48 24.8**	**-0.3**
CIRR				*i* S	**Sg**	**04 48 43.1**	**+0.4**
LGNR	**Loginova**	**1.36**	**305**	P	**Pn**	**04 48 25.1**	**-0.3**
BZMR	**Bezymyannaya**	**1.38**	**297**	P	**Pn**	**04 48 25.2**	**-0.4**
BZWR	**Bezymyannyi-We**	**1.39**	**298**	P	**Pn**	**04 48 25.2**	**-0.6**
SMKR	**Semkarok**	**1.43**	**332**	P	**Pn**	**04 48 25.5**	**-0.7**
SMKR				*i* S	**Sb**	**04 48 44.1**	**-1.1**
TUMR	**Tumrok**	**1.45**	**269**	P	**Pn**	**04 48 26.4**	**-0.1**
KMNR	**Kamenistaya**	**1.45**	**288**	P	**Pn**	**04 48 26.6**	**+0.1**
KMNR				*i* S	**Sn**	**04 48 45.6**	**-0.5**
KIRR	**Kirishev**	**1.47**	**296**	P	**Pn**	**04 48 26.7**	**-0.1**
KRSR	**Krestovskiy**	**1.49**	**308**	P	**Pn**	**04 48 26.1**	**-1.0**
KRSR				*i* S	**Sn**	**04 48 45.1**	**-1.9**
BDR	**Baidarnaya**	**1.49**	**327**	P	**Pn**	**04 48 26.8**	**-0.3**
KLY	**Klyuchi**	**1.51**	**312**	P	**Pn**	**04 48 25.3**	**-1.9**
KLY				*i* S	**Sn**	**04 48 43.9**	**-3.5**
KPT	**Kopyto**	**1.53**	**296**	P	**Pn**	**04 48 27.9**	**+0.3**
KPT				*i* S	**Sb**	**04 48 48.2**	**0.0**
SRKR	**Sorokina**	**1.58**	**328**	P	**Pn**	**04 48 28.1**	**-0.1**
SRKR				*i* S	**Sn**	**04 48 48.3**	**-0.8**
KOZ	**Kozyrevsk**	**1.75**	**296**	P	**Pb**	**04 48 31.4**	**-0.7**
SRDR	**Sredinnyy**	**1.94**	**302**	P	**Pn**	**04 48 34.1**	**+0.9**
KII	**Karymskiy**	**2.28**	**237**	P	**Pn**	**04 48 37.3**	**-0.6**
SPN	**Mys Shipunski**	**2.73**	**216**	P	**Pn**	**04 48 43.0**	**-0.9**
SPN				*i* S	**Sn**	**04 49 14.5**	**-2.8**
SDLR	**Sedlovina**	**3.03**	**229**	P	**Pn**	**04 48 48.1**	**-0.1**
SDLR				*i* S	**Sn**	**04 49 23.2**	**-1.7**
KRER	**Koryakskii**	**3.07**	**230**	P	**Pn**	**04 48 48.6**	**-0.2**
SMAR	**Somma**	**3.07**	**229**	P	**Pn**	**04 48 48.8**	**-0.1**
SMAR				*i* S	**Sn**	**04 49 24.3**	**-1.9**
KRX	**Arik**	**3.08**	**232**	P	**Pn**	**04 48 49.3**	**+0.4**
AVH	**Avacha**	**3.10**	**230**	P	**Pn**	**04 48 49.0**	**-0.1**
UGLR	**Uglovaya**	**3.10**	**228**	P	**Pn**	**04 48 49.5**	**+0.3**
KOK	**Koryaka**	**3.13**	**231**	P	**Pn**	**04 48 49.4**	**-0.1**
GNL	**Ganaly**	**3.21**	**241**	P	**Pn**	**04 48 51.1**	**+0.4**
PET	**Petropavlovsk**	**3.31**	**227**	*e*PN	**Pn**	**04 48 51.7**	**-0.2**
PET				*e*S	**Sn**	**04 49 33.2**	**+1.6**
PET				smax	smax		
	comp=N,171nm,0.7s						
PET				smax	smax		
	comp=E,141nm,0.8s						
PET	**Petropavlovsk**	**3.31**	**227**	P	**Pn**	**04 48 51.9**	**0.0**
PET				*i* S	**Sn**	**04 49 29.0**	**-2.6**
PETK	**Petropavlovsk-**	**3.67**	**235**	PN	**Pn**	**04 48 57.2**	**+0.2**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK	**Petropavlovsk-**	**3.67**	**235**	Pn	**Pn**	**04 48 57.2**	**+0.2**
	comp=Z,1.4nm,0.3s,baz=84,slow=17,SNR=10						
PETK				Lg	Lg	04 49 48.7	
	comp=Z,1.2nm,0.3s,baz=65,slow=34,SNR=3.7						
RUS	**Russkaya**	**3.81**	**222**	P	**Pn**	**04 48 58.4**	**-0.3**
RUS				*i* S	**Sn**	**04 49 40.9**	**-3.0**
MTVR	**Mutnovka**	**3.90**	**225**	P	**Pn**	**04 49 01.6**	**+1.4**
MTVR				*i* S	**Sn**	**04 49 45.9**	**-0.5**
APC	**Apacha**	**4.04**	**236**	P	**Pn**	**04 49 03.2**	**+1.2**
ASAK	**Asacha**	**4.09**	**226**	P	**Pn**	**04 49 03.7**	**+1.0**
ASAK				*i* S	**Sn**	**04 49 51.7**	**+0.7**
FX1	**Attu Island--F**	**6.63**	**107**	Pn	**Pn**	**04 49 39.8**	**+2.2**
	comp=Z,0.9nm,0.3s,baz=191,slow=4.5,SNR=6.2						
FX1				Sn	**Sn**	**04 50 51.7**	**-1.9**
	comp=Z,0.6nm,0.3s,baz=142,slow=17,SNR=3.0						
MJA0	**Matsu Arr-Jizo**	**25.11**	**232**	*e*P	**P**	**04 53 29.5**	**+4.4**
MJA0				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MJAR	**Matsushiro Arr**	**25.13**	**232**	P	**P**	**04 53 25.1**	**-0.2**
	comp=Z,1.8nm,0.6s,baz=26,slow=6.2,SNR=3.8						
ILAR	**Eielson Array**	**26.18**	**49**	P	**P**	**04 53 35.0**	**+0.4**
	comp=Z,0.9nm,1.0s,baz=262,slow=8.9,SNR=7.7						
MKAR	**Makanchi Array**	**48.56**	**295**	P	**P**	**04 56 44.2**	**+0.7**
MKAR	**Makanchi Array**	**48.56**	**295**	P	**P**	**04 56 44.1**	**+0.7**
	comp=Z,0.2nm,0.6s,baz=19,slow=6.2,SNR=2.3						
OBN	**Obninsk**	**61.43**	**328**	⇑*e*P	**P**	**04 58 16.4**	**+0.1**
OBN				*e*S	S	05 06 25.2	-12
TXAR	**Lajitas Array**	**68.40**	**70**	P	P	04 59 05.8	+3.6
	comp=Z,0.1nm,0.5s,baz=284,slow=4.5,SNR=2.4						
WRA	**Warramunga Arr**	**78.76**	**207**	P	**P**	**05 00 03.0**	**0.0**
	comp=Z,0.6nm,1.1s,baz=20,slow=6.0,SNR=3.4						
ASAR	**Alice Springs**	**82.43**	**206**	P	**P**	**05 00 23.4**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=15,slow=4.4,SNR=2.9						

MEX 08 04:50:13.8±0.4,16°.54N×98°.06W,h8km±7km,MD3.7,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.16**	**205**	*i* P	Pg	04 50 16.6	-0.5
PNIG				*i* S	Sg	04 50 19.3	-0.2
HUIG	**Huatulco**	**2.02**	**112**	*i* P	Pn	04 50 45.5	-2.7
HUIG				*i* S	Sn	04 51 08.9	-4.8
MEIG	**Mezcala**	**2.03**	**313**	*i* P	Pn	04 50 45.8	-2.6
MEIG				*i* S	Sn	04 51 10.0	-4.1
CAIG	**El Cayaco**	**2.18**	**284**	*e*P	Pn	04 50 47.1	-3.2
CAIG				*e*S	Sn	04 51 12.8	-4.6
PLIG	**Platanillo**	**2.30**	**323**	*e*P	Pn	04 50 50.1	-2.1
PLIG				*i* S	Sn	04 51 16.6	-4.3
PPM	**Popocatepetl**	**2.58**	**348**	*i* P	Pn	04 50 54.9	-1.5
ZIIG	**Zihuatanejo**	**3.43**	**289**	*i* P	Pn	04 51 05.9	-1.6

KRSC 08 04:51:22.8±0.9,55°.29N×162°.51E,h5km±5km,ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.86**	**212**	P	Pb	04 51 40.2	0.0
MKZ				*i* S	Sb	04 51 52.5	+0.5
KBTR	**Krutoberegovo**	**0.94**	**11**	P	Pg	04 51 40.3	-0.5
KBTR				*i* S	Sg	04 51 52.9	-0.1
ZLN	**Zelenaya**	**1.21**	**308**	P	Pn	04 51 46.6	+0.1
BZGR	**Bezymyannyi-Gr**	**1.22**	**303**	P	Pn	04 51 46.9	+0.3
BZGR				*i* S	Sn	04 52 04.4	+0.8
CIRR	**Tsirk**	**1.30**	**310**	P	Pn	04 51 47.8	0.0
LGNR	**Loginova**	**1.30**	**308**	P	Pn	04 51 47.5	-0.5
BZMR	**Bezymyannaya**	**1.32**	**300**	P	Pg	04 51 48.3	+0.1
BZWR	**Bezymyannyi-We**	**1.33**	**301**	P	Pg	04 51 48.6	+0.1
TUMR	**Tumrok**	**1.35**	**271**	P	Pg	04 51 49.4	+0.5
KMNR	**Kamenistaya**	**1.37**	**291**	P	Pg	04 51 49.7	+0.4
KIRR	**Kirishev**	**1.40**	**299**	P	Pg	04 51 50.0	+0.2
KIRR				*i* S	Sn	04 52 09.6	+1.5
SMKR	**Semkarok**	**1.42**	**336**	P	Pg	04 51 50.6	+0.4
KRSR	**Krestovskiy**	**1.44**	**311**	P	Pn	04 51 49.3	-0.4
KPT	**Kopyto**	**1.46**	**299**	P	Pg	04 51 51.1	+0.1
KLY	**Klyuchi**	**1.47**	**315**	P	Pn	04 51 48.7	-1.2
KLY				*i* S	Sn	04 52 07.4	-2.0
BDR	**Baidarnaya**	**1.48**	**331**	P	Pn	04 51 50.1	0.0
SRKR	**Sorokina**	**1.56**	**332**	P	Pn	04 51 50.7	-0.6
KOZ	**Kozyrevsk**	**1.68**	**298**	P	Pg	04 51 54.7	-0.3
KOZ				*i* S	Sg	04 52 17.6	+0.7
SRDR	**Sredinnyy**	**1.88**	**304**	P	Pb	04 51 57.4	-0.3
KII	**Karymskiy**	**2.18**	**236**	P	Pn	04 52 00.5	+0.7
SPN	**Mys Shipunski**	**2.64**	**215**	P	Pn	04 52 06.4	+0.4
SPN				*i* S	Sn	04 52 38.8	+0.5
SDLR	**Sedlovina**	**2.93**	**228**	P	Pn	04 52 11.3	+1.1
SDLR				*i* S	Sn	04 52 45.9	+0.1
KRER	**Koryakskii**	**2.97**	**229**	P	Pn	04 52 12.0	+1.2
SMAR	**Somma**	**2.98**	**228**	P	Pn	04 52 11.7	+0.8
SMAR				*i* S	Sn	04 52 47.8	+0.6
KRX	**Arik**	**2.98**	**231**	P	Pn	04 52 12.5	+1.7
AVH	**Avacha**	**3.00**	**229**	P	Pn	04 52 12.4	+1.3
UGLR	**Uglovaya**	**3.00**	**228**	P	Pn	04 52 11.8	+0.6
KOK	**Koryaka**	**3.03**	**230**	P	Pn	04 52 12.8	+1.3
GNL	**Ganaly**	**3.11**	**241**	P	Pn	04 52 14.2	+1.6
RUS	**Russkaya**	**3.71**	**221**	P	Pn	04 52 21.0	+0.3
MTVR	**Mutnovka**	**3.80**	**224**	P	Pn	04 52 24.7	+2.5
ASAK	**Asacha**	**3.99**	**225**	P	Pn	04 52 25.8	+1.1

GUC 08 04:54:31.2±0.7,33°.06S×70°.39W,h110km±3km,MD3.3, ML3.6,2C-4D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PEL	**Peldehue**	**0.26**	**252**	⇓*i*P	Pn	04 54 46.3	-0.6
PEL				*i* S	Sn	04 54 57.8	-0.9
PEL				AML	AML	04 54 59.0	
	comp=E,5μm,0.4s						
CLCH	**Cerro Calan**	**0.36**	**200**	⇓*e*P	Pn	04 54 46.9	-0.4
CLCH				*e*S	Sn	04 54 58.7	-0.8
CLCH				AML	AML	04 55 00.1	
	comp=E,3μm,0.5s						
JACH	**Jahuel**	**0.42**	**335**	*e*P	Pn	04 54 47.5	-0.3
JACH				*i* S	Sn	04 54 59.5	-0.5
FSR	**Penalolen**	**0.43**	**196**	⇓*i*P	Pn	04 54 48.5	+0.7
FSR				*e*S	Sn	04 55 00.1	-0.1
SAN	**Santiago**	**0.45**	**210**	*e*P	Pn	04 54 47.1	-0.7
SAN				*e*S	Sn	04 54 59.5	-0.8
ANTU	**Antumapu**	**0.55**	**202**	⇑*e*P	Pn	04 54 48.1	-0.3
ANTU				*e*S	Sn	04 55 00.7	-0.7
ANTU				AML	AML	04 55 01.4	
	comp=E,2μm,0.4s						
PCH	**Pirque**	**0.57**	**191**	*e*P	Pn	04 54 48.2	-0.5
PCH				*i* S	Sn	04 55 00.7	-1.1
TACH	**Talagante**	**0.75**	**218**	⇓*i*P	Pn	04 54 49.8	-0.2
TACH				*i* S	Sn	04 55 03.7	-0.5
LMEL	**Las Melosas**	**0.80**	**169**	*e*P	Pn	04 54 50.0	-0.7
LMEL				*e*S	Sn	04 55 05.5	+0.2
CHCH	**Chadas Angostu**	**0.90**	**194**	*e*P	Pn	04 54 51.2	-0.2
PACH	**Papudo**	**1.03**	**300**	*e*P	Pn	04 54 52.8	+0.1
PACH				*i* S	Sn	04 55 08.6	-0.4
CACH	**El Canelo**	**1.07**	**189**	⇑*i*P	Pn	04 54 53.6	+0.3
CACH				*i* S	Sn	04 55 10.3	+0.3
LNV	**Longovilo**	**1.23**	**224**	*e*P	Pn	04 54 54.8	-0.1

CSEM ***08*** *04:55:44.8±0.1,42°.52N×43°.50E,h2km,mb3.9,Error ellipse: s-maj=4.1km s-min=2.3km az=122.0*
DDA ***08*** *04:55:45.9,42°.37N×43°.42E,h9km,MD2.9*
MOS ***08*** *04:55:46.0±1.1,42°.60N×43°.63E,h9km,mb3.9/1,Error ellipse: s-maj=15.7km s-min=6.9km az=75.7*

ISC 08 04:55:44.8±1.2,42°.52N±0°.02×43°.50E±0°.03,h1km±10km, n39,σ0°50/75,2C-10D,Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIGR	**Digorskoe uzhe**	**0.39**	**9**	⇓*i*PG	**Pg**	**04 55 52.0**	**-0.2**
DIGR				*i* S	**Sg**	**04 55 57.8**	**+0.5**
DIGR	**Digorskoe uzhe**	**0.39**	**9**	*i* Pg	**Pg**	**04 55 52.0**	**-0.2**
DIGR				*i* Sg	**Sg**	**04 55 57.8**	**+0.5**
ZEI	**Tsey**	**0.40**	**47**	⇓*i*PG	**Pg**	**04 55 52.1**	**-0.4**
ZEI				*i* S	**Sg**	**04 55 58.1**	**+0.4**
ZEI	**Tsey**	**0.40**	**47**	*i* Pg	**Pg**	**04 55 52.1**	**-0.4**
ZEI				*i* Sg	**Sg**	**04 55 58.1**	**+0.4**
LACR	**Lac**	**0.66**	**62**	⇓*i*PG	**Pg**	**04 55 56.8**	**-0.7**
LACR				*i* S	**Sg**	**04 56 06.1**	**0.0**
LACR	**Lac**	**0.66**	**62**	*i* Pg	**Pg**	**04 55 56.8**	**-0.7**
LACR				*i* Sg	**Sg**	**04 56 06.1**	**0.0**
KORR	**Kora**	**0.70**	**36**	⇑*i*PG	**Pg**	**04 55 58.1**	**-0.2**
KORR				*e*S	**Sg**	**04 56 08.2**	**+0.8**
KORR	**Kora**	**0.70**	**36**	*i* Pg	**Pg**	**04 55 58.1**	**-0.2**
KORR				*e*Sg	**Sg**	**04 56 08.2**	**+0.8**
LSNR	**Lesken**	**0.80**	**17**	⇓*i*PG	**Pg**	**04 55 59.9**	**-0.2**
LSNR				*i* S	**Sg**	**04 56 10.9**	**+0.5**
LSNR	**Lesken**	**0.80**	**17**	*i* Pg	**Pg**	**04 55 59.9**	**-0.2**
LSNR				*i* Sg	**Sg**	**04 56 10.9**	**+0.5**
STDR	**Stavd-Durt**	**0.94**	**26**	⇓*i*PG	**Pg**	**04 56 03.4**	**+0.5**
STDR				*e*S	**Sb**	**04 56 16.6**	**-0.4**
STDR	**Stavd-Durt**	**0.94**	**26**	*i* Pg	**Pg**	**04 56 03.4**	**+0.5**
STDR				*e*Sg	**Sb**	**04 56 16.6**	**-0.4**
NCK	**Nalchik**	**0.98**	**4**	⇓*e*PG	**Pg**	**04 56 03.6**	**0.0**
NCK				*e*S	**Sb**	**04 56 18.1**	**+0.1**
NCK	**Nalchik**	**0.98**	**4**	*e*Pg	**Pg**	**04 56 03.6**	**0.0**
NCK				*e*Sg	**Sb**	**04 56 18.1**	**+0.1**
VLKR	**Vladikavkaz**	**1.01

PETK	Petropavlovsk-	76.93	346	P		P	05 15 32.8 -0.8
	1.1nm,0.5s,baz=160,slow=8.9,SNR=2.8						
YBH	Yreka Blue Hor	81.19	39	P		P	05 15 58.0 +1.5
	1.2nm,0.7s,baz=225,slow=8.6,SNR=3.2						
NVAR	Mina Array Bea	81.91	43	P		P	05 16 01.3 +0.8
	0.5nm,0.6s,baz=220,slow=7.5,SNR=5.7						
TXAR	Lajitas Array	87.86	57	P		P	05 16 31.0 +1.5
	0.3nm,0.8s,baz=224,slow=3.3,SNR=4.9						
ILAR	Eielson Array	89.19	13	P		P	05 16 32.9 -1.8
	0.4nm,0.5s,baz=223,slow=5.6,SNR=6.7						
PDAR	Pinedale Array	89.84	43	P		P	05 16 38.7 +0.1
	0.5nm,0.5s,baz=186,slow=4.8,SNR=4.8						
CMAR	Chiang Mai Arr	89.96	290	P		P	05 16 38.2 -1.2
	1.1nm,0.5s,baz=115,slow=4.1,SNR=7.1						
MKAR	Makanchi Array	111.42	313	PKiKP		PKiKP	05 22 08.1 -1.7
	0.2nm,0.4s,baz=246,slow=0.7,SNR=4.4						
ARCES	ARCESS Array B	129.62	349	PKP		PKPdf	05 22 42.6 -1.5
	1.1nm,0.6s,baz=349,slow=0.7,SNR=10						
AKASG	Malin Array Be	143.49	330	PKhKP		PKPpre	05 23 06.3
	3.7nm,0.4s,baz=43,slow=4.3,SNR=15						
BRTR	Keskin Array B	147.04	311	PKPbc		PKPdf	05 23 18.1 +1.4
	1.4nm,0.6s,baz=140,slow=5.2,SNR=8.6						
GERES	GERESS Array B	150.84	343	PKPbc		PKPbc	05 23 27.4 -1.2
	0.4nm,0.2s,baz=29,slow=3.0,SNR=6.6						
TORD	Torodi Ar. Bea	171.89	181	PKP		PKPdf	05 23 43.2 -1.4
	0.5nm,0.9s,baz=228,slow=3.7,SNR=2.5						
TORD				PKPab		PKPab	05 25 11.7 +1.0
	0.3nm,1.0s,baz=182,slow=4.0,SNR=2.9						

KRSC 08 05:09:44.2±1.1, 50°.61N×157°.12E, h125km±95km, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	0.64	277	P	Pn	05 10 03.8	+0.2
SKR				*i* S	Sn	05 10 17.8	-0.4
PAU	Pauzhetka	0.88	347	P	Pn	05 10 06.6	+1.1
PAU				*i* S	Sn	05 10 23.4	+1.7
MIPR	Malaya Ipel'ka	1.68	352	P	Pn	05 10 14.5	+0.4
ASAK	Asacha	1.84	15	P	Pn	05 10 18.0	+2.0
ASAK				*i* S	Sn	05 10 42.9	+2.5
MTVR	Mutnovka	1.99	19	P	Pn	05 10 20.0	+2.1
MTVR				*i* S	Sn	05 10 46.2	+2.5
RUS	Russkaya	2.02	25	P	Pn	05 10 19.9	+1.8
RUS				*i* S	Sn	05 10 45.7	+1.6
UGLR	Uglovaya	2.81	21	P	Pn	05 10 30.8	+2.6
UGLR				*i* S	Sn	05 11 04.3	+2.1
AVH	Avacha	2.84	20	P	Pn	05 10 30.9	+2.3
AVH				*i* S	Sn	05 11 04.5	+1.6
KOK	Koryaka	2.84	19	P	Pn	05 10 31.3	+2.6
SMAR	Somma	2.85	21	P	Pn	05 10 29.2	+0.2
KRER	Koryakskii	2.88	20	P	Pn	05 10 31.2	+1.9
KRER				*i* S	Sn	05 11 05.8	+1.8
SDLR	Sedlovina	2.89	22	P	Pn	05 10 31.2	+1.9
SDLR				*i* S	Sn	05 11 05.0	+1.0
KRX	Arik	2.91	18	P	Pn	05 10 31.1	+1.5
SPN	Mys Shipunski	3.07	35	P	Pn	05 10 33.7	+2.2
SPN				*i* S	Sn	05 11 10.1	+2.0
GNL	Ganaly	3.13	9	P	Pn	05 10 33.3	+0.9
GNL				*i* S	Sn	05 11 09.1	-0.6
MKZ	Mys Kozlova	4.85	34	P	Pn	05 10 56.8	+1.8
MKZ				*i* S	Sn	05 11 49.1	-1.1
KBTR	Krutoberegovo	6.56	29	P	Pn	05 11 18.9	+0.8

SZGRF ***08*** *05:14:30.2, 17°.22N×96°.05W, h104km, mb5.1, Oaxaca, Mexico*

MOS ***08*** *05:14:30.1±0.8, 17°.69N×95°.52W, h97km, mb5.1/42, Error ellipse: s-maj=7.9km s-min=4.7km az=99.6*

ISCJB ***08*** *05:14:30.8±0.2, 17°.72N±0°.02×95°.59W±0°.02, h100km±2km, mb4.9/172, Error ellipse: s-maj=4.1km s-min=2.1km az=34.4*

IDC ***08*** *05:14:31.7±0.4, 17°.75N×95°.49W, h100km±3km, mb4.3/24, mb1 4.5/28, mb1mx4.5/31, mbtmp4.4/28, MS3.8/21, Ms1 3.8/21, ms1mx3.7/29, Error ellipse: s-maj=13.8km s-min=6.7km az=57.0*

GCMT ***08*** *05:14:32.9±0.2, 17°.73N×95°.68W, h103km±2km, MW5.1, Moment Tensor Solution. s54,c68; s77,c128; Moment tensor: Scale 10^16Nm; Mrr=3.63±.12; Mθθ=3.76±.13; Mφφ=-0.13±.16; Mrθ=0.14±.10; Mrφ=-2.00±.14; Mθφ=-2.49±.09; Best double couple: M0=4.90000×10^16 NP1:φs=319.00000°, δ59.00000°, λ-57.00000°. NP2:φs=87.00000°, δ44.00000°, λ-133.00000°. Principal axes: T 4.7700, Plg8.0000°, Azm26.0000°; N 0.2400, Plg28.0000°, Azm121.0000°; P -5.0000, Plg60.0000°, Azm281.0000°; Data Used: II IU IC G CN.*

MEX ***08*** *05:14:32.6±0.8, 17°.54N×95°.75W, h100km±4km, MD5.1*

BJI ***08*** *05:14:32.3, 17°.70N×95°.40W, h113km, mB5.1/6*

NEIC ***08*** *05:14:32.6, 17°.54N×95°.75W, h100km, mb5.1/131, MD5.1(MEX), After MEX.*

NEIC Felt [IV] at Oaxaca and [II] at Jalapa. Also felt at Coatzacoalcos, Cordoba, Etla, Huatulco, Mitla, Puerto Escondido and Tlacolula.

TEH ***08*** *05:14:33.0, 17°.74N×95°.42W, h114km, ML5.0*

ISC 08 05:14:31.0±0.3, 17°.60N±0°.03×95°.70W±0°.03, h103km±2km, h103km; pP-P, n982, σ1°.30/1143, mb5.0/172, 136C-154D, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.93	123	*e*P	Pn	05 14 51.4	+0.5
CMIG				*i* S	Sn	05 15 06.0	+0.1
CMIG	Matias Romero	0.93	123	*e*Pn	Pn	05 14 51.4	+0.5
CMIG				*e*Sn	Sn	05 15 06.0	+0.1
CMIG	Matias Romero	0.93	123	P	Pn	05 14 51.3	+0.5
	baz=298,slow=11						
CMIG				S	Sn	05 15 06.2	+0.3
	5μm,0.3s,baz=22,slow=19,SNR=63						
TUIG	Tuzandepetl	1.29	70	*e*P	Pn	05 14 55.5	+0.6
TUIG				*i* S	Sn	05 15 14.3	+1.2
TUIG	Tuzandepetl	1.29	70	*e*Pn	Pn	05 14 55.5	+0.6
TUIG				*e*Sn	Sn	05 15 14.3	+1.2
TPIG	Tehuac#an	1.78	298	*e*P	Pn	05 15 01.1	+0.1
TPIG				*e*S	Sn	05 15 22.9	-1.0
TPIG	Tehuac#an	1.78	298	*e*P	Pn	05 15 01.1	+0.1
TPIG				*e*S	Sn	05 15 22.9	-1.0
HUIG	Huatulco	1.86	192	*e*P	Pn	05 15 01.0	-1.0
HUIG				*i* S	Sn	05 15 23.5	-2.0
HUIG	Huatulco	1.86	192	*e*Pn	Pn	05 15 01.0	-1.0
HUIG				*e*Sn	Sn	05 15 23.5	-2.0
LVIG	Laguna Verde	2.22	342	*e*P	Pn	05 15 04.0	-2.5
LVIG				*i* S	Sn	05 15 30.3	-3.5
LVIG	Laguna Verde	2.22	342	*e*Pn	Pn	05 15 04.0	-2.5
LVIG				*e*Sn	Sn	05 15 30.3	-3.5
TGIG		2.60	108	*e*P	Pn	05 15 12.0	+0.5
TGIG				*i* S	Sn	05 15 43.2	+0.5
TGIG		2.60	108	*e*P	Pn	05 15 12.0	+0.5
TGIG				*i* S	Sn	05 15 43.2	+0.5
PNIG	Pinotepa	2.61	243	*e*P	Pn	05 15 09.0	-2.7
PNIG				*i* S	Sn	05 15 39.6	-3.3
PNIG	Pinotepa	2.61	243	*e*Pn	Pn	05 15 09.0	-2.7
PNIG				*e*Sn	Sn	05 15 39.6	-3.3
PCIG		3.03	128	*e*P	Pn	05 15 18.2	+1.0
PCIG				*i* S	Sn	05 15 54.1	+1.1
PCIG		3.03	128	*e*P	Pn	05 15 18.2	+1.0
PCIG				*i* S	Sn	05 15 54.1	+1.1
PPM	Popocatepetl	3.14	298	*e*P	Pn	05 15 20.8	+1.7
PPM				*e*		05 15 55.7	
PPM	Popocatepetl	3.14	298	*e*P	Pn	05 15 20.8	+1.7
PPM				*i* S	Sn	05 15 55.6	-0.6
PPM	Popocatepetl	3.14	298	*e*Pn	Pn	05 15 20.8	+1.7
PPM				*e*Sn	Sn	05 15 55.6	-0.6
CCIG	Comitan	3.65	110	*e*P	Pn	05 15 26.6	+0.8
CCIG				*i* S	Sn	05 16 08.5	+0.3
CCIG	Comitan	3.65	110	*e*Pn	Pn	05 15 26.6	+0.8
CCIG				*e*Sn	Sn	05 16 08.5	+0.3
PLIG	Platanillo	3.70	283	*e*P	Pn	05 15 26.5	+0.2
PLIG				*i* S	Sn	05 16 07.7	-1.4
PLIG	Platanillo	3.70	283	*e*Pn	Pn	05 15 26.5	+0.2
PLIG				*e*Sn	Sn	05 16 07.7	-1.4
UNM	Universidad Na	3.72	298	*e*P	Pn	05 15 27.4	+0.6
UNM				*i* S	Sn	05 16 10.0	+0.1
UNM	Universidad Na	3.72	298	*e*P	Pn	05 15 27.4	+0.6
UNM				*i* S	Sn	05 16 10.0	+0.1
MEIG	Mezcala	3.75	276	*e*P	Pn	05 15 26.5	-0.4
MEIG				*i* S	Sn	05 16 08.5	-1.7
MEIG	Mezcala	3.75	276	*e*P	Pn	05 15 26.5	-0.4
MEIG				*i* S	Sn	05 16 08.5	-1.7
DEIG	Demacu	4.15	311	*e*P	Pn	05 15 33.3	+0.8
DEIG				*i* S	Sn	05 16 20.1	0.0
DEIG	Demacu	4.15	311	*e*P	Pn	05 15 33.3	+0.8
DEIG				*i* S	Sn	05 16 20.1	0.0
THIG		4.25	129	*i* P	Pn	05 15 35.1	+1.5
THIG				*i* S	Sn	05 16 22.8	+0.6
THIG		4.25	129	*i* P	Pn	05 15 35.1	+1.5
THIG				*i* S	Sn	05 16 22.8	+0.6
CAIG	El Cayaco	4.39	264	*e*P	Pn	05 15 33.5	-2.1
CAIG				*i* S	Sn	05 16 23.9	-1.8
CAIG	El Cayaco	4.39	264	*e*Pn	Pn	05 15 33.5	-2.1
CAIG				*e*Sn	Sn	05 16 23.9	-1.8
SCIG	Sabancuy	4.50	72	*e*P	Pn	05 15 36.8	-0.2
SCIG				*i* S	Sn	05 16 29.6	+1.3
SCIG	Sabancuy	4.50	72	*e*P	Pn	05 15 36.8	-0.2
SCIG				*i* S	Sn	05 16 29.6	+1.3
ZIIG	Zihuatanejo	5.50	271	*e*P	Pn	05 15 49.5	-0.9
ZIIG				*e*S	Sn	05 16 51.0	-1.5
ZIIG	Zihuatanejo	5.50	271	*e*Pn	Pn	05 15 49.5	-0.9
ZIIG				*e*Sn	Sn	05 16 51.0	-1.5
MOIG	Morelia	5.60	293	*e*P	Pn	05 15 52.9	+0.7
MOIG				*i* S	Sn	05 16 54.9	-0.4
MOIG	Morelia	5.60	293	*e*Pn	Pn	05 15 52.9	+0.7
MOIG				*e*Sn	Sn	05 16 54.9	-0.4
IGIG	Irapuato, Guan	6.17	301	*i* P	Pn	05 16 00.9	+1.1
IGIG				*i* S	Sn	05 17 09.0	-0.2
MMIG	Aquila	7.31	277	*e*P	Pn	05 16 14.6	-0.5
MMIG				*e*S	Sn	05 17 33.9	-2.7
MMIG	Aquila	7.31	277	*e*P	Pn	05 16 14.6	-0.5
MMIG				*e*S	Sn	05 17 33.9	-2.7
TEIG	Tepich	7.50	68	*e*P	Pn	05 16 17.5	-0.2
TEIG				*i* S	Sn	05 17 40.0	-1.2
TEIG	Tepich	7.50	68	*e*Pn	Pn	05 16 15.8	-1.9
TEIG				*e*Pg	Sn	05 17 35.5	-5.7
TEIG				*e*Sn	Sn	05 17 40.0	-1.2
TEIG	Tepich	7.50	68	P	Pn	05 16 15.8	-1.9
	49nm,0.3s,baz=353,slow=23,SNR=227						
TEIG				S	Sn	05 17 35.5	-5.7
	309nm,0.3s,baz=3.9,slow=22,SNR=28						
TEIG				LR	LR	05 19 30.9	
	comp=Z,955nm,21.0s,baz=182,slow=41						
LNIG	Linares	8.07	335	*e*P	Pn	05 16 25.8	+0.3
LNIG				*i* S	Sn	05 17 53.7	-1.3
LNIG	Linares	8.07	335	*e*P	Pn	05 16 25.8	+0.3
LNIG				*i* S	Sn	05 17 53.7	-1.3
ZAIG	Zacatecas	8.25	310	*i* P	Pn	05 16 29.1	+0.9
ZAIG				*i* S	Sn	05 17 58.4	-1.4
ZAIG	Zacatecas	8.25	310	*e*Pn	Pn	05 16 29.1	+0.9
ZAIG				*e*Sn	Sn	05 17 58.4	-1.4
ANIG	Ahuacatlan	9.01	294	*i* P	Pn	05 16 37.8	-0.5
ANIG				*i* S	Sn	05 18 13.8	-4.3
ANIG	Ahuacatlan	9.01	294	*i* P	Pn	05 16 37.8	-0.5
ANIG				*i* S	Sn	05 18 13.8	-4.3
CJM	Chamela	9.06	284	*e*P	Pn	05 16 39.3	+0.4
CJM				*i* S	Sn	05 18 16.0	-3.1
CJM	Chamela	9.06	284	*e*Pn	Pn	05 16 39.3	+0.4
CJM				*e*Sn	Sn	05 18 16.0	-3.1
732A	Laxson Ranch,	11.75	341	⇑P	Pn	05 17 15.1	-0.2
	baz=12,SNR=33						
VCR	Vista de Mar	12.27	126	*e*P	Pn	05 17 23.9	+1.5
HKT	Hockley	12.30	359	*e*P	Pn	05 17 21.5	-1.0
HKT	Hockley	12.30	359	*e*Pn	Pn	05 17 21.5	-1.0
632A	Uvalde	12.43	343	⇑P	Pn	05 17 24.0	-0.4
	baz=12,SNR=130						
631A	Perdido Creek	12.58	340	P	Pn	05 17 25.5	-0.8
	baz=13,SNR=74						
JTS	JuntasAbangare	12.71	123	Pn	Pn	05 17 29.0	+0.9
	214nm,0.3s,SNR=15						
JCR	Jicaral	12.85	125	*e*P	Pn	05 17 31.4	+1.5
JCR	Jicaral	12.85	125	*e*S	sPn	05 18 06.5	+10
CAO	Cobano	12.94	126	*e*P	Pn	05 17 32.9	+1.7
532A	Rocksprings	13.05	344	⇑P	Pn	05 17 32.0	-0.5
	baz=13,SNR=193						
HPIG		13.09	317	*i* P	Pn	05 17 34.3	+1.1
HPIG		13.09	317	*i* P	Pn	05 17 34.3	+1.1
531A	Rocksprings	13.27	341	⇓P	Pn	05 17 34.6	-0.8
	baz=13,SNR=60						
JCT	Junction City	13.36	345	*e*P	Pn	05 17 36.5	-0.1
JCT	Junction City	13.36	345	*e*Pn	Pn	05 17 36.5	-0.1
JCT	Junction City	13.36	345	⇓P	Pn	05 17 35.8	-0.7
	baz=13,SNR=44						
530A	J-C Ranch, Com	13.51	339	⇑P	Pn	05 17 38.2	-0.4
	baz=14,SNR=19						
628A	Black Gap, Mar	13.54	332	⇑P	Pn	05 17 39.0	+0.1
	baz=14,SNR=46						
432A	Menard	13.73	345	⇑P	Pn	05 17 40.9	-0.5
	baz=14,SNR=73						
627A	Terlingua Ranc	13.74	331	⇓P	Pn	05 17 43.9	+2.3
	baz=14,SNR=269						
627A				⇓S	S	05 20 29.9	+1.6
	baz=14						
431A	Sonora	13.77	342	⇑P	Pn	05 17 41.6	-0.4
	baz=14,SNR=63						
LTX	Lajitas	13.77	329	*e*P	Pn	05 17 43.4	+1.4
LTX	Lajitas	13.77	329	*e*Pn	Pn	05 17 43.4	+1.4
TXAR	Lajitas Array	13.77	329	P	Pn	05 17 43.4	+1.4
TXAR	Lajitas Array	13.77	329	P	Pn	05 17 43.4	+1.4
	0.3nm,0.3s,baz=152,slow=12,SNR=74						
TX31	Lajitas Ar. Si	13.77	329	*e*Pn	Pn	05 17 42.8	+0.8
529A	Stev Forest Ra	13.82	336	⇑P	Pn	05 17 43.0	+0.5
	baz=14,SNR=47						
QCR	Quepos	13.84	124	*e*P	P	05 17 45.7	-2.1
URSC	Urasca	13.91	122	*e*P	Pn	05 17 44.6	+0.7
430A	Baggett Ranch,	14.06	340	P	Pn	05 17 46.4	+0.7
	baz=14,SNR=104						
528A	Cox Ranch, San	14.08	334	P	Pn	05 17 46.9	+0.9
	baz=14,SNR=46						
BUS	Buena Vista	14.09	123	*e*P	Pn	05 17 47.5	+1.0
NATX	Nacogdoches	14.13	4	*e*Pn	Pn	05 17 46.3	-0.2
NATX				*e*Sn	Sn	05 20 15.9	-6.3
429A	Davenport Ranc	14.14	338	⇓P	Pn	05 17 47.0	+0.3
	baz=14,SNR=32						
626A	Big Bend Ranch	14.18	329	⇓P	Pn	05 17 48.3	+1.0
	baz=14,SNR=101						
332A	Millersview	14.21	346	P	Pn	05 17 47.1	-0.4
	baz=14,SNR=56						
331A	San Angelo	14.31	343	⇓P	Pn	05 17 48.8	0.0
	baz=14,SNR=156						
WHTX	Lake Whitney	14.42	354	*e*Pn	Pn	05 17 50.5	+0.3
WHTX				*e*Sn	Sn	05 20 20.7	-8.5
WHTX	Lake Whitney	14.42	354	⇓P	Pn	05 17 49.6	-0.6
	baz=14,SNR=63						
527A	Woodward Ranch	14.43	331	⇑P	Pn	05 17 51.8	+1.3
	baz=14,SNR=227						
428A	Kincaid Ranch,	14.54	335	⇓P	Pn	05 17 52.2	+0.4
	baz=15,SNR=66						
526A	Mary Lane Ranc	14.58	330	⇑P	Pn	05 17 53.3	+0.9
	baz=15,SNR=87						
330A	Mertzon	14.62	341	P	Pn	05 17 53.1	+0.3
	baz=15,SNR=118						
232A	Coleman	14.67	347	P	Pn	05 17 53.1	-0.4
	baz=15,SNR=123						
231A	Bronte	14.88	345	P	Pn	05 17 55.8	-0.2
	baz=15,SNR=85						
427A	Hayter Ranch,	14.94	333	⇑P	Pn	05 17 58.0	+1.0
	baz=15,SNR=70						
329A	Wagon Wheel Ra	14.96	339	⇑P	Pn	05 17 57.1	0.0
	baz=15,SNR=65						
230A	Sterling City	15.05	342	P	Pn	05 17 58.3	0.0
	baz=15,SNR=43						
426A	McDonald Obser	15.06	331	P	P	05 18 00.6	-0.9
	baz=15,SNR=299						
LPIG	La Paz	15.10	298	*e*P	P	05 18 01.4	-0.3
LPIG	La Paz	15.10	298	*e*Pn	P	05 18 01.4	-0.3
LPIG	La Paz	15.10	298	P	P	05 18 01.8	+0.1
	6.3nm,0.3s,baz=324,slow=1.1,SNR=24						
LPIG				LR	LR	05 23 48.5	
	comp=Z,235nm,20.6s,baz=302,slow=37						
328A	Wristen Ranch,	15.16	336	P	Pn	05 18 00.8	+1.0
	baz=15,SNR=202						
CTCR	Cotoan	15.27	123	*e*P	Pn	05 18 02.6	+1.3
VBMS	Vicksburg	15.29	17	*e*Pn	Pn	05 17 60.0	-1.3
	181nm,1.1s						
229A	Bryant Ranch,	15.34	340	⇑P	Pn	05 18 02.2	+0.3
	baz=15,SNR=22						
ABTX	Abilene, Hawle	15.38	347	*e*Pn	Pn	05 18 02.0	-0.4
	7μm,0.9s						
ABTX	Abilene, Hawle	15.38	347	P	Pn	05 18 02.8	+0.4
	baz=16,SNR=96						
327A	Balmorhea Ranc	15.43	334	⇓P	Pn	05 18 04.1	+1.1
	baz=16						
BRAL	Brewton	15.50	29	*e*Pn	P	05 18 07.1	+1.1
	377nm,1.3s						
326A	Caldwell Ranch	15.59	333	⇓P	Pn	05 18 06.1	+1.0
	baz=16,SNR=187						
131A	Roby	15.60	345	⇑P	Pn	05 18 05.2	+0.1
	baz=16,SNR=118						
425A	Indio Mountain	15.61	329	⇑P	Pn	05 18 06.4	+1.0
	baz=16,SNR=102						
130A	Snyder	15.67	343	P	Pn	05 18 05.9	-0.2
	baz=16,SNR=54						
228A	UT Block 9, Go	15.74	338	⇑P	Pn	05 18 07.1	+0.1
	baz=16,SNR=37						
227A	Bennet, Jal	15.91	336	⇓P	Pn	05 18 09.9	+0.8
	baz=16,SNR=22						
129A	Stewart Farms,	15.97	341	⇑P	Pn	05 18 09.2	-0.6
	baz=16,SNR=20						
Z32A	Haskell	16.01	348	⇓P	Pn	05 18 09.8	-0.5
	baz=16,SNR=179						
325A	Bean Ranch, Si	16.09	330	⇑P	Pn	05 18 11.9	+0.5
	baz=16,SNR=49						
Z31A	Sharp Cattle R	16.16	347	P	Pn	05 18 12.1	0.0
	baz=16,SNR=77						
128A	Castleberry Fa	16.16	339	⇓P	Pn	05 18 12.0	-0.3
	baz=16,SNR=31						
226B	Tecolote Peak,	16.32	334	⇑P	P	05 18 15.0	-0.3
	baz=16,SNR=112						
Z30A	Sanderson Ranc	16.37	344	P	Pn	05 18 14.2	-0.5
	baz=16,SNR=66						
324A	Moseley Ranch,	16.39	329	⇑P	Pn	05 18 15.7	+0.5
	baz=16,SNR=165						
Z29A	Hungry Hill Ra	16.51	342	⇓P	Pn	05 18 15.7	-0.8
	baz=17,SNR=24						
MNTX	Cornudas Mount	16.55	330	*e*Pn	P	05 18 18.6	+0.8
	81nm,1.5s						
225A	Deer Hill, Car	16.64	332	⇑P	P	05 18 18.9	0.0
	baz=17,SNR=117						
Y32A	R-V Farms, Ver	16.68	349	P	Pn	05 18 18.3	-0.2
	baz=17,SNR=75						
Z28A	Tucker Farm, M	16.74	340	P	Pn	05 18 19.4	0.0
	baz=17,SNR=42						
126A	Clayton Basin,	16.76	335	⇓P	Pn	05 18 19.5	-0.1
	baz=17,SNR=69						
DWPF	Disney	16.79	49	*e*Pn	P	05 18 20.7	+0.4
	103nm,1.0s						
DWPF				*e*Sn	Sn	05 21 20.1	-6.3
Y31A	Rekieta Farm,	16.80	347	P	Pn	05 18 20.0	0.0
	baz=17,SNR=58						
Y30A	Stafford Cattl	16.87	345	⇓P	Pn	05 18 20.1	-0.8
	baz=17,SNR=12						
224A	Cornudas Mount	16.93	330	⇓P	P	05 18 22.2	+0.1
	baz=17,SNR=231						
CGIG		16.93	321	*e*P	P	05 18 23.5	+1.4
CGIG		16.93	321	*e*P	P	05 18 23.5	+1.4
MIAR	Mount Ida	16.99	6	*e*P	Pn	05 18 21.8	-0.5
MIAR				pmax	pmax		
	comp=Z,270nm,0.9s						
MIAR	Mount Ida	16.99	6	*e*Pn	Pn	05 18 21.8	-0.5
	comp=Z,270nm,0.9s						
125A	Gardner Draw,	17.04	333	⇓P	Pn	05 18 23.0	+0.1
	baz=17,SNR=62						
Z27A	Tatum	17.05	338	P	Pn	05 18 23.1	0.0
	baz=17,SNR=100						
Y29A	Porterfield Fa	17.06	343	P	Pn	05 18 22.8	-0.5
	baz=17,SNR=76						
LRAL	Lakeview Retre	17.26	25	*e*P	P	05 18 24.9	-0.5
	comp=Z,164nm,1.1s						
Y28A	McKinney Farm,	17.27	341	P	P	05 18 25.7	0.0
	baz=17,SNR=70						
WMOK	Wichita Mounta	17.29	351	*e*P	P	05 18 25.1	-0.8
WMOK				pmax	pmax		
	comp=Z,79nm,1.0s						
WMOK	Wichita Mounta	17.29	351	*e*P	P	05 18 25.1	-0.8
	comp=Z,79nm,1.0s						
Z26A	Caprock	17.29	336	P	Pn	05 18 26.4	+0.3
	baz=17,SNR=76						
223A	Chaparral, Ant	17.32	328	⇑P	Pn	05 18 26.9	+0.4
	baz=17,SNR=8.4						
UALR	University of	17.37	9	*e*P	P	05 18 26.5	-0.2
	comp=Z,126nm,0.9s						
X31A	McDonald Ranch	17.39	348	⇓P	Pn	05 18 27.2	0.0
	baz=18,SNR=37						
X30A	Coker Ranch, T	17.41	346	P	Pn	05 18 27.5	+0.1
	baz=18,SNR=86						
124A	Stringfield Ra	17.42	332	⇓P	Pn	05 18 28.2	+0.4
	baz=18,SNR=117						
MSTX	Muleshoe	17.49	340	*e*P	Pn	05 18 28.8	+0.3
	comp=Z,2μm,0.8s						
MSTX	Muleshoe	17.49	340	P	P	05 18 28.4	+0.2
	baz=18,SNR=71						
Y27A	Causey	17.55	339	⇓P	Pn	05 18 29.2	0.0
	baz=18,SNR=60						
Z25A	Roswell	17.60	334	P	Pn	05 18 29.8	0.0
	baz=18,SNR=86						
X29A	Tulia	17.62	343	⇑P	Pn	05 18 30.0	0.0
	baz=18,SNR=37						
TIGA	Tifton	17.62	36	*e*P	Pn	05 18 32.9	+2.9
	comp=Z,6μm,0.9s						
TIGA	Tifton	17.62	36	⇓P	P	05 18 29.6	0.0
	baz=18,SNR=20						
222A	Williams Famil	17.75	327	⇓P	Pn	05 18 31.8	+0.2
	baz=18,SNR=63						
123A	Bell Site, Whi	17.75	330

V28A Channing 18.99 344 ⇑P P 05 18 45.1 +0.5
baz=19,SNR=30
Z21A St. Cloud Mine 18.99 328 ⇑P Pn 05 18 46.5 -0.1
baz=19,SNR=35
X24A Lazy VL Ranch, 19.00 335 ⇑P Pn 05 18 45.9 -0.8
baz=19,SNR=46
U31A Nine Bar Ranch 19.06 350 P P 05 18 46.0 +0.8
baz=19,SNR=23
Y22A Socorro 19.15 330 ⇑P Pn 05 18 47.7 -0.7
baz=19,SNR=125
V27A Dan Oppiter Fa 19.17 342 ⇑P P 05 18 46.7 +0.1
baz=19,SNR=23
BNM Barren Site 19.17 331 eP Pn 05 18 48.4 -0.3
W25A X Bar L Ranch, 19.21 338 ⇓P P 05 18 47.7 +0.7
baz=19,SNR=21
Y22D IRIS PASSCAL I 19.24 331 ⇑P Pn 05 18 48.9 -0.5
baz=19,SNR=17
LPM Los Pinos Moun 19.31 332 eP Pn 05 18 49.9 -0.3
Z20A Nine Sixteen R 19.32 326 ⇓P Pn 05 18 49.9 -0.4
baz=19,SNR=101
X23A Hourglass Bar 19.34 333 ⇑P P 05 18 49.6 +1.1
baz=19
LENM Lemitar 19.34 331 eP Pn 05 18 50.4 -0.3
U30A WK&E Inc. Balk 19.36 348 ⇓P P 05 18 49.5 +0.9
baz=20,SNR=27
U29A Oasis Ranch, S 19.42 346 ⇑P P 05 18 50.1 +0.9
baz=20
GLST Glass 19.45 16 eP P 05 18 49.9 +0.5
V26A Tequesquite Ra 19.50 340 P P 05 18 51.2 +1.1
baz=20,SNR=74
Y21A Point of Rocks 19.55 329 ⇑P Pn 05 18 52.4 -0.7
baz=20,SNR=130
W24A Lazy 6 Ranch, 19.56 336 ⇓P P 05 18 52.0 +1.1
baz=20,SNR=56
U28A Mallet 19.58 344 ⇓P P 05 18 51.3 +0.3
baz=20,SNR=51
SWET Sewanee 19.59 24 eP P 05 18 50.0 -1.0
comp=Z,74nm,0.9s
LAZ Ladron 19.61 331 eP Pn 05 18 53.5 -0.3
X22A Bernardo 19.64 331 ⇓P Pn 05 18 53.5 -0.6
baz=20,SNR=28
PBMO Poplar Bluff 19.67 13 eP P 05 18 51.5 -0.3
comp=Z,121nm,1.0s
WVT Waverly 19.73 19 eP P 05 18 51.4 -1.1
WVT pmax pmax
comp=Z,58nm,0.9s
WVT Waverly 19.73 19 eP P 05 18 51.4 -1.1
comp=Z,58nm,0.9s
T31A Randall Ranch, 19.74 351 ⇑P P 05 18 53.1 +0.5
baz=20,SNR=19
ANMO Albuquerque 19.76 333 eP Pn 05 18 54.4 -1.1
comp=Z,29nm,0.8s
ANMO Albuquerque 19.76 333 P Pn 05 18 54.4 -1.1
comp=Z,1.5nm,0.3s,baz=146,slow=12,SNR=81
U27A Thompson Grove 19.78 343 ⇓P P 05 18 53.7 +0.5
baz=20,SNR=68
W23A Werner Place, 19.82 334 P Pn 05 18 55.0 -1.1
baz=20,SNR=63
Y20A Horse Springs, 19.82 327 P Pn 05 18 55.5 -0.8
baz=20,SNR=54
T30A Plains 19.84 349 ⇓P P 05 18 54.5 +0.7
baz=20,SNR=16
X21A Alamocita Cree 19.96 330 ⇓P Pn 05 18 57.0 -0.9
baz=20,SNR=298
V24A Rampart Ranch, 19.96 337 ⇓P P 05 18 56.4 +1.1
baz=20,SNR=80
TUC Tucson 20.00 320 eP Pn 05 18 57.5 -0.8
TUC pmax pmax
comp=Z,106nm,1.0s
TUC Tucson 20.00 320 eP Pn 05 18 57.5 -0.8
comp=Z,106nm,1.0s
U26A Atchley Ranch, 20.03 341 ⇓P P 05 18 56.6 +0.6
baz=20,SNR=74
W22A Albuquerque 20.05 332 ⇑P Pn 05 18 57.6 -1.3
baz=20
T29A Hugoton 20.10 347 P P 05 18 57.2 +0.7
baz=20,SNR=20
S31A Mullinville 20.22 351 P P 05 18 58.2 +0.3
baz=20,SNR=12
U25A Circle Dot Ran 20.25 339 ⇓P P 05 18 59.2 +0.8
baz=20,SNR=43
T28A Walsh 20.25 345 P P 05 18 58.5 +0.2
baz=20,SNR=32
V23A Ortiz Mt. (NFS 20.33 335 ⇓P P 05 19 00.5 +1.2
baz=20,SNR=50
T27A Campo 20.36 344 P P 05 18 59.8 +0.4
baz=20,SNR=43
CPCT Cooper Cave 20.37 27 eP P 05 18 59.3 -0.2
X20A Quemado 20.38 328 ⇓P Pn 05 19 01.6 -1.3
baz=20,SNR=125
S30A Montezuma 20.40 349 P P 05 19 00.4 +0.6
baz=20,SNR=24
W21A San Fidel 20.44 331 ⇑P P 05 19 01.9 +1.5
baz=20,SNR=14
S29A Ulysses 20.51 348 P P 05 19 01.3 +0.3
baz=21,SNR=44
U24A Moreno Valley 20.57 338 ⇑P P 05 19 03.0 +1.2
baz=21,SNR=19
S28A Manter 20.65 346 P P 05 19 02.9 +0.3
baz=21,SNR=14
T26A Comanche Natio 20.71 342 P P 05 19 04.2 +1.0
baz=21,SNR=26
V22A San Miguel Ran 20.78 334 ⇓P P 05 19 05.1 +1.0
baz=21,SNR=60
SIUC Southern Illin 20.84 15 eP P 05 19 04.1 -0.3
comp=Z,131nm,1.0s
U23A El Rito 20.84 336 ⇓P P 05 19 05.8 +1.0
baz=21,SNR=86
W20A Ramah 20.85 329 ⇓P P 05 19 06.4 +1.5
baz=21,SNR=39
TKL Tuckaleechee C 20.88 28 eP P 05 19 05.7 +0.7
TKL eS S 05 22 50.8 -1.2
TKL Tuckaleechee C 20.88 28 P P 05 19 03.8 -1.1
comp=Z,17nm,0.5s,baz=187,slow=9.8,SNR=52
TKL S S 05 22 50.8 -1.2
comp=Z,5.8nm,0.7s,baz=122,slow=19,SNR=2.5
TKL LR LR 05 28 38.8
comp=Z,114nm,19.4s,baz=252,slow=41
T25A Trinidad 20.93 340 ⇓P P 05 19 06.9 +1.2
baz=21,SNR=36
S27A Las Animas 20.99 344 ⇑P P 05 19 07.0 +0.7
baz=21
R30A Dighton 21.00 350 P P 05 19 07.2 +1.0
baz=21,SNR=31
V21A Milan 21.00 332 ⇓P P 05 19 07.6 +1.1
baz=21,SNR=16
214A Organ Pipe Nat 21.07 316 P P 05 19 08.7 +1.7
baz=21,SNR=69
X18A Snowflake 21.13 326 P P 05 19 09.7 +1.9
baz=21,SNR=89
U22A Llaves 21.15 334 ⇓P P 05 19 09.3 +1.2
baz=21,SNR=36
T24B San Luis 21.19 338 ⇓P P 05 19 09.7 +1.2
baz=21,SNR=31
R29A Marienthal 21.29 348 ⇓P P 05 19 10.5 +1.2
baz=21,SNR=8.5
R28A Tribune 21.35 347 ⇓P P 05 19 10.4 +0.4
baz=22,SNR=21
V20A Brimhall 21.38 330 ⇓P P 05 19 11.5 +1.0
baz=21,SNR=42
T23A Casias Ranch, 21.40 337 P P 05 19 12.3 +1.5
baz=22,SNR=26
S25A Robets Cordova 21.41 341 P P 05 19 12.2 +1.4
baz=22,SNR=36
KSU1 Kansas State U 21.44 358 eP P 05 19 10.5 -0.4
W18A Petrified Fore 21.47 327 ⇑P P 05 19 13.1 +1.7
baz=22
USIN University of 21.48 18 eP P 05 19 10.1 -1.2
comp=Z,98nm,0.6s
R27A Eads 21.53 345 P P 05 19 11.8 -0.1
baz=22,SNR=39
U21A Nageezi 21.53 333 ⇑P P 05 19 13.6 +1.5
baz=22,SNR=63
Q31A Ellis 21.57 352 ⇓P P 05 19 13.1 +0.8
baz=22,SNR=14
S24A Houchin Ranch, 21.65 339 ⇑P P 05 19 15.1 +1.7
baz=22,SNR=17
KMSC Kings Mountain 21.66 33 eP P 05 19 12.1 -1.1
comp=Z,1μm,1.1s
KMSC Kings Mountain 21.66 33 ⇓P P 05 19 11.3 -2.0
baz=22,SNR=6.9
Q29A Oakley 21.71 349 ⇓P P 05 19 15.1 +1.3
baz=22,SNR=8.2
R26A Arlington 21.71 343 ⇓P P 05 19 15.0 +1.1
baz=22,SNR=71
TZTN Tazewell 21.72 27 eP P 05 19 12.8 -1.1
comp=Z,99nm,0.8s
T22A Edith 21.72 335 ⇓P P 05 19 15.6 +1.5
baz=22,SNR=43
R25A Fountain Ranch 21.81 342 P P 05 19 16.4 +1.5
baz=22,SNR=67
SDCO Great Sand Dun 21.84 339 eP P 05 19 16.7 +1.2
comp=Z,30nm,0.8s
U20A Newcomb 21.88 331 ⇓P P 05 19 17.1 +1.4
baz=22,SNR=21
X16A Lo Mia Camp, P 21.88 323 P P 05 19 17.4 +1.7
baz=22,SNR=140
T21A Navajo Lake 21.96 334 ⇓P P 05 19 18.0 +1.4
baz=22,SNR=12
S23A Nye Farm, Mont 21.98 338 ⇑P P 05 19 18.4 +1.5
baz=22,SNR=6.6
Q28A Sharon Springs 22.05 347 ⇑P P 05 19 18.2 +0.8
baz=22,SNR=12
Z14A Wintersburg 22.06 319 P P 05 19 19.2 +1.7
baz=22,SNR=9.2
P31A Stockton 22.08 352 ⇓P P 05 19 18.2 +0.6
baz=22,SNR=29
WCI Wyandotte Cave 22.15 20 eP P 05 19 16.8 -1.6
WCI pmax pmax
comp=Z,91nm,0.8s
WCI Wyandotte Cave 22.15 20 eP P 05 19 16.8 -1.6
comp=Z,91nm,0.8s
R24A Sanders Place, 22.15 340 P P 05 19 20.1 +1.5
baz=22,SNR=52
KSCO Kaye Shedlock' 22.18 346 eP P 05 19 19.5 +0.7
comp=Z,218nm,0.7s
KSCO Kaye Shedlock' 22.18 346 ⇑P P 05 19 19.7 +0.9
baz=22,SNR=13
113A Mohawk Valley, 22.21 316 P P 05 19 20.4 +1.3
baz=22,SNR=19
P30A Selden 22.22 351 ⇑P P 05 19 19.4 +0.2
baz=22,SNR=9.2
Q26A Hugo 22.32 344 ⇓P P 05 19 20.8 +0.4
baz=22,SNR=38
S22A 4UR Ranch, Cre 22.33 336 ⇓P P 05 19 21.6 +1.0
baz=22,SNR=11
R23A Moffat 22.35 339 ⇑P P 05 19 21.7 +0.8
baz=22,SNR=32
P29A Atwood 22.39 349 ⇓P P 05 19 21.5 +0.5
baz=22
SPIG San Pedro Mart 22.39 310 i P P 05 19 22.7 +1.3
SPIG San Pedro Mart 22.39 310 i P P 05 19 22.7 +1.3
Y14A Wickenburg 22.48 320 P P 05 19 23.3 +1.4
baz=22,SNR=56
Q25A Bedland, Calha 22.51 342 ⇑P P 05 19 23.4 +1.0
baz=23,SNR=21
P28A Saint Francis 22.52 348 ⇓P P 05 19 23.3 +0.9
baz=23,SNR=15
MVCO Mesa Verde 22.56 333 eP P 05 19 23.4 +0.5
comp=Z,40nm,0.8s
MVCO Mesa Verde 22.56 333 ⇑P P 05 19 23.5 +0.6
baz=23,SNR=51
S21A Coal Bank Pass 22.64 334 ⇓P P 05 19 24.8 +1.0
baz=23,SNR=27
WUAZ Wupatki 22.64 325 eP P 05 19 25.3 +1.6
comp=Z,77nm,0.9s
WUAZ Wupatki 22.64 325 P P 05 19 25.5 +1.8
baz=23,SNR=79
P27A Ficken Ranch, 22.68 346 ⇑P P 05 19 25.0 +1.0
baz=23,SNR=33
R22A Saguache, Gunn 22.72 337 ⇑P P 05 19 25.9 +1.3
baz=23,SNR=26
O30A MW Ranch, Wils 22.82 351 P P 05 19 25.4 +0.2
baz=23,SNR=33
Q24A Divide 22.83 341 ⇓P P 05 19 26.8 +1.1
baz=23,SNR=19
P26A Davis Ranch, A 22.87 345 P P 05 19 26.9 +0.9
baz=23,SNR=21
O29A 4D Ranch, Culb 22.88 350 ⇑P P 05 19 25.9 0.0
baz=23,SNR=14
BLO Bloomington 22.94 19 eP P 05 19 25.4 -1.0
BLO pmax pmax
comp=Z,238nm,1.5s
BLO Bloomington 22.94 19 eP P 05 19 25.4 -1.0
comp=Z,214nm,1.5s
Q23A Hartsel 23.00 339 P P 05 19 28.6 +1.3
baz=23,SNR=19
S20A Disappointment 23.02 334 ⇓P P 05 19 28.7 +1.3
baz=23,SNR=24
P25A Willow Gulch B 23.05 343 ⇓P P 05 19 28.4 +0.8
baz=23,SNR=21
GLA Glamis 23.09 315 eP P 05 19 29.9 +2.0
GLA pmax pmax
comp=Z,84nm,0.8s
GLA Glamis 23.09 315 eP P 05 19 29.9 +2.0
comp=Z,21nm,0.8s
GLA Glamis 23.09 315 ⇓P P 05 19 29.5 +1.5
baz=23,SNR=32
P24A Kohler Place, 23.26 342 ⇓P P 05 19 30.7 +1.0
baz=23,SNR=8.7
O27A Beecher Island 23.27 347 ⇑P P 05 19 30.1 +0.5
baz=23,SNR=29
Y12C Blythe 23.31 317 ⇑P P 05 19 31.6 +1.6
baz=23,SNR=12
R20A Redvale 23.33 334 ⇓P P 05 19 31.6 +1.3
baz=23,SNR=33
Q22A Crested Butte, 23.34 337 ⇑P P 05 19 31.6 +1.1
baz=23,SNR=25
PDMCI Parker Dam,Lak 23.42 319 ⇑P P 05 19 32.5 +1.6
baz=24,SNR=28
P23A Jefferson 23.42 340 P P 05 19 33.2 +1.8
baz=24,SNR=56
O26A Horse Wrangler 23.51 345 ⇓P P 05 19 33.2 +1.3
baz=24,SNR=13
N29A Votaw Ranch, W 23.53 351 ⇓P P 05 19 32.9 +1.0
baz=24,SNR=14
Q21A Lamborn Mesa, 23.56 336 ⇑P P 05 19 33.6 +1.2
baz=24,SNR=6.5
O25A Wiggins 23.59 344 ⇓P P 05 19 33.6 +0.9
baz=24
SMCO Snowmass 23.64 338 eP P 05 19 34.7 +1.3
comp=Z,38nm,1.1s
SWSC Sam W. Stewart 23.68 314 ⇑P P 05 19 35.2 +1.9
baz=24,SNR=9.8
BLA Blacksburg 23.73 32 eP P 05 19 32.3 -1.5
BLA pmax pmax
comp=Z,66nm,1.0s
BLA Blacksburg 23.73 32 eP P 05 19 32.2 -1.5
comp=Z,66nm,1.0s
DVTC Desert V Tower 23.73 313 ⇓P P 05 19 35.9 +2.1
baz=24,SNR=5.2
ISCO Idaho Springs 23.74 341 eP P 05 19 35.3 +1.1
ISCO pmax pmax
comp=Z,27nm,0.7s
ISCO Idaho Springs 23.74 341 eP P 05 19 35.3 +1.1
comp=Z,27nm,0.7s
ISCO Idaho Springs 23.74 341 ⇓P P 05 19 35.1 +1.0
baz=24,SNR=56
W13A Hualapai Mount 23.79 321 ⇑P P 05 19 36.1 +1.5
baz=24
U15A North Rim 23.81 325 P P 05 19 36.5 +1.7
baz=24,SNR=106
BGNE Belgrade 23.82 355 eP P 05 19 35.2 +0.6
comp=Z,2μm,1.4s
BGNE Belgrade 23.82 355 ⇓P P 05 19 35.1 +0.6
baz=24,SNR=5.5
BC3 Big Chuckawall 23.87 316 P P 05 19 36.7 +1.6
baz=24,SNR=98
O24A Longmont 23.87 342 P P 05 19 36.5 +1.3
baz=24,SNR=10
N27A Anderson Farm, 23.87 347 ⇓P P 05 19 36.0 +1.0
baz=24,SNR=26
SFIN Scholer Farm 23.89 16 eP P 05 19 34.3 -0.8
comp=Z,236nm,0.6s
SFIN Scholer Farm 23.89 16 P P 05 19 34.5 -0.7
baz=24,SNR=7.3
OGNE Ogallala 23.90 348 ⇓P P 05 19 36.3 +1.0
baz=24,SNR=18
P22A Eagle 23.93 339 ⇓P P 05 19 36.6 +0.8
baz=24,SNR=68
Q20A Ridgley Place, 23.95 335 P P 05 19 37.6 +1.8
baz=24,SNR=12
IRM Iron Mountain 23.98 317 ⇑P P 05 19 37.7 +1.6
baz=24,SNR=61
N26A Koester Ranch, 24.04 346 ⇓P P 05 19 37.9 +1.2
baz=24,SNR=14
MONP Monument Peak 24.08 313 ⇓P P 05 19 39.2 +2.0
baz=24,SNR=51
P21A Newcastle 24.12 337 P P 05 19 39.0 +1.6
baz=24,SNR=29
M30A Dale-Ortello V 24.13 352 ⇑P P 05 19 37.8 +0.5
baz=24
BAR Barrett 24.14 312 eP P 05 19 39.5 +2.0
comp=Z,11nm,1.0s
M29A Burnside Ranch 24.15 351 ⇑P P 05 19 38.3 +0.7
baz=24,SNR=17
OTAV Otavalo 24.20 134 eP P 05 19 42.7 +4.0
OTAV epP pP 05 20 01.7 +0.8
O23A Lake Granby, G 24.21 341 ⇑P P 05 19 39.2 +0.9
baz=24,SNR=36
M28A Bar X Bar Ranc 24.21 350 ⇑P P 05 19 40.1 +1.9
baz=24
N25A Grover 24.24 344 ⇓P P 05 19 39.2 +0.7
baz=24
SCIA State Center 24.32 5 eP P 05 19 39.0 -0.1
comp=Z,92nm,0.6s
SCIA epP pP 05 20 04.2 +2.9
O22A Kremmling 24.37 340 P P 05 19 40.6 +0.8
baz=24,SNR=28
EML El Monte Cty P 24.38 313 epP pP 05 20 06.3 +4.4
EML esP sP 05 20 15.3 +1.0
BELC Belle Mtn. Jos 24.43 316 ⇓P P 05 19 42.2 +1.8
baz=24,SNR=31
ROSC El Rosal 24.45 119 eP P 05 19 46.3 +5.4
ROSC eScS ScS 05 30 31.2 -4.1
ROSC El Rosal 24.45 119 P P 05 19 46.3 +5.4
comp=Z,3.7nm,0.4s,baz=302,slow=22,SNR=4.2
ROSC LR LR 05 30 31.2
comp=Z,56nm,21.3s,baz=354,slow=39
P20A De Beque 24.45 336 ⇓P P 05 19 41.5 +1.0
baz=24,SNR=28
N24A Carr 24.47 343 ⇓P P 05 19 41.7 +1.2
baz=25,SNR=11
PFO Pinyon Flat Ob 24.51 315 P P 05 19 43.3 +2.3
comp=Z,378nm,0.9s,SNR=13
PFO Pinyon Flat Ob 24.51 315 eP P 05 19 43.1 +2.1
comp=Z,63nm,0.9s
PFO Pinyon Flat Ob 24.51 315 P P 05 19 43.1 +2.1
comp=Z,51nm,0.9s,baz=118,slow=7.5,SNR=51
PFO LR LR 05 29 50.8
comp=Z,149nm,20.1s,baz=108,slow=37
PFO Pinyon Flat Ob 24.51 315 ⇓P P 05 19 43.1 +2.1
baz=24,SNR=32
M27A Reverse DX Ran 24.53 348 ⇑P P 05 19 42.2 +1.1
baz=25
KNB Kanab 24.54 325 eP P 05 19 43.0 +1.8
KNB pmax pmax
comp=Z,62nm,0.8s
KNB Kanab 24.54 325 eP P 05 19 43.0 +1.8
comp=Z,62nm,0.8s
109C Camp Elliot, M 24.56 312 ⇓P P 05 19 42.9 +1.7
baz=25,SNR=11
M26A McRoberts Ranc 24.63 346 ⇑P P 05 19 43.2 +1.2
baz=25
GMRC Granite Mounta 24.69 318 ⇓P P 05 19 44.5 +1.9
baz=25,SNR=26
L29A Maesberg Ranch 24.73 351 ⇑P P 05 19 43.6 +0.8
baz=25
O21A Pagoda 24.73 338 ⇑P P 05 19 44.1 +1.1
baz=25,SNR=9.2
P19A Cripple Cowboy 24.80 335 ⇓P P 05 19 44.7 +1.0
baz=25,SNR=7.8
M25A Palm-Egli Farm 24.82 345 ⇓P P 05 19 44.8 +1.1
baz=25,SNR=21
N23A Red Feather La 24.84 341 ⇓P P 05 19 45.0 +0.9
baz=25,SNR=20
N22A Wattenberg Ran 24.92 340 ⇑P P 05 19 45.7 +1.0
baz=25,SNR=16
O20A White River Ci 24.95 337 eP P 05 19 46.5 +1.5
comp=Z,609nm,0.9s
O20A White River Ci 24.95 337 ⇑P P 05 19 46.0 +1.1
baz=25,SNR=11
BHU Blowhard Mount 24.98 326 eP P 05 19 45.0 -0.5
MURC Murrieta 25.02 314 ⇑P P 05 19 47.5 +2.0
baz=25,SNR=15
SRU San Rafael 25.02 332 eP P 05 19 46.7 +1.0
SRU San Rafael 25.02 332 eP P 05 19 46.7 +1.0
M24A Cheyenne 25.05 344 ⇑P P 05 19 47.0 +1.2
baz=25,SNR=20
PHWY Pilot Hill 25.07 342 eP P 05 19 47.6 +1.4
comp=Z,26nm,1.0s
HEC Hector,Ludlow 25.16 317 P P 05 19 48.6 +1.9
baz=25,SNR=6.4
L26A Underwood Farm 25.16 347 ⇑P P 05 19 48.1 +1.3
baz=25
Q16A Castle Valley 25.16 331 eP P 05 19 48.4 +1.4
Q16A Castle Valley 25.16 331 P P 05 19 48.5 +1.6
baz=25,SNR=26
BBRC Big Bear Solar 25.21 315 ⇑P P 05 19 49.9 +2.4
baz=25,SNR=12
N21A Black Mountain 25.23 339 ⇑P P 05 19 49.2 +1.6
baz=25,SNR=31
TUQ Turquoise Moun 25.27 319 P P 05 19 50.0 +2.1
baz=25,SNR=35
M23A Laramie 25.30 342 ⇑P P 05 19 49.4 +1.2
baz=25
K29A Lazy Trails An 25.39 352 ⇓P P 05 19 49.9 +1.1
baz=26,SNR=9.5
JSRW J. Sargeant Re 25.41 34 eP P 05 19 47.5 -1.5
JSRW epP pP 05 20 11.6 -0.1
O19A Miners Draw (B 25.43 336 P P 05 19 50.4 +1.1
baz=26,SNR=17
L25A Engebretsen Ra 25.48 346 ⇑P P 05 19 50.9 +1.2
baz=26,SNR=6.4
SHPR Sheep Range 25.50 321 eP P 05 19 51.5 +1.5
M22A Cedar Creek Ra 25.50 341 ⇑P P 05 19 51.4 +1.4
baz=26,SNR=22
N20A Spence Gulch, 25.56 338 ⇑P P 05 19 51.7 +1.1
baz=26,SNR=26
L24A Wheatland 25.61 344 ⇓P P 05 19 52.1 +1.2
baz=26,SNR=14
RRX Edison Barstow 25.62 316 ⇓P P 05 19 53.0 +2.1
baz=26
SCI San Clemente I 25.63 311 ⇑P P 05 19 52.9 +1.9
baz=26
K27A Flueckinger Fa 25.64 349 ⇑P P 05 19 52.1 +1.0
baz=26,SNR=14
WCU Willow Creek 25.64 329 eP P 05 19 52.4 +1.0
JFWS Jewell Farm 25.66 9 eP P 05 19 50.1 -1.0
JFWS pmax pmax
comp=Z,68nm,0.6s
JFWS Jewell Farm 25.66 9 eP P 05 19 50.1 -1.0
comp=Z,68nm,0.6s
BFSC Mount Baldy Ra 25.69 314 ⇑P P 05 19 53.3 +1.5
baz=26,SNR=12
GSC Goldstone 25.75 317 eP P 05 19 54.0 +1.8
GSC pmax pmax
comp=Z,25nm,1.0s
GSC Goldstone 25.75 317 eP P 05 19 54.0 +1.8
comp=Z,6.1nm,1.0s
GSC Goldstone 25.75 317 ⇓P P 05 19 54.1 +1.9
baz=26,SNR=12
CIS Catalina Islan 25.75 312 ⇓P P 05 19 53.8 +1.6
baz=26,SNR=11
SHOC Shoshone 25.79 319 ⇑P P 05 19 53.9 +1.5
baz=26,SNR=5.0
K26A Motz Farm, Whi 25.82 347 ⇑P P 05 19 53.4 +0.7
baz=26
FMP Fort Macarthur 25.84 313 ⇓P P 05 19 55.1 +2.2
baz=26
SDV Santo Domingo 25.87 106 eP P 05 19 53.6 +0.1
comp=Z,11nm,1.3s
K25A Mack Ranch, Ha 25.89 346 ⇑P P 05 19 54.2 +0.8
baz=26,SNR=7.3
L23A Garrett 25.89 343 P P 05 19 54.8 +1.3
baz=26,SNR=52
M21A Separation Pea 25.94 340 ⇓P P 05 19 55.4 +1.4
baz=26,SNR=43
MWC Mount Wilson 25.96 314 eP P 05 19 56.3 +2.1
MWC pmax pmax
comp=Z,47nm,1.1s
MWC Mount Wilson 25.96 314 eP P 05 19 56.2 +2.1
comp=Z,47nm,1.1s
RWWY Rawlins 25.96 340 eP P 05 19 56.1 +1.9
comp=Z,72nm,0.9s
PASC Pasadena Art C 26.02 314 eP P 05 19 56.5 +2.0
comp=Z,48nm,1.5s
L22A Ellis Ranch, M 26.03 342 ⇓P P 05 19 56.2 +1.5
baz=26,SNR=7.9
CBN Corbin 26.06 34 eP P 05 19 53.8 -1.0
comp=Z,78nm,1.0s
ECSD EROS Data Cent 26.07 358 eP P 05 19 54.7 -0.2
comp=Z,53nm,0.8s
M20A Sweetwater, Wa 26.11 338 ⇓P P 05 19 56.7 +1.2
baz=26,SNR=10
J27A Elkhorn Farm, 26.13 350 ⇑P P 05 19 56.8 +1.3
baz=26,SNR=7.3
DECC Green Verdugo 26.16 314 ⇓P P 05 19 57.8 +2.0
baz=26
J28A Allard Ranch, 26.17 351 ⇑P P 05 19 56.8 +1.0
baz=26,SNR=6.4
K24A Anderson Ranch 26.22 345 ⇑P P 05 19 57.5 +1.1
baz=26

L21A	**Rawlins**	26.26	340	P	P	05 19 57.9 +1.0
	baz=26,SNR=31					
EDW2	**Edwards Air Fo**	26.28	315	⇑P	P	05 19 58.7 +1.7
	baz=26,SNR=9.1					
J26A	**Sides Ranch, S**	26.39	348	⇓P	P	05 19 58.9 +1.1
	baz=26,SNR=15					
DAU	**Daniels Canyon**	26.41	333	eP	P	05 20 00.3 +1.9
DAU	**Daniels Canyon**	26.41	333	eP	P	05 20 00.3 +1.9
LRMC	**Laurel Mountai**	26.43	317	⇑P	P	05 20 00.3 +1.9
	baz=26					
K23A	**Bowen Ranch, D**	26.46	343	P	P	05 19 59.9 +1.3
	baz=27,SNR=14					
M19A	**Rock Springs**	26.48	337	⇑P	P	05 20 00.4 +1.6
	baz=27					
FURC	**Furnace Creek,**	26.52	319	⇑P	P	05 20 01.1 +2.2
	baz=26,SNR=14					
BLG	**Laguna Peak**	26.59	313	⇑P	P	05 20 01.9 +2.2
	baz=27					
J25A	**Sunshine Ranch**	26.61	347	⇓P	P	05 20 00.8 +0.9
	baz=27,SNR=5.0					
K22A	**Casper**	26.62	342	eP	P	05 20 01.3 +1.3
	comp=Z,1μm,1.0s					
K22A	**Casper**	26.62	342	⇑P	P	05 20 00.8 +0.8
	baz=27,SNR=18					
L20A	**Wamsutter**	26.62	339	P	P	05 20 00.8 +0.7
	baz=27,SNR=14					
OSI	**Osito Adit**	26.63	314	eP	P	05 20 02.2 +2.1
	comp=Z,15nm,1.3s					
OSI	**Osito Adit**	26.63	314	⇓P	P	05 20 01.6 +1.6
	baz=27					
MPMC	**Manual Prospec**	26.66	318	P	P	05 20 01.9 +1.4
	baz=27,SNR=20					
I28A	**Midland**	26.72	351	P	P	05 20 01.5 +0.7
	baz=27,SNR=8.3					
K21A	**Alcova**	26.83	341	P	P	05 20 03.1 +1.2
	baz=27,SNR=11					
I27A	**Quinn**	26.93	350	P	P	05 20 03.8 +1.2
	baz=27,SNR=10.0					
DUG	**Dugway**	26.95	330	eP	P	05 20 05.3 +2.3
DUG				pmax	pmax	
	comp=Z,43nm,1.7s					
DUG	**Dugway**	26.95	330	eP	P	05 20 05.3 +2.3
	comp=Z,43nm,1.7s					
DUG				epP	pP	05 20 19.3 -6.4
DUG	**Dugway**	26.95	330	⇑P	P	05 20 04.8 +1.8
	baz=27,SNR=7.4					
ARVC	**Arvin**	26.99	315	⇓P	P	05 20 05.1 +1.9
	baz=27,SNR=5.4					
R11A	**Troy Canyon, C**	27.02	324	eP	P	05 20 05.3 +1.7
	comp=Z,53nm,0.9s					
R11A	**Troy Canyon, C**	27.02	324	⇓P	P	05 20 05.3 +1.7
	baz=27,SNR=14					
I26A	**New Underwood**	27.04	349	⇑P	P	05 20 04.9 +1.3
	baz=27					
M17A	**Scullys Gap (B**	27.04	335	⇓P	P	05 20 04.5 +0.6
	baz=27,SNR=7.6					
J23A	**Dilts Ranch, B**	27.05	344	⇓P	P	05 20 05.2 +1.4
	baz=27					
ISA	**Isabella**	27.06	316	eP	P	05 20 06.3 +2.4
ISA				pmax	pmax	
	comp=Z,22nm,1.0s					
ISA	**Isabella**	27.06	316	eP	P	05 20 06.3 +2.4
	comp=Z,5.3nm,1.0s					
ISA	**Isabella**	27.06	316	⇓P	P	05 20 05.9 +1.9
	baz=27					
L19A	**Farson**	27.07	337	P	P	05 20 05.2 +1.1
	baz=27,SNR=6.9					
GRAC	**Grapevine Rang**	27.17	320	⇑P	P	05 20 06.7 +1.8
	baz=27,SNR=15					
L18A	**Fontenelle, Gr**	27.17	336	⇑P	P	05 20 05.7 +0.6
	baz=27,SNR=12					
I25A	**Rochford**	27.20	347	⇑P	P	05 20 06.5 +1.3
	baz=27					
K20A	**Yellowstone Ra**	27.20	339	P	P	05 20 05.7 +0.4
	baz=27,SNR=16					
SBC	**Santa Barbara**	27.23	313	⇑P	P	05 20 07.0 +1.7
	baz=27					
I24A	**Kuemmerle Ranc**	27.25	346	⇓P	P	05 20 06.3 +0.7
	baz=27					
CWC	**Cottonwood Cre**	27.27	318	⇑P	P	05 20 07.9 +2.0
	baz=27					
J22A	**Midwest**	27.31	343	P	P	05 20 07.2 +1.0
	baz=27,SNR=25					
H27A	**Howes**	27.48	350	⇓P	P	05 20 08.6 +1.0
	baz=28					
K19A	**Absolon Red Bu**	27.52	339	⇓P	P	05 20 08.4 +0.3
	baz=28,SNR=25					
J21A	**Lysite**	27.53	341	⇑P	P	05 20 09.3 +1.1
	baz=28,SNR=46					
PKM	**Peak Mountain**	27.54	313	⇓P	P	05 20 10.1 +1.7
	baz=28					
I23A	**Meade Ranch, G**	27.55	345	⇑P	P	05 20 09.7 +1.4
	baz=28					
VES	**Vestal, Richgr**	27.57	316	⇑P	P	05 20 10.4 +2.0
	baz=28,SNR=11					
H26A	**Fairpoint**	27.59	349	⇑P	P	05 20 09.3 +0.8
	baz=28,SNR=7.1					
SSPA	**Standing Stone**	27.63	30	eP	P	05 20 07.0 -1.8
	comp=Z,42nm,1.1s					
SPMN	**St. Paul**	27.65	4	eP	P	05 20 08.2 -0.9
	comp=Z,154nm,0.4s					
SPMN	**St. Paul**	27.65	4	P	P	05 20 08.3 -0.7
	baz=28,SNR=30					
BW06	**Boulder Array**	27.72	338	eP	P	05 20 10.4 +0.5
PD31	**Pinedale Array**	27.72	338	eP	P	05 20 10.3 +0.4
PDAR	**Pinedale Array**	27.72	338	P	P	05 20 10.3 +0.4
PDAR	**Pinedale Array**	27.72	338	P	P	05 20 10.3 +0.4
	comp=Z,9.1nm,0.9s,baz=139,slow=9.4,SNR=60					
TIN	**Tinemaha**	27.74	319	⇑P	P	05 20 12.0 +2.0
	baz=28					
J20A	**Shoshoni**	27.74	340	P	P	05 20 11.6 +1.6
	baz=28,SNR=19					
G28A	**Parade**	27.74	352	⇑P	P	05 20 10.6 +0.7
	baz=28					
H25A	**Fruitdale**	27.75	348	⇑P	P	05 20 11.2 +1.2
	baz=28,SNR=7.9					
I22A	**9 Mile Ranch,**	27.75	343	P	P	05 20 11.4 +1.3
	baz=28,SNR=9.9					
SMMC	**Simmler**	27.89	314	⇓P	P	05 20 13.3 +2.0
	baz=28,SNR=5.3					
I21A	**Big Trails, Te**	27.91	342	P	P	05 20 12.7 +1.2
	baz=28,SNR=18					
RCTC	**Rector, Farmer**	27.94	316	⇑P	P	05 20 13.6 +1.9
	baz=28,SNR=5.4					
J19A	**Crowheart**	27.98	339	⇓P	P	05 20 12.6 +0.4
	baz=28,SNR=12					
H24A	**Dirks Ranch, A**	28.07	347	⇓P	P	05 20 13.8 +0.9
	baz=28,SNR=19					
H23A	**Clabaugh Cattl**	28.09	345	⇓P	P	05 20 13.8 +0.8
	baz=28					
HVU	**Hansel Valley**	28.19	332	eP	P	05 20 16.5 +2.4
HVU				pmax	pmax	
	comp=Z,17nm,1.0s					
HVU	**Hansel Valley**	28.19	332	eP	P	05 20 16.5 +2.4
	comp=Z,14nm,1.0s					
G26A	**Maurine**	28.21	350	⇓P	P	05 20 14.9 +0.8
	baz=28					
G25A	**Newell**	28.26	348	⇓P	P	05 20 15.1 +0.5
	baz=28,SNR=7.5					
I20A	**Worland**	28.29	341	⇓P	P	05 20 15.5 +0.6
	baz=28,SNR=16					
G27A	**Dupree**	28.35	349	P	P	05 20 14.4 -0.9
	baz=28,SNR=9.2					
H22A	**Clearmont**	28.37	344	⇓P	P	05 20 16.3 +0.8
	baz=28,SNR=9.1					
MLAC	**Mammoth Lakes**	28.47	319	⇑P	P	05 20 18.5 +1.8
	baz=28,SNR=5.5					
H21A	**Big Horn, Sher**	28.59	343	P	P	05 20 18.4 +0.9
	baz=29,SNR=22					
G24A	**Alzada**	28.59	347	⇓P	P	05 20 18.8 +1.2
	baz=29					
I18A	**Diamond G Ranc**	28.63	338	P	P	05 20 18.8 +0.8
	baz=29,SNR=13					
I19A	**Meeteetse**	28.64	340	P	P	05 20 19.5 +1.4
	baz=29,SNR=11					
NV01	**Mina Array Sit**	28.65	321	eP	P	05 20 20.4 +2.1
NV01				ePcP	PcP	05 23 27.8 +1.1
NVAR	**Mina Array Bea**	28.65	321	P	P	05 20 20.4 +2.1
NVAR				PcP	PcP	05 23 27.8 +1.1
NVAR	**Mina Array Bea**	28.65	321	P	P	05 20 20.4 +2.1
	comp=Z,20nm,0.8s,baz=131,slow=8.5,SNR=121					
NVAR				PcP	PcP	05 23 27.8 +1.1
	comp=Z,5.1nm,1.1s,baz=148,slow=4.0,SNR=4.5					
G23A	**Biddle**	28.69	346	⇑P	P	05 20 19.0 +0.6
	baz=29,SNR=5.9					
REDW	**Red Top Meadow**	28.71	337	eP	P	05 20 20.0 +1.2
	comp=Z,54nm,1.0s					
H20A	**Greybull**	28.73	342	P	P	05 20 19.8 +1.0
	baz=29,SNR=24					
F26A	**Lodgepole**	28.77	350	⇓P	P	05 20 19.5 +0.6
	baz=29,SNR=8.6					
SNOW	**Snow King Moun**	28.77	337	eP	P	05 20 21.2 +2.0
	comp=Z,80nm,0.9s					
LOHW	**Long Hollow**	28.84	337	eP	P	05 20 20.9 +1.1
	comp=Z,41nm,0.9s					
TPAW	**Teton Pass**	28.86	337	eP	P	05 20 21.4 +1.3
	comp=Z,56nm,1.1s					
RRI2	**Red Ridge**	28.88	336	eP	P	05 20 22.0 +1.7
	comp=Z,59nm,1.1s					
G22A	**Birney**	28.93	344	P	P	05 20 21.3 +0.8
	baz=29,SNR=20					
COWI	**Conover**	28.94	9	eP	P	05 20 19.9 -0.6
	comp=Z,36nm,0.8s					
F25A	**Bowman**	28.98	349	⇑P	P	05 20 21.6 +0.8
	baz=29					
MOOW	**Moose Ponds**	29.01	337	eP	P	05 20 22.5 +1.2
	comp=Z,28nm,0.9s					
E29A	**Napoleon**	29.07	354	⇓P	P	05 20 22.1 +0.4
	baz=29					
I17A	**Pilgrim Ck.**	29.09	338	⇓P	P	05 20 23.6 +1.5
	baz=29,SNR=8.1					
F24A	**Ekalaka**	29.09	347	⇑P	P	05 20 22.8 +0.9
	baz=29					
E27A	**Carson**	29.16	352	⇓P	P	05 20 23.6 +1.1
	baz=29,SNR=5.9					
G21A	**Lodge Grass**	29.18	343	P	P	05 20 23.6 +0.9
	baz=29,SNR=15					
F23A	**Volborg**	29.19	346	P	P	05 20 23.6 +0.8
	baz=29,SNR=16					
E28A	**Huff**	29.19	353	⇑P	P	05 20 23.4 +0.7
	baz=29,SNR=11					
IMW	**Indian Meadow**	29.21	337	eP	P	05 20 25.2 +2.0
	comp=Z,19nm,1.0s					
IMW				ePcP	PcP	05 23 29.7 +1.6
H19A	**Powell**	29.21	340	P	P	05 20 24.4 +1.3
	baz=29,SNR=24					
MMNY	**Mt. Morris Dam**	29.27	27	eP	P	05 20 22.2 -1.2
	comp=Z,264nm,1.3s					
FLWY	**Flagg Ranch**	29.28	338	eP	P	05 20 25.7 +2.0
	comp=Z,17nm,0.8s					
E26A	**Carlson Angus**	29.33	350	⇓P	P	05 20 24.9 +0.9
	baz=29,SNR=6.3					
BMN	**Battle Mountai**	29.38	325	eP	P	05 20 26.2 +1.6
BMN				pmax	pmax	
	comp=Z,14nm,1.1s					
BMN	**Battle Mountai**	29.38	325	eP	P	05 20 26.2 +1.6
	comp=Z,14nm,1.1s					
WAKR	**Walker**	29.39	320	eP	P	05 20 28.2 +3.5
I16A	**Newdale**	29.39	336	⇑P	P	05 20 26.1 +1.4
	baz=30					
H18A	**Shoshone NF, C**	29.43	339	P	P	05 20 26.1 +1.0
	baz=30,SNR=53					
F22A	**Rosebud**	29.45	345	P	P	05 20 25.6 +0.6
	baz=30,SNR=7.0					
G20A	**Bridger**	29.46	342	P	P	05 20 25.8 +0.5
	baz=30,SNR=14					
H17A	**Grant Village**	29.50	338	eP	P	05 20 27.6 +1.8
	comp=Z,806nm,1.3s					
H17A				esP	sP	05 21 06.3 +5.6
H17A	**Grant Village**	29.50	338	⇑P	P	05 20 27.0 +1.2
	baz=30,SNR=7.5					
E25A	**Miller Ranch,**	29.52	349	⇓P	P	05 20 26.5 +0.8
	baz=30					
D30A	**Buchanan**	29.54	356	P	P	05 20 25.7 0.0
	baz=30,SNR=6.2					
YFT	**Old Faithful**	29.64	338	eP	P	05 20 30.0 +3.0
	comp=Z,23nm,0.9s					
CMB	**Columbia Colle**	29.69	318	eP	P	05 20 29.1 +1.8
CMB				pmax	pmax	
	comp=Z,24nm,1.5s					
CMB	**Columbia Colle**	29.69	318	eP	P	05 20 29.1 +1.8
	comp=Z,24nm,1.5s					
F21A	**Absaloka Mine,**	29.71	344	⇓P	P	05 20 28.4 +1.1
	baz=30					
BINY	**Binghamton**	29.74	30	eP	P	05 20 26.3 -1.3
	comp=Z,53nm,1.3s					
E24A	**Baker**	29.75	348	⇓P	P	05 20 28.9 +1.2
	baz=30					
D28A	**Regan**	29.79	353	⇓P	P	05 20 28.8 +0.8
	baz=30					
YNR	**Norris Junctio**	29.82	338	eP	P	05 20 31.2 +2.6
	comp=Z,15nm,0.9s					
D27A	**Center**	29.82	352	P	P	05 20 29.1 +0.9
	baz=30,SNR=10					
YMR	**Madison River**	29.88	338	eP	P	05 20 31.4 +2.3
	comp=Z,46nm,0.8s					
E23A	**Ismay**	29.90	347	P	P	05 20 29.7 +0.7
	baz=30,SNR=12					
ATAH	**Atahualpa**	29.94	144	P	P	05 20 32.7 +2.7
ATAH	**Atahualpa**	29.94	144	P	P	05 20 32.7 +2.7
	comp=Z,7.5nm,0.7s,baz=355,slow=7.2,SNR=4.5					
ATAH				LR	LR	05 31 04.5
	comp=Z,168nm,20.9s,baz=355,slow=33					
G18A	**Lazy EL Ranch,**	29.97	340	P	P	05 20 30.8 +1.0
	baz=30,SNR=21					
F20A	**Billings**	29.97	342	P	P	05 20 30.5 +0.8
	baz=30,SNR=21					
E22A	**Miles City**	29.99	346	⇑P	P	05 20 30.3 +0.5
	baz=30,SNR=7.0					
C30A	**Mose, Pekin**	30.11	356	P	P	05 20 30.9 +0.1
	baz=30,SNR=8.2					
PAHR	**Pah Rah Range**	30.12	322	eP	P	05 20 33.6 +2.5
	comp=Z,14nm,0.9s					
D25A	**Fairfield**	30.14	350	⇓P	P	05 20 31.8 +0.7
	baz=30,SNR=6.5					
QLMT	**Earthquake Lak**	30.19	337	eP	P	05 20 34.2 +2.4
F19A	**Roth Farm, Mol**	30.26	341	P	P	05 20 33.1 +0.9
	baz=30,SNR=6.9					
C28A	**Hausauer Farms**	30.28	354	⇓P	P	05 20 32.9 +0.5
	baz=30					
D24A	**Glendive**	30.29	348	⇑P	P	05 20 33.3 +0.9
	baz=30					
MDND	**Maddock**	30.34	355	eP	P	05 20 33.2 +0.5
	comp=Z,774nm,0.6s					
MDND	**Maddock**	30.34	355	P	P	05 20 33.3 +0.5
	baz=30,SNR=9.3					
HLID	**Hailey**	30.34	333	eP	P	05 20 34.4 +1.3
	comp=Z,18nm,0.9s					
HLID	**Hailey**	30.34	333	P	P	05 20 34.8 +1.7
	baz=30,SNR=37					
E21A	**Keefer Ranch,**	30.36	344	P	P	05 20 33.9 +0.8
	baz=30,SNR=8.8					
G17A	**Pierce Place,**	30.37	339	⇓P	P	05 20 34.9 +1.6
	baz=30,SNR=10					
C27A	**Sayler Ranch,**	30.41	352	P	P	05 20 34.2 +0.8
	baz=30,SNR=6.5					
GCMT	**Greycliff**	30.43	341	eP	P	05 20 34.7 +0.9
SADO	**Sadowa**	30.45	24	eP	P	05 20 31.5 -2.2
SADO	**Sadowa**	30.45	24	P	P	05 20 31.5 -2.2
	comp=Z,11nm,0.6s,baz=235,slow=8.9,SNR=33					
EYMN	**Ely**	30.46	6	eP	P	05 20 33.0 -0.9
	comp=Z,22nm,0.8s					
D23A	**Lindsay**	30.52	347	⇑P	P	05 20 35.3 +0.8
	baz=31,SNR=11					
F18A	**Big Timber**	30.54	341	P	P	05 20 35.9 +1.2
	baz=31,SNR=34					
C26A	**Wahner Farm, P**	30.60	352	⇑P	P	05 20 36.1 +0.9
	baz=31					
E20A	**Meyer Farm, Mu**	30.61	343	P	P	05 20 36.4 +1.1
	baz=31,SNR=25					
AGMN	**Agassiz Nation**	30.62	360	eP	P	05 20 34.3 -0.9
	comp=Z,61nm,0.6s					
C24A	**Savage**	30.70	348	⇓P	P	05 20 37.2 +1.2
	baz=31,SNR=11					
D22A	**Cohagen**	30.71	346	P	P	05 20 37.3 +1.2
	baz=31,SNR=30					
MCMT	**McKenzie Canyo**	30.72	336	eP	P	05 20 39.1 +2.6
E19A	**Rath Farm, Rou**	30.76	342	P	P	05 20 37.6 +1.0
	baz=31,SNR=27					
BEKR	**Beckworth**	30.80	321	eP	P	05 20 39.9 +2.7
	comp=Z,8.1nm,1.0s					
D21A	**La Casta Ranch**	30.83	345	⇑P	P	05 20 38.2 +1.0
	baz=31,SNR=9.7					
B30A	**Myrvik Farm, E**	30.85	357	P	P	05 20 37.7 +0.4
	baz=31,SNR=17					
F17A	**Fitzpatrick Pl**	30.85	339	⇑P	P	05 20 38.9 +1.4
	baz=31,SNR=84					
MFID	**Camas Ranch**	30.87	331	⇓P	P	05 20 38.9 +1.2
	baz=31					
B29A	**Wagenman Farm,**	30.93	355	P	P	05 20 38.4 +0.4
	baz=31,SNR=8.5					
B28A	**Dugan Ranch, T**	31.01	354	⇑P	P	05 20 39.4 +0.7
	baz=31,SNR=9.7					
B27A	**Peters Farms,**	31.06	353	⇓P	P	05 20 40.0 +0.8
	baz=31					
DLMT	**Dillon**	31.07	337	eP	P	05 20 41.2 +1.7
	comp=Z,69nm,0.9s					
C23A	**Lambert**	31.11	348	P	P	05 20 41.0 +1.3
	baz=31,SNR=13					
D20A	**Manuel Ranch,**	31.15	343	P	P	05 20 41.1 +1.1
	baz=31,SNR=19					
B26A	**Jensen Ranch,**	31.16	352	⇑P	P	05 20 40.7 +0.7
	baz=31					
E18A	**Harlowton**	31.19	341	P	P	05 20 41.7 +1.2
	baz=31,SNR=36					
B25A	**Knox Farm, Ray**	31.20	350	⇑P	P	05 20 41.3 +0.9
	baz=31					
C22A	**Vida**	31.21	347	⇑P	P	05 20 41.5 +1.0
	baz=31,SNR=31					
LCCM	**Lewis and Clar**	31.21	338	P	P	05 20 42.4 +1.7
A29A	**Manning Farm,**	31.38	356	P	P	05 20 42.2 +0.3
	baz=32,SNR=10					
LRM	**Limekiln Ridge**	31.41	337	eP	P	05 20 44.0 +1.5
D19A	**Cripps Ranch,**	31.42	343	P	P	05 20 43.5 +1.0
	baz=32,SNR=24					
A28A	**Rude Farm, Bot**	31.45	354	P	P	05 20 43.0 +0.4
	baz=32,SNR=12					
WVOR	**Wild Horse Val**	31.54	327	eP	P	05 20 45.3 +1.7
WVOR				pmax	pmax	
	comp=Z,45nm,1.3s					
WVOR	**Wild Horse Val**	31.54	327	eP	P	05 20 45.3 +1.7
	comp=Z,45nm,1.3s					
C21A	**Desert Coulee**	31.56	345	P	P	05 20 45.0 +1.3
	baz=32,SNR=14					
DGMT	**Dagmar**	31.56	349	eP	P	05 20 44.8 +1.1
	comp=Z,27nm,1.0s					
DGMT	**Dagmar**	31.56	349	⇑P	P	05 20 44.3 +0.7
	baz=32					
BBSR	**BB Station**	31.58	56	eP	P	05 20 43.6 -0.3
	comp=Z,35nm,0.9s					
A27A	**Ledoux Ranch,**	31.60	353	⇑P	P	05 20 44.3 +0.4
	baz=32					
A26A	**Wade Farm, Ken**	31.64	352	P	P	05 20 45.1 +0.8
	baz=32,SNR=18					
C20A	**Veseth Ranch,**	31.69	344	P	P	05 20 45.9 +1.2
	baz=32,SNR=16					
B23A	**Brockton**	31.71	348	⇑P	P	05 20 46.0 +1.1
	baz=32,SNR=12					
D18A	**Linhart Farms,**	31.72	342	P	P	05 20 46.3 +1.2
	baz=32,SNR=32					
B22A	**Reddig Ranch S**	31.76	347	⇓P	P	05 20 46.5 +1.1
	baz=32,SNR=11					
A25A	**Svangstu Ranch**	31.84	351	⇓P	P	05 20 46.5 +0.5
	baz=32					
NCB	**Newcomb**	31.93	30	eP	P	05 20 45.1 -1.8
	comp=Z,18nm,1.0s					
HRY	**Holter Researc**	31.95	339	eP	P	05 20 48.4 +1.2
D17A	**Six Diamond Ra**	31.96	341	P	P	05 20 48.5 +1.3
	baz=32,SNR=24					
A24A	**Westby**	31.97	350	P	P	05 20 48.0 +0.9
	baz=32,SNR=9.0					
C19A	**Slack Wire Ran**	31.99	343	P	P	05 20 48.5 +1.0
	baz=32,SNR=14					
PTN	**Potsdam (NY)**	32.03	28	eP	P	05 20 46.4 -1.3
PTN				pmax	pmax	
	comp=Z,85nm,1.5s					
PTN	**Potsdam (NY)**	32.03	28	eP	P	05 20 46.4 -1.3
	comp=Z,85nm,1.5s					
B21A	**Ellsworth Farm**	32.11	346	P	P	05 20 49.5 +1.2
	baz=32,SNR=8.8					
J08A	**Circle Bar Ran**	32.11	328	eP	P	05 20 50.1 +1.5
	comp=Z,66nm,0.9s					
A23A	**Redstone**	32.16	349	⇓P	P	05 20 49.8 +1.0
	baz=32,SNR=7.6					
LONY	**Lake Ozonia**	32.25	29	eP	P	05 20 48.4 -1.3
	comp=Z,16nm,0.7s					
B20A	**Solberg Farm,**	32.36	345	⇓P	P	05 20 51.5 +0.9
	baz=32,SNR=10					
A22A	**Carney Farms,**	32.40	347	⇓P	P	05 20 52.0 +1.1
	baz=32,SNR=12					
MDV	**Middlebury**	32.45	31	eP	P	05 20 49.7 -1.7
EGMT	**Eagleton**	32.45	342	eP	P	05 20 52.5 +1.1
	comp=Z,53nm,1.2s					
EGMT	**Eagleton**	32.45	342	P	P	05 20 52.7 +1.2
	baz=32,SNR=13					
A21A	**Bergtoll Ranch**	32.62	346	⇑P	P	05 20 53.9 +1.0
	baz=33,SNR=15					
B19A	**Brinkman Farms**	32.62	344	P	P	05 20 54.1 +1.2
	baz=33,SNR=22					
CHMT	**Chamberlain Mo**	32.63	337	eP	P	05 20 54.0 +0.8
A20A	**Cobblestone Ra**	32.75	345	P	P	05 20 55.2 +1.2
	baz=33,SNR=12					
MSO	**Missoula**	32.81	337	eP	P	05 20 55.5 +0.9
	comp=Z,36nm,0.9s					
MSO	**Missoula**	32.81	337	P	P	05 20 55.6 +1.0
	baz=33,SNR=36					
FRNY	**Flat Rock**	32.88	30	eP	P	05 20 53.5 -1.6
	comp=Z,23nm,1.2s					
SLMT	**Seeley Lake**	32.99	338	eP	P	05 20 56.8 +0.5
A19A	**Klindworth Far**	33.00	344	P	P	05 20 57.5 +1.3
	baz=33,SNR=13					
I07A	**Izee**	33.15	328	eP	P	05 20 58.2 +0.5
	comp=Z,10nm,0.9s					
LBNH	**Lisbon**	33.25	32	eP	P	05 20 57.5 -0.9
LBNH				pmax	pmax	
	comp=Z,76nm,1.9s					
LBNH	**Lisbon**	33.25	32	eP	P	05 20 57.5 -0.9
	comp=Z,76nm,1.9s					
YBH	**Yreka Blue Hor**	33.35	322	eP	P	05 20 59.5 +0.1
	comp=Z,51nm,2.2s					
YBH	**Yreka Blue Hor**	33.35	322	P	P	05 20 59.5 +0.1
	comp=Z,3.2nm,0.6s,baz=89,slow=3.8,SNR=18					
SWMT	**Swartz Lake**	33.41	337	eP	P	05 21 00.5 +0.6
KHMM	**Horse Mountain**	33.46	320	eP	P	05 21 03.1 +2.7
	comp=Z,27nm,1.1s					
F10A	**Beach Ranch, E**	33.48	332	eP	P	05 21 01.1 +0.6
	comp=Z,72nm,0.8s					
PINOR	**Pine Mountain**	33.67	326	eP	P	05 21 03.4 +1.4
	comp=Z,11nm,1.0s					
YBMT	**Yellow Bay**	33.71	338	eP	P	05 21 03.8 +1.3
JTMT	**Jette**	33.71	337	eP	P	05 21 03.3 +0.8
G08A	**Pilot Rock**	33.76	330	eP	P	05 21 03.6 +0.7
	comp=Z,29nm,1.6s					
BLMT	**Blacktail Moun**	33.96	337	eP	P	05 21 05.7 +1.0
BSMT	**Bassoo Peak**	33.98	337	eP	P	05 21 05.8 +0.9
E09A	**Wood Farm, Sta**	34.30	332	eP	P	05 21 07.8 +0.4
	comp=Z,22nm,1.0s					
G06A	**Carlson Farm,**	34.54	328	eP	P	05 21 10.7 +1.1
	comp=Z,158nm,2.6s					
KBO	**Bosley Butte**	34.54	321	eP	P	05 21 12.6 +2.9
	comp=Z,115nm,1.2s					
WALA	**Waterton Lakes**	34.69	339	eP	P	05 21 11.1 +0.2
HAWA	**Hanford**	34.84	331	eP	P	05 21 12.2 +0.1
	comp=Z,75nm,2.5s					
H04A	**Detroit Lake**	34.96	326	eP	P	05 21 14.2 +1.0
	comp=Z,38nm,0.9s					
D08A	**Wollman Farm,**	35.06	332	eP	P	05 21 14.6 +0.6
	comp

F03A *e*ScS ScS 05 31 33.1 +1.2
D05A Enumclaw 36.58 330 *e*P **P 05 21 28.6 +1.6**
comp=Z,33nm,0.9s
E03A Lebam 36.92 328 *e*P **P 05 21 31.5 +1.7**
comp=Z,56nm,1.1s
RPW Rockport 37.26 331 P **P 05 21 33.3 +0.5**
B06A Marblemount 37.30 331 *e*P **P 05 21 33.7 +0.7**
comp=Z,22nm,0.8s
FFC Flin Flon 37.37 354 P **P 05 21 34.9 +1.4**
comp=Z,207nm,0.7s,SNR=5.5
NLWA Neilton Lookou 37.65 328 *e*P **P 05 21 37.7 +1.7**
comp=Z,50nm,1.1s
A05A Maple Falls 37.92 332 *e*P **P 05 21 38.6 +0.4**
comp=Z,27nm,0.9s
EDM Edmonton 38.13 343 *e*P **P 05 21 40.3 +0.3**
EDM Edmonton 38.13 343 *e*P **P 05 21 40.3 +0.3**
PGC Sidney 38.31 330 *e*P **P 05 21 42.6 +1.1**
SCHQ Schefferville 43.25 24 *e*P **P 05 22 20.6 -1.5**
comp=Z,42nm,1.0s
SCHQ *e*pP **pP 05 22 44.8 -1.2**
SCHQ Schefferville 43.25 24 P **P 05 22 20.6 -1.5**
comp=Z,24nm,0.9s,baz=231,slow=5.4,SNR=20
SCHQ pP **pP 05 22 44.8 -1.2**
comp=Z,14nm,0.8s,baz=236,slow=4.5,SNR=3.7
SCHQ LR LR 05 40 08.1
comp=Z,193nm,20.9s,baz=308,slow=36
LPAZ La Paz 43.26 140 *e*P **P 05 22 24.1 +0.8**
LPAZ *e*pP **pP 05 22 47.7 +0.4**
LPAZ La Paz 43.26 140 P **P 05 22 24.1 +0.8**
comp=Z,2.7nm,0.6s,baz=313,slow=3.8,SNR=27
LPAZ pP **pP 05 22 47.7 +0.4**
comp=Z,5.6nm,0.8s,baz=326,slow=7.5,SNR=8.5
LPAZ LR LR 05 39 11.5
comp=Z,101nm,21.1s,baz=254,slow=34
YKA Yellowknife Ar 46.76 348 P **P 05 22 49.5 -0.1**
YKA pP **pP 05 23 12.5 -1.4**
YKA sP **sP 05 23 24.7 -0.8**
YKA Yellowknife Ar 46.76 348 P **P 05 22 49.5 -0.1**
comp=Z,11nm,0.8s,baz=152,slow=7.3,SNR=14
YKA pP **pP 05 23 12.5 -1.4**
comp=Z,6.1nm,0.7s,baz=153,slow=7.2,SNR=6.6
YKA sP **sP 05 23 24.7 -0.8**
comp=Z,10nm,0.8s,baz=152,slow=7.4,SNR=6.4
YKB5 Yellowknife Ar 46.76 348 *e*P **P 05 22 49.5 -0.1**
YKB5 *e*pP **pP 05 23 12.5 -1.4**
YKB5 *e*sP **sP 05 23 24.7 -0.8**
SIV San Ignacio 47.73 132 *e*P **P 05 22 58.4 +0.5**
SIV *e*pP **pP 05 23 22.1 -0.2**
SIV San Ignacio 47.73 132 P **P 05 22 58.4 +0.5**
comp=Z,2.8nm,0.5s,baz=322,slow=8.3,SNR=13
SIV pP **pP 05 23 22.1 -0.2**
comp=Z,23nm,0.7s,baz=318,slow=8.3,SNR=21
DLBC Dease Lake 47.94 336 *e*P **P 05 23 01.5 +2.5**
HYT Haines Junctio 52.39 336 *e*P **P 05 23 34.9 +2.3**
DAWY Dawson 55.03 338 *e*P **P 05 23 51.4 -0.3**
RAGM Ragged Mountai 55.13 333 *e*P **P 05 23 54.7 +2.3**
comp=Z,47nm,1.1s
BMRM Bremner River 55.38 333 *e*P **P 05 23 56.7 +2.4**
comp=Z,50nm,1.5s
RKT Rikitea 55.77 225 *e*LR LR 05 40 27.5
comp=Z,293nm,34.0s
INK Inuvik 56.01 344 *e*P **P 05 23 59.1 +0.6**
comp=Z,42nm,0.8s
EGAK Eagle 56.07 338 *e*P **P 05 23 59.9 +0.8**
comp=Z,19nm,0.8s
PAX Paxson 56.72 335 *e*P **P 05 24 04.9 +1.0**
PAX pmax pmax
comp=Z,22nm,0.8s
PAX Paxson 56.72 335 *e*P **P 05 24 04.8 +1.0**
comp=Z,22nm,0.8s
SML Sawmill 57.36 333 *e*P **P 05 24 08.8 +0.5**
SML pmax pmax
comp=Z,18nm,1.7s
SML Sawmill 57.36 333 *e*P **P 05 24 08.8 +0.5**
comp=Z,18nm,1.7s
CPUP Villa Florida 57.42 139 *e*P **P 05 24 09.0 -0.1**
CPUP *e*pP **pP 05 24 32.3 -1.9**
CPUP Villa Florida 57.42 139 P **P 05 24 09.0 -0.1**
comp=Z,1.2nm,0.5s,baz=320,slow=17,SNR=6.3
BDFB Brasilia 57.45 122 *e*P **P 05 24 09.8 +0.2**
BDFB *e*pP **pP 05 24 34.7 -0.1**
BDFB Brasilia 57.45 122 P **P 05 24 09.1 -0.5**
comp=Z,2.4nm,0.5s,baz=254,slow=7.4,SNR=7.0
BDFB pP **pP 05 24 34.7 -0.1**
comp=Z,22nm,0.9s,baz=289,slow=7.9,SNR=16
BDFB LR LR 05 50 41.5
comp=Z,78nm,19.5s,baz=139,slow=38
PMR Palmer 57.61 333 *e*P **P 05 24 11.6 +1.6**
PMR pmax pmax
comp=Z,20nm,1.0s
PMR Palmer 57.61 333 *e*P **P 05 24 11.6 +1.6**
comp=Z,20nm,1.0s
IL1 Eielson Array 58.15 337 *e*P **P 05 24 14.1 +0.3**
ILAR Eielson Array 58.15 337 P **P 05 24 14.2 +0.5**
ILAR Eielson Array 58.15 337 P **P 05 24 14.2 +0.5**
comp=Z,14nm,0.9s,baz=122,slow=5.5,SNR=111
ILAR LR LR 05 53 58.0
comp=Z,48nm,19.2s,baz=66,slow=41
ILB Eielson Array 58.15 337 *e*P **P 05 24 14.2 +0.5**
MCK McKinley 58.46 335 *e*P **P 05 24 17.0 +1.1**
MCK pmax pmax
comp=Z,18nm,0.8s
MCK McKinley 58.46 335 *e*P **P 05 24 17.0 +1.1**
comp=Z,18nm,0.8s
COLA College 58.56 337 *e*P **P 05 24 18.1 +1.5**
COLA pmax pmax
comp=Z,24nm,0.8s
COLA College 58.56 337 *e*P **P 05 24 18.1 +1.5**
comp=Z,6.4nm,0.8s
SPU Mount Spurr 58.74 332 *e*P **P 05 24 19.1 +1.2**
RSO Redoubt South 58.80 331 *e*P **P 05 24 19.9 +1.3**
TRF Thorofare Moun 58.88 335 *e*P **P 05 24 19.6 +0.6**
comp=Z,65nm,0.8s
PPLA Purkeypile 59.45 334 *e*P **P 05 24 22.9 0.0**
comp=Z,68nm,1.6s
CAST Castle Rocks 59.61 334 *e*P **P 05 24 24.2 +0.4**
comp=Z,31nm,0.9s
SVW2 Sparrevohn 60.32 331 *e*P **P 05 24 29.1 +0.3**
comp=Z,26nm,0.9s
COLD Coldfoot 60.50 339 *e*P **P 05 24 31.1 +1.2**
comp=Z,16nm,1.0s
PLCA Paso Flores 62.56 159 *e*P **P 05 24 45.4 +1.3**
comp=Z,28nm,1.4s
PLCA *e*pP **pP 05 25 09.9 +0.3**
PLCA Paso Flores 62.56 159 P **P 05 24 45.4 +1.3**
comp=Z,5.3nm,0.7s,baz=335,slow=8.7,SNR=14
PLCA LR LR 05 46 11.2
comp=Z,84nm,21.5s,baz=317,slow=30
FALS False Pass 62.98 323 *e*P **P 05 24 47.4 +0.7**
comp=Z,132nm,1.1s
PPT Papeete 63.49 239 LR LR 05 44 18.0
comp=Z,156nm,19.7s,baz=153,slow=28
PPT2 Papeete2 63.51 239 *e*S S 05 33 37.3 +21
comp=Z,94nm,26.5s
PPT2 Papeete2 63.51 239 *e*LR LR 05 43 59.5
comp=Z,309nm,31.0s
SUMG Summit 63.77 16 *e*P **P 05 24 52.5 +0.4**
SUMG pmax pmax
comp=Z,155nm,2.5s
SUMG Summit 63.77 16 *i*P **P 05 24 52.4 +0.4**
comp=Z,6.4nm,0.7s
SUMG Summit 63.77 16 *e*P **P 05 24 52.5 +0.4**
comp=Z,155nm,2.5s
TBI Tubuai 66.43 234 *e*LR LR 05 45 32.0
comp=Z,213nm,32.5s
ADK Adak 70.83 320 *e*P **P 05 25 36.8 +0.3**
ADK pmax pmax
comp=Z,55nm,0.9s
ADK Adak 70.83 320 *e*P **P 05 25 36.8 +0.3**
comp=Z,55nm,0.9s
FX1 Attu Island--F 76.85 322 *e*P **P 05 26 12.2 +0.6**
EVOP Sao Brissos 77.41 53 *e*P **P 05 26 14.7 -0.3**
comp=Z,13nm,0.9s
EVOP *e*pP **pP 05 26 40.6 -0.8**
MTE Manteigas 77.44 51 *e*P **P 05 26 15.5 +0.2**
comp=Z,34nm,1.7s
EVO Evora 77.49 53 *e*P **P 05 26 14.7 -0.8**
comp=Z,13nm,0.9s
EVO *e*pP **pP 05 26 40.6 -1.3**
EVO *e*R
comp=Z,57nm,22.2s
MVO Moncorvo 77.66 51 *e*P **P 05 26 14.5 -2.0**
comp=Z,25nm,1.5s
ROSF Rostrenen 78.65 43 *e*P **P 05 26 21.6 -0.1**
ROSF Rostrenen 78.65 43 *e*P **P 05 26 21.6 -0.1**
ROSF Rostrenen 78.65 43 *e*P **P 05 26 21.6 -0.1**

QUIF Quistinic 78.82 43 *e*P **P 05 26 22.3 -0.3**
QUIF *e*pP **pP 05 26 49.9 +0.8**
QUIF Quistinic 78.82 43 *e*P **P 05 26 22.3 -0.3**
QUIF *e**PP **pP 05 26 49.9 +0.8**
QUIF Quistinic 78.82 43 *e*P **P 05 26 22.3 -0.3**
QUIF *e*pP **pP 05 26 49.9 +0.8**
GRR Gorron 80.19 42 *e*P **P 05 26 30.1 0.0**
comp=Z,11nm,0.8s
GRR *e*pP **pP 05 26 57.8 +1.2**
GRR Gorron 80.19 42 *e*P **P 05 26 30.1 0.0**
GRR *e**PP **pP 05 26 57.8 +1.2**
GRR Gorron 80.19 42 *e*P **P 05 26 30.1 0.0**
GRR *e*pP **pP 05 26 57.8 +1.2**
ESDC Sonseca Array 80.29 52 *e*P **P 05 26 31.2 +0.3**
ESDC Sonseca Array 80.29 52 P **P 05 26 31.2 +0.3**
comp=Z,0.3nm,0.3s,baz=295,slow=4.9,SNR=4.5
ESDC LR LR 05 58 49.8
comp=Z,37nm,19.6s,baz=235,slow=33
FLN La Foliniere 80.34 42 *e*P **P 05 26 31.0 +0.1**
comp=Z,5.6nm,0.5s
FLN *e*R
comp=Z,84nm,22.2s
FLN La Foliniere 80.34 42 *e*P **P 05 26 31.0 +0.1**
FLN La Foliniere 80.34 42 *e*P **P 05 26 31.0 +0.1**
LDF La Druitiere 80.61 42 *e*P **P 05 26 32.5 +0.2**
LDF *e*pP **pP 05 27 00.1 +1.2**
LDF La Druitiere 80.61 42 *e*P **P 05 26 32.5 +0.2**
LDF *e**PP **pP 05 27 00.1 +1.2**
LDF La Druitiere 80.61 42 *e*P **P 05 26 32.5 +0.2**
LDF *e*pP **pP 05 27 00.1 +1.2**
MFF Saint Martin d 81.14 44 *e*P **P 05 26 35.1 -0.1**
comp=Z,11nm,0.9s
MFF *e*pP **pP 05 27 02.7 +0.9**
MFF Saint Martin d 81.14 44 *e*P **P 05 26 35.1 -0.1**
MFF *e**PP **pP 05 27 02.7 +0.9**
MFF Saint Martin d 81.14 44 *e*P **P 05 26 35.1 -0.1**
MFF *e*pP **pP 05 27 02.7 +0.9**
SJPF Ste Jean 81.37 48 *e*P **P 05 26 36.8 +0.3**
SJPF Ste Jean 81.37 48 *e*P **P 05 26 36.8 +0.3**
SJPF Ste Jean 81.37 48 *e*P **P 05 26 36.8 +0.3**
ETSF Etsaut 81.90 48 *e*P **P 05 26 39.7 +0.3**
comp=Z,11nm,0.9s
ETSF *e*pP **pP 05 27 07.3 +1.3**
ETSF Etsaut 81.90 48 *e*P **P 05 26 39.7 +0.3**
ETSF *e**PP **pP 05 27 07.3 +1.3**
ETSF Etsaut 81.90 48 *e*P **P 05 26 39.7 +0.3**
ETSF *e*pP **pP 05 27 07.3 +1.3**
LFF La Frestale 82.21 45 *e*P **P 05 26 40.8 0.0**
LFF *e*pP **pP 05 27 08.5 +1.0**
LFF La Frestale 82.21 45 *e*P **P 05 26 40.8 0.0**
LFF *e**PP **pP 05 27 08.5 +1.0**
LFF La Frestale 82.21 45 *e*P **P 05 26 40.8 0.0**
LFF *e*pP **pP 05 27 08.5 +1.0**
EPF Esparros 82.49 47 *e*P **P 05 26 42.5 +0.1**
EPF Esparros 82.49 47 *e*P **P 05 26 42.5 +0.1**
EPF Esparros 82.49 47 *e*P **P 05 26 42.5 +0.1**
NBO02 NORSAR Array S 82.52 28 *e*P **P 05 26 43.7 +1.6**
NBO02 *e*pP **pP 05 27 07.9 -0.9**
RJF Les Rejaudoux 82.63 45 *e*P **P 05 26 43.0 0.0**
comp=Z,6.0nm,0.7s
RJF *e*pP **pP 05 27 10.6 +0.9**
RJF *e*R
comp=Z,73nm,22.0s
RJF Les Rejaudoux 82.63 45 *e*P **P 05 26 43.0 0.0**
RJF *e**PP **pP 05 27 10.6 +0.9**
RJF Les Rejaudoux 82.63 45 *e*P **P 05 26 43.0 0.0**
RJF *e*pP **pP 05 27 10.6 +0.9**
NB2 NORSAR Subarra 82.68 28 P **P 05 26 44.4 +1.4**
comp=Z,0.6nm,0.7s,baz=298,slow=5.6
NB200 NORSAR Array S 82.68 28 *e*P **P 05 26 44.7 +1.6**
NB200 *e*pP **pP 05 27 08.8 -0.9**
NOA NORSAR Array B 82.68 28 P **P 05 26 44.7 +1.6**
NOA pP **pP 05 27 08.8 -0.9**
NOA NORSAR Array B 82.68 28 P **P 05 26 44.7 +1.6**
comp=Z,4.6nm,0.7s,baz=297,slow=5.2,SNR=13
NOA pP **pP 05 27 08.8 -0.9**
comp=Z,16nm,0.8s,baz=293,slow=5.2,SNR=13
NOA LR LR 05 59 43.7
comp=Z,46nm,21.4s,baz=290,slow=33
TCF Toulx Ste Croi 82.79 44 *e*P **P 05 26 43.6 -0.3**
comp=Z,18nm,1.1s
TCF Toulx Ste Croi 82.79 44 *e*P **P 05 26 43.6 -0.3**
TCF Toulx Ste Croi 82.79 44 *e*P **P 05 26 43.6 -0.3**
BAIF Baives 82.88 40 *e*P **P 05 26 44.7 +0.5**
comp=Z,12nm,0.8s
BAIF *e*pP **pP 05 27 12.2 +1.3**
BAIF Baives 82.88 40 *e*P **P 05 26 44.7 +0.5**
BAIF *e**PP **pP 05 27 12.2 +1.3**
BAIF Baives 82.88 40 *e*P **P 05 26 44.7 +0.5**
BAIF *e*pP **pP 05 27 12.2 +1.3**
DOU Dourbes 83.11 40 AP pP 05 27 13.6 +1.5
CAF Calviac 83.11 45 *e*P **P 05 26 45.4 -0.2**
comp=Z,4.8nm,0.8s
CAF *e*pP **pP 05 27 13.1 +0.8**
CAF Calviac 83.11 45 *e*P **P 05 26 45.4 -0.2**
CAF *e**PP **pP 05 27 13.1 +0.8**
CAF Calviac 83.11 45 *e*P **P 05 26 45.4 -0.2**
CAF *e*pP **pP 05 27 13.1 +0.8**
BGF Bois d'Agland 83.13 43 *e*P **P 05 26 45.5 -0.1**
BGF *e*pP **pP 05 27 13.1 +0.8**
BGF Bois d'Agland 83.13 43 *e*P **P 05 26 45.5 -0.1**
BGF *e**PP **pP 05 27 13.1 +0.8**
BGF Bois d'Agland 83.13 43 *e*P **P 05 26 45.5 -0.1**
BGF *e*pP **pP 05 27 13.1 +0.8**
GIVF Givet 83.24 40 *e*P **P 05 26 46.4 +0.3**
GIVF Givet 83.24 40 *e*P **P 05 26 46.4 +0.3**
GIVF Givet 83.24 40 *e*P **P 05 26 46.4 +0.3**
AVF Avril sur Loir 83.39 43 *e*P **P 05 26 46.5 -0.4**
AVF *e*pP **pP 05 27 14.2 +0.6**
AVF Avril sur Loir 83.39 43 *e*P **P 05 26 46.5 -0.4**
AVF *e**PP **pP 05 27 14.2 +0.6**
AVF Avril sur Loir 83.39 43 *e*P **P 05 26 46.5 -0.4**
AVF *e*pP **pP 05 27 14.2 +0.6**
SSF Saint Saulge 83.40 43 *e*P **P 05 26 46.8 -0.2**
SSF Saint Saulge 83.40 43 *e*P **P 05 26 46.8 -0.2**
SSF Saint Saulge 83.40 43 *e*P **P 05 26 46.8 -0.2**
BCLA Clavier 83.43 39 AP pP 05 27 15.3 +1.6
LOR Lormes 83.56 43 *e*P **P 05 26 47.9 +0.1**
comp=Z,13nm,0.8s
LOR *e*pP **pP 05 27 15.5 +1.0**
LOR *e*R
comp=Z,83nm,20.5s
LOR Lormes 83.56 43 *e*P **P 05 26 47.9 +0.1**
LOR *e*pP **pP 05 27 15.5 +1.0**
MTLF Montolieu 83.71 47 *e*P **P 05 26 48.7 +0.1**
comp=Z,4.5nm,0.8s
MTLF *e*pP **pP 05 27 16.4 +1.0**
MTLF Montolieu 83.71 47 *e*P **P 05 26 48.7 +0.1**
MTLF *e**PP **pP 05 27 16.4 +1.0**
MTLF Montolieu 83.71 47 *e*P **P 05 26 48.7 +0.1**
MTLF *e*pP **pP 05 27 16.4 +1.0**
SMF Signal de Mont 83.75 43 *e*P **P 05 26 48.5 -0.3**
SMF Signal de Mont 83.75 43 *e*P **P 05 26 48.5 -0.3**
SMF Signal de Mont 83.75 43 *e*P **P 05 26 48.5 -0.3**
MEM Membach 83.78 39 AP pP 05 27 17.7 +2.2
ARA0 ARCESS Array S 83.83 18 *e*P **P 05 26 49.1 +0.4**
ARA0 *e*pP **pP 05 27 15.0 -0.5**
ARA0 *e*PP **PP 05 29 59.5 -3.3**
ARCES ARCESS Array B 83.83 18 P **P 05 26 49.1 +0.4**
ARCES PP **PP 05 29 59.5 -3.3**
ARCES ARCESS Array B 83.83 18 P **P 05 26 49.1 +0.4**
comp=Z,4.8nm,0.6s,baz=294,slow=4.2,SNR=19
ARCES PP **PP 05 29 59.5 -3.3**
comp=Z,6.8nm,1.1s,baz=332,slow=9.8,SNR=3.9
ARCES LR LR 06 11 45.0
comp=Z,41nm,18.4s,baz=131,slow=41
MEZF Maizieres J'vi 83.92 41 *e*P **P 05 26 50.0 +0.4**
MEZF Maizieres J'vi 83.92 41 *e*P **P 05 26 50.0 +0.4**
SFTF Sexfontaines 84.01 41 *e*P **P 05 26 50.0 0.0**
SFTF Sexfontaines 84.01 41 *e*P **P 05 26 50.0 0.0**
SEY Seymchan 84.01 335 *i*P **P 05 26 51.3 +1.6**
WLF Walferdange 84.20 40 *e*P **P 05 26 52.6 +1.6**
comp=Z,18nm,1.0s
WLF *e*pP **pP 05 27 19.5 +1.8**
IBBN Ibbenburen 84.21 37 *e*P **P 05 26 52.4 +1.4**
comp=Z,22nm,0.5s
IBBN *e*pP **pP 05 27 19.4 +1.7**
PAGF Fort de Pagny 84.32 41 *e*P **P 05 26 52.1 +0.5**
PAGF Fort de Pagny 84.32 41 *e*P **P 05 26 52.1 +0.5**
LASF Ste Croix 84.60 46 *e*P **P 05 26 54.0 +0.8**
comp=Z,23nm,1.1s
LASF Ste Croix 84.60 46 *e*P **P 05 26 54.0 +0.8**

VIVF Saint-Julien-l 84.89 45 *e*P **P 05 26 55.3 +0.7**
VIVF *e*pP **pP 05 27 22.9 +1.5**
VIVF Saint-Julien-l 84.89 45 *e*P **P 05 26 55.3 +0.7**
VIVF *e**PP **pP 05 27 22.9 +1.5**
VIVF Saint-Julien-l 84.89 45 *e*P **P 05 26 55.3 +0.7**
VIVF *e*pP **pP 05 27 22.9 +1.5**
HAU Haudompre 84.90 41 *e*P **P 05 26 55.1 +0.5**
comp=Z,24nm,1.0s
HAU *e*pP **pP 05 27 22.7 +1.3**
HAU *e*R
comp=Z,72nm,19.2s
HAU Haudompre 84.90 41 *e*P **P 05 26 55.1 +0.5**
HAU *e**PP **pP 05 27 22.7 +1.3**
HAU Haudompre 84.90 41 *e*P **P 05 26 55.1 +0.5**
HAU *e*pP **pP 05 27 22.7 +1.3**
BSEG Bad Segeberg 85.03 35 *e*P **P 05 26 56.7 +1.7**
comp=Z,19nm,0.9s
BSEG *e*pP **pP 05 27 23.7 +1.9**
BSEG Bad Segeberg 85.03 35 *e*P **P 05 26 56.7 +1.7**
BSEG *e**PP **pP 05 27 23.7 +1.9**
BSEG pmax pmax
comp=Z,19nm,0.9s
PET Petropavlovsk 85.18 324 *e*P **P 05 26 56.7 +0.9**
PET pmax pmax
comp=Z,32nm,1.3s
CABF La Chapelle 85.22 43 *e*P **P 05 26 56.8 +0.5**
comp=Z,21nm,1.2s
CABF La Chapelle 85.22 43 *e*P **P 05 26 56.8 +0.5**
CABF La Chapelle 85.22 43 *e*P **P 05 26 56.8 +0.5**
HINF Hinteralfeld 85.28 41 *e*P **P 05 26 56.6 +0.1**
comp=Z,14nm,1.0s
HINF Hinteralfeld 85.28 41 *e*P **P 05 26 56.6 +0.1**
HINF Hinteralfeld 85.28 41 *e*P **P 05 26 56.6 +0.1**
CDF Champ du Feu 85.33 41 *e*P **P 05 26 57.0 +0.2**
comp=Z,12nm,0.9s
CDF Champ du Feu 85.33 41 *e*P **P 05 26 57.0 +0.2**
CDF Champ du Feu 85.33 41 *e*P **P 05 26 57.0 +0.2**
TNS Taunus Mts 85.38 39 *e*P **P 05 26 58.2 +1.2**
comp=Z,20nm,1.2s
TNS *e*pP **pP 05 27 25.5 +1.7**
TNS Taunus Mts 85.38 39 *e*P **P 05 26 58.2 +1.2**
TNS *e**PP **pP 05 27 25.5 +1.7**
TNS pmax pmax
comp=Z,20nm,1.2s
NRDL Niedersach Rie 85.47 36 *e*P **P 05 26 58.4 +1.2**
comp=Z,32nm,1.6s
NRDL *e*pP **pP 05 27 26.0 +2.0**
PEA0 Petropavlovsk- 85.67 325 *e*P **P 05 26 59.3 +1.0**
PETK Petropavlovsk- 85.67 325 P **P 05 26 59.6 +1.3**
PETK pP **pP 05 27 25.5 +0.4**
PETK Petropavlovsk- 85.67 325 P **P 05 26 59.6 +1.3**
comp=Z,12nm,1.0s,baz=81,slow=9.5,SNR=16
PETK pP **pP 05 27 25.5 +0.4**
comp=Z,4.2nm,0.7s,baz=72,slow=9.5,SNR=3.8
ORIF Oris-en-Rattie 85.68 44 *e*P **P 05 26 58.6 0.0**
ORIF *e*R
comp=Z,58nm,18.8s
ORIF Oris-en-Rattie 85.68 44 *e*P **P 05 26 58.6 0.0**
ORIF Oris-en-Rattie 85.68 44 *e*P **P 05 26 58.6 0.0**
CLZ Clausthal 85.88 37 *e*P **P 05 27 00.8 +1.4**
comp=Z,21nm,1.4s
CLZ *e*pP **pP 05 27 28.1 +1.9**
CLZ Clausthal 85.88 37 *e*P **P 05 27 00.8 +1.4**
CLZ *e**PP **pP 05 27 28.1 +1.9**
CLZ pmax pmax
comp=Z,21nm,1.4s
BFO Black Forest 86.02 40 *e*P **P 05 27 00.6 +0.5**
comp=Z,36nm,2.0s
BFO Black Forest 86.02 40 *e*P **P 05 27 00.6 +0.5**
BFO pmax pmax
comp=Z,36nm,2.0s
UBBA Unterbreizbach 86.07 38 *e*pP pP 05 27 29.6 +2.6
MBDF Montbardon 86.34 44 *e*P **P 05 27 01.9 0.0**
comp=Z,12nm,0.9s
MBDF *e*pP **pP 05 27 30.3 +1.5**
MBDF Montbardon 86.34 44 *e*P **P 05 27 01.9 0.0**
MBDF *e**PP **pP 05 27 30.3 +1.5**
MBDF Montbardon 86.34 44 *e*P **P 05 27 01.9 0.0**
MBDF *e*pP **pP 05 27 30.3 +1.5**
STU Stuttgart 86.38 40 *e*pP pP 05 27 30.2 +1.5
LMR La Mourre 86.66 46 *e*P **P 05 27 03.9 +0.6**
comp=Z,27nm,1.1s
LMR *e*pP **pP 05 27 31.5 +1.3**
LMR La Mourre 86.66 46 *e*P **P 05 27 03.9 +0.6**
LMR *e**PP **pP 05 27 31.5 +1.3**
LMR La Mourre 86.66 46 *e*P **P 05 27 03.9 +0.6**
LMR *e*pP **pP 05 27 31.5 +1.3**
FRF La Foret Royal 86.67 45 *e*P **P 05 27 04.1 +0.7**
FRF La Foret Royal 86.67 45 *e*P **P 05 27 04.1 +0.7**
FRF La Foret Royal 86.67 45 *e*P **P 05 27 04.1 +0.7**
MOX Moxa 87.08 37 *e*pP pP 05 27 33.7 +1.6
GRF Grafenberg Arr 87.24 38 *e*P **P 05 27 09.1 +3.1**
comp=Z,21nm,0.7s
GRF *e*pP **pP 05 27 36.1 +3.1**
comp=Z,28nm,1.7s
GRF Grafenberg Arr 87.24 38 *e*P **P 05 27 09.1 +3.1**
GRF *e**PP **pP 05 27 36.1 +3.1**
GRF pmax pmax
comp=Z,21nm,0.7s
GRF pmax pmax
comp=Z,28nm,1.7s
CLL Collm 87.60 37 *e*pP **pP 05 27 37.0 +2.4**
CLL *e*sP sP 05 27 47.0 +1.4
BRG Berggiesshubel 88.32 37 *e*P **P 05 27 11.9 +0.7**
comp=Z,4.8nm,0.8s
BRG Berggiesshubel 88.32 37 *e*P **P 05 27 11.8 +0.7**
comp=Z,5.0nm,0.9s
BRG Berggiesshubel 88.32 37 *e*P **P 05 27 11.9 +0.7**
BRG pmax pmax
comp=Z,5.0nm,0.9s
WET Wettzell 88.45 39 *e*P **P 05 27 12.9 +1.1**
comp=Z,5.0nm,0.9s
WET *e*pP **pP 05 27 41.2 +2.4**
WET Wettzell 88.45 39 *e*P **P 05 27 12.9 +1.1**
WET *e**PP **pP 05 27 41.2 +2.4**
WET pmax pmax
comp=Z,5.0nm,0.9s
FIA0 FINESS Array S 88.73 24 *e*P **P 05 27 12.9 +0.1**
FIA0 FINESS Array S 88.73 24 *e*P **P 05 27 12.9 +0.1**
FINES FINESS Array B 88.73 24 P **P 05 27 12.9 +0.1**
FINES FINESS Array B 88.73 24 P **P 05 27 12.9 +0.1**
comp=Z,4.9nm,0.9s,baz=286,slow=4.4,SNR=5.7
FINES LR LR 06 04 02.8
comp=Z,83nm,20.9s,baz=332,slow=34
LIC Lamto 88.78 84 *e*P **P 05 27 13.6 -0.4**
comp=Z,3.9nm,0.6s,baz=294
LIC *e*pP **pP 05 27 40.1 -0.9**
LIC Lamto 88.78 84 *e*P **P 05 27 13.6 -0.4**
LIC *e*pP **pP 05 27 40.1 -0.9**
DBIC Dimbokro 88.81 83 *e*P **P 05 27 11.8 -2.4**
comp=Z,106nm,2.3s
DBIC pP **pP 05 27 40.9 -0.2**
DBIC Dimbokro 88.81 83 P **P 05 27 14.2 +0.1**
comp=Z,5.8nm,1.0s,baz=260,slow=0.9,SNR=5.5
DBIC pP **pP 05 27 40.9 -0.2**
comp=Z,7.3nm,0.9s,baz=244,slow=4.2,SNR=4.1
DBIC LR LR 06 04 53.9
comp=Z,63nm,18.3s,baz=242,slow=34
KHC Kasperske Hory 88.87 38 *e*P **P 05 27 15.3 +1.5**
KHC *e* 05 27 42.5
KHC Kasperske Hory 88.87 38 *e*P **P 05 27 15.3 +1.5**
KHC *e*pP **pP 05 27 42.5 +1.7**
GEC2 GERESS Array S 89.07 39 *e*P **P 05 27 15.5 +0.7**
comp=Z,4.0nm,0.9s
GEC2 GERESS Array S 89.07 39 *e*P **P 05 27 15.5 +0.7**
GEC2 pmax pmax
comp=Z,4.0nm,0.9s
GEC2 GERESS Array S 89.07 39 *e*P **P 05 27 15.2 +0.4**
GERES GERESS Array B 89.07 39 P **P 05 27 15.2 +0.4**
GERES pP **pP 05 27 41.8 0.0**
GERES GERESS Array B 89.07 39 P **P 05 27 15.2 +0.4**
comp=Z,1.2nm,0.7s,baz=308,slow=3.2,SNR=7.8
GERES pP **pP 05 27 41.8 0.0**
comp=Z,1.6nm,0.8s,baz=316,slow=5.6,SNR=3.3
GERES LR LR 06 07 39.1
comp=Z,67nm,18.7s,baz=98,slow=36
DPC Dobruska-Polom 89.91 36 *e*P **P 05 27 19.2 +0.5**
DPC pmax pmax
comp=Z,29nm,0.8s
DPC Dobruska-Polom 89.91 36 *e*P **P 05 27 19.9 +1.2**
DPC Dobruska-Polom 89.91 36 *e*P **P 05 27 19.2 +0.5**
comp=Z,29nm,0.8s
KEST Kesra 91.53 52 LR LR 06 03 12.5
comp=Z,23nm,19.7s,baz=208,slow=32

YAK	**Yakutsk**	**92.92**	**340**	*e*P	**P**	**05 27 31.6**	**-0.6**
YAK				pmax	pmax		
	comp=Z,15nm,0.9s						
TOA0	**Torodi Ar. Sit**	**92.96**	**75**	*e*P	**P**	**05 27 32.7**	**-0.8**
TOA0				*ep*P	**pP**	**05 27 59.0**	**-1.5**
TORD	**Torodi Ar. Bea**	**92.96**	**75**	P	**P**	**05 27 32.7**	**-0.8**
TORD				pP	**pP**	**05 27 59.0**	**-1.5**
TORD				PKKPbc	**PKKPbc**	**05 44 43.9**	**+1.5**
TORD	**Torodi Ar. Bea**	**92.96**	**75**	P	**P**	**05 27 32.7**	**-0.8**
	comp=Z,0.5nm,0.8s,baz=276,slow=5.7,SNR=2.9						
TORD				pP	**pP**	**05 27 59.0**	**-1.5**
	comp=Z,1.1nm,0.7s,baz=281,slow=5.1,SNR=5.9						
TORD				PKKPbc	**PKKPbc**	**05 44 43.9**	**+1.5**
	comp=Z,1.0nm,1.0s,baz=137,slow=3.2,SNR=3.6						
TORD				LR	LR	06 10 46.0	
	comp=Z,49nm,18.3s,baz=175,slow=36						
KECS	**Kecovo**	**93.19**	**37**	*e*P	**P**	**05 27 35.3**	**+1.4**
KECS	**Kecovo**	**93.19**	**37**	*e*P	**P**	**05 27 35.3**	**+1.4**
CRVS	**Cervenica-Dubn**	**93.53**	**36**	*e*P	**P**	**05 27 36.0**	**+0.6**
CRVS	**Cervenica-Dubn**	**93.53**	**36**	*e*P	**P**	**05 27 36.0**	**+0.6**
LVV	**L'vov**	**94.44**	**34**	*e*P	P	05 27 43.3	+3.7
AKASG	**Malin Array Be**	**96.62**	**32**	LR	LR	06 16 22.9	
	comp=Z,49nm,18.4s,baz=250,slow=38						
MDJ	**Mudanjiang**	**105.60**	**328**	Pdif	**Pdif**	**05 28 29.6**	**0.0**
MDJ				SS	SS	05 47 42.2	+0.5
MDJ				LR	LR		
	comp=N,87nm,27.0s						
MDJ				LR	LR		
	comp=E,54nm,27.0s						
MDJ				LR	LR		
	comp=Z,45nm,23.6s						
ZALV	**Zalesovo Beam**	**108.75**	**360**	PP	PP	05 33 14.2	-0.3
ZALV	**Zalesovo Beam**	**108.75**	**360**	PP	PP	05 33 14.2	-0.3
	comp=Z,1.7nm,0.8s,baz=339,slow=7.9,SNR=4.4						
KURK	**Kurchatov**	**111.80**	**4**	*e*PKiKP	**PKiKP**	**05 32 54.7**	**+0.9**
KURK				*e*P	**PP**	**05 33 35.0**	**-1.6**
KURBB	**Kurchatov Arra**	**111.89**	**4**	PKiKP	**PKiKP**	**05 32 54.7**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=5.7,slow=0.9,SNR=2.9						
KURBB				PP	**PP**	**05 33 35.0**	**-2.2**
	comp=Z,0.5nm,0.3s,baz=358,slow=6.7,SNR=4.5						
BJI	**Beijing**	**115.42**	**333**	PKP	**PKPdf**	**05 32 57.7**	**-3.3**
MK32	**Makanchi Array**	**115.89**	**2**	*e*PKPdf	**PKPdf**	**05 33 01.0**	**-0.8**
MK32				*e*PP	**PP**	**05 34 02.3**	**-3.3**
MKAR	**Makanchi Array**	**115.89**	**2**	*c i*PKIKP	**PKPdf**	**05 33 01.2**	**-0.6**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
MKAR	**Makanchi Array**	**115.89**	**2**	PKP	**PKPdf**	**05 33 01.0**	**-0.8**
MKAR				PP	**PP**	**05 34 02.3**	**-3.3**
MKAR	**Makanchi Array**	**115.89**	**2**	PKP	**PKPdf**	**05 33 01.0**	**-0.8**
	comp=Z,0.9nm,0.9s,baz=347,slow=5.0,SNR=6.1						
MKAR				PP	**PP**	**05 34 02.3**	**-3.3**
	comp=Z,0.3nm,0.9s,baz=15,slow=5.0,SNR=3.6						
HHC	**Hu-ho-hao-te**	**116.58**	**337**	SS	SS	05 50 18.8	+11
HHC				AMB	AMB		
	comp=Z,190nm,7.8s						
HHC				LR	LR		
	comp=N,320nm,17.8s						
HHC				LR	LR		
	comp=E,310nm,19.0s						
HHC				LR	LR		
	comp=Z,260nm,19.0s						
WMQ	**Urumqi**	**118.81**	**357**	*e*PKP	**PKPdf**	**05 33 10.0**	**+2.4**
WMQ				LR	LR		
	comp=N,96nm,36.0s						
WMQ				LR	LR		
	comp=E,110nm,26.0s						
WMQ				LR	LR		
	comp=Z,35nm,21.8s						
AAK	**Ala-Archa**	**119.39**	**8**	*i* PKIKP	**PKPdf**	**05 33 07.4**	**-1.5**
AAK				pmax	pmax		
	comp=Z,46nm,0.8s						
IEMG	**Emamgholi**	**120.19**	**23**	*e*P	PP	05 34 27.4	-8.6
IKRD	**Kardeh**	**120.69**	**24**	*e*P	PP	05 34 23.5	-16
IAKL	**Akhelmad**	**120.94**	**24**	*e*P	PP	05 34 29.7	-11
IPAY	**Payeh**	**121.17**	**24**	*e*P	PP	05 34 28.7	-14
IMYA	**Miami**	**121.68**	**23**	*e*P	PP	05 34 19.7	-26
KSH	**Kashi**	**122.66**	**8**	*e*PKP	**PKPdf**	**05 33 16.1**	**+0.9**
KSH				PP	PP	05 34 59.0	+6.7
KSH				PKS	**PKSdf**	**05 36 52.5**	**+0.5**
KSH				SKS	**SKSdf**	**05 40 16.6**	**-1.5**
KSH				SKKS	**SKKSac**	**05 41 40.3**	**-2.8**
KSH				AMB	AMB		
	comp=Z,150nm,3.4s						
KSH				LR	LR		
	comp=N,89nm,6.8s						
KSH				LR	LR		
	comp=E,59nm,9.0s						
KSH				LR	LR		
	comp=Z,190nm,5.7s						
LZH	**Lanzhou**	**123.49**	**341**	*e*PKP	**PKPdf**	**05 33 17.7**	**+0.7**
XAN	**Xi'an**	**123.54**	**335**	PKP	**PKPdf**	**05 33 16.7**	**-0.2**
BOSA	**Boshof**	**125.07**	**113**	*e*PKPdf	**PKPdf**	**05 33 20.4**	**+0.4**
BOSA	**Boshof**	**125.07**	**113**	PKP	**PKPdf**	**05 33 20.4**	**+0.4**
	comp=Z,6.4nm,1.0s,baz=212,slow=5.1,SNR=3.6						
STKA	**Stephens Creek**	**126.61**	**243**	*e*PKPdf	**PKPdf**	**05 33 23.0**	**+0.3**
STKA				*ep*PKPdf	**pPKPdf**	**05 33 50.5**	**-0.4**
STKA	**Stephens Creek**	**126.61**	**243**	PKP	**PKPdf**	**05 33 23.0**	**+0.3**
	comp=Z,4.6nm,0.8s,baz=3.5,slow=2.3,SNR=7.5						
STKA				pPKP	**pPKPdf**	**05 33 50.5**	**-0.4**
	comp=Z,6.7nm,0.8s,baz=30,slow=2.3,SNR=7.7						
MAW	**Mawson**	**128.15**	**170**	*e*PKPdf	**PKPdf**	**05 33 25.5**	**+0.9**
MAW				pPKP	**pPKPdf**	**05 33 52.5**	**-0.2**
MAW	**Mawson**	**128.15**	**170**	PKP	**PKPdf**	**05 33 25.5**	**+0.9**
	comp=Z,3.7nm,0.8s,baz=276,slow=2.1,SNR=6.4						
MAW				pPKP	**pPKPdf**	**05 33 52.5**	**-0.2**
	comp=Z,2.8nm,0.6s,baz=292,slow=2.7,SNR=4.3						
CD2	**Chengdu**	**128.27**	**339**	PKP	**PKPdf**	**05 33 25.6**	**-0.5**
CD2				sPKP		05 34 09.0	
CD2				PP	**PP**	**05 35 33.9**	**+4.1**
CD2				PKS	**PKSdf**	**05 37 00.8**	**-2.0**
CD2				SKS	**SKSdf**	**05 40 24.1**	**-4.7**
CD2				SKKS	**SKKSac**	**05 42 13.1**	**-5.8**
CD2				SS	**SS**	**05 52 34.4**	**-1.8**
CD2				AMB	AMB		
	comp=Z,120nm,5.4s						
CD2				LR	LR		
	comp=N,450nm,5.4s						
CD2				LR	LR		
	comp=Z,240nm,6.5s						
GYA	**Guiyang**	**131.11**	**333**	*e*Pdif	**Pdif**	**05 30 22.9**	**-0.8**
GYA				PKP	**PKPdf**	**05 33 30.8**	**-0.9**
GYA				sPKP		05 34 13.6	
GYA				PP	**PP**	**05 35 51.8**	**+3.2**
GYA				AMB	AMB		
	comp=Z,120nm,8.0s						
WRA	**Warramunga Arr**	**132.70**	**259**	*e*PKPdf	**PKPdf**	**05 33 35.2**	**+0.6**
WRA				*ep*PKPdf	**pPKPdf**	**05 34 02.0**	**-0.8**
WRA	**Warramunga Arr**	**132.70**	**259**	PKP	**PKPdf**	**05 33 35.2**	**+0.6**
	comp=Z,1.4nm,0.6s,baz=357,slow=1.0,SNR=17						
WRA				pPKP	**pPKPdf**	**05 34 02.0**	**-0.8**
	comp=Z,3.6nm,0.7s,baz=83,slow=2.2,SNR=9.1						
AS01	**Alice Springs**	**133.32**	**254**	*e*PKPdf	**PKPdf**	**05 33 32.4**	**-3.3**
AS12	**Alice Springs**	**133.37**	**254**	*e*PKPdf	**PKPdf**	**05 33 35.5**	**-0.3**
ASAR	**Alice Springs**	**133.37**	**254**	PKP	**PKPdf**	**05 33 35.5**	**-0.3**
ASAR	**Alice Springs**	**133.37**	**254**	PKP	**PKPdf**	**05 33 35.5**	**-0.3**
	comp=Z,3.2nm,1.0s,baz=98,slow=1.9,SNR=14						
KMI	**Kunming**	**133.89**	**337**	PKP	**PKPdf**	**05 33 33.3**	**-3.8**
KMI				sPKP		05 34 18.4	
KMI				PP	**PP**	**05 36 10.0**	**+3.6**
KMI				SS	SS	05 53 46.9	+1.5
KMI				AMB	AMB		
	comp=Z,100nm,5.5s						
KMI				LR	LR		
	comp=N,140nm,12.7s						
KMI				LR	LR		
	comp=E,130nm,15.4s						
KMI				LR	LR		
	comp=Z,140nm,17.6s						
FITZ	**Fitzroy Crossi**	**140.70**	**263**	*e*PKPdf	**PKPdf**	**05 33 50.3**	**+0.9**
FITZ	**Fitzroy Crossi**	**140.70**	**263**	PKP	**PKPdf**	**05 33 50.3**	**+0.9**
	comp=Z,3.9nm,0.8s,baz=299,slow=3.8,SNR=5.7						
CM31	**Chiang Mai Arr**	**141.39**	**337**	*e*PKPpre	PKPpre	05 33 45.0	
CM31				*e*PKPdf	**PKPdf**	**05 33 51.5**	**+0.8**
CM31				*ep*PKPdf	pPKPdf	05 34 18.6	-0.4
CMAR	**Chiang Mai Arr**	**141.39**	**337**	PKPpre	PKPpre	05 33 45.0	
CMAR				PKP	**PKPdf**	**05 33 51.5**	**+0.8**
CMAR				pPKP	pPKPdf	05 34 18.6	-0.4
CMAR	**Chiang Mai Arr**	**141.39**	**337**	PKhKP	PKPpre	05 33 45.0	
	comp=Z,1.7nm,0.8s,baz=351,slow=3.9,SNR=7.9						
CMAR				PKP	**PKPdf**	**05 33 51.5**	**+0.8**
	comp=Z,1.8nm,0.8s,baz=349,slow=2.1,SNR=7.6						
CMAR				pPKP	pPKPdf	05 34 18.6	-0.4
	comp=Z,1.0nm,0.3s,baz=316,slow=10,SNR=3.1						
CM01	**Chiang Mai Arr**	**141.41**	**337**	*e*PKPpre	PKPpre	05 33 44.6	

MBWA	**Marble Bar**	**146.43**	**258**	*e*PKPdf	**PKPdf**	**05 33 59.3**	**-0.2**
KULM	**Kulim**	**152.11**	**323**	*e*PKPbc	**PKPbc**	**05 34 16.2**	**+0.7**

GUC 08 05:22:14.1±0.7, 31°32S×68°72W, h126km±71km, MD3.8, ML3.8, 1C, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**1.96**	**274**	⇑*i*P	Pn	05 22 48.0	+0.4
CMCH				*i* S	Sn	05 23 13.8	+0.7
CMCH				AML	AML	05 23 14.9	
	comp=N,919nm,0.4s						
TLL	**Tololo Astrono**	**2.13**	**302**	*e*P	Pn	05 22 50.9	+1.0
TLL				*e*S	Sn	05 23 17.9	+0.7
PEL	**Peldehue**	**2.47**	**222**	*e*P	Pn	05 22 54.1	+0.3
PEL				*e*S	Sn	05 23 24.1	-0.3
CLCH	**Cerro Calan**	**2.58**	**216**	*e*P	Pn	05 22 55.5	+0.1
CLCH				*e*S	Sn	05 23 27.8	+0.8
CLCH				AML	AML	05 23 30.5	
	comp=E,246nm,0.6s						
PCH	**Pirque**	**2.76**	**213**	*e*P	Pn	05 22 58.2	+0.7
PCH				*i* S	Sn	05 23 32.8	+1.7
LMEL	**Las Melosas**	**2.82**	**206**	*e*P	Pn	05 22 59.2	+0.7
LMEL				*e*S	Sn	05 23 35.8	+3.2
LCO	**Las Campanas**	**2.87**	**323**	*e*P	Pn	05 23 00.2	+0.9
LCO				*e*S	Sn	05 23 34.9	+0.8
LCO				AML	AML	05 23 39.4	
	comp=E,226nm,0.5s						
TACH	**Talagante**	**2.99**	**218**	*e*P	Pn	05 22 59.5	-1.1

*CSEM **08** 05:25:49.9±0.2, 42°51N×43°44E, h2km, mb3.9, Error ellipse: s-maj=5.0km s-min=2.6km az=125.0*
*DDA **08** 05:25:49.1, 42°73N×43°48E, h11km, MD2.8*
*MOS **08** 05:25:50.0±1.2, 42°51N×43°54E, h9km, mb3.9/1, Error ellipse: s-maj=18.8km s-min=7.0km az=76.2*

ISC 08 05:25:49.6±1.2, 42°50N±0°03×43°45E±0°04, h4km±10km, n33, σ0°41/66, 2C-8D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIGR	**Digorskoe uzhe**	**0.41**	**14**	⇓*i*PG	**Pg**	**05 25 57.1**	**-0.5**
DIGR				*i* S	**Sg**	**05 26 03.0**	**0.0**
DIGR	**Digorskoe uzhe**	**0.41**	**14**	*i* Pg	**Pg**	**05 25 57.1**	**-0.5**
DIGR				*i* Sg	**Sg**	**05 26 03.0**	**0.0**
ZEI	**Tsey**	**0.43**	**51**	⇓*i*PG	**Pg**	**05 25 57.8**	**-0.1**
ZEI				*i* S	**Sg**	**05 26 04.0**	**+0.5**
ZEI	**Tsey**	**0.43**	**51**	*i* Pg	**Pg**	**05 25 57.8**	**-0.1**
ZEI				*i* Sg	**Sg**	**05 26 04.0**	**+0.5**
LACR	**Lac**	**0.70**	**62**	⇓*i*PG	**Pg**	**05 26 02.6**	**-0.5**
LACR				*i* S	**Sg**	**05 26 12.0**	**-0.3**
LACR	**Lac**	**0.70**	**62**	*i* Pg	**Pg**	**05 26 02.6**	**-0.5**
LACR				*i* Sg	**Sg**	**05 26 12.0**	**-0.3**
KORR	**Kora**	**0.74**	**38**	⇑*i*PG	**Pg**	**05 26 03.8**	**0.0**
KORR				*i* S	**Sg**	**05 26 14.0**	**+0.5**
KORR	**Kora**	**0.74**	**38**	*i* Pg	**Pg**	**05 26 03.8**	**0.0**
KORR				*i* Sg	**Sg**	**05 26 14.0**	**+0.5**
LSNR	**Lesken**	**0.82**	**19**	⇓*i*PG	**Pg**	**05 26 05.3**	**0.0**
LSNR				*e*S	**Sg**	**05 26 16.4**	**+0.4**
LSNR	**Lesken**	**0.82**	**19**	*i* Pg	**Pg**	**05 26 05.3**	**0.0**
LSNR				*e*Sg	**Sg**	**05 26 16.4**	**+0.4**
STDR	**Stavd-Durt**	**0.98**	**27**	⇓*i*PG	**Pn**	**05 26 09.6**	**-0.6**
STDR				*e*S	**Sb**	**05 26 23.0**	**+0.6**
STDR	**Stavd-Durt**	**0.98**	**27**	*i* Pg	**Pn**	**05 26 09.6**	**-0.6**
STDR				*e*Sg	**Sb**	**05 26 23.0**	**+0.6**
NCK	**Nalchik**	**1.00**	**6**	⇓*e*PG	**Pb**	**05 26 09.5**	**0.0**
NCK				*e*S	**Sb**	**05 26 23.2**	**+0.1**
NCK	**Nalchik**	**1.00**	**6**	*e*Pg	**Pb**	**05 26 09.5**	**0.0**
NCK				*e*Sg	**Sb**	**05 26 23.2**	**+0.1**
VLKR	**Vladikavkaz**	**1.06**	**58**	*e*PG	**Pg**	**05 26 09.6**	**-0.3**
VLKR				*e*S	**Sg**	**05 26 24.0**	**+0.4**
VLKR	**Vladikavkaz**	**1.06**	**58**	*e*Pg	**Pg**	**05 26 09.6**	**-0.3**
VLKR				*e*Sg	**Sg**	**05 26 24.0**	**+0.4**
BTKR	**Batakoyurt**	**1.19**	**42**	⇑*i*PG	**Pn**	**05 26 13.4**	**+0.4**
BTKR				*e*S	**Sn**	**05 26 29.5**	**-0.1**
BTKR	**Batakoyurt**	**1.19**	**42**	*i* Pg	**Pn**	**05 26 13.4**	**+0.4**
BTKR				*e*Sg	**Sn**	**05 26 29.5**	**-0.1**
KUBR	**Kubataba**	**1.30**	**359**	⇓*e*PG	**Pg**	**05 26 15.0**	**+0.5**
KUBR				*e*S	**Sn**	**05 26 32.8**	**+0.3**
KUBR	**Kubataba**	**1.30**	**359**	*e*Pg	**Pg**	**05 26 15.0**	**+0.5**
KUBR				*e*Sg	**Sn**	**05 26 32.8**	**+0.3**
SHAR	**Shatzhatmas**	**1.37**	**336**	⇓*e*PG	**Pn**	**05 26 15.2**	**-0.5**
SHAR				*e*S	**Sb**	**05 26 33.3**	**-0.5**
SHAR	**Shatzhatmas**	**1.37**	**336**	*e*Pg	**Pn**	**05 26 15.2**	**-0.5**
SHAR				*e*Sg	**Sb**	**05 26 33.3**	**-0.5**
PYA	**Pyatigorsk**	**1.56**	**350**	*e*PG	**Pb**	**05 26 18.8**	**-0.3**
PYA				*e*S	**Sb**	**05 26 39.2**	**0.0**
PYA	**Pyatigorsk**	**1.56**	**350**	*e*Pg	**Pb**	**05 26 18.8**	**-0.3**
PYA				*e*Sg	**Sb**	**05 26 39.2**	**0.0**
ARTV	**Artvin**	**1.74**	**221**	*i* P	**Pn**	**05 26 21.1**	**+0.3**
ARTV				*i* S	**Sn**	**05 26 43.2**	**-0.3**
ARTV	**Artvin**	**1.74**	**221**	*i* P	**Pn**	**05 26 21.1**	**+0.3**
ARTV				*i* S	**Sn**	**05 26 43.2**	**-0.3**
DBOC	**Borcka**	**1.76**	**230**	*i* P	**Pn**	**05 26 21.6**	**+0.7**
DBOC				*i* S	**Sn**	**05 26 43.6**	**-0.2**
DBOC	**Borcka**	**1.76**	**230**	*i* P	**Pn**	**05 26 21.6**	**+0.7**
DBOC				*i* S	**Sn**	**05 26 43.6**	**-0.2**
DAGI	**Agillar**	**1.83**	**219**	*i* P	**Pb**	**05 26 23.4**	**-0.2**
DAGI				*i* S	**Sn**	**05 26 45.7**	**+0.2**
DBAD	**Bademkaya**	**1.98**	**222**	*i* P	**Pn**	**05 26 25.0**	**+1.0**
DBAD				*i* S	**Sn**	**05 26 49.2**	**-0.1**
DBAD	**Bademkaya**	**1.98**	**222**	*i* P	**Pn**	**05 26 25.0**	**+1.0**
DBAD				*i* S	**Sn**	**05 26 49.2**	**-0.1**
DDEM	**Demirkent**	**2.05**	**219**	*i* P	**Pb**	**05 26 27.1**	**-0.4**
DDEM				*i* S	**Sb**	**05 26 53.0**	**-0.3**
DDEM	**Demirkent**	**2.05**	**219**	*i* P	**Pb**	**05 26 27.1**	**-0.4**
DDEM				*i* S	**Sb**	**05 26 53.0**	**-0.3**

*IDC **08** 05:31:58.4±0.9, 39°10N×71°76E, h0km, mb3.7/9, mb1 3.8/14, mb1mx3.7/31, mbtmp3.7/14, ML3.6/5, Error ellipse: s-maj=18.1km s-min=12.3km az=140.0*
*ISCJB **08** 05:32:01.3±0.7, 39°01N±0°07×71°41E±0°07, h34km, mb3.5/9, Error ellipse: s-maj=10.6km s-min=7.1km az=154.2*
*NNC **08** 05:32:05.7±3.2, 39°63N×71°23E, h0km, mb4.1, mpv3.7, Error ellipse: s-maj=29.2km s-min=14.3km az=179.0*

ISC 08 05:32:03.2±0.9, 39°11N±0°09×71°35E±0°07, h34km, n30, σ1°57/31, mb3.7/9, 7C-1D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.51**	**30**	P	**Pn**	**05 32 56.5**	**+0.9**
	SNR=20						
KSH	**Kashi**	**3.61**	**82**	Pn	Pn	05 32 52.7	-4.1
KSH				Sn	**Sn**	**05 33 37.6**	**-0.7**
KSH				smax	smax		
	comp=N,190nm,0.6s						
KSH				smax	smax		
	comp=E,140nm,0.6s						
EKS2	**Erkin-Say**	**4.00**	**27**	P	**Pn**	**05 33 03.1**	**+0.9**
	SNR=12						
KK31	**Karatay Array**	**4.04**	**351**	Pn	**Pn**	**05 33 03.4**	**+0.7**
	comp=E,9.3nm,0.3s,baz=164,slow=12,SNR=222						
KK31				⇑Lg	Lg	05 33 55.2	
	comp=E,19nm,0.5s,baz=168,slow=22,SNR=6.2						
KZA	**Kyzart**	**4.20**	**44**	P	**Pn**	**05 33 05.7**	**+0.5**
	SNR=9.9						
AAK	**Ala-Archa**	**4.25**	**33**	P	**Pn**	**05 33 06.8**	**+1.1**
	SNR=17						
AAK	**Ala-Archa**	**4.25**	**33**	Pn	**Pn**	**05 33 06.5**	**+0.8**
	comp=E,5.7nm,0.3s,baz=186,slow=6.4,SNR=24						
AAK				Sn	**Sn**	**05 33 57.2**	**+2.9**
	comp=E,6.7nm,0.3s,baz=327,slow=21,SNR=14						
KBK	**Karagaybulak**	**4.47**	**36**	P	**Pn**	**05 33 10.6**	**+1.9**
	SNR=8.5						
CHMS	**Chumysh**	**4.66**	**32**	P	**Pn**	**05 33 12.4**	**+1.2**
	SNR=8.4						
USP	**Ospenovka**	**4.79**	**29**	P	**Pn**	**05 33 13.6**	**+0.6**
	SNR=31						
ULHL	**Ulahol**	**4.87**	**48**	P	**Pn**	**05 33 13.8**	**-0.3**
	SNR=11						
TKM2	**Tokmak 2**	**4.98**	**39**	⇑Pn	**Pn**	**05 33 16.3**	**+0.5**
	comp=E,4.7nm,0.4s						
TKM2				⇓Sn	**Sn**	**05 34 14.3**	**+2.0**
	comp=E,18nm,0.7s						
TKM2				⇑Lg	Lg	05 34 30.0	
	comp=E,23nm,0.7s						
TKM2	**Tokmak 2**	**4.98**	**39**	P	**Pn**	**05 33 15.8**	**0.0**
	SNR=16						
MK31	**Makanchi Array**	**11.10**	**43**	⇑Pn	**Pn**	**05 34 39.5**	**+0.1**
	comp=E,1.9nm,0.9s,baz=228,slow=6.8,SNR=6.2						
MKAR	**Makanchi Array**	**11.10**	**43**	Pn	**Pn**	**05 34 37.1**	**-2.3**
	comp=E,0.1nm,0.3s,baz=236,slow=15,SNR=2.8						
MKAR				Lg	Lg	05 37 37.2	
	comp=E,0.1nm,0.3s,baz=232,slow=24,SNR=3.2						
KURBB	**Kurchatov Arra**	**12.58**	**21**	Lg	Lg	05 38 33.6	
	comp=E,0.2nm,0.3s,baz=196,slow=25,SNR=4.5						
AB31	**Akbulak array**	**13.02**	**325**	Pn	**Pn**	**05 35 03.4**	**-2.2**
	comp=E,1.6nm,0.5s,baz=134,slow=14,SNR=64						
AB31				⇑Sn	**Sn**	**05 37 26.1**	**-3.1**
	comp=E,4.5nm,0.7s,baz=136,slow=23,SNR=12						
BVAR	**Borovoye Array**	**13.94**	**358**	Pn	Pn	05 35 14.4	-3.7
	comp=E,0.6nm,0.3s,baz=156,slow=12,SNR=4.2						
AKTO	**Aktyubinsk**	**14.74**	**325**	⇑Pn	**Pn**	**05 35 27.7**	**-1.3**
	comp=E,5.4nm,0.8s						
AKTO				⇑Sn	**Sn**	**05 38 08.5**	**-2.5**
	comp=E,3.7nm,0.8s						
AKTO	**Aktyubinsk**	**14.74**	**325**	Pn	**Pn**	**05 35 28.3**	**-0.7**
	comp=E,0.3nm,0.3s,baz=148,slow=14,SNR=3.8						
ZALV	**Zalesovo Beam**	**17.45**	**27**	P	**Pn**	**05 36 02.6**	**-1.1**
	comp=E,0.4nm,0.3s,baz=212,slow=9.9,SNR=5.0						
SONM	**Songino Array**	**26.70**	**59**	P	**P**	**05 37 36.9**	**-2.4**
	comp=E,0.5nm,0.8s,baz=255,slow=10.0,SNR=2.6						
BRTR	**Keskin Array B**	**29.00**	**283**	P	P	05 38 04.5	+4.6
	comp=E,0.5nm,0.7s,baz=82,slow=12,SNR=3.0						
FINES	**FINESS Array B**	**35.51**	**324**	P	**P**	**05 38 57.3**	**+0.9**
	comp=E,0.8nm,0.6s,baz=126,slow=9.3,SNR=4.7						
ARCES	**ARCESS Array B**	**38.86**	**336**	P	**P**	**05 39 26.2**	**+1.5**
	comp=E,0.8nm,0.6s,baz=98,slow=6.5,SNR=6.4						
ESDC	**Sonseca Array**	**56.52**	**296**	P	**P**	**05 41 44.0**	**+1.9**
	comp=E,0.4nm,0.5s,baz=74,slow=7.0,SNR=2.5						
TORD	**Torodi Ar. Bea**	**66.08**	**268**	P	**P**	**05 42 48.8**	**+1.8**
	comp=E,0.4nm,0.5s,baz=55,slow=5.6,SNR=8.6						
ILAR	**Eielson Array**	**72.20**	**16**	P	**P**	**05 43 24.2**	**0.0**
	comp=E,0.3nm,0.8s,baz=319,slow=3.6,SNR=4.0						
WRA	**Warramunga Arr**	**83.14**	**122**	P	**P**	**05 44 25.4**	**-0.4**
	comp=E,0.5nm,0.5s,baz=322,slow=4.9,SNR=9.2						
ASAR	**Alice Springs**	**85.52**	**125**	P	**P**	**05 44 36.9**	**-1.0**
	comp=E,0.3nm,0.7s,baz=326,slow=6.5,SNR=4.2						

*TIF **08** 05:37:30.6, 42°54N×43°60E, h16km±2km*
*CSEM **08** 05:37:31.8±0.2, 42°48N×43°55E, h2km, mb4.0, Error ellipse: s-maj=4.4km s-min=2.3km az=125.0*
*DDA **08** 05:37:32.4, 42°73N×43°48E, h11km, MD2.8*
*MOS **08** 05:37:32.9±1.2, 42°52N×43°65E, h10km, mb4.0/1, Error ellipse: s-maj=18.0km s-min=6.2km az=78.5*

ISC 08 05:37:32.3±1.0, 42°49N±0°02×43°59E±0°02, h9km±9km, n46, σ0°61/88, 5C-6D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZEI	**Tsey**	**0.37**	**37**	⇓*i*PG	**Pg**	**05 37 39.4**	**-0.3**
ZEI				*i* S	**Sg**	**05 37 44.7**	**+0.1**
ZEI	**Tsey**	**0.37**	**37**	*i* Pg	**Pg**	**05 37 39.4**	**-0.3**
ZEI				*i* Sg	**Sg**	**05 37 44.7**	**+0.1**
DIGR	**Digorskoe uzhe**	**0.41**	**359**	⇓*i*PG	**Pg**	**05 37 40.0**	**-0.3**
DIGR				*i* S	**Sg**	**05 37 45.7**	**0.0**
DIGR	**Digorskoe uzhe**	**0.41**	**359**	*i* Pg	**Pg**	**05 37 40.0**	**-0.3**
DIGR				*i* Sg	**Sg**	**05 37 45.7**	**0.0**
LACR	**Lac**	**0.62**	**57**	⇓*i*PG	**Pg**	**05 37 43.8**	**-0.4**
LACR				*i* S	**Sg**	**05 37 52.4**	**0.0**
LACR	**Lac**	**0.62**	**57**	*i* Pg	**Pg**	**05 37 43.8**	**-0.4**
LACR				*i* Sg	**Sg**	**05 37 52.4**	**0.0**
KORR	**Kora**	**0.69**	**30**	⇑*i*PG	**Pg**	**05 37 45.6**	**0.0**
KORR				*i* S	**Sg**	**05 37 55.0**	**+0.4**
KORR	**Kora**	**0.69**	**30**	*i* Pg	**Pg**	**05 37 45.6**	**0.0**
KORR				*i* Sg	**Sg**	**05 37 55.0**	**+0.4**
LSNR	**Lesken**	**0.80**	**12**	⇓*i*PG	**Pg**	**05 37 47.7**	**-0.1**
LSNR				*i* S	**Sg**	**05 37 58.6**	**+0.4**
LSNR	**Lesken**	**0.80**	**12**	*i* Pg	**Pg**	**05 37 47.7**	**-0.1**

mb1 4.1/8, mb1mx3.9/20, mbtmp3.9/8, ML3.2/1, MS3.1/2, Ms1 3.1/2, ms1mx2.8/21, Error ellipse: s-maj=37.6km s-min=20.4km az=124.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.20**	**116**	Sn	Sb	05 54 23.3	-2.2
	6.9nm,0.3s,baz=180,slow=17,SNR=3.4						
PMG	**Port Moresby**	**8.29**	**254**	Pn	Pn	05 53 54.0	+2.0
	1.6nm,0.3s,baz=11,slow=10,SNR=2.5						
PMG				Sn	Sn	05 55 27.8	+1.4
	0.5nm,0.3s,baz=218,slow=19,SNR=2.0						
PMG				LR	LR	05 56 53.1	
	comp=Z,74nm,21.8s,baz=155,slow=36						
WRA	**Warramunga Arr**	**23.92**	**236**	P	P	05 57 06.4	+0.1
	3.5nm,0.7s,baz=60,slow=10,SNR=17						
WRA				PcP	PcP	06 00 50.0	+0.7
	0.1nm,0.4s,baz=68,slow=2.5,SNR=4.4						
ASAR	**Alice Springs**	**26.24**	**229**	P	P	05 57 27.2	-0.3
	0.9nm,0.8s,baz=62,slow=9.5,SNR=7.9						
STKA	**Stephens Creek**	**27.70**	**206**	P	P	05 57 38.9	-1.6
	1.8nm,0.9s,baz=27,slow=11,SNR=2.2						
FITZ	**Fitzroy Crossi**	**30.80**	**246**	P	P	05 58 08.1	-0.1
	1.6nm,0.7s,baz=60,slow=8.1,SNR=5.3						
FITZ				LR	LR	06 11 08.8	
	comp=Z,73nm,21.0s,baz=226,slow=38						
SONM	**Songino Array**	**69.58**	**327**	P	P	06 03 01.4	-0.1
	0.3nm,0.6s,baz=134,slow=6.2,SNR=2.5						
ILAR	**Eielson Array**	**83.43**	**21**	P	P	06 04 18.6	-0.9
	0.6nm,0.4s,baz=244,slow=5.6,SNR=21						
MKAR	**Makanchi Array**	**83.66**	**319**	P	P	06 04 21.3	+0.1
	0.4nm,0.7s,baz=108,slow=4.7,SNR=2.6						
BDFB	**Brasilia**	**147.72**	**135**	PKPbc	PKPbc	06 11 39.2	+0.9
	0.8nm,0.4s,baz=162,slow=3.2,SNR=2.9						
TORD	**Torodi Ar. Bea**	**153.28**	**285**	PKPbc	PKPbc	06 11 51.4	-0.3
	0.6nm,1.0s,baz=60,slow=2.2,SNR=4.6						

*TIF **08** 06:24:32.6, 42.°56N×43.°45E, h13km±1km*
*ISCJB **08** 06:24:33.9±0.5, 42.°59N±0.°02×43.°44E±0.°03, h12km±4km, mb3.5/9, Error ellipse: s-maj=4.0km s-min=3.2km az=178.5*
*MOS **08** 06:24:33.8±1.1, 42.°54N×43.°44E, h10km, mb3.9/5, Error ellipse: s-maj=9.1km s-min=5.1km az=75.2*
*CSEM **08** 06:24:34.3±0.2, 42.°58N×43.°44E, h10km, mb3.7/5, Error ellipse: s-maj=4.0km s-min=2.8km az=136.0*
*IDC **08** 06:24:34.7±1.2, 42.°75N×43.°44E, h0km, mb3.4/6, mb1 3.6/8, mb1mx3.4/28, mbtmp3.5/8, ML3.5/2, Error ellipse: s-maj=16.9km s-min=14.4km az=34.0*
*DDA **08** 06:24:34.6, 42.°74N×42.°64E, h8km, MD3.3*
*NNC **08** 06:24:42.4±6.6, 43.°08N×43.°76E, h41km±49km, mb3.6, Error ellipse: s-maj=69.2km s-min=43.0km az=121.0*

ISC 08 06:24:34.0±0.8, 42.°58N±0.°02×43.°46E±0.°02, h8km±5km, n86, σ0.°96/130, mb3.6/9, 7C-17D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.01**	**331**	P	**Pg**	**06 24 35.4**	**-0.1**
ONI				S	**Sg**	**06 24 37.1**	**+0.4**
DIGR	**Digorskoe uzhe**	**0.33**	**15**	⇓*i*PG	**Pg**	**06 24 40.7**	**+0.1**
DIGR				*i* S	**Sg**	**06 24 46.1**	**+1.0**
DIGR	**Digorskoe uzhe**	**0.33**	**15**	*i* Pg	**Pg**	**06 24 40.7**	**+0.1**
DIGR				*i* Sg	**Sg**	**06 24 46.1**	**+1.0**
ZEI	**Tsey**	**0.39**	**57**	⇓*i*PG	**Pg**	**06 24 41.5**	**-0.1**
ZEI				*e*S	**Sg**	**06 24 47.5**	**+0.8**
ZEI	**Tsey**	**0.39**	**57**	*i* Pg	**Pg**	**06 24 41.5**	**-0.1**
ZEI				*e*Sg	**Sg**	**06 24 47.5**	**+0.8**
LACR	**Lac**	**0.66**	**68**	⇓*i*PG	**Pg**	**06 24 46.3**	**-0.5**
LACR				*e*S	**Sg**	**06 24 56.0**	**+0.5**
LACR	**Lac**	**0.66**	**68**	*i* Pg	**Pg**	**06 24 46.3**	**-0.5**
LACR				*e*Sg	**Sg**	**06 24 56.0**	**+0.5**
KORR	**Kora**	**0.68**	**41**	⇑*i*PG	**Pg**	**06 24 47.4**	**+0.4**
KORR				*i* S	**Sb**	**06 24 57.4**	**-0.2**
KORR	**Kora**	**0.68**	**41**	*i* Pg	**Pg**	**06 24 47.4**	**+0.4**
KORR				*i* Sg	**Sb**	**06 24 57.4**	**-0.2**
LSNR	**Lesken**	**0.75**	**21**	⇓*i*PG	**Pg**	**06 24 48.9**	**+0.5**
LSNR				*e*S	**Sb**	**06 24 59.7**	**0.0**
LSNR	**Lesken**	**0.75**	**21**	*i* Pg	**Pg**	**06 24 48.9**	**+0.5**
LSNR				*e*Sg	**Sb**	**06 24 59.7**	**0.0**
STDR	**Stavd-Durt**	**0.91**	**29**	⇑*i*PG	**Pn**	**06 24 53.0**	**0.0**
STDR				*e*S	**Sn**	**06 25 06.0**	**-0.3**
STDR	**Stavd-Durt**	**0.91**	**29**	*i* Pg	**Pn**	**06 24 53.0**	**0.0**
STDR				*e*Sg	**Sn**	**06 25 06.0**	**-0.3**
NCK	**Nalchik**	**0.92**	**6**	⇓*e*PG	**Pg**	**06 24 52.5**	**+0.8**
NCK				*e*S	**Sn**	**06 25 06.0**	**-0.7**
NCK	**Nalchik**	**0.92**	**6**	*e*Pg	**Pg**	**06 24 52.5**	**+0.8**
NCK				*e*Sg	**Sn**	**06 25 06.0**	**-0.7**
VLKR	**Vladikavkaz**	**1.01**	**62**	⇓*i*PG	**Pg**	**06 24 54.0**	**+0.6**
VLKR				*i* S	**Sn**	**06 25 08.1**	**-0.8**
VLKR	**Vladikavkaz**	**1.01**	**62**	*i* Pg	**Pg**	**06 24 54.0**	**+0.6**
VLKR				*i* Sg	**Sn**	**06 25 08.1**	**-0.8**
CHVG	**Ch'k'valeri**	**1.03**	**278**	P	**Pb**	**06 24 53.0**	**-1.0**
CHVG				S	**Sn**	**06 25 09.2**	**0.0**
SNJR	**Sundja**	**1.11**	**63**	⇓*i*PG	**Pb**	**06 24 55.3**	**-0.1**
SNJR				*e*S	**Sn**	**06 25 10.6**	**-0.7**
SNJR	**Sundja**	**1.11**	**63**	*i* Pg	**Pb**	**06 24 55.3**	**-0.1**
SNJR				*e*Sg	**Sn**	**06 25 10.6**	**-0.7**
BTKR	**Batakoyurt**	**1.12**	**45**	⇑*i*PG	**Pg**	**06 24 57.3**	**+1.8**
BTKR				*e*S	**Sn**	**06 25 13.2**	**+1.5**
BTKR	**Batakoyurt**	**1.12**	**45**	*i* Pg	**Pg**	**06 24 57.3**	**+1.8**
BTKR				*e*Sg	**Sn**	**06 25 13.2**	**+1.5**
AKH	**Akhalkalaki**	**1.17**	**179**	P	**Pn**	**06 24 54.5**	**-2.2**
AKH				S	**Sb**	**06 25 10.3**	**-1.5**
KBZ	**Khabaz**	**1.22**	**340**	PG	**Pn**	**06 24 56.9**	**-0.5**
KBZ				pmax	pmax		
	comp=Z,22nm,0.3s						
KBZ	**Khabaz**	**1.22**	**340**	Pg	**Pn**	**06 24 56.9**	**-0.5**
	comp=Z,22nm,0.3s,baz=159,slow=10,SNR=153						
KBZ				Lg	Lg	06 25 13.4	
	comp=Z,27nm,0.3s,baz=240,slow=20,SNR=30						
KBZ	**Khabaz**	**1.22**	**340**	Pg	**Pn**	**06 24 56.9**	**-0.5**
	comp=Z,22nm,0.3s						
KUBR	**Kubataba**	**1.22**	**358**	⇓*e*PG	**Pg**	**06 24 58.1**	**+0.7**
KUBR				*e*S	**Sg**	**06 25 15.1**	**+1.8**
KUBR	**Kubataba**	**1.22**	**358**	*e*Pg	**Pg**	**06 24 58.1**	**+0.7**
KUBR				*e*Sg	**Sg**	**06 25 15.1**	**+1.8**
TBLG	**Delisi**	**1.27**	**131**	P	**Pn**	**06 24 56.8**	**-1.2**
TBLG				S	**Sb**	**06 25 14.4**	**-0.3**
SHAR	**Shatzhatmas**	**1.30**	**334**	⇓*e*PG	**Pb**	**06 24 58.7**	**-0.1**
SHAR				*e*S	**Sg**	**06 25 16.3**	**+0.4**
SHAR	**Shatzhatmas**	**1.30**	**334**	*e*Pg	**Pb**	**06 24 58.7**	**-0.1**
SHAR				*e*Sg	**Sg**	**06 25 16.3**	**+0.4**
PRTR	**Priterechnaya**	**1.32**	**27**	⇓*i*PG	**Pg**	**06 25 00.2**	**+0.9**
PRTR				*e*S	**Sg**	**06 25 18.6**	**+2.2**
PRTR	**Priterechnaya**	**1.32**	**27**	*i* Pg	**Pg**	**06 25 00.2**	**+0.9**
PRTR				*e*Sg	**Sg**	**06 25 18.6**	**+2.2**
TRKR	**Terskaya**	**1.48**	**39**	⇓*i*PG	**Pg**	**06 25 02.6**	**+0.3**
TRKR				*i* S	**Sg**	**06 25 22.7**	**+1.3**
TRKR	**Terskaya**	**1.48**	**39**	*i* Pg	**Pg**	**06 25 02.6**	**+0.3**
TRKR				*i* Sg	**Sg**	**06 25 22.7**	**+1.3**
PYA	**Pyatigorsk**	**1.48**	**349**	⇑*e*PG	**Pg**	**06 25 02.5**	**0.0**
PYA				*e*S	**Sg**	**06 25 22.4**	**+0.7**
PYA	**Pyatigorsk**	**1.48**	**349**	*e*Pg	**Pg**	**06 25 02.5**	**0.0**
PYA				*e*Sg	**Sg**	**06 25 22.4**	**+0.7**
KIV	**Kislovodsk**	**1.49**	**338**	⇓*e*PG	**Pb**	**06 25 02.0**	**+0.1**
KIV				*e*S	**Sg**	**06 25 21.9**	**0.0**
KIV	**Kislovodsk**	**1.49**	**338**	*e*Pg	**Pb**	**06 25 02.0**	**+0.1**
KIV				*e*Sg	**Sg**	**06 25 21.9**	**0.0**
ARTV	**Artvin**	**1.80**	**220**	*i* P	**Pn**	**06 25 05.2**	**-0.3**
ARTV				*i* S	**Sn**	**06 25 28.5**	**-0.2**
ARTV	**Artvin**	**1.80**	**220**	*i* P	**Pn**	**06 25 05.2**	**-0.3**
ARTV				*i* S	**Sn**	**06 25 28.5**	**-0.2**
DGRG	**David-gareji**	**1.81**	**128**	P	**Pb**	**06 25 07.1**	**-0.4**
DGRG				S	**Sg**	**06 25 34.0**	**+1.8**
DBOC	**Borcka**	**1.82**	**228**	*i* P	**Pn**	**06 25 04.8**	**-0.8**
DBOC				*i* S	**Sn**	**06 25 29.0**	**+0.1**
DBOC	**Borcka**	**1.82**	**228**	*i* P	**Pn**	**06 25 04.8**	**-0.8**
DBOC				*i* S	**Sn**	**06 25 29.0**	**+0.1**
DAGI	**Agillar**	**1.89**	**218**	*i* P	**Pn**	**06 25 06.9**	**+0.2**
DAGI				*i* S	**Sn**	**06 25 31.7**	**+0.9**
DBAD	**Bademkaya**	**2.04**	**221**	*i* P	**Pn**	**06 25 09.4**	**+0.7**
DBAD				*i* S	**Sn**	**06 25 35.7**	**+1.2**
DBAD	**Bademkaya**	**2.04**	**221**	*i* P	**Pn**	**06 25 09.4**	**+0.7**
DBAD				*i* S	**Sn**	**06 25 35.7**	**+1.2**
DIGO	**Kars**	**2.16**	**182**	*i* P	**Pn**	**06 25 11.9**	**+1.4**
DIGO	**Kars**	**2.16**	**182**	*i* P	**Pn**	**06 25 11.9**	**+1.4**
HOMI	**Horasan**	**2.79**	**205**	*i* P	**Pb**	**06 25 26.2**	**+2.0**
SOC	**Sochi**	**2.92**	**291**	*e*PN	**Pn**	**06 25 21.2**	**+0.5**
SOC				*e*		06 25 55.9	
SOC				pmax	pmax		
	comp=Z,12nm,0.6s						
SOC				smax	smax		
	comp=N,60nm,0.8s						
SOC				smax	smax		
	comp=E,96nm,0.8s						
SOC	**Sochi**	**2.92**	**291**	*e*Pn	**Pn**	**06 25 21.2**	**+0.5**
	comp=E,12nm,0.6s						
SOC				*e*Sn	**Sn**	**06 25 55.9**	**-0.1**
BRTR	**Keskin Array B**	**7.94**	**252**	Pn	**Pn**	**06 26 30.0**	**+0.2**
	comp=E,0.3nm,0.3s,baz=38,slow=11,SNR=6.8						
BRTR				Sn	**Sn**	**06 27 58.4**	**-1.5**
	comp=E,0.1nm,0.3s,baz=74,slow=14,SNR=2.3						
BRTR	**Keskin Array B**	**7.94**	**252**	P	**Pn**	**06 26 30.0**	**+0.2**
BRTR				S	**Sn**	**06 27 58.4**	**-1.5**
AKTK	**Aktyubinsk**	**12.72**	**47**	P	**Pn**	**06 27 33.5**	**-1.6**
	comp=E,1.0nm,0.3s						
AKTO	**Aktyubinsk**	**12.72**	**47**	⇓Pn	**Pn**	**06 27 33.9**	**-1.2**
	comp=E,2.8nm,0.7s						
AKTO				⇑Sn	Sn	06 29 50.1	-6.7
	comp=E,5.2nm,1.1s						
AKTO	**Aktyubinsk**	**12.72**	**47**	P	**Pn**	**06 27 33.5**	**-1.6**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKTO	**Aktyubinsk**	**12.72**	**47**	Pn	**Pn**	**06 27 33.5**	**-1.6**
	comp=Z,0.5nm,0.3s,baz=231,slow=10,SNR=5.1						
AKTO	**Aktyubinsk**	**12.72**	**47**	Pn	**Pn**	**06 27 33.9**	**-1.2**
	comp=Z,2.8nm,0.7s						
AB31	**Akbulak array**	**13.26**	**54**	⇓Pn	**Pn**	**06 27 40.6**	**-1.8**
	comp=Z,1.5nm,0.5s,baz=241,slow=10,SNR=30						
AB31				⇑Sn	Sn	06 30 02.7	-7.3
	comp=Z,1.8nm,0.8s,baz=239,slow=20,SNR=7.3						
AB31	**Akbulak array**	**13.26**	**54**	Pn	**Pn**	**06 27 40.6**	**-1.8**
	comp=Z,1.5nm,0.5s,baz=241,SNR=30						
KK31	**Karatay Array**	**19.82**	**79**	⇓P	**P**	**06 29 05.2**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=286,slow=11,SNR=5.5						
KK31	**Karatay Array**	**19.82**	**79**	P	**P**	**06 29 05.2**	**+0.3**
	comp=Z,0.6nm,0.5s,SNR=5.5						
BRVK	**Borovoye**	**20.72**	**50**	*e*P	Pn	06 29 15.7	-1.2
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
BRVK	**Borovoye**	**20.72**	**50**	*e*P	Pn	06 29 15.7	-1.2
	comp=Z,4.0nm,1.0s						
BVAR	**Borovoye Array**	**20.77**	**50**	P	**P**	**06 29 15.2**	**+0.1**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BVAR	**Borovoye Array**	**20.77**	**50**	P	**P**	**06 29 15.2**	**+0.1**
	comp=Z,1.7nm,0.6s,baz=236,slow=10,SNR=5.1						
BVAR	**Borovoye Array**	**20.77**	**50**	P	**P**	**06 29 15.2**	**+0.1**
	comp=Z,2.0nm,0.7s						
VOSK	**Vostochnaya**	**21.01**	**52**	⇓P	**P**	**06 29 17.2**	**-0.6**
	comp=Z,8.7nm,2.0s						
GERES	**GERESS Array B**	**21.62**	**297**	P	**P**	**06 29 24.6**	**+0.2**
	comp=Z,0.9nm,0.3s,baz=90,slow=12,SNR=6.7						
GERES	**GERESS Array B**	**21.62**	**297**	P	**P**	**06 29 24.6**	**+0.2**
	comp=Z,1.0nm,0.3s						
AAK	**Ala-Archa**	**22.78**	**79**	*e*P	**P**	**06 29 38.1**	**+1.1**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
AAK	**Ala-Archa**	**22.78**	**79**	*e*P	**P**	**06 29 38.1**	**+1.1**
	comp=Z,3.0nm,1.0s						
TKM2	**Tokmak 2**	**23.53**	**78**	⇓P	**P**	**06 29 46.8**	**+2.1**
	comp=Z,0.8nm,0.5s						
TKM2	**Tokmak 2**	**23.53**	**78**	P	**P**	**06 29 46.8**	**+2.1**
	comp=Z,0.8nm,0.5s						
KURBB	**Kurchatov Arra**	**25.21**	**59**	P	**P**	**06 30 01.3**	**+1.4**
	comp=Z,0.3nm,0.6s,baz=270,slow=10,SNR=6.2						
HFS	**Hagfors**	**25.24**	**324**	P	**P**	**06 29 59.9**	**-0.2**
	comp=Z,1.6nm,0.6s,baz=138,slow=15,SNR=2.9						
HFS	**Hagfors**	**25.24**	**324**	P	**P**	**06 29 59.9**	**-0.2**
	comp=Z,2.0nm,0.6s						
KURK	**Kurchatov**	**25.28**	**59**	P	**P**	**06 30 01.3**	**+0.8**
KURK	**Kurchatov**	**25.28**	**59**	P	**P**	**06 30 01.3**	**+0.8**
MK31	**Makanchi Array**	**27.73**	**68**	⇑P	**P**	**06 30 22.8**	**0.0**
	comp=Z,1.3nm,1.0s,baz=263,slow=10,SNR=7.5						
MK31	**Makanchi Array**	**27.73**	**68**	P	**P**	**06 30 22.8**	**0.0**
	comp=Z,1.3nm,1.0s,SNR=7.5						
MKAR	**Makanchi Array**	**27.73**	**68**	*e*P	**P**	**06 30 24.4**	**+1.6**
MKAR	**Makanchi Array**	**27.73**	**68**	P	**P**	**06 30 22.7**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=269,slow=9.4,SNR=4.8						
MKAR	**Makanchi Array**	**27.73**	**68**	*e*P	**P**	**06 30 24.4**	**+1.6**
TORD	**Torodi Ar. Bea**	**46.45**	**244**	P	P	06 33 05.4	+3.9
	comp=Z,0.2nm,0.7s,baz=40,slow=7.5,SNR=2.4						

NNC 08 06:37:33.3±0.8, 47.°09N×69.°30E, h0km, mb3.6, mpv3.2, 12C-10D, Error ellipse: s-maj=10.3km s-min=6.5km az=82.0, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**4.08**	**167**	Pn	Pn	06 38 37.6	+0.8
	0.3nm,0.3s,baz=6.0,slow=13,SNR=15						
KK31				⇓Pg	Pb	06 38 48.6	+2.6
	0.9nm,0.3s,baz=346,slow=15,SNR=9.3						
KK31				⇑Sn	Sn	06 39 25.9	+0.6
	2.3nm,0.4s						
KK31				⇑Lg	Lg	06 39 40.8	
	6.8nm,0.4s,baz=335,slow=26,SNR=11						
VOSK	**Vostochnaya**	**5.75**	**10**	⇓Pn	Pn	06 39 01.9	+2.1
	0.9nm,0.5s						
VOSK				⇑Sn	Sn	06 40 06.9	+0.5
	1.2nm,0.4s						
VOSK				⇓Lg	Lg	06 40 33.0	
	13nm,0.6s						
BVA0	**Borovoye Array**	**5.99**	**6**	Pn	Pn	06 39 06.9	+3.9
	1.5nm,0.5s,baz=304,slow=17,SNR=10						
BVA0				⇑Pg	Pg	06 39 23.7	-4.2
	0.8nm,0.3s,baz=162,slow=20,SNR=4.6						
BVA0				⇑Sn	Sn	06 40 14.5	+2.2
	2.2nm,0.5s,baz=158,slow=21,SNR=3.9						
BVA0				⇓Lg	Lg	06 40 44.3	
	10nm,0.8s,baz=184,slow=28,SNR=5.6						
BRVK	**Borovoye**	**6.01**	**6**	⇓Pn	Pn	06 39 05.8	+2.4
	2.4nm,0.4s						
BRVK				⇓Pg	Pb	06 39 20.0	+1.2
	2.5nm,0.5s						
BRVK				⇑Sn	Sn	06 40 12.7	-0.2
	4.2nm,0.6s						
BRVK				⇓Lg	Lg	06 40 43.1	
	7.5nm,0.6s						
AB31	**Akbulak array**	**6.62**	**293**	Pn	Pn	06 39 12.3	+0.5
	1.2nm,0.5s,baz=25,slow=4.1,SNR=30						
AB31				⇑Sn	Sn	06 40 26.2	-1.7
	0.5nm,0.3s,baz=105,slow=22,SNR=6.5						
AB31				⇑Lg	Lg	06 41 00.3	
	1.1nm,0.4s,baz=108,slow=29,SNR=4.2						
KURBB	**Kurchatov Arra**	**7.04**	**56**	⇑Sn	Sn	06 40 37.1	-1.2
	4.0nm,0.8s						
KURBB				⇓Lg	Lg	06 41 14.7	
	28nm,0.9s						
AKTO	**Aktyubinsk**	**8.17**	**298**	⇓Pn	Pn	06 39 34.4	+1.3
	1.7nm,0.4s						
AKTO				⇑Sn	Sn	06 41 04.4	-1.7
	5.7nm,1.1s						
AKTO				⇓Lg	Lg	06 41 55.6	
	3.0nm,0.7s						
MK31	**Makanchi Array**	**8.90**	**87**	Pn	Pn	06 39 44.6	+1.6
	0.5nm,0.5s,baz=274,slow=12,SNR=9.5						
MK31				⇑Sn	Sn	06 41 20.4	-3.6
	0.9nm,0.6s						
MK31				⇑Lg	Lg	06 42 15.2	
	1.7nm,0.6s,baz=259,slow=26,SNR=5.6						

*ISCJB **08** 06:44:38.4±0.4, 11.°47S±0.°07×165.°45E±0.°06, h24km, mb4.2/19, MS4.0/9, Error ellipse: s-maj=10.7km s-min=7.6km az=38.3*
*NEIC **08** 06:44:41.7±1.4, 11.°43S×165.°51E, h36km±12km, mb4.7/2, Error ellipse: s-maj=11.8km s-min=7.9km az=64.0*
*IDC **08** 06:44:43.0±0.8, 11.°43S×165.°46E, h44km±6km, mb4.0/18, mb1 4.1/20, mb1mx4.1/24, mbtmp4.0/20, ML4.7/2, MS3.9/11, Ms1 3.9/11, ms1mx3.6/31, Error ellipse: s-maj=17.9km s-min=13.3km az=93.0*

ISC 08 06:44:40.2±0.5, 11.°50S±0.°06×165.°54E±0.°07, h24km, n61, σ1.°58/71, mb4.3/19, MS3.8/9, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.87**	**290**	P	**Pn**	**06 46 06.2**	**+0.4**
HNR				S	**Sn**	**06 47 10.2**	**-2.2**
HNR	**Honiara**	**5.87**	**290**	P	**Pn**	**06 46 06.2**	**+0.4**
	34nm,0.3s,baz=136,slow=6.3,SNR=14						
HNR				S	**Sn**	**06 47 10.2**	**-2.2**
	6.0nm,0.3s,baz=315,slow=20,SNR=3.2						
DZM	**Mont Dzumac**	**10.55**	**175**	*e*Pn	**Pn**	**06 47 11.1**	**+1.0**
	9.8nm,0.3s						
DZM				*e*Sn	Sn	06 49 02.9	-4.7
	2.3nm,0.3s						
DZM				*e*LR	LR	06 49 34.6	
	401nm,23.9s						
DZM	**Mont Dzumac**	**10.55**	**175**	P	**Pn**	**06 47 10.9**	**+0.9**
DZM				S	**Sn**	**06 49 03.4**	**-4.3**
DZM	**Mont Dzumac**	**10.55**	**175**	P	**Pn**	**06 47 10.9**	**+0.9**
	4.0nm,0.3s,baz=139,slow=15,SNR=41						
DZM				S	**Sn**	**06 49 03.4**	**-4.3**
	0.3nm,0.3s,baz=143,slow=19,SNR=2.2						
DZM				LR	LR	06 50 43.8	
	comp=Z,380nm,20.0s,baz=24,slow=34						
PMG	**Port Moresby**	**18.20**	**275**	LR	LR	06 55 14.9	
	comp=Z,494nm,19.2s,baz=228,slow=35						
CTA	**Charters Tower**	**20.42**	**243**	P	**P**	**06 49 16.5**	**+0.7**
CTA	**Charters Tower**	**20.42**	**243**	P	**P**	**06 49 16.5**	**+0.7**
	1.6nm,0.3s,baz=70,slow=17,SNR=5.1						
COEN	**Coen**	**21.95**	**261**	*e*P	**P**	**06 49 32.9**	**+0.5**
	62nm,0.8s						
AFI	**Afiamalu**	**22.25**	**99**	LR	LR	06 57 10.7	
	comp=Z,249nm,18.4s,baz=77,slow=34						
URZ	**Urewera**	**28.59**	**161**	P	**P**	**06 50 35.0**	**+0.5**
URZ	**Urewera**	**28.59**	**161**	P	**P**	**06 50 35.0**	**+0.5**
	2.3nm,0.5s,baz=309,slow=6.5,SNR=4.2						
STKA	**Stephens Creek**	**29.98**	**224**	P	**P**	**06 50 46.8**	**-0.1**
STKA	**Stephens Creek**	**29.98**	**224**	P	**P**	**06 50 46.8**	**-0.1**
	3.2nm,0.7s,baz=41,slow=9.3,SNR=13						
STKA				LR	LR	07 01 57.5	
	comp=Z,231nm,19.6s,baz=28,slow=34						
WRAB	**Tennant Creek**	**31.13**	**250**	*e*P	**P**	**06 50 56.8**	**-0.5**
WRA	**Warramunga Arr**	**31.14**	**250**	P	**P**	**06 50 56.9**	**-0.5**
WRA				pP	**pP**	**06 51 08.9**	**+4.3**
WRA				PcP	**PcP**	**06 53 52.3**	**-0.1**
WRA	**Warramunga Arr**	**31.14**	**250**	P	**P**	**06 50 56.9**	**-0.5**
	2.1nm,0.7s,baz=81,slow=9.0,SNR=20						
WRA				pP	**pP**	**06 51 08.9**	**+4.3**
	3.7nm,0.6s,baz=82,slow=9.0,SNR=10						
WRA				PcP	**PcP**	**06 53 52.3**	**-0.1**
	0.8nm,0.7s,baz=75,slow=2.8,SNR=4.7						
WRA				LR	LR	07 01 29.1	
	comp=Z,151nm,18.0s,baz=85,slow=32						
ASAR	**Alice Springs**	**32.41**	**244**	P	**P**	**06 51 07.6**	**-1.0**
ASAR				pP	pP	06 51 21.1	+5.3
ASAR				PcP	**PcP**	**06 53 55.5**	**-0.3**
ASAR	**Alice Springs**	**32.41**	**244**	P	**P**	**06 51 07.6**	**-1.0**
	1.2nm,0.6s,baz=65,slow=9.9,SNR=16						
ASAR				pP	pP	06 51 21.1	+5.3
	0.9nm,0.6s,baz=66,slow=9.5,SNR=5.6						
ASAR				PcP	**PcP**	**06 53 55.5**	**-0.3**
	0.9nm,0.7s,baz=68,slow=2.2,SNR=8.2						
RPZ	**Rata Peaks**	**32.46**	**173**	P	**P**	**06 51 10.7**	**+2.1**
RPZ	**Rata Peaks**	**32.46**	**173**	P	**P**	**06 51 10.7**	**+2.1**
	9.2nm,0.8s,baz=306,slow=6.7,SNR=4.7						
FITZ	**Fitzroy Crossi**	**39.08**	**255**	LR	LR	07 07 44.0	
	comp=Z,194nm,18.0s,baz=141,slow=35						
PPT	**Papeete**	**43.78**	**103**	LR	LR	07 07 03.7	
	comp=Z,250nm,18.4s,baz=315,slow=31						
PPT2	**Papeete2**	**43.78**	**103**	*e*S	S	06 59 08.1	-6.0
	73nm,31.8s						
PPT2				*e*LR	LR	07 04 59.3	
	148nm,26.2s						
TBI	**Tubuai**	**44.35**	**112**	*e*S	**S**	**06 59 21.6**	**-0.4**
	54nm,28.5s						
TBI				*e*LR	LR	07 05 19.8	
	110nm,24.8s						
NWAO	**Narrogin (SRO)**	**49.05**	**236**	LR	LR	07 15 01.1	
	comp=Z,379nm,19.4s,baz=55,slow=37						
MJAR	**Matsushiro Arr**	**54.28**	**333**	P	**P**	**06 54 02.0**	**-2.4**
MJAR	**Matsushiro Arr**	**54.28**	**333**	P	**P**	**06 54 02.0**	**-2.4**
	0.6nm,0.3s,baz=165,slow=9.0,SNR=5.1						
JNU	**Nakatsue**	**55.33**	**325**	P	**P**	**06 54 11.8**	**-0.3**
JNU	**Nakatsue**	**55.33**	**325**	P	**P**	**06 54 11.8**	**-0.3**
	6.9n

DBJI			S		Sb	07 03 01.7	-1.5
KPJI	**Karang Pucung**	**1.78 65**	P		**Pn**	**07 02 43.3**	**+0.6**
KPJI			S		Sn	07 03 01.9	-2.5
TGJI	**Tegal**	**2.17 56**	P		**Pn**	**07 02 49.3**	**+1.2**
TGJI			S		Sb	07 03 17.0	-2.1
SBJI	**Serang**	**2.27 329**	P		**Pn**	**07 02 51.8**	**+2.3**
SBJI			S		Sn	07 03 18.5	+2.0
BJII	**Banjamegara**	**2.50 73**	P		**Pn**	**07 02 54.6**	**+1.9**
BJII			S		Sn	07 03 22.3	0.0
XMI	**Christmas Isla**	**2.83 214**	S		Sn	07 03 24.6	-5.8
	baz=2.7,SNR=4.5						
XMIS	**Christmas Isla**	**2.88 214**	P		Pn	07 02 55.7	-2.2
	baz=2.7,SNR=8.5						
XMIS			S		Sn	07 03 25.9	-5.7
	baz=2.7,SNR=8.3						
YOGI	**Yogyakarta**	**2.98 85**	P		**Pn**	**07 03 01.8**	**+2.6**
UGM	**Wanagama**	**3.20 87**	P		**Pn**	**07 03 03.6**	**+1.4**
UGM	**Wanagama**	**3.20 87**	P		**Pn**	**07 03 02.3**	**+0.1**
	baz=3.1,SNR=21						
PWJI	**Pagerwojo**	**4.46 89**	P		**Pn**	**07 03 21.9**	**+2.4**
MNAI	**Manna**	**5.69 310**	P		**Pn**	**07 03 35.5**	**-1.0**
	baz=5.9,SNR=6.8						
JAGI	**Jajag, Banyuwa**	**6.79 94**	P		**Pn**	**07 03 53.6**	**+1.9**
	baz=6.7,SNR=5.2						
SOEI	**Soe**	**16.84 97**	S		Sn	07 08 51.8	-23
	baz=17,SNR=3.3						
FITZ	**Fitzroy Crossi**	**20.43 121**	P		**P**	**07 06 48.2**	**-0.7**
	baz=20,SNR=3.8						
MEEK	**Meekatharra**	**21.35 151**	S		S	07 10 45.1	-9.5
	baz=21,SNR=7.4						
STKA	**Stephens Creek**	**39.70 131**	P		P	07 09 42.5	-1.2
	baz=40,SNR=9.9						
CMSA	**Cobar Meteorol**	**42.66 129**	P		**P**	**07 10 07.6**	**-0.5**
	baz=42,SNR=6.5						

*IDC **08** 07:08:13.2±1.5, 1°.52S×99°.49E, h0km, mb4.0/8, mb1 4.1/10, mb1mx3.9/26, mbtmp4.0/10, ML3.9/2, MS3.4/3, Ms1 3.4/3, ms1mx2.8/39, Error ellipse: s-maj=61.3km s-min=16.1km az=61.0*

*NEIC **08** 07:08:14.4±0.6, 1°.59S×99°.40E, h10km, mb4.1/1, Error ellipse: s-maj=20.1km s-min=7.2km az=70.0*

ISC 08 07:08:15.8±1.3, 1°.6S±0°.1×99°.2E±0°.3, h25km, n31, σ1§20/27, mb4.1/9, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.39**	**357**	Pn	**Pn**	**07 09 19.1**	**-2.0**
PSI	**Prapat**	**4.39**	**357**	Pn	**Pn**	**07 09 19.1**	**-2.0**
	1.4nm,0.3s,baz=146,slow=4.9,SNR=3.9						
PSI				LR	LR	07 11 23.9	
	comp=Z,229nm,19.5s,baz=180,slow=45						
IPM	**Ipoh**	**6.34**	**17**	*e*Pn	**Pn**	**07 09 48.9**	**+1.2**
	16nm,0.6s						
KULM	**Kulim**	**7.02**	**12**	*e*Pn	**Pn**	**07 09 55.7**	**-1.4**
CMAR	**Chiang Mai Arr**	**19.95**	**359**	P	**P**	**07 12 46.6**	**+0.5**
CMAR	**Chiang Mai Arr**	**19.95**	**359**	P	**P**	**07 12 46.6**	**+0.5**
	0.5nm,0.3s,baz=188,slow=10,SNR=13						
WRA	**Warramunga Arr**	**38.91**	**120**	P	**P**	**07 15 38.3**	**-1.5**
WRA	**Warramunga Arr**	**38.91**	**120**	P	**P**	**07 15 38.3**	**-1.5**
	1.4nm,0.9s,baz=302,slow=8.9,SNR=9.2						
WRAB	**Tennant Creek**	**38.92**	**120**	*e*P	**P**	**07 15 38.9**	**-1.0**
	3.2nm,0.8s						
ASAR	**Alice Springs**	**40.16**	**126**	P	**P**	**07 15 50.2**	**0.0**
ASAR	**Alice Springs**	**40.16**	**126**	P	**P**	**07 15 50.2**	**0.0**
	0.7nm,0.7s,baz=299,slow=7.9,SNR=9.1						
SONM	**Songino Array**	**49.65**	**6**	P	**P**	**07 17 05.7**	**+0.2**
SONM	**Songino Array**	**49.65**	**6**	P	**P**	**07 17 05.7**	**+0.2**
	1.3nm,0.7s,baz=182,slow=11,SNR=6.9						
STKA	**Stephens Creek**	**50.03**	**131**	P	**P**	**07 17 08.7**	**+0.2**
STKA	**Stephens Creek**	**50.03**	**131**	P	**P**	**07 17 08.7**	**+0.2**
	0.8nm,0.4s,baz=321,slow=14,SNR=2.8						
MK31	**Makanchi Array**	**50.44**	**345**	*e*P	**P**	**07 17 13.1**	**+1.8**
MKAR	**Makanchi Array**	**50.44**	**345**	P	**P**	**07 17 12.9**	**+1.6**
MKAR	**Makanchi Array**	**50.44**	**345**	P	**P**	**07 17 12.9**	**+1.6**
	2.4nm,0.5s,baz=153,slow=8.4,SNR=16						
USRK	**Ussuriysk Arra**	**54.22**	**29**	P	**P**	**07 17 38.6**	**-0.8**
	3.6nm,0.8s,baz=212,slow=4.8,SNR=6.9						
KURBB	**Kurchatov Arra**	**54.95**	**344**	P	**P**	**07 17 45.8**	**+1.2**
	0.8nm,0.6s,baz=163,slow=7.4,SNR=9.4						
KURK	**Kurchatov**	**55.01**	**344**	P	**P**	**07 17 45.8**	**+0.8**
ZAA0	**Zalesovo Array**	**56.64**	**350**	*e*P	**P**	**07 17 58.9**	**+2.2**
ZALV	**Zalesovo Beam**	**56.64**	**350**	P	**P**	**07 17 57.6**	**+0.9**
ZALV	**Zalesovo Beam**	**56.64**	**350**	P	**P**	**07 17 57.6**	**+0.9**
	2.3nm,0.5s,baz=182,slow=7.1,SNR=7.7						
AKTO	**Aktyubinsk**	**62.62**	**332**	LR	LR	07 46 14.4	
	comp=Z,29nm,19.7s,baz=356,slow=36						
GERES	**GERESS Array B**	**88.21**	**319**	LR	LR	08 02 43.0	
	comp=Z,42nm,19.5s,baz=109,slow=37						
CPUP	**Villa Florida**	**144.12**	**218**	PKP	PKPbc	07 27 51.0	+2.8
CPUP	**Villa Florida**	**144.12**	**218**	PKP	PKPbc	07 27 51.0	+2.8
	0.8nm,0.5s,baz=163,slow=3.3,SNR=4.4						
TXAR	**Lajitas Array**	**144.90**	**36**	PKP	**PKPdf**	**07 27 51.7**	**+0.1**
TXAR	**Lajitas Array**	**144.90**	**36**	PKP	**PKPdf**	**07 27 51.7**	**+0.1**
	0.5nm,0.5s,baz=221,slow=0.8,SNR=19						
JCT	**Junction City**	**146.13**	**30**	*e*PKPdf	**PKPab**	**07 27 55.1**	**0.0**

*ISCJB **08** 07:48:15.5±0.4, 59°.00N±0°.03×22°.13E±0°.05, h0km, Error ellipse: s-maj=4.6km s-min=3.6km az=8.6*

*CSEM **08** 07:48:16.4±0.2, 58°.98N×22°.11E, h2km, ML2.0, Error ellipse: s-maj=5.6km s-min=3.9km az=13.0, Mining explosion.*

*IDC **08** 07:48:16.1±2.8, 58°.99N×22°.22E, h0km, mb1 3.1/3, mb1mx2.9/25, mbtmp3.0/3, ML2.6/3, Error ellipse: s-maj=31.0km s-min=12.0km az=163.0*

*NAO **08** 07:48:17.9±1.7, 59°.14N×22°.09E, ML2.1*

*HEL **08** 07:48:17.1±0.1, 59°.00N×22°.15E, h0km, ML2.0, ML2.4(UPP), Explosion*

*BER **08** 07:48:19.7±3.4, 59°.07N×21°.95E, h0km±24km, ML2.1(NAO)*

*UPP **08** 07:48:19.2, 59°.09N×21°.73E, h0km, ML2.4, Suspected Mining explosion.*

ISC 08 07:48:15.3±0.8, 58°.98N±0°.04×22°.09E±0°.02, h0km, n42, σ1§04/63, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTSE	**Matsula**	**0.93**	**106**	*e*P	**Pg**	**07 48 33.1**	**-0.1**
MTSE				*e*S	**Sg**	**07 48 45.2**	**-0.1**
MTSE	**Matsula**	**0.93**	**106**	P	**Pg**	**07 48 33.0**	**-0.1**
MTSE				S	**Sg**	**07 48 45.1**	**-0.1**
SLIT	**Slitere, Latvi**	**1.36**	**176**	*e*P	**Pn**	**07 48 42.0**	**+0.5**
SLIT				*e*S	**Sg**	**07 48 59.3**	**+0.3**
SLIT	**Slitere, Latvi**	**1.36**	**176**	P	**Pn**	**07 48 41.9**	**+0.5**
SLIT				S	**Sg**	**07 48 59.2**	**+0.3**
MEF	**Metsahovi**	**1.70**	**42**	*e*P	**Pn**	**07 48 46.4**	**+0.1**
MEF				*e*S	**Sn**	**07 49 08.0**	**-0.7**
MEF				MSG		07 49 09.1	
	comp=Z,13nm,0.1s						
MEF	**Metsahovi**	**1.70**	**42**	P	**Pn**	**07 48 46.3**	**+0.1**
MEF				S	**Sn**	**07 49 07.9**	**-0.7**
NRTU	**Norrtaelje**	**1.91**	**293**	P	**Pn**	**07 48 49.9**	**+0.9**
NRTU				S	**Sn**	**07 49 15.0**	**+1.4**
NRTU	**Norrtaelje**	**1.91**	**293**	P	**Pn**	**07 48 49.9**	**+0.9**
NRTU				S	**Sn**	**07 49 15.0**	**+1.4**
RAF	**Rauma**	**2.05**	**356**	*e*P	**Pn**	**07 48 52.3**	**+1.3**
RAF				*e*S	**Sn**	**07 49 18.6**	**+1.3**
RAF				MSG		07 49 20.9	
	comp=Z,6.3nm,0.1s						
RAF	**Rauma**	**2.05**	**356**	P	**Pn**	**07 48 52.2**	**+1.3**
RAF				S	**Sn**	**07 49 18.5**	**+1.3**
NYNU	**Nynaeshamn**	**2.12**	**272**	P	**Pn**	**07 48 53.1**	**+1.3**
NYNU	**Nynaeshamn**	**2.12**	**272**	P	**Pn**	**07 48 53.1**	**+1.3**
FLYU	**Flymyra**	**2.43**	**300**	P	**Pn**	**07 48 57.3**	**+1.1**
FLYU	**Flymyra**	**2.43**	**300**	P	**Pn**	**07 48 57.3**	**+1.1**
FORU	**Forsmark**	**2.43**	**307**	P	**Pn**	**07 48 56.9**	**+0.7**
FORU	**Forsmark**	**2.43**	**307**	P	**Pn**	**07 48 56.9**	**+0.7**
UPP	**Uppsala**	**2.45**	**293**	P	**Pb**	**07 48 59.2**	**-0.8**
UPP	**Uppsala**	**2.45**	**293**	P	**Pb**	**07 48 59.2**	**-0.8**
PVF	**Pernaja**	**2.47**	**49**	*e*P	**Pn**	**07 48 58.0**	**+1.3**
PVF				*e*SB	**Sb**	**07 49 30.5**	**-0.9**
PVF				MSG		07 49 33.1	
	comp=Z,9.5nm,0.1s						
PVF	**Pernaja**	**2.47**	**49**	P	**Pn**	**07 48 58.0**	**+1.3**
VSU	**Vasula**	**2.48**	**100**	Pn	**Pb**	**07 48 60.0**	**-0.6**
VSU				Sn	**Sb**	**07 49 31.5**	**-0.1**
VSU	**Vasula**	**2.48**	**100**	Pn	**Pb**	**07 48 60.0**	**-0.6**
VSU				Sn	**Sb**	**07 49 31.5**	**-0.1**
VSU	**Vasula**	**2.48**	**100**	*e*PB	**Pb**	**07 48 59.8**	**-0.8**
VSU				*e*SG	**Sb**	**07 49 32.2**	**+0.7**
VSU	**Vasula**	**2.48**	**100**	*e*P	**Pb**	**07 48 59.9**	**-0.6**
	SNR=50						
VSU				*e*S	**Sb**	**07 49 31.1**	**-0.5**
	SNR=50						
BACU	**Backbrunna**	**2.69**	**291**	P	**Pn**	**07 49 01.2**	**+1.4**
BACU	**Backbrunna**	**2.69**	**291**	P	**Pn**	**07 49 01.2**	**+1.4**
IGGU	**Iggoen**	**3.06**	**310**	P	**Pn**	**07 49 05.7**	**+0.9**
IGGU	**Iggoen**	**3.06**	**310**	P	**Pn**	**07 49 05.7**	**+0.9**
FIA0	**FINESS Array S**	**3.17**	**37**	Pn	**Pn**	**07 49 07.6**	**+1.3**
	baz=218,slow=12						
FIA0				Sn	**Sn**	**07 49 45.9**	**+1.1**
	baz=235,slow=28						
FIA0	**FINESS Array S**	**3.17**	**37**	Pn	**Pn**	**07 49 07.6**	**+1.3**
	baz=218,slow=12						
FIA0				Sn	**Sn**	**07 49 45.9**	**+1.1**
	baz=235,slow=28						
FIA0	**FINESS Array S**	**3.17**	**37**	Pn	**Pn**	**07 49 07.6**	**+1.3**
	baz=218,slow=12,SNR=50						
FIA0				Sn	**Sn**	**07 49 45.9**	**+1.1**
	baz=235,slow=26,SNR=50						
FINES	**FINESS Array B**	**3.17**	**37**	Pn	**Pn**	**07 49 07.3**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=220,slow=12,SNR=9.7						
FINES				Sn	**Sn**	**07 49 45.3**	**+0.5**
	comp=Z,0.7nm,0.3s,baz=223,slow=22,SNR=8.7						
HFS	**Hagfors**	**4.43**	**289**	Pn	**Pn**	**07 49 25.1**	**+1.5**
	baz=106,slow=14						
HFS				Sn	**Sn**	**07 50 15.9**	**+0.1**
	baz=98,slow=28						
HFS				Lg	Lg	07 50 32.5	
	baz=101,slow=37						
HFS	**Hagfors**	**4.43**	**289**	Pn	**Pn**	**07 49 25.1**	**+1.5**
	baz=106,slow=14						
HFS				Sn	**Sn**	**07 50 15.9**	**+0.1**
	baz=98,slow=28						
HFS				Lg	Lg	07 50 32.5	
	baz=101,slow=37						
HFS	**Hagfors**	**4.43**	**289**	Pn	**Pn**	**07 49 25.1**	**+1.5**
	baz=106,slow=13,SNR=50						
HFS				Sn	**Sn**	**07 50 15.9**	**+0.1**
	baz=98,slow=28,SNR=50						
HFS				Lg	Lg	07 50 32.5	
	baz=101,slow=29,SNR=50						
NB2	**NORSAR Subarra**	**5.83**	**295**	Pn	**Pn**	**07 49 42.2**	**-0.8**
	baz=103,slow=14						
NB2	**NORSAR Subarra**	**5.83**	**295**	Pn	**Pn**	**07 49 42.2**	**-0.8**
	baz=103,slow=14						
NB2	**NORSAR Subarra**	**5.83**	**295**	Pn	**Pn**	**07 49 42.2**	**-0.8**
	baz=103,slow=13,SNR=50						
NOA	**NORSAR Array B**	**5.83**	**295**	Pn	**Pn**	**07 49 42.2**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=121,slow=6.4,SNR=6.1						
NOA				Sn	**Sn**	**07 50 48.2**	**-2.3**
	comp=Z,0.1nm,0.3s,baz=93,slow=18,SNR=2.3						
NOA				Lg	Lg	07 51 14.3	
	comp=Z,0.4nm,0.3s,baz=91,slow=17,SNR=2.9						
ARA0	**ARCESS Array S**	**10.70**	**6**	Pn	Pn	07 50 46.5	-3.0
	baz=190,slow=14						
ARA0	**ARCESS Array S**	**10.70**	**6**	P	Pn	07 50 46.5	-3.0
	baz=190,slow=14						
ARCES	**ARCESS Array B**	**10.70**	**6**	Pn	**Pn**	**07 50 47.0**	**-2.5**
	comp=Z,0.1nm,0.3s,baz=185,slow=13,SNR=5.4						
ARCES				Sn	Sn	07 52 41.4	-8.3
	comp=Z,0.1nm,0.3s,baz=186,slow=23,SNR=2.9						

*IDC **08** 07:53:03.1±8.9, 34°.24N×70°.04E, h0km, mb3.4/2, mb1 3.6/4, mb1mx3.3/28, mbtmp3.6/4, ML3.0/1, Error ellipse: s-maj=288.9km s-min=26.4km az=136.0*

*ISCJB **08** 07:53:15.6±1.6, 35°.8N±0°.1×68°.2E±0°.2, h33km, mb3.5/2, Error ellipse: s-maj=31.1km s-min=11.3km az=39.0*

*NNC **08** 07:53:19.6±6.2, 35°.98N×68°.66E, h0km, mb3.7, mpv3.6, Error ellipse: s-maj=59.3km s-min=46.1km az=130.0*

ISC 08 07:53:17.9±2.0, 35°.7N±0°.2×68°.3E±0°.2, h35km, n7, σ1§02/9, 4C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**7.60**	**12**	⇑Pn	**Pn**	**07 55 05.5**	**-0.6**
	1.6nm,0.6s,baz=203,slow=16,SNR=14						
KK31				⇓Sn	**Sn**	**07 56 30.0**	**-1.0**
	1.2nm,0.5s						
KK31				Lg	Lg	07 57 13.5	
	4.9nm,0.8s,baz=194,slow=30,SNR=4.8						
AAK	**Ala-Archa**	**8.44**	**33**	Pn	**Pn**	**07 55 18.3**	**+0.5**
	baz=196,slow=6.8						
AAK				Sn	**Sn**	**07 56 52.6**	**+0.8**
	0.1nm,0.3s,baz=114,slow=20,SNR=4.5						
TKM2	**Tokmak 2**	**9.17**	**36**	⇑Pn	**Pn**	**07 55 27.5**	**-0.4**
	1.8nm,0.4s						
TKM2				⇑Sn	**Sn**	**07 57 10.1**	**+0.3**
	3.9nm,1.1s						
AB31	**Akbulak array**	**14.88**	**338**	⇑Pn	**P**	**07 56 52.3**	**+1.5**
	0.1nm,0.2s,baz=154,slow=12,SNR=4.5						
MKAR	**Makanchi Array**	**15.27**	**39**	Pn	Pn	07 56 42.1	-8.6
	0.1nm,0.3s,baz=223,slow=8.6,SNR=3.1						
ZALV	**Zalesovo Beam**	**21.60**	**27**	P	**P**	**07 58 03.2**	**-1.3**
	0.6nm,0.3s,baz=227,slow=9.7,SNR=4.2						
TORD	**Torodi Ar. Bea**	**63.50**	**267**	P	**P**	**08 03 44.5**	**-0.3**
	0.2nm,0.5s,baz=55,slow=5.6,SNR=3.1						

MEX 08 07:59:17.6±0.5, 14°.22N×92°.23W, h60km±7km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.69**	**357**	*i* P	Pn	07 59 30.0	-1.7
THIG				*e*S	Sn	07 59 40.5	-1.5
PCIG		**1.76**	**327**	*e*P	Pn	07 59 44.5	-1.3
PCIG				*i* S	Sn	08 00 05.1	-2.1
CCIG	**Comitan**	**2.06**	**2**	*e*P	Pn	07 59 48.7	-1.4
CCIG				*i* S	Sn	08 00 12.7	-2.1
TGIG		**2.69**	**341**	*e*P	Pn	07 59 57.3	-1.2
TGIG				*i* S	Sn	08 00 27.9	-2.1
CMIG	**Matias Romero**	**3.83**	**319**	*i* P	Pn	08 00 13.9	-0.3
CMIG				*i* S	Sn	08 00 56.0	-2.0

*ATH **08** 07:07:43.6, 39°.23N×19°.98E, h10km±1km, MD3.5/13*

*CSEM **08** 07:07:44.0±0.3, 39°.26N×19°.97E, h2km, ML3.0/8, Error ellipse: s-maj=6.5km s-min=2.8km az=76.0*

*THE **08** 08:07:44.9, 39°.28N×20°.03E, h0km±2km, ML3.0/8, Error ellipse: s-maj=3.5km s-min=0.8km az=260.0*

*SKO **08** 08:07:47.4, 39°.34N×20°.15E, h4km, M2.4, ML2.9*

ISC 08 08:07:43.9±1.2, 39°.26N±0°.02×20°.03E±0°.04, h11km±9km, n66, σ1§06/111, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.36**	**40**	P	**Pg**	**08 07 50.5**	**-0.6**
IGT				S	**Sg**	**08 07 56.0**	**+0.1**
IGT	**Igoumenitsa**	**0.36**	**40**	P	**Pg**	**08 07 50.5**	**-0.6**
IGT				S	**Sg**	**08 07 56.0**	**+0.1**
KEK	**Kerkira**	**0.49**	**338**	*e*PB	**Pb**	**08 07 53.8**	**-0.8**
KEK	**Kerkira**	**0.49**	**338**	*e*Pb	**Pb**	**08 07 53.8**	**-0.8**
SRN	**Sarande**	**0.62**	**358**	P	**Pg**	**08 07 55.6**	**-0.4**
SRN				S	**Sb**	**08 08 05.6**	**0.0**
SRN	**Sarande**	**0.62**	**358**	P	**Pg**	**08 07 55.6**	**-0.4**
SRN				S	**Sb**	**08 08 05.6**	**0.0**
LKD2	**Lefkada island**	**0.68**	**134**	P	**Pb**	**08 07 57.2**	**-0.5**
LKD2				S	**Sn**	**08 08 08.2**	**-1.9**
LKD2	**Lefkada island**	**0.68**	**134**	*e*PB	**Pg**	**08 07 55.5**	**-1.5**
LKD2	**Lefkada island**	**0.68**	**134**	*e*Pb	**Pg**	**08 07 55.5**	**-1.5**
LKD2	**Lefkada island**	**0.68**	**134**	P	**Pb**	**08 07 57.2**	**-0.5**
LKD2				S	**Sn**	**08 08 08.2**	**-1.9**
JAN	**Janina**	**0.75**	**58**	*e*PB	**Pg**	**08 07 57.3**	**-1.1**
JAN				*e*SB	**Sb**	**08 08 09.9**	**+0.6**
JAN	**Janina**	**0.75**	**58**	*e*Pb	**Pg**	**08 07 57.3**	**-1.1**
JAN				*e*Sb	**Sb**	**08 08 09.9**	**+0.6**
VLS	**Valsamata**	**1.16**	**158**	*e*PB	**Pn**	**08 08 05.9**	**-0.3**
VLS				*e*SB	**Sn**	**08 08 21.8**	**-0.3**
VLS	**Valsamata**	**1.16**	**158**	*e*Pb	**Pn**	**08 08 05.9**	**-0.3**
VLS				*e*Sb	**Sn**	**08 08 21.8**	**-0.3**
KFL	**Anninata**	**1.29**	**152**	P	**Pg**	**08 08 08.7**	**0.0**
KFL				S	**Sg**	**08 08 28.3**	**+2.9**
KFL	**Anninata**	**1.29**	**152**	P	**Pg**	**08 08 08.7**	**0.0**
KFL				S	**Sg**	**08 08 28.3**	**+2.9**
NEST	**Nestorio**	**1.40**	**34**	P	**Pg**	**08 08 10.7**	**0.0**
NEST				S	**Sg**	**08 08 30.6**	**+1.7**
NEST	**Nestorio**	**1.40**	**34**	P	**Pg**	**08 08 10.7**	**0.0**
NEST				S	**Sg**	**08 08 30.6**	**+1.7**
EVR	**Evrytania**	**1.42**	**103**	*e*PG	**Pb**	**08 08 10.7**	**+0.1**
EVR	**Evrytania**	**1.42**	**103**	*e*Pg	**Pb**	**08 08 10.7**	**+0.1**
AXS	**Araxos**	**1.49**	**135**	P	**Pg**	**08 08 12.2**	**-0.3**
AXS				S	**Sg**	**08 08 33.5**	**+1.6**
AXS	**Araxos**	**1.49**	**135**	P	**Pg**	**08 08 12.2**	**-0.3**
AXS				S	**Sg**	**08 08 33.5**	**+1.6**
THL	**Klokotos Trika**	**1.57**	**78**	*e*PB	**Pg**	**08 08 14.5**	**+0.5**
THL				*e*SB	**Sg**	**08 08 36.4**	**+2.1**
THL	**Klokotos Trika**	**1.57**	**78**	*e*Pb	**Pg**	**08 08 14.5**	**+0.5**
THL				*e*Sb	**Sg**	**08 08 36.4**	**+2.1**
RLS	**Riolos of Patr**	**1.64**	**136**	*e*PG	**Pg**	**08 08 14.4**	**-1.0**
RLS				*e*SB	**Sg**	**08 08 38.4**	**+1.7**
RLS	**Riolos of Patr**	**1.64**	**136**	*e*Pg	**Pg**	**08 08 14.4**	**-1.0**
RLS				*e*Sb	**Sg**	**08 08 38.4**	**+1.7**
MAKR	**Makrakomi, Fth**	**1.65**	**98**	P	**Pb**	**08 08 14.7**	**+0.3**
MAKR				S	**Sg**	**08 08 36.7**	**-0.3**
MAKR	**Makrakomi, Fth**	**1.65**	**98**	P	**Pb**	**08 08 14.7**	**+0.3**
MAKR				S	**Sg**	**08 08 36.7**	**-0.3**
EFP	**Efpalio**	**1.68**	**119**	P	**Pg**	**08 08 15.2**	**-1.0**
EFP				S	**Sg**	**08 08 38.6**	**+0.6**
EFP	**Efpalio**	**1.68**	**119**	*e*PG	**Pg**	**08 08 15.1**	**-1.1**
EFP	**Efpalio**	**1.68**	**119**	P	**Pg**	**08 08 15.2**	**-1.0**
EFP				S	**Sg**	**08 08 38.6**	**+0.6**
AGG	**Agios Georgios**	**1.80**	**97**	P	**Pb**	**08 08 17.3**	**+0.3**
AGG				S	**Sb**	**08 08 41.1**	**+1.5**
AGG	**Agios Georgios**	**1.80**	**97**	*e*PG	**Pg**	**08 08 17.6**	**-0.9**
AGG				*e*SN	**Sg**	**08 08 42.5**	**+0.6**
AGG	**Agios Georgios**	**1.80**	**97**	P	**Pb**	**08 08 17.3**	**+0.3**
AGG	**Agios Georgios**	**1.80**	**97**	*e*Pg	**Pg**	**08 08 17.6**	**-0.9**
AGG				S	**Sb**	**08 08 41.1**	**+1.5**
AGG				*e*Sn	**Sg**	**08 08 42.5**	**+0.6**
TRIZ	**Trizonia**	**1.83**	**119**	P	**Pb**	**08 08 17.2**	**-0.1**
TRIZ	**Trizonia**	**1.83**	**119**	*e*PN	**Pb**	**08 08 17.4**	**+0.1**
TRIZ				*e*SN	**Sg**	**08 08 42.7**	**+0.1**
TRIZ	**Trizonia**	**1.83**	**119**	P	**Pb**	**08 08 17.2**	**-0.1**
TRIZ				*e*Sn	**Sg**	**08 08 42.7**	**+0.1**
LAKA	**Lakka**	**1.83**	**123**	P	**Pb**	**08 08 16.9**	**-0.5**
LAKA	**Lakka**	**1.83**	**123**	*e*PN	**Pb**	**08 08 17.4**	**0.0**
LAKA	**Lakka**	**1.83**	**123**	P	**Pb**	**08 08 16.9**	**-0.5**
LAKA	**Lakka**	**1.83**	**123**	*e*Pn	**Pb**	**08 08 17.4**	**0.0**
FNA	**Florina**	**1.84**	**34**	P	**Pb**	**08 08 17.0**	**-0.7**
FNA	**Florina**	**1.84**	**34**	*e*PN	**Pb**	**08 08 18.3**	**+0.6**
FNA				*e*SN	**Sg**	**08 08 42.7**	**-0.4**
FNA	**Florina**	**1.84**	**34**	P	**Pb**	**08 08 17.0**	**-0.7**
FNA	**Florina**	**1.84**	**34**	*e*Pn	**Pb**	**08 08 18.3**	**+0.6**
FNA				*e*Sn	**Sg**	**08 08 42.7**	**-0.4**
KALE	**Kalithea**	**1.86**	**117**	P	**Pb**	**08 08 18.0**	**0.0**
KALE				S	**Sg**	**08 08 42.8**	**-0.9**
KALE	**Kalithea**	**1.86**	**117**	*e*PN	**Pb**	**08 08 18.0**	**0.0**
KALE				*e*SN	**Sg**	**08 08 43.8**	**+0.1**
KALE	**Kalithea**	**1.86**	**117**	P	**Pb**	**08 08 18.0**	**0.0**
KALE				S	**Sg**	**08 08 42.8**	**-0.9**
KALE				*e*Sn	**Sg**	**08 08 43.8**	**+0.1**
BIA	**Bitola**	**2.02**	**29**	*i* Pg	**Pb**	**08 08 21.0**	**+0.3**
BIA				*e*Sg	**Sg**	**08 08 48.7**	**-0.2**
BIA	**Bitola**	**2.02**	**29**	*i* Pg	**Pb**	**08 08 20.5**	**-0.2**
BIA				*e*Sg	**Sg**	**08 08 48.1**	**-0.7**
KLV	**Kalavryta, Ach**	**2.05**	**125**	*e*PN	**Pb**	**08 08 20.3**	**-1.0**
KLV				*e*SN	**Sg**	**08 08 48.3**	**-1.6**
KLV	**Kalavryta, Ach**	**2.05**	**125**	*e*Pn	**Pb**	**08 08 20.3**	**-1.0**
KLV				*e*Sn	**Sg**	**08 08 48.3**	**-1.6**
LIT	**Litokhoron**	**2.08**	**65**	P	**Pb**	**08 08 21.0**	**-0.6**
LIT	**Litokhoron**	**2.08**	**65**	P	**Pb**	**08 08 21.0**	**-0.6**
DSF	**Desfina**	**2.12**	**113**	P	**Pb**	**08 08 21.0**	**-1.5**
DSF				S	**Sb**	**08 08 49.7**	**+0.8**
DSF	**Desfina**	**2.12**	**113**	P	**Pb**	**08 08 21.0**	**-1.5**
DSF				S	**Sb**	**08 08 49.7**	**+0.8**
GUR	**Goura**	**2.24**	**125**	P	**Pb**	**08 08 23.1**	**-1.4**
GUR	**Goura**	**2.24**	**125**	*e*PN	**Pb**	**08 08 23.1**	**-1.4**
GUR				*e*SN	**Sb**	**08 08 52.6**	**+0.4**
GUR	**Goura**	**2.24**	**125**	P	**Pb**	**08 08 23.1**	**-1.4**
GUR				*e*Sn	**Sb**	**08 08 52.6**	**+0.4**
XOR	**Xorichti**	**2.45**	**86**	P	**Pb**	**08 08 25.9**	**-2.2**
XOR	**Xorichti**	**2.45**	**86**	P	**Pb**	**08 08 25.9**	**-2.2**
VAY	**Valandovo**	**

PYA				*e*Sg		**Sg**	**08 11 22.0 +0.1**
TRKR	**Terskaya**	**1.52**	**39**	*e*PG		**Pg**	**08 11 02.5 +0.1**
TRKR				*e*S		**Sg**	**08 11 23.0 +1.0**
TRKR	**Terskaya**	**1.52**	**39**	*e*Pg		**Pg**	**08 11 02.5 +0.1**
TRKR				*e*Sg		**Sg**	**08 11 23.0 +1.0**
ARTV	**Artvin**	**1.76**	**220**	*i* P		**Pn**	**08 11 05.2 +0.1**
ARTV				*i* S		**Sn**	**08 11 28.7 +0.5**
ARTV	**Artvin**	**1.76**	**220**	*i* P		**Pn**	**08 11 05.2 +0.1**
ARTV				*i* S		**Sn**	**08 11 28.7 +0.5**
DBOC	**Borcka**	**1.78**	**228**	*i* P		**Pn**	**08 11 05.1 -0.1**
DBOC				*i* S		**Sb**	**08 11 29.5 0.0**
DBOC	**Borcka**	**1.78**	**228**	*i* P		**Pn**	**08 11 05.1 -0.1**
DBOC				*i* S		**Sb**	**08 11 29.5 0.0**
DGRG	**David-gareji**	**1.81**	**126**	P		**Pb**	**08 11 07.0 -0.3**
DGRG				S		**Sg**	**08 11 33.5 +1.9**
DAGI	**Agillar**	**1.85**	**218**	*i* P		**Pn**	**08 11 07.0 +0.8**
DAGI				*i* S		**Sn**	**08 11 30.9 +0.6**
DBAD	**Bademkaya**	**2.00**	**221**	*i* P		**Pn**	**08 11 09.1 +0.8**
DBAD				*i* S		**Sb**	**08 11 35.8 -0.2**
DBAD	**Bademkaya**	**2.00**	**221**	*i* P		**Pn**	**08 11 09.1 +0.8**
DBAD				*i* S		**Sb**	**08 11 35.8 -0.2**
DDEM	**Demirkent**	**2.07**	**218**	*i* P		**Pb**	**08 11 10.7 -1.1**
DDEM				*i* S		**Sb**	**08 11 38.0 -0.1**
DDEM	**Demirkent**	**2.07**	**218**	*i* P		**Pb**	**08 11 10.7 -1.1**
DDEM				*i* S		**Sb**	**08 11 38.0 -0.1**
DIGO	**Kars**	**2.13**	**181**	*i* P		**Pb**	**08 11 13.1 +0.3**
DIGO				*i* S		**Sb**	**08 11 40.7 +0.9**
DIGO	**Kars**	**2.13**	**181**	*i* P		**Pb**	**08 11 13.1 +0.3**
DIGO				*i* S		**Sb**	**08 11 40.7 +0.9**

ISCJB ***08*** *08:25:59.5±0.6, 4.°71N±0.°03×76.°62W±0.°02, h81km±4km, mb4.8/219, Error ellipse: s-maj=5.0km s-min=3.2km az=24.7*

CASC ***08*** *08:26:00.9±1.7, 4.°95N×76.°58W, h34km±999km, MD4.8*

BJI ***08*** *08:26:00.9, 4.°70N×76.°60W, h80km, mB5.3/9, Ms5.4/5, Ms7 5.1/5*

NEIC ***08*** *08:26:01.8±0.5, 4.°66N×76.°62W, h91km±4km, mb5.0/164, Error ellipse: s-maj=3.7km s-min=2.6km az=218.0*

NEIC Felt [II] at Cali. Also felt at Armenia, Manizales and Pereira.

IDC ***08*** *08:26:02.8±1.4, 4.°65N×76.°65W, h100km±11km, mb4.4/24, mb1 4.6/28, mb1mx4.5/30, mbtmp4.4/28, MS3.7/14, Ms1 3.7/14, ms1mx3.5/28, Error ellipse: s-maj=12.6km s-min=8.9km az=52.0*

GCMT ***08*** *08:26:02.3±0.3, 4.°77N×76.°71W, h83km±3km, MW4.8, Moment Tensor Solution. s33,c37; s48,c65; Moment tensor: Scale 10^{16}Nm; M_{rr}1.90±.09; $M_{\theta\theta}$-1.94±.09; $M_{\phi\phi}$0.03±.11; $M_{r\theta}$-0.05±.08; $M_{\theta\phi}$-0.50±.10; $M_{\phi r}$0.63±.08; Best double couple: $M_0$2.10000×10^{16} NP1:ϕ_S60.00000°, δ49.00000°, λ66.00000°. NP2:ϕ_S273.00000°, δ46.00000°, λ115.00000°. Principal axes: T 2.1000, Plg72.0000°, Azm261.0000°; N -0.0400, Plg18.0000°, Azm76.0000°; P -2.0600, Plg2.0000°, Azm166.0000°; Data Used: IU II G CN IC.*

SZGRF ***08*** *08:26:06.3, 5.°83N×74.°73W, h33km, mb5.1, Colombia*

ISC 08 08:26:01.0±0.4, 4.°67N±0.°04×76.°73W±0.°04, h85km±3km, h85km:pP-P, n825, σ1$05/940, mb5.0/220, 268C-193D, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.40**	**85**	*e*Pn	**Pn**	**08 26 40.2**	**+1.5**
ROSC				S	**Sn**	**08 27 10.6**	**+3.1**
ROSC	**El Rosal**	**2.40**	**85**	P	**Pn**	**08 26 40.5**	**+1.8**
	223nm,0.3s,baz=306,slow=2.4,SNR=776						
ROSC				S	**Sn**	**08 27 10.6**	**+3.1**
	238nm,0.3s,baz=103,slow=22,SNR=9.8						
OTAV	**Otavalo**	**4.72**	**201**	*e*Pn	**Pn**	**08 27 10.1**	**-0.2**
OTAV				*e*Sn	**Sn**	**08 28 04.0**	**-0.1**
ZANG	**Zanguenga, Cho**	**5.28**	**324**	*e*P	**Pn**	**08 27 16.4**	**-1.1**
ZANG				*e*S	**Sn**	**08 28 18.1**	**+1.0**
BCIP	**Isla Barro Col**	**5.43**	**326**	*e*P	**Pn**	**08 27 17.8**	**-1.7**
BCIP				*e*S	**Sn**	**08 28 18.4**	**-2.4**
BCIP	**Isla Barro Col**	**5.43**	**326**	*e*Pn	**Pn**	**08 27 17.9**	**-1.7**
BCIP				*e*Sn	**Sn**	**08 28 20.3**	**-0.5**
BRU	**Baru**	**7.11**	**306**	*e*P	**Pn**	**08 27 42.5**	**-0.3**
CTCR	**Cotoan**	**7.32**	**305**	*e*P	**Pn**	**08 27 45.6**	**+0.2**
SDV	**Santo Domingo**	**7.36**	**55**	*e*Pn	**Pn**	**08 27 45.0**	**-1.1**
SDV				*e*Sn	**Sn**	**08 29 08.1**	**-0.1**
ACR	**Cerro Adams**	**7.53**	**302**	*e*P	**Pn**	**08 27 48.5**	**+0.3**
ACR				*e*S	**Sn**	**08 29 09.6**	**-2.4**
BUS	**Buena Vista**	**8.50**	**305**	*e*P	**Pn**	**08 28 02.9**	**+1.1**
URSC	**Urasca**	**8.68**	**307**	*e*P	**Pn**	**08 28 05.7**	**+1.7**
QCR	**Quepos**	**8.77**	**303**	*e*P	**Pn**	**08 28 06.8**	**+1.8**
SJS	**Escuela Geolog**	**9.96**	**306**	⇓*e*P	**Pn**	**08 28 10.3**	**+2.5**
CGA2	**Cerro Gallo 2**	**9.34**	**305**	*e*P	**Pn**	**08 28 15.1**	**+2.1**
ATAH	**Atahualpa**	**11.84**	**188**	P	**Pn**	**08 28 50.0**	**+2.8**
ATAH	**Atahualpa**	**11.84**	**188**	P	**Pn**	**08 28 50.0**	**+2.8**
	1.2nm,0.3s,baz=19,slow=4.9,SNR=24						
MTDJ	**Mount Denham**	**13.50**	**357**	*e*Pn	**Pn**	**08 29 08.2**	**-1.0**
SDDR	**Presa de Saban**	**15.19**	**20**	*e*P	**Pn**	**08 29 31.6**	**+0.7**
	72nm,0.8s						
GTBY	**Guantanamo Bay**	**15.25**	**6**	*e*P	**Pn**	**08 29 32.8**	**+1.2**
	108nm,1.3s						
CRPR	**Cabo Rojo, PR**	**16.26**	**35**	*e*P	**Pn**	**08 29 42.6**	**-1.8**
	60nm,1.3s						
MPR	**Mayaguez**	**16.41**	**34**	*e*P	**Pn**	**08 29 45.4**	**-0.8**
	45nm,1.0s						
NNA	**Nana**	**16.54**	**180**	*e*P	**P**	**08 29 51.0**	**+1.9**
	58nm,1.1s						
NNA	**Nana**	**16.54**	**180**	P	**P**	**08 29 49.9**	**+0.8**
	1.6nm,0.3s,baz=0.4,slow=9.8,SNR=8.8						
LRS	**Lares**	**16.64**	**35**	*e*P	**Pn**	**08 29 49.2**	**+0.2**
SJG	**San Juan**	**16.90**	**37**	*e*P	**Pn**	**08 29 52.4**	**+0.1**
	32nm,0.8s						
CBYP	**Canovanas**	**17.20**	**37**	*e*P	**Pn**	**08 29 54.0**	**-2.0**
	30nm,0.7s						
MTP	**Monte Pirata**	**17.25**	**38**	*e*P	**Pn**	**08 29 56.7**	**0.0**
	30nm,0.9s						
STVI	**Saint Thomas**	**17.82**	**39**	*e*P	**Pn**	**08 30 03.4**	**-0.1**
	125nm,1.6s						
SAML	**Samuel**	**19.11**	**135**	*e*P	**P**	**08 30 16.8**	**-0.5**
	50nm,1.0s						
TEIG	**Tepich**	**19.12**	**325**	*e*P	**Pn**	**08 30 19.8**	**+0.8**
	213nm,2.3s						
TEIG	**Tepich**	**19.12**	**325**	P	**Pn**	**08 30 19.9**	**+0.8**
	0.9nm,0.3s,baz=202,slow=16,SNR=7.6						
TEIG				LR	LR	08 37 04.1	
	comp=Z,176nm,21.3s,baz=195,slow=34						
CMIG	**Matias Romero**	**21.66**	**306**	P	**P**	**08 30 44.3**	**-0.5**
CMIG	**Matias Romero**	**21.66**	**306**	P	**P**	**08 30 44.3**	**-0.5**
	5.7nm,0.8s,baz=95,slow=9.1,SNR=9.9						
CMIG				LR	LR	08 39 43.7	
	comp=Z,170nm,20.4s,baz=129,slow=38						
LPAZ	**La Paz**	**22.49**	**158**	*e*P	**P**	**08 30 52.8**	**-1.5**
	34nm,1.3s						
LPAZ	**La Paz**	**22.49**	**158**	P	**P**	**08 30 52.9**	**-1.5**
	16nm,0.8s,baz=336,slow=15,SNR=32						
LPAZ				LR	LR	08 40 38.1	
	comp=Z,118nm,18.9s,baz=333,slow=39						
SIV	**San Ignacio**	**25.71**	**143**	P	**P**	**08 31 23.2**	**-0.4**
SIV				PcP	**PcP**	**08 34 50.6**	**-1.5**
SIV	**San Ignacio**	**25.71**	**143**	P	**P**	**08 31 23.2**	**-0.4**
	13nm,0.6s,baz=328,slow=10,SNR=44						
SIV				PcP	**PcP**	**08 34 50.6**	**-1.5**
	9.1nm,0.9s,baz=309,slow=6.5,SNR=3.8						
SIV				LR	LR	08 41 32.3	
	comp=Z,510nm,18.1s,slow=36						
LRAL	**Lakeview Retre**	**29.81**	**342**	*e*P	**P**	**08 32 01.4**	**+1.4**
	30nm,1.0s						
HKT	**Hockley**	**30.96**	**326**	*e*P	**P**	**08 32 10.4**	**+0.3**
	66nm,2.1s						
SWET	**Sewanee**	**31.57**	**346**	*e*P	**P**	**08 32 16.3**	**+0.7**
	9.6nm,1.1s						
732A	**Laxson Ranch,**	**32.55**	**320**	⇓P	**P**	**08 32 24.0**	**-0.1**
	baz=33,SNR=7.6						
WVT	**Waverly**	**32.94**	**343**	*e*P	**P**	**08 32 27.3**	**-0.2**
	11nm,0.7s						
632A	**Uvalde**	**32.96**	**321**	⇓P	**P**	**08 32 28.1**	**+0.3**
	baz=33,SNR=9.2						
UALR	**University of**	**33.27**	**336**	*e*P	**P**	**08 32 30.5**	**+0.1**
	16nm,0.9s						
631A	**Perdido Creek**	**33.40**	**320**	⇓P	**P**	**08 32 31.3**	**-0.3**
	baz=34,SNR=6.4						
WHTX	**Lake Whitney**	**33.41**	**327**	*e*P	**P**	**08 32 31.9**	**+0.2**
WHTX	**Lake Whitney**	**33.41**	**327**	⇓P	**P**	**08 32 32.1**	**+0.4**
	baz=34						
532A	**Rocksprings**	**33.47**	**322**	⇑P	**P**	**08 32 32.5**	**+0.3**
	baz=34,SNR=30						
MIAR	**Mount Ida**	**33.59**	**334**	*e*P	**P**	**08 32 32.5**	**-0.7**
	6.7nm,0.9s						
JCT	**Junction City**	**33.65**	**322**	*e*P	**P**	**08 32 33.3**	**-0.6**
	6.9nm,1.0s						
JCT				*e*PcP	**PcP**	**08 35 13.0**	**+0.8**
JCT	**Junction City**	**33.65**	**322**	⇑P	**P**	**08 32 33.8**	**0.0**
	baz=34						
531A	**Rocksprings**	**33.89**	**321**	⇓P	**P**	**08 32 36.5**	**+0.5**
	baz=34,SNR=11						
432A	**Menard**	**33.93**	**323**	⇓P	**P**	**08 32 36.2**	**0.0**
	baz=34,SNR=7.0						
PARMO	**Parma**	**34.02**	**341**	*e*P	**P**	**08 32 37.4**	**+0.6**
332A	**Millersview**	**34.26**	**324**	⇑P	**P**	**08 32 39.0**	**-0.1**
	baz=34,SNR=18						
431A	**Sonora**	**34.29**	**322**	⇓P	**P**	**08 32 39.6**	**+0.2**
	baz=34,SNR=12						
530A	**J-C Ranch, Com**	**34.38**	**320**	⇑P	**P**	**08 32 41.0**	**+0.8**
	baz=34,SNR=15						
WCI	**Wyandotte Cave**	**34.53**	**347**	*e*P	**P**	**08 32 42.0**	**+0.7**
	23nm,1.2s						
WCI				*e*pP	**pP**	**08 33 01.4**	**+0.3**
WCI				*e*PcP	**PcP**	**08 35 14.5**	**0.0**
232A	**Coleman**	**34.57**	**324**	⇓P	**P**	**08 32 41.9**	**+0.2**
	baz=35,SNR=16						
USIN	**University of**	**34.62**	**345**	*e*P	**P**	**08 32 42.1**	**+0.1**
	99nm,1.1s						
USIN				*e*pP	**pP**	**08 33 02.0**	**+0.2**
331A	**San Angelo**	**34.62**	**323**	⇓P	**P**	**08 32 42.2**	**0.0**
	baz=35,SNR=16						
430A	**Baggett Ranch,**	**34.75**	**321**	⇓P	**P**	**08 32 43.3**	**-0.1**
	baz=35						
SIUC	**Southern Illin**	**34.82**	**343**	*e*P	**P**	**08 32 43.6**	**-0.1**
	42nm,0.8s						
SIUC				*e*PcP	**PcP**	**08 35 15.6**	**+0.3**
BDFB	**Brasilia**	**34.86**	**126**	P	**P**	**08 32 43.8**	**-0.7**
BDFB				PcP	**PcP**	**08 35 15.7**	**-0.3**
BDFB	**Brasilia**	**34.86**	**126**	P	**P**	**08 32 43.8**	**-0.7**
	4.2nm,0.6s,baz=277,slow=8.8,SNR=7.6						
BDFB				PcP	**PcP**	**08 35 15.7**	**-0.3**
	3.6nm,0.7s,baz=0.0,slow=0.0,SNR=3.0						
BDFB				LR	LR	08 47 34.8	
	comp=Z,360nm,22.0s,baz=240,slow=37						
529A	**Stev Forest Ra**	**34.93**	**319**	⇓P	**P**	**08 32 45.1**	**+0.2**
	baz=35,SNR=12						
628A	**Black Gap, Mar**	**34.96**	**318**	⇑P	**P**	**08 32 46.2**	**+1.0**
	baz=35,SNR=16						
231A	**Bronte**	**35.00**	**324**	⇑P	**P**	**08 32 45.2**	**-0.3**
	baz=35,SNR=5.2						
429A	**Davenport Ranc**	**35.06**	**320**	⇓P	**P**	**08 32 46.0**	**0.0**
	baz=35,SNR=8.2						
ABTX	**Abilene, Hawle**	**35.11**	**325**	*e*P	**P**	**08 32 46.6**	**+0.2**
ABTX				*e*pP	**pP**	**08 33 06.8**	**+0.6**
ABTX				*e*PcP	**PcP**	**08 35 17.5**	**+1.2**
ABTX	**Abilene, Hawle**	**35.11**	**325**	⇑P	**P**	**08 32 46.7**	**+0.3**
	baz=35,SNR=14						
330A	**Mertzon**	**35.14**	**322**	⇑P	**P**	**08 32 46.8**	**+0.1**
	baz=35,SNR=9.1						
627A	**Terlingua Ranc**	**35.27**	**317**	⇓P	**P**	**08 32 48.9**	**+0.9**
	baz=35,SNR=24						
528A	**Cox Ranch, San**	**35.33**	**319**	⇑P	**P**	**08 32 48.9**	**+0.5**
	baz=36,SNR=13						
TXAR	**Lajitas Array**	**35.39**	**317**	P	**P**	**08 32 50.0**	**+1.1**
TXAR				PcP	**PcP**	**08 35 18.9**	**+1.5**
TXAR	**Lajitas Array**	**35.39**	**317**	P	**P**	**08 32 50.0**	**+1.1**
	2.5nm,0.8s,baz=135,slow=9.5,SNR=27						
TXAR				PcP	**PcP**	**08 35 18.9**	**+1.5**
	12nm,0.8s,baz=144,slow=6.3,SNR=33						
TXAR				LR	LR	08 48 56.2	
	comp=Z,26nm,19.2s,baz=180,slow=39						
TX31	**Lajitas Ar. Si**	**35.39**	**317**	*e*P	**P**	**08 32 49.6**	**+0.7**
TX31				*e*PcP	**PcP**	**08 35 18.8**	**+1.5**
230A	**Sterling City**	**35.44**	**323**	⇑P	**P**	**08 32 49.1**	**-0.2**
	baz=36						
OLIL	**Olney**	**35.45**	**345**	*e*P	**P**	**08 32 49.2**	**0.0**
	43nm,1.1s						
OLIL				*e*pP	**pP**	**08 33 08.7**	**-0.3**
OLIL				*e*PcP	**PcP**	**08 35 17.3**	**+0.2**
BLO	**Bloomington**	**35.48**	**347**	*e*P	**P**	**08 32 49.8**	**+0.4**
	58nm,1.1s						
BLO				*e*pP	**pP**	**08 33 09.6**	**+0.3**
BLO				*e*PcP	**PcP**	**08 35 17.8**	**+0.5**
Z32A	**Haskell**	**35.52**	**326**	⇑P	**P**	**08 32 50.4**	**+0.5**
	baz=36,SNR=23						
131A	**Roby**	**35.57**	**324**	⇑P	**P**	**08 32 50.5**	**+0.2**
	baz=36						
428A	**Kincaid Ranch,**	**35.63**	**320**	⇑P	**P**	**08 32 52.0**	**+1.0**
	baz=36,SNR=7.3						
329A	**Wagon Wheel Ra**	**35.70**	**321**	⇓P	**P**	**08 32 51.5**	**0.0**
	baz=36,SNR=10						
TUL1	**Tulsa**	**35.72**	**333**	*e*P	**P**	**08 32 51.4**	**-0.1**
TUL1				*e*PcP	**PcP**	**08 35 18.2**	**+0.2**
TUL1	**Tulsa**	**35.72**	**333**	⇑P	**P**	**08 32 51.4**	**-0.1**
	baz=36,SNR=13						
626A	**Big Bend Ranch**	**35.84**	**317**	⇓P	**P**	**08 32 53.9**	**+1.1**
	baz=36						
130A	**Snyder**	**35.85**	**324**	⇓P	**P**	**08 32 53.1**	**+0.3**
	baz=36,SNR=7.0						
ACSO	**Alum Creek Sta**	**35.85**	**352**	*e*P	**P**	**08 32 53.8**	**+1.2**
	2.6nm,0.6s						
527A	**Woodward Ranch**	**35.86**	**318**	⇑P	**P**	**08 32 54.1**	**+1.0**
	baz=36,SNR=7.4						
Z31A	**Sharp Cattle R**	**35.90**	**325**	⇑P	**P**	**08 32 53.5**	**+0.3**
	baz=36,SNR=12						
229A	**Bryant Ranch,**	**35.92**	**322**	⇑P	**P**	**08 32 53.8**	**+0.4**
	baz=36,SNR=9.4						
Y32A	**R-V Farms, Ver**	**36.02**	**327**	⇑P	**P**	**08 32 54.6**	**+0.4**
	baz=36						
CPUP	**Villa Florida**	**36.09**	**150**	P	**P**	**08 32 52.7**	**-2.1**
CPUP				PcP	**PcP**	**08 35 18.9**	**-0.3**
CPUP	**Villa Florida**	**36.09**	**150**	P	**P**	**08 32 52.7**	**-2.1**
	1.7nm,0.5s,baz=326,slow=10,SNR=6.8						
CPUP				PcP	**PcP**	**08 35 18.9**	**-0.3**
	4.2nm,0.6s,baz=287,slow=3.4,SNR=6.5						
CPUP				LR	LR	08 49 43.9	
	comp=Z,62nm,19.8s,baz=311,slow=39						
526A	**Mary Lane Ranc**	**36.13**	**317**	⇓P	**P**	**08 32 56.0**	**+0.7**
	baz=36						
328A	**Wristen Ranch,**	**36.15**	**320**	⇓P	**P**	**08 32 55.5**	**+0.2**
	baz=36,SNR=9.9						
427A	**Hayter Ranch,**	**36.18**	**319**	⇑P	**P**	**08 32 56.5**	**+0.8**
	baz=36,SNR=16						
WMOK	**Wichita Mounta**	**36.23**	**328**	*e*P	**P**	**08 32 55.5**	**-0.5**
	9.7nm,0.8s						
WMOK				*e*pP	**pP**	**08 33 15.7**	**-0.2**
WMOK				*e*PcP	**PcP**	**08 35 20.6**	**+1.0**
129A	**Stewart Farms,**	**36.42**	**323**	⇓P	**P**	**08 32 57.7**	**+0.1**
	baz=37,SNR=8.9						
Y31A	**Rekieta Farm,**	**36.44**	**326**	⇑P	**P**	**08 32 58.4**	**+0.6**
	baz=37,SNR=6.9						
Z30A	**Sanderson Ranc**	**36.44**	**324**	⇓P	**P**	**08 32 58.1**	**+0.3**
	baz=37,SNR=18						
426A	**McDonald Obser**	**36.47**	**318**	⇑P	**P**	**08 32 58.8**	**+0.5**
	baz=37,SNR=9.7						
228A	**UT Block 9, Go**	**36.51**	**322**	⇑P	**P**	**08 32 58.7**	**+0.3**
	baz=37						
327A	**Balmorhea Ranc**	**36.58**	**320**	⇑P	**P**	**08 32 59.6**	**+0.6**
	baz=37						
Y30A	**Stafford Cattl**	**36.74**	**325**	⇓P	**P**	**08 33 00.9**	**+0.6**
	baz=37						
SFIN	**Scholer Farm**	**36.76**	**347**	⇑P	**P**	**08 33 00.0**	**-0.3**
	baz=37						
Z29A	**Hungry Hill Ra**	**36.76**	**324**	⇑P	**P**	**08 33 00.8**	**+0.2**
	baz=37,SNR=12						
128A	**Castleberry Fa**	**36.78**	**322**	⇑P	**P**	**08 33 01.5**	**+0.8**
	baz=37,SNR=5.8						
X31A	**McDonald Ranch**	**36.79**	**327**	⇑P	**P**	**08 33 00.9**	**+0.2**
	baz=37,SNR=10						
326A	**Caldwell Ranch**	**36.86**	**319**	⇓P	**P**	**08 33 02.1**	**+0.7**
	baz=37						
227A	**Bennet, Jal**	**36.87**	**321**	⇓P	**P**	**08 33 02.0**	**+0.4**
	baz=37						
X30A	**Coker Ranch, T**	**37.14**	**326**	⇑P	**P**	**08 33 04.5**	**+0.7**
	baz=37,SNR=21						
Y29A	**Porterfield Fa**	**37.17**	**324**	⇑P	**P**	**08 33 04.7**	**+0.7**
	baz=37,SNR=41						
425A	**Indio Mountain**	**37.19**	**318**	⇑P	**P**	**08 33 05.0**	**+0.7**
	baz=37,SNR=9.7						
Z28A	**Tucker Farm, M**	**37.19**	**323**	⇓P	**P**	**08 33 04.5**	**+0.3**
	baz=37						
W31A	**Holland Ranch,**	**37.19**	**328**	⇓P	**P**	**08 33 04.2**	**+0.1**
	baz=37,SNR=5.3						
BINY	**Binghamton**	**37.38**	**1**	*e*P	**P**	**08 33 07.1**	**+1.6**
	173nm,2.5s						
BINY				*e*PcP	**PcP**	**08 35 23.0**	**+0.1**
226B	**Tecolote Peak,**	**37.47**	**320**	⇑P	**P**	**08 33 07.4**	**+0.8**
	baz=38						
W30A	**Crocket Farms**	**37.53**	**327**	⇓P	**P**	**08 33 07.3**	**+0.3**
	baz=38						
Y28A	**McKinney Farm,**	**37.54**	**324**	⇓P	**P**	**08 33 07.5**	**+0.3**
	baz=38,SNR=21						
325A	**Bean Ranch, Si**	**37.54**	**318**	⇓P	**P**	**08 33 07.9**	**+0.6**
	baz=38,SNR=21						
V31A	**Spring Creek L**	**37.58**	**328**	⇓P	**P**	**08 33 08.2**	**+0.8**
	baz=38,SNR=12						
X29A	**Tulia**	**37.61**	**325**	⇓P	**P**	**08 33 08.4**	**+0.7**
	baz=38						
Z27A	**Tatum**	**37.71**	**322**	⇑P	**P**	**08 33 08.3**	**-0.3**
	baz=38,SNR=6.4						
126A	**Clayton Basin,**	**37.75**	**321**	⇑P	**P**	**08 33 09.5**	**+0.6**
	baz=38						
MSTX	**Muleshoe**	**37.89**	**324**	*e*P	**P**	**08 33 10.3**	**+0.2**
MSTX				*e*pP	**pP**	**08 33 31.6**	**+1.4**
MSTX				*e*PcP	**PcP**	**08 35 25.3**	**+0.5**
MSTX	**Muleshoe**	**37.89**	**324**	⇓P	**P**	**08 33 10.5**	**+0.3**
	baz=38,SNR=27						
225A	**Deer Hill, Car**	**37.92**	**319**	⇓P	**P**	**08 33 11.5**	**+1.0**
	baz=38,SNR=12						
324A	**Moseley Ranch,**	**37.93**	**318**	⇑P	**P**	**08 33 11.2**	**+0.7**
	baz=38,SNR=26						
X28A	**Dimmitt**	**37.95**	**325**	⇓P	**P**	**08 33 10.6**	**0.0**
	baz=38,SNR=7.2						
MNTX	**Cornudas Mount**	**38.02**	**318**	*e*P	**P**	**08 33 11.9**	**+0.7**
	10nm,0.9s						
MNTX				*e*pP	**pP**	**08 33 31.3**	**+0.1**
MNTX				*e*PcP	**PcP**	**08 35 25.4**	**+0.2**
U31A	**Nine Bar Ranch**	**38.05**	**329**	⇓P	**P**	**08 33 11.5**	**+0.2**
	baz=38						
Y27A	**Causey**	**38.07**	**323**	⇑P	**P**	**08 33 11.9**	**+0.3**
	baz=38,SNR=34						
W29A	**Amraillo**	**38.07**	**326**	⇑P	**P**	**08 33 12.0**	**+0.4**
	baz=38,SNR=8.2						
Z26A	**Caprock**	**38.15**	**322**	⇓P	**P**	**08 33 13.6**	**+1.3**
	baz=38,SNR=12						
125A	**Gardner Draw,**	**38.17**	**320**	⇓P	**P**	**08 33 13.1**	**+0.7**
	baz=38,SNR=10						
224A	**Cornudas Mount**	**38.35**	**319**	⇑P	**P**	**08 33 14.8**	**+0.7**
	baz=38,SNR=11						
W28A	**Vega**	**38.48**	**326**	⇓P	**P**	**08 33 15.4**	**+0.3**
	baz=39						
Y26A	**Elida**	**38.49**	**323**	⇑P	**P**	**08 33 15.3**	**+0.1**
	baz=39,SNR=10						
T31A	**Randall Ranch,**	**38.52**	**330**	⇓P	**P**	**08 33 15.5**	**+0.2**
	baz=39						
V29A	**Stinnett**	**38.55**	**327**	⇑P	**P**	**08 33 16.8**	**+1.1**
	baz=39						
X27A	**F and S Farms,**	**38.56**	**324**	⇓P	**P**	**08 33 16.2**	**+0.4**
	baz=39,SNR=7.4						
U30A	**WK&E Inc. Balk**	**38.58**	**328**	⇓P	**P**	**08 33 16.3**	**+0.5**
	baz=39						
Z25A	**Roswell**	**38.61**	**321**	⇑P	**P**	**08 33 17.3**	**+1.1**
	baz=39,SNR=26						
ACCN	**Adirondack Com**	**38.65**	**4**	*e*P	**P**	**08 33 17.7**	**+1.4**
	2.5nm,0.6s						
124A	**Stringfield Ra**	**38.70**	**320**	⇑P	**P**	**08 33 18.8**	**+1.7**
	baz=39,SNR=27						
KSU1	**Kansas State U**	**38.73**	**335**	*e*P	**P**	**08 33 16.5**	**-0.5**
	34nm,0.9s						
W27A	**Bowe Ranch, En**	**38.83**	**325**	⇓P	**P**	**08 33 18.3**	**+0.3**
	baz=39,SNR=24						
S31A	**Mullinville**	**38.84**	**331**	⇓P	**P**	**08 33 18.3**	**+0.4**
	baz=39,SNR=8.2						
U29A	**Oasis Ranch, S**	**38.85**	**328**	⇓P	**P**	**08 33 19.1**	**+1.0**
	baz=39						
V28A	**Channing**	**38.85**	**326**	⇓P	**P**	**08 33 19.0**	**+0.8**
	baz=39						
FFD	**Franklin Falls**	**38.90**	**6**	*e*P	**P**	**08 33 19.8**	**+1.5**
	10nm,0.3s						
223A	**Chaparral, Ant**	**38.91**	**318**	⇑P	**P**	**08 33 19.6**	**+0.9**
	baz=39						
X26A	**CR and CF Fran**	**38.91**	**323**	⇓P	**P**	**08 33 19.6**	**+0.8**
	baz=39,SNR=9.3						
T30A	**Plains**	**38.92**	**329**	⇓P	**P**	**08 33 19.7**	**+1.1**
	baz=39,SNR=5.2						
Y25A	**Mesa, Roswell**	**39.02**	**322**	⇓P	**P**	**08 33 20.9**	**+1.2**
	baz=39,SNR=21						
Z24A	**Sheeppen Canyo**	**39.05**	**320**	⇓P	**P**	**08 33 21.1**	**+1.1**
	baz=39,SNR=8.8						
123A	**Bell Site, Whi**	**39.19**	**319**	⇑P	**P**	**08 33 23.0**	**+1.9**
	baz=39,SNR=5.9						
V27A	**Dan Oppiter Fa**	**39.20**	**326**

U25A	Circle Dot Ran baz=41,SNR=25	40.55 325	⇓P	P	08 33 33.6 +1.2
R28A	Tribune baz=41,SNR=14	40.56 329	⇑P	P	08 33 33.1 +0.9
Q29A	Oakley baz=41,SNR=6.6	40.56 330	⇑P	P	08 33 33.0 +0.8
V24A	Rampart Ranch, baz=41,SNR=17	40.59 323	⇑P	P	08 33 34.3 +1.6
LENM	Lemitar 5.3nm,0.9s	40.62 320	eP	P	08 33 34.2 +1.3
LENM			ePcP	PcP	08 35 33.2 -0.3
T26A	Comanche Natio baz=41,SNR=7.0	40.64 326	⇓P	P	08 33 34.2 +1.1
P30A	Selden baz=41	40.72 332	⇑P	P	08 33 33.8 +0.2
120A	U Bar Ranch, L baz=41,SNR=14	40.72 317	⇓P	P	08 33 35.7 +1.9
W23A	Werner Place, baz=41,SNR=5.5	40.74 322	⇑P	P	08 33 35.4 +1.4
ANMO	Albuquerque 19nm,0.9s	40.79 321	eP	P	08 33 35.5 +1.2
X22A	Bernardo baz=41,SNR=5.7	40.85 320	⇑P	P	08 33 36.7 +1.9
LAZ	Ladron 11nm,1.0s	40.87 320	eP	P	08 33 36.8 +1.7
PKME	Peaks-Kenny Pk 5.5nm,0.6s	40.96 8	eP	P	08 33 36.2 +0.9
Y21A	Point of Rocks baz=41,SNR=13	40.97 319	⇑P	P	08 33 38.1 +2.2
R27A	Eads baz=41,SNR=12	41.03 328	⇑P	P	08 33 36.8 +0.7
Z20A	Nine Sixteen R baz=41,SNR=15	41.03 318	⇑P	P	08 33 38.3 +2.0
U24A	Moreno Valley baz=41,SNR=18	41.06 324	⇑P	P	08 33 38.8 +2.1
T25A	Trinidad baz=41,SNR=25	41.07 326	⇑P	P	08 33 38.3 +1.6
P29A	Atwood baz=41,SNR=6.0	41.09 331	⇓P	P	08 33 37.3 +0.6
Q28A	Sharon Springs baz=41,SNR=7.2	41.12 330	⇓P	P	08 33 37.7 +0.9
W22A	Albuquerque baz=41,SNR=10	41.13 321	⇑P	P	08 33 38.9 +1.7
O30A	MW Ranch, Wils baz=41	41.14 333	⇓P	P	08 33 37.6 +0.7
V23A	Ortiz Mt. (NFS baz=41,SNR=23	41.15 323	⇑P	P	08 33 39.3 +2.0
BGNE	Belgrade baz=42	41.31 335	⇑P	P	08 33 38.2 -0.1
X21A	Alamocita Cree baz=42,SNR=39	41.31 320	⇑P	P	08 33 40.5 +1.8
Y20A	Horse Springs, baz=42,SNR=16	41.37 319	⇑P	P	08 33 41.0 +1.9
R26A	Arlington baz=42,SNR=13	41.38 328	⇑P	P	08 33 40.1 +1.1
O29A	4D Ranch, Culb baz=42	41.44 332	⇓P	P	08 33 39.7 +0.2
S25A	Robets Cordova baz=42,SNR=28	41.46 326	⇓P	P	08 33 41.3 +1.5
P28A	Saint Francis baz=42,SNR=19	41.47 330	⇓P	P	08 33 40.8 +1.0
KSCO	Kaye Shedlock'	41.48 329	eP	P	08 33 41.8 +1.9
KSCO			ePP	pP	08 34 02.1 +1.9
KSCO	Kaye Shedlock' baz=42	41.48 329	⇓P	P	08 33 40.8 +0.9
U23A	El Rito baz=42,SNR=32	41.55 323	⇑P	P	08 33 42.1 +1.6
T24B	San Luis baz=42,SNR=12	41.57 325	⇓P	P	08 33 43.1 +2.2
W21A	San Fidel baz=42	41.65 321	⇓P	P	08 33 43.4 +2.0
V22A	San Miguel Ran baz=42,SNR=27	41.70 322	⇓P	P	08 33 44.0 +2.1
R25A	Fountain Ranch baz=42	41.72 327	⇑P	P	08 33 43.6 +1.8
X20A	Quemado baz=42,SNR=24	41.83 319	⇓P	P	08 33 45.6 +2.6
P27A	Ficken Ranch, baz=42,SNR=7.1	41.87 330	⇓P	P	08 33 44.1 +1.1
Q26A	Hugo baz=42,SNR=7.4	41.88 328	⇑P	P	08 33 44.5 +1.3
S24A	Houchin Ranch, baz=42,SNR=11	41.88 325	⇓P	P	08 33 45.5 +2.1
N29A	Votaw Ranch, W baz=42	41.91 333	⇑P	P	08 33 43.2 -0.1
T23A	Casias Ranch, baz=42,SNR=22	41.93 324	⇑P	P	08 33 45.6 +1.8
U22A	Llaves baz=42,SNR=26	41.98 323	⇑P	P	08 33 46.1 +2.0
TUC	Tucson 20nm,1.0s	42.08 315	eP	P	08 33 46.4 +1.5
TUC			ePP	pP	08 34 05.3 +0.2
TUC			ePcP	PcP	08 35 38.8 +0.6
V21A	Milan baz=42,SNR=56	42.08 321	⇓P	P	08 33 47.1 +2.1
SDCO	Great Sand Dun 26nm,0.9s	42.11 325	eP	P	08 33 47.0 +1.7
SDCO			ePP	pP	08 34 05.7 +0.1
SDCO			ePcP	PcP	08 35 39.0 +0.5
W20A	Ramah baz=42,SNR=25	42.20 320	⇓P	P	08 33 47.8 +1.9
R24A	Sanders Place, baz=42,SNR=14	42.23 326	⇓P	P	08 33 47.8 +1.6
Q25A	Bedland, Calha baz=42	42.26 328	⇓P	P	08 33 47.4 +1.1
P26A	Davis Ranch, A baz=42	42.26 329	⇓P	P	08 33 47.5 +1.2
O27A	Beecher Island baz=42,SNR=11	42.30 330	⇑P	P	08 33 47.7 +1.1
S23A	Nye Farm, Mont baz=42,SNR=5.5	42.37 325	⇓P	P	08 33 49.2 +1.9
T22A	Edith baz=43	42.43 323	⇓P	P	08 33 50.2 +2.4
M29A	Burnside Ranch baz=43,SNR=5.9	42.44 333	⇓P	P	08 33 47.6 +0.1
U21A	Nageezi baz=43,SNR=25	42.50 322	⇓P	P	08 33 50.1 +1.8
V20A	Brimhall baz=43,SNR=6.7	42.60 321	⇓P	P	08 33 50.8 +1.7
R23A	Moffat baz=43,SNR=14	42.61 326	⇑P	P	08 33 50.8 +1.5
P25A	Willow Gulch B baz=43,SNR=18	42.65 328	⇑P	P	08 33 50.6 +1.1
OGNE	Ogallala baz=43	42.67 331	⇑P	P	08 33 50.5 +1.0
ECSD	EROS Data Cent 31nm,1.3s	42.69 339	eP	P	08 33 48.0 -1.5
ECSD			ePcP	PcP	08 35 39.7 -0.2
M28A	Bar X Bar Ranc baz=43	42.71 332	⇑P	P	08 33 50.4 +0.6
O26A	Horse Wrangler baz=43	42.76 330	⇑P	P	08 33 51.6 +1.4
SPMN	St. Paul	42.78 343	eP	P	08 33 49.1 -1.0
SPMN	St. Paul baz=43,SNR=14	42.78 343	⇓P	P	08 33 49.5 -0.7
Q24A	Divide baz=43	42.78 327	⇑P	P	08 33 51.3 +0.7
X18A	Snowflake baz=43,SNR=37	42.78 318	⇓P	P	08 33 52.8 +2.2
T21A	Navajo Lake baz=43	42.79 323	⇑P	P	08 33 52.2 +1.6
N27A	Anderson Farm, baz=43	42.80 331	⇑P	P	08 33 51.3 +0.7
L29A	Maesberg Ranch baz=43,SNR=11	42.84 334	⇑P	P	08 33 50.6 -0.2
S22A	4UR Ranch, Cre baz=43,SNR=23	42.88 324	⇓P	P	08 33 53.1 +1.6
W18A	Petrified Fore	42.99 319	eP	P	08 33 54.1 +1.9
W18A			ePP	pP	08 34 13.2 +0.5
W18A			ePcP	PcP	08 35 42.0 +0.6
W18A	Petrified Fore baz=43,SNR=43	42.99 319	⇑P	P	08 33 54.5 +2.2
U20A	Newcomb baz=43,SNR=5.6	43.00 321	⇑P	P	08 33 53.6 +1.3
P24A	Kohler Place, baz=43	43.05 328	⇑P	P	08 33 53.5 +0.8
O25A	Wiggins baz=43	43.07 329	⇑P	P	08 33 53.8 +1.1
Q23A	Hartsel baz=43,SNR=9.7	43.11 326	⇓P	P	08 33 54.4 +1.1
N26A	Koester Ranch, baz=43	43.15 330	⇑P	P	08 33 54.1 +0.7
R22A	Saguache, Gunn baz=43,SNR=10	43.16 325	⇓P	P	08 33 55.4 +1.6
M27A	Reverse DX Ran baz=44,SNR=5.3	43.29 332	⇑P	P	08 33 55.3 +0.9
K29A	Lazy Trails An baz=44	43.34 335	⇑P	P	08 33 54.5 -0.3
214A	Organ Pipe Nat baz=44,SNR=12	43.34 313	⇑P	P	08 33 56.8 +1.8
S21A	Coal Bank Pass baz=44,SNR=26	43.39 323	⇓P	P	08 33 57.0 +1.4
P23A	Jefferson baz=44,SNR=8.6	43.45 327	⇑P	P	08 33 58.7 +2.7
MVCO	Mesa Verde 65nm,1.8s	43.52 322	eP	P	08 33 57.8 +1.2
MVCO			ePcP	PcP	08 35 44.0 +0.9
MVCO	Mesa Verde baz=44,SNR=13	43.52 322	⇑P	P	08 33 57.5 +0.9
O24A	Longmont baz=44,SNR=8.0	43.57 328	⇑P	P	08 33 58.2 +1.3
M26A	McRoberts Ranc baz=44	43.60 331	⇑P	P	08 33 58.3 +1.3
ISCO	Idaho Springs 25nm,1.6s	43.63 327	eP	P	08 33 58.7 +1.2
ISCO			ePcP	PcP	08 35 44.7 +1.2
ISCO	Idaho Springs baz=44,SNR=11	43.63 327	⇓P	P	08 33 58.9 +1.4
Q22A	Crested Butte, baz=44,SNR=18	43.69 325	⇑P	P	08 33 59.5 +1.5
X16A	Lo Mia Camp, P baz=44,SNR=34	43.72 317	⇓P	P	08 34 00.0 +1.9
S20A	Disappointment baz=44,SNR=33	43.84 323	⇑P	P	08 34 01.1 +1.9
SMCO	Snowmass 8.4nm,1.0s	43.94 326	eP	P	08 34 01.1 +1.0
SMCO			ePP	pP	08 34 23.7 +3.1
SMCO			ePcP	PcP	08 35 45.6 +0.8
N24A	Carr baz=44,SNR=12	43.99 329	⇑P	P	08 34 01.8 +1.6
M25A	Palm-Egli Farm baz=44	44.02 330	⇓P	P	08 34 02.1 +1.6
Q21A	Lamborn Mesa, baz=44	44.05 325	⇓P	P	08 34 02.6 +1.9
R20A	Redvale baz=44,SNR=30	44.08 324	⇑P	P	08 34 02.9 +1.8
O23A	Lake Granby, G baz=44,SNR=11	44.09 328	⇓P	P	08 34 02.8 +1.7
P22A	Eagle baz=44,SNR=11	44.11 326	⇑P	P	08 34 02.4 +1.2
K27A	Flueckinger Fa baz=44,SNR=9.5	44.14 333	⇑P	P	08 34 01.4 +0.2
BRSD	Miller	44.17 337	eP	P	08 34 00.3 -1.1
BRSD			ePcP	PcP	08 35 45.2 +0.3
BRSD	Miller baz=44,SNR=5.6	44.17 337	⇓P	P	08 34 00.3 -1.1
Z14A	Wintersburg baz=44,SNR=7.1	44.18 315	⇑P	P	08 34 03.5 +1.9
J28A	Allard Ranch, baz=44	44.27 334	⇑P	P	08 34 01.7 -0.5
WUAZ	Wupatki 36nm,0.9s	44.30 318	eP	P	08 34 04.7 +1.8
WUAZ			ePP	pP	08 34 23.3 +0.1
WUAZ			ePcP	PP	08 35 47.1 -0.6
WUAZ	Wupatki baz=44,SNR=49	44.30 318	⇑P	P	08 34 04.9 +2.1
O22A	Kremmling baz=45,SNR=12	44.39 327	⇓P	P	08 34 04.8 +1.2
M24A	Cheyenne baz=45	44.43 330	⇓P	P	08 34 05.3 +1.6
P21A	Newcastle baz=45,SNR=18	44.45 326	⇓P	P	08 34 05.8 +1.9
113A	Mohawk Valley, baz=45,SNR=6.5	44.45 314	⇑P	P	08 34 05.1 +1.3
J27A	Elkhorn Farm, baz=45,SNR=9.3	44.47 334	⇓P	P	08 34 04.3 +0.5
Y14A	Wickenburg baz=45,SNR=14	44.53 315	⇑P	P	08 34 06.2 +1.7
Q20A	Ridgley Place, baz=45,SNR=10	44.54 324	⇑P	P	08 34 06.6 +1.9
N23A	Red Feather La baz=45,SNR=9.1	44.59 328	⇑P	P	08 34 07.1 +2.0
PHWY	Pilot Hill 2.6nm,0.7s	44.63 329	eP	P	08 34 06.7 +1.2
TRQA	Torquist 6.6nm,0.6s	44.66 163	eP	P	08 34 06.0 +0.7
I28A	Midland baz=45,SNR=22	44.70 335	⇓P	P	08 34 04.9 -0.8
N22A	Wattenberg Ran baz=45	44.79 328	⇑P	P	08 34 08.2 +1.4
L24A	Wheatland baz=45,SNR=5.3	44.91 330	⇑P	P	08 34 08.7 +1.2
O21A	Pagoda baz=45	44.93 326	⇑P	P	08 34 09.5 +1.7
EYMN	Ely 20nm,0.6s	44.95 346	eP	P	08 34 06.8 -0.7
P20A	De Beque baz=45,SNR=6.3	44.96 325	⇓P	P	08 34 09.3 +1.3
J26A	Sides Ranch, S baz=45,SNR=22	44.99 333	⇓P	P	08 34 08.7 +0.6
I27A	Quinn baz=45	45.14 334	⇑P	P	08 34 08.8 -0.4
M22A	Cedar Creek Ra baz=46	45.30 328	⇑P	P	08 34 11.7 +1.0
O20A	White River Ci	45.31 326	eP	P	08 34 11.8 +1.0
O20A	White River Ci baz=46,SNR=9.5	45.31 326	⇑P	P	08 34 12.3 +1.6
N21A	Black Mountain baz=46,SNR=7.7	45.34 327	⇓P	P	08 34 12.3 +1.3
L23A	Garrett baz=46,SNR=15	45.35 330	⇓P	P	08 34 12.2 +1.1
GLA	Glamis baz=46	45.37 313	⇑P	P	08 34 13.0 +1.9
P19A	Cripple Cowboy baz=46,SNR=11	45.39 325	⇑P	P	08 34 12.4 +1.0
U15A	North Rim baz=46,SNR=20	45.44 319	⇑P	P	08 34 13.9 +1.9
I26A	New Underwood baz=46,SNR=9.1	45.46 334	⇓P	P	08 34 11.9 +0.2
G28A	Parade baz=46	45.47 336	⇑P	P	08 34 10.9 -0.9
Y12C	Blythe baz=46,SNR=10	45.50 314	⇓P	P	08 34 14.1 +2.0
PDMCI	Parker Dam,Lak baz=46	45.52 315	⇓P	P	08 34 13.6 +1.3
PLCA	Paso Flores 8.5nm,0.6s	45.53 173	eP	P	08 34 13.4 +1.1
PLCA	Paso Flores 9.8nm,0.6s,baz=350,slow=8.6,SNR=30	45.53 173	P	P	08 34 13.4 +1.1
H27A	Howes baz=46,SNR=11	45.60 335	⇑P	P	08 34 12.1 -0.6
L22A	Ellis Ranch, M baz=46,SNR=7.8	45.66 329	⇓P	P	08 34 14.9 +1.4
F29A	Eureka baz=46	45.67 337	⇓P	P	08 34 12.8 -0.6
J24A	Dixon Ranch, L baz=46	45.75 331	⇑P	P	08 34 15.2 +1.1
W13A	Hualapai Mount baz=46,SNR=13	45.77 316	⇑P	P	08 34 16.1 +1.6
K23A	Bowen Ranch, D baz=46,SNR=5.8	45.78 330	⇑P	P	08 34 15.3 +0.9
N20A	Spence Gulch, baz=46,SNR=6.7	45.80 326	⇑P	P	08 34 15.8 +1.1
RWWY	Rawlins 19nm,1.0s	45.82 328	eP	P	08 34 16.5 +1.6
RWWY			ePP	pP	08 34 37.6 +2.2
RWWY			ePcP	PcP	08 35 51.3 +0.3
I25A	Rochford baz=46,SNR=16	45.84 333	⇑P	P	08 34 15.7 +0.8
M21A	Separation Pea baz=46,SNR=9.1	45.85 328	⇓P	P	08 34 15.7 +0.7
H26A	Fairpoint baz=46,SNR=8.7	45.89 334	⇓P	P	08 34 14.5 -0.5
O19A	Miners Draw (B baz=46,SNR=6.1	45.92 325	⇓P	P	08 34 16.4 +0.9
SRU	San Rafael 29nm,0.9s	45.96 323	eP	P	08 34 16.7 +0.8
SRU			ePcP	PcP	08 35 51.6 +0.1
SWSC	Sam W. Stewart baz=46	46.02 313	⇑P	P	08 34 18.2 +2.0
RSSD	Black Hills 28nm,0.9s	46.06 333	eP	P	08 34 17.2 +0.6
F28A	McLaughlin baz=46,SNR=6.5	46.06 337	⇓P	P	08 34 15.8 -0.6
L21A	Rawlins baz=46,SNR=5.3	46.10 328	⇑P	P	08 34 17.9 +0.9
BC3	Big Chuckawall baz=46,SNR=7.1	46.12 314	⇓P	P	08 34 18.6 +1.4
KNB	Kanab 18nm,1.0s	46.13 319	eP	P	08 34 19.1 +1.9
I24A	Kuemmerle Ranc baz=46	46.13 332	⇓P	P	08 34 18.2 +1.1
IRM	Iron Mountain baz=46,SNR=21	46.16 314	⇓P	P	08 34 19.0 +1.6
K22A	Casper baz=46,SNR=6.4	46.16 329	⇓P	P	08 34 17.9 +0.6
M20A	Sweetwater, Wa baz=46,SNR=8.4	46.21 327	⇓P	P	08 34 18.7 +0.9
Q16A	Castle Valley	46.23 322	eP	P	08 34 18.8 +0.8
Q16A	Castle Valley baz=46,SNR=5.3	46.23 322	⇓P	P	08 34 19.0 +0.9
J23A	Dilts Ranch, B baz=46	46.23 331	⇑P	P	08 34 18.5 +0.6
G26A	Maurine baz=46,SNR=7.6	46.35 335	⇑P	P	08 34 17.2 -1.5
D30A	Buchanan baz=46	46.36 339	⇑P	P	08 34 17.4 -1.2
MONP	Monument Peak baz=47	46.45 312	⇓P	P	08 34 20.1 +0.2
AGMN	Agassiz Nation 17nm,1.0s	46.45 342	eP	P	08 34 18.6 -0.7
TMUT	Trail Mountain 7.3nm,0.9s	46.49 323	eP	P	08 34 20.9 +0.7
TMUT			ePcP	PcP	08 35 54.2 +0.7
K21A	Alcova baz=47,SNR=11	46.52 329	⇓P	P	08 34 20.6 +0.4
G27A	Dupree baz=46,SNR=5.4	46.56 335	⇓P	P	08 34 16.4 -3.9
I23A	Meade Ranch, G baz=47	46.61 331	⇑P	P	08 34 21.3 +0.5
G25A	Newell baz=47,SNR=7.8	46.62 334	⇑P	P	08 34 20.0 -0.8
E28A	Huff baz=47,SNR=5.8	46.62 337	⇑P	P	08 34 19.9 -0.9
L20A	Wamsutter baz=47	46.65 328	⇓P	P	08 34 21.1 -0.1
BELC	Belle Mtn. Jos baz=47,SNR=20	46.69 314	⇑P	P	08 34 23.0 +1.4
J22A	Midwest baz=47,SNR=16	46.69 330	⇑P	P	08 34 21.5 0.0
M19A	Rock Springs baz=47	46.75 326	⇓P	P	08 34 21.7 -0.3
C30A	Mose, Pekin baz=47	46.77 340	⇓P	P	08 34 20.8 -1.1
H24A	Dirks Ranch, A baz=47,SNR=20	46.78 333	⇑P	P	08 34 21.6 -0.5
CCUT	Cedar City 14nm,1.4s	46.79 319	eP	P	08 34 23.9 +1.4
CCUT			ePP	pP	08 34 42.7 -0.4
CCUT			ePcP	PcP	08 35 56.1 +1.6
PFO	Pinyon Flat Ob baz=47	46.82 313	⇑P	P	08 34 23.2 +0.5
F26A	Lodgepole baz=47	46.83 335	⇑P	P	08 34 21.7 -0.7
GMRC	Granite Mounta baz=47,SNR=14	46.84 315	⇓P	P	08 34 23.7 +1.0
E27A	Carson baz=47,SNR=7.7	46.84 337	⇑P	P	08 34 22.2 -0.3
H23A	Clabaugh Cattl baz=47	47.03 332	⇓P	P	08 34 24.0 0.0
D28A	Regan baz=47	47.09 338	⇓P	P	08 34 24.9 +0.5
K20A	Yellowstone Ra baz=47,SNR=7.4	47.10 328	⇓P	P	08 34 25.0 +0.2
J21A	Lysite baz=47,SNR=17	47.13 329	⇓P	P	08 34 25.6 +0.7
G24A	Alzada baz=47	47.17 333	⇑P	P	08 34 25.4 +0.3
MPU	Maple Canyon 17nm,0.9s	47.20 323	eP	P	08 34 26.4 +0.9
MPU			ePcP	PcP	08 35 56.5 +0.7
F25A	Bowman baz=47	47.22 335	⇓P	P	08 34 25.4 -0.1
DAU	Daniels Canyon	47.22 324	eP	P	08 34 27.1 +1.2
DAU			ePcP	PcP	08 35 57.1 +1.1
E26A	Carlson Angus baz=47,SNR=7.2	47.24 336	⇓P	P	08 34 25.8 +0.2
L19A	Farson baz=47,SNR=5.6	47.26 327	⇑P	P	08 34 26.3 +0.3
MDND	Maddock	47.29 339	eP	P	08 34 25.4 -0.5
MDND	Maddock baz=48	47.29 339	⇓P	P	08 34 24.8 -1.1
HEC	Hector,Ludlow baz=48,SNR=19	47.34 315	⇓P	P	08 34 28.2 +1.6
TUQ	Turquoise Moun baz=48,SNR=6.4	47.36 315	⇑P	P	08 34 28.2 +1.4
MURC	Murrieta baz=48,SNR=5.6	47.37 313	⇓P	P	08 34 27.9 +1.1
B30A	Myrvik Farm, E baz=48,SNR=6.5	47.37 341	⇑P	P	08 34 25.9 -0.6
D27A	Center baz=48	47.39 337	⇑P	P	08 34 27.5 +0.8
I21A	Big Trails, Te baz=48,SNR=11	47.39 330	⇓P	P	08 34 26.6 -0.3
SHPR	Sheep Range	47.40 317	eP	P	08 34 28.6 +1.5
JLU	Jordanelle 6.4nm,0.6s	47.46 324	eP	P	08 34 28.5 +0.9
JLU			ePcP	PcP	08 35 57.4 +0.6
J20A	Shoshoni baz=48,SNR=17	47.46 329	⇓P	P	08 34 28.6 +1.2
C28A	Hausauer Farms baz=48	47.46 338	⇑P	P	08 34 26.8 -0.5
BBRC	Big Bear Solar baz=48,SNR=9.2	47.48 314	⇑P	P	08 34 30.0 +2.1
K19A	Absolon Red Bu baz=48,SNR=8.8	47.49 328	⇑P	P	08 34 27.8 +0.1
H22A	Clearmont baz=48	47.50 331	⇑P	P	08 34 28.5 +0.8
G23A	Biddle baz=48,SNR=10	47.51 333	⇓P	P	08 34 28.0 +0.2
L18A	Fontenelle, Gr baz=48,SNR=17	47.52 326	⇑P	P	08 34 28.9 +0.9
M17A	Scullys Gap (B baz=48,SNR=9.2	47.57 325	⇑P	P	08 34 28.9 +0.5
F24A	Ekalaka baz=48,SNR=5.2	47.58 334	⇑P	P	08 34 28.2 -0.1
E25A	Miller Ranch, baz=48	47.65 335	⇑P	P	08 34 28.7 -0.1
B29A	Wagenman Farm, baz=48,SNR=11	47.73 340	⇑P	P	08 34 29.0 -0.4
BW06	Boulder Array 23nm,1.4s	47.83 327	eP	P	08 34 30.7 +0.3
PDAR	Pinedale Array	47.83 327	P	P	08 34 30.9 +0.5
PDAR			PcP	PcP	08 35 57.8 -0.3
PDAR	Pinedale Array 4.6nm,0.7s,baz=130,slow=9.8,SNR=33	47.83 327	P	P	08 34 30.9 +0.5
PDAR			PcP	PcP	08 35 57.8 -0.3
PDAR	3.5nm,0.7s,baz=132,slow=5.6,SNR=7.3 LR comp=Z,53nm,20.8s,baz=62,slow=39		LR	LR	08 57 12.8
SHOC	Shoshone baz=48,SNR=10	47.85 316	⇑P	P	08 34 32.0 +1.5
H21A	Big Horn, Sher baz=48	47.86 331	⇑P	P	08 34 30.8 +0.2
J19A	Crowheart baz=48,SNR=10	47.90 328	⇑P	P	08 34 31.5 +0.6
I20A	Worland baz=48,SNR=17	47.91 330	⇓P	P	08 34 31.5 +0.6
GSC	Goldstone 20nm,1.0s	47.91 315	eP	P	08 34 32.9 +1.8
GSC			ePP	pP	08 34 53.2 +1.4
GSC			ePcP	PcP	08 35 58.0 -0.3
GSC	Goldstone baz=48,SNR=13	47.91 315	⇓P	P	08 34 32.7 +1.6
F23A	Volborg baz=48,SNR=25	47.91 333	⇓P	P	08 34 30.8 0.0
G22A	Birney baz=48,SNR=37	47.94 332	⇓P	P	08 34 31.4 +0.3
BFSC	Mount Baldy Ra baz=48	48.00 313	⇓P	P	08 34 32.8 +1.0
DUG	Dugway 20nm,0.8s	48.02 323	eP	P	08 34 33.4 +1.6
DUG			ePcP	PcP	08 35 59.5 +0.8
DUG	Dugway baz=48,SNR=18	48.02 323	⇓P	P	08 34 33.2 +1.3
A29A	Manning Farm, baz=48,SNR=18	48.08 340	⇓P	P	08 34 31.2 -0.8
E24A	Baker baz=48,SNR=6.7	48.08 335	⇓P	P	08 34 32.1 0.0
D25A	Fairfield baz=48	48.14 336	⇓P	P	08 34 32.6 +0.1
HWUT	Hardware Ranch 8.4nm,0.6s	48.17 325	eP	P	08 34 33.5 +0.5
HWUT			ePcP	PcP	08 35 59.6 +0.4
H20A	Greybull baz=48,SNR=16	48.23 330	⇑P	P	08 34 33.3 0.0
F22A	Rosebud baz=48,SNR=7.3	48.35 333	⇑P	P	08 34 34.0 -0.2
G21A	Lodge Grass baz=49	48.38 331	⇓P	P	08 34 34.5 0.0
I19A	Meeteetse baz=49,SNR=11	48.41 329	⇓P	P	08 34 35.3 +0.4
A28A	Rude Farm, Bot baz=49	48.43 339	⇓P	P	08 34 35.1 +0.4

E23A **Ismay** 48.47 334 ⇑P P 08 34 34.8 -0.3
baz=49,SNR=11
DECC **Green Verdugo** 48.50 313 ⇑P P 08 34 35.5 0.0
baz=49
D24A **Glendive** 48.53 335 ⇑P P 08 34 36.0 +0.5
baz=49,SNR=21
FURC **Furnace Creek,** 48.54 316 ⇑P P 08 34 37.3 +1.6
baz=49,SNR=9.6
EDW2 **Edwards Air Fo** 48.55 314 ⇑P P 08 34 37.3 +1.4
baz=49,SNR=10
I18A **Diamond G Ranc** 48.60 328 ⇑P P 08 34 36.8 +0.4
baz=49,SNR=7.0
LRMC **Laurel Mountai** 48.62 315 ⇓P P 08 34 37.9 +1.4
baz=49,SNR=5.8
AHID **Auburn Hatcher** 48.66 326 eP P 08 34 37.1 +0.3
12nm,1.0s
AHID ePcP PcP 08 36 01.2 +0.2
R11A **Troy Canyon, C** 48.69 319 eP P 08 34 38.7 +1.6
R11A epP pP 08 34 58.4 +0.6
R11A ePcP PcP 08 36 02.5 +1.3
R11A **Troy Canyon, C** 48.69 319 ⇓P P 08 34 38.4 +1.3
baz=49,SNR=20
E22A **Miles City** 48.71 333 ⇓P P 08 34 36.7 -0.2
baz=49,SNR=16
MPMC **Manual Prospec** 48.77 315 ⇑P P 08 34 38.7 +0.9
baz=49,SNR=10
F21A **Absaloka Mine,** 48.78 332 ⇓P P 08 34 37.6 +0.1
baz=49
H19A **Powell** 48.85 330 ⇓P P 08 34 38.2 0.0
baz=49
G20A **Bridger** 48.86 331 ⇑P P 08 34 37.9 -0.3
baz=49,SNR=21
C24A **Savage** 48.89 335 ⇓P P 08 34 38.7 +0.3
baz=49,SNR=12
REDW **Red Top Meadow** 48.93 327 eP P 08 34 39.4 +0.5
28nm,0.9s
SNOW **Snow King Moun** 48.94 327 eP P 08 34 39.6 +0.6
25nm,1.1s
D23A **Lindsay** 48.95 334 ⇓P P 08 34 39.2 +0.4
baz=49,SNR=11
LOHW **Long Hollow** 48.96 328 eP P 08 34 39.6 +0.4
33nm,1.4s
B25A **Knox Farm, Ray** 48.98 337 ⇑P P 08 34 39.5 +0.6
baz=49,SNR=7.0
HVU **Hansel Valley** 48.98 324 eP P 08 34 39.6 +0.4
5.2nm,0.7s
LAO **LASA Array** 49.02 333 eP P 08 34 39.1 -0.3
5.2nm,0.5s
TPAW **Teton Pass** 49.06 327 eP P 08 34 40.8 +0.8
9.9nm,0.8s
MOOW **Moose Ponds** 49.13 328 eP P 08 34 40.9 +0.4
9.3nm,0.8s
GRAC **Grapevine Rang** 49.16 316 ⇑P P 08 34 42.3 +1.7
baz=49
RRI2 **Red Ridge** 49.17 327 eP P 08 34 41.5 +0.7
15nm,0.8s
RRI2 ePcP PcP 08 36 02.5 -0.5
H18A **Shoshone NF, C** 49.20 329 ⇓P P 08 34 40.7 -0.2
baz=49,SNR=7.0
F20A **Billings** 49.25 331 ⇑P P 08 34 41.3 +0.2
baz=49,SNR=14
ARVC **Arvin** 49.27 314 ⇓P P 08 34 42.6 +1.3
baz=49
ISA **Isabella** 49.27 314 eP P 08 34 43.2 +1.7
7.2nm,0.9s
ISA epP pP 08 35 03.4 +1.1
ISA ePcP PcP 08 36 05.0 +1.8
ISA **Isabella** 49.27 314 ⇓P P 08 34 42.7 +1.2
baz=49,SNR=5.6
E21A **Keefer Ranch,** 49.29 333 ⇓P P 08 34 41.6 +0.2
baz=50
RLMT **Red Lodge** 49.31 330 eP P 08 34 42.0 +0.3
6.5nm,0.6s
RLMT ePcP PcP 08 36 03.4 0.0
IMW **Indian Meadow** 49.33 328 eP P 08 34 42.5 +0.4
15nm,0.6s
D22A **Cohagen** 49.35 334 ⇓P P 08 34 42.5 +0.6
baz=50,SNR=32
CWC **Cottonwood Cre** 49.38 315 ⇑P P 08 34 43.4 +1.0
baz=50,SNR=9.3
C23A **Lambert** 49.43 335 ⇑P P 08 34 42.8 +0.5
baz=50,SNR=13
A25A **Svangstu Ranch** 49.50 337 ⇑P P 08 34 43.0 +0.1
baz=50
DGMT **Dagmar** 49.55 336 eP P 08 34 43.7 +0.5
50nm,1.1s
DGMT **Dagmar** 49.55 336 ⇓P P 08 34 43.5 +0.2
baz=50,SNR=11
G18A **Lazy EL Ranch,** 49.60 330 ⇓P P 08 34 44.0 +0.2
baz=50,SNR=8.4
I16A **Newdale** 49.61 327 ⇑P P 08 34 44.6 +0.6
baz=50,SNR=12
D21A **La Casta Ranch** 49.65 333 ⇓P P 08 34 44.5 +0.4
baz=50,SNR=20
F19A **Roth Farm, Mol** 49.67 331 ⇑P P 08 34 44.5 +0.1
baz=50,SNR=11
C22A **Vida** 49.68 334 ⇓P P 08 34 44.9 +0.6
baz=50,SNR=15
E20A **Meyer Farm, Mu** 49.76 332 ⇑P P 08 34 45.7 +0.7
baz=50,SNR=19
VES **Vestal, Richgr** 49.80 314 ⇓P P 08 34 46.3 +1.0
baz=50,SNR=5.7
ELK **Elko** 49.83 322 eP P 08 34 46.2 +0.4
3.3nm,0.7s
ELK ePcP PcP 08 36 05.5 +0.2
A24A **Westby** 49.83 337 ⇑P P 08 34 46.1 +0.7
baz=50,SNR=9.8
B23A **Brockton** 49.86 336 ⇑P P 08 34 46.3 +0.6
baz=50,SNR=14
YMR **Madison River** 49.87 328 eP P 08 34 47.2 +1.2
15nm,1.0s
GCMT **Greycliff** 49.98 330 eP P 08 34 47.3 +0.5
30nm,0.8s
GCMT epP pP 08 35 07.3 -0.4
GCMT ePcP PcP 08 36 06.0 +0.3
E19A **Rath Farm, Rou** 50.04 331 ⇑P P 08 34 47.4 +0.3
baz=50,SNR=16
F18A **Big Timber** 50.09 330 ⇑P P 08 34 48.1 +0.5
baz=50,SNR=42
RCTC **Rector, Farmer** 50.13 315 ⇑P P 08 34 49.1 +1.3
baz=50
B22A **Reddig Ranch S** 50.16 335 ⇓P P 08 34 48.6 +0.7
baz=50,SNR=5.9
D20A **Manuel Ranch,** 50.19 332 ⇓P P 08 34 48.8 +0.5
baz=50,SNR=24
G17A **Pierce Place,** 50.20 329 ⇓P P 08 34 49.7 +1.3
baz=50,SNR=7.6
SMMC **Simmler** 50.21 313 ⇑P P 08 34 50.2 +1.6
baz=50
A23A **Redstone** 50.21 336 ⇑P P 08 34 49.2 +0.9
baz=50
QLMT **Earthquake Lak** 50.22 328 eP P 08 34 50.5 +1.9
C21A **Desert Coulee** 50.27 334 ⇓P P 08 34 49.3 +0.5
baz=50,SNR=6.0
NV11 **Mina Array Sit** 50.44 318 eP P 08 34 51.8 +1.5
NV11 epP pP 08 35 12.0 +0.8
NV11 ePcP PcP 08 36 08.3 +0.7
F17A **Fitzpatrick Pl** 50.56 330 ⇑P P 08 34 52.1 +1.0
baz=51,SNR=16
D19A **Cripps Ranch,** 50.59 332 ⇑P P 08 34 51.8 +0.5
baz=51,SNR=45
C20A **Veseth Ranch,** 50.59 333 ⇑P P 08 34 51.6 +0.4
baz=51,SNR=10
E18A **Harlowton** 50.65 331 ⇓P P 08 34 52.3 +0.5
baz=51,SNR=9.5
SCHQ **Schefferville** 50.66 7 eP P 08 34 52.0 +0.5
32nm,0.8s
SCHQ epP pP 08 35 10.1 -2.3
SCHQ **Schefferville** 50.66 7 P P 08 34 52.0 +0.5
24nm,0.7s,baz=192,slow=7.4,SNR=24
A22A **Carney Farms,** 50.66 335 ⇓P P 08 34 52.5 +0.8
baz=51,SNR=14
B21A **Ellsworth Farm** 50.69 334 ⇓P P 08 34 52.6 +0.7
baz=51,SNR=7.3
BOZ **Bozeman (W)** 50.88 329 eP P 08 34 54.0 +0.5
16nm,0.9s
BMN **Battle Mountai** 50.89 320 eP P 08 34 55.2 +1.5
18nm,0.9s
MCMT **McKenzie Canyo** 50.97 327 eP P 08 34 55.8 +1.4
HLID **Hailey** 51.03 325 eP P 08 34 55.8 +1.0
9.9nm,0.7s
HLID ePcP PcP 08 36 10.4 +0.7
HLID **Hailey** 51.03 325 ⇑P P 08 34 55.8 +1.0
baz=51,SNR=21
D18A **Linhart Farms,** 51.05 331 ⇓P P 08 34 55.5 +0.8
baz=51,SNR=6.8
A21A **Bergtoll Ranch** 51.08 335 ⇓P P 08 34 55.6 +0.8
baz=51,SNR=8.0
C19A **Slack Wire Ran** 51.08 332 ⇑P P 08 34 55.4 +0.5
baz=51,SNR=20
B20A **Solberg Farm,** 51.14 334 ⇑P P 08 34 55.9 +0.6
baz=51,SNR=24
DLMT **Dillon** 51.19 328 eP P 08 34 57.2 +1.3
DLMT ePcP PcP 08 36 11.6 +1.4
WAKR **Walker** 51.34 317 eP P 08 34 59.1 +1.9
28nm,1.4s
LRM **Limekiln Ridge** 51.42 329 eP P 08 34 58.3 +0.6
91nm,0.9s
LRM epP pP 08 35 17.9 -0.7
LRM ePcP PcP 08 36 11.8 +0.7
A20A **Cobblestone Ra** 51.43 334 ⇑P P 08 34 58.1 +0.6
baz=52,SNR=8.4
D17A **Six Diamond Ra** 51.44 331 ⇑P P 08 34 58.2 +0.5
baz=52,SNR=15
B19A **Brinkman Farms** 51.56 333 ⇓P P 08 34 58.9 +0.4
baz=52,SNR=5.7
EGMT **Eagleton** 51.62 332 eP P 08 34 58.7 -0.3
14nm,0.8s
EGMT ePcP PcP 08 36 11.5 -0.2
EGMT **Eagleton** 51.62 332 ⇓P P 08 34 59.1 +0.2
baz=52,SNR=6.3
HRY **Holter Researc** 51.70 330 eP P 08 35 00.6 +1.0
19nm,0.9s
CMB **Columbia Colle** 51.76 316 eP P 08 35 00.6 +0.4
2.3nm,0.8s
CMB ePcP PcP 08 36 11.8 -0.5
MFID **Camas Ranch** 51.76 324 ⇓P P 08 35 00.8 +0.7
baz=52
A19A **Klindworth Far** 51.82 334 ⇑P P 08 35 00.7 +0.3
baz=52,SNR=6.0
PAHR **Pah Rah Range** 51.91 318 eP P 08 35 03.0 +1.6
64nm,1.9s
BEKR **Beckworth** 52.64 318 eP P 08 35 07.2 +0.5
1.9nm,0.8s
MSO **Missoula** 52.86 329 eP P 08 35 08.8 +0.6
11nm,1.0s
MSO **Missoula** 52.86 329 ⇑P P 08 35 08.5 +0.3
baz=53,SNR=7.8
WVOR **Wild Horse Val** 52.88 322 eP P 08 35 09.1 +0.6
36nm,1.0s
SLMT **Seeley Lake** 52.90 329 eP P 08 35 08.9 +0.3
6.9nm,0.9s
SLMT ePcP PcP 08 36 16.4 -0.2
J08A **Circle Bar Ran** 53.30 323 eP P 08 35 12.5 +1.0
16nm,0.8s
SWMT **Swartz Lake** 53.34 329 eP P 08 35 12.2 +0.5
3.1nm,0.7s
SWMT ePcP PcP 08 36 19.3 +1.1
BMO **Blue Mountains** 53.47 325 eP P 08 35 12.7 0.0
6.4nm,1.3s
BMO epP pP 08 35 34.4 +0.6
BMO ePcP PcP 08 36 18.7 0.0
JTMT **Jette** 53.64 329 eP P 08 35 15.2 +1.2
BLMT **Blacktail Moun** 53.85 329 eP P 08 35 16.7 +1.2
BSMT **Bassoo Peak** 53.96 329 eP P 08 35 17.2 +0.9
21nm,1.2s
LTIM **Timbered Crate** 54.04 319 P P 08 35 18.0 +1.0
I07A **Izee** 54.32 323 eP P 08 35 19.6 +0.7
10nm,0.8s
WALA **Waterton Lakes** 54.33 331 eP P 08 35 19.3 +0.4
0.2nm,0.9s
WALA ePcP PcP 08 36 22.1 +0.2
K05A **Summer Lake** 54.45 321 eP P 08 35 21.4 +1.4
K05A ePcP PcP 08 36 24.5 +1.9
G08A **Pilot Rock** 54.68 324 eP P 08 35 22.8 +1.3
32nm,1.0s
PINOR **Pine Mountain** 55.00 322 eP P 08 35 25.4 +1.7
YBH **Yreka Blue Hor** 55.11 319 P P 08 35 24.2 -0.4
YBH PcP PcP 08 36 24.9 -0.2
YBH **Yreka Blue Hor** 55.11 319 P P 08 35 24.3 -0.4
4.0nm,0.7s,baz=85,slow=5.6,SNR=13
YBH PcP PcP 08 36 24.9 -0.2
3.2nm,0.9s,baz=76,slow=6.8,SNR=6.9
NEW **Newport** 55.44 328 eP P 08 35 26.9 +0.1
14nm,0.9s
NEW ePcP PcP 08 36 25.6 -0.5
NEW **Newport** 55.44 328 P P 08 35 26.4 -0.4
13nm,0.9s,baz=135,slow=6.8,SNR=20
NEW PcP PcP 08 36 25.7 -0.4
3.4nm,0.8s,baz=131,slow=1.9,SNR=3.1
NEW **Newport** 55.44 328 ⇓P P 08 35 27.1 +0.3
baz=56,SNR=14
HAWA **Hanford** 55.64 325 eP P 08 35 28.4 +0.2
11nm,1.1s
D08A **Wollman Farm,** 55.68 326 eP P 08 35 29.2 +0.7
24nm,1.0s
HUMO **Hull Mountain** 55.70 320 eP P 08 35 28.8 +0.1
6.8nm,1.2s
BLTW **Bickleton** 55.74 324 P P 08 35 30.6 +1.6
OD2 **Odessa Site #2** 55.76 327 P P 08 35 30.0 +0.9
DPW **Davenport** 55.77 327 P P 08 35 30.4 +1.1
TRW **Toppenish Ridg** 56.16 325 P P 08 35 33.5 +1.5
VFP **Flag Point** 56.17 323 P P 08 35 34.0 +1.7
H04A **Detroit Lake** 56.27 322 eP P 08 35 33.6 +0.8
18nm,0.8s
VLL **Laurance Lake** 56.37 323 P P 08 35 35.6 +2.0
B08A **Colville Reser** 56.67 327 eP P 08 35 36.3 +0.7
38nm,1.0s
EDM **Edmonton** 56.94 335 eP P 08 35 36.8 -0.6
LON **Longmire** 57.14 325 eP P 08 35 39.8 +0.8
15nm,0.9s
RPW **Rockport** 57.91 326 P P 08 35 44.6 +0.3
E03A **Lebam** 58.06 324 eP P 08 35 47.0 +1.7
40nm,0.9s
NLWA **Neilton Lookou** 58.67 324 eP P 08 35 51.3 +1.7
40nm,1.2s
PGC **Sidney** 59.10 326 eP P 08 35 53.6 +1.1
2.8nm,1.1s
BBB **Bella Bella** 63.47 327 P P 08 36 23.4 +1.5
BBB **Bella Bella** 63.47 327 P P 08 36 23.4 +1.5
21nm,0.9s,baz=118,slow=6.7,SNR=5.7
YKA **Yellowknife Ar** 64.10 342 P P 08 36 25.2 -0.6
YKA **Yellowknife Ar** 64.10 342 P P 08 36 25.2 -0.6
18nm,0.5s,baz=134,slow=6.2,SNR=80
SFJD **Kangerlussuaq** 64.78 11 *i* P P 08 36 29.7 -0.5
8.2nm,0.9s
DLBC **Dease Lake** 67.54 333 eP P 08 36 49.2 +1.0
DLBC **Dease Lake** 67.54 333 P P 08 36 49.4 +1.2
20nm,0.8s,baz=120,slow=3.5,SNR=48
WRAK **Wrangell Islan** 67.67 330 eP P 08 36 49.1 +0.2
9.0nm,0.8s
PNCL **Nicolau / Gran** 70.02 51 eP P 08 37 04.4 +0.5
53nm,2.0s
PCAS **Casmilo, Conde** 70.39 49 eP P 08 37 06.2 0.0
38nm,2.1s
EVOP **Sao Brissos** 70.41 51⇑*i*P P 08 37 06.0 -0.2
22nm,0.8s
PMTG **Montargil** 70.42 50 eP P 08 37 06.1 -0.2
16nm,1.7s
SKAG **Skagway** 70.45 332 eP P 08 37 07.1 +1.0
24nm,1.2s
EVO **Evora** 70.49 51⇑*i*P P 08 37 06.0 -0.8
22nm,0.8s
EVO eR
46nm,22.0s
EVO **Evora** 70.49 51 eP P 08 37 06.7 -0.1
PBEJ **Beja** 70.52 51 eP P 08 37 07.0 0.0
34nm,2.1s
PESTR **Estremoz** 70.88 51 eP P 08 37 09.2 +0.1
22nm,1.7s
PGAV **Gavieira, Arco** 70.93 47 eP P 08 37 08.9 -0.6
20nm,2.0s
PVIS **Viseu** 70.97 49 eP P 08 37 09.5 -0.2
23nm,1.9s
PCAB **Cabril** 71.06 48 eP P 08 37 09.8 -0.4
23nm,1.3s
PCBR **Castelo Branco** 71.13 50 eP P 08 37 10.3 -0.3
19nm,1.7s
POLO **Lanas de Olo** 71.16 48 eP P 08 37 10.7 -0.2
11nm,1.5s
PBAR **Barrancos** 71.19 51 eP P 08 37 11.0 0.0
26nm,2.1s
PVRL **Vila Real** 71.20 48 eP P 08 37 10.8 -0.3
34nm,1.9s
TIC **Toumodi** 71.33 85 eP P 08 37 10.7 -1.7
28nm,0.7s
LIC **Lamto** 71.34 85⇑*i*P P 08 37 11.2 -1.2
33nm,0.6s,baz=264
LIC **Lamto** 71.34 85 eP P 08 37 11.2 -1.2
56nm,0.6s
LIC **Lamto** 71.34 85⇑*i*P P 08 37 11.2 -1.2
33nm,0.6s
DBIC **Dimbokro** 71.49 85 eP P 08 37 12.3 -1.0
DBIC ePcP PcP 08 37 31.9 -0.5
DBIC **Dimbokro** 71.49 85 P P 08 37 12.4 -0.9
18nm,0.7s,baz=252,slow=6.2,SNR=28
DBIC LR LR 09 03 55.7
comp=Z,51nm,21.1s,baz=282,slow=32
BORG **Borgarnes** 71.59 22 LR LR 09 06 33.9
comp=Z,91nm,20.4s,baz=16,slow=34
KIC **Kosan Boka** 71.62 85 eP P 08 37 13.0 -1.1
48nm,0.8s
MVO **Moncorvo** 71.69 48 eP P 08 37 14.1 0.0
16nm,2.0s
SUMG **Summit** 71.77 11⇑*i*P P 08 37 14.6 +0.2
62nm,0.9s
SUMG **Summit** 71.77 11 eP P 08 37 14.5 +0.2
HYT **Haines Junctio** 72.01 333 eP P 08 37 17.1 +1.4
PBRG **Braganca** 72.02 48 eP P 08 37 15.9 -0.1
21nm,1.9s
MDT **Midelt** 72.46 57 LR LR 09 02 44.1
comp=Z,54nm,19.6s,baz=326,slow=30
ESDC **Sonseca Array** 73.78 50 P P 08 37 26.5 0.0
ESDC **Sonseca Array** 73.78 50 P P 08 37 26.5 0.0
6.7nm,0.8s,baz=260,slow=5.8,SNR=21
ESLA **Sonseca Array** 73.78 50 eP P 08 37 26.1 -0.4
19nm,1.7s
INK **Inuvik** 73.86 341 eP P 08 37 26.0 -0.2
6.9nm,0.9s
DAWY **Dawson** 74.11 336 eP P 08 37 27.9 0.0
EGAK **Eagle** 75.09 336 eP P 08 37 33.8 +0.4
31nm,1.3s
BMRM **Bremner River** 75.31 332 eP P 08 37 35.6 +0.8
22nm,0.6s
BMRM epP pP 08 37 57.5 +0.3
MENT **Mentasta** 75.52 334 eP P 08 37 36.8 +0.8
ROSF **Rostrenen** 75.55 41⇑*i*P P 08 37 36.5 +0.1
42nm,0.8s
ROSF **Rostrenen** 75.55 41⇑*i*P P 08 37 36.5 +0.1
42nm,0.8s
QUIF **Quistinic** 75.55 42 eP P 08 37 36.5 +0.1
QUIF **Quistinic** 75.55 42 eP P 08 37 36.5 +0.1
SGMF **Saint Gilles** 76.01 42⇑*i*P P 08 37 39.1 +0.1
43nm,0.9s
SGMF **Saint Gilles** 76.01 42⇑*i*P P 08 37 39.1 +0.1
43nm,0.9s
SJPF **Ste Jean** 76.25 47⇑*i*P P 08 37 41.1 +0.6
39nm,0.7s
SJPF **Ste Jean** 76.25 47⇑*i*P P 08 37 41.1 +0.6
39nm,0.7s
PAX **Paxson** 76.29 334 eP P 08 37 40.2 -0.3
53nm,1.6s
ETSF **Etsaut** 76.71 47⇑*i*P P 08 37 43.6 +0.4
ETSF **Etsaut** 76.71 47⇑*i*P P 08 37 43.6 +0.4
GRR **Gorron** 77.15 42⇑*i*P P 08 37 45.5 0.0
53nm,0.7s
GRR **Gorron** 77.15 42⇑*i*P P 08 37 45.5 0.0
53nm,0.7s
SML **Sawmill** 77.26 332 eP P 08 37 46.1 +0.2
7.2nm,1.2s
EPF **Esparros** 77.38 47⇑*i*P P 08 37 47.4 +0.4
20nm,0.7s
EPF **Esparros** 77.38 47⇑*i*P P 08 37 47.4 +0.4
20nm,0.7s
MFF **Saint Martin d** 77.41 43⇑*i*P P 08 37 47.1 +0.1
41nm,0.6s
MFF **Saint Martin d** 77.41 43⇑*i*P P 08 37 47.1 +0.1
41nm,0.6s
ILAR **Eielson Array** 77.41 336 P P 08 37 46.6 0.0
ILAR PP PP 08 40 42.5 +0.5
ILAR **Eielson Array** 77.41 336 P P 08 37 46.6 0.0
11nm,0.7s,baz=120,slow=4.1,SNR=154
ILAR PP PP 08 40 42.5 +0.5
0.6nm,0.8s,baz=108,slow=5.9,SNR=4.3
ILAR LR LR 09 11 43.1
comp=Z,55nm,20.6s,baz=53,slow=35
FLN **La Foliniere** 77.44 41⇑*i*P P 08 37 47.3 +0.2
52nm,0.8s
FLN eR
45nm,21.0s
FLN **La Foliniere** 77.44 41⇑*i*P P 08 37 47.3 +0.2
52nm,0.8s
PMR **Palmer** 77.58 332 eP P 08 37 47.4 -0.2
31nm,1.5s
LDF **La Druitiere** 77.66 41⇑*i*P P 08 37 48.3 0.0
46nm,0.9s
LDF **La Druitiere** 77.66 41⇑*i*P P 08 37 48.3 0.0
46nm,0.9s
TOA0 **Torodi Ar. Sit** 77.69 78 eP P 08 37 48.0 -1.2
TORD **Torodi Ar. Bea** 77.69 78 P P 08 37 48.2 -0.9
TORD **Torodi Ar. Bea** 77.69 78 P P 08 37 48.2 -0.9
9.1nm,0.5s,baz=282,slow=6.3,SNR=157
TORD LR LR 09 10 30.5
comp=Z,78nm,20.5s,baz=195,slow=34
COLA **College** 77.83 336 eP P 08 37 49.0 0.0
48nm,0.8s
LFF **La Frestale** 77.85 45 eP P 08 37 49.5 +0.1
LFF **La Frestale** 77.85 45 eP P 08 37 49.5 +0.1
MCK **McKinley** 78.00 334 eP P 08 37 50.0 0.0
27nm,1.0s
RJF **Les Rejaudoux** 78.43 45⇑*i*P P 08 37 52.6 -0.1
21nm,0.7s
RJF eR
53nm,19.2s
RJF **Les Rejaudoux** 78.43 45⇑*i*P P 08 37 52.6 -0.1
21nm,0.7s
TRF **Thorofare Moun** 78.53 334 eP P 08 37 52.4 -0.7
12nm,0.9s
MTLF **Montolieu** 78.77 47⇑*i*P P 08 37 54.5 -0.1
28nm,1.1s
MTLF **Montolieu** 78.77 47⇑*i*P P 08 37 54.5 -0.1
28nm,1.1s
CAF **Calviac** 78.78 45⇑*i*P P 08 37 54.6 -0.1
26nm,1.0s
CAF **Calviac** 78.78 45⇑*i*P P 08 37 54.6 -0.1
26nm,1.0s
SPU **Mount Spurr** 78.87 331 eP P 08 37 55.0 +0.2
BPAW **Bear Paw Mtn.** 78.97 334 eP P 08 37 55.2 -0.1
38nm,0.9s
TCF **Toulx Ste Croi** 79.00 44⇑*i*P P 08 37 55.4 -0.4
20nm,1.0s
TCF **Toulx Ste Croi** 79.00 44⇑*i*P P 08 37 55.4 -0.4
20nm,1.0s
RSO **Redoubt South** 79.08 331 eP P 08 37 56.2 0.0
82nm,0.8s
PPLA **Purkeypile** 79.26 333 eP P 08 37 56.9 -0.1
21nm,0.6s
COLD **Coldfoot** 79.35 338 eP P 08 37 58.0 +0.7
21nm,1.0s
HYF **Humbligny** 79.37 43 eP P 08 37 57.8 0.0
HYF **Humbligny** 79.37 43 eP P 08 37 57.8 0.0
BGF **Bois d'Agland** 79.46 44⇑*i*P P 08 37 58.0 -0.3
23nm,0.8s
BGF **Bois d'Agland** 79.46 44⇑*i*P P 08 37 58.0 -0.3
23nm,0.8s
AVF **Avril sur Loir** 79.82 43⇑*i*P P 08 37 59.7 -0.5
28nm,1.0s
AVF **Avril sur Loir** 79.82 43⇑*i*P P 08 37 59.7 -0.5
28nm,1.0s
SSF **Saint Saulge** 79.95 43⇑*i*P P 08 38 00.4 -0.5
31nm,1.1s
SSF **Saint Saulge** 79.95 43⇑*i*P P 08 38 00.4 -0.5
31nm,1.1s
LASF **Ste Croix** 80.01 46⇑*i*P P 08 38 01.8 +0.5
17nm,0.7s
LASF **Ste Croix** 80.01 46⇑*i*P P 08 38 01.8 +0.5
17nm,0.7s
SMF **Signal de Mont** 80.15 44⇑*i*P P 08 38 01.7 -0.3
56nm,1.1s
SMF **Signal de Mont** 80.15 44⇑*i*P P 08 38 01.7 -0.3
56nm,1.1s
LOR **Lormes** 80.20 43⇑*i*P P 08 38 01.7 -0.6
13nm,0.6s
LOR eR
87nm,22.8s
LOR **Lormes** 80.20 43⇑*i*P P 08 38 01.7 -0.6
13nm,0.6s
IMA2 **Indian Mountai** 80.47 336 eP P 08 38 03.3 -0.2
IM04 **Indian Mountai** 80.50 336 eP P 08 38 03.1 -0.4
BAIF **Baives** 80.62 40 eP P 08 38 04.1 -0.3
BAIF **Baives** 80.62 40 eP P 08 38 04.1 -0.3
VIVF **Saint-Julien-l** 80.63 45⇑*i*P P 08 38 05.2 +0.5
16nm,0.7s
VIVF **Saint-Julien-l** 80.63 45⇑*i*P P 08 38 05.2 +0.5
16nm,0.7s
DOU **Dourbes** 80.87 40 P P 08 38 05.6 -0.1
GIVF **Givet** 81.02 40⇑*i*P P 08 38 06.5 -0.1
29nm,0.8s
GIVF **Givet** 81.02 40⇑*i*P P 08 38 06.5 -0.1
29nm,0.8s
SFTF **Sexfontaines** 81.05 42 eP P 08 38 06.7 -0.1

SFTF	Sexfontaines	81.05	42	eP		P	08 38 06.7	-0.1
TAM	Tamanrasset	81.07	68	eP		P	08 38 08.6	+1.0
	8.9nm,0.8s							
TAM				epP		pP	08 38 28.2	-1.9
MEZF	Maizieres J'vi	81.08	42⇑	iP		P	08 38 06.8	-0.1
MEZF	Maizieres J'vi	81.08	42⇑	iP		P	08 38 06.8	-0.1
SMRF	Simiane la Rot	81.24	46⇑	iP		P	08 38 08.6	+0.7
	10nm,0.8s							
SMRF	Simiane la Rot	81.24	46⇑	iP		P	08 38 08.6	+0.7
	10nm,0.8s							
BCLA	Clavier	81.34	40	P		P	08 38 08.2	-0.1
ORIF	Oris-en-Rattie	81.49	45⇑	iP		P	08 38 10.0	+0.7
	27nm,0.7s							
ORIF				eR				
	47nm,20.8s							
ORIF	Oris-en-Rattie	81.49	45⇑	iP		P	08 38 10.0	+0.7
	27nm,0.7s							
PAGF	Fort de Pagny	81.53	42	eP		P	08 38 09.3	0.0
PAGF	Fort de Pagny	81.53	42	eP		P	08 38 09.3	0.0
CABF	La Chapelle	81.69	44	eP		P	08 38 10.2	-0.1
	36nm,1.1s							
CABF	La Chapelle	81.69	44	eP		P	08 38 10.2	-0.1
	36nm,1.1s							
MEM	Membach	81.80	40	P		P	08 38 11.3	+0.7
	comp=Z,9.3nm,1.3s							
WLF	Walferdange	81.85	41	P		P	08 38 11.6	+0.6
	comp=Z,22nm,1.1s							
WLF	Walferdange	81.85	41	eP		P	08 38 11.3	+0.3
	comp=Z,32nm,0.7s							
LMR	La Mourre	81.90	47⇑	iP		P	08 38 11.2	-0.2
	comp=Z,16nm,0.8s							
LMR	La Mourre	81.90	47⇑	iP		P	08 38 11.2	-0.2
	comp=Z,16nm,0.8s							
HAU	Haudompre	81.92	42	eP		P	08 38 10.8	-0.6
HAU				eR				
	comp=Z,42nm,20.5s							
HAU	Haudompre	81.92	42	eP		P	08 38 10.8	-0.6
FRF	La Foret Royal	82.00	47⇑	iP		P	08 38 11.8	-0.1
	comp=Z,19nm,0.8s							
FRF	La Foret Royal	82.00	47⇑	iP		P	08 38 11.8	-0.1
	comp=Z,19nm,0.8s							
LPG	La Plagne	82.12	45⇑	iP		P	08 38 13.5	+0.6
	comp=Z,15nm,0.7s							
LPG	La Plagne	82.12	45⇑	iP		P	08 38 13.5	+0.6
	comp=Z,15nm,0.7s							
HINF	Hinteralfeld	82.25	43	eP		P	08 38 12.6	-0.6
HINF	Hinteralfeld	82.25	43	eP		P	08 38 12.6	-0.6
ECH	Echery	82.47	42	eP		P	08 38 13.8	-0.5
	comp=Z,16nm,1.0s							
CDF	Champ du Feu	82.55	42⇑	iP		P	08 38 14.4	-0.4
	comp=Z,17nm,0.9s							
CDF	Champ du Feu	82.55	42⇑	iP		P	08 38 14.4	-0.4
	comp=Z,17nm,0.9s							
BUG	Bochum--Univer	82.63	39	eP		P	08 38 15.1	+0.1
	comp=Z,17nm,0.7s							
BFO	Black Forest	83.25	42	eP		P	08 38 17.7	-0.6
	comp=Z,8.0nm,0.8s							
TNS	Taunus Mts	83.35	40	eP		P	08 38 18.9	+0.1
	comp=Z,16nm,1.0s							
PGF	Pioggiola	83.72	48	eP		P	08 38 20.7	-0.3
	comp=Z,47nm,1.0s							
PGF	Pioggiola	83.72	48	eP		P	08 38 20.7	-0.3
	comp=Z,47nm,1.0s							
STU	Stuttgart	83.83	42	eP		P	08 38 21.3	+0.1
	comp=Z,19nm,0.9s							
TUE	Stuetta	83.94	44	eP		P	08 38 22.2	+0.1
	comp=Z,12nm,0.6s							
KEST	Kesra	84.12	55	eP		P	08 38 23.6	+0.5
KEST	Kesra	84.12	55	P		P	08 38 23.5	+0.4
	comp=Z,5.5nm,0.7s,baz=284,slow=3.6,SNR=13							
DAVA	Damuels	84.30	43⇑	iP		P	08 38 24.2	+0.3
	comp=Z,15nm,0.6s,SNR=6.9							
NRDL	Niedersach Rie	84.40	38	eP		P	08 38 24.3	+0.4
	comp=Z,11nm,1.1s							
BSEG	Bad Segeberg	84.52	36	eP		P	08 38 24.9	+0.3
	comp=Z,11nm,0.7s							
CLZ	Clausthal	84.57	38	eP		P	08 38 25.4	+0.4
	comp=Z,9.0nm,0.7s							
FETA	Feichten	84.88	43⇑	iP		P	08 38 27.0	+0.1
	comp=Z,13nm,0.9s,SNR=7.6							
NB2	NORSAR Subarra	84.95	29	P		P	08 38 26.8	+0.1
	comp=Z,7.6nm,1.0s,baz=270,slow=5.3							
NOA	NORSAR Array B	84.95	29	P		P	08 38 27.2	+0.5
NOA	NORSAR Array B	84.95	29	P		P	08 38 27.2	+0.5
	comp=Z,2.7nm,0.8s,baz=270,slow=4.9,SNR=3.7							
MOTA	Moosalm	85.13	43⇑	iP		P	08 38 27.8	-0.3
	comp=Z,4.9nm,0.7s							
GRF	Grafenberg Arr	85.15	41	eP		P	08 38 28.3	+0.4
	comp=Z,10.0nm,0.7s							
MOX	Moxa	85.37	40	eP		P	08 38 28.9	-0.1
	comp=Z,49nm,2.3s							
ROTZ	Rotzenmuhle	85.78	41	eP		P	08 38 31.5	+0.5
	comp=Z,9.0nm,1.1s							
TANN	Tannenbergstha	85.92	40	eP		P	08 38 32.2	+0.4
	comp=Z,13nm,0.9s							
ABTA	Abfaltersbach	86.11	44⇑	iP		P	08 38 33.0	+0.1
	comp=Z,11nm,0.7s							
HFS	Hagfors	86.20	30	LR		LR	09 10 59.2	
	comp=Z,34nm,21.8s,baz=324,slow=31							
CLL	Collm	86.22	39	eP		P	08 38 33.5	+0.4
	comp=Z,16nm,1.1s							
WET	Wettzell	86.25	41	eP		P	08 38 33.8	+0.4
	comp=Z,17nm,0.9s							
RJOB	Jochberg	86.26	43	eP		P	08 38 33.6	+0.1
	comp=Z,12nm,0.7s							
KBA	Koelnbreinsper	86.67	43⇑	iP		P	08 38 35.4	-0.2
	comp=Z,8.7nm,0.7s							
KHC	Kasperske Hory	86.71	41	eP		P	08 38 35.9	+0.3
KHC	Kasperske Hory	86.71	41	eP		P	08 38 35.7	+0.1
	comp=Z,19nm,1.3s							
GEC2	GERESS Array S	86.81	41	eP		P	08 38 36.2	0.0
	comp=Z,14nm,0.9s							
GERES	GERESS Array B	86.81	41	P		P	08 38 36.1	0.0
GERES	GERESS Array B	86.81	41	P		P	08 38 36.1	0.0
	comp=Z,8.3nm,0.8s,baz=260,slow=4.1,SNR=46							
BRG	Berggiesshubel	86.84	39	eP		P	08 38 36.6	+0.5
	comp=Z,12nm,0.9s							
BRG	Berggiesshubel	86.84	39	eP		P	08 38 36.7	+0.5
	comp=Z,14nm,1.0s							
MYKA	Terra Mystica	86.90	44⇑	iP		P	08 38 36.6	-0.1
	comp=Z,16nm,0.5s,SNR=7.5							
MOA	Molln	87.24	42⇑	iP		P	08 38 38.3	0.0
	comp=Z,15nm,0.9s							
PVCC	Panska Ves	87.26	40	eP		P	08 38 39.1	+0.9
PRU	Pruhonice	87.28	40	eP		P	08 38 39.0	+0.7
VNA1	Neumayer--Stat	87.38	162	eP		P	08 38 39.6	+1.3
VNA2	Neumayer--Watz	87.74	162	eP		P	08 38 40.7	+0.6
SOKA	Soboth	87.85	44⇑	iP		P	08 38 40.8	-0.4
	comp=Z,7.9nm,1.1s							
ARSA	Arzberg	88.14	43⇑	iP		P	08 38 42.4	-0.1
	comp=Z,9.1nm,0.8s							
UPC	Upice	88.18	40	eP		P	08 38 43.6	+1.0
CONA	Conrad Observa	88.31	42⇑	iPcP		P	08 38 43.6	+0.2
	comp=Z,9.1nm,0.9s,SNR=4.4							
DPC	Dobruska-Polom	88.39	40	eP		P	08 38 44.1	+0.4
DPC				epP		pP	08 39 04.8	-1.7
SNAA	Sanae	89.38	162	eP		P	08 38 47.5	-0.3
SNAA	Sanae	89.38	162	eP		P	08 38 47.9	+0.1
	comp=Z,7.5nm,0.8s							
ARCES	ARCESS Array B	89.92	20	P		P	08 38 49.8	-0.6
ARCES				PKKPbc		PKKPdf	08 56 21.6	+1.9
ARCES	ARCESS Array B	89.92	20	P		P	08 38 49.8	-0.6
	comp=Z,1.7nm,0.6s,baz=289,slow=3.7,SNR=12							
ARCES				PKKPbc		PKKPdf	08 56 21.6	+1.9
	comp=Z,0.9nm,0.6s,baz=128,slow=3.4,SNR=5.5							
FINES	FINESS Array B	92.02	28	P		P	08 38 59.6	-0.6
FINES	FINESS Array B	92.02	28	P		P	08 38 59.6	-0.6
	comp=Z,4.9nm,0.9s,baz=209,slow=14,SNR=4.4							
QSPA	South Pole Qui	94.69	180	eP		P	08 39 13.9	+1.3
	comp=Z,14nm,1.1s							
QSPA				epP		pP	08 39 32.9	-2.6
FX1	Attu Island--F	98.25	325	P		P	08 39 28.7	-0.2
FX1	Attu Island--F	98.25	325	P		P	08 39 28.7	-0.2
	comp=Z,2.9nm,0.5s,baz=81,slow=19,SNR=7.0							
ABKAR	Abkulak array	114.46	30	ePKPdf		PKPdf	08 44 31.0	-0.3
ZALV	Zalesovo Beam	119.58	12	PKP		PKPdf	08 44 40.4	-0.6
ZALV	Zalesovo Beam	119.58	12	PKP		PKPdf	08 44 40.4	-0.6
	comp=Z,3.3nm,0.5s,baz=232,slow=1.7,SNR=11							
USRK	Ussuriysk Arra	124.93	335	PKP		PKPdf	08 44 51.5	-0.1
	comp=Z,6.5nm,0.7s,baz=321,slow=0.5,SNR=19							
MK31	Makanchi Array	125.50	18	ePKPdf		PKPdf	08 44 51.7	-0.9
MKAR	Makanchi Array	125.50	18	PKP		PKPdf	08 44 51.5	-1.1
MKAR	Makanchi Array	125.50	18	PKP		PKPdf	08 44 51.5	-1.1
	comp=Z,3.0nm,0.4s,baz=305,slow=4.3,SNR=3.8							
MDJ	Mudanjiang	125.56	337	PKP		PKPdf	08 44 53.5	+0.8
MDJ				SKS		SKSdf	08 51 55.1	-2.0
MDJ				SS		SS	09 03 39.8	+3.9
MDJ				LR		LR		
	comp=N,62nm,27.0s							
MDJ				LR		LR		
	comp=E,21nm,22.5s							
MDJ				LR		LR		
	comp=Z,62nm,22.5s							
AAK	Ala-Archa	126.17	26	ePKPdf		PKPdf	08 44 54.8	+0.6
ULN	Ulaanbaatar	127.59	357	ePKPdf		PKPdf	08 44 57.2	+0.4
MJAR	Matsushiro Arr	127.60	324	PKP		PKPdf	08 44 56.7	-0.2
MJAR	Matsushiro Arr	127.60	324	PKP		PKPdf	08 44 56.7	-0.2
	comp=Z,4.3nm,0.9s,baz=55,slow=0.5,SNR=9.3							
SONM	Songino Array	127.65	357	PKP		PKPdf	08 44 57.0	+0.2
SONM				PP		PP	08 46 59.0	+1.4
SONM	Songino Array	127.65	357	PKP		PKPdf	08 44 57.0	+0.2
	comp=Z,4.3nm,0.8s,baz=351,slow=1.0,SNR=18							
SONM				PP		PP	08 46 59.0	+1.4
	comp=Z,0.9nm,0.9s,baz=347,slow=4.2,SNR=3.9							
CN2	Changchun	127.78	340	ePKP		PKPdf	08 44 55.0	-2.0
KSH	Kashi	129.34	27	PKP		PKPdf	08 45 01.2	+0.9
KSH				PP		PP	08 47 19.6	+10
KSH				SKS		SKSdf	08 52 00.4	-4.3
KSH				SKKS		SKKSac	08 54 00.6	+1.1
KSH				AMB		AMB		
	comp=Z,150nm,5.3s							
KSH				LR		LR		
	comp=N,79nm,5.6s							
KSH				LR		LR		
	comp=E,82nm,4.4s							
KSH				LR		LR		
	comp=Z,230nm,5.7s							
WMQ	Urumqi	129.73	15	ePKP		PKPdf	08 44 58.0	-2.8
WMQ				LR		LR		
	comp=N,60nm,28.0s							
WMQ				LR		LR		
	comp=Z,48nm,22.6s							
KSRS	Korea Array	132.22	333	PKP		PKPdf	08 45 06.0	+0.3
	comp=Z,5.2nm,0.6s,baz=17,slow=2.0,SNR=18							
KSAR	Wonju Array Be	132.25	333	PKP		PKPdf	08 45 06.0	+0.3
BJI	Beijing	133.96	346	PKP		PKPdf	08 45 07.3	-1.5
HHC	Hu-ho-hao-te	134.07	351	ePKP		PKPdf	08 45 07.7	-1.5
HHC				sPKP			08 45 45.1	
HHC				PP		PP	08 47 42.6	+3.5
HHC				PKS		PKSdf	08 48 42.6	-3.0
HHC				SKKS			08 54 22.6	
HHC				SS		SS	09 05 18.6	-1.7
HHC				AMB		AMB		
	comp=Z,230nm,5.9s							
HHC				LR		LR		
	comp=N,580nm,17.8s							
HHC				LR		LR		
	comp=E,410nm,19.0s							
HHC				LR		LR		
	comp=Z,330nm,19.0s							
STKA	Stephens Creek	135.05	228	PKP		PKPdf	08 45 11.6	+0.5
STKA	Stephens Creek	135.05	228	PKP		PKPdf	08 45 11.6	+0.5
	comp=Z,5.8nm,0.7s,baz=118,slow=4.2,SNR=15							
CTA	Charters Tower	135.48	246	PKP		PKPdf	08 45 12.5	+0.3
CTA	Charters Tower	135.48	246	PKP		PKPdf	08 45 12.5	+0.3
	comp=Z,2.2nm,0.5s,baz=180,slow=3.0							
GTA	Gaotai	136.03	4	PKP		PKPdf	08 45 13.5	+0.6
GTA				sPKP			08 45 45.9	
COEN	Coen	139.62	254	ePKPdf		PKPdf	08 45 20.2	+0.3
KKN	Kakani	143.36	27	eP		PKPab	08 45 22.5	-0.3
	comp=Z,19nm,0.6s							
DMN	Daman	143.43	28	eP		PKPab	08 45 23.1	0.0
	comp=Z,41nm,0.7s							
CD2	Chengdu	144.62	359	PKP		PKPbc	08 45 27.4	0.0
CD2				pPKP		pPKPdf	08 45 50.0	-2.4
CD2				sPKP			08 45 59.3	
CD2				PP		PP	08 48 47.6	+3.6
CD2				PKS		PKSdf	08 49 01.6	-2.7
CD2				SKS		SKSdf	08 52 26.7	-4.0
CD2				SKKS		SKKSac	08 55 27.5	-2.9
CD2				SS		SS	09 07 25.2	+1.2
CD2				AMB		AMB		
	comp=Z,240nm,5.9s							
RAMN	Ramite	144.68	26	eP		PKPbc	08 45 28.1	+0.1
ENH	Enshi	144.76	351	ePKPdf		PKPab	08 45 27.4	-0.3
TAPN	Taplejung	144.80	24	eP		PKPab	08 45 27.5	-0.8
	comp=Z,71nm,0.6s							
AS31	Alice Springs	144.95	234	ePKPdf		PKPbc	08 45 28.0	-0.7
ASAR	Alice Springs	144.95	234	PKPbc		PKPbc	08 45 28.4	-0.2
ASAR	Alice Springs	144.95	234	PKPbc		PKPbc	08 45 28.4	-0.2
	comp=Z,39nm,0.7s,baz=122,slow=3.8,SNR=247							
FORT	Forrest	145.08	219	ePKPdf		PKPbc	08 45 28.6	-0.2
ODAN	Odare	145.10	25	eP		PKPbc	08 45 28.6	-0.7
WRAB	Tennant Creek	146.15	241	ePKPdf		PKPdf	08 45 31.3	-0.1
WRA	Warramunga Arr	146.16	241	PKPbc		PKPdf	08 45 31.6	+0.1
WRA	Warramunga Arr	146.16	241	PKPbc		PKPdf	08 45 31.6	+0.1
	comp=Z,24nm,0.9s,baz=106,slow=3.3,SNR=84							
NACB	Ninganchiao	146.23	329	ePKPdf		PKPbc	08 45 32.4	-0.2
SSLB	Suanglung	146.88	329	ePKPbc		PKPbc	08 45 34.2	-0.3
TPUB	Ta-pu	147.45	329	ePKPbc		PKPbc	08 45 36.6	+0.5
GYA	Guiyang	148.89	354	PKPbc		PKPdf	08 45 36.8	+0.9
GYA				sPKP			08 46 05.4	
GYA				PKS		PP	08 49 06.9	-2.3
GYA				PP		PP	08 49 12.0	+2.8
GYA				AMB		AMB		
	comp=Z,120nm,7.8s							
KMI	Kunming	150.39	1	PKPbc		PKPdf	08 45 36.0	-2.5
KMI				pPKP		pPKPdf	08 45 59.4	-3.0
KMI				sPKP			08 46 08.8	
FITZ	Fitzroy Crossi	154.38	237	ePKPbc		PKPbc	08 45 52.2	-0.4
CMAR	Chiang Mai Arr	156.63	10	PKP		PKPdf	08 45 47.4	+0.1
CMAR				PKPab		PKPab	08 46 15.8	-0.6
CMAR	Chiang Mai Arr	156.63	10	PKP		PKPdf	08 45 47.4	+0.1
	comp=Z,2.0nm,0.6s,baz=301,slow=2.6,SNR=11							
CMAR				PKPab		PKPab	08 46 15.8	-0.6
	comp=Z,7.9nm,0.7s,baz=328,slow=5.3,SNR=18							
MBWA	Marble Bar	157.10	223	ePKPab		PKPab	08 46 18.6	0.0

DDA ***08*** *08:29:37.7, 42.°68N×43.°26E, h12km, MD3.3*
TIF ***08*** *08:29:38.0, 42.°50N×43.°59E, h15km±2km*
CSEM ***08*** *08:29:39.4±0.2, 42.°57N×43.°59E, h15km, mb4.2, Error ellipse: s-maj=5.4km s-min=3.5km az=127.0*
MOS ***08*** *08:29:42.4±1.5, 42.°73N×43.°78E, h10km, mb4.2/1, Error ellipse: s-maj=11.0km s-min=6.6km az=83.0*

ISC 08 08:29:38.6±0.8, 42.°52N±0.°02×43.°58E±0.02, h15km±6km, n54, σ1°01/100, 6C-12D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	Oni	0.12	308	P	Pg	08 29 42.1	-0.1
ONI				S	Sg	08 29 45.1	+0.6
ZEI	Tsey	0.36	42	⇓iPG	Pg	08 29 45.5	-0.6
ZEI				iS	Sg	08 29 51.0	-0.3
ZEI	Tsey	0.36	42	iPg	Pg	08 29 45.5	-0.6
ZEI				iSg	Sg	08 29 51.0	-0.3
DIGR	Digorskoe uzhe	0.38	1	⇓iPG	Pg	08 29 46.2	-0.3
DIGR				iS	Sg	08 29 52.0	+0.2
DIGR	Digorskoe uzhe	0.38	1	iPg	Pg	08 29 46.2	-0.3
DIGR				iSg	Sg	08 29 52.0	+0.2
LACR	Lac	0.61	60	⇓iPG	Pg	08 29 49.9	-0.9
LACR				iS	Sg	08 29 58.8	-0.2
LACR	Lac	0.61	60	iPg	Pg	08 29 49.9	-0.9
LACR				iSg	Sg	08 29 58.8	-0.2
KORR	Kora	0.67	32	⇓iPG	Pg	08 29 51.7	-0.1
KORR				eS	Sb	08 30 01.4	+0.2
KORR	Kora	0.67	32	iPg	Pg	08 29 51.7	-0.1
KORR				eSg	Sb	08 30 01.4	+0.2
LSNR	Lesken	0.78	14	⇓iPG	Pb	08 29 53.9	0.0
LSNR				eS	Sb	08 30 04.8	+0.4
LSNR	Lesken	0.78	14	iPg	Pb	08 29 53.9	0.0
LSNR				eSg	Sb	08 30 04.8	+0.4
DUS	Dusheti	0.94	117	P	Pb	08 29 57.0	+0.3
VLKR	Vladikavkaz	0.97	57	⇓iPG	Pb	08 29 57.5	+0.4
VLKR				eS	Sn	08 30 11.2	0.0
VLKR	Vladikavkaz	0.97	57	iPg	Pb	08 29 57.5	+0.4
VLKR				eSg	Sn	08 30 11.2	0.0
NCK	Nalchik	0.98	1	⇓ePG	Pn	08 29 58.4	+0.6
NCK				eS	Sn	08 30 12.6	+1.2
NCK	Nalchik	0.98	1	ePg	Pn	08 29 58.4	+0.6
SNJR	Sundja	1.06	58	⇓iPG	Pb	08 29 58.8	+0.1
SNJR				eS	Sn	08 30 13.7	+0.2
SNJR	Sundja	1.06	58	iPg	Pb	08 29 58.8	+0.1
SNJR				eSg	Sn	08 30 13.7	+0.2
AKH	Akhalkalaki	1.11	183	P	Pn	08 29 58.8	-1.0
AKH				S	Sb	08 30 14.2	+0.3
BTKR	Batakoyurt	1.11	39	iPG	Pg	08 30 01.3	+1.2
BTKR				eS	Sn	08 30 16.6	+1.9
BTKR	Batakoyurt	1.11	39	iPg	Pg	08 30 01.3	+1.2
BTKR				eSg	Sn	08 30 16.6	+1.9
CHVG	Ch'k'valeri	1.12	281	P	Pb	08 29 59.5	-0.2
CHVG				S	Sn	08 30 15.5	+0.7
TBLG	Delisi	1.17	132	P	Pn	08 29 59.6	-0.9
TBLG				S	Sb	08 30 16.3	+0.8
KUBR	Kubataba	1.29	355	⇓ePG	Pg	08 30 04.1	+0.7
KUBR				eS	Sg	08 30 21.8	+1.6
KUBR	Kubataba	1.29	355	ePg	Pg	08 30 04.1	+0.7
KUBR				eSg	Sg	08 30 21.8	+1.6
PRTR	Priterechnaya	1.34	23	⇓iPG	Pg	08 30 04.0	-0.4
PRTR				eS	Sg	08 30 22.5	+0.7
PRTR	Priterechnaya	1.34	23	iPg	Pg	08 30 04.0	-0.4
PRTR				eSg	Sg	08 30 22.5	+0.7
SHAR	Shatzhatmas	1.39	332	⇑ePG	Pg	08 30 05.3	-0.2
SHAR				eS	Sg	08 30 23.1	-0.5
SHAR	Shatzhatmas	1.39	332	ePg	Pg	08 30 05.3	-0.2
SHAR				eSg	Sg	08 30 23.1	-0.5
TRKR	Terskaya	1.47	35	⇓iPG	Pg	08 30 06.4	-0.5
TRKR				eS	Sg	08 30 26.6	+0.5
TRKR	Terskaya	1.47	35	iPg	Pg	08 30 06.4	-0.5
TRKR				eSg	Sg	08 30 26.6	+0.5
PYA	Pyatigorsk	1.56	346	⇓ePG	Pg	08 30 07.8	-0.8
PYA				eS	Sg	08 30 29.2	+0.3
PYA	Pyatigorsk	1.56	346	ePg	Pg	08 30 07.8	-0.8
PYA				eSg	Sg	08 30 29.2	+0.3
KIV	Kislovodsk	1.58	336	⇓ePG	Pg	08 30 08.3	-0.6
KIV				eS	Sg	08 30 28.5	-0.9
KIV	Kislovodsk	1.58	336	ePg	Pg	08 30 08.3	-0.6
KIV				eSg	Sg	08 30 28.5	-0.9
DGRG	David-gareji	1.71	128	P	Pb	08 30 09.8	0.0
DGRG				S	Sg	08 30 34.2	+0.4
ARTV	Artvin	1.81	223	iP	Pb	08 30 11.2	-0.4
ARTV				iS	Sb	08 30 36.3	+2.1
ARTV	Artvin	1.81	223	iP	Pb	08 30 11.2	-0.4
ARTV				iS	Sb	08 30 36.3	+2.1
DBOC	Borcka	1.84	231	iP	Pn	08 30 10.7	+1.0
DBOC				iS	Sb	08 30 35.7	+0.8
DBOC	Borcka	1.84	231	iP	Pn	08 30 10.7	+1.0
DBOC				iS	Sb	08 30 35.7	+0.8
DAGI	Agillar	1.90	221	iP	Pb	08 30 12.7	-0.4
DAGI				iS	Sb	08 30 38.6	+1.9
DBAD	Bademkaya	2.06	224	iP	Pn	08 30 14.6	+1.9
DBAD				iS	Sb	08 30 43.0	+1.9
DBAD	Bademkaya	2.06	224	iP	Pn	08 30 14.6	+1.9
DBAD				iS	Sb	08 30 43.0	+1.9
DIGO	Kars	2.11	184	iP	Pb	08 30 17.2	+0.5
DIGO				iS	Sg	08 30 46.5	+0.1
DIGO	Kars	2.11	184	iP	Pb	08 30 17.2	+0.5
DDEM	Demirkent	2.12	221	iP	Pn	08 30 15.6	+2.0
DDEM				iS	Sb	08 30 44.8	+1.8
DDEM	Demirkent	2.12	221	iP	Pn	08 30 15.6	+2.0
DDEM				iS	Sb	08 30 44.8	+1.8
SOC	Sochi	3.02	292	ePN	Pg	08 30 35.2	-1.3
SOC				e		08 31 11.6	
SOC				pmax	pmax		
	comp=Z,15nm,0.5s						
SOC				smax	smax		
	comp=N,16nm,0.3s						
SOC				smax	smax		
	comp=E,39nm,0.5s						
GRSN	GIRESUNGRSN	4.28	250	iP	Pn	08 30 42.9	-0.3
GRSN				iS	Sn	08 31 30.6	-2.2
GRSN	GIRESUNGRSN	4.28	250	iP	Pn	08 30 42.9	-0.3
GRSN				iS	Sn	08 31 30.6	-2.2
AKTO	Aktyubinsk	12.70	46	⇑Pn	Pn	08 32 36.8	-1.8
	comp=E,1.2nm,0.6s						
AKTO				⇑Sn	Sn	08 34 51.2	-8.4
	comp=E,2.2nm,0.8s						
AKTO	Aktyubinsk	12.70	46	Pn	Pn	08 32 36.8	-1.8
	comp=E,1.2nm,0.6s						
AB31	Akbulak array	13.23	54	⇑Pn	Pn	08 32 44.5	-1.2
	comp=E,0.8nm,0.5s,baz=243,slow=11,SNR=15						
AB31				⇑Sn	Sn	08 35 05.2	-7.3
	comp=E,1.0nm,0.6s,baz=243,slow=23,SNR=3.2						
AB31	Akbulak array	13.23	54	Pn	Pn	08 32 44.5	-1.2
	comp=E,0.8nm,0.5s,baz=243,SNR=15						

CASC 08 08:31:48.3±1.5, 13.°07N×89.°24W, h28km±5km, MD3.5, ML4.2, 3C-10D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LFRS	El Faro	0.58	17	⇓iP	Pb	08 32 00.1	-0.1
SNET	Serv Nac Est T	0.62	1	⇓iP	Pb	08 32 00.6	-0.1
SNET				eS	Sn	08 32 10.3	-0.1
SNET				AML	AML	08 32 10.8	
	comp=Z,11μm,0.2

EIDS Eidsvold 28.35 255 P **P 08 37 30.4 -0.2**
baz=28,SNR=5.2
ARMA Armidale 28.50 245 *eP* **P 08 37 32.6 +0.6**
3.1nm,0.5s
ARMA Armidale 28.50 245 P **P 08 37 32.9 +0.9**
baz=29,SNR=8.1
RMQ Roma 30.49 253 P **P 08 37 50.0 +0.8**
baz=31,SNR=6.8
CMSA Cobar Meteorol 33.71 244 P **P 08 38 16.5 +0.1**
baz=34,SNR=26
PMG Port Moresby 35.11 284 *eP* **P 08 38 27.2 -1.0**
26nm,0.9s
MTSU Mount Surprise 35.20 268 P **P 08 38 28.7 -0.3**
baz=35,SNR=46
PATS Pohnpei 35.94 318 S S 08 43 40.4 +7.1
baz=36,SNR=3.8
STKA Stephens Creek 37.22 245 *eP* **P 08 38 45.1 -0.2**
0.9nm,0.6s
STKA Stephens Creek 37.22 245 P **P 08 38 45.4 0.0**
4.3nm,0.5s,baz=96,slow=9.8,SNR=29
STKA Stephens Creek 37.22 245 P **P 08 38 45.7 +0.4**
baz=37,SNR=18
COEN Coen 37.26 275 P **P 08 38 45.9 +0.1**
baz=37,SNR=34
MANU Manus Island 38.34 295 S S 08 44 30.9 +22
baz=38,SNR=6.9
BBOO Buckleboo 41.97 244 P **P 08 39 23.1 -0.3**
baz=42,SNR=24
AS31 Alice Springs 44.03 257 *eP* **P 08 39 39.0 -0.6**
ASAR Alice Springs 44.04 257 P **P 08 39 39.2 -0.4**
17nm,0.5s,baz=96,slow=7.7,SNR=305
ASAR PcP **PcP 08 41 12.3 +0.2**
2.2nm,0.7s,baz=100,slow=4.7,SNR=7.4
ASAR ScP **ScP 08 44 10.8 +1.4**
0.8nm,0.8s,baz=98,slow=2.8,SNR=4.8
WRAB Tennant Creek 44.15 263 *eP* **P 08 39 39.3 -1.3**
28nm,1.0s
WRA Warramunga Arr 44.16 263 P **P 08 39 39.5 -1.1**
9.7nm,0.3s,baz=97,slow=7.6,SNR=445
KDU Kakadu 47.60 272 P **P 08 40 05.8 -0.9**
baz=48,SNR=50
FORT Forrest 48.74 247 *eP* **P 08 40 14.2 -0.8**
18nm,0.6s
FORT Forrest 48.74 247 P **P 08 40 14.4 -0.5**
baz=49,SNR=12
MTN Manton Dam 48.80 271 P **P 08 40 14.6 -1.0**
baz=49,SNR=18
KNRA Kununurra 50.26 267 P **P 08 40 25.7 -0.6**
baz=50,SNR=14
FITZ Fitzroy Crossi 52.59 263 *eP* **P 08 40 42.6 -0.5**
7.0nm,0.5s
FITZ Fitzroy Crossi 52.59 263 P **P 08 40 42.8 -0.3**
baz=53,SNR=15
SOEI Soe 56.15 272 P **P 08 41 09.1 +0.9**
baz=56,SNR=13
SBA Scott Base 57.30 184 *eP* P 08 41 18.2 +3.4
4.5nm,0.8s
VNDA Vanda 57.33 185 *eP* **P 08 41 17.3 +2.2**
1.7nm,0.6s
VNDA Vanda 57.33 185 P **P 08 41 17.1 +2.1**
1.3nm,0.5s,baz=359,slow=7.8,SNR=13
VNDA ScP **ScP 08 45 07.1 +1.6**
1.3nm,0.9s,baz=359,slow=4.5,SNR=5.9
MBWA Marble Bar 57.38 258 *eP* **P 08 41 15.4 -0.9**
MEEK Meekatharra 57.39 251 P **P 08 41 15.4 -1.0**
baz=57,SNR=7.1
KLBR Kellerberrin 57.49 245 P **P 08 41 16.6 -0.4**
baz=58,SNR=21
BLDU Ballidu 58.49 246 P **P 08 41 23.3 -0.5**
baz=58,SNR=9.8
MORW Morawa 59.28 248 P **P 08 41 28.6 -0.4**
baz=59,SNR=5.6
CASY Casey 63.31 205 *eP* **P 08 41 55.2 +0.6**
2.6nm,0.8s
QSPA South Pole Qui 69.02 180 *eP* **P 08 42 31.9 +1.7**
4.4nm,0.7s
MJAR Matsushiro Arr 70.44 324 P **P 08 42 38.3 -0.6**
3.0nm,0.6s,baz=165,slow=6.2,SNR=6.5
CISI Cisompet, Garu 72.23 269 P P 08 43 01.0 +11
baz=72,SNR=3.3
KSM Kuching 73.13 278 *eP* **P 08 42 54.8 -0.2**
11nm,0.8s
TPUB Ta-pu 73.97 303 *eP* **P 08 42 58.1 -1.5**
29nm,0.7s
FX1 Attu Island--F 73.99 355 P **P 08 42 58.1 -0.8**
4.1nm,0.7s,baz=259,slow=13,SNR=6.2
PETK Petropavlovsk- 76.71 345 P **P 08 43 13.7 -0.4**
2.5nm,0.6s,baz=156,slow=7.8,SNR=5.3
USRK Ussuriysk Arra 79.21 326 P **P 08 43 29.1 +1.5**
4.1nm,0.7s,baz=130,slow=4.3,SNR=12
NJ2 Nanjing 79.95 310 *eP* **P 08 43 33.5 +1.7**
NJ2 pmax pmax
comp=Z,30nm,0.6s
MDJ Mudanjiang 80.76 325 P **P 08 43 37.1 +1.4**
MDJ pmax pmax
comp=Z,9.0nm,0.6s
MDJ pmax pmax
comp=Z,190nm,5.7s
YBH Yreka Blue Hor 80.95 39 P **P 08 43 39.1 +2.2**
comp=Z,1.6nm,0.8s,baz=135,slow=3.4,SNR=5.1
CN2 Changchun 82.51 323 *eP* P 08 43 49.4 +4.7
GYA Guiyang 86.60 300 *eP* **P 08 44 04.7 -0.5**
GYA pP **pP 08 46 11.8 +1.7**
GYA sP **sP 08 47 07.4 -0.8**
GYA PP **PP 08 47 39.5 +1.1**
GYA SKS **SKSac 08 53 36.0 -1.4**
GYA pmax pmax
comp=Z,10.0nm,1.0s
TXAR Lajitas Array 87.66 57 P **P 08 44 12.8 +2.8**
comp=Z,0.4nm,0.9s,baz=216,slow=6.2,SNR=3.8
ILAR Eielson Array 88.93 13 P **P 08 44 15.1 +0.1**
comp=Z,0.7nm,0.4s,baz=217,slow=5.0,SNR=20
KMI Kunming 89.27 297 P **P 08 44 17.7 -0.1**
KMI pmax pmax
comp=Z,11nm,0.6s
HHC Hu-ho-hao-te 89.48 315 *eP* P 08 44 14.7 -3.5
HHC pP pP 08 46 25.1 +1.1
HHC sP sP 08 47 24.0 +2.1
HHC S **SKKSac 08 54 13.5 +4.7**
HHC pmax pmax
comp=Z,40nm,0.5s
HHC pmax pmax
comp=Z,310nm,5.8s
PDAR Pinedale Array 89.62 43 P **P 08 44 20.6 +1.7**
comp=Z,0.9nm,0.6s,baz=221,slow=3.8,SNR=7.6
CMAR Chiang Mai Arr 89.95 290 P **P 08 44 21.7 +0.9**
comp=Z,2.0nm,0.3s,baz=126,slow=3.3,SNR=4.9
CD2 Chengdu 90.78 303 P **P 08 44 24.2 -0.2**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
GTA Gaotai 97.04 309 *eP* **P 08 44 53.8 +1.0**
GTA pP pP 08 47 04.9 +5.5
GTA pmax pmax
comp=Z,2.0nm,0.6s
JIRN Jiri 104.07 294 *eP* **Pdif 08 45 24.6 0.0**
comp=Z,19nm,0.7s
GUN Gumba 104.41 295 *eP* **Pdif 08 45 22.9 -3.2**
comp=Z,58nm,0.8s
PKI Pulchoki 104.71 294 *eP* **Pdif 08 45 23.3 -4.1**
PKIN Phulchoki 104.72 294 *eP* **Pdif 08 45 23.1 -4.3**
comp=Z,18nm,0.9s
WMQ Urumqi 107.01 311 *eP* **Pdif 08 45 36.3 -0.6**
MKAR Makanchi Array 111.31 313 PKiKP **PKiKP 08 49 49.8 -0.9**
comp=Z,0.4nm,0.4s,baz=46,slow=4.2,SNR=8.2
KSH Kashi 114.90 305 *ePKP* **PKPdf 08 49 57.4 -0.6**
KSH PP PP 08 51 17.1 +9.0
KSH PKS **PKSdf 08 53 32.2 -2.5**
KSH SKS **SKSdf 08 56 12.5 -3.3**
KSH SKKS **SKKSac 08 57 07.1 -2.0**
KSH AMB AMB
comp=Z,64nm,5.8s
ARCES ARCESS Array B 129.40 349 PKP **PKPdf 08 50 24.6 -0.2**
comp=Z,1.7nm,0.5s,baz=48,slow=0.9,SNR=16
FINES FINESS Array B 136.20 343 PKP **PKPdf 08 50 37.6 -0.1**
comp=Z,1.2nm,0.5s,baz=356,slow=2.5,SNR=5.5
NOA NORSAR Array B 139.48 353 PKhKP PKPpre 08 50 37.4
comp=Z,0.6nm,0.6s,baz=18,slow=2.8,SNR=3.8
NOA PKP **PKPdf 08 50 44.4 +0.6**
comp=Z,0.7nm,0.6s,baz=19,slow=4.0,SNR=3.0
AKASG Malin Array Be 143.31 330 PKP PKPab 08 50 48.6 -0.6
comp=Z,9.6nm,0.4s,baz=43,slow=4.4,SNR=23
MALT Malatya 143.97 307 ‖ *iP* **PKPdf 08 50 52.8 +0.3**
BR131 Keskin Array S 146.93 311 *ePKPbc* **PKPbc 08 51 00.2 -0.3**
BRTR Keskin Array B 146.93 311 PKPbc **PKPbc 08 51 00.2 -0.3**
comp=Z,3.3nm,0.6s,baz=138,slow=4.7,SNR=15
TLCR 147.14 323 ‖ *iP* **PKPbc 08 51 00.8 +0.1**
BUR08 Bucovina Ar. S 147.34 330 *ePKPbc* **PKPbc 08 51 01.6 +0.2**
BURAR Bucovina Array 147.36 330 ‖ *iP* **PKPbc 08 51 02.0 +0.6**
CFR Carcaliu 147.52 324 ‖ *iP* **PKPbc 08 51 02.0 +0.3**
TIRR Tirgusor 147.81 323 ‖ *iP* **PKPbc 08 51 04.7 +2.3**
VRI Vrincioaia 147.82 326 ‖ *iP* **PKPbc 08 51 02.7 +0.2**
TLB Topalu 147.94 323 ‖ *iP* **PKPbc 08 51 03.3 +0.5**
DOPR Dopca 148.44 327 ‖ *iP* **PKPbc 08 51 05.1 +1.1**
MLR Muntele Rosu 148.48 326 ‖ *iP* **PKPbc 08 51 05.0 +0.7**
CLL Collm 148.51 346 *i PKPbc* **PKPbc 08 51 04.1 +0.1**
comp=Z,13nm,1.2s
CLL *ePKPab* **PKPab 08 51 10.0 +0.3**
DPC Dobruska-Polom 148.54 342 ‖ *ePKP* **PKPbc 08 51 04.9 +0.7**
DPC *ePKPAB* **PKPab 08 51 10.8 +0.9**
VOIR 148.98 327 ‖ *iP* **PKPbc 08 51 06.2 +0.7**
ARR Arges 149.24 327 ‖ *iP* **PKPbc 08 51 07.6 +1.5**
PRU Pruhonice 149.36 344 ‖ *ePKP* **PKPbc 08 51 06.5 +0.4**
LOT Lotru 149.61 328 ‖ *iP* **PKPab 08 51 12.3 -2.3**
SIRR Siria 149.99 332 ‖ *iP* **PKPbc 08 51 08.2 +0.5**
GZR Gura Zlata 150.13 329 ‖ *iP* **PKPbc 08 51 08.0 -0.2**
KHC Kasperske Hory 150.40 344 ‖ *ePKP* **PKPbc 08 51 09.1 +0.5**
KHC *ePKPAB* **PKPab 08 51 18.5 +0.8**
GERES GERESS Array B 150.63 344 PKPbc **PKPbc 08 51 09.6 +0.3**
comp=Z,1.8nm,0.5s,baz=38,slow=2.4,SNR=12
PKSM Moragy 151.30 335 ‖ *iP* **PKPbc 08 51 10.6 -0.1**
DAVOX Davos/Dischmat 153.47 347 PKPbc **PKPbc 08 51 16.1 +0.4**
comp=Z,2.9nm,0.5s,baz=348,slow=17,SNR=3.6
TORD Torodi Ar. Bea 172.14 181 PKP **PKPdf 08 51 25.2 -0.5**
comp=Z,0.6nm,0.8s,baz=245,slow=0.6,SNR=3.3

IDC 08 08:45:40.2±1.5, 22°.68S×170°.85E, h0km, mb4.0/8, mb1 4.2/9, mb1mx4.0/18, mbtmp4.0/9, ML4.6/1, MS3.4/7, Ms1 3.3/7, ms1mx3.2/25, Error ellipse: s-maj=58.8km s-min=22.7km az=153.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.12**	**278**	Pn	Pn	08 46 44.0	-0.6
	36nm,0.3s,baz=272,slow=23,SNR=393						
DZM				Sn	Sn	08 47 27.4	-6.2
	40nm,0.3s,baz=98,slow=17,SNR=17						
DZM				LR	LR	08 47 31.1	
	comp=Z,310nm,20.9s,baz=179,slow=27						
URZ	**Urewera**	**16.43**	**162**	LR	LR	08 54 51.9	
	comp=Z,159nm,19.3s,baz=351,slow=34						
HNR	**Honiara**	**16.82**	**320**	LR	LR	08 54 22.1	
	comp=Z,67nm,20.6s,baz=173,slow=31						
AFI	**Afiamalu**	**18.65**	**65**	LR	LR	08 55 20.0	
	comp=Z,64nm,19.3s,baz=256,slow=31						
RPZ	**Rata Peaks**	**20.98**	**180**	LR	LR	08 57 07.8	
	comp=Z,103nm,20.0s,baz=181,slow=33						
CTA	**Charters Tower**	**23.04**	**272**	P	P	08 50 48.2	+0.9
	1.6nm,0.4s,baz=118,slow=7.7,SNR=3.6						
STKA	**Stephens Creek**	**27.50**	**244**	P	P	08 51 28.8	+0.3
	1.8nm,1.0s,baz=80,slow=10,SNR=2.6						
STKA				LR	LR	09 01 37.5	
	comp=Z,89nm,20.1s,baz=205,slow=35						
ASAR	**Alice Springs**	**33.92**	**261**	P	P	08 52 25.2	-0.1
	1.6nm,0.7s,baz=78,slow=9.4,SNR=26						
WRA	**Warramunga Arr**	**34.07**	**268**	P	P	08 52 25.6	-1.0
	0.3nm,0.5s,baz=98,slow=8.2,SNR=7.4						
WRA				LR	LR	09 06 47.2	
	comp=Z,110nm,18.6s,baz=265,slow=37						
PETK	**Petropavlovsk-**	**76.33**	**352**	P	P	08 57 30.2	-0.6
	1.7nm,0.8s,baz=160,slow=5.5,SNR=4.2						
CMAR	**Chiang Mai Arr**	**81.28**	**294**	P	P	08 58 00.2	+1.4
	1.4nm,0.4s,baz=139,slow=4.6,SNR=6.2						
SONM	**Songino Array**	**90.86**	**323**	P	P	08 58 44.9	-0.9
	1.7nm,0.9s,baz=125,slow=4.0,SNR=6.7						
ILAR	**Eielson Array**	**93.07**	**17**	P	P	08 58 57.1	+1.8
	0.7nm,1.0s,baz=224,slow=7.6,SNR=3.3						
ARCES	**ARCESS Array B**	**128.76**	**345**	PKP	PKPdf	09 04 47.7	-1.2
	1.2nm,0.7s,baz=66,slow=1.5,SNR=11						
EKA	**Eskdalemuir Ar**	**147.09**	**354**	PKPbc	PKPdf	09 05 23.6	+0.9
	2.3nm,0.4s,baz=4.8,slow=3.3,SNR=6.2						
GERES	**GERESS Array B**	**148.22**	**331**	PKPbc	PKPbc	09 05 27.5	-0.8
	1.2nm,0.5s,baz=57,slow=4.9,SNR=6.4						
TORD	**Torodi Ar. Bea**	**165.99**	**229**	PKP	PKPdf	09 05 47.3	-0.8
	0.5nm,0.9s,baz=129,slow=2.0,SNR=2.7						

IDC 08 08:58:46.3±5.5, 22°.16S×67°.40W, h168km±28km, mb3.9/2, mb1 3.4/5, mb1mx3.3/16, mbtmp3.4/5, Error ellipse: s-maj=86.1km s-min=24.7km az=56.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**5.88**	**353**	P	Pn	09 00 12.9	+0.5
	1.6nm,0.3s,baz=166,slow=5.5,SNR=46						
LPAZ				S	Sn	09 01 19.4	-0.6
	0.3nm,0.3s,baz=241,slow=18,SNR=4.1						
CPUP	**Villa Florida**	**10.09**	**116**	P	Pn	09 01 06.5	-0.6
	0.2nm,0.3s,baz=306,slow=17,SNR=2.2						
BDFB	**Brasilia**	**19.45**	**74**	P	P	09 03 00.7	+0.5
	0.8nm,0.3s,baz=244,slow=12,SNR=5.1						
DBIC	**Dimbokro**	**67.59**	**72**	P	P	09 09 25.2	0.0
	3.0nm,0.7s,baz=207,slow=9.0,SNR=3.3						
TORD	**Torodi Ar. Bea**	**76.27**	**70**	P	P	09 10 16.8	0.0
	1.1nm,0.4s,baz=256,slow=5.7,SNR=29						

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*ISCJB **08** 08:59:59.9±1.0, 36°.32N±0°.05×36°.95E±0°.07, h7km±9km, Error ellipse: s-maj=11.6km s-min=5.4km az=38.7*
*CSEM **08** 08:59:59.7±0.3, 36°.32N×36°.97E, h2km, MD3.0, Error ellipse: s-maj=7.7km s-min=4.4km az=106.0*
*DDA **08** 08:59:60.0, 36°.33N×36°.96E, h7km, MD3.0*
*NSSC **08** 09:00:00.4±1.3, 36°.31N×36°.90E, h2km±8km, ML2.0*
ISC 08 08:59:59.7±1.2, 36°.30N±0°.04×36°.99E±0°.05, h8km±12km, n17, σ0°.44/30, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUZU	**Kuzuini**	**0.48**	**8**	*i P*	**Pg**	**09 00 08.6**	**-0.5**
KUZU				*i S*	**Sg**	**09 00 15.6**	**+0.3**
KUZU	**Kuzuini**	**0.48**	**8**	*i P*	**Pg**	**09 00 08.6**	**-0.5**
KUZU				*i S*	**Sg**	**09 00 15.6**	**+0.3**
BTCH	**Batrach**	**0.50**	**239**	*eP*	**Pg**	**09 00 09.5**	**+0.1**
BTCH				*eS*	**Sg**	**09 00 16.7**	**+0.7**
BTCH	**Batrach**	**0.50**	**239**	*eP*	**Pg**	**09 00 09.5**	**+0.1**
	SNR=93						
BTCH				*eS*	**Sg**	**09 00 16.7**	**+0.7**
	SNR=59						
COBT	**Iskenderun**	**0.63**	**291**	*i P*	**Pg**	**09 00 11.5**	**-0.5**
COBT				*i S*	**Sg**	**09 00 20.5**	**+0.2**
COBT	**Iskenderun**	**0.63**	**291**	*i P*	**Pg**	**09 00 11.5**	**-0.5**
COBT				*i S*	**Sg**	**09 00 20.5**	**+0.2**
YAYL	**Yayladag**	**0.76**	**250**	*i P*	**Pg**	**09 00 14.4**	**0.0**
YAYL				*i S*	**Sn**	**09 00 29.3**	**+0.6**
YAYL	**Yayladag**	**0.76**	**250**	*i P*	**Pg**	**09 00 14.4**	**0.0**
WRDH	**Warideh**	**0.92**	**211**	*eP*	**Pg**	**09 00 17.0**	**-0.3**
WRDH				*eS*	**Sb**	**09 00 30.6**	**+0.3**
WRDH				AML	AML	09 00 35.0	
	comp=N,85nm,0.4s						
WRDH				AML	AML	09 00 39.1	
	comp=E,76nm,0.6s						
WRDH	**Warideh**	**0.92**	**211**	*eP*	**Pg**	**09 00 17.0**	**-0.3**
	SNR=67						
WRDH				*eS*	**Sb**	**09 00 30.6**	**+0.3**
	comp=E,76nm,0.6s,SNR=59						
ARNB	**Al Arnab**	**0.93**	**242**	*eP*	**Pg**	**09 00 17.4**	**-0.3**
ARNB				*eS*	**Sg**	**09 00 29.0**	**-0.8**
ARNB				AML	AML	09 00 32.9	
	comp=E,54nm,0.3s						
ARNB				AML	AML	09 00 34.4	
	comp=N,65nm,0.4s						
ARNB	**Al Arnab**	**0.93**	**242**	*eP*	**Pg**	**09 00 17.4**	**-0.3**
	SNR=67						
GZT	**Gaziantep**	**1.15**	**23**	*i P*	**Pg**	**09 00 22.2**	**+0.3**
BIDA	**Albida**	**1.39**	**203**	*eP*	**Pn**	**09 00 25.2**	**-0.3**
BIDA				*eS*	**Sb**	**09 00 43.1**	**-0.9**
BIDA				AML	AML	09 00 49.0	
	comp=Z,136nm,0.4s						
BIDA				AML	AML	09 00 51.1	
	comp=N,34nm,0.3s						
BIDA	**Albida**	**1.39**	**203**	*eP*	**Pn**	**09 00 25.2**	**-0.3**
	SNR=57						
HAWK	**Haweek**	**1.84**	**195**	*eP*	**Pb**	**09 00 33.9**	**+0.3**
HAWK				*eS*	**Sb**	**09 00 56.5**	**-0.3**
HAWK				AML	AML	09 00 59.1	
	comp=Z,15nm,0.4s						
HAWK				AML	AML	09 01 03.2	
	comp=N,18nm,0.5s						
HAWK				AML	AML	09 01 05.1	
	comp=E,22nm,0.4s						
HAWK	**Haweek**	**1.84**	**195**	*eP*	**Pb**	**09 00 33.9**	**+0.3**
	SNR=45						
HAWK				*eS*	**Sb**	**09 00 56.5**	**-0.3**
	comp=E,22nm,0.4s,SNR=40						

DJA 08 09:09:47.8±1.2, 8°.S±7°.×10°.7E±°, h10km±8km, M3.9/6, MLv3.9/6, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.76**	**40**	P	Pg	09 10 02.6	0.0
CISI				S	Sg	09 10 12.1	-0.5
LEM	**Lembang**	**1.34**	**13**	P	Pn	09 10 11.7	-1.1
LEM				S	Sb	09 10 29.4	-1.2
SKJI	**Sukabumi**	**1.36**	**326**	P	Pn	09 10 10.2	-2.6
DBJI	**Dramaga**	**1.67**	**340**	P	Pn	09 10 16.1	-1.1
KPJI	**Karang Pucung**	**1.79**	**63**	P	Pn	09 10 17.7	-1.0

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*AUST **08** 09:17:37.2, 21°.32S×176°.04W, h100km*
*ISCJB **08** 09:17:38.0±1.1, 21°.48S±0°.05×176°.34W±0°.04, h111km±10km, mb4.8/81, Error ellipse: s-maj=8.3km s-min=4.5km az=152.1*
*NEIC **08** 09:17:39.4±0.9, 21°.43S×176°.35W, h115km±8km, mb4.8/50, Error ellipse: s-maj=7.8km s-min=4.5km az=140.0*
*BJI **08** 09:17:39.3, 21°.04S×175°.39W, h141km, mB5.3/15, mb4.9/24*
*MOS **08** 09:17:39.2±3.1, 21°.38S×176°.36W, h102km, mb4.9/18, Error ellipse: s-maj=11.4km s-min=8.9km az=56.8*
*IDC **08** 09:17:40.3±1.4, 21°.41S×176°.25W, h126km±11km, mb4.4/21, mb1 4.6/24, mb1mx4.5/27, mbtmp4.5/24, MS3.8/10, Ms1 3.8/10, ms1mx3.5/33, Error ellipse: s-maj=12.5km s-min=11.2km az=98.0*
*DJA **08** 09:17:41.0±1.3, 21°.S±13°.×17°.6W±°, h133km±20km, M6.2/16, mB6.8/1, mb5.2/16, MLv6.6/1, Mw(mB)6.7/1*
*SZGRF **08** 09:17:44.8, 21°.94S×176°.87W, h168km, Fiji Islands region*
*GCMT **08** 09:17:46.0±0.2, 21°.55S×175°.88W, h169km±1km, MW5.2, Moment Tensor Solution. s60,c83; s88,c144; Moment tensor: Scale 10^{16}Nm; M_{rr}3.32±.18; $M_{\theta\theta}$-3.17±.23; $M_{\phi\phi}$-0.15±.24; $M_{r\theta}$-3.41±.16; $M_{\theta\phi}$-1.47±.20; $M_{\phi r}$-6.36±.14; Best double couple: $M_0$8.00000×10^{16} NP1:ϕ_s214.00000°, δ79.00000°, λ75.00000°. NP2:ϕ_s88.00000°, δ18.00000°, λ142.00000°. Principal axes: T 8.4800, Plg54.0000°, Azm106.0000°; N -0.9500, Plg15.0000°, Azm217.0000°; P -7.5300, Plg32.0000°, Azm316.0000°; Data Used: IU II IC G CN.*

ISC 08 09:17:42.9±0.4, 21°.49S±0°.05×176°.34W±0°.05, h147km±2km, h147km:pP-P, n652, σ1$12/710, mb4.7/81, 171C-193D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.48**	**304**	Pn	Pn	09 19 21.3	+5.2
	2μm,0.9s,SNR=21						
NIUE	**Niue**	**6.48**	**69**	P	Pn	09 19 09.7	-6.4
	baz=6.2,SNR=57						
NIUE				S	Sn	09 20 13.1	-16
	baz=6.2,SNR=27						
RAO	**Raoul Island**	**7.86**	**190**	*e*Pn	Pn	09 19 30.6	-3.8
RAO				S	**Sn**	**09 21 01.1**	**-0.9**
RAO	**Raoul Island**	**7.86**	**190**	P	**Pn**	**09 19 32.4**	**-2.0**
	89nm,0.3s,baz=83,slow=23,SNR=5.2						
RAO				S	**Sn**	**09 21 01.1**	**-0.9**
	644nm,0.3s,baz=24,slow=18,SNR=12						
AFI	**Afiamalu**	**8.70**	**31**	*e*Pn	Pn	09 19 40.3	-5.6
AFI				S	Sn	09 21 06.1	-17
AFI				*e*Sn	Sn	09 21 21.5	-1.2
AFI	**Afiamalu**	**8.70**	**31**	P	Pn	09 19 37.1	-8.7
	9.9nm,0.3s,baz=202,slow=11,SNR=14						
AFI				S	Sn	09 21 06.1	-17
	19nm,0.3s,baz=186,slow=10,SNR=3.3						
RAR	**Rarotonga**	**15.44**	**92**	*e*Pn	**Pn**	**09 21 12.3**	**-0.6**
RAR				S	Sn	09 23 50.4	-14
RAR	**Rarotonga**	**15.44**	**92**	P	**Pn**	**09 21 10.3**	**-2.6**
	3.9nm,0.3s,baz=218,slow=0.0,SNR=6.0						
RAR				S	Sn	09 23 50.4	-14
	7.6nm,0.3s,baz=222,slow=0.0,SNR=3.5						
DZM	**Mont Dzumac**	**16.01**	**265**	*e*P	**P**	**09 21 23.9**	**+3.3**
	217nm,1.1s						
DZM				*e*LR	LR	09 24 50.3	
	608nm,26.4s						
DZM	**Mont Dzumac**	**16.01**	**265**	P	P	09 21 26.1	+5.5
DZM	**Mont Dzumac**	**16.01**	**265**	P	P	09 21 26.1	+5.5
	6.0nm,0.3s,baz=71,slow=19,SNR=45						
DZM				LR	LR	09 25 16.3	
	comp=Z,405nm,21.1s,baz=182,slow=28						
OUZ	**Omahuta**	**16.28**	**211**	*e*Pn	**P**	**09 21 26.4**	**+3.0**
	190nm,2.0s						
URZ	**Urewera**	**17.64**	**197**	*e*P	**P**	**09 21 37.0**	**-1.3**
	34nm,0.6s						
URZ				*e*S	S	09 24 39.9	-14
URZ	**Urewera**	**17.64**	**197**	P	**P**	**09 21 36.5**	**-1.8**
	6.8nm,0.3s,baz=31,slow=2.1,SNR=48						
URZ				S	S	09 24 37.7	-16
	4.3nm,0.3s,baz=106,slow=18,SNR=6.7						
URZ				LR	LR	09 26 32.4	
	comp=Z,222nm,19.2s,baz=22,slow=30						
BKZ	**Black Stump Fm**	**18.66**	**198**	*e*P	**P**	**09 21 48.4**	**-1.2**
	14nm,0.6s						
BFZ	**Birch Farm**	**20.14**	**197**	*e*P	Pn	09 22 09.4	+0.5
	81nm,1.4s						
KHZ	**Kahutara**	**22.53**	**200**	*e*P	**P**	**09 22 28.1**	**-2.3**
	34nm,0.6s						
LHI	**Lord Howe Isla**	**24.12**	**240**	P	P	09 22 56.1	+11
	baz=24,SNR=3.6						
RPZ	**Rata Peaks**	**24.52**	**202**	*e*P	**P**	**09 22 49.3**	**+0.6**
RPZ	**Rata Peaks**	**24.52**	**202**	P	**P**	**09 22 48.9**	**+0.3**
	43nm,0.5s,baz=334,slow=0.9,SNR=33						
RPZ				LR	LR	09 30 28.2	
	comp=Z,181nm,19.0s,baz=193,slow=31						
TBI	**Tubuai**	**24.90**	**99**	*e*LQ	LQ	09 27 46.7	
	863nm,26.5s						
TBI				*e*LR	LR	09 28 46.6	
	487nm,36.0s						
PPT2	**Papeete2**	**25.50**	**86**	*e*LQ	LQ	09 28 07.0	
	921nm,24.2s						
PPT2				*e*LR	LR	09 29 15.7	
	483nm,27.5s						
PPT	**Papeete**	**25.51**	**86**	LR	LR	09 30 50.5	
	comp=Z,211nm,18.2s,baz=86,slow=31						
HNR	**Honiara**	**25.77**	**294**	P	**P**	**09 23 00.8**	**+0.6**
HNR	**Honiara**	**25.77**	**294**	P	**P**	**09 23 00.8**	**+0.6**
	97nm,0.9s,baz=156,slow=19,SNR=6.0						
ODZ	**Otahua Downs**	**25.82**	**202**	*e*P	**P**	**09 23 02.8**	**+2.4**
	95nm,1.8s						
ARMA	**Armidale**	**30.06**	**246**	*e*P	**P**	**09 23 40.8**	**+2.3**
ARMA	**Armidale**	**30.06**	**246**	P	**P**	**09 23 40.7**	**+2.3**
	baz=30,SNR=14						
EIDS	**Eidsvold**	**30.10**	**256**	*e*P	**P**	**09 23 40.3**	**+1.6**
	37nm,0.6s						
EIDS	**Eidsvold**	**30.10**	**256**	P	**P**	**09 23 39.9**	**+1.2**
	baz=30,SNR=22						
MGCD	**Mangrove Creek**	**31.06**	**241**	P	**P**	**09 23 49.1**	**+2.1**
	baz=31,SNR=19						
RMQ	**Roma**	**32.21**	**254**	P	**P**	**09 23 59.4**	**+2.1**
	baz=32,SNR=59						
CNB	**Canberra Magne**	**32.99**	**238**	P	**P**	**09 24 06.1**	**+2.1**
	baz=33,SNR=8.1						
YNG	**Young**	**33.51**	**240**	P	**P**	**09 24 10.5**	**+2.0**
	baz=34,SNR=5.3						
CTA	**Charters Tower**	**34.95**	**265**	P	**P**	**09 24 21.6**	**+0.6**
CTA	**Charters Tower**	**34.95**	**265**	P	**P**	**09 24 21.6**	**+0.6**
	24nm,0.6s,baz=95,slow=11,SNR=39						
CMSA	**Cobar Meteorol**	**35.27**	**245**	P	**P**	**09 24 24.8**	**+1.2**
	baz=36,SNR=26						
TOO	**Toolangi**	**36.59**	**235**	P	**P**	**09 24 36.3**	**+1.4**
	baz=37,SNR=9.0						
PMG	**Port Moresby**	**37.

13nm,0.7s,baz=89,slow=9.7,SNR=34
STKA ScP S 09 30 38.6 -1.1
2.0nm,0.9s,baz=22,slow=19,SNR=3.0
STKA Stephens Creek 38.77 246 P P 09 24 53.5 +0.2
baz=39,SNR=31
COEN Coen 39.20 274 eP P 09 24 58.0 +1.1
COEN Coen 39.20 274 P P 09 24 58.1 +1.1
baz=39,SNR=12
BBOO Buckleboo 43.51 245 eP P 09 25 31.6 -0.3
315nm,0.6s
BBOO Buckleboo 43.51 245 P P 09 25 30.8 -1.1
baz=44,SNR=47
MMPI Merauke 43.61 281 S S 09 31 40.2 -11
baz=44,SNR=4.6
AS31 Alice Springs 45.81 257 eP P 09 25 50.0 -0.3
ASAR Alice Springs 45.81 257 P P 09 25 50.0 -0.4
ASAR ScP ScP 09 31 06.4 +1.7
ASAR S S 09 32 19.7 -3.6
ASAR Alice Springs 45.81 257 P P 09 25 50.0 -0.4
27nm,0.7s,baz=99,slow=7.9,SNR=297
ASAR ScP ScP 09 31 06.4 +1.7
1.6nm,0.8s,baz=112,slow=4.0,SNR=5.8
ASAR S S 09 32 19.7 -3.6
2.2nm,0.7s,baz=100,slow=16,SNR=12
JAY Jayapura 45.83 288 P P 09 25 51.1 +0.5
128nm,0.8s
JAY Jayapura 45.83 288 P P 09 25 51.0 +0.5
baz=46,SNR=23
WRAB Tennant Creek 46.00 263 P P 09 25 51.0 -0.9
136nm,0.5s,SNR=5.6
WRAB Tennant Creek 46.00 263 eP P 09 25 50.9 -0.9
WRAB Tennant Creek 46.00 263 eP P 09 25 50.9 -0.9
6µm,0.6s
WRA Warramunga Arr 46.01 263 P P 09 25 51.1 -0.7
WRA ScP ScP 09 31 07.8 +2.2
WRA S S 09 32 21.2 -4.9
WRA Warramunga Arr 46.01 263 P P 09 25 51.1 -0.7
16nm,0.7s,baz=96,slow=5.0,SNR=165
WRA ScP ScP 09 31 07.8 +2.2
2.8nm,1.1s,baz=110,slow=4.2,SNR=8.5
WRA S S 09 32 21.2 -4.9
1.0nm,0.7s,baz=98,slow=14,SNR=4.6
KDU Kakadu 49.52 271 P P 09 26 18.5 -0.5
baz=50,SNR=30
FORT Forrest 50.34 247 eP P 09 26 25.4 +0.5
146nm,0.6s
FORT Forrest 50.34 247 P P 09 26 25.4 +0.5
baz=51,SNR=42
MTN Manton Dam 50.73 271 P P 09 26 28.1 0.0
baz=51,SNR=3.0
KNRA Kununurra 52.15 266 P P 09 26 38.0 -0.6
baz=52,SNR=24
FITZ Fitzroy Crossi 54.44 263 eP P 09 26 55.4 +0.1
FITZ Fitzroy Crossi 54.44 263 P P 09 26 54.9 -0.4
baz=55,SNR=10
SWI Sorong 55.00 285 P P 09 27 00.6 +1.1
baz=55,SNR=5.3
SBA Scott Base 56.99 184 eP P 09 27 13.8 +1.2
SBA pmax pmax
comp=Z,28nm,1.3s
SBA Scott Base 56.99 184 eP P 09 27 13.8 +1.2
comp=Z,28nm,1.3s
VNDA Vanda 57.07 186 eP P 09 27 15.2 +2.1
VNDA Vanda 57.07 186 P P 09 27 14.8 +1.7
comp=Z,6.9nm,1.1s,baz=5.1,slow=6.1,SNR=17
SOEI Soe 58.08 272 P P 09 27 23.6 +2.2
baz=58,SNR=3.5
KLBR Kellerberrin 59.05 245 P P 09 27 26.8 -1.0
baz=59,SNR=16
MEEK Meekatharra 59.06 251 P P 09 27 27.4 -0.5
baz=59,SNR=6.8
MBWA Marble Bar 59.16 258 eP P 09 27 27.4 -1.2
comp=Z,13nm,0.6s
BLDU Ballidu 60.07 246 P P 09 27 33.7 -1.1
baz=60,SNR=26
MORW Morawa 60.89 248 P P 09 27 40.3 0.0
baz=61,SNR=22
CASY Casey 63.74 206 eP P 09 27 58.9 +0.3
comp=Z,30nm,1.1s
QSPA South Pole Qui 68.58 180 eP P 09 28 30.2 +0.6
comp=Z,25nm,0.7s
MJAR Matsushiro Arr 71.93 323 P P 09 28 49.8 -0.4
MJAR Matsushiro Arr 71.93 323 P P 09 28 49.8 -0.4
comp=Z,1.7nm,0.5s,baz=163,slow=6.1,SNR=5.3
KSM Kuching 75.08 278 eP P 09 29 09.4 +0.3
comp=Z,8.2nm,0.5s
ASAJ Asahikawa 75.34 331 P P 09 29 10.4 +0.5
ASAJ Asahikawa 75.34 331 P P 09 29 10.4 +0.5
comp=Z,6.1nm,0.7s,baz=135,slow=1.4
BLG Laguna Peak 77.62 46 ⇓P P 09 29 24.9 +1.9
baz=78
PETK Petropavlovsk- 77.63 344 P P 09 29 21.7 -0.9
PETK Petropavlovsk- 77.63 344 P P 09 29 21.7 -0.9
PETK Petropavlovsk- 77.63 344 P P 09 29 21.7 -0.9
comp=Z,3.8nm,0.7s,baz=136,slow=7.5,SNR=12
PETK LR LR 09 58 23.6
comp=Z,30nm,19.8s,baz=283,slow=32
CIS Catalina Islan 77.64 47 ⇑P P 09 29 25.3 +2.1
baz=78
SMMC Simmler 77.72 44 ⇑P P 09 29 25.7 +2.1
baz=78
109C Camp Elliot, M 78.23 48 ⇓P P 09 29 27.2 +0.8
baz=78
ARVC Arvin 78.38 45 ⇓P P 09 29 28.0 +0.9
baz=78
MURC Murrieta 78.57 47 ⇑P P 09 29 28.6 +0.3
baz=79
BFSC Mount Baldy Ra 78.63 46 ⇑P P 09 29 29.3 +0.5
baz=79
VES Vestal, Richgr 78.64 44 ⇑P P 09 29 28.6 0.0
baz=79,SNR=7.6
MONP Monument Peak 78.70 48 ⇑P P 09 29 29.3 0.0
baz=79
EDW2 Edwards Air Fo 78.79 46 ⇓P P 09 29 29.5 0.0
baz=79,SNR=13
DVTC Desert V Tower 78.79 48 ⇑P P 09 29 30.2 +0.6
baz=79
RCTC Rector, Farmer 78.82 44 ⇓P P 09 29 29.9 +0.3
baz=79
ISA Isabella 78.93 45 eP P 09 29 30.6 +0.3
ISA pmax pmax
comp=Z,26nm,1.2s
ISA Isabella 78.93 45 eP P 09 29 30.6 +0.3
comp=Z,26nm,1.2s
ISA Isabella 78.93 45 ⇓P P 09 29 30.6 +0.3
baz=79,SNR=15
PFO Pinyon Flat Ob 79.09 47 ⇓P P 09 29 31.9 +0.6
baz=79
BBRC Big Bear Solar 79.14 47 ⇓P P 09 29 31.9 +0.2
baz=79
CMB Columbia Colle 79.15 42 eP P 09 29 31.8 +0.4
CMB pmax pmax
comp=Z,21nm,1.2s
CMB Columbia Colle 79.15 42 eP P 09 29 31.8 +0.4
comp=Z,20nm,1.2s
SWSC Sam W. Stewart 79.16 48 ⇑P P 09 29 31.7 +0.2
baz=79
LRMC Laurel Mountai 79.34 45 ⇑P P 09 29 32.9 +0.3
baz=80,SNR=6.7
WDC Whiskeytown Da 79.46 39 eP P 09 29 33.5 +0.6
WDC pmax pmax
comp=Z,18nm,1.1s
WDC Whiskeytown Da 79.46 39 eP P 09 29 33.5 +0.6
comp=Z,18nm,1.1s
BELC Belle Mtn. Jos 79.62 47 ⇓P P 09 29 34.3 +0.2
baz=80,SNR=11
CWC Cottonwood Cre 79.65 44 ⇑P P 09 29 35.1 +0.8
baz=80
BC3 Big Chuckawall 79.80 48 ⇑P P 09 29 36.2 +1.1
baz=80
MPMC Manual Prospec 79.81 45 ⇓P P 09 29 35.4 +0.2
baz=80,SNR=12
GSC Goldstone 79.82 46 ⇓P P 09 29 35.2 +0.1
baz=80,SNR=7.8
HEC Hector,Ludlow 79.87 46 ⇑P P 09 29 35.2 -0.2
baz=80,SNR=11
MLAC Mammoth Lakes 79.87 43 ⇑P P 09 29 36.5 +0.9
baz=80
GLA Glamis 79.90 49 ⇓P P 09 29 36.2 +0.7
baz=80
TIN Tinemaha 79.92 44 ⇓P P 09 29 36.1 +0.4
baz=80
WAKR Walker 80.03 42 eP P 09 29 36.5 +0.2
comp=Z,22nm,1.2s
YBH Yreka Blue Hor 80.11 38 eP P 09 29 37.5 +1.0
comp=Z,17nm,1.1s
GMRC Granite Mounta 80.29 47 ⇓P P 09 29 37.8 0.0
baz=80,SNR=7.8
IRM Iron Mountain 80.29 47 ⇑P P 09 29 37.9 +0.2
baz=80,SNR=10
BEKR Beckworth 80.30 40 eP P 09 29 38.1 +0.4
comp=Z,4.8nm,1.0s
GRAC Grapevine Rang 80.44 44 ⇑P P 09 29 38.6 +0.3
baz=81,SNR=7.8
FURC Furnace Creek, 80.46 45 ⇓P P 09 29 38.9 +0.5
baz=81,SNR=5.7
113A Mohawk Valley, 80.49 49 ⇑P P 09 29 38.9 +0.3
baz=81
TUQ Turquoise Moun 80.49 46 ⇑P P 09 29 39.3 +0.5
baz=81
Y12C Blythe 80.50 48 ⇑P P 09 29 39.0 +0.3
baz=81,SNR=5.3
SHOC Shoshone 80.52 46 ⇓P P 09 29 39.3 +0.5
baz=81
HUMO Hull Mountain 80.53 37 eP P 09 29 39.7 +1.0
comp=Z,13nm,1.1s
USRK Ussuriysk Arra 80.66 325 P P 09 29 39.7 +0.5
comp=Z,2.5nm,0.6s,baz=140,slow=7.4,SNR=14
214A Organ Pipe Nat 80.73 50 ⇓P P 09 29 40.3 +0.3
baz=81
NV11 Mina Array Sit 80.78 43 eP P 09 29 40.8 +0.5
PAHR Pah Rah Range 80.79 41 eP P 09 29 40.8 +0.5
comp=Z,7.5nm,1.0s
PDMCI Parker Dam,Lak 81.07 48 ⇑P P 09 29 42.3 +0.6
baz=81
MAW Mawson 81.16 199 P P 09 29 42.3 +0.7
MAW Mawson 81.16 199 P P 09 29 42.3 +0.7
comp=Z,11nm,0.7s,baz=131,slow=7.0,SNR=46
MAW LR LR 10 06 54.0
comp=Z,127nm,19.4s,baz=180,slow=36
MAW Mawson 81.16 199 P P 09 29 42.3 +0.7
baz=81,SNR=31
Z14A Wintersburg 81.39 49 ⇓P P 09 29 43.8 +0.4
baz=82
SHPR Sheep Range 81.61 46 eP P 09 29 45.5 +0.8
comp=Z,18nm,1.4s
Y14A Wickenburg 81.66 49 ⇑P P 09 29 45.0 +0.1
baz=82,SNR=11
W13A Hualapai Mount 81.68 47 ⇑P P 09 29 45.7 +0.5
baz=82,SNR=11
NJ2 Nanjing 81.71 309 eP P 09 29 46.2 +1.1
NJ2 pmax pmax
comp=Z,70nm,1.0s
MDJ Mudanjiang 82.22 324 P P 09 29 48.2 +0.7
MDJ pP pP 09 30 23.6 -0.7
MDJ sP sP 09 30 38.4 -1.5
MDJ PP PP 09 32 56.9 -1.4
MDJ S SKSac 09 39 54.6 +0.4
MDJ sS sS 09 40 53.5 -0.6
MDJ SS SS 09 45 11.1 -3.3
MDJ pmax pmax
comp=Z,11nm,1.0s
MDJ pmax pmax
comp=Z,140nm,4.8s
MDJ LR LR
comp=N,170nm,6.3s
MDJ LR LR
comp=E,160nm,6.3s
MDJ LR LR
comp=Z,210nm,7.0s
R11A Troy Canyon, C 82.37 44 eP P 09 29 48.7 0.0
R11A Troy Canyon, C 82.37 44 ⇓P P 09 29 49.3 +0.6
baz=82,SNR=7.7
TUC Tucson 82.38 51 eP P 09 29 49.7 +1.0
TUC pmax pmax
comp=Z,14nm,1.2s
TUC Tucson 82.38 51 eP P 09 29 49.7 +1.0
comp=Z,14nm,1.2s
BMN Battle Mountai 82.55 41 eP P 09 29 50.2 +0.6
BMN pmax pmax
comp=Z,18nm,1.1s
BMN Battle Mountai 82.55 41 eP P 09 29 50.2 +0.6
comp=Z,18nm,1.1s
WVOR Wild Horse Val 82.90 39 eP P 09 29 51.7 +0.4
WVOR pmax pmax
comp=Z,17nm,1.1s
WVOR Wild Horse Val 82.90 39 eP P 09 29 51.7 +0.4
comp=Z,17nm,1.1s
319A Douglas 83.00 53 ⇑P P 09 29 52.6 +0.5
baz=83
X16A Lo Mia Camp, P 83.01 49 ⇓P P 09 29 52.7 +0.6
baz=83,SNR=17
LVP Lakeview Peak 83.09 35 P P 09 29 52.8 +0.7
TDL Tradedollar La 83.38 34 P P 09 29 54.6 +1.0
CCUT Cedar City 83.38 45 eP P 09 29 54.7 +0.7
comp=Z,18nm,1.2s
GULW Guler Mountain 83.43 35 P P 09 29 54.5 +0.6
U15A North Rim 83.49 47 ⇓P P 09 29 55.2 +0.6
baz=84,SNR=31
320A Kipp Ranch, An 83.54 53 ⇓P P 09 29 55.5 +0.6
baz=84
WUAZ Wupatki 83.64 48 eP P 09 29 56.1 +0.9
comp=Z,16nm,1.2s
WUAZ Wupatki 83.64 48 ⇑P P 09 29 55.4 +0.2
baz=84,SNR=9.8
220A Playas Peak, P 83.83 52 ⇑P P 09 29 56.5 +0.3
baz=84,SNR=31
LON Longmire 83.85 34 eP P 09 29 56.0 +0.1
LON pmax pmax
comp=Z,7.0nm,1.1s
LON Longmire 83.85 34 eP P 09 29 56.0 +0.1
comp=Z,6.7nm,1.1s
WPW White Pass 83.95 34 P P 09 29 57.0 +0.5
ELK Elko 83.96 42 eP P 09 29 57.0 +0.1
comp=Z,12nm,1.1s
CN2 Changchun 84.03 322 eP P 09 29 56.5 -0.3
CN2 epP pP 09 30 29.5 -4.3
CN2 eS S 09 40 08.1 -0.6
CN2 pmax pmax
comp=Z,10.0nm,0.8s
120A U Bar Ranch, L 84.07 52 ⇑P P 09 29 58.0 +0.5
baz=84,SNR=16
X18A Snowflake 84.12 50 ⇓P P 09 29 58.1 +0.3
baz=84,SNR=7.5
Z20A Nine Sixteen R 84.38 51 ⇓P P 09 29 59.5 +0.5
baz=84,SNR=18
221A Mesquite Ranch 84.43 53 ⇑P P 09 29 60.0 +0.7
baz=85,SNR=8.2
W18A Petrified Fore 84.57 49 ⇓P P 09 30 00.3 +0.3
baz=85,SNR=5.1
121A Cookes Peak, D 84.68 52 ⇑P P 09 30 00.8 +0.2
baz=85,SNR=14
HAWA Hanford 84.84 36 eP P 09 30 01.4 +0.6
comp=Z,18nm,1.1s
Y20A Horse Springs, 84.93 51 ⇑P P 09 30 02.3 +0.4
baz=85,SNR=21
MFID Camas Ranch 85.14 40 ⇓P P 09 30 03.1 +0.5
baz=85
Z21A St. Cloud Mine 85.14 52 ⇑P P 09 30 03.5 +0.6
baz=85,SNR=24
X20A Quemado 85.16 50 ⇓P P 09 30 03.6 +0.6
baz=85,SNR=17
ETW Entiat 85.17 34 P P 09 30 03.1 +0.4
DUG Dugway 85.19 43 ⇓P P 09 30 03.6 +0.6
baz=85
122A Connifff Cattle 85.34 52 ⇓P P 09 30 04.4 +0.6
baz=86,SNR=11
223A Chaparral, Ant 85.43 53 ⇑P P 09 30 04.9 +0.6
baz=86
W20A Ramah 85.45 50 ⇑P P 09 30 04.7 +0.3
baz=86,SNR=12
Y21A Point of Rocks 85.49 51 ⇓P P 09 30 05.2 +0.5
baz=86,SNR=26
Q16A Castle Valley 85.57 45 eP P 09 30 05.8 +0.9
Q16A Castle Valley 85.57 45 ⇑P P 09 30 05.1 +0.2
baz=86,SNR=5.6
X21A Alamocita Cree 85.62 50 ⇓P P 09 30 05.7 +0.4
baz=86,SNR=8.8
Z22A Elephant Butte 85.64 52 ⇑P P 09 30 05.6 +0.3
baz=86,SNR=22
TMUT Trail Mountain 85.75 45 eP P 09 30 06.7 +0.8
comp=Z,9.8nm,0.7s
V20A Brimhall 85.81 49 ⇓P P 09 30 06.7 +0.5
baz=86
123A Bell Site, Whi 85.85 53 ⇑P P 09 30 06.9 +0.5
baz=86
324A Moseley Ranch, 85.87 54 ⇓P P 09 30 06.4 -0.1
baz=86,SNR=40
425A Indio Mountain 85.94 55 ⇓P P 09 30 07.0 +0.2
baz=86,SNR=33
Y22A Socorro 85.97 51 ⇑P P 09 30 06.7 -0.2
baz=86,SNR=16
626A Big Bend Ranch 86.03 56 ⇑P P 09 30 07.0 -0.2
baz=86,SNR=18
U20A Newcomb 86.06 49 ⇓P P 09 30 08.1 +0.7
baz=86
Y22D IRIS PASSCAL I 86.06 51 ⇑P P 09 30 08.1 +0.7
baz=86
LAZ Ladron 86.07 51 eP P 09 30 08.3 +0.9
comp=Z,6.0nm,1.2s
MNTX Cornudas Mount 86.07 54 eP P 09 30 06.8 -0.5
comp=Z,27nm,1.2s
LENM Lemitar 86.07 51 eP P 09 30 08.2 +0.7
comp=Z,5.3nm,0.9s
HLID Hailey 86.07 40 ⇓P P 09 30 07.8 +0.6
baz=86
SYO Syowa Base 86.10 192⇑eP P 09 30 05.1 -1.7
SRU San Rafael 86.10 45 eP P 09 30 07.6 +0.1
SRU pmax pmax
comp=Z,11nm,0.9s
SRU San Rafael 86.10 45 eP P 09 30 07.6 +0.1
comp=Z,11nm,0.9s
224A Cornudas Mount 86.14 53 ⇑P P 09 30 07.8 0.0
baz=86,SNR=29
Z23A Rita Site, Whi 86.18 52 ⇓P P 09 30 08.1 +0.2
baz=86,SNR=6.3
X22A Bernardo 86.21 51 ⇓P P 09 30 08.8 +0.7
baz=86
325A Bean Ranch, Si 86.22 54 ⇑P P 09 30 08.1 -0.2
baz=86,SNR=29
JLU Jordanelle 86.28 44 eP P 09 30 08.8 +0.4
comp=Z,14nm,1.5s
TXAR Lajitas Array 86.29 57 P P 09 30 08.6 0.0
TXAR Lajitas Array 86.29 57 P P 09 30 08.6 0.0
comp=Z,11nm,1.0s,baz=224,slow=5.2,SNR=45
526A Mary Lane Ranc 86.29 56 ⇓P P 09 30 08.6 0.0
baz=86,SNR=12
BNM Barren Site 86.31 51 eP P 09 30 09.4 +0.7
comp=Z,12nm,1.2s
LPM Los Pinos Moun 86.39 51 eP P 09 30 09.7 +0.6
comp=Z,8.0nm,1.1s
V21A Milan 86.40 49 ⇑P P 09 30 09.4 +0.3
baz=86
124A Stringfield Ra 86.48 53 ⇓P P 09 30 09.8 +0.2
baz=87,SNR=16
MVCO Mesa Verde 86.50 48 ⇑P P 09 30 10.4 +0.8
baz=87
627A Terlingua Ranc 86.56 57 ⇓P P 09 30 09.7 -0.1
baz=87,SNR=12
426A McDonald Obser 86.62 55 ⇓P P 09 30 10.1 -0.2
baz=87,SNR=20
Y23A Lovelace Mesa, 86.63 52 ⇓P P 09 30 10.2 0.0
baz=87,SNR=12
225A Deer Hill, Car 86.68 54 ⇓P P 09 30 10.6 +0.1
baz=87,SNR=22
U21A Nageezi 86.69 49 ⇑P P 09 30 10.6 0.0
baz=87,SNR=16
527A Woodward Ranch 86.70 56 ⇑P P 09 30 10.4 -0.2
baz=87,SNR=8.7
ANMO Albuquerque 86.82 51 eP P 09 30 11.4 +0.2
comp=Z,9.1nm,1.2s
X23A Hourglass Bar 86.84 51 ⇓P P 09 30 11.5 +0.3
baz=87
Z24A Sheeppen Canyo 86.85 52 ⇑P P 09 30 11.2 -0.1
baz=87,SNR=12
S20A Disappointment 86.90 47 ⇓P P 09 30 11.7 +0.2
baz=87
326A Caldwell Ranch 86.95 55 ⇓P P 09 30 11.4 -0.3
baz=87,SNR=6.4
628A Black Gap, Mar 86.97 57 ⇑P P 09 30 11.6 -0.2
baz=87,SNR=16
V22A San Miguel Ran 86.97 50 ⇓P P 09 30 12.0 +0.1
baz=87
SNAA Sanae 86.97 178 eP P 09 30 10.6 -0.5
SNAA Sanae 86.97 178 epP pP 09 30 51.2 +2.9
SNAA Sanae 86.97 178 eP P 09 30 10.8 -0.3
SNAA Sanae 86.97 178 P P 09 30 10.4 -0.7
comp=Z,1.1nm,0.7s,baz=222,slow=4.1,SNR=41
T21A Navajo Lake 87.06 48 ⇑P P 09 30 12.4 +0.2
baz=87
125A Gardner Draw, 87.06 53 ⇓P P 09 30 12.2 0.0
baz=87,SNR=15
R20A Redvale 87.07 47 ⇓P P 09 30 12.7 +0.4
baz=87
Y24A Capitan 87.08 52 ⇓P P 09 30 12.4 0.0
baz=87,SNR=18
TRF Thorofare Moun 87.10 11 eP P 09 30 10.0 -1.7
comp=Z,10nm,0.7s
W23A Werner Place, 87.14 51 ⇑P P 09 30 13.0 +0.3
baz=87
226B Tecolote Peak, 87.16 54 ⇑P P 09 30 13.0 +0.3
baz=87
427A Hayter Ranch, 87.18 55 ⇑P P 09 30 12.8 0.0
baz=87,SNR=20
S21A Coal Bank Pass 87.21 48 ⇓P P 09 30 13.0 0.0
baz=87,SNR=6.6
U22A Llaves 87.23 49 ⇓P P 09 30 13.1 0.0
baz=87
M17A Scullys Gap (B 87.25 43 ⇑P P 09 30 12.8 -0.2
baz=87
NEW Newport 87.28 35 ⇑P P 09 30 12.9 +0.1
baz=88
Z25A Roswell 87.30 53 ⇑P P 09 30 13.6 +0.2
baz=87,SNR=15
528A Cox Ranch, San 87.34 56 ⇓P P 09 30 13.5 -0.2
baz=88,SNR=9.4
X24A Lazy VL Ranch, 87.38 51 ⇑P P 09 30 14.1 +0.2
baz=88
P19A Cripple Cowboy 87.39 46 ⇓P P 09 30 14.1 +0.3
baz=88
V23A Ortiz Mt. (NFS 87.40 50 ⇓P P 09 30 14.5 +0.6
baz=88
PLCA Paso Flores 87.47 133 P P 09 30 14.2 +0.1
PLCA Paso Flores 87.47 133 P P 09 30 14.2 +0.1
comp=Z,6.2nm,0.7s,baz=232,slow=5.3,SNR=12
PLCA LR LR 10 01 00.9
comp=Z,87nm,18.3s,baz=315,slow=30
T22A Edith 87.51 49 ⇑P P 09 30 14.9 +0.4
baz=88
VNA2 Neumayer--Watz 87.51 176 eP P 09 30 13.9 +0.3
VNA2 Neumayer--Watz 87.51 176 epP pP 09 30 54.2 +3.4
Q20A Ridgley Place, 87.51 46 ⇓P P 09 30 14.6 +0.3
baz=88,SNR=7.1
126A Clayton Basin, 87.53 54 ⇓P P 09 30 14.6 +0.1
baz=88,SNR=6.2
MCK McKinley 87.61 12 eP P 09 30 13.0 -1.0
MCK pmax pmax
comp=Z,7.0nm,0.8s
MCK McKinley 87.61 12 eP P 09 30 13.0 -1.0
comp=Z,7.0nm,0.8s
Y25A Mesa, Roswell 87.62 52 ⇓P P 09 30 14.7 -0.2
baz=88,SNR=12
O19A Miners Draw (B 87.64 45 ⇓P P 09 30 15.3 +0.4
baz=88
U23A El Rito 87.67 49 ⇓P P 09 30 15.5 +0.3
baz=88
428A Kincaid Ranch, 87.68 56 ⇓P P 09 30 15.4 +0.2
baz=88
BJI Beijing 87.69 315 P P 09 30 14.8 -0.1
BJI pmax pmax
comp=Z,15nm,0.5s
SEY Seymchan 87.69 346⇑eP P 09 30 13.9 -0.4
W24A Lazy 6 Ranch, 87.70 51 ⇓P P 09 30 14.9 -0.4
baz=88,SNR=6.5
MCMT McKenzie Canyo 87.71 40 eP P 09 30 16.1 +0.9
comp=Z,2.9nm,1.2s
P20A De Beque 87.72 46 ⇓P P 09 30 14.9 -0.4
baz=88,SNR=11
VNA1 Neumayer--Stat 87.73 176 eP P 09 30 15.0 +0.4
VNA1 Neumayer--Stat 87.73 176 epP pP 09 30 55.4 +3.5
529A Stev Forest Ra 87.77 57 ⇑P P 09 30 15.0 -0.6
baz=88,SNR=6.2
227A Bennet, Jal 87.79 54 ⇓P P 09 30 16.1 +0.5
baz=88
Z26A Caprock 87.85 53 ⇑P P 09 30 15.7 -0.2
baz=88,SNR=17
328A Wristen Ranch, 87.87 55 ⇓P P 09 30 16.4 +0.3
baz=88
L18A Fontenelle, Gr 87.89 43 ⇓P P 09 30 16.4 +0.4
baz=88
S22A 4UR Ranch, Cre 87.91 48 ⇑P P 09 30 16.1 -0.3
baz=88,SNR=10
X25A Clemmons Ranch 87.92 52 ⇓P P 09 30 16.0 -0.4
baz=88,SNR=5.4
Q21A Lamborn Mesa, 87.94 47 ⇑P P 09 30 16.8 +0.4
baz=88
I16A Newdale 88.02 41 ⇓P P 09 30 17.5 +0.9
baz=88
V24A Rampart Ranch, 88.04 50 ⇑P P 09 30 17.5 +0.5
baz=88
T23A Casias Ranch, 88.12 49 ⇑P P 09 30 17.8 +0.4
baz=88

O20A	White River Ci	88.14	45	⇑P	P	09 30 17.9	+0.6
	baz=88						
DLMT	Dillon	88.16	39	eP	P	09 30 17.4	+0.2
	comp=Z,5.7nm,1.1s						
MSO	Missoula	88.20	38	⇑P	P	09 30 17.8	+0.5
	baz=88						
R22A	Saguache, Gunn	88.20	48	⇑P	P	09 30 18.3	+0.5
	baz=88						
M19A	Rock Springs	88.23	44	⇓P	P	09 30 17.8	0.0
	baz=88						
429A	Davenport Ranc	88.24	56	⇓P	P	09 30 17.3	-0.5
	baz=88,SNR=11						
SNOW	Snow King Moun	88.24	42	eP	P	09 30 18.3	+0.5
	comp=Z,4.2nm,0.9s						
Y26A	Elida	88.26	53	⇓P	P	09 30 18.2	+0.3
	baz=88						
228A	UT Block 9, Go	88.37	55	⇑P	P	09 30 18.7	+0.3
	baz=88						
W25A	X Bar L Ranch,	88.39	51	⇑P	P	09 30 18.0	-0.5
	baz=88,SNR=11						
Q22A	Crested Butte,	88.40	47	⇓P	P	09 30 18.3	-0.4
	baz=88,SNR=6.2						
L19A	Farson	88.41	43	⇑P	P	09 30 18.8	+0.2
	baz=89						
Z27A	Tatum	88.44	53	⇓P	P	09 30 18.2	-0.5
	baz=89,SNR=8.1						
530A	J-C Ranch, Com	88.47	57	⇑P	P	09 30 19.0	+0.1
	baz=89						
N20A	Spence Gulch,	88.47	45	⇑P	P	09 30 18.7	-0.2
	baz=89						
GYA	Guiyang	88.49	299	P	P	09 30 21.2	+2.1
GYA				pP	pP	09 30 56.8	+0.3
GYA				sP	sP	09 31 12.0	+0.1
GYA				PP	PP	09 33 53.2	+3.6
GYA				SKS	SKSac	09 40 33.9	-0.9
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,130nm,5.7s						
CMIG	Matias Romero	88.51	71	P	P	09 30 19.1	-0.2
CMIG	Matias Romero	88.51	71	P	P	09 30 19.1	-0.2
	comp=Z,2.5nm,0.7s,baz=234,slow=5.0,SNR=7.5						
SMCO	Snowmass	88.51	47	eP	P	09 30 19.1	-0.3
	comp=Z,5.5nm,1.0s						
329A	Wagon Wheel Ra	88.56	55	⇓P	P	09 30 19.4	+0.1
	baz=89						
X26A	CR and CF Fran	88.56	52	⇓P	P	09 30 19.2	-0.2
	baz=89						
QLMT	Earthquake Lak	88.56	40	eP	P	09 30 20.5	+1.3
	comp=Z,0.8nm,0.8s						
T24B	San Luis	88.60	49	⇓P	P	09 30 19.5	-0.1
	baz=89						
PDAR	Pinedale Array	88.63	43	P	P	09 30 18.9	-0.7
PDAR	Pinedale Array	88.63	43	P	P	09 30 18.9	-0.7
	comp=Z,1.6nm,0.8s,baz=216,slow=3.0,SNR=13						
128A	Castleberry Fa	88.67	54	⇑P	P	09 30 19.4	-0.5
	baz=89,SNR=8.4						
O21A	Pagoda	88.69	46	⇓P	P	09 30 20.5	+0.5
	baz=89						
Y27A	Causey	88.73	53	⇑P	P	09 30 19.6	-0.6
	baz=89,SNR=13						
631A	Perdido Creek	88.75	58	⇑P	P	09 30 19.5	-0.6
	baz=89,SNR=6.9						
430A	Baggett Ranch,	88.82	56	⇑P	P	09 30 20.4	-0.2
	baz=89						
R23A	Moffat	88.82	48	⇓P	P	09 30 20.8	+0.1
	baz=89						
W26A	Owens Ranch, T	88.84	51	⇓P	P	09 30 20.8	+0.2
	baz=89						
COLA	College	88.85	12	eP	P	09 30 18.9	-0.8
COLA				pmax	pmax		
	comp=Z,27nm,0.8s						
COLA	College	88.85	12	eP	P	09 30 18.9	-0.8
	comp=Z,27nm,0.8s						
M20A	Sweetwater, Wa	88.86	44	⇑P	P	09 30 21.1	+0.4
	baz=89						
P22A	Eagle	88.86	46	⇓P	P	09 30 20.8	+0.1
	baz=89						
BOZ	Bozeman (W)	88.88	39	eP	P	09 30 21.1	+0.5
BOZ				pmax	pmax		
	comp=Z,7.0nm,1.2s						
BOZ	Bozeman (W)	88.88	39	eP	P	09 30 21.1	+0.5
	comp=Z,6.7nm,1.2s						
229A	Bryant Ranch,	88.90	55	⇓P	P	09 30 20.7	-0.2
	baz=89						
N21A	Black Mountain	88.93	45	⇓P	P	09 30 21.1	+0.1
	baz=89						
732A	Laxson Ranch,	88.93	59	⇓P	P	09 30 21.5	+0.4
	baz=89						
ILAR	Eielson Array	88.94	12	P	P	09 30 18.9	-1.4
ILAR				PKKPbc	PKKPdf	09 47 58.2	+1.5
ILAR	Eielson Array	88.94	12	P	P	09 30 18.9	-1.4
	comp=Z,2.9nm,1.0s,baz=209,slow=5.6,SNR=39						
ILAR				PKKPbc	PKKPdf	09 47 58.2	+1.5
	comp=Z,0.2nm,0.6s,baz=0.9,slow=1.6,SNR=7.1						
I18A	Diamond G Ranc	88.95	42	⇑P	P	09 30 21.4	+0.4
	baz=89						
IMA2	Indian Mountai	88.97	9	eP	P	09 30 19.8	-0.7
U25A	Circle Dot Ran	88.98	50	⇓P	P	09 30 21.5	+0.1
	baz=89						
S24A	Houchin Ranch,	88.99	49	⇓P	P	09 30 21.4	-0.1
	baz=89						
L20A	Wamsutter	89.02	44	⇓P	P	09 30 22.0	+0.6
	baz=89						
Z28A	Tucker Farm, M	89.04	54	⇓P	P	09 30 20.9	-0.7
	baz=89,SNR=8.4						
MSTX	Muleshoe	89.06	53	eP	P	09 30 21.6	-0.1
MSTX	Muleshoe	89.06	53	⇓P	P	09 30 21.2	-0.5
	baz=89,SNR=12						
531A	Rocksprings	89.09	57	⇑P	P	09 30 21.6	-0.2
	baz=89,SNR=7.1						
K19A	Absolon Red Bu	89.11	43	⇓P	P	09 30 21.9	+0.1
	baz=89						
X27A	F and S Farms,	89.12	52	⇑P	P	09 30 21.7	-0.2
	baz=89,SNR=7.0						
330A	Mertzon	89.14	56	⇑P	P	09 30 21.5	-0.5
	baz=89						
129A	Stewart Farms,	89.15	54	⇑P	P	09 30 22.3	+0.3
	baz=89						
V26A	Tequesquite Ra	89.15	51	⇑P	P	09 30 22.1	0.0
	baz=89						
Q23A	Hartsel	89.16	47	⇓P	P	09 30 23.1	+0.8
	baz=89						
J19A	Crowheart	89.20	42	⇓P	P	09 30 22.8	+0.6
	baz=89						
G17A	Pierce Place,	89.24	40	⇓P	P	09 30 22.9	+0.7
	baz=89						
431A	Sonora	89.27	57	⇓P	P	09 30 23.3	+0.7
	baz=89						
O22A	Kremmling	89.28	46	⇓P	P	09 30 22.9	+0.1
	baz=89						
T25A	Trinidad	89.32	49	⇓P	P	09 30 22.5	-0.5
	baz=90						
HRY	Holter Researc	89.34	38	eP	P	09 30 23.0	+0.3
	comp=Z,10nm,1.3s						
W27A	Bowe Ranch, En	89.34	52	⇓P	P	09 30 22.5	-0.4
	baz=90,SNR=7.0						
R24A	Sanders Place,	89.34	48	⇑P	P	09 30 23.8	+0.8
	baz=90						
K20A	Yellowstone Ra	89.34	43	⇑P	P	09 30 22.6	-0.2
	baz=90						
P23A	Jefferson	89.38	47	⇑P	P	09 30 23.7	+0.4
	baz=90						
230A	Sterling City	89.39	55	⇑P	P	09 30 23.0	-0.2
	baz=90						
632A	Uvalde	89.41	58	⇑P	P	09 30 23.1	-0.2
	baz=90,SNR=6.5						
Y28A	McKinney Farm,	89.42	53	⇑P	P	09 30 23.5	+0.2
	baz=90						
M21A	Separation Pea	89.45	44	⇑P	P	09 30 23.7	+0.3
	baz=90						
U26A	Atchley Ranch,	89.45	50	⇑P	P	09 30 23.5	0.0
	baz=90,SNR=5.4						
S25A	Robets Cordova	89.54	49	⇓P	P	09 30 23.8	-0.1
	baz=90						
Z29A	Hungry Hill Ra	89.54	54	⇓P	P	09 30 23.9	0.0
	baz=90,SNR=6.7						
532A	Rocksprings	89.58	57	⇓P	P	09 30 23.8	-0.3
	baz=90,SNR=9.2						
F17A	Fitzpatrick Pl	89.59	40	⇑P	P	09 30 24.5	+0.6
	baz=90						
L21A	Rawlins	89.62	44	⇓P	P	09 30 24.8	+0.6
	baz=90						
I19A	Meeteetse	89.63	42	⇓P	P	09 30 24.6	+0.4
	baz=90						
N22A	Wattenberg Ran	89.65	45	⇑P	P	09 30 24.8	+0.3
	baz=90						
331A	San Angelo	89.67	56	⇑P	P	09 30 24.6	+0.1
	baz=90						
O23A	Lake Granby, G	89.73	46	⇑P	P	09 30 25.3	+0.4
	baz=90						
X28A	Dimmitt	89.73	53	⇓P	P	09 30 24.2	-0.6
	baz=90,SNR=8.6						
ISCO	Idaho Springs	89.73	47	⇑P	P	09 30 25.6	+0.7
	baz=90						
JCT	Junction City	89.81	57	⇑P	P	09 30 25.7	+0.5
	baz=90						
130A	Snyder	89.81	55	⇑P	P	09 30 25.6	+0.5
	baz=90						
V27A	Dan Oppiter Fa	89.82	51	⇑P	P	09 30 25.7	+0.5
	baz=90						
Y29A	Porterfield Fa	89.83	53	⇑P	P	09 30 24.7	-0.5
	baz=90,SNR=12						
M22A	Cedar Creek Ra	89.85	45	⇑P	P	09 30 25.0	-0.4
	baz=90						
J20A	Shoshoni	89.86	43	⇓P	P	09 30 25.1	-0.1
	baz=90,SNR=5.7						
R25A	Fountain Ranch	89.88	49	⇓P	P	09 30 25.5	+0.1
	baz=90						
T26A	Comanche Natio	89.91	50	⇑P	P	09 30 25.7	0.0
	baz=90						
G18A	Lazy EL Ranch,	89.94	40	⇓P	P	09 30 26.4	+0.8
	baz=90						
H19A	Powell	89.96	41	⇑P	P	09 30 26.5	+0.8
	baz=90						
XAN	Xi'an	89.97	307	P	P	09 30 26.1	+0.3
XAN				pmax	pmax		
	comp=Z,3.0nm,1.5s						
XAN				LR	LR		
	comp=N,170nm,15.3s						
XAN				LR	LR		
	comp=Z,200nm,20.5s						
432A	Menard	89.98	57	⇓P	P	09 30 25.3	-0.7
	baz=90,SNR=7.0						
Z30A	Sanderson Ranc	89.99	54	⇓P	P	09 30 25.2	-0.8
	baz=90,SNR=5.5						
DAWY	Dawson	89.99	15	eP	P	09 30 25.1	-0.1
231A	Bronte	90.03	56	⇑P	P	09 30 25.5	-0.6
	baz=90						
K21A	Alcova	90.03	44	⇓P	P	09 30 25.7	-0.4
	baz=90						
N23A	Red Feather La	90.04	46	⇓P	P	09 30 26.6	+0.3
	baz=90						
X29A	Tulia	90.07	53	⇑P	P	09 30 25.7	-0.6
	baz=90,SNR=5.1						
U27A	Thompson Grove	90.12	51	⇑P	P	09 30 26.2	-0.4
	baz=90						
I20A	Worland	90.13	42	⇓P	P	09 30 26.1	-0.3
	baz=90,SNR=6.3						
F18A	Big Timber	90.16	40	⇑P	P	09 30 27.4	+0.9
	baz=90						
EGAK	Eagle	90.17	14	eP	P	09 30 25.8	-0.2
	comp=Z,5.8nm,0.9s						
332A	Millersview	90.23	56	⇓P	P	09 30 27.2	+0.1
	baz=90,SNR=11						
D17A	Six Diamond Ra	90.24	38	⇑P	P	09 30 26.9	0.0
	baz=90,SNR=11						
O24A	Longmont	90.25	47	⇑P	P	09 30 28.1	+0.9
	baz=90						
J21A	Lysite	90.25	43	⇑P	P	09 30 27.3	+0.2
	baz=90,SNR=7.7						
Q25A	Bedland, Calha	90.25	48	⇓P	P	09 30 27.6	+0.3
	baz=90						
L22A	Ellis Ranch, M	90.26	44	⇑P	P	09 30 27.5	+0.3
	baz=90						
131A	Roby	90.29	55	⇓P	P	09 30 26.8	-0.6
	baz=90,SNR=5.3						
E18A	Harlowton	90.38	39	⇑P	P	09 30 27.8	+0.2
	baz=90,SNR=8.2						
W29A	Amraillo	90.40	52	⇑P	P	09 30 27.5	-0.4
	baz=90,SNR=6.7						
H20A	Greybull	90.48	42	⇓P	P	09 30 28.1	+0.1
	baz=91,SNR=5.6						
T27A	Campo	90.48	50	⇓P	P	09 30 28.0	-0.2
	baz=91						
K22A	Casper	90.50	44	⇓P	P	09 30 28.6	+0.4
	baz=91						
232A	Coleman	90.52	56	⇓P	P	09 30 27.7	-0.7
	baz=91,SNR=11						
R26A	Arlington	90.53	49	⇓P	P	09 30 28.7	+0.3
	baz=91						
U28A	Mallet	90.54	51	⇓P	P	09 30 28.4	-0.1
	baz=91						
I21A	Big Trails, Te	90.58	43	⇑P	P	09 30 27.8	-0.8
	baz=91,SNR=6.1						
P25A	Willow Gulch B	90.59	47	⇑P	P	09 30 29.3	+0.5
	baz=91						
F19A	Roth Farm, Mol	90.59	40	⇑P	P	09 30 28.8	+0.3
	baz=91						
X30A	Coker Ranch, T	90.68	53	⇓P	P	09 30 29.4	+0.2
	baz=91						
G20A	Bridger	90.71	41	⇑P	P	09 30 29.9	+0.8
	baz=91						
N24A	Carr	90.71	46	⇓P	P	09 30 30.2	+0.9
	baz=91						
Z31A	Sharp Cattle R	90.75	54	⇓P	P	09 30 28.6	-0.8
	baz=91,SNR=11						
D18A	Linhart Farms,	90.78	39	⇓P	P	09 30 30.2	+0.9
	baz=91						
L23A	Garrett	90.78	45	⇓P	P	09 30 30.1	+0.4
	baz=91						
ABTX	Abilene, Hawle	90.83	55	eP	P	09 30 29.2	-0.6
ABTX	Abilene, Hawle	90.83	55	⇑P	P	09 30 29.0	-0.9
	baz=91,SNR=5.4						
O25A	Wiggins	90.90	47	⇑P	P	09 30 30.1	0.0
	baz=91						
J22A	Midwest	90.90	43	⇓P	P	09 30 29.7	-0.3
	baz=91,SNR=7.3						
Y31A	Rekieta Farm,	90.93	54	⇓P	P	09 30 29.7	-0.6
	baz=91,SNR=9.1						
T28A	Walsh	90.94	50	⇑P	P	09 30 29.7	-0.7
	baz=91						
R27A	Eads	90.98	49	⇓P	P	09 30 30.5	0.0
	baz=91						
E19A	Rath Farm, Rou	91.00	40	⇓P	P	09 30 30.3	-0.1
	baz=91,SNR=7.4						
F20A	Billings	91.04	41	⇑P	P	09 30 31.0	+0.4
	baz=91						
K23A	Bowen Ranch, D	91.14	44	⇓P	P	09 30 31.5	+0.4
	baz=91						
H21A	Big Horn, Sher	91.14	42	⇓P	P	09 30 31.3	+0.2
	baz=91						
HHC	Hu-ho-hao-te	91.16	314	eP	P	09 30 31.5	+0.2
HHC				pP	pP	09 31 07.5	-1.2
HHC				PP	PP	09 34 12.2	+1.7
HHC				SKS	SKSac	09 40 48.8	-0.9
HHC				S	S	09 41 15.3	-1.6
HHC				sS	sS	09 42 18.6	-3.3
HHC				SS	SS	09 47 27.1	+1.7
HHC				pmax	pmax		
	comp=Z,32nm,0.6s						
HHC				pmax	pmax		
	comp=Z,250nm,5.1s						
HHC				LR	LR		
	comp=N,250nm,15.7s						
HHC				LR	LR		
	comp=E,310nm,15.1s						
HHC				LR	LR		
	comp=Z,220nm,15.5s						
P26A	Davis Ranch, A	91.17	48	⇑P	P	09 30 32.0	+0.6
	baz=91						
KMI	Kunming	91.18	296	P	P	09 30 33.3	+1.4
KMI				pP	pP	09 31 11.5	+2.2
KMI				sP	sP	09 31 26.5	+1.8
KMI				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KMI				LR	LR		
	comp=N,210nm,16.9s						
KMI				LR	LR		
	comp=E,170nm,15.2s						
KMI				LR	LR		
	comp=Z,250nm,16.3s						
EGMT	Eagleton	91.23	38	⇓P	P	09 30 32.4	+1.0
	baz=91						
Z32A	Haskell	91.25	55	⇓P	P	09 30 31.3	-0.4
	baz=91,SNR=19						
L24A	Wheatland	91.25	45	⇓P	P	09 30 32.2	+0.5
	baz=91						
D19A	Cripps Ranch,	91.30	39	⇓P	P	09 30 31.7	0.0
	baz=92,SNR=7.5						
V30A	Spur Ranch, Mi	91.39	52	⇓P	P	09 30 33.2	+0.8
	baz=92						
E20A	Meyer Farm, Mu	91.41	40	⇓P	P	09 30 32.8	+0.6
	baz=92						
KSCO	Kaye Shedlock'	91.42	48	⇓P	P	09 30 33.0	+0.4
	baz=92						
X31A	McDonald Ranch	91.43	53	⇓P	P	09 30 32.5	-0.1
	baz=92						
C19A	Slack Wire Ran	91.49	39	⇑P	P	09 30 32.9	+0.3
	baz=92,SNR=7.4						
H22A	Clearmont	91.55	42	⇓P	P	09 30 33.3	+0.3
	baz=92						
Y32A	R-V Farms, Ver	91.57	54	⇑P	P	09 30 33.0	-0.3
	baz=92,SNR=6.8						
W31A	Holland Ranch,	91.69	53	⇑P	P	09 30 33.5	-0.3
	baz=92,SNR=13						
D20A	Manuel Ranch,	91.70	39	⇑P	P	09 30 33.9	+0.4
	baz=92,SNR=7.3						
R28A	Tribune	91.70	49	⇑P	P	09 30 33.8	0.0
	baz=92						
P27A	Ficken Ranch,	91.70	48	⇑P	P	09 30 34.0	+0.1
	baz=92						
G22A	Birney	91.89	42	⇑P	P	09 30 35.4	+0.8
	baz=92						
CMAR	Chiang Mai Arr	91.91	289	P	P	09 30 36.2	+1.2
CMAR	Chiang Mai Arr	91.91	289	P	P	09 30 36.2	+1.2
	comp=Z,1.6nm,0.6s,baz=120,slow=3.6,SNR=7.0						
B19A	Brinkman Farms	91.92	38	⇓P	P	09 30 35.8	+1.3
	baz=92						
Q28A	Sharon Springs	92.00	49	⇑P	P	09 30 36.1	+0.9
	baz=92						
V31A	Spring Creek L	92.01	52	⇓P	P	09 30 35.5	+0.2
	baz=92,SNR=7.3						
J24A	Dixon Ranch, L	92.03	44	⇓P	P	09 30 36.4	+1.2
	baz=92						
E21A	Keefer Ranch,	92.06	40	⇑P	P	09 30 36.9	+1.7
	baz=92						
C20A	Veseth Ranch,	92.09	39	⇑P	P	09 30 36.7	+1.4
	baz=92						
F22A	Rosebud	92.19	41	⇓P	P	09 30 36.7	+0.9
	baz=92						
WHTX	Lake Whitney	92.26	57	eP	P	09 30 36.3	-0.1
WHTX	Lake Whitney	92.26	57	⇓P	P	09 30 36.5	0.0
	baz=92,SNR=7.1						
A19A	Klindworth Far	92.28	38	⇓P	P	09 30 37.2	+1.0
	baz=92						
P28A	Saint Francis	92.28	48	⇓P	P	09 30 36.9	+0.4
	baz=92						
D21A	La Casta Ranch	92.36	40	⇓P	P	09 30 37.5	+0.9
	baz=92						
G23A	Biddle	92.44	42	⇑P	P	09 30 37.4	+0.4
	baz=93						
Q29A	Oakley	92.52	49	⇓P	P	09 30 37.9	+0.3
	baz=93						
CD2	Chengdu	92.63	302	P	P	09 30 39.8	+1.6
CD2				pP	pP	09 31 16.0	+0.3
CD2				sP	sP	09 31 31.2	+0.1
CD2				PP	PP	09 34 26.2	+4.0
CD2				SKS	SKSac	09 40 57.9	-0.4
CD2				S	S	09 41 29.0	-1.4
CD2				sS	sS	09 42 32.5	-3.1
CD2				SS	SS	09 47 49.1	+2.3
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				pmax	pmax		
	comp=Z,160nm,5.5s						
F23A	Volborg	92.68	42	⇑P	P	09 30 39.0	+0.8
	baz=93						
E22A	Miles City	92.69	41	⇑P	P	09 30 38.9	+0.7
	baz=93						
K26A	Motz Farm, Whi	92.71	45	⇑P	P	09 30 38.9	+0.5
	baz=93						
A20A	Cobblestone Ra	92.72	38	⇓P	P	09 30 38.9	+0.7
	baz=93						
H24A	Dirks Ranch, A	92.76	43	⇓P	P	09 30 39.0	+0.5
	baz=93						
RSSD	Black Hills	92.80	43	eP	P	09 30 38.8	-0.1
RSSD				pmax	pmax		
	comp=Z,14nm,1.2s						
RSSD	Black Hills	92.80	43	eP	P	09 30 38.8	-0.1
	comp=Z,14nm,1.2s						
P29A	Atwood	92.86	48	⇑P	P	09 30 39.7	+0.6
	baz=93						
D22A	Cohagen	92.89	40	⇓P	P	09 30 39.8	+0.8
	baz=93						
I25A	Rochford	92.94	44	⇓P	P	09 30 39.9	+0.3
	baz=93						
B21A	Ellsworth Farm	93.02	39	⇑P	P	09 30 41.0	+1.4
	baz=93						
J26A	Sides Ranch, S	93.05	44	⇓P	P	09 30 40.9	+1.0
	baz=93						
E23A	Ismay	93.11	41	⇑P	P	09 30 41.4	+1.3
	baz=93						
G24A	Alzada	93.11	42	⇑P	P	09 30 41.5	+1.4
	baz=93						
O29A	4D Ranch, Culb	93.18	48	⇓P	P	09 30 41.4	+0.8
	baz=93						
CFAA	Coronel Fontan	93.26	126	LR	LR	10 03 34.5	
	comp=Z,7.6nm,19.6s,baz=43,slow=30						
P30A	Selden	93.32	49	⇓P	P	09 30 41.7	+0.5
	baz=93						
K27A	Flueckinger Fa	93.33	45	⇓P	P	09 30 42.2	+1.0
	baz=94						
F24A	Ekalaka	93.33	42	⇓P	P	09 30 41.7	+0.5
	baz=94						
A21A	Bergtoll Ranch	93.34	38	⇓P	P	09 30 41.7	+0.7
	baz=94						
C22A	Vida	93.35	40	⇓P	P	09 30 42.4	+1.2
	baz=94						
D23A	Lindsay	93.49	40	⇑P	P	09 30 43.0	+1.2
	baz=94						
I26A	New Underwood	93.51	44	⇑P	P	09 30 42.8	+0.7
	baz=94						
B22A	Reddig Ranch S	93.55	39	⇓P	P	09 30 43.3	+1.2
	baz=94						
G25A	Newell	93.68	43	⇑P	P	09 30 43.2	+0.5
	baz=94						
J27A	Elkhorn Farm,	93.72	45	⇑P	P	09 30 44.2	+1.1
	baz=94						
C23A	Lambert	93.80	40	⇑P	P	09 30 44.2	+1.1
	baz=94						
M29A	Burnside Ranch	93.82	47	⇑P	P	09 30 44.3	+0.8
	baz=94						
H26A	Fairpoint	93.83	43	⇓P	P	09 30 44.1	+0.6
	baz=94						
P31A	Stockton	93.92	49	⇑P	P	09 30 45.0	+1.1
	baz=94						
F25A	Bowman	93.98	42	⇓P	P	09 30 45.4	+1.2
	baz=94						
D24A	Glendive	93.99	41	⇓P	P	09 30 45.0	+0.9
	baz=94						
I27A	Quinn	94.05	44	⇑P	P	09 30 45.1	+0.6
	baz=94						
G27A	Dupree	94.07	43	⇓P	P	09 30 47.4	+2.9
	baz=95						
C24A	Savage	94.12	40	⇑P	P	09 30 45.7	+1.0
	baz=94						
B23A	Brockton	94.22	39	⇓P	P	09 30 45.7	+0.6
	baz=94						
G26A	Maurine	94.24	43	⇓P	P	09 30 45.5	+0.2
	baz=94						
E25A	Miller Ranch,	94.28	41	⇓P	P	09 30 46.7	+1.3
	baz=94						
H27A	Howes	94.28	44	⇓P	P	09 30 46.4	+0.9
	baz=94						
NNA	Nana	94.31	105	LR	LR	10 04 08.4	
	comp=Z,54nm,20.4s,baz=142,slow=30						
F26A	Lodgepole	94.44	42	⇓P	P	09 30 46.9	+0.6
	baz=95						
I28A	Midland	94.59	44	⇓P	P	09 30 47.8	+0.9
	baz=95						
LZH	Lanzhou	94.60	307	P	P	09 30 50.9	+3.6
LZH				pP	pP	09 31 26.7	+1.9
LZH				sP	sP	09 31 39.9	-0.3
LZH				pmax	pmax		
	comp=Z,15nm,0.9s						
D25A	Fairfield	94.62	41	⇑P	P	09 30 47.7	+0.7
	baz=95						
K29A	Lazy Trails An	94.63	46	⇓P	P	09 30 48.3	+1.1
	baz=95						
DGMT	Dagmar	94.69	39	⇓P	P	09 30 48.0	+0.7
	baz=95						
ATAH	Atahualpa	94.75	100	LR	LR	10 04 00.4	
	comp=Z,64nm,21.2s,baz=12,slow=29						
E26A	Carlson Angus	94.85	42

BGNE	Belgrade	95.54	48	⇑P	P	09 30 52.1	+0.8
	baz=96						
YKA	Yellowknife Ar	96.77	24	P	P	09 30 55.2	-1.1
YKA	Yellowknife Ar	96.77	24	P	P	09 30 55.2	-1.1
	comp=Z,1.8nm,0.9s,baz=240,slow=4.8,SNR=4.2						
ZALV	Zalesovo Beam	112.24	321	PKiKP	PKiKP	09 35 58.6	-2.1
ZALV	Zalesovo Beam	112.24	321	PKiKP	PKiKP	09 35 58.6	-2.1
	comp=Z,0.8nm,0.3s,baz=74,slow=5.1,SNR=4.4						
MKAR	Makanchi Array	113.00	313	PKiKP	PKiKP	09 36 01.3	-1.2
MKAR				PKKPbc	PKKPbc	09 46 49.3	-1.5
MKAR	Makanchi Array	113.00	313	PKiKP	PKiKP	09 36 01.3	-1.2
	comp=Z,0.6nm,0.4s,baz=103,slow=1.5,SNR=9.3						
MKAR				PKKPbc	PKKPbc	09 46 49.3	-1.5
	comp=Z,0.4nm,0.6s,baz=287,slow=5.4,SNR=5.2						
KURK	Kurchatov	115.77	317	PKIKP	PKPdf	09 36 06.4	-1.3
KURK	Kurchatov	115.77	317	PKP	PKPdf	09 36 06.4	-1.3
KURBB	Kurchatov Arra	115.83	317	PKP	PKPdf	09 36 06.4	-1.4
	comp=Z,0.5nm,0.3s,baz=87,slow=1.8,SNR=12						
KSH	Kashi	116.73	304	*e*PKP	PKPdf	09 36 09.8	-0.2
KSH				PP	PP	09 37 26.8	+6.3
KSH				PKS	PKSdf	09 39 44.7	-2.1
KSH				SKS	SKSdf	09 43 04.0	-4.6
KSH				SKKS	SKKSac	09 44 01.8	-4.7
KSH				AMB	AMB		
	comp=Z,73nm,3.8s						
KSH				LR	LR		
	comp=N,69nm,4.4s						
KSH				LR	LR		
	comp=E,85nm,5.1s						
KSH				LR	LR		
	comp=Z,180nm,5.8s						
BVAR	Borovoye Array	120.83	320	PKIKP	PKPdf	09 36 16.3	-1.0
BVAR	Borovoye Array	120.83	320	PKP	PKPdf	09 36 16.3	-1.0
BVAR	Borovoye Array	120.83	320	PKP	PKPdf	09 36 16.3	-1.0
	comp=Z,2.1nm,0.4s,baz=64,slow=3.4,SNR=13						
BRVK	Borovoye	120.89	320	⇑*i*PKIKP	PKPdf	09 36 17.3	-0.1
BRVK				pmax	pmax		
	comp=Z,8.0nm,1.0s						
BRVK	Borovoye	120.89	320	*e*PKPdf	PKPdf	09 36 17.0	-0.4
KBL	Kabul	121.72	298	*e*PKIKP	PKPdf	09 36 20.0	+0.1
KBL	Kabul	121.72	298	*e*PKPdf	PKPdf	09 36 20.0	+0.1
BOSA	Boshof	126.00	204	PKP	PKPdf	09 36 28.9	+0.6
BOSA	Boshof	126.00	204	PKP	PKPdf	09 36 28.9	+0.6
	comp=Z,2.5nm,0.6s,baz=236,slow=13,SNR=6.9						
ARU	Arti	126.90	325	*i* PKIKP	PKPdf	09 36 29.2	+0.4
ARU						09 38 27.3	
ARU						09 43 23.7	
ABKAR	Akbulak array	127.87	316	*e*PKPdf	PKPdf	09 36 32.4	+1.5
AKTO	Aktyubinsk	128.84	318	PKIKP	PKPdf	09 36 30.0	-2.8
AKTO	Aktyubinsk	128.84	318	PKP	PKPdf	09 36 30.0	-2.8
AKTO	Aktyubinsk	128.84	318	PKP	PKPdf	09 36 30.0	-2.8
	comp=Z,2.4nm,0.7s,baz=108,slow=5.4,SNR=7.3						
ARCES	ARCESS Array B	130.16	350	PKP	PKPdf	09 36 34.0	-0.7
ARCES				SKPbc	SKPbc	09 39 45.7	+1.6
ARCES	ARCESS Array B	130.16	350	PKP	PKPdf	09 36 34.0	-0.7
	comp=Z,1.8nm,0.4s,baz=23,slow=1.4,SNR=16						
ARCES				SKPbc	SKPbc	09 39 45.7	+1.6
	comp=Z,11nm,1.1s,baz=46,slow=5.4,SNR=10						
FINES	FINESS Array B	137.15	344	PKPpre	PKPpre	09 36 40.6	
FINES				PKP	PKPdf	09 36 47.5	-0.5
FINES				SKPbc	SKPbc	09 40 08.0	+0.5
FINES	FINESS Array B	137.15	344	PKhKP	PKPpre	09 36 40.6	
	comp=Z,3.8nm,0.9s,baz=79,slow=4.1,SNR=3.6						
FINES				PKP	PKPdf	09 36 47.5	-0.5
	comp=Z,1.7nm,0.3s,baz=99,slow=3.1,SNR=9.7						
FINES				SKPbc	SKPbc	09 40 08.0	+0.5
	comp=Z,6.6nm,0.9s,baz=28,slow=6.3,SNR=8.6						
OBN	Obninsk	138.36	332	⇑*i*PKIKP	PKPdf	09 36 49.5	-0.9
OBN				pmax	pmax		
	comp=Z,28nm,1.3s						
NOA	NORSAR Array B	140.13	354	PKhKP	PKPpre	09 36 44.4	
	comp=Z,0.9nm,0.7s,baz=16,slow=4.5,SNR=3.1						
NOA				SKPbc	SKiKP	09 40 17.5	-1.0
	comp=Z,3.7nm,0.9s,baz=14,slow=4.4,SNR=4.4						
SUW	Suwalki	144.30	340	*e*PKP	PKPbc	09 36 59.9	+0.1
AKASG	Malin Array Be	144.62	332	PKP	PKPab	09 36 59.5	-1.2
AKASG				SKPbc	SKiKP	09 40 28.0	0.0
AKASG	Malin Array Be	144.62	332	PKP	PKPab	09 36 59.5	-1.2
	comp=Z,11nm,0.4s,baz=42,slow=4.2,SNR=43						
AKASG				SKPbc	SKiKP	09 40 28.0	0.0
	comp=Z,0.6nm,0.5s,baz=35,slow=2.5,SNR=7.2						
KIEV	Kiev	144.63	332	*i* PKHKP	PKPpre	09 36 59.7	
MALT	Malatya	145.76	307	⇑PKIKP	PKPbc	09 37 05.3	+0.2
MALT	Malatya	145.76	307	⇑*i*P	PKPbc	09 37 05.3	+0.2
BEL	Belsk	146.91	340	*e*PKP	PKPbc	09 37 08.4	+0.6
BSEG	Bad Segeberg	147.21	353	*e*PKPbc	PKPbc	09 37 08.6	+0.1
BSEG				*ep*PKPbc	pPKPbc	09 37 52.4	+5.1
BSEG	Bad Segeberg	147.21	353	*e*PKIKP	PKPbc	09 37 08.6	+0.1
BSEG				*e*		09 37 52.4	
KIS	Kishinev	147.41	327	*e*P	PKPbc	09 37 09.5	+0.2
	comp=Z,200nm,1.8s						
KIS	Kishinev	147.41	327	*e*PKIKP	PKPbc	09 37 09.5	+0.2
KIS				*e*		09 37 42.0	
KIS				*e*		09 37 50.0	
KIS				pmax	pmax		
	comp=Z,190nm,1.8s						
LVV	L'vov	147.46	335	*e*PKIKP	PKPbc	09 37 09.0	-0.4
KWP	Kalwaria Pacla	148.12	336	*e*PKP	PKPbc	09 37 12.3	+1.1
TLCR		148.61	325	⇓PKIKP	PKPbc	09 37 13.3	+0.8
TLCR		148.61	325	⇓*i*P	PKPbc	09 37 13.3	+0.8
BR131	Keskin Array S	148.65	312	*e*PKPbc	PKPbc	09 37 12.5	-0.5
BRTR	Keskin Array B	148.65	312	PKPbc	PKPbc	09 37 12.6	-0.5
BRTR	Keskin Array B	148.65	312	PKPbc	PKPbc	09 37 12.6	-0.5
	comp=Z,9.6nm,0.6s,baz=139,slow=4.7,SNR=29						
NRDL	Niedersach Rie	148.65	352	*e*PKPbc	PKPbc	09 37 12.3	0.0
BUR08	Bucovina Ar. S	148.66	331	*e*PKPbc	PKPbc	09 37 12.4	-0.4
BURAR	Bucovina Array	148.68	331	⇑PKP2	PKPbc	09 37 14.0	+1.2
BURAR	Bucovina Array	148.68	331	⇑*i*P	PKPbc	09 37 14.0	+1.2
STHS	Stebnicka Huta	148.83	338	*e*PKP2	PKPbc	09 37 14.7	+1.7
STHS	Stebnicka Huta	148.83	338	*e*PKP	PKPbc	09 37 14.7	+1.7
KOLS	Kolonicke sedl	148.85	336	*e*PKIKP	PKPbc	09 37 13.1	0.0
KOLS	Kolonicke sedl	148.85	336	*e*PKP	PKPbc	09 37 13.1	0.0
KSP	Ksiaz	149.07	344	*e*PKIKP	PKPbc	09 37 13.5	0.0
UZH	Uzhgorod	149.09	336	*e*PKP2	PKPbc	09 37 15.7	+2.1
NIE	Niedzica	149.15	339	*e*PKP2	PKPbc	09 37 15.6	+1.8
NIE	Niedzica	149.15	339	*e*PKP	PKPbc	09 37 15.6	+1.8
ANTO	Ankara	149.17	313	*e*PKIKP	PKPbc	09 37 14.3	+0.1
ANTO	Ankara	149.17	313	*e*PKPbc	PKPbc	09 37 14.3	+0.1
VRI	Vrincioaia	149.24	328	⇓PKP2	PKPbc	09 37 15.5	+1.4
VRI	Vrincioaia	149.24	328	⇓*i*P	PKPbc	09 37 15.4	+1.3
CLZ	Clausthal	149.26	352	*e*PKPbc	PKPbc	09 37 14.1	+0.1
TIRR	Tirgusor	149.30	324	⇓*i*P	PKPbc	09 37 14.7	+0.4
CLL	Collm	149.36	348	*e*PKPbc	PKPbc	09 37 14.1	-0.1
CLL				*ep*PKPbc	pPKPbc	09 37 58.0	+4.9
CLL	Collm	149.36	348	⇑*e*PKIKP	PKPdf	09 37 10.0	+0.3
CLL				*i*		09 37 14.1	
CLL				*i*		09 37 19.2	
CLL				*i*		09 37 51.0	
CLL				pmax	pmax		
	comp=Z,27nm,1.1s						
CLL				pmax	pmax		
	comp=Z,9.0nm,0.6s						
CLL	Collm	149.36	348	*e*PKPdf	PKPdf	09 37 10.0	+0.3
CLL				⇑*i*PKPbc	PKPbc	09 37 14.1	-0.1
	comp=Z,27nm,1.1s						
CLL				⇓*i*PKiKP	PKiKP	09 37 16.0	+0.7
	comp=Z,24nm,0.8s						
CLL				⇓*i*PKPab	PKPab	09 37 19.2	-0.1
	comp=Z,9.0nm,0.6s						
CLL				*i* pPKPab	pPKPab	09 37 51.0	-6.2
CLL				*i* sPKPbc	sPKPbc	09 37 55.3	-13
CLL	Collm	149.36	348	*i* (PKP)	pPKPab	09 37 57.7	+0.5
	comp=Z,17nm,1.0s						
TLB	Topalu	149.42	325	⇓PKP2	PKPbc	09 37 16.0	+1.4
TLB	Topalu	149.42	325	⇓*i*P	PKPbc	09 37 16.0	+1.4
UPC	Upice	149.45	344	⇑*e*PKP	PKPbc	09 37 15.5	+1.0
UPC				*e*PKPAB	PKPab	09 37 21.3	+1.5
UPC				*es*PKP		09 38 05.0	
DPC	Dobruska-Polom	149.52	344	⇑*e*PKP	PKPbc	09 37 14.8	+0.1
DPC				*e*PKPAB	PKPab	09 37 20.5	+0.4
DPC				*ep*PKP	pPKPdf	09 37 54.1	+4.8
BRG	Berggiesshubel	149.59	347	*e*PKP	PKPbc	09 37 14.8	+0.1
	comp=Z,15nm,1.0s						
BRG				*i*		09 37 21.3	
	comp=Z,22nm,1.3s						
BRG				*e*		09 37 58.5	
	comp=Z,9.0nm,1.0s						
BRG	Berggiesshubel	149.59	347	*e*PKPbc	PKPbc	09 37 14.9	+0.1
BRG				*ep*PKPbc	pPKPbc	09 37 58.7	+5.0
MORC	Moravsky Berou	149.71	342	*e*PKPbc	PKPbc	09 37 15.7	+0.5
PVCC	Panska Ves	149.78	346	⇑*e*PKP	PKPbc	09 37 15.7	+0.4
DOPR	Dopca	149.82	329	⇓*i*P	PKPbc	09 37 17.4	+1.8
KECS	Kecovo	149.89	337	*e*PKP	PKPbc	09 37 15.9	+0.3
MLR	Muntele Rosu	149.89	328	⇓*i*P	PKPbc	09 37 16.8	+0.9
BUG	Bochum--Univer	149.97	355	*e*PKPbc	PKPbc	09 37 15.4	-0.3
BUG				*e*PKPab	PKPab	09 37 22.2	+0.4
PRA	Prague	150.24	346	⇑PKP	PKPbc	09 37 17.0	+0.6
PRA				PKPAB	PKPab	09 37 22.0	-0.9
MOX	Moxa	150.24	350	*e*PKPbc	PKPbc	09 37 16.3	-0.1
MOX	Moxa	150.24	350	*e*PKIKP	PKPbc	09 37 16.3	-0.1
PRU	Pruhonice	150.29	346	*e*PKIKP	PKPbc	09 37 16.4	-0.1
PRU				*e*		09 37 21.3	
PRU				*e*		09 37 57.8	
PRU	Pruhonice	150.29	346	⇑*e*PKP	PKPbc	09 37 16.4	-0.1
PRU				*e*PKPAB	PKPab	09 37 21.3	-1.9
PRU				*es*PKP		09 37 57.8	
UBBA	Unterbreizbach	150.31	352	*e*PKPbc	PKPbc	09 37 16.0	-0.4
TANN	Tannenbergstha	150.31	349	*e*PKPbc	PKPbc	09 37 16.7	+0.1
TANN				*ep*PKPbc	pPKPbc	09 38 00.7	+5.1
VOIR		150.37	329	⇓PKIKP	PKPbc	09 37 18.8	+1.8
VOIR		150.37	329	⇓*i*P	PKPbc	09 37 18.8	+1.8
VYHS	Vyhne	150.44	339	*e*PKIKP	PKPbc	09 37 17.9	+0.9
VYHS	Vyhne	150.44	339	*e*PKP	PKPbc	09 37 17.9	+0.9
PSZ	Piszkesteto	150.57	337	*e*PKIKP	PKPbc	09 37 17.9	+0.5
PSZ	Piszkesteto	150.57	337	*e*PKPbc	PKPbc	09 37 17.9	+0.5
ARR	Arges	150.62	329	⇑*i*P	PKPbc	09 37 19.0	+1.4
TREC	Trest	150.70	344	*e*PKIKP	PKPbc	09 37 17.1	-0.5
TREC	Trest	150.70	344	⇑*e*PKP	PKPbc	09 37 17.1	-0.5
CSS	Prodhromos	150.74	304	*e*PKPbc	PKPbc	09 37 18.5	+0.4
CSS				*e*PKPab	PKPab	09 37 25.8	+0.1
MEM	Membach	150.88	357	PKPbc	PKPbc	09 37 17.9	0.0
MEM				PKPab	PKPab	09 37 24.7	-0.9
LOT	Lotru	150.97	330	⇓*i*P	PKPbc	09 37 18.2	-0.2
ROTZ	Rotzenmuhle	150.98	349	*e*PKPbc	PKPbc	09 37 18.3	+0.1
ROTZ				*e*PKPab	PKPab	09 37 27.0	+0.9
TNS	Taunus Mts	151.08	354	*e*PKPbc	PKPbc	09 37 18.4	-0.1
TNS				*e*PKPab	PKPab	09 37 27.4	+0.9
TNS	Taunus Mts	151.08	354	*e*PKIKP	PKPbc	09 37 18.4	-0.1
BCLA	Clavier	151.10	358	PKPbc	PKPbc	09 37 20.7	+2.3
BCLA				PKPab	PKPab	09 37 27.6	+1.1
GRF	Grafenberg Arr	151.23	350	*e*PKPbc	PKPbc	09 37 18.7	-0.1
GRF				*e*PKPab	PKPab	09 37 26.9	-0.2
GRF	Grafenberg Arr	151.23	350	*e*PKIKP	PKPbc	09 37 18.7	-0.1
SIRR	Siria	151.26	334	⇓*i*P	PKPbc	09 37 18.8	-0.1
KHC	Kasperske Hory	151.31	346	*e*PKIKP	PKPbc	09 37 18.8	-0.2
KHC				*e*		09 37 27.1	
KHC				*e*		09 37 59.8	
KHC	Kasperske Hory	151.31	346	⇑*e*PKP	PKPbc	09 37 18.8	-0.2
KHC				*e*PKPAB	PKPab	09 37 27.1	-0.4
KHC				*ep*PKP	pPKPdf	09 37 59.8	+7.7
KHC	Kasperske Hory	151.31	346	*e*PKPbc	PKPbc	09 37 18.9	-0.2
KHC				*e*PKPab	PKPab	09 37 27.7	+0.2
DOU	Dourbes	151.44	359	PKPbc	PKPbc	09 37 19.2	0.0
WET	Wettzell	151.45	347	*e*PKPbc	PKPbc	09 37 18.9	-0.4
WET	Wettzell	151.45	347	*e*PKIKP	PKPbc	09 37 18.9	-0.4
GZR	Gura Zlata	151.46	331	⇑PKIKP	PKPbc	09 37 18.8	-0.7
GZR	Gura Zlata	151.46	331	⇑*i*P	PKPbc	09 37 18.8	-0.7
GEC2	GERESS Array S	151.55	346	*e*PKPbc	PKPbc	09 37 19.4	-0.2
GEC2	GERESS Array S	151.55	346	*e*PKIKP	PKPbc	09 37 19.4	-0.2
GERES	GERESS Array B	151.55	346	PKP	PKPdf	09 37 14.0	+0.6
GERES				PKPbc	PKPbc	09 37 18.6	-1.0
GERES	GERESS Array B	151.55	346	PKP	PKPdf	09 37 14.0	+0.6
	comp=Z,0.3nm,0.4s,baz=53,slow=0.7,SNR=3.8						
GERES				PKPbc	PKPbc	09 37 18.6	-1.0
	comp=Z,3.5nm,0.7s,baz=22,slow=1.4,SNR=15						
WLF	Walferdange	151.82	357	PKPbc	PKPbc	09 37 21.3	+1.2
WLF	Walferdange	151.82	357	*e*PKPbc	PKPbc	09 37 20.5	+0.4
WLF				*e*PKPab	PKPab	09 37 30.8	+1.3
WLF				*ep*PKPbc	pPKPbc	09 38 04.4	+5.4
PKSM	Moragy	152.48	337	⇓PKIKP	PKPbc	09 37 21.6	-0.1
PKSM	Moragy	152.48	337	⇓*i*P	PKPbc	09 37 21.6	-0.1
FUR	Furstenfeldbru	152.69	349	*e*PKPab	PKPab	09 37 34.2	+0.9
BFO	Black Forest	152.96	353	*e*PKPab	PKPab	09 37 35.0	+0.6
VTS	Vitosha	153.34	327	⇑PKIKP	PKPbc	09 37 25.1	+1.2
VTS	Vitosha	153.34	327	⇑*i*P	PKPbc	09 37 25.1	+1.2
ESDC	Sonseca Array	160.74	18	PKPab	PKPab	09 38 07.8	-0.4
ESDC	Sonseca Array	160.74	18	PKPab	PKPab	09 38 07.8	-0.4
	comp=Z,0.2nm,0.3s,baz=335,slow=4.1,SNR=5.7						
DBIC	Dimbokro	163.12	150	PKPab	PKPab	09 38 19.1	0.0
DBIC	Dimbokro	163.12	150	PKPab	PKPab	09 38 19.1	0.0
	comp=Z,3.2nm,0.9s,baz=178,slow=5.4,SNR=4.0						
KEST	Kesra	164.97	342	PKPab	PKPab	09 38 26.4	-0.5
KEST	Kesra	164.97	342	PKPab	PKPab	09 38 26.4	-0.5
	comp=Z,1.1nm,0.7s,baz=74,slow=19,SNR=3.5						
TORD	Torodi Ar. Bea	171.49	167	PKP	PKPdf	09 37 33.5	-1.2
TORD				PKPab	PKPab	09 38 56.4	+0.4
TORD				PP	PP	09 42 45.0	-0.6
TORD	Torodi Ar. Bea	171.49	167	PKP	PKPdf	09 37 33.5	-1.2
	comp=Z,2.8nm,1.1s,baz=254,slow=5.4,SNR=7.2						
TORD				PKPab	PKPab	09 38 56.4	+0.4
	comp=Z,4.2nm,0.8s,baz=193,slow=4.0,SNR=14						
TORD				PP	PP	09 42 45.0	-0.6
	comp=Z,1.2nm,1.1s,baz=164,slow=1.1,SNR=3.7						

AUST ***08*** *09:26:17.3±0.9, 8°.26S×107°.23E, h0km, Error ellipse: s-maj=1.2km s-min=0.8km az=331.0*
ISCJB ***08*** *09:26:20.3±0.5, 8°.18S±0°.04×107°.22E±0°.04, h62km, Error ellipse: s-maj=6.1km s-min=4.8km az=30.0*
DJA ***08*** *09:26:21.1±0.6, 8°S±3°×10°7E±°, h26km±7km, M4.1/9, MLv4.1/9*
ISC 08 09:26:22.2±0.9, **8°.16S**±0°.04×**107°.25E**±0°.04, **h62km, n20, σ2°25/25, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	Cisompet, Garu	0.82	43	P	Pn	09 26 36.0	-2.1
CISI				S	Sn	09 26 45.5	-4.3
CISI	Cisompet, Garu	0.82	43	P	Pn	09 26 35.3	-2.8
	baz=0.9,SNR=116						
CISI				S	Sn	09 26 45.5	-4.3
	baz=0.9,SNR=7.8						
SKJI	Sukabumi	1.34	329	P	Pn	09 26 43.4	-1.4
SKJI				S	Sn	09 26 58.8	-2.9
LEM	Lembang	1.37	15	P	Pn	09 26 44.8	-0.6
LEM				S	Sn	09 27 00.3	-2.5
LEM	Lembang	1.37	15	P	Pn	09 26 45.0	-0.4
	baz=1.5,SNR=31						
DBJI	Dramaga	1.67	343	P	Pn	09 26 48.7	-0.6
DBJI				S	Sn	09 27 08.8	-0.9
KPJI	Karang Pucung	1.85	64	P	Pn	09 26 51.1	-0.6
KPJI				S	Sn	09 27 13.1	-1.0
TGJI	Tegal	2.25	55	P	Pn	09 26 56.7	-0.5
SBJI	Serang	2.31	331	P	Pn	09 26 59.7	+1.7
BJII	Banjamegara	2.57	72	P	Pn	09 27 01.0	-0.5
XMI	Christmas Isla	2.75	214	P	Pn	09 27 03.3	-0.7
	baz=2.7,SNR=6.3						
XMI				S	Sn	09 27 33.1	-3.0
	baz=2.7,SNR=4.0						
XMIS	Christmas Isla	2.80	214	P	Pn	09 27 03.5	-1.1
	baz=2.7,SNR=22						
XMIS				S	Sn	09 27 33.0	-4.2
	baz=2.7,SNR=7.5						
UGM	Wanagama	3.25	86	P	Pn	09 27 09.9	-0.9
	baz=3.3,SNR=16						
MNAI	Manna	5.70	311	P	Pn	09 27 45.2	+0.9
	baz=5.8,SNR=3.0						
JAGI	Jajag, Banyuwa	6.83	93	P	Pn	09 28 01.3	+1.4
	baz=6.9,SNR=5.5						
MTN	Manton Dam	23.93	103	P	P	09 31 37.0	+6.3
	baz=24,SNR=4.6						
KDU	Kakadu	25.20	102	P	P	09 31 41.4	-0.9
	baz=25,SNR=4.2						
MTSU	Mount Surprise	37.36	109	S	S	09 38 51.6	-21
	baz=37,SNR=5.4						
CMSA	Cobar Meteorol	42.65	128	P	P	09 34 15.3	+2.4
	baz=43,SNR=5.6						
LHI	Lord Howe Isla	53.41	123	P	P	09 35 39.0	+3.0
	baz=53,SNR=3.7						

ISCJB ***08*** *09:33:02.3±0.4, 24°.68N±0°.03×121°.81E±0°.02, h83km±3km, Error ellipse: s-maj=4.7km s-min=3.0km az=155.0*
JMA ***08*** *09:33:02.9±0.3, 24°.80N×121°.87E, h75km, M3.5*
TAP ***08*** *09:33:02.7, 24°.69N×121°.78E, h80km, ML4.2, B*
ISC 08 09:33:02.9±1.3, **24°.68N**±0°.04×**121°.81E**±0°.03, **h81km**±6km, **n59, σ0°77/101, 10C-8D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWC	Suao	0.07	153	⇓*i*P	Pn	09 33 14.8	+0.4
	baz=128						
TWC				*i* S	Sn	09 33 23.9	+1.0
	baz=128						
ILA	Ilan	0.11	327	*e*P	Pn	09 33 14.8	+0.4
	baz=343						
ILA				S	Sn	09 33 24.4	+1.4
	baz=343						
TWE	Neicheng	0.14	289	⇓*i*P	Pn	09 33 14.8	+0.3
	baz=272						
TWE				S	Sn	09 33 23.3	+0.1
	baz=272						
ENTT	Nioudou	0.23	261	⇓*i*P	Pn	09 33 15.1	+0.2
	baz=268						
ENTT				*e*S	Sn	09 33 23.7	-0.1
	baz=268						
ENA	Nanau	0.26	195	*e*P	Pn	09 33 15.1	+0.1
	baz=195						
ENA				*e*S	Sn	09 33 24.2	+0.2
	baz=195						
TWA	Mucha	0.37	326	⇑*i*P	Pn	09 33 15.6	-0.1
	baz=322						
TWA				S	Sn	09 33 24.4	-0.8
	baz=322						
TWB1	Santiao Chiao	0.37	26	⇑*i*P	Pn	09 33 15.8	+0.1
	baz=38						
TWB1				*i* S	Sn	09 33 24.9	-0.3
	baz=38						
EHP	Heping Village	0.37	190	*e*P	Pn	09 33 15.9	+0.2
	baz=191						
EHP				*e*S	Sn	09 33 27.0	+1.8
	baz=191						
NWF	Wu-fen Shan	0.39	356	⇑*i*P	Pn	09 33 16.0	0.0
	baz=353						
NWF				S	Sn	09 33 25.3	-0.4
	baz=353						
NSK	Sanguang	0.41	270	*i* P	Pn	09 33 15.6	-0.5
	baz=268						
NSK				S	Sn	09 33 24.2	-1.7
	baz=268						
TAP1	Taipei	0.45	324	*e*P	Pn	09 33 15.8	-0.4
	baz=319						
TAP1				*e*S	Sn	09 33 25.4	-0.7
	baz=319						
TAP	Taipei	0.46	323	*e*P	Pn	09 33 16.3	0.0
	baz=319						
TAP				*e*S	Sn	09 33 25.9	-0.4
	baz=319						
NNS	Nan Shan	0.46	240	⇓*i*P	Pn	09 33 16.6	+0.1
	baz=239						
NNS				*e*S	Sn	09 33 26.1	-0.5
	baz=239						
TWS1	Kuangyinshan	0.55	320	⇑*i*P	Pn	09 33 17.1	0.0
	baz=311						
TWS1				S	Sn	09 33 27.4	-0.4
	baz=311						
TWD	Chiawan	0.62	198	⇓P	Pn	09 33 17.0	-0.8
	baz=202						
TWD				*e*S	Sn	09 33 28.2	-0.7
	baz=202						
TWY	Chenhua	0.63	342	⇑*i*P	Pn	09 33 17.9	0.0
	baz=337						
TWY				*e*S	Sn	09 33 29.0	0.0
	baz=337						
NCU	National Centr	0.64	297	⇑*i*P	Pn	09 33 17.9	-0.1
	baz=289						
NCU				*i* S	Sn	09 33 28.9	-0.3
	baz=289						
TWT	Tachien	0.72	234	P	Pn	09 33 19.7	+0.7
	baz=231						
TWT				S	Sn	09 33 30.8	-0.1
	baz=231						
HWA	Hwalien	0.72	195	*e*P	Pn	09 33 18.5	-0.3
	baz=200						
HWA				*e*S	Sn	09 33 30.7	0.0
	baz=200						
WHF	Hehuan Shan	0.73	223	⇓*i*P	Pn	09 33 19.4	+0.1
	baz=214						
WHF				S	Sn	09 33 31.6	+0.1
	baz=214						
NSTT	Nanjuang	0.74	267	⇑*i*P	Pn	09 33 18.8	-0.2
	baz=265						
NSTT				*e*S	Sn	09 33 29.8	-1.2
	baz=265						
HSN	Hsinchu	0.78	280	⇑*e*P	Pn	09 33 19.0	-0.4
	baz=281						
HSN				*i* S	Sn	09 33 30.5	-1.2
	baz=281						
ESL	Shilin	0.93

	baz=213						
PNG	Penghu	2.34	242	eP	Pn	09 33 38.2	-1.1
	baz=241						
WDGT	Dungji	2.42	235	eP	Pn	09 33 40.4	0.0
	baz=234						
TAW	Tawu	2.46	200	eP	Pn	09 33 43.9	+3.0
	baz=192						
SCZT	Fangliau	2.54	206	eP	Pn	09 33 42.9	+0.9
	baz=216						
JTJ	Tarama	2.63	90	P	Pn	09 33 43.8	+0.6
LAY	Lan-yu	2.64	185	eP	Pn	09 33 42.4	-1.0
	baz=178						
TWK1	Hengchun	2.87	199	eP	Pn	09 33 46.7	+0.1
	baz=198						
KNM	Kinmen	3.09	266	eP	Pn	09 33 49.9	+0.5
	baz=264						
JOGS	Gusukube	3.27	88	P	Pn	09 33 53.0	+1.1

*CSEM **08** 09:35:19.4, 39.°68N×29.°43E, h7km, MD2.6, After DDA*
DDA 08 09:35:19.4, 39.°68N×29.°43E, h7km, MD2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDZ	Gediz	0.60	176	iP	Pg	09 35 30.3	-0.9
GDZ				iS	Sg	09 35 40.1	+1.0
GDZ	Gediz	0.60	176	iP	Pg	09 35 30.3	-0.8
GDZ				iS	Sg	09 35 40.1	+1.0
DURS	Dursunbey	0.74	264	iP	Pg	09 35 33.6	-0.3
DURS				iS	Sb	09 35 45.3	-0.1
DURS	Dursunbey	0.74	264	iP	Pg	09 35 33.6	-0.3
DURS				iS	Sb	09 35 45.3	0.0
BORA	Eskisehir	0.81	76	iP	Pg	09 35 34.0	-1.2
BORA				iS	Sb	09 35 47.9	+0.6
BORA	Eskisehir	0.81	76	iP	Pg	09 35 34.0	-1.2
BORA				iS	Sb	09 35 47.9	+0.6
SEYT	Eskypehyr	1.11	98	iP	Pg	09 35 40.3	-0.6
SEYT				iS	Sn	09 35 56.7	-0.5
SEYT	Eskypehyr	1.11	98	iP	Pg	09 35 40.3	-0.6
SEYT				iS	Sn	09 35 56.7	-0.5
KHAL	Karahalli	1.31	178	iP	Pg	09 35 45.1	+0.3
KHAL				iS	Sn	09 36 04.8	+2.5
KHAL	Karahalli	1.31	178	iP	Pg	09 35 45.1	+0.3
KHAL				iS	Sn	09 36 04.8	+2.6
BALY	Balya	1.40	273	iP	Pb	09 35 45.7	-0.2
BALY				iS	Sg	09 36 06.5	+1.9
BALY	Balya	1.40	273	iP	Pn	09 35 45.7	+0.3
BALY				iS	Sg	09 36 06.5	+1.9

*KRSC **08** 09:36:04.2±1.1, 50.°02N×156.°91E, h5km±5km, ML4.2*
*MOS **08** 09:36:04.2±1.0, 50.°02N×156.°91E, h5km, mb4.3/1, Error ellipse: s-maj=47.2km s-min=14.6km az=85.1*
ISC 08 09:36:04.9±3.9, 50.°1N±0.°1×156.°87E±0.°08, h0km±18km, n23, σ1°24/30, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	0.78	322	⇑iPN	Pb	09 36 20.9	-0.3
SKR				iS	Sb	09 36 32.0	-0.3
SKR	Severo-Kuril's	0.78	322	P	Pb	09 36 20.7	-0.5
SKR				S	Sb	09 36 32.4	+0.1
PAU	Pauzhetka	1.40	359	PN	Pn	09 36 31.0	-0.6
PAU				S	Sg	09 36 50.6	+0.9
PAU	Pauzhetka	1.40	359	P	Pn	09 36 31.0	-0.6
PAU				S	Sg	09 36 50.6	+0.9
MIPR	Malaya Ipel'ka	2.21	358	P	Pn	09 36 42.9	+0.1
ASAK	Asacha	2.40	15	P	Pn	09 36 46.2	+0.7
MTVR	Mutnovka	2.55	18	P	Pn	09 36 47.8	+0.2
MTVR				S	Sn	09 37 20.0	+0.6
RUS	Russkaya	2.58	23	PN	Pn	09 36 47.4	-0.4
RUS				S	Sn	09 37 19.4	-0.5
RUS	Russkaya	2.58	23	P	Pn	09 36 47.4	-0.4
RUS				S	Sn	09 37 19.4	-0.5
APC	Apacha	2.86	4	P	Pb	09 36 54.2	-2.6
PET	Petropavlovsk	3.16	20	ePN	Pb	09 36 58.2	-3.6
PET				eS	Sn	09 37 35.2	+1.1
PET				smax	smax		
	comp=N,74nm,0.5s						
PET				smax	smax		
	comp=E,68nm,1.2s						
UGLR	Uglovaya	3.37	20	P	Pn	09 37 00.9	+2.1
AVH	Avacha	3.40	19	P	Pn	09 37 01.2	+2.0
KOK	Koryaka	3.41	18	P	Pn	09 37 01.7	+2.4
SMAR	Somma	3.41	20	P	Pn	09 37 01.8	+2.3
KRER	Koryakskii	3.44	19	P	Pn	09 37 01.9	+2.0
SDLR	Sedlovina	3.45	21	P	Pn	09 37 01.6	+1.7
KRX	Arik	3.47	18	P	Pn	09 37 01.8	+1.5
GNL	Ganaly	3.69	10	P	Pn	09 37 04.7	+1.5
MKZ	Mys Kozlova	5.39	32	PN	Pn	09 37 27.4	+1.0
MKZ	Mys Kozlova	5.39	32	P	Pn	09 37 27.4	+1.0
MKZ				S	Sn	09 38 28.7	-0.4
KBTR	Krutoberegovo	7.11	28	PN	Pn	09 37 50.4	+0.4
KBTR	Krutoberegovo	7.11	28	P	Pn	09 37 50.4	+0.4

*IDC **08** 09:41:00.9±1.1, 23.°70N×121.°31E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.7/24, mbtmp3.8/7, ML3.5/1, MS3.3/3, Ms1 3.3/3, ms1mx3.0/40, Error ellipse: s-maj=72.9km s-min=17.9km az=67.0*
*TAP **08** 09:41:01.2, 24.°02N×121.°64E, h6km, ML4.0, B*
ISC 08 09:41:00.8±1.0, 23.°98N±0.°02×121.°68E±0.°03, h5km±7km, n66, σ0°93/99, mb3.8/6, 7C-2D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	Hwalien	0.07	270	⇓P	Pg	09 41 03.1	+0.8
	baz=205						
TWD	Chiawan	0.13	323	⇑iP	Pg	09 41 03.3	-0.1
	baz=335						
TWD				S	Sg	09 41 04.6	-0.6
	baz=335						
ESL	Shilin	0.28	235	⇓eP	Pb	09 41 06.8	-1.5
	baz=229						
ESL				eS	Sb	09 41 10.8	-2.4
	baz=229						
EHP	Heping Village	0.34	9	eP	Pg	09 41 07.7	+0.4
	baz=17						
EHP				eS	Sg	09 41 12.5	+0.7
	baz=17						
WHF	Hehuan Shan	0.42	294	⇑P	Pg	09 41 08.7	-0.2
	baz=291						
WHF				eS	Sg	09 41 14.3	-0.1
	baz=291						
ENA	Nanau	0.45	7	⇑iP	Pg	09 41 09.5	0.0
	baz=14						
ENA				eS	Sg	09 41 15.7	+0.2
	baz=14						
TWT	Tachien	0.54	301	⇑iP	Pb	09 41 11.5	-1.3
	baz=299						
TWT				eS	Sg	09 41 18.7	+0.5
	baz=299						
NNS	Nan Shan	0.54	329	⇑P	Pg	09 41 11.0	-0.2
	baz=332						
NNS				eS	Sg	09 41 18.3	+0.1
	baz=332						
EHY	Hungye	0.57	215	eP	Pb	09 41 12.9	-0.4
	baz=214						
TWC	Suao	0.65	14	eP	Pg	09 41 13.5	+0.2
	baz=16						
TWC				eS	Sg	09 41 22.5	+0.8
	baz=16						
ENTT	Nioudou	0.67	351	⇑iP	Pg	09 41 13.8	+0.1
	baz=356						
ENTT				eS	Sg	09 41 23.0	+0.7
	baz=356						
TWF1	Yuli	0.71	210	eP	Pb	09 41 15.0	-0.7
	baz=212						
SMLT	Sun Moon Lake	0.72	263	eP	Pb	09 41 15.2	-0.6
	baz=258						
SMLT				S	Sb	09 41 25.0	-1.2
	baz=258						
TWE	Neicheng	0.74	359	eP	Pg	09 41 15.1	+0.1
	baz=355						
NSK	Sanguang	0.76	337	⇑iP	Pg	09 41 15.4	+0.1
	baz=331						
NSK				eS	Sb	09 41 26.1	-1.1
	baz=331						
TYC	Yuchr	0.76	265	eP	Pb	09 41 15.6	-0.8
	baz=261						
TYC				S	Sb	09 41 25.6	-1.4
	baz=261						
ILA	Ilan	0.79	4	eP	Pb	09 41 16.3	-0.7
	baz=11						
NSTT	Nanjuang	0.90	317	eP	Pb	09 41 18.4	-0.5
	baz=318						
NSTT				eS	Sb	09 41 30.2	-0.9
	baz=318						
TWQ1	Liyutan	0.91	294	eP	Pn	09 41 19.4	-0.8
	baz=294						
TWQ1				eS	Sb	09 41 31.3	-0.2
	baz=294						
WNT	Mingjian	0.92	264	eP	Pn	09 41 20.2	-0.1
	baz=261						
WNT				eS	Sn	09 41 34.1	+0.2
	baz=261						
CHKT	Chengkung	0.92	198	eP	Pn	09 41 19.8	-0.5
	baz=190						
CHKT				eS	Sn	09 41 34.8	+0.8
	baz=190						
TCU	Taichung	0.93	281	eP	Pn	09 41 20.7	+0.1
	baz=271						
TCU				eS	Sn	09 41 34.5	+0.2
	baz=271						
NSY	Sanyi	0.95	298	eP	Pb	09 41 19.3	-0.4
	baz=310						
NSY				eS	Sn	09 41 34.1	-0.6
	baz=310						
ELDTW	Lidau	0.99	218	eP	Pn	09 41 20.3	-1.2
	baz=203						
CHN5	Tsauling	0.99	248	eP	Pn	09 41 21.2	-0.3
	baz=233						
CHN5				eS	Sn	09 41 35.8	-0.1
	baz=233						
TWA	Mucha	1.00	355	eP	Pb	09 41 20.3	-0.4
	baz=348						
TWA				eS	Sb	09 41 33.5	-0.7
	baz=348						
HSN	Hsinchu	1.05	322	eP	Pn	09 41 22.3	+0.2
	baz=327						
TWB1	Santiao Chiao	1.06	15	eP	Pg	09 41 21.2	0.0
	baz=15						
WGK	Gukeng	1.06	254	eP	Pn	09 41 22.8	+0.4
	baz=250						
TAP1	Taipei	1.07	352	eP	Pn	09 41 22.1	-0.3
	baz=344						
TAP1				eS	Sb	09 41 35.7	-0.3
	baz=344						
TAP	Taipei	1.07	351	eP	Pb	09 41 21.6	-0.1
	baz=348						
NCU	National Centr	1.09	336	eP	Pn	09 41 22.7	0.0
	baz=350						
NCU				eS	Sn	09 41 38.2	+0.1
	baz=350						
NWF	Wu-fen Shan	1.09	5	eP	Pg	09 41 21.5	-0.3
	baz=10.0						
TWS1	Kuangyinshan	1.15	348	eP	Pn	09 41 23.8	+0.3
	baz=351						
TWS1				eS	Sn	09 41 38.9	-0.6
	baz=351						
CHN4	Tsaushan	1.18	238	eP	Pn	09 41 24.4	+0.5
	baz=222						
CHN4				eS	Sn	09 41 41.3	+1.0
	baz=222						
WTP	Ta-pu	1.22	234	eP	Pn	09 41 24.9	+0.4
	baz=230						
WTP				eS	Sn	09 41 41.9	+0.5
	baz=230						
CHY	Chiayi	1.25	248	eP	Pn	09 41 26.1	+1.3
	baz=261						
CHY				eS	Sn	09 41 43.2	+1.1
	baz=261						
TWG	Pinlang	1.28	206	eP	Pg	09 41 24.3	-1.0
	baz=202						
WTCT	Ta-ch'eng	1.29	265	eP	Pb	09 41 25.7	+0.3
	baz=263						
WTCT				eS	Sn	09 41 44.8	+1.8
	baz=263						
TWY	Chenhua	1.30	357	eP	Pg	09 41 25.9	+0.3
	baz=347						
YOJ	Yonaguni jima	1.31	68	eP	Pg	09 41 26.1	+0.3
	baz=65						
CHN1	Nanshi	1.32	234	eP	Pg	09 41 27.0	+1.0
	baz=230						
SGST	Jiashian	1.34	229	eP	Pg	09 41 27.7	+1.2
	baz=226						
SGST				eS	Sn	09 41 46.6	+2.2
	baz=226						
WSF	Szhu	1.38	256	eP	Pg	09 41 27.7	+0.5
	baz=254						
WSF				eS	Sn	09 41 47.4	+2.1
	baz=254						
CHN3	Shinhua	1.50	234	eP	Pg	09 41 31.1	+1.5
	baz=233						
SCLT	Jiali	1.58	240	eP	Pg	09 41 30.6	-0.4
	baz=240						
SCLT				eS	Sg	09 41 53.5	+2.0
	baz=240						
TWM1	Shoushan	1.63	225	eP	Pg	09 41 33.2	+1.2
	baz=224						
SGLT	Jiouru	1.66	222	eP	Pg	09 41 32.9	+0.3
	baz=206						
PCYT	Pengchaiyu	1.68	12	eP	Pb	09 41 32.0	-0.2
	baz=15						
TAW	Tawu	1.77	204	eP	Pb	09 41 33.2	-0.4
	baz=203						
SCZT	Fangliau	1.87	212	eP	Pb	09 41 35.2	-0.3
	baz=203						
SCZT				eS	Sg	09 42 01.6	+0.7
	baz=203						
LAY	Lan-yu	1.93	184	eP	Pn	09 41 33.6	-0.7
	baz=186						
WDGT	Dungji	1.99	249	eP	Pb	09 41 36.5	-0.9
	baz=249						
WDGT				eS	Sg	09 42 02.6	-2.0
	baz=249						
PNG	Penghu	1.99	259	eP	Pb	09 41 35.9	-1.5
	baz=257						
PNG				eS	Sb	09 42 02.2	-0.3
	baz=257						
HEN	Hengchun	2.15	204	eP	Pb	09 41 39.9	-0.2
	baz=193						
TWK1	Hengchun	2.18	202	eP	Pb	09 41 39.3	-1.3
	baz=203						
QZH	Quanzhou	2.98	290	Pn	Pn	09 41 48.4	-0.2
QZH				Sn	Sn	09 42 23.0	-1.7
QZH				smax	smax		
	comp=N,410nm,0.7s						
QZH				smax	smax		
	comp=E,360nm,1.1s						
QZH				LR	LR		
	comp=N,3μm,9.7s						
QZH				LR	LR		
	comp=E,2μm,6.0s						
QZH				LR	LR		
	comp=Z,4μm,8.4s						
KNM	Kinmen	3.00	279	eP	Pn	09 41 50.9	+2.0
	baz=278						
KSRS	Korea Array	14.46	20	Pn	P	09 44 32.5	-0.5
	comp=Z,0.2nm,0.3s,baz=198,slow=12,SNR=5.6						
KSRS				LR	LR	09 50 34.7	
	comp=Z,98nm,18.5s,baz=190,slow=39						
ASAJ	Asahikawa	26.40	35	LR	LR	09 58 39.1	
	comp=Z,58nm,19.6s,baz=151,slow=40						
SONM	Songino Array	26.74	337	P	P	09 46 43.4	+2.1
	comp=Z,0.8nm,0.7s,baz=150,slow=8.3,SNR=4.4						
MKAR	Makanchi Array	38.80	316	P	P	09 48 27.9	+1.4
	comp=Z,0.8nm,0.7s,baz=98,slow=9.1,SNR=6.2						
ZALV	Zalesovo Beam	40.66	327	P	P	09 48 41.8	-0.1
	comp=Z,0.8nm,0.4s,baz=104,slow=11,SNR=3.9						
ZALV				LR	LR	10 06 53.6	
	comp=Z,39nm,18.6s,baz=249,slow=38						
WRA	Warramunga Arr	45.36	163	P	P	09 49 18.6	-1.7
	comp=Z,1.6nm,0.8s,baz=344,slow=8.3,SNR=4.9						
ASAR	Alice Springs	48.82	165	P	P	09 49 47.5	+0.3
	comp=Z,0.9nm,0.8s,baz=342,slow=6.6,SNR=9.6						
STKA	Stephens Creek	58.71	160	P	P	09 50 59.4	-0.1
	comp=Z,1.1nm,0.6s,baz=343,slow=11,SNR=4.5						

TAP 08 09:41:21.8, 24.°05N×121.°61E, h7km, ML3.8, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	Chiawan	0.03	328	iP	Pg	09 41 23.4	+0.2
	baz=344						
TWD				iS	Sg	09 41 24.6	+0.4
	baz=344						
HWA	Hwalien	0.08	186	eP	Pg	09 41 24.1	+0.4
	baz=177						
EHP	Heping Village	0.28	24	P	Pg	09 41 27.8	+0.4
	baz=37						
EHP				S	Sg	09 41 32.3	+1.2
	baz=37						
ESL	Shilin	0.29	215	eP	Pg	09 41 27.9	+0.3
	baz=213						
ESL				S	Sg	09 41 31.9	+0.4
	baz=213						
WHF	Hehuan Shan	0.33	286	eP	Pg	09 41 29.0	+0.1
	baz=285						
WHF				S	Sg	09 41 34.0	+0.4
	baz=285						
ENA	Nanau	0.39	17	P	Pg	09 41 29.6	+0.2
	baz=20						
ENA				S	Sg	09 41 35.4	+0.8
	baz=20						
NNS	Nan Shan	0.44	330	eP	Pg	09 41 30.5	-0.1
	baz=331						
NNS				eS	Sg	09 41 37.5	+1.0
	baz=331						
TWT	Tachien	0.45	296	eP	Pb	09 41 31.6	-0.7
	baz=295						
TWT				eS	Sb	09 41 38.4	-0.9
	baz=295						
ENTT	Nioudou	0.58	356	P	Pb	09 41 33.9	-0.6
	baz=357						
ENTT				eS	Sb	09 41 42.1	-0.9
	baz=357						
TWC	Suao	0.59	21	eP	Pg	09 41 33.5	+0.3
	baz=22						
TWC				eS	Sg	09 41 42.0	+1.0
	baz=22						
NSK	Sanguang	0.66	339	eP	Pb	09 41 35.4	-0.4
	baz=348						
TWE	Neicheng	0.67	4	eP	Pg	09 41 35.1	+0.5
	baz=6.0						
TWE				eS	Sg	09 41 44.3	+0.9
	baz=6.0						

*IDC **08** 09:59:09.6±0.6, 13.°98N×93.°08E, h0km, mb4.0/15, mb1 4.1/16, mb1mx4.0/30, mbtmp3.9/16, ML3.6/1, MS3.5/7, Ms1 3.6/7, ms1mx3.2/42, Error ellipse: s-maj=22.7km s-min=14.8km az=56.0*
*ISCJB **08** 09:59:12.5±0.5, 14.°02N±0.°07×93.°18E±0.°07, h32km, mb4.1/19, MS3.7/5, Error ellipse: s-maj=10.0km s-min=9.2km az=162.9*
*NEIC **08** 09:59:15.7±2.2, 14.°04N×93.°16E, h41km±20km, mb4.1/3, Error ellipse: s-maj=16.3km s-min=7.2km az=52.0*
ISC 08 09:59:14.5±0.6, 14.°00N±0.°10×93.°11E±0.°09, h32km, n44, σ0°54/45, mb4.0/19, MS3.5/5, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	7.14	51	Pn	Pn	10 00 57.0	+0.2
CMAR				Sn	Sn	10 02 17.1	+0.3
CMAR	Chiang Mai Arr	7.14	51	Pn	Pn	10 00 57.0	+0.2
	0.3nm,0.3s,baz=235,slow=14,SNR=5.0						
CMAR				Sn	Sn	10 02 17.1	+0.3
	0.1nm,0.3s,baz=242,slow=28,SNR=2.6						
CMAR				LR	LR	10 04 24.8	
	comp=Z,174nm,19.9s,baz=146,slow=44						
PSI	Prapat	12.52	152	LR	LR	10 07 28.7	
	comp=Z,129nm,20.9s,baz=75,slow=40						
NACB	Ninganchiao	28.70	65	eP	P	10 05 07.6	-1.3
	14nm,0.2s						
AAK	Ala-Archa	32.75	334	LR	LR	10 20 49.6	
	comp=Z,77nm,18.6s,baz=277,slow=40						
MK31	Makanchi Array	33.93	347	eP	P	10 05 55.0	+0.4
MKAR	Makanchi Array	33.93	347	P	P	10 05 54.7	+0.1
MKAR	Makanchi Array	33.93	347	P	P	10 05 54.7	+0.1
	1.9nm,0.9s,baz=161,slow=9.0,SNR=10						
SONM	Songino Array	35.50	15	P	P	10 06 08.9	+0.6
SONM	Songino Array	35.50	15	P	P	10 06 08.9	+0.6
	1.7nm,1.0s,baz=198,slow=8.2,SNR=7.7						
KURBB	Kurchatov Arra	38.40	345	P	P	10 06 32.5	-0.2
	2.5nm,0.9s,baz=165,slow=8.0,SNR=5.0						
KURK	Kurchatov	38.46	345	P	P	10 06 32.5	-0.8
ZALV	Zalesovo Beam	40.39	352	P	P	10 06 48.9	-0.5
ZALV	Zalesovo Beam	40.39	352	P	P	10 06 48.9	-0.5
	0.7nm,0.4s,baz=168,slow=7.6,SNR=5.6						
ZALV				LR	LR	10 27 06.2	
	comp=Z,31nm,19.2s,baz=65,slow=42						
BVAR	Borovoye Array	42.91	340	P	P	10 07 10.1	+0.1
BVAR	Borovoye Array	42.91	340	P	P	10 07 10.1	+0.1
	0.4nm,0.4s,baz=151,slow=9.1,SNR=3.4						
ABKAR	Akbulak array	44.44	329	eP	P	10 07 23.0	+0.6
	3.0nm,1.0s						
FITZ	Fitzroy Crossi	45.24	134	eP	P	10 07 29.0	0.0
	1.3nm,0.3s						
MJAR	Matsushiro Arr	46.02	52	LR	LR	10 28 49.8	
	comp=Z,61nm,20.5s,baz=230,slow=39						
WRA	Warramunga Arr	52.75	129	P	P	10 08 26.4	-0.3
WRA				PcP	PcP	10 09 35.6	-0.5
WRA	Warramunga Arr	52.75	129	P	P	10 08 26.4	-0.3
	1.0nm,0.8s,baz=313,slow=8.1,SNR=8.7						
WRA				PcP	PcP	10 09 35.6	-0.5
	1.1nm,0.7s,baz=313,slow=3.3,SNR=8.6						
WRAB	Tennant Creek	52.75	129	eP	P	10 08 26.3	-0.4
	1.8nm,0.8s						
ASAR	Alice Springs	54.70	133	P	P	10 08 41.1	+0.1
ASAR				PcP	PcP	10 09 44.1	+0.6
ASAR	Alice Springs	54.70	133	P	P	10 08 41.1	+0.1
	0.9nm,0.7s,baz=306,slow=6.4,SNR=13						
ASAR				PcP	PcP	10 09 44.1	+0.6
	0.9nm,0.9s,baz=297,slow=4.5,SNR=5.3						
OPO	Ambohidratompo	55.64	236	LR	LR	10 29 21.6	
	comp=Z,150nm,19.4s,baz=198,slow=33						
BRTR	Keskin Array B	57.77	308	P	P	10 09 02.5	-0.4
BRTR	Keskin Array B	57.77	308	P	P	10 09 02.5	-0.4
	1.8nm,0.8s,baz=126,slow=6.6,SNR=9.4						
MLR	Muntele Rosu	64.16	314	P	P	10 09 46.6	+0.4
MLR	Muntele Rosu	64.16	314	P	P	10 09 46.6	+0.4
	0.9nm,0.7s,baz=73,slow=17,SNR=3.3						
STKA	Stephens Creek	65.10	135	eP	P	10 09 53.8	+1.6
STKA	Stephens Creek	65.10	135	P	P	10 09 52.9	+0.6
	1.8nm,0.8s,baz=315,slow=5.7,SNR=3.0						
LSZ	Lusaka	70.48	248	LR	LR	10 40 39.1	
	comp=Z,108nm,18.3s,baz=21,slow=35						
GERES	GERESS Array B	72.64	317	P	P	10 10 39.1	0.0
GERES	GERESS Array B	72.64	317	P	P	10 10 39.1	0.0
	0.9nm,0.8s,baz=64,slow=6.1,SNR=6.2						
BOSA	Boshof	78.05	236	P	P	10 11 10.1	-0.4
BOSA	Boshof	78.05	236	P	P	10 11 10.1	-0.4
	3.5nm,0.8s,baz=72,slow=3.2,SNR=3.8						
ESDC	Sonseca Array	86.53	310	P	P	10 11 54.6	-0.1
ESDC	Sonseca Array	86.53	310	P	P	10 11 54.6	-0.1
	0.4nm,0.3s,baz=90,slow=5.9,SNR=4.6						
TORD	Torodi Ar. Bea	88.23	283	P	P	10 12 03.9	+0.6
TORD	Torodi Ar. Bea	88.23	283	P	P	10 12 03.9	+0.6
	2.2nm,0.9s,baz=104,slow=4.7,SNR=10						
ILAR	Eielson Array	89.47	22	P	P	10 12 07.2	-0.9
ILAR	Eielson Array	89.47	22	P	P	10 12 07.2	-0.9
	0.5nm,0.8s,baz=288,slow=4.3,SNR=5.7						
TEIG	Tepich	145.96	2	PKPbc	PKPab	10 18 52.3	+0.2
TEIG	Tepich	145.96	2	PKPbc	PKPab	10 18 52.3	+0.2
	13nm,1.0s,baz=26,slow=2.9,SNR=4.1						

IDC 08 10:02:14.9±2.1, 20.°67S×66.°90W, h205km±20km, mb3.1/4, mb1 3.4/6, mb1mx3.2/19, mbtmp3.3/6, Error ellipse: s-maj=22.9km s-min=20.5km az=62.0, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	4.51	345	P	Pn	10 03 24.6	+0.5
	7.1nm,0.3s,baz=159,slow=5.9,SNR=223						
LPAZ				S	S	10 04 18.1	-0.1
	0.3nm,0.3s,baz=212,slow=15,SNR=2.5						
SIV	San Ignacio	7.23	51	P	Pn	10 03 59.6	+1.3
	7.2nm,0.3s,baz=246,slow=11,SNR=88						
SIV				S	S	10 05 18.7	-1.6
	baz=240,slow=16,SNR=2.6						
CFAA	Coronel Fontan	10.96	186	P	Pn	10 04 40.7	-5.6
	0.1nm,0.3s,baz=8.9,slow=12,SNR=21						
CFAA				S	S	10 06 32.2	-17
	0.1nm,0.3s,baz=95,slow=23,SNR=6.2						
PMSA	Palmer Station	44.12	178	P	P	10 10 02.1	-0.5
	17nm,0.9s,baz=11,slow=5.2,SNR=2.8						
SNAA	Sanae	62.45	161	P	P	10 12 15.8	-0.2
	0.3nm,0.9s,baz=288,slow=3.2,SNR=3.2						
QSPA	South Pole Qui	69.52	180	P	P	10 13 01.1	0.0
	1.7nm,1.1s,baz=220,slow=3.5,SNR=3.0						
PDAR	Pinedale Array	74.36	329	P	P	10 13 30.5	+0.2
	0.3nm,0.7s,baz=119

SONM Songino Array 152.36 10 PKPbc PKPbc 10 21 46.2 -0.4
0.3nm,0.4s,baz=343,slow=4.5,SNR=3.7

*ISCJB **08** 10:05:05.7±0.3, 18°.53N×0°.07×68°.74W±0°.03, h143km, mb3.8/16, Error ellipse: s-maj=10.1km s-min=3.5km az=14.7*
*IDC **08** 10:05:06.5±2.8, 18°.42N×68°.83W, h135km±25km, mb3.6/15, mb1 3.8/17, mb1mx3.7/27, mbtmp3.6/17, Error ellipse: s-maj=16.3km s-min=14.6km az=44.0*
*RSPR **08** 10:05:06.0, 18°.96N×68°.66W, h134km±1km, MD4.1/21*

ISC 08 10:05:07.3±0.5, 18°.50N±0°.08×68°.74W±0°.04, h143km, n54, σ1s22/56, mb3.9/16, 15C-6D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DR12	**Loma Pena Alta**	**0.67**	**296**	⇑*i*P	**Pn**	**10 05 26.3**	**-2.7**
IMO	**Isla Mona**	**0.88**	**116**	⇑*e*P	**Pn**	**10 05 29.9**	**-0.5**
IMO				*e*S	**Sn**	**10 05 48.0**	**+0.2**
IDE	**Isla Desecheo**	**1.21**	**95**	⇓*e*P	**Pn**	**10 05 32.1**	**-1.2**
IDE	**Isla Desecheo**	**1.21**	**95**	*e*S	**Sn**	**10 05 51.8**	**-1.3**
AGPR	**Aguadilla, PR**	**1.55**	**91**	⇑*e*P	**Pn**	**10 05 36.1**	**-0.7**
AGPR	**Aguadilla, PR**	**1.55**	**91**	*e*S	**Sn**	**10 05 59.7**	**+0.3**
LSP	**Las Mesas**	**1.60**	**101**	⇑*e*P	**Pn**	**10 05 36.7**	**-0.8**
CRPR	**Cabo Rojo, PR**	**1.62**	**107**	⇓*e*P	**Pn**	**10 05 37.0**	**-0.6**
CRPR	**Cabo Rojo, PR**	**1.62**	**107**	*e*S	**Sn**	**10 06 01.5**	**+0.7**
LRS	**Lares**	**1.81**	**96**	⇑*e*P	**Pn**	**10 05 38.7**	**-1.1**
GBPR	**Guanica, Bosqu**	**1.84**	**106**	⇓*e*P	**Pn**	**10 05 39.5**	**-0.6**
GBPR	**Guanica, Bosqu**	**1.84**	**106**	*e*S	**Sn**	**10 06 05.7**	**+0.5**
AOPR	**Arecibo Observ**	**1.89**	**94**	⇑*e*P	**Pn**	**10 05 39.1**	**-1.6**
AOPR	**Arecibo Observ**	**1.89**	**94**	*e*S	**Sn**	**10 06 05.0**	**-1.4**
OBIP	**Obispado Ponce**	**2.08**	**102**	⇑*e*P	**Pn**	**10 05 42.4**	**-0.5**
OBIP	**Obispado Ponce**	**2.08**	**102**	*e*S	**Sn**	**10 06 10.3**	**0.0**
CELP	**Cerrillos**	**2.10**	**101**	⇑*e*P	**Pn**	**10 05 42.6**	**-0.5**
CELP				*e*S	**Sn**	**10 06 10.3**	**-0.3**
SDDR	**Presa de Saban**	**2.46**	**282**	⇓*e*P	**Pn**	**10 05 46.6**	**-1.0**
SDDR	**Presa de Saban**	**2.46**	**282**	*e*S	**Sn**	**10 06 17.8**	**-1.0**
SJG	**San Juan**	**2.49**	**98**	⇑*e*P	**Pn**	**10 05 46.9**	**-1.1**
SJG	**San Juan**	**2.49**	**98**	⇑*e*P	**Pn**	**10 05 46.8**	**-1.1**
CPD	**Cerro la Pandu**	**2.72**	**99**	⇑*e*P	**Pn**	**10 05 49.8**	**-1.1**
CBYP	**Canovanas**	**2.75**	**94**	⇑*e*P	**Pn**	**10 05 49.2**	**-2.0**
HUMP	**Col San Antoni**	**2.77**	**97**	⇑*e*P	**Pn**	**10 05 50.0**	**-1.4**
HUMP	**Col San Antoni**	**2.77**	**97**	*e*S	**Sn**	**10 06 23.3**	**-2.2**
MTP	**Monte Pirata**	**3.05**	**97**	⇑*e*P	**Pn**	**10 05 53.8**	**-1.3**
MTP	**Monte Pirata**	**3.05**	**97**	*e*S	**Sn**	**10 06 31.7**	**-0.3**
STVI	**Saint Thomas**	**3.60**	**92**	⇑*e*P	**Pn**	**10 06 00.3**	**-1.8**
STVI	**Saint Thomas**	**3.60**	**92**	*e*S	**Sn**	**10 06 41.2**	**-3.3**
GRTK	**Grand Turk**	**3.75**	**324**	⇓*e*P	Pn	10 06 00.4	-3.7
GRTK	**Grand Turk**	**3.75**	**324**	*e*S	Sn	10 06 40.0	-8.1
TBVI	**Tortola**	**3.92**	**90**	⇑*i*P	**Pn**	**10 06 04.4**	**-1.9**
ABV	**Anegada**	**4.19**	**86**	*e*S	**Sn**	**10 06 55.8**	**-2.6**
ABV	**Anegada**	**4.19**	**86**	⇓*e*P	**Pn**	**10 06 08.5**	**-1.3**
GTBY	**Guantanamo Bay**	**6.19**	**284**	⇑*e*P	Pn	10 06 32.3	-4.1
ROSC	**El Rosal**	**14.61**	**203**	P	**Pn**	**10 08 28.1**	**+0.4**
0.8nm,0.3s,baz=278,slow=15,SNR=2.2							
TEIG	**Tepich**	**18.51**	**279**	P	**P**	**10 09 12.6**	**-0.2**
0.8nm,0.3s,baz=52,slow=20,SNR=6.7							
TKL	**Tuckaleechee C**	**21.66**	**325**	P	**P**	**10 09 47.2**	**+0.7**
2.2nm,0.8s,baz=162,slow=9.3,SNR=3.6							
SADO	**Sadowa**	**27.60**	**344**	P	**P**	**10 10 41.5**	**+0.4**
1.5nm,0.4s,baz=217,slow=10,SNR=2.6							
TXAR	**Lajitas Array**	**33.59**	**295**	P	**P**	**10 11 33.9**	**-0.2**
0.7nm,0.6s,baz=120,slow=6.8,SNR=8.6							
TXAR				PcP	**PcP**	**10 14 11.3**	**0.0**
0.4nm,0.6s,baz=120,slow=5.3,SNR=4.2							
TXAR				ScP	**ScP**	**10 17 44.0**	**+1.4**
0.4nm,0.9s,baz=104,slow=6.6,SNR=2.5							
SCHQ	**Schefferville**	**36.30**	**2**	P	**P**	**10 11 57.9**	**+1.0**
5.6nm,0.6s,baz=198,slow=10,SNR=8.8							
PDAR	**Pinedale Array**	**42.08**	**314**	P	**P**	**10 12 44.7**	**-0.7**
0.3nm,0.7s,baz=122,slow=12,SNR=2.9							
PDAR				PcP	**PcP**	**10 14 37.2**	**-0.2**
0.4nm,0.5s,baz=121,slow=5.6,SNR=4.4							
CPUP	**Villa Florida**	**45.92**	**166**	P	**P**	**10 13 14.0**	**-1.7**
0.5nm,0.4s,baz=39,slow=4.9,SNR=3.2							
CFAA	**Coronel Fontan**	**49.81**	**179**	P	**P**	**10 13 45.3**	**-0.4**
0.1nm,0.3s,baz=330,slow=3.3,SNR=3.6							
YKA	**Yellowknife Ar**	**54.12**	**336**	P	**P**	**10 14 16.5**	**-0.6**
2.1nm,0.7s,baz=115,slow=7.5,SNR=4.9							
ESDC	**Sonseca Array**	**59.16**	**54**	P	**P**	**10 14 54.3**	**+1.1**
0.8nm,0.5s,baz=271,slow=7.2,SNR=5.7							
TORD	**Torodi Ar. Bea**	**67.61**	**83**	P	**P**	**10 15 49.8**	**+0.6**
0.5nm,0.3s,baz=295,slow=6.5,SNR=11							
ILAR	**Eielson Array**	**68.38**	**333**	P	**P**	**10 15 52.9**	**-0.2**
1.2nm,0.6s,baz=102,slow=4.6,SNR=28							
KEST	**Kesra**	**69.96**	**58**	P	**P**	**10 16 04.6**	**+1.1**
1.5nm,0.8s,baz=254,slow=13,SNR=3.8							
ARCES	**ARCESS Array B**	**74.31**	**21**	P	**P**	**10 16 29.6**	**+1.0**
1.6nm,0.5s,baz=274,slow=4.2,SNR=16							
FINES	**FINESS Array B**	**76.22**	**30**	P	**P**	**10 16 40.5**	**+0.9**
2.3nm,0.8s,baz=205,slow=2.9,SNR=3.4							
IDI	**Anoyia**	**82.41**	**55**	P	**P**	**10 17 15.0**	**+1.1**
13nm,0.8s,baz=282,slow=13,SNR=4.9							
BRTR	**Keskin Array B**	**87.49**	**49**	P	**P**	**10 17 40.2**	**+1.0**
1.0nm,0.7s,baz=262,slow=4.0,SNR=4.7							
ASAR	**Alice Springs**	**158.26**	**252**	PKPab	**PKPab**	**10 25 22.4**	**-0.6**
1.1nm,0.7s,baz=118,slow=4.4,SNR=6.8							

*DDA **08** 10:10:34.6, 42°.61N×43°.29E, h6km, MD3.4*
*TIF **08** 10:10:34.1, 42°.54N×43°.52E, h8km±3km*
*MOS **08** 10:10:35.4±1.1, 42°.61N×43°.49E, h10km, mb4.1/4, Error ellipse: s-maj=8.8km s-min=5.2km az=76.5*
*CSEM **08** 10:10:35.5±0.2, 42°.60N×43°.52E, h5km, mb4.1, Error ellipse: s-maj=4.4km s-min=2.9km az=137.0*
*IDC **08** 10:10:35.5±1.4, 42°.69N×43°.41E, h0km, mb3.7/8, mb1 3.8/10, mb1mx3.5/28, mbtmp3.7/10, ML3.5/2, Error ellipse: s-maj=20.7km s-min=11.0km az=42.0*
*ISCJB **08** 10:10:35.1±0.4, 42°.61N±0°.02×43°.51E±0°.02, h7km±3km, mb3.6/7, Error ellipse: s-maj=3.3km s-min=2.9km az=153.9*
*NNC **08** 10:10:42.0±1.8, 42°.77N×44°.58E, h0km, mb4.1, Error ellipse: s-maj=84.9km s-min=17.8km az=137.0*

ISC 08 10:10:35.4±0.9, 42°.58N±0°.02×43°.53E±0°.02, h4km±6km, n90, σ1s02/142, mb3.8/7, 4C-13D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.06**	**277**	P	**Pg**	**10 10 36.6**	**0.0**
ONI				S	**Sg**	**10 10 38.0**	**+0.4**
DIGR	**Digorskoe uzhe**	**0.32**	**7**	⇓*i*PG	**Pg**	**10 10 41.1**	**-0.5**
DIGR				*i*S	**Sg**	**10 10 46.0**	**+0.2**
DIGR	**Digorskoe uzhe**	**0.32**	**7**	*i*Pg	**Pg**	**10 10 41.1**	**-0.5**
DIGR				*i*Sg	**Sg**	**10 10 46.0**	**+0.2**
ZEI	**Tsey**	**0.34**	**53**	⇓*i*PG	**Pg**	**10 10 41.9**	**-0.2**
ZEI				*i*S	**Sg**	**10 10 46.9**	**+0.3**
ZEI	**Tsey**	**0.34**	**53**	*i*Pg	**Pg**	**10 10 41.9**	**-0.2**
ZEI				*i*Sg	**Sg**	**10 10 46.9**	**+0.3**
LACR	**Lac**	**0.62**	**67**	⇓*i*PG	**Pg**	**10 10 46.7**	**-0.5**
LACR				*i*S	**Sg**	**10 10 55.3**	**0.0**
LACR	**Lac**	**0.62**	**67**	*i*Pg	**Pg**	**10 10 46.7**	**-0.5**
LACR				*i*Sg	**Sg**	**10 10 55.3**	**0.0**
KORR	**Kora**	**0.64**	**38**	⇑*i*PG	**Pg**	**10 10 47.8**	**+0.1**
KORR				*e*S	**Sg**	**10 10 56.8**	**+0.8**
KORR	**Kora**	**0.64**	**38**	*i*Pg	**Pg**	**10 10 47.8**	**+0.1**
KORR				*e*Sg	**Sg**	**10 10 56.8**	**+0.8**
LSNR	**Lesken**	**0.73**	**17**	⇓*i*PG	**Pg**	**10 10 49.4**	**+0.1**
LSNR				*i*S	**Sg**	**10 10 59.4**	**+0.6**
LSNR	**Lesken**	**0.73**	**17**	*i*Pg	**Pg**	**10 10 49.4**	**+0.1**
LSNR				*i*Sg	**Sg**	**10 10 59.4**	**+0.6**
NCK	**Nalchik**	**0.91**	**3**	⇓*e*PG	**Pg**	**10 10 53.0**	**+0.1**
NCK				*e*S	**Sb**	**10 11 06.8**	**+0.5**
NCK	**Nalchik**	**0.91**	**3**	*e*Pg	**Pg**	**10 10 53.0**	**+0.1**
NCK				*e*Sg	**Sb**	**10 11 06.8**	**+0.5**
VLKR	**Vladikavkaz**	**0.96**	**61**	*e*PG	**Pg**	**10 10 54.4**	**+0.5**
VLKR				*e*S	**Sb**	**10 11 07.7**	**-0.1**
VLKR	**Vladikavkaz**	**0.96**	**61**	*e*Pg	**Pg**	**10 10 54.4**	**+0.5**
VLKR				*e*Sg	**Sb**	**10 11 07.7**	**-0.1**
SNJR	**Sundja**	**1.06**	**62**	⇓*i*PG	**Pg**	**10 10 55.5**	**-0.2**
SNJR				*e*S	**Sg**	**10 11 09.8**	**+0.3**
SNJR	**Sundja**	**1.06**	**62**	*i*Pg	**Pg**	**10 10 55.5**	**-0.2**
SNJR				*e*Sg	**Sg**	**10 11 09.8**	**+0.3**
BTKR	**Batakoyurt**	**1.08**	**43**	⇑*i*PG	**Pn**	**10 10 57.7**	**+0.3**
BTKR				*e*S	**Sn**	**10 11 12.5**	**-0.4**
BTKR	**Batakoyurt**	**1.08**	**43**	*i*Pg	**Pn**	**10 10 57.7**	**+0.3**
BTKR				*e*Sg	**Sn**	**10 11 12.5**	**-0.4**
KUBR	**Kubataba**	**1.22**	**356**	⇓*e*PG	**Pg**	**10 10 58.7**	**0.0**
KUBR				*e*S	**Sn**	**10 11 16.1**	**-0.2**
KUBR	**Kubataba**	**1.22**	**356**	*e*Pg	**Pg**	**10 10 58.7**	**0.0**
KUBR				*e*Sg	**Sn**	**10 11 16.1**	**-0.2**
KBZ	**Khabaz**	**1.23**	**338**	PG	**Pg**	**10 10 57.6**	**-1.4**
KBZ				pmax	pmax		
comp=Z,32nm,0.3s							
KBZ	**Khabaz**	**1.23**	**338**	Pg	**Pg**	**10 10 57.5**	**-1.4**
comp=Z,32nm,0.3s,baz=169,slow=13,SNR=122							
KBZ				Lg	Lg	10 11 13.8	
comp=Z,13nm,0.3s,baz=150,slow=20,SNR=73							
KBZ	**Khabaz**	**1.23**	**338**	Pg	**Pg**	**10 10 57.6**	**-1.4**
comp=Z,32nm,0.3s							
TBLG	**Delisi**	**1.24**	**133**	P	**Pg**	**10 10 58.0**	**-1.1**
TBLG				S	**Sg**	**10 11 15.2**	**+0.1**
PRTR	**Priterechnaya**	**1.29**	**25**	⇓*i*PG	**Pb**	**10 11 00.6**	**+0.4**
PRTR				*i*S	**Sn**	**10 11 18.0**	**0.0**
PRTR	**Priterechnaya**	**1.29**	**25**	*i*Pg	**Pb**	**10 11 00.6**	**+0.4**
PRTR				*i*Sg	**Sn**	**10 11 18.0**	**0.0**
SHAR	**Shatzhatmas**	**1.32**	**332**	*e*PG	**Pg**	**10 10 59.9**	**-0.7**
SHAR				*e*S	**Sg**	**10 11 17.0**	**-0.7**
SHAR	**Shatzhatmas**	**1.32**	**332**	*e*Pg	**Pg**	**10 10 59.9**	**-0.7**
SHAR				*e*Sg	**Sg**	**10 11 17.0**	**-0.7**
KZR	**Kazreti**	**1.37**	**151**	P	**Pn**	**10 11 00.2**	**-1.2**
KZR				S	**Sb**	**10 11 18.4**	**-1.1**
TRKR	**Terskaya**	**1.44**	**37**	⇓*i*PG	**Pg**	**10 11 03.1**	**+0.1**
TRKR				*i*S	**Sn**	**10 11 22.5**	**+0.9**
TRKR	**Terskaya**	**1.44**	**37**	*i*Pg	**Pg**	**10 11 03.1**	**+0.1**
TRKR				*i*Sg	**Sn**	**10 11 22.5**	**+0.9**
PYA	**Pyatigorsk**	**1.49**	**347**	⇑*e*PG	**Pn**	**10 11 03.0**	**0.0**
PYA				*e*S	**Sg**	**10 11 23.0**	**-0.2**
PYA	**Pyatigorsk**	**1.49**	**347**	*e*Pg	**Pn**	**10 11 03.0**	**0.0**
PYA				*e*Sg	**Sg**	**10 11 23.0**	**-0.2**
KIV	**Kislovodsk**	**1.50**	**336**	⇑*e*PG	**Pn**	**10 11 03.3**	**+0.1**
KIV				*e*S	**Sb**	**10 11 23.3**	**-0.1**
KIV	**Kislovodsk**	**1.50**	**336**	*e*Pg	**Pn**	**10 11 03.3**	**+0.1**
KIV				*e*Sg	**Sb**	**10 11 23.3**	**-0.1**
DGRG	**David-gareji**	**1.78**	**129**	P	**Pb**	**10 11 08.3**	**-0.3**
DGRG				S	**Sg**	**10 11 34.7**	**+2.1**
ARTV	**Artvin**	**1.84**	**221**	*i*P	**Pn**	**10 11 07.7**	**-0.3**
ARTV				*i*S	**Sn**	**10 11 32.1**	**+0.4**
ARTV	**Artvin**	**1.84**	**221**	*i*P	**Pn**	**10 11 07.7**	**-0.3**
ARTV				*i*S	**Sn**	**10 11 32.1**	**+0.4**
DBOC	**Borcka**	**1.86**	**229**	*i*P	**Pn**	**10 11 07.4**	**-0.7**
DBOC				*i*S	**Sn**	**10 11 32.7**	**+0.7**
DBOC	**Borcka**	**1.86**	**229**	*i*P	**Pn**	**10 11 07.4**	**-0.7**
DBOC				*i*S	**Sn**	**10 11 32.7**	**+0.7**
DAGI	**Agillar**	**1.93**	**219**	*i*P	**Pn**	**10 11 09.2**	**+0.1**
DAGI				*i*S	**Sn**	**10 11 34.6**	**+0.8**
DBAD	**Bademkaya**	**2.08**	**222**	*i*P	**Pn**	**10 11 11.7**	**+0.6**
DBAD				*i*S	**Sb**	**10 11 39.7**	**-0.3**
DBAD	**Bademkaya**	**2.08**	**222**	*i*P	**Pn**	**10 11 11.7**	**+0.6**
DBAD				*i*S	**Sb**	**10 11 39.7**	**-0.3**
DDEM	**Demirkent**	**2.15**	**219**	*i*P	**Pn**	**10 11 13.0**	**+0.9**
DDEM				*i*S	**Sb**	**10 11 43.1**	**+1.1**
DDEM	**Demirkent**	**2.15**	**219**	*i*P	**Pn**	**10 11 13.0**	**+0.9**
DDEM				*i*S	**Sb**	**10 11 43.1**	**+1.1**
DIGO	**Kars**	**2.17**	**183**	*i*P	**Pn**	**10 11 14.2**	**+1.7**
DIGO				*i*S	**Sb**	**10 11 44.2**	**+1.5**
DIGO	**Kars**	**2.17**	**183**	*i*P	**Pn**	**10 11 14.2**	**+1.7**
DIGO				*i*S	**Sb**	**10 11 44.2**	**+1.5**
GNI	**Garni**	**2.60**	**159**	*e*Pn	**Pb**	**10 11 22.2**	**-0.4**
SOC	**Sochi**	**2.96**	**291**	*e*PN	**Pn**	**10 11 24.9**	**+1.7**
SOC				*e*		10 11 29.8	
SOC				*e*		10 12 04.0	
SOC				pmax	pmax		
comp=Z,12nm,0.6s							
SOC				smax	smax		
comp=N,72nm,0.5s							
SOC				smax	smax		
comp=E,122nm,0.4s							
SOC	**Sochi**	**2.96**	**291**	*e*Pn	**Pn**	**10 11 24.9**	**+1.7**
comp=E,12nm,0.6s							
SOC	**Sochi**	**2.96**	**291**	*e*Pb	**Pb**	**10 11 29.8**	**+1.1**
comp=E,72nm,0.5s							
SOC				*e*Sb	**Sb**	**10 12 04.0**	**-1.3**
MACK	**Trabzon**	**3.25**	**241**	*i*P	**Pn**	**10 11 26.3**	**-0.9**
MACK				*i*S	**Sn**	**10 12 03.9**	**-2.6**
MACK	**Trabzon**	**3.25**	**241**	*i*P	**Pn**	**10 11 26.3**	**-0.9**
MACK				*i*S	**Sn**	**10 12 03.9**	**-2.6**
SUSE	**Susehri**	**4.65**	**241**	*i*P	**Pn**	**10 11 46.8**	**+0.2**
SUSE				*i*S	**Sn**	**10 12 42.3**	**+1.1**
SUSE	**Susehri**	**4.65**	**241**	*i*P	**Pn**	**10 11 46.8**	**+0.2**
SUSE				*i*S	**Sn**	**10 12 42.3**	**+1.1**
ANN	**Anapa**	**4.94**	**299**	*e*PN	**Pn**	**10 11 51.6**	**+1.2**
ANN				*e*S	**Sn**	**10 12 50.4**	**+2.4**
ANN				pmax	pmax		
comp=Z,24nm,0.4s							
ANN	**Anapa**	**4.94**	**299**	*e*Pn	**Pn**	**10 11 51.6**	**+1.2**
comp=Z,24nm,0.4s							
ANN				*e*Sn	**Sn**	**10 12 50.4**	**+2.4**
BRTR	**Keskin Array B**	**7.99**	**252**	Pn	**Pn**	**10 12 32.4**	**0.0**
comp=Z,0.4nm,0.3s,baz=39,slow=10,SNR=7.8							
BRTR	**Keskin Array B**	**7.99**	**252**	P	**Pn**	**10 12 32.4**	**0.0**
AKTK	**Aktyubinsk**	**12.68**	**47**	P	**Pn**	**10 13 34.4**	**-2.1**
comp=Z,1.0nm,0.3s							
AKTO	**Aktyubinsk**	**12.68**	**47**	⇓Pn	**Pn**	**10 13 34.4**	**-2.1**
comp=Z,3.8nm,0.8s							
AKTO				⇓Sn	Sn	10 15 49.6	-8.5
comp=Z,2.6nm,0.7s							
AKTO	**Aktyubinsk**	**12.68**	**47**	P	**Pn**	**10 13 34.4**	**-2.1**
AKTO				pmax	pmax		
comp=Z,1.0nm,0.3s							
AKTO	**Aktyubinsk**	**12.68**	**47**	Pn	**Pn**	**10 13 34.4**	**-2.1**
comp=Z,0.5nm,0.3s,baz=249,slow=10,SNR=7.9							
AKTO	**Aktyubinsk**	**12.68**	**47**	Pn	**Pn**	**10 13 34.4**	**-2.1**
comp=Z,3.8nm,0.8s							
AKTO				Sn	Sn	10 15 49.6	-8.5
comp=Z,2.6nm,0.7s							
AB31	**Akbulak array**	**13.22**	**54**	Pn	**Pn**	**10 13 41.7**	**-2.1**
comp=Z,2.9nm,0.6s,baz=243,slow=11,SNR=40							
AB31				⇓Sn	Sn	10 16 01.8	-9.4
comp=Z,2.3nm,0.8s,baz=244,slow=19,SNR=4.8							
AB31	**Akbulak array**	**13.22**	**54**	Pn	**Pn**	**10 13 41.7**	**-2.1**
comp=Z,2.9nm,0.6s,SNR=40							
ARU	**Arti**	**16.89**	**30**	*e*P	**P**	**10 14 35.6**	**+1.0**
ARU				pmax	pmax		
comp=Z,4.0nm,1.3s							
ARU	**Arti**	**16.89**	**30**	*e*P	**P**	**10 14 35.6**	**+1.0**
comp=Z,4.0nm,1.3s							
BVAR	**Borovoye Array**	**20.73**	**50**	P	**P**	**10 15 17.1**	**+0.4**
BVAR	**Borovoye Array**	**20.73**	**50**	P	**P**	**10 15 17.1**	**+0.4**
comp=Z,1.8nm,0.7s,baz=232,slow=7.3,SNR=6.5							
BVAR	**Borovoye Array**	**20.73**	**50**	P	**P**	**10 15 17.1**	**+0.4**
VOSK	**Vostochnaya**	**20.97**	**52**	⇓P	**P**	**10 15 18.4**	**-0.9**
comp=Z,4.3nm,0.8s							
FINES	**FINESS Array B**	**21.59**	**337**	P	**P**	**10 15 24.9**	**-1.0**
comp=Z,3.4nm,0.8s,baz=151,slow=18,SNR=3.8							
FINES	**FINESS Array B**	**21.59**	**337**	P	**P**	**10 15 24.9**	**-1.0**
comp=Z,3.0nm,0.8s							
GERES	**GERESS Array B**	**21.66**	**297**	P	**P**	**10 15 27.2**	**+0.3**
comp=Z,0.8nm,0.7s,baz=113,slow=10,SNR=4.3							
GERES	**GERESS Array B**	**21.66**	**297**	P	**P**	**10 15 27.2**	**+0.3**
AAK	**Ala-Archa**	**22.73**	**79**	*e*P	**P**	**10 15 41.3**	**+2.8**
AAK				pmax	pmax		
comp=Z,4.0nm,1.0s							
AAK	**Ala-Archa**	**22.73**	**79**	P	**P**	**10 15 41.7**	**+3.2**
comp=Z,0.9nm,0.3s,baz=219,slow=8.1,SNR=3.4							
KURBB	**Kurchatov Arra**	**25.17**	**59**	P	**P**	**10 16 01.6**	**0.0**
comp=Z,0.3nm,0.6s,baz=268,slow=11,SNR=7.4							
KURK	**Kurchatov**	**25.23**	**59**	P	**P**	**10 16 01.6**	**-0.6**
KURK	**Kurchatov**	**25.23**	**59**	P	**P**	**10 16 01.6**	**-0.6**
HFS	**Hagfors**	**25.27**	**324**	P	**P**	**10 16 02.3**	**-0.1**
comp=Z,2.9nm,0.9s,baz=133,slow=15,SNR=2.7							
HFS	**Hagfors**	**25.27**	**324**	P	**P**	**10 16 02.3**	**-0.1**
comp=Z,3.0nm,0.9s							
MKAR	**Makanchi Array**	**27.68**	**68**	P	**P**	**10 16 24.1**	**-0.3**
MKAR				pmax	pmax		
comp=Z,2.0nm,0.6s							
MKAR	**Makanchi Array**	**27.68**	**68**	P	**P**	**10 16 24.1**	**-0.3**
comp=Z,1.9nm,0.6s,baz=243,slow=6.3,SNR=10							
MKAR	**Makanchi Array**	**27.68**	**68**	P	**P**	**10 16 24.1**	**-0.3**
comp=Z,2.0nm,0.6s							
ZALV	**Zalesovo Beam**	**29.33**	**53**	P	**P**	**10 16 40.5**	**+1.6**
ZALV	**Zalesovo Beam**	**29.33**	**53**	P	**P**	**10 16 40.5**	**+1.6**
comp=Z,0.4nm,0.4s,baz=272,slow=13,SNR=2.9							
ZALV	**Zalesovo Beam**	**29.33**	**53**	P	**P**	**10 16 40.5**	**+1.6**

*IDC **08** 10:15:25.3±0.6, 1°.64S×99°.61E, h0km, mb4.1/17, mb1 4.2/19, mb1mx4.1/29, mbtmp4.1/19, ML3.4/1, MS3.9/1, Ms1 3.8/1, ms1mx2.7/40, Error ellipse: s-maj=21.8km s-min=11.0km az=56.0*
*NEIC **08** 10:15:26.8±0.4, 1°.72S×99°.45E, h10km, mb4.2/2, Error ellipse: s-maj=13.4km s-min=7.3km az=68.0*
*AUST **08** 10:15:26.1±4.0, 1°.81S×99°.43E, h3km, Error ellipse: s-maj=2.2km s-min=1.0km az=243.0*
*ISCJB **08** 10:15:28.0±0.4, 1°.60S±0°.05×99°.53E±0°.06, h30km, mb4.1/18, MS3.9/1, Error ellipse: s-maj=9.2km s-min=4.9km az=145.2*

ISC 08 10:15:30.0±0.5, 1°.62S±0°.06×99°.52E±0°.07, h30km, n63, σ0s92/63, mb4.2/18, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	**Padang Panjang**	**1.45**	**37**	P	**Pn**	**10 15 54.0**	**-0.3**
baz=1.7,SNR=86							
BKNI	**Bangkinang**	**2.46**	**38**	P	**Pb**	**10 16 13.5**	**0.0**
baz=2.7,SNR=5.5							
MNAI	**Manna**	**4.38**	**129**	P	**Pn**	**10 16 35.3**	**+0.7**
baz=4.3,SNR=8.6							
MNAI				S	**Sn**	**10 17 24.9**	**+0.2**
baz=4.3,SNR=4.8							
PSI	**Prapat**	**4.43**	**352**	Pn	**Pn**	**10 16 33.9**	**-1.5**
PSI	**Prapat**	**4.43**	**352**	Pn	**Pn**	**10 16 33.9**	**-1.5**
2.2nm,0.3s,baz=120,slow=8.9,SNR=6.1							
PSI	**Prapat**	**4.43**	**352**	P	**Pn**	**10 16 36.2**	**+0.9**
baz=4.5,SNR=3.5							
PMBI	**Palembang**	**5.41**	**104**	S	**Sn**	**10 17 51.7**	**+1.7**
baz=5.5,SNR=3.9							
IPM	**Ipoh**	**6.24**	**14**	*e*Pn	**Pn**	**10 17 03.0**	**+2.9**
16nm,0.4s							
IPM				*e*Sn	**Sn**	**10 18 09.7**	**-0.9**
KULM	**Kulim**	**6.95**	**9**	*e*Pn	**Pn**	**10 17 11.7**	**+1.7**
13nm,0.6s							
UGM	**Wanagama**	**12.62**	**120**	P	**Pn**	**10 18 26.5**	**-1.2**
baz=13,SNR=3.2							
CMAR	**Chiang Mai Arr**	**19.96**	**358**	P	**P**	**10 20 00.6**	**+0.7**
CMAR	**Chiang Mai Arr**	**19.96**	**358**	P	**P**	**10 20 00.6**	**+0.7**
0.2nm,0.3s,baz=189,slow=10,SNR=9.4							
KAPI	**Kappang**	**20.48**	**100**	P	**P**	**10 20 05.0**	**-0.6**
KAPI	**Kappang**	**20.48**	**100**	P	**P**	**10 20 05.0**	**-0.6**
5.0nm,0.4s,baz=275,slow=11,SNR=6.1							
SOEI	**Soe**	**25.90**	**109**	S	S	10 25 45.9	+17
baz=26,SNR=3.1							
FITZ	**Fitzroy Crossi**	**30.43**	**124**	P	**P**	**10 21 38.2**	**-1.9**
FITZ	**Fitzroy Crossi**	**30.43**	**124**	P	**P**	**10 21 38.2**	**-1.9**
2.6nm,0.7s,baz=307,slow=5.2,SNR=7.4							
FITZ	**Fitzroy Crossi**	**30.43**	**124**	P	**P**	**10 21 39.6**	**-0.4**
baz=30,SNR=4.7							
KNRA	**Kununurra**	**32.04**	**117**	P	**P**	**10 21 52.7**	**-1.6**
baz=32,SNR=3.6							
FAKI	**Fak Fak**	**32.73**	**93**	S	S	10 26 55.5	-20
baz=33,SNR=4.5							
MTN	**Manton Dam**	**33.24**	**111**	P	P	10 21 59.4	-5.4
baz=33,SNR=5.4							
WRA	**Warramunga

JAM	Amami Oshima	4.09	31	P	Pn	10 28 19.5	+0.3
JAM				eS	Sn	10 29 04.0	-2.3
JNU	Nakatsue	8.79	20	Pn	Pn	10 29 24.8	+1.0
1.2nm,0.3s,baz=207,slow=9.0,SNR=16							
SONM	Songino Array	28.20	330	P	P	10 33 08.5	-0.6
0.7nm,0.8s,baz=139,slow=9.6,SNR=3.0							
MKAR	Makanchi Array	41.76	313	P	P	10 35 05.2	-0.3
0.3nm,0.3s,baz=95,slow=9.8,SNR=8.8							
WRA	Warramunga Arr	45.11	171	P	P	10 35 34.3	+1.5
0.7nm,0.7s,baz=354,slow=8.6,SNR=5.6							
KURBB	Kurchatov Arra	45.20	318	P	P	10 35 31.9	-1.2
0.2nm,0.3s,baz=109,slow=9.5,SNR=3.8							
ASAR	Alice Springs	48.72	172	P	P	10 36 03.2	+2.3
0.3nm,0.8s,baz=356,slow=8.4,SNR=4.3							

MAN 08 10:27:24,10.39N×125.14E,h1km,mb4.3,ML3.1,MS2.9, 2C-1D,Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	Maasin	0.38	227	eP	Pb	10 27 32.6	-0.9
MSLP				eS	Sg	10 27 36.3	+0.2
SCPH	Surigao	0.69	150⇑	eP	Pg	10 27 37.7	+0.3
PLP	Palo	0.79	348⇑	eP	Pb	10 27 40.1	-0.4
PLP				eS	Sb	10 27 51.1	-0.6
OCLP	Ormoc	0.84	322	eP	Pg	10 27 36.0	-4.2
LLP	Lapu-Lapu	1.16	267⇓	eP	Pg	10 27 46.0	-0.2
LLP				eS	Sn	10 28 04.2	+0.4
BUKP	Musuan	2.50	182	eP	Pn	10 28 07.3	+1.4

*IDC **08** 10:37:18.9±1.7,0.34N×127.83E,h0km,mb3.8/4, mb1 3.9/5,mb1mx3.6/22,mbtmp3.7/5,ML3.7/1,Error ellipse: s-maj=95.6km s-min=23.9km az=68.0*
*ISCJB **08** 10:37:21.8±1.1,0.3N±0.1×127.7E±0.2,h33km,mb3.9/6, Error ellipse: s-maj=23.7km s-min=15.3km az=150.6*
*NEIC **08** 10:37:24.0±0.8,0.34N×127.82E,h35km,mb4.3/1,Error ellipse: s-maj=20.7km s-min=12.0km az=63.0*

ISC 08 10:37:24.0±1.4,0.3N±0.2×127.8E±0.2,h35km,n15, σ0.80/14,mb3.8/6,2C,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	Kappang	9.63	237	ePn	Pn	10 39 40.6	+0.4
FITZ	Fitzroy Crossi	18.42	187	P	P	10 41 36.6	+0.3
FITZ	Fitzroy Crossi	18.42	187	P	P	10 41 36.6	+0.3
0.2nm,0.3s,baz=4.2,slow=10,SNR=9.9							
WRAB	Tennant Creek	21.11	163	eP	P	10 42 07.5	+1.8
3.6nm,0.3s							
WRA	Warramunga Arr	21.12	163	P	P	10 42 06.8	+1.0
WRA	Warramunga Arr	21.12	163	P	P	10 42 06.8	+1.0
2.0nm,0.5s,baz=342,slow=10,SNR=42							
AS31	Alice Springs	24.55	166	eP	P	10 42 40.2	-0.5
ASAR	Alice Springs	24.56	166	P	P	10 42 40.1	-0.6
ASAR	Alice Springs	24.56	166	P	P	10 42 40.1	-0.6
1.1nm,0.6s,baz=342,slow=7.7,SNR=33							
STKA	Stephens Creek	34.57	159	eP	P	10 44 09.4	-0.1
STKA	Stephens Creek	34.57	159	P	P	10 44 09.0	-0.4
1.5nm,0.5s,baz=341,slow=9.1,SNR=7.4							
MK31	Makanchi Array	60.97	326	⇑Pn	P	10 47 38.1	+4.3
0.5nm,0.6s,baz=168,slow=16,SNR=7.3							
MK31				⇑Lg	Lg	10 48 38.6	
0.6nm,0.5s,baz=169,slow=27,SNR=2.5							
MK31	Makanchi Array	60.97	326	P	P	10 47 33.3	-0.5
MKAR	Makanchi Array	60.97	326	P	P	10 47 34.1	+0.4
MKAR	Makanchi Array	60.97	326	P	P	10 47 34.1	+0.4
0.2nm,0.3s,baz=118,slow=8.4,SNR=5.3							

IDC 08 10:41:53.9±3.2,24.65N×141.86E,h78km±31km,mb3.1/4, mb1 3.4/5,mb1mx3.1/24,mbtmp3.2/5,Error ellipse: s-maj=46.6km s-min=20.3km az=96.0,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	2.45	7	P	Pn	10 42 31.9	+0.1
15nm,0.3s,baz=233,slow=20,SNR=3.6							
CBIJ				S	Sn	10 43 07.3	+6.4
89nm,0.3s,baz=285,slow=23,SNR=8.1							
WRA	Warramunga Arr	44.92	190	P	P	10 50 00.5	-0.6
0.2nm,0.3s,baz=7.7,slow=8.5,SNR=9.5							
WRA				pP	pP	10 50 17.6	-2.6
0.7nm,0.5s,baz=8.1,slow=8.6,SNR=4.4							
ASAR	Alice Springs	48.65	190	P	P	10 50 30.4	+0.3
0.2nm,0.7s,baz=18,slow=13,SNR=3.3							
ASAR				pP	pP	10 50 46.9	-2.6
0.1nm,0.4s,baz=19,slow=12,SNR=2.0							
KURBB	Kurchatov Arra	54.56	316	P	P	10 51 14.0	+0.1
0.2nm,0.5s,baz=92,slow=8.4,SNR=3.8							
ILAR	Eielson Array	59.99	28	P	P	10 51 51.7	-0.2
0.9nm,0.8s,baz=266,slow=6.1,SNR=10.0							

*CSEM **08** 10:43:20.8±0.3,41.46N×20.45E,h10km,ML2.1/7,Error ellipse: s-maj=7.6km s-min=5.0km az=16.0*
*PDG **08** 10:43:20.9±0.2,41.51N×20.40E,h4km±1km,ML2.7/9, Error ellipse: s-maj=0.4km s-min=0.5km az=0.0*
*SKO **08** 10:43:20.3,41.46N×20.46E,h15km,M2.2,ML2.2*
*BEO **08** 10:43:21.2±0.4,41.48N×20.47E,h9km±3km,ML2.3/1*

ISC 08 10:43:20.5±1.1,41.45N±0.03×20.45E±0.02,h7km±10km, n48,σ0.92/80,6C-11D,Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	Tirane	0.45	257	ePg	Pg	10 43 29.7	+0.4
TIR	Tirane	0.45	257	P	Pg	10 43 29.7	+0.4
TIR				S	Sb	10 43 38.6	+0.9
BIA	Bitola	0.79	123	iPg	Pg	10 43 35.9	+0.2
BIA				eSg	Sg	10 43 46.7	+0.8
BIA	Bitola	0.79	123	iPg	Pg	10 43 35.3	-0.4
BIA				eSg	Sg	10 43 46.2	+0.3
SKO	Skopje	0.91	55	ePg	Pg	10 43 37.8	-0.1
SKO				eSg	Sb	10 43 49.9	-0.9
SKO	Skopje	0.91	55	ePg	Pg	10 43 38.0	+0.1
SKO				iSg	Sb	10 43 50.9	+0.1
SKO				eLg	Lg	10 43 51.5	
comp=N,409nm,0.4s							
SKO				eLg	Lg	10 43 51.8	
comp=Z,130nm,0.3s							
SKO	Skopje	0.91	55	ePg	Pg	10 43 37.8	-0.1
SKO				eSg	Sb	10 43 49.9	-0.9
SKO				eLg	Lg	10 43 50.7	
comp=Z,130nm,0.3s							
ZATK	Zatriq	1.00	7	P	Pb	10 43 40.4	+0.1
ULC	Ulcinj	1.04	300⇓	iPg	Pg	10 43 38.5	-1.9
ULC				eSg	Sg	10 43 54.1	+0.2
ULC	Ulcinj	1.04	300⇓	iPg	Pg	10 43 38.5	-1.9
ULC				eSg	Sg	10 43 54.1	+0.2
PEJK	Peje	1.20	354	P	Pg	10 43 43.8	+0.3
PEJK				S	Sn	10 44 01.6	+1.4
DRME	Dracevica, Mon	1.20	308⇓	iPg	Pb	10 43 41.8	-1.7
DRME				eSg	Sn	10 44 00.0	-0.1
DRME	Dracevica, Mon	1.20	308⇓	iPg	Pb	10 43 41.8	-1.7
DRME				eSg	Sn	10 44 00.0	-0.1
PDG	Podgorica	1.32	318	ePg	Pn	10 43 44.0	-1.3
PDG				eSg	Sg	10 44 03.6	+0.6
PDG	Podgorica	1.32	318	ePg	Pn	10 43 44.0	-1.3
PDG				eSg	Sg	10 44 03.6	+0.6
TTG	Podgorica	1.32	318	⇓iPg	Pn	10 43 43.4	-1.9
TTG				eSg	Sg	10 44 04.1	+1.1
BUM	Brajici-Budva	1.44	307	⇑iPg	Pn	10 43 45.9	-1.1
BUM				eSg	Sg	10 44 08.0	+1.2
BUM	Brajici-Budva	1.44	307	⇑iPg	Pn	10 43 45.9	-1.1
BUM				eSg	Sg	10 44 08.0	+1.2
SMRK	Smrekonice	1.47	14	P	Pg	10 43 48.2	-0.4
BEY	Berane	1.48	344	⇑iPg	Pn	10 43 47.2	-0.4
BEY				eSg	Sg	10 44 09.1	+1.1
IVA	Berane	1.48	344	⇑iPg	Pn	10 43 47.2	-0.4
IVA				eSg	Sg	10 44 09.1	+1.1
VAY	Valandovo	1.60	94	ePn	Pn	10 43 48.9	-0.3
VAY				eSg	Sb	10 44 11.2	+0.4
VAY	Valandovo	1.60	94	ePn	Pn	10 43 49.6	+0.4
VAY				iSg	Sg	10 44 11.7	-0.2
VAY				eLg	Lg	10 44 13.1	
comp=N,34nm,0.8s							
VAY				eLg	Lg	10 44 13.2	
comp=E,25nm,0.5s							
VAY	Valandovo	1.60	94	ePn	Pn	10 43 48.9	-0.3
VAY				eSg	Sb	10 44 11.2	+0.4
VAY				eLg	Lg	10 44 12.6	
comp=E,25nm,0.5s							

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARS	Barje	1.70	36	ePn	Pn	10 43 50.4	-0.2
BARS	Barje	1.70	36	ePn	Pn	10 43 50.4	-0.2
NKME	Niksic	1.72	320	ePn	Pn	10 43 51.2	+0.3
NKME				eSn	Sg	10 44 17.5	+1.6
NKME	Niksic	1.72	320	ePn	Pn	10 43 51.2	+0.3
NKME				eSn	Sg	10 44 17.5	+1.6
HCY	Herceg Novi	1.77	305	⇓iPn	Pn	10 43 51.9	+0.4
HCY				eSn	Sg	10 44 18.1	+0.9
HCY	Herceg Novi	1.77	305	⇓iPn	Pn	10 43 51.9	+0.4
HCY				eSn	Sg	10 44 18.1	+0.9
SELS	Selova	1.83	15	ePn	Pn	10 43 51.5	-0.9
SJES	Sjenica	1.84	349	ePn	Pn	10 43 52.5	-0.1
SJES				eSg	Sb	10 44 18.1	+0.3
TREB	Trebinje	2.01	310	ePn	Pn	10 43 55.6	+0.8
TREB	Trebinje	2.01	310	ePn	Pn	10 43 55.6	+0.8
BRY	Bratogost	2.03	316	⇓iPn	Pn	10 43 56.2	+1.0
BRY				eSn	Sb	10 44 24.2	+1.0
BRY	Bratogost	2.03	316	⇓iPn	Pn	10 43 56.2	+1.0
BRY				eSn	Sb	10 44 24.2	+1.0
PLE	Pljevlja	2.03	338	⇓iPn	Pb	10 43 56.8	-1.0
PLE				eSn	Sg	10 44 24.8	-1.1
PLE	Pljevlja	2.03	338	⇓iPn	Pb	10 43 56.8	-1.0
PLE				eSn	Sg	10 44 24.8	-1.1
UPM	Unac-Piva	2.09	327	⇑iPn	Pn	10 43 57.3	+1.2
UPM				eSn	Sb	10 44 26.1	+1.0
UPM	Unac-Piva	2.09	327	⇑iPn	Pn	10 43 57.3	+1.2
UPM				eSn	Sb	10 44 26.1	+1.0
ZAPS	Zavoj	2.44	41	ePn	Pn	10 44 01.4	+0.7
ZAPS	Zavoj	2.44	41	ePn	Pn	10 44 01.4	+0.7
GRUS	Gruza	2.44	5	ePn	Pn	10 44 01.0	+0.2
GRUS	Gruza	2.44	5	ePn	Pn	10 44 01.0	+0.2
BBLS	Lazići	2.53	343	ePn	Pn	10 44 03.4	+1.3
BBLS	Lazići	2.53	343	ePn	Pn	10 44 03.4	+1.3
DIVS	Divibare	2.67	353	ePn	Pn	10 44 03.8	-0.1
DIVS	Divibare	2.67	353	ePn	Pn	10 44 03.8	-0.1

IDC 08 10:56:47.3±1.9,4.62S×145.93E,h0km,mb3.3/4, mb1 3.5/5,mb1mx3.4/17,mbtmp3.3/5,Error ellipse: s-maj=73.1km s-min=24.2km az=116.0,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.96	216	P	P	11 01 10.0	-0.3
0.1nm,0.3s,baz=40,slow=12,SNR=34							
ASAR	Alice Springs	22.21	210	P	P	11 01 45.9	+0.3
0.2nm,0.4s,baz=38,slow=8.2,SNR=5.6							
FITZ	Fitzroy Crossi	23.94	234	P	P	11 02 03.1	-0.2
1.7nm,0.5s,baz=57,slow=8.9,SNR=8.8							
MKAR	Makanchi Array	75.75	321	P	P	11 08 35.3	+0.2
0.6nm,1.1s,baz=114,slow=7.0,SNR=2.2							
ILAR	Eielson Array	84.64	23	P	P	11 09 22.4	-0.1
0.3nm,0.7s,baz=238,slow=6.3,SNR=3.9							

BUC 08 10:59:15.9±0.2,45.99N×22.80E,h6km±2km,MD2.5/2,18C, Error ellipse: s-maj=2.1km s-min=1.7km az=85.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEV	Deva	0.13	145	⇑iP	Pg	10 59 18.7	+0.1
DEV				S	Sg	10 59 21.6	+1.2
DEV	Deva	0.13	145	⇑iP	Pg	10 59 18.7	+0.1
DEV				iS	Sg	10 59 21.6	+1.2
GZR	Gura Zlata	0.60	181	⇑iP	Pg	10 59 28.1	+0.6
GZR	Gura Zlata	0.60	181	⇑iP	Pg	10 59 28.1	+0.6
GZR				iS	Sb	10 59 37.6	0.0
DRGR		0.81	356	⇑iP	Pb	10 59 32.4	0.0
DRGR		0.81	356	⇑iP	Pb	10 59 32.4	0.0
SIRR	Siria	0.84	290	S	Sb	10 59 45.0	+0.5
SIRR	Siria	0.84	290	iS	Sb	10 59 45.0	+0.5
BZS	Buzias	0.91	246	⇑iP	Pb	10 59 34.2	+0.2
BZS	Buzias	0.91	246	⇑iP	Pb	10 59 34.2	+0.2
CJR	Cluj-Napoca	0.91	37	⇑iP	Pb	10 59 34.3	0.0
CJR	Cluj-Napoca	0.91	37	⇑iP	Pb	10 59 34.3	0.0
CJR				iS	Sb	10 59 47.5	+0.8
VOIR		1.67	108	⇑iP	Pn	10 59 46.0	+0.2
VOIR		1.67	108	⇑iP	Pn	10 59 46.0	+0.2
VOIR				iS	Sb	11 00 08.6	+0.2
DOPR	Dopca	1.81	90	⇑iP	Pb	10 59 48.7	-0.8
DOPR	Dopca	1.81	90	⇑iP	Pb	10 59 48.7	-0.8
DOPR				iS	Sb	11 00 12.6	+0.2
MLR	Muntele Rosu	2.26	102	⇑iP	Pn	10 59 55.1	+1.1
MLR	Muntele Rosu	2.26	102	⇑iP	Pn	10 59 55.1	+1.1
BURAR	Bucovina Array	2.33	45	⇑iP	Pn	10 59 56.0	+1.1
BURAR	Bucovina Array	2.33	45	⇑iP	Pn	10 59 56.0	+1.1

MEX 08 10:59:33.3±0.7,15.58N×96.47W,h29km±14km,MD3.7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	0.39	62	eP	Pb	10 59 40.0	-2.0
HUIG				iS	Sb	10 59 46.6	-1.2
PNIG	Pinotepa	1.79	297	iP	Pn	11 00 00.7	-1.6
PNIG				iS	Sn	11 00 21.0	-3.1
CMIG	Matias Romero	2.13	45	eP	Pn	11 00 04.9	-2.1
CMIG				iS	Sn	11 00 29.1	-3.5
PCIG		3.13	87	iP	Pn	11 00 19.4	-1.3
PCIG				iS	Sn	11 00 54.0	-3.2

IDC 08 11:42:38.2±2.1,17.23S×179.02W,h482km±26km, mb3.1/7,mb1 3.5/9,mb1mx3.2/20,mbtmp3.2/9,Error ellipse: s-maj=74.5km s-min=13.6km az=151.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.72	66	P	P	11 44 30.7	-0.7
1.6nm,0.3s,baz=194,slow=12,SNR=3.7							
DZM	Mont Dzumac	14.52	248	P	P	11 45 44.1	+0.3
0.3nm,0.3s,baz=61,slow=19,SNR=3.7							
STKA	Stephens Creek	38.45	240	P	P	11 49 18.1	+0.3
3.6nm,0.8s,baz=86,slow=11,SNR=5.7							
WRA	Warramunga Arr	44.19	259	P	P	11 50 03.2	-0.4
0.3nm,0.5s,baz=81,slow=6.9,SNR=6.2							
WRA				PcP	PcP	11 51 37.1	-1.2
0.3nm,0.5s,baz=95,slow=3.3,SNR=2.8							
ASAR	Alice Springs	44.42	254	P	P	11 50 05.8	+0.3
3.8nm,0.5s,baz=88,slow=8.2,SNR=103							
ASAR				PcP	PcP	11 51 37.8	-1.3
0.4nm,0.4s,baz=103,slow=4.0,SNR=7.9							
NVAR	Mina Array Bea	79.34	44	P	P	11 53 54.1	+0.5
0.9nm,0.7s,baz=226,slow=8.6,SNR=6.9							
ILAR	Eielson Array	85.36	13	P	P	11 54 22.8	-0.5
0.5nm,0.3s,baz=225,slow=5.2,SNR=21							
TXAR	Lajitas Array	86.12	58	P	P	11 54 28.3	+0.4
0.6nm,0.7s,baz=210,slow=6.5,SNR=8.9							
PDAR	Pinedale Array	87.26	44	P	P	11 54 33.0	-0.1
0.6nm,0.6s,baz=224,slow=3.5,SNR=7.1							
BRTR	Keskin Array B	143.89	315	PKP	PKPdf	12 01 18.1	-0.4
1.0nm,0.7s,baz=36,slow=3.1,SNR=3.8							
GERES	GERESS Array B	146.81	345	PKPbc	PKPbc	12 01 25.6	-0.1
1.2nm,0.6s,baz=57,slow=3.6,SNR=5.8							

*NEIC **08** 11:57:20.4±2.0,6.47S×130.16E,h94km±19km,mb4.7/3, Error ellipse: s-maj=14.8km s-min=11.3km az=80.0*
*IDC **08** 11:57:22.9±4.1,6.40S×130.26E,h115km±38km,mb3.8/12, mb1 4.0/14,mb1mx3.9/21,mbtmp3.9/14,Error ellipse: s-maj=23.6km s-min=12.3km az=73.0*
*AUST **08** 11:57:22.8±0.0,6.55S×130.35E,h108km,Error ellipse: s-maj=0.9km s-min=0.7km az=270.0*
*ISCJB **08** 11:57:23.1±0.3,6.53S±0.03×130.35E±0.04,h146km, mb4.1/14,Error ellipse: s-maj=6.2km s-min=3.5km az=167.5*
*DJA **08** 11:57:26.1±0.4,6.S±3.×13.0E±.,h108km±7km,M4.9/12, mb5.0/5,mB5.3/5,MLv4.9/12,Mw(mB)4.7/5*

ISC 08 11:57:24.9±0.4,6.55S±0.04×130.42E±0.05,h146km,n79, σ1.74/77,mb4.0/14,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	1.67	149	P	Pn	11 57 57.6	+1.6
SAUI				S	Sn	11 58 18.8	-1.1
BNDI	Bandanaira	2.08	346	P	Pn	11 57 59.3	-1.5
BNDI				S	Sn	11 58 25.2	-3.1
BNDI	Bandanaira	2.08	346	P	Pn	11 57 59.1	-1.6
baz=2.1,SNR=15							
AAI	Ambon	3.60	322	P	Pn	11 58 18.5	-1.5
AAI	Ambon	3.60	322	P	Pn	11 58 18.4	-1.6
baz=3.6,SNR=4.7							
FAKI	Fak Fak	4.04	27	P	Pn	11 58 23.3	-2.4
FAKI	Fak Fak	4.04	27	P	Pn	11 58 23.1	-2.5
baz=4.1,SNR=128							
FAKI				S	Sn	11 59 06.6	-6.3
baz=4.1,SNR=24							
KMPI	Kaimana, Papua	4.35	49	P	Pn	11 58 29.3	-0.4
NLAI	Namlea	4.66	315	P	Pn	11 58 33.5	-0.4
SWI	Sorong	5.71	8	P	Pn	11 58 44.3	-3.5
SWI	Sorong	5.71	8	P	Pn	11 58 44.5	-3.2
baz=5.8,SNR=20							
SWI				S	Sn	11 59 40.8	-12
baz=5.8,SNR=15							
RKPI	Ransiki, Papua	6.25	37	P	Pn	11 58 54.6	-0.4
92nm,0.6s,16μm3.3nm							
MTN	Manton Dam	6.29	174	P	Pn	11 58 55.4	-0.2
baz=6.3,SNR=31							
MTN				S	Sn	12 00 05.8	-0.7
baz=6.3,SNR=10.0							
KDU	Kakadu	6.43	162	P	Pn	11 58 56.8	-0.5
baz=6.5,SNR=506							
KDU				S	Sn	12 00 06.7	-2.9
baz=6.5,SNR=9.5							
LBMI	Labuha	6.55	334	P	Pn	11 58 57.4	-1.7
126nm,1.0s,2μm0.5nm							
SOEI	Soe	6.87	242	P	Pn	11 59 05.1	+1.7
59nm,1.0s,2μm0.6nm							
SOEI	Soe	6.87	242	P	Pn	11 59 02.6	-0.8
baz=6.8,SNR=11							
SOEI				S	Sn	12 00 18.5	-2.1
baz=6.8,SNR=7.7							
BAKI	Biak	7.78	47	P	Pn	11 59 16.9	+1.5
KNRA	Kununurra	9.21	190	P	Pn	11 59 32.3	-2.3
baz=9.3,SNR=56							
KNRA				S	Sn	12 01 09.4	-7.4
baz=9.3,SNR=18							
FITZ	Fitzroy Crossi	12.39	202	ePn	Pn	12 00 14.4	-2.0
FITZ				S	Sn	12 02 23.1	-10
FITZ				eSn	Sn	12 02 23.9	-10
FITZ	Fitzroy Crossi	12.39	202	P	Pn	12 00 12.9	-3.6
1.4nm,0.3s,baz=35,slow=11,SNR=32							
FITZ				S	Sn	12 02 23.1	-10
3.3nm,0.3s,baz=313,slow=18,SNR=8.9							
FITZ	Fitzroy Crossi	12.39	202	P	Pn	12 00 14.5	-2.0
baz=12,SNR=11							
WRAB	Tennant Creek	13.84	164	ePn	Pn	12 00 33.0	-2.0
30nm,0.8s							
WRAB				eSn	Sn	12 03 01.1	-7.3
WRA	Warramunga Arr	13.85	164	P	Pn	12 00 32.4	-2.8
WRA				S	Sn	12 03 00.1	-8.5
WRA	Warramunga Arr	13.85	164	P	Pn	12 00 32.4	-2.8
1.2nm,0.3s,baz=353,slow=11,SNR=53							
WRA				S	Sn	12 03 00.1	-8.5
3.8nm,0.3s,baz=344,slow=22,SNR=19							
COEN	Coen	14.54	121	ePn	Pn	12 00 43.8	-0.2
207nm,0.6s							
COEN				eSn	Sn	12 03 19.2	-6.1
COEN	Coen	14.54	121	P	Pn	12 00 43.0	-1.0
baz=15,SNR=10							
COEN				S	Sn	12 03 15.6	-10
baz=15,SNR=6.5							
PMG	Port Moresby	16.82	101	ePn	Pn	12 01 16.1	+4.1
PMG	Port Moresby	16.82	101	P	Pn	12 01 14.3	+2.3
1.2nm,0.3s,baz=268,slow=3.4,SNR=8.1							
AS31	Alice Springs	17.34	169	eP	Pn	12 01 18.5	+0.3
ASAR	Alice Springs	17.35	169	P	Pn	12 01 18.2	0.0
ASAR				S	S	12 04 26.4	-4.4
ASAR	Alice Springs	17.35	169	P	Pn	12 01 18.2	0.0
2.5nm,0.3s,baz=348,slow=10,SNR=157							
ASAR				S	S	12 04 26.4	-4.4
1.3nm,0.3s,baz=357,slow=26,SNR=6.9							
MTSU	Mount Surprise	17.78	132	P	Pn	12 01 25.8	+2.2
baz=18,SNR=27							
KKM	Kota Kinabalu	18.91	311	P	P	12 01 34.4	-0.2
baz=19,SNR=3.2							
CTA	Charters Tower	20.43	133	P	Pn	12 01 54.7	+0.1
CTA	Charters Tower	20.43	133	P	Pn	12 01 54.7	+0.1
14nm,1.0s,baz=319,slow=13,SNR=12							
MEEK	Meekatharra	22.93	208	P	P	12 02 17.2	+0.8
baz=23,SNR=6.7							
STKA	Stephens Creek	27.28	159	P	P	12 02 58.1	+2.4
STKA	Stephens Creek	27.28	159	P	P	12 02 58.1	+2.4
1.6nm,0.6s,baz=323,slow=11,SNR=5.2							
CMSA	Cobar Meteorol	28.67	152	P	P	12 03 11.4	+3.3
baz=29,SNR=8.1							
NWAO	Narrogin (SRO)	28.97	203	P	P	12 03 11.6	+0.8
NWAO	Narrogin (SRO)	28.97	203	P	P	12 03 11.6	+0.8
4.7nm,0.8s,baz=45,slow=8.6,SNR=4.3							
CMAR	Chiang Mai Arr	39.77	309	P	P	12 04 43.5	-0.3
CMAR	Chiang Mai Arr	39.77	309	P	P	12 04 43.5	-0.3
1.7nm,0.5s,baz=136,slow=7.2,SNR=15							
MJAR	Matsushiro Arr	43.48	9	P	P	12 05 11.7	-2.0
MJAR	Matsushiro Arr	43.48	9	P	P	12 05 11.7	-2.0
1.5nm,0.7s,baz=194,slow=10,SNR=4.4							
KSAR	Wonju Array Be	43.83	357	P	P	12 05 16.5	+0.1
KSRS	Korea Array	43.84	357	P	P	12 05 16.5	0.0
0.7nm,0.5s,baz=181,slow=8.6,SNR=3.9							
ODAN	Odare	53.28	310	eP	P	12 06 27.7	-1.6
25nm,0.6s							
TAPN	Taplejung	53.30	311	eP	P	12 06 28.2	-1.3
22nm,0.4s							
JIRN	Jiri	54.61	311	eP	P	12 06 37.6	-1.5
24nm,0.6s							
GUN	Gumba	54.97	311	eP	P	12 06 39.6	-2.1
48nm,0.6s							
KKN	Kakani	55.37	310	eP	P	12 06 42.6	-1.7
13nm,0.5s							
ULN	Ulaanbaatar	57.97	342	eP	P	12 07 02.8	+0.6
4.9nm,0.7s							
SONM	Songino Array	58.15	341	P	P	12 07 03.5	0.0
SONM	Songino Array

0.2nm,0.4s,baz=153,slow=8.4,SNR=4.3
TXAR Lajitas Array 144.26 37 PKP PKPbc 12 36 01.8 +0.6
0.3nm,0.5s,baz=201,slow=0.7,SNR=7.4

IDC 08 12:26:52.3±3.0,31°.85S×177°.38W,h0km,mb3.9/2, mb1 4.1/3,mb1mx3.7/17,mbtmp3.9/3,ML3.2/1,Error ellipse: s-maj=72.9km s-min=36.2km az=119.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.83**	**214**	Pn	Pn	12 28 47.7	+0.3
	0.4nm,0.3s,baz=336,slow=19,SNR=5.1						
URZ				Sn	Sn	12 30 16.2	-0.5
	2.2nm,0.3s,baz=114,slow=19,SNR=8.4						
ASAR	**Alice Springs**	**43.58**	**268**	P	P	12 34 58.1	-0.2
	0.5nm,0.5s,baz=108,slow=7.3,SNR=10						
WRA	**Warramunga Arr**	**44.70**	**273**	P	P	12 35 07.3	0.0
	1.6nm,0.4s,baz=114,slow=7.9,SNR=14						
FINES	**FINESS Array B**	**146.68**	**340**	PKPbc	PKPdf	12 46 34.2	+0.6
	1.6nm,0.7s,baz=47,slow=6.3,SNR=2.8						

AUST 08 12:29:29.6±1.6,6°.09S×128°.64E,h436km,Error ellipse: s-maj=2.2km s-min=1.4km az=9.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**5.66**	**230**	P	P	12 30 55.6	-4.5
	baz=5.7,SNR=18						
MTN	**Manton Dam**	**7.15**	**160**	P	P	12 31 15.3	-0.4
	baz=7.2,SNR=18						
MTN				S	S	12 32 19.8	-23
	baz=7.2,SNR=7.2						
KDU	**Kakadu**	**7.56**	**150**	P	P	12 31 23.2	+2.9
	baz=7.6,SNR=68						
KDU				S	S	12 32 33.0	-18
	baz=7.6,SNR=13						
KNRA	**Kununurra**	**9.53**	**179**	P	P	12 31 42.0	+0.4
	baz=9.6,SNR=86						
KNRA				S	S	12 33 06.4	-24
	baz=9.6,SNR=10						
FITZ	**Fitzroy Crossi**	**12.29**	**194**	P	P	12 32 15.6	+3.7
	baz=12,SNR=23						
MANU	**Manus Island**	**19.10**	**79**	P	P	12 33 25.9	+2.1
	baz=19,SNR=3.9						
MANU				S	S	12 37 00.1	+25
	baz=19,SNR=3.5						

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*IDC **08** 12:33:39.4±1.2,2°.40N×95°.84E,h0km,mb4.1/10, mb1 4.2/12,mb1mx3.9/26,mbtmp4.1/12,ML3.6/2,MS3.4/2, Ms1 3.5/2,ms1mx2.8/44,Error ellipse: s-maj=38.0km s-min=19.8km az=47.0*
*ISCJB **08** 12:33:42.2±0.8,2°.5N±0°.1×95°.98E±0°.06,h25km,mb4.1/13, MS3.8/1,Error ellipse: s-maj=15.3km s-min=8.8km az=5.2*
*NEIC **08** 12:33:48.1±2.9,2°.51N×96°.13E,h62km±22km,mb4.3/3, Error ellipse: s-maj=31.1km s-min=10.4km az=58.0*
ISC 08 12:33:43.8±0.9,2°.4N±0°.1×95°.95E±0°.09,h25km,n33, σ0°.84/35,mb4.2/13,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.99**	**83**	Pn	**Pn**	**12 34 30.7**	**+1.0**
PSI	**Prapat**	**2.99**	**83**	Pn	**Pn**	**12 34 30.7**	**+1.0**
	2.2nm,0.3s,baz=290,slow=6.4,SNR=16						
IPM	**Ipoh**	**5.45**	**68**	*e*Pn	**Pn**	**12 35 04.4**	**+0.8**
	23nm,0.7s						
IPM				*e*Sn	**Sn**	**12 36 04.6**	**-0.9**
KULM	**Kulim**	**5.47**	**59**	*e*Pn	**Pn**	**12 35 04.4**	**+0.5**
	68nm,0.8s						
CMAR	**Chiang Mai Arr**	**16.18**	**10**	Pn	**Pn**	**12 37 30.5**	**+0.8**
CMAR	**Chiang Mai Arr**	**16.18**	**10**	Pn	**Pn**	**12 37 30.5**	**+0.8**
	0.2nm,0.3s,baz=198,slow=11,SNR=19						
CMAR				LR	LR	12 43 39.0	
	comp=Z,81nm,20.6s,baz=200,slow=37						
LSA	**Lhasa**	**27.49**	**351**	*e*P	**P**	**12 39 29.9**	**+1.0**
	4.2nm,0.4s						
WRA	**Warramunga Arr**	**43.75**	**122**	P	**P**	**12 41 48.0**	**+0.4**
WRA	**Warramunga Arr**	**43.75**	**122**	P	**P**	**12 41 48.0**	**+0.4**
	0.5nm,0.8s,baz=299,slow=9.1,SNR=4.4						
ASAR	**Alice Springs**	**45.13**	**127**	P	**P**	**12 41 58.4**	**-0.3**
ASAR	**Alice Springs**	**45.13**	**127**	P	**P**	**12 41 58.4**	**-0.3**
	0.3nm,0.6s,baz=296,slow=7.9,SNR=4.8						
KSAR	**Wonju Array Be**	**45.53**	**36**	P	**P**	**12 41 59.8**	**-1.7**
KSRS	**Korea Array**	**45.56**	**36**	P	**P**	**12 41 59.8**	**-2.0**
	1.5nm,0.8s,baz=240,slow=9.5,SNR=4.6						
MK31	**Makanchi Array**	**45.75**	**347**	*e*P	**P**	**12 42 03.6**	**+0.5**
MKAR	**Makanchi Array**	**45.75**	**347**	P	**P**	**12 42 03.3**	**+0.2**
MKAR	**Makanchi Array**	**45.75**	**347**	P	**P**	**12 42 03.3**	**+0.2**
	4.5nm,0.5s,baz=159,slow=8.7,SNR=30						
SONM	**Songino Array**	**46.11**	**10**	P	**P**	**12 42 05.9**	**-0.2**
SONM				PcP	**PcP**	**12 43 42.0**	**0.0**
SONM	**Songino Array**	**46.11**	**10**	P	**P**	**12 42 05.9**	**-0.2**
	3.2nm,0.6s,baz=189,slow=9.0,SNR=22						
SONM				PcP	**PcP**	**12 43 42.0**	**0.0**
	1.1nm,0.7s,baz=192,slow=3.2,SNR=4.7						
ULN	**Ulaanbaatar**	**46.26**	**10**	*e*P	**P**	**12 42 07.1**	**-0.2**
	2.3nm,1.0s						
ZALV	**Zalesovo Beam**	**52.15**	**352**	P	**P**	**12 42 52.1**	**0.0**
ZALV				ScP	**ScP**	**12 48 00.5**	**+1.3**
ZALV	**Zalesovo Beam**	**52.15**	**352**	P	**P**	**12 42 52.1**	**0.0**
	6.0nm,0.5s,baz=181,slow=7.3,SNR=28						
ZALV				ScP	**ScP**	**12 48 00.5**	**+1.3**
	0.3nm,0.3s,baz=176,slow=5.8,SNR=2.6						
ABKAR	**Akbulak array**	**55.84**	**332**	*e*P	**P**	**12 43 19.4**	**+0.3**
	3.1nm,0.7s						
FINES	**FINESS Array B**	**78.33**	**333**	P	**P**	**12 45 41.2**	**-0.5**
FINES	**FINESS Array B**	**78.33**	**333**	P	**P**	**12 45 41.2**	**-0.5**
	1.6nm,0.7s,baz=57,slow=7.0,SNR=3.4						
ARCES	**ARCESS Array B**	**80.96**	**340**	P	**P**	**12 45 56.6**	**+0.8**
ARCES	**ARCESS Array B**	**80.96**	**340**	P	**P**	**12 45 56.6**	**+0.8**
	4.4nm,1.1s,baz=94,slow=10,SNR=3.4						
GERES	**GERESS Array B**	**83.06**	**319**	P	**P**	**12 46 06.5**	**-1.0**
GERES	**GERESS Array B**	**83.06**	**319**	P	**P**	**12 46 06.5**	**-1.0**
	0.2nm,0.3s,baz=98,slow=7.1,SNR=3.6						
NOA	**NORSAR Array B**	**85.32**	**331**	P	**P**	**12 46 17.7**	**-0.9**
NOA	**NORSAR Array B**	**85.32**	**331**	P	**P**	**12 46 17.7**	**-0.9**
	0.7nm,0.7s,baz=94,slow=7.1,SNR=2.3						
SPITS	**Spitsbergen Ar**	**85.49**	**348**	LR	LR	13 31 19.7	
	comp=Z,37nm,18.6s,baz=280,slow=40						
TXAR	**Lajitas Array**	**143.24**	**29**	PKP	PKPbc	12 53 14.3	+0.6
TXAR	**Lajitas Array**	**143.24**	**29**	PKP	PKPbc	12 53 14.3	+0.6
	0.2nm,0.7s,baz=320,slow=2.4,SNR=2.7						

IDC 08 13:01:24.3±3.9,5°.42S×137°.68E,h0km,mb3.8/1, mb1 3.5/4,mb1mx3.3/16,mbtmp3.4/4,ML3.0/3,Error ellipse: s-maj=51.0km s-min=31.9km az=119.0,Near south coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.80**	**192**	Pn	Pn	13 04 55.1	+0.1
	0.0nm,0.3s,baz=12,slow=4.8						
WRA				Sn	Sn	13 07 42.3	+2.4
	0.1nm,0.3s,baz=18,slow=22,SNR=5.0						
FITZ	**Fitzroy Crossi**	**17.24**	**222**	P	Pn	13 05 27.5	+0.8
	0.0nm,0.3s,baz=30,slow=16,SNR=2.6						
FITZ				S	Sn	13 08 39.1	-0.1
	0.1nm,0.3s,baz=250,slow=5.1,SNR=1.5						
ASAR	**Alice Springs**	**18.50**	**191**	P	Pn	13 05 42.7	+0.4
	0.1nm,0.3s,baz=17,slow=9.7,SNR=23						
ASAR				S	Sn	13 09 11.1	+1.1
	0.0nm,0.3s,baz=9.2,slow=10,SNR=2.4						
STKA	**Stephens Creek**	**26.58**	**173**	P	P	13 07 03.9	-0.4
	1.5nm,1.0s,baz=12,slow=14,SNR=3.2						

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*DJA **08** 13:14:48.1±1.3,2°.N±5°.×9°.6E±°,h21km±4km,M4.0/4, mb4.3/1,MLv3.9/4*
*IDC **08** 13:14:50.3±1.7,3°.09N×96°.27E,h0km,mb3.8/7,mb1 3.8/8, mb1mx3.6/26,mbtmp3.8/8,ML3.0/1,MS3.9/1,Ms1 3.9/1, ms1mx2.7/41,Error ellipse: s-maj=54.3km s-min=17.8km az=47.0*
ISC 08 13:14:51.0±1.1,2°.52N±0°.08×96°.01E±0°.08,h25km,n14, σ1°.50/16,mb3.9/7,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.33**	**109**	P	**Pb**	**13 14 58.4**	**-0.1**
SNSI				S	**Sn**	**13 15 05.8**	**-0.4**
GSI	**Gunungsitoli**	**1.97**	**128**	P	**Pn**	**13 15 21.8**	**-1.0**
GSI				S	**Sn**	**13 15 45.7**	**-1.1**
KCSI	**Kotacane, Aceh**	**2.02**	**60**	P	**Pn**	**13 15 23.5**	**0.0**
KCSI				S	**Sb**	**13 15 53.3**	**+1.5**
PSI	**Prapat**	**2.92**	**84**	Pn	**Pn**	**13 15 36.0**	**0.0**
	2.6nm,0.3s,baz=286,slow=8.2,SNR=9.9						
PSI				Sn	**Sn**	**13 16 08.8**	**-1.6**
	3.4nm,0.3s,baz=295,slow=9.2,SNR=3.6						
KULM	**Kulim**	**5.38**	**59**	P	**Pn**	**13 16 09.3**	**-0.5**
KULM				S	Sb	13 17 16.5	-12
CMAR	**Chiang Mai Arr**	**16.10**	**10**	Pn	**Pn**	**13 18 35.3**	**-0.6**
	0.1nm,0.3s,baz=196,slow=11,SNR=6.1						
WRA	**Warramunga Arr**	**43.73**	**122**	P	**P**	**13 22 56.9**	**+2.2**
	0.2nm,0.4s,baz=300,slow=9.2,SNR=5.7						
JNU	**Nakatsue**	**44.63**	**43**	LR	LR	13 40 24.8	
	comp=Z,162nm,21.3s,baz=49,slow=35						
ASAR	**Alice Springs**	**45.13**	**127**	P	P	13 23 10.6	+4.8
	0.2nm,0.6s,baz=299,slow=8.1,SNR=5.8						
MKAR	**Makanchi Array**	**45.69**	**347**	P	**P**	**13 23 08.3**	**-1.6**
	1.4nm,0.5s,baz=159,slow=8.9,SNR=25						
SONM	**Songino Array**	**46.03**	**10**	P	**P**	**13 23 11.0**	**-1.6**
	1.1nm,0.6s,baz=191,slow=8.7,SNR=7.3						
KURBB	**Kurchatov Arra**	**50.17**	**346**	P	**P**	**13 23 43.5**	**-0.9**
	0.6nm,0.6s,baz=165,slow=7.2,SNR=7.4						
ZALV	**Zalesovo Beam**	**52.09**	**352**	P	**P**	**13 23 57.2**	**-1.5**
	2.0nm,0.5s,baz=172,slow=6.2,SNR=11						
ARCES	**ARCESS Array B**	**80.91**	**340**	P	**P**	**13 27 05.7**	**+2.9**
	0.9nm,0.7s,baz=106,slow=6.7,SNR=3.8						

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*ISCJB **08** 13:16:51.5±0.5,33°.65N±0°.07×137°.33E±0°.10, h359km±3km,mb3.2/11,Error ellipse: s-maj=13.1km s-min=11.3km az=6.0*
*JMA **08** 13:16:52.4±0.3,33°.69N×137°.30E,h355km±3km,M3.2*
*IDC **08** 13:16:53.4±2.2,33°.62N×137°.22E,h361km±22km, mb3.1/11,mb1 3.2/14,mb1mx3.1/30,mbtmp3.1/14,Error ellipse: s-maj=21.2km s-min=11.3km az=79.0*
ISC 08 13:16:52.5±0.8,33°.68N±0°.08×137°.30E±0°.09,h353km±6km, n31,σ0°.62/38,mb3.2/11,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO3	**TONANKAI O.B.S**	**0.20**	**23**	P	**Pn**	**13 17 37.3**	**+0.9**
TTO2	**TONANKAI O.B.S**	**0.24**	**283**	P	**Pn**	**13 17 37.0**	**+0.7**
TTO4	**TONANKAI O.B.S**	**0.38**	**31**	P	**Pn**	**13 17 36.7**	**+0.2**
TTO1	**TONANKAI O.B.S**	**0.44**	**262**	P	**Pn**	**13 17 37.2**	**+0.6**
TK02	**Tokai 2**	**0.46**	**55**	P	**Pn**	**13 17 37.4**	**+0.7**
TK02				S	**S**	**13 18 11.2**	**-1.0**
TTO5	**TONANKAI O.B.S**	**0.66**	**31**	P	**Pn**	**13 17 37.9**	**+0.7**
TTO5				S	**S**	**13 18 13.6**	**+0.5**
TK04	**Tokai 4**	**0.85**	**34**	P	**Pn**	**13 17 38.5**	**+0.7**
JIE	**Ise**	**0.86**	**325**	P	**Pn**	**13 17 38.3**	**+0.3**
JIE				S	**S**	**13 18 14.1**	**-0.5**
JKN2	**Miekihoku**	**1.02**	**303**	P	**Pn**	**13 17 38.6**	**0.0**
TSUJ	**Tsu 2**	**1.26**	**325**	P	**Pn**	**13 17 40.0**	**+0.4**
TSUJ				S	**S**	**13 18 17.2**	**-0.3**
JWZ	**Kozaga**	**1.33**	**264**	P	**Pn**	**13 17 39.8**	**-0.3**
JWY	**Kouya**	**1.52**	**291**	P	**Pn**	**13 17 41.5**	**+0.4**
SHZ3	**Shizuoka 3**	**1.57**	**28**	P	**Pn**	**13 17 41.5**	**+0.1**
SHZ3				S	**S**	**13 18 20.4**	**-0.2**
JGM	**Miyama**	**2.07**	**347**	P	**Pn**	**13 17 44.9**	**+0.4**
JGM				S	**S**	**13 18 27.1**	**+0.7**
JOD2	**Odawara 2**	**2.16**	**43**	P	**Pn**	**13 17 45.1**	**-0.1**
JWT	**Wachi**	**2.24**	**316**	P	**Pn**	**13 17 45.9**	**+0.2**
MAT	**Matsushiro**	**2.95**	**14**	P	**Pn**	**13 17 51.3**	**-0.3**
MAT				S	**S**	**13 18 37.7**	**-1.4**
JNU	**Nakatsue**	**5.40**	**266**	P	**Pn**	**13 18 17.4**	**+0.7**
	baz=108,slow=18,SNR=1.7						
KSRS	**Korea Array**	**8.52**	**299**	P	**Pn**	**13 18 53.7**	**+1.0**
	1.8nm,0.3s,baz=111,slow=12,SNR=56						
USRK	**Ussuriysk Arra**	**11.28**	**340**	P	**Pn**	**13 19 25.8**	**+0.3**
	1.4nm,0.3s,baz=151,slow=11,SNR=31						
SONM	**Songino Array**	**27.14**	**311**	P	**P**	**13 22 04.8**	**+0.2**
	1.7nm,0.6s,baz=118,slow=9.0,SNR=16						
CMAR	**Chiang Mai Arr**	**37.41**	**256**	P	**P**	**13 23 31.8**	**-1.4**
	0.4nm,0.4s,baz=44,slow=8.3,SNR=4.9						
MKAR	**Makanchi Array**	**43.15**	**305**	P	**P**	**13 24 19.7**	**+0.2**
	0.6nm,0.5s,baz=85,slow=9.8,SNR=11						
KURBB	**Kurchatov Arra**	**45.50**	**310**	P	**P**	**13 24 37.7**	**-0.1**
	1.6nm,0.4s,baz=88,slow=5.6,SNR=11						
BVAR	**Borovoye Array**	**50.40**	**314**	P	**P**	**13 25 15.3**	**+0.4**
	0.4nm,0.3s,baz=84,slow=8.6,SNR=2.8						
FITZ	**Fitzroy Crossi**	**52.68**	**194**	P	**P**	**13 25 32.0**	**+0.1**
	2.0nm,1.2s,baz=12,slow=14,SNR=4.2						
WRA	**Warramunga Arr**	**53.40**	**183**	P	**P**	**13 25 36.4**	**-0.7**
	0.8nm,0.3s,baz=360,slow=7.6,SNR=33						
ILAR	**Eielson Array**	**54.10**	**31**	P	**P**	**13 25 42.2**	**+0.6**
	0.2nm,0.5s,baz=250,slow=6.1,SNR=4.3						
ASAR	**Alice Springs**	**57.12**	**184**	P	**P**	**13 26 03.0**	**-0.4**
	0.3nm,0.4s,baz=355,slow=4.7,SNR=10						
FINES	**FINESS Array B**	**70.18**	**332**	P	**P**	**13 27 27.2**	**-0.3**
	0.6nm,0.4s,baz=57,slow=7.0,SNR=6.7						
PDAR	**Pinedale Array**	**82.41**	**43**	P	**P**	**13 28 36.9**	**+0.7**
	0.2nm,0.5s,baz=230,slow=5.6,SNR=2.6						

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*ISCJB **08** 13:33:51.0±0.7,37°.70N±0°.03×141°.85E±0°.06,h56km±4km, mb4.3/32,MS3.2/5,Error ellipse: s-maj=8.2km s-min=4.4km az=30.1*
*MOS **08** 13:33:51.1±1.1,37°.74N×141°.83E,h57km,mb4.5/24,Error ellipse: s-maj=11.7km s-min=7.7km az=94.8*
*JMA **08** 13:33:52.4,37°.70N×141°.76E,h49km±1km,M4.5*
JMA Felt II J1.
*NEIC **08** 13:33:53.9±1.0,37°.77N×141°.80E,h65km±8km,mb4.6/8, MW4.2(NIED),Error ellipse: s-maj=9.6km s-min=6.9km az=129.0*
NEIC Recorded [2 JMA] in Fukushima and Miyagi and [1 JMA] in Iwate.
*IDC **08** 13:33:53.6±2.4,37°.73N×141°.71E,h60km±21km,mb3.9/22, mb1 4.0/26,mb1mx4.0/32,mbtmp3.9/26,ML3.6/4,MS3.2/8, Ms1 3.2/8,ms1mx3.0/35,Error ellipse: s-maj=15.0km s-min=11.0km az=102.0*
*NIED **08** 13:34:00,37°.70N×141°.80E,h50km,Mw4.2 Best double couple: M0=2.52000×10^15 NP1:φ=199.00000°,δ=58.00000°, λ=110.00000°. NP2:φ=344.00000°,δ=37.00000°,λ=61.00000°.*
ISC 08 13:33:52.4±1.2,37°.69N±0°.05×141°.84E±0°.06,h53km±10km, n110,σ1°.14/123,mb4.3/32,MS3.2/5,1C-10D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.83**	**247**	↓P	**Pn**	**13 34 07.2**	**-0.8**
JFK				S	**Sn**	**13 34 17.6**	**-1.9**
JMM	**Marumori**	**0.85**	**282**	↓P	**Pn**	**13 34 07.4**	**-0.8**
JMM				S	**Sn**	**13 34 18.2**	**-1.5**
JIO	**Ouri**	**0.85**	**333**	↑P	**Pn**	**13 34 07.8**	**-0.4**
JIO				S	**Sn**	**13 34 18.7**	**-1.1**
ONAJ	**Iwakimizuishiy**	**1.02**	**235**	↓P	**Pn**	**13 34 09.7**	**-0.8**
ONAJ				S	**Sn**	**13 34 22.1**	**-1.7**
JOU	**Okura**	**1.15**	**306**	↓P	**Pn**	**13 34 11.6**	**-0.6**
JOU				S	**Sn**	**13 34 25.7**	**-1.2**
JFT	**Otama**	**1.21**	**262**	↓P	**Pn**	**13 34 12.9**	**-0.1**
JFT				S	**Sn**	**13 34 27.5**	**-0.8**
JMK	**Ichinoseki**	**1.35**	**339**	P	**Pn**	**13 34 14.9**	**0.0**
JMK				S	**Sn**	**13 34 31.4**	**-0.3**
JYS	**Shiratake**	**1.50**	**291**	↓P	**Pn**	**13 34 16.5**	**-0.4**
JYS				*e*S	**Sn**	**13 34 35.4**	**0.0**
JYK	**Kaneyama**	**1.69**	**317**	↓P	**Pn**	**13 34 19.4**	**-0.1**
JYK				S	**Sn**	**13 34 39.6**	**-0.4**
JFY	**Yanaizu**	**1.72**	**261**	↓P	**Pn**	**13 34 19.7**	**-0.3**
JFY				*e*S	**Sn**	**13 34 40.2**	**-0.6**
JOM	**Ohasama**	**1.83**	**347**	↓P	**Pn**	**13 34 21.7**	**+0.3**
JOM				*e*S	**Sn**	**13 34 43.8**	**+0.4**
JYA	**Atsumi**	**1.90**	**299**	↓P	**Pn**	**13 34 22.1**	**-0.3**
JYA				*e*S	**Sn**	**13 34 43.8**	**-1.4**
MAT	**Matsushiro**	**3.12**	**250**	P	**Pn**	**13 34 40.0**	**+0.8**
MAT				*e*S	**Sn**	**13 35 14.1**	**-1.1**
ERM	**Erimo**	**4.43**	**13**	*e*P	**Pn**	**13 34 56.5**	**-0.6**
ERM	**Erimo**	**4.43**	**13**	*e*P	**Pn**	**13 34 56.5**	**-0.6**
ASAJ	**Asahikawa**	**6.44**	**5**	*e*P	**Pn**	**13 35 23.3**	**-1.3**
	6.8nm,0.4s						
ASAJ				S	**Sn**	**13 36 36.3**	**-0.4**
ASAJ	**Asahikawa**	**6.44**	**5**	P	**Pn**	**13 35 23.9**	**-0.8**
	3.0nm,0.3s,baz=206,slow=14,SNR=28						
ASAJ				S	**Sn**	**13 36 36.3**	**-0.4**
	2.1nm,0.3s,baz=303,slow=27,SNR=1.3						
YUK	**Yuzh-Kuril'sk**	**7.03**	**24**	*e*P	**Pn**	**13 35 32.2**	**-0.4**
YUK				*e*S	**Sn**	**13 36 45.4**	**-5.7**
YUK				pmax	pmax		
	comp=E,21nm,0.1s						
YUK				pmax	pmax		
	comp=N,18nm,0.2s						
YUK				pmax	pmax		
	comp=Z,69nm,0.4s						
YUK				smax	smax		
	comp=E,69nm,0.3s						
YUK				smax	smax		
	comp=N,141nm,0.5s						
YSS	**Yuzh-Sakhalins**	**9.28**	**4**	*e*P	**Pn**	**13 36 04.2**	**+0.8**
USRK	**Ussuriysk Arra**	**9.88**	**314**	P	**Pn**	**13 36 12.3**	**+0.7**
	comp=N,1.6nm,0.3s,baz=125,slow=14,SNR=22						
USRK				LR	LR	13 39 51.5	
	comp=N,84nm,20.7s,baz=270,slow=37						
JNU	**Nakatsue**	**10.04**	**246**	*e*P	**Pn**	**13 36 16.7**	**+2.7**
JNU	**Nakatsue**	**10.04**	**246**	P	**Pn**	**13 36 15.9**	**+2.0**
	comp=N,0.7nm,0.3s,baz=152,slow=1.8,SNR=6.7						
KSRS	**Korea Array**	**11.05**	**273**	P	**Pn**	**13 36 30.6**	**+2.9**
	comp=N,0.7nm,0.3s,baz=81,slow=14,SNR=19						
KSRS				LR	LR	13 40 36.0	
	comp=N,103nm,18.2s,baz=163,slow=37						
KSAR	**Wonju Array Be**	**11.08**	**273**	P	**Pn**	**13 36 30.6**	**+2.4**
MDJ	**Mudanjiang**	**11.53**	**311**	*e*P	Pn	13 36 38.6	+4.4
	comp=N,6.8nm,0.7s						
PETK	**Petropavlovsk-**	**18.95**	**30**	P	**Pn**	**13 38 10.7**	**+0.6**
PETK				MLR	MLR		
	comp=Z,45nm,19.7s						
PETK	**Petropavlovsk-**	**18.95**	**30**	P	**Pn**	**13 38 10.7**	**+0.6**
PETK	**Petropavlovsk-**	**18.95**	**30**	P	**Pn**	**13 38 10.7**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=205,slow=12,SNR=3.2						
PETK				LR	LR	13 44 37.8	
	comp=Z,45nm,19.7s,baz=43,slow=34						
YAK	**Yakutsk**	**25.50**	**347**	*e*P	**P**	**13 39 14.8**	**-0.7**
YAK				pmax	pmax		
	comp=Z,14nm,0.9s						
FX1	**Attu Island--F**	**26.49**	**45**	LR	LR	13 48 04.4	
	comp=Z,29nm,21.4s,baz=241,slow=32						
ULN	**Ulaanbaatar**	**27.27**	**303**	*e*P	**P**	**13 39 30.9**	**-1.0**
	comp=Z,2.1nm,0.6s						
SONM	**Songino Array**	**27.71**	**303**	P	**P**	**13 39 35.0**	**-0.7**
SONM	**Songino Array**	**27.71**	**303**	P	**P**	**13 39 35.0**	**-0.7**
	comp=Z,2.6nm,0.8s,baz=104,slow=8.5,SNR=19						
SONM				LR	LR	13 50 30.9	
	comp=Z,51nm,18.3s,baz=292,slow=36						
ENH	**Enshi**	**27.73**	**264**	*e*P	**P**	**13 39 35.0**	**-1.0**
	comp=Z,20nm,0.8s						
ZAK	**Zakamensk**	**30.13**	**307**	*e*P	P	13 39 51.8	-5.4
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s						
ZAA0	**Zalesovo Array**	**41.72**	**312**	P	**P**	**13 41 35.4**	**-0.6**
ZALV	**Zalesovo Beam**	**41.72**	**312**	P	**P**	**13 41 35.9**	**-0.1**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ZALV				MLR	MLR		
	comp=Z,44nm,20.1s						
ZALV	**Zalesovo Beam**	**41.72**	**312**	P	**P**	**13 41 35.9**	**-0.1**
ZALV	**Zalesovo Beam**	**41.72**	**312**	P	**P**	**13 41 35.9**	**-0.1**
	comp=Z,2.4nm,0.6s,baz=90,slow=8.9,SNR=7.2						
ZALV				LR	LR	13 59 41.2	
	comp=Z,44nm,20.1s,baz=340,slow=37						
CMAR	**Chiang Mai Arr**	**41.99**	**255**	P	**P**	**13 41 39.1**	**+0.5**
CMAR	**Chiang Mai Arr**	**41.99**	**255**	P	**P**	**13 41 39.1**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=42,slow=8.6,SNR=3.6						
CMAR				LR	LR	13 59 27.9	
	comp=Z,30nm,18.0s,baz=326,slow=37						
LSA	**Lhasa**	**42.49**	**275**	*e*P	**P**	**13 41 43.9**	**+0.8**
LSA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
LSA	**Lhasa**	**42.49**	**275**	*e*P	**P**	**13 41 43.9**	**+0.8**
	comp=Z,5.5nm,0.6s						
MK31	**Makanchi Array**	**44.06**	**302**	*e*P	**P**	**13 41 53.5**	**-1.5**
MK31	**Makanchi Array**	**44.06**	**302**	*e*P	**P**	**13 41 53.5**	**-1.5**
MKAR	**Makanchi Array**	**44.06**	**302**	P	**P**	**13 41 54.8**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MKAR	**Makanchi Array**	**44.06**	**302**	P	**P**	**13 41 54.8**	**-0.2**
MKAR	**Makanchi Array**	**44.06**	**302**	P	**P**	**13 41 54.8**	**-0.2**
	comp=Z,2.8nm,0.8s,baz=91,slow=8.5,SNR=13						
KURK	**Kurchatov**	**45.80**	**308**	P	**P**	**13 42 08.9**	**+0.2**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.4s						
KURK	**Kurchatov**	**45.80**	**308**	P	**P**	**13 42 08.9**	**+0.2**
KURBB	**Kurchatov Arra**	**45.87**	**308**	P	**P**	**13 42 08.9**	**-0.4**
	comp=Z,3.8nm,0.4s,baz=83,slow=8.0,SNR=28						
JIRN	**Jiri**	**47.30**	**275**	*e*P	P	13 42 24.5	+3.3
GUN	**Gumba**	**47.43**	**275**	*e*P	**P**	**13 42 24.4**	**+2.2**
KKN	**Kakani**	**47.96**	**275**	*e*P	**P**	**13 42 27.8**	**+1.6**
	comp=Z,12nm,0.5s						
DMN	**Daman**	**48.18**	**275**	*e*P	**P**	**13 42 30.9**	**+3.0**
ILAR	**Eielson Array**	**48.76**	**33**	P	**P**	**13 42 31.9**	**+0.4**
ILAR	**Eielson Array**	**48.76**	**33**	P

comp=Z,2.0nm,0.4s
AKASG **Malin Array Be** 73.98 322 P **P** 13 45 21.3 -0.8
AKASG **Malin Array Be** 73.98 322 P **P** 13 45 21.3 -0.8
comp=Z,2.1nm,0.4s,baz=44,slow=6.0,SNR=7.4
PDAR **Pinedale Array** 76.96 46 P **P** 13 45 40.6 +0.9
PDAR **Pinedale Array** 76.96 46 P **P** 13 45 40.6 +0.9
comp=Z,1.4nm,0.6s,baz=258,slow=2.1,SNR=15
GERES **GERESS Array B** 82.33 328 P **P** 13 46 08.0 -0.5
GERES **GERESS Array B** 82.33 328 P **P** 13 46 08.0 -0.5
comp=Z,0.6nm,0.4s,baz=46,slow=5.8,SNR=4.5
TXAR **Lajitas Array** 89.45 53 P **P** 13 46 44.9 +0.9
TXAR **Lajitas Array** 89.45 53 P **P** 13 46 44.9 +0.9
comp=Z,0.8nm,0.6s,baz=308,slow=2.6,SNR=9.2
QSPA **South Pole Qui** 127.44 180 PKP **PKPdf** 13 52 49.1 -1.2
QSPA **South Pole Qui** 127.44 180 PKP **PKPdf** 13 52 49.1 -1.2
comp=Z,2.5nm,1.1s,baz=337,slow=1.9,SNR=2.8
SNAA **Sanae** 141.48 197 *eP* **PKPdf** 13 53 12.7 -3.7
VNA2 **Neumayer--Watz** 143.05 196 *eP* PKPbc 13 53 16.9 +0.7
VNA3 **Neumayer Olymp** 143.29 195 *eP* PKPbc 13 53 16.8 0.0
LPAZ **La Paz** 146.07 59 *e*PKPdf **PKPdf** 13 53 27.1 +0.3
LPAZ PKPbc **PKPbc** 13 53 28.1 +0.4
LPAZ **La Paz** 146.07 59 PKPbc **PKPbc** 13 53 28.1 +0.4
comp=Z,2.6nm,0.6s,baz=312,slow=2.2,SNR=13

ISCJB ***08*** *13:34:25.1±0.4, 58°.99N×0°.03×22°.13E±0°.05, h0km, Error ellipse: s-maj=4.6km s-min=3.5km az=6.7*
UPP ***08*** *13:34:25.1, 58°.98N×22°.22E, h0km, ML2.2, Suspected Mining explosion.*
HEL ***08*** *13:34:26.7±0.1, 59°.01N×22°.16E, h0km, ML2.1, ML2.2(UPP), Explosion*
CSEM ***08*** *13:34:26.0±0.2, 58°.98N×22°.11E, h2km, ML2.1, Error ellipse: s-maj=4.9km s-min=3.3km az=11.0, Mining explosion.*
NAO ***08*** *13:34:27.2±1.7, 59°.10N×22°.04E, ML2.1*
IDC ***08*** *13:34:28.7±2.4, 59°.23N×21°.98E, h0km, mb1 3.0/4, mb1mx2.8/27, mbtmp2.9/4, ML2.5/4, Error ellipse: s-maj=32.4km s-min=8.9km az=166.0*
BER ***08*** *13:34:28.4±3.4, 59°.05N×21°.91E, h0km, ML2.1(NAO), Suspected explosion*
ISC 08 13:34:25.2±0.8, 58°.99N±0°.04×22°.12E±0°.03, h0km, n51, σ0°.98/71, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTSE	**Matsula**	**0.92**	**106**	*e*P	**Pg**	**13 34 42.5**	**-0.3**
MTSE				*e*S	**Sg**	13 34 54.6	-0.1
MTSE	**Matsula**	**0.92**	**106**	P	**Pg**	**13 34 42.5**	**-0.3**
MTSE				S	**Sg**	13 34 54.6	-0.1
SLIT	**Slitere, Latvi**	**1.36**	**176**	*e*P	**Pg**	**13 34 51.5**	**+0.2**
SLIT				*e*S	**Sg**	13 35 09.3	+0.4
SLIT	**Slitere, Latvi**	**1.36**	**176**	*e*P	**Pg**	**13 34 51.4**	**+0.2**
	SNR=50						
SLIT				S	**Sg**	13 35 09.2	+0.4
MEF	**Metsahovi**	**1.69**	**42**	*e*P	**Pn**	**13 34 56.1**	**+0.2**
MEF				*e*S	**Sn**	13 35 17.8	-0.4
MEF				MSG		13 35 18.6	
	comp=Z,11nm,0.1s						
MEF	**Metsahovi**	**1.69**	**42**	*e*P	**Pn**	**13 34 56.3**	**+0.4**
	SNR=50						
MEF				*e*S	**Sn**	13 35 18.1	-0.2
	comp=Z,18nm,0.1s,SNR=50						
NRTU	**Norrtaelje**	**1.92**	**293**	P	**Pn**	**13 34 59.6**	**+0.6**
NRTU				S	**Sb**	13 35 25.6	+0.1
NRTU	**Norrtaelje**	**1.92**	**293**	P	**Pn**	**13 34 59.6**	**+0.6**
NRTU				S	**Sb**	13 35 25.5	+0.1
RAF	**Rauma**	**2.05**	**355**	*e*P	**Pn**	**13 35 01.9**	**+1.0**
RAF				*e*SG	**Sn**	13 35 29.1	+2.0
RAF				MSG		13 35 32.0	
	comp=Z,11nm,0.1s						
RAF	**Rauma**	**2.05**	**355**	P	**Pn**	**13 35 01.8**	**+1.0**
RAF				*e*S	**Sn**	13 35 28.8	+1.7
	comp=Z,14nm,0.1s,SNR=50						
NYNU	**Nynaeshamn**	**2.13**	**272**	P	**Pn**	**13 35 02.7**	**+0.8**
NYNU	**Nynaeshamn**	**2.13**	**272**	P	**Pn**	**13 35 02.7**	**+0.8**
FLYU	**Flymyra**	**2.44**	**300**	P	**Pn**	**13 35 06.9**	**+0.7**
FLYU	**Flymyra**	**2.44**	**300**	P	**Pn**	**13 35 06.9**	**+0.7**
FORU	**Forsmark**	**2.44**	**307**	P	**Pn**	**13 35 06.8**	**+0.6**
FORU	**Forsmark**	**2.44**	**307**	P	**Pn**	**13 35 06.8**	**+0.6**
PVF	**Pernaja**	**2.46**	**49**	*e*P	**Pn**	**13 35 07.9**	**+1.4**
PVF				*e*SB	**Sn**	13 35 39.7	+2.6
PVF				MSG		13 35 42.9	
	comp=Z,8.1nm,0.1s						
PVF	**Pernaja**	**2.46**	**49**	P	**Pn**	**13 35 07.8**	**+1.4**
UPP	**Uppsala**	**2.46**	**293**	P	**Pn**	**13 35 08.2**	**+1.8**
UPP	**Uppsala**	**2.46**	**293**	P	**Pn**	**13 35 08.2**	**+1.8**
VSU	**Vasula**	**2.46**	**100**	Pn	**Pb**	**13 35 09.4**	**-0.8**
VSU				Sn	**Sb**	13 35 40.8	-0.3
VSU	**Vasula**	**2.46**	**100**	Pn	**Pb**	**13 35 09.4**	**-0.8**
VSU				Sn	**Sb**	13 35 40.8	-0.3
VSU	**Vasula**	**2.46**	**100**	*e*PB	**Pb**	**13 35 09.4**	**-0.8**
VSU				*e*SG	**Sb**	13 35 41.5	+0.4
VSU	**Vasula**	**2.46**	**100**	Pn	**Pb**	**13 35 09.4**	**-0.8**
	SNR=50						
VSU				*e*S	**Sb**	13 35 40.7	-0.3
	comp=Z,81nm,0.3s,SNR=50						
BACU	**Backbrunna**	**2.71**	**291**	P	**Pn**	**13 35 10.5**	**+0.7**
BACU	**Backbrunna**	**2.71**	**291**	P	**Pn**	**13 35 10.5**	**+0.7**
ESKU	**Eskilstuna**	**2.96**	**277**	P	**Pn**	**13 35 14.2**	**+0.8**
ESKU	**Eskilstuna**	**2.96**	**277**	P	**Pn**	**13 35 14.2**	**+0.8**
IGGU	**Iggoen**	**3.07**	**310**	P	**Pn**	**13 35 15.6**	**+0.7**
IGGU	**Iggoen**	**3.07**	**310**	P	**Pn**	**13 35 15.5**	**+0.7**
FIA0	**FINESS Array S**	**3.16**	**37**	Pn	**Pn**	**13 35 17.1**	**+1.0**
	baz=213,slow=12						
FIA0				Sn	**Sn**	13 35 55.4	+1.0
	baz=226,slow=28						
FIA0	**FINESS Array S**	**3.16**	**37**	Pn	**Pn**	**13 35 17.1**	**+1.0**
	baz=213,slow=12						
FIA0				Sn	**Sn**	13 35 55.4	+1.0
	baz=226,slow=28						
FIA0	**FINESS Array S**	**3.16**	**37**	Pn	**Pn**	**13 35 17.0**	**+1.0**
	baz=213,slow=12,SNR=5.5						
FIA0				Sn	**Sn**	13 35 55.4	+1.0
	baz=226,slow=25,SNR=50						
FINES	**FINESS Array B**	**3.16**	**37**	Pn	**Pn**	**13 35 17.4**	**+1.4**
	comp=Z,0.3nm,0.3s,baz=224,slow=12,SNR=7.9						
FINES				Sn	**Sn**	13 35 55.2	+0.8
	comp=Z,0.8nm,0.3s,baz=223,slow=20,SNR=5.9						
FALU	**Falun**	**3.52**	**298**	P	**Pn**	**13 35 21.7**	**+0.6**
FALU	**Falun**	**3.52**	**298**	P	**Pn**	**13 35 21.7**	**+0.6**
NRAU	**Nora**	**3.68**	**282**	P	**Pn**	**13 35 23.6**	**+0.4**
NRAU	**Nora**	**3.68**	**282**	P	**Pn**	**13 35 23.6**	**+0.4**
ROTU	**Roteberg**	**3.98**	**311**	P	**Pn**	**13 35 27.4**	**0.0**
ROTU	**Roteberg**	**3.98**	**311**	P	**Pn**	**13 35 27.4**	**0.0**
HFS	**Hagfors**	**4.44**	**289**	Pn	**Pn**	**13 35 34.3**	**+0.6**
	baz=115,slow=14						
HFS				Lg	Lg	13 36 42.3	
	baz=108,slow=28						
HFS	**Hagfors**	**4.44**	**289**	Pn	**Pn**	**13 35 34.3**	**+0.6**
	baz=115,slow=14						
HFS				Lg	Lg	13 36 42.3	
	baz=108,slow=28						
HFS	**Hagfors**	**4.44**	**289**	Pn	**Pn**	**13 35 34.6**	**+0.9**
	comp=Z,0.5nm,0.3s,baz=118,slow=14,SNR=24						
HFS				Pg	**Pb**	**13 35 43.1**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=100,slow=15,SNR=9.7						
HFS				Lg	Lg	13 36 41.6	
	comp=Z,1.2nm,0.3s,baz=99,slow=29,SNR=12						
HFS	**Hagfors**	**4.44**	**289**	Pn	**Pn**	**13 35 34.3**	**+0.6**
	baz=115,slow=14,SNR=50						
HFS				Lg	Lg	13 36 42.3	
	baz=108,slow=23						
NB2	**NORSAR Subarra**	**5.84**	**295**	Pn	**Pn**	**13 35 52.0**	**-1.0**
	baz=107,slow=12						
NB2	**NORSAR Subarra**	**5.84**	**295**	Pn	**Pn**	**13 35 52.0**	**-1.0**
	baz=107,slow=12						
NB2	**NORSAR Subarra**	**5.84**	**295**	Pn	**Pn**	**13 35 52.0**	**-1.0**
	baz=107,slow=12,SNR=50						
NOA	**NORSAR Array B**	**5.84**	**295**	Pn	**Pn**	**13 35 52.2**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=55,slow=21,SNR=6.2						
NOA				Lg	Lg	13 37 26.9	
	comp=Z,0.5nm,0.3s,baz=354,slow=9.9,SNR=1.2						
ARA0	**ARCESS Array S**	**10.69**	**6**	Pn	**Pn**	**13 36 57.3**	**-2.1**
	baz=187,slow=14						
ARA0	**ARCESS Array S**	**10.69**	**6**	Pn	**Pn**	**13 36 57.3**	**-2.1**
	baz=187,slow=14						
ARCES	**ARCESS Array B**	**10.69**	**6**	Pn	**Pn**	**13 36 57.2**	**-2.2**
	comp=Z,0.1nm,0.3s,baz=184,slow=12,SNR=6.5						

IDC 08 13:39:23.2±0.8, 6°.19S×147°.04E, h0km, mb3.9/9, mb1 4.1/11, mb1mx4.0/18, mbtmp4.0/11, ML3.6/2, MS3.0/1, Ms1 3.0/1, ms1mx2.3/28, Error ellipse: s-maj=32.5km s-min=16.5km az=84.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.20**	**178**	Pn	Pn	13 40 14.9	0.0
	14nm,0.3s,baz=5.0,slow=6.3,SNR=44						
PMG				Sn	Sn	13 40 52.4	-1.3
	22nm,0.3s,baz=336,slow=20,SNR=3.8						
CTA	**Charters Tower**	**13.84**	**183**	Pn	Pn	13 42 41.8	+0.9
	0.7nm,0.3s,baz=343,slow=14,SNR=8.7						
ASAR	**Alice Springs**	**21.49**	**215**	P	P	13 44 14.6	+0.8
	1.7nm,0.5s,baz=41,slow=9.9,SNR=17						
FITZ	**Fitzroy Crossi**	**24.01**	**239**	P	P	13 44 39.0	-0.9
	1.8nm,0.3s,baz=56,slow=9.5,SNR=20						
RPZ	**Rata Peaks**	**42.93**	**154**	P	P	13 47 25.2	+1.4
	3.8nm,0.5s,baz=354,slow=10,SNR=4.6						
KSRS	**Korea Array**	**46.94**	**339**	P	P	13 47 56.5	+0.8
	1.3nm,0.8s,baz=151,slow=8.7,SNR=3.3						
KSRS				LR	LR	14 03 06.0	
	comp=Z,19nm,21.9s,baz=230,slow=30						
CMAR	**Chiang Mai Arr**	**53.37**	**298**	P	P	13 48 51.3	+6.3
	0.8nm,0.5s,baz=116,slow=6.1,SNR=5.7						
SONM	**Songino Array**	**64.58**	**331**	P	P	13 50 03.5	+1.0
	0.3nm,0.5s,baz=147,slow=4.8,SNR=3.7						
VNDA	**Vanda**	**71.73**	**177**	P	P	13 50 46.5	-0.3
	0.3nm,0.4s,baz=347,slow=7.0,SNR=3.0						
MKAR	**Makanchi Array**	**77.67**	**320**	P	P	13 51 21.3	-0.5
	0.2nm,0.4s,baz=98,slow=8.8,SNR=6.8						
QSPA	**South Pole Qui**	**83.78**	**180**	P	P	13 51 53.0	-1.3
	1.5nm,0.7s,baz=306,slow=0.8,SNR=12						
ILAR	**Eielson Array**	**85.64**	**23**	P	P	13 52 02.4	-1.1
	1.1nm,0.7s,baz=249,slow=4.8,SNR=12						
TORD	**Torodi Ar. Bea**	**145.18**	**284**	PKPbc	PKPbc	13 59 03.4	-0.1
	3.6nm,0.7s,baz=73,slow=3.9,SNR=37						

TIF ***08*** *14:03:00.2, 42°.51N×43°.50E, h14km±1km*
MOS ***08*** *14:03:05.6±1.7, 42°.75N×43°.73E, h10km, mb3.9/1, Error ellipse: s-maj=11.2km s-min=6.5km az=83.9*
CSEM ***08*** *14:03:05.6, 42°.75N×43°.73E, h10km, mb3.9, After OBN*
ISC 08 14:03:01.4±1.0, 42°.49N±0°.02×43°.53E±0°.02, h6km±8km, n39, σ0°.71/77, 3C-9D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.11**	**331**	P	**Pg**	**14 03 03.7**	**-0.1**
ONI				S	**Sg**	14 03 05.9	+0.4
ZEI	**Tsey**	**0.40**	**43**	⇓*i*PG	**Pg**	14 03 08.9	-0.4
ZEI				*i* S	**Sg**	14 03 15.0	+0.4
ZEI	**Tsey**	**0.40**	**43**	*i* Pg	**Pg**	14 03 08.9	-0.4
ZEI				*i* Sg	**Sg**	14 03 15.0	+0.4
DIGR	**Digorskoe uzhe**	**0.41**	**6**	⇓*i*PG	**Pg**	14 03 08.7	-0.6
DIGR				*i* S	**Sg**	14 03 14.8	+0.1
DIGR	**Digorskoe uzhe**	**0.41**	**6**	*i* Pg	**Pg**	14 03 08.7	-0.6
DIGR				*i* Sg	**Sg**	14 03 14.8	+0.1
LACR	**Lac**	**0.66**	**59**	⇓*i*PG	**Pg**	14 03 13.5	-0.6
LACR				*i* S	**Sg**	14 03 23.1	+0.4
LACR	**Lac**	**0.66**	**59**	*i* Pg	**Pg**	14 03 13.5	-0.6
LACR				*i* Sg	**Sg**	14 03 23.1	+0.4
KORR	**Kora**	**0.71**	**34**	⇑*i*PG	**Pg**	14 03 15.0	-0.1
KORR				*i* S	**Sb**	14 03 25.3	-1.0
KORR	**Kora**	**0.71**	**34**	*i* Pg	**Pg**	14 03 15.0	-0.1
KORR				*i* Sg	**Sb**	14 03 25.3	-1.0
LSNR	**Lesken**	**0.81**	**16**	⇓*i*PG	**Pg**	14 03 16.8	-0.2
LSNR				*i* S	**Sb**	14 03 28.2	-1.0
LSNR	**Lesken**	**0.81**	**16**	*i* Pg	**Pg**	14 03 16.8	-0.2
LSNR				*i* Sg	**Sb**	14 03 28.2	-1.0
STDR	**Stavd-Durt**	**0.96**	**24**	⇓*i*PG	**Pb**	14 03 20.4	0.0
STDR				*e*S	**Sb**	14 03 33.9	+0.6
STDR	**Stavd-Durt**	**0.96**	**24**	*i* Pg	**Pb**	14 03 20.4	0.0
STDR				*e*Sg	**Sb**	14 03 33.9	+0.6
DUS	**Dusheti**	**0.96**	**114**	P	**Pn**	14 03 22.9	+1.5
DUS				S	**Sn**	14 03 37.3	+1.8
NCK	**Nalchik**	**1.00**	**3**	⇓*e*PG	**Pg**	14 03 20.7	+0.1
NCK				*e*S	**Sn**	14 03 36.0	-0.4
NCK	**Nalchik**	**1.00**	**3**	*e*Pg	**Pg**	14 03 20.7	+0.1
NCK				*e*Sg	**Sn**	14 03 36.0	-0.4
VLKR	**Vladikavkaz**	**1.01**	**57**	*e*PG	**Pb**	14 03 21.4	+0.1
VLKR				*e*S	**Sn**	14 03 35.7	-1.0
VLKR	**Vladikavkaz**	**1.01**	**57**	*e*Pg	**Pb**	14 03 21.4	+0.1
VLKR				*e*Sg	**Sn**	14 03 35.7	-1.0
AKH	**Akhalkalaki**	**1.08**	**181**	P	**Pg**	14 03 21.4	-0.8
AKH				S	**Sg**	14 03 36.6	+0.4
CHVG	**Ch'k'valeri**	**1.09**	**282**	P	**Pg**	14 03 21.3	-1.0
CHVG				S	**Sg**	14 03 36.6	+0.3
BTKR	**Batakoyurt**	**1.15**	**40**	⇓*i*PG	**Pn**	14 03 25.1	+1.1
BTKR				*e*S	**Sn**	14 03 41.0	+0.9
BTKR	**Batakoyurt**	**1.15**	**40**	*i* Pg	**Pn**	14 03 25.1	+1.1
BTKR				*e*Sg	**Sn**	14 03 41.0	+0.9
TBLG	**Delisi**	**1.18**	**130**	P	**Pg**	14 03 23.0	-1.0
TBLG				S	**Sg**	14 03 39.7	+0.3
KZR	**Kazreti**	**1.29**	**149**	P	**Pn**	14 03 24.4	-1.6
KZR				S	**Sb**	14 03 42.4	-0.6
KUBR	**Kubataba**	**1.31**	**356**	⇑*e*PG	**Pn**	14 03 26.4	+0.2
KUBR				*e*S	**Sn**	14 03 44.7	+0.7
KUBR	**Kubataba**	**1.31**	**356**	*e*Pg	**Pn**	14 03 26.4	+0.2
KUBR				*e*Sg	**Sn**	14 03 44.7	+0.7
PRTR	**Priterechnaya**	**1.37**	**24**	*e*PG	**Pn**	14 03 26.7	-0.3
PRTR				*e*S	**Sn**	14 03 45.8	+0.3
PRTR	**Priterechnaya**	**1.37**	**24**	*e*Pg	**Pn**	14 03 26.7	-0.3
PRTR				*e*Sg	**Sn**	14 03 45.8	+0.3
SHAR	**Shatzhatmas**	**1.40**	**334**	⇓*e*PG	**Pn**	14 03 27.4	-0.2
SHAR				*e*S	**Sb**	14 03 45.6	-0.5
SHAR	**Shatzhatmas**	**1.40**	**334**	*e*Pg	**Pn**	14 03 27.4	-0.2
SHAR				*e*Sg	**Sb**	14 03 45.6	-0.5
TRKR	**Terskaya**	**1.51**	**35**	*e*PG	**Pn**	14 03 28.6	-0.3
TRKR				*e*S	**Sg**	14 03 49.4	-0.6
TRKR	**Terskaya**	**1.51**	**35**	*e*Pg	**Pn**	14 03 28.6	-0.3
TRKR				*e*Sg	**Sg**	14 03 49.4	-0.6
PYA	**Pyatigorsk**	**1.58**	**348**	⇑*e*PG	**Pn**	14 03 30.5	+0.6
PYA				*e*S	**Sg**	14 03 51.8	-0.2
PYA	**Pyatigorsk**	**1.58**	**348**	*e*Pg	**Pn**	14 03 30.5	+0.6
PYA				*e*Sg	**Sg**	14 03 51.8	-0.2
KIV	**Kislovodsk**	**1.58**	**337**	⇓*e*PG	**Pn**	14 03 30.5	+0.5
KIV				*e*S	**Sn**	14 03 50.9	0.0
KIV	**Kislovodsk**	**1.58**	**337**	*e*Pg	**Pn**	14 03 30.5	+0.5
KIV				*e*Sg	**Sn**	14 03 50.9	0.0
DGRG	**David-gareji**	**1.73**	**127**	P	**Pn**	14 03 33.2	+1.2
DGRG				S	**Sg**	14 03 57.9	+1.0
SOC	**Sochi**	**3.00**	**293**	*e*PN	**Pg**	14 03 58.5	-0.3
SOC				*e*		14 04 39.8	
SOC				pmax	pmax		
	comp=Z,24nm,0.6s						
SOC				smax	smax		
	comp=N,24nm,0.5s						
SOC				smax	smax		
	comp=E,55nm,0.8s						
SOC	**Sochi**	**3.00**	**293**	*e*Pn	**Pg**	**14 03 58.5**	**-0.3**
	comp=E,24nm,0.6s						
SOC				*e*Sb	**Sg**	**14 04 39.8**	**+2.2**
	comp=E,24nm,0.5s						

TIF ***08*** *14:16:54.3, 42°.58N×43°.45E, h14km*
CSEM ***08*** *14:16:55.6±0.2, 42°.54N×43°.43E, h2km, mb3.9, Error ellipse: s-maj=3.6km s-min=2.3km az=130.0*
MOS ***08*** *14:16:56.3±1.0, 42°.56N×43°.53E, h10km, mb3.9/1, Error ellipse: s-maj=14.5km s-min=6.0km az=74.3*
ISC 08 14:16:55.5±0.9, 42°.53N±0°.02×43°.47E±0°.02, h8km±6km, n48, σ0°.58/93, 3C-7D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.06**	**348**	P	**Pg**	**14 16 57.3**	**-0.1**
ONI				S	**Sg**	**14 16 58.8**	**0.0**
DIGR	**Digorskoe uzhe**	**0.38**	**13**	⇓*i*PG	**Pg**	14 17 02.6	-0.4
DIGR				*i* S	**Sg**	14 17 08.2	+0.2
DIGR	**Digorskoe uzhe**	**0.38**	**13**	*i* Pg	**Pg**	14 17 02.6	-0.4
DIGR				*i* Sg	**Sg**	14 17 08.2	+0.2
ZEI	**Tsey**	**0.41**	**51**	⇓*i*PG	**Pg**	14 17 03.5	-0.1
ZEI				*i* S	**Sg**	14 17 09.4	+0.4
ZEI	**Tsey**	**0.41**	**51**	*i* Pg	**Pg**	14 17 03.5	-0.1
ZEI				*i* Sg	**Sg**	14 17 09.4	+0.4
LACR	**Lac**	**0.68**	**64**	⇓*i*PG	**Pg**	14 17 08.4	-0.2
LACR				*e*S	**Sg**	14 17 17.8	+0.3
LACR	**Lac**	**0.68**	**64**	*i* Pg	**Pg**	14 17 08.4	-0.2
LACR				*e*Sg	**Sg**	14 17 17.8	+0.3
KORR	**Kora**	**0.71**	**38**	⇑*i*PG	**Pg**	14 17 09.4	+0.2
KORR				*e*S	**Sb**	14 17 19.4	-0.7
KORR	**Kora**	**0.71**	**38**	*i* Pg	**Pg**	14 17 09.4	+0.2
KORR				*e*Sg	**Sb**	14 17 19.4	-0.7
LSNR	**Lesken**	**0.79**	**19**	⇓*i*PG	**Pg**	14 17 10.9	+0.1
LSNR				*e*S	**Sg**	14 17 21.8	+0.7
LSNR	**Lesken**	**0.79**	**19**	*i* Pg	**Pg**	14 17 10.9	+0.1
LSNR				*e*Sg	**Sg**	14 17 21.8	+0.7
STDR	**Stavd-Durt**	**0.94**	**27**	*i* PG	**Pn**	14 17 15.1	0.0
STDR				*e*S	**Sn**	14 17 28.2	-0.6
STDR	**Stavd-Durt**	**0.94**	**27**	*i* Pg	**Pn**	14 17 15.1	0.0
STDR				*e*Sg	**Sn**	14 17 28.2	-0.6
NCK	**Nalchik**	**0.97**	**5**	⇓*e*PG	**Pb**	14 17 14.5	-0.1
NCK				*e*S	**Sn**	14 17 28.7	-0.8
NCK	**Nalchik**	**0.97**	**5**	*e*Pg	**Pb**	14 17 14.5	-0.1
NCK				*e*Sg	**Sn**	14 17 28.7	-0.8
DUS	**Dusheti**	**1.01**	**115**	P	**Pg**	14 17 14.3	-0.7
VLKR	**Vladikavkaz**	**1.03**	**59**	*e*PG	**Pn**	14 17 16.3	0.0
VLKR				*e*S	**Sn**	14 17 30.3	-0.7
VLKR	**Vladikavkaz**	**1.03**	**59**	*e*Pg	**Pn**	14 17 16.3	0.0
VLKR				*e*Sg	**Sn**	14 17 30.3	-0.7
CHVG	**Ch'k'valeri**	**1.04**	**281**	P	**Pg**	14 17 14.7	-0.8
CHVG				S	**Sg**	14 17 29.3	+0.3
AKH	**Akhalkalaki**	**1.12**	**179**	P	**Pg**	14 17 16.7	-0.4
AKH				S	**Sb**	14 17 32.6	+0.6
SNJR	**Sundja**	**1.12**	**61**	*e*PG	**Pg**	14 17 16.8	-0.3
SNJR				*e*S	**Sb**	14 17 32.1	0.0
SNJR	**Sundja**	**1.12**	**61**	*e*Pg	**Pg**	14 17 16.8	-0.3
SNJR				*e*Sg	**Sb**	14 17 32.1	0.0
BTKR	**Batakoyurt**	**1.15**	**43**	*e*PG	**Pn**	14 17 18.2	+0.2
BTKR				*e*S	**Sn**	14 17 33.8	-0.2
BTKR	**Batakoyurt**	**1.15**	**43**	*e*Pg	**Pn**	14 17 18.2	+0.2
BTKR				*e*Sg	**Sn**	14 17 33.8	-0.2
TBLG	**Delisi**	**1.24**	**130**	P	**Pg**	14 17 19.3	+0.1
TBLG				S	**Sn**	14 17 36.4	+0.4
KUBR	**Kubataba**	**1.27**	**358**	⇓*e*PG	**Pg**	14 17 20.2	+0.3
KUBR				*e*S	**Sn**	14 17 38.2	+1.3
KUBR	**Kubataba**	**1.27**	**358**	*e*Pg	**Pg**	14 17 20.2	+0.3
KUBR				*e*Sg	**Sn**	14 17 38.2	+1.3
SHAR	**Shatzhatmas**	**1.35**	**334**	⇑*e*PG	**Pn**	14 17 20.6	-0.3
SHAR				*e*S	**Sb**	14 17 37.9	-0.7
SHAR	**Shatzhatmas**	**1.35**	**334**	*e*Pg	**Pn**	14 17 20.6	-0.3
SHAR				*e*Sg	**Sb**	14 17 37.9	-0.7
KZR	**Kazreti**	**1.35**	**148**	P	**Pn**	14 17 19.1	-1.6
KZR				S	**Sg**	14 17 39.0	+0.2
PRTR	**Priterechnaya**	**1.36**	**26**	*e*PG	**Pg**	14 17 21.4	-0.2
PRTR				*e*S	**Sg**	14 17 39.8	+0.6
PRTR	**Priterechnaya**	**1.36**	**26**	*e*Pg	**Pg**	14 17 21.4	-0.2
PRTR				*e*Sg	**Sg**	14 17 39.8	+0.6
TRKR	**Terskaya**	**1.51**	**37**	*e*PG	**Pb**	14 17 23.8	0.0
TRKR				*e*S	**Sg**	14 17 44.3	+0.3
TRKR	**Terskaya**	**1.51**	**37**	*e*Pg	**Pb**	14 17 23.8	0.0
TRKR				*e*Sg	**Sg**	14 17 44.3	+0.3
PYA	**Pyatigorsk**	**1.53**	**349**	⇓*e*PG	**Pb**	14 17 24.4	+0.2
PYA				*e*S	**Sb**	14 17 44.2	+0.4
PYA	**Pyatigorsk**	**1.53**	**349**	*e*Pg	**Pb**	14 17 24.4	+0.2
PYA				*e*Sg	**Sb**	14 17 44.2	+0.4
KIV	**Kislovodsk**	**1.54**	**338**	⇑*e*PG	**Pb**	14 17 24.1	-0.2
KIV				*e*S	**Sb**	14 17 43.8	-0.1
KIV	**Kislovodsk**	**1.54**	**338**	*e*Pg	**Pb**	14 17 24.1	-0.2
KIV				*e*Sg	**Sb**	14 17 43.8	-0.1
ARTV	**Artvin**	**1.77**	**221**	*i* P	**Pn**	14 17 27.3	+0.6
ARTV				*i* S	**Sb**	14 17 50.8	0.0
ARTV	**Artvin**	**1.77**	**221**	*i* P	**Pn**	14 17 27.3	+0.6
ARTV				*i* S	**Sb**	14 17 50.8	0.0
DGRG	**David-gareji**	**1.78**	**127**	P	**Pb**	14 17 29.0	+0.5
DGRG				S	**Sg**	14 17 54.4	+1.6
DBOC	**Borcka**	**1.79**	**229**	*i* P	**Pn**	14 17 27.1	+0.3
DBOC				*i* S	**Sb**	14 17 51.2

RNF	**Rovaniemi**	**3.11 253**	P	**Pn**	**14 47 47.1**	**-0.1**	
ARA0	**ARCESS Array S**	**3.47 306**	Pn	**Pn**	**14 47 52.2**	**0.0**	
	baz=122,slow=14						
ARA0			Pg	**Pb**	**14 47 59.0**	**-0.3**	
	baz=115,slow=16						
ARA0			Sn	**Sn**	**14 48 33.6**	**-0.3**	
	baz=119,slow=28						
ARA0			Lg	Lg	14 48 43.8		
	baz=115,slow=28						
ARA0	**ARCESS Array S**	**3.47 306**	Pn	**Pn**	**14 47 52.2**	**0.0**	
	baz=122,slow=14						
ARA0			Pg	**Pb**	**14 47 59.0**	**-0.3**	
	baz=115,slow=16						
ARA0			Sn	**Sn**	**14 48 33.6**	**-0.3**	
	baz=119,slow=28						
ARA0			Lg	Lg	14 48 43.8		
	baz=115,slow=28						
ARA0	**ARCESS Array S**	**3.47 306**	Pn	**Pn**	**14 47 52.2**	**0.0**	
	baz=122,slow=14,SNR=50						
ARA0			Sn	**Sn**	**14 48 33.7**	**-0.3**	
	baz=119,slow=26,SNR=50						
ARA0			Lg	Lg	14 48 43.8		
	baz=115,slow=28,SNR=4.4						
HEF	**Hetta**	**3.77 286**	*e*SG	**Sg**	**14 48 56.5**	**-1.3**	
HEF			MSG		14 48 56.5		
	comp=Z,4.2nm,0.4s						
HEF	**Hetta**	**3.77 286**	Sg	**Sg**	**14 48 56.5**	**-1.3**	
OUL	**Oulu**	**4.01 233**	*e*SG	**Sg**	**14 49 03.7**	**-2.0**	
OUL	**Oulu**	**4.01 233**	Sg	**Sg**	**14 49 03.7**	**-2.0**	

MOS ***08*** *15:18:15.8±1.1, 7°.65S×117°.36E, h269km, mb5.1/44, Error ellipse: s-maj=10.0km s-min=5.6km az=114.3*
NEIC ***08*** *15:18:16.7±0.1, 7°.78S×117°.37E, mb5.1/38, Error ellipse: s-maj=5.9km s-min=3.9km az=60.0*
BJI ***08*** *15:18:16.6, 7°.80S×117°.40E, h285km, mB4.9/32, mb5.2/59*
ISCJB ***08*** *15:18:17.7±0.2, 7°.84S±0°.02×117°.35E±0°.02, h294km±2km, mb5.0/127, Error ellipse: s-maj=3.8km s-min=3.0km az=29.7*
AUST ***08*** *15:18:18.1±0.1, 7°.90S×117°.38E, h271km, Error ellipse: s-maj=0.6km s-min=0.5km az=13.0*
IDC ***08*** *15:18:18.7±0.8, 7°.78S×117°.43E, h287km±7km, mb4.7/35, mb1 4.7/37, mb1mx4.7/38, mbtmp4.7/37, Error ellipse: s-maj=8.6km s-min=5.7km az=53.0*
BKK ***08*** *15:18:19.4±0.3, 8°S±3°×11°7E±°, h288km±3km, M5.0/43, mB5.4/24, mb5.2/43, MLv5.8/5, Mw(mB)4.8/24*
TEH ***08*** *15:18:19.0, 7°.82S×117°.47E, h278km, ML5.0*
GCMT ***08*** *15:18:19.0±0.3, 7°.87S×117°.38E, h283km±2km, MW5.2, Moment Tensor Solution. s37,c43; s68,c100; Moment tensor: Scale 10^16^Nm; Mrr3.59±.22; Mθθ-1.44±.21; Mφφ-2.15±.26; Mrθ4.68±.19; Mrφ3.58±.17; Mθφ-0.35±.24; Best double couple: M0=6.70000×10^16^ NP1:φs108.00000°, δ71.00000°, λ60.00000°. NP2:φs348.00000°, δ35.00000°, λ145.00000°. Principal axes: T 6.6900, Plg54.0000°, Azm341.0000°; N -0.0100, Plg28.0000°, Azm118.0000°; P -6.6700, Plg20.0000°, Azm220.0000°; Data Used: II IU IC G CN.*
DJA ***08*** *15:18:21.8±0.6, 8°S±5°×11°7E±°, h204km±10km, M5.4/31, mb5.5/13, mB5.7/13, MLv5.6/31, Mw(mB)5.2/13*
ISC 08 15:18:18.2±0.3,**7°.88S**±0°.03×**117°.41E**±0°.03,**h285**km±2km, **h285**km:**pP-P,n815,**σ±**17**/900,**mb5.1**/125,**21C-7D,Bali Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRBI	**Singaraja**	**2.18**	**264**	P	**Pn**	**15 19 03.3**	**-1.8**
DNP	**Denpasar**	**2.31**	**250**	P	**Pn**	**15 19 05.1**	**-1.2**
IGBI	**Denpasar**	**2.42**	**247**	P	**Pn**	**15 19 05.6**	**-1.7**
IGBI				S	S	15 19 40.0	-6.4
LBFI	**Labuhan Bajo,**	**2.53**	**104**	P	**Pn**	**15 19 06.1**	**-2.2**
LBFI				S	**S**	**15 19 44.0**	**-4.2**
BYJI	**Banyuwangi**	**3.04**	**264**	P	**Pn**	**15 19 13.8**	**+0.5**
ABJI	**Asem Bagus**	**3.14**	**271**	P	**Pn**	**15 19 14.8**	**+0.4**
JAGI	**Jajag, Banyuwa**	**3.27**	**259**	P	**Pn**	**15 19 14.2**	**-1.6**
JAGI				S	S	15 19 55.3	-6.4
JAGI	**Jajag, Banyuwa**	**3.27**	**259**	P	**Pn**	**15 19 13.8**	**-1.9**
	baz=3.2,SNR=115						
JAGI				S	S	15 19 55.0	-6.7
	baz=3.2,SNR=9.8						
WSI	**Waingapu**	**3.37**	**122**	P	**Pn**	**15 19 14.4**	**-2.3**
WSI	**Waingapu**	**3.37**	**122**	P	**Pn**	**15 19 14.2**	**-2.4**
	baz=3.4,SNR=39						
WSI				S	**S**	**15 19 58.3**	**-5.1**
	baz=3.4,SNR=7.3						
KMMI	**Kalianget**	**3.51**	**283**	P	**Pn**	**15 19 19.8**	**+1.6**
KAPI	**Kappang**	**3.68**	**39**	Pn	**Pn**	**15 19 19.8**	**-0.4**
	21μm,0.6s						
KAPI	**Kappang**	**3.68**	**39**	P	**Pn**	**15 19 19.7**	**-0.4**
	SNR=196						
KAPI	**Kappang**	**3.68**	**39**	*e*P	**Pn**	**15 19 19.5**	**-0.6**
KAPI				S	**S**	**15 20 07.4**	**-2.2**
KAPI	**Kappang**	**3.68**	**39**	P	**Pn**	**15 19 19.0**	**-1.1**
KAPI	**Kappang**	**3.68**	**39**	P	**Pn**	**15 19 19.5**	**-0.6**
	166nm,0.3s,baz=222,slow=6.2,SNR=1030						
KAPI				S	**S**	**15 20 07.4**	**-2.2**
	baz=270,slow=20,SNR=1.9						
BKSI	**Bulukumba**	**3.71**	**47**	P	**Pn**	**15 19 20.4**	**0.0**
BLJI	**Banyuglugur**	**3.78**	**272**	P	**Pn**	**15 19 21.7**	**+0.5**
GMJI	**Gumukmas**	**3.94**	**264**	P	**Pn**	**15 19 22.4**	**-0.6**
BNSI	**Bone**	**4.38**	**38**	P	**Pn**	**15 19 29.2**	**+1.3**
SPSI	**Sidrap Palu**	**4.54**	**31**	P	**Pn**	**15 19 30.0**	**+0.1**
MJSI	**Majene**	**4.58**	**20**	P	**Pn**	**15 19 31.9**	**+1.6**
MMRI	**Maumere**	**4.84**	**99**	P	**Pn**	**15 19 31.9**	**-1.4**
KRKI	**Karangkates**	**4.91**	**266**	P	**Pn**	**15 19 33.7**	**-0.4**
GRJI	**Gresik**	**4.98**	**281**	P	**Pn**	**15 19 35.7**	**+0.8**
	2μm,0.9s,15μm5.8nm						
BBKI	**Banjar Baru**	**5.08**	**330**	P	**Pn**	**15 19 37.7**	**+1.6**
	636nm,1.2s,12μm2.0nm						
MMSI	**Mamuju**	**5.37**	**16**	P	**Pn**	**15 19 41.2**	**+1.6**
	8μm,0.9s,68μm29nm						
TTSI	**Tana Toraja**	**5.37**	**27**	P	**Pn**	**15 19 41.4**	**+1.8**
	2μm,0.9s,23μm5.9nm						
PWJI	**Pagerwojo**	**5.55**	**268**	P	**Pn**	**15 19 40.8**	**-0.9**
SJI	**Sawahan**	**5.59**	**271**	P	**Pn**	**15 19 41.7**	**-0.6**
	909nm,0.7s,33μm6.7nm						
KKSI	**Kolaka, Sulawe**	**5.60**	**49**	P	**Pn**	**15 19 42.9**	**+0.5**
	658nm,0.9s,5μm2.2nm						
TBJI	**Tambak Boyo**	**5.61**	**280**	P	Pn	15 19 49.9	+7.4
BBSI	**Bau Bau**	**5.65**	**65**	P	**Pn**	**15 19 44.2**	**+1.2**
	2μm,1.1s,14μm4.1nm						
NGJI	**Ngawi**	**5.92**	**275**	P	**Pn**	**15 19 47.4**	**+1.3**
	694nm,1.1s,9μm2.7nm						
PCJI	**Pacitan**	**6.18**	**267**	P	**Pn**	**15 19 47.9**	**-1.4**
BKB	**Balikpapan**	**6.59**	**356**	P	Pn	15 20 00.5	+6.1
	427nm,1.2s,4μm1.3nm						
SKSI	**Soroako, Sulaw**	**6.60**	**37**	P	**Pn**	**15 19 56.1**	**+1.6**
	775nm,1.0s,6μm2.4nm						
UGM	**Wanagama**	**6.82**	**269**	P	**Pn**	**15 19 57.4**	**+0.2**
UGM	**Wanagama**	**6.82**	**269**	P	**Pn**	**15 19 55.9**	**-1.3**
	baz=6.8,SNR=84						
UGM				S	**S**	**15 21 14.0**	**-3.0**
	baz=6.8,SNR=6.0						
SOEI	**Soe**	**7.03**	**106**	P	**Pn**	**15 19 58.4**	**-1.5**
SOEI	**Soe**	**7.03**	**106**	P	**Pn**	**15 19 58.5**	**-1.4**
	baz=7.1,SNR=125						
SOEI				S	S	15 21 11.4	-11
	baz=7.1,SNR=9.8						
YOGI	**Yogyakarta**	**7.05**	**270**	P	Pn	15 20 08.0	+8.1
	1μm,1.4s,29μm8.8nm						
BJII	**Banjamegara**	**7.65**	**274**	P	**Pn**	**15 20 07.3**	**-0.1**
APSI	**Ampana**	**8.11**	**32**	P	**Pn**	**15 20 14.9**	**+1.8**
	378nm,0.9s,4μm1.4nm						
LUWI	**Luwuk**	**8.64**	**38**	P	**Pn**	**15 20 21.5**	**+1.8**
LUWI	**Luwuk**	**8.64**	**38**	P	**Pn**	**15 20 21.9**	**+2.2**
	baz=8.7,SNR=42						
CISI	**Cisompet, Garu**	**9.51**	**271**	P	**Pn**	**15 20 28.1**	**-2.4**
	baz=9.5,SNR=39						
CISI				S	S	15 22 11.0	-7.1
	baz=9.5,SNR=4.8						
LEM	**Lembang**	**9.77**	**276**	P	**Pn**	**15 20 35.5**	**+1.7**
	baz=9.7,SNR=8.1						
SBUM	**Sibu**	**11.49**	**333**	P	**P**	**15 20 56.5**	**-0.8**
AAI	**Ambon**	**11.51**	**69**	P	**P**	**15 20 57.5**	**-0.1**
	baz=12,SNR=9.4						
KSM	**Kuching**	**11.68**	**322**	*e*P	**Pn**	**15 20 58.2**	**+1.0**
	276nm,0.9s						
KSM	**Kuching**	**11.68**	**322**	P	**P**	**15 20 58.5**	**-0.9**
KSM	**Kuching**	**11.68**	**322**	P	**P**	**15 20 58.8**	**-0.7**
	baz=12,SNR=28						
KSM				S	**S**	**15 23 12.1**	**+4.5**
	baz=12,SNR=3.1						
BTM	**Bintulu**	**11.82**	**338**	P	**P**	**15 21 01.4**	**+0.4**
XMI	**Christmas Isla**	**11.85**	**257**	P	**P**	**15 21 02.2**	**+0.9**
	baz=12,SNR=6.8						
XMI				S	S	15 22 59.9	-11
	baz=12,SNR=3.8						
XMIS	**Christmas Isla**	**11.89**	**257**	P	**P**	**15 21 01.2**	**-0.6**
	1μm,0.8s						
XMIS	**Christmas Isla**	**11.89**	**257**	P	**P**	**15 21 02.5**	**+0.8**
	baz=12,SNR=8.3						
XMIS				S	S	15 22 57.2	-15
	baz=12,SNR=4.5						
TSM	**Tawau**	**12.10**	**2**	P	**P**	**15 21 06.9**	**+2.8**
BNDI	**Bandanaira**	**12.86**	**76**	P	**P**	**15 21 14.9**	**+2.4**
	baz=13,SNR=9.5						
BNDI				S	S	15 23 45.1	+11
	baz=13,SNR=4.9						
FITZ	**Fitzroy Crossi**	**12.94**	**143**	*e*P	**Pn**	**15 21 12.9**	**+0.4**
	110nm,0.9s						
FITZ				S	**S**	**15 23 37.6**	**+1.5**
FITZ	**Fitzroy Crossi**	**12.94**	**143**	P	**P**	**15 21 13.1**	**-0.2**
	4.7nm,0.3s,baz=330,slow=6.2,SNR=90						
FITZ				S	**S**	**15 23 37.6**	**+1.5**
	9.9nm,0.3s,baz=146,slow=15,SNR=7.5						
FITZ	**Fitzroy Crossi**	**12.94**	**143**	P	**Pn**	**15 21 12.9**	**+0.4**
	baz=13,SNR=224						
FITZ				S	**S**	**15 23 39.5**	**+3.4**
	baz=13,SNR=9.1						
MYLDM	**Lahad Datu**	**13.02**	**5**	P	P	15 21 18.8	+4.5
MBWA	**Marble Bar**	**13.39**	**171**	Pn	**Pn**	**15 21 18.0**	**+0.1**
	SNR=24						
MBWA	**Marble Bar**	**13.39**	**171**	*e*P	**Pn**	**15 21 17.4**	**-0.5**
	185nm,0.7s						
SDKM	**Sandakan**	**13.43**	**359**	P	P	15 21 22.6	+3.7
KNRA	**Kununurra**	**13.55**	**126**	P	**Pn**	**15 21 19.9**	**0.0**
	baz=14,SNR=199						
KNRA				S	**S**	**15 23 46.3**	**-3.5**
	baz=14,SNR=15						
KKM	**Kota Kinabalu**	**13.88**	**355**	*e*P	**Pn**	**15 21 25.1**	**+1.1**
	146nm,0.9s						
KKM	**Kota Kinabalu**	**13.88**	**355**	P	**Pn**	**15 21 25.4**	**+1.4**
KKM	**Kota Kinabalu**	**13.88**	**355**	P	**Pn**	**15 21 25.4**	**+1.4**
	baz=14,SNR=17						
MTN	**Manton Dam**	**14.37**	**111**	P	**Pn**	**15 21 29.8**	**+0.1**
	baz=14,SNR=324						
MTN				S	S	15 24 01.2	-6.5
	baz=14,SNR=7.4						
KDM	**Kudat**	**14.71**	**358**	P	**Pn**	**15 21 35.2**	**+1.4**
TLE	**Tual**	**15.39**	**83**	P	**Pn**	**15 21 41.4**	**-0.5**
	baz=15,SNR=28						
TLE				S	**S**	**15 24 21.8**	**-6.8**
	baz=15,SNR=10						
SWI	**Sorong**	**15.46**	**64**	P	**Pn**	**15 21 42.7**	**-0.1**
	baz=16,SNR=37						
SWI				S	**S**	**15 24 31.9**	**+1.9**
	baz=16,SNR=12						
KDU	**Kakadu**	**15.57**	**109**	P	**P**	**15 21 43.0**	**+0.6**
	baz=16,SNR=32						
FAKI	**Fak Fak**	**15.57**	**72**	P	**P**	**15 21 42.2**	**-0.3**
	baz=16,SNR=250						
FAKI				S	S	15 24 24.9	-7.3
	baz=16,SNR=28						
MEEK	**Meekatharra**	**18.69**	**177**	P	**P**	**15 22 17.0**	**+0.8**
	baz=19,SNR=217						
MEEK				S	S	15 25 55.5	+22
	baz=19,SNR=4.4						
GUIM	**Jordan**	**19.09**	**16**	*e*P	**P**	**15 22 21.5**	**+1.0**
RCP	**Roxas**	**20.03**	**15**	*e*P	**P**	**15 22 31.3**	**+0.8**
WRA	**Warramunga Arr**	**20.32**	**128**	P	**P**	**15 22 33.4**	**-0.1**
WRA				S	**S**	**15 26 04.0**	**-0.3**
WRA				ScP	**ScP**	**15 29 42.4**	**-0.6**
WRA				PKiKP	**PKiKP**	**15 34 21.2**	**-1.1**
WRA				P4KP		16 05 40.9	
WRA	**Warramunga Arr**	**20.32**	**128**	P	**P**	**15 22 33.4**	**-0.1**
	25nm,0.5s,baz=298,slow=12,SNR=139						
WRA				S	**S**	**15 26 04.0**	**-0.3**
	18nm,0.8s,baz=302,slow=17,SNR=6.6						
WRA				ScP	**ScP**	**15 29 42.4**	**-0.6**
	20nm,1.1s,baz=316,slow=2.6,SNR=5.6						
WRA				PKiKP	**PKiKP**	**15 34 21.2**	**-1.1**
	0.9nm,0.4s,baz=301,slow=1.2,SNR=5.5						
WRA				P4KP		16 05 40.9	
	0.8nm,0.6s,baz=316,slow=4.0,SNR=7.2						
WRAB	**Tennant Creek**	**20.32**	**128**	P	**P**	**15 22 33.0**	**-0.5**
	396nm,0.5s,SNR=36						
WRAB	**Tennant Creek**	**20.32**	**128**	*e*P	**P**	**15 22 33.8**	**+0.3**
WRAB				pmax	pmax		
	comp=Z,66nm,0.8s						
WRAB	**Tennant Creek**	**20.32**	**128**	*e*P	**P**	**15 22 33.8**	**+0.3**
	comp=Z,66nm,0.8s						
MORW	**Morawa**	**21.12**	**183**	P	**P**	**15 22 41.8**	**+0.5**
	baz=21,SNR=21						
PSI	**Prapat**	**21.27**	**299**	P	**P**	**15 22 43.3**	**+0.2**
PSI	**Prapat**	**21.27**	**299**	P	**P**	**15 22 43.3**	**+0.2**
	comp=Z,24nm,0.3s,baz=151,slow=8.6,SNR=10						
PSI	**Prapat**	**21.27**	**299**	P	**P**	**15 22 43.4**	**+0.3**
	baz=21,SNR=6.4						
CNP	**Cataman**	**21.50**	**20**	*e*P	**P**	**15 22 46.5**	**+1.5**
BOAC	**Boac**	**21.65**	**12**	*e*P	**P**	**15 22 48.0**	**+1.7**
AUQP	**San Andres**	**21.70**	**14**	*e*P	**P**	**15 22 46.4**	**-0.4**
TGY	**Tagaytay City**	**22.12**	**9**	P	**P**	**15 22 51.9**	**+1.3**
TGY	**Tagaytay City**	**22.12**	**9**	P	**P**	**15 22 51.9**	**+1.3**
	comp=Z,457nm,0.7s,baz=309,slow=1.7,SNR=12						
AS31	**Alice Springs**	**22.29**	**137**	*e*P	**P**	**15 22 53.4**	**+1.3**
ASAR	**Alice Springs**	**22.29**	**137**	P	**P**	**15 22 53.5**	**+1.5**
ASAR				S	**S**	**15 26 36.2**	**+0.1**
ASAR				ScP	**ScP**	**15 29 48.6**	**+0.8**
ASAR				*e*		16 02 12.7	
ASAR				P4KP		16 05 48.7	
ASAR	**Alice Springs**	**22.29**	**137**	P	**P**	**15 22 53.5**	**+1.5**
	comp=Z,46nm,0.7s,baz=310,slow=8.4,SNR=392						
ASAR				S	**S**	**15 26 36.2**	**+0.1**
	comp=Z,34nm,0.8s,baz=338,slow=23,SNR=14						
ASAR				ScP	**ScP**	**15 29 48.6**	**+0.8**
	comp=Z,23nm,0.8s,baz=341,slow=2.3,SNR=9.0						
ASAR				P4KPbc		16 02 12.7	
	comp=Z,0.3nm,0.4s,baz=358,slow=1.6,SNR=6.3						
ASAR				P4KP		16 05 48.7	
	comp=Z,0.7nm,0.9s,baz=303,slow=4.3,SNR=4.6						
PVCP	**Virac**	**22.36**	**17**	⇑*i*P	**P**	**15 22 53.8**	**+1.0**
SKLT	**Songkhla**	**22.44**	**311**	P	**P**	**15 22 50.4**	**-3.1**
SKLT	**Songkhla**	**22.44**	**311**	P	**P**	**15 22 50.4**	**-3.1**
	comp=Z,51nm,1.1s						
BLDU	**Ballidu**	**22.63**	**182**	P	**P**	**15 22 55.7**	**+0.6**
	baz=23,SNR=57						
KLBR	**Kellerberrin**	**23.59**	**179**	P	**P**	**15 23 04.5**	**+0.6**
	baz=24,SNR=24						
JAY	**Jayapura**	**23.80**	**78**	P	**P**	**15 23 05.4**	**-0.6**
	baz=24,SNR=9.2						
SRIT	**Nakonsritamara**	**24.14**	**312**	P	P	15 23 16.0	+7.0
	comp=Z,19nm,0.9s						
FORT	**Forrest**	**24.87**	**158**	*e*P	**P**	**15 23 16.5**	**+1.1**
	comp=Z,122nm,0.7s						
FORT	**Forrest**	**24.87**	**158**	P	**P**	**15 23 16.6**	**+1.3**
	baz=25,SNR=37						
NWAO	**Narrogin (SRO)**	**24.92**	**180**	P	**P**	**15 23 16.8**	**+0.9**
NWAO	**Narrogin (SRO)**	**24.92**	**180**	P	**P**	**15 23 16.8**	**+0.9**
	comp=Z,96nm,0.8s,baz=0.5,slow=8.8,SNR=61						
CHBT	**CHBT**	**25.39**	**324**	P	**P**	**15 23 21.1**	**+0.9**
	comp=Z,45nm,1.7s,comp=Z,896nm						
COEN	**Coen**	**26.00**	**106**	*e*P	**P**	**15 23 25.9**	**+0.2**
	comp=Z,434nm,0.6s						
COEN				*e*PcP	**PcP**	**15 26 46.7**	**+0.7**
COEN	**Coen**	**26.00**	**106**	P	**P**	**15 23 26.1**	**+0.4**
	baz=26,SNR=110						
COEN				S	**S**	**15 27 33.5**	**-1.6**
	baz=26,SNR=5.9						
QIZ	**Qiongzhong**	**27.76**	**344**	P	**P**	**15 23 42.8**	**+1.6**
QIZ				pP	**pP**	**15 24 36.5**	**+0.4**
QIZ				sP	**sP**	**15 25 09.9**	**+0.5**
QIZ				S	**S**	**15 28 05.2**	**+2.6**
QIZ				pmax	pmax		
	comp=Z,26nm,1.5s						
SKNT	**Sakolnakorn**	**28.04**	**332**	P	**P**	**15 23 45.0**	**+1.3**
	comp=Z,104nm,1.0s,comp=Z,2μm						
MTSU	**Mount Surprise**	**28.09**	**114**	P	**P**	**15 23 45.9**	**+1.6**
	baz=28,SNR=382						
MTSU				S	**S**	**15 28 10.7**	**+2.7**
	baz=28,SNR=5.8						
PBKT	**Sadao Pong**	**29.23**	**326**	P	**P**	**15 23 55.2**	**+0.9**
	comp=Z,83nm,1.0s						
UTHA	**Uthaitani**	**29.31**	**323**	P	**P**	**15 23 56.3**	**+1.3**
	comp=Z,32nm,0.8s,comp=Z,303nm						
PMG	**Port Moresby**	**29.45**	**95**	*e*P	**P**	**15 23 55.3**	**-1.0**
	comp=Z,26nm,0.9s						
PMG				*e*PcP	**PcP**	**15 26 55.9**	**+1.4**
PMG				ScP	**ScP**	**15 30 08.5**	**-0.4**
PMG	**Port Moresby**	**29.45**	**95**	P	**P**	**15 23 55.8**	**-0.5**
	comp=Z,23nm,0.8s,baz=258,slow=4.6,SNR=8.8						
PMG				PcP	**PcP**	**15 26 55.8**	**+1.4**
	comp=Z,18nm,0.8s,baz=253,slow=20,SNR=3.7						
PMG				ScP	**ScP**	**15 30 08.5**	**-0.4**
	comp=Z,10nm,0.9s,baz=336,slow=11,SNR=3.7						
LOEI	**Loei**	**29.85**	**328**	P	**P**	**15 23 58.4**	**-1.3**
	comp=Z,24nm,1.2s,comp=Z,848nm						
BBOO	**Buckleboo**	**30.24**	**148**	*e*P	**P**	**15 24 04.0**	**+1.0**
	comp=Z,284nm,0.6s						
BBOO				*e*ScP	**ScP**	**15 30 11.2**	**+0.1**
BBOO	**Buckleboo**	**30.24**	**148**	P	**P**	**15 24 04.2**	**+1.2**
	baz=30,SNR=23						
BBOO				S	**S**	**15 28 42.8**	**+1.6**
	baz=30,SNR=8.9						
MANU	**Manus Island**	**30.39**	**81**	P	**P**	**15 24 05.3**	**+0.7**
	baz=30,SNR=4.0						
CTA	**Charters Tower**	**30.45**	**117**	P	**P**	**15 24 06.8**	**+1.8**
CTA				PcP	**PcP**	**15 26 56.8**	**-0.2**
CTA				S	**S**	**15 28 46.3**	**+1.5**
CTA	**Charters Tower**	**30.45**	**117**	P	**P**	**15 24 06.8**	**+1.8**
	comp=Z,46nm,0.8s,baz=291,slow=12,SNR=62						
CTA				PcP	**PcP**	**15 26 56.8**	**-0.2**
	comp=Z,20nm,0.8s,baz=293,slow=7.7,SNR=5.8						
CTA				S	**S**	**15 28 46.3**	**+1.5**
	comp=Z,3.8nm,0.7s,baz=87,slow=18,SNR=4.0						
TPUB	**Ta-pu**	**31.15**	**6**	*e*P	**P**	**15 24 11.7**	**+0.6**
	comp=Z,90nm,1.4s						
YULB	**Yu-li**	**31.31**	**7**	*e*P	**P**	**15 24 11.4**	**-1.0**
	comp=Z,22nm,0.8s						
LAMP	**Lampang**	**31.56**	**326**	P	**P**	**15 24 16.0**	**+1.3**
	comp=Z,25nm,0.9s,comp=Z,274nm						
SSLB	**Suanglung**	**31.66**	**6**	*e*P	**P**	**15 24 15.2**	**-0.3**
	comp=Z,96nm,1.4s						
CM31	**Chiang Mai Arr**	**31.89**	**325**	*e*P	**P**	**15 24 18.3**	**+0.8**
	comp=Z,18nm,0.4s						
CMAR	**Chiang Mai Arr**	**31.89**	**325**	P	**P**	**15 24 18.6**	**+1.1**
CMAR				PcP	**PcP**	**15 27 01.3**	**+0.5**
CMAR				ScP	**ScP**	**15 30 17.6**	**+0.7**
CMAR				PKiKP	**PKiKP**	**15 34 28.6**	**-0.4**
CMAR	**Chiang Mai Arr**	**31.89**	**325**	P	**P**	**15 24 18.6**	**+1.1**
	comp=Z,18nm,0.7s,baz=152,slow=6.5,SNR=108						
CMAR				PcP	**PcP**	**15 27 01.3**	**+0.5**
	comp=Z,8.4nm,1.0s,baz=183,slow=2.4,SNR=9.7						
CMAR				ScP	**ScP**	**15 30 17.6**	**+0.7**
	comp=Z,4.2nm,0.9s,baz=168,slow=3.1,SNR=9.9						
CMAR				PKiKP	**PKiKP**	**15 34 28.6**	**-0.4**
	comp=Z,1.1nm,0.9s,baz=269,slow=1.1,SNR=6.5						
CHTO	**Chiang Mai**	**32.17**	**326**	*e*P	**P**	**15 24 20.7**	**+0.7**
CHTO				*e*		15 27 01.3	
CHTO				pmax	pmax		
	comp=Z,48nm,1.1s						
CHTO	**Chiang Mai**	**32.17**	**326**	P	**P**	**15 24 21.3**	**+1.3**
	SNR=8.1						
CHTO	**Chiang Mai**	**32.17**	**326**	*e*P	**P**	**15 24 20.7**	**+0.7**
	comp=Z,48nm,1.1s						
CHTO				*e*PcP	**PcP**	**15 27 01.3**	**-0.3**
CHTO				*e*ScP	**ScP**	**15 30 18.5**	**+0.6**
CHTO	**Chiang Mai**	**32.17**	**326**	P	**P**	**15 24 20.9**	**+0.9**
	comp=Z,48nm,1.2s						
CRAI	**Chiangrai**	**32.57**	**329**	P	**P**	**15 24 22.6**	**-0.9**
	comp=Z,67nm,1.0s,comp=Z,3μm						
YHNB	**Yeheng**	**32.58**	**7**	*e*P	**P**	**15 24 23.5**	**0.0**
	comp=Z,64nm,0.9s						
STKA	**Stephens Creek**	**32.82**	**140**	*e*P	**P**	**15 24 26.7**	**+1.2**
	comp=Z,0.2nm,0.4s						
STKA				*e*PcP	**PcP**	**15 27 03.6**	**+0.4**
STKA				PcP	PcP	15 27 04.0	+0.7
STKA				ScP	**ScP**	**15 30 20.4**	**+0.5**
STKA				*e*ScP	**ScP**	**15 30 20.6**	**+0.7**
STKA	**Stephens Creek**	**32.82**	**140**	P	**P**	**15 24 27.3**	**+1.8**
	comp=Z,20nm,0.6s,baz=313,slow=9.0,SNR=98						
STKA				PcP	**PcP**	**15 27 04.0**	**+0.7**
	comp=Z,14nm,0.5s,baz=2.1,slow=3.5,SNR=2.9						
STKA				ScP	**ScP**	**15 30 20.4**	**+0.5**
	comp=Z,22nm,0.9s,baz=303,slow=6.1,SNR=5.9						
STKA	**Stephens Creek**	**32.82**	**140**	P	**P**	**15 24 27.0**	**+1.6**
	baz=33,SNR=65						
CMAI	**Chiengmai2**	**33.02**	**327**	P	**P**	**15 24 28.3**	**+0.8**
	comp=Z,41nm,1.3s						
GUMO	**Guam**	**34.62**	**52**	*e*P	**P**	**15 24 40.5**	**-0.6**
	comp=Z,304nm,1.1s						
RMQ	**Roma**	**35.05**	**126**	P	**P**	**15 24 47.4**	**+2.6**
	baz=35,SNR=24						
CMSA	**Cobar Meteorol**	**35.33**	**136**	P	**P**	**15 24 49.2**	**+2.1**
	baz=35,SNR=40						
GYA	**Guiyang**	**35.69**	**343**	⇑*i*P	**P**	**15 24 51.2**	**+1.0**
GYA				pP	**pP**	**15 25 49.8**	**+3.1**
GYA				sP	**sP**	**15 26 23.2**	**+3.7**
GYA				PcP	**PcP**	**15 27 11.4**	**-0.3**
GYA				S	**S**	**15 30 08.6**	**+

comp=N,15nm,16.4s
XAN LR LR
JNU Nakatsue 42.74 17 *e*P **P 15 25 48.1 +0.1**
comp=Z,83nm,22.5s
PATS Pohnpei 43.33 71 S S 15 31 36.1 -23
baz=43,SNR=3.6
LSA Lhasa 45.10 327 P **P 15 26 07.3 0.0**
LSA pmax pmax
comp=Z,60nm,1.2s
LSA Lhasa 45.10 327 *e*P **P 15 26 07.7 +0.4**
LSA pmax pmax
comp=Z,92nm,1.3s
LSA Lhasa 45.10 327 *e*P **P 15 26 07.7 +0.4**
comp=Z,92nm,1.3s
ODAN Odare 45.16 321 *e*P **P 15 26 07.0 -0.5**
comp=Z,120nm,1.0s
TAPN Taplejung 45.31 322 *e*P **P 15 26 08.5 -0.3**
comp=Z,181nm,1.0s
LZH Lanzhou 45.56 345 ⇑P **P 15 26 10.9 +0.5**
LZH pP **pP 15 27 07.9 -1.7**
LZH sP **sP 15 27 40.3 -1.3**
LZH pmax pmax
comp=Z,51nm,0.9s
LZH pmax pmax
comp=Z,190nm,4.0s
HYB Hyderabad 45.89 303 *i* P P 15 26 09.5 -3.6
KSAR Wonju Array Be 46.14 12 P **P 15 26 15.6 +1.0**
KSRS Korea Array 46.16 12 P **P 15 26 15.6 +0.8**
comp=Z,124nm,0.9s,baz=189,slow=8.0,SNR=225
JIRN Jiri 46.48 321 *e*P **P 15 26 17.3 -0.6**
comp=Z,118nm,0.9s
DL2 Dalian 46.71 5 *e*P **P 15 26 18.3 -0.7**
DL2 *e*S **S 15 32 44.5 -2.0**
DL2 pmax pmax
comp=Z,200nm,0.7s
GUN Gumba 46.85 321 *e*P **P 15 26 20.2 -0.6**
comp=Z,144nm,0.9s
PKI Pulchoki 46.91 320 *e*P **P 15 26 20.0 -1.2**
PKIN Phulchoki 46.92 320 *e*P **P 15 26 20.7 -0.5**
DMN Daman 47.13 320 *e*P **P 15 26 21.9 -0.9**
comp=Z,159nm,1.1s
KKN Kakani 47.15 320 *e*P **P 15 26 21.8 -1.1**
BJT Baijiatuau 47.67 359 *e*P **P 15 26 26.4 0.0**
comp=Z,154nm,0.6s
BJI Beijing 47.69 359 P **P 15 26 26.5 0.0**
BJI pP **pP 15 27 29.3 +3.0**
BJI sS sS 15 34 46.2 -0.3
BJI pmax pmax
comp=Z,240nm,0.7s
MAT Matsushiro 48.31 23 P **P 15 26 30.4 -1.0**
DANN Dangsing 48.51 319 *e*P **P 15 26 32.3 -1.0**
comp=Z,190nm,1.0s
HHC Hu-ho-hao-te 48.78 354 *e*P **P 15 26 35.1 +0.1**
HHC pP **pP 15 27 35.9 +0.8**
HHC PP **PP 15 28 32.5 +1.1**
HHC ScP **ScP 15 31 20.8 -1.7**
HHC S **S 15 33 16.3 +0.5**
HHC ScS **ScS 15 35 53.7 -3.0**
HHC SS **SS 15 36 48.9 -1.7**
HHC pmax pmax
comp=Z,140nm,0.7s
HHC pmax pmax
comp=Z,670nm,5.4s
HHC LR LR
comp=N,340nm,14.1s
HHC LR LR
comp=E,280nm,13.7s
HHC LR LR
comp=Z,320nm,13.7s
PYUN Piuthan 48.84 318 *e*P **P 15 26 35.0 -0.8**
comp=Z,104nm,0.5s
GTA Gaotai 49.80 342 ⇑P **P 15 26 43.6 +0.9**
GTA pP **pP 15 27 44.9 +1.9**
GTA PcP **PcP 15 27 59.4 +0.5**
GTA sP **sP 15 28 16.5 +1.7**
GTA S **S 15 33 31.4 +1.5**
GTA sS **sS 15 35 18.3 +1.2**
GTA ScS **ScS 15 36 01.7 -2.0**
GTA SS **SS 15 37 05.6 -1.2**
GTA pmax pmax
comp=Z,92nm,0.8s
GTA pmax pmax
comp=Z,160nm,7.6s
GTA LR LR
comp=N,170nm,19.0s
GTA LR LR
comp=E,150nm,18.0s
GTA LR LR
comp=Z,180nm,17.6s
CN2 Changchun 51.95 7⇓*i*P **P 15 26 58.0 -0.4**
CN2 *e*PcP **PcP 15 28 05.2 -1.4**
CN2 pmax pmax
comp=Z,60nm,0.7s
VLA Vladivostok 52.44 13*c i*P **P 15 27 02.0 +0.1**
VLA pmax pmax
comp=Z,165nm,1.2s
NDI New Delhi 53.14 315 *e*P P 15 27 02.5 -4.8
MDJ Mudanjiang 53.40 11 P **P 15 27 09.5 +0.6**
MDJ pP **pP 15 28 09.5 -0.7**
MDJ PcP **PcP 15 28 12.8 +0.7**
MDJ PP **PP 15 29 12.9 +0.1**
MDJ ScS ScS 15 36 29.2 +0.9
MDJ pmax pmax
comp=Z,240nm,0.9s
MDJ pmax pmax
comp=Z,140nm,5.1s
MDJ LR LR
comp=N,150nm,19.7s
MDJ LR LR
comp=E,58nm,13.8s
MDJ LR LR
comp=Z,190nm,19.7s
MDJ Mudanjiang 53.40 11 *e*P **P 15 27 08.8 -0.1**
comp=Z,191nm,0.8s
USRK Ussuriysk Arra 53.49 13 P **P 15 27 09.9 +0.3**
comp=Z,119nm,0.7s,baz=190,slow=6.9,SNR=193
ERM Erimo 54.96 23 *e*P **P 15 27 20.6 +0.4**
ERM pmax pmax
comp=Z,60nm,1.1s
ULN Ulaanbaatar 56.25 352 P **P 15 27 29.9 +0.5**
SNR=30
ULN Ulaanbaatar 56.25 352 *e*P **P 15 27 29.4 0.0**
comp=Z,78nm,0.9s
SONM Songino Array 56.32 351 P **P 15 27 30.0 +0.1**
SONM ⇑*e* 15 57 36.4
SONM Songino Array 56.32 351 P **P 15 27 30.0 +0.1**
comp=Z,106nm,0.8s,baz=168,slow=8.5,SNR=459
SONM PKP2bc 15 57 36.4
comp=Z,0.8nm,0.8s,baz=357,slow=7.4,SNR=4.1
ASAJ Asahikawa 56.55 22 *e*P **P 15 27 31.5 +0.1**
ASAJ Asahikawa 56.55 22 P **P 15 27 31.4 0.0**
comp=Z,50nm,0.8s,baz=244,slow=11,SNR=23
HIA Hailar 56.94 2 *e*P **P 15 27 33.9 -0.2**
comp=Z,52nm,0.9s
WMQ Urumqi 58.07 335 P **P 15 27 43.0 +0.9**
WMQ PcP **PcP 15 28 31.8 +1.3**
WMQ pP **pP 15 28 46.4 +1.9**
WMQ sP **sP 15 29 17.3 +1.7**
WMQ pmax pmax
comp=Z,69nm,0.8s
WMQ pmax pmax
comp=Z,290nm,4.3s
HABR Khabarovsk 58.23 14*c i*P **P 15 27 42.5 -0.4**
HABR 15 28 29.9
HABR *e**PP **pP 15 28 42.3 -3.0**
HABR *e**SP **sP 15 29 13.2 -3.3**
HABR *e*S **S 15 35 20.3 -1.4**
HABR *e* 15 37 01.5
HABR SS **SS 15 39 18.0 -0.9**
HABR pmax pmax
comp=E,89nm,1.3s
HABR pmax pmax
comp=Z,341nm,1.3s
HABR pmax pmax
comp=N,83nm,1.3s
HABR MLR MLR
comp=Z,202nm,21.0s
KLR Kul'dur 58.24 11 *e*P P 15 27 38.0 -5.0
KLR pmax pmax
comp=E,35nm,1.8s
KLR pmax pmax
comp=Z,120nm,1.8s
RPZ Rata Peaks 58.70 137 *e*P **P 15 27 47.7 +1.3**
comp=Z,65nm,0.9s
YSS Yuzh-Sakhalins 59.06 20⇑*i*P **P 15 27 49.2 +0.5**
YSS pmax pmax
comp=Z,70nm,1.1s
ZAK Zakamensk 59.31 350⇓*i*P **P 15 27 49.2 -1.2**
ZAK pmax pmax
comp=Z,31nm,1.1s
MSVF Nonsavu 59.73 106 *e*P **P 15 27 55.9 +2.0**
MSVF pmax pmax
comp=Z,35nm,1.3s
CIT Chita 59.75 357 *e*P **P 15 27 54.0 +0.6**
CIT *e* 15 28 40.2
CIT pmax pmax
comp=Z,149nm,1.7s
TLY Talaya 60.49 350 *e*P **P 15 27 58.7 +0.4**
TLY pmax pmax
comp=Z,53nm,1.0s
TLY MLR MLR
comp=Z,134nm,16.0s
TLY Talaya 60.49 350 P **P 15 27 58.9 +0.6**
comp=Z,241nm,1.1s,SNR=5.7
KSH Kashi 60.78 324⇑*i*P **P 15 27 59.5 -1.1**
KSH pP **pP 15 29 03.8 +0.2**
KSH PP **PP 15 30 19.5 +1.0**
KSH ScP **ScP 15 32 14.2 -0.9**
KSH PcS **PcS 15 32 43.4 -1.1**
KSH S **S 15 35 50.8 -4.1**
KSH pmax pmax
comp=Z,34nm,1.0s
KSH LR LR
comp=N,150nm,6.8s
KSH LR LR
comp=E,84nm,7.8s
KSH LR LR
comp=Z,240nm,5.4s
IRK Irkutsk 60.94 351 *e*P **P 15 28 00.2 -1.1**
IRK pmax pmax
comp=Z,65nm,1.8s
URZ Urewera 61.48 129 *e*P **P 15 28 05.3 0.0**
comp=Z,17nm,0.7s
KBL Kabul 62.19 316 *e*P **P 15 28 08.1 -2.2**
KBL pmax pmax
comp=Z,46nm,0.8s
KBL Kabul 62.19 316 *e*P **P 15 28 08.1 -2.2**
comp=Z,46nm,0.8s
KBL Kabul 62.19 316 P **P 15 28 08.5 -1.8**
baz=62,SNR=11
MK31 Makanchi Array 62.75 334 *i* P **P 15 28 12.6 -0.9**
MK31 pmax pmax
comp=Z,25nm,0.6s
MK31 Makanchi Array 62.75 334 *e*P **P 15 28 12.8 -0.7**
MK31 *e*PcP **PcP 15 28 48.8 -0.4**
MKAR Makanchi Array 62.75 334 *i* P **P 15 28 12.8 -0.7**
MKAR pmax pmax
comp=Z,28nm,0.7s
MKAR Makanchi Array 62.75 334 P **P 15 28 12.8 -0.7**
MKAR PcP **PcP 15 28 49.0 -0.3**
MKAR ⇑*e* 15 57 20.4
MKAR Makanchi Array 62.75 334 P **P 15 28 12.8 -0.7**
comp=Z,26nm,0.8s,baz=145,slow=7.6,SNR=240
MKAR PcP **PcP 15 28 49.0 -0.3**
comp=Z,7.8nm,0.8s,baz=142,slow=6.1,SNR=6.1
MKAR PKP2bc 15 57 20.4
comp=Z,1.7nm,0.9s,baz=336,slow=2.7,SNR=9.8
KZA Kyzart 62.88 326 *i* P **P 15 28 14.8 -0.1**
KZA Kyzart 62.88 326 P **P 15 28 14.8 -0.1**
SNR=34
TKM2 Tokmak 2 63.26 327 *e*P **P 15 28 16.1 -1.0**
TKM2 pmax pmax
comp=Z,51nm,1.4s
TKM2 Tokmak 2 63.26 327 P **P 15 28 16.8 -0.3**
SNR=18
TKM2 Tokmak 2 63.26 327 *e*P **P 15 28 16.1 -1.0**
comp=Z,51nm,1.4s
KBK Karagaybulak 63.43 326 *i* P **P 15 28 18.6 +0.4**
KBK Karagaybulak 63.43 326 P **P 15 28 18.6 +0.4**
SNR=21
AAK Ala-Archa 63.67 326 P **P 15 28 19.2 -0.6**
comp=Z,202nm,1.0s,SNR=15
AAK Ala-Archa 63.67 326 *e*P **P 15 28 19.1 -0.6**
AAK *e* 15 28 53.2
AAK pmax pmax
comp=Z,41nm,1.0s
AAK Ala-Archa 63.67 326 P **P 15 28 19.6 -0.2**
SNR=19
AAK Ala-Archa 63.67 326 P **P 15 28 19.5 -0.2**
SNR=26
AAK Ala-Archa 63.67 326 *e*P **P 15 28 19.1 -0.6**
comp=Z,41nm,1.0s
AAK *e*PcP **PcP 15 28 53.2 -0.1**
AAK ⇑*e* 15 57 16.5
AAK Ala-Archa 63.67 326 P **P 15 28 19.4 -0.3**
comp=Z,28nm,1.0s,baz=138,slow=4.1,SNR=49
AAK PKP2bc 15 57 16.5
comp=Z,0.9nm,0.3s,baz=239,slow=3.7,SNR=4.8
FRU Bishkek 63.73 326 *e*P **P 15 28 19.0 -1.0**
FRU pmax pmax
comp=Z,50nm,1.9s
CHMS Chumysh 63.77 326 *i* P **P 15 28 19.0 -1.2**
CHMS Chumysh 63.77 326 P **P 15 28 19.0 -1.2**
SNR=5.7
AML Almayashu 63.79 325 *i* P **P 15 28 20.4 -0.4**
AML Almayashu 63.79 325 P **P 15 28 20.4 -0.4**
SNR=14
USP Ospenovka 64.08 326 *i* P **P 15 28 21.4 -0.8**
USP Ospenovka 64.08 326 P **P 15 28 21.4 -0.8**
SNR=24
EKS2 Erkin-Say 64.09 326 *e*P **P 15 28 21.8 -0.6**
EKS2 *e**PP **pP 15 29 26.6 +0.5**
EKS2 pmax pmax
comp=Z,58nm,1.1s
EKS2 Erkin-Say 64.09 326 P **P 15 28 22.1 -0.3**
SNR=46
EKS2 Erkin-Say 64.09 326 *e*P **P 15 28 21.8 -0.6**
comp=Z,58nm,1.1s
EKS2 *e*pP **pP 15 29 26.6 +0.5**
CLNS Chul'man 64.78 5 *e*P **P 15 28 26.3 -0.2**
CLNS pmax pmax
comp=Z,40nm,1.0s
CLNS pmax pmax
comp=N,22nm,1.0s
CLNS pmax pmax
comp=E,13nm,1.0s
KK31 Karatay Array 66.23 324 *i* P **P 15 28 34.7 -1.3**
KK31 pmax pmax
comp=Z,3.0nm,0.4s
KKAR Karatay Array 66.23 324 *e*P **P 15 28 34.7 -1.3**
KKAR pmax pmax
comp=Z,11nm,0.8s
KKAR Karatay Array 66.23 324 *e*P **P 15 28 34.6 -1.3**
comp=Z,11nm,0.8s
ZAA0 Zalesovo Array 67.45 340 *e*P **P 15 28 41.7 -1.6**
ZALV Zalesovo Beam 67.45 340 *i* P **P 15 28 41.9 -1.4**
ZALV pmax pmax
comp=Z,36nm,0.9s
ZALV Zalesovo Beam 67.45 340 P **P 15 28 41.9 -1.4**
ZALV ⇑*e* 15 57 06.8
ZALV Zalesovo Beam 67.45 340 P **P 15 28 41.9 -1.4**
comp=Z,24nm,0.7s,baz=134,slow=4.3,SNR=110
ZALV PKP2bc 15 57 06.8
comp=Z,2.9nm,0.9s,baz=322,slow=4.5,SNR=6.9
NVS Novosibirsk 68.71 340⇑*i*P **P 15 28 48.4 -2.7**
NVS *e* 15 29 54.7
NVS *i* 15 30 18.7
NVS pmax pmax
comp=Z,44nm,1.4s
NVS pmax pmax
comp=N,17nm,1.3s
NVS pmax pmax
comp=E,19nm,1.3s
ABPO Ambohimpanom 68.78 253 *e*P **P 15 28 53.2 +0.6**
ABPO pmax pmax
comp=Z,11nm,0.8s
ABPO Ambohimpanom 68.78 253 *e*P **P 15 28 53.1 +0.6**
comp=Z,11nm,0.8s
OPO Ambohidratompo 68.83 253 P **P 15 28 54.1 +1.2**
OPO Ambohidratompo 68.83 253 P **P 15 28 54.1 +1.2**
comp=Z,23nm,0.8s,baz=78,slow=3.2,SNR=17
IMYA Miami 69.41 313 *e*P **P 15 28 55.6 -0.5**
PETK Petropavlovsk- 69.70 25 P **P 15 28 57.5 +0.2**
PETK Petropavlovsk- 69.70 25 P **P 15 28 57.5 +0.2**
PETK Petropavlovsk- 69.70 25 P **P 15 28 57.5 +0.2**
comp=Z,16nm,0.8s,baz=194,slow=5.5,SNR=29
MAW Mawson 69.75 199 P **P 15 28 59.8 +2.5**
MAW pP **pP 15 30 00.4 -1.7**
MAW ⇑*e* 15 56 57.7
MAW Mawson 69.75 199 P **P 15 28 59.8 +2.5**
comp=Z,6.8nm,0.7s,baz=60,slow=7.3,SNR=19
MAW pP **pP 15 30 00.4 -1.7**
comp=Z,7.4nm,1.0s,baz=62,slow=7.7,SNR=2.9
MAW PKP2bc 15 56 57.7
comp=Z,8.4nm,1.0s,baz=261,slow=5.0,SNR=9.7
MAW Mawson 69.75 199 P **P 15 29 00.3 +3.0**
baz=70,SNR=15
ISRO Mashad 69.85 313 *e*P **P 15 28 58.6 0.0**
PET Petropavlovsk 70.04 25 *e*P **P 15 28 57.7 -1.5**
PET pmax pmax
comp=Z,21nm,1.2s
IPAY Payeh 70.25 313 *e*P **P 15 29 01.2 0.0**
YAK Yakutsk 70.35 6*c i*P **P 15 29 00.0 -0.9**
YAK pmax pmax
comp=Z,31nm,1.3s
YAK pmax pmax
comp=N,30nm,1.5s
YAK pmax pmax
comp=E,9.0nm,1.6s
IAKL Akhelmad 70.49 313 *e*P **P 15 29 01.9 -0.9**
IKRD Kardeh 70.75 313 *e*P P 15 29 00.2 -4.0
IEMG Emamgholi 70.93 314 *e*P **P 15 29 05.3 -0.1**
ISFR Sfrayin 71.24 313 *e*P **P 15 29 06.9 -0.3**
VOSK Vostochnaya 72.11 332 P **P 15 29 09.7 -2.0**
VOSK pmax pmax
comp=Z,30nm,1.0s
BVAR Borovoye Array 72.58 332 P **P 15 29 13.5 -0.9**
BVAR Borovoye Array 72.58 332 P **P 15 29 13.5 -0.9**
BVAR Borovoye Array 72.58 332 P **P 15 29 13.5 -0.9**
comp=Z,25nm,0.8s,baz=134,slow=8.5,SNR=108
BRVK Borovoye 72.65 332 P **P 15 29 13.3 -1.5**
comp=Z,215nm,1.1s,SNR=11
BRVK Borovoye 72.65 332*c i*P **P 15 29 13.8 -1.0**
BRVK pmax pmax
comp=Z,54nm,1.1s
BRVK Borovoye 72.65 332 P **P 15 29 14.3 -0.5**
SNR=22
BRVK Borovoye 72.65 332 *e*P **P 15 29 13.6 -1.2**
comp=Z,56nm,1.2s
VNDA Vanda 73.33 171 *e*P **P 15 29 19.8 +1.3**
comp=Z,2.9nm,0.7s
VNDA pP **pP 15 30 22.0 -1.9**
VNDA Vanda 73.33 171 P **P 15 29 20.2 +1.7**
comp=Z,1.9nm,0.5s,baz=319,slow=6.7,SNR=11
VNDA pP **pP 15 30 22.0 -1.9**
comp=Z,4.6nm,1.0s,baz=336,slow=9.3,SNR=2.5
ISHM Shahmirzad 74.20 311 *e*P **P 15 29 23.2 -1.4**
IDMV Damavand 75.07 310 *e*P **P 15 29 28.5 -1.1**
SEY Seymchan 75.51 16⇓*i*P **P 15 29 31.7 +0.6**
AB31 Akbulak array 75.75 325 *i* P **P 15 29 30.9 -1.8**
AB31 pmax pmax
comp=Z,59nm,0.9s
ABKAR Akbulak array 75.75 325 *e*P **P 15 29 31.6 -1.1**
comp=Z,38nm,0.8s
DAMY Dhamar 75.75 287 P **P 15 29 34.6 +0.8**
baz=76,SNR=4.2
QRN Al-Qurain 76.13 302 *e*P **P 15 29 33.3 -2.0**
QRN AMb AMB 15 29 34.4
comp=Z,83nm,0.7s
RDF Al-Radifah 76.50 302 *e*P **P 15 29 35.2 -2.2**
RDF AMb AMB 15 29 37.0
comp=Z,87nm,1.1s
UMR Umm Al-Rimmam 76.54 303 *e*P **P 15 29 35.7 -1.9**
UMR AMb AMB 15 29 36.7
comp=Z,52nm,0.7s
ATD Arta Tunnel 76.62 284 P **P 15 29 37.9 -0.6**
ATD Arta Tunnel 76.62 284 P **P 15 29 37.9 -0.6**
comp=Z,3.8nm,0.4s,baz=236,slow=21,SNR=4.3
IRAZ Razeghan 76.62 309 *e*P **P 15 29 37.2 -1.0**
FX1 Attu Island--F 76.73 31 *e*P **P 15 29 37.9 -0.3**
FX1 Attu Island--F 76.73 31 P **P 15 29 38.5 +0.4**
comp=Z,26nm,0.9s,baz=83,slow=1.4,SNR=9.4
RAYN Ar Rayn 76.80 296 P **P 15 29 37.8 -1.4**
comp=Z,158nm,0.9s,SNR=15
NAY Al-Naaiem 76.85 302 *e*P **P 15 29 37.1 -2.2**
NAY AMb AMB 15 29 38.2
comp=Z,1.5nm,0.7s
MIB Mutribah 76.93 303 *e*P **P 15 29 37.6 -2.1**
MIB AMb AMB 15 29 39.2
comp=Z,63nm,1.0s
RST Umm Al-Ruwaisa 77.12 303 *e*P **P 15 29 38.2 -2.7**
RST AMb AMB 15 29 40.0
comp=Z,908nm,0.7s
SMY Shemya 77.13 31 P **P 15 29 38.5 -1.8**
SMY Shemya 77.13 31 P **P 15 29 38.5 -1.8**
AKTO Aktyubinsk 77.42 326 *i* P **P 15 29 40.8 -1.2**
AKTO pmax pmax
comp=Z,54nm,0.9s
AKTO Aktyubinsk 77.42 326 P **P 15 29 41.2 -0.8**
AKTO Aktyubinsk 77.42 326 P **P 15 29 41.2 -0.8**
comp=Z,31nm,0.8s,baz=111,slow=6.0,SNR=88
SYO Syowa Base 78.32 201⇑*e*P **P 15 29 47.0 +0.4**
SYO Syowa Base 78.32 201⇑*e*pP pP 15 30 53.4 +0.4
ISRB Sarab 79.14 311 *e*P **P 15 29 51.2 -0.8**
SVE Sverdlovsk 79.36 332⇓*e*P **P 15 29 51.3 -1.1**
SVE pmax pmax
comp=Z,50nm,1.1s
TIXI Tiksi 79.73 4*d i*P **P 15 29 53.2 -0.9**
TIXI pmax pmax
comp=Z,34nm,1.3s
KMBO Kilima Mbogo 80.09 270 P **P 15 29 58.7 +1.0**
SNR=8.0
KMBO Kilima Mbogo 80.09 270 *e*P **P 15 29 57.8 +0.2**
comp=Z,48nm,1.1s
KMBO Kilima Mbogo 80.09 270 P **P 15 29 58.0 +0.4**
comp=Z,34nm,0.9s,baz=59,slow=8.1,SNR=65
KMBO Kilima Mbogo 80.09 270 P **P 15 29 58.6 +1.0**
baz=80,SNR=11
ARU Arti 80.12 331*c i*P **P 15 29 54.8 -1.7**
ARU 15 33 00.3
ARU S **S 15 39 34.9 -1.8**
ARU pmax pmax
comp=Z,50nm,1.7s
ARU Arti 80.12 331 P **P 15 29 54.6 -1.9**
comp=Z,125nm,1.3s,SNR=8.2
ISHB Shabestar 80.81 311 *e*P **P 15 30 00.0 -0.9**
SOKR Solikamsk 82.53 333 *e*P **P 15 30 07.0 -2.0**
SOKR 15 31 36.0
SOKR pmax pmax
comp=Z,20nm,0.9s
KBZ Khabaz 84.38 315 P **P 15 30 18.2 -0.5**
KBZ Khabaz 84.38 315 P **P 15 30 18.2 -0.5**
KBZ PKKPbc **PKKPbc 15 48 31.0 0.0**
KBZ Khabaz 84.38 315 P **P 15 30 18.2 -0.5**
comp=Z,21nm,0.9s,baz=96,slow=2.5,SNR=23
KBZ PKKPbc **PKKPbc 15 48 31.0 0.0**
comp=Z,3.9nm,0.8s,baz=253,slow=2.3,SNR=6.4
KIV Kislovodsk 84.59 316 *e*P **P 15 30 18.4 -1.5**
KIV pmax pmax
comp=Z,16nm,1.0s
ASF Jabal al Asfar 86.19 303 P **P 15 30 28.9 +0.8**
ASF Jabal al Asfar 86.19 303 P **P 15 30 28.9 +0.8**
baz=79,slow=3.9
MBAR Mbarara 86.62 270 P **P 15 30 30.5 -0.2**
comp=Z,207nm,0.7s,SNR=15
LSZ Lusaka 87.21 255 P **P 15 30 34.7 +1.3**
SNR=6.6
LSZ Lusaka 87.21 255 *e*P **P 15 30 33.8 +0.4**
comp=Z,118nm,1.1s
VRHR Novokhopersk 87.26 322 *e*P **P 15 30 31.1 -1.6**
VRHR pmax pmax
comp=N,30nm,0.8s
VRHR pmax pmax
comp=E,60nm,0.8s
VRHR pmax pmax
comp=Z,120nm,0.8s
EIL Elat 87.36 300 PKKPbc PKKPbc 15 48 23.6 +0.4
EIL Elat 87.36 300 PKKPbc PKKPbc 15 48 23.6 +0.4
comp=Z,1.6nm,0.4s,baz=310,slow=3.7,SNR=4.8
EIL Elat 87.36 300 P **P 15 30 34.0 +0.4**
baz=87,SNR=15
MMAI Mount Meron Ar 87.60 304 P **P 15 30 34.5 -0.3**
MMAI Mount Meron Ar 87.60 304 P **P 15 30 34.5 -0.3**
comp=Z,19nm,0.8s,baz=93,slow=7.2
BOSA Boshof 88.15 242 P **P 15 30 37.9 +0.2**
BOSA pP **pP 15 31 44.1 -1.6**
BOSA Boshof 88.15 242 P **P 15 30 37.9 +0.2**
comp=Z,6.1nm,0.8s,baz=132,slow=13,SNR=6.1
BOSA pP **pP 15 31 44.1 -1.6**
comp=Z,6.1nm,0.9s,baz=159,slow=12,SNR=2.6
VSR Storozhevoye 88.79 322 *e*P **P 15 30 38.3 -1.5**
VSR pmax pmax
comp=Z,70nm,1.6s
VSR pmax pmax

comp=N,10.0nm,0.9s
VSR pmax pmax
comp=E,10.0nm,0.6s
BRTR Keskin Array B 90.22 310 P **P** 15 30 45.4 -1.6
BRTR PKiKP **PKiKP** 15 35 41.4 +0.5
BRTR PKKP **PKKPbc** 15 48 16.2 -0.7
BRTR Keskin Array B 90.22 310 P **P** 15 30 45.4 -1.6
comp=E,3.6nm,0.8s,baz=122,slow=5.5,SNR=16
BRTR PKiKP **PKiKP** 15 35 41.4 +0.5
comp=E,1.4nm,0.9s,baz=328,slow=4.4,SNR=3.6
BRTR PKKP **PKKPbc** 15 48 16.2 -0.7
comp=E,1.3nm,0.8s,baz=191,slow=1.3,SNR=4.6
KLMR Klimovskoe 90.97 331 *e*P **P** 15 30 46.6 -3.2
KLMR *e**SP sP 15 32 22.3 -5.5
KLMR *e* 15 34 30.7
KLMR pmax pmax
comp=Z,36nm,1.6s
OBN Obninsk 91.19 325 ||*i*P **P** 15 30 49.8 -1.1
OBN *i* *PP pP 15 32 17.9 +19
OBN *e* 15 34 32.4
OBN *e*S **SKSac** 15 40 52.0 -3.1
OBN *i* PS **PS** 15 43 10.7 -0.7
OBN pmax pmax
comp=Z,56nm,1.3s
SNAA Sanae 91.64 196 *e*P **P** 15 30 54.6 +1.7
SNAA Sanae 91.64 196 *e*pP pP 15 31 59.3 -1.9
SNAA Sanae 91.64 196 *e*P **PKKPdf** 15 48 09.0 -0.5
SNAA Sanae 91.64 196 *e*P **P** 15 30 54.4 +1.5
comp=Z,3.8nm,0.6s
VNA2 Neumayer--Watz 93.28 196 *e*P **P** 15 31 02.1 +1.7
baz=116,slow=3.1
VNA2 Neumayer--Watz 93.28 196 *e*pP pP 15 32 06.8 -1.9
baz=116,slow=3.1
VNA2 Neumayer--Watz 93.28 196 *e*P **PKKPdf** 15 48 05.0 -1.5
baz=316,slow=5.9
VNA1 Neumayer--Stat 93.68 196 *e*pP pP 15 32 08.8 -1.7
VNA3 Neumayer Olymp 93.69 195 *e*P **P** 15 31 03.7 +1.5
VNA3 Neumayer Olymp 93.69 195 *e*pP pP 15 32 08.6 -2.0
VNA3 Neumayer Olymp 93.69 195 *e*P **PKKPdf** 15 48 01.1 -4.7
AKASG Malin Array Be 94.88 320 *i* P **P** 15 31 06.0 -2.0
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKASG Malin Array Be 94.88 320 P **P** 15 31 06.0 -2.0
AKASG Malin Array Be 94.88 320 P **P** 15 31 06.0 -2.0
comp=Z,4.0nm,0.7s,baz=75,slow=5.6,SNR=8.9
IMA2 Indian Mountai 96.70 24 *e*P **P** 15 31 15.0 -1.1
BUR08 Bucovina Ar. S 97.25 317 *e*P **P** 15 31 18.1 -0.8
FINES FINESS Array B 97.50 331 P **P** 15 31 18.4 -1.2
FINES PKiKP **PKiKP** 15 35 52.5 0.0
FINES FINESS Array B 97.50 331 P **P** 15 31 18.4 -1.2
comp=Z,6.5nm,0.8s,baz=103,slow=6.7,SNR=13
FINES PKiKP **PKiKP** 15 35 52.5 0.0
comp=Z,1.4nm,0.5s,baz=173,slow=1.1,SNR=4.4
ARCES ARCESS Array B 97.99 339 P **P** 15 31 20.2 -1.5
ARCES ARCESS Array B 97.99 339 P **P** 15 31 20.2 -1.5
comp=Z,5.8nm,0.9s,baz=72,slow=4.0,SNR=8.7
KOLS Kolonicke sedl 99.25 318 *e*P **Pdif** 15 31 27.6 -0.2
KOLS *e* 15 32 55.2
KOLS Kolonicke sedl 99.25 318 PDIF **Pdif** 15 31 27.6 -0.2
KOLS *e* 15 32 55.2
ILAR Eielson Array 99.51 26 P **Pdif** 15 31 27.4 -1.2
ILAR PP **PP** 15 35 33.1 -3.0
ILAR PKKPbc **PKKPbc** 15 47 50.5 -2.7
ILAR Eielson Array 99.51 26 P **Pdif** 15 31 27.4 -1.2
comp=Z,0.3nm,0.8s,baz=237,slow=5.5,SNR=5.0
ILAR PP **PP** 15 35 33.1 -3.0
comp=Z,0.9nm,0.9s,baz=254,slow=5.3,SNR=4.5
ILAR PKKPbc **PKKPbc** 15 47 50.5 -2.7
comp=Z,0.5nm,0.9s,baz=122,slow=2.4,SNR=5.0
SPITS Spitsbergen Ar 99.93 348 P **Pdif** 15 31 28.4 -1.8
SPITS Spitsbergen Ar 99.93 348 P **Pdif** 15 31 28.4 -1.8
comp=Z,6.4nm,0.7s,baz=107,slow=7.1,SNR=7.6
STHS Stebnicka Huta 99.94 319 *e*P **Pdif** 15 31 30.7 -0.1
STHS *e* 15 32 58.9
STHS Stebnicka Huta 99.94 319 PDIF **Pdif** 15 31 30.7 -0.1
STHS *e* 15 32 58.8
GERES GERESS Array B 104.91 318 PKiKP **PKiKP** 15 36 06.0 -0.5
GERES GERESS Array B 104.91 318 PKiKP **PKiKP** 15 36 06.0 -0.5
comp=Z,1.1nm,0.7s,baz=101,slow=1.4,SNR=7.0
DLBC Dease Lake 108.41 31 PKiKP **PKiKP** 15 36 12.8 +0.2
DLBC Dease Lake 108.41 31 PKiKP **PKiKP** 15 36 12.8 +0.2
comp=Z,1.7nm,0.8s,baz=161,slow=26,SNR=3.3
HAU Haudompre 109.88 318 *e*PKIKP **PKiKP** 15 36 16.0 +0.3
HAU Haudompre 109.88 318 *e*PKPdf **PKiKP** 15 36 16.0 +0.3
LOR Lormes 111.67 318 *e*PKIKP **PKiKP** 15 36 18.2 -0.9
LOR Lormes 111.67 318 *e*PKPdf **PKiKP** 15 36 18.2 -0.9
SSF Saint Saulge 111.95 318 *e*PKIKP **PKiKP** 15 36 19.3 -0.3
comp=Z,22nm,0.9s
SSF Saint Saulge 111.95 318 *e*PKIKP **PKiKP** 15 36 19.3 -0.3
SSF Saint Saulge 111.95 318 *e*PKPdf **PKiKP** 15 36 19.3 -0.3
BGF Bois d'Agland 112.50 317 *e*PKIKP **PKiKP** 15 36 20.5 -0.2
comp=Z,13nm,0.6s
BGF Bois d'Agland 112.50 317 *e*PKIKP **PKiKP** 15 36 20.5 -0.2
BGF Bois d'Agland 112.50 317 *e*PKPdf **PKiKP** 15 36 20.5 -0.2
TCF Toulx Ste Croi 112.99 317 *e*PKIKP **PKiKP** 15 36 21.3 -0.4
comp=Z,4.4nm,0.6s
TCF Toulx Ste Croi 112.99 317 *e*PKIKP **PKiKP** 15 36 21.3 -0.4
TCF Toulx Ste Croi 112.99 317 *e*PKPdf **PKiKP** 15 36 21.3 -0.4
CAF Calviac 113.40 316 *e*PKIKP **PKiKP** 15 36 22.5 0.0
comp=Z,6.5nm,0.7s
CAF Calviac 113.40 316 *e*PKIKP **PKiKP** 15 36 22.5 0.0
CAF Calviac 113.40 316 *e*PKPdf **PKiKP** 15 36 22.5 0.0
RJF Les Rejaudoux 113.69 316 *e*PKIKP **PKiKP** 15 36 22.9 -0.1
comp=Z,11nm,0.8s
RJF Les Rejaudoux 113.69 316 *e*PKIKP **PKiKP** 15 36 22.9 -0.1
RJF Les Rejaudoux 113.69 316 *e*PKPdf **PKiKP** 15 36 22.9 -0.1
YKA Yellowknife Ar 113.81 24 PKiKP **PKiKP** 15 36 22.4 -0.2
YKA Yellowknife Ar 113.81 24 PKiKP **PKiKP** 15 36 22.4 -0.2
comp=Z,6.5nm,0.7s,baz=307,slow=1.9,SNR=14
FLN La Foliniere 114.12 320 *e*PKIKP PKPdf 15 36 23.3 -0.4
FLN La Foliniere 114.12 320 *e*PKIKP PKPdf 15 36 23.3 -0.4
FLN La Foliniere 114.12 320 *e*PKPdf PKPdf 15 36 23.3 -0.4
LFF La Frestale 114.31 316 *e*PKIKP PKPdf 15 36 24.2 0.0
comp=Z,26nm,0.9s
LFF La Frestale 114.31 316 *e*PKIKP PKPdf 15 36 24.2 0.0
LFF La Frestale 114.31 316 *e*PKPdf PKPdf 15 36 24.2 0.0
MFF Saint Martin d 114.49 318 *e*PKIKP PKPdf 15 36 24.0 -0.5
comp=Z,11nm,0.8s
MFF Saint Martin d 114.49 318 *e*PKIKP PKPdf 15 36 24.0 -0.5
MFF Saint Martin d 114.49 318 *e*PKPdf PKPdf 15 36 24.0 -0.5
ETSF Etsaut 115.71 314 *e*PKIKP **PKPdf** 15 36 29.2 +2.2
ETSF Etsaut 115.71 314 *e*PKIKP **PKPdf** 15 36 29.2 +2.2
ETSF Etsaut 115.71 314 *e*PKPdf **PKPdf** 15 36 29.2 +2.2
TOA0 Torodi Ar. Sit 116.71 281 *e*PKPdf **PKPdf** 15 36 29.0 -0.6
TORD Torodi Ar. Bea 116.71 281 PKP **PKPdf** 15 36 28.8 -0.8
TORD SKP 15 39 37.5
TORD PKKPbc **PKKPbc** 15 46 57.8 +0.7
TORD Torodi Ar. Bea 116.71 281 PKP **PKPdf** 15 36 28.8 -0.8
comp=Z,14nm,0.6s,baz=47,slow=1.9,SNR=116
TORD SKP 15 39 37.5
comp=Z,2.0nm,1.0s,baz=63,slow=1.1,SNR=3.8
TORD PKKPbc **PKKPbc** 15 46 57.8 +0.7
comp=Z,1.6nm,0.8s,baz=273,slow=4.0,SNR=8.9
HUMO Hull Mountain 116.97 46 *e*PKPdf **PKPdf** 15 36 29.8 +0.3
YBH Yreka Blue Hor 117.37 47 PKP **PKPdf** 15 36 30.9 +0.6
YBH Yreka Blue Hor 117.37 47 PKP **PKPdf** 15 36 30.9 +0.6
comp=Z,1.9nm,0.8s,baz=185,slow=10,SNR=4.4
ESDC Sonseca Array 118.99 311 PKP **PKPdf** 15 36 33.5 +0.1
ESDC Sonseca Array 118.99 311 PKP **PKPdf** 15 36 33.5 +0.1
comp=Z,1.3nm,0.5s,baz=18,slow=2.8,SNR=13
NEW Newport 119.04 38 PKPdf **PKPdf** 15 36 33.6 +0.3
NEW Newport 119.04 38 PKP **PKPdf** 15 36 33.6 +0.3
comp=Z,6.5nm,0.6s,baz=102,slow=2.1,SNR=8.4
NEW Newport 119.04 38 P **PKPdf** 15 36 33.6 +0.3
baz=119
EDM Edmonton 119.06 32 *e*PKIKP **PKPdf** 15 36 32.0 -1.1
EDM Edmonton 119.06 32 *e*PKPdf **PKPdf** 15 36 32.0 -1.1
PAB San Pablo 119.31 311 *e*PKIKP **PKPdf** 15 36 33.2 -0.9
PAB San Pablo 119.31 311 *e*PKPdf **PKPdf** 15 36 33.2 -0.9
BEKR Beckworth 119.58 48 *e*PKPdf **PKPdf** 15 36 34.8 0.0
WVOR Wild Horse Val 120.08 45 *e*PKIKP **PKPdf** 15 36 36.3 +0.8
WVOR Wild Horse Val 120.08 45 *e*PKPdf **PKPdf** 15 36 36.3 +0.8
BMO Blue Mountains 120.19 42 *e*PKIKP **PKPdf** 15 36 34.8 -0.8
BMO Blue Mountains 120.19 42 *e*PKPdf **PKPdf** 15 36 34.8 -0.8
PAHR Pah Rah Range 120.35 48 *e*PKPdf **PKPdf** 15 36 36.5 +0.3
BSMT Bassoo Peak 120.64 38 *e*PKPdf **PKPdf** 15 36 36.4 -0.1
WALA Waterton Lakes 120.66 37 *e*PKPdf **PKPdf** 15 36 36.7 +0.2
MVO Moncorvo 120.81 314 *e*PKP **PKPdf** 15 36 37.5 +0.6
PKM Peak Mountain 121.22 54 P **PKPdf** 15 36 38.8 +0.7
baz=121
POLO Lamas de Olo 121.30 314 *e*PKP **PKPdf** 15 36 38.2 +0.3
MTE Manteigas 121.42 313 *e*PKP **PKPdf** 15 36 38.7 +0.6
PGAV Gavieira, Arco 121.44 315 *e*PKP **PKPdf** 15 36 38.6 +0.5
PCBR Castelo Branco 121.54 312 *e*PKP **PKPdf** 15 36 38.7 +0.5
VES Vestal, Richgr 121.59 53 P **PKPdf** 15 36 38.6 +0.1
baz=122
MSO Missoula 121.59 39 P **PKPdf** 15 36 38.4 +0.1
baz=122
PMRV Marv??o 121.60 312 *e*PKP **PKPdf** 15 36 38.8 +0.4
MFID Camas Ranch 121.69 43 P **PKPdf** 15 36 39.3 +0.6
baz=122
SLMT Seeley Lake 121.70 38 *e*PKPdf **PKPdf** 15 36 38.3 -0.3
PBAR Barrancos 121.70 310 *e*PKP **PKPdf** 15 36 39.2 +0.6
ARVC Arvin 121.96 53 P **PKPdf** 15 36 40.0 +0.8
baz=122
ISA Isabella 122.11 53 P **PKPdf** 15 36 40.2 +0.6
baz=122
CWC Cottonwood Cre 122.22 52 P **PKPdf** 15 36 40.4 +0.5
baz=122
PMTG Montargil 122.33 312 *e*PKP **PKPdf** 15 36 39.9 +0.1
EVO Evora 122.33 311 *e*PKIKP **PKiKP** 15 36 40.3 +0.3
comp=Z,72nm,1.5s
PBEJ Beja 122.37 310 *e*PKP **PKPdf** 15 36 40.2 +0.3
EVOP Sao Brissos 122.41 311 *e*PKIKP **PKPdf** 15 36 40.3 +0.3
EVOP Sao Brissos 122.41 311 *e*PKPdf **PKPdf** 15 36 40.3 +0.3
HLID Hailey 122.59 43 *e*PKPdf **PKPdf** 15 36 41.1 +0.8
HLID Hailey 122.59 43 P **PKPdf** 15 36 41.2 +0.8
baz=122
KIC Kosan Boka 122.61 273 *e*PKIKP **PKPdf** 15 36 40.2 -0.8
comp=Z,35nm,0.9s
PCVE Castro Verde 122.61 310 *e*PKP **PKPdf** 15 36 40.6 +0.2
GRAC Grapevine Rang 122.62 51 P **PKPdf** 15 36 41.4 +0.9
baz=123
EDW2 Edwards Air Fo 122.69 54 P **PKPdf** 15 36 41.4 +0.7
baz=123
DBIC Dimbokro 122.75 273 PKP **PKPdf** 15 36 41.1 -0.2
DBIC PKKPbc **PKKPab** 15 46 37.8 +1.9
DBIC Dimbokro 122.75 273 PKP **PKPdf** 15 36 41.1 -0.2
comp=Z,18nm,0.8s,baz=93,slow=2.8,SNR=20
DBIC PKKPbc **PKKPab** 15 46 37.8 +1.9
comp=Z,4.8nm,1.0s,baz=241,slow=9.6,SNR=3.5
LRMC Laurel Mountai 122.78 53 P **PKPdf** 15 36 42.0 +1.0
baz=123
MPMC Manual Prospec 122.78 52 P **PKPdf** 15 36 41.9 +0.8
baz=123
PNCL Nicolau / Gran 122.84 311 *e*PKP **PKPdf** 15 36 41.2 +0.4
LIC Lamto 122.88 272 *e*PKIKP **PKPdf** 15 36 41.2 -0.4
comp=Z,33nm,0.7s
LIC Lamto 122.88 272 *e*PKIKP **PKPdf** 15 36 40.8 -0.8
comp=Z,56nm,0.7s
LIC Lamto 122.88 272 *e*PKPdf **PKPdf** 15 36 41.2 -0.4
TIC Toumodi 122.91 273 *e*PKIKP **PKPdf** 15 36 40.4 -1.2
comp=Z,80nm,1.1s
HRY Holter Researc 122.95 38 *e*PKPdf **PKPdf** 15 36 41.1 +0.2
LRM Limekiln Ridge 122.96 40 *e*PKPdf **PKPdf** 15 36 41.0 -0.1
ELK Elko 123.04 46 *e*PKPdf **PKPdf** 15 36 41.9 +0.5
DLMT Dillon 123.06 40 *e*PKPdf **PKPdf** 15 36 41.7 +0.5
BFSC Mount Baldy Ra 123.11 54 P **PKPdf** 15 36 42.5 +0.8
baz=123
MCMT McKenzie Canyo 123.12 41 *e*PKPdf **PKPdf** 15 36 41.8 +0.3
FURC Furnace Creek, 123.16 51 P **PKPdf** 15 36 42.3 +0.9
baz=123
MORF Marmelete 123.17 310 *e*PKP **PKPdf** 15 36 42.7 +1.2
PFVI Vila Bisbo 123.36 309 *e*PKP **PKPdf** 15 36 42.6 +0.8
D17A Six Diamond Ra 123.45 37 P **PKPdf** 15 36 42.0 +0.1
baz=123
GSC Goldstone 123.52 53 *e*PKIKP **PKPdf** 15 36 43.8 +1.4
GSC Goldstone 123.52 53 *e*PKPdf **PKPdf** 15 36 43.8 +1.4
GSC Goldstone 123.52 53 P **PKPdf** 15 36 42.7 +0.4
baz=124
BOZ Bozeman (W) 123.55 39 *e*PKIKP **PKPdf** 15 36 42.3 +0.1
BOZ Bozeman (W) 123.55 39 *e*PKPdf **PKPdf** 15 36 42.3 +0.1
R11A Troy Canyon, C 123.58 49 *e*PKPdf **PKPdf** 15 36 43.1 +0.6
R11A Troy Canyon, C 123.58 49 P **PKPdf** 15 36 43.0 +0.6
baz=124
EGMT Eagleton 123.58 36 *e*PKPdf **PKPdf** 15 36 41.8 -0.3
EGMT Eagleton 123.58 36 P **PKPdf** 15 36 42.6 +0.6
baz=124
A19A Klindworth Far 123.71 35 P **PKPdf** 15 36 42.4 +0.1
baz=124
B19A Brinkman Farms 123.84 35 P **PKPdf** 15 36 42.8 +0.3
baz=124
D18A Linhart Farms, 123.96 37 P **PKPdf** 15 36 42.8 0.0
baz=124
HEC Hector,Ludlow 124.02 53 P **PKPdf** 15 36 43.8 +0.6
baz=124
QLMT Earthquake Lak 124.03 40 *e*PKPdf **PKPdf** 15 36 44.6 +1.4
F17A Fitzpatrick Pl 124.04 39 P **PKPdf** 15 36 43.8 +0.7
baz=124
C19A Slack Wire Ran 124.14 36 P **PKPdf** 15 36 43.4 +0.3
baz=124
TUQ Turquoise Moun 124.18 52 P **PKPdf** 15 36 44.1 +0.4
baz=124
E18A Harlowton 124.19 38 P **PKPdf** 15 36 43.5 +0.1
baz=124
A20A Cobblestone Ra 124.20 35 P **PKPdf** 15 36 43.6 +0.4
baz=124
PFO Pinyon Flat Ob 124.24 55 P **PKPdf** 15 36 44.8 +0.9
baz=124
B20A Solberg Farm, 124.38 35 P **PKPdf** 15 36 44.0 +0.4
baz=124
MONP Monument Peak 124.44 55 P **PKPdf** 15 36 45.6 +1.3
baz=124
SHPR Sheep Range 124.46 51 *e*PKPdf **PKPdf** 15 36 45.1 +0.9
BELC Belle Mtn. Jos 124.50 54 P **PKPdf** 15 36 45.3 +1.0
baz=124
D19A Cripps Ranch, 124.52 37 P **PKPdf** 15 36 44.1 +0.2
baz=124
GMRC Granite Mounta 124.57 53 P **PKPdf** 15 36 45.5 +1.1
baz=124
F18A Big Timber 124.62 38 P **PKPdf** 15 36 44.8 +0.6
baz=124
A21A Bergtoll Ranch 124.70 34 P **PKPdf** 15 36 44.1 0.0
baz=125
RRI2 Red Ridge 124.74 42 *e*PKPdf **PKPdf** 15 36 45.2 +0.5
IMW Indian Meadow 124.76 41 *e*PKPdf **PKPdf** 15 36 45.2 +0.5
C20A Veseth Ranch, 124.76 36 P **PKPdf** 15 36 44.4 +0.1
baz=125
DVTC Desert V Tower 124.76 56 P **PKPdf** 15 36 46.1 +1.3
baz=125
H17A Grant Village 124.77 40 P **PKPdf** 15 36 45.8 +1.1
baz=125
E19A Rath Farm, Rou 124.92 37 P **PKPdf** 15 36 44.9 +0.2
baz=125
TPAW Teton Pass 124.92 42 *e*PKPdf **PKPdf** 15 36 45.7 +0.7
SWSC Sam W. Stewart 124.94 55 P **PKPdf** 15 36 45.4 +0.4
baz=125
MOOW Moose Ponds 124.95 41 *e*PKPdf **PKPdf** 15 36 45.2 +0.2
B21A Ellsworth Farm 124.95 35 P **PKPdf** 15 36 45.0 +0.4
baz=125
DUG Dugway 124.97 46 *e*PKIKP **PKPdf** 15 36 45.4 +0.4
DUG Dugway 124.97 46 *e*PKPdf **PKPdf** 15 36 45.4 +0.4
DUG Dugway 124.97 46 P **PKPdf** 15 36 45.5 +0.4
baz=125
G18A Lazy EL Ranch, 125.00 39 P **PKPdf** 15 36 45.8 +0.8
baz=125
D20A Manuel Ranch, 125.00 37 P **PKPdf** 15 36 45.0 +0.2
baz=125
BC3 Big Chuckawall 125.03 54 P **PKPdf** 15 36 46.2 +0.9
baz=125
REDW Red Top Meadow 125.05 42 *e*PKPdf **PKPdf** 15 36 45.5 +0.3
SNOW Snow King Moun 125.07 42 *e*PKPdf **PKPdf** 15 36 46.5 +1.2
LOHW Long Hollow 125.10 41 *e*PKPdf **PKPdf** 15 36 45.3 0.0
IRM Iron Mountain 125.14 54 P **PKPdf** 15 36 46.4 +1.0
baz=125
C21A Desert Coulee 125.22 35 P **PKPdf** 15 36 45.6 +0.5
baz=125
A22A Carney Farms, 125.25 34 P **PKPdf** 15 36 45.8 +0.6
baz=125
HWUT Hardware Ranch 125.30 44 *e*PKPdf **PKPdf** 15 36 46.3 +0.7
E20A Meyer Farm, Mu 125.30 37 P **PKPdf** 15 36 45.8 +0.4
baz=125
ARUT Antelope Range 125.36 49 *e*PKIKP **PKPdf** 15 36 46.9 +1.0
ARUT Antelope Range 125.36 49 *e*PKPdf **PKPdf** 15 36 46.9 +1.0
H19A Powell 125.66 39 P **PKPdf** 15 36 46.2 0.0
baz=126
D21A La Casta Ranch 125.68 36 P **PKPdf** 15 36 46.4 +0.4
baz=126
GLA Glamis 125.70 55 P **PKPdf** 15 36 47.5 +1.0
baz=126
W13A Hualapai Mount 125.87 52 P **PKPdf** 15 36 47.8 +0.8
baz=126
G20A Bridger 125.88 39 P **PKPdf** 15 36 47.2 +0.6
baz=126
I19A Meeteetse 125.95 40 P **PKPdf** 15 36 47.4 +0.5
baz=126
C22A Vida 125.96 35 P **PKPdf** 15 36 47.0 +0.5
baz=126
M17A Scullys Gap (B 125.97 44 P **PKPdf** 15 36 47.4 +0.4
baz=126
B23A Brockton 126.06 34 P **PKPdf** 15 36 47.5 +0.8
baz=126
D22A Cohagen 126.11 36 P **PKPdf** 15 36 47.8 +0.9
baz=126
PDAR Pinedale Array 126.16 42 PKP **PKPdf** 15 36 47.5 +0.1
PDAR Pinedale Array 126.16 42 PKP **PKPdf** 15 36 47.5 +0.1
comp=Z,5.2nm,1.1s,baz=207,slow=1.0,SNR=20
L18A Fontenelle, Gr 126.20 43 P **PKPdf** 15 36 48.5 +1.0
baz=126
F21A Absaloka Mine, 126.24 37 P **PKPdf** 15 36 48.1 +0.9
baz=126
J19A Crowheart 126.27 41 P **PKPdf** 15 36 48.1 +0.6
baz=126
C23A Lambert 126.32 34 P **PKPdf** 15 36 48.2 +1.0
baz=126
LAO LASA Array 126.33 36 *e*PKPdf **PKPdf** 15 36 48.6 +1.3
A24A Westby 126.33 33 P **PKPdf** 15 36 47.9 +0.7
baz=126
H20A Greybull 126.37 39 P **PKPdf** 15 36 48.0 +0.4
baz=126
TMUT Trail Mountain 126.45 46 *e*PKPdf **PKPdf** 15 36 49.4 +1.3
G21A Lodge Grass 126.50 38 P **PKPdf** 15 36 48.2 +0.4
baz=126
I20A Worland 126.54 40 P **PKPdf** 15 36 48.0 +0.1
baz=126
L19A Farson 126.58 42 P **PKPdf** 15 36 48.3 +0.2
baz=126
K19A Absolon Red Bu 126.60 41 P **PKPdf** 15 36 48.1 -0.1
baz=126
Q16A Castle Valley 126.62 47 P **PKPdf** 15 36 49.3 +1.0
baz=126
E22A Miles City 126.62 36 P **PKPdf** 15 36 48.6 +0.7
baz=126
D23A Lindsay 126.66 35 P **PKPdf** 15 36 49.0 +1.0
baz=126
U15A North Rim 126.68 50 P **PKPdf** 15 36 49.4 +0.8
baz=127
F22A Rosebud 126.79 37 P **PKPdf** 15 36 48.5 +0.3
baz=127
A25A Svangstu Ranch 126.80 32 P **PKPdf** 15 36 48.6 +0.5
baz=127
J20A Shoshoni 126.85 41 P **PKPdf** 15 36 49.0 +0.4
baz=127
H21A Big Horn, Sher 126.89 39 P **PKPdf** 15 36 48.9 +0.3
baz=127
C24A Savage 126.90 34 P **PKPdf** 15 36 49.5 +1.1
baz=127
Y14A Wickenburg 126.91 53 P **PKPdf** 15 36 49.6 +0.8
baz=127
E23A Ismay 126.97 36 P **PKPdf** 15 36 49.4 +0.9
baz=127
K20A Yellowstone Ra 127.01 41 P **PKPdf** 15 36 49.0 +0.1
baz=127
SRU San Rafael 127.01 46 *e*PKIKP **PKPdf** 15 36 49.5 +0.5
SRU San Rafael 127.01 46 *e*PKPdf **PKPdf** 15 36 49.5 +0.5
I21A Big Trails, Te 127.14 40 P **PKPdf** 15 36 48.8 -0.3
baz=127
B25A Knox Farm, Ray 127.17 33 P **PKPdf** 15 36 49.9 +1.0
baz=127
D24A Glendive 127.19 35 P **PKPdf** 15 36 49.7 +0.8
baz=127
J21A Lysite 127.27 40 P **PKPdf** 15 36 49.4 0.0
baz=127
L20A Wamsutter 127.31 42 P **PKPdf** 15 36 50.1 +0.6
baz=127
F23A Volborg 127.32 37 P **PKPdf** 15 36 49.7 +0.4
baz=127
H22A Clearmont 127.34 38 P **PKPdf** 15 36 49.3 0.0
baz=127
A26A Wade Farm, Ken 127.39 32 P **PKPdf** 15 36 49.8 +0.6
baz=127
C25A Freed Ranch, W 127.44 34 P **PKPdf** 15 36 50.5 +1.1
baz=127
E24A Baker 127.51 35 P **PKPdf** 15 36 50.9 +1.3
baz=127
O19A Miners Draw (B 127.52 44 P **PKPdf** 15 36 50.6 +0.7
baz=127
B26A Jensen Ranch, 127.60 32 P **PKPdf** 15 36 50.4 +0.8
baz=128
I22A 9 Mile Ranch, 127.61 39 P **PKPdf** 15 36 50.6 +0.6
baz=128
214A Organ Pipe Nat 127.63 56 P **PKPdf** 15 36 51.2 +1.0
baz=128
M20A Sweetwater, Wa 127.64 43 P **PKPdf** 15 36 50.5 +0.3
baz=128
WUAZ Wupatki 127.69 51 *e*PKPdf **PKPdf** 15 36 51.6 +1.2
WUAZ Wupatki 127.69 51 P **PKPdf** 15 36 51.2 +0.8
baz=128
K21A Alcova 127.73 41 P **PKPdf** 15 36 50.7 +0.4
baz=128
D25A Fairfield 127.73 34 P **PKPdf** 15 36 50.8 +0.8
baz=128
A27A Ledoux Ranch, 127.77 31 P **PKPdf** 15 36 50.8 +0.9
baz=128
J22A Midwest 127.85 40 P **PKPdf** 15 36 50.1 -0.4
baz=128
N20A Spence Gulch, 127.88 43 P **PKPdf** 15 36 51.7 +1.0
baz=128
L21A Rawlins 127.97 42 P **PKPdf** 15 36 51.2 +0.4
baz=128
X16A Lo Mia Camp, P 128.00 52 P **PKPdf** 15 36 51.1 +0.1
baz=128
C26A Wahner Farm, P 128.01 33 P **PKPdf** 15 36 51.3 +0.8
baz=128
E25A Miller Ranch, 128.06 35 P **PKPdf** 15 36 50.8 +0.1
baz=128
B27A Peters Farms, 128.10 32 P **PKPdf** 15 36 50.7 +0.2
baz=128
G24A Alzada 128.12 37 P **PKPdf** 15 36 50.8 -0.1
baz=128
M21A Separation Pea 128.14 42 P **PKPdf** 15 36 51.3 +0.1
baz=128
K22A Casper 128.19 41 P **PKPdf** 15 36 51.2 +0.1
baz=128
O20A White River Ci 128.20 44 P **PKPdf** 15 36 51.9 +0.6
baz=128
RWWY Rawlins 128.20 42 *e*PKPdf **PKPdf** 15 36 51.5 +0.2
D26A Manning 128.29 34 P **PKPdf** 15 36 51.9 +0.9
baz=128
H24A Dirks Ranch, A 128.35 37 P **PKPdf** 15 36 50.7 -0.6
baz=128
C27A Sayler Ranch, 128.39 33 P **PKPdf** 15 36 51.0 -0.2
baz=128
N21A Black Mountain 128.42 43 P **PKPdf** 15 36 52.3 +0.6
baz=128
J23A Dilts Ranch, B 128.44 39 P **PKPdf** 15 36 51.6 0.0
baz=128
B28A Dugan Ranch, T 128.54 31 P **PKPdf** 15 36 51.9 +0.4
baz=128
L22A Ellis Ranch, M 128.55 41 P **PKPdf** 15 36 52.3 +0.4
baz=128
E26A Carlson Angus 128.61 35 P **PKPdf** 15 36 52.1 +0.5
baz=128
K23A Bowen Ranch, D 128.72 40 P **PKPdf** 15 36 52.1 0.0
baz=129
D27A Center 128.75 33 P **PKPdf** 15 36 51.9 0.0
baz=129
I24A Kuemmerle Ranc 128.78 38 P **PKPdf** 15 36 51.9 -0.3
baz=129
G25A Newell 128.78 36 P **PKPdf** 15 36 51.9 -0.2
baz=129
PV01 Paradox Valley 128.81 47 *e*PKPdf **PKPdf** 15 36 54.0 +1.5
A29A Manning Farm, 128.81 30 P **PKPdf** 15 36 52.3 +0.4
baz=129
G27A Dupree 128.97 36 P **PKPdf** 15 36 53.9 +1.5
baz=129
C28A Hausauer Farms 128.98 32 P **PKPdf** 15 36 53.1 +0.8
baz=129
L23A Garrett 128.99 41 P **PKPdf** 15 36 52.2 -0.5
baz=129
RSSD Black Hills 129.00 38 *e*PKIKP **PKPdf** 15 36 52.5 -0.2
RSSD Black Hills 129.00 38 *e*PKPdf **PKPdf** 15 36 52.5 -0.2
S20A Disappointment 129.08 47 P **PKPdf** 15 36 54.3 +1.2
baz=129
W18A Petrified Fore 129.08 51 P **PKPdf** 15 36 54.0 +1.0
baz=129
N22A Wattenberg Ran 129.12 43 P **PKPdf** 15 36 54.1 +0.9
baz=129
E27A Carson 129.13 34 P **PKPdf** 15 36 52.9 +0.3
baz=129
F27A Lemmon 129.20 35 P **PKPdf** 15 36 52.8 0.0
baz=129
D28A Regan 129.21 33 P **PKPdf** 15 36 53.4 +0.6
baz=129
MVCO Mesa Verde 129.23 48 *e*PKPdf **PKPdf** 15 36 54.8 +1.5
MVCO Mesa Verde 129.23 48 P **PKPdf** 15 36 54.3 +1.0
baz=129

I25A	Rochford	129.24	38	P	PKPdf	15 36 53.0	-0.2
	baz=129						
A30A	Hoffart Farm,	129.26	30	P	PKPdf	15 36 53.1	+0.3
	baz=129						
MDND	Maddock	129.31	32	*e*PKPdf	PKPdf	15 36 53.2	+0.3
MDND	Maddock	129.31	32	P	PKPdf	15 36 53.3	+0.3
	baz=129						
N23A	Red Feather La	129.42	42	P	PKPdf	15 36 54.5	+0.8
	baz=129						
H26A	Fairpoint	129.49	37	P	PKPdf	15 36 54.2	+0.8
	baz=129						
E28A	Huff	129.52	33	P	PKPdf	15 36 54.0	+0.6
	baz=129						
J25A	Sunshine Ranch	129.53	39	P	PKPdf	15 36 53.3	-0.3
	baz=129						
S21A	Coal Bank Pass	129.56	47	P	PKPdf	15 36 55.0	+0.9
	baz=130						
B30A	Myrvik Farm, E	129.57	30	P	PKPdf	15 36 53.8	+0.5
	baz=129						
H27A	Howes	129.89	36	P	PKPdf	15 36 53.8	-0.3
	baz=130						
W20A	Ramah	130.02	50	P	PKPdf	15 36 55.7	+0.7
	baz=130						
ISCO	Idaho Springs	130.15	43	*e*PKIKP	PKPdf	15 36 56.3	+1.1
ISCO	Idaho Springs	130.15	43	*e*PKPdf	PKPdf	15 36 56.3	+1.1
P23A	Jefferson	130.20	44	P	PKPdf	15 36 55.6	+0.3
	baz=130						
S22A	4UR Ranch, Cre	130.22	46	P	PKPdf	15 36 55.9	+0.6
	baz=130						
I27A	Quinn	130.22	37	P	PKPdf	15 36 55.0	+0.1
	baz=130						
D30A	Buchanan	130.23	32	P	PKPdf	15 36 55.0	+0.4
	baz=130						
X20A	Quemado	130.24	51	P	PKPdf	15 36 55.3	-0.1
	baz=130						
G28A	Parade	130.30	35	P	PKPdf	15 36 54.4	-0.5
	baz=130						
Q23A	Hartsel	130.41	45	P	PKPdf	15 36 56.3	+0.6
	baz=130						
F29A	Eureka	130.45	34	P	PKPdf	15 36 54.4	-0.7
	baz=130						
H28A	Mission Ridge	130.48	36	P	PKPdf	15 36 55.2	0.0
	baz=130						
E30A	Jud	130.53	33	P	PKPdf	15 36 55.3	0.0
	baz=130						
Y20A	Horse Springs,	130.56	52	P	PKPdf	15 36 56.1	+0.1
	baz=130						
Z20A	Nine Sixteen R	130.67	53	P	PKPdf	15 36 57.0	+0.9
	baz=131						
319A	Douglas	130.68	55	P	PKPdf	15 36 57.0	+0.9
	baz=131						
L26A	Underwood Farm	130.71	40	P	PKPdf	15 36 55.9	+0.1
	baz=131						
R23A	Moffat	130.74	45	P	PKPdf	15 36 57.1	+0.8
	baz=131						
U22A	Llaves	130.77	48	P	PKPdf	15 36 57.4	+1.1
	baz=131						
I28A	Midland	130.78	36	P	PKPdf	15 36 55.7	-0.1
	baz=131						
X21A	Alamocita Cree	130.82	51	P	PKPdf	15 36 57.0	+0.5
	baz=131						
120A	U Bar Ranch, L	130.82	53	P	PKPdf	15 36 57.0	+0.5
	baz=131						
V22A	San Miguel Ran	130.92	49	P	PKPdf	15 36 57.1	+0.5
	baz=131						
Y21A	Point of Rocks	131.07	51	P	PKPdf	15 36 57.5	+0.6
	baz=131						
J28A	Allard Ranch,	131.08	37	P	PKPdf	15 36 57.0	+0.5
	baz=131						
PLCA	Paso Flores	131.08	172	PKP	PKPdf	15 36 57.3	+0.7
PLCA	Paso Flores	131.08	172	PKP	PKPdf	15 36 57.3	+0.7
	comp=Z,5.3nm,1.0s,baz=25,slow=3.1,SNR=3.3						
SDCO	Great Sand Dun	131.17	46	*e*PKPdf	PKPdf	15 36 57.9	+0.8
P25A	Willow Gulch B	131.27	43	P	PKPdf	15 36 57.8	+0.7
	baz=131						
U23A	El Rito	131.28	48	P	PKPdf	15 36 58.3	+1.0
	baz=131						
320A	Kipp Ranch, An	131.30	55	P	PKPdf	15 36 58.5	+1.1
	baz=131						
X22A	Bernardo	131.39	50	P	PKPdf	15 36 59.1	+1.6
	baz=131						
S24A	Houchin Ranch,	131.42	46	P	PKPdf	15 36 58.3	+0.7
	baz=131						
Q25A	Bedland, Calha	131.50	44	P	PKPdf	15 36 58.1	+0.4
	baz=131						
T24B	San Luis	131.55	47	P	PKPdf	15 36 58.5	+0.6
	baz=132						
ANMO	Albuquerque	131.64	50	*e*PKPdf	PKPdf	15 36 59.2	+1.2
Y22A	Socorro	131.64	51	P	PKPdf	15 36 58.3	+0.3
	baz=132						
LPM	Los Pinos Moun	131.75	50	*e*PKPdf	PKPdf	15 36 59.8	+1.6
P26A	Davis Ranch, A	131.80	43	P	PKPdf	15 36 58.8	+0.8
	baz=132						
BNM	Barren Site	131.82	51	*e*PKPdf	PKPdf	15 36 59.5	+1.1
Z22A	Elephant Butte	131.89	52	P	PKPdf	15 36 58.5	+0.1
	baz=132						
S25A	Robets Cordova	131.96	45	P	PKPdf	15 36 58.5	0.0
	baz=132						
X23A	Hourglass Bar	131.99	50	P	PKPdf	15 36 59.1	+0.5
	baz=132						
Q26A	Hugo	132.00	43	P	PKPdf	15 36 59.0	+0.5
	baz=132						
T25A	Trinidad	132.21	46	P	PKPdf	15 36 59.5	+0.5
	baz=132						
W24A	Lazy 6 Ranch,	132.32	49	P	PKPdf	15 37 00.2	+0.9
	baz=132						
Y23A	Lovelace Mesa,	132.34	51	P	PKPdf	15 36 59.7	+0.4
	baz=132						
R26A	Arlington	132.35	44	P	PKPdf	15 37 00.2	+1.1
	baz=132						
Z23A	Rita Site, Whi	132.46	52	P	PKPdf	15 36 59.1	-0.4
	baz=132						
U25A	Circle Dot Ran	132.55	47	P	PKPdf	15 36 59.5	-0.1
	baz=132						
S26A	Kim	132.66	45	P	PKPdf	15 37 00.2	+0.4
	baz=133						
T26A	Comanche Natio	132.78	46	P	PKPdf	15 37 00.5	+0.5
	baz=133						
Y24A	Capitan	132.82	50	P	PKPdf	15 37 01.0	+0.8
	baz=133						
W25A	X Bar L Ranch,	133.02	48	P	PKPdf	15 37 01.1	+0.6
	baz=133						
U26A	Atchley Ranch,	133.03	47	P	PKPdf	15 37 00.6	+0.1
	baz=133						
SCHQ	Schefferville	133.05	3	PKP	PKPdf	15 36 59.6	-0.1
SCHQ	Schefferville	133.05	3	PKP	PKPdf	15 36 59.6	-0.1
	comp=Z,12nm,0.8s,baz=41,slow=4.2,SNR=7.4						
Z24A	Sheeppen Canyo	133.10	51	P	PKPdf	15 37 01.8	+1.0
	baz=133						
V26A	Tequesquite Ra	133.26	47	P	PKPdf	15 37 01.1	+0.2
	baz=133						
124A	Stringfield Ra	133.28	52	P	PKPdf	15 37 01.6	+0.5
	baz=133						
Y25A	Mesa, Roswell	133.38	50	P	PKPdf	15 37 01.5	+0.3
	baz=133						
ECSD	EROS Data Cent	133.55	34	*e*PKPdf	PKPdf	15 37 00.5	-0.6
U27A	Thompson Grove	133.67	46	P	PKPdf	15 37 02.2	+0.5
	baz=134						
MNTX	Cornudas Mount	133.70	53	*e*PKPdf	PKPdf	15 37 02.2	+0.5
324A	Moseley Ranch,	133.72	54	P	PKPdf	15 37 02.3	+0.4
	baz=134						
Q29A	Oakley	133.72	42	P	PKPdf	15 37 02.1	+0.5
	baz=134						
X26A	CR and CF Fran	133.79	49	P	PKPdf	15 37 03.1	+1.1
	baz=134						
125A	Gardner Draw,	133.91	52	P	PKPdf	15 37 03.3	+1.1
	baz=134						
BGNE	Belgrade	134.11	38	*e*PKPdf	PKPdf	15 37 01.7	-0.5
BGNE	Belgrade	134.11	38	P	PKPdf	15 37 01.7	-0.5
	baz=134						
325A	Bean Ranch, Si	134.15	53	P	PKPdf	15 37 03.3	+0.5
	baz=134						
P31A	Stockton	134.43	40	P	PKPdf	15 37 03.3	+0.5
	baz=134						
R30A	Dighton	134.51	42	P	PKPdf	15 37 03.0	-0.1
	baz=134						
226B	Tecolote Peak,	134.52	52	P	PKPdf	15 37 03.5	+0.2
	baz=134						
Z27A	Tatum	134.76	50	P	PKPdf	15 37 03.8	0.0
	baz=135						
R31A	Burdett	135.01	42	P	PKPdf	15 37 04.1	+0.1
	baz=135						
526A	Mary Lane Ranc	135.33	55	P	PKPdf	15 37 04.8	-0.2
	baz=135						
626A	Big Bend Ranch	135.47	55	P	PKPdf	15 37 05.2	+0.1
	baz=135						
427A	Hayter Ranch,	135.59	53	P	PKPdf	15 37 06.0	+0.6
	baz=136						
COWI	Conover	135.60	26	*e*PKPdf	PKPdf	15 37 04.7	-0.2
128A	Castleberry Fa	135.60	51	P	PKPdf	15 37 05.6	+0.3
	baz=136						
Y29A	Porterfield Fa	135.68	49	P	PKPdf	15 37 05.9	+0.5
	baz=136						
527A	Woodward Ranch	135.69	54	P	PKPdf	15 37 06.0	+0.4
	baz=136						
328A	Wristen Ranch,	135.86	52	P	PKPdf	15 37 05.9	+0.1
	baz=136						
Z29A	Hungry Hill Ra	135.92	49	P	PKPdf	15 37 06.3	+0.4
	baz=136						
TXAR	Lajitas Array	135.93	56	PKPpre	PKPpre	15 36 55.9	
TXAR				PKP	PKPdf	15 37 06.0	0.0
TXAR	Lajitas Array	135.93	56	PKhKP	PKPpre	15 36 55.9	
	comp=Z,1.0nm,0.8s,baz=341,slow=0.8,SNR=5.7						
TXAR				PKP	PKPdf	15 37 06.0	0.0
	comp=Z,3.4nm,0.8s,baz=222,slow=1.2,SNR=14						
129A	Stewart Farms,	136.07	50	P	PKPdf	15 37 06.7	+0.5
	baz=136						
627A	Terlingua Ranc	136.12	55	P	PKPdf	15 37 07.2	+0.8
	baz=136						
428A	Kincaid Ranch,	136.21	53	P	PKPdf	15 37 07.2	+0.6
	baz=136						
W31A	Holland Ranch,	136.32	46	P	PKPdf	15 37 07.3	+0.8
	baz=136						
KSU1	Kansas State U	136.43	39	*e*PKPdf	PKPdf	15 37 06.3	-0.2
329A	Wagon Wheel Ra	136.46	52	P	PKPdf	15 37 07.7	+0.8
	baz=136						
X31A	McDonald Ranch	136.56	47	P	PKPdf	15 37 07.7	+0.7
	baz=136						
Y31A	Rekieta Farm,	136.68	48	P	PKPdf	15 37 07.8	+0.6
	baz=137						
529A	Stev Forest Ra	136.81	54	P	PKPdf	15 37 08.0	+0.4
	baz=137						
429A	Davenport Ranc	136.88	53	P	PKPdf	15 37 08.0	+0.3
	baz=137						
430A	Baggett Ranch,	137.33	52	P	PKPdf	15 37 09.4	+0.9
	baz=137						
JFWS	Jewell Farm	137.48	30	*e*PKIKP	PKPdf	15 37 07.2	-1.2
JFWS	Jewell Farm	137.48	30	*e*PKPdf	PKPdf	15 37 07.2	-1.2
530A	J-C Ranch, Com	137.51	53	P	PKPdf	15 37 09.9	+1.0
	baz=137						
231A	Bronte	137.56	50	P	PKPdf	15 37 09.6	+0.7
	baz=138						
331A	San Angelo	137.74	51	P	PKPdf	15 37 09.8	+0.5
	baz=138						
431A	Sonora	137.87	52	P	PKPdf	15 37 10.2	+0.7
	baz=138						
531A	Rocksprings	138.13	53	P	PKPdf	15 37 10.2	+0.2
	baz=138						
631A	Perdido Creek	138.41	54	P	PKPdf	15 37 10.8	+0.3
	baz=138						
432A	Menard	138.42	52	P	PKPdf	15 37 10.9	+0.4
	baz=138						
JCT	Junction City	138.58	52	*e*PKHKP	PKPpre	15 37 02.2	
JCT				*e*		15 37 10.9	
JCT	Junction City	138.58	52	*e*PKPpre	PKPpre	15 37 02.2	
JCT				*e*PKPdf	PKPdf	15 37 10.9	+0.1
JCT	Junction City	138.58	52	P	PKPdf	15 37 11.5	+0.6
	baz=138						
532A	Rocksprings	138.65	53	P	PKPdf	15 37 11.3	+0.3
	baz=139						
TUL1	Tulsa	138.81	42	P	PKPdf	15 37 11.9	+0.9
	baz=139						
632A	Uvalde	139.00	53	P	PKPdf	15 37 12.2	+0.6
	baz=139						
732A	Laxson Ranch,	139.16	55	P	PKPdf	15 37 12.5	+0.7
	baz=139						
SADO	Sadowa	140.54	19	PKP	PKPdf	15 37 15.2	+1.4
SADO	Sadowa	140.54	19	PKP	PKPdf	15 37 15.2	+1.4
	comp=Z,11nm,0.6s,baz=330,slow=4.6,SNR=10						
SFIN	Scholer Farm	140.94	30	P	PKPdf	15 37 15.2	+0.5
	baz=141						
MIAR	Mount Ida	141.08	43	*e*PKHKP	PKPpre	15 37 09.9	
MIAR	Mount Ida	141.08	43	*e*PKPpre	PKPpre	15 37 09.9	
OLIL	Olney	141.65	33	*e*PKPdf	PKPdf	15 37 16.7	+0.7
HKT	Hockley	141.89	50	*e*PKIKP	PKPpre	15 37 13.2	
HKT	Hockley	141.89	50	*e*PKPpre	PKPpre	15 37 13.2	
NCB	Newcomb	142.64	14	*e*PKPpre	PKPpre	15 37 14.1	
MDV	Middlebury	142.85	13	*e*PKPpre	PKPpre	15 37 14.7	
LBNH	Lisbon	142.88	11	*e*PKIKP	PKPpre	15 37 15.0	
LBNH	Lisbon	142.88	11	*e*PKPpre	PKPpre	15 37 15.0	
WCI	Wyandotte Cave	142.97	32	*e*PKHKP	PKPpre	15 37 14.8	
WCI	Wyandotte Cave	142.97	32	*e*PKPpre	PKPpre	15 37 14.8	
ACSO	Alum Creek Sta	142.99	26	*e*PKPpre	PKPpre	15 37 14.6	
HNH	Hanover	143.32	12	*e*PKPpre	PKPpre	15 37 16.7	
ACCN	Adirondack Com	143.32	14	*e*PKPpre	PKPpre	15 37 15.9	
WVT	Waverly	143.65	36	*e*PKIKP	PKPab	15 37 17.1	0.0
WVT	Waverly	143.65	36	*e*PKPpre	PKPab	15 37 17.1	0.0
FFD	Franklin Falls	143.67	11	*e*PKPpre	PKPpre	15 37 17.9	
OXF	Oxford	143.80	39	*e*PKIKP	PKPab	15 37 18.1	+0.4
OXF	Oxford	143.80	39	*e*PKPpre	PKPab	15 37 18.1	+0.4
BINY	Binghamton	143.83	17	*e*PKPpre	PKPpre	15 37 17.4	
VBMS	Vicksburg	144.51	43	*e*PKP	PKPdf	15 37 21.1	-0.2
HRV	Adam Dziewonsk	144.62	11	*e*PKIKP	PKPbc	15 37 20.7	+0.1
HRV	Adam Dziewonsk	144.62	11	*e*PKP	PKPbc	15 37 20.7	+0.1
SSPA	Standing Stone	144.65	20	*e*PKP	PKPab	15 37 20.2	-0.5
QUA2	Belchertown	144.67	13	*e*PKP	PKPbc	15 37 20.4	-0.3
MCWV	Mont Chateau	144.78	23	*e*PKP	PKPbc	15 37 21.1	-0.1
WES	Weston	144.78	11	*e*PKIKP	PKPbc	15 37 20.8	-0.3
WES	Weston	144.78	11	*e*PKP	PKPbc	15 37 20.8	-0.3
BRYW	Bryant College	145.19	12	*e*PKP	PKPdf	15 37 22.3	+0.1
SWET	Sewanee	145.38	35	*e*PKP	PKPdf	15 37 22.4	-0.3
CPUP	Villa Florida	145.61	188	*e*PKPbc	PKPab	15 37 24.6	-0.2
CPUP				pPKPbc	pPKPbc	15 38 32.4	-2.4
CPUP	Villa Florida	145.61	188	PKPbc	PKPab	15 37 24.5	-0.2
	comp=Z,22nm,0.7s,baz=149,slow=2.0,SNR=56						
CPUP				pPKPbc	pPKPbc	15 38 32.4	-2.4
	comp=Z,42nm,0.9s,baz=166,slow=3.7,SNR=8.5						
TZTN	Tazewell	145.67	31	*e*PKPbc	PKPdf	15 37 23.6	+0.4
CPCT	Cooper Cave	145.99	33	*e*PKPbc	PKPdf	15 37 24.3	+0.6
SDMD	Soldier's Deli	146.10	20	*e*PKPdf	PKPdf	15 37 23.9	+0.1
TKL	Tuckaleechee C	146.23	32	PKPbc	PKPdf	15 37 24.6	+0.4
TKL				pPKPbc	pPKPbc	15 38 37.5	+0.9
TKL	Tuckaleechee C	146.23	32	PKPbc	PKPdf	15 37 24.6	+0.4
	comp=Z,55nm,0.7s,baz=181,slow=2.2,SNR=40						
TKL				pPKPbc	pPKPbc	15 38 37.5	+0.9
	comp=Z,14nm,0.8s,baz=158,slow=5.5,SNR=2.8						
LRAL	Lakeview Retre	146.28	39	*e*PKPdf	PKPdf	15 37 24.6	+0.3
BLA	Blacksburg	146.61	26	*e*PKIKP	PKPdf	15 37 25.1	+0.3
BLA	Blacksburg	146.61	26	*e*PKPdf	PKPdf	15 37 25.1	+0.3
CMIG	Matias Romero	147.22	71	PKPbc	PKPdf	15 37 27.3	+1.0
CMIG				pPKPbc	pPKPbc	15 38 38.9	-1.2
CMIG	Matias Romero	147.22	71	PKPbc	PKPdf	15 37 27.3	+1.0
	comp=Z,36nm,0.9s,baz=296,slow=2.6,SNR=34						
CMIG				pPKPbc	pPKPbc	15 38 38.9	-1.2
	comp=Z,8.9nm,0.9s,baz=246,slow=0.5,SNR=2.4						
JSRW	J. Sargeant Re	147.25	23	*e*PKPbc	PKPbc	15 37 28.5	+0.1
KMSC	Kings Mountain	147.88	30	*e*PKPdf	PKPdf	15 37 26.9	0.0
KMSC				*e*PKPbc	PKPbc	15 37 29.9	-0.4
KMSC	Kings Mountain	147.88	30	P	PKPbc	15 37 30.1	-0.1
	baz=148						
TIGA	Tifton	149.46	37	*e*PKPbc	PKPbc	15 37 34.5	+0.2
TIGA	Tifton	149.46	37	P	PKPbc	15 37 34.9	+0.6
	baz=149						
RCBR	Riachuelo	150.09	244	*e*PKPbc	PKPbc	15 37 37.1	+0.7
TEIG	Tepich	152.28	61	PKPbc	PKPbc	15 37 40.9	-0.3
TEIG	Tepich	152.28	61	PKPbc	PKPbc	15 37 40.9	-0.3
	comp=Z,12nm,0.9s,baz=331,slow=12,SNR=5.5						
BDFB	Brasilia	152.53	212	PKP	PKPdf	15 37 35.8	+1.0
BDFB				PKPbc	PKiKP	15 37 42.5	+0.3
BDFB	Brasilia	152.53	212	PKP	PKPdf	15 37 35.8	+1.0
	comp=Z,12nm,0.9s,baz=199,slow=2.1,SNR=11						
BDFB				PKPbc	PKiKP	15 37 42.5	+0.3
	comp=Z,25nm,0.9s,baz=112,slow=1.7,SNR=15						
LPAZ	La Paz	155.37	167	*e*PKPdf	PKPdf	15 37 39.9	+0.4
LPAZ				PKP	PKPdf	15 37 40.4	+1.0
LPAZ				PKPab	PKPab	15 38 07.7	+1.7
LPAZ	La Paz	155.37	167	PKP	PKPdf	15 37 40.4	+1.0
	comp=Z,8.3nm,0.9s,baz=358,slow=2.1,SNR=16						
LPAZ				PKPab	PKPab	15 38 07.7	+1.7
	comp=Z,8.5nm,0.8s,baz=178,slow=4.3,SNR=7.7						
OTAV	Otavalo	162.47	115	*e*PKPdf	PKPdf	15 37 48.8	+1.2
SAML	Samuel	163.27	178	*e*PKPdf	PKPdf	15 37 48.1	+0.4
ROSC	El Rosal	167.96	104	PKP	PKPdf	15 37 52.4	+0.3
ROSC	El Rosal	167.96	104	PKP	PKPdf	15 37 52.4	+0.3
	comp=Z,4.2nm,0.3s,baz=106,slow=19,SNR=5.1						

NEIC ***08*** *15:20:23.8±0.4,2˙98S×101˙03E,mb4.9/4,Error ellipse: s-maj=13.2km s-min=8.4km az=77.0*
IDC ***08*** *15:20:23.7±0.8,2˙91S×101˙04E,h46km±5km,mb4.4/22, mb1 4.5/24,mb1mx4.4/31,mbtmp4.4/24,MS3.8/11,*
Ms1 3.8/11,ms1mx3.5/42,Error ellipse: s-maj=23.0km s-min=14.0km az=42.0
ISCJB ***08*** *15:20:24.1±0.8,2˙94S±0˙05×100˙98E±0˙06,h67km±6km, mb4.6/25,Error ellipse: s-maj=12.5km s-min=5.9km az=142.3*
DJA ***08*** *15:20:24.0±1.6,3˚S±5˚×10˚1E±˚,h17km±19km,M5.0/8, mb4.8/5,mB5.0/2,MLv5.0/8,Mw(mB)4.3/2*
ISC 08 15:20:23.5±0.6,3˙00S±0˙06×100˙95E±0˙06,h48km±4km, h48km:pP-P,n120,σ1§09/113,mb4.7/25,MS3.8/9, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASI	Maura Aman, Be	1.30	96	P	Pn	15 20 45.7	+0.5
MASI				S	Sn	15 21 03.6	+2.2
KSI	Kapahiang	1.76	112	P	Pn	15 20 55.0	+3.4
PDSI	Padang	2.13	347	P	Pn	15 20 57.0	+0.3
PDSI				S	Sn	15 21 23.2	+1.2
MNAI	Manna	2.42	124	P	Pn	15 21 02.7	+2.2
PPI	Padang Panjang	2.59	348	P	Pn	15 21 04.1	+1.2
LHSI	Lahat	2.70	108	P	Pn	15 21 06.1	+1.7
RGRI	Rengat	2.98	28	P	Pn	15 21 09.4	+1.2
BKNI	Bangkinang	3.31	2	P	Pn	15 21 15.0	+2.2
BTDF	Bukit Timah Da	5.17	33	P	Pn	15 21 39.2	+0.8
	baz=16,SNR=21						
BTDF				P	Pn	15 21 39.2	+0.8
	baz=16,SNR=21						
GSI	Gunungsitoli	5.45	322	P	Pn	15 21 42.9	+0.7
	118nm,0.9s						
KGM	Kluang	5.52	25	P	Pn	15 21 44.2	+1.0
MYKOM	Kota Tinggi	5.57	31	P	Pn	15 21 44.8	+0.9
MYKOM	Kota Tinggi	5.57	31	P	Pn	15 21 44.6	+0.7
	102nm,0.9s,1μm						
PSI	Prapat	6.11	341	P	Pn	15 21 51.1	-0.3
PSI	Prapat	6.11	341	P	Pn	15 21 51.1	-0.3
	2.1nm,0.3s,baz=148,slow=7.2,SNR=13						
PSI				LR	LR	15 24 36.2	
	comp=Z,1μm,20.7s,baz=145,slow=42						
FRIM	Kepong	6.23	6	P	Pn	15 21 55.2	+2.3
IPM	Ipoh	7.43	1	*e*P	Pn	15 22 12.1	+2.6
	30nm,0.5s						
IPM	Ipoh	7.43	1	P	Pn	15 22 12.9	+3.4
IPM	Ipoh	7.43	1	P	Pn	15 22 12.2	+2.8
	50nm,0.5s,886nm						
KULM	Kulim	8.24	358	*e*P	Pn	15 22 23.3	+2.8
	111nm,1.4s						
KULM	Kulim	8.24	358	P	Pn	15 22 23.5	+3.0
KULM	Kulim	8.24	358	P	Pn	15 22 22.8	+2.3
	56nm,1.4s						
KTGM	Kuala Trenggan	8.56	15	P	Pn	15 22 25.4	+0.6
COCO	West Island	10.00	204	*e*P	Pn	15 22 45.5	+0.9
KAPI	Kappang	18.86	97	Pn	Pn	15 24 42.2	+1.4
	523nm,1.0s,SNR=5.8						
KAPI	Kappang	18.86	97	*e*P	P	15 24 39.6	-0.3
	85nm,0.9s						
KAPI	Kappang	18.86	97	P	Pn	15 24 41.1	+0.3
	2.0nm,0.3s,baz=269,slow=11,SNR=4.5						
KAPI				LR	LR	15 31 48.3	
	comp=Z,124nm,21.2s,baz=288,slow=36						
CMAR	Chiang Mai Arr	21.41	355	P	P	15 25 05.2	-2.3
CMAR	Chiang Mai Arr	21.41	355	P	P	15 25 05.2	-2.3
	7.2nm,0.9s,baz=177,slow=9.0,SNR=4.7						
CMAR				LR	LR	15 33 00.6	
	comp=Z,290nm,20.8s,baz=23,slow=36						
FITZ	Fitzroy Crossi	28.47	124	LR	LR	15 37 28.2	
	comp=Z,140nm,18.6s,baz=157,slow=36						
LSA	Lhasa	33.84	345	*e*P	P	15 27 02.5	+0.5
	24nm,0.9s						
JNU	Nakatsue	45.73	36	P	P	15 28 40.1	-0.2
JNU	Nakatsue	45.73	36	P	P	15 28 40.1	-0.2
	16nm,0.9s,baz=255,slow=4.9,SNR=4.2						
CTA	Charters Tower	47.32	115	P	P	15 28 53.0	+0.1
CTA	Charters Tower	47.32	115	P	P	15 28 53.0	+0.1
	13nm,0.9s,baz=282,slow=11,SNR=5.5						
KSAR	Wonju Array Be	47.38	29	P	P	15 28 52.5	-0.6
KSAR				pP	pP	15 29 05.1	-0.9
KSRS	Korea Array	47.41	29	P	P	15 28 52.5	-0.8
	4.0nm,1.0s,baz=232,slow=8.1,SNR=5.7						
KSRS				pP	pP	15 29 05.1	-1.1
	8.1nm,1.1s,baz=221,slow=7.7,SNR=4.9						
KSRS				LR	LR	15 51 04.5	
	comp=Z,58nm,18.9s,baz=67,slow=39						
STKA	Stephens Creek	47.78	132	P	P	15 28 56.5	+0.2
STKA				pP	pP	15 29 08.2	-1.1
STKA	Stephens Creek	47.78	132	P	P	15 28 56.5	+0.2
	5.7nm,0.6s,baz=309,slow=12,SNR=2.1						
STKA				pP	pP	15 29 08.2	-1.1
	9.2nm,0.5s,baz=299,slow=8.3,SNR=3.5						
STKA				LR	LR	15 49 22.2	
	comp=Z,152nm,19.3s,baz=256,slow=36						
SONM	Songino Array	50.85	5	P	P	15 29 19.7	+0.1
SONM	Songino Array	50.85	5	P	P	15 29 19.7	+0.1
	20nm,0.8s,baz=187,slow=8.3,SNR=10						
ULN	Ulaanbaatar	50.94	5	*e*P	P	15 29 20.3	+0.1
	10nm,0.8s						
AAK	Ala-Archa	51.34	335	*e*P	P	15 29 24.1	+0.7

SPITS	Spitsbergen Ar	91.80	348	P	P	15 33 25.6	-0.2
SPITS	Spitsbergen Ar	91.80	348	P	P	15 33 25.6	-0.2
	0.9nm,0.5s,baz=116,slow=6.6,SNR=5.4						
NB2	NORSAR Subarra	92.47	331	P	P	15 33 28.0	-1.3
	comp=Z,3.1nm,0.9s,baz=93,slow=4.8						
NOA	NORSAR Array B	92.47	331	P	P	15 33 28.7	-0.6
NOA	NORSAR Array B	92.47	331	P	P	15 33 28.7	-0.6
	comp=Z,2.6nm,0.9s,baz=94,slow=5.1,SNR=4.6						
PLCA	Paso Flores	135.79	189	PKP	pPKPdf	15 39 56.9	+2.9
	comp=Z,11nm,0.9s,baz=210,slow=3.6,SNR=8.5						
Y22A	Socorro	139.69	37	P	PKPdf	15 39 45.4	-1.6
	baz=140						
X26A	CR and CF Fran	141.07	33	P	PKPdf	15 39 48.1	-1.3
	baz=141						
425A	Indio Mountain	143.07	39	P	PKPbc	15 39 50.9	+1.0
	baz=143						
Z30A	Sanderson Ranc	143.47	32	P	PKPbc	15 39 51.7	+0.8
	baz=143						
427A	Hayter Ranch,	144.00	37	P	PKPdf	15 39 53.7	-0.9
	baz=144						
CPUP	Villa Florida	144.06	214	pPKP	pPKPdf	15 40 09.6	+0.3
CPUP	Villa Florida	144.06	214	pPKP	pPKPdf	15 40 09.6	+0.3
	comp=Z,2.1nm,0.5s,baz=95,slow=4.3,SNR=3.1						
BDFB	Brasilia	144.14	238	pPKP	pPKPdf	15 40 10.1	+0.2
BDFB	Brasilia	144.14	238	pPKP	pPKPdf	15 40 10.1	+0.2
	comp=Z,3.5nm,0.4s,baz=159,slow=2.1,SNR=2.9						
527A	Woodward Ranch	144.37	38	P	PKPbc	15 39 54.3	+0.5
	baz=144						
329A	Wagon Wheel Ra	144.37	35	P	PKPbc	15 39 53.7	+0.1
	baz=144						
626A	Big Bend Ranch	144.45	39	P	PKPbc	15 39 54.6	+0.6
	baz=144						
428A	Kincaid Ranch,	144.51	36	P	PKPbc	15 39 54.6	+0.5
	baz=144						
230A	Sterling City	144.55	33	P	PKPbc	15 39 54.5	+0.3
	baz=144						
528A	Cox Ranch, San	144.86	37	P	PKPbc	15 39 55.6	+0.3
	baz=145						
330A	Mertzon	144.88	34	P	PKPab	15 39 54.9	-0.3
	baz=145						
TXAR	Lajitas Array	144.90	39	PKP	PKPab	15 39 55.3	0.0
TXAR				pPKP	pPKPdf	15 40 09.4	-1.4
TXAR	Lajitas Array	144.90	39	PKP	PKPab	15 39 55.3	0.0
	comp=Z,5.1nm,0.7s,baz=119,slow=10,SNR=21						
TXAR				pPKP	pPKPdf	15 40 09.4	-1.4
	comp=Z,3.3nm,0.5s,baz=236,slow=1.1,SNR=8.9						
231A	Bronte	144.95	32	P	PKPab	15 39 55.2	-0.2
	baz=145						
627A	Terlingua Ranc	144.99	39	P	PKPab	15 39 55.7	0.0
	baz=145						
529A	Stev Forest Ra	145.23	37	P	PKPdf	15 39 56.6	-0.1
	baz=145						
628A	Black Gap, Mar	145.28	38	P	PKPdf	15 39 56.8	0.0
	baz=145						
430A	Baggett Ranch,	145.31	35	P	PKPbc	15 39 56.4	-0.2
	baz=145						
232A	Coleman	145.34	32	P	PKPbc	15 39 56.6	-0.1
	baz=145						
331A	San Angelo	145.37	33	P	PKPbc	15 39 56.6	-0.3
	baz=145						
332A	Millersview	145.69	32	P	PKPbc	15 39 57.7	-0.1
	baz=146						
530A	J-C Ranch, Com	145.73	36	P	PKPab	15 39 58.3	0.0
	baz=146						
431A	Sonora	145.75	34	P	PKPbc	15 39 58.1	0.0
	baz=146						
MIAR	Mount Ida	145.83	22	*e*PKP	PKPdf	15 39 57.8	+0.2
WVT	Waverly	146.05	13	*e*PKP	PKPdf	15 39 57.9	0.0
432A	Menard	146.05	33	P	PKPbc	15 39 58.7	-0.3
	baz=146						
531A	Rocksprings	146.17	35	P	PKPdf	15 39 58.8	+0.5
	baz=146						
JCT	Junction City	146.35	34	*e*PKP	PKPbc	15 39 59.3	-0.6
JCT	Junction City	146.35	34	P	PKPbc	15 39 59.5	-0.3
	baz=146						
532A	Rocksprings	146.56	34	P	PKPbc	15 39 59.8	-0.7
	baz=146						
KMSC	Kings Mountain	147.95	4	P	PKPbc	15 40 03.5	-0.6
	baz=148						

*SKO **08** 15:28:45.5,41°.53N×20°.48E,h2km,M2.0,ML2.2*
*TIR **08** 15:28:46.5±1.4,41°.43N×20°.44E,h6km±51km,ML2.8*
*THE **08** 15:28:46.9,41°.45N×20°.44E,h8km±3km,ML2.3/2,Error ellipse: s-maj=4.0km s-min=0.8km az=2.0*
*CSEM **08** 15:28:47.4±0.2,41°.42N×20°.44E,h2km,ML2.3/2,Error ellipse: s-maj=6.1km s-min=3.7km az=45.0*
*BEO **08** 15:28:47.3±0.6,41°.35N×20°.48E,h1km±3km,ML2.2/9*
ISC 08 15:28:47.1±1.2,41°.45N±0°.02×20°.46E±0°.02,h0km±11km, n37,σ0s86/60,Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHP	**Peshkopia**	**0.23**	**356**	*e*PG	**Pg**	**15 28 50.8**	**-0.8**
PHP				*i* SG	**Sg**	**15 28 55.8**	**+1.2**
PHP	**Peshkopia**	**0.23**	**356**	P	**Pg**	**15 28 50.8**	**-0.8**
PHP				S	**Sg**	**15 28 55.9**	**+1.3**
PHP	**Peshkopia**	**0.23**	**356**	P	**Pg**	**15 28 50.8**	**-0.8**
PHP				*i* Sg	**Sg**	**15 28 55.8**	**+1.2**
	SNR=98						
TIR	**Tirane**	**0.46**	**257**	*e*PG	**Pg**	**15 28 55.5**	**-0.4**
TIR				*i* SG	**Sg**	**15 29 01.8**	**-0.1**
TIR	**Tirane**	**0.46**	**257**	P	**Pg**	**15 28 55.5**	**-0.4**
TIR				S	**Sg**	**15 29 01.8**	**-0.1**
TIR	**Tirane**	**0.46**	**257**	*e*Pg	**Pg**	**15 28 55.5**	**-0.4**
TIR				*e*Sg	**Sg**	**15 29 02.3**	**+0.4**
TIR	**Tirane**	**0.46**	**257**	P	**Pg**	**15 28 55.5**	**-0.4**
TIR				S	**Sg**	**15 29 01.8**	**-0.1**
PUK	**Puka**	**0.73**	**324**	*e*PG	**Pg**	**15 29 00.4**	**-0.7**
PUK				*i* SG	**Sg**	**15 29 11.8**	**+1.3**
PUK	**Puka**	**0.73**	**324**	*e*Pg	**Pg**	**15 29 00.4**	**-0.7**
	SNR=93						
PUK				*i* Sg	**Sg**	**15 29 11.8**	**+1.3**
	SNR=93						
BIA	**Bitola**	**0.78**	**123**	P	**Pg**	**15 29 01.3**	**-0.7**
BIA				S	**Sg**	**15 29 12.9**	**+0.8**
BIA	**Bitola**	**0.78**	**123**	*i* Pg	**Pg**	**15 29 01.9**	**-0.1**
BIA				*i* Sg	**Sg**	**15 29 13.1**	**+1.0**
BIA	**Bitola**	**0.78**	**123**	P	**Pg**	**15 29 01.3**	**-0.7**
BIA				*i* Sg	**Sg**	**15 29 12.6**	**+0.5**
SKO	**Skopje**	**0.90**	**54**	*e*Pg	**Pg**	**15 29 05.1**	**+0.8**
SKO				*e*Sg	**Sb**	**15 29 17.6**	**-0.4**
SKO	**Skopje**	**0.90**	**54**	*i* Pg	**Pg**	**15 29 01.4**	**-2.9**
SKO				*i* Sg	**Sn**	**15 29 19.8**	**-0.9**
SKO				*i* Lg	Lg	15 29 20.1	
	comp=E,49nm,0.3s						
SKO				*i* Lg	Lg	15 29 20.4	
	comp=N,120nm,0.3s						
SKO	**Skopje**	**0.90**	**54**	*e*Pg	**Pg**	**15 29 05.1**	**+0.8**
SKO				*e*Sg	**Sb**	**15 29 17.6**	**-0.4**
SKO				*i* Lg	Lg	15 29 19.4	
	comp=N,120nm,0.3s						
BCI	**Bajram Curri**	**0.96**	**342**	*e*PG	**Pb**	**15 29 06.5**	**-0.1**
BCI	**Bajram Curri**	**0.96**	**342**	*e*Pg	**Pb**	**15 29 06.5**	**-0.1**
	SNR=92						
FNA	**Florina**	**0.96**	**134**	P	**Pg**	**15 29 05.2**	**-0.3**
FNA				S	**Sb**	**15 29 19.7**	**-0.2**
FNA	**Florina**	**0.96**	**134**	P	**Pg**	**15 29 05.2**	**-0.3**
FNA				S	**Sb**	**15 29 19.7**	**-0.2**
NEST	**Nestorio**	**1.13**	**157**	P	**Pg**	**15 29 08.6**	**-0.1**
NEST				S	**Sb**	**15 29 24.9**	**+0.2**
NEST	**Nestorio**	**1.13**	**157**	P	**Pg**	**15 29 08.6**	**-0.1**
NEST				S	**Sb**	**15 29 24.9**	**+0.2**
PDG	**Podgorica**	**1.33**	**318**	*e*Pg	**Pg**	**15 29 11.5**	**-1.1**
PDG				*e*Sg	**Sn**	**15 29 31.6**	**+0.3**
PDG	**Podgorica**	**1.33**	**318**	*e*Pg	**Pg**	**15 29 11.5**	**-1.1**
PDG				*e*Sg	**Sn**	**15 29 31.6**	**+0.3**
VAY	**Valandovo**	**1.59**	**94**	*e*Pn	**Pn**	**15 29 15.2**	**-1.3**
VAY	**Valandovo**	**1.59**	**94**	*i* Pn	**Pb**	**15 29 17.3**	**0.0**
VAY				*e*Sn	**Sg**	**15 29 39.2**	**+1.1**
VAY				*i* Lg	Lg	15 29 39.3	
	comp=N,30nm,1.1s						
VAY				*i* Lg	Lg	15 29 39.6	
	comp=E,13nm,0.5s						
VAY	**Valandovo**	**1.59**	**94**	*i* Pn	**Pn**	**15 29 16.7**	**+0.2**
VAY				*e*Sn	**Sg**	**15 29 38.7**	**+0.5**
VAY				*i* Lg	Lg	15 29 39.1	
	comp=E,13nm,0.5s						
BARS	**Barje**	**1.69**	**36**	*e*Pn	**Pb**	**15 29 18.9**	**-0.2**
BARS	**Barje**	**1.69**	**36**	*e*Pn	**Pb**	**15 29 18.9**	**-0.2**
SELS	**Selova**	**1.83**	**15**	*e*Pn	**Pn**	**15 29 20.4**	**+0.6**
TREB	**Trebinje**	**2.02**	**309**	*e*Pn	**Pb**	**15 29 24.5**	**-0.1**
TREB	**Trebinje**	**2.02**	**309**	*e*Pn	**Pb**	**15 29 24.5**	**-0.1**
GRUS	**Gruza**	**2.44**	**4**	*e*Pn	**Pb**	**15 29 30.2**	**-1.6**
GRUS	**Gruza**	**2.44**	**4**	*e*Pn	**Pb**	**15 29 30.2**	**-1.6**
BBLS	**Lazići**	**2.54**	**342**	*e*Pn	**Pn**	**15 29 30.5**	**+1.0**
BBLS	**Lazići**	**2.54**	**342**	*e*Pn	**Pn**	**15 29 30.5**	**+1.0**
DIVS	**Divibare**	**2.67**	**353**	*e*Pn	**Pn**	**15 29 32.6**	**+1.2**
DIVS	**Divibare**	**2.67**	**353**	*e*Pn	**Pn**	**15 29 32.6**	**+1.2**

*LDG **08** 15:34:18.6±0.1,43°.18N×1°.21W,h2km,Md1.3/2,Error ellipse: s-maj=1.9km s-min=1.4km az=44.0*
*MDD **08** 15:34:19.0±1.3,43°.20N×1°.19W,h0km,mbLg0.4/2,Error ellipse: s-maj=9.5km s-min=5.2km az=164.0,PRXIMO*
CSEM 08 15:34:18.5±0.3,43°.21N×1°.19W,h2km,ML0.4,Error ellipse: s-maj=6.6km s-min=2.4km az=171.0,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	**0.10**	**196**	*e*Pg	Pg	15 34 20.3	-0.2
SJPF				*e*Sg	Sg	15 34 21.5	-0.4
	12nm,0.2s						
SJPF	**Ste Jean**	**0.10**	**196**	Pg	Pg	15 34 20.3	-0.2
SJPF				*e*Sg	Sg	15 34 21.5	-0.4
	6.2nm,0.2s						
IELO	**Elcoad**	**0.37**	**186**	Pg	Pg	15 34 26.1	+0.4
	0.3nm,0.1s,SNR=7.9						
IELO				Lg	Lg	15 34 31.7	
	1.0nm,0.2s,SNR=7.9						
IELO	**Elcoad**	**0.37**	**186**	Pg	Pg	15 34 26.1	+0.4
	0.3nm,0.1s,SNR=7.9						
IELO				Lg	Lg	15 34 31.7	
	1.0nm,0.2s,SNR=7.9						
IUSE	**Utxeti**	**0.37**	**225**	Pg	Pg	15 34 25.8	0.0
	SNR=7.9						
IUSE				Lg	Lg	15 34 31.6	
	1.3nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**0.37**	**225**	Pg	Pg	15 34 25.8	0.0
	SNR=7.9						
IUSE				Lg	Lg	15 34 31.6	
	1.3nm,0.1s,SNR=7.9						
ETSF	**Etsaut**	**0.56**	**124**	*e*Pg	Pg	15 34 29.2	-0.1
ETSF				*e*Sg	Sg	15 34 36.5	-0.1
	0.7nm,0.2s						
ETSF	**Etsaut**	**0.56**	**124**	Pg	Pg	15 34 29.2	-0.1
ETSF				*e*Sg	Sg	15 34 36.5	-0.1
	0.3nm,0.2s						
ETSF				Lg	Lg	15 34 36.5	
	0.4nm,0.2s						

*CSEM **08** 15:34:18.3,41°.43N×20°.44E,h13km,ML3.8,After TIR*
TIR 08 15:34:18.3±1.7,41°.43N×20°.44E,h13km±22km,ML3.8, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHP	**Peshkopia**	**0.25**	**1**	*e*PG	Pg	15 34 23.4	-0.4
PHP				*i* SG	Sg	15 34 28.1	+0.7
PHP	**Peshkopia**	**0.25**	**1**	*e*Pg	Pg	15 34 23.4	-0.3
	SNR=109						
PHP				*i* Sg	Sg	15 34 28.1	+0.7
	SNR=109						
TIR	**Tirane**	**0.44**	**259**	*e*PG	Pg	15 34 26.7	-0.3
TIR				*i* SG	Sb	15 34 34.5	+0.1
TIR	**Tirane**	**0.44**	**259**	*e*Pg	Pg	15 34 26.7	-0.3
	SNR=98						
TIR				*i* Sg	Sb	15 34 34.5	+0.1
	SNR=98						
PUK	**Puka**	**0.73**	**327**	*e*PG	Pg	15 34 32.1	-0.6
PUK				*i* SG	Sb	15 34 43.7	+0.6
PUK	**Puka**	**0.73**	**327**	*e*Pg	Pg	15 34 32.1	-0.6
	SNR=95						
PUK				*i* Sg	Sb	15 34 43.7	+0.6
	SNR=95						
KBN	**Korca**	**0.85**	**162**	*e*PG	Pb	15 34 35.4	+0.3
KBN				*i* SG	Sn	15 34 47.7	-0.8
KBN	**Korca**	**0.85**	**162**	*e*Pg	Pb	15 34 35.4	+0.3
	SNR=94						
KBN				*i* Sg	Sn	15 34 47.7	-0.9
	SNR=94						
BCI	**Bajram Curri**	**0.97**	**344**	*e*PG	Pn	15 34 37.5	-0.3
BCI				*i* SG	Sn	15 34 51.7	+0.2
BCI	**Bajram Curri**	**0.97**	**344**	*e*Pg	Pn	15 34 37.5	-0.3
	SNR=93						
BCI				*i* Sg	Sn	15 34 51.7	+0.2
	SNR=93						
SRN	**Sarande**	**1.59**	**192**	*e*PG	Pg	15 34 51.0	+2.3
SRN				*i* SG	Sg	15 35 13.5	+4.1
SRN	**Sarande**	**1.59**	**192**	*e*Pg	Pg	15 34 51.0	+2.2
	SNR=92						
SRN				*i* Sg	Sg	15 35 13.5	+4.2
	SNR=92						

*ISCJB **08** 15:50:21.0±0.8,46°.12S±0°.07×166°.01E±0°.10,h13km, mb3.6/1,Error ellipse: s-maj=11.6km s-min=7.6km az=43.1*
*IDC **08** 15:50:20.0±2.2,46°.59S×165°.91E,h0km,mb3.6/1, mb1 4.0/2,mb1mx3.6/14,mbtmp3.9/2,ML3.8/1,Error ellipse: s-maj=75.3km s-min=42.1km az=171.0*
*NEIC **08** 15:50:21.4±0.8,46°.26S×166°.02E,h10km,ML4.5(WEL), Error ellipse: s-maj=13.1km s-min=10.0km az=159.0*
*WEL **08** 15:50:23.1±0.4,46°.07S×165°.98E,h29km±2km,ML4.5/19, Error ellipse: s-maj=4.5km s-min=2.3km az=90.0*
ISC 08 15:50:22.4±0.8,46°.20S±0°.06×166°.20E±0°.07,h13km,n53, σ1s21/59,1C-4D,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.98**	**43**	⇓PN	**Pb**	**15 50 40.8**	**-0.5**
DCZ				AML	AML	15 50 56.0	
DCZ				AML	AML	15 50 58.7	
DCZ	**Deep Cove**	**0.98**	**43**	⇓P*	**Pb**	**15 50 40.8**	**-0.5**
WHZ	**Wether Hill Ro**	**1.25**	**76**	⇓PN	**Pn**	**15 50 46.2**	**+0.6**
WHZ				AML	AML	15 51 07.5	
WHZ				AML	AML	15 51 10.5	
WHZ	**Wether Hill Ro**	**1.25**	**76**	⇓Pn	**Pn**	**15 50 46.2**	**+0.6**
APZ	**The Paps**	**1.39**	**118**	PN	**Pn**	**15 50 47.7**	**+0.2**
APZ	**The Paps**	**1.39**	**118**	Pn	**Pn**	**15 50 47.7**	**+0.2**
MLZ	**Mavora Lakes**	**1.62**	**59**	PN	**Pn**	**15 50 51.6**	**+0.9**
MLZ				AML	AML	15 51 17.5	
MLZ				AML	AML	15 51 24.6	
MLZ	**Mavora Lakes**	**1.62**	**59**	Pn	**Pn**	**15 50 51.7**	**+1.0**
MSZ	**Milford Sound**	**1.95**	**39**	PN	**Pn**	**15 50 55.3**	**+0.1**
MSZ				AML	AML	15 51 31.6	
MSZ				AML	AML	15 51 38.3	
MSZ				AML	AML	15 51 38.3	
MSZ				AML	AML	15 51 41.5	
MSZ	**Milford Sound**	**1.95**	**39**	Pn	**Pn**	**15 50 55.3**	**+0.1**
SYZ	**Scrubby Hill**	**2.06**	**100**	PN	**Pn**	**15 50 57.8**	**+1.1**
SYZ	**Scrubby Hill**	**2.06**	**100**	Pn	**Pn**	**15 50 57.8**	**+1.1**
EAZ	**Earnscleugh**	**2.38**	**67**	⇑PN	**Pb**	**15 51 03.9**	**-1.2**
EAZ				SN	**Sb**	**15 51 35.0**	**+0.6**
EAZ				AML	AML	15 51 39.6	
EAZ				AML	AML	15 51 39.6	
EAZ	**Earnscleugh**	**2.38**	**67**	Pn	**Pb**	**15 51 04.0**	**-1.2**
TUZ	**Tuapeka**	**2.40**	**85**	PN	**Pn**	**15 51 03.0**	**+1.7**
TUZ				AML	AML	15 51 36.9	
TUZ				AML	AML	15 51 38.0	
TUZ	**Tuapeka**	**2.40**	**85**	Pn	**Pn**	**15 51 03.0**	**+1.7**
WKZ	**Wanaka**	**2.41**	**56**	PN	**Pb**	**15 51 04.5**	**-1.1**
WKZ				AML	AML	15 51 42.8	
WKZ				AML	AML	15 51 42.8	
WKZ				AML	AML	15 51 43.1	
WKZ				AML	AML	15 51 43.2	
WKZ	**Wanaka**	**2.41**	**56**	Pn	**Pb**	**15 51 04.5**	**-1.1**
JCZ	**Jackson Bay**	**2.79**	**41**	PN	**Pn**	**15 51 09.3**	**+2.4**
JCZ				AML	AML	15 52 00.6	
JCZ				AML	AML	15 52 00.8	
JCZ	**Jackson Bay**	**2.79**	**41**	Pn	**Pn**	**15 51 09.3**	**+2.4**
HHSZ	**Highcliff Hill**	**3.08**	**86**	PN	**Pn**	**15 51 12.1**	**+1.4**
ODZ	**Otahua Downs**	**3.33**	**71**	PN	**Pn**	**15 51 14.7**	**+0.6**
ODZ	**Otahua Downs**	**3.33**	**71**	Pn	**Pn**	**15 51 14.8**	**+0.7**
LBZ	**Lake Benmore**	**3.35**	**59**	PN	**Pn**	**15 51 15.9**	**+1.5**
LBZ				AML	AML	15 52 15.3	
LBZ				AML	AML	15 52 21.4	
LBZ	**Lake Benmore**	**3.35**	**59**	Pn	**Pn**	**15 51 15.9**	**+1.5**
FOZ	**Fox Glacier**	**3.62**	**44**	PN	**Pn**	**15 51 20.4**	**+2.3**
FOZ				AML	AML	15 52 27.9	
FOZ				AML	AML	15 52 29.8	
FOZ	**Fox Glacier**	**3.62**	**44**	Pn	**Pn**	**15 51 20.4**	**+2.3**
RPZ	**Rata Peaks**	**4.25**	**56**	PN	**Pn**	**15 51 27.2**	**+0.4**
RPZ				SN	**Sn**	**15 52 18.5**	**+2.3**
RPZ				AML	AML	15 52 51.2	
RPZ	**Rata Peaks**	**4.25**	**56**	Pn	**Pn**	**15 51 27.4**	**+0.6**
RPZ				Sn	**Sn**	**15 52 15.8**	**-0.4**
RPZ				Sn	**Sn**	**15 52 18.5**	**+2.3**
RPZ	**Rata Peaks**	**4.25**	**56**	Sn	**Sn**	**15 52 15.8**	**-0.4**
	13nm,0.3s,baz=358,slow=18,SNR=2.7						
WVZ	**Waitaha Valley**	**4.50**	**48**	PN	**Pn**	**15 51 31.9**	**+1.7**
WVZ				AML	AML	15 52 42.2	
WVZ	**Waitaha Valley**	**4.50**	**48**	Pn	**Pn**	**15 51 31.9**	**+1.7**
OXZ	**Oxford**	**5.05**	**57**	PN	**Pn**	**15 51 38.1**	**+0.2**
MQZ	**McQueen's Vall**	**5.21**	**64**	PN	**Pn**	**15 51 40.9**	**+0.9**
CRLZ	**Canterbury Las**	**5.26**	**62**	PN	**Pn**	**15 51 39.5**	**-1.2**
LTZ	**Lake Taylor**	**5.52**	**54**	PN	**Pn**	**15 51 44.2**	**-0.1**
LTZ				AML	AML	15 52 50.9	
DSZ	**Denniston Nort**	**6.01**	**44**	PN	**Pn**	**15 51 51.6**	**+0.5**
DSZ				SN	**Sn**	**15 52 60.0**	**+0.2**
DSZ	**Denniston Nort**	**6.01**	**44**	Pn	**Pn**	**15 51 51.6**	**+0.5**
DSZ				Sn	**Sn**	**15 52 60.0**	**+0.2**
THZ	**Tophouse**	**6.56**	**50**	PN	**Pn**	**15 51 57.9**	**-0.7**
QRZ	**Quartz Range**	**7.07**	**43**	PN	**Pn**	**15 52 04.9**	**-0.6**
QRZ	**Quartz Range**	**7.07**	**43**	Pn	**Pn**	**15 52 05.0**	**-0.6**
URZ	**Urewera**	**11.32**	**49**	Pn	Pn	15 53 08.4	+4.6
URZ				Sn	**Sn**	**15 55 07.9**	**-2.2**
URZ	**Urewera**	**11.32**	**49**	Pn	Pn	15 53 08.4	+4.6
	0.6nm,0.3s,baz=226,slow=8.2,SNR=2.8						
URZ				Sn	**Sn**	**15 55 07.9**	**-2.2**
	0.3nm,0.3s,baz=71,slow=15,SNR=3.4						
ASAR	**Alice Springs**	**34.37**	**300**	P	**P**	**15 57 08.7**	**-0.4**
ASAR	**Alice Springs**	**34.37**	**300**	P	**P**	**15 57 08.7**	**-0.4**
	0.5nm,0.6s,baz=129,slow=7.3,SNR=4.1						
SNAA	**Sanae**	**62.17**	**184**	*e*P	**P**	**16 00 43.7**	**+0.8**
VNA2	**Neumayer--Watz**	**63.09**	**182**	*e*P	**P**	**16 00 50.0**	**+1.1**
	baz=179,slow=4.3						
TORD	**Torodi Ar. Bea**	**144.55**	**207**	PKP	**PKPab**	**16 09 57.1**	**-0.1**
TORD	**Torodi Ar. Bea**	**144.55**	**207**	PKP	**PKPab**	**16 09 57.1**	**-0.1**
	0.9nm,0.7s,baz=155,slow=1.7,SNR=6.2						
BRTR	**Keskin Array B**	**145.11**	**277**	PKP	**PKPbc**	**16 09 57.8**	**-1.0**
BRTR	**Keskin Array B**	**145.11**	**277**	PKP	**PKPbc**	**16 09 57.8**	**-1.0**
	1.3nm,0.9s,baz=151,slow=2.8,SNR=5.3						
ARCES	**ARCESS Array B**	**149.60**	**334**	PKPbc	**PKPbc**	**16 10 10.7**	**+0.5**
ARCES	**ARCESS Array B**	**149.60**	**334**	PKPbc	**PKPbc**	**16 10 10.7**	**+0.5**
	2.6nm,0.9s,baz=22,slow=5.0,SNR=3.8						

*IDC **08** 15:50:12.5±1.3,6°.62S×129°.43E,h0km,mb3.8/4, mb1 4.1/7,mb1mx3.8/20,mbtmp3.9/7,ML3.9/1,Error ellipse: s-maj=77.0km s-min=20.4km az=72.0*
*ISCJB **08** 15:50:26.8±0.5,7°.26S±0°.04×129°.31E±0°.06,h131km, mb3.5/4,Error ellipse: s-maj=8.9km s-min=5.8km az=168.9*
*AUST **08** 15:50:27.9±0.0,7°.27S×129°.31E,h132km,Error ellipse: s-maj=0.9km s-min=0.7km az=276.0*
ISC 08 15:50:27.9±0.7,7°.33S±0°.06×129°.29E±0°.06,h131km,n20, σ2s59/27,mb3.5/4,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**3.78**	**343**	P	**Pn**	**15 51 24.8**	**0.0**
	baz=3.8,SNR=4.0						
TLE	**Tual**	**3.81**	**64**	P	**Pn**	**15 51 27.1**	**+1.9**
	baz=3.8,SNR=46						
TLE				S	**Sn**	**15 52 12.4**	**+2.7**
	baz=3.8,SNR=6.6						
FAKI	**Fak Fak**	**5.28**	**34**	P	**Pn**	**15 51 42.2**	**-2.6**
	baz=5.2,SNR=57						
FAKI				S	Sn	15 52 38.2	-6.5
	baz=5.2,SNR=8.9						
SOEI	**Soe**	**5.52**	**244**	P	**Pn**	**15 51 50.1**	**+1.9**
	baz=5.6,SNR=19						
SOEI				S	**Sn**	**15 52 54.6**	**+3.9**
	baz=5.6,SNR=4.3						
MTN	**Manton Dam**	**5.77**	**162**	P	**Pn**	**15 51 54.1**	**+2.7**
	baz=5.9,SNR=101						
MTN				S	**Sn**	**15 52 57.8**	**+1.3**
	baz=5.9,SNR=7.6						
KDU	**Kakadu**	**6.17**	**150**	P	**Pn**	**15 51 59.1**	**+2.3**
	baz=6.2,SNR=186						
KDU				S	**Sn**	**15 53 06.6**	**+0.4**
	baz=6.2,SNR=8.2						
SWI	**Sorong**	**6.72**	**17**	P	**Pn**	**15 52 03.6**	**-0.5**
	baz=6.7,SNR=3.8						
SWI				S	Sn	15 53 12.6	-6.8
	baz=6.7,SNR=3.3						
KNRA	**Kununurra**	**8.31**	**184**	P	**Pn**	**15 52 26.8**	**+1.3**
	baz=8.4,SNR=65						
KNRA				S	**Sn**	**15 53 54.4**	**-3.4**
	baz=8.4,SNR=25						
FITZ	**Fitzroy Crossi**	**11.28**	**198**	Pn	**Pn**	**15 53 04.4**	**-0.9**
	0.6nm,0.3s,baz=35,slow=10,SNR=34						
FITZ				Sn	Sn	15 55 02.1	-7.7
	1.8nm,0.3s,baz=90,slow=16,SNR=9.2						
FITZ	**Fitzroy Crossi**	**11.28**	**198**	P	**Pn**	**15 53 04.4**	**-0.9**
	baz=11,SNR=24						
FITZ				S	**Sn**	**15 55 05.6**	**-4.1**
	baz=11,SNR=3.7						
WRA	**Warramunga Arr**	**13.46**	**159**	Pn	**Pn**	**15 53 32.3**	**-1.4**
	0.8nm,0.3s,baz=344,slow=13,SNR=44						
WRA				Sn	**Sn**	**15 55 57.7**	**-4.7**
	2.3nm,0.3s,baz=328,slow=22,SNR=9.1						
COEN	**

BNDI	Bandanaira	4.35	272	P	Pn	16 49 40.5	-0.5
BNDI	Bandanaira	4.35	272	P	Pn	16 49 42.3	+1.3
	baz=4.4,SNR=4.1						
AAI	Ambon	6.14	279	P	Pn	16 50 05.1	-0.5
	38nm,0.8s						
AAI	Ambon	6.14	279	P	Pn	16 50 06.7	+1.1
	baz=6.2,SNR=4.4						
KDU	Kakadu	8.12	192	P	Pn	16 50 33.8	+1.0
	baz=8.3,SNR=19						
KDU				S	Sn	16 52 03.2	-0.8
	baz=8.3,SNR=3.3						
MTN	Manton Dam	8.65	201	P	Pn	16 50 42.0	+1.9
	baz=8.9,SNR=27						
MTN				S	Sn	16 52 16.7	-0.4
	baz=8.9,SNR=4.2						
KNRA	Kununurra	12.16	206	P	Pn	16 51 27.8	-0.5
	baz=12,SNR=5.4						
WRA	Warramunga Arr	15.14	180	Pn	Pn	16 52 07.0	-1.9
	0.1nm,0.3s,baz=354,slow=13,SNR=5.1						
WRA				Sn	Sn	16 54 42.1	-14
	0.0nm,0.3s,baz=4.4,slow=23,SNR=2.3						
ASAR	Alice Springs	18.85	181	P	P	16 52 55.0	+0.2
	0.5nm,0.3s,baz=354,slow=13,SNR=50						
MKAR	Makanchi Array	68.74	324	P	P	16 59 39.2	+0.7
	0.2nm,0.5s,baz=115,slow=7.4,SNR=3.6						

*THE **08** 16:51:19.1, 40°.88N×20°.64E, h16km±2km, ML2.7/2, Error ellipse: s-maj=2.8km s-min=0.7km az=159.0*
*TIR **08** 16:51:20.6±1.3, 40°.83N×20°.79E, h9km±24km, ML2.9*
*SKO **08** 16:51:20.8, 40°.82N×20°.75E, h15km, M1.8, ML2.2*
*CSEM **08** 16:51:22.3±0.3, 40°.80N×20°.82E, h2km, ML2.7/2, Error ellipse: s-maj=6.4km s-min=5.3km az=50.0*
*BEO **08** 16:51:28.2±1.1, 41°.08N×20°.73E, h9km±5km, ML2.0/3*

ISC 08 16:51:21.4±0.8, 40°.81N±0°.03×20°.79E±0°.03, h14km±7km, n31, σ1°.24/53, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KBN	Korca	0.18	179	*e*PG			Pg	16 51 24.9	-0.8
KBN				*i* SG			Sg	16 51 29.1	+0.4
KBN	Korca	0.18	179	P			Pg	16 51 25.0	-0.7
KBN				S			Sg	16 51 29.6	+0.9
KBN	Korca	0.18	179	*e*Pg			Pg	16 51 24.9	-0.8
	SNR=103								
KBN				*i* Sg			Sg	16 51 29.1	+0.4
	SNR=103								
NEST	Nestorio	0.44	153	P			Pg	16 51 29.8	-0.4
NEST				S			Sb	16 51 38.3	+0.8
NEST	Nestorio	0.44	153	P			Pg	16 51 29.8	-0.4
FNA	Florina	0.45	93	P			Pg	16 51 30.2	-0.2
FNA				S			Sb	16 51 38.8	+1.0
FNA	Florina	0.45	93	P			Pg	16 51 30.2	-0.2
FNA				S			Sb	16 51 38.8	+1.0
BIA	Bitola	0.46	62	*i* Pg			Pg	16 51 30.0	-0.6
BIA				*i* Sg			Sb	16 51 38.0	-0.1
BIA	Bitola	0.46	62	*i* Pg			Pb	16 51 31.8	+0.4
BIA				*i* Sg			Sb	16 51 38.2	+0.2
BIA	Bitola	0.46	62	*i* Pg			Pb	16 51 31.2	-0.1
BIA				*i* Sg			Sb	16 51 37.7	-0.4
TIR	Tirane	0.88	308	*e*Pg			Pn	16 51 41.4	+2.0
TIR				*e*Sg			Sn	16 51 50.9	-1.1
TIR	Tirane	0.88	308	*e*Pg			Pn	16 51 41.4	+2.0
TIR				*e*Sg			Sn	16 51 50.9	-1.1
PHP	Peshkopia	0.91	344	*e*PG			Pb	16 51 38.8	-0.3
PHP				*i* SG			Sb	16 51 50.7	-0.5
PHP	Peshkopia	0.91	344	*e*Pg			Pb	16 51 38.8	-0.3
	SNR=92								
PHP				*i* Sg			Sb	16 51 50.7	-0.5
	SNR=92								
SKO	Skopje	1.26	23	*e*Pg			Pg	16 51 46.5	+0.8
SKO				*e*Sg			Sn	16 52 01.6	+0.1
SKO	Skopje	1.26	23	*i* Pg			Pg	16 51 45.6	-0.1
SKO				*i* Lg			Lg	16 52 01.0	
	comp=E,28nm,0.5s								
SKO				*i* Lg			Lg	16 52 01.1	
	comp=N,46nm,0.4s								
SKO				*i* Sg			Sn	16 52 01.6	+0.1
SKO	Skopje	1.26	23	*i* Pg			Pg	16 51 47.1	+1.4
SKO				*i* Lg			Lg	16 52 01.1	
	comp=N,46nm,0.4s								
SKO				*i* Sg			Sb	16 52 01.1	0.0
SKO				*i* Lg			Lg	16 52 01.8	
	comp=E,37nm,0.7s								
SKO	Skopje	1.26	23	*i* Pg			Pg	16 51 46.0	+0.3
SKO				*i* Sg			Sn	16 52 03.1	+1.6
SKO				*i* Lg			Lg	16 52 04.0	
	comp=E,46nm,0.4s								
PUK	Puka	1.40	332	*e*PG			Pg	16 51 48.6	+0.2
PUK	Puka	1.40	332	*e*Pg			Pg	16 51 48.6	+0.2
	SNR=91								
VAY	Valandovo	1.44	69	*i* Pg			Pb	16 51 48.5	+0.4
VAY				*i* Sg			Sn	16 52 01.0	-4.9
VAY				*i* Lg			Lg	16 52 10.9	
	comp=E,52nm,1.1s								
VAY				*i* Lg			Lg	16 52 11.4	
	comp=N,59nm,1.0s								
VAY	Valandovo	1.44	69	*e*Pg			Pg	16 51 49.1	0.0
VAY				*e*Sg			Sn	16 52 01.7	-4.2
VAY				*i* Lg			Lg	16 52 10.2	
	comp=N,59nm,1.0s								
VAY				*i* Lg			Lg	16 52 11.7	
	comp=E,52nm,1.1s								
VAY	Valandovo	1.44	69	*e*Pg			Pg	16 51 48.6	-0.5
VAY				*e*Sg			Sb	16 52 07.2	+0.9
VAY				*i* Lg			Lg	16 52 11.1	
	comp=E,52nm,1.1s								
PDG	Podgorica	1.99	325	*e*Pg			Pg	16 51 59.9	+0.4
PDG				*e*Sg			Sg	16 52 23.2	-2.1
PDG	Podgorica	1.99	325	*e*Pg			Pg	16 51 59.9	+0.4
PDG				*e*Sg			Sg	16 52 23.2	-2.1
BARS	Barje	2.15	21	*e*Pn			Pb	16 52 00.2	+0.1
BARS	Barje	2.15	21	*e*Pn			Pb	16 52 00.2	+0.1
SJES	Sjenica	2.52	346	*e*Pn			Pb	16 52 05.9	-0.7
SJES	Sjenica	2.52	346	*e*Pn			Pb	16 52 05.9	-0.7
TREB	Trebinje	2.64	317	*e*Pn			Pb	16 52 08.2	-0.2
TREB	Trebinje	2.64	317	*e*Pn			Pb	16 52 08.2	-0.2

IDC 08 17:18:15.3±57.0, 20°.46S×178°.49W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/16, mbtmp3.8/3, Error ellipse: s-maj=1045.0km s-min=156.2km az=83.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
STKA	Stephens Creek	37.39	244	P			P	17 25 29.7	-0.4
	0.8nm,0.4s,baz=89,slow=12,SNR=5.4								
ASAR	Alice Springs	44.08	257	P			P	17 26 25.1	-0.5
	1.1nm,0.7s,baz=97,slow=7.7,SNR=20								
WRA	Warramunga Arr	44.15	262	P			P	17 26 26.5	+0.4
	0.4nm,0.4s,baz=95,slow=8.3,SNR=27								

*ROM **08** 17:19:19.6±0.2, 38°.76N×14°.07E, h25km±2km, Ml3.6/31, Error ellipse: s-maj=2.5km s-min=2.1km az=152.0*
*IDC **08** 17:19:19.4±1.1, 38°.68N×14°.28E, h0km, mb3.7/7, mb1 3.7/11, mb1mx3.6/28, mbtmp3.7/11, ML3.3/4, MS2.9/4, Ms1 2.9/4, ms1mx2.5/39, Error ellipse: s-maj=28.0km s-min=18.0km az=108.0*
*ISCJB **08** 17:19:20.1±0.5, 38°.76N±0°.03×14°.08E±0°.03, h23km±4km, mb3.7/8, MS2.8/1, Error ellipse: s-maj=4.3km s-min=3.9km az=172.0*
*CSEM **08** 17:19:20.3±0.1, 38°.71N×14°.06E, h20km, ML4.5/7, Error ellipse: s-maj=3.6km s-min=3.4km az=121.0*
*LDG **08** 17:19:22.7±0.2, 38°.55N×14°.04E, h30km, Ml3.7/5, Error ellipse: s-maj=6.6km s-min=4.8km az=77.0*

ISC 08 17:19:19.8±1.1, 38°.75N±0°.03×14°.06E±0°.02, h13km±8km, n109, σ1°.37/120, mb3.9/8, Sicily

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
IACL	Alicudi	0.32	133	Pg			Pb	17 19 27.0	-0.2
IACL				Sg			Sb	17 19 32.4	+0.2
	32μm,0.2s								
IACL	Alicudi	0.32	133	Pg			Pb	17 19 27.0	-0.2
IACL				Sg			Sb	17 19 32.4	+0.2
	32μm,0.2s								
USI	Ustica	0.69	267	Pg			Pg	17 19 32.8	-0.4
USI				Sg			Sg	17 19 42.1	-0.3
	10μm,0.8s								
USI	Ustica	0.69	267	Pg			Pg	17 19 32.8	-0.4
USI				Sg			Sg	17 19 42.1	-0.3
	10μm,0.8s								
LLI	Lipari	0.76	114	Pg			Pb	17 19 34.8	0.0
LLI				Sg			Sn	17 19 45.7	-1.7
	24μm,0.9s								
LLI	Lipari	0.76	114	Pg			Pb	17 19 34.8	0.0
LLI				Sg			Sn	17 19 45.7	-1.7
	24μm,0.9s								
GIB	Gibilmanna	0.76	182	Pg			Pg	17 19 34.1	-0.5
	106nm,0.4s								
GIB	Gibilmanna	0.76	182	Pg			Pg	17 19 34.1	-0.5
	106nm,0.4s								
PLLN	Pollina	0.76	175	Pg			Pg	17 19 33.9	-0.6
PLLN				Sg			Sb	17 19 46.1	+1.0
	4μm,0.6s								
PLLN	Pollina	0.76	175	Pg			Pg	17 19 33.9	-0.6
VPL	Vulcano Piano	0.81	117	Pg			Pb	17 19 35.2	-0.5
VPL	Vulcano Piano	0.81	117	Pg			Pb	17 19 35.2	-0.5
CSLB	Castelbuono	0.81	180	Pg			Pg	17 19 34.6	-0.9
	2μm,0.6s								
CSLB	Castelbuono	0.81	180	Pg			Pg	17 19 34.6	-0.9
	2μm,0.6s								
STR4	STROMBOLI 4	0.90	88	Pg			Pb	17 19 36.5	-0.6
MNO	Monte Soro	0.96	149	Pg			Pb	17 19 37.6	-0.7
MNO				Sg			Sn	17 19 51.8	-0.8
	3μm,0.4s								
MNO	Monte Soro	0.96	149	Pg			Pb	17 19 37.6	-0.7
MNO				Sg			Sn	17 19 51.8	-0.8
	3μm,0.4s								
ALJA	Alia	1.03	194	Pg			Pb	17 19 38.7	-0.8
ALJA				Sg			Sn	17 19 54.8	+0.6
	5μm,1.0s								
ALJA	Alia	1.03	194	Pg			Pb	17 19 38.7	-0.8
MILZ	Milazzo	1.03	117	Pg			Pb	17 19 38.1	-1.4
	2μm,0.4s								
MILZ	Milazzo	1.03	117	Pg			Pb	17 19 38.1	-1.4
	2μm,0.4s								
CORL	Corleone	1.04	215	Pg			Pb	17 19 38.6	-1.1
CORL	Corleone	1.04	215	Pg			Pb	17 19 38.6	-1.1
RESU	Resuttano	1.10	180	Pg			Pb	17 19 40.5	-0.2
	3μm,0.6s								
RESU	Resuttano	1.10	180	Pg			Pb	17 19 40.5	-0.2
	3μm,0.6s								
GALF	Gagliano Caste	1.11	159	Pg			Pb	17 19 40.4	-0.4
	3μm,0.6s								
GALF	Gagliano Caste	1.11	159	Pg			Pb	17 19 40.4	-0.4
	3μm,0.6s								
MSRU	Castanea	1.23	113	Pg			Pn	17 19 41.1	-1.6
MSRU				Sg			Sb	17 19 56.9	-1.8
	1μm,0.4s								
MSRU	Castanea	1.23	113	Pg			Pn	17 19 41.1	-1.6
MSRU				Sg			Sb	17 19 56.9	-1.8
	1μm,0.4s								
MMME	Mongiuffi-Meli	1.24	131	Pg			Pn	17 19 41.6	-1.2
	2μm,0.8s								
MMME	Mongiuffi-Meli	1.24	131	Pg			Pn	17 19 41.6	-1.2
	2μm,0.8s								
CRJA	Costa Raja	1.26	222	Pg			Pb	17 19 43.1	-0.3
CRJA	Costa Raja	1.26	222	Pg			Pb	17 19 43.1	-0.3
ECNV	Catenanuova	1.26	156	Pg			Pg	17 19 43.9	-0.2
	5μm,0.7s								
ECNV	Catenanuova	1.26	156	Pg			Pg	17 19 43.9	-0.2
	5μm,0.7s								
ESLN	Serra La Nave	1.28	146	Pg			Pg	17 19 44.2	-0.2
	4μm,1.0s								
ESLN	Serra La Nave	1.28	146	Pg			Pg	17 19 44.2	-0.2
	4μm,1.0s								
MTGR	Montagna Grand	1.34	231	Pg			Pn	17 19 43.7	-0.4
	65nm,0.4s								
MTGR	Montagna Grand	1.34	231	Pg			Pn	17 19 43.7	-0.4
	65nm,0.4s								
MMGO	Monte Magaggia	1.39	219	Pg			Pn	17 19 44.3	-0.4
	445nm,1.0s								
MMGO	Monte Magaggia	1.39	219	Pg			Pn	17 19 44.3	-0.4
	445nm,1.0s								
JOPP	Joppolo	1.43	95	Pg			Pn	17 19 44.1	-1.3
JOPP				Sg			Sn	17 20 01.8	-2.3
	284nm,0.6s								
JOPP	Joppolo	1.43	95	Pg			Pn	17 19 44.1	-1.3
JOPP				Sg			Sn	17 20 01.8	-2.3
	284nm,0.6s								
MSCL	Scilla	1.45	110	Pg			Pn	17 19 44.2	-1.5
	773nm,0.3s								
MSCL	Scilla	1.45	110	Pg			Pn	17 19 44.2	-1.5
	773nm,0.3s								
MTTG	Motta San Giov	1.48	120	Pg			Pn	17 19 45.2	-0.9
	1μm,0.6s								
MTTG	Motta San Giov	1.48	120	Pg			Pn	17 19 45.2	-0.9
	1μm,0.6s								
CEL	Celeste	1.52	108	Pg			Pn	17 19 45.2	-1.4
	461nm,0.4s								
CEL	Celeste	1.52	108	Pg			Pn	17 19 45.2	-1.4
	461nm,0.4s								
RAFF	Raffo Rosso	1.54	171	Pg			Pb	17 19 47.4	-0.8
	970nm,0.7s								
RAFF	Raffo Rosso	1.54	171	Pg			Pb	17 19 47.4	-0.8
	970nm,0.7s								
HCRL	Carlentini	1.65	152	Pg			Pn	17 19 47.6	-0.8
	1μm,0.7s								
HCRL	Carlentini	1.65	152	Pg			Pn	17 19 47.6	-0.8
	1μm,0.7s								
BULG	Bulgheria - Ca	1.67	37	Pg			Pn	17 19 48.7	0.0
	179nm,0.3s								
BULG	Bulgheria - Ca	1.67	37	Pg			Pn	17 19 48.7	0.0
	179nm,0.3s								
SOI	Samo	1.71	113	Pg			Pn	17 19 48.1	-1.0
	638nm,0.6s								
SOI	Samo	1.71	113	Pg			Pn	17 19 48.1	-1.0
	638nm,0.6s								
MPAZ	Palizzi	1.72	117	Pg			Pn	17 19 48.7	-0.7
	1μm,0.7s								
MPAZ	Palizzi	1.72	117	Pg			Pn	17 19 48.7	-0.7
	1μm,0.7s								
AGST	Augusta-Monte	1.75	148	Pg			Pn	17 19 49.6	-0.2
	700nm,0.7s								
AGST	Augusta-Monte	1.75	148	Pg			Pn	17 19 49.6	-0.2
	700nm,0.7s								
SSY	Sortino	1.78	153	Pg			Pn	17 19 49.5	-0.7
	1μm,0.5s								
SSY	Sortino	1.78	153	Pg			Pn	17 19 49.5	-0.7
	1μm,0.5s								
CUC	Castrocucco	1.84	47	Pg			Pn	17 19 51.2	+0.2
	161nm,0.5s								
CUC	Castrocucco	1.84	47	Pg			Pn	17 19 51.2	+0.2
	161nm,0.5s								
GRI	Girifalco	1.84	87	Pg			Pn	17 19 50.2	-0.9
	223nm,0.5s								
GRI	Girifalco	1.84	87	Pg			Pn	17 19 50.2	-0.9
	223nm,0.5s								
PLAC	Placanica	1.89	98	Pg			Pn	17 19 51.1	-0.5
	348nm,0.6s								
PLAC	Placanica	1.89	98	Pg			Pn	17 19 51.1	-0.5
	348nm,0.6s								
HAVL	Avola	1.98	155	Pg			Pn	17 19 52.4	-0.5
	726nm,0.7s								
HAVL	Avola	1.98	155	Pg			Pn	17 19 52.4	-0.5
	726nm,0.7s								
CDRU	Civita di Ruta	1.98	29	Pg			Pn	17 19 53.3	+0.3
	57nm,0.3s								
CDRU	Civita di Ruta	1.98	29	Pg			Pn	17 19 53.3	+0.3
	57nm,0.3s								
SIRI	Monte Sirino -	2.00	44	Pg			Pn	17 19 53.6	+0.4
	145nm,0.3s								
SIRI	Monte Sirino -	2.00	44	Pg			Pn	17 19 53.6	+0.4
	145nm,0.3s								
MCEL	Monticello	2.07	40	Pg			Pn	17 19 54.9	+0.7
	58nm,0.6s								
MCEL	Monticello	2.07	40	Pg			Pn	17 19 54.9	+0.7
	58nm,0.6s								
SERS	Sersale	2.07	81	Pg			Pn	17 19 54.0	-0.2
	170nm,0.8s								
SERS	Sersale	2.07	81	Pg			Pn	17 19 54.0	-0.2
	170nm,0.8s								
SALB	San Lorenzo Be	2.10	57	Pg			Pn	17 19 54.9	+0.3
	88nm,0.4s								
SALB	San Lorenzo Be	2.10	57	Pg			Pn	17 19 54.9	+0.3
	88nm,0.4s								
PE1	Pezze di Greco	3.30	51	*e*Pn			Pn	17 20 12.1	+1.0
KEST	Kesra	4.82	233	Pn			Pn	17 20 35.1	+3.0
	0.2nm,0.3s,baz=342,slow=6.0,SNR=9.8								
PGF	Pioggiola	5.40	316	*e*Pn			Pn	17 20 41.5	+1.4
PGF				*e*Sn			Sn	17 21 38.1	-4.0
	52nm,0.5s								
PGF	Pioggiola	5.40	316	*e*Pn			Pn	17 20 41.5	+1.4
DIVS	Divibare	6.95	38	*e*Pn			Pn	17 21 02.3	+1.0
SELS	Selova	6.96	48	*e*Pn			Pn	17 21 02.9	+1.6
SBF	Sospel	7.14	318	*e*Sn			Sn	17 22 18.2	-6.6
	20nm,0.6s								
BARS	Barje	7.15	53	*e*Pn			Pn	17 21 06.3	+2.4
LMR	La Mourre	7.32	311	*e*Pn			Pn	17 21 05.3	-0.9
LMR				*e*Sn			Sn	17 22 22.2	-6.9
	4.4nm,0.4s								
LMR	La Mourre	7.32	311	*e*Pn			Pn	17 21 05.3	-0.9
FRF	La Foret Royal	7.37	313	*e*Pn			Pn	17 21 06.7	-0.3
FRF				*e*Sn			Sn	17 22 24.5	-6.0
	2.7nm,0.4s								
FRF	La Foret Royal	7.37	313	*e*Pn			Pn	17 21 06.7	-0.3
ZAPS	Zavoj	7.90	52	*e*Pn			Pn	17 21 16.2	+2.0
MBDF	Montbardon	8.08	320	*e*Sn			Sn	17 22 45.9	-2.2
	13nm,0.5s								
MBDF	Montbardon	8.08	320	*e*Sn			Sn	17 22 45.9	-2.2
	6.7nm,0.5s								
DAVOX	Davos/Dischmat	8.59	340	Pn			Pn	17 21 26.4	+2.5
	0.4nm,0.3s,baz=164,slow=18,SNR=4.1								
DAVOX				LR			LR	17 25 23.6	
	comp=Z,73nm,19.6s,baz=358,slow=42								
IDI	Anoyia	9.32	108	Sn			Sn	17 23 13.1	-5.4
	0.5nm,0.3s,baz=214,slow=11,SNR=4.4								
GERES	GERESS Array B	10.09	359	Pn			Pn	17 21 46.9	+2.6
	0.3nm,0.3s,baz=173,slow=13,SNR=8.3								
GERES				LR			LR	17 25 49.3	
	comp=Z,52nm,21.8s,baz=119,slow=38								
VRAC	Vranov	10.71	9	LR			LR	17 26 17.9	
	comp=Z,71nm,18.7s,baz=21,slow=39								
BRTR	Keskin Array B	15.20	80	Pn			Pn	17 22 55.0	+0.8
	0.0nm,0.3s,baz=285,slow=16,SNR=2.5								
HFS	Hagfors	21.40	359	P			P	17 24 10.0	+3.1
	2.9nm,0.7s,baz=209,slow=15,SNR=4.5								
NOA	NORSAR Array B	22.38	356	P			P	17 24 20.3	+2.8
	1.0nm,0.8s,baz=167,slow=10,SNR=2.5								
NOA				LR			LR	17 33 37.1	
	comp=Z,33nm,18.1s,baz=90,slow=38								
FINES	FINESS Array B	23.91	14	P			P	17 24 34.6	+1.7
	3.6nm,0.7s,baz=180,slow=11,SNR=9.3								
TORD	Torodi Ar. Bea	27.76	207	P			P	17 25 09.9	+1.7
	0.5nm,0.7s,baz=16,slow=8.9,SNR=3.7								
ZALV	Zalesovo Beam	49.07	48	P			P	17 28 06.8	+0.5
	0.9nm,0.5s,baz=289,slow=7.8,SNR=3.9								
MKAR	Makanchi Array	49.29	57	P			P	17 28 09.3	+1.1
	1.0nm,0.6s,baz=285,slow=6.7,SNR=14								
SONM	Songino Array	63.95	49	P			P	17 29 53.7	+1.2
	0.7nm,0.6s,baz=286,slow=9.3,SNR=3.7								
CMAR	Chiang Mai Arr	74.79	78	P			P	17 31 05.2	+5.3
	0.5nm,0.8s,baz=304,slow=6.4,SNR=4.2								

IDC 08 17:23:01.3±1.1, 49°.08S×117°.12E, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.8/13, mbtmp3.7/5, MS3.5/1, Ms1 3.5/1, ms1mx3.0/18, Error ellipse: s-maj=46.6km s-min=22.0km az=107.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ASAR	Alice Springs	28.61	34	P			P	17 28 59.1	-0.2
	0.4nm,0.8s,baz=198,slow=8.1,SNR=5.1								
ASAR				LR			LR	17 40 05.6	
	comp=Z,96nm,20.1s,baz=280,slow=36								
WRA	Warramunga Arr	32.19	32	P			P	17 29 30.3	-0.7
	0.4nm,0.6s,baz=198,slow=11,SNR=4.3								
MAW	Mawson	32.53	215	P			P	17 29 33.0	-0.4
	2.0nm,0.7s,baz=99,slow=9.5,SNR=6.1								
VNDA	Vanda	33.18	164	P			P	17 29 38.8	-0.2
	1.2nm,0.8s,baz=280,slow=11,SNR=5.0								
CMAR	Chiang Mai Arr	69.15	342	P			P	17 34 09.6	+0.2
	0.6nm,0.6s,baz=189,slow=6.0,SNR=5.8								
PDAR	Pinedale Array	147.35	83	PKPbc			PKPbc	17 42 46.8	+0.2
	0.5nm,0.6s,baz=159,slow=2.8,SNR=3.9								

MAN 08 17:32:48, 10°.38N×125°.19E, h4km, mb4.7, ML3.6, MS3.5, 4C-2D, Leyte

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MSLP	Maasin	0.41	233	*e*P			Pg	17 32 56.7	+0.8
MSLP				*e*S			Sb	17 33 03.6	-0.7
PLP	Palo	0.81	345	↑*e*P			Pb	17 33 04.2	-0.4
PLP				*e*S			Sb	17 33 16.6	+0.6
OCLP	Ormoc	0.88	320	*e*P			Pg	17 33 05.4	+0.5
LLP	Lapu-Lapu	1.21	267	‖*i*P			Pg	17 33 10.2	-1.0
LLP				*i* S			Sn	17 33 28.6	+0.1
TBP	Tagbilaran	1.48	243	*e*P			Pn	17 33 15.2	-0.2
TBP				*e*S			Sg	17 33 36.4	+0.8
CGP	Cagayan de Oro	1.97	194	↑*e*P			Pn	17 33 21.7	-0.6
CGP				*e*S			Sn	17 33 44.1	-3.3
CNP	Catarman	2.18	346	*e*P			Pn	17 33 26.0	+0.9
GUIM	Jordan	2.57	276	*e*P			Pn	17 33 31.3	+0.9
RCP	Roxas	2.67	296	‖*e*P			Pn	17 33 32.8	+0.9
KALP	Kalibo	3.08	295	↑*e*P			Pn	17 33 39.5	+2.0
PVCP	Virac	3.35	343	↑*i*P			Pn	17 33 42.7	+1.5

*IDC **08** 17:35:13.6±0.9, 8°.78S×127°.10E, h0km, mb4.0/7, mb1 4.2/8, mb1mx4.0/18, mbtmp4.1/8, ML4.5/1, MS4.1/1, Ms1 4.1/1, ms1mx2.7/37, Error ellipse: s-maj=46.4km s-min=20.0km az=69.0*
*ISCJB **08** 17:35:16.5±0.4, 8°.98S±0°.04×127°.07E±0°.05, h33km, mb4.0/7, MS4.2/1, Error ellipse: s-maj=7.8km s-min=5.2km az=174.0*
*AUST **08** 17:35:19.4±1.8, 9°.04S×127°.17E, h28km, Error ellipse: s-maj=0.8km s-min=0.6km az=292.0*

**ISC 08 17:35:18.3±0.6, 9°.04S±0°.05×127°.21E±0°.06, h35km, n33, σ2°.75/32, mb4.0/7

STKA	Stephens Creek	26.36 152	P	P	17 40 55.1	+3.8
	baz=26,SNR=11					
CMSA	Cobar Meteorol	28.22 145	P	P	17 41 11.9	+3.9
	baz=28,SNR=7.5					
ARPS	Mount Arapiles	30.63 157	P	P	17 41 34.0	+4.7
	baz=31,SNR=9.4					
YNG	Young	31.79 145	P	P	17 41 44.0	+4.4
	baz=32,SNR=6.4					
CMAR	Chiang Mai Arr	39.05 314	P	P	17 42 41.3	-0.8
	1.6nm,0.8s,baz=142,slow=6.8,SNR=15					
RAO	Raoul Island	55.07 119	LR	LR	18 04 25.8	
	comp=Z,202nm,20.9s,baz=135,slow=32					
SONM	Songino Array	59.55 344	P	P	17 45 17.1	-1.4
	0.5nm,0.7s,baz=145,slow=5.4,SNR=3.9					
PETK	Petropavlovsk-	67.13 19	P	P	17 46 08.4	0.0
	1.4nm,0.8s,baz=180,slow=5.9,SNR=6.5					
MKAR	Makanchi Array	68.46 329	P	P	17 46 15.4	-1.5
	0.9nm,0.6s,baz=126,slow=8.2,SNR=13					
ZALV	Zalesovo Beam	72.22 335	P	P	17 46 37.8	-1.9
	1.3nm,0.4s,baz=130,slow=4.4,SNR=10					
KURBB	Kurchatov Arra	72.84 330	P	P	17 46 41.8	-1.7
	0.8nm,0.4s,baz=148,slow=6.1,SNR=6.2					
TORD	Torodi Ar. Bea	126.46 280	PKP	PKPdf	17 54 20.4	+1.7
	0.3nm,0.6s,baz=107,slow=2.0,SNR=2.5					

*AUST **08** 17:40:21.5±2.7, 4°.39S×134°.48E, h139km, Error ellipse: s-maj=3.5km s-min=1.0km az=256.0*
*IDC **08** 17:40:26.8±3.0, 4°.83S×133°.29E, h0km, mb3.7/1, mb1 4.2/4, mb1mx3.7/17, mbtmp4.0/4, ML4.0/2, Error ellipse: s-maj=130.5km s-min=29.3km az=81.0*
ISC 08 17:40:23.6±1.9, 4°.57S±0°.09×134°.1E±0°.2, h21km, n12, σ1§33/11, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLE	Tual	1.73	232	P	Pb	17 40 54.4	-0.2
	baz=2.1,SNR=17						
FAKI	Fak Fak	2.48	311	P	Pb	17 41 06.9	-0.5
	baz=2.7,SNR=32						
FAKI				S	Sb	17 41 37.7	+0.3
	baz=2.7,SNR=6.2						
BNDI	Bandanaira	4.19	270	P	Pn	17 41 29.8	+3.5
	baz=4.6,SNR=5.4						
KDU	Kakadu	8.22	191	P	Pn	17 42 22.2	+0.4
	baz=8.5,SNR=16						
MTN	Manton Dam	8.73	199	P	Pn	17 42 28.7	0.0
	baz=9.1,SNR=9.4						
SOEI	Soe	11.04	242	P	Pn	17 43 01.3	+0.8
	baz=12,SNR=5.0						
KNRA	Kununurra	12.22	205	P	Pn	17 43 15.4	-1.2
	baz=13,SNR=6.2						
WRA	Warramunga Arr	15.28	179	Pn	P	17 44 02.3	-0.6
	0.5nm,0.3s,baz=353,slow=14,SNR=7.0						
WRA				Sn	Sn	17 46 36.4	-11
	0.2nm,0.3s,baz=22,slow=22,SNR=4.9						
FITZ	Fitzroy Crossi	15.79	211	Pn	Pn	17 44 02.6	-2.3
	0.6nm,0.3s,baz=28,slow=10,SNR=8.8						
FITZ	Fitzroy Crossi	15.79	211	P	Pn	17 44 03.2	-1.7
	baz=16,SNR=5.6						
ASAR	Alice Springs	18.99	181	P	Pn	17 44 46.5	+1.8
	0.5nm,0.3s,baz=4.0,slow=10,SNR=10						
MKAR	Makanchi Array	68.54	325	P	P	17 51 29.8	+5.1
	0.4nm,0.5s,baz=118,slow=7.7,SNR=6.5						

DJA 08 17:43:19.6±1.6, 2°.S±14°.×10°.0E±1°.1, h20km, M3.6/4, MLv3.6/4, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	Padang	1.01	51	P	Pb	17 43 36.1	-2.3
PDSI				S	Sb	17 43 51.5	+0.2
PPI	Padang Panjang	1.30	33	P	Pn	17 43 40.4	-2.3
SDSI	Sungai Dareh	1.85	71	P	Pn	17 43 50.4	+0.2
BKNI	Bangkinang	2.31	36	P	Pb	17 43 58.8	-1.8

*BJI **08** 17:50:42.6, 42°.61N×42°.69E, h10km, mb4.4/5*
*MOS **08** 17:50:46.9±1.4, 42°.50N×43°.31E, h6km, mb4.7/25, Error ellipse: s-maj=4.4km s-min=3.8km az=109.7*
*IDC **08** 17:50:47.7±0.7, 42°.67N×43°.32E, h0km, mb4.1/13, mb1 4.2/17, mb1mx4.0/28, mbtmp4.1/17, ML3.7/4, MS3.6/16, Ms1 3.6/16, ms1mx3.4/41, Error ellipse: s-maj=11.1km s-min=9.7km az=174.0*
*DDA **08** 17:50:47.7, 42°.53N×43°.33E, h8km, MD4.1, ML4.3*
*TIF **08** 17:50:47.4, 42°.58N×43°.45E, h13km*
*ISCJB **08** 17:50:48.3±0.3, 42°.60N±0°.01×43°.38E±0°.02, h15km±2km, mb4.3/46, MS3.7/14, Error ellipse: s-maj=2.4km s-min=1.9km az=23.4*
*CSEM **08** 17:50:48.9±0.1, 42°.58N×43°.41E, h10km, mb4.7, mb4.7/20, Error ellipse: s-maj=2.7km s-min=2.4km az=144.0*
*NEIC **08** 17:50:49.2±2.6, 42°.66N×43°.41E, h12km±17km, mb4.7/23, Error ellipse: s-maj=7.7km s-min=4.3km az=179.0*
*NNC **08** 17:50:53.0, 42°.23N×43°.46E, h2km*
*AZER **08** 17:50:53.0, 42°.23N×43°.46E, h2km*
ISC 08 17:50:49.0±0.5, 42°.53N±0°.01×43°.42E±0°.01, h14km±2km, n438, σ1§47/507, mb4.5/46, MS3.7/14, 44C-32D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	Oni	0.07	22	PG	Pg	17 50 50.1	-1.8
ONI	Oni	0.07	22	Pg	Pg	17 50 50.1	-1.8
ONI	Oni	0.07	22	P	Pg	17 50 50.1	-1.8
ONI				S	Sg	17 50 51.5	-2.4
DIGR	Digorskoe uzhe	0.39	18	⇓iPG	Pg	17 50 55.3	-1.6
DIGR				iS	Sg	17 51 01.1	-1.2
DIGR	Digorskoe uzhe	0.39	18	iPg	Pg	17 50 55.3	-1.6
DIGR				iSg	Sg	17 51 01.1	-1.2
ZEI	Tsey	0.44	54	⇓iPG	Pg	17 50 56.3	-1.6
ZEI				iS	Sg	17 51 02.5	-1.4
ZEI	Tsey	0.44	54	iPg	Pg	17 50 56.3	-1.6
ZEI				iSg	Sg	17 51 02.5	-1.4
LACR	Lac	0.71	65	⇓iPG	Pg	17 51 01.1	-1.8
LACR				iS	Sg	17 51 10.9	-1.4
LACR	Lac	0.71	65	iPg	Pg	17 51 01.1	-1.8
LACR				iSg	Sg	17 51 10.9	-1.4
KORR	Kora	0.73	40	⇑iPG	Pg	17 51 02.2	-1.1
KORR				eS	Sg	17 51 12.4	-0.6
KORR	Kora	0.73	40	iPg	Pg	17 51 02.2	-1.1
KORR				eSg	Sg	17 51 12.4	-0.6
LSNR	Lesken	0.81	22	⇓iPG	Pg	17 51 03.6	-1.1
LSNR				iS	Sg	17 51 14.7	-0.6
LSNR	Lesken	0.81	22	iPg	Pg	17 51 03.6	-1.1
LSNR				iSg	Sg	17 51 14.7	-0.6
STDR	Stavd-Durt	0.96	29	⇑iPG	Pg	17 51 07.6	-0.1
STDR				eS	Sb	17 51 21.0	+0.9
STDR	Stavd-Durt	0.96	29	iPg	Pg	17 51 07.6	-0.1
STDR				eSg	Sb	17 51 21.0	+0.9
NCK	Nalchik	0.98	8	⇓ePG	Pg	17 51 07.2	-0.7
NCK				eS	Sb	17 51 21.3	+0.8
NCK	Nalchik	0.98	8	ePg	Pg	17 51 07.2	-0.7
NCK				eSg	Sb	17 51 21.3	+0.8
CHVG	Ch'k'valeri	1.00	281	P	Pg	17 51 07.5	-0.9
CHVG				S	Sb	17 51 22.4	+1.2
DUS	Dusheti	1.05	114	P	Pg	17 51 08.5	-0.7
DUS				S	Sb	17 51 23.6	+1.1
VLKR	Vladikavkaz	1.06	60	⇓iPG	Pg	17 51 09.1	-0.4
VLKR				eS	Sg	17 51 23.6	+0.2
VLKR	Vladikavkaz	1.06	60	iPg	Pg	17 51 09.1	-0.4
VLKR				eSg	Sg	17 51 23.6	+0.2
AKH	Akhalkalaki	1.12	177	PG	Pb	17 51 09.4	-0.8
AKH				S	Sb	17 51 25.5	+0.8
AKH	Akhalkalaki	1.12	177	Pg	Pb	17 51 09.4	-0.8
AKH				Sg	Sb	17 51 25.5	+0.8
AKH	Akhalkalaki	1.12	177	P	Pb	17 51 09.4	-0.8
AKH				S	Sb	17 51 25.5	+0.8
SNJR	Sundja	1.16	62	⇓iPG	Pb	17 51 10.4	-0.4
SNJR				eS	Sb	17 51 26.0	+0.2
SNJR	Sundja	1.16	62	iPg	Pb	17 51 10.4	-0.4
SNJR				eSg	Sb	17 51 26.0	+0.2
BTKR	Batakoyurt	1.18	44	⇑iPG	Pg	17 51 12.1	+0.4
BTKR				iS	Sn	17 51 28.2	+1.2
BTKR	Batakoyurt	1.18	44	iPg	Pg	17 51 12.1	+0.4
BTKR				iSg	Sn	17 51 28.2	+1.2
KBZ	Khabaz	1.26	343	PG	Pn	17 51 11.5	-0.6
KBZ						17 51 27.7	
KBZ				pmax	pmax		
	comp=Z,95nm,0.3s						
KBZ				smax	smax		
	comp=N,190nm,0.3s						
KBZ	Khabaz	1.26	343	Pn	Pn	17 51 11.5	-0.6
KBZ				Sn	Sb	17 51 27.7	-0.9
KBZ	Khabaz	1.26	343	Pn	Pn	17 51 11.5	-0.6
	comp=N,95nm,0.3s,baz=109,slow=1.0,SNR=386						
KBZ				Sn	Sb	17 51 27.7	-0.9
	comp=N,190nm,0.3s,baz=37,slow=20,SNR=18						
KBZ	Khabaz	1.26	343	Pg	Pn	17 51 11.5	-0.6
	comp=N,95nm,0.3s						
KBZ				Sg	Sb	17 51 27.7	-0.9
	comp=N,190nm,0.3s						
TBLG	Delisi	1.26	129	PG	Pn	17 51 11.8	-0.5
TBLG				S	Sb	17 51 29.2	+0.5
TBLG	Delisi	1.26	129	Pg	Pn	17 51 11.8	-0.5
TBLG				Sg	Sb	17 51 29.2	+0.5
TBLG	Delisi	1.26	129	P	Pn	17 51 11.8	-0.5
TBLG				S	Sb	17 51 29.1	+0.4
KUBR	Kubataba	1.27	360	⇓ePG	Pn	17 51 13.0	+0.6
KUBR				eS	Sg	17 51 30.9	+0.8
KUBR	Kubataba	1.27	360	ePg	Pn	17 51 13.0	+0.6
KUBR				eSg	Sg	17 51 30.9	+0.8
SHAR	Shatzhatmas	1.33	336	⇑ePG	Pn	17 51 13.4	0.0
SHAR				eS	Sb	17 51 31.3	+0.3
SHAR	Shatzhatmas	1.33	336	ePg	Pn	17 51 13.4	0.0
SHAR				eSg	Sb	17 51 31.3	+0.3
KZR	Kazreti	1.36	147	P	Pn	17 51 13.1	-0.6
KZR				S	Sb	17 51 31.4	-0.3
PRTR	Priterechnaya	1.38	27	⇑iPG	Pb	17 51 15.1	+0.6
PRTR				iS	Sg	17 51 33.7	+0.3
PRTR	Priterechnaya	1.38	27	iPg	Pb	17 51 15.1	+0.6
PRTR				iSg	Sg	17 51 33.7	+0.3
KIV	Kislovodsk	1.52	340	⇑ePG	Pn	17 51 16.8	+0.9
KIV				eS	Sb	17 51 37.1	+0.8
KIV	Kislovodsk	1.52	340	ePg	Pn	17 51 16.8	+0.9
KIV				eSg	Sb	17 51 37.1	+0.8
PYA	Pyatigorsk	1.53	350	⇑ePG	Pn	17 51 17.1	+1.2
PYA				eS	Sb	17 51 37.7	+1.3
PYA	Pyatigorsk	1.53	350	ePg	Pn	17 51 17.1	+1.2
PYA				eSg	Sb	17 51 37.7	+1.3
TRKR	Terskaya	1.53	38	⇓iPG	Pb	17 51 17.9	+0.7
TRKR				iS	Sg	17 51 38.5	+0.1
TRKR	Terskaya	1.53	38	iPg	Pb	17 51 17.9	+0.7
TRKR				iSg	Sg	17 51 38.5	+0.1
BCA	Borcka	1.72	232	ePN	Pn	17 51 17.5	-1.1
BCA	Borcka	1.72	232	ePn	Pn	17 51 17.5	-1.1
ARTV	Artvin	1.74	220	iP	Pn	17 51 20.0	+1.0
ARTV				iS	Sg	17 51 44.0	-1.1
ARTV	Artvin	1.74	220	iP	Pn	17 51 20.0	+1.0
ARTV				iS	Sg	17 51 44.0	-1.1
DBOC	Borcka	1.76	228	iP	Pn	17 51 19.6	+0.5
DBOC				iS	Sb	17 51 43.9	+0.8
DBOC	Borcka	1.76	228	iP	Pn	17 51 19.6	+0.5
DBOC				iS	Sb	17 51 43.9	+0.8
DGRG	David-gareji	1.81	126	PN	Pb	17 51 21.9	0.0
DGRG				S	Sg	17 51 47.9	+0.6
DGRG	David-gareji	1.81	126	Pn	Pb	17 51 21.9	0.0
DGRG				Sg	Sg	17 51 47.9	+0.6
DGRG	David-gareji	1.81	126	P	Pb	17 51 21.9	0.0
DGRG				S	Sg	17 51 46.3	-0.9
DAGI	Agillar	1.83	218	iP	Pb	17 51 21.8	-0.6
DAGI				iS	Sg	17 51 46.6	-1.4
GRO	Groznyy	1.89	64	⇓iPN	Pb	17 51 22.9	-0.3
GRO				iS	Sb	17 51 47.5	+0.9
GRO	Groznyy	1.89	64	iPn	Pb	17 51 22.9	-0.3
GRO				iSg	Sb	17 51 47.5	+0.9
KARS	Kars	1.92	188	ePN	Pb	17 51 22.9	-0.9
KARS				eSN	Sb	17 51 48.5	+0.9
KARS	Kars	1.92	188	ePn	Pb	17 51 22.9	-0.9
KARS				eSn	Sb	17 51 48.5	+0.9
DDEM	Demirkent	2.06	218	iP	Pb	17 51 25.1	-1.1
DDEM				iS	Sg	17 51 53.8	-1.3
DDEM	Demirkent	2.06	218	iP	Pb	17 51 25.1	-1.1
DDEM				iS	Sg	17 51 53.8	-1.3
DIGO	Kars	2.11	181	iP	Pn	17 51 25.8	+1.7
DIGO				iS	Sg	17 51 55.3	-1.6
DIGO	Kars	2.11	181	iP	Pn	17 51 25.8	+1.7
DIGO				iS	Sg	17 51 55.3	-1.6
PZAR	Pazar-Rize	2.31	235	ePN	Pn	17 51 26.8	+0.1
PZAR	Pazar-Rize	2.31	235	ePn	Pn	17 51 26.8	+0.1
GNI	Garni	2.58	157	ePN	Pn	17 51 32.5	+2.1
GNI	Garni	2.58	157	ePn	Pb	17 51 34.2	-0.9
GNI	Garni	2.58	157	ePn	Pn	17 51 32.6	+2.1
GANJ	Ganja	2.88	130	⇓P	Pn	17 51 35.5	+1.1
	SNR=48						
GANJ				⇓S	Sn	17 52 09.8	+0.9
GANJ	Ganja	2.88	130	P	Pn	17 51 35.5	+1.1
	SNR=48						
GANJ				S	Sn	17 52 09.8	+0.9
SOC	Sochi	2.91	293	ePN	Pn	17 51 34.1	-0.8
SOC				e		17 51 39.5	
SOC				e		17 51 40.6	
SOC				e		17 52 10.6	
SOC				e		17 52 18.5	
SOC				pmax	pmax		
	comp=Z,26nm,0.8s						
SOC	Sochi	2.91	293	ePn	Pn	17 51 34.1	-0.8
	comp=Z,26nm,0.8s						
SOC				eSn	Sn	17 52 10.6	+1.0
AGRB	Hanur-Agry	2.97	186	ePN	Pn	17 51 37.2	+1.3
AGRB	Hanur-Agry	2.97	186	ePn	Pn	17 51 37.2	+1.3
MAK	Makhachkala	3.04	80	ePN	Pb	17 51 42.4	-0.5
MAK				e		17 52 27.1	
MAK				pmax	pmax		
	comp=Z,299nm,0.4s						
MAK				smax	smax		
	comp=E,2μm,0.6s						
MAK				smax	smax		
	comp=N,2μm,0.6s						
MAK	Makhachkala	3.04	80	eSb	Sg	17 52 27.1	+0.5
	comp=N,2μm,0.6s						
SEKA	Sheki	3.12	114	⇓P	Pn	17 51 38.8	+1.1
	SNR=11						
SEKA				⇓S	Sb	17 52 20.2	-1.9
SEKA	Sheki	3.12	114	P	Pn	17 51 38.8	+1.1
	SNR=11						
SEKA				S	Sb	17 52 20.2	-1.9
BAYT	Ayd¨–ntepe-Bay	3.26	230	ePN	Pn	17 51 40.5	+0.7
BAYT	Ayd¨–ntepe-Bay	3.26	230	ePn	Pn	17 51 40.5	+0.7
CLDR	Caldiran	3.40	173	ePN	Pn	17 51 43.6	+1.7
CLDR	Caldiran	3.40	173	ePn	Pn	17 51 43.6	+1.7
GUMT	Gumushane	3.61	236	ePN	Pn	17 51 44.4	-0.2
GUMT	Gumushane	3.61	236	ePn	Pn	17 51 44.4	-0.2
BRDA	Brd	3.62	127	⇓P	Pn	17 51 46.9	+2.3
	SNR=31						
BRDA				⇑S	Sg	17 52 42.2	-3.0
BRDA	Brd	3.62	127	P	Pn	17 51 46.9	+2.3
	SNR=31						
NAX	Nakhchivan	3.70	154	⇓P	Pb	17 51 54.9	+0.7
	SNR=49						
NAX				⇓S	Sg	17 52 44.3	-3.6
QUBA	Quba, Azerbaij	3.96	105	⇑P	Pn	17 51 53.5	+4.1
	SNR=5.7						
QUBA				⇑S	Sg	17 52 56.0	-0.2
QUBA	Quba, Azerbaij	3.96	105	P	Pn	17 51 53.5	+4.1
	SNR=5.7						
IML	Ismayilli	3.97	114	⇑P	Pn	17 51 51.4	+1.9
	SNR=13						
IML				⇑S	Sn	17 52 40.4	+4.6
IML	Ismayilli	3.97	114	P	Pn	17 51 51.4	+1.9
	SNR=13						
IML				S	Sn	17 52 40.4	+4.6
ERZN	Erzincan	4.05	225	ePN	Pn	17 51 51.8	+1.0
BNGB	Bing¨¶l	4.10	211	ePN	Pn	17 51 53.1	+1.7
EZC	Erzincan	4.14	229	ePN	Pn	17 51 52.9	+1.0
EZC	Erzincan	4.14	229	ePn	Pn	17 51 51.8	-0.1
PQL	Pirkuli	4.25	112	⇑P	Pn	17 51 55.8	+2.4
	SNR=31						
PQL				⇓S	Sb	17 52 49.7	-5.0
PQL	Pirkuli	4.25	112	P	Pn	17 51 55.8	+2.4
	SNR=31						
BINT	Bingol	4.27	212	ePn	Pn	17 51 53.1	-0.6
SIZA	Siyzn	4.35	108	⇑P	Pn	17 51 57.8	+3.1
	SNR=5.1						
SIZA				⇓S	Sn	17 52 49.9	+4.7
SIZA	Siyzn	4.35	108	P	Pn	17 51 57.8	+3.1
	SNR=5.1						
ATGJ	Altiaghaj	4.46	110	⇑P	Pn	17 51 58.9	+2.7
ATGJ				⇓S	Sb	17 53 03.4	+2.7
ATGJ	Altiaghaj	4.46	110	P	Pn	17 51 58.9	+2.7
PTK	Pertek	4.75	221	ePN	Pn	17 52 02.0	+1.7
PTK	Pertek	4.75	221	ePn	Pn	17 52 02.0	+1.7
ILIC	ilic-Erzincan	4.79	232	ePN	Pn	17 52 01.8	+1.0
ILIC	ilic-Erzincan	4.79	232	ePn	Pn	17 52 01.8	+1.0
ANN	Anapa	4.90	300	ePN	Pn	17 52 04.4	+2.2
ANN				ePPP	PPP	17 52 19.0	
ANN				eS	Sn	17 53 02.8	+4.1
ANN				eSS	Sb	17 53 15.0	+1.7
ANN				eSSS	SSS	17 53 26.8	
ANN				pmax	pmax		
	comp=Z,45nm,1.4s						
ANN	Anapa	4.90	300	ePn	Pn	17 52 04.4	+2.2
	comp=Z,45nm,1.4s						
ANN				eSg	Sg	17 53 26.8	+0.6
ALIB	Äli-Bayra	4.93	119	⇑P	Pn	17 52 03.8	+1.1
	SNR=16						
ALIB				⇑S	Sn	17 53 04.1	+4.6
ALIB	Äli-Bayra	4.93	119	P	Pn	17 52 03.8	+1.1
	SNR=16						
ALIB				S	Sn	17 53 04.1	+4.6
GLBA	Clilabad	5.00	129	⇑S	Sb	17 53 12.5	-3.7
RSDY	Resadiye-TOKAT	5.05	247	ePN	Pn	17 52 05.2	+1.0
RSDY	Resadiye-TOKAT	5.05	247	ePn	Pn	17 52 05.3	+1.0
SIRT	Sirnak	5.08	189	ePN	Pn	17 52 07.7	+2.9
SIRT	Sirnak	5.08	189	ePn	Pn	17 52 07.7	+2.9
CUKT	Cukurca	5.28	178	ePN	Pn	17 52 10.7	+3.2
CUKT	Cukurca	5.28	178	ePn	Pn	17 52 10.7	+3.2
SVSK	Karacayir	5.50	244	ePN	Pn	17 52 11.5	+1.1
SVSK	Karacayir	5.50	244	ePn	Pn	17 52 11.5	+1.1
MALT	Malatya	5.68	224	⇑iP	Pn	17 52 16.3	+3.3
MALT	Malatya	5.68	224	⇑iP	Pn	17 52 16.3	+3.3
SUDU	Sudak	6.54	294	eP	Pn	17 52 24.8	+0.1
SUDU				eS	Sn	17 53 40.6	+1.5
SUDU	Sudak	6.54	294	eP	Pn	17 52 24.8	+0.1
SUDU				eS	Sn	17 53 40.6	+1.5
YAL	Yalta	7.01	289	eP	Pn	17 52 33.2	+2.0
YAL				eS	Sn	17 53 53.0	+2.3
YAL	Yalta	7.01	289	eP	Pn	17 52 33.2	+2.0
YAL				eS	Sn	17 53 53.0	+2.3
SIM	Simferopol'	7.16	293	P	Pn	17 52 30.1	-3.1
SIM				S	Sn	17 53 49.0	-5.3
SIM				pmax	pmax		
	comp=Z,8.0nm,0.9s						
SEV	Sevastopol'	7.37	289	eP	Pn	17 52 35.1	-0.9
SEV				eS	Sn	17 53 56.7	-2.7
SEV	Sevastopol'	7.37	289	eP	Pn	17 52 35.1	-0.9
BR131	Keskin Array S	7.89	253	ePn	Pn	17 52 45.0	+1.5
	comp=Z,3.8nm,0.5s						
BRTR	Keskin Array B	7.89	253	Pn	Pn	17 52 45.0	+1.5
BRTR				Sn	Sn	17 54 14.1	+1.4
BRTR	Keskin Array B	7.89	253	Pn	Pn	17 52 45.0	+1.5
	comp=Z,1.5nm,0.3s,baz=40,slow=10,SNR=33						
BRTR				Sn	Sn	17 54 14.1	+1.4
	comp=Z,0.2nm,0.3s,baz=334,slow=43,SNR=3.6						
BRTR	Keskin Array B	7.89	253	P	Pn	17 52 45.0	+1.5
	comp=Z,2.0nm,0.3s						
BRTR				S	Sn	17 54 14.1	+1.4
VRHR	Novokhopersk	8.66	352	eP	Pn	17 53 00.5	+6.8
VRHR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
VRHR				pmax	pmax		
	comp=N,20nm,0.7s						
VRHR				pmax	pmax		
	comp=E,10.0nm,0.7s						
VORD	Divnogorie	8.90	343	eP	Pn	17 53 04.7	+7.6
VORD				pmax	pmax		
	comp=Z,30nm,2.0s						
VORD				pmax	pmax		
	comp=N,10.0nm,0.7s						
VORD				pmax	pmax		
	comp=E,20nm,0.7s						
VSR	Storozhevoye	9.16	343	eP	Pn	17 53 05.8	+5.1
VSR				pmax	pmax		
	comp=Z,30nm,1.4s						
VSR				pmax	pmax		
	comp=N,50nm,1.3s						
VSR				pmax	pmax		
	comp=E,30nm,1.6s						
VOR	Voronezh	9.64	344	P	Pn	17 53 15.0	+7.8
VOR				pmax	pmax		
	comp=Z,250nm,1.0s						
TLCR		10.88	289	⇑P	Pn	17 53 25.9	+1.8
TLCR		10.88	289	⇑iP	Pn	17 53 25.9	+1.8
TLCR		10.88	289	P	Pn	17 53 25.9	+1.8
TIRR	Tirgusor	11.07	285	eP	Pn	17 53 24.9	-2.0
TIRR				pmax	pmax		
	comp=Z,21nm,0.6s						
TIRR	Tirgusor	11.07	285	ePn	Pn	17 53 24.9	-2.0
	comp=Z,21nm,0.6s						
TIRR	Tirgusor	11.07	285	⇑iP	Pn	17 53 24.8	-2.0
TIRR	Tirgusor	11.07	285	eP	Pn	17 53 24.9	-2.0
	comp=Z,21nm,0.6s						
TLB	Topalu	11.35	286	⇓P	Pn	17 53 25.9	-4.7
TLB	Topalu	11.35	286	⇓iP	Pn	17 53 25.9	-4.7
CFR	Carcaliu	11.35	289	⇓P	Pn	17 53 30.4	-0.2
CFR	Carcaliu	11.35	289	⇓iP	Pn	17 53 30.4	-0.2
CFR	Carcaliu	11.35	289	P	Pn	17 53 30.4	-0.2
MMAI	Mount Meron Ar	11.41	216	LR	LR	17 57 57.5	
	comp=Z,114nm,21.9s,baz=350,slow=37						
ASF	Jabal al Asfar	11.56	209	LR	LR	17 58 30.7	
	comp=Z,108nm,19.0s,baz=218,slow=40						
VRI	Vrincioaia	12.44	291	⇓P	Pn	17 53 53.3	+7.8
VRI	Vrincioaia	12.44	291	⇓iP	Pn	17 53 53.3	+7.8
PLOR	Plostina	12.49	291	⇑iP	Pn	17 53 57.9	+12
TESR	Tescani	12.61	294	⇑iP	Pn	17 53 44.7	-3.2
KIEV	Kiev	12.72	315	eP	Pn	17 53 47.9	-1.4
KIEV	Kiev	12.72	315	ePn	Pn	17 53 47.9	-1.4
KIEV	Kiev	12.72	315	eP	Pn	17 53 47.9	-1.4
AKTK	Aktyubinsk	12.78	47	P	Pn	17 53 48.9	-1.3
	comp=Z,1.0nm,0.3s						
AKTO	Aktyubinsk	12.78	47	⇓Pn	Pn	17 53 48.5	-1.6
	comp=Z,11nm,0.7s						
AKTO				⇑Sn	Sn	17 56 06.0	-6.2
	comp=Z,24nm,1.1s						
AKTO	Aktyubinsk

NAY Al-Naaiem 13.61 166 *eP* **Pn 17 54 02.8 +1.3**
comp=Z,0.8nm,1.8s
MOS Moscow 13.75 346 *eP* P 17 54 15.6 +3.7
MOS pmax pmax
comp=Z,15nm,0.7s
BURAR Bucovina Array 13.82 298 ⇑P **Pn 17 54 02.1 -2.5**
BURAR Bucovina Array 13.82 298 ⇑*i*P **Pn 17 54 02.0 -2.5**
ARR Arges 13.83 288 ⇓*i*P Pn 17 54 08.1 +3.5
BUR08 Bucovina Ar. S 13.84 298 *e*Pn Pn 17 54 01.9 -2.9
RDF Al-Radifah 13.98 165 *eP* **Pn 17 54 08.0 +1.4**
RDF Al-Radifah 13.98 165 *eP* **Pn 17 54 08.0 +1.4**
LOT Lotru 14.44 288 ⇓*i*P **Pn 17 54 12.3 -0.7**
EIL Elat 14.53 211 Pn **Pn 17 54 16.0 +1.8**
EIL Elat 14.53 211 Pn **Pn 17 54 16.0 +1.8**
comp=Z,0.2nm,0.3s,baz=4.7,slow=16,SNR=2.9
EIL Elat 14.53 211 Pn **Pn 17 54 16.0 +1.8**
DRGR 15.33 293 ⇑P **P 17 54 29.2 -0.4**
DRGR 15.33 293 ⇑*i*P **P 17 54 29.2 -0.4**
DRGR 15.33 293 P **P 17 54 29.2 -0.4**
KWP Kalwaria Pacla 16.00 303 P **Pn 17 54 33.1 -0.4**
KWP pmax pmax
comp=Z,14nm,0.3s
KWP Kalwaria Pacla 16.00 303 Pn **Pn 17 54 33.1 -0.4**
comp=Z,14nm,0.3s
KWP Kalwaria Pacla 16.00 303 ⇑*i*P **P 17 54 39.1 +2.1**
KWP Kalwaria Pacla 16.00 303 *eP* **P 17 54 38.8 +1.8**
KWP Kalwaria Pacla 16.00 303 Pn **Pn 17 54 33.1 -0.4**
comp=Z,14nm,0.3s
KWP Kalwaria Pacla 16.00 303 *eP* **P 17 54 38.9 +1.9**
KOLS Kolonicke sedl 16.07 301 *eP* **P 17 54 39.5 +1.8**
KOLS Kolonicke sedl 16.07 301 *eP* **P 17 54 39.5 +1.8**
KOLS Kolonicke sedl 16.07 301 *eP* **P 17 54 39.5 +1.8**
IDI Anoyia 16.11 249 LR LR 18 01 18.0
comp=Z,57nm,20.9s,baz=85,slow=39
CRVS Cervenica-Dubn 16.58 300 *eP* **P 17 54 46.0 +2.6**
CRVS Cervenica-Dubn 16.58 300 *eP* **P 17 54 46.0 +2.6**
CRVS Cervenica-Dubn 16.58 300 *eP* **P 17 54 46.0 +2.6**
ARU Arti 16.98 30*c i*P **Pn 17 54 42.5 -3.4**
ARU S **Sn 17 57 48.7 -5.6**
ARU pmax pmax
comp=Z,14nm,1.2s
ARU MLR MLR
comp=Z,300nm,17.0s
KECS Kecovo 17.11 298 *eP* **Pn 17 54 48.5 +0.9**
KECS Kecovo 17.11 298 *eP* **Pn 17 54 48.5 +0.9**
KECS Kecovo 17.11 298 *eP* **Pn 17 54 48.5 +0.9**
SUW Suwalki 17.63 318 *eP* **Pn 17 54 52.4 -1.7**
SUW pmax pmax
comp=Z,77nm,1.1s
SUW Suwalki 17.63 318 *eP* **Pn 17 54 52.4 -1.7**
comp=Z,77nm,1.1s
SUW Suwalki 17.63 318 *eP* **Pn 17 54 52.7 -1.3**
SUW Suwalki 17.63 318 *eP* **Pn 17 54 52.7 -1.3**
SVE Sverdlovsk 18.06 32⇑*eP* **Pn 17 54 56.1 -3.2**
SVE pmax pmax
comp=Z,51nm,1.1s
SVE MLR MLR
comp=Z,330nm,12.0s
KLMR Klimovskoe 18.51 354 *eP* **P 17 55 01.0 -3.5**
KLMR *e*S **Sn 17 58 25.4 -5.7**
KLMR pmax pmax
comp=Z,35nm,1.5s
KLMR MLR MLR
comp=Z,736nm,16.0s
SOKR Solikamsk 18.98 21 *eP* **P 17 55 07.1 -2.6**
SOKR pmax pmax
comp=Z,10.0nm,1.2s
SOKR Solikamsk 18.98 21 *eP* **P 17 55 07.1 -2.6**
comp=Z,10.0nm,1.2s
MORC Moravsky Berou 19.27 301 *eP* **P 17 55 13.5 +0.4**
MORC pmax pmax
comp=Z,5.0nm,1.1s
MORC Moravsky Berou 19.27 301 *eP* **P 17 55 13.5 +0.4**
comp=Z,4.9nm,1.1s
MORC Moravsky Berou 19.27 301 *eP* **P 17 55 13.5 +0.4**
comp=Z,4.9nm,1.1s
KK31 Karatay Array 19.86 79 ⇑P **P 17 55 19.7 +0.2**
comp=Z,6.0nm,0.6s,baz=295,slow=12,SNR=82
KK31 Karatay Array 19.86 79 *i* P **P 17 55 19.7 +0.2**
KK31 pmax pmax
comp=Z,9.0nm,0.6s
KK31 Karatay Array 19.86 79 P **P 17 55 19.7 +0.2**
comp=Z,6.0nm,0.6s,SNR=82
KKAR Karatay Array 19.86 79 *eP* **P 17 55 19.6 +0.1**
KKAR pmax pmax
comp=Z,7.0nm,0.6s
KKAR Karatay Array 19.86 79 *eP* **P 17 55 19.6 +0.1**
comp=Z,6.5nm,0.6s
KKAR Karatay Array 19.86 79 *eP* **P 17 55 19.6 +0.1**
comp=Z,6.5nm,0.6s
DPC Dobruska-Polom 20.16 302 *eP* **P 17 55 22.6 -0.2**
DPC *e* 17 55 26.2
DPC Dobruska-Polom 20.16 302 *eP* **P 17 55 22.6 -0.2**
DPC *ep*P **pP 17 55 26.2 -0.6**
DPC Dobruska-Polom 20.16 302 *eP* **P 17 55 22.6 -0.2**
UPC Upice 20.39 302 *eP* Pn 17 55 29.4 +2.0
UPC Upice 20.39 302 *eP* Pn 17 55 29.4 +2.0
BRVK Borovoye 20.77 50 ⇑P **P 17 55 29.1 -0.3**
comp=Z,46nm,0.8s
BRVK Borovoye 20.77 50 *eP* **P 17 55 29.3 -0.1**
BRVK pmax pmax
comp=Z,41nm,1.0s
BRVK Borovoye 20.77 50 *eP* **P 17 55 29.8 +0.4**
comp=Z,30nm,0.8s
BRVK Borovoye 20.77 50 P **P 17 55 29.1 -0.3**
comp=Z,46nm,0.8s
BVAR Borovoye Array 20.82 50 P **P 17 55 30.2 +0.3**
BVAR pmax pmax
comp=Z,20nm,0.9s
BVAR MLR MLR
comp=Z,310nm,18.9s
BVAR Borovoye Array 20.82 50 P **P 17 55 30.2 +0.3**
BVAR Borovoye Array 20.82 50 P **P 17 55 30.2 +0.3**
comp=Z,19nm,0.9s,baz=233,slow=8.6,SNR=63
BVAR LR LR 18 05 09.2
comp=Z,310nm,18.9s,baz=282,slow=41
BVAR Borovoye Array 20.82 50 P **P 17 55 30.2 +0.3**
VOSK Vostochnaya 21.07 52 ⇑P **P 17 55 32.3 -0.3**
comp=Z,25nm,1.1s
VOSK Vostochnaya 21.07 52 P **P 17 55 31.9 -0.6**
VOSK pmax pmax
comp=Z,25nm,1.2s
PRU Pruhonice 21.22 301 *eP* **P 17 55 35.4 +1.2**
PRU MLR MLR
comp=Z,1μm,19.5s
PRU Pruhonice 21.22 301 *eP* **P 17 55 35.4 +1.2**
PRU *ep*P pP 17 55 43.5 +5.3
KBL Kabul 21.52 103 P **P 17 55 41.9 +4.1**
KBL pmax pmax
comp=Z,36nm,1.4s
KBL Kabul 21.52 103 P **P 17 55 41.9 +4.1**
comp=Z,36nm,1.4s
GERES GERESS Array B 21.61 297 P **P 17 55 39.7 +1.2**
GERES GERESS Array B 21.61 297 P **P 17 55 39.7 +1.2**
comp=Z,1.6nm,0.8s,baz=106,slow=9.8,SNR=11
GERES GERESS Array B 21.61 297 P **P 17 55 39.7 +1.2**
FINES FINESS Array B 21.61 337 P **P 17 55 40.5 +2.2**
FINES FINESS Array B 21.61 337 P **P 17 55 40.5 +2.2**
comp=Z,4.0nm,0.8s,baz=146,slow=12,SNR=7.6
FINES LR LR 18 03 56.0
comp=Z,99nm,18.9s,baz=341,slow=37
FINES FINESS Array B 21.61 337 P **P 17 55 40.5 +2.2**
KHC Kasperske Hory 21.72 298 *eP* **P 17 55 43.3 +3.6**
KHC *e* 17 55 48.4
KHC *e* 17 56 02.5
KHC MLR MLR
comp=Z,1μm,18.1s
KHC Kasperske Hory 21.72 298 *eP* **P 17 55 38.0 -1.7**
KHC *ep*P **P 17 55 43.3 +3.6**
KHC *es*P **sP 17 55 48.4 +3.0**
KHC *ex* x 17 55 54.5
KHC *ex* x 17 56 02.5
BRG Berggiesshubel 21.75 303 *eP* **P 17 55 41.8 +1.9**
comp=Z,2.8nm,0.9s
BRG Berggiesshubel 21.75 303 *eP* **P 17 55 41.8 +1.9**
BRG pmax pmax
comp=Z,3.0nm,0.9s
TMCR Tamitsa 21.90 354 *eP* **P 17 55 41.2 -0.1**
TMCR *e* 17 56 02.7
TMCR pmax pmax
comp=Z,22nm,0.8s
CLL Collm 22.42 304 *i* P **P 17 55 48.3 +1.2**
CLL *i* 17 55 52.1
CLL *es*S **S 17 59 54.0 +1.3**
CLL pmax pmax
comp=Z,9.0nm,0.9s
CLL Collm 22.42 304 *i* P **P 17 55 48.3 +1.2**
comp=Z,9.0nm,0.9s
CLL *i* sP **sP 17 55 52.1 -0.7**
CLL *e* 17 55 58.0
CLL *e*PP **PnPn 17 56 11.0 +1.0**
CLL *e* 17 56 33.0
CLL *e*S **S 17 59 54.0 +1.3**
AAK Ala-Archa 22.82 79 *eP* **P 17 55 52.5 +0.9**
AAK pmax pmax
comp=Z,38nm,1.0s
AAK Ala-Archa 22.82 79 *eP* **P 17 55 51.9 +0.3**
comp=Z,23nm,1.1s
AAK Ala-Archa 22.82 79 P **P 17 55 52.1 +0.4**
comp=Z,13nm,1.1s,baz=217,slow=6.0,SNR=16
AAK LR LR 18 06 20.5
comp=Z,167nm,18.1s,baz=270,slow=41
AAK Ala-Archa 22.82 79 *eP* **P 17 55 51.9 +0.3**
comp=Z,23nm,1.1s
GRF Grafenberg Arr 23.31 299 *eP* **P 17 55 58.6 +2.2**
comp=Z,8.0nm,1.3s
GRF Grafenberg Arr 23.31 299 *eP* **P 17 55 58.6 +2.2**
GRF pmax pmax
comp=Z,8.0nm,1.3s
FETA Feichten 23.53 292⇑*eP* **P 17 55 59.2 +0.4**
comp=Z,13nm,0.9s
FETA Feichten 23.53 292 P **P 17 55 59.2 +0.4**
comp=Z,13nm,0.9s
TKM2 Tokmak 2 23.57 78 ⇓P **P 17 55 58.6 -0.6**
comp=Z,22nm,1.8s
TKM2 Tokmak 2 23.57 78 *eP* **P 17 55 58.4 -0.9**
TKM2 pmax pmax
comp=Z,30nm,1.4s
TKM2 Tokmak 2 23.57 78 *eP* **P 17 55 58.4 -0.9**
comp=Z,30nm,1.4s
TKM2 Tokmak 2 23.57 78 P **P 17 55 58.6 -0.6**
comp=Z,22nm,1.8s
DAVA Damuels 24.11 293⇑*eP* **P 17 56 05.0 +0.7**
comp=Z,17nm,1.2s
DAVA Damuels 24.11 293 P **P 17 56 05.0 +0.7**
comp=Z,17nm,1.2s
DAVOX Davos/Dischmat 24.12 292 P **P 17 56 04.5 0.0**
DAVOX Davos/Dischmat 24.12 292 P **P 17 56 04.5 0.0**
comp=Z,5.3nm,0.9s,baz=97,slow=8.1,SNR=5.6
PGF Pioggiola 25.26 282 *eP* **P 17 56 15.2 +0.5**
comp=Z,137nm,1.6s
PGF Pioggiola 25.26 282 *eP* **P 17 56 15.2 +0.5**
PGF pmax pmax
comp=Z,137nm,1.6s
PGF Pioggiola 25.26 282 *eP* **P 17 56 15.2 +0.5**
comp=Z,137nm,1.6s
PGF Pioggiola 25.26 282 *eP* **P 17 56 15.2 +0.5**
comp=Z,137nm,1.6s
HFS Hagfors 25.27 324 P **P 17 56 14.9 +0.5**
HFS Hagfors 25.27 324 P **P 17 56 14.9 +0.5**
comp=Z,8.1nm,0.8s,baz=113,slow=11,SNR=7.8
HFS LR LR 18 06 56.3
comp=Z,141nm,19.7s,baz=301,slow=39
HFS Hagfors 25.27 324 P **P 17 56 14.9 +0.5**
KURBB Kurchatov Arra 25.27 59 P **P 17 56 14.9 +0.4**
comp=Z,1.6nm,0.3s,baz=270,slow=9.2,SNR=5.3
KURK Kurchatov 25.33 59 P **P 17 56 14.9 -0.2**
KURK pmax pmax
comp=Z,5.0nm,1.0s
KURK Kurchatov 25.33 59 P **P 17 56 14.9 -0.2**
KURK Kurchatov 25.33 59 P **P 17 56 14.9 -0.2**
CDF Champ du Feu 25.85 296 *eP* **P 17 56 19.5 -0.5**
CDF Champ du Feu 25.85 296 *eP* **P 17 56 19.5 -0.5**
CDF Champ du Feu 25.85 296 *eP* **P 17 56 19.5 -0.5**
CDF Champ du Feu 25.85 296 *eP* **P 17 56 19.5 -0.5**
SBF Sospel 26.14 285 *eP* **P 17 56 22.6 -0.1**
comp=Z,22nm,0.8s
SBF Sospel 26.14 285 *eP* **P 17 56 22.6 -0.1**
SBF pmax pmax
comp=Z,22nm,0.8s
SBF Sospel 26.14 285 *eP* **P 17 56 22.6 -0.1**
comp=Z,22nm,0.8s
SBF Sospel 26.14 285 *eP* **P 17 56 22.6 -0.1**
comp=Z,22nm,0.8s
HINF Hinteralfeld 26.14 294 *eP* **P 17 56 21.7 -0.9**
HINF Hinteralfeld 26.14 294 *eP* **P 17 56 21.7 -0.9**
HINF Hinteralfeld 26.14 294 *eP* **P 17 56 21.7 -0.9**
HINF Hinteralfeld 26.14 294 *eP* **P 17 56 21.7 -0.9**
LPG La Plagne 26.39 289 *eP* **P 17 56 25.4 +0.2**
comp=Z,35nm,1.3s
LPG La Plagne 26.39 289 *eP* **P 17 56 25.4 +0.2**
LPG pmax pmax
comp=Z,35nm,1.3s
LPG La Plagne 26.39 289 *eP* **P 17 56 25.4 +0.2**
comp=Z,35nm,1.3s
LPG La Plagne 26.39 289 *eP* **P 17 56 25.4 +0.2**
comp=Z,35nm,1.3s
LPL La Plagne 26.40 289 *eP* **P 17 56 25.4 +0.2**
comp=Z,21nm,1.1s
LPL La Plagne 26.40 289 *eP* **P 17 56 25.4 +0.2**
LPL pmax pmax
comp=Z,21nm,1.1s
LPL La Plagne 26.40 289 *eP* **P 17 56 25.4 +0.2**
comp=Z,21nm,1.1s
LPL La Plagne 26.40 289 *eP* **P 17 56 25.4 +0.2**
comp=Z,21nm,1.1s
HAU Haudompre 26.48 295 *eP* **P 17 56 25.3 -0.3**
HAU Haudompre 26.48 295 *eP* **P 17 56 25.3 -0.3**
HAU Haudompre 26.48 295 *eP* **P 17 56 25.3 -0.3**
HAU Haudompre 26.48 295 *eP* **P 17 56 25.3 -0.3**
MBDF Montbardon 26.48 287 *eP* **P 17 56 26.3 +0.5**
comp=Z,32nm,1.0s
MBDF Montbardon 26.48 287 *eP* **P 17 56 26.3 +0.5**
MBDF pmax pmax
comp=Z,32nm,1.0s
MBDF Montbardon 26.48 287 *eP* **P 17 56 26.3 +0.5**
comp=Z,32nm,1.0s
MBDF Montbardon 26.48 287 *eP* **P 17 56 26.3 +0.5**
comp=Z,32nm,1.0s
BNI Bardonecchia 26.50 288 P **P 17 56 27.4 +1.4**
BNI pmax pmax
comp=Z,11nm,1.3s
BNI Bardonecchia 26.50 288 P **P 17 56 27.4 +1.4**
comp=Z,11nm,1.3s
CABF La Chapelle 26.74 292 *eP* **P 17 56 28.2 +0.1**
comp=Z,55nm,1.5s
CABF La Chapelle 26.74 292 *eP* **P 17 56 28.2 +0.1**
CABF pmax pmax
comp=Z,55nm,1.5s
CABF La Chapelle 26.74 292 *eP* **P 17 56 28.2 +0.1**
comp=Z,55nm,1.5s
CABF La Chapelle 26.74 292 *eP* **P 17 56 28.2 +0.1**
comp=Z,55nm,1.5s
FRF La Foret Royal 26.76 285 *eP* **P 17 56 28.5 +0.3**
FRF La Foret Royal 26.76 285 *eP* **P 17 56 28.5 +0.3**
FRF La Foret Royal 26.76 285 *eP* **P 17 56 28.5 +0.3**
FRF La Foret Royal 26.76 285 *eP* **P 17 56 28.5 +0.3**
NOA NORSAR Array B 26.78 325 P **P 17 56 31.0 +2.8**
NOA NORSAR Array B 26.78 325 P **P 17 56 31.0 +2.8**
comp=Z,1.0nm,0.7s,baz=137,slow=11,SNR=3.0
NOA LR LR 18 07 43.2
comp=Z,195nm,19.1s,baz=130,slow=38
ORIF Oris-en-Rattie 27.08 288 *eP* **P 17 56 30.8 -0.3**
ORIF Oris-en-Rattie 27.08 288 *eP* **P 17 56 30.8 -0.3**
ORIF Oris-en-Rattie 27.08 288 *eP* **P 17 56 30.8 -0.3**
ORIF Oris-en-Rattie 27.08 288 *eP* **P 17 56 30.8 -0.3**
KEST Kesra 27.16 267 P **P 17 56 33.7 +1.8**
KEST Kesra 27.16 267 P **P 17 56 33.7 +1.8**
comp=Z,1.0nm,0.7s,baz=159,slow=3.5,SNR=4.7
SFTF Sexfontaines 27.35 295 *eP* **P 17 56 33.1 -0.3**
SFTF Sexfontaines 27.35 295 *eP* **P 17 56 33.1 -0.3**
SFTF Sexfontaines 27.35 295 *eP* **P 17 56 33.1 -0.3**
SMRF Simiane la Rot 27.45 286 *eP* **P 17 56 34.6 +0.2**
SMRF Simiane la Rot 27.45 286 *eP* **P 17 56 34.6 +0.2**
SMRF Simiane la Rot 27.45 286 *eP* **P 17 56 34.6 +0.2**
GIVF Givet 27.46 299 *eP* **P 17 56 35.9 +1.5**
GIVF Givet 27.46 299 *eP* **P 17 56 35.9 +1.5**
GIVF Givet 27.46 299 *eP* **P 17 56 35.9 +1.5**
GIVF Givet 27.46 299 *eP* **P 17 56 35.9 +1.5**
MK31 Makanchi Array 27.78 68 ⇓P **P 17 56 37.5 +0.2**
comp=Z,10nm,1.1s,baz=274,slow=7.1,SNR=28
MK31 Makanchi Array 27.78 68 *i* P **P 17 56 37.9 +0.6**
MK31 pmax pmax
comp=Z,6.0nm,0.7s
MK31 Makanchi Array 27.78 68 *eP* **P 17 56 37.5 +0.2**
MK31 Makanchi Array 27.78 68 P **P 17 56 37.5 +0.2**
comp=Z,10nm,1.1s,SNR=28
MKAR Makanchi Array 27.78 68 P **P 17 56 38.1 +0.8**
MKAR pmax pmax
comp=Z,4.0nm,0.9s
MKAR MLR MLR
comp=Z,227nm,18.4s
MKAR Makanchi Array 27.78 68 P **P 17 56 38.1 +0.8**
MKAR Makanchi Array 27.78 68 P **P 17 56 38.1 +0.8**
comp=Z,3.8nm,0.9s,baz=272,slow=8.8,SNR=15
MKAR LR LR 18 09 43.4
comp=Z,226nm,18.4s,baz=277,slow=41
MKAR Makanchi Array 27.78 68 P **P 17 56 38.1 +0.8**
BAIF Baives 27.86 299 *eP* **P 17 56 39.8 +1.8**
comp=Z,26nm,1.4s
BAIF Baives 27.86 299 *eP* **P 17 56 39.8 +1.8**
BAIF pmax pmax
comp=Z,26nm,1.4s
BAIF Baives 27.86 299 *eP* **P 17 56 39.8 +1.8**
comp=Z,26nm,1.4s
BAIF Baives 27.86 299 *eP* **P 17 56 39.8 +1.8**
comp=Z,26nm,1.4s
VIVF Saint-Julien-I 27.94 288 *eP* **P 17 56 39.0 +0.2**
VIVF Saint-Julien-I 27.94 288 *eP* **P 17 56 39.0 +0.2**
VIVF Saint-Julien-I 27.94 288 *eP* **P 17 56 39.0 +0.2**
VIVF Saint-Julien-I 27.94 288 *eP* **P 17 56 39.0 +0.2**
LOR Lormes 28.20 293 *eP* **P 17 56 40.6 -0.5**
comp=Z,12nm,1.0s
LOR Lormes 28.20 293 *eP* **P 17 56 40.6 -0.5**
comp=Z,12nm,1.0s
LOR Lormes 28.20 293 *eP* **P 17 56 40.6 -0.5**
comp=Z,12nm,1.0s
SSF Saint Saulge 28.46 293 *eP* **P 17 56 42.7 -0.7**
SSF Saint Saulge 28.46 293 *eP* **P 17 56 42.7 -0.7**
SSF Saint Saulge 28.46 293 *eP* **P 17 56 42.7 -0.7**
SSF Saint Saulge 28.46 293 *eP* **P 17 56 42.7 -0.7**
ARCES ARCESS Array B 28.62 347 LR LR 18 08 51.7
comp=Z,162nm,20.2s,baz=297,slow=38
NVS Novosibirsk 28.62 51 *eP* **P 17 56 42.9 -1.8**
LASF Ste Croix 28.65 287 *eP* **P 17 56 45.0 -0.1**
LASF Ste Croix 28.65 287 *eP* **P 17 56 45.0 -0.1**
LASF Ste Croix 28.65 287 *eP* **P 17 56 45.0 -0.1**
ZALV Zalesovo Beam 29.43 53 *i* P P 17 56 55.2 +3.4
ZALV pmax pmax
comp=Z,1.0nm,0.5s
ZALV Zalesovo Beam 29.43 53 P **P 17 56 51.6 -0.2**
ZALV Zalesovo Beam 29.43 53 P **P 17 56 51.6 -0.2**
comp=Z,0.6nm,0.5s,baz=280,slow=8.9,SNR=4.4
ZALV LR LR 18 10 25.1
comp=Z,110nm,19.2s,baz=253,slow=40
ZALV Zalesovo Beam 29.43 53 P **P 17 56 51.6 -0.2**
TCF Toulx Ste Croi 29.44 292 *eP* **P 17 56 52.7 +0.6**
comp=Z,34nm,1.4s
TCF Toulx Ste Croi 29.44 292 *eP* **P 17 56 52.7 +0.6**
TCF pmax pmax
comp=Z,34nm,1.4s
TCF Toulx Ste Croi 29.44 292 *eP* **P 17 56 52.7 +0.6**
comp=Z,34nm,1.4s
TCF Toulx Ste Croi 29.44 292 *eP* **P 17 56 52.7 +0.6**
comp=Z,34nm,1.4s
RJF Les Rejaudoux 30.07 290 *eP* **P 17 56 58.6 +0.9**
comp=Z,38nm,1.5s
RJF Les Rejaudoux 30.07 290 *eP* **P 17 56 58.6 +0.9**
RJF pmax pmax
comp=Z,38nm,1.5s
RJF Les Rejaudoux 30.07 290 *eP* **P 17 56 58.6 +0.9**
comp=Z,38nm,1.5s
RJF Les Rejaudoux 30.07 290 *eP* **P 17 56 58.6 +0.9**
comp=Z,38nm,1.5s
LDF La Druitiere 30.75 297 *eP* **P 17 57 03.6 0.0**
comp=Z,35nm,1.4s
LDF La Druitiere 30.75 297 *eP* **P 17 57 03.6 0.0**
LDF pmax pmax
comp=Z,35nm,1.4s
LDF La Druitiere 30.75 297 *eP* **P 17 57 03.6 0.0**
comp=Z,35nm,1.4s
LDF La Druitiere 30.75 297 *eP* **P 17 57 03.6 0.0**
comp=Z,35nm,1.4s
EPF Esparros 31.37 286 *eP* **P 17 57 08.5 -0.7**
EPF Esparros 31.37 286 *eP* **P 17 57 08.5 -0.7**
EPF Esparros 31.37 286 *eP* **P 17 57 08.5 -0.7**
EPF Esparros 31.37 286 *eP* **P 17 57 08.5 -0.7**
ROSF Rostrenen 32.87 297 *eP* **P 17 57 21.6 -0.6**
ROSF Rostrenen 32.87 297 *eP* **P 17 57 21.6 -0.6**
ROSF Rostrenen 32.87 297 *eP* **P 17 57 21.6 -0.6**
ROSF Rostrenen 32.87 297 *eP* **P 17 57 21.6 -0.6**
KBS Kingsbay 38.50 351*ceP* P 17 58 13.9 +3.7
KBS pmax pmax
comp=Z,44nm,1.7s
EVO Evora 38.81 282 *eP* **P 17 58 12.4 -0.8**
comp=Z,100nm,1.8s
EVOP Sao Brissos 38.89 282 *eP* **P 17 58 12.4 -1.5**
EVOP pmax pmax
comp=Z,100nm,1.8s
EVOP Sao Brissos 38.89 282 *eP* **P 17 58 12.4 -1.5**
comp=Z,100nm,1.8s
EVOP Sao Brissos 38.89 282 *eP* **P 17 58 12.4 -1.5**
comp=Z,100nm,1.8s
LSA Lhasa 40.13 93 P **P 17 58 24.2 -0.7**
LSA Lhasa 40.13 93 *eP* **P 17 58 26.5 +1.5**
LSA pmax pmax
comp=Z,7.0nm,1.0s
LSA Lhasa 40.13 93 *eP* **P 17 58 26.4 +1.5**
comp=Z,6.9nm,1.0s
LSA Lhasa 40.13 93 *eP* **P 17 58 26.5 +1.5**
comp=Z,6.9nm,1.0s
GTA Gaotai 42.03 75 *eP* **P 17 58 41.1 +1.0**
GTA pP **pP 17 58 46.1 +1.7**
GTA sP **sP 17 58 49.4 +3.3**
GTA pmax pmax
comp=Z,3.0nm,1.0s
SONM Songino Array 43.62 60 P **P 17 58 55.0 +2.2**
SONM Songino Array 43.62 60 P **P 17 58 55.0 +2.2**
comp=Z,0.5nm,0.7s,baz=270,slow=8.6,SNR=3.6
SONM LR LR 18 18 54.1
comp=Z,144nm,19.9s,baz=251,slow=39
SONM Songino Array 43.62 60 P **P 17 58 55.0 +2.2**
ULN Ulaanbaatar 44.03 60 *eP* **P 17 58 57.4 +1.2**
comp=Z,4.2nm,1.0s
ULN Ulaanbaatar 44.03 60 *eP* **P 17 58 57.4 +1.2**
comp=Z,4.2nm,1.0s
TOA0 Torodi Ar. Sit 46.40 244 *eP* **P 17 59 16.7 +1.6**
TOA0 Torodi Ar. Sit 46.40 244 *eP* **P 17 59 16.7 +1.6**
TORD Torodi Ar. Bea 46.40 244 P **P 17 59 16.2 +1.1**
TORD Torodi Ar. Bea 46.40 244 P **P 17 59 16.2 +1.1**
comp=Z,2.4nm,0.9s,baz=44,slow=6.3,SNR=11
TORD Torodi Ar. Bea 46.40 244 P **P 17 59 16.2 +1.1**
YAK Yakutsk 51.93 37 *i* P **P 17 59 56.4 -0.5**
YAK pmax pmax
comp=Z,8.0nm,1.3s
CHTO Chiang Mai 52.25 99 *eP* **P 17 59 59.7 -0.2**
CHTO pmax pmax
comp=Z,4.0nm,0.9s
CHTO Chiang Mai 52.25 99 *eP* **P 17 59 59.7 -0.2**
comp=Z,3.6nm,0.9s
CHTO Chiang Mai 52.25 99 *eP* **P 17 59 59.7 -0.2**
comp=Z,3.6nm,0.9s
CMAR Chiang Mai Arr 52.48 99 P **P 18 00 01.7 +0.2**
CMAR Chiang Mai Arr 52.48 99 P **P 18 00 01.7 +0.2**
comp=Z,0.9nm,0.3s,baz=302,slow=8.6,SNR=12
CMAR Chiang Mai Arr 52.48 99 P **P 18 00 01.7 +0.2**
ENH Enshi 53.33 80 P P 18 00 04.6 -3.1
LIC Lamto 55.94 244 *eP* **P 18 00 24.7 -2.1**
LIC Lamto 55.94 244 *eP* **P 18 00 24.7 -2.1**
LIC Lamto 55.94 244 *eP* **P 18 00 24.7 -2.1**
SEY Seymchan 60.73 30⇑*i*P **P 18 01 00.8 +1.2**
YSS Yuzh-Sakhalins 65.89 48 *i* P **P 18 01 34.8 +0.7**
YSS pmax pmax
comp=Z,16nm,1.2s
PETK Petropavlovsk- 69.26 36 LR LR 18 37 34.9
comp=Z,45nm,18.1s,baz=156,slow=41
ILAR Eielson Array 72.73 5 LR LR 18 35 57.9
comp=Z,46nm,18.5s,baz=332,slow=37
BOSA Boshof 72.74 197 P **P 18 02 17.0 +0.3**
BOSA Boshof 72.74 197 P **P 18 02 17.0 +0.3**
comp=Z,7.8nm,1.1s,baz=237,slow=2.0,SNR=4.6
BOSA Boshof 72.74 197 P **P 18 02 17.0 +0.3**
KDAK Kodiak Island 79.16 9 LR LR 18 42 35.1
comp=Z,50nm,18.4s,baz=107,slow=39

ATH ***08*** *17:52:59.6,41°.35N±24°.37E,h4km,MD3.0/3*
CSEM ***08*** *17:53:00.8±0.2,41°.65N±23°.80E,h2km,ML1.7/5,Error ellipse: s-maj=6.2km s-min=3.4km az=78.0*
THE ***08*** *17:53:00.4,41°.67N±23°.81E,h8km±1km,ML1.7/5,Error ellipse: s-maj=1.3km s-min=0.7km az=27.0*
BEO ***08*** *17:53:02.2±1.2,41°.67N±23°.75E,h0km,ML1.6/3*
ISC 08 17:53:00.9±0.9,41°.67N±0°.02±23°.80E±0°.03,h13km±10km,

n28, σ0°79/49, 1C, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NVR	**Nevrokopi**	**0.32**	**172**	P	**Pg**	**17 53 07.0**	**-0.4**
NVR				S	**Sg**	**17 53 11.7**	**-0.1**
NVR	**Nevrokopi**	**0.32**	**172**	*e*PG	**Pg**	**17 53 07.4**	**0.0**
NVR				*e*SG	**Sg**	**17 53 12.2**	**+0.4**
NVR	**Nevrokopi**	**0.32**	**172**	P	**Pg**	**17 53 07.0**	**-0.4**
NVR	**Nevrokopi**	**0.32**	**172**	*e*Pg	**Pg**	**17 53 07.4**	**0.0**
NVR				*e*Sg	**Sg**	**17 53 12.2**	**+0.4**
SRS	**Serrai**	**0.57**	**196**	P	**Pg**	**17 53 11.7**	**-0.3**
SRS				S	**Sg**	**17 53 20.3**	**+0.7**
SRS	**Serrai**	**0.57**	**196**	P	**Pg**	**17 53 11.7**	**-0.3**
SRS				S	**Sg**	**17 53 20.3**	**+0.7**
PLD	**Plovdiv**	**0.81**	**57**	*e*Sg	**Sb**	**17 53 28.8**	**+1.3**
PLD	**Plovdiv**	**0.81**	**57**	*e*Sg	**Sb**	**17 53 28.8**	**+1.3**
KNT	**Kendrikon**	**0.84**	**234**	P	**Pg**	**17 53 16.5**	**-0.7**
KNT				S	**Sg**	**17 53 28.2**	**-0.1**
KNT	**Kendrikon**	**0.84**	**234**	P	**Pg**	**17 53 16.5**	**-0.7**
KNT				S	**Sg**	**17 53 28.2**	**-0.1**
KAVA	**Kavala**	**0.86**	**141**	P	**Pg**	**17 53 16.2**	**-1.3**
KAVA				S	**Sg**	**17 53 28.4**	**-0.3**
KAVA	**Kavala**	**0.86**	**141**	P	**Pg**	**17 53 16.2**	**-1.3**
KAVA				S	**Sg**	**17 53 28.4**	**-0.3**
SOH	**Sokhos**	**0.91**	**202**	P	**Pg**	**17 53 17.5**	**-0.9**
SOH				S	**Sg**	**17 53 30.8**	**+0.5**
SOH	**Sokhos**	**0.91**	**202**	*e*PG	**Pg**	**17 53 17.6**	**-0.9**
SOH				*e*SB	**Sg**	**17 53 30.5**	**+0.2**
SOH	**Sokhos**	**0.91**	**202**	P	**Pg**	**17 53 17.5**	**-0.9**
SOH				*e*Sb	**Sg**	**17 53 30.5**	**+0.2**
VTS	**Vitosha**	**1.02**	**335**	P	**Pg**	**17 53 19.1**	**-1.6**
VTS				S	**Sg**	**17 53 35.0**	**+0.9**
VTS	**Vitosha**	**1.02**	**335**	*i P*	**Sg**	**17 53 34.9**	**+0.9**
VTS	**Vitosha**	**1.02**	**335**	*e*Pg	**Pg**	**17 53 19.1**	**-1.6**
VTS				*e*Sg	**Sg**	**17 53 34.7**	**+0.6**
VTS	**Vitosha**	**1.02**	**335**	P	**Pg**	**17 53 19.1**	**-1.6**
VTS				*e*Sg	**Sg**	**17 53 34.7**	**+0.6**
VTS				S	**Sg**	**17 53 35.0**	**+0.9**
HORT	**Hortiatis**	**1.19**	**207**	P	**Pg**	**17 53 23.0**	**-0.8**
HORT				S	**Sg**	**17 53 39.7**	**+0.4**
HORT	**Hortiatis**	**1.19**	**207**	P	**Pg**	**17 53 23.0**	**-0.8**
HORT				S	**Sg**	**17 53 39.7**	**+0.4**
PLG	**Polygyros**	**1.32**	**192**	*e*PB	Pn	17 53 20.9	-4.1
PLG	**Polygyros**	**1.32**	**192**	*e*Pb	Pn	17 53 20.9	-4.1
OUR	**Ouranopolis**	**1.34**	**174**	P	**Pn**	**17 53 24.8**	**-0.4**
OUR				S	**Sg**	**17 53 43.1**	**-0.8**
OUR	**Ouranopolis**	**1.34**	**174**	P	**Pn**	**17 53 24.8**	**-0.4**
OUR				S	**Sg**	**17 53 43.1**	**-0.8**
ZAPS	**Zavoj**	**1.82**	**332**	*e*Pn	**Pb**	**17 53 35.1**	**+1.0**
ZAPS				*e*Sn	**Sb**	**17 53 57.8**	**+0.9**
BARS	**Barje**	**1.87**	**309**	*e*Pn	**Pb**	**17 53 35.0**	**+0.1**
BARS				*e*Sg	**Sg**	**17 54 00.6**	**-0.4**
BARS	**Barje**	**1.87**	**309**	*e*Pn	**Pb**	**17 53 35.0**	**+0.1**
BARS				*e*Sg	**Sg**	**17 54 00.6**	**-0.4**

MEX 08 18:04:19.3±0.4, 16°.29N×98°.48W, h13km±6km, MD4.2, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.36**	**73**	*e*P	Pg	18 04 26.3	-0.3
PNIG				*i* S	Sg	18 04 31.7	+0.2
CAIG	**El Cayaco**	**1.87**	**294**	*e*P	Pn	18 04 48.0	-3.1
CAIG				*i* S	Sn	18 05 10.3	-4.3
MEIG	**Mezcala**	**1.96**	**326**	*e*P	Pn	18 04 48.6	-3.8
MEIG				*i* S	Sn	18 05 12.2	-4.8
PLIG	**Platanillo**	**2.31**	**335**	*e*P	Pn	18 04 54.0	-3.2
PLIG				*i* S	Sn	18 05 21.4	-4.3
HUIG	**Huatulco**	**2.34**	**102**	*i P*	Pn	18 04 53.2	-4.3
HUIG				*i* S	Sn	18 05 19.9	-6.3
TPIG	**Tehuac#an**	**2.38**	**27**	*i P*	Pn	18 04 55.0	-3.3
TPIG				*i* S	Sn	18 05 23.1	-4.4
ARIG	**Puente Sto Nin**	**2.67**	**318**	*e*P	Pn	18 04 59.6	-2.5
ARIG				*i* S	Sn	18 05 29.9	-4.4
PPM	**Popocatepetl**	**2.77**	**357**	*e*P	Pn	18 05 01.2	-2.9
PPM				*i* S	Sn	18 05 33.3	-4.7
ZIIG	**Zihuatanejo**	**3.14**	**295**	*i P*	Pn	18 05 05.5	-3.1
ZIIG				*i* S	Sn	18 05 42.5	-3.5
CMIG	**Matias Romero**	**3.54**	**76**	*e*P	Pn	18 05 10.7	-3.4
CMIG				*i* S	Sn	18 05 52.0	-3.8
MOIG	**Morelia**	**4.25**	**323**	*i P*	Pn	18 05 22.3	-1.8
MOIG				*i* S	Sn	18 06 09.8	-4.0
MMIG	**Aquila**	**5.05**	**294**	*i P*	Pn	18 05 29.2	-5.7
PCIG		**5.10**	**96**	*e*P	Pn	18 05 33.7	-1.8
PCIG				*i* S	Sn	18 06 31.3	-2.9

IDC 08 18:15:29.4±2.0, 13°.86N×92°.87E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.3/26, mbtmp3.4/4, ML3.5/1, Error ellipse: s-maj=62.6km s-min=26.8km az=66.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.41**	**51**	Pn	Pn	18 17 18.4	-0.5
	0.2nm,0.3s,baz=240,slow=15,SNR=6.3						
MKAR	**Makanchi Array**	**34.01**	**347**	P	P	18 22 15.1	+0.1
	0.2nm,0.6s,baz=169,slow=9.8,SNR=3.5						
WRA	**Warramunga Arr**	**52.85**	**129**	P	P	18 24 47.7	+0.5
	0.4nm,0.7s,baz=307,slow=8.4,SNR=2.8						
ASAR	**Alice Springs**	**54.78**	**133**	P	P	18 25 00.7	-0.7
	0.8nm,0.8s,baz=306,slow=7.3,SNR=2.3						

*BJI **08** 18:15:58.8, 2°.00S×100°.40E, h10km, mb4.9/1*
*AUST **08** 18:15:58.8±2.3, 2°.10S×100°.54E, h0km, Error ellipse: s-maj=2.2km s-min=0.7km az=246.0*
*ISCJB **08** 18:16:01.8±0.6, 2°.03S±0°.03×100°.57E±0°.05, h39km±5km, mb4.3/34, MS3.6/5, Error ellipse: s-maj=8.8km s-min=3.9km az=147.7*
*DJA **08** 18:16:03.3±0.4, 2°S±3°×10°1E±°, h50km, M5.0/15, mb4.8/9, mB5.2/4, MLv5.2/15, Mw(mB)4.5/4*
*NEIC **08** 18:16:06.2±1.1, 1°.85S×100°.87E, h56km±9km, mb4.4/9, Error ellipse: s-maj=11.2km s-min=5.1km az=49.0*
*IDC **08** 18:16:06.1±2.6, 1°.89S×100°.82E, h55km±23km, mb4.0/23, mb1 4.1/25, mb1mx4.0/33, mbtmp4.0/25, ML3.9/2, MS3.8/6, Ms1 3.8/6, ms1mx3.4/40, Error ellipse: s-maj=20.1km s-min=9.2km az=53.0*

ISC 08 18:16:04.0±0.6, 1°.98S±0°.05×100°.64E±0°.06, h37km±1km, n138, σ1§22/141, mb4.4/34, MS3.6/5, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.08**	**350**	P	**Pn**	**18 16 20.0**	**-2.6**
PDSI				S	**Sn**	**18 16 34.7**	**-1.6**
PPI	**Padang Panjang**	**1.54**	**351**	P	**Pn**	**18 16 28.1**	**-0.8**
PPI	**Padang Panjang**	**1.54**	**351**	P	**Pn**	**18 16 28.1**	**-0.8**
	baz=1.7,SNR=305						
MASI	**Maura Aman, Be**	**1.97**	**126**	P	**Pn**	**18 16 33.8**	**-1.1**
MASI				S	**Sn**	**18 17 00.8**	**+2.5**
BKNI	**Bangkinang**	**2.33**	**10**	P	**Pn**	**18 16 40.3**	**+0.5**
BKNI				S	Sn	18 17 14.6	+7.5
BKNI	**Bangkinang**	**2.33**	**10**	P	**Pn**	**18 16 40.3**	**+0.5**
	baz=2.5,SNR=19						
BKNI				S	Sn	18 17 13.8	+6.7
	baz=2.5,SNR=14						
RGRI	**Rengat**	**2.34**	**46**	P	**Pn**	**18 16 40.3**	**+0.3**
RGRI				S	**Sn**	**18 17 10.6**	**+3.1**
KSI	**Kapahiang**	**2.56**	**130**	P	**Pn**	**18 16 42.1**	**-0.9**
MNAI	**Manna**	**3.30**	**136**	P	**Pn**	**18 16 52.3**	**-0.9**
MNAI				S	**Sn**	**18 17 30.3**	**-1.0**
MNAI	**Manna**	**3.30**	**136**	P	**Pn**	**18 16 52.5**	**-0.7**
	baz=3.3,SNR=29						
LHSI	**Lahat**	**3.41**	**123**	P	**Pn**	**18 16 56.3**	**+1.6**
EGSI	**Enggano, Bengk**	**3.72**	**154**	P	**Pn**	**18 16 57.7**	**-1.3**
PMBI	**Palembang**	**4.23**	**103**	P	Pn	18 17 17.1	+11
GSI	**Gunungsitoli**	**4.48**	**317**	P	**Pn**	**18 17 08.3**	**-1.1**
BTDF	**Bukit Timah Da**	**4.56**	**43**	P	**Pn**	**18 17 10.7**	**+0.2**
	baz=4.7,SNR=58						
BTDF				P	**Pn**	**18 17 10.7**	**+0.2**
	baz=4.7,SNR=58						
KGM	**Kluang**	**4.79**	**34**	P	**Pn**	**18 17 14.4**	**+0.8**
MYKOM	**Kota Tinggi**	**4.93**	**41**	P	**Pn**	**18 17 16.3**	**+0.7**
MYKOM	**Kota Tinggi**	**4.93**	**41**	P	**Pn**	**18 17 15.8**	**+0.2**
	270nm,0.8s,3μm1.5nm						
PSI	**Prapat**	**5.05**	**340**	P	**Pn**	**18 17 17.2**	**-0.1**
PSI	**Prapat**	**5.05**	**340**	P	**Pn**	**18 17 17.2**	**-0.1**
	1.5nm,0.3s,baz=158,slow=13,SNR=21						
PSI				LR	LR	18 19 34.9	
	comp=Z,3μm,19.0s,baz=124,slow=42						
PSI	**Prapat**	**5.05**	**340**	P	**Pn**	**18 17 17.5**	**+0.1**
	baz=5.1,SNR=11						
KASI	**Kota Agung**	**5.21**	**133**	P	**Pn**	**18 17 20.5**	**+1.0**
	252nm,0.7s,3μm1.1nm						
FRIM	**Kepong**	**5.28**	**11**	P	**Pn**	**18 17 21.4**	**+1.1**
KCSI	**Kotacane, Aceh**	**6.17**	**332**	P	**Pn**	**18 17 31.7**	**-1.0**
	134nm,1.0s,1μm1.2nm						
IPM	**Ipoh**	**6.43**	**3**	*e*Pn	**Pn**	**18 17 38.0**	**+1.7**
	34nm,0.6s						
IPM	**Ipoh**	**6.43**	**3**	P	**Pn**	**18 17 38.5**	**+2.3**
IPM	**Ipoh**	**6.43**	**3**	P	**Pn**	**18 17 37.1**	**+0.9**
	55nm,0.7s,0.8nm						
KULM	**Kulim**	**7.22**	**0**	*e*P	**Pn**	**18 17 47.1**	**0.0**
	27nm,0.8s						
KULM	**Kulim**	**7.22**	**0**	P	**Pn**	**18 17 48.7**	**+1.6**
KULM	**Kulim**	**7.22**	**0**	P	**Pn**	**18 17 46.9**	**-0.2**
	45nm,0.9s,0.7nm						
DBJI	**Dramaga**	**7.59**	**127**	P	**Pn**	**18 17 53.7**	**+1.5**
	62nm,1.3s,0.4nm						
KTGM	**Kuala Trenggan**	**7.67**	**19**	P	**Pn**	**18 17 56.0**	**+2.7**
CISI	**Cisompet, Garu**	**9.04**	**128**	P	**Pn**	**18 18 10.7**	**-1.4**
	55nm,0.7s						
CISI	**Cisompet, Garu**	**9.04**	**128**	P	**Pn**	**18 18 10.3**	**-1.8**
	baz=9.1,SNR=4.0						
SKLT	**Songkhla**	**9.09**	**360**	P	**Pn**	**18 18 10.9**	**-1.9**
	31nm,0.8s,1μm						
KSM	**Kuching**	**10.26**	**71**	*e*Pn	**Pn**	**18 18 26.5**	**-2.2**
KSM	**Kuching**	**10.26**	**71**	P	**Pn**	**18 18 31.1**	**+2.4**
UGM	**Wanagama**	**11.47**	**121**	P	**Pn**	**18 18 46.3**	**+0.9**
	baz=12,SNR=3.4						
SBUM	**Sibu**	**12.38**	**69**	P	Pn	18 19 01.3	+3.4
SBUM	**Sibu**	**12.38**	**69**	P	Pn	18 19 02.0	+4.2
SJI	**Sawahan**	**12.47**	**118**	P	**Pn**	**18 18 58.6**	**-0.5**
BTM	**Bintulu**	**13.46**	**68**	P	Pn	18 19 16.6	+4.1
JAGI	**Jajag, Banyuwa**	**14.91**	**116**	P	**Pn**	**18 19 30.4**	**-1.9**
	baz=15,SNR=3.6						
KKM	**Kota Kinabalu**	**17.47**	**63**	P	**Pn**	**18 20 04.0**	**-1.1**
SDKM	**Sandakan**	**18.18**	**65**	P	**Pn**	**18 20 16.0**	**+2.2**
TSM	**Tawau**	**18.31**	**70**	P	Pn	18 20 21.3	+6.0
KAPI	**Kappang**	**19.31**	**99**	P	**P**	**18 20 26.7**	**+0.6**
KAPI	**Kappang**	**19.31**	**99**	P	**P**	**18 20 26.7**	**+0.6**
	1.1nm,0.3s,baz=272,slow=13,SNR=7.4						
CM31	**Chiang Mai Arr**	**20.38**	**355**	*e*P	**P**	**18 20 37.5**	**-0.2**
	2.2nm,0.6s						
CMAR	**Chiang Mai Arr**	**20.38**	**355**	P	**P**	**18 20 38.1**	**+0.4**
CMAR	**Chiang Mai Arr**	**20.38**	**355**	P	**P**	**18 20 38.1**	**+0.4**
	2.6nm,0.6s,baz=186,slow=10,SNR=17						
CMAR				LR	LR	18 29 59.7	
	comp=Z,291nm,19.6s,baz=175,slow=41						
PALK	**Pallekele**	**21.92**	**295**	*e*P	**P**	**18 20 57.8**	**+3.4**
MBWA	**Marble Bar**	**26.64**	**137**	*e*P	**P**	**18 21 39.4**	**0.0**
	10.0nm,1.0s						
FITZ	**Fitzroy Crossi**	**29.29**	**125**	P	**P**	**18 22 02.6**	**-0.5**
FITZ	**Fitzroy Crossi**	**29.29**	**125**	P	**P**	**18 22 02.6**	**-0.5**
	1.0nm,0.5s,baz=135,slow=12,SNR=7.7						
FITZ				LR	LR	18 33 38.7	
	comp=Z,116nm,20.1s,baz=308,slow=36						
FITZ	**Fitzroy Crossi**	**29.29**	**125**	P	**P**	**18 22 01.7**	**-1.5**
	baz=29,SNR=4.6						
TAPN	**Taplejung**	**31.71**	**338**	*e*P	**P**	**18 22 25.3**	**+0.5**
	24nm,0.8s						
JIRN	**Jiri**	**32.59**	**336**	*e*P	**P**	**18 22 33.0**	**+0.5**
	22nm,0.7s						
LSA	**Lhasa**	**32.79**	**345**	P	**P**	**18 22 32.8**	**-1.5**
LSA	**Lhasa**	**32.79**	**345**	*e*P	**P**	**18 22 35.2**	**+0.8**
	6.8nm,1.0s						
PKI	**Pulchoki**	**32.84**	**335**	*e*P	**P**	**18 22 34.3**	**-0.4**
GUN	**Gumba**	**32.94**	**335**	*e*P	**P**	**18 22 35.6**	**0.0**
	32nm,0.6s						
DMN	**Daman**	**33.00**	**334**	*e*P	**P**	**18 22 36.1**	**+0.1**
KKN	**Kakani**	**33.09**	**335**	*e*P	**P**	**18 22 36.2**	**-0.5**
ENH	**Enshi**	**33.16**	**14**	*e*P	**P**	**18 22 34.6**	**-2.6**
	4.2nm,1.2s						
DANN	**Dangsing**	**34.24**	**333**	*e*P	**P**	**18 22 47.1**	**+0.2**
	45nm,0.9s						
PYUN	**Piuthan**	**34.39**	**332**	*e*P	**P**	**18 22 48.1**	**+0.1**
	65nm,1.0s						
NWAO	**Narrogin (SRO)**	**34.50**	**155**	P	**P**	**18 22 49.0**	**+0.3**
NWAO	**Narrogin (SRO)**	**34.50**	**155**	P	**P**	**18 22 49.0**	**+0.3**
	12nm,1.0s,baz=330,slow=13,SNR=6.1						
WRA	**Warramunga Arr**	**37.45**	**121**	P	**P**	**18 23 13.2**	**-1.0**
WRA	**Warramunga Arr**	**37.45**	**121**	P	**P**	**18 23 13.2**	**-1.0**
	1.1nm,0.4s,baz=301,slow=8.1,SNR=18						
WRA				LR	LR	18 38 22.3	
	comp=Z,144nm,21.1s,baz=260,slow=36						
WRAB	**Tennant Creek**	**37.45**	**121**	*e*P	**P**	**18 23 12.3**	**-1.9**
	2.6nm,0.6s						
AS31	**Alice Springs**	**38.74**	**127**	*e*P	**P**	**18 23 23.4**	**-1.7**
ASAR	**Alice Springs**	**38.74**	**127**	P	**P**	**18 23 23.9**	**-1.2**
ASAR				PcP	**PcP**	**18 25 36.8**	**+0.4**
ASAR				S	**S**	**18 29 17.1**	**-3.0**
ASAR	**Alice Springs**	**38.74**	**127**	P	**P**	**18 23 23.9**	**-1.2**
	5.8nm,0.7s,baz=300,slow=8.1,SNR=92						
ASAR				PcP	**PcP**	**18 25 36.8**	**+0.4**
	0.5nm,0.6s,baz=316,slow=2.4,SNR=4.1						
ASAR				S	**S**	**18 29 17.1**	**-3.0**
	1.3nm,1.2s,baz=300,slow=17,SNR=6.0						
ASAR				LR	LR	18 41 54.1	
	comp=Z,77nm,18.4s,baz=287,slow=40						
GTA	**Gaotai**	**41.20**	**359**	*e*P	P	18 23 55.4	+10
GTA				pP	pP	18 24 02.6	+6.5
GTA				sP	sP	18 24 06.2	+5.7
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
JNU	**Nakatsue**	**45.10**	**37**	LR	LR	18 44 27.8	
	comp=Z,83nm,19.1s,baz=54,slow=38						
KSAR	**Wonju Array Be**	**46.65**	**30**	P	**P**	**18 24 28.7**	**-0.2**
KSRS	**Korea Array**	**46.68**	**30**	P	**P**	**18 24 28.7**	**-0.4**
	comp=Z,1.1nm,0.8s,baz=230,slow=7.8,SNR=3.7						
STKA	**Stephens Creek**	**48.68**	**132**	P	**P**	**18 24 43.8**	**-1.1**
STKA	**Stephens Creek**	**48.68**	**132**	P	**P**	**18 24 43.8**	**-1.1**
	comp=Z,4.4nm,0.6s,baz=302,slow=6.7,SNR=18						
STKA	**Stephens Creek**	**48.68**	**132**	P	**P**	**18 24 44.6**	**-0.2**
	baz=49,SNR=13						
SONM	**Songino Array**	**49.87**	**5**	P	**P**	**18 24 53.0**	**-0.8**
SONM				PcP	**PcP**	**18 26 14.5**	**+0.6**
SONM	**Songino Array**	**49.87**	**5**	P	**P**	**18 24 53.0**	**-0.8**
	comp=Z,1.4nm,0.9s,baz=184,slow=9.3,SNR=8.9						
SONM				PcP	**PcP**	**18 26 14.5**	**+0.6**
	comp=Z,1.6nm,0.7s,baz=186,slow=4.9,SNR=3.9						
TKM2	**Tokmak 2**	**50.07**	**336**	P	**P**	**18 24 55.7**	**+0.1**
	SNR=25						
TKM2	**Tokmak 2**	**50.07**	**336**	*e*P	**P**	**18 24 55.2**	**-0.3**
	comp=Z,26nm,1.0s						
KBK	**Karagaybulak**	**50.12**	**335**	P	**P**	**18 24 56.5**	**+0.6**
	SNR=11						
AAK	**Ala-Archa**	**50.29**	**335**	P	**P**	**18 24 57.3**	**+0.1**
AAK	**Ala-Archa**	**50.29**	**335**	P	**P**	**18 24 57.3**	**+0.1**
	comp=Z,4.3nm,0.8s,baz=148,slow=5.2,SNR=11						
CHMS	**Chumysh**	**50.49**	**335**	P	**P**	**18 24 58.3**	**-0.1**
	SNR=8.7						
EKS2	**Erkin-Say**	**50.62**	**334**	P	**P**	**18 25 00.4**	**+0.9**
	SNR=29						
EKS2	**Erkin-Say**	**50.62**	**334**	*e*P	**P**	**18 25 00.3**	**+0.7**
	comp=Z,23nm,0.9s						
USP	**Ospenovka**	**50.81**	**335**	P	**P**	**18 25 01.3**	**+0.4**
	SNR=13						
MK31	**Makanchi Array**	**51.19**	**344**	*e*P	**P**	**18 25 02.6**	**-1.0**
MKAR	**Makanchi Array**	**51.19**	**344**	P	**P**	**18 25 02.8**	**-0.9**
MKAR	**Makanchi Array**	**51.19**	**344**	P	**P**	**18 25 02.8**	**-0.9**
	comp=Z,1.7nm,0.6s,baz=148,slow=7.7,SNR=28						
CMSA	**Cobar Meteorol**	**51.63**	**130**	P	**P**	**18 25 09.2**	**+2.0**
	baz=52,SNR=5.9						
KKAR	**Karatay Array**	**52.43**	**332**	*e*P	**P**	**18 25 12.9**	**-0.1**
	comp=Z,1.0nm,0.5s						
KKAR				*e*PcP	**PcP**	**18 26 23.2**	**-0.2**
USRK	**Ussuriysk Arra**	**53.84**	**28**	P	**P**	**18 25 23.1**	**-0.2**
	comp=Z,5.2nm,0.7s,baz=229,slow=7.1,SNR=10						
KURBB	**Kurchatov Arra**	**55.72**	**343**	P	**P**	**18 25 36.4**	**-0.4**
	comp=Z,2.3nm,0.7s,baz=162,slow=6.8,SNR=16						
KURK	**Kurchatov**	**55.77**	**343**	P	**P**	**18 25 36.4**	**-0.8**
ZAA0	**Zalesovo Array**	**57.27**	**349**	*e*P	**P**	**18 25 47.0**	**-0.7**
ZALV	**Zalesovo Beam**	**57.27**	**349**	P	**P**	**18 25 47.3**	**-0.5**
ZALV	**Zalesovo Beam**	**57.27**	**349**	P	**P**	**18 25 47.3**	**-0.5**
	comp=Z,3.4nm,0.6s,baz=184,slow=7.7,SNR=16						
NAY	**Al-Naaiem**	**59.73**	**306**	*e*P	**P**	**18 26 05.0**	**-0.4**
NAY				AMb	AMB	18 26 10.1	
	comp=Z,0.7nm,1.4s						
MIB	**Mutribah**	**59.86**	**306**	*e*P	**P**	**18 26 06.3**	**+0.1**
MIB				AMb	AMB	18 26 08.1	
	comp=Z,25nm,1.0s						
RST	**Umm Al-Ruwaisa**	**60.02**	**306**	*e*P	**P**	**18 26 06.6**	**-0.8**
RST				AMb	AMB	18 26 09.6	
	comp=Z,98nm,0.8s						
BVAR	**Borovoye Array**	**60.39**	**340**	P	**P**	**18 26 08.4**	**-1.1**
BVAR	**Borovoye Array**	**60.39**	**340**	P	**P**	**18 26 08.4**	**-1.1**
	comp=Z,2.2nm,0.6s,baz=129,slow=8.6,SNR=11						
BRVK	**Borovoye**	**60.45**	**339**	*e*P	P	18 26 06.3	-3.5
ABKAR	**Akbulak array**	**61.93**	**331**	*e*P	**P**	**18 26 18.7**	**-1.3**
	comp=Z,3.9nm,0.6s						
AKTO	**Aktyubinsk**	**63.65**	**331**	P	**P**	**18 26 30.6**	**-0.8**
AKTO	**Aktyubinsk**	**63.65**	**331**	P	**P**	**18 26 30.6**	**-0.8**
	comp=Z,2.4nm,0.9s,baz=119,slow=11,SNR=6.5						
KBZ	**Khabaz**	**68.72**	**319**	P	**P**	**18 27 04.2**	**+0.3**
KBZ	**Khabaz**	**68.72**	**319**	P	**P**	**18 27 04.2**	**+0.3**
	comp=Z,2.9nm,0.5s,baz=98,slow=5.4,SNR=7.6						
ASF	**Jabal al Asfar**	**69.10**	**305**	P	**P**	**18 27 08.7**	**+1.9**
ASF	**Jabal al Asfar**	**69.10**	**305**	P	**P**	**18 27 08.7**	**+1.9**
	comp=Z,1.1nm,0.6s,baz=84,slow=13,SNR=3.5						
EIL	**Elat**	**70.06**	**302**	P	**P**	**18 27 14.1**	**+1.5**
EIL	**Elat**	**70.06**	**302**	P	**P**	**18 27 14.1**	**+1.5**
	comp=Z,2.8nm,0.8s,baz=314,slow=5.1,SNR=5.2						
MAW	**Mawson**	**70.46**	**194**	P	**P**	**18 27 16.1**	**+1.8**
MAW	**Mawson**	**70.46**	**194**	P	**P**	**18 27 16.1**	**+1.8**
	comp=Z,1.6nm,0.7s,baz=18,slow=9.3,SNR=5.5						
PETK	**Petropavlovsk-**	**72.53**	**32**	P	**P**	**18 27 27.0**	**0.0**
PETK	**Petropavlovsk-**	**72.53**	**32**	P	**P**	**18 27 27.0**	**0.0**
	comp=Z,1.2nm,0.7s,baz=176,slow=14,SNR=7.8						
BRTR	**Keskin Array B**	**73.78**	**312**	P	**P**	**18 27 34.1**	**-0.9**
BRTR	**Keskin Array B**	**73.78**	**312**	P	**P**	**18 27 34.1**	**-0.9**
	comp=Z,1.6nm,0.8s,baz=136,slow=4.7,SNR=8.1						
VNDA	**Vanda**	**82.05**	**169**	P	**P**	**18 28 21.6**	**+1.6**
VNDA	**Vanda**	**82.05**	**169**	P	**P**	**18 28 21.6**	**+1.6**
	comp=Z,0.6nm,0.6s,baz=360,slow=6.6,SNR=3.5						
ARCES	**ARCESS Array B**	**86.67**	**340**	P	**P**	**18 28 44.6**	**+1.1**
ARCES	**ARCESS Array B**	**86.67**	**340**	P	**P**	**18 28 44.6**	**+1.1**
	comp=Z,2.1nm,0.7s,baz=101,slow=6.3,SNR=8.9						
TXAR	**Lajitas Array**	**144.29**	**38**	PKP	**PKPdf**	**18 35 36.2**	**-0.8**
TXAR	**Lajitas Array**	**144.29**	**38**	PKP	**PKPdf**	**18 35 36.2**	**-0.8**
	comp=Z,3.8nm,0.9s,baz=281,slow=1.1,SNR=19						
CPUP	**Villa Florida**	**144.71**	**216**	*e*PKPdf	**PKPdf**	**18 35 38.7**	**+1.1**
CPUP				PKP	PKPbc	18 35 38.8	+2.3
CPUP	**Villa Florida**	**144.71**	**216**	PKP	**PKPdf**	**18 35 38.8**	**+1.1**
	comp=Z,3.0nm,0.7s,baz=132,slow=2.9,SNR=8.4						
MIAR	**Mount Ida**	**144.99**	**21**	*e*PKPdf	**PKPab**	**18 35 36.8**	**-0.4**
WVT	**Waverly**	**145.13**	**12**	*e*PKPdf	**PKPbc**	**18 35 36.7**	**-0.9**
TZTN	**Tazewell**	**145.39**	**6**	*e*PKPdf	**PKPbc**	**18 35 37.4**	**-1.1**
JCT	**Junction City**	**145.67**	**32**	*e*PKPdf	**PKPbc**	**18 35 39.4**	**-0.1**
CPCT	**Cooper Cave**	**146.36**	**8**	*e*PKPdf	PKPdf	18 35 34.5	-5.8

*ISCJB **08** 18:24:15.9±0.5, 59°.35N±0°.03×23°.73E±0°.08, h0km, Error ellipse: s-maj=5.6km s-min=3.6km az=4.9*
*CSEM **08** 18:24:17.2±0.2, 59°.33N×23°.87E, h2km, ML2.1, Error ellipse: s-maj=7.5km s-min=4.1km az=92.0, Mining explosion.*
*HEL **08** 18:24:17.6±0.2, 59°.32N×23°.79E, h0km, ML2.1, Explosion*
*IDC **08** 18:24:18.3±2.9, 59°.40N×23°.82E, h0km, mb1 3.2/4, mb1mx3.0/25, mbtmp3.1/4, ML2.7/4, Error ellipse: s-maj=36.6km s-min=9.9km az=158.0*

ISC 08 18:24:16.4±0.7, 59°.33N±0°.02×23°.78E±0°.04, h0km, n17, σ0§81/30, Baltic States - Belarus - Northwestern Russia

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

VNA3	Neumayer Olymp	76.74 176	*e*P	P	18 57 25.0	+1.1
VNA2	Neumayer--Watz	77.17 177	*e*P	P	18 57 31.1	+4.8
	baz=183,slow=4.7					
FINES	FINESS Array B	146.50 339	PKPbc	PKPdf	19 05 12.3	+0.5
	3.6nm,0.6s,baz=50,slow=4.9,SNR=6.3					
NOA	NORSAR Array B	150.26 351	PKPbc	PKPbc	19 05 22.4	-0.9
	1.1nm,0.8s,baz=75,slow=4.5,SNR=3.5					
HFS	Hagfors	150.72 348	PKPbc	PKPbc	19 05 23.0	-1.3
	2.0nm,0.5s,baz=104,slow=4.7,SNR=9.2					
TORD	Torodi Ar. Bea	161.24 180	PKPab	PKPab	19 06 17.6	+0.1
	0.5nm,0.5s,baz=168,slow=3.3,SNR=6.8					

IDC 08 18:50:10.2±1.1,3°.83N×126°.52E, h0km, mb3.7/8, mb1 3.9/8, mb1mx3.7/24, mbtmp3.8/8, Error ellipse: s-maj=105.1km s-min=15.5km az=70.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	21.81	182	P	P	18 55 05.1	+1.0
	1.2nm,0.5s,baz=98,slow=7.2,SNR=6.1						
WRA	Warramunga Arr	24.84	162	P	P	18 55 34.5	0.0
	5.0nm,0.7s,baz=344,slow=10,SNR=15						
ASAR	Alice Springs	28.26	166	P	P	18 56 04.7	-0.7
	0.2nm,0.4s,baz=338,slow=7.4,SNR=9.2						
STKA	Stephens Creek	38.30	159	P	P	18 57 32.7	+0.1
	2.2nm,0.5s,baz=337,slow=4.2,SNR=9.3						
SONM	Songino Array	47.14	342	P	P	18 58 45.7	+1.4
	0.2nm,0.4s,baz=150,slow=6.0,SNR=3.0						
MKAR	Makanchi Array	57.35	325	P	P	18 59 59.6	-0.7
	0.5nm,0.5s,baz=120,slow=8.1,SNR=12						
KURBB	Kurchatov Arra	61.54	327	P	P	19 00 29.0	0.0
	0.5nm,0.5s,baz=128,slow=5.8,SNR=7.5						
ARCES	ARCESS Array B	90.28	340	P	P	19 03 11.5	-1.1
	0.9nm,0.8s,baz=96,slow=4.9,SNR=4.9						

NSSC ***08*** *18:51:14.3±2.8, 2°.38N×122°.92E, h0km±999km*
BJI ***08*** *18:51:19.2, 0°.88N×120°.98E, h24km, mB5.7/65, mb5.2/64, Ms5.4/80, Ms7 5.3/71*
NEIC ***08*** *18:51:22.9±0.1, 1°.12N×120°.90E, mb5.5/66, MS5.3/138, MW5.7, MW5.8, Error ellipse: s-maj=4.6km s-min=3.0km az=70.0, Moment Tensor Solution. s44 Moment tensor: Scale 10^{17}Nm; M_{rr}1.78; $M_{\theta\theta}$-3.54; $M_{\phi\phi}$1.76; $M_{r\theta}$-2.65; $M_{\theta\phi}$-0.30; $M_{\phi r}$-0.04; Best double couple: $M_0$4.10000×10^{17} NP1:ϕ_s271.00000°, δ68.00000°, λ95.00000°. NP2: ϕ_s78.00000°, δ23.00000°, λ77.00000°. Principal axes: T 2.8800, Plg67.0000°, Azm190.0000°; N 1.7700, Plg4.0000°, Azm89.0000°; P -4.6500, Plg22.0000°, Azm357.0000°;*
NEIC Felt [V] at Toli-Toli, [IV] at Palu and [III] at Poso.
BKK ***08*** *18:51:23.1±0.2, 1°N±2°×12°1E±°, h10km, M5.5/52, mb5.5/52, mB5.9/45, MLv5.9/7, Mw(mB)5.5/45, Mwp5.8/7*
ISCJB ***08*** *18:51:23.8±0.3, 1°.22N±0°.02×120°.93E±0°.02, h38km±2km, mb5.4/166, MS5.3/211, Error ellipse: s-maj=2.8km s-min=2.6km az=178.9*
IDC ***08*** *18:51:24.6±2.5, 1°.11N×120°.87E, h32km±18km, mb5.1/31, mb1 5.2/34, mb1mx5.2/35, mbtmp5.2/34, ML5.4/3, MS5.2/35, Ms1 5.2/35, ms1mx5.0/46, Error ellipse: s-maj=14.0km s-min=7.6km az=65.0*
MOS ***08*** *18:51:24.1±1.1, 1°.14N×120°.87E, h40km, mb5.6/64, MS5.2/61, Error ellipse: s-maj=9.2km s-min=4.9km az=115.5*
TEH ***08*** *18:51:25.0, 1°.14N×120°.91E, h36km, ML5.4*
GCMT ***08*** *18:51:26.2±0.1, 1°.47N×120°.82E, h40km, MW5.7, Moment Tensor Solution. s104, c215; s61, c68; Moment tensor: Scale 10^{17}Nm; M_{rr}3.26±.06; $M_{\theta\theta}$-3.78±.04; $M_{\phi\phi}$0.52±.05; $M_{r\theta}$-3.61±.06; $M_{\theta\phi}$-0.76±.04; $M_{\phi r}$-0.47±.06; Best double couple: $M_0$5.10000×10^{17} NP1:ϕ_s262.00000°, δ68.00000°, λ92.00000°. NP2:ϕ_s78.00000°, δ22.00000°, λ86.00000°. Principal axes: T 4.7900, Plg67.0000°, Azm175.0000°; N 0.6500, Plg2.0000°, Azm82.0000°; P -5.4300, Plg23.0000°, Azm351.0000°; Data Used: II IU IC G CN. Surface waves: sta=105, comp=211, per= 50.*
AUST ***08*** *18:51:28.6±0.1, 0°.97N×120°.82E, h61km Error ellipse: s-maj=0.7km s-min=0.4km az=9.0*
DJA ***08*** *18:51:28.0±0.2, 1°N±2°×12°1E±°, h54km±2km, M5.8/111, mb5.8/111, mB6.1/96, MLv6.2/24, Mw(mB)5.8/96, Mwp6.0/20*
NEIC ***08*** *18:51:33.9±0.0, 1°.32N×121°.27E, h28km, Moment Tensor Solution. s126 Moment tensor: Scale 10^{17}Nm; M_{rr}3.41; $M_{\theta\theta}$-3.39; $M_{\phi\phi}$-0.02; $M_{r\theta}$-5.29; $M_{\theta\phi}$-0.85; $M_{\phi r}$0.15; Best double couple: $M_0$6.30000×10^{17} NP1:ϕ_s269.00000°, δ74.00000°, λ98.00000°. NP2:ϕ_s64.00000°, δ18.00000°, λ66.00000°. Principal axes: T 6.3400, Plg60.0000°, Azm190.0000°; N 0.0100, Plg7.0000°, Azm86.0000°; P -6.3500, Plg28.0000°, Azm353.0000°;*

ISC 08 18:51:23.7±0.2, 1°.13N±0°.02×120°.86E±0°.03, h27km±1km, h27km:pP-P, n1105, σ1≅61/1089, mb5.5/165, MS5.3/211, 165C-162D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOLI	Toli-Toli	0.06	265	P	Pb	18 51 28.5	0.0
TOLI				S	Sb	18 51 32.6	+0.9
MRSI	Marisa	1.26	121	P	Pb	18 51 47.8	+1.0
MRSI				S	Sb	18 52 06.2	+3.5
APSI	Ampana	2.17	159	P	Pb	18 52 01.1	-1.3
APSI				S	Sb	18 52 36.3	+7.4
LUWI	Luwuk	2.88	138	P	Pb	18 52 12.9	-1.6
LUWI	Luwuk	2.88	138	P	Pb	18 52 12.3	-2.2
	baz=2.8,SNR=1000						
SGKI	Sangatta, Kali	3.65	243	P	Pn	18 52 14.4	-4.0
SKSI	Soroako, Sulaw	3.66	173	P	Pn	18 52 22.7	+4.0
SKSI				S	Sb	18 53 10.6	-1.3
SMKI	Samarinda	3.97	247	P	Pn	18 52 23.4	+0.5
MMSI	Mamuju	4.26	207	P	Pn	18 52 28.2	+1.3
TTSI	Tana Toraja	4.27	194	P	Pn	18 52 30.3	+3.3
TSM	Tawau	4.33	317	P	Pn	18 52 26.7	-1.1
BKB	Balikpapan	4.62	239	P	Pn	18 52 31.3	-0.4
MYLDM	Lahad Datu	4.66	330	P	Pn	18 52 33.6	+1.3
MYLDM	Lahad Datu	4.66	330	P	Pn	18 52 32.9	+0.5
MJSI	Majene	5.01	202	P	Pn	18 52 39.8	+2.6
	6μm,1.0s,106μm79μm30nm						
SPSI	Sidrap Palu	5.17	192	P	Pn	18 52 42.1	+2.7
	4μm,0.9s,78μm89μm14nm						
KKSI	Kolaka, Sulawe	5.32	171	P	Pn	18 52 44.5	+3.0
	4μm,0.7s,57μm14nm						
BNSI	Bone	5.54	188	P	Pn	18 52 48.0	+3.5
	6μm,0.9s,106μm95μm27nm						
ZMPH	Zamboanga City	5.91	12	⇓*i*P	Pn	18 52 48.1	-1.4
KAPI	Kappang	6.20	190	Pn	Pn	18 52 55.3	+1.8
	7μm,0.5s,SNR=59						
KAPI	Kappang	6.20	190	P	Pn	18 52 55.6	+2.1
	SNR=122						
KAPI	Kappang	6.20	190	⇑*i*P	Pn	18 52 55.0	+1.4
	1μm,0.6s						
KAPI				Pn	Pb	18 52 55.1	-16
KAPI	Kappang	6.20	190	P	Pn	18 52 55.3	+1.8
	2μm,1.7s,45μm83μm10nm						
KAPI	Kappang	6.20	190	Pn	Pn	18 52 55.1	+1.6
	29nm,0.3s,baz=345,slow=8.8,SNR=115						
KAPI				LR	LR	18 55 56.5	
	comp=Z,67μm,19.1s,baz=336,slow=44						
MTKI	Muara Teweh, K	6.31	251	P	Pn	18 52 55.8	+0.8
	1μm,0.7s,16μm5.5nm						
GSPH	General Santos	6.40	40	⇓*i*P	Pn	18 52 55.3	-1.1
BKSI	Bulukumba	6.45	187	P	Pn	18 52 59.1	+2.2
	2μm,0.7s,21μm131μm6.0nm						
TNTI	Ternate	6.52	93	P	Pn	18 53 01.3	+3.4
	787nm,1.1s,11μm26μm4.8nm						
KKM	Kota Kinabalu	6.73	317	*e*P	Pn	18 53 00.8	-0.1
	471nm,0.6s						
KKM	Kota Kinabalu	6.73	317	P	Pn	18 53 01.6	+0.7
KKM	Kota Kinabalu	6.73	317	P	Pn	18 53 00.8	-0.1
	826nm,0.8s,8nm69μm3.0nm						
KKM	Kota Kinabalu	6.73	317	P	Pn	18 53 01.2	+0.2
	baz=6.8,SNR=24						
BBSI	Bau Bau	6.79	165	P	Pn	18 53 05.8	+4.2
	6μm,0.9s,51μm78μm16nm						
IPIL	Ipil	6.83	14	*e*P	Pn	18 53 00.8	-1.4
LBMI	Labuha	6.87	105	P	Pn	18 53 05.6	+2.9
	2μm,0.9s,32μm21nm						
LBMI				S	Sn	18 54 24.5	+4.4
	2μm,0.9s,32μm21nm						
KDM	Kudat	7.01	325	P	Pn	18 53 06.1	+1.5
PAGZ	Pagadian	7.13	21	*e*P	Pn	18 53 05.7	-0.6
DMPH	Davao City--Mi	7.52	38	⇑*e*P	Pn	18 53 11.6	-0.1
DMPH				*e*S	Pb	18 53 32.5	-1.0
BBKI	Banjar Baru	7.55	233	P	Pn	18 53 12.8	+0.8
	1μm,0.7s,11μm5.2nm						
DAV	Davao City (W)	7.55	38	*e*P	Pn	18 53 11.9	-0.2
DAV	Davao City (W)	7.55	38	P	Pn	18 53 13.4	+1.3
	630nm,0.7s,12μm5.0nm						
NLAI	Namlea	7.60	125	P	Pn	18 53 16.2	+3.5
	1μm,0.9s,13μm6.5nm						
NLAI				S	Sn	18 54 44.3	+6.3
	1μm,0.9s,13μm6.5nm						
DCPH	Dipolog City	7.81	18	⇑*e*P	Pn	18 53 15.2	-0.4
MATI	Mati	7.90	43	*e*P	Pn	18 53 15.6	-1.3
BUKP	Musuan	7.91	32	*e*P	Pn	18 53 15.4	-1.6
BTM	Bintulu	8.04	285	P	Pn	18 53 19.4	+0.6
CGP	Cagayan de Oro	8.22	28	⇓*e*P	Pn	18 53 22.1	+0.9
CGP				*e*S	Sn	18 54 54.1	+0.8
SNPH	Sibulan	8.50	16	*e*P	Pn	18 53 10.1	-15
SBUM	Sibu	8.73	279	P	Pn	18 53 31.2	+2.9
SBUM	Sibu	8.73	279	P	Pn	18 53 30.2	+1.9
	100nm,1.1s,2μm20μm						
AAI	Ambon	8.75	123	P	Pn	18 53 33.3	+4.7
	1μm,1.1s,12μm73μm						
AAI				S	Sn	18 55 16.5	+10
	1μm,1.1s,12μm73μm						
AAI	Ambon	8.75	123	P	Pn	18 53 34.5	+5.9
	baz=8.7,SNR=41						
AAI				S	Sn	18 55 16.9	+10
	baz=8.7,SNR=7.3						
STKI	Sintang	9.44	264	P	Pn	18 53 40.3	+2.3
	87nm,1.0s,2μm						
GUIM	Jordan	9.59	10	*e*P	Pn	18 53 40.1	0.0
LBFI	Labuhan Bajo,	9.59	186	P	Pn	18 53 44.4	+4.3
	482nm,1.0s,8μm						
LLP	Lapu-Lapu	9.64	19	⇓*e*P	Pn	18 53 39.9	-0.8
CUYO	Cuyo Island	9.66	1	*e*P	Pn	18 53 41.7	+0.6
MSLP	Maasin	9.79	24	*e*P	Pn	18 53 43.4	+0.5
MMRI	Maumere	9.79	172	P	Pn	18 53 47.5	+4.6
	771nm,1.1s,11μm61μm						
PBKI	Pangkalan Bun	9.94	247	P	Pn	18 53 45.5	+0.6
	853nm,1.0s,6μm						
RCP	Roxas	10.53	10	⇑*e*P	Pn	18 53 55.9	+2.9
OCLP	Ormoc	10.54	21	*e*P	Pn	18 53 59.8	+6.8
KSM	Kuching	10.55	272	*e*P	Pn	18 53 55.2	+1.9
	98nm,1.0s						
KSM	Kuching	10.55	272	P	Pn	18 53 55.7	+2.5
KSM	Kuching	10.55	272	P	Pn	18 53 55.3	+2.0
	101nm,1.1s,2μm						
KSM	Kuching	10.55	272	P	Pn	18 53 56.1	+2.8
	baz=10,SNR=12						
KALP	Kalibo	10.59	8	⇑*e*P	Pn	18 53 52.3	-1.4
SWI	Sorong	10.59	101	P	Pn	18 53 57.3	+3.6
	343nm,0.9s,4μm						
SWI	Sorong	10.59	101	P	Pn	18 53 58.1	+4.4
	baz=11,SNR=17						
BNDI	Bandanaira	10.64	122	P	Pn	18 53 59.5	+5.0
	2μm,1.3s,26μm33μm						
BNDI	Bandanaira	10.64	122	P	Pn	18 53 59.9	+5.4
	baz=11,SNR=40						
KMMI	Kalianget	10.64	220	P	Pn	18 54 01.5	+7.0
	427nm,1.5s,7μm						
WSI	Waingapu	10.74	183	P	Pn	18 54 01.3	+5.5
	996nm,1.1s,18μm						
SRBI	Singaraja	10.74	212	P	Pn	18 54 01.2	+5.3
	561nm,1.7s,11μm26μm						
MTNI	Mataram	10.77	206	P	Pn	18 53 57.5	+1.3
	686nm,1.3s						
PLP	Palo	10.78	22	⇓*e*P	Pn	18 53 53.6	-2.8
DNP	Denpasar	11.25	210	P	Pn	18 54 08.7	+5.9
	2μm,1.4s,39μm						
BYJI	Banyuwangi	11.32	215	P	Pn	18 54 12.9	+9.1
SOEI	Soe	11.33	163	P	Pn	18 54 10.6	+6.6
	1μm,0.9s,16μm72μm						
SOEI	Soe	11.33	163	P	Pn	18 54 11.8	+7.8
	baz=11,SNR=42						
IGBI	Denpasar	11.40	210	P	Pn	18 54 10.0	+5.1
	1μm,1.2s,16μm						
BLJI	Banyuglugur	11.41	219	P	Pn	18 54 06.6	+1.6
	300nm,0.8s,4μm						
GRJI	Gresik	11.56	226	P	Pn	18 54 12.0	+4.9
	580nm,0.9s,4μm						
JAGI	Jajag, Banyuwa	11.64	215	P	Pn	18 54 13.8	+5.6
	819nm,1.0s,12μm						
JAGI	Jajag, Banyuwa	11.64	215	P	Pn	18 54 12.6	+4.3
	baz=12,SNR=8.2						
GMJI	Gumukmas	11.91	218	P	Pn	18 54 17.6	+5.8
	1μm,0.9s,9μm						
CNP	Catarman	11.92	18	*e*P	Pn	18 54 16.8	+4.8
FAKI	Fak Fak	12.07	109	P	Pn	18 54 16.5	+2.4
	241nm,1.9s,3μm						
FAKI				S	Sn	18 56 30.0	+2.0
	241nm,1.9s,3μm						
FAKI	Fak Fak	12.07	109	P	Pn	18 54 17.5	+3.4
	baz=12,SNR=7.3						
FAKI				S	Sn	18 56 30.3	+2.3
	baz=12,SNR=6.8						
AUQP	San Andres	12.25	8	*e*P	P	18 54 24.6	-4.0
KRKI	Karangkates	12.46	222	P	P	18 54 25.4	-5.6
	2μm,1.1s,16μm						
NGJI	Ngawi	12.61	228	P	Pn	18 54 26.5	+5.0
	703nm,1.1s,10μm						
SJI	Sawahan	12.64	226	P	Pn	18 54 26.7	+4.8
	578nm,1.4s,7μm						
PVCP	Vigo	12.81	15	⇑*i*P	Pn	18 54 27.8	+3.6
PWJI	Pagerwojo	12.81	225	P	Pn	18 54 28.1	+3.9
	515nm,1.2s,7μm						
TGY	Tagaytay City	12.89	0	Pn	Pn	18 54 27.5	+2.2
TGY	Tagaytay City	12.89	0	Pn	Pn	18 54 27.5	+2.2
	11nm,0.3s,baz=179,slow=14,SNR=3.5						
PCJI	Pacitan	13.38	226	P	Pn	18 54 36.2	+4.3
	836nm,1.2s,10μm						
RKPI	Ransiki, Papua	13.57	101	P	P	18 54 39.3	-4.0
	211nm,0.9s,5μm						
TLE	Tual	13.63	120	P	Pn	18 54 37.9	+2.5
	1μm,1.3s,14μm49μm						
TLE	Tual	13.63	120	P	Pn	18 54 37.6	+2.2
	baz=14,SNR=43						
UGM	Wanagama	13.67	229	P	P	18 54 48.0	+3.6
UGM	Wanagama	13.67	229	P	P	18 54 42.5	-2.0
	baz=14,SNR=14						
KMPI	Kaimana, Papua	13.69	110	P	P	18 54 46.6	+2.0
TPI	Tanjungpandan	13.75	254	P	P	18 54 47.9	+2.6
YOGI	Yogyakarta	13.78	230	P	P	18 54 47.7	+2.1
SAUI	Saumlaki	13.79	131	P	P	18 54 44.0	-1.8
BJII	Banjamegara	13.94	233	P	P	18 54 44.4	-3.1
	605nm,1.6s,10μm						
TGJI	Tegal	14.15	236	P	P	18 54 47.1	-2.7
	456nm,0.9s,7μm						
KPJI	Karang Pucung	14.57	235	P	P	18 54 53.7	-0.7
	923nm,0.8s,9μm						
CLJI	Cilicap	14.72	233	P	P	18 54 55.4	-0.7
	487nm,1.4s,6μm						
PALU	Palau	14.91	65	P	P	18 54 58.2	0.0
	baz=15,SNR=6.3						
PPBI	Pangkal Pinang	15.08	257	P	P	18 54 57.9	-2.2
	103nm,1.1s,2μm						
BCPH	Baguio City Da	15.16	359	⇓*i*P	Pn	18 54 45.0	-11
LEM	Lembang	15.40	239	P	P	18 55 02.2	-1.6
	770nm,0.9s,10μm						
LEM	Lembang	15.40	239	P	P	18 55 02.8	-1.0
	baz=15,SNR=9.4						
BAKI	Biak	15.42	99	P	P	18 55 02.0	-1.9
	457nm,1.1s,8μm						
CISI	Cisompet, Garu	15.61	236	P	P	18 55 05.8	-0.2
	1μm,1.0s,13μm						
CISI	Cisompet, Garu	15.61	236	P	P	18 55 05.4	-0.6
	baz=16,SNR=37						
SRPI	Serui, Papua	15.66	101	P	P	18 55 09.0	+2.4
CBJI	Citeko	15.87	242	P	P	18 55 10.2	+1.4
	2μm,1.0s,27μm						
DBJI	Dramaga	16.02	241	P	P	18 55 10.1	-0.4
	556nm,1.2s,11μm						
SBJI	Serang	16.37	244	P	P	18 55 14.9	+0.5
	587nm,1.0s,10μm						
SKJI	Sukabumi	16.40	240	P	P	18 55 15.0	+0.2
	1μm,1.2s,18μm21μm						
PMBI	Palembang	16.58	256	P	P	18 55 17.3	+0.6
	474nm,1.1s						
BLSI	Bandar Lampung	16.88	247	P	P	18 55 23.0	+2.9
	311nm,1.2s,4μm						
MYKOM	Kota Tinggi	17.02	272	P	P	18 55 21.5	-0.1
MYKOM	Kota Tinggi	17.02	272	P	P	18 55 21.6	0.0
	123nm,1.0s,2μm						
KLI	Kotabumi	17.06	249	P	P	18 55 22.6	+0.5
	418nm,1.1s,4μm						
BTDF	Bukit Timah Da	17.08	271	P	P	18 55 23.6	+1.3
	baz=17,SNR=7.0						
BTDF				P	P	18 55 23.6	+1.3
	baz=17,SNR=7.0						
MTN	Manton Dam	17.22	144	P	P	18 55 24.5	+0.6
	baz=17,SNR=207						
KGM	Kluang	17.55	273	P	P	18 55 27.9	+0.3
KASI	Kota Agung	17.63	248	P	P	18 55 33.7	+5.4
KDU	Kakadu	17.92	140	P	P	18 55 32.2	+0.6
	baz=18,SNR=118						
LHSI	Lahat	18.01	254	P	P	18 55 33.9	+1.3
	244nm,0.8s						
KTGM	Kuala Trenggan	18.18	284	P	Pn	18 55 29.1	-5.2
KNRA	Kununurra	18.43	155	P	Pn	18 55 38.3	+0.9
	baz=18,SNR=221						
RGRI	Rengat	18.58	266	P	Pn	18 55 42.8	+3.5
	316nm,1.2s,70μm						
MNAI	Manna	18.70	253	P	Pn	18 55 44.7	+3.9
	baz=19,SNR=5.0						
KSI	Kapahiang	18.86	255	P	Pn	18 55 45.0	+2.3
	565nm,1.4s,12μm						
XMI	Christmas Isla	18.98	232	P	P	18 55 43.2	0.0
	baz=19,SNR=8.0						
XMIS	Christmas Isla	19.02	232	*e*P	P	18 55 41.7	-2.0
	2μm,1.0s						
XMIS	Christmas Isla	19.02	232	P	Pn	18 55 45.2	+0.6
	baz=19,SNR=11						
MASI	Maura Aman, Be	19.09	257	P	Pn	18 55 49.2	+3.8
	1μm,1.0s,17μm						
FRIM	Kepong	19.33	277	P	Pn	18 55 48.8	+0.4
EGSI	Enggano, Bengk	19.64	251	P	Pn	18 56 00.8	+8.8
FITZ	Fitzroy Crossi	19.68	166	P	P	18 55 51.7	+0.8
FITZ	Fitzroy Crossi	19.68	166	P	P	18 55 51.7	+0.8
	30nm,0.3s,baz=1.6,slow=7.4,SNR=360						
FITZ				LR	LR	19 04 24.3	
	comp=Z,13μm,21.8s,baz=350,slow=40						
BKNI	Bangkinang	19.83	268	P	Pn	18 55 54.5	+0.2
	324nm,1.1s,5μm13μm						
BKNI	Bangkinang	19.83	268	P	Pn	18 55 55.0	+0.7
	baz=20,SNR=8.2						
IPM	Ipoh	20.08	280	*e*P	Pn	18 55 56.9	-0.5
	61nm,0.8s						
IPM	Ipoh	20.08	280	P	Pn	18 55 57.3	0.0
IPM	Ipoh	20.08	280	P	Pn	18 55 57.1	-0.2
	114nm,0.9s,2μm						
JAY	Jayapura	20.17	100	P	Pn	18 55 57.8	-0.5
	97nm,1.4s,3μm						
JAY	Jayapura	20.17	100	P	Pn	18 55 57.4	-0.9
	baz=20,SNR=5.4						
JAY				S	Sn	18 59 45.6	+0.7
	baz=20,SNR=3.8						
PDSI	Padang	20.50	264	P	P	18 56 00.8	+0.9
	829nm,1.2s,7μm						
PPI	Padang Panjang	20.52	266	P	P	18 56 01.3	+1.2
	265nm,0.8s,3μm						
PPI	Padang Panjang	20.52	266	P	P	18 56 01.1	+1.0
	baz=20,SNR=26						
KULM	Kulim	20.59	282	*e*P	P	18 56 01.7	+0.8
	80nm,0.8s						
KULM				LR	LR		
	comp=Z,7μm,20.0s						
KULM	Kulim	20.59	282	P	Pn	18 56 02.2	-1.1
KULM	Kulim	20.59	282	P	Pn	18 56 02.2	-1.0
	comp=Z,109nm,0.9s,comp=Z,2μm						
UBPT	Khong Chiam	20.70	314	P	P	18 56 02.6	+0.6
	comp=Z,214nm,2.7s,comp=Z,5μm						
UBPT	Khong Chiam	20.70	314	P	P	18 56 02.8	+0.8
	comp=Z,214nm,2.7s,comp=Z,5μm						
QIZ	Qiongzhong	20.81	329	P	P	18 56 04.1	+0.9
QIZ				S	S	18 59 56.5	+2.3
QIZ				pmax	pmax		
	comp=Z,2μm,13.1s						
QIZ				LR	LR		
	comp=N,3μm,19.4s						
QIZ				LR	LR		
	comp=E,1μm,24.1s						
QIZ				LR	LR		
	comp=Z,9μm,24.7s						
QIZ	Qiongzhong	20.81	329	*e*P	P	18 56 03.3	+0.1
	comp=Z,114nm,1.1s						
QIZ				LR	LR		
	comp=Z,6μm,21.0s						
SKLT	Songkhla	21.05	287	P	P	18 56 07.5	+1.7
	comp=Z,184nm,1.2s,comp=Z,2μm						
SKLT	Songkhla	21.05	287	P	P	18 56 07.5	+1.7
	comp=Z,184nm,1.2s,comp=Z,2μm						
TWG	Pinlang	21.57	1	*e*P	P	18 56 09.9	-1.3
	comp=Z,287nm,0.8s						
MMPI	Merauke	21.67	116	P	P	18 56 13.7	+1.2
	comp=Z,940nm,1.2s,comp=Z,19μmcomp=Z,28μm						
MMPI	Merauke	21.67	116	P	P	18 56 18.4	+5.9
	baz=22,SNR=3.5						
CHBT	CHBT	21.69	303	P	P	18 56 13.3	+0.6
	comp=Z,142nm,1.1s,comp=Z,2μm						
CHBT	CHBT	21.69	303	P	P	18 56 13.3	+0.6
	comp=Z,186nm,1.3s,comp=Z,2μm						
PSI	Prapat	21.98	275	P	P	18 56 17.1	+1.1
PSI	Prapat	21.98	275	P	P	18 56 17.1	+1.1
	comp=Z,84nm,0.9s,baz=99,slow=4.4,SNR=40						
PSI				LR	LR	19 06 03.2	
	comp=Z,6μm,18.5s,baz=281,slow=40						
PSI	Prapat	21.98	275	P	P	18 56 17.4	+1.4
	baz=22,SNR=21						
PSI				S	Sn	19 00 24.0	-4.7
	baz=22,SNR=6.1						
HKC	Hong Kong Obse	22.03	343	⇓*i*P	P	18 56 16.0	-0.2
HKC				S	S	19 00 20.0	+2.0
TPUB	Ta-pu	22.04	359	*e*P	P	18 56 16.8	+0.4
	comp=Z,181nm,0.9s						
YULB	Yu-li	22.14	1	*e*P	P	18 56 15.9	-1.5
	comp=Z,68nm,0.8s						
MBWA	Marble Bar	22.18	183	P	P	18 56 17.6	-0.2
	SNR=20						
MBWA	Marble Bar	22.18	183	*e*P	P	18 56 17.0	-0.9
	comp=Z,755nm,1.5s						
MBWA				LR	LR		
	comp=Z,5μm,19.0s						
SRIT	Nakonsrittamara	22.43	290	P	P	18 56 22

WRAB			pmax	pmax		
	comp=Z,283nm,0.6s					
WRAB			MLR	MLR		
	comp=Z,5μm,21.0s					
WRAB	**Tennant Creek**	**24.76 148**	*e*P	**P**	**18 56 42.3**	**-1.0**
	comp=Z,283nm,0.6s					
WRAB			LR	LR		
	comp=Z,5μm,21.0s					
WRA	**Warramunga Arr**	**24.76 148**	P	**P**	**18 56 42.1**	**-1.2**
WRA			S	**S**	**19 01 05.2**	**+1.0**
WRA	**Warramunga Arr**	**24.76 148**	P	**P**	**18 56 42.1**	**-1.2**
	comp=Z,384nm,0.6s,baz=330,slow=10,SNR=348					
WRA			S	**S**	**19 01 05.2**	**+1.0**
	comp=Z,15nm,1.0s,baz=306,slow=29,SNR=5.7					
WRA			LR	LR	19 06 44.3	
	comp=Z,3μm,19.0s,baz=330,slow=37					
LOEI	**Loei**	**25.22 311**	P	**P**	**18 56 44.5**	**-3.0**
	comp=Z,82nm,0.7s					
JOW	**Kunigami**	**26.53 15**	*e*P	**P**	**18 57 00.0**	**+0.7**
	comp=Z,30nm,0.9s					
MANU	**Manus Island**	**26.69 97**	P	**P**	**18 57 05.6**	**+4.7**
	baz=27,SNR=7.1					
MANU			S	**S**	**19 01 41.8**	**+6.9**
	baz=27,SNR=3.6					
COEN	**Coen**	**26.71 125**	*e*P	**P**	**18 57 00.3**	**-0.7**
	comp=Z,611nm,0.7s					
COEN	**Coen**	**26.71 125**	P	**P**	**18 57 00.1**	**-0.9**
	baz=27,SNR=85					
COEN			S	S	19 01 58.9	+24
	baz=27,SNR=3.9					
GUMO	**Guam**	**26.80 61**	PFAKE		18 57 10.0	+8.2
GUMO			LR	LR		
	comp=Z,6μm,22.0s					
LAMP	**Lampang**	**27.07 311**	P	**P**	**18 57 05.0**	**+0.8**
	comp=Z,28nm,1.0s,comp=Z,239nm					
COCO	**West Island**	**27.28 240**	*i* P	**P**	**18 57 08.0**	**+1.9**
COCO	**West Island**	**27.28 240**	PFAKE		18 57 20.0	+14
COCO			LR	LR		
	comp=Z,5μm,20.0s					
PAYA	**Payao**	**27.41 313**	P	**P**	**18 57 07.7**	**+0.4**
	comp=Z,16nm,1.2s,comp=Z,147nm					
CM31	**Chiang Mai Arr**	**27.55 310**	*e*P	**P**	**18 57 09.4**	**+0.8**
	comp=Z,39nm,1.0s					
CMAR	**Chiang Mai Arr**	**27.55 310**	P	**P**	**18 57 09.4**	**+0.9**
CMAR			PcP	**PcP**	**19 00 27.1**	**+0.7**
CMAR			ScP	**ScP**	**19 04 05.4**	**+0.1**
CMAR			*e*		19 29 41.5	
CMAR	**Chiang Mai Arr**	**27.55 310**	P	**P**	**18 57 09.4**	**+0.9**
	comp=Z,24nm,0.9s,baz=134,slow=7.5,SNR=91					
CMAR			PcP	**PcP**	**19 00 27.1**	**+0.7**
	comp=Z,7.2nm,0.8s,baz=165,slow=1.6,SNR=8.4					
CMAR			ScP	**ScP**	**19 04 05.4**	**+0.1**
	comp=Z,4.0nm,0.9s,baz=165,slow=2.8,SNR=5.5					
CMAR			LR	LR	19 08 31.7	
	comp=Z,2μm,20.2s,baz=136,slow=37					
CMAR			P3KPbc		19 29 41.5	
	comp=Z,0.8nm,0.8s,baz=299,slow=5.3,SNR=5.8					
CRAI	**Chiangrai**	**27.60 315**	P	**P**	**18 57 06.9**	**-2.1**
	comp=Z,73nm,2.3s,comp=Z,3μm					
MEEK	**Meekatharra**	**27.69 184**	P	**P**	**18 57 08.7**	**-1.0**
	baz=28,SNR=98					
AS31	**Alice Springs**	**27.72 154**	*e*P	**P**	**18 57 09.4**	**-0.7**
ASAR	**Alice Springs**	**27.72 154**	P	**P**	**18 57 09.7**	**-0.4**
ASAR			PcP	**PcP**	**19 00 27.1**	**+0.4**
ASAR	**Alice Springs**	**27.72 154**	P	**P**	**18 57 09.7**	**-0.4**
	comp=Z,124nm,0.7s,baz=333,slow=8.2,SNR=402					
ASAR			PcP	**PcP**	**19 00 27.1**	**+0.4**
	comp=Z,12nm,0.6s,baz=349,slow=2.7,SNR=5.4					
ASAR			LR	LR	19 08 39.8	
	comp=Z,10μm,21.6s,baz=322,slow=37					
CHTO	**Chiang Mai**	**27.76 311**	*e*P	**P**	**18 57 11.0**	**+0.5**
CHTO			pmax	pmax		
	comp=Z,113nm,1.1s					
CHTO			MLR	MLR		
	comp=Z,3μm,20.0s					
CHTO	**Chiang Mai**	**27.76 311**	P	**P**	**18 57 11.4**	**+1.0**
	SNR=19					
CHTO	**Chiang Mai**	**27.76 311**	*e*P	**P**	**18 57 10.9**	**+0.5**
	comp=Z,113nm,1.1s					
CHTO			LR	LR		
	comp=Z,3μm,20.0s					
CHTO	**Chiang Mai**	**27.76 311**	P	**P**	**18 57 11.1**	**+0.5**
	comp=Z,109nm,1.1s,comp=Z,1μm					
CHTO	**Chiang Mai**	**27.76 311**	P	**P**	**18 57 10.9**	**+0.5**
	comp=Z,109nm,1.1s,comp=Z,1μm					
PMG	**Port Moresby**	**28.21 112**	*e*P	**P**	**18 57 14.2**	**-0.2**
	comp=Z,99nm,0.9s					
PMG			LR	LR		
	comp=Z,3μm,22.0s					
PMG	**Port Moresby**	**28.21 112**	P	**P**	**18 57 14.1**	**-0.4**
	comp=Z,143nm,1.0s,comp=Z,2μm					
PMG	**Port Moresby**	**28.21 112**	P	**P**	**18 57 14.4**	**-0.1**
	comp=Z,61nm,0.7s,baz=317,slow=5.6,SNR=34					
CMAI	**Chiengmai2**	**28.37 313**	P	**P**	**18 57 15.9**	**-0.1**
	comp=Z,138nm,1.0s,comp=Z,14μm					
GYA	**Guiyang**	**28.65 333**	⇑*i*P	**P**	**18 57 18.9**	**+0.5**
GYA			pP	**pP**	**18 57 26.6**	**+0.1**
GYA			PP	**PnPn**	**18 58 14.0**	**+4.8**
GYA			PcP	**PcP**	**19 00 30.5**	**+1.5**
GYA			S	**S**	**19 02 07.3**	**+1.6**
GYA			SS	**SnSn**	**19 03 35.8**	**+8.7**
GYA			ScP	**ScP**	**19 04 08.9**	**+0.2**
GYA			ScS	**ScS**	**19 08 01.5**	**-0.7**
GYA			pmax	pmax		
	comp=Z,40nm,0.8s					
GYA			pmax	pmax		
	comp=Z,180nm,5.3s					
GYA			LR	LR		
	comp=N,3μm,19.6s					
GYA			LR	LR		
	comp=E,2μm,21.8s					
GYA			LR	LR		
	comp=Z,5μm,23.1s					
KMI	**Kunming**	**29.59 325**	P	**P**	**18 57 28.0**	**+1.1**
KMI			pP	**pP**	**18 57 35.6**	**+0.7**
KMI			sP	**sP**	**18 57 38.9**	**+0.6**
KMI			PP	**PnPn**	**18 58 21.4**	**-0.7**
KMI			S	**S**	**19 02 19.8**	**-0.9**
KMI			sS	**sS**	**19 02 32.8**	**-1.2**
KMI			SS	**SnSn**	**19 03 52.9**	**+2.8**
KMI			pmax	pmax		
	comp=Z,36nm,1.2s					
KMI			pmax	pmax		
	comp=Z,650nm,6.9s					
KMI			LR	LR		
	comp=N,3μm,20.7s					
KMI			LR	LR		
	comp=E,2μm,23.1s					
KMI			LR	LR		
	comp=Z,7μm,24.8s					
SSE	**Sheshan**	**29.81 1**	P	**P**	**18 57 30.8**	**+2.4**
SSE			pP	**pP**	**18 57 40.0**	**+3.5**
SSE			sP	**sP**	**18 57 43.2**	**+3.3**
SSE			S	**S**	**19 02 26.9**	**+3.4**
SSE			sS	**sS**	**19 02 41.2**	**+4.4**
SSE			pmax	pmax		
	comp=Z,37nm,0.9s					
SSE			pmax	pmax		
	comp=Z,620nm,6.2s					
SSE			LR	LR		
	comp=N,4μm,25.1s					
SSE			LR	LR		
	comp=E,1μm,25.1s					
SSE			LR	LR		
	comp=Z,5μm,23.5s					
WHN	**Wuhan**	**29.90 349**	⇑P	**P**	**18 57 30.8**	**+1.5**
WHN			sP	**sP**	**18 57 38.3**	**-2.4**
WHN			S	**S**	**19 02 30.0**	**+5.0**
WHN			LR	LR		
	comp=N,11μm,16.4s					
WHN			LR	LR		
	comp=E,3μm,14.0s					
WHN			LR	LR		
	comp=Z,13μm,16.8s					
MTSU	**Mount Surprise**	**29.99 131**	P	**P**	**18 57 30.1**	**-0.2**
	baz=30,SNR=159					
MORW	**Morawa**	**30.38 188**	P	**P**	**18 57 32.7**	**-0.8**
	baz=30,SNR=55					
NJ2	**Nanjing**	**30.82 357**	*e*P	**P**	**18 57 38.8**	**+1.4**
NJ2			pP	**pP**	**18 57 45.0**	**-0.4**
NJ2			sP	**sP**	**18 57 48.1**	**-0.7**
NJ2			S	**S**	**19 02 44.0**	**+4.7**
NJ2			pmax	pmax		
	comp=Z,40nm,1.2s					
NJ2			pmax	pmax		
	comp=Z,750nm,3.8s					
NJ2			LR	LR		
	comp=N,8μm,14.6s					
NJ2			LR	LR		
	comp=E,4μm,15.2s					
NJ2			LR	LR		
	comp=Z,7μm,17.8s					
ENH	**Enshi**	**30.93 341**	*e*P	**P**	**18 57 39.1**	**+0.6**
	comp=Z,68nm,1.2s					
RABL	**Rabaul**	**31.73 100**	P	P	18 57 51.5	+5.8
	baz=32,SNR=4.1					
BLDU	**Ballidu**	**31.81 187**	P	**P**	**18 57 45.2**	**-1.0**
	baz=32,SNR=28					
FORT	**Forrest**	**32.46 168**	*e*P	**P**	**18 57 51.5**	**-0.4**
	comp=Z,438nm,0.8s					
FORT			*e*PcP	**PcP**	**19 00 38.8**	**0.0**
FORT	**Forrest**	**32.46 168**	P	**P**	**18 57 51.5**	**-0.4**
	baz=32,SNR=94					
CTA	**Charters Tower**	**32.62 132**	P	**P**	**18 57 53.8**	**+0.3**
CTA	**Charters Tower**	**32.62 132**	P	**P**	**18 57 53.8**	**+0.3**
	comp=Z,57nm,0.8s,baz=313,slow=11,SNR=54					
CTA			LR	LR	19 11 45.3	
	comp=Z,4μm,21.1s,baz=325,slow=38					
KLBR	**Kellerberrin**	**32.67 185**	P	**P**	**18 57 52.8**	**-1.0**
	baz=33,SNR=66					
CBIJ	**Chichi jima**	**32.95 37**	LR	LR	19 10 37.4	
	comp=Z,4μm,20.0s,baz=258,slow=35					
JNU	**Nakatsue**	**33.19 15**	P	**P**	**18 57 58.0**	**-0.2**
JNU	**Nakatsue**	**33.19 15**	P	**P**	**18 57 58.0**	**-0.2**
	comp=Z,14nm,0.9s,baz=180,slow=9.3,SNR=5.2					
CD2	**Chengdu**	**33.77 333**	P	**P**	**18 58 03.2**	**-0.1**
CD2			pP	**pP**	**18 58 09.8**	**-1.7**
CD2			sP	**sP**	**18 58 13.0**	**-1.8**
CD2			PP	**PnPn**	**18 59 17.1**	**+1.0**
CD2			S	**S**	**19 03 25.7**	**+0.2**
CD2			sS	**sS**	**19 03 36.6**	**-2.3**
CD2			SS	**SnSn**	**19 05 32.7**	**+1.3**
CD2			pmax	pmax		
	comp=Z,70nm,1.1s					
CD2			pmax	pmax		
	comp=Z,1μm,6.0s					
CD2			LR	LR		
	comp=N,4μm,20.2s					
CD2			LR	LR		
	comp=Z,5μm,23.8s					
NWAO	**Narrogin (SRO)**	**34.04 185**	P	**P**	**18 58 05.1**	**-0.6**
NWAO	**Narrogin (SRO)**	**34.04 185**	P	**P**	**18 58 05.1**	**-0.6**
	comp=Z,212nm,0.7s,baz=11,slow=8.9,SNR=91					
XAN	**Xi'an**	**34.60 342**	P	**P**	**18 58 09.0**	**-1.5**
XAN			S	**S**	**19 03 33.5**	**-4.8**
XAN			pmax	pmax		
	comp=Z,9.0nm,1.9s					
XAN			pmax	pmax		
	comp=Z,230nm,6.3s					
XAN			LR	LR		
	comp=N,3μm,19.4s					
XAN			LR	LR		
	comp=Z,2μm,19.4s					
TIA	**Tai'an**	**35.08 355**	⇑P	**P**	**18 58 15.6**	**+1.0**
TIA			S	**S**	**19 03 41.6**	**-3.9**
TIA			pmax	pmax		
	comp=Z,30nm,1.2s					
TIA			pmax	pmax		
	comp=Z,930nm,6.5s					
TIA			LR	LR		
	comp=N,5μm,19.4s					
TIA			LR	LR		
	comp=E,3μm,21.2s					
TIA			LR	LR		
	comp=Z,6μm,18.5s					
INCN	**Inchon**	**36.57 8**	PFAKE		18 58 40.0	+13
INCN			LR	LR		
	comp=Z,3μm,22.0s					
BBOO	**Buckleboo**	**36.68 158**	*e*P	**P**	**18 58 28.0**	**-0.4**
	comp=Z,4μm,0.8s					
BBOO	**Buckleboo**	**36.68 158**	P	**P**	**18 58 28.0**	**-0.4**
	baz=37,SNR=207					
KSAR	**Wonju Array Be**	**36.71 9**	P	**P**	**18 58 29.8**	**+1.3**
KSRS	**Korea Array**	**36.73 9**	P	**P**	**18 58 29.8**	**+1.1**
	comp=Z,11nm,0.8s,baz=187,slow=8.8,SNR=37					
KSRS			LR	LR	19 12 42.0	
	comp=Z,3μm,20.7s,baz=185,slow=35					
SHL	**Shillong**	**37.02 313**	⇓*i*P	**P**	**18 58 32.5**	**+0.9**
SHL			*i* S	**S**	**19 04 16.0**	**0.0**
TIY	**Taiyuan**	**37.23 349**	*e*P	**P**	**18 58 33.3**	**+0.3**
TIY			PP	**PP**	**18 59 57.6**	**-0.6**
TIY			PcP	**PcP**	**19 00 54.1**	**+1.6**
TIY			S	**S**	**19 04 19.7**	**+1.2**
TIY			pmax	pmax		
	comp=Z,910nm,5.8s					
TIY			LR	LR		
	comp=N,4μm,19.1s					
TIY			LR	LR		
	comp=E,690nm,16.7s					
TIY			LR	LR		
	comp=Z,4μm,19.2s					
DL2	**Dalian**	**37.60 1**	⇓*i*P	**P**	**18 58 36.3**	**+0.2**
DL2			PP	**PP**	**19 00 01.9**	**-0.4**
DL2			S	**S**	**19 04 24.9**	**+0.9**
DL2			SS	**SnSn**	**19 07 00.9**	**-3.1**
DL2			pmax	pmax		
	comp=Z,93nm,1.1s					
DL2			pmax	pmax		
	comp=Z,890nm,5.3s					
DL2			LR	LR		
	comp=E,2μm,15.7s					
DL2			LR	LR		
	comp=Z,2μm,19.6s					
LZH	**Lanzhou**	**38.20 337**	⇓P	**P**	**18 58 42.1**	**+0.7**
LZH			pP	**pP**	**18 58 49.4**	**-0.2**
LZH			sP	**sP**	**18 58 52.2**	**-0.7**
LZH			PP	**PnPn**	**19 00 13.3**	**+2.6**
LZH			S	**S**	**19 04 36.1**	**+2.6**
LZH			sS	**sS**	**19 04 47.0**	**0.0**
LZH			SS	**SnSn**	**19 07 15.4**	**-3.4**
LZH			pmax	pmax		
	comp=Z,32nm,1.0s					
LZH			pmax	pmax		
	comp=Z,120nm,4.2s					
LZH			LR	LR		
	comp=N,1μm,12.6s					
LZH			LR	LR		
	comp=E,3μm,15.6s					
LZH			LR	LR		
	comp=Z,4μm,18.4s					
STKA	**Stephens Creek**	**38.26 151**	*e*P	**P**	**18 58 41.8**	**0.0**
	comp=Z,61nm,0.9s					
STKA	**Stephens Creek**	**38.26 151**	P	**P**	**18 58 41.7**	**0.0**
	comp=Z,241nm,0.9s,baz=320,slow=8.4,SNR=214					
STKA			LR	LR	19 15 23.7	
	comp=Z,3μm,20.3s,baz=319,slow=38					
STKA	**Stephens Creek**	**38.26 151**	P	**P**	**18 58 41.7**	**0.0**
	baz=38,SNR=197					
RMQ	**Roma**	**38.44 138**	P	**P**	**18 58 43.0**	**-0.4**
	baz=38,SNR=30					
MAT	**Matsushiro**	**38.73 23**	P	**P**	**18 58 43.9**	**-1.8**
MAT			S	**S**	**19 04 36.0**	**-5.2**
BJT	**Baijiatuau**	**38.94 354**	*e*P	**P**	**18 58 47.8**	**+0.4**
	comp=Z,38nm,0.6s					
BJT			LR	LR		
	comp=Z,4μm,20.0s					
BJI	**Beijing**	**38.97 354**	P	**P**	**18 58 47.7**	**+0.2**
BJI			PP	**PnPn**	**19 00 20.4**	**+0.7**
BJI			S	**S**	**19 04 43.3**	**-1.3**
BJI			pmax	pmax		
	comp=Z,39nm,1.8s					
BJI			pmax	pmax		
	comp=Z,1μm,4.4s					
BJI			LR	LR		
	comp=N,2μm,22.1s					
BJI			LR	LR		
	comp=E,2μm,23.0s					
BJI			LR	LR		
	comp=Z,3μm,21.1s					
EIDS	**Eidsvold**	**39.35 134**	*e*P	**P**	**18 58 49.6**	**-1.4**
	comp=Z,32nm,0.9s					
EIDS	**Eidsvold**	**39.35 134**	P	**P**	**18 58 50.2**	**-0.9**
	baz=39,SNR=9.9					
LSA	**Lhasa**	**40.08 318**	P	**P**	**18 58 58.4**	**+0.8**
LSA			PP	**PP**	**19 00 30.3**	**+0.3**
LSA			S	S	19 04 55.8	-6.7
LSA			LR	LR		
	comp=E,2μm,32.4s					
LSA			LR	LR		
	comp=Z,2μm,36.4s					
LSA	**Lhasa**	**40.08 318**	*e*P	**P**	**18 58 58.7**	**+1.2**
LSA			pmax	pmax		
	comp=Z,46nm,0.7s					
LSA			MLR	MLR		
	comp=Z,2μm,20.0s					
LSA	**Lhasa**	**40.08 318**	*e*P	**P**	**18 58 58.7**	**+1.2**
	comp=Z,46nm,0.7s					
LSA			LR	LR		
	comp=Z,2μm,20.0s					
CMSA	**Cobar Meteorol**	**40.13 146**	P	**P**	**18 58 57.7**	**+0.3**
	baz=40,SNR=302					
HNR	**Honiara**	**40.32 106**	P	**P**	**18 58 59.0**	**-0.2**
HNR	**Honiara**	**40.32 106**	P	**P**	**18 58 59.0**	**-0.2**
	comp=Z,192nm,0.7s,baz=233,slow=3.9,SNR=12					
VIS	**Vishakhapatnam**	**40.39 296**	*e*P	**P**	**18 58 59.2**	**-0.5**
VIS			AMB	AMB	18 59 16.5	
	comp=Z,70nm,1.4s					
HHC	**Hu-ho-hao-te**	**40.43 349**	*e*P	**P**	**18 59 01.3**	**+1.4**
HHC			pP	**pP**	**18 59 07.2**	**-0.9**
HHC			PP	**PnPn**	**19 00 38.7**	**+1.5**
HHC			ScP	**ScP**	**19 04 50.9**	**+0.7**
HHC			S	**S**	**19 05 09.7**	**+3.0**
HHC			SS	**SS**	**19 08 04.6**	**-2.0**
HHC			ScS	**ScS**	**19 09 03.8**	**-0.5**
HHC			pmax	pmax		
	comp=Z,42nm,0.6s					
HHC			pmax	pmax		
	comp=Z,2μm,5.9s					
HHC			LR	LR		
	comp=N,5μm,14.5s					
HHC			LR	LR		
	comp=E,3μm,14.9s					
HHC			LR	LR		
	comp=Z,5μm,14.1s					
BTO	**Baotou**	**40.51 347**	*e*P	**P**	**18 59 00.4**	**-0.1**
SNY	**Shenyang**	**40.59 3**	⇓P	**P**	**18 59 00.9**	**-0.1**
SNY			pmax	pmax		
	comp=Z,97nm,2.1s					
SNY			pmax	pmax		
	comp=Z,2μm,7.1s					
SNY			LR	LR		
	comp=N,4μm,18.6s					
SNY			LR	LR		
	comp=E,2μm,19.1s					
SNY			LR	LR		
	comp=Z,5μm,20.1s					
ODAN	**Odare**	**41.08 311**	*e*P	**P**	**18 59 06.3**	**+0.7**
	comp=Z,200nm,0.9s					
TAPN	**Taplejung**	**41.10 312**	*e*P	**P**	**18 59 06.7**	**+0.8**
	comp=Z,193nm,0.8s					
RAMN	**Ramite**	**41.72 311**	*e*P	**P**	**18 59 12.1**	**+1.2**
	comp=Z,419nm,1.2s					
JIRN	**Jiri**	**42.41 312**	*e*P	**P**	**18 59 17.4**	**+0.8**
	comp=Z,150nm,0.7s					
ARPS	**Mount Arapiles**	**42.44 155**	P	**P**	**18 59 16.6**	**+0.3**
	baz=42,SNR=166					
GTA	**Gaotai**	**42.67 336**	⇓P	**P**	**18 59 19.2**	**+0.9**
GTA			pP	**pP**	**18 59 25.2**	**-1.4**
GTA			sP	**sP**	**18 59 28.2**	**-1.7**
GTA			PP	**PP**	**19 01 01.2**	**+3.6**
GTA			ScP	**ScP**	**19 04 59.9**	**+0.7**
GTA			S	**S**	**19 05 41.8**	**+1.7**
GTA			sS	**sS**	**19 05 52.0**	**-1.7**
GTA			SS	**SS**	**19 08 46.4**	**-4.7**
GTA			ScS	**ScS**	**19 09 17.2**	**-0.9**
GTA			pmax	pmax		
	comp=Z,49nm,1.1s					
GTA			pmax	pmax		
	comp=Z,840nm,4.0s					
GTA			LR	LR		
	comp=N,2μm,18.1s					
GTA			LR	LR		
	comp=E,2μm,18.0s					
GTA			LR	LR		
	comp=Z,2μm,17.8s					
CN2	**Changchun**	**42.69 5**	⇑*i*P	**P**	**18 59 18.7**	**+0.5**
CN2			*e*pP	**pP**	**18 59 24.9**	**-1.5**
CN2			pmax	pmax		
	comp=Z,30nm,1.0s					
CN2			pmax	pmax		
	comp=Z,880nm,7.0s					
CN2			LR	LR		
	comp=N,1μm,18.0s					
CN2			LR	LR		
	comp=E,4μm,18.0s					
CN2			LR	LR		
	comp=Z,3μm,19.0s					
GUN	**Gumba**	**42.77 312**	*e*P	**P**	**18 59 20.3**	**+0.7**
	comp=Z,283nm,0.8s					
ARMA	**Armidale**	**42.93 140**	*e*P	**P**	**18 59 21.6**	**+1.1**
	comp=Z,107nm,1.0s					
ARMA	**Armidale**	**42.93 140**	P	**P**	**18 59 21.9**	**+1.4**
	baz=43,SNR=36					
PKI	**Pulchoki**	**42.95 311**	*e*P	**P**	**18 59 21.2**	**+0.2**
	comp=Z,72nm,0.6s					
PKIN	**Phulchoki**	**42.96 311**	*e*P	**P**	**18 59 21.5**	**+0.5**
	comp=Z,68nm,0.8s					
VLA	**Vladivostok**	**42.96 12**	*d i*P	**P**	**18 59 20.9**	**+0.5**
VLA			*i* S	**S**	**19 05 43.2**	**-0.7**
VLA			pmax	pmax		
	comp=Z,161nm,1.7s					
KKN	**Kakani**	**43.16 311**	*e*P	**P**	**18 59 22.9**	**+0.4**
	comp=Z,122nm,1.0s					
DMN	**Daman**	**43.19 311**	*e*P	**P**	**18 59 23.5**	**+0.6**
	comp=Z,247nm,1.1s					
YNG	**Young**	**43.70 146**	P	**P**	**18 59 27.2**	**+0.7**
	baz=44,SNR=26					
MDJ	**Mudanjiang**	**43.99 9**	P	**P**	**18 59 29.4**	**+0.7**
MDJ			pP	**pP**	**18 59 35.3**	**-1.7**
MDJ			sP	**sP**	**18 59 38.7**	**-1.6**
MDJ			S	**S**	**19 05 56.2**	**-2.8**
MDJ			pmax	pmax		
	comp=Z,80nm,1.3s					
MDJ			pmax	pmax		
	comp=Z,900nm,7.0s					
MDJ			LR	LR		
	comp=N,3μm,24.5s					
MDJ			LR	LR		
	comp=E,2μm,22.9s					
MDJ			LR	LR		
	comp=Z,5μm,24.5s					
MDJ	**Mudanjiang**	**43.99 9**	*e*P	**P**	**18 59 29.1**	**+0.4**
	comp=Z,186nm,1.3s					
MDJ			LR	LR		
	comp=Z,3μm,19.0s					
USRK	**Ussuriysk Arra**	**44.02 12**	P	**P**	**18 59 29.2**	**+0.3**
	comp=Z,24nm,0.8s,baz=198,slow=8.9,SNR=32					
USRK			LR	LR	19 18 59.4	
	comp=Z,3μm,18.7s,baz=190,slow=38					
TRD	**Trivandrum**	**44.32 281**	*e*P	**P**	**18 59 30.4**	**-1.5**
TRD			AMB	AMB	18 59 35.9	
	comp=Z,79nm,0.9s					
TRD			⇑*e*x	x	18 59 50.4	
KOLN	**Koldanda**	**44.42 310**	*e*P	**P**	**18 59 33.5**	**+0.8**
	comp=Z,144nm,0.7s					
MGCD	**Mangrove Creek**	**44.49 143**	P	**P**	**18 59 34.6**	**+1.7**
	baz=44,SNR=11					
DANN	**Dangsing**	**44.59 311**	*e*P	**P**	**18 59 34.7**	**+0.5**
	comp=Z,329nm,0.8s					
HYB	**Hyderabad**	**44.62 294**	*i* P	**P**	**18 59 36.0**	**+1.8**
HYB			*e*S	**S**	**19 06 12.0**	**+3.0**
HYB	**Hyderabad**	**44.62 294**	*e*P	**P**	**18 59 34.7**	**+0.4**
TOO	**Toolangi**	**44.74 152**	P	**P**	**18 59 36.0**	**+1.1**
	baz=45,SNR=25					
CAN	**Canberra**	**44.79 147**	*e*P	**P**	**18 59 36.0**	**+0.7**
CAN			pmax	pmax		
	comp=Z,254nm,1.1s					
CAN			MLR	MLR		
	comp=Z,3μm,20.0s					
CAN	**Canberra**	**44.79 147**	*e*P	**P**	**18 59 36.0**	**+0.7**
	comp=Z,254nm,1.1s					
CAN			LR	LR		
	comp=Z,3μm,20.0s					
CNB	**Canberra Magne**	**44.98 146**	P	**P**	**18 59 38.1**	**+1.2**
	baz=45,SNR=24					
PYUN	**Piuthan**	**45.05 310**	*e*P	**P**	**18 59 38.7**	**+0.9**
	comp=Z,436nm,0.7s					
NGP	**Nagpur**	**45.36 299**	⇓*e*P	**P**	**18 59 40.3**	**+0.2**
NGP			*e*S	**S**	**19 06 19.2**	**-0.4**
ERM	**Erimo**	**45.38 23**	PFAKE		18 59 50.0	+10
ERM			LR	LR		
	comp=Z,3μm,22.0s					
LATR	**Latur**	**46.72 294**	*e*P	**P**	**18 59 48.3**	**-2.4**
ASAJ	**Asahikawa**	**46.96 21**	P	**P**	**18 59 52.2**	**-0.1**
ASAJ	**Asahikawa**	**46.96 21**	P	**P**	**18 59 52.2**	**-0.1**
	comp=Z,17nm,0.6s,baz=231,slow=13,SNR=16					
AKL	**Akola**	**47.00 298**	*e*P	**P**	**18 59 54.0**	**+1.1**
AKL			AMB	AMB	19 00 01.7	

	comp=Z,52nm,5.5s					
BHPL	Bhopal	47.51 301	eP		P	18 59 57.8 +0.8
LGTI	Lohaghat	47.81 310	ex		P	18 59 52.2 -6.9
HIA	Hailar	47.97 359	eP		P	19 00 00.3 +0.2
	comp=Z,130nm,1.5s					
HIA			LR	LR		
	comp=Z,4μm,20.0s					
ULN	Ulaanbaatar	48.07 348	P		P	19 00 01.8 +0.8
	SNR=27					
ULN	Ulaanbaatar	48.07 348	eP		P	19 00 00.5 -0.5
	comp=Z,63nm,1.1s					
ULN			LR	LR		
	comp=Z,4μm,20.0s					
ULN	Ulaanbaatar	48.07 348	P		P	19 00 01.2 +0.2
	comp=Z,36nm,1.2s,comp=Z,2μm					
YUK	Yuzh-Kuril'sk	48.16 24	i P		P	19 00 07.2 +5.7
YUK			i S		S	19 06 48.9 -10
YUK			pmax	pmax		
	comp=E,277nm,1.7s					
YUK			pmax	pmax		
	comp=Z,413nm,1.7s					
YUK			pmax	pmax		
	comp=N,56nm,0.8s					
YUK			pmax	pmax		
	comp=Z,1μm,2.2s					
YUK			MLR	MLR		
	comp=E,556nm,19.0s					
YUK			MLR	MLR		
	comp=Z,1μm,19.0s					
YUK			MLR	MLR		
	comp=N,134nm,19.0s					
SONM	Songino Array	48.19 347	P		P	19 00 02.5 +0.6
SONM			P'P'			19 31 08.6
SONM	Songino Array	48.19 347	P		P	19 00 02.5 +0.6
	comp=N,28nm,0.9s,baz=165,slow=6.8,SNR=98					
SONM			LR	LR		19 20 57.0
	comp=N,4μm,19.4s,baz=164,slow=37					
SONM			PKPPKP		P'P'df	19 31 08.6 -1.6
	comp=N,0.5nm,0.8s,baz=27,slow=1.6,SNR=3.8					
GOA	Goa	48.53 290	eP		P	19 00 05.0 +0.1
GOA			AMB	AMB		19 00 13.8
	comp=Z,51nm,1.0s					
KLR	Kul'dur	48.83 9	eP		P	19 00 00.0 -6.6
KLR			eS		S	19 07 03.0 -5.2
KLR			pmax	pmax		
	comp=Z,140nm,2.0s					
KLR			pmax	pmax		
	comp=Z,2μm,7.0s					
KLR			smax	smax		
	comp=N,2μm,7.5s					
KLR			smax	smax		
	comp=E,800nm,7.5s					
KLR			MLR	MLR		
	comp=Z,1μm,16.0s					
DGAR	Diego Garcia	49.02 259	PFAKE			19 00 20.0 +11
DGAR			LR	LR		
	comp=Z,4μm,20.0s					
POO	Poona	49.23 294	eP		P	19 00 08.1 -2.2
MOO	Moorlands	49.45 154	P		P	19 00 14.0 +2.5
	baz=50,SNR=5.9					
YSS	Yuzh-Sakhalins	49.48 20	ceP		P	19 00 13.0 +1.4
YSS			e			19 01 29.0
YSS			e			19 02 12.0
YSS			eS		S	19 07 15.0 -2.4
YSS			e			19 07 30.0
YSS			eSS		ScS	19 10 05.0 +3.4
YSS			pmax	pmax		
	comp=Z,40nm,1.1s					
YSS			MLR	MLR		
	comp=N,2μm,18.0s					
YSS			MLR	MLR		
	comp=Z,2μm,18.0s					
NDI	New Delhi	49.83 307	eP		P	19 00 14.0 -0.7
TAU	Tasmania Unive	49.88 155	P		P	19 00 15.0 +0.2
	comp=Z,673nm,1.0s,SNR=5.8					
TAU	Tasmania Unive	49.88 155	eP		P	19 00 15.6 +0.8
TAU			pmax	pmax		
	comp=Z,162nm,1.1s					
TAU			MLR	MLR		
	comp=Z,6μm,21.0s					
TAU	Tasmania Unive	49.88 155	eP		P	19 00 15.6 +0.8
	comp=Z,162nm,1.1s					
TAU			LR	LR		
	comp=Z,6μm,21.0s					
DDI	Dehra Dun	49.90 310	eP		P	19 00 16.8 +1.5
DDI			AMB	AMB		19 00 23.5
	comp=Z,186nm,3.1s					
KUR	Kuril'sk	49.97 25	c i P		P	19 00 21.4 +6.1
KUR			i S		S	19 07 18.6 -5.6
DZM	Mont Dzumac	50.08 120	eP		P	19 00 16.5 -0.2
	comp=Z,571nm,1.2s					
DZM			eS		S	19 07 23.3 -3.5
	comp=Z,2μm,29.6s					
DZM			eLR	LR		19 14 37.2
	comp=Z,2μm,26.1s					
DZM	Mont Dzumac	50.08 120	P		P	19 00 17.3 +0.6
DZM	Mont Dzumac	50.08 120	P		P	19 00 17.3 +0.6
	comp=Z,145nm,1.0s,baz=277,slow=6.7,SNR=34					
SMLA	Simla	50.95 310	i P		P	19 00 24.4 +1.3
SMLA			AMB	AMB		19 00 26.0
	comp=Z,167nm,0.8s					
CIT	Chita	51.09 354	eP		P	19 00 24.8 +1.0
CIT			e			19 00 40.3
CIT			e			19 01 46.9
CIT			e			19 02 17.3
CIT			e			19 03 16.1
CIT			pmax	pmax		
	comp=Z,279nm,2.5s					
SDNR	Sundarnagar	51.27 311	eP		P	19 00 27.0 +1.5
ZAK	Zakamensk	51.30 346	⇑i P		P	19 00 25.1 -0.4
ZAK			pmax	pmax		
	comp=Z,23nm,1.3s					
BHK	Bhakra	51.65 310	ex		P	19 00 35.9 +7.5
WMQ	Urumqi	51.74 330	P		P	19 00 30.0 +1.2
WMQ			pP		pP	19 00 37.5 +0.2
WMQ			sP		sP	19 00 40.8 +0.3
WMQ			PcP		PcP	19 01 43.0 +1.0
WMQ			PP		PP	19 02 28.5 +1.8
WMQ			ScP		ScP	19 05 36.7 -0.4
WMQ			S		S	19 07 49.2 +0.2
WMQ			sS		sS	19 08 01.8 -1.1
WMQ			ScS		ScS	19 10 15.3 -2.1
WMQ			SS		SS	19 11 23.8 -2.1
WMQ			pmax	pmax		
	comp=Z,48nm,1.0s					
WMQ			pmax	pmax		
	comp=Z,1μm,6.5s					
WMQ			LR	LR		
	comp=N,2μm,24.5s					
WMQ			LR	LR		
	comp=E,2μm,28.0s					
WMQ			LR	LR		
	comp=Z,3μm,26.6s					
TARA	Tarawa	52.05 89	PFAKE			19 00 40.0 +8.4
TARA			LR	LR		
	comp=Z,2μm,19.0s					
DHRM	DHARAMSHALA	52.12 311	eP		P	19 00 32.3 +0.2
DHRM			AMB	AMB		19 00 40.9
	comp=Z,221nm,1.7s					
TLY	Talaya	52.42 347	d i P		P	19 00 34.6 +0.9
TLY			e			19 02 31.0
TLY			ePPP	PPP		19 03 32.5
TLY			eS		S	19 08 01.0 +3.0
TLY			pmax	pmax		
	comp=Z,39nm,0.8s					
TLY			MLR	MLR		
	comp=Z,3μm,21.0s					
TLY	Talaya	52.42 347	P		P	19 00 35.5 +1.8
	comp=Z,207nm,0.7s,SNR=5.7					
DLH	Dalhousie	52.50 311	ex		P	19 00 42.0 +7.1
IRK	Irkutsk	52.80 347	eP		P	19 00 36.6 +0.1
IRK			pmax	pmax		
	comp=Z,102nm,2.4s					
MOY	Mondy	53.06 345	eP		P	19 00 39.9 +1.3
MOY			pmax	pmax		
	comp=Z,165nm,2.5s					
KSH	Kashi	55.92 319	P		P	19 01 00.9 +1.3
KSH			pP		pP	19 01 09.4 +1.3
KSH			PcP		PcP	19 02 00.0 +1.9
KSH			PcS		PcS	19 05 58.9 +0.4
KSH			S		S	19 08 46.9 +0.9
KSH			sS		sS	19 08 59.8 -0.1
KSH			pmax	pmax		
	comp=Z,23nm,1.1s					
KSH			pmax	pmax		
	comp=Z,540nm,9.4s					
KSH			LR	LR		
	comp=N,1μm,18.5s					
KSH			LR	LR		
	comp=E,900nm,13.3s					
KSH			LR	LR		
	comp=Z,2μm,15.6s					
MK31	Makanchi Array	56.54 329	i P		P	19 01 03.5 -0.3
MK31			pmax	pmax		
	comp=Z,18nm,0.6s					
MK31	Makanchi Array	56.54 329	eP		P	19 01 04.3 +0.5
MKAR	Makanchi Array	56.54 329	P		P	19 01 04.4 +0.6
MKAR			pmax	pmax		
	comp=Z,35nm,1.0s					
MKAR			MLR	MLR		
	comp=Z,2μm,19.8s					
MKAR	Makanchi Array	56.54 329	P		P	19 01 04.3 +0.6
MKAR			P'P'			19 30 57.9
MKAR	Makanchi Array	56.54 329	P		P	19 01 04.3 +0.6
	comp=Z,35nm,1.0s,baz=128,slow=8.0,SNR=103					
MKAR			LR	LR		19 27 29.7
	comp=Z,2μm,19.8s,baz=126,slow=38					
MKAR			PKPPKP		P'P'df	19 30 57.9 -1.2
	comp=Z,1.6nm,1.0s,baz=290,slow=3.6,SNR=5.8					
SKR	Severo-Kuril's	57.69 26	eP		P	19 01 07.0 -4.8
SKR			e			19 01 59.0
SKR			ePS		PnS	19 09 28.0 +6.0
SKR			pmax	pmax		
	comp=Z,1μm,4.0s					
SKR			MLR	MLR		
	comp=N,1μm,18.0s					
SKR			MLR	MLR		
	comp=Z,2μm,18.0s					
TKM2	Tokmak 2	57.98 322	eP		P	19 01 15.1 +0.8
TKM2			pmax	pmax		
	comp=Z,126nm,1.5s					
TKM2			MLR	MLR		
	comp=Z,2μm,22.0s					
TKM2	Tokmak 2	57.98 322	P		P	19 01 15.2 +0.9
	SNR=14					
TKM2	Tokmak 2	57.98 322	eP		P	19 01 15.1 +0.9
	comp=Z,126nm,1.5s					
TKM2			LR	LR		
	comp=Z,2μm,22.0s					
KBK	Karagaybulak	58.24 321	i P		P	19 01 17.9 +1.9
KBK	Karagaybulak	58.24 321	P		P	19 01 17.9 +1.9
	SNR=9.2					
AAK	Ala-Archa	58.51 321	P		P	19 01 19.5 +1.6
	comp=Z,204nm,1.5s,SNR=12					
AAK	Ala-Archa	58.51 321	eP		P	19 01 19.1 +1.2
AAK			pmax	pmax		
	comp=Z,21nm,0.8s					
AAK	Ala-Archa	58.51 321	P		P	19 01 19.6 +1.7
	SNR=39					
AAK	Ala-Archa	58.51 321	P		P	19 01 19.3 +1.3
	SNR=7.3					
AAK	Ala-Archa	58.51 321	eP		P	19 01 19.1 +1.2
	comp=Z,21nm,0.8s					
AAK			P'P'			19 30 57.1
AAK			⇑e			19 31 05.9
AAK	Ala-Archa	58.51 321	P		P	19 01 19.2 +1.3
	comp=Z,5.9nm,0.7s,baz=120,slow=6.4,SNR=17					
AAK			LR	LR		19 28 13.9
	comp=Z,2μm,21.7s,baz=113,slow=38					
AAK			PKPPKP		P'P'df	19 30 57.1 +0.3
	comp=Z,0.7nm,0.3s,baz=301,slow=4.1,SNR=4.2					
AAK			PKP2bc			19 31 05.9
	comp=Z,5.2nm,0.9s,baz=246,slow=5.4,SNR=10					
FRU	Bishkek	58.54 321	eP		P	19 01 18.0 0.0
FRU			ePPP	PPP		19 05 00.0
FRU			eS	S		19 09 14.0 -6.2
FRU			pmax	pmax		
	comp=Z,160nm,2.1s					
FRU			MLR	MLR		
	comp=E,2μm,21.0s					
FRU			MLR	MLR		
	comp=Z,2μm,22.5s					
KBL	Kabul	58.58 311	eP		P	19 01 18.8 +0.2
KBL			pmax	pmax		
	comp=Z,51nm,0.6s					
KBL	Kabul	58.58 311	eP		P	19 01 18.8 +0.2
	comp=Z,51nm,0.6s					
KBL	Kabul	58.58 311	P		P	19 01 19.2 +0.5
	baz=59,SNR=4.8					
USP	Ospenovka	58.84 322	i P		P	19 01 20.8 +0.7
USP	Ospenovka	58.84 322	P		P	19 01 20.8 +0.7
	SNR=9.4					
EKS2	Erkin-Say	58.98 321	eP		P	19 01 22.1 +1.0
EKS2			pmax	pmax		
	comp=Z,32nm,1.0s					
EKS2			MLR	MLR		
	comp=Z,2μm,22.0s					
EKS2	Erkin-Say	58.98 321	P		P	19 01 22.5 +1.4
	SNR=5.7					
EKS2	Erkin-Say	58.98 321	eP		P	19 01 22.1 +1.0
	comp=Z,32nm,1.0s					
EKS2			LR	LR		
	comp=Z,2μm,22.0s					
MSVF	Nonsavu	59.31 111	P		P	19 01 25.0 +1.3
	comp=Z,366nm,1.0s,SNR=7.0					
MSVF	Nonsavu	59.31 111	eP		P	19 01 25.1 +1.3
MSVF			pmax	pmax		
	comp=Z,45nm,0.8s					
MSVF			MLR	MLR		
	comp=Z,1μm,22.0s					
MSVF	Nonsavu	59.31 111	eP		P	19 01 25.1 +1.3
	comp=Z,45nm,0.8s					
MSVF			LR	LR		
	comp=Z,1μm,22.0s					
PEA0B	Petropavlovsk-	60.13 25	P		P	19 01 27.8 -1.0
PETK	Petropavlovsk-	60.13 25	P		P	19 01 28.5 -0.2
PETK			pmax	pmax		
	comp=Z,6.0nm,0.7s					
PETK			MLR	MLR		
	comp=Z,1μm,20.3s					
PETK	Petropavlovsk-	60.13 25	P		P	19 01 28.5 -0.2
PETK	Petropavlovsk-	60.13 25	P		P	19 01 28.5 -0.2
	comp=Z,5.6nm,0.7s,baz=205,slow=6.6,SNR=6.1					
PETK			LR	LR		19 28 43.9
	comp=Z,1μm,20.3s,baz=216,slow=37					
ZAA0	Zalesovo Array	60.42 336	eP		P	19 01 30.1 -0.5
ZALV	Zalesovo Beam	60.42 336	i P		P	19 01 30.2 -0.5
ZALV			pmax	pmax		
	comp=Z,53nm,0.9s					
ZALV	Zalesovo Beam	60.42 336	P		P	19 01 30.1 -0.5
ZALV			P'P'			19 30 54.9
ZALV	Zalesovo Beam	60.42 336	P		P	19 01 30.1 -0.5
	comp=Z,53nm,0.9s,baz=120,slow=5.8,SNR=124					
ZALV			LR	LR		19 27 46.3
	comp=Z,2μm,19.9s,baz=70,slow=36					
ZALV			PKPPKP		P'P'df	19 30 54.9 +2.2
	comp=Z,4.0nm,0.7s,baz=298,slow=3.2,SNR=14					
PET	Petropavlovsk	60.47 25	eP		P	19 01 27.5 -3.5
PET			eS		S	19 09 35.1 -10
PET			eSS		SS	19 13 44.2 +1.2
PET			pmax	pmax		
	comp=Z,1μm,6.4s					
PET			pmax	pmax		
	comp=Z,59nm,1.3s					
PET			pmax	pmax		
	comp=Z,700nm,7.0s					
PET			MLR	MLR		
	comp=Z,1μm,23.0s					
KURBB	Kurchatov Arra	60.93 331	P		P	19 01 34.4 +0.2
	comp=Z,44nm,1.0s,baz=127,slow=6.9,SNR=170					
KURK	Kurchatov	60.95 331	P		P	19 01 34.4 +0.1
KURK			pmax	pmax		
	comp=Z,44nm,1.0s					
KURK	Kurchatov	60.95 331	P		P	19 01 34.4 +0.1
YAK	Yakutsk	61.12 5	d i P		P	19 01 34.9 -0.3
YAK			e*PP		pP	19 01 42.6 -1.2
YAK			e			19 02 19.8
YAK			e			19 03 48.6
YAK			eS		S	19 09 49.6 -2.9
YAK			e*SS		sS	19 10 07.1 +0.5
YAK			e			19 11 20.5
YAK			eSS		SS	19 13 47.9 -4.8
YAK			eSSS		SSS	19 16 38.6
YAK			pmax	pmax		
	comp=Z,37nm,0.9s					
YAK			pmax	pmax		
	comp=N,28nm,1.4s					
YAK			pmax	pmax		
	comp=E,10.0nm,1.1s					
YAK			pmax	pmax		
	comp=E,116nm,4.4s					
YAK			pmax	pmax		
	comp=N,157nm,2.3s					
YAK			pmax	pmax		
	comp=Z,294nm,4.3s					
YAK			smax	smax		
	comp=E,587nm,4.0s					
YAK			smax	smax		
	comp=N,1μm,3.9s					
KK31	Karatay Array	61.28 320	i P		P	19 01 37.1 +0.4
KK31			pmax	pmax		
	comp=Z,33nm,1.0s					
KKAR	Karatay Array	61.28 320	eP		P	19 01 36.8 +0.1
KKAR			pmax	pmax		
	comp=Z,6.0nm,0.9s					
KKAR	Karatay Array	61.28 320	eP		P	19 01 36.8 +0.1
	comp=Z,5.7nm,0.9s					
NVS	Novosibirsk	61.71 336	⇓i P		P	19 01 37.6 -1.7
NVS			eS		S	19 09 53.4 -6.9
NVS			pmax	pmax		
	comp=N,85nm,2.1s					
NVS			pmax	pmax		
	comp=E,102nm,2.1s					
NVS			pmax	pmax		
	comp=Z,151nm,2.1s					
NVS			smax	smax		
	comp=N,46nm,3.0s					
NVS			smax	smax		
	comp=E,106nm,3.8s					
RPZ	Rata Peaks	63.22 141	eP		P	19 01 49.3 -0.4
	comp=E,86nm,0.7s					
RPZ	Rata Peaks	63.22 141	P		P	19 01 50.1 +0.4
	comp=E,98nm,0.8s,baz=312,slow=1.5,SNR=27					
KHZ	Kahutara	64.17 139	eP		P	19 01 55.8 -0.1
	comp=E,123nm,1.3s					
SNZO	South Karori	64.44 138	eP		P	19 01 57.5 -0.2
SNZO			LR	LR		
	comp=Z,2μm,20.0s					
URZ	Urewera	64.84 134	eP		P	19 02 00.3 -0.1
	comp=Z,30nm,0.7s					
IDAH	Dahanechah	65.22 306	eP		P	19 02 04.3 +0.9
MSEY	Mahe Island	65.57 264	PFAKE			19 02 20.0 +14
MSEY			LR	LR		
	comp=Z,3μm,21.0s					
VOSK	Vostochnaya	65.96 329	P		P	19 02 06.3 -1.2
VOSK			pmax	pmax		
	comp=Z,30nm,0.9s					
SEY	Seymchan	65.97 15	ceP		P	19 02 08.3 +1.0
IMYA	Miami	66.05 310	eP		P	19 02 10.5 +1.9
BRVK	Borovoye	66.50 329	P		P	19 02 11.9 +1.0
	comp=Z,226nm,0.9s,SNR=18					
BRVK	Borovoye	66.50 329	d i P		P	19 02 11.0 +0.1
BRVK			pmax	pmax		
	comp=Z,59nm,1.2s					
BRVK	Borovoye	66.50 329	P		P	19 02 11.6 +0.7
	SNR=31					
BRVK	Borovoye	66.50 329	eP		P	19 02 11.0 +0.1
	comp=Z,71nm,1.1s					
BRVK			LR	LR		
	comp=Z,2μm,22.0s					
IMOG	Moghan	66.58 309	eP		P	19 02 13.7 +1.6
IPAY	Payeh	66.94 309	eP		P	19 02 15.8 +1.5
FX1	Attu Island--F	67.29 31	eP		P	19 02 16.4 +0.4
RER	Riviere de l'E	67.31 247	PFAKE			19 02 30.0 +13
RER			LR	LR		
	comp=Z,4μm,20.0s					
IKRD	Kardeh	67.40 310	eP		P	19 02 14.3 -3.0
CASY	Casey	67.66 184	eP		P	19 02 17.0 -1.0
	comp=Z,96nm,0.9s					
CASY			LR	LR		
	comp=Z,4μm,21.0s					
DRV	Dumont d'Urvil	69.00 172	P	P		19 02 13.0 -13
DRV	Dumont d'Urvil	69.00 172	PP	PP		19 05 00.0 +1.0
DRV			S	S		19 11 41.0 +12
DRV			SS	SS		19 15 57.0 +1.7
DRV			L	L		19 20 00.0
DRV			R			19 24 00.0
MIR	Mirnyy	70.37 191	⇓i P		P	19 02 31.0 -3.8
MIR			pmax	pmax		
	comp=Z,210nm,1.0s					
AB31	Akbulak array	70.54 323	i P		P	19 02 35.7 -0.5
AB31			pmax	pmax		
	comp=Z,25nm,0.6s					
ABKAR	Akbulak array	70.54 323	eP		P	19 02 36.2 0.0
	comp=Z,24nm,0.7s					
TIXI	Tiksi	70.60 3	⇑i P		P	19 02 35.5 -0.6
TIXI			pmax	pmax		
	comp=Z,99nm,1.7s					
TIXI			MLR	MLR		
	comp=Z,4μm,22.0s					
IANJ	Anjilo	70.68 307	eP		P	19 02 38.4 +0.7
IGLO	Ghaloghah	70.97 308	eP		P	19 02 40.7 +1.3
IKIA	Kiasar	71.02 308	eP		P	19 02 38.8 -1.0
ILAS	Lasjerd	71.42 307	eP		P	19 02 42.1 -0.1
IZEF	Zefreh	71.43 304	eP		P	19 02 48.4 +6.1
IALA	Alasht	71.69 308	eP		P	19 02 45.2 +1.4
ISFB	Sefidab	71.79 306	eP		P	19 02 44.5 +0.3
AKTO	Aktyubinsk	72.13 323	i P		P	19 02 45.6 -0.2
AKTO			pmax	pmax		
	comp=Z,54nm,0.7s					
AKTO	Aktyubinsk	72.13 323	LR	LR		19 39 23.0
	comp=Z,928nm,20.6s,baz=148,slow=40					
ADK	Adak	72.43 35	PFAKE			19 03 00.0 +12
ADK			LR	LR		
	comp=Z,2μm,21.0s					
IPIR	Pirpir	72.58 304	eP		P	19 02 49.2 -0.1
IR3	Iran Long-Peri	72.99 307	eP		P	19 02 52.5 +1.1
SVE	Sverdlovsk	73.18 330	⇑i P		P	19 02 52.1 +0.2
SVE			ePPP	PPP		19 07 14.3
SVE			eS		S	19 12 14.4 -3.7
SVE			e			19 12 50.7
SVE			eSS		SS	19 17 02.2 +2.4
SVE			pmax	pmax		
	comp=Z,202nm,1.7s					
SVE			MLR	MLR		
	comp=Z,821nm,19.0s					
IRAZ	Razeghan	73.85 307	eP		P	19 02 56.7 +0.1
ARU	Arti	74.07 329	d i P		P	19 02 56.7 -0.4
ARU						19 05 40.7
ARU			PPP	PPP		19 07 22.8
ARU			S	S		19 12 27.8 -0.3
ARU			SS	SS		19 17 18.5 +5.1
ARU			SSS	SSS		19 20 26.3
ARU			pmax	pmax		
	comp=Z,47nm,1.0s					
ARU			MLR	MLR		
	comp=Z,1μm,20.0s					
ARU	Arti	74.07 329	P		P	19 02 56.8 -0.4
	comp=Z,459nm,0.8s,SNR=18					
RDF	Al-Radifah	74.86 300	eP		P	19 03 01.4 -0.9
RDF			AMb	AMB		19 03 12.7
	comp=Z,76nm,0.8s					
ABPO	Ambohimpanom	74.92 250	eP		P	19 03 02.2 -0.8
ABPO			pmax	pmax		
	comp=Z,73nm,1.1s					
ABPO			MLR	MLR		
	comp=Z,1μm,21.0s					
ABPO	Ambohimpanom	74.92 250	eP		P	19 03 02.2 -0.8
	comp=Z,73nm,1.1s					
ABPO			LR	LR		
	comp=Z,1μm,21.0s					
MIB	Mutribah	75.16 300	eP		P	19 03 02.5 -1.5
MIB			AMb	AMB		19 03 12.5
	comp=Z,178nm,0.7s					
NAY	Al-Naaiem	75.17 300	eP		P	19 03 02.3 -1.8
NAY			AMb	AMB		19 03 07.8
	comp=Z,0.6nm,1.0s					
RST	Umm Al-Ruwaisa	75.41 300	eP		P	19 03 03.9 -1.7
RST			AMb	AMB		19 03 15.3
	comp=Z,1μm,0.8s					
ISRB	Sarab	76.06 309	eP		P	19 03 09.7 +0.4
SOKR	Solikamsk	76.16 332	c i P		P	19 03 09.0 -0.1
SOKR			S		S	19 12 47.9 -3.2
SOKR			pmax	pmax		
	comp=Z,60nm,1.0s					
SOKR			MLR	MLR		
	comp=Z,2μm,25.0s					
MAK	Makhachkala	77.08 314	eP		P	19 03 14.8 +0.1
MAK			e			19 06 10.3
MAK			eS		S	19 13 00.3 -1.7
MAK			e			19 13 27.2
MAK			eSS		SS	19 17 56.4 -3.2
MAK			pmax	pmax		
	comp=Z,248nm,0.9s					
MAK			MLR	MLR		
	comp=Z,2μm,22.0s					

ISHB Shabestar 77.73 309 *e*P **P 19 03 19.1 +0.3**
GNI Garni 78.67 311 PFAKE 19 03 40.0 +16
GNI LR LR
comp=Z,598nm,19.0s
HAKT HAKKARI 79.13 308 *i* P **P 19 03 27.0 +0.5**
MAW Mawson 79.34 199 *e*P **P 19 03 25.9 -0.7**
comp=Z,23nm,1.0s
MAW Mawson 79.34 199 P **P 19 03 26.3 -0.3**
comp=Z,78nm,0.9s,baz=43,slow=7.3,SNR=73
MAW LR LR 19 33 02.1
comp=Z,2μm,20.1s,baz=52,slow=32
MAW Mawson 79.34 199 P **P 19 03 26.3 -0.3**
baz=79,SNR=65
AKUT Akutan 79.39 35 P **P 19 03 26.8 -0.4**
comp=Z,146nm,0.8s
AKUT *e* 19 03 33.9
ZEI Tsey 79.67 313 *e*P **P 19 03 29.5 +0.2**
ZEI pmax pmax
comp=Z,107nm,1.4s
GEVA Gevas 79.73 309 *i* P **P 19 03 29.2 -0.5**
KBZ Khabaz 80.52 314 P **P 19 03 34.2 +0.6**
KBZ 19 22 17.7
KBZ pmax pmax
comp=Z,9.0nm,0.9s
KBZ pmax pmax
comp=Z,2.0nm,0.8s
KBZ MLR MLR
comp=Z,835nm,21.5s
KBZ Khabaz 80.52 314 P **P 19 03 34.2 +0.6**
KBZ PKKPbc **PKKPbc 19 22 17.7 +1.6**
KBZ Khabaz 80.52 314 P **P 19 03 34.2 +0.6**
comp=Z,9.4nm,0.9s,baz=112,slow=4.1,SNR=9.8
KBZ PKKPbc **PKKPbc 19 22 17.7 +1.6**
comp=Z,2.3nm,0.8s,baz=143,slow=4.1,SNR=4.2
KBZ LR LR 19 44 44.8
comp=Z,835nm,21.5s,baz=330,slow=40
KIV Kislovodsk 80.70 314 *e*P **P 19 03 35.1 +0.4**
KIV *e*S **S 19 13 41.2 +0.3**
KIV *e*SS **SS 19 18 56.6 +2.4**
KIV *e*SSS SSS 19 22 22.0
KIV pmax pmax
comp=Z,16nm,1.0s
FALS False Pass 80.88 35 *e*P **P 19 03 34.8 -0.4**
comp=Z,164nm,0.6s
FALS *e* 19 03 42.0
DAGI Agillar 80.92 311 *i* P **P 19 03 37.0 +1.0**
DDEM Demirkent 81.03 311 *i* P **P 19 03 37.1 +0.6**
MZRK Al-Mazaregh 81.40 306 *e*P **P 19 03 39.7 +1.3**
VNDA Vanda 81.66 172 *e*P **P 19 03 38.1 -0.8**
comp=Z,60nm,0.9s
VNDA Vanda 81.66 172 P **P 19 03 38.4 -0.6**
comp=Z,53nm,0.8s,baz=314,slow=6.0,SNR=200
VNDA LR LR 19 38 39.5
comp=Z,2μm,20.7s,baz=19,slow=35
SFNV Sufian 81.88 306 *e*P **P 19 03 39.3 -1.8**
VRHR Novokhopersk 82.36 321 *e*P **P 19 03 42.3 -0.9**
VRHR *e**PP **PcP 19 03 49.4 +1.1**
VRHR *e*S S 19 13 51.0 -6.4
VRHR pmax pmax
comp=Z,10.0nm,0.6s
VRHR pmax pmax
comp=N,10.0nm,1.0s
VRHR pmax pmax
comp=E,20nm,1.4s
VRHR smax smax
comp=E,560nm,8.4s
VRHR smax smax
comp=Z,180nm,10.9s
VRHR smax smax
comp=N,100nm,7.6s
VRHR MLR MLR
comp=Z,2μm,26.0s
VRHR MLR MLR
comp=N,240nm,24.0s
VRHR MLR MLR
comp=E,980nm,25.0s
SBA Scott Base 82.63 171 *e*P **P 19 03 43.9 -0.1**
SBA pmax pmax
comp=Z,48nm,0.9s
SBA MLR MLR
comp=Z,2μm,22.0s
SBA Scott Base 82.63 171 *e*P **P 19 03 43.9 -0.1**
comp=Z,48nm,0.9s
SBA LR LR
comp=Z,2μm,22.0s
SDPT Sand Point 82.63 34 *e*P **P 19 03 43.5 -1.0**
comp=Z,78nm,0.7s
SOC Sochi 82.80 314 *e*P **P 19 03 42.5 -3.1**
SOC *e* 19 06 56.2
SOC *e*PPP PPP 19 08 52.1
SOC *e*S S 19 13 55.8 -6.5
SOC *e*SS **SS 19 19 30.3 +5.1**
SOC pmax pmax
comp=Z,11nm,0.5s
KELT Kelkit 82.85 310 *i* P **P 19 03 47.1 +0.8**
MALT Malatya 83.36 308 ⇑*i*P **P 19 03 49.6 +0.8**
KEMA Kemaliye 83.37 309 *i* P **P 19 03 49.4 +0.6**
KMBO Kilima Mbogo 83.63 269 P **P 19 03 51.6 +0.7**
SNR=9.5
KMBO Kilima Mbogo 83.63 269 *e*P **P 19 03 50.7 -0.2**
comp=Z,35nm,1.1s
KMBO Kilima Mbogo 83.63 269 P **P 19 03 51.0 +0.1**
comp=Z,23nm,1.0s,baz=48,slow=7.0,SNR=33
KMBO LR LR 19 39 12.7
comp=Z,2μm,20.3s,baz=96,slow=34
KMBO Kilima Mbogo 83.63 269 P **P 19 03 51.6 +0.7**
baz=84,SNR=5.7
GRSN GIRESUNGRSN 83.66 311 *i* P **P 19 03 50.5 +0.3**
SUSE Susehri 83.66 310 *i* P **P 19 03 51.2 +0.8**
VORD Divnogorie 83.81 321 *e*P **P 19 03 49.3 -1.3**
VORD *e**PP **PcP 19 03 56.7 +2.0**
VORD *e*S **S 19 14 08.2 -3.9**
VORD pmax pmax
comp=Z,30nm,1.5s
VORD pmax pmax
comp=N,10.0nm,0.9s
VORD pmax pmax
comp=E,10.0nm,0.6s
VORD smax smax
comp=E,410nm,8.9s
VORD smax smax
comp=Z,230nm,8.6s
VORD smax smax
comp=N,100nm,9.9s
VORD MLR MLR
comp=Z,2μm,28.0s
VORD MLR MLR
comp=N,890nm,22.0s
VORD MLR MLR
comp=E,990nm,26.0s
VSR Storozhevoye 83.91 321 *e*P **P 19 03 50.6 -0.6**
VSR *e**PP **PcP 19 03 57.5 +2.4**
VSR *e*S **S 19 14 09.2 -4.0**
VSR pmax pmax
comp=Z,30nm,1.4s
VSR pmax pmax
comp=N,10.0nm,1.2s
VSR pmax pmax
comp=E,20nm,1.0s
VSR smax smax
comp=E,370nm,12.9s
VSR smax smax
comp=Z,260nm,12.8s
VSR smax smax
comp=N,260nm,12.4s
VSR MLR MLR
comp=Z,2μm,25.0s
VSR MLR MLR
comp=N,1μm,24.0s
VSR MLR MLR
comp=E,770nm,24.0s
VOR Voronezh 83.94 322 P **P 19 03 52.0 +0.7**
VOR pmax pmax
comp=Z,260nm,1.6s
GZT Gaziantep 83.98 307 *i* P **P 19 03 51.3 -0.8**
ASF Jabal al Asfar 84.29 302 LR LR 19 48 04.1
comp=Z,799nm,19.9s,baz=76,slow=40
SALA Sala 84.45 303 *e*P **P 19 03 54.3 -0.3**
ANN Anapa 84.54 315 *e*P **P 19 03 54.6 +0.1**
ANN *e*S **S 19 14 15.3 -4.4**
ANN pmax pmax
comp=Z,80nm,1.3s
HAWK Haweek 84.79 304 *e*P **P 19 03 56.4 +0.3**
ERBA Erbaa 84.79 311 *i* P **P 19 03 57.2 +1.2**
KLMR Klimovskoe 84.79 331*c* *i*P **P 19 03 56.0 +0.6**
KLMR *e*S **S 19 14 17.3 -4.3**
KLMR pmax pmax
comp=Z,183nm,1.5s
KLMR MLR MLR
comp=Z,1μm,16.0s
WRDH Warideh 84.82 305 *e*P **P 19 03 57.0 +0.8**
BIDA Albida 84.88 305 *e*P **P 19 03 57.2 +0.6**
ARNB Al Arnab 85.19 306 *e*P **P 19 03 56.4 -1.7**
MOS Moscow 85.25 326 *e*P P 19 04 02.4 +4.6
MOS *e* 19 07 20.1
MOS *e*PPP PPP 19 09 12.3
MOS *e*S **S 19 14 23.9 -2.5**
MOS pmax pmax
comp=Z,44nm,0.9s
MOS pmax pmax
comp=Z,100nm,1.0s
MMAI Mount Meron Ar 85.58 303 LR LR 19 49 37.9
comp=Z,945nm,19.4s,baz=95,slow=41
OBN Obninsk 85.81 325 ⇑*i*P **P 19 04 00.9 +0.3**
OBN *i* S **SKSac 19 14 20.6 -3.7**
OBN pmax pmax
comp=Z,62nm,1.7s
OBN MLR MLR
comp=Z,800nm,19.0s
EIL Elat 85.89 300 P **P 19 04 02.0 +0.4**
baz=86,SNR=11
AVNT Avonos 86.18 309 *i* P **P 19 04 02.4 -0.7**
GULE Gulek 86.20 307 *i* P **P 19 04 03.2 0.0**
CTKT Corum 86.28 310 *i* P **P 19 04 03.8 +0.2**
CDAG Cicekdag 86.58 309 *i* P **P 19 04 04.7 -0.2**
OHAK Old Harbor 86.81 33 *e*P **P 19 04 05.3 -0.2**
comp=Z,29nm,0.8s
OHAK *e*pP **pP 19 04 12.6 -1.8**
SIM Simferopol' 86.90 315*d*e*P P 19 04 12.2 +5.9
SIM 19 07 33.5
SIM *e*S **SKSac 19 14 30.6 -1.0**
SIM pmax pmax
comp=Z,160nm,7.9s
IMA2 Indian Mountai 87.12 24 P **P 19 04 06.8 -0.2**
IMA2 *e* 19 04 14.9
BR131 Keskin Array S 87.14 310 *e*P **P 19 04 07.1 -0.7**
comp=Z,23nm,0.9s
BRTR Keskin Array B 87.14 310 P **P 19 04 07.0 -0.8**
BRTR Keskin Array B 87.14 310 P **P 19 04 07.0 -0.8**
comp=Z,9.5nm,0.9s,baz=126,slow=6.2,SNR=37
BRTR LR LR 19 47 32.5
comp=Z,306nm,21.6s,baz=278,slow=39
KDAK Kodiak Island 87.21 32 PFAKE 19 04 20.0 +13
KDAK LR LR
comp=Z,1μm,22.0s
ELDT Eldivan 87.32 310 *i* P P 19 04 15.3 +6.7
CSS Prodhromos 87.33 305 *e*P **P 19 04 08.1 -0.5**
comp=Z,43nm,0.9s
CSS LR LR
comp=Z,1μm,22.0s
LVZ Lovozero 87.53 338 *e*P P 19 04 15.0 +6.1
LVZ pmax pmax
comp=Z,21nm,1.2s
LVZ Lovozero 87.53 338 P P 19 04 15.4 +6.5
comp=Z,115nm,1.2s,SNR=5.2
BBAL Bala 87.54 309 *i* P **P 19 04 09.9 +0.3**
PPLA Purkeypile 87.61 27 *e*P **P 19 04 09.0 -0.5**
comp=Z,12nm,0.9s
ERMK Ermenek 87.68 306 *i* P **P 19 04 10.1 -0.4**
ANTO Ankara 87.80 310 ⇑P P 19 04 18.2 +7.4
ANTO Ankara 87.80 310 PFAKE 19 04 20.0 +9.2
ANTO LR LR
comp=Z,519nm,22.0s
ANTO Ankara 87.80 310 ⇑*i*P P 19 04 18.2 +7.4
SYO Syowa Base 87.91 201 ⇓*e*X **P 19 04 08.2 -2.3**
APA Apatity 87.99 337 ⇑*i*P P 19 04 17.0 +6.0
APA *i* 19 07 36.0
APA *i* 19 14 32.0
APA *i* 19 14 51.0
APA *i* PS PnS 19 16 16.0 +19
APA *i* SS SS 19 20 40.0 -0.3
APA MLR MLR
comp=Z,3μm,20.0s
BPAW Bear Paw Mtn. 88.19 26 *e*P **P 19 04 11.5 -0.6**
comp=Z,19nm,1.1s
SGKT Sivrigoynuk 88.36 310 *i* P P 19 04 18.9 +5.2
TRF Thorofare Moun 88.48 27 *e*P **P 19 04 11.4 -2.2**
comp=Z,24nm,1.0s
COLD Coldfoot 88.56 23 *e*P **P 19 04 14.0 +0.3**
comp=Z,18nm,0.9s
MCK McKinley 89.09 26 *e*P **P 19 04 15.4 -0.9**
MCK *e**PP **pP 19 04 22.7 -2.5**
MCK pmax pmax
comp=Z,31nm,1.1s
MCK McKinley 89.09 26 *e*P **P 19 04 15.4 -0.9**
comp=Z,32nm,1.1s
MCK *e*pP **pP 19 04 22.7 -2.5**
COLA College 89.54 25 PFAKE 19 04 30.0 +12
COLA LR LR
comp=Z,700nm,21.0s
ISP Isparta 89.58 308 PFAKE 19 04 30.0 +11
ISP LR LR
comp=Z,944nm,22.0s
PPT Papeete 89.92 107 LR LR 19 41 11.9
comp=Z,446nm,19.2s,baz=25,slow=33
PPT2 Papeete2 89.92 107 *e*S **S 19 15 08.1 -4.6**
comp=Z,3μm,28.0s
PPT2 Papeete2 89.92 107 *e*LR LR 19 33 01.4
comp=Z,828nm,28.8s
ILAR Eielson Array 89.95 25 P **P 19 04 18.6 -1.7**
ILAR PKKPbc **PKKPdf 19 21 51.4 +1.4**
ILAR P'P'
ILAR Eielson Array 89.95 25 P **P 19 04 18.6 -1.7**
comp=Z,1.1nm,0.6s,baz=225,slow=5.6,SNR=6.2
ILAR PKKPbc **PKKPdf 19 21 51.4 +1.4**
comp=Z,4.9nm,0.8s,baz=89,slow=1.6,SNR=20
ILAR PKPPKP **P'P'df 19 30 00.8 -0.3**
comp=Z,0.8nm,0.9s,baz=162,slow=0.5,SNR=4.7
ILAR LR LR 19 45 44.2
comp=Z,744nm,21.2s,baz=106,slow=36
MBAR Mbarara 90.13 269 PFAKE 19 04 30.0 +7.5
MBAR LR LR
comp=Z,644nm,22.0s
AKASG Malin Array Be 90.17 321 P **P 19 04 20.1 -1.5**
AKASG pmax pmax
comp=Z,5.0nm,0.7s
AKASG MLR MLR
comp=Z,933nm,19.7s
AKASG Malin Array Be 90.17 321 P **P 19 04 20.1 -1.5**
AKASG Malin Array Be 90.17 321 P **P 19 04 20.1 -1.5**
comp=Z,0.4nm,0.4s,baz=72,slow=4.5,SNR=4.3
AKASG LR LR 19 49 57.7
comp=Z,933nm,19.7s,baz=95,slow=39
KIEV Kiev 90.19 321 P **P 19 04 19.0 -2.7**
KIEV pmax pmax
comp=Z,9.0nm,1.3s
KIEV MLR MLR
comp=Z,1μm,22.0s
KIEV Kiev 90.19 321 P **P 19 04 19.0 -2.7**
comp=Z,9.2nm,1.3s
KIEV LR LR
comp=Z,1μm,22.0s
KHAL Karahalli 90.38 308 *i* P P 19 04 27.7 +4.7
KIS Kishinev 90.58 317 *e*P **P 19 04 26.0 +2.4**
comp=Z,500nm,7.0s
KIS Kishinev 90.58 317 *e*PP PP 19 08 03.0 +4.4
KIS Kishinev 90.58 317 *e*PPP PPP 19 10 07.0
KIS *e*SKS **SKSac 19 14 50.0 -3.4**
KIS *e*S **S 19 15 14.0 -3.6**
KIS Kishinev 90.58 317 *e*PS PS 19 16 25.0 -3.0
KIS *e*L L 19 40 20.0
KIS LRM MLR 19 53 30.0
comp=Z,1μm,19.0s
KIS Kishinev 90.58 317 *e*P **P 19 04 26.0 +2.4**
KIS *e* 19 04 37.0
KIS *e* 19 08 03.0
KIS *e*PPP PPP 19 10 07.0
KIS *e* 19 14 50.0
KIS *e*S **S 19 15 14.0 -3.6**
KIS *e*PS **PS 19 16 25.0 -3.0**
KIS pmax pmax
comp=Z,500nm,7.0s
ULDT Uludag 90.60 310 *i* P **P 19 04 23.7 -0.4**
DIV Divide 90.66 29 *e*P **P 19 04 23.5 -0.3**
comp=Z,21nm,0.7s
DIV *e*pP **pP 19 04 31.0 -1.7**
PAX Paxson 90.68 27 P **P 19 04 23.0 -0.9**
PAX pmax pmax
comp=Z,10.0nm,1.5s
PAX Paxson 90.68 27 P **P 19 04 23.0 -0.9**
comp=Z,9.8nm,1.5s
MICGM Minsk 90.83 324⇑*e*P P 19 04 19.0 -5.6
ARCES ARCESS Array B 90.83 340 P **P 19 04 24.7 +0.3**
ARCES PKKPbc **PKKPdf 19 21 49.7 +1.2**
ARCES ARCESS Array B 90.83 340 P **P 19 04 24.7 +0.3**
comp=Z,2.9nm,0.9s,baz=98,slow=5.0,SNR=6.4
ARCES PKKPbc **PKKPdf 19 21 49.7 +1.2**
comp=Z,1.3nm,0.7s,baz=248,slow=3.3,SNR=4.4
ARCES LR LR 19 48 14.5
comp=Z,2μm,21.3s,baz=97,slow=38
QSPA South Pole Qui 91.05 180 *e*P **P 19 04 24.8 -0.8**
comp=Z,77nm,1.1s
QSPA LR LR
comp=Z,2μm,20.0s
QSPA South Pole Qui 91.05 180 P **P 19 04 24.7 -0.8**
comp=Z,51nm,0.9s,baz=323,slow=2.7,SNR=81
FINES FINESS Array B 91.31 331 P **P 19 04 27.9 +1.3**
FINES FINESS Array B 91.31 331 P **P 19 04 27.9 +1.3**
comp=Z,5.0nm,0.9s,baz=232,slow=2.2,SNR=6.0
SPITS Spitsbergen Ar 91.86 348 LR LR 19 51 13.4
comp=Z,2μm,20.6s,baz=55,slow=39
VRI Vrincioaia 92.08 316 ⇓*i*P P 19 04 39.0 +8.3
VRI Vrincioaia 92.08 316 ⇓*i*P P 19 04 39.0 +8.3
PLOR Plostina 92.14 316 ⇑P P 19 04 38.7 +7.8
PLOR Plostina 92.14 316 ⇑*i*P P 19 04 38.7 +7.8
EGAK Eagle 92.40 25 *e*P **P 19 04 31.4 -0.3**
comp=Z,34nm,1.5s
EGAK *e*pP **pP 19 04 38.3 -2.3**
EGAK LR LR
comp=Z,712nm,21.0s
KBS Kingsbay 92.49 349 PFAKE 19 04 40.0 +8.2
KBS LR LR
comp=Z,3μm,21.0s
MLR Muntele Rosu 92.66 315 P **P 19 04 33.5 0.0**
MLR Muntele Rosu 92.66 315 ⇑*i*P **P 19 04 33.2 -0.3**
MLR Muntele Rosu 92.66 315 P **P 19 04 33.5 0.0**
comp=Z,0.9nm,0.8s,baz=198,slow=13,SNR=3.2
LSZ Lusaka 92.87 255 *e*P **P 19 04 34.0 -1.1**
comp=Z,30nm,1.0s
BURAR Bucovina Array 92.99 318 ⇑P **P 19 04 35.3 +0.4**
BURAR Bucovina Array 92.99 318 ⇑*i*P **P 19 04 35.3 +0.4**
BUR08 Bucovina Ar. S 93.00 318 *e*P **P 19 04 34.9 -0.1**
DAWY Dawson 93.26 26 *e*P **P 19 04 35.5 -0.3**
LVV L'vov 93.56 320 *e*P P 19 04 44.0 +6.7
LVV *e* 19 15 03.9
LVV MLR MLR
comp=Z,500nm,21.0s
LVV MLR MLR
comp=N,200nm,20.0s
LVV MLR MLR
comp=E,550nm,21.0s
SANT Santorini 93.69 306 PFAKE 19 04 50.0 +12
SANT LR LR
comp=Z,466nm,22.0s
KWP Kalwaria Pacla 94.44 320 PFAKE 19 04 50.0 +8.6
KWP LR LR
comp=Z,908nm,20.0s
HYT Haines Junctio 94.69 29 *e*P **P 19 04 42.8 +0.3**
HYT *e*pP **pP 19 04 50.0 -1.4**
INK Inuvik 94.70 21 P **P 19 04 41.2 -0.9**
comp=Z,6.6nm,1.1s
INK Inuvik 94.70 21 LR LR 19 49 28.1
comp=Z,559nm,19.3s,baz=287,slow=37
DRGR 94.77 317 ⇑P P 19 04 50.5 +7.4
DRGR 94.77 317 ⇑*i*P P 19 04 50.5 +7.4
KOLS Kolonicke sedl 94.80 319 *e*P P 19 04 49.8 +6.7
KOLS Kolonicke sedl 94.80 319 *e*P P 19 04 49.8 +6.7
UZH Uzhgorod 94.83 319 *e*P **P 19 04 43.5 +0.3**
UZH *e* 19 04 58.7
UZH *e*S **S 19 15 50.7 -4.6**
VTS Vitosha 94.88 313 ⇑P **P 19 04 44.0 +0.2**
VTS Vitosha 94.88 313 ⇑*i*P **P 19 04 44.0 +0.2**
CRVS Cervenica-Dubn 95.34 319 *e*P P 19 04 53.8 +8.2
CRVS Cervenica-Dubn 95.34 319 *e*P P 19 04 53.8 +8.2
STHS Stebnicka Huta 95.41 320 *e*P P 19 04 55.1 +9.2
STHS Stebnicka Huta 95.41 320 *e*P P 19 04 55.1 +9.2
BOSA Boshof 95.46 242 P **P 19 04 45.8 -0.9**
BOSA Boshof 95.46 242 P **P 19 04 45.8 -0.9**
comp=Z,3.1nm,0.8s,baz=239,slow=15,SNR=3.8
BOSA LR LR 19 46 29.3
comp=Z,1μm,18.7s,baz=85,slow=35
PSZ Piszkesteto 96.51 318 PFAKE 19 05 00.0 +9.0
PSZ LR LR
comp=Z,1μm,22.0s
MAIT Maitri 97.29 198 *e*P P 19 04 43.0 -11
OKC Ostrava-Krasne 97.33 320 *e*PP PP 19 08 54.4 +3.2
OKC *e*x x 19 09 02.7
OKC *e*SKS **SKSac 19 15 27.9 -2.2**
OKC *e*SP **SP 19 17 38.6 +0.3**
OKC *e*x x 19 23 25.0
OKC AMS AMS 19 53 20.0
comp=Z,900nm,21.0s
TIR Tirane 97.51 312 PFAKE 19 05 10.0 +14
TIR LR LR
comp=Z,735nm,21.0s
HFS Hagfors 97.51 331 PKKPbc PKKPbc 19 21 30.1 -4.5
HFS Hagfors 97.51 331 PKKPbc PKKPbc 19 21 30.1 -4.5
comp=Z,2.8nm,0.7s,baz=58,slow=3.7,SNR=3.6
HFS LR LR 19 54 11.9
comp=Z,2μm,21.5s,baz=68,slow=39
WRAK Wrangell Islan 98.30 33 PFAKE 19 05 10.0 +11
WRAK LR LR
comp=Z,680nm,21.0s
DPC Dobruska-Polom 98.38 321 *e*PP PP 19 09 04.3 +4.9
DPC *e*SKS **SKSac 19 15 33.7 -1.9**
DPC *e*SP **SP 19 17 51.0 +1.3**
DPC *e*SS **SS 19 23 16.3 +6.4**
DPC AMS AMS 19 52 50.0
VRAC Vranov 98.42 320 LR LR 19 54 44.2
comp=Z,982nm,19.7s,baz=78,slow=39
NB2 NORSAR Subarra 98.42 332 PKP Pdif 19 05 02.0 +2.7
comp=Z,3.8nm,0.9s,baz=74,slow=4.4
NB2 NORSAR Subarra 98.42 332 P Pdif 19 05 02.0 +2.7
comp=Z,3.9nm,0.9s,baz=74,slow=4.4
NB2 NORSAR Subarra 98.42 332 P Pdif 19 05 02.0 +2.7
baz=74,slow=4.4
NOA NORSAR Array B 98.42 332 P Pdif 19 05 01.1 +1.8
NOA NORSAR Array B 98.42 332 P Pdif 19 05 01.1 +1.8
comp=Z,2.4nm,0.8s,baz=74,slow=4.4,SNR=4.4
NOA LR LR 19 51 54.6
comp=Z,1μm,21.7s,baz=65,slow=37
UPC Upice 98.54 321 *e*PP PP 19 09 05.3 +4.8
DLBC Dease Lake 98.95 30 LR LR 19 43 00.8
comp=Z,827nm,21.8s,baz=286,slow=31
SUR Sutherland 99.09 238 PFAKE 19 05 10.0 +6.9
SUR LR LR
comp=Z,3μm,22.0s
TREC Trest 99.13 320 *e*SKS **SKSac 19 15 35.5 -3.8**
TREC *e*SP **SP 19 18 02.2 +4.3**
TREC *e*x x 19 23 32.7
TREC AMS AMS 19 53 00.0
comp=Z,1μm,20.6s
PVCC Panska Ves 99.44 322 *e*PP PP 19 09 05.2 -2.1
PVCC *e*x x 19 09 18.6
PVCC *e*SKS **SKSac 19 15 39.4 -1.3**
PVCC *e*SP **SP 19 18 09.2 +8.2**
PVCC *e*SS **SS 19 23 28.8 +4.3**
PVCC AMS AMS 19 52 00.0
comp=Z,1μm,23.0s
PRU Pruhonice 99.58 321 *e*PP PP 19 09 12.4 +4.0
PRU *e*x x 19 09 19.7
PRU *e*x x 19 09 39.3
PRU *e*SKS **SKSac 19 15 36.6 -4.8**
PRU *e*SP **SP 19 18 04.8 +2.2**
PRU *e*SS **SS 19 23 31.0 +4.5**
PRU *e*x x 19 27 32.5
PRU AMS AMS 19 52 30.0
comp=Z,1μm,19.5s
PRA Prague 99.63 321 PP PP 19 09 13.0 +4.2
PRA SKS **SKSac 19 15 37.0 -4.7**
KONO Kongsberg 99.63 331 PFAKE 19 05 20.0 +15
KONO LR LR
comp=Z,2μm,22.0s
BRG Berggiesshubel 99.74 322 *e*PDIF Pdif 19 05 30.9 +26
comp=Z,28nm,1.9s
BRG *e*PP **PP 19 09 14.1 +4.5**
comp=Z,3.5nm,1.0s
BRG SKS **SKSac 19 15 44.0 +1.8**
BRG SDIF **S 19 16 41.0 +3.7**
BRG PS PS 19 17 57.0 -11
BRG SS SS 19 22 58.0 -31
BRG
comp=N,1μm,25.4s
BRG
comp=E,958nm,21.3s

BRG
comp=Z,2µm,25.7s
CLL Collm 100.21 323 *e*P **Pdif** **19 05 15.0 +7.6**
CLL *e* 19 09 22.0
CLL *e* 19 15 41.0
CLL *e*S **Sdif** **19 16 44.0 +2.9**
CLL pmax pmax
comp=Z,65nm,2.7s
CLL MLR MLR
comp=Z,1µm,20.5s
CLL Collm 100.21 323 *e*pPdif **Pdif** **19 05 15.0 +7.6**
comp=Z,65nm,2.7s
CLL *e*PP PP 19 09 22.0 +8.9
CLL *e* 19 15 19.0
CLL *e*SKSac **SKSac** **19 15 41.0 -3.5**
CLL *e*Sdif **Sdif** **19 16 44.0 +2.9**
CLL *e*SP **SP** **19 18 08.0 -1.3**
CLL *e*PPS PPS 19 19 07.0
CLL *e*SS **SS** **19 23 32.0 -3.2**
CLL *e*SSS SSS 19 27 24.0
CLL *e*SSSS 19 30 54.0
CLL Lm MLR 19 57 00.0
comp=Z,1µm,20.5s
GERES GERESS Array B 100.38 320 P **Pdif** **19 05 10.6 +2.2**
GERES PP **PP** **19 09 18.3 +3.6**
GERES PKKPbc **PKKPbc** **19 21 21.6 -4.6**
GERES GERESS Array B 100.38 320 P **Pdif** **19 05 10.6 +2.2**
comp=Z,0.6nm,0.7s,baz=64,slow=3.1,SNR=5.7
GERES PP **PP** **19 09 18.3 +3.6**
comp=Z,0.9nm,0.8s,baz=76,slow=5.6,SNR=4.8
GERES PKKPbc **PKKPbc** **19 21 21.6 -4.6**
comp=Z,1.3nm,0.8s,baz=242,slow=2.9,SNR=4.5
KHC Kasperske Hory 100.39 320 *e*PP PP 19 09 13.6 -1.1
KHC *e*x x 19 09 25.2
KHC *e*x x 19 09 33.4
KHC *e*SKS 19 15 43.7
KHC *e*SP **SP** **19 18 12.0 +0.6**
KHC *e*SS **SS** **19 23 39.5 +1.5**
KHC *e*x x 19 27 50.4
KHC AMS AMS 19 56 50.0
comp=Z,1µm,18.1s
CUC Castrocucco 100.77 311 PFAKE 19 05 20.0 +10
CUC LR LR
comp=Z,741nm,22.0s
CEL Celeste 101.02 309 PFAKE 19 05 20.0 +8.6
CEL LR LR
comp=Z,744nm,22.0s
SNAA Sanae 101.19 196 *e*Pdif **Pdif** **19 05 10.7 -0.7**
comp=Z,4.8nm,0.8s
MOX Moxa 101.23 322 *e*L L 19 59 11.9
comp=Z,1µm,19.2s
GRF Grafenberg Arr 101.73 321 *e*PP PP 19 09 28.5 +3.8
GRF *e*L L 19 54 19.4
comp=Z,965nm,21.9s
RKT Rikitea 103.47 113 *e*LR LR 19 39 17.6
comp=Z,835nm,24.5s
VLC Villacollemand 103.78 316 PFAKE 19 05 30.0 +6.5
VLC LR LR
comp=Z,1µm,22.0s
TUE Stuetta 103.84 319 PFAKE 19 05 40.0 +16
TUE LR LR
comp=Z,1µm,22.0s
BFO Black Forest 103.95 321 PFAKE 19 05 40.0 +16
BFO LR LR
comp=Z,1µm,20.0s
YKA Yellowknife Ar 104.23 23 Pdif **Pdif** **19 05 32.9 +7.9**
YKA PKKPbc **PKKPbc** **19 21 10.3 -4.9**
YKA Yellowknife Ar 104.23 23 Pdiff **Pdif** **19 05 32.9 +7.9**
comp=Z,1.7nm,0.8s,baz=314,slow=4.6,SNR=5.3
YKA PKKPbc **PKKPbc** **19 21 10.3 -4.9**
comp=Z,2.1nm,0.9s,baz=126,slow=2.1,SNR=3.8
ECH Echery 104.73 321 PFAKE 19 05 40.0 +12
ECH LR LR
comp=Z,862nm,20.0s
WLF Walferdange 104.87 322 PFAKE 19 05 40.0 +12
WLF LR LR
comp=Z,1µm,20.0s
SUMG Summit 105.26 354 *i* P **PKKPbc** **19 21 09.7 -3.2**
comp=Z,8.1nm,0.9s
VSL Villasalto 105.72 312 PFAKE 19 10 00.0
VSL LR LR
comp=Z,652nm,21.0s
LPG La Plagne 105.86 318 *e*PKIKP **PKiKP** **19 09 43.0 -2.6**
comp=Z,46nm,1.5s
LPG La Plagne 105.86 318 *e*PKPdf **PKiKP** **19 09 43.0 -2.6**
LPL La Plagne 105.87 318 *e*PKIKP **PKiKP** **19 09 45.8 +0.3**
comp=Z,69nm,1.4s
LPL La Plagne 105.87 318 *e*PKPdf **PKiKP** **19 09 45.8 +0.3**
SBF Sospel 105.90 316 *e*PKIKP **PKiKP** **19 09 44.3 -1.1**
comp=Z,46nm,1.1s
SBF Sospel 105.90 316 *e*PKPdf **PKiKP** **19 09 44.3 -1.1**
NLWA Neilton Lookou 106.00 40 PFAKE 19 10 00.0
NLWA LR LR
comp=Z,751nm,22.0s
BNI Bardonecchia 106.05 318 PFAKE 19 10 00.0
BNI LR LR
comp=Z,2µm,21.0s
MBDF Montbardon 106.09 317 *e*PKIKP **PKiKP** **19 09 43.7 -2.2**
MBDF Montbardon 106.09 317 *e*PKPdf **PKiKP** **19 09 43.7 -2.2**
FRF La Foret Royal 106.54 316 *e*PKIKP **PKiKP** **19 09 43.9 -2.6**
comp=Z,29nm,1.2s
FRF La Foret Royal 106.54 316 *e*PKPdf **PKiKP** **19 09 43.9 -2.6**
ORIF Oris-en-Rattie 106.63 318 *e*PKIKP **PKiKP** **19 09 44.6 -2.2**
comp=Z,9.9nm,1.0s
ORIF Oris-en-Rattie 106.63 318 *e*PKPdf **PKiKP** **19 09 44.6 -2.2**
SMRF Simiane la Rot 107.14 317 *e*PKIKP **PKiKP** **19 09 45.4 -2.3**
comp=Z,29nm,1.4s
SMRF Simiane la Rot 107.14 317 *e*PKPdf **PKiKP** **19 09 45.4 -2.3**
LOR Lormes 107.15 321 *e*PKIKP **PKiKP** **19 09 45.4 -2.2**
comp=Z,9.6nm,0.9s
LOR Lormes 107.15 321 *e*PKPdf **PKiKP** **19 09 45.4 -2.2**
SSB Saint Sauveur 107.40 318 PFAKE 19 10 00.0
SSB LR LR
comp=Z,1µm,20.0s
SSF Saint Saulge 107.44 320 *e*PKIKP **PKiKP** **19 09 46.6 -1.5**
SSF Saint Saulge 107.44 320 *e*PKPdf **PKiKP** **19 09 46.6 -1.5**
LASF Ste Croix 108.28 317 *e*PKIKP **PKiKP** **19 09 48.1 -1.7**
LASF Ste Croix 108.28 317 *e*PKPdf **PKiKP** **19 09 48.1 -1.7**
BORG Borgarnes 108.73 344 PFAKE 19 10 00.0
BORG LR LR
comp=Z,2µm,22.0s
HAWA Hanford 109.14 40 PFAKE 19 10 00.0
HAWA LR LR
comp=Z,835nm,22.0s
CAF Calviac 109.17 319 *e*PKIKP **PKiKP** **19 09 51.6 +0.2**
comp=Z,14nm,1.1s
CAF Calviac 109.17 319 *e*PKPdf **PKiKP** **19 09 51.6 +0.2**
NEW Newport 109.86 37 PFAKE 19 10 00.0
NEW LR LR
comp=Z,622nm,21.0s
BMO Blue Mountains 111.19 40 PFAKE 19 10 10.0
BMO LR LR
comp=Z,531nm,20.0s
WVOR Wild Horse Val 111.26 43 PFAKE 19 10 10.0
WVOR LR LR
comp=Z,617nm,20.0s
SFJD Kangerlussuaq 111.75 356 *i* P **PKKPdf** **19 21 10.1 +0.1**
comp=Z,6.5nm,0.8s
SFJD Kangerlussuaq 111.75 356 PFAKE 19 10 10.0
SFJD LR LR
comp=Z,563nm,19.0s
SJPF Ste Jean 112.06 318 *e*PKIKP **PKiKP** **19 09 55.8 -1.1**
comp=Z,13nm,1.0s
SJPF Ste Jean 112.06 318 *e*PKIKP **PKiKP** **19 09 55.8 -1.1**
SJPF Ste Jean 112.06 318 *e*PKPdf **PKiKP** **19 09 55.8 -1.1**
SWMT Swartz Lake 112.07 37 *e*PKPdf **PKiKP** **19 09 57.4 +0.4**
MSO Missoula 112.43 37 ⇑PKiKP **PKiKP** **19 09 57.2 -0.5**
baz=112
MFID Camas Ranch 112.75 41 ⇑PKiKP **PKiKP** **19 09 57.9 -0.5**
baz=113
TAM Tamanrasset 112.79 295 PFAKE 19 10 10.0
TAM LR LR
comp=Z,824nm,22.0s
BMN Battle Mountai 113.01 45 PFAKE 19 10 10.0
BMN LR LR
comp=Z,556nm,20.0s
HLID Hailey 113.62 41 *e*PKiKP **PKiKP** **19 10 00.1 0.0**
HLID LR LR
comp=Z,533nm,19.0s
LRM Limekiln Ridge 113.81 38 *e*PKPdf **PKiKP** **19 10 00.0 -0.5**
ISA Isabella 113.82 50 ⇑PKiKP **PKiKP** **19 10 00.4 -0.2**
baz=114
TPH Tonopah 113.90 47 PFAKE 19 10 10.0
TPH LR LR
comp=Z,888nm,22.0s

DLMT Dillon 113.94 38 *e*PKiKP **PKiKP** **19 10 00.6 -0.1**
FFC Flin Flon 114.17 26 PFAKE 19 10 10.0 +9.4
FFC LR LR
comp=Z,340nm,19.0s
D17A Six Diamond Ra 114.21 36 ⇑PKiKP PKPdf 19 10 00.7 -0.4
baz=114
ELK Elko 114.27 44 *e*PKiKP **PKiKP** **19 10 01.6 +0.1**
EGMT Eagleton 114.29 35 PFAKE 19 10 10.0 +8.8
EGMT LR LR
comp=Z,638nm,21.0s
BOZ Bozeman (W) 114.40 38 *e*PKIKP PKPdf 19 10 01.2 -0.3
BOZ MLR MLR
comp=Z,607nm,20.0s
BOZ Bozeman (W) 114.40 38 *e*PKiKP **PKiKP** **19 10 01.2 -0.3**
BOZ LR LR
comp=Z,607nm,20.0s
MPMC Manual Prospec 114.44 49 ⇓PKiKP **PKiKP** **19 10 01.9 0.0**
baz=114
EDW2 Edwards Air Fo 114.46 51 ⇑PKiKP PKPdf 19 10 01.6 -0.2
baz=114
C19A Slack Wire Ran 114.85 35 ⇓PKiKP **PKiKP** **19 10 01.8 -0.4**
baz=115
F17A Fitzpatrick Pl 114.86 37 ⇑PKiKP **PKiKP** **19 10 02.3 -0.1**
baz=115
BFSC Mount Baldy Ra 114.94 51 ⇓PKiKP **PKiKP** **19 10 01.5 -1.3**
baz=115
R11A Troy Canyon, C 114.99 46 *e*PKiKP PKPdf 19 10 03.0 +0.1
R11A Troy Canyon, C 114.99 46 ⇓PKiKP **PKiKP** **19 10 02.5 -0.4**
baz=115
B20A Solberg Farm, 115.04 34 ⇑PKiKP **PKPdf** **19 10 02.7 +0.1**
baz=115
GSC Goldstone 115.22 50 *e*PKiKP **PKPdf** **19 10 03.8 +0.5**
GSC Goldstone 115.22 50 *e*PKiKP **PKPdf** **19 10 03.8 +0.5**
GSC Goldstone 115.22 50 ⇓PKiKP **PKiKP** **19 10 02.5 -0.9**
baz=115
D19A Cripps Ranch, 115.25 35 ⇑PKiKP **PKiKP** **19 10 02.3 -0.7**
baz=115
ESDC Sonseca Array 115.35 315 PKP **PKPdf** **19 10 02.5 -0.9**
ESDC PP PP 19 11 09.4 +5.2
ESDC PKKPbc **PKKPbc** **19 20 37.5 -1.2**
ESDC Sonseca Array 115.35 315 PKP **PKPdf** **19 10 02.5 -0.9**
comp=Z,0.6nm,0.6s,baz=11,slow=3.0,SNR=4.8
ESDC PP PP 19 11 09.4 +5.2
comp=Z,0.7nm,0.8s,baz=66,slow=6.5,SNR=4.4
ESDC PKKPbc **PKKPbc** **19 20 37.5 -1.2**
comp=Z,1.1nm,0.7s,baz=279,slow=3.2,SNR=7.2
F18A Big Timber 115.43 37 ⇓PKiKP **PKiKP** **19 10 03.3 -0.2**
baz=115
C20A Veseth Ranch, 115.45 34 ⇓PKiKP **PKiKP** **19 10 02.9 -0.4**
baz=115
HVU Hansel Valley 115.50 42 *e*PKIKP **PKPdf** **19 10 02.1 -1.7**
HVU Hansel Valley 115.50 42 *e*PKPdf **PKPdf** **19 10 02.1 -1.7**
PAB San Pablo 115.68 315 PFAKE 19 10 20.0 +16
PAB LR LR
comp=Z,1µm,21.0s
E19A Rath Farm, Rou 115.69 36 ⇓PKiKP **PKiKP** **19 10 03.3 -0.6**
baz=116
LKWY Lake 115.69 38 PFAKE 19 10 20.0 +16
LKWY LR LR
comp=Z,822nm,20.0s
BGU Big Grassy Mou 115.70 43 *e*PKPdf **PKPdf** **19 10 04.1 -0.1**
BGU *ep*PKPdf PKiKP 19 10 11.3 +7.1
RRI2 Red Ridge 115.71 40 *e*PKPdf **PKPdf** **19 10 04.2 -0.1**
D20A Manuel Ranch, 115.72 35 ⇑PKiKP **PKiKP** **19 10 03.3 -0.6**
baz=116
A22A Carney Farms, 115.87 32 ⇑PKiKP **PKiKP** **19 10 03.6 -0.5**
baz=116
C21A Desert Coulee 115.90 34 ⇑PKiKP **PKiKP** **19 10 02.9 -1.3**
baz=116
REDW Red Top Meadow 116.01 40 *e*PKPdf **PKPdf** **19 10 04.9 +0.1**
LOHW Long Hollow 116.04 39 *e*PKPdf **PKPdf** **19 10 04.8 0.0**
E20A Meyer Farm, Mu 116.04 35 ⇓PKiKP **PKiKP** **19 10 04.3 -0.2**
baz=116
H18A Shoshone NF, C 116.09 38 ⇑PKiKP **PKiKP** **19 10 04.3 -0.6**
baz=116
PFO Pinyon Flat Ob 116.09 51 PFAKE 19 10 20.0 +15
PFO LR LR
comp=Z,1µm,22.0s
PFO Pinyon Flat Ob 116.09 51 ⇓PKiKP **PKPdf** **19 10 04.5 -0.6**
baz=116
RLMT Red Lodge 116.10 37 PFAKE 19 10 20.0 +15
RLMT LR LR
comp=Z,622nm,20.0s
AHID Auburn Hatcher 116.14 40 PFAKE 19 10 20.0 +15
AHID LR LR
comp=Z,601nm,20.0s
DUG Dugway 116.18 43 PKiKP **PKPdf** **19 10 05.3 +0.2**
DUG MLR MLR
comp=Z,607nm,22.0s
DUG Dugway 116.18 43 PKPdf **PKPdf** **19 10 05.3 +0.2**
DUG LR LR
comp=Z,607nm,22.0s
DUG Dugway 116.18 43 ⇓PKiKP **PKPdf** **19 10 04.7 -0.4**
baz=116
GMRC Granite Mounta 116.29 50 ⇓PKiKP **PKiKP** **19 10 05.7 +0.3**
baz=116
BELC Belle Mtn. Jos 116.31 51 ⇑PKiKP **PKPdf** **19 10 04.9 -0.6**
baz=116
MONP Monument Peak 116.37 52 ⇑PKiKP **PKPdf** **19 10 04.8 -1.0**
baz=116
HWUT Hardware Ranch 116.38 42 *e*PKPdf **PKPdf** **19 10 04.5 -1.0**
HWUT LR LR
comp=Z,676nm,22.0s
D21A La Casta Ranch 116.38 34 ⇓PKiKP **PKPdf** **19 10 04.6 -0.6**
baz=116
C22A Vida 116.61 33 ⇓PKiKP **PKPdf** **19 10 05.4 -0.2**
baz=116
B23A Brockton 116.67 32 ⇑PKiKP **PKPdf** **19 10 05.4 -0.3**
baz=116
G20A Bridger 116.69 37 ⇑PKiKP **PKPdf** **19 10 05.7 -0.2**
baz=117
DVTC Desert V Tower 116.70 52 ⇓PKiKP **PKPdf** **19 10 06.2 -0.1**
baz=117
MVO Moncorvo 116.79 318 *e*SS SS 19 27 25.1 +5.7
MVO Moncorvo 116.79 318 *e*LR LR 20 00 56.4
comp=Z,609nm,20.0s
D22A Cohagen 116.79 34 ⇑PKiKP **PKPdf** **19 10 05.9 -0.1**
baz=117
SWSC Sam W. Stewart 116.84 52 ⇑PKiKP **PKPdf** **19 10 06.1 -0.3**
baz=117
BC3 Big Chuckawall 116.86 51 ⇓PKiKP **PKPdf** **19 10 06.3 -0.2**
baz=117
IRM Iron Mountain 116.91 50 ⇓PKiKP **PKPdf** **19 10 05.9 -0.6**
baz=117
CCUT Cedar City 116.92 46 *e*PKPdf **PKPdf** **19 10 07.5 +0.8**
C23A Lambert 116.96 33 ⇓PKiKP **PKPdf** **19 10 06.0 -0.3**
baz=117
F21A Absaloka Mine, 117.00 36 ⇓PKiKP **PKPdf** **19 10 06.0 -0.4**
baz=117
LAO LASA Array 117.03 34 PFAKE 19 10 20.0 +14
LAO LR LR
comp=Z,678nm,22.0s
M17A Scullys Gap (B 117.04 41 ⇓PKiKP **PKPdf** **19 10 06.5 -0.3**
baz=117
DGMT Dagmar 117.09 32 PFAKE 19 10 20.0 +14
DGMT LR LR
comp=Z,541nm,20.0s
BW06 Boulder Array 117.12 40 PFAKE 19 10 20.0 +13
BW06 LR LR
comp=Z,903nm,22.0s
PDAR Pinedale Array 117.12 40 PKP **PKPdf** **19 10 06.0 -1.0**
PDAR PKKPbc **PKKPbc** **19 20 30.6 -2.3**
PDAR Pinedale Array 117.12 40 PKP **PKPdf** **19 10 06.0 -1.0**
comp=Z,2.6nm,0.8s,baz=3.9,slow=2.2,SNR=15
PDAR PKKPbc **PKKPbc** **19 20 30.6 -2.3**
comp=Z,4.3nm,0.9s,baz=127,slow=4.9,SNR=20
J19A Crowheart 117.19 39 ⇓PKiKP **PKPdf** **19 10 06.5 -0.5**
baz=117
POLO Lamas de Olo 117.20 319 *e*PKP **PKPdf** **19 10 07.7 +0.7**
H20A Greybull 117.21 37 ⇓PKiKP **PKPdf** **19 10 06.3 -0.6**
baz=117
PGAV Gavieira, Arco 117.23 319 *e*LR LR 19 54 03.1
comp=Z,550nm,20.0s
L18A Fontenelle, Gr 117.23 41 ⇓PKiKP **PKPdf** **19 10 06.5 -0.7**
baz=117
G21A Lodge Grass 117.28 36 ⇑PKiKP **PKPdf** **19 10 06.6 -0.5**
baz=117
D23A Lindsay 117.32 34 ⇓PKiKP **PKPdf** **19 10 06.8 -0.2**
baz=117
E22A Miles City 117.33 35 ⇓PKiKP **PKPdf** **19 10 06.8 -0.2**
baz=117
MVU Marysvale 117.34 45 PFAKE 19 10 20.0 +12
MVU LR LR
comp=Z,1µm,22.0s
A25A Svangstu Ranch 117.37 31 ⇓PKiKP **PKPdf** **19 10 06.7 -0.2**
baz=117

I20A Worland 117.41 38 ⇑PKiKP **PKPdf** **19 10 07.1 -0.3**
baz=117
MTE Manteigas 117.50 318 *e*PKP **PKPdf** **19 10 03.1 -4.4**
MTE Manteigas 117.50 318 *e*LR LR 20 01 09.7
comp=Z,735nm,20.0s
MTE Manteigas 117.50 318 PFAKE 19 10 20.0 +12
MTE LR LR
comp=Z,872nm,20.0s
W13A Hualapai Mount 117.52 49 ⇓PKiKP **PKPdf** **19 10 07.2 -0.7**
baz=117
F22A Rosebud 117.53 35 ⇓PKiKP **PKPdf** **19 10 07.3 -0.1**
baz=117
C24A Savage 117.54 33 ⇑PKiKP **PKPdf** **19 10 07.3 -0.1**
baz=117
Y12C Blythe 117.54 51 ⇓PKiKP **PKPdf** **19 10 07.5 -0.2**
baz=117
K19A Absolon Red Bu 117.55 39 ⇑PKiKP **PKPdf** **19 10 07.1 -0.6**
baz=117
L19A Farson 117.58 40 ⇓PKiKP **PKPdf** **19 10 07.5 -0.3**
baz=118
E23A Ismay 117.66 34 ⇑PKiKP **PKPdf** **19 10 07.4 -0.2**
baz=118
TMUT Trail Mountain 117.68 44 *e*PKPdf **PKPdf** **19 10 08.4 +0.2**
TMUT *ep*PKPdf **pPKPdf** **19 10 15.8 -1.6**
H21A Big Horn, Sher 117.71 37 ⇑PKiKP **PKPdf** **19 10 07.6 -0.3**
baz=118
PCBR Castelo Branco 117.71 317 *e*PKP **PKPdf** **19 10 07.8 0.0**
J20A Shoshoni 117.75 38 ⇑PKiKP **PKPdf** **19 10 07.6 -0.4**
baz=118
G22A Birney 117.82 36 ⇓PKiKP **PKPdf** **19 10 07.4 -0.7**
baz=118
PMRV Marv??o 117.84 317 *e*SS SS 19 27 38.2 +5.1
Q16A Castle Valley 117.88 44 *e*PKPdf **PKPdf** **19 10 08.7 +0.2**
Q16A Castle Valley 117.88 44 ⇓PKiKP **PKiKP** **19 10 08.6 +0.1**
baz=118
A26A Wade Farm, Ken 117.95 31 ⇑PKiKP **PKPdf** **19 10 08.1 0.0**
baz=118
I21A Big Trails, Te 118.00 38 ⇓PKiKP **PKPdf** **19 10 07.8 -0.7**
baz=118
M19A Rock Springs 118.01 41 ⇑PKiKP **PKPdf** **19 10 08.0 -0.7**
baz=118
TOA0 Torodi Ar. Sit 118.05 285 *e*PKPdf **PKPdf** **19 10 07.5 -1.7**
TORD Torodi Ar. Bea 118.05 285 PKP **PKPdf** **19 10 08.1 -1.1**
TORD PKKPbc **PKKPab** **19 20 30.9 -0.9**
TORD Torodi Ar. Bea 118.05 285 PKP **PKPdf** **19 10 08.1 -1.1**
comp=Z,7.0nm,0.7s,baz=65,slow=1.7,SNR=43
TORD PKKPbc **PKKPab** **19 20 30.9 -0.9**
comp=Z,2.4nm,0.8s,baz=278,slow=3.4,SNR=7.8
F23A Volborg 118.05 35 ⇓PKiKP **PKPdf** **19 10 08.2 -0.3**
baz=118
H22A Clearmont 118.14 36 ⇑PKiKP **PKPdf** **19 10 08.2 -0.5**
baz=118
J21A Lysite 118.15 38 ⇑PKiKP **PKPdf** **19 10 08.1 -0.8**
baz=118
PBAR Barrancos 118.16 315 *e*PKP **PKPdf** **19 10 05.7 -3.1**
E24A Baker 118.18 34 ⇑PKiKP **PKPdf** **19 10 08.0 -0.6**
baz=118
SRU San Rafael 118.24 44 *e*PKIKP **PKPdf** **19 10 08.7 -0.5**
SRU San Rafael 118.24 44 *e*PKPdf **PKPdf** **19 10 08.7 -0.5**
L20A Wamsutter 118.29 40 ⇑PKiKP **PKPdf** **19 10 08.6 -0.6**
baz=118
A27A Ledoux Ranch, 118.31 30 ⇑PKiKP **PKPdf** **19 10 08.5 -0.2**
baz=118
G23A Biddle 118.36 35 ⇓PKiKP **PKPdf** **19 10 08.1 -0.9**
baz=118
D25A Fairfield 118.37 33 ⇑PKiKP **PKPdf** **19 10 08.3 -0.7**
baz=118
I22A 9 Mile Ranch, 118.44 37 ⇓PKiKP **PKPdf** **19 10 08.7 -0.7**
baz=118
PMTG Montargil 118.58 317 *e*PKP **PKPdf** **19 10 09.0 -0.5**
O19A Miners Draw (B 118.63 42 ⇑PKiKP **PKPdf** **19 10 09.0 -0.8**
baz=118
M20A Sweetwater, Wa 118.65 40 ⇑PKiKP **PKPdf** **19 10 09.0 -1.0**
baz=118
K21A Alcova 118.65 39 ⇓PKiKP **PKPdf** **19 10 09.1 -0.8**
baz=118
EVO Evora 118.68 316 *e*PKIKP **PKPdf** **19 10 09.9 +0.1**
comp=Z,95nm,1.7s
E25A Miller Ranch, 118.72 33 ⇓PKiKP **PKPdf** **19 10 09.3 -0.4**
baz=119
EVOP Sao Brissos 118.76 316 *e*PKIKP **PKPdf** **19 10 09.9 0.0**
EVOP Sao Brissos 118.76 316 *e*PKPdf **PKPdf** **19 10 09.9 0.0**
A28A Rude Farm, Bot 118.83 30 ⇑PKiKP **PKPdf** **19 10 09.3 -0.5**
baz=119
G24A Alzada 118.85 35 ⇓PKiKP **PKPdf** **19 10 08.9 -1.1**
baz=119
D26A Manning 118.92 32 ⇑PKiKP **PKPdf** **19 10 09.1 -1.0**
baz=119
L21A Rawlins 118.93 39 ⇓PKiKP **PKPdf** **19 10 09.6 -0.8**
baz=119
N20A Spence Gulch, 118.93 41 ⇑PKiKP **PKPdf** **19 10 09.2 -1.3**
baz=119
PVAQ Vaqueiros 118.99 315 *e*SS SS 19 27 47.0 -1.0
PVAQ Vaqueiros 118.99 315 *e*LR LR 19 58 10.7
comp=Z,682nm,20.0s
F25A Bowman 119.03 34 ⇑PKiKP **PKPdf** **19 10 10.0 -0.3**
baz=119
P19A Cripple Cowboy 119.05 42 ⇓PKiKP **PKPdf** **19 10 10.0 -0.8**
baz=119
K22A Casper 119.09 38 ⇓PKiKP **PKPdf** **19 10 09.9 -0.8**
baz=119
H24A Dirks Ranch, A 119.11 36 ⇓PKiKP **PKPdf** **19 10 09.7 -0.9**
baz=119
M21A Separation Pea 119.12 40 ⇑PKiKP **PKPdf** **19 10 10.0 -0.9**
baz=119
RWWY Rawlins 119.17 40 *e*PKPdf **PKPdf** **19 10 10.3 -0.7**
RWWY *ep*PKPdf **pPKPdf** **19 10 18.0 -2.2**
WUAZ Wupatki 119.22 48 PFAKE 19 10 20.0 +8.9
WUAZ LR LR
comp=Z,673nm,20.0s
WUAZ Wupatki 119.22 48 ⇓PKiKP **PKPdf** **19 10 10.1 -1.0**
baz=119
PNCL Nicolau / Gran 119.24 316 *e*PKP **PKPdf** **19 10 11.0 +0.2**
E26A Carlson Angus 119.25 33 ⇑PKiKP **PKPdf** **19 10 09.8 -0.9**
baz=119
O20A White River Ci 119.30 42 *e*PKPdf **PKPdf** **19 10 11.4 +0.2**
O20A White River Ci 119.30 42 ⇑PKiKP **PKPdf** **19 10 11.1 -0.1**
baz=119
N21A Black Mountain 119.45 41 ⇓PKiKP **PKPdf** **19 10 11.2 -0.3**
baz=119
L22A Ellis Ranch, M 119.48 39 ⇓PKiKP **PKPdf** **19 10 10.7 -0.8**
baz=119
G25A Newell 119.50 35 ⇑PKiKP **PKPdf** **19 10 10.3 -0.9**
baz=119
P20A De Beque 119.51 42 ⇑PKiKP **PKPdf** **19 10 11.2 -0.4**
baz=119
214A Organ Pipe Nat 119.55 52 ⇑PKiKP **PKPdf** **19 10 11.1 -0.6**
baz=120
I24A Kuemmerle Ranc 119.58 36 ⇓PKiKP **PKPdf** **19 10 11.3 -0.2**
baz=119
B29A Wagenman Farm, 119.58 30 ⇑PKiKP **PKPdf** **19 10 10.6 -0.7**
baz=119
G27A Dupree 119.66 34 ⇓PKiKP **PKiKP** **19 10 11.8 +0.2**
baz=120
MORF Marmelete 119.70 315 *e*PKP **PKPdf** **19 10 12.2 +0.4**
O21A Pagoda 119.77 41 ⇑PKiKP **PKPdf** **19 10 11.2 -0.9**
baz=120
RSSD Black Hills 119.77 36 *e*PKIKP **PKPdf** **19 10 10.8 -1.2**
RSSD Black Hills 119.77 36 *e*PKPdf **PKPdf** **19 10 10.8 -1.2**
RTC Rabat Centre 119.82 311 PFAKE 19 10 20.0 +7.9
RTC LR LR
comp=Z,442nm,20.0s
Q20A Ridgley Place, 119.84 43 ⇑PKiKP **PKPdf** **19 10 12.0 -0.2**
baz=120
J24A Dixon Ranch, L 119.86 37 ⇑PKiKP **PKPdf** **19 10 11.4 -0.7**
baz=120
MDND Maddock 119.86 30 *e*PKPdf **PKPdf** **19 10 11.1 -0.7**
MDND Maddock 119.86 30 ⇑PKiKP **PKPdf** **19 10 11.5 -0.3**
baz=120
G26A Maurine 119.90 34 ⇑PKiKP **PKPdf** **19 10 11.1 -0.9**
baz=120
L23A Garrett 119.90 39 ⇑PKiKP **PKPdf** **19 10 10.8 -1.5**
baz=120
I25A Rochford 120.01 36 ⇑PKiKP **PKPdf** **19 10 11.4 -1.0**
baz=120
PV01 Paradox Valley 120.05 44 *e*PKPdf **PKPdf** **19 10 12.7 0.0**
B30A Myrvik Farm, E 120.09 29 ⇓PKiKP **PKPdf** **19 10 11.2 -1.0**
baz=120
K24A Anderson Ranch 120.11 38 ⇓PKiKP **PKPdf** **19 10 11.1 -1.5**
baz=120
N22A Wattenberg Ran 120.12 40 ⇑PKiKP **PKPdf** **19 10 12.3 -0.6**
baz=120
S20A Disappointment 120.34 44 ⇓PKiKP **PKPdf** **19 10 12.9 -0.4**
baz=120
O22A Kremmling 120.40 41 ⇑PKiKP **PKPdf** **19 10 12.4 -1.0**
baz=120
N23A Red Feather La 120.40 40 ⇑PKiKP **PKPdf** **19 10 12.4 -1.0**

	baz=120							
I26A	New Underwood	120.51	35	⇑PKiKP	PKPdf	19 10 12.1	-1.1	
	baz=120							
C30A	Mose, Pekin	120.52	30	⇓PKiKP	PKPdf	19 10 12.1	-0.9	
	baz=120							
MVCO	Mesa Verde	120.54	45	*e*PKPdf	PKPdf	19 10 14.8	+1.1	
MVCO				LR	LR			
	comp=Z,908nm,21.0s							
MVCO	Mesa Verde	120.54	45	⇓PKiKP	PKPdf	19 10 13.7	0.0	
	baz=120							
P22A	Eagle	120.55	42	⇑PKiKP	PKPdf	19 10 12.8	-0.8	
	baz=120							
H27A	Howes	120.59	34	⇑PKiKP	PKPdf	19 10 12.6	-0.7	
	baz=120							
SMCO	Snowmass	120.62	42	*e*PKPdf	PKPdf	19 10 15.3	+1.2	
K25A	Mack Ranch, Ha	120.74	37	⇑PKiKP	PKPdf	19 10 12.6	-1.2	
	baz=121							
O23A	Lake Granby, G	120.78	41	⇓PKiKP	PKPdf	19 10 13.5	-0.6	
	baz=121							
D30A	Buchanan	120.78	30	⇓PKiKP	PKPdf	19 10 12.5	-1.1	
	baz=121							
M24A	Cheyenne	120.80	39	⇑PKiKP	PKPdf	19 10 13.3	-0.7	
	baz=121							
J26A	Sides Ranch, S	120.81	36	⇑PKiKP	PKPdf	19 10 13.2	-0.7	
	baz=121							
S21A	Coal Bank Pass	120.82	44	⇓PKiKP	PKPdf	19 10 14.4	0.0	
	baz=121							
Q22A	Crested Butte,	120.83	42	⇑PKiKP	PKiKP	19 10 14.5	+0.1	
	baz=121							
I27A	Quinn	120.95	35	⇓PKiKP	PKPdf	19 10 12.9	-1.1	
	baz=121							
TUC	Tucson	121.00	51	PFAKE		19 10 30.0	+15	
TUC				LR	LR			
	comp=Z,581nm,20.0s							
F29A	Eureka	121.07	32	⇑PKiKP	PKPdf	19 10 13.0	-1.1	
	baz=121							
K26A	Motz Farm, Whi	121.11	37	⇑PKiKP	PKPdf	19 10 13.1	-1.3	
	baz=121							
E30A	Jud	121.11	31	⇓PKiKP	PKPdf	19 10 13.9	-0.4	
	baz=121							
ISCO	Idaho Springs	121.20	41	*e*PKIKP	PKPdf	19 10 14.9	-0.1	
ISCO				MLR	MLR			
	comp=Z,680nm,21.0s							
ISCO	Idaho Springs	121.20	41	*e*PKPdf	PKPdf	19 10 14.9	-0.1	
ISCO				LR	LR			
	comp=Z,680nm,21.0s							
ISCO	Idaho Springs	121.20	41	⇑PKiKP	PKPdf	19 10 14.8	-0.1	
	baz=121							
V20A	Brimhall	121.22	46	⇓PKiKP	PKPdf	19 10 15.0	0.0	
	baz=121							
R22A	Saguache, Gunn	121.25	43	⇑PKiKP	PKPdf	19 10 14.9	-0.2	
	baz=121							
P23A	Jefferson	121.28	41	⇑PKiKP	PKPdf	19 10 14.2	-1.0	
	baz=121							
T21A	Navajo Lake	121.32	44	⇑PKiKP	PKiKP	19 10 15.6	+0.2	
	baz=121							
AGMN	Agassiz Nation	121.37	28	PFAKE		19 10 30.0	+15	
AGMN				LR	LR			
	comp=Z,786nm,21.0s							
S22A	4UR Ranch, Cre	121.44	43	⇑PKiKP	PKiKP	19 10 15.7	0.0	
	baz=121							
J27A	Elkhorn Farm,	121.47	36	⇓PKiKP	PKPdf	19 10 14.7	-0.4	
	baz=121							
I28A	Midland	121.50	35	⇓PKiKP	PKPdf	19 10 14.5	-0.6	
	baz=121							
U21A	Nageezi	121.51	45	⇓PKiKP	PKiKP	19 10 15.8	+0.1	
	baz=121							
W20A	Ramah	121.51	47	⇑PKiKP	PKPdf	19 10 15.6	-0.1	
	baz=121							
Q23A	Hartsel	121.53	42	⇓PKiKP	PKiKP	19 10 15.8	0.0	
	baz=121							
L26A	Underwood Farm	121.55	37	⇓PKiKP	PKPdf	19 10 15.1	-0.2	
	baz=121							
N25A	Grover	121.63	39	⇓PKiKP	PKPdf	19 10 15.2	-0.3	
	baz=122							
X20A	Quemado	121.77	47	⇓PKiKP	PKPdf	19 10 14.6	-1.6	
	baz=122							
J28A	Allard Ranch,	121.81	35	⇑PKiKP	PKPdf	19 10 15.2	-0.5	
	baz=122							
V21A	Milan	121.81	46	⇓PKiKP	PKiKP	19 10 16.3	-0.1	
	baz=122							
R23A	Moffat	121.90	42	⇓PKiKP	PKPdf	19 10 16.0	-0.3	
	baz=122							
Q24A	Divide	121.95	41	⇑PKiKP	PKPdf	19 10 16.0	-0.5	
	baz=122							
O25A	Wiggins	122.00	40	⇑PKiKP	PKPdf	19 10 15.7	-0.6	
	baz=122							
N26A	Koester Ranch,	122.16	39	⇑PKiKP	PKPdf	19 10 16.5	0.0	
	baz=122							
M27A	Reverse DX Ran	122.27	37	⇓PKiKP	PKPdf	19 10 16.2	-0.5	
	baz=122							
V22A	San Miguel Ran	122.28	45	⇓PKiKP	PKPdf	19 10 17.0	-0.1	
	baz=122							
P25A	Willow Gulch B	122.29	40	⇑PKiKP	PKiKP	19 10 17.0	-0.1	
	baz=122							
X21A	Alamocita Cree	122.34	47	⇑PKiKP	PKPdf	19 10 17.1	-0.1	
	baz=122							
T23A	Casias Ranch,	122.34	44	⇓PKiKP	PKPdf	19 10 17.1	-0.1	
	baz=122							
SDCO	Great Sand Dun	122.35	43	*e*PKPdf	PKPdf	19 10 17.2	0.0	
SDCO				LR	LR			
	comp=Z,734nm,20.0s							
R24A	Sanders Place,	122.36	42	⇓PKiKP	PKPdf	19 10 16.8	-0.4	
	baz=122							
O26A	Horse Wrangler	122.44	39	⇓PKiKP	PKPdf	19 10 16.8	-0.3	
	baz=122							
S24A	Houchin Ranch,	122.60	43	⇓PKiKP	PKPdf	19 10 17.6	-0.1	
	baz=122							
T24B	San Luis	122.78	43	⇑PKiKP	PKPdf	19 10 18.1	0.0	
	baz=123							
P26A	Davis Ranch, A	122.80	40	⇓PKiKP	PKPdf	19 10 17.2	-0.6	
	baz=123							
OGNE	Ogallala	122.83	38	PFAKE		19 10 30.0	+12	
OGNE				LR	LR			
	comp=Z,622nm,21.0s							
OGNE	Ogallala	122.83	38	⇓PKiKP	PKPdf	19 10 17.7	-0.1	
	baz=123							
V23A	Ortiz Mt. (NFS	122.88	45	⇓PKiKP	PKPdf	19 10 17.9	-0.3	
	baz=123							
X22A	Bernardo	122.88	47	⇑PKiKP	PKPdf	19 10 17.1	-1.1	
	baz=123							
220A	Playas Peak, P	122.91	50	⇑PKiKP	PKPdf	19 10 17.0	-1.3	
	baz=123							
R25A	Fountain Ranch	122.96	42	⇑PKiKP	PKPdf	19 10 17.2	-1.0	
	baz=123							
ANMO	Albuquerque	123.07	46	*e*PKPdf	PKPdf	19 10 18.9	+0.3	
ANMO				LR	LR			
	comp=Z,683nm,21.0s							
Y22A	Socorro	123.18	47	⇑PKiKP	PKPdf	19 10 18.6	-0.2	
	baz=123							
W23A	Werner Place,	123.19	46	⇓PKiKP	PKPdf	19 10 18.0	-0.8	
	baz=123							
LPM	Los Pinos Moun	123.25	47	PKPdf	PKPdf	19 10 19.4	+0.5	
N28A	Pribbeno Ranch	123.28	38	⇑PKiKP	PKPdf	19 10 18.0	-0.6	
	baz=123							
T25A	Trinidad	123.41	43	⇓PKiKP	PKPdf	19 10 18.9	-0.3	
	baz=123							
R26A	Arlington	123.43	41	⇓PKiKP	PKPdf	19 10 18.7	-0.4	
	baz=123							
221A	Mesquite Ranch	123.44	50	⇓PKiKP	PKPdf	19 10 18.9	-0.4	
	baz=123							
X23A	Hourglass Bar	123.44	46	⇑PKiKP	PKPdf	19 10 19.2	-0.1	
	baz=123							
Z22A	Elephant Butte	123.49	48	⇑PKiKP	PKPdf	19 10 19.3	0.0	
	baz=123							
V24A	Rampart Ranch,	123.53	45	⇑PKiKP	PKPdf	19 10 19.5	0.0	
	baz=123							
KSCO	Kaye Shedlock'	123.57	40	⇑PKiKP	PKPdf	19 10 19.1	-0.3	
	baz=123							
EYMN	Ely	123.60	26	PFAKE		19 10 30.0	+11	
EYMN				LR	LR			
	comp=Z,754nm,21.0s							
W24A	Lazy 6 Ranch,	123.69	45	⇓PKiKP	PKPdf	19 10 19.8	+0.1	
	baz=124							
U25A	Circle Dot Ran	123.79	44	⇓PKiKP	PKPdf	19 10 19.8	-0.2	
	baz=124							
R27A	Eads	123.86	41	⇓PKiKP	PKPdf	19 10 19.4	-0.5	
	baz=124							
SCHQ	Schefferville	123.87	5	PKP	PKPdf	19 10 19.1	-0.2	
SCHQ	Schefferville	123.87	5	PKP	PKPdf	19 10 19.1	-0.2	
	comp=Z,4.8nm,0.7s,baz=222,slow=15,SNR=3.3							
T26A	Comanche Natio	123.94	42	⇑PKiKP	PKPdf	19 10 20.0	-0.1	
	baz=124							
X24A	Lazy VL Ranch,	123.99	46	⇓PKiKP	PKPdf	19 10 19.4	-1.0	
	baz=124							
Q28A	Sharon Springs	124.05	40	⇑PKiKP	PKPdf	19 10 19.5	-0.7	
	baz=124							
S27A	Las Animas	124.13	42	⇓PKiKP	PKPdf	19 10 20.3	-0.2	
	baz=124							
ECSD	EROS Data Cent	124.17	32	*e*PKPdf	PKPdf	19 10 18.6	-1.6	
ECSD				LR	LR			
	comp=Z,666nm,20.0s							
U26A	Atchley Ranch,	124.25	43	⇓PKiKP	PKPdf	19 10 20.9	+0.1	
	baz=124							
Y24A	Capitan	124.30	47	⇑PKiKP	PKPdf	19 10 20.8	-0.2	
	baz=124							
W25A	X Bar L Ranch,	124.36	45	⇑PKiKP	PKPdf	19 10 20.4	-0.6	
	baz=124							
R28A	Tribune	124.47	40	⇓PKiKP	PKPdf	19 10 20.6	-0.5	
	baz=124							
V26A	Tequesquite Ra	124.53	44	⇓PKiKP	PKPdf	19 10 20.8	-0.5	
	baz=124							
T27A	Campo	124.59	42	⇑PKiKP	PKiKP	19 10 21.8	+0.1	
	baz=124							
Z24A	Sheeppen Canyo	124.64	47	⇑PKiKP	PKPdf	19 10 21.5	-0.1	
	baz=124							
Q29A	Oakley	124.69	39	⇓PKiKP	PKPdf	19 10 21.1	-0.3	
	baz=125							
S28A	Manter	124.84	41	⇑PKiKP	PKPdf	19 10 21.1	-0.6	
	baz=125							
Y25A	Mesa, Roswell	124.84	46	⇑PKiKP	PKPdf	19 10 21.8	-0.2	
	baz=125							
BGNE	Belgrade	124.86	35	*e*PKPdf	PKPdf	19 10 20.6	-1.0	
U27A	Thompson Grove	124.86	43	⇑PKiKP	PKPdf	19 10 21.9	0.0	
	baz=125							
W26A	Owens Ranch, T	124.92	45	⇓PKiKP	PKPdf	19 10 21.8	-0.2	
	baz=125							
T28A	Walsh	124.96	42	⇓PKiKP	PKPdf	19 10 21.4	-0.7	
	baz=125							
SPMN	St. Paul	125.05	29	⇑PKiKP	PKPdf	19 10 21.6	-0.2	
	baz=125							
Q30A	Quinter	125.11	39	⇓PKiKP	PKPdf	19 10 21.8	-0.4	
	baz=125							
Z25A	Roswell	125.14	47	⇓PKiKP	PKPdf	19 10 22.5	0.0	
	baz=125							
X26A	CR and CF Fran	125.16	45	⇓PKiKP	PKPdf	19 10 22.3	-0.3	
	baz=125							
KIC	Kosan Boka	125.19	279	*e*PKIKP	PKPdf	19 10 22.2	-0.7	
	comp=Z,54nm,1.2s							
V27A	Dan Oppiter Fa	125.21	43	⇓PKiKP	PKPdf	19 10 22.1	-0.5	
	baz=125							
DBIC	Dimbokro	125.27	279	PKP	PKPdf	19 10 21.4	-1.7	
DBIC	Dimbokro	125.27	279	PKP	PKPdf	19 10 21.4	-1.7	
	comp=Z,7.5nm,0.9s,baz=50,slow=2.9,SNR=6.1							
P31A	Stockton	125.31	38	⇓PKiKP	PKPdf	19 10 22.1	-0.4	
	baz=125							
S29A	Ulysses	125.33	41	⇓PKiKP	PKPdf	19 10 22.2	-0.5	
	baz=125							
SHEL	Horse Pasture	125.37	251	PFAKE		19 10 30.0	+6.8	
SHEL				LR	LR			
	comp=Z,1μm,20.0s							
MNTX	Cornudas Mount	125.39	49	PKPdf	PKPdf	19 10 22.5	-0.4	
MNTX				LR	LR			
	comp=Z,528nm,19.0s							
W27A	Bowe Ranch, En	125.42	44	⇓PKiKP	PKPdf	19 10 22.4	-0.6	
	baz=125							
324A	Moseley Ranch,	125.44	49	⇑PKiKP	PKPdf	19 10 22.6	-0.6	
	baz=125							
TIC	Toumodi	125.44	279	*e*PKIKP	PKPdf	19 10 22.7	-0.7	
	comp=Z,69nm,1.4s							
Y26A	Elida	125.47	46	⇓PKiKP	PKPdf	19 10 22.2	-0.9	
	baz=125							
T29A	Hugoton	125.48	41	⇓PKiKP	PKPdf	19 10 22.1	-0.9	
	baz=125							
125A	Gardner Draw,	125.48	48	⇑PKiKP	PKPdf	19 10 22.4	-0.8	
	baz=125							
R30A	Dighton	125.49	39	⇑PKiKP	PKPdf	19 10 22.4	-0.6	
	baz=125							
LIC	Lamto	125.49	278	*e*PKIKP	PKPdf	19 10 21.0	-2.5	
	comp=Z,16nm,0.8s							
LIC	Lamto	125.49	278	*e*PKIKP	PKPdf	19 10 22.0	-1.5	
	comp=Z,24nm,0.8s							
LIC	Lamto	125.49	278	*e*PKPdf	PKPdf	19 10 21.0	-2.5	
Q31A	Ellis	125.61	38	⇑PKiKP	PKPdf	19 10 22.6	-0.6	
	baz=126							
Z26A	Caprock	125.68	47	⇓PKiKP	PKPdf	19 10 22.6	-0.9	
	baz=126							
325A	Bean Ranch, Si	125.86	49	⇓PKiKP	PKPdf	19 10 23.6	-0.4	
	baz=126							
126A	Clayton Basin,	125.96	47	⇑PKiKP	PKPdf	19 10 23.5	-0.5	
	baz=126							
R31A	Burlett	125.96	39	⇑PKiKP	PKPdf	19 10 23.9	0.0	
	baz=126							
Y27A	Causey	125.96	46	⇓PKiKP	PKPdf	19 10 23.8	-0.3	
	baz=126							
V29A	Stinnett	126.05	43	⇓PKiKP	PKPdf	19 10 23.7	-0.4	
	baz=126							
COWI	Conover	126.05	25	*e*PKPdf	PKPdf	19 10 23.7	-0.1	
COWI				LR	LR			
	comp=Z,1μm,21.0s							
425A	Indio Mountain	126.12	50	⇑PKiKP	PKPdf	19 10 24.5	0.0	
	baz=126							
226B	Tecolote Peak,	126.13	48	⇓PKiKP	PKPdf	19 10 24.0	-0.4	
	baz=126							
MSTX	Muleshoe	126.20	45	*e*PKPdf	PKPdf	19 10 24.2	-0.3	
MSTX	Muleshoe	126.20	45	⇑PKiKP	PKPdf	19 10 24.3	-0.1	
	baz=126							
Z27A	Tatum	126.21	46	⇑PKiKP	PKPdf	19 10 24.6	+0.1	
	baz=126							
U30A	WK&E Inc. Balk	126.26	41	⇑PKiKP	PKPdf	19 10 24.3	-0.2	
	baz=126							
127A	Arkansas Junct	126.43	47	⇓PKiKP	PKPdf	19 10 24.4	-0.5	
	baz=126							
T31A	Randall Ranch,	126.57	40	⇑PKiKP	PKPdf	19 10 24.4	-0.6	
	baz=126							
326A	Caldwell Ranch	126.63	49	⇑PKiKP	PKPdf	19 10 25.2	-0.2	
	baz=126							
V30A	Spur Ranch, Mi	126.67	42	⇓PKiKP	PKPdf	19 10 25.2	-0.1	
	baz=126							
X29A	Tulia	126.70	44	⇑PKiKP	PKPdf	19 10 25.0	-0.4	
	baz=127							
426A	McDonald Obser	126.90	49	⇑PKiKP	PKPdf	19 10 25.7	-0.4	
	baz=127							
Y29A	Porterfield Fa	127.03	45	⇓PKiKP	PKPdf	19 10 25.9	-0.1	
	baz=127							
128A	Castleberry Fa	127.09	47	⇑PKiKP	PKPdf	19 10 25.2	-1.0	
	baz=127							
526A	Mary Lane Ranc	127.14	50	⇑PKiKP	PKPdf	19 10 26.5	+0.1	
	baz=127							
V31A	Spring Creek L	127.23	42	⇓PKiKP	PKiKP	19 10 26.7	-0.2	
	baz=127							
KSU1	Kansas State U	127.24	36	*e*PKPdf	PKPdf	19 10 25.9	-0.3	
KSU1				LR	LR			
	comp=Z,768nm,21.0s							
SCIA	State Center	127.24	32	PFAKE		19 10 40.0	+14	
SCIA				LR	LR			
	comp=Z,781nm,21.0s							
X30A	Coker Ranch, T	127.27	44	⇓PKiKP	PKPdf	19 10 26.4	-0.1	
	baz=127							
427A	Hayter Ranch,	127.29	49	⇓PKiKP	PKPdf	19 10 26.8	+0.2	
	baz=127							
Z29A	Hungry Hill Ra	127.32	45	⇑PKiKP	PKPdf	19 10 26.7	+0.1	
	baz=127							
626A	Big Bend Ranch	127.34	51	⇓PKiKP	PKPdf	19 10 26.8	0.0	
	baz=127							
527A	Woodward Ranch	127.46	50	⇑PKiKP	PKPdf	19 10 26.9	-0.2	
	baz=127							
328A	Wristen Ranch,	127.47	48	⇓PKiKP	PKPdf	19 10 26.9	0.0	
	baz=127							
W31A	Holland Ranch,	127.50	42	⇓PKiKP	PKPdf	19 10 26.8	-0.1	
	baz=127							
129A	Stewart Farms,	127.54	46	⇑PKiKP	PKPdf	19 10 27.0	0.0	
	baz=127							
Y30A	Stafford Cattl	127.57	44	⇑PKiKP	PKPdf	19 10 26.2	-0.9	
	baz=127							
Z30A	Sanderson Ranc	127.72	45	⇓PKiKP	PKPdf	19 10 27.4	0.0	
	baz=128							
X31A	McDonald Ranch	127.78	43	⇑PKiKP	PKPdf	19 10 27.6	+0.2	
	baz=128							
TXAR	Lajitas Array	127.80	51	PKP	PKPdf	19 10 27.8	+0.1	
TXAR				PKKPbc	PKKPdf	19 19 59.5	-40	
TXAR	Lajitas Array	127.80	51	PKP	PKPdf	19 10 27.8	+0.1	
	comp=Z,3.3nm,0.8s,baz=240,slow=1.1,SNR=19							
TXAR				PKKPbc	PKKPdf	19 19 59.5	-40	
	comp=Z,0.4nm,0.8s,baz=104,slow=5.3,SNR=3.4							
428A	Kincaid Ranch,	127.89	49	⇑PKiKP	PKiKP	19 10 29.1	+0.7	
	baz=128							
229A	Bryant Ranch,	127.92	47	⇑PKiKP	PKPdf	19 10 27.0	-0.8	
	baz=128							
627A	Terlingua Ranc	127.96	51	⇑PKiKP	PKPdf	19 10 28.0	0.0	
	baz=128							
Y31A	Rekieta Farm,	127.96	44	⇓PKiKP	PKPdf	19 10 26.9	-0.8	
	baz=128							
JFWS	Jewell Farm	128.00	29	*e*PKIKP	PKPdf	19 10 27.1	-0.4	
JFWS				MLR	MLR			
	comp=Z,597nm,20.0s							
JFWS	Jewell Farm	128.00	29	*e*PKPdf	PKPdf	19 10 27.1	-0.4	
JFWS				LR	LR			
	comp=Z,597nm,20.0s							
329A	Wagon Wheel Ra	128.04	48	⇓PKiKP	PKPdf	19 10 27.7	-0.3	
	baz=128							
528A	Cox Ranch, San	128.08	49	⇓PKiKP	PKiKP	19 10 28.6	-0.2	
	baz=128							
130A	Snyder	128.20	46	⇓PKiKP	PKPdf	19 10 27.9	-0.4	
	baz=128							
628A	Black Gap, Mar	128.33	50	⇓PKiKP	PKiKP	19 10 29.2	-0.1	
	baz=128							
Z31A	Sharp Cattle R	128.40	45	⇓PKiKP	PKPdf	19 10 28.8	+0.2	
	baz=128							
230A	Sterling City	128.47	47	⇓PKiKP	PKPdf	19 10 28.5	-0.3	
	baz=128							
429A	Davenport Ranc	128.53	48	⇓PKiKP	PKPdf	19 10 28.9	-0.1	
	baz=128							
529A	Stev Forest Ra	128.53	49	⇑PKiKP	PKPdf	19 10 28.9	-0.1	
	baz=128							
WMOK	Wichita Mounta	128.53	42	*e*PKIKP	PKPdf	19 10 28.7	-0.1	
WMOK				*e*		19 10 36.6		
WMOK				MLR	MLR			
	comp=Z,882nm,21.0s							
WMOK	Wichita Mounta	128.53	42	*e*PKPdf	PKPdf	19 10 28.7	-0.1	
WMOK				*ep*PKPdf	pPKPdf	19 10 36.6	-1.4	
WMOK				LR	LR			
	comp=Z,882nm,21.0s							
131A	Roby	128.57	45	⇓PKiKP	PKPdf	19 10 28.4	-0.6	
	baz=128							
330A	Mertzon	128.67	47	⇓PKiKP	PKPdf	19 10 28.4	-0.8	
	baz=129							
Z32A	Haskell	128.87	44	⇓PKiKP	PKPdf	19 10 29.5	0.0	
	baz=129							
430A	Baggett Ranch,	128.94	48	⇓PKiKP	PKPdf	19 10 29.8	+0.1	
	baz=129							
231A	Bronte	129.02	46	⇑PKiKP	PKPdf	19 10 29.7	-0.1	
	baz=129							
ABTX	Abilene, Hawle	129.13	45	⇑PKiKP	PKPdf	19 10 29.8	-0.2	
	baz=129							
530A	J-C Ranch, Com	129.19	49	⇓PKiKP	PKPdf	19 10 30.4	+0.2	
	baz=129							
331A	San Angelo	129.27	47	⇑PKiKP	PKPdf	19 10 30.2	-0.2	
	baz=129							
431A	Sonora	129.46	48	⇓PKiKP	PKPdf	19 10 30.8	0.0	
	baz=129							
232A	Coleman	129.52	46	⇓PKiKP	PKPdf	19 10 30.8	0.0	
	baz=129							
EFI	East Falkland	129.62	181	PFAKE		19 10 40.0	+10	
EFI				LR	LR			
	comp=Z,1μm,22.0s							
332A	Millersview	129.73	46	⇓PKiKP	PKPdf	19 10 31.2	0.0	
	baz=130							
531A	Rocksprings	129.77	48	⇑PKiKP	PKPdf	19 10 31.4	0.0	
	baz=130							
TUL1	Tulsa	129.77	39	⇑PKiKP	PKPdf	19 10 31.0	-0.1	
	baz=130							
432A	Menard	129.96	47	⇓PKiKP	PKPdf	19 10 31.5	-0.2	
	baz=130							
631A	Perdido Creek	130.13	49	⇓PKiKP	PKPdf	19 10 31.6	-0.4	
	baz=130							
JCT	Junction City	130.16	47	*e*PKIKP	PKPdf	19 10 31.7	-0.4	
JCT				*e*		19 10 39.8		
JCT				MLR	MLR			
	comp=Z,511nm,20.0s							
JCT	Junction City	130.16	47	*e*PKPdf	PKPdf	19 10 31.7	-0.4	
JCT				*ep*PKPdf	pPKPdf	19 10 39.8	-1.4	
JCT				LR	LR			
	comp=Z,511nm,20.0s							
JCT	Junction City	130.16	47	⇓PKiKP	PKPdf	19 10 32.1	+0.1	
	baz=130							
HDIL	Hopedale	130.24	30	PFAKE		19 10 40.0	+8.2	
HDIL				LR	LR			
	comp=Z,743nm,21.0s							
532A	Rocksprings	130.26	48	⇑PKiKP	PKPdf	19 10 31.7	-0.6	
	baz=130							
CMLA	Cha da Macela	130.39	325	PFAKE		19 10 40.0	+7.8	
CMLA				LR	LR			
	comp=Z,644nm,20.0s							
632A	Uvalde	130.67	48	⇑PKiKP	PKPdf	19 10 32.8	-0.2	
	baz=131							
732A	Laxson Ranch,	130.93	49	⇓PKiKP	PKPdf	19 10 32.6	-0.9	
	baz=131							
SADO	Sadowa	130.96	19	PKP	PKPdf	19 10 32.7	-0.4	
SADO				SKPab	SKPbc	19 13 55.3	-0.4	
SADO	Sadowa	130.96	19	PKP	PKPdf	19 10 32.7	-0.4	
	comp=Z,4.2nm,0.5s,baz=308,slow=3.6,SNR=5.1							
SADO				SKPab	SKPbc	19 13 55.3	-0.4	
	comp=Z,7.0nm,1.1s,baz=276,slow=4.4,SNR=3.4							
MIAR	Mount Ida	132.04	39	*e*PKIKP	PKPdf	19 10 35.4	-0.1	
MIAR				*e*		19 10 43.9		
MIAR				MLR	MLR			
	comp=Z,825nm,20.0s							
MIAR	Mount Ida	132.04	39	*e*PKPdf	PKPdf	19 10 35.4	-0.1	
MIAR				*ep*PKPdf	pPKPdf	19 10 43.9	-0.7	
MIAR				LR	LR			
	comp=Z,825nm,20.0s							
LONY	Lake Ozonia	132.42	15	PFAKE		19 10 50.0	+14	
LONY				LR	LR			
	comp=Z,769nm,19.0s							
PKME	Peaks-Kenny Pk	132.94	10	PFAKE		19 10 50.0	+13	
PKME				LR	LR			
	comp=Z,1μm,21.0s							
NATX	Nacogdoches

CLCH Cerro Calan 146.16 163 *eP* **PKPdf 19 11 01.5 +0.2**
BBSR BB Station 146.27 8 PFAKE 19 11 10.0 +6.9
BBSR LR LR
comp=Z,514nm,20.0s
PEL Peldehue 146.35 162 *eP* **PKPdf 19 11 02.1 +0.5**
ROCH El Roble 146.41 162 *eP* **PKPdf 19 11 02.4 +0.6**
PAYG Puerto Ayora 148.86 89 PFAKE 19 11 20.0 +6.0
PAYG LR LR
comp=Z,647nm,22.0s
TLL Tololo Astrono 149.06 160 *eP* **PKPdf 19 11 07.1 +0.7**
LCO Las Campanas 150.16 159 *e*PKPdf **PKPdf 19 11 08.6 +0.5**
LCO *e*PKPbc **PKPbc 19 11 13.6 +0.3**
LCO LR LR
comp=Z,2μm,22.0s
GTBY Guantanamo Bay 153.87 36 PFAKE 19 11 20.0 -1.5
GTBY LR LR
comp=Z,491nm,20.0s
GRTK Grand Turk 154.63 27 PFAKE 19 11 30.0 +6.9
GRTK LR LR
comp=Z,772nm,21.0s
CPUP Villa Florida 154.88 184 PKP **PKPdf 19 11 14.9 +0.1**
CPUP *e*PKPdf PKPbc 19 11 15.1 -8.4
CPUP *e*PKPbc **PKPbc 19 11 22.9 -0.6**
CPUP PKPbc **PKPbc 19 11 23.1 -0.4**
CPUP PKPab **PKPab 19 11 38.0 -0.5**
CPUP Villa Florida 154.88 184 PKP **PKPdf 19 11 14.9 +0.1**
comp=Z,7.6nm,0.9s,baz=172,slow=0.4,SNR=9.3
CPUP PKPbc **PKPbc 19 11 23.1 -0.4**
comp=Z,15nm,0.8s,baz=45,slow=0.6,SNR=3.0
CPUP PKPab **PKPab 19 11 38.0 -0.5**
comp=Z,24nm,0.9s,baz=167,slow=6.1,SNR=8.2
RCBR Riachuelo 156.34 258 PFAKE 19 11 30.0 +13
RCBR LR LR
comp=Z,914nm,21.0s
LVC Limon Verde 156.63 157 PFAKE 19 11 30.0 +12
LVC LR LR
comp=Z,814nm,21.0s
SDDR Presa de Saban 156.72 30 PFAKE 19 11 30.0 +12
SDDR LR LR
comp=Z,966nm,22.0s
BCIP Isla Barro Col 156.99 63 PFAKE 19 11 30.0 +12
BCIP LR LR
comp=Z,601nm,22.0s
NNA Nana 159.39 122 PFAKE 19 11 30.0 +9.1
NNA LR LR
comp=Z,916nm,21.0s
SJG San Juan 159.68 20 PFAKE 19 11 30.0 +9.0
SJG LR LR
comp=Z,747nm,21.0s
OTAV Otavalo 160.64 86 *e*PKPdf **PKPdf 19 11 23.9 +1.0**
OTAV LR LR
comp=Z,740nm,22.0s
ANWB Willy Bob 161.14 8 PFAKE 19 11 30.0 +7.3
ANWB LR LR
comp=Z,688nm,21.0s
BDFB Brasilia 161.88 217 PKP **PKPdf 19 11 23.9 +0.2**
BDFB PKPab **PKPab 19 12 10.7 +1.5**
BDFB Brasilia 161.88 217 PKP **PKPdf 19 11 23.9 +0.2**
comp=Z,15nm,1.0s,baz=141,slow=2.3,SNR=10.0
BDFB PKPab **PKPab 19 12 10.7 +1.5**
comp=Z,17nm,0.9s,baz=114,slow=6.9,SNR=6.6
LPAZ La Paz 162.52 150 *e*PKPdf **PKPdf 19 11 24.6 -0.3**
LPAZ PKP **PKPdf 19 11 25.2 +0.3**
LPAZ PKPab **PKPab 19 12 13.6 +1.0**
LPAZ *e*PKPab **PKPab 19 12 13.7 +1.1**
LPAZ La Paz 162.52 150 PKP **PKPdf 19 11 25.2 +0.3**
comp=Z,9.5nm,1.0s,baz=162,slow=1.6,SNR=23
LPAZ PKPab **PKPab 19 12 13.6 +1.0**
comp=Z,22nm,0.9s,baz=186,slow=3.3,SNR=11
ROSC El Rosal 163.70 68 PKP **PKPdf 19 11 26.3 +0.4**
ROSC El Rosal 163.70 68 PKP **PKPdf 19 11 26.3 +0.4**
comp=Z,6.5nm,0.4s,baz=98,slow=14,SNR=5.1
BBGH Gun Hill 165.82 2 PFAKE 19 11 40.0 +13
BBGH LR LR
comp=Z,1μm,22.0s
SAML Samuel 171.25 153 *e*PKPdf **PKPdf 19 11 29.8 -1.0**
SAML LR LR
comp=Z,995nm,21.0s

PRU 08 18:53:13.9, 70.04N×18.57E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.34**	**234**	*e*PG	Pg	18 53 20.3	-0.1
DPC	**Dobruska-Polom**	**1.48**	**283**	*e*PG	Pn	18 53 41.2	-0.6
DPC				*e*SG	Sg	18 54 01.0	-0.6

*AUST **08** 19:17:55.8, 7.00N×126.01E, h100km*
*IDC **08** 19:17:59.5±6.5, 6.57N×125.91E, h107km±65km, mb3.6/11, mb1 3.8/12, mb1mx3.6/25, mbtmp3.6/12, Error ellipse: s-maj=40.0km s-min=13.2km az=78.0*
*ISCJB **08** 19:18:01.7±0.3, 6.59N±0.03×126.04E±0.05, h140km±4km, mb3.7/11, Error ellipse: s-maj=8.6km s-min=5.2km az=165.5*
*MAN **08** 19:18:02, 6.64N×126.03E, h147km, mb4.5, ML3.4, MS3.3*
*DJA **08** 19:18:04.2±2.5, 7.N±22.×12.6E±.°, h103km±28km, M4.4/12, mB5.3/3, mb4.9/12, MLv4.1/1, Mw(mB)4.7/3*
ISC 08 19:18:02.8±0.6, 6.59N±0.05×126.04E±0.06, h136km±6km, n55, σ1§29/56, mb3.7/11, 5C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.42**	**32**	*e*P	**Pn**	19 18 22.3	**+0.2**
MATI				*e*S	Sn	19 18 30.4	-6.4
DAV	**Davao City (W)**	**0.66**	**317**	P	**Pn**	19 18 24.1	**+0.6**
DMPH	**Davao City--Mi**	**0.72**	**313**	⇑*e*P	**Pn**	19 18 24.1	**+0.2**
DMPH				*e*S	**Sn**	19 18 40.8	**+0.9**
KCP	**Kidapawan**	**1.03**	**294**	⇑*e*P	**Pn**	19 18 26.1	**-0.5**
KCP				*e*S	**Sn**	19 18 44.5	**-0.1**
GSPH	**General Santos**	**1.19**	**245**	⇑*i*P	**Pn**	19 18 26.7	**-1.4**
GSPH				*i*S	**Sn**	19 18 45.6	**-1.8**
BUKP	**Musuan**	**1.61**	**323**	*e*P	**Pn**	19 18 32.7	**+0.2**
CGP	**Cagayan de Oro**	**2.28**	**324**	⇑*e*P	**Pn**	19 18 40.6	**0.0**
CGP				*i*S	**Sn**	19 19 09.5	**0.0**
BUTP	**Butuan**	**2.40**	**350**	*e*P	**Pn**	19 18 42.9	**+0.8**
PAGZ	**Pagadian**	**2.92**	**296**	*e*P	**Pn**	19 18 48.4	**-0.1**
SCPH	**Surigao**	**3.22**	**350**	⇑*e*P	**Pn**	19 18 52.5	**0.0**
DCPH	**Dipolog City**	**3.32**	**307**	*i*P	**Pn**	19 18 54.3	**+0.6**
IPIL	**Ipil**	**3.64**	**289**	*e*P	**Pn**	19 18 57.9	**0.0**
TNTI	**Ternate**	**5.93**	**167**	P	**Pn**	19 19 27.3	**-1.1**
	203nm,0.5s,5μm						
GTOI	**Gorontalo**	**6.64**	**207**	P	**Pn**	19 19 37.3	**-0.6**
	278nm,0.7s,3μm						
MRSI	**Marisa**	**7.32**	**214**	P	**Pn**	19 19 48.2	**+1.1**
	158nm,1.1s						
LBMI	**Labuha**	**7.32**	**168**	P	**Pn**	19 19 47.0	**-0.2**
	65nm,0.8s,2μm						
TOLI	**Toli-Toli**	**7.54**	**224**	P	**Pn**	19 19 48.3	**-1.7**
	129nm,0.6s						
LUWI	**Luwuk**	**8.25**	**203**	P	Pn	19 20 05.3	+5.7
	111nm,1.0s						
LUWI	**Luwuk**	**8.25**	**203**	P	**Pn**	19 20 02.0	**+2.4**
	baz=8.7,SNR=25						
PALU	**Palau**	**8.41**	**84**	S	**Sn**	19 21 31.7	**-3.6**
	baz=8.4,SNR=15						
APSI	**Ampana**	**8.64**	**211**	P	Pn	19 20 09.1	+4.2
	91nm,1.2s						
SWI	**Sorong**	**9.05**	**145**	P	**Pn**	19 20 11.3	**+0.9**
	baz=9.4,SNR=8.4						
SWI				S	**Sn**	19 21 50.9	**+0.1**
	baz=9.4,SNR=4.2						
NLAI	**Namlea**	**9.82**	**174**	P	**Pn**	19 20 18.0	**-2.6**
	106nm,0.8s						
SKSI	**Soroako, Sulaw**	**10.20**	**208**	P	**Pn**	19 20 27.4	**+1.6**
	18nm,0.6s						
AAI	**Ambon**	**10.43**	**168**	P	**Pn**	19 20 28.9	**+0.1**
	29nm,0.5s						
AAI	**Ambon**	**10.43**	**168**	P	**Pn**	19 20 29.8	**+1.0**
	baz=11,SNR=4.6						
FAKI	**Fak Fak**	**11.30**	**147**	P	**Pn**	19 20 41.1	**+0.7**
	baz=12,SNR=3.5						
TTSI	**Tana Toraja**	**11.40**	**213**	P	**Pn**	19 20 44.2	**+2.4**
KAPI	**Kappang**	**13.12**	**209**	P	**Pn**	19 21 02.4	**-1.7**
	0.8nm,0.3s,baz=20,slow=5.8,SNR=4.2						
SOEI	**Soe**	**16.33**	**186**	P	**P**	19 21 47.2	**+2.3**
	baz=17,SNR=4.6						
WSI	**Waingapu**	**17.13**	**200**	S	**Sn**	19 25 06.3	**+0.8**
	baz=18,SNR=3.1						
JAGI	**Jajag, Banyuwa**	**19.08**	**219**	P	**Pn**	19 22 18.1	**+0.8**
	baz=20,SNR=4.8						
MTN	**Manton Dam**	**19.96**	**165**	P	**P**	19 22 25.4	**+1.0**
	baz=20,SNR=6.8						
KDU	**Kakadu**	**20.19**	**162**	P	**P**	19 22 27.5	**+0.6**
	baz=21,SNR=7.0						
KNRA	**Kununurra**	**22.28**	**173**	P	**P**	19 22 48.9	**-0.2**
	baz=23,SNR=25						
MANU	**Manus Island**	**22.95**	**111**	S	S	19 26 33.4	-22
	baz=23,SNR=3.6						
FITZ	**Fitzroy Crossi**	**24.53**	**181**	P	**P**	19 23 09.6	**-0.3**
	4.2nm,0.6s,baz=13,slow=7.1,SNR=37						
FITZ	**Fitzroy Crossi**	**24.53**	**181**	P	**P**	19 23 09.6	**-0.3**
	baz=25,SNR=27						
PPI	**Padang Panjang**	**26.52**	**256**	S	S	19 28 13.3	+21
	baz=27,SNR=4.4						
COEN	**Coen**	**26.57**	**140**	P	**P**	19 23 31.7	**+3.3**
	baz=27,SNR=20						
WRA	**Warramunga Arr**	**27.60**	**163**	P	**P**	19 23 36.0	**-1.6**
	0.6nm,0.5s,baz=341,slow=8.9,SNR=17						
MTSU	**Mount Surprise**	**30.48**	**144**	P	**P**	19 24 04.4	**+1.3**
	baz=31,SNR=3.9						
KSRS	**Korea Array**	**30.77**	**3**	P	**P**	19 24 04.3	**-1.0**
	0.6nm,0.5s,baz=183,slow=9.5,SNR=4.1						
ASAR	**Alice Springs**	**31.04**	**166**	P	**P**	19 24 07.5	**-0.5**
	1.1nm,0.4s,baz=342,slow=7.1,SNR=44						
MEEK	**Meekatharra**	**33.80**	**192**	P	**P**	19 24 31.1	**-0.9**
	baz=34,SNR=6.8						
MORW	**Morawa**	**36.73**	**195**	P	**P**	19 24 56.3	**-0.7**
	baz=37,SNR=5.2						
USRK	**Ussurisk Arra**	**37.83**	**7**	P	**P**	19 25 07.0	**+1.0**
	2.1nm,0.5s,baz=191,slow=8.0,SNR=5.6						
KLBR	**Kellerberrin**	**38.78**	**191**	P	**P**	19 25 13.7	**-0.5**
	baz=39,SNR=12						
BBOO	**Buckleboo**	**40.32**	**167**	P	**P**	19 25 27.3	**+0.3**
	baz=41,SNR=25						
STKA	**Stephens Creek**	**41.03**	**160**	P	**P**	19 25 32.9	**+0.1**
	1.2nm,0.3s,baz=345,slow=6.0,SNR=7.9						
SONM	**Songino Array**	**44.39**	**341**	P	**P**	19 25 59.1	**-0.8**
	0.4nm,0.5s,baz=159,slow=8.6,SNR=2.8						
PETK	**Petropavlovsk-**	**53.08**	**23**	P	**P**	19 27 06.5	**+0.4**
	2.1nm,0.6s,baz=183,slow=8.9,SNR=3.9						
MKAR	**Makanchi Array**	**54.84**	**324**	P	**P**	19 27 17.2	**-1.7**
	0.4nm,0.4s,baz=118,slow=6.8,SNR=12						
ILAR	**Eielson Array**	**82.84**	**26**	P	**P**	19 30 11.6	**-0.2**
	0.7nm,0.7s,baz=237,slow=5.1,SNR=5.2						
ARCES	**ARCESS Array B**	**87.55**	**340**	P	**P**	19 30 36.9	**+1.8**
	0.8nm,1.0s,baz=82,slow=6.5,SNR=4.1						

*IDC **08** 19:32:47.4±0.5, 13.91N×93.05E, h0km, mb4.3/18, mb1 4.3/19, mb1mx4.2/30, mbtmp4.2/19, ML3.9/1, Error ellipse: s-maj=21.7km s-min=12.1km az=60.0*
*ISCJB **08** 19:32:50.4±0.3, 14.14N±0.03×93.13E±0.05, h32km, mb4.2/18, Error ellipse: s-maj=7.2km s-min=4.4km az=170.0*
ISC 08 19:32:52.4±0.4, 14.11N±0.05×93.02E±0.06, h32km, n54, σ1§46/55, mb4.3/18, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGPR	**DIGLIPUR**	**0.93**	**186**	*e*P	**Pn**	19 33 09.2	**0.0**
DGPR				*e*S	**Sb**	19 33 23.2	**+1.2**
DGPR				AML	AML	19 33 25.5	
	comp=E,14μm,0.1s						
DGPR				AML	AML	19 33 26.2	
	comp=N,17μm,1.4s						
PBA	**Port Blair**	**2.45**	**186**	*e*P	Pn	19 33 28.9	-1.2
PBA				*e*S	Sn	19 34 00.3	+1.2
PBA				AML	AML	19 34 14.6	
	comp=N,960nm,0.8s						
PBA				AML	AML	19 34 15.8	
	comp=E,967nm,0.6s						
CMAR	**Chiang Mai Arr**	**7.14**	**52**	Pn	**Pn**	19 34 36.2	**+1.5**
	comp=E,0.5nm,0.3s,baz=241,slow=16,SNR=16						
CMAR				Sn	**Sn**	19 35 53.5	**-1.4**
	comp=E,2.3nm,0.3s,baz=238,slow=26,SNR=7.4						
VIS	**Vishakhapatnam**	**9.99**	**292**	*e*P	**Pn**	19 35 13.6	**-0.3**
VIS				*ex*	x	19 36 54.6	
VIS				AML	AML	19 37 01.2	
	comp=E,81nm,0.1s						
VIS				AML	AML	19 37 01.5	
	comp=N,183nm,0.1s						
SHL	**Shillong**	**11.45**	**355**	*e*P	Pn	19 35 28.4	-5.5
SHL				*ex*	**Sn**	19 37 36.0	**-4.9**
ODAN	**Odare**	**13.74**	**338**	*e*P	**Pn**	19 36 05.2	**-0.1**
TAPN	**Taplejung**	**14.08**	**340**	*e*P	**Pn**	19 36 09.5	**-0.5**
JIRN	**Jiri**	**14.91**	**336**	*e*P	**Pn**	19 36 20.4	**-1.0**
	comp=N,22nm,0.4s						
NGP	**Nagpur**	**15.04**	**300**	*e*P	**Pn**	19 36 22.2	**-0.5**
NGP				*e*4	x	19 38 58.4	
PKI	**Pulchoki**	**15.16**	**333**	*e*P	**Pn**	19 36 23.8	**-0.8**
	comp=N,31nm,0.4s						
GUN	**Gumba**	**15.26**	**335**	*e*P	**Pn**	19 36 25.3	**-0.7**
DMN	**Daman**	**15.33**	**332**	*e*P	**Pn**	19 36 26.1	**-0.7**
KKN	**Kakani**	**15.41**	**333**	*e*P	**Pn**	19 36 27.7	**0.0**
KOLN	**Koldanda**	**16.18**	**329**	*e*P	**Pn**	19 36 37.2	**-0.5**
LATR	**Latur**	**16.37**	**287**	*ex*	**Pn**	19 36 35.7	**-4.2**
PYUN	**Piuthan**	**16.76**	**328**	*e*P	**Pn**	19 36 44.5	**-0.6**
BHPL	**Bhopal**	**17.33**	**304**	*e*P	**P**	19 36 53.0	**-0.2**
KAD	**Karad**	**18.41**	**282**	*e*4	**Sn**	19 40 31.0	**+0.7**
SMLA	**Simla**	**22.34**	**322**	*e*P	**P**	19 37 46.2	**-1.4**
DHRM	**DHARAMSHALA**	**23.66**	**323**	*e*P	**P**	19 38 00.6	**-0.7**
MKAR	**Makanchi Array**	**33.81**	**347**	P	**P**	19 39 33.6	**+2.1**
	comp=N,2.1nm,0.8s,baz=162,slow=9.1,SNR=19						
SONM	**Songino Array**	**35.42**	**16**	P	**P**	19 39 47.1	**+1.5**
	comp=N,0.7nm,0.6s,baz=193,slow=8.4,SNR=5.9						
SONM				PcP	**PcP**	19 42 15.8	**+0.8**
	comp=N,0.4nm,0.5s,baz=208,slow=3.2,SNR=3.9						
KURBB	**Kurchatov Arra**	**38.28**	**345**	P	**P**	19 40 11.0	**+1.3**
	comp=N,1.9nm,0.8s,baz=160,slow=8.0,SNR=17						
ZALV	**Zalesovo Beam**	**40.27**	**353**	P	**P**	19 40 27.4	**+1.1**
	comp=N,1.4nm,0.5s,baz=172,slow=9.1,SNR=8.5						
FITZ	**Fitzroy Crossi**	**45.37**	**134**	P	**P**	19 41 06.1	**-1.9**
	comp=N,4.2nm,0.5s,baz=337,slow=6.0,SNR=34						
FITZ	**Fitzroy Crossi**	**45.37**	**134**	P	**P**	19 41 06.2	**-1.9**
	baz=36,SNR=15						
AKTO	**Aktyubinsk**	**46.02**	**329**	P	**P**	19 41 14.1	**+1.2**
	comp=N,0.7nm,0.3s,baz=110,slow=8.1,SNR=6.3						
KNRA	**Kununurra**	**46.09**	**129**	P	**P**	19 41 12.8	**-0.9**
	baz=37,SNR=3.0						
KNRA				S	ScP	19 46 28.3	-13
	baz=37,SNR=10.0						
MTN	**Manton Dam**	**46.29**	**124**	S	ScP	19 46 23.3	-18
	baz=37,SNR=19						
KDU	**Kakadu**	**47.29**	**122**	S	**PcS**	19 46 53.2	**+3.6**
	baz=38,SNR=4.7						
MEEK	**Meekatharra**	**47.53**	**148**	P	**P**	19 41 23.1	**-1.8**
	baz=39,SNR=3.4						
MORW	**Morawa**	**48.34**	**153**	P	**P**	19 41 29.9	**-1.2**
	baz=40,SNR=4.0						
KLBR	**Kellerberrin**	**51.26**	**153**	P	**P**	19 41 51.8	**-1.5**
	baz=43,SNR=6.7						
WRA	**Warramunga Arr**	**52.88**	**129**	P	**P**	19 42 04.2	**-1.5**
	comp=N,2.4nm,0.7s,baz=299,slow=9.7,SNR=30						
WRA				PcP	**PcP**	19 43 14.2	**-0.4**
	comp=N,2.6nm,0.6s,baz=316,slow=3.3,SNR=17						
ASAR	**Alice Springs**	**54.84**	**133**	P	**P**	19 42 18.4	**-1.4**
	comp=N,3.3nm,0.4s,baz=308,slow=6.9,SNR=194						
ASAR				PcP	**PcP**	19 43 21.8	**-0.2**
	comp=N,1.3nm,0.5s,baz=314,slow=3.6,SNR=8.0						
BRTR	**Keskin Array B**	**57.64**	**308**	P	**P**	19 42 40.2	**+0.3**
	comp=N,2.3nm,0.8s,baz=119,slow=7.7,SNR=12						
RABL	**Rabaul**	**61.40**	**103**	P	P	19 43 14.2	+8.2
	baz=54,SNR=6.2						
STKA	**Stephens Creek**	**65.23**	**135**	P	**P**	19 43 29.8	**-1.3**
	comp=N,1.7nm,0.7s,baz=309,slow=8.5,SNR=6.7						
STKA	**Stephens Creek**	**65.23**	**135**	P	**P**	19 43 30.6	**-0.5**
	baz=56,SNR=5.1						
FINES	**FINESS Array B**	**66.74**	**331**	P	**P**	19 43 40.8	**+0.6**
	comp=N,2.3nm,0.8s,baz=111,slow=4.9,SNR=11						
CMSA	**Cobar Meteorol**	**67.89**	**133**	P	**P**	19 43 47.8	**-0.2**
	baz=59,SNR=9.5						
ARCES	**ARCESS Array B**	**69.07**	**340**	P	**P**	19 43 56.2	**+1.4**
	comp=N,1.0nm,0.7s,baz=92,slow=6.9,SNR=8.7						
HFS	**Hagfors**	**72.57**	**329**	P	**P**	19 44 17.1	**+0.9**
	comp=N,6.1nm,1.1s,baz=97,slow=10,SNR=3.4						
BOSA	**Boshof**	**78.03**	**236**	P	**P**	19 44 48.7	**+0.3**
	comp=N,7.3nm,0.7s,baz=99,slow=4.9,SNR=24						
NFK	**Norfolk Island**	**84.02**	**122**	P	P	19 45 29.5	+9.3
	baz=75,SNR=4.3						
MAW	**Mawson**	**84.39**	**191**	P	**P**	19 45 20.9	**-0.1**
	comp=N,2.6nm,0.7s,baz=346,slow=5.1,SNR=6.3						
ESDC	**Sonseca Array**	**86.39**	**310**	P	**P**	19 45 32.2	**+0.3**
	comp=N,0.2nm,0.5s,baz=59,slow=4.5,SNR=5.7						
TORD	**Torodi Ar. Bea**	**88.12**	**283**	P	**P**	19 45 41.3	**+0.6**
	comp=N,3.1nm,0.9s,baz=82,slow=4.0,SNR=21						
ILAR	**Eielson Array**	**89.41**	**22**	P	**P**	19 45 45.5	**-0.2**
	comp=N,1.1nm,0.8s,baz=307,slow=3.8,SNR=7.9						
PDAR	**Pinedale Array**	**119.73**	**19**	PKP	**PKPdf**	19 51 39.8	**-0.1**
	comp=N,0.3nm,0.7s,baz=48,slow=2.2,SNR=3.9						
TXAR	**Lajitas Array**	**133.91**	**20**	PKP	**PKPdf**	19 52 09.2	**+2.1**
	comp=N,0.5nm,0.7s,baz=157,slow=1.3,SNR=5.5						
TEIG	**Tepich**	**145.86**	**2**	PKPbc	**PKPab**	19 52 30.3	**+0.6**
	comp=N,10nm,0.5s,baz=18,slow=4.6,SNR=12						
CMIG	**Matias Romero**	**148.03**	**14**	PKPbc	**PKPbc**	19 52 35.7	**+0.1**
	comp=N,2.9nm,0.8s,baz=348,slow=2.5,SNR=7.6						
CPUP	**Villa Florida**	**149.72**	**242**	PKPbc	**PKPbc**	19 52 38.7	**-0.9**
	comp=N,0.6nm,0.4s,baz=352,slow=1.9,SNR=4.1						

*MOS **08** 19:39:38.7±1.1, 43.23N×17.96E, h10km, mb4.3/9, Error ellipse: s-maj=8.8km s-min=4.2km az=86.9*
*THE **08** 19:39:38.2, 43.35N×17.53E, h10km±31km, ML3.9/5, Error ellipse: s-maj=31.6km s-min=1.9km az=0.0*
*ISCJB **08** 19:39:39.6±0.3, 43.332N±0.010×17.97E±0.01, h10km±2km, mb4.0/11, Error ellipse: s-maj=1.9km s-min=1.5km az=136.9*
*PDG **08** 19:39:40.0±0.3, 43.27N×17.91E, h8km, MD3.7/10, ML3.7/12, Error ellipse: s-maj=0.4km s-min=0.5km az=0.0*
*ROM **08** 19:39:40.5±0.1, 43.26N×18.00E, h10km, Ml4.0/46, Error ellipse: s-maj=2.7km s-min=1.9km az=59.0*
*BEO **08** 19:39:40.4±0.3, 43.31N×17.93E, h8km±2km, ML3.8/2*
*CSEM **08** 19:39:40.9±0.1, 43.31N×18.00E, h10km, mb4.2/8, ML4.2/8, Ms4.2, Error ellipse: s-maj=2.6km s-min=2.1km az=38.0*
*LDG **08** 19:39:41.0±0.1, 43.30N×17.97E, h10km, Ml4.1/12, Error ellipse: s-maj=3.2km s-min=2.1km az=21.0*
*PRU **08** 19:39:42.0, 43.41N×17.95E, h0km*
*SZGRF **08** 19:39:43.0, 43.34N×18.09E, h10km, mb4.2, Northwestern Balkan Peninsula*
*IDC **08** 19:39:43.8±2.2, 43.12N×17.94E, h45km±18km, mb3.6/8, mb1 3.8/17, mb1mx3.7/31, mbtmp3.7/17, ML3.9/8, MS3.4/2, Ms1 3.4/2, ms1mx3.1/39, Error ellipse: s-maj=28.1km s-min=14.9km az=23.0*
*VIE **08** 19:39:44.5±0.8, 43.53N×17.96E, h8km, mb3.6/14, ML3.7/8, Ms4.2/6, Error ellipse: s-maj=10.4km s-min=7.4km az=45.0*
*STR **08** 19:39:50.3±1.3, 43.47N×17.02E, h10km, Ml4.1, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
ISC 08 19:39:40.9±0.9, 43.31N±0.02×17.98E±0.02, h15km±6km, n486, σ1§57/614, mb4.1/11, 67C-52D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STON	**Ston**	**0.49**	**205**	⇓*i*Pg	**Pg**	19 39 49.1	**-1.5**
STON	**Ston**	**0.49**	**205**	*i*Pg	**Pg**	19 39 49.2	**-1.5**
STON				Sg	**Sg**	19 39 56.3	**-0.9**
BRY	**Bratogost**	**0.58**	**135**	⇑*i*Pg	**Pg**	19 39 50.7	**-1.7**
BRY				*e*Sg	**Sg**	19 40 00.3	**+0.2**
TREB	**Trebinje**	**0.66**	**156**	⇓*i*Pg	**Pg**	19 39 51.9	**-1.8**
TREB				*e*Sg	**Sg**	19 40 02.2	**-0.2**
UPM	**Unac-Piva**	**0.68**	**99**	⇓*i*Pg	**Pg**	19 39 53.5	**-0.8**
UPM				*e*Sg	**Sb**	19 40 05.3	**+1.3**
UPM	**Unac-Piva**	**0.68**	**99**	⇓*i*Pg	**Pg**	19 39 53.5	**-0.8**
UPM				*e*Sg	**Sb**	19 40 05.3	**+1.3**
NKY	**Niksic**	**0.89**	**124**	⇓*i*Pg	**Pg**	19 39 56.8	**-1.5**
NKY				*e*Sg	**Sn**	19 40 11.6	**-0.1**
NKY	**Niksic**	**0.89**	**124**	⇓*i*Pg	**Pg**	19 39 56.8	**-1.5**
NKY				*e*Sg	**Sn**	19 40 11.6	**-0.1**
NKME	**Niksic**	**0.90**	**127**	⇓*i*Pg	**Pg**	19 39 56.6	**-1.7**
NKME				*e*Sg	**Sb**	19 40 11.1	**+1.1**
NKME	**Niksic**	**0.90**	**127**	⇓*i*Pg	**Pg**	19 39 56.6	**-1.7**
NKME				*e*Sg	**Sb**	19 40 11.1	**+1.1**
HCY	**Herceg Novi**	**0.94**	**156**	⇓*i*Pg	**Pg**	19 39 57.0	**-2.2**
HCY				*e*Sg	**Sb**	19 40 11.7	**+0.4**
HCY	**Herceg Novi**	**0.94**	**156**	⇓*i*Pg	**Pg**	19 39 57.0	**-2.2**
HCY				*e*Sg	**Sb**	19 40 11.7	**+0.4**
PLE	**Pljevlja**	**1.03**	**89**	*e*Pg	**Pb**	19 39 59.8	**-0.7**
PLE				*e*Sg	**Sn**	19 40 17.0	**+2.0**
PLE	**Pljevlja**	**1.03**	**89**	*e*Pg	**Pb**	19 39 59.8	**-0.7**
PLE				*e*Sg	**Sn**	19 40 17.0	**+2.0**
BBLS	**Lazići**	**1.17**	**61**	⇑*i*Pg	**Pn**	19 40 03.0	**+0.2**
BBLS				*e*Sg	**Sg**	19 40 19.0	**+0.2**
BBLS	**Lazići**	**1.17**	**61**	⇑*i*Pg	**Pn**	19 40 03.0	**+0.2**
BBLS				*e*Sg	**Sg**	19 40 19.0	**+0.2**
BUM	**Brajici-Budva**	**1.21**	**146**	⇓*i*Pg	**Pn**	19 40 02.1	**-1.3**
BUM				*e*Sg	**Sg**	19 40 21.4	**+1.2**
BUM	**Brajici-Budva**	**1.21**	**146**	⇓*i*Pg	**Pn**	19 40 02.1	**-1.3**
BUM				*e*Sg	**Sg**	19 40 21.4	**+1.2**
PDG	**Podgorica**	**1.29**	**133**	P	**Pn**	19 40 03.4	**-0.8**
PDG	**Podgorica**	**1.29**	**133**	Pn	**Pn**	19 40 03.5	**-0.8**
	2μm,0.5s						
PDG	**Podgorica**	**1.29**	**133**	⇑*i*Pg	**Pn**	19 40 03.5	**-0.8**
PDG				*e*Sg	**Sg**	19 40 23.1	**+0.7**
PDG	**Podgorica**	**1.29**	**133**	⇑*i*Pg	**Pn**	19 40 03.5	**-0.8**
PDG				*e*Sg	**Sg**	19 40 23.1	**+0.7**
TTG	**Podgorica**	**1.29**	**133**	⇑*i*Pg	**Pn**	19 40 03.5	**-0.8**
TTG				*e*Sg	**Sg**	19 40 24.8	**+2.4**
DRME	**Dracevica, Mon**	**1.43**	**141**	⇓*i*Pg	**Pn**	19 40 06.3	**0.0**
DRME				*e*Sg	**Sg**	19 40 28.7	**+1.6**
DRME	**Dracevica, Mon**	**1.43**	**141**	⇓*i*

TIR	Tirane	2.41 144	Pn	Pn	19 40 21.3 +1.5
	839nm,0.8s				
TIR	Tirane	2.41 144	eP	Pn	19 40 21.1 +1.3
TIR	Tirane	2.41 144	ePn	Pn	19 40 21.2 +1.5
TIR			eSn	Sn	19 40 50.8 +1.8
TIR	Tirane	2.41 144	ePn	Pn	19 40 21.2 +1.5
TIR			eSn	Sn	19 40 50.8 +1.8
TIR			S	Sb	19 40 53.8 +0.3
PHP	Peshkopia	2.44 131	ePN	Pn	19 40 22.5 +2.3
PHP			i SN	Sb	19 40 55.8 +1.4
PHP	Peshkopia	2.44 131	P	Pn	19 40 22.5 +2.3
PHP			S	Sb	19 40 56.1 +1.7
PHP	Peshkopia	2.44 131	P	Pn	19 40 22.5 +2.3
SISC	Sisak	2.45 332	ePn	Pn	19 40 22.4 +2.2
SISC			Sn	Sn	19 40 52.2 +2.4
SVIS	Svilajnac	2.53 67⇑	iPn	Pn	19 40 21.4 0.0
SVIS			eSn	Sn	19 40 53.5 +1.6
PE1	Pezze di Greco	2.54 190	ePn	Pb	19 40 24.7 -1.5
NVLJ	Novalja	2.57 300	ePn	Pn	19 40 23.8 +1.8
NVLJ			Sn	Sb	19 40 59.0 +0.9
AMUR	Altamura	2.61 204	Pn	Pn	19 40 21.5 -1.1
AMUR	Altamura	2.61 204	Pn	Pn	19 40 21.5 -1.1
NOCI	Noci	2.61 195	Pn	Pn	19 40 21.3 -1.3
	474nm,0.8s				
NOCI	Noci	2.61 195	Pn	Pn	19 40 21.3 -1.3
	474nm,0.8s				
MELA	Melanico ??? S	2.65 234	Pn	Pn	19 40 22.9 -0.2
	1µm,0.6s				
MELA	Melanico ??? S	2.65 234	Pn	Pn	19 40 22.9 -0.2
	1µm,0.6s				
BARS	Barje	2.85 99	eSn	Sn	19 41 01.9 +2.0
BARS	Barje	2.85 99	eSn	Sn	19 41 01.9 +2.0
MOCO	Biccari - m.te	2.86 228	Pn	Pn	19 40 26.8 +0.8
SKO	Skopje	2.88 117	P	Pb	19 40 29.6 -2.4
SKO	Skopje	2.88 117	ePn	Pn	19 40 26.6 +0.3
SKO			eSn	Sn	19 41 02.5 +1.9
SKO	Skopje	2.88 117	i Pn	Pb	19 40 30.8 -1.3
SKO			eLg	Lg	19 41 01.1
	comp=E,494nm,1.0s				
SKO			eLg	Lg	19 41 01.2
	comp=N,227nm,0.7s				
SKO			i Sn	Sn	19 41 01.7 +1.1
SKO	Skopje	2.88 117	ePn	Pn	19 40 26.6 +0.3
SKO	Skopje	2.88 117	P	Pb	19 40 29.6 -2.4
SKO			eSn	Sn	19 41 02.5 +1.9
SKO			eLg	Lg	19 41 07.0
	comp=N,494nm,1.0s				
SGTA	Sant Agata di	2.92 223	Pn	Pn	19 40 27.7 +0.9
	comp=N,501nm,0.8s				
SGTA	Sant Agata di	2.92 223	Pn	Pn	19 40 27.7 +0.9
	comp=N,501nm,0.8s				
BOLS	Boljevac	2.93 79	ePn	Pn	19 40 26.2 -0.7
BOLS	Boljevac	2.93 79	ePn	Pn	19 40 26.2 -0.7
PKSM	Moragy	2.94 9	⇑P	Pn	19 40 27.2 +0.2
PKSM	Moragy	2.94 9	⇑iP	Pn	19 40 27.2 +0.2
PKSM	Moragy	2.94 9	⇑iPn	Pn	19 40 26.9 -0.1
PKSM			eSn	Sn	19 41 03.1 +1.1
PKSM	Moragy	2.94 9	⇑e	Pn	19 40 27.1 +0.1
PKSM			e		19 41 02.5
PKSM	Moragy	2.94 9	⇑iPn	Pn	19 40 26.9 -0.1
PKSM	Moragy	2.94 9	P	Pn	19 40 27.2 +0.2
PKSM			eS	Sn	19 41 02.5 +0.5
PKSM			eSn	Sn	19 41 03.1 +1.1
BOJS	Bojanci	2.94 319	i Pn	Pn	19 40 28.9 +1.9
BOJS			eSn	Sn	19 41 05.2 +3.2
BOJS	Bojanci	2.94 319	⇑iPn	Pn	19 40 28.9 +1.9
BOJS	Bojanci	2.94 319	⇑iPn	Pn	19 40 28.9 +1.9
BOJS			eSn	Sn	19 41 05.2 +3.2
MIGL	Miglionico	2.94 204	Pn	Pn	19 40 27.3 +0.2
MIGL	Miglionico	2.94 204	Pn	Pn	19 40 27.3 +0.2
TRIV	Trivento	2.97 240	Pn	Pn	19 40 28.7 +1.2
	comp=N,821nm,1.2s				
TRIV	Trivento	2.97 240	Pn	Pn	19 40 28.7 +1.2
	comp=N,821nm,1.2s				
CAFE	Carife	3.06 223	Pn	Pn	19 40 29.7 +0.8
	comp=N,433nm,1.0s				
CAFE	Carife	3.06 223	Pn	Pn	19 40 29.7 +0.8
	comp=N,433nm,1.0s				
BSSO	Busso	3.07 236	Pn	Pn	19 40 30.7 +1.8
	comp=N,556nm,1.0s				
BSSO	Busso	3.07 236	Pn	Pn	19 40 30.7 +1.8
	comp=N,556nm,1.0s				
LPEL	Lama dei Pelig	3.07 247	Pn	Pn	19 40 30.1 +1.1
	comp=N,351nm,1.0s				
LPEL	Lama dei Pelig	3.07 247	Pn	Pn	19 40 30.1 +1.1
	comp=N,351nm,1.0s				
CRES	Cresnjev	3.09 325	i Pn	Pn	19 40 31.1 +1.8
CRES	Cresnjev	3.09 325	i Pn	Pn	19 40 31.0 +1.8
SACR	S. Croce Del S	3.09 233	Pn	Pn	19 40 30.2 +1.0
	comp=N,225nm,0.7s				
SACR	S. Croce Del S	3.09 233	Pn	Pn	19 40 30.2 +1.0
	comp=N,225nm,0.7s				
MRB1	Monte Rocchett	3.13 227	Pn	Pn	19 40 30.7 +1.0
	comp=N,497nm,0.6s				
MRB1	Monte Rocchett	3.13 227	Pn	Pn	19 40 30.7 +1.0
	comp=N,497nm,0.6s				
SNAL	S. Angelo Dei	3.15 222	Pn	Pn	19 40 30.0 -0.1
	comp=N,667nm,1.0s				
SNAL	S. Angelo Dei	3.15 222	Pn	Pn	19 40 30.0 -0.1
	comp=N,667nm,1.0s				
MRLC	Muro Lucano	3.16 217	Pn	Pn	19 40 29.8 -0.3
	comp=N,258nm,0.6s				
MRLC	Muro Lucano	3.16 217	Pn	Pn	19 40 29.8 -0.3
	comp=N,258nm,0.6s				
CRAC	Craco	3.17 202	Pn	Pn	19 40 30.1 -0.1
	comp=N,894nm,0.9s				
CRAC	Craco	3.17 202	Pn	Pn	19 40 30.1 -0.1
	comp=N,894nm,0.9s				
PTRJ	Pietraroja	3.22 234	Pn	Pn	19 40 31.9 +0.9
	comp=N,474nm,0.6s				
PTRJ	Pietraroja	3.22 234	Pn	Pn	19 40 31.9 +0.9
	comp=N,474nm,0.6s				
RNI2	Rionero Sannit	3.26 242	Pn	Pn	19 40 33.1 +1.6
	comp=N,343nm,0.9s				
RNI2	Rionero Sannit	3.26 242	Pn	Pn	19 40 33.1 +1.6
	comp=N,343nm,0.9s				
BEHE	Becsehely	3.27 345⇓	e	Pn	19 40 33.0 +1.4
BEHE			e		19 41 10.8
BEHE	Becsehely	3.27 345⇓	ePg	Pn	19 40 33.0 +1.4
BEHE			eS	Sn	19 41 10.8 +0.6
INTR	Introdacqua	3.28 248	Pn	Pn	19 40 32.0 +0.2
	comp=N,492nm,0.7s				
INTR	Introdacqua	3.28 248	Pn	Pn	19 40 32.0 +0.2
	comp=N,492nm,0.7s				
PKS9	Tamasi	3.28 4⇑	e	Pn	19 40 32.6 +0.9
PKS9			e		19 41 28.8
PKS9	Tamasi	3.28 4⇑	ePg	Pn	19 40 32.6 +0.9
MCRV	Calabrutti - M	3.28 221	Pn	Pn	19 40 31.1 -0.8
	comp=N,230nm,0.5s				
MCRV	Calabrutti - M	3.28 221	Pn	Pn	19 40 31.1 -0.8
	comp=N,230nm,0.5s				
TERO	Teramo	3.29 259	Pn	Pn	19 40 32.6 +0.7
	comp=N,232nm,0.6s				
TERO	Teramo	3.29 259	Pn	Pn	19 40 32.6 +0.7
	comp=N,232nm,0.6s				
PKS2	Kecel	3.30 15	e	Pn	19 40 32.3 +0.4
PKS2			e		19 41 11.3
PKS2	Kecel	3.30 15	eP	Pn	19 40 32.3 +0.4
PKS2			eS	Sn	19 41 11.3 +0.5
VISS	Visnje	3.35 319	i Pn	Pn	19 40 34.6 +1.9
VISS			i		19 40 40.7
VISS			i Sn	Sn	19 41 15.8 +3.5
VISS	Visnje	3.35 319	i Pn	Pn	19 40 34.6 +1.9
VISS			i Sn	Sn	19 41 15.8 +3.5
BIA	Bitola	3.38 132	P	Pn	19 40 34.9 +1.7
BIA	Bitola	3.38 132	i Pn	Pn	19 40 35.4 +2.3
BIA			i Sn	Sn	19 41 16.7 +3.7
BIA	Bitola	3.38 132	P	Pn	19 40 34.9 +1.7
BIA			i Sn	Sn	19 41 16.2 +3.2
ZAPS	Zavoj	3.40 89⇑	iPn	Pn	19 40 34.9 +1.5
KNDS	Knezji Dol	3.40 312	ePn	Pn	19 40 36.1 +2.6
KNDS	Knezji Dol	3.40 312	ePn	Pn	19 40 36.1 +2.6
BZS	Buzias	3.47 47	⇓P	Pn	19 40 34.2 -0.2
BZS	Buzias	3.47 47	⇓iP	Pn	19 40 34.2 -0.2
BZS	Buzias	3.47 47	ePn	Pn	19 40 34.2 -0.2
BZS			eSn	Sn	19 41 15.2 0.0
BZS	Buzias	3.47 47	⇓iP	Pn	19 40 34.2 -0.2
BZS			eSn	Sn	19 41 15.2 0.0
PDKS	Podkum	3.48 323	i Pn	Pn	19 40 36.2 +1.7
PDKS	Podkum	3.48 323	i Pn	Pn	19 40 36.2 +1.7
CING	Cingoli	3.49 273	Pn	Pn	19 40 35.7 +1.0
	comp=N,319nm,0.6s				
CING	Cingoli	3.49 273	Pn	Pn	19 40 35.7 +1.0
	comp=N,319nm,0.6s				
SIRI	Monte Sirino -	3.51 208	Pn	Pn	19 40 34.2 -0.8
	comp=N,137nm,0.4s				
SIRI	Monte Sirino -	3.51 208	Pn	Pn	19 40 34.2 -0.8
	comp=N,137nm,0.4s				
POFI	Posta Fibreno	3.54 245	Pn	Pn	19 40 36.0 +0.7
	comp=N,162nm,0.9s				
POFI	Posta Fibreno	3.54 245	Pn	Pn	19 40 36.0 +0.7
	comp=N,162nm,0.9s				
FNA	Florina	3.57 134	P	Pn	19 40 38.3 +2.5
FNA			S	Sb	19 41 23.9 -3.1
FNA	Florina	3.57 134	eP	Pn	19 40 37.6 +1.8
FNA	Florina	3.57 134	P	Pn	19 40 38.3 +2.5
FDMO	Fiordimonte	3.59 267	Pn	Pn	19 40 36.9 +0.8
	comp=N,137nm,0.6s				
FDMO	Fiordimonte	3.59 267	Pn	Pn	19 40 36.9 +0.8
	comp=N,137nm,0.6s				
GROS	Grobnik	3.61 332	i Pn	Pn	19 40 37.2 +0.9
GROS			i Sn	Sn	19 41 18.5 -0.1
GROS	Grobnik	3.61 332	i Pn	Pn	19 40 37.2 +0.9
GROS			i Sn	Sn	19 41 18.5 -0.1
SKDS	Skadanscina	3.61 310	i Pn	Pn	19 40 38.1 +1.7
SKDS			eSn	Sn	19 41 22.4 +3.7
SKDS	Skadanscina	3.61 310	i Pn	Pn	19 40 38.1 +1.7
SKDS			eSn	Sn	19 41 22.4 +3.7
LJU	Ljubljana	3.68 319	ePn	Pn	19 40 39.5 +2.3
ARVD	Arcevia	3.68 275	Pn	Pn	19 40 37.9 +0.7
	comp=N,119nm,0.7s				
ARVD	Arcevia	3.68 275	Pn	Pn	19 40 37.9 +0.7
	comp=N,119nm,0.7s				
NEST	Nestorio	3.69 141	P	Pn	19 40 39.3 +1.8
NEST			S	Sn	19 41 25.4 +4.6
NEST	Nestorio	3.69 141	P	Pn	19 40 39.3 +1.8
NEST			S	Sn	19 41 25.4 +4.6
LNSS	Leonessa	3.70 261	Pn	Pn	19 40 38.4 +0.8
	comp=N,268nm,0.6s				
LNSS	Leonessa	3.70 261	Pn	Pn	19 40 38.4 +0.8
	comp=N,268nm,0.6s				
CESI	CESI - Serrava	3.73 267	Pn	Pn	19 40 39.0 +1.0
	comp=N,55nm,0.4s				
CESI	CESI - Serrava	3.73 267	Pn	Pn	19 40 39.0 +1.0
	comp=N,55nm,0.4s				
FIAM	Fiamignano	3.73 255	Pn	Pn	19 40 39.9 +1.9
	comp=N,253nm,0.9s				
FIAM	Fiamignano	3.73 255	Pn	Pn	19 40 39.9 +1.9
	comp=N,253nm,0.9s				
SRN	Sarande	3.75 156	P	Pn	19 40 38.0 -0.2
SRN	Sarande	3.75 156	P	Pn	19 40 38.0 -0.2
JAVS	Javornik	3.81 314	i Pn	Pn	19 40 41.4 +2.3
JAVS			i Sn	Sn	19 41 28.3 +4.7
JAVS	Javornik	3.81 314	i Pn	Pn	19 40 41.3 +2.3
PKSN	Nyarlorinc	3.82 20⇑	e	Pb	19 40 44.9 -3.1
PKS7	Kunszentmiklos	3.83 12	e	Sn	19 41 23.3 -0.6
PKS7	Kunszentmiklos	3.83 12	eS	Sn	19 41 23.3 -0.6
KEK	Kerkira	3.85 159	P	Pn	19 40 38.9 -0.6
KEK			S	Sn	19 41 27.3 +2.8
KEK	Kerkira	3.85 159	Pn	Pn	19 40 39.2 -0.3
	comp=N,246nm,1.2s				
KEK	Kerkira	3.85 159	eP	Pn	19 40 38.6 -0.9
KEK	Kerkira	3.85 159	P	Pn	19 40 38.9 -0.6
KEK	Kerkira	3.85 159	Pn	Pn	19 40 39.2 -0.3
	comp=N,246nm,1.2s				
KEK			S	Sn	19 41 27.3 +2.8
TRI	Trieste	3.85 310	Pn	Pn	19 40 41.1 +1.5
	comp=N,548nm,0.9s				
TRI	Trieste	3.85 310	Pn	Pn	19 40 41.1 +1.5
	comp=N,548nm,0.9s				
VTS	Vitosha	3.90 99	P	Pn	19 40 43.4 +2.9
VTS	Vitosha	3.90 99	⇓P	Pn	19 40 43.9 +3.4
VTS	Vitosha	3.90 99	⇓iP	Pn	19 40 43.9 +3.4
VTS	Vitosha	3.90 99	ePn	Pn	19 40 41.9 +1.4
VTS			eSn	Sn	19 41 26.6 +0.5
VTS	Vitosha	3.90 99	ePn	Pn	19 40 41.9 +1.4
VTS	Vitosha	3.90 99	P	Pn	19 40 43.4 +2.9
VTS			eSn	Sn	19 41 26.6 +0.5
CERT	Cerreto	3.93 251	Pn	Pn	19 40 41.7 +0.9
	comp=N,263nm,0.6s				
CERT	Cerreto	3.93 251	Pn	Pn	19 40 41.7 +0.9
	comp=N,263nm,0.6s				
VAY	Valandovo	3.94 119	ePn	Pn	19 40 42.4 +1.6
VAY			eSn	Sn	19 41 29.3 +2.5
VAY			eLg	Lg	19 41 43.4
	comp=N,156nm,0.9s				
VAY			eLg	Lg	19 41 45.6
	comp=E,132nm,1.0s				
VAY	Valandovo	3.94 119	ePn	Pn	19 40 41.9 +1.1
VAY			eSn	Sn	19 41 28.7 +1.9
VAY			eLg	Lg	19 41 45.1
	comp=E,132nm,1.0s				
PKST	T"s	3.95 1⇓	e	Pn	19 40 41.5 +0.6
PKST			e		19 41 27.9
PKST	T"s	3.95 1⇓	ePg	Pn	19 40 41.5 +0.6
PKST			eS	Sn	19 41 27.9 +1.0
SOKA	Soboth	3.96 329⇓	iPn	Pn	19 40 42.8 +1.6
	comp=E,36nm,0.5s,SNR=24				
SOKA			⇑iSn	Sn	19 41 27.5 +0.1
	comp=E,37nm,0.5s				
SOKA	Soboth	3.96 329	Pn	Pn	19 40 42.8 +1.6
	comp=E,36nm,0.5s,SNR=24				
SOKA			Sn	Sn	19 41 27.5 +0.1
	comp=E,37nm,0.5s				
PIEI	Pieia	3.97 275	Pn	Pn	19 40 42.5 +1.2
	comp=E,142nm,0.8s				
PIEI	Pieia	3.97 275	Pn	Pn	19 40 42.5 +1.2
	comp=E,142nm,0.8s				
VOY	Vojsko	3.99 314⇑	ePn	Pn	19 40 43.7 +2.2
VOY			e		19 40 49.9
VOY			eSn	Sn	19 41 33.0 +5.0
VOY	Vojsko	3.99 314⇑	ePn	Pn	19 40 43.7 +2.2
GZR	Gura Zlata	4.02 57⇑	iP	Pn	19 40 42.2 +0.3
GZR	Gura Zlata	4.02 57⇑	iP	Pn	19 40 42.2 +0.3
OBKA	Obir	4.02 324	ePn	Pn	19 40 45.0 +3.0
OBKA			ePg	Pg	19 40 56.1 -1.8
OBKA	Obir	4.02 324⇓	ePn	Pn	19 40 45.0 +3.0
	comp=E,7.2nm,0.2s				
OBKA			⇑iSn	Sn	19 41 31.0 +2.2
	comp=E,91nm,0.5s				
OBKA	Obir	4.02 324	Pn	Pn	19 40 45.0 +3.0
	comp=E,7.2nm,0.2s				
OBKA			Sn	Sn	19 41 31.0 +2.2
	comp=E,91nm,0.5s				
PKSG		4.09 4⇓	epg	Pn	19 40 43.4 +0.6
PKSG			esg	Sn	19 41 32.8 +2.4
PKSG		4.09 4⇓	ePg	Pn	19 40 43.4 +0.6
PKSG			eS	Sn	19 41 32.8 +2.4
KZN	Kozani	4.13 135	P	Pn	19 40 45.5 +2.0
KZN	Kozani	4.13 135	eP	Pn	19 40 44.9 +1.4
KZN	Kozani	4.13 135	P	Pn	19 40 45.5 +2.0
IGT	Igoumenitsa	4.17 154	P	Pn	19 40 43.7 -0.3
IGT			S	Sn	19 41 35.9 +3.5
IGT	Igoumenitsa	4.17 154	P	Pn	19 40 43.7 -0.3
IGT			S	Sn	19 41 35.9 +3.5
BADI	Badiali	4.18 275	Pn	Pn	19 40 46.5 +2.3
	comp=E,339µm,40.0s				
BADI	Badiali	4.18 275	Pn	Pn	19 40 46.5 +2.3
	comp=E,339µm,40.0s				
PARC	Parchiule	4.19 277	Pn	Pn	19 40 45.6 +1.3
	comp=E,174nm,0.5s				
PARC	Parchiule	4.19 277	Pn	Pn	19 40 45.6 +1.3
	comp=E,174nm,0.5s				
BUD	Budapest	4.23 10⇑	ePg	Pg	19 41 02.2 +0.2
BUD			e		19 41 35.7
BUD	Budapest	4.23 10	eS	Sn	19 41 35.7 +1.7
JAN	Janina	4.24 149	P	Pn	19 40 46.4 +1.4
JAN			S	Sn	19 41 38.4 +4.2
JAN	Janina	4.24 149	eP	Pn	19 40 45.4 +0.4
JAN	Janina	4.24 149	P	Pn	19 40 46.4 +1.4
JAN			S	Sn	19 41 38.4 +4.2
ARSA	Arzberg	4.30 337	ePn	Pn	19 40 46.9 +1.1
ARSA			eSn	Sn	19 41 34.9 -0.8
ARSA	Arzberg	4.30 337	Pn	Pn	19 40 46.9 +1.1
	comp=E,72nm,0.5s				
ARSA	Arzberg	4.30 337⇑	ePn	Pn	19 40 47.1 +1.3
	comp=E,44nm,0.4s,SNR=38				
ARSA			⇑eSn	Sn	19 41 34.5 -1.2
	comp=E,62nm,0.6s				
ARSA	Arzberg	4.30 337	ePn	Pn	19 40 46.8 +1.0
ARSA	Arzberg	4.30 337	ePn	Pn	19 40 46.8 +1.0
ARSA			Sn	Sn	19 41 34.5 -1.2
	comp=E,62nm,0.6s				
MGAB	Montegabbione	4.32 267	Pn	Pn	19 40 47.1 +1.1
	comp=E,210nm,0.6s				
MGAB	Montegabbione	4.32 267	Pn	Pn	19 40 47.1 +1.1
	comp=E,210nm,0.6s				
CAFI	Castiglion Fio	4.39 272	Pn	Pn	19 40 48.1 +1.1
	comp=E,73nm,0.7s				
CAFI	Castiglion Fio	4.39 272	Pn	Pn	19 40 48.1 +1.1
	comp=E,73nm,0.7s				
VINO	Villanova	4.46 313	Pn	Pn	19 40 49.4 +1.5
	comp=E,454nm,0.9s				
VINO	Villanova	4.46 313	Pn	Pn	19 40 49.4 +1.5
	comp=E,454nm,0.9s				
SOP	Sopron	4.48 348⇑	e	Pn	19 40 49.8 +1.5
SOP			e		19 41 39.6
SOP	Sopron	4.48 348⇑	ePg	Pn	19 40 49.8 +1.5
SOP			eS	Sn	19 41 39.6 -0.5
SFI	Santa Sofia	4.50 280	Pn	Pn	19 40 50.3 +1.8
	comp=E,153nm,0.9s				
SFI	Santa Sofia	4.50 280	Pn	Pn	19 40 50.3 +1.8
	comp=E,153nm,0.9s				
PTCC	Patocco-Chiusa	4.51 315	Pn	Pn	19 40 50.5 +1.7
	comp=E,323nm,1.2s				
PTCC	Patocco-Chiusa	4.51 315	Pn	Pn	19 40 50.5 +1.7
	comp=E,323nm,1.2s				
MYKA	Terra Mystica	4.53 319⇑	iPn	Pn	19 40 51.7 +2.8
	comp=E,12nm,0.4s				
MYKA	Terra Mystica	4.53 319	Pn	Pn	19 40 51.7 +2.8
	comp=E,12nm,0.4s				
ASQU	Asqua	4.53 278	Pn	Pn	19 40 51.0 +2.1
	comp=E,109nm,0.9s				
ASQU	Asqua	4.53 278	Pn	Pn	19 40 51.0 +2.1
	comp=E,109nm,0.9s				
ACOM	Acomizza, Ital	4.53 317	Pn	Pn	19 40 51.5 +2.4
	comp=E,647nm,0.9s				
ACOM	Acomizza, Ital	4.53 317	Pn	Pn	19 40 51.5 +2.4
	comp=E,647nm,0.9s				
LOT	Lotru	4.67 61⇑	iP	Pn	19 40 52.6 +1.7
LOT	Lotru	4.67 61⇑	iP	Pn	19 40 52.6 +1.7
SOH	Sokhos	4.71 120	eP	Pn	19 40 53.1 +1.7
NVR	Nevrokopi	4.78 112	eP	Pn	19 40 55.6 +3.2
PSZ	Piszkesteto	4.80 16	⇓P	Pn	19 40 52.9 +0.3
PSZ	Piszkesteto	4.80 16	⇓iP	Pn	19 40 52.9 +0.3
PSZ	Piszkesteto	4.80 16	⇓epg	Pn	19 40 52.7 +0.1
PSZ			esg	Sn	19 41 46.4 -1.6
PSZ	Piszkesteto	4.80 16	P	Pn	19 40 52.9 +0.3
PSZ			eS	Sn	19 41 46.4 -1.6
THL	Klokotos Trika	4.82 140	eP	Pn	19 40 54.0 +1.1
DRGR		4.83 42	⇑P	Pn	19 40 53.5 +0.4
DRGR		4.83 42	⇑iP	Pn	19 40 53.5 +0.4
DRGR		4.83 42	P	Pn	19 40 53.5 +0.4
CONA	Conrad Observa	4.85 343	⇑iPn	Pn	19 40 55.5 +2.1
	comp=E,2.8nm,0.2s				
CONA			⇓eSn	Sn	19 41 48.9 -0.4
	comp=E,49nm,0.5s				
CONA	Conrad Observa	4.85 343	Pn	Pn	19 40 55.5 +2.1
	comp=E,2.8nm,0.2s				
CONA			Sn	Sn	19 41 48.9 -0.4
	comp=E,49nm,0.5s				
ZST	Bratislava	4.92 353	eSN	Sn	19 41 47.8 -3.1
ZST	Bratislava	4.92 353	eSn	Sn	19 41 47.8 -3.1
LKD2	Lefkada island	4.95 155	eP	Pn	19 40 54.0 -0.8
KBA	Koelnbreinsper	4.99 321	ePn	Pn	19 40 58.4 +3.0
KBA			eSn	Sn	19 41 55.1 +2.2
KBA	Koelnbreinsper	4.99 321	⇑iPn	Pn	19 40 58.2 +2.8
	comp=E,39nm,0.5s				
KBA			⇑eSn	Sn	19 41 54.8 +1.9
	comp=E,36nm,0.6s				
KBA	Koelnbreinsper	4.99 321	Pn	Pn	19 40 58.2 +2.8
	comp=E,39nm,0.5s				
KBA			Sn	Sn	19 41 54.8 +1.9
	comp=E,36nm,0.6s				
PLG	Polygyros	5.03 124	eP	Pn	19 40 57.9 +2.1
CGRP	Cima Grappa	5.11 302	Pn	Pn	19 40 57.3 +0.3
	comp=E,196nm,0.6s				
CGRP	Cima Grappa	5.11 302	Pn	Pn	19 40 57.3 +0.3
	comp=E,196nm,0.6s				
ABTA	Abfaltersbach	5.18 313⇑	ePn	Pn	19 40 59.6 +1.7
	comp=E,10nm,0.3s,SNR=23				
ABTA			⇓eSn	Sn	19 41 58.9 +1.5
	comp=E,69nm,0.7s				
ABTA			⇑Sg	Sg	19 42 28.2 +1.1
	comp=E,141nm,0.7s				
ABTA	Abfaltersbach	5.18 313	Pn	Pn	19 40 59.6 +1.7
	comp=E,10nm,0.3s,SNR=23				
ABTA			Sn	Sn	19 41 58.9 +1.5
	comp=E,69nm,0.7s				
ARR	Arges	5.19 64⇓	iP	Pn	19 41 03.7 +5.6
ARR	Arges	5.19 64⇓	iP	Pn	19 41 03.7 +5.6
VYHS	Vyhne	5.21 6	eP	Pn	19 40 58.5 +0.2
VYHS			e		19 41 56.7
VYHS	Vyhne	5.21 6	ePN	Pn	19 40 58.5 +0.2
VYHS			eSN	Sn	19 41 56.7 -1.5
VYHS	Vyhne	5.21 6	eP	Pn	19 40 58.5 +0.2
VYHS			eS	Sn	19 41 56.7 -1.5
SMOL	Smolenice	5.22 356	eP	Pn	19 40 59.4 +1.1
SMOL			e		19 41 56.7
SMOL	Smolenice	5.22 356	ePN	Pn	19 40 59.4 +1.1
SMOL			eSN	Sn	19 41 56.6 -1.6
SMOL	Smolenice	5.22 356	eP	Pn	19 40 59.4 +1.1
SMOL			eS	Sn	19 41 56.7 -1.5
MOA	Molln	5.23 331	ePn	Pn	19 41 01.2 +2.6
MOA			eSn	Sn	19 41 59.7 +1.1
MOA	Molln	5.23 331	⇓iPn	Pn	19 41 01.1 +2.6
	comp=E,8.9nm,0.2s,SNR=12				
MOA			⇓iSn	Sn	19 41 59.7 +1.1
	comp=E,72nm,0.6s				
MOA	Molln	5.23 331	Pn	Pn	19 41 01.1 +2.5
	comp=E,8.9nm,0.2s,SNR=12				
MOA			Sn	Sn	19 41 59.7 +1.1
	comp=E,72nm,0.6s				
EVR	Evrytania	5.26 145	eP	Pn	19 40 59.8 +0.8
CTI	Castel Tesino	5.28 303	Pn	Pn	19 41 00.4 +1.1
	comp=E,176nm,0.6s				
CTI	Castel Tesino	5.28 303	Pn	Pn	19 41 00.4 +1.1
	comp=E,176nm,0.6s				
AGG	Agios Georgios	5.40 141	eP	Pn	19 41 01.4 +0.5
PAIG	Paliouri	5.45 126	eP	Pn	19 41 02.4 +0.9
KECS	Kecovo	5.46 18	ePN	Pn	19 41 01.9 +0.3
KECS	Kecovo	5.46 18	ePn	Pn	19 41 01.9 +0.3
VOIR		5.49 65	⇓P	Pn	19 41 04.4 +2.2
VOIR		5.49 65	⇓iP	Pn	19 41 04.4 +2.2
VOIR		5.49 65	P	Pn	19 41 04.4 +2.2
VLS	Valsamata	5.50 158	eP	Pn	19 41 00.3 -2.0
NEO	Neokhori	5.62 134	eP	Pn	19 41 04.5 +0.6
EFP	Efpalio	5.72 147	eP	Pn	19 41 06.1 +0.9
RJOB	Jochberg	5.73 322	ePn	Pn	19 41 08.6 +3.1
TRPA	Tarpa	5.78 32⇑	iP	Pn	19 41 12.8 +6.8
TRIZ	Trizonia	5.83 147	eP	Pn	19 41 07.9 +1.1

GERES GERESS Array B 6.28 333 P **Pn** **19 41 14.8 +1.8**
comp=Z,1.6nm,0.3s,baz=157,slow=13,SNR=35
GERES S **Sn** **19 42 23.1 -1.5**
comp=Z,4.3nm,0.3s,baz=146,slow=23,SNR=12
GERES GERESS Array B 6.28 333 P **Pn** **19 41 14.9 +1.8**
comp=Z,2.0nm,0.3s
GERES S **Sn** **19 42 23.1 -1.5**
comp=Z,4.0nm,0.3s
MOTA Moosalm 6.30 312 ⇓*i*Pn **Pn** **19 41 15.7 +2.3**
comp=Z,19nm,0.6s,SNR=34
MOTA ⇓*i*Sn **Sn** **19 42 27.5 +2.3**
comp=Z,42nm,0.7s
MOTA Moosalm 6.30 312 Pn **Pn** **19 41 15.7 +2.3**
comp=Z,19nm,0.6s,SNR=34
GUR Goura 6.31 147 *e*P **Pn** **19 41 12.8 -0.7**
NIE Niedzica 6.32 14 *e*P **Pn** **19 41 15.9 +2.4**
NIE Niedzica 6.32 14 *e*Pn **Pn** **19 41 15.9 +2.4**
NIE Niedzica 6.32 14 *e*P **Pn** **19 41 15.9 +2.4**
FETA Feichten 6.33 308⇑*e*Pn **Pn** **19 41 16.1 +2.4**
comp=Z,13nm,0.4s,SNR=11
FETA ⇓*e*Sn **Sn** **19 42 29.6 +3.8**
comp=Z,22nm,0.7s
FETA Feichten 6.33 308 Pn **Pn** **19 41 16.1 +2.4**
comp=Z,13nm,0.4s,SNR=11
KOLS Kolonicke sedl 6.36 26 *e*P **Pn** **19 41 16.0 +1.9**
KOLS Kolonicke sedl 6.36 26 *e*PN **Pn** **19 41 16.0 +1.9**
KOLS Kolonicke sedl 6.36 26 *e*P **Pn** **19 41 16.0 +1.9**
AMT Artemida-Makis 6.44 153 *e*P **Pn** **19 41 15.0 -0.1**
MORC Moravsky Berou 6.47 357 *e*Pn **Pn** **19 41 17.6 +2.0**
MORC *e*Sn **Sn** **19 42 28.8 -0.4**
STHS Stebnicka Huta 6.51 19 *e*P **Pn** **19 41 18.8 +2.7**
STHS Stebnicka Huta 6.51 19 *e*PN **Pn** **19 41 18.8 +2.7**
STHS Stebnicka Huta 6.51 19 *e*P **Pn** **19 41 18.8 +2.7**
OKC Ostrava-Krasne 6.53 1 *e*Pn Pn 19 41 21.2 +4.9
OKC *e*Sn **Sn** **19 42 30.3 -0.1**
OKC Ostrava-Krasne 6.53 1 *e*P Pn 19 41 19.8 +3.5
OKC *e* 19 42 30.1
OKC Ostrava-Krasne 6.53 1⇑*e*PN Pn 19 41 19.8 +3.5
OKC *e*x x 19 41 23.2
OKC *e*x x 19 41 29.7
OKC *e*SN **Sn** **19 42 30.1 -0.3**
KHC Kasperske Hory 6.57 334 *e*Pn **Pn** **19 41 19.7 +2.7**
KHC *e*Sn **Sn** **19 42 31.0 -0.6**
KHC Kasperske Hory 6.57 334 *e*P **Pn** **19 41 19.4 +2.4**
KHC *e* 19 42 30.4
KHC Kasperske Hory 6.57 334⇑*e*PN **Pn** **19 41 19.4 +2.4**
KHC *e*x x 19 41 25.8
KHC *e*x x 19 41 31.5
KHC *e*SN **Sn** **19 42 30.4 -1.2**
KHC *e*x x 19 42 44.5
KHC Kasperske Hory 6.57 334 Pn **Pn** **19 41 19.4 +2.4**
KHC Sn **Sn** **19 42 30.4 -1.2**
RETA Reutte 6.58 312⇑*i*Pn **Pn** **19 41 19.5 +2.4**
comp=Z,3.4nm,0.3s
RETA Reutte 6.58 312 Pn **Pn** **19 41 19.5 +2.4**
comp=Z,3.4nm,0.3s
PGF Pioggiola 6.64 266 *e*Pn **Pn** **19 41 17.5 -0.5**
PGF Pioggiola 6.64 266 *e*Pn **Pn** **19 41 17.5 -0.5**
BURAR Bucovina Array 6.66 47 ⇑P **Pn** **19 41 21.0 +2.7**
BURAR Bucovina Array 6.66 47⇑*i*P **Pn** **19 41 21.0 +2.7**
DAVOX Davos/Dischmat 6.70 304 P **Pn** **19 41 21.6 +2.7**
comp=Z,3.7nm,0.3s,baz=129,slow=18,SNR=29
DAVOX S **Sn** **19 42 36.3 +1.2**
comp=Z,2.7nm,0.3s,baz=191,slow=20,SNR=5.0
DAVOX Davos/Dischmat 6.70 304 P **Pn** **19 41 21.6 +2.7**
comp=Z,4.0nm,0.3s
DAVOX S **Sn** **19 42 36.3 +1.2**
comp=Z,3.0nm,0.3s
VLX Vlachokerasia 6.82 149 *e*P **Pn** **19 41 21.3 +0.8**
WET Wettzell 6.82 331 *e*Pn **Pn** **19 41 22.6 +2.2**
WET Wettzell 6.82 331 *e*P **Pn** **19 41 22.6 +2.2**
WET Wettzell 6.82 331 *e*P **Pn** **19 41 22.6 +2.2**
ITM Ithomi 6.83 152 *e*P **Pn** **19 41 20.8 +0.3**
PTL Penteli 6.90 138 *e*P **Pn** **19 41 21.6 +0.1**
DAVA Damuels 6.96 308 *e*Pn **Pn** **19 41 25.6 +3.2**
DAVA Damuels 6.96 308⇑*i*Pn **Pn** **19 41 25.5 +3.1**
comp=Z,3.8nm,0.2s
DAVA ⇓*i*Sn **Sn** **19 42 44.6 +3.3**
comp=Z,17nm,0.5s
DAVA Damuels 6.96 308 Pn **Pn** **19 41 25.5 +3.1**
comp=Z,3.8nm,0.2s
OJC Ojcow 7.02 10 *e*Sn **Sn** **19 42 40.6 -2.0**
PYL PYLOS 7.03 155 *e*P **Pn** **19 41 22.4 -0.8**
DID Didima 7.05 144 *e*P **Pn** **19 41 24.5 +0.9**
PRU Pruhonice 7.08 342 *e*P Pn 19 41 30.2 +6.2
PRU *e* 19 42 43.3
PRU Pruhonice 7.08 342⇑*e*PN Pn 19 41 30.2 +6.2
PRU *e*x x 19 41 40.3
PRU *e*SN **Sn** **19 42 43.3 -0.8**
KWP Kalwaria Pacla 7.11 26 ⇑P Pn 19 41 33.2 +8.9
KWP Kalwaria Pacla 7.11 26⇑*i*P Pn 19 41 33.2 +8.9
DPC Dobruska-Polom 7.13 351 *e*P Pn 19 41 28.0 +3.3
DPC *e* 19 42 44.3
DPC Dobruska-Polom 7.13 351⇑*e*PN Pn 19 41 28.0 +3.3
DPC *e*x x 19 41 34.2
DPC *e*SN **Sn** **19 42 44.3 -1.1**
UPC Upice 7.32 350 *e*P Pn 19 41 30.4 +3.2
UPC *e* 19 42 48.7
UPC Upice 7.32 350⇑*e*PN Pn 19 41 30.4 +3.2
UPC *e*x x 19 41 49.4
UPC *e*SN **Sn** **19 42 48.7 -1.3**
UPC Upice 7.32 350 Pn Pn 19 41 30.4 +3.2
UPC Sn **Sn** **19 42 48.7 -1.3**
DYR Agios Nikonas 7.34 152 *e*P **Pn** **19 41 26.7 -0.9**
PVCC Panska Ves 7.58 343 *e*P **Pn** **19 41 32.4 +1.6**
PVCC *e* 19 42 55.3
PVCC Panska Ves 7.58 343⇑*e*PN **Pn** **19 41 32.4 +1.6**
PVCC *e*SN **Sn** **19 42 55.3 -1.2**
PVCC Panska Ves 7.58 343 Pn **Pn** **19 41 32.4 +1.6**
PVCC Sn **Sn** **19 42 55.3 -1.2**
VLI Veliai 7.60 148 *e*P **Pn** **19 41 29.5 -1.6**
SBF Sospel 7.68 278 *e*Pn **Pn** **19 41 31.6 -0.6**
SBF *e*Sn Sn 19 42 52.4 -6.5
comp=Z,25nm,0.5s
SBF Sospel 7.68 278 *e*Pn **Pn** **19 41 31.6 -0.6**
MANZ Manzenberg 7.80 331 *e*Pn **Pn** **19 41 36.7 +2.9**
MANZ *e*Sn **Sn** **19 43 00.0 -1.8**
GRA1 Grafenberg Arr 7.90 326 *e*P **Pn** **19 41 37.0 +1.8**
GRA1 *e*S **Sn** **19 43 01.7 -2.5**
GRF Grafenberg Arr 7.90 326 *e*Pn **Pn** **19 41 37.0 +1.8**
GRF *e*Sn **Sn** **19 43 01.7 -2.5**
GRF Grafenberg Arr 7.90 326 *e*P **Pn** **19 41 37.0 +1.8**
GRF *e* 19 43 01.7
SPAK Spaichingen-Ko 8.02 310 P **Pn** **19 41 37.6 +0.7**
KYTH Kithira 8.03 149 *e*P **Pn** **19 41 36.9 -0.1**
BRG Berggiesshubel 8.05 341 PG Pn 19 41 44.1 +6.9
BRG *e* 19 42 08.7
BRG Berggiesshubel 8.05 341 SN **Sn** **19 43 10.6 +2.8**
BRG SG Sb 19 43 29.1 -6.5
comp=Z,10nm,1.1s
BRG Berggiesshubel 8.05 341 P Pn 19 41 44.1 +6.9
BRG 19 43 10.6
BRG smax smax
comp=N,10.0nm,1.1s
MBDF Montbardon 8.20 284 *e*Pn **Pn** **19 41 37.8 -1.7**
MBDF *e*Sn Sn 19 43 05.6 -6.3
comp=N,27nm,0.6s
FRF La Foret Royal 8.26 276 *e*Pn **Pn** **19 41 39.5 -0.5**
FRF *e*Sn Sn 19 43 07.1 -5.9
comp=N,20nm,0.7s
FRF La Foret Royal 8.26 276 *e*Pn **Pn** **19 41 39.5 -0.5**
LPG La Plagne 8.33 289 *e*Pn **Pn** **19 41 40.0 -1.4**
LPG *e*Sn Sn 19 43 07.6 -7.7
comp=N,26nm,0.5s
LPG La Plagne 8.33 289 *e*Pn **Pn** **19 41 40.0 -1.4**
LPL La Plagne 8.35 289 *e*Pn **Pn** **19 41 40.6 -1.0**
LPL *e*Sn Sn 19 43 07.1 -8.5
comp=N,32nm,0.5s
LPL La Plagne 8.35 289 *e*Pn **Pn** **19 41 40.6 -1.0**
FELD Feldberg im Sc 8.35 307 P **Pn** **19 41 42.0 +0.5**
LMR La Mourre 8.37 274 *e*Pn **Pn** **19 41 41.2 -0.4**
LMR La Mourre 8.37 274 *e*Pn **Pn** **19 41 41.2 -0.4**
BFO Black Forest 8.40 310 *e*Pn **Pn** **19 41 43.0 +0.9**
BFO *e*Sn **Sn** **19 43 15.3 -1.3**
BFO Black Forest 8.40 310 *e*P **Pn** **19 41 43.0 +0.9**
BFO *e* 19 43 15.3
BFO Black Forest 8.40 310 *e*P **Pn** **19 41 43.0 +0.9**
BFO *e*S **Sn** **19 43 15.3 -1.3**
RSL Roselend 8.46 290 P **Pn** **19 41 43.0 0.0**
RSL S **Sn** **19 43 16.4 -1.8**
RSL Roselend 8.46 290 P **Pn** **19 41 43.0 0.0**
RSL S **Sn** **19 43 16.4 -1.8**
MOX Moxa 8.53 332 *e*Pn **Pn** **19 41 46.0 +2.3**
MOX Moxa 8.53 332 *e*P **Pn** **19 41 46.0 +2.3**
MOX Moxa 8.53 332 *e*P **Pn** **19 41 46.0 +2.3**
OG01 Vacheresse 8.58 294 S **Sn** **19 43 21.5 +0.4**
OG01 Vacheresse 8.58 294 S **Sn** **19 43 21.5 +0.4**
CLL Collm 8.68 339 *e*P Pn 19 41 53.0 +7.2
CLL *e* 19 43 20.0
CLL Collm 8.68 339 *e*Pn Pn 19 41 53.0 +7.2
CLL *e*Sn **Sn** **19 43 20.0 -3.4**
CLL *e*Sb Sb 19 43 48.0
CLL *e*Sg 19 44 22.0
LOMF Lomont 8.83 301 P **Pn** **19 41 49.1 +1.1**
LOMF Lomont 8.83 301 P **Pn** **19 41 49.1 +1.1**
ORIF Oris-en-Rattie 8.86 285 *e*Pn **Pn** **19 41 47.3 -1.1**
ORIF *e*Sn Sn 19 43 20.6 -7.3
comp=N,17nm,0.5s
ORIF Oris-en-Rattie 8.86 285 *e*Pn **Pn** **19 41 47.3 -1.1**
MOF Molkenrain 8.86 305 P **Pn** **19 41 49.2 +0.8**
MOF Molkenrain 8.86 305 P **Pn** **19 41 49.2 +0.8**
TOD Tromm 8.93 318 P **Pn** **19 41 51.8 +2.6**
HINF Hinteralfeld 9.01 304 *e*Pn **Pn** **19 41 49.7 -0.7**
HINF *e*Sn Sn 19 43 25.6 -6.0
comp=N,18nm,0.6s
HINF Hinteralfeld 9.01 304 *e*Pn **Pn** **19 41 49.7 -0.7**
CDF Champ du Feu 9.04 308 *e*Pn **Pn** **19 41 50.2 -0.7**
CDF *e*Sn Sn 19 43 26.0 -6.4
comp=N,17nm,0.9s
CDF Champ du Feu 9.04 308 *e*Pn **Pn** **19 41 50.2 -0.7**
LANF Langenberg 9.05 312 P **Pn** **19 41 51.8 +0.8**
LANF Langenberg 9.05 312 P **Pn** **19 41 51.8 +0.8**
CABF La Chapelle 9.05 295 *e*Pn **Pn** **19 41 50.3 -0.8**
CABF La Chapelle 9.05 295 *e*Pn **Pn** **19 41 50.3 -0.8**
HAU Haudompre 9.40 304 *e*Pn **Pn** **19 41 55.4 -0.3**
HAU *e*Sn Sn 19 43 35.0 -6.1
comp=N,25nm,0.7s
HAU Haudompre 9.40 304 *e*Pn **Pn** **19 41 55.4 -0.3**
TNS Taunus Mts 9.51 320 *e*Pn **Pn** **19 41 58.8 +1.5**
TNS *e*Sn **Sn** **19 43 44.0 +0.1**
TNS Taunus Mts 9.51 320 *e*P **Pn** **19 41 58.8 +1.5**
TNS *e* 19 43 44.0
TNS Taunus Mts 9.51 320 *e*P **Pn** **19 41 58.8 +1.5**
TNS *e*S **Sn** **19 43 44.0 +0.1**
IDI Anoyia 9.63 144 P **Pn** **19 41 56.6 -2.4**
comp=N,0.9nm,0.3s,baz=324,slow=1.8,SNR=10.0
IDI S Sn 19 43 40.7 -6.3
comp=N,1.3nm,0.3s,baz=288,slow=22,SNR=7.1
VIVF Saint-Julien-l 9.70 284 *e*Pn **Pn** **19 41 58.4 -1.5**
VIVF *e*Sn Sn 19 43 40.3 -8.3
comp=N,6.9nm,0.6s
VIVF Saint-Julien-l 9.70 284 *e*Pn **Pn** **19 41 58.4 -1.5**
RUP Ruppelstein 9.87 314 P **Pn** **19 42 02.6 +0.4**
KEST Kesra 10.09 224 LR LR 19 46 06.6
comp=N,126nm,21.8s,baz=150,slow=39
SMF Signal de Mont 10.56 293 *e*Pn **Pn** **19 42 08.6 -3.0**
SMF *e*Sn Sn 19 44 01.2 -8.3
comp=N,10nm,0.4s
LOR Lormes 10.71 297 *e*Pn **Pn** **19 42 12.0 -1.6**
LOR *e*Sn Sn 19 44 06.2 -7.0
comp=N,12nm,0.4s
BGF Bois d'Agland 11.21 292 *e*Pn **Pn** **19 42 18.4 -2.1**
NACGM Naroch 12.94 23 *e*LQ LQ 19 41 36.0
VSR Storozhevoye 16.37 54 *e*P **P** **19 43 31.9 -0.9**
VSR pmax pmax
comp=Z,4.0nm,1.0s
VSR Storozhevoye 16.37 54 *e*P **P** **19 43 31.9 -0.9**
comp=Z,4.0nm,1.0s
OBN Obninsk 16.87 39⇑*i*P **P** **19 43 39.3 +1.0**
OBN *e*S **Sn** **19 46 42.5 -0.8**
OBN pmax pmax
comp=Z,9.0nm,1.0s
OBN MLR MLR
comp=Z,700nm,17.0s
OBN Obninsk 16.87 39 *i*P **P** **19 43 39.3 +1.0**
comp=Z,9.0nm,1.0s
HFS Hagfors 17.05 353 P **P** **19 43 40.9 +0.7**
comp=Z,0.2nm,0.3s,baz=165,slow=12,SNR=4.1
HFS Hagfors 17.05 353 P **P** **19 43 40.9 +0.7**
EKA Eskdalemuir Ar 18.20 319 P **P** **19 43 54.4 +1.4**
baz=116,slow=9.7,SNR=5.2
EKA Eskdalemuir Ar 18.20 319 P **P** **19 43 54.4 +1.4**
NB2 NORSAR Subarra 18.21 349 P P 19 44 01.0 +7.9
comp=Z,5.9nm,0.6s,baz=162,slow=9.3
NOA NORSAR Array B 18.21 349 P **P** **19 43 56.7 +3.6**
comp=Z,0.5nm,0.3s,baz=162,slow=9.4,SNR=4.7
FINES FINESS Array B 18.79 12 P **Pn** **19 44 00.6 +0.7**
comp=Z,0.2nm,0.3s,baz=193,slow=5.9,SNR=5.8
FINES FINESS Array B 18.79 12 P **Pn** **19 44 00.6 +0.7**
KLMR Klimovskoe 21.81 29 *e*P **P** **19 44 31.9 -0.3**
KLMR pmax pmax
comp=Z,23nm,1.4s
KLMR Klimovskoe 21.81 29 *e*P **P** **19 44 31.9 -0.3**
comp=Z,23nm,1.4s
ARU Arti 28.80 49*c* *i*P **P** **19 45 37.2 -0.8**
ARU S **S** **19 50 25.0 -1.9**
ARU pmax pmax
comp=Z,16nm,2.5s
ARU Arti 28.80 49 *i*P **P** **19 45 37.2 -0.8**
comp=Z,16nm,2.5s
BRVK Borovoye 35.47 55⇓*i*P **P** **19 46 37.1 +0.6**
BRVK pmax pmax
comp=Z,12nm,1.2s
BRVK Borovoye 35.47 55 *i*P **P** **19 46 37.1 +0.6**
comp=Z,12nm,1.2s
BVAR Borovoye Array 35.54 55 P **P** **19 46 37.5 +0.4**
BVAR pmax pmax
comp=Z,3.0nm,0.7s
BVAR Borovoye Array 35.54 55 P **P** **19 46 37.5 +0.4**
comp=Z,3.1nm,0.7s,baz=267,slow=5.9,SNR=20
BVAR Borovoye Array 35.54 55 P **P** **19 46 37.5 +0.4**
comp=Z,3.0nm,0.7s
NVS Novosibirsk 42.75 51 *e*P **P** **19 47 36.1 -1.2**
NVS Novosibirsk 42.75 51 *e*P **P** **19 47 36.1 -1.2**
ZALV Zalesovo Beam 43.86 52 *i*P **P** **19 47 46.2 0.0**
ZALV pmax pmax
comp=Z,3.0nm,0.7s
ZALV Zalesovo Beam 43.86 52 P **P** **19 47 45.9 -0.4**
comp=Z,3.4nm,0.7s,baz=284,slow=8.6,SNR=12
ZALV Zalesovo Beam 43.86 52 *i*P **P** **19 47 46.2 0.0**
comp=Z,3.0nm,0.7s
MKAR Makanchi Array 44.43 62*c*e**P** **P** **19 47 50.0 -1.0**
MKAR Makanchi Array 44.43 62 P **P** **19 47 49.7 -1.3**
comp=Z,0.3nm,0.6s,baz=288,slow=6.8,SNR=4.9
MKAR Makanchi Array 44.43 62 *e*P **P** **19 47 50.0 -1.0**
SONM Songino Array 58.75 52 P **P** **19 49 38.1 -0.1**
comp=Z,0.9nm,0.8s,baz=291,slow=7.2,SNR=7.1
SONM Songino Array 58.75 52 P **P** **19 49 38.1 -0.1**
comp=Z,1.0nm,0.8s
CMAR Chiang Mai Arr 71.10 82 P **P** **19 50 58.2 -0.6**
comp=Z,0.9nm,0.6s,baz=300,slow=7.0,SNR=9.9
CMAR Chiang Mai Arr 71.10 82 P **P** **19 50 58.2 -0.6**
comp=Z,1.0nm,0.6s
ILAR Eielson Array 71.60 353 P **P** **19 51 00.2 -0.8**
comp=Z,0.5nm,0.7s,baz=2.6,slow=4.9,SNR=5.4
ILAR Eielson Array 71.60 353 P **P** **19 51 00.3 -0.8**
comp=Z,1.0nm,0.7s
PDAR Pinedale Array 82.24 324 P **P** **19 52 00.9 -0.8**
comp=Z,0.6nm,0.7s,baz=72,slow=6.4,SNR=5.0
TXAR Lajitas Array 90.07 312 P **P** **19 52 40.8 +0.4**
comp=Z,0.7nm,0.8s,baz=72,slow=4.5,SNR=6.4
TXAR Lajitas Array 90.07 312 P **P** **19 52 40.8 +0.4**
ASAR Alice Springs 124.43 91 PKP **PKPdf** **19 58 38.4 -1.1**
comp=Z,0.3nm,0.7s,baz=279,slow=1.3,SNR=4.8

IDC 08 19:42:59.4±1.9, 8°.30S×124°.89E, h0km, mb3.5/1, mb1 3.9/4, mb1mx3.6/20, mbtmp3.7/4, ML3.6/3, MS3.2/1, Ms1 3.2/1, ms1mx2.6/23, Error ellipse: s-maj=112.1km s-min=27.6km az=66.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**6.06**	**302**	LR	LR	19 47 54.0	
	comp=Z,173nm,18.1s,baz=29,slow=49						
FITZ	**Fitzroy Crossi**	**9.77**	**176**	Pn	Pn	19 45 19.5	-1.8
	0.1nm,0.3s,baz=357,slow=8.7,SNR=11						
FITZ				Sn	Sn	19 46 57.3	-15
	1.4nm,0.3s,baz=272,slow=2.7,SNR=13						
WRA	**Warramunga Arr**	**14.75**	**143**	Pn	Pn	19 46 31.1	+1.6
	0.4nm,0.3s,baz=322,slow=13,SNR=17						
WRA				Sn	Sn	19 49 04.5	-9.4
	0.6nm,0.3s,baz=313,slow=24,SNR=12						
ASAR	**Alice Springs**	**17.55**	**152**	P	P	19 47 06.3	-0.6
	0.2nm,0.3s,baz=333,slow=13,SNR=18						
ASAR				S	Sn	19 50 10.7	-11
	0.2nm,0.3s,baz=314,slow=20,SNR=8.5						
MKAR	**Makanchi Array**	**66.65**	**330**	P	P	19 53 52.0	0.0
	0.3nm,0.6s,baz=128,slow=7.9,SNR=4.3						

IDC 08 20:17:23.2±6.0, 18°.20S×169°.02E, h197km±56km, mb3.9/3, mb1 3.9/4, mb1mx3.4/17, mbtmp3.7/4, Error ellipse: s-maj=83.2km s-min=41.3km az=161.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.55**	**212**	P	Pn	20 18 31.3	-0.5
	1.4nm,0.3s,baz=87,slow=22,SNR=16						
DZM				S	Sn	20 19 26.6	+0.6
	1.3nm,0.3s,baz=300,slow=20,SNR=2.8						
STKA	**Stephens Creek**	**28.24**	**236**	P	P	20 22 57.7	-0.1
	0.5nm,0.3s,baz=68,slow=12,SNR=4.0						
WRA	**Warramunga Arr**	**32.79**	**261**	P	P	20 23 37.8	-0.3
	0.6nm,0.3s,baz=94,slow=8.3,SNR=19						
ASAR	**Alice Springs**	**33.19**	**254**	P	P	20 23 41.5	0.0
	5.5nm,0.5s,baz=82,slow=8.8,SNR=134						
ARCES	**ARCESS Array B**	**124.02**	**345**	PKP	PKPdf	20 35 57.2	-0.1
	1.2nm,1.0s,baz=343,slow=2.8,SNR=3.5						

AUST 08 20:39:44.5±0.0, 9°.79S×124°.83E, h76km, Error ellipse: s-maj=1.2km s-min=1.0km az=2.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.56**	**274**	P	Pn	20 39 59.1	+0.6
	baz=0.6,SNR=50						
SOEI				S	Sn	20 40 08.3	-0.6
	baz=0.6,SNR=9.3						
WSI	**Waingapu**	**4.47**	**271**	P	Pn	20 40 48.8	-1.1
	baz=4.5,SNR=5.6						
MTN	**Manton Dam**	**6.89**	**117**	P	Pn	20 41 20.1	-2.8
	baz=6.9,SNR=3.9						
MTN				S	Sn	20 42 34.4	-5.4
	baz=6.9,SNR=4.9						
KNRA	**Kununurra**	**7.00**	**147**	P	Pn	20 41 25.4	+1.0
	baz=7.0,SNR=11						
KNRA				S	Sn	20 42 43.0	+0.5
	baz=7.0,SNR=5.5						
KDU	**Kakadu**	**8.03**	**112**	P	Pn	20 41 38.6	+0.1
	baz=8.0,SNR=11						
KDU				S	Sn	20 43 04.6	-3.2
	baz=8.0,SNR=4.0						
FITZ	**Fitzroy Crossi**	**8.30**	**175**	P	Pn	20 41 45.1	+2.9
	baz=8.3,SNR=10						
FAKI	**Fak Fak**	**10.04**	**48**	P	Pn	20 42 08.3	+2.2
	baz=10,SNR=4.0						
FAKI				S	Sn	20 43 32.9	-24
	baz=10,SNR=3.7						
JAY	**Jayapura**	**17.35**	**66**	P	Pn	20 43 42.1	+0.1
	baz=17,SNR=4.3						
LHI	**Lord Howe Isla**	**38.39**	**129**	P	P	20 47 09.6	+11
	baz=38,SNR=3.7						
LHI				S	S	20 52 53.8	+5.6
	baz=38,SNR=4.4						
NFK	**Norfolk Island**	**44.63**	**122**	P	P	20 48 08.3	+19
	baz=45,SNR=3.2						

*MAN **08** 20:41:00, 5°.83N×127°.35E, h95km, mb4.7, ML3.6, MS3.5*
*ISCJB **08** 20:41:03.4±0.7, 6°.13N±0°.08×127°.02E±0°.08, h83km, mb3.8/10, Error ellipse: s-maj=13.0km s-min=8.6km az=43.1*
*IDC **08** 20:41:11.1±8.9, 6°.01N×126°.65E, h140km±86km, mb3.5/10, mb1 3.6/10, mb1mx3.4/26, mbtmp3.5/10, Error ellipse: s-maj=93.4km s-min=16.1km az=71.0*
ISC 08 20:41:05.1±0.9, 5°.99N±0°.09×126°.9E±0°.1, h83km, n17, σ1§90/19, mb3.9/10, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.13**	**327**	*e*P	**Pn**	**20 41 27.2**	**+1.3**
MATI				*e*S	**Sn**	**20 41 38.4**	**-3.1**
GSPH	**General Santos**	**1.92**	**273**⇑*i*P		**Pn**	**20 41 35.5**	**-0.6**
GSPH				*e*S	**Sn**	**20 42 00.9**	**+1.2**
BUKP	**Musuan**	**2.60**	**316**	*e*P	**Pn**	**20 41 47.0**	**+1.9**
BUTP	**Butuan**	**3.21**	**337**	*e*P	**Pn**	**20 41 55.9**	**+2.6**
CGP	**Cagayan de Oro**	**3.26**	**319**⇓	*e*P	**Pn**	**20 41 57.0**	**+2.9**
PAGZ	**Pagadian**	**3.93**	**298**	*e*P	**Pn**	**20 42 06.0**	**+2.9**
FITZ	**Fitzroy Crossi**	**23.97**	**183**	P	**P**	**20 46 13.3**	**+1.3**
	2.9nm,1.0s,baz=355,slow=12,SNR=3.3						
WRA	**Warramunga Arr**	**26.80**	**164**	P	**P**	**20 46 39.3**	**+1.7**
	0.3nm,0.6s,baz=343,slow=10,SNR=2.8						
STKA	**Stephens Creek**	**40.19**	**160**	P	**P**	**20 48 33.6**	**+0.1**
	1.4nm,0.9s,baz=351,slow=8.2,SNR=3.1						
SONM	**Songino Array**	**45.22**	**341**	P	**P**	**20 49 14.0**	**-0.1**
	0.2nm,0.4s,baz=154,slow=9.4,SNR=2.7						
MKAR	**Makanchi Array**	**55.80**	**324**	P	**P**	**20 50 32.9**	**-0.8**
	1.1nm,0.3s,baz=116,slow=7.5,SNR=35						
ZALV	**Zalesovo Beam**	**58.66**	**332**	P	**P**	**20 50 52.3**	**-1.3**
	0.4nm,0.4s,baz=128,slow=7.1,SNR=2.7						
KURBB	**Kurchatov Arra**	**59.93**	**327**	P	**P**	**20 51 01.3**	**-1.2**
	2.2nm,0.5s,baz=127,slow=6.9,SNR=50						
BVAR	**Borovoye Array**	**65.52**	**326**	P	**P**	**20 51 38.1**	**-1.6**
	1.3nm,0.7s,baz=126,slow=9.1,SNR=6.8						
AKTO	**Aktyubinsk**	**71.99**	**321**	P	**P**	**20 52 18.3**	**-1.6**
	1.0nm,0.6s,baz=113,slow=10,SNR=3.9						
FINES	**FINESS Array B**	**89.92**	**332**	P	**P**	**20 53 55.5**	**+0.7**
	2.2nm,0.8s,baz=72,slow=4.5,SNR=3.8						
TORD	**Torodi Ar. Bea**	**122.33**	**290**	PKP	**PKPdf**	**20 59 49.7**	**-2.0**
	0.4nm,0.7s,baz=51,slow=2.6,SNR=3.2						

*ISCJB **08** 20:46:53.8±0.9, 30°.6N±0°.1×83°.3E±0°.1, h10km, mb3.6/7, Error ellipse: s-maj=22.1km s-min=8.6km az=138.4*
*IDC **08** 20:46:53.9±1.0, 30°.64N×83°.29E, h0km, mb3.6/8, mb1 3.8/9, mb1mx3.6/27, mbtmp3.6/9, Error ellipse: s-maj=28.1km s-min=19.5km az=54.0*
ISC 08 20:46:55.4±0.7, 30°.58N±0°.10×83°.21E±0°.08, h10km, n12, σ1§18/13, mb3.6/7, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NDI	**New Delhi**	**5.55**	**252**	*e*P	**Pg**	**20 48 41.0**	**-0.7**
SHL	**Shillong**	**9.14**	**121**	*e*P	**Pn**	**20 49 09.0**	**+1.5**
SHL				*e*S	**Sn**	**20 50 49.0**	**-1.6**
MKAR	**Makanchi Array**	**16.21**	**358**	Pn	**Pn**	**20 50 44.5**	**+1.3**
	0.1nm,0.3s,baz=185,slow=12,SNR=5.8						
CMAR	**Chiang Mai Arr**	**18.69**	**127**	P	**P**	**20 51 14.7**	**+0.8**
	baz=310,slow=12,SNR=7.4						
KURBB	**Kurchatov Arra**	**20.33**	**351**	P	**P**	**20 51 30.4**	**-1.1**
	2.8nm,1.0s,baz=173,slow=9.6,SNR=16						
ZALV	**Zalesovo Beam**	**23.39**	**2**	P	**P**	**20 52 02.5**	**-1.5**
	0.3nm,0.4s,baz=170,slow=6.8,SNR=3.3						
SONM	**Songino Array**	**24.75**	**39**	P	**P**	**20 52 17.3**	**+0.2**
	1.0nm,0.8s,baz=226,slow=8.1,SNR=8.4						
KSRS	**Korea Array**	**37.41**	**67**	P	**P**	**20 54 07.2**	**-1.4**
	1.2nm,0.8s,baz=279,slow=9.7,SNR=3.8						
FINES	**FINESS Array B**	**48.03**	**327**	P	**P**	**20 55 35.2**	**+0.8**
	2.6nm,0.9s,baz=93,slow=8.4,SNR=3.5						
WRA	**Warramunga Arr**	**70.27**	**129**	P	**P**	**20 58 09.1**	**0.0**
	1.0nm,0.8s,baz=323,slow=6.2,SNR=6.9						
ASAR	**Alice Springs**	**72.61**	**132**	P	**P**	**20 58 23.1**	**-0.1**
	0.5nm,1.0s,baz=331,slow=5.5,SNR=3.8						
TORD	**Torodi Ar. Bea**	**76.21**	**277**	P	**P**	**20 58 44.8**	**+0.4**
	0.5nm,0.9s,baz=59,slow=4.5,SNR=2.7						

*IDC **08** 20:47:02.1±1.7, 9°.48S×125°.19E, h0km, mb3.1/1, mb1 3.3/4, mb1mx3.2/19, mbtmp3.1/4, ML3.3/3, Error ellipse: s-maj=102.7km s-min=26.8km az=66.0*
*ISCJB **08** 20:47:09.3±1.0, 9°.98S±0°.09×125°.11E±0°.07, h33km, mb3.2/1, Error ellipse: s-maj=15.0km s-min=7.3km az=31.4*
*AUST **08** 20:47:09.6, 10°.00S×125°.02E, h10km*
**ISC 08 20:47:11.0±1.7, 9°.9S±0°.1×125°.14E

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
	0.2nm,0.3s,baz=1.5,slow=11,SNR=10						
FITZ				Sn	Sn	20 50 38.5	+0.2
	0.2nm,0.3s,baz=145,slow=16,SNR=4.3						
FITZ	**Fitzroy Crossi**	**8.17**	**177**	P	**Pn**	20 49 08.4	+1.2
	baz=8.1,SNR=6.4						
WRA	**Warramunga Arr**	**13.36**	**139**	Pn	**Pn**	20 50 17.2	-1.1
	0.2nm,0.3s,baz=318,slow=16,SNR=16						
WRA				Sn	Sn	20 52 42.9	-2.9
	0.1nm,0.3s,baz=318,slow=26,SNR=7.1						
ASAR	**Alice Springs**	**16.05**	**150**	Pn	**Pn**	20 50 53.0	-1.2
	0.1nm,0.3s,baz=320,slow=12,SNR=4.8						
MKAR	**Makanchi Array**	**68.15**	**330**	P	P	20 58 02.0	-5.6
	0.1nm,0.4s,baz=122,slow=5.2,SNR=2.4						

GUC 08 20:56:14.1±0.5, 21°.96S×69°.92W, h74km±3km, ML3.6, 2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB07	**Plate Boundary**	**0.23**	**8**	⇓*i*P		Pn	20 56 26.0 +0.4
PB07				*i* S		Sn	20 56 34.6 +0.7
PB07				AML	AML	20 56 35.0	
	comp=E,5μm,0.3s						
MACH	**Maria Elena**	**0.28**	**148**	*i* P		Pn	20 56 26.3 +0.4
MACH				*i* S		Sn	20 56 35.3 +0.8
PB04	**Plate Boundary**	**0.51**	**128**	*i* P		Pn	20 56 27.0 -0.3
PB04				*i* S		Sn	20 56 36.9 -0.1
PB04				AML	AML	20 56 38.3	
	comp=E,4μm,0.2s						
PB09	**Plate Boundary**	**0.65**	**76**	*i* P		Pn	20 56 30.3 +1.3
PB09				*i* S		Sn	20 56 41.7 +1.8
PB09				AML	AML	20 56 42.5	
	comp=N,12μm,0.3s						
PB01	**Plate Boundary**	**0.99**	**24**	⇓*i*P		Pn	20 56 33.1 +0.3
PB01				*i* S		Sn	20 56 47.5 +0.7
PB01				AML	AML	20 56 48.6	
	comp=E,2μm,0.1s						
PB10	**Plate Boundary**	**1.66**	**201**	AML	AML	20 57 03.3	
	comp=E,403nm,0.3s						

MAN 08 20:56:25, 16°.20N×120°.78E, h26km, mb4.2, ML3.0, MS2.7, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCPH	**Palayan**	**0.70**	**154**	⇑*i*P		Pn	20 56 41.6 +2.4
BALP	**Baler**	**0.89**	**121**	*e*P		Pn	20 56 41.9 +0.1
BALP				*e*S		Sb	20 56 51.1 -2.2
CAUP	**Cauayan**	**1.24**	**53**	*e*P		Pn	20 56 45.2 -1.5
ABRA	**Dolores**	**1.45**	**357**	*e*P		Pn	20 56 49.3 -0.2
APYP	**Conner**	**1.71**	**15**	*e*P		Pn	20 56 53.2 0.0

IDC 08 21:18:32.5±47.0, 16°.66S×174°.28W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/16, mbtmp4.0/3, Error ellipse: s-maj=892.3km s-min=173.8km az=79.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**42.68**	**241**	P	P	21 26 31.6	+0.3
	0.9nm,0.6s,baz=101,slow=10,SNR=4.4						
WRA	**Warramunga Arr**	**48.74**	**258**	P	P	21 27 19.2	-0.3
	0.6nm,0.5s,baz=96,slow=7.0,SNR=23						
ASAR	**Alice Springs**	**48.93**	**253**	P	P	21 27 20.5	-0.3
	3.7nm,0.6s,baz=88,slow=8.5,SNR=72						

*CSEM **08** 21:26:27.7, 38°.83N×22°.08E, h5km, MD2.8, After ATH*
ATH 08 21:26:27.7, 38°.83N×22°.08E, h5km±4km, MD2.8/10, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EVR	**Evrytania**	**0.23**	**292**	*e*PG	Pg	21 26 32.2	-0.2
EVR				*e*SG	Sg	21 26 36.5	+1.0
EVR	**Evrytania**	**0.23**	**292**	*e*Pg	Pg	21 26 32.2	-0.2
EVR				*e*Sg	Sg	21 26 36.5	+1.0
AGG	**Agios Georgios**	**0.27**	**45**	*e*PG	Pg	21 26 32.5	-0.6
AGG				*e*SG	Sg	21 26 36.9	+0.1
AGG	**Agios Georgios**	**0.27**	**45**	*e*Pg	Pg	21 26 32.5	-0.6
AGG				*e*Sg	Sg	21 26 36.9	+0.1
EFP	**Efpalio**	**0.42**	**199**	*e*PG	Pg	21 26 35.0	-0.9
EFP	**Efpalio**	**0.42**	**199**	*e*Pg	Pg	21 26 35.0	-0.9
KALE	**Kalithea**	**0.44**	**174**	*e*PG	Pg	21 26 35.7	-0.6
KALE	**Kalithea**	**0.44**	**174**	*e*Pg	Pg	21 26 35.7	-0.6
TRIZ	**Trizonia**	**0.46**	**181**	*e*PB	Pg	21 26 36.0	-0.6
TRIZ				*e*SB	Sb	21 26 44.1	-1.4
TRIZ	**Trizonia**	**0.46**	**181**	*e*Pb	Pg	21 26 36.0	-0.6
TRIZ				*e*Sb	Sb	21 26 44.1	-1.4
LAKA	**Lakka**	**0.59**	**188**	*e*PG	Pg	21 26 39.2	0.0
LAKA	**Lakka**	**0.59**	**188**	*e*Pg	Pg	21 26 39.2	0.0
THL	**Klokotos Trika**	**0.73**	**356**	*e*PG	Pg	21 26 41.4	-0.4
THL				*e*SB	Sb	21 26 52.6	-0.8
THL	**Klokotos Trika**	**0.73**	**356**	*e*Pg	Pg	21 26 41.4	-0.4
THL				*e*Sb	Sb	21 26 52.6	-0.8
LKR	**Lokris**	**0.74**	**104**	*e*PB	Pb	21 26 42.6	-0.5
LKR	**Lokris**	**0.74**	**104**	*e*Pb	Pb	21 26 42.6	-0.5
KLV	**Kalavryta, Ach**	**0.79**	**176**	*e*PG	Pg	21 26 42.3	-0.6
KLV	**Kalavryta, Ach**	**0.79**	**176**	*e*Pg	Pg	21 26 42.3	-0.6
GUR	**Goura**	**0.92**	**167**	*e*PN	Pg	21 26 45.8	+0.4
GUR	**Goura**	**0.92**	**167**	*e*Pn	Pg	21 26 45.8	+0.4

*CSEM **08** 21:26:55.6, 36°.81N×21°.59E, h18km, MD2.7, After ATH*
ATH 08 21:26:55.6, 36°.81N×21°.59E, h18km±3km, MD2.7/6, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYL	**PYLOS**	**0.15**	**55**	*e*PB	Pb	21 26 59.5	+0.2
PYL				*e*SB	Sg	21 27 03.4	+0.7
PYL	**PYLOS**	**0.15**	**55**	*e*Pb	Pb	21 26 59.5	+0.2
PYL				*e*Sb	Sg	21 27 03.4	+0.7
DYR	**Agios Nikonas**	**0.60**	**94**	*e*PG	Pg	21 27 07.2	-0.4
DYR	**Agios Nikonas**	**0.60**	**94**	*e*PB	Pg	21 27 07.2	-0.4
DYR				*e*SN	Sb	21 27 16.0	+0.3
DYR	**Agios Nikonas**	**0.60**	**94**	*e*Pg	Pg	21 27 07.2	-0.4
DYR	**Agios Nikonas**	**0.60**	**94**	*e*Pb	Pg	21 27 07.2	-0.4
DYR				*e*Sn	Sb	21 27 16.0	+0.3
AMT	**Artemida-Makis**	**0.73**	**7**	*e*PN	Pb	21 27 09.4	-0.4
AMT				*e*SN	Sg	21 27 20.3	+0.6
AMT	**Artemida-Makis**	**0.73**	**7**	*e*Pn	Pb	21 27 09.4	-0.4
AMT				*e*Sn	Sg	21 27 20.3	+0.6
VLX	**Vlachokerasia**	**0.84**	**48**	*e*PN	Pg	21 27 12.3	+0.1
VLX	**Vlachokerasia**	**0.84**	**48**	*e*Pn	Pg	21 27 12.3	+0.1
GUR	**Goura**	**1.27**	**28**	*e*PN	Pb	21 27 19.2	0.0
GUR	**Goura**	**1.27**	**28**	*e*Pn	Pb	21 27 19.2	0.0
KYTH	**Kithira**	**1.28**	**114**	*e*PN	Pg	21 27 20.4	0.0
KYTH	**Kithira**	**1.28**	**114**	*e*Pn	Pg	21 27 20.4	0.0

*TIF **08** 21:29:58.9, 42°.58N×43°.44E, h14km±1km*
*CSEM **08** 21:30:00.0±0.2, 42°.56N×43°.40E, h2km, mb4.2, Error ellipse: s-maj=4.0km s-min=2.6km az=129.0*
*ISK **08** 21:30:02.8, 42°.47N×43°.02E, h6km, MD3.5*
*MOS **08** 21:30:04.5±1.9, 42°.80N×43°.66E, h9km, mb4.2/1, Error ellipse: s-maj=9.6km s-min=6.5km az=78.1*
ISC 08 21:30:00.3±0.9, 42°.55N±0°.02×43°.42E±0°.02, h6km±6km, n58, σ0°.68/101, 5C-9D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONI	**Oni**	**0.04**	**31**	P	**Pg**	21 30 01.6	-0.1
ONI				S	**Sg**	21 30 03.3	+0.5
DIGR	**Digorskoe uzhe**	**0.36**	**19**	⇓*i*PG	**Pg**	21 30 06.8	-0.7
DIGR				*i* S	**Sg**	21 30 12.0	-0.3
DIGR	**Digorskoe uzhe**	**0.36**	**19**	*i* Pg	**Pg**	21 30 06.8	-0.7
DIGR				*i* Sg	**Sg**	21 30 12.0	-0.3
ZEI	**Tsey**	**0.42**	**56**	⇓*i*PG	**Pg**	21 30 07.9	-0.7
ZEI				*i* S	**Sg**	21 30 13.9	-0.3
ZEI	**Tsey**	**0.42**	**56**	*i* Pg	**Pg**	21 30 07.9	-0.7
ZEI				*i* Sg	**Sg**	21 30 13.9	-0.3
LACR	**Lac**	**0.70**	**67**	⇓*i*PG	**Pg**	21 30 12.8	-1.0
LACR				*e*S	**Sg**	21 30 22.5	-0.4
LACR	**Lac**	**0.70**	**67**	*i* Pg	**Pg**	21 30 12.8	-1.0
LACR				*e*Sg	**Sg**	21 30 22.5	-0.4
KORR	**Kora**	**0.71**	**41**	⇑*i*PG	**Pg**	21 30 13.7	-0.3
KORR				*i* S	**Sg**	21 30 23.6	+0.3
KORR	**Kora**	**0.71**	**41**	*i* Pg	**Pg**	21 30 13.7	-0.3
KORR				*i* Sg	**Sg**	21 30 23.6	+0.3
LSNR	**Lesken**	**0.78**	**22**	⇓*i*PG	**Pg**	21 30 15.1	-0.3
LSNR				*i* S	**Sg**	21 30 25.5	0.0
LSNR	**Lesken**	**0.78**	**22**	*i* Pg	**Pg**	21 30 15.1	-0.3
LSNR				*i* Sg	**Sg**	21 30 25.5	0.0
STDR	**Stavd-Durt**	**0.94**	**30**	⇑*i*PG	**Pb**	21 30 18.7	-0.4
STDR				*i* S	**Sb**	21 30 31.6	-0.2
STDR	**Stavd-Durt**	**0.94**	**30**	*i* Pg	**Pb**	21 30 18.7	-0.4
STDR				*i* Sg	**Sb**	21 30 31.6	-0.2
NCK	**Nalchik**	**0.95**	**8**	⇓*e*PG	**Pg**	21 30 18.7	+0.1
NCK				*e*S	**Sb**	21 30 32.8	+0.7
NCK	**Nalchik**	**0.95**	**8**	*e*Pg	**Pg**	21 30 18.7	+0.1
NCK				*e*Sg	**Sb**	21 30 32.8	+0.7
CHVG	**Ch'k'valeri**	**1.00**	**280**	P	**Pg**	21 30 19.1	-0.5
CHVG				S	**Sg**	21 30 32.7	+0.2
VLKR	**Vladikavkaz**	**1.05**	**61**	*e*PG	**Pg**	21 30 19.8	-0.6
VLKR				*e*S	**Sg**	21 30 33.9	-0.1
VLKR	**Vladikavkaz**	**1.05**	**61**	*e*Pg	**Pg**	21 30 19.8	-0.6
VLKR				*e*Sg	**Sg**	21 30 33.9	-0.1
DUS	**Dusheti**	**1.06**	**116**	P	**Pg**	21 30 20.3	-0.3
DUS				S	**Sg**	21 30 34.2	-0.1
AKH	**Akhalkalaki**	**1.14**	**177**	P	**Pg**	21 30 21.3	-0.9
AKH				S	**Sg**	21 30 37.3	+0.2
SNJR	**Sundja**	**1.15**	**63**	⇑*i*PG	**Pg**	21 30 21.0	-1.3
SNJR				*e*S	**Sg**	21 30 36.4	-0.7
SNJR	**Sundja**	**1.15**	**63**	*i* Pg	**Pg**	21 30 21.0	-1.3
SNJR				*e*Sg	**Sg**	21 30 36.4	-0.7
BTKR	**Batakoyurt**	**1.16**	**45**	*e*PG	**Pn**	21 30 23.4	+0.2
BTKR				*e*S	**Sb**	21 30 38.9	+0.8
BTKR	**Batakoyurt**	**1.16**	**45**	*e*Pg	**Pn**	21 30 23.4	+0.2
BTKR				*e*Sg	**Sb**	21 30 38.9	+0.8
KUBR	**Kubataba**	**1.25**	**360**	⇓*e*PG	**Pb**	21 30 24.1	-0.2
KUBR				*e*S	**Sn**	21 30 41.7	+0.2
KUBR	**Kubataba**	**1.25**	**360**	*e*Pg	**Pb**	21 30 24.1	-0.2
KUBR				*e*Sg	**Sn**	21 30 41.7	+0.2
TBLG	**Delisi**	**1.28**	**130**	P	**Pg**	21 30 23.6	-1.2
TBLG				S	**Sg**	21 30 41.2	-0.2
SHAR	**Shatzhatmas**	**1.31**	**335**	⇓*e*PG	**Sg**	21 30 24.6	-0.9
SHAR				*e*S	**Sg**	21 30 41.9	-0.6
SHAR	**Shatzhatmas**	**1.31**	**335**	*e*Pg	**Pg**	21 30 24.6	-0.9
SHAR				*e*Sg	**Sg**	21 30 41.9	-0.6
PRTR	**Priterechnaya**	**1.35**	**27**	⇓*i*PG	**Pb**	21 30 26.5	+0.4
PRTR				*e*S	**Sn**	21 30 44.7	+0.7
PRTR	**Priterechnaya**	**1.35**	**27**	*i* Pg	**Pb**	21 30 26.5	+0.4
PRTR				*e*Sg	**Sn**	21 30 44.7	+0.7
KZR	**Kazreti**	**1.39**	**147**	P	**Pn**	21 30 25.0	-1.3
KZR				S	**Sg**	21 30 43.1	-1.7
KIV	**Kislovodsk**	**1.50**	**339**	⇑*e*PG	**Pn**	21 30 28.1	+0.2
KIV				*e*S	**Sn**	21 30 47.4	-0.5
KIV	**Kislovodsk**	**1.50**	**339**	*e*Pg	**Pn**	21 30 28.1	+0.2
KIV				*e*Sg	**Sn**	21 30 47.4	-0.5
PYA	**Pyatigorsk**	**1.50**	**350**	⇑*e*PG	**Pb**	21 30 28.4	-0.3
PYA				*e*S	**Sg**	21 30 48.1	-0.5
PYA	**Pyatigorsk**	**1.50**	**350**	*e*Pg	**Pb**	21 30 28.4	-0.3
PYA				*e*Sg	**Sg**	21 30 48.1	-0.5
TRKR	**Terskaya**	**1.51**	**39**	⇓*i*PG	**Pn**	21 30 27.9	-0.1
TRKR				*e*S	**Sn**	21 30 48.1	+0.1
TRKR	**Terskaya**	**1.51**	**39**	*i* Pg	**Pn**	21 30 27.9	-0.1
TRKR				*e*Sg	**Sn**	21 30 48.1	+0.1
BCA	**Borcka**	**1.74**	**231**	PN	**Pn**	21 30 30.0	-1.1
BCA	**Borcka**	**1.74**	**231**	*i* Pn	**Pn**	21 30 30.0	-1.1
DGRG	**David-gareji**	**1.82**	**126**	P	**Pb**	21 30 33.8	-0.4
DGRG				S	**Sg**	21 31 01.1	+2.2
GRO	**Groznyy**	**1.87**	**65**	*e*PG	**Pg**	21 30 36.5	+0.3
GRO				*e*S	**Sg**	21 31 01.0	+0.5
GRO	**Groznyy**	**1.87**	**65**	*e*Pg	**Pg**	21 30 36.5	+0.3
GRO				*e*Sg	**Sg**	21 31 01.0	+0.5
KARS	**Kars**	**1.94**	**188**	*e*PN	**Pb**	21 30 36.0	-0.2
KARS				*e*SN	**Sn**	21 30 60.0	+1.2
KARS	**Kars**	**1.94**	**188**	*e*Pn	**Pb**	21 30 36.0	-0.2
KARS				*e*Sn	**Sn**	21 31 00.0	+1.2
PZAR	**Pazar-Rize**	**2.33**	**235**	*e*PN	**Pn**	21 30 38.8	-0.4
PZAR	**Pazar-Rize**	**2.33**	**235**	*e*Pn	**Pn**	21 30 38.8	-0.4
GNI	**Garni**	**2.60**	**157**	*e*PN	**Pb**	21 30 47.3	-0.1
GNI	**Garni**	**2.60**	**157**	*e*Pn	**Pb**	21 30 47.3	-0.1
SOC	**Sochi**	**2.90**	**292**	*e*PN	**Pg**	21 30 57.0	+1.1
SOC				*e*		21 31 30.5	
SOC				*e*		21 31 34.9	
SOC				pmax	pmax		
	comp=Z,14nm,0.4s						
SOC				smax	smax		
	comp=N,12nm,0.5s						
SOC				smax	smax		
	comp=E,36nm,0.6s						
AGRB	**Hanur-Agry**	**2.99**	**186**	*e*PN	**Pn**	21 30 50.4	+1.9
AGRB	**Hanur-Agry**	**2.99**	**186**	*e*Pn	**Pn**	21 30 50.4	+1.9
BAYT	**Ayd¨-ntepe-Bay**	**3.28**	**230**	*e*PN	**Pn**	21 30 52.2	-0.2
BAYT	**Ayd¨-ntepe-Bay**	**3.28**	**230**	*e*Pn	**Pn**	21 30 52.2	-0.2
GUMT	**Gumushane**	**3.62**	**236**	*e*PN	**Pn**	21 30 56.8	-0.3
GUMT	**Gumushane**	**3.62**	**236**	*e*Pn	**Pn**	21 30 56.8	-0.3
ESPY	**Espiye-Giresun**	**3.88**	**247**	*e*PN	**Pn**	21 31 00.2	-0.3
ESPY	**Espiye-Giresun**	**3.88**	**247**	*e*Pn	**Pn**	21 31 00.2	-0.3

DJA 08 21:46:27.0±3.2, 8°S±25°×10°7E±1°1, h15km, M4.2/6, MLv4.2/6, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CISI	**Cisompet, Garu**	**1.09**	**39**	P	Pb	21 46 45.8	-1.8
SKJI	**Sukabumi**	**1.51**	**338**	P	Pn	21 46 52.1	-1.4
LEM	**Lembang**	**1.65**	**17**	P	Pn	21 46 54.4	-1.2
DBJI	**Dramaga**	**1.88**	**348**	P	Pn	21 46 58.4	-0.3
KPJI	**Karang Pucung**	**2.08**	**59**	P	Pn	21 47 01.3	-0.1

*IDC **08** 21:47:03.5±4.2, 2°.09S×100°.57E, h0km, mb3.4/4, mb1 3.7/4, mb1mx3.4/23, mbtmp3.4/4, Error ellipse: s-maj=175.9km s-min=23.2km az=57.0*
*DJA **08** 21:47:07.2±1.5, 2°S±9°×10°0E±1°6, h15km, M4.3/4, MLv4.3/4*
*ISCJB **08** 21:47:08.2±1.4, 1°.99S±0°.10×100°.4E±0°.2, h56km, mb3.3/3, Error ellipse: s-maj=26.5km s-min=7.2km az=151.4*
ISC 08 21:47:09.5±1.9, 2°.0S±0°.1×100°.5E±0°.2, h56km, n8, σ1°89/9, mb3.4/3, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PDSI	**Padang**	**1.07**	**0**	P	**Pn**	21 47 25.8	-2.6
PDSI				S	**Sn**	21 47 40.4	-1.9
PPI	**Padang Panjang**	**1.52**	**358**	P	**Pn**	21 47 34.1	-0.4
MASI	**Maura Aman, Be**	**2.12**	**123**	P	**Pn**	21 47 40.6	-2.0
MASI				S	**Sn**	21 48 08.9	+1.2
BKNI	**Bangkinang**	**2.37**	**14**	P	**Pn**	21 47 47.2	+1.2
BKNI				S	Sn	21 48 20.4	+6.5
CMAR	**Chiang Mai Arr**	**20.37**	**356**	P	Pn	21 51 43.5	-0.7
	0.4nm,0.3s,baz=182,slow=11,SNR=3.7						
WRA	**Warramunga Arr**	**37.60**	**121**	P	**P**	21 54 18.7	-0.5
	0.5nm,0.9s,baz=299,slow=11,SNR=2.7						
ASAR	**Alice Springs**	**38.89**	**126**	P	**P**	21 54 30.1	+0.2
	0.3nm,0.6s,baz=303,slow=7.2,SNR=3.2						
MKAR	**Makanchi Array**	**51.14**	**344**	P	**P**	21 56 08.8	+2.0
	0.2nm,0.4s,baz=156,slow=8.0,SNR=6.6						

*IDC **08** 21:55:50.1±1.0, 34°.45N×25°.37E, h0km, mb3.9/7, mb1 3.9/16, mb1mx3.8/31, mbtmp3.8/16, ML3.6/8, MS2.5/1, Ms1 2.5/1, ms1mx2.1/47, Error ellipse: s-maj=18.0km s-min=14.6km az=25.0*
*HLW **08** 21:55:52.1, 34°.84N×25°.46E, h33km±13km, Md3.0, Ml3.5*
*ISCJB **08** 21:55:53.2±0.3, 34°.42N±0°.03×25°.40E±0°.03, h54km±4km, mb3.8/8, Error ellipse: s-maj=5.5km s-min=3.0km az=35.5*
*CSEM **08** 21:55:54.8±0.1, 34°.53N×25°.41E, h60km, ML3.7/4, Error ellipse: s-maj=6.2km s-min=2.6km az=35.0*
*THE **08** 21:55:55.8, 34°.53N×25°.26E, h7km±1km, ML3.7/4, Error ellipse: s-maj=1.4km s-min=0.7km az=358.0*
*ATH **08** 21:55:55.0, 34°.58N×25°.20E, h79km±5km*
ISC 08 21:55:54.4±0.9, 34°.45N±0°.04×25°.38E±0°.04, h35km±2km, n123, σ1°50/146, mb4.0/8, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LAST	**Lasithi**	**0.71**	**7**	P	**Pn**	21 56 08.5	+0.4
LAST				S	**Sn**	21 56 18.6	+0.8
LAST	**Lasithi**	**0.71**	**7**	P	**Pn**	21 56 08.5	+0.4
LAST				S	**Sn**	21 56 18.6	+0.8
SIVA	**Sivas**	**0.73**	**320**	P	**Pn**	21 56 07.9	-0.4
SIVA				S	**Sn**	21 56 17.1	-1.1
SIVA	**Sivas**	**0.73**	**320**	P	**Pn**	21 56 07.9	-0.4
SIVA				S	**Sn**	21 56 17.1	-1.1
NPS	**Neapolis**	**0.83**	**13**	P	**Pn**	21 56 10.5	+0.9
NPS				S	**Sn**	21 56 22.6	+1.9
NPS	**Neapolis**	**0.83**	**13**	*e*P	**Pn**	21 56 10.5	+0.9
NPS				*e*S	**Sn**	21 56 23.9	+3.2
NPS	**Neapolis**	**0.83**	**13**	P	**Pn**	21 56 10.5	+0.9
NPS				S	**Sn**	21 56 22.6	+1.9
IDI	**Anoyia**	**0.93**	**334**	P	**Pn**	21 56 11.0	+0.1
IDI				S	**Sn**	21 56 23.5	+0.4
IDI	**Anoyia**	**0.93**	**334**	*e*P	**Pn**	21 56 11.1	+0.1
IDI				*e*S	**Sn**	21 56 23.9	+0.8
IDI	**Anoyia**	**0.93**	**334**	Pn	**Pn**	21 56 11.0	+0.1
	161nm,0.3s,baz=153,slow=17,SNR=54						
IDI				Sn	**Sn**	21 56 24.1	+1.0
	410nm,0.3s,baz=270,slow=20,SNR=25						
IDI	**Anoyia**	**0.93**	**334**	*e*P	**Pn**	21 56 11.1	+0.1
IDI				S	**Sn**	21 56 23.5	+0.4
ZKR	**Zakros**	**0.95**	**46**	P	**Pn**	21 56 13.9	+2.6
GVD	**Gavdhos**	**1.13**	**290**	P	**Pn**	21 56 14.9	+1.2
GVD				S	**Sn**	21 56 28.8	+0.7
GVD	**Gavdhos**	**1.13**	**290**	*e*P	**Pn**	21 56 14.8	+1.1
GVD	**Gavdhos**	**1.13**	**290**	*e*P	**Pn**	21 56 14.8	+1.1
GVD				S	**Sn**	21 56 28.8	+0.7
VAM	**Vamos**	**1.36**	**315**	P	**Pn**	21 56 18.1	+1.2
VAM	**Vamos**	**1.36**	**315**	*e*P	**Pn**	21 56 18.2	+1.3
VAM				*e*S	**Sn**	21 56 33.3	-0.3
VAM	**Vamos**	**1.36**	**315**	P	**Pn**	21 56 18.1	+1.2
VAM				*e*S	**Sn**	21 56 33.3	-0.3
KARN	**Karanos**	**1.53**	**309**	P	**Pn**	21 56 20.4	+1.2
KARN	**Karanos**	**1.53**	**309**	*e*P	**Pn**	21 56 20.5	+1.2
KARN	**Karanos**	**1.53**	**309**	P	**Pn**	21 56 20.4	+1.2
KARP	**Karpathos**	**1.82**	**53**	P	Pn	21 56 26.9	+3.7
KARP				S	Sn	21 56 51.4	+6.2
KARP	**Karpathos**	**1.82**	**53**	*e*P	Pn	21 56 27.0	+3.7
KARP	**Karpathos**	**1.82**	**53**	*e*P	Pn	21 56 27.0	+3.7
SANT	**Santorini**	**1.91**	**2**	P	**Pn**	21 56 26.8	+2.3
SANT				S	**Sn**	21 56 49.8	+2.4
ANKY	**Antikythira Is**	**2.21**	**310**	P	**Pn**	21 56 30.0	+1.4
ANKY				S	**Sn**	21 56 57.1	+2.4
ANKY	**Antikythira Is**	**2.21**	**310**	P	**Pn**	21 56 30.0	+1.4
ANKY				S	**Sn**	21 56 57.1	+2.4
KYTH	**Kithira**	**2.64**	**314**	*e*P	**Pn**	21 56 34.6	0.0
KYTH	**Kithira**	**2.64**	**314**	*e*P	**Pn**	21 56 34.6	0.0
LTBQ	**Tobruq**	**2.69**	**207**	*i* Pg	**Pn**	21 56 37.9	+2.8
	SNR=92						
LTBQ				*e*Sg	**Sn**	21 57 07.5	+1.1
	186nm,0.6s,SNR=92						
ARG	**Arkhangelos**	**2.85**	**51**	P	**Pn**	21 56 40.4	+3.0
SLUM		**2.96**	**183**	P	**Pn**	21 56 40.5	+1.7
VLI	**Veliai**	**3.01**	**319**	*e*P	**Pn**	21 56 39.1	-0.5
VLI				*e*S	**Sn**	21 57 12.3	-2.1
VLI	**Veliai**	**3.01**	**319**	*e*P	**Pn**	21 56 39.1	-0.5
VLI				*e*S	**Sn**	21 57 12.3	-2.1
DYR	**Agios Nikonas**	**3.39**	**314**	P	**Pn**	21 56 45.7	+0.9
DYR				S	**Sn**	21 57 24.9	+1.2
DYR	**Agios Nikonas**	**3.39**	**314**	*e*P	**Pn**	21 56 44.9	+0.1
DYR	**Agios Nikonas**	**3.39**	**314**	*e*P	**Pn**	21 56 44.9	+0.1
DYR				S	**Sn**	21 57 24.9	+1.2
DID	**Didima**	**3.51**	**331**	*e*P	**Pn**	21 56 46.0	-0.4
DID	**Didima**	**3.51**	**331**	*e*P	**Pn**	21 56 46.0	-0.4
VLX	**Vlachokerasia**	**3.79**	**321**	*e*P	**Pn**	21 56 50.9	+0.4
VLX	**Vlachokerasia**	**3.79**	**321**	*e*P	**Pn**	21 56 50.9	+0.4
PYL	**PYLOS**	**3.83**	**310**	*e*P	**Pn**	21 56 49.3	-1.6
PYL	**PYLOS**	**3.83**	**310**	*e*P	**Pn**	21 56 49.3	-1.6
ITM	**Ithomi**	**3.91**	**315**	*e*P	**Pn**	21 56 51.6	-0.3
ITM	**Ithomi**	**3.91**	**315**	*e*P	**Pn**	21 56 51.6	-0.3
GUR	**Goura**	**4.26**	**326**	*e*P	**Pn**	21 56 56.4	-0.4
GUR	**Goura**	**4.26**	**326**	*e*P	**Pn**	21 56 56.4	-0.4
AMT	**Artemida-Makis**	**4.28**	**317**	*e*P	**Pn**	21 56 56.3	-0.7
AMT	**Artemida-Makis**	**4.28**	**317**	*e*P	**Pn**	21 56 56.3	-0.7
LJBD	**Ad

comp=Z,16nm,0.9s
BAIF Baives 21.99 322 eP P 22 00 45.7 +0.5
comp=Z,15nm,0.9s
MFF Saint Martin d 22.77 310 eP P 22 00 54.0 +0.4
MFF Saint Martin d 22.77 310 eP P 22 00 54.0 +0.4
LDF La Druitiere 23.61 314 eP P 22 00 58.7 -3.3
LDF La Druitiere 23.61 314 eP P 22 00 58.7 -3.3
FLN La Foliniere 23.90 315 eP P 22 01 00.8 -3.9
FLN La Foliniere 23.90 315 eP P 22 01 00.8 -3.9
ESDC Sonseca Array 23.93 291 P P 22 01 05.1 -0.1
comp=Z,0.3nm,0.4s,baz=78,slow=9.8,SNR=8.3
QUIF Quistinic 25.18 311 eP P 22 01 14.6 -1.7
QUIF Quistinic 25.18 311 eP P 22 01 14.6 -1.7
FINES FINESS Array B 27.01 1 P P 22 01 33.5 +0.7
comp=Z,6.0nm,1.1s,baz=183,slow=7.6,SNR=4.6
TORD Torodi Ar. Bea 30.18 231 P P 22 02 02.3 +0.9
comp=Z,2.1nm,0.5s,baz=36,slow=8.3,SNR=47
ARCES ARCESS Array B 35.13 0 P P 22 02 44.4 +0.2
comp=Z,0.6nm,0.6s,baz=172,slow=9.3,SNR=4.6
MKAR Makanchi Array 44.02 56 P P 22 03 59.3 +0.9
comp=Z,0.4nm,0.5s,baz=263,slow=8.1,SNR=9.6
ZALV Zalesovo Beam 45.36 46 P P 22 04 08.8 -0.2
comp=Z,1.6nm,0.4s,baz=270,slow=8.1,SNR=10.0
SONM Songino Array 59.80 50 P P 22 05 57.0 +1.0
comp=Z,0.4nm,0.5s,baz=292,slow=7.5,SNR=4.7

IDC 08 22:03:07.7±2.1, 4°.13N×127°.36E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/22, mbtmp3.6/4, MS3.3/1, Ms1 3.3/1, ms1mx2.5/36, Error ellipse: s-maj=181.0km s-min=23.9km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.89	164	P	P	22 08 30.8	-1.6
	1.0nm,0.4s,baz=344,slow=9.9,SNR=13						
ASAR	Alice Springs	28.36	167	P	P	22 09 05.3	+1.6
	0.2nm,0.3s,baz=338,slow=11,SNR=3.1						
STKA	Stephens Creek	38.29	160	P	P	22 10 29.9	-0.1
	0.7nm,0.5s,baz=340,slow=12,SNR=3.4						
ASAJ	Asahikawa	42.03	16	LR	LR	22 26 46.1	
	comp=Z,37nm,18.7s,baz=271,slow=34						
MKAR	Makanchi Array	57.59	325	P	P	22 12 59.4	0.0
	0.3nm,0.5s,baz=122,slow=7.6,SNR=8.5						

IDC 08 22:05:55.1±7.7, 6°.25S×148°.95E, h75km±60km, mb3.3/2, mb1 3.6/4, mb1mx3.2/17, mbtmp3.5/4, ML3.4/2, Error ellipse: s-maj=99.3km s-min=53.0km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.60	209	P	Pn	22 06 48.3	-0.3
	6.2nm,0.3s,baz=33,slow=6.0,SNR=12						
PMG				S	Sn	22 07 30.9	+1.0
	9.0nm,0.3s,baz=191,slow=21,SNR=9.9						
WRA	Warramunga Arr	19.66	225	P	P	22 10 17.6	-0.6
	0.3nm,0.3s,baz=51,slow=11,SNR=13						
ASAR	Alice Springs	22.57	218	P	P	22 10 49.2	-0.2
	0.7nm,0.6s,baz=49,slow=10,SNR=9.0						
FITZ	Fitzroy Crossi	25.61	241	P	P	22 11 17.4	-0.2
	2.0nm,0.8s,baz=270,slow=0.0						
TORD	Torodi Ar. Bea	147.03	284	PKPbc	PKPbc	22 25 30.1	-0.3
	0.2nm,0.9s,baz=71,slow=2.9,SNR=5.1						

IDC 08 22:14:55.0±1.4, 4°.02N×127°.24E, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.8/22, mbtmp4.0/5, Error ellipse: s-maj=150.4km s-min=20.7km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.81	164	P	P	22 20 18.1	-1.0
	2.9nm,0.5s,baz=344,slow=9.9,SNR=39						
ASAR	Alice Springs	28.27	167	P	P	22 20 50.8	+0.5
	0.2nm,0.3s,baz=346,slow=11,SNR=8.1						
STKA	Stephens Creek	38.22	160	P	P	22 22 17.3	+0.4
	2.7nm,0.6s,baz=337,slow=9.9,SNR=9.1						
MKAR	Makanchi Array	57.61	325	P	P	22 24 46.9	0.0
	0.6nm,0.5s,baz=118,slow=7.6,SNR=8.3						
ARCES	ARCESS Array B	90.35	340	P	P	22 27 57.7	-0.2
	1.0nm,0.6s,baz=64,slow=5.5,SNR=6.4						

*ISCJB **08** 22:22:24.8±0.5, 20°.86S±0°.03×68°.45W±0°.04, h89km±4km, mb4.9/136, Error ellipse: s-maj=7.1km s-min=4.8km az=153.3*
*GUC **08** 22:22:27.2±0.5, 21°.09S×68°.93W, h117km±4km, ML5.0*
*IDC **08** 22:22:28.5±0.9, 20°.97S×68°.56W, h109km±7km, mb4.5/21, mb1 4.6/25, mb1mx4.5/27, mbtmp4.5/25, MS3.1/4, Ms1 3.2/4, ms1mx3.0/31, Error ellipse: s-maj=15.6km s-min=9.8km az=56.0*
*MOS **08** 22:22:28.7±1.2, 20°.68S×68°.50W, h116km, mb4.9/24, Error ellipse: s-maj=17.2km s-min=8.3km az=112.8*
*BJI **08** 22:22:29.6, 20°.70S×68°.30W, h114km, mB5.2/16*
*NEIC **08** 22:22:29.1±0.2, 20°.90S×68°.40W, mb4.9/114, Error ellipse: s-maj=7.2km s-min=4.6km az=63.0*
NEIC Felt [II] at Potosi.
*TEH **08** 22:22:30.0, 20°.73S×68°.28W, h115km, ML4.9*
ISC 08 22:22:28.0±0.4, 21°.03S±0°.04×68°.63W±0°.06, h108km±3km, h107km: pP-P, n683, σ0s94/721, mb4.9/137, 192C-174D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	Plate Boundary	0.80	269	↑iP	Pn	22 22 45.3	-1.8
PB09	Plate Boundary	0.95	216	↑iP	Pn	22 22 47.6	-1.1
PB09				i S	Sn	22 23 02.8	-1.6
PB09				AML	AML	22 23 05.2	
	comp=N,48μm,0.7s						
HMBC	Humberstone	1.39	302	↑iP	Pn	22 22 52.1	-1.4
HMBC				i S	Sn	22 23 10.8	-2.1
HMBC				AML	AML	22 23 13.3	
	comp=E,13μm,0.9s						
MACH	Maria Elena	1.57	222	↑iP	Pn	22 22 53.7	-2.0
MACH				i S	Sn	22 23 13.8	-2.9
LVC	Limon Verde	1.60	189	ePn	Pn	22 22 56.0	-0.2
LVC				eSn	Sn	22 23 17.2	-0.3
LVC	Limon Verde	1.60	189	eP	Pn	22 22 56.0	-0.2
PSGC	Pisagua	2.00	315	↑iP	Pn	22 22 59.5	-1.4
PSGC				i S	Sn	22 23 24.3	-1.8
PB10	Plate Boundary	3.05	215	AML	AML	22 24 00.1	
	comp=E,13μm,0.5s						
ANCH	Antofagasta	3.12	212	↓iP	Pn	22 23 13.7	-1.8
ANCH				i S	Sn	22 23 48.5	-3.5
ANCH				AML	AML	22 24 10.0	
	comp=E,5μm,0.5s						
LPAZ	La Paz	4.74	6	ePn	Pn	22 23 40.0	+2.1
LPAZ				eSn	Sn	22 24 17.5	-15
LPAZ	La Paz	4.74	6	P	Pn	22 23 40.5	+2.6
	comp=E,14nm,0.3s,baz=196,slow=6.9,SNR=159						
LPAZ				S	Sn	22 24 24.9	-7.1
	comp=E,2.1nm,0.3s,baz=193,slow=22,SNR=5.2						
LPAZ				LR	LR	22 24 54.3	
	comp=E,416nm,19.4s,baz=131,slow=31						
LCO	Las Campanas	8.17	193	ePn	Pn	22 24 19.6	-4.5
LCO				eSn	Sn	22 25 48.4	-6.4
SIV	San Ignacio	8.74	56	P	Pn	22 24 29.8	-1.9
SIV				S	Sn	22 25 56.6	-12
SIV	San Ignacio	8.74	56	P	Pn	22 24 29.8	-1.9
	comp=E,43nm,0.3s,baz=249,slow=11,SNR=405						
SIV				S	Sn	22 25 56.6	-12
	comp=E,1.2nm,0.3s,baz=246,slow=16,SNR=3.5						
SIV				LR	LR	22 27 40.9	
	comp=E,104nm,19.5s,slow=36						
CFAA	Coronel Fontan	10.54	178	P	Pn	22 24 50.5	-5.5
CFAA				S	Sn	22 26 41.1	-11
CFAA	Coronel Fontan	10.54	178	P	Pn	22 24 50.5	-5.5
	comp=E,0.3nm,0.3s,baz=350,slow=13,SNR=15						
CFAA				S	Sn	22 26 41.1	-11
	comp=E,0.3nm,0.3s,baz=8.0,slow=17,SNR=2.9						
CFAA				LR	LR	22 29 42.1	
	comp=E,42nm,19.7s,baz=212,slow=41						
CPUP	Villa Florida	11.62	119	ePn	Pn	22 25 02.4	-8.1
	comp=E,58nm,0.4s						
CPUP	Villa Florida	11.62	119	P	Pn	22 25 07.4	-3.1
	comp=E,1.2nm,0.3s,baz=287,slow=12,SNR=23						
NNA	Nana	11.94	318	P	P	22 25 23.2	0.0
NNA	Nana	11.94	318	P	P	22 25 23.2	0.0
	comp=E,1.5nm,0.3s,baz=155,slow=13,SNR=3.9						
SAML	Samuel	13.11	24	ePn	Pn	22 25 25.7	-4.4
	comp=E,18nm,0.9s						
SAML				eSn	Sn	22 27 39.9	-15
ATAH	Atahualpa	16.73	324	P	P	22 26 18.5	+1.6
ATAH	Atahualpa	16.73	324	P	P	22 26 18.5	+1.6
	comp=E,0.4nm,0.3s,baz=158,slow=9.0,SNR=6.6						
TRQA	Tornquist	17.92	163	ePn	P	22 26 28.9	-0.5
	comp=E,136nm,1.8s						
PLCA	Paso Flores	19.71	184	eP	P	22 26 48.4	-0.6
	comp=E,229nm,2.9s						
PLCA	Paso Flores	19.71	184	P	P	22 26 48.6	-0.4
	comp=E,1.0nm,0.3s,baz=356,slow=10,SNR=20						
BDFB	Brasilia	20.28	78	P	P	22 26 54.4	-1.0
BDFB				ePn	Pn	22 26 55.0	-3.4
BDFB	Brasilia	20.28	78	P	P	22 26 54.4	-1.0
	comp=E,11nm,0.5s,baz=252,slow=11,SNR=19						
OTAV	Otavalo	23.21	334	eP	P	22 27 24.5	-1.8
	comp=E,61nm,1.6s						
OTAV				ePcP	PcP	22 31 09.8	-1.4
ROSC	El Rosal	26.32	347	eP	P	22 27 55.4	+1.0
ROSC	El Rosal	26.32	347	P	P	22 27 54.4	0.0
	comp=E,13nm,0.6s,baz=93,slow=20,SNR=5.7						
ROSC				LR	LR	22 39 59.3	
	comp=E,84nm,19.8s,baz=192,slow=40						
SDV	Santo Domingo	29.79	356	eP	P	22 28 23.6	-1.4
	comp=E,22nm,1.0s						
CRPR	Cabo Rojo, PR	38.82	2	eP	P	22 29 41.1	-1.5
	comp=E,77nm,0.8s						
CRPR				epP	pP	22 30 07.9	+0.9
OBIP	Obispado Ponce	38.88	3	eP	P	22 29 41.2	-1.8
	comp=E,101nm,0.6s						
OBIP				epP	pP	22 30 08.4	+0.9
CELP	Cerrillos	38.91	3	eP	P	22 29 41.5	-1.8
CELP				epP	pP	22 30 08.0	+0.1
SJG	San Juan	38.97	4	eP	P	22 29 41.5	-2.3
	comp=E,75nm,0.7s						
MPR	Mayaguez	39.02	2	eP	P	22 29 42.3	-2.0
	comp=E,72nm,0.7s						
LRS	Lares	39.11	3	eP	P	22 29 43.1	-2.0
CBYP	Canovanas	39.15	4	eP	P	22 29 43.0	-2.3
	comp=E,66nm,1.0s						
CBYP				epP	pP	22 30 06.8	-3.1
AOPR	Arecibo Observ	39.17	3	eP	P	22 29 43.1	-2.4
	comp=E,48nm,0.6s						
TEIG	Tepich	45.28	334	eP	P	22 30 34.3	-0.8
	comp=E,6.3nm,0.6s						
TEIG				epP	pP	22 31 01.1	+1.0
TEIG				ePcP	PcP	22 32 12.9	-0.3
TEIG				PcP	PcP	22 32 13.7	+0.5
TEIG	Tepich	45.28	334	P	P	22 30 34.5	-0.6
	comp=E,11nm,0.6s,baz=171,slow=3.8,SNR=10						
TEIG				PcP	PcP	22 32 13.7	+0.5
	comp=E,8.0nm,1.0s,baz=150,slow=5.5,SNR=4.4						
CMIG	Matias Romero	45.80	324	P	P	22 30 39.7	+0.5
CMIG	Matias Romero	45.80	324	P	P	22 30 39.7	+0.5
	comp=E,12nm,0.7s,baz=115,slow=5.1,SNR=31						
TIGA	Tifton	54.10	344	↓P	P	22 31 41.9	+0.1
	baz=54						
BRAL	Brewton	54.68	341	eP	P	22 31 46.3	+0.4
	comp=E,120nm,1.0s						
GOGA	Godfrey	55.95	345	eP	P	22 31 54.3	-0.7
GOGA				pmax	pmax		
	comp=Z,17nm,1.2s						
GOGA	Godfrey	55.95	345	eP	P	22 31 54.3	-0.7
	comp=Z,17nm,1.2s						
LRAL	Lakeview Retre	56.55	342	eP	P	22 31 58.3	-1.0
	comp=Z,20nm,1.0s						
HKT	Hockley	57.05	332	eP	P	22 32 02.9	+0.1
HKT				pmax	pmax		
	comp=Z,9.0nm,1.0s						
HKT	Hockley	57.05	332	eP	P	22 32 02.9	+0.1
	comp=Z,9.4nm,1.0s						
KMSC	Kings Mountain	57.15	348	eP	P	22 32 03.0	-0.5
KMSC				epP	pP	22 32 30.7	+1.1
KMSC	Kings Mountain	57.15	348	↓P	P	22 32 03.3	-0.1
	baz=57,SNR=9.1						
732A	Laxson Ranch,	57.98	327	↓P	P	22 32 09.1	-0.3
	baz=58						
CPCT	Cooper Cave	58.15	345	eP	P	22 32 09.8	-0.7
CPCT				epP	pP	22 32 36.6	-0.1
CPCT				esP	sP	22 32 48.8	+0.2
TKL	Tuckaleechee C	58.17	346	eP	P	22 32 09.9	-0.8
TKL				epP	pP	22 32 37.1	+0.2
TKL				esP	sP	22 32 49.3	+0.6
TKL	Tuckaleechee C	58.17	346	P	P	22 32 09.8	-0.8
	comp=Z,26nm,0.8s,baz=166,slow=8.3,SNR=28						
SWET	Sewanee	58.29	343	eP	P	22 32 10.8	-0.7
	comp=Z,44nm,0.7s						
SWET				epP	pP	22 32 37.7	-0.1
632A	Uvalde	58.52	328	↑↑P	P	22 32 13.0	-0.2
	baz=59						
OXF	Oxford	58.66	340	eP	P	22 32 12.2	-1.8
OXF				pmax	pmax		
	comp=Z,61nm,1.0s						
OXF	Oxford	58.66	340	eP	P	22 32 12.2	-1.8
	comp=Z,61nm,1.0s						
PLAL	Pickwick Lake	58.68	341	eP	P	22 32 12.6	-1.6
	comp=Z,30nm,0.9s						
631A	Perdido Creek	58.84	327	↑P	P	22 32 14.9	-0.5
	baz=59						
VWCC	Virginia Weste	58.94	349	eP	P	22 32 14.7	-1.2
BLA	Blacksburg	58.98	349	eP	P	22 32 16.0	-0.3
BLA				pmax	pmax		
	comp=Z,16nm,0.8s						
BLA	Blacksburg	58.98	349	eP	P	22 32 16.0	-0.3
	comp=Z,16nm,0.8s						
532A	Rocksprings	59.09	328	↑P	P	22 32 17.0	-0.3
	baz=59						
JCT	Junction City	59.33	329	eP	P	22 32 18.0	-0.9
JCT				pmax	pmax		
	comp=Z,14nm,0.9s						
JCT	Junction City	59.33	329	eP	P	22 32 18.0	-0.9
	comp=Z,14nm,0.9s						
JCT	Junction City	59.33	329	↓P	P	22 32 18.4	-0.5
	baz=60						
531A	Rocksprings	59.44	328	↓P	P	22 32 19.4	-0.2
	baz=60						
WHTX	Lake Whitney	59.51	332	↓P	P	22 32 19.9	-0.1
	baz=60						
432A	Menard	59.66	329	↑P	P	22 32 20.7	-0.4
	baz=60,SNR=10.0						
WVT	Waverly	59.68	342	eP	P	22 32 19.9	-1.1
WVT				e*PP	pP	22 32 46.5	-0.8
WVT				e*SP	sP	22 33 00.1	+0.9
WVT				pmax	pmax		
	comp=Z,48nm,0.8s						
WVT	Waverly	59.68	342	eP	P	22 32 19.9	-1.1
	comp=Z,48nm,0.8s						
WVT				epP	pP	22 32 46.5	-0.8
WVT				esP	sP	22 33 00.1	+0.9
530A	J-C Ranch, Com	59.82	327	↑P	P	22 32 22.2	0.0
	baz=60						
431A	Sonora	59.89	328	↑P	P	22 32 22.2	-0.6
	baz=60,SNR=10						
UALR	University of	59.89	338	eP	P	22 32 22.2	-0.3
	comp=Z,22nm,0.8s						
332A	Millersview	60.05	329	↓P	P	22 32 23.3	-0.5
	baz=60,SNR=13						
628A	Black Gap, Mar	60.10	326	↑P	P	22 32 24.2	+0.1
	baz=60						
MIAR	Mount Ida	60.14	336	eP	P	22 32 23.8	-0.4
MIAR				pmax	pmax		
	comp=Z,28nm,0.8s						
MIAR	Mount Ida	60.14	336	eP	P	22 32 23.8	-0.4
	comp=Z,28nm,0.8s						
529A	Stev Forest Ra	60.26	326	↓P	P	22 32 25.5	+0.3
	baz=60						
430A	Baggett Ranch,	60.29	328	↓P	P	22 32 24.9	-0.5
	baz=60						
331A	San Angelo	60.32	329	↑P	P	22 32 24.9	-0.7
	baz=61,SNR=5.6						
627A	Terlingua Ranc	60.34	325	↑P	P	22 32 25.8	-0.1
	baz=61						
TXAR	Lajitas Array	60.39	325	P	P	22 32 25.2	-1.0
TXAR	Lajitas Array	60.39	325	P	P	22 32 25.2	-1.0
	comp=Z,3.4nm,0.7s,baz=204,slow=25,SNR=5.5						
232A	Coleman	60.42	330	↓P	P	22 32 25.9	-0.4
	baz=61,SNR=14						
429A	Davenport Ranc	60.49	327	↓P	P	22 32 26.5	-0.3
	baz=61						
528A	Cox Ranch, San	60.58	326	↓P	P	22 32 26.9	-0.6
	baz=61						
VNA1	Neumayer--Stat	60.64	161	eP	P	22 32 28.2	+1.0
PARMO	Parma	60.75	341	eP	P	22 32 28.3	0.0
330A	Mertzon	60.76	328	↓P	P	22 32 27.9	-0.8
	baz=61,SNR=6.0						
231A	Bronte	60.78	329	↓P	P	22 32 28.1	-0.6
	baz=61						
626A	Big Bend Ranch	60.81	325	↓P	P	22 32 29.3	+0.3
	baz=61,SNR=10.0						
428A	Kincaid Ranch,	60.98	327	↓P	P	22 32 29.6	-0.5
	baz=61						
527A	Woodward Ranch	61.00	325	↑P	P	22 32 30.0	-0.4
	baz=61,SNR=5.4						
VNA2	Neumayer--Watz	61.01	161	eP	P	22 32 30.3	+0.6
	baz=302,slow=7.1						
ABTX	Abilene, Hawle	61.03	330	eP	P	22 32 29.8	-0.6
ABTX	Abilene, Hawle	61.03	330	↑P	P	22 32 30.0	-0.4
	baz=61						
230A	Sterling City	61.13	329	↑P	P	22 32 30.7	-0.4
	baz=61						
MVL	Millersville	61.13	353	eP	P	22 32 31.2	+0.3
	comp=Z,19nm,0.9s						
526A	Mary Lane Ranc	61.19	325	↑P	P	22 32 31.8	+0.1
	baz=61,SNR=15						
329A	Wagon Wheel Ra	61.23	328	↑P	P	22 32 31.4	-0.4
	baz=62,SNR=12						
WCI	Wyandotte Cave	61.23	344	eP	P	22 32 30.5	-1.1
WCI				pmax	pmax		
	comp=Z,15nm,0.6s						
WCI	Wyandotte Cave	61.23	344	eP	P	22 32 30.5	-1.1
	comp=Z,16nm,0.6s						
MCWV	Mont Chateau	61.27	350	eP	P	22 32 30.9	-0.9
	comp=Z,64nm,0.8s						
USIN	University of	61.35	343	eP	P	22 32 31.4	-1.0
	comp=Z,34nm,0.7s						
131A	Roby	61.42	330	↓P	P	22 32 32.6	-0.5
	baz=62						
427A	Hayter Ranch,	61.45	326	↓P	P	22 32 33.1	-0.2
	baz=62,SNR=7.6						
Z32A	Haskell	61.53	331	↓P	P	22 32 33.2	-0.5
	baz=62						
229A	Bryant Ranch,	61.53	328	↑P	P	22 32 33.3	-0.5
	baz=62						
SIUC	Southern Illin	61.56	342	eP	P	22 32 33.3	-0.5
	comp=Z,50nm,0.8s						
328A	Wristen Ranch,	61.56	327	↓P	P	22 32 33.7	-0.3
	baz=62,SNR=10						
426A	McDonald Obser	61.63	325	↑P	P	22 32 34.6	-0.1
	baz=62,SNR=9.2						
130A	Snyder	61.63	329	↓P	P	22 32 33.8	-0.6
	baz=62						
Z31A	Sharp Cattle R	61.84	330	↓P	P	22 32 35.5	-0.3
	baz=62,SNR=7.7						
327A	Balmorhea Ranc	61.91	326	↑P	P	22 32 36.2	-0.1
	baz=62						
SSPA	Standing Stone	61.95	352	eP	P	22 32 35.9	-0.4
	comp=Z,25nm,1.4s						
228A	UT Block 9, Go	62.04	328	↓P	P	22 32 36.7	-0.6
	baz=62						
Y32A	R-V Farms, Ver	62.09	331	↓P	P	22 32 37.2	-0.3
	baz=62						
129A	Stewart Farms,	62.10	328	↑P	P	22 32 37.1	-0.5
	baz=62						
326A	Caldwell Ranch	62.12	326	↑P	P	22 32 37.6	-0.2
	baz=62,SNR=8.1						
BLO	Bloomington	62.18	344	eP	P	22 32 36.8	-1.1
BLO				pmax	pmax		
	comp=Z,47nm,0.6s						
BLO	Bloomington	62.18	344	eP	P	22 32 36.8	-1.1
	comp=Z,48nm,0.6s						
OLIL	Olney	62.19	343	eP	P	22 32 36.5	-1.4
	comp=Z,24nm,0.8s						
TUL1	Tulsa	62.19	335	eP	P	22 32 38.0	-0.1
TUL1	Tulsa	62.19	335	↑P	P	22 32 37.6	-0.5
	baz=62,SNR=5.2						
425A	Indio Mountain	62.24	325	↓P	P	22 32 38.5	-0.1
	baz=62,SNR=15						
Z30A	Sanderson Ranc	62.28	329	↓P	P	22 32 38.1	-0.7
	baz=62,SNR=11						
227A	Bennet, Jal	62.31	327	↓P	P	22 32 39.1	0.0
	baz=63						
ACSO	Alum Creek Sta	62.39	348	eP	P	22 32 38.8	-0.6
	comp=Z,45nm,0.8s						
128A	Castleberry Fa	62.40	328	↑P	P	22 32 38.9	-0.7
	baz=63,SNR=5.3						
WMOK	Wichita Mounta	62.42	332	eP	P	22 32 37.7	-1.9
WMOK				e		22 33 18.8	
WMOK				pmax	pmax		
	comp=Z,5.0nm,1.1s						
WMOK	Wichita Mounta	62.42	332	eP	P	22 32 37.7	-1.9
	comp=Z,5.0nm,1.1s						
WMOK				ePcP	PcP	22 33 18.8	+0.6
Y31A	Rekieta Farm,	62.43	331	↑P	P	22 32 39.5	-0.3
	baz=63,SNR=8.1						
Z29A	Hungry Hill Ra	62.53	329	↑P	P	22 32 39.6	-1.0
	baz=63,SNR=8.7						
SNAA	Sanae	62.64	161	eP	P	22 32 40.9	+0.2
SNAA	Sanae	62.64	161	eP	P	22 32 40.6	-0.2
	comp=Z,22nm,0.7s						
SNAA	Sanae	62.64	161	P	P	22 32 40.9	+0.2
	comp=Z,7.9nm,0.7s,baz=285,slow=6.4,SNR=120						
Y30A	Stafford Cattl	62.66	330	↓P	P	22 32 40.6	-0.7
	baz=63						
BRYW	Bryant College	62.68	358	eP	P	22 32 40.6	-0.6
	comp=Z,47nm,0.9s						
325A	Bean Ranch, Si	62.68	325	↓P	P	22 32 41.5	-0.2
	baz=63,SNR=26						
226B	Tecolote Peak,	62.81	326	↑P	P	22 32 42.8	+0.4
	baz=63,SNR=11						
X31A	McDonald Ranch	62.86	331	↑P	P	22 32 42.0	-0.6
	baz=63,SNR=7.2						
127A	Arkansas Junct	62.88	327	↓P	P	22 32 42.3	-0.6
	baz=63						
Z28A	Tucker Farm, M	62.89	328	↑P	P	22 32 42.0	-0.9
	baz=63						
Y29A	Porterfield Fa	63.01	329	↓P	P	22 32 43.1	-0.6
	baz=63						
324A	Moseley Ranch,	63.01	325	↑P	P	22 32 42.9	-0.9
	baz=63,SNR=16						
X30A	Coker Ranch, T	63.12	330	↑P	P	22 32 43.6	-0.8
	baz=63						
MNTX	Cornudas Mount	63.16	325	eP	P	22 32 43.8	-0.8
	comp=Z,8.3nm,1.1s						
225A	Deer Hill, Car	63.18	326	↓P	P	22 32 44.8	-0.2
	baz=63,SNR=8.6						
126A	Clayton Basin,	63.19	327	↓P	P	22 32 44.7	-0.2
	baz=63,SNR=5.6						
ALLY	Alegheny Colle	63.26	350	eP	P	22 32 44.5	-0.5
	comp=Z,58nm,0.9s						
BINY	Binghamton	63.27	354	eP	P	22 32 44.3	-0.8
	comp=Z,32nm,0.9s						
W31A	Holland Ranch,	63.31	332	↑P	P	22 32 44.7	-0.8
	baz=64						
Z27A	Tatum	63.32	328	↑P	P	22 32 44.9	-0.8
	baz=64,SNR=12						
Y28A	McKinney Farm,	63.32	329	↓P	P	22 32 44.8	-1.0
	baz=64						
SFIN	Scholer Farm	63.47	344	eP	P	22 32 45.0	-1.4
SFIN				epP	pP	22 33 12.6	-0.4
SFIN	Scholer Farm	63.47	344	↓P	P	22 32 44.7	-1.7
	baz=64,SNR=5.0						
X29A	Tulia	63.50	330	↓P	P	22 32 46.2	-0.7
	baz=64						
224A	Cornudas Mount	63.53	325	↓P	P	22 32 46.5	-0.7
	baz=64,SNR=6.5				

Z24A Sheeppen Canyo 64.42 326 ⇓P P 22 32 52.7 -0.4
baz=65,SNR=13
Y25A Mesa, Roswell 64.54 327 ⇓P P 22 32 53.3 -0.5
baz=65,SNR=8.2
X26A CR and CF Fran 64.60 328 ⇓P P 22 32 53.7 -0.5
baz=65,SNR=11
320A Kipp Ranch, An 64.61 323 ⇑P P 22 32 54.8 +0.5
baz=65
W27A Bowe Ranch, En 64.65 329 ⇓P P 22 32 53.9 -0.5
baz=65,SNR=7.1
221A Mesquite Ranch 64.70 324 ⇑P P 22 32 55.5 +0.6
baz=65
122A Conniff Cattle 64.80 325 ⇑P P 22 32 56.2 +0.7
baz=65
T31A Randall Ranch, 64.80 333 ⇑P P 22 32 55.1 -0.2
baz=65
V28A Channing 64.82 330 ⇓P P 22 32 55.3 -0.2
baz=65
Z23A Rita Site, Whi 64.82 326 ⇑P P 22 32 55.9 +0.3
baz=65
NCB Newcomb 64.88 356 eP P 22 32 55.9 +0.3
comp=Z,8.0nm,0.8s
U29A Oasis Ranch, S 64.96 331 ⇓P P 22 32 56.2 -0.1
baz=65
X25A Clemmons Ranch 65.01 328 ⇓P P 22 32 56.1 -0.7
baz=65,SNR=5.1
W26A Owens Ranch, T 65.01 329 ⇓P P 22 32 57.1 +0.2
baz=65
220A Playas Peak, P 65.04 323 ⇑P P 22 32 57.7 +0.6
baz=65,SNR=15
319A Douglas 65.07 322 ⇑P P 22 32 58.2 +0.9
baz=65,SNR=16
121A Cookes Peak, D 65.10 324 ⇓P P 22 32 58.6 +1.1
baz=65,SNR=10
V27A Dan Oppiter Fa 65.11 330 ⇑P P 22 32 58.3 +0.9
baz=65
T30A Plains 65.13 332 ⇑P P 22 32 57.7 +0.2
baz=65
S31A Mullinville 65.16 333 ⇓P P 22 32 58.0 +0.3
baz=65
Z22A Elephant Butte 65.20 325 ⇓P P 22 32 59.1 +0.9
baz=66,SNR=13
Y23A Lovelace Mesa, 65.25 326 ⇑P P 22 32 58.6 +0.2
baz=66
KSU1 Kansas State U 65.30 336 eP P 22 32 57.8 -0.6
comp=Z,29nm,1.0s
U28A Mallet 65.33 331 ⇓P P 22 32 58.5 -0.3
baz=66
X24A Lazy VL Ranch, 65.43 327 ⇑P P 22 32 59.7 +0.1
baz=66
W25A X Bar L Ranch, 65.45 328 ⇓P P 22 32 59.5 -0.2
baz=66,SNR=7.7
LONY Lake Ozonia 65.55 355 eP P 22 32 59.8 -0.1
comp=Z,9.9nm,0.8s
V26A Tequesquite Ra 65.59 329 ⇑P P 22 33 00.5 -0.1
baz=66,SNR=14
Z21A St. Cloud Mine 65.63 325 ⇓P P 22 33 02.0 +1.0
baz=66,SNR=16
U27A Thompson Grove 65.64 330 ⇑P P 22 33 00.7 -0.2
baz=66
BNM Barren Site 65.72 326 eP P 22 33 01.8 +0.3
comp=Z,5.1nm,1.0s
Y22A Socorro 65.73 326 ⇓P P 22 33 01.9 +0.4
baz=66
R31A Burdett 65.75 334 ⇓P P 22 33 01.3 -0.1
baz=66
LPM Los Pinos Moun 65.84 326 eP P 22 33 02.9 +0.6
T28A Walsh 65.89 331 ⇑P P 22 33 02.1 -0.3
baz=66
W24A Lazy 6 Ranch, 65.92 328 ⇓P P 22 33 02.7 -0.1
baz=66
Z20A Nine Sixteen R 65.98 324 ⇓P P 22 33 04.3 +1.2
baz=66,SNR=19
U26A Atchley Ranch, 66.05 329 ⇓P P 22 33 03.8 +0.2
baz=66,SNR=8.8
R30A Dighton 66.06 333 ⇓P P 22 33 03.3 -0.1
baz=66
T27A Campo 66.12 331 ⇓P P 22 33 03.6 -0.3
baz=66,SNR=7.9
Y21A Point of Rocks 66.16 325 ⇑P P 22 33 05.5 +1.1
baz=66,SNR=12
SADO Sadowa 66.17 352 P P 22 33 03.4 -0.5
SADO Sadowa 66.17 352 P P 22 33 03.4 -0.5
comp=Z,6.9nm,0.5s,baz=176,slow=6.7,SNR=12
LAZ Ladron 66.18 326 eP P 22 33 04.9 +0.5
comp=Z,7.9nm,1.4s
S28A Manter 66.18 332 ⇑P P 22 33 04.0 -0.2
baz=66,SNR=5.1
X22A Bernardo 66.19 326 ⇓P P 22 33 05.2 +0.7
baz=66
ANMO Albuquerque 66.25 327 eP P 22 33 05.2 +0.4
comp=Z,9.2nm,1.0s
W23A Werner Place, 66.26 327 ⇑P P 22 33 05.5 +0.5
baz=66
V24A Rampart Ranch, 66.26 328 ⇑P P 22 33 04.7 -0.3
baz=66,SNR=7.9
Q31A Ellis 66.30 334 ⇑P P 22 33 04.9 -0.1
baz=67,SNR=5.7
U25A Circle Dot Ran 66.38 329 ⇓P P 22 33 05.6 0.0
baz=67,SNR=13
Y20A Horse Springs, 66.46 325 ⇑P P 22 33 07.2 +0.9
baz=67,SNR=12
R29A Marienthal 66.54 333 ⇓P P 22 33 06.5 0.0
baz=67
X21A Alamocita Cree 66.56 325 ⇓P P 22 33 07.9 +1.0
baz=67,SNR=9.7
W22A Albuquerque 66.56 326 ⇑P P 22 33 07.7 +0.9
baz=67
T26A Comanche Natio 66.61 330 ⇑P P 22 33 07.4 +0.3
baz=67,SNR=9.4
Q30A Quinter 66.62 334 ⇓P P 22 33 07.2 +0.3
baz=67,SNR=6.9
SCIA State Center 66.62 340 eP P 22 33 06.2 -0.7
comp=Z,58nm,1.1s
TUC Tucson 66.63 322 eP P 22 33 07.2 0.0
TUC pmax pmax
comp=Z,6.0nm,0.9s
TUC Tucson 66.63 322 eP P 22 33 07.2 0.0
comp=Z,5.8nm,0.9s
JFWS Jewell Farm 66.67 343 eP P 22 33 06.4 -0.7
JFWS pmax pmax
comp=Z,33nm,0.8s
JFWS Jewell Farm 66.67 343 eP P 22 33 06.4 -0.7
comp=Z,33nm,0.8s
V23A Ortiz Mt. (NFS 66.73 327 ⇑P P 22 33 09.0 +1.1
baz=67,SNR=7.5
P31A Stockton 66.74 335 ⇑P P 22 33 07.5 -0.1
baz=67,SNR=7.3
R28A Tribune 66.77 332 ⇑P P 22 33 07.9 0.0
baz=67
Q29A Oakley 66.86 333 ⇓P P 22 33 08.5 -0.1
baz=67
T25A Trinidad 66.97 329 ⇓P P 22 33 10.0 +0.5
baz=67,SNR=5.5
X20A Quemado 67.01 325 ⇓P P 22 33 10.8 +1.1
baz=67
P30A Selden 67.11 334 ⇑P P 22 33 10.4 +0.4
baz=67
R27A Eads 67.16 331 ⇑P P 22 33 10.7 +0.2
baz=67
U23A El Rito 67.19 328 ⇑P P 22 33 11.9 +1.1
baz=68
V22A San Miguel Ran 67.23 327 ⇓P P 22 33 12.2 +1.1
baz=68,SNR=8.9
T24B San Luis 67.37 329 ⇑P P 22 33 13.2 +1.1
baz=68
W20A Ramah 67.45 325 ⇑P P 22 33 13.4 +0.8
baz=68,SNR=13
R26A Arlington 67.46 331 ⇓P P 22 33 12.5 +0.2
baz=68,SNR=12
V21A Milan 67.52 326 ⇑P P 22 33 14.2 +1.3
baz=68
U22A Llaves 67.56 327 ⇑P P 22 33 14.4 +1.2
baz=68
214A Organ Pipe Nat 67.56 320 ⇑P P 22 33 14.2 +1.2
baz=68,SNR=8.6
KSCO Kaye Shedlock' 67.68 332 ⇓P P 22 33 14.2 +0.5
baz=68
R25A Fountain Ranch 67.72 330 ⇓P P 22 33 14.5 +0.5
baz=68
S24A Houchin Ranch, 67.75 329 ⇑P P 22 33 15.3 +0.8
baz=68,SNR=6.4
X18A Snowflake 67.79 324 ⇑P P 22 33 15.7 +1.1
baz=68
BGNE Belgrade 67.88 336 eP P 22 33 14.7 -0.2
BGNE Belgrade 67.88 336 ⇑P P 22 33 14.6 -0.2
baz=68,SNR=5.8
V20A Brimhall 67.95 326 ⇓P P 22 33 16.2 +0.6
baz=68,SNR=5.8
SDCO Great Sand Dun 67.97 329 eP P 22 33 15.9 +0.1
comp=Z,22nm,1.2s
Q26A Hugo 68.00 331 ⇑P P 22 33 16.5 +0.6
baz=68
LIC Lamto 68.01 74 eP P 22 33 15.4 -0.8
comp=Z,28nm,0.6s
U21A Nageezi 68.01 327 ⇓P P 22 33 16.8 +0.8
baz=68,SNR=7.7
T22A Edith 68.08 328 ⇑P P 22 33 18.2 +1.8
baz=68
P27A Ficken Ranch, 68.11 332 ⇓P P 22 33 17.3 +0.9
baz=68
W18A Petrified Fore 68.11 324 eP P 22 33 17.9 +1.3
comp=Z,33nm,1.4s
W18A Petrified Fore 68.11 324 ⇑P P 22 33 17.4 +0.8
baz=68
R24A Sanders Place, 68.17 330 ⇓P P 22 33 17.8 +0.8
baz=68,SNR=13
TIC Toumodi 68.19 73 eP P 22 33 15.9 -1.5
comp=Z,31nm,1.0s
KIC Kosan Boka 68.32 74 eP P 22 33 17.6 -0.6
comp=Z,51nm,0.7s
DBIC Dimbokro 68.35 73 eP P 22 33 18.0 -0.3
comp=Z,28nm,0.7s
DBIC Dimbokro 68.35 73 P P 22 33 18.0 -0.3
comp=Z,26nm,0.6s,baz=220,slow=6.7,SNR=56
T21A Navajo Lake 68.38 327 ⇓P P 22 33 19.3 +1.0
baz=69
U20A Newcomb 68.42 326 ⇑P P 22 33 19.2 +0.7
baz=69,SNR=5.7
P26A Davis Ranch, A 68.45 332 ⇓P P 22 33 19.1 +0.5
baz=69
R23A Moffat 68.48 329 ⇓P P 22 33 19.7 +0.7
baz=69,SNR=6.7
X16A Lo Mia Camp, P 68.54 323 ⇓P P 22 33 20.5 +1.2
baz=69,SNR=6.6
O27A Beecher Island 68.59 333 ⇓P P 22 33 20.3 +1.0
baz=69
S22A 4UR Ranch, Cre 68.62 328 ⇓P P 22 33 20.5 +0.6
baz=69,SNR=6.1
113A Mohawk Valley, 68.71 320 ⇑P P 22 33 21.1 +1.0
baz=69
P25A Willow Gulch B 68.77 331 ⇑P P 22 33 21.4 +0.7
baz=69,SNR=9.7
Q24A Divide 68.78 330 ⇓P P 22 33 21.4 +0.6
baz=69,SNR=16
R22A Saguache, Gunn 68.96 329 ⇑P P 22 33 22.9 +0.9
baz=69
O26A Horse Wrangler 68.99 332 ⇓P P 22 33 22.8 +0.9
baz=69
OGNE Ogallala 69.03 333 ⇑P P 22 33 22.6 +0.6
baz=69
S21A Coal Bank Pass 69.03 328 ⇑P P 22 33 22.9 +0.4
baz=69,SNR=7.8
MVCO Mesa Verde 69.04 327 eP P 22 33 23.5 +1.1
MVCO Mesa Verde 69.04 327 ⇑P P 22 33 23.0 +0.6
baz=69,SNR=10.0
Q23A Hartsel 69.05 330 ⇓P P 22 33 23.4 +0.8
baz=69
Y14A Wickenburg 69.09 322 ⇓P P 22 33 23.6 +1.1
baz=69,SNR=6.7
M28A Bar X Bar Ranc 69.13 334 ⇑P P 22 33 23.9 +1.2
baz=69
QSPA South Pole Qui 69.16 180 eP P 22 33 23.6 +0.9
comp=Z,33nm,1.3s
O25A Wiggins 69.24 332 ⇑P P 22 33 24.8 +1.3
baz=70
WUAZ Wupatki 69.30 324 eP P 22 33 24.5 +0.5
comp=Z,18nm,0.9s
WUAZ Wupatki 69.30 324 ⇑P P 22 33 25.2 +1.2
baz=70,SNR=13
COWI Conover 69.35 345 eP P 22 33 23.2 -0.7
comp=Z,4.4nm,0.7s
ECSD EROS Data Cent 69.37 339 eP P 22 33 23.4 -0.7
comp=Z,12nm,0.6s
P23A Jefferson 69.43 330 ⇓P P 22 33 26.1 +1.2
baz=70
S20A Disappointment 69.45 327 ⇓P P 22 33 26.2 +1.3
baz=70,SNR=8.2
SPMN St. Paul 69.51 342 eP P 22 33 24.0 -0.8
Q22A Crested Butte, 69.53 329 ⇑P P 22 33 26.7 +1.2
baz=70
GLA Glamis 69.55 320 ⇓P P 22 33 26.8 +1.5
baz=70
ISCO Idaho Springs 69.67 330 eP P 22 33 26.8 +0.5
ISCO pmax pmax
comp=Z,36nm,1.8s
ISCO Idaho Springs 69.67 330 eP P 22 33 26.8 +0.5
comp=Z,36nm,1.8s
ISCO Idaho Springs 69.67 330 ⇑P P 22 33 27.0 +0.7
baz=70,SNR=10.0
R20A Redvale 69.73 328 ⇑P P 22 33 27.7 +1.1
baz=70,SNR=7.9
PV01 Paradox Valley 69.79 327 eP P 22 33 27.5 +0.5
comp=Z,393nm,0.7s
SMCO Snowmass 69.81 329 eP P 22 33 28.4 +1.1
comp=Z,7.3nm,0.8s
Y12C Blythe 69.85 320 ⇑P P 22 33 28.6 +1.4
baz=70
PDMCI Parker Dam,Lak 70.01 321 ⇓P P 22 33 29.4 +1.3
baz=70
PV05 Paradox Valley 70.01 327 eP P 22 33 29.2 +0.9
P22A Eagle 70.04 329 ⇑P P 22 33 29.5 +1.0
baz=70
DVTC Desert V Tower 70.05 319 ⇑P P 22 33 30.5 +1.9
baz=70
SWSC Sam W. Stewart 70.06 319 ⇓P P 22 33 30.2 +1.7
baz=70
L27A T5 Ranch, Ells 70.09 334 ⇑P P 22 33 30.0 +1.4
baz=70
O23A Lake Granby, G 70.13 330 ⇓P P 22 33 29.8 +0.7
baz=70,SNR=6.5
Q20A Ridgley Place, 70.28 328 ⇓P P 22 33 30.5 +0.6
baz=70
P21A Newcastle 70.31 329 ⇓P P 22 33 31.4 +1.2
baz=71,SNR=6.6
BC3 Big Chuckawall 70.34 320 ⇓P P 22 33 31.4 +1.1
baz=71,SNR=10
PV09 Paradox Valley 70.35 327 eP P 22 33 31.7 +1.2
L26A Underwood Farm 70.37 333 ⇑P P 22 33 31.2 +0.8
baz=71
O22A Kremmling 70.39 330 ⇑P P 22 33 31.2 +0.5
baz=71,SNR=15
MONP Monument Peak 70.41 319 ⇓P P 22 33 32.3 +1.4
baz=71
BAR Barrett 70.42 318 eP P 22 33 32.3 +1.6
comp=Z,15nm,0.9s
W13A Hualapai Mount 70.42 322 ⇓P P 22 33 32.2 +1.3
baz=71,SNR=16
U15A North Rim 70.48 324 ⇓P P 22 33 32.8 +1.5
baz=71,SNR=18
IRM Iron Mountain 70.51 320 ⇑P P 22 33 32.6 +1.4
baz=71,SNR=10
M24A Cheyenne 70.65 332 ⇓P P 22 33 33.2 +1.0
baz=71,SNR=7.7
N23A Red Feather La 70.69 331 ⇓P P 22 33 33.2 +0.7
baz=71,SNR=6.8
J28A Allard Ranch, 70.79 335 ⇑P P 22 33 33.1 +0.3
baz=71,SNR=13
PHWY Pilot Hill 70.80 331 eP P 22 33 34.0 +0.8
comp=Z,42nm,1.8s
BRSD Miller 70.81 337 eP P 22 33 32.6 -0.2
comp=Z,24nm,0.6s
BRSD Miller 70.81 337 ⇑P P 22 33 33.1 +0.3
baz=71
L25A Engebretsen Ra 70.84 333 ⇓P P 22 33 33.8 +0.6
baz=71
N22A Wattenberg Ran 70.85 330 ⇓P P 22 33 34.2 +0.8
baz=71,SNR=7.2
BELC Belle Mtn. Jos 70.91 320 ⇓P P 22 33 34.9 +1.1
baz=71,SNR=5.5
PFO Pinyon Flat Ob 70.92 319 eP P 22 33 35.3 +1.4
comp=Z,21nm,1.4s
PFO Pinyon Flat Ob 70.92 319 ⇓P P 22 33 35.2 +1.4
baz=71,SNR=6.8
J27A Elkhorn Farm, 70.95 335 ⇑P P 22 33 34.8 +1.1
baz=71
K26A Motz Farm, Whi 70.96 334 ⇓P P 22 33 35.3 +1.4
baz=71
M23A Laramie 71.05 331 ⇓P P 22 33 35.1 +0.5
baz=71,SNR=9.9
P19A Cripple Cowboy 71.14 328 ⇑P P 22 33 36.0 +0.8
baz=71,SNR=24
GMRC Granite Mounta 71.24 320 ⇓P P 22 33 37.3 +1.5
baz=72,SNR=18
I28A Midland 71.25 336 ⇓P P 22 33 35.9 +0.4
baz=72
N21A Black Mountain 71.31 330 ⇑P P 22 33 37.4 +1.2
baz=72
MURC Murrieta 71.37 319 ⇓P P 22 33 37.8 +1.4
baz=72
M22A Cedar Creek Ra 71.39 331 ⇓P P 22 33 37.8 +1.1
baz=72
J26A Sides Ranch, S 71.42 334 ⇑P P 22 33 38.2 +1.6
baz=72
SRU San Rafael 71.52 327 eP P 22 33 38.6 +1.2
SRU pmax pmax
comp=Z,23nm,0.7s
SRU San Rafael 71.52 327 eP P 22 33 38.6 +1.2
comp=Z,23nm,0.7s
L23A Garrett 71.56 332 ⇑P P 22 33 38.4 +0.7
baz=72
I27A Quinn 71.65 335 ⇑P P 22 33 38.6 +0.7
baz=72
EYMN Ely 71.66 344 eP P 22 33 37.2 -0.6
comp=Z,18nm,0.8s
HEC Hector,Ludlow 71.67 320 ⇑P P 22 33 39.8 +1.5
baz=72,SNR=8.7
Q16A Castle Valley 71.71 326 eP P 22 33 38.9 +0.3
Q16A Castle Valley 71.71 326 ⇑P P 22 33 39.5 +0.9
baz=72,SNR=7.0
N20A Spence Gulch, 71.72 329 ⇓P P 22 33 39.1 +0.4
baz=72,SNR=7.8
O19A Miners Draw (B 71.72 328 ⇑P P 22 33 39.3 +0.7
baz=72,SNR=9.4
H28A Mission Ridge 71.77 336 ⇓P P 22 33 39.2 +0.6
baz=72
TUQ Turquoise Moun 71.85 321 ⇑P P 22 33 40.6 +1.2
baz=72,SNR=7.3
CCUT Cedar City 71.88 324 eP P 22 33 41.6 +2.0
comp=Z,23nm,0.8s
RWWY Rawlins 71.90 331 eP P 22 33 40.8 +1.0
comp=Z,10nm,0.9s
M21A Separation Pea 71.91 330 ⇑P P 22 33 40.3 +0.6
baz=72,SNR=8.3
I26A New Underwood 71.94 335 ⇑P P 22 33 40.2 +0.5
baz=72
TMUT Trail Mountain 72.01 326 eP P 22 33 41.8 +1.3
comp=Z,9.7nm,0.9s
K23A Bowen Ranch, D 72.04 332 ⇑P P 22 33 41.3 +0.8
baz=72
G28A Parade 72.07 337 ⇓P P 22 33 41.1 +0.7
baz=72
BFSC Mount Baldy Ra 72.08 319 ⇑P P 22 33 42.1 +1.3
baz=72
ARUT Antelope Range 72.09 324 eP P 22 33 41.9 +1.0
ARUT pmax pmax
comp=Z,405nm,0.8s
ARUT Antelope Range 72.09 324 eP P 22 33 41.9 +1.0
comp=Z,405nm,0.8s
J24A Dixon Ranch, L 72.10 333 ⇑P P 22 33 41.8 +1.1
baz=72
SHPR Sheep Range 72.15 322 eP P 22 33 41.1 -0.1
L21A Rawlins 72.19 331 ⇑P P 22 33 41.8 +0.4
baz=72,SNR=12
M20A Sweetwater, Wa 72.20 330 ⇑P P 22 33 42.0 +0.5
baz=72,SNR=6.9
I25A Rochford 72.28 334 ⇓P P 22 33 42.6 +0.8
baz=72,SNR=22
GSC Goldstone 72.28 320 eP P 22 33 43.4 +1.5
GSC pmax pmax
comp=Z,8.0nm,0.8s
GSC Goldstone 72.28 320 eP P 22 33 43.4 +1.5
comp=Z,8.2nm,0.8s
GSC Goldstone 72.28 320 ⇓P P 22 33 43.2 +1.3
baz=72,SNR=7.0
F29A Eureka 72.32 338 ⇑P P 22 33 41.8 0.0
baz=73,SNR=6.0
K22A Casper 72.35 332 ⇓P P 22 33 43.2 +0.9
baz=73
I24A Kuemmerle Ranc 72.51 334 ⇑P P 22 33 44.1 +1.0
baz=73
E30A Jud 72.58 339 ⇓P P 22 33 43.2 -0.1
baz=73,SNR=5.8
K21A Alcova 72.67 331 ⇑P P 22 33 44.9 +0.7
baz=73,SNR=25
M19A Rock Springs 72.67 329 ⇑P P 22 33 45.3 +1.0
baz=73
L20A Wamsutter 72.67 330 ⇑P P 22 33 45.0 +0.7
baz=73,SNR=8.3
F28A McLaughlin 72.68 337 ⇓P P 22 33 44.8 +0.8
baz=73
EDW2 Edwards Air Fo 72.71 319 ⇓P P 22 33 45.2 +0.8
baz=73,SNR=6.8
H25A Fruitdale 72.72 335 ⇓P P 22 33 45.0 +0.7
baz=73
MPU Maple Canyon 72.77 327 eP P 22 33 46.3 +1.5
comp=Z,14nm,0.8s
BLG Laguna Peak 72.86 318 ⇑P P 22 33 46.9 +1.6
baz=73
DAU Daniels Canyon 72.87 327 eP P 22 33 46.9 +1.3
DAU Daniels Canyon 72.87 327 eP P 22 33 46.9 +1.3
G26A Maurine 72.89 336 ⇓P P 22 33 45.5 +0.3
baz=73
E29A Napoleon 72.89 338 ⇑P P 22 33 45.4 +0.2
baz=73
LRMC Laurel Mountai 72.93 320 ⇓P P 22 33 46.9 +1.1
baz=73
I23A Meade Ranch, G 72.95 333 ⇓P P 22 33 47.1 +1.3
baz=73
D30A Buchanan 73.06 339 ⇑P P 22 33 46.0 -0.1
baz=73,SNR=6.3
G27A Dupree 73.09 335 ⇑P P 22 33 44.4 -2.1
baz=73,SNR=8.3
FURC Furnace Creek, 73.11 321 ⇑P P 22 33 48.4 +1.7
baz=73
JLU Jordanelle 73.11 327 eP P 22 33 48.4 +1.4
comp=Z,26nm,1.2s
G25A Newell 73.12 335 ⇓P P 22 33 46.8 +0.1
baz=73,SNR=6.8
F27A Lemmon 73.16 336 ⇑P P 22 33 47.3 +0.5
baz=73
K20A Yellowstone Ra 73.18 331 ⇓P P 22 33 47.3 +0.1
baz=73,SNR=15
AGMN Agassiz Nation 73.19 341 eP P 22 33 44.2 -2.7
comp=Z,17nm,0.8s
MPMC Manual Prospec 73.20 320 ⇓P P 22 33 48.3 +0.8
baz=74,SNR=6.4
H24A Dirks Ranch, A 73.21 334 ⇑P P 22 33 47.1 -0.1
baz=74,SNR=12
L19A Farson 73.22 330 ⇑P P 22 33 48.2 +0.6
baz=74,SNR=6.2
E28A Huff 73.27 338 ⇑P P 22 33 48.0 +0.6
baz=74
D29A Pettibone, Tap 73.30 338 ⇑P P 22 33 47.7 +0.1
baz=74
J21A Lysite 73.32 331 ⇑P P 22 33 48.5 +0.5
baz=74,SNR=10
I22A 9 Mile Ranch, 73.33 332 ⇓P P 22 33 48.2 +0.2
baz=74,SNR=14
M17A Scullys Gap (B 73.38 328 ⇑P P 22 33 49.0 +0.5
baz=74
H23A Clabaugh Cattl 73.41 333 ⇑P P 22 33 49.0 +0.6
baz=74
L18A Fontenelle, Gr 73.41 329 ⇓P P 22 33 49.1 +0.5
baz=74,SNR=13
C30A Mose, Pekin 73.48 339 ⇓P P 22 33 48.6 0.0
baz=74,SNR=12
DUG Dugway 73.51 326 eP P 22 33 50.3 +1.1
DUG pmax pmax
comp=Z,15nm,1.2s
DUG Dugway 73.51 326 eP P 22 33 50.3 +1.1
comp=Z,15nm,1.2s
DUG Dugway 73.51 326 ⇑P P 22 33 50.2 +1.1
baz=74,SNR=14
ISA Isabella 73.53 320 eP P 22 33 50.7 +1.4
ISA pmax pmax
comp=Z,13nm,0.9s
ISA Isabella 73.53 320 eP P 22 33 50.7 +1.4
comp=Z,13nm,0.9s
ISA Isabella 73.53 320 ⇓P P 22 33 50.5 +1.3
baz=74,SNR=11
K19A Absolon Red Bu 73.55 330 ⇑P P 22 33 49.6 +0.2
baz=74,SNR=9.0
J20A Shoshoni 73.61 331 ⇑P P 22 33 50.5 +0.8
baz=74
I21A Big Trails, Te 73.62 332 ⇑P P 22 33 49.9 +0.2
baz=74,SNR=25
G24A Alzada 73.63 335 ⇑P P 22 33 49.9 +0.3
baz=74,SNR=8.8
R11A Troy Canyon, C 73.68 323 eP P 22 33 51.7 +1.5
R11A Troy Canyon, C 73.68 323 ⇑P P 22 33 51.5 +1.2
baz=74,SNR=15
F25A Bowman 73.75 335 ⇑P P 22 33 50.4 +0.1
baz=74,SNR=5.4

D28A **Regan** 73.75 338 ⇑P P 22 33 50.7 +0.5
baz=74
E26A **Carlson Angus** 73.83 336 ⇓P P 22 33 51.5 +0.7
baz=74
PDAR **Pinedale Array** 73.83 330 P P 22 33 51.1 +0.1
PDAR **Pinedale Array** 73.83 330 P P 22 33 51.1 +0.1
comp=Z,2.9nm,0.8s,baz=135,slow=7.6,SNR=17
BW06 **Boulder Array** 73.83 330 *eP* P 22 33 50.8 -0.3
comp=Z,9.2nm,1.3s
H22A **Clearmont** 73.84 333 ⇓P P 22 33 51.4 +0.5
baz=74
PKM **Peak Mountain** 73.85 318 ⇑P P 22 33 52.6 +1.3
baz=74
HWUT **Hardware Ranch** 73.92 328 *eP* P 22 33 51.3 -0.3
comp=Z,14nm,0.8s
HWUT *epP* **pP** 22 34 21.4 +2.5
G23A **Biddle** 73.92 334 ⇑P P 22 33 51.8 +0.4
baz=74,SNR=15
J19A **Crowheart** 73.98 330 ⇑P P 22 33 52.2 +0.3
baz=74,SNR=15
MDND **Maddock** 73.98 339 *eP* P 22 33 51.9 +0.3
MDND **Maddock** 73.98 339 ⇑P P 22 33 51.9 +0.3
baz=74,SNR=17
VES **Vestal, Richgr** 74.02 319 ⇑P P 22 33 53.0 +1.0
baz=74
D27A **Center** 74.02 337 ⇑P P 22 33 52.7 +0.8
baz=74
F24A **Ekalaka** 74.07 335 ⇑P P 22 33 52.5 +0.3
baz=74,SNR=12
B30A **Myrvik Farm, E** 74.09 340 ⇓P P 22 33 51.8 -0.4
baz=74,SNR=12
I20A **Worland** 74.10 331 ⇓P P 22 33 52.6 +0.2
baz=74,SNR=6.7
C28A **Hausauer Farms** 74.14 338 ⇓P P 22 33 52.5 0.0
baz=74
BGU **Big Grassy Mou** 74.16 327 *eP* P 22 33 54.0 +1.0
comp=Z,13nm,1.1s
H21A **Big Horn, Sher** 74.16 333 ⇓P P 22 33 52.8 0.0
baz=74,SNR=7.6
E25A **Miller Ranch,** 74.20 336 ⇓P P 22 33 53.6 +0.6
baz=74
G22A **Birney** 74.31 333 ⇓P P 22 33 54.1 +0.4
baz=75
F23A **Volborg** 74.35 334 ⇑P P 22 33 54.1 +0.2
baz=75,SNR=12
B29A **Wagenman Farm,** 74.44 339 ⇓P P 22 33 54.4 +0.2
baz=75,SNR=6.4
H20A **Greybull** 74.46 332 ⇓P P 22 33 54.5 -0.1
baz=75,SNR=8.9
I19A **Meeteetse** 74.56 331 ⇓P P 22 33 55.9 +0.7
baz=75,SNR=13
AHID **Auburn Hatcher** 74.56 329 *eP* P 22 33 54.7 -0.6
comp=Z,34nm,0.9s
E24A **Baker** 74.61 335 ⇓P P 22 33 55.8 +0.6
baz=75,SNR=14
HVU **Hansel Valley** 74.65 327 *eP* P 22 33 56.7 +0.9
HVU pmax pmax
comp=Z,9.0nm,0.9s
HVU **Hansel Valley** 74.65 327 *eP* P 22 33 56.7 +0.9
comp=Z,9.3nm,0.9s
I18A **Diamond G Ranc** 74.67 330 ⇓P P 22 33 56.7 +0.7
baz=75,SNR=8.7
G21A **Lodge Grass** 74.70 333 ⇓P P 22 33 56.6 +0.6
baz=75
MTUM **Tungsten Hills** 74.71 321 *eP* P 22 33 57.7 +1.4
D25A **Fairfield** 74.72 336 ⇑P P 22 33 56.7 +0.8
baz=75,SNR=6.4
F22A **Rosebud** 74.75 334 ⇑P P 22 33 56.3 +0.2
baz=75,SNR=10
B28A **Dugan Ranch, T** 74.76 339 ⇓P P 22 33 56.8 +0.7
baz=75
A29A **Manning Farm,** 74.80 340 ⇑P P 22 33 55.9 -0.3
baz=75,SNR=16
C26A **Wahner Farm, P** 74.83 337 ⇑P P 22 33 57.0 +0.5
baz=75
REDW **Red Top Meadow** 74.90 329 *eP* P 22 33 57.9 +0.7
comp=Z,10nm,0.8s
SNOW **Snow King Moun** 74.93 330 *eP* P 22 33 58.8 +1.3
comp=Z,18nm,0.9s
E23A **Ismay** 74.95 335 ⇑P P 22 33 57.1 -0.2
baz=75,SNR=7.3
LOHW **Long Hollow** 74.97 330 *eP* P 22 33 58.4 +0.8
comp=Z,8.6nm,0.8s
B27A **Peters Farms,** 75.03 338 ⇓P P 22 33 58.6 +1.0
baz=75
TPAW **Teton Pass** 75.04 330 *eP* P 22 33 59.0 +0.9
comp=Z,14nm,0.8s
D24A **Glendive** 75.07 336 ⇓P P 22 33 59.1 +1.2
baz=75
RRI2 **Red Ridge** 75.11 329 *eP* P 22 33 59.5 +0.9
comp=Z,28nm,0.9s
A28A **Rude Farm, Bot** 75.12 339 ⇓P P 22 33 58.3 +0.1
baz=75
G20A **Bridger** 75.14 332 ⇓P P 22 33 58.5 +0.1
baz=75,SNR=12
MOOW **Moose Ponds** 75.14 330 *eP* P 22 33 59.2 +0.6
comp=Z,5.7nm,0.8s
F21A **Absaloka Mine,** 75.15 333 ⇑P P 22 33 59.7 +1.3
baz=75
E22A **Miles City** 75.16 334 ⇓P P 22 33 59.1 +0.7
baz=75
ELK **Elko** 75.18 325 *eP* P 22 33 59.8 +0.9
comp=Z,4.0nm,0.8s
I17A **Pilgrim Ck.** 75.19 330 ⇓P P 22 34 00.4 +1.4
baz=75,SNR=7.1
NV11 **Mina Array Sit** 75.20 322 *eP* P 22 34 00.0 +1.0
IMW **Indian Meadow** 75.34 330 *eP* P 22 34 00.8 +0.9
comp=Z,22nm,1.1s
H18A **Shoshone NF, C** 75.36 331 ⇓P P 22 34 00.2 +0.4
baz=76,SNR=25
C24A **Savage** 75.45 336 ⇓P P 22 34 00.9 +0.8
baz=76
D23A **Lindsay** 75.46 335 ⇓P P 22 34 01.0 +0.9
baz=76,SNR=8.1
A27A **Ledoux Ranch,** 75.49 338 ⇑P P 22 34 00.8 +0.6
baz=76,SNR=6.3
RLMT **Red Lodge** 75.52 332 *eP* P 22 34 00.8 +0.1
comp=Z,8.0nm,0.6s
SCHQ **Schefferville** 75.56 1 P P 22 33 59.8 -0.7
SCHQ **Schefferville** 75.56 1 P P 22 33 59.8 -0.7
comp=Z,10nm,0.9s,baz=204,slow=4.1,SNR=6.5
F20A **Billings** 75.56 333 ⇓P P 22 34 01.6 +0.7
baz=76
I16A **Newdale** 75.59 329 ⇑P P 22 34 02.3 +1.2
baz=76
B25A **Knox Farm, Ray** 75.59 337 ⇑P P 22 34 02.3 +1.4
baz=76
A26A **Wade Farm, Ken** 75.72 338 ⇑P P 22 34 02.1 +0.5
baz=76
G18A **Lazy EL Ranch,** 75.81 332 ⇑P P 22 34 02.9 +0.6
baz=76,SNR=16
D22A **Cohagen** 75.83 335 ⇓P P 22 34 03.1 +0.9
baz=76,SNR=7.7
YMR **Madison River** 75.94 330 *eP* P 22 34 04.0 +0.8
comp=Z,48nm,1.4s
F19A **Roth Farm, Mol** 75.95 332 ⇑P P 22 34 03.5 +0.5
baz=76,SNR=17
C23A **Lambert** 75.97 336 ⇓P P 22 34 03.7 +0.7
baz=76,SNR=5.0
WAKR **Walker** 75.99 321 *eP* P 22 34 05.5 +1.9
D21A **La Casta Ranch** 76.09 334 ⇑P P 22 34 04.6 +0.9
baz=76,SNR=14
E20A **Meyer Farm, Mu** 76.11 333 ⇓P P 22 34 04.9 +1.0
baz=76,SNR=19
A25A **Svangstu Ranch** 76.14 337 ⇑P P 22 34 05.2 +1.2
baz=76
DGMT **Dagmar** 76.14 337 *eP* P 22 34 04.9 +0.9
comp=Z,40nm,0.8s
DGMT **Dagmar** 76.14 337 ⇓P P 22 34 04.6 +0.6
baz=76,SNR=8.8
C22A **Vida** 76.19 335 ⇑P P 22 34 05.0 +0.7
baz=76
CMB **Columbia Colle** 76.24 320 *eP* P 22 34 05.9 +1.1
CMB pmax pmax
comp=Z,12nm,1.5s
CMB **Columbia Colle** 76.24 320 *eP* P 22 34 05.9 +1.1
comp=Z,12nm,1.5s
QLMT **Earthquake Lak** 76.28 330 *eP* P 22 34 07.0 +1.9
F18A **Big Timber** 76.33 332 ⇑P P 22 34 06.0 +0.8
baz=77,SNR=28
SBA **Scott Base** 76.34 190 *eP* P 22 34 06.8 +2.0
SBA pmax pmax
comp=Z,111nm,3.0s
SBA **Scott Base** 76.34 190 *eP* P 22 34 06.8 +2.0
comp=Z,110nm,3.0s
E19A **Rath Farm, Rou** 76.36 333 ⇓P P 22 34 06.0 +0.7
baz=77,SNR=38
B23A **Brockton** 76.44 336 ⇑P P 22 34 06.9 +1.2
baz=77
A24A **Westby** 76.45 337 ⇓P P 22 34 06.6 +0.9
baz=77,SNR=6.7
D20A **Manuel Ranch,** 76.58 333 ⇑P P 22 34 07.1 +0.5
baz=77,SNR=6.4
B22A **Reddig Ranch S** 76.69 335 ⇑P P 22 34 08.1 +1.0
baz=77
C21A **Desert Coulee** 76.74 334 ⇑P P 22 34 08.2 +0.8
baz=77
F17A **Fitzpatrick Pl** 76.75 331 ⇑P P 22 34 08.8 +1.2
baz=77,SNR=12
PAHR **Pah Rah Range** 76.76 322 *eP* P 22 34 09.3 +1.5
comp=Z,28nm,0.9s
HLID **Hailey** 76.78 328 *eP* P 22 34 09.3 +1.4
comp=Z,17nm,0.9s
HLID **Hailey** 76.78 328 ⇑P P 22 34 09.3 +1.4
baz=77,SNR=24
A23A **Redstone** 76.80 336 ⇑P P 22 34 08.7 +1.0
baz=77
SYO **Syowa Base** 76.85 159 ⇓*eP* P 22 34 06.8 -0.9
MCMT **McKenzie Canyo** 76.95 329 *eP* P 22 34 09.9 +1.0
comp=Z,9.2nm,1.0s
MCMT *epP* **pP** 22 34 41.1 +4.8
D19A **Cripps Ranch,** 76.95 333 ⇓P P 22 34 09.2 +0.6
baz=77,SNR=11
TOA0 **Torodi Ar. Sit** 76.95 70 *eP* P 22 34 08.5 -0.7
TOA0 *epP* **pP** 22 34 37.7 +1.0
TORD **Torodi Ar. Bea** 76.95 70 P P 22 34 08.7 -0.6
TORD **Torodi Ar. Bea** 76.95 70 P P 22 34 08.7 -0.6
comp=Z,32nm,0.8s,baz=258,slow=5.2,SNR=237
C20A **Veseth Ranch,** 77.02 334 ⇓P P 22 34 09.4 +0.5
baz=77
B21A **Ellsworth Farm** 77.19 335 ⇑P P 22 34 10.8 +0.9
baz=77
A22A **Carney Farms,** 77.22 336 ⇑P P 22 34 10.7 +0.6
baz=78,SNR=5.7
DLMT **Dillon** 77.23 330 *eP* P 22 34 11.7 +1.3
comp=Z,19nm,1.3s
VNDA **Vanda** 77.36 190 *eP* P 22 34 12.4 +1.9
VNDA **Vanda** 77.36 190 P P 22 34 11.3 +0.8
comp=Z,2.0nm,0.8s,baz=139,slow=5.5,SNR=6.9
D18A **Linhart Farms,** 77.37 333 ⇑P P 22 34 11.8 +0.8
baz=78
MFID **Camas Ranch** 77.39 327 ⇑P P 22 34 12.3 +1.0
baz=78,SNR=9.3
BEKR **Beckworth** 77.43 322 *eP* P 22 34 12.3 +0.7
comp=Z,9.3nm,1.5s
BEKR *epP* **pP** 22 34 40.6 +1.5
C19A **Slack Wire Ran** 77.47 333 ⇓P P 22 34 11.8 +0.3
baz=78,SNR=7.3
LRM **Limekiln Ridge** 77.50 330 *eP* P 22 34 13.2 +1.2
B20A **Solberg Farm,** 77.60 334 ⇑P P 22 34 12.9 +0.7
baz=78
A21A **Bergtoll Ranch** 77.61 335 ⇑P P 22 34 12.9 +0.7
baz=78
D17A **Six Diamond Ra** 77.72 332 ⇑P P 22 34 13.5 +0.5
baz=78,SNR=11
OHCM **Honcut** 77.74 321 *eP* P 22 34 14.4 +1.3
A20A **Cobblestone Ra** 77.92 335 ⇓P P 22 34 14.6 +0.6
baz=78
B19A **Brinkman Farms** 77.99 334 ⇑P P 22 34 14.8 +0.4
baz=78,SNR=6.6
EGMT **Eagleton** 77.99 333 ⇑P P 22 34 15.0 +0.6
baz=78
WVOR **Wild Horse Val** 78.19 325 *eP* P 22 34 15.1 -0.6
WVOR pmax pmax
comp=Z,5.0nm,1.1s
WVOR **Wild Horse Val** 78.19 325 *eP* P 22 34 15.1 -0.6
comp=Z,4.7nm,1.1s
A19A **Klindworth Far** 78.28 334 ⇓P P 22 34 16.7 +0.7
baz=78
J08A **Circle Bar Ran** 78.73 325 *eP* P 22 34 20.0 +1.3
comp=Z,5.3nm,0.8s
MOD **Modoc** 78.75 323 *eP* P 22 34 19.4 +0.6
comp=Z,47nm,1.0s
MSO **Missoula** 78.94 330 ⇓P P 22 34 20.2 +0.5
baz=79
SLMT **Seeley Lake** 79.04 331 *eP* P 22 34 21.4 +1.1
BMO **Blue Mountains** 79.16 327 *eP* P 22 34 21.5 +0.6
comp=Z,16nm,1.0s
SWMT **Swartz Lake** 79.47 331 *eP* P 22 34 23.8 +1.2
K05A **Summer Lake** 79.62 324 *eP* P 22 34 24.9 +1.3
comp=Z,28nm,0.9s
I07A **Izee** 79.77 325 *eP* P 22 34 25.5 +1.2
comp=Z,16nm,1.1s
F10A **Beach Ranch, E** 79.91 328 *eP* P 22 34 25.8 +0.8
comp=Z,8.8nm,0.8s
TSUM **Tsumeb** 79.93 107 *eP* P 22 34 26.4 +0.5
comp=Z,27nm,1.3s
TSUM **Tsumeb** 79.93 107 P P 22 34 26.3 +0.5
comp=Z,15nm,0.8s,baz=238,slow=5.2,SNR=12
YBH **Yreka Blue Hor** 80.00 322 *eP* P 22 34 24.9 -0.6
comp=Z,6.1nm,0.9s
BSMT **Bassoo Peak** 80.08 330 *eP* P 22 34 27.2 +1.2
G08A **Pilot Rock** 80.31 327 *eP* P 22 34 28.0 +0.8
comp=Z,6.4nm,0.6s
PINOR **Pine Mountain** 80.32 325 *eP* P 22 34 28.8 +1.7
KTRM **Thompson Ridge** 80.49 322 P P 22 34 29.2 +1.0
HUMO **Hull Mountain** 80.70 323 *eP* P 22 34 29.4 +0.2
BBOR **Butler Butte** 80.72 323 P P 22 34 29.6 +0.1
E09A **Wood Farm, Sta** 80.74 328 *eP* P 22 34 30.1 +0.8
comp=Z,8.0nm,1.2s
HUOR **Husband** 81.06 324 P P 22 34 32.7 +1.4
HBO **Huckleberry Mo** 81.14 324 P P 22 34 32.4 +0.7
G06A **Carlson Farm,** 81.14 326 *eP* P 22 34 32.9 +1.3
comp=Z,10nm,1.0s
NEW **Newport** 81.47 330 ⇑P P 22 34 33.6 +0.4
baz=82
BROR **Big Rock Looko** 81.48 324 P P 22 34 33.5 +0.3
H04A **Detroit Lake** 81.61 325 *eP* P 22 34 34.6 +0.6
comp=Z,12nm,0.9s
DPW **Davenport** 81.71 329 P P 22 34 35.2 +0.7
DPW **Davenport** 81.71 329 P P 22 34 35.2 +0.7
PBEJ **Beja** 81.86 44 *eP* P 22 34 36.1 +0.7
comp=Z,22nm,2.0s
MSKU **Masuku** 82.17 89 P P 22 34 39.4 +1.7
MSKU **Masuku** 82.17 89 P P 22 34 39.4 +1.7
comp=Z,2.1nm,0.3s,baz=131,slow=15,SNR=5.7
PMTG **Montargil** 82.23 43 *eP* P 22 34 38.2 +0.9
comp=Z,22nm,1.8s
PTOM **Toar** 82.42 43 *eP* P 22 34 39.2 +0.9
comp=Z,16nm,1.2s
WTV **Waterville** 82.45 328 P P 22 34 39.2 +0.9
PBAR **Barrancos** 82.49 44 *eP* P 22 34 37.9 -0.8
comp=Z,21nm,1.7s
LTY **Liberty** 82.51 327 *eP* P 22 34 39.3 +0.6
comp=Z,24nm,1.4s
ETW **Entiat** 82.58 328 P P 22 34 39.8 +0.7
B08A **Colville Reser** 82.60 329 *eP* P 22 34 38.9 -0.1
comp=Z,7.9nm,1.1s
LON **Longmire** 82.76 326 *eP* P 22 34 40.4 +0.4
LON **Longmire** 82.76 326 *eP* P 22 34 40.4 +0.4
BOSA **Boshof** 83.44 118 P P 22 34 44.5 +0.4
BOSA **Boshof** 83.44 118 P P 22 34 44.5 +0.4
comp=Z,10nm,0.8s,baz=270,slow=14,SNR=11
JCW **Jim Creek** 83.77 327 P P 22 34 44.7 -0.4
MVO **Moncorvo** 84.17 42 *eP* P 22 34 47.7 +0.4
comp=Z,18nm,1.0s
TAM **Tamanrasset** 84.38 63 *eP* P 22 34 48.0 -0.9
TAM pmax pmax
comp=Z,7.0nm,0.9s
TAM **Tamanrasset** 84.38 63 *eP* P 22 34 48.0 -0.9
comp=Z,6.7nm,0.9s
A05A **Maple Falls** 84.38 328 *eP* P 22 34 48.5 +0.4
comp=Z,18nm,0.8s
MAW **Mawson** 84.71 163 P P 22 34 50.2 +0.6
MAW **Mawson** 84.71 163 P P 22 34 50.2 +0.6
comp=Z,10nm,0.5s,baz=207,slow=5.9,SNR=56
PBRG **Braganca** 84.71 41 *eP* P 22 34 50.5 +0.5
comp=Z,20nm,1.6s
LBTB **Lobatse** 84.98 115 P P 22 34 52.4 +0.4
LBTB **Lobatse** 84.98 115 P P 22 34 52.4 +0.4
comp=Z,12nm,0.8s,baz=251,slow=6.2,SNR=14
PAB **San Pablo** 84.99 44 *eP* P 22 34 52.0 +0.5
PAB **San Pablo** 84.99 44 *eP* P 22 34 52.0 +0.5
ESDC **Sonseca Array** 85.31 44 P P 22 34 53.2 +0.1
ESDC **Sonseca Array** 85.31 44 P P 22 34 53.2 +0.1
comp=Z,3.8nm,0.8s,baz=248,slow=4.8,SNR=18
LSZ **Lusaka** 90.78 107 P P 22 35 21.7 +1.8
LSZ **Lusaka** 90.78 107 P P 22 35 21.7 +1.8
comp=Z,2.7nm,0.7s,baz=356,slow=4.1,SNR=6.5
YKA **Yellowknife Ar** 90.83 340 P P 22 35 18.6 -0.1
YKA **Yellowknife Ar** 90.83 340 P P 22 35 18.6 -0.1
comp=Z,7.8nm,0.8s,baz=133,slow=4.5,SNR=39
GERES **GERESS Array B** 100.69 42 P Pdif 22 36 01.9 -2.2
GERES **GERESS Array B** 100.69 42 P Pdif 22 36 01.9 -2.2
comp=Z,0.3nm,0.7s,baz=233,slow=4.2,SNR=3.6
KBZ **Khabaz** 119.62 51 PKIKP **PKPdf** 22 41 04.7 -0.5
KBZ **Khabaz** 119.62 51 PKP **PKPdf** 22 41 04.7 -0.5
KBZ **Khabaz** 119.62 51 PKP **PKPdf** 22 41 04.7 -0.5
comp=Z,4.9nm,0.8s,baz=106,slow=4.7,SNR=4.5
STKA **Stephens Creek** 119.95 210 PKP **PKPdf** 22 41 05.6 -0.8
STKA **Stephens Creek** 119.95 210 PKP **PKPdf** 22 41 05.6 -0.8
comp=Z,2.0nm,0.8s,baz=356,slow=11,SNR=3.2
RST **Umm Al-Ruwaisa** 121.80 68 *eP* **PKPdf** 22 41 09.7 -0.2
RST AMb AMB 22 41 10.8
comp=Z,134nm,0.7s
NAY **Al-Naaiem** 121.98 68 *eP* **PKPdf** 22 41 09.8 -0.5
NAY AMb AMB 22 41 12.8
comp=Z,0.6nm,1.3s
MIB **Mutribah** 122.14 67 *eP* **PKPdf** 22 41 10.4 -0.1
MIB AMb AMB 22 41 17.3
comp=Z,11nm,1.2s
ARU **Arti** 127.61 34 *i* PKIKP **PKPdf** 22 41 20.9 +0.7
ARU 22 43 21.1
ARU 22 48 23.7
ARU SS SS 23 00 23.4 -1.8
AKTO **Aktyubinsk** 129.11 41 PKIKP **PKPdf** 22 41 24.2 +0.9
AKTO **Aktyubinsk** 129.11 41 PKP **PKPdf** 22 41 24.1 +0.9
AKTO **Aktyubinsk** 129.11 41 PKP **PKPdf** 22 41 24.1 +0.9
comp=Z,2.6nm,0.8s,baz=194,slow=1.3,SNR=6.2
SEY **Seymchan** 129.77 337 ⇑*i* PKIKP **PKPdf** 22 41 24.6 +0.5
ASAR **Alice Springs** 130.45 208 PKP **PKPdf** 22 41 26.2 -0.6
ASAR **Alice Springs** 130.45 208 PKP **PKPdf** 22 41 26.2 -0.6
comp=Z,4.3nm,0.9s,baz=142,slow=2.1,SNR=28
ABKAR **Akbulak array** 130.63 42 *e*PKPdf **PKPdf** 22 41 26.6 +0.5
PETK **Petropavlovsk-** 132.34 324 PKIKP **PKPdf** 22 41 29.6 +0.3
PETK **Petropavlovsk-** 132.34 324 PKP **PKPdf** 22 41 29.6 +0.3
PETK **Petropavlovsk-** 132.34 324 PKP **PKPdf** 22 41 29.6 +0.3
comp=Z,3.2nm,0.6s,baz=143,slow=2.6,SNR=9.8
WRA **Warramunga Arr** 133.49 210 PKP **PKPdf** 22 41 31.9 -0.7
WRA **Warramunga Arr** 133.49 210 PKP **PKPdf** 22 41 31.9 -0.7
comp=Z,3.3nm,0.6s,baz=159,slow=1.8,SNR=44
BRVK **Borovoye** 135.19 34 ⇑*i* PKIKP **PKPdf** 22 41 36.0 +1.4
BRVK pmax pmax
comp=Z,10.0nm,2.5s
BVAR **Borovoye Array** 135.26 34 PKIKP **PKPdf** 22 41 34.6 -0.2
BVAR **Borovoye Array** 135.26 34 PKP **PKPdf** 22 41 34.6 -0.2
BVAR **Borovoye Array** 135.26 34 PKP **PKPdf** 22 41 34.6 -0.2
comp=Z,3.6nm,0.8s,baz=288,slow=1.4,SNR=16
NVS **Novosibirsk** 140.13 25 *e*PKIKP **PKPdf** 22 41 42.3 -1.3
NVS *e* 22 42 13.0
KURK **Kurchatov** 140.79 33 PKHKP PKPpre 22 41 37.9
KURK **Kurchatov** 140.79 33 PKPpre PKPpre 22 41 37.9
KURBB **Kurchatov Arra** 140.80 33 PKhKP PKPpre 22 41 37.9
comp=Z,0.9nm,0.7s,baz=295,slow=3.0,SNR=11
ZALV **Zalesovo Beam** 141.42 25 PKPpre PKPpre 22 41 41.2
ZALV **Zalesovo Beam** 141.42 25 PKhKP PKPpre 22 41 41.2
comp=Z,2.7nm,0.5s,baz=321,slow=3.8,SNR=12
AAK **Ala-Archa** 142.39 47 *c i* PKIKP **PKPdf** 22 41 48.5 +0.1
AAK pmax pmax
comp=Z,13nm,0.6s
AAK **Ala-Archa** 142.39 47 PKP **PKPdf** 22 41 47.8 -0.6
AAK *e*PKPdf **PKPdf** 22 41 48.2 -0.2
AAK **Ala-Archa** 142.39 47 PKP **PKPdf** 22 41 47.8 -0.6
comp=Z,6.2nm,0.7s,baz=158,slow=3.9,SNR=8.0
KSH **Kashi** 144.60 51 ⇓*i* PKP **PKPdf** 22 41 51.9 -0.4
KSH PP **PP** 22 45 10.0 +0.2
KSH AMB AMB
comp=Z,100nm,4.4s
KSH LR LR
comp=N,63nm,6.0s
KSH LR LR
comp=E,97nm,4.3s
KSH LR LR
comp=Z,180nm,5.3s
MK31 **Makanchi Array** 145.10 36 *e*PKIKP **PKPdf** 22 41 53.2 +0.4
MK31 **Makanchi Array** 145.10 36 *e*PKPdf **PKPdf** 22 41 53.2 +0.4
MKAR **Makanchi Array** 145.10 36 PKIKP **PKPdf** 22 41 53.1 +0.3
MKAR **Makanchi Array** 145.10 36 PKPbc **PKPdf** 22 41 53.0 +0.3
MKAR **Makanchi Array** 145.10 36 PKPbc **PKPdf** 22 41 53.0 +0.3
comp=Z,38nm,0.8s,baz=318,slow=2.9,SNR=228
ASAJ **Asahikawa** 145.37 319 PKPbc **PKPab** 22 41 53.8 +0.1
ASAJ **Asahikawa** 145.37 319 PKPbc **PKPab** 22 41 53.8 +0.1
comp=Z,35nm,0.9s,baz=269,slow=5.3,SNR=12
ERM **Erimo** 146.06 315 ⇑*i* PKP2 **PKPab** 22 41 57.5 +1.2
ERM pmax pmax
comp=Z,84nm,2.5s
KLR **Kul'dur** 147.50 335 *e*PKHKP PKPpre 22 41 53.8
MOY **Mondy** 148.36 12 *e*PKP2 **PKPbc** 22 42 03.1 +1.3
MOY pmax pmax
comp=Z,26nm,1.8s
WMQ **Urumqi** 149.93 35 PKPbc **PKPbc** 22 42 05.0 -0.9
WMQ LR LR
comp=N,61nm,16.7s
WMQ LR LR
comp=E,60nm,18.6s
WMQ LR LR
comp=Z,71nm,16.7s
ZAK **Zakamensk** 150.01 10 *e*PKP2 **PKPbc** 22 42 06.2 +0.3
ZAK pmax pmax
comp=Z,8.0nm,1.5s
USRK **Ussuriysk Arra** 151.25 328 PKPbc **PKPbc** 22 42 09.1 +0.2
comp=Z,16nm,0.8s,baz=218,slow=0.6,SNR=29
USRK pPKPbc **pPKPbc** 22 42 39.2 +1.1
comp=Z,7.2nm,0.8s,baz=13,slow=2.4,SNR=6.5
MAT **Matsushiro** 151.98 309 PKP **PKPbc** 22 42 10.6 -0.2
MDJ **Mudanjiang** 152.06 332 PKPbc **PKPdf** 22 42 06.3 +2.2
MDJ PP **PP** 22 45 52.7 +0.5
MDJ LR LR
comp=N,25nm,22.7s
MDJ LR LR
comp=E,20nm,16.2s
MDJ LR LR
comp=Z,28nm,20.2s
SONM **Songino Array** 152.95 7 PKP **PKPdf** 22 42 06.1 +0.6
SONM PKPbc **PKiKP** 22 42 13.0 +0.1
SONM PKPab **PKPab** 22 42 24.5 +0.2
SONM **Songino Array** 152.95 7 PKP **PKPdf** 22 42 06.1 +0.6
comp=Z,2.6nm,0.8s,baz=279,slow=0.8,SNR=16
SONM PKPbc **PKiKP** 22 42 13.0 +0.1
comp=Z,5.5nm,0.7s,baz=318,slow=1.1,SNR=22
SONM PKPab **PKPab** 22 42 24.5 +0.2
comp=Z,4.0nm,0.8s,baz=334,slow=4.7,SNR=11
ULN **Ulaanbaatar** 153.00 6 *e*PKPdf **PKPdf** 22 42 06.4 +0.8
ULN *e*PKPab **PKPab** 22 42 25.5 +0.9
CN2 **Changchun** 154.44 336 *e*PKPbc **PKPdf** 22 42 08.2 +0.7
PSI **Prapat** 158.20 145 PKPab **PKPab** 22 42 47.2 -0.5
PSI **Prapat** 158.20 145 PKPab **PKPab** 22 42 47.2 -0.5
comp=Z,3.9nm,0.5s,baz=339,slow=19,SNR=6.5
KSRS **Korea Array** 158.22 322 PKP **PKPdf** 22 42 13.6 +0.9
comp=Z,2.9nm,0.8s,baz=71,slow=2.1,SNR=9.2
KSRS PKPab **PKPab** 22 42 47.8 +0.7
comp=Z,3.8nm,0.7s,baz=54,slow=4.4,SNR=9.2
KSAR **Wonju Array Be** 158.25 322 PKP **PKPdf** 22 42 13.6 +0.9
KSAR PKPab **PKPab** 22 42 47.8 +0.6
GTA **Gaotai** 159.17 26 PKP **PKPdf** 22 42 14.6 +0.7
GTA PKPab **PKPab** 22 42 51.4 +0.2
HHC **Hu-ho-hao-te** 160.24 360 *e*PKP **PKPdf** 22 42 14.3 -0.7
HHC PKS **PKSdf** 22 45 46.3 -2.2
HHC PP **PP** 22 46 38.5 +1.3
HHC AMB AMB
comp=Z,160nm,6.2s
HHC LR LR
comp=N,260nm,19.0s
HHC LR LR
comp=E,540nm,17.8s
HHC LR LR
comp=Z,250nm,17.8s
BJI **Beijing** 160.61 349 PKP **PKPdf** 22 42 16.0 +0.7
LZH **Lanzhou** 163.61 22 *e*PKP **PKPdf** 22 42 18.6 -0.1
CD2 **Chengdu** 168.02 33 PKP **PKPdf** 22 42 23.0 +0.7
CD2 PP **PP** 22 47 20.7 +2.2
CD2 AMB AMB
comp=Z,240nm,6.5s
CD2 LR LR
comp=E,320nm,6.0s
CD2 LR LR
comp=Z,300nm,6.5s
CMAR **Chiang Mai Arr** 168.02 100 PKP **PKPdf** 22 42 21.6 -1.0
CMAR PKPab **PKPab** 22 43 30.7 -0.1
CMAR **Chiang Mai Arr** 168.02 100 PKP **PKPdf** 22 42 21.6 -1.0
comp=Z,0.7nm,0.3s,baz=232,slow=1.5,SNR=6.8
CMAR PKPab **PKPab** 22 43 30.7 -0.1
comp=Z,1.2nm,0.3s,baz=263,slow=6.5,SNR=4.9
KMI **Kunming** 171.07 61 PKP **PKPdf** 22 42 24.3 -0.2
KMI PP **PP** 22 47 35.0 -0.2
KMI AMB AMB
comp=Z,110nm,6.3s
KMI LR LR
comp=Z,52nm,22.4s

GYA	**Guiyang**	**173.09**	**38**	PKP	**PKPdf**	**22 42 25.0**	**-0.2**
GYA				PKPab	**PKPab**	**22 43 53.4**	**+0.5**
GYA				PKS	**PKSdf**	**22 45 55.7**	**-2.0**
GYA				PP	**PP**	**22 47 45.2**	**+1.1**
GYA				AMB	AMB		
	comp=Z,130nm,7.9s						
GYA				LR	LR		
	comp=N,140nm,25.6s						
GYA				LR	LR		
	comp=E,120nm,26.0s						
GYA				LR	LR		
	comp=Z,150nm,24.1s						

TIF ***08*** *22:33:51.7, 42°.56N×43°.47E, h15km±1km*
ISCJB ***08*** *22:33:52.9±0.3, 42°.57N±0°.02×43°.42E±0°.02, h8km±2km, mb3.3/6, MS2.9/2, Error ellipse: s-maj=2.8km s-min=2.7km az=38.9*
DDA ***08*** *22:33:53.2, 42°.48N×43°.32E, h15km, MD3.4*
CSEM ***08*** *22:33:53.4±0.2, 42°.58N×43°.42E, h10km, mb4.1, Error ellipse: s-maj=4.0km s-min=3.1km az=121.0*
IDC ***08*** *22:33:53.6±1.2, 42°.78N×43°.33E, h0km, mb3.2/5, mb1 3.4/7, mb1mx3.3/25, mbtmp3.3/7, ML3.3/2, MS2.9/2, Ms1 2.9/2, ms1mx2.3/27, Error ellipse: s-maj=16.4km s-min=14.2km az=43.0*
MOS ***08*** *22:33:54.0±1.1, 42°.59N×43°.54E, h9km, mb4.1/2, Error ellipse: s-maj=8.2km s-min=4.8km az=78.6*
AZER ***08*** *22:33:56.5, 42°.96N×44°.21E, h0km*
NNC ***08*** *22:34:01.7±2.4, 43°.03N×44°.38E, h0km, mb3.7, Error ellipse: s-maj=45.2km s-min=20.7km az=122.0*

ISC 08 22:33:53.4±0.8,**42°.54N**±0°.02×**43°.44E**±0°.02,**h5**km±5km, **n113**,σ1$**36**/176,**mb3.4**/6,**20C-16D**,**Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.05**	**8**	P	**Pg**	**22 33 54.7**	**-0.1**
ONI				S	**Sg**	**22 33 56.6**	**+0.9**
DIGR	**Digorskoe uzhe**	**0.37**	**16**	⇓*i*PG	**Pg**	**22 33 59.9**	**-0.7**
DIGR				*i* S	**Sg**	**22 34 05.8**	**+0.3**
DIGR	**Digorskoe uzhe**	**0.37**	**16**	*i* Pg	**Pg**	**22 33 59.9**	**-0.7**
DIGR				*i* Sg	**Sg**	**22 34 05.8**	**+0.3**
ZEI	**Tsey**	**0.42**	**54**	⇓*i*PG	**Pg**	**22 34 00.7**	**-0.8**
ZEI				*i* S	**Sg**	**22 34 07.0**	**0.0**
ZEI	**Tsey**	**0.42**	**54**	*i* Pg	**Pg**	**22 34 00.7**	**-0.8**
ZEI				*i* Sg	**Sg**	**22 34 07.0**	**0.0**
LACR	**Lac**	**0.69**	**66**	⇓*i*PG	**Pg**	**22 34 05.4**	**-1.3**
LACR				*i* S	**Sg**	**22 34 15.3**	**-0.3**
LACR	**Lac**	**0.69**	**66**	*i* Pg	**Pg**	**22 34 05.4**	**-1.3**
LACR				*i* Sg	**Sg**	**22 34 15.3**	**-0.3**
KORR	**Kora**	**0.71**	**40**	⇑*i*PG	**Pg**	**22 34 06.7**	**-0.3**
KORR				*i* S	**Sg**	**22 34 16.9**	**+0.6**
KORR	**Kora**	**0.71**	**40**	*i* Pg	**Pg**	**22 34 06.7**	**-0.3**
KORR				*i* Sg	**Sg**	**22 34 16.9**	**+0.6**
LSNR	**Lesken**	**0.79**	**21**	⇓*i*PG	**Pg**	**22 34 08.1**	**-0.4**
LSNR				*e*S	**Sg**	**22 34 19.4**	**+0.7**
LSNR	**Lesken**	**0.79**	**21**	*i* Pg	**Pg**	**22 34 08.1**	**-0.4**
LSNR				*e*Sg	**Sg**	**22 34 19.4**	**+0.7**
STDR	**Stavd-Durt**	**0.94**	**29**	⇑*i*PG	**Pg**	**22 34 11.7**	**+0.2**
STDR				*i* S	**Sb**	**22 34 24.9**	**-0.1**
STDR	**Stavd-Durt**	**0.94**	**29**	*i* Pg	**Pg**	**22 34 11.7**	**+0.2**
STDR				*i* Sg	**Sb**	**22 34 24.9**	**-0.1**
NCK	**Nalchik**	**0.96**	**7**	⇓*i*PG	**Pg**	**22 34 11.8**	**0.0**
NCK				*e*S	**Sb**	**22 34 26.2**	**+0.7**
NCK	**Nalchik**	**0.96**	**7**	*i* Pg	**Pg**	**22 34 11.8**	**0.0**
NCK				*e*Sg	**Sb**	**22 34 26.2**	**+0.7**
CHVG	**Ch'k'valeri**	**1.02**	**280**	P	**Pg**	**22 34 12.3**	**-0.6**
CHVG				S	**Sg**	**22 34 26.5**	**+0.4**
VLKR	**Vladikavkaz**	**1.04**	**61**	⇓*i*PG	**Pb**	**22 34 13.6**	**-0.3**
VLKR				*e*S	**Sb**	**22 34 28.0**	**+0.2**
VLKR	**Vladikavkaz**	**1.04**	**61**	*i* Pg	**Pb**	**22 34 13.6**	**-0.3**
VLKR				*e*Sg	**Sb**	**22 34 28.0**	**+0.2**
AKH	**Akhalkalaki**	**1.13**	**178**	P	**Pg**	**22 34 13.7**	**-1.4**
AKH				S	**Sg**	**22 34 29.2**	**-0.7**
SNJR	**Sundja**	**1.14**	**62**	⇑*i*PG	**Pg**	**22 34 14.3**	**-0.9**
SNJR				*e*S	**Sg**	**22 34 30.0**	**+0.1**
SNJR	**Sundja**	**1.14**	**62**	*i* Pg	**Pg**	**22 34 14.3**	**-0.9**
SNJR				*e*Sg	**Sg**	**22 34 30.0**	**+0.1**
BTKR	**Batakoyurt**	**1.16**	**44**	⇑*i*PG	**Pn**	**22 34 16.6**	**+0.3**
BTKR				*e*S	**Sn**	**22 34 32.4**	**0.0**
BTKR	**Batakoyurt**	**1.16**	**44**	*i* Pg	**Pn**	**22 34 16.6**	**+0.3**
BTKR				*e*Sg	**Sn**	**22 34 32.4**	**0.0**
KBZ	**Khabaz**	**1.25**	**342**	PG	**Pg**	**22 34 16.1**	**-1.3**
KBZ						22 34 32.3	
KBZ				pmax	pmax		
	comp=Z,32nm,0.3s						
KBZ				smax	smax		
	comp=N,51nm,0.3s						
KBZ	**Khabaz**	**1.25**	**342**	Pn	**Pg**	**22 34 16.1**	**-1.3**
	comp=N,32nm,0.3s,baz=68,slow=21,SNR=334						
KBZ				Sn	**Sg**	**22 34 32.3**	**-1.3**
	comp=N,51nm,0.3s,baz=12,slow=19,SNR=24						
KBZ	**Khabaz**	**1.25**	**342**	Pg	**Pg**	**22 34 16.1**	**-1.3**
	comp=N,32nm,0.3s						
KBZ				Sg	**Sg**	**22 34 32.3**	**-1.3**
	comp=N,51nm,0.3s						
KUBR	**Kubataba**	**1.26**	**359**	⇓*e*PG	**Pg**	**22 34 17.4**	**-0.1**
KUBR				*e*S	**Sn**	**22 34 35.0**	**+0.1**
KUBR	**Kubataba**	**1.26**	**359**	*e*Pg	**Pg**	**22 34 17.4**	**-0.1**
KUBR				*e*Sg	**Sn**	**22 34 35.0**	**+0.1**
TBLG	**Delisi**	**1.26**	**130**	P	**Pn**	**22 34 16.0**	**-1.6**
TBLG				S	**Sg**	**22 34 32.1**	**-1.7**
SHAR	**Shatzhatmas**	**1.33**	**335**	⇑*e*PG	**Pn**	**22 34 18.1**	**-0.7**
SHAR				*e*S	**Sb**	**22 34 36.2**	**-0.1**
SHAR	**Shatzhatmas**	**1.33**	**335**	*e*Pg	**Pn**	**22 34 18.1**	**-0.7**
SHAR				*e*Sg	**Sb**	**22 34 36.2**	**-0.1**
PRTR	**Priterechnaya**	**1.35**	**27**	⇑*i*PG	**Pg**	**22 34 19.2**	**-0.2**
PRTR				*i* S	**Sn**	**22 34 38.0**	**+0.7**
PRTR	**Priterechnaya**	**1.35**	**27**	*i* Pg	**Pg**	**22 34 19.2**	**-0.2**
PRTR				*i* Sg	**Sn**	**22 34 38.0**	**+0.7**
KZR	**Kazreti**	**1.37**	**148**	P	**Pn**	**22 34 17.3**	**-1.9**
KZR				S	**Sb**	**22 34 34.9**	**-2.4**
TRKR	**Terskaya**	**1.51**	**38**	⇓*i*PG	**Pb**	**22 34 21.9**	**0.0**
TRKR				*e*S	**Sg**	**22 34 42.4**	**+0.5**
TRKR	**Terskaya**	**1.51**	**38**	*i* Pg	**Pb**	**22 34 21.9**	**0.0**
TRKR				*e*Sg	**Sg**	**22 34 42.4**	**+0.5**
KIV	**Kislovodsk**	**1.52**	**339**	⇓*e*PG	**Pn**	**22 34 21.2**	**-0.1**
KIV				*e*S	**Sb**	**22 34 41.4**	**-0.2**
KIV	**Kislovodsk**	**1.52**	**339**	*e*Pg	**Pn**	**22 34 21.2**	**-0.1**
KIV				*e*Sg	**Sb**	**22 34 41.4**	**-0.2**
PYA	**Pyatigorsk**	**1.52**	**349**	⇓*e*PG	**Pn**	**22 34 21.3**	**+0.1**
PYA				*e*S	**Sg**	**22 34 42.0**	**-0.1**
PYA	**Pyatigorsk**	**1.52**	**349**	*e*Pg	**Pn**	**22 34 21.3**	**+0.1**
PYA				*e*Sg	**Sg**	**22 34 42.0**	**-0.1**
ARTV	**Artvin**	**1.77**	**220**	*i* P	**Pn**	**22 34 24.4**	**-0.4**
ARTV				*i* S	**Sn**	**22 34 47.3**	**-0.5**
ARTV	**Artvin**	**1.77**	**220**	*i* P	**Pn**	**22 34 24.4**	**-0.4**
ARTV				*i* S	**Sn**	**22 34 47.3**	**-0.5**
DBOC	**Borcka**	**1.79**	**229**	*i* P	**Pn**	**22 34 23.8**	**-1.1**
DBOC				*i* S	**Sn**	**22 34 48.0**	**0.0**
DBOC	**Borcka**	**1.79**	**229**	*i* P	**Pn**	**22 34 23.8**	**-1.1**
DBOC				*i* S	**Sn**	**22 34 48.0**	**0.0**
DGRG	**David-gareji**	**1.81**	**127**	P	**Pn**	**22 34 25.1**	**-0.1**
DGRG				S	**Sb**	**22 34 50.6**	**+0.8**
DAGI	**Agillar**	**1.86**	**218**	*i* P	**Pn**	**22 34 26.1**	**+0.1**
DAGI				*i* S	**Sn**	**22 34 50.5**	**+0.7**
GRO	**Groznyy**	**1.86**	**65**	⇑*i*PN	**Pb**	**22 34 26.8**	**-1.1**
GRO				*i* S	**Sb**	**22 34 51.3**	**-0.2**
GRO	**Groznyy**	**1.86**	**65**	*i* Pn	**Pb**	**22 34 26.8**	**-1.1**
GRO				*i* Sg	**Sb**	**22 34 51.3**	**-0.2**
DDEM	**Demirkent**	**2.08**	**218**	*i* P	**Pn**	**22 34 29.6**	**+0.6**
DDEM				*i* S	**Sn**	**22 34 56.4**	**+1.0**
DDEM	**Demirkent**	**2.08**	**218**	*i* P	**Pn**	**22 34 29.6**	**+0.6**
DDEM				*i* S	**Sn**	**22 34 56.4**	**+1.0**
DIGO	**Kars**	**2.13**	**181**	*i* P	**Pn**	**22 34 29.9**	**+0.1**
DIGO				*i* S	**Sn**	**22 34 57.6**	**+0.9**
DIGO	**Kars**	**2.13**	**181**	*i* P	**Pn**	**22 34 29.9**	**+0.1**
DIGO				*i* S	**Sn**	**22 34 57.6**	**+0.9**
HOMI	**Horasan**	**2.75**	**205**	*i* P	**Pg**	**22 34 45.8**	**-0.4**
GANJ	**Ganja**	**2.87**	**130**	⇑P	**Pn**	**22 34 41.2**	**+1.3**
	SNR=8.3						
GANJ				⇓S	**Sn**	**22 35 17.6**	**+2.8**
GANJ	**Ganja**	**2.87**	**130**	P	**Pn**	**22 34 41.2**	**+1.3**
	SNR=8.3						
GANJ				S	**Sn**	**22 35 17.6**	**+2.8**
SOC	**Sochi**	**2.92**	**292**	*e*PN	**Pb**	**22 34 45.6**	**-0.3**
SOC				*e*		22 34 49.6	
SOC				*e*		22 35 21.8	
SOC				pmax	pmax		
	comp=Z,12nm,0.8s						
SOC				smax	smax		
	comp=N,65nm,0.9s						
SOC				smax	smax		
	comp=E,52nm,0.9s						
SOC	**Sochi**	**2.92**	**292**	*e*Pb	**Pg**	**22 34 49.6**	**+0.2**
	comp=E,65nm,0.9s						
MAK	**Makhachkala**	**3.02**	**81**	*e*PN	**Pn**	**22 34 44.2**	**+2.4**
MAK				*e*		22 35 27.9	
MAK				MLR	MLR		
	comp=Z,242nm,10.0s						
MAK	**Makhachkala**	**3.02**	**81**	*e*Sb	**Sg**	**22 35 27.9**	**-2.5**
SEKA	**Sheki**	**3.10**	**114**	⇓P	**Pn**	**22 34 42.9**	**-0.2**
	SNR=15						
SEKA				⇓S	**Sn**	**22 35 22.5**	**+1.9**
SEKA	**Sheki**	**3.10**	**114**	P	**Pn**	**22 34 42.9**	**-0.2**
	SNR=15						
SEKA				S	**Sn**	**22 35 22.5**	**+1.9**
MACK	**Trabzon**	**3.18**	**241**	*i* P	**Pn**	**22 34 41.9**	**-2.2**
MACK				*i* S	**Sn**	**22 35 20.0**	**-2.4**
MACK	**Trabzon**	**3.18**	**241**	*i* P	**Pn**	**22 34 41.9**	**-2.2**
MACK				*i* S	**Sn**	**22 35 20.0**	**-2.4**
KOPT	**Kop Dagi**	**3.36**	**222**	*i* P	**Pn**	**22 34 49.7**	**+2.9**
KOPT				*i* S	**Sb**	**22 35 36.1**	**+1.2**
KOPT	**Kop Dagi**	**3.36**	**222**	*i* P	**Pn**	**22 34 49.7**	**+2.9**
BRDA	**Brd**	**3.62**	**128**	⇓P	**Pn**	**22 34 51.8**	**+1.8**
	SNR=5.0						
BRDA	**Brd**	**3.62**	**128**	P	**Pn**	**22 34 51.8**	**+1.8**
	SNR=5.0						
NAX	**Nakhchivan**	**3.71**	**155**	⇓P	**Pb**	**22 34 59.1**	**-0.3**
	SNR=6.5						
NAX				⇓S	**Sb**	**22 35 47.9**	**+3.2**
IML	**Ismayilli**	**3.96**	**115**	⇑P	**Pn**	**22 34 55.5**	**+0.7**
	SNR=4.5						
IML				⇑S	**Sn**	**22 35 44.4**	**+2.8**
IML	**Ismayilli**	**3.96**	**115**	P	**Pn**	**22 34 55.5**	**+0.7**
	SNR=4.5						
IML				S	**Sn**	**22 35 44.4**	**+2.8**
PQL	**Pirkuli**	**4.24**	**113**	⇑P	**Pn**	**22 34 59.7**	**+1.0**
PQL	**Pirkuli**	**4.24**	**113**	P	**Pn**	**22 34 59.7**	**+1.0**
ATGJ	**Altiaghaj**	**4.44**	**110**	⇑P	**Pn**	**22 35 01.9**	**+0.4**
ATGJ				⇑S	**Sn**	**22 35 50.8**	**-2.8**
ATGJ	**Altiaghaj**	**4.44**	**110**	P	**Pn**	**22 35 01.9**	**+0.4**
ATGJ				S	**Sn**	**22 35 50.8**	**-2.8**
ISHB	**Shabestar**	**4.57**	**158**	*e*P	**Pb**	**22 35 14.8**	**+0.7**
SUSE	**Susehri**	**4.58**	**241**	*i* P	**Pn**	**22 35 03.6**	**+0.1**
SUSE	**Susehri**	**4.58**	**241**	*i* P	**Pn**	**22 35 03.6**	**+0.1**
ANN	**Anapa**	**4.91**	**299**	*e*PN	**Pn**	**22 35 10.5**	**+2.7**
ANN				*e*S	**Sn**	**22 36 10.3**	**+5.4**
ANN				*e*SS	**SbSb**	**22 36 23.0**	**-1.2**
ANN				pmax	pmax		
	comp=Z,40nm,0.8s						
IHRS	**Heris**	**5.04**	**146**	*e*P	Pb	22 35 17.2	-4.9
ISRB	**Sarab**	**5.71**	**144**	*e*P	**Pb**	**22 35 35.8**	**+2.1**
BRTR	**Keskin Array B**	**7.92**	**252**	Pn	**Pn**	**22 35 48.5**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=41,slow=12,SNR=5.9						
BRTR	**Keskin Array B**	**7.92**	**252**	P	**Pn**	**22 35 48.5**	**-0.8**
AKTK	**Aktyubinsk**	**12.76**	**47**	P	**Pn**	**22 36 52.8**	**-2.5**
AKTO	**Aktyubinsk**	**12.76**	**47**	⇑Pn	**Pn**	**22 36 52.3**	**-3.0**
	comp=Z,3.9nm,1.1s						
AKTO				⇑Sn	Sn	22 39 08.3	-9.3
	comp=Z,2.9nm,0.8s						
AKTO	**Aktyubinsk**	**12.76**	**47**	P	**Pn**	**22 36 52.8**	**-2.5**
AKTO	**Aktyubinsk**	**12.76**	**47**	Pn	**Pn**	**22 36 52.8**	**-2.5**
	comp=Z,0.3nm,0.3s,baz=247,slow=13,SNR=10						
AKTO	**Aktyubinsk**	**12.76**	**47**	Pn	**Pn**	**22 36 52.3**	**-3.0**
	comp=Z,3.9nm,1.1s						
AB31	**Akbulak array**	**13.29**	**54**	Pn	**Pn**	**22 37 00.2**	**-2.4**
	comp=Z,1.6nm,0.5s,baz=241,slow=10.0,SNR=41						
AB31				⇑Sn	Sn	22 39 20.1	-11
	comp=Z,0.8nm,0.6s,baz=240,slow=22,SNR=4.8						
AB31	**Akbulak array**	**13.29**	**54**	Pn	**Pn**	**22 37 00.2**	**-2.4**
	comp=Z,1.6nm,0.5s,baz=241,SNR=41						
OBN	**Obninsk**	**13.36**	**343**	⇑*e*P	Pn	22 37 07.0	+3.5
OBN				*e*S	**Sn**	**22 39 33.1**	**+0.9**
OBN				pmax	pmax		
	comp=Z,4.0nm,1.0s						
OBN				MLR	MLR		
	comp=Z,100nm,16.0s						
ARU	**Arti**	**16.96**	**30**	*c i*P	**Pn**	**22 37 50.5**	**-0.7**
ARU				S	**Sn**	**22 40 57.1**	**-2.7**
ARU				pmax	pmax		
	comp=Z,7.0nm,1.7s						
ARU	**Arti**	**16.96**	**30**	*i* P	**Pn**	**22 37 50.5**	**-0.7**
	comp=Z,7.0nm,1.7s						
SVE	**Sverdlovsk**	**18.04**	**32**	*e*P	**Pn**	**22 38 01.6**	**-2.9**
SVE				pmax	pmax		
	comp=Z,11nm,1.0s						
KK31	**Karatay Array**	**19.84**	**79**	⇑P	**Pn**	**22 38 25.8**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=291,slow=9.3,SNR=7.9						
KK31	**Karatay Array**	**19.84**	**79**	P	**Pn**	**22 38 25.8**	**-0.7**
	comp=Z,0.4nm,0.5s,SNR=7.9						
BRVK	**Borovoye**	**20.75**	**50**	*e*P	**P**	**22 38 35.6**	**+0.9**
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
BRVK	**Borovoye**	**20.75**	**50**	*e*P	**P**	**22 38 35.6**	**+0.9**
	comp=Z,4.0nm,1.0s						
BVAR	**Borovoye Array**	**20.80**	**50**	P	**P**	**22 38 35.3**	**0.0**
BVAR	**Borovoye Array**	**20.80**	**50**	P	**P**	**22 38 35.3**	**0.0**
	comp=Z,2.6nm,0.8s,baz=238,slow=8.3,SNR=12						
BVAR	**Borovoye Array**	**20.80**	**50**	P	**P**	**22 38 35.3**	**0.0**
VOSK	**Vostochnaya**	**21.04**	**52**	⇑P	**P**	**22 38 37.9**	**-0.1**
	comp=Z,3.1nm,1.2s						
GERES	**GERESS Array B**	**21.62**	**297**	P	**P**	**22 38 44.1**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=93,slow=9.8,SNR=3.1						
GERES	**GERESS Array B**	**21.62**	**297**	P	**P**	**22 38 44.1**	**-0.2**
KHC	**Kasperske Hory**	**21.73**	**298**	*i* P	**P**	**22 38 49.7**	**+4.3**
KHC				pmax	pmax		
	comp=Z,15nm,1.7s						
KURBB	**Kurchatov Arra**	**25.24**	**59**	P	**P**	**22 39 20.6**	**+0.6**
	comp=Z,0.2nm,0.6s,baz=272,slow=11,SNR=4.8						
KURK	**Kurchatov**	**25.30**	**59**	P	**P**	**22 39 20.7**	**+0.1**
KURK	**Kurchatov**	**25.30**	**59**	P	**P**	**22 39 20.7**	**+0.1**
MKAR	**Makanchi Array**	**27.75**	**68**	P	**P**	**22 39 42.1**	**-0.7**
MKAR	**Makanchi Array**	**27.75**	**68**	P	**P**	**22 39 42.1**	**-0.7**
	comp=Z,0.5nm,0.8s,baz=290,slow=6.8,SNR=5.2						
MKAR	**Makanchi Array**	**27.75**	**68**	P	**P**	**22 39 42.1**	**-0.7**
ARCES	**ARCESS Array B**	**28.61**	**347**	LR	LR	22 52 59.9	
	comp=Z,13nm,20.0s,baz=146,slow=40						
TORD	**Torodi Ar. Bea**	**46.42**	**244**	P	**P**	**22 42 22.9**	**+1.9**
	comp=Z,0.3nm,0.8s,baz=48,slow=5.7,SNR=2.8						
KSRS	**Korea Array**	**62.32**	**63**	LR	LR	23 16 46.9	
	comp=Z,18nm,18.9s,baz=225,slow=41						

ISCJB ***08*** *22:48:35.9±0.3, 6°.57S±0°.03×127°.99E±0°.04, h353km, mb3.9/12, Error ellipse: s-maj=5.1km s-min=4.0km az=144.4*
AUST ***08*** *22:48:37.0±0.0, 6°.66S×128°.01E, h334km, Error ellipse: s-maj=1.0km s-min=0.8km az=337.0*
DJA ***08*** *22:48:36.6±0.5, 7°.S±4°×12°.8E±°, h344km±11km, M4.6/17, mB5.0/14, mb4.9/17, MLv5.0/14, Mw(mB)4.4/14*
IDC ***08*** *22:48:37.9±1.6, 6°.61S×127°.87E, h360km±18km, mb3.7/12, mb1 3.9/16, mb1mx3.8/23, mbtmp3.8/16, Error ellipse: s-maj=14.8km s-min=7.8km az=59.0*

ISC 08 22:48:36.8±0.5,**6°.63S**±0°.05×**127°.92E**±0°.06,**h353**km,**n55**, σ1$**05**/62,**mb3.9**/12,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**2.88**	**44**	P	**Pn**	**22 49 35.1**	**-0.3**
BNDI	**Bandanaira**	**2.88**	**44**	P	**Pn**	**22 49 34.4**	**-1.0**
	baz=2.8,SNR=6.6						
BNDI				S	S	22 50 29.0	+6.6
	baz=2.8,SNR=3.9						
AAI	**Ambon**	**2.93**	**5**	P	**Pn**	**22 49 34.3**	**-1.6**
AAI	**Ambon**	**2.93**	**5**	P	**Pn**	**22 49 35.0**	**-0.9**
	baz=3.0,SNR=4.2						
NLAI	**Namlea**	**3.46**	**346**	P	**Pn**	**22 49 40.9**	**+0.2**
SAUI	**Saumlaki**	**3.62**	**112**	P	**Pn**	**22 49 40.9**	**-1.3**
SOEI	**Soe**	**4.77**	**229**	P	**Pn**	**22 49 53.8**	**-0.4**
SOEI	**Soe**	**4.77**	**229**	P	**Pn**	**22 49 53.8**	**-0.4**
	baz=4.8,SNR=254						
SOEI				S	**S**	**22 50 54.9**	**-1.8**
	baz=4.8,SNR=13						
TLE	**Tual**	**4.89**	**79**	P	**Pn**	**22 49 54.0**	**-1.4**
TLE	**Tual**	**4.89**	**79**	P	**Pn**	**22 49 54.3**	**-1.1**
	baz=4.8,SNR=14						
TLE				S	S	22 50 49.8	-9.2
	baz=4.8,SNR=8.6						
BBSI	**Bau Bau**	**5.44**	**282**	P	**Pn**	**22 50 01.1**	**-0.3**
	65nm,1.1s,2μm0.3nm						
FAKI	**Fak Fak**	**5.67**	**50**	P	**Pn**	**22 50 01.0**	**-3.1**
	122nm,1.1s,3μm1.0nm						
FAKI	**Fak Fak**	**5.67**	**50**	P	**Pn**	**22 50 01.0**	**-3.1**
	baz=5.6,SNR=14						
FAKI				S	S	22 51 05.1	-10
	baz=5.6,SNR=19						
LBMI	**Labuha**	**5.96**	**356**	P	**Pn**	**22 50 06.1**	**-1.3**
	239nm,1.0s,2μm1.0nm						
MMRI	**Maumere**	**5.97**	**250**	P	**Pn**	**22 50 07.8**	**+0.3**
	138nm,1.0s,2μm0.6nm						
KKSI	**Kolaka, Sulawe**	**6.70**	**291**	P	**Pn**	**22 50 16.4**	**+0.6**
MTN	**Manton Dam**	**6.94**	**153**	P	**Pn**	**22 50 18.3**	**-0.4**
	baz=6.9,SNR=119						
KDU	**Kakadu**	**7.51**	**144**	P	**Pn**	**22 50 24.7**	**-0.6**
	baz=7.5,SNR=180						
LUWI	**Luwuk**	**7.56**	**317**	P	**Pn**	**22 50 26.0**	**+0.2**
	254nm,1.1s,2μm0.8nm						
LUWI	**Luwuk**	**7.56**	**317**	P	**Pn**	**22 50 26.1**	**+0.2**
	baz=7.7,SNR=15						
SKSI	**Soroako, Sulaw**	**7.72**	**302**	P	**Pn**	**22 50 28.3**	**+0.4**
	210nm,0.9s,2μm0.7nm						
BKSI	**Bulukumba**	**7.86**	**279**	P	**Pn**	**22 50 29.6**	**+0.2**
	52nm,0.8s,0.2nm						
BNSI	**Bone**	**8.08**	**285**	P	**Pn**	**22 50 32.8**	**+0.7**
	87nm,0.8s						
KAPI	**Kappang**	**8.28**	**281**	P	**Pn**	**22 50 33.4**	**-1.0**
	29nm,1.0s						
KAPI	**Kappang**	**8.28**	**281**	P	**Pn**	**22 50 34.9**	**+0.5**
	3.6nm,0.3s,baz=88,slow=5.2,SNR=12						
KAPI				S	**S**	**22 52 10.3**	**-0.1**
	0.7nm,0.3s,baz=166,slow=19,SNR=2.6						
APSI	**Ampana**	**8.45**	**312**	P	**Pn**	**22 50 36.3**	**-0.1**
	213nm,1.0s,2μm						
SPSI	**Sidrap Palu**	**8.53**	**288**	P	**Pn**	**22 50 37.5**	**+0.1**
	88nm,1.1s,1μm						
GTOI	**Gorontalo**	**8.72**	**326**	P	**P**	**22 50 42.2**	**+0.2**
	420nm,0.9s,4μm						
TTSI	**Tana Toraja**	**8.82**	**293**	P	**Pn**	**22 50 41.9**	**+1.1**
	72nm,0.9s,850nm						
KNRA	**Kununurra**	**9.03**	**175**	P	**Pn**	**22 50 43.6**	**+0.3**
	baz=9.0,SNR=73						
KNRA				S	**S**	**22 52 24.6**	**-2.1**
	baz=9.0,SNR=6.7						
MRSI	**Marisa**	**9.24**	**320**	P	**Pn**	**22 50 45.2**	**-0.6**
	389nm,1.0s,3μm						
BAKI	**Biak**	**9.79**	**57**	P	**Pn**	**22 50 50.3**	**-2.1**
	348nm,1.0s,4μm						
MMSI	**Mamuju**	**9.79**	**293**	P	**P**	**22 50 53.8**	**-0.1**
FITZ	**Fitzroy Crossi**	**11.62**	**191**	P	**Pn**	**22 51 14.2**	**+0.1**
	2.3nm,0.3s,baz=28,slow=9.8,SNR=50						
FITZ				S	**S**	**22 53 22.4**	**-1.3**
	6.1nm,0.3s,baz=126,slow=22,SNR=6.6						
JAY	**Jayapura**	**13.38**	**73**	P	**Pn**	**22 51 34.3**	**-0.7**
	baz=13,SNR=4.1						
WRA	**Warramunga Arr**	**14.63**	**155**	P	**P**	**22 51 47.9**	**+0.5**
	38nm,0.3s,baz=330,slow=12,SNR=234						
WRA				S	**S**	**22 54 25.3**	**-0.1**
	3.2nm,0.3s,baz=339,slow=19,SNR=6.5						
COEN	**Coen**	**16.68**	**117**	P	**P**	**22 52 10.0**	**+0.4**
	baz=17,SNR=162						
ASAR	**Alice Springs**	**17.89**	**162**	P	**P**	**22 52 23.7**	**+1.1**
	4.8nm,0.3s,baz=342,slow=11,SNR=777						
ASAR				S	**S**	**22 55 30.4**	**+0.7**
	3.2nm,0.3s,baz=349,slow=25,SNR=17						
PMG	**Port Moresby**	**19.25**	**100**	P	**P**	**22 52 38.2**	**+1.1**
	1.0nm,0.3s,baz=292,slow=5.7,SNR=14						
MEEK	**Meekatharra**	**21.79**	**203**	P	**P**	**22 53 01.3**	**+0.4**
	baz=22,SNR=10						
CTA	**Charters Tower**	**22.27**	**129**	P	**P**	**22 53 07.2**	**+1.8**
	4.6nm,0.7s,baz=308,slow=14,SNR=5.1						
STKA	**Stephens Creek**	**28.18**	**155**	P	**P**	**22 53 59.6**	**+1.5**
	5.4nm,0.5s,baz=322,slow=9.0,SNR=26						
PSI	**Prapat**	**30.42**	**287**	P	**P**	**22 54 17.9**	**-0.3**
	1.8nm,0.3s,baz=313,slow=19,SNR=4.4						
CMAR	**Chiang Mai Arr**

BORG	Borgarnes	14.48	243	LR	LR	23 13 15.7			
	comp=Z,138nm,18.1s,baz=38,slow=31								
FIA0	FINESS Array S	14.54	148	Pn	Pn	23 09 18.3	+0.1		
	baz=329,slow=16								
FIA0	FINESS Array S	14.54	148	Pn	Pn	23 09 18.3	+0.1		
	baz=329,slow=16								
FIA0	FINESS Array S	14.54	148	Pn	Pn	23 09 18.3	+0.1		
	baz=329,slow=15,SNR=4.4								
FINES	FINESS Array B	14.54	148	Pn	Pn	23 09 17.4	-0.7		
	comp=Z,0.1nm,0.3s,baz=345,slow=13,SNR=3.9								
FINES				LR	LR	23 15 45.4			
	comp=Z,63nm,18.9s,baz=140,slow=40								
HFS	Hagfors	14.72	173	LR	LR	23 14 29.8			
	comp=Z,115nm,18.7s,baz=140,slow=35								
SFJD	Kangerlussuaq	20.30	280	LR	LR	23 17 18.9			
	comp=Z,107nm,19.1s,baz=109,slow=34								
VRAC	Vranov	25.66	170	LR	LR	23 20 47.7			
	comp=Z,58nm,20.0s,baz=326,slow=35								
GERES	GERESS Array B	26.02	174	P	P	23 11 28.4	+2.8		
	comp=Z,0.1nm,0.3s,baz=0.0,slow=6.9,SNR=3.2								
GERES				LR	LR	23 23 24.3			
	comp=Z,42nm,19.6s,baz=97,slow=40								
FRB	Frobisher Bay	27.48	289	LR	LR	23 21 46.1			
	comp=Z,59nm,19.0s,baz=61,slow=35								
KBZ	Khabaz	34.37	136	LR	LR	23 27 17.1			
	comp=Z,90nm,19.9s,baz=175,slow=37								
SCHQ	Schefferville	34.75	279	LR	LR	23 25 14.5			
	comp=Z,83nm,20.6s,baz=37,slow=34								
ZALV	Zalesovo Beam	35.06	83	LR	LR	23 31 39.4			
	comp=Z,41nm,18.7s,baz=71,slow=44								
ILAR	Eielson Array	39.94	345	P	P	23 13 26.3	0.0		
	comp=Z,0.3nm,0.7s,baz=208,slow=9.5,SNR=6.4								
MKAR	Makanchi Array	40.91	91	P	P	23 13 37.8	+3.2		
	comp=Z,0.6nm,0.8s,baz=2.1,slow=5.6,SNR=5.9								
MKAR				LR	LR	23 32 39.9			
	comp=Z,71nm,19.5s,baz=118,slow=39								
PDAR	Pinedale Array	56.20	310	LR	LR	23 40 32.3			
	comp=Z,48nm,18.2s,baz=185,slow=37								
TORD	Torodi Ar. Bea	61.73	189	P	P	23 16 10.7	-0.2		
	comp=Z,1.0nm,1.1s,baz=358,slow=7.3,SNR=3.4								

IDC 08 23:07:55.8±2.7, 22°.62S×171°.28E, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.8/16, mbtmp3.9/5, ML3.9/1, MS3.3/2, Ms1 3.3/2, ms1mx3.0/22, Error ellipse: s-maj=114.5km s-min=32.4km az=160.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	4.51	276	Pn	Pn		23 09 06.2	+0.7
	5.4nm,0.3s,baz=296,slow=23,SNR=103							
DZM				Sn	Sn		23 09 56.3	-2.5
	7.3nm,0.3s,baz=345,slow=18,SNR=7.1							
URZ	Urewera	16.37	164	LR	LR		23 16 01.2	
	comp=Z,75nm,18.0s,baz=105,slow=30							
AFI	Afiamalu	18.26	65	LR	LR		23 17 56.0	
	comp=Z,115nm,19.2s,baz=51,slow=33							
ASAR	Alice Springs	34.33	261	P	P		23 14 44.4	0.0
	1.5nm,0.9s,baz=87,slow=9.2,SNR=12							
WRA	Warramunga Arr	34.47	267	P	P		23 14 44.7	-1.0
	0.2nm,0.3s,baz=95,slow=8.7,SNR=2.6							
CMAR	Chiang Mai Arr	81.62	294	P	P		23 20 16.9	+0.8
	1.3nm,0.4s,baz=150,slow=3.0,SNR=4.9							
SONM	Songino Array	91.06	322	P	P		23 21 02.3	+0.2
	0.4nm,0.6s,baz=163,slow=5.6,SNR=3.2							
EKA	Eskdalemuir Ar	147.07	354	PKPbc	PKPbc		23 27 39.8	-0.5
	0.9nm,0.5s,baz=355,slow=3.8,SNR=4.1							
GERES	GERESS Array B	148.36	331	PKPbc	PKPbc		23 27 44.2	0.0
	1.2nm,0.6s,baz=38,slow=3.3,SNR=14							
DAVOX	Davos/Dischmat	151.60	333	PKPbc	PKPbc		23 27 50.6	-1.6
	4.4nm,0.8s,baz=90,slow=2.0,SNR=6.5							

MAN 08 23:14:43, 16°.92N×120°.44E, h17km, mb4.0, ML2.8, MS2.4, 2C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BCPH	Baguio City Da	0.55	166	⇑iP		Pg	23 14 53.9	-0.3
BOLP	Bolinao	0.73	224	eP		Pb	23 14 56.8	-0.5
BOLP				eS		Sb	23 15 04.4	-2.7
ABRA	Dolores	0.77	20	eP		Pb	23 14 57.5	-0.5
SIPP	Brgy, Tapao	1.00	1	⇑iP		Pn	23 15 02.3	0.0
APYP	Conner	1.21	39	eP		Pn	23 15 04.5	-0.7
APYP				eS		Sn	23 15 21.3	0.0
SCZP	Santa Cruz	1.24	204	eP		Pn	23 15 05.0	-0.5
CAUP	Cauayan	1.32	89	eP		Pg	23 15 09.6	+1.0
BALP	Baler	1.60	137	eP		Pb	23 15 11.9	-0.2

MAN 08 23:16:50, 17°.04N×120°.36E, h1km, mb3.9, ML2.6, MS2.2, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ABRA	Dolores	0.69	29	eP		Pb	23 17 04.3	-0.6
BOLP	Bolinao	0.78	213	eP		Pg	23 17 05.6	+0.6
SIPP	Brgy, Tapao	0.88	6	⇑iP		Pn	23 17 10.8	+1.2
APYP	Conner	1.17	46	eP		Pb	23 17 13.3	+0.2
APYP				eS		Sn	23 17 30.1	-0.1
CAUP	Cauayan	1.40	94	eP		Pb	23 17 18.6	+1.6
BALP	Baler	1.74	138	eP		Pn	23 17 20.6	-0.7

GUC 08 23:32:08.9±0.7, 33°.36S×71°.91W, h15km±15km, MD3.5, ML2.3, 2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LNV	Longovilo	0.72	145	eP		Pg	23 32 22.3	-0.8
LNV				iS		Sg	23 32 31.9	-0.8
ROCH	El Roble	0.85	63	⇓iP		Pb	23 32 24.4	-1.4
ROCH				iS		Sb	23 32 35.3	-1.8
ROCH					AML	AML	23 32 38.6	
	comp=N,108nm,0.6s							
PEL	Peldehue	1.05	78	eP		Pb	23 32 27.7	-1.2
PEL				eS		Sb	23 32 41.5	-1.1
PEL					AML	AML	23 32 48.1	
	comp=N,174nm,0.5s							
CLCH	Cerro Calan	1.15	92	eP		Pn	23 32 29.3	-1.3
CLCH				eS		Sb	23 32 44.9	-0.6
CLCH					AML	AML	23 32 55.5	
	comp=E,119nm,0.5s							
PCH	Pirque	1.20	103	eP		Pn	23 32 30.2	-1.0
PCH				iS		Sb	23 32 45.9	-1.0
JACH	Jahuel	1.30	59	eP		Pn	23 32 31.4	-1.3
CACH	El Canelo	1.33	125	⇓iP		Pn	23 32 32.7	-0.4
CACH				iS		Sb	23 32 50.9	+0.2
LMEL	Las Melosas	1.51	109	eP		Pn	23 32 34.8	-0.8
LMEL				eS		Sn	23 32 54.5	-0.6
LMEL					AML	AML	23 33 01.0	
	comp=N,96nm,0.2s							

*TIF **08** 23:40:21.4, 42°.55N×43°.45E, h10km±1km*
*CSEM **08** 23:40:22.2±0.2, 42°.58N×43°.42E, h10km, mb4.2, Error ellipse: s-maj=4.1km s-min=2.9km az=126.0*
*DDA **08** 23:40:26.2, 42°.46N×43°.21E, h21km, MD3.3*
*MOS **08** 23:40:26.1±1.6, 42°.78N×43°.63E, h8km, mb4.2/1, Error ellipse: s-maj=9.8km s-min=6.3km az=75.9*
*NNC **08** 23:40:27.5±3.7, 42°.83N×44°.13E, h0km, mb3.4, Error ellipse: s-maj=62.4km s-min=22.9km az=118.0*

ISC 08 23:40:21.7±0.8, 42°.55N±0°.02×43°.42E±0°.02, h9km±5km, n55, σ0°.83/103, 9C-11D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ONI	Oni	0.05	28	P		Pg	23 40 23.6	-0.1
ONI				S		Sg	23 40 25.0	-0.1
DIGR	Digorskoe uzhe	0.37	18	⇓iPG		Pg	23 40 28.8	-0.3
DIGR				eS		Sg	23 40 34.2	+0.2
DIGR	Digorskoe uzhe	0.37	18	iPg		Pg	23 40 28.8	-0.3
DIGR				eSg		Sg	23 40 34.2	+0.2
ZEI	Tsey	0.43	56	⇓iPG		Pg	23 40 29.9	-0.2
ZEI				iS		Sg	23 40 35.8	+0.1
ZEI	Tsey	0.43	56	iPg		Pg	23 40 29.9	-0.2
ZEI				iSg		Sg	23 40 35.8	+0.1
LACR	Lac	0.70	66	⇓iPG		Pg	23 40 34.8	-0.5
LACR				iS		Sg	23 40 44.2	-0.2
LACR	Lac	0.70	66	iPg		Pg	23 40 34.8	-0.5
LACR				iSg		Sg	23 40 44.2	-0.2
KORR	Kora	0.72	41	⇑iPG		Pg	23 40 35.4	-0.1
KORR				iS		Sg	23 40 45.3	+0.4
KORR	Kora	0.72	41	iPg		Pg	23 40 35.4	-0.1
KORR				iSg		Sg	23 40 45.3	+0.4
LSNR	Lesken	0.79	22	⇓iPG		Pg	23 40 37.0	+0.1
LSNR				iS		Sg	23 40 47.6	+0.5
LSNR	Lesken	0.79	22	iPg		Pg	23 40 37.0	+0.1
LSNR				iSg		Sg	23 40 47.6	+0.5
STDR	Stavd-Durt	0.94	30	⇑iPG		Pb	23 40 40.6	+0.4
STDR				eS		Sb	23 40 53.5	+0.7
STDR	Stavd-Durt	0.94	30	iPg		Pb	23 40 40.6	+0.4
STDR				eSg		Sb	23 40 53.5	+0.7
NCK	Nalchik	0.95	8	⇓ePG		Pb	23 40 40.6	+0.2
NCK				eS		Sn	23 40 54.5	-0.5
NCK	Nalchik	0.95	8	ePg		Pb	23 40 40.6	+0.2
VLKR	Vladikavkaz	1.05	61	ePG		Pb	23 40 42.2	+0.2
VLKR				eS		Sb	23 40 56.2	+0.4
VLKR	Vladikavkaz	1.05	61	ePg		Pb	23 40 42.2	+0.2
VLKR				eSg		Sb	23 40 56.2	+0.4
AKH	Akhalkalaki	1.14	177	P		Pb	23 40 43.3	-0.4
AKH				S		Sb	23 40 59.3	+0.7
SNJR	Sundja	1.15	63	⇑iPG		Pn	23 40 44.6	+0.7
SNJR				eS		Sn	23 41 00.0	+0.3
SNJR	Sundja	1.15	63	iPg		Pn	23 40 44.6	+0.7
SNJR				eSg		Sn	23 41 00.0	+0.3
BTKR	Batakoyurt	1.16	45	ePG		Pn	23 40 45.6	+1.5
BTKR				eS		Sn	23 41 01.3	+1.2
BTKR	Batakoyurt	1.16	45	ePg		Pn	23 40 45.6	+1.5
BTKR				eSg		Sn	23 41 01.3	+1.2
KUBR	Kubataba	1.25	360	⇑ePG		Pg	23 40 46.1	+0.4
KUBR				eS		Sn	23 41 03.7	+1.4
KUBR	Kubataba	1.25	360	ePg		Pg	23 40 46.1	+0.4
KUBR				eSg		Sn	23 41 03.7	+1.4
TBLG	Delisi	1.27	129	P		Pn	23 40 45.5	-0.1
TBLG				S		Sg	23 41 03.5	+0.8
SHAR	Shatzhatmas	1.31	335	⇑ePG		Pn	23 40 46.5	+0.1
SHAR				eS		Sb	23 41 03.8	+0.1
SHAR	Shatzhatmas	1.31	335	ePg		Pn	23 40 46.5	+0.1
SHAR				eSg		Sb	23 41 03.8	+0.1
PRTR	Priterechnaya	1.36	27	⇓iPG		Pg	23 40 48.4	+0.7
PRTR				eS		Sg	23 41 06.7	+1.4
PRTR	Priterechnaya	1.36	27	iPg		Pg	23 40 48.4	+0.7
PRTR				eSg		Sg	23 41 06.7	+1.4
KZR	Kazreti	1.38	147	P		Pn	23 40 46.9	-0.2
KZR				S		Sb	23 41 05.6	+0.1
KIV	Kislovodsk	1.50	339	⇑ePG		Pb	23 40 49.9	+0.1
KIV				eS		Sb	23 41 09.5	+0.5
KIV	Kislovodsk	1.50	339	ePg		Pb	23 40 49.9	+0.1
KIV				eSg		Sb	23 41 09.5	+0.5
PYA	Pyatigorsk	1.51	350	⇑ePG		Pb	23 40 50.2	+0.4
PYA				eS		Sg	23 41 09.9	-0.3
PYA	Pyatigorsk	1.51	350	ePg		Pb	23 40 50.2	+0.4
PYA				eSg		Sg	23 41 09.9	-0.3
TRKR	Terskaya	1.52	39	⇓iPG		Pg	23 40 50.8	+0.1
TRKR				eS		Sg	23 41 11.0	+0.6
TRKR	Terskaya	1.52	39	iPg		Pg	23 40 50.8	+0.1
TRKR				eSg		Sg	23 41 11.0	+0.6
ARTV	Artvin	1.76	220	iP		Pn	23 40 53.6	+1.1
ARTV				iS		Sb	23 41 16.9	+0.4
ARTV	Artvin	1.76	220	iP		Pn	23 40 53.6	+1.1
ARTV				iS		Sb	23 41 16.9	+0.4
DBOC	Borcka	1.78	228	iP		Pn	23 40 52.7	+0.1
DBOC				iS		Sn	23 41 15.9	+0.6
DBOC	Borcka	1.78	228	iP		Pn	23 40 52.7	+0.1
DBOC				iS		Sn	23 41 15.9	+0.6
DGRG	David-gareji	1.82	126	P		Pb	23 40 55.5	+0.3
DGRG				S		Sg	23 41 22.6	+2.4
DAGI	Agillar	1.85	218	iP		Pb	23 40 55.3	-0.5
DAGI				iS		Sb	23 41 19.5	+0.4
GRO	Groznyy	1.87	65	⇓iPG		Pb	23 40 56.2	+0.2
GRO				eS		Sb	23 41 20.5	+1.0
GRO	Groznyy	1.87	65	iPg		Pb	23 40 56.2	+0.2
GRO				eSg		Sb	23 41 20.5	+1.0
DDEM	Demirkent	2.08	218	iP		Pn	23 40 58.1	+1.4
DDEM				iS		Sb	23 41 25.8	+0.4
DDEM	Demirkent	2.08	218	iP		Pn	23 40 58.1	+1.4
DDEM				iS		Sb	23 41 25.8	+0.4
DIGO	Kars	2.13	181	iP		Pn	23 40 59.5	+1.8
DIGO				iS		Sb	23 41 27.3	+0.1
DIGO	Kars	2.13	181	iP		Pn	23 40 59.5	+1.8
DIGO				iS		Sb	23 41 27.3	+0.1
SOC	Sochi	2.91	292	ePN		Pg	23 41 17.5	+0.2
SOC				e			23 41 52.6	
SOC					pmax	pmax		
	comp=Z,26nm,0.7s							
SOC					smax	smax		
	comp=N,51nm,0.6s							
SOC					smax	smax		
	comp=E,32nm,0.6s							
AKTO	Aktyubinsk	12.76	47	⇑Pn		Pn	23 43 22.1	-1.1
	comp=E,1.6nm,1.0s							
AKTO				⇓Sn		Sn	23 45 41.2	-4.1
	comp=E,2.2nm,1.1s							
AKTO	Aktyubinsk	12.76	47	Pn		Pn	23 43 22.1	-1.1
	comp=E,1.6nm,1.0s							
AB31	Akbulak array	13.30	54	⇑Pn		Pn	23 43 29.4	-1.1
	comp=E,0.3nm,0.4s,baz=246,slow=12,SNR=14							
AB31				⇓Sn		Sn	23 45 52.0	-6.4
	comp=E,0.4nm,0.5s							
AB31	Akbulak array	13.30	54	Pn		Pn	23 43 29.4	-1.1
	comp=E,0.3nm,0.4s,baz=246,SNR=14							
KK31	Karatay Array	19.85	79	⇓P		Pn	23 44 53.9	-0.4
	comp=E,0.5nm,0.7s,baz=290,slow=13,SNR=5.4							
KK31	Karatay Array	19.85	79	P		Pn	23 44 53.9	-0.4
	comp=E,0.5nm,0.7s,SNR=5.4							

IDC 08 23:49:07.4±2.0, 7°.86S×124°.01E, h0km, mb3.4/1, mb1 3.6/3, mb1mx3.4/20, mbtmp3.4/3, ML3.2/2, Error ellipse: s-maj=184.9km s-min=31.4km az=58.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	15.64	141	Pn		Pn	23 52 48.6	-0.7
	0.1nm,0.3s,baz=316,slow=12,SNR=3.4							
WRA				Sn		Sn	23 55 39.4	-4.0
	baz=317,slow=24,SNR=2.6							
ASAR	Alice Springs	18.36	150	P		P	23 53 24.4	+0.5
	0.1nm,0.3s,baz=318,slow=12,SNR=8.9							
MKAR	Makanchi Array	65.83	330	P		P	23 59 54.5	-0.1
	0.1nm,0.4s,baz=141,slow=7.8,SNR=3.7							

*ISCJB **08** 23:49:54.5±0.9, 20°.8S±0°.1×168°.5E±0°.1, h30km, mb4.0/8, MS3.5/6, Error ellipse: s-maj=26.1km s-min=10.6km az=140.8*
*NEIC **08** 23:49:56.8±0.7, 20°.76S×168°.48E, h35km, mb4.2/2, Error ellipse: s-maj=23.7km s-min=13.3km az=139.0*
*IDC **08** 23:49:57.7±1.0, 20°.73S×168°.41E, h37km±5km, mb3.8/7, mb1 4.1/8, mb1mx3.9/18, mbtmp3.9/8, MS3.4/7, Ms1 3.4/7, ms1mx3.2/26, Error ellipse: s-maj=33.5km s-min=17.1km az=146.0*

ISC 08 23:49:56.7±0.8, 20°.8S±0°.2×168°.5E±0°.1, h30km, n29, σ1.8/16/32, mb4.1/8, MS3.5/6, 1C, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	2.26	236	Pn		Pn	23 50 31.0	-1.2
DZM				Sn		Sn	23 50 59.2	0.0
DZM	Mont Dzumac	2.26	236	Pn		Pn	23 50 31.0	-1.2
	30nm,0.3s,baz=61,slow=18,SNR=372							
DZM				Sn		Sn	23 50 59.2	0.0
	127nm,0.3s,baz=81,slow=21,SNR=13							
DZM				LR		LR	23 51 08.7	
	comp=Z,335nm,22.0s,baz=224,slow=31							
AFI	Afiamalu	20.06	73	LR		LR	00 00 19.9	
	comp=Z,82nm,20.7s,baz=43,slow=31							
CTA	Charters Tower	20.82	268	P		Pn	23 54 38.4	-0.2
CTA	Charters Tower	20.82	268	P		Pn	23 54 38.4	-0.2
	5.6nm,0.8s,baz=88,slow=14,SNR=4.5							
STKA	Stephens Creek	26.41	240	P		P	23 55 32.3	+1.5
STKA	Stephens Creek	26.41	240	P		P	23 55 32.3	+1.5
	2.9nm,0.9s,baz=93,slow=17,SNR=2.9							
STKA				LR		LR	00 06 13.8	
	comp=Z,81nm,20.6s,baz=189,slow=37							
WRA	Warramunga Arr	31.97	265	P		P	23 56 20.3	0.0
WRA				pP		pP	23 56 29.6	+0.5
WRA	Warramunga Arr	31.97	265	P		P	23 56 20.3	0.0
	1.1nm,1.0s,baz=282,slow=20,SNR=7.4							
WRA				pP		pP	23 56 29.6	+0.5
	2.4nm,0.8s,baz=95,slow=8.8,SNR=7.6							
AS31	Alice Springs	32.07	258	eP		P	23 56 20.6	-0.6
ASAR	Alice Springs	32.07	258	P		P	23 56 20.9	-0.3
ASAR				pP		pP	23 56 31.1	+1.1
ASAR	Alice Springs	32.07	258	P		P	23 56 20.9	-0.3
	2.8nm,0.9s,baz=84,slow=8.9,SNR=16							
ASAR				pP		pP	23 56 31.1	+1.1
	9.2nm,0.8s,baz=82,slow=9.2,SNR=28							
ASAR				LR		LR	00 07 50.6	
	comp=Z,89nm,19.3s,baz=93,slow=34							
PPT	Papeete	39.68	93	LR		LR	00 10 15.0	
	comp=Z,126nm,19.2s,baz=222,slow=31							
VNDA	Vanda	56.85	182	eP		P	23 59 37.9	-0.2
	0.8nm,0.4s							
VNDA	Vanda	56.85	182	P		P	23 59 38.8	+0.7
	1.2nm,0.9s,baz=352,slow=5.2,SNR=3.9							
MJAR	Matsushiro Arr	63.80	333	LR		LR	00 23 20.3	
	comp=Z,47nm,20.6s,baz=240,slow=31							
KSRS	Korea Array	69.39	326	LR		LR	00 30 41.2	
	comp=Z,25nm,18.5s,baz=324,slow=35							
CMAR	Chiang Mai Arr	78.49	295	P		P	00 01 54.6	-0.8
CMAR				pP		pP	00 02 07.2	+2.2
CMAR	Chiang Mai Arr	78.49	295	P		P	00 01 54.6	-0.8
	0.8nm,0.3s,baz=116,slow=4.2,SNR=4.7							
CMAR				pP		pP	00 02 07.2	+2.2
	1.1nm,0.4s,baz=144,slow=5.1,SNR=1.7							
SYO	Syowa Base	83.23	196	⇑ePP		pP	00 02 28.0	-1.5
ULN	Ulaanbaatar	87.68	324	eP		P	00 02 41.0	-1.6
	0.8nm,0.4s							
SONM	Songino Array	88.03	323	P		P	00 02 44.1	-0.1
SONM	Songino Array	88.03	323	P		P	00 02 44.1	-0.1
	0.5nm,0.5s,baz=119,slow=5.1,SNR=3.3							
NVAR	Mina Array Bea	90.38	49	P		P	00 02 54.4	-1.1
NVAR				pP		pP	00 03 07.3	+2.1
NVAR	Mina Array Bea	90.38	49	P		P	00 02 54.4	-1.1
	1.7nm,0.8s,baz=228,slow=8.1,SNR=6.9							
NVAR				pP		pP	00 03 07.3	+2.1
	1.4nm,0.8s,baz=219,slow=7.0,SNR=5.3							
ARCES	ARCESS Array B	126.38	345	PKP		PKPdf	00 08 55.0	-0.9
ARCES	ARCESS Array B	126.38	345	PKP		PKPdf	00 08 55.0	-0.9
	1.2nm,0.9s,baz=64,slow=2.1,SNR=3.2							
GERES	GERESS Array B	145.50	330	PKPbc		PKPdf	00 09 31.1	-0.8
GERES				pPKPbc		pPKPbc	00 09 43.0	+1.1
GERES	GERESS Array B	145.50	330	PKPbc		PKPdf	00 09 31.1	-0.8
	1.2nm,0.8s,baz=11,slow=1.4,SNR=10							
GERES				pPKPbc		pPKPbc	00 09 43.0	+1.1
	1.2nm,0.9s,baz=40,slow=2.3,SNR=4.9							

*BKK **09** 00:06:59.6±0.6, 9°.N±5°.×9°.3E±°, h10km, M5.1/17, mB5.6/6, mb4.8/17, MLv5.2/2, Mw(mB)5.1/6*
*DJA **09** 00:07:02.6±0.7, 10°.N±6°.×9°.3E±°, h27km, M4.9/8, mB5.5/1, mb4.9/8, Mw(mB)5.0/1*
*BJI **09** 00:07:09.9, 9°.65N×93°.83E, h171km, mB4.6/3, mb4.7/9*
*ISCJB **09** 00:07:14.8±0.6, 10°.22N±0°.04×93°.78E±0°.03, h166km±4km, mb4.4/85, Error ellipse: s-maj=6.7km s-min=4.9km az=30.9*
*IDC **09** 00:07:15.6±1.6, 10°.23N×93°.82E, h158km±13km, mb4.0/32, mb1 4.1/33, mb1mx4.0/38, mbtmp4.0/33, Error ellipse: s-maj=10.5km s-min=8.5km az=47.0*
*MOS **09** 00:07:15.8±0.7, 10°.24N×93°.85E, h178km, mb4.7/39, Error ellipse: s-maj=9.9km s-min=5.2km az=124.2*
*NEIC **09** 00:07:16.7±0.6, 10°.26N×93°.82E, h170km±5km, mb4.7/42, Error ellipse: s-maj=4.8km s-min=3.2km az=48.0*

ISC 09 00:07:17.3±0.6, 10°.30N±0°.05×93°.84E±0°.05, h174km±5km, n328, σ0°.80/350, mb4.5/85, 15C-12D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PBA	Port Blair	1.73	322	eP		Pn	00 07 48.1	-2.9
PBA				eS		Sn	00 08 12.9	-4.1
PBA					AML	AML	00 08 18.1	
	comp=N,8μm,0.5s							
PBA					AML	AML	00 08 18.5	
	comp=E,5μm,0.3s							
DGPR	DIGLIPUR	3.00	343	eP		Pn	00 08 04.8	-0.8
DGPR				eS		Sn	00 08 39.2	-4.1
PHET	Kaeng Krachan	6.24	65	P		Pn	00 08 46.8	-0.6
	comp=E,563nm,0.8s,comp=E,5μmcomp=E,2.0nm							
IPM	Ipoh	9.18	129	ePn		Pn	00 09 24.3	-1.9
	comp=E,5.8nm,0.6s							
CM31	Chiang Mai Arr	9.50	31	ePn		Pn	00 09 30.7	+0.3
	comp=E,21nm,0.7s							
CMAR	Chiang Mai Arr	9.50	31	P		Pn	00 09 30.4	0.0
CMAR	Chiang Mai Arr	9.50	31	P		Pn	00 09 30.4	0.0
	comp=E,0.8nm,0.3s,baz=220,slow=14,SNR=48							
CHTO	Chiang Mai	9.80	30	eP		Pn	00 09 34.1	-0.3
CHTO							00 11 22.4	
CHTO	Chiang Mai	9.80	30	ePn		Pn	00 09 34.1	-0.3
CHTO					Sn	Sn	00 11 22.4	-1.1
CHTO	Chiang Mai	9.80	30	P		Pn	00 09 34.1	-0.3
	comp=E,27nm,1.0s							
CHTO	Chiang Mai	9.80	30	P		Pn	00 09 34.7	+0.3
	comp=E,27nm,1.0s							
LAMP	Lampang	9.92	34	P		Pn	00 09 36.2	+0.3
	comp=E,9.6nm,0.9s,comp=E,76nm							
LOEI	Loei	10.17	44	P		Pn	00 09 42.7	+3.5
	comp=E,32nm,0.9s,comp=E,3μm							
CMAI	Chiengmai2	10.82	27	P		Pn	00 09 48.8	+1.0
	comp=E,22nm,1.2s							
CRAI	Chiangrai	11.71	32	P		Pn	00 09 58.2	-1.1
	comp=E,12nm,0.9s,comp=E,2μm							
PANO	Nakornpanom	12.49	56	P		Pn	00 10 10.1	+0.9
	comp=E,135nm,0.9s							

HHC Hu-ho-hao-te 34.23 24 *eP* **P 00 13 47.5 +0.9**
HHC pP **pP 00 14 24.2 +1.1**
HHC sP **sP 00 14 45.2 +2.1**
HHC PP **PP 00 15 09.2 +1.4**
HHC S **S 00 19 02.1 +1.6**
HHC sS **sS 00 20 06.3 +1.4**
HHC SS **SnSn 00 21 24.8 -6.5**
HHC ScS **ScS 00 23 47.5 -3.4**
HHC pmax pmax
comp=Z,35nm,0.8s
HHC pmax pmax
comp=Z,270nm,5.1s
HHC LR LR
comp=N,280nm,17.8s
HHC LR LR
comp=E,430nm,17.8s
HHC LR LR
comp=Z,320nm,16.7s
TKM2 Tokmak 2 36.19 337 P **P 00 14 03.6 +0.1**
TKM2 Tokmak 2 36.19 337 P **P 00 14 03.6 +0.1**
AAK Ala-Archa 36.38 336 P **P 00 14 05.8 +0.8**
AAK 00 16 26.5
AAK pmax pmax
comp=Z,1.0nm,0.3s
AAK pmax pmax
comp=Z,2.0nm,0.4s
AAK Ala-Archa 36.38 336 P **P 00 14 05.4 +0.4**
AAK PcP **PcP 00 16 26.5 +0.9**
AAK Ala-Archa 36.38 336 P **P 00 14 05.8 +0.8**
comp=Z,0.9nm,0.3s,baz=173,slow=5.0,SNR=4.0
AAK PcP **PcP 00 16 26.5 +0.9**
comp=Z,1.8nm,0.4s,baz=128,slow=3.6,SNR=6.5
EKS2 Erkin-Say 36.70 335 *eP* **P 00 14 07.6 -0.1**
EKS2 Erkin-Say 36.70 335 *eP* **P 00 14 07.6 -0.1**
MK31 Makanchi Array 37.67 347 *eP* **P 00 14 15.0 -0.7**
MK31 Makanchi Array 37.67 347 *eP* **P 00 14 15.0 -0.7**
MKAR Makanchi Array 37.67 347 P **P 00 14 16.2 +0.5**
MKAR 00 16 29.7
MKAR pmax pmax
comp=Z,1.0nm,0.4s
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR Makanchi Array 37.67 347 *eP* **P 00 14 15.2 -0.6**
MKAR PcP **PcP 00 16 29.6 +0.3**
MKAR Makanchi Array 37.67 347 P **P 00 14 16.2 +0.5**
comp=Z,1.1nm,0.4s,baz=165,slow=9.2,SNR=29
MKAR PcP **PcP 00 16 29.6 +0.3**
comp=Z,1.1nm,0.7s,baz=150,slow=3.4,SNR=4.3
KKAR Karatay Array 38.48 332 *eP* **P 00 14 23.2 +0.7**
KKAR Karatay Array 38.48 332 *eP* **P 00 14 23.2 +0.7**
SONM Songino Array 38.89 13 P **P 00 14 26.5 +0.6**
SONM PcP **PcP 00 16 34.0 +0.8**
SONM Songino Array 38.89 13 P **P 00 14 26.5 +0.6**
comp=Z,1.0nm,0.8s,baz=195,slow=10,SNR=4.6
SONM PcP **PcP 00 16 34.0 +0.8**
comp=Z,4.1nm,0.7s,baz=199,slow=3.6,SNR=16
MBWA Marble Bar 40.31 141 *eP* **P 00 14 36.6 -1.2**
KSAR Wonju Array Be 40.84 43 P **P 00 14 41.8 -0.3**
KSRS Korea Array 40.88 43 P **P 00 14 41.8 -0.5**
comp=Z,0.9nm,0.3s,baz=248,slow=8.7,SNR=4.5
JNU Nakatsue 40.91 51 P **P 00 14 43.6 +0.9**
JNU Nakatsue 40.91 51 P **P 00 14 43.6 +0.9**
comp=Z,7.7nm,0.8s,baz=276,slow=5.7,SNR=4.1
KURBB Kurchatov Arra 42.14 345 P **P 00 14 52.9 +0.5**
comp=Z,1.2nm,0.8s,baz=164,slow=7.1,SNR=10
KURBB PcP **PcP 00 16 44.2 +0.7**
comp=Z,1.7nm,0.6s,baz=162,slow=2.5,SNR=13
KURK Kurchatov 42.20 346 P **P 00 14 52.9 0.0**
KURK 00 16 44.3
KURK Kurchatov 42.20 346 P **P 00 14 52.9 0.0**
KURK PcP **PcP 00 16 44.2 +0.5**
ZAA0 Zalesovo Array 44.13 352 *eP* **P 00 15 08.4 +0.1**
ZALV Zalesovo Beam 44.13 352 P **P 00 15 08.8 +0.5**
ZALV Zalesovo Beam 44.13 352 P **P 00 15 08.8 +0.5**
ZALV Zalesovo Beam 44.13 352 P **P 00 15 08.8 +0.5**
comp=Z,4.7nm,0.5s,baz=173,slow=8.2,SNR=25
BVAR Borovoye Array 46.62 341 P **P 00 15 27.6 -0.3**
BVAR 00 16 59.0
BVAR Borovoye Array 46.62 341 P **P 00 15 27.6 -0.3**
BVAR PcP **PcP 00 16 59.0 +0.1**
BVAR Borovoye Array 46.62 341 P **P 00 15 27.6 -0.3**
comp=Z,0.5nm,0.3s,baz=270,slow=18,SNR=5.3
BVAR PcP **PcP 00 16 59.0 +0.1**
comp=Z,2.2nm,0.5s,baz=151,slow=4.5,SNR=8.3
RDF Al-Radifah 47.03 300 *eP* **P 00 15 31.4 0.0**
RDF AMb AMB 00 15 32.1
comp=Z,43nm,0.4s
USRK Ussuriysk Arra 47.16 37 P **P 00 15 32.6 +0.4**
comp=Z,2.9nm,0.7s,baz=241,slow=8.1,SNR=6.2
NAY Al-Naaiem 47.37 300 *eP* **P 00 15 33.5 -0.6**
NAY AMb AMB 00 15 34.3
comp=Z,1.5nm,0.6s
MIB Mutribah 47.42 301 *eP* **P 00 15 33.8 -0.7**
MIB AMb AMB 00 15 35.6
comp=Z,44nm,1.1s
RST Umm Al-Ruwaisa 47.63 301 *eP* **P 00 15 35.5 -0.6**
RST AMb AMB 00 15 36.9
comp=Z,284nm,1.1s
MJAR Matsushiro Arr 47.80 49 P **P 00 15 38.4 +1.1**
MJAR Matsushiro Arr 47.80 49 P **P 00 15 38.4 +1.1**
comp=Z,2.7nm,0.7s,baz=249,slow=7.6,SNR=7.2
ABKAR Abkulak array 47.98 331 *eP* **P 00 15 39.0 +0.5**
AKTO Aktyubinsk 49.70 331 P **P 00 15 51.4 -0.1**
AKTO 00 17 10.6
AKTO Aktyubinsk 49.70 331 P **P 00 15 51.4 -0.1**
AKTO PcP **PcP 00 17 10.6 +0.5**
AKTO Aktyubinsk 49.70 331 P **P 00 15 51.4 -0.1**
comp=Z,1.7nm,0.5s,baz=110,slow=6.8,SNR=8.5
AKTO PcP **PcP 00 17 10.6 +0.5**
comp=Z,3.2nm,0.6s,baz=131,slow=5.3,SNR=7.1
WRA Warramunga Arr 49.93 127 P **P 00 15 52.8 -0.9**
WRA Warramunga Arr 49.93 127 P **P 00 15 52.8 -0.9**
comp=Z,3.5nm,0.5s,baz=306,slow=8.4,SNR=45
WRAB Tennant Creek 49.93 127 *eP* **P 00 15 53.0 -0.8**
WRAB pmax pmax
comp=Z,110nm,2.8s
WRAB Tennant Creek 49.93 127 *eP* **P 00 15 53.0 -0.8**
comp=Z,110nm,2.8s
AS31 Alice Springs 51.71 131 *eP* **P 00 16 05.8 -1.2**
ASAR Alice Springs 51.71 131 P **P 00 16 06.0 -1.0**
ASAR Alice Springs 51.71 131 P **P 00 16 06.0 -1.0**
comp=Z,7.3nm,0.6s,baz=303,slow=7.2,SNR=64
GNI Garni 52.56 313 *eP* **P 00 16 13.2 0.0**
comp=Z,13nm,1.0s
OPO Ambohidratompo 54.22 238 P **P 00 16 26.3 +0.7**
OPO Ambohidratompo 54.22 238 P **P 00 16 26.3 +0.7**
comp=Z,3.4nm,0.6s,baz=69,slow=9.0,SNR=6.8
COEN Coen 54.55 115 *eP* **P 00 16 27.5 -0.4**
comp=Z,282nm,1.8s
KBZ Khabaz 55.12 317 P **P 00 16 31.2 -0.3**
KBZ Khabaz 55.12 317 P **P 00 16 31.2 -0.3**
KBZ Khabaz 55.12 317 P **P 00 16 31.2 -0.3**
comp=Z,5.1nm,0.9s,baz=90,slow=2.0,SNR=7.2
KIV Kislovodsk 55.34 317 *eP* **P 00 16 33.8 +0.5**
KIV pmax pmax
comp=Z,18nm,1.0s
PMG Port Moresby 56.55 108 *eP* **P 00 16 41.9 -0.3**
comp=Z,18nm,0.7s
PMG Port Moresby 56.55 108 P **P 00 16 41.6 -0.6**
PMG Port Moresby 56.55 108 P **P 00 16 42.2 0.0**
comp=Z,20nm,0.7s,baz=284,slow=4.1,SNR=12
EIL Elat 57.99 299 P **P 00 16 52.0 0.0**
EIL Elat 57.99 299 P **P 00 16 52.0 0.0**
comp=Z,3.4nm,0.6s,baz=63,slow=6.8,SNR=4.0
BR131 Keskin Array S 60.64 310 *eP* **P 00 17 09.6 -0.7**
comp=Z,4.2nm,0.6s
BRTR Keskin Array B 60.64 310 P **P 00 17 08.8 -1.4**
BRTR Keskin Array B 60.64 310 P **P 00 17 08.8 -1.4**
comp=Z,5.0nm,0.7s,baz=128,slow=7.4,SNR=36
STKA Stephens Creek 62.00 134 *eP* **P 00 17 20.2 +1.0**
STKA Stephens Creek 62.00 134 P **P 00 17 18.2 -1.0**
comp=Z,2.8nm,0.5s,baz=317,slow=6.9,SNR=14
OBN Obninsk 63.19 327 *eP* **P 00 17 26.8 +0.1**
OBN pmax pmax
comp=Z,6.0nm,1.2s
CFR Carcaliu 65.67 315 ⇑P **P 00 17 42.3 -0.7**
CFR Carcaliu 65.67 315 ⇓*iP* **P 00 17 42.8 -0.2**
AKASG Malin Array Be 66.09 321 *i P* **P 00 17 44.2 -1.4**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 66.09 321 P **P 00 17 43.9 -1.7**
AKASG Malin Array Be 66.09 321 P **P 00 17 43.9 -1.7**
comp=Z,1.0nm,0.4s,baz=84,slow=5.4,SNR=4.5
VRI Vrincioaia 66.76 316 ⇑P **P 00 17 50.2 +0.2**
VRI Vrincioaia 66.76 316 ⇑*iP* **P 00 17 50.2 +0.2**
PLOR Plostina 66.81 316 ⇓P **P 00 17 51.1 +0.7**
PLOR Plostina 66.81 316 ⇓*iP* **P 00 17 51.1 +0.7**
SULR 66.91 314 ⇓*iP* P 00 17 47.7 -3.2
TESR Tescani 66.92 316 ⇑*iP* **P 00 17 50.7 -0.3**
MLR Muntele Rosu 67.25 315 ⇑*iP* **P 00 17 53.9 +0.7**
VOIR 67.86 315 ⇑P **P 00 17 56.3 -0.7**
VOIR 67.86 315 ⇑*iP* **P 00 17 56.3 -0.7**
BURAR Bucovina Array 68.07 317 ⇓P **P 00 17 58.8 +0.5**
BURAR Bucovina Array 68.07 317 ⇓*iP* **P 00 17 58.8 +0.5**
JOF Joensuu 68.55 334 *eP* **P 00 18 01.8 +1.0**
JOF pmax pmax
comp=Z,5.0nm,0.5s
JOF Joensuu 68.55 334 *ep* **P 00 18 01.8 +1.0**
comp=Z,4.5nm,0.5s
VTS Vitosha 68.85 312 ⇑P **P 00 18 02.4 -0.9**
VTS Vitosha 68.85 312 ⇓*iP* **P 00 18 02.2 -1.1**
LVV L'vov 69.19 319 *eP* P 00 17 58.4 -6.6
GZR Gura Zlata 69.45 315 ⇓P **P 00 18 06.4 -0.4**
GZR Gura Zlata 69.45 315 ⇑*iP* **P 00 18 05.7 -1.1**
DRGR 69.65 316 ⇓P **P 00 18 08.4 +0.4**
DRGR 69.65 316 ⇓*iP* **P 00 18 08.4 +0.4**
LSZ Lusaka 69.81 250 *eP* **P 00 18 09.8 +0.2**
LSZ Lusaka 69.81 250 P **P 00 18 09.5 -0.1**
comp=Z,4.1nm,0.5s,baz=64,slow=8.4,SNR=18
KWP Kalwaria Pacla 70.01 319 ⇓P **P 00 18 10.4 +0.3**
KWP Kalwaria Pacla 70.01 319 ⇓*iP* **P 00 18 10.4 +0.3**
KOLS Kolonicke sedl 70.20 318 *eP* **P 00 18 11.9 +0.6**
KOLS pmax pmax
comp=Z,151nm,3.9s
KOLS Kolonicke sedl 70.20 318 *eP* **P 00 18 11.9 +0.6**
KOLS *e* 00 57 13.7
BZS Buzias 70.28 315 ⇑P **P 00 18 11.5 -0.4**
BZS Buzias 70.28 315 ⇑*iP* **P 00 18 11.4 -0.4**
FINES FINESS Array B 70.44 332 P **P 00 18 12.3 -0.1**
FINES FINESS Array B 70.44 332 P **P 00 18 12.3 -0.1**
comp=Z,2.8nm,0.5s,baz=96,slow=6.2,SNR=40
KAF Kangasniemi 70.51 333 *eP* **P 00 18 13.0 +0.1**
KAF Kangasniemi 70.51 333 *ep* **P 00 18 13.0 +0.1**
CRVS Cervenica-Dubn 70.73 318 *eP* **P 00 18 14.9 +0.4**
CRVS pmax pmax
comp=Z,16nm,1.8s
CRVS Cervenica-Dubn 70.73 318 *eP* **P 00 18 14.9 +0.4**
STHS Stebnicka Huta 70.93 319 *eP* **P 00 18 16.1 +0.4**
STHS pmax pmax
comp=Z,2.0nm,0.7s
STHS Stebnicka Huta 70.93 319 *eP* **P 00 18 16.1 +0.4**
KECS Kecovo 71.33 318 *eP* **P 00 18 18.2 +0.1**
KECS pmax pmax
comp=Z,2.0nm,0.9s
KECS Kecovo 71.33 318 *eP* **P 00 18 18.2 +0.1**
OJC Ojcow 71.94 319 *eP* **P 00 18 20.7 -1.0**
OJC Ojcow 71.94 319 *eP* **P 00 18 20.7 -1.0**
VYHS Vyhne 72.42 318 *eP* **P 00 18 23.7 -0.9**
VYHS pmax pmax
comp=Z,5.0nm,1.7s
VYHS Vyhne 72.42 318 *eP* **P 00 18 23.7 -0.9**
ARCES ARCESS Array B 72.90 340 P **P 00 18 27.8 +0.7**
ARCES ARCESS Array B 72.90 340 P **P 00 18 27.8 +0.7**
comp=Z,6.9nm,0.7s,baz=99,slow=5.8,SNR=59
ARE0 ARCESS Array S 72.90 340 *eP* **P 00 18 27.2 +0.2**
MORC Moravsky Berou 73.36 319 *eP* **P 00 18 30.4 +0.3**
MORC Moravsky Berou 73.36 319 *eP* **P 00 18 30.4 +0.3**
DPC Dobruska-Polom 74.18 319 *eP* **P 00 18 35.1 +0.2**
DPC pmax pmax
comp=Z,87nm,1.7s
DPC Dobruska-Polom 74.18 319 *eP* **P 00 18 35.4 +0.5**
DPC Dobruska-Polom 74.18 319 *eP* **P 00 18 35.1 +0.2**
comp=Z,87nm,1.7s
LBTB Lobatse 75.15 241 *eP* **P 00 18 41.4 +0.5**
LBTB Lobatse 75.15 241 P **P 00 18 41.2 +0.2**
comp=Z,4.0nm,0.6s,baz=90,slow=4.8,SNR=11
PRU Pruhonice 75.31 319 *eP* **P 00 18 41.7 +0.4**
PRU Pruhonice 75.31 319 *eP* **P 00 18 41.7 +0.4**
GEC2 GERESS Array S 75.84 318 *eP* **P 00 18 45.0 +0.5**
GEC2 GERESS Array S 75.84 318 *eP* **P 00 18 45.0 +0.5**
GERES GERESS Array B 75.84 318 P **P 00 18 44.6 +0.1**
GERES GERESS Array B 75.84 318 P **P 00 18 44.6 +0.1**
comp=Z,3.0nm,0.7s,baz=87,slow=5.8,SNR=37
KHC Kasperske Hory 75.92 318 *eP* **P 00 18 45.1 +0.2**
KHC Kasperske Hory 75.92 318 *eP* **P 00 18 45.1 +0.2**
CLL Collm 76.31 320 *eP* **P 00 18 46.0 -1.0**
CLL pmax pmax
comp=Z,4.0nm,0.7s
CLL Collm 76.31 320 *eP* **P 00 18 46.0 -1.0**
comp=Z,4.0nm,0.7s
BOSA Boshof 76.62 237 *eP* **P 00 18 49.5 +0.2**
BOSA Boshof 76.62 237 P **P 00 18 49.4 0.0**
comp=Z,4.5nm,0.5s,baz=76,slow=4.5,SNR=30
NB2 NORSAR Subarra 77.49 330 P **P 00 18 53.0 -0.4**
comp=Z,2.0nm,0.6s,baz=92,slow=5.9
NOA NORSAR Array B 77.49 330 P **P 00 18 53.1 -0.4**
NOA NORSAR Array B 77.49 330 P **P 00 18 53.1 -0.4**
comp=Z,2.1nm,0.7s,baz=91,slow=5.7,SNR=4.8
MOTA Moosalm 77.59 316 ⇑*iP* **P 00 18 53.6 -0.8**
comp=Z,3.0nm,0.6s
RETA Reutte 77.82 316 ⇑*iP* **P 00 18 55.3 -0.4**
comp=Z,7.5nm,0.5s,SNR=8.9
DAVA Damuels 78.43 316 ⇑*iP* **P 00 18 59.0 0.0**
comp=Z,7.5nm,0.7s,SNR=6.0
PGF Pioggiola 79.33 312 *eP* **P 00 19 03.5 -0.5**
PGF Pioggiola 79.33 312 *eP* **P 00 19 03.5 -0.5**
PGF Pioggiola 79.33 312 *eP* **P 00 19 03.5 -0.5**
KEST Kesra 79.62 305 P **P 00 19 05.8 +0.1**
KEST Kesra 79.62 305 P **P 00 19 05.8 +0.1**
comp=Z,2.9nm,0.7s,baz=12,slow=4.1,SNR=20
CDF Champ du Feu 80.11 318 *eP* **P 00 19 07.5 -0.6**
comp=Z,4.7nm,0.7s
CDF Champ du Feu 80.11 318 *eP* **P 00 19 07.5 -0.6**
CDF pmax pmax
comp=Z,5.0nm,0.7s
CDF Champ du Feu 80.11 318 *eP* **P 00 19 07.5 -0.6**
comp=Z,4.7nm,0.7s
SENIN Lac Senin/Sane 80.25 315 *eP* **P 00 19 09.4 +0.4**
SBF Sospel 80.37 313 *eP* **P 00 19 08.6 -0.9**
comp=Z,22nm,0.9s
SBF Sospel 80.37 313 *eP* **P 00 19 08.6 -0.9**
SBF pmax pmax
comp=Z,22nm,0.9s
SBF Sospel 80.37 313 *eP* **P 00 19 08.6 -0.9**
comp=Z,22nm,0.9s
HINF Hinteralfeld 80.44 317 *eP* **P 00 19 09.3 -0.5**
comp=Z,5.5nm,0.7s
HINF Hinteralfeld 80.44 317 *eP* **P 00 19 09.3 -0.5**
HINF pmax pmax
comp=Z,6.0nm,0.7s
HINF Hinteralfeld 80.44 317 *eP* **P 00 19 09.3 -0.5**
comp=Z,5.5nm,0.7s
LPG La Plagne 80.71 315 *eP* **P 00 19 11.6 0.0**
comp=Z,21nm,0.7s
LPG La Plagne 80.71 315 *eP* **P 00 19 11.6 0.0**
LPG pmax pmax
comp=Z,21nm,0.7s
LPG La Plagne 80.71 315 *eP* **P 00 19 11.6 0.0**
comp=Z,21nm,0.7s
LPL La Plagne 80.72 315 *eP* **P 00 19 11.7 +0.1**
comp=Z,24nm,0.6s
LPL La Plagne 80.72 315 *eP* **P 00 19 11.7 +0.1**
LPL pmax pmax
comp=Z,24nm,0.6s
LPL La Plagne 80.72 315 *eP* **P 00 19 11.7 +0.1**
comp=Z,24nm,0.6s
HAU Haudompre 80.76 317 *eP* **P 00 19 11.0 -0.5**
comp=Z,9.8nm,0.6s
HAU Haudompre 80.76 317 *eP* **P 00 19 11.0 -0.5**
HAU pmax pmax
comp=Z,10.0nm,0.6s
HAU Haudompre 80.76 317 *eP* **P 00 19 11.0 -0.5**
comp=Z,9.8nm,0.6s
MBDF Montbardon 80.77 314 *eP* **P 00 19 10.9 -0.8**
comp=Z,5.7nm,0.5s
MBDF Montbardon 80.77 314 *eP* **P 00 19 10.9 -0.8**
MBDF pmax pmax
comp=Z,6.0nm,0.5s
MBDF Montbardon 80.77 314 *eP* **P 00 19 10.9 -0.8**
comp=Z,5.7nm,0.5s
BNI Bardonecchia 80.80 314 *eP* **P 00 19 11.4 -0.5**
BNI pmax pmax
comp=Z,13nm,1.3s
BNI Bardonecchia 80.80 314 *eP* **P 00 19 11.4 -0.5**
comp=Z,13nm,1.3s
FRF La Foret Royal 80.97 313 *eP* **P 00 19 12.6 0.0**
comp=Z,13nm,0.8s
FRF La Foret Royal 80.97 313 *eP* **P 00 19 12.6 0.0**
FRF pmax pmax
comp=Z,13nm,0.8s
FRF La Foret Royal 80.97 313 *eP* **P 00 19 12.6 0.0**
comp=Z,13nm,0.8s
CABF La Chapelle 81.07 316 *eP* **P 00 19 13.2 0.0**
CABF La Chapelle 81.07 316 *eP* **P 00 19 13.2 0.0**
CABF La Chapelle 81.07 316 *eP* **P 00 19 13.2 0.0**
LMR La Mourre 81.09 312 *eP* **P 00 19 13.1 -0.1**
comp=Z,7.1nm,0.7s
LMR La Mourre 81.09 312 *eP* **P 00 19 13.1 -0.1**
LMR pmax pmax
comp=Z,7.0nm,0.7s
LMR La Mourre 81.09 312 *eP* **P 00 19 13.1 -0.1**
comp=Z,7.1nm,0.7s
PAGF Fort de Pagny 81.12 318 *eP* **P 00 19 13.1 -0.3**
PAGF Fort de Pagny 81.12 318 *eP* **P 00 19 13.1 -0.3**
ORIF Oris-en-Rattie 81.38 314 *eP* **P 00 19 14.3 -0.6**
comp=Z,6.5nm,0.8s
ORIF Oris-en-Rattie 81.38 314 *eP* **P 00 19 14.3 -0.6**
ORIF pmax pmax
comp=Z,7.0nm,0.8s
ORIF Oris-en-Rattie 81.38 314 *eP* **P 00 19 14.3 -0.6**
comp=Z,6.5nm,0.8s
GIVF Givet 81.56 319 *eP* **P 00 19 15.5 -0.1**
GIVF Givet 81.56 319 *eP* **P 00 19 15.5 -0.1**
GIVF Givet 81.56 319 *eP* **P 00 19 15.5 -0.1**
MEZF Maizieres J'vi 81.58 318 *eP* **P 00 19 15.7 0.0**
MEZF Maizieres J'vi 81.58 318 *eP* **P 00 19 15.7 0.0**
SFTF Sexfontaines 81.62 317 *eP* **P 00 19 15.7 -0.2**
comp=Z,14nm,0.6s
SFTF Sexfontaines 81.62 317 *eP* **P 00 19 15.7 -0.2**
comp=Z,14nm,0.6s
SMRF Simiane la Rot 81.69 313 *eP* **P 00 19 16.9 +0.4**
comp=Z,7.4nm,0.7s
SMRF Simiane la Rot 81.69 313 *eP* **P 00 19 16.9 +0.4**
comp=Z,7.4nm,0.7s
BAIF Baives 81.96 319 *eP* **P 00 19 17.9 +0.2**
comp=Z,5.9nm,0.5s
BAIF Baives 81.96 319 *eP* **P 00 19 17.9 +0.2**
BAIF pmax pmax
comp=Z,6.0nm,0.5s
BAIF Baives 81.96 319 *eP* **P 00 19 17.9 +0.2**
comp=Z,5.9nm,0.5s
VIVF Saint-Julien-l 82.24 314 *eP* **P 00 19 19.1 -0.2**
comp=Z,19nm,1.0s
VIVF Saint-Julien-l 82.24 314 *eP* **P 00 19 19.1 -0.2**
VIVF pmax pmax
comp=Z,19nm,1.0s
VIVF Saint-Julien-l 82.24 314 *eP* **P 00 19 19.1 -0.2**
comp=Z,19nm,1.0s
LOR Lormes 82.51 317 *eP* **P 00 19 20.3 -0.4**
comp=Z,22nm,0.9s
LOR Lormes 82.51 317 *eP* **P 00 19 20.3 -0.4**
comp=Z,22nm,0.9s
SMF Signal de Mont 82.60 316 *eP* **P 00 19 20.7 -0.4**
comp=Z,11nm,0.7s
SMF Signal de Mont 82.60 316 *eP* **P 00 19 20.7 -0.4**
SMF pmax pmax
comp=Z,11nm,0.7s
SMF Signal de Mont 82.60 316 *eP* **P 00 19 20.7 -0.4**
comp=Z,11nm,0.7s
SSF Saint Saulge 82.78 316 *eP* **P 00 19 21.7 -0.3**
comp=Z,3.9nm,0.6s
SSF Saint Saulge 82.78 316 *eP* **P 00 19 21.7 -0.3**
SSF pmax pmax
comp=Z,4.0nm,0.6s
SSF Saint Saulge 82.78 316 *eP* **P 00 19 21.7 -0.3**
comp=Z,3.9nm,0.6s
LASF Ste Croix 82.91 313 *eP* **P 00 19 22.5 -0.3**
comp=Z,3.8nm,0.7s
LASF Ste Croix 82.91 313 *eP* **P 00 19 22.5 -0.3**
comp=Z,3.8nm,0.7s
AVF Avril sur Loir 82.92 316 *eP* **P 00 19 22.3 -0.4**
comp=Z,13nm,0.9s
AVF Avril sur Loir 82.92 316 *eP* **P 00 19 22.3 -0.4**
AVF pmax pmax
comp=Z,13nm,0.9s
AVF Avril sur Loir 82.92 316 *eP* **P 00 19 22.3 -0.4**
comp=Z,13nm,0.9s
BGF Bois d'Agland 83.29 316 *eP* **P 00 19 25.3 +0.6**
comp=Z,5.8nm,0.5s
BGF Bois d'Agland 83.29 316 *eP* **P 00 19 25.3 +0.6**
BGF pmax pmax
comp=Z,6.0nm,0.5s
BGF Bois d'Agland 83.29 316 *eP* **P 00 19 25.3 +0.6**
comp=Z,5.8nm,0.5s
TCF Toulx Ste Croi 83.77 316 *eP* **P 00 19 26.6 -0.5**
TCF Toulx Ste Croi 83.77 316 *eP* **P 00 19 26.6 -0.5**
TCF Toulx Ste Croi 83.77 316 *eP* **P 00 19 26.6 -0.5**
CAF Calviac 84.07 314 *eP* **P 00 19 28.2 -0.5**
comp=Z,4.4nm,0.7s
CAF Calviac 84.07 314 *eP* **P 00 19 28.2 -0.5**
CAF pmax pmax
comp=Z,4.0nm,0.7s
CAF Calviac 84.07 314 *eP* **P 00 19 28.2 -0.5**
comp=Z,4.4nm,0.7s
MTLF Montolieu 84.19 313 *eP* **P 00 19 29.4 +0.1**
comp=Z,6.5nm,0.9s
MTLF Montolieu 84.19 313 *eP* **P 00 19 29.4 +0.1**
MTLF pmax pmax
comp=Z,7.0nm,0.9s
MTLF Montolieu 84.19 313 *eP* **P 00 19 29.4 +0.1**
comp=Z,6.5nm,0.9s
RJF Les Rejaudoux 84.39 315 *eP* **P 00 19 30.6 +0.3**
comp=Z,10nm,0.7s
RJF Les Rejaudoux 84.39 315 *eP* **P 00 19 30.6 +0.3**
RJF pmax pmax
comp=Z,10.0nm,0.7s
RJF Les Rejaudoux 84.39 315 *eP* **P 00 19 30.6 +0.3**
comp=Z,10nm,0.7s
LDF La Druitiere 84.97 318 *eP* **P 00 19 33.0 -0.1**
comp=Z,15nm,0.7s
LDF La Druitiere 84.97 318 *eP* **P 00 19 33.0 -0.1**
LDF pmax pmax
comp=Z,15nm,0.7s
LDF La Druitiere 84.97 318 *eP* **P 00 19 33.0 -0.1**
comp=Z,15nm,0.7s
LFF La Frestale 84.99 315 *eP* **P 00 19 32.8 -0.5**
comp=Z,15nm,1.0s
LFF La Frestale 84.99 315 *eP* **P 00 19 32.8 -0.5**
LFF pmax pmax
comp=Z,15nm,1.0s
LFF La Frestale 84.99 315 *eP* **P 00 19 32.8 -0.5**
comp=Z,15nm,1.0s
FLN La Foliniere 85.17 319 *eP* **P 00 19 33.9 -0.2**
comp=Z,43nm,1.1s
FLN La Foliniere 85.17 319 *eP* **P 00 19 33.9 -0.2**
FLN pmax pmax
comp=Z,43nm,1.1s
FLN La Foliniere 85.17 319 *eP* **P 00 19 33.9 -0.2**
comp=Z,43nm,1.1s
MFF Saint Martin d 85.33 316 *eP* **P 00 19 34.8 -0.1**
comp=Z,16nm,1.0s
MFF Saint Martin d 85.33 316 *eP* **P 00 19 34.8 -0.1**
MFF pmax pmax
comp=Z,16nm,1.0s
MFF Saint Martin d 85.33 316 *eP* **P 00 19 34.8 -0.1**
comp=Z,16nm,1.0s
GRR Gorron 85.49 318 *eP* **P 00 19 35.6 0.0**
GRR Gorron 85.49 318 *eP* **P 00 19 35.6 0.0**
GRR Gorron 85.49 318 *eP* **P 00 19 35.6 0.0**
EPF Esparros 85.60 313 *eP* **P 00 19 36.1 -0.3**
comp=Z,3.6nm,0.8s
EPF Esparros 85.60 313 *eP* **P 00 19 36.1 -0.3**
EPF pmax pmax
comp=Z,4.0nm,0.8s
EPF Esparros 85.60 313 *eP* **P 00 19 36.1 -0.3**
comp=Z,3.6nm,0.8s
ETSF Etsaut 86.27 313 *eP* **P 00 19 41.5 +1.8**
comp=Z,12nm,0.9s
ETSF Etsaut 86.27 313 *eP* **P 00 19 41.5 +1.8**
ETSF pmax pmax
comp=Z,13nm,0.9s
ETSF Etsaut 86.27 313 *eP* **P 00 19 41.5 +1.8**
comp=Z,12nm,0.9s
QUIF Quistinic 87.09 318 *eP* **P 00 19 43.2 -0.3**
QUIF Quistinic 87.09 318 *eP* **P 00 19 43.2 -0.3**
QUIF Quistinic 87.09 318 *eP* **P 00 19 43.2 -0.3**
ESDC Sonseca Array 89.44 310 P **P 00 19 54.8 0.0**
ESDC Sonseca Array 89.44 310 P **P 00 19 54.8 0.0**
comp=Z,1.1nm,0.6s,baz=59,slow=4.0,SNR=12
TORD Torodi Ar. Bea 89.75 283 P **P 00 19 56.9 +0.3**
TORD PP **PP 00 23 31.7 +0.2**
TORD Torodi Ar. Bea 89.75 283 P **P 00 19 56.9 +0.3**
comp=Z,2.0nm,0.8s,baz=91,slow=4.4,SNR=22
TORD PP **PP 00 23 31.7 +0.2**

comp=Z,0.4nm,0.7s,baz=76,slow=8.6,SNR=8.4
ILAR Eielson Array 92.63 22 P P 00 20 08.1 -0.9
ILAR Eielson Array 92.63 22 P P 00 20 08.1 -0.9
comp=Z,0.5nm,0.7s,baz=284,slow=5.4,SNR=5.6
LOHW Long Hollow 121.92 21 *e*PKPdf **PKPdf 00 25 51.6 +0.2**
NVAR Mina Array Bea 122.99 30 PKP **PKPdf 00 25 54.7 +1.0**
NVAR Mina Array Bea 122.99 30 PKP **PKPdf 00 25 54.7 +1.0**
comp=Z,2.3nm,0.6s,baz=320,slow=2.4,SNR=22
PDAR Pinedale Array 123.02 20 PKP **PKPdf 00 25 53.5 -0.2**
PDAR Pinedale Array 123.02 20 PKP **PKPdf 00 25 53.5 -0.2**
comp=Z,2.2nm,0.7s,baz=122,slow=1.4,SNR=14
ECSD EROS Data Cent 125.39 9 *e*PKPdf **PKPdf 00 25 57.6 -0.2**
ANMO Albuquerque 131.07 22 PKP **PKPdf 00 26 10.1 +0.9**
ANMO SKPbc **SKPab 00 29 18.4 +0.4**
ANMO Albuquerque 131.07 22 PKP **PKPdf 00 26 10.1 +0.9**
comp=Z,2.0nm,0.8s,baz=320,slow=0.7,SNR=6.9
ANMO SKPbc **SKPab 00 29 18.4 +0.4**
comp=Z,2.5nm,0.9s,baz=346,slow=6.7,SNR=8.2
TKL Tuckaleechee C 134.24 357 PKP **PKPdf 00 26 15.9 +1.1**
TKL Tuckaleechee C 134.24 357 PKP **PKPdf 00 26 15.9 +1.1**
comp=Z,1.6nm,0.7s,baz=147,slow=4.8,SNR=3.5
TXAR Lajitas Array 137.14 23 PKP **PKPdf 00 26 21.3 +0.7**
TXAR SKPbc **SKPbc 00 29 38.0 +0.4**
TXAR Lajitas Array 137.14 23 PKP **PKPdf 00 26 21.3 +0.7**
comp=Z,1.2nm,0.5s,baz=186,slow=0.2,SNR=26
TXAR SKPbc **SKPbc 00 29 38.0 +0.4**
comp=Z,1.3nm,0.9s,baz=270,slow=1.8,SNR=13
JCT Junction City 137.39 17 *e*PKIKP **PKPdf 00 26 20.9 -0.1**
JCT Junction City 137.39 17 *e*PKPdf **PKPdf 00 26 20.9 -0.1**
PLCA Paso Flores 146.69 202 PKPbc **PKPbc 00 26 38.5 -0.5**
PLCA Paso Flores 146.69 202 PKPbc **PKPbc 00 26 38.5 -0.5**
comp=Z,4.2nm,0.8s,baz=144,slow=3.5,SNR=6.4
CPUP Villa Florida 148.43 236 PKPbc **PKPbc 00 26 44.2 +0.2**
CPUP Villa Florida 148.43 236 PKPbc **PKPbc 00 26 44.2 +0.2**
comp=Z,1.3nm,0.5s,baz=74,slow=4.4,SNR=6.2
LPAZ La Paz 161.47 249 PKPab **PKPab 00 27 43.7 -0.7**
LPAZ La Paz 161.47 249 PKPab **PKPab 00 27 43.7 -0.7**
comp=Z,0.9nm,0.7s,baz=79,slow=5.2,SNR=3.6

MEX 09 00:17:24.6±0.3, 18°.04N×102°.05W, h43km±9km, MD3.7, Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.70**	**128**	*e*P	Pn	00 17 36.6	-1.5
ZIIG				*i* S	Sn	00 17 45.8	-2.1
MMIG	**Aquila**	**1.26**	**281**	*e*P	Pn	00 17 44.1	-1.6
MMIG				*i* S	Sn	00 17 59.8	-1.7
ARIG	**Puente Sto Nin**	**1.63**	**81**	*e*P	Pn	00 17 49.2	-1.7
ARIG				*i* S	Sn	00 18 08.7	-2.1
CAIG	**El Cayaco**	**1.96**	**120**	*i* P	Pn	00 17 53.9	-1.6
CAIG				*i* S	Sn	00 18 17.4	-1.5
PLIG	**Platanillo**	**2.44**	**81**	*i* P	Pn	00 18 01.2	-0.9
PLIG				*i* S	Sn	00 18 28.5	-2.4

GUC 09 00:21:13.0±0.5, 22°.10S×68°.86W, h104km±3km, ML3.7, 1C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**Plate Boundary**	**0.47**	**310**	*i* P	Pn	00 21 29.5	+0.2
PB09				*i* S	Sn	00 21 42.2	+0.8
PB09				AML	AML	00 21 43.3	
	comp=E,4μm,0.6s						
PB04	**Plate Boundary**	**0.61**	**254**	⇑*i*P	Pn	00 21 37.0	+7.1
PB04				*i* S	Sn	00 21 55.2	+12
PB04				AML	AML	00 21 58.5	
	comp=N,1μm,0.6s						
MACH	**Maria Elena**	**0.84**	**263**	*e*P	Pn	00 21 32.5	+0.1
MACH				*i* S	Sn	00 21 47.8	+0.8
HMBC	**Humberstone**	**2.05**	**332**	*e*P	Pn	00 21 47.4	+0.8
HMBC				*i* S	Sn	00 22 13.5	+1.3
HMBC				AML	AML	00 22 17.5	
	comp=E,286nm,0.4s						
PB10	**Plate Boundary**	**2.10**	**228**	*e*P	Pn	00 21 47.9	+0.8
PB10				*i* S	Sn	00 22 14.1	+0.9
PB10				AML	AML	00 22 23.2	
	comp=E,788nm,0.4s						
ANCH	**Antofagasta**	**2.13**	**222**	*e*P	Pn	00 21 48.1	+0.7
ANCH				*i* S	Sn	00 22 14.8	+1.1
PSGC	**Pisagua**	**2.76**	**334**	*e*P	Pn	00 21 57.0	+1.2
PSGC				*i* S	Sn	00 22 30.2	+1.5
PSGC				AML	AML	00 22 37.8	
	comp=N,182nm,0.7s						
MNMC	**Minimini**	**3.03**	**347**	AML	AML	00 22 51.9	
	comp=E,256nm,0.2s						

WEL 09 00:31:15.5±0.3, 36°.25S×177°.14E, h274km±4km, ML3.6/6, 1C, Error ellipse: s-maj=7.7km s-min=5.9km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.61**	**145**	PN	Pn	00 31 57.0	+0.2
MXZ				SN	S	00 32 29.2	-0.3
URZ	**Urewera**	**2.01**	**181**	⇑PN	Pn	00 32 00.3	+0.4
URZ				SN	S	00 32 34.7	-0.5
PUZ	**Puketiti**	**2.03**	**154**	PN	Pn	00 32 00.1	-0.1
PUZ				SN	S	00 32 34.5	-1.1
MWZ	**Matawai**	**2.11**	**172**	PN	Pn	00 32 01.2	+0.4
MWZ				SN	S	00 32 36.4	-0.5
RAHZ	**Arahi**	**2.67**	**181**	PN	Pn	00 32 06.5	+0.5
RAHZ				SN	S	00 32 45.4	-0.9
KNZ	**Kokohu**	**2.80**	**172**	PN	Pn	00 32 07.0	-0.3
NMHZ	**Naumai**	**2.86**	**185**	PN	Pn	00 32 08.6	+0.6
BKZ	**Black Stump Fm**	**2.96**	**190**	PN	Pn	00 32 08.7	-0.4
MHGZ	**Mahia Peninsul**	**2.96**	**168**	PN	Pn	00 32 09.1	+0.1
MCHZ	**McNeill Hill**	**3.21**	**186**	PN	Pn	00 32 11.7	+0.1
BHHZ	**Black Hill Sta**	**3.35**	**194**	PN	Pn	00 32 12.7	-0.4
KAHZ	**Kahuranaki**	**3.55**	**183**	PN	Pn	00 32 15.0	-0.3
MRZ	**Mangatainoka R**	**4.58**	**195**	PN	Pn	00 32 25.6	-1.4
THZ	**Tophouse**	**6.42**	**210**	PN	Pn	00 32 47.0	-2.2

*TIR **09** 00:45:34.7±1.7, 41°.48N×18°.50E, h24km±11km, ML3.1*
*ATH **09** 00:45:35.0, 41°.53N×20°.49E, h5km±3km, MD3.6/15*
*PDG **09** 00:45:35.7±0.2, 41°.40N×20°.44E, h8km, ML3.0/11, Error ellipse: s-maj=0.4km s-min=0.4km az=0.0*
*THE **09** 00:45:36.2, 41°.45N×20°.47E, h0km±2km, ML2.7/5, Error ellipse: s-maj=2.3km s-min=1.0km az=239.0*
*CSEM **09** 00:45:36.4±0.1, 41°.43N×20°.46E, h2km, ML2.6, Error ellipse: s-maj=4.4km s-min=2.5km az=49.0*
*SKO **09** 00:45:36.9, 41°.40N×20°.45E, h8km, M2.4, ML2.8*
*BEO **09** 00:45:36.5±0.4, 41°.34N×20°.48E, h6km±2km, ML2.6/1*
ISC 09 00:45:36.0±0.7, 41°.49N±0°.01×20°.49E±0°.01, h9km±6km, n128,σ1§45/179, 31C-6D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHP	**Peshkopia**	**0.20**	**350**	*e*PG	**Pg**	**00 45 40.9**	**+0.7**
PHP				*i* SG	**Sg**	**00 45 45.8**	**+2.8**
PHP	**Peshkopia**	**0.20**	**350**	*e*Pg	**Pg**	**00 45 40.9**	**+0.7**
	SNR=129						
PHP				*i* Sg	**Sg**	**00 45 45.8**	**+2.8**
	SNR=129						
TIR	**Tirane**	**0.49**	**254**	*e*PG	**Pg**	**00 45 44.3**	**-1.2**
TIR				*i* SG	**Sb**	**00 45 53.0**	**-1.1**
TIR	**Tirane**	**0.49**	**254**	⇑*i*Pg	**Pg**	**00 45 44.4**	**-1.1**
TIR	**Tirane**	**0.49**	**254**	*e*Pg	**Pg**	**00 45 44.3**	**-1.2**
	SNR=105						
TIR				*i* Sg	**Sb**	**00 45 53.0**	**-1.1**
	SNR=105						
PUK	**Puka**	**0.71**	**321**	*e*PG	**Pb**	**00 45 49.8**	**-0.9**
PUK				*i* SG	**Sn**	**00 46 01.5**	**-2.0**
PUK	**Puka**	**0.71**	**321**	*e*Pg	**Pb**	**00 45 49.8**	**-0.9**
	SNR=97						
PUK				*i* Sg	**Sn**	**00 46 01.5**	**-2.0**
	SNR=97						
BIA	**Bitola**	**0.79**	**126**	P	**Pg**	**00 45 50.1**	**-1.0**
BIA				S	**Sg**	**00 46 01.9**	**+0.6**
BIA	**Bitola**	**0.79**	**126**	*i* Pg	**Pg**	**00 45 50.6**	**-0.6**
BIA				*i* Sg	**Sg**	**00 46 01.4**	**+0.1**
BIA	**Bitola**	**0.79**	**126**	P	**Pg**	**00 45 50.1**	**-1.0**
BIA				S	**Sg**	**00 46 01.9**	**+0.6**
SKO	**Skopje**	**0.86**	**55**	P	**Pn**	**00 45 53.8**	**-0.6**
SKO				S	**Sn**	**00 46 08.7**	**+1.6**
SKO	**Skopje**	**0.86**	**55**	⇑*i*Pg	**Pn**	**00 45 53.7**	**-0.6**
SKO				*e*Sg	**Sn**	**00 46 07.3**	**+0.2**
SKO	**Skopje**	**0.86**	**55**	*i* Pg	**Pn**	**00 45 54.9**	**+0.5**
SKO				*i* Sg	**Sg**	**00 46 01.3**	**-2.4**
SKO				*i* Lg	Lg	00 46 01.4	
	comp=E,263nm,0.7s						
SKO				*i* Lg	Lg	00 46 01.7	
	comp=N,308nm,0.2s						
SKO	**Skopje**	**0.86**	**55**	P	**Pn**	**00 45 53.8**	**-0.6**
SKO				*e*Sg	**Sn**	**00 46 07.3**	**+0.2**
SKO				*i* Lg	Lg	00 46 08.6	
	comp=N,308nm,0.2s						
SKO				S	**Sn**	**00 46 08.7**	**+1.6**
KBN	**Korca**	**0.89**	**165**	*e*PG	**Pg**	**00 45 52.4**	**-0.8**
KBN	**Korca**	**0.89**	**165**	*e*Pg	**Pg**	**00 45 52.4**	**-0.8**
	SNR=95						
BCI	**Bajram Curri**	**0.93**	**340**	*e*PG	**Pg**	**00 45 52.4**	**-1.5**
BCI	**Bajram Curri**	**0.93**	**340**	*e*Pg	**Pg**	**00 45 52.4**	**-1.5**
	SNR=94						
FNA	**Florina**	**0.97**	**136**	P	**Pg**	**00 45 53.8**	**-0.9**
FNA				S	**Sb**	**00 46 08.0**	**0.0**
FNA	**Florina**	**0.97**	**136**	*e*PG	**Pg**	**00 45 53.8**	**-0.9**
FNA				*e*SB	**Sb**	**00 46 08.0**	**0.0**
FNA	**Florina**	**0.97**	**136**	P	**Pg**	**00 45 53.8**	**-0.9**
FNA				S	**Sb**	**00 46 08.0**	**0.0**
ULC	**Ulcinj**	**1.05**	**297**	⇓*i*Pg	**Pg**	**00 45 54.8**	**-1.3**
ULC				*e*Sg	**Sn**	**00 46 12.1**	**+0.4**
ULC	**Ulcinj**	**1.05**	**297**	⇓*i*Pg	**Pg**	**00 45 54.8**	**-1.3**
ULC				*e*Sg	**Sn**	**00 46 12.1**	**+0.4**
NEST	**Nestorio**	**1.15**	**158**	P	**Pg**	**00 45 57.3**	**-0.8**
NEST				S	**Sg**	**00 46 13.7**	**+0.6**
NEST	**Nestorio**	**1.15**	**158**	P	**Pg**	**00 45 57.3**	**-0.8**
NEST				S	**Sg**	**00 46 13.7**	**+0.6**
PVY	**Plav**	**1.17**	**341**	⇑*i*Pg	**Pn**	**00 45 58.6**	**-0.2**
PVY				*e*Sg	**Sn**	**00 46 18.4**	**+3.4**
PVY	**Plav**	**1.17**	**341**	⇑*i*Pg	**Pn**	**00 45 58.6**	**-0.2**
PVY				*e*Sg	**Sn**	**00 46 18.4**	**+3.4**
DRME	**Dracevica, Mon**	**1.20**	**306**	⇑*i*Pg	**Pn**	**00 45 58.0**	**-1.0**
DRME				*e*Sg	**Sn**	**00 46 17.7**	**+2.3**
DRME	**Dracevica, Mon**	**1.20**	**306**	⇑*i*Pg	**Pn**	**00 45 58.0**	**-1.0**
DRME				*e*Sg	**Sn**	**00 46 17.7**	**+2.3**
PDG	**Podgorica**	**1.32**	**316**	P	**Pb**	**00 46 00.5**	**-0.4**
PDG				S	**Sn**	**00 46 20.4**	**+2.1**
PDG	**Podgorica**	**1.32**	**316**	⇑*i*Pg	**Pb**	**00 46 00.5**	**-0.4**
PDG				*e*Sg	**Sn**	**00 46 22.3**	**+4.0**
PDG	**Podgorica**	**1.32**	**316**	P	**Pb**	**00 46 00.5**	**-0.4**
PDG				S	**Sn**	**00 46 20.4**	**+2.1**
PDG				*e*Sg	**Sn**	**00 46 22.0**	**+3.7**
TTG	**Podgorica**	**1.32**	**316**	⇑*i*Pg	**Pb**	**00 46 00.5**	**-0.4**
TTG				*e*Sg	**Sn**	**00 46 22.0**	**+3.7**
BUM	**Brajici-Budva**	**1.44**	**305**	⇑*i*Pg	**Pg**	**00 46 02.6**	**-1.1**
BUM				*e*Sg	**Sg**	**00 46 25.8**	**+3.4**
BUM	**Brajici-Budva**	**1.44**	**305**	⇑*i*Pg	**Pg**	**00 46 02.6**	**-1.1**
BUM				*e*Sg	**Sg**	**00 46 25.8**	**+3.4**
BEY	**Berane**	**1.45**	**342**	⇑*i*Pg	**Pg**	**00 46 03.8**	**-0.1**
BEY				*e*Sg	Sg	00 46 26.9	+4.2
IVA	**Berane**	**1.45**	**342**	⇑*i*Pg	**Pg**	**00 46 03.8**	**-0.1**
IVA				*e*Sg	Sg	00 46 26.9	+4.2
KZN	**Kozani**	**1.53**	**140**	P	**Pb**	**00 46 04.1**	**-0.5**
KZN				S	**Sg**	**00 46 25.4**	**+0.2**
KZN	**Kozani**	**1.53**	**140**	P	**Pb**	**00 46 04.1**	**-0.5**
KZN				S	**Sg**	**00 46 25.4**	**+0.2**
GRG	**Griva**	**1.54**	**110**	P	**Pb**	**00 46 04.5**	**-0.2**
GRG				S	**Sg**	**00 46 26.0**	**+0.6**
GRG	**Griva**	**1.54**	**110**	P	**Pb**	**00 46 04.5**	**-0.2**
GRG				S	**Sg**	**00 46 26.0**	**+0.6**
VAY	**Valandovo**	**1.57**	**95**	P	**Pb**	**00 46 04.2**	**-1.1**
VAY				S	**Sg**	**00 46 26.4**	**-0.2**
VAY	**Valandovo**	**1.57**	**95**	⇑*i*Pn	**Pn**	**00 46 04.1**	**0.0**
VAY				*e*Sg	**Sg**	**00 46 26.4**	**-0.2**
VAY	**Valandovo**	**1.57**	**95**	*i* Pn	Pn	00 46 01.0	-3.1
VAY				*i* Sg	**Sg**	**00 46 27.4**	**+0.7**
VAY				*i* Lg	Lg	00 46 28.4	
	comp=E,63nm,0.4s						
VAY				*i* Lg	Lg	00 46 28.9	
	comp=N,74nm,0.6s						
VAY	**Valandovo**	**1.57**	**95**	P	**Pb**	**00 46 04.2**	**-1.1**
VAY	**Valandovo**	**1.57**	**95**	*i* Pn	**Pb**	**00 46 04.5**	**-0.8**
VAY				S	**Sg**	**00 46 26.4**	**-0.2**
VAY				*i* Lg	Lg	00 46 28.4	
	comp=N,74nm,0.6s						
BARS	**Barje**	**1.65**	**36**	*e*Pn	**Pg**	**00 46 07.5**	**-0.2**
BARS				*e*Sg	Sg	00 46 34.7	+5.5
BARS	**Barje**	**1.65**	**36**	*e*Pn	**Pg**	**00 46 07.5**	**-0.2**
NKME	**Niksic**	**1.71**	**319**	⇓*i*Pn	**Pg**	**00 46 07.6**	**-1.3**
NKME				*e*Sn	**Sg**	**00 46 32.6**	**+1.5**
NKME	**Niksic**	**1.71**	**319**	⇓*i*Pn	**Pg**	**00 46 07.6**	**-1.3**
NKME				*e*Sn	**Sg**	**00 46 32.6**	**+1.5**
HCY	**Herceg Novi**	**1.77**	**303**	⇑*i*Pn	**Pb**	**00 46 07.6**	**-1.0**
HCY				*e*Sn	**Sg**	**00 46 33.6**	**+0.7**
HCY	**Herceg Novi**	**1.77**	**303**	⇑*i*Pn	**Pb**	**00 46 07.6**	**-1.0**
HCY				*e*Sn	**Sg**	**00 46 33.6**	**+0.7**
SELS	**Selova**	**1.79**	**15**	⇓*i*Pn	**Pg**	**00 46 09.1**	**-1.3**
SELS				*e*Sg	**Sg**	**00 46 36.2**	**+2.6**
SJES	**Sjenica**	**1.81**	**348**	⇑*i*Pn	**Pg**	**00 46 10.3**	**-0.5**
SJES	**Sjenica**	**1.81**	**348**	⇑*i*Pn	**Pg**	**00 46 10.3**	**-0.5**
KNT	**Kendrikon**	**1.84**	**99**	P	**Pb**	**00 46 09.4**	**-0.5**
KNT				S	**Sb**	**00 46 33.6**	**+0.5**
KNT	**Kendrikon**	**1.84**	**99**	P	**Pb**	**00 46 09.4**	**-0.5**
KNT				S	**Sb**	**00 46 33.6**	**+0.5**
JAN	**Janina**	**1.85**	**171**	*e*PG	**Pb**	**00 46 10.6**	**+0.6**
JAN				*e*SN	**Sg**	**00 46 35.1**	**-0.4**
JAN	**Janina**	**1.85**	**171**	*e*Pg	**Pb**	**00 46 10.6**	**+0.6**
JAN				*e*Sn	**Sg**	**00 46 35.1**	**-0.4**
KEK	**Kerkira**	**1.85**	**197**	P	**Pb**	**00 46 09.9**	**-0.1**
KEK	**Kerkira**	**1.85**	**197**	*e*PN	**Pb**	**00 46 10.1**	**+0.1**
KEK				*e*SN	**Sg**	**00 46 35.8**	**+0.4**
KEK	**Kerkira**	**1.85**	**197**	P	**Pb**	**00 46 09.9**	**-0.1**
KEK				*e*Sn	**Sg**	**00 46 35.8**	**+0.4**
IGT	**Igoumenitsa**	**1.96**	**184**	P	**Pb**	**00 46 10.8**	**-1.0**
IGT	**Igoumenitsa**	**1.96**	**184**	P	**Pb**	**00 46 10.8**	**-1.0**
TREB	**Trebinje**	**2.01**	**308**	*e*Pn	**Pg**	**00 46 12.5**	**-2.0**
TREB				*e*Sg	**Sg**	**00 46 42.9**	**+2.3**
TREB	**Trebinje**	**2.01**	**308**	*e*Pn	**Pg**	**00 46 12.5**	**-2.0**
PLE	**Pljevlja**	**2.01**	**336**	⇑*i*Pn	**Pb**	**00 46 12.3**	**-0.6**
PLE				*e*Sn	**Sg**	**00 46 40.1**	**-0.6**
PLE	**Pljevlja**	**2.01**	**336**	⇑*i*Pn	**Pb**	**00 46 12.3**	**-0.6**
PLE				*e*Sn	**Sg**	**00 46 40.1**	**-0.6**
BRY	**Bratogost**	**2.02**	**315**	⇑*i*Pn	**Pb**	**00 46 11.9**	**-1.2**
BRY				*e*Sn	**Sg**	**00 46 40.0**	**-1.0**
BRY	**Bratogost**	**2.02**	**315**	⇑*i*Pn	**Pb**	**00 46 11.9**	**-1.2**
BRY				*e*Sn	**Sg**	**00 46 40.0**	**-1.0**
UPM	**Unac-Piva**	**2.08**	**326**	⇑*i*Pn	**Pb**	**00 46 13.3**	**-0.7**
UPM				*e*Sn	**Sg**	**00 46 41.9**	**-0.9**
UPM	**Unac-Piva**	**2.08**	**326**	⇑*i*Pn	**Pb**	**00 46 13.3**	**-0.7**
UPM				*e*Sn	**Sg**	**00 46 41.9**	**-0.9**
IVAS	**Ivanjica**	**2.10**	**353**	*e*Pn	**Pb**	**00 46 13.5**	**-0.8**
IVAS	**Ivanjica**	**2.10**	**353**	*e*Pn	**Pb**	**00 46 13.5**	**-0.8**
THL	**Klokotos Trika**	**2.25**	**148**	*e*PN	**Pn**	**00 46 14.9**	**+1.5**
THL				*e*SN	**Sb**	**00 46 45.2**	**+0.6**
THL	**Klokotos Trika**	**2.25**	**148**	*e*Pn	**Pn**	**00 46 14.9**	**+1.5**
THL				*e*Sn	**Sb**	**00 46 45.2**	**+0.6**
SOH	**Sokhos**	**2.26**	**106**	*e*PN	**Pb**	**00 46 15.5**	**-1.6**
SOH	**Sokhos**	**2.26**	**106**	*e*Pn	**Pb**	**00 46 15.5**	**-1.6**
VTS	**Vitosha**	**2.31**	**61**	P	**Pb**	**00 46 16.7**	**-1.2**
VTS	**Vitosha**	**2.31**	**61**	⇓*i*P	**Pb**	**00 46 17.3**	**-0.6**
VTS	**Vitosha**	**2.31**	**61**	*e*Pn	**Pb**	**00 46 16.9**	**-1.0**
VTS				*e*Sn	**Sb**	**00 46 47.1**	**+0.6**
VTS	**Vitosha**	**2.31**	**61**	P	**Pb**	**00 46 16.7**	**-1.2**
VTS				*e*Sn	**Sb**	**00 46 47.1**	**+0.6**
ZAPS	**Zavoj**	**2.39**	**41**	*e*Pn	**Pb**	**00 46 17.4**	**-1.8**
GRUS	**Gruza**	**2.41**	**4**	⇑*i*Pn	**Pb**	**00 46 18.4**	**-1.1**
GRUS	**Gruza**	**2.41**	**4**	⇑*i*Pn	**Pb**	**00 46 18.4**	**-1.1**
STON	**Ston**	**2.49**	**305**	*e*Pn	**Pb**	**00 46 18.5**	**-2.4**
STON	**Ston**	**2.49**	**305**	*e*Pn	**Pb**	**00 46 18.2**	**-2.7**
STON				*e*Sn	**Sg**	**00 46 56.7**	**+0.6**
STON	**Ston**	**2.49**	**305**	*e*Pn	**Pb**	**00 46 18.5**	**-2.4**
PLG	**Polygyros**	**2.50**	**115**	*e*PN	**Pb**	**00 46 18.8**	**-2.3**
PLG	**Polygyros**	**2.50**	**115**	*e*Pn	**Pb**	**00 46 18.8**	**-2.3**
BBLS	**Lazići**	**2.51**	**342**	*e*Pn	**Pg**	**00 46 21.6**	**-2.4**
NVR	**Nevrokopi**	**2.54**	**92**	*e*PN	**Pb**	**00 46 19.7**	**-2.1**
NVR	**Nevrokopi**	**2.54**	**92**	*e*Pn	**Pb**	**00 46 19.7**	**-2.1**
DIVS	**Divibare**	**2.63**	**352**	*e*Pn	Pb	00 46 20.5	-2.9
DIVS	**Divibare**	**2.63**	**352**	*e*Pn	Pb	00 46 20.5	-2.9
LKD2	**Lefkada island**	**2.70**	**177**	*e*PB	**Pn**	**00 46 21.2**	**+1.6**
LKD2	**Lefkada island**	**2.70**	**177**	*e*Pb	**Pn**	**00 46 21.2**	**+1.6**
EVR	**Evrytania**	**2.76**	**158**	*e*PN	**Pb**	**00 46 24.0**	**-1.6**
EVR	**Evrytania**	**2.76**	**158**	*e*Pn	**Pb**	**00 46 24.0**	**-1.6**
AGG	**Agios Georgios**	**2.84**	**150**	*e*PB	**Pn**	**00 46 23.0**	**+1.5**
AGG	**Agios Georgios**	**2.84**	**150**	*e*Pb	**Pn**	**00 46 23.0**	**+1.5**
PAIG	**Paliouri**	**2.88**	**122**	*e*PB	**Pn**	**00 46 23.2**	**+1.1**
PAIG	**Paliouri**	**2.88**	**122**	*e*Pb	**Pn**	**00 46 23.2**	**+1.1**
NEO	**Neokhori**	**3.02**	**135**	*e*PB	**Pn**	**00 46 25.6**	**+1.6**
NEO	**Neokhori**	**3.02**	**135**	*e*Pn	**Pn**	**00 46 25.6**	**+1.6**
EFP	**Efpalio**	**3.25**	**160**	*e*PB	**Pn**	**00 46 30.1**	**+3.0**
EFP	**Efpalio**	**3.25**	**160**	*e*Pb	**Pn**	**00 46 30.1**	**+3.0**
LKR	**Lokris**	**3.43**	**145**	*e*PN	**Pn**	**00 46 32.2**	**+2.6**
LKR	**Lokris**	**3.43**	**145**	*e*Pn	**Pn**	**00 46 32.2**	**+2.6**
FGSL	**Fruska Gora**	**3.70**	**353**	*e*Pn	Pb	00 46 37.5	-4.1
FRGS	**Fruska Gora**	**3.70**	**353**	*e*Pn	Pb	00 46 37.5	-4.1
GUR	**Goura**	**3.82**	**157**	*e*PN	Pn	00 46 38.6	+3.4
GUR	**Goura**	**3.82**	**157**	*e*Pn	Pn	00 46 38.6	+3.4
BZS	**Buzias**	**4.21**	**11**	⇑*i*P	**Pn**	**00 46 41.0**	**+0.7**
BZS	**Buzias**	**4.21**	**11**	*e*Pn	**Pn**	**00 46 41.6**	**+1.3**
BZS	**Buzias**	**4.21**	**11**	⇑*i*P	**Pn**	**00 46 41.0**	**+0.7**
BZS	**Buzias**	**4.21**	**11**	*e*Pn	**Pn**	**00 46 41.6**	**+1.3**
GZR	**Gura Zlata**	**4.24**	**22**	⇑*i*P	**Pn**	**00 46 42.5**	**+1.6**
GZR	**Gura Zlata**	**4.24**	**22**	⇑*i*P	**Pn**	**00 46 42.5**	**+1.6**
PKSM	**Moragy**	**4.91**	**345**	⇑*i*P	**Pn**	**00 46 52.0**	**+2.1**
PKSM	**Moragy**	**4.91**	**345**	⇑*i*P	**Pn**	**00 46 52.0**	**+2.1**
NVLJ	**Novalja**	**5.14**	**309**	*e*Pn	**Pn**	**00 46 54.0**	**+0.9**
NVLJ				*e*Sn	**Sn**	**00 47 53.3**	**+0.8**
KECS	**Kecovo**	**7.00**	**360**	*e*PN	Pn	00 47 20.8	+2.2
KECS	**Kecovo**	**7.00**	**360**	*e*Pn	Pn	00 47 20.8	+2.2
VYHS	**Vyhne**	**7.10**	**351**	*e*PN	Pn	00 47 23.8	+3.7
VYHS	**Vyhne**	**7.10**	**351**	*e*Pn	Pn	00 47 23.8	+3.7
CRVS	**Cervenica-Dubn**	**7.45**	**5**	*e*PN	Pn	00 47 27.1	+2.3
CRVS	**Cervenica-Dubn**	**7.45**	**5**	*e*Pn	Pn	00 47 27.1	+2.3

IDC 09 01:00:32.0±1.7, 16°.02N×93°.64E, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.5/27, mbtmp3.6/6, ML4.1/1, MS3.3/1, Ms1 3.3/1, ms1mx2.5/30, Error ellipse: s-maj=54.4km s-min=21.5km az=65.0, Bay of Bengal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**5.62**	**64**	Pn	Pn	01 01 56.8	-0.2
	1.4nm,0.3s,baz=250,slow=15,SNR=18						
MKAR	**Makanchi Array**	**32.10**	**345**	P	P	01 07 01.0	0.0
	0.3nm,0.8s,baz=165,slow=9.2,SNR=4.9						
SONM	**Songino Array**	**33.43**	**16**	P	P	01 07 13.0	+0.3
	0.4nm,0.5s,baz=196,slow=9.6,SNR=3.6						
ZALV	**Zalesovo Beam**	**38.47**	**352**	P	P	01 07 55.2	-0.4
	0.6nm,0.5s,baz=152,slow=6.5,SNR=3.3						
USRK	**Ussuriysk Arra**	**42.87**	**41**	LR	LR	01 26 29.5	
	comp=Z,35nm,18.8s,baz=231,slow=36						
WRA	**Warramunga Arr**	**53.64**	**130**	P	P	01 09 55.3	-0.3
	0.4nm,0.6s,baz=311,slow=7.6,SNR=2.9						
ASAR	**Alice Springs**	**55.71**	**134**	P	P	01 10 10.8	+0.1
	0.5nm,0.6s,baz=312,slow=6.8,SNR=7.3						

*IDC **09** 01:04:06.7±1.1, 42°.58N×43°.37E, h0km, mb3.5/9, mb1 3.7/11, mb1mx3.5/28, mbtmp3.6/11, ML3.7/2, MS3.0/3, Ms1 3.0/3, ms1mx2.4/37, Error ellipse: s-maj=14.5km s-min=13.2km az=58.0*
*TIF **09** 01:04:06.7, 42°.59N×43°.47E, h13km±1km*
*ISCJB **09** 01:04:07.2±0.3, 42°.58N±0°.02×43°.36E±0°.02, h9km±2km, mb3.5/11, MS2.9/3, Error ellipse: s-maj=2.9km s-min=2.4km az=164.6*
*CSEM **09** 01:04:07.6±0.1, 42°.56N×43°.37E, h5km, mb

ARTV *i* S **Sn** **01 05 01.8 +0.8**
DBOC Borcka 1.75 227 *i* P **Pn** **01 04 38.8 +0.4**
DBOC *i* S **Sn** **01 05 00.3 -0.8**
DBOC Borcka 1.75 227 *i* P **Pn** **01 04 38.8 +0.4**
DBOC *i* S **Sn** **01 05 00.3 -0.8**
DAGI Agillar 1.83 217 *i* P **Pb** **01 04 40.9 -0.5**
DAGI *i* S **Sn** **01 05 04.2 +1.0**
DGRG David-gareji 1.85 126 P **Pb** **01 04 41.5 -0.3**
DGRG S **Sg** **01 05 07.3 +0.3**
GRO Groznyy 1.91 65⇑ *i*PN **Pb** **01 04 41.6 -1.0**
GRO *e*S **Sb** **01 05 06.0 -0.6**
GRO Groznyy 1.91 65 *i* Pn **Pb** **01 04 41.6 -1.0**
KARS Kars 1.94 187 *e*PN **Pn** **01 04 41.9 +0.9**
KARS Kars 1.94 187 *e*Pn **Pn** **01 04 41.9 +0.9**
DDEM Demirkent 2.06 217 *i* P **Pb** **01 04 44.5 -0.7**
DDEM *i* S **Sn** **01 05 10.0 +1.4**
DDEM Demirkent 2.06 217 *i* P **Pb** **01 04 44.5 -0.7**
DDEM *i* S **Sn** **01 05 10.0 +1.4**
DIGO Kars 2.14 180 *i* P **Pn** **01 04 44.3 +0.4**
DIGO *i* S **Sn** **01 05 12.0 +1.2**
DIGO Kars 2.14 180 *i* P **Pn** **01 04 44.3 +0.4**
DIGO *i* S **Sn** **01 05 12.0 +1.2**
PZAR Pazar-Rize 2.30 234 *e*PN **Pn** **01 04 45.0 -0.9**
PZAR Pazar-Rize 2.30 234 *e*Pn **Pn** **01 04 45.0 -0.9**
GNI Garni 2.61 156 *e*PN **Pn** **01 04 51.9 +1.5**
GNI Garni 2.61 156 *e*Pn **Pn** **01 04 51.9 +1.5**
SOC Sochi 2.87 292 *e*PN **Pn** **01 04 55.7 +2.0**
SOC *e* 01 05 02.3
SOC *e* 01 05 31.0
SOC *e* 01 05 38.9
SOC pmax pmax
comp=Z,11nm,0.6s
SOC pmax pmax
comp=Z,8.0nm,0.4s
SOC smax smax
comp=N,45nm,0.6s
SOC smax smax
comp=E,119nm,0.6s
SOC Sochi 2.87 292 *e*Pn **Pn** **01 04 55.7 +2.0**
comp=E,8.0nm,0.4s
SOC Sochi 2.87 292 *e*Pb **Pg** **01 05 02.3 -0.1**
comp=E,45nm,0.6s
SOC *e*Sb **Sg** **01 05 38.9 -0.7**
GANJ Ganja 2.92 130⇓P **Pn** **01 04 57.2 +2.7**
SNR=10
GANJ ⇓S **Sb** **01 05 34.5 -1.3**
AGRB Hanur-Agry 2.99 186 *e*PN **Pn** **01 04 56.7 +1.2**
AGRB Hanur-Agry 2.99 186 *e*Pn **Pn** **01 04 56.7 +1.2**
MAK Makhachkala 3.07 81 *e*PN **Pn** **01 04 58.8 +2.4**
MAK *e* 01 05 07.3
MAK *e* 01 05 35.4
MAK *e* 01 05 44.7
MAK smax smax
comp=E,131nm,0.5s
MAK MLR MLR
comp=Z,144nm,7.0s
MAK Makhachkala 3.07 81 *e*Pn **Pn** **01 04 58.8 +2.4**
MAK Makhachkala 3.07 81 *e*Pg **Pg** **01 05 07.3 +1.0**
MAK *e*Sn **Sn** **01 05 35.4 +2.0**
comp=Z,144nm,7.0s
MAK *e*Sb **Sg** **01 05 44.7 -1.4**
MACK Trabzon 3.14 240 *i* P **Pn** **01 04 56.4 -1.1**
MACK *i* S **Sn** **01 05 33.8 -1.5**
MACK Trabzon 3.14 240 *i* P **Pn** **01 04 56.4 -1.1**
MACK *i* S **Sn** **01 05 33.8 -1.5**
SEKA Sheki 3.16 114⇓P **Pn** **01 04 58.2 +0.5**
SNR=7.0
BAYT Ayd¨–ntepe-Bay 3.25 229 *e*PN **Pn** **01 04 58.8 -0.3**
BAYT Ayd¨–ntepe-Bay 3.25 229 *e*Pn **Pn** **01 04 58.8 -0.3**
KOPT Kop Dagi 3.33 222 *i* P **Pb** **01 05 05.0 -2.1**
KOPT *i* S **Sb** **01 05 46.7 -1.3**
KOPT Kop Dagi 3.33 222 *i* P **Pb** **01 05 05.0 -2.1**
CLDR Caldiran 3.43 173 *e*PN **Pn** **01 05 03.3 +1.6**
CLDR Caldiran 3.43 173 *e*Pn **Pn** **01 05 03.3 +1.6**
GUMT Gumushane 3.59 236 *e*PN **Pn** **01 05 03.2 -0.6**
GUMT Gumushane 3.59 236 *e*Pn **Pn** **01 05 03.2 -0.6**
NAX Nakhchivan 3.74 154⇑P **Pb** **01 05 15.5 +1.6**
SNR=6.5
ESPY Espiye-Giresun 3.84 246 *e*PN **Pn** **01 05 05.6 -1.5**
ESPY Espiye-Giresun 3.84 246 *e*Pn **Pn** **01 05 05.6 -1.5**
KELT Kelkit 3.92 234 *i* P **Pn** **01 05 09.4 +1.0**
KELT *i* S **Sn** **01 05 54.4 -0.4**
KELT Kelkit 3.92 234 *i* P **Pn** **01 05 09.4 +1.0**
KELT *i* S **Sn** **01 05 54.4 -0.4**
QUBA Quba, Azerbaij 4.00 106⇑P Pn 01 05 12.7 +3.4
SNR=3.5
ERZN Erzincan 4.05 224 *e*PN **Pn** **01 05 10.0 -0.1**
BNGB Bing¶l 4.10 211 *e*PN **Pn** **01 05 11.9 +1.1**
EZC Erzincan 4.13 229 *e*PN **Pn** **01 05 11.2 +0.1**
EZC Erzincan 4.13 229 *e*Pn **Pn** **01 05 10.0 -1.2**
GRSN GIRESUNGRSN 4.15 249 *i* P **Pn** **01 05 10.0 -1.3**
GRSN *i* S **Sn** **01 05 54.7 -5.5**
GRSN GIRESUNGRSN 4.15 249 *i* P **Pn** **01 05 10.0 -1.3**
BINT Bingol 4.28 212 *e*Pn **Pn** **01 05 11.9 -1.3**
PQL Pirkuli 4.29 113⇑P **Pn** **01 05 15.5 +2.1**
SNR=3.6
SIZA Siyzn 4.39 108⇑P Pn 01 05 17.9 +3.2
SNR=3.5
SUSE Susehri 4.54 241 *i* P **Pn** **01 05 18.1 +1.3**
SUSE *i* S **Sn** **01 06 10.9 +0.9**
SUSE Susehri 4.54 241 *i* P **Pn** **01 05 18.1 +1.3**
SUSE *i* S **Sn** **01 06 10.9 +0.9**
PTK Pertek 4.75 221 *e*PN **Pn** **01 05 20.4 +0.7**
PTK Pertek 4.75 221 *e*Pn **Pn** **01 05 20.4 +0.7**
ILIC ilic-Erzincan 4.78 231 *e*PN **Pn** **01 05 20.1 0.0**
ILIC ilic-Erzincan 4.78 231 *e*Pn **Pn** **01 05 20.1 0.0**
ANN Anapa 4.86 300 *e*PN **Pn** **01 05 23.2 +2.2**
ANN *e*S Sn 01 06 24.2 +6.7
ANN pmax pmax
comp=Z,57nm,2.9s
ANN Anapa 4.86 300 *e*Pn **Pn** **01 05 23.2 +2.2**
comp=Z,57nm,2.9s
KEMA Kemaliye 4.94 230 *i* P **Pn** **01 05 24.8 +2.5**
KEMA *e*S **Sn** **01 06 20.1 +0.3**
KEMA Kemaliye 4.94 230 *i* P **Pn** **01 05 24.8 +2.5**
KEMA *e*S **Sn** **01 06 20.1 +0.3**
YAL Yalta 6.97 289 *e*P **Pn** **01 05 52.2 +2.1**
YAL *e*S **Sn** **01 07 13.0 +3.4**
YAL Yalta 6.97 289 *e*P **Pn** **01 05 52.2 +2.1**
SEV Sevastopol' 7.33 289 *e*P **Pn** **01 05 53.4 -1.5**
SEV *e*S **Sn** **01 07 16.8 -1.5**
SEV Sevastopol' 7.33 289 *e*P **Pn** **01 05 53.4 -1.5**
SEV *e*S **Sn** **01 07 16.8 -1.5**
BRTR Keskin Array B 7.87 252 Pn **Pn** **01 06 03.9 +1.3**
comp=Z,0.4nm,0.3s,baz=41,slow=9.1,SNR=11
VRHR Novokhopersk 8.63 353 *e*P **Pn** **01 06 15.5 +2.8**
VRHR pmax pmax
comp=Z,6.0nm,0.9s
VRHR pmax pmax
comp=N,10.0nm,1.1s
VRHR pmax pmax
comp=E,10.0nm,0.6s
VSR Storozhevoye 9.13 343 *e*P Pn 01 06 24.3 +4.7
VSR pmax pmax
comp=Z,9.0nm,0.7s
VSR pmax pmax
comp=N,20nm,0.9s
VSR pmax pmax
comp=E,4.0nm,0.6s
AKTO Aktyubinsk 12.79 47⇑Pn **Pn** **01 07 07.5 -2.1**
comp=E,2.3nm,0.5s
AKTO ⇓Sn Sn 01 09 23.8 -8.5
comp=E,0.1nm,0.3s
AKTO Aktyubinsk 12.79 47 P **Pn** **01 07 07.4 -2.3**
AKTO pmax pmax
comp=Z,1.0nm,0.3s
AKTO Aktyubinsk 12.79 47 Pn **Pn** **01 07 07.4 -2.3**
comp=Z,1.0nm,0.3s,baz=237,slow=11,SNR=19
AB31 Akbulak array 13.33 54⇑Pn **Pn** **01 07 14.8 -2.2**
comp=Z,1.4nm,0.5s,baz=240,slow=9.8,SNR=48
AB31 ⇑Sn Sn 01 09 36.5 -9.0
comp=Z,2.3nm,0.6s,baz=241,slow=22,SNR=5.2
ARU Arti 16.98 30 *e*P **Pn** **01 08 02.6 -2.7**
ARU pmax pmax
comp=Z,2.0nm,0.8s
KK31 Karatay Array 19.89 79⇓P **P** **01 08 40.1 +0.7**
comp=Z,0.7nm,0.4s,baz=290,slow=10,SNR=18
KK31 Karatay Array 19.89 79 P **P** **01 08 40.1 +0.7**
comp=Z,0.7nm,0.4s,SNR=18
BRVK Borovoye 20.78 50⇓P **P** **01 08 49.1 +0.1**
comp=Z,6.2nm,0.8s
BRVK Borovoye 20.78 50 *e*P **P** **01 08 49.3 +0.3**
BRVK pmax pmax
comp=Z,5.0nm,1.0s
BRVK Borovoye 20.78 50 *e*P **P** **01 08 49.3 +0.3**
comp=Z,5.0nm,1.0s
BVA0 Borovoye Array 20.83 50⇑P **P** **01 08 49.0 -0.6**
comp=Z,3.1nm,0.7s
BVA0 Borovoye Array 20.83 50 P **P** **01 08 49.0 -0.6**
comp=Z,3.1nm,0.7s
BVAR Borovoye Array 20.83 50 P **P** **01 08 49.4 -0.2**
BVAR MLR MLR
comp=Z,46nm,18.7s
BVAR Borovoye Array 20.83 50 P **P** **01 08 49.4 -0.2**
comp=Z,3.8nm,0.9s,baz=232,slow=7.1,SNR=14
BVAR LR LR 01 18 38.9
comp=Z,46nm,18.7s,baz=68,slow=42
BVAR Borovoye Array 20.83 50 P **P** **01 08 49.4 -0.2**
comp=Z,46nm,18.7s
VOSK Vostochnaya 21.08 52⇑P **P** **01 08 51.1 -1.1**
comp=Z,3.8nm,0.9s
GERES GERESS Array B 21.57 297 P **P** **01 08 59.0 +1.3**
comp=Z,0.3nm,0.5s,baz=99,slow=9.0,SNR=5.5
FINES FINESS Array B 21.58 337 P **P** **01 08 57.2 -0.2**
comp=Z,3.6nm,0.9s,baz=155,slow=11,SNR=7.0
FINES FINESS Array B 21.58 337 P **P** **01 08 57.3 -0.2**
comp=Z,3.0nm,0.8s
CLL Collm 22.38 304 *e*P **P** **01 09 08.0 +1.8**
CLL Collm 22.38 304 *e*P **P** **01 09 08.0 +1.8**
CLL Collm 22.38 304 *e*P **P** **01 09 08.0 +1.8**
AAK Ala-Archa 22.85 79 *e*P P 01 09 19.6 +8.1
AAK pmax pmax
comp=Z,7.0nm,1.1s
DAVOX Davos/Dischmat 24.08 292 P **P** **01 09 24.2 +0.5**
comp=Z,1.9nm,0.8s,baz=106,slow=7.4,SNR=5.0
DAVOX Davos/Dischmat 24.08 292 P **P** **01 09 24.2 +0.5**
HFS Hagfors 25.22 324 P **P** **01 09 33.5 -0.2**
comp=Z,2.0nm,0.7s,baz=113,slow=11,SNR=4.5
HFS Hagfors 25.22 324 P **P** **01 09 33.5 -0.2**
comp=Z,2.0nm,0.7s
KURBB Kurchatov Arra 25.28 59 P **P** **01 09 34.2 -0.1**
comp=Z,0.6nm,0.9s,baz=275,slow=9.5,SNR=6.4
KURK Kurchatov 25.34 59 P **P** **01 09 34.2 -0.7**
KURK Kurchatov 25.34 59 P **P** **01 09 34.2 -0.7**
NOA NORSAR Array B 26.74 325 P **P** **01 09 47.1 -0.4**
comp=Z,0.6nm,0.7s,baz=117,slow=8.8,SNR=2.4
NOA NORSAR Array B 26.74 325 P **P** **01 09 47.1 -0.4**
KEST Kesra 27.13 267 LR LR 01 21 59.5
comp=Z,20nm,21.1s,baz=196,slow=40
MK31 Makanchi Array 27.80 68⇑P **P** **01 09 57.1 0.0**
comp=Z,0.5nm,0.7s,baz=271,slow=8.2,SNR=4.5
MK31 Makanchi Array 27.80 68 P **P** **01 09 57.1 0.0**
comp=Z,0.5nm,0.7s,SNR=4.5
MKAR Makanchi Array 27.80 68 *e*P **P** **01 09 57.3 +0.1**
MKAR Makanchi Array 27.80 68 P **P** **01 09 56.8 -0.4**
comp=Z,0.4nm,0.6s,baz=276,slow=9.3,SNR=4.3
MKAR Makanchi Array 27.80 68 *e*P **P** **01 09 57.3 +0.1**
TORD Torodi Ar. Bea 46.38 243 P **P** **01 12 34.2 -0.4**
comp=Z,0.4nm,0.9s,baz=40,slow=7.0,SNR=2.9
KSRS Korea Array 62.36 63 LR LR 01 45 00.8
comp=Z,20nm,19.7s,baz=245,slow=39

*CSEM **09** 01:34:33.6, 42°.27N×13°.52E, h10km, MD2.1/9, After ROM*
ROM 09 01:34:33.6±0.1, 42°.27N×13°.52E, h10km, Md2.1/9, Ml1.8/7, Error ellipse: s-maj=0.9km s-min=0.6km az=45.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAGN	**Fagnano**	**0.05**	**99**	Pg	Pg	01 34 35.8	0.0
FAGN				Sg	Sg	01 34 37.8	+0.4
3μm,0.3s							
FAGN	**Fagnano**	**0.05**	**99**	Pg	Pg	01 34 35.8	0.0
FAGN				Sg	Sg	01 34 37.8	+0.4
3μm,0.3s							
PTQR	**Pietraquaria**	**0.27**	**199**	Pg	Pg	01 34 39.6	+0.4
PTQR				Sg	Sb	01 34 44.1	-1.2
30nm,0.2s							
PTQR	**Pietraquaria**	**0.27**	**199**	Pg	Pg	01 34 39.6	+0.4
PTQR				Sg	Sb	01 34 44.1	-1.2
30nm,0.2s							
VCEL	**Villa Celiera**	**0.27**	**63**	Pg	Pg	01 34 39.8	+0.5
VCEL				Sg	Sg	01 34 44.1	+1.0
245nm,0.3s							
VCEL	**Villa Celiera**	**0.27**	**63**	Pg	Pg	01 34 39.8	+0.5
VCEL				Sg	Sg	01 34 44.1	+1.0
245nm,0.3s							
CAMP	**Campotosto**	**0.27**	**343**	Pg	Pg	01 34 40.0	+0.6
CAMP				Sg	Sg	01 34 44.3	+1.0
81nm,0.6s							
CAMP	**Campotosto**	**0.27**	**343**	Pg	Pg	01 34 40.0	+0.6
CAMP				Sg	Sg	01 34 44.3	+1.0
81nm,0.6s							
FIAM	**Fiamignano**	**0.29**	**269**	Pg	Pg	01 34 40.2	+0.5
FIAM				Sg	Sb	01 34 45.2	-1.0
84nm,0.2s							
FIAM	**Fiamignano**	**0.29**	**269**	Pg	Pg	01 34 40.2	+0.5
FIAM				Sg	Sb	01 34 45.2	-1.0
84nm,0.2s							
INTR	**Introdacqua**	**0.39**	**132**	Pg	Pg	01 34 41.7	+0.2
INTR				Sg	Sb	01 34 48.1	-0.7
INTR	**Introdacqua**	**0.39**	**132**	Pg	Pg	01 34 41.7	+0.2
INTR				Sg	Sb	01 34 48.1	-0.7
VVLD	**Villa Vallelon**	**0.41**	**169**	Pg	Pg	01 34 41.8	0.0
VVLD				Sg	Sg	01 34 48.2	+0.8
43nm,0.3s							
VVLD	**Villa Vallelon**	**0.41**	**169**	Pg	Pg	01 34 41.8	0.0
VVLD				Sg	Sg	01 34 48.2	+0.8
43nm,0.3s							
LNSS	**Leonessa**	**0.48**	**313**	Pg	Pb	01 34 43.9	-0.4
64nm,0.8s							
LNSS	**Leonessa**	**0.48**	**313**	Pg	Pb	01 34 43.9	-0.4
64nm,0.8s							
CERT	**Cerreto**	**0.51**	**231**	Pg	Pg	01 34 43.8	+0.1
CERT	**Cerreto**	**0.51**	**231**	Pg	Pg	01 34 43.8	+0.1
SDI	**San Donato**	**0.61**	**159**	Pg	Pg	01 34 45.3	-0.2
SDI				Sg	Sb	01 34 54.9	-0.1
19nm,0.2s							
SDI	**San Donato**	**0.61**	**159**	Pg	Pg	01 34 45.3	-0.2
SDI				Sg	Sb	01 34 54.9	-0.1
19nm,0.2s							
NRCA	**Norcia**	**0.63**	**332**	Pg	Pg	01 34 45.9	-0.1
NRCA				Sg	Sb	01 34 55.2	-0.7
9.0nm,0.1s							
NRCA	**Norcia**	**0.63**	**332**	Pg	Pg	01 34 45.9	-0.1
NRCA				Sg	Sb	01 34 55.2	-0.7
9.0nm,0.1s							

*CSEM **09** 01:35:18.0, 42°.25N×13°.51E, h10km, MD2.1/13, After ROM*
ROM 09 01:35:18.0±0.1, 42°.25N×13°.51E, h10km, Md2.1/13, Ml2.1/9, Error ellipse: s-maj=0.9km s-min=0.8km az=52.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAGN	**Fagnano**	**0.06**	**70**	Pg	Pg	01 35 20.2	+0.1
FAGN				Sg	Sg	01 35 21.4	-0.3
FAGN	**Fagnano**	**0.06**	**70**	Pg	Pg	01 35 20.2	+0.1
FAGN				Sg	Sg	01 35 21.4	-0.3
PTQR	**Pietraquaria**	**0.24**	**200**	Pg	Pg	01 35 23.8	+0.8
PTQR				Sg	Sg	01 35 27.8	+1.4
PTQR	**Pietraquaria**	**0.24**	**200**	Pg	Pg	01 35 23.8	+0.8
PTQR				Sg	Sg	01 35 27.8	+1.4
VCEL	**Villa Celiera**	**0.28**	**59**	Pg	Pg	01 35 24.5	+0.6
VCEL				Sg	Sb	01 35 29.4	-1.0
467nm,0.5s							
VCEL	**Villa Celiera**	**0.28**	**59**	Pg	Pg	01 35 24.5	+0.6
VCEL				Sg	Sb	01 35 29.4	-1.0
467nm,0.5s							
FIAM	**Fiamignano**	**0.29**	**274**	Pg	Pg	01 35 24.6	+0.5
FIAM				Sg	Sb	01 35 29.6	-1.0
214nm,0.6s							
FIAM	**Fiamignano**	**0.29**	**274**	Pg	Pg	01 35 24.6	+0.5
FIAM				Sg	Sb	01 35 29.6	-1.0
214nm,0.6s							
CAMP	**Campotosto**	**0.30**	**345**	Pg	Pg	01 35 24.6	+0.4
CAMP				Sg	Sg	01 35 29.4	+1.0
166nm,0.5s							
CAMP	**Campotosto**	**0.30**	**345**	Pg	Pg	01 35 24.6	+0.4
CAMP				Sg	Sg	01 35 29.4	+1.0
166nm,0.5s							
INTR	**Introdacqua**	**0.37**	**129**	Pg	Pg	01 35 25.9	+0.4
INTR				Sg	Sb	01 35 32.2	-0.7
INTR	**Introdacqua**	**0.37**	**129**	Pg	Pg	01 35 25.9	+0.4
INTR				Sg	Sb	01 35 32.2	-0.7
TERO	**Teramo**	**0.38**	**10**	Pg	Pg	01 35 25.8	+0.2
TERO				Sg	Sg	01 35 31.9	+1.1
TERO	**Teramo**	**0.38**	**10**	Pg	Pg	01 35 25.8	+0.2
TERO				Sg	Sg	01 35 31.9	+1.1
VVLD	**Villa Vallelon**	**0.38**	**168**	Pg	Pg	01 35 26.0	+0.3
72nm,0.4s							
VVLD	**Villa Vallelon**	**0.38**	**168**	Pg	Pg	01 35 26.0	+0.3
72nm,0.4s							
GUAR	**Guarcino**	**0.48**	**198**	Pg	Pg	01 35 27.7	+0.3
68nm,0.4s							
GUAR	**Guarcino**	**0.48**	**198**	Pg	Pg	01 35 27.7	+0.3
68nm,0.4s							
CERT	**Cerreto**	**0.49**	**233**	Pg	Pg	01 35 28.0	+0.3
CERT	**Cerreto**	**0.49**	**233**	Pg	Pg	01 35 28.0	+0.3
LNSS	**Leonessa**	**0.50**	**316**	Pg	Pg	01 35 28.1	+0.2
LNSS				Sg	Sb	01 35 35.9	-0.7
LNSS	**Leonessa**	**0.50**	**316**	Pg	Pg	01 35 28.1	+0.2
LNSS				Sg	Sb	01 35 35.9	-0.7
MTCE	**Montecelio**	**0.62**	**249**	Pg	Pg	01 35 30.0	0.0
41nm,0.5s							
MTCE	**Montecelio**	**0.62**	**249**	Pg	Pg	01 35 30.0	0.0
41nm,0.5s							
NRCA	**Norcia**	**0.66**	**333**	Pg	Pg	01 35 30.7	-0.2
NRCA				Sg	Sb	01 35 40.7	-0.3
64nm,0.1s							
NRCA	**Norcia**	**0.66**	**333**	Pg	Pg	01 35 30.7	-0.2
NRCA				Sg	Sb	01 35 40.7	-0.3
64nm,0.1s							
MIDA	**Miranda**	**0.82**	**137**	Pg	Pg	01 35 33.5	-0.4
MIDA	**Miranda**	**0.82**	**137**	Pg	Pg	01 35 33.5	-0.4

IDC 09 01:38:03.2±1.2, 3°.79S×144°.99E, h0km, mb3.8/5, mb1 4.2/8, mb1mx3.9/21, mbtmp4.1/8, ML4.2/1, MS3.2/3, Ms1 3.2/3, ms1mx3.0/25, Error ellipse: s-maj=31.6km s-min=20.9km az=99.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.98**	**159**	Pn	Pn	01 39 33.7	+0.5
2.0nm,0.3s,baz=217,slow=5.1,SNR=4.2							
PMG				Sn	Sn	01 40 44.0	+1.6
1.4nm,0.3s,baz=180,slow=20,SNR=4.4							
HNR	**Honiara**	**15.88**	**111**	Pn	Pn	01 41 49.4	+1.1
12nm,0.3s,baz=225,slow=16,SNR=3.0							
HNR				LR	LR	01 47 35.2	
comp=Z,69nm,18.2s,baz=263,slow=36							
WRA	**Warramunga Arr**	**19.12**	**212**	P	P	01 42 28.4	+0.3
0.7nm,0.3s,baz=36,slow=11,SNR=22							
ASAR	**Alice Springs**	**22.48**	**207**	P	P	01 43 04.7	+0.3
3.4nm,0.8s,baz=37,slow=8.9,SNR=35							
FITZ	**Fitzroy Crossi**	**23.69**	**232**	P	P	01 43 15.5	-1.4
5.2nm,0.7s,baz=54,slow=11,SNR=20							
FITZ				LR	LR	01 53 42.0	
comp=Z,81nm,19.0s,baz=178,slow=40							
STKA	**Stephens Creek**	**28.12**	**186**	P	P	01 43 57.0	0.0
1.0nm,0.6s,baz=344,slow=10,SNR=5.4							
KSRS	**Korea Array**	**44.00**	**340**	LR	LR	02 01 06.8	
comp=Z,26nm,20.9s,baz=240,slow=31							
KURBB	**Kurchatov Arra**	**78.27**	**323**	P	P	01 50 07.0	+2.0
0.1nm,0.3s,baz=105,slow=5.3,SNR=4.1							
ILAR	**Eielson Array**	**84.26**	**24**	P	P	01 50 35.2	-1.4
0.3nm,0.6s,baz=267,slow=5.2,SNR=3.7							

*IDC **09** 01:45:20.9±3.6, 2°.50S×100°.04E, h0km, mb3.7/6, mb1 3.8/7, mb1mx3.6/26, mbtmp3.7/7, ML3.2/1, MS3.3/3, Ms1 3.4/3, ms1mx2.9/29, Error ellipse: s-maj=177.7km s-min=17.7km az=56.0*
*DJA **09** 01:45:29.3±0.7, 2°.5±3°×10°.0E±°, h40km, M4.5/6, MLv4.5/6*
ISC 09 01:45:25.8±2.1, 2°.15±0°.08×100°.4E±0°.1, h24km±16km, n22, σ1°51/26, mb3.8/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.23**	**3**	P	**Pn**	**01 45 45.4**	**-2.2**
PDSI				S	**Sn**	**01 46 00.2**	**-3.3**
PDSI	**Padang**	**1.23**	**3**	P	**Pn**	**01 45 45.6**	**-2.0**
PPI	**Padang Panjang**	**1.69**	**360**	P	**Pn**	**01 45 53.5**	**-0.3**
PPI	**Padang Panjang**	**1.69**	**360**	P	**Pn**	**01 45 53.4**	**-0.3**
PPI				S	**Sn**	**01 46 13.5**	**-1.1**
MASI	**Maura Aman, Be**	**2.08**	**118**	P	**Pb**	**01 46 03.7**	**+0.7**
MASI	**Maura Aman, Be**	**2.08**	**118**	P	**Pb**	**01 46 01.6**	**-1.4**
MASI				S	**Sb**	**01 46 28.9**	**+0.4**
MBSI	**MBSI**	**2.46**	**131**	S	**Sb**	**01 46 40.6**	**+1.4**
BKNI	**Bangkinang**	**2.54**	**15**	P	**Pn**	**01 46 07.7**	**+2.1**
BKNI				S	**Sn**	**01 46 39.3**	**+3.5**
RGRI	**Rengat**	**2.64**	**47**	P	**Pn**	**01 46 06.7**	**-0.1**
RGRI				S	**Sn**	**01 46 38.3**	**+0.2**
KSI	**Kapahiang**	**2.65**	**124**	P	**Pb**	**01 46 12.6**	**0.0**
KSI	**Kapahiang**	**2.65**	**124**	P	**Pb**	**01 46 12.4**	**-0.2**
KSI				S	**Sb**	**01 46 43.9**	**-0.9**
LHSI	**Lahat**	**3.54**	**118**	P	**Pb**	**01 46 28.6**	**+0.9**
LHSI				S	**Sb**	**01 47 08.9**	**-1.3**
PSI	**Prapat**	**5.14**	**343**	Pn	**Pn**	**01 46 43.2**	**+1.8**
0.7nm,0.3s,baz=150,slow=9.0,SNR=9.6							
PSI				LR	LR	01 49 00.9	
comp=Z,345nm,20.7s,baz=104,slow=42							
CMAR	**Chiang Mai Arr**	**20.53**	**356**	LR	LR	01 58 55.4	
comp=Z,64nm,18.4s,baz=180,slow=39							
WRA	**Warramunga Arr**	**37.57**	**121**	P	**P**	**01 52 37.7**	**-1.0**
0.2nm,0.5s,baz=302,slow=8.7,SNR=3.0							
ASAR	**Alice Springs**	**38.84**	**126**	P	**P**	**01 52 49.5**	**+0.1**
0.8nm,0.6s,baz=302,slow=8.3,SNR=10							
STKA	**Stephens Creek**	**48.75**	**132**	P	**P**	**01 54 08.6**	**-0.3**
1.9nm,0.8s,baz=288,slow=9.6,SNR=3.8							
MKAR	**Makanchi Array**	**51.28**	**344**	P	**P**	**01 54 28.2**	**+0.4**
0.6nm,0.6s,baz=151,slow=7.7,SNR=6.4							
KURBB	**Kurchatov Arra**	**55.81**	**343**	P	**P**	**01 55 01.5**	**+0.7**
1.0nm,0.8s,baz=162,slow=7.1,SNR=8.9							
ZALV	**Zalesovo Beam**	**57.39**	**349**	P	**P**	**01 55 12.5**	**+0.4**
0.4nm,0.2s,baz=158,slow=4.7,SNR=3.4							
PETK	**Petropavlovsk-**	**72.80**	**32**	LR	LR	02 30 12.0	
comp=Z,28nm,19.8s,baz=265,slow=37							
TXAR	**Lajitas Array**	**144.58**	**38**	PKPbc	PKPbc	02 04 59.3	-0.5
0.2nm,0.6s,baz=305,slow=3.2,SNR=2.7							

*MOS **09** 02:25:20.1±0.7, 49°.73N×156°.56E, h5km, mb4.3/1, Error ellipse: s-maj=99.9km s-min=25.3km az=83.4*
KRSC 09 02:25:20.1±0.9, 49°.73N×156°.56E, h5km±5km, ML4.2, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.00**	**344**	*e*PN	Pg	02 25 32.2	-7.0
SKR				pmax	pmax		
comp=Z,120nm,0.8s							
SKR	**Severo-Kuril's**	**1.00**	**344**	P	Pg	02 25 39.5	+0.3
SKR				*i* S	Sb	02 25 54.1	+0.9
PAU	**Pauzhetka**	**1.75**	**5**	PN	Pn	02 25 51.8	+0.8
PAU				S	Sb	02 26 15.3	+0.5
PAU	**Pauzhetka**	**1.75**	**5**	P	Pn	02 25 51.8	+0.8
PAU				*i* S	Sb	02 26 15.3	+0.5
ASAK	**Asacha**	**2.79**	**17**	P	Pn	02 26 07.4	+1.9
MTVR	**Mutnovka**	**2.94**	**20**	P	Pn	02 26 09.9	+2.2
MTVR				*i* S	Sn	02 26 45.3	+1.8
RUS	**Russkaya**	**2.97**	**24**	PN	Pn	02 26 09.2	+1.3
RUS				S	Sn	02 26 45.7	+1.8
RUS	**Russkaya**	**2.97**	**24**	P	Pn	02 26 09.2	+1.3
RUS				*i* S	Sn	02 26 45.7	+1.8
APC	**Apacha**	**3.22**	**6**	P	Pn	02 26 12.2	+0.9
AVH	**Avacha**	**3.79**	**20**	P	Pn	02 26 22.0	+2.7
KOK	**Koryaka**	**3.79**	**19**	P	Pn	02 26 22.2	+2.9
KRER	**Koryakskii**	**3.83**	**20**	P	Pn	02 26 22.4	+2.4
**SDL

ISC 09 02:37:53.6±0.8, 42°.55N±0°.02×43°.43E±0°.02, h5km±5km, n65, σ0°81/117, 3C-8D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.04**	**26**	PG	**Pg**	**02 37 54.7**	**-0.3**
ONI	**Oni**	**0.04**	**26**	P	**Pg**	**02 37 54.7**	**-0.3**
ONI				S	**Sg**	**02 37 56.1**	**+0.2**
DIGR	**Digorskoe uzhe**	**0.36**	**18**	⇓iPG	**Pg**	**02 37 59.8**	**-1.0**
DIGR				*i* S	**Sg**	**02 38 05.2**	**-0.4**
DIGR	**Digorskoe uzhe**	**0.36**	**18**	*i* Pg	**Pg**	**02 37 59.8**	**-1.0**
DIGR				*i* Sg	**Sg**	**02 38 05.2**	**-0.4**
ZEI	**Tsey**	**0.42**	**56**	⇓*i*PG	**Pg**	**02 38 00.9**	**-0.9**
ZEI				*i* S	**Sg**	**02 38 06.8**	**-0.6**
ZEI	**Tsey**	**0.42**	**56**	*i* Pg	**Pg**	**02 38 00.9**	**-0.9**
ZEI				*i* Sg	**Sg**	**02 38 06.8**	**-0.6**
LACR	**Lac**	**0.70**	**67**	⇓*i*PG	**Pg**	**02 38 05.8**	**-1.2**
LACR				*i* S	**Sg**	**02 38 15.4**	**-0.7**
LACR	**Lac**	**0.70**	**67**	*i* Pg	**Pg**	**02 38 05.8**	**-1.2**
LACR				*i* Sg	**Sg**	**02 38 15.4**	**-0.7**
KORR	**Kora**	**0.71**	**41**	⇑*i*PG	**Pg**	**02 38 06.7**	**-0.6**
KORR				*i* S	**Sg**	**02 38 16.6**	**+0.1**
KORR	**Kora**	**0.71**	**41**	*i* Pg	**Pg**	**02 38 06.7**	**-0.6**
KORR				*i* Sg	**Sg**	**02 38 16.6**	**+0.1**
LSNR	**Lesken**	**0.78**	**22**	⇓*i*PG	**Pg**	**02 38 08.0**	**-0.6**
LSNR				*i* S	**Sg**	**02 38 18.7**	**-0.1**
LSNR	**Lesken**	**0.78**	**22**	*i* Pg	**Pg**	**02 38 08.0**	**-0.6**
LSNR				*i* Sg	**Sg**	**02 38 18.7**	**-0.1**
STDR	**Stavd-Durt**	**0.94**	**30**	⇑*i*PG	**Pg**	**02 38 11.7**	**+0.1**
STDR				*i* S	**Sb**	**02 38 24.7**	**-0.4**
STDR	**Stavd-Durt**	**0.94**	**30**	*i* Pg	**Pg**	**02 38 11.7**	**+0.1**
STDR				*i* Sg	**Sb**	**02 38 24.7**	**-0.4**
NCK	**Nalchik**	**0.95**	**7**	⇓*e*PG	**Pg**	**02 38 11.6**	**-0.3**
NCK				*e*S	**Sb**	**02 38 25.3**	**-0.1**
NCK	**Nalchik**	**0.95**	**7**	*e*Pg	**Pg**	**02 38 11.6**	**-0.3**
NCK				*e*Sg	**Sb**	**02 38 25.3**	**-0.1**
CHVG	**Ch'k'valeri**	**1.00**	**280**	P	**Pg**	**02 38 12.1**	**-0.8**
CHVG				S	**Sb**	**02 38 27.2**	**+0.2**
VLKR	**Vladikavkaz**	**1.04**	**61**	*e*PG	**Pg**	**02 38 13.4**	**-0.2**
VLKR				*e*S	**Sg**	**02 38 27.6**	**+0.4**
VLKR	**Vladikavkaz**	**1.04**	**61**	*e*Pg	**Pg**	**02 38 13.4**	**-0.2**
VLKR				*e*Sg	**Sg**	**02 38 27.6**	**+0.4**
SNJR	**Sundja**	**1.14**	**63**	*e*PG	**Pg**	**02 38 14.7**	**-0.8**
SNJR				*e*S	**Sg**	**02 38 30.2**	**-0.1**
SNJR	**Sundja**	**1.14**	**63**	*e*Pg	**Pg**	**02 38 14.7**	**-0.8**
SNJR				*e*Sg	**Sg**	**02 38 30.2**	**-0.1**
AKH	**Akhalkalaki**	**1.14**	**178**	PG	**Pg**	**02 38 14.3**	**-1.3**
AKH				S	**Sg**	**02 38 30.3**	**-0.1**
AKH	**Akhalkalaki**	**1.14**	**178**	Pg	**Pg**	**02 38 14.3**	**-1.3**
AKH				Sg	**Sg**	**02 38 30.3**	**-0.1**
AKH	**Akhalkalaki**	**1.14**	**178**	P	**Pg**	**02 38 14.3**	**-1.3**
AKH				S	**Sg**	**02 38 30.3**	**-0.1**
BTKR	**Batakoyurt**	**1.16**	**45**	⇓*i*PG	**Pn**	**02 38 16.9**	**+0.4**
BTKR				*e*S	**Sn**	**02 38 32.7**	**0.0**
BTKR	**Batakoyurt**	**1.16**	**45**	*i* Pg	**Pn**	**02 38 16.9**	**+0.4**
BTKR				*e*Sg	**Sn**	**02 38 32.7**	**0.0**
KUBR	**Kubataba**	**1.25**	**359**	⇓*i*PG	**Pg**	**02 38 17.0**	**-0.5**
KUBR				*e*S	**Sn**	**02 38 35.2**	**+0.3**
KUBR	**Kubataba**	**1.25**	**359**	*i* Pg	**Pg**	**02 38 17.0**	**-0.5**
TBLG	**Delisi**	**1.27**	**130**	PG	**Pg**	**02 38 16.9**	**-1.2**
TBLG				S	**Sg**	**02 38 34.4**	**-0.2**
TBLG	**Delisi**	**1.27**	**130**	Pg	**Pg**	**02 38 16.9**	**-1.2**
TBLG				Sg	**Sg**	**02 38 34.4**	**-0.2**
TBLG	**Delisi**	**1.27**	**130**	P	**Pg**	**02 38 16.9**	**-1.2**
TBLG				S	**Sg**	**02 38 34.4**	**-0.2**
SHAR	**Shatzhatmas**	**1.31**	**335**	*e*PG	**Pn**	**02 38 17.4**	**-1.4**
SHAR				*e*S	**Sg**	**02 38 34.6**	**-1.2**
SHAR	**Shatzhatmas**	**1.31**	**335**	*e*Pg	**Pn**	**02 38 17.4**	**-1.4**
SHAR				*e*Sg	**Sg**	**02 38 34.6**	**-1.2**
PRTR	**Priterechnaya**	**1.35**	**27**	*e*PG	**Pg**	**02 38 19.7**	**+0.2**
PRTR				*e*S	**Sn**	**02 38 37.9**	**+0.5**
PRTR	**Priterechnaya**	**1.35**	**27**	*e*Pg	**Pg**	**02 38 19.7**	**+0.2**
PRTR				*e*Sg	**Sn**	**02 38 37.9**	**+0.5**
KZR	**Kazreti**	**1.38**	**148**	P	**Pn**	**02 38 19.2**	**-0.4**
KZR				S	**Sb**	**02 38 35.6**	**-2.3**
KIV	**Kislovodsk**	**1.50**	**339**	⇑*e*PG	**Pn**	**02 38 21.0**	**-0.3**
KIV				*i* S	**Sn**	**02 38 40.4**	**-0.9**
KIV	**Kislovodsk**	**1.50**	**339**	*e*Pg	**Pn**	**02 38 21.0**	**-0.3**
KIV				*i* Sg	**Sn**	**02 38 40.4**	**-0.9**
PYA	**Pyatigorsk**	**1.50**	**350**	⇓*e*PG	**Pn**	**02 38 21.0**	**-0.2**
PYA				*e*S	**Sn**	**02 38 41.0**	**-0.2**
PYA	**Pyatigorsk**	**1.50**	**350**	*e*Pg	**Pn**	**02 38 21.0**	**-0.2**
PYA				*e*Sg	**Sn**	**02 38 41.0**	**-0.2**
TRKR	**Terskaya**	**1.51**	**39**	*e*PG	**Pn**	**02 38 21.5**	**+0.2**
TRKR				*e*S	**Sg**	**02 38 41.8**	**-0.3**
TRKR	**Terskaya**	**1.51**	**39**	*e*Pg	**Pn**	**02 38 21.5**	**+0.2**
TRKR				*e*Sg	**Sg**	**02 38 41.8**	**-0.3**
ARTV	**Artvin**	**1.77**	**220**	*i* P	**Pn**	**02 38 24.5**	**-0.5**
ARTV				*i* S	**Sn**	**02 38 48.4**	**+0.4**
ARTV	**Artvin**	**1.77**	**220**	*i* P	**Pn**	**02 38 24.5**	**-0.5**
ARTV				*i* S	**Sn**	**02 38 48.4**	**+0.4**
DBOC	**Borcka**	**1.79**	**228**	*i* P	**Pn**	**02 38 24.1**	**-1.0**
DBOC				*i* S	**Sn**	**02 38 48.6**	**+0.5**
DBOC	**Borcka**	**1.79**	**228**	*i* P	**Pn**	**02 38 24.1**	**-1.0**
DBOC				*i* S	**Sn**	**02 38 48.6**	**+0.5**
DGRG	**David-gareji**	**1.82**	**127**	PN	**Pb**	**02 38 26.7**	**-0.7**
DGRG				S	**Sg**	**02 38 54.3**	**+2.2**
DGRG	**David-gareji**	**1.82**	**127**	Pn	**Pb**	**02 38 26.7**	**-0.7**
DGRG				Sg	**Sg**	**02 38 54.3**	**+2.2**
DGRG	**David-gareji**	**1.82**	**127**	P	**Pb**	**02 38 26.7**	**-0.7**
DGRG				S	**Sg**	**02 38 54.3**	**+2.2**
DAGI	**Agillar**	**1.86**	**218**	*i* P	**Pn**	**02 38 26.2**	**0.0**
DAGI				*i* S	**Sn**	**02 38 50.7**	**+0.7**
DDEM	**Demirkent**	**2.08**	**218**	*i* P	**Pn**	**02 38 29.8**	**+0.6**
DDEM				*i* S	**Sn**	**02 38 56.0**	**+0.5**
DDEM	**Demirkent**	**2.08**	**218**	*i* P	**Pn**	**02 38 29.8**	**+0.6**
DDEM				*i* S	**Sn**	**02 38 56.0**	**+0.5**
DIGO	**Kars**	**2.14**	**181**	*i* P	**Pn**	**02 38 30.4**	**+0.2**
DIGO	**Kars**	**2.14**	**181**	*i* P	**Pn**	**02 38 30.4**	**+0.2**
SOC	**Sochi**	**2.91**	**292**	*e*PN	**Pn**	**02 38 40.2**	**-0.3**
SOC				*e*		02 38 45.9	
SOC				*e*		02 39 14.3	
SOC				*e*		02 39 23.5	
SOC				pmax	pmax		
	comp=Z,28nm,0.9s						
SOC				pmax	pmax		
	comp=Z,44nm,0.9s						
SOC				smax	smax		
	comp=N,38nm,0.7s						
SOC				smax	smax		
	comp=E,19nm,0.6s						
SOC	**Sochi**	**2.91**	**292**	*e*Pn	**Pn**	**02 38 40.2**	**-0.3**
	comp=E,28nm,0.9s						
SOC	**Sochi**	**2.91**	**292**	*e*Pb	**Pb**	**02 38 45.9**	**0.0**
	comp=E,44nm,0.9s						
SOC				*e*Sn	**Sn**	**02 39 14.3**	**-1.5**
	comp=E,38nm,0.7s						
SOC				*e*Sb	**Sb**	**02 39 23.5**	**+1.8**
MACK	**Trabzon**	**3.18**	**241**	*i* P	**Pn**	**02 38 43.1**	**-1.1**
MACK	**Trabzon**	**3.18**	**241**	*i* P	**Pn**	**02 38 43.1**	**-1.1**
KOPT	**Kop Dagi**	**3.36**	**222**	*i* P	**Pb**	**02 38 54.8**	**+1.0**
KELT	**Kelkit**	**3.95**	**234**	*i* P	**Pn**	**02 38 55.2**	**+0.1**
KELT	**Kelkit**	**3.95**	**234**	*i* P	**Pn**	**02 38 55.2**	**+0.1**
OBN	**Obninsk**	**13.35**	**343**	*e*P	**Pn**	**02 41 05.8**	**+2.3**
OBN				pmax	pmax		
	comp=Z,4.0nm,1.4s						
BRVK	**Borovoye**	**20.75**	**50**	*i* P	**P**	**02 42 34.6**	**-0.4**
BRVK	**Borovoye**	**20.75**	**50**	*i* P	**P**	**02 42 34.6**	**-0.4**

DJA 09 02:43:57.3±0.4, 3°.S±3°.×12°.8E±°, h10km, M4.8/7, mb4.5/5, mB5.7/5, MLv4.7/7, Mw(mB)5.3/5, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.68**	**197**	P	Pg	02 44 10.7	+0.2
AAI				S	Sg	02 44 19.4	-0.1
NLAI	**Namlea**	**1.30**	**261**	P	Pn	02 44 18.3	-3.3
NLAI				S	Sb	02 44 38.7	-0.1
FAKI	**Fak Fak**	**3.85**	**88**	P	Pn	02 44 57.0	+0.3
TLE	**Tual**	**5.05**	**121**	P	Pn	02 45 15.5	+2.3
	66nm,0.8s,16μm2.6nm						
SAUI	**Saumlaki**	**5.71**	**150**	P	Pn	02 45 22.1	-0.1
	3μm,0.5s,65μm19nm						
RKPI	**Ransiki, Papua**	**5.98**	**76**	P	Pn	02 45 26.0	+0.1
	43nm,1.1s,5μm2.4nm						
TTSI	**Tana Toraja**	**8.56**	**270**	P	Pn	02 46 04.0	+2.6
	7.6nm,0.9s,2μm						
SPSI	**Sidrap Palu**	**8.65**	**264**	P	Pn	02 46 05.2	+2.5

*ISCJB **09** 02:44:43.9±0.4, 7°.45S±0°.03×129°.26E±0°.04, h131km, mb3.9/9, Error ellipse: s-maj=4.9km s-min=4.8km az=159.2*
*AUST **09** 02:44:43.4±0.0, 7°.39S×129°.16E, h116km, Error ellipse: s-maj=1.1km s-min=0.7km az=306.0*
*IDC **09** 02:44:46.3±2.1, 7°.34S×129°.10E, h145km±18km, mb3.7/10, mb1 3.9/13, mb1mx3.8/22, mbtmp3.8/13, Error ellipse: s-maj=18.2km s-min=11.9km az=57.0*
ISC 09 02:44:44.6±0.5, 7°.44S±0°.05×129°.28E±0°.05, h131km, n43, σ2°.24/50, mb4.0/9, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**2.97**	**12**	P	Pn	02 45 38.3	+7.5
	baz=3.0,SNR=5.0						
TLE	**Tual**	**3.87**	**63**	P	**Pn**	**02 45 45.5**	**+2.7**
	baz=4.0,SNR=62						
TLE				S	**Sn**	**02 46 30.1**	**+2.3**
	baz=4.0,SNR=9.5						
FAKI	**Fak Fak**	**5.38**	**33**	P	**Pn**	**02 46 02.0**	**-0.8**
	baz=5.4,SNR=14						
FAKI				S	**Sn**	**02 47 00.2**	**-3.5**
	baz=5.4,SNR=7.4						
SOEI	**Soe**	**5.47**	**245**	P	**Pn**	**02 46 05.6**	**+1.5**
SOEI	**Soe**	**5.47**	**245**	P	**Pn**	**02 46 05.8**	**+1.7**
	baz=5.4,SNR=27						
SOEI				S	**Sn**	**02 47 07.1**	**+1.0**
	baz=5.4,SNR=13						
MTN	**Manton Dam**	**5.67**	**161**	P	**Pn**	**02 46 08.6**	**+1.9**
	baz=5.8,SNR=4.6						
MTN				S	**Sn**	**02 47 10.0**	**-0.7**
	baz=5.8,SNR=5.2						
KDU	**Kakadu**	**6.08**	**149**	P	**Pn**	**02 46 13.5**	**+1.2**
	baz=6.2,SNR=162						
KDU				S	**Sn**	**02 47 19.3**	**-1.4**
	baz=6.2,SNR=6.0						
BATI	**Baumata**	**6.20**	**243**	P	**Pn**	**02 46 14.7**	**+0.9**
BATI	**Baumata**	**6.20**	**243**	P	**Pn**	**02 46 14.9**	**+1.1**
	76nm,0.3s,baz=27,slow=11,SNR=37						
BATI				S	**Sn**	**02 47 23.1**	**-0.3**
	86nm,0.3s,baz=114,slow=20,SNR=20						
SWI	**Sorong**	**6.83**	**17**	P	**Pn**	**02 46 21.9**	**-0.4**
	baz=6.9,SNR=5.8						
SWI				S	Sn	02 47 34.0	-4.7
	baz=6.9,SNR=5.3						
KNRA	**Kununurra**	**8.20**	**184**	P	**Pn**	**02 46 40.8**	**0.0**
	baz=8.3,SNR=107						
KNRA				S	**Sn**	**02 48 06.8**	**-5.1**
	baz=8.3,SNR=14						
LUWI	**Luwuk**	**9.09**	**314**	S	**Sn**	**02 48 34.6**	**+1.2**
	baz=9.0,SNR=3.8						
FITZ	**Fitzroy Crossi**	**11.17**	**198**	P	**Pn**	**02 47 18.7**	**-1.9**
	6.4nm,0.3s,baz=35,slow=14,SNR=205						
FITZ				S	Sn	02 49 16.2	-7.7
	6.3nm,0.3s,baz=98,slow=19,SNR=7.0						
FITZ	**Fitzroy Crossi**	**11.17**	**198**	P	**Pn**	**02 47 18.5**	**-2.2**
	baz=11,SNR=188						
FITZ				S	Sn	02 49 17.1	-6.7
	baz=11,SNR=3.0						
WRA	**Warramunga Arr**	**13.36**	**159**	P	**Pn**	**02 47 46.9**	**-2.3**
	2.1nm,0.3s,baz=344,slow=13,SNR=60						
WRA				S	Sn	02 50 06.5	-10
	8.0nm,0.3s,baz=339,slow=22,SNR=9.0						
COEN	**Coen**	**15.10**	**117**	P	**Pn**	**02 48 11.5**	**+0.2**
	baz=15,SNR=24						
ASAR	**Alice Springs**	**16.73**	**165**	P	**P**	**02 48 32.0**	**+0.6**
	2.4nm,0.3s,baz=343,slow=9.7,SNR=79						
ASAR				S	**Sn**	**02 51 30.9**	**-6.9**
	1.7nm,0.3s,baz=339,slow=21,SNR=7.4						
ASAR				ScP	**ScP**	**02 56 33.0**	**-2.2**
	0.2nm,0.3s,baz=4.4,slow=1.6,SNR=5.5						
PMG	**Port Moresby**	**17.79**	**98**	P	**Pn**	**02 48 46.4**	**+2.2**
	1.6nm,0.3s,baz=274,slow=7.4,SNR=8.4						
MTSU	**Mount Surprise**	**18.09**	**127**	P	**Pn**	**02 48 50.4**	**+2.7**
	baz=18,SNR=13						
CTA	**Charters Tower**	**20.70**	**129**	P	Pn	02 49 17.4	-1.0
	0.9nm,0.3s,baz=289,slow=9.4,SNR=2.7						
MEEK	**Meekatharra**	**21.62**	**207**	P	**P**	**02 49 25.0**	**+0.6**
	baz=22,SNR=13						
MEEK				S	**S**	**02 53 22.2**	**+6.3**
	baz=22,SNR=4.1						
FORT	**Forrest**	**23.25**	**183**	P	**P**	**02 49 41.8**	**+1.4**
	baz=23,SNR=20						
MORW	**Morawa**	**24.87**	**208**	P	**P**	**02 49 55.9**	**+0.8**
	baz=25,SNR=15						
BLDU	**Ballidu**	**25.89**	**205**	P	**P**	**02 50 05.2**	**+0.8**
	baz=26,SNR=14						
BBOO	**Buckleboo**	**26.02**	**167**	P	**P**	**02 50 06.7**	**+1.2**
	baz=26,SNR=27						
STKA	**Stephens Creek**	**26.89**	**156**	P	**P**	**02 50 14.5**	**+1.2**
	1.6nm,0.3s,baz=335,slow=10.0,SNR=8.8						
STKA	**Stephens Creek**	**26.89**	**156**	P	**P**	**02 50 14.9**	**+1.7**
	baz=27,SNR=9.7						
CMSA	**Cobar Meteorol**	**28.45**	**150**	P	**P**	**02 50 29.3**	**+2.1**
	baz=29,SNR=7.9						
ARPS	**Mount Arapiles**	**31.36**	**160**	P	**P**	**02 50 55.3**	**+2.5**
	baz=32,SNR=21						
PSI	**Prapat**	**31.96**	**287**	P	**P**	**02 50 55.5**	**-3.1**
	4.3nm,0.4s,baz=135,slow=8.6,SNR=5.0						
MOO	**Moorlands**	**38.28**	**158**	S	S	02 57 13.9	-23
	baz=38,SNR=6.9						
CMAR	**Chiang Mai Arr**	**39.48**	**311**	P	**P**	**02 52 01.9**	**-0.6**
	2.4nm,0.6s,baz=134,slow=7.2,SNR=13						
KSRS	**Korea Array**	**44.68**	**358**	P	**P**	**02 52 43.3**	**-1.1**
	0.3nm,0.3s,baz=178,slow=9.1,SNR=4.3						
SONM	**Songino Array**	**58.64**	**342**	P	**P**	**02 54 28.3**	**+0.2**
	0.5nm,0.5s,baz=162,slow=8.7,SNR=5.3						
MKAR	**Makanchi Array**	**68.21**	**327**	P	**P**	**02 55 29.6**	**-1.4**
	1.3nm,0.3s,baz=123,slow=7.6,SNR=28						
ZALV	**Zalesovo Beam**	**71.67**	**334**	P	**P**	**02 55 49.7**	**-2.2**
	1.0nm,0.3s,baz=133,slow=6.5,SNR=4.7						
VNDA	**Vanda**	**72.10**	**173**	P	**P**	**02 55 54.8**	**+0.7**
	1.4nm,0.8s,baz=314,slow=8.1,SNR=6.3						
MAW	**Mawson**	**74.28**	**201**	P	**P**	**02 56 08.2**	**+1.1**
	2.2nm,0.4s,baz=74,slow=8.5,SNR=14						
MAW	**Mawson**	**74.28**	**201**	P	**P**	**02 56 08.5**	**+1.4**
	baz=74,SNR=5.6						
ARCES	**ARCESS Array B**	**101.74**	**340**	P	**Pdif**	**02 58 24.1**	**+1.9**
	3.4nm,1.1s,baz=80,slow=5.6,SNR=5.3						
TORD	**Torodi Ar. Bea**	**128.19**	**281**	PKP	**PKPdf**	**03 03 35.6**	**-0.9**
	1.1nm,0.6s,baz=81,slow=1.7,SNR=18						
CPUP	**Villa Florida**	**145.82**	**169**	PKPbc	**PKPbc**	**03 04 09.3**	**+0.1**
	2.6nm,0.5s,baz=146,slow=2.4,SNR=9.8						
LPAZ	**La Paz**	**150.79**	**144**	PKPbc	**PKPbc**	**03 04 24.4**	**+1.1**
	0.7nm,0.4s,baz=139,slow=2.7,SNR=7.7						

WEL 09 03:05:40.9±0.2, 45°.54S×166°.69E, h24km±1km, ML4.0/19, 3C-2D, Error ellipse: s-maj=1.9km s-min=1.0km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.33**	**80**	⇓P*	Pb	03 05 48.1	-0.1
DCZ				S*	Sb	03 05 51.9	-1.3
DCZ				AML	AML	03 05 53.0	
WHZ	**Wether Hill Ro**	**0.95**	**113**	⇓PN	Pb	03 05 58.4	-0.3
WHZ				SN	Sb	03 06 10.7	-0.2
WHZ				AML	AML	03 06 19.1	
MLZ	**Mavora Lakes**	**1.06**	**80**	PN	Pn	03 05 59.4	-0.8
MLZ				SN	Sb	03 06 13.0	-1.1
MLZ				AML	AML	03 06 14.4	
MSZ	**Milford Sound**	**1.23**	**46**	PN	Pn	03 06 01.3	-1.2
MSZ				AML	AML	03 06 28.6	
MSZ				AML	AML	03 06 28.7	
MSZ				AML	AML	03 06 39.2	
MSZ				AML	AML	03 06 39.2	
APZ	**The Paps**	**1.58**	**146**	⇑PN	Pn	03 06 08.3	+0.9
WKZ	**Wanaka**	**1.79**	**68**	PN	Pn	03 06 11.6	+1.3
WKZ				AML	AML	03 06 39.0	
WKZ				AML	AML	03 06 39.0	
WKZ				AML	AML	03 06 44.9	
EAZ	**Earnscleugh**	**1.87**	**82**	PN	Pb	03 06 13.0	-1.2
EAZ				AML	AML	03 06 39.4	
EAZ				AML	AML	03 06 40.7	
EAZ				AML	AML	03 06 40.7	
EAZ				AML	AML	03 06 42.2	
SYZ	**Scrubby Hill**	**1.98**	**121**	⇑PN	Pb	03 06 15.0	-1.1
JCZ	**Jackson Bay**	**2.07**	**46**	PN	Pb	03 06 16.3	-1.7
JCZ				AML	AML	03 06 51.2	
JCZ				AML	AML	03 06 52.1	
TUZ	**Tuapeka**	**2.10**	**103**	PN	Pb	03 06 16.6	-1.6
TUZ				AML	AML	03 06 46.8	
TUZ				AML	AML	03 06 53.4	
LBZ	**Lake Benmore**	**2.73**	**66**	PN	Pn	03 06 24.3	+1.0
LBZ				AML	AML	03 06 60.0	
LBZ				AML	AML	03 07 16.6	
HHSZ	**Highcliff Hill**	**2.76**	**99**	PN	Pn	03 06 25.9	+2.3
ODZ	**Otahua Downs**	**2.83**	**81**	⇑PN	Pn	03 06 24.8	+0.2
FOZ	**Fox Glacier**	**2.91**	**48**	PN	Pb	03 06 28.9	-3.1
FOZ				AML	AML	03 07 19.2	
FOZ				AML	AML	03 07 22.4	
RPZ	**Rata Peaks**	**3.60**	**61**	PN	Pn	03 06 36.1	+0.8
RPZ				AML	AML	03 07 22.3	
RPZ				AML	AML	03 07 28.3	
WVZ	**Waitaha Valley**	**3.80**	**51**	PN	Pn	03 06 40.2	+2.3
WVZ				AML	AML	03 07 32.7	
WVZ				AML	AML	03 07 37.3	
DSZ	**Denniston Nort**	**5.30**	**46**	PN	Pn	03 07 01.6	+3.0
DSZ				AML	AML	03 08 10.3	
THZ	**Tophouse**	**5.87**	**52**	PN	Pn	03 07 07.9	+1.4
THZ				AML	AML	03 08 22.3	
THZ				AML	AML	03 08 26.3	

*ISCJB **09** 03:47:19.5±0.5, 36°.32N±0°.04×27°.64E±0°.04, h81km±6km, Error ellipse: s-maj=7.9km s-min=4.3km az=146.9*
*CSEM **09** 03:47:20.5±0.1, 36°.31N×27°.67E, h73km±3km, MD3.4, Error ellipse: s-maj=4.8km s-min=2.4km az=152.0*
*ISK **09** 03:47:20.2, 36°.38N×27°.75E, h78km, MD3.4*
*ATH **09** 03:47:21.2, 36°.36N×27°.46E, h44km±1km, MD3.5/9*
ISC 09 03:47:19.9±1.3, 36°.32N±0°.04×27°.66E±0°.03, h80km±8km, n54, σ0°.85/67, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.39**	**105**	*e*P	**Pn**	**03 47 33.6**	**+0.8**
ARG				*e*S	**Sn**	**03 47 42.9**	**+0.5**
ARG	**Arkhangelos**	**0.39**	**105**	*e*P	**Pn**	**03 47 33.6**	**+0.8**
DAT	**Datca**	**0.41**	**351**	*e*PG	**Pn**	**03 47 33.5**	**+0.4**
DAT				*e*SG	**Sn**	**03 47 42.6**	**-0.2**
DAT	**Datca**	**0.41**	**351**	*e*Pg	**Pn**	**03 47 33.5**	**+0.4**
DAT				*e*Sg	**Sn**	**03 47 42.7**	**-0.2**
BODT	**Bodrum**	**0.79**	**340**	*e*PG	**Pn**	**03 47 37.1**	**+0.5**
BODT	**Bodrum**	**0.79**	**340**	*e*Pg	**Pn**	**03 47 37.1**	**+0.5**
KARP	**Karpathos**	**0.87**	**208**	*e*P	**Pn**	**03 47 37.5**	**0.0**
KARP				*e*S	**Sn**	**03 47 49.6**	**-0.9**
KARP	**Karpathos**	**0.87**	**208**	*e*P	**Pn**	**03 47 37.5**	**0.0**
KARP				*e*S	**Sn**	**03 47 49.6**	**-0.9**
DALY	**Dalyan (Mu¨la**	**0.94**	**58**	*e*PG	**Pn**	**03 47 38.2**	**0.0**
DALY				*e*SG	**Sn**	**03 47 51.4**	**-0.6**
DALY	**Dalyan (Mu¨la**	**0.94**	**58**	*e*Pg	**Pn**	**03 47 38.2**	**0.0**
DALY				*e*Sg	**Sn**	**03 47 51.4**	**-0.6**
YER	**Yerkesik**	**0.96**	**32**	*e*PG	**Pn**	**03 47 38.7**	**+0.2**
YER	**Yerkesik**	**0.96**	**32**	*e*Pg	**Pn**	**03 47 38.7**	**+0.2**
FETY	**Fethiye**	**1.19**	**74**	*e*PN	**Pn**	**03 47 41.1**	**-0.1**
FETY	**Fethiye**	**1.19**	**74**	*e*Pn	**Pn**	**03 47 41.2**	**-0.1**
SMG	**Samos**	**1.54**	**335**	*e*P	**Pn**	**03 47 46.5**	**+0.8**
SMG				*e*S	**Sn**	**03 48 03.8**	**-1.3**
SMG	**Samos**	**1.54**	**335**	*e*P	**Pn**	**03 47 46.5**	**+0.8**
SMG				*e*S	**Sn**	**03 48 03.8**	**-1.3**
KSL	**Kastellorizon**	**1.57**	**96**	*e*P	Pn	03 47 50.3	+4.3
KSL	**Kastellorizon**	**1.57**	**96**	*e*P	Pn	03 47 50.3	+4.3
ZKR	**Zakros**	**1.68**	**225**	*e*P	**Pn**	**03 47 48.5**	**+1.0**
ZKR				*e*S	**Sn**	**03 48 08.5**	**0.0**
ZKR	**Zakros**	**1.68**	**225**	*e*P	**Pn**	**03 47 48.5**	**+1.0**
ZKR				*e*S	**Sn**	**03 48 08.5**	**0.0**
ELL	**Elmali**	**1.86**	**76**	*e*PN	**Pn**	**03 47 50.0**	**-0.1**
ELL	**Elmali**	**1.86**	**76**	*e*Pn	**Pn**	**03 47 50.0**	**-0.1**
APE	**Apeiranthos**	**1.87**	**294**	*e*P	**Pn**	**03 47 50.4**	**+0.4**
APE	**Apeiranthos**	**1.87**	**294**	*e*P	**Pn**	**03 47 50.4**	**+0.4**
NPS	**Neapolis**	**1.97**	**238**	*e*P	**Pn**	**03 47 51.7**	**+0.3**
NPS				*e*S	**Sn**	**03 48 13.5**	**-1.8**
NPS	**Neapolis**	**1.97**	**238**	*e*P	**Pn**	**03 47 51.7**	**+0.3**
NPS				*e*S	**Sn**	**03 48 13.5**	**-1.8**
LAST	**Lasithi**	**2.12**	**238**	*e*P	**Pn**	**03 47 53.6**	**+0.2**
LAST	**Lasithi**	**2.12**	**238**	*e

LEM	**Lembang**	4.17	109	P	Pn	04 03 19.6 +3.5
	baz=4.2,SNR=14					
CISI	**Cisompet, Garu**	4.62	117	P	**Pn**	**04 03 21.4 -1.0**
CISI	**Cisompet, Garu**	4.62	117	P	**Pn**	**04 03 21.6 -0.8**
	baz=4.7,SNR=5.3					
CISI				S	**Sn**	**04 04 10.7 -4.2**
	baz=4.7,SNR=7.4					
TPI	**Tanjungpandan**	4.83	56	P	**Pn**	**04 03 25.8 +0.7**
XMI	**Christmas Isla**	5.33	158	P	Pn	04 03 25.0 -7.0
	baz=5.3,SNR=8.9					
XMI				S	Sn	04 04 22.7 -9.4
	baz=5.3,SNR=4.7					
XMIS	**Christmas Isla**	5.35	158	*e*Pn	Pn	04 03 24.9 -7.3
XMIS	**Christmas Isla**	5.35	158	P	Pn	04 03 24.8 -7.3
	baz=5.3,SNR=26					
XMIS				S	Sn	04 04 19.7 -13
	baz=5.3,SNR=9.4					
PDSI	**Padang**	5.54	325	P	**Pn**	**04 03 32.5 -2.4**
	906nm,0.6s,34μm6.2nm					
KPJI	**Karang Pucung**	5.56	110	P	**Pn**	**04 03 36.6 +1.5**
	167nm,0.8s,4μm1.2nm					
TGJI	**Tegal**	5.61	104	P	Pn	04 03 39.5 +3.7
	129nm,0.7s,0.8nm					
PPI	**Padang Panjang**	5.96	327	P	**Pn**	**04 03 38.2 -2.3**
	153nm,1.2s,3μm0.9nm					
PPI	**Padang Panjang**	5.96	327	P	**Pn**	**04 03 38.5 -2.0**
	baz=6.0,SNR=21					
BJII	**Banjamegara**	6.30	107	P	**Pn**	**04 03 46.6 +1.4**
	67nm,0.9s,0.8nm					
BKNI	**Bangkinang**	6.33	336	P	**Pn**	**04 03 45.1 -0.5**
	414nm,0.8s,7μm1.9nm					
BKNI	**Bangkinang**	6.33	336	P	**Pn**	**04 03 44.8 -0.9**
	baz=6.4,SNR=6.9					
BTDF	**Bukit Timah Da**	6.80	1	P	**Pn**	**04 03 54.8 +2.8**
	baz=7.0,SNR=3.7					
BTDF				P	**Pn**	**04 03 54.8 +2.8**
	baz=7.0,SNR=3.7					
MYKOM	**Kota Tinggi**	7.23	2	P	**Pn**	**04 03 59.8 +1.9**
MYKOM	**Kota Tinggi**	7.23	2	P	**Pn**	**04 03 59.6 +1.7**
	42nm,0.8s,622nm0.2nm					
UGM	**Wanagama**	7.24	110	*e*Pn	**Pn**	**04 03 58.7 +0.6**
UGM	**Wanagama**	7.24	110	P	**Pn**	**04 03 59.0 +0.9**
	374nm,1.1s,2.2nm					
UGM	**Wanagama**	7.24	110	P	**Pn**	**04 03 58.4 +0.3**
	baz=7.3,SNR=38					
UGM				S	**Sn**	**04 05 20.3 +1.4**
	baz=7.3,SNR=5.9					
KGM	**Kluang**	7.46	357	P	**Pn**	**04 04 04.1 +3.1**
NGJI	**Ngawi**	7.99	104	P	Pn	04 04 12.0 +3.8
	140nm,0.8s					
SJI	**Sawahan**	8.37	106	P	**Pn**	**04 04 15.1 +1.5**
	113nm,0.9s,10μm					
PWJI	**Pagerwojo**	8.48	108	P	**Pn**	**04 04 15.7 +0.7**
	187nm,0.5s					
FRIM	**Kepong**	8.90	347	P	**Pn**	**04 04 21.4 +0.7**
GRJI	**Gresik**	8.90	100	P	**Pn**	**04 04 22.2 +1.5**
	178nm,0.6s,2μm					
GSI	**Gunungsitoli**	9.07	318	P	Pn	04 04 19.5 -3.5
	228nm,0.6s					
KRKI	**Karangkates**	9.14	107	P	Pn	04 04 27.4 +3.4
	320nm,0.7s,22μm					
COCO	**West Island**	9.47	225	*e*P	**Pn**	**04 04 26.0 -2.5**
COCO				*e*S	Sn	04 06 06.2 -7.1
COCO	**West Island**	9.47	225	*e*Pn	**Pn**	**04 04 26.0 -2.5**
COCO				*e*S	Sn	04 06 06.2 -7.1
COCO	**West Island**	9.47	225	P	**Pn**	**04 04 29.9 +1.5**
	406nm,1.9s					
PSI	**Prapat**	9.49	330	P	Pn	04 04 24.6 -4.3
PSI	**Prapat**	9.49	330	P	Pn	04 04 24.6 -4.3
	2.1nm,0.3s,baz=191,slow=7.4,SNR=8.8					
PSI				LR	LR	04 08 48.4
	comp=Z,119nm,21.3s,baz=145,slow=42					
PSI	**Prapat**	9.49	330	P	Pn	04 04 24.7 -4.2
	baz=9.5,SNR=6.1					
STKI	**Sintang**	9.57	55	P	Pn	04 04 35.2 +5.4
	96nm,0.8s					
KSM	**Kuching**	9.59	44	*e*Pn	**Pn**	**04 04 31.7 +1.5**
KSM	**Kuching**	9.59	44	P	**Pn**	**04 04 33.0 +2.7**
KSM	**Kuching**	9.59	44	P	**Pn**	**04 04 32.7 +2.5**
	30nm,0.9s					
KSM	**Kuching**	9.59	44	P	**Pn**	**04 04 32.9 +2.7**
	baz=9.8,SNR=4.3					
GMJI	**Gumukmas**	10.11	106	P	**Pn**	**04 04 38.8 +1.5**
	86nm,0.7s					
BLJI	**Banyuglugur**	10.13	103	P	Pn	04 04 40.7 +3.1
	238nm,0.6s,6μm156μm					
IPM	**Ipoh**	10.24	345	P	Pn	04 04 49.1 +10
KMMI	**Kalianget**	10.38	99	P	**Pn**	**04 04 42.9 +2.0**
	150nm,0.7s,2μm					
KCSI	**Kotacane, Aceh**	10.70	327	P	Pn	04 04 40.2 -5.1
	41nm,0.8s					
KTGM	**Kuala Trenggan**	10.75	357	P	Pn	04 04 50.3 +4.3
ABJI	**Asem Bagus**	10.77	103	P	**Pn**	**04 04 48.2 +2.0**
	500nm,0.8s,4μm					
JAGI	**Jajag, Banyuwa**	10.84	106	P	**Pn**	**04 04 46.2 -1.0**
	337nm,0.8s,3μm					
JAGI	**Jajag, Banyuwa**	10.84	106	P	**Pn**	**04 04 46.4 -0.8**
	baz=11,SNR=18					
JAGI				S	**Sn**	**04 06 45.5 -1.4**
	baz=11,SNR=7.7					
KULM	**Kulim**	11.11	344	*e*Pn	**Pn**	**04 04 48.8 -2.1**
SBUM	**Sibu**	11.64	48	*e*Pn	Pn	04 05 02.5 +4.4
SBUM	**Sibu**	11.64	48	P	Pn	04 05 03.2 +5.1
SBUM	**Sibu**	11.64	48	P	Pn	04 05 01.9 +3.8
	63nm,1.1s,683nm					
SRBI	**Singaraja**	11.77	103	P	**Pn**	**04 05 00.2 +0.3**
	198nm,0.6s,2μm					
IGBI	**Denpasar**	11.88	107	P	**Pn**	**04 04 59.9 -1.5**
	196nm,0.6s,4μm					
BTM	**Bintulu**	12.78	48	P	P	04 05 18.1 -3.5
BKB	**Balikpapan**	13.87	73	P	P	04 05 39.2 +5.4
KRAB	**Krabi**	14.32	342	P	**Pn**	**04 05 31.9 -2.0**
	31nm,0.6s,955nm					
MJSI	**Majene**	15.41	83	P	**P**	**04 05 49.9 -1.0**
	644nm,0.8s,6μm					
MMSI	**Mamuju**	15.47	80	P	**P**	**04 05 51.7 0.0**
	261nm,1.1s,2μm					
KAPI	**Kappang**	16.05	89	Pn	**Pn**	**04 05 55.7 -0.3**
	258nm,0.6s,SNR=7.1					
KAPI	**Kappang**	16.05	89	P	**Pn**	**04 05 54.7 -1.3**
	47nm,1.1s					
KAPI	**Kappang**	16.05	89	P	**Pn**	**04 05 54.6 -1.3**
	2.4nm,0.3s,baz=280,slow=9.7,SNR=8.1					
SPSI	**Sidrap Palu**	16.14	85	P	**P**	**04 05 58.0 -1.0**
	92nm,0.8s,2μm					
TTSI	**Tana Toraja**	16.31	82	P	**P**	**04 06 01.4 +0.5**
	120nm,1.0s,1μm					
LBFI	**Labuhan Bajo,**	16.39	101	P	**Pn**	**04 05 58.4 -1.9**
	199nm,0.6s,2μm					
BKSI	**Bulukumba**	16.40	90	P	**Pn**	**04 06 00.8 +0.3**
	149nm,1.1s,1μm					
BNSI	**Bone**	16.43	87	P	**P**	**04 06 02.7 +0.4**
	282nm,1.0s,3μm					
KKM	**Kota Kinabalu**	16.99	48	Pn	**P**	**04 06 09.1 +0.6**
KKM	**Kota Kinabalu**	16.99	48	P	**P**	**04 06 09.1 +0.6**
WSI	**Waingapu**	17.02	105	S	Sn	04 08 50.8 -26
	baz=17,SNR=3.6					
TSM	**Tawau**	17.21	56	P	**P**	**04 06 13.0 +2.1**
SDKM	**Sandakan**	17.47	51	P	**P**	**04 06 15.0 +1.2**
SKSI	**Soroako, Sulaw**	17.89	81	P	**Pn**	**04 06 20.2 +1.4**
	94nm,1.3s,1μm					
KDM	**Kudat**	18.03	47	P	**Pn**	**04 06 20.5 +0.2**
MYLDM	**Lahad Datu**	18.23	55	P	**Pn**	**04 06 25.6 +2.8**
MYLDM	**Lahad Datu**	18.23	55	P	**Pn**	**04 06 25.0 +2.2**
	120nm,0.9s					
APSI	**Ampana**	18.54	76	P	**Pn**	**04 06 27.2 +0.7**
	407nm,0.8s,4μm					
MMRI	**Maumere**	18.71	101	*e*P	**P**	**04 06 27.4 0.0**
	149nm,0.6s					
MMRI	**Maumere**	18.71	101	P	**P**	**04 06 27.3 -0.1**
	239nm,0.7s,2μm					
MRSI	**Marisa**	19.20	73	P	**P**	**04 06 33.3 +0.5**
	305nm,0.6s,3μm					
LUWI	**Luwuk**	19.59	78	P	**Pn**	**04 06 38.5 -0.6**
	318nm,1.2s,2μm					
LUWI	**Luwuk**	19.59	78	P	**Pn**	**04 06 38.6 -0.4**
	baz=20,SNR=3.7					
LUWI				S	Sn	04 10 45.6 +27
	baz=20,SNR=3.5					
GTOI	**Gorontalo**	20.27	73	P	**P**	**04 06 43.6 -0.8**
	199nm,0.8s,2μm29μm					
BATI	**Baumata**	20.37	105	P	**P**	**04 06 44.9 -0.6**
BATI				S	**S**	**04 10 23.5 -6.2**
BATI	**Baumata**	20.37	105	P	**P**	**04 06 45.2 -0.3**
	240nm,0.7s,2μm					
BATI	**Baumata**	20.37	105	P	**P**	**04 06 44.9 -0.6**
	208nm,0.4s,baz=266,slow=2.0,SNR=29					
BATI				S	**S**	**04 10 23.5 -6.2**
	69nm,0.5s,baz=266,slow=22,SNR=3.6					
SOEI	**Soe**	20.87	103	P	**P**	**04 06 49.8 -1.2**
	269nm,0.8s,2μm					
SOEI	**Soe**	20.87	103	P	**P**	**04 06 49.9 -1.1**
	baz=21,SNR=11					
SOEI				S	S	04 10 31.0 -8.7
	baz=21,SNR=5.4					
MBWA	**Marble Bar**	22.05	136	*e*P	**P**	**04 07 02.8 -0.6**
	47nm,1.2s					
PBKT	**Sadao Pong**	22.07	353	P	**P**	**04 07 03.4 -0.2**
	12nm,1.3s					
NLAI	**Namlea**	23.49	86	P	**P**	**04 07 21.7 +3.6**
CMAR	**Chiang Mai Arr**	24.24	349	P	**P**	**04 07 23.7 -1.0**
CMAR				S	**S**	**04 11 37.7 -0.3**
CMAR	**Chiang Mai Arr**	24.24	349	P	**P**	**04 07 23.7 -1.0**
	6.3nm,0.5s,baz=181,slow=9.0,SNR=22					
CMAR				S	**S**	**04 11 37.7 -0.3**
	1.0nm,0.3s,baz=159,slow=18,SNR=3.2					
TNTI	**Ternate**	24.49	76	*e*P	**P**	**04 07 25.7 -1.4**
	112nm,0.9s					
CHTO	**Chiang Mai**	24.59	349	*e*P	**P**	**04 07 26.4 -1.5**
CHTO				pmax	pmax	
	comp=Z,11nm,1.1s					
CHTO	**Chiang Mai**	24.59	349	*e*P	**P**	**04 07 26.4 -1.5**
	comp=Z,11nm,1.1s					
CHTO	**Chiang Mai**	24.59	349	P	**P**	**04 07 27.6 -0.3**
	comp=Z,11nm,0.9s					
FITZ	**Fitzroy Crossi**	24.87	122	*e*P	**P**	**04 07 30.6 +0.1**
	comp=Z,27nm,0.9s					
FITZ	**Fitzroy Crossi**	24.87	122	P	**P**	**04 07 30.2 -0.2**
	comp=Z,20nm,0.8s,baz=294,slow=6.0,SNR=45					
FITZ				S	S	04 12 09.0 +21
	comp=Z,3.8nm,0.4s,baz=172,slow=12,SNR=4.9					
FITZ				LR	LR	04 15 58.9
	comp=Z,207nm,21.3s,baz=287,slow=33					
FITZ	**Fitzroy Crossi**	24.87	122	P	**P**	**04 07 30.3 -0.2**
	baz=25,SNR=43					
QIZ	**Qiongzhong**	25.11	14	P	**P**	**04 07 35.0 +2.3**
QIZ				S	**S**	**04 11 56.0 +4.0**
QIZ				pmax	pmax	
	comp=Z,9.0nm,1.2s					
QIZ				pmax	pmax	
	comp=Z,110nm,4.4s					
CRAI	**Chiangrai**	25.75	353	P	**P**	**04 07 38.1 -0.4**
	comp=Z,7.2nm,0.7s					
KNRA	**Kununurra**	26.65	114	P	**P**	**04 07 45.8 -0.9**
	baz=27,SNR=8.6					
MTN	**Manton Dam**	28.08	107	P	**P**	**04 07 59.1 -0.3**
	baz=28,SNR=38					
FAKI	**Fak Fak**	28.64	86	P	**P**	**04 08 02.8 -1.6**
	baz=29,SNR=9.1					
KDU	**Kakadu**	29.33	106	P	**P**	**04 08 08.9 -1.6**
	baz=29,SNR=45					
KMI	**Kunming**	30.44	358	P	P	04 08 24.3 +3.8
KMI				pP	pP	04 08 42.7 +4.1
KMI				sP	sP	04 08 52.2 +4.6
KMI				PP	**PP**	**04 09 27.5 -3.1**
KMI				S	**S**	**04 13 19.9 +3.7**
KMI				sS	sS	04 13 52.1 +4.8
KMI				pmax	pmax	
	comp=Z,8.0nm,0.5s					
KMI				pmax	pmax	
	comp=Z,130nm,5.3s					
KMI				LR	LR	
	comp=N,210nm,11.8s					
KMI				LR	LR	
	comp=E,270nm,14.5s					
KMI				LR	LR	
	comp=Z,150nm,12.2s					
GYA	**Guiyang**	31.89	5	‖ *i*P	**P**	**04 08 35.2 +2.1**
GYA				pP	**pP**	**04 08 54.5 +3.3**
GYA				sP	**sP**	**04 09 04.8 +4.6**
GYA				PP	**PP**	**04 09 44.2 -2.4**
GYA				PcP	**PcP**	**04 11 23.0 +0.8**
GYA				S	**S**	**04 13 41.5 +2.9**
GYA				sS	**sS**	**04 14 13.9 +4.1**
GYA				ScP	**ScP**	**04 14 58.7 -0.3**
GYA				PcS	**PcS**	**04 15 08.0 +0.8**
GYA				ScS	**ScS**	**04 18 56.5 -1.2**
GYA				pmax	pmax	
	comp=Z,20nm,0.8s					
GYA				pmax	pmax	
	comp=Z,120nm,5.2s					
GYA				LR	LR	
	comp=N,590nm,17.6s					
GYA				LR	LR	
	comp=E,520nm,18.0s					
GYA				LR	LR	
	comp=Z,650nm,17.1s					
TPUB	**Ta-pu**	33.07	29	*e*P	**P**	**04 08 43.7 +0.3**
	comp=Z,296nm,2.3s					
WRA	**Warramunga Arr**	33.12	118	P	**P**	**04 08 43.0 -0.9**
WRA				PcP	**PcP**	**04 11 26.1 +0.5**
WRA				S	**S**	**04 13 59.6 +1.8**
WRA				ScP	**ScP**	**04 15 05.2 +1.8**
WRA	**Warramunga Arr**	33.12	118	P	**P**	**04 08 43.0 -0.9**
	comp=Z,12nm,0.6s,baz=287,slow=13,SNR=146					
WRA				PcP	**PcP**	**04 11 26.1 +0.5**
	comp=Z,7.3nm,0.7s,baz=298,slow=2.1,SNR=4.9					
WRA				S	**S**	**04 13 59.6 +1.8**
	comp=Z,2.8nm,0.9s,baz=290,slow=17,SNR=4.8					
WRA				ScP	**ScP**	**04 15 05.2 +1.8**
	comp=Z,1.8nm,0.9s,baz=315,slow=2.1,SNR=3.8					
WRAB	**Tennant Creek**	33.13	118	P	**P**	**04 08 43.0 -1.0**
	comp=Z,229nm,0.7s,SNR=12					
WRAB	**Tennant Creek**	33.13	118	*e*P	**P**	**04 08 43.7 -0.3**
WRAB				*e*		04 11 26.3
WRAB				pmax	pmax	
	comp=Z,20nm,0.4s					
WRAB	**Tennant Creek**	33.13	118	*e*P	**P**	**04 08 43.7 -0.3**
	comp=Z,20nm,0.4s					
WRAB				*e*PcP	**PcP**	**04 11 26.3 +0.6**
YULB	**Yu-li**	33.48	30	*e*P	**P**	**04 08 46.7 -0.3**
	comp=Z,13nm,0.8s					
FORT	**Forrest**	34.05	141	*e*P	**P**	**04 08 51.5 -0.3**
	comp=Z,27nm,0.8s					
FORT				*e*pP	**pP**	**04 09 09.1 -1.0**
AS31	**Alice Springs**	34.28	125	*e*P	**P**	**04 08 54.4 +0.4**
ASAR	**Alice Springs**	34.28	125	P	**P**	**04 08 54.1 +0.2**
ASAR				PcP	**PcP**	**04 11 29.7 +0.8**
ASAR				S	**S**	**04 14 17.4 +1.6**
ASAR				ScP	**ScP**	**04 15 09.6 +2.2**
ASAR	**Alice Springs**	34.28	125	P	**P**	**04 08 54.1 +0.2**
	comp=Z,10nm,0.6s,baz=302,slow=8.2,SNR=111					
ASAR				PcP	**PcP**	**04 11 29.7 +0.8**
	comp=Z,3.7nm,0.6s,baz=306,slow=1.8,SNR=8.6					
ASAR				S	**S**	**04 14 17.4 +1.6**
	comp=Z,1.2nm,0.7s,baz=305,slow=18,SNR=5.4					
ASAR				ScP	**ScP**	**04 15 09.6 +2.2**
	comp=Z,1.7nm,0.9s,baz=285,slow=3.7,SNR=5.0					
ASAR				LR	LR	04 23 49.2
	comp=Z,81nm,19.4s,baz=260,slow=38					
ODAN	**Odare**	35.80	335	*e*P	**P**	**04 09 06.7 -0.5**
	comp=Z,14nm,0.5s					
TAPN	**Taplejung**	36.10	336	*e*P	**P**	**04 09 09.8 0.0**
CD2	**Chengdu**	36.19	0	P	**P**	**04 09 08.8 -1.4**
CD2				pP	**pP**	**04 09 27.6 -1.0**
CD2				sP	**sP**	**04 09 37.0 -0.5**
CD2				PP	**PnPn**	**04 10 34.6 +0.4**
CD2				S	**S**	**04 14 44.0 -0.8**
CD2				sS	**sS**	**04 15 16.3 0.0**
CD2				SS	**SnSn**	**04 17 14.3 -4.1**
CD2				pmax	pmax	
	comp=Z,30nm,0.6s					
CD2				pmax	pmax	
	comp=Z,90nm,5.1s					
CD2				LR	LR	
	comp=N,460nm,4.7s					
CD2				LR	LR	
	comp=Z,290nm,7.1s					
LSA	**Lhasa**	36.98	342	P	P	04 09 14.2 -3.3
JIRN	**Jiri**	37.02	334	*e*P	**P**	**04 09 17.5 -0.2**
	comp=Z,14nm,0.3s					
JAY	**Jayapura**	37.08	87	P	**P**	**04 09 15.4 -2.7**
	baz=37,SNR=5.0					
JAY				S	S	04 14 47.1 -12
	baz=37,SNR=4.2					
PKI	**Pulchoki**	37.29	333	*e*P	**P**	**04 09 19.1 -0.8**
PKIN	**Phulchoki**	37.30	333	*e*P	**P**	**04 09 19.7 -0.3**
	comp=Z,6.6nm,0.4s					
GUN	**Gumba**	37.37	334	*e*P	**P**	**04 09 20.1 -0.5**
	comp=Z,43nm,0.3s					
DMN	**Daman**	37.46	332	*e*P	**P**	**04 09 20.8 -0.5**
	comp=Z,6.4nm,0.3s					
KKN	**Kakani**	37.53	333	*e*P	**P**	**04 09 21.4 -0.5**
	comp=Z,20nm,0.4s					
POO	**Poona**	37.85	310	*e*P	**P**	**04 09 25.0 +0.5**
DANN	**Dangsing**	38.72	331	*e*P	**P**	**04 09 31.7 -0.2**
	comp=Z,52nm,0.4s					
PYUN	**Piuthan**	38.88	330	*e*P	**P**	**04 09 33.4 +0.2**
XAN	**Xi'an**	39.62	7	P	**P**	**04 09 37.7 -1.4**
XAN				pmax	pmax	
	comp=Z,5.0nm,0.9s					
COEN	**Coen**	39.81	105	*e*P	**P**	**04 09 39.7 -1.2**
	comp=Z,220nm,0.8s					
COEN				*e*PcP	**PcP**	**04 11 47.0 +1.2**
COEN	**Coen**	39.81	105	P	**P**	**04 09 40.0 -0.9**
	baz=40,SNR=48					
NJ2	**Nanjing**	40.04	20	*e*P	**P**	**04 09 43.3 +0.8**
NJ2				pmax	pmax	
	comp=Z,10.0nm,0.7s					
BBOO	**Buckleboo**	40.63	136	*e*P	**P**	**04 09 47.6 +0.1**
	comp=Z,2μm,1.9s					
BBOO	**Buckleboo**	40.63	136	P	**P**	**04 09 47.7 +0.2**
	baz=41,SNR=11					
LZH	**Lanzhou**	41.35	0	*e*P	**P**	**04 09 54.0 +0.5**
LZH				pP	**pP**	**04 10 12.0 -0.2**
LZH				sP	**sP**	**04 10 20.6 -0.4**
LZH				pmax	pmax	
	comp=Z,26nm,1.0s					
LZH				pmax	pmax	
	comp=Z,91nm,4.8s					
MTSU	**Mount Surprise**	41.64	111	P	**P**	**04 09 56.5 +0.5**
	baz=42,SNR=61					
NDI	**New Delhi**	42.45	325	*e*P	**P**	**04 10 00.0 -2.3**
PMG	**Port Moresby**	43.30	98	*e*P	**P**	**04 10 08.9 -0.6**
	comp=Z,58nm,0.5s					
STKA	**Stephens Creek**	44.13	131	*e*P	**P**	**04 10 16.8 +0.9**
	comp=Z,9.5nm,0.7s					
STKA	**Stephens Creek**	44.13	131	P	**P**	**04 10 16.8 +0.9**
	comp=Z,56nm,0.7s,baz=303,slow=8.1,SNR=120					
STKA				LR	LR	04 28 49.7
	comp=Z,141nm,20.0s,baz=286,slow=36					
STKA	**Stephens Creek**	44.13	131	P	**P**	**04 10 16.8 +0.9**
	baz=44,SNR=60					
GTA	**Gaotai**	44.81	356	*e*P	**P**	**04 10 20.9 -0.4**
GTA				pP	**pP**	**04 10 40.3 +0.1**
GTA				sP	**sP**	**04 10 49.0 0.0**
GTA				PP	**PP**	**04 12 07.3 -0.1**
GTA				S	**S**	**04 16 53.1 0.0**
GTA				sS	**sS**	**04 17 24.9 -0.5**
GTA				SS	**ScS**	**04 20 07.4 -4.1**
GTA				pmax	pmax	
	comp=Z,32nm,0.5s					
GTA				pmax	pmax	
	comp=Z,89nm,5.2s					
GTA				LR	LR	
	comp=N,140nm,16.4s					
GTA				LR	LR	
	comp=E,130nm,15.2s					
GTA				LR	LR	
	comp=Z,140nm,16.6s					
JNU	**Nakatsue**	46.28	32	*e*P	**P**	**04 10 32.6 -0.2**
	comp=Z,15nm,1.0s					
JNU	**Nakatsue**	46.28	32	P	**P**	**04 10 32.4 -0.5**
	comp=Z,28nm,0.9s,baz=184,slow=3.9,SNR=10					
HHC	**Hu-ho-hao-te**	46.68	8	*e*P	**P**	**04 10 36.7 +0.8**
HHC				pP	**pP**	**04 10 55.3 +0.3**
HHC				sP	**sP**	**04 11 04.4 +0.7**
HHC				PP	**PP**	**04 12 28.1 +1.3**
HHC				S	**S**	**04 17 23.2 +3.4**
HHC				sS	**sS**	**04 17 54.0 +1.7**
HHC				SS	**SS**	**04 20 41.9 -5.3**
HHC				pmax	pmax	
	comp=Z,24nm,0.8s					
HHC				pmax	pmax	
	comp=Z,310nm,6.0s					
HHC				LR	LR	
	comp=N,370nm,15.3s					
HHC				LR	LR	
	comp=E,1μm,14.7s					
HHC				LR	LR	
	comp=Z,340nm,15.5s					
BJI	**Beijing**	46.75	13	P	**P**	**04 10 35.7 -0.6**
BJI				pmax	pmax	
	comp=Z,21nm,0.8s					
ARPS	**Mount Arapiles**	46.78	137	P	**P**	**04 10 38.2 +1.5**
	baz=47,SNR=9.6					
CMSA	**Cobar Meteorol**	47.11	129	P	**P**	**04 10 40.8 +1.4**
	baz=47,SNR=27					
RMQ	**Roma**	47.80	121	P	**P**	**04 10 46.5 +1.6**
	baz=48,SNR=6.3					
KSAR	**Wonju Array Be**	48.32	26	P	**P**	**04 10 48.0 -0.6**
KSAR				ScP	**ScP**	**04 16 03.6 +1.3**
KSRS	**Korea Array**	48.34	26	P	**P**	**04 10 48.0 -0.8**
	comp=Z,19nm,0.6s,baz=222,slow=7.6,SNR=58					
KSRS				ScP	**ScP**	**04 16 03.6 +1.2**
	comp=Z,1.6nm,0.7s,baz=197,slow=6.4,SNR=4.5					
EIDS	**Eidsvold**	49.49	119	*e*P	**P**	**04 10 58.6 +0.8**
	comp=Z,38nm,1.4s					
EIDS	**Eidsvold**	49.49	119	P	**P**	**04 10 58.6 +0.8**
	baz=50,SNR=3.5					
YNG	**Young**	50.32	131	P	**P**	**04 11 05.5 +1.6**
	baz=50,SNR=16					
WMQ	**Urumqi**	51.15	345	P	**P**	**04 11 11.8 +1.7**
WMQ				pP	**pP**	**04 11 30.6 +1.2**
WMQ				sP	**sP**	**04 11 39.5 +1.4**
WMQ				PP	**PP**	**04 13 10.4 +2.8**
WMQ				pmax	pmax	
	comp=Z,41nm,0.8s					
WMQ				pmax	pmax	
	comp=Z,190nm,4.4s					
WMQ				LR	LR	
	comp=N,53nm,16.8s					
WMQ				LR	LR	
	comp=E,67nm,18.0s					
WMQ				LR	LR	
	comp=Z,44nm,16.8s					
ARMA	**Armidale**	51.43	125	*e*P	**P**	**04 11 14.4 +1.8**
	comp=Z,21nm,0.9s					
ARMA	**Armidale**	51.43	125	P	**P**	**04 11 14.9 +2.4**
	baz=52,SNR=7.7					
KBL	**Kabul**	51.48	323	*e*P	**P**	**04 11 12.7 -0.2**
KBL				pmax	pmax	
	comp=Z,9.0nm,0.8s					
KBL	**Kabul**	51.48	323	*e*P	**P**	**04 11 12.7 -0.2**
	comp=Z,8.6nm,0.8s					
KSH	**Kashi**	51.55	333	P	**P**	**04 11 11.7 -1.6**
KSH				pP	**pP**	**04 11 30.1 -2.5**
KSH				PP	**PP**	**04 13 09.8 -1.6**
KSH				S	S	04 18 21.0 -7.3
KSH				ScS	**ScS**	**04 20 51.3 -5.2**
KSH				SS	SS	04 21 54.9 -11
KSH				pmax	pmax	
	comp=Z,18nm,0.6s					
KSH				pmax	pmax	
	comp=Z,64nm,4.4s					
KSH				LR	LR	
	comp=N,180nm,6.4s					
KSH				LR	LR	
	comp=E,150nm,4.9s					
KSH				LR	LR	
	comp=Z,160nm,6.1s					
MGCD	**Mangrove Creek**	51.98	128	P	**P**	**04 11 18.3 +1.9**
	baz=52,SNR=5.3					
MAT	**Matsushiro**	52.85	35	P	**P**	**04 11 20.9 -1.9**
MJAR	**Matsushiro Arr**	52.85	35	P	**P**	**04 11 21.0 -1.8**
MJAR	**Matsushiro Arr**	52.85	35

TKM2	**Tokmak 2**	54.48	335	*eP*		**P**	04 11 34.6 -0.2
	comp=Z,24nm,0.6s						
KBK	**Karagaybulak**	54.55	334	*i* P		**P**	04 11 35.8 +0.5
KBK	**Karagaybulak**	54.55	334	P		**P**	04 11 35.8 +0.5
	SNR=7.7						
AML	**Almayashu**	54.68	333	*i* P		**P**	04 11 36.5 0.0
AML	**Almayashu**	54.68	333	P		**P**	04 11 36.5 0.0
	SNR=14						
AAK	**Ala-Archa**	54.73	334	*eP*		**P**	04 11 36.9 +0.3
AAK				pmax		pmax	
	comp=Z,8.0nm,0.6s						
AAK	**Ala-Archa**	54.73	334	*eP*		**P**	04 11 36.8 +0.2
	comp=Z,4.5nm,0.7s						
AAK	**Ala-Archa**	54.73	334	P		**P**	04 11 36.5 0.0
	comp=Z,4.4nm,0.7s,baz=144,slow=7.6,SNR=9.5						
MDJ	**Mudanjiang**	55.05	22	P		**P**	04 11 38.2 -0.4
MDJ				pmax		pmax	
	comp=Z,18nm,0.8s						
MDJ				pmax		pmax	
	comp=Z,120nm,5.5s						
MDJ	**Mudanjiang**	55.05	22	*eP*		**P**	04 11 37.6 -1.0
	comp=Z,12nm,0.6s						
EKS2	**Erkin-Say**	55.06	333	*eP*		**P**	04 11 39.5 +0.6
EKS2				pmax		pmax	
	comp=Z,24nm,0.7s						
EKS2	**Erkin-Say**	55.06	333	P		**P**	04 11 39.6 +0.6
	SNR=23						
EKS2	**Erkin-Say**	55.06	333	*eP*		**P**	04 11 39.5 +0.6
	comp=Z,24nm,0.7s						
USP	**Ospenovka**	55.23	334	*i* P		**P**	04 11 39.9 -0.1
USP	**Ospenovka**	55.23	334	P		**P**	04 11 40.0 -0.1
	SNR=8.8						
MK31	**Makanchi Array**	55.39	342	*eP*		**P**	04 11 40.4 -0.7
MK31	**Makanchi Array**	55.39	342	*eP*		**P**	04 11 40.4 -0.7
MKAR	**Makanchi Array**	55.39	342	P		**P**	04 11 40.5 -0.6
MKAR	**Makanchi Array**	55.39	342	P		**P**	04 11 40.5 -0.6
MKAR	**Makanchi Array**	55.39	342	P		**P**	04 11 40.5 -0.6
	comp=Z,12nm,0.6s,baz=152,slow=8.6,SNR=153						
MKAR				LR		LR	04 37 32.0
	comp=Z,46nm,18.7s,baz=55,slow=38						
ZAK	**Zakamensk**	55.64	360	*eP*		**P**	04 11 41.8 -1.1
ZAK				pmax		pmax	
	comp=Z,6.0nm,1.0s						
USRK	**Ussuriysk Arra**	55.65	24	P		**P**	04 11 42.6 -0.3
	comp=Z,64nm,0.6s,baz=216,slow=5.9,SNR=135						
OPO	**Ambohidratompo**	56.51	251	P		**P**	04 11 50.3 +0.5
OPO	**Ambohidratompo**	56.51	251	P		**P**	04 11 50.3 +0.5
	comp=Z,5.5nm,0.3s,baz=90,slow=3.7,SNR=11						
KKAR	**Karatay Array**	56.91	331	*eP*		**P**	04 11 51.1 -0.9
KKAR				pmax		pmax	
	comp=Z,2.0nm,0.4s						
KKAR	**Karatay Array**	56.91	331	*eP*		**P**	04 11 51.0 -0.9
	comp=Z,1.6nm,0.4s						
IMYA	**Miami**	58.23	319	*eP*		**P**	04 12 01.8 +0.2
IPAY	**Payeh**	59.01	319	*eP*		**P**	04 12 06.7 -0.4
IAKL	**Akhelmad**	59.26	319	*eP*		**P**	04 12 06.7 -2.2
ERM	**Erimo**	59.40	33	*eP*		**P**	04 12 07.9 -1.4
ERM				pmax		pmax	
	comp=Z,59nm,1.7s						
IKRD	**Kardeh**	59.52	319	*eP*		P	04 12 06.3 -4.3
KLR	**Kul'dur**	59.74	21	*eP*		P	04 12 06.7 -4.8
IEMG	**Emamgholi**	59.80	319	*eP*		**P**	04 12 12.1 -0.5
KURBB	**Kurchatov Arra**	59.94	342	P		**P**	04 12 12.2 -0.6
	comp=Z,11nm,0.6s,baz=159,slow=6.4,SNR=109						
KURBB				PcP		**PcP**	04 12 57.6 -0.8
	comp=Z,1.3nm,0.5s,baz=157,slow=4.0,SNR=4.6						
KURBB				ScP		**ScP**	04 16 57.1 +4.4
	comp=Z,0.6nm,0.7s,baz=161,slow=3.5,SNR=7.4						
KURBB				PKP2ab			04 42 08.9
	comp=Z,1.2nm,1.1s,baz=329,slow=2.5,SNR=5.1						
KURK	**Kurchatov**	59.99	342	P		**P**	04 12 12.2 -1.0
KURK							04 12 57.6
KURK	**Kurchatov**	59.99	342	P		**P**	04 12 12.2 -1.0
KURK				PcP		**PcP**	04 12 57.6 -1.0
KURK				ScP		**ScP**	04 16 57.1 +4.2
KURK				P'P'ab		P'P'ab	04 42 08.9 +10
ASAJ	**Asahikawa**	60.55	31	*eP*		**P**	04 12 17.2 +0.1
	comp=Z,12nm,0.7s						
ASAJ	**Asahikawa**	60.55	31	P		**P**	04 12 16.1 -1.0
	comp=Z,30nm,0.3s,baz=233,slow=11,SNR=17						
ASAJ				LR		LR	04 36 09.0
	comp=Z,50nm,20.4s,baz=68,slow=34						
CASY	**Casey**	60.88	177	*eP*		**P**	04 12 20.7 +1.7
	comp=Z,10nm,1.3s						
ZAA0	**Zalesovo Array**	61.29	347	*eP*		**P**	04 12 21.1 -0.9
ZALV	**Zalesovo Beam**	61.29	347	P		**P**	04 12 21.0 -1.0
ZALV	**Zalesovo Beam**	61.29	347	P		**P**	04 12 21.0 -1.0
ZALV	**Zalesovo Beam**	61.29	347	P		**P**	04 12 21.0 -1.0
	comp=Z,24nm,0.5s,baz=153,slow=5.5,SNR=96						
NVS	**Novosibirsk**	62.47	347	*eP*		**P**	04 12 27.0 -2.9
NVS				*eS*		**S**	04 20 47.4 -3.7
NVS				pmax		pmax	
	comp=N,7.0nm,1.1s						
NVS				pmax		pmax	
	comp=Z,11nm,1.1s						
NVS				smax		smax	
	comp=E,17nm,1.4s						
YSS	**Yuzh-Sakhalins**	62.62	29	‖*iP*		**P**	04 12 30.7 -0.3
RDF	**Al-Radifah**	63.83	306	*eP*		**P**	04 12 39.0 -0.4
RDF				AMb		AMB	04 12 45.8
	comp=Z,67nm,1.5s						
UMR	**Umm Al-Rimmam**	63.94	307	*eP*		**P**	04 12 39.3 -0.9
IR5	**Iran Long-Peri**	64.19	313	*eP*		**P**	04 12 42.4 +0.5
NAY	**Al-Naaiem**	64.20	306	*eP*		**P**	04 12 41.5 -0.4
NAY				AMb		AMB	04 12 42.9
	comp=Z,1.5nm,0.8s						
VOSK	**Vostochnaya**	64.26	339	*eP*		**P**	04 12 40.8 -1.0
VOSK				pmax		pmax	
	comp=Z,8.0nm,0.4s						
VOSK	**Vostochnaya**	64.26	339	*eP*		**P**	04 12 40.8 -1.0
	comp=Z,8.3nm,0.4s						
MIB	**Mutribah**	64.34	307	*eP*		**P**	04 12 42.6 -0.2
MIB				AMb		AMB	04 12 44.1
	comp=Z,50nm,1.0s						
RST	**Umm Al-Ruwaisa**	64.50	306	*eP*		**P**	04 12 43.1 -0.7
RST				AMb		AMB	04 12 45.0
	comp=Z,408nm,1.0s						
BVAR	**Borovoye Array**	64.71	339	P		**P**	04 12 43.9 -0.8
BVAR	**Borovoye Array**	64.71	339	P		**P**	04 12 43.9 -0.8
BVAR	**Borovoye Array**	64.71	339	P		**P**	04 12 43.9 -0.8
	comp=Z,8.6nm,0.5s,baz=134,slow=8.5,SNR=31						
IRAZ	**Razeghan**	64.76	313	*eP*		**P**	04 12 45.1 -0.6
BRVK	**Borovoye**	64.78	338	P		**P**	04 12 44.2 -0.9
	comp=Z,114nm,0.4s,SNR=5.1						
BRVK	**Borovoye**	64.78	338	*eP*		**P**	04 12 44.2 -0.9
BRVK				pmax		pmax	
	comp=Z,10.0nm,0.6s						
BRVK	**Borovoye**	64.78	338	*eP*		**P**	04 12 44.2 -0.9
	comp=Z,9.6nm,0.6s						
KMBO	**Kilima Mbogo**	66.40	271	*eP*		**P**	04 12 57.6 +1.0
	comp=Z,11nm,1.2s						
KMBO	**Kilima Mbogo**	66.40	271	P		**P**	04 12 57.4 +0.7
	comp=Z,4.3nm,0.9s,baz=49,slow=11,SNR=9.1						
ABKAR	**Akbulak array**	66.44	330	*eP*		**P**	04 12 55.4 -0.5
	comp=Z,6.4nm,0.4s						
ISRB	**Sarab**	67.48	315	*eP*		**P**	04 13 02.7 -0.3
MAW	**Mawson**	67.88	196	P		**P**	04 13 06.3 +1.6
MAW				pP		**pP**	04 13 26.6 +1.8
MAW	**Mawson**	67.88	196	P		**P**	04 13 06.3 +1.6
	comp=Z,4.5nm,0.7s,baz=52,slow=4.7,SNR=13						
MAW				pP		**pP**	04 13 26.6 +1.8
	comp=Z,9.0nm,0.9s,baz=54,slow=6.6,SNR=8.5						
MAW				LR		LR	04 36 15.0
	comp=Z,139nm,21.6s,baz=183,slow=30						
MAW	**Mawson**	67.88	196	P		**P**	04 13 06.3 +1.6
	baz=68,SNR=8.8						
AKTO	**Aktyubinsk**	68.15	330	P		**P**	04 13 06.2 -0.5
AKTO				*PP		**pP**	04 13 26.8 -0.1
AKTO	**Aktyubinsk**	68.15	330	P		**P**	04 13 06.2 -0.5
AKTO				pP		**pP**	04 13 26.8 -0.1
AKTO	**Aktyubinsk**	68.15	330	P		**P**	04 13 06.2 -0.5
	comp=Z,4.8nm,0.6s,baz=144,slow=4.2,SNR=16						
AKTO				pP		**pP**	04 13 26.8 -0.1
	comp=Z,4.4nm,0.5s,baz=122,slow=12,SNR=4.3						
SVE	**Sverdlovsk**	71.28	337	*eP*		**P**	04 13 25.9 +0.1
SVE				pmax		pmax	
	comp=Z,14nm,0.6s						
ARU	**Arti**	71.85	336*c*	*iP*		**P**	04 13 29.9 +0.7
ARU							04 16 06.7
ARU				S		S	04 22 51.0 +7.2
ARU				SS		**SS**	04 27 25.3 +3.6
ARU				pmax		pmax	
	comp=Z,9.0nm,0.7s						
BFZ	**Birch Farm**	73.26	131	*eP*		**P**	04 13 39.1 +1.1
	comp=Z,31nm,0.8s						
BKZ	**Black Stump Fm**	73.26	129	*eP*		**P**	04 13 38.6 +0.5
	comp=Z,55nm,0.6s						
KBZ	**Khabaz**	73.31	319	P		**P**	04 13 38.4 +0.3
KBZ	**Khabaz**	73.31	319	P		**P**	04 13 38.4 +0.3
KBZ	**Khabaz**	73.31	319	P		**P**	04 13 38.4 +0.3
	comp=Z,3.0nm,0.6s,baz=178,slow=7.8,SNR=4.3						
ASF	**Jabal al Asfar**	73.56	306	P		**P**	04 13 40.9 +0.8
ASF				pP		**pP**	04 14 00.9 +0.5
ASF	**Jabal al Asfar**	73.56	306	P		**P**	04 13 40.9 +0.8
	comp=Z,3.8nm,0.6s,baz=86,slow=1.9,SNR=7.7						
ASF				pP		**pP**	04 14 00.9 +0.5
	comp=Z,7.7nm,0.7s,baz=85,slow=4.4,SNR=6.3						
PETK	**Petropavlovsk-**	73.94	31	P		**P**	04 13 41.2 -0.5
PETK	**Petropavlovsk-**	73.94	31	P		**P**	04 13 41.2 -0.5
PETK	**Petropavlovsk-**	73.94	31	P		**P**	04 13 41.2 -0.5
	comp=Z,4.4nm,0.7s,baz=219,slow=3.8,SNR=4.0						
EIL	**Elat**	74.45	303	P		**P**	04 13 46.0 +0.9
EIL	**Elat**	74.45	303	P		**P**	04 13 46.0 +0.9
	comp=Z,6.2nm,0.5s,baz=126,slow=5.8,SNR=5.7						
EIL	**Elat**	74.45	303	P		**P**	04 13 46.1 +0.9
	baz=74,SNR=4.0						
LSZ	**Lusaka**	74.57	256	*eP*		**P**	04 13 46.9 +0.6
	comp=Z,13nm,0.7s						
SOKR	**Solikamsk**	74.66	337	*eP*		**P**	04 13 47.3 +1.6
SOKR				pmax		pmax	
	comp=Z,20nm,0.8s						
MMAI	**Mount Meron Ar**	75.02	306	P		**P**	04 13 49.0 +0.5
MMAI				pP		**pP**	04 14 09.2 +0.3
MMAI	**Mount Meron Ar**	75.02	306	P		**P**	04 13 49.0 +0.5
	comp=Z,3.8nm,0.5s,baz=77,slow=12,SNR=7.1						
MMAI				pP		**pP**	04 14 09.2 +0.3
	comp=Z,4.8nm,0.5s,baz=97,slow=7.1,SNR=4.5						
SYO	**Syowa Base**	75.79	200	‖*ep*P		pP	04 14 12.8 +0.3
BOSA	**Boshof**	77.21	242	P		**P**	04 14 00.9 -0.2
BOSA				pP		**pP**	04 14 21.5 -0.1
BOSA	**Boshof**	77.21	242	P		**P**	04 14 00.9 -0.2
	comp=Z,3.0nm,0.6s,baz=103,slow=5.3,SNR=5.9						
BOSA				pP		**pP**	04 14 21.5 -0.1
	comp=Z,8.3nm,0.8s,baz=86,slow=3.6,SNR=4.9						
BOSA				LR		LR	04 45 04.9
	comp=Z,95nm,18.5s,baz=277,slow=33						
VRHR	**Novokhopersk**	77.24	325	*eP*		**P**	04 13 59.6 -1.0
VRHR				pmax		pmax	
	comp=Z,10.0nm,0.5s						
VRHR				pmax		pmax	
	comp=N,10.0nm,0.7s						
VRHR				pmax		pmax	
	comp=E,6.0nm,0.5s						
SEY	**Seymchan**	77.53	21	*eP*		**P**	04 14 01.7 -0.2
VNDA	**Vanda**	78.07	169	P		**P**	04 14 05.8 +1.0
VNDA				pP		**pP**	04 14 25.2 -0.1
VNDA	**Vanda**	78.07	169	P		**P**	04 14 05.8 +1.0
	comp=E,1.0nm,0.7s,baz=299,slow=4.7,SNR=6.7						
VNDA				pP		**pP**	04 14 25.2 -0.1
	comp=E,6.2nm,0.9s,baz=314,slow=6.2,SNR=12						
BR131	**Keskin Array S**	78.34	312	*eP*		**P**	04 14 06.7 -0.5
	comp=E,1.6nm,0.6s						
BRTR	**Keskin Array B**	78.34	312	P		**P**	04 14 06.7 -0.5
BRTR				pP		**pP**	04 14 26.2 -1.6
BRTR	**Keskin Array B**	78.34	312	P		**P**	04 14 06.7 -0.5
	comp=E,3.2nm,0.8s,baz=134,slow=6.8,SNR=23						
BRTR				pP		**pP**	04 14 26.2 -1.6
	comp=E,2.8nm,0.6s,baz=128,slow=7.5,SNR=6.8						
BRTR				LR		LR	04 54 24.6
	comp=E,46nm,18.0s,baz=253,slow=40						
VORD	**Divnogorie**	78.53	324	*eP*		**P**	04 14 09.3 +1.6
VORD				pmax		pmax	
	comp=N,10.0nm,0.4s						
VORD				pmax		pmax	
	comp=Z,7.0nm,0.4s						
VORD				pmax		pmax	
	comp=E,10.0nm,0.6s						
VSR	**Storozhevoye**	78.70	325	*eP*		**P**	04 14 07.8 -0.9
VSR				pmax		pmax	
	comp=Z,10.0nm,1.2s						
VSR				pmax		pmax	
	comp=N,9.0nm,0.8s						
VSR				pmax		pmax	
	comp=E,4.0nm,0.4s						
TIXI	**Tiksi**	78.74	8	*eP*		**P**	04 14 06.9 -1.6
TIXI				pmax		pmax	
	comp=Z,8.0nm,1.2s						
TIXI				MLR		MLR	
	comp=Z,620nm,23.0s						
MOS	**Moscow**	81.34	328	*eP*		P	04 14 15.0 -7.8
OBN	**Obninsk**	81.66	328	*eP*		**P**	04 14 24.8 +0.3
OBN				*i*			04 14 45.2
OBN				pmax		pmax	
	comp=Z,10.0nm,0.6s						
KLMR	**Klimovskoe**	82.54	334	*eP*		**P**	04 14 28.2 -0.8
KLMR				pmax		pmax	
	comp=Z,19nm,1.3s						
AKASG	**Malin Array Be**	84.45	322	P		**P**	04 14 38.6 -0.4
AKASG				*PP		**pP**	04 14 57.6 -2.2
AKASG	**Malin Array Be**	84.45	322	P		**P**	04 14 38.5 -0.4
AKASG				pP		**pP**	04 14 57.5 -2.2
AKASG	**Malin Array Be**	84.45	322	P		**P**	04 14 38.5 -0.4
	comp=Z,1.0nm,0.4s,baz=83,slow=5.0,SNR=4.4						
AKASG				pP		**pP**	04 14 57.5 -2.2
	comp=Z,0.9nm,0.3s,baz=78,slow=5.9,SNR=4.1						
QSPA	**South Pole Qui**	84.50	180	*eP*		**P**	04 14 39.4 +0.3
	comp=Z,13nm,1.0s						
TMCR	**Tamitsa**	84.56	336	*eP*		**P**	04 14 40.9 +1.7
TMCR				pmax		pmax	
	comp=Z,24nm,0.9s						
TESR	**Tescani**	85.06	318	⇑*iP*		**P**	04 14 43.2 +1.0
BURAR	**Bucovina Array**	86.26	318	⇑*iP*		**P**	04 14 49.8 +1.5
BUR08	**Bucovina Ar. S**	86.28	318	*eP*		**P**	04 14 49.5 +1.2
JOF	**Joensuu**	86.91	334	*eP*		**P**	04 14 49.4 -1.5
JOF	**Joensuu**	86.91	334	*ep*		**P**	04 14 49.4 -1.5
BZS	**Buzias**	88.32	316	‖*iP*		**P**	04 14 58.9 +0.8
KOLS	**Kolonicke sedl**	88.45	319	*eP*		**P**	04 15 00.0 +1.4
KOLS				pmax		pmax	
	comp=Z,5.0nm,0.8s						
KOLS	**Kolonicke sedl**	88.45	319	*eP*		**P**	04 15 00.0 +1.4
KOLS				*ep*P		**pP**	04 15 19.3 -0.3
FINES	**FINESS Array B**	88.87	332	P		**P**	04 15 00.7 +0.4
FINES				pP		**pP**	04 15 20.2 -1.0
FINES	**FINESS Array B**	88.87	332	P		**P**	04 15 00.7 +0.4
	comp=Z,3.2nm,0.5s,baz=100,slow=5.6,SNR=20						
FINES				pP		**pP**	04 15 20.2 -1.0
	comp=Z,2.4nm,0.4s,baz=102,slow=4.2,SNR=3.0						
CRVS	**Cervenica-Dubn**	88.97	319	*eP*		**P**	04 15 01.0 -0.1
CRVS	**Cervenica-Dubn**	88.97	319	*eP*		**P**	04 15 00.9 -0.1
CRVS				*ep*P		**pP**	04 15 22.1 0.0
STHS	**Stebnicka Huta**	89.19	320	*eP*		**P**	04 15 04.2 +2.1
STHS				pmax		pmax	
	comp=Z,4.0nm,0.7s						
STHS	**Stebnicka Huta**	89.19	320	*eP*		**P**	04 15 04.2 +2.1
KECS	**Kecovo**	89.54	319	*eP*		**P**	04 15 04.5 +0.7
KECS				pmax		pmax	
	comp=Z,2.0nm,0.7s						
KECS	**Kecovo**	89.54	319	*eP*		**P**	04 15 04.5 +0.7
KECS				*ep*P		**pP**	04 15 23.8 -1.0
SNAA	**Sanae**	89.96	198	*es*P		sP	04 15 28.0 -6.7
ARCES	**ARCESS Array B**	90.97	340	P		**P**	04 15 09.8 -0.1
ARCES	**ARCESS Array B**	90.97	340	P		**P**	04 15 09.8 -0.1
	comp=Z,0.9nm,0.3s,baz=104,slow=5.2,SNR=18						
VNA2	**Neumayer--Watz**	91.59	198	*eP*		**P**	04 15 15.1 +2.2
	baz=77,slow=3.9						
VNA2	**Neumayer--Watz**	91.59	198	*es*P		sP	04 15 35.7 -6.5
	baz=77,slow=3.9						
GERES	**GERESS Array B**	94.05	319	P		**P**	04 15 24.9 +0.2
GERES				pP		**pP**	04 15 43.2 -2.6
GERES	**GERESS Array B**	94.05	319	P		**P**	04 15 25.0 +0.2
	comp=Z,0.4nm,0.6s,baz=98,slow=1.9,SNR=4.7						
GERES				pP		**pP**	04 15 43.2 -2.6
	comp=Z,0.7nm,0.6s,baz=100,slow=4.6,SNR=3.3						
SPITS	**Spitsbergen Ar**	94.77	348	P		**P**	04 15 26.6 -0.8
SPITS	**Spitsbergen Ar**	94.77	348	P		**P**	04 15 26.6 -0.8
	comp=Z,3.2nm,0.6s,baz=126,slow=8.5,SNR=7.7						
TORD	**Torodi Ar. Bea**	102.84	282	P		**Pdif**	04 16 05.5 +0.6
TORD				PKKPbc		**PKKPbc**	04 32 03.0 +0.3
TORD	**Torodi Ar. Bea**	102.84	282	P		**Pdif**	04 16 05.5 +0.6
	comp=Z,0.5nm,1.0s,baz=88,slow=4.6,SNR=2.4						
TORD				PKKPbc		**PKKPbc**	04 32 03.0 +0.3
	comp=Z,0.3nm,0.5s,baz=305,slow=3.7,SNR=8.5						
NEW	**Newport**	125.06	32	⇓PKiKP		**PKiKP**	04 21 06.9 +0.1
	baz=125						
MSO	**Missoula**	127.64	32	⇑PKiKP		**PKPdf**	04 21 11.7 +0.1
	baz=128						
MFID	**Camas Ranch**	128.68	36	⇓PKiKP		**PKiKP**	04 21 14.2 -0.2
	baz=129						
EGMT	**Eagleton**	128.92	28	⇓PKiKP		**PKiKP**	04 21 14.6 0.0
	baz=129						
D17A	**Six Diamond Ra**	129.08	30	⇓PKiKP		**PKPdf**	04 21 14.7 +0.3
	baz=129						
DLMT	**Dillon**	129.30	33	*e*PKPdf		**PKPdf**	04 21 15.7 +0.9
B20A	**Solberg Farm,**	129.42	27	⇑PKiKP		**PKiKP**	04 21 15.4 -0.2
	baz=129						
A21A	**Bergtoll Ranch**	129.50	26	⇑PKiKP		**PKiKP**	04 21 15.4 -0.3
	baz=129						
NVAR	**Mina Array Bea**	129.81	43	PKP		**PKPdf**	04 21 17.1 +1.0
NVAR				pPKP		**pPKPdf**	04 21 37.9 0.0
NVAR	**Mina Array Bea**	129.81	43	PKP		**PKPdf**	04 21 17.1 +1.0
	comp=Z,0.8nm,0.5s,baz=310,slow=2.1,SNR=8.8						
NVAR				pPKP		**pPKPdf**	04 21 37.9 0.0
	comp=Z,1.2nm,0.8s,baz=275,slow=1.5,SNR=4.7						
F17A	**Fitzpatrick Pl**	129.95	31	⇑PKiKP		**PKiKP**	04 21 16.9 +0.1
	baz=130						
C20A	**Veseth Ranch,**	129.96	28	⇑PKiKP		**PKiKP**	04 21 16.8 +0.1
	baz=130						
C21A	**Desert Coulee**	130.29	27	⇓PKiKP		**PKiKP**	04 21 17.0 -0.3
	baz=130						
SBC	**Santa Barbara**	130.66	48	⇓PKiKP		**PKPdf**	04 21 17.3 -0.3
	baz=131						
B23A	**Brockton**	130.72	25	⇑PKiKP		**PKiKP**	04 21 18.1 -0.1
	baz=131						
I16A	**Newdale**	130.87	33	⇑PKiKP		**PKPdf**	04 21 18.2 +0.3
	baz=131						
C22A	**Vida**	130.89	26	⇑PKiKP		**PKiKP**	04 21 18.7 +0.1
	baz=131						
A25A	**Svangstu Ranch**	131.11	23	⇑PKiKP		**PKiKP**	04 21 18.9 0.0
	baz=131						
D22A	**Cohagen**	131.21	27	⇑PKiKP		**PKiKP**	04 21 19.0 -0.2
	baz=131						
BLG	**Laguna Peak**	131.29	49	⇑PKiKP		**PKiKP**	04 21 19.4 -0.3
	baz=131						
MPMC	**Manual Prospec**	131.54	45	⇓PKiKP		**PKiKP**	04 21 20.4 -0.1
	baz=132						
H19A	**Powell**	131.66	31	⇑PKiKP		**PKiKP**	04 21 19.9 -0.5
	baz=132						
G20A	**Bridger**	131.66	30	⇓PKiKP		**PKiKP**	04 21 20.3 -0.1
	baz=132						
CIS	**Catalina Islan**	132.10	49	⇓PKiKP		**PKPdf**	04 21 20.7 +0.3
	baz=132						
SCI	**San Clemente I**	132.17	50	⇑PKiKP		**PKiKP**	04 21 21.2 -0.3
	baz=132						
H20A	**Greybull**	132.29	31	⇓PKiKP		**PKiKP**	04 21 21.3 -0.3
	baz=132						
GSC	**Goldstone**	132.39	46	⇓PKiKP		**PKiKP**	04 21 21.7 -0.3
	baz=132						
D25A	**Fairfield**	132.45	25	⇓PKiKP		**PKiKP**	04 21 21.7 0.0
	baz=132						
G22A	**Birney**	132.60	29	⇓PKiKP		**PKPdf**	04 21 21.1 +0.1
	baz=132						
PDAR	**Pinedale Array**	132.66	33	PKP		**PKPdf**	04 21 21.4 0.0
PDAR				pPKP		**pPKPdf**	04 21 42.5 -0.7
PDAR				SKPbc		**SKPbc**	04 24 42.1 +0.1
PDAR	**Pinedale Array**	132.66	33	PKP		**PKPdf**	04 21 21.4 0.0
	comp=Z,0.6nm,0.5s,baz=142,slow=1.8,SNR=8.9						
PDAR				pPKP		**pPKPdf**	04 21 42.5 -0.7
	comp=Z,0.6nm,0.5s,baz=114,slow=3.0,SNR=3.6						
PDAR				SKPbc		**SKPbc**	04 24 42.1 +0.1
	comp=Z,1.6nm,0.7s,baz=318,slow=1.2,SNR=10						
A30A	**Hoffart Farm,**	132.86	20	⇓PKiKP		**PKPdf**	04 21 21.8 +0.5
	baz=133						
E25A	**Miller Ranch,**	132.93	25	⇑PKiKP		**PKiKP**	04 21 22.6 -0.1
	baz=133						
K19A	**Absolon Red Bu**	133.00	33	⇑PKiKP		**PKPdf**	04 21 22.3 +0.3
	baz=133						
G23A	**Biddle**	133.04	28	⇑PKiKP		**PKiKP**	04 21 22.4 -0.6
	baz=133						
J20A	**Shoshoni**	133.04	32	⇑PKiKP		**PKPdf**	04 21 22.5 +0.5
	baz=133						
I21A	**Big Trails, Te**	133.13	31	⇑PKiKP		**PKiKP**	04 21 23.1 -0.2
	baz=133						
D27A	**Center**	133.22	23	⇑PKiKP		**PKiKP**	04 21 23.5 +0.2
	baz=133						
PFO	**Pinyon Flat Ob**	133.45	48	PKP		**PKPdf**	04 21 23.6 +0.6
PFO				SKPbc		**SKPbc**	04 24 45.6 +0.8
PFO	**Pinyon Flat Ob**	133.45	48	PKP		**PKPdf**	04 21 23.6 +0.6
	comp=Z,1.6nm,0.6s,baz=311,slow=5.6,SNR=4.2						
PFO				SKPbc		**SKPbc**	04 24 45.6 +0

320A	Kipp Ranch, An	140.37	46	⇓PKiKP	PKiKP	04 21 39.1	+0.6
	baz=140							
R30A	Dighton	140.78	30	⇑PKiKP	PKiKP	04 21 38.8	-0.1
	baz=141							
U27A	Thompson Grove	140.79	35	⇓PKiKP	PKiKP	04 21 38.8	-0.4
	baz=141							
Y24A	Capitan	140.91	40	⇓PKiKP	PKiKP	04 21 38.5	-1.0
	baz=141							
W26A	Owens Ranch, T	141.17	37	⇓PKiKP	PKiKP	04 21 39.3	-0.6
	baz=141							
Z24A	Sheeppen Canyo	141.33	41	⇑PKiKP	PKiKP	04 21 40.4	-0.1
	baz=141							
Y25A	Mesa, Roswell	141.38	39	⇑PKiKP	PKiKP	04 21 40.3	-0.1
	baz=141							
223A	Chaparral, Ant	141.44	43	⇓PKiKP	PKiKP	04 21 40.2	-0.4
	baz=141							
X26A	CR and CF Fran	141.51	38	⇑PKiKP	PKiKP	04 21 40.6	-0.1
	baz=141							
W27A	Bowe Ranch, En	141.61	36	⇓PKiKP	PKiKP	04 21 40.9	0.0
	baz=142							
224A	Cornudas Mount	142.01	42	⇑PKiKP	PKiKP	04 21 41.5	-0.3
	baz=142							
125A	Gardner Draw,	142.22	41	⇑PKiKP	PKiKP	04 21 41.7	-0.5
	baz=142							
Z26A	Caprock	142.25	39	⇑PKiKP	PKiKP	04 21 41.0	-1.2
	baz=142							
CFAA	Coronel Fontan	142.31	191	PKP	PKPdf	04 21 39.3	0.0
CFAA	Coronel Fontan	142.31	191	PKP	PKPdf	04 21 39.3	0.0
	comp=Z,0.3nm,0.5s,baz=155,slow=4.5,SNR=6.9							
324A	Moseley Ranch,	142.42	43	⇓PKiKP	PKiKP	04 21 42.2	-0.5
	baz=142							
325A	Bean Ranch, Si	142.81	43	⇓PKiKP	PKiKP	04 21 42.5	-1.0
	baz=143							
226B	Tecolote Peak,	142.91	41	⇑PKiKP	PKiKP	04 21 42.9	-0.6
	baz=143							
V31A	Spring Creek L	142.91	33	⇑PKiKP	PKiKP	04 21 42.9	-0.5
	baz=143							
425A	Indio Mountain	143.16	43	⇓PKPdf	PKPbc	04 21 38.5	+0.5
	baz=143							
X30A	Coker Ranch, T	143.32	35	⇓PKPdf	PKPbc	04 21 38.6	+0.4
	baz=143							
326A	Caldwell Ranch	143.51	42	⇓PKPdf	PKPbc	04 21 39.3	+0.4
	baz=143							
Z29A	Hungry Hill Ra	143.67	37	⇓PKPdf	PKPbc	04 21 39.3	0.0
	baz=144							
X31A	McDonald Ranch	143.69	34	⇑PKPdf	PKPbc	04 21 39.5	+0.3
	baz=144							
Y30A	Stafford Cattl	143.71	36	⇓PKPdf	PKPbc	04 21 39.4	+0.1
	baz=144							
426A	McDonald Obser	143.88	43	⇓PKPdf	PKPbc	04 21 40.2	0.0
	baz=144							
228A	UT Block 9, Go	143.89	40	⇓PKPdf	PKPbc	04 21 40.1	+0.2
	baz=144							
SFIN	Scholer Farm	143.94	14	⇑PKPdf	PKPbc	04 21 40.0	+0.3
	baz=144							
Z30A	Sanderson Ranc	144.00	37	⇑PKPdf	PKPbc	04 21 40.1	-0.1
	baz=144							
129A	Stewart Farms,	144.00	38	⇑PKPdf	PKPbc	04 21 40.3	0.0
	baz=144							
Y31A	Rekieta Farm,	144.02	35	⇓PKPdf	PKPbc	04 21 40.6	+0.4
	baz=144							
427A	Hayter Ranch,	144.19	42	⇓PKPdf	PKPbc	04 21 41.3	+0.3
	baz=144							
526A	Mary Lane Ranc	144.21	44	⇑PKPdf	PKPbc	04 21 41.3	+0.2
	baz=144							
328A	Wristen Ranch,	144.24	41	⇑PKPdf	PKPbc	04 21 41.1	+0.1
	baz=144							
WMOK	Wichita Mounta	144.26	33	ePKIKP	PKPab	04 21 40.5	-0.1
WMOK	Wichita Mounta	144.26	33	ePKPdf	PKPab	04 21 40.5	-0.1
Y32A	R-V Farms, Ver	144.45	34	⇓PKPdf	PKPab	04 21 41.1	-0.2
	baz=144							
229A	Bryant Ranch,	144.49	39	⇑PKPdf	PKPbc	04 21 41.8	0.0
	baz=144							
527A	Woodward Ranch	144.49	43	⇑PKPdf	PKPbc	04 21 42.0	0.0
	baz=144							
626A	Big Bend Ranch	144.49	44	⇑PKPdf	PKPbc	04 21 42.0	+0.1
	baz=144							
Z31A	Sharp Cattle R	144.55	36	⇑PKPdf	PKPbc	04 21 41.8	-0.1
	baz=144							
130A	Snyder	144.58	37	⇑PKPdf	PKPab	04 21 41.8	0.0
	baz=144							
329A	Wagon Wheel Ra	144.70	40	⇑PKPdf	PKPbc	04 21 42.6	+0.1
	baz=145							
428A	Kincaid Ranch,	144.74	41	⇑PKPdf	PKPdf	04 21 43.5	-0.1
	baz=145							
TUL1	Tulsa	144.84	28	ePKPdf	PKPab	04 21 42.2	-0.5
TUL1	Tulsa	144.84	28	⇑PKPdf	PKPab	04 21 42.1	-0.5
	baz=145							
131A	Roby	144.87	37	⇑PKPdf	PKPbc	04 21 43.0	+0.1
	baz=145							
ACSO	Alum Creek Sta	144.90	9	ePKPdf	PKPab	04 21 42.1	-0.5
Z32A	Haskell	144.94	35	⇓PKPdf	PKPab	04 21 43.0	-0.1
	baz=145							
TXAR	Lajitas Array	144.94	44	PKP	PKPdf	04 21 44.0	0.0
TXAR				SKPbc	SKiKP	04 25 18.3	+0.9
TXAR	Lajitas Array	144.94	44	PKP	PKPdf	04 21 44.0	0.0
	comp=Z,12nm,0.6s,baz=284,slow=3.6,SNR=210							
TXAR				SKPbc	SKiKP	04 25 18.3	+0.9
	comp=Z,1.0nm,0.9s,baz=253,slow=1.3,SNR=3.4							
BDFB	Brasilia	144.95	233	PKPbc	PKPdf	04 21 44.6	+0.2
BDFB	Brasilia	144.95	233	PKPbc	PKPdf	04 21 44.6	+0.2
	comp=Z,9.8nm,0.5s,baz=110,slow=4.3,SNR=10							
230A	Sterling City	144.97	38	⇓PKPdf	PKPab	04 21 43.3	0.0
	baz=145							
SSPA	Standing Stone	144.98	2	ePKPdf	PKPab	04 21 42.6	-0.3
528A	Cox Ranch, San	145.03	42	⇓PKPdf	PKPdf	04 21 44.2	0.0
	baz=145							
627A	Terlingua Ranc	145.07	44	⇑PKPdf	PKPdf	04 21 44.2	0.0
	baz=145							
BLO	Bloomington	145.22	14	ePKIKP	PKPbc	04 21 43.4	-0.4
BLO	Bloomington	145.22	14	ePKPdf	PKPbc	04 21 43.4	-0.4
OLIL	Olney	145.23	16	ePKPdf	PKPbc	04 21 43.4	-0.4
330A	Mertzon	145.26	39	⇑PKPdf	PKPbc	04 21 43.8	-0.5
	baz=145							
429A	Davenport Ranc	145.33	41	⇓PKPdf	PKPbc	04 21 44.5	0.0
	baz=145							
ABTX	Abilene, Hawle	145.34	36	ePKPdf	PKPab	04 21 44.6	0.0
ABTX	Abilene, Hawle	145.34	36	⇓PKPdf	PKPbc	04 21 44.4	-0.1
	baz=145							
628A	Black Gap, Mar	145.39	43	⇓PKPdf	PKPab	04 21 45.3	+0.4
	baz=145							
231A	Bronte	145.43	37	⇓PKPdf	PKPdf	04 21 44.5	-0.2
	baz=145							
529A	Stev Forest Ra	145.44	42	⇑PKPdf	PKPab	04 21 45.0	-0.1
	baz=145							
430A	Baggett Ranch,	145.64	40	⇑PKPdf	PKPbc	04 21 45.5	0.0
	baz=146							
331A	San Angelo	145.80	38	⇑PKPdf	PKPbc	04 21 45.9	0.0
	baz=146							
MCWV	Mont Chateau	145.83	5	ePKPdf	PKPbc	04 21 45.8	+0.1
232A	Coleman	145.87	37	⇓PKPdf	PKPbc	04 21 46.2	+0.1
	baz=146							
530A	J-C Ranch, Com	146.00	41	⇓PKiKP	PKPab	04 21 47.4	+0.2
	baz=146							
431A	Sonora	146.11	39	⇓PKiKP	PKPbc	04 21 47.1	+0.2
	baz=146							
332A	Millersview	146.16	38	⇑PKiKP	PKPab	04 21 47.4	-0.3
	baz=146							
WCI	Wyandotte Cave	146.18	14	ePKP2	PKPbc	04 21 46.3	-0.5
WCI	Wyandotte Cave	146.18	14	ePKPbc	PKPbc	04 21 46.3	-0.5
432A	Menard	146.49	38	⇓PKiKP	PKPbc	04 21 47.8	-0.2
	baz=146							
531A	Rocksprings	146.50	40	⇑PKiKP	PKPbc	04 21 48.4	+0.3
	baz=146							
JCT	Junction City	146.76	39	ePKP2	PKPbc	04 21 47.9	-0.9
JCT	Junction City	146.76	39	ePKPdf	PKPbc	04 21 47.9	-0.9
JCT				ePKPbc	PKPbc	04 21 49.1	+0.3
JCT	Junction City	146.76	39	⇑PKiKP	PKPbc	04 21 49.0	+0.3
	baz=147							
532A	Rocksprings	146.93	39	⇓PKiKP	PKPbc	04 21 49.2	-0.1
	baz=147							
MIAR	Mount Ida	146.98	27	ePKP2	PKPbc	04 21 49.2	0.0
MIAR	Mount Ida	146.98	27	ePKPbc	PKPbc	04 21 49.2	0.0
631A	Perdido Creek	146.98	41	⇑PKiKP	PKPbc	04 21 49.6	+0.2
	baz=147							
WHTX	Lake Whitney	147.06	34	ePKPbc	PKPbc	04 21 50.1	+0.6
WHTX	Lake Whitney	147.06	34	⇓PKiKP	PKPbc	04 21 49.9	+0.3
	baz=147							
632A	Uvalde	147.43	40	⇓PKiKP	PKPbc	04 21 51.2	+0.5
	baz=147							
WVT	Waverly	147.73	18	ePKP2	PKPbc	04 21 51.0	-0.2
WVT	Waverly	147.73	18	ePKPbc	PKPbc	04 21 51.0	-0.2
732A	Laxson Ranch,	147.83	41	⇑PKiKP	PKPbc	04 21 52.2	+0.4
	baz=148							
TZTN	Tazewell	148.39	11	ePKPbc	PKPbc	04 21 52.5	-0.5
OXF	Oxford	148.69	21	ePKP2	PKPbc	04 21 53.2	-0.6
OXF	Oxford	148.69	21	ePKPbc	PKPbc	04 21 53.2	-0.6
SWET	Sewanee	149.12	15	ePKPbc	PKPbc	04 21 53.9	-1.0
TKL	Tuckaleechee C	149.20	12	ePKPbc	PKPbc	04 21 54.7	-0.4
TKL	Tuckaleechee C	149.20	12	PKPbc	PKPbc	04 21 54.8	-0.3
	comp=Z,14nm,0.6s,baz=333,slow=2.3,SNR=33							
CPCT	Cooper Cave	149.24	13	ePKPbc	PKPbc	04 21 55.0	-0.2
CPCT				ePKPab	PKPab	04 21 59.1	-0.7
HKT	Hockley	149.51	35	ePKP2	PKPbc	04 21 56.7	+0.8
HKT	Hockley	149.51	35	ePKPbc	PKPbc	04 21 56.7	+0.8
KMSC	Kings Mountain	150.13	8	⇓PKiKP	PKPbc	04 21 56.9	-0.5
	baz=150							
LRAL	Lakeview Retre	150.85	19	ePKPbc	PKPbc	04 21 58.5	-0.6
TIGA	Tifton	153.30	14	⇓PKiKP	PKPbc	04 22 04.3	-0.4
	baz=153							

MEX 09 04:11:04.4±0.7, 15°.70N×93°.87W, h85km±10km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		0.63	90	eP	Pn	04 11 18.4	-1.4
PCIG				i S	Sn	04 11 29.7	-1.5
TGIG		1.29	34	eP	Pn	04 11 26.6	-0.7
TGIG				i S	Sn	04 11 42.7	-1.9
CMIG	Matias Romero	1.69	325	eP	Pn	04 11 30.3	-2.1
CMIG				i S	Sn	04 11 52.3	-1.4
THIG		1.74	117	i P	Pn	04 11 34.5	+1.5
THIG				i S	Sn	04 11 53.1	-1.6
HUIG	Huatulco	2.16	272	eP	Pn	04 11 38.0	-0.6
HUIG				i S	Sn	04 12 03.1	-1.5

MEX 09 04:26:17.4±0.7, 18°.73N×102°.24W, h94km±18km, MD3.6, Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	Aquila	1.14	247	eP	Pn	04 26 37.1	-1.9
MMIG				i S	Sn	04 26 53.9	-1.2
MOIG	Morelia	1.37	46	i P	Pn	04 26 41.0	-1.1
MOIG				i S	Sn	04 26 58.6	-2.1
ARIG	Puente Sto Nin	1.85	104	eP	Pn	04 26 46.8	-1.2
ARIG				i S	Sn	04 27 09.1	-2.1

*ISCJB **09** 04:37:33.6±0.5, 37°.24N±0°.07×135°.20E±0°.08, h394km±6km, mb3.2/6, Error ellipse: s-maj=11.5km s-min=9.7km az=164.2*
*JMA **09** 04:37:34.1±0.3, 37°.24N×135°.22E, h390km±3km, M3.4*
*IDC **09** 04:37:34.8±1.1, 37°.29N×135°.10E, h386km±13km, mb3.0/6, mb1 3.1/10, mb1mx2.9/30, mbtmp3.0/10, Error ellipse: s-maj=21.7km s-min=15.5km az=66.0*

ISC 09 04:37:34.4±0.7, 37°.26N±0°.08×135°.21E±0°.08, h385km±8km, n25, σ0°.71/32, mb3.2/6, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJH	Hakui	1.30	104	P	Pn	04 38 25.6	+0.5
JKG	Kaga	1.33	137	P	Pn	04 38 25.4	+0.1
JHG	Hegura jima	1.48	66	P	Pn	04 38 26.5	+0.7
JSZ	Suzu	1.73	83	P	Pn	04 38 28.0	+0.8
JGM	Miyama	1.98	142	P	Pn	04 38 29.0	+0.1
JGM				S	S	04 39 11.9	-0.9
JWT	Wachi	1.98	175	P	Pn	04 38 29.2	+0.3
JWT				S	S	04 39 11.9	-0.9
MAT	Matsushiro	2.51	106	P	Pn	04 38 33.1	+0.6
MAT				eS	S	04 39 19.4	-0.1
MAT	Matsushiro	2.51	106	P	Pn	04 38 32.8	+0.3
MJAR	Matsushiro Arr	2.51	106	P	Pn	04 38 33.5	+0.9
	14nm,0.3s,baz=280,slow=9.7,SNR=150						
JSD	Sado	2.55	71	P	Pn	04 38 33.1	+0.4
JIE	Ise	3.11	156	P	Pn	04 38 38.3	+0.9
JRY	Ryogami san	3.22	112	P	Pn	04 38 38.3	-0.1
JRY				eS	S	04 39 31.3	+1.2
JOD2	Odawara 2	3.72	121	P	Pn	04 38 43.1	+0.2
JOD2				S	S	04 39 37.9	-0.4
JTO	Tosashimizu	4.81	205	P	Pn	04 38 54.3	+0.5
JMK	Ichinoseki	5.04	69	P	Pn	04 38 56.5	+0.6
JMK				S	S	04 40 00.7	-1.5
BSO1	Boso 1	5.36	117	P	Pn	04 38 58.5	-0.3
BSO1				S	S	04 40 06.3	-1.3
KSRS	Korea Array	5.80	274	P	Pn	04 39 04.5	+0.3
	0.3nm,0.3s,baz=82,slow=12,SNR=4.4						
USRK	Ussuriysk Arra	7.35	342	P	P	04 39 22.3	+0.1
	2.0nm,0.3s,baz=154,slow=11,SNR=34						
ASAJ	Asahikawa	8.85	37	P	P	04 39 39.4	0.0
	2.1nm,0.3s,baz=228,slow=9.7,SNR=6.0						
MKAR	Makanchi Array	39.77	301	P	P	04 44 30.7	-0.8
	0.4nm,0.5s,baz=86,slow=9.8,SNR=5.8						
KURBB	Kurchatov Arra	41.93	307	P	P	04 44 47.9	-0.9
	0.2nm,0.4s,baz=86,slow=8.8,SNR=5.1						
ILAR	Eielson Array	51.95	32	P	P	04 46 05.6	+0.5
	0.1nm,0.5s,baz=283,slow=8.1,SNR=3.4						
WRA	Warramunga Arr	56.90	181	P	P	04 46 41.4	+0.6
	0.8nm,0.4s,baz=359,slow=7.5,SNR=19						
FINES	FINESS Array B	66.23	330	P	P	04 47 42.3	+0.4
	3.3nm,1.0s,baz=49,slow=5.8,SNR=4.9						
AKASG	Malin Array Be	71.00	320	P	P	04 48 10.8	-0.4
	0.8nm,0.5s,baz=43,slow=6.7,SNR=3.2						

*TIF **09** 04:54:09.9, 42°.59N×43°.47E, h13km±1km*
*CSEM **09** 04:54:10.7±0.1, 42°.56N×43°.41E, h2km, mb4.2, Error ellipse: s-maj=3.5km s-min=2.5km az=118.0*
*MOS **09** 04:54:11.4±1.3, 42°.58N×43°.48E, h11km, mb4.2/1, Error ellipse: s-maj=0.1km s-min=0.0km az=12.7*
*ISK **09** 04:54:12.9, 42°.42N×43°.03E, h5km, MD3.5*
*DDA **09** 04:54:16.8, 42°.37N×43°.11E, h11km, MD3.2*

ISC 09 04:54:10.8±0.8, 42°.55N±0°.02×43°.42E±0°.02, h8km±5km, n75, σ0°.63/129, 3C-10D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	Oni	0.05	28	PG	Pg	04 54 12.5	-0.1
ONI	Oni	0.05	28	Pg	Pg	04 54 12.5	-0.1
ONI	Oni	0.05	28	P	Pg	04 54 12.5	-0.1
ONI				S	Sg	04 54 13.9	0.0
DIGR	Digorskoe uzhe	0.37	18	⇓iPG	Pg	04 54 17.5	-0.6
DIGR				i S	Sg	04 54 23.1	0.0
DIGR	Digorskoe uzhe	0.37	18	i Pg	Pg	04 54 17.5	-0.6
DIGR				i Sg	Sg	04 54 23.1	0.0
ZEI	Tsey	0.43	56	⇓iPG	Pg	04 54 18.6	-0.6
ZEI				i S	Sg	04 54 24.5	-0.3
ZEI	Tsey	0.43	56	i Pg	Pg	04 54 18.6	-0.6
ZEI				i Sg	Sg	04 54 24.5	-0.3
LACR	Lac	0.70	66	⇓iPG	Pg	04 54 23.5	-0.9
LACR				i S	Sg	04 54 33.0	-0.6
LACR	Lac	0.70	66	i Pg	Pg	04 54 23.5	-0.9
LACR				i Sg	Sg	04 54 33.0	-0.6
KORR	Kora	0.72	41	⇑iPG	Pg	04 54 24.4	-0.2
KORR				eS	Sg	04 54 34.3	+0.3
KORR	Kora	0.72	41	i Pg	Pg	04 54 24.4	-0.2
KORR				eSg	Sg	04 54 34.3	+0.3
LSNR	Lesken	0.79	22	⇓iPG	Pg	04 54 25.8	-0.2
LSNR				eS	Sg	04 54 36.5	+0.3
LSNR	Lesken	0.79	22	i Pg	Pg	04 54 25.8	-0.2
LSNR				eSg	Sg	04 54 36.5	+0.3
STDR	Stavd-Durt	0.95	30	⇑iPG	Pb	04 54 29.7	+0.3
STDR				i S	Sb	04 54 42.8	+0.7
STDR	Stavd-Durt	0.95	30	i Pg	Pb	04 54 29.7	+0.3
STDR				i Sg	Sb	04 54 42.8	+0.7
NCK	Nalchik	0.96	8	⇓iPG	Pg	04 54 29.4	+0.2
NCK				eS	Sn	04 54 43.4	-0.9
NCK	Nalchik	0.96	8	i Pg	Pg	04 54 29.4	+0.2
NCK				eSg	Sn	04 54 43.4	-0.9
CHVG	Ch'k'valeri	1.00	280	P	Pg	04 54 29.8	-0.2
CHVG				S	Sn	04 54 44.6	-0.8
VLKR	Vladikavkaz	1.05	61	ePG	Pg	04 54 30.2	-0.7
VLKR				eS	Sg	04 54 44.2	-0.4
VLKR	Vladikavkaz	1.05	61	ePg	Pg	04 54 30.2	-0.7
VLKR				eSg	Sg	04 54 44.2	-0.4
AKH	Akhalkalaki	1.14	177	PG	Pb	04 54 32.4	-0.4
AKH				S	Sb	04 54 48.1	+0.4
AKH	Akhalkalaki	1.14	177	Pg	Pb	04 54 32.4	-0.4
AKH				Sg	Sb	04 54 48.1	+0.4
AKH	Akhalkalaki	1.14	177	P	Pb	04 54 32.4	-0.3
AKH				S	Sb	04 54 48.1	+0.4
SNJR	Sundja	1.15	63	ePG	Pb	04 54 32.3	-0.6
SNJR				eS	Sg	04 54 47.8	+0.1
SNJR	Sundja	1.15	63	ePg	Pb	04 54 32.3	-0.6
SNJR				eSg	Sg	04 54 47.8	+0.1
BTKR	Batakoyurt	1.17	45	⇑iPG	Pn	04 54 34.3	+0.9
BTKR				eS	Sn	04 54 49.9	+0.5
BTKR	Batakoyurt	1.17	45	i Pg	Pn	04 54 34.3	+0.9
BTKR				eSg	Sn	04 54 49.9	+0.5
KUBR	Kubataba	1.25	360	⇓ePG	Pb	04 54 34.7	+0.1
KUBR				eS	Sn	04 54 51.8	+0.2
KUBR	Kubataba	1.25	360	ePg	Pb	04 54 34.7	+0.1
KUBR				eSg	Sn	04 54 51.8	+0.2
TBLG	Delisi	1.27	129	PG	Pn	04 54 34.4	-0.4
TBLG				S	Sg	04 54 51.9	+0.2
TBLG	Delisi	1.27	129	Pg	Pn	04 54 34.4	-0.4
TBLG				Sg	Sg	04 54 51.9	+0.2
TBLG	Delisi	1.27	129	P	Pn	04 54 34.4	-0.4
TBLG				S	Sg	04 54 52.0	+0.2
SHAR	Shatzhatmas	1.32	336	ePG	Pn	04 54 35.2	-0.4
SHAR				eS	Sb	04 54 52.5	-0.4
SHAR	Shatzhatmas	1.32	336	ePg	Pn	04 54 35.2	-0.4
SHAR				eSg	Sb	04 54 52.5	-0.4
PRTR	Priterechnaya	1.36	27	⇓iPG	Pg	04 54 37.1	+0.3
PRTR				eS	Sg	04 54 55.2	+0.7
PRTR	Priterechnaya	1.36	27	i Pg	Pg	04 54 37.1	+0.3
PRTR				eSg	Sg	04 54 55.2	+0.7
KZR	Kazreti	1.38	147	P	Pn	04 54 35.7	-0.7
KZR				S	Sb	04 54 54.1	-0.5
KIV	Kislovodsk	1.51	339	⇓iPG	Pn	04 54 38.4	+0.3
KIV				eS	Sn	04 54 58.1	+0.1
KIV	Kislovodsk	1.51	339	i Pg	Pn	04 54 38.4	+0.3
KIV				eSg	Sn	04 54 58.1	+0.1
PYA	Pyatigorsk	1.51	350	⇓ePG	Pb	04 54 38.8	-0.2
PYA				eS	Sg	04 54 58.9	-0.4
PYA	Pyatigorsk	1.51	350	ePg	Pb	04 54 38.8	-0.2
PYA				eSg	Sg	04 54 58.9	-0.4
DOMR	Dombai	1.52	300	⇓ePG	Pg	04 54 40.0	+0.2
DOMR				eS	Sb	04 54 59.2	+0.6
DOMR	Dombai	1.52	300	ePg	Pg	04 54 40.0	+0.2
DOMR				eSg	Sb	04 54 59.2	+0.6
TRKR	Terskaya	1.52	39	ePG	Pn	04 54 38.4	+0.2
TRKR				eS	Sb	04 54 58.7	+0.2
TRKR	Terskaya	1.52	39	ePg	Pn	04 54 38.4	+0.2
TRKR				eSg	Sb	04 54 58.7	+0.2
BCA	Borcka	1.73	231	ePN	Pn	04 54 40.8	-0.4
BCA				eSN	Sn	04 55 01.3	-2.2
BCA	Borcka	1.73	231	ePn	Pn	04 54 40.8	-0.4
BCA				eSn	Sn	04 55 01.3	-2.2
ARTV	Artvin	1.76	220	i P	Pn	04 54 42.5	+0.8
ARTV				i S	Sb	04 55 06.4	+0.7
ARTV	Artvin	1.76	220	i P	Pn	04 54 42.5	+0.8
ARTV				i S	Sb	04 55 06.4	+0.7
DBOC	Borcka	1.78	228	i P	Pn	04 54 42.5	+0.7
DBOC				i S	Sb	04 55 06.0	0.0
DBOC	Borcka	1.78	228	i P	Pn	04 54 42.5	+0.7
DBOC				i S	Sb	04 55 06.0	0.0
DGRG	David-gareji	1.82	126	PN	Pb	04 54 44.6	+0.3
DGRG				S	Sg	04 55 11.2	+1.9
DGRG	David-gareji	1.82	126	Pn	Pb	04 54 44.6	+0.3
DGRG				Sg	Sg	04 55 11.2	+1.9
DGRG	David-gareji	1.82	126	P	Pb	04 54 44.6	+0.3
DGRG				S	Sg	04 55 11.2	+1.9
DAGI	Agillar	1.85	218	i P	Pb	04 54 44.7	-0.2
DAGI				i S	Sb	04 55 09.3	+1.1
KARS	Kars	1.94	188	ePN	Pb	04 54 46.0	-0.3
KARS	Kars	1.94	188	ePn	Pb	04 54 46.0	-0.3
DDEM	Demirkent	2.07	218	i P	Pb	04 54 47.8	-0.9
DDEM				i S	Sb	04 55 15.6	+1.0
DDEM	Demirkent	2.07	218	i P	Pb	04 54 47.8	-0.9
DDEM				i S	Sb	04 55 15.6	+1.0
DIGO	Kars	2.13	181	i P	Pb	04 54 49.9	+0.2
DIGO				i S	Sg	04 55 20.1	+0.8
DIGO	Kars	2.13	181	i P	Pb	04 54 49.9	+0.2
PZAR	Pazar-Rize	2.33	235	ePN	Pn	04 54 49.1	-0.1
PZAR	Pazar-Rize	2.33	235	ePn	Pn	04 54 49.2	-0.1
GNI	Garni	2.59	157	ePN	Pb	04 54 57.7	+0.1
GNI	Garni	2.59	157	ePn	Pb	04 54 57.7	+0.1
BAYT	Ayd¨–ntepe-Bay	3.27	230	ePN	Pn	04 55 02.8	+0.3
BAYT	Ayd¨–ntepe-Bay	3.27	230	ePn	Pn	04 55 02.8	+0.3
GUMT	Gumushane	3.62	236	ePN	Pn	04 55 07.7	+0.5
GUMT	Gumushane	3.62	236	ePn	Pn	04 55 07.7	+0.5
ESPY	Espiye-Giresun	3.87	247	ePN	Pn	04 55 10.9	+0.4
ESPY	Espiye-Giresun	3.87	247	ePn	Pn	04 55 11.0	+0.4
OBN	Obninsk	13.35	343	eP	Pn	04 57 23.7	+3.4
OBN				pmax	pmax		
	comp=Z,3.0nm,1.0s						
OBN	Obninsk	13.35	343	eP	Pn	04 57 23.7	+3.4
	comp=Z,3.0

ASAR			PcP	PcP	05 15 55.8	+1.0
	1.2nm,0.6s,baz=354,slow=2.1,SNR=10					
PSI	Prapat	25.68 277	LR	LR	05 24 11.5	
	comp=Z,146nm,19.8s,baz=138,slow=40					
CMAR	Chiang Mai Arr	31.24 308	P	P	05 13 16.3	-0.4
CMAR	Chiang Mai Arr	31.24 308	P	P	05 13 16.3	-0.4
	1.0nm,0.3s,baz=130,slow=7.9,SNR=5.0					
CMAR			LR	LR	05 26 57.1	
	comp=Z,49nm,19.1s,baz=327,slow=38					
STKA	Stephens Creek	35.32 154	P	P	05 13 53.0	+0.9
STKA			PcP	PcP	05 16 18.9	-2.5
STKA	Stephens Creek	35.32 154	P	P	05 13 53.0	+0.9
	0.7nm,0.5s,baz=292,slow=6.5,SNR=2.9					
STKA			PcP	PcP	05 16 18.9	-2.5
	2.4nm,0.8s,baz=326,slow=7.3,SNR=2.9					
KSAR	Wonju Array Be	37.74 5	P	P	05 14 13.8	+1.3
KSRS	Korea Array	37.75 5	P	P	05 14 13.8	+1.2
	1.0nm,0.5s,baz=187,slow=8.5,SNR=4.2					
MAT	Matsushiro	38.87 18	P	P	05 14 22.8	+0.7
MJAR	Matsushiro Arr	38.87 18	P	P	05 14 22.4	+0.3
MJAR	Matsushiro Arr	38.87 18	P	P	05 14 22.4	+0.3
	9.4nm,0.7s,baz=197,slow=9.4,SNR=24					
USRK	Ussuriysk Arra	44.86 8	P	P	05 15 11.8	+1.0
	6.1nm,0.7s,baz=193,slow=7.1,SNR=13					
MDJ	Mudanjiang	45.00 5	P	P	05 15 14.3	+2.3
MDJ			pmax	pmax		
	comp=Z,13nm,0.9s					
MDJ			pmax	pmax		
	comp=Z,160nm,5.4s					
GTA	Gaotai	45.53 333	eP	P	05 15 17.7	+1.3
GTA			pP	pP	05 15 22.7	-9.2
GTA			sP	sP	05 15 25.8	-13
GTA			pmax	pmax		
	comp=Z,5.0nm,0.8s					
ULN	Ulaanbaatar	50.34 345	eP	P	05 15 52.9	-0.6
	comp=Z,2.7nm,0.8s					
SONM	Songino Array	50.49 344	P	P	05 15 55.5	+0.9
SONM			PcP	PcP	05 17 12.1	+0.2
SONM	Songino Array	50.49 344	P	P	05 15 55.5	+0.9
	comp=Z,2.5nm,0.8s,baz=156,slow=7.5,SNR=15					
SONM			PcP	PcP	05 17 12.1	+0.2
	comp=Z,1.0nm,0.8s,baz=153,slow=4.8,SNR=2.8					
MKAR	Makanchi Array	59.66 328	P	P	05 16 59.6	-1.0
MKAR			PcP	PcP	05 17 46.0	-1.2
MKAR	Makanchi Array	59.66 328	P	P	05 16 59.6	-1.0
	comp=Z,2.7nm,0.5s,baz=122,slow=7.8,SNR=30					
MKAR			PcP	PcP	05 17 46.0	-1.2
	comp=Z,0.7nm,0.7s,baz=140,slow=3.8,SNR=2.2					
PETK	Petropavlovsk-	60.05 22	P	P	05 17 04.7	+1.5
PETK	Petropavlovsk-	60.05 22	P	P	05 17 04.7	+1.5
	comp=Z,1.9nm,0.6s,baz=185,slow=6.8,SNR=3.4					
ZALV	Zalesovo Beam	63.22 335	P	P	05 17 22.7	-1.7
ZALV	Zalesovo Beam	63.22 335	P	P	05 17 22.7	-1.7
	comp=Z,0.6nm,0.3s,baz=134,slow=6.2,SNR=3.3					
ABKAR	Akbulak array	73.87 322	eP	P	05 18 29.1	-1.9
ILAR	Eielson Array	89.75 25	P	P	05 19 53.4	-0.7
ILAR	Eielson Array	89.75 25	P	P	05 19 53.4	-0.7
	comp=Z,0.3nm,0.8s,baz=245,slow=5.9,SNR=4.6					
ARCES	ARCESS Array B	93.45 340	P	P	05 20 09.9	-1.2
ARCES	ARCESS Array B	93.45 340	P	P	05 20 09.9	-1.2
	comp=Z,1.2nm,0.8s,baz=81,slow=6.5,SNR=3.6					
WRAK	Wrangell Islan	97.59 33	P	Pdif	05 20 30.3	+0.1
TORD	Torodi Ar. Bea	121.87 285	PKP	PKPdf	05 25 51.0	0.0
TORD	Torodi Ar. Bea	121.87 285	PKP	PKPdf	05 25 51.0	0.0
	comp=Z,0.4nm,0.6s,baz=35,slow=2.3,SNR=4.8					
TXAR	Lajitas Array	125.89 53	PKP	PKPdf	05 26 00.2	+1.7
TXAR	Lajitas Array	125.89 53	PKP	PKPdf	05 26 00.2	+1.7
	comp=Z,0.3nm,0.7s,baz=251,slow=2.8,SNR=4.1					

*DJA **09** 05:23:21.9±3.5, 7°S±13°×14°9E±3°4, h113km±11km, M5.2/10, mB5.5/1, mb5.1/10, MLv5.2/1, Mw(mB)4.9/1*
*IDC **09** 05:23:27.4±2.0, 6°46S×147°49E, h31km±13km, mb4.3/15, mb1 4.4/17, mb1mx4.3/21, mbtmp4.3/17, ML4.2/2, MS3.5/6, Ms1 3.5/6, ms1mx3.2/23, Error ellipse: s-maj=16.9km s-min=9.6km az=115.0*
*ISCJB **09** 05:23:28.8±0.5, 6°46S±0°04×147°61E±0°07, h63km, mb4.5/21, Error ellipse: s-maj=10.3km s-min=5.6km az=177.8*
*NEIC **09** 05:23:29.2±0.6, 6°41S×147°54E, h50km±5km, mb4.7/2, Error ellipse: s-maj=10.3km s-min=6.2km az=97.0*
*AUST **09** 05:23:37.7±1.1, 6°82S×147°23E, h96km, Error ellipse: s-maj=2.4km s-min=0.9km az=229.0*

ISC 09 05:23:31.2±0.5, 6°49S±0°05×147°53E±0°07, h63km, n86, σ1§57/96, mb4.5/21, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	2.92	187	ePn	Pn	05 24 15.5	+0.1
PMG				eSn	Sn	05 24 46.2	-3.0
PMG				Sn	Sn	05 24 48.2	-1.1
PMG	Port Moresby	2.92	187	P	Pn	05 24 15.7	+0.4
PMG	Port Moresby	2.92	187	Pn	Pn	05 24 16.2	+0.8
	38nm,0.3s,baz=356,slow=12,SNR=56						
PMG				Sn	Sn	05 24 48.2	-1.1
	54nm,0.3s,baz=24,slow=20,SNR=4.6						
JAY	Jayapura	7.87	300	P	Pn	05 25 25.1	+2.0
	baz=7.8,SNR=3.0						
COEN	Coen	8.57	210	ePn	Pn	05 25 32.2	-0.5
	64nm,0.3s						
COEN				eSn	Sn	05 27 04.7	-3.2
COEN	Coen	8.57	210	P	Pn	05 25 33.7	+1.0
	baz=8.2,SNR=29						
COEN				S	Sn	05 27 03.8	-4.1
	baz=8.2,SNR=10						
MTSU	Mount Surprise	11.99	195	P	Pn	05 26 21.0	+1.5
	baz=12,SNR=37						
HNR	Honiara	12.64	104	LR	LR	05 30 32.5	
	comp=Z,110nm,20.3s,baz=49,slow=34						
CTA	Charters Tower	13.57	185	Pn	Pn	05 26 39.9	-1.1
CTA				Sn	Sn	05 29 10.3	+0.1
CTA	Charters Tower	13.57	185	Pn	Pn	05 26 39.9	-1.1
	0.4nm,0.3s,baz=337,slow=13,SNR=2.5						
CTA				Sn	Sn	05 29 10.3	+0.1
	0.2nm,0.3s,baz=98,slow=15,SNR=1.8						
FAKI	Fak Fak	15.64	282	P	P	05 27 11.6	+0.8
	baz=15,SNR=3.4						
KDU	Kakadu	16.07	246	P	Pn	05 27 13.2	-0.1
	baz=16,SNR=26						
MTN	Manton Dam	17.35	247	P	P	05 27 32.5	+2.7
	baz=17,SNR=5.3						
WRAB	Tennant Creek	18.51	223	eP	P	05 27 41.4	-1.1
	14nm,0.6s						
WRA	Warramunga Arr	18.52	223	P	P	05 27 41.8	-0.9
WRA				S	Sn	05 31 07.3	-2.7
WRA				ScP	ScP	05 35 43.6	+2.8
WRA	Warramunga Arr	18.52	223	P	P	05 27 41.8	-0.9
	1.4nm,0.3s,baz=48,slow=11,SNR=50						
WRA				S	Sn	05 31 07.3	-2.7
	0.2nm,0.3s,baz=42,slow=20,SNR=5.2						
WRA				ScP	ScP	05 35 43.6	+2.8
	0.1nm,0.3s,baz=50,slow=2.6,SNR=4.5						
WRA				LR	LR	05 35 46.5	
	comp=Z,141nm,18.9s,baz=35,slow=40						
PALU	Palau	18.93	316	S	S	05 31 00.5	-19
	baz=19,SNR=7.0						
EIDS	Eidsvold	19.08	170	P	Pn	05 27 53.5	+3.3
	baz=19,SNR=4.2						
RMQ	Roma	19.92	177	P	Pn	05 28 00.4	+0.3
	baz=20,SNR=4.6						
KNRA	Kununurra	20.54	242	P	P	05 28 03.4	-1.3
	baz=20,SNR=12						
AS31	Alice Springs	21.52	216	eP	P	05 28 13.6	-1.7
ASAR	Alice Springs	21.53	216	P	P	05 28 14.7	-0.6
ASAR				S	S	05 32 10.9	+0.2
ASAR				ScP	ScP	05 35 51.4	+3.6
ASAR	Alice Springs	21.53	216	P	P	05 28 14.7	-0.6
	12nm,0.8s,baz=57,slow=9.1,SNR=119						
ASAR				S	S	05 32 10.9	+0.2
	13nm,1.0s,baz=35,slow=21,SNR=16						
ASAR				ScP	ScP	05 35 51.4	+3.6
	2.0nm,0.8s,baz=27,slow=2.4,SNR=8.5						
ASAR				LR	LR	05 37 10.9	
	comp=Z,153nm,20.0s,baz=83,slow=38						
SOEI	Soe	23.25	260	P	P	05 28 34.5	+0.9
	46nm,1.1s						
BATI	Baumata	23.90	259	P	P	05 28 40.2	+0.8
BATI	Baumata	23.90	259	P	P	05 28 41.4	+2.0
	64nm,1.1s						
BATI	Baumata	23.90	259	P	P	05 28 40.2	+0.8
	80nm,0.8s,baz=84,slow=1.0,SNR=7.7						
ARMA	Armidale	24.11	171	P	P	05 28 41.7	+0.4
	baz=24,SNR=5.3						
FITZ	Fitzroy Crossi	24.27	240	P	P	05 28 41.8	-0.9
FITZ				S	S	05 33 00.9	+3.5
FITZ	Fitzroy Crossi	24.27	240	P	P	05 28 41.8	-0.9
	44nm,0.8s,baz=66,slow=8.9,SNR=91						
FITZ				S	S	05 33 00.9	+3.5
	3.9nm,0.9s,baz=61,slow=19,SNR=3.8						
FITZ				LR	LR	05 39 16.7	
	comp=Z,86nm,20.8s,baz=64,slow=39						
FITZ	Fitzroy Crossi	24.27	240	P	P	05 28 41.9	-0.9
	baz=24,SNR=60						
MMRI	Maumere	25.16	264	P	P	05 28 51.2	+0.3
	110nm,0.8s						
LUWI	Luwuk	25.28	281	S	S	05 32 45.6	-28
	baz=25,SNR=8.1						
STKA	Stephens Creek	25.86	192	P	P	05 28 56.5	-0.5
STKA	Stephens Creek	25.86	192	P	P	05 28 56.5	-0.5
	8.2nm,0.9s,baz=13,slow=12,SNR=15						
STKA				LR	LR	05 38 46.9	
	comp=Z,135nm,19.6s,baz=22,slow=36						
STKA	Stephens Creek	25.86	192	P	P	05 28 56.5	-0.5
	baz=26,SNR=13						
SKSI	Soroako, Sulaw	26.40	277	P	P	05 29 04.8	+2.5
	48nm,1.1s						
MRSI	Marisa	26.46	284	P	P	05 29 06.9	+4.2
WSI	Waingapu	27.14	262	P	P	05 29 21.8	+13
	baz=27,SNR=5.2						
KAPI	Kappang	27.68	272	P	P	05 29 13.6	0.0
KAPI	Kappang	27.68	272	P	P	05 29 13.6	0.0
	4.3nm,0.3s,baz=32,slow=11,SNR=3.6						
MBWA	Marble Bar	30.60	239	P	P	05 29 38.6	-0.8
MEEK	Meekatharra	34.05	231	P	P	05 30 09.3	-0.3
	baz=34,SNR=5.8						
MORW	Morawa	37.25	229	P	P	05 30 36.5	-0.5
	baz=37,SNR=9.5						
KLBR	Kellerberrin	37.39	224	P	P	05 30 37.1	-1.1
	baz=37,SNR=6.0						
NWAO	Narrogin (SRO)	38.53	223	LR	LR	05 47 43.4	
	comp=Z,173nm,18.5s,baz=9.3,slow=38						
RPZ	Rata Peaks	42.44	155	P	P	05 31 20.8	+0.9
RPZ	Rata Peaks	42.44	155	P	P	05 31 20.8	+0.9
	8.7nm,0.6s,baz=320,slow=5.5,SNR=7.3						
PMBI	Palembang	42.75	273	S	S	05 37 23.1	-19
	baz=42,SNR=5.0						
MJAR	Matsushiro Arr	43.69	349	pP	pP	05 31 41.6	-4.4
MJAR	Matsushiro Arr	43.69	349	pP	pP	05 31 41.6	-4.4
	0.7nm,0.3s,baz=170,slow=9.4,SNR=2.3						
PSI	Prapat	49.40	279	P	P	05 32 14.6	-0.7
PSI	Prapat	49.40	279	P	P	05 32 14.6	-0.7
	2.9nm,0.6s,baz=151,slow=9.0,SNR=5.9						
CMAR	Chiang Mai Arr	53.95	298	P	P	05 32 48.6	-0.4
CMAR	Chiang Mai Arr	53.95	298	P	P	05 32 48.6	-0.4
	2.1nm,0.4s,baz=120,slow=4.6,SNR=6.7						
PETK	Petropavlovsk-	59.99	7	P	P	05 33 30.4	-0.7
PETK	Petropavlovsk-	59.99	7	P	P	05 33 30.4	-0.7
	2.6nm,0.7s,baz=148,slow=8.5,SNR=2.7						
SONM	Songino Array	65.09	331	P	P	05 34 05.2	-0.1
SONM				sP	sP	05 34 20.0	-9.3
SONM	Songino Array	65.09	331	P	P	05 34 05.2	-0.1
	0.5nm,0.6s,baz=145,slow=8.6,SNR=4.5						
SONM				sP	sP	05 34 20.0	-9.3
	1.5nm,1.0s,baz=152,slow=5.9,SNR=4.2						
VNDA	Vanda	71.40	177	eP	P	05 34 44.4	+0.2
VNDA	Vanda	71.40	177	P	P	05 34 44.3	+0.1
	6.6nm,0.7s,baz=331,slow=6.4,SNR=31						
MKAR	Makanchi Array	78.21	320	P	P	05 35 23.1	-1.1
MKAR	Makanchi Array	78.21	320	P	P	05 35 23.1	-1.1
	0.5nm,0.6s,baz=97,slow=8.3,SNR=6.1						
ZALV	Zalesovo Beam	79.70	328	P	P	05 35 29.8	-2.3
ZALV	Zalesovo Beam	79.70	328	P	P	05 35 29.8	-2.3
	1.4nm,0.5s,baz=99,slow=5.6,SNR=5.7						
KURK	Kurchatov	81.92	323	P	P	05 35 43.3	-0.7
KURBB	Kurchatov Arra	81.94	323	P	P	05 35 43.3	-0.8
	0.4nm,0.7s,baz=107,slow=4.1,SNR=4.4						
MAW	Mawson	82.00	203	P	P	05 35 43.7	-0.4
MAW	Mawson	82.00	203	P	P	05 35 43.7	-0.4
	4.3nm,0.9s,baz=64,slow=10,SNR=5.9						
AAK	Ala-Archa	82.06	315	P	P	05 35 44.6	-0.5
AAK	Ala-Archa	82.06	315	P	P	05 35 44.6	-0.5
	0.9nm,0.3s,baz=100,slow=6.1						
QSPA	South Pole Qui	83.48	180	eP	P	05 35 51.1	-0.9
	16nm,0.7s						
ILAR	Eielson Array	85.72	23	P	P	05 36 00.6	-2.5
ILAR	Eielson Array	85.72	23	P	P	05 36 00.6	-2.5
	0.4nm,0.5s,baz=251,slow=5.0,SNR=12						
GERES	GERESS Array B	122.61	326	PKP	PKPdf	05 42 18.8	-1.2
GERES	GERESS Array B	122.61	326	PKP	PKPdf	05 42 18.8	-1.2
	0.4nm,0.3s,baz=122,slow=1.7,SNR=4.4						
LPAZ	La Paz	138.08	123	PKP	PKPdf	05 42 50.5	-0.3
LPAZ	La Paz	138.08	123	PKP	PKPdf	05 42 50.5	-0.3
	1.0nm,0.7s,baz=181,slow=5.5,SNR=5.1						
TORD	Torodi Ar. Bea	145.72	284	PKPbc	PKPdf	05 43 03.6	-0.1
TORD				SKP		05 46 35.6	
TORD	Torodi Ar. Bea	145.72	284	PKPbc	PKPdf	05 43 03.6	-0.1
	7.9nm,0.6s,baz=74,slow=3.4,SNR=58						
TORD				SKP		05 46 35.6	
	0.6nm,0.7s,baz=93,slow=3.0,SNR=3.8						
SAML	Samuel	145.76	116	ePKPdf	PKPdf	05 43 03.4	-0.4
STVI	Saint Thomas	146.22	67	ePKPdf	PKPbc	05 43 05.0	-0.5
DBIC	Dimbokro	152.57	272	PKPbc	PKPbc	05 43 21.6	-0.2
DBIC				PKPab	PKPab	05 43 33.0	+0.7
DBIC	Dimbokro	152.57	272	PKPbc	PKPbc	05 43 21.6	-0.2
	3.2nm,0.7s,baz=79,slow=7.7,SNR=7.6						
DBIC				PKPab	PKPab	05 43 33.0	+0.7
	1.7nm,0.5s,baz=47,slow=3.1,SNR=8.5						
BDFB	Brasilia	153.16	145	PKPbc	PKPbc	05 43 22.8	-0.3
BDFB	Brasilia	153.16	145	PKPbc	PKPbc	05 43 22.8	-0.3
	2.5nm,0.7s,baz=193,slow=2.0,SNR=4.5						

*IDC **09** 05:32:43.5±1.2, 26°55N×126°02E, h0km, mb3.7/6, mb1 3.8/7, mb1mx3.7/25, mbtmp3.8/7, ML3.2/1, MS3.3/3, Ms1 3.3/3, ms1mx2.9/42, Error ellipse: s-maj=49.4km s-min=18.5km az=68.0*
*JMA **09** 05:32:44.0±0.3, 26°76N×126°45E, h9km, M3.4*

ISC 09 05:32:44.4±2.2, 26°73N±0°09×126°45E±0°08, h12km±14km, n17, σ0§63/18, mb3.7/6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	Kume jima 2	0.50	143	P	Pg	05 32 54.2	+0.1
JKE				eS	Sg	05 33 01.2	+0.5
JAGN	Aguni-jima	0.72	101	P	Pg	05 32 57.9	-0.4
JAGN				eS	Sg	05 33 08.1	+0.3
JJT2	Tamagusuku 2	1.30	116	P	Pn	05 33 08.8	+0.4
JJT2				eS	Sg	05 33 26.0	-0.3
JIH	Iheya	1.39	77	P	Pn	05 33 08.6	-1.0
JIH				eS	Sb	05 33 28.1	+0.1
JOW	Kunigami	1.63	86	P	Pn	05 33 12.3	-0.7
JAMN	Amaminishikomi	2.85	57	P	Pn	05 33 30.6	+0.8
JAM	Amami Oshima	3.26	58	P	Pn	05 33 36.0	+0.6
JAM				eS	Sn	05 34 14.8	+0.6
JNU	Nakatsue	7.44	30	Pn	Pn	05 34 38.2	+5.3
	0.3nm,0.3s,baz=212,slow=9.8,SNR=4.0						
KSRS	Korea Array	10.77	6	LR	LR	05 39 42.5	
	comp=Z,62nm,18.1s,baz=185,slow=38						
CBIJ	Chichi jima	14.04	85	LR	LR	05 41 03.1	
	comp=Z,280nm,20.4s,baz=154,slow=35						
SONM	Songino Array	26.29	329	P	P	05 38 20.4	+0.5
	0.8nm,0.3s,baz=140,slow=7.5,SNR=8.2						
PETK	Petropavlovsk-	35.13	33	LR	LR	05 55 47.4	
	comp=Z,53nm,18.0s,baz=31,slow=39						
MKAR	Makanchi Array	40.02	312	P	P	05 40 18.9	-0.3
	0.8nm,0.6s,baz=97,slow=9.9,SNR=9.6						
ZALV	Zalesovo Beam	40.89	323	P	P	05 40 25.8	-0.5
	2.0nm,0.6s,baz=120,slow=7.2,SNR=7.6						
KURBB	Kurchatov Arra	43.40	317	P	P	05 40 46.3	-0.5
	1.2nm,0.7s,baz=104,slow=8.9,SNR=11						
WRA	Warramunga Arr	47.02	170	P	P	05 41 15.1	-0.7
	0.7nm,1.1s,baz=350,slow=8.4,SNR=3.6						
ASAR	Alice Springs	50.61	171	P	P	05 41 44.1	+0.7
	0.2nm,0.3s,baz=357,slow=10.0,SNR=3.1						

MEX 09 05:44:02.8±0.5, 19°11N×102°94W, h56km±19km, MD3.8, Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	Aquila	0.90	205	eP	Pn	05 44 17.7	-1.8
MMIG				i S	Sn	05 44 29.8	-1.8
MOIG	Morelia	1.75	71	i P	Pn	05 44 29.8	-1.3
MOIG				i S	Sn	05 44 49.9	-2.5
CJM	Chamela	2.03	281	i P	Pn	05 44 33.5	-1.1
CJM				i S	Sn	05 44 57.5	-1.2
IGIG	Irapuato, Guan	2.23	43	i P	Pn	05 44 35.7	-2.0
IGIG				i S	Sn	05 45 02.5	-1.7
ARIG	Puente Sto Nin	2.59	108	eP	Pn	05 44 40.3	-2.0
ARIG				eS	Sn	05 45 11.2	-1.5
PLIG	Platanillo	3.33	102	eP	Pn	05 44 51.3	-1.3
PLIG				i S	Sn	05 45 28.2	-2.9

IDC 09 05:47:02.8±1.4, 13°16N×93°07E, h0km, mb3.5/7, mb1 3.7/8, mb1mx3.5/28, mbtmp3.5/8, ML3.8/1, MS3.9/3, Ms1 3.9/3, ms1mx3.1/32, Error ellipse: s-maj=42.8km s-min=20.1km az=66.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	7.73	46	Pn	Pn	05 48 57.7	+1.0
	0.4nm,0.3s,baz=238,slow=15,SNR=23						
CMAR				Sn	Sn	05 50 23.9	-1.1
	0.4nm,0.3s,baz=237,slow=27,SNR=4.1						
KAPI	Kappang	32.07	123	LR	LR	06 07 06.0	
	comp=Z,241nm,19.8s,baz=164,slow=38						
MKAR	Makanchi Array	34.73	347	P	P	05 53 54.8	+0.2
	0.6nm,0.8s,baz=152,slow=8.2,SNR=4.5						
SONM	Songino Array	36.31	15	P	P	05 54 08.5	+0.1
	0.8nm,0.8s,baz=193,slow=5.9,SNR=5.4						
KURBB	Kurchatov Arra	39.19	345	P	P	05 54 32.0	-0.5
	0.5nm,0.7s,baz=163,slow=7.5,SNR=6.5						
ZALV	Zalesovo Beam	41.21	353	P	P	05 54 49.4	+0.3
	0.5nm,0.6s,baz=158,slow=8.5,SNR=3.0						
FITZ	Fitzroy Crossi	44.70	133	LR	LR	06 15 19.3	
	comp=Z,95nm,18.3s,baz=81,slow=38						
WRA	Warramunga Arr	52.27	128	P	P	05 56 16.2	-0.1
	0.2nm,0.6s,baz=303,slow=10.0,SNR=4.0						
ASAR	Alice Springs	54.17	132	P	P	05 56 30.4	+0.1
	0.3nm,0.4s,baz=305,slow=6.3,SNR=7.0						
GERES	GERESS Array B	73.22	317	LR	LR	06 35 35.9	
	comp=Z,106nm,18.3s,baz=1.8,slow=40						
ILAR	Eielson Array	90.26	22	P	P	06 00 04.6	-0.7
	0.3nm,0.9s,baz=284,slow=3.6,SNR=3.1						

MEX 09 05:52:26.4±0.9, 14°61N×94°78W, h16km±17km, MD3.9, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	1.72	312	i P	Pn	05 52 52.3	-3.5
HUIG				i S	Sn	05 53 11.6	-5.9
PCIG		1.86	54	i P	Pn	05 52 53.8	-3.7
PCIG				i S	Sn	05 53 15.7	-5.1
CMIG	Matias Romero	2.47	358	eP	Pn	05 53 03.7	-2.3
CMIG				i S	Sn	05 53 31.4	-4.5
VHO	Vista Hermosa	3.09	323	i P	Pn	05 53 12.0	-2.8
VHO				i S	Sn	05 53 48.0	-3.5
PNIG	Pinotepa	3.68	299	i P	Pn	05 53 20.4	-2.4
PNIG				i S	Sn	05 54 01.2	-4.7

*MAN **09** 05:53:50, 12°25N×126°06E, h25km, mb4.9, ML3.9, MS4.0*
*NEIC **09** 05:53:50.8±0.3, 12°13N×126°03E, h10km, mb4.8/9, Error ellipse: s-maj=10.5km s-min=6.2km az=72.0*
*BJI **09** 05:53:51.5, 12°25N×125°98E, h20km, mB5.1/12, mb4.6/17, Ms4.5/15, Ms7 4.2/15*
*ISCJB **09** 05:53:52.2±0.3, 12°13N±0°03×125°93E±0°05, h28km, mb4.7/60, MS3.9/18, Error ellipse: s-maj=7.3km s-min=4.1km az=179.2*
*IDC **09** 05:53:53.8±3.8, 12°06N×125°89E, h28km±26km, mb4.4/26, mb1 4.5/28, mb1mx4.3/37, mbtmp4.4/28, ML4.9/2, MS3.8/13, Ms1 3.8/13, ms1mx3.6/31, Error ellipse: s-maj=22.5km s-min=10.1km az=71.0*
*MOS **09** 05:53:53.7±0.9, 12°00N×125°85E, h41km, mb5.2/20, Error ellipse: s-maj=14.6km s-min=6.3km az=122.1*
*BKK **09** 05:53:56.2±0.9, 12°N±6°×12°6E±1°3, h10km, M4.6/12, mB5.2/1, mb4.6/12, Mw(mB)4.6/1*
*DJA **09** 05:54:30.2±1.8, 11°N±15°×12°5E±°, h314km±13km, M4.7/20, mB5.2/7, mb4.5/20, MLv4.8/1, Mw(mB)4.6/7*

ISC 09 05:53:53.8±0.4, 12°09N±0°04×125°92E±0°06, h28km, n176, σ1§36/178, mb4.8/60, MS3.9/18, 6C-7D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNP	Catarman	1.29	289	eP	Pn	05 54 14.3	-1.7
PLP	Palo	1.30	225	‖eP	Pn	05 54 15.0	-1.2
PVCP	Virac	2.28	311	‖iP	Pn	05 54 27.5	-2.0
SCPH	Surigao	2.33	190	‖eP	Pn	05 54 29.4	-0.9
LLP	Lapu-Lapu	2.60	227	‖eP	Pn	05 54 34.3	+0.2
RCP	Roxas	3.15	261	‖eP	Pn	05 54 43.0	+1.5
RCP				eS	Sb	05 55 24.0	-3.1
AUQP	San Andres	3.39	291	eP	Pn	05 54 48.6	+3.7
CGP	Cagayan de Oro	3.81	199	‖eP	Pn	05 54 48.4	-2.3
CGP				eS	Sn	05 55 35.8	+1.2
GQP	Guinayangan	3.83	298	‖eP	Pn	05 54 54.9	+4.0
BOAC	Boac	4.20	289	eP	Pn	05 54 53.2	-2.8
LQP	Lukban	4.71	296	eP	Pb	05 55 10.7	-5.2
TGY	Tagaytay City	5.25	293	Pn	Pn	05 55 12.3	+1.9
TGY	Tagaytay City	5.25	293	Pn	Pn	05 55 12.3	+1.9
	30nm,0.3s,baz=212,slow=7.6,SNR=5.5						
TWG	Pinlang	11.62	337	Pn	Pn	05 56 43.4	+5.5
GTOI	Gorontalo	11.74	194	P	Pn	05 56 46.5	+6.9
	30nm,1.4s						
TTSI	Tana Toraja	16.21	202	P	P	05 57 43.8	+1.1
	52nm,1.3s,1μm						
S

KSRS LR LR 06 08 46.9
comp=Z,99nm,18.9s,baz=52,slow=35
KPJI Karang Pucung 25.65 222 P **P 05 59 22.5 +1.2**
CRAI Chiangrai 25.80 292 P **P 05 59 21.4 -1.4**
comp=Z,26nm,1.1s
MJAR Matsushiro Arr 26.74 22 LR LR 06 09 51.2
comp=Z,184nm,18.0s,baz=205,slow=36
CM31 Chiang Mai Arr 26.76 287 P **P 05 59 30.7 -0.8**
CMAR Chiang Mai Arr 26.76 287 P **P 05 59 30.7 -0.7**
CMAR PcP **PcP 06 02 55.1 +0.7**
CMAR Chiang Mai Arr 26.76 287 P **P 05 59 30.7 -0.7**
comp=Z,8.3nm,1.0s,baz=95,slow=7.3,SNR=21
CMAR PcP **PcP 06 02 55.1 +0.7**
comp=Z,1.1nm,0.4s,baz=42,slow=0.8,SNR=5.6
CMAR LR LR 06 10 59.7
comp=Z,189nm,18.8s,baz=257,slow=38
XAN Xi'an 26.78 327 P **P 05 59 30.7 -0.8**
XAN pP **pP 05 59 39.9 +0.2**
XAN sP **sP 05 59 44.5 +1.3**
XAN pmax pmax
comp=Z,5.0nm,1.2s
XAN pmax pmax
comp=Z,39nm,6.8s
XAN LR LR
comp=N,250nm,15.3s
XAN LR LR
comp=Z,120nm,16.3s
CMAI Chiengmai2 26.95 290 P **P 05 59 33.5 +0.2**
comp=Z,25nm,1.1s
PSI Prapat 28.28 253 P **P 05 59 44.7 -0.6**
PSI Prapat 28.28 253 P **P 05 59 44.7 -0.6**
comp=Z,1.9nm,0.3s,baz=66,slow=10.0,SNR=3.7
PSI LR LR 06 12 15.6
comp=Z,308nm,20.2s,baz=254,slow=39
FITZ Fitzroy Crossi 30.00 181 *eP* **P 05 59 59.6 -0.7**
comp=Z,11nm,1.0s
FITZ Fitzroy Crossi 30.00 181 P **P 05 59 60.0 -0.3**
comp=Z,1.7nm,0.5s,baz=0.0,slow=6.1,SNR=10
PMG Port Moresby 30.03 134 P **P 06 00 00.3 -0.3**
PMG Port Moresby 30.03 134 P **P 06 00 00.3 -0.3**
comp=Z,5.0nm,0.5s,baz=298,slow=8.4,SNR=3.2
PMG LR LR 06 11 46.1
comp=Z,104nm,18.2s,baz=265,slow=36
USRK Ussuriysk Arra 32.42 8 LR LR 06 12 03.7
comp=Z,70nm,20.8s,baz=176,slow=34
WRAB Tennant Creek 32.89 165 *eP* P 06 00 32.7 +7.0
WRAB pmax pmax
comp=Z,23nm,1.7s
WRA Warramunga Arr 32.90 165 P **P 06 00 24.1 -1.6**
WRA PcP **PcP 06 03 10.5 +0.4**
WRA Warramunga Arr 32.90 165 P **P 06 00 24.1 -1.6**
comp=Z,3.4nm,1.2s,baz=343,slow=9.5,SNR=6.2
WRA PcP **PcP 06 03 10.5 +0.4**
comp=Z,2.1nm,1.0s,baz=336,slow=3.4,SNR=5.0
SHL Shillong 34.77 298 *eP* **P 06 00 41.5 -0.8**
GTA Gaotai 35.70 324 ⇓P **P 06 00 50.9 +0.8**
GTA pP **pP 06 00 54.2 -4.2**
GTA sP **sP 06 00 56.9 -4.9**
GTA pmax pmax
comp=Z,7.0nm,1.4s
GTA pmax pmax
comp=Z,45nm,4.0s
GTA LR LR
comp=N,220nm,16.4s
GTA LR LR
comp=E,360nm,15.7s
GTA LR LR
comp=Z,360nm,16.2s
AS31 Alice Springs 36.39 168 *eP* **P 06 00 56.7 +0.7**
ASAR Alice Springs 36.39 168 P **P 06 00 55.6 -0.3**
ASAR PcP **PcP 06 03 18.6 -1.5**
ASAR ScP **ScP 06 07 05.1 +0.2**
ASAR Alice Springs 36.39 168 P **P 06 00 55.6 -0.3**
comp=Z,1.2nm,0.6s,baz=345,slow=7.0,SNR=12
ASAR PcP **PcP 06 03 18.6 -1.5**
comp=Z,3.0nm,1.1s,baz=7.9,slow=5.1,SNR=4.3
ASAR ScP **ScP 06 07 05.1 +0.2**
comp=Z,1.6nm,1.1s,baz=344,slow=3.9,SNR=5.5
LSA Lhasa 36.71 304 *eP* **P 06 00 59.7 +0.5**
LSA pmax pmax
comp=Z,29nm,1.3s
LSA Lhasa 36.71 304 *eP* **P 06 00 59.7 +0.5**
comp=Z,30nm,1.3s
TAPN Taplejung 38.85 299 *eP* **P 06 01 16.9 -0.3**
ODAN Odare 39.00 298 *eP* **P 06 01 17.7 -0.7**
comp=Z,89nm,1.1s
SONM Songino Array 39.20 339 P **P 06 01 20.3 +0.7**
SONM Songino Array 39.20 339 P **P 06 01 20.3 +0.7**
comp=Z,6.8nm,1.2s,baz=157,slow=8.8,SNR=16
SONM LR LR 06 18 18.2
comp=Z,107nm,18.5s,baz=284,slow=37
HNR Honiara 40.02 121 LR LR 06 14 48.6
comp=Z,245nm,21.9s,baz=52,slow=31
JIRN Jiri 40.24 299 *eP* **P 06 01 28.1 -0.7**
GUN Gumba 40.57 299 *eP* **P 06 01 31.0 -0.5**
comp=Z,128nm,1.1s
PKI Pulchoki 40.89 298 *eP* **P 06 01 33.1 -1.0**
KKN Kakani 41.05 299 *eP* **P 06 01 34.6 -0.8**
DMN Daman 41.16 298 *eP* **P 06 01 35.6 -0.7**
comp=Z,89nm,1.1s
ZAK Zakamensk 42.45 339 *eP* **P 06 01 47.6 +1.3**
ZAK pmax pmax
comp=Z,2.0nm,1.4s
DANN Dangsing 42.49 299 *eP* **P 06 01 46.1 -1.1**
comp=Z,173nm,1.3s
KOLN Koldanda 42.49 298 *eP* **P 06 01 46.3 -0.9**
PYUN Piuthan 43.09 298 *eP* **P 06 01 50.6 -1.4**
comp=Z,204nm,1.1s
NWAO Narrogin (SRO) 45.53 190 P **P 06 02 10.1 -1.0**
NWAO Narrogin (SRO) 45.53 190 P **P 06 02 10.1 -1.0**
comp=Z,10nm,0.9s,baz=11,slow=10,SNR=7.4
WMQ Urumqi 45.59 321 P **P 06 02 12.6 +1.0**
WMQ pP **pP 06 02 22.6 +2.6**
WMQ sP **sP 06 02 26.6 +3.2**
WMQ pmax pmax
comp=Z,14nm,1.0s
WMQ pmax pmax
comp=Z,200nm,7.0s
WMQ LR LR
comp=N,320nm,20.1s
WMQ LR LR
comp=Z,200nm,16.4s
STKA Stephens Creek 46.23 161 P **P 06 02 18.1 +1.4**
STKA Stephens Creek 46.23 161 P **P 06 02 18.1 +1.4**
comp=Z,1.3nm,0.3s,baz=342,slow=13,SNR=4.2
HVS Khovu-Aksy 46.92 333 *eP* **P 06 02 23.2 +1.3**
HVS pmax pmax
comp=Z,54nm,1.2s
PETK Petropavlovsk- 48.14 25 LR LR 06 19 57.4
comp=Z,78nm,20.3s,baz=61,slow=32
YAK Yakutsk 49.93 2 *eP* **P 06 02 45.4 +0.6**
YAK pmax pmax
comp=Z,24nm,1.2s
MKAR Makanchi Array 50.38 322 P **P 06 02 49.0 +0.4**
MKAR Makanchi Array 50.38 322 P **P 06 02 49.0 +0.4**
MKAR Makanchi Array 50.38 322 P **P 06 02 49.0 +0.4**
comp=Z,18nm,1.0s,baz=114,slow=7.5,SNR=74
MKAR LR LR 06 25 49.5
comp=Z,107nm,18.1s,baz=134,slow=38
ZALV Zalesovo Beam 52.87 331 P **P 06 03 07.0 0.0**
ZALV Zalesovo Beam 52.87 331 P **P 06 03 07.0 0.0**
ZALV Zalesovo Beam 52.87 331 P **P 06 03 07.0 0.0**
comp=Z,3.1nm,0.9s,baz=104,slow=6.3,SNR=9.6
ZALV LR LR 06 27 23.7
comp=Z,103nm,18.4s,baz=149,slow=38
KZA Kyzart 53.09 314 *i P* **P 06 03 10.6 +1.2**
KZA Kyzart 53.09 314 P **P 06 03 10.6 +1.2**
SNR=7.4
TKM2 Tokmak 2 53.13 315 *eP* **P 06 03 09.9 +0.5**
TKM2 pmax pmax
comp=Z,11nm,1.1s
TKM2 Tokmak 2 53.13 315 P **P 06 03 09.9 +0.5**
SNR=7.1
TKM2 Tokmak 2 53.13 315 *eP* **P 06 03 09.9 +0.5**
comp=Z,11nm,1.1s
KBK Karagaybulak 53.49 315 *i P* **P 06 03 13.3 +1.3**
KBK Karagaybulak 53.49 315 P **P 06 03 13.3 +1.3**
SNR=6.9
CHMS Chumysh 53.74 315 *i P* **P 06 03 14.5 +0.8**
CHMS Chumysh 53.74 315 P **P 06 03 14.5 +0.8**
SNR=5.8
AAK Ala-Archa 53.80 314 *eP* **P 06 03 13.3 -1.0**
AAK pmax pmax
comp=Z,26nm,2.0s
AAK Ala-Archa 53.80 314 P **P 06 03 14.0 -0.2**
AAK Ala-Archa 53.80 314 P **P 06 03 14.0 -0.2**
comp=Z,0.6nm,0.3s,baz=114,slow=13,SNR=5.7
USP Ospenovka 54.00 315 *i P* **P 06 03 15.9 +0.3**
USP Ospenovka 54.00 315 P **P 06 03 15.9 +0.3**
SNR=7.7
NVS Novosibirsk 54.15 331 *eP* **P 06 03 14.6 -1.7**
SEY Seymchan 54.15 15 *i P* **P 06 03 18.4 +2.2**
AML Almayashu 54.21 314 *i P* **P 06 03 18.3 +0.8**
AML Almayashu 54.21 314 P **P 06 03 18.3 +0.8**
SNR=11
EKS2 Erkin-Say 54.31 314 *eP* **P 06 03 18.6 +0.7**
EKS2 pmax pmax
comp=Z,16nm,1.1s
EKS2 Erkin-Say 54.31 314 P **P 06 03 19.2 +1.2**
SNR=10
EKS2 Erkin-Say 54.31 314 *eP* **P 06 03 18.6 +0.7**
comp=Z,16nm,1.1s
KK31 Karatay Array 56.74 314 *i P* **P 06 03 34.7 -0.6**
KK31 pmax pmax
comp=Z,14nm,0.9s
VOSK Vostochnaya 59.54 325 *eP* **P 06 03 54.3 -0.4**
VOSK pmax pmax
comp=Z,10.0nm,1.0s
VOSK Vostochnaya 59.54 325 *eP* **P 06 03 54.3 -0.4**
comp=Z,10nm,1.0s
BRVK Borovoye 60.05 325 *c i P* **P 06 03 58.2 0.0**
BRVK pmax pmax
comp=Z,33nm,1.2s
BRVK Borovoye 60.05 325 *eP* **P 06 03 58.7 +0.5**
comp=Z,28nm,1.1s
AB31 Akbulak array 65.28 319 P **P 06 04 32.4 -0.7**
AB31 pmax pmax
comp=Z,3.0nm,0.5s
ABKAR Akbulak array 65.28 319 *eP* **P 06 04 33.0 -0.1**
SVE Sverdlovsk 66.50 327 *eP* **P 06 04 41.0 +0.2**
SVE pmax pmax
comp=Z,24nm,1.4s
AKTO Aktyubinsk 66.71 320 P **P 06 04 41.3 -1.0**
AKTO pmax pmax
comp=Z,16nm,1.6s
AKTO Aktyubinsk 66.71 320 P **P 06 04 40.9 -1.4**
AKTO Aktyubinsk 66.71 320 P **P 06 04 40.9 -1.4**
comp=Z,4.0nm,0.9s,baz=107,slow=9.5,SNR=7.5
ARU Arti 67.52 326 *d i P* **P 06 04 47.2 -0.1**
ARU 06 07 12.9
ARU S **S 06 13 41.3 -0.7**
ARU pmax pmax
comp=Z,19nm,1.2s
BPAW Bear Paw Mtn. 76.19 27 *epP* **P 06 05 40.5 +1.2**
KBZ Khabaz 76.73 312 P **P 06 05 42.2 -0.5**
KBZ Khabaz 76.73 312 P **P 06 05 42.2 -0.5**
KBZ Khabaz 76.73 312 P **P 06 05 42.2 -0.5**
comp=Z,6.7nm,1.0s,baz=38,slow=10,SNR=5.6
KBZ LR LR 06 39 41.6
comp=Z,82nm,18.9s,baz=245,slow=36
MCK McKinley 77.10 27 *eP* P 06 05 48.0 +3.5
MCK McKinley 77.10 27 *epP* P 06 05 48.0 +3.5
KLMR Klimovskoe 77.78 330 *eP* **P 06 05 46.9 -1.3**
KLMR pmax pmax
comp=Z,62nm,1.7s
ILAR Eielson Array 77.96 26 P **P 06 05 49.3 +0.1**
ILAR Eielson Array 77.96 26 P **P 06 05 49.3 +0.1**
comp=Z,1.0nm,1.1s,baz=227,slow=5.2,SNR=5.7
VSR Storozhevoye 78.66 320 *i P* **P 06 05 53.2 -0.1**
VSR pmax pmax
comp=Z,37nm,1.3s
LVZ Lovozero 79.37 337 ⇑ *i P* **P 06 05 59.1 +2.2**
LVZ pmax pmax
comp=Z,48nm,1.5s
OBN Obninsk 79.82 324 ⇑ *i P* **P 06 06 00.0 +0.5**
OBN *i* 06 06 07.7
OBN *eS* S 06 16 08.8 +8.1
OBN *eSS* **SS 06 21 05.8 -3.9**
OBN pmax pmax
comp=Z,23nm,1.3s
OBN MLR MLR
comp=Z,100nm,14.0s
SPITS Spitsbergen Ar 82.17 349 P **P 06 06 12.0 +0.3**
SPITS Spitsbergen Ar 82.17 349 P **P 06 06 12.0 +0.3**
comp=Z,12nm,1.0s,baz=111,slow=6.6,SNR=8.7
ARCES ARCESS Array B 82.37 340 P **P 06 06 13.2 +0.2**
ARCES ARCESS Array B 82.37 340 P **P 06 06 13.2 +0.2**
comp=Z,25nm,1.1s,baz=77,slow=6.0,SNR=13
ASF Jabal al Asfar 82.85 301 P **P 06 06 17.1 +0.8**
ASF Jabal al Asfar 82.85 301 P **P 06 06 17.1 +0.8**
comp=Z,8.9nm,1.0s,baz=42,slow=3.0,SNR=7.9
MMAI Mount Meron Ar 83.94 302 P **P 06 06 23.2 +1.3**
MMAI Mount Meron Ar 83.94 302 P **P 06 06 23.2 +1.3**
comp=Z,2.2nm,0.5s,baz=75,slow=7.9,SNR=7.3
BRTR Keskin Array B 84.11 309 P **P 06 06 22.0 -0.7**
BRTR Keskin Array B 84.11 309 P **P 06 06 22.0 -0.7**
comp=Z,2.1nm,1.0s,baz=116,slow=5.6,SNR=6.8
FINES FINESS Array B 84.13 332 P **P 06 06 22.1 0.0**
FINES FINESS Array B 84.13 332 P **P 06 06 22.1 0.0**
comp=Z,19nm,1.1s,baz=54,slow=9.7,SNR=10
VSU Vasula 84.55 329 *i P* **P 06 06 24.5 +0.3**
VSU pmax pmax
comp=Z,111nm,1.1s
AKASG Malin Array Be 84.94 321 P **P 06 06 26.0 -0.4**
AKASG Malin Array Be 84.94 321 P **P 06 06 26.0 -0.4**
AKASG Malin Array Be 84.94 321 P **P 06 06 26.0 -0.4**
comp=Z,9.0nm,1.0s,baz=61,slow=5.6,SNR=16
EIL Elat 84.94 299 P **P 06 06 27.5 +0.6**
EIL Elat 84.94 299 P **P 06 06 27.5 +0.6**
comp=Z,8.8nm,0.9s,baz=66,slow=4.8,SNR=7.0
KIEV Kiev 84.95 321 *eP* **P 06 06 25.8 -0.7**
KIEV Kiev 84.95 321 *eP* **P 06 06 25.8 -0.7**
CSS Prodhromos 85.27 305 *eP* **P 06 06 27.8 -0.6**
KOLS Kolonicke sedl 89.75 320 *eP* **P 06 06 51.3 +1.6**
KOLS Kolonicke sedl 89.75 320 *eP* **P 06 06 51.3 +1.6**
UZH Uzhgorod 89.83 320 *eP* P 06 06 54.3 +4.2
UZH *e* 06 07 10.7
CRVS Cervenica-Dubn 90.27 320 *eP* **P 06 06 52.4 +0.3**
CRVS pmax pmax
comp=Z,12nm,1.3s
CRVS Cervenica-Dubn 90.27 320 *eP* **P 06 06 52.4 +0.3**
NOA NORSAR Array B 90.98 334 LR LR 06 55 53.6
comp=Z,91nm,19.4s,baz=315,slow=41
VNDA Vanda 91.77 173 P **P 06 06 58.4 0.0**
VNDA Vanda 91.77 173 P **P 06 06 58.4 0.0**
comp=Z,3.0nm,1.2s,baz=312,slow=4.0,SNR=5.6
TORD Torodi Ar. Bea 119.26 293 PKP **PKPdf 06 12 39.9 -1.6**
TORD Torodi Ar. Bea 119.26 293 PKP **PKPdf 06 12 39.8 -1.6**
comp=Z,0.8nm,1.0s,baz=350,slow=5.4,SNR=4.0
TAG Tarade 151.06 15 *eP* **PKPdf 06 13 38.0 -1.6**
PHG Guadaloupe-2 151.09 15 *eP* **PKPdf 06 13 37.6 -2.0**
TBG Guadaloupe-3 151.24 15 *eP* **PKPdf 06 13 34.9 -4.8**

NEIC ***09*** *05:56:46.9±1.2,35°.84N×29°.93E,h10km,mb4.3/6, ML4.1(ISK),ML4.4(THE),Error ellipse: s-maj=22.4km s-min=12.3km az=174.0*
ISK ***09*** *05:56:46.0,35°.48N×29°.93E,h18km,ML4.3*
ISCJB ***09*** *05:56:48.1±0.2,35°.50N±0°.02×29°.94E±0°.01,h77km±3km, mb3.9/14,Error ellipse: s-maj=2.6km s-min=1.8km az=23.3*
IDC ***09*** *05:56:48.3±1.2,35°.59N×29°.92E,h54km±14km,mb3.7/11, mb1 3.8/18,mb1mx3.7/30,mbtmp3.7/18,Error ellipse: s-maj=11.2km s-min=8.2km az=3.0*
CSEM ***09*** *05:56:49.9±0.1,35°.55N×29°.94E,h70km±2km,MD3.8, Mw3.7,Error ellipse: s-maj=2.3km s-min=1.6km az=21.0*
ATH ***09*** *05:56:49.5,35°.69N×29°.86E,h89km±1km*
NSSC ***09*** *05:56:51.1±3.7,35°.54N×30°.48E,h0km±257km,ML3.3*
THE ***09*** *05:56:51.2,35°.64N×29°.94E,h72km±5km,ML4.4/2,Error ellipse: s-maj=5.8km s-min=1.5km az=24.0*
NIC ***09*** *05:56:51.8±0.1,35°.69N×30°.11E,h51km,ML3.5,MW3.7*
DDA ***09*** *05:56:52.5,35°.76N×29°.75E,h45km,MD3.8*
HLW ***09*** *05:56:53.4,35°.39N×29°.79E,h33km±16km,Md3.3,Ml4.0*
ISC 09 05:56:49.3±0.5,35°.52N±0°.02×29°.92E±0°.02,h62km±7km, n308,σ1§33/408,mb3.9/14,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
KSL	**Kastellorizon**	**0.69**	**337**	*eP*	**Pn**	**05 57 04.8**		**+1.2**
AKAS	**Kas**	**0.76**	**341**	*i P*	**Pn**	**05 57 05.4**		**+0.8**
AKAS				*i S*	**Sn**	**05 57 11.6**		**-4.2**
AKAS	**Kas**	**0.76**	**341**	*i P*	**Pn**	**05 57 05.4**		**+0.8**
AKAS				*i S*	**Sn**	**05 57 11.6**		**-4.2**
ELL	**Elmali**	**1.23**	**360**	*ePN*	**Pn**	**05 57 10.7**		**+0.1**
ELL				*eSN*	**Sn**	**05 57 26.6**		**+0.1**
ELL	**Elmali**	**1.23**	**360**	*ePn*	**Pn**	**05 57 10.7**		**+0.1**
ELL				*eSn*	**Sn**	**05 57 26.6**		**+0.1**
FETY	**Fethiye**	**1.31**	**329**	*ePN*	**Pn**	**05 57 11.0**		**-0.5**
FETY				*eSN*	**Sn**	**05 57 27.9**		**-0.2**
FETY	**Fethiye**	**1.31**	**329**	*ePn*	**Pn**	**05 57 11.0**		**-0.5**
FETY				*eSn*	**Sn**	**05 57 27.9**		**-0.2**
KORT	**Korkueli**	**1.52**	**13**	*i P*	**Pn**	**05 57 15.7**		**+1.2**
KORT				*i S*	**Sn**	**05 57 34.1**		**+0.7**
KORT	**Korkueli**	**1.52**	**13**	*i P*	**Pn**	**05 57 15.7**		**+1.2**
KORT				*i S*	**Sn**	**05 57 34.1**		**+0.7**
ARG	**Arkhangelos**	**1.61**	**296**	P	**Pn**	**05 57 16.4**		**+0.8**
ARG				S	**Sn**	**05 57 35.3**		**-0.1**
ARG	**Arkhangelos**	**1.61**	**296**	*eP*	**Pn**	**05 57 16.5**		**+0.8**
ARG				*eS*	**Sn**	**05 57 35.5**		**+0.1**
ARG	**Arkhangelos**	**1.61**	**296**	P	**Pn**	**05 57 16.4**		**+0.8**
ARG				S	**Sn**	**05 57 35.3**		**-0.1**
ARG	**Arkhangelos**	**1.61**	**296**	P	**Pn**	**05 57 16.4**		**+0.8**
ARG				*eS*	**Sn**	**05 57 35.5**		**+0.1**
DALY	**Dalyan (Mu¨la**	**1.65**	**322**	*ePN*	**Pn**	**05 57 15.8**		**-0.3**
DALY	**Dalyan (Mu¨la**	**1.65**	**322**	*ePn*	**Pn**	**05 57 15.8**		**-0.3**
TURN	**Turunc**	**1.72**	**322**	*i P*	Pn	05 57 19.8		+2.8
TURN				*i S*	**Sn**	**05 57 40.4**		**+2.4**
TURN	**Turunc**	**1.72**	**322**	*i P*	Pn	05 57 19.8		+2.8
TURN				*i S*	**Sn**	**05 57 40.4**		**+2.4**
GOLH	**Golhisar**	**1.74**	**351**	*i P*	**Pn**	**05 57 19.3**		**+1.9**
GOLH				*i S*	**Sn**	**05 57 39.8**		**+1.1**
GOLH	**Golhisar**	**1.74**	**351**	*i P*	**Pn**	**05 57 19.3**		**+1.9**
GOLH				*i S*	**Sn**	**05 57 39.8**		**+1.1**
BCK	**Bucak**	**2.02**	**15**	*ePN*	**Pn**	**05 57 21.9**		**+0.8**
BCK	**Bucak**	**2.02**	**15**	*ePn*	**Pn**	**05 57 21.9**		**+0.8**
AKMC	**Akamas**	**2.03**	**103**	P	**Pn**	**05 57 22.4**		**+1.1**
AKMC	**Akamas**	**2.03**	**103**	P	**Pn**	**05 57 22.4**		**+1.1**
GAZI	**Gazipasa**	**2.08**	**69**	*i P*	**Pn**	**05 57 22.0**		**+0.1**
GAZI				*i S*	**Sn**	**05 57 45.5**		**-1.1**
GAZI	**Gazipasa**	**2.08**	**69**	*i P*	**Pn**	**05 57 22.0**		**+0.1**
GAZI				*i S*	**Sn**	**05 57 45.5**		**-1.1**
PPCY	**Paphos**	**2.08**	**107**	P	**Pn**	**05 57 23.1**		**+1.2**
PPCY	**Paphos**	**2.08**	**107**	P	**Pn**	**05 57 23.1**		**+1.2**
YER	**Yerkesik**	**2.09**	**321**	*ePN*	**Pn**	**05 57 21.9**		**-0.2**
YER	**Yerkesik**	**2.09**	**321**	*ePn*	**Pn**	**05 57 21.9**		**-0.2**
SUTC	**Sutluce-Ispart**	**2.14**	**24**	*ePN*	**Pn**	**05 57 23.0**		**+0.1**
SUTC	**Sutluce-Ispart**	**2.14**	**24**	*ePn*	**Pn**	**05 57 23.0**		**+0.1**
ALFC	**Alevga** 51nm,0.2s	**2.22**	**99**	P	**Pn**	**05 57 24.3**		**+0.5**
ALFC				S	**Sn**	**05 57 50.0**		**-0.2**
ALFC	**Alevga** 51nm,0.2s	**2.22**	**99**	P	**Pn**	**05 57 24.3**		**+0.5**
ALFC				S	**Sn**	**05 57 50.0**		**-0.2**
DAT	**Datca**	**2.25**	**303**	*ePN*	**Pn**	**05 57 24.1**		**-0.2**
DAT	**Datca**	**2.25**	**303**	*ePn*	**Pn**	**05 57 24.1**		**-0.2**
KARP	**Karpathos**	**2.25**	**272**	P	**Pn**	**05 57 25.8**		**+1.6**
KARP				S	**Sn**	**05 57 51.7**		**+0.8**
KARP	**Karpathos**	**2.25**	**272**	*eP**	**Pn**	**05 57 25.9**		**+1.7**
KARP				*eS*	**Sn**	**05 57 52.3**		**+1.4**
KARP	**Karpathos**	**2.25**	**272**	P	**Pn**	**05 57 25.8**		**+1.6**
KARP				S	**Sn**	**05 57 51.7**		**+0.8**
KARP	**Karpathos**	**2.25**	**272**	P	**Pn**	**05 57 25.8**		**+1.6**
KARP				S	**Sn**	**05 57 51.7**		**+0.8**
DNZL	**Cakiroluk**	**2.28**	**342**	*i P*	**Pn**	**05 57 25.7**		**+0.9**
DNZL				*i S*	**Sn**	**05 57 51.0**		**-0.9**
DNZL	**Cakiroluk**	**2.28**	**342**	*i P*	**Pn**	**05 57 25.7**		**+0.9**
DNZL				*i S*	**Sn**	**05 57 51.0**		**-0.9**
DENT	**Denizli**	**2.34**	**343**	*ePN*	**Pn**	**05 57 25.5**		**-0.1**
DENT	**Denizli**	**2.34**	**343**	*ePn*	**Pn**	**05 57 25.5**		**-0.1**
BDRM	**Kayabasi**	**2.53**	**308**	*i P*	**Pn**	**05 57 28.3**		**+0.3**
BDRM				*i S*	**Sn**	**05 57 56.1**		**-1.5**
BDRM	**Kayabasi**	**2.53**	**308**	*i P*	**Pn**	**05 57 28.3**		**+0.3**
BDRM				*i S*	**Sn**	**05 57 56.1**		**-1.5**
HDMB	**Hadim**	**2.53**	**54**	*ePN*	**Pn**	**05 57 28.6**		**+0.4**
HDMB				*eSN*	**Sn**	**05 57 58.0**		**0.0**
HDMB	**Hadim**	**2.53**	**54**	*ePn*	**Pn**	**05 57 28.6**		**+0.4**
HDMB				*eSn*	**Sn**	**05 57 58.0**		**0.0**
BODT	**Bodrum**	**2.61**	**307**	*ePN*	**Pn**	**05 57 29.2**		**0.0**
BODT	**Bodrum**	**2.61**	**307**	*ePn*	**Pn**	**05 57 29.2**		**0.0**
ERMK	**Ermenek**	**2.67**	**64**	*i P*	**Pn**	**05 57 31.3**		**+1.1**
ERMK				*i S*	**Sn**	**05 58 03.6**		**+2.1**
ERMK	**Ermenek**	**2.67**	**64**	*i P*	**Pn**	**05 57 31.3**		**+1.1**
ERMK				*i S*	**Sn**	**05 58 03.6**		**+2.1**
AYDN	**Tasoluk**	**2.70**	**323**	*i P*	**Pn**	**05 57 30.5**		**+0.1**
AYDN	**Tasoluk**	**2.70**	**323**	*i P*	**Pn**	**05 57 30.5**		**+0.1**
MAMC	**Mammari**	**2.72**	**96**	P	**Pn**	**05 57 31.3**		**+0.7**
MAMC	**Mammari**	**2.72**	**96**	P	**Pn**	**05 57 31.3**		**+0.7**
KHL	**Karahalli**	**2.82**	**354**	*ePN*	**Pn**	**05 57 32.1**		**+0.1**
KHL	**Karahalli**	**2.82**	**354**	*ePn*	**Pn**	**05 57 32.1**		**+0.1**
CSS	**Prodhromos**	**2.85**	**100**	P	**Pn**	**05 57 32.1**		**+0.7**
CSS				S	**Sn**	**05 58 05.6**		**+0.1**
CSS	**Prodhromos**	**2.85**	**100**	P	**Pn**	**05 57 32.7**		**+0.3**
CSS				S	**Sn**	**05 58 04.9**		**-0.6**
CSS	**Prodhromos**	**2.85**	**100**	P	**Pn**	**05 57 32.7**		**+0.3**
CSS	**Prodhromos**	**2.85**	**100**	Pn	**Pn**	**05 57 31.8**		**-0.6**
CSS	**Prodhromos**	**2.85**	**100**	P	**Pn**	**05 57 32.7**		**+0.3**
CSS				S	**Sn**	**05 58 05.6**		**+0.1**
KHAL	**Karahalli**	**2.87**	**353**	*i P*	**Pn**	**05 57 32.7**		**-0.1**
KHAL				*i S*	**Sn**	**05 58 02.7**		**-3.5**
KHAL	**Karahalli**	**2.87**	**353**	*i P*	**Pn**	**05 57 32.7**		**-0.1**
KHAL				*i S*	**Sn**	**05 58 02.7**		**-3.5**
ZKR	**Zakros**	**3.05**	**264**	*eP*	**Pn**	**05 57 36.6**		**+1.4**
ZKR				*eS*	**Sn**	**05 58 11.8**		**+1.3**
ZKR	**Zakros**	**3.05**	**264**	*eP*	**Pn**	**05 57 36.6**		**+1.4**
ZKR				*eS*	**Sn**	**05 58 11.8**		**+1.3**
GCAM	**G?zelcaml?**	**3.07**	**316**	*i P*	**Pn**	**05 57 35.7**		**+0.4**
GCAM				*i S*	**Sn**	**05 58 08.6**		**-2.3**
GCAM	**G?zelcaml?**	**3.07**	**316**	*i P*	**Pn**	**05 57 35.7**		**+0.4**
GCAM				*i S*	**Sn**	**05 58 08.6**		**-2.3**
KONT	**Konya--Tatoy**	**3.12**	**38**	*ePN*	**Pn**	**05 57 36.6**		**+0.5**
KONT	**Konya--Tatoy**	**3.12**	**38**	*ePn*	**Pn**	**05 57 36.6**		**+0.5**
IKL	**Isikli**	**3.14**	**76**	*ePN*	**Pn**	**05 57 36.8**		**+0.4**
IKL	**Isikli**	**3.14**	**76**	*ePn*	**Pn**	**05 57 36.8**		**+0.4**
KULA	**Kula-Manisa**	**3.16**	**342**	*ePN*	**Pn**	**05 57 36.7**		**0.0**
KULA	**Kula-Manisa**	**3.16**	**342**	*ePn*	**Pn**	**05 57 36.7**		**0.0**
MANT	**Manisa**	**3.16**	**340**	*i P*	**Pn**	**05 57 37.3**		**+0.5**
MANT				*i S*	**Sn**	**05 58 10.5**		**-3.0**
MANT	**Manisa**	**3.16**	**340**	*i P*	**Pn**	**05 57 37.3**		**+0.5**
MANT				*i S*	**Sn**	**05 58 10.5**		**-3.0**
BOLV	**Bolvadin**	**3.30**	**14**	*i P*	**Pn**	**05 57 39.9**		**+1.2**
BOLV				*i S*	**Sn**	**05 58 16.8**		**0.0**
BOLV	**Bolvadin**	**3.30**	**14**	*i P*	**Pn**	**05 57 39.9**		**+1.2**
BOLV				*i S*	**Sn**	**05 58 16.8**		**0.0**
SMG	**Samos**	**3.31**	**312**	P	**Pn**	**05 57 38.6**		**0.0**
SMG				S	**Sn**	**05 58 14.2**		**-2.5**
SMG	**Samos**	**3.31**	**312**	*eP*	**Pn**	**05 57 38.6**		**0.0**
SMG				*eS*	**Sn**	**05 58 14.7**		**-2.0**
SMG	**Samos**	**3.31**	**312**	P	**Pn**	**05 57 38.6**		**0.0**
SMG				S	**Sn**	**05 58 14.2**		**-2.5**
SMG	**Samos**	**3.31**	**312**	*eP*	**Pn**	**05 57 38.6**		**0.0**
SMG				*eS*	**Sn**	**05 58 14.7**		**-2.0**
LADK	**Ladik-KONYA**	**3.32**	**35**	*ePN*	**Pn**	**05 57 39.3**		**+0.4**
LADK	**Ladik-KONYA**	**3.32**	**35**	*ePn*	**Pn**	**05 57 39.3**		**+0.4**
PHNC	**Paralimni**	**3.41**	**97**	P	Pn	05 57 43.7		+3.7
PHNC				S	**Sn**	**05 58 22.5**		**+3.4**
PHNC	**Paralimni**	**3.41**	**97**	P	Pn	05 57 43.7		+3.7
PHNC				S	**Sn**	**05 58 22.5**		**+3.4**
NPS	**Neapolis**	**3.53**	**267**	P	**Pn**	**05 57 43.6**		**+1.9**
NPS				S	**Sn**	**05 58 21.6**		**-0.6**
NPS	**Neapolis**	**3.53**	**267**	*eP*	**Pn**	**05 57 43.4**		**+1.7**
NPS				*eS*	**Sn**	**05 58 22.0**		**-0.2**
NPS	**Neapolis**	**3.53**	**267**	P	**Pn**	**05 57 43.6**		**+1.9**
NPS				S	**Sn**	**05 58 21.6**		**-0.6**
NPS	**Neapolis**	**3.53**	**267**	*eP*	**Pn**	**05 57 43.4**		**+1.7**

SANT	Santorini	3.72	285	eP	Pn	05 57 44.6	+0.3
SANT	Santorini	3.72	285	P	Pn	05 57 44.5	+0.3
SANT				S	Sn	05 58 23.3	-3.5
SANT	Santorini	3.72	285	eP	Pn	05 57 44.6	+0.3
SANT				S	Sn	05 58 23.3	-3.5
AKHS	Akhisar	3.75	334	i P	Pn	05 57 44.6	-0.1
AKHS				i S	Sn	05 58 25.0	-2.7
AKHS	Akhisar	3.75	334	i P	Pn	05 57 44.6	-0.1
AKHS				i S	Sn	05 58 25.0	-2.7
AKS	Akhisar	3.75	334	ePN	Pn	05 57 44.6	-0.2
AKS	Akhisar	3.75	334	ePn	Pn	05 57 44.6	-0.2
APE	Apeiranthos	3.87	295	ePN	Pn	05 57 46.6	+0.3
APE	Apeiranthos	3.87	295	eP	Pn	05 57 47.0	+0.7
APE	Apeiranthos	3.87	295	ePn	Pn	05 57 46.7	+0.3
APE	Apeiranthos	3.87	295	eP	Pn	05 57 47.0	+0.7
URLA	Izmir	3.89	318	i P	Pn	05 57 46.1	-0.6
URLA				i S	Sn	05 58 27.4	-3.7
URLA	Izmir	3.89	318	i P	Pn	05 57 46.1	-0.6
URLA				i S	Sn	05 58 27.4	-3.7
SULT	Sultanhani-AKS	3.94	46	ePN	Pn	05 57 47.4	+0.1
SULT	Sultanhani-AKS	3.94	46	ePn	Pn	05 57 47.4	+0.1
ESKT	Eskisehir	4.07	10	ePN	Pn	05 57 49.7	+0.6
ESKT	Eskisehir	4.07	10	ePn	Pn	05 57 49.7	+0.6
SEYT	Eskypehyr	4.07	10	i P	Pn	05 57 49.7	+0.6
SEYT				i S	Sn	05 58 34.1	-1.4
SEYT	Eskypehyr	4.07	10	i P	Pn	05 57 49.7	+0.6
SEYT				i S	Sn	05 58 34.1	-1.4
IDI	Anoyia	4.11	268	P	Pn	05 57 50.1	+0.4
IDI				S	Sn	05 58 35.1	-1.5
IDI	Anoyia	4.11	268	eP	Pn	05 57 50.5	+0.8
IDI	Anoyia	4.11	268	P	Pn	05 57 50.1	+0.4
IDI				S	Sn	05 58 35.1	-1.5
IDI	Anoyia	4.11	268	P	Pn	05 57 50.3	+0.5
	7.5nm,0.3s,baz=97,slow=13,SNR=60						
IDI				S	Sn	05 58 34.9	-1.7
	71nm,0.3s,baz=324,slow=22,SNR=23						
IDI	Anoyia	4.11	268	P	Pn	05 57 50.1	+0.4
IDI				S	Sn	05 58 35.1	-1.5
SVRH	Sivrihisar-ESK	4.13	18	ePN	Pn	05 57 50.7	+0.8
SVRH	Sivrihisar-ESK	4.13	18	ePn	Pn	05 57 50.7	+0.8
DST	Dursunbey	4.21	346	ePN	Pn	05 57 51.3	+0.3
DST	Dursunbey	4.21	346	ePn	Pn	05 57 51.3	+0.3
SIVA	Sivas	4.21	265	eP	Pn	05 57 52.8	+1.8
SIVA				eS	Sn	05 58 39.4	+0.6
SIVA	Sivas	4.21	265	eP	Pn	05 57 52.8	+1.8
SIVA				eS	Sn	05 58 39.4	+0.6
DURS	Dursunbey	4.24	345	i P	Pn	05 57 51.8	+0.4
DURS				i S	Sn	05 58 36.0	-3.6
DURS	Dursunbey	4.24	345	i P	Pn	05 57 51.8	+0.4
DURS				i S	Sn	05 58 36.0	-3.6
GULE	Gulek	4.30	64	i P	Pn	05 57 54.4	+2.0
GULE				i S	Sn	05 58 42.5	+1.2
GULE	Gulek	4.30	64	i P	Pn	05 57 54.3	+2.0
GULE				i S	Sn	05 58 42.5	+1.2
KARA	Karaisali	4.50	66	ePN	Pn	05 57 55.8	+0.9
KARA	Karaisali	4.50	66	ePn	Pn	05 57 55.8	+0.9
NIG	Nigde	4.57	54	ePN	Pn	05 57 56.3	+0.2
NIG	Nigde	4.57	54	ePn	Pn	05 57 56.3	+0.2
BALY	Balya	4.59	337	i P	Pn	05 57 56.5	+0.2
BALY				i S	Sn	05 58 44.8	-3.5
BALY	Balya	4.59	337	i P	Pn	05 57 56.5	+0.2
BALY				i S	Sn	05 58 44.8	-3.5
AFSR	Af¯ar-Bala (A	4.66	32	ePN	Pn	05 57 56.2	-0.9
AFSR	Af¯ar-Bala (A	4.66	32	ePn	Pn	05 57 56.3	-0.9
VAM	Vamos	4.67	270	eP	Pn	05 57 59.4	+2.1
VAM	Vamos	4.67	270	eP	Pn	05 57 59.4	+2.1
MATC	Matruh	4.73	209	P	Pn	05 58 00.7	+2.6
	baz=209						
MATC	Matruh	4.73	209	P	Pn	05 58 00.7	+2.6
YURE	YUREGIR	4.80	73	i P	Pn	05 57 59.1	-0.1
YURE				i S	Sn	05 58 53.2	-0.3
YURE	YUREGIR	4.80	73	i P	Pn	05 57 59.1	-0.1
YURE				i S	Sn	05 58 53.2	-0.3
GVD	Gavdhos	4.82	264	eP	Pn	05 58 00.2	+0.8
GVD	Gavdhos	4.82	264	eP	Pn	05 58 00.2	+0.8
GONE	Gonen-Balikesi	4.86	339	ePN	Pn	05 57 59.9	+0.1
GONE	Gonen-Balikesi	4.86	339	ePn	Pn	05 57 59.9	+0.1
KAMT	Kaman	4.89	37	ePN	Pn	05 58 00.7	+0.3
KAMT	Kaman	4.89	37	ePn	Pn	05 58 00.7	+0.3
KARN	Karanos	4.90	270	P	Pn	05 58 01.2	+0.8
KARN				S	Sn	05 58 54.1	-1.7
KARN	Karanos	4.90	270	eP	Pn	05 58 01.4	+1.0
KARN	Karanos	4.90	270	P	Pn	05 58 01.2	+0.8
KARN				S	Sn	05 58 54.1	-1.7
KARN	Karanos	4.90	270	P	Pn	05 58 01.2	+0.8
KARN				S	Sn	05 58 54.1	-1.7
KCTX	Karacabey (Bur	4.90	346	ePN	Pn	05 58 00.8	+0.4
KCTX	Karacabey (Bur	4.90	346	ePn	Pn	05 58 00.8	+0.4
HBRG	Burj al 'Arab	4.93	181	P	Pn	05 58 03.9	+3.1
	baz=179						
HBRG				S	Sn	05 58 56.5	-0.1
	baz=179						
HBRG	Burj al 'Arab	4.93	181	P	Pn	05 58 03.9	+3.1
HBRG				S	Sn	05 58 56.4	-0.1
GULT	Gulveren	4.93	5	ePN	Pn	05 58 02.0	+1.1
GULT	Gulveren	4.93	5	ePn	Pn	05 58 02.0	+1.1
ARNB	Al Arnab	4.94	84	eP	Pn	05 58 00.5	-0.5
ARNB				eS	Sn	05 58 52.1	-4.8
ARNB				AML	AML	05 58 57.7	
	comp=E,171nm,0.3s						
ARNB				AML	AML	05 58 58.3	
	comp=Z,64nm,0.3s						
ARNB				AML	AML	05 58 59.1	
	comp=N,163nm,0.5s						
ARNB	Al Arnab	4.94	84	eP	Pn	05 58 00.5	-0.5
	SNR=45						
ARNB				eS	Sn	05 58 52.1	-4.8
	comp=N,163nm,0.5s,SNR=40						
CEYT	Ceyhan	4.94	71	ePN	Pn	05 58 01.0	0.0
CEYT	Ceyhan	4.94	71	ePn	Pn	05 58 01.0	0.0
HNTI	Hanita	4.98	118	Pn	Pn	05 58 02.1	+0.5
HNTI				Sn	Sn	05 58 55.4	-2.4
HMAT	Matruh	5.00	209	P	Pn	05 58 04.3	+2.4
	baz=209						
HMAT				S	Sn	05 58 57.5	-0.9
	baz=209						
HMAT	Matruh	5.00	209	P	Pn	05 58 04.3	+2.4
HMAT				S	Sn	05 58 57.5	-0.9
MDUB	Mudurnu	5.05	11	ePN	Pn	05 58 03.6	+1.0
MDUB	Mudurnu	5.05	11	ePn	Pn	05 58 03.6	+1.0
HTY	Hatay	5.09	81	ePN	Pn	05 58 03.5	+0.5
HTY	Hatay	5.09	81	ePn	Pn	05 58 03.5	+0.5
HWQ	Hawqa	5.11	102	eP	Pn	05 58 03.4	0.0
HWQ	Hawqa	5.11	102	eP	Pn	05 58 03.4	0.0
BRTR	Keskin Array B	5.13	34	P	Pn	05 58 03.5	-0.3
	comp=N,1.5nm,0.3s,baz=199,slow=15,SNR=45						
BRTR				S	Sn	05 58 59.0	-2.8
	comp=N,4.5nm,0.3s,baz=202,slow=26,SNR=20						
BR131	Keskin Array S	5.14	34	ePn	Pn	05 58 03.5	-0.3
BR131				eSn	Sn	05 58 59.0	-2.8
BR131	Keskin Array S	5.14	34	ePn	Pn	05 58 03.5	-0.3
BR131				eSn	Sn	05 58 59.0	-2.8
KOZT	Kozan	5.15	66	ePN	Pn	05 58 04.2	+0.4
KOZT	Kozan	5.15	66	ePn	Pn	05 58 04.2	+0.4
BLGI	Bet Lehem HaGe	5.18	121	Sn	Sn	05 59 00.1	-2.6
MMA0	Mount Meron ar	5.18	117	Pn	Pn	05 58 04.7	+0.3
MMA0				Sn	Sn	05 59 00.2	-2.6
MMAI	Mount Meron Ar	5.18	117	P	Pn	05 58 04.8	+0.4
	comp=N,16nm,0.3s,baz=308,slow=12,SNR=18						
MMAI				S	Sn	05 59 02.2	-0.6
	comp=N,72nm,0.3s,baz=313,slow=25,SNR=22						
KSDI	Kefar Szold	5.28	114	Pn	Pn	05 58 06.1	+0.4
KSDI				Sn	Sn	05 59 02.7	-2.5
RCY	Rachaya	5.29	111	eP	Pn	05 58 05.9	+0.1
SLTI	Sal'it	5.37	126	Sn	Sn	05 59 06.7	-2.6
ANKY	Antikythira Is	5.40	276	eP	Pn	05 58 07.3	+0.1
ANKY	Antikythira Is	5.40	276	eP	Pn	05 58 07.3	+0.1
BRBR	Barbar	5.41	111	eP	Pn	05 58 07.1	-0.5
BRBR				eS	Sn	05 59 02.1	-6.5
BRBR				AML	AML	05 59 08.8	
	comp=N,240nm,0.4s						
BRBR				AML	AML	05 59 09.3	
	comp=E,130nm,0.7s						
BRBR				AML	AML	05 59 11.1	
	comp=Z,168nm,0.6s						
BRBR	Barbar	5.41	111	eP	Pn	05 58 07.1	-0.5
	SNR=45						
HAWK	Haweek	5.42	99	eP	Pn	05 58 07.6	0.0
HAWK				eS	Sn	05 59 03.4	-5.2
HAWK				AML	AML	05 59 06.9	
	comp=Z,140nm,0.4s						
HAWK				AML	AML	05 59 07.1	
	comp=E,273nm,0.6s						
HAWK				AML	AML	05 59 07.4	
	comp=N,264nm,0.5s						
HAWK	Haweek	5.42	99	eP	Pn	05 58 07.6	0.0
	SNR=45						
MMLI	Mount Malkishu	5.51	122	Pn	Pn	05 58 08.8	0.0
MMLI				Sn	Sn	05 59 09.1	-1.7
GELI	Tayfur-Gelibol	5.58	332	ePN	Pn	05 58 10.4	+0.7
GELI	Tayfur-Gelibol	5.58	332	ePn	Pn	05 58 10.4	+0.7
MARH	Ras Al Marh	5.60	104	eP	Pn	05 58 10.3	0.0
MARH				eS	Sn	05 59 07.5	-6.0
MARH				AML	AML	05 59 14.2	
	comp=N,133nm,0.6s						
MARH				AML	AML	05 59 16.2	
	comp=E,193nm,0.5s						
MARH				AML	AML	05 59 16.9	
	comp=Z,74nm,0.4s						
MARH	Ras Al Marh	5.60	104	eP	Pn	05 58 10.3	0.0
	SNR=45						
KYTH	Kithira	5.64	280	P	Pn	05 58 10.8	+0.2
KYTH	Kithira	5.64	280	eP	Pn	05 58 11.3	+0.7
KYTH	Kithira	5.64	280	P	Pn	05 58 10.8	+0.2
KYTH	Kithira	5.64	280	P	Pn	05 58 10.8	+0.2
ELDT	Eldivan	5.69	28	i P	Pn	05 58 11.3	0.0
ELDT	Eldivan	5.69	28	i P	Pn	05 58 11.3	0.0
HMDT	Nahal Hemdat	5.69	123	Pn	Pn	05 58 11.9	+0.7
HMDT				Sn	Sn	05 59 14.0	-1.1
DID	Didima	5.74	292	eP	Pn	05 58 13.3	+1.4
DID	Didima	5.74	292	eP	Pn	05 58 13.3	+1.4
VLI	Veliai	5.78	284	P	Pn	05 58 12.5	+0.1
VLI				S	Sn	05 59 13.6	-3.7
VLI	Veliai	5.78	284	eP	Pn	05 58 12.5	+0.1
VLI	Veliai	5.78	284	P	Pn	05 58 12.5	+0.1
VLI				S	Sn	05 59 13.6	-3.7
VLI	Veliai	5.78	284	eP	Pn	05 58 12.5	+0.1
BNN	Bunyan	5.79	53	ePN	Pn	05 58 13.2	+0.5
BNN	Bunyan	5.79	53	ePn	Pn	05 58 13.2	+0.5
TOTH	TOTAH	5.79	110	eP	Pn	05 58 13.9	+1.2
TOTH				eS	Sn	05 59 10.5	-7.4
TOTH				AML	AML	05 59 17.9	
	comp=Z,119nm,0.6s						
TOTH				AML	AML	05 59 18.6	
	comp=E,159nm,0.4s						
TOTH				AML	AML	05 59 19.2	
	comp=N,78nm,0.4s						
TOTH	TOTAH	5.79	110	eP	Pn	05 58 13.9	+1.2
	SNR=45						
HHAG	Hagoal	5.84	161	S	Sn	05 59 19.9	+0.8
	baz=159						
HHAG	Hagoal	5.84	161	S	Sn	05 59 19.9	+0.8
AYKD	Aykdinkavak	5.87	69	i P	Pn	05 58 13.3	-0.4
AYKD				i S	Sn	05 59 16.1	-3.5
YOZ	Yozgat	5.95	45	ePN	Pn	05 58 15.2	+0.4
YOZ	Yozgat	5.95	45	ePn	Pn	05 58 15.2	+0.4
CORM	Corum	5.96	37	ePN	Pn	05 58 15.1	0.0
CORM	Corum	5.96	37	ePn	Pn	05 58 15.1	0.0
KMRS	Kahramanmaras	5.96	69	ePN	Pn	05 58 14.8	-0.2
KMRS	Kahramanmaras	5.96	69	ePn	Pn	05 58 14.8	-0.2
DSI	Dead Sea	6.02	129	Pn	Pn	05 58 15.9	+0.1
DSI				Sn	Sn	05 59 22.2	-1.2
SMTH	Samothraki Isl	6.04	326	eP	Pn	05 58 16.3	+0.3
SMTH	Samothraki Isl	6.04	326	eP	Pn	05 58 16.3	+0.3
MZDA	Masada	6.19	131	Pn	Pn	05 58 18.1	0.0
MZDA				Sn	Sn	05 59 25.8	-1.6
DYR	Agios Nikonas	6.26	284	eP	Pn	05 58 20.6	+1.5
DYR	Agios Nikonas	6.26	284	eP	Pn	05 58 20.6	+1.5
SALA	Sala	6.31	114	eP	Pn	05 58 21.2	+1.3
SALA				eS	Sn	05 59 29.3	-1.3
SALA				AML	AML	05 59 32.9	
	comp=E,7.7nm,0.4s						
SALA				AML	AML	05 59 33.4	
	comp=N,83nm,0.4s						
SALA				AML	AML	05 59 42.6	
	comp=Z,44nm,0.5s						
SALA	Sala	6.31	114	eP	Pn	05 58 21.2	+1.3
	SNR=45						
SALA				eS	Sn	05 59 29.3	-1.3
	comp=Z,44nm,0.5s,SNR=40						
VLX	Vlachokerasia	6.35	289	eP	Pn	05 58 21.8	+1.4
VLX	Vlachokerasia	6.35	289	eP	Pn	05 58 21.8	+1.4
GUR	Goura	6.55	294	eP	Pn	05 58 24.0	+0.9
GUR	Goura	6.55	294	eP	Pn	05 58 24.0	+0.9
ZFRI	Zfri	6.63	137	Sn	Sn	05 59 38.0	-0.3
ITM	Ithomi	6.66	287	eP	Pn	05 58 25.2	+0.7
ITM	Ithomi	6.66	287	eP	Pn	05 58 25.2	+0.7
ZALF	Zalf	6.67	111	eP	Pn	05 58 26.8	+2.2
ZALF				AML	AML	05 59 44.5	
	comp=N,29nm,0.4s						
ZALF				AML	AML	05 59 48.7	
	comp=E,21nm,0.7s						
ZALF				AML	AML	05 59 53.0	
	comp=Z,37nm,0.5s						
ZALF	Zalf	6.67	111	eP	Pn	05 58 26.8	+2.2
	SNR=45						
PRNI	Paran	6.69	139	Pn	Pn	05 58 25.6	+0.6
PRNI				Sn	Sn	05 59 38.6	-1.3
ASF	Jabal al Asfar	6.70	118	P	Pn	05 58 26.1	+0.9
	comp=Z,1.3nm,0.3s,baz=264,slow=6.3,SNR=7.5						
ASF				S	Sn	05 59 41.8	+1.8
	comp=Z,2.7nm,0.3s,baz=131,slow=20,SNR=7.3						
KLV	Kalavryta, Ach	6.72	294	eP	Pn	05 58 25.1	-0.4
KLV	Kalavryta, Ach	6.72	294	eP	Pn	05 58 25.1	-0.4
KRMI	Paran Flat	6.73	142	Pn	Pn	05 58 26.8	+1.2
PYL	PYLOS	6.75	284	eP	Pn	05 58 26.3	+0.5
PYL	PYLOS	6.75	284	eP	Pn	05 58 26.3	+0.5
KALE	Kalithea	6.86	297	eP	Pn	05 58 28.8	+1.5
KALE	Kalithea	6.86	297	eP	Pn	05 58 28.8	+1.5
TRIZ	Trizonia	6.90	297	eP	Pn	05 58 28.4	+0.7
TRIZ	Trizonia	6.90	297	eP	Pn	05 58 28.4	+0.7
LAKA	Lakka	6.92	295	eP	Pn	05 58 29.7	+1.6
LAKA	Lakka	6.92	295	eP	Pn	05 58 29.7	+1.6
HRFI	Mount Harif	6.96	140	Pn	Pn	05 58 29.7	+1.0
MBRI	Mt Berech	7.09	142	Pn	Pn	05 58 32.8	+2.3
MBRI				Sn	Sn	05 59 49.7	0.0
EIL	Elat	7.21	143	P	Pn	05 58 33.5	+1.5
	comp=Z,1.9nm,0.3s,baz=331,slow=6.6,SNR=15						
EIL				S	Sn	05 59 50.8	-1.8
	comp=Z,6.4nm,0.3s,baz=13,slow=15,SNR=11						
EIL	Elat	7.21	143	Pn	Pn	05 58 33.7	+1.6
RLS	Riolos of Patr	7.24	293	eP	Pn	05 58 32.8	+0.4
RLS	Riolos of Patr	7.24	293	eP	Pn	05 58 32.8	+0.4
SWA2		7.30	212	S	Sn	05 59 53.6	-1.2
	baz=213						
SWA2		7.30	212	S	Sn	05 59 53.6	-1.2
MALT	Malatya	7.37	65	Pn	Pn	05 58 33.8	-0.5
CUC	Castrocucco	12.02	296	ePn	Pn	05 59 35.6	-2.2
	comp=Z,10nm,0.6s						
KBZ	Khabaz	12.93	47	P	Pn	05 59 49.0	-1.0
	comp=Z,0.2nm,0.3s,baz=248,slow=16,SNR=3.1						
GERES	GERESS Array B	17.89	323	P	Pn	06 00 53.4	-0.4
	comp=Z,0.3nm,0.3s,baz=134,slow=11,SNR=8.6						
MBDF	Montbardon	19.89	305	eP	P	06 01 16.0	+0.3
	comp=Z,6.8nm,0.6s						
MBDF	Montbardon	19.89	305	eP	P	06 01 16.0	+0.3
	comp=Z,6.8nm,0.6s						
MBDF	Montbardon	19.89	305	eP	P	06 01 16.0	+0.3
	comp=Z,6.8nm,0.6s						
LPG	La Plagne	20.18	307	eP	P	06 01 20.6	+1.7
	comp=Z,10nm,0.7s						
LPG	La Plagne	20.18	307	eP	P	06 01 20.6	+1.7
	comp=Z,10nm,0.7s						
LPG	La Plagne	20.18	307	eP	P	06 01 20.6	+1.7
	comp=Z,10nm,0.7s						
ORIF	Oris-en-Rattie	20.56	304	eP	P	06 01 22.4	-0.4
	comp=Z,11nm,0.9s						
ORIF	Oris-en-Rattie	20.56	304	eP	P	06 01 22.4	-0.4
	comp=Z,11nm,0.9s						
ORIF	Oris-en-Rattie	20.56	304	eP	P	06 01 22.4	-0.4
	comp=Z,11nm,0.9s						
CABF	La Chapelle	21.03	309	eP	P	06 01 28.5	+0.6
CABF	La Chapelle	21.03	309	eP	P	06 01 28.5	+0.6
CABF	La Chapelle	21.03	309	eP	P	06 01 28.5	+0.6
SMF	Signal de Mont	22.48	308	eP	P	06 01 41.3	-2.1
	comp=Z,18nm,1.1s						
SMF	Signal de Mont	22.48	308	eP	P	06 01 41.3	-2.1
	comp=Z,18nm,1.1s						
SMF	Signal de Mont	22.48	308	eP	P	06 01 41.3	-2.1
	comp=Z,18nm,1.1s						
AVF	Avril sur Loir	22.84	308	eP	P	06 01 46.0	-1.2
AVF	Avril sur Loir	22.84	308	eP	P	06 01 46.0	-1.2
AVF	Avril sur Loir	22.84	308	eP	P	06 01 46.0	-1.2
RJF	Les Rejaudoux	23.63	303	eP	P	06 01 55.0	+0.3
	comp=Z,9.1nm,0.7s						
RJF	Les Rejaudoux	23.63	303	eP	P	06 01 55.0	+0.3
	comp=Z,9.1nm,0.7s						
RJF	Les Rejaudoux	23.63	303	eP	P	06 01 55.0	+0.3
	comp=Z,9.1nm,0.7s						
ETSF	Etsaut	24.65	297	eP	P	06 02 04.7	+0.6
ETSF	Etsaut	24.65	297	eP	P	06 02 04.7	+0.6
ETSF	Etsaut	24.65	297	eP	P	06 02 04.7	+0.6
MFF	Saint Martin d	25.08	305	eP	P	06 02 08.3	+0.4
	comp=Z,15nm,0.7s						
MFF	Saint Martin d	25.08	305	eP	P	06 02 08.3	+0.4
	comp=Z,15nm,0.7s						
MFF	Saint Martin d	25.08	305	eP	P	06 02 08.3	+0.4
	comp=Z,15nm,0.7s						
FINES	FINESS Array B	26.06	356	P	P	06 02 15.9	-0.7
	comp=Z,0.8nm,0.4s,baz=165,slow=9.1,SNR=6.7						
HFS	Hagfors	26.78	342	P	P	06 02 23.0	-0.1
	comp=Z,3.5nm,0.8s,baz=126,slow=7.3,SNR=3.8						
ESDC	Sonseca Array	27.07	289	P	P	06 02 26.4	+0.4
	comp=Z,0.7nm,0.5s,baz=83,slow=10,SNR=5.4						
NOA	NORSAR Array B	28.20	341	P	P	06 02 35.3	-0.6
	comp=Z,1.6nm,1.0s,baz=139,slow=9.5,SNR=2.9						
TORD	Torodi Ar. Bea	33.81	236	P	P	06 03 26.9	+1.3
	comp=Z,0.7nm,0.9s,baz=42,slow=8.5,SNR=6.2						
ARCES	ARCESS Array B	34.16	357	P	P	06 03 27.5	-0.6
	comp=Z,2.7nm,1.0s,baz=178,slow=9.7,SNR=3.7						
MKAR	Makanchi Array	40.32	57	P	P	06 04 19.5	-1.0
	comp=Z,0.8nm,0.6s,baz=267,slow=5.1,SNR=4.8						
ZALV	Zalesovo Beam	41.95	46	P	P	06 04 32.3	-1.5
	comp=Z,1.0nm,0.4s,baz=278,slow=8.3,SNR=3.4						
DBIC	Dimbokro	42.92	236	P	P	06 04 41.9	-0.1
	comp=Z,1.0nm,0.6s,baz=69,slow=8.6,SNR=2.5						
SONM	Songino Array	56.23	52	P	P	06 06 22.5	-0.7
	comp=Z,0.3nm,0.5s,baz=293,slow=9.5,SNR=3.0						
SCHQ	Schefferville	65.40	321	P	P	06 07 23.7	-1.4
	comp=Z,2.5nm,0.6s,baz=76,slow=8.3,SNR=3.8						

*ISCJB **09** 06:38:40.2±0.5, 6°.55S±0°.06×127°.74E±0°.05, h408km, mb3.5/4, Error ellipse: s-maj=8.3km s-min=6.2km az=141.6*

*IDC **09** 06:38:42.4±2.1, 6°.65S×127°.57E, h417km±23km, mb3.2/4, mb1 3.3/8, mb1mx3.1/21, mbtmp3.2/8, Error ellipse: s-maj=37.7km s-min=10.5km az=65.0*

*AUST **09** 06:38:46.7, 6°.99S×128°.03E, h300km*

ISC 09 06:38:41.7±0.8, 6°.64S±0°.08×127°.62E±0°.09, h408km, n20, σ0°.94/22, mb3.6/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	Soe	4.54	227	P	P	06 39 59.8	+0.3
	baz=4.6,SNR=22						
SOEI				S	S	06 41 01.4	-1.5
	baz=4.6,SNR=8.8						
TLE	Tual	5.18	79	P	P	06 40 07.4	+1.5
	baz=4.9,SNR=4.1						
TLE				S	S	06 41 07.8	-6.9
	baz=4.9,SNR=8.1						
BATI	Baumata	5.28	228	P	P	06 40 07.9	+1.1
	57nm,0.3s,baz=100,slow=2.3,SNR=33						
BATI				S	S	06 41 17.2	+0.7
	23nm,0.3s,baz=77,slow=22,SNR=9.2						
FAKI	Fak Fak	5.91	52	P	P	06 40 12.6	-0.9
	baz=5.9,SNR=7.0						
FAKI				S	S	06 41 22.0	-6.7
	baz=5.9,SNR=14						
MTN	Manton Dam	7.07	151	P	P	06 40 18.4	-8.5
	baz=6.6,SNR=4.5						
KDU	Kakadu	7.68	142	P	P	06 40 33.8	+0.2
	baz=7.2,SNR=5.7						
KAPI	Kappang	7.99	281	P	P	06 40 37.7	+0.6
	1.8nm,0.3s,baz=74,slow=14,SNR=3.2						
KNRA	Kununurra	9.05	173	P	P	06 40 49.6	+0.9
	baz=8.7,SNR=3.6						
FITZ	Fitzroy Crossi	11.56	189	P	P	06 41 16.9	+0.5
	0.2nm,0.3s,baz=326,slow=6.1,SNR=7.8						
FITZ	Fitzroy Crossi	11.56	189	P	P	06 41 17.0	+0.6
	baz=11,SNR=4.3						
MMPI	Merauke	12.78	99	S	S	06 43 26.4	-23
	baz=12,SNR=3.5						
WRA	Warramunga Arr	14.75	154	P	P	06 41 51.6	+0.3
	1.7nm,0.3s,baz=349,slow=9.6,SNR=101						
WRA				S	S	06 44 25.9	-2.2
	0.4nm,0.3s,baz=330,slow=25,SNR=7.2						
PALU	Palau	15.48	26	S	S	06 45 15.5	+33
	baz=16,SNR=4.8						
COEN	Coen	16.94	117	P	P	06 42 14.9	+0.1
	baz=16,SNR=34						
ASAR	Alice Springs	17.98	161	P	P	06 42 26.1	+0.2
	1.3nm,0.3s,baz=348,slow=12,SNR=52						
ASAR				S	S	06 45 31.2	+0.2
	0.2nm,0.3s,baz=335,slow=20,SNR=6.9						
ASAR				ScP	ScP	06 49 34.8	-0.7
	baz=347,slow=2.2,SNR=4.3	

IDC ***09*** *06:45:43.4±0.6,24.′80S×175.′58W,h0km,mb4.5/17, mb1 4.7/18,mb1mx4.7/21,mbtmp4.5/18,ML4.9/1,MS4.0/9, Ms1 4.0/9,ms1mx3.6/28,Error ellipse: s-maj=19.1km s-min=16.6km az=139.0*

BJI ***09*** *06:45:46.9,24.′56S×174.′80W,h11km,mB5.6/11, mb5.3/17,Ms5.2/9,Ms7 4.8/8*

ISCJB ***09*** *06:45:46.5±0.2,24.′99S±0.′05×175.′52W±0.′05,h27km, mb4.9/61,MS4.2/10,Error ellipse: s-maj=8.7km s-min=4.7km az=142.2*

MOS ***09*** *06:45:48.3±1.2,24.′99S×175.′61W,h42km,mb5.0/12, Error ellipse: s-maj=12.6km s-min=11.0km az=72.9*

NEIC ***09*** *06:45:49.7±1.4,24.′99S×175.′58W,h42km±13km,mb4.9/33, Error ellipse: s-maj=11.4km s-min=8.1km az=141.0*

AUST ***09*** *06:45:59.6,23.′68S×174.′69W,h200km*

ISC 09 06:45:48.3±0.4,24.′93S±0.′07×175.′40W±0.′08,h27km, n360,σ1$21/340,mb4.9/61,MS4.0/11,99C-97D,South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.85**	**207**	Pn	Pn	06 46 56.3	-3.3
RAO				Sn	**Sn**	**06 47 52.9**	**-2.0**
RAO	**Raoul Island**	**4.85**	**207**	Pn	Pn	06 46 56.3	-3.3
	54nm,0.3s,baz=282,slow=21,SNR=3.9						
RAO				Sn	**Sn**	**06 47 52.9**	**-2.0**
	361nm,0.3s,baz=79,slow=23,SNR=10						
NIUE	**Niue**	**7.73**	**42**	P	Pn	06 47 30.6	-8.6
	baz=6.4,SNR=12						
NIUE				S	Sn	06 48 45.9	-20
	baz=6.4,SNR=10						
MSVF	**Nonsavu**	**9.41**	**318**	*e*P	**Pn**	**06 48 04.1**	**+1.8**
MSVF	**Nonsavu**	**9.41**	**318**	*e*Pn	**Pn**	**06 48 04.1**	**+1.8**
AFI	**Afiamalu**	**11.48**	**18**	Pn	Pn	06 48 23.2	-7.6
AFI				Sn	Sn	06 50 22.2	-16
AFI	**Afiamalu**	**11.48**	**18**	Pn	Pn	06 48 23.2	-7.6
	5.2nm,0.3s,baz=303,slow=22,SNR=6.3						
AFI				Sn	Sn	06 50 22.2	-16
	10nm,0.3s,baz=75,slow=22,SNR=4.2						
URZ	**Urewera**	**14.73**	**204**	*e*Pn	**P**	**06 49 22.0**	**+1.3**
URZ				Sn	Sn	06 51 45.3	-12
URZ	**Urewera**	**14.73**	**204**	Pn	Pn	06 49 06.8	-8.0
	0.2nm,0.3s,baz=111,slow=19,SNR=3.2						
URZ				Sn	Sn	06 51 45.3	-12
	4.0nm,0.3s,baz=162,slow=22,SNR=13						
RAR	**Rarotonga**	**14.85**	**79**	*e*Pn	Pn	06 49 09.3	-7.3
RAR				Sn	Sn	06 51 35.8	-24
RAR	**Rarotonga**	**14.85**	**79**	Pn	Pn	06 49 07.2	-9.3
	12nm,0.3s,baz=270,slow=5.9,SNR=12						
RAR				Sn	Sn	06 51 35.8	-24
	5.9nm,0.3s,baz=90,slow=19,SNR=5.7						
RAR				LR	LR	06 54 09.0	
	comp=Z,486nm,19.1s,baz=270,slow=34						
RPZ	**Rata Peaks**	**21.77**	**207**	P	**P**	**06 50 42.2**	**+4.3**
RPZ				S	S	06 54 20.4	-17
RPZ	**Rata Peaks**	**21.77**	**207**	P	**P**	**06 50 42.2**	**+4.3**
	7.3nm,0.7s,baz=61,slow=19,SNR=3.7						
RPZ				S	S	06 54 20.4	-17
	2.8nm,0.4s,baz=63,slow=2.3,SNR=3.2						
TBI	**Tubuai**	**23.71**	**92**	*e*LQ	LQ	06 55 21.9	
	221nm,28.0s						
TBI				*e*LR	LR	06 56 17.1	
	456nm,25.0s,baz=255						
PPT2	**Papeete2**	**25.12**	**78**	*e*LQ	LQ	06 55 57.9	
	383nm,26.0s						
PPT2				*e*LR	LR	06 57 00.2	
	529nm,25.0s,baz=252						
PPT	**Papeete**	**25.13**	**78**	LR	LR	06 58 56.2	
	comp=Z,275nm,20.8s,baz=259,slow=31						
HNR	**Honiara**	**28.07**	**299**	*e*P	P	06 51 42.5	+4.7
	6.1nm,0.8s						
EIDS	**Eidsvold**	**30.30**	**262**	*e*P	P	06 52 02.2	+4.6
	108nm,2.5s						
EIDS	**Eidsvold**	**30.30**	**262**	P	P	06 52 00.9	+3.3
	baz=31,SNR=3.1						
CTA	**Charters Tower**	**35.67**	**270**	P	**P**	**06 52 42.8**	**-1.7**
CTA	**Charters Tower**	**35.67**	**270**	P	**P**	**06 52 42.8**	**-1.7**
	3.7nm,0.3s,baz=87,slow=10,SNR=7.4						
RKT	**Rikitea**	**36.88**	**96**	*e*LR	LR	07 02 16.0	
	282nm,27.8s						
MTSU	**Mount Surprise**	**37.97**	**272**	P	**P**	**06 53 03.2**	**-1.0**
	baz=39,SNR=7.4						
STKA	**Stephens Creek**	**38.26**	**250**	P	**P**	**06 53 05.0**	**-1.5**
STKA	**Stephens Creek**	**38.26**	**250**	P	**P**	**06 53 05.0**	**-1.5**
	1.7nm,0.5s,baz=93,slow=13,SNR=10						
STKA				LR	LR	07 07 18.2	
	comp=Z,245nm,19.0s,baz=288,slow=34						
STKA	**Stephens Creek**	**38.26**	**250**	P	**P**	**06 53 06.0**	**-0.4**
	baz=39,SNR=6.4						
PMG	**Port Moresby**	**38.80**	**287**	P	P	06 53 06.8	-4.3
PMG	**Port Moresby**	**38.80**	**287**	P	P	06 53 06.8	-4.3
	49nm,0.8s,baz=100,slow=4.3,SNR=16						
COEN	**Coen**	**40.41**	**278**	P	**P**	**06 53 23.8**	**-0.8**
	baz=41,SNR=5.5						
BBOO	**Buckleboo**	**42.92**	**248**	P	**P**	**06 53 44.1**	**-0.8**
	baz=44,SNR=6.3						
AS31	**Alice Springs**	**46.00**	**260**	*e*P	**P**	**06 54 09.2**	**-0.5**
ASAR	**Alice Springs**	**46.00**	**260**	P	**P**	**06 54 06.5**	**-3.2**
ASAR	**Alice Springs**	**46.00**	**260**	P	**P**	**06 54 06.5**	**-3.2**
	1.3nm,0.4s,baz=92,slow=7.0,SNR=17						
ASAR				LR	LR	07 12 03.3	
	comp=Z,168nm,18.8s,baz=96,slow=34						
WRAB	**Tennant Creek**	**46.51**	**266**	*e*P	**P**	**06 54 10.6**	**-3.1**
WRAB				pmax	pmax		
	comp=Z,9.0nm,1.0s						
WRAB	**Tennant Creek**	**46.51**	**266**	*e*P	**P**	**06 54 10.6**	**-3.1**
	comp=Z,9.2nm,1.0s						
WRA	**Warramunga Arr**	**46.52**	**266**	P	P	06 54 10.2	-3.6
WRA	**Warramunga Arr**	**46.52**	**266**	P	P	06 54 10.2	-3.6
	comp=Z,2.6nm,0.3s,baz=102,slow=8.8,SNR=81						
WRA				LR	LR	07 11 34.3	
	comp=Z,153nm,19.1s,baz=160,slow=34						
FORT	**Forrest**	**49.89**	**250**	P	**P**	**06 54 38.5**	**-1.2**
	baz=51,SNR=7.8						
KDU	**Kakadu**	**50.55**	**274**	P	**P**	**06 54 42.2**	**-2.6**
	baz=51,SNR=5.2						
SBA	**Scott Base**	**53.65**	**185**	*e*P	**P**	**06 55 09.6**	**+2.6**
SBA				pmax	pmax		
	comp=Z,11nm,0.8s						
SBA	**Scott Base**	**53.65**	**185**	*e*P	**P**	**06 55 09.6**	**+2.6**
	comp=Z,11nm,0.8s						
VNDA	**Vanda**	**53.75**	**186**	P	**P**	**06 55 09.3**	**+1.6**
VNDA	**Vanda**	**53.75**	**186**	P	**P**	**06 55 09.3**	**+1.6**
	comp=Z,4.6nm,0.9s,baz=8.6,slow=6.5,SNR=19						
FITZ	**Fitzroy Crossi**	**54.92**	**265**	P	**P**	**06 55 15.6**	**-1.5**
FITZ	**Fitzroy Crossi**	**54.92**	**265**	P	**P**	**06 55 15.6**	**-1.5**
	comp=Z,2.0nm,0.6s,baz=165,slow=4.3,SNR=9.0						
FITZ				LR	LR	07 17 13.9	
	comp=Z,135nm,19.8s,baz=94,slow=34						
FITZ	**Fitzroy Crossi**	**54.92**	**265**	P	**P**	**06 55 17.0**	**-0.2**
	baz=56,SNR=4.2						
MORW	**Morawa**	**60.45**	**249**	P	**P**	**06 55 55.6**	**-0.4**
	baz=61,SNR=3.2						
CASY	**Casey**	**61.04**	**206**	*e*P	**P**	**06 55 59.8**	**+0.5**
	comp=Z,9.2nm,0.9s						
KAPI	**Kappang**	**65.11**	**276**	LR	LR	07 23 18.6	
	comp=Z,85nm,19.2s,baz=44,slow=35						
MJAR	**Matsushiro Arr**	**75.18**	**323**	P	**P**	**06 57 27.9**	**-0.6**
MJAR	**Matsushiro Arr**	**75.18**	**323**	P	**P**	**06 57 27.9**	**-0.6**
	comp=Z,2.7nm,0.8s,baz=169,slow=5.9,SNR=7.9						
MAW	**Mawson**	**78.21**	**199**	P	**P**	**06 57 46.0**	**+0.9**
MAW	**Mawson**	**78.21**	**199**	P	**P**	**06 57 46.0**	**+0.9**
	comp=Z,5.7nm,0.7s,baz=123,slow=7.0,SNR=22						
MAW	**Mawson**	**78.21**	**199**	P	**P**	**06 57 46.4**	**+1.3**
	baz=79,SNR=19						
MURC	**Murrieta**	**80.31**	**46**	⇑P	**P**	**06 57 57.3**	**+0.3**
	baz=81						
MONP	**Monument Peak**	**80.38**	**47**	⇑P	**P**	**06 57 57.7**	**0.0**
	baz=81						
BFSC	**Mount Baldy Ra**	**80.41**	**45**	⇑P	**P**	**06 57 57.5**	**-0.2**
	baz=81						
DVTC	**Desert V Tower**	**80.45**	**47**	⇑P	**P**	**06 57 57.9**	**0.0**
	baz=81						
VES	**Vestal, Richgr**	**80.52**	**43**	⇓P	**P**	**06 57 58.1**	**0.0**
	baz=81						
EDW2	**Edwards Air Fo**	**80.60**	**45**	⇓P	**P**	**06 57 58.3**	**-0.3**
	baz=81,SNR=7.1						
ISA	**Isabella**	**80.79**	**44**	*e*P	**P**	**06 57 59.5**	**-0.2**
ISA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ISA	**Isabella**	**80.79**	**44**	*e*P	**P**	**06 57 59.5**	**-0.2**
	comp=Z,9.6nm,1.0s						
ISA	**Isabella**	**80.79**	**44**	⇑P	**P**	**06 57 59.5**	**-0.2**
	baz=81,SNR=8.2						
PFO	**Pinyon Flat Ob**	**80.80**	**46**	*e*P	**P**	**06 57 59.6**	**-0.3**
	comp=Z,7.2nm,1.2s						
PFO	**Pinyon Flat Ob**	**80.80**	**46**	⇓P	**P**	**06 57 59.6**	**-0.3**
	baz=81						
SWSC	**Sam W. Stewart**	**80.83**	**47**	⇑P	**P**	**06 58 00.1**	**+0.2**
	baz=81						
CMB	**Columbia Colle**	**81.15**	**41**	*e*P	**P**	**06 58 01.0**	**-0.5**
CMB				pmax	pmax		
	comp=Z,9.0nm,1.1s						
CMB	**Columbia Colle**	**81.15**	**41**	*e*P	**P**	**06 58 01.0**	**-0.5**
	comp=Z,9.2nm,1.1s						
PETK	**Petropavlovsk-**	**81.16**	**344**	P	**P**	**06 58 00.4**	**-0.7**
PETK	**Petropavlovsk-**	**81.16**	**344**	P	**P**	**06 58 00.4**	**-0.7**
PETK	**Petropavlovsk-**	**81.16**	**344**	P	**P**	**06 58 00.4**	**-0.7**
	comp=Z,4.0nm,0.8s,baz=139,slow=9.0,SNR=3.2						
LRMC	**Laurel Mountai**	**81.16**	**44**	⇓P	**P**	**06 58 01.6**	**-0.1**
	baz=82						
BELC	**Belle Mtn. Jos**	**81.34**	**46**	⇑P	**P**	**06 58 03.0**	**+0.2**
	baz=82						
BC3	**Big Chuckawall**	**81.49**	**47**	⇓P	**P**	**06 58 03.6**	**+0.1**
	baz=82						
GLA	**Glamis**	**81.54**	**48**	⇑P	**P**	**06 58 04.0**	**+0.3**
	baz=82						
GSC	**Goldstone**	**81.62**	**45**	*e*P	**P**	**06 58 04.1**	**0.0**
GSC				pmax	pmax		
	comp=Z,8.0nm,1.1s						
GSC	**Goldstone**	**81.62**	**45**	*e*P	**P**	**06 58 04.1**	**0.0**
	comp=Z,7.7nm,1.1s						
GSC	**Goldstone**	**81.62**	**45**	⇓P	**P**	**06 58 04.5**	**+0.4**
	baz=82						
HEC	**Hector,Ludlow**	**81.63**	**46**	⇑P	**P**	**06 58 04.4**	**+0.2**
	baz=82						
MPMC	**Manual Prospec**	**81.66**	**44**	⇓P	**P**	**06 58 04.3**	**-0.1**
	baz=82,SNR=9.0						
KSRS	**Korea Array**	**81.78**	**318**	P	**P**	**06 58 05.9**	**+1.2**
	comp=Z,1.0nm,0.6s,baz=133,slow=8.4,SNR=3.8						
KSAR	**Wonju Array Be**	**81.79**	**318**	P	**P**	**06 58 05.9**	**+1.1**
MTUM	**Tungsten Hills**	**81.81**	**42**	*e*P	**P**	**06 58 05.6**	**+0.5**
IRM	**Iron Mountain**	**82.00**	**47**	⇑P	**P**	**06 58 06.1**	**0.0**
	baz=82,SNR=5.0						
WAKR	**Walker**	**82.02**	**41**	*e*P	**P**	**06 58 06.0**	**-0.3**
GMRC	**Granite Mounta**	**82.04**	**46**	⇓P	**P**	**06 58 06.4**	**+0.1**
	baz=82						
113A	**Mohawk Valley,**	**82.09**	**48**	⇓P	**P**	**06 58 06.7**	**+0.2**
	baz=82						
Y12C	**Blythe**	**82.17**	**47**	⇓P	**P**	**06 58 07.3**	**+0.4**
	baz=82						
TUQ	**Turquoise Moun**	**82.27**	**45**	⇓P	**P**	**06 58 07.5**	**0.0**
	baz=83						
FURC	**Furnace Creek,**	**82.31**	**44**	⇑P	**P**	**06 58 07.8**	**+0.2**
	baz=83						
GRAC	**Grapevine Rang**	**82.32**	**43**	⇑P	**P**	**06 58 08.0**	**+0.3**
	baz=83,SNR=6.1						
SHOC	**Shoshone**	**82.32**	**45**	⇓P	**P**	**06 58 08.1**	**+0.4**
	baz=83						
HUMO	**Hull Mountain**	**82.77**	**36**	*e*P	**P**	**06 58 10.2**	**+0.3**
	comp=Z,48nm,2.2s						
SYO	**Syowa Base**	**82.93**	**192**	⇑*e*pP	pP	06 58 15.3	-3.7
SYO	**Syowa Base**	**82.93**	**192**	⇓*e*sP	sP	06 58 18.4	-3.8
Z14A	**Wintersburg**	**83.00**	**48**	⇓P	**P**	**06 58 11.8**	**+0.6**
	baz=83						
Y14A	**Wickenburg**	**83.29**	**48**	⇑P	**P**	**06 58 12.9**	**+0.1**
	baz=84						
W13A	**Hualapai Mount**	**83.39**	**47**	⇑P	**P**	**06 58 13.6**	**0.0**
	baz=84,SNR=6.3						
SHPR	**Sheep Range**	**83.41**	**45**	*e*P	**P**	**06 58 13.5**	**0.0**
SNAA	**Sanae**	**83.52**	**178**	*e*P	**P**	**06 58 12.9**	**-0.6**
MOD	**Modoc**	**83.75**	**38**	*e*P	**P**	**06 58 14.7**	**-0.5**
	comp=Z,45nm,1.3s						
USRK	**Ussuriysk Arra**	**83.96**	**325**	P	**P**	**06 58 15.9**	**0.0**
	comp=Z,1.3nm,0.5s,baz=140,slow=7.0,SNR=3.8						
K05A	**Summer Lake**	**83.97**	**37**	*e*P	**P**	**06 58 16.8**	**+0.5**
	comp=Z,30nm,1.4s						
VNA2	**Neumayer--Watz**	**84.03**	**176**	*e*P	**P**	**06 58 15.9**	**-0.1**
VNA1	**Neumayer--Stat**	**84.25**	**176**	*e*P	**P**	**06 58 16.9**	**-0.2**
R11A	**Troy Canyon, C**	**84.27**	**43**	*e*P	**P**	**06 58 17.3**	**-0.6**
	comp=Z,41nm,2.5s						
R11A	**Troy Canyon, C**	**84.27**	**43**	⇑P	**P**	**06 58 17.9**	**0.0**
	baz=85						
319A	**Douglas**	**84.42**	**52**	⇓P	**P**	**06 58 18.8**	**0.0**
	baz=85						
PLCA	**Paso Flores**	**84.51**	**132**	P	**P**	**06 58 18.5**	**-0.7**
PLCA	**Paso Flores**	**84.51**	**132**	P	**P**	**06 58 18.5**	**-0.7**
	comp=Z,3.5nm,0.9s,baz=236,slow=5.9,SNR=4.3						
NJ2	**Nanjing**	**84.53**	**309**	*e*P	P	06 58 22.3	+3.2
NJ2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PPI	**Padang Panjang**	**84.55**	**272**	P	P	06 58 08.9	-11
	baz=85,SNR=3.3						
H04A	**Detroit Lake**	**84.60**	**35**	*e*P	**P**	**06 58 18.8**	**-0.4**
	comp=Z,20nm,1.5s						
X16A	**Lo Mia Camp, P**	**84.63**	**48**	⇓P	**P**	**06 58 20.2**	**+0.4**
	baz=85						
320A	**Kipp Ranch, An**	**84.94**	**52**	⇓P	**P**	**06 58 21.9**	**+0.5**
	baz=85						
CCUT	**Cedar City**	**85.19**	**45**	*e*P	**P**	**06 58 23.4**	**+0.8**
	comp=Z,28nm,1.7s						
E03A	**Lebam**	**85.19**	**33**	*e*P	**P**	**06 58 22.3**	**+0.3**
	comp=Z,19nm,1.0s						
U15A	**North Rim**	**85.22**	**46**	⇑P	**P**	**06 58 23.2**	**+0.4**
	baz=86,SNR=10						
220A	**Playas Peak, P**	**85.25**	**52**	⇑P	**P**	**06 58 23.2**	**+0.3**
	baz=86						
ARUT	**Antelope Range**	**85.28**	**45**	*e*P	**P**	**06 58 23.0**	**0.0**
ARUT				pmax	pmax		
	comp=Z,88nm,1.1s						
ARUT	**Antelope Range**	**85.28**	**45**	*e*P	**P**	**06 58 23.0**	**0.0**
	comp=Z,88nm,1.1s						
WUAZ	**Wupatki**	**85.30**	**47**	⇑P	**P**	**06 58 23.6**	**+0.5**
	baz=86						
120A	**U Bar Ranch, L**	**85.53**	**51**	⇑P	**P**	**06 58 24.6**	**+0.3**
	baz=86						
I07A	**Izee**	**85.63**	**37**	*e*P	**P**	**06 58 24.6**	**+0.1**
	comp=Z,9.0nm,1.3s						
NLWA	**Neilton Lookou**	**85.63**	**32**	*e*P	**P**	**06 58 25.0**	**+0.7**
	comp=Z,7.9nm,0.9s						
X18A	**Snowflake**	**85.71**	**49**	⇓P	**P**	**06 58 25.3**	**+0.1**
	baz=86						
J08A	**Circle Bar Ran**	**85.72**	**38**	*e*P	**P**	**06 58 25.1**	**+0.1**
	comp=Z,33nm,2.0s						
G06A	**Carlson Farm,**	**85.79**	**35**	*e*P	**P**	**06 58 25.1**	**-0.1**
	comp=Z,8.0nm,1.1s						
Z20A	**Nine Sixteen R**	**85.86**	**51**	⇓P	**P**	**06 58 26.2**	**+0.2**
	baz=86						
121A	**Cookes Peak, D**	**86.12**	**52**	⇑P	**P**	**06 58 27.4**	**+0.1**
	baz=86						
W18A	**Petrified Fore**	**86.18**	**48**	⇓P	**P**	**06 58 27.6**	**0.0**
	baz=86						
222A	**Williams Famil**	**86.38**	**52**	⇑P	**P**	**06 58 29.1**	**+0.5**
	baz=87						
D05A	**Enumclaw**	**86.42**	**33**	*e*P	**P**	**06 58 29.0**	**+0.8**
	comp=Z,20nm,1.2s						
Y20A	**Horse Springs,**	**86.45**	**50**	⇓P	**P**	**06 58 29.3**	**+0.4**
	baz=87,SNR=8.8						
Z21A	**St. Cloud Mine**	**86.62**	**51**	⇑P	**P**	**06 58 30.3**	**+0.5**
	baz=87,SNR=5.3						
X20A	**Quemado**	**86.71**	**50**	⇑P	**P**	**06 58 30.8**	**+0.6**
	baz=87,SNR=6.2						
G08A	**Pilot Rock**	**86.71**	**36**	*e*P	**P**	**06 58 29.3**	**-0.5**
	comp=Z,15nm,1.6s						
Y21A	**Point of Rocks**	**86.99**	**50**	⇑P	**P**	**06 58 32.3**	**+0.6**
	baz=87,SNR=6.9						
W20A	**Ramah**	**87.03**	**49**	⇑P	**P**	**06 58 32.1**	**+0.3**
	baz=87,SNR=10						
Z22A	**Elephant Butte**	**87.09**	**51**	⇑P	**P**	**06 58 32.2**	**+0.2**
	baz=87,SNR=9.4						
DUG	**Dugway**	**87.10**	**43**	⇓P	**P**	**06 58 32.0**	**+0.1**
	baz=88						
X21A	**Alamocita Cree**	**87.15**	**50**	⇑P	**P**	**06 58 32.3**	**-0.1**
	baz=88,SNR=5.6						
324A	**Moseley Ranch,**	**87.20**	**53**	⇓P	**P**	**06 58 31.9**	**-0.6**
	baz=88,SNR=6.0						
425A	**Indio Mountain**	**87.23**	**54**	⇑P	**P**	**06 58 32.3**	**-0.4**
	baz=88,SNR=8.0						
626A	**Big Bend Ranch**	**87.23**	**56**	⇑P	**P**	**06 58 32.1**	**-0.6**
	baz=88,SNR=5.9						
PSI	**Prapat**	**87.25**	**274**	P	**P**	**06 58 32.0**	**-1.2**
PSI	**Prapat**	**87.25**	**274**	P	**P**	**06 58 32.0**	**-1.2**
	comp=Z,2.7nm,0.5s,baz=135,slow=11,SNR=4.9						
MFID	**Camas Ranch**	**87.25**	**39**	⇓P	**P**	**06 58 32.3**	**-0.2**
	baz=88						
CN2	**Changchun**	**87.25**	**322**	*e*P	P	06 58 37.0	+4.7
V20A	**Brimhall**	**87.42**	**48**	⇑P	**P**	**06 58 33.4**	**-0.2**
	baz=88						
Y22A	**Socorro**	**87.45**	**51**	⇓P	**P**	**06 58 33.7**	**0.0**
	baz=88,SNR=5.1						
TXAR	**Lajitas Array**	**87.47**	**56**	P	**P**	**06 58 33.2**	**-0.7**
TXAR	**Lajitas Array**	**87.47**	**56**	P	**P**	**06 58 33.2**	**-0.7**
	comp=Z,2.1nm,0.8s,baz=212,slow=8.4,SNR=27						
TXAR				LR	LR	07 28 35.5	
	comp=Z,76nm,19.5s,baz=180,slow=29						
224A	**Cornudas Mount**	**87.50**	**53**	⇓P	**P**	**06 58 34.1**	**+0.1**
	baz=88						
526A	**Mary Lane Ranc**	**87.52**	**55**	⇓P	**P**	**06 58 33.7**	**-0.5**
	baz=88,SNR=5.4						
325A	**Bean Ranch, Si**	**87.54**	**54**	⇑P	**P**	**06 58 33.9**	**-0.3**
	baz=88						
LAZ	**Ladron**	**87.58**	**50**	*e*P	**P**	**06 58 34.5**	**+0.1**
	comp=Z,3.1nm,1.1s						
W21A	**San Fidel**	**87.61**	**49**	⇑P	**P**	**06 58 34.5**	**0.0**
	baz=88						
Z23A	**Rita Site, Whi**	**87.61**	**52**	⇑P	**P**	**06 58 34.7**	**+0.2**
	baz=88						
627A	**Terlingua Ranc**	**87.74**	**56**	⇑P	**P**	**06 58 34.7**	**-0.5**
	baz=88,SNR=6.4						
426A	**McDonald Obser**	**87.87**	**55**	⇓P	**P**	**06 58 35.3**	**-0.7**
	baz=88						
124A	**Stringfield Ra**	**87.88**	**52**	⇑P	**P**	**06 58 35.3**	**-0.6**
	baz=88						
SRU	**San Rafael**	**87.91**	**45**	*e*P	**P**	**06 58 35.8**	**-0.1**
SRU				pmax	pmax		
	comp=Z,4.0nm,0.9s						
SRU	**San Rafael**	**87.91**	**45**	*e*P	**P**	**06 58 35.8**	**-0.1**
	comp=Z,3.6nm,0.9s						
527A	**Woodward Ranch**	**87.92**	**55**	⇓P	**P**	**06 58 35.6**	**-0.5**
	baz=88						
225A	**Deer Hill, Car**	**88.03**	**53**	⇓P	**P**	**06 58 36.4**	**-0.2**
	baz=88						
Y23A	**Lovelace Mesa,**	**88.09**	**51**	⇓P	**P**	**06 58 36.8**	**-0.1**
	baz=88						
628A	**Black Gap, Mar**	**88.13**	**56**	⇓P	**P**	**06 58 36.7**	**-0.3**
	baz=88						
HLID	**Hailey**	**88.15**	**39**	⇓P	**P**	**06 58 37.2**	**+0.3**
	baz=88						
MVCO	**Mesa Verde**	**88.17**	**47**	⇓P	**P**	**06 58 36.8**	**-0.4**
	baz=88						
326A	**Caldwell Ranch**	**88.24**	**54**	⇑P	**P**	**06 58 37.1**	**-0.3**
	baz=89						
Z24A	**Sheeppen Canyo**	**88.27**	**52**	⇑P	**P**	**06 58 37.8**	**+0.1**
	baz=89						
U21A	**Nageezi**	**88.31**	**48**	⇑P	**P**	**06 58 37.9**	**0.0**
	baz=89,SNR=7.8						
X23A	**Hourglass Bar**	**88.34**	**51**	⇑P	**P**	**06 58 38.0**	**-0.1**
	baz=89						
ANMO	**Albuquerque**	**88.34**	**50**	*e*P	**P**	**06 58 37.6**	**-0.5**
GDL2	**Guadalupe Moun**	**88.41**	**53**	*e*P	**P**	**06 58 39.4**	**+1.1**
125A	**Gardner Draw,**	**88.43**	**53**	⇑P	**P**	**06 58 38.3**	**-0.1**
	baz=89						
427A	**Hayter Ranch,**	**88.43**	**55**	⇑P	**P**	**06 58 38.1**	**-0.2**
	baz=89,SNR=5.8						
226B	**Tecolote Peak,**	**88.49**	**54**	⇑P	**P**	**06 58 38.2**	**-0.4**
	baz=89						
Y24A	**Capitan**	**88.53**	**51**	⇓P	**P**	**06 58 38.7**	**-0.2**
	baz=89,SNR=7.8						
B08A	**Colville Reser**	**88.53**	**34**	*e*P	**P**	**06 58 37.8**	**-0.5**
	comp=Z,3.4nm,0.8s						
528A	**Cox Ranch, San**	**88.55**	**56**	⇑P	**P**	**06 58 38.9**	**-0.1**
	baz=89						
V22A	**San Miguel Ran**	**88.55**	**49**	⇓P	**P**	**06 58 39.1**	**+0.1**
	baz=89						
S20A	**Disappointment**	**88.60**	**47**	⇑P	**P**	**06 58 39.4**	**+0.2**
	baz=89						
RAGM	**Ragged Mountai**	**88.64**	**15**	*e*P	**P**	**06 58 36.5**	**-2.0**
	comp=Z,99nm,0.8s						
W23A	**Werner Place,**	**88.67**	**50**	⇓P	**P**	**06 58 39.8**	**+0.2**
	baz=89						
T21A	**Navajo Lake**	**88.70**	**48**	⇓P	**P**	**06 58 39.7**	**+0.1**
	baz=89						
Z25A	**Roswell**	**88.70**	**52**	⇓P	**P**	**06 58 39.4**	**-0.3**
	baz=89						
C09A	**Chrisman Ranch**	**88.70**	**34**	*e*P	**P**	**06 58 39.0**	**-0.2**
	comp=Z,5.4nm,0.9s						
S21A	**Coal Bank Pass**	**88.89**	**47**	⇑P	**P**	**06 58 40.3**	**-0.4**
	baz=89						
529A	**Stev Forest Ra**	**88.95**	**56**	⇓P	**P**	**06 58 40.1**	**-0.7**
	baz=89						
V23A	**Ortiz Mt. (NFS**	**88.95**	**50**	⇑P	**P**	**06 58 41.5**	**+0.6**
	baz=89						
Y25A	**Mesa, Roswell**	**89.05**	**52**	⇓P	**P**	**06 58 41.2**	**-0.1**
	baz=89						
T22A	**Edith**	**89.14**	**48**	⇓P	**P**	**06 58 41.8**	**0.0**
	baz=90						
W24A	**Lazy 6 Ranch,**	**89.21**	**50**	⇑P	**P**	**06 58 42.2**	**+0.1**
	baz=90						
U23A	**El Rito**	**89.26**	**49**	⇑P	**P**	**06

baz=91
H17A Grant Village 90.88 40 ⇑P P 06 58 50.5 +0.8
baz=91
GYA Guiyang 90.90 299 *e*P P 06 58 55.0 +4.9
GYA PP PP 07 02 34.3 +7.7
GYA SKS **SKSac 07 09 25.6 +5.1**
GYA S **S 07 09 51.2 +5.5**
GYA SS SS 07 16 00.0 +10
GYA pmax pmax
comp=Z,10.0nm,1.0s
GYA pmax pmax
comp=Z,90nm,5.8s
GYA LR LR
comp=N,490nm,20.6s
GYA LR LR
comp=E,320nm,21.0s
GYA LR LR
comp=Z,450nm,20.1s
T25A Trinidad 90.90 49 ⇑P P 06 58 49.6 -0.4
baz=91
L20A Wamsutter 90.91 43 ⇓P P 06 58 49.8 -0.1
baz=91
JCT Junction City 90.95 57 ⇓P P 06 58 49.7 -0.5
baz=91
U26A Atchley Ranch, 90.98 50 ⇓P P 06 58 49.8 -0.5
baz=91
R24A Sanders Place, 90.99 48 ⇑P P 06 58 50.2 -0.2
baz=91
BOZ Bozeman (W) 90.99 39 *e*P **P 06 58 49.3 -0.8**
BOZ pmax pmax
comp=Z,11nm,1.5s
BOZ Bozeman (W) 90.99 39 *e*P **P 06 58 49.3 -0.8**
comp=Z,11nm,1.5s
O22A Kremmling 91.05 46 ⇓P P 06 58 50.4 -0.3
baz=91
130A Snyder 91.10 54 ⇓P P 06 58 50.5 -0.3
baz=91
MENT Mentasta 91.11 14 *e*P **P 06 58 49.9 -0.2**
S25A Robets Cordova 91.15 49 ⇓P P 06 58 50.5 -0.5
baz=92
Y29A Porterfield Fa 91.19 53 ⇓P P 06 58 50.7 -0.5
baz=92
SEY Seymchan 91.23 346 ⇑*i*P **P 06 58 50.8 +0.3**
231A Bronte 91.26 55 ⇑P P 06 58 50.5 -1.0
baz=92
V27A Dan Oppiter Fa 91.30 51 ⇓P P 06 58 51.4 -0.3
baz=92
Z30A Sanderson Ranc 91.31 54 ⇑P P 06 58 50.9 -0.9
baz=92
332A Millersview 91.43 56 ⇓P P 06 58 51.8 -0.6
baz=92
X29A Tulia 91.46 53 ⇑P P 06 58 52.0 -0.5
baz=92
T26A Comanche Natio 91.48 49 ⇓P P 06 58 52.7 0.0
baz=92
O23A Lake Granby, G 91.48 46 ⇓P P 06 58 52.7 0.0
baz=92
HRY Holter Researc 91.50 38 *e*P **P 06 58 51.6 -0.7**
comp=Z,2.7nm,0.8s
131A Roby 91.56 55 ⇓P P 06 58 52.0 -0.9
baz=92
I19A Meeteetse 91.62 41 ⇑P P 06 58 53.1 -0.1
baz=92
U27A Thompson Grove 91.64 50 ⇑P P 06 58 52.5 -0.8
baz=92
F17A Fitzpatrick Pl 91.70 39 ⇓P P 06 58 53.5 +0.1
baz=92
232A Coleman 91.74 56 ⇓P P 06 58 53.2 -0.6
baz=92
S26A Kim 91.79 49 ⇓P P 06 58 53.5 -0.5
baz=92
J20A Shoshoni 91.80 42 ⇓P P 06 58 53.8 0.0
baz=92
G18A Lazy EL Ranch, 92.00 40 ⇑P P 06 58 55.2 +0.4
baz=92
COLA College 92.03 11 *i*P **P 06 58 53.6 -0.6**
COLA pmax pmax
comp=Z,18nm,0.9s
Z31A Sharp Cattle R 92.05 54 ⇑P P 06 58 54.8 -0.4
baz=92
ABTX Abilene, Hawle 92.09 55 ⇓P P 06 58 54.8 -0.5
baz=92
ILAR Eielson Array 92.11 12 P **P 06 58 53.3 -1.4**
ILAR Eielson Array 92.11 12 P **P 06 58 53.3 -1.4**
comp=Z,1.2nm,0.8s,baz=221,slow=5.3,SNR=16
R26A Arlington 92.15 48 ⇑P P 06 58 54.7 -1.0
baz=92
J21A Lysite 92.19 43 ⇓P P 06 58 55.7 0.0
baz=92
F18A Big Timber 92.24 40 ⇓P P 06 58 56.2 +0.4
baz=93
Y31A Rekieta Farm, 92.27 54 ⇑P P 06 58 55.5 -0.7
baz=93
M23A Laramie 92.27 45 ⇑P P 06 58 56.6 +0.3
baz=93
P25A Willow Gulch B 92.28 47 ⇑P P 06 58 56.5 +0.3
baz=93
K22A Casper 92.39 44 ⇓P P 06 58 56.6 0.0
baz=93
D17A Six Diamond Ra 92.39 38 ⇓P P 06 58 56.3 -0.2
baz=93
H20A Greybull 92.47 41 ⇓P P 06 58 56.3 -0.6
baz=93
I21A Big Trails, Te 92.53 42 ⇓P P 06 58 56.2 -1.1
baz=93
Z32A Haskell 92.53 54 ⇑P P 06 58 56.6 -0.7
baz=93
L23A Garrett 92.62 44 ⇑P P 06 58 57.7 -0.1
baz=93
F19A Roth Farm, Mol 92.66 40 ⇑P P 06 58 57.7 0.0
baz=93
J22A Midwest 92.82 43 ⇓P P 06 58 58.6 0.0
baz=93
Y32A R-V Farms, Ver 92.89 54 ⇓P P 06 58 58.7 -0.3
baz=93
I22A 9 Mile Ranch, 93.07 42 ⇓P P 06 58 59.7 -0.1
baz=93
W31A Holland Ranch, 93.08 53 ⇑P P 06 58 59.1 -0.8
baz=93
E19A Rath Farm, Rou 93.08 39 ⇑P P 06 58 59.8 +0.2
baz=94
H21A Big Horn, Sher 93.12 42 ⇑P P 06 58 59.9 0.0
baz=94
D19A Cripps Ranch, 93.42 39 ⇓P P 06 59 01.1 -0.1
baz=94
V31A Spring Creek L 93.43 52 ⇓P P 06 59 01.6 +0.1
baz=94
KMI Kunming 93.47 296 P P 06 59 05.6 +3.5
KMI pmax pmax
comp=Z,12nm,0.8s
E20A Meyer Farm, Mu 93.49 40 ⇑P P 06 59 01.7 +0.2
baz=94
C19A Slack Wire Ran 93.64 38 ⇓P P 06 59 02.7 +0.5
baz=94
O27A Beecher Island 93.74 47 ⇓P P 06 59 02.9 0.0
baz=94
D20A Manuel Ranch, 93.80 39 ⇓P P 06 59 02.9 -0.1
baz=94
CMAR Chiang Mai Arr 93.82 288 P P **06 59 03.1 -0.5**
CMAR Chiang Mai Arr 93.82 288 P P **06 59 03.1 -0.5**
comp=Z,4.8nm,0.9s,baz=144,slow=3.4,SNR=15
CHTO Chiang Mai 93.97 289 *e*P P 06 59 07.6 +3.3
CHTO pmax pmax
comp=Z,8.0nm,0.8s
CHTO Chiang Mai 93.97 289 *e*P P 06 59 07.6 +3.3
comp=Z,8.0nm,0.8s
HHC Hu-ho-hao-te 94.14 313 *e*P **P 06 59 07.0 +2.3**
HHC pP **pP 06 59 11.9 -1.6**
HHC sP **sP 06 59 14.3 -2.3**
HHC PP PP 07 02 57.8 +6.0
HHC S **ScS 07 10 16.1 +0.8**
HHC sS **sS 07 10 24.3 -4.3**
HHC SS SS 07 16 43.2 +7.6
HHC pmax pmax
comp=Z,29nm,0.8s
HHC pmax pmax
comp=Z,250nm,6.7s
HHC LR LR
comp=N,360nm,16.5s
HHC LR LR
comp=E,310nm,16.7s
HHC LR LR
comp=Z,320nm,17.7s
C20A Veseth Ranch, 94.22 39 ⇓P P 06 59 05.2 +0.4
baz=95
D21A La Casta Ranch 94.45 40 ⇑P P 06 59 06.2 +0.3
baz=95
K26A Motz Farm, Whi 94.53 45 ⇓P P 06 59 06.5 +0.1
baz=95
S31A Mullinville 94.55 51 ⇑P P 06 59 06.3 -0.4
baz=95
F23A Volborg 94.68 41 ⇓P P 06 59 06.8 -0.2
baz=95
H24A Dirks Ranch, A 94.70 42 ⇑P P 06 59 06.6 -0.5
baz=95
C21A Desert Coulee 94.80 39 ⇓P P 06 59 07.7 +0.2
baz=95
I25A Rochford 94.84 43 ⇑P P 06 59 07.6 -0.3
baz=95
J26A Sides Ranch, S 94.90 44 ⇓P P 06 59 08.1 0.0
baz=95
CD2 Chengdu 95.17 302 P P 06 59 13.7 +4.1
CD2 pP pP 06 59 18.5 +0.1
CD2 sP sP 06 59 20.7 -0.8
CD2 PP PP 07 03 07.1 +7.1
CD2 SKS **SKSac 07 09 48.4 +4.6**
CD2 S **ScS 07 10 27.3 +3.1**
CD2 sS sS 07 10 34.9 -3.0
CD2 SS SS 07 16 59.6 +9.1
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,200nm,5.4s
CD2 LR LR
comp=N,380nm,5.9s
CD2 LR LR
comp=Z,390nm,5.3s
F24A Ekalaka 95.32 42 ⇑P P 06 59 10.1 +0.1
baz=96
I26A New Underwood 95.39 44 ⇑P P 06 59 10.5 +0.2
baz=96
A21A Bergtoll Ranch 95.51 38 ⇑P P 06 59 11.2 +0.5
baz=96
F25A Bowman 95.96 42 ⇓P P 06 59 13.1 +0.3
baz=96
G27A Dupree 96.01 43 ⇑P P 06 59 15.6 +2.5
baz=97
B23A Brockton 96.33 39 ⇑P P 06 59 14.9 +0.4
baz=97
YAK Yakutsk 97.11 337 *i*P Pdif 06 59 17.6 0.0
YAK pmax pmax
comp=Z,8.0nm,0.7s
LPAZ La Paz 98.16 112 LR LR 07 36 47.3
comp=Z,59nm,18.6s,baz=159,slow=31
GTA Gaotai 101.61 308 *e*P **Pdif 06 59 44.4 +6.0**
GTA pP pP 06 59 48.0 +0.6
GTA sP 06 59 50.5
GTA pmax pmax
comp=Z,2.0nm,0.7s
WMQ Urumqi 111.61 309 *e*PKP **PKiKP 07 04 22.1 +1.7**
WMQ LR LR
comp=N,62nm,16.0s
ZALV Zalesovo Beam 115.42 320 PKIKP **PKPdf 07 04 26.0 -1.3**
ZALV Zalesovo Beam 115.42 320 PKP **PKPdf 07 04 26.0 -1.3**
ZALV Zalesovo Beam 115.42 320 PKP **PKPdf 07 04 26.0 -1.3**
comp=N,1.1nm,0.6s,baz=178,slow=2.7,SNR=3.9
MKAR Makanchi Array 115.95 312 PKIKP **PKPdf 07 04 26.7 -1.9**
MKAR Makanchi Array 115.95 312 PKP **PKPdf 07 04 26.7 -1.9**
MKAR Makanchi Array 115.95 312 PKP **PKPdf 07 04 26.7 -1.9**
comp=N,0.3nm,0.5s,baz=242,slow=2.6,SNR=3.6
KSH Kashi 119.34 303 *e*PKP **PKPdf 07 04 40.1 +4.6**
KSH PP PP 07 06 09.2 +12
KSH PKS **PKSdf 07 08 16.2 +4.0**
KSH SKS **SKSdf 07 11 51.5 +5.6**
KSH AMB AMB
comp=Z,140nm,7.9s
KSH LR LR
comp=N,95nm,4.7s
KSH LR LR
comp=E,77nm,6.0s
KSH LR LR
comp=Z,150nm,8.6s
BRVK Borovoye 124.05 318 ⇑*i*PKIKP **PKPdf 07 04 42.8 -1.1**
BRVK pmax pmax
comp=Z,9.0nm,2.5s
ARCES ARCESS Array B 133.69 350 PKP **PKPdf 07 05 00.2 -1.5**
ARCES ARCESS Array B 133.69 350 PKP **PKPdf 07 05 00.2 -1.5**
comp=Z,3.4nm,0.8s,baz=7.8,slow=0.7,SNR=9.5
NOA NORSAR Array B 143.62 355 PKP PKPab 07 05 16.6 -0.3
NOA NORSAR Array B 143.62 355 PKP PKPab 07 05 16.5 -0.3
comp=Z,1.8nm,0.9s,baz=6.3,slow=4.0,SNR=3.5
NACGM Naroch 145.87 337 *e* **PKPdf 07 05 21.0 -3.2**
AKASG Malin Array Be 148.03 330 PKP2 **PKPbc 07 05 29.6 -1.5**
AKASG Malin Array Be 148.03 330 PKPbc **PKPbc 07 05 29.6 -1.5**
AKASG Malin Array Be 148.03 330 PKPbc **PKPbc 07 05 29.6 -1.5**
comp=Z,3.1nm,0.6s,baz=37,slow=3.6,SNR=9.6
BEL Belsk 150.43 339 *e*PKP **PKPbc 07 05 36.9 -0.2**
BRTR Keskin Array B 151.52 308 PKPbc **PKPbc 07 05 39.5 -0.7**
BRTR PKPab **PKPab 07 05 47.2 -1.5**
BRTR Keskin Array B 151.52 308 PKPbc **PKPbc 07 05 39.5 -0.7**
comp=Z,2.0nm,0.9s,baz=126,slow=3.8,SNR=6.5
BRTR PKPab **PKPab 07 05 47.2 -1.5**
comp=Z,1.3nm,0.6s,baz=109,slow=3.0,SNR=5.0
KWP Kalwaria Pacla 151.59 335 *e*PKP **PKPdf 07 05 36.2 +2.5**
STHS Stebnicka Huta 152.32 336 *e*PKIKP **PKPbc 07 05 41.8 +0.2**
STHS Stebnicka Huta 152.32 336 *e*PKP **PKPbc 07 05 41.8 +0.2**
KOLS Kolonicke sedl 152.32 334 *e*PKIKP **PKPbc 07 05 41.8 +0.2**
KOLS Kolonicke sedl 152.32 334 *e*PKP **PKPbc 07 05 41.8 +0.2**
CRVS Cervenica-Dubn 152.66 335 *e*PKIKP **PKPbc 07 05 42.3 -0.1**
CRVS Cervenica-Dubn 152.66 335 *e*PKP **PKPbc 07 05 42.3 -0.1**
CLL Collm 152.89 348 ⇓*i*PKIKP **PKPbc 07 05 42.2 -0.5**
CLL *i* 07 05 52.3
CLL pmax pmax
comp=Z,10.0nm,0.9s
CLL pmax pmax
comp=Z,9.0nm,1.2s
CLL Collm 152.89 348 ⇓*i*PKPbc **PKPbc 07 05 42.2 -0.5**
comp=Z,10.0nm,0.9s
CLL *i* 07 05 44.9
CLL *i* PKPab **PKPab 07 05 52.3 -1.5**
comp=Z,9.0nm,1.2s
BRG Berggiesshubel 153.12 347 *e*PKP **PKPbc 07 05 43.1 -0.2**
comp=Z,7.5nm,0.9s
BRG Berggiesshubel 153.12 347 *e*PKIKP **PKPbc 07 05 43.1 -0.2**
BRG pmax pmax
comp=Z,8.0nm,0.9s
VYHS Vyhne 153.95 338 *e*PKIKP **PKPbc 07 05 44.7 -0.5**
VYHS *e* 07 05 58.2
VYHS Vyhne 153.95 338 *e*PKP **PKPbc 07 05 44.7 -0.5**
VYHS *e* 07 05 58.2
GERES GERESS Array B 155.08 346 PKPbc PKPdf 07 05 45.3 +6.4
GERES PKPab **PKPab 07 06 01.7 -1.6**
GERES GERESS Array B 155.08 346 PKPbc PKPdf 07 05 45.3 +6.4
comp=Z,0.3nm,0.3s,baz=329,slow=1.6,SNR=4.4
GERES PKPab **PKPab 07 06 01.7 -1.6**
comp=Z,0.3nm,0.2s,baz=33,slow=3.8,SNR=2.9
TORD Torodi Ar. Bea 167.96 166 PKPab **PKPab 07 06 59.1 -1.1**
TORD Torodi Ar. Bea 167.96 166 PKPab **PKPab 07 06 59.1 -1.1**
comp=Z,1.0nm,0.8s,baz=189,slow=3.8,SNR=4.4

ISCJB ***09*** *06:54:59.5±0.4,5°.69S±0°.05×148°.11E±0°.07,h100km, mb4.1/13,Error ellipse: s-maj=9.6km s-min=6.4km az=10.4*
IDC ***09*** *06:55:01.5±0.9,5°.81S×148°.32E,h116km±7km,mb3.9/12, mb1 4.0/14,mb1mx3.9/20,mbtmp3.9/14,MS2.1/1, Ms1 2.1/1,ms1mx2.1/27,Error ellipse: s-maj=19.6km s-min=7.9km az=106.0*
AUST ***09*** *06:55:02.4±0.6,5°.74S×148°.13E,h118km,Error ellipse: s-maj=1.5km s-min=1.1km az=328.0*
NEIC ***09*** *06:55:03.5±1.3,5°.80S×148°.25E,h136km±12km,mb4.5/2, Error ellipse: s-maj=11.8km s-min=9.6km az=118.0*
ISC 09 06:55:00.3±0.6,**5°.76S**±0°.06×**148°.3E**±0°.1,**h100**km,**n62,**
σ**1**§**56**/**69**,**mb4.1**/13,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
PMG	**Port Moresby**	**3.79**	**197**	P		**Pn**	**06 55 58.8**	**+2.0**
PMG				S		**Sn**	**06 56 40.5**	**+0.1**
PMG	**Port Moresby**	**3.79**	**197**	P		**Pn**	**06 55 58.8**	**+2.0**
37nm,0.3s,baz=7.8,slow=5.1,SNR=54								
PMG				S		**Sn**	**06 56 40.5**	**+0.1**
107nm,0.3s,baz=147,slow=23,SNR=13								
RABL	**Rabaul**	**4.17**	**68**	P		Pn	06 56 07.1	+5.3
baz=4.3,SNR=9.3								
COEN	**Coen**	**9.58**	**211**	*e*Pn		**Pn**	**06 57 16.2**	**+0.9**
210nm,1.0s								
COEN	**Coen**	**9.58**	**211**	P		**Pn**	**06 57 16.8**	**+1.5**
baz=9.6,SNR=27								
COEN				S		**Sn**	**06 58 57.0**	**-4.1**
baz=9.6,SNR=5.9								
HNR	**Honiara**	**12.12**	**108**	P		Pn	06 57 53.1	+3.4
HNR	**Honiara**	**12.12**	**108**	P		Pn	06 57 53.1	+3.4
1.4nm,0.3s,baz=60,slow=20,SNR=2.3								
MTSU	**Mount Surprise**	**12.90**	**197**	P		**Pn**	**06 58 02.9**	**+2.9**
baz=13,SNR=15								
CTA	**Charters Tower**	**14.38**	**188**	P		**Pn**	**06 58 20.6**	**+1.3**
CTA	**Charters Tower**	**14.38**	**188**	P		**Pn**	**06 58 20.6**	**+1.3**
0.5nm,0.3s,baz=6.9,slow=14,SNR=4.9								
PATS	**Pohnpei**	**16.02**	**39**	S		Sn	07 01 26.6	-11
baz=16,SNR=4.4								
KDU	**Kakadu**	**17.05**	**245**	P		**Pn**	**06 58 52.3**	**-0.3**
baz=17,SNR=7.2								
KDU				S		Sn	07 01 48.0	-14
baz=17,SNR=3.8								
MTN	**Manton Dam**	**18.32**	**246**	P		**P**	**06 59 07.3**	**+0.4**
baz=18,SNR=11								
WRAB	**Tennant Creek**	**19.55**	**223**	*e*P		**P**	**06 59 20.7**	**+0.4**
74nm,0.4s								
WRA	**Warramunga Arr**	**19.56**	**223**	P		**P**	**06 59 21.0**	**+0.6**
WRA				S		**S**	**07 02 56.2**	**+0.1**
WRA	**Warramunga Arr**	**19.56**	**223**	P		**P**	**06 59 21.0**	**+0.6**
10.0nm,0.3s,baz=49,slow=11,SNR=310								
WRA				S		**S**	**07 02 56.2**	**+0.1**
0.2nm,0.3s,baz=42,slow=21,SNR=5.9								
EIDS	**Eidsvold**	**19.69**	**172**	*e*P		**P**	**06 59 21.9**	**+0.2**
19nm,1.0s								
EIDS	**Eidsvold**	**19.69**	**172**	P		**Pn**	**06 59 24.4**	**+0.4**
baz=20,SNR=3.2								
RMQ	**Roma**	**20.62**	**179**	P		Pn	06 59 34.5	-0.4
baz=21,SNR=5.9								
KNRA	**Kununurra**	**21.54**	**241**	P		**P**	**06 59 40.8**	**-0.9**
baz=21,SNR=11								
AS31	**Alice Springs**	**22.55**	**216**	*e*P		**P**	**06 59 52.4**	**+0.1**
ASAR	**Alice Springs**	**22.56**	**216**	P		**P**	**06 59 53.0**	**+0.6**
ASAR				pP		**pP**	**07 00 12.4**	**+0.4**
ASAR				S		**S**	**07 03 51.5**	**-1.2**
ASAR	**Alice Springs**	**22.56**	**216**	P		**P**	**06 59 53.0**	**+0.6**
28nm,0.7s,baz=51,slow=9.1,SNR=345								
ASAR				pP		**pP**	**07 00 12.4**	**+0.4**
7.4nm,0.6s,baz=50,slow=11,SNR=4.0								
ASAR				S		**S**	**07 03 51.5**	**-1.2**
6.9nm,0.9s,baz=40,slow=22,SNR=21								
DZM	**Mont Dzumac**	**23.91**	**134**	P		**P**	**07 00 05.7**	**+0.5**
DZM	**Mont Dzumac**	**23.91**	**134**	P		**P**	**07 00 05.7**	**+0.5**
5.1nm,0.6s,baz=189,slow=20,SNR=8.6								
ARMA	**Armidale**	**24.73**	**173**	P		**P**	**07 00 14.2**	**+1.6**
baz=25,SNR=15								
FITZ	**Fitzroy Crossi**	**25.29**	**239**	P		**P**	**07 00 17.6**	**0.0**
11nm,0.9s								
FITZ	**Fitzroy Crossi**	**25.29**	**239**	P		**P**	**07 00 17.6**	**0.0**
43nm,0.4s,baz=64,slow=9.0,SNR=97								
FITZ	**Fitzroy Crossi**	**25.29**	**239**	P		**P**	**07 00 17.5**	**-0.1**
baz=25,SNR=75								
STKA	**Stephens Creek**	**26.73**	**193**	*e*P		**P**	**07 00 30.3**	**-0.3**
STKA	**Stephens Creek**	**26.73**	**193**	P		**P**	**07 00 30.2**	**-0.3**
6.1nm,0.7s,baz=18,slow=8.6,SNR=15								
STKA	**Stephens Creek**	**26.73**	**193**	P		**P**	**07 00 30.6**	**+0.1**
baz=27,SNR=13								
BBOO	**Buckleboo**	**29.23**	**201**	P		**P**	**07 00 53.0**	**+0.3**
baz=29,SNR=5.6								
FORT	**Forrest**	**31.32**	**215**	P		**P**	**07 01 11.3**	**+0.1**
baz=31,SNR=8.8								
TGY	**Tagaytay City**	**33.55**	**306**	LR		LR	07 16 48.0	
comp=Z,3.4nm,19.1s,baz=304,slow=39								
MEEK	**Meekatharra**	**35.09**	**230**	P		**P**	**07 01 44.1**	**0.0**
baz=35,SNR=15								
MORW	**Morawa**	**38.29**	**229**	P		**P**	**07 02 11.3**	**0.0**
baz=38,SNR=4.7								
KLBR	**Kellerberrin**	**38.43**	**224**	P		**P**	**07 02 11.9**	**-0.5**
baz=38,SNR=13								
NWAO	**Narrogin (SRO)**	**39.57**	**223**	P		**P**	**07 02 21.2**	**-0.7**
NWAO	**Narrogin (SRO)**	**39.57**	**223**	P		**P**	**07 02 21.2**	**-0.7**
6.4nm,0.6s,baz=50,slow=7.9,SNR=4.1								
JNU	**Nakatsue**	**42.05**	**338**	P		**P**	**07 02 42.7**	**+0.5**
JNU	**Nakatsue**	**42.05**	**338**	P		**P**	**07 02 42.7**	**+0.5**
6.3nm,0.9s,baz=180,slow=2.0,SNR=3.0								
MJAR	**Matsushiro Arr**	**43.12**	**348**	P		**P**	**07 02 52.0**	**+1.1**
MJAR				pP		**pP**	**07 03 16.1**	**+1.9**
MJAR	**Matsushiro Arr**	**43.12**	**348**	P		**P**	**07 02 52.0**	**+1.1**
1.3nm,0.5s,baz=177,slow=8.7,SNR=6.7								
MJAR				pP		**pP**	**07 03 16.1**	**+1.9**
0.7nm,0.3s,baz=300,slow=24,SNR=2.1								
KSRS	**Korea Array**	**46.99**	**338**	P		**P**	**07 03 22.7**	**+1.3**
0.5nm,0.3s,baz=144,slow=9.0,SNR=3.8								
KSAR	**Wonju Array Be**	**47.00**	**338**	P		**P**	**07 03 22.7**	**+1.2**
SONM	**Songino Array**	**64.82**	**330**	P		**P**	**07 05 28.6**	**0.0**
SONM				pP		**pP**	**07 05 58.4**	**+4.8**
SONM	**Songino Array**	**64.82**	**330**	P		**P**	**07 05 28.6**	**0.0**
0.8nm,0.6s,baz=133,slow=5.2,SNR=5.5								
SONM				pP		**pP**	**07 05 58.4**	**+4.8**
0.4nm,0.4s,baz=150,slow=6.0,SNR=2.9								
MKAR	**Makanchi Array**	**78.13**	**320**	P		**P**	**07 06 46.9**	**-1.6**
MKAR	**Makanchi Array**	**78.13**	**320**	P		**P**	**07 06 46.9**	**-1.6**
0.7nm,0.6s,baz=108,slow=7.0,SNR=5.2								
ZALV	**Zalesovo Beam**	**79.49**	**327**	P		**P**	**07 06 53.8**	**-1.9**
ZALV	**Zalesovo Beam**	**79.49**	**327**	P		**P**	**07 06 53.8**	**-1.9**
1.1nm,0.5s,baz=101,slow=6.2,SNR=4.0								
MAW	**Mawson**	**82.96**	**203**	P		**P**	**07 07 12.5**	**-1.4**
MAW	**Mawson**	**82.96**	**203**	P		**P**	**07 07 12.5**	**-1.4**
1.7nm,0.6s,baz=117,slow=4.5,SNR=8.6								
ILAR	**Eielson Array**	**84.76**	**23**	P		**P**	**07 07 21.1**	**-2.0**
ILAR	**Eielson Array**	**84.76**	**23**	P		**P**	**07 07 21.1**	**-2.0**
1.7nm,0.9s,baz=252,slow=4.7,SNR=13								
TXAR	**Lajitas Array**	**108.53**	**61**	PKiKP		**PKiKP**	**07 13 14.8**	**-3.4**
TXAR	**Lajitas Array**	**108.53**	**61**	PKiKP		**PKiKP**	**07 13 14.8**	**-3.4**
0.2nm,0.9s,baz=232,slow=4.1,SNR=3.5								
TORD	**Torodi Ar. Bea**	**146.26**	**285**	PKPbc		**PKPdf**	**07 14 28.8**	**-0.4**
TORD	**Torodi Ar. Bea**	**146.26**	**285**	PKPbc		**PKPdf**	**07 14 28.8**	**-0.4**
1.1nm,0.5s,baz=77,slow=3.9,SNR=19								
BDFB	**Brasilia**	**153.31**	**143**	PKPbc		**PKPbc**	**07 14 46.9**	**-1.1**
BDFB	**Brasilia**	**153.31**	**143**	PKPbc		**PKPbc**	**07 14 46.9**	**-1.1**
1.5nm,0.5s,baz=27,slow=26,SNR=3.5								

NIED ***09*** *07:08:00,26°.80N×126°.50E,h5km,Mw4.2 Best double couple: M0:2.19000×10^15 NP1:φs:58.00000°,δ65.00000°, λ-101.00000°. NP2:φs:262.00000°,δ27.00000°, λ-69.00000°.*
JMA ***09*** *07:08:54.5±0.3,26°.75N×126°.51E,h12km,M3.7*
ISCJB ***09*** *07:08:55.5±0.5,26°.66N±0°.05×126°.49E±0°.05,h33km, mb3.9/10,MS3.7/7,Error ellipse: s-maj=7.1km s-min=5.9km az=20.1*
IDC ***09*** *07:09:03.6±3.3,26°.84N×126°.58E,h99km±33km,mb3.7/10, mb1 3.8/12,mb1mx3.6/27,mbtmp3.6/12,MS3.5/10, Ms1 3.6/10,ms1mx3.2/45,Error ellipse: s-maj=31.6km s-min=13.3km az=67.0*
ISC 09 07:08:56.9±0.7,**26°.67N**±0°.06×**126°.58E**±0°.06,**h35**km,**n26,**
σ**1**§**54**/**23**,**mb4.0**/10,**MS3.7**/**7**,**Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
JKE	**Kume jima 2**	**0.39**	**152**	P		**Pn**	**07 09 04.0**	**-2.0**
JKE				S		**Sn**	**07 09 10.8**	**-1.5**
JAGN	**Aguni-jima**	**0.60**	**98**	P		**Pn**	**07 09 07.5**	**-1.4**
JAGN				*e*S		**Sn**	**07 09 15.8**	**-1.6**
JJT2	**Tamagusuku 2**	**1.18**	**117**	P		**Pn**	**07 09 18.6**	**+1.8**
JJT2				*e*S		**Sn**	**07 09 34.9**	**+3.3**
JIH	**Iheya**	**1.29**	**74**	P		**Pn**	**07 09 18.0**	**-0.4**
JIH				*e*S		**Sn**	**07 09 35.9**	**+1.5**
JOW	**Kunigami**	**1.52**	**84**	P		**Pn**	**07 09 21.9**	**+0.3**
JTK	**Tokunoshima**	**2.38**	**62**	P		**Pn**	**07 09 33.3**	**-0.2**
JAMN	**Amaminishikomi**	**2.79**	**55**	P		**Pn**	**07 09 40.4**	**+1.4**
JIJ	**Ishigaki jima**	**3.19**	**224**	P		**Pn**	**07 09 46.0**	**+1.5**
JAM	**Amami Oshima**	**3.19**	**57**	P		**Pn**	**07 09 45.9**	**+1.3**
JNU	**Nakatsue**	**7.43**	**29**	P		Pn	07 10 47.5	+4.6
0.9nm,0.3s,baz=237,slow=11,SNR=7.9								
JNU				LR		LR	07 13 06.9	
comp=Z,69nm,20.3s,baz=226,slow=33								
KSRS	**Korea Array**	**10.81**	**6**	P		Pn	07 11 33.0	+3.9
0.2nm,0.3s,baz=176,slow=8.0,SNR=2.9								
KSRS				LR		LR	07 15 52.3	
comp=Z,163nm,18.4s,baz=274,slow=38								
MJAR	**Matsushiro Arr**	**13.95**	**42**	LR		LR	07 18 00.9	
comp=Z,134nm,18.7s,baz=330,slow=39								
ASAJ	**Asahikawa**	**21.69**	**33**	LR		LR	07 22 50.0	
comp=Z,83nm,18.1s,baz=348,slow=38								
SONM	**Songino Array**	**26.39**	**328**	P		**P**	**07 14 29.7**	**-0.4**
6.1nm,1.2s,baz=145,slow=9.1,SNR=8.6								
MKAR	**Makanchi Array**	**40.14**	**312**	P		**P**	**07 16 28.7**	**-0.7**
2.0nm,0.6s,baz=100,slow=10,SNR=21								
ZALV	**Zalesovo Beam**	**41.00**	**323**	P		**P**	**07 16 35.5**	**-0.8**
5.2nm,0.7s,baz=112,slow=7.8,SNR=19								
ZALV				LR		LR	07 33 48.9	
comp=Z,63nm,19.0s,baz=254,slow=36								

KURBB	Kurchatov Arra	43.51 317	P		P	07 16 56.0	-0.8
	3.4nm,0.7s,baz=105,slow=8.7,SNR=25						
FITZ	Fitzroy Crossi	44.52 181	P		P	07 17 05.8	+0.6
	1.4nm,0.7s,baz=337,slow=11,SNR=5.1						
AAK	Ala-Archa	45.00 305	LR		LR	07 37 32.2	
	comp=Z,80nm,19.1s,baz=178,slow=38						
WRA	Warramunga Arr	46.95 170	P		P	07 17 25.1	+0.7
	0.4nm,0.6s,baz=351,slow=8.5,SNR=6.1						
WRA			LR		LR	07 36 08.4	
	comp=Z,74nm,18.9s,baz=180,slow=34						
BVAR	Borovoye Array	48.96 318	LR		LR	07 39 17.6	
	comp=Z,94nm,18.3s,baz=117,slow=37						
ASAR	Alice Springs	50.54 171	P		P	07 17 53.5	+1.5
	0.5nm,0.8s,baz=348,slow=6.9,SNR=4.2						
STKA	Stephens Creek	59.96 165	P		P	07 19 01.2	+1.6
	0.7nm,0.6s,baz=333,slow=6.5,SNR=2.7						
STKA			LR		LR	07 42 00.7	
	comp=Z,99nm,20.3s,baz=52,slow=33						
NOA	NORSAR Array B	78.26 333	LR		LR	07 58 06.8	
	comp=Z,74nm,18.1s,baz=285,slow=38						
YKA	Yellowknife Ar	78.74 25	P		P	07 20 52.8	-2.6
	1.6nm,0.8s,baz=307,slow=5.0,SNR=4.7						
PDAR	Pinedale Array	93.73 38	P		P	07 22 10.3	-0.1
	0.4nm,0.8s,baz=301,slow=3.1,SNR=4.1						

AUST ***09*** *07:18:00.4, 2°.77S×153°.53E, h0km*
IDC ***09*** *07:18:49.1±2.0, 5°.07S×150°.97E, h193km±17km, mb3.8/6, mb1 4.0/8, mb1mx3.6/20, mbtmp3.8/8, Error ellipse: s-maj=24.9km s-min=13.6km az=133.0*

ISC 09 07:18:45.2±1.1, 5°.0S±0°.1×151°.0E±0°.1, h155km, n21, σ1§70/21, mb4.3/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	Rabaul	1.43	56	S		Pn 07 19 19.7	+5.2
	baz=2.0,SNR=24						
PMG	Port Moresby	5.79	221	P		Pn 07 20 13.7	+4.5
	9.1nm,0.3s,baz=29,slow=13,SNR=23						
COEN	Coen	11.76	220	P		P 07 21 33.2	-1.9
	baz=15,SNR=8.5						
MTSU	Mount Surprise	14.59	206	P		P 07 22 08.2	+1.6
	baz=18,SNR=24						
CTA	Charters Tower	15.69	197	P		P 07 22 20.2	+1.4
	0.4nm,0.3s,baz=25,slow=13,SNR=11						
KDU	Kakadu	19.80	246	P		Pn 07 23 05.9	-1.0
	baz=23,SNR=36						
MTN	Manton Dam	21.08	247	P		P 07 23 19.4	+1.9
	baz=24,SNR=9.2						
WRA	Warramunga Arr	21.98	226	P		P 07 23 27.4	+0.5
	9.5nm,0.5s,baz=50,slow=10,SNR=139						
WRA				S		S 07 27 17.5	-1.3
	1.3nm,0.7s,baz=47,slow=16,SNR=4.9						
KNRA	Kununurra	24.26	242	P		P 07 23 50.5	+2.4
	baz=28,SNR=9.5						
ASAR	Alice Springs	24.81	220	P		P 07 23 54.1	+1.1
	8.3nm,0.5s,baz=57,slow=8.6,SNR=58						
ASAR				S		S 07 28 00.3	-4.0
	0.3nm,0.7s,baz=32,slow=16,SNR=2.5						
FITZ	Fitzroy Crossi	27.98	240	P		P 07 24 22.3	+0.8
	2.7nm,0.5s,baz=58,slow=7.3,SNR=21						
FITZ	Fitzroy Crossi	27.98	240	P		P 07 24 22.5	+1.0
	baz=31,SNR=6.9						
STKA	Stephens Creek	28.15	197	P		P 07 24 21.5	-1.4
	2.5nm,0.5s,baz=31,slow=13,SNR=11						
STKA	Stephens Creek	28.15	197	P		P 07 24 22.0	-0.9
	baz=31,SNR=7.6						
WSI	Waingapu	30.77	260	P		P 07 24 48.5	+2.3
	baz=34,SNR=7.8						
WSI				S		S 07 30 14.0	+36
	baz=34,SNR=5.3						
KKM	Kota Kinabalu	36.40	287	S		S 07 31 04.3	-1.1
	baz=38,SNR=3.5						
MEEK	Meekatharra	37.65	232	P		P 07 25 46.3	+0.9
	baz=41,SNR=9.5						
URZ	Urewera	40.76	148	P		P 07 26 11.1	0.0
	2.8nm,0.3s,baz=294,slow=6.7,SNR=8.6						
MORW	Morawa	40.82	230	P		P 07 26 12.1	+0.4
	baz=44,SNR=4.8						
ILAR	Eielson Array	83.03	22	P		P 07 30 51.7	-1.1
	0.4nm,0.9s,baz=250,slow=5.4,SNR=4.0						
TORD	Torodi Ar. Bea	148.63	287	PKPbc		PKPbc 07 38 14.2	-0.9
	0.2nm,0.3s,baz=70,slow=2.0,SNR=8.0						

DJA 09 07:19:31.1±2.3, 1°.N±21°.×9°.8E±°, h10km, M3.8/3, MLv3.8/3, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	Gunungsitoli	0.66	282	P		Pg 07 19 42.8	-1.1
GSI				S		Sg 07 19 52.7	+0.2
SNSI	Sinabang, Aceh	2.26	303	P		Pn 07 20 10.2	+1.7
KCSI	Kotacane, Aceh	2.38	349	P		Pn 07 20 10.9	+0.7

IDC ***09*** *07:19:56.8±0.9, 27°.97N×87°.15E, h0km, mb4.0/10, mb1 4.1/12, mb1mx3.9/29, mbtmp4.0/12, ML4.1/2, Error ellipse: s-maj=33.5km s-min=15.7km az=56.0*
ISCJB ***09*** *07:20:00.2±1.3, 27°.96N±0°.05×87°.32E±0°.04, h33km±10km, mb3.9/10, Error ellipse: s-maj=8.8km s-min=5.6km az=0.7*
DMN ***09*** *07:20:00.9±0.2, 27°.84N×87°.25E, h2km, Ml4.9/4, Error ellipse: s-maj=6.3km s-min=2.6km az=33.0*

ISC 09 07:20:01.0±1.3, 27°.87N±0°.07×87°.22E±0°.04, h28km±11km, n24, σ1§59/34, mb3.9/10, Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAPN	Taplejung	0.68	139	*e*Pg	Pb	07 20 12.9	-1.5
TAPN				*e*Sg	Sb	07 20 22.3	-1.3
	9μm,0.3s						
ODAN	Odare	1.01	171	*e*Pg	Pn	07 20 19.9	+0.4
RAMN	Ramite	1.06	211	*e*Pg	Pn	07 20 20.8	+0.6
RAMN				*e*Sg	Sn	07 20 34.7	+0.5
	3μm,0.4s						
PKI	Pulchoki	1.63	260	*e*Pn	Pn	07 20 29.5	+1.4
PKI				*e*Sn	Sb	07 20 50.6	-0.2
PKIN	Phulchoki	1.64	260	*e*Pn	Pn	07 20 29.6	+1.4
PKIN				*e*Sn	Sb	07 20 50.5	-0.5
	4μm,0.6s						
KKN	Kakani	1.72	268	*e*Pn	Pn	07 20 30.5	+1.3
KKN				*e*Sg	Sb	07 20 56.0	+2.8
	1μm,0.2s						
DMN	Daman	1.89	263	*e*Pn	Pb	07 20 34.0	-0.9
DMN				*e*Sg	Sb	07 21 01.6	+3.4
DANN	Dangsing	3.09	280	*e*Pn	Pn	07 20 48.9	+0.7
DANN				*e*Sn	Sn	07 21 24.8	+0.5
KOLN	Koldanda	3.20	269	*e*Pn	Pn	07 20 51.3	+1.7
KOLN				*e*Sn	Sn	07 21 27.1	+0.1
	944nm,0.5s						
PYUN	Piuthan	3.74	275	*e*Pn	Pn	07 20 58.8	+1.7
PYUN				*e*Sn	Sn	07 21 40.9	+0.6
SHL	Shillong	4.76	118	*e*P	Pn	07 21 14.0	+3.0
SHL				*e*S	Sb	07 22 25.0	+4.2
CMAR	Chiang Mai Arr	14.27	129	Pn	Pn	07 23 20.9	-0.4
	0.5nm,0.3s,baz=310,slow=13,SNR=3.7						
MKAR	Makanchi Array	19.29	350	P		P 07 24 23.2	-0.3
	0.3nm,0.3s,baz=174,slow=12,SNR=7.2						
KURBB	Kurchatov Arra	23.67	346	P		P 07 25 09.5	-0.4
	0.9nm,0.2s,baz=151,slow=9.7,SNR=2.7						
ZALV	Zalesovo Beam	26.12	357	P		P 07 25 31.4	-0.9
	2.2nm,0.6s,baz=169,slow=8.8,SNR=7.4						
BVAR	Borovoye Array	28.06	338	P		P 07 25 48.2	-1.6
	0.5nm,0.4s,baz=123,slow=16,SNR=2.9						
KSRS	Korea Array	35.35	64	P		P 07 26 53.3	-0.7
	1.2nm,0.7s,baz=263,slow=9.0,SNR=3.8						
FINES	FINESS Array B	52.19	328	P		P 07 29 07.3	-1.5
	1.0nm,0.6s,baz=124,slow=5.8,SNR=4.9						
ARCES	ARCESS Array B	54.35	338	P		P 07 29 24.7	0.0
	1.5nm,0.8s,baz=101,slow=9.3,SNR=3.2						
WRA	Warramunga Arr	65.85	131	P		P 07 30 45.2	+1.0
	2.0nm,0.5s,baz=325,slow=6.5,SNR=42						
ASAR	Alice Springs	68.21	134	P		P 07 31 00.7	+1.6
	2.2nm,0.6s,baz=315,slow=6.2,SNR=29						
ILAR	Eielson Array	78.60	21	P		P 07 31 59.1	-0.6
	1.2nm,1.0s,baz=284,slow=3.9,SNR=7.6						
TORD	Torodi Ar. Bea	80.07	280	P		P 07 32 08.4	-0.3
	0.5nm,0.9s,baz=62,slow=3.7,SNR=5.5						
TXAR	Lajitas Array	122.18	11	PKP		PKPdf 07 38 53.2	-0.5
	0.2nm,0.5s,baz=8.7,slow=1.2,SNR=4.6						

ISCJB ***09*** *07:41:57.5±0.7, 51°.45N±0°.04×16°.08E±0°.04, h0km, Error ellipse: s-maj=5.5km s-min=3.5km az=11.4*
IPEC ***09*** *07:41:58.5±0.4, 51°.50N×16°.26E, h0km±2km, ML2.1/3, Error ellipse: s-maj=4.0km s-min=1.8km az=59.0*
WAR ***09*** *07:41:59.3, 51°.50N×16°.09E*
CSEM ***09*** *07:42:00.1±0.5, 51°.38N×16°.06E, h2km, ML3.1/7, Error ellipse: s-maj=8.9km s-min=4.8km az=172.0*
IDC ***09*** *07:42:00.7±1.2, 51°.46N×16°.00E, h0km, mb1 3.5/4, mb1mx3.3/24, mbtmp3.4/4, ML2.8/4, Error ellipse: s-maj=21.1km s-min=10.6km az=109.0*
PRU ***09*** *07:42:00.8, 51°.38N×16°.07E, h0km*

ISC 09 07:41:58.5±0.8, 51°.50N±0°.04×16°.08E±0°.03, h0km, n29, σ0§82/52, 1D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.68	168	*e*Pg	Pg	07 42 11.7	+0.2
KSP				*e*Sg	Sg	07 42 20.3	+0.1
KSP	Ksiaz	0.68	168	⇓*i*Pg	Pg	07 42 11.7	+0.2
KSP				*e*Sg	Sg	07 42 20.3	+0.1
UPC	Upice	1.00	183	*e*PG	Pg	07 42 17.7	0.0
UPC	Upice	1.00	183	Pg	Pg	07 42 17.7	0.0
DPC	Dobruska-Polom	1.17	172	*e*PG	Pg	07 42 20.5	-0.3
DPC				*e*SG	Sg	07 42 34.7	-1.2
DPC	Dobruska-Polom	1.17	172	Pg	Pg	07 42 20.5	-0.3
DPC				Sg	Sg	07 42 34.7	-1.2
PVCC	Panska Ves	1.37	225	*e*PG	Pg	07 42 24.8	+0.1
PVCC				*e*SG	Sb	07 42 42.7	-0.3
	78nm,0.3s						
PVCC	Panska Ves	1.37	225	Pg	Pg	07 42 24.8	+0.1
PVCC				Sg	Sb	07 42 42.7	-0.3
	78nm,0.3s						
BRG	Berggiesshubel	1.49	246	PG	Pb	07 42 27.2	+0.2
BRG				SG	Sn	07 42 47.2	+0.6
	38nm,0.4s						
PRU	Pruhonice	1.81	213	*e*PG	Pn	07 42 31.5	+0.6
PRU				*e*SG	Sn	07 42 54.5	0.0
	15nm,0.4s						
PRU	Pruhonice	1.81	213	Pg	Pn	07 42 31.5	+0.6
PRU				Sg	Sn	07 42 54.5	0.0
	15nm,0.4s						
CLL	Collm	1.94	265	*e*Pg	Pb	07 42 35.0	+0.3
CLL				*i*		07 42 39.5	
CLL				*e*Sg	Sg	07 43 01.0	+0.2
	comp=Z,19nm,1.0s						
MORC	Moravsky Berou	1.96	151	*e*Pn	Pn	07 42 32.4	-0.7
MORC				*e*Sg	Sn	07 42 58.2	-0.3
	comp=Z,9.8nm,0.2s,baz=335						
OKC	Ostrava-Krasne	2.12	141	*e*PG	Pb	07 42 37.4	-0.5
OKC				*e*SG	Sb	07 43 04.5	-0.3
	comp=Z,20nm,0.5s						
OKC	Ostrava-Krasne	2.12	141	Pg	Pb	07 42 37.4	-0.5
OKC				Sg	Sb	07 43 04.5	-0.3
	comp=Z,20nm,0.5s						
VRAC	Vranov	2.22	171	Pn	Pn	07 42 37.6	+0.9
	comp=Z,2.6nm,0.3s,baz=354,slow=17,SNR=5.8						
VRAC				Sn	Sb	07 43 07.4	-0.2
	comp=Z,2.8nm,0.3s,baz=90,slow=21,SNR=7.7						
VRAC	Vranov	2.22	171	*e*Pn	Pn	07 42 36.2	-0.4
	baz=355						
VRAC				*e*Sg	Sb	07 43 07.4	-0.2
	comp=Z,16nm,0.4s,baz=355						
TREC	Trest	2.24	190	*e*PN	Pn	07 42 38.0	+1.0
TREC				*e*PG	Pb	07 42 40.5	+0.6
TREC	Trest	2.24	190	Pn	Pn	07 42 38.0	+1.0
KRUC	Moravsky	2.45	175	*e*Pn	Pn	07 42 39.7	-0.1
	baz=358						
KRUC				*e*Sg	Sb	07 43 15.0	+0.8
	comp=Z,9.4nm,0.4s,baz=358						
OJC	Ojcow	2.68	117	*e*Pg	Pg	07 42 51.0	+1.1
OJC				*e*Sg	Sg	07 43 25.7	+1.0
OJC	Ojcow	2.68	117	*e*Pg	Pg	07 42 51.0	+1.1
OJC				*e*Sg	Sg	07 43 25.7	+1.0
KHC	Kasperske Hory	2.87	215	*e*PN	Pn	07 42 45.6	+0.1
KHC				*e*PG	Pb	07 42 51.5	+0.9
KHC				*e*SN	Sn	07 43 20.0	-0.7
KHC				*e*SG	Sb	07 43 28.3	+2.1
	comp=Z,9.1nm,0.5s						
KHC	Kasperske Hory	2.87	215	Pn	Pn	07 42 45.6	+0.1
GERES	GERESS Array B	3.07	211	Pn	Pn	07 42 49.3	+0.9
	comp=Z,0.6nm,0.3s,baz=25,slow=12,SNR=9.9						
GERES				Pg	Pb	07 42 55.3	+1.2
	comp=Z,1.9nm,0.3s,baz=28,slow=16,SNR=22						
GERES				Lg	Lg	07 43 36.1	
	comp=Z,2.2nm,0.3s,baz=33,slow=29,SNR=7.0						
STHS	Stebnicka Huta	3.91	120	*e*PN	Pn	07 43 01.5	+1.7
STHS				*e*		07 43 15.0	
STHS				*e*		07 43 53.4	
STHS	Stebnicka Huta	3.91	120	*e*Pn	Pn	07 43 01.5	+1.7
FINES	FINESS Array B	11.38	25	Pn	Pn	07 44 40.3	-1.8
	comp=Z,0.1nm,0.3s,baz=224,slow=12,SNR=2.6						
ARCES	ARCESS Array B	18.63	10	Pn	P	07 46 16.4	-1.0
	comp=Z,0.1nm,0.3s,baz=195,slow=12,SNR=3.7						

NIED ***09*** *07:43:00, 26°.70N×126°.50E, h5km, Mw3.9 Best double couple: M0 9.29000×10^14 NP1:φ=68.00000°, δ65.00000°, λ-96.00000°. NP2:φ=261.00000°, δ25.00000°, λ-78.00000°.*
IDC ***09*** *07:43:15.8±1.5, 26°.55N×126°.08E, h0km, mb3.8/5, mb1 3.8/7, mb1mx3.6/26, mbtmp3.8/7, ML3.2/2, MS2.9/2, Ms1 2.9/2, ms1mx2.7/46, Error ellipse: s-maj=42.1km s-min=24.7km az=74.0*
ISCJB ***09*** *07:43:16.8±1.3, 26°.67N±0°.08×126°.37E±0°.05, h21km±11km, mb3.7/5, Error ellipse: s-maj=13.0km s-min=8.1km az=178.2*
JMA ***09*** *07:43:17.1±0.2, 26°.75N×126°.46E, h6km±3km, M3.6*
JMA Felt I J1.

ISC 09 07:43:17.0±1.9, 26°.63N±0°.08×126°.42E±0°.08, h12km±12km, n13, σ0§69/18, mb3.8/5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	Kume jima 2	0.45	133	P	Pb	07 43 27.1	+0.2
JKE				S	Sb	07 43 33.9	+0.4
JAGN	Aguni-jima	0.74	93	P	Pg	07 43 30.8	-0.5
JAGN				S	Sg	07 43 41.0	0.0
JJT2	Tamagusuku 2	1.29	112	P	Pg	07 43 41.8	0.0
JJT2				*e*S	Sg	07 43 58.7	+0.1
JIH	Iheya	1.44	74	P	Pn	07 43 42.4	-0.5
JIH				*e*S	Sn	07 44 00.7	-1.0
JOW	Kunigami	1.67	83	P	Pn	07 43 46.1	0.0
JOW				*e*S	Sn	07 44 06.7	-0.8
JTK	Tokunoshima	2.53	62	P	Pn	07 43 59.3	+1.4
JTK				*e*S	Sn	07 44 29.4	+0.7
JNU	Nakatsue	7.54	30	Pn	Pn	07 45 10.8	+4.1
	0.3nm,0.3s,baz=210,slow=8.1,SNR=3.4						
JNU				LR	LR	07 47 45.7	
	comp=Z,85nm,20.4s,baz=230,slow=35						
KSRS	Korea Array	10.86	6	Pn	Pn	07 45 52.9	+0.5
	0.3nm,0.3s,baz=170,slow=14,SNR=2.7						
KSRS				LR	LR	07 50 23.1	
	comp=Z,51nm,18.3s,baz=346,slow=39						
SONM	Songino Array	26.35	329	P	P	07 48 53.1	+0.1
	2.4nm,1.1s,baz=141,slow=8.6,SNR=9.9						
MKAR	Makanchi Array	40.06	312	P	P	07 50 51.7	-0.4
	1.1nm,0.7s,baz=94,slow=9.8,SNR=13						
ZALV	Zalesovo Beam	40.95	323	P	P	07 50 58.5	-0.8
	2.0nm,0.6s,baz=111,slow=8.1,SNR=9.0						
KURBB	Kurchatov Arra	43.45	317	P	P	07 51 18.9	-0.8
	0.8nm,0.3s,baz=104,slow=8.7,SNR=6.9						
WRA	Warramunga Arr	46.93	170	P	P	07 51 48.0	+0.3
	0.2nm,0.5s,baz=351,slow=8.6,SNR=4.9						

TIR ***09*** *07:48:22.9±2.3, 41°.42N×20°.47E, h17km±17km, ML2.9*
ATH ***09*** *07:48:24.6, 41°.60N×20°.49E, h6km±3km, MD3.3/10*
SKO ***09*** *07:48:25.5, 41°.45N×20°.50E, h10km, M2.6, ML3.0*
BEO ***09*** *07:48:26.2±0.4, 41°.33N×20°.47E, h8km±2km, ML2.8/1*
THE ***09*** *07:48:26.5, 41°.43N×20°.49E, h0km±2km, ML2.9/3, Error ellipse: s-maj=2.6km s-min=1.2km az=154.0*
CSEM ***09*** *07:48:26.4±0.1, 41°.43N×20°.47E, h2km, ML2.9, Error ellipse: s-maj=4.1km s-min=2.5km az=44.0*
PDG ***09*** *07:48:26.1±0.4, 41°.40N×20°.46E, h11km, ML3.3/11, Error ellipse: s-maj=0.6km s-min=0.7km az=0.0*

ISC 09 07:48:26.1±1.0, 41°.42N±0°.02×20°.47E±0°.02, h5km±9km, n101, σ1§16/160, 15C-13D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHP	Peshkopia	0.26	355	*e*PG	Pg	07 48 31.1	-0.2
PHP				*e*SG	Sg	07 48 35.6	+0.9
PHP	Peshkopia	0.26	355	*e*Pg	Pg	07 48 31.0	-0.2
	SNR=130						
PHP				*e*Sg	Sg	07 48 35.6	+0.9
	SNR=130						
TIR	Tirane	0.46	261	*e*PG	Pg	07 48 34.6	-0.4
TIR				*e*SG	Sg	07 48 41.8	+0.8
TIR	Tirane	0.46	261	*e*Pg	Pg	07 48 34.8	-0.2
TIR				*e*Sg	Sg	07 48 41.8	+0.8
TIR	Tirane	0.46	261	*e*Pb	Pg	07 48 34.9	-0.1
TIR				*e*Sg	Sg	07 48 41.8	+0.8
	SNR=111						
PUK	Puka	0.76	325	*e*PG	Pg	07 48 36.9	-3.7
PUK				*e*SG	Sg	07 48 51.3	+0.9
BIA	Bitola	0.76	122	*i* Pg	Pg	07 48 40.4	-0.2
BIA				*i* Sg	Sb	07 48 51.8	-0.7
BIA	Bitola	0.76	122	*i* Pg	Pg	07 48 39.9	-0.7
BIA				*i* Sg	Sg	07 48 51.3	+0.8
SKO	Skopje	0.91	53	*e*Pg	Pg	07 48 43.7	+0.2
SKO				*e*Sg	Sn	07 48 57.6	-1.5
SKO	Skopje	0.91	53	*i* Pg	Pg	07 48 42.9	-0.6
SKO				*i* Sg	Sb	07 48 57.0	+0.2
SKO				*i* Lg	Lg	07 48 59.3	
	comp=N,694nm,0.4s						
SKO				*i* Lg	Lg	07 49 00.6	
	comp=E,430nm,0.4s						
SKO	Skopje	0.91	53	*e*Pg	Pg	07 48 43.7	+0.2
SKO				*i* Sg	Sb	07 48 56.0	-0.8
SKO				*i* Lg	Lg	07 48 59.5	
	comp=E,430nm,0.4s						
FNA	Florina	0.94	133	P	Pg	07 48 43.5	-0.5
FNA				S	Sb	07 48 57.3	-0.3
FNA	Florina	0.94	133	*e*PB	Pg	07 48 43.7	-0.3
FNA				*e*SB	Sn	07 48 59.4	-0.4
FNA	Florina	0.94	133	*e*Pb	Pg	07 48 43.7	-0.3
FNA				S	Sb	07 48 57.3	-0.3
FNA				*e*Sb	Sn	07 48 59.4	-0.4
BCI	Bajram Curri	0.99	342	*e*PG	Pg	07 48 43.2	-1.9
ULC	Ulcinj	1.06	301	⇓*i*Pg	Pg	07 48 45.0	-1.5
ULC				*e*Sg	Sn	07 49 02.2	-0.7
ULC	Ulcinj	1.06	301	⇓*i*Pg	Pg	07 48 45.0	-1.5
ULC				*e*Sg	Sn	07 49 02.2	-0.7
NEST	Nestorio	1.10	156	P	Pg	07 48 47.1	0.0
NEST	Nestorio	1.10	156	P	Pg	07 48 47.1	0.0
DRME	Dracevica, Mon	1.23	309	⇓*i*Pg	Pn	07 48 48.3	-1.6
DRME				*e*Sg	Sn	07 49 08.2	+1.3
DRME	Dracevica, Mon	1.23	309	⇓*i*Pg	Pn	07 48 48.3	-1.6
DRME				*e*Sg	Sn	07 49 08.2	+1.3
PVY	Plav	1.23	342	⇓*i*Pg	Pn	07 48 48.9	-1.2
PVY				*e*Sg	Sn	07 49 09.1	+1.9
PVY	Plav	1.23	342	⇓*i*Pg	Pn	07 48 48.9	-1.2
PVY				*e*Sg	Sn	07 49 09.1	+1.9
PDG	Podgorica	1.35	318	P	Pn	07 48 50.6	-1.1
PDG				S	Sg	07 49 11.7	+2.2
PDG	Podgorica	1.35	318	*e*Pg	Pn	07 48 50.6	-1.1
PDG				*e*Sg	Sg	07 49 11.8	+2.2
PDG	Podgorica	1.35	318	*e*Pg	Pn	07 48 50.6	-1.1
PDG				*e*Sg	Sg	07 49 11.8	+2.2
TTG	Podgorica	1.35	318	⇓*i*Pg	Pn	07 48 50.6	-1.1
TTG				*e*Sg	Sg	07 49 12.3	+2.7
BUM	Brajici-Budva	1.47	307	⇑*i*Pg	Pn	07 48 52.8	-0.5
BUM				*e*Sg	Sg	07 49 15.5	+2.2
BUM	Brajici-Budva	1.47	307	⇑*i*Pg	Pn	07 48 52.8	-0.5
BUM				*e*Sg	Sg	07 49 15.5	+2.2
KZN	Kozani	1.49	138	*e*PB	Pg	07 48 56.0	+1.4
KZN	Kozani	1.49	138	*e*Pb	Pg	07 48 56.0	+1.4
BEY	Berane	1.51	344	⇑*i*Pg	Pb	07 48 54.0	-0.7
BEY				*e*Sg	Sg	07 49 16.1	+1.5
IVA	Berane	1.51	344	⇑*i*Pg	Pb	07 48 54.0	-0.7
IVA				*e*Sg	Sg	07 49 16.1	+1.5
VAY	Valandovo	1.58	93	P	Pn	07 48 54.1	-0.7
VAY				S	Sb	07 49 16.3	+0.1
VAY	Valandovo	1.58	93	⇑*i*Pn	Pn	07 48 53.9	-0.9
VAY				*e*Sg	Sb	07 49 16.2	+0.1
VAY	Valandovo	1.58	93	*i* Pn	Pn	07 48 54.7	-0.1
VAY				*i* Sn	Sg	07 49 16.9	0.0
VAY				*i* Lg	Lg	07 49 18.1	
	comp=E,88nm,0.5s						
VAY				*i* Lg	Lg	07 49 18.1	
	comp=N,239nm,1.6s						
VAY	Valandovo	1.58	93	P	Pn	07 48 54.1	-0.7
VAY				*i* Sn	Sg	07 49 16.4	-0.5
VAY				*i* Lg	Lg	07 49 17.6	
	comp=N,239nm,1.6s						
BARS	Barje	1.71	35	*e*Pn	Pb	07 48 57.5	-0.6
BARS	Barje	1.71	35	*e*Pn	Pb	07 48 57.5	-0.6
NKME	Niksic	1.75	320	⇓*i*Pn	Pb	07 48 57.7	-1.1
NKME				*e*Sn	Sg	07 49 22.8	+0.3
NKME	Niksic	1.75	320	⇓*i*Pn	Pb	07 48 57.7	-1.1
NKME				*e*Sn	Sg	07 49 22.8	+0.3
NKY	Niksic	1.77	322	⇑*i*Pn	Pb	07 48 58.3	-0.8
NKY				*e*Sn	Sg	07 49 23.2	+0.2
NKY	Niksic	1.77	322	⇑*i*Pn	Pb	07 48 58.3	-0.8
NKY				*e*Sn	Sg	07 49 23.2	+0.2
KEK	Kerkira	1.78	197	P	Pb	07 48 58.5	-0.7
KEK				S	Sg	07 49 23.0	-0.3
KEK	Kerkira	1.78	197	*e*PN	Pg	07 49 00.1	-0.1
KEK				*e*SN	Sg	07 49 26.8	+3.5
KEK	Kerkira	1.78	197	P	Pb	07 48 58.5	-0.7
KEK	Kerkira	1.78	197	*e*Pn	Pg	07 49 00.1	-0.1
KEK				S	Sg	07 49 23.0	-0.3
JAN	Janina	1.79	171	*e*PG	Pg	07 49 01.5	+1.2
JAN	Janina	1.79	171	*e*Pg	Pg	07 49 01.5	+1.2
HCY	Herceg Novi	1.79	305	⇑

DIVS	Divibare	2.70 353	*e*Pn	Pn	07 49 10.2	+0.1
DIVS	Divibare	2.70 353	P	Pn	07 49 10.3	+0.1
AGG	Agios Georgios	2.79 149	*e*PB	Pb	07 49 13.9	-2.5
AGG	Agios Georgios	2.79 149	*e*Pb	Pb	07 49 13.9	-2.5
PAIG	Paliouri	2.86 120	*e*PB	Pn	07 49 13.7	+1.3
PAIG	Paliouri	2.86 120	*e*Pb	Pn	07 49 13.7	+1.3
TEKS	Tekeris	3.20 348	*e*Pn	Pn	07 49 19.1	+2.0
TEKS	Tekeris	3.20 348	*e*Pn	Pn	07 49 19.1	+2.0
FGSL	Fruska Gora	3.76 353	*e*Pn	Pn	07 49 26.1	+1.3
FRGS	Fruska Gora	3.76 353	*e*Pn	Pn	07 49 26.1	+1.3
NVLJ	Novalja	5.17 309	*e*Pn	Pn	07 49 43.3	-0.8
NVLJ			Sn	Sn	07 50 44.4	+0.4

NIED ***09*** *08:02:00, 37.°70N×141.°90E, h41km, Mw3.9 Best double couple: M₀7.66000×10¹⁴ NP1:φ₈155.00000°, δ89.00000°, λ-56.00000°. NP2:φ₈247.00000°, δ34.00000°, λ-178.00000°.*
JMA ***09*** *08:02:29.2±0.1, 37.°70N×141.°84E, h39km±2km, M4.0*
JMA Felt I J1.
IDC ***09*** *08:02:31.1±4.1, 37.°67N×142.°11E, h55km±27km, mb3.2/4, mb1 3.4/8, mb1mx3.3/26, mbtmp3.3/8, ML3.2/3, MS2.9/1, Ms1 2.9/1, ms1mx2.5/16, Error ellipse: s-maj=47.5km s-min=14.2km az=132.0*

ISC 09 08:02:27.7±1.9, 37.°70N±0.°05×141.°86E±0.°07, h16km±11km, n20, σ1.9°00/30, mb3.4/4, 3C-5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	0.85	247	‖P	Pg	08 02 44.4	+0.1
JFK				S	Sg	08 02 55.2	-0.3
JIO	Ouri	0.85	332	P	Pn	08 02 44.7	-0.4
JIO				S	Sb	08 02 55.5	+0.1
JMM	Marumori	0.86	282	‖P	Pb	08 02 44.8	+0.5
JMM				S	Sb	08 02 55.8	+0.2
ONAJ	Iwakimizuishiy	1.03	235	‖P	Pb	08 02 47.0	-0.3
ONAJ				*e*S	Sb	08 02 59.7	-0.9
JOU	Okura	1.16	306	‖P	Pn	08 02 49.5	+0.3
JOU				*e*S	Sn	08 03 04.5	-0.2
JFT	Otama	1.22	262	‖P	Pb	08 02 50.7	+0.2
JFT				S	Sb	08 03 05.9	-0.1
JMK	Ichinoseki	1.35	338	⇑P	Pn	08 02 52.0	+0.1
JMK				S	Sb	08 03 08.4	-1.2
JYS	Shiratake	1.51	291	P	Pn	08 02 54.6	+0.5
JYS				*e*S	Sb	08 03 13.5	-0.8
JYK	Kaneyama	1.70	316	P	Pn	08 02 57.1	+0.5
JYK				*e*S	Sb	08 03 18.6	-1.0
JFY	Yanaizu	1.74	261	⇑P	Pn	08 02 58.0	+0.8
JOM	Ohasama	1.83	346	⇑P	Pn	08 02 59.0	+0.6
MJAR	Matsushiro Arr	3.14	250	P	Pn	08 03 18.5	+2.0
MJAR	3.1nm,0.3s,baz=68,slow=9.6,SNR=13			S	Sb	08 03 59.3	-1.8
MAT	2.8nm,0.3s,baz=48,slow=32,SNR=6.1 Matsushiro	3.14	250	P	Pn	08 03 17.6	+1.1
MAT				S	Sb	08 03 59.9	-1.3
ASAJ	Asahikawa	6.44	5	P	Pn	08 04 02.4	+0.6
ASAJ	0.9nm,0.3s,baz=212,slow=15,SNR=3.7			S	Sn	08 05 17.0	+2.2
USRK	0.5nm,0.3s,baz=234,slow=19,SNR=2.9 Ussuriysk Arra	9.88	314	P	Pn	08 04 52.8	+3.7
KSRS	0.4nm,0.3s,baz=117,slow=14,SNR=6.2 Korea Array	11.06	273	P	Pn	08 05 10.9	+5.7
KSRS	baz=85,slow=15,SNR=3.0			LR	LR	08 09 13.2	
SONM	comp=Z,51nm,18.1s,baz=100,slow=36 Songino Array	27.72	303	P	P	08 08 16.7	+1.4
ZALV	0.3nm,0.4s,baz=102,slow=8.2,SNR=3.5 Zalesovo Beam	41.73	312	P	P	08 10 15.2	-0.5
MKAR	0.4nm,0.4s,baz=77,slow=9.0,SNR=2.3 Makanchi Array	44.07	302	P	P	08 10 33.9	-0.9
ILAR	0.4nm,0.7s,baz=82,slow=9.9,SNR=3.5 Eielson Array	48.74	33	P	P	08 11 10.1	-1.1
	0.3nm,0.8s,baz=263,slow=6.3,SNR=3.7						

NEIC 09 08:03:38.6, 62.°64N×151.°30W, h100km, MG2.9(AEIC), After AEIC., Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPLA	Purkeypile	0.48	303	P	Pn	08 03 54.9	+0.3
PPLA				S	Sn	08 04 06.4	-0.1
CUT	Chulitna	0.53	116	P	Pn	08 03 54.8	+0.1
SKT	Skwentna	0.67	190	P	Pn	08 03 55.1	-0.4
SKT				S	Sn	08 04 07.7	-1.0
CAST	Castle Rocks	0.86	336	P	Pn	08 03 57.8	+0.2
CAST				S	Sn	08 04 10.7	-1.2
KTH	Kantishna Hill	0.93	10	P	Pn	08 03 59.0	+0.6
KTH				S	Sn	08 04 13.1	-0.2
TRF	Thorofare Moun	0.94	29	P	Pn	08 03 58.5	-0.1
STLK	Strandline Lak	1.17	193	P	Pn	08 04 00.9	-0.2
STLK				S	Sn	08 04 17.2	-0.8
SUA	Susitna One	1.21	167	P	Pn	08 04 01.7	+0.2
CHUM	Lake Minchumin	1.33	340	P	Pn	08 04 03.5	+0.8
CHUM				S	Sn	08 04 21.1	0.0
RND	Reindeer	1.35	54	P	Pn	08 04 03.8	+0.6
PMR	Palmer	1.46	135	P	Pn	08 04 04.3	0.0
BGL	Barrier Glacie	1.47	201	P	Pn	08 04 05.2	+0.5
SPBG	Spurr Blockage	1.47	201	P	Pn	08 04 05.1	+0.5
BPAW	Bear Paw Mtn.	1.48	5	P	Pn	08 04 05.0	+0.4
SPU	Mount Spurr	1.50	194	P	Pn	08 04 04.9	-0.1
CKL	Chakachamna La	1.53	199	P	Pn	08 04 05.6	+0.3
MCK	McKinley	1.53	43	P	Pn	08 04 05.9	+0.6
MCK				S	Sn	08 04 27.6	+2.0
FIB	Fire Island	1.57	160	P	Pn	08 04 06.8	+1.2
SML	Sawmill	1.62	120	Pn	Pn	08 04 19.6	+13
RC01	Rabbit Creek A	1.72	154	P	Pn	08 04 07.3	-0.3
DHY	Denali Highway	1.85	75	P	Pn	08 04 09.8	+0.4
DHY				S	Sn	08 04 33.7	+0.7
SCM	Sheep Creek Mo	2.03	112	P	Pn	08 04 11.7	+0.1
DFR	Drift River	2.16	199	P	Pn	08 04 13.6	+0.3
NEA	Nenana	2.19	26	P	Pn	08 04 14.4	+0.9
TT01	Tatalina	2.19	279	P	Pn	08 04 13.8	+0.2
NCT	North Crescent	2.23	201	P	Pn	08 04 14.9	+0.7
RSO	Redoubt South	2.29	198	*e*Pn	Pn	08 04 15.0	-0.2
WRH	Wood River Hil	2.33	37	P	Pn	08 04 16.0	+0.5
MLY	Manley	2.42	6	P	Pn	08 04 17.5	+0.9
CCB	Clear Creek Bu	2.55	36	P	Pn	08 04 18.9	+0.7
SVW2	Sparrevohn	2.55	235	P	Pn	08 04 18.5	+0.2
HDA	Harding Lake	2.63	46	P	Pn	08 04 20.6	+1.2
GLI	Glacier Island	2.67	130	P	Pn	08 04 19.5	-0.4
PAX	Paxson	2.70	80	P	Pn	08 04 21.4	+1.0
MDM	Murphy Dome	2.70	29	P	Pn	08 04 21.0	+0.7
COLA	College	2.72	33	P	Pn	08 04 21.3	+0.9
JPK	Jack Peak	2.74	123	P	Pn	08 04 20.6	-0.3
KLU	Klutina	2.78	112	P	Pn	08 04 20.9	-0.5
VLZ	Valdez	2.79	121	P	Pn	08 04 20.6	-0.9
HARP	HAARP	2.86	92	P	Pn	08 04 24.2	+1.8
BRLK	Bradley Lake	2.89	176	P	Pn	08 04 24.4	+1.5
IL1	Eielson Array	2.91	41	P	Pn	08 04 23.6	+0.6
DIV	Divide	3.02	118	*e*Pn	Pn	08 04 23.5	-1.1
DIV				*e*Sn	Sn	08 04 57.0	-3.2
CNPM	China Poot	3.12	179	P	Pn	08 04 27.1	+1.1
GCSA	Galena City Sc	3.26	313	P	Pn	08 04 29.1	+1.4
EYAK	Cordova Ski Ar	3.38	126	P	Pn	08 04 28.8	-0.5
MENT	Mentasta	3.49	82	*e*Pn	Pn	08 04 32.1	+1.1
MENT				*e*Sn	Sn	08 04 13.5	+1.6
IM04	Indian Mountai	3.52	343	*e*Pn	Pn	08 04 32.2	+0.9
IM3	Indian Mountai	3.52	343	P	Pn	08 04 32.5	+1.2
SCRK	Sand Creek	3.56	65	P	Pn	08 04 32.8	+0.8
BMRM	Bremner River	3.59	115	*e*Pn	Pn	08 04 34.2	+1.9
BMRM				*e*Sn	Sn	08 05 12.5	-1.3
IMA2	Indian Mountai	3.60	344	*e*Pn	Pn	08 04 32.9	+0.5
GLB	Gilahina Butte	3.72	105	P	Pn	08 04 33.9	-0.2
BCA3	Beaver Creek A	4.38	80	P	Pn	08 04 43.1	+0.2
PTPK	Patty Peak	4.42	105	P	Pn	08 04 43.6	0.0
BALM	Baldy	4.54	107	P	Pn	08 04 44.5	-0.6
KIAG	Kiagna River	4.58	108	P	Pn	08 04 44.8	-0.9
EGAK	Eagle	4.99	60	P	Pn	08 04 51.9	+0.8
DAWY	Dawson	5.55	70	P	Pn	08 04 59.1	+0.4
BM3	Burnt Mountain	5.57	28	P	Pn	08 04 59.8	+0.8

BJI ***09*** *08:06:26.4, 1.°87N×126.°25E, h108km, mB5.4/41, mb5.4/65*
AUST ***09*** *08:06:31.5±0.1, 2.°36N×126.°11E, h90km, Error ellipse: s-maj=0.7km s-min=0.5km az=26.0*
ISCJB ***09*** *08:06:32.6±0.2, 2.°44N±0.°01×126.°13E±0.°02, h119km±2km, mb5.5/180, Error ellipse: s-maj=3.0km s-min=2.2km az=165.7*
NEIC ***09*** *08:06:33.4±0.5, 2.°41N×126.°01E, h107km±4km, mb5.6/61, Error ellipse: s-maj=5.1km s-min=3.5km az=70.0*
NEIC Felt [III] at Manado and on Pulau Ternate, Indonesia.
MOS ***09*** *08:06:34.5±1.3, 2.°43N×125.°92E, h127km, mb5.5/48, MS4.7/6, Error ellipse: s-maj=10.1km s-min=4.4km az=120.2*
GCMT ***09*** *08:06:34.6±0.1, 2.°51N×126.°00E, h108km±1km, MW5.7, Moment Tensor Solution. s97,c184; s41,c43; Moment tensor: Scale 10¹⁷Nm; Mrr0.01±.04; Mθθ-2.47±.05; Mφφ2.46±.05; Mrθ0.71±.03; Mθφ-2.05±.05; Mφr2.47±.04; Best double couple: M₀4.10000×10¹⁷ NP1:φ₀25.00000°, δ88.00000°, λ38.00000°. NP2:φ₀293.00000°, δ52.00000°, λ177.00000°. Principal axes: T 4.2900, Plg27.0000°, Azm256.0000°; N -0.3900, Plg52.0000°, Azm27.0000°; P -3.9000, Plg24.0000°, Azm152.0000°; Data Used: II IU IC G CN. Surface waves: sta=105, comp=216, per= 50.*
BKK ***09*** *08:06:34.0±0.4, 2.°N±3.°×12.°6E±.°, h117km±4km, M5.7/48, mb5.6/48, mB6.0/42, MLv6.5/6, Mw(mB)5.7/42, Mwp5.6/4*
DJA ***09*** *08:06:34.5±0.2, 2.°N±2.°×12.°6E±.°, h111km±2km, M5.9/111, mb5.9/111, mB6.2/98, MLv6.5/18, Mw(mB)5.8/98, Mwp5.8/8*
IDC ***09*** *08:06:35.2±0.9, 2.°36N×125.°91E, h125km±7km, mb4.9/36, mb1 5.0/38, mb1mx4.9/39, mbtmp4.9/38, MS4.6/22, Ms1 4.6/22, ms1mx4.3/45, Error ellipse: s-maj=10.1km s-min=5.2km az=74.0*

ISC 09 08:06:33.7±0.2, 2.°44N±0.°02×126.°09E±0.°03, h114km±1km, h114km:pP-P, n994, σ1.9°44/1125, mb5.5/180, 43C-34D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	2.09	142	*e*Pn	Pn	08 07 06.5	-1.6
TNTI	Ternate	2.09	142	P	Pn	08 07 07.1	-1.0
TNTI				S	Sn	08 07 32.1	-2.3
KMSI	Cibinong	2.80	229	P	Pn	08 07 19.0	+1.7
KMSI				S	Sn	08 07 54.0	+3.2
LBMI	Labuha	3.37	155	P	Pn	08 07 23.0	-1.8
LBMI				S	Sn	08 08 02.5	-1.7
GTOI	Gorontalo	3.56	240	P	Pn	08 07 28.0	+0.7
GSPH	General Santos	3.80	343	‖*i*P	Pn	08 07 29.3	-1.3
GSPH				*i* S	Sn	08 08 11.4	-3.2
MATI	Mati	4.48	2	*e*P	Pn	08 07 38.6	-1.1
MRSI	Marisa	4.58	245	P	Pn	08 07 42.9	+1.9
MRSI				S	Sn	08 08 34.8	+1.6
DAV	Davao City (W)	4.63	354	P	Pn	08 07 41.5	-0.1
DAV	SNR=74 Davao City (W)	4.63	354	‖*e*P	Pn	08 07 42.2	+0.6
DAV	Davao City (W)	4.63	354	*e*Pn	Pn	08 07 41.7	+0.1
DAV	Davao City (W)	4.63	354	P	Pn	08 07 42.6	+0.9
KCP	Kidapawan	4.65	348	⇑*e*P	Pn	08 07 41.7	-0.3
KCP				*i* S	Sn	08 08 38.8	+3.8
LUWI	Luwuk	4.79	224	P	Pn	08 07 44.3	+0.5
LUWI	Luwuk	4.79	224	P	Pn	08 07 39.3	-4.5
CTBH	baz=4.8,SNR=6.9 Cotabato--PC H	5.09	339	⇑*e*P	Pn	08 07 47.8	-0.1
TOLI	Toli-Toli	5.45	256	P	Pn	08 07 48.8	-3.9
TOLI	8μm,0.8s,224μm28μm88nm			S	Sn	08 08 53.4	-0.9
BUKP	8μm,0.8s,224μm28μm88nm Musuan	5.50	349	*e*P	Pn	08 07 53.0	-0.5
APSI	Ampana	5.55	233	P	Pn	08 07 56.1	+2.1
NLAI	11μm,1.2s,113μm31μm40nm Namlea	5.73	170	P	Pn	08 07 54.3	-2.2
NLAI	5μm,0.8s,174μm50nm			S	Sn	08 08 54.3	-6.8
PAGZ	5μm,0.8s,174μm50nm Pagadian	6.01	333	*e*P	Pn	08 07 59.9	-0.4
ZMPH	Zamboanga City	6.01	318	‖*e*P	Pn	08 08 00.2	-0.1
ZMPH				*e*S	Sn	08 09 03.1	-4.8
SWI	Sorong	6.12	122	P	Pn	08 08 01.2	-0.6
SWI	873nm,1.2s,13μm4.2nm Sorong	6.12	122	P	Pn	08 08 01.2	-0.6
CGP	baz=6.1,SNR=14 Cagayan de Oro	6.13	347	⇑*i*P	Pn	08 08 01.5	-0.5
CGP				*i* S	Sn	08 09 17.6	+6.7
IPIL	Ipil	6.36	327	*e*P	Pn	08 08 05.7	+0.6
AAI	Ambon	6.44	161	P	Pn	08 08 05.4	-0.8
AAI	6μm,1.2s,53μm20nm			S	Sn	08 09 15.1	-3.2
AAI	6μm,1.2s,53μm20nm Ambon	6.44	161	P	Pn	08 08 05.3	-0.8
BUTP	baz=6.4,SNR=99 Butuan	6.50	356	*e*P	Pn	08 08 06.8	-0.2
DCPH	Dipolog City	6.68	336	⇑*e*P	Pn	08 08 10.8	+1.4
SKSI	Soroako, Sulaw	6.85	224	P	Pn	08 08 11.7	0.0
SCPH	2μm,0.9s,15μm7.4nm Surigao	7.32	355	‖*e*P	Pn	08 08 16.6	-1.4
MSLP	Maasin	7.74	351	*e*P	Pn	08 08 23.7	-0.1
BNDI	Bandanaira	7.90	151	P	Pn	08 08 24.0	-1.9
BNDI	3μm,1.4s,38μm12nm Bandanaira	7.90	151	P	Pn	08 08 24.7	-1.2
KKSI	baz=7.9,SNR=11 Kolaka, Sulawe	7.92	214	P	Pn	08 08 24.3	-1.9
MYLDM	913nm,1.0s,11μm5.2nm Lahad Datu	8.04	290	P	Pn	08 08 32.5	+4.6
MYLDM	Lahad Datu	8.04	290	P	Pn	08 08 31.1	+3.2
LLP	1μm,1.3s,24μm47μm8.9nm Lapu-Lapu	8.11	345	‖*e*P	Pn	08 08 28.0	-0.7
FAKI	Fak Fak	8.14	131	P	Pn	08 08 28.4	-0.8
FAKI	1μm,1.9s,29μm43μm6.1nm			S	Sn	08 09 56.6	-3.0
FAKI	1μm,1.9s,29μm43μm6.1nm Fak Fak	8.14	131	P	Pn	08 08 28.9	-0.3
FAKI	baz=8.1,SNR=43			S	Sn	08 09 58.5	-1.1
TTSI	baz=8.1,SNR=7.5 Tana Toraja	8.30	229	P	Pn	08 08 31.3	-0.1
TSM	2μm,1.0s,17μm Tawau	8.40	283	P	Pn	08 08 34.7	+1.9
BBSI	Bau Bau	8.62	204	P	Pn	08 08 34.7	-1.0
OCLP	1μm,0.7s,12μm Ormoc	8.68	350	*e*P	Pn	08 08 36.9	+0.4
MMSI	Mamuju	8.80	235	P	Pn	08 08 38.3	+0.2
GUIM	862nm,1.1s,12μm Jordan	8.84	337	*e*P	Pn	08 08 39.4	+0.6
SPSI	Sidrap Palu	8.96	225	P	Pn	08 08 40.7	+0.4
SGKI	1μm,0.9s,11μm Sangatta, Kali	8.98	251	P	Pn	08 08 38.7	-1.9
RKPI	2μm,1.2s,23μm Ransiki, Papua	8.99	116	P	Pn	08 08 42.8	+2.1
BNSI	955nm,0.8s,13μm141μm4.0nm Bone	9.05	221	P	Pn	08 08 39.8	-1.7
MJSI	720nm,1.0s,10μm Majene	9.27	230	P	Pn	08 08 46.1	+1.7
SMKI	1μm,1.2s,12μm Samarinda	9.33	252	P	Pn	08 08 47.2	+1.9
SDKM	821nm,1.2s,14μm Sandakan	9.42	290	P	Pn	08 08 48.6	+2.0
RCP	Roxas	9.65	340	‖*e*P	Pn	08 08 50.4	+0.8
PALU	Palau	9.67	59	P	Pn	08 08 47.4	-2.6
KMPI	baz=9.7,SNR=17 Kaimana, Papua	9.73	128	P	Pn	08 08 50.2	-0.5
KAPI	3μm,1.4s,36μm Kappang	9.74	221	P	Pn	08 08 49.4	-1.4
KAPI	SNR=38 Kappang	9.74	221	*e*Pn	Pn	08 08 49.5	-1.4
KAPI				*e*Sn	Sn	08 10 32.8	-5.7
KAPI				S		08 10 35.4	
KAPI	Kappang	9.74	221	P	Pn	08 08 48.5	-2.4
KAPI	363nm,1.4s,6μm Kappang	9.74	221	P	Pn	08 08 49.0	-1.9
KAPI	11nm,0.3s,baz=29,slow=6.0,SNR=45			S	Sn	08 10 35.4	-3.0
BKSI	7.3nm,0.3s,baz=210,slow=20,SNR=4.0 Bulukumba	9.74	218	P	Pn	08 08 50.1	-0.8
BKSI	394nm,0.8s,4μm			S	Sn	08 10 36.7	-1.8
CUYO	394nm,0.8s,4μm Cuyo Island	9.75	329	*e*P	Pn	08 08 51.9	+0.9
BKB	Balikpapan	9.90	248	P	Pn	08 08 54.7	+1.7
CNP	1μm,1.4s,19μm Catarman	10.11	352	*e*P	Pn	08 08 55.1	-0.7
KDM	Kudat	10.24	296	P	Pn	08 09 03.2	+5.6
PPR	Puerto Princes	10.32	315	*e*P	Pn	08 09 02.7	+4.0
BATP	Bataraza	10.38	308	*e*P	Pn	08 09 01.4	+1.8
TLE	Tual	10.41	140	P	Pn	08 09 00.0	0.0
TLE	2μm,1.1s,28μm Tual	10.41	140	P	Pn	08 08 59.6	-0.4
KKM	baz=10,SNR=32 Kota Kinabalu	10.47	290	*e*Pn	Pn	08 09 02.0	+1.0
KKM				*e*Sn	Sn	08 10 59.6	+3.2
KKM	Kota Kinabalu	10.47	290	P	Pn	08 09 02.7	+1.8
KKM	Kota Kinabalu	10.47	290	P	Pn	08 09 01.9	+1.0
KKM	828nm,1.2s,9μm Kota Kinabalu	10.47	290	P	Pn	08 09 02.4	+1.5
BAKI	baz=10,SNR=10 Biak	10.65	110	P	Pn	08 09 03.5	+0.3
OTRP	3μm,1.3s,33μm Odiongan	10.65	338	*e*P	Pn	08 09 06.7	+3.5
ENPP	El Nido	10.93	323	*e*P	Pn	08 09 08.8	+1.8
SJMP	San Jose	11.11	334	*e*P	P	08 09 19.2	0.0
BUSP	Coron	11.15	329	*e*P	Pn	08 09 11.2	+1.3
PVCP	Virac	11.25	350	*e*P	Pn	08 09 11.3	+0.1
SAUI	Saumlaki	11.59	153	P	Pn	08 09 12.3	-3.4
MMRI	3μm,1.2s,25μm Maumere	11.65	199	P	Pn	08 09 16.9	+0.3
MTKI	532nm,1.4s,6μm Muara Teweh, K	11.68	253	P	Pn	08 09 19.2	+2.2
GQP	1μm,1.6s,30μm Guinayangan	11.95	343	⇑*e*P	Pn	08 09 21.3	+0.9
SOEI	Soe	12.25	188	P	Pn	08 09 26.2	+1.6
SOEI	1μm,1.0s,12μm Soe	12.25	188	P	Pn	08 09 26.7	+2.1
LQP	baz=12,SNR=12 Lukban	12.44	339	‖*e*P	Pn	08 09 28.9	+1.8
LBFI	Labuhan Bajo,	12.48	210	P	Pn	08 09 28.2	+0.7
TGY	627nm,1.5s,9μm Tagaytay City	12.66	337	P	Pn	08 09 31.0	+1.1
TGY	Tagaytay City	12.66	337	P	Pn	08 09 31.0	+1.1
BBKI	27nm,0.3s,baz=159,slow=5.0,SNR=2.7 Banjar Baru	12.68	243	P	Pn	08 09 32.0	+1.9
BATI	1μm,1.7s,29μm Baumata	12.79	191	P	Pn	08 09 32.2	+0.6
BATI	Baumata	12.79	191	P	Pn	08 09 32.7	+1.1
BATI	334nm,0.9s,5μm Baumata	12.79	191	P	Pn	08 09 32.2	+0.6
BTM	baz=56,slow=7.3 Bintulu	13.01	274	P	Pn	08 09 36.7	+2.2
WSI	Waingapu	13.34	206	P	Pn	08 09 39.6	+0.9
SBUM	1μm,1.4s,29μm Sibu	13.85	270	*e*Pn	Pn	08 09 46.5	+1.1
SBUM	Sibu	13.85	270	P	Pn	08 09 47.3	+1.9
SBUM	Sibu	13.85	270	P	Pn	08 09 47.5	+2.1
SBUM	Sibu	13.85	270	P	Pn	08 09 46.8	+1.4
BALP	2μm,1.5s,21μm Baler	13.95	342	*e*P	Pn	08 09 46.3	-0.2
MTNI	Mataram	14.79	222	P	Pn	08 09 56.6	-0.7
STKI	1μm,1.2s Sintang	14.79	261	P	P	08 10 00.1	-0.3
CAUP	902nm,1.6s,12μm Cauayan	15.01	344	*e*P	Pn	08 10 01.4	+1.3
SRBI	Singaraja	15.06	226	P	P	08 10 05.3	+2.0
PBKI	Pangkalan Bun	15.29	251	P	Pn	08 10 04.6	+1.0
KMMI	1μm,1.4s,14μm Kalianget	15.34	232	P	P	08 10 06.2	-0.1
JAY	845nm,1.5s,10μm Jayapura	15.42	109	P	Pn	08 10 04.8	-0.5
JAY	479nm,0.9s Jayapura	15.42	109	P	Pn	08 10 04.1	-1.2
JAY	baz=15,SNR=32			S	S	08 13 01.2	-2.7
DNP	baz=15,SNR=6.4 Denpasar	15.48	224	P	P	08 10 08.0	+0.1
ABJI	2μm,2.0s,38μm Asem Bagus	15.59	229	P	P	08 10 08.9	-0.3
IGBI	760nm,1.3s,15μm Denpasar	15.62	224	P	P	08 10 10.0	+0.5
BYJI	2μm,1.2s,23μm Banyuwangi	15.78	228	P	P	08 10 13.7	+2.5
KSM	Kuching	15.80	267	*e*Pn	P	08 10 11.1	-0.4
KSM	2μm,2.0s Kuching	15.80	267	P	P	08 10 11.5	0.0
KSM	Kuching	15.80	267	P	P	08 10 12.4	+0.9
KSM	Kuching	15.80	267	P	P	08 10 11.1	-0.4
KSM	350nm,2.0s,14μm Kuching	15.80	267	P	P	08 10 11.2	-0.4
MTN	baz=16,SNR=25 Manton Dam	15.99	162	P	Pn	08 10 08.9	-3.4
BLJI	baz=16,SNR=185 Banyuglugur	16.05	231	P	P	08 10 16.0	+1.7
JAGI	903nm,0.7s,11μm Jajag, Banyuwa	16.09	228	P	P	08 10 14.3	-0.5
JAGI	1μm,1.4s,19μm17μm Jajag, Banyuwa	16.09	228	P	Pn	08 10 13.9	+0.3
KDU	baz=16,SNR=48 Kakadu	16.31	157	P	Pn	08 10 12.5	-3.8
GRJI	baz=16,SNR=291 Gresik	16.46	236	P	Pn	08 10 18.3	+0.2
GMJI	230nm,0.9s,2μm Gumukmas	16.50	230	P	P	08 10 20.4	+1.2
KRKI	671nm,1.3s,10μm Karangkates	17.20	232	P	Pn	08 10 27.8	+0.7
SJI	1μm,1.6s,21μm Sawahan	17.50	235	P	Pn	08 10 31.1	+0.2
NGJI	525nm,1.0s,9μm Ngawi	17.55	236	P	Pn	08 10 31.5	+0.1
MMPI	540nm,1.2s Merauke	17.91	127	P	Pn	08 10 35.4	-0.3
MMPI	3μm,0.6s,37μm Merauke	17.91	127	P	Pn	08 10 36.4	+0.8
MMPI	baz=18,SNR=4.4			S	S	08 13 55.1	+0.3
KNRA	baz=18,SNR=4.5 Kununurra	18.19	172	P	P	08 10 37.0	-0.8
PCJI	baz=18,SNR=368 Pacitan	18.24	234	P	P	08 10 38.7	+0.3
UGM	625nm,0.7s,7μm Wanagama	18.62	236	*e*P	P	08 10 42.4	-0.3
UGM	426nm,0.9s Wanagama	18.62	236	P	P	08 10 42.8	+0.2
UGM	451nm,1.8s Wanagama	18.62	236	P	P	08 10 42.3	-0.3
YOGI	baz=19,SNR=23 Yogyakarta	18.76	237	P	P	08 10 45.0	+0.9
BJII	2μm,1.2s,16μm Banjamegara	19.01	239	P	P	08 10 46.6	-0.3
TPI	614nm,1.8s,8μm Tanjungpandan	19.14	254	P	Pn	08 10 49.3	-1.0
TGJI	302nm,1.2s,4μm Tegal	19.29	241	P	P	08 10 50.4	+0.5
KPJI	271nm,1.8s,4μm Karang Pucung	19.68	240	P	P	08 10 53.9	-0.2
CLJI	626nm,0.7s,5μm Cilicap	19.80	239	P	Pn	08 11 02.4	+4.4
FITZ	Fitzroy Crossi	20.42	181	P	P	08 11 00.8	-1.1
FITZ				S	S	08 14 41.2	-3.4
FITZ	Fitzroy Crossi	20.42	181	P	P	08 11 00.8	-1.1
FITZ	109nm,0.7s,baz=13,slow=9.8,SNR=322			S	S	08 14 41.2	-3.4
FITZ	64nm,1.0s,baz=196,slow=20,SNR=4.4 Fitzroy Crossi	20.42	181	P	P	08 11 00.9	-1.1
P

KLI Kotabumi 22.42 251 P **P** **08 11 25.0 +1.7**
999nm,1.1s,8μm
YHNB Yeheng 22.57 349 *e*P **P** **08 11 23.0 -1.7**
102nm,0.8s
KGM Kluang 22.75 269 P **P** **08 11 27.4 +0.7**
QIZ Qiongzhong 22.91 317 P **P** **08 11 27.8 -0.3**
QIZ pP **pP** **08 11 49.7 -0.5**
QIZ sP **sP** **08 12 03.7 -0.6**
QIZ S **S** **08 15 29.1 -0.3**
QIZ pmax pmax
comp=Z,150nm,1.6s
QIZ Qiongzhong 22.91 317 *e*P **P** **08 11 27.2 -0.9**
comp=Z,363nm,1.4s
KASI Kota Agung 22.97 250 P **P** **08 11 26.7 -2.0**
comp=Z,648nm,0.8s,comp=Z,6μm
KTGM Kuala Trenggan 23.08 278 P **P** **08 11 30.7 +0.9**
LHSI Lahat 23.39 255 P **P** **08 11 33.4 +0.7**
comp=Z,379nm,0.9s,comp=Z,9μm
COEN Coen 23.50 134 *e*P **P** **08 11 30.8 -2.9**
COEN Coen 23.50 134 P **P** **08 11 30.7 -2.9**
baz=24,SNR=100
QZH Quanzhou 23.51 343⇑*i*P **P** **08 11 31.2 -2.4**
QZH LR LR
comp=N,2μm,8.8s
QZH LR LR
comp=E,3μm,7.9s
QZH LR LR
comp=Z,9μm,36.7s
WRAB Tennant Creek 23.67 160 *e*P **P** **08 11 34.2 -0.9**
WRAB pmax pmax
comp=Z,1μm,0.9s
WRAB Tennant Creek 23.67 160 *e*P **P** **08 11 34.2 -0.9**
comp=Z,1μm,0.9s
WRA Warramunga Arr 23.67 160 P **P** **08 11 33.9 -1.3**
WRA S **S** **08 15 38.9 -2.8**
WRA Warramunga Arr 23.67 160 P **P** **08 11 33.9 -1.3**
comp=Z,440nm,0.5s,baz=340,slow=10,SNR=1746
WRA S **S** **08 15 38.9 -2.8**
comp=Z,43nm,1.1s,baz=322,slow=23,SNR=4.9
GZH Guangzhou 23.96 330 P **P** **08 11 40.1 +2.5**
GZH sS Sn 08 16 24.3 +3.5
GZH pmax pmax
comp=Z,230nm,1.3s
UBPT Khong Chiam 24.00 303 P **P** **08 11 38.2 +0.1**
comp=Z,236nm,1.9s,comp=Z,5μm
UBPT Khong Chiam 24.00 303 P **P** **08 11 38.1 0.0**
comp=Z,236nm,2.1s,comp=Z,5μm
XMI Christmas Isla 24.00 237 P **P** **08 11 36.0 -2.2**
baz=24,SNR=4.5
XMIS Christmas Isla 24.05 237 *e*P **P** **08 11 36.0 -2.6**
comp=Z,1μm,0.9s
XMIS Christmas Isla 24.05 237 P **P** **08 11 36.0 -2.6**
baz=24,SNR=8.9
PMG Port Moresby 24.07 120 *e*P **P** **08 11 38.1 -0.7**
PMG Port Moresby 24.07 120 P **P** **08 11 37.3 -1.5**
comp=Z,256nm,1.6s,comp=Z,6μm
PMG Port Moresby 24.07 120 P **P** **08 11 37.5 -1.2**
comp=Z,104nm,0.8s,baz=324,slow=6.6,SNR=57
PMG LR LR 08 21 43.5
comp=Z,2μm,18.3s,baz=307,slow=38
MNAI Manna 24.08 254 *e*P **P** **08 11 39.2 +0.3**
comp=Z,3μm,1.6s
MNAI Manna 24.08 254 P **P** **08 11 38.2 -0.7**
comp=Z,1μm,1.8s,comp=Z,14μm
MNAI Manna 24.08 254 P **P** **08 11 39.3 +0.4**
baz=24,SNR=6.0
KSI Kapahiang 24.25 256 P **P** **08 11 44.6 +4.1**
comp=Z,603nm,0.7s,comp=Z,10μm
MBWA Marble Bar 24.26 195 P **P** **08 11 40.7 +0.3**
SNR=46
MBWA Marble Bar 24.26 195 *e*P **P** **08 11 40.7 +0.3**
comp=Z,525nm,0.9s
JOW Kunigami 24.35 5 *e*P **P** **08 11 42.7 +1.6**
comp=Z,216nm,1.1s
FRIM Kepong 24.44 272 P **P** **08 11 42.6 +0.4**
MASI Maura Aman, Be 24.47 257 P **P** **08 11 43.3 +0.8**
comp=Z,904nm,1.3s,comp=Z,13μm
IPM Ipoh 25.10 275 *e*P **P** **08 11 47.3 -0.9**
comp=Z,775nm,1.7s
IPM Ipoh 25.10 275 P **P** **08 11 48.5 +0.3**
IPM Ipoh 25.10 275 P **P** **08 11 48.5 +0.3**
IPM Ipoh 25.10 275 P **P** **08 11 48.0 -0.2**
comp=Z,239nm,1.9s,comp=Z,4μm
BKNI Bangkinang 25.13 266 P **P** **08 11 49.6 +1.2**
comp=Z,420nm,1.6s,comp=Z,5μm
KULM Kulim 25.53 277 *e*P **P** **08 11 51.3 -0.8**
KULM Kulim 25.53 277 P **P** **08 11 52.2 +0.1**
KULM Kulim 25.53 277 P **P** **08 11 51.8 -0.3**
comp=Z,159nm,1.5s,comp=Z,3μm
CHBT CHBT 25.65 295 P **P** **08 11 53.2 +0.1**
comp=Z,174nm,2.1s,comp=Z,4μm
CHBT CHBT 25.65 295 P **P** **08 11 53.5 +0.4**
comp=Z,148nm,2.1s,comp=Z,4μm
PANO Nakornpanom 25.67 306 P **P** **08 11 53.0 -0.2**
comp=Z,150nm,1.1s,comp=Z,2μm
SKLT Songkhla 25.80 281 P **P** **08 11 54.9 +0.4**
comp=Z,131nm,1.3s,comp=Z,2μm
SKLT Songkhla 25.80 281 P **P** **08 11 55.9 +1.4**
comp=Z,85nm,1.4s,comp=Z,2μm
PDSI Padang 25.83 263 P **P** **08 11 53.4 -1.5**
comp=Z,155nm,0.8s,comp=Z,9μm
PPI Padang Panjang 25.84 264 P **P** **08 11 53.7 -1.2**
comp=Z,109nm,1.7s,comp=Z,3μm
PPI Padang Panjang 25.84 264 P **P** **08 11 55.5 +0.7**
baz=26,SNR=5.0
AS31 Alice Springs 27.04 164 *e*P **P** **08 12 05.0 -0.5**
ASAR Alice Springs 27.04 164 P **P** **08 12 05.1 -0.5**
ASAR PcP **PcP** **08 15 25.6 +1.3**
ASAR S **S** **08 16 33.2 -1.9**
ASAR Alice Springs 27.04 164 P **P** **08 12 05.1 -0.5**
comp=Z,87nm,0.7s,baz=7.6,slow=7.6,SNR=368
ASAR PcP **PcP** **08 15 25.6 +1.3**
comp=Z,12nm,0.4s,baz=346,slow=2.1,SNR=4.5
ASAR S **S** **08 16 33.2 -1.9**
comp=Z,23nm,0.8s,baz=349,slow=22,SNR=4.8
SRIT Nakonsritamara 27.05 284 P **P** **08 12 07.1 +1.4**
comp=Z,38nm,1.9s,comp=Z,2μm
PSI Prapat 27.14 271 P **P** **08 12 05.6 -1.1**
PSI S **S** **08 16 33.9 -3.2**
PSI Prapat 27.14 271 P **P** **08 12 05.6 -1.1**
comp=Z,48nm,0.7s,baz=95,slow=4.6,SNR=61
PSI S **S** **08 16 33.9 -3.2**
comp=Z,3.0nm,0.6s,baz=140,slow=17,SNR=4.6
PSI Prapat 27.14 271 P **P** **08 12 05.8 -0.9**
baz=27,SNR=35
MTSU Mount Surprise 27.21 139 P **P** **08 12 06.6 -0.5**
baz=27,SNR=221
KRAB Krabi 27.37 283 P **P** **08 12 08.8 +0.2**
comp=Z,61nm,0.7s,comp=Z,6μm
PHET Kaeng Krachan 28.17 293 P **P** **08 12 15.0 -0.7**
comp=Z,145nm,0.9s
PHET Kaeng Krachan 28.17 293 P P 08 12 19.3 +3.6
comp=Z,145nm,0.9s
PBKT Sadao Pong 28.42 301 P **P** **08 12 17.6 -0.2**
comp=Z,65nm,1.1s,comp=Z,3μm
PBKT Sadao Pong 28.42 301 P **P** **08 12 17.9 +0.1**
comp=Z,58nm,0.8s,comp=Z,2μm
LOEI Loei 28.60 303 P P 08 12 16.1 -3.5
comp=Z,182nm,1.2s,comp=Z,2μm
SSE Sheshan 28.88 351 *e*P **P** **08 12 22.6 +0.8**
SSE sP **sP** **08 12 59.9 0.0**
SSE S **S** **08 17 01.7 -2.1**
SSE pmax pmax
comp=Z,48nm,0.7s
SSE pmax pmax
comp=Z,39nm,3.6s
SSE LR LR
comp=N,380nm,15.9s
SSE LR LR
comp=E,890nm,15.9s
SSE LR LR
comp=Z,980nm,21.7s
CBIJ Chichi jima 28.97 31 P **P** **08 12 23.3 +0.7**
CBIJ Chichi jima 28.97 31 P **P** **08 12 23.3 +0.7**
comp=Z,147nm,0.9s,baz=350,slow=20,SNR=2.8
NANT Nan 29.70 305 P **P** **08 12 29.5 +0.2**
comp=Z,611nm,0.7s,comp=Z,6μm
MEEK Meekatharra 29.79 194 P **P** **08 12 29.9 -0.1**
baz=30,SNR=321
MEEK S **S** **08 17 17.4 -1.0**
baz=30,SNR=12
CTA Charters Tower 29.88 139 P **P** **08 12 30.9 +0.1**
CTA Charters Tower 29.88 139 P **P** **08 12 30.9 +0.1**
comp=Z,23nm,0.7s,baz=318,slow=12,SNR=40
WHN Wuhan 30.08 340 P **P** **08 12 33.4 +1.0**
WHN LR LR
comp=N,960nm,9.5s
WHN LR LR
comp=E,2μm,14.0s
WHN LR LR
comp=Z,7μm,40.8s
NJ2 Nanjing 30.23 348 *e*P **P** **08 12 35.2 +1.5**
NJ2 pP **pP** **08 12 58.5 -0.3**
NJ2 sP **sP** **08 13 11.6 -0.3**
NJ2 sS **sS** **08 18 11.0 +2.3**
NJ2 pmax pmax
comp=Z,40nm,1.3s
NJ2 pmax pmax
comp=Z,290nm,6.2s
NJ2 LR LR
comp=N,1μm,21.0s
NJ2 LR LR
comp=E,1μm,15.5s
NJ2 LR LR
comp=Z,1μm,22.4s
GYA Guiyang 30.30 324⇑*i*P **P** **08 12 35.4 +0.8**
GYA pP **pP** **08 13 01.5 +1.9**
GYA sP **sP** **08 13 14.8 +2.0**
GYA PP **PnPn** **08 13 39.0 +1.2**
GYA PcP **PcP** **08 15 32.0 -0.5**
GYA S **S** **08 17 27.6 +1.1**
GYA sS **sS** **08 18 11.2 +1.1**
GYA ScP **ScP** **08 19 02.7 -1.9**
GYA PcS **PcS** **08 19 15.4 -1.0**
GYA ScS **ScS** **08 22 57.8 -3.1**
GYA pmax pmax
comp=Z,40nm,1.0s
GYA pmax pmax
comp=Z,320nm,5.2s
GYA LR LR
comp=N,4μm,17.6s
GYA LR LR
comp=E,3μm,18.0s
GYA LR LR
comp=Z,4μm,17.1s
CRAI Chiangrai 30.70 307 P **P** **08 12 35.9 -2.2**
comp=Z,82nm,1.5s,comp=Z,1μm
JNU Nakatsue 30.85 8 P **P** **08 12 39.5 +0.3**
JNU Nakatsue 30.85 8 P **P** **08 12 39.5 +0.3**
comp=Z,25nm,0.9s,baz=153,slow=2.8,SNR=10
CM31 Chiang Mai Arr 31.00 303 *e*P **P** **08 12 41.0 +0.3**
comp=Z,15nm,0.5s
CMAR Chiang Mai Arr 31.00 303 P **P** **08 12 40.6 -0.1**
CMAR ScP **ScP** **08 19 07.1 +0.2**
CMAR Chiang Mai Arr 31.00 303 P **P** **08 12 40.6 -0.1**
comp=Z,14nm,0.8s,baz=112,slow=6.8,SNR=80
CMAR ScP **ScP** **08 19 07.1 +0.2**
comp=Z,1.4nm,0.3s,baz=143,slow=2.0,SNR=4.2
CMAR LR LR 08 26 52.4
comp=Z,452nm,19.2s,baz=294,slow=39
CHTO Chiang Mai 31.16 303 *e*P **P** **08 12 42.0 -0.2**
CHTO Chiang Mai 31.16 303 P **P** **08 12 42.3 +0.2**
SNR=28
CHTO Chiang Mai 31.16 303 *e*P **P** **08 12 42.0 -0.2**
CHTO Chiang Mai 31.16 303 P **P** **08 12 41.9 -0.2**
comp=Z,146nm,1.0s,comp=Z,2μm
CHTO Chiang Mai 31.16 303 P **P** **08 12 41.9 -0.2**
comp=Z,146nm,1.0s,comp=Z,2μm
CMAI Chiengmai2 31.62 305 P **P** **08 12 46.1 -0.2**
comp=Z,115nm,1.3s,comp=Z,1μm
ENH Enshi 31.84 332 *e*P **P** **08 12 47.6 -0.3**
comp=Z,57nm,0.8s
KMI Kunming 31.86 317⇑P **P** **08 12 49.1 +0.7**
KMI pP **pP** **08 13 14.4 +0.9**
KMI sP **sP** **08 13 29.1 +2.4**
KMI PP **PP** **08 14 00.6 -2.0**
KMI S **S** **08 17 51.7 +0.6**
KMI sS **sS** **08 18 33.6 -1.2**
KMI SS **SnSn** **08 19 52.2 +0.3**
KMI pmax pmax
comp=Z,79nm,1.4s
KMI pmax pmax
comp=Z,510nm,4.1s
KMI LR LR
comp=N,3μm,16.1s
KMI LR LR
comp=E,3μm,20.3s
KMI LR LR
comp=Z,2μm,19.3s
PATS Pohnpei 32.41 81 P **P** **08 12 54.1 +0.9**
baz=32,SNR=7.3
PATS S S 08 18 25.6 +26
baz=32,SNR=3.1
MORW Morawa 32.77 196 P **P** **08 12 56.3 +0.2**
baz=33,SNR=104
FORT Forrest 33.09 177 *e*P **P** **08 12 58.5 -0.2**
comp=Z,291nm,0.8s
FORT Forrest 33.09 177 P **P** **08 12 58.4 -0.4**
baz=33,SNR=157
BLDU Ballidu 34.06 195 P **P** **08 13 07.4 +0.1**
baz=34,SNR=148
BLDU S **S** **08 18 29.4 +4.7**
baz=34,SNR=5.6
TIA Tai'an 34.61 347⇓P **P** **08 13 11.4 -0.6**
TIA S **S** **08 18 31.9 -1.2**
TIA pmax pmax
comp=Z,60nm,1.1s
TIA LR LR
comp=N,840nm,15.8s
TIA LR LR
comp=E,1μm,15.7s
TIA LR LR
comp=Z,1μm,15.7s
KLBR Kellerberrin 34.76 193 P **P** **08 13 13.4 +0.2**
baz=35,SNR=41
KLBR S **S** **08 18 31.0 -4.4**
baz=35,SNR=6.5
KSAR Wonju Array Be 34.87 3 P **P** **08 13 15.5 +1.3**
KSAR ScP **ScP** **08 19 20.5 +0.6**
KSRS Korea Array 34.89 3 P **P** **08 13 15.5 +1.2**
comp=Z,16nm,0.7s,baz=179,slow=9.8,SNR=38
KSRS ScP **ScP** **08 19 20.5 +0.5**
comp=Z,1.5nm,0.5s,baz=182,slow=4.0,SNR=5.9
KSRS LR LR 08 27 10.8
comp=Z,645nm,19.6s,baz=187,slow=35
XAN Xi'an 35.29 335 P **P** **08 13 16.5 -1.4**
XAN pP **pP** **08 13 42.9 -0.4**
XAN sP **sP** **08 13 56.0 -0.3**
XAN S **S** **08 18 38.1 -5.5**
XAN ScS **ScS** **08 23 22.8 -3.3**
XAN pmax pmax
comp=Z,24nm,1.3s
XAN LR LR
comp=N,880nm,29.6s
XAN LR LR
comp=E,340nm,28.6s
XAN LR LR
comp=Z,410nm,32.7s
CD2 Chengdu 35.32 326 P **P** **08 13 17.3 -0.9**
CD2 pP **pP** **08 13 41.0 -2.6**
CD2 sP **sP** **08 13 56.4 -0.2**
CD2 PP **PP** **08 14 42.8 +2.2**
CD2 PcP **PcP** **08 15 46.8 +0.5**
CD2 S **S** **08 18 45.1 +1.0**
CD2 sS **sS** **08 19 29.0 +0.7**
CD2 SS **SnSn** **08 21 10.2 -5.0**
CD2 pmax pmax
comp=Z,120nm,1.2s
CD2 pmax pmax
comp=Z,250nm,3.9s
CD2 LR LR
comp=N,3μm,15.5s
CD2 LR LR
comp=Z,1μm,16.1s
MAT Matsushiro 35.73 17 P **P** **08 13 21.1 -0.5**
MAT S **S** **08 18 45.4 -4.9**
MJAR Matsushiro Arr 35.73 17 P **P** **08 13 22.2 +0.5**
MJAR PcP **PcP** **08 15 49.3 +2.0**
MJAR ScP **ScP** **08 19 23.0 -0.1**
MJAR Matsushiro Arr 35.73 17 P **P** **08 13 22.2 +0.5**
comp=Z,5.4nm,0.8s,baz=193,slow=9.9,SNR=15
MJAR PcP **PcP** **08 15 49.3 +2.0**
comp=Z,5.6nm,0.9s,baz=191,slow=6.3,SNR=2.8
MJAR ScP **ScP** **08 19 23.0 -0.1**
comp=Z,0.9nm,0.3s,baz=192,slow=4.5,SNR=4.6
MJAR LR LR 08 26 57.4
comp=Z,562nm,18.3s,baz=305,slow=34
HNR Honiara 35.74 110 P **P** **08 13 20.5 -1.4**
HNR Honiara 35.74 110 P **P** **08 13 20.5 -1.4**
comp=Z,69nm,0.6s,baz=338,slow=3.9,SNR=8.2
RMQ Roma 36.15 144 P **P** **08 13 24.6 -0.7**
baz=36,SNR=6.1
NWAO Narrogin (SRO) 36.16 193 P **P** **08 13 25.1 -0.2**
comp=Z,102nm,0.8s,baz=22,slow=9.4,SNR=51
NWAO LR LR 08 28 42.5
comp=Z,318nm,21.1s,baz=15,slow=37
BBOO Buckleboo 36.31 166 *e*P **P** **08 13 26.0 -0.5**
comp=Z,2μm,0.5s
BBOO Buckleboo 36.31 166 P **P** **08 13 25.8 -0.7**
baz=36,SNR=277
BBOO S **S** **08 18 58.9 -0.1**
baz=36,SNR=5.1
DL2 Dalian 36.52 354 P **P** **08 13 29.3 +1.1**
DL2 S **S** **08 19 00.2 -1.9**
DL2 pmax pmax
comp=Z,110nm,0.9s
DL2 pmax pmax
comp=Z,640nm,4.1s
DL2 LR LR
comp=E,2μm,9.8s
DL2 LR LR
comp=Z,960nm,15.7s
EIDS Eidsvold 36.76 140 *e*P **P** **08 13 29.2 -1.2**
comp=Z,445nm,1.6s
EIDS Eidsvold 36.76 140 P **P** **08 13 29.6 -0.8**
baz=37,SNR=6.9
EIDS S S 08 18 42.3 -24
baz=37,SNR=3.9
STKA Stephens Creek 37.17 158 P **P** **08 13 33.6 -0.2**
STKA S **S** **08 19 11.3 -0.9**
STKA Stephens Creek 37.17 158 P **P** **08 13 33.6 -0.2**
comp=Z,325nm,0.8s,baz=333,slow=9.5,SNR=546
STKA S **S** **08 19 11.3 -0.9**
comp=Z,21nm,1.1s,baz=101,slow=18,SNR=5.0
STKA Stephens Creek 37.17 158 P **P** **08 13 33.5 -0.3**
baz=37,SNR=436
STKA S **S** **08 19 11.5 -0.7**
baz=37,SNR=9.6
BJT Baijiatuau 38.48 348 *e*P **P** **08 13 44.5 -0.2**
comp=Z,71nm,0.7s
BJI Beijing 38.49 348 P **P** **08 13 44.7 -0.1**
BJI pP **pP** **08 14 09.3 -1.2**
BJI sP **sP** **08 14 23.5 0.0**
BJI S **S** **08 19 26.2 -5.8**
BJI SS **SS** **08 22 22.5 -3.7**
BJI pmax pmax
comp=Z,45nm,1.6s
CMSA Cobar Meteorol 38.59 153 P **P** **08 13 45.6 -0.2**
baz=39,SNR=79
SNY Shenyang 39.28 357⇓P **P** **08 13 51.8 +0.5**
SNY S **S** **08 19 42.8 -0.9**
SNY pmax pmax
comp=Z,70nm,1.2s
SNY pmax pmax
comp=Z,450nm,5.7s
SNY LR LR
comp=N,520nm,16.7s
SNY LR LR
comp=E,2μm,19.0s
SNY LR LR
comp=Z,1μm,16.2s
LZH Lanzhou 39.30 331⇑P **P** **08 13 52.4 +0.5**
LZH pP **pP** **08 14 17.8 +0.2**
LZH sP **sP** **08 14 30.9 +0.3**
LZH PP **PnPn** **08 15 28.2 0.0**
LZH S **S** **08 19 42.3 -2.3**
LZH pmax pmax
comp=Z,260nm,1.2s
LZH pmax pmax
comp=Z,750nm,4.0s
SHL Shillong 40.14 308 *i*P **P** **08 13 58.5 -0.5**
SHL *ex* x 08 19 51.0
HHC Hu-ho-hao-te 40.43 343 *e*P **P** **08 14 00.8 -0.2**
HHC pP **pP** **08 14 26.3 -0.6**
HHC sP **sP** **08 14 39.5 -0.3**
HHC PP **PnPn** **08 15 39.6 -1.7**
HHC S **S** **08 20 02.0 +0.9**
HHC sS **sS** **08 20 46.0 +0.1**
HHC SS **SS** **08 23 01.2 -3.7**
HHC pmax pmax
comp=Z,58nm,1.1s
HHC pmax pmax
comp=Z,240nm,4.2s
HHC LR LR
comp=N,2μm,15.5s
HHC LR LR
comp=E,1μm,16.1s
HHC LR LR
comp=Z,2μm,17.7s
ARMA Armidale 40.76 145 *e*P **P** **08 14 04.2 +0.3**
comp=Z,294nm,0.9s
ARMA Armidale 40.76 145 P **P** **08 14 04.4 +0.5**
baz=41,SNR=136
ARMA S **S** **08 20 08.9 +2.5**
baz=41,SNR=5.4
VLA Vladivostok 40.83 6⇑*i*P **P** **08 14 06.2 +2.0**
VLA *e* 08 15 42.2
VLA *e*S **S** **08 20 12.4 +5.6**
VLA pmax pmax
comp=Z,68nm,1.0s
CN2 Changchun 41.19 359 *e*P **P** **08 14 08.6 +1.5**
CN2 *ep*P **pP** **08 14 34.0 +0.9**
CN2 *es*P **sP** **08 14 47.1 +1.1**
CN2 *e*S **S** **08 20 15.0 +2.9**
CN2 SS **SS** **08 23 17.7 -2.0**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,340nm,16.0s
CN2 LR LR
comp=E,480nm,16.0s
CN2 LR LR
comp=Z,600nm,13.0s
USRK Ussuriysk Arra 41.91 6 P **P** **08 14 14.0 +1.0**
comp=Z,6.0nm,0.6s,baz=193,slow=7.6,SNR=10
MDJ Mudanjiang 42.12 4 P **P** **08 14 15.1 +0.5**
MDJ ScP **ScP** **08 19 47.1 -0.3**
MDJ PcS **PcS** **08 20 00.3 +1.4**
MDJ S **S** **08 20 25.4 -0.4**
MDJ sS **sS** **08 21 11.9 +1.1**
MDJ ScS **ScS** **08 24 05.7 +0.5**
MDJ pmax pmax
comp=Z,23nm,0.8s
MDJ pmax pmax
comp=Z,150nm,4.3s
MDJ LR LR
comp=N,180nm,7.5s
MDJ LR LR
comp=E,700nm,14.4s
MDJ LR LR
comp=Z,750nm,15.0s
MDJ Mudanjiang 42.12 4 *e*P **P** **08 14 15.3 +0.7**
comp=Z,113nm,1.1s
YNG Young 42.14 152 P **P** **08 14 15.8 +0.8**
baz=42,SNR=34
ERM Erimo 42.27 19⇑*i*P **P** **08 14 14.7 -1.3**
ERM pmax pmax
comp=Z,83nm,2.4s
MGCD Mangrove Creek 42.61 148 P **P** **08 14 20.0 +1.1**
baz=43,SNR=9.7
LSA Lhasa 42.82 313 P **P** **08 14 21.5 +0.3**
LSA pP pP 08 14 41.6 -5.7
LSA sP **sP** **08 14 59.2 -1.0**
LSA LR LR
comp=N,1μm,25.1s
LSA LR LR
comp=E,1μm,25.1s
LSA LR LR
comp=Z,2μm,40.9s
LSA Lhasa 42.82 313 *e*P **P** **08 14 21.7 +0.5**
LSA pmax pmax
comp=Z,243nm,1.1s
LSA Lhasa 42.82 313 *e*P **P** **08 14 21.7 +0.5**
comp=Z,243nm,1.1s
CAN Canberra 43.26 152 *e*P **P** **08 14 24.9 +0.8**
CAN pmax pmax
comp=Z,424nm,1.3s
CAN Canberra 43.26 152 *e*P **P** **08 14 24.9 +0.8**
comp=Z,424nm,1.3s
CNB Canberra Magne 43.43 152 P **P** **08 14 26.3 +0.8**
baz=44,SNR=18
TOO Toolangi 43.69 158 P **P** **08 14 28.8 +1.4**
baz=44,SNR=36
GTA Gaotai 43.88 330⇑P **P** **08 14 28.9 -0.2**
GTA pP **pP** **08 14 54.3 -1.0**
GTA sP **sP** **08 15 07.6 -0.6**

GTA PP **PP** **08 16 15.7 +2.1**
GTA S **S** **08 20 50.6 -1.5**
GTA sS **sS** **08 21 35.9 -1.4**
GTA ScS **ScS** **08 24 17.1 +0.3**
GTA pmax pmax
comp=Z,33nm,1.3s
GTA pmax pmax
comp=Z,260nm,5.5s
GTA LR LR
comp=N,1µm,18.1s
GTA LR LR
comp=E,1µm,18.5s
GTA LR LR
comp=Z,860nm,23.3s
ASAJ Asahikawa 44.01 17 *e*P **P** **08 14 31.3 +1.5**
comp=Z,60nm,1.0s
ASAJ Asahikawa 44.01 17 P **P** **08 14 31.1 +1.2**
comp=Z,15nm,0.8s,baz=270,slow=6.1,SNR=7.2
TAPN Taplejung 44.28 308 *e*P **P** **08 14 32.1 -0.6**
ODAN Odare 44.31 307 *e*P **P** **08 14 32.3 -0.6**
comp=Z,146nm,0.5s
VIS Vishakhapatnam 44.60 293 *i*P **P** **08 14 34.7 -0.3**
VIS *i*x x 08 14 59.0
MILA Mila 44.76 154 P **P** **08 14 37.3 +1.2**
baz=45,SNR=9.6
YUK Yuzh-Kuril'sk 44.98 20 *e*P P 08 14 46.0 +8.4
YUK *e*S S 08 21 17.8 +10
RAMN Ramite 44.98 307 *e*P **P** **08 14 38.1 -0.1**
PALK Pallekele 45.46 278 *e*P **P** **08 14 40.7 -1.2**
comp=Z,590nm,2.5s
PALK Pallekele 45.46 278 P **P** **08 14 41.0 -0.9**
comp=Z,75nm,2.2s
JIRN Jiri 45.62 307 *e*P **P** **08 14 42.9 -0.5**
GUN Gumba 45.98 307 *e*P **P** **08 14 45.5 -0.7**
PKI Pulchoki 46.20 307 *e*P **P** **08 14 46.8 -1.2**
PKIN Phulchoki 46.22 307 *e*P **P** **08 14 47.3 -0.7**
DZM Mont Dzumac 46.34 124 *e*P **P** **08 14 49.0 +0.2**
comp=Z,179nm,0.9s
KKN Kakani 46.40 307 *e*P **P** **08 14 48.4 -1.0**
DMN Daman 46.46 307 *e*P **P** **08 14 49.2 -0.7**
comp=Z,572nm,1.2s
HABR Khabarovsk 46.50 8 *de*P P 08 15 07.6 +18
HABR *e* 08 16 21.1
HABR 08 16 38.2
HABR *e*S **S** **08 21 30.8 +1.6**
HABR *e* 08 24 34.8
HABR MLR MLR
comp=Z,343nm,17.0s
YSS Yuzh-Sakhalins 46.65 16 *e*P P 08 14 45.6 -5.1
YSS *e* 08 15 17.0
YSS MLR MLR
comp=Z,500nm,18.0s
KLR Kul'dur 46.87 5 *e*P P 08 14 48.3 -4.1
KLR *e*S **S** **08 21 33.5 -0.9**
HIA Hailar 46.97 354 *e*P **P** **08 14 54.4 +1.2**
comp=Z,211nm,1.5s
KOLN Koldanda 47.74 306 *e*P **P** **08 14 58.9 -0.9**
comp=Z,468nm,0.6s
DANN Dangsing 47.85 307 *e*P **P** **08 14 59.6 -1.2**
comp=Z,532nm,0.7s
ULN Ulaanbaatar 48.15 343 P **P** **08 15 02.9 +0.4**
SNR=27
ULN Ulaanbaatar 48.15 343 *e*P **P** **08 15 02.5 0.0**
comp=Z,80nm,1.1s
ULN Ulaanbaatar 48.15 343 P **P** **08 15 02.6 +0.1**
SONM Songino Array 48.32 342 P **P** **08 15 03.9 +0.2**
SONM Songino Array 48.32 342 P **P** **08 15 03.9 +0.2**
comp=Z,14nm,0.6s,baz=164,slow=7.1,SNR=66
SONM LR LR 08 37 57.4
comp=Z,693nm,20.3s,baz=330,slow=39
PYUN Piuthan 48.37 306 *e*P **P** **08 15 04.2 -0.4**
comp=Z,1µm,1.0s
MOO Moorlands 48.58 159 P P 08 15 10.1 +4.4
baz=49,SNR=3.8
HYB Hyderabad 48.96 291⇑ *i*P **P** **08 15 07.5 -1.6**
comp=Z,800nm,1.5s
HYB *e*pP **pP** **08 15 31.0 -4.7**
HYB *e*S **S** **08 22 06.0 +1.0**
CIT Chita 50.51 350 *e*P **P** **08 15 21.2 +0.9**
CIT *e* 08 16 05.1
LATR Latur 51.02 292 *e*x **P** **08 15 22.4 -2.2**
comp=Z,330nm,1.9s
AKL Akola 51.12 295 *e*P **P** **08 15 24.8 -0.6**
AKL AMP 08 15 28.0
comp=Z,508nm,1.6s
AKL *i*x x 08 23 28.7
ZAK Zakamensk 51.53 342⇑ *i*P **P** **08 15 27.6 -0.4**
ZAK *e* 08 15 59.5
ZAK pmax pmax
comp=Z,8.0nm,1.1s
KAD Karad 53.03 290 *e*P **P** **08 15 38.3 -1.3**
KAD *e*x x 08 16 12.9
SONA Sohna 53.26 304 *e*P **P** **08 15 39.4 -1.7**
SONA *e*x x 08 22 57.7
MOY Mondy 53.38 341 *e*P **P** **08 15 42.3 +0.7**
MOY pmax pmax
comp=Z,64nm,1.6s
WMQ Urumqi 53.42 326 P **P** **08 15 42.5 +0.5**
WMQ pP **pP** **08 16 08.8 -0.3**
WMQ sP **sP** **08 16 21.6 -0.1**
WMQ PcP **PcP** **08 16 48.2 +0.4**
WMQ PP **PP** **08 17 46.0 +2.4**
WMQ *e*S **S** **08 23 04.3 -1.4**
WMQ sS **sS** **08 23 50.5 -1.8**
WMQ SS **SKiKP** **08 26 45.2 -1.5**
WMQ pmax pmax
comp=Z,95nm,0.8s
WMQ LR LR
comp=N,1µm,25.0s
WMQ LR LR
comp=E,2µm,26.2s
WMQ LR LR
comp=Z,1µm,21.8s
POO Poona 53.57 291⇓ *i*P **P** **08 15 41.0 -2.5**
comp=Z,140nm,1.0s
SMLA Simla 54.22 307 *i*P **P** **08 15 47.6 -0.3**
SMLA Simla 54.22 307 *e*P **P** **08 15 47.6 -0.3**
CLNS Chul'man 54.25 359 *e*P **P** **08 15 48.7 +1.0**
CLNS *e* 08 16 49.6
CLNS *e* 08 17 47.7
CLNS *e*PPP PPP 08 19 05.5
CLNS *e*S **S** **08 23 12.3 -4.0**
CLNS *e* 08 25 16.0
CLNS *e*SS **SS** **08 26 54.6 -5.3**
CLNS *e*SSS SSS 08 29 04.1
CLNS pmax pmax
comp=E,22nm,1.1s
CLNS pmax pmax
comp=Z,59nm,1.0s
CLNS pmax pmax
comp=N,45nm,1.1s
CLNS pmax pmax
comp=Z,18nm,1.0s
CLNS pmax pmax
comp=E,15nm,0.9s
CLNS pmax pmax
comp=N,21nm,1.0s
CLNS smax smax
comp=E,173nm,11.2s
CLNS smax smax
comp=N,296nm,14.7s
KHET Khetri 54.27 303 *e*P **P** **08 15 46.7 -1.7**
KHET *e*x x 08 23 12.9
SDNR Sundarnagar 54.51 308 *e*P **P** **08 15 50.0 -0.1**
BHK Bhakra 54.92 307 *e*P **P** **08 15 53.6 +0.5**
MSVF Nonsavu 54.98 114 *i*P **P** **08 15 55.2 +1.4**
MSVF Nonsavu 54.98 114 *e*P **P** **08 15 55.1 +1.4**
HVS Khovu-Aksy 55.64 336 *d*iP **P** **08 15 58.3 +0.3**
HVS pmax pmax
comp=Z,264nm,1.4s
DLH Dalhousie 55.69 308 *e*P **P** **08 15 57.0 -1.8**
DLH *e*x x 08 16 00.0
THN Thein Dam 55.84 308 *e*P P 08 15 55.9 -3.7
THN *e*S **S** **08 23 35.5 -2.9**
PEA0B Petropavlovsk- 56.86 22 P **P** **08 16 08.5 +2.0**
PETK Petropavlovsk- 56.86 22 P **P** **08 16 08.1 +1.6**
PETK Petropavlovsk- 56.86 22 P **P** **08 16 08.1 +1.6**
PETK Petropavlovsk- 56.86 22 P **P** **08 16 08.1 +1.6**
comp=Z,8.0nm,0.8s,baz=193,slow=5.8,SNR=5.8
PET Petropavlovsk 57.16 23 *e*P P 08 16 18.5 +10
PET *e**PP pP 08 16 44.4 +8.5
PET *e*S S 08 24 08.6 +14
PET pmax pmax
comp=Z,43nm,1.3s

MKAR Makanchi Array 58.25 326 P **P** **08 16 15.9 -0.5**
MKAR S **S** **08 24 07.3 -2.4**
MKAR Makanchi Array 58.25 326 P **P** **08 16 15.9 -0.5**
MKAR ScP **ScP** **08 20 56.6 +0.3**
MKAR S **S** **08 24 07.3 -2.4**
MKAR P'P'ab **P'P'ab** **08 46 17.4 -4.7**
MKAR Makanchi Array 58.25 326 P **P** **08 16 15.9 -0.5**
comp=Z,40nm,0.4s,baz=119,slow=7.4,SNR=354
MKAR ScP **ScP** **08 20 56.6 +0.3**
comp=Z,1.7nm,0.5s,baz=116,slow=5.1,SNR=4.8
MKAR S **S** **08 24 07.3 -2.4**
comp=Z,1.3nm,1.0s,baz=115,slow=10,SNR=2.9
MKAR LR LR 08 41 49.2
comp=Z,787nm,19.9s,baz=122,slow=36
MKAR PKP2ab 08 46 17.4
comp=Z,2.4nm,1.0s,baz=263,slow=2.0,SNR=3.7
KSH Kashi 58.51 316 P **P** **08 16 18.9 +0.5**
KSH sP **sP** **08 16 58.6 +0.1**
KSH PP **PP** **08 18 31.6 +2.4**
KSH PcS **PcS** **08 21 08.6 -1.0**
KSH S **S** **08 24 10.7 -2.7**
KSH sS **sS** **08 24 58.2 -2.5**
KSH pmax pmax
comp=Z,66nm,0.9s
KSH LR LR
comp=N,380nm,9.2s
KSH LR LR
comp=E,240nm,6.8s
KSH LR LR
comp=Z,640nm,16.0s
YAK Yakutsk 59.51 2 *e*P **P** **08 16 25.0 +0.3**
YAK *e* 08 16 53.9
YAK *e* 08 18 36.0
YAK *e*S **S** **08 24 25.0 -0.2**
YAK *e* 08 26 01.3
YAK *e*SS **SS** **08 28 26.8 +4.4**
YAK pmax pmax
comp=Z,43nm,0.9s
YAK pmax pmax
comp=N,15nm,1.0s
YAK pmax pmax
comp=E,3.0nm,1.3s
YAK pmax pmax
comp=Z,56nm,1.8s
YAK pmax pmax
comp=N,71nm,2.0s
YAK pmax pmax
comp=E,70nm,1.8s
YAK smax smax
comp=E,522nm,2.7s
YAK smax smax
comp=N,804nm,2.6s
ULHL Ulahol 59.56 319 *i*P **P** **08 16 26.2 +0.5**
ULHL Ulahol 59.56 319 P **P** **08 16 26.2 +0.5**
SNR=11
KZA Kyzart 60.13 318 *i*P **P** **08 16 29.8 -0.1**
KZA Kyzart 60.13 318 P **P** **08 16 29.8 -0.1**
SNR=44
TKM2 Tokmak 2 60.29 319 *e*P **P** **08 16 30.8 +0.1**
TKM2 pmax pmax
comp=Z,44nm,0.6s
TKM2 Tokmak 2 60.29 319 P **P** **08 16 29.9 -0.8**
SNR=36
TKM2 Tokmak 2 60.29 319 *e*P **P** **08 16 30.8 +0.1**
comp=Z,44nm,0.6s
KBK Karagaybulak 60.59 319 *i*P **P** **08 16 32.8 0.0**
KBK Karagaybulak 60.59 319 P **P** **08 16 32.8 0.0**
SNR=28
CHMS Chumysh 60.88 319 *i*P **P** **08 16 34.2 -0.3**
CHMS Chumysh 60.88 319 P **P** **08 16 34.2 -0.3**
SNR=14
AAK Ala-Archa 60.88 319 *e*P **P** **08 16 34.9 +0.2**
AAK S **S** **08 24 43.7 -0.2**
AAK pmax pmax
comp=Z,133nm,1.4s
AAK Ala-Archa 60.88 319 P **P** **08 16 34.6 -0.1**
SNR=23
AAK Ala-Archa 60.88 319 *e*P **P** **08 16 34.9 +0.2**
comp=Z,134nm,1.4s
AAK S **S** **08 24 43.7 -0.2**
AAK Ala-Archa 60.88 319 P **P** **08 16 35.4 +0.6**
comp=Z,18nm,0.6s,baz=134,slow=6.6,SNR=45
AAK S **S** **08 24 43.7 -0.2**
comp=Z,1.2nm,0.3s,baz=38,slow=19,SNR=5.8
FRU Bishkek 60.89 319⇓ *i*P **P** **08 16 36.0 +1.4**
FRU *i**PP **PP** **08 18 54.0 +3.9**
FRU *e*S **S** **08 24 45.0 +1.2**
FRU pmax pmax
comp=Z,160nm,2.0s
RPZ Rata Peaks 61.09 144 P **P** **08 16 36.0 +0.1**
RPZ Rata Peaks 61.09 144 P **P** **08 16 36.0 +0.1**
comp=Z,61nm,0.8s,baz=282,slow=2.8,SNR=28
USP Ospenovka 61.16 319 *i*P **P** **08 16 36.0 -0.4**
USP Ospenovka 61.16 319 P **P** **08 16 36.0 -0.4**
SNR=50
AML Almayashu 61.20 318 *i*P **P** **08 16 37.3 +0.1**
AML Almayashu 61.20 318 P **P** **08 16 37.3 +0.1**
SNR=67
EKS2 Erkin-Say 61.37 318 *e*P **P** **08 16 38.4 +0.4**
EKS2 pmax pmax
comp=Z,66nm,0.7s
EKS2 Erkin-Say 61.37 318 P **P** **08 16 38.2 +0.2**
SNR=84
EKS2 Erkin-Say 61.37 318 *e*P **P** **08 16 38.4 +0.4**
comp=Z,66nm,0.7s
ZAA0 Zalesovo Array 61.45 334 *e*P **P** **08 16 37.0 -1.0**
ZALV Zalesovo Beam 61.45 334 *i*P **P** **08 16 37.2 -0.8**
ZALV pmax pmax
comp=Z,7.0nm,0.3s
ZALV Zalesovo Beam 61.45 334 P **P** **08 16 37.2 -0.8**
ZALV S **S** **08 24 47.2 -3.0**
ZALV ⇑ *e* 08 45 57.4
ZALV Zalesovo Beam 61.45 334 P **P** **08 16 37.2 -0.8**
comp=Z,6.5nm,0.3s,baz=128,slow=7.1,SNR=17
ZALV S **S** **08 24 47.2 -3.0**
comp=Z,0.5nm,0.4s,baz=124,slow=12,SNR=2.9
ZALV PKP2bc 08 45 57.4
comp=Z,3.9nm,0.9s,baz=299,slow=1.5,SNR=5.0
ZALV LR LR 08 48 15.0
comp=Z,348nm,19.3s,baz=249,slow=41
KBL Kabul 61.80 308 *e*P **P** **08 16 40.4 -0.7**
KBL pmax pmax
comp=Z,100nm,0.6s
KBL Kabul 61.80 308 *e*P **P** **08 16 40.4 -0.7**
comp=Z,100nm,0.6s
KBL Kabul 61.80 308 P **P** **08 16 40.6 -0.5**
baz=62,SNR=25
KHZ Kahutara 61.84 142 *e*P **P** **08 16 40.1 -0.8**
comp=Z,83nm,1.0s
URZ Urewera 62.05 136 *e*P **P** **08 16 41.5 -0.9**
comp=Z,34nm,0.8s
KURBB Kurchatov Arra 62.48 328 P **P** **08 16 44.4 -0.6**
comp=Z,48nm,0.6s,baz=132,slow=6.5,SNR=328
KURBB S **S** **08 25 01.3 -2.1**
comp=Z,0.4nm,0.7s,baz=123,slow=10.0,SNR=5.5
KURBB PKP2bc 08 45 54.4
comp=Z,3.2nm,1.1s,baz=293,slow=3.1,SNR=8.6
KURK Kurchatov 62.48 328 P **P** **08 16 44.4 -0.6**
KURK S **S** **08 25 01.3 -2.1**
KURK Kurchatov 62.48 328 P **P** **08 16 44.4 -0.6**
KURK S **S** **08 25 01.3 -2.1**
KURK ⇑ *e* 08 45 54.4
NVS Novosibirsk 62.73 334⇑ *i*P **P** **08 16 44.4 -2.2**
NVS *e*S **S** **08 25 03.8 -2.5**
NVS *e**SS sS 08 25 42.6 -12
NVS *e* 08 26 20.7
NVS pmax pmax
comp=Z,26nm,0.7s
NVS pmax pmax
comp=N,15nm,0.8s
NVS pmax pmax
comp=E,20nm,0.8s
NVS smax smax
comp=N,89nm,2.9s
NVS smax smax
comp=E,119nm,2.5s
MCQ Macquarie Isla 62.92 159 *e*P **P** **08 16 48.7 +0.9**
MCQ pmax pmax
comp=Z,7µm,0.8s
MCQ Macquarie Isla 62.92 159 *e*P **P** **08 16 48.7 +0.9**
comp=Z,7µm,0.8s
MCQ Macquarie Isla 62.92 159 P P 08 17 01.3 +14
baz=63,SNR=4.7
SEY Seymchan 63.43 13⇑ *i*P **P** **08 16 52.8 +1.7**
FX1 Attu Island--F 63.52 30 *e*P **P** **08 16 53.7 +1.9**

FX1 Attu Island--F 63.52 30 P **P** **08 16 53.6 +1.7**
comp=Z,18nm,0.9s,baz=151,slow=0.9,SNR=7.7
KK31 Karatay Array 63.74 318 *i*P **P** **08 16 52.5 -1.1**
KK31 pmax pmax
comp=Z,15nm,0.4s
KKAR Karatay Array 63.74 318 *e*P **P** **08 16 53.1 -0.5**
KKAR pmax pmax
comp=Z,14nm,0.5s
KKAR Karatay Array 63.74 318 *e*P **P** **08 16 53.1 -0.5**
comp=Z,14nm,0.5s
VOSK Vostochnaya 67.59 327 P **P** **08 17 16.9 -1.2**
VOSK pmax pmax
comp=Z,45nm,0.7s
BVAR Borovoye Array 68.05 327 P **P** **08 17 20.5 -0.5**
BVAR S **S** **08 26 08.3 -3.1**
BVAR Borovoye Array 68.05 327 P **P** **08 17 20.5 -0.5**
BVAR S **S** **08 26 08.3 -3.1**
BVAR ⇑ *e* 08 45 38.9
BVAR Borovoye Array 68.05 327 P **P** **08 17 20.5 -0.5**
comp=Z,13nm,0.6s,baz=130,slow=11,SNR=64
BVAR S **S** **08 26 08.3 -3.1**
comp=Z,0.4nm,0.4s,baz=110,slow=7.8,SNR=2.2
BVAR PKP2bc 08 45 38.9
comp=Z,0.7nm,0.3s,baz=300,slow=15,SNR=6.3
BVAR LR LR 08 47 33.1
comp=Z,393nm,18.3s,baz=115,slow=36
BRVK Borovoye 68.12 327 *c iP* **P** **08 17 21.0 -0.4**
BRVK pmax pmax
comp=Z,71nm,1.2s
BRVK Borovoye 68.12 327 P **P** **08 17 21.3 -0.1**
SNR=28
BRVK Borovoye 68.12 327 *e*P **P** **08 17 20.9 -0.6**
comp=Z,36nm,0.8s
IDAH Dahanechah 68.76 304 *e*P **P** **08 17 25.7 -0.4**
IMON Monand 69.01 305 *e*P **P** **08 17 27.5 -0.2**
TIXI Tiksi 69.13 1⇓ *i*P **P** **08 17 27.5 +0.2**
TIXI pmax pmax
comp=Z,50nm,2.3s
CASY Casey 69.47 187 *e*P **P** **08 17 30.0 +0.5**
comp=Z,35nm,0.7s
DRV Dumont d'Urvil 69.66 174 S **S** **08 26 25.0 -4.8**
DRV SS SS 08 30 28.0 -32
DRV L L 08 34 00.0
DRV R 08 39 00.0
IAKL Akhelmad 70.43 308 *e*P **P** **08 17 35.2 -1.2**
IAKL *e* 08 17 37.6
comp=Z,372nm,0.3s
IEMG Emamgholi 70.68 309 *e*P **P** **08 17 37.0 -0.9**
MRIV Mauritius Mete 70.87 248 *e*P **P** **08 17 39.3 +0.3**
ISFR Sfrayin 71.12 308 *e*P **P** **08 17 40.3 -0.2**
ISHV Shirvan 71.44 309 *e*P **P** **08 17 41.6 -0.8**
IBAF Bafgh 72.16 302 *e*P **P** **08 17 44.8 -1.9**
AB31 Akbulak array 72.74 321 *i*P **P** **08 17 48.5 -1.1**
AB31 pmax pmax
comp=Z,16nm,0.3s
ABKAR Akbulak array 72.74 321 *e*P **P** **08 17 49.1 -0.5**
comp=Z,33nm,0.6s
MIR Mirnyy 72.76 193⇓ *i*P **P** **08 17 52.0 +2.7**
MIR *i* 08 18 12.0
MIR pmax pmax
comp=Z,154nm,1.2s
ICHK Chekchek 73.23 303 *e*P **P** **08 17 52.6 -0.5**
IANJ Anjilo 74.09 306 *e*P **P** **08 17 56.8 -1.3**
AKTO Aktyubinsk 74.27 322 *i*P **P** **08 17 58.2 -0.3**
AKTO pmax pmax
comp=Z,90nm,0.8s
AKTO Aktyubinsk 74.27 322 P **P** **08 17 58.2 -0.3**
AKTO S **S** **08 27 21.1 -2.1**
AKTO Aktyubinsk 74.27 322 P **P** **08 17 58.2 -0.3**
comp=Z,52nm,0.6s,baz=105,slow=8.0,SNR=146
AKTO S **S** **08 27 21.1 -2.1**
comp=Z,2.0nm,1.0s,baz=202,slow=20,SNR=7.6
AKTO LR LR 08 54 09.4
comp=Z,269nm,18.2s,baz=254,slow=38
IGLO Ghaloghah 74.31 307 *e*P **P** **08 17 57.7 -1.7**
IKIA Kiasar 74.39 307 *e*P **P** **08 18 00.3 +0.5**
ISHM Shahmirzad 74.64 306 *e*P **P** **08 18 00.7 -0.7**
SVE Sverdlovsk 74.72 329⇓ *e*P **P** **08 18 00.9 -0.1**
SVE pmax pmax
comp=Z,157nm,1.5s
ILAS Lasjerd 74.85 306 *e*P **P** **08 18 02.1 -0.4**
IZEF Zefreh 75.05 303 *e*P **P** **08 18 03.1 -0.6**
IFIR Firoozkooh 75.05 306 *e*P **P** **08 18 03.0 -0.7**
IALA Alasht 75.07 307 *e*P **P** **08 18 02.0 -1.8**
IGAR Gharneh 75.23 303 *e*P **P** **08 18 04.2 -0.6**
ISFB Sefidab 75.30 305 *e*P **P** **08 18 02.1 -2.8**
ARU Arti 75.68 328 *c iP* **P** **08 18 05.8 -0.7**
ARU S **S** **08 27 41.8 +3.2**
ARU pmax pmax
comp=Z,147nm,1.7s
ARU Arti 75.68 328 P **P** **08 18 05.1 -1.4**
comp=Z,403nm,1.1s,SNR=6.2
IKLH Kolahrood 75.73 304 *e*P **P** **08 18 07.0 -0.6**
IPIR Pirpir 76.23 303 *e*P **P** **08 18 10.0 -0.5**
IR3 Iran Long-Peri 76.43 306 *e*P **P** **08 18 10.6 -0.7**
IR5 Iran Long-Peri 76.76 305 *e*P **P** **08 18 11.7 -1.6**
SOKR Solikamsk 77.52 331 *e*P **P** **08 18 16.2 -0.5**
SOKR S **S** **08 28 03.9 +5.4**
SOKR pmax pmax
comp=Z,100nm,1.5s
SOKR MLR MLR
comp=Z,480nm,24.0s
QRN Al-Qurain 78.46 299 *e*P **P** **08 18 21.3 -1.4**
QRN AMb AMB 08 18 23.2
comp=Z,180nm,0.4s
SDPT Sand Point 78.62 34 *e*P **P** **08 18 23.3 +0.4**
comp=Z,137nm,0.7s
KBD Kabd 78.68 299 *e*P **P** **08 18 22.2 -1.7**
UMR Umm Al-Rimmam 78.68 300 *e*P **P** **08 18 22.6 -1.2**
UMR AMb AMB 08 18 24.2
comp=Z,92nm,0.8s
RDF Al-Radifah 78.79 299 *e*P **P** **08 18 23.3 -1.2**
MIB Mutribah 79.03 300 *e*P **P** **08 18 24.3 -1.4**
MIB AMb AMB 08 18 31.0
comp=Z,100nm,0.7s
NAY Al-Naaiem 79.08 299 *e*P **P** **08 18 24.5 -1.6**
RST Umm Al-Ruwaisa 79.31 299 *e*P **P** **08 18 25.7 -1.6**
RST AMb AMB 08 18 29.9
comp=Z,889nm,0.8s
ISRB Sarab 79.36 308 *e*P **P** **08 18 26.6 -1.1**
IHRS Heris 79.89 308 *e*P **P** **08 18 29.9 -0.7**
MAK Makhachkala 79.98 313 *e*P **P** **08 18 30.0 -0.6**
MAK *e**PP **pP** **08 18 57.5 -2.1**
MAK *e*S **S** **08 28 25.2 -0.2**
MAK *e*SS **SS** **08 33 36.4 -1.3**
MAK pmax pmax
comp=Z,273nm,1.3s
MAK MLR MLR
comp=Z,553nm,14.0s
OPO Ambohidratompo 80.27 251 P **P** **08 18 33.3 +0.4**
OPO Ambohidratompo 80.27 251 P **P** **08 18 33.3 +0.4**
comp=Z,56nm,0.7s,baz=69,slow=4.4,SNR=69
OPO LR LR 08 50 20.8
comp=Z,430nm,19.2s,baz=269,slow=33
ABPO Ambohimpanom 80.27 250 *e*P **P** **08 18 32.8 -0.1**
ABPO pmax pmax
comp=Z,106nm,0.8s
ABPO Ambohimpanom 80.27 250 *e*P **P** **08 18 32.8 -0.1**
comp=Z,106nm,0.8s
IAZR Azarshahr 80.68 308 *e*P **P** **08 18 35.0 +0.2**
IMRD Marand 80.97 309 *e*P **P** **08 18 36.2 -0.1**
ISHB Shabestar 81.01 308 *e*P **P** **08 18 36.5 0.0**
DAMY Dhamar 81.36 284 P **P** **08 18 40.8 +2.0**
baz=81,SNR=3.5
GNI Garni 81.81 310 *e*P **P** **08 18 41.1 +0.5**
GNI Garni 81.81 310 P **P** **08 18 41.4 +0.7**
SNR=14
GNI Garni 81.81 310 *e*P **P** **08 18 41.2 +0.5**
comp=Z,132nm,1.4s
VNDA Vanda 82.24 173 P **P** **08 18 42.4 +0.6**
VNDA S **S** **08 28 47.0 -0.4**
VNDA P'P' 08 45 12.7
VNDA Vanda 82.24 173 P **P** **08 18 42.4 +0.6**
comp=Z,24nm,0.7s,baz=314,slow=6.3,SNR=131
VNDA S **S** **08 28 47.0 -0.4**
comp=Z,0.3nm,0.6s,baz=58,slow=18,SNR=5.7
VNDA PKPPKP **P'P'df** **08 45 12.7 -0.5**
comp=Z,0.2nm,0.4s,baz=57,slow=2.5,SNR=3.1
VNDA LR LR 08 52 32.5
comp=Z,332nm,18.6s,baz=329,slow=34
MAW Mawson 82.33 200 P **P** **08 18 44.4 +1.9**
MAW Mawson 82.33 200 P **P** **08 18 44.4 +1.9**
comp=Z,31nm,1.0s,baz=58,slow=6.6,SNR=52
MAW LR LR 08 51 52.9

comp=Z,170nm,19.8s,baz=331,slow=33
MAW Mawson 82.33 200 P **P 08 18 41.5 -0.9**
baz=82,SNR=40
CUKT Cukurca 82.54 307 *e*P **P 08 18 43.9 -0.6**
ZEI Tsey 82.61 313 *e*P **P 08 18 41.7 -3.1**
ZEI pmax pmax
comp=Z,107nm,1.3s
OHAK Old Harbor 82.88 33 *e*P **P 08 18 46.3 +0.8**
comp=Z,50nm,0.8s
ATD Arta Tunnel 82.90 281 LR LR 08 55 42.7
comp=Z,205nm,18.5s,baz=76,slow=36
AGRB Hanur-Agry 83.13 309 *e*P **P 08 18 48.2 +0.7**
SBA Scott Base 83.15 172 *e*P **P 08 18 47.7 +1.1**
SBA pmax pmax
comp=Z,108nm,1.5s
SBA Scott Base 83.15 172 *e*P **P 08 18 47.7 +1.1**
comp=Z,108nm,1.5s
KBZ Khabaz 83.40 314 P **P 08 18 48.4 -0.1**
KBZ Khabaz 83.40 314 P **P 08 18 48.4 -0.1**
KBZ Khabaz 83.40 314 P **P 08 18 48.4 -0.1**
comp=Z,9.6nm,0.6s,baz=63,slow=2.0,SNR=16
RSO Redoubt South 83.52 30 *e*P **P 08 18 50.0 +0.9**
comp=Z,153nm,0.8s
KIV Kislovodsk 83.56 314 *e*P **P 08 18 49.3 -0.2**
KIV *e**SP **pP 08 19 19.9 +1.2**
KIV *e*S **S 08 29 03.2 +0.8**
KIV pmax pmax
comp=Z,38nm,1.1s
KIV MLR MLR
comp=Z,248nm,19.0s
IM04 Indian Mountai 83.76 24 *e*P **P 08 18 51.1 +1.1**
IMA2 Indian Mountai 83.81 24 *e*P **P 08 18 52.4 +2.0**
PPLA Purkeypile 84.06 27 *e*P **P 08 18 54.4 +2.7**
comp=Z,69nm,1.2s
BCA Borcka 84.24 311 *e*P **P 08 18 52.9 0.0**
VRHR Novokhopersk 84.63 321 *e*P **P 08 18 53.7 -0.9**
VRHR pmax pmax
comp=Z,180nm,0.9s
VRHR pmax pmax
comp=N,30nm,0.8s
VRHR pmax pmax
comp=E,160nm,1.1s
BPAW Bear Paw Mtn. 84.72 26 *e*P **P 08 18 56.7 +1.8**
comp=E,178nm,1.8s
MZRK Al-Mazaregh 84.88 306 *e*P **P 08 18 57.5 +1.2**
MZRK Al-Mazaregh 84.88 306 *e*P **P 08 18 57.5 +1.2**
SNR=166
BNGB Bing¶ll 84.90 309 *e*P **P 08 18 56.8 +0.4**
TRF Thorofare Moun 84.97 27 *e*P **P 08 18 58.8 +2.5**
comp=E,127nm,1.6s
MAZI Mazidag 85.06 307 *e*P **P 08 18 56.6 -0.7**
SFNV Sufian 85.32 306 *e*P **P 08 18 58.6 +0.1**
SFNV Sufian 85.32 306 *e*P **P 08 18 58.6 +0.1**
SNR=162
COLD Coldfoot 85.32 23 *e*P **P 08 18 59.3 +1.5**
comp=E,34nm,0.7s
PPT Papeete 85.33 108 LR LR 08 50 08.1
comp=E,272nm,21.0s,baz=352,slow=31
PPT2 Papeete2 85.33 108 *e*S **S 08 29 20.0 -0.9**
comp=E,690nm,27.0s
PPT2 Papeete2 85.33 108 *e*LQ LQ 08 42 30.6
comp=E,998nm,30.0s
PPT2 *e*LR LR 08 46 05.9
comp=E,456nm,23.0s
PMR Palmer 85.38 29 *e*P **P 08 18 58.9 +0.8**
PMR pmax pmax
comp=Z,49nm,1.0s
PMR Palmer 85.38 29 *e*P **P 08 18 58.9 +0.8**
comp=Z,49nm,1.0s
MCK McKinley 85.60 26 *e*P **P 08 18 59.3 +0.1**
MCK pmax pmax
comp=Z,35nm,1.0s
MCK McKinley 85.60 26 *e*P **P 08 18 59.3 +0.1**
comp=Z,36nm,1.0s
ERZN Erzincan 85.65 309 *e*P **P 08 19 01.3 +1.1**
SOC Sochi 85.70 313 *c i*P **P 08 18 59.5 -0.6**
SOC *e**SP **pP 08 19 28.3 -1.2**
SOC *e* 08 22 21.2
SOC *e*S S 08 29 17.1 -6.3
SOC *e*SS **SS 08 35 03.2 +1.0**
SOC pmax pmax
comp=Z,129nm,0.8s
SML Sawmill 85.77 28 P **P 08 19 02.5 +2.3**
SML pmax pmax
comp=Z,32nm,1.2s
SML Sawmill 85.77 28 P **P 08 19 02.5 +2.3**
comp=Z,32nm,1.2s
TBI Tubuai 85.86 113 *e*S **S 08 29 25.6 -0.1**
comp=Z,749nm,28.2s
TBI Tubuai 85.86 113 *e*LQ LQ 08 42 43.6
comp=Z,390nm,32.5s
TBI *e*LR LR 08 46 20.8
comp=Z,1µm,37.0s
PTK Pertek 85.91 309 *e*P **P 08 19 02.2 +0.7**
VORD Divnogorie 86.10 321 *e*P **P 08 19 01.2 -0.7**
VORD pmax pmax
comp=N,10.0nm,0.6s
VORD pmax pmax
comp=Z,130nm,0.6s
VORD pmax pmax
comp=E,90nm,0.9s
VOR Voronezh 86.17 322 *e*P **P 08 19 02.0 -0.2**
VOR pmax pmax
comp=Z,780nm,2.0s
VSR Storozhevoye 86.18 321 *e*P **P 08 19 01.8 -0.5**
VSR pmax pmax
comp=Z,180nm,0.8s
VSR pmax pmax
comp=N,10.0nm,0.5s
VSR pmax pmax
comp=E,90nm,0.7s
KLMR Klimovskoe 86.21 331 *c i*P **P 08 19 02.5 +0.3**
KLMR pmax pmax
comp=Z,72nm,0.7s
URFA Urfa 86.36 307 *e*P **P 08 19 04.1 +0.4**
ESPY Espiye-Giresun 86.42 311 *e*P **P 08 19 03.1 -0.7**
ILAR Eielson Array 86.54 25 P **P 08 19 03.9 0.0**
ILAR PKKPbc **PKKPbc 08 37 00.6 -1.8**
ILAR Eielson Array 86.54 25 P **P 08 19 03.9 0.0**
comp=Z,0.8nm,0.5s,baz=253,slow=4.3,SNR=24
ILAR PKKPbc **PKKPbc 08 37 00.6 -1.8**
comp=Z,0.6nm,0.6s,baz=79,slow=1.6,SNR=8.4
MALT Malatya 86.66 308 *e*P **P 08 19 05.6 +0.4**
MALT Malatya 86.66 308 ⇑P **P 08 19 05.4 +0.2**
MALT Malatya 86.66 308 ⇑*i*P **P 08 19 05.4 +0.2**
JHLN Al Jahlan 86.68 305 *e*P **P 08 19 05.3 +0.1**
JHLN Al Jahlan 86.68 305 *e*P **P 08 19 05.3 +0.1**
SNR=165
TMCR Tamitsa 86.97 334 *e*P **P 08 19 05.5 -0.4**
TMCR *e* 08 22 31.7
TMCR pmax pmax
comp=Z,25nm,0.6s
DIV Divide 86.98 29 *e*P **P 08 19 06.5 +0.4**
comp=Z,80nm,1.1s
SLMH Al Salmeh 87.09 306 *e*P **P 08 19 04.4 -2.7**
SLMH Al Salmeh 87.09 306 *e*P **P 08 19 04.4 -2.7**
SNR=159
ANN Anapa 87.34 315 *c i*P **P 08 19 07.2 -0.9**
ANN *e*S S 08 29 27.6 -12
ANN pmax pmax
comp=Z,309nm,1.3s
DARE Darende-Malaty 87.40 308 *e*P **P 08 19 09.5 +0.8**
ZALF Zalf 87.64 303 *e*P **P 08 19 09.7 -0.2**
ZALF Zalf 87.64 303 *e*P **P 08 19 09.7 -0.2**
SNR=156
OBN Obninsk 87.74 325 ⇑*i*P **P 08 19 09.2 -0.5**
OBN *i* 08 29 29.9
OBN *i* S **S 08 29 40.8 -1.7**
OBN pmax pmax
comp=Z,135nm,0.7s
OBN Obninsk 87.74 325 P **P 08 19 09.0 -0.7**
comp=Z,1µm,0.7s,SNR=6.2
SVSK Karacayir 87.75 310 *e*P **P 08 19 10.6 +0.4**
MENT Mentasta 87.94 27 *e*P **P 08 19 11.5 +0.9**
KFRA Kufra 88.03 305 *e*P P 08 19 07.8 -3.9
KFRA Kufra 88.03 305 *e*P P 08 19 07.8 -3.9
SNR=156
DRWC Darouich 88.09 306 *e*P P 08 19 19.5 +7.5
DRWC Darouich 88.09 306 *e*P P 08 19 19.5 +7.5
SNR=150
SALA Sala 88.15 302 *e*P **P 08 19 12.9 +0.4**
SALA Sala 88.15 302 *e*P **P 08 19 12.9 +0.4**
SNR=151
BTCH Batrach 88.28 306 *e*P **P 08 19 12.7 -0.2**
BTCH *e*P **P 08 19 13.1 +0.2**

BTCH Batrach 88.28 306 *e*P **P 08 19 12.7 -0.2**
SNR=152
BTCH Batrach 88.28 306 *e*P **P 08 19 13.1 +0.2**
SNR=13
MARH Ras Al Marh 88.32 304 *e*P **P 08 19 14.0 +0.5**
MARH Ras Al Marh 88.32 304 *e*P **P 08 19 14.0 +0.5**
SNR=154
WRDH Warideh 88.33 305 *e*P P 08 19 08.0 -5.2
WRDH Warideh 88.33 305 *e*P P 08 19 08.0 -5.2
SNR=153
HAWK Haweek 88.37 304 *e*P **P 08 19 12.9 -0.5**
HAWK *e*P **P 08 19 13.1 -0.3**
HAWK Haweek 88.37 304 *e*P **P 08 19 12.9 -0.5**
SNR=154
HAWK Haweek 88.37 304 *e*P **P 08 19 13.1 -0.3**
SNR=13
TOTH TOTAH 88.39 303 *e*P **P 08 19 13.1 -0.3**
TOTH TOTAH 88.39 303 *e*P **P 08 19 13.1 -0.3**
SNR=152
BIDA Albida 88.42 305 *e*P P 08 19 09.6 -4.0
BIDA Albida 88.42 305 *e*P P 08 19 09.6 -4.0
SNR=153
KVT Kavak 88.44 311 *e*P **P 08 19 13.8 +0.3**
QASN Qassioun 88.51 303 *e*P P 08 19 09.4 -4.7
QASN Qassioun 88.51 303 *e*P P 08 19 09.4 -4.7
SNR=152
ARNB Al Arnab 88.68 306 *e*P **P 08 19 13.4 -1.4**
ARNB Al Arnab 88.68 306 *e*P **P 08 19 13.4 -1.4**
SNR=149
KOZT Kozan 88.74 307 *e*P **P 08 19 15.1 +0.2**
BRBR Barbar 88.79 303 *e*P **P 08 19 15.2 -0.3**
BRBR *e*P **P 08 19 15.8 +0.3**
BRBR Barbar 88.79 303 *e*P **P 08 19 15.2 -0.3**
SNR=149
BRBR Barbar 88.79 303 *e*P **P 08 19 15.8 +0.3**
APA Apatity 88.79 337 ⇑*i*P P 08 19 19.5 +5.0
TCHB Talchebab 88.80 302 *e*P **P 08 19 12.2 -3.1**
TCHB Talchebab 88.80 302 *e*P **P 08 19 12.2 -3.1**
SNR=147
KMBO Kilima Mbogo 88.88 269 P **P 08 19 17.6 +1.2**
SNR=48
KMBO Kilima Mbogo 88.88 269 *e*P **P 08 19 16.9 +0.5**
comp=Z,299nm,1.8s
KMBO Kilima Mbogo 88.88 269 P **P 08 19 16.8 +0.4**
comp=Z,33nm,1.0s,baz=58,slow=6.4,SNR=57
KMBO Kilima Mbogo 88.88 269 P **P 08 19 17.4 +1.1**
baz=89,SNR=15
EGAK Eagle 88.99 25 *e*P **P 08 19 16.3 +0.8**
comp=Z,6.6nm,0.7s
DIKM Dikmen 89.02 311 *e*P **P 08 19 15.5 -0.6**
CORM Corum 89.56 310 *e*P **P 08 19 17.9 -0.9**
NIG Nigde 89.67 308 *e*P **P 08 19 18.8 -0.9**
SIM Simferopol' 89.69 315 *e*P **P 08 19 18.8 -0.4**
SIM *e* 08 29 41.0
SIM *e*S **S 08 29 59.0 -2.4**
SIM pmax pmax
comp=Z,47nm,0.7s
EIL Elat 89.80 300 P **P 08 19 20.4 +0.4**
baz=90,SNR=17
DAWY Dawson 89.81 26 *e*P **P 08 19 19.8 +0.3**
JOF Joensuu 90.03 333 *e*P **P 08 19 20.2 -0.1**
JOF pmax pmax
comp=Z,12nm,0.4s
JOF Joensuu 90.03 333 *e*p **P 08 19 20.2 -0.1**
comp=Z,12nm,0.4s
BR131 Keskin Array S 90.34 310 *e*P **P 08 19 21.7 -0.9**
comp=Z,6.2nm,0.4s
BRTR Keskin Array B 90.34 310 P **P 08 19 21.7 -0.9**
BRTR PP **PP 08 22 59.7 +1.5**
BRTR Keskin Array B 90.34 310 P **P 08 19 21.7 -0.9**
comp=Z,13nm,0.6s,baz=124,slow=5.1,SNR=74
BRTR PP **PP 08 22 59.7 +1.5**
comp=Z,21nm,1.4s,baz=111,slow=5.6,SNR=6.0
IKL Isikli 90.51 306 *e*P **P 08 19 21.7 -1.6**
SULT Sultanhani-AKS 90.53 308 *e*P **P 08 19 21.5 -1.9**
AFSR Af´ar-Bala (A 90.80 309 *e*P **P 08 19 23.9 -0.7**
CSS Prodhromos 90.88 305 *e*P **P 08 19 23.5 -1.5**
CSS Prodhromos 90.88 305 *e*P **P 08 19 24.7 -0.3**
comp=Z,36nm,0.7s
ANTO Ankara 90.98 310 *e*P **P 08 19 24.6 -0.8**
ANTO pmax pmax
comp=Z,17nm,0.8s
ANTO Ankara 90.98 310 *e*P **P 08 19 24.6 -0.8**
comp=Z,17nm,0.8s
SYO Syowa Base 91.00 201 ⇑*e*P **P 08 19 25.4 +0.7**
HYT Haines Junctio 91.02 29 *e*P **P 08 19 26.9 +1.6**
ARCES ARCESS Array B 91.43 340 P **P 08 19 25.9 -0.9**
ARCES PKKP **PKKPdf 08 36 47.2 +0.8**
ARCES ARCESS Array B 91.43 340 P **P 08 19 25.9 -0.9**
comp=Z,14nm,0.7s,baz=79,slow=6.3,SNR=20
ARCES PKKP **PKKPdf 08 36 47.2 +0.8**
comp=Z,5.0nm,1.1s,baz=253,slow=3.6,SNR=5.7
ARCES LR LR 09 06 32.1
comp=Z,266nm,18.3s,baz=77,slow=39
ARE0 ARCESS Array S 91.43 340 *e*P **P 08 19 26.2 -0.6**
HDMB Hadim 91.43 307 *e*P **P 08 19 27.0 -0.8**
INK Inuvik 91.59 21 P **P 08 19 28.0 +0.5**
INK Inuvik 91.59 21 P **P 08 19 28.0 +0.5**
comp=Z,5.3nm,1.1s,baz=329,slow=9.8,SNR=5.7
SPITS Spitsbergen Ar 91.61 349 P **P 08 19 27.4 -0.2**
SPITS Spitsbergen Ar 91.61 349 P **P 08 19 27.4 -0.2**
comp=Z,7.5nm,0.4s,baz=88,slow=7.7,SNR=18
SPITS LR LR 09 06 58.3
comp=Z,519nm,20.0s,baz=55,slow=40
SVRH Sivrihisar-ESK 92.00 309 *e*P **P 08 19 27.9 -2.2**
QSPA South Pole Qui 92.35 180 *e*P **P 08 19 32.1 +0.9**
comp=Z,7.4nm,0.9s
QSPA South Pole Qui 92.35 180 P **P 08 19 31.8 +0.6**
comp=Z,22nm,1.0s,baz=321,slow=1.9,SNR=40
KAF Kangasniemi 92.44 332 *e*P **P 08 19 31.4 -0.1**
KAF pmax pmax
comp=Z,10.0nm,0.4s
KAF Kangasniemi 92.44 332 *e*p **P 08 19 31.4 -0.1**
comp=Z,10nm,0.4s
AKASG Malin Array Be 92.48 321 *i* P **P 08 19 31.0 -1.0**
AKASG pmax pmax
comp=Z,8.0nm,0.6s
AKASG Malin Array Be 92.48 321 P **P 08 19 31.0 -1.0**
AKASG Malin Array Be 92.48 321 P **P 08 19 31.0 -1.0**
comp=Z,8.4nm,0.6s,baz=69,slow=4.5,SNR=33
AKASG LR LR 09 05 35.5
comp=Z,222nm,21.6s,baz=90,slow=38
KIEV Kiev 92.49 321 *e*P **P 08 19 30.6 -1.4**
KIEV pmax pmax
comp=Z,113nm,1.8s
KIEV Kiev 92.49 321 *e*P **P 08 19 30.6 -1.4**
comp=Z,113nm,1.8s
SUTC Sutluce-Ispart 92.57 308 *e*P **P 08 19 30.8 -2.1**
FIA1 FINESS Array S 92.66 332 *e*P **P 08 19 32.6 0.0**
FINES FINESS Array B 92.66 332 P **P 08 19 32.2 -0.4**
FINES FINESS Array B 92.66 332 P **P 08 19 32.2 -0.4**
comp=Z,13nm,0.6s,baz=68,slow=2.9,SNR=23
FINES LR LR 09 05 31.8
comp=Z,432nm,19.9s,baz=267,slow=38
GULT Gulveren 92.68 310 *e*P **P 08 19 31.9 -1.4**
MICGM Minsk 92.80 325 *e* P 08 19 30.0 -3.4
MNK Minsk 92.83 325 *e*P P 08 19 30.0 -3.5
KIS Kishinev 93.19 317 *e*P **P 08 19 33.0 -2.4**
KIS Kishinev 93.19 317 *e*P **P 08 19 33.0 -2.4**
NACGM Naroch 93.37 325 *e* **P 08 19 33.0 -3.0**
TIRR Tirgusor 93.79 315 ⇑P **P 08 19 38.2 0.0**
TIRR Tirgusor 93.79 315 ⇑*i*P **P 08 19 38.2 0.0**
CFR Carcaliu 93.89 315 ⇓P **P 08 19 38.3 -0.3**
CFR Carcaliu 93.89 315 ⇓*i*P **P 08 19 38.3 -0.3**
TLB Topalu 94.03 315 ⇑P **P 08 19 38.9 -0.4**
TLB Topalu 94.03 315 ⇑*i*P **P 08 19 38.9 -0.4**
KULA Kula-Manisa 94.31 309 *e*P **P 08 19 39.5 -1.4**
TESR Tescani 94.74 317 ⇑*i*P **P 08 19 42.5 0.0**
VRI Vrincioaia 94.78 316 ⇓P **P 08 19 43.2 +0.5**
VRI Vrincioaia 94.78 316 ⇓*i*P **P 08 19 43.2 +0.5**
PLOR Plostina 94.83 316 ⇓P **P 08 19 43.5 +0.5**
PLOR Plostina 94.83 316 ⇓*i*P **P 08 19 43.5 +0.5**
GONE Gonen-Balikesi 94.87 310 *e*P P 08 19 39.2 -4.1
PRAR RASCA 94.89 318 ⇑*i*P **P 08 19 43.4 +0.2**
DLBC Dease Lake 95.17 31 P **P 08 19 45.6 +1.3**
DLBC Dease Lake 95.17 31 P **P 08 19 45.6 +1.3**
comp=Z,1.6nm,0.6s,baz=3.1,slow=18,SNR=6.5
MLR Muntele Rosu 95.38 316 ⇓*i*P **P 08 19 45.7 +0.1**
BURAR Bucovina Array 95.53 318 ⇓P **P 08 19 46.8 +0.6**
BURAR Bucovina Array 95.53 318 ⇓*i*P **P 08 19 46.8 +0.6**
BUR08 Bucovina Ar. S 95.53 318 *e*P **P 08 19 46.1 -0.1**
SZH Strazhica 95.73 314 *e*P **P 08 19 44.8 -2.3**
SMG Samos 95.83 308 *e*P **P 08 19 47.1 -0.6**
VOIR 96.01 316 ⇑P **P 08 19 48.0 -0.4**

VOIR 96.01 316 ⇑*i*P **P 08 19 48.0 -0.4**
ARR Arges 96.31 316 ⇑*i*P **P 08 19 49.7 -0.1**
SMTH Samothraki Isl 96.45 311 *e*P **P 08 19 48.8 -1.7**
ZKR Zakros 96.67 306 *e*P **P 08 19 51.4 -0.2**
KWP Kalwaria Pacla 96.79 320 *e*P **P 08 19 51.9 +0.1**
KWP pmax pmax
comp=Z,214nm,1.8s
KWP Kalwaria Pacla 96.79 320 *e*P **P 08 19 51.9 +0.1**
comp=Z,214nm,1.8s
KWP Kalwaria Pacla 96.79 320 ⇑*i*P **P 08 19 52.4 +0.6**
LOT Lotru 96.89 316 ⇓*i*P **P 08 19 52.6 +0.1**
KOLS Kolonicke sedl 97.21 320 *i* P Pdif 08 19 53.9 +0.1
KOLS Kolonicke sedl 97.21 320 *e*P Pdif 08 19 53.9 +0.1
UZH Uzhgorod 97.26 319 ⇓*i*P **P 08 19 53.5 -0.4**
LAST Lasithi 97.27 306 *e*P **P 08 19 53.6 -0.8**
MPEP Malo Peshtene 97.29 314 *e*P **P 08 19 54.1 -0.1**
DRGR 97.36 318 ⇓P Pdif 08 19 54.7 +0.1
DRGR 97.36 318 ⇓*i*P Pdif 08 19 54.7 +0.1
DEV Deva 97.41 317 ⇑P Pdif 08 19 54.9 +0.2
DEV Deva 97.41 317 ⇑*i*P Pdif 08 19 54.9 +0.2
MMB Musomiste 97.61 312 *e*P **P 08 19 53.4 -2.3**
IDI Anoyia 97.72 306 *e*P **P 08 19 55.5 -0.9**
IDI Anoyia 97.72 306 LR LR 09 11 59.9
comp=Z,104nm,18.2s,baz=81,slow=40
CRVS Cervenica-Dubn 97.74 320 *i* P Pdif 08 19 56.5 +0.4
CRVS Cervenica-Dubn 97.74 320 *e*P Pdif 08 19 56.5 +0.4
STHS Stebnicka Huta 97.77 320 *i* P Pdif 08 19 57.4 +1.2
STHS Stebnicka Huta 97.77 320 *e*P Pdif 08 19 57.4 +1.2
VTS Vitosha 97.81 313 ⇑P **P 08 19 56.0 -0.7**
VTS Vitosha 97.81 313 ⇑*i*P **P 08 19 56.0 -0.7**
VTS Vitosha 97.81 313 *e*P **P 08 19 54.8 -1.9**
PAIG Paliouri 97.94 311 *e*P **P 08 19 55.7 -1.4**
SIRR Siria 98.18 317 ⇓*i*P Pdif 08 19 58.3 +0.2
VAM Vamos 98.26 306 *e*P **P 08 19 57.2 -1.5**
BZS Buzias 98.34 317 ⇓P **P 08 19 58.4 -0.4**
BZS Buzias 98.34 317 ⇓*i*P **P 08 19 58.4 -0.4**
KECS Kecovo 98.47 320 *i* P Pdif 08 19 59.5 +0.2
KECS Kecovo 98.47 320 PDIF Pdif 08 19 59.5 +0.2
KARN Karanos 98.49 306 *e*P **P 08 19 59.4 -0.4**
DID Didima 98.69 308 *e*P **P 08 19 58.2 -2.4**
HFS Hagfors 98.85 332 LR LR 09 06 31.5
comp=Z,748nm,19.2s,baz=65,slow=36
ANKY Antikythira Is 98.91 307 *e*P **P 08 19 59.9 -1.7**
PSZ Piszkesteto 98.98 319 *e*P **P 08 20 01.4 -0.4**
PSZ pmax pmax
comp=Z,70nm,1.8s
PSZ Piszkesteto 98.98 319 *e*P **P 08 20 01.4 -0.4**
comp=Z,70nm,1.8s
KYTH Kithira 99.06 307 *e*P **Pdif 08 20 00.3 -2.0**
VLI Veliai 99.06 308 *e*P **Pdif 08 19 59.5 -2.8**
RKT Rikitea 99.17 113 *e*SKSac **SKSac 08 30 30.7 -0.7**
comp=Z,382nm,28.2s
RKT Rikitea 99.17 113 *e*LQ LQ 08 48 20.4
comp=Z,563nm,38.2s
RKT *e*LR LR 08 52 32.7
comp=Z,830nm,39.5s
THL Klokotos Trika 99.26 311 *e*P **Pdif 08 20 00.5 -2.6**
GUR Goura 99.31 309 *e*P **Pdif 08 20 01.5 -2.0**
KALE Kalithea 99.39 309 *e*P **Pdif 08 20 01.7 -2.1**
KLV Kalavryta, Ach 99.44 309 *e*P **Pdif 08 20 02.3 -1.7**
TRIZ Trizonia 99.44 309 *e*P **Pdif 08 20 02.2 -1.7**
VYHS Vyhne 99.53 320 *i* P **Pdif 08 20 04.3 +0.2**
VYHS Vyhne 99.53 320 PDIF **Pdif 08 20 04.3 +0.2**
DYR Agios Nikonas 99.53 308 *e*P **Pdif 08 20 03.2 -1.2**
LAKA Lakka 99.54 309 *e*P **Pdif 08 20 02.8 -1.6**
EVR Evrytania 99.54 310 *e*P **Pdif 08 20 00.3 -4.2**
EFP Efpalio 99.56 309 *e*P **Pdif 08 20 03.2 -1.2**
OKC Ostrava-Krasne 99.62 321 *e*P **Pdif 08 20 05.4 +1.0**
OKC Ostrava-Krasne 99.62 321 *e*PDIF **Pdif 08 20 05.4 +1.0**
NB2 NORSAR Subarra 99.65 333 P **Pdif 08 20 03.1 -1.3**
comp=Z,6.3nm,0.7s,baz=70,slow=4.4
NB2 NORSAR Subarra 99.65 333 P **Pdif 08 20 03.1 -1.3**
baz=70,slow=4.4
NOA NORSAR Array B 99.65 333 P **Pdif 08 20 02.7 -1.7**
NOA NORSAR Array B 99.65 333 P **Pdif 08 20 02.7 -1.7**
comp=Z,2.6nm,0.7s,baz=68,slow=4.6,SNR=8.1
NOA LR LR 09 07 28.2
comp=Z,383nm,20.4s,baz=55,slow=37
ITM Ithomi 99.78 308 *e*P **Pdif 08 20 03.7 -1.8**
RLS Riolos of Patr 99.97 309 *e*P **Pdif 08 20 05.4 -0.9**
PYL PYLOS 99.97 308 *e*P **Pdif 08 20 04.0 -2.3**
KSP Ksiaz 100.47 323 *e*P **Pdif 08 20 08.2 0.0**
DPC Dobruska-Polom 100.60 322 *e*P **Pdif 08 20 09.7 +0.8**
DPC Dobruska-Polom 100.60 322 *e*PDIFF **Pdif 08 20 09.7 +0.8**
DPC *e*pP pP 08 20 32.6 -6.0
DPC *e*sP sP 08 20 47.3 -3.4
VLS Valsamata 100.62 309 *e*P **Pdif 08 20 07.5 -1.7**
ZST Bratislava 100.72 320 *i* P **Pdif 08 20 10.4 +1.0**
ZST Bratislava 100.72 320 PDIF **Pdif 08 20 10.4 +1.0**
UPC Upice 100.75 322 *e*P **Pdif 08 20 10.1 +0.7**
UPC Upice 100.75 322 *e*PDIFF **Pdif 08 20 10.1 +0.7**
YKA Yellowknife Ar 100.93 24 P **Pdif 08 20 13.5 +3.5**
YKA PKiKP **PKiKP 08 24 36.4 +1.6**
YKA Yellowknife Ar 100.93 24 P **Pdif 08 20 13.5 +3.5**
comp=Z,1.1nm,0.8s,baz=298,slow=4.0,SNR=2.7
YKA PKiKP **PKiKP 08 24 36.4 +1.6**
comp=Z,1.3nm,0.8s,baz=294,slow=1.5,SNR=5.5
PVCC Panska Ves 101.62 323 *e*P **Pdif 08 20 14.3 +1.0**
PVCC Panska Ves 101.62 323 *e*PDIFF **Pdif 08 20 14.3 +1.0**
PRU Pruhonice 101.80 322 *e*P **Pdif 08 20 14.8 +0.7**
PRU Pruhonice 101.80 322 *e*PDIFF **Pdif 08 20 14.8 +0.7**
PRU *e*pP pP 08 20 37.7 -6.4
PRU *e*x x 08 33 56.2
PRA Prague 101.84 322 PDIFF **Pdif 08 20 15.0 +0.7**
PRA pP pP 08 20 38.0 -6.2
BRG Berggiesshubel 101.88 323 *e*PDIF **Pdif 08 20 14.8 +0.3**
comp=Z,14nm,1.1s
BRG *e*pP pP 08 20 45.0 +0.5
comp=Z,13nm,1.0s
BRG *e*sP 08 20 53.8
comp=Z,21nm,1.3s
BRG *e*PP **PP 08 24 29.3 +2.8**
comp=Z,19nm,1.6s
BRG SDIF **Sdif 08 31 44.0 -2.8**
BRG SS SS 08 38 44.0 -8.2
BRG Berggiesshubel 101.88 323 *e*Pdiff **Pdif 08 20 13.4 -1.1**
BRG Berggiesshubel 101.88 323 *e*P **Pdif 08 20 14.8 +0.3**
BRG *e* 08 24 29.3
BRG S **Sdif 08 31 44.0 -2.8**
BRG SS SS 08 38 44.0 -8.2
BRG pmax pmax
comp=Z,14nm,1.1s
BRG pmax pmax
comp=Z,13nm,1.0s
BRG pmax pmax
comp=N,21nm,1.3s
BRG pmax pmax
comp=Z,19nm,1.6s
CLL Collm 102.30 324 *e*P **Pdif 08 20 19.0 +2.7**
CLL *e* 08 24 31.0
CLL *e*S **Sdif 08 31 49.0 -1.2**
CLL MLR MLR
comp=Z,300nm,18.3s
CLL Collm 102.30 324 *e*Pdif **Pdif 08 20 19.0 +2.7**
CLL *e* 08 20 39.0
CLL *e*PP **PP 08 24 31.0 +1.4**
CLL *e*Sdif Sdif 08 31 49.0 -1.2
CLL *e*PS **PS 08 33 48.0 +10**
CLL *e*SS SS 08 39 12.0 +14
CLL *e* 08 44 36.0
CLL Lm MLR 09 12 00.0
comp=N,200nm,18.9s
CLL Lm MLR 09 12 00.0
comp=E,200nm,18.5s
CLL Lm MLR 09 12 00.0
comp=Z,300nm,18.3s
GCIS Gornji Cirnik 102.34 318 *i* Pdiff **Pdif 08 20 17.7 +1.1**
GCIS *e* 08 30 33.8
CRES Cresnjev 102.47 318 *e*Pdiff **Pdif 08 20 17.9 +0.7**
KHC Kasperske Hory 102.67 322 *e*P **Pdif 08 20 18.4 +0.3**
KHC MLR MLR
comp=Z,600nm,22.3s
KHC Kasperske Hory 102.67 322 *e*PDIFF **Pdif 08 20 18.4 +0.3**
KHC *e*pP 08 20 41.2
KHC AMS AMS 09 04 00.0
comp=Z,600nm,22.3s
GERES GERESS Array B 102.69 321 P **Pdif 08 20 19.6 +1.3**
GERES PP **PKiKP 08 24 35.7 -2.8**
GERES GERESS Array B 102.69 321 P **Pdif 08 20 19.6 +1.3**
comp=Z,1.3nm,0.7s,baz=64,slow=3.1,SNR=8.0
GERES PP **PKiKP 08 24 35.7 -2.8**
comp=Z,0.4nm,0.3s,baz=54,slow=6.8,SNR=5.5
LJU Ljubljana 103.03 318 *e*Pdiff **Pdif 08 20 20.7 +1.0**

WET	Wettzell	103.10	322	*e*Pdiff	Pdif	08 20 19.5	-0.5
WET	Wettzell	103.10	322	*e*P	Pdif	08 20 19.5	-0.5
GRF	Grafenberg Arr	103.93	323	*e*Pdiff	Pdif	08 20 25.1	+1.5
GRF	Grafenberg Arr	103.93	323	*e*P	Pdif	08 20 25.1	+1.5
LPG	La Plagne	108.31	320	*e*PP	PP	08 25 16.6	+2.0
MBDF	Montbardon	108.61	319	*e*PP	PP	08 25 17.6	+1.1
	comp=Z,80nm,1.7s						
SSF	Saint Saulge	109.69	322	*e*PP	PP	08 25 22.6	-1.5
	comp=Z,27nm,1.2s						
SMRF	Simiane la Rot	109.69	319	*e*PP	PP	08 25 22.6	-1.7
	comp=Z,25nm,1.0s						
KEST	Kesra	109.95	309	PP	PP	08 25 26.4	-0.1
KEST	Kesra	109.95	309	PP	PP	08 25 26.4	-0.1
	comp=Z,2.2nm,0.6s,baz=309,slow=2.8,SNR=6.4						
EGMT	Eagleton	110.20	36	P	PKiKP	08 24 53.5	+1.0
	baz=110						
LASF	Ste Croix	110.78	319	*e*PP	PP	08 25 32.4	+0.3
	comp=Z,68nm,1.5s						
TCF	Toulx Ste Croi	110.84	322	*e*PP	PP	08 25 30.5	-1.9
B20A	Solberg Farm,	111.01	35	P	PKiKP	08 24 55.0	+1.0
	baz=111						
C20A	Veseth Ranch,	111.38	36	P	PKiKP	08 24 55.5	+0.8
	baz=111						
B22A	Reddig Ranch S	112.24	35	P	PKiKP	08 24 57.4	+1.1
	baz=112						
PDAR	Pinedale Array	112.74	41	PKiKP	PKiKP	08 24 59.3	+1.6
PDAR				PKKPbc	PKKPbc	08 35 46.7	-0.7
PDAR				PKKPab	PKKPab	08 35 54.6	-0.5
PDAR	Pinedale Array	112.74	41	PKiKP	PKiKP	08 24 59.3	+1.6
	comp=Z,0.7nm,0.6s,baz=83,slow=2.9,SNR=4.7						
PDAR				PKKPbc	PKKPbc	08 35 46.7	-0.7
	comp=Z,1.2nm,0.6s,baz=114,slow=5.1,SNR=9.0						
PDAR				PKKPab	PKKPab	08 35 54.6	-0.5
	comp=Z,3.8nm,0.8s,baz=125,slow=6.1,SNR=19						
LAO	LASA Array	112.94	36	*e*PKPdf	PKiKP	08 25 00.1	+2.3
I20A	Worland	113.12	40	P	PKiKP	08 24 59.5	+1.2
	baz=113						
D23A	Lindsay	113.29	35	P	PKiKP	08 24 59.4	+1.0
	baz=113						
J20A	Shoshoni	113.43	40	P	PKiKP	08 24 59.8	+0.9
	baz=113						
A25A	Svangstu Ranch	113.50	33	P	PKiKP	08 24 58.9	+0.2
	baz=113						
H22A	Clearmont	113.93	38	P	PKiKP	08 25 00.4	+0.6
	baz=114						
A26A	Wade Farm, Ken	114.10	33	P	PKPdf	08 25 00.9	+1.1
	baz=114						
K21A	Alcova	114.31	41	P	PKPdf	08 25 01.5	+0.8
	baz=114						
J22A	Midwest	114.43	39	P	PKPdf	08 25 01.3	+0.4
	baz=114						
K22A	Casper	114.78	40	P	PKPdf	08 25 01.9	+0.4
	baz=115						
O20A	White River Ci	114.81	43	*e*PKPdf	PKPdf	08 25 03.2	+1.5
O20A	White River Ci	114.81	43	P	PKPdf	08 25 02.6	+0.9
	baz=115						
H24A	Dirks Ranch, A	114.95	37	P	PKPdf	08 25 02.7	+1.0
	baz=115						
F25A	Bowman	114.98	36	P	PKPdf	08 25 02.7	+1.0
	baz=115						
B28A	Dugan Ranch, T	115.26	32	P	PKPdf	08 25 03.1	+1.1
	baz=115						
G27A	Dupree	115.58	36	P	PKPdf	08 25 04.7	+1.9
	baz=116						
S20A	Disappointment	115.73	46	P	PKPdf	08 25 04.2	+0.5
	baz=116						
E27A	Carson	115.78	35	P	PKPdf	08 25 03.8	+0.7
	baz=116						
I25A	Rochford	115.83	38	P	PKPdf	08 25 04.0	+0.4
	baz=116						
MVCO	Mesa Verde	115.90	46	*e*PKPdf	PKPdf	08 25 05.3	+1.4
H26A	Fairpoint	116.09	37	P	PKPdf	08 25 04.8	+0.9
	baz=116						
J25A	Sunshine Ranch	116.12	38	P	PKPdf	08 25 04.6	+0.6
	baz=116						
S21A	Coal Bank Pass	116.21	46	P	PKPdf	08 25 05.9	+1.3
	baz=116						
B30A	Myrvik Farm, E	116.33	31	P	PKPdf	08 25 05.7	+1.5
	baz=116						
H27A	Howes	116.50	36	P	PKPdf	08 25 05.2	+0.6
	baz=116						
F28A	McLaughlin	116.55	35	P	PKPdf	08 25 05.6	+0.9
	baz=116						
J26A	Sides Ranch, S	116.61	38	P	PKPdf	08 25 05.7	+0.7
	baz=117						
C30A	Mose, Pekin	116.72	32	P	PKPdf	08 25 05.8	+1.0
	baz=117						
I27A	Quinn	116.83	37	P	PKPdf	08 25 05.7	+0.4
	baz=117						
K26A	Motz Farm, Whi	116.88	39	P	PKPdf	08 25 06.0	+0.6
	baz=117						
G28A	Parade	116.93	36	P	PKPdf	08 25 05.8	+0.4
	baz=117						
D30A	Buchanan	116.94	33	P	PKPdf	08 25 06.0	+0.7
	baz=117						
H28A	Mission Ridge	117.10	36	P	PKPdf	08 25 06.4	+0.6
	baz=117						
F29A	Eureka	117.11	34	P	PKPdf	08 25 06.8	+1.0
	baz=117						
E30A	Jud	117.22	33	P	PKPdf	08 25 06.4	+0.5
	baz=117						
J27A	Elkhorn Farm,	117.30	38	P	PKPdf	08 25 06.3	0.0
	baz=117						
Y20A	Horse Springs,	117.35	50	P	PKPdf	08 25 06.4	-0.4
	baz=117						
I28A	Midland	117.39	37	P	PKPdf	08 25 07.2	+0.9
	baz=117						
U22A	Llaves	117.45	47	P	PKPdf	08 25 07.9	+1.0
	baz=117						
X21A	Alamocita Cree	117.58	49	P	PKPdf	08 25 08.9	+1.6
	baz=118						
V22A	San Miguel Ran	117.61	47	P	PKPdf	08 25 09.0	+1.7
	baz=118						
T23A	Casias Ranch,	117.74	46	P	PKPdf	08 25 09.1	+1.6
	baz=118						
P25A	Willow Gulch B	117.86	42	P	PKPdf	08 25 08.6	+1.0
	baz=118						
ESDC	Sonseca Array	117.99	318	PP	PP	08 26 22.4	-0.6
ESDC	Sonseca Array	117.99	318	PP	PP	08 26 22.4	-0.6
	comp=Z,0.5nm,0.4s,baz=56,slow=6.1,SNR=7.2						
K28A	Ten Mile Ranch	117.99	38	P	PKPdf	08 25 08.1	+0.5
	baz=118						
Q25A	Bedland, Calha	118.11	43	P	PKPdf	08 25 09.2	+1.1
	baz=118						
Z21A	St. Cloud Mine	118.13	50	P	PKPdf	08 25 10.2	+1.8
	baz=118						
V23A	Ortiz Mt. (NFS	118.21	47	P	PKPdf	08 25 10.5	+2.1
	baz=118						
121A	Cookes Peak, D	118.36	51	P	PKPdf	08 25 10.2	+1.5
	baz=118						
ANMO	Albuquerque	118.36	48	*e*PKPdf	PKPdf	08 25 09.9	+1.2
P26A	Davis Ranch, A	118.39	42	P	PKPdf	08 25 09.6	+1.1
	baz=118						
LPM	Los Pinos Moun	118.50	49	*e*PKPdf	PKPdf	08 25 09.3	+0.4
BNM	Barren Site	118.58	49	*e*PKPdf	PKPdf	08 25 10.6	+1.4
S25A	Robets Cordova	118.58	44	P	PKPdf	08 25 09.8	+0.8
	baz=119						
Z22A	Elephant Butte	118.70	50	P	PKPdf	08 25 10.5	+1.2
	baz=119						
T25A	Trinidad	118.85	45	P	PKPdf	08 25 10.9	+1.3
	baz=119						
V24A	Rampart Ranch,	118.89	47	P	PKPdf	08 25 11.7	+1.9
	baz=119						
122A	Conniff Cattle	118.90	50	P	PKPdf	08 25 11.7	+2.0
	baz=119						
R26A	Arlington	118.95	43	P	PKPdf	08 25 10.9	+1.3
	baz=119						
W24A	Lazy 6 Ranch,	119.02	47	P	PKPdf	08 25 11.5	+1.6
	baz=119						
222A	Williams Famil	119.06	51	P	PKPdf	08 25 11.2	+1.2
	baz=119						
Y23A	Lovelace Mesa,	119.10	49	P	PKPdf	08 25 10.8	+0.7
	baz=119						
U25A	Circle Dot Ran	119.20	45	P	PKPdf	08 25 11.3	+1.0
	baz=119						
S26A	Kim	119.27	44	P	PKPdf	08 25 11.4	+1.1
	baz=119						
X24A	Lazy VL Ranch,	119.29	48	P	PKPdf	08 25 11.3	+0.8
	baz=119						
T26A	Comanche Natio	119.40	44	P	PKPdf	08 25 11.6	+1.0
	baz=119						
P28A	Saint Francis	119.44	41	P	PKPdf	08 25 11.1	+0.6
	baz=119						
Y24A	Capitan	119.56	48	P	PKPdf	08 25 11.8	+0.8
	baz=120						
U26A	Atchley Ranch,	119.67	45	P	PKPdf	08 25 12.4	+1.2
	baz=120						
W25A	X Bar L Ranch,	119.71	47	P	PKPdf	08 25 12.4	+1.2
	baz=120						
Z24A	Sheeppen Canyo	119.88	49	P	PKPdf	08 25 13.0	+1.4
	baz=120						
V26A	Tequesquite Ra	119.92	46	P	PKPdf	08 25 12.6	+1.0
	baz=120						
P29A	Atwood	119.96	41	P	PKPdf	08 25 12.3	+0.8
	baz=120						
R28A	Tribune	120.04	42	P	PKPdf	08 25 12.8	+1.1
	baz=120						
124A	Stringfield Ra	120.08	50	P	PKPdf	08 25 13.5	+1.4
	baz=120						
Y25A	Mesa, Roswell	120.12	48	P	PKPdf	08 25 13.3	+1.3
	baz=120						
ECSD	EROS Data Cent	120.21	35	*e*PKPdf	PKPdf	08 25 12.2	+0.4
O30A	MW Ranch, Wils	120.21	40	P	PKPdf	08 25 12.4	+0.5
	baz=120						
W26A	Owens Ranch, T	120.27	47	P	PKPdf	08 25 13.2	+0.9
	baz=120						
U27A	Thompson Grove	120.31	45	P	PKPdf	08 25 13.6	+1.3
	baz=120						
S28A	Manter	120.37	43	P	PKPdf	08 25 13.3	+1.0
	baz=120						
Z25A	Roswell	120.39	49	P	PKPdf	08 25 13.3	+0.8
	baz=120						
T28A	Walsh	120.46	44	P	PKPdf	08 25 13.7	+1.2
	baz=120						
X26A	CR and CF Fran	120.49	47	P	PKPdf	08 25 13.7	+0.9
	baz=120						
MNTX	Cornudas Mount	120.56	51	*e*PKPdf	PKPdf	08 25 13.9	+1.2
324A	Moseley Ranch,	120.59	51	P	PKPdf	08 25 14.2	+1.2
	baz=121						
BGNE	Belgrade	120.70	38	*e*PKPdf	PKPdf	08 25 13.3	+0.5
BGNE	Belgrade	120.70	38	P	PKPdf	08 25 13.3	+0.5
	baz=121						
U28A	Mallet	120.75	45	P	PKPdf	08 25 13.8	+0.7
	baz=121						
W27A	Bowe Ranch, En	120.79	46	P	PKPdf	08 25 15.0	+1.8
	baz=121						
225A	Deer Hill, Car	120.81	50	P	PKPdf	08 25 14.7	+1.3
	baz=121						
S29A	Ulysses	120.88	43	P	PKPdf	08 25 14.2	+0.9
	baz=121						
Z26A	Caprock	120.94	49	P	PKPdf	08 25 14.4	+0.8
	baz=121						
N32A	Stulken Farm,	120.99	38	P	PKPdf	08 25 13.7	+0.3
	baz=121						
T29A	Hugoton	121.00	43	P	PKPdf	08 25 14.7	+1.2
	baz=121						
P31A	Stockton	121.01	40	P	PKPdf	08 25 14.6	+1.1
	baz=121						
325A	Bean Ranch, Si	121.01	51	P	PKPdf	08 25 15.2	+1.3
	baz=121						
R30A	Dighton	121.10	42	P	PKPdf	08 25 15.0	+1.3
	baz=121						
126A	Clayton Basin,	121.19	49	P	PKPdf	08 25 15.0	+1.0
	baz=121						
425A	Indio Mountain	121.25	52	P	PKPdf	08 25 15.3	+1.0
	baz=121						
Y27A	Causey	121.27	48	P	PKPdf	08 25 15.5	+1.3
	baz=121						
SPMN	St. Paul	121.31	31	*e*PKPdf	PKPdf	08 25 15.2	+1.4
SPMN	St. Paul	121.31	31	P	PKPdf	08 25 15.2	+1.4
	baz=121						
226B	Tecolote Peak,	121.33	50	P	PKPdf	08 25 15.3	+1.0
	baz=121						
Z27A	Tatum	121.50	48	P	PKPdf	08 25 15.2	+0.5
	baz=122						
MSTX	Muleshoe	121.52	47	*e*PKPdf	PKPdf	08 25 15.4	+0.6
MSTX	Muleshoe	121.52	47	P	PKPdf	08 25 15.3	+0.6
	baz=122						
X28A	Dimmitt	121.68	46	P	PKPdf	08 25 15.6	+0.7
	baz=122						
127A	Arkansas Junct	121.68	49	P	PKPdf	08 25 15.7	+0.7
	baz=122						
U30A	WK&E Inc. Balk	121.77	44	P	PKPdf	08 25 15.6	+0.5
	baz=122						
326A	Caldwell Ranch	121.81	51	P	PKPdf	08 25 16.2	+0.9
	baz=122						
Y28A	McKinney Farm,	121.93	47	P	PKPdf	08 25 16.6	+1.1
	baz=122						
SCHQ	Schefferville	121.93	9	PKP	PKPdf	08 25 15.7	+1.0
SCHQ	Schefferville	121.93	9	PKP	PKPdf	08 25 15.7	+1.0
	comp=Z,6.8nm,0.5s,baz=11,slow=0.9,SNR=13						
X29A	Tulia	122.07	46	P	PKPdf	08 25 17.0	+1.3
	baz=122						
526A	Mary Lane Ranc	122.25	52	P	PKPdf	08 25 17.4	+1.2
	baz=122						
128A	Castleberry Fa	122.36	49	P	PKPdf	08 25 17.0	+0.7
	baz=122						
Y29A	Porterfield Fa	122.38	47	P	PKPdf	08 25 17.5	+1.2
	baz=122						
626A	Big Bend Ranch	122.43	52	P	PKPdf	08 25 17.9	+1.4
	baz=122						
427A	Hayter Ranch,	122.45	51	P	PKPdf	08 25 17.9	+1.4
	baz=122						
527A	Woodward Ranch	122.59	52	P	PKPdf	08 25 17.7	+0.8
	baz=123						
Z29A	Hungry Hill Ra	122.64	47	P	PKPdf	08 25 17.7	+0.9
	baz=123						
X30A	Coker Ranch, T	122.67	46	P	PKPdf	08 25 17.6	+0.8
	baz=123						
328A	Wristen Ranch,	122.67	50	P	PKPdf	08 25 17.7	+0.8
	baz=123						
TOA0	Torodi Ar. Sit	122.70	287	*e*PKPdf	PKPdf	08 25 17.2	0.0
TORD	Torodi Ar. Bea	122.70	287	PKP	PKPdf	08 25 17.2	0.0
TORD				PKKPbc	PKKPbc	08 35 10.9	+0.2
TORD	Torodi Ar. Bea	122.70	287	PKP	PKPdf	08 25 17.2	0.0
	comp=Z,9.0nm,0.7s,baz=55,slow=1.8,SNR=45						
TORD				PKKPbc	PKKPbc	08 35 10.9	+0.2
	comp=Z,1.3nm,0.6s,baz=292,slow=3.6,SNR=10						
129A	Stewart Farms,	122.82	48	P	PKPdf	08 25 18.1	+0.9
	baz=123						
TXAR	Lajitas Array	122.89	53	PKP	PKPdf	08 25 18.7	+1.3
TXAR				PKKPab	PKKPab	08 35 12.7	+2.1
TXAR	Lajitas Array	122.89	53	PKP	PKPdf	08 25 18.7	+1.3
	comp=Z,1.4nm,0.9s,baz=217,slow=2.1,SNR=10						
TXAR				PKKPab	PKKPab	08 35 12.7	+2.1
	comp=Z,0.8nm,0.9s,baz=123,slow=6.4,SNR=8.6						
Y30A	Stafford Cattl	122.93	46	P	PKPdf	08 25 18.9	+1.6
	baz=123						
W31A	Holland Ranch,	122.95	45	P	PKPdf	08 25 18.7	+1.4
	baz=123						
KSU1	Kansas State U	123.01	39	*e*PKPdf	PKPdf	08 25 18.3	+1.0
Z30A	Sanderson Ranc	123.05	47	P	PKPdf	08 25 18.2	+0.6
	baz=123						
428A	Kincaid Ranch,	123.06	51	P	PKPdf	08 25 19.1	+1.4
	baz=123						
627A	Terlingua Ranc	123.06	52	P	PKPdf	08 25 18.9	+1.1
	baz=123						
229A	Bryant Ranch,	123.17	49	P	PKPdf	08 25 18.5	+0.7
	baz=123						
X31A	McDonald Ranch	123.21	45	P	PKPdf	08 25 18.8	+1.0
	baz=123						
329A	Wagon Wheel Ra	123.26	49	P	PKPdf	08 25 19.2	+1.1
	baz=123						
SCIA	State Center	123.30	34	*e*PKPdf	PKPdf	08 25 18.5	+0.8
Y31A	Rekieta Farm,	123.35	46	P	PKPdf	08 25 18.7	+0.6
	baz=123						
628A	Black Gap, Mar	123.44	52	P	PKPdf	08 25 19.6	+1.2
	baz=123						
130A	Snyder	123.50	48	P	PKPdf	08 25 19.5	+1.1
	baz=124						
529A	Stev Forest Ra	123.69	51	P	PKPdf	08 25 19.9	+1.1
	baz=124						
429A	Davenport Ranc	123.72	50	P	PKPdf	08 25 20.1	+1.2
	baz=124						
230A	Sterling City	123.73	49	P	PKPdf	08 25 19.9	+1.0
	baz=124						
Z31A	Sharp Cattle R	123.75	47	P	PKPdf	08 25 20.4	+1.5
	baz=124						
131A	Roby	123.89	47	P	PKPdf	08 25 20.3	+1.1
	baz=124						
330A	Mertzon	123.91	49	P	PKPdf	08 25 20.2	+0.9
	baz=124						
WMOK	Wichita Mounta	124.00	44	*e*PKIKP	PKPdf	08 25 19.8	+0.5
WMOK	Wichita Mounta	124.00	44	*e*PKPdf	PKPdf	08 25 19.8	+0.5
430A	Baggett Ranch,	124.15	50	P	PKPdf	08 25 20.9	+1.1
	baz=124						
JFWS	Jewell Farm	124.24	32	*e*PKIKP	PKPdf	08 25 20.2	+0.7
JFWS	Jewell Farm	124.24	32	*e*PKPdf	PKPdf	08 25 20.2	+0.7
Z32A	Haskell	124.24	46	P	PKPdf	08 25 21.2	+1.4
	baz=124						
231A	Bronte	124.30	48	P	PKPdf	08 25 21.2	+1.2
	baz=124						
530A	J-C Ranch, Com	124.36	51	P	PKPdf	08 25 21.3	+1.2
	baz=124						
ABTX	Abilene, Hawle	124.46	47	*e*PKPdf	PKPdf	08 25 21.0	+0.7
ABTX	Abilene, Hawle	124.46	47	P	PKPdf	08 25 21.4	+1.1
	baz=124						
331A	San Angelo	124.52	49	P	PKPdf	08 25 21.1	+0.7
	baz=124						
431A	Sonora	124.67	50	P	PKPdf	08 25 21.7	+0.9
	baz=125						
232A	Coleman	124.82	48	P	PKPdf	08 25 22.2	+1.2
	baz=125						
531A	Rocksprings	124.96	50	P	PKPdf	08 25 22.1	+0.8
	baz=125						
332A	Millersview	125.00	48	P	PKPdf	08 25 22.2	+0.9
	baz=125						
432A	Menard	125.20	49	P	PKPdf	08 25 22.5	+0.8
	baz=125						
631A	Perdido Creek	125.28	51	P	PKPdf	08 25 22.7	+0.8
	baz=125						
JCT	Junction City	125.38	49	*e*PKIKP	PKPdf	08 25 22.9	+0.8
JCT	Junction City	125.38	49	*e*PKPdf	PKPdf	08 25 22.9	+0.8
JCT	Junction City	125.38	49	P	PKPdf	08 25 22.8	+0.7
	baz=125						
TUL1	Tulsa	125.39	42	*e*PKPdf	PKPdf	08 25 23.3	+1.4
TUL1	Tulsa	125.39	42	P	PKPdf	08 25 22.5	+0.6
	baz=125						
532A	Rocksprings	125.47	50	P	PKPdf	08 25 23.3	+1.0
	baz=126						
632A	Uvalde	125.85	51	P	PKPdf	08 25 24.2	+1.3
	baz=126						
732A	Laxson Ranch,	126.06	51	P	PKPdf	08 25 24.6	+1.2
	baz=126						
WHTX	Lake Whitney	126.38	47	*e*PKPdf	PKPdf	08 25 25.3	+1.4
WHTX	Lake Whitney	126.38	47	P	PKPdf	08 25 25.4	+1.5
	baz=126						
MIAR	Mount Ida	127.67	42	*e*PKIKP	PKPdf	08 25 27.7	+1.4
MIAR	Mount Ida	127.67	42	*e*PKPdf	PKPdf	08 25 27.6	+1.4
SFIN	Scholer Farm	127.70	32	P	PKPdf	08 25 27.6	+1.5
	baz=128						
OLIL	Olney	128.32	34	*e*PKPdf	PKPdf	08 25 28.3	+0.9
HKT	Hockley	128.62	48	*e*PKIKP	PKPdf	08 25 29.9	+1.7
HKT	Hockley	128.62	48	*e*PKPdf	PKPdf	08 25 29.9	+1.7
BLO	Bloomington	128.88	33	*e*PKIKP	PKPdf	08 25 29.9	+1.4
BLO	Bloomington	128.88	33	*e*PKPdf	PKPdf	08 25 29.9	+1.4
USIN	University of	129.10	34	*e*PKPdf	PKPdf	08 25 29.6	+0.7
WCI	Wyandotte Cave	129.68	33	*e*PKIKP	PKPdf	08 25 31.1	+1.1
WCI	Wyandotte Cave	129.68	33	*e*PKPdf	PKPdf	08 25 31.1	+1.1
ACSO	Alum Creek Sta	129.89	29	*e*PKPdf	PKPdf	08 25 30.9	+0.5
KIC	Kosan Boka	130.13	280	*e*P	PKPdf	08 25 31.1	-0.4
	comp=Z,62nm,1.1s						
DBIC	Dimbokro	130.20	281	PKP	PKPdf	08 25 32.8	+1.1
DBIC				SKPbc	SKPab	08 28 44.3	-0.1
DBIC	Dimbokro	130.20	281	PKP	PKPdf	08 25 32.8	+1.1
	comp=Z,5.3nm,0.6s,baz=183,slow=1.2,SNR=8.2						
DBIC				SKPbc	SKPab	08 28 44.3	-0.1
	comp=Z,9.0nm,0.9s,baz=88,slow=5.2,SNR=5.9						
WVT	Waverly	130.27	36	*e*PKIKP	PKPdf	08 25 32.0	+0.8
WVT	Waverly	130.27	36	*e*PKPdf	PKPdf	08 25 32.0	+0.8
TIC	Toumodi	130.37	281	*e*P	PKPdf	08 25 33.0	+1.0
	comp=Z,75nm,1.3s						
OXF	Oxford	130.38	39	*e*PKIKP	PKPdf	08 25 32.5	+1.0
OXF	Oxford	130.38	39	*e*PKPdf	PKPdf	08 25 32.5	+1.0
LIC	Lamto	130.44	280	*e*PKIKP	PKPdf	08 25 32.6	+0.5
LIC	Lamto	130.44	280	*e*P	PKPdf	08 25 33.0	+0.9
	comp=Z,31nm,0.7s						
LIC	Lamto	130.44	280	*e*PKPdf	PKPdf	08 25 32.6	+0.5
SWET	Sewanee	132.02	36	*e*PKPdf	PKPdf	08 25 35.9	+1.3
CPCT	Cooper Cave	132.66	34	*e*PKPdf	PKPdf	08 25 36.7	+1.0
LRAL	Lakeview Retre	132.86	39	*e*PKPdf	PKPdf	08 25 38.0	+1.8
TKL	Tuckaleechee C	132.93	34	SKPab	SKPbc	08 28 54.5	+0.8
TKL	Tuckaleechee C	132.93	34	SKPab	SKPbc	08 28 54.5	+0.8
	comp=Z,5.8nm,0.9s,baz=139,slow=1.6,SNR=4.2						
KMSC	Kings Mountain	134.64	32	*e*PKPdf	PKPdf	08 25 40.8	+1.4
KMSC	Kings Mountain	134.64	32	P	PKPdf	08 25 40.1	+0.7
	baz=134						
PLCA	Paso Flores	139.02	161	PKP	PKPdf	08 25 48.4	+0.9
PLCA	Paso Flores	139.02	161	PKhKP	PKPpre	08 25 30.8	
	comp=Z,1.4nm,0.4s,baz=114,slow=0.7,SNR=5.6						
PLCA				PKP	PKPdf	08 25 48.4	+0.9
	comp=Z,13nm,1.1s,baz=98,slow=1.1,SNR=6.8						
TEIG	Tepich	139.46	55	PKP	PKPdf	08 25 50.8	+2.1
TEIG	Tepich	139.46	55	PKP	PKPdf	08 25 50.8	+2.1
	comp=Z,3.1nm,0.8s,baz=270,slow=1.0,SNR=2.5						
TRQA	Tornquist	143.79	169	*e*PKPdf	PKPbc	08 25 54.1	+0.2
LMEL	Las Melosas	145.24	156‖	*e*P	PKPab	08 26 00.2	+1.3
CLCH	Cerro Calan	145.49	155‖	*e*P	PKPab	08 26 00.5	+0.7
CFAA	Coronel Fontan	148.00	157	PKPbc	PKPbc	08 26 07.5	+0.9
CFAA	Coronel Fontan	148.00	157	PKPbc	PKPbc	08 26 07.5	+0.9
	comp=Z,6.5nm,0.7s,baz=221,slow=3.0,SNR=80						
LCO	Las Campanas	149.12	150	*e*PKPbc	PKPbc	08 26 10.8	+0.9
GTBY	Guantanamo Bay	149.55	42	*e*PKPdf	PKPdf	08 26 07.9	+1.7
GTBY				*e*PKPbc	PKiKP	08 26 11.8	0.0
SDDR	Presa de Saban	152.70	38	*e*PKPbc	PKPbc	08 26 19.6	+1.3
ATAH	Atahualpa	155.17	102	PKP	PKPdf	08 26 16.7	+1.6
ATAH	Atahualpa	155.17	102	PKP	PKPdf	08 26 16.7	+1.6
	comp=Z,5.5nm,0.9s,baz=274,slow=10,SNR=3.8						
LVC	Limon Verde	155.22	145	*e*PKPbc	PKPdf	08 26 26.2	+11
OTAV	Otavalo	155.33	84	*e*PKPdf	PKPdf	08 26 17.0	+1.5
CPUP	Villa Florida	156.02	172	*e*PKPdf	PKPdf	08 26 16.4	+1.0
CPUP				PKP	PKPdf	08 26 17.1	+1.6
CPUP	Villa Florida	156.02	172	PKP	PKPdf	08 26 17.1	+1.6
	comp=Z,4.3nm,0.8s,baz=241,slow=1.1,SNR=5.6

LACR *i* Sg **Sb** **08 36 38.2 0.0**
KORR Kora 0.65 34⇑*i*PG **Pb** **08 36 30.8 0.0**
KORR *e*S **Sg** **08 36 40.6 +0.8**
KORR Kora 0.65 34 *i* Pg **Pb** **08 36 30.8 0.0**
KORR *e*Sg **Sg** **08 36 40.6 +0.8**
LSNR Lesken 0.76 15⇓*i*PG **Pb** **08 36 32.7 +0.1**
LSNR *e*S **Sg** **08 36 43.6 +0.6**
LSNR Lesken 0.76 15 *i* Pg **Pb** **08 36 32.7 +0.1**
LSNR *e*Sg **Sg** **08 36 43.6 +0.6**
STDR Stavd-Durt 0.90 24⇑*i*PG **Pg** **08 36 36.0 +0.4**
STDR *e*S **Sn** **08 36 49.1 +1.0**
STDR Stavd-Durt 0.90 24 *i* Pg **Pg** **08 36 36.0 +0.4**
STDR *e*Sg **Sn** **08 36 49.1 +1.0**
NCK Nalchik 0.95 1⇓*i*PG **Pg** **08 36 36.6 +0.1**
NCK *i* S **Sn** **08 36 51.2 +1.9**
NCK Nalchik 0.95 1 *i* Pg **Pg** **08 36 36.6 +0.1**
NCK *i* Sg **Sn** **08 36 51.2 +1.9**
DUS Dusheti 0.96 118 PG **Pb** **08 36 35.8 -0.2**
DUS S **Sn** **08 36 50.3 +0.7**
DUS Dusheti 0.96 118 Pg **Pb** **08 36 35.8 -0.2**
DUS Sg **Sn** **08 36 50.3 +0.7**
DUS Dusheti 0.96 118 P **Pb** **08 36 35.5 -0.5**
DUS S **Sb** **08 36 48.9 +0.6**
VLKR Vladikavkaz 0.96 58⇓*i*PG **Pg** **08 36 37.0 +0.3**
VLKR *e*S **Sn** **08 36 50.6 +1.0**
VLKR Vladikavkaz 0.96 58 *i* Pg **Pg** **08 36 37.0 +0.3**
VLKR *e*Sg **Sn** **08 36 50.6 +1.0**
SNJR Sundja 1.05 60⇑*i*PG **Pg** **08 36 38.9 +0.4**
SNJR *i* S **Sg** **08 36 53.8 +1.4**
SNJR Sundja 1.05 60 *i* Pg **Pg** **08 36 38.9 +0.4**
SNJR *i* Sg **Sg** **08 36 53.8 +1.4**
BTKR Batakoyurt 1.09 41⇑*i*PG **Pg** **08 36 40.5 +1.2**
BTKR *i* S **Sg** **08 36 56.1 +2.4**
BTKR Batakoyurt 1.09 41 *i* Pg **Pg** **08 36 40.5 +1.2**
BTKR *i* Sg **Sg** **08 36 56.1 +2.4**
AKH Akhalkalaki 1.14 183 PG **Pn** **08 36 37.7 -1.3**
AKH S **Sb** **08 36 53.1 -0.4**
AKH Akhalkalaki 1.14 183 Pg **Pn** **08 36 37.7 -1.3**
AKH Sg **Sb** **08 36 53.1 -0.4**
AKH Akhalkalaki 1.14 183 P **Pn** **08 36 37.7 -1.3**
AKH S **Sb** **08 36 53.1 -0.4**
TBLG Delisi 1.19 133 PG **Pn** **08 36 38.9 -0.8**
TBLG S **Sn** **08 36 55.4 +0.1**
TBLG Delisi 1.19 133 Pg **Pn** **08 36 38.9 -0.8**
TBLG Sg **Sn** **08 36 55.4 +0.1**
TBLG Delisi 1.19 133 P **Pn** **08 36 38.9 -0.8**
TBLG S **Sn** **08 36 55.4 +0.1**
KBZ Khabaz 1.28 338 PG **Pb** **08 36 41.3 -0.1**
KBZ pmax pmax
comp=Z,96nm,0.3s
KBZ Khabaz 1.28 338 Pg **Pb** **08 36 41.3 -0.1**
KBZ Lg Lg 08 36 58.8
KBZ Khabaz 1.28 338 Pg **Pb** **08 36 41.3 -0.1**
comp=Z,96nm,0.3s,baz=173,slow=9.9,SNR=428
KBZ Lg Lg 08 36 58.8
comp=Z,227nm,0.3s,baz=256,slow=23,SNR=16
KBZ LR LR 08 37 02.1
comp=Z,700nm,20.2s,baz=147,slow=35
KBZ Khabaz 1.28 338 Pg **Pb** **08 36 41.3 -0.1**
comp=Z,96nm,0.3s
KBZ Lg Lg 08 36 58.8
PRTR Priterechnaya 1.31 23⇑*i*PG **Pg** **08 36 43.5 +0.1**
PRTR *e*S **Sg** **08 37 01.9 +1.3**
PRTR Priterechnaya 1.31 23 *i* Pg **Pg** **08 36 43.5 +0.1**
PRTR *e*Sg **Sg** **08 37 01.9 +1.3**
KZR Kazreti 1.32 151 P **Pn** **08 36 40.6 -0.9**
KZR S **Sn** **08 36 58.1 -0.5**
SHAR Shatzhatmas 1.36 332⇓*e*PG **Pb** **08 36 43.2 +0.1**
SHAR *e*S **Sg** **08 37 02.1 -0.2**
SHAR Shatzhatmas 1.36 332 *e*Pg **Pb** **08 36 43.2 +0.1**
SHAR *e*Sg **Sg** **08 37 02.1 -0.2**
TRKR Terskaya 1.45 36⇓*i*PG **Pg** **08 36 45.8 -0.3**
TRKR *i* S **Sg** **08 37 05.8 +0.7**
TRKR Terskaya 1.45 36 *i* Pg **Pg** **08 36 45.8 -0.3**
TRKR *i* Sg **Sg** **08 37 05.8 +0.7**
PYA Pyatigorsk 1.53 346⇓*i*PG **Pb** **08 36 46.2 +0.4**
PYA *i* S **Sg** **08 37 07.5 -0.1**
PYA Pyatigorsk 1.53 346 *i* Pg **Pb** **08 36 46.2 +0.4**
PYA *i* Sg **Sg** **08 37 07.5 -0.1**
KIV Kislovodsk 1.55 336⇓*i*PG **Pb** **08 36 46.2 +0.1**
KIV *i* S **Sg** **08 37 08.0 -0.1**
KIV Kislovodsk 1.55 336 *i* Pg **Pb** **08 36 46.2 +0.1**
KIV *i* Sg **Sg** **08 37 08.0 -0.1**
DOMR Dombai 1.61 298⇑*e*PG **Pb** **08 36 47.8 +0.6**
DOMR *e*S **Sg** **08 37 09.7 -0.4**
DOMR Dombai 1.61 298 *e*Pg **Pb** **08 36 47.8 +0.6**
DOMR *e*Sg **Sg** **08 37 09.7 -0.4**
DGRG David-gareji 1.74 128 PN **Pb** **08 36 49.2 -0.1**
DGRG S **Sg** **08 37 13.8 -0.3**
DGRG David-gareji 1.74 128 Pn **Pb** **08 36 49.2 -0.1**
DGRG Sg **Sg** **08 37 13.8 -0.3**
DGRG David-gareji 1.74 128 P **Pb** **08 36 49.2 -0.1**
DGRG S **Sb** **08 37 12.4 +1.7**
ARTV Artvin 1.83 222 *i* P **Pn** **08 36 49.3 +0.7**
ARTV *i* S **Sb** **08 37 13.2 -0.3**
ARTV Artvin 1.83 222 *i* P **Pn** **08 36 49.3 +0.7**
ARTV *i* S **Sb** **08 37 13.2 -0.3**
DBOC Borcka 1.86 230 *i* P **Pn** **08 36 49.0 +0.2**
DBOC *i* S **Sb** **08 37 13.6 -0.6**
DBOC Borcka 1.86 230 *i* P **Pn** **08 36 49.0 +0.2**
DBOC *i* S **Sb** **08 37 13.6 -0.6**
DAGI Agillar 1.92 221 *i* P **Pn** **08 36 49.5 -0.2**
DAGI *i* S **Sb** **08 37 15.7 -0.2**
KARS Kars 1.95 191 *e*PN **Pn** **08 36 50.9 +0.7**
KARS *e*SN **Sn** **08 37 15.4 +1.2**
KARS Kars 1.95 191 *e*Pn **Pn** **08 36 50.9 +0.7**
KARS *e*Sn **Sn** **08 37 15.4 +1.2**
DIGO Kars 2.13 184 *i* P **Pn** **08 36 53.7 +0.9**
DIGO *i* S **Sb** **08 37 22.3 0.0**
DIGO Kars 2.13 184 *i* P **Pn** **08 36 53.7 +0.9**
DIGO *i* S **Sb** **08 37 22.3 0.0**
DDEM Demirkent 2.14 220 *i* P **Pn** **08 36 53.8 +1.0**
DDEM *i* S **Sb** **08 37 22.1 -0.3**
DDEM Demirkent 2.14 220 *i* P **Pn** **08 36 53.8 +1.0**
DDEM *i* S **Sb** **08 37 22.1 -0.3**
PZAR Pazar-Rize 2.42 236 *e*PN **Pn** **08 36 56.5 +0.1**
PZAR *e*SN **Sn** **08 37 24.1 -1.2**
PZAR Pazar-Rize 2.42 236 *e*Pn **Pn** **08 36 56.5 +0.1**
PZAR *e*Sn **Sn** **08 37 24.2 -1.2**
GNI Garni 2.55 159 *e*PN **Pn** **08 37 00.9 +2.4**
GNI Garni 2.55 159 *e*Pn **Pn** **08 36 59.9 +1.4**
GNI Garni 2.55 159 *e*Pn **Pn** **08 36 59.9 +1.4**
HOMI Horasan 2.79 207 *i* P **Pn** **08 37 02.7 +0.8**
GANJ Ganja 2.81 132 ⇑P **Pn** **08 37 02.8 +0.9**
SNR=35
GANJ ⇑S **Sb** **08 37 38.7 -2.8**
AGRB Hanur-Agry 3.00 189 *e*PN **Pn** **08 37 05.8 +1.2**
AGRB Hanur-Agry 3.00 189 *e*Pn **Pn** **08 37 05.8 +1.2**
SOC Sochi 3.00 291 *e*PN **Pb** **08 37 09.7 -1.2**
SOC *e* 08 37 11.3
SOC *e* 08 37 47.9
SOC pmax pmax
comp=Z,20nm,0.6s
SEKA Sheki 3.02 115 ⇓P **Pn** **08 37 06.0 +1.1**
SNR=66
SEKA ⇑S **Sn** **08 37 41.2 +0.6**
MACK Trabzon 3.26 242 *i* P **Pn** **08 37 07.5 -0.6**
MACK *e*S **Sn** **08 37 43.4 -3.0**
MACK Trabzon 3.26 242 *i* P **Pn** **08 37 07.5 -0.6**
MACK *e*S **Sn** **08 37 43.4 -3.0**
CLDR Caldiran 3.41 175 *e*PN **Pn** **08 37 12.7 +2.3**
CLDR Caldiran 3.41 175 *e*Pn **Pn** **08 37 12.7 +2.3**
BRDA Brd 3.55 129 ⇑P **Pn** **08 37 13.9 +1.9**
SNR=3.1
BRDA ⇓S **Sn** **08 37 54.1 +0.8**
NAX Nakhchivan 3.67 156 ⇓P **Pb** **08 37 21.5 -0.8**
SNR=9.2
NAX ⇓S **Sn** **08 38 01.6 +5.0**
GUMT Gumushane 3.71 237 *e*PN **Pn** **08 37 14.0 -0.3**
GUMT Gumushane 3.71 237 *e*Pn **Pn** **08 37 14.0 -0.3**
QUBA Quba, Azerbaij 3.86 106 ⇑P **Pn** **08 37 17.4 +1.0**
QUBA ⇑S **Sn** **08 37 58.0 -3.3**
IML Ismayilli 3.88 115 ⇑P **Pn** **08 37 18.6 +2.0**
SNR=9.9
IML ⇓S **Sn** **08 37 59.8 -1.7**
KELT Kelkit 4.03 235 *i* P **Pn** **08 37 19.4 +0.5**
KELT *e*S **Sn** **08 38 07.0 +1.4**
KELT Kelkit 4.03 235 *i* P **Pn** **08 37 19.4 +0.5**
KELT *e*S **Sn** **08 38 07.0 +1.4**
ERZN Erzincan 4.14 226 *e*PN **Pn** **08 37 21.1 +0.7**

PQL Pirkuli 4.16 113 ⇓P **Pn** **08 37 23.3 +2.8**
SNR=9.5
PQL ⇑S **Sn** **08 38 06.1 -2.5**
BNGB Bing¶l 4.17 213 *e*PN **Pn** **08 37 21.7 +1.0**
EZC Erzincan 4.23 230 *e*Pn **Pn** **08 37 21.1 -0.5**
SIZA Siyzn 4.25 108 ⇑P **Pn** **08 37 24.4 +2.7**
SNR=14
BINT Bingol 4.35 214 *e*Pn **Pn** **08 37 21.7 -1.4**
ATGJ Altiaghaj 4.36 111 ⇓P **Pn** **08 37 26.2 +3.0**
ATGJ ⇑S **Sn** **08 38 11.0 -2.6**
PTK Pertek 4.83 222 *e*PN **Pn** **08 37 31.0 +1.1**
PTK Pertek 4.83 222 *e*Pn **Pn** **08 37 31.0 +1.1**
ALIB Äli-Bayra 4.85 120 ⇑P Pn 08 37 33.8 +4.0
SNR=9.4
ALIB ⇑S **Sn** **08 38 24.4 -1.0**
ILIC ilic-Erzincan 4.88 232 *e*PN **Pn** **08 37 31.7 +1.2**
ILIC ilic-Erzincan 4.88 232 *e*Pn **Pn** **08 37 31.7 +1.2**
GLBA Ciilabad 4.93 130 ⇓P **Pn** **08 37 32.8 +1.8**
SNR=4.6
ANN Anapa 4.99 299 *e*PN **Pn** **08 37 34.6 +2.9**
ANN *e*S **Sn** **08 38 33.9 +5.1**
ANN pmax pmax
comp=Z,60nm,1.8s
GOBA Gobu 5.11 113 ⇑P **Pn** **08 37 35.9 +2.5**
SNR=3.7
GOBA ⇑S **Sn** **08 38 29.6 -2.1**
RSDY Resadiye-TOKAT 5.16 247 *e*PN **Pn** **08 37 35.8 +1.7**
RSDY Resadiye-TOKAT 5.16 247 *e*Pn **Pn** **08 37 35.8 +1.7**
CUKT Cukurca 5.29 180 *e*PN **Pn** **08 37 38.6 +2.5**
CUKT Cukurca 5.29 180 *e*Pn **Pn** **08 37 38.6 +2.5**
DIY Diyarbakir 5.30 210 *e*PN **Pn** **08 37 37.7 +1.5**
DIY Diyarbakir 5.30 210 *e*Pn **Pn** **08 37 37.7 +1.5**
GALA Gala 5.39 111 ⇓S **Sn** **08 38 36.4 -2.3**
LKRN Lenkeran, Azer 5.51 132 ⇑S **Sn** **08 38 43.0 +1.2**
SVSK Karacayir 5.61 244 *e*PN **Pn** **08 37 42.2 +2.0**
MAZI Mazidag 5.62 206 *e*PN **Pn** **08 37 41.9 +1.3**
MAZI Mazidag 5.62 206 *e*Pn **Pn** **08 37 41.9 +1.3**
TOKT Tokat 5.73 249 *e*PN **Pn** **08 37 43.6 +1.6**
TOKT Tokat 5.73 249 *e*Pn **Pn** **08 37 43.6 +1.6**
MALT Malatya 5.76 225 *e*PN **Pn** **08 37 44.2 +1.6**
MALT Malatya 5.76 225 *e*Pn **Pn** **08 37 44.2 +1.6**
SUDU Sudak 6.63 294 *e*P **Pn** **08 37 55.5 +1.1**
SUDU *e*S **Sn** **08 39 11.8 +2.4**
SUDU Sudak 6.63 294 *e*P **Pn** **08 37 55.5 +1.1**
SUDU *e*S **Sn** **08 39 11.8 +2.4**
YAL Yalta 7.11 289 *e*P Pn 08 38 04.6 +3.7
YAL *e*S **Sn** **08 39 25.1 +4.0**
SIM Simferopol' 7.25 293 P Pb 08 38 17.7 -5.5
SIM pmax pmax
comp=Z,14nm,1.3s
SEV Sevastopol' 7.46 289 *e*P **Pn** **08 38 03.9 -1.8**
SEV *e*S **Sn** **08 39 26.1 -3.7**
SEV Sevastopol' 7.46 289 *e*P **Pn** **08 38 03.9 -1.8**
BR131 Keskin Array S 8.00 253 *e*Pn **Pn** **08 38 14.3 +1.0**
comp=Z,2.8nm,0.3s
BR131 Keskin Array S 8.00 253 *e*Pn **Pn** **08 38 14.3 +1.0**
comp=Z,2.8nm,0.3s
BRTR Keskin Array B 8.00 253 Pn **Pn** **08 38 13.0 -0.4**
BRTR Sn **Sn** **08 39 44.0 +0.7**
BRTR Keskin Array B 8.00 253 Pn **Pn** **08 38 13.0 -0.4**
comp=Z,1.3nm,0.3s,baz=42,slow=9.9,SNR=36
BRTR Sn **Sn** **08 39 44.0 +0.7**
comp=Z,0.2nm,0.3s,baz=25,slow=19,SNR=2.2
BRTR Keskin Array B 8.00 253 P **Pn** **08 38 13.0 -0.4**
comp=Z,1.0nm,0.3s
BRTR S **Sn** **08 39 44.0 +0.7**
VRHR Novokhopersk 8.65 352 *e*P **Pn** **08 38 22.5 +0.4**
VRHR pmax pmax
comp=Z,10.0nm,0.5s
VRHR pmax pmax
comp=N,20nm,1.5s
VRHR pmax pmax
comp=E,10.0nm,0.7s
VRHR Novokhopersk 8.65 352 *e*P **Pn** **08 38 22.5 +0.4**
comp=E,20nm,1.5s
VORD Divnogorie 8.92 342 *e*P **Pn** **08 38 25.9 +0.3**
VORD pmax pmax
comp=Z,20nm,1.5s
VORD pmax pmax
comp=N,20nm,0.8s
VORD pmax pmax
comp=E,20nm,0.7s
VORD Divnogorie 8.92 342 *e*P **Pn** **08 38 25.9 +0.3**
comp=E,20nm,0.8s
VSR Storozhevoye 9.18 342 *e*P **Pn** **08 38 30.5 +1.3**
VSR pmax pmax
comp=Z,30nm,1.3s
VSR pmax pmax
comp=N,10.0nm,0.5s
VSR pmax pmax
comp=E,30nm,1.2s
VSR Storozhevoye 9.18 342 *e*P **Pn** **08 38 30.5 +1.3**
comp=E,10.0nm,0.5s
BHD Baghdad 9.28 176 *e*PN4 Pn 08 38 35.4 +4.6
baz=350
BHD *e*SN4 **Sn** **08 40 18.7 +4.1**
BHD Baghdad 9.28 176 *e*Pn Pn 08 38 35.4 +4.6
SNR=39
BHD *e*Sn **Sn** **08 40 18.7 +4.1**
SNR=39
TLCR 10.97 289 ⇑P **Pn** **08 38 51.4 -2.4**
TLCR 10.97 289⇑*i*P **Pn** **08 38 51.3 -2.5**
TLCR 10.97 289 P **Pn** **08 38 51.4 -2.4**
TIRR Tirgusor 11.17 285 ⇑P **Pn** **08 38 53.8 -2.8**
TIRR Tirgusor 11.17 285⇑*i*P **Pn** **08 38 53.8 -2.8**
CFR Carcaliu 11.45 289 ⇑P **Pn** **08 38 57.5 -2.8**
CFR Carcaliu 11.45 289⇑*i*P **Pn** **08 38 57.5 -2.8**
TLB Topalu 11.45 286 ⇓P **Pn** **08 38 58.4 -1.9**
TLB Topalu 11.45 286⇓*i*P **Pn** **08 38 58.3 -2.0**
TLB Topalu 11.45 286 P **Pn** **08 38 58.4 -1.9**
NSR Nassriya 11.70 169 *e*Pn Pn 08 39 12.1 +8.3
NSR *e*Sn Sn 08 41 20.1 +6.3
NSR Nassriya 11.70 169 *e*Pn Pn 08 39 12.1 +8.3
SNR=39
NSR *e*Sn Sn 08 41 20.1 +6.3
SNR=39
VRI Vrincioaia 12.53 291 ⇓P **Pn** **08 39 13.0 -2.1**
VRI Vrincioaia 12.53 291⇓*i*P **Pn** **08 39 13.0 -2.1**
VRI Vrincioaia 12.53 291 P **Pn** **08 39 13.0 -2.1**
PLOR Plostina 12.58 291 ⇓P **Pn** **08 39 14.3 -1.6**
PLOR Plostina 12.58 291⇓*i*P **Pn** **08 39 14.3 -1.6**
PLOR Plostina 12.58 291 P **Pn** **08 39 14.3 -1.6**
AKTK Aktyubinsk 12.69 47 P **Pn** **08 39 16.5 -0.8**
comp=E,1.0nm,0.3s
AKTO Aktyubinsk 12.69 47 ⇑Pn **Pn** **08 39 16.0 -1.2**
comp=E,20nm,0.8s
AKTO ⇑Sn Sn 08 41 30.2 -7.7
comp=E,32nm,1.3s
AKTO Aktyubinsk 12.69 47 P **Pn** **08 39 16.5 -0.8**
AKTO pmax pmax
comp=Z,1.0nm,0.3s
AKTO Aktyubinsk 12.69 47 Pn **Pn** **08 39 16.4 -0.8**
AKTO Sn **Sn** **08 41 33.0 -4.8**
AKTO Aktyubinsk 12.69 47 Pn **Pn** **08 39 16.4 -0.8**
comp=Z,1.0nm,0.3s,baz=246,slow=12,SNR=51
AKTO Sn **Sn** **08 41 33.0 -4.8**
comp=Z,0.6nm,0.3s,baz=48,slow=22,SNR=4.2
AKTO Aktyubinsk 12.69 47 Pn **Pn** **08 39 16.5 -0.8**
AKASG Malin Array Be 12.78 315 P **Pn** **08 39 19.4 +0.9**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 12.78 315 Pn **Pn** **08 39 19.4 +0.9**
AKASG Malin Array Be 12.78 315 Pn **Pn** **08 39 19.4 +0.9**
comp=Z,0.5nm,0.3s,baz=107,slow=10.0,SNR=2.3
AKASG Malin Array Be 12.78 315 P **Pn** **08 39 19.4 +0.9**
comp=Z,1.0nm,0.3s
MLR Muntele Rosu 13.02 289⇑*i*P **Pn** **08 39 19.0 -3.0**
AB31 Akbulak array 13.22 54 Pn **Pn** **08 39 22.8 -1.7**
comp=Z,3.9nm,0.3s,baz=238,slow=12,SNR=86
AB31 ⇑Sn Sn 08 41 44.0 -6.8
comp=Z,10nm,0.7s,baz=244,slow=21,SNR=6.1
AB31 Akbulak array 13.22 54 *i* P **Pn** **08 39 22.8 -1.7**
AB31 pmax pmax
comp=Z,4.0nm,0.3s
ABKAR Akbulak array 13.22 54 *e*Pn **Pn** **08 39 23.0 -1.5**
comp=Z,9.5nm,0.6s
ABKAR Akbulak array 13.22 54 *e*Pn **Pn** **08 39 23.0 -1.5**
comp=Z,9.5nm,0.6s
OBN Obninsk 13.38 342 *e*P **Pn** **08 39 26.6 -0.1**
OBN *e*S **Sn** **08 41 59.6 +4.8**
OBN pmax pmax
comp=Z,8.0nm,1.2s
OBN MLR MLR
comp=Z,300nm,17.0s

OBN Obninsk 13.38 342 *e*P **Pn** **08 39 26.6 -0.1**
comp=Z,8.0nm,1.2s
VOIR 13.64 289 ⇓P **Pn** **08 39 28.5 -1.9**
VOIR 13.64 289⇓*i*P **Pn** **08 39 28.5 -1.9**
VOIR 13.64 289 P **Pn** **08 39 28.5 -1.9**
BURAR Bucovina Array 13.91 298 ⇓P **Pn** **08 39 35.0 +0.9**
BURAR Bucovina Array 13.91 298⇓*i*P **Pn** **08 39 35.0 +0.9**
BURAR Bucovina Array 13.91 298⇓*i*P **Pn** **08 39 35.0 +0.9**
BUR08 Bucovina Ar. S 13.93 298 *e*Pn **Pn** **08 39 33.6 -0.7**
BUR08 Bucovina Ar. S 13.93 298 *e*Pn **Pn** **08 39 33.7 -0.7**
EIL Elat 14.60 211 LR LR 08 45 46.2
comp=Z,116nm,20.3s,baz=270,slow=39
ARU Arti 16.91 30*d*⇓P **Pn** **08 40 11.3 -2.1**
ARU S **Sn** **08 43 18.7 -1.9**
ARU pmax pmax
comp=Z,24nm,1.7s
SVE Sverdlovsk 17.99 32 *e*P **Pn** **08 40 25.0 -1.7**
SVE *e*S **Sn** **08 43 39.7 -6.9**
SVE pmax pmax
comp=Z,81nm,1.1s
SOKR Solikamsk 18.92 21 *e*P **P** **08 40 34.3 -3.0**
SOKR pmax pmax
comp=Z,30nm,1.2s
KK31 Karatay Array 19.75 79 ⇓P **Pn** **08 40 47.9 -0.3**
comp=Z,19nm,0.9s,baz=303,slow=9.3,SNR=67
KK31 Karatay Array 19.75 79 *i* P **Pn** **08 40 47.8 -0.3**
KK31 pmax pmax
comp=Z,9.0nm,0.5s
KK31 Karatay Array 19.75 79 *i* P **Pn** **08 40 47.8 -0.3**
comp=Z,9.0nm,0.5s
KKAR Karatay Array 19.75 79 *e*P **Pn** **08 40 47.5 -0.6**
KKAR pmax pmax
comp=Z,9.0nm,0.6s
KKAR Karatay Array 19.75 79 *e*P **Pn** **08 40 47.5 -0.6**
comp=Z,9.1nm,0.6s
KKAR Karatay Array 19.75 79 *e*P **Pn** **08 40 47.5 -0.6**
comp=Z,9.1nm,0.6s
BRVK Borovoye 20.68 50 ⇓P **P** **08 40 57.2 +0.6**
comp=Z,72nm,0.9s
BRVK Borovoye 20.68 50*d*⇓*i*P **P** **08 40 57.0 +0.4**
BRVK pmax pmax
comp=Z,72nm,0.9s
BRVK Borovoye 20.68 50 *e*P **P** **08 40 57.1 +0.6**
comp=Z,45nm,0.8s
BRVK Borovoye 20.68 50 P **P** **08 40 57.2 +0.6**
comp=Z,72nm,0.9s
BVA0 Borovoye Array 20.73 50 ⇑P **P** **08 40 57.5 +0.4**
comp=Z,32nm,0.8s
BVA0 Borovoye Array 20.73 50 P **P** **08 40 57.5 +0.4**
comp=Z,32nm,0.8s
BVAR Borovoye Array 20.73 50 P **P** **08 40 58.2 +1.1**
BVAR S **S** **08 44 42.4 -5.2**
BVAR pmax pmax
comp=Z,27nm,0.8s
BVAR smax smax
comp=N,2.0nm,0.7s
BVAR Borovoye Array 20.73 50 P **P** **08 40 58.2 +1.1**
BVAR S **S** **08 44 42.4 -5.2**
BVAR Borovoye Array 20.73 50 P **P** **08 40 58.2 +1.1**
comp=N,26nm,0.8s,baz=232,slow=7.3,SNR=93
BVAR S **S** **08 44 42.4 -5.2**
comp=N,2.4nm,0.7s,baz=240,slow=20,SNR=3.7
BVAR Borovoye Array 20.73 50 P **P** **08 40 58.2 +1.1**
comp=N,27nm,0.8s
VOSK Vostochnaya 20.97 51 ⇑P **P** **08 40 59.8 0.0**
comp=N,28nm,1.0s
VOSK Vostochnaya 20.97 51 P **P** **08 40 59.4 -0.3**
VOSK pmax pmax
comp=Z,39nm,1.2s
VOSK Vostochnaya 20.97 51 P **P** **08 40 59.4 -0.3**
comp=Z,39nm,1.2s
CUC Castrocucco 20.98 272 *e*P **P** **08 41 00.8 +0.8**
comp=Z,70nm,1.9s
CUC Castrocucco 20.98 272 *e*P **P** **08 41 00.8 +0.8**
comp=Z,70nm,1.9s
FINES FINESS Array B 21.64 337 P **P** **08 41 09.2 +2.4**
FINES FINESS Array B 21.64 337 P **P** **08 41 09.2 +2.4**
comp=Z,3.8nm,0.9s,baz=148,slow=11,SNR=4.7
FINES FINESS Array B 21.64 337 P **P** **08 41 09.2 +2.4**
comp=Z,4.0nm,0.9s
GERES GERESS Array B 21.70 297 P **P** **08 41 09.2 +1.5**
GERES GERESS Array B 21.70 297 P **P** **08 41 09.2 +1.5**
comp=Z,2.1nm,0.7s,baz=109,slow=15,SNR=10
GERES GERESS Array B 21.70 297 P **P** **08 41 09.2 +1.5**
comp=Z,2.0nm,0.6s
KHC Kasperske Hory 21.81 298 *i* P **P** **08 41 06.4 -2.4**
TMCR Tamitsa 21.89 353 *e*P P 08 41 15.0 +5.5
TMCR pmax pmax
comp=Z,22nm,0.8s
EKS2 Erkin-Say 22.19 79 *e*P **P** **08 41 13.9 +0.8**
EKS2 pmax pmax
comp=Z,15nm,0.8s
EKS2 Erkin-Say 22.19 79 P **P** **08 41 14.6 +1.5**
SNR=9.7
EKS2 Erkin-Say 22.19 79 *e*P **P** **08 41 13.9 +0.8**
comp=Z,14nm,0.8s
EKS2 Erkin-Say 22.19 79 *e*P **P** **08 41 13.9 +0.8**
comp=Z,14nm,0.8s
AML Almayashu 22.22 81 *i* P **P** **08 41 15.5 +1.8**
AML Almayashu 22.22 81 P **P** **08 41 15.5 +1.8**
SNR=9.0
AML Almayashu 22.22 81 *i* P **P** **08 41 15.5 +1.8**
CLL Collm 22.50 303 *e*P **P** **08 41 18.0 +1.8**
CLL pmax pmax
comp=Z,25nm,1.8s
CLL Collm 22.50 303 *e*P **P** **08 41 18.0 +1.8**
comp=Z,25nm,1.8s
CLL LmV 08 52 00.0
comp=Z,100nm,19.0s
CLL Collm 22.50 303 *e*P **P** **08 41 18.0 +1.8**
comp=Z,25nm,1.8s
USP Ospenovka 22.61 78 *i* P **P** **08 41 17.8 +0.3**
USP Ospenovka 22.61 78 P **P** **08 41 17.8 +0.3**
SNR=5.2
USP Ospenovka 22.61 78 *i* P **P** **08 41 17.8 +0.3**
AAK Ala-Archa 22.71 79 P **P** **08 41 20.1 +1.4**
AAK pmax pmax
comp=Z,16nm,0.9s
AAK Ala-Archa 22.71 79 P **P** **08 41 20.1 +1.4**
SNR=13
AAK Ala-Archa 22.71 79 *e*P **P** **08 41 18.8 0.0**
comp=Z,37nm,1.3s
AAK Ala-Archa 22.71 79 P **P** **08 41 20.1 +1.4**
comp=Z,16nm,0.9s,baz=253,slow=6.3,SNR=16
AAK Ala-Archa 22.71 79 P **P** **08 41 20.1 +1.4**
comp=Z,16nm,0.9s
FRU Bishkek 22.77 79 *i* P **P** **08 41 20.0 +0.9**
FRU *e* 08 42 04.0
FRU *e* 08 46 02.0
FRU *e* 08 46 30.0
FRU pmax pmax
comp=Z,80nm,2.0s
FRU Bishkek 22.77 79 *i* P **P** **08 41 20.0 +0.9**
comp=Z,80nm,2.0s
KBK Karagaybulak 23.04 79 *i* P **P** **08 41 24.0 +1.9**
KBK Karagaybulak 23.04 79 P **P** **08 41 24.0 +1.9**
SNR=6.2
KZA Kyzart 23.37 80 *i* P **P** **08 41 28.7 +3.0**
KZA Kyzart 23.37 80 P **P** **08 41 28.7 +3.0**
SNR=10.0
TKM2 Tokmak 2 23.46 78 ⇓P **P** **08 41 26.5 +0.1**
comp=Z,30nm,1.4s
TKM2 Tokmak 2 23.46 78 *e*P **P** **08 41 26.8 +0.4**
TKM2 pmax pmax
comp=Z,28nm,1.2s
TKM2 Tokmak 2 23.46 78 P **P** **08 41 27.5 +1.1**
SNR=13
TKM2 Tokmak 2 23.46 78 *e*P **P** **08 41 26.8 +0.4**
comp=Z,28nm,1.2s
TKM2 Tokmak 2 23.46 78 *e*P **P** **08 41 26.8 +0.4**
comp=Z,28nm,1.2s
DAVOX Davos/Dischmat 24.22 292 P **P** **08 41 34.0 +0.5**
DAVOX Davos/Dischmat 24.22 292 P **P** **08 41 34.0 +0.5**
comp=Z,4.3nm,0.6s,baz=145,slow=15,SNR=5.2
DAVOX Davos/Dischmat 24.22 292 P **P** **08 41 34.0 +0.5**
KURBB Kurchatov Arra 25.16 59 P **P** **08 41 42.8 +1.0**
comp=Z,14nm,1.1s,baz=270,slow=10,SNR=54
KURK Kurchatov 25.23 59 P **P** **08 41 42.8 +0.4**
KURK pmax pmax
comp=Z,12nm,1.0s
KURK Kurchatov 25.23 59 P **P** **08 41 42.8 +0.4**
KURK Kurchatov 25.23 59 P **P** **08 41 42.8 +0.4**
HFS Hagfors 25.31 324 P **P** **08 41 43.8 +0.7**
HFS Hagfors 25.31 324 P **P** **08 41 43.8 +0.7**
comp=Z,4.1nm,0.7s,baz=134,slow=13,SNR=5.6
HFS Hagfors 25.31 324 P **P** **08 41 43.8 +0.7**

NB2	**NORSAR Subarra**	**26.83**	**325**	P	P	08 42 07.1	+10
	comp=Z,3.4nm,0.8s,baz=123,slow=9.3						
MK31	**Makanchi Array**	**27.67**	**68**	P	**P**	**08 42 05.7**	**+1.1**
	comp=Z,1.7nm,0.6s,baz=279,slow=7.3,SNR=32						
MK31	**Makanchi Array**	**27.67**	**68**	P	**P**	**08 42 05.7**	**+1.1**
	comp=Z,1.7nm,0.6s,SNR=32						
MKAR	**Makanchi Array**	**27.67**	**68**	P	**P**	**08 42 05.6**	**+1.0**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MKAR	**Makanchi Array**	**27.67**	**68**	P	**P**	**08 42 05.6**	**+1.0**
MKAR	**Makanchi Array**	**27.67**	**68**	P	**P**	**08 42 05.6**	**+1.0**
	comp=Z,2.2nm,0.6s,baz=279,slow=7.6,SNR=22						
MKAR	**Makanchi Array**	**27.67**	**68**	P	**P**	**08 42 05.6**	**+1.0**
NVS	**Novosibirsk**	**28.53**	**51**	*eP*	**P**	**08 42 09.8**	**-2.2**
ZALV	**Zalesovo Beam**	**29.33**	**53**	P	**P**	**08 42 19.5**	**+0.3**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZALV	**Zalesovo Beam**	**29.33**	**53**	P	**P**	**08 42 19.4**	**+0.3**
ZALV	**Zalesovo Beam**	**29.33**	**53**	P	**P**	**08 42 19.5**	**+0.3**
	comp=Z,1.3nm,0.5s,baz=265,slow=13,SNR=4.3						
ZALV	**Zalesovo Beam**	**29.33**	**53**	P	**P**	**08 42 19.5**	**+0.3**
HVS	**Khovu-Aksy**	**34.75**	**58**	*eP*	P	08 43 10.6	+3.7
HVS				pmax	pmax		
	comp=Z,18nm,0.9s						
ESDC	**Sonseca Array**	**35.56**	**282**	P	**P**	**08 43 13.3**	**-0.6**
ESDC	**Sonseca Array**	**35.56**	**282**	P	**P**	**08 43 13.3**	**-0.6**
	comp=Z,1.0nm,0.7s,baz=72,slow=9.5,SNR=4.6						
ESDC	**Sonseca Array**	**35.56**	**282**	P	**P**	**08 43 13.4**	**-0.6**
GTA	**Gaotai**	**41.92**	**75**	*eP*	**P**	**08 44 09.4**	**+2.0**
GTA				sP	**sP**	**08 44 16.4**	**+0.5**
GTA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
GTA				pmax	pmax		
	comp=Z,170nm,5.7s						
GTA				LR	LR		
	comp=N,190nm,19.7s						
GTA				LR	LR		
	comp=E,190nm,17.3s						
GTA				LR	LR		
	comp=Z,180nm,14.2s						
SONM	**Songino Array**	**43.51**	**61**	P	**P**	**08 44 20.3**	**+0.1**
SONM				PcP	**PcP**	**08 46 07.2**	**-0.6**
SONM	**Songino Array**	**43.51**	**61**	P	**P**	**08 44 20.3**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=264,slow=7.1,SNR=1.8						
SONM				PcP	**PcP**	**08 46 07.2**	**-0.6**
	comp=Z,0.7nm,0.9s,baz=263,slow=3.8,SNR=3.6						
SONM	**Songino Array**	**43.51**	**61**	P	**P**	**08 44 20.3**	**+0.1**
ULN	**Ulaanbaatar**	**43.93**	**60**	*eP*	**P**	**08 44 24.6**	**+1.0**
	comp=Z,5.8nm,0.9s						
ULN	**Ulaanbaatar**	**43.93**	**60**	*eP*	**P**	**08 44 24.6**	**+1.0**
	comp=Z,5.8nm,0.9s						
TOA0	**Torodi Ar. Sit**	**46.50**	**244**	*eP*	**P**	**08 44 43.2**	**-0.9**
TOA0	**Torodi Ar. Sit**	**46.50**	**244**	*eP*	**P**	**08 44 43.2**	**-0.9**
TORD	**Torodi Ar. Bea**	**46.50**	**244**	P	**P**	**08 44 43.0**	**-1.1**
TORD	**Torodi Ar. Bea**	**46.50**	**244**	P	**P**	**08 44 43.0**	**-1.1**
	comp=Z,4.3nm,1.0s,baz=45,slow=6.4,SNR=14						
TORD	**Torodi Ar. Bea**	**46.50**	**244**	P	**P**	**08 44 43.0**	**-1.1**
TIXI	**Tiksi**	**48.84**	**25**	⇑*iP*	**P**	**08 45 02.5**	**+1.0**
TIXI				pmax	pmax		
	comp=Z,12nm,1.5s						
CMAR	**Chiang Mai Arr**	**52.37**	**100**	P	**P**	**08 45 29.0**	**+0.1**
CMAR	**Chiang Mai Arr**	**52.37**	**100**	P	**P**	**08 45 29.0**	**+0.1**
	comp=Z,1.0nm,0.4s,baz=301,slow=7.8,SNR=6.6						
CMAR	**Chiang Mai Arr**	**52.37**	**100**	P	**P**	**08 45 29.0**	**+0.1**
SEY	**Seymchan**	**60.66**	**30**	⇓*iP*	**P**	**08 46 29.2**	**+1.9**
KSAR	**Wonju Array Be**	**62.22**	**64**	P	**P**	**08 46 38.6**	**+0.4**
KSAR	**Wonju Array Be**	**62.22**	**64**	P	**P**	**08 46 38.6**	**+0.4**
KSRS	**Korea Array**	**62.24**	**64**	P	**P**	**08 46 38.6**	**+0.3**
	comp=Z,2.9nm,1.0s,baz=290,slow=5.9,SNR=7.8						
KSRS				LR	LR	09 16 15.2	
	comp=Z,68nm,19.3s,baz=305,slow=38						
SCHQ	**Schefferville**	**66.39**	**324**	LR	LR	09 17 45.4	
	comp=Z,140nm,20.8s,baz=277,slow=38						
COLA	**College**	**72.55**	**5**	*iP*	**P**	**08 47 41.8**	**-1.3**
COLA				pmax	pmax		
	comp=Z,45nm,1.9s						
ILAR	**Eielson Array**	**72.71**	**5**	P	**P**	**08 47 44.9**	**+0.8**
ILAR	**Eielson Array**	**72.71**	**5**	P	**P**	**08 47 44.9**	**+0.8**
	comp=Z,0.5nm,1.0s,baz=336,slow=2.0,SNR=3.1						
ILAR	**Eielson Array**	**72.71**	**5**	P	**P**	**08 47 44.9**	**+0.8**
NEW	**Newport**	**87.98**	**347**	*eP*	**P**	**08 49 07.4**	**+0.9**
	comp=Z,3.9nm,1.3s						
NEW	**Newport**	**87.98**	**347**	*eP*	**P**	**08 49 07.4**	**+0.9**
	comp=Z,3.9nm,1.3s						
SLMT	**Seeley Lake**	**88.31**	**345**	*eP*	**P**	**08 49 08.7**	**+0.4**
SLMT	**Seeley Lake**	**88.31**	**345**	*eP*	**P**	**08 49 08.7**	**+0.4**

*IDC **09** 08:43:39.5±1.9, 18°.11S×178°.41W, h563km±24km, mb3.3/8, mb1 3.6/10, mb1mx3.3/21, mbtmp3.3/10, Error ellipse: s-maj=25.7km s-min=14.3km az=144.0*
*AUST **09** 08:43:43.6±0.0, 17°.67S×177°.82W, h698km±1km, Error ellipse: s-maj=6.4km s-min=2.3km az=290.0*

ISC 09 08:43:40.9±0.9, 17°.9S±0°.2×178°.6W±0°.1, h579km, n22, σ1§36/23, mb4.0/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.65**	**59**	P	P	08 45 34.0	-2.4
	4.5nm,0.3s,baz=81,slow=21,SNR=5.2						
DZM	**Mont Dzumac**	**14.68**	**251**	P	**P**	**08 46 47.6**	**+0.7**
	0.5nm,0.3s,baz=85,slow=17,SNR=5.6						
URZ	**Urewera**	**20.60**	**190**	P	**P**	**08 47 38.1**	**-2.7**
	4.0nm,0.7s,baz=109,slow=18,SNR=6.8						
RPZ	**Rata Peaks**	**27.16**	**197**	P	**P**	**08 48 36.9**	**-2.1**
	3.0nm,0.7s,baz=272,slow=18,SNR=3.4						
ARMA	**Armidale**	**29.80**	**240**	P	**P**	**08 49 04.2**	**+1.9**
	baz=30,SNR=6.3						
CNB	**Canberra Magne**	**33.30**	**232**	P	**P**	**08 49 33.8**	**+1.9**
	baz=34,SNR=18						
CMSA	**Cobar Meteorol**	**35.01**	**240**	P	**P**	**08 49 47.4**	**+1.3**
	baz=36,SNR=13						
TOO	**Toolangi**	**37.04**	**231**	P	**P**	**08 50 04.6**	**+1.8**
	baz=38,SNR=4.9						
STKA	**Stephens Creek**	**38.49**	**241**	P	**P**	**08 50 15.7**	**+1.1**
	7.2nm,0.5s,baz=94,slow=9.5,SNR=45						
STKA	**Stephens Creek**	**38.49**	**241**	P	**P**	**08 50 16.2**	**+1.6**
	baz=39,SNR=27						
BBOO	**Buckleboo**	**43.27**	**241**	P	**P**	**08 50 53.4**	**+0.9**
	baz=44,SNR=23						
WRA	**Warramunga Arr**	**44.49**	**260**	P	**P**	**08 51 01.6**	**-0.5**
	2.2nm,0.5s,baz=96,slow=6.9,SNR=82						
WRA				PcP	**PcP**	**08 52 32.8**	**+0.1**
	0.8nm,0.9s,baz=91,slow=3.2,SNR=3.8						
ASAR	**Alice Springs**	**44.65**	**254**	P	**P**	**08 51 03.4**	**+0.1**
	21nm,0.6s,baz=88,slow=8.4,SNR=368						
ASAR				PcP	**PcP**	**08 52 33.1**	**-0.1**
	0.5nm,0.5s,baz=103,slow=3.8,SNR=3.8						
KDU	**Kakadu**	**47.42**	**269**	P	**P**	**08 51 24.7**	**+0.4**
	baz=48,SNR=3.6						
MTN	**Manton Dam**	**48.66**	**269**	P	**P**	**08 51 33.6**	**+0.1**
	baz=49,SNR=3.2						
FORT	**Forrest**	**49.87**	**245**	P	**P**	**08 51 42.2**	**+0.1**
	baz=51,SNR=9.0						
PALU	**Palau**	**52.73**	**294**	S	**S**	**08 58 46.7**	**-2.0**
	baz=53,SNR=3.3						
MEEK	**Meekatharra**	**58.29**	**249**	P	**P**	**08 52 41.3**	**-0.1**
	baz=59,SNR=3.9						
WSI	**Waingapu**	**59.73**	**269**	P	**P**	**08 52 50.3**	**-0.9**
	baz=60,SNR=3.5						
ILAR	**Eielson Array**	**85.95**	**13**	P	**P**	**08 55 19.2**	**-0.7**
	0.2nm,0.6s,baz=225,slow=5.5,SNR=6.3						
TXAR	**Lajitas Array**	**86.13**	**58**	P	**P**	**08 55 23.1**	**+1.3**
	0.8nm,0.7s,baz=220,slow=5.9,SNR=13						
PDAR	**Pinedale Array**	**87.47**	**43**	P	**P**	**08 55 28.0**	**0.0**
	0.5nm,0.6s,baz=199,slow=4.1,SNR=5.5						

*ISCJB **09** 08:59:59.1±0.5, 59°.49N±0°.03×24°.66E±0°.07, h0km, Error ellipse: s-maj=5.2km s-min=4.4km az=167.1*
*CSEM **09** 09:00:00.4±0.2, 59°.49N×24°.75E, h2km, ML2.7, Error ellipse: s-maj=4.4km s-min=3.6km az=130.0, Mining explosion.*
*BER **09** 09:00:01.9±3.7, 59°.51N×24°.82E, h0km, ML2.6(NAO), Suspected explosion*
*NAO **09** 09:00:01.1±1.0, 59°.51N×24°.80E, ML2.6*
*HEL **09** 09:00:01.4±0.0, 59°.50N×24°.73E, h0km, ML2.6, Explosion*
*IDC **09** 09:00:02.7±1.8, 59°.67N×24°.50E, h0km, mb1 3.6/3, mb1mx3.2/25, mbtmp3.5/3, ML3.4/3, Error ellipse: s-maj=19.7km s-min=6.7km az=146.0*
*UPP **09** 09:00:21.6, 59°.73N×21°.74E, h0km, ML2.5, Suspected Mining explosion.*

ISC 09 08:59:59.3±0.7, 59°.48N±0°.03×24°.71E±0°.04, h0km, n41, σ1§00/50, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**0.76**	**348**	*eP*	**Pg**	**09 00 14.7**	**+1.0**
MEF				*eS*	**Sg**	**09 00 24.3**	**+0.7**
MEF	**Metsahovi**	**0.76**	**348**	P	**Pg**	**09 00 14.7**	**+1.0**
MEF				S	**Sg**	**09 00 24.2**	**+0.7**
MTSE	**Matsula**	**0.90**	**211**	*eP*	**Pb**	**09 00 17.7**	**-0.1**
MTSE				*eS*	**Sb**	**09 00 29.8**	**-0.4**
MTSE	**Matsula**	**0.90**	**211**	P	**Pb**	**09 00 17.6**	**-0.1**
MTSE				S	**Sb**	**09 00 29.7**	**-0.4**
PVF	**Pernaja**	**1.21**	**28**	*eP*	**Pg**	**09 00 22.8**	**+0.3**
PVF	**Pernaja**	**1.21**	**28**	P	**Pg**	**09 00 22.8**	**+0.3**
VSU	**Vasula**	**1.46**	**133**	Pg	**Pb**	**09 00 27.7**	**+0.4**
VSU				Lg	Lg	09 00 47.0	
VSU	**Vasula**	**1.46**	**133**	Pg	**Pb**	**09 00 27.7**	**+0.4**
VSU				Lg	Lg	09 00 47.0	
VSU	**Vasula**	**1.46**	**133**	*eP*	**Pb**	**09 00 27.7**	**+0.4**
VSU				*eS*	**Sg**	**09 00 45.9**	**-0.3**
VSU	**Vasula**	**1.46**	**133**	P	**Pb**	**09 00 27.7**	**+0.4**
VSU				S	**Sg**	**09 00 45.9**	**-0.3**
VSU				Lg	Lg	09 00 47.0	
VJF	**Virojoki**	**1.78**	**52**	*eP*	**Pb**	**09 00 32.5**	**-0.2**
VJF	**Virojoki**	**1.78**	**52**	P	**Pb**	**09 00 32.5**	**-0.2**
FIA0	**FINESS Array S**	**2.08**	**18**	Pn	**Pb**	**09 00 37.5**	**-0.4**
	baz=182,slow=16						
FIA0				Lg	Lg	09 01 05.2	
	baz=199,slow=37						
FIA0	**FINESS Array S**	**2.08**	**18**	Pn	**Pb**	**09 00 37.5**	**-0.4**
	baz=182,slow=16						
FIA0				Lg	Lg	09 01 05.2	
	baz=199,slow=37						
FIA0	**FINESS Array S**	**2.08**	**18**	Pn	**Pb**	**09 00 37.5**	**-0.4**
	baz=182,slow=15,SNR=50						
FIA0				Lg	Lg	09 01 05.2	
	baz=199,slow=28,SNR=0.4						
FINES	**FINESS Array B**	**2.08**	**18**	Pn	**Pb**	**09 00 38.1**	**+0.2**
	23nm,0.3s,baz=206,slow=15,SNR=530						
FINES				Lg	Lg	09 01 04.0	
	16nm,0.3s,baz=204,slow=26,SNR=22						
FINES				Rg	Rg	09 01 16.0	
	98nm,0.9s,baz=201,slow=36,SNR=24						
RAF	**Rauma**	**2.13**	**318**	MSG		09 01 10.0	
	comp=Z,41nm,0.2s						
RAF	**Rauma**	**2.13**	**318**	*eP*	**Pb**	**09 00 38.9**	**+0.2**
	SNR=50						
KEF	**Keuruu**	**2.70**	**2**	MSG		09 01 23.9	
	comp=Z,15nm,0.1s						
KAF	**Kangasniemi**	**2.75**	**16**	MSG		09 01 25.6	
	comp=Z,25nm,0.2s						
NRTU	**Norrtaelje**	**3.10**	**276**	P	**Pn**	**09 00 50.7**	**+1.3**
ESKU	**Eskilstuna**	**4.27**	**270**	P	**Pn**	**09 01 07.3**	**+1.9**
FALU	**Falun**	**4.58**	**287**	P	**Pn**	**09 01 10.8**	**+1.2**
NRAU	**Nora**	**4.93**	**275**	P	**Pn**	**09 01 15.6**	**+1.1**
HFS	**Hagfors**	**5.60**	**281**	Pn	**Pn**	**09 01 24.7**	**+1.0**
	baz=106,slow=14						
HFS				Sn	**Sn**	**09 02 28.6**	**-0.1**
	baz=92,slow=28						
HFS				Lg	Lg	09 02 58.3	
	baz=92,slow=28						
HFS	**Hagfors**	**5.60**	**281**	Pn	**Pn**	**09 01 24.7**	**+1.0**
	baz=106,slow=14						
HFS				Sn	**Sn**	**09 02 28.6**	**-0.1**
	baz=92,slow=28						
HFS				Lg	Lg	09 02 58.3	
	baz=92,slow=28						
HFS	**Hagfors**	**5.60**	**281**	Pn	**Pn**	**09 01 24.4**	**+0.6**
	comp=Z,1.0nm,0.3s,baz=92,slow=13,SNR=31						
HFS				Sn	**Sn**	**09 02 27.1**	**-1.5**
	comp=Z,2.0nm,0.3s,baz=86,slow=24,SNR=9.0						
HFS				Lg	Lg	09 02 52.3	
	comp=Z,1.5nm,0.3s,baz=92,slow=33,SNR=5.3						
HFS	**Hagfors**	**5.60**	**281**	Pn	**Pn**	**09 01 24.7**	**+1.0**
	baz=106,slow=13,SNR=50						
HFS				Sn	**Sn**	**09 02 28.6**	**-0.1**
	baz=92,slow=25,SNR=50						
HFS				Lg	Lg	09 02 58.3	
	baz=92,slow=27,SNR=2.9						
UDD	**Uddeholm**	**5.64**	**281**	P	**Pn**	**09 01 26.2**	**+1.9**
FINU	**Finntorp**	**6.24**	**275**	P	**Pn**	**09 01 32.8**	**+0.3**
NB2	**NORSAR Subarra**	**6.89**	**289**	Pn	**Pn**	**09 01 42.1**	**+0.5**
	baz=98,slow=14						
NB2				Sn	**Sn**	**09 02 58.6**	**-2.0**
	baz=98,slow=22						
NB2				Lg	Lg	09 03 32.3	
	baz=96,slow=28						
NB2	**NORSAR Subarra**	**6.89**	**289**	Pn	**Pn**	**09 01 42.1**	**+0.5**
	baz=98,slow=14						
NB2				Sn	**Sn**	**09 02 58.6**	**-2.0**
	baz=98,slow=22						
NB2				Lg	Lg	09 03 32.3	
	baz=96,slow=28						
NB2	**NORSAR Subarra**	**6.89**	**289**	Pn	**Pn**	**09 01 42.1**	**+0.5**
	baz=98,slow=13,SNR=50						
NB2				Lg	Lg	09 03 32.3	
	baz=96,slow=27,SNR=2.8						
NOA	**NORSAR Array B**	**6.89**	**289**	Pn	Pn	09 01 38.0	-3.5
	comp=Z,0.8nm,0.3s,baz=92,slow=17,SNR=12						
NOA				Sn	**Sn**	**09 02 57.2**	**-3.4**
	comp=Z,1.0nm,0.3s,baz=109,slow=20,SNR=4.4						
NOA				Lg	Lg	09 03 30.7	
	comp=Z,1.2nm,0.3s,baz=86,slow=16,SNR=4.0						
APA0	**Apatity Array**	**8.94**	**21**	Pn	**Pn**	**09 02 09.4**	**-0.1**
	baz=200,slow=12						
APA0	**Apatity Array**	**8.94**	**21**	Pn	**Pn**	**09 02 09.4**	**-0.1**
	baz=200,slow=12						
APA0	**Apatity Array**	**8.94**	**21**	Pn	**Pn**	**09 02 09.4**	**-0.1**
	baz=200,slow=12,SNR=50						
ARA0	**ARCESS Array S**	**10.10**	**2**	Pn	**Pn**	**09 02 24.5**	**-0.9**
	baz=177,slow=14						
ARA0	**ARCESS Array S**	**10.10**	**2**	Pn	**Pn**	**09 02 24.5**	**-0.9**
	baz=177,slow=14						
ARA0	**ARCESS Array S**	**10.10**	**2**	Pn	**Pn**	**09 02 24.5**	**-0.9**
	baz=177,slow=13,SNR=50						
ARCES	**ARCESS Array B**	**10.10**	**2**	Pn	**Pn**	**09 02 24.2**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=182,slow=12,SNR=38						
ARCES				Lg	Lg	09 05 12.0	
	comp=Z,0.5nm,0.3s,baz=181,slow=30,SNR=3.2						

IDC 09 09:15:21.4±7.2, 14°.64N×145°.15E, h275km±75km, mb3.3/12, mb1 3.4/12, mb1mx3.2/26, mbtmp3.3/12, MS3.3/4, Ms1 3.3/4, ms1mx2.9/21, Error ellipse: s-maj=33.1km s-min=10.6km az=72.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**12.70**	**348**	LR	LR	09 22 07.9	
	comp=Z,191nm,19.6s,baz=305,slow=32						
JNU	**Nakatsue**	**22.51**	**327**	P	P	09 19 56.5	-1.5
	8.9nm,0.8s,baz=47,slow=10,SNR=6.7						
MJAR	**Matsushiro Arr**	**22.68**	**345**	P	P	09 20 00.9	+1.5
	1.3nm,0.7s,baz=168,slow=9.9,SNR=4.0						
MJAR				LR	LR	09 28 29.0	
	comp=Z,72nm,19.1s,baz=105,slow=35						
USRK	**Ussuriysk Arra**	**31.52**	**342**	LR	LR	09 33 29.6	
	comp=Z,65nm,19.6s,baz=153,slow=34						
WRA	**Warramunga Arr**	**35.98**	**197**	P	P	09 21 55.4	-1.2
	1.2nm,0.6s,baz=17,slow=9.5,SNR=21						
ASAR	**Alice Springs**	**39.63**	**196**	P	P	09 22 27.5	+0.5
	0.3nm,0.6s,baz=21,slow=10,SNR=11						
PETK	**Petropavlovsk-**	**39.64**	**12**	LR	LR	09 38 20.1	
	comp=Z,35nm,19.0s,baz=77,slow=35						
CMAR	**Chiang Mai Arr**	**44.37**	**282**	P	P	09 23 06.6	+1.3
	0.7nm,0.5s,baz=76,slow=7.5,SNR=5.0						
SONM	**Songino Array**	**46.04**	**324**	P	P	09 23 18.0	0.0
	0.3nm,0.6s,baz=141,slow=7.4,SNR=1.9						
STKA	**Stephens Creek**	**46.38**	**184**	P	P	09 23 21.6	+1.0
	1.4nm,0.7s,baz=2.2,slow=9.3,SNR=4.3						
MKAR	**Makanchi Array**	**60.93**	**316**	P	P	09 25 04.4	-1.3
	0.6nm,0.6s,baz=86,slow=8.9,SNR=7.0						
ZALV	**Zalesovo Beam**	**60.94**	**324**	P	P	09 25 06.4	+0.9
	0.8nm,0.6s,baz=124,slow=7.7,SNR=2.8						
KURBB	**Kurchatov Arra**	**64.00**	**319**	P	P	09 25 25.5	-0.3
	2.0nm,0.7s,baz=101,slow=7.6,SNR=15						
BVAR	**Borovoye Array**	**69.28**	**321**	P	P	09 25 59.5	+0.6
	0.9nm,0.5s,baz=90,slow=9.0,SNR=4.4						

DJA 09 09:21:43.0±1.4, 0°S±5°×12°5E±°, h12km±12km, M4.3/7, mb4.5/2, MLv4.2/7, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.57**	**309**	P	Pn	09 22 09.7	-1.0
KMSI				S	Sn	09 22 30.3	-0.7
LBMI	**Labuha**	**2.30**	**96**	P	Pn	09 22 20.9	+0.1
GTOI	**Gorontalo**	**2.43**	**295**	P	Pb	09 22 24.8	-1.9
LUWI	**Luwuk**	**2.52**	**256**	P	Pn	09 22 24.4	+0.6
LUWI				S	Sn	09 22 55.7	+1.3
APSI	**Ampana**	**3.60**	**262**	P	Pn	09 22 39.5	+0.9
TTSI	**Tana Toraja**	**5.99**	**244**	P	Pn	09 23 13.6	+2.1
	25nm,0.6s,0.1nm						
SPSI	**Sidrap Palu**	**6.48**	**237**	P	Pn	09 23 14.0	-4.3

WEL 09 09:24:29.9±0.6, 36°.84S×177°.24E, h203km±5km, ML3.2/9, Error ellipse: s-maj=6.7km s-min=5.0km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.11**	**131**	PN	Pn	09 25 01.5	+0.7
URZ	**Urewera**	**1.42**	**184**	PN	Pn	09 25 03.2	0.0
URZ				SN	S	09 25 29.8	+0.9
URZ	**Urewera**	**1.42**	**184**	P	Pn	09 25 02.9	-0.3
	2.6nm,0.3s,baz=288,slow=1.6,SNR=28						
PUZ	**Puketiti**	**1.47**	**147**	PN	Pn	09 25 03.2	-0.5
PUZ				SN	S	09 25 28.2	-1.5
MWZ	**Matawai**	**1.51**	**171**	PN	Pn	09 25 04.1	0.0
CNGZ	**Carnagh Statio**	**1.81**	**155**	PN	Pn	09 25 07.0	+0.2
KNZ	**Kokohu**	**2.20**	**171**	PN	Pn	09 25 10.4	-0.3
NMHZ	**Naumai**	**2.28**	**189**	PN	Pn	09 25 12.8	+1.1
MHGZ	**Mahia Peninsul**	**2.37**	**167**	PN	Pn	09 25 13.2	+0.7
MHGZ				SN	S	09 25 44.8	-0.6
BKZ	**Black Stump Fm**	**2.40**	**194**	PN	Pn	09 25 12.9	-0.1
BKZ				SN	S	09 25 46.8	+0.7
MCHZ	**McNeill Hill**	**2.63**	**189**	PN	Pn	09 25 16.0	+0.5
BHHZ	**Black Hill Sta**	**2.80**	**199**	PN	Pn	09 25 17.4	-0.1
WNVZ	**Wahianoa**	**2.80**	**207**	PN	Pn	09 25 17.4	-0.3
KAHZ	**Kahuranaki**	**2.96**	**185**	PN	Pn	09 25 19.1	-0.2
PXZ	**Pawanui**	**3.20**	**185**	PN	Pn	09 25 21.2	-0.8
ANWZ	**Angora Road**	**3.67**	**189**	PN	Pn	09 25 27.1	-0.6
BFZ	**Birch Farm**	**3.91**	**191**	PN	Pn	09 25 29.5	-1.2
MRZ	**Mangatainoka R**	**4.03**	**198**	PN	Pn	09 25 30.2	-1.9
HOWZ	**Holdsworth Sta**	**4.27**	**198**	PN	Pn	09 25 33.5	-1.7
OGWZ	**Otaki Gorge**	**4.29**	**202**	PN	Pn	09 25 33.1	-2.2
KIW	**Kapiti Island**	**4.41**	**204**	PN	Pn	09 25 34.9	-2.0
CAW	**Cannon Point**	**4.59**	**201**	PN	Pn	09 25 37.3	-1.8
TCW	**Tory Channel**	**4.94**	**207**	PN	Pn	09 25 41.5	-2.1
NNZ	**Nelson**	**5.31**	**213**	PN	Pn	09 25 48.0	-0.3
NNZ				SN	S	09 26 49.3	-0.4
QRZ	**Quartz Range**	**5.42**	**221**	PN	Pn	09 25 51.7	+2.0
THZ	**Tophouse**	**5.96**	**213**	PN	Pn	09 25 56.4	-0.3
KHZ	**Kahutara**	**6.26**	**206**	PN	Pn	09 25 58.0	-2.5

IDC 09 09:27:40.9±18.0, 24°.15S×176°.34W, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.8/21, mbtmp4.0/5, Error ellipse: s-maj=340.3km s-min=139.7km az=83.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**34.83**	**269**	P	P	09 34 34.4	+0.6
	4.5nm,0.7s,baz=98,slow=12,SNR=9.0						
STKA	**Stephens Creek**	**37.74**	**249**	P	P	09 34 58.4	-0.3
	0.6nm,0.4s,baz=90,slow=3.0,SNR=4.5						
ASAR	**Alice Springs**	**45.30**	**260**	P	P	09 36 00.3	-0.5
	0.5nm,0.4s,baz=101,slow=8.1,SNR=7.1						
WRA	**Warramunga Arr**	**45.73**	**265**	P	P	09 36 03.6	-0.6
	1.4nm,0.5s,baz=103,slow=8.3,SNR=27						
FITZ	**Fitzroy Crossi**	**54.15**	**265**	P	P	09 37 08.6	+0.3
	1.2nm,0.6s,baz=112,slow=18,SNR=5.2						

*ISN **09** 09:44:12.9±20.0, 43°.49N×43°.16E, h0km±999km, ML4.1*
*AZER **09** 09:44:18.7±0.0, 42°.62N×43°.83E, h0km±23km, Error ellipse: s-maj=20.1km s-min=10.4km az=249.0*
*IDC **09** 09:44:19.7±1.2, 42°.52N×43°.55E, h0km, mb3.8/7, mb1 3.9/9, mb1mx3.7/27, mbtmp3.9/9, ML3.7/2, MS3.2/2, Ms1 3.2/2, ms1mx2.6/43, Error ellipse: s-maj=17.5km s-min=13.2km az=27.0*
*ISCJB **09** 09:44:20.9±0.3, 42°.53N±0°.02×43°.56E±0°.02, h10km±2km, mb3.8/9, MS3.2/1, Error ellipse: s-maj=2.9km s-min=2.4km az=136.2*
*TIF **09** 09:44:20.3, 42°.54N×43°.58E, h17km*
*MOS **09** 09:44:21.1±1.0, 42°.51N×43°.56E, h13km, mb4.2/5, Error ellipse: s-maj=7.0km s-min=4.4km az=90.0*
*CSEM **09** 09:44:21.6±0.2, 42°.53N×43°.56E, h10km, mb3.9/7, Error ellipse: s-maj=3.3km s-min=3.2km az=107.0*
*DDA **09** 09:44:25.8, 42°.38N×43°.38E, h21km, MD3.4*
*NNC **09** 09:44:27.6±3.0, 42°.85N×44°.52E, h0km, mb4.2, Error ellipse: s-maj=52.4km s-min=27.5km az=114.0*

**ISC 09 09:44:21.4±0.9, 42°.52N±0°.01×43°.58E±0°.02, h8km±6km, n

KBZ pmax pmax
comp=Z,86nm,0.3s
KBZ Khabaz 1.31 338 Pg **Pn 09 44 45.5 -0.5**
comp=Z,86nm,0.3s,baz=170,slow=6.1,SNR=765
KBZ Lg Lg 09 45 02.6
comp=Z,147nm,0.3s,baz=211,slow=12,SNR=14
KBZ Khabaz 1.31 338 Pg **Pn 09 44 45.5 -0.5**
comp=Z,86nm,0.3s
PRTR Priterechnaya 1.34 22 ⇓*i*PG **Pg 09 44 47.2 +0.1**
PRTR *i* S **Sg 09 45 05.6 +1.2**
PRTR Priterechnaya 1.34 22 *i* Pg **Pg 09 44 47.2 +0.1**
PRTR *i* Sg **Sg 09 45 05.6 +1.2**
SHAR Shatzhatmas 1.40 332 ⇓*i*PG **Pn 09 44 47.2 -0.2**
SHAR *i* S **Sb 09 45 05.9 -0.1**
SHAR Shatzhatmas 1.40 332 *i* Pg **Pn 09 44 47.2 -0.2**
SHAR *i* Sg **Sb 09 45 05.9 -0.1**
TRKR Terskaya 1.47 35 ⇓*i*PG **Pg 09 44 49.7 0.0**
TRKR *i* S **Sg 09 45 09.6 +0.8**
TRKR Terskaya 1.47 35 *i* Pg **Pg 09 44 49.7 0.0**
TRKR *i* Sg **Sg 09 45 09.6 +0.8**
PYA Pyatigorsk 1.56 346 ⇓*i*PG **Pb 09 44 50.2 -0.4**
PYA *e*S **Sb 09 45 10.6 0.0**
PYA Pyatigorsk 1.56 346 *i* Pg **Pb 09 44 50.2 -0.4**
PYA *e*Sg **Sb 09 45 10.6 0.0**
KIV Kislovodsk 1.58 336 ⇓*i*PG **Pn 09 44 50.3 +0.5**
KIV *e*S **Sb 09 45 10.8 -0.3**
KIV Kislovodsk 1.58 336 *i* Pg **Pn 09 44 50.3 +0.5**
KIV *e*Sg **Sb 09 45 10.8 -0.3**
DOMR Dombai 1.63 299 ⇓*e*PN **Pn 09 44 51.2 +0.6**
DOMR *e*S **Sb 09 45 13.0 +0.3**
DOMR Dombai 1.63 299 *e*Pn **Pn 09 44 51.2 +0.6**
DOMR *e*Sg **Sb 09 45 13.0 +0.3**
DGRG David-gareji 1.71 128 PN **Pb 09 44 53.1 0.0**
DGRG S **Sg 09 45 18.1 +1.8**
DGRG David-gareji 1.71 128 Pn **Pb 09 44 53.1 0.0**
DGRG Sg **Sg 09 45 18.1 +1.8**
DGRG David-gareji 1.71 128 P **Pb 09 44 53.1 0.0**
DGRG S **Sg 09 45 16.3 0.0**
ARTV Artvin 1.81 223 *i* P **Pn 09 44 53.5 +0.4**
ARTV *i* S **Sn 09 45 17.2 +0.7**
ARTV Artvin 1.81 223 *i* P **Pn 09 44 53.5 +0.4**
ARTV *i* S **Sn 09 45 17.2 +0.7**
DBOC Borcka 1.85 231 *i* P **Pn 09 44 53.0 -0.4**
DBOC *i* S **Sn 09 45 17.7 +0.8**
DBOC Borcka 1.85 231 *i* P **Pn 09 44 53.0 -0.4**
DBOC *i* S **Sn 09 45 17.7 +0.8**
DAGI Agillar 1.90 221 *i* P **Pn 09 44 54.8 +0.5**
DAGI *i* S **Sb 09 45 20.6 +0.2**
DIGO Kars 2.10 184 *i* P **Pn 09 44 58.0 +0.8**
DIGO *e*S **Sb 09 45 27.4 +1.0**
DIGO Kars 2.10 184 *i* P **Pn 09 44 58.0 +0.8**
DIGO *e*S **Sb 09 45 27.4 +1.0**
DDEM Demirkent 2.12 221 *i* P **Pn 09 44 58.0 +0.7**
DDEM *i* S **Sb 09 45 27.3 +0.5**
DDEM Demirkent 2.12 221 *i* P **Pn 09 44 58.0 +0.7**
DDEM *i* S **Sb 09 45 27.3 +0.5**
GANJ Ganja 2.78 131 Pn **Pn 09 45 06.2 0.0**
GANJ ⇑S **Sb 09 45 44.6 -1.0**
MAK Makhachkala 2.92 80 *e*PN **Pn 09 45 06.4 -1.8**
MAK *e* 09 45 19.8
MAK *e* 09 45 49.1
MAK *e* 09 45 54.6
MAK MLR MLR
comp=Z,292nm,6.0s
MAK Makhachkala 2.92 80 *e*Pn **Pn 09 45 06.4 -1.8**
MAK Makhachkala 2.92 80 *e*Pg **Pg 09 45 19.8 +2.3**
MAK *e*Sb **Sg 09 45 54.6 -0.8**
SEKA Sheki 3.00 115 Pn **Pn 09 45 09.7 +0.3**
SNR=18
SEKA ⇓S **Sn 09 45 48.2 +2.7**
SOC Sochi 3.03 292 *e*PN **Pn 09 45 08.0 -1.6**
SOC *e* 09 45 14.8
SOC *e* 09 45 44.3
SOC pmax pmax
comp=Z,11nm,0.2s
SOC Sochi 3.03 292 *e*Pn **Pn 09 45 08.0 -1.6**
comp=Z,11nm,0.2s
SOC *e*Sn **Sn 09 45 44.3 -1.7**
NAX Nakhchivan 3.64 156 Pg **Pb 09 45 25.0 -1.0**
SNR=14
NAX ⇑Lg Lg 09 46 14.1
QUBA Quba, Azerbaij 3.84 106 Pg **Pn 09 45 23.8 +2.9**
SNR=4.0
ANN Anapa 5.01 299 *e*PN **Pn 09 45 38.2 +1.4**
ANN *e*S **Sn 09 46 37.8 +2.9**
ANN pmax pmax
comp=Z,27nm,1.2s
ANN Anapa 5.01 299 *e*Pn **Pn 09 45 38.2 +1.4**
comp=Z,27nm,1.2s
BRTR Keskin Array B 8.01 253 Pn **Pn 09 46 18.9 +0.8**
comp=Z,0.6nm,0.3s,baz=45,slow=9.7,SNR=11
BRTR Keskin Array B 8.01 253 *e*P **Pn 09 46 19.7 +1.6**
comp=Z,1.0nm,0.3s
VSR Storozhevoye 9.21 342 *e*P **Pn 09 46 36.0 +1.5**
VSR pmax pmax
comp=Z,4.0nm,0.6s
VSR Storozhevoye 9.21 342 *e*P **Pn 09 46 36.0 +1.5**
comp=Z,4.0nm,0.6s
BHD Baghdad 9.25 176 *i* Pn **Pn 09 46 35.5 +0.4**
baz=355
BHD *e*sn **Sn 09 48 20.1 +0.7**
BHD Baghdad 9.25 176 *i* Pn **Pn 09 46 35.5 +0.4**
baz=355,SNR=39
NSR Nassriya 11.66 169 *i* Pn Pn 09 47 14.2 +6.1
NSR *e*Sn **Sn 09 49 22.1 +3.6**
AKTO Aktyubinsk 12.70 46 ⇓Pn **Pn 09 47 21.1 -1.1**
comp=Z,5.9nm,0.8s
AKTO ⇑Sn Sn 09 49 32.0 -12
comp=Z,7.8nm,1.1s
AKTO Aktyubinsk 12.70 46 P Pn 09 47 18.4 -3.8
AKTO pmax pmax
comp=Z,1.0nm,0.3s
AKTO Aktyubinsk 12.70 46 Pn Pn 09 47 18.4 -3.8
comp=Z,0.8nm,0.3s,baz=232,slow=11,SNR=17
AKTO Aktyubinsk 12.70 46 Pn **Pn 09 47 21.1 -1.1**
comp=Z,5.9nm,0.8s
AB31 Akbulak array 13.23 54 Pn **Pn 09 47 27.0 -2.4**
comp=Z,1.8nm,0.4s,baz=238,slow=10,SNR=58
AB31 ⇑Sn Sn 09 49 48.2 -8.4
comp=Z,3.3nm,0.6s,baz=242,slow=28,SNR=4.3
AB31 Akbulak array 13.23 54 Pn **Pn 09 47 27.0 -2.4**
comp=Z,1.8nm,0.4s,SNR=58
OBN Obninsk 13.42 342 *e*P **Pn 09 47 32.9 +1.0**
OBN pmax pmax
comp=Z,10.0nm,1.5s
OBN Obninsk 13.42 342 *e*P **Pn 09 47 32.9 +1.0**
comp=Z,10.0nm,1.5s
EIL Elat 14.58 211 LR LR 09 54 02.1
comp=Z,74nm,18.4s,baz=266,slow=40
ARU Arti 16.93 30*d* *i*P **Pn 09 48 19.2 +0.7**
ARU S **Sn 09 51 28.3 +1.6**
ARU pmax pmax
comp=Z,7.0nm,1.0s
ARU Arti 16.93 30 *i* P **Pn 09 48 19.2 +0.7**
comp=Z,7.0nm,1.0s
SVE Sverdlovsk 18.01 31 *e*P **Pn 09 48 28.0 -3.8**
SVE pmax pmax
comp=Z,21nm,0.9s
KLMR Klimovskoe 18.53 354 *e*P **P 09 48 35.3 -2.8**
KLMR pmax pmax
comp=Z,30nm,1.9s
KK31 Karatay Array 19.74 79 P **P 09 48 51.9 +0.3**
comp=Z,2.5nm,0.5s,baz=300,slow=9.6,SNR=25
BRVK Borovoye 20.69 50 ⇓P **P 09 49 01.3 -0.4**
comp=Z,28nm,0.9s
BRVK Borovoye 20.69 50*c* *i*P **P 09 49 01.3 -0.4**
BRVK pmax pmax
comp=Z,16nm,0.7s
BRVK Borovoye 20.69 50 P **P 09 49 01.3 -0.4**
comp=Z,28nm,0.9s
BVA0 Borovoye Array 20.74 50 ⇓P **P 09 49 01.9 -0.4**
comp=Z,12nm,0.9s
BVA0 Borovoye Array 20.74 50 P **P 09 49 01.9 -0.4**
comp=Z,12nm,0.9s
BVAR Borovoye Array 20.74 50 P **P 09 49 02.1 -0.2**
BVAR pmax pmax
comp=Z,8.0nm,0.8s
BVAR Borovoye Array 20.74 50 P **P 09 49 02.1 -0.2**
comp=Z,7.7nm,0.8s,baz=232,slow=7.3,SNR=38
BVAR Borovoye Array 20.74 50 P **P 09 49 02.1 -0.2**
comp=Z,8.0nm,0.8s
VOSK Vostochnaya 20.98 51 ⇑P **P 09 49 04.0 -0.9**
comp=Z,5.0nm,0.7s
FINES FINESS Array B 21.67 337 P **P 09 49 12.7 +0.5**
comp=Z,2.0nm,0.8s,baz=139,slow=15,SNR=4.3
FINES FINESS Array B 21.67 337 P **P 09 49 12.7 +0.5**
comp=Z,3.0nm,0.7s
GERES GERESS Array B 21.72 297 P **P 09 49 12.7 -0.3**
comp=Z,0.4nm,0.3s,baz=105,slow=12,SNR=3.5
GERES GERESS Array B 21.72 297 P **P 09 49 12.7 -0.3**
comp=Z,1.0nm,0.7s
AAK Ala-Archa 22.71 79 P **P 09 49 23.5 -0.2**
AAK pmax pmax
comp=Z,3.0nm,0.5s
AAK Ala-Archa 22.71 79 P **P 09 49 23.5 -0.2**
comp=Z,2.7nm,0.5s,baz=241,slow=6.1,SNR=7.7
AAK Ala-Archa 22.71 79 P **P 09 49 23.5 -0.2**
comp=Z,3.0nm,0.5s
TKM2 Tokmak 2 23.45 78 ⇓P **P 09 49 31.1 -0.3**
comp=Z,6.9nm,0.9s
TKM2 Tokmak 2 23.45 78 P **P 09 49 31.1 -0.3**
comp=Z,6.9nm,0.9s
KURBB Kurchatov Arra 25.17 59 P **P 09 49 47.0 0.0**
comp=Z,3.2nm,0.9s,baz=272,slow=10,SNR=25
KURK Kurchatov 25.23 59 P **P 09 49 47.0 -0.6**
KURK pmax pmax
comp=Z,3.0nm,0.9s
KURK Kurchatov 25.23 59 P **P 09 49 47.0 -0.6**
comp=Z,3.0nm,0.9s
MK31 Makanchi Array 27.67 68 P **P 09 50 09.6 -0.1**
comp=Z,1.3nm,0.6s,baz=276,slow=7.7,SNR=17
MK31 Makanchi Array 27.67 68 P **P 09 50 09.6 -0.1**
comp=Z,1.3nm,0.6s,SNR=17
MKAR Makanchi Array 27.67 68 *e*P **P 09 50 09.5 -0.2**
MKAR pmax pmax
comp=Z,1.0nm,0.5s
MKAR Makanchi Array 27.67 68 P **P 09 50 09.5 -0.2**
comp=Z,1.3nm,0.5s,baz=273,slow=8.5,SNR=18
MKAR LR LR 10 02 41.5
comp=Z,57nm,18.8s,baz=68,slow=40
MKAR Makanchi Array 27.67 68 *e*P **P 09 50 09.5 -0.2**
comp=Z,1.0nm,0.5s
TORD Torodi Ar. Bea 46.50 244 P **P 09 52 47.7 -1.6**
comp=Z,1.3nm,1.1s,baz=36,slow=6.5,SNR=4.5

IDC 09 10:05:20.4±2.1, 3°.17N×128°.76E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/23, mbtmp3.6/4, Error ellipse: s-maj=111.5km s-min=23.9km az=72.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.36**	**188**	P	P	10 10 10.0	+0.5
0.7nm,0.4s,baz=8.3,slow=18,SNR=5.7							
WRA	**Warramunga Arr**	**23.61**	**167**	P	P	10 10 32.4	-0.9
0.7nm,0.4s,baz=346,slow=9.6,SNR=25							
ASAR	**Alice Springs**	**27.14**	**170**	P	P	10 11 05.0	-0.5
0.4nm,0.4s,baz=351,slow=7.5,SNR=14							
MKAR	**Makanchi Array**	**59.18**	**325**	P	P	10 15 24.2	+0.9
0.3nm,0.4s,baz=119,slow=7.9,SNR=5.2							

*BJI **09** 10:33:03.6, 32°.30S×179°.80E, h326km, mB5.0/16, mb4.7/23*
*ISCJB **09** 10:33:04.4±0.4, 32°.20S±0°.03×179°.70E±0°.03, h327km±4km, mb4.9/67, Error ellipse: s-maj=6.1km s-min=3.9km az=147.6*
*TEH **09** 10:33:04.0, 32°.26S×179°.98E, h326km, ML5.2*
*MOS **09** 10:33:04.9±1.1, 32°.09S×179°.70E, h336km, mb5.2/15, Error ellipse: s-maj=11.8km s-min=9.5km az=67.0*
*NEIC **09** 10:33:06.4±0.2, 32°.25S×179°.67E, mb5.1/34, Error ellipse: s-maj=6.4km s-min=4.6km az=124.0*
*AUST **09** 10:33:06.3±1.1, 32°.09S×179°.84E, h332km, Error ellipse: s-maj=1.0km s-min=0.9km az=301.0*
*IDC **09** 10:33:08.1±0.6, 32°.07S×179°.68E, h360km±5km, mb4.4/24, mb1 4.4/26, mb1mx4.4/26, mbtmp4.4/26, Error ellipse: s-maj=7.8km s-min=7.0km az=171.0*
*DJA **09** 10:33:15.5±3.5, 32°S±16'×18'0E±2'0, h455km±36km, M5.2/14, mB6.2/2, mb5.2/14, Mw(mB)5.9/2*
ISC 09 10:33:05.8±0.3, 32°.23S±0°.04×179°.74E±0°.04, h340km±2km, h339km: pP-P, n443, σ1°70/517, mb5.0/65, 65C-59D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.59**	**35**	P	**Pn**	**10 34 08.3**	**-1.8**
RAO				S	**S**	**10 34 57.9**	**-3.9**
RAO				*e*Sn	**S**	**10 34 59.6**	**-2.2**
RAO	**Raoul Island**	**3.59**	**35**	P	**Pn**	**10 34 08.3**	**-1.8**
709nm,0.3s,baz=281,slow=21,SNR=27							
RAO				S	**S**	**10 34 57.8**	**-3.9**
2μm,0.3s,baz=120,slow=20,SNR=10							
OUZ	**Omahuta**	**5.92**	**238**	*e*Pn	Pn	10 34 40.3	+5.0
OUZ				*e*S	**S**	**10 35 48.1**	**+0.4**
URZ	**Urewera**	**6.39**	**199**	*e*Pn	**Pn**	**10 34 40.4**	**-0.2**
URZ				*e*S	**S**	**10 35 56.4**	**-1.1**
URZ				S	S	10 35 56.6	-0.8
URZ	**Urewera**	**6.39**	**199**	P	**Pn**	**10 34 40.4**	**-0.2**
50nm,0.3s,baz=303,slow=2.5,SNR=204							
URZ				S	**S**	**10 35 56.6**	**-0.8**
499nm,0.3s,baz=72,slow=20,SNR=8.8							
BKZ	**Black Stump Fm**	**7.41**	**200**	*e*Pn	**Pn**	**10 34 51.8**	**-0.8**
BFZ	**Birch Farm**	**8.89**	**197**	*e*Pn	**Pn**	**10 35 08.4**	**-1.9**
SNZO	**South Karori**	**9.92**	**203**	*e*Pn	**Pn**	**10 35 22.4**	**-0.1**
SNZO				*e*S	S	10 37 03.6	-11
KHZ	**Kahutara**	**11.30**	**204**	*e*Pn	**Pn**	**10 35 37.9**	**-1.2**
KHZ				*e*S	**S**	**10 37 40.3**	**-5.1**
RPZ	**Rata Peaks**	**13.34**	**208**	*e*P	**P**	**10 36 02.1**	**-0.5**
RPZ				S	S	10 38 20.3	-8.7
RPZ				*e*S	S	10 38 21.7	-7.4
RPZ	**Rata Peaks**	**13.34**	**208**	P	**P**	**10 36 01.8**	**-0.8**
32nm,0.3s,baz=311,slow=1.1,SNR=109							
RPZ				S	S	10 38 20.3	-8.7
48nm,0.3s,baz=6.0,slow=19,SNR=17							
MSVF	**Nonsavu**	**14.52**	**354**	Pn	**Pn**	**10 36 18.0**	**+0.4**
940nm,0.9s,SNR=11							
MSVF	**Nonsavu**	**14.52**	**354**	*e*P	**P**	**10 36 15.9**	**+0.1**
MSVF	**Nonsavu**	**14.52**	**354**	*e*P	**P**	**10 36 15.9**	**+0.1**
ODZ	**Otahua Downs**	**14.62**	**206**	*e*Pn	**Pn**	**10 36 17.8**	**-0.5**
ODZ				*e*S	**S**	**10 38 49.9**	**-4.9**
DZM	**Mont Dzumac**	**15.56**	**307**	P	**Pn**	**10 36 28.8**	**-0.8**
DZM	**Mont Dzumac**	**15.56**	**307**	P	**Pn**	**10 36 28.8**	**-0.8**
6.7nm,0.3s,baz=120,slow=12,SNR=25							
NIUE	**Niue**	**16.06**	**38**	S	**S**	**10 39 28.2**	**+4.2**
baz=16,SNR=5.9							
LHI	**Lord Howe Isla**	**17.58**	**267**	P	**Pn**	**10 36 52.7**	**0.0**
baz=18,SNR=9.1							
AFI	**Afiamalu**	**19.82**	**25**	P	**P**	**10 37 12.0**	**-0.8**
19nm,0.8s							
AFI				S	**S**	**10 40 35.6**	**-0.1**
AFI	**Afiamalu**	**19.82**	**25**	P	**P**	**10 37 12.0**	**-0.8**
30nm,0.3s,baz=108,slow=19,SNR=36							
AFI				S	**S**	**10 40 35.6**	**-0.1**
10nm,0.3s,baz=291,slow=18,SNR=6.6							
ARMA	**Armidale**	**24.06**	**267**	*e*P	**P**	**10 37 54.9**	**+3.3**
24nm,1.0s							
ARMA	**Armidale**	**24.06**	**267**	P	**P**	**10 37 54.9**	**+3.3**
baz=24,SNR=14							
MGCD	**Mangrove Creek**	**24.08**	**260**	P	**P**	**10 37 55.2**	**+3.6**
baz=24,SNR=6.4							
CNB	**Canberra Magne**	**25.39**	**255**	P	**P**	**10 38 06.2**	**+2.8**
baz=26,SNR=5.3							
MILA	**Mila**	**25.56**	**251**	P	**P**	**10 38 08.2**	**+3.3**
baz=26,SNR=34							
CAN	**Canberra**	**25.69**	**255**	*e*P	**P**	**10 38 08.8**	**+2.8**
CAN				pmax	pmax		
comp=Z,72nm,1.1s							
CAN	**Canberra**	**25.69**	**255**	*e*P	**P**	**10 38 08.8**	**+2.8**
comp=Z,72nm,1.1s							
EIDS	**Eidsvold**	**25.98**	**278**	*e*P	**P**	**10 38 10.1**	**+1.5**
comp=Z,37nm,0.7s							
EIDS				*e*S	**S**	**10 42 15.0**	**+1.2**
EIDS	**Eidsvold**	**25.98**	**278**	P	**P**	**10 38 10.1**	**+1.5**
baz=26,SNR=22							
EIDS				S	**S**	**10 42 15.5**	**+1.8**
baz=26,SNR=8.9							
YNG	**Young**	**26.24**	**257**	P	**P**	**10 38 13.9**	**+3.0**
baz=26,SNR=26							
RMQ	**Roma**	**27.55**	**274**	P	**P**	**10 38 25.1**	**+2.5**
baz=28,SNR=14							
RMQ				S	**S**	**10 42 42.9**	**+4.4**
baz=28,SNR=6.1							
TAU	**Tasmania Unive**	**27.66**	**238**	*e*P	**P**	**10 38 26.2**	**+2.9**
TAU				pmax	pmax		
comp=Z,116nm,1.1s							
TAU	**Tasmania Unive**	**27.66**	**238**	*e*P	**P**	**10 38 26.2**	**+2.9**
comp=Z,116nm,1.1s							
MOO	**Moorlands**	**27.66**	**239**	P	**P**	**10 38 26.0**	**+2.6**
baz=28,SNR=7.9							
TOO	**Toolangi**	**28.49**	**250**	P	**P**	**10 38 33.6**	**+2.8**
baz=29,SNR=64							
TBI	**Tubuai**	**28.57**	**80**	*e*S	S	10 42 43.2	-11
comp=Z,97nm,27.0s							
TBI				*e*LR	LR	10 44 58.5	
comp=Z,322nm,29.0s							
TBI	**Tubuai**	**28.57**	**80**	*e*T	T	11 07 44.6	
comp=Z,44nm,0.4s							
CMSA	**Cobar Meteorol**	**28.85**	**262**	P	**P**	**10 38 36.0**	**+2.0**
baz=29,SNR=10							
CMSA				S	**S**	**10 43 01.7**	**+2.9**
baz=29,SNR=5.0							
HNR	**Honiara**	**29.17**	**317**	P	**P**	**10 38 35.9**	**-1.0**
HNR	**Honiara**	**29.17**	**317**	P	**P**	**10 38 35.9**	**-1.0**
comp=Z,23nm,0.3s,baz=180,slow=20,SNR=5.9							
KNTN	**Kanton**	**30.39**	**17**	*e*P	**P**	**10 38 47.3**	**-0.3**
comp=Z,137nm,0.9s							
PAE	**Paea**	**31.24**	**70**	⇑*e*T	T	11 11 02.0	
comp=Z,13nm,0.3s							
PPT2	**Papeete2**	**31.28**	**70**	*e*S	S	10 43 27.4	-10
comp=Z,138nm,28.5s							
PPT2				*e*LR	LR	10 46 11.8	
comp=Z,337nm,26.0s							
PPT	**Papeete**	**31.29**	**70**	P	**P**	**10 38 55.6**	**+0.1**
PPT	**Papeete**	**31.29**	**70**	P	**P**	**10 38 55.6**	**+0.1**
comp=Z,40nm,0.6s,baz=210,slow=20,SNR=4.9							
ARPS	**Mount Arapiles**	**31.42**	**251**	P	**P**	**10 38 58.6**	**+2.1**
baz=32,SNR=92							
TVO	**Taravao**	**31.43**	**70**	*e*T	T	11 11 16.8	
STKA	**Stephens Creek**	**32.22**	**260**	*e*P	**P**	**10 39 05.5**	**+2.0**
comp=Z,19nm,0.7s							
STKA				S	**S**	**10 43 52.4**	**+1.3**
STKA	**Stephens Creek**	**32.22**	**260**	P	**P**	**10 39 05.5**	**+2.0**
comp=Z,95nm,0.6s,baz=99,slow=9.9,SNR=316							
STKA				S	**S**	**10 43 52.4**	**+1.3**
comp=Z,2.6nm,0.9s,baz=180,slow=20,SNR=2.8							
STKA	**Stephens Creek**	**32.22**	**260**	P	**P**	**10 39 05.5**	**+2.0**
baz=32,SNR=198							
CTA	**Charters Tower**	**32.27**	**284**	P	**P**	**10 39 05.5**	**+1.6**
CTA				S	**S**	**10 43 52.5**	**+0.5**
CTA				ScP	**ScP**	**10 44 50.2**	**-3.7**
CTA	**Charters Tower**	**32.27**	**284**	P	**P**	**10 39 05.5**	**+1.6**
comp=Z,45nm,0.4s,baz=110,slow=11,SNR=155							
CTA				S	**S**	**10 43 52.5**	**+0.5**
comp=Z,13nm,1.1s,baz=68,slow=3.0,SNR=15							
CTA				ScP	**ScP**	**10 44 50.2**	**-3.7**
comp=Z,8.1nm,0.8s,baz=108,slow=3.2,SNR=4.5							
TARA	**Tarawa**	**34.02**	**348**	*e*P	**P**	**10 39 19.2**	**+0.2**
comp=Z,111nm,0.8s							
PMOR	**Pomariorio Ree**	**34.08**	**67**	*e*T	T	11 14 34.0	
comp=Z,6.3nm,0.4s							
MTSU	**Mount Surprise**	**34.82**	**285**	P	**P**	**10 39 27.1**	**+1.3**
baz=35,SNR=110							
MTSU				S	**S**	**10 44 32.7**	**+1.5**
baz=35,SNR=6.1							
BBOO	**Buckleboo**	**36.64**	**257**	*e*P	**P**	**10 39 41.7**	**+0.7**
comp=Z,3μm,0.6s							
BBOO	**Buckleboo**	**36.64**	**257**	P	**P**	**10 39 41.7**	**+0.7**
baz=37,SNR=488							
COEN	**Coen**	**37.99**	**290**	*e*P	**P**	**10 39 53.3**	**+0.9**
comp=Z,170nm,0.8s							
COEN				*e*		10 45 12.5	
COEN	**Coen**	**37.99**	**290**	P	**P**	**10 39 53.4**	**+1.0**
baz=38,SNR=46							
COEN				S	S	10 45 12.8	-6.2
baz=38,SNR=4.4							
RABL	**Rabaul**	**38.02**	**311**	P	**P**	**10 39 54.2**	**+1.6**
baz=38,SNR=5.0							
RKT	**Rikitea**	**40.87**	**89**	*e*T	T	11 23 09.1	
comp=Z,1.6nm,0.3s							
AS31	**Alice Springs**	**41.13**	**270**	*e*P	**P**	**10 40 18.2**	**+0.2**
AS31				*e*S	**S**	**10 46 03.4**	**-1.9**
ASAR	**Alice Springs**	**41.13**	**270**	P	**P**	**10 40 18.4**	**+0.3**
ASAR				pP	**pP**	**10 41 26.8**	**+1.6**
ASAR				ScP	**ScP**	**10 45 23.1**	**-3.9**
ASAR				S	**S**	**10 46 02.9**	**-2.4**
ASAR	**Alice Springs**	**41.13**	**270**	P	**P**	**10 40 18.4**	**+0.3**
comp=Z,89nm,0.6s,baz=105,slow=7.5,SNR=634							
ASAR				pP	**pP**	**10 41 26.8**	**+1.6**
comp=Z,8.6nm,0.8s,baz=104,slow=7.7,SNR=1.7							
ASAR				ScP	**ScP**	**10 45 23.1**	**-3.9**
comp=Z,3.9nm,0.9s,baz=122,slow=4.5,SNR=5.1							
ASAR				S	**S**	**10 46 02.9**	**-2.4**
comp=Z,24nm,1.0s,baz=107,slow=16,SNR=31							
WRAB	**Tennant Creek**	**42.28**	**275**	P	**P**	**10 40 27.0**	**-0.3**
comp=Z,2μm,0.4s							
WRAB	**Tennant Creek**	**42.28**	**275**	*e*P	**P**	**10 40 27.2**	**-0.1**
WRAB				*e**PP	**pP**	**10 41 37.0**	**+2.1**
WRAB				*e*S	**S**	**10 46 20.1**	**-2.1**
WRAB				pmax	pmax		
comp=Z,170nm,0.5s							
WRAB	**Tennant Creek**	**42.28**	**275**	*e*P	**P**	**10 40 27.2**	**-0.1**
comp=Z,170nm,0.5s							
WRAB				*e*pP	**pP**	**10 41 37.0**	**+2.1**
WRAB				*e*S	**S**	**10 46 20.1**	**-2.1**
WRA	**Warramunga Arr**	**42.29**	**275**	P	**P**	**10 40 27.1**	**-0.2**
WRA				pP	**pP**	**10 41 37.0**	**+2.1**
WRA				ScP	**ScP**	**10 45 28.8**	**-2.9**
WRA				S	**S**	**10 46 19.1**	**-3.2**
WRA	**Warramunga Arr**	**42.29**	**275**	P	**P**	**10 40 27.1**	**-0.2**
comp=Z,154nm,0.3s,baz=113,slow=8.1,SNR=823							
WRA				pP	**pP**	**10 41 37.0**	**+2.1**
comp=Z,4.8nm,0.6s,baz=118,slow=7.4,SNR=1.3							
WRA				ScP	**ScP**	**10 45 28.8**	**-2.9**
comp=Z,5.9nm,0.7s,baz=120,slow=3.9,SNR=10							
WRA				S	**S**	**10 46 19.1**	**-3.2**
comp=Z,8.0nm,0.8s,baz=108,slow=14,SNR=8.1							
MMPI	**Merauke**	**43.46**	**294**	S	S	10 46 48.8	+10
baz=44,SNR=4.0							
FORT	**Forrest**	**43.74**	**258**	*e*P	**P**	**10 40 38.4**	**-0.4**
comp=Z,86nm,0.6s							
FORT				*e*PcP	**PcP**	**10 42 18.9**	**+0.1**
FORT				*e*ScP	**ScP**	**10 45 32.6**	**-4.7**
FORT				*e*S	**S**	**10 46 41.0**	**-1.9**
FORT	**Forrest**	**43.74**	**258**	P	**P**	**10 40 38.6**	**-0.1**
baz=44,SNR=53							
SBA	**Scott Base**	**46.08**	**184**	*e*P	P	10 40 59.6	+3.3
SBA				*e*		10 42 28.1	
SBA				pmax	pmax		
comp=Z,12nm,0.8s							
SBA	**Scott Base**	**46.08**	**184**	*e*P	P	10 40 59.6	+3.3
comp=Z,12nm,0.8s							
SBA				*e*PcP	**PcP**	**10 42 28.1**	**+2.0**
VNDA	**Vanda**	**46.09**	**185**	P	**P**	**10 40 57.7**	**+1.3**
VNDA				ScP	**ScP**	**10 45 44.7**	**-1.5**
VNDA	**Vanda**	**46.09**	**185**	P	**P**	**10 40 57.7**	**+1.3**
comp=Z,1.9nm,0.6s,baz=355,slow=6.8,SNR=15							
VNDA				ScP	**ScP**	**10 45 44.7**	**-1.5**
comp=Z,9.6nm,0.8s,baz=338,slow=4.6,SNR=20							
KDU	**Kakadu**	**47.39**	**283**	P	**P**	**10 41 06.7**	**-0.5**
baz=47,SNR=7.9							
MTN	**Manton Dam**	**48.41**	**282**	P	**P**	**10 41 14.5**	**-0.5**
baz=48,SNR=11							
KNRA	**Kununurra**	**48.96**	**277**	P	**P**	**10 41 19.2**	**+0.1**
baz=49,SNR=9.5							
KNRA				S	S	10 47 35.2	-22
baz=49,SNR=7.2							
FITZ	**Fitzroy Crossi**	**50.46**	**273**	P	**P**	**10 41 30.1**	**-0.3**
FITZ				ScP	**ScP**	**10 46 02.8**	**-3.0**
FITZ				S	**S**	**10 48 14.2**	**-3.4**
FITZ	**Fitzroy Crossi**	**50.46**	**273**	P	**P**	**10 41 30.1**	**-0.3**
comp=Z,13nm,0.3s,baz=145,slow=4.6,SNR=13							
FITZ				ScP	**ScP**	**10 46 02.8**	**-3.0**
comp=Z,6.6nm,0.9s,baz=149,slow=5.1,SNR=5.0							
FITZ				S	**S**	**10 48 14.2**	**-3.4**
comp=Z,2.8nm,0.9s,baz=144,slow=19,SNR=4.3							
FITZ	**Fitzroy Crossi**	**50.46**	**273**	S	**S**	**10 48 15.7**	**-1.9**

KIP **Kipapa** 57.45 25⇑eP P 10 42 19.3 -0.8
KIP pmax pmax
comp=Z,95nm,1.2s
QSPA **South Pole Qui** 57.88 180 eP P 10 42 24.7 +1.9
comp=Z,90nm,0.9s
QSPA S S 10 49 58.2 +3.1
QSPA **South Pole Qui** 57.88 180 P P 10 42 25.1 +2.3
comp=Z,83nm,0.8s,baz=29,slow=1.8,SNR=474
QSPA S S 10 49 58.2 +3.1
comp=Z,6.3nm,1.0s,baz=20,slow=18,SNR=18
WSI **Waingapu** 59.11 278 S S 10 50 25.2 +13
baz=59,SNR=3.7
KAPI **Kappang** 62.07 282 P P 10 42 49.6 -2.0
KAPI **Kappang** 62.07 282 P P 10 42 49.7 -2.0
comp=Z,8.3nm,0.7s,baz=125,slow=4.2,SNR=4.5
MAW **Mawson** 69.91 201 P P 10 43 40.7 +0.5
MAW **Mawson** 69.91 201 P P 10 43 40.7 +0.5
comp=Z,4.3nm,0.9s,baz=102,slow=7.8,SNR=9.8
MAW **Mawson** 69.91 201 P P 10 43 40.8 +0.5
baz=70,SNR=7.2
KSM **Kuching** 73.50 283 P P 10 44 02.0 -0.4
baz=74,SNR=3.6
SYO **Syowa Base** 74.89 194||eP P 10 44 07.2 -2.2
SNAA **Sanae** 76.37 179 eP P 10 44 18.5 +0.7
SNAA **Sanae** 76.37 179 epP pP 10 45 36.8 +1.9
SNAA **Sanae** 76.37 179 eP P 10 44 18.3 +0.5
comp=Z,38nm,1.1s
SNAA epP pP 10 45 35.9 +1.1
SNAA **Sanae** 76.37 179 P P 10 44 18.6 +0.7
comp=Z,8.4nm,0.9s,baz=213,slow=5.3,SNR=27
VNA2 **Neumayer--Watz** 77.01 178 eP P 10 44 22.6 +1.3
VNA2 **Neumayer--Watz** 77.01 178 epP pP 10 45 38.9 +0.4
VNA1 **Neumayer--Stat** 77.25 177 eP P 10 44 24.0 +1.4
VNA1 **Neumayer--Stat** 77.25 177 epP pP 10 45 40.2 +0.4
MJAR **Matsushiro Arr** 78.68 327 P P 10 44 29.8 -1.1
MJAR **Matsushiro Arr** 78.68 327 P P 10 44 29.7 -1.1
comp=Z,6.1nm,0.9s,baz=166,slow=5.2,SNR=11
MAT **Matsushiro** 78.69 327 P P 10 44 29.0 -1.9
JNU **Nakatsue** 79.68 320 P P 10 44 36.0 -0.3
JNU **Nakatsue** 79.68 320 P P 10 44 36.0 -0.3
comp=Z,13nm,1.0s,baz=85,slow=6.6,SNR=4.5
EFI **East Falkland** 82.29 148⇑/P P 10 44 50.1 +0.4
EFI pmax pmax
comp=Z,190nm,1.7s
PLCA **Paso Flores** 82.66 134 eP P 10 44 53.2 +1.2
comp=Z,26nm,0.9s
PLCA **Paso Flores** 82.66 134 P P 10 44 53.9 +1.8
comp=Z,22nm,0.9s,baz=231,slow=5.1,SNR=33
ASAJ **Asahikawa** 83.20 334 P P 10 44 54.9 +0.6
ASAJ **Asahikawa** 83.20 334 P P 10 44 54.9 +0.6
comp=Z,9.6nm,0.7s,baz=130,slow=9.6,SNR=6.7
QIZ **Qiongzhong** 84.06 297 P P 10 45 00.6 +1.4
QIZ pP pP 10 46 15.5 -2.4
QIZ sP sP 10 46 49.3 -4.1
QIZ S SKKSac 10 54 59.1 +3.4
QIZ pmax pmax
comp=Z,13nm,1.7s
QIZ pmax pmax
comp=Z,270nm,5.3s
KSRS **Korea Array** 84.52 321 P P 10 45 01.1 +0.1
comp=Z,7.5nm,0.8s,baz=140,slow=5.5,SNR=30
KSAR **Wonju Array Be** 84.53 321 P P 10 45 01.1 0.0
FX1 **Attu Island--F** 84.95 356 eP P 10 45 01.8 -1.0
YSS **Yuzh-Sakhalins** 85.58 336⇑/P P 10 45 07.9 +1.9
YSS pmax pmax
comp=Z,60nm,1.0s
NJ2 **Nanjing** 86.00 312 eP P 10 45 10.8 +2.3
NJ2 pmax pmax
comp=Z,20nm,0.9s
PEA0B **Petropavlovsk-** 87.13 347 eP P 10 45 13.7 +0.4
PETK **Petropavlovsk-** 87.13 347 P P 10 45 13.4 0.0
PETK **Petropavlovsk-** 87.13 347 P P 10 45 13.3 0.0
PETK **Petropavlovsk-** 87.13 347 P P 10 45 13.3 0.0
comp=Z,24nm,0.7s,baz=144,slow=7.6,SNR=25
SCI **San Clemente I** 87.14 48 ⇓P P 10 45 14.6 +0.7
baz=87
CIS **Catalina Islan** 87.51 48 ⇓P P 10 45 16.7 +1.0
baz=88
BLG **Laguna Peak** 87.56 47 ⇑P P 10 45 17.0 +1.1
baz=88
PKM **Peak Mountain** 87.63 46 ⇓P P 10 45 17.7 +1.3
baz=88
USRK **Ussuriysk Arra** 87.65 328 P P 10 45 16.7 +0.7
comp=Z,4.7nm,0.7s,baz=129,slow=2.7,SNR=9.9
FMP **Fort Macarthur** 87.78 47 ⇑P P 10 45 18.6 +1.7
baz=88
SMMC **Simmler** 87.80 45 ⇓P P 10 45 18.6 +1.5
baz=88
109C **Camp Elliot, M** 87.99 49 ⇓P P 10 45 19.5 +1.6
baz=88
OSI **Osito Adit** 88.11 47 ⇑P P 10 45 19.6 +1.1
baz=88
BAR **Barrett** 88.13 49 eP P 10 45 19.5 +0.9
comp=Z,23nm,1.3s
ARVC **Arvin** 88.39 46 ⇓P P 10 45 20.8 +1.0
baz=89
MURC **Murrieta** 88.39 48 ⇓P P 10 45 21.0 +1.2
baz=89,SNR=7.5
MONP **Monument Peak** 88.42 49 ⇑P P 10 45 21.6 +1.4
baz=89,SNR=19
DVTC **Desert V Tower** 88.48 49 ⇑P P 10 45 21.8 +1.4
baz=89,SNR=7.2
BFSC **Mount Baldy Ra** 88.52 47 ⇑P P 10 45 21.2 +0.7
baz=89,SNR=19
VES **Vestal, Richgr** 88.71 45 ⇓P P 10 45 21.7 +0.4
baz=89,SNR=5.1
EDW2 **Edwards Air Fo** 88.74 47 ⇑P P 10 45 22.5 +1.0
baz=89,SNR=16
SWSC **Sam W. Stewart** 88.86 49 ⇑P P 10 45 23.4 +1.4
baz=89,SNR=7.1
PFO **Pinyon Flat Ob** 88.87 49 P P 10 45 23.5 +1.3
comp=Z,98nm,1.1s,SNR=6.6
PFO **Pinyon Flat Ob** 88.87 49 P P 10 45 21.8 -0.4
PFO **Pinyon Flat Ob** 88.87 49 P P 10 45 21.8 -0.4
comp=Z,11nm,0.9s,baz=267,slow=2.2,SNR=17
PFO **Pinyon Flat Ob** 88.87 49 ⇓P P 10 45 23.3 +1.1
baz=89,SNR=12
ISA **Isabella** 88.96 46 eP P 10 45 23.5 +1.0
ISA e*PP pP 10 46 45.8 +3.6
ISA pmax pmax
comp=Z,78nm,1.8s
ISA **Isabella** 88.96 46 eP P 10 45 23.5 +1.0
comp=Z,78nm,1.8s
ISA epP pP 10 46 45.8 +3.6
ISA **Isabella** 88.96 46 ⇓P P 10 45 23.6 +1.0
baz=89,SNR=18
BBRC **Big Bear Solar** 89.00 48 ⇑P P 10 45 24.1 +1.1
baz=89
MDJ **Mudanjiang** 89.07 327 P P 10 45 22.7 0.0
MDJ pmax pmax
comp=Z,10.0nm,0.9s
MDJ pmax pmax
comp=Z,130nm,5.5s
LRMC **Laurel Mountai** 89.32 46 ⇑P P 10 45 25.2 +1.0
baz=90,SNR=6.7
RRX **Edison Barstow** 89.35 47 ⇓P P 10 45 25.4 +1.1
baz=90
BELC **Belle Mtn. Jos** 89.41 48 ⇑P P 10 45 26.1 +1.4
baz=90,SNR=23
CMB **Columbia Colle** 89.42 43 eP P 10 45 24.9 +0.4
CMB pmax pmax
comp=Z,21nm,1.1s
CMB **Columbia Colle** 89.42 43 eP P 10 45 24.9 +0.4
comp=Z,21nm,1.1s
BC3 **Big Chuckawall** 89.53 49 ⇓P P 10 45 26.8 +1.5
baz=90,SNR=9.3
GLA **Glamis** 89.55 50 eP P 10 45 27.2 +1.9
GLA e*PP pP 10 46 48.8 +3.7
GLA pmax pmax
comp=Z,43nm,1.0s
GLA **Glamis** 89.55 50 eP P 10 45 27.2 +1.9
comp=Z,43nm,1.0s
GLA epP pP 10 46 48.8 +3.7
GLA **Glamis** 89.55 50 ⇓P P 10 45 27.0 +1.7
baz=90,SNR=11
LCO **Las Campanas** 89.56 124 eP P 10 45 27.4 +1.5
comp=Z,15nm,0.4s
LCO **Las Campanas** 89.56 124 P P 10 45 27.6 +1.6
baz=89,SNR=3.3
CFAA **Coronel Fontan** 89.67 128 P P 10 45 27.1 +1.0
CFAA **Coronel Fontan** 89.67 128 P P 10 45 27.1 +1.0
comp=Z,1.4nm,0.9s,baz=274,slow=3.2,SNR=13
CWC **Cottonwood Cre** 89.71 45 ⇓P P 10 45 27.6 +1.4
baz=90
HEC **Hector,Ludlow** 89.74 48 ⇑P P 10 45 27.3 +1.1
baz=90,SNR=11

GSC **Goldstone** 89.75 47 eP P 10 45 26.7 +0.5
GSC pmax pmax
comp=Z,23nm,1.4s
GSC **Goldstone** 89.75 47 eP P 10 45 26.7 +0.5
comp=Z,23nm,1.4s
GSC **Goldstone** 89.75 47 ⇓P P 10 45 27.2 +1.0
baz=90,SNR=12
MPMC **Manual Prospec** 89.82 46 ⇑P P 10 45 27.4 +0.8
baz=90,SNR=7.8
WDC **Whiskeytown Da** 89.95 40 eP P 10 45 27.6 +0.7
WDC pmax pmax
comp=Z,24nm,1.4s
WDC **Whiskeytown Da** 89.95 40 eP P 10 45 27.6 +0.7
comp=Z,24nm,1.4s
MLAC **Mammoth Lakes** 90.05 44 ⇑P P 10 45 28.5 +0.8
baz=90
IRM **Iron Mountain** 90.05 49 ⇓P P 10 45 29.1 +1.5
baz=90,SNR=16
113A **Mohawk Valley,** 90.06 51 ⇓P P 10 45 29.0 +1.4
baz=90,SNR=12
GMRC **Granite Mounta** 90.12 48 ⇑P P 10 45 29.2 +1.2
baz=90,SNR=6.1
CHGN **Chignik** 90.13 12 eP P 10 45 27.3 +0.1
214A **Organ Pipe Nat** 90.19 52 ⇑P P 10 45 29.9 +1.6
baz=90,SNR=5.7
Y12C **Blythe** 90.19 49 ⇑P P 10 45 30.0 +1.8
baz=90,SNR=5.9
WAKR **Walker** 90.28 43 eP P 10 45 29.4 +0.7
comp=Z,26nm,1.5s
TUQ **Turquoise Moun** 90.38 47 ⇓P P 10 45 30.4 +1.2
baz=91
CN2 **Changchun** 90.46 324 eP P 10 45 29.6 +0.4
CN2 epP pP 10 46 45.3 -3.7
CN2 eS S 10 55 55.8 +1.7
CN2 pmax pmax
comp=Z,30nm,0.9s
SHOC **Shoshone** 90.46 47 ⇓P P 10 45 30.8 +1.3
baz=91
FURC **Furnace Creek,** 90.47 46 ⇓P P 10 45 30.4 +1.0
baz=91
GRAC **Grapevine Rang** 90.51 45 ⇑P P 10 45 30.6 +1.0
baz=91,SNR=9.1
KEBM **Edson Butte** 90.62 38 eP P 10 45 31.4 +1.3
comp=Z,32nm,0.9s
YBH **Yreka Blue Hor** 90.67 39 eP P 10 45 30.8 +0.5
comp=Z,16nm,1.4s
PDMCI **Parker Dam,Lak** 90.79 49 ⇑P P 10 45 32.6 +1.7
baz=91
GYA **Guiyang** 90.81 301 P P 10 45 33.0 +1.6
GYA pP pP 10 46 49.8 -1.4
GYA sP sP 10 47 24.0 -2.4
GYA PP PP 10 49 16.3 +3.4
GYA SKS SKSac 10 55 31.2 +1.0
GYA S ScS 10 56 01.7 +0.9
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,130nm,5.0s
Z14A **Wintersburg** 90.97 51 ⇓P P 10 45 33.4 +1.6
baz=91
NV11 **Mina Array Sit** 90.98 44 eP P 10 45 32.2 +0.2
HUMO **Hull Mountain** 91.15 38 eP P 10 45 33.6 +1.1
comp=Z,48nm,1.6s
Y14A **Wickenburg** 91.29 50 ⇑P P 10 45 34.9 +1.5
baz=92
W13A **Hualapai Mount** 91.45 49 ⇓P P 10 45 35.8 +1.5
baz=92
BBOR **Butler Butte** 91.49 38 P P 10 45 35.0 +0.8
TUC **Tucson** 91.76 53 eP P 10 45 37.0 +1.4
TUC pmax pmax
comp=Z,32nm,1.7s
TUC **Tucson** 91.76 53 eP P 10 45 37.0 +1.4
comp=Z,32nm,1.7s
MOD **Modoc** 92.09 40 eP P 10 45 37.3 +0.3
comp=Z,48nm,0.9s
CMAR **Chiang Mai Arr** 92.20 290 PKKPbc PKKPbc 11 02 52.0 +1.2
CMAR **Chiang Mai Arr** 92.20 290 PKKPbc PKKPbc 11 02 52.0 +1.2
comp=Z,0.7nm,0.4s,baz=283,slow=5.2,SNR=4.9
319A **Douglas** 92.22 54 ⇑P P 10 45 39.4 +1.5
baz=92
R11A **Troy Canyon, C** 92.46 45 ⇑P P 10 45 39.4 +0.5
baz=93
IRO **Indian Ridge** 92.49 38 P P 10 45 39.1 +0.3
X16A **Lo Mia Camp, P** 92.61 51 ⇑P P 10 45 40.8 +1.2
baz=93
FRIS **Frissel Point** 92.71 38 P P 10 45 40.5 +0.7
320A **Kipp Ranch, An** 92.72 54 ⇑P P 10 45 41.7 +1.6
baz=93
KMI **Kunming** 92.94 298 P P 10 45 42.9 +1.5
KMI pP pP 10 47 00.6 -0.7
KMI S S 10 56 19.9 +2.4
KMI pmax pmax
comp=Z,6.0nm,0.6s
KMI LR LR
comp=Z,32nm,14.6s
BKCOR **Black Crater** 92.98 38 P P 10 45 41.9 +0.9
220A **Playas Peak, P** 93.05 54 ⇓P P 10 45 42.8 +1.1
baz=93
U15A **North Rim** 93.29 48 ⇑P P 10 45 44.0 +1.2
baz=94
WUAZ **Wupatki** 93.32 50 ⇑P P 10 45 44.2 +1.4
baz=94
120A **U Bar Ranch, L** 93.36 53 ⇑P P 10 45 44.6 +1.5
baz=94
WVOR **Wild Horse Val** 93.36 41 eP P 10 45 43.2 +0.4
WVOR pmax pmax
comp=Z,10.0nm,1.4s
WVOR **Wild Horse Val** 93.36 41 eP P 10 45 43.1 +0.4
comp=Z,9.9nm,1.4s
ARUT **Antelope Range** 93.42 47 eP P 10 45 43.9 +0.7
ARUT pmax pmax
comp=Z,50nm,1.1s
ARUT **Antelope Range** 93.42 47 eP P 10 45 43.9 +0.7
comp=Z,50nm,1.1s
ARUT epP pP 10 47 11.3 +8.2
X18A **Snowflake** 93.66 51 ⇑P P 10 45 46.0 +1.5
baz=94
Z20A **Nine Sixteen R** 93.72 53 ⇑P P 10 45 46.2 +1.5
baz=94
CROR **Criterion Ridg** 93.82 38 P P 10 45 45.1 +0.3
FL2 **Flat Top 2** 93.96 36 P P 10 45 46.3 +0.9
TDL **Tradedollar La** 94.14 36 P P 10 45 47.0 +0.8
Y20A **Horse Springs,** 94.33 52 ⇓P P 10 45 48.9 +1.3
baz=95
Z21A **St. Cloud Mine** 94.46 53 ⇓P P 10 45 49.5 +1.3
baz=95
X20A **Quemado** 94.63 52 ⇓P P 10 45 50.6 +1.7
baz=95
626A **Big Bend Ranch** 94.79 58 ⇓P P 10 45 50.3 +0.8
baz=95
Y21A **Point of Rocks** 94.87 53 ⇓P P 10 45 51.2 +1.1
baz=95
425A **Indio Mountain** 94.87 57 ⇓P P 10 45 50.6 +0.6
baz=95
324A **Moseley Ranch,** 94.89 56 ⇑P P 10 45 50.5 +0.4
baz=95
Z22A **Elephant Butte** 94.91 54 ⇓P P 10 45 51.2 +1.1
baz=95
W20A **Ramah** 94.97 51 ⇑P P 10 45 51.8 +1.3
baz=95
TXAR **Lajitas Array** 95.00 58 P P 10 45 51.3 +0.8
TXAR **Lajitas Array** 95.00 58 P P 10 45 51.3 +0.8
comp=Z,1.8nm,1.0s,baz=206,slow=6.6,SNR=12
X21A **Alamocita Cree** 95.05 52 ⇓P P 10 45 52.0 +1.2
baz=95
526A **Mary Lane Ranc** 95.10 58 ⇓P P 10 45 51.5 +0.5
baz=95
325A **Bean Ranch, Si** 95.21 56 ⇓P P 10 45 51.8 +0.2
baz=96
627A **Terlingua Ranc** 95.27 59 ⇑P P 10 45 52.8 +1.0
baz=96
Y22A **Socorro** 95.30 53 ⇓P P 10 45 53.0 +1.1
baz=96
V20A **Brimhall** 95.39 51 ⇑P P 10 45 52.7 +0.4
baz=96
Z23A **Rita Site, Whi** 95.42 54 ⇑P P 10 45 53.4 +1.0
baz=96
CD2 **Chengdu** 95.44 303 P P 10 45 54.7 +2.2
CD2 pP pP 10 47 12.1 -0.4
CD2 sP sP 10 47 45.5 -2.1
CD2 PP PP 10 49 53.6 +4.8
CD2 SKS SKSac 10 55 57.9 +2.7
CD2 S ScS 10 56 40.4 +1.3
CD2 sS sS 10 58 57.9 -3.7
CD2 SS SS 11 03 22.7 +6.4
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,90nm,5.4s
426A **McDonald Obser** 95.49 57 ⇑P P 10 45 53.4 +0.5
baz=96
527A **Woodward Ranch** 95.49 58 ⇓P P 10 45 53.4 +0.6
baz=96
MFID **Camas Ranch** 95.57 41 ⇓P P 10 45 53.6 +0.8
baz=96
124A **Stringfield Ra** 95.63 55 ⇓P P 10 45 54.2 +0.7
baz=96
628A **Black Gap, Mar** 95.65 59 ⇓P P 10 45 54.0 +0.5
baz=96
225A **Deer Hill, Car** 95.74 56 ⇑P P 10 45 54.7 +0.7
baz=96
326A **Caldwell Ranch** 95.89 57 ⇑P P 10 45 54.8 +0.3
baz=96
Y23A **Lovelace Mesa,** 95.92 54 ⇑P P 10 45 55.9 +1.1
baz=96
427A **Hayter Ranch,** 96.03 57 ⇑P P 10 45 56.3 +1.1
baz=96
Z24A **Sheeppen Canyo** 96.05 54 ⇓P P 10 45 56.3 +1.0
baz=96
528A **Cox Ranch, San** 96.09 58 ⇓P P 10 45 56.3 +0.8
baz=96
HHC **Hu-ho-hao-te** 96.13 315 eP P 10 45 58.7 +3.3
HHC pP pP 10 47 14.8 -0.7
HHC sP sP 10 47 46.9 -3.7
HHC PP PP 10 50 00.1 +6.2
HHC SKS SKSac 10 56 03.5 +5.1
HHC S ScS 10 56 48.1 +3.6
HHC sS sS 10 59 03.0 -4.4
HHC pmax pmax
comp=Z,40nm,0.6s
HHC pmax pmax
comp=Z,430nm,5.5s
HHC LR LR
comp=N,360nm,16.7s
HHC LR LR
comp=E,470nm,14.3s
HHC LR LR
comp=Z,240nm,17.8s
125A **Gardner Draw,** 96.16 55 ⇑P P 10 45 56.5 +0.7
baz=96
U21A **Nageezi** 96.28 51 ⇓P P 10 45 57.3 +0.9
baz=97
Y24A **Capitan** 96.34 54 ⇑P P 10 45 57.3 +0.6
baz=97
HLID **Hailey** 96.45 42 ⇑P P 10 45 57.7 +0.8
baz=97
Z25A **Roswell** 96.47 55 ⇑P P 10 45 58.2 +1.0
baz=97
428A **Kincaid Ranch,** 96.48 58 ⇑P P 10 45 57.8 +0.6
baz=97
Y25A **Mesa, Roswell** 96.85 54 ⇑P P 10 45 59.7 +0.8
baz=97
HWUT **Hardware Ranch** 96.91 45 eP P 10 45 58.9 -0.1
comp=Z,1.0nm,0.7s
Z26A **Caprock** 96.97 55 ⇑P P 10 46 00.1 +0.7
baz=97
429A **Davenport Ranc** 96.99 58 ⇑P P 10 46 00.1 +0.6
baz=97
U23A **El Rito** 97.19 52 ⇑Pdiff Pdif 10 46 01.7 +1.2
baz=98
X25A **Clemmons Ranch** 97.21 54 ⇓Pdiff Pdif 10 46 01.5 +1.0
baz=98
631A **Perdido Creek** 97.29 60 ⇓Pdiff Pdif 10 46 01.9 +1.1
baz=98
SEY **Seymchan** 97.34 348||eP P 10 45 59.5 -0.6
Q20A **Ridgley Place,** 97.34 48 ⇑Pdiff Pdif 10 46 01.8 +0.8
baz=98
M17A **Scullys Gap (B** 97.36 45 ⇑Pdiff Pdif 10 46 02.6 +1.4
baz=98
732A **Laxson Ranch,** 97.37 61 ⇓Pdiff Pdif 10 46 01.7 +0.6
baz=98
329A **Wagon Wheel Ra** 97.40 58 ⇓Pdiff Pdif 10 46 02.2 +0.8
baz=98
O19A **Miners Draw (B** 97.61 47 ⇓Pdiff Pdif 10 46 02.9 +0.7
baz=98
128A **Castleberry Fa** 97.66 56 ⇑Pdiff Pdif 10 46 03.2 +0.7
baz=98
531A **Rocksprings** 97.72 59 ⇓Pdiff Pdif 10 46 03.6 +0.8
baz=98
W25A **X Bar L Ranch,** 97.73 53 ⇑Pdiff Pdif 10 46 03.7 +0.9
baz=98
X26A **CR and CF Fran** 97.80 54 ⇓Pdiff Pdif 10 46 04.1 +1.0
baz=98
Y27A **Causey** 97.88 55 ⇓Pdiff Pdif 10 46 04.0 +0.5
baz=98
Z28A **Tucker Farm, M** 98.10 56 ⇑Pdiff Pdif 10 46 05.3 +0.9
baz=98
532A **Rocksprings** 98.17 60 ⇑Pdiff P 10 46 05.4 +0.6
baz=98
MSTX **Muleshoe** 98.20 55 ⇑Pdiff P 10 46 05.8 +0.9
baz=98
LZH **Lanzhou** 98.28 307 eP P 10 46 08.5 +3.2
LZH pP pP 10 47 23.1 -2.4
LZH sP sP 10 47 55.2 -5.4
LZH pmax pmax
comp=Z,17nm,1.0s
I16A **Newdale** 98.32 43 ⇓Pdiff P 10 46 06.5 +1.2
baz=99
N20A **Spence Gulch,** 98.45 47 ⇓Pdiff P 10 46 06.9 +0.9
baz=99
SNOW **Snow King Moun** 98.50 44 eP P 10 46 06.3 +0.1
comp=Z,3.2nm,0.9s
Z29A **Hungry Hill Ra** 98.56 56 ⇓Pdiff P 10 46 07.0 +0.5
baz=99
PDAR **Pinedale Array** 98.79 45 P Pdif 10 46 07.2 -0.2
PDAR PP PP 10 50 06.8 -7.5
PDAR **Pinedale Array** 98.79 45 P Pdif 10 46 07.2 -0.2
comp=Z,1.0nm,0.8s,baz=132,slow=2.2,SNR=7.8
PDAR PP PP 10 50 06.8 -7.5
comp=Z,0.6nm,0.8s,baz=230,slow=3.7,SNR=3.5
Y29A **Porterfield Fa** 98.91 56 ⇑Pdiff P 10 46 08.8 +0.7
baz=99
LPAZ **La Paz** 99.13 116 P Pdif 10 46 11.2 +1.1
LPAZ **La Paz** 99.13 116 P Pdif 10 46 11.2 +1.1
comp=Z,2.0nm,0.8s,baz=197,slow=4.5,SNR=7.0
232A **Coleman** 99.29 58 ⇑Pdiff Pdif 10 46 10.3 +0.6
baz=100
J19A **Crowheart** 99.39 45 ⇓Pdiff Pdif 10 46 10.8 +0.8
baz=100
I19A **Meeteetse** 99.87 44 ⇑Pdiff Pdif 10 46 13.2 +1.0
baz=100
COLA **College** 100.05 13 eP Pdif 10 46 11.5 -0.7
ILAR **Eielson Array** 100.15 14 P Pdif 10 46 11.8 -0.9
ILAR PP PP 10 50 11.2 -13
ILAR PKiKP PKiKP 10 50 36.9 -1.2
ILAR **Eielson Array** 100.15 14 P Pdif 10 46 11.8 -0.9
comp=Z,1.3nm,0.8s,baz=223,slow=5.5,SNR=12
ILAR PP PP 10 50 11.2 -13
comp=Z,1.1nm,0.9s,baz=222,slow=8.6,SNR=4.6
ILAR PKiKP PKiKP 10 50 36.9 -1.2
comp=Z,1.6nm,0.8s,baz=240,slow=2.1,SNR=7.4
GTA **Gaotai** 102.76 309 eP Pdif 10 46 29.3 +4.2
GTA pP 10 47 47.3
GTA sP 10 48 20.2
GTA pmax pmax
comp=Z,5.0nm,0.4s
BGNE **Belgrade** 105.20 51 ePKPdf PKiKP 10 50 47.5 -0.5
HVS **Khovu-Aksy** 112.04 317⇓/PKIKP PKiKP 10 51 02.2 +1.6
WMQ **Urumqi** 112.84 308 ePKP PKiKP 10 50 59.7 -2.7
MKAR **Makanchi Array** 117.46 310 PKIKP PKPdf 10 51 09.6 -1.5
MKAR 11 01 35.8
MKAR **Makanchi Array** 117.46 310 PKP PKPdf 10 51 09.6 -1.5
MKAR SKP 10 54 09.4
MKAR PKKPbc PKKPbc 11 01 35.8 +0.3
MKAR **Makanchi Array** 117.46 310 PKP PKPdf 10 51 09.6 -1.5
comp=Z,1.3nm,0.7s,baz=90,slow=1.9,SNR=8.6
MKAR SKP 10 54 09.4
comp=Z,3.4nm,1.0s,baz=50,slow=1.9,SNR=3.8
MKAR PKKPbc PKKPbc 11 01 35.8 +0.3
comp=Z,1.2nm,0.5s,baz=278,slow=3.8,SNR=14
ZALV **Zalesovo Beam** 118.11 318 PKIKP PKPdf 10 51 10.4 -1.6
ZALV **Zalesovo Beam** 118.11 318 PKP PKPdf 10 51 10.4 -1.6
ZALV SKP 10 54 10.0
ZALV **Zalesovo Beam** 118.11 318 PKP PKPdf 10 51 10.4 -1.6
comp=Z,0.9nm,0.4s,baz=115,slow=2.1,SNR=4.4
ZALV SKP 10 54 10.0
comp=Z,1.1nm,0.6s,baz=90,slow=2.9,SNR=3.6
KSH **Kashi** 119.50 300 ePKP PKPdf 10 51 13.2 -2.2
KSH PP PP 10 52 47.0 +3.7
KSH PKS PKSdf 10 54 48.7 -3.4
KSH SKS SKSdf 10 57 50.1 -4.4
KSH SKKS SKKSac 10 59 02.5 -4.7

KSH AMB AMB
comp=Z,39nm,4.8s
KSH LR LR
comp=N,150nm,8.7s
KSH LR LR
comp=E,120nm,5.5s
KSH LR LR
comp=Z,120nm,7.7s
KURBB Kurchatov Arra 120.94 313 SKP **SKPdf 10 54 17.1 -3.0**
comp=Z,0.6nm,0.2s,baz=115,slow=2.1,SNR=4.7
KURBB PKKPbc **PKKPbc 11 01 23.1 +0.2**
comp=Z,1.0nm,0.6s,baz=284,slow=4.7,SNR=9.4
AAK Ala-Archa 121.51 303 PKIKP **PKPdf 10 51 18.5 -0.7**
AAK Ala-Archa 121.51 303 PKP **PKPdf 10 51 18.5 -0.7**
AAK PKKPbc **PKKPbc 11 01 22.6 +1.9**
AAK Ala-Archa 121.51 303 PKP **PKPdf 10 51 18.5 -0.7**
comp=Z,1.4nm,0.4s,baz=27,slow=4.5,SNR=3.8
AAK PKKPbc **PKKPbc 11 01 22.6 +1.9**
comp=Z,1.4nm,0.3s,baz=199,slow=7.8,SNR=3.9
KKAR Karatay Array 124.46 303 *e*PKIKP **PKPdf 10 51 23.9 -0.8**
KKAR Karatay Array 124.46 303 *e*PKPdf **PKPdf 10 51 23.9 -0.8**
LSZ Lusaka 125.46 214 PKP **PKPdf 10 51 26.9 -0.7**
LSZ SKPbc SKiKP 10 54 06.2 -25
LSZ Lusaka 125.46 214 PKP **PKPdf 10 51 26.9 -0.7**
comp=Z,1.6nm,0.6s,baz=88,slow=15,SNR=2.8
LSZ SKPbc SKiKP 10 54 06.2 -25
comp=Z,1.6nm,0.6s,baz=117,slow=2.3,SNR=4.0
PKME Peaks-Kenny Pk 126.16 55 *e*PKPdf **PKPdf 10 51 27.2 -0.5**
BVAR Borovoye Array 126.35 315 PKIKP **PKPdf 10 51 27.0 -0.9**
BVAR Borovoye Array 126.35 315 PKP **PKPdf 10 51 27.0 -0.9**
BVAR SKPbc SKiKP 10 54 09.3 -22
BVAR Borovoye Array 126.35 315 PKP **PKPdf 10 51 27.0 -0.9**
comp=Z,2.7nm,0.4s,baz=117,slow=2.0,SNR=17
BVAR SKPbc SKiKP 10 54 09.3 -22
comp=Z,4.1nm,0.9s,baz=111,slow=3.8,SNR=6.0
BRVK Borovoye 126.41 315*c i*PKIKP **PKPdf 10 51 27.0 -1.0**
PQI Presque Isle 127.29 53 *e*PKPdf **PKPdf 10 51 28.8 -1.1**
SCHQ Schefferville 128.89 43 PKP **PKPdf 10 51 32.6 -0.1**
SCHQ Schefferville 128.89 43 PKP **PKPdf 10 51 32.6 -0.1**
comp=Z,2.1nm,0.5s,baz=217,slow=2.2,SNR=5.8
IMYA Miami 130.66 292 *e*P **SKPbc 10 54 24.9 -3.5**
ISRO Mashad 131.15 292 *e*P **SKPbc 10 54 26.2 -3.9**
KMBO Kilima Mbogo 131.43 234 SKPbc **SKPbc 10 54 29.8 -2.2**
KMBO Kilima Mbogo 131.43 234 SKPbc **SKPbc 10 54 29.8 -2.2**
comp=Z,9.0nm,0.8s,baz=78,slow=4.4,SNR=21
IAKL Akhelmad 131.78 292 *e*P **SKPbc 10 54 29.9 -2.6**
ABKAR Akbulak array 132.60 309 *e*PKPdf **PKPdf 10 51 39.2 -0.7**
ARU Arti 133.25 319 *e*PKIKP **PKPdf 10 51 42.8 +1.9**
SPITS Spitsbergen Ar 133.38 355 SKPbc **SKPbc 10 54 34.0 -2.4**
SPITS Spitsbergen Ar 133.38 355 SKPbc **SKPbc 10 54 34.0 -2.4**
comp=Z,14nm,1.0s,baz=131,slow=2.3,SNR=4.4
AKTO Aktyubinsk 133.87 311 PKIKP **PKPdf 10 51 41.0 -1.3**
AKTO Aktyubinsk 133.87 311 PKP **PKPdf 10 51 41.0 -1.3**
AKTO SKPbc **SKPbc 10 54 35.5 -3.3**
AKTO Aktyubinsk 133.87 311 PKP **PKPdf 10 51 41.0 -1.3**
comp=Z,1.7nm,0.5s,baz=113,slow=4.8,SNR=6.8
AKTO SKPbc **SKPbc 10 54 35.5 -3.3**
comp=Z,8.9nm,0.8s,baz=111,slow=7.0,SNR=14
SUMG Summit 134.98 15 *i* P **PP 10 54 27.8 +4.1**
comp=Z,5.9nm,1.1s
MBAR Mbarara 136.13 228 SKPbc **SKPbc 10 54 42.6 -4.7**
MBAR Mbarara 136.13 228 SKPbc **SKPbc 10 54 42.6 -4.7**
comp=Z,12nm,0.8s,baz=151,slow=7.4,SNR=15
APA Apatity 139.54 341⇓*e*PKIKP **PKPdf 10 51 53.4 +1.2**
ARCES ARCESS Array B 139.94 346 PKPpre PKPpre 10 51 44.3
ARCES SKPbc **SKPbc 10 54 54.0 -2.0**
ARCES ARCESS Array B 139.94 346 PKhKP PKPpre 10 51 44.3
comp=Z,3.3nm,0.5s,baz=43,slow=3.2,SNR=23
ARCES SKPbc **SKPbc 10 54 54.0 -2.0**
comp=Z,10.0nm,0.8s,baz=31,slow=2.8,SNR=9.6
JOF Joensuu 143.36 336 *ep* PKPab 10 51 55.7 -0.5
comp=Z,7.0nm,0.4s
VRHR Novokhopersk 144.08 314 *e*PKIKP **PKPab 10 51 58.3 -1.1**
VRHR pmax pmax
comp=Z,20nm,0.8s
VRHR pmax pmax
comp=N,30nm,1.6s
VRHR pmax pmax
comp=E,20nm,0.9s
KBZ Khabaz 144.47 301 PKIKP **PKPab 10 52 00.4 -0.8**
KBZ Khabaz 144.47 301 PKP **PKPab 10 52 00.4 -0.8**
KBZ Khabaz 144.47 301 PKP **PKPab 10 52 00.4 -0.8**
comp=E,21nm,0.9s,baz=90,slow=3.5,SNR=22
KIV Kislovodsk 144.60 302 *e*PKIKP PKPbc 10 52 01.1 -0.7
KIV pmax pmax
comp=Z,18nm,1.1s
MOS Moscow 144.69 323 *e*PKIKP PKPbc 10 51 59.9 -1.6
MOS *e* 10 53 52.5
MOS pmax pmax
comp=Z,112nm,0.9s
BORG Borgarnes 144.96 16 *e*PKPbc PKPbc 10 52 02.1 +0.1
OBN Obninsk 145.51 323⇓*i*PKIKP **PKPdf 10 52 03.1 0.0**
OBN pmax pmax
comp=Z,118nm,1.5s
VORD Divnogorie 145.53 315 *e*PKP2 **PKPbc 10 52 03.7 -0.5**
VORD pmax pmax
comp=Z,40nm,0.9s
VORD pmax pmax
comp=N,10.0nm,0.6s
VORD pmax pmax
comp=E,50nm,1.3s
VSR Storozhevoye 145.53 315 *e*PKIKP **PKPdf 10 52 03.4 +0.1**
VSR pmax pmax
comp=Z,40nm,0.7s
VSR pmax pmax
comp=N,20nm,0.9s
VSR pmax pmax
comp=E,30nm,0.7s
KAF Kangasniemi 145.58 338 *e*PKIKP **PKPdf 10 52 02.7 -0.3**
KAF pmax pmax
comp=Z,34nm,0.6s
KAF Kangasniemi 145.58 338 *ep* **PKPdf 10 52 02.7 -0.3**
comp=Z,34nm,0.6s
FIA1 FINESS Array S 146.15 338 *e*PKPbc **PKPdf 10 52 04.6 +0.6**
FINES FINESS Array B 146.15 338 PKPbc **PKPdf 10 52 04.5 +0.5**
FINES pPKPbc pPKPbc 10 53 34.7 +6.1
FINES FINESS Array B 146.15 338 PKPbc **PKPdf 10 52 04.5 +0.5**
comp=Z,43nm,0.6s,baz=44,slow=4.7,SNR=147
FINES pPKPbc pPKPbc 10 53 34.7 +6.1
comp=Z,9.3nm,0.8s,baz=2.4,slow=4.6,SNR=4.8
VSU Vasula 148.05 333⇓*e*PKIKP **PKPdf 10 52 08.6 +1.4**
ANN Anapa 148.23 304 *i* PKIPKP **PKPbc 10 52 10.3 -1.5**
ANN pmax pmax
comp=Z,50nm,1.4s
ASF Jabal al Asfar 148.66 280 PKPbc **PKPbc 10 52 13.0 -0.5**
ASF PKPab **PKPab 10 52 18.0 -0.3**
ASF Jabal al Asfar 148.66 280 PKPbc **PKPbc 10 52 13.0 -0.5**
comp=Z,4.7nm,1.0s,baz=97,slow=3.6,SNR=6.4
ASF PKPab **PKPab 10 52 18.0 -0.3**
comp=Z,1.8nm,0.5s,baz=182,slow=4.1,SNR=3.7
MARH Ras Al Marh 149.28 283 *e*P **PKPbc 10 52 15.1 -0.1**
DRWC Darouich 149.35 289 *e*P **PKPbc 10 52 16.7 +1.7**
EIL Elat 149.78 275 PKPbc **PKPbc 10 52 15.1 -1.1**
EIL Elat 149.78 275 PKPbc **PKPbc 10 52 15.1 -1.1**
comp=Z,9.7nm,0.7s,baz=127,slow=0.9,SNR=6.2
MMAI Mount Meron Ar 150.04 281 PKPbc **PKPbc 10 52 16.8 +0.1**
MMAI PKPab **PKPab 10 52 23.4 -0.6**
MMAI Mount Meron Ar 150.04 281 PKPbc **PKPbc 10 52 16.8 +0.1**
comp=Z,4.1nm,0.4s,baz=69,slow=4.6,SNR=15
MMAI PKPab **PKPab 10 52 23.4 -0.6**
comp=Z,2.6nm,0.5s,baz=102,slow=6.1,SNR=4.3
MICGM Minsk 150.12 326 *e* **PKPdf 10 52 13.0 +2.3**
NB2 NORSAR Subarra150.22 349 PKP **PKPbc 10 52 14.9 -1.3**
comp=Z,23nm,0.6s,baz=17,slow=2.6
NB2 NORSAR Subarra150.22 349 PKP **PKPbc 10 52 14.9 -1.3**
baz=17,slow=2.6
NOA NORSAR Array B 150.22 349 PKPbc **PKPbc 10 52 15.2 -1.0**
NOA PKPab **PKPab 10 52 22.6 -1.1**
NOA NORSAR Array B 150.22 349 PKPbc **PKPbc 10 52 15.2 -1.0**
comp=Z,23nm,0.7s,baz=15,slow=4.1,SNR=49
NOA PKPab **PKPab 10 52 22.6 -1.1**
comp=Z,16nm,0.8s,baz=19,slow=3.0,SNR=17
SIM Simferopol' 150.51 305 *i* PKIKP **PKPbc 10 52 17.4 0.0**
SIM *e* 10 52 26.0
SIM pmax pmax
comp=Z,14nm,0.7s
SIM pmax pmax
comp=Z,28nm,0.8s
HFS Hagfors 150.60 346 PKPbc **PKPbc 10 52 15.6 -1.4**
HFS PKPab **PKPab 10 52 23.9 -1.3**
HFS Hagfors 150.60 346 PKPbc **PKPbc 10 52 15.6 -1.4**
comp=Z,27nm,0.7s,baz=83,slow=3.4,SNR=31
HFS PKPab **PKPab 10 52 23.9 -1.3**
comp=Z,7.5nm,0.5s,baz=57,slow=5.5,SNR=13
AKASG Malin Array Be 151.50 319 PKIKP **PKPbc 10 52 18.2 -1.2**
AKASG 10 52 28.3
AKASG Malin Array Be 151.50 319 PKPbc **PKPbc 10 52 18.2 -1.2**
AKASG PKPab **PKPab 10 52 28.3 -1.1**
AKASG Malin Array Be 151.50 319 PKPbc **PKPbc 10 52 18.2 -1.2**
comp=Z,2.7nm,0.3s,baz=59,slow=2.7,SNR=17
AKASG PKPab **PKPab 10 52 28.3 -1.1**
comp=Z,5.8nm,0.8s,baz=49,slow=3.3,SNR=7.1
BR131 Keskin Array S 151.69 295 *e*PKPbc **PKPbc 10 52 19.3 -1.2**
BR131 *e*PKPab **PKPab 10 52 30.5 -0.2**
BRTR Keskin Array B 151.69 295 PKPbc **PKPbc 10 52 19.1 -1.3**
BRTR PKPab **PKPab 10 52 29.9 -0.9**
BRTR pPKPbc **pPKPbc 10 53 48.2 +3.9**
BRTR Keskin Array B 151.69 295 PKPbc **PKPbc 10 52 19.1 -1.3**
comp=Z,4.3nm,0.6s,baz=142,slow=4.0,SNR=22
BRTR PKPab **PKPab 10 52 29.9 -0.9**
comp=Z,3.9nm,0.9s,baz=104,slow=3.3,SNR=7.9
BRTR pPKPbc **pPKPbc 10 53 48.2 +3.9**
comp=Z,2.4nm,0.9s,baz=90,slow=1.9,SNR=3.7
LIC Lamto 153.74 169 *e*P **PKPbc 10 52 23.9 -1.6**
comp=Z,30nm,0.5s
KIC Kosan Boka 153.92 170 *e*P **PKPbc 10 52 25.7 -0.2**
comp=Z,15nm,0.6s
TIC Tomodi 154.16 169 *e*P **PKPbc 10 52 26.2 -0.2**
comp=Z,7.6nm,0.2s
DBIC Dimbokro 154.21 169 PKPbc **PKPbc 10 52 26.6 +0.1**
DBIC PKPab **PKPab 10 52 42.3 +0.6**
DBIC Dimbokro 154.21 169 PKPbc **PKPbc 10 52 26.6 +0.1**
comp=Z,1.7nm,0.3s,baz=94,slow=4.1,SNR=6.4
DBIC PKPab **PKPab 10 52 42.3 +0.6**
comp=Z,6.3nm,0.6s,baz=160,slow=3.9,SNR=8.1
KWP Kalwaria Pacla 155.60 322 *e*PKP2 **PKPab 10 52 47.2 +0.4**
KWP Kalwaria Pacla 155.60 322 *e*PKPab **PKPab 10 52 47.2 +0.4**
KOLS Kolonicke sedl 156.24 321 *e*PKP2 **PKPab 10 52 49.9 +0.2**
KOLS Kolonicke sedl 156.24 321 *e*PKP **PKPab 10 52 49.9 +0.2**
STHS Stebnicka Huta 156.48 323 *e*PKP2 **PKPab 10 52 51.8 +1.1**
STHS Stebnicka Huta 156.48 323 *e*PKP **PKPab 10 52 51.8 +1.1**
CRVS Cervenica-Dubn 156.69 322 *e*PKP2 **PKPab 10 52 51.7 +0.1**
CRVS Cervenica-Dubn 156.69 322 *e*PKP **PKPab 10 52 51.7 +0.1**
EKA Eskdalemuir Ar 156.82 4 PKPab **PKPab 10 52 49.7 -2.2**
EKA Eskdalemuir Ar 156.82 4 PKPab **PKPab 10 52 49.7 -2.2**
comp=Z,3.9nm,0.6s,baz=353,slow=2.9,SNR=10
BSEG Bad Segeberg 157.03 344 *e*PKPab **PKPab 10 52 52.2 -0.6**
BSEG Bad Segeberg 157.03 344 *e*PKP2 **PKPab 10 52 52.2 -0.6**
KECS Kecovo 157.46 322 *e*PKP2 **PKPab 10 52 55.4 +0.5**
KECS Kecovo 157.46 322 *e*PKP **PKPab 10 52 55.4 +0.5**
DPC Dobruska-Polom 158.12 331 *e*PKP2 **PKPab 10 52 57.2 -0.5**
DPC Dobruska-Polom 158.12 331 *e*PKPAB **PKPab 10 52 57.2 -0.5**
VYHS Vyhne 158.29 324 *e*PKP2 **PKPab 10 52 58.5 0.0**
VYHS Vyhne 158.29 324 *e*PKP **PKPab 10 52 58.5 0.0**
NRDL Niedersach Rie 158.40 343 *e*PKPab **PKPab 10 52 57.6 -1.1**
CLL Collm 158.59 337 *e*PKPab **PKPab 10 52 59.1 -0.6**
CLL Collm 158.59 337⇑*i*PKP2 **PKPab 10 52 59.1 -0.6**
CLL pmax pmax
comp=Z,19nm,1.0s
CLL Collm 158.59 337⇑*i*PKPab **PKPab 10 52 59.1 -0.6**
comp=Z,19nm,1.0s
BRG Berggiesshubel 158.63 335 *i* PKP **PKPab 10 52 59.5 -0.3**
comp=Z,11nm,0.8s
BRG Berggiesshubel 158.63 335 *e*PKPab **PKPab 10 52 59.5 -0.3**
VRAC Vranov 158.78 328 PKPab **PKPab 10 52 59.6 -1.1**
VRAC Vranov 158.78 328 PKPab **PKPab 10 52 59.6 -1.1**
comp=Z,2.7nm,0.4s,baz=339,slow=17,SNR=5.5
CLZ Clausthal 158.92 341 *e*PKPab **PKPab 10 53 00.6 -0.5**
CLZ Clausthal 158.92 341 *e*PKP2 **PKPab 10 53 00.6 -0.5**
IBBN Ibbenburen 159.11 346 *e*PKPab **PKPab 10 53 01.0 -0.8**
TANN Tannenbergstha 159.53 336 *e*PKPab **PKPab 10 53 03.5 -0.4**
MOX Moxa 159.61 338 *e*PKPab **PKPab 10 53 03.7 -0.5**
MOX Moxa 159.61 338 *e*PKP2 **PKPab 10 53 03.7 -0.5**
ROTZ Rotzenmuhle 160.16 336 *e*PKPab **PKPab 10 53 06.9 +0.3**
KHC Kasperske Hory 160.18 332 *e*PKIKP **PKPdf 10 52 27.5 +3.0**
KHC *e* 10 53 06.3
KHC Kasperske Hory 160.18 332 *e*PKPDF **PKPdf 10 52 27.5 +3.0**
KHC *e*PKPAB **PKPab 10 53 06.3 -0.5**
GEC2 GERESS Array S 160.36 332 *e*PKPab **PKPab 10 53 06.9 -0.7**
GEC2 GERESS Array S 160.36 332 *e*PKP2 **PKPab 10 53 06.9 -0.7**
GERES GERESS Array B 160.36 332 PKPab **PKPab 10 53 06.8 -0.8**
GERES GERESS Array B 160.36 332 PKPab **PKPab 10 53 06.8 -0.8**
comp=Z,1.8nm,0.8s,baz=25,slow=4.4,SNR=8.8
WET Wettzell 160.44 334 *e*PKPab **PKPab 10 53 07.7 -0.2**
WET Wettzell 160.44 334 *e*PKP2 **PKPab 10 53 07.7 -0.2**
GRF Grafenberg Arr 160.56 337 *e*PKPab **PKPab 10 53 08.6 +0.2**
GRF Grafenberg Arr 160.56 337 *e*PKP2 **PKPab 10 53 08.6 +0.2**
TOA0 Torodi Ar. Sit 160.92 186 *e*PKPdf **PKPdf 10 52 25.7 -0.6**
TORD Torodi Ar. Bea 160.92 186 PKP **PKPdf 10 52 26.0 -0.2**
TORD PKPab **PKPab 10 53 10.2 -0.4**
TORD pPKPab **pPKPab 10 54 33.1 +2.1**
TORD Torodi Ar. Bea 160.92 186 PKP **PKPdf 10 52 26.0 -0.2**
comp=Z,2.8nm,1.1s,baz=212,slow=0.4,SNR=7.7
TORD PKPab **PKPab 10 53 10.2 -0.4**
comp=Z,3.2nm,0.6s,baz=163,slow=4.8,SNR=21
TORD pPKPab **pPKPab 10 54 33.1 +2.1**
comp=Z,3.6nm,0.7s,baz=174,slow=3.6,SNR=8.6
RJOB Jochberg 161.61 331 *e*PKPab **PKPab 10 53 12.7 -0.4**
DAVOX Davos/Dischmat 163.52 335 PKPab **PKPab 10 53 21.0 -0.6**
DAVOX Davos/Dischmat 163.52 335 PKPab **PKPab 10 53 21.0 -0.6**
comp=Z,6.2nm,0.8s,baz=346,slow=6.3,SNR=5.3
ESDC Sonseca Array 171.99 21 PKP **PKPdf 10 52 33.5 -0.6**
ESDC PKPab **PKPab 10 53 58.7 -0.4**
ESDC Sonseca Array 171.99 21 PKP **PKPdf 10 52 33.5 -0.6**
comp=Z,0.2nm,0.3s,baz=324,slow=2.0,SNR=5.9
ESDC PKPab **PKPab 10 53 58.7 -0.4**
comp=Z,0.4nm,0.3s,baz=341,slow=4.8,SNR=11

IDC 09 10:36:08.7±1.7, 7°.50N×59°.67E, h0km, mb4.0/13, mb1 4.1/13, mb1mx3.9/28, mbtmp4.0/13, MS3.8/9, Ms1 3.8/9, ms1mx3.3/50, Error ellipse: s-maj=42.4km s-min=20.6km az=150.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**17.07**	**285**	LR	LR	10 45 37.6	
	comp=Z,101nm,19.9s,baz=150,slow=33						
KMBO	**Kilima Mbogo**	**23.95**	**250**	P	P	10 41 26.0	+0.8
	5.8nm,0.8s,baz=48,slow=13,SNR=16						
MBAR	**Mbarara**	**29.95**	**256**	LR	LR	10 53 06.9	
	comp=Z,75nm,19.2s,baz=213,slow=34						
AAK	**Ala-Archa**	**37.36**	**18**	LR	LR	10 59 06.8	
	comp=Z,63nm,18.2s,baz=20,slow=37						
PSI	**Prapat**	**39.36**	**95**	LR	LR	10 55 03.7	
	comp=Z,704nm,21.8s,baz=278,slow=29						
BRTR	**Keskin Array B**	**39.68**	**328**	P	P	10 43 43.0	+0.2
	2.0nm,0.8s,baz=165,slow=9.7,SNR=9.4						
AKTO	**Aktyubinsk**	**42.82**	**358**	P	P	10 44 09.2	+0.9
	5.6nm,0.9s,baz=182,slow=8.8,SNR=14						
MKAR	**Makanchi Array**	**43.70**	**22**	P	P	10 44 15.9	+0.4
	0.6nm,0.7s,baz=194,slow=5.2,SNR=3.6						
KURBB	**Kurchatov Arra**	**45.77**	**17**	P	P	10 44 33.3	+1.3
	0.6nm,0.2s,baz=213,slow=8.3,SNR=4.2						
BVAR	**Borovoye Array**	**46.23**	**9**	P	P	10 44 35.9	+0.4
	0.9nm,0.6s,baz=160,slow=8.8,SNR=3.5						
BOSA	**Boshof**	**48.89**	**221**	LR	LR	11 03 16.9	
	comp=Z,102nm,18.7s,baz=246,slow=33						
AKASG	**Malin Array Be**	**49.94**	**335**	P	P	10 45 04.1	-0.2
	2.2nm,0.6s,baz=146,slow=7.3,SNR=7.2						
ZALV	**Zalesovo Beam**	**50.57**	**19**	P	P	10 45 09.3	+0.3
	1.3nm,0.6s,baz=220,slow=6.7,SNR=4.2						
GERES	**GERESS Array B**	**56.46**	**325**	P	P	10 45 50.8	-1.8
	0.2nm,0.3s,baz=116,slow=6.7,SNR=3.0						
TORD	**Torodi Ar. Bea**	**57.22**	**281**	P	P	10 45 58.8	+0.4
	0.7nm,0.8s,baz=71,slow=5.2,SNR=5.1						
DBIC	**Dimbokro**	**63.99**	**274**	LR	LR	11 12 41.5	
	comp=Z,57nm,18.8s,baz=261,slow=34						
ESDC	**Sonseca Array**	**65.02**	**310**	P	P	10 46 50.9	-0.1
	1.8nm,0.7s,baz=83,slow=5.6,SNR=6.7						
ARCES	**ARCESS Array B**	**65.80**	**347**	P	P	10 46 53.9	-1.6
	5.2nm,0.9s,baz=140,slow=7.1,SNR=6.4						
KSRS	**Korea Array**	**68.23**	**53**	P	P	10 47 10.5	-1.0
	0.9nm,0.8s,baz=259,slow=7.1,SNR=4.1						
FITZ	**Fitzroy Crossi**	**69.88**	**112**	LR	LR	11 10 28.1	
	comp=Z,146nm,20.3s,baz=24,slow=30						
JNU	**Nakatsue**	**70.21**	**58**	LR	LR	11 20 24.8	
	comp=Z,61nm,18.2s,baz=54,slow=38						
MJAR	**Matsushiro Arr**	**76.38**	**54**	LR	LR	11 21 36.6	
	comp=Z,73nm,18.4s,baz=25,slow=36						

IDC 09 10:47:24.4±9.4, 10°.91N×87°.18W, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.8/20, mbtmp3.8/4, Error ellipse: s-maj=192.7km s-min=58.4km az=180.0, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**23.94**	**322**	P	P	10 52 40.4	-0.1
	1.5nm,0.7s,baz=139,slow=9.8,SNR=23						
PDAR	**Pinedale Array**	**37.25**	**332**	P	P	10 54 37.7	-0.4
	0.7nm,0.7s,baz=125,slow=9.4,SNR=5.3						
SCHQ	**Schefferville**	**46.68**	**16**	P	P	10 55 54.5	-0.1
	2.2nm,0.4s,baz=196,slow=18						
ILAR	**Eielson Array**	**67.53**	**336**	P	P	10 58 22.5	+0.3
	0.2nm,0.6s,baz=133,slow=5.2,SNR=7.0						

*IDC **09** 11:04:38.2±1.0, 37°.62N×95°.70E, h0km, mb3.8/6, mb1 4.0/10, mb1mx3.7/29, mbtmp3.8/10, ML4.0/4, MS3.1/1, Ms1 3.1/1, ms1mx2.6/31, Error ellipse: s-maj=34.3km s-min=17.1km az=54.0*

*BJI **09** 11:04:38.2, 37°.71N×95°.63E, h7km, mB4.5/2, mb4.4/4, ML4.1/5, Ms3.7/5, Ms7 3.4/5*

ISC 09 11:04:39.1±0.9, 37°.57N±0°.09×95°.64E±0°.06, h10km, n14, σ1 9°15/16, mb3.8/6, 2D, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**3.75**	**59**	Pn	Pn	11 05 40.5	+3.3
GTA				Pg	**Pb**	**11 05 46.3**	**+0.8**
GTA				Sn	**Sn**	**11 06 20.9**	**-0.6**
GTA				Sg	**Sb**	**11 06 30.3**	**-0.8**
GTA				smax	smax		
	comp=N,170nm,1.3s						
GTA				smax	smax		
	comp=E,92nm,1.3s						
GTA				LR	LR		
	comp=N,1μm,9.3s						
GTA				LR	LR		
	comp=E,490nm,8.1s						
GTA				LR	LR		
	comp=Z,410nm,9.0s						
LZH	**Lanzhou**	**6.74**	**100**	Sg	**Sg**	**11 08 15.9**	**+0.3**
LZH				smax	smax		
	comp=N,150nm,0.8s						
LZH				smax	smax		
	comp=E,71nm,0.6s						
LZH				LR	LR		
	comp=N,3μm,4.3s						
LZH				LR	LR		
	comp=E,4μm,4.6s						
LZH				LR	LR		
	comp=Z,4μm,5.0s						
LZH	**Lanzhou**	**6.74**	**100**	*e*Pg	**Pb**	**11 06 34.7**	**-1.8**
LZH				smax	smax		
	comp=N,100nm,0.9s						
LZH				smax	smax		
	comp=E,76nm,1.0s						
LZH				LR	LR		
	comp=N,560nm,4.3s						
LZH				LR	LR		
	comp=E,370nm,5.0s						
LZH				LR	LR		
	comp=Z,680nm,5.4s						
SONM	**Songino Array**	**12.94**	**34**	Pn	**Pn**	**11 07 43.9**	**+0.8**
	comp=Z,0.7nm,0.3s,baz=218,slow=15,SNR=5.6						
SONM				LR	LR	11 12 48.3	
	comp=Z,82nm,18.1s,baz=245,slow=38						
MK31	**Makanchi Array**	**13.51**	**317**	⇓Pn	**Pn**	**11 07 49.5**	**-1.3**
	comp=Z,2.0nm,0.7s,baz=126,slow=14,SNR=21						
MK31				⇓Sn	Sn	11 10 07.5	-13
	comp=Z,0.4nm,0.3s,baz=125,slow=24,SNR=3.7						
MKAR	**Makanchi Array**	**13.51**	**317**	Pn	**Pn**	**11 07 48.7**	**-2.1**
	comp=Z,0.5nm,0.3s,baz=127,slow=14,SNR=25						
MKAR				Sn	Sn	11 10 09.6	-11
	comp=Z,0.4nm,0.3s,baz=132,slow=27,SNR=4.6						
KURBB	**Kurchatov Arra**	**17.87**	**322**	P	**Pn**	**11 08 46.4**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=130,slow=11,SNR=6.3						
ZALV	**Zalesovo Beam**	**18.00**	**339**	P	**P**	**11 08 50.7**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=149,slow=12,SNR=4.1						
BVAR	**Borovoye Array**	**23.37**	**319**	P	**P**	**11 09 48.2**	**+0.6**
	comp=Z,1.0nm,0.6s,baz=106,slow=11,SNR=3.5						
KSRS	**Korea Array**	**25.54**	**80**	P	**P**	**11 10 07.9**	**0.0**
	comp=Z,1.7nm,0.7s,baz=276,slow=9.8,SNR=7.7						
ILAR	**Eielson Array**	**66.95**	**24**	P	**P**	**11 15 31.1**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=295,slow=5.2,SNR=8.7						
WRA	**Warramunga Arr**	**67.82**	**141**	P	**P**	**11 15 37.9**	**+0.4**
	comp=Z,1.0nm,1.0s,baz=344,slow=6.3,SNR=6.9						
ASAR	**Alice Springs**	**70.75**	**143**	P	**P**	**11 15 57.0**	**+1.4**
	comp=Z,0.6nm,0.7s,baz=331,slow=6.3,SNR=14						
STKA	**Stephens Creek**	**81.32**	**142**	P	**P**	**11 16 56.5**	**+0.9**
	comp=Z,0.9nm,0.5s,baz=333,slow=8.0,SNR=4.4						

AUST 09 11:14:22.5±99.0, 3°.35S×131°.19E, h22km±2km, Error ellipse: s-maj=3.5km s-min=2.4km az=307.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDU	**Kakadu**	**9.36**	**172**	P	Pn	11 16 38.7	+2.5
	baz=9.4,SNR=6.0						
SOEI	**Soe**	**9.37**	**227**	P	Pn	11 16 36.8	+0.3
	baz=9.4,SNR=4.6						
MTN	**Manton Dam**	**9.43**	**180**	P	Pn	11 16 35.9	-1.3
	baz=9.5,SNR=5.2						
JAY	**Jayapura**	**9.54**	**85**	P	Pn	11 16 38.4	-0.3
	baz=9.5,SNR=3.5						
MMPI	**Merauke**	**10.46**	**119**	S	Sn	11 18 40.3	-7.5
	baz=10,SNR=4.9						
WSI	**Waingapu**	**12.51**	**239**	S	Sn	11 19 48.5	+10
	baz=12,SNR=4.7						

CASC 09 11:26:29.3±1.3, 13°.17N×89°.23W, h47km±11km, mb5.0, MD3.6, ML4.1, 3C-13D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AIES	**Las Flores**	**0.34**	**32**⇓*i*P	Pn		11 26 38.5	0.0
AIES				*e*S	Sn	11 26 45.3	+0.3
AIES				AML	AML	11 26 45.9	
	comp=Z,8μm,0.2s						
LFRS	**El Faro**	**0.48**	**20**⇓*i*P	Pn		11 26 40.2	-0.2
SNET	**Serv Nac Est T**	**0.52**	**0**⇓*i*P	Pn		11 26 40.5	-0.2
SNET				*e*S	Sn	11 26 49.5	+0.7
SNET				AML	AML	11 26 50.7	
	comp=Z,10μm,0.3s						
BOQS	**Boqueron**	**0.56**	**355**⇑*i*P	Pn		11 26 41.4	-0.1
BOQS				*e*S	Sn	11 26 51.9	+1.7
SNVI	**San Vicente**	**0.58**	**41**⇓*i*P	Pn		11 26 41.5	-0.2
LFU	**La Fuente**	**0.59**	**11**⇓*i*P	Pn		11 26 41.8	+0.2
LBRS	**Las Brisas**	**0.59**	**18**⇓*i*P	Pn		11 26 42.0	+0.3
SBLS	**San Blas**	**0.77**	**330**⇓*i*P	Pn		11 26 43.8	-0.4
SNJE	**San Jose**	**0.78**	**333**⇓*i*P	Pn		11 26 43.9	-0.4
RTR	**El Retiro**	**0.83**	**331**⇓*i*P	Pn		11 26 44.7	-0.2
RTR				*e*S	Sn	11 26 56.5	+0.3
VSM	**San Miguel**	**0.97**	**74**⇓*i*P	Pn		11 26 46.9	0.0
BLLM	**Bellamira**	**1.01**	**74**⇑*i*P	Pn		11 26 47.5	+

*TIR **09** 11:37:19.1±6.0, 41°.12N×19°.55E, h0km,s999km, ML3.2*
*BEO **09** 11:37:26.2±0.7, 41°.03N×19°.50E, h8km,s2km, ML3.1/1*
*CSEM **09** 11:37:27.5±0.1, 41°.15N×19°.54E, h5km, MD3.6, Error ellipse: s-maj=4.1km s-min=2.1km az=63.0*
*ATH **09** 11:37:27.9, 41°.26N×19°.45E, h46km, MD3.6/9*
*THE **09** 11:37:28.0, 41°.15N×19°.53E, h4km±2km, ML3.2/4, Error ellipse: s-maj=2.7km s-min=1.0km az=67.0*
*PDG **09** 11:37:28.1±0.2, 41°.14N×19°.56E, h16km, ML3.3/11, Error ellipse: s-maj=0.3km s-min=0.4km az=0.0*
*SKO **09** 11:37:28.9, 41°.14N×19°.61E, h10km, M2.8, ML3.2*
*ISCJB **09** 11:37:28.8±0.5, 41°.12N±0°.02×19°.53E±0°.03, h19km±4km, Error ellipse: s-maj=4.6km s-min=2.3km az=155.6*

ISC 09 11:37:27.9±1.1, 41°.13N±0°.02×19°.51E±0°.02, h8km±8km, n164, σ0°99/230, 21C-21D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.34**	**51**	*e*PG	**Pg**	**11 37 34.2**	**-0.4**
TIR				*e*SG	**Sg**	**11 37 39.7**	**+0.5**
TIR	**Tirane**	**0.34**	**51**	P	**Pg**	**11 37 34.4**	**-0.2**
TIR				S	**Sg**	**11 37 39.7**	**+0.5**
TIR	**Tirane**	**0.34**	**51**	⇓*i*Pg	**Pg**	**11 37 34.3**	**-0.4**
TIR				*e*Sg	**Sg**	**11 37 39.7**	**+0.5**
TIR	**Tirane**	**0.34**	**51**	P	**Pg**	**11 37 34.4**	**-0.2**
TIR				*e*Sg	**Sg**	**11 37 39.7**	**+0.5**
ULC	**Ulcinj**	**0.85**	**347**	⇓*i*Pg	**Pg**	**11 37 44.1**	**-0.2**
ULC				*e*Sg	**Sn**	**11 37 58.0**	**-0.9**
ULC	**Ulcinj**	**0.85**	**347**	⇓*i*Pg	**Pg**	**11 37 44.1**	**-0.2**
PHP	**Peshkopia**	**0.89**	**51**	*e*PG	**Pg**	**11 37 43.0**	**-2.0**
PHP				*e*SG	**Sn**	**11 38 00.2**	**+0.4**
PHP	**Peshkopia**	**0.89**	**51**	P	**Pg**	**11 37 42.8**	**-2.2**
PHP				S	**Sb**	**11 37 58.0**	**+0.4**
PHP	**Peshkopia**	**0.89**	**51**	*e*Pg	**Pg**	**11 37 43.0**	**-2.0**
	SNR=90						
PHP				S	**Sb**	**11 37 58.0**	**+0.4**
PHP				*e*Sg	**Sn**	**11 38 00.2**	**+0.4**
	SNR=90						
PUK	**Puka**	**0.95**	**17**	*e*PG	**Pg**	**11 37 45.9**	**-0.3**
PUK				*e*SG	**Sn**	**11 38 01.1**	**-0.3**
PUK	**Puka**	**0.95**	**17**	*e*Pg	**Pg**	**11 37 45.9**	**-0.3**
	SNR=90						
PUK				*e*Sg	**Sn**	**11 38 01.1**	**-0.3**
	SNR=90						
DRME	**Dracevica, Mon**	**1.08**	**347**	⇓*i*Pg	**Pg**	**11 37 48.6**	**0.0**
DRME				*e*Sg	**Sn**	**11 38 05.7**	**+1.2**
DRME	**Dracevica, Mon**	**1.08**	**347**	⇓*i*Pg	**Pg**	**11 37 48.6**	**0.0**
DRME				*e*Sg	**Sn**	**11 38 05.7**	**+1.2**
KBN	**Korca**	**1.09**	**117**	*e*PG	**Pg**	**11 37 48.3**	**-0.6**
KBN				*e*SG	**Sn**	**11 38 07.9**	**+3.1**
KBN	**Korca**	**1.09**	**117**	P	**Pg**	**11 37 48.3**	**-0.6**
KBN				S	**Sn**	**11 38 04.8**	**-0.1**
KBN	**Korca**	**1.09**	**117**	P	**Pg**	**11 37 48.3**	**-0.6**
KBN				S	**Sn**	**11 38 04.8**	**-0.1**
KBN				*e*Sg	**Sn**	**11 38 07.9**	**+3.1**
	SNR=90						
BUM	**Brajici-Budva**	**1.25**	**339**	⇓*i*Pg	**Pn**	**11 37 51.4**	**-0.4**
BUM				*e*Sg	**Sn**	**11 38 10.8**	**+1.9**
BUM	**Brajici-Budva**	**1.25**	**339**	⇓*i*Pg	**Pn**	**11 37 51.4**	**-0.4**
BUM				*e*Sg	**Sn**	**11 38 10.8**	**+1.9**
BCI	**Bajram Curri**	**1.30**	**18**	*e*PG	**Pb**	**11 37 52.6**	**0.0**
BCI				*e*SG	**Sn**	**11 38 12.6**	**+2.7**
BCI	**Bajram Curri**	**1.30**	**18**	*e*Pg	**Pb**	**11 37 52.6**	**0.0**
	SNR=90						
BCI				*e*Sg	**Sn**	**11 38 12.6**	**+2.7**
	SNR=90						
SRN	**Sarande**	**1.31**	**163**	*e*PG	**Pb**	**11 37 52.7**	**+0.1**
SRN				*e*SG	**Sn**	**11 38 11.7**	**+1.8**
SRN	**Sarande**	**1.31**	**163**	P	**Pn**	**11 37 52.4**	**0.0**
SRN				S	**Sn**	**11 38 11.5**	**+1.6**
SRN	**Sarande**	**1.31**	**163**	P	**Pn**	**11 37 52.4**	**0.0**
SRN	**Sarande**	**1.31**	**163**	*e*Pg	**Pb**	**11 37 52.7**	**+0.1**
	SNR=90						
SRN				*e*Sg	**Sn**	**11 38 11.7**	**+1.8**
	SNR=90						
PDG	**Podgorica**	**1.31**	**352**	P	**Pn**	**11 37 52.5**	**+0.1**
PDG				S	**Sn**	**11 38 11.5**	**+1.5**
PDG	**Podgorica**	**1.31**	**352**	⇑*i*Pg	**Pn**	**11 37 52.2**	**-0.2**
PDG				*e*Sg	**Sn**	**11 38 11.6**	**+1.5**
PDG	**Podgorica**	**1.31**	**352**	⇑*i*Pg	**Pn**	**11 37 52.2**	**-0.2**
PDG	**Podgorica**	**1.31**	**352**	P	**Pn**	**11 37 52.5**	**+0.1**
PDG				*e*Sg	**Sn**	**11 38 11.6**	**+1.5**
TTG	**Podgorica**	**1.31**	**352**	⇑*i*Pg	**Pn**	**11 37 52.2**	**-0.2**
TTG				*e*Sg	**Sn**	**11 38 11.6**	**+1.5**
NEST	**Nestorio**	**1.37**	**121**	P	**Pn**	**11 37 53.5**	**+0.1**
NEST				S	**Sg**	**11 38 13.1**	**+1.2**
NEST	**Nestorio**	**1.37**	**121**	P	**Pn**	**11 37 53.5**	**+0.1**
NEST				S	**Sg**	**11 38 13.1**	**+1.2**
BIA	**Bitola**	**1.38**	**94**	P	**Pn**	**11 37 52.0**	**-1.4**
BIA	**Bitola**	**1.38**	**94**	*i* Pg	**Pn**	**11 37 52.1**	**-1.2**
BIA				*i* Sg	**Sb**	**11 38 11.0**	**-0.6**
BIA	**Bitola**	**1.38**	**94**	*i* Pg	**Pn**	**11 37 51.6**	**-1.8**
BIA	**Bitola**	**1.38**	**94**	P	**Pn**	**11 37 52.0**	**-1.4**
BIA				*i* Sg	**Sb**	**11 38 10.4**	**-1.2**
KEK	**Kerkira**	**1.44**	**171**	P	**Pg**	**11 37 55.2**	**-0.2**
KEK				S	**Sg**	**11 38 14.0**	**0.0**
KEK	**Kerkira**	**1.44**	**171**	*e*P	**Pb**	**11 37 55.1**	**+0.3**
KEK				*e*S	**Sn**	**11 38 13.3**	**+0.1**
KEK	**Kerkira**	**1.44**	**171**	*e*PN	Pn	11 37 50.1	-4.1
KEK	**Kerkira**	**1.44**	**171**	*e*Pn	**Pb**	**11 37 55.1**	**+0.3**
KEK				*e*Sn	**Sn**	**11 38 13.3**	**+0.1**
FNA	**Florina**	**1.46**	**103**	P	**Pn**	**11 37 53.5**	**-1.0**
FNA				S	**Sg**	**11 38 14.5**	**-0.1**
FNA	**Florina**	**1.46**	**103**	*e*P	**Pn**	**11 37 53.8**	**-0.7**
FNA				*e*S	**Sn**	**11 38 13.2**	**-0.6**
FNA	**Florina**	**1.46**	**103**	*e*PB	**Pn**	**11 37 54.4**	**-0.1**
FNA	**Florina**	**1.46**	**103**	P	**Pn**	**11 37 53.5**	**-1.0**
FNA	**Florina**	**1.46**	**103**	*e*Pn	**Pn**	**11 37 53.8**	**-0.7**
FNA				*e*Sn	**Sn**	**11 38 13.2**	**-0.6**
FNA				S	**Sg**	**11 38 14.5**	**-0.1**
PVY	**Plav**	**1.50**	**13**	⇓*i*Pg	**Pn**	**11 37 55.7**	**+0.5**
PVY				*e*Sg	**Sg**	**11 38 17.0**	**+0.9**
PVY	**Plav**	**1.50**	**13**	⇓*i*Pg	**Pn**	**11 37 55.7**	**+0.5**
PVY				*e*Sg	**Sg**	**11 38 17.0**	**+0.9**
HCY	**Herceg Novi**	**1.52**	**330**	⇑*i*Pg	**Pn**	**11 37 55.0**	**-0.3**
HCY				*e*Sg	**Sg**	**11 38 17.8**	**+1.1**
HCY	**Herceg Novi**	**1.52**	**330**	⇑*i*Pg	**Pn**	**11 37 55.0**	**-0.3**
HCY				*e*Sg	**Sg**	**11 38 17.8**	**+1.1**
SKO	**Skopje**	**1.67**	**59**	P	**Pn**	**11 37 57.7**	**+0.3**
SKO	**Skopje**	**1.67**	**59**	⇓*i*Pg	**Pn**	**11 37 57.8**	**+0.3**
SKO				*e*Sg	**Sb**	**11 38 20.1**	**0.0**
SKO	**Skopje**	**1.67**	**59**	*i* Pg	**Pb**	**11 37 58.9**	**0.0**
SKO				*i* Sg	**Sb**	**11 38 20.9**	**+0.8**
SKO				*i* Lg	Lg	11 38 22.1	
	comp=N,292nm,0.5s						
SKO				*i* Lg	Lg	11 38 24.4	
	comp=E,258nm,0.8s						
SKO	**Skopje**	**1.67**	**59**	*i* Pg	**Pn**	**11 37 57.8**	**+0.3**
SKO				*i* Sg	**Sb**	**11 38 19.9**	**-0.2**
SKO				*i* Lg	Lg	11 38 23.3	
	comp=E,258nm,0.8s						
NKME	**Niksic**	**1.69**	**346**	⇓*i*Pn	**Pn**	**11 37 58.2**	**+0.6**
NKME				*e*Sn	**Sg**	**11 38 21.7**	**-0.3**
NKME	**Niksic**	**1.69**	**346**	⇓*i*Pn	**Pn**	**11 37 58.2**	**+0.6**
NKME				*e*Sn	**Sg**	**11 38 21.7**	**-0.3**
IGT	**Igoumenitsa**	**1.72**	**158**	P	**Pn**	**11 37 58.5**	**+0.5**
IGT				S	**Sb**	**11 38 21.9**	**+0.5**
IGT	**Igoumenitsa**	**1.72**	**158**	P	**Pn**	**11 37 58.5**	**+0.5**
NKY	**Niksic**	**1.72**	**347**	⇓*i*Pn	**Pn**	**11 37 58.7**	**+0.5**
NKY				*e*Sn	**Sb**	**11 38 22.2**	**+0.6**
NKY	**Niksic**	**1.72**	**347**	⇓*i*Pn	**Pn**	**11 37 58.7**	**+0.5**
NKY				*e*Sn	**Sb**	**11 38 22.2**	**+0.6**
BEY	**Berane**	**1.76**	**9**	⇓*i*Pn	**Pn**	**11 37 59.6**	**+0.9**
BEY				*e*Sn	**Sb**	**11 38 23.1**	**+0.4**
IVA	**Berane**	**1.76**	**9**	⇓*i*Pn	**Pn**	**11 37 59.6**	**+0.9**
IVA				*e*Sn	**Sb**	**11 38 23.1**	**+0.4**
JAN	**Janina**	**1.79**	**145**	*e*P	**Pb**	**11 38 00.8**	**-0.2**
JAN	**Janina**	**1.79**	**145**	*e*PB	**Pb**	**11 38 01.1**	**+0.1**
JAN	**Janina**	**1.79**	**145**	*e*Pn	**Pb**	**11 38 00.8**	**-0.2**
TREB	**Trebinje**	**1.80**	**332**	⇑*i*Pn	**Pn**	**11 37 58.3**	**-0.9**
TREB				*e*Sg	**Sg**	**11 38 26.6**	**+0.7**
TREB	**Trebinje**	**1.80**	**332**	⇑*i*Pn	**Pn**	**11 37 58.3**	**-0.9**
TREB				*e*Sg	**Sg**	**11 38 26.6**	**+0.7**
KZN	**Kozani**	**1.91**	**115**	P	**Pn**	**11 38 00.9**	**+0.2**
KZN	**Kozani**	**1.91**	**115**	*e*P	**Pn**	**11 38 01.3**	**+0.6**
KZN				*e*S	**Sn**	**11 38 24.8**	**-0.1**
KZN	**Kozani**	**1.91**	**115**	*e*PN	**Pn**	**11 38 00.9**	**+0.2**
KZN	**Kozani**	**1.91**	**115**	P	**Pn**	**11 38 00.9**	**+0.2**
KZN	**Kozani**	**1.91**	**115**	*e*Pn	**Pn**	**11 38 01.3**	**+0.6**
KZN				*e*Sn	**Sn**	**11 38 24.8**	**-0.1**
BRY	**Bratogost**	**1.91**	**338**	⇑*i*Pn	**Pn**	**11 38 01.1**	**+0.3**
BRY				*e*Sn	**Sb**	**11 38 27.0**	**-0.1**
BRY	**Bratogost**	**1.91**	**338**	⇑*i*Pn	**Pn**	**11 38 01.1**	**+0.3**
BRY				*e*Sn	**Sb**	**11 38 27.0**	**-0.1**
UPM	**Unac-Piva**	**2.12**	**348**	⇑*i*Pn	**Pn**	**11 38 04.4**	**+0.7**
UPM				*e*Sn	**Sn**	**11 38 31.6**	**+1.3**
UPM	**Unac-Piva**	**2.12**	**348**	⇑*i*Pn	**Pn**	**11 38 04.4**	**+0.7**
UPM				*e*Sn	**Sn**	**11 38 31.6**	**+1.3**
SJES	**Sjenica**	**2.15**	**9**	⇓*i*Pn	**Pn**	**11 38 04.2**	**0.0**
SJES	**Sjenica**	**2.15**	**9**	⇓*i*Pn	**Pn**	**11 38 04.2**	**0.0**
PLE	**Pljevlja**	**2.20**	**358**	⇑*i*Pn	**Pn**	**11 38 05.1**	**+0.3**
PLE				*e*Sn	**Sn**	**11 38 33.2**	**+1.0**
PLE	**Pljevlja**	**2.20**	**358**	⇑*i*Pn	**Pn**	**11 38 05.1**	**+0.3**
PLE				*e*Sn	**Sn**	**11 38 33.2**	**+1.0**
STON	**Ston**	**2.20**	**323**	*i* Pn	**Pn**	**11 38 03.4**	**-1.2**
STON				*e*Sn	**Sn**	**11 38 30.5**	**-1.5**
STON	**Ston**	**2.20**	**323**	*e*Pn	**Pn**	**11 38 03.9**	**-0.7**
STON				Sn	**Sn**	**11 38 29.9**	**-2.2**
STON	**Ston**	**2.20**	**323**	*i* Pn	**Pn**	**11 38 03.4**	**-1.2**
STON				*e*Sn	**Sn**	**11 38 30.5**	**-1.5**
VAY	**Valandovo**	**2.31**	**84**	⇑*i*Pn	**Pn**	**11 38 04.7**	**-1.5**
VAY	**Valandovo**	**2.31**	**84**	⇑*i*Pn	**Pn**	**11 38 04.7**	**-1.5**
SELS	**Selova**	**2.40**	**29**	*e*Pn	**Pn**	**11 38 06.5**	**-1.0**
SELS				*e*Sn	**Sn**	**11 38 38.2**	**+1.1**
BARS	**Barje**	**2.40**	**45**	*e*Pn	**Pn**	**11 38 07.4**	**-0.1**
THL	**Klokotos Trika**	**2.47**	**128**	*e*P	**Pn**	**11 38 09.2**	**+0.8**
THL	**Klokotos Trika**	**2.47**	**128**	*e*PN	**Pn**	**11 38 09.4**	**+1.0**
THL	**Klokotos Trika**	**2.47**	**128**	*e*Pb	**Pn**	**11 38 09.2**	**+0.8**
IVAS	**Ivanjica**	**2.49**	**11**	*e*Pn	**Pn**	**11 38 08.9**	**+0.2**
IVAS	**Ivanjica**	**2.49**	**11**	*e*Pn	**Pn**	**11 38 08.9**	**+0.2**
LKD2	**Lefkada island**	**2.50**	**159**	P	**Pn**	**11 38 08.3**	**-0.5**
LKD2	**Lefkada island**	**2.50**	**159**	*e*P	**Pn**	**11 38 08.4**	**-0.4**
LKD2	**Lefkada island**	**2.50**	**159**	*e*PN	**Pn**	**11 38 08.4**	**-0.4**
LKD2	**Lefkada island**	**2.50**	**159**	*e*Pn	**Pn**	**11 38 08.4**	**-0.4**
KNT	**Kendrikon**	**2.56**	**88**	P	**Pn**	**11 38 09.2**	**-0.4**
KNT	**Kendrikon**	**2.56**	**88**	P	**Pn**	**11 38 09.2**	**-0.4**
BBLS	**Lazići**	**2.73**	**358**	⇑*i*Pn	**Pn**	**11 38 12.3**	**+0.2**
BBLS	**Lazići**	**2.73**	**358**	⇑*i*Pn	**Pn**	**11 38 12.3**	**+0.2**
KKB	**Krupnik**	**2.78**	**74**	*e*P	**Pn**	**11 38 12.8**	**+0.1**
KKB	**Krupnik**	**2.78**	**74**	*e*P	**Pn**	**11 38 12.8**	**+0.1**
EVR	**Evrytania**	**2.83**	**141**	*e*P	**Pn**	**11 38 14.9**	**+1.5**
EVR	**Evrytania**	**2.83**	**141**	*e*PN	**Pn**	**11 38 14.6**	**+1.2**
EVR	**Evrytania**	**2.83**	**141**	*e*Pb	**Pn**	**11 38 14.9**	**+1.5**
GRUS	**Gruza**	**2.89**	**18**	*e*Pn	**Pn**	**11 38 14.5**	**+0.3**
GRUS	**Gruza**	**2.89**	**18**	*e*Pn	**Pn**	**11 38 14.5**	**+0.3**
SOH	**Sokhos**	**2.93**	**95**	*e*P	**Pn**	**11 38 13.3**	**-1.4**
SOH	**Sokhos**	**2.93**	**95**	*e*PN	Pn	11 38 11.0	-3.7
SOH	**Sokhos**	**2.93**	**95**	*e*Pn	**Pn**	**11 38 13.3**	**-1.4**
DIVS	**Divibare**	**2.98**	**7**	P	**Pn**	**11 38 14.6**	**-0.9**
DIVS	**Divibare**	**2.98**	**7**	⇑*i*Pn	**Pn**	**11 38 15.1**	**-0.4**
DIVS	**Divibare**	**2.98**	**7**	P	**Pn**	**11 38 14.6**	**-0.9**
DIVS	**Divibare**	**2.98**	**7**	⇑*i*Pn	**Pn**	**11 38 15.1**	**-0.4**
AGG	**Agios Georgios**	**3.02**	**133**	P	**Pn**	**11 38 16.2**	**+0.2**
AGG				S	**Sn**	**11 38 52.6**	**+0.3**
AGG	**Agios Georgios**	**3.02**	**133**	*e*P	**Pn**	**11 38 16.0**	**0.0**
AGG	**Agios Georgios**	**3.02**	**133**	*e*PN	**Pn**	**11 38 16.5**	**+0.5**
AGG	**Agios Georgios**	**3.02**	**133**	P	**Pn**	**11 38 16.2**	**+0.2**
VLS	**Valsamata**	**3.07**	**164**	*e*P	**Pn**	**11 38 14.5**	**-2.1**
VLS	**Valsamata**	**3.07**	**164**	*e*PN	**Pn**	**11 38 14.3**	**-2.3**
VLS	**Valsamata**	**3.07**	**164**	*e*Pn	**Pn**	**11 38 14.5**	**-2.1**
VTS	**Vitosha**	**3.12**	**61**	P	**Pn**	**11 38 17.9**	**+0.4**
VTS	**Vitosha**	**3.12**	**61**	*e*Pn	**Pn**	**11 38 17.9**	**+0.4**
VTS				*e*Sn	**Sn**	**11 38 54.1**	**-0.9**
VTS	**Vitosha**	**3.12**	**61**	*e*P	**Pn**	**11 38 18.0**	**+0.4**
VTS	**Vitosha**	**3.12**	**61**	P	**Pn**	**11 38 17.9**	**+0.4**
VTS				*e*Sn	**Sn**	**11 38 54.1**	**-0.9**
ZAPS	**Zavoj**	**3.15**	**46**	⇓*i*Pn	**Pn**	**11 38 18.1**	**+0.3**
TRUS	**Trudelj**	**3.16**	**12**	⇓*i*Pn	**Pn**	**11 38 16.6**	**-1.3**
TRUS	**Trudelj**	**3.16**	**12**	⇓*i*Pn	**Pn**	**11 38 16.6**	**-1.3**
MMB	**Musomiste**	**3.21**	**80**	*e*P	**Pn**	**11 38 18.4**	**-0.1**
MMB	**Musomiste**	**3.21**	**80**	*e*P	**Pn**	**11 38 18.4**	**-0.1**
EFP	**Efpalio**	**3.27**	**145**	*e*P	**Pn**	**11 38 20.5**	**+1.1**
EFP	**Efpalio**	**3.27**	**145**	*e*PN	**Pn**	**11 38 20.4**	**+1.1**
EFP	**Efpalio**	**3.27**	**145**	*e*Pn	**Pn**	**11 38 20.5**	**+1.1**
NVR	**Nevrokopi**	**3.29**	**85**	P	**Pn**	**11 38 19.7**	**0.0**
NVR	**Nevrokopi**	**3.29**	**85**	*e*P	**Pn**	**11 38 19.4**	**-0.3**
NVR	**Nevrokopi**	**3.29**	**85**	*e*PN	**Pn**	**11 38 19.1**	**-0.6**
NVR	**Nevrokopi**	**3.29**	**85**	*e*Pn	**Pn**	**11 38 19.4**	**-0.3**
NVR	**Nevrokopi**	**3.29**	**85**	P	**Pn**	**11 38 19.7**	**0.0**
TRIZ	**Trizonia**	**3.40**	**144**	*e*P	**Pn**	**11 38 21.6**	**+0.5**
TRIZ	**Trizonia**	**3.40**	**144**	*e*PN	**Pn**	**11 38 21.8**	**+0.7**
TRIZ	**Trizonia**	**3.40**	**144**	*e*Pn	**Pn**	**11 38 21.6**	**+0.5**
PAIG	**Paliouri**	**3.40**	**109**	*e*P	**Pn**	**11 38 21.5**	**+0.4**
PAIG	**Paliouri**	**3.40**	**109**	*e*PN	**Pn**	**11 38 19.0**	**-2.1**
PAIG	**Paliouri**	**3.40**	**109**	*e*Pn	**Pn**	**11 38 21.5**	**+0.4**
KALE	**Kalithea**	**3.41**	**143**	*e*P	**Pn**	**11 38 22.2**	**+0.9**
KALE	**Kalithea**	**3.41**	**143**	*e*Pn	**Pn**	**11 38 22.2**	**+0.9**
TEKS	**Tekeris**	**3.41**	**0**	⇑*i*Pn	**Pn**	**11 38 19.9**	**-1.5**
TEKS	**Tekeris**	**3.41**	**0**	⇑*i*Pn	**Pn**	**11 38 19.9**	**-1.5**
RLS	**Riolos of Patr**	**3.42**	**153**	*e*PN	**Pn**	**11 38 21.7**	**+0.2**
LAKA	**Lakka**	**3.46**	**146**	*e*PN	**Pn**	**11 38 21.1**	**-0.9**
LKR	**Lokris**	**3.65**	**132**	*e*PN	**Pn**	**11 38 25.4**	**+0.8**
KLV	**Kalavryta, Ach**	**3.70**	**146**	*e*P	**Pn**	**11 38 25.8**	**+0.5**
KLV	**Kalavryta, Ach**	**3.70**	**146**	*e*PN	**Pn**	**11 38 25.8**	**+0.5**
KLV	**Kalavryta, Ach**	**3.70**	**146**	*e*Pn	**Pn**	**11 38 25.8**	**+0.5**
MPEP	**Malo Peshtene**	**3.85**	**53**	*e*P	**Pn**	**11 38 27.7**	**+0.4**
GUR	**Goura**	**3.87**	**145**	*e*PN	Pn	11 38 23.2	-4.5
RZN	**Rozhen**	**3.95**	**80**	*e*P	**Pn**	**11 38 29.1**	**+0.1**
RZN	**Rozhen**	**3.95**	**80**	*e*P	**Pn**	**11 38 29.1**	**+0.1**
FGSL	**Fruska Gora**	**4.03**	**3**	*e*Pn	**Pn**	**11 38 29.2**	**-0.6**
FRGS	**Fruska Gora**	**4.03**	**3**	*e*Pn	**Pn**	**11 38 29.2**	**-0.6**
PYL	**PYLOS**	**4.57**	**157**	*e*PN	Pn	11 38 32.7	-4.6
BZS	**Buzias**	**4.74**	**18**	*e*Pn	**Pn**	**11 38 38.6**	**-0.9**
BZS	**Buzias**	**4.74**	**18**	*e*Pn	**Pn**	**11 38 38.6**	**-0.9**
NVLJ	**Novalja**	**4.84**	**317**	*e*Pn	**Pn**	**11 38 39.8**	**-1.0**
NVLJ				Sn	**Sn**	**11 39 32.7**	**-4.3**
DYR	**Agios Nikonas**	**4.89**	**152**	*e*PN	**Pn**	**11 38 38.7**	**-2.9**
KECS	**Kecovo**	**7.38**	**5**	*e*PN	Pn	11 39 09.5	-6.3

*CSEM **09** 11:42:17.4±0.5, 36°.82N×36°.80E, h2km, ML2.1, Error ellipse: s-maj=8.5km s-min=8.0km az=96.0*
*DDA **09** 11:42:17.6, 36°.84N×36°.82E, h7km, MD2.5*
*NSSC **09** 11:42:20.2±2.7, 36°.65N×36°.83E, h0km±15km, MD1.3, ML2.1*

ISC 09 11:42:17.6±1.2, 36°.82N±0°.02×36°.81E±0°.03, h1km±11km, n17, σ1°04/33, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRWC	**Darouich**	**0.23**	**211**	*e*P	**Pg**	**11 42 22.0**	**0.0**
DRWC				*e*S	**Sg**	**11 42 25.8**	**+0.9**
DRWC				AML	AML	11 42 28.1	
	comp=N,220nm,0.4s						
DRWC				AML	AML	11 42 30.7	
	comp=E,149nm,0.4s						
DRWC	**Darouich**	**0.23**	**211**	*e*P	**Pg**	**11 42 22.0**	**0.0**
	SNR=94						
COBT	**Iskenderun**	**0.54**	**237**	*i* P	**Pg**	**11 42 27.1**	**-0.8**
COBT				*i* S	**Sg**	**11 42 37.1**	**+2.2**
COBT	**Iskenderun**	**0.54**	**237**	*i* P	**Pg**	**11 42 27.1**	**-0.8**
COBT				*i* S	**Sg**	**11 42 37.1**	**+2.2**
AYKD	**Aykdinkavak**	**0.60**	**360**	*i* P	**Pg**	**11 42 29.1**	**0.0**
AYKD				*i* S	**Sb**	**11 42 38.2**	**-1.7**
GZT	**Gaziantep**	**0.81**	**48**	*i* P	**Pg**	**11 42 33.5**	**+0.4**
GZT				*i* S	**Sg**	**11 42 44.1**	**+0.5**
BTCH	**Batrach**	**0.83**	**200**	*e*P	**Pg**	**11 42 31.5**	**-2.0**
BTCH				*e*S	**Sg**	**11 42 43.8**	**-0.4**
BTCH				AML	AML	11 42 46.4	
	comp=N,159nm,0.3s						
BTCH				AML	AML	11 42 49.7	
	comp=E,89nm,0.3s						
BTCH	**Batrach**	**0.83**	**200**	*e*P	**Pg**	**11 42 31.5**	**-2.0**
	SNR=75						
BTCH				*e*S	**Sg**	**11 42 43.8**	**-0.4**
	comp=E,89nm,0.3s,SNR=59						
ANDN	**Andirin**	**0.85**	**334**	*i* P	**Pg**	**11 42 33.2**	**-0.8**
ANDN				*i* S	**Sg**	**11 42 45.7**	**+0.7**
ANDN	**Andirin**	**0.85**	**334**	*i* P	**Pg**	**11 42 33.2**	**-0.8**
ANDN				*i* S	**Sg**	**11 42 45.7**	**+0.7**
YAYL	**Yayladag**	**0.96**	**216**	*i* P	**Pg**	**11 42 36.9**	**+0.8**
YAYL				*i* S	**Sn**	**11 42 53.4**	**+0.6**
YAYL	**Yayladag**	**0.96**	**216**	*i* P	**Pg**	**11 42 36.9**	**+0.8**
YAYL				*i* S	**Sn**	**11 42 53.4**	**+0.6**
SLMH	**Al Salmeh**	**1.08**	**123**	*e*P	**Pg**	**11 42 38.2**	**-0.1**
SLMH				*e*S	**Sb**	**11 42 53.6**	**-0.2**
SLMH				AML	AML	11 42 55.0	
	comp=E,141nm,0.8s						
SLMH				AML	AML	11 42 56.7	
	comp=N,165nm,0.5s						
SLMH	**Al Salmeh**	**1.08**	**123**	*e*P	**Pg**	**11 42 38.2**	**-0.1**
	SNR=67						
SLMH				*e*S	**Sb**	**11 42 53.6**	**-0.2**
	comp=N,165nm,0.5s,SNR=59						
ARNB	**Al Arnab**	**1.17**	**216**	*e*P	**Pn**	**11 42 41.4**	**+0.2**
ARNB				*e*S	**Sg**	**11 42 55.6**	**+0.4**
ARNB				AML	AML	11 43 04.3	
	comp=E,53nm,0.7s						
ARNB				AML	AML	11 43 04.4	
	comp=N,47nm,0.6s						
ARNB	**Al Arnab**	**1.17**	**216**	*e*P	**Pn**	**11 42 41.4**	**+0.2**
	SNR=67						
ARNB				*e*S	**Sg**	**11 42 55.6**	**+0.4**
	comp=N,47nm,0.6s,SNR=59						
SFNV	**Sufian**	**2.68**	**98**	*e*P	**Pb**	**11 43 05.6**	**-0.9**
SFNV				*e*S	**Sn**	**11 43 36.7**	**+1.5**
SFNV				AML	AML	11 43 49.2	
	comp=E,31nm,0.5s						
SFNV				AML	AML	11 43 50.3	
	comp=N,14nm,0.5s						

ISC 09 11:47:45.5±1.2, 37°.06N±0°.07×27°.93E±0°.04, h12km, n5, σ0°75/9, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.29**	**75**	*e*PG	**Pb**	**11 47 53.6**	**+0.9**
YER				*e*SG	**Sb**	**11 47 58.2**	**+0.7**
BDRM	**Kayabasi**	**0.39**	**271**	*i* P	**Pb**	**11 47 54.2**	**-0.1**
BDRM				*i* S	**Sb**	**11 48 00.6**	**+0.3**
BODT	**Bodrum**	**0.49**	**270**	*e*PG	**Pb**	**11 47 57.2**	**+1.0**
TURN	**Turunc**	**0.57**	**109**	*i* P	**Pg**	**11 47 55.6**	**-1.0**
TURN				*i* S	**Sb**	**11 48 05.5**	**0.0**
AYDN	**Tasoluk**	**0.60**	**356**	*i* P	**Pb**	**11 47 58.1**	**+0.1**
AYDN				*i* S	**Sg**	**11 48 05.1**	**-0.1**

*LJU **09** 11:58:54.3, 46°.05N×13°.62E, h0km, ML0.9 Artificial*

CSEM 09 11:58:53.6±0.3, 46°.03N×13°.61E, h2km, ML0.9, 2C, Error ellipse: s-maj=6.8km s-min=6.7km az=16.0, Mining explosion., Austria

| Code | Station Name | Δ° | A

1.0nm,0.7s,baz=304,slow=7.3,SNR=3.1
TORD Torodi Ar. Bea 93.01 283 P P 13 16 16.6 +1.8
0.3nm,0.8s,baz=59,slow=3.9,SNR=2.5

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*ISCJB **09** 13:19:56.0±0.9,6°.42S±0°.05×130°.28E±0°.10,h146km, Error ellipse: s-maj=14.2km s-min=5.8km az=15.7*
*AUST **09** 13:19:56.3,6°.48S×130°.03E,h60km*
*DJA **09** 13:20:11.2±0.6,5°.S±4°.×13°.1E±°,h10km,M4.2/4,mb5.0/1, MLv3.8/4*
ISC 09 13:19:55.6±1.1,6°.34S±0°.06×130°.1E±0°.1,h146km,n12, σ1§88/15,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.01**	**145**	P	**Sn**	**13 20 56.5**	**-1.0**
TLE	**Tual**	**2.69**	**75**	P	Pn	13 20 42.9	+3.9
TLE				S	**Sn**	**13 21 11.0**	**-1.4**
TLE	**Tual**	**2.69**	**75**	P	Pn	13 20 43.1	+4.2
baz=2.8,SNR=10							
TLE				S	**Sn**	**13 21 10.8**	**-1.5**
baz=2.8,SNR=5.1							
FAKI	**Fak Fak**	**4.00**	**32**	P	**Pn**	**13 20 57.3**	**+1.4**
FAKI				S	Sn	13 21 33.0	-10
FAKI	**Fak Fak**	**4.00**	**32**	P	**Pn**	**13 20 56.9**	**+1.0**
baz=4.2,SNR=12							
FAKI				S	**Sn**	**13 21 41.3**	**-1.4**
baz=4.2,SNR=6.4							
SWI	**Sorong**	**5.56**	**12**	P	**Pn**	**13 21 17.8**	**+1.4**
baz=5.7,SNR=4.8							
SWI				S	**Sn**	**13 22 16.8**	**-2.8**
baz=5.7,SNR=4.0							
LBMI	**Labuha**	**6.24**	**335**	P	Pn	13 21 36.6	+11
MTN	**Manton Dam**	**6.54**	**171**	P	**Pn**	**13 21 31.4**	**+1.9**
baz=6.5,SNR=25							
MTN				S	**Sn**	**13 22 41.3**	**-1.8**
baz=6.5,SNR=7.1							
KDU	**Kakadu**	**6.72**	**160**	P	**Pn**	**13 21 33.5**	**+1.5**
baz=6.7,SNR=48							
KDU				S	**Sn**	**13 22 45.0**	**-2.4**
baz=6.7,SNR=10							
KNRA	**Kununurra**	**9.38**	**188**	P	**Pn**	**13 22 08.1**	**+0.6**
baz=9.3,SNR=30							
KNRA				S	**Sn**	**13 23 49.1**	**-2.3**
baz=9.3,SNR=4.0							
FITZ	**Fitzroy Crossi**	**12.48**	**200**	P	**Pn**	**13 22 49.7**	**+1.3**
baz=12,SNR=14							
COEN	**Coen**	**14.90**	**122**	P	P	13 23 24.7	+3.5
baz=15,SNR=5.3							

KRSC 09 13:28:07.2±0.5,54°.02N×160°.49E,h71km±70km,ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.90**	**53**	*i* P	Pn	13 28 26.3	+1.8
MKZ				*i* S	Sn	13 28 39.7	+2.3
SPN	**Mys Shipunski**	**0.96**	**197**	*i* P	Pn	13 28 26.8	+1.5
SPN				*i* S	Sn	13 28 40.8	+2.1
NLC	**Nalytchevo**	**1.09**	**219**	*e*P	Pn	13 28 28.7	+1.9
NLC				*e*S	Sn	13 28 44.2	+2.7
SDLR	**Sedlovina**	**1.21**	**233**	*e*P	Pn	13 28 30.7	+2.1
SDLR				*e*S	Sn	13 28 47.3	+2.7
SMAR	**Somma**	**1.26**	**234**	*e*P	Pn	13 28 31.2	+1.9
SMAR				*e*S	Sn	13 28 48.2	+2.3
KRER	**Koryakskii**	**1.26**	**236**	*i* P	Pn	13 28 31.2	+1.9
KRER				*i* S	Sn	13 28 48.7	+2.8
KRX	**Arik**	**1.28**	**240**	*e*P	Pn	13 28 31.4	+1.9
KRX				*e*S	Sn	13 28 48.4	+2.2
TUMR	**Tumrok**	**1.28**	**351**	*i* P	Pn	13 28 31.5	+2.0
UGLR	**Uglovaya**	**1.28**	**231**	*e*P	Pn	13 28 31.8	+2.3
UGLR				*e*S	Sn	13 28 49.1	+2.9
AVH	**Avacha**	**1.29**	**235**	*e*P	Pn	13 28 32.1	+2.6
AVH				*e*S	Sn	13 28 49.7	+3.5
KOK	**Koryaka**	**1.32**	**237**	*i* P	Pn	13 28 32.3	+2.3
KOK				*e*S	Sn	13 28 50.7	+3.6
PET	**Petropavlovsk**	**1.48**	**228**	*e*P	Pn	13 28 33.9	+2.0
PET				*e*S	Sn	13 28 53.1	+2.6
GNL	**Ganaly**	**1.54**	**259**	*e*P	Pn	13 28 34.6	+1.7
GNL				*e*S	Sn	13 28 55.0	+2.7
KMNR	**Kamenistaya**	**1.75**	**355**	*e*P	Pn	13 28 38.0	+2.4
KMNR				*e*S	Sn	13 29 00.5	+3.4
BZMR	**Bezymyannaya**	**1.92**	**0**	*e*P	Pn	13 28 40.2	+2.2
BZMR				*e*S	Sn	13 29 04.8	+3.5
BZGR	**Bezymyannyi-Gr**	**1.93**	**3**	*e*P	Pn	13 28 40.3	+2.3
BZGR				*e*S	Sn	13 29 04.6	+3.1
KIRR	**Kirishev**	**1.94**	**358**	*e*P	Pn	13 28 40.0	+1.8
KIRR				*e*S	Sn	13 29 03.5	+1.7
BZWR	**Bezymyannyi-We**	**1.95**	**0**	*e*P	Pn	13 28 40.5	+2.1
KPT	**Kopyto**	**1.96**	**356**	*e*P	Pn	13 28 40.1	+1.7
KPT				*e*S	Sn	13 29 03.7	+1.6
RUS	**Russkaya**	**1.98**	**218**	*i* P	Pn	13 28 40.2	+1.6
RUS				*i* S	Sn	13 29 03.9	+1.4
ZLN	**Zelenaya**	**2.01**	**5**	*e*P	Pn	13 28 41.5	+2.4
ZLN				*e*S	Sn	13 29 06.4	+3.0
GRL	**Gorelyy**	**2.07**	**226**	*e*P	Pn	13 28 42.3	+2.4
GRL				*e*S	Sn	13 29 07.6	+2.8
LGNR	**Loginova**	**2.07**	**3**	*e*P	Pn	13 28 42.8	+2.6
LGNR				*e*S	Sn	13 29 08.7	+3.4
MTVR	**Mutnovka**	**2.07**	**223**	*e*P	Pn	13 28 42.4	+2.4
MTVR				*e*S	Sn	13 29 07.6	+2.6
KOZ	**Kozyrevsk**	**2.07**	**350**	*e*P	Pn	13 28 41.6	+1.8
KOZ				*e*S	Sn	13 29 06.3	+1.6
CIRR	**Tsirk**	**2.10**	**4**	*e*P	Pn	13 28 42.6	+2.2
CIRR				*e*S	Sn	13 29 07.9	+2.1
KRSR	**Krestovskiy**	**2.20**	**1**	*e*P	Pn	13 28 43.4	+1.7
KRSR				*e*S	Sn	13 29 09.4	+1.3
ASAK	**Asacha**	**2.26**	**225**	*e*P	Pn	13 28 44.8	+2.3
ASAK				*e*S	Sn	13 29 11.9	+2.5
APC	**Apacha**	**2.27**	**242**	*e*P	Pn	13 28 44.9	+2.4
APC				*e*S	Sn	13 29 12.0	+2.5
KLY	**Klyuchi**	**2.30**	**2**	*e*P	Pn	13 28 45.1	+2.3
KLY				*e*S	Sn	13 29 12.6	+2.5
SRDR	**Sredinnyy**	**2.34**	**349**	*e*P	Pn	13 28 45.4	+1.8
SRDR				*e*S	Sn	13 29 13.5	+2.1
KBTR	**Krutoberegovo**	**2.57**	**30**	*e*P	Pn	13 28 48.2	+1.7
KBTR				*e*S	Sn	13 29 18.1	+1.4
BDR	**Baidarnaya**	**2.59**	**9**	*e*P	Pn	13 28 49.4	+2.5
BDR				*e*S	Sn	13 29 20.1	+2.8
SMKR	**Semkarok**	**2.63**	**12**	*e*P	Pn	13 28 49.9	+2.5
SRKR	**Sorokina**	**2.67**	**8**	*e*P	Pn	13 28 50.6	+2.6
SRKR				*e*S	Sn	13 29 21.6	+2.3
BKI	**Bering**	**3.40**	**67**	*e*S	Sn	13 29 36.7	-0.2

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*IDC **09** 13:40:58.8±4.2,36°.19N×70°.34E,h191km±37km,mb3.2/7, mb1 3.4/12,mb1mx3.2/29,mbtmp3.3/12,Error ellipse: s-maj=30.3km s-min=18.9km az=32.0*
*ISCJB **09** 13:41:00.8±0.6,36°.46N±0°.03×70°.38E±0°.08,h204km, mb3.4/6,Error ellipse: s-maj=9.2km s-min=3.7km az=162.0*
*NNC **09** 13:41:04.0±6.5,36°.65N×70°.45E,h188km±72km,mb3.1, mpv4.3,Error ellipse: s-maj=58.7km s-min=34.4km az=22.0*
ISC 09 13:41:01.9±0.8,36°.47N±0°.06×70°.53E±0°.09,h204km,n37, σ1§76/43,mb3.4/6,7C-2D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.87**	**156**	⇑P	**Pn**	**13 41 53.3**	**+2.9**
CEP				S	**S**	**13 42 31.0**	**+3.3**
CHCP	**Chirah Chowk**	**3.59**	**141**	P	Pn	13 42 02.5	+3.6
THW	**Thamme Wali**	**3.80**	**164**	⇓P	**Pn**	**13 42 03.6**	**+2.1**
SARP	**Sargodha**	**4.87**	**158**	P	**Pn**	**13 42 16.5**	**+1.7**
THN	**Thein Dam**	**5.88**	**132**	*e*P	**Pn**	**13 42 28.0**	**+0.4**
THN				*e*S	**S**	**13 43 35.4**	**+0.2**
DLH	**Dalhousie**	**5.96**	**130**	*e*P	**Pn**	**13 42 30.0**	**+1.1**
DLH				*e*S	**S**	**13 43 37.0**	**-0.4**
AML	**Almayashu**	**6.16**	**22**	P	**Pn**	**13 42 32.9**	**+1.4**
SNR=80							
KK31	**Karatay Array**	**6.62**	**360**	⇑P	**Pn**	**13 42 37.2**	**0.0**
5.5nm,0.3s,baz=192,slow=14,SNR=78							
KK31				⇑S	**S**	**13 43 50.3**	**-2.4**
6.9nm,0.4s							
EKS2	**Erkin-Say**	**6.67**	**21**	P	**Pn**	**13 42 39.5**	**+1.6**
SNR=15							
KZA	**Kyzart**	**6.69**	**32**	P	**Pn**	**13 42 39.9**	**+1.5**
SNR=10							
AAK	**Ala-Archa**	**6.87**	**25**	P	**Pn**	**13 42 42.3**	**+1.8**
6.1nm,0.3s,baz=178,slow=3.8,SNR=36							
AAK				S	**S**	**13 43 58.3**	**-0.5**
2.4nm,0.3s,baz=180,slow=20,SNR=16							
BHK	**Bhakra**	**7.02**	**134**	*e*4		13 43 51.0	
KBK	**Karagaybulak**	**7.05**	**28**	P	**Pn**	**13 42 45.3**	**+2.4**
SNR=8.3							
ULHL	**Ulahol**	**7.26**	**36**	P	**Pn**	**13 42 48.0**	**+2.3**
SNR=13							
CHMS	**Chumysh**	**7.28**	**25**	P	**Pn**	**13 42 46.8**	**+1.1**
SNR=8.3							
SDNR	**Sundarnagar**	**7.29**	**131**	*e*P	**Pn**	**13 42 48.6**	**+2.6**
SDNR				*e*S	**S**	**13 44 06.0**	**-2.6**
USP	**Ospenovka**	**7.44**	**23**	P	**Pn**	**13 42 49.0**	**+1.2**
SNR=15							
TKM2	**Tokmak 2**	**7.53**	**30**	⇑P	**Pn**	**13 42 50.4**	**+1.3**
19nm,0.7s							
TKM2				⇑S	**S**	**13 44 13.7**	**-0.7**
14nm,1.1s							
TKM2	**Tokmak 2**	**7.53**	**30**	P	**Pn**	**13 42 50.8**	**+1.6**
SNR=12							
SMLA	**Simla**	**7.67**	**132**	*i* P	**Pn**	**13 42 53.0**	**+2.2**
SMLA				*i* S	**S**	**13 44 16.9**	**-0.7**
KHET	**Khetri**	**9.49**	**150**	*e*S	S	13 44 54.1	-6.8
KHET				AML	AML	13 44 59.2	
comp=E,263nm,0.2s							
KHET				AML	AML	13 44 59.4	
comp=N,170nm,0.3s							
KUDL	**Kundal**	**9.71**	**147**	*e*P	**Pn**	**13 43 17.1**	**-0.2**
KUDL				*e*S	S	13 44 59.3	-6.8
KUDL				AML	AML	13 45 03.6	
comp=N,15nm,0.6s							
KUDL				AML	AML	13 45 04.8	
comp=E,27nm,0.4s							
SONA	**Sohna**	**9.89**	**144**	*e*S	**S**	**13 45 05.6**	**-4.9**
SONA				AML	AML	13 45 09.3	
comp=N,20nm,0.4s							
SONA				AML	AML	13 45 10.5	
comp=E,37nm,0.2s							
MK31	**Makanchi Array**	**13.54**	**37**	⇓P	**Pn**	**13 44 06.9**	**+1.1**
comp=E,1.2nm,0.7s,baz=228,slow=17,SNR=11							
MKAR	**Makanchi Array**	**13.54**	**37**	P	**Pn**	**13 44 06.8**	**+1.0**
comp=E,0.2nm,0.3s,baz=227,slow=18,SNR=12							
AB31	**Akbulak array**	**14.93**	**332**	P	**Pn**	**13 44 20.9**	**-2.0**
comp=E,1.1nm,0.4s,baz=148,slow=13,SNR=53							
AB31				⇑S	**S**	**13 47 10.4**	**+2.1**
comp=E,0.9nm,0.6s							
KURBB	**Kurchatov Arra**	**15.27**	**20**	P	**Pn**	**13 44 27.2**	**+0.1**
comp=E,0.5nm,0.3s,baz=210,slow=10,SNR=4.7							
VOSK	**Vostochnaya**	**16.25**	**1**	⇑P	**Pn**	**13 44 39.2**	**+0.3**
comp=E,3.0nm,0.7s							
BVAR	**Borovoye Array**	**16.55**	**360**	P	**P**	**13 44 41.6**	**+0.2**
comp=E,0.4nm,0.3s,baz=173,slow=13,SNR=6.7							
AKTO	**Aktyubinsk**	**16.62**	**331**	P	**P**	**13 44 41.5**	**-0.6**
comp=E,0.3nm,0.3s,baz=144,slow=11,SNR=5.7							
AKTO				S	**S**	**13 47 44.8**	**-0.6**
comp=E,0.2nm,0.3s,baz=214,slow=18,SNR=3.4							
ZALV	**Zalesovo Beam**	**20.10**	**25**	P	**P**	**13 45 21.0**	**+1.2**
comp=E,1.1nm,0.3s,baz=217,slow=11,SNR=6.6							
FINES	**FINESS Array B**	**37.30**	**326**	P	**P**	**13 47 53.7**	**-0.2**
comp=E,3.9nm,1.0s,baz=161,slow=5.5,SNR=2.8							
ARCES	**ARCESS Array B**	**41.03**	**338**	P	**P**	**13 48 24.8**	**0.0**
comp=E,1.5nm,0.6s,baz=104,slow=5.1,SNR=8.0							
TORD	**Torodi Ar. Bea**	**65.34**	**268**	P	P	13 51 19.4	-3.2
comp=E,0.3nm,0.3s,baz=44,slow=6.0,SNR=5.4							
ILAR	**Eielson Array**	**74.91**	**16**	P	**P**	**13 52 19.7**	**-0.1**
comp=E,0.2nm,0.5s,baz=305,slow=4.4,SNR=3.5							
WRA	**Warramunga Arr**	**82.30**	**122**	P	**P**	**13 52 58.7**	**-2.1**
comp=E,0.3nm,0.8s,baz=321,slow=4.6,SNR=3.7							
ASAR	**Alice Springs**	**84.55**	**125**	P	**P**	**13 53 11.0**	**-1.2**
comp=E,0.2nm,0.3s,baz=305,slow=4.7,SNR=4.1							

WEL 09 13:57:57.0±0.5,36°.63S×177°.90E,h154km±4km,ML3.7/4, 1D,Error ellipse: s-maj=6.5km s-min=4.7km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.99**	**161**	PN	Pn	13 58 21.9	-0.1
MXZ				SN	Sn	13 58 40.9	-0.4
PUZ	**Puketiti**	**1.47**	**169**	PN	Pn	13 58 26.7	+0.1
PUZ				SN	Sn	13 58 48.2	-1.2
PUZ				AML	AML	13 58 56.5	
MWZ	**Matawai**	**1.73**	**190**	PN	Pn	13 58 29.7	+0.3
MWZ				SN	Sn	13 58 54.1	-0.3
MWZ				AML	AML	13 58 56.5	
MWZ				AML	AML	13 58 56.6	
MWZ				AML	AML	13 58 58.5	
URZ	**Urewera**	**1.75**	**201**	PN	Pn	13 58 29.2	-0.3
URZ				AML	AML	13 58 55.9	
CNGZ	**Carnagh Statio**	**1.87**	**173**	PN	Pn	13 58 31.7	+0.8
TARZ	**Mount Tarawera**	**1.95**	**214**	PN	Pn	13 58 33.3	+1.4
PRRZ	**Plateau Road**	**2.22**	**212**	PN	Pn	13 58 35.2	+0.3
PRGZ	**Paritu Road**	**2.29**	**180**	PN	Pn	13 58 36.0	+0.1
RAHZ	**Arahi**	**2.38**	**196**	PN	Pn	13 58 36.9	+0.1
RAHZ				SN	Sn	13 59 07.7	0.0
KNZ	**Kokohu**	**2.40**	**184**	PN	Pn	13 58 36.7	-0.3
MHGZ	**Mahia Peninsul**	**2.52**	**180**	PN	Pn	13 58 38.5	-0.1
NMHZ	**Naumai**	**2.62**	**199**	PN	Pn	13 58 40.0	+0.2
BKZ	**Black Stump Fm**	**2.77**	**203**	PN	Pn	13 58 41.0	-0.7
MCHZ	**McNeill Hill**	**2.97**	**198**	PN	Pn	13 58 43.7	-0.4
CKHZ	**Cape Kidnapper**	**3.10**	**192**	PN	Pn	13 58 44.5	-1.2
BHHZ	**Black Hill Sta**	**3.20**	**206**	PN	Pn	13 58 45.9	-1.3
FWVZ	**Far West T-bar**	**3.21**	**215**	PN	Pn	13 58 47.1	-0.4
WHVZ	**Whangaehu Hut**	**3.22**	**214**	PN	Pn	13 58 47.1	-0.5
MOVZ	**Moawhango**	**3.25**	**211**	PN	Pn	13 58 46.6	-1.3
WNVZ	**Wahianoa**	**3.25**	**213**	PN	Pn	13 58 47.3	-0.7
KAHZ	**Kahuranaki**	**3.27**	**194**	PN	Pn	13 58 46.9	-1.0
MTVZ	**Mangateitei**	**3.36**	**214**	PN	Pn	13 58 48.7	-0.4
PXZ	**Pawanui**	**3.50**	**193**	PN	Pn	13 58 48.9	-1.8
PXZ				AML	AML	13 59 32.2	
PXZ				AML	AML	13 59 32.3	
PNHZ	**Pukenui**	**3.54**	**202**	PN	Pn	13 58 49.4	-2.1
WPHZ	**Waipukurau**	**3.62**	**198**	PN	Pn	13 58 50.5	-1.9
PRHZ	**Porangahau**	**3.77**	**195**	PN	Pn	13 58 52.2	-2.1
WAZ	**Wanganui**	**3.88**	**215**	PN	Pn	13 58 54.9	-0.8
DVHZ	**Dannevirke**	**3.91**	**200**	PN	Pn	13 58 53.6	-2.6
ANWZ	**Angora Road**	**3.99**	**196**	PN	Pn	13 58 54.7	-2.5
POWZ	**Post Office Ro**	**4.12**	**203**	PN	Pn	13 58 56.2	-2.6
PRWZ	**Pori Road**	**4.20**	**200**	PN	Pn	13 58 57.4	-2.6
BFZ	**Birch Farm**	**4.25**	**197**	PN	Pn	13 58 57.7	-2.9
MRZ	**Mangatainoka R**	**4.42**	**204**	⇓PN	Pn	13 58 59.6	-3.2
TIWZ	**Tintock**	**4.43**	**200**	PN	Pn	13 59 00.1	-2.9
CPWZ	**Castlepoint**	**4.48**	**197**	PN	Pn	13 59 01.5	-2.0
HOWZ	**Holdsworth Sta**	**4.66**	**203**	PN	Pn	13 59 02.2	-3.7
OGWZ	**Otaki Gorge**	**4.70**	**206**	PN	Pn	13 59 03.2	-3.2
TMWZ	**Te Maipa**	**4.74**	**199**	PN	Pn	13 59 03.7	-3.3
KIW	**Kapiti Island**	**4.83**	**208**	PN	Pn	13 59 04.7	-3.5
MTW	**Mount Morrison**	**4.90**	**202**	PN	Pn	13 59 05.2	-3.9
CAW	**Cannon Point**	**4.99**	**205**	PN	Pn	13 59 06.5	-3.8
PAWZ	**Paruwai Farm**	**5.12**	**201**	PN	Pn	13 59 08.1	-4.0
MSWZ	**Moikau Station**	**5.21**	**203**	PN	Pn	13 59 09.1	-4.1
WEL	**Wellington**	**5.25**	**207**	PN	Pn	13 59 09.8	-4.0
PLWZ	**Palliser**	**5.35**	**202**	PN	Pn	13 59 10.8	-4.3
TCW	**Tory Channel**	**5.38**	**211**	PN	Pn	13 59 11.3	-4.1
TUWZ	**Tuamarina**	**5.70**	**212**	PN	Pn	13 59 15.5	-4.2
NNZ	**Nelson**	**5.78**	**216**	PN	Pn	13 59 16.9	-3.9
QRZ	**Quartz Range**	**5.93**	**223**	PN	Pn	13 59 18.9	-3.9
BSWZ	**Blackbirch Sta**	**5.96**	**210**	PN	Pn	13 59 19.0	-4.2
THZ	**Tophouse**	**6.43**	**216**	PN	Pn	13 59 25.1	-4.3
KHZ	**Kahutara**	**6.69**	**209**	PN	Pn	13 59 27.9	-4.9
DSZ	**Denniston Nort**	**6.97**	**221**	PN	Pn	13 59 31.4	-5.2
LTZ	**Lake Taylor**	**7.52**	**213**	PN	Pn	13 59 38.8	-5.2
OXZ	**Oxford**	**8.06**	**212**	PN	Pn	13 59 44.9	-6.3
MQZ	**McQueen's Vall**	**8.13**	**208**	PN	Pn	13 59 45.4	-6.6
CTZ	**Chatham Island**	**8.24**	**151**	PN	Pn	13 59 56.8	+3.3
LBZ	**Lake Benmore**	**9.72**	**215**	PN	Pn	14 00 07.9	-5.3
ODZ	**Otahua Downs**	**10.04**	**211**	PN	Pn	14 00 11.6	-5.8

DJA 09 14:02:07.8±1.5,1°.S±13°.×9°.9E±1°.2,h30km,M4.0/3, MLv4.0/3,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.17**	**68**	P	Pn	14 02 26.2	-1.9
PDSI				S	Sn	14 02 42.7	-0.4
PPI	**Padang Panjang**	**1.35**	**49**	P	Pn	14 02 29.6	-1.0
PPI				S	Sb	14 02 48.9	-0.5
RGRI	**Rengat**	**3.12**	**71**	P	Pn	14 02 57.8	+2.9

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*NIED **09** 14:03:00,43°.60N×147°.50E,h50km,Mw3.7 Best double couple: M0=4.62000×10^14 NP1:φ=65.00000°,δ=75.00000°, λ=138.00000°. NP2:φ=168.00000°,δ=50.00000°,λ=20.00000°.*
*JMA **09** 14:03:13.2±0.3,43°.57N×147°.54E,h25km,M3.9*
*ISCJB **09** 14:03:13.4±1.0,43°.72N±0°.07×147°.61E±0°.08,h56km±9km, mb3.9/5,Error ellipse: s-maj=13.8km s-min=6.1km az=141.0*
*SKHL **09** 14:03:13.9±0.3,43°.66N×147°.69E,h63km±7km,mb4.5/2*
*MOS **09** 14:03:13.6±1.4,43°.75N×147°.65E,h60km,mb4.2/4,Error ellipse: s-maj=16.2km s-min=12.7km az=94.7*
*IDC **09** 14:03:20.5±5.6,44°.40N×147°.26E,h69km±29km,mb3.6/4, mb1 3.7/6,mb1mx3.4/24,mbtmp3.6/6,ML3.3/2,Error ellipse: s-maj=135.6km s-min=22.8km az=160.0*
ISC 09 14:03:14.2±1.4,43°.71N±0°.07×147°.63E±0°.08,h48km±14km, n30,σ1§03/42,mb4.1/5,2C-3D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**1.32**	**285**	*d* iPN	**Pn**	**14 03 35.5**	**-0.7**
YUK				*i* S	**Sn**	**14 03 51.9**	**-0.7**
YUK				pmax	pmax		
comp=Z,423nm,0.5s							
YUK				pmax	pmax		
comp=N,53nm,0.2s							
YUK				pmax	pmax		
comp=E,70nm,0.2s							
YUK				smax	smax		
comp=N,1μm,0.6s							
YUK				smax	smax		
comp=E,993nm,0.6s							
YUK	**Yuzh-Kuril'sk**	**1.32**	**285**	*i* P	**Pn**	**14 03 35.5**	**-0.7**
YUK				AMB	AMB	14 03 36.2	
comp=E,53nm,0.5s							
YUK				AMB	AMB	14 03 36.2	
comp=E,70nm,0.5s							
YUK				AMB	AMB	14 03 36.2	
comp=E,423nm,0.5s							
YUK				*i* S	**Sn**	**14 03 51.9**	**-0.7**
YUK				A	A	14 03 52.4	
comp=E,1μm,0.6s							
YUK				A	A	14 03 52.4	
comp=E,993nm,0.6s							
NEM2	**Nemuro 2**	**1.42**	**257**	P	**Pn**	**14 03 36.5**	**-1.0**
NEM2				*e*S	**Sn**	**14 03 53.7**	**-1.3**
KUR	**Kuril'sk**	**1.53**	**6**	*c* iPN	**Pn**	**14 03 38.9**	**-0.2**
KUR				*i* S	**Sn**	**14 03 57.4**	**-0.4**
KUR				pmax	pmax		
comp=Z,97nm,0.3s							
KUR				pmax	pmax		
comp=E,50nm,0.2s							
KUR				pmax	pmax		
comp=N,82nm,0.3s							
KUR				smax	smax		
comp=E,73nm,0.1s							
KUR				smax	smax		
comp=N,363nm,0.1s							
KUR	**Kuril'sk**	**1.53**	**6**	*i* P	**Pn**	**14 03 38.9**	**-0.2**
KUR				AMB	AMB	14 03 42.3	
comp=N,82nm,0.3s							
KUR				AMB	AMB	14 03 42.3	
comp=N,50nm,0.3s							
KUR				AMB	AMB	14 03 42.3	
comp=N,97nm,0.3s							
KUR				*i* S	**Sn**	**14 03 57.4**	**-0.4**
KUR				A	A	14 04 02.2	
comp=N,363nm,0.1s							
KUR				A	A	14 04 02.2	
comp=N,73nm,0.1s							
JRA	**Rausu**	**1.83**	**278**	P	**Pn**	**14 03 43.2**	**0.0**
JRA				*e*S	**Sn**	**14 04 05.7**	**+0.6**
JNK	**Nakash**	**2.12**	**268**	P	**Pn**	**14 03 46.7**	**-0.4**
JNK				*e*S	**Sn**	**14 04 11.6**	**-0.6**
JAK	**Akkeshi**	**2.26**	**253**	P	**Pn**	**14 03 48.7**	**-0.3**
JTKR	**Abashiri--Toko**	**2.71**	**277**	P	**Pn**	**14 03 55.9**	**+0.7**
JTKR				*e*S	**Sn**	**14 04 28.0**	**+1.3**
JAR	**Ashorobuto**	**2.84**	**263**	P	**Pn**	**14 03 57.4**	**+0.4**
JAR				*e*S	**Sn**	**14 04 30.1**	**+0.1**
JOB	**Onbets**	**2.89**	**255**	P	**Pn**	**14 03 58.2**	**+0.5**
JOB				*e*S	**Sn**	**14 04 30.6**	**-0.5**
JCH	**Churui**	**3.31**	**252**	P	**Pn**	**14 04 04.3**	**+0.8**
JCH				*e*S	**Sn**	**14 04 41.1**	**-0.4**
ASAJ	**Asahikawa**	**3.66**	**278**	P	**Pn**	**14 04 10.7**	**+2.4**
comp=N,2.7nm,0.3s,baz=101,slow=5.2,SNR=24							
ASAJ				S	Sn	14 04 59.0	+8.8
comp=N,0.9nm,0.3s,baz=72,slow=20,SNR=3.7							
ERM	**Erimo**	**3.70**	**244**	⇑*e*PN	**Pn**	**14 04 10.4**	**+1.6**
ERM	**Erimo**	**3.70**	**244**	*e*P	**Pn**	**14 04 10.4**	**+1.6**
JNBK	**Urakawa-nobuka**	**3.85**	**250**	P	**Pn**	**14 04 11.3**	**+0.4**
YSS	**Yuzh-Sakhalins**	**4.72**	**315**	*e*PN	**Pn**	**14 04 24.8**	**+1.9**
YSS				*e*		14 05 14.3	
YSS	**Yuzh-Sakhalins**	**4.72**	**315**	*e*P	**Pn**	**14 04 24.8**	**+1.9**
YSS				*e*S	**Sn**	**14 05 14.3**	**-2.0**
PETK	**Petropavlovsk-**	**11.53**	**32**	*e*PN	**Pn**	**14 05 56.6**	**+0.6**
PETK	**Petropavlovsk-**	**11.53**	**32**	P	**Pn**	**14 05 56.0**	**0.0**
comp=N,0.2nm,0.3s,baz=212,slow=14,SNR=4.8							
SEY	**Seymch

12nm,0.3s
PPT2 Papeete2 23.88 89 *e*LR LR 14 34 21.4
152nm,24.8s
PPT2 Papeete2 23.88 89 *e*T T 14 53 05.5
RPZ Rata Peaks 26.82 203 P P 14 29 19.7 +0.8
13nm,0.7s,baz=28,slow=1.4,SNR=9.2
CTA Charters Tower 36.68 262 P P 14 30 47.3 +1.5
1.8nm,0.5s,baz=87,slow=8.2,SNR=7.4
RKT Rikitea 37.06 103 *e*T T 15 09 31.5
2.7nm,0.3s
ASAR Alice Springs 47.75 256 P P 14 32 15.7 -0.4
0.4nm,0.4s,baz=93,slow=8.1,SNR=16
ASAR PcP PcP 14 33 44.6 -0.7
0.5nm,0.6s,baz=108,slow=3.6,SNR=4.7
WRA Warramunga Arr 47.81 261 P P 14 32 16.0 -0.6
0.5nm,0.3s,baz=97,slow=7.6,SNR=20
FITZ Fitzroy Crossi 56.23 261 P P 14 33 17.6 -1.7
1.2nm,0.8s,baz=174,slow=9.2,SNR=4.3
TXAR Lajitas Array 83.98 56 P P 14 36 08.1 -1.5
0.2nm,0.4s,baz=182,slow=6.8,SNR=5.9
PDAR Pinedale Array 86.22 42 P P 14 36 20.8 +0.1
0.7nm,0.9s,baz=186,slow=2.5,SNR=5.2
ILAR Eielson Array 86.82 12 P P 14 36 23.7 +1.0
3.6nm,1.1s,baz=225,slow=6.2,SNR=12
ARCES ARCESS Array B 128.60 351 PKP PKPdf 14 42 44.4 -0.9
3.7nm,0.9s,baz=64,slow=2.8,SNR=4.9
AKASG Malin Array Be 143.68 334 PKP PKPbc 14 43 11.0 -0.2
1.4nm,0.6s,baz=36,slow=4.1,SNR=5.7
BRTR Keskin Array B 148.49 316 PKPbc PKPbc 14 43 26.2 +0.2
1.8nm,0.9s,baz=120,slow=3.7,SNR=6.0
GERES GERESS Array B 150.09 349 PKPbc PKPbc 14 43 29.9 +0.2
2.1nm,0.7s,baz=11,slow=1.4,SNR=14

*ISCJB **09** 14:36:15.0±1.2, 36°.19N±0°.05×21°.20E±0°.07, h15km±7km, Error ellipse: s-maj=10.1km s-min=6.9km az=154.4*
*CSEM **09** 14:36:14.0±0.5, 36°.22N×21°.17E, h2km, MD3.5, Error ellipse: s-maj=10.3km s-min=5.8km az=69.0*
*THE **09** 14:36:15.7, 36°.21N×21°.33E, h0km±2km, ML3.0/5, Error ellipse: s-maj=3.5km s-min=1.5km az=246.0*
*ATH **09** 14:36:15.8, 36°.23N×21°.32E, h23km±1km, MD3.5/16*
ISC 09 14:36:16.7±1.7, 36°.25N±0°.05×21°.34E±0°.06, h15km±9km, n57, σ0=89/75, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.72**	**26**	P	**Pg**	**14 36 30.2**	**-0.6**
PYL				S	**Sb**	**14 36 41.8**	**+1.0**
PYL	**PYLOS**	**0.72**	**26**	*e*PN	**Pb**	**14 36 30.4**	**-0.7**
PYL				*e*SN	**Sb**	**14 36 41.5**	**+0.7**
PYL	**PYLOS**	**0.72**	**26**	P	**Pg**	**14 36 30.2**	**-0.6**
PYL				*e*Sn	**Sb**	**14 36 41.5**	**+0.7**
DYR	**Agios Nikonas**	**0.95**	**57**	P	**Pb**	**14 36 34.4**	**-0.5**
DYR				S	**Sn**	**14 36 48.4**	**-0.5**
DYR	**Agios Nikonas**	**0.95**	**57**	*e*PN	**Pb**	**14 36 34.4**	**-0.5**
DYR				*e*SN	**Sn**	**14 36 48.2**	**-0.7**
DYR	**Agios Nikonas**	**0.95**	**57**	P	**Pb**	**14 36 34.4**	**-0.5**
DYR				S	**Sn**	**14 36 48.4**	**-0.5**
SFD	**Strofades**	**1.04**	**345**	*e*PN	**Pg**	**14 36 35.9**	**-0.9**
SFD				*e*SN	**Sb**	**14 36 49.5**	**-0.3**
SFD	**Strofades**	**1.04**	**345**	*e*Pn	**Pg**	**14 36 35.9**	**-0.9**
SFD				*e*Sn	**Sb**	**14 36 49.5**	**-0.3**
ITM	**Ithomi**	**1.04**	**27**	P	**Pg**	**14 36 35.8**	**-1.1**
ITM				S	**Sn**	**14 36 51.8**	**+0.6**
ITM	**Ithomi**	**1.04**	**27**	*e*PN	**Pg**	**14 36 35.8**	**-1.1**
ITM	**Ithomi**	**1.04**	**27**	P	**Pg**	**14 36 35.8**	**-1.1**
ITM				S	**Sn**	**14 36 51.8**	**+0.6**
AMT	**Artemida-Makis**	**1.32**	**13**	P	**Pb**	**14 36 40.9**	**-0.3**
AMT				S	**Sg**	**14 37 01.8**	**+2.5**
AMT	**Artemida-Makis**	**1.32**	**13**	*e*PN	**Pb**	**14 36 41.0**	**-0.3**
AMT				*e*SN	**Sg**	**14 37 00.2**	**+0.9**
AMT	**Artemida-Makis**	**1.32**	**13**	P	**Pb**	**14 36 40.9**	**-0.3**
AMT				*e*Sn	**Sg**	**14 37 00.2**	**+0.9**
AMT				S	**Sg**	**14 37 01.8**	**+2.5**
KYTH	**Kithira**	**1.37**	**88**	P	**Pb**	**14 36 41.9**	**-0.2**
KYTH	**Kithira**	**1.37**	**88**	*e*PN	**Pg**	**14 36 42.2**	**-0.9**
KYTH	**Kithira**	**1.37**	**88**	P	**Pb**	**14 36 41.9**	**-0.2**
KYTH	**Kithira**	**1.37**	**88**	*e*Pn	**Pg**	**14 36 42.2**	**-0.9**
VLI	**Veliai**	**1.37**	**69**	P	**Pb**	**14 36 41.8**	**-0.2**
VLI				S	**Sg**	**14 37 01.2**	**+0.3**
VLI	**Veliai**	**1.37**	**69**	*e*PN	**Pg**	**14 36 42.0**	**-1.1**
VLI	**Veliai**	**1.37**	**69**	*e*Pn	**Pg**	**14 36 42.0**	**-1.1**
VLI				S	**Sg**	**14 37 01.2**	**+0.3**
VLX	**Vlachokerasia**	**1.40**	**36**	P	**Pb**	**14 36 42.0**	**-0.6**
VLX				S	**Sg**	**14 37 03.2**	**+1.4**
VLX	**Vlachokerasia**	**1.40**	**36**	*e*PN	**Pb**	**14 36 41.9**	**-0.6**
VLX	**Vlachokerasia**	**1.40**	**36**	P	**Pb**	**14 36 42.0**	**-0.6**
VLX				S	**Sg**	**14 37 03.2**	**+1.4**
ANKY	**Antikythira Is**	**1.63**	**103**	P	**Pb**	**14 36 45.7**	**-0.8**
ANKY	**Antikythira Is**	**1.63**	**103**	*e*PN	**Pb**	**14 36 45.8**	**-0.8**
ANKY	**Antikythira Is**	**1.63**	**103**	P	**Pb**	**14 36 45.7**	**-0.8**
GUR	**Goura**	**1.87**	**25**	P	**Pn**	**14 36 48.4**	**+0.2**
GUR	**Goura**	**1.87**	**25**	*e*PB	**Pn**	**14 36 48.5**	**+0.2**
GUR	**Goura**	**1.87**	**25**	P	**Pn**	**14 36 48.4**	**+0.2**
KLV	**Kalavryta, Ach**	**1.91**	**20**	P	**Pn**	**14 36 49.0**	**+0.2**
KLV	**Kalavryta, Ach**	**1.91**	**20**	P	**Pn**	**14 36 49.0**	**+0.2**
DIDY	**Didyma**	**1.94**	**50**	P	**Pn**	**14 36 48.8**	**-0.4**
DIDY	**Didyma**	**1.94**	**50**	P	**Pn**	**14 36 48.8**	**-0.4**
DID	**Didima**	**1.97**	**50**	P	**Pn**	**14 36 49.0**	**-0.6**
DID	**Didima**	**1.97**	**50**	*e*PB	**Pn**	**14 36 48.5**	**-1.1**
DID	**Didima**	**1.97**	**50**	*e*Pb	**Pn**	**14 36 48.5**	**-1.1**
DID	**Didima**	**1.97**	**50**	P	**Pn**	**14 36 49.0**	**-0.6**
LAKA	**Lakka**	**2.06**	**14**	*e*PN	**Pb**	**14 36 52.1**	**-1.7**
LAKA	**Lakka**	**2.06**	**14**	*e*Pn	**Pb**	**14 36 52.1**	**-1.7**
TRIZ	**Trizonia**	**2.19**	**15**	*e*PB	**Pn**	**14 36 53.6**	**+0.9**
TRIZ	**Trizonia**	**2.19**	**15**	*e*Pb	**Pn**	**14 36 53.6**	**+0.9**
LTK	**Loutraki**	**2.20**	**36**	*e*PN	**Pn**	**14 36 52.7**	**0.0**
LTK	**Loutraki**	**2.20**	**36**	*e*Pn	**Pn**	**14 36 52.7**	**0.0**
EFP	**Efpalio**	**2.22**	**11**	*e*PN	**Pn**	**14 36 53.1**	**0.0**
EFP	**Efpalio**	**2.22**	**11**	*e*Pn	**Pn**	**14 36 53.1**	**0.0**
KALE	**Kalithea**	**2.23**	**16**	*e*PN	**Pn**	**14 36 54.1**	**+0.8**
KALE	**Kalithea**	**2.23**	**16**	*e*Pb	**Pn**	**14 36 54.1**	**+0.8**
KARN	**Karanos**	**2.25**	**111**	*e*PN	**Pn**	**14 36 54.1**	**+0.6**
KARN	**Karanos**	**2.25**	**111**	*e*Pn	**Pn**	**14 36 54.1**	**+0.6**
NAIG	**Nisos Aigina**	**2.29**	**48**	*e*PN	**Pn**	**14 36 54.2**	**+0.3**
NAIG	**Nisos Aigina**	**2.29**	**48**	*e*Pn	**Pn**	**14 36 54.2**	**+0.3**
VAM	**Vamos**	**2.47**	**109**	P	**Pn**	**14 36 56.8**	**+0.4**
VAM	**Vamos**	**2.47**	**109**	*e*PN	**Pn**	**14 36 56.6**	**+0.2**
VAM	**Vamos**	**2.47**	**109**	P	**Pn**	**14 36 56.8**	**+0.4**
LAST	**Lasithi**	**3.54**	**107**	*e*PN	**Pn**	**14 37 12.9**	**+1.7**
LAST	**Lasithi**	**3.54**	**107**	*e*Pn	**Pn**	**14 37 12.9**	**+1.7**

*IDC **09** 15:21:53.6±0.8, 36°.62N×141°.07E, h0km, mb4.1/16, mb1 4.3/18, mb1mx4.2/29, mbtmp4.2/18, ML4.3/2, MS3.0/3, Ms1 3.0/3, ms1mx2.5/52, Error ellipse: s-maj=26.1km s-min=15.8km az=77.0*
*MOS **09** 15:21:55.8±0.8, 36°.64N×141°.18E, h30km, mb4.5/15, Error ellipse: s-maj=20.6km s-min=11.2km az=116.5*
*ISCJB **09** 15:21:57.9±1.0, 36°.63N±0°.05×141°.19E±0°.09, h46km±6km, mb4.1/19, MS2.4/1, Error ellipse: s-maj=13.2km s-min=6.5km az=25.4*
*JMA **09** 15:21:59.8±0.1, 36°.64N×141°.03E, h47km±1km, M4.2 Broadband fault plane solution: P waves. NP1: φ=5.00000°, δ67.00000°, λ71.00000°. NP2:φ=226.00000°, δ29.00000°, λ127.00000°. Principal axes: T Plg63.0000°, Azm245.0000°; N Plg17.0000°, Azm13.0000°; P Plg20.0000°, Azm109.0000°;*
JMA Felt II J1.
*NIED **09** 15:22:00, 36°.70N×141°.10E, h44km, Mw4.1 Best double couple: M0=1.60000×10^15 NP1:φ=37.00000°, δ77.00000°, λ91.00000°. NP2:φ=213.00000°, δ13.00000°, λ86.00000°.*
ISC 09 15:21:58.1±1.5, 36°.60N±0°.05×141°.19E±0°.07, h33km±8km, n38, σ0=77/42, mb4.2/19, 5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.50**	**271**	||P	**Pn**	**15 22 09.4**	**+0.4**
JHO				S	**Sb**	**15 22 15.9**	**-0.1**
ONAJ	**Iwakimizuishiy**	**0.59**	**328**	||P	**Pb**	**15 22 10.6**	**+0.4**
ONAJ				S	**Sb**	**15 22 18.0**	**-0.5**
JFK	**Kawauchi**	**0.81**	**342**	||P	**Pn**	**15 22 13.5**	**+0.2**
JFK				S	**Sn**	**15 22 23.3**	**-0.9**
JYT	**Yasato**	**0.89**	**246**	||P	**Pn**	**15 22 14.4**	**+0.1**
JYT				*e*S	**Sn**	**15 22 24.9**	**-1.1**
JFT	**Otama**	**1.14**	**324**	||P	**Pb**	**15 22 19.0**	**-0.4**
JFT				S	**Sn**	**15 22 32.5**	**0.0**
MAT	**Matsushiro**	**2.40**	**270**	P	**Pn**	**15 22 36.6**	**+1.4**
MAT				*e*S	**Sn**	**15 23 03.3**	**-0.2**
ASAJ	**Asahikawa**	**7.58**	**8**	Pn	**Pn**	**15 23 46.5**	**+0.2**
1.6nm,0.3s,baz=214,slow=29,SNR=15							
ASAJ				Sn	**Sn**	**15 25 11.1**	**-0.1**
baz=2.8,slow=27,SNR=1.0							
JNU	**Nakatsue**	**9.16**	**251**	Pn	Pn	15 24 11.7	+3.7
0.4nm,0.3s,baz=96,slow=7.9,SNR=5.2							
CBIJ	**Chichi jima**	**9.51**	**175**	Pn	**Pn**	**15 24 11.9**	**-0.9**
23nm,0.3s,baz=288,slow=20,SNR=6.9							
USRK	**Ussuriysk Arra**	**10.33**	**320**	Pn	Pn	15 24 28.5	+4.5
0.4nm,0.3s,baz=130,slow=13,SNR=8.9							
USRK				LR	LR	15 28 07.7	
comp=Z,108nm,21.3s,baz=101,slow=36							
KSRS	**Korea Array**	**10.64**	**279**	Pn	**Pn**	**15 24 30.5**	**+2.3**
0.2nm,0.3s,baz=95,slow=14,SNR=6.4							
KSRS				LR	LR	15 28 09.5	
comp=Z,152nm,20.5s,baz=347,slow=36							
PETK	**Petropavlovsk-**	**20.15**	**30**	LR		15 34 29.4	
comp=Z,16nm,18.8s,baz=357,slow=38							
YAK	**Yakutsk**	**26.45**	**348**	*e*P	**P**	**15 27 30.7**	**-1.1**
YAK				pmax	pmax		
comp=Z,19nm,0.9s							
YAK				pmax	pmax		
comp=N,8.0nm,1.1s							
YAK				pmax	pmax		
comp=E,4.0nm,1.3s							
SONM	**Songino Array**	**27.88**	**305**	P	**P**	**15 27 44.3**	**-0.6**
comp=E,3.6nm,0.7s,baz=101,slow=8.6,SNR=9.6							
ZALV	**Zalesovo Beam**	**42.08**	**313**	P	**P**	**15 29 46.5**	**-0.2**
ZALV				pmax	pmax		
comp=Z,9.0nm,0.7s							
ZALV	**Zalesovo Beam**	**42.08**	**313**	P	**P**	**15 29 46.5**	**-0.2**
comp=Z,9.4nm,0.7s,baz=93,slow=6.6,SNR=39							
NVS	**Novosibirsk**	**43.01**	**314**	*i* P	**P**	**15 29 52.6**	**-1.6**
NVS				pmax	pmax		
comp=Z,10.0nm,1.0s							
NVS				pmax	pmax		
comp=N,2.0nm,0.7s							
NVS				pmax	pmax		
comp=E,5.0nm,0.9s							
MKAR	**Makanchi Array**	**44.20**	**302**	P	**P**	**15 30 03.5**	**-0.5**
MKAR				pmax	pmax		
comp=Z,2.0nm,0.7s							
MKAR	**Makanchi Array**	**44.20**	**302**	P	**P**	**15 30 03.5**	**-0.5**
comp=Z,2.3nm,0.7s,baz=88,slow=9.6,SNR=26							
KURK	**Kurchatov**	**46.06**	**308**	P	**P**	**15 30 18.5**	**-0.1**
KURK				pmax	pmax		
comp=Z,5.0nm,0.6s							
KURBB	**Kurchatov Arra**	**46.13**	**308**	P	**P**	**15 30 18.5**	**-0.7**
comp=Z,5.3nm,0.6s,baz=85,slow=7.9,SNR=75							
AAK	**Ala-Archa**	**50.54**	**299**	P	**P**	**15 30 53.5**	**0.0**
AAK				pmax	pmax		
comp=Z,2.0nm,0.6s							
AAK	**Ala-Archa**	**50.54**	**299**	P	**P**	**15 30 53.5**	**0.0**
comp=Z,1.0nm,0.4s,baz=117,slow=6.8,SNR=3.5							
BVAR	**Borovoye Array**	**50.73**	**313**	P	**P**	**15 30 53.9**	**-0.7**
BVAR				pmax	pmax		
comp=Z,3.0nm,0.7s							
BVAR	**Borovoye Array**	**50.73**	**313**	P	**P**	**15 30 53.9**	**-0.7**
comp=Z,2.9nm,0.7s,baz=84,slow=7.6,SNR=8.6							
INK	**Inuvik**	**54.85**	**27**	P	**P**	**15 31 25.9**	**+1.1**
comp=Z,0.9nm,0.5s,baz=338,slow=5.4,SNR=3.6							
WRA	**Warramunga Arr**	**56.61**	**188**	P	**P**	**15 31 38.0**	**+0.2**
comp=Z,0.7nm,0.5s,baz=6.1,slow=7.0,SNR=19							
ASAR	**Alice Springs**	**60.34**	**188**	P	**P**	**15 32 04.8**	**+0.9**
comp=Z,0.4nm,0.7s,baz=9.9,slow=5.9,SNR=9.6							
FINES	**FINESS Array B**	**69.11**	**332**	P	**P**	**15 33 00.7**	**0.0**
comp=Z,3.2nm,0.7s,baz=49,slow=5.8,SNR=4.1							
KBZ	**Khabaz**	**71.05**	**311**	P	**P**	**15 33 13.4**	**+0.6**
KBZ				pmax	pmax		
comp=Z,2.0nm,0.7s							
KBZ	**Khabaz**	**71.05**	**311**	P	**P**	**15 33 13.4**	**+0.6**
comp=Z,1.5nm,0.7s,baz=15,slow=4.6,SNR=3.6							
NB2	**NORSAR Subarra**	**74.52**	**337**	P	**P**	**15 33 33.1**	**-0.1**
comp=Z,1.9nm,0.7s,baz=41,slow=6.2							
NOA	**NORSAR Array B**	**74.52**	**337**	P	**P**	**15 33 33.4**	**+0.2**
comp=Z,1.5nm,0.7s,baz=39,slow=5.7,SNR=4.7							
AKASG	**Malin Array Be**	**74.53**	**322**	P	**P**	**15 33 32.8**	**-0.5**
AKASG				pmax	pmax		
comp=Z,1.0nm,0.5s							
AKASG	**Malin Array Be**	**74.53**	**322**	P	**P**	**15 33 32.8**	**-0.5**
comp=Z,1.2nm,0.5s,baz=44,slow=6.3,SNR=4.2							
PDAR	**Pinedale Array**	**78.10**	**45**	P	**P**	**15 33 54.8**	**+0.7**
comp=Z,0.5nm,0.6s,baz=318,slow=2.0,SNR=3.7							
BRTR	**Keskin Array B**	**79.01**	**311**	P	**P**	**15 33 59.6**	**+0.6**
comp=Z,0.8nm,0.7s,baz=119,slow=4.4,SNR=4.4							
GERES	**GERESS Array B**	**82.99**	**328**	P	**P**	**15 34 18.7**	**-1.2**
comp=Z,0.2nm,0.4s,baz=22,slow=1.4,SNR=3.5							

*ISCJB **09** 15:25:50.2±1.1, 40°.59N±0°.07×48°.55E±0°.09, h58km±11km, mb3.8/8, Error ellipse: s-maj=13.7km s-min=9.2km az=44.4*
*CSEM **09** 15:25:50.0±0.8, 40°.61N×48°.52E, h44km±8km, mb4.0/6, Error ellipse: s-maj=20.2km s-min=14.0km az=158.0*
*NSSP **09** 15:25:51.5, 41°.18N×47°.42E, h10km, Ms3.4*
*MOS **09** 15:25:52.3±1.9, 40°.89N×48°.62E, h64km, mb4.0/5, Error ellipse: s-maj=14.7km s-min=11.6km az=104.2*
*IDC **09** 15:25:53.8±3.5, 41°.05N×48°.62E, h49km±33km, mb3.7/7, mb1 3.7/12, mb1mx3.5/29, mbtmp3.6/12, ML3.7/5, Error ellipse: s-maj=41.8km s-min=15.8km az=0.0*
ISC 09 15:25:50.7±1.3, 40°.61N±0°.07×48°.77E±0°.07, h49km±15km, n47, σ2=32/51, mb3.7/8, 1C-9D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKT	**Akhty**	**1.17**	**318**	||*i* P	Pn	15 26 08.0	-2.8
AKT				*i* S	**Sn**	**15 26 23.5**	**-2.3**
AKT				pmax	pmax		
comp=Z,390nm,0.2s							
AKT	**Akhty**	**1.17**	**318**	*i* P	Pn	15 26 08.0	-2.8
comp=Z,390nm,0.2s							
AKT				*i* S	**Sn**	**15 26 23.5**	**-2.3**
DRN	**Derbent**	**1.46**	**347**	*i* P	**Pn**	**15 26 16.0**	**+1.5**
DRN				*i* S	**Sn**	**15 26 37.0**	**+4.5**
DRN	**Derbent**	**1.46**	**347**	*i* P	**Pn**	**15 26 16.0**	**+1.5**
DRN				*i* S	**Sn**	**15 26 37.0**	**+4.5**
STKZ		**1.74**	**243**	||*i* P	Pn	15 26 12.3	-6.2
STKZ				||*i* S	Sn	15 26 32.6	-6.9
STKZ		**1.74**	**243**	||P	Pn	15 26 12.3	-6.2
STKZ				S	Sn	15 26 32.6	-6.9
GRS	**Goris**	**2.17**	**240**	||*i* P	Pn	15 26 21.0	-3.5
GRS				||*i* S	**Sn**	**15 26 47.0**	**-3.3**
GRS	**Goris**	**2.17**	**240**	||P	Pn	15 26 21.0	-3.5
GRS				S	**Sn**	**15 26 47.0**	**-3.3**
VADZ	**Vardenis**	**2.35**	**260**	*e*P	Pn	15 26 33.0	+6.0
VADZ				*e*S	**Sn**	**15 26 56.0**	**+1.2**
VADZ	**Vardenis**	**2.35**	**260**	P	Pn	15 26 33.0	+6.0
VADZ				S	**Sn**	**15 26 56.0**	**+1.2**
GNI	**Garni**	**3.11**	**263**	||*i* P	**Pn**	**15 26 40.5**	**+3.1**
GNI				||*i* S	**Sn**	**15 27 16.4**	**+3.0**
GNI	**Garni**	**3.11**	**263**	||P	**Pn**	**15 26 40.5**	**+3.1**
GNI				S	**Sn**	**15 27 16.4**	**+3.0**
KBZ	**Khabaz**	**5.36**	**307**	P	**Pn**	**15 27 10.5**	**+2.4**
KBZ	**Khabaz**	**5.36**	**307**	P	**Pn**	**15 27 10.5**	**+2.4**
comp=Z,0.2nm,0.3s,baz=169,slow=10,SNR=2.3							
KBZ	**Khabaz**	**5.36**	**307**	P	**Pn**	**15 27 10.5**	**+2.4**
BRTR	**Keskin Array B**	**11.62**	**271**	P	**Pn**	**15 28 35.7**	**+1.9**
comp=Z,0.1nm,0.3s,baz=94,slow=12,SNR=3.1							
BRTR	**Keskin Array B**	**11.62**	**271**	P	**Pn**	**15 28 35.7**	**+1.9**
AKTK	**Aktyubinsk**	**11.76**	**30**	P	**Pn**	**15 28 33.8**	**-1.8**
comp=Z,1.0nm,0.3s							
AKTO	**Aktyubinsk**	**11.76**	**30**	P	**Pn**	**15 28 33.8**	**-1.8**
AKTO				S	**Sn**	**15 30 40.6**	**-4.7**
AKTO				pmax	pmax		
comp=Z,1.0nm,0.3s							
AKTO	**Aktyubinsk**	**11.76**	**30**	P	**Pn**	**15 28 33.8**	**-1.8**
comp=Z,0.5nm,0.3s,baz=203,slow=13,SNR=5.4							
AKTO				S	**Sn**	**15 30 40.6**	**-4.7**
comp=Z,0.2nm,0.3s,baz=327,slow=21,SNR=1.5							
AKASG	**Malin Array Be**	**16.94**	**313**	P	**Pn**	**15 29 41.8**	**-2.2**
AKASG				pmax	pmax		
comp=Z,1.0nm,0.3s							
AKASG	**Malin Array Be**	**16.94**	**313**	P	**Pn**	**15 29 41.8**	**-2.2**
comp=Z,1.0nm,0.3s,baz=120,slow=12,SNR=3.0							
AKASG	**Malin Array Be**	**16.94**	**313**	P	**Pn**	**15 29 41.8**	**-2.2**
comp=Z,1.0nm,0.3s							
BVAR	**Borovoye Array**	**19.22**	**43**	P	**Pn**	**15 30 11.6**	**-0.2**
BVAR	**Borovoye Array**	**19.22**	**43**	P	**Pn**	**15 30 11.6**	**-0.2**
comp=Z,0.4nm,0.3s,baz=236,slow=11,SNR=8.2							
BVAR	**Borovoye Array**	**19.22**	**43**	P	**Pn**	**15 30 11.6**	**-0.2**
AAK	**Ala-Archa**	**19.32**	**76**	P	**Pn**	**15 30 14.8**	**+1.6**
AAK	**Ala-Archa**	**19.32**	**76**	P	**Pn**	**15 30 14.8**	**+1.6**
comp=Z,0.2nm,0.3s,baz=275,slow=12,SNR=4.4							
AAK	**Ala-Archa**	**19.32**	**76**	P	**Pn**	**15 30 14.8**	**+1.6**
KURBB	**Kurchatov Arra**	**22.95**	**54**	P	**P**	**15 30 53.5**	**+2.9**
comp=Z,0.9nm,0.6s,baz=263,slow=10,SNR=6.1							
KURK	**Kurchatov**	**23.03**	**54**	P	**P**	**15 30 53.5**	**+2.1**
KURK				pmax	pmax		
comp=Z,2.0nm,0.9s							
KURK	**Kurchatov**	**23.03**	**54**	P	**P**	**15 30 53.5**	**+2.1**
comp=Z,2.0nm,0.9s							
MKAR	**Makanchi Array**	**24.88**	**64**	P	**P**	**15 31 10.7**	**+2.0**
MKAR				pmax	pmax		
comp=Z,1.0nm,0.5s							
MKAR	**Makanchi Array**	**24.88**	**64**	P	**P**	**15 31 10.7**	**+2.0**
comp=Z,1.2nm,0.5s,baz=257,slow=9.2,SNR=11							
MKAR	**Makanchi Array**	**24.88**	**64**	P	**P**	**15 31 10.7**	**+2.0**
comp=Z,1.0nm,0.5s							
FINES	**FINESS Array B**	**25.02**	**334**	P	**P**	**15 31 09.5**	**-0.3**
comp=Z,3.5nm,0.4s,baz=140,slow=10,SNR=22							
FINES	**FINESS Array B**	**25.02**	**334**	P	**P**	**15 31 09.5**	**-0.3**
comp=Z,4.0nm,0.4s							
ZALV	**Zalesovo Beam**	**27.52**	**49**	P	**P**	**15 31 32.9**	**+0.5**
ZALV	**Zalesovo Beam**	**27.52**	**49**	P	**P**	**15 31 32.9**	**+0.5**
comp=Z,0.4nm,0.3s,baz=249,slow=10,SNR=2.4							
ZALV	**Zalesovo Beam**	**27.52**	**49**	P	**P**	**15 31 32.9**	**+0.5**
HFS	**Hagfors**	**29.17**	**324**	P	**P**	**15 31 46.5**	**-0.5**
comp=Z,3.1nm,0.4s,baz=116,slow=10,SNR=8.5							
HFS	**Hagfors**	**29.17**	**324**	P	**P**	**15 31 46.5**	**-0.5**
comp=Z,3.0nm,0.4s							
NB2	**NORSAR Subarra**	**30.67**	**324**	P	**P**	**15 31 59.4**	**-0.9**
comp=Z,1.7nm,0.5s,baz=115,slow=8.6							
NOA	**NORSAR Array B**	**30.67**	**324**	P	**P**	**15 31 59.4**	**-0.9**
comp=Z,1.2nm,0.8s,baz=117,slow=8.3,SNR=4.8							
NOA	**NORSAR Array B**	**30.67**	**324**	P	**P**	**15 31 59.4**	**-0.9**
comp=Z,2.0nm,0.5s							
EKA	**Eskdalemuir Ar**	**36.84**	**311**	P	**P**	**15 32 53.1**	**-0.7**
comp=Z,0.3nm,0.3s,baz=98,slow=10,SNR=4.0							
EKA	**Eskdalemuir Ar**	**36.84**	**311**	P	**P**	**15 32 53.1**	**-0.7**
comp=Z,1.0nm,0.5s							

*ISCJB **09** 15:26:14.7±0.5, 59°.34N±0°.03×23°.85E±0°.07, h0km, Error ellipse: s-maj=5.1km s-min=3.8km az=2.7*
*CSEM **09** 15:26:15.7±0.1, 59°.33N×23°.83E, h2km, ML2.2, Error ellipse: s-maj=3.5km s-min=2.7km az=95.0, Mining explosion.*
*NAO **09** 15:26:15.9±1.1, 59°.33N×23°.90E, ML2.3*
*HEL **09** 15:26:16.1±0.1, 59°.33N×23°.82E, h0km, ML2.2, Explosion*
*BER **09** 15:26:16.3±3.6, 59°.32N×23°.82E, h0km, ML2.3(NAO), Suspected explosion*
*IDC **09** 15:26:18.1±2.1, 59°.54N×23°.74E, h0km, mb1 3.2/4, mb1mx3.0/24, mbtmp3.1/4, ML2.8/4, Error ellipse: s-maj=24.8km s-min=7.2km az=153.0*
ISC 09 15:26:14.4±0.7, 59°.36N±0°.03×23°.79E±0°.03, h0km, n32, σ1=46/50, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTSE	**Matsula**	**0.64**	**179**	*e*P	**Pg**	**15 26 26.8**	**+0.1**
MTSE				*e*S	**Sg**	**15 26 35.0**	**-0.1**
MTSE	**Matsula**	**0.64**	**179**	P	**Pg**	**15 26 26.8**	**+0.1**
MTSE				S	**Sg**	**15 26 34.9**	**-0.1**
MEF	**Metsahovi**	**0.92**	**19**	*e*P	**Pg**	**15 26 32.7**	**+0.7**
MEF				*e*S	**Sg**	**15 26 44.8**	**+0.9**
MEF	**Metsahovi**	**0.92**	**19**	*e*P	**Pb**	**15 26 33.7**	**+0.5**
SNR=90							
MEF				S	**Sg**	**15 26 44.8**	**+0.9**
PVF	**Pernaja**	**1.59**	**40**	*e*P	**Pb**	**15 26 44.6**	**+0.1**
PVF				*e*S	**Sn**	**15 27 04.7**	**-0.2**
PVF	**Pernaja**	**1.59**	**40**	P	**Pb**	**15 26 44.6**	**+0.1**
PVF				S	**Sn**	**15 27 04.7**	**-0.2**
VSU	**Vasula**	**1.77**	**119**	Pg	**Pn**	**15 26 47.0**	**+0.8**
VSU				Lg	Lg	15 27 09.8	
VSU	**Vasula**	**1.77**	**119**	Pg	**Pn**	**15 26 47.0**	**+0.8**
VSU				Lg	Lg	15 27 09.8	
VSU	**Vasula**	**1.77**	**119**	*e*P	**Pn**	**15 26 47.2**	**+0.9**
VSU				*e*S	**Sn**	**15 27 09.7**	**+0.2**
VSU	**Vasula**	**1.77**	**119**	P	**Pn**	**15 26 47.2**	**+0.9**
VSU				S	**Sn**	**15 27

ellipse: s-maj=163.2km s-min=77.4km az=87.0

ISC 09 15:39:05.9±3.3, 16°.9S±0°.3×177°.4W±0°.5, h403km, n15, σ1§09/16, mb3.8/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PATS	**Pohnpei**	**33.68**	**313**	P	**P**	**15 45 09.7**	**-1.7**
	baz=39,SNR=3.9						
CTA	**Charters Tower**	**34.59**	**259**	P	**P**	**15 45 19.4**	**+0.3**
	2.6nm,0.4s,baz=93,slow=12,SNR=9.2						
CMSA	**Cobar Meteorol**	**36.50**	**240**	P	**P**	**15 45 34.3**	**-0.6**
	baz=42,SNR=6.7						
MTSU	**Mount Surprise**	**36.50**	**262**	P	**P**	**15 45 35.9**	**+0.7**
	baz=43,SNR=6.3						
COEN	**Coen**	**38.09**	**269**	P	**P**	**15 45 50.7**	**+2.3**
	baz=44,SNR=4.0						
STKA	**Stephens Creek**	**39.97**	**240**	P	**P**	**15 46 03.0**	**-0.5**
	3.8nm,0.8s,baz=95,slow=11,SNR=12						
STKA	**Stephens Creek**	**39.97**	**240**	P	**P**	**15 46 03.2**	**-0.3**
	baz=46,SNR=6.2						
BBOO	**Buckleboo**	**44.75**	**240**	P	**P**	**15 46 40.5**	**-1.0**
	baz=50,SNR=8.5						
WRA	**Warramunga Arr**	**45.78**	**258**	P	**P**	**15 46 49.2**	**-0.5**
	3.2nm,0.7s,baz=94,slow=6.7,SNR=51						
ASAR	**Alice Springs**	**46.01**	**253**	P	**P**	**15 46 51.1**	**-0.4**
	15nm,0.7s,baz=88,slow=8.2,SNR=258						
ASAR				PcP	**PcP**	**15 48 20.1**	**-0.2**
	0.4nm,0.7s,baz=106,slow=4.7,SNR=4.8						
KDU	**Kakadu**	**48.57**	**268**	P	**P**	**15 47 12.1**	**+1.2**
	baz=55,SNR=3.6						
KNRA	**Kununurra**	**51.57**	**263**	P	**P**	**15 47 34.0**	**+0.8**
	baz=58,SNR=3.9						
FITZ	**Fitzroy Crossi**	**54.17**	**260**	P	**P**	**15 47 52.0**	**+0.2**
	1.1nm,0.7s,baz=84,slow=9.0,SNR=4.4						
FITZ	**Fitzroy Crossi**	**54.17**	**260**	P	**P**	**15 47 52.2**	**+0.4**
	baz=60,SNR=3.2						
BRTR	**Keskin Array B**	**144.76**	**316**	PKPbc	**PKPab**	**15 57 57.8**	**+1.5**
	1.7nm,0.6s,baz=128,slow=4.6,SNR=9.1						

*NIED **09** 15:39:00,41°.20N×142°.20E,h56km,Mw4.0 Best double couple: M0 1.32000×10^15 NP1:φs29.00000°,δ75.00000°, λ118.00000°. NP2:φs146.00000°,δ32.00000°,λ31.00000°.*
*ISCJB **09** 15:39:39.4±0.4,41°.18N±0°.03×142°.28E±0°.04,h64km±3km, mb4.3/27,Error ellipse: s-maj=6.6km s-min=3.7km az=42.9*
*IDC **09** 15:39:40.9±0.7,41°.14N×142°.15E,h59km±6km,mb4.0/20, mb1 4.1/22,mb1mx4.0/29,mbtmp4.0/22,MS3.2/4, Ms1 3.2/4,ms1mx2.9/43,Error ellipse: s-maj=15.4km s-min=9.5km az=96.0*
*JMA **09** 15:39:40.0±0.1,41°.18N×142°.25E,h50km±3km,M4.0*
JMA Felt II J1.
*MOS **09** 15:39:40.2±1.4,41°.31N×142°.22E,h66km,mb4.6/20,Error ellipse: s-maj=10.4km s-min=7.7km az=105.2*
*BJI **09** 15:39:41.3,41°.12N×141°.94E,h59km,mB4.9/2,mb4.4/7, Ms4.0/1,Ms7 3.7/1*
*NEIC **09** 15:39:41.0±0.5,41°.20N×142°.25E,mb4.7/2,MW4.0(NIED), Error ellipse: s-maj=11.3km s-min=7.8km az=150.0*

ISC 09 15:39:40.9±0.6, 41°.18N±0°.04×142°.27E±0°.04, h59km±5km, n90, σ1§13/116, mb4.4/27, 4C, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOT	**Ohata**	**0.94**	**283**	P	**Pn**	**15 39 56.8**	**-1.3**
JOT				S	**Sn**	**15 40 09.2**	**-1.7**
JANG	**Nango**	**0.98**	**216**	P	**Pn**	**15 39 57.5**	**-1.2**
JANG				S	**Sn**	**15 40 10.2**	**-1.7**
JTM	**Tenmabayashi**	**0.99**	**247**	P	**Pn**	**15 39 57.9**	**-0.8**
JTM				S	**Sn**	**15 40 10.9**	**-1.0**
ERM	**Erimo**	**1.07**	**38**	*e*P	**Pn**	**15 39 59.2**	**-0.6**
ERM	**Erimo**	**1.07**	**38**	*e*P	**Pn**	**15 39 59.2**	**-0.6**
JEM	**Erimo**	**1.07**	**38**	P	**Pn**	**15 39 59.0**	**-0.8**
JEM				S	**Sn**	**15 40 13.4**	**-0.5**
JNBK	**Urakawa-nobuka**	**1.16**	**18**	P	**Pn**	**15 40 00.3**	**-0.7**
JNBK				S	**Sn**	**15 40 15.4**	**-0.6**
JKB	**Kayabe**	**1.17**	**308**	P	**Pn**	**15 39 59.6**	**-1.5**
JKB				S	**Sn**	**15 40 15.1**	**-1.1**
JSR	**Shiriuchi**	**1.44**	**285**	P	**Pn**	**15 40 04.0**	**-0.7**
JSR				S	**Sn**	**15 40 22.2**	**-0.4**
JCH	**Churui**	**1.65**	**29**	P	**Pn**	**15 40 07.3**	**-0.3**
JCH				*e*S	**Sn**	**15 40 27.5**	**-0.3**
JEW	**Eniwo**	**1.77**	**340**	P	**Pn**	**15 40 08.7**	**-0.5**
JEW				*e*S	**Sn**	**15 40 31.0**	**+0.3**
JOM	**Ohasama**	**1.86**	**204**	P	**Pn**	**15 40 09.8**	**-0.6**
JOM				*e*S	**Sn**	**15 40 32.2**	**-0.6**
JFR	**Furan**	**2.00**	**7**	P	**Pn**	**15 40 12.0**	**-0.4**
ASAJ	**Asahikawa**	**2.95**	**5**	P	**Pn**	**15 40 25.5**	**+0.3**
ASAJ				S	**Sn**	**15 41 00.4**	**+0.9**
ASAJ	**Asahikawa**	**2.95**	**5**	P	**Pn**	**15 40 25.5**	**+0.3**
	29nm,0.3s,baz=214,slow=8.0,SNR=322						
ASAJ				S	**Sn**	**15 41 00.4**	**+0.9**
	12nm,0.3s,baz=34,slow=30,SNR=7.1						
ASAJ				LR	LR	15 42 17.5	
	comp=Z,210nm,19.9s,baz=328,slow=52						
YUK	**Yuzh-Kuril'sk**	**3.90**	**42**	*c*P	**Pn**	**15 40 37.5**	**-0.7**
YUK				*i* S	**Sn**	**15 41 19.7**	**-3.0**
YUK				pmax	pmax		
	comp=Z,94nm,1.3s						
YUK				pmax	pmax		
	comp=E,29nm,0.3s						
YUK				pmax	pmax		
	comp=N,50nm,1.3s						
YUK				smax	smax		
	comp=N,262nm,0.3s						
YUK				smax	smax		
	comp=E,165nm,0.3s						
MAT	**Matsushiro**	**5.61**	**216**	P	**Pn**	**15 41 03.5**	**+1.8**
KUR	**Kuril'sk**	**5.76**	**43**	*i* P	**Pn**	**15 41 03.7**	**0.0**
KUR				*i* S	**Sn**	**15 42 06.6**	**-1.8**
KUR				pmax	pmax		
	comp=Z,15nm,1.0s						
KUR				pmax	pmax		
	comp=N,21nm,1.0s						
KUR				pmax	pmax		
	comp=E,5.0nm,0.2s						
KUR				smax	smax		
	comp=N,52nm,1.3s						
KUR				smax	smax		
	comp=E,27nm,0.4s						
YSS	**Yuzh-Sakhalins**	**5.79**	**3**	*e*P	**Pn**	**15 41 04.9**	**+0.8**
USRK	**Ussuriysk Arra**	**8.15**	**295**	P	**Pn**	**15 41 36.3**	**-0.1**
	comp=E,1.6nm,0.3s,baz=98,slow=15,SNR=17						
KLR	**Kul'dur**	**10.94**	**321**	*e*P	**Pn**	**15 42 12.2**	**-2.4**
KSRS	**Korea Array**	**11.72**	**256**	P	**Pn**	**15 42 27.9**	**+2.7**
	comp=E,0.6nm,0.3s,baz=62,slow=14,SNR=7.5						
KSRS				S	**Sn**	**15 44 38.4**	**+4.1**
	comp=E,0.2nm,0.3s,baz=68,slow=24,SNR=4.1						
KSRS				LR	LR	15 46 37.2	
	comp=E,42nm,18.2s,baz=30,slow=36						
KSAR	**Wonju Array Be**	**11.75**	**256**	P	**Pn**	**15 42 27.9**	**+2.2**
KSAR				S	**Sn**	**15 44 38.4**	**+3.3**
YAK	**Yakutsk**	**22.22**	**344**	*e*P	**P**	**15 44 27.9**	**-4.2**
YAK				*e*		15 44 46.3	
YAK				pmax	pmax		
	comp=Z,10.0nm,1.1s						
YAK				pmax	pmax		
	comp=N,4.0nm,1.1s						
ULN	**Ulaanbaatar**	**25.82**	**297**	*e*P	**P**	**15 45 05.1**	**-1.5**
SONM	**Songino Array**	**26.26**	**297**	P	**P**	**15 45 10.2**	**-0.4**
SONM	**Songino Array**	**26.26**	**297**	P	**P**	**15 45 10.2**	**-0.4**
	comp=N,1.1nm,0.6s,baz=116,slow=10,SNR=4.5						
SONM				LR	LR	15 55 08.5	
	comp=N,56nm,19.2s,baz=22,slow=35						
ZAA0	**Zalesovo Array**	**39.73**	**309**	*e*P	**P**	**15 47 06.8**	**-0.5**
ZALV	**Zalesovo Beam**	**39.73**	**309**	*i* P	**P**	**15 47 06.9**	**-0.4**
ZALV				pmax	pmax		
	comp=Z,7.0nm,0.7s						
ZALV	**Zalesovo Beam**	**39.73**	**309**	P	**P**	**15 47 06.9**	**-0.4**
ZALV				PcP	**PcP**	**15 49 12.7**	**0.0**
ZALV	**Zalesovo Beam**	**39.73**	**309**	P	**P**	**15 47 06.9**	**-0.4**
	comp=Z,6.9nm,0.7s,baz=89,slow=7.7,SNR=17						
ZALV				PcP	**PcP**	**15 49 12.7**	**0.0**
	comp=Z,1.5nm,0.5s,baz=64,slow=3.4,SNR=4.5						
NVS	**Novosibirsk**	**40.56**	**310**	*e*P	**P**	**15 47 13.4**	**-0.8**
MK31	**Makanchi Array**	**42.60**	**299**	*c*e*P	**P**	**15 47 30.3**	**-0.7**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.4s						
MK31	**Makanchi Array**	**42.60**	**299**	*e*P	**P**	**15 47 30.4**	**-0.7**
MKAR	**Makanchi Array**	**42.60**	**299**	P	**P**	**15 47 30.5**	**-0.6**
MKAR						15 49 21.8	
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR	**Makanchi Array**	**42.60**	**299**	P	**P**	**15 47 30.5**	**-0.6**
MKAR				PcP	**PcP**	**15 49 21.8**	**-0.4**
MKAR	**Makanchi Array**	**42.60**	**299**	P	**P**	**15 47 30.5**	**-0.6**
	comp=Z,2.4nm,0.6s,baz=83,slow=10,SNR=18						
MKAR				PcP	**PcP**	**15 49 21.8**	**-0.4**
	comp=Z,0.5nm,0.4s,baz=69,slow=5.1,SNR=5.8						
KURK	**Kurchatov**	**44.00**	**305**	P	**P**	**15 47 42.3**	**+0.1**
KURK						15 49 27.0	
KURK				pmax	pmax		
	comp=Z,5.0nm,0.5s						
KURK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KURK	**Kurchatov**	**44.00**	**305**	P	**P**	**15 47 42.3**	**+0.1**
KURK				PcP	**PcP**	**15 49 27.0**	**+0.2**
KURBB	**Kurchatov Arra**	**44.08**	**305**	P	**P**	**15 47 42.3**	**-0.5**
	comp=Z,4.2nm,0.5s,baz=78,slow=8.7,SNR=40						
KURBB				PcP	**PcP**	**15 49 27.0**	**-0.1**
	comp=Z,1.3nm,0.7s,baz=83,slow=3.5,SNR=7.1						
ILAR	**Eielson Array**	**45.67**	**34**	P	**P**	**15 47 55.5**	**+0.2**
ILAR				pP	**pP**	**15 48 11.6**	**+0.9**
ILAR	**Eielson Array**	**45.67**	**34**	P	**P**	**15 47 55.5**	**+0.2**
	comp=Z,1.4nm,0.5s,baz=259,slow=5.5,SNR=13						
ILAR				pP	**pP**	**15 48 11.6**	**+0.9**
	comp=Z,1.8nm,0.9s,baz=269,slow=7.4,SNR=5.6						
VOSK	**Vostochnaya**	**48.09**	**309**	P	**P**	**15 48 13.0**	**-1.4**
VOSK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
BVAR	**Borovoye Array**	**48.35**	**310**	P	**P**	**15 48 16.2**	**-0.2**
BVAR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
BVAR	**Borovoye Array**	**48.35**	**310**	P	**P**	**15 48 16.2**	**-0.2**
BVAR	**Borovoye Array**	**48.35**	**310**	P	**P**	**15 48 16.2**	**-0.2**
	comp=Z,3.2nm,0.5s,baz=79,slow=9.4,SNR=13						
AAK	**Ala-Archa**	**49.21**	**296**	P	**P**	**15 48 22.9**	**-0.3**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.4s						
AAK	**Ala-Archa**	**49.21**	**296**	P	**P**	**15 48 22.9**	**-0.3**
AAK	**Ala-Archa**	**49.21**	**296**	P	**P**	**15 48 22.9**	**-0.3**
	comp=Z,1.8nm,0.4s,baz=95,slow=4.8,SNR=4.3						
INK	**Inuvik**	**50.42**	**29**	*e*P	**P**	**15 48 32.3**	**+0.5**
	comp=Z,2.4nm,0.4s						
INK	**Inuvik**	**50.42**	**29**	P	**P**	**15 48 32.7**	**+0.9**
	comp=Z,2.4nm,0.4s,baz=288,slow=6.6,SNR=14						
KKAR	**Karatay Array**	**51.71**	**298**	*e*P	**P**	**15 48 41.4**	**-0.6**
KKAR	**Karatay Array**	**51.71**	**298**	*e*P	**P**	**15 48 41.4**	**-0.6**
AB31	**Akbulak array**	**55.84**	**308**	*c*e*P	**P**	**15 49 11.8**	**-0.1**
AB31				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ABKAR	**Akbulak array**	**55.84**	**308**	*e*P	**P**	**15 49 11.6**	**-0.3**
	comp=Z,6.3nm,0.6s						
AKTO	**Aktyubinsk**	**56.45**	**310**	P	**P**	**15 49 16.0**	**-0.3**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AKTO	**Aktyubinsk**	**56.45**	**310**	P	**P**	**15 49 16.0**	**-0.3**
AKTO	**Aktyubinsk**	**56.45**	**310**	P	**P**	**15 49 16.0**	**-0.3**
	comp=Z,2.2nm,0.5s,baz=75,slow=13,SNR=13						
ARCES	**ARCESS Array B**	**60.37**	**339**	P	**P**	**15 49 44.7**	**+1.4**
ARCES	**ARCESS Array B**	**60.37**	**339**	P	**P**	**15 49 44.7**	**+1.4**
	comp=Z,3.8nm,1.0s,baz=48,slow=8.6,SNR=2.9						
WRA	**Warramunga Arr**	**61.25**	**189**	P	**P**	**15 49 48.9**	**-0.9**
WRA				pP	**pP**	**15 50 04.6**	**-1.2**
WRA	**Warramunga Arr**	**61.25**	**189**	P	**P**	**15 49 48.9**	**-0.9**
	comp=Z,0.8nm,0.4s,baz=6.5,slow=6.8,SNR=19						
WRA				pP	**pP**	**15 50 04.6**	**-1.2**
	comp=Z,0.5nm,0.5s,baz=7.2,slow=6.8,SNR=3.3						
ASAR	**Alice Springs**	**64.98**	**188**	P	**P**	**15 50 14.2**	**-0.2**
ASAR				pP	**pP**	**15 50 29.9**	**-0.7**
ASAR	**Alice Springs**	**64.98**	**188**	P	**P**	**15 50 14.2**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=2.3,slow=7.2,SNR=21						
ASAR				pP	**pP**	**15 50 29.9**	**-0.7**
	comp=Z,0.6nm,0.7s,baz=9.7,slow=7.2,SNR=4.6						
FINES	**FINESS Array B**	**65.47**	**332**	P	**P**	**15 50 16.4**	**-0.9**
FINES	**FINESS Array B**	**65.47**	**332**	P	**P**	**15 50 16.4**	**-0.9**
	comp=Z,3.6nm,0.5s,baz=60,slow=6.6,SNR=21						
KIV	**Kislovodsk**	**68.72**	**310**	*e*P	**P**	**15 50 38.8**	**+0.5**
KIV				pmax	pmax		
	comp=Z,16nm,0.9s						
KBZ	**Khabaz**	**68.73**	**310**	P	**P**	**15 50 38.7**	**+0.5**
KBZ				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KBZ	**Khabaz**	**68.73**	**310**	P	**P**	**15 50 38.7**	**+0.5**
KBZ	**Khabaz**	**68.73**	**310**	P	**P**	**15 50 38.7**	**+0.5**
	comp=Z,4.3nm,0.7s,baz=9.6,slow=1.4,SNR=7.8						
HFS	**Hagfors**	**70.59**	**335**	P	**P**	**15 50 49.0**	**-0.4**
HFS	**Hagfors**	**70.59**	**335**	P	**P**	**15 50 49.0**	**-0.4**
	comp=Z,1.6nm,0.4s,baz=56,slow=5.6,SNR=11						
NB2	**NORSAR Subarra**	**70.63**	**337**	P	**P**	**15 50 49.2**	**-0.5**
	comp=Z,1.6nm,0.6s,baz=36,slow=6.5						
NOA	**NORSAR Array B**	**70.63**	**337**	P	**P**	**15 50 48.6**	**-1.1**
NOA	**NORSAR Array B**	**70.63**	**337**	P	**P**	**15 50 48.6**	**-1.1**
	comp=Z,1.2nm,0.5s,baz=37,slow=6.1,SNR=4.5						
AKASG	**Malin Array Be**	**71.44**	**322**	*c*e*P	**P**	**15 50 54.4**	**-0.3**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**71.44**	**322**	P	**P**	**15 50 54.1**	**-0.6**
AKASG	**Malin Array Be**	**71.44**	**322**	P	**P**	**15 50 54.1**	**-0.6**
	comp=Z,1.4nm,0.4s,baz=43,slow=6.5,SNR=4.0						
PDAR	**Pinedale Array**	**74.31**	**47**	P	**P**	**15 51 12.3**	**+0.2**
PDAR				pP	**pP**	**15 51 30.2**	**+1.7**
PDAR	**Pinedale Array**	**74.31**	**47**	P	**P**	**15 51 12.3**	**+0.2**
	comp=Z,0.5nm,0.8s,baz=264,slow=1.5,SNR=4.2						
PDAR				pP	**pP**	**15 51 30.2**	**+1.7**
	comp=Z,0.8nm,0.6s,baz=280,slow=3.3,SNR=5.1						
BRTR	**Keskin Array B**	**76.61**	**311**	P	**P**	**15 51 25.1**	**-0.1**
BRTR	**Keskin Array B**	**76.61**	**311**	P	**P**	**15 51 25.2**	**-0.1**
	comp=Z,1.3nm,0.6s,baz=109,slow=2.6,SNR=6.3						
TXAR	**Lajitas Array**	**87.08**	**53**	P	**P**	**15 52 21.7**	**+1.3**
TXAR	**Lajitas Array**	**87.08**	**53**	P	**P**	**15 52 21.7**	**+1.3**
	comp=Z,0.3nm,0.6s,baz=325,slow=2.5,SNR=2.8						
TXAR				LR	LR	16 31 52.2	
	comp=Z,40nm,18.6s,baz=235,slow=36						
SNAA	**Sanae**	**144.89**	**198**	*e*PKPdf	PKPbc	15 59 09.6	+0.3
VNA2	**Neumayer--Watz**	**146.47**	**197**	*e*PKPdf	**PKPbc**	**15 59 14.1**	**0.0**
	baz=111,slow=2.3						
VNA2	**Neumayer--Watz**	**146.47**	**197**	*e*PKPbc	**PKPab**	**15 59 17.4**	**+2.2**
	baz=111,slow=2.3						
VNA2	**Neumayer--Watz**	**146.47**	**197**	*e*PKP	PKPab	15 59 20.6	+5.4
	baz=111,slow=2.3						
VNA2	**Neumayer--Watz**	**146.47**	**197**	*e*I	pPKPdf	15 59 27.3	-2.8
	baz=111,slow=2.3						
VNA2	**Neumayer--Watz**	**146.47**	**197**	*e*pPKP	pPKPdf	15 59 30.3	+0.2
	baz=111,slow=2.3						

IDC 09 15:55:33.1±1.5, 15°.06S×71°.38W, h163km±14km, mb3.9/14, mb1 4.0/19, mb1mx3.9/27, mbtmp3.9/19, Error ellipse: s-maj=20.6km s-min=11.1km az=44.0, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.36**	**112**	P	Pn	15 56 26.0	-0.3
	12nm,0.3s,baz=291,slow=10,SNR=122						
LPAZ				S	Sn	15 57 08.6	+1.0
	6.0nm,0.3s,baz=190,slow=14,SNR=6.4						
NNA	**Nana**	**6.13**	**299**	P	Pn	15 56 54.6	-7.2
	34nm,0.3s,baz=130,slow=11,SNR=22						
NNA				S	Sn	15 57 57.7	-14
	18nm,0.3s,baz=17,slow=11,SNR=11						
SIV	**San Ignacio**	**9.97**	**97**	P	Pn	15 57 51.0	-1.7
	1.2nm,0.3s,baz=282,slow=13,SNR=45						
ATAH	**Atahualpa**	**10.46**	**318**	P	Pn	15 57 57.9	-1.7
	0.6nm,0.3s,baz=147,slow=8.8,SNR=4.0						
CFAA	**Coronel Fontan**	**16.72**	**171**	P	P	15 59 16.4	-1.0
	baz=0.0,slow=0.0						
CPUP	**Villa Florida**	**17.26**	**133**	P	P	15 59 23.1	-0.2
	2.0nm,0.3s,baz=290,slow=9.7,SNR=21						
BDFB	**Brasilia**	**22.54**	**95**	P	P	16 00 19.6	-0.2
	18nm,0.6s,baz=261,slow=12,SNR=22						
PLCA	**Paso Flores**	**25.59**	**179**	P	P	16 00 47.1	-0.2
	3.1nm,0.9s,baz=339,slow=7.5,SNR=3.9						
TEIG	**Tepich**	**38.80**	**334**	P	P	16 02 42.2	+0.1
	4.3nm,0.6s,baz=45,slow=2.9,SNR=5.6						
CMIG	**Matias Romero**	**39.48**	**323**	P	P	16 02 48.1	+0.2
	1.8nm,0.8s,baz=102,slow=7.0,SNR=3.9						
TXAR	**Lajitas Array**	**54.04**	**325**	P	P	16 04 40.8	-0.1
	2.1nm,0.8s,baz=149,slow=8.4,SNR=21						
ANMO	**Albuquerque**	**59.85**	**327**	P	P	16 05 22.1	+0.2
	2.4nm,0.8s,baz=164,slow=7.5,SNR=6.2						
SADO	**Sadowa**	**59.96**	**354**	P	P	16 05 22.1	0.0
	11nm,1.0s,baz=239,slow=7.5,SNR=6.4						
VNA3	**Neumayer Olymp**	**66.89**	**162**	*e*P	P	16 06 06.9	-0.5
PDAR	**Pinedale Array**	**67.39**	**330**	P	P	16 06 11.3	+0.1
	1.1nm,0.7s,baz=121,slow=6.4,SNR=7.4						
VNA2	**Neumayer--Watz**	**67.47**	**161**	*e*P	P	16 06 12.0	+1.0
	baz=282,slow=6.0						
SNAA	**Sanae**	**69.10**	**162**	*e*P	P	16 06 22.1	+0.9
DBIC	**Dimbokro**	**69.36**	**77**	P	P	16 06 23.3	-0.4
	3.8nm,0.6s,baz=250,slow=7.7,SNR=5.8						
YBH	**Yreka Blue Hor**	**73.71**	**322**	P	P	16 06 48.8	-0.4
	1.0nm,0.7s,baz=130,slow=6.5,SNR=4.2						
TORD	**Torodi Ar. Bea**	**77.54**	**73**	P	P	16 07 11.0	-0.6
	4.5nm,0.6s,baz=261,slow=5.2,SNR=31						
VNDA	**Vanda**	**82.75**	**190**	P	P	16 07 38.0	-0.3
	0.7nm,0.7s,baz=138,slow=2.6,SNR=4.9						
YKA	**Yellowknife Ar**	**84.37**	**341**	P	P	16 07 46.8	+0.2
	3.6nm,0.9s,baz=134,slow=4.9,SNR=4.7						
BOSA	**Boshof**	**88.57**	**119**	P	P	16 08 09.0	+0.9
	3.9nm,0.8s,baz=24,slow=14,SNR=4.4						
ASAR	**Alice Springs**	**134.26**	**213**	PKP	PKPdf	16 14 32.6	+0.2
	0.3nm,0.8s,baz=136,slow=0.7,SNR=7.9						
ZALV	**Zalesovo Beam**	**136.95**	**20**	PKP	PKPdf	16 14 37.3	+1.0
	0.8nm,0.5s,baz=336,slow=3.3,SNR=3.6						
WRA	**Warramunga Arr**	**137.00**	**217**	PKP	PKPdf	16 14 37.0	-0.5
	0.3nm,0.4s,baz=226,slow=1.4,SNR=6.9						
MKAR	**Makanchi Array**	**141.49**	**29**	PKhKP	PKPpre	16 14 41.0	
	0.5nm,0.7s,baz=317,slow=3.5,SNR=4.1						
MKAR				SKPab	SKPab	16 18 15.8	-5.3
	0.6nm,0.8s,baz=334,slow=2.9,SNR=5.0						
FITZ	**Fitzroy Crossi**	**143.03**	**208**	PKhKP	PKPpre	16 14 45.2	
	1.2nm,0.6s,baz=142,slow=19,SNR=13						
SONM	**Songino Array**	**147.27**	**3**	PKPbc	PKPbc	16 14 57.8	+0.3
	1.0nm,0.4s,baz=323,slow=2.0,SNR=5.8						
KSRS	**Korea Array**	**151.88**	**326**	PKPbc	PKPbc	16 15 09.0	0.0
	1.4nm,0.6s,baz=7.4,slow=2.0,SNR=6.3						

*AUST **09** 16:00:29.9,0°.01N×132°.00E,h100km*
*DJA **09** 16:00:34.7±1.7,0°.S±17°×13°.2E±°,h20km,M3.7/3, MLv3.7/3*
*IDC **09** 16:00:39.2±1.8,1°.42S×131°.96E,h0km,mb3.3/2, mb1 3.6/4,mb1mx3.4/21,mbtmp3.4/4,ML3.2/2,Error ellipse: s-maj=47.7km s-min=13.9km az=82.0*

ISC 09 16:00:34.0±2.7, 0°.3S±0°.2×132°.16E±0°.06, h35km, n13, σ2§01/15, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**1.07**	**237**	P	**Pn**	**16 00 52.9**	**+0.5**
SWI				S	**Sn**	**16 01 09.1**	**+3.0**
SWI	**Sorong**	**1.07**	**237**	P	**Pn**	**16 00 53.0**	**+0.5**
	baz=1.1,SNR=37						
SWI				S	**Sn**	**16 01 09.2**	**+3.1**
	baz=1.1,SNR=27						
RKPI	**Ransiki, Papua**	**2.36**	**121**	P	**Pn**	**16 01 11.8**	**+1.6**
RKPI				S	**Sn**	**16 01 39.7**	**+1.7**
FAKI	**Fak Fak**	**2.62**	**178**	P	**Pn**	**16 01 14.6**	**+0.7**
FAKI	**Fak Fak**	**2.62**	**178**	P	**Pn**	**16 01 14.5**	**+0.6**
	baz=2.9,SNR=65						
TLE	**Tual**	**5.35**	**174**	P	**Pn**	**16 01 53.5**	**+2.1**
	baz=5.7,SNR=4.9						
KDU	**Kakadu**	**12.33**	**179**	P	**Pn**	**16 03 25.7**	**-1.5**
	baz=13,SNR=12						
MTN	**Manton Dam**	**12.52**	**185**	P	**Pn**	**16 03 28.4**	**-1.4**
	baz=13,SNR=7.0						
KNRA	**Kununurra**	**15.66**	**192**	P	**Pn**	**16 04 08.7**	**-3.4**
	baz=16,SNR=10.0						
FITZ	**Fitzroy Crossi**	**18.83**	**200**	P	**P**	**16 04 49.4**	**-1.5**
	0.1nm,0.3s,baz=21,slow=17,SNR=2.3						
FITZ				S	Sn	16 08 05.0	-17
	0.0nm,0.3s,baz=158,slow=18,SNR=1.9						
WRA	**Warramunga Arr**	**19.66**	**174**	P	**P**	**16 04 59.5**	**-0.5**
	0.1nm,0.3s,baz=356,slow=11,SNR=9.7						
WRA				S	S	16 08 26.9	-13
	0.1nm,0.3s,baz=30,slow=23,SNR=4.2						
ASAR	**Alice Springs**	**23.31**	**176**	P	**P**	**16 05 38.6**	**-0.4**
	1.6nm,0.8s,baz=357,slow=11,SNR=26						
MKAR	**Makanchi Array**	**63.94**	**324**	P	P	16 11 18.9	+15
	0.1nm,0.6s,baz=108,slow=9.2,SNR=2.8						

*BJI **09** 16:13:44.4,19°.83N×144°.33E,h104km,mB5.0/20, mb4.6/30*
*IDC **09** 16:13:47.0±4.6,20°.24N×143°.58E,h61km±42km,mb4.0/23, mb1 4.2/24,mb1mx4.2/30,mbtmp4.1/24,ML3.6/1,MS3.6/18, Ms1 3.6/18,ms1mx3.5/38,Error ellipse: s-maj=20.5km

comp=E,530nm,15.0s
HHC LR LR
comp=Z,350nm,15.7s
GYA Guiyang 34.38 288 *e*P **P 16 20 29.8 +0.4**
GYA pP **pP 16 20 53.4 +0.2**
GYA sP **sP 16 21 06.5 +1.1**
GYA PP **PP 16 21 48.8 -0.4**
GYA PcP **PcP 16 23 03.0 0.0**
GYA S **S 16 25 49.2 -0.4**
GYA sS **sS 16 26 31.8 +0.8**
GYA ScP **ScP 16 26 38.9 +0.4**
GYA PcS **PcS 16 26 49.4 -0.3**
GYA ScS **ScS 16 30 39.0 -2.6**
GYA pmax pmax
comp=Z,10.0nm,0.8s
PETK Petropavlovsk- 34.62 15 LR LR 16 34 46.5
comp=Z,37nm,18.2s,baz=229,slow=36
CD2 Chengdu 37.29 295 P **P 16 20 55.1 +0.9**
CD2 pP **pP 16 21 19.1 +0.9**
CD2 sP **sP 16 21 31.5 +1.1**
CD2 PP **PnPn 16 22 25.5 +2.4**
CD2 S **S 16 26 34.0 0.0**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,150nm,4.5s
CD2 LR LR
comp=N,450nm,4.8s
CD2 LR LR
comp=Z,270nm,7.7s
KMI Kunming 37.90 285 P **P 16 21 00.0 +0.5**
KMI S **S 16 26 44.5 +0.9**
KMI pmax pmax
comp=Z,5.0nm,1.4s
KMI LR LR
comp=Z,100nm,30.0s
LZH Lanzhou 38.15 303 *e*P **P 16 21 03.8 +2.4**
LZH pP **pP 16 21 24.0 -1.6**
LZH sP **sP 16 21 35.2 -2.6**
LZH pmax pmax
comp=Z,64nm,1.6s
LZH pmax pmax
comp=Z,250nm,4.5s
FX1 Attu Island--F 39.83 28 *e*P **P 16 21 14.8 -0.2**
CTA Charters Tower 40.12 176 P **P 16 21 18.1 +0.4**
CTA Charters Tower 40.12 176 P **P 16 21 18.1 +0.4**
comp=Z,4.8nm,0.7s,baz=348,slow=11,SNR=7.1
SONM Songino Array 40.73 321 P **P 16 21 23.1 +0.5**
SONM Songino Array 40.73 321 P **P 16 21 23.1 +0.5**
comp=Z,0.8nm,0.6s,baz=140,slow=9.2,SNR=2.7
SONM LR LR 16 37 08.1
comp=Z,66nm,18.3s,baz=59,slow=34
WRAB Tennant Creek 40.89 193 *e*P **P 16 21 23.3 -0.8**
WRAB pmax pmax
comp=Z,8.0nm,0.6s
WRAB Tennant Creek 40.89 193 *e*P **P 16 21 23.3 -0.8**
comp=Z,8.2nm,0.6s
WRA Warramunga Arr 40.91 193 P **P 16 21 23.1 -1.1**
WRA PcP **PcP 16 23 23.9 +1.0**
WRA Warramunga Arr 40.91 193 P **P 16 21 23.1 -1.1**
comp=Z,5.6nm,0.6s,baz=11,slow=9.0,SNR=72
WRA PcP **PcP 16 23 23.9 +1.0**
comp=Z,2.1nm,0.6s,baz=7.9,slow=3.4,SNR=12
FITZ Fitzroy Crossi 41.93 206 P **P 16 21 31.4 -1.1**
FITZ Fitzroy Crossi 41.93 206 P **P 16 21 31.4 -1.1**
comp=Z,3.7nm,1.0s,baz=50,slow=9.4,SNR=4.1
CM01 Chiang Mai Arr 42.05 275 *e*P **P 16 21 34.4 +0.7**
GTA Gaotai 42.05 307 *e*P **P 16 21 34.9 +1.3**
GTA pP **pP 16 21 59.7 +1.6**
GTA sP **sP 16 22 11.8 +1.7**
GTA S **S 16 27 45.4 +0.4**
GTA pmax pmax
comp=Z,4.0nm,1.4s
GTA pmax pmax
comp=Z,120nm,5.9s
GTA LR LR
comp=N,160nm,15.0s
GTA LR LR
comp=E,130nm,16.6s
GTA LR LR
comp=Z,190nm,15.7s
YAK Yakutsk 42.90 350 *e*P P 16 21 36.9 -3.0
YAK pmax pmax
comp=Z,13nm,1.5s
SEY Seymchan 43.13 6⇓*e*P **P 16 21 40.9 -0.9**
ZAK Zakamensk 43.75 323 *e*P **P 16 21 45.0 -2.1**
ZAK pmax pmax
comp=Z,3.0nm,1.3s
AS01 Alice Springs 44.59 193 *e*P **P 16 21 52.8 -1.2**
AS31 Alice Springs 44.60 193 *e*P **P 16 21 53.2 -0.8**
ASAR Alice Springs 44.60 193 P **P 16 21 53.1 -1.0**
ASAR PcP **PcP 16 23 36.5 +1.3**
ASAR Alice Springs 44.60 193 P **P 16 21 53.1 -1.0**
comp=Z,2.7nm,0.7s,baz=18,slow=9.7,SNR=88
ASAR PcP **PcP 16 23 36.5 +1.3**
comp=Z,1.4nm,0.7s,baz=28,slow=2.8,SNR=9.2
LSA Lhasa 48.12 292 P **P 16 22 23.4 +1.2**
LSA Lhasa 48.12 292 P **P 16 22 23.6 +1.4**
LSA pmax pmax
comp=Z,5.0nm,0.7s
LSA Lhasa 48.12 292 P **P 16 22 23.6 +1.4**
comp=Z,4.5nm,0.7s
STKA Stephens Creek 51.81 182 *e*P **P 16 22 49.2 -0.1**
STKA Stephens Creek 51.81 182 P **P 16 22 49.0 -0.3**
comp=Z,5.9nm,0.8s,baz=347,slow=9.4,SNR=16
WMQ Urumqi 51.81 310 *e*P **P 16 22 49.0 -0.4**
WMQ PcP **PcP 16 24 00.2 -0.9**
WMQ pmax pmax
comp=Z,8.0nm,1.1s
WMQ pmax pmax
comp=Z,17nm,4.5s
WMQ LR LR
comp=N,96nm,16.4s
WMQ LR LR
comp=E,83nm,16.9s
WMQ LR LR
comp=Z,93nm,16.5s
ZAA0 Zalesovo Array 55.61 322 *e*P **P 16 23 15.4 -1.4**
ZALV Zalesovo Beam 55.61 322 *i* P **P 16 23 19.0 +2.2**
ZALV pmax pmax
comp=Z,4.0nm,0.7s
ZALV Zalesovo Beam 55.61 322 P **P 16 23 15.3 -1.5**
ZALV Zalesovo Beam 55.61 322 P **P 16 23 15.3 -1.5**
comp=Z,4.1nm,0.7s,baz=96,slow=7.4,SNR=7.5
ZALV LR LR 16 48 40.7
comp=Z,74nm,18.1s,baz=69,slow=38
MK01 Makanchi Array 55.97 313 *e*P **P 16 23 19.3 -0.3**
MK31 Makanchi Array 55.98 313 *ce*P **P 16 23 19.7 +0.1**
MK31 pmax pmax
comp=Z,6.0nm,0.9s
MK31 Makanchi Array 55.98 313 P P 16 23 16.0 -3.6
MKAR Makanchi Array 55.98 313 P **P 16 23 19.2 -0.4**
MKAR 16 24 17.1
MKAR pmax pmax
comp=Z,3.0nm,0.9s
MKAR pmax pmax
comp=Z,2.0nm,0.8s
MKAR MLR MLR
comp=Z,50nm,21.8s
MKAR Makanchi Array 55.98 313 *e*P **P 16 23 19.5 -0.1**
MKAR PcP **PcP 16 24 17.1 +0.3**
MKAR Makanchi Array 55.98 313 P **P 16 23 19.2 -0.4**
comp=Z,2.5nm,0.9s,baz=94,slow=8.6,SNR=14
MKAR PcP **PcP 16 24 17.1 +0.3**
comp=Z,1.5nm,0.8s,baz=85,slow=4.0,SNR=5.9
MKAR LR LR 16 47 28.3
comp=Z,50nm,21.8s,baz=284,slow=36
NVS Novosibirsk 56.71 323 *i* P **P 16 23 24.2 -0.4**
NVS pmax pmax
comp=Z,35nm,3.0s
NVS pmax pmax
comp=N,12nm,1.8s
KDAK Kodiak Island 59.23 34 P **P 16 23 41.8 -0.3**
KDAK Kodiak Island 59.23 34 P **P 16 23 41.8 -0.3**
comp=N,7.9nm,0.7s,baz=323,slow=15,SNR=4.5
KSH Kashi 60.37 305 P P 16 23 53.8 +3.3
KSH sP sP 16 24 33.9 +5.7
KSH PP PP 16 26 10.1 +5.5
KSH S **S 16 31 59.0 +1.8**
KSH sS sS 16 32 45.9 +4.1
KSH ScS SKKSac 16 33 29.6 -1.7
KSH pmax pmax
comp=Z,4.0nm,0.9s
KSH pmax pmax
comp=Z,110nm,5.4s
KSH LR LR
comp=N,160nm,5.9s
KSH LR LR
comp=E,160nm,6.5s
KSH LR LR
comp=Z,290nm,6.5s
CAST Castle Rocks 60.70 28 *e*P **P 16 23 51.8 -0.3**
comp=Z,8.3nm,0.8s
AAK Ala-Archa 61.37 308 LR LR 16 52 39.7
comp=Z,64nm,18.7s,baz=160,slow=38
ILAR Eielson Array 63.20 27 P **P 16 24 06.9 -2.0**
ILAR Eielson Array 63.20 27 P **P 16 24 06.9 -2.0**
comp=Z,4.7nm,0.8s,baz=261,slow=5.4,SNR=33
ILAR LR LR 16 52 44.4
comp=Z,35nm,18.1s,baz=242,slow=37
IL1 Eielson Array 63.21 27 *e*P **P 16 24 06.7 -2.1**
PAX Paxson 63.56 29 *e*P **P 16 24 10.4 -0.9**
PAX Paxson 63.56 29 *e*P **P 16 24 10.4 -0.9**
VOSK Vostochnaya 63.68 320 P **P 16 24 13.4 +1.2**
VOSK pmax pmax
comp=Z,7.0nm,1.5s
BVA0 Borovoye Array 64.04 320 P **P 16 24 13.3 -1.3**
BVA0 pmax pmax
comp=Z,14nm,1.4s
BVAR Borovoye Array 64.04 320 LR LR 16 50 29.1
comp=Z,85nm,21.5s,baz=290,slow=34
BRVK Borovoye 64.11 320 *de*P **P 16 24 14.1 -0.9**
BRVK pmax pmax
comp=Z,11nm,1.6s
BRVK Borovoye 64.11 320 *e*P **P 16 24 14.3 -0.7**
comp=Z,7.2nm,0.9s
DAWY Dawson 66.37 28 *e*P **P 16 24 29.2 -0.2**
KBL Kabul 66.39 300 *e*P **P 16 24 30.8 +0.5**
KBL pmax pmax
comp=Z,16nm,1.1s
KBL Kabul 66.39 300 *e*P **P 16 24 30.8 +0.5**
comp=Z,16nm,1.1s
HYT Haines Junctio 67.19 31 *e*P **P 16 24 35.0 +0.2**
INK Inuvik 68.79 23 P **P 16 24 44.0 -0.5**
INK Inuvik 68.79 23 P **P 16 24 44.0 -0.5**
comp=Z,7.2nm,0.6s,baz=275,slow=8.4,SNR=11
INK LR LR 16 52 36.1
comp=Z,56nm,19.1s,baz=284,slow=34
WRAK Wrangell Islan 70.17 36 *e*P **P 16 24 53.7 +0.4**
comp=Z,12nm,0.6s
ARU Arti 70.68 324 P **P 16 24 54.9 -1.4**
AB31 Akbulak array 70.88 316 *ce*P **P 16 24 57.0 -0.7**
AB31 pmax pmax
comp=Z,4.0nm,0.7s
ABKAR Akbulak array 70.88 316 *e*P **P 16 24 57.2 -0.5**
DLBC Dease Lake 71.16 34 P **P 16 24 59.7 +0.4**
DLBC Dease Lake 71.16 34 P **P 16 24 59.7 +0.4**
comp=Z,5.9nm,0.9s,baz=286,slow=6.7,SNR=9.7
AKTO Aktyubinsk 71.92 318 P **P 16 25 03.0 -0.9**
AKTO Aktyubinsk 71.92 318 P **P 16 25 03.0 -0.9**
AKTO Aktyubinsk 71.92 318 P **P 16 25 03.0 -0.9**
comp=Z,2.1nm,0.8s,baz=103,slow=7.2,SNR=6.9
AKTO LR LR 16 55 30.7
comp=Z,89nm,18.6s,baz=80,slow=35
IMYA Miami 73.22 303 *e*P **P 16 25 10.3 -1.8**
IKRD Kardeh 74.36 304 *e*P P 16 25 15.8 -3.1
PPT Papeete 75.57 115 LR LR 16 55 26.2
comp=Z,181nm,18.3s,baz=340,slow=33
YKA Yellowknife Ar 77.61 28 P **P 16 25 36.1 -0.3**
YKA Yellowknife Ar 77.61 28 P **P 16 25 36.2 -0.3**
comp=Z,6.8nm,0.5s,baz=291,slow=5.7,SNR=16
H04A Detroit Lake 78.99 46 *e*P **P 16 25 44.8 +0.3**
comp=Z,12nm,0.9s
HUMO Hull Mountain 79.08 49 *e*P **P 16 25 46.1 +1.0**
comp=Z,7.3nm,1.0s
YBH Yreka Blue Hor 79.51 49 *e*P **P 16 25 48.2 +0.8**
comp=Z,10nm,1.1s
YBH Yreka Blue Hor 79.51 49 LR LR 16 52 29.5
comp=Z,56nm,21.5s,baz=296,slow=29
PINOR Pine Mountain 80.16 47 *e*P **P 16 25 52.2 +1.4**
comp=Z,14nm,1.0s
D08A Wollman Farm, 80.41 43 *e*P **P 16 25 52.8 +0.7**
comp=Z,7.1nm,0.9s
ARCES ARCESS Array B 80.45 342 P **P 16 25 51.2 -0.7**
ARCES ARCESS Array B 80.45 342 P **P 16 25 51.2 -0.7**
comp=Z,4.2nm,0.7s,baz=66,slow=5.9,SNR=5.9
K05A Summer Lake 80.49 48 *e*P **P 16 25 53.3 +0.5**
comp=Z,19nm,1.1s
MAK Makhachkala 80.78 312 P P 16 26 04.2 +10
MAK MLR MLR
comp=Z,126nm,8.0s
G08A Pilot Rock 80.97 45 *e*P **P 16 25 55.5 +0.2**
comp=Z,69nm,2.8s
I07A Izee 81.01 46 *e*P **P 16 25 55.9 +0.4**
comp=Z,10nm,1.6s
NEW Newport 81.15 42 *e*P **P 16 25 56.3 +0.2**
comp=Z,8.1nm,0.8s
NEW Newport 81.15 42 LR LR 16 57 59.7
comp=Z,35nm,20.0s,baz=296,slow=33
NEW Newport 81.15 42 ⇓P **P 16 25 56.3 +0.2**
baz=81
BEKR Beckworth 81.80 51 *e*P **P 16 25 59.8 0.0**
comp=Z,5.9nm,0.8s
J08A Circle Bar Ran 81.95 47 *e*P **P 16 26 01.0 +0.5**
comp=Z,7.7nm,0.9s
BMO Blue Mountains 82.22 45 *e*P **P 16 26 01.6 -0.2**
comp=Z,12nm,1.1s
CMB Columbia Colle 82.39 52 *e*P **P 16 26 03.0 +0.2**
CMB pmax pmax
comp=Z,16nm,1.1s
CMB Columbia Colle 82.39 52 *e*P **P 16 26 03.0 +0.2**
comp=Z,16nm,1.1s
BSMT Bassoo Peak 82.76 42 *e*P **P 16 26 05.0 +0.3**
comp=Z,11nm,1.3s
WALA Waterton Lakes 82.84 40 *e*P **P 16 26 04.7 -0.3**
OBN Obninsk 82.93 326 *e*P **P 16 26 04.2 -0.9**
OBN *i* *PP **pP 16 26 28.8 -3.7**
OBN pmax pmax
comp=Z,6.0nm,1.1s
WAKR Walker 82.93 52 *e*P **P 16 26 06.3 +0.5**
comp=Z,2.6nm,0.6s
KBZ Khabaz 83.67 314 P **P 16 26 09.6 +0.4**
KBZ Khabaz 83.67 314 P **P 16 26 09.6 +0.4**
KBZ Khabaz 83.67 314 P **P 16 26 09.6 +0.4**
comp=Z,3.7nm,0.9s,baz=232,slow=4.5,SNR=5.5
MFID Camas Ranch 83.73 46 ⇑P **P 16 26 10.3 +0.5**
baz=84
PKM Peak Mountain 83.88 55 ⇑P **P 16 26 11.4 +0.6**
baz=84
NV11 Mina Array Sit 83.90 51 *e*P **P 16 26 11.1 +0.4**
HLID Hailey 84.63 46 *e*P **P 16 26 14.9 +0.6**
comp=Z,11nm,1.4s
HLID Hailey 84.63 46 ⇑P **P 16 26 14.5 +0.2**
baz=84
CWC Cottonwood Cre 84.66 53 ⇓P **P 16 26 15.0 +0.4**
baz=85
FINES FINESS Array B 84.68 335 P **P 16 26 12.2 -1.8**
FINES FINESS Array B 84.68 335 P **P 16 26 12.2 -1.8**
comp=Z,1.8nm,0.7s,baz=80,slow=6.5,SNR=8.8
GRAC Grapevine Rang 84.99 53 ⇓P **P 16 26 16.4 +0.3**
baz=85
LRM Limekiln Ridge 85.03 43 *e*P **P 16 26 16.4 +0.1**
comp=Z,99nm,1.0s
HRY Holter Researc 85.06 42 *e*P **P 16 26 16.6 +0.3**
comp=Z,10nm,0.5s
DLMT Dillon 85.12 43 *e*P **P 16 26 17.0 +0.3**
comp=Z,9.5nm,1.4s
ELK Elko 85.14 48 *e*P **P 16 26 17.4 +0.4**
comp=Z,10nm,1.0s
MCMT McKenzie Canyo 85.17 44 *e*P **P 16 26 17.2 +0.2**
MPMC Manual Prospec 85.25 53 ⇓P **P 16 26 17.8 +0.2**
baz=85,SNR=9.5
EDW2 Edwards Air Fo 85.29 55 ⇑P **P 16 26 18.3 +0.6**
baz=85
LRMC Laurel Mountai 85.31 54 ⇑P **P 16 26 18.1 +0.3**
baz=85,SNR=6.2
MIB Mutribah 85.35 300 *e*P **P 16 26 18.1 +0.1**
MIB AMb AMB 16 26 22.6
comp=Z,44nm,1.3s
CIS Catalina Islan 85.50 56 ⇑P **P 16 26 19.2 +0.5**
baz=85
FURC Furnace Creek, 85.57 53 ⇑P **P 16 26 19.5 +0.7**
baz=86
D17A Six Diamond Ra 85.59 41 ⇓P **P 16 26 19.0 +0.1**
baz=85,SNR=7.7
NAY Al-Naaiem 85.62 299 *e*P **P 16 26 18.8 -0.5**
NAY AMb AMB 16 26 26.9
comp=Z,0.8nm,1.2s
RST Umm Al-Ruwaisa 85.73 300 *e*P **P 16 26 19.4 -0.4**
RST AMb AMB 16 26 21.6
comp=Z,113nm,0.8s
EGMT Eagleton 85.79 40 *e*P **P 16 26 19.9 0.0**
comp=Z,16nm,1.2s
EGMT Eagleton 85.79 40 ⇓P **P 16 26 20.2 +0.3**
baz=86
R11A Troy Canyon, C 85.81 51 *e*P **P 16 26 20.4 +0.1**
R11A Troy Canyon, C 85.81 51 ⇓P **P 16 26 20.2 -0.1**
baz=86,SNR=10
A19A Klindworth Far 86.00 39 ⇑P **P 16 26 20.9 0.0**
baz=86,SNR=9.6
GSC Goldstone 86.04 54 *e*P **P 16 26 21.3 -0.1**
GSC pmax pmax
comp=Z,36nm,0.1s
GSC Goldstone 86.04 54 *e*P **P 16 26 21.3 -0.1**
comp=Z,36nm,0.1s
GSC Goldstone 86.04 54 ⇓P **P 16 26 21.8 +0.4**
baz=86
B19A Brinkman Farms 86.09 40 ⇓P **P 16 26 21.5 +0.2**
baz=86
QLMT Earthquake Lak 86.09 44 *e*P **P 16 26 22.6 +1.0**
D18A Linhart Farms, 86.11 41 ⇑P **P 16 26 21.8 +0.3**
baz=86
F17A Fitzpatrick Pl 86.13 42 ⇓P **P 16 26 22.1 +0.4**
baz=86
C19A Slack Wire Ran 86.34 40 ⇓P **P 16 26 22.9 +0.3**
baz=86,SNR=7.1
HVU Hansel Valley 86.45 47 *e*P **P 16 26 23.9 +0.6**
HVU pmax pmax
comp=Z,13nm,1.1s
HVU Hansel Valley 86.45 47 *e*P **P 16 26 23.9 +0.6**
comp=Z,13nm,1.1s
YMR Madison River 86.46 44 *e*P **P 16 26 24.6 +1.2**
comp=Z,20nm,0.3s
A20A Cobblestone Ra 86.50 39 ⇓P **P 16 26 23.8 +0.5**
baz=86,SNR=7.7
B20A Solberg Farm, 86.64 39 ⇑P **P 16 26 24.1 0.0**
baz=86,SNR=5.1
TUQ Turquoise Moun 86.66 54 ⇑P **P 16 26 24.7 +0.2**
baz=87,SNR=5.5
D19A Cripps Ranch, 86.69 41 ⇓P **P 16 26 24.7 +0.3**
baz=86,SNR=7.6
F18A Big Timber 86.73 42 ⇑P **P 16 26 24.8 +0.3**
baz=87
RRI2 Red Ridge 86.78 45 *e*P **P 16 26 25.8 +0.7**
comp=Z,7.4nm,0.8s
IMW Indian Meadow 86.80 44 *e*P **P 16 26 26.0 +0.8**
comp=Z,7.1nm,1.0s
SHPR Sheep Range 86.82 52 *e*P **P 16 26 25.6 +0.3**
comp=Z,2.8nm,0.8s
PFO Pinyon Flat Ob 86.94 55 ⇑P **P 16 26 26.2 +0.3**
baz=87
TPAW Teton Pass 86.97 45 *e*P **P 16 26 26.5 +0.5**
comp=Z,9.2nm,1.3s
C20A Veseth Ranch, 86.98 40 ⇑P **P 16 26 26.3 +0.6**
baz=87,SNR=8.6
MOOW Moose Ponds 86.99 44 *e*P **P 16 26 26.6 +0.6**
comp=Z,3.5nm,0.8s
DUG Dugway 87.06 48 *e*P **P 16 26 26.7 +0.4**
DUG pmax pmax
comp=Z,9.0nm,0.9s
DUG Dugway 87.06 48 *e*P **P 16 26 26.7 +0.4**
comp=Z,9.1nm,0.9s
DUG Dugway 87.06 48 ⇓P **P 16 26 26.5 +0.1**
baz=87,SNR=10.0
E19A Rath Farm, Rou 87.06 41 ⇓P **P 16 26 26.4 +0.3**
baz=87
GMRC Granite Mounta 87.11 54 ⇑P **P 16 26 27.1 +0.5**
baz=87,SNR=5.2
BELC Belle Mtn. Jos 87.15 55 ⇑P **P 16 26 27.1 +0.2**
baz=87
D20A Manuel Ranch, 87.18 41 ⇓P **P 16 26 26.9 +0.2**
baz=87
F19A Roth Farm, Mol 87.23 42 ⇓P **P 16 26 27.5 +0.5**
baz=87
MONP Monument Peak 87.24 56 ⇑P **P 16 26 27.9 +0.4**
baz=87
HWUT Hardware Ranch 87.34 47 *e*P **P 16 26 27.6 -0.1**
comp=Z,11nm,1.1s
C21A Desert Coulee 87.47 40 ⇓P **P 16 26 28.5 +0.5**
baz=87,SNR=9.4
ARUT Antelope Range 87.58 51 *e*P **P 16 26 29.3 +0.4**
ARUT pmax pmax
comp=Z,341nm,1.1s
ARUT Antelope Range 87.58 51 *e*P **P 16 26 29.3 +0.4**
comp=Z,341nm,1.1s
A22A Carney Farms, 87.62 38 ⇓P **P 16 26 28.9 +0.1**
baz=88
BC3 Big Chuckawall 87.70 55 ⇓P **P 16 26 29.9 +0.5**
baz=88
SWSC Sam W. Stewart 87.71 56 ⇑P **P 16 26 29.9 +0.5**
baz=88
IRM Iron Mountain 87.74 54 ⇑P **P 16 26 30.1 +0.5**
baz=88
G20A Bridger 87.98 42 ⇑P **P 16 26 30.8 +0.2**
baz=88
M17A Scullys Gap (B 88.01 46 ⇑P **P 16 26 31.1 +0.1**
baz=88
MVU Marysvale 88.18 50 *e*P **P 16 26 32.5 +0.6**
comp=Z,3.1nm,0.8s
PDAR Pinedale Array 88.20 45 P **P 16 26 31.4 -0.5**
PDAR Pinedale Array 88.20 45 P **P 16 26 31.4 -0.5**
comp=Z,0.7nm,0.6s,baz=126,slow=1.4,SNR=5.6
PDAR LR LR 17 05 22.2
comp=Z,49nm,18.3s,baz=74,slow=35
J19A Crowheart 88.31 44 ⇑P **P 16 26 32.5 +0.2**
baz=88
W13A Hualapai Mount 88.33 53 ⇑P **P 16 26 32.9 +0.3**
baz=88
D22A Cohagen 88.34 40 ⇑P **P 16 26 32.7 +0.5**
baz=88
Y12C Blythe 88.38 55 ⇑P **P 16 26 33.2 +0.7**
baz=88
GLA Glamis 88.42 55 ⇑P **P 16 26 33.2 +0.4**
baz=88
PDMCI Parker Dam,Lak 88.45 54 ⇑P **P 16 26 33.5 +0.7**
baz=88
I20A Worland 88.61 43 ⇓P **P 16 26 34.1 +0.5**
baz=88
C23A Lambert 88.62 39 ⇓P **P 16 26 34.1 +0.6**
baz=88
K19A Absolon Red Bu 88.64 45 ⇓P **P 16 26 34.0 +0.1**
baz=88
Q16A Castle Valley 88.74 49 ⇓P **P 16 26 34.8 +0.4**
baz=89
A24A Westby 88.76 38 ⇑P **P 16 26 34.9 +0.8**
baz=89
E22A Miles City 88.82 40 ⇓P **P 16 26 34.7 +0.3**
baz=89
J20A Shoshoni 88.90 44 ⇓P **P 16 26 33.8 -1.2**
baz=89
D23A Lindsay 88.91 40 ⇓P **P 16 26 33.8 -1.1**
baz=89
U15A North Rim 88.97 51 ⇑P **P 16 26 36.5 +0.8**
baz=89,SNR=7.3
SRU San Rafael 89.12 48 *e*P **P 16 26 36.1 -0.1**
SRU pmax pmax
comp=Z,5.0nm,0.7s
SRU San Rafael 89.12 48 *e*P **P 16 26 36.1 -0.1**
comp=Z,5.4nm,0.7s
G22A Birney 89.18 42 ⇑P **P 16 26 36.5 +0.2**
baz=89
J21A Lysite 89.32 44 ⇓P **P 16 26 37.2 +0.2**
baz=89
113A Mohawk Valley, 89.35 55 ⇑P **P 16 26 37.8 +0.7**
baz=89
Y14A Wickenburg 89.46 54 ⇑P **P 16 26 38.5 +0.8**
baz=89
M20A Sweetwater, Wa 89.68 46 ⇑P **P 16 26 39.7 +0.9**
baz=90
K21A Alcova 89.78 44 ⇓P **P 16 26 39.3 +0.1**
baz=90
J22A Midwest 89.91 43 ⇑P **P 16 26 39.9 +0.2**
baz=90
N20A Spence Gulch, 89.92 46 ⇓P **P 16 26 40.0 0.0**
baz=90
P19A Cripple Cowboy 89.97 47 ⇑P **P 16 26 40.5 +0.3**
baz=90,SNR=10
L21A Rawlins 90.01 45 ⇓P **P 16 26 40.6 +0.3**
baz=90
WUAZ Wupatki 90.03 52 ⇑P **P 16 26 41.3 +0.8**
baz=90
M21A Separation Pea 90.17 45 ⇓P **P 16 26 40.6 -0.5**
baz=90
O20A White River Ci 90.25 47 ⇓P **P 16 26 41.8 +0.3**
baz=90
214A Organ Pipe Nat 90.41 56 ⇓P **P 16 26 43.1 +0.9**
baz=90
P20A De Beque 90.44 47 ⇑P **P 16 26 42.0 -0.3**
baz=90

N21A	Black Mountain	90.46	46	⇑P		P	16 26 42.6 +0.2
	baz=90						
F25A	Bowman	90.58	40	⇑P		P	16 26 43.4 +0.8
	baz=90						
L22A	Ellis Ranch, M	90.59	44	⇑P		P	16 26 43.6 +0.6
	baz=90						
O21A	Pagoda	90.74	46	⇓P		P	16 26 44.0 +0.1
	baz=91						
Q20A	Ridgley Place,	90.75	48	⇓P		P	16 26 44.4 +0.6
	baz=91						
K23A	Bowen Ranch, D	90.78	44	⇑P		P	16 26 43.8 0.0
	baz=91						
PV01	Paradox Valley	90.92	49	eP		P	16 26 44.6 0.0
	comp=Z,241nm,0.4s						
L23A	Garrett	91.03	44	⇓P		P	16 26 45.3 +0.2
	baz=91						
B28A	Dugan Ranch, T	91.07	37	⇑P		P	16 26 45.5 +0.6
	baz=91						
J24A	Dixon Ranch, L	91.12	43	⇓P		P	16 26 45.9 +0.6
	baz=91						
H25A	Fruitdale	91.15	41	⇑P		P	16 26 45.5 +0.1
	baz=91						
N22A	Wattenberg Ran	91.16	46	⇑P		P	16 26 46.4 +0.6
	baz=91						
G27A	Dupree	91.17	40	⇑P		P	16 26 48.4 +3.0
	baz=92						
S20A	Disappointment	91.21	49	⇓P		P	16 26 46.2 +0.2
	baz=91						
Q21A	Lamborn Mesa,	91.30	48	⇑P		P	16 26 47.0 +0.6
	baz=91						
M23A	Laramie	91.33	45	⇑P		P	16 26 46.8 +0.3
	baz=91						
I25A	Rochford	91.36	42	⇓P		P	16 26 46.7 +0.2
	baz=91						
O22A	Kremmling	91.39	46	⇓P		P	16 26 46.7 -0.2
	baz=91						
G26A	Maurine	91.42	40	⇓P		P	16 26 47.0 +0.4
	baz=91						
A29A	Manning Farm,	91.44	36	⇑P		P	16 26 46.9 +0.3
	baz=91						
C28A	Hausauer Farms	91.45	37	⇓P		P	16 26 46.6 0.0
	baz=91						
N23A	Red Feather La	91.45	45	⇓P		P	16 26 47.8 +0.6
	baz=91						
F27A	Lemmon	91.47	40	⇓P		P	16 26 47.4 +0.6
	baz=91						
X18A	Snowflake	91.51	52	⇑P		P	16 26 48.3 +0.9
	baz=91						
P22A	Eagle	91.51	47	⇓P		P	16 26 47.9 +0.6
	baz=91						
SMCO	Snowmass	91.56	47	eP		P	16 26 48.3 +0.5
	comp=Z,4.9nm,0.8s						
BRTR	Keskin Array B	91.63	314	P		P	16 26 47.3 -0.5
BRTR	Keskin Array B	91.63	314	P		P	16 26 47.3 -0.5
	comp=Z,0.5nm,0.7s,baz=76,slow=6.1,SNR=3.0						
S21A	Coal Bank Pass	91.68	49	⇓P		P	16 26 48.5 +0.2
	baz=92						
U20A	Newcomb	91.74	50	⇑P		P	16 26 48.4 -0.1
	baz=92						
Q22A	Crested Butte,	91.75	47	⇑P		P	16 26 48.8 +0.2
	baz=92						
MDND	Maddock	91.82	37	⇓P		P	16 26 48.7 +0.4
	baz=92						
I26A	New Underwood	91.90	41	⇓P		P	16 26 49.1 +0.2
	baz=92						
M24A	Cheyenne	91.92	44	⇑P		P	16 26 49.7 +0.5
	baz=92						
A30A	Hoffart Farm,	91.94	36	⇓P		P	16 26 49.3 +0.5
	baz=92						
K25A	Mack Ranch, Ha	91.98	43	⇑P		P	16 26 49.6 +0.2
	baz=92						
V20A	Brimhall	92.04	51	⇓P		P	16 26 50.3 +0.4
	baz=92						
H27A	Howes	92.08	41	⇑P		P	16 26 49.9 +0.3
	baz=92						
J26A	Sides Ranch, S	92.13	42	⇓P		P	16 26 50.4 +0.4
	baz=92						
ISCO	Idaho Springs	92.20	46	eP		P	16 26 51.3 +0.7
ISCO				pmax		pmax	
	comp=Z,6.0nm,1.2s						
ISCO	Idaho Springs	92.20	46	eP		P	16 26 51.3 +0.7
	comp=Z,6.0nm,1.2s						
ISCO	Idaho Springs	92.20	46	⇑P		P	16 26 51.0 +0.3
	baz=92						
B30A	Myrvik Farm, E	92.20	36	⇓P		P	16 26 50.9 +0.8
	baz=92						
P23A	Jefferson	92.25	47	⇑P		P	16 26 52.0 +1.0
	baz=92						
W20A	Ramah	92.32	51	⇓P		P	16 26 51.7 +0.5
	baz=92						
S22A	4UR Ranch, Cre	92.32	48	⇑P		P	16 26 52.0 +0.8
	baz=92						
U21A	Nageezi	92.34	50	⇑P		P	16 26 51.5 +0.2
	baz=92						
K26A	Motz Farm, Whi	92.37	43	⇑P		P	16 26 51.5 +0.4
	baz=92						
Q23A	Hartsel	92.47	47	⇑P		P	16 26 52.3 +0.3
	baz=92						
C30A	Mose, Pekin	92.54	37	⇑P		P	16 26 52.4 +0.8
	baz=92						
X20A	Quemado	92.58	52	⇑P		P	16 26 53.4 +1.1
	baz=92						
T22A	Edith	92.61	49	⇓P		P	16 26 53.1 +0.6
	baz=92						
V21A	Milan	92.64	50	⇑P		P	16 26 52.9 +0.3
	baz=92						
D30A	Buchanan	92.71	37	⇓P		P	16 26 52.9 +0.5
	baz=92						
Y20A	Horse Springs,	92.95	52	⇓P		P	16 26 55.2 +1.1
	baz=93						
E30A	Jud	92.96	38	⇓P		P	16 26 54.1 +0.4
	baz=93						
O25A	Wiggins	93.05	45	⇑P		P	16 26 55.0 +0.7
	baz=93						
V22A	San Miguel Ran	93.11	50	⇑P		P	16 26 55.3 +0.5
	baz=93						
Z20A	Nine Sixteen R	93.14	53	⇑P		P	16 26 56.4 +1.4
	baz=93						
X21A	Alamocita Cree	93.15	52	⇓P		P	16 26 56.3 +1.3
	baz=93						
P25A	Willow Gulch B	93.31	46	⇑P		P	16 26 56.4 +0.8
	baz=93						
120A	U Bar Ranch, L	93.36	54	⇑P		P	16 26 57.2 +1.2
	baz=93						
319A	Douglas	93.39	55	⇓P		P	16 26 57.0 +1.0
	baz=93						
O26A	Horse Wrangler	93.52	45	⇓P		P	16 26 57.5 +1.0
	baz=93						
220A	Playas Peak, P	93.73	54	⇑P		P	16 26 58.5 +0.9
	baz=94						
Z21A	St. Cloud Mine	93.75	53	⇑P		P	16 26 58.6 +0.9
	baz=94						
STHS	Stebnicka Huta	93.91	326	eP		P	16 26 57.6 -0.3
STHS	Stebnicka Huta	93.91	326	eP		P	16 26 57.6 -0.3
121A	Cookes Peak, D	94.01	53	⇓P		P	16 26 59.5 +0.6
	baz=94						
Z22A	Elephant Butte	94.30	52	⇓P		P	16 27 00.5 +0.3
	baz=94						
R26A	Arlington	94.40	47	⇑P		P	16 27 01.0 +0.5
	baz=94						
W24A	Lazy 6 Ranch,	94.53	50	⇓P		P	16 27 01.7 +0.4
	baz=94						
U25A	Circle Dot Ran	94.67	49	⇑P		P	16 27 02.2 +0.3
	baz=94						
S26A	Kim	94.72	47	⇑P		P	16 27 01.9 -0.2
	baz=95						
X24A	Lazy V/L Ranch,	94.81	51	⇑P		P	16 27 03.1 +0.4
	baz=95						
Z23A	Rita Site, Whi	94.84	52	⇑P		P	16 27 03.6 +0.9
	baz=95						
T26A	Comanche Natio	94.86	48	⇓P		P	16 27 02.8 0.0
	baz=95						
KECS	Kecovo	94.87	326	eP		P	16 27 00.8 -1.5
KECS	Kecovo	94.87	326	eP		P	16 27 00.8 -1.5
VYHS	Vyhne	95.72	327	eP		P	16 27 07.5 +1.3
VYHS	Vyhne	95.72	327	eP		P	16 27 07.5 +1.3
224A	Cornudas Mount	95.92	53	⇓P		P	16 27 08.6 +1.0
	baz=96						
426A	McDonald Obser	97.71	54	⇓P		Pdif	16 27 16.3 +0.4
	baz=98						
TXAR	Lajitas Array	98.63	55	P		Pdif	16 27 20.3 +0.4
TXAR	Lajitas Array	98.63	55	P		Pdif	16 27 20.3 +0.4
	comp=Z,0.3nm,0.9s,baz=316,slow=5.0,SNR=2.6						
627A	Terlingua Ranc	98.78	54	⇑Pdiff		P	16 27 20.3 -0.3
	baz=99						
528A	Cox Ranch, San	98.89	53	⇓Pdiff		P	16 27 21.0 -0.1
	baz=99						
628A	Black Gap, Mar	99.15	54	⇓Pdiff		Pdif	16 27 21.9 -0.2
	baz=99						
531A	Rocksprings	100.57	52	⇓Pdiff		Pdif	16 27 28.4 0.0
	baz=100						
VNA2	Neumayer--Watz	126.45	191	eP		PKPdf	16 32 43.1 +1.1
	baz=92,slow=1.3						
VNA3	Neumayer Olymp	126.59	190	eP		PKPdf	16 32 43.8 +1.5
TORD	Torodi Ar. Bea	129.96	308	PKP		PKPdf	16 32 50.5 +0.1
TORD	Torodi Ar. Bea	129.96	308	PKP		PKPdf	16 32 50.5 +0.1
	comp=Z,0.9nm,0.6s,baz=5.3,slow=1.9,SNR=5.7						
PLCA	Paso Flores	144.49	133	PKP		PKPbc	16 33 15.5 +0.3
PLCA	Paso Flores	144.49	133	PKP		PKPbc	16 33 15.5 +0.3
	comp=Z,5.4nm,1.1s,baz=260,slow=4.7,SNR=4.0						
LPAZ	La Paz	149.67	88	eP	PKPbc	PKPbc	16 33 31.9 +0.7
LPAZ	La Paz	149.67	88	PKPbc		PKPbc	16 33 32.6 +1.5
	comp=Z,2.3nm,0.7s,baz=332,slow=4.3,SNR=5.7						
SAML	Samuel	151.84	70	PKPbc		PKPbc	16 33 35.7 +0.2
SAML				eP	PKPab	PKPab	16 33 44.2 -0.8

*CSEM **09** 16:29:45.6±0.3, 33°.79N×35°.65E, h8km, ML1.3, Error ellipse: s-maj=6.2km s-min=3.5km az=88.0*
*NSSC **09** 16:29:45.2±0.9, 33°.79N×35°.66E, h0km±6km, MD1.6, ML1.3*
*ISCJB **09** 16:29:46.2±0.8, 33°.77N±0°.04×35°.68E±0°.06, h3km±8km, Error ellipse: s-maj=9.3km s-min=5.7km az=162.6*
*GRAL **09** 16:29:46.7±0.3, 33°.79N×35°.76E, h6km±5km, MD2.7*

ISC 09 16:29:46.5±1.1, 33°.78N±0°.03×35°.71E±0°.06, h9km±10km, n16, σ0s43/30, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHL	Bhannes	0.13	340	eP	Pg	16 29 49.6	+0.1
BHL				eS	Sg	16 29 51.6	0.0
BHL	Bhannes	0.13	340	eP	Pg	16 29 49.6	+0.1
BHL				eS	Sg	16 29 51.6	0.0
RCY	Rachaya	0.30	159	eP	Pg	16 29 52.2	-0.3
RCY				eS	Sg	16 29 56.2	-0.4
RCY	Rachaya	0.30	159	eP	Pg	16 29 52.2	-0.3
RCY				eS	Sg	16 29 56.2	-0.4
HWQ	Hawqa	0.54	22	eP	Pg	16 29 56.0	-0.9
HWQ	Hawqa	0.54	22	eP	Pg	16 29 56.0	-0.9
MARH	Ras Al Marh	0.69	69	eP	Pg	16 29 59.7	-0.1
MARH				eS	Sb	16 30 10.7	+0.1
MARH				AML	AML	16 30 12.9	
	comp=E,62nm,0.4s						
MARH				AML	AML	16 30 13.8	
	comp=N,33nm,0.4s						
MARH	Ras Al Marh	0.69	69	eP	Pg	16 29 59.7	-0.1
	SNR=92						
MARH				eS	Sb	16 30 10.7	+0.1
	comp=N,33nm,0.4s,SNR=59						
TOTH	TOTAH	0.73	125	eP	Pg	16 30 00.3	-0.3
TOTH				eS	Sb	16 30 11.5	-0.1
TOTH				AML	AML	16 30 15.8	
	comp=E,15nm,0.6s						
TOTH				AML	AML	16 30 20.6	
	comp=N,8.7nm,0.8s						
TOTH	TOTAH	0.73	125	eP	Pg	16 30 00.3	-0.3
	SNR=75						
TOTH				eS	Sb	16 30 11.5	-0.1
	comp=N,8.7nm,0.8s,SNR=59						
TCHB	Talchebab	1.13	169	eP	Pg	16 30 07.5	-0.7
TCHB				eS	Sb	16 30 23.5	+0.5
TCHB				AML	AML	16 30 34.6	
	comp=E,11nm,0.8s						
TCHB				AML	AML	16 30 40.5	
	comp=N,12nm,0.5s						
TCHB	Talchebab	1.13	169	eP	Pg	16 30 07.4	-0.7
	SNR=57						
TCHB				eS	Sb	16 30 23.5	+0.5
	comp=N,12nm,0.5s,SNR=49						
SALA	Sala	1.37	141	eP	Pn	16 30 12.0	0.0
SALA				eS	Sg	16 30 31.1	+0.5
SALA				AML	AML	16 30 36.1	
	comp=E,1.2nm,0.4s						
SALA				AML	AML	16 30 44.5	
	comp=N,8.3nm,0.4s						
SALA	Sala	1.37	141	eP	Pn	16 30 12.0	0.0
	SNR=57						
SALA				eS	Sg	16 30 31.0	+0.5
	comp=N,8.3nm,0.4s,SNR=49						
ZALF	Zalf	1.61	122	eP	Pn	16 30 15.4	+0.3
ZALF				eS	Sb	16 30 37.0	+0.2
ZALF				AML	AML	16 30 40.1	
	comp=N,6.9nm,0.4s						
ZALF				AML	AML	16 30 47.0	
	comp=E,3.1nm,0.5s						
ZALF	Zalf	1.61	122	eP	Pn	16 30 15.4	+0.3
	SNR=57						
ZALF				eS	Sb	16 30 37.0	+0.2
	comp=E,3.1nm,0.5s,SNR=49						

IDC 09 16:31:32.2±3.1, 6°.68S×155°.16E, h68km±28km, mb3.4/6, mb1 3.6/9, mb1mx3.4/19, mbtmp3.5/9, ML3.3/3, MS2.5/1, Ms1 2.5/1, ms1mx2.4/17, Error ellipse: s-maj=28.7km s-min=20.7km az=158.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	5.48	120	P	Pn	16 32 52.5	+1.2
	2.0nm,0.3s,baz=172,slow=8.8,SNR=1.4						
PMG	Port Moresby	8.37	251	P	Pn	16 33 30.2	-0.7
	1.0nm,0.3s,baz=39,slow=6.5,SNR=4.5						
PMG				S	Sn	16 35 04.6	+0.6
	0.6nm,0.3s,baz=109,slow=16,SNR=1.9						
PMG				LR	LR	16 36 30.9	
	comp=Z,29nm,18.2s,baz=109,slow=36						
CTA	Charters Tower	15.89	212	P	P	16 35 13.5	-0.8
	0.1nm,0.3s,baz=20,slow=12,SNR=4.1						
WRA	Warramunga Arr	24.13	235	P	P	16 36 41.4	-0.6
	0.5nm,0.5s,baz=58,slow=9.1,SNR=5.9						
WRA				PcP	PcP	16 40 22.6	+0.8
	0.4nm,0.6s,baz=59,slow=2.2,SNR=6.9						
ASAR	Alice Springs	26.50	228	P	P	16 37 02.4	-1.2
	0.3nm,0.6s,baz=59,slow=9.5,SNR=14						
ASAR				PcP	PcP	16 40 28.0	+0.9
	0.2nm,0.7s,baz=57,slow=3.4,SNR=3.8						
CMAR	Chiang Mai Arr	60.79	295	P	P	16 41 39.2	+1.5
	2.0nm,0.8s,baz=121,slow=5.2,SNR=9.5						
SONM	Songino Array	69.16	327	P	P	16 42 32.3	+0.7
	0.9nm,0.8s,baz=72,slow=4.7,SNR=3.2						
ILAR	Eielson Array	83.02	21	P	P	16 43 48.4	-1.5
	0.4nm,0.6s,baz=259,slow=3.6,SNR=3.3						
MKAR	Makanchi Array	83.27	319	P	P	16 43 50.6	-1.0
	0.3nm,0.8s,baz=90,slow=8.6,SNR=2.9						
TORD	Torodi Ar. Bea	153.10	286	PKPbc	PKPbc	16 51 22.3	-0.9
	0.3nm,0.6s,baz=67,slow=2.2,SNR=2.6						

*AUST **09** 16:40:19.0±24.0, 24°.10S×178°.80W, h554km, Error ellipse: s-maj=11.2km s-min=4.3km az=285.0*
*ISCJB **09** 16:40:24.9±1.1, 23°.99S±0°.10×179°.8E±0°.2, h526km, mb4.0/7, Error ellipse: s-maj=20.7km s-min=12.2km az=165.1*
*IDC **09** 16:40:24.4±2.5, 24°.16S×179°.85E, h505km±22km, mb3.5/7, mb1 3.6/8, mb1mx3.3/18, mbtmp3.4/8, Error ellipse: s-maj=33.0km s-min=24.0km az=170.0*

ISC 09 16:40:26.0±1.2, 24°.2S±0°.1×179°.8E±0°.2, h526km, n18, σ1s00/21, mb4.0/7, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	14.23	189	P	P	16 43 27.0	-0.6
	0.4nm,0.3s,baz=312,slow=15,SNR=3.4						
URZ				S	S	16 45 57.7	+0.3
	0.3nm,0.3s,baz=261,slow=20,SNR=4.4						
RMQ	Roma	28.15	259	P	P	16 45 37.6	+1.8
	baz=29,SNR=5.7						
CMSA	Cobar Meteorol	30.97	249	P	P	16 46 01.0	+0.8
	baz=32,SNR=7.8						
CTA	Charters Tower	31.32	271	P	P	16 46 03.9	+0.5
	11nm,0.4s,baz=96,slow=11,SNR=30						
MTSU	Mount Surprise	33.60	273	P	P	16 46 23.2	+0.5
	baz=35,SNR=10						
PMG	Port Moresby	34.44	290	P	P	16 46 29.3	-0.5
	11nm,0.7s,baz=76,slow=4.2,SNR=3.7						
STKA	Stephens Creek	34.48	248	P	P	16 46 29.7	-0.2
	0.7nm,0.3s,baz=88,slow=7.5,SNR=8.5						
ASAR	Alice Springs	41.84	261	P	P	16 47 29.7	-0.4
	3.5nm,0.7s,baz=98,slow=7.3,SNR=100						
ASAR				ScP	ScP	16 52 15.5	+1.5
	0.9nm,0.7s,baz=106,slow=4.1,SNR=8.5						
WRA	Warramunga Arr	42.23	266	P	P	16 47 32.2	-0.9
	7.5nm,0.6s,baz=103,slow=8.1,SNR=68						
WRA				ScP	ScP	16 52 17.4	+1.8
	0.6nm,0.6s,baz=98,slow=3.9,SNR=9.0						
KDU	Kakadu	46.16	276	P	P	16 48 02.3	-1.2
	baz=47,SNR=7.3						
MTN	Manton Dam	47.32	275	P	P	16 48 11.2	-1.1
	baz=48,SNR=6.0						
KNRA	Kununurra	48.53	270	P	P	16 48 21.0	-0.3
	baz=50,SNR=20						
FITZ	Fitzroy Crossi	50.65	266	P	P	16 48 35.9	-1.0
	baz=52,SNR=4.8						
SWI	Sorong	52.38	289	P	P	16 48 48.7	-0.8
	baz=54,SNR=3.1						
MORW	Morawa	56.64	250	P	P	16 49 18.9	-0.3
	baz=58,SNR=3.7						
CMAR	Chiang Mai Arr	89.47	290	P	P	16 52 28.5	+1.1
	0.6nm,0.8s,baz=160,slow=4.2,SNR=4.6						
TXAR	Lajitas Array	90.71	58	P	P	16 52 32.6	-0.4
	0.8nm,0.7s,baz=220,slow=7.5,SNR=7.0						
BRTR	Keskin Array B	147.62	307	PKPbc	PKPbc	16 59 12.2	+0.7
	0.9nm,0.7s,baz=352,slow=2.9,SNR=4.4						

MEX 09 16:45:52.5±0.6, 15°.57N×93°.41W, h98km±6km, MD3.5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		0.23	53	eP	Pn	16 46 05.3	-1.3
PCIG				i S	Sn	16 46 15.2	-1.9
TGIG		1.24	13	i P	Pn	16 46 13.5	-2.1
TGIG				i S	Sn	16 46 31.5	-1.5
CCIG	Comitan	1.42	60	i P	Pn	16 46 16.8	-1.1
CCIG				i S	Sn	16 46 35.0	-2.1

*ISCJB **09** 17:14:35.7±0.6, 26°.40S±0°.03×27°.47E±0°.03, h9km±4km, mb3.7/2, Error ellipse: s-maj=5.2km s-min=3.6km az=140.3*
*PRE **09** 17:14:35.4±3.0, 26°.42S×27°.47E, h2km, ML3.7*
*IDC **09** 17:14:35.9±1.8, 26°.43S×27°.36E, h0km, mb3.6/2, mb1 3.6/3, mb1mx3.4/24, mbtmp3.6/3, ML3.7/1, Error ellipse: s-maj=51.8km s-min=16.1km az=122.0*

ISC 09 17:14:35.1±0.9, 26°.39S±0°.03×27°.41E±0°.03, h11km±7km, n29, σ1s86/46, 4C-4D, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLOF	Kloof	0.18	79	⇑iP	Pg	17 14 39.2	0.0
KLOF				eS	Sg	17 14 40.7	-1.3
KLOF				AML	AML	17 14 41.4	
	comp=Z,8μm,0.2s						
PRYS	Parys	0.54	185	eP	Pb	17 14 46.5	-0.2
PRYS				eS	Sb	17 14 53.6	-1.0
PRYS				AML	AML	17 14 58.6	
	comp=Z,422nm,0.5s						
KSR	Koster	0.70	319	⇓iP	Pn	17 14 50.6	-0.5
KSR				eS	Sg	17 14 59.0	+1.0
KSR				AML	AML	17 15 01.0	
	comp=Z,866nm,0.6s						
BFSD	Buffelsfontein	0.73	229	⇓iP	Pn	17 14 51.3	-0.3
BFSD				eS	Sb	17 15 00.8	+0.7
BFSD				AML	AML	17 15 07.5	
	comp=Z,462nm,0.2s						
ERPM	east rand prop	0.75	87	⇑iP	Pg	17 14 49.5	0.0
ERPM				eS	Sg	17 14 57.2	-2.2
ERPM				AML	AML	17 14 58.4	
	comp=Z,369nm,0.5s						
MOAB	Moab Khotsong	0.81	222	eP	Pg	17 14 50.5	-0.2
MOAB				eS	Sg	17 15 00.1	-1.3
TLEK	Tau Lekoa	0.88	229	⇑iP	Pn	17 14 54.0	+0.6
TLEK				eS	Sb	17 15 04.9	+0.7
SLR	Silverton	1.02	51	⇓iP	Pb	17 14 54.6	-0.2
SLR				eS	Sg	17 15 07.1	-0.8
SLR				AML	AML	17 15 12.8	
	comp=Z,351nm,0.2s						
SEK	Senekal	1.94	174	eP	Pb	17 15 10.9	+0.3
SEK				eS	Sb	17 15 35.3	+0.5
SEK				AML	AML	17 15 36.6	
	comp=Z,509nm,0.3s						
SWZ	Schweizer	2.02	246	eP	Pb	17 15 12.0	+0.1
SWZ				eS	Sg	17 15 39.7	-0.3
SWZ				AML	AML	17 15 41.2	
	comp=Z,584nm,0.6s						
LBTB	Lobatse	2.13	309	⇓iP	Pb	17 15 14.7	+0.9
LBTB				eS	Sb	17 15 41.0	+0.8
LBTB				AML	AML	17 15 46.1	
	comp=Z,408nm,0.5s						
BOSA	Boshof	2.93	220	⇑iP	Pn	17 15 24.0	+2.3
BOSA				eS	Sn	17 15 58.2	+1.3
BOSA				AML	AML	17 16 11.4	
	comp=Z,68nm,0.7s						
BOSA	Boshof	2.93	220	Pn	Pn	17 15 24.0	+2.3
	comp=Z,6.7nm,0.3s,baz=43,slow=13,SNR=117						
BOSA				Pg	Pg	17 15 29.8	-1.4
	comp=Z,9.7nm,0.3s,baz=46,slow=17,SNR=25						
BOSA				Sn	Sn	17 15 58.5	+1.6
	comp=Z,10nm,0.3s,baz=60,slow=7.4,SNR=4.5						
BOSA				Lg	Lg	17 16 05.7	
	comp=Z,20nm,0.3s,baz=138,slow=22,SNR=19						
BOSA				Rg	Rg	17 16 22.4	
	comp=Z,30nm,0.3s,baz=278,slow=18,SNR=4.0						
POGA	Pongola	3.88	106	eP	Pn	17 15 37.0	+2.4
POGA				eS	Sn	17 16 21.8	+1.6
POGA				AML	AML	17 16 38.4	
	comp=Z,132nm,0.5s						
HVD	Gariep Dam	4.53	201	eP	Pn	17 15 45.7	+2.0
HVD				eS	Sn	17 16 35.8	-0.7
HVD				AML	AML	17 17 06.8	
	comp=Z,36nm,0.7s						
MSNA	Messina	4.67	31	eP	Pn	17 15 49.1	+3.4
MSNA				eS	Sn	17 16 38.2	-1.7
MSNA				AML	AML	17 17 00.7	
	comp=Z,40nm,0.3s						
BLWY	Bulawayo	6.31	10	i S	Sn	17 17 17.4	-3.0
SOE	Somerset East	6.51	194	eS	Sn	17 17 23.7	-1.4
SOE				AML	AML	17 18 01.7	
	comp=Z,34nm,0.6s						
GRM	Grahamstown	6.95	186	eS	Sn	17 17 34.4	-1.6
GRM				AML	AML	17 18 18.2	
	comp=Z,25nm,0.6s						
BUFB	Buffelsbos	8.08	196	eS	Sn	17 17 59.5	-4.1
BUFB				AML	AML	17 18 49.3	
	comp=Z,19nm,0.7s						
SUR	Sutherland	8.29	222	eP	Pn	17 16 38.5	+3.1
SUR				eS	Sn	17 18 07.1	-2.2
SUR				AML	AML	17 19 00.5	
	comp=Z,16nm,0.8s						
CVNA	Calvinia	8.41	231	eS	Sn	17 18 09.5	-2.5
CVNA				AML	AML	17 19 05.9	
	comp=Z,35nm,0.4s						
CER	Ceres	9.89	223	eS	Sn	17 18 45.5	-2.8
CER				AML	AML	17 19 50.7	
	comp=Z,18nm,0.6s						
WIN	Windhoek	10.13	290	eS	Sn	17 18 51.9	-2.5
WIN				AML	AML	17 20 05.1	
	comp=Z,4.1nm,0.6s						
ELIM	Elim	10.52	217	eS	Sn	17 19 00.5	-3.2
ELIM				AML	AML	17 20 11.0	
	comp=Z,17nm,0.5s						
RUDU	RUNDU	11.04	318	eS	Sn	17 19 16.8	+0.1
RUDU				AML	AML	17 20 34.2	
	comp=Z,11nm,0.6s						
LSZ	Lusaka	11.08	4	eP	Pn	17 17 14.1	+0.5

GTOI	Gorontalo	0.53	264	P	Pn	17 47 21.7 -0.5
GTOI				S	S	17 47 47.7 -1.7
MRSI	Marisa	1.61	262	P	Pn	17 47 28.4 +0.3
MRSI				S	S	17 47 58.3 -1.7
LUWI	Luwuk	1.89	204	P	Pn	17 47 29.8 -0.5
LUWI				S	S	17 48 01.0 -3.1
APSI	Ampana	2.47	230	P	Pn	17 47 36.5 +0.9
APSI				S	S	17 48 12.4 -1.2
TOLI	Toli-Toli	2.78	279	P	Pn	17 47 38.7 +0.1
FITZ	Fitzroy Crossi	18.79	174	P	P	17 50 48.5 +0.6
	0.1nm,0.3s,baz=358,slow=16,SNR=6.9					
WRA	Warramunga Arr	23.08	153	P	P	17 51 29.3 -1.1
	3.3nm,0.8s,baz=335,slow=9.8,SNR=31					
ASAR	Alice Springs	26.23	158	P	P	17 51 59.3 +0.5
	0.2nm,0.4s,baz=342,slow=7.9,SNR=10					
ASAR				PcP	PcP	17 55 18.9 +0.7
	0.2nm,0.3s,baz=354,slow=2.4,SNR=4.6					
ASAR				ScP	ScP	17 58 34.5 +1.7
	0.2nm,0.9s,baz=317,slow=2.3,SNR=4.9					
CMAR	Chiang Mai Arr	29.91	308	P	P	17 52 33.1 +1.7
	0.3nm,0.8s,baz=148,slow=9.1,SNR=4.4					
STKA	Stephens Creek	36.63	154	P	P	17 53 30.1 +1.0
	1.3nm,0.6s,baz=358,slow=7.8,SNR=4.2					
USRK	Ussuriysk Arra	43.97	9	P	P	17 54 28.0 -0.9
	1.1nm,0.5s,baz=210,slow=2.5,SNR=3.5					
SONM	Songino Array	49.26	345	P	P	17 55 10.3 +0.4
	0.9nm,0.6s,baz=155,slow=8.9,SNR=4.2					
MKAR	Makanchi Array	58.31	328	P	P	17 56 14.6 -0.6
	1.2nm,0.4s,baz=120,slow=8.3,SNR=27					
MKAR				PcP	PcP	17 57 02.5 -0.6
	0.4nm,0.4s,baz=164,slow=2.9,SNR=7.6					
ZALV	Zalesovo Beam	61.91	335	P	P	17 56 38.1 -1.2
	0.7nm,0.4s,baz=111,slow=7.9,SNR=4.0					

IDC 09 17:57:49.8±3.7, 30°.23S×177°.63W, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.5/15, mbtmp3.4/2, Error ellipse: s-maj=77.3km s-min=31.3km az=111.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.01	345	Pn	Pn	17 58 11.2	0.0
	78nm,0.3s,baz=56,slow=18,SNR=8.5						
RAO				Sn	Sg	17 58 21.4	-0.9
	240nm,0.3s,baz=24,slow=22,SNR=14						
URZ	Urewera	9.12	207	Sn	Sn	18 01 44.6	-1.3
	0.4nm,0.3s,baz=335,slow=20,SNR=1.7						
ASAR	Alice Springs	43.44	267	P	P	18 05 54.4	-0.4
	0.2nm,0.6s,baz=107,slow=7.4,SNR=5.9						
WRA	Warramunga Arr	44.41	272	P	P	18 06 02.7	+0.1
	0.3nm,0.3s,baz=110,slow=8.2,SNR=13						
FINES	FINESS Array B	145.10	340	PKPbc	PKPbc	18 17 27.1	-0.9
	2.5nm,0.8s,baz=46,slow=4.0,SNR=5.0						

*ISCJB **09** 18:23:10.9±0.6, 73°.23N±0°.05×6°.5E±0°.2, h12km, mb3.6/8, MS3.3/9, Error ellipse: s-maj=10.2km s-min=6.9km az=172.7*
*IDC **09** 18:23:11.6±0.9, 73°.23N×6°.29E, h0km, mb3.7/8, mb1 3.9/15, mb1mx3.8/32, mbtmp3.8/15, ML3.6/7, MS3.3/15, Ms1 3.3/15, ms1mx3.2/41, Error ellipse: s-maj=18.6km s-min=14.2km az=92.0*
*NAO **09** 18:23:12.1±2.2, 73°.21N×6°.82E, ML3.4*
*CSEM **09** 18:23:12.1±0.3, 73°.24N×6°.30E, h10km, ML2.9, Error ellipse: s-maj=11.4km s-min=4.0km az=85.0*
*BER **09** 18:23:15.1, 73°.25N×6°.85E, h10km, MD2.9, ML2.9, ML3.4(NAO)*

ISC 09 18:23:13.4±0.8, 73°.32N±0°.06×7°.14E±0°.09, h12km, n53, σ1§62/50, mb3.7/8, MS3.3/9, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMIC	Jan Mayen	5.34	252	Pn	Pn	18 24 28.5	-4.3
	3.7nm,0.3s,baz=101,slow=5.2,SNR=2.5						
JMIC				LR	LR	18 25 56.1	
	comp=Z,92nm,22.0s,baz=76,slow=32						
SPA0	Spitsbergen Ar	5.38	21	Pn	Pn	18 24 35.1	+1.7
	baz=206,slow=16						
SPA0	Spitsbergen Ar	5.38	21	Pn	Pn	18 24 35.1	+1.7
	baz=206,slow=16						
SPA0	Spitsbergen Ar	5.38	21	Pn	Pn	18 24 35.1	+1.7
	baz=206,slow=15,SNR=50						
SPITS	Spitsbergen Ar	5.38	21	Pn	Pn	18 24 35.3	+1.9
	baz=206,slow=17,SNR=39						
LOF	Lofoten	5.62	155	eP	Pn	18 24 36.6	0.0
LOF				eS	Sn	18 25 33.8	-7.3
LOF				AML	AML	18 25 40.0	
	comp=Z,34nm,0.6s						
LOF	Lofoten	5.62	155	eP	Pn	18 24 36.6	0.0
	SNR=49						
KBS	Kingsbay	5.75	9	Pn	Pn	18 24 38.8	+0.3
KBS				Sn	Sn	18 25 41.2	-3.0
KBS	Kingsbay	5.75	9	Pn	Pn	18 24 38.8	+0.3
KBS				Sn	Sn	18 25 41.2	-3.0
KBS	Kingsbay	5.75	9	Pn	Pn	18 24 38.8	+0.3
	SNR=50						
STEI	Steigen	6.04	150	eP	Pn	18 24 42.3	-0.1
STEI				AML	AML	18 25 49.0	
	comp=Z,14nm,0.5s						
KTK1	Kautokeino	6.75	122	eP	Pn	18 24 53.9	+1.8
KTK1	Kautokeino	6.75	122	eP	Pn	18 24 53.9	+1.8
	SNR=47						
ARA0	ARCESS Array S	6.96	114	Pn	Pn	18 24 56.8	+1.7
	baz=305,slow=12						
ARA0				Sn	Sn	18 26 11.2	-2.8
	baz=306,slow=22						
ARA0	ARCESS Array S	6.96	114	Pn	Pn	18 24 56.8	+1.7
	baz=305,slow=12						
ARA0				Sn	Sn	18 26 11.2	-2.8
	baz=306,slow=22						
ARA0	ARCESS Array S	6.96	114	Pn	Pn	18 24 56.8	+1.7
	baz=305,slow=11,SNR=50						
ARCES	ARCESS Array B	6.96	114	Pn	Pn	18 24 56.9	+1.8
	comp=Z,1.7nm,0.3s,baz=324,slow=12,SNR=34						
ARCES				Sn	Sn	18 26 09.6	-4.4
	comp=Z,0.7nm,0.3s,baz=304,slow=17,SNR=1.9						
ARCES				LR	LR	18 27 42.8	
	comp=Z,247nm,21.6s,baz=87,slow=38						
KONS	Konsvik	7.15	160	eP	Pn	18 24 57.2	-0.4
KONS				eS	Sn	18 26 08.5	-10
KONS				AML	AML	18 26 15.5	
	comp=Z,26nm,0.5s						
STOK	Stokkvaagen	7.30	161	eP	Pn	18 24 59.9	+0.3
STOK				eS	Sn	18 26 12.6	-10
STOK				AML	AML	18 26 18.2	
	comp=N,14nm,0.2s						
FLOS	Flostrand	7.33	160	eP	Pn	18 25 00.9	+0.9
FLOS				eS	Sn	18 26 14.0	-9.1
FLOS				AML	AML	18 26 20.0	
	comp=Z,22nm,0.8s						
MOR8	Moi Rana	7.61	157	eP	Pn	18 25 03.7	-0.2
MOR8				eS	Sn	18 26 20.3	-10
MOR8				AML	AML	18 26 24.9	
	comp=Z,26nm,0.4s						
MOR8	Moi Rana	7.61	157	eP	Pn	18 25 03.7	-0.2
	SNR=47						
NB2	NORSAR Subarra	12.43	171	Pn	Pn	18 26 09.2	-0.7
	baz=351,slow=14						
NB2	NORSAR Subarra	12.43	171	Pn	Pn	18 26 09.2	-0.7
	baz=351,slow=14						
NB2	NORSAR Subarra	12.43	171	Pn	Pn	18 26 09.2	-0.7
	baz=351,slow=13,SNR=50						
NOA	NORSAR Array B	12.43	171	Pn	Pn	18 26 08.4	-1.5
	comp=Z,0.4nm,0.3s,baz=348,slow=13,SNR=4.8						
NOA				Sn	Sn	18 28 14.8	-13
	comp=Z,0.3nm,0.3s,baz=346,slow=20,SNR=3.4						
NOA				LR	LR	18 30 59.9	
	comp=Z,134nm,18.6s,baz=350,slow=38						
KAF	Kangasniemi	13.29	138	ep	Pn	18 26 21.9	+0.4
HFS	Hagfors	13.48	166	Pn	Pn	18 26 22.4	-1.7
	baz=350,slow=12						
HFS	Hagfors	13.48	166	Pn	Pn	18 26 22.4	-1.7
	baz=350,slow=12						
HFS	Hagfors	13.48	166	Pn	Pn	18 26 23.2	-1.0
	comp=Z,0.4nm,0.3s,baz=355,slow=13,SNR=12						
HFS				Sn	Sn	18 28 39.4	-14
	comp=Z,0.2nm,0.3s,baz=181,slow=38,SNR=1.9						
HFS				LR	LR	18 30 50.6	
	comp=Z,254nm,21.8s,baz=347,slow=34						
HFS	Hagfors	13.48	166	Pn	Pn	18 26 22.4	-1.7
	baz=350,slow=12,SNR=50						
JOF	Joensuu	13.63	127	ep	Pn	18 26 24.7	-1.5
FIA0	FINESS Array S	13.86	139	Pn	Pn	18 26 28.9	-0.4
	baz=337,slow=11						
FIA0	FINESS Array S	13.86	139	Pn	Pn	18 26 28.9	-0.4
	baz=337,slow=11,SNR=50						
FINES	FINESS Array B	13.86	139	Pn	Pn	18 26 28.7	-0.6
	comp=Z,0.3nm,0.3s,baz=332,slow=11,SNR=12						
FINES				LR	LR	18 31 30.1	
	comp=Z,167nm,20.1s,baz=196,slow=36						
EKA	Eskdalemuir Ar	18.54	199	P	P	18 27 27.9	-1.6
	baz=74,slow=28,SNR=3.2						
SFJD	Kangerlussuaq	19.80	281	LR	LR	18 33 57.9	
	comp=Z,92nm,20.0s,baz=216,slow=33						
VRAC	Vranov	24.45	165	P	P	18 28 32.7	+1.0
	comp=Z,4.3nm,0.6s,baz=341,slow=8.4,SNR=5.8						
VRAC				LR	LR	18 38 19.0	
	comp=Z,88nm,20.0s,baz=348,slow=37						
AKASG	Malin Array Be	24.62	145	P	P	18 28 33.7	+0.6
	comp=Z,1.1nm,0.6s,baz=342,slow=9.2,SNR=2.8						
GERES	GERESS Array B	24.73	170	P	P	18 28 35.8	+1.4
	comp=Z,1.8nm,0.8s,baz=0.8,slow=9.3,SNR=12						
GERES				LR	LR	18 38 21.3	
	comp=Z,98nm,19.5s,baz=336,slow=37						
RES	Resolute Bay	24.91	322	LR	LR	18 38 06.6	
	comp=Z,57nm,21.0s,baz=265,slow=36						
DAVOX	Davos/Dischmat	26.65	176	LR	LR	18 38 28.8	
	comp=Z,86nm,20.5s,baz=79,slow=34						
MLR	Muntele Rosu	29.21	152	LR	LR	18 41 15.0	
	comp=Z,46nm,18.2s,baz=309,slow=37						
KBZ	Khabaz	33.97	131	LR	LR	18 44 03.1	
	comp=Z,94nm,18.6s,baz=34,slow=37						
SCHQ	Schefferville	34.21	278	LR	LR	18 42 13.1	
	comp=Z,83nm,18.2s,baz=135,slow=34						
ZALV	Zalesovo Beam	36.04	79	P	P	18 30 17.2	+3.2
	comp=Z,0.5nm,0.5s,baz=310,slow=11,SNR=2.6						
KEST	Kesra	37.68	177	LR	LR	18 46 34.0	
	comp=Z,29nm,18.5s,baz=214,slow=37						
ILAR	Eielson Array	41.09	343	P	P	18 30 55.1	-1.2
	comp=Z,0.6nm,0.9s,baz=352,slow=5.7,SNR=4.8						
MKAR	Makanchi Array	41.71	86	P	P	18 31 02.9	+1.3
	comp=Z,1.0nm,1.1s,baz=349,slow=12,SNR=3.3						
MKAR				LR	LR	18 51 15.7	
	comp=Z,46nm,19.1s,baz=355,slow=40						
TORD	Torodi Ar. Bea	60.23	186	P	P	18 33 20.7	-0.4
	comp=Z,2.2nm,0.9s,baz=357,slow=7.2,SNR=14						
CMAR	Chiang Mai Arr	72.98	83	P	P	18 34 43.4	+0.8
	comp=Z,0.4nm,0.9s,baz=322,slow=12,SNR=4.4						
ASAR	Alice Springs	122.73	61	PKP	PKPdf	18 42 08.4	0.0
	comp=Z,0.6nm,0.7s,baz=346,slow=1.9,SNR=13						

NEIC 09 18:45:52.1, 36°.90N×121°.63W, h5km, MW3.5(BRK), 8C-5D, After NCEDC., Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAO	San Andreas Ge	0.20	133	eP	Pg	18 45 55.9	-0.2
SAC	San Andreas	0.92	318	eP	Pg	18 46 08.9	-1.0
CMB	Columbia Colle	1.50	41	eP	Pn	18 46 18.0	-1.8
MCCM	Marconi Confer	1.59	322	ePn	Pn	18 46 18.1	-2.7
SMMC	Simmler	2.07	140	⇑S	Sn	18 46 46.7	-7.0
	baz=2.1						
VES	Vestal, Richgr	2.31	116	⇑P	Pn	18 46 29.3	-1.5
	baz=2.3,SNR=9.3						
MLAC	Mammoth Lakes	2.35	71	⇑P	Pb	18 46 33.4	-1.8
	baz=2.3,SNR=15						
MLAC				⇑S	Sb	18 47 03.0	-1.7
	baz=2.3						
WAKR	Walker	2.36	47	ePn	Pn	18 46 32.5	+0.7
HOPS	Hopland	2.38	332	ePn	Pn	18 46 29.5	-2.2
PKM	Peak Mountain	2.48	143	⇓P	Pn	18 46 31.3	-2.1
	baz=2.5						
TIN	Tinemaha	2.73	86	⇓P	Pn	18 46 37.8	+1.1
	baz=2.7						
TIN				⇑S	Sn	18 47 11.7	+1.4
	baz=2.7						
ISA	Isabella	2.83	115	ePn	Pn	18 46 36.9	-1.2
ISA	Isabella	2.83	115	⇓P	Pn	18 46 37.1	-1.0
	baz=2.8,SNR=42						
BEKR	Beckworth	3.12	18	ePn	Pn	18 46 42.5	+0.2
NV11	Mina Array Sit	3.15	60	ePn	Pn	18 46 42.0	-0.6
KCPM	Cahto Peak	3.17	332	ePn	Pn	18 46 42.9	0.0
PAHR	Pah Rah Range	3.31	32	ePn	Pn	18 46 46.2	+1.4
MPMC	Manual Prospec	3.44	103	⇑P	Pn	18 46 46.1	-0.6
	baz=3.4,SNR=11						
MWC	Mount Wilson	3.95	131	ePn	Pn	18 46 52.5	-1.1
GSC	Goldstone	4.22	111	ePn	Pn	18 46 56.2	-1.1
GSC	Goldstone	4.22	111	⇑P	Pn	18 46 56.3	-0.9
	baz=4.2						
KHMM	Horse Mountain	4.29	338	ePn	Pn	18 46 57.3	-1.0
SHOC	Shoshone	4.43	101	⇑P	Pn	18 46 59.6	-0.4
	baz=4.4						
HEC	Hector,Ludlow	4.78	114	⇓P	Pn	18 47 03.3	-1.5
	baz=4.8						
KRMB	Red Mountain	4.94	340	ePn	Pn	18 47 08.0	+0.9
R11A	Troy Canyon, C	5.01	71	ePg	Pg	18 47 25.4	-3.0
MOD	Modoc	5.10	11	ePn	Pn	18 47 09.2	-0.2
	26nm,0.6s						
GMRC	Granite Mounta	5.29	112	⇓P	Pn	18 47 10.3	-1.7
	baz=5.3,SNR=6.3						

*IDC **09** 18:52:12.3±14.0, 6°.22S×130°.27E, h106km±138km, mb3.1/2, mb1 3.2/5, mb1mx3.0/18, mbtmp3.0/5, ML3.3/3, Error ellipse: s-maj=159.4km s-min=32.2km az=55.0*
*AUST **09** 18:52:12.8, 5°.97S×131°.03E, h300km*
*ISCJB **09** 18:52:14.8±0.8, 6°.37S±0°.05×130°.20E±0°.09, h146km, mb3.3/2, Error ellipse: s-maj=12.5km s-min=5.8km az=13.4*

ISC 09 18:52:15.8±1.0, 6°.39S±0°.06×130°.2E±0°.1, h146km, n11, σ1§93/16, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLE	Tual	2.62	74	P	Pn	18 53 00.8	+2.5
	baz=1.7,SNR=10						
TLE				S	Sn	18 53 30.4	-0.7
	baz=1.7,SNR=3.8						
FAKI	Fak Fak	4.00	31	P	Pn	18 53 15.7	-0.4
	baz=3.3,SNR=5.2						
FAKI				S	Sn	18 53 55.9	-7.0
	baz=3.3,SNR=5.0						
SWI	Sorong	5.59	11	P	Pn	18 53 35.7	-1.4
	baz=5.1,SNR=6.4						
SWI				S	Sn	18 54 33.5	-7.1
	baz=5.1,SNR=7.6						
MTN	Manton Dam	6.48	172	P	Pn	18 53 51.2	+2.3
	baz=6.9,SNR=7.0						
MTN				S	Sn	18 55 01.8	0.0
	baz=6.9,SNR=8.8						
KDU	Kakadu	6.64	161	P	Pn	18 53 52.4	+1.3
	baz=6.9,SNR=24						
KDU				S	Sn	18 55 03.5	-2.3
	baz=6.9,SNR=15						
KNRA	Kununurra	9.34	189	P	Pn	18 54 28.5	+1.4
	baz=10.0,SNR=7.0						
KNRA				S	Sn	18 56 09.9	-0.8
	baz=10.0,SNR=5.4						
FITZ	Fitzroy Crossi	12.46	201	P	Pn	18 55 08.1	-0.2
	0.1nm,0.3s,baz=13,slow=16,SNR=6.3						
FITZ				S	Sn	18 57 19.4	-6.7
	0.1nm,0.3s,baz=21,slow=23,SNR=1.6						
WRA	Warramunga Arr	14.06	164	P	Pn	18 55 28.2	-0.5
	0.2nm,0.3s,baz=348,slow=11,SNR=17						
WRA				S	Sn	18 57 56.3	-8.1
	0.3nm,0.3s,baz=0.7,slow=21,SNR=9.6						
ASAR	Alice Springs	17.54	169	P	Pn	18 56 12.6	+1.1
	0.1nm,0.3s,baz=347,slow=10,SNR=16						
ASAR				S	S	18 59 21.0	-4.6
	0.1nm,0.3s,baz=348,slow=26,SNR=1.7						
STKA	Stephens Creek	27.50	159	P	P	18 57 49.9	+1.2
	0.6nm,0.8s,baz=330,slow=8.1,SNR=3.1						
MKAR	Makanchi Array	67.83	327	P	P	19 02 58.5	+0.3
	0.2nm,0.4s,baz=110,slow=8.2,SNR=5.2						

WEL 09 18:57:00.6±0.3, 46°.26S×165°.81E, h46km±5km, ML3.9/13, 1D, Error ellipse: s-maj=4.0km s-min=1.9km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	Deep Cove	1.22	51	PN	Pn	18 57 20.9	-0.4
DCZ				SN	Sn	18 57 35.4	-1.2
DCZ				AML	AML	18 57 44.4	
DCZ				AML	AML	18 57 58.0	
DCZ				AML	AML	18 57 58.0	
WHZ	Wether Hill Ro	1.53	77	⇓PN	Pn	18 57 26.4	+0.9
WHZ				SN	Sn	18 57 43.7	-0.6
WHZ				AML	AML	18 57 50.0	
APZ	The Paps	1.61	112	PN	Pn	18 57 26.4	-0.2
APZ				SN	Sn	18 57 44.7	-1.6
MLZ	Mavora Lakes	1.89	62	PN	Pn	18 57 32.1	+1.7
MLZ				AML	AML	18 58 00.8	
MLZ				AML	AML	18 58 03.8	
MSZ	Milford Sound	2.18	44	PN	Pn	18 57 36.6	+2.2
MSZ				AML	AML	18 58 19.2	
MSZ				AML	AML	18 58 20.0	
SYZ	Scrubby Hill	2.32	98	PN	Pn	18 57 36.8	+0.5
EAZ	Earnscleugh	2.66	69	PN	Pn	18 57 43.1	+2.2
EAZ				AML	AML	18 58 19.1	
EAZ				AML	AML	18 58 32.3	
WKZ	Wanaka	2.67	59	PN	Pn	18 57 44.0	+2.8
WKZ				AML	AML	18 58 27.1	
WKZ				AML	AML	18 58 31.4	
TUZ	Tuapeka	2.68	85	PN	Pn	18 57 42.3	+1.1
TUZ				SN	Sn	18 58 12.6	+0.3
TUZ				AML	AML	18 58 41.8	
ODZ	Otahua Downs	3.60	72	PN	Pn	18 57 53.9	+0.1
LBZ	Lake Benmore	3.61	60	PN	Pn	18 57 54.7	+0.7
LBZ				AML	AML	18 58 42.3	
LBZ				AML	AML	18 59 05.6	
FOZ	Fox Glacier	3.85	47	PN	Pn	18 58 00.7	+3.4

IDC 09 19:07:24.2±16.0, 22°.01S×173°.40W, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.8/18, mbtmp3.9/5, MS3.1/1, Ms1 3.1/1, ms1mx2.6/40, Error ellipse: s-maj=315.6km s-min=145.0km az=82.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	8.28	209	LR	LR	19 11 39.4	
	comp=Z,118nm,20.6s,baz=114,slow=31						
CTA	Charters Tower	37.63	265	P	P	19 14 42.2	+1.1
	1.8nm,0.5s,baz=85,slow=13,SNR=3.8						
STKA	Stephens Creek	41.06	246	P	P	19 15 08.2	-1.5
	0.5nm,0.3s,baz=117,slow=11,SNR=4.9						
ASAR	Alice Springs	48.37	257	P	P	19 16 08.0	-0.2
	0.3nm,0.3s,baz=95,slow=6.8,SNR=27						
WRA	Warramunga Arr	48.65	262	P	P	19 16 10.1	-0.3
	0.9nm,0.3s,baz=98,slow=8.5,SNR=50						
FITZ	Fitzroy Crossi	57.08	262	P	P	19 17 12.9	+0.2
	1.5nm,0.8s,baz=90,slow=7.1,SNR=6.0						

IDC 09 19:12:56.8±2.2, 49°.20N×153°.45E, h172km±22km, mb3.0/5, mb1 3.3/8, mb1mx3.1/26, mbtmp3.1/8, Error ellipse: s-maj=32.3km s-min=14.4km az=146.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	Petropavlovsk-	4.74	33	P	Pn	19 14 05.8	-1.3
	0.7nm,0.3s,baz=209,slow=15,SNR=5.2						
PETK				S	Sn	19 15 16.6	+14
	0.1nm,0.3s,baz=65,slow=22,SNR=1.2						
ASAJ	Asahikawa	9.03	240	P	Pn	19 15 04.6	+1.0
	0.7nm,0.3s,baz=67,slow=13,SNR=8.2						
FX1	Attu Island--F	12.93	66	P	Pn	19 15 55.0	+0.9
	0.7nm,0.3s,baz=88,slow=14,SNR=6.4						
FX1				S	Sn	19 18 06.8	-11
	7.5nm,0.3s,baz=292,slow=22,SNR=20						
KSRS	Korea Array	21.86	247	P	P	19 17 36.5	+0.9
	0.9nm,0.5s,baz=48,slow=11,SNR=4.8						
ILAR	Eielson Array	34.52	41	P	P	19 19 27.7	-0.4
	0.4nm,0.4s,baz=272,slow=9.8,SNR=6.0						
MKAR	Makanchi Array	46.06	295	P	P	19 21 02.7	-0.3
	0.3nm,0.7s,baz=50,slow=7.1,SNR=2.9						
PDAR	Pinedale Array	63.13	55	P	P	19 23 06.9	+0.7
	0.8nm,0.7s,baz=348,slow=4.0,SNR=2.4						
ASAR	Alice Springs	74.60	199	P	P	19 24 16.1	-0.7
	0.3nm,1.0s,baz=16,slow=5.5,SNR=3.0						

MAN 09 19:13:40, 18°.22N×120°.27E, h30km, mb4.5, ML3.3, MS3.2, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIPP	Brgy, Tapao	0.34	148	⇓iP	Pn	19 13 49.5	+0.5
PIP	Pasuquin	0.35	72	⇑iP	Pn	19 13 50.2	+1.1
ABRA	Dolores	0.71	143	eP	Pn	19 13 55.2	+1.2
ABRA				eS	Sn	19 14 05.7	+1.9
APYP	Conner	0.99	111	eP	Pb	19 14 00.2	+1.6
APYP				eS	Sb	19 14 11.7	+0.4

*MOS **09** 19:34:08.7±0.6, 51°.56N×159°.25E, h74km, mb4.4/1, Error ellipse: s-maj=58.5km s-min=29.5km az=101.2*
*ISCJB **09** 19:34:14.6±0.7, 52°.02N±0°.05×159°.30E±0°.09, h70km±10km, mb3.8/2, Error ellipse: s-maj=11.0km s-min=5.1km az=41.7*
*IDC **09** 19:34:15.0±6.0, 52°.02N×159°.19E, h86km±33km, mb3.5/2, mb1 3.6/2, mb1mx3.0/23, mbtmp3.5/2, MS3.2/1, Ms1 3.2/1, ms1mx2.5/35, Error ellipse: s-maj=57.9km s-min=56.7km az=6.0*
*KRSC **09** 19:34:15.2±0.2, 52°.10N×159°.30E, h61km±50km, ML3.9*

ISC 09 19:34:13.6±1.3, 51°.97N±0°.06×159°.35E±0°.06, h73km±10km, n37, σ1§34/56, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	Russkaya	0.69	312	iP	Pn	19 34 29.1	+0.5
RUS				iS	Sn	19 34 39.0	-0.7
MTVR	Mutnovka	0.88	306	iP	Pn	19 34 31.6	+0.7
MTVR				iS	Sn	19 34 43.2	-0.6
GRL	Gorelyy	0.98	307	eP	Pn	19 34 32.9	+0.8
GRL				iS	Sn	19 34 46.4	+0.6
ASAK	Asacha	0.98	295	eP	Pn	19 34 33.1	+1.0
ASAK				iS	Sn	19 34 45.9	0.0
PET	Petropavlovsk	1.14	338	ePN	Pn	19 34 34.5	+0.6
PET				eS	Sn	19 34 48.0	-1.1
PET				pmax	pmax		
	comp=Z,63nm,0.4s						
PET				smax	smax		
	comp=N,492nm,0.6s						
PET	Petropavlovsk	1.14	338	iP	Pn	19 34 34.2	+0.3
PET				iS	Sn	19 34 48.4	-0.7
SPN	Mys Shipunski	1.20	20	iP	Pn	19 34 36.1	+1.4
SPN				iS	Sn	19 34 50.8	+0.3
NLC	Nalytchevo	1.20	360	iP	Pn	19 34 34.9	+0.2
NLC				iS	Sn	19 34 49.6	-0.9
UGLR	Uglovaya	1.28	346	eP	Pn	19 34 36.9	+1.0
UGLR				iS	Sn	19 34 51.7	-0.9
SMAR	Somma	1.34	346	iP	P

BZWR	**Bezymyannyi-We**	**4.06**	**9**	*eP*	**Pn**	**19 35 15.8**	**+2.5**
ZLN	**Zelenaya**	**4.14**	**11**	*eP*	**Pn**	**19 35 17.2**	**+2.8**
SRDR	**Sredinnyy**	**4.36**	**3**	*eP*	Pn	19 35 20.8	+3.5
KBTR	**Krutoberegovo**	**4.71**	**24**	*eP*	**Pn**	**19 35 23.7**	**+1.7**
KBTR				*i* S	**Sn**	**19 36 15.7**	**+0.4**
SMKR	**Semkarok**	**4.78**	**14**	*eP*	**Pn**	**19 35 25.5**	**+2.4**
SRKR	**Sorokina**	**4.81**	**12**	*eP*	**Pn**	**19 35 26.2**	**+2.7**
BKI	**Bering**	**5.10**	**48**	*eP*	**Pn**	**19 35 28.1**	**+0.7**
BKI				*i* S	**Sn**	**19 36 22.1**	**-2.8**
JNU	**Nakatsue**	**27.92**	**239**	LR	LR	19 50 30.1	
	comp=N,47nm,19.4s,baz=41,slow=35						
MKAR	**Makanchi Array**	**48.24**	**296**	P	**P**	**19 42 45.2**	**-1.6**
MKAR	**Makanchi Array**	**48.24**	**296**	P	**P**	**19 42 45.1**	**-1.6**
	comp=N,0.3nm,0.5s,baz=59,slow=5.8,SNR=9.4						
FINES	**FINESS Array B**	**60.97**	**336**	P	**P**	**19 44 18.5**	**-0.1**
	comp=N,2.6nm,0.9s,baz=27,slow=12,SNR=2.7						

*ISCJB **09** 19:43:34.9±0.6, 15°.55N±0°.06×94°.74W±0°.02, h46km±8km, mb3.7/6, MS3.3/6, Error ellipse: s-maj=10.0km s-min=3.5km az=7.1*

*MEX **09** 19:43:37.1±0.4, 15°.49N×94°.74W, h20km±16km, MD4.3*

*IDC **09** 19:43:38.6±5.2, 15°.80N×94°.50W, h50km±34km, mb3.5/6, mb1 3.8/6, mb1mx3.6/22, mbtmp3.6/6, ML4.8/1, MS3.3/8, Ms1 3.3/8, ms1mx3.1/26, Error ellipse: s-maj=42.9km s-min=18.2km az=22.0*

ISC 09 19:43:36.4±1.0, 15°.56N±0°.07×94°.71W±0°.03, h44km±10km, n30, σ1§25/40, mb3.7/6, MS3.2/6, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.37**	**279**	*eP*	**Pn**	**19 43 58.0**	**-1.1**
HUIG				*i* S	**Sn**	**19 44 13.2**	**-2.7**
PCIG		**1.44**	**84**	*eP*	**Pn**	**19 43 59.3**	**-0.7**
PCIG				*i* S	**Sn**	**19 44 16.7**	**-1.0**
CMIG	**Matias Romero**	**1.53**	**354**	P	**Pn**	**19 44 00.4**	**-1.0**
	baz=162,slow=12						
CMIG				S	**Sn**	**19 44 17.6**	**-2.5**
	955nm,0.3s,baz=73,slow=16,SNR=40						
PANG	**Puerto Angel**	**1.71**	**274**	*eP*	**Pn**	**19 44 02.5**	**-1.1**
PANG				*i* S	**Sn**	**19 44 22.2**	**-2.1**
TGIG		**1.95**	**51**	*eP*	**Pn**	**19 44 06.9**	**-0.1**
TGIG				*i* S	**Sn**	**19 44 30.8**	**+0.5**
TGBT	**Tuxtla Gutierr**	**1.97**	**52**	*eP*	Pn	19 43 58.9	-8.4
TGBT				*i* S	Sn	19 44 22.3	-8.5
THIG		**2.44**	**105**	*eP*	**Pn**	**19 44 13.9**	**+0.1**
THIG				*i* S	**Sn**	**19 44 41.6**	**-0.9**
OXBJ	**Oaxaca**	**2.45**	**308**	*eP*	**Pn**	**19 44 14.8**	**+0.7**
OXBJ				*i* S	**Sn**	**19 44 42.0**	**-0.9**
VHO	**Vista Hermosa**	**2.46**	**308**	*eP*	**Pn**	**19 44 14.6**	**+0.3**
VHO				*i* S	**Sn**	**19 44 43.0**	**-0.1**
CCIG	**Comitan**	**2.58**	**73**	*eP*	**Pn**	**19 44 16.3**	**+0.6**
CCIG				*eS*	**Sn**	**19 44 46.8**	**+0.8**
PNIG	**Pinotepa**	**3.39**	**285**	*eP*	**Pn**	**19 44 26.7**	**-0.2**
PNIG				*i* S	**Sn**	**19 45 04.9**	**-1.0**
HMTT	**Tlapaneco**	**4.31**	**302**	*eP*	**Pn**	**19 44 39.3**	**-0.3**
HMTT				*i* S	**Sn**	**19 45 28.4**	**-0.4**
MEIG	**Mezcala**	**5.26**	**297**	*eP*	**Pn**	**19 44 53.3**	**+0.6**
MEIG				*i* S	**Sn**	**19 45 51.9**	**-0.2**
PLIG	**Platanillo**	**5.38**	**302**	*eP*	**Pn**	**19 44 54.3**	**-0.1**
PLIG				*i* S	**Sn**	**19 45 55.2**	**0.0**
CAIG	**El Cayaco**	**5.54**	**286**	*eP*	**Pn**	**19 44 57.0**	**+0.6**
CAIG				*eS*	**Sn**	**19 45 59.1**	**+0.3**
ARIG	**Puente Sto Nin**	**6.04**	**297**	*eP*	**Pn**	**19 45 04.5**	**+1.3**
ARIG				*i* S	**Sn**	**19 46 11.6**	**+0.4**
TEIG	**Tepich**	**7.68**	**52**	P	**Pn**	**19 45 24.2**	**-1.6**
	17nm,0.3s,baz=258,slow=8.6,SNR=68						
TEIG				S	**Sn**	**19 46 47.3**	**-4.2**
	14nm,0.3s,baz=70,slow=21,SNR=7.1						
TEIG				LR	LR	19 48 47.6	
	comp=Z,286nm,18.6s,baz=237,slow=42						
TXAR	**Lajitas Array**	**16.01**	**330**	LR	LR	19 53 15.8	
	comp=Z,35nm,20.1s,baz=185,slow=36						
ANMO	**Albuquerque**	**22.00**	**333**	P	**P**	**19 48 28.1**	**+0.9**
	2.0nm,0.6s,baz=128,slow=12,SNR=5.5						
TKL	**Tuckaleechee C**	**22.28**	**24**	LR	LR	19 59 59.5	
	comp=Z,62nm,19.0s,baz=250,slow=45						
PFO	**Pinyon Flat Ob**	**26.63**	**316**	LR	LR	20 00 33.5	
	comp=Z,79nm,20.6s,baz=126,slow=38						
ATAH	**Atahualpa**	**27.74**	**143**	LR	LR	19 58 07.2	
	comp=Z,42nm,20.2s,baz=345,slow=31						
PDAR	**Pinedale Array**	**29.96**	**338**	P	**P**	**19 49 41.6**	**+0.7**
	0.2nm,0.5s,baz=126,slow=11,SNR=2.5						
SADO	**Sadowa**	**31.96**	**21**	LR	LR	20 05 23.1	
	comp=Z,44nm,19.5s,baz=225,slow=41						
YBH	**Yreka Blue Hor**	**35.54**	**323**	LR	LR	20 05 51.9	
	comp=Z,64nm,21.4s,baz=243,slow=38						
YKA	**Yellowknife Ar**	**48.94**	**348**	P	**P**	**19 52 17.7**	**-0.3**
	0.8nm,0.5s,baz=154,slow=7.2,SNR=3.5						
INK	**Inuvik**	**58.22**	**344**	P	**P**	**19 53 26.3**	**+0.4**
	2.1nm,0.6s,baz=129,slow=6.5,SNR=5.8						
INK				pP	**pP**	**19 53 39.8**	**+1.4**
	2.3nm,0.7s,baz=123,slow=11,SNR=3.4						
ILAR	**Eielson Array**	**60.39**	**337**	P	**P**	**19 53 41.1**	**+0.2**
	0.5nm,0.8s,baz=168,slow=4.0,SNR=5.0						
ILAR				pP	**pP**	**19 53 54.9**	**+1.4**
	1.5nm,1.0s,baz=152,slow=3.8,SNR=5.1						
ESDC	**Sonseca Array**	**80.80**	**51**	P	**P**	**19 55 45.3**	**-0.5**
	0.3nm,0.4s,baz=288,slow=5.1,SNR=5.7						
NOA	**NORSAR Array B**	**84.02**	**28**	LR	LR	20 34 11.9	
	comp=Z,53nm,18.2s,baz=0.0,slow=36						

*IDC **09** 20:05:33.5±0.7, 1°.42S×99°.41E, h0km, mb3.9/14, mb1 4.0/15, mb1mx3.9/25, mbtmp3.9/15, ML3.2/1, Error ellipse: s-maj=29.3km s-min=15.2km az=58.0*

*ISCJB **09** 20:05:36.8±0.5, 1°.32S±0°.06×99°.34E±0°.05, h30km, mb3.9/14, Error ellipse: s-maj=8.1km s-min=7.1km az=25.1*

*DJA **09** 20:05:45.6±0.4, 1°.S±3°×10°.0E±°, h81km±6km, M4.1/13, mb3.9/2, MLv4.2/13*

ISC 09 20:05:38.5±0.7, 1°.34S±0°.06×99°.56E±0°.05, h30km, n30, σ1§49/30, mb4.0/14, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**0.99**	**65**	P	**Pb**	**20 05 57.5**	**+0.3**
PDSI				S	**Sb**	**20 06 14.6**	**+4.6**
PPI	**Padang Panjang**	**1.21**	**44**	P	**Pb**	**20 06 01.0**	**+0.2**
PPI				S	**Sb**	**20 06 15.5**	**-0.6**
SDSI	**Sungai Dareh**	**1.91**	**78**	P	**Pn**	**20 06 10.7**	**+1.7**
SDSI				S	**Sn**	**20 06 28.9**	**-3.2**
KRJI	**Kerinci**	**2.04**	**112**	P	**Pn**	**20 06 12.1**	**+1.1**
BKNI	**Bangkinang**	**2.22**	**42**	P	**Pb**	**20 06 16.6**	**-1.4**
BKNI				S	**Sn**	**20 06 37.5**	**-2.2**
RGRI	**Rengat**	**2.94**	**71**	P	**Pn**	**20 06 23.5**	**+0.3**
RGRI				S	Sb	20 07 17.6	+12
MASI	**Maura Aman, Be**	**3.22**	**124**	P	Pn	20 06 30.8	+3.7
GSI	**Gunungsitoli**	**3.29**	**323**	P	**Pb**	**20 06 36.5**	**+0.2**
KSI	**Kapahiang**	**3.80**	**127**	P	Pn	20 06 39.7	+4.5
PSI	**Prapat**	**4.16**	**351**	Pn	**Pn**	**20 06 42.0**	**+1.9**
	0.5nm,0.3s,baz=159,slow=16,SNR=4.5						
LHSI	**Lahat**	**4.67**	**122**	P	Pn	20 06 50.5	+3.5
KCSI	**Kotacane, Aceh**	**5.15**	**340**	P	Pn	20 06 59.3	+5.7
	21nm,1.3s,0.1nm						
IPM	**Ipoh**	**5.96**	**14**	P	**Pn**	**20 07 06.0**	**+1.2**
CMAR	**Chiang Mai Arr**	**19.68**	**358**	P	**P**	**20 10 06.1**	**+0.7**
	0.0nm,0.3s,baz=188,slow=9.7,SNR=3.3						
WRA	**Warramunga Arr**	**38.70**	**121**	P	**P**	**20 12 59.0**	**-1.1**
	0.6nm,0.7s,baz=300,slow=9.7,SNR=16						
WRA				PcP	**PcP**	**20 15 12.1**	**+0.3**
	0.5nm,0.7s,baz=317,slow=2.5,SNR=4.1						
ASAR	**Alice Springs**	**39.99**	**126**	P	**P**	**20 13 11.0**	**+0.1**
	0.8nm,0.6s,baz=301,slow=7.9,SNR=18						
ASAR				PcP	**PcP**	**20 15 15.8**	**-0.1**
	0.4nm,0.7s,baz=305,slow=2.7,SNR=3.8						
JNU	**Nakatsue**	**45.24**	**38**	P	**P**	**20 13 53.8**	**+0.4**
	3.0nm,0.7s,baz=214,slow=3.6,SNR=2.6						
KSRS	**Korea Array**	**46.68**	**31**	P	**P**	**20 14 04.0**	**-0.6**
	0.5nm,0.4s,baz=221,slow=8.4,SNR=4.1						
SONM	**Songino Array**	**49.33**	**6**	P	**P**	**20 14 26.0**	**+0.8**
	0.4nm,0.4s,baz=174,slow=4.3,SNR=2.7						
STKA	**Stephens Creek**	**49.91**	**132**	P	**P**	**20 14 30.9**	**+1.2**
	0.8nm,0.6s,baz=307,slow=10,SNR=3.2						
MKAR	**Makanchi Array**	**50.28**	**345**	P	**P**	**20 14 32.9**	**+0.7**
	0.7nm,0.3s,baz=160,slow=9.7,SNR=22						
USRK	**Ussuriysk Arra**	**53.78**	**29**	P	**P**	**20 14 58.7**	**+0.4**
	1.0nm,0.5s,baz=228,slow=5.7,SNR=2.4						
ZALV	**Zalesovo Beam**	**56.44**	**350**	P	**P**	**20 15 17.7**	**+0.4**
	0.8nm,0.5s,baz=174,slow=6.0,SNR=6.4						
KBZ	**Khabaz**	**67.52**	**319**	P	**P**	**20 16 31.6**	**-0.3**
	1.7nm,0.8s,baz=121,slow=5.9,SNR=3.4						
BRTR	**Keskin Array B**	**72.56**	**312**	P	**P**	**20 17 01.7**	**-1.5**
	0.5nm,0.5s,baz=133,slow=7.1,SNR=4.4						
FINES	**FINESS Array B**	**83.33**	**332**	P	**P**	**20 18 01.6**	**-0.7**
	3.0nm,1.0s,baz=58,slow=3.6,SNR=3.8						
GERES	**GERESS Array B**	**88.27**	**319**	P	**P**	**20 18 25.3**	**-2.0**
	0.4nm,0.6s,baz=84,slow=4.4,SNR=4.9						
QSPA	**South Pole Qui**	**88.62**	**180**	P	**P**	**20 18 28.7**	**+0.1**
	1.1nm,0.8s,baz=238,slow=3.9,SNR=8.8						
TXAR	**Lajitas Array**	**144.44**	**36**	PKP	PKPbc	20 25 12.0	+0.7
	0.5nm,0.5s,baz=316,slow=0.6,SNR=6.2						
CPUP	**Villa Florida**	**144.58**	**217**	PKP	PKPbc	20 25 12.1	+0.5
	1.4nm,0.5s,baz=284,slow=4.2,SNR=5.6						

IDC 09 20:18:09.2±2.4, 17°.06S×175°.46W, h258km±28km, mb3.3/5, mb1 3.5/6, mb1mx3.2/18, mbtmp3.3/6, Error ellipse: s-maj=41.8km s-min=20.8km az=130.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.74**	**49**	P	Pn	20 19 22.2	0.0
	5.3nm,0.3s,baz=241,slow=13,SNR=4.4						
AFI				S	S	20 20 15.6	-4.7
	16nm,0.3s,baz=215,slow=21,SNR=10						
URZ	**Urewera**	**22.11**	**196**	P	P	20 22 43.4	-0.1
	2.2nm,0.4s,baz=297,slow=2.4,SNR=4.2						
STKA	**Stephens Creek**	**41.50**	**241**	P	P	20 25 31.2	-0.3
	1.7nm,0.9s,baz=90,slow=11,SNR=3.8						
WRA	**Warramunga Arr**	**47.55**	**258**	P	P	20 26 19.0	-0.4
	0.4nm,0.5s,baz=95,slow=7.0,SNR=18						
ASAR	**Alice Springs**	**47.73**	**253**	P	P	20 26 21.1	+0.3
	3.2nm,0.6s,baz=87,slow=8.9,SNR=76						
ASAR				PcP	PcP	20 27 45.5	-0.2
	0.3nm,0.5s,baz=102,slow=3.4,SNR=4.0						
ILAR	**Eielson Array**	**84.45**	**12**	P	P	20 30 12.4	-0.1
	0.2nm,0.4s,baz=208,slow=3.6,SNR=3.9						
BRTR	**Keskin Array B**	**146.12**	**318**	PKPbc	PKPdf	20 37 18.7	+0.6
	0.5nm,0.7s,baz=126,slow=2.5,SNR=3.6						

IDC 09 20:20:48.5±13.0, 18°.67S×178°.20W, h457km±111km, mb3.3/2, mb1 3.6/3, mb1mx3.1/16, mbtmp3.4/3, Error ellipse: s-maj=239.7km s-min=104.1km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.79**	**254**	P	P	20 23 57.6	0.0
	1.4nm,0.3s,baz=81,slow=19,SNR=17						
WRA	**Warramunga Arr**	**44.70**	**260**	P	P	20 28 19.8	-0.1
	0.8nm,0.5s,baz=97,slow=7.6,SNR=44						
ASAR	**Alice Springs**	**44.78**	**255**	P	P	20 28 20.2	-0.3
	4.0nm,0.7s,baz=86,slow=8.3,SNR=34						
BRTR	**Keskin Array B**	**145.45**	**314**	PKP	PKPdf	20 39 33.4	-0.7
	0.4nm,0.4s,baz=111,slow=5.4,SNR=3.4						

*NIED **09** 20:23:00, 36°.40N×141°.00E, h44km, Mw3.5 Best double couple: M0=2.08000×10^14 NP1:φ=23.00000°, δ=67.00000°, λ=81.00000°. NP2:φ=225.00000°, δ=25.00000°, λ=111.00000°.*

*IDC **09** 20:23:43.8±1.4, 36°.77N×141°.61E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.4/21, mbtmp3.4/3, Error ellipse: s-maj=42.7km s-min=29.8km az=119.0*

*ISCJB **09** 20:23:51.5±0.9, 36°.39N±0°.04×141°.10E±0°.09, h46km±10km, mb3.5/3, Error ellipse: s-maj=12.8km s-min=7.2km az=6.6*

*JMA **09** 20:23:52.8±0.1, 36°.38N×140°.99E, h46km±1km, M3.6*

JMA Felt I J1.

ISC 09 20:23:51.7±1.4, 36°.39N±0°.04×141°.12E±0°.08, h31km±10km, n10, σ0§81/15, mb3.6/3, 1C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.49**	**296**	⇓P	**Pb**	**20 24 02.5**	**+0.4**
JHO				S	**Sb**	**20 24 09.2**	**0.0**
CHOJ	**Chosi**	**0.72**	**197**	⇑P	**Pb**	**20 24 06.1**	**+0.3**
CHOJ				S	**Sb**	**20 24 15.1**	**-0.2**
ONAJ	**Iwakimizuishiy**	**0.75**	**340**	⇓P	**Pn**	**20 24 06.5**	**+0.3**
ONAJ				S	**Sb**	**20 24 15.9**	**-0.5**
JYT	**Yasato**	**0.77**	**258**	⇓P	**Pn**	**20 24 05.9**	**-0.4**
JYT				S	**Sb**	**20 24 14.7**	**-1.9**
JFK	**Kawauchi**	**0.99**	**349**	⇓P	**Pn**	**20 24 09.7**	**+0.2**
JFK				S	**Sn**	**20 24 21.6**	**-0.9**
MJAR	**Matsushiro Arr**	**2.35**	**274**	Pn	**Pn**	**20 24 28.8**	**+0.6**
	baz=84,slow=17						
MAT	**Matsushiro**	**2.35**	**275**	P	**Pn**	**20 24 29.2**	**+1.0**
MAT				S	**Sn**	**20 24 56.7**	**+0.7**
ILAR	**Eielson Array**	**50.16**	**32**	P	P	20 32 36.6	-7.3
	0.4nm,0.6s,baz=264,slow=8.1,SNR=3.8						
WRA	**Warramunga Arr**	**56.39**	**188**	P	**P**	**20 33 30.0**	**-0.1**
	0.3nm,0.4s,baz=5.7,slow=7.2,SNR=7.1						
ASAR	**Alice Springs**	**60.12**	**188**	P	**P**	**20 33 55.9**	**-0.2**
	0.2nm,0.6s,baz=21,slow=6.5,SNR=5.5						

IDC 09 20:30:44.2±13.0, 48°.10N×152°.74E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.4/23, mbtmp3.8/4, Error ellipse: s-maj=317.8km s-min=91.6km az=153.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**46.51**	**302**	P	P	20 39 12.9	0.0
	0.5nm,0.4s,baz=69,slow=8.4,SNR=5.4						
FINES	**FINESS Array B**	**62.71**	**334**	P	P	20 41 10.1	-0.2
	0.6nm,0.3s,baz=30,slow=7.0,SNR=12						
NOA	**NORSAR Array B**	**66.86**	**341**	P	P	20 41 37.8	+0.3
	1.2nm,0.7s,baz=28,slow=6.5,SNR=3.8						
BRTR	**Keskin Array B**	**77.23**	**316**	P	P	20 42 40.1	0.0
	0.4nm,0.6s,baz=41,slow=5.9,SNR=2.5						

MAN 09 20:34:39, 18°.45N×120°.62E, h38km, mb4.6, ML3.4, MS3.4, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.12**	**178**	*i* P	Pn	20 34 46.5	-4.0
ABRA	**Dolores**	**0.80**	**173**	*eP*	Pn	20 34 54.9	+1.2
ABRA				*eS*	Sn	20 35 03.1	-1.3
APYP	**Conner**	**0.83**	**134**	*eP*	Pn	20 34 55.0	+0.8
APYP				*eS*	Sn	20 34 60.0	-5.3

IDC 09 20:34:48.4±7.8, 12°.88S×166°.67E, h244km±84km, mb3.4/5, mb1 3.5/6, mb1mx3.2/18, mbtmp3.4/6, Error ellipse: s-maj=81.1km s-min=54.3km az=138.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.14**	**181**	P	Pn	20 36 56.2	-0.1
	0.4nm,0.3s,baz=49,slow=20,SNR=5.1						
STKA	**Stephens Creek**	**29.79**	**227**	P	P	20 40 33.4	+0.5
	1.4nm,0.9s,baz=34,slow=11,SNR=3.0						
WRA	**Warramunga Arr**	**31.76**	**253**	P	P	20 40 49.9	-0.3
	0.5nm,0.5s,baz=86,slow=9.3,SNR=4.9						
ASAR	**Alice Springs**	**32.84**	**246**	P	P	20 40 59.6	0.0
	0.6nm,0.7s,baz=74,slow=9.4,SNR=13						
NWAO	**Narrogin (SRO)**	**49.22**	**238**	P	P	20 43 12.2	-0.3
	20nm,1.2s,baz=85,slow=11,SNR=2.8						
MKAR	**Makanchi Array**	**95.47**	**317**	P	P	20 47 45.4	-0.1
	0.2nm,0.6s,baz=87,slow=5.9,SNR=2.9						

*BJI **09** 20:52:49.2, 29°.65N×98°.83E, h11km, mb4.0/4, ML3.5/8, Ms3.9/2, Ms7 3.7/2*

*IDC **09** 20:52:49.4±1.1, 29°.73N×98°.90E, h0km, mb3.9/8, mb1 4.0/9, mb1mx3.7/27, mbtmp3.8/9, ML3.3/1, Error ellipse: s-maj=54.2km s-min=20.2km az=55.0*

ISC 09 20:52:50.5±0.7, 29°.70N±0°.07×99°.01E±0°.06, h10km, n18, σ1§94/18, mb3.8/8, 1C, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**4.28**	**72**	Pn	Pn	20 53 59.3	+3.5
CD2				Sn	**Sb**	**20 54 52.7**	**-5.0**
CD2				Sg	**Sg**	**20 55 12.1**	**+4.1**
CD2				smax	smax		
	comp=N,70nm,1.5s						
CD2				smax	smax		
	comp=E,80nm,1.7s						
CD2				LR	LR		
	comp=E,720nm,5.6s						
CD2				LR	LR		
	comp=Z,690nm,9.5s						
KMI	**Kunming**	**5.63**	**143**	Pn	**Pg**	**20 54 37.1**	**-1.4**
KMI				Sn	**Sb**	**20 55 37.2**	**+0.4**
KMI				LR	LR		
	comp=N,460nm,5.6s						
KMI				LR	LR		
	comp=E,530nm,8.5s						
GYA	**Guiyang**	**7.49**	**114**	⇑*i* P	Pn	20 54 45.7	+5.7
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GTA	**Gaotai**	**9.71**	**4**	*eP*	**Pn**	**20 55 11.0**	**+0.6**
GTA				pP		20 55 16.3	
GTA				sP		20 55 19.2	
GTA				pmax	pmax		
	comp=Z,3.0nm,1.9s						
TAPN	**Taplejung**	**10.21**	**259**	*eP*	**Pn**	**20 55 17.6**	**+0.2**
	comp=Z,41nm,0.9s						
ODAN	**Odare**	**10.62**	**257**	*eP*	**Pn**	**20 55 22.5**	**-0.6**
	comp=Z,17nm,0.5s						
CMAR	**Chiang Mai Arr**	**11.19**	**180**	Pn	Pn	20 55 36.6	+6.0
	baz=350,slow=10						
CMAR				Pg		20 56 19.4	
	comp=Z,0.0nm,0.3s,baz=347,slow=16,SNR=1.8						
CMAR				Lg	Lg	20 58 46.1	
	comp=Z,0.1nm,0.3s,baz=16,slow=29,SNR=3.2						
JIRN	**Jiri**	**11.44**	**263**	*eP*	**Pn**	**20 55 34.3**	**0.0**
	comp=Z,19nm,0.6s						
PKI	**Pulchoki**	**12.13**	**263**	*eP*	**Pn**	**20 55 42.6**	**-1.2**
	comp=Z,26nm,0.6s						
SONM	**Songino Array**	**18.99**	**15**	P	**Pn**	**20 57 13.1**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=207,slow=16,SNR=4.0						
MKAR	**Makanchi Array**	**21.46**	**327**	P	**P**	**20 57 37.1**	**-1.9**
	comp=Z,2.4nm,0.8s,baz=129,slow=13,SNR=20						
AAK	**Ala-Archa**	**23.53**	**310**	P	**P**	**20 57 59.6**	**-1.4**
	comp=Z,1.0nm,0.4s,baz=105,slow=6.9,SNR=3.2						
KURBB	**Kurchatov Arra**	**25.95**	**329**	P	**P**	**20 58 21.7**	**-1.3**
	comp=Z,1.6nm,0.7s,baz=143,slow=9.5,SNR=22						
ZALV	**Zalesovo Beam**	**26.34**	**341**	P	**P**	**20 58 26.0**	**-0.4**
	comp=Z,1.2nm,0.7s,baz=155,slow=11,SNR=5.4						
FINES	**FINESS Array B**	**56.29**	**326**	P	**P**	**21 02 31.6**	**+0.6**
	comp=Z,1.3nm,0.7s,baz=57,slow=10,SNR=3.5						
WRA	**Warramunga Arr**	**59.96**	**141**	P	**P**	**21 02 57.8**	**+0.6**
	comp=Z,3.4nm,0.8s,baz=330,slow=7.4,SNR=20						
NOA	**NORSAR Array B**	**63.45**	**327**	P	**P**	**21 03 21.0**	**+0.7**
	comp=Z,1.0nm,0.7s,baz=56,slow=4.8,SNR=3.0						
GERES	**GERESS Array B**	**65.35**	**314**	P	**P**	**21 03 34.5**	**+1.4**
	comp=Z,0.4nm,0.5s,baz=76,slow=4.1,SNR=4.9						

*IDC **09** 20:55:49.8±0.6, 45°.46S×166°.68E, h0km, mb4.1/7, mb1 4.3/9, mb1mx4.1/17, mbtmp4.2/9, ML4.1/2, MS3.8/5, Ms1 3.8/5, ms1mx3.4/21, Error ellipse: s-maj=21.6km s-min=19.8km az=18.0*

*ISCJB **09** 20:55:51.6±0.9, 45°.49S±0°.05×166°.62E±0°.06, h21km±7km, mb4.0/7, MS3.8/5, Error ellipse: s-maj=8.0km s-min=6.3km az=149.4*

*NEIC **09** 20:55:51.6, 45°.50S×166°.63E, h5km, ML4.9(WEL), After WEL.*

NEIC Felt at Queenstown.

*AUST **09** 20:55:51.9±0.7, 45°.53S×166°.61E, h11km, Error ellipse: s-maj=1.4km s-min=0.8km az=15.0*

*WEL **09** 20:55:53.3±0.3, 45°.55S×166°.69E, h20km±1km, ML4.9/24, Error ellipse: s-maj=3.0km s-min=1.6km az=90.0*

WEL Felt from Otago to Fiordland, maximum reported intensity MM 4.

ISC 09 20:55:51.7±1.5, 45°.48S±0°.05×166°.66E±0°.05, h13km±9km, n93, σ1§14/104, mb4.2/7, MS3.6/5, 2C-5D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.35**	**90**	⇓P*	**Pb**	**20 56 00.1**	**+0.4**
DCZ				S*	**Sg**	**20 56 04.6**	**+1.2**
DCZ				AML	AML	20 56 05.1	
DCZ				AML	AML	20 56 05.1	
DCZ				AML	AML	20 56 05.4	
DCZ	**Deep Cove**	**0.35**	**90**	⇓Pg	**Pb**	**20 56 00.1**	**+0.4**
WHZ	**Wether Hill Ro**	**0.99**	**115**	⇓P*	**Pg**	**20 56 10.2**	**-0.6**
WHZ				S*	**Sg**	**20 56 23.2**	**-0.6**
WHZ				AML	AML	20 56 32.2	
WHZ	**Wether Hill Ro**	**0.99**	**115**	P*	**Pg**	**20 56 10.1**	**-0.8**
MLZ	**Mavora Lakes**	**1.07**	**83**	⇓P*	**Pb**	**20 56 11.4**	**-0.7**
MLZ				AML	AML	20 56 26.3	
MLZ				AML	AML	20 56 26.4	
MLZ	**Mavora Lakes**	**1.07**	**83**	⇓P*	**Pb**	**20 56 11.4**	**-0.7**
MSZ	**Milford Sound**	**1.21**	**48**	PN	**Pn**	**20 56 12.9**	**-1.4**
MSZ				SN	**Sn**	**20 56 33.9**	**+3.4**
MSZ				AML	AML	20 56 36.7	
MSZ				AML	AML	20 56 38.1	
MSZ				AML	AML	20 56 38.2	
MSZ	**Milford Sound**	**1.21**	**48**	P*	**Pn**	**20 56 13.3**	**-1.0**
APZ	**The Paps**	**1.64**	**146**	⇑PN	**Pn**	**20 56 20.4**	**+0.2**
APZ	**The Paps**	**1.64**	**146**	Pn	**Pn**	**20 56 20.4**	**+0.2**
WKZ	**Wanaka**	**1.79**	**69**	PN	**Pn**	**20 56 23.8**	**+1.4**
WKZ				AML

KHZ	Kahutara	5.83	61	Pn	Pn	20 57 18.9	+1.1
THZ	Tophouse	5.86	53	PN	Pn	20 57 19.2	+1.0
THZ				AML	AML	20 58 34.5	
THZ				AML	AML	20 58 41.2	
THZ	Tophouse	5.86	53	Pn	Pn	20 57 19.2	+1.0
QRZ	Quartz Range	6.33	45	PN	Pn	20 57 25.4	+0.8
QRZ	Quartz Range	6.33	45	Pn	Pn	20 57 25.4	+0.8
NNZ	Nelson	6.49	51	PN	Pn	20 57 30.8	+3.9
NNZ				AML	AML	20 58 49.9	
NNZ				AML	AML	20 58 51.7	
TCW	Tory Channel	7.00	55	PN	Pn	20 57 39.8	+6.0
TCW				AML	AML	20 58 59.5	
TCW				AML	AML	20 59 02.8	
DUWZ	D'Urville Isla	7.07	51	PN	Pn	20 57 38.1	+3.1
DUWZ				AML	AML	20 59 06.2	
DUWZ				AML	AML	20 59 06.6	
URZ	Urewera	10.61	51	Pn	Pn	20 58 24.0	+0.6
URZ				Sn	Sn	21 00 18.4	-3.6
URZ	Urewera	10.61	51	Pn	Pn	20 58 24.0	+0.6
	0.3nm,0.3s,baz=214,slow=5.9,SNR=2.8						
URZ				Sn	Sn	21 00 18.5	-3.6
	0.9nm,0.3s,baz=112,slow=19,SNR=4.4						
MOO	Moorlands	14.35	275	P	Pn	20 59 14.0	-0.4
	baz=14,SNR=5.4						
TOO	Toolangi	17.68	289	P	P	20 59 59.4	+0.9
	baz=18,SNR=5.4						
STKA	Stephens Creek	23.70	296	P	P	21 01 02.9	-0.3
STKA	Stephens Creek	23.70	296	P	P	21 01 02.9	-0.3
	0.5nm,0.3s,baz=152,slow=16,SNR=3.0						
STKA				LR	LR	21 10 03.3	
	comp=Z,151nm,19.9s,baz=28,slow=36						
VNDA	Vanda	32.20	182	LR	LR	21 14 17.7	
	comp=Z,126nm,20.9s,baz=131,slow=34						
ASAR	Alice Springs	34.30	298	P	P	21 02 38.4	+0.7
ASAR				PcP	PcP	21 05 13.9	+0.1
ASAR	Alice Springs	34.30	298	P	P	21 02 38.4	+0.7
	1.5nm,1.1s,baz=144,slow=8.0,SNR=6.6						
ASAR				PcP	PcP	21 05 13.9	+0.1
	0.6nm,0.9s,baz=116,slow=4.2,SNR=3.9						
ASAR				LR	LR	21 16 43.2	
	comp=Z,94nm,18.0s,baz=247,slow=36						
FITZ	Fitzroy Crossi	43.59	295	P	P	21 03 55.3	-0.2
FITZ	Fitzroy Crossi	43.59	295	P	P	21 03 55.3	-0.2
	1.6nm,0.8s,baz=172,slow=12,SNR=5.3						
QSPA	South Pole Qui	44.64	180	P	P	21 04 04.1	+0.4
QSPA	South Pole Qui	44.64	180	P	P	21 04 04.1	+0.4
	3.6nm,0.8s,baz=15,slow=3.1,SNR=20						
MAW	Mawson	53.69	208	P	P	21 05 13.1	+0.5
MAW				PcP	PcP	21 06 18.8	+0.1
MAW	Mawson	53.69	208	P	P	21 05 13.1	+0.5
	2.4nm,0.8s,baz=109,slow=9.0,SNR=5.5						
MAW				PcP	PcP	21 06 18.8	+0.1
	1.1nm,0.7s,baz=328,slow=5.5,SNR=3.5						
SNAA	Sanae	62.92	184	*e*P	P	21 06 16.0	-1.1
VNA2	Neumayer--Watz	63.83	182	*e*P	P	21 06 22.6	-0.5
	baz=168,slow=5.3						
VNA1	Neumayer--Stat	64.12	182	*e*P	P	21 06 25.4	+0.4
PLCA	Paso Flores	80.07	140	P	P	21 08 01.8	+0.7
PLCA	Paso Flores	80.07	140	P	P	21 08 01.8	+0.7
	2.6nm,0.8s,baz=174,slow=12,SNR=3.6						
PLCA				LR	LR	21 33 28.1	
	comp=Z,242nm,21.9s,baz=316,slow=28						
CMAR	Chiang Mai Arr	88.31	299	P	P	21 08 44.2	+1.2
CMAR	Chiang Mai Arr	88.31	299	P	P	21 08 44.2	+1.2
	2.4nm,0.8s,baz=160,slow=3.6,SNR=19						
NNA	Nana	99.23	117	LR	LR	21 45 27.5	
	comp=Z,50nm,19.4s,baz=164,slow=30						
MKAR	Makanchi Array	117.97	309	PKP	PKPdf	21 14 36.6	-0.8
MKAR	Makanchi Array	117.97	309	PKP	PKPdf	21 14 36.6	-0.8
	0.4nm,0.5s,baz=204,slow=2.7,SNR=7.1						
KURBB	Kurchatov Arra	122.22	311	PKP	PKPdf	21 14 45.0	-0.4
	1.3nm,0.7s,baz=113,slow=1.8,SNR=22						
KURK	Kurchatov	122.23	311	PKP	PKPdf	21 14 45.0	-0.4
DBIC	Dimbokro	140.64	193	PKP	PKPdf	21 15 21.7	+0.4
DBIC	Dimbokro	140.64	193	PKP	PKPdf	21 15 21.7	+0.4
	4.8nm,1.1s,baz=9.4,slow=7.2,SNR=3.2						
SCHQ	Schefferville	145.27	55	PKPbc	PKPbc	21 15 25.7	-2.3
SCHQ	Schefferville	145.27	55	PKPbc	PKPbc	21 15 25.7	-2.3
	3.3nm,0.7s,baz=14,slow=19,SNR=3.6						
TORD	Torodi Ar. Bea	145.33	206	PKPbc	PKPbc	21 15 28.7	-0.6
TORD	Torodi Ar. Bea	145.33	206	PKPbc	PKPbc	21 15 28.7	-0.6
	19nm,0.7s,baz=149,slow=2.4,SNR=141						
BRTR	Keskin Array B	145.34	277	PKPbc	PKPbc	21 15 28.5	-0.3
BRTR	Keskin Array B	145.34	277	PKPbc	PKPbc	21 15 28.5	-0.3
	3.0nm,0.8s,baz=147,slow=4.4,SNR=17						
ARCES	ARCESS Array B	149.09	335	PKPbc	PKPbc	21 15 38.3	0.0
ARCES	ARCESS Array B	149.09	335	PKPbc	PKPbc	21 15 38.3	0.0
	4.6nm,0.7s,baz=92,slow=2.8,SNR=8.9						
AKASG	Malin Array Be	151.40	296	PKPbc	PKPbc	21 15 44.2	-0.2
AKASG	Malin Array Be	151.40	296	PKPbc	PKPbc	21 15 44.2	-0.2
	5.3nm,0.8s,baz=70,slow=2.9,SNR=6.6						
KAF	Kangasniemi	151.87	320	*e*p	PKPbc	21 15 45.2	+0.1
FINES	FINESS Array B	152.18	319	PKPbc	PKPbc	21 15 45.8	0.0
FINES	FINESS Array B	152.18	319	PKPbc	PKPbc	21 15 45.8	0.0
	7.2nm,0.7s,baz=78,slow=3.9,SNR=40						
MLR	Muntele Rosu	152.64	284	PKPbc	PKPbc	21 15 47.7	+0.1
MLR				PKPab	PKPab	21 15 58.1	-0.2
MLR	Muntele Rosu	152.64	284	PKPbc	PKPbc	21 15 47.7	+0.1
	0.7nm,1.0s,baz=305,slow=14,SNR=2.9						
MLR				PKPab	PKPab	21 15 58.1	-0.2
	0.6nm,0.9s,baz=330,slow=2.6,SNR=5.7						
GERES	GERESS Array B	161.35	290	PKPab	PKPab	21 16 35.2	-0.4
GERES	GERESS Array B	161.35	290	PKPab	PKPab	21 16 35.2	-0.4
	0.5nm,0.7s,baz=71,slow=5.8,SNR=5.7						

DJA 09 21:06:11.9±0.8,2°S±5°×10°1E±°,h20km,M3.9/7,mb3.6/1, MLv4.0/7,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	Padang	1.16	357	P	Pb	21 06 33.7	+0.3
PDSI				S	Sn	21 06 49.8	+1.4
SDSI	Sungai Dareh	1.45	38	P	Pb	21 06 38.8	+0.5
PPI	Padang Panjang	1.62	355	P	Pn	21 06 37.2	-2.1
PPI				S	Sn	21 06 58.4	-1.2
SISI	Saibi	1.62	297	P	Pn	21 06 39.5	+0.1
SISI				S	Sn	21 07 00.1	+0.4
BKNI	Bangkinang	2.44	12	P	Pn	21 06 49.7	-1.0
RGRI	Rengat	2.49	46	P	Pn	21 06 51.1	-0.2
MYKOM	Kota Tinggi	5.08	41	P	Pn	21 07 26.2	-0.7

*IDC **09** 21:15:16.7±0.7,38°.71N×22°.85E,h0km,mb3.9/13, mb1 3.9/18,mb1mx3.9/29,mbtmp3.9/18,ML3.4/5,MS3.8/2, Ms1 3.8/2,ms1mx2.6/52,Error ellipse: s-maj=15.4km s-min=14.4km az=117.0*
*ATH **09** 21:15:17.9,38°.70N×22°.81E,h21km,MD3.5/50,ML3.9*
*SKO **09** 21:15:18.4,38°.78N×23°.06E,h0km*
*THE **09** 21:15:18.3,38°.69N×22°.81E,h11km,ML3.8/29,Error ellipse: s-maj=0.7km s-min=0.4km az=256.0*
*ISCJB **09** 21:15:18.3±0.6,38°.71N±0°.01×22°.80E±0°.01,h15km±4km, mb3.9/13,MS3.8/2,Error ellipse: s-maj=2.0km s-min=1.7km az=5.9*
*CSEM **09** 21:15:18.3±0.1,38°.69N×22°.82E,h5km,ML3.8/29,Error ellipse: s-maj=2.0km s-min=1.7km az=93.0*
*PRU **09** 21:15:20.0,38°.52N×22°.88E,h33km*

ISC 09 21:15:18.9±0.7,38°.70N±0°.01×22°.81E±0°.01,h14km±4km, n314,σ1.9±01/392,mb4.0/13,17C-15D,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AXAR	Agios Charalam	0.14	301	P	Pg	21 15 21.9	-0.7
AXAR				S	Sg	21 15 24.3	-0.8
AXAR	Agios Charalam	0.14	301	P	Pg	21 15 21.9	-0.7
AXAR				S	Sg	21 15 24.3	-0.8
LKR	Lokris	0.15	107	P	Pg	21 15 22.4	-0.3
LKR				S	Sg	21 15 25.3	0.0
LKR	Lokris	0.15	107	*e*PB	Pg	21 15 22.5	-0.3
LKR				*e*SB	Sg	21 15 25.5	+0.2
LKR	Lokris	0.15	107	P	Pg	21 15 22.4	-0.3
LKR				S	Sg	21 15 25.3	0.0
SMIA	Simia	0.36	59	P	Pg	21 15 25.8	-0.5
SMIA				S	Sg	21 15 31.3	+0.1
SMIA	Simia	0.36	59	P	Pg	21 15 25.8	-0.5
SMIA				S	Sg	21 15 31.3	+0.1
DSF	Desfina	0.36	218	P	Pg	21 15 25.3	-1.0
DSF				S	Sg	21 15 30.8	-0.5
DSF	Desfina	0.36	218	P	Pg	21 15 25.3	-1.0
DSF				S	Sg	21 15 30.8	-0.5
AGG	Agios Georgios	0.50	311	P	Pg	21 15 27.9	-0.8
AGG				S	Sg	21 15 35.0	-0.5
AGG	Agios Georgios	0.50	311	*e*PB	Pg	21 15 28.0	-0.8
AGG				*e*SB	Sg	21 15 35.0	-0.5
AGG	Agios Georgios	0.50	311	*e*Pb	Pg	21 15 28.0	-0.8
AGG				S	Sg	21 15 35.0	-0.5
MRKA	Markates	0.61	89	P	Pg	21 15 29.9	-0.9
MRKA				S	Sb	21 15 39.3	-0.5
MRKA	Markates	0.61	89	P	Pg	21 15 29.9	-0.9
MRKA				S	Sb	21 15 39.3	-0.5
KALE	Kalithea	0.61	240	P	Pg	21 15 29.4	-1.4
KALE				S	Sg	21 15 38.6	-0.4
KALE	Kalithea	0.61	240	*e*PB	Pg	21 15 29.5	-1.4
KALE				*e*SN	Sg	21 15 38.6	-0.4
KALE	Kalithea	0.61	240	*e*Pb	Pg	21 15 29.5	-1.4
KALE				S	Sg	21 15 38.6	-0.4
MAKR	Makrakomi, Fth	0.62	301	P	Pg	21 15 30.1	-1.0
MAKR				S	Sg	21 15 38.9	-0.4
MAKR	Makrakomi, Fth	0.62	301	P	Pg	21 15 30.1	-1.0
MAKR				S	Sg	21 15 38.9	-0.4
TRIZ	Trizonia	0.67	241	P	Pg	21 15 30.2	-1.8
TRIZ				S	Sg	21 15 40.5	-0.3
TRIZ	Trizonia	0.67	241	*e*PB	Pg	21 15 30.4	-1.6
TRIZ				*e*SN	Sg	21 15 41.1	+0.3
TRIZ	Trizonia	0.67	241	*e*Pb	Pg	21 15 30.4	-1.6
TRIZ				S	Sg	21 15 40.5	-0.3
TRIZ				*e*Sn	Sg	21 15 41.1	+0.3
LTK	Loutraki	0.68	170	P	Pg	21 15 31.2	-1.0
LTK				S	Sg	21 15 40.6	-0.6
LTK	Loutraki	0.68	170	*e*PN	Pg	21 15 31.4	-0.8
LTK	Loutraki	0.68	170	P	Pg	21 15 31.2	-1.0
LTK				S	Sg	21 15 40.6	-0.6
NEO	Neokhori	0.69	28	P	Pg	21 15 31.5	-0.9
NEO				S	Sg	21 15 41.5	0.0
NEO	Neokhori	0.69	28	*e*PN	Pg	21 15 31.8	-0.9
NEO				*e*SN	Sg	21 15 41.7	+0.2
NEO	Neokhori	0.69	28	P	Pg	21 15 31.5	-0.9
NEO				S	Sg	21 15 41.5	0.0
SKIA	Skiathos	0.69	47	P	Pg	21 15 32.0	-0.5
SKIA				S	Sg	21 15 41.7	+0.1
SKIA	Skiathos	0.69	47	P	Pg	21 15 32.0	-0.5
SKIA				S	Sg	21 15 41.7	+0.1
XOR	Xorichti	0.73	24	P	Pg	21 15 32.2	-1.0
XOR				S	Sg	21 15 43.2	+0.3
XOR	Xorichti	0.73	24	P	Pg	21 15 32.2	-1.0
XOR				S	Sg	21 15 43.2	+0.3
EFP	Efpalio	0.76	250	P	Pg	21 15 31.9	-1.8
EFP				S	Sg	21 15 43.4	-0.3
EFP	Efpalio	0.76	250	*e*PN	Pg	21 15 32.5	-1.2
EFP	Efpalio	0.76	250	P	Pg	21 15 31.9	-1.8
EFP	Efpalio	0.76	250	*e*Pn	Pg	21 15 32.5	-1.2
EFP				S	Sg	21 15 43.4	-0.3
LAKA	Lakka	0.80	236	P	Pg	21 15 32.6	-1.8
LAKA				S	Sg	21 15 44.4	-0.5
LAKA	Lakka	0.80	236	*e*PB	Pg	21 15 32.7	-1.7
LAKA	Lakka	0.80	236	*e*Pb	Pg	21 15 32.7	-1.7
LAKA				S	Sg	21 15 44.4	-0.5
ACOR	Acrocorinthos	0.81	177	P	Pg	21 15 33.2	-1.4
ACOR	Acrocorinthos	0.81	177	P	Pg	21 15 33.2	-1.4
EVR	Evrytania	0.81	286	P	Pg	21 15 33.4	-1.4
EVR				S	Sg	21 15 45.7	+0.2
EVR	Evrytania	0.81	286	*e*PN	Pg	21 15 33.7	-1.1
EVR				*e*SN	Sg	21 15 45.0	-0.5
EVR	Evrytania	0.81	286	P	Pg	21 15 33.4	-1.4
EVR	Evrytania	0.81	286	*e*Pn	Pg	21 15 33.7	-1.1
EVR				*e*Sn	Sg	21 15 45.0	-0.5
PSA1	Psathopyrgos	0.82	243	*e*PN	Pg	21 15 33.6	-1.2
ERET	Eretria	0.82	108	P	Pg	21 15 33.6	-1.2
ERET				S	Sb	21 15 45.5	-0.4
ERET	Eretria	0.82	108	P	Pg	21 15 33.6	-1.2
ERET				S	Sb	21 15 45.5	-0.4
KLV	Kalavryta, Ach	0.83	219	P	Pg	21 15 33.2	-1.9
KLV				S	Sg	21 15 45.7	-0.3
KLV	Kalavryta, Ach	0.83	219	*e*PN	Pg	21 15 33.9	-1.2
KLV				*e*SN	Sg	21 15 45.8	-0.3
KLV	Kalavryta, Ach	0.83	219	P	Pg	21 15 33.2	-1.9
KLV	Kalavryta, Ach	0.83	219	*e*Pn	Pg	21 15 33.9	-1.2
KLV				S	Sg	21 15 45.7	-0.3
GUR	Goura	0.84	206	P	Pg	21 15 33.8	-1.5
GUR				S	Sg	21 15 46.1	-0.3
GUR	Goura	0.84	206	*e*PN	Pg	21 15 34.0	-1.3
GUR	Goura	0.84	206	P	Pg	21 15 33.8	-1.5
GUR				S	Sg	21 15 46.1	-0.3
AOS	Alonnisos	0.96	60	P	Pg	21 15 36.2	-1.2
AOS				S	Sb	21 15 50.2	+0.3
AOS	Alonnisos	0.96	60	*e*PN	Pg	21 15 36.3	-1.2
AOS	Alonnisos	0.96	60	P	Pg	21 15 36.2	-1.2
AOS				S	Sb	21 15 50.6	+0.3
ATH	Athens Observa	1.01	135	P	Pg	21 15 37.4	-1.1
ATH				S	Sb	21 15 51.6	+0.2
ATH	Athens Observa	1.01	135	*e*PN	Pg	21 15 37.7	-0.8
ATH				*e*SN	Sb	21 15 52.0	+0.6
ATH	Athens Observa	1.01	135	P	Pg	21 15 37.4	-1.1
ATH	Athens Observa	1.01	135	*e*Pn	Pg	21 15 37.7	-0.8
ATH				S	Sb	21 15 51.6	+0.2
ATH				*e*Sn	Sb	21 15 52.0	+0.6
PTL	Penteli	1.05	128	P	Pg	21 15 38.0	-1.2
PTL				S	Sb	21 15 53.1	+0.6
PTL	Penteli	1.05	128	*e*PN	Pg	21 15 38.2	-1.0
PTL				*e*SN	Sg	21 15 52.0	-0.9
PTL	Penteli	1.05	128	P	Pg	21 15 38.0	-1.2
PTL				*e*Sn	Sg	21 15 52.0	-0.9
PTL				S	Sb	21 15 53.1	+0.6
ATHU	Athens Univers	1.05	133	P	Pg	21 15 38.1	-1.2
ATHU				S	Sb	21 15 53.2	+0.5
ATHU	Athens Univers	1.05	133	P	Pg	21 15 38.1	-1.2
ATHU				S	Sb	21 15 53.2	+0.5
THL	Klokotos Trika	1.07	325	P	Pg	21 15 38.4	-1.1
THL				S	Sg	21 15 53.3	-0.2
THL	Klokotos Trika	1.07	325	*e*PN	Pg	21 15 38.5	-1.1
THL				*e*SN	Sg	21 15 52.1	-1.4
THL	Klokotos Trika	1.07	325	P	Pg	21 15 38.4	-1.1
THL				*e*Sn	Sg	21 15 52.1	-1.4
THL				S	Sg	21 15 53.3	-0.2
NAIG	Nisos Aigina	1.08	150	*e*PN	Pn	21 15 39.5	-0.1
NAIG	Nisos Aigina	1.08	150	*e*Pn	Pn	21 15 39.5	-0.1
AXS	Araxos	1.23	247	P	Pn	21 15 40.4	-1.4
AXS				S	Sn	21 15 59.4	+1.2
AXS	Araxos	1.23	247	P	Pn	21 15 40.4	-1.4
AXS				S	Sn	21 15 59.4	+1.2
DID	Didima	1.23	164	P	Pb	21 15 40.0	-2.1
DID				S	Sb	21 15 57.7	-0.1
DID	Didima	1.23	164	*e*PN	Pb	21 15 41.3	-0.8
DID	Didima	1.23	164	P	Pb	21 15 40.0	-2.1
DID	Didima	1.23	164	*e*Pn	Pb	21 15 41.3	-0.8
DID				S	Sb	21 15 57.7	-0.1
RLS	Riolos of Patr	1.23	239	P	Pn	21 15 40.9	-0.9
RLS	Riolos of Patr	1.23	239	*e*PN	Pn	21 15 41.5	-0.3
RLS	Riolos of Patr	1.23	239	P	Pn	21 15 40.9	-0.9
RLS	Riolos of Patr	1.23	239	*e*Pn	Pn	21 15 41.5	-0.3
DIDY	Didyma	1.26	165	P	Pn	21 15 40.6	-1.6
DIDY				S	Sb	21 15 57.6	-1.0
DIDY	Didyma	1.26	165	P	Pn	21 15 40.6	-1.6
DIDY				S	Sb	21 15 57.6	-1.0
VLX	Vlachokerasia	1.37	195	P	Pn	21 15 43.1	-0.6
VLX				S	Sb	21 16 01.7	0.0
VLX	Vlachokerasia	1.37	195	*e*PN	Pn	21 15 43.6	-0.1
VLX	Vlachokerasia	1.37	195	P	Pn	21 15 43.1	-0.6
VLX	Vlachokerasia	1.37	195	*e*Pn	Pn	21 15 43.6	-0.1
VLX				S	Sb	21 16 01.7	0.0
MRMA	Marmari	1.39	117	P	Pg	21 15 44.9	-0.7
MRMA	Marmari	1.39	117	P	Pg	21 15 44.9	-0.7
PAIG	Paliouri	1.40	28	P	Pn	21 15 43.3	-0.8
PAIG				S	Sn	21 16 03.2	+0.8
PAIG	Paliouri	1.40	28	*e*PN	Pn	21 15 43.4	-0.7
PAIG	Paliouri	1.40	28	P	Pn	21 15 43.3	-0.8
PAIG				S	Sn	21 16 03.2	+0.8
LIT	Litokhoron	1.43	350	P	Pn	21 15 43.8	-0.7
LIT	Litokhoron	1.43	350	*e*PN	Pn	21 15 44.1	-0.4
LIT	Litokhoron	1.43	350	P	Pn	21 15 43.8	-0.7
LIT	Litokhoron	1.43	350	*e*Pn	Pn	21 15 44.1	-0.4
AMT	Artemida-Makis	1.45	217	P	Pn	21 15 44.9	+0.1
AMT	Artemida-Makis	1.45	217	*e*PN	Pn	21 15 45.3	+0.5
AMT	Artemida-Makis	1.45	217	P	Pn	21 15 44.9	+0.1
AMT	Artemida-Makis	1.45	217	*e*Pn	Pn	21 15 45.3	+0.5
ITM	Ithomi	1.67	205	P	Pn	21 15 48.5	+0.7
ITM	Ithomi	1.67	205	*e*PN	Pb	21 15 48.9	-0.6
ITM	Ithomi	1.67	205	P	Pn	21 15 48.5	+0.7
ITM	Ithomi	1.67	205	*e*Pn	Pb	21 15 48.9	-0.6
LKD2	Lefkada island	1.69	274	P	Pb	21 15 49.6	-0.2
LKD2				S	Sg	21 16 14.1	+0.8
LKD2	Lefkada island	1.69	274	*e*PN	Pn	21 15 48.4	+0.3
LKD2	Lefkada island	1.69	274	*e*Pn	Pn	21 15 48.4	+0.3
LKD2	Lefkada island	1.69	274	P	Pb	21 15 49.6	-0.2
KFL	Anninata	1.69	250	P	Pn	21 15 49.3	+1.2
KFL	Anninata	1.69	250	P	Pn	21 15 49.3	+1.2
PLG	Polygyros	1.75	16	P	Pn	21 15 48.2	-0.7
PLG				S	Sn	21 16 10.3	-0.7
PLG	Polygyros	1.75	16	*e*PN	Pn	21 15 48.4	-0.5
PLG	Polygyros	1.75	16	*e*Pn	Pn	21 15 48.4	-0.5
PLG				S	Sn	21 16 10.3	-0.7
KZN	Kozani	1.80	334	P	Pn	21 15 48.5	-1.2
KZN	Kozani	1.80	334	*e*PN	Pn	21 15 50.4	+0.7
KZN	Kozani	1.80	334	P	Pn	21 15 48.5	-1.2
KZN	Kozani	1.80	334	*e*Pn	Pn	21 15 50.4	+0.7
JAN	Janina	1.80	303	P	Pn	21 15 50.5	+0.8
JAN	Janina	1.80	303	*e*PN	Pn	21 15 49.6	-0.1
JAN	Janina	1.80	303	*e*Pn	Pn	21 15 49.6	-0.1
JAN	Janina	1.80	303	P	Pn	21 15 50.5	+0.8
VLS	Valsamata	1.82	254	P	Pn	21 15 50.6	+0.7
VLS	Valsamata	1.82	254	*e*PN	Pn	21 15 51.3	+1.4
VLS	Valsamata	1.82	254	P	Pn	21 15 50.6	+0.7
VLS	Valsamata	1.82	254	*e*Pn	Pn	21 15 51.3	+1.4
OUR	Ouranopolis	1.87	29	P	Pn	21 15 50.0	-0.5
OUR				S	Sn	21 16 13.4	-0.6
OUR	Ouranopolis	1.87	29	P	Pn	21 15 50.0	-0.5
OUR				S	Sn	21 16 13.4	-0.6
HORT	Hortiatis	1.91	7	P	Pn	21 15 50.7	-0.5
HORT				S	Sn	21 16 14.6	-0.6
HORT	Hortiatis	1.91	7	P	Pn	21 15 50.7	-0.5
HORT				S	Sn	21 16 14.6	-0.6
THE	Thessaloniki	1.94	3	P	Pn	21 15 51.0	-0.5
THE	Thessaloniki	1.94	3	P	Pn	21 15 51.0	-0.5
DYR	Agios Nikonas	1.97	191	P	Pn	21 15 52.8	+0.9
DYR	Agios Nikonas	1.97	191	*e*PN	Pn	21 15 53.0	+1.1
DYR	Agios Nikonas	1.97	191	P	Pn	21 15 52.8	+0.9
VLI	Veliai	1.98	177	P	Pn	21 15 51.9	-0.1
VLI	Veliai	1.98	177	*e*PB	Pn	21 15 52.0	-0.1
VLI	Veliai	1.98	177	P	Pn	21 15 51.9	-0.1
PYL	PYLOS	1.99	206	P	Pb	21 15 53.8	-1.1
PYL	PYLOS	1.99	206	*e*PN	Pb	21 15 54.1	-0.8
PYL	PYLOS	1.99	206	P	Pb	21 15 53.8	-1.1
PYL	PYLOS	1.99	206	*e*Pn	Pb	21 15 54.1	-0.8
SFD	Strofades	2.02	225	P	Pb	21 15 55.1	-0.4
SFD	Strofades	2.02	225	*e*PN	Pn	21 15 53.0	+0.4
SFD	Strofades	2.02	225	*e*Pn	Pn	21 15 53.0	+0.4
SFD	Strofades	2.02	225	P	Pb	21 15 55.1	-0.4
IGT	Igoumenitsa	2.10	294	P	Pn	21 15 55.5	+1.7
IGT	Igoumenitsa	2.10	294	P	Pn	21 15 55.5	+1.7
SOH	Sokhos	2.16	11	P	Pn	21 15 54.8	+0.1
SOH				S	Sn	21 16 20.9	-0.4
SOH	Sokhos	2.16	11	*e*PN	Pn	21 15 54.9	+0.2
SOH	Sokhos	2.16	11	*e*Pn	Pn	21 15 54.9	+0.2
SOH				S	Sn	21 16 20.9	-0.4
NEST	Nestorio	2.19	322	P	Pn	21 15 56.2	+1.1
NEST	Nestorio	2.19	322	P	Pn	21 15 56.2	+1.1
LIA	Limnos Island	2.20	56	P	Pn	21 15 54.4	-0.6
LIA	Limnos Island	2.20	56	P	Pn	21 15 54.4	-0.6
FNA	Florina	2.36	332	P	Pn	21 15 58.0	+0.6
FNA	Florina	2.36	332	*e*PB	Pn	21 15 58.0	+0.6
FNA	Florina	2.36	332	*e*Pb	Pn	21 15 58.0	+0.6
KYTH	Kithira	2.42	176	P	Pn	21 15 58.5	+0.4
KYTH	Kithira	2.42	176	*e*PN	Pn	21 15 58.6	+0.4
KYTH	Kithira	2.42	176	P	Pn	21 15 58.5	+0.4
KNT	Kendrikon	2.46	1	P	Pn	21 15 59.1	+0.4
KNT	Kendrikon	2.46	1	P	Pn	21 15 59.1	+0.4
KBN	Korca	2.48	322	P	Pn	21 16 00.2	+1.2
KBN	Korca	2.48	322	P	Pn	21 16 00.2	+1.2
SRN	Sarande	2.48	299	P	Pn	21 16 01.1	+2.1
SRN	Sarande	2.48	299	P	Pn	21 16 01.1	+2.1
SRS	Serrai	2.49	14	P	Pn	21 15 58.9	-0.2
SRS	Serrai	2.49	14	P

STON				Sn	Sn	21 17 46.3	-2.0
BBLS	Lazići	5.77	335	*e*Pn	Pn	21 16 46.3	+2.1
DIVS	Divibare	5.80	339	⇑*i*Pn	Pn	21 16 45.5	+0.9
TRUS	Trudelj	5.81	343	*e*Pn	Pn	21 16 44.4	-0.3
GZR	Gura Zlata	6.69	360	⇓*i*P	Pn	21 16 56.6	-0.3
GZR	Gura Zlata	6.69	360	⇓*i*P	Pn	21 16 56.6	-0.3
LOT	Lotru	6.79	6	⇓*i*P	Pn	21 16 58.1	-0.1
LOT	Lotru	6.79	6	⇓*i*P	Pn	21 16 58.1	-0.1
FGSL	Fruska Gora	6.83	342	*e*Pn	Pn	21 16 59.5	+0.7
VOIR		6.94	13	⇑*i*P	Pn	21 17 01.1	+0.8
VOIR		6.94	13	⇑*i*P	Pn	21 17 01.1	+0.8
BZS	Buzias	6.97	353	⇑*i*P	Pn	21 17 00.3	-0.4
BZS	Buzias	6.97	353	⇑*i*P	Pn	21 17 00.3	-0.4
ISR	Istrita	7.00	22	⇑*i*P	Pn	21 17 03.0	+2.0
ISR	Istrita	7.00	22	⇑*i*P	Pn	21 17 03.0	+2.0
MLR	Muntele Rosu	7.18	18	⇓*i*P	Pn	21 17 05.3	+1.7
MLR	Muntele Rosu	7.18	18	Pn	Pn	21 17 04.5	+0.9
	0.8nm,0.3s,baz=169,slow=12,SNR=24						
MLR	Muntele Rosu	7.18	18	⇓*i*P	Pn	21 17 05.3	+1.7
PLOR	Plostina	7.70	20	⇑*i*P	Pn	21 17 13.2	+2.6
PLOR	Plostina	7.70	20	⇑*i*P	Pn	21 17 13.2	+2.6
VRI	Vrincioaia	7.73	21	⇑*i*P	Pn	21 17 13.7	+2.6
VRI	Vrincioaia	7.73	21	⇑*i*P	Pn	21 17 13.7	+2.6
DRGR		8.09	360	⇑*i*P	Pn	21 17 18.0	+1.9
DRGR		8.09	360	⇑*i*P	Pn	21 17 18.0	+1.9
PKSM	Moragy	8.12	339	⇓*i*P	Pn	21 17 17.5	+1.1
PKSM	Moragy	8.12	339	⇓*i*P	Pn	21 17 17.5	+1.1
TESR	Tescani	8.31	19	⇓*i*P	Pn	21 17 20.9	+1.9
TESR	Tescani	8.31	19	⇓*i*P	Pn	21 17 20.9	+1.9
NVLJ	Novalja	8.35	317	*e*Pn	Pn	21 17 20.6	+1.1
NVLJ				Sn	Sn	21 18 47.9	-5.6
BRTR	Keskin Array B	8.47	80	Pn	Pn	21 17 21.1	-0.3
	0.1nm,0.3s,baz=262,slow=13,SNR=4.0						
BURAR	Bucovina Array	9.09	10	⇓*i*P	Pn	21 17 32.5	+2.8
BURAR	Bucovina Array	9.09	10	⇓*i*P	Pn	21 17 32.5	+2.8
PSZ	Piszkesteto	9.46	348	⇑*i*P	Pn	21 17 36.1	+1.3
PSZ	Piszkesteto	9.46	348	⇑*i*P	Pn	21 17 36.1	+1.3
KECS	Kecovo	9.93	351	*e*PN	Pn	21 17 42.6	+1.4
KECS	Kecovo	9.93	351	*e*Pn	Pn	21 17 42.6	+1.4
VYHS	Vyhne	10.21	345	*e*PN	Pn	21 17 46.7	+1.7
VYHS	Vyhne	10.21	345	*e*Pn	Pn	21 17 46.7	+1.7
KWP	Kalwaria Pacla	10.93	360	⇑*i*P	Pn	21 17 48.1	-6.8
MMAI	Mount Meron Ar	11.68	115	Pn	Pn	21 18 11.0	+5.7
	baz=286,slow=12,SNR=3.9						
GERES	GERESS Array B	12.09	330	Pn	Pn	21 18 10.4	-0.3
	0.1nm,0.3s,baz=145,slow=15,SNR=5.3						
KHC	Kasperske Hory	12.36	331	*e*P	Pn	21 18 15.4	+0.9
KHC	Kasperske Hory	12.36	331	P	Pn	21 18 15.4	+0.9
DAVOX	Davos/Dischmat	12.46	315	Pn	Pn	21 18 17.3	+1.3
	0.2nm,0.3s,baz=127,slow=15,SNR=2.4						
ESDC	Sonseca Array	20.76	281	P	P	21 19 60.0	+0.6
	1.6nm,0.8s,baz=75,slow=12,SNR=4.1						
HFS	Hagfors	22.22	348	P	P	21 20 14.9	0.0
	3.5nm,0.9s,baz=161,slow=14,SNR=6.2						
FINES	FINESS Array B	22.86	4	P	P	21 20 20.7	-1.0
	3.2nm,0.8s,baz=162,slow=14,SNR=4.0						
NOA	NORSAR Array B	23.51	346	P	P	21 20 27.0	-1.3
	1.3nm,0.9s,baz=159,slow=9.9,SNR=4.1						
EKA	Eskdalemuir Ar	24.09	322	P	P	21 20 32.8	-1.0
	2.9nm,0.6s,baz=116,slow=10,SNR=20						
ARCES	ARCESS Array B	30.93	2	LR	LR	21 34 32.1	
	comp=Z,142nm,19.6s,baz=250,slow=37						
TORD	Torodi Ar. Bea	31.59	222	P	P	21 21 41.2	-0.1
	2.2nm,0.6s,baz=32,slow=8.9,SNR=33						
DBIC	Dimbokro	40.51	225	P	P	21 22 58.0	+0.3
	3.3nm,0.6s,baz=16,slow=7.5,SNR=6.6						
MKAR	Makanchi Array	43.49	59	P	P	21 23 21.5	-0.3
	0.6nm,0.6s,baz=280,slow=6.1,SNR=8.1						
ZALV	Zalesovo Beam	44.00	49	P	P	21 23 25.5	-0.2
	1.9nm,0.6s,baz=274,slow=8.2,SNR=10						
SONM	Songino Array	58.73	52	P	P	21 25 15.9	-0.5
	0.7nm,0.8s,baz=289,slow=9.2,SNR=4.3						
SCHQ	Schefferville	59.30	318	P	P	21 25 21.8	+1.8
	3.2nm,0.8s,baz=67,slow=18,SNR=3.8						
CMAR	Chiang Mai Arr	68.04	84	P	P	21 26 19.7	+1.5
	0.3nm,0.3s,baz=294,slow=6.8,SNR=2.9						
USRK	Ussuriysk Arra	75.67	45	P	P	21 27 02.5	-1.1
	1.0nm,0.6s,baz=327,slow=2.4,SNR=3.5						
KSRS	Korea Array	77.60	52	P	P	21 27 13.4	-1.3
	1.0nm,0.7s,baz=314,slow=3.4,SNR=3.8						
YBH	Yreka Blue Hor	94.01	335	LR	LR	22 09 45.8	
	comp=Z,54nm,20.7s,baz=91,slow=35						
ASAR	Alice Springs	120.44	97	PKP	PKPdf	21 34 08.9	-1.4
	0.2nm,0.4s,baz=336,slow=2.0,SNR=3.0						

MEX 09 21:16:06.0±0.4, 15°.50N×98°.21W, h12km±10km, MD3.9, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.89	5	*e*P	Pg	21 16 20.7	-2.7
PNIG				*i* S	Sg	21 16 31.6	-3.5
VHO	Vista Hermosa	2.11	42	*i* P	Pn	21 16 38.1	-3.4
VHO				*i* S	Sn	21 17 03.7	-4.2
CAIG	El Cayaco	2.50	308	*i* P	Pn	21 16 43.3	-3.3
CAIG				*i* S	Sn	21 17 12.7	-4.3
MEIG	Mezcala	2.77	331	*i* P	Pn	21 16 47.7	-2.6
MEIG				*i* S	Sn	21 17 19.7	-4.0
PLIG	Platanillo	3.13	337	*i* P	Pn	21 16 53.2	-2.2
PLIG				*i* S	Sn	21 17 29.8	-3.0
ARIG	Puente Sto Nin	3.44	324	*i* P	Pn	21 16 57.3	-2.1
ARIG				*i* S	Sn	21 17 37.0	-3.2
PPM	Popocatepetl	3.57	354	*i* P	Pn	21 16 59.3	-2.6
PPM				*i* S	Sn	21 17 40.5	-3.9

NSSP ***09*** *21:36:13.0, 38°.83N×42°.28E, h15km, Ms3.7*
ISK ***09*** *21:36:15.6, 38°.70N×42°.39E, h5km, ML3.9*
IDC ***09*** *21:36:16.1±1.1, 38°.66N×42°.38E, h0km, mb3.4/8, mb1 3.6/13, mb1mx3.5/29, mbtmp3.5/13, ML3.5/5, MS3.1/6, Ms1 3.1/6, ms1mx2.8/33, Error ellipse: s-maj=21.2km s-min=13.9km az=145.0*
ISN ***09*** *21:36:17.3±2.1, 39°.00N×44°.98E, h0km±11km, ML3.9*
CSEM ***09*** *21:36:17.5±0.1, 38°.65N×42°.46E, h8km, MD3.7, Error ellipse: s-maj=4.1km s-min=3.4km az=75.0*
DDA ***09*** *21:36:17.3, 38°.67N×42°.43E, h24km, MD3.7*
ISCJB ***09*** *21:36:18.4±0.4, 38°.64N±0°.02×42°.39E±0°.03, h23km±4km, mb3.3/8, MS3.1/3, Error ellipse: s-maj=3.7km s-min=3.2km az=20.2*
NSSC ***09*** *21:36:19.9±1.5, 38°.55N×42°.11E, h0km±334km, ML3.4*
ISC 09 21:36:17.8±0.8, 38°.66N±0°.02×42°.42E±0°.02, h14km±5km, **n139,** σ1$23/169, **mb3.3**/8, **MS3.1**/3, **4C-8D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TATV	Tatvan	0.19	217	*i* P	Pg	21 36 21.5	-0.9
TATV				*i* S	Sg	21 36 26.4	+0.9
TATV	Tatvan	0.19	217	*i* P	Pg	21 36 21.5	-0.9
TATV				*i* S	Sg	21 36 26.4	+0.9
TATV	Tatvan	0.19	217	*i* P	Pg	21 36 21.5	-0.9
TATV				*i* S	Sg	21 36 26.4	+0.9
GEVA	Gevas	0.61	124	*i* P	Pg	21 36 29.2	-0.6
GEVA				*i* S	Sb	21 36 39.4	+0.5
GEVA	Gevas	0.61	124	*i* P	Pg	21 36 29.2	-0.6
GEVA				*i* S	Sb	21 36 39.4	+0.5
GEVA	Gevas	0.61	124	*i* P	Pg	21 36 29.2	-0.6
GEVA				*i* S	Sb	21 36 39.4	+0.5
AGRB	Hanur-Agry	1.02	26	*e*PG	Pb	21 36 35.7	-1.6
AGRB				*e*SG	Sb	21 36 50.7	+0.1
AGRB	Hanur-Agry	1.02	26	*e*Pg	Pb	21 36 35.7	-1.6
AGRB				*e*Sg	Sb	21 36 50.7	+0.1
BNGL	BINGOL	1.03	287	*i* P	Pb	21 36 36.6	-1.0
BNGL				*i* S	Sn	21 36 53.0	+0.7
BNGL	BINGOL	1.03	287	*i* P	Pb	21 36 36.6	-1.0
BNGL				*i* S	Sn	21 36 53.0	+0.7
SIRT	Sirnak	1.16	179	*e*PN	Pn	21 36 39.6	0.0
SIRT	Sirnak	1.16	179	*e*Pn	Pn	21 36 39.6	0.0
SIRN	S¨–rnak	1.16	180	*i* P	Pg	21 36 40.6	+0.4
SIRN				*i* S	Sn	21 36 55.5	+0.1
SIRN	S¨–rnak	1.16	180	*i* P	Pg	21 36 40.6	+0.4
SIRN				*i* S	Sn	21 36 55.5	+0.1
SIRN	S¨–rnak	1.16	180	*i* P	Pg	21 36 40.6	+0.4
SIRN				*i* S	Sn	21 36 55.5	+0.1
BEST	Besiri	1.18	230	*i* P	Pg	21 36 40.6	-0.1
BEST				*i* S	Sg	21 36 58.3	+2.2
BEST	Besiri	1.18	230	*i* P	Pg	21 36 40.6	-0.1
BEST				*i* S	Sg	21 36 58.3	+2.2
CLDR	Caldiran	1.27	67	*e*PN	Pn	21 36 40.8	-0.5
CLDR	Caldiran	1.27	67	*e*Pn	Pn	21 36 40.8	-0.5
DYDN	Diyadin	1.33	48	*i* P	Pn	21 36 42.1	+0.1
DYDN				*i* S	Sg	21 37 01.2	+0.5
DYDN	Diyadin	1.33	48	*i* P	Pn	21 36 42.1	+0.1
DYDN				*i* S	Sg	21 37 01.2	+0.5
DYDN	Diyadin	1.33	48	*i* P	Pn	21 36 42.1	+0.1
DYDN				*i* S	Sg	21 37 01.2	+0.5
BNGB	Bing¨¶l	1.40	284	*e*PN	Pn	21 36 42.0	-0.9
HOMI	Horasan	1.44	344	*i* P	Pn	21 36 43.7	+0.1
HOMI	Horasan	1.44	344	*i* P	Pn	21 36 43.7	+0.1
ERZM	Erzurum	1.49	327	*i* P	Pn	21 36 44.7	+0.4
ERZM	Erzurum	1.49	327	*i* P	Pn	21 36 44.7	+0.4
ERZM	Erzurum	1.49	327	*i* P	Pn	21 36 44.7	+0.4
EZM	Erzurum	1.49	327	*e*PN	Pn	21 36 44.0	-0.4
HAKT	HAKKARI	1.50	137	*i* P	Pn	21 36 45.2	+0.8
HAKT				*i* S	Sn	21 37 02.6	-1.3
HAKT	HAKKARI	1.50	137	*i* P	Pn	21 36 45.2	+0.8
HAKT				*i* S	Sn	21 37 02.6	-1.3
HAKT	HAKKARI	1.50	137	*i* P	Pn	21 36 45.2	+0.8
HAKT				*i* S	Sn	21 37 02.6	-1.3
HKR	Hakkari	1.50	136	*e*PN	Pb	21 36 45.4	-0.2
HKR	Hakkari	1.50	136	*e*Pn	Pb	21 36 45.4	-0.2
BINT	Bingol	1.52	279	*e*Pn	Pn	21 36 42.0	-2.7
CUKT	Cukurca	1.70	146	*e*PN	Pb	21 36 48.2	-0.6
CUKT	Cukurca	1.70	146	*e*Pn	Pb	21 36 48.2	-0.6
MARD	Mardin	1.86	224	*i* P	Pn	21 36 49.8	+0.5
MARD				*i* S	Sg	21 37 16.9	-0.9
MARD	Mardin	1.86	224	*i* P	Pn	21 36 49.8	+0.5
MARD				*i* S	Sg	21 37 16.9	-0.9
DIY	Diyarbakir	1.88	247	*e*PN	Pn	21 36 50.4	+0.8
DIY	Diyarbakir	1.88	247	*e*Pn	Pn	21 36 50.4	+0.8
DIGO	Kars	1.90	23	*i* P	Pn	21 36 51.3	+1.3
DIGO	Kars	1.90	23	*i* P	Pn	21 36 51.3	+1.3
DIGO	Kars	1.90	23	*i* P	Pn	21 36 51.3	+1.3
DIYA	Diyarbakir	1.95	249	*i* P	Pn	21 36 51.4	+0.9
DIYA				*i* S	Sg	21 37 20.2	-0.3
DIYA	Diyarbakir	1.95	249	*i* P	Pn	21 36 51.4	+0.9
DIYA				*i* S	Sg	21 37 20.2	-0.3
DIYA	Diyarbakir	1.95	249	*i* P	Pn	21 36 51.4	+0.9
DIYA				*i* S	Sg	21 37 20.2	-0.3
MAZI	Mazidag	1.96	233	*e*PN	Pn	21 36 50.8	+0.1
MAZI	Mazidag	1.96	233	*e*Pn	Pn	21 36 50.8	+0.1
KOPT	Kop Dagi	2.01	313	*i* P	Pn	21 36 52.8	+1.2
KOPT	Kop Dagi	2.01	313	*i* P	Pn	21 36 52.8	+1.2
KOPT	Kop Dagi	2.01	313	*i* P	Pn	21 36 52.8	+1.2
KARS	Kars	2.03	14	*e*PN	Pn	21 36 51.8	+0.1
KARS	Kars	2.03	14	*e*Pn	Pn	21 36 51.8	+0.1
ERE	Yerevan	2.19	46	*e*P	Pn	21 36 50.0	-3.9
ERE				⇓S	Sb	21 37 24.0	-0.3
ERE	Yerevan	2.19	46	P	Pn	21 36 50.0	-3.9
ERE				S	Sb	21 37 24.0	-0.3
KBSD	Kabsdagh	2.22	222	*e*P	Pn	21 36 55.2	+1.0
KBSD				*e*S	Sn	21 37 20.6	-0.9
KBSD				AML	AML	21 37 31.8	
	comp=Z,977nm,0.5s						
KBSD	Kabsdagh	2.22	222	*e*P	Pn	21 36 55.2	+1.0
	SNR=45						
KBSD				*e*S	Sn	21 37 20.6	-0.9
	comp=Z,977nm,0.5s,SNR=40						
ERZN	Erzincan	2.29	295	*e*PN	Pn	21 36 55.4	+0.2
GNI	Garni	2.34	50	*e*PN	Pn	21 36 57.4	+1.4
GNI	Garni	2.34	50	⇓*i*P	Pn	21 36 57.3	+1.4
GNI				⇓*i*S	Sg	21 37 33.6	+0.6
GNI	Garni	2.34	50	⇓P	Pn	21 36 57.3	+1.4
PTK	Pertek	2.37	277	*e*PN	Pn	21 36 57.1	+0.7
PTK	Pertek	2.37	277	*e*Pn	Pn	21 36 57.1	+0.7
DAGI	Agillar	2.45	351	*i* P	Pn	21 36 58.6	+1.2
DAGI	Agillar	2.45	351	*i* P	Pn	21 36 58.6	+1.2
EZC	Erzincan	2.62	296	*e*PN	Pn	21 37 01.2	+1.4
EZC	Erzincan	2.62	296	*e*Pn	Pn	21 37 01.2	+1.4
PZAR	Pazar-Rize	2.77	336	*e*PN	Pn	21 37 02.4	+0.7
PZAR	Pazar-Rize	2.77	336	*e*Pn	Pn	21 37 02.4	+0.7
BCA	Borcka	2.85	348	*e*PN	Pn	21 37 03.1	+0.4
BCA	Borcka	2.85	348	*e*Pn	Pn	21 37 03.2	+0.4
KELT	Kelkit	2.86	302	*i* P	Pb	21 37 09.6	+0.8
KELT	Kelkit	2.86	302	*i* P	Pb	21 37 09.6	+0.8
SFNV	Sufian	2.89	220	*e*P	Pn	21 37 04.5	+1.1
SFNV				*e*S	Sn	21 37 36.1	-1.9
SFNV				AML	AML	21 37 56.1	
	comp=Z,839nm,0.7s						
SFNV	Sufian	2.89	220	*e*P	Pn	21 37 04.5	+1.1
	SNR=45						
SFNV				*e*S	Sn	21 37 36.1	-1.9
	comp=Z,839nm,0.7s,SNR=40						
GUMT	Gumushane	2.89	309	*e*PN	Pn	21 37 04.2	+0.7
GUMT	Gumushane	2.89	309	*e*Pn	Pn	21 37 04.3	+0.7
URFA	Urfa	3.09	248	*e*PN	Pn	21 37 07.2	+1.1
URFA	Urfa	3.09	248	*e*Pn	Pn	21 37 07.2	+1.1
ILIC	ilic-Erzincan	3.10	286	*e*PN	Pn	21 37 07.4	+1.1
ILIC	ilic-Erzincan	3.10	286	*e*Pn	Pn	21 37 07.4	+1.1
MALT	Malatya	3.15	265	*e*PN	Pn	21 37 08.4	+1.4
MALT	Malatya	3.15	265	*e*Pn	Pn	21 37 08.4	+1.4
MZRK	Al-Mazaregh	3.16	207	*e*P	Pn	21 37 08.8	+1.8
MZRK				*e*S	Sn	21 37 43.7	-0.8
MZRK				AML	AML	21 38 08.9	
	comp=Z,257nm,0.8s						
MZRK	Al-Mazaregh	3.16	207	*e*P	Pn	21 37 08.8	+1.8
	SNR=45						
MZRK				*e*S	Sn	21 37 43.7	-0.8
	comp=Z,257nm,0.8s,SNR=40						
GRS	Goris	3.16	73	*e*P	Pb	21 37 13.0	-0.8
ESPY	Espiye-Giresun	3.63	310	*e*PN	Pn	21 37 14.7	+1.2
ESPY	Espiye-Giresun	3.63	310	*e*Pn	Pn	21 37 14.7	+1.2
DARE	Darende-Malaty	3.86	270	*e*PN	Pn	21 37 18.1	+1.2
RSDY	Resadiye-TOKAT	4.30	295	*e*PN	Pn	21 37 24.3	+1.6
RSDY	Resadiye-TOKAT	4.30	295	*e*Pn	Pn	21 37 24.3	+1.6
KBZ	Khabaz	5.08	4	Pn	Pn	21 37 36.2	+2.8
	comp=Z,0.7nm,0.3s,baz=139,slow=7.2,SNR=7.5						
BHD	Baghdad	5.61	163	*e*PN4	Pn	21 37 44.8	+4.1
BHD				*e*PG	x	21 38 24.7	
BHD				*i* Sn	Sn	21 38 46.9	+2.0
BHD	Baghdad	5.61	163	*e*Pn	Pn	21 37 44.8	+4.1
	SNR=39						
IBDR	Badra	6.23	152	*e*PN4	Pn	21 37 47.0	-2.2
IBDR				*e*SN4	Sn	21 38 49.6	-11
BRTR	Keskin Array B	6.90	282	Pn	Pn	21 37 59.8	+1.3
	comp=Z,0.1nm,0.3s,baz=113,slow=15,SNR=3.5						
ZALF	Zalf	7.06	217	*e*P	Pn	21 38 01.3	+0.6
ZALF				*e*S	Sn	21 39 16.5	-4.2
ZALF				AML	AML	21 40 15.8	
	comp=Z,35nm,0.7s						
ZALF				AML	AML	21 40 19.8	
	comp=N,43nm,0.7s						
ZALF	Zalf	7.06	217	*e*P	Pn	21 38 01.3	+0.6
	SNR=45						
BRBR	Barbar	7.40	227	*e*P	Pn	21 38 07.7	+2.1
BRBR	Barbar	7.40	227	*e*P	Pn	21 38 07.7	+2.1
	SNR=45						
SALA	Sala	7.52	220	*e*P	Pn	21 38 08.4	+1.2
SALA				*e*S	Sn	21 39 27.4	-4.9
SALA	Sala	7.52	220	*e*P	Pn	21 38 08.4	+1.2
	SNR=45						
ASF	Jabal al Asfar	7.88	216	Pn	Pn	21 38 13.1	+1.0
	comp=N,1.1nm,0.3s,baz=354,slow=10,SNR=9.9						
ASF				Lg	Lg	21 40 27.9	
	comp=N,0.5nm,0.3s,baz=354,slow=23,SNR=3.1						
ASF				LR	LR	21 41 41.5	
	comp=N,73nm,19.6s,baz=7.8,slow=41						
MMAI	Mount Meron Ar	8.01	227	Pn	Pn	21 38 16.1	+2.4
	comp=N,1.0nm,0.3s,baz=65,slow=14,SNR=4.7						
MMAI				Lg	Lg	21 40 36.8	
	comp=N,1.0nm,0.3s,baz=84,slow=39,SNR=2.9						
NSR	Nassriya	8.22	157	*e*PN4	Pn	21 38 18.1	+1.5
NSR				*e*SN4	Sn	21 39 42.3	-7.0
NSR	Nassriya	8.22	157	*e*Pn	Pn	21 38 18.1	+1.5
	SNR=39						
NSR				*e*Sn	Sn	21 39 42.3	-7.0
	SNR=39						
MIB	Mutribah	9.73	154	*e*P	Pn	21 38 36.2	-1.0
MIB				AMb	AMB	21 38 37.1	
	comp=Z,54nm,0.7s						
MIB	Mutribah	9.73	154	*e*P	Pn	21 38 36.2	-1.0
	comp=Z,54nm,0.7s						
RST	Umm Al-Ruwaisa	9.89	156	*e*P	Pn	21 38 38.4	-1.1
RST				AMb	AMB	21 38 38.9	
	comp=Z,330nm,0.8s						
RST	Umm Al-Ruwaisa	9.89	156	*e*P	Pn	21 38 38.4	-1.1
	comp=Z,330nm,0.8s						
NAY	Al-Naaiem	10.20	155	*e*P	Pn	21 38 42.4	-1.4
NAY				AMb	AMB	21 38 43.0	
	comp=Z,0.9nm,0.7s						
NAY	Al-Naaiem	10.20	155	*e*P	Pn	21 38 42.4	-1.4
	comp=Z,0.9nm,0.7s						
KBD	Kabd	10.42	154	*e*P	Pn	21 38 45.7	-1.1
KBD	Kabd	10.42	154	*e*P	Pn	21 38 45.7	-1.1
RDF	Al-Radifah	10.60	155	*e*P	Pn	21 38 48.1	-1.2
RDF				AMb	AMB	21 38 48.8	
	comp=Z,60nm,0.5s						
RDF	Al-Radifah	10.60	155	*e*P	Pn	21 38 48.1	-1.2
	comp=Z,60nm,0.5s						
EIL	Elat	10.89	217	Lg	Lg	21 42 11.9	
	comp=Z,0.2nm,0.3s,baz=72,slow=16,SNR=2.2						
EIL				LR	LR	21 43 35.9	
	comp=Z,90nm,20.3s,baz=80,slow=40						
VOIR		14.56	303	⇓*i*P	P	21 39 52.2	+2.4
VOIR		14.56	303	⇓*i*P	P	21 39 52.2	+2.4
AKASG	Malin Array Be	15.23	326	Pn	Pn	21 39 50.7	-1.6
	comp=Z,0.6nm,0.3s,baz=134,slow=11,SNR=5.4						
BURAR	Bucovina Array	15.39	311	⇑*i*P	P	21 40 00.7	+1.6
BURAR	Bucovina Array	15.39	311	⇑*i*P	P	21 40 00.7	+1.6
GZR	Gura Zlata	16.05	301	⇓*i*P	P	21 40 07.6	+1.2
GZR	Gura Zlata	16.05	301	⇓*i*P	P	21 40 07.6	+1.2
AKTO	Aktyubinsk	16.16	38	Pn	Pn	21 40 03.1	-1.2
	comp=Z,0.2nm,0.3s,baz=234,slow=14,SNR=6.3						
AKTO				LR	LR	21 48 13.1	
	comp=Z,91nm,20.9s,baz=342,slow=44						
DRGR		16.57	306	⇑*i*P	P	21 40 14.4	+2.2
DRGR		16.57	306	⇑*i*P	P	21 40 14.4	+2.2
GERES	GERESS Array B	22.98	306	P	P	21 41 21.6	-0.3
	comp=Z,0.4nm,0.6s,baz=110,slow=12,SNR=5.1						
BVAR	Borovoye Array	24.01	44	P	P	21 41 33.4	+1.5
	comp=Z,0.6nm,0.5s,baz=233,slow=14,SNR=3.9						
FINES	FINESS Array B	24.96	341	P	P	21 41 40.1	-0.3
	comp=Z,3.7nm,0.9s,baz=150,slow=14,SNR=2.8						
DAVOX	Davos/Dischmat	25.10	299	LR	LR	21 51 40.5	
	comp=Z,51nm,18.3s,baz=266,slow=37						
KURBB	Kurchatov Arra	28.06	53	P	P	21 42 09.3	+0.8
	comp=Z,0.3nm,0.5s,baz=263,slow=8.8,SNR=5.5						
NOA	NORSAR Array B	29.61	329	LR	LR	21 54 57.2	
	comp=Z,76nm,19.2s,baz=5.0,slow=38						
MKAR	Makanchi Array	30.13	61	P	P	21 42 26.9	-0.2
	comp=Z,0.3nm,0.6s,baz=273,slow=7.4,SNR=3.2						
ZALV	Zalesovo Beam	32.48	48	LR	LR	21 56 45.5	
	comp=Z,20nm,18.8s,baz=160,slow=38						
ESDC	Sonseca Array	35.66	287	P	P	21 43 16.0	+0.6
	comp=Z,0.2nm,0.5s,baz=72,slow=9.5,SNR=3.3						
TORD	Torodi Ar. Bea	44.06	246	P	P	21 44 24.5	-0.8
	comp=Z,0.8nm,1.0s,baz=50,slow=8.3,SNR=3.8						
SONM	Songino Array	46.28	57	P	P	21 44 43.1	+0.2
	comp=Z,0.2nm,0.6s,baz=268,slow=9.2,SNR=2.0						

MAN 09 21:42:27.7±35N×122°.04E, h4km, mb3.8, ML2.5, MS2.1, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZMPH	Zamboanga City	0.39	176	⇓*i*P	Pb	21 42 35.8	-0.7
ZMPH				*i* S	Sb	21 42 41.5	-1.4
IPIL	Ipil	0.69	50	*e*P	Pg	21 42 40.7	+0.5
IPIL				*e*S	Sg	21 42 46.6	-2.5
PAGZ	Pagadian	1.42	69	*e*P	Pn	21 42 53.7	+0.1
PAGZ				*e*S	Sb	21 43 09.1	-3.5

IDC ***09*** *21:51:54.0±3.0, 7°.19S×108°.03E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/21, mbtmp3.5/4, MS3.9/1, Ms1 3.9/1, ms1mx2.7/22, Error ellipse: s-maj=167.6km s-min

WRA Warramunga Arr 31.18 261 P P 22 13 33.2 -0.5
1.2nm,0.9s,baz=90,slow=8.4,SNR=9.0
ASAR Alice Springs 31.64 254 P P 22 13 37.7 -0.1
0.8nm,0.4s,baz=80,slow=8.8,SNR=13
ASAR LR LR 22 26 48.4
comp=Z,130nm,21.1s,baz=116,slow=37
FITZ Fitzroy Crossi 39.53 263 LR LR 22 30 09.2
comp=Z,98nm,20.7s,baz=351,slow=35
PPT2 Papeete2 41.01 96 eLR LR 22 26 21.5
68nm,26.8s

IDC 09 22:08:14.5±1.4, 13°.92N×92°.84E, h36km±8km, mb3.5/6, mb1 3.6/6, mb1mx3.4/25, mbtmp3.5/6, MS3.0/2, Ms1 3.0/2, ms1mx2.7/30, Error ellipse: s-maj=66.7km s-min=20.1km az=58.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**27.26**	**86**	LR	LR	22 23 08.1	
comp=Z,20nm,20.2s,baz=248,slow=33							
KAPI	**Kappang**	**32.67**	**123**	LR	LR	22 30 15.0	
comp=Z,41nm,18.3s,baz=301,slow=40							
MKAR	**Makanchi Array**	**33.94**	**347**	P	P	22 14 53.2	-1.0
0.4nm,0.5s,baz=166,slow=8.4,SNR=6.8							
MKAR				pP	pP	22 15 05.5	+0.9
0.5nm,0.5s,baz=156,slow=9.4,SNR=6.5							
ZALV	**Zalesovo Beam**	**40.43**	**353**	P	P	22 15 49.3	+0.1
0.7nm,0.6s,baz=170,slow=8.8,SNR=4.5							
ZALV				pP	pP	22 15 59.0	-0.7
0.7nm,0.5s,baz=180,slow=7.7,SNR=3.3							
ASAR	**Alice Springs**	**54.85**	**133**	P	P	22 17 41.7	+0.2
0.2nm,0.4s,baz=312,slow=7.3,SNR=5.4							
ASAR				pP	pP	22 17 51.8	-0.6
0.4nm,0.6s,baz=308,slow=6.9,SNR=3.1							
BRTR	**Keskin Array B**	**57.61**	**308**	P	P	22 18 00.9	-0.3
0.7nm,0.8s,baz=105,slow=4.5,SNR=3.8							
ARCES	**ARCESS Array B**	**69.18**	**340**	P	P	22 19 17.5	+0.5
1.7nm,0.9s,baz=95,slow=9.1,SNR=4.2							
GERES	**GERESS Array B**	**72.52**	**317**	P	P	22 19 37.9	+0.1
0.4nm,0.6s,baz=80,slow=6.1,SNR=4.6							

DJA 09 22:22:33.5±1.3, 3°S±5°×12°6E±°, h30km, M4.2/4, MLv4.2/4, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**1.47**	**111**	P	Pn	22 22 55.0	-2.9
AAI	**Ambon**	**2.65**	**112**	P	Pn	22 23 15.6	+1.4
AAI				S	Sn	22 23 47.4	+2.1
LBMI	**Labuha**	**2.71**	**41**	P	Pn	22 23 15.2	+0.1
LBMI				S	Sn	22 23 48.9	+1.9

*MDD **09** 22:27:29.6±1.5, 36°.30N×15°.54W, h0km, mb4.6/18, Error ellipse: s-maj=14.1km s-min=12.9km az=163.0, PRXIMO*
*IGIL **09** 22:27:30.9, 36°.16N×15°.90W, h54km, ML3.6*
*INMG **09** 22:27:32.0±2.1, 36°.16N×15°.86W, h47km±9km, ML3.3, Error ellipse: s-maj=6.5km s-min=4.1km az=114.0*
*LDG **09** 22:27:33.8±17.0, 36°.30N×15°.50W, h20km, Ml3.6/4, Error ellipse: s-maj=9999.9km s-min=9999.9km az=99.0*
*CSEM **09** 22:27:37.2±0.3, 36°.66N×14°.99W, h10km, ML3.3, Error ellipse: s-maj=6.4km s-min=5.7km az=107.0*
*CNRM **09** 22:27:46.2, 36°.19N×14°.87W, h30km, MD3.8*
ISC 09 22:27:31.2±3.2, 36°.52N±0°.09×15°.3W±0°.2, h10km, n189, σ2±14/301, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMPST	**Porto Santo, M**	**3.53**	**194**	eP	Pn	22 28 15.2	-11
PMPST				eS	Sn	22 28 47.4	-21
PMPST				A	A	22 28 53.1	
56nm,0.4s							
PMPS	**Porto Santo**	**3.55**	**194**	eP	Pn	22 28 15.5	-11
PMPS				eS	Sn	22 28 47.8	-21
PMPS				A	A	22 28 50.4	
43nm,0.5s							
PMPS	**Porto Santo**	**3.55**	**194**	P	Pn	22 28 15.2	-11
PMPS				S	Sn	22 28 47.4	-21
28nm,0.4s							
PMPS	**Porto Santo**	**3.55**	**194**	P	Pn	22 28 15.2	-11
PMPS				S	Sn	22 28 47.4	-21
28nm,0.4s							
PMAR	**Madeira**	**4.00**	**200**	eP	Pn	22 28 21.4	-11
PMAR				eS	Sn	22 29 00.9	-19
PMAR				A	A	22 29 08.3	
72nm,0.4s							
PMAR	**Madeira**	**4.00**	**200**	P	Pn	22 28 21.4	-11
PMAR				S	Sn	22 29 00.9	-19
36nm,0.4s							
PMAR	**Madeira**	**4.00**	**200**	P	Pn	22 28 21.4	-11
PMAR				S	Sn	22 29 00.9	-19
36nm,0.4s							
PFVI	**Vila Bisbo**	**5.25**	**81**	eP	**Pn**	**22 28 50.9**	**+1.1**
PFVI				eS	**Sn**	**22 29 49.9**	**-0.5**
PFVI				A	A	22 29 53.9	
22nm,0.9s							
PFVI	**Vila Bisbo**	**5.25**	**81**	P	**Pn**	**22 28 50.3**	**+0.5**
11nm,0.2s,SNR=28							
PFVI				S	**Sn**	**22 29 49.0**	**-1.4**
46nm,0.3s,SNR=6.5							
PFVI	**Vila Bisbo**	**5.25**	**81**	P	**Pn**	**22 28 50.3**	**+0.5**
11nm,0.2s,SNR=28							
PFVI				eS	**Sn**	**22 29 49.9**	**-0.5**
22nm,0.9s							
PMST	**Lisbon--Monsan**	**5.36**	**64**	eS	**Sn**	**22 29 54.4**	**+1.4**
PMST				A	A	22 29 58.4	
29nm,0.4s							
PMST	**Lisbon--Monsan**	**5.36**	**64**	eS	**Sn**	**22 29 54.4**	**+1.4**
29nm,0.4s							
LIS	**Lisbon**	**5.37**	**64**	eS	**Sn**	**22 29 55.5**	**+2.1**
LIS				AML	AML	22 29 57.8	
comp=E,102nm,0.3s							
LIS	**Lisbon**	**5.37**	**64**	eS	**Sn**	**22 29 55.5**	**+2.1**
LIS	**Lisbon**	**5.37**	**64**	S	**Sn**	**22 29 55.5**	**+2.1**
PMAFR	**Mafra**	**5.37**	**61**	eP	**Pn**	**22 28 53.7**	**+2.2**
PMAFR				eS	**Sn**	**22 29 55.0**	**+1.6**
PMAFR				A	A	22 30 01.8	
comp=E,46nm,0.2s							
PMAFR	**Mafra**	**5.37**	**61**	P	**Pn**	**22 28 53.7**	**+2.2**
comp=E,13nm,0.2s,SNR=13							
PMAFR				S	**Sn**	**22 29 54.4**	**+1.0**
comp=E,82nm,0.2s,SNR=10							
PMAFR	**Mafra**	**5.37**	**61**	P	**Pn**	**22 28 53.7**	**+2.2**
comp=E,13nm,0.2s,SNR=13							
PMAFR				S	**Sn**	**22 29 54.4**	**+1.0**
comp=E,82nm,0.2s,SNR=10							
MORF	**Marmelete**	**5.41**	**80**	eP	**Pn**	**22 28 53.4**	**+1.4**
MORF				eS	**Sn**	**22 29 54.2**	**-0.1**
MORF				A	A	22 29 59.0	
comp=E,17nm,0.3s							
MORF	**Marmelete**	**5.41**	**80**	P	**Pn**	**22 28 53.4**	**+1.4**
MORF				S	**Sn**	**22 29 54.0**	**-0.3**
MORF	**Marmelete**	**5.41**	**80**	eP	**Pn**	**22 28 53.4**	**+1.4**
MORF				S	**Sn**	**22 29 54.0**	**-0.3**
PACT	**Alcochete**	**5.62**	**64**	eP	**Pn**	**22 28 57.5**	**+2.6**
PACT				eS	**Sn**	**22 30 02.6**	**+3.1**
PACT				A	A	22 30 05.8	
comp=E,30nm,0.5s							
PACT	**Alcochete**	**5.62**	**64**	eP	**Pn**	**22 28 57.5**	**+2.6**
PNCL	**Nicolau / Gran**	**5.65**	**72**	eP	**Pn**	**22 28 57.2**	**+2.0**
PNCL				eS	**Sn**	**22 30 00.6**	**+0.5**
PNCL				A	A	22 30 05.9	
comp=E,16nm,0.4s							
PNCL	**Nicolau / Gran**	**5.65**	**72**	eP	**Pn**	**22 28 57.2**	**+2.0**
PNCL				eS	**Sn**	**22 30 00.6**	**+0.5**
comp=E,16nm,0.4s							
MOE	**Montemor**	**5.89**	**68**	eP	**Pn**	**22 29 00.9**	**+2.3**
MOE				eS	**Sn**	**22 30 06.5**	**+0.2**
MOE	**Montemor**	**5.89**	**68**	P	**Pn**	**22 29 00.9**	**+2.3**
MOE				S	**Sn**	**22 30 06.5**	**+0.2**
MOE	**Montemor**	**5.89**	**68**	eP	**Pn**	**22 29 00.9**	**+2.3**
MOE				eS	**Sn**	**22 30 06.5**	**+0.2**
ALMR	**Almeirim**	**5.96**	**62**	eP	**Pn**	**22 29 01.4**	**+1.9**
ALMR				eS	**Sn**	**22 30 09.0**	**+1.3**
ALMR				AML	AML	22 30 13.2	
comp=E,62nm,0.6s							
ALMR	**Almeirim**	**5.96**	**62**	eP	**Pn**	**22 29 01.4**	**+1.9**
ALMR				eS	**Sn**	**22 30 09.0**	**+1.3**
ALMR	**Almeirim**	**5.96**	**62**	P	**Pn**	**22 29 01.4**	**+1.9**
ALMR				S	**Sn**	**22 30 09.0**	**+1.3**
ALMR	**Almeirim**	**5.96**	**62**	P	**Pn**	**22 29 01.4**	**+1.9**
ALMR				S	**Sn**	**22 30 09.0**	**+1.3**
PBDV	**Barranco-do-Ve**	**5.97**	**81**	eP	**Pn**	**22 29 01.3**	**+1.6**
PBDV				eS	**Sn**	**22 30 08.5**	**+0.3**
PBDV				A	A	22 30 19.1	
comp=E,15nm,0.3s							
PBDV	**Barranco-do-Ve**	**5.97**	**81**	P	**Pn**	**22 29 01.3**	**+1.6**
PBDV				S	**Sn**	**22 30 08.5**	**+0.3**
comp=E,15nm,0.3s							
PBDV	**Barranco-do-Ve**	**5.97**	**81**	eP	**Pn**	**22 29 01.3**	**+1.6**
PBDV				S	**Sn**	**22 30 08.5**	**+0.3**
comp=E,15nm,0.3s							
EVOP	**Sao Brissos**	**6.07**	**69**	ePn	**Pn**	**22 29 02.3**	**+1.3**
EVOP				eSn	**Sn**	**22 30 08.3**	**-2.2**
comp=E,12nm,0.3s							
PBEJ	**Beja**	**6.14**	**74**	eP	**Pn**	**22 29 03.7**	**+1.7**
PBEJ				eS	**Sn**	**22 30 12.2**	**0.0**
PBEJ	**Beja**	**6.14**	**74**	P	**Pn**	**22 29 03.7**	**+1.7**
PBEJ				S	**Sn**	**22 30 12.2**	**0.0**
PBEJ	**Beja**	**6.14**	**74**	eP	**Pn**	**22 29 03.7**	**+1.7**
PBEJ				eS	**Sn**	**22 30 12.2**	**0.0**
EVO	**Evora**	**6.15**	**69**	ePn	**Pn**	**22 29 02.3**	**+0.1**
EVO				eSn	**Sn**	**22 30 08.3**	**-4.2**
comp=E,24nm,0.3s							
PVAQ	**Vaqueiros**	**6.16**	**79**	eP	**Pn**	**22 29 03.5**	**+1.3**
PVAQ				eS	**Sn**	**22 30 13.0**	**+0.3**
PVAQ				A	A	22 30 20.0	
comp=E,13nm,0.3s							
PVAQ	**Vaqueiros**	**6.16**	**79**	P	**Pn**	**22 29 03.5**	**+1.3**
PVAQ				S	**Sn**	**22 30 13.0**	**+0.3**
comp=E,13nm,0.3s							
PVAQ	**Vaqueiros**	**6.16**	**79**	eP	**Pn**	**22 29 03.5**	**+1.3**
PVAQ				S	**Sn**	**22 30 13.0**	**+0.3**
comp=E,13nm,0.3s							
PMTG	**Montargil**	**6.17**	**63**	eP	**Pn**	**22 29 04.2**	**+1.7**
PMTG				eS	**Sn**	**22 30 14.2**	**+1.1**
PMTG				A	A	22 30 20.6	
comp=E,12nm,0.5s							
PMTG	**Montargil**	**6.17**	**63**	eP	**Pn**	**22 29 04.2**	**+1.7**
PMTG				eS	**Sn**	**22 30 14.2**	**+1.1**
comp=E,12nm,0.5s							
PTOM	**Tomar**	**6.27**	**58**	eP	**Pn**	**22 29 05.8**	**+2.0**
PTOM				eS	**Sn**	**22 30 17.3**	**+1.7**
PTOM				A	A	22 30 24.4	
comp=E,27nm,0.3s							
PTOM	**Tomar**	**6.27**	**58**	P	**Pn**	**22 29 05.8**	**+2.0**
PTOM				S	**Sn**	**22 30 17.3**	**+1.7**
comp=E,14nm,0.3s							
PTOM	**Tomar**	**6.27**	**58**	eP	**Pn**	**22 29 05.8**	**+2.0**
PTOM				S	**Sn**	**22 30 17.3**	**+1.7**
comp=E,14nm,0.3s							
EGRO	**El Granado**	**6.36**	**78**	P	**Pn**	**22 29 05.6**	**+0.6**
comp=E,5.3nm,0.2s,SNR=4.8							
EGRO				S	**Sn**	**22 30 15.8**	**-1.7**
comp=E,18nm,0.4s,SNR=7.9							
EGRO	**El Granado**	**6.36**	**78**	P	**Pn**	**22 29 05.6**	**+0.6**
comp=E,5.3nm,0.2s,SNR=4.8							
EGRO				S	**Sn**	**22 30 15.9**	**-1.7**
comp=E,18nm,0.4s,SNR=7.9							
PCAS	**Casmilo, Conde**	**6.43**	**55**	eP	**Pn**	**22 29 08.1**	**+2.2**
PCAS				eS	**Sn**	**22 30 21.1**	**+1.7**
PCAS				A	A	22 30 23.7	
comp=E,11nm,0.4s							
PCAS	**Casmilo, Conde**	**6.43**	**55**	eP	**Pn**	**22 29 08.1**	**+2.2**
PCAS				eS	**Sn**	**22 30 21.1**	**+1.7**
comp=E,11nm,0.4s							
PESTR	**Estremoz**	**6.57**	**67**	eP	**Pn**	**22 29 10.3**	**+2.4**
PESTR				eS	**Sn**	**22 30 23.5**	**+0.7**
PESTR				A	A	22 30 42.5	
comp=E,9.6nm,0.6s							
PESTR	**Estremoz**	**6.57**	**67**	P	**Pn**	**22 29 10.3**	**+2.4**
PESTR				S	**Sn**	**22 30 23.5**	**+0.7**
comp=E,4.8nm,0.6s							
PESTR	**Estremoz**	**6.57**	**67**	eP	**Pn**	**22 29 10.3**	**+2.4**
PESTR				S	**Sn**	**22 30 23.5**	**+0.7**
comp=E,4.8nm,0.6s							
PBAR	**Barrancos**	**6.81**	**73**	eP	**Pn**	**22 29 12.6**	**+1.5**
PBAR				eS	**Sn**	**22 30 27.8**	**-0.9**
PBAR				A	A	22 30 32.5	
comp=E,6.0nm,0.9s							
PBAR	**Barrancos**	**6.81**	**73**	P	**Pn**	**22 29 12.6**	**+1.5**
PBAR				S	**Sn**	**22 30 27.8**	**-0.9**
comp=E,6.0nm,0.9s							
PBAR	**Barrancos**	**6.81**	**73**	eP	**Pn**	**22 29 12.6**	**+1.5**
PBAR				S	**Sn**	**22 30 27.8**	**-0.9**
comp=E,6.0nm,0.9s							
PMRV	**Marv??o**	**6.91**	**63**	eP	**Pn**	**22 29 14.7**	**+2.1**
PMRV				eS	**Sn**	**22 30 31.4**	**+0.2**
PMRV				A	A	22 30 34.2	
comp=E,23nm,0.6s							
PMRV	**Marv??o**	**6.91**	**63**	P	**Pn**	**22 29 14.7**	**+2.1**
PMRV				S	**Sn**	**22 30 31.4**	**+0.2**
comp=E,23nm,0.6s							
PMRV	**Marv??o**	**6.91**	**63**	eP	**Pn**	**22 29 14.7**	**+2.1**
PMRV				S	**Sn**	**22 30 31.4**	**+0.2**
comp=E,23nm,0.6s							
EBAD	**Badajoz**	**6.96**	**69**	P	**Pn**	**22 29 15.2**	**+1.9**
comp=E,2.7nm,0.2s,SNR=11							
EBAD				S	**Sn**	**22 30 31.3**	**-1.3**
comp=E,12nm,0.3s,SNR=6.4							
EBAD	**Badajoz**	**6.96**	**69**	P	**Pn**	**22 29 15.2**	**+1.9**
comp=E,2.7nm,0.2s,SNR=11							
EBAD				S	**Sn**	**22 30 31.3**	**-1.3**
comp=E,12nm,0.3s,SNR=6.4							
PTO	**Porto**	**6.99**	**47**	eP	**Pn**	**22 29 15.6**	**+2.0**
PTO				eS	**Sn**	**22 30 33.4**	**+0.3**
PTO				A	A	22 30 37.5	
comp=E,17nm,0.3s							
PTO	**Porto**	**6.99**	**47**	P	**Pn**	**22 29 15.6**	**+2.0**
PTO				S	**Sn**	**22 30 33.4**	**+0.3**
comp=E,8.5nm,0.3s							
PTO	**Porto**	**6.99**	**47**	eP	**Pn**	**22 29 15.6**	**+2.0**
PTO				S	**Sn**	**22 30 33.4**	**+0.3**
comp=E,8.5nm,0.3s							
PCBR	**Castelo Branco**	**7.02**	**59**	eP	**Pn**	**22 29 16.7**	**+2.7**
PCBR				eS	**Sn**	**22 30 34.6**	**+0.8**
PCBR				A	A	22 30 36.1	
comp=E,8.0nm,0.3s							
PCBR	**Castelo Branco**	**7.02**	**59**	P	**Pn**	**22 29 16.7**	**+2.7**
PCBR				S	**Sn**	**22 30 34.6**	**+0.8**
comp=E,4.0nm,0.3s							
PCBR	**Castelo Branco**	**7.02**	**59**	eP	**Pn**	**22 29 16.7**	**+2.7**
PCBR				S	**Sn**	**22 30 34.6**	**+0.8**
comp=E,4.0nm,0.3s							
EMIN	**Mina Concepcio**	**7.02**	**77**	P	**Pn**	**22 29 15.0**	**+0.8**
comp=E,3.3nm,0.3s,SNR=13							
EMIN				S	**Sn**	**22 30 32.0**	**-2.0**
comp=E,9.5nm,0.3s,SNR=7.5							
EMIN	**Mina Concepcio**	**7.02**	**77**	P	**Pn**	**22 29 15.0**	**+0.8**
comp=E,3.3nm,0.3s,SNR=13							
EMIN				S	**Sn**	**22 30 32.0**	**-2.0**
comp=E,9.5nm,0.3s,SNR=7.5							
PVIS	**Viseu**	**7.17**	**52**	eP	**Pn**	**22 29 18.9**	**+2.7**
PVIS				eS	**Sn**	**22 30 37.7**	**0.0**
PVIS				A	A	22 30 48.5	
comp=E,5.9nm,0.2s							
PVIS	**Viseu**	**7.17**	**52**	P	**Pn**	**22 29 18.9**	**+2.7**
PVIS				S	**Sn**	**22 30 37.7**	**0.0**
comp=E,3.0nm,0.2s							
PVIS	**Viseu**	**7.17**	**52**	eP	**Pn**	**22 29 18.9**	**+2.7**
PVIS				S	**Sn**	**22 30 37.7**	**0.0**
comp=E,3.0nm,0.2s							
MTE	**Manteigas**	**7.23**	**55**	eS	**Sn**	**22 30 39.8**	**+0.5**
MTE				A	A	22 30 43.8	
comp=E,18nm,0.8s							
MTE	**Manteigas**	**7.23**	**55**	S	**Sn**	**22 30 39.8**	**+0.5**
comp=E,8.8nm,0.8s							
MTE	**Manteigas**	**7.23**	**55**	S	**Sn**	**22 30 39.8**	**+0.5**
comp=E,8.8nm,0.8s							
CIA	**Chichaoua**	**7.35**	**130**	eP	Pn	22 29 24.0	+5.3
CIA				*i* S	x	22 29 38.0	
EFAM	**Famara**	**7.52**	**168**	S	Sn	22 30 33.9	-12
comp=E,8.3nm,0.6s,SNR=7.9							
EFAM	**Famara**	**7.52**	**168**	S	Sn	22 30 33.9	-12
comp=E,8.3nm,0.6s,SNR=7.9							
PVRL	**Vila Real**	**7.60**	**49**	eP	**Pn**	**22 29 23.8**	**+1.7**
PVRL				eS	**Sn**	**22 30 47.6**	**-0.7**
PVRL				A	A	22 30 52.6	
comp=E,9.7nm,0.5s							
PVRL	**Vila Real**	**7.60**	**49**	P	**Pn**	**22 29 23.8**	**+1.7**
PVRL				S	**Sn**	**22 30 47.6**	**-0.7**
comp=E,4.8nm,0.5s							
PVRL	**Vila Real**	**7.60**	**49**	eP	**Pn**	**22 29 23.8**	**+1.7**
PVRL				S	**Sn**	**22 30 47.6**	**-0.7**
comp=E,4.8nm,0.5s							
POLO	**Lamas de Olo**	**7.61**	**48**	eP	**Pn**	**22 29 24.2**	**+1.9**
POLO				eS	**Sn**	**22 30 47.8**	**-0.9**
POLO				A	A	22 30 52.0	
comp=E,2.7nm,0.3s							
POLO	**Lamas de Olo**	**7.61**	**48**	eP	**Pn**	**22 29 24.2**	**+1.9**
POLO				eS	**Sn**	**22 30 47.8**	**-0.9**
comp=E,2.7nm,0.3s							
ESPR	**Espera**	**7.62**	**85**	P	**Pn**	**22 29 23.5**	**+1.2**
comp=E,6.1nm,0.2s,SNR=9.2							
ESPR				S	**Sn**	**22 30 46.2**	**-2.4**
comp=E,29nm,0.3s,SNR=5.0							
ESPR	**Espera**	**7.62**	**85**	P	**Pn**	**22 29 23.5**	**+1.2**
comp=E,6.1nm,0.2s,SNR=9.2							
ESPR				S	**Sn**	**22 30 46.2**	**-2.4**
comp=E,29nm,0.3s,SNR=5.0							
EZAM	**Zamans**	**7.62**	**40**	P	**Pn**	**22 29 23.6**	**+1.3**
comp=E,9.8nm,0.4s,SNR=7.9							
EZAM				S	**Sn**	**22 30 47.1**	**-1.6**
comp=E,8.0nm,0.2s,SNR=7.9							
EZAM	**Zamans**	**7.62**	**40**	P	**Pn**	**22 29 23.6**	**+1.3**
comp=E,9.8nm,0.4s,SNR=7.9							
EZAM				S	**Sn**	**22 30 47.1**	**-1.6**
comp=E,8.0nm,0.2s,SNR=7.9							
PCAB	**Cabril**	**7.69**	**45**	eP	**Pn**	**22 29 24.9**	**+1.7**
PCAB				eS	**Sn**	**22 30 49.4**	**-1.0**
PCAB				A	A	22 30 56.0	
comp=E,9.3nm,0.5s							
PCAB	**Cabril**	**7.69**	**45**	P	**Pn**	**22 29 24.9**	**+1.7**
PCAB				S	**Sn**	**22 30 49.4**	**-1.0**
comp=E,4.7nm,0.5s							
PCAB	**Cabril**	**7.69**	**45**	eP	**Pn**	**22 29 24.9**	**+1.7**
PCAB				S	**Sn**	**22 30 49.4**	**-1.0**
comp=E,4.7nm,0.5s							
PGAV	**Gavieira, Arco**	**7.72**	**43**	eP	**Pn**	**22 29 25.5**	**+1.8**
PGAV				eS	**Sn**	**22 30 49.7**	**-1.6**
PGAV				A	A	22 30 57.5	
comp=E,7.3nm,0.2s							
PGAV	**Gavieira, Arco**	**7.72**	**43**	eP	**Pn**	**22 29 25.5**	**+1.8**
PGAV				eS	**Sn**	**22 30 49.7**	**-1.6**
comp=E,7.3nm,0.2s							
ELOB	**Lobios**	**7.77**	**44**	P	**Pn**	**22 29 25.7**	**+1.2**
comp=E,6.8nm,0.2s,SNR=15							
ELOB				S	**Sn**	**22 30 48.4**	**-4.1**
comp=E,9.6nm,0.2s,SNR=7.9							
ELOB	**Lobios**	**7.77**	**44**	P	**Pn**	**22 29 25.7**	**+1.2**
comp=E,6.8nm,0.2s,SNR=15							
ELOB				S	**Sn**	**22 30 48.4**	**-4.1**
comp=E,9.6nm,0.2s,SNR=7.9							
CFUE	**Fuerteventura**	**7.93**	**171**	S	Sn	22 30 35.4	-21
comp=E,4.2nm,0.2s,SNR=7.9							
CFUE	**Fuerteventura**	**7.93**	**171**	S	Sn	22 30 35.4	-21
comp=E,4.2nm,0.2s,SNR=7.9							
EJIF	**Jimena Fronter**	**7.94**	**88**	S	**Sn**	**22 30 55.0**	**-1.6**
comp=E,2.7nm,0.3s,SNR=7.9							
EJIF	**Jimena Fronter**	**7.94**	**88**	S	**Sn**	**22 30 55.0**	**-1.6**
comp=E,2.7nm,0.3s,SNR=7.9							
MVO	**Moncorvo**	**7.96**	**52**	eP	**Pn**	**22 29 28.5**	**+1.4**
MVO				eS	**Sn**	**22 30 55.9**	**-1.4**
MVO				A	A	22 31 03.0	
comp=E,11nm,0.6s							
MVO	**Moncorvo**	**7.96**	**52**	P	**Pn**	**22 29 28.2**	**+1.1**
comp=E,3.4nm,0.3s,SNR=5.8							
MVO				S	**Sn**	**22 30 55.1**	**-2.2**
comp=E,12nm,0.3s,SNR=6.9							
MVO	**Moncorvo**	**7.96**	**52**	eP	**Pn**	**22 29 28.5**	**+1.4**
MVO				eS	**Sn**	**22 30 55.9**	**-1.4**
comp=E,11nm,0.6s							
ECAB	**El Cabril**	**8.05**	**76**	P	**Pn**	**22 29 29.1**	**+0.8**
comp=E,1.6nm,0.2s,SNR=12							
ECAB				S	**Sn**	**22 30 55.9**	**-3.5**
comp=E,4.0nm,0.3s,SNR=6.0							
ECAB	**El Cabril**	**8.05**	**76**	P	**Pn**	**22 29 29.1**	**+0.8**
comp=E,1.6nm,0.2s,SNR=12							
ECAB				S	**Sn**	**22 30 55.8**	**-3.5**
comp=E,4.0nm,0.3s,SNR=6.0							
EMAZ	**Mazaricos**	**8.07**	**35**	P	**Pn**	**22 29 30.2**	**+1.6**
comp=E,9.9nm,0.3s,SNR=7.5							
EMAZ				S	**Sn**	**22 30 55.7**	**-4.2**
comp=E,21nm,0.4s,SNR=6.9							
EMAZ	**Mazaricos**	**8.07**	**35**	P	**Pn**	**22 29 30.2**	**+1.6**
comp=E,9.9nm,0.3s,SNR=7.5							
EMAZ				S	**Sn**	**22 30 55.7**	**-4.2**
comp=E,21nm,0.4s,SNR=6.9							
EPLA	**Plasencia**	**8.09**	**61**	P	**Pn**	**22 29 31.2**	**+2.4**
comp=E,2.9nm,0.3s,SNR=6.8							
EPLA				S	**Sn**	**22 30 58.3**	**-2.0**
comp=E,12nm,0.5s,SNR=6.9							
EPLA	**Plasencia**	**8.09**	**61**	P	**Pn**	**22 29 31.2**	**+2.4**
comp=E,2.9nm,0.3s,SNR=6.8							
EPLA				S	**Sn**	**22 30 58.3**	**-2.0**
comp=E,12nm,0.5s,SNR=6.9							
OUK	**Oukaimeden**	**8.15**	**128**	*i* P	Pn	22 29 36.0	+6.1
OUK				*i* S	x	22 29 56.0	
STS	**Santiago**	**8.23**	**37**	P	**Pn**	**22 29 32.2**	**+1.6**
comp=E,8.1nm,0.3s,SNR=7.9							
STS				S	**Sn**	**22 30 58.6**	**-5.0**
comp=E,6.1nm,0.2s,SNR=4.0							
STS	**Santiago**	**8.23**	**37**	P	**Pn**	**22 29 32.2**	**+1.6**
comp=E,8.1nm,0.3s,SNR=7.9							
STS				S	**Sn**	**22 30 58.6**	**-5.0**
comp=E,6.1nm,0.2s,SNR=4.0							
EGOM	**La Gomera**	**8.48**	**191**	S	Sn	22 30 49.8	-20
comp=E,59nm,0.9s,SNR=4.0							
EGOM	**La Gomera**	**8.48**	**191**	S	Sn	22 30 49.8	-20
comp=E,59nm,0.9s,SNR=4.0							
EMIJ	**Mijas**	**8.49**	**87**	P	**Pn**	**22 29 36.0**	**+1.7**
comp=E,0.8nm,0.3s,SNR=7.9							
EMIJ				S	**Sn**	**22 31 08.3**	**-2.0**
comp=E,4.1nm,0.4s,SNR=7.9							
EMIJ	**Mijas**	**8.49**	**87**	P	**Pn**	**22 29 36.0**	**+1.7**
comp=E,0.8nm,0.3s,SNR=7.9							
EMIJ				S	**Sn**	**22 31 08

ECOG	Cogollos-Vega	9.45	82	S	Sn	22 31 31.5	-2.4
	comp=E,2.3nm,0.2s,SNR=7.9						
EGUA	Guajares	9.46	85	S	Sn	22 31 31.1	-2.7
	comp=E,7.2nm,0.5s,SNR=7.9						
EGUA	Guajares	9.46	85	S	Sn	22 31 31.1	-2.7
	comp=E,7.2nm,0.5s,SNR=7.9						
ESDC	Sonseca Array	9.50	67	P	Pn	22 29 50.2	+2.1
	comp=E,4.9nm,0.2s,baz=258,slow=13,SNR=40						
ESDC				S	Sn	22 31 32.3	-2.6
	comp=E,3.0nm,0.5s,baz=253,slow=23,SNR=6.4						
ESDC	Sonseca Array	9.50	67	P	Pn	22 29 50.2	+2.1
	comp=E,4.9nm,0.2s,slow=13,SNR=40						
ESDC				S	Sn	22 31 32.3	-2.6
	comp=E,3.0nm,0.5s,baz=253,slow=23,SNR=6.4						
GUD	Guadarrama	9.67	61	P	Pn	22 29 52.4	+1.9
	comp=E,1.0nm,0.2s,SNR=7.9						
GUD				S	Sn	22 31 38.3	-1.0
	comp=E,6.4nm,0.3s,SNR=7.9						
GUD	Guadarrama	9.67	61	P	Pn	22 29 52.4	+1.9
	comp=E,1.0nm,0.2s,SNR=7.9						
GUD				S	Sn	22 31 38.3	-1.0
	comp=E,6.4nm,0.3s,SNR=7.9						
EQES	Quesada	9.87	79	P	Pn	22 29 54.5	+1.2
	comp=E,0.2nm,0.2s,SNR=7.9						
EQES				S	Sn	22 31 39.8	-4.3
	comp=E,5.9nm,0.6s,SNR=7.9						
EQES	Quesada	9.87	79	P	Pn	22 29 54.5	+1.2
	comp=E,0.2nm,0.2s,SNR=7.9						
EQES				S	Sn	22 31 39.8	-4.3
	comp=E,5.9nm,0.6s,SNR=7.9						
EHUE	Huescar	10.25	79	S	Sn	22 31 50.1	-3.3
	comp=E,1.7nm,0.4s,SNR=7.9						
EHUE	Huescar	10.25	79	S	Sn	22 31 50.1	-3.3
	comp=E,1.7nm,0.4s,SNR=7.9						
EARI	Arriondas	10.30	46	P	Pn	22 30 01.8	+2.6
	comp=E,3.5nm,0.3s,SNR=17						
EARI				S	Sn	22 31 52.5	-2.2
	comp=E,0.9nm,0.3s,SNR=6.3						
EARI	Arriondas	10.30	46	P	Pn	22 30 01.8	+2.6
	comp=E,3.5nm,0.3s,SNR=17						
EARI				S	Sn	22 31 52.5	-2.2
	comp=E,0.9nm,0.3s,SNR=6.3						
EVIA	Vianos	10.40	74	P	Pn	22 30 02.3	+1.8
	comp=E,10nm,0.8s,SNR=7.9						
EVIA				S	Sn	22 31 52.9	-4.2
	comp=E,9.0nm,0.4s,SNR=4.0						
EVIA	Vianos	10.40	74	P	Pn	22 30 02.3	+1.8
	comp=E,10nm,0.8s,SNR=7.9						
EVIA				S	Sn	22 31 52.9	-4.2
	comp=E,9.0nm,0.4s,SNR=4.0						
ETOB	Tobarra	11.14	75	P	Pn	22 30 10.8	+0.2
	comp=E,1.1nm,0.2s,SNR=7.9						
ETOB				S	Sn	22 32 12.3	-3.0
	comp=E,1.0nm,0.3s,SNR=7.9						
ETOB	Tobarra	11.14	75	P	Pn	22 30 10.8	+0.2
	comp=E,1.1nm,0.2s,SNR=7.9						
ETOB				S	Sn	22 32 12.3	-3.0
	comp=E,1.0nm,0.3s,SNR=7.9						
ELAN	Lanestosa	11.33	50	P	Pn	22 30 15.8	+2.8
	comp=E,0.6nm,0.3s,SNR=7.9						
ELAN				S	Sn	22 32 18.0	-1.7
	comp=E,1.2nm,0.2s,SNR=7.9						
ELAN	Lanestosa	11.33	50	P	Pn	22 30 15.9	+2.8
	comp=E,0.6nm,0.3s,SNR=7.9						
ELAN				S	Sn	22 32 18.0	-1.7
	comp=E,1.2nm,0.2s,SNR=7.9						
EBEN	Beniarda	12.18	75	S	Sn	22 32 37.3	-3.3
	comp=E,1.8nm,0.8s,SNR=4.0						
EBEN	Beniarda	12.18	75	S	Sn	22 32 37.3	-3.3
	comp=E,1.8nm,0.8s,SNR=4.0						
EMOS	Mosqueruela	12.26	67	P	Pn	22 30 28.6	+2.5
	comp=E,0.7nm,0.3s,SNR=7.9						
EMOS				S	Sn	22 32 39.4	-3.5
	comp=E,5.9nm,0.6s,SNR=7.9						
EMOS	Mosqueruela	12.26	67	P	Pn	22 30 28.6	+2.5
	comp=E,0.7nm,0.3s,SNR=7.9						
EMOS				S	Sn	22 32 39.4	-3.5
	comp=E,5.9nm,0.6s,SNR=7.9						
IUNC	Uncíti	12.34	55	S	Sn	22 32 41.3	-3.3
	comp=E,2.5nm,0.3s,SNR=4.0						
IUNC	Uncíti	12.34	55	S	Sn	22 32 41.3	-3.3
	comp=E,2.5nm,0.3s,SNR=4.0						
ELIZ	Elizondo	12.50	54	P	Pn	22 30 31.4	+2.2
	comp=E,1.8nm,0.4s,SNR=7.9						
ELIZ	Elizondo	12.50	54	P	Pn	22 30 31.4	+2.2
	comp=E,1.8nm,0.4s,SNR=7.9						
IEPA	Eparoz	12.51	56	P	Pn	22 30 31.9	+2.6
	comp=E,1.2nm,0.3s,SNR=4.0						
IEPA				S	Sn	22 32 46.6	-2.0
	comp=E,1.5nm,0.3s,SNR=7.9						
IEPA	Eparoz	12.51	56	P	Pn	22 30 31.9	+2.6
	comp=E,1.2nm,0.3s,SNR=4.0						
IEPA				S	Sn	22 32 46.6	-2.0
	comp=E,1.5nm,0.3s,SNR=7.9						
EALK	Alkurruntz	12.54	54	P	Pn	22 30 32.6	+2.9
	comp=E,0.8nm,0.3s,SNR=5.2						
EALK				S	Sn	22 32 45.5	-3.9
	comp=E,2.2nm,0.5s,SNR=7.9						
EALK	Alkurruntz	12.54	54	P	Pn	22 30 32.6	+2.9
	comp=E,0.8nm,0.3s,SNR=5.2						
EALK				S	Sn	22 32 45.5	-3.9
	comp=E,2.2nm,0.5s,SNR=7.9						
IELO	Elcoad	12.55	55	P	Pn	22 30 32.1	+2.2
	comp=E,0.3nm,0.2s,SNR=7.9						
IELO				S	Sn	22 32 46.6	-3.2
	comp=E,1.3nm,0.4s,SNR=7.9						
IELO	Elcoad	12.55	55	P	Pn	22 30 32.1	+2.2
	comp=E,0.3nm,0.2s,SNR=7.9						
IELO				S	Sn	22 32 46.6	-3.2
	comp=E,1.3nm,0.4s,SNR=7.9						
SJPF	Ste Jean	12.68	54	*e*Pn	Pn	22 30 34.0	+2.4
SJPF				*e*Sn	Sn	22 32 48.6	-4.2
	comp=E,1.1nm,0.3s						
SJPF	Ste Jean	12.68	54	P	Pn	22 30 34.0	+2.4
SJPF				S	Sn	22 32 48.6	-4.2
	comp=E,0.3nm,0.3s						
ETSF	Etsaut	13.03	56	*e*Pn	Pn	22 30 39.0	+2.6
ETSF				*e*Sn	Sn	22 32 57.0	-4.4
	comp=E,1.2nm,0.4s						
ETSF	Etsaut	13.03	56	P	Pn	22 30 39.0	+2.6
ETSF				*e*Sn	Sn	22 32 57.0	-4.4
	comp=E,0.6nm,0.4s						
EBIE	Bielsa	13.42	58	P	Pn	22 30 44.7	+2.8
	comp=E,0.8nm,0.3s,SNR=7.9						
EBIE				S	Sn	22 33 08.5	-2.7
	comp=E,1.0nm,0.6s,SNR=7.9						
EBIE	Bielsa	13.42	58	P	Pn	22 30 44.7	+2.8
	comp=E,0.8nm,0.3s,SNR=7.9						
EBIE				S	Sn	22 33 08.5	-2.7
	comp=E,1.0nm,0.6s,SNR=7.9						
EPF	Esparros	13.68	57	*e*Pn	Pn	22 30 47.0	+1.6
EPF				*e*Sn	Sn	22 33 11.2	-6.2
	comp=E,0.4nm,0.3s						
EPF	Esparros	13.68	57	*e*Pn	Pn	22 30 47.0	+1.6
EPF				S	Sn	22 33 11.2	-6.2
	comp=E,0.1nm,0.3s						
CSOR	Sort	13.99	60	P	Pn	22 30 51.5	+1.8
	comp=E,0.6nm,0.4s,SNR=7.9						
CSOR	Sort	13.99	60	P	Pn	22 30 51.5	+1.8
	comp=E,0.6nm,0.4s,SNR=7.9						
QUIF	Quistinic	14.50	34	*e*Pn	Pn	22 30 58.8	+2.3
QUIF	Quistinic	14.50	34	P	Pn	22 30 58.8	+2.3
CLLI	Llivia	14.62	61	P	Pn	22 31 00.8	+2.6
	comp=E,0.3nm,0.4s,SNR=7.9						
CLLI	Llivia	14.62	61	P	Pn	22 31 00.8	+2.6
	comp=E,0.3nm,0.4s,SNR=7.9						
CFON	Fontmartina	14.74	64	P	Pn	22 31 02.1	+2.3
	SNR=7.9						
CFON	Fontmartina	14.74	64	P	Pn	22 31 02.1	+2.3
	SNR=7.9						
ROSF	Rostrenen	14.77	33	*e*Pn	Pn	22 31 02.1	+2.0
ROSF	Rostrenen	14.77	33	P	Pn	22 31 02.1	+2.0
SGMF	Saint Gilles	15.03	35	*e*Pn	Pn	22 31 04.7	+1.1
SGMF	Saint Gilles	15.03	35	P	Pn	22 31 04.7	+1.1
MFF	Saint Martin d	15.16	44	*e*Pn	Pn	22 31 06.3	+0.9
MFF	Saint Martin d	15.16	44	P	Pn	22 31 06.3	+0.9

*ISCJB **09** 22:27:32.1±0.7, 40°.63N±0°.02×8°.39W±0°.05, h2km±5km, Error ellipse: s-maj=6.0km s-min=3.2km az=1.6*
*CSEM **09** 22:27:32.6±0.2, 40°.63N×8°.38W, h8km, ML1.3, Error ellipse: s-maj=4.7km s-min=2.3km az=90.0*
*INMG **09** 22:27:33.6±1.3, 40°.64N×8°.39W, h3km±4km, ML1.3, Error ellipse: s-maj=3.6km s-min=1.5km az=92.0*
*MDD **09** 22:27:33.2±0.7, 40°.63N×8°.39W, h0km, mbLg1.4/12, Error ellipse: s-maj=5.8km s-min=3.3km az=82.0, PRXIMO*

ISC 09 22:27:33.0±1.1, 40°.64N±0°.02×8°.41W±0°.03, h9km±9km, n53, σ0°51/64, 1C, Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVIS	**Viseu**	**0.40**	**79**	*e*Pg	**Pg**	**22 27 40.8**	**0.0**
PVIS				*e*Sg	**Sg**	**22 27 46.1**	**+0.1**
PVIS				A	A	22 27 46.6	
	12nm,0.3s						
PVIS	**Viseu**	**0.40**	**79**	⇑Pg	**Pg**	**22 27 40.8**	**0.0**
PVIS				Lg	Lg	22 27 46.1	
	6.2nm,0.3s						
PVIS	**Viseu**	**0.40**	**79**	Pg	**Pg**	**22 27 40.8**	**0.0**
PVIS				*e*Sg	**Sg**	**22 27 46.1**	**+0.1**
	12nm,0.3s						
PTO	**Porto**	**0.52**	**344**	*e*Sg	**Sg**	**22 27 50.1**	**+0.1**
PTO	**Porto**	**0.52**	**344**	Lg	Lg	22 27 50.1	
PTO	**Porto**	**0.52**	**344**	*e*Sg	**Sg**	**22 27 50.1**	**+0.1**
PCAS	**Casmilo, Conde**	**0.59**	**187**	*e*Pg	**Pg**	**22 27 44.2**	**-0.2**
PCAS				*e*Sg	**Sg**	**22 27 52.6**	**+0.5**
PCAS				A	A	22 27 53.9	
	2.8nm,0.2s						
PCAS	**Casmilo, Conde**	**0.59**	**187**	*e*Pg	**Pg**	**22 27 44.2**	**-0.2**
PCAS				*e*Sg	**Sg**	**22 27 52.6**	**+0.5**
	2.8nm,0.2s						
MTE	**Manteigas**	**0.70**	**110**	*e*Pg	**Pg**	**22 27 46.0**	**-0.5**
MTE				*e*Sg	**Sg**	**22 27 55.5**	**-0.1**
MTE	**Manteigas**	**0.70**	**110**	Pg	**Pg**	**22 27 46.0**	**-0.5**
MTE				Lg	Lg	22 27 55.5	
MTE	**Manteigas**	**0.70**	**110**	*e*Pg	**Pg**	**22 27 46.0**	**-0.5**
MTE				*e*Sg	**Sg**	**22 27 55.5**	**-0.1**
PVRL	**Vila Real**	**0.82**	**39**	*e*P	**Pg**	**22 27 49.1**	**+0.2**
PVRL				*e*S	**Sg**	**22 27 59.8**	**+0.2**
PVRL				A	A	22 28 01.5	
	8.3nm,0.3s						
PVRL	**Vila Real**	**0.82**	**39**	Pg	**Pg**	**22 27 49.1**	**+0.2**
PVRL				Lg	Lg	22 27 59.8	
	4.2nm,0.3s						
PVRL	**Vila Real**	**0.82**	**39**	*e*P	**Pg**	**22 27 49.1**	**+0.2**
PVRL				*e*S	**Sg**	**22 27 59.8**	**+0.2**
	8.3nm,0.3s						
POLO	**Lamas de Olo**	**0.87**	**32**	*e*P	**Pg**	**22 27 49.7**	**0.0**
POLO				*e*S	**Sg**	**22 28 01.1**	**0.0**
POLO				A	A	22 28 01.8	
	1.7nm,0.2s						
POLO	**Lamas de Olo**	**0.87**	**32**	*e*P	**Pg**	**22 27 49.7**	**0.0**
POLO				*e*S	**Sg**	**22 28 01.1**	**0.0**
	1.7nm,0.2s						
PTOM	**Tomar**	**1.02**	**180**	*e*S	**Sg**	**22 28 06.0**	**+0.2**
PTOM				A	A	22 28 09.0	
	4.1nm,0.5s						
PTOM	**Tomar**	**1.02**	**180**	Lg	Lg	22 28 06.0	
	2.0nm,0.5s						
PTOM	**Tomar**	**1.02**	**180**	*e*S	**Sg**	**22 28 06.0**	**+0.2**
	4.1nm,0.5s						
PCBR	**Castelo Branco**	**1.07**	**138**	*e*P	**Pg**	**22 27 52.5**	**-1.0**
PCBR				*e*S	**Sg**	**22 28 07.1**	**-0.3**
PCBR				A	A	22 28 09.1	
	1.9nm,0.4s						
PCBR	**Castelo Branco**	**1.07**	**138**	Pg	**Pg**	**22 27 52.5**	**-1.0**
PCBR				Lg	Lg	22 28 07.1	
	0.9nm,0.4s						
PCBR	**Castelo Branco**	**1.07**	**138**	*e*P	**Pg**	**22 27 52.5**	**-1.0**
PCBR				*e*S	**Sg**	**22 28 07.1**	**-0.3**
	1.9nm,0.4s						
PCAB	**Cabril**	**1.11**	**15**	*e*P	**Pg**	**22 27 53.8**	**-0.5**
PCAB				*e*S	**Sg**	**22 28 08.6**	**-0.1**
PCAB				A	A	22 28 09.9	
	2.9nm,0.3s						
PCAB	**Cabril**	**1.11**	**15**	Pg	**Pg**	**22 27 53.8**	**-0.5**
PCAB				Lg	Lg	22 28 08.6	
	1.4nm,0.3s						
PCAB	**Cabril**	**1.11**	**15**	*e*P	**Pg**	**22 27 53.8**	**-0.5**
PCAB				*e*S	**Sg**	**22 28 08.6**	**-0.1**
	2.9nm,0.3s						
MVO	**Moncorvo**	**1.17**	**63**	*e*P	**Pg**	**22 27 54.7**	**-0.8**
MVO				*e*S	**Sg**	**22 28 10.0**	**-0.6**
MVO				A	A	22 28 11.7	
	6.3nm,0.3s						
MVO	**Moncorvo**	**1.17**	**63**	Pg	**Pg**	**22 27 54.7**	**-0.8**
	1.5nm,0.2s,SNR=7.1						
MVO				Lg	Lg	22 28 09.6	
	7.6nm,0.2s,SNR=18						
MVO	**Moncorvo**	**1.17**	**63**	*e*P	**Pg**	**22 27 54.7**	**-0.8**
MVO				Lg	Lg	22 28 09.6	
	7.6nm,0.2s,SNR=18						
MVO				*e*S	**Sg**	**22 28 10.0**	**-0.6**
	6.3nm,0.3s						
ELOB	**Lobios**	**1.25**	**12**	Pg	**Pg**	**22 27 55.9**	**-1.2**
	0.3nm,0.1s,SNR=7.9						
ELOB				Lg	Lg	22 28 12.8	
	1.1nm,0.1s,SNR=7.5						
ELOB	**Lobios**	**1.25**	**12**	Pg	**Pg**	**22 27 55.9**	**-1.2**
	0.3nm,0.1s,SNR=7.9						
ELOB				Lg	Lg	22 28 12.8	
	1.1nm,0.1s,SNR=7.5						
PGAV	**Gavieira, Arco**	**1.33**	**4**	*e*P	**Pn**	**22 27 57.6**	**-0.3**
PGAV				*e*S	**Sg**	**22 28 15.4**	**-0.4**
PGAV				A	A	22 28 16.7	
	2.8nm,0.3s						
PGAV	**Gavieira, Arco**	**1.33**	**4**	*e*P	**Pn**	**22 27 57.6**	**-0.3**
PGAV				*e*S	**Sg**	**22 28 15.4**	**-0.4**
	2.8nm,0.3s						
PMRV	**Marv??o**	**1.44**	**147**	*e*P	**Pn**	**22 27 59.1**	**-0.2**
PMRV				*e*S	**Sb**	**22 28 17.6**	**-0.8**
PMRV				A	A	22 28 18.8	
	1.5nm,0.1s						
PMRV	**Marv??o**	**1.44**	**147**	Pg	**Pn**	**22 27 59.1**	**-0.2**
PMRV				Lg	Lg	22 28 17.6	
	1.5nm,0.1s						
PMRV	**Marv??o**	**1.44**	**147**	*e*P	**Pn**	**22 27 59.1**	**-0.2**
PMRV				*e*S	**Sb**	**22 28 17.6**	**-0.8**
	1.5nm,0.1s						
EZAM	**Zamans**	**1.52**	**352**	Lg	Lg	22 28 22.2	
	1.2nm,0.2s,SNR=7.9						
EZAM	**Zamans**	**1.52**	**352**	Lg	Lg	22 28 22.2	
	1.2nm,0.2s,SNR=7.9						
PMTG	**Montargil**	**1.57**	**175**	*e*Sn	**Sn**	**22 28 21.8**	**+0.2**
PMTG	**Montargil**	**1.57**	**175**	*e*Sn	**Sn**	**22 28 21.8**	**+0.2**
PBRG	**Braganca**	**1.71**	**47**	*e*Sg	**Sb**	**22 28 27.0**	**+0.6**
PBRG				A	A	22 28 28.1	
	1.5nm,0.9s						
PBRG	**Braganca**	**1.71**	**47**	Lg	Lg	22 28 27.0	
	0.8nm,0.9s						
PBRG	**Braganca**	**1.71**	**47**	*e*Sg	**Sb**	**22 28 27.0**	**+0.6**
	1.5nm,0.9s						
ECAL	**Calabor**	**1.81**	**43**	Lg	Lg	22 28 30.6	
	1.8nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**1.81**	**43**	Lg	Lg	22 28 30.6	
	1.8nm,0.2s,SNR=7.9						
PMAFR	**Mafra**	**1.81**	**202**	Lg	Lg	22 28 30.5	
	1.6nm,0.2s,SNR=7.9						
PMAFR	**Mafra**	**1.81**	**202**	Lg	Lg	22 28 30.5	
	1.6nm,0.2s,SNR=7.9						
EPLA	**Plasencia**	**1.87**	**107**	Pg	**Pn**	**22 28 06.0**	**+0.8**
	1.1nm,0.2s,SNR=7.9						
EPLA				Lg	Lg	22 28 30.9	
	1.1nm,0.2s,SNR=7.9						
EPLA	**Plasencia**	**1.87**	**107**	Pg	**Pn**	**22 28 06.0**	**+0.8**
	1.1nm,0.2s,SNR=7.9						
EPLA				Lg	Lg	22 28 31.0	
	1.1nm,0.2s,SNR=7.9						
PESTR	**Estremoz**	**1.88**	**160**	*e*Sn	**Sn**	**22 28 29.3**	**+0.2**
PESTR	**Estremoz**	**1.88**	**160**	Sn	**Sn**	**22 28 29.3**	**+0.2**
PESTR	**Estremoz**	**1.88**	**160**	*e*Sn	**Sn**	**22 28 29.3**	**+0.2**
EBAD	**Badajoz**	**2.17**	**150**	Pg	**Pb**	**22 28 12.9**	**+0.5**
	0.2nm,0.1s,SNR=7.9						
EBAD				Lg	Lg	22 28 40.6	
	1.4nm,0.2s,SNR=6.7						
EBAD	**Badajoz**	**2.17**	**150**	Pg	**Pb**	**22 28 12.9**	**+0.5**
	0.2nm,0.1s,SNR=7.9						
EBAD				Lg	Lg	22 28 40.6	
	1.4nm,0.2s,SNR=6.7						

DJA 09 22:53:40.1±1.0, 8°S±6°×10°7E±°, h16km±7km, M3.7/6, MLv3.7/6, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.73**	**42**	P	Pg	22 53 53.7	-0.8
CISI				S	Sg	22 54 03.6	-0.6
LEM	**Lembang**	**1.30**	**13**	P	Pn	22 54 03.2	-0.6
LEM				S	Sg	22 54 21.9	-0.6
SKJI	**Sukabumi**	**1.32**	**325**	P	Pn	22 54 02.0	-2.0
DBJI	**Dramaga**	**1.64**	**340**	P	Pn	22 54 08.0	-0.3
DBJI				S	Sn	22 54 27.3	-1.8
KPJI	**Karang Pucung**	**1.77**	**65**	P	Pn	22 54 09.9	-0.2
KPJI				S	Sn	22 54 31.8	-0.5

*IDC **09** 22:58:12.2±1.1, 35°.84N×29°.79E, h0km, mb3.7/4, mb1 3.7/8, mb1mx3.6/27, mbtmp3.7/8, ML3.5/4, Error ellipse: s-maj=21.3km s-min=19.8km az=156.0*
*DDA **09** 22:58:13.6, 35°.85N×29°.59E, h4km, ML3.7*
*ISCJB **09** 22:58:14.2±1.0, 35°.80N±0°.04×29°.65E±0°.04, h20km±8km, mb3.6/4, Error ellipse: s-maj=6.8km s-min=4.7km az=9.2*
*CSEM **09** 22:58:15.6±0.3, 35°.94N×29°.66E, h10km, ML3.7, Error ellipse: s-maj=6.8km s-min=3.4km az=22.0*
*ISK **09** 22:58:16.1, 35°.97N×29°.68E, h24km, MD3.9*

ISC 09 22:58:14.7±1.3, 35°.86N±0°.04×29°.66E±0°.03, h17km±8km, n83, σ1°42/99, mb3.7/4, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKAS	**Kas**	**0.38**	**354**	*i* P	**Pg**	**22 58 20.8**	**-1.7**
AKAS				*i* S	**Sg**	**22 58 27.1**	**-0.8**
AKAS	**Kas**	**0.38**	**354**	*i* P	**Pg**	**22 58 20.8**	**-1.7**
AKAS				*i* S	**Sg**	**22 58 27.1**	**-0.8**
FETY	**Fethiye**	**0.91**	**329**	*e*PG	**Pg**	**22 58 32.4**	**+0.1**
FETY				*e*SG	**Sg**	**22 58 45.0**	**+0.8**
FETY	**Fethiye**	**0.91**	**329**	*e*Pg	**Pg**	**22 58 32.4**	**+0.1**
FETY				*e*Sg	**Sg**	**22 58 45.0**	**+0.8**
ELL	**Elmali**	**0.91**	**13**	*e*PG	**Pb**	**22 58 32.2**	**0.0**
ELL				*e*SG	**Sb**	**22 58 44.1**	**0.0**
ELL	**Elmali**	**0.91**	**13**	*e*Pg	**Pb**	**22 58 32.2**	**0.0**
ELL				*e*Sg	**Sb**	**22 58 44.1**	**0.0**
DALY	**Dalyan (Mu¨la**	**1.26**	**320**	*e*PN	**Pn**	**22 58 37.7**	**+0.2**
DALY	**Dalyan (Mu¨la**	**1.26**	**320**	*e*Pn	**Pn**	**22 58 37.7**	**+0.2**
KORT	**Korkueli**	**1.27**	**26**	*i* P	**Pn**	**22 58 38.0**	**+0.2**
KORT				*i* S	**Sg**	**22 58 57.8**	**+2.0**
KORT	**Korkueli**	**1.27**	**26**	*i* P	**Pn**	**22 58 38.0**	**+0.2**
TURN	**Turunc**	**1.32**	**320**	*i* P	**Pg**	**22 58 41.4**	**+1.2**
TURN				*i* S	**Sg**	**22 59 03.3**	**+5.8**
TURN	**Turunc**	**1.32**	**320**	*i* P	**Pg**	**22 58 41.4**	**+1.2**
YER	**Yerkesik**	**1.69**	**319**	*e*PN	**Pn**	**22 58 43.7**	**+0.2**
YER	**Yerkesik**	**1.69**	**319**	*e*Pn	**Pn**	**22 58 43.7**	**+0.2**
BCK	**Bucak**	**1.77**	**25**	*e*PN	**Pn**	**22 58 44.3**	**-0.3**
BCK	**Bucak**	**1.77**	**25**	*e*Pn	**Pn**	**22 58 44.3**	**-0.3**
DAT	**Datca**	**1.89**	**298**	*e*PN	**Pn**	**22 58 47.6**	**+1.2**
DAT	**Datca**	**1.89**	**298**	*e*Pn	**Pn**	**22 58 47.6**	**+1.2**
DNZL	**Cakiroluk**	**1.90**	**345**	*i* P	**Pb**	**22 58 49.4**	**+0.5**
DNZL				*i* S	**Sb**	**22 59 14.1**	**+1.7**
SUTC	**Sutluce-Ispart**	**1.94**	**33**	*e*PN	**Pn**	**22 58 46.9**	**-0.2**
SUTC	**Sutluce-Ispart**	**1.94**	**33**	*e*Pn	**Pn**	**22 58 46.9**	**-0.2**
DENT	**Denizli**	**1.96**	**345**	*e*PN	**Pn**	**22 58 47.1**	**-0.1**
DENT	**Denizli**	**1.96**	**345**	*e*Pn	**Pn**	**22 58 47.1**	**-0.1**
ISP	**Isparta**	**2.08**	**19**	*e*PN	**Pn**	**22 58 48.9**	**0.0**
ISP	**Isparta**	**2.08**	**19**	*e*Pn	**Pn**	**22 58 48.9**	**0.0**
BDRM	**Kayabasi**	**2.15**	**305**	*i* P	**Pn**	**22 58 50.4**	**+0.5**
BDRM				*i* S	**Sg**	**22 59 22.2**	**-1.8**
BDRM	**Kayabasi**	**2.15**	**305**	*i* P	**Pn**	**22 58 50.4**	**+0.5**
BODT	**Bodrum**	**2.24**	**303**	*e*PN	**Pn**	**22 58 51.8**	**+0.7**
BODT	**Bodrum**	**2.24**	**303**	*e*Pn	**Pn**	**22 58 51.8**	**+0.7**
AYDN	**Tasoluk**	**2.30**	**322**	*i* P	**Pn**	**22 58 53.1**	**+1.2**
AYDN				*i* S	**Sb**	**22 59 26.0**	**+2.1**
AYDN	**Tasoluk**	**2.30**	**322**	*i* P	**Pn**	**22 58 53.1**	**+1.2**
KHL	**Karahalli**	**2.46**	**358**	*e*PN	**Pn**	**22 58 54.2**	**0.0**
KHL	**Karahalli**	**2.46**	**358**	*e*Pn	**Pn**	**22 58 54.2**	**0.0**
KHAL	**Karahalli**	**2.51**	**357**	*i* P	**Pn**	**22 58 55.4**	**+0.5**
KHAL				*i* S	**Sb**	**22 59 29.9**	**-0.3**
KHAL	**Karahalli**	**2.51**	**357**	*i* P	**Pn**	**22 58 55.4**	**+0.5**
HDMB	**Hadim**	**2.54**	**63**	*e*PN	**Pn**	**22 58 55.9**	**+0.6**
HDMB	**Hadim**	**2.54**	**63**	*e*Pn	**Pn**	**22 58 55.9**	**+0.6**
LEF	**Lefka**	**2.74**	**105**	*e*PN	**Pn**	**22 58 59.5**	**+1.7**
LEF	**Lefka**	**2.74**	**105**	*e*Pn	**Pn**	**22 58 59.5**	**+1.7**
ERMK	**Ermenek**	**2.75**	**72**	*i* P	**Pn**	**22 58 59.7**	**+1.5**
ERMK	**Ermenek**	**2.75**	**72**	*i* P	**Pn**	**22 58 59.7**	**+1.5**
KULA	**Kula-Manisa**	**2.77**	**344**	*e*PN	**Pn**	**22 58 58.8**	**+0.4**
KULA	**Kula-Manisa**	**2.77**	**344**	*e*Pn	**Pn**	**22 58 58.8**	**+0.4**
KONT	**Konya--Tatoy**	**3.01**	**45**	*e*PN	**Pn**	**22 59 02.1**	**+0.5**
KONT	**Konya--Tatoy**	**3.01**	**45**	*e*Pn	**Pn**	**22 59 02.1**	**+0.5**
CSS	**Prodhromos**	**3.13**	**105**	*e*PN	**Pn**	**22 59 05.9**	**+2.6**
CSS	**Prodhromos**	**3.13**	**105**	*e*Pn	**Pn**	**22 59 05.9**	**+2.6**
LADK	**Ladik-KONYA**	**3.19**	**42**	*e*PN	**Pn**	**22

STON Ston 1.44 309 *e*Pn Pn 23 03 24.2 -0.9
STON Sn Sn 23 03 44.4 0.0
IVAS Ivanjica 1.75 23 *e*Sg Sb 23 03 53.9 +0.6
BBLS Lazići 1.90 4 *e*Pg Pn 23 03 32.2 +0.6
BBLS *e*Sg Sb 23 03 57.9 +0.1
DIVS Divibare 2.20 15 *e*Sn Sn 23 04 03.5 +0.1

NEIC 09 23:21:05.0, 17°.01S×71°.70W, h45km, mb3.7/4, After ARE., Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.50**	**79**	*e*Pn	Pn	23 21 59.6	+1.9
LVC	**Limon Verde** 14nm,0.4s	**6.16**	**155**	*e*Pn	Pn	23 22 33.3	-0.6
LVC				*e*Sn	Sn	23 23 40.9	-2.4
NNA	**Nana**	**7.05**	**314**	*e*Pn	Pn	23 22 45.1	-0.7
NNA				*e*Sn	Sn	23 24 03.9	-0.8
SAML	**Samuel**	**11.53**	**47**	*e*Pn	Pn	23 23 42.7	-4.4
CPUP	**Villa Florida** 2.2nm,0.4s	**16.25**	**127**	*e*Pn	Pn	23 24 49.3	-0.8
OTAV	**Otavalo** 1.4nm,0.3s	**18.39**	**338**	*e*P	P	23 25 16.5	-0.4
ROSC	**El Rosal**	**21.88**	**353**	*e*P	P	23 25 54.4	-0.3
TRQA	**Tornquist** 2.7nm,0.9s	**22.64**	**160**	*e*P	P	23 26 03.8	+1.5
PLCA	**Paso Flores**	**23.66**	**178**	P	P	23 26 12.7	+0.3
ANMO	**Albuquerque** 0.6nm,0.5s	**61.32**	**328**	*e*P	P	23 31 16.2	-0.1

IDC 09 23:32:19.8±2.0, 5°.87S×147°.71E, h0km, mb3.8/5, mb1 3.9/7, mb1mx3.8/18, mbtmp3.8/7, ML3.6/2, Error ellipse: s-maj=66.3km s-min=20.0km az=95.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** 24nm,0.3s,baz=360,slow=6.2,SNR=35	**3.56**	**189**	Pn	Pn	23 33 17.3	+0.9
PMG				Sn	Sn	23 34 00.4	+1.2
WRA	**Warramunga Arr** 25nm,0.3s,baz=328,slow=12,SNR=7.1	**19.10**	**222**	P	P	23 36 43.5	-0.8
ASAR	**Alice Springs** 0.3nm,0.3s,baz=45,slow=12,SNR=13	**22.14**	**216**	P	P	23 37 16.7	-0.6
ZALV	**Zalesovo Beam** 1.9nm,0.5s,baz=52,slow=8.8,SNR=38	**79.28**	**328**	P	P	23 44 18.2	-1.2
ASAR				S	S	23 41 11.1	-11
FITZ	**Fitzroy Crossi** 0.4nm,0.4s,baz=110,slow=7.1,SNR=2.8	**24.74**	**239**	P	P	23 37 44.0	+0.7
STKA	**Stephens Creek** 1.4nm,0.5s,baz=59,slow=11,SNR=9.9	**26.50**	**192**	P	P	23 37 58.5	-0.6
MKAR	**Makanchi Array** 1.2nm,0.4s,baz=14,slow=9.0,SNR=6.1	**77.85**	**320**	P	P	23 44 18.2	-1.2
ZALV	**Zalesovo Beam** 0.2nm,0.5s,baz=86,slow=6.4,SNR=5.4	**79.28**	**328**	P	P	23 44 27.3	+0.3
TORD	**Torodi Ar. Bea** 0.4nm,0.4s,baz=110,slow=7.1,SNR=2.6	**145.74**	**285**	PKPbc	PKPab	23 52 02.3	+0.1
	1.5nm,0.7s,baz=72,slow=3.3,SNR=19						

IDC 09 23:49:22.0±2.0, 4°.71N×79°.66W, h0km, mb3.7/3, mb1 4.2/6, mb1mx3.8/23, mbtmp4.1/6, ML3.7/3, MS3.0/2, Ms1 3.0/2, ms1mx2.6/24, Error ellipse: s-maj=53.4km s-min=27.5km az=100.0, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal** 5.5nm,0.3s,baz=284,slow=18,SNR=6.1	**5.31**	**88**	Pn	Pn	23 50 43.3	0.0
ROSC				Sn	Sn	23 51 39.6	-5.9
ATAH	**Atahualpa** 2.0nm,0.3s,baz=90,slow=20,SNR=2.8	**11.83**	**174**	Pn	Pn	23 52 11.6	-1.1
ATAH	comp=Z,48nm,18.6s,baz=108,slow=39			LR	LR	23 57 08.3	
NNA	**Nana** 1.5nm,0.3s,baz=359,slow=14,SNR=5.2	**16.82**	**170**	Pn	P	23 53 20.8	-0.7
LPAZ	**La Paz** 2.0nm,0.7s,baz=339,slow=9.2,SNR=8.0	**23.77**	**152**	P	P	23 54 37.1	-0.1
TXAR	**Lajitas Array** comp=Z,27nm,18.1s,baz=5.0,slow=41	**33.41**	**320**	LR	LR	00 11 58.0	
ESDC	**Sonseca Array** 0.4nm,0.6s,baz=277,slow=6.2,SNR=17	**76.00**	**50**	P	P	00 01 11.8	+0.3
TORD	**Torodi Ar. Bea** 0.5nm,0.7s,baz=277,slow=5.2,SNR=7.6	**80.54**	**78**	P	P	00 01 36.6	-0.4
ASAR	**Alice Springs** 0.3nm,0.5s,baz=121,slow=3.2,SNR=4.5	**142.56**	**236**	PKP	PKPdf	00 08 56.0	-2.1
WRA	**Warramunga Arr** 2.1nm,0.8s,baz=105,slow=2.8,SNR=12	**143.61**	**242**	PKP	PKPdf	00 09 00.1	+0.1

JMA 09 23:57:45.9±0.5, 35°.77N×135°.90E, h334km±5km, M3.5, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWT	**Wachi**	**0.63**	**220**	P	Pn	23 58 28.5	-0.3
JKN2	**Miekihoku**	**1.56**	**169**	P	Pn	23 58 32.8	-0.1
JYT	**Yasato**	**3.51**	**81**	P	Pn	23 58 49.5	+0.6
BSO4	**Boso 4**	**3.71**	**101**	*e*S	S	23 59 42.3	-0.7
JHO	**Hitachi**	**3.87**	**76**	P	Pn	23 58 52.7	+0.1
JHO				S	S	23 59 42.3	-3.9
JFK	**Kawauchi**	**4.31**	**67**	P	Pn	23 58 56.8	-0.4
JFK				S	S	23 59 51.0	-3.7

ISCJB ***10*** *00:12:58.0±1.2, 51°.45N±0°.05×16°.11E±0°.06, h0km, Error ellipse: s-maj=8.0km s-min=4.0km az=26.8*
CSEM ***10*** *00:12:58.7±0.7, 51°.49N×16°.13E, h2km, Error ellipse: s-maj=11.4km s-min=6.9km az=12.0*
WAR ***10*** *00:12:59.9, 51°.50N×16°.13E*
PRU ***10*** *00:13:00.0, 51°.46N×16°.16E, h0km*
ISC 10 00:12:59.0±1.8, 51°.51N±0°.08×16°.16E±0°.05, h0km, n19, σ0.65/31, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.68**	**173**	*e*Pg	**Pg**	**00 13 12.3**	**+0.4**
KSP				*e*Sg	**Sg**	**00 13 21.4**	**+0.8**
UPC	**Upice**	**1.01**	**185**	*e*PG	**Pg**	**00 13 18.5**	**+0.2**
UPC	**Upice**	**1.01**	**185**	Pg	**Pg**	**00 13 18.5**	**+0.2**
DPC	**Dobruska-Polom**	**1.17**	**175**	*e*PG	**Pg**	**00 13 21.3**	**0.0**
DPC				*e*SG	**Sg**	**00 13 35.8**	**-0.7**
DPC	**Dobruska-Polom**	**1.17**	**175**	Pg	**Pg**	**00 13 21.3**	**0.0**
DPC				Sg	**Sg**	**00 13 35.8**	**-0.7**
PVCC	**Panska Ves**	**1.41**	**226**	*e*PG	**Pg**	**00 13 25.9**	**0.0**
PVCC	20nm,0.2s			*e*SG	**Sg**	**00 13 44.3**	**+0.2**
PVCC	**Panska Ves**	**1.41**	**226**	Pg	**Pg**	**00 13 25.9**	**0.0**
PVCC	20nm,0.2s			Sg	**Sg**	**00 13 44.3**	**+0.2**
BRG	**Berggiesshubel**	**1.53**	**246**	PG	**Pn**	**00 13 27.6**	**0.0**
BRG	6.7nm,0.5s			SG	**Sg**	**00 13 48.3**	**+0.1**
PRU	**Pruhonice**	**1.84**	**215**	*e*PG	**Pb**	**00 13 33.2**	**-0.3**
PRU				*e*SG	**Sb**	**00 13 57.5**	**+0.5**
PRU	**Pruhonice**	**1.84**	**215**	Pg	**Pb**	**00 13 33.2**	**-0.3**
PRU				Sg	**Sb**	**00 13 57.5**	**+0.5**
MORC	**Moravsky Berou**	**1.95**	**153**	*e*Pn	**Pn**	**00 13 32.7**	**-0.7**
MORC				*e*Sg	**Sb**	**00 14 00.8**	**+0.6**
CLL	**Collm**	**1.99**	**265**	*e*Pg	**Pb**	**00 13 36.0**	**0.0**
CLL				*e*Sg	**Sb**	**00 14 02.0**	**+0.8**
OKC	**Ostrava-Krasne**	**2.10**	**142**	*e*SG	**Sb**	**00 14 05.2**	**+0.7**
OKC	**Ostrava-Krasne**	**2.10**	**142**	Sg	**Sb**	**00 14 05.2**	**+0.7**
VRAC	**Vranov**	**2.22**	**173**	*e*Sg	**Sb**	**00 14 08.7**	**+0.6**
TREC	**Trest** 2.2nm,0.2s	**2.26**	**191**	*e*SG	**Sb**	**00 14 10.2**	**+1.0**
TREC	**Trest** 2.2nm,0.2s	**2.26**	**191**	Sg	**Sb**	**00 14 10.2**	**+1.0**
KHC	**Kasperske Hory**	**2.90**	**216**	*e*PN	**Pn**	**00 13 45.5**	**-0.9**
KHC				*e*PG	**Pb**	**00 13 52.2**	**+0.6**
KHC				*e*SG	**Sg**	**00 14 30.5**	**-1.6**
KHC	**Kasperske Hory**	**2.90**	**216**	Pn	**Pn**	**00 13 45.5**	**-0.9**

BJI ***10*** *00:20:09.4, 37°.51N×95°.84E, h7km, mB5.0/27, mb4.8/47, ML4.7/6, Ms4.7/58, Ms7 4.5/54*
IDC ***10*** *00:20:09.8±0.5, 37°.58N×95°.99E, h0km, mb4.6/27, mb1 4.7/32, mb1mx4.7/34, mbtmp4.6/32, ML4.3/5, MS3.8/21, Ms1 3.8/21, ms1mx3.7/39, Error ellipse: s-maj=16.3km s-min=10.0km az=22.0*
ISCJB ***10*** *00:20:10.6±0.1, 37°.67N±0°.02×95°.87E±0°.02, h10km, mb5.0/191, MS3.9/24, Error ellipse: s-maj=3.0km s-min=2.1km az=16.5*
MOS ***10*** *00:20:11.1±0.8, 37°.66N×95°.93E, h16km, mb5.2/80, Error ellipse: s-maj=6.7km s-min=3.6km az=129.5*
TEH ***10*** *00:20:12.0, 37°.66N×95°.90E, h10km, ML5.1*
NNC ***10*** *00:20:12.6±2.3, 37°.90N×95°.81E, h0km, mb4.9, Error ellipse: s-maj=47.0km s-min=29.8km az=62.0*
NEIC ***10*** *00:20:12.1±0.1, 37°.65N×95°.91E, h10km, mb5.2/102, Error ellipse: s-maj=4.5km s-min=2.9km az=201.0*
GCMT ***10*** *00:20:14.1±0.3, 37°.63N×95°.85E, h16km±1km, MW4.8, Moment Tensor Solution. s13,c15; s61,c85; Moment tensor: Scale 10^16Nm; Mrr1.43±.16; Mθθ-1.66±.11; Mφφ0.23±.08; Mrθ0.59±.21; Mθφ0.20±.05; Mφr0.06±.30; Best double couple: M0 1.70000×10^16 NP1:φs91.00000°, δ55.00000°, λ84.00000°. NP2:φs282.00000°, δ35.00000°, λ99.00000°. Principal axes: T 1.5500, Plg79.0000°, Azm338.0000°; N 0.2400, Plg5.0000°, Azm94.0000°; P -1.7900, Plg10.0000°, Azm185.0000°; Data Used: II IU G IC CN.*
BKK ***10*** *00:20:14.5±0.3, 38°N±4°×9°6E±°, h10km, M4.9/24, mB5.5/7, mb4.8/24, Mw(mB)5.0/7*
DJA ***10*** *00:20:14.4±2.3, 38°N±5°×9°6E±°, h15km±20km, M5.1/16, mB5.7/5, mb5.0/16, Mw(mB)5.2/5*
SZGRF ***10*** *00:20:17.9, 37°.55N×95°.59E, h33km, mb4.9, MS4.0, Qinghai, China*
ISC 10 00:20:12.4±0.5, 37°.66N±0°.03×95°.84E±0°.03, h10km±2km, h10km:pP-P, n606, σ1s24/644, mb5.0/198, MS4.0/26, 38C-35D, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**3.58**	**59**	Pn	**Pn**	**00 21 09.1**	**+1.1**
GTA				Pg	**Pb**	**00 21 16.2**	**+0.4**
GTA				Sn	**Sn**	**00 21 51.7**	**+1.3**
GTA				Sg	**Sb**	**00 22 02.4**	**+3.1**
GTA	comp=N,1μm,0.9s			smax	smax		
GTA	comp=E,720nm,1.4s			smax	smax		
GTA	comp=N,12μm,8.3s			LR	LR		
GTA	comp=E,11μm,5.9s			LR	LR		
GTA	comp=Z,8μm,8.2s			LR	LR		
LZH	**Lanzhou**	**6.61**	**101**	*e*Pn	**Pn**	**00 21 49.2**	**-0.5**
LZH				*e*Sn	**Sn**	**00 23 06.5**	**+1.3**
LZH	comp=N,800nm,0.9s			smax	smax		
LZH	comp=E,560nm,1.3s			smax	smax		
LZH	comp=N,4μm,5.2s			LR	LR		
LZH	comp=E,3μm,5.5s			LR	LR		
LZH	comp=Z,3μm,6.6s			LR	LR		
WMQ	**Urumqi**	**8.72**	**317**	P	**Pn**	**00 22 19.7**	**+1.1**
WMQ				pP	pP	00 22 22.9	
WMQ				sP		00 22 25.7	
WMQ				S	**Sn**	**00 23 59.9**	**+3.0**
WMQ				sS	sS	00 24 04.9	
WMQ				PcP	**PcP**	**00 28 45.4**	**-0.5**
WMQ	comp=Z,100nm,0.6s			pmax	pmax		
WMQ	comp=Z,260nm,4.2s			pmax	pmax		
WMQ	comp=N,4μm,11.3s			LR	LR		
WMQ	comp=E,3μm,10.0s			LR	LR		
WMQ	comp=Z,3μm,10.0s			LR	LR		
LSA	**Lhasa**	**8.84**	**208**	P	**Pn**	**00 22 23.4**	**+2.7**
LSA	comp=N,750nm,11.5s			LR	LR		
LSA	comp=Z,2μm,13.6s			LR	LR		
LSA	**Lhasa**	**8.84**	**208**	*e*P	**Pn**	**00 22 21.9**	**+1.2**
LSA				*e*		00 24 01.4	
LSA	comp=Z,32nm,0.9s			pmax	pmax		
LSA	**Lhasa** comp=Z,32nm,0.9s	**8.84**	**208**	*e*Pn	**Pn**	**00 22 21.9**	**+1.2**
LSA				*e*Sn	**Sn**	**00 24 01.4**	**+0.8**
CD2	**Chengdu**	**9.39**	**133**	P	**Pn**	**00 22 29.2**	**+1.4**
CD2				pP		00 22 32.4	
CD2				sP		00 22 35.2	
CD2				PP	**PnPn**	**00 22 37.1**	**+1.7**
CD2				S	**Sn**	**00 24 15.8**	**+2.3**
CD2				sS		00 24 20.5	
CD2				SS	**SnSn**	**00 24 29.0**	**+3.9**
CD2	comp=Z,30nm,1.2s			pmax	pmax		
CD2	comp=Z,280nm,5.3s			pmax	pmax		
CD2	comp=N,3μm,6.2s			LR	LR		
CD2	comp=Z,3μm,10.1s			LR	LR		
XAN	**Xi'an**	**11.21**	**105**	P	Pn	00 22 47.5	-5.3
XAN	comp=Z,5.0nm,1.3s			pmax	pmax		
XAN	comp=N,830nm,7.8s			LR	LR		
XAN	comp=E,520nm,9.0s			LR	LR		
XAN	comp=Z,540nm,8.4s			LR	LR		
BTO	**Baotou**	**11.40**	**71**	*e*P	**Pn**	**00 22 54.0**	**-1.4**
SHL	**Shillong**	**12.52**	**197**	*e*P	**Pn**	**00 23 07.6**	**-3.1**
SHL				AMB	AMB	00 23 25.6	
HHC	**Hu-ho-hao-te** comp=Z,23nm,2.2s	**12.60**	**70**	*e*P	**Pn**	**00 23 11.6**	**-0.1**
HHC				sP		00 23 17.3	
HHC				PP	**PnPn**	**00 23 22.1**	**+2.7**
HHC				S	**Sn**	**00 25 32.9**	**+0.7**
HHC				sS		00 25 37.2	
HHC				SS	**SnSn**	**00 25 48.3**	**+4.2**
HHC	comp=Z,86nm,1.1s			pmax	pmax		
HHC	comp=Z,280nm,4.3s			pmax	pmax		
HHC	comp=N,3μm,7.1s			LR	LR		
HHC	comp=E,2μm,8.9s			LR	LR		
HHC	comp=Z,1μm,7.1s			LR	LR		
SONM	**Songino Array**	**12.78**	**34**	Pn	**Pn**	**00 23 14.9**	**+0.8**
SONM				Lg	Lg	00 26 48.4	
SONM	**Songino Array** comp=Z,3.2nm,0.3s,baz=218,slow=15,SNR=48	**12.78**	**34**	Pn	**Pn**	**00 23 14.9**	**+0.8**
SONM	comp=Z,0.2nm,0.3s,baz=227,slow=27,SNR=3.5			Lg	Lg	00 26 48.4	
SONM	comp=Z,1μm,18.9s,baz=218,slow=39			LR	LR	00 28 26.6	
ULN	**Ulaanbaatar**	**13.10**	**35**	*e*Pn	**Pn**	**00 23 19.0**	**+0.5**
ULN				Sn	**Sn**	**00 25 47.3**	**+2.9**
ULN	**Ulaanbaatar** comp=Z,25nm,1.1s	**13.10**	**35**	P	**Pn**	**00 23 18.1**	**-0.4**
TIY	**Taiyuan**	**13.15**	**85**	*e*P	Pn	00 23 16.0	-3.2
TIY	comp=Z,85nm,1.0s			pmax	pmax		
TIY	comp=Z,330nm,4.0s			pmax	pmax		
TIY	comp=N,350nm,3.3s			LR	LR		
TIY	comp=E,2μm,8.5s			LR	LR		
TIY	comp=Z,2μm,9.0s			LR	LR		
ENH	**Enshi** comp=Z,96nm,1.1s	**13.51**	**119**	*e*Pn	**Pn**	**00 23 21.9**	**-2.1**
MK31	**Makanchi Array** comp=Z,19nm,0.8s,baz=121,slow=12,SNR=214	**13.55**	**317**	⇑Pn	**Pn**	**00 23 22.6**	**-2.0**
MK31	comp=Z,17nm,0.8s,baz=126,slow=26,SNR=7.1			⇑Sn	**Sn**	**00 25 54.9**	**-0.3**
MK31	**Makanchi Array**	**13.55**	**317**	*e*P	**Pn**	**00 23 22.9**	**-1.7**
MK31				*e*		00 25 53.5	
MK31	**Makanchi Array**	**13.55**	**317**	*e*Pn	**Pn**	**00 23 22.9**	**-1.7**
MK31				*e*Sn	**Sn**	**00 25 53.5**	**-1.7**
MKAR	**Makanchi Array**	**13.55**	**317**	*e*P	**Pn**	**00 23 23.0**	**-1.7**
MKAR	**Makanchi Array**	**13.55**	**317**	*e*Pn	**Pn**	**00 23 22.9**	**-1.7**
MKAR				Sn	**Sn**	**00 25 50.0**	**-5.3**
MKAR				Lg	Lg	00 27 26.2	
MKAR	**Makanchi Array** comp=Z,1.8nm,0.3s,baz=133,slow=12,SNR=84	**13.55**	**317**	Pn	**Pn**	**00 23 22.9**	**-1.7**
MKAR	baz=130,slow=25,SNR=2.2			Sn	**Sn**	**00 25 50.0**	**-5.3**
MKAR	baz=119,slow=23,SNR=2.4			Lg	Lg	00 27 26.2	
MKAR	comp=Z,304nm,20.6s,baz=123,slow=40			LR	LR	00 29 19.8	
HVS	**Khovu-Aksy**	**13.56**	**354**	⇑*e*P	**Pn**	**00 23 24.5**	**-0.3**
HVS	comp=Z,36nm,1.3s			pmax	pmax		
ZAK	**Zakamensk**	**13.79**	**20**	*e*P	**Pn**	**00 23 30.1**	**+2.2**
ZAK	comp=Z,7.0nm,1.2s			pmax	pmax		
KMI	**Kunming**	**13.81**	**153**	P	**Pn**	**00 23 31.1**	**+2.7**
KMI				pP	P	00 23 33.1	-3.9
KMI				sP		00 23 34.7	
KMI				PP	**PnPn**	**00 23 41.6**	**+5.2**
KMI				S	**Sn**	**00 26 05.4**	**+3.4**
KMI				sS	sS	00 26 08.8	
KMI	comp=Z,8.0nm,0.8s			pmax	pmax		
KMI	comp=Z,170nm,4.2s			pmax	pmax		
KMI	comp=N,820nm,6.5s			LR	LR		
KMI	comp=E,950nm,11.6s			LR	LR		
KMI	comp=Z,930nm,12.8s			LR	LR		
GYA	**Guiyang**	**14.44**	**138**	⇑*i*P	**Pn**	**00 23 33.9**	**-3.1**
GYA				PP	**PnPn**	**00 23 48.7**	**+3.8**
GYA				S	**Sn**	**00 26 19.2**	**+2.0**
GYA	comp=Z,60nm,0.8s			pmax	pmax		
GYA	comp=Z,120nm,4.8s			pmax	pmax		
GYA	comp=N,690nm,14.8s			LR	LR		
GYA	comp=E,520nm,15.0s			LR	LR		
GYA	comp=Z,650nm,14.5s			LR	LR		
MOY	**Mondy**	**14.47**	**13**	*e*P	**Pn**	**00 23 40.2**	**+2.9**
MOY	comp=Z,157nm,1.5s			pmax	pmax		
KSH	**Kashi**	**15.64**	**283**	P	**Pn**	**00 23 54.6**	**+1.6**
KSH				sP	**sP**	**00 24 01.0**	**-0.3**
KSH				S	**Sn**	**00 26 47.2**	**+0.7**
KSH				PcP	**PcP**	**00 28 56.3**	**+2.3**
KSH	comp=Z,25nm,1.1s			pmax	pmax		
KSH	comp=N,510nm,5.2s			LR	LR		
KSH	comp=E,510nm,4.4s			LR	LR		
KSH	comp=Z,330nm,5.4s			LR	LR		
IRK	**Irkutsk**	**15.74**	**19**	*e*P	**P**	**00 24 00.8**	**+2.8**
IRK	comp=Z,240nm,1.2s			pmax	pmax		
BJT	**Baijiatuau** comp=Z,217nm,1.3s	**16.02**	**75**	*e*P	**Pn**	**00 23 57.5**	**-0.2**
BJI	**Beijing**	**16.02**	**75**	P	**Pn**	**00 23 57.2**	**-0.5**
BJI				S	**Sn**	**00 26 55.4**	**0.0**
BJI	comp=Z,120nm,1.2s			pmax	pmax		
BJI	comp=N,1μm,9.5s			LR	LR		
BJI	comp=E,670nm,8.9s			LR	LR		
BJI	comp=Z,310nm,19.3s			LR	LR		
BOK	**Bokaro**	**16.24**	**214**	*e*P	**Pn**	**00 23 58.7**	**-1.9**
BOK	comp=Z,25nm,0.3s			AMB	AMB	00 24 05.7	
TKM2	**Tokmak 2** comp=Z,83nm,1.0s	**16.30**	**295**	⇓P	**Pn**	**00 23 59.8**	**-1.8**
TKM2	**Tokmak 2** comp=Z,58nm,0.7s	**16.30**	**295**	*e*P	**Pn**	**00 23 59.7**	**-1.8**
TKM2				pmax	pmax		
TKM2	**Tokmak 2** SNR=46	**16.30**	**295**	P	**Pn**	**00 24 00.6**	**-0.9**
TKM2	**Tokmak 2** comp=Z,58nm,0.7s	**16.30**	**295**	*e*Pn	**Pn**	**00 23 59.7**	**-1.8**
TKM2				*e*S	**S**	**00 27 18.0**	**+2.7**
KZA	**Kyzart**	**16.40**	**292**	*i*P	**Pn**	**00 24 02.6**	**-0.4**
KZA	**Kyzart** SNR=11	**16.40**	**292**	P	**Pn**	**00 24 02.6**	**-0.4**
SMLA	**Simla**	**16.72**	**253**	*e*P	**Pn**	**00 24 07.5**	**+0.9**
KBK	**Karagaybulak**	**16.72**	**294**	*i*P	**Pn**	**00 24 06.3**	**-0.5**
KBK	**Karagaybulak** SNR=22	**16.72**	**294**	P	**Pn**	**00 24 06.3**	**-0.5**
WHN	**Wuhan**	**16.88**	**109**	⇓*i*P	**P**	**00 24 10.1**	**-0.7**
WHN				S	**Sn**	**00 27 19.4**	**+3.1**
WHN	comp=N,3μm,12.1s			LR	LR		
WHN	comp=E,3μm,6.0s			LR	LR		
WHN	comp=Z,4μm,10.5s			LR	LR		
DHRM	**DHARAMSHALA**	**16.89**	**257**	*e*P	**Pn**	**00 24 09.3**	**+0.1**
DHRM	comp=Z,105nm,1.0s			AMB	AMB	00 24 14.8	
CHMS	**Chumysh**	**16.93**	**295**	*i*P	**Pn**	**00 24 08.0**	**-1.3**
CHMS	**Chumysh** SNR=9.7	**16.93**	**295**	P	**Pn**	**00 24 08.0**	**-1.3**
FRU	**Bishkek**	**16.99**	**294**	*e*P	**Pn**	**00 24 09.0**	**-1.1**
FRU	comp=Z,100nm,1.0s			pmax	pmax		
FRU	comp=N,250nm,2.3s			pmax	pmax		
DLH	**Dalhousie**	**17.04**	**259**	*e*P	**P**	**00 24 12.0**	**-0.7**
AAK	**Ala-Archa** comp=N,324nm,0.9s,SNR=16	**17.05**	**294**	Pn	**Pn**	**00 24 10.9**	**0.0**
AAK	**Ala-Archa** SNR=39	**17.05**	**294**	*e*P	**Pn**	**00 24 10.4**	**-0.5**
AAK	**Ala-Archa**	**17.05**	**294**	P	**Pn**	**00 24 10.5**	**-0.5**
AAK	**Ala-Archa** comp=N,0.4nm,0.3s,baz=93,slow=11,SNR=29	**17.05**	**294**	*e*Pn	**Pn**	**00 24 10.3**	**-0.5**
AAK	**Ala-Archa** comp=N,324nm,19.0s,baz=82,slow=40	**17.05**	**294**	P	**Pn**	**00 24 10.0**	**-0.9**
AAK				LR	LR	00 31 30.8	
TIA	**Tai'an**	**17.08**	**88**	⇓P	**P**	**00 24 13.1**	**+0.1**
TIA	comp=Z,50nm,1.1s			pmax	pmax		
TIA	comp=N,810nm,7.8s			LR	LR		
TIA	comp=E,710nm,5.9s			LR	LR		
TIA	comp=Z,600nm,8.3s			LR	LR		
USP	**Ospenovka**	**17.16**	**296**	*i*P	**Pn**	**00 24 11.3**	**-0.9**
USP	**Ospenovka** SNR=15	**17.16**	**296**	P	**Pn**	**00 24 11.3**	**-0.9**
EKS2	**Erkin-Say**	**17.57**	**293**	*e*P	**P**	**00 24 18.3**	**-0.2**
EKS2	comp=Z,30nm,1.0s			pmax	pmax		
EKS2	**Erkin-Say** SNR=30	**17.57**	**293**	P	**P**	**00 24 18.4**	**-0.2**
EKS2	**Erkin-Say** comp=Z,30nm,1.0s	**17.57**	**293**	*e*Pn	**P**	**00 24 18.3**	**-0.2**
CRAI	**Chiangrai** comp=Z,20nm,1.7s,comp=Z,2μm	**17.81**	**166**	P	**Pn**	**00 24 19.4**	**-1.0**
CMAI	**Chiengmai2** comp=Z,19nm,1.0s	**17.88**	**170**	P	**P**	**00 24 22.7**	**+0.6**
KURBB	**Kurchatov Arra** comp=Z,50nm,1.2s	**17.89**	**322**	⇑P	**P**	**00 24 22.0**	**+0.1**
KURBB	**Kurchatov Arra** comp=Z,0.8nm,0.3s,baz=132,slow=12,SNR=50	**17.89**	**322**	P	**Pn**	**00 24 19.8**	**-1.4**
KURBB	baz=136,slow=26,SNR=3.0			Lg	Lg	00 29 41.7	
KURK	**Kurchatov**	**17.91**	**322**	P	**Pn**	**00 24 19.8**	**-1.6**
KURK	**Kurchatov**	**17.91**	**322**	P	**Pn**	**00 24 19.8**	**-1.6**
KURK				Lg	Lg	00 29 41.7	
ZAA0	**Zalesovo Array**	**17.97**	**339**	*e*P	**Pn**	**00 24 21.2**	**-1.0**
ZAA0				*e*S	**S**	**00 27 51.6**	**+2.8**
ZALV	**Zalesovo Beam**	**17.97**	**339**	P	**Pn**	**00 24 21.7**	**-0.5**
ZALV	**Zalesovo Beam**	**17.97**	**339**	P	**Pn**	**00 24 21.7**	**-0.5**
ZALV				Lg	Lg	00 29 40.0	
ZALV	**Zalesovo Beam** comp=Z,0.5nm,0.3s,baz=153,slow=11,SNR=41	**17.97**	**339**	P	**Pn**	**00 24 21.7**	**-0.5**

ZALV Lg Lg 00 29 40.0
baz=171,slow=32,SNR=3.9
ZALV LR LR 00 31 34.1
comp=Z,276nm,21.7s,baz=248,slow=38
KRAR Krasnoyarsk 18.47 355 *de*P **Pn 00 24 32.4 +4.2**
CHCP Chirak Chowk 18.76 265 P **P 00 24 30.3 -1.3**
CHTO Chiang Mai 18.97 171 *e*P **Pn 00 24 34.7 +0.1**
CHTO pmax pmax
comp=Z,16nm,1.0s
CHTO Chiang Mai 18.97 171 *e*P **Pn 00 24 34.7 +0.1**
comp=Z,16nm,1.0s
CHTO Chiang Mai 18.97 171 P **Pn 00 24 35.3 +0.7**
comp=Z,19nm,1.0s
CHTO Chiang Mai 18.97 171 P **Pn 00 24 36.6 +2.0**
comp=Z,19nm,1.0s
NVS Novosibirsk 19.22 337 ⇑*i*P **P 00 24 35.7 -0.6**
NVS *i*S **S 00 28 15.4 +1.5**
NVS pmax pmax
comp=Z,78nm,1.4s
NVS pmax pmax
comp=N,66nm,1.5s
NVS pmax pmax
comp=E,45nm,1.5s
NVS smax smax
comp=N,17nm,1.9s
NVS smax smax
comp=E,42nm,2.5s
NJ2 Nanjing 19.68 100 *e*P **P 00 24 40.7 -0.9**
NJ2 pP **Pn 00 24 42.2 -0.8**
NJ2 S **S 00 28 23.0 -0.5**
NJ2 pmax pmax
comp=Z,24nm,0.5s
NJ2 LR LR
comp=N,1μm,6.5s
NJ2 LR LR
comp=E,710nm,11.9s
NJ2 LR LR
comp=Z,710nm,11.4s
CEP Cherat 19.78 266 P **P 00 24 42.6 -0.3**
CEP S **Sn 00 28 27.0 +0.3**
KK31 Karatay Array 20.01 294 ⇓P **P 00 24 45.6 +0.4**
comp=Z,25nm,0.8s,baz=88,slow=13,SNR=134
KK31 Karatay Array 20.01 294 *ce*P Pn 00 24 46.3 -0.6
KK31 pmax pmax
comp=Z,28nm,0.8s
KKAR Karatay Array 20.01 294 *e*P **P 00 24 45.6 +0.4**
KKAR Karatay Array 20.01 294 *e*P **P 00 24 45.6 +0.4**
THW Thamme Wali 20.25 263 P **P 00 24 48.2 +0.3**
DL2 Dalian 20.27 79 P **P 00 24 46.0 -1.9**
DL2 *e*S **S 00 28 29.9 -5.3**
DL2 pmax pmax
comp=Z,110nm,0.9s
DL2 pmax pmax
comp=Z,200nm,6.2s
DL2 LR LR
comp=N,270nm,6.7s
DL2 LR LR
comp=E,330nm,11.5s
DL2 LR LR
comp=Z,490nm,10.6s
LOEI Loei 20.63 165 P Pn 00 24 54.1 -0.2
comp=Z,15nm,0.8s
HIA Hailar 20.78 48 *e*P **P 00 24 52.8 -0.7**
comp=Z,77nm,1.3s
BHPL Bhopal 21.36 233 *e*P **P 00 24 58.4 -1.5**
SNY Shenyang 21.69 70 ⇑P **P 00 25 02.1 -1.2**
SNY S **S 00 29 07.0 +3.7**
SNY pmax pmax
comp=Z,96nm,0.9s
SNY LR LR
comp=N,580nm,8.4s
SNY LR LR
comp=E,550nm,16.7s
SNY LR LR
comp=Z,830nm,8.7s
SKNT Sakolnakorn 21.82 159 P **P 00 25 04.7 -0.1**
comp=Z,64nm,0.8s,comp=Z,3μm
KBL Kabul 21.85 270 *e*P **P 00 25 06.2 +0.9**
KBL pmax pmax
comp=Z,207nm,1.8s
KBL Kabul 21.85 270 *e*P **P 00 25 06.2 +0.9**
comp=Z,207nm,1.8s
NGP Nagpur 21.95 226 *e*P **P 00 25 05.0 -1.2**
NGP AMB AMB 00 25 08.8
comp=Z,35nm,0.8s
QIZ Qiongzhong 22.23 143 P **P 00 25 08.9 -0.3**
QIZ S **S 00 29 14.2 +0.2**
QIZ pmax pmax
comp=Z,23nm,0.7s
QIZ pmax pmax
comp=Z,130nm,4.3s
QIZ LR LR
comp=N,680nm,9.3s
QIZ LR LR
comp=Z,550nm,9.7s
QIZ Qiongzhong 22.23 143 *e*P **P 00 25 08.2 -1.1**
comp=Z,17nm,0.6s
CHAI Chaiyaphum 22.34 164 P **P 00 25 11.3 +0.9**
comp=Z,6.9nm,0.8s
VOSK Vostochnaya 22.94 319 ⇑P **P 00 25 15.5 -1.1**
comp=Z,34nm,0.9s
VOSK Vostochnaya 22.94 319 *e*P **P 00 25 15.7 -0.8**
VOSK pmax pmax
comp=Z,30nm,0.9s
VOSK Vostochnaya 22.94 319 *e*P **P 00 25 15.7 -0.8**
comp=Z,30nm,0.9s
CN2 Changchun 23.19 65 ⇑P **P 00 25 18.2 -1.0**
CN2 *ep*P **pP 00 25 21.5 -0.5**
CN2 *e*S **S 00 29 24.2 -6.7**
CN2 pmax pmax
comp=Z,30nm,1.2s
CN2 LR LR
comp=N,1μm,10.0s
CN2 LR LR
comp=E,840nm,10.0s
CN2 LR LR
comp=Z,760nm,10.0s
BVA0 Borovoye Array 23.40 319 ⇑P **P 00 25 20.8 -0.4**
comp=Z,19nm,0.8s
BVA0 Borovoye Array 23.40 319 P **P 00 25 20.8 -0.4**
BVA0 pmax pmax
comp=Z,88nm,2.1s
BVAR Borovoye Array 23.40 319 P **P 00 25 21.3 0.0**
BVAR Borovoye Array 23.40 319 P **P 00 25 21.3 0.0**
BVAR Borovoye Array 23.40 319 P **P 00 25 21.3 0.0**
comp=Z,15nm,0.7s,baz=115,slow=10,SNR=77
BVAR LR LR 00 35 11.8
comp=Z,276nm,20.5s,baz=117,slow=38
BRVK Borovoye 23.48 319 P **P 00 25 22.1 +0.1**
comp=Z,245nm,0.7s,SNR=20
BRVK Borovoye 23.48 319 *ce*P **P 00 25 21.8 -0.2**
BRVK pmax pmax
comp=Z,28nm,0.7s
BRVK Borovoye 23.48 319 *e*P **P 00 25 22.2 +0.3**
comp=Z,28nm,0.7s
AKL Akola 23.49 229 *e*P **P 00 25 22.5 +0.1**
AKL AMB AMB 00 25 25.7
comp=Z,76nm,1.0s
UBPT Khong Chiam 23.87 156 P **P 00 25 25.0 -1.0**
comp=Z,63nm,1.0s
UBPT Khong Chiam 23.87 156 P **P 00 25 25.4 -0.6**
comp=Z,63nm,1.0s
INCN Inchon 24.36 81 *e*P **P 00 25 29.1 -1.4**
comp=Z,50nm,0.7s
PHET Kaeng Krachan 24.88 171 P **P 00 25 36.8 +1.5**
comp=Z,155nm,1.1s
PHET Kaeng Krachan 24.88 171 P **P 00 25 37.1 +1.8**
comp=Z,155nm,1.1s
HYB Hyderabad 25.25 222 *i*P **P 00 25 40.0 +1.3**
HYB Hyderabad 25.25 222 *e*P **P 00 25 37.9 -0.8**
YHNB Yeheng 25.31 113 *e*P **P 00 25 38.1 -1.2**
comp=Z,111nm,1.4s
KSAR Wonju Array Be 25.35 81 P **P 00 25 37.7 -1.7**
KSRS Korea Array 25.38 81 P **P 00 25 37.7 -2.0**
comp=Z,51nm,0.6s,baz=274,slow=9.8,SNR=99
KSRS LR LR 00 35 19.9
comp=Z,38nm,19.4s,baz=100,slow=36
CHBT CHBT 25.47 165 P **P 00 25 44.6 +3.9**
comp=Z,60nm,1.1s,comp=Z,2μm
CHBT CHBT 25.47 165 P P 00 25 46.3 +5.6
comp=Z,59nm,1.1s,comp=Z,2μm
LATR Latur 25.54 227 *ex* P 00 25 35.7 -5.6
LATR AMB AMB 00 25 39.1
comp=Z,39nm,0.8s
SSLB Suanglung 25.54 116 *e*P **P 00 25 39.4 -1.9**
comp=Z,66nm,1.4s

NACB Ninganchiao 25.77 114 *e*P **P 00 25 43.7 +0.3**
comp=Z,40nm,0.8s
YULB Yu-li 26.03 116 *e*P **P 00 25 46.1 +0.3**
comp=Z,62nm,1.6s
MDJ Mudanjiang 26.22 64 P **P 00 25 47.3 0.0**
MDJ pP **pP 00 25 50.3 0.0**
MDJ sP **sP 00 25 51.6 0.0**
MDJ S **S 00 30 18.2 -1.2**
MDJ ScS **ScS 00 36 39.6 -3.8**
MDJ pmax pmax
comp=Z,6.0nm,1.1s
MDJ pmax pmax
comp=Z,120nm,4.8s
MDJ LR LR
comp=N,470nm,12.5s
MDJ LR LR
comp=E,140nm,9.2s
MDJ LR LR
comp=Z,670nm,12.5s
POO Poona 27.07 231 *e*P **P 00 25 53.7 -1.5**
POO *e*P **pP 00 25 54.0 -4.3**
POO AMB AMB 00 25 59.3
comp=Z,43nm,0.9s
USRK Ussuriysk Arra 27.92 65 P **P 00 26 01.0 -1.6**
comp=Z,3.8nm,0.7s,baz=261,slow=11,SNR=6.5
USRK LR LR 00 38 20.6
comp=Z,111nm,20.5s,baz=82,slow=39
AB31 Akbulak array 28.25 306 ⇓P **P 00 26 05.9 +0.4**
comp=Z,4.8nm,0.8s,baz=97,slow=8.1,SNR=48
AB31 Akbulak array 28.25 306 *ce*P **P 00 26 05.6 +0.1**
AB31 pmax pmax
comp=Z,4.0nm,0.6s
ABKAR Akbulak array 28.25 306 *e*P **P 00 26 06.4 +0.9**
KLR Kul'dur 28.26 54 *e*P P 00 26 00.0 -5.6
KLR MLR MLR
comp=N,1μm,11.5s
KLR MLR MLR
comp=E,800nm,9.0s
KLR MLR MLR
comp=Z,2μm,9.0s
JNU Nakatsue 28.82 88 *e*P **P 00 26 08.9 -1.8**
comp=Z,13nm,1.5s
JNU Nakatsue 28.82 88 P **P 00 26 08.9 -1.8**
comp=Z,6.1nm,0.9s,baz=12,slow=9.3,SNR=2.9
JNU LR LR 00 38 17.1
comp=Z,133nm,19.7s,baz=84,slow=38
JOW Kunigami 29.35 102 *e*P P 00 26 11.8 -3.6
comp=Z,101nm,2.7s
AKTO Aktyubinsk 29.70 308 ⇑P **P 00 26 19.0 +0.7**
comp=Z,24nm,0.9s
AKTO Aktyubinsk 29.70 308 P **P 00 26 19.0 +0.7**
AKTO Aktyubinsk 29.70 308 P **P 00 26 19.0 +0.7**
AKTO Aktyubinsk 29.70 308 P **P 00 26 19.0 +0.7**
comp=Z,19nm,0.8s,baz=93,slow=9.0,SNR=49
AKTO LR LR 00 39 20.8
comp=Z,130nm,18.9s,baz=285,slow=39
SVE Sverdlovsk 30.15 321 ⇑*i*P **P 00 26 23.2 +1.0**
SVE *e*S **S 00 31 26.3 +5.3**
SVE pmax pmax
comp=Z,27nm,1.1s
IKOO Kooshah 30.47 271 *e*P **P 00 26 26.7 +1.0**
ITEG Tejag 30.52 272 *e*P **P 00 26 27.2 +1.2**
ARU Arti 31.05 319 *d i*P **P 00 26 30.8 +0.6**
ARU 00 27 33.2
ARU 00 29 20.9
ARU S **S 00 31 38.6 +3.5**
ARU SS **SnSn 00 33 12.6 -3.1**
ARU pmax pmax
comp=Z,36nm,1.0s
ARU Arti 31.05 319 P **P 00 26 30.9 +0.7**
comp=Z,199nm,0.7s,SNR=14
YAK Yakutsk 32.08 30 *e*P **P 00 26 38.9 -0.3**
YAK pmax pmax
comp=Z,9.0nm,0.5s
SOKR Solikamsk 33.14 324 *e*P **P 00 26 50.2 +1.7**
SOKR pmax pmax
comp=Z,8.0nm,0.5s
IGLO Ghaloghah 33.33 281 *e*P **P 00 26 52.5 +1.8**
IKIA Kiasar 33.52 281 *e*P **P 00 26 54.6 +2.2**
MJAR Matsushiro Arr 33.61 79 P **P 00 26 49.8 -3.1**
MJAR Matsushiro Arr 33.61 79 P **P 00 26 49.8 -3.1**
comp=Z,1.2nm,0.5s,baz=285,slow=9.9,SNR=3.6
MJAR LR LR 00 40 50.3
comp=Z,113nm,18.7s,baz=270,slow=37
ISHM Shahmirzad 33.94 280 *e*P **P 00 26 58.8 +2.7**
IALA Alasht 34.24 281 *e*P **P 00 27 00.7 +2.0**
IMEH Mehriz 34.33 272 *e*P **P 00 26 59.2 -0.3**
IFIR Firoozkooh 34.40 280 *e*P P 00 27 04.1 +4.0
ASAJ Asahikawa 35.55 64 *e*P **P 00 27 08.7 -0.9**
ASAJ Asahikawa 35.55 64 P **P 00 27 08.2 -1.3**
comp=Z,16nm,0.8s,baz=57,slow=3.0,SNR=4.9
SIZA Siyzn 36.11 290 ⇑P P 00 27 17.9 +3.4
ATGJ Altiaghaj 36.12 290 ⇓P P 00 27 18.0 +3.3
PQL Pirkuli 36.39 290 ⇑P **P 00 27 18.5 +1.6**
KKM Kota Kinabalu 36.53 144 *e*P **P 00 27 17.9 -0.4**
comp=Z,31nm,0.8s
KKM Kota Kinabalu 36.53 144 P **P 00 27 17.9 -0.4**
comp=Z,46nm,1.0s
LKRN Lenkeran, Azer 36.69 287 ⇑P **P 00 27 20.5 +1.2**
IML Ismayilli 36.70 290 ⇓P **P 00 27 20.8 +1.3**
GLBA Clilabad 36.86 288 ⇓P **P 00 27 22.2 +1.4**
SEKA Sheki 37.35 291 ⇓P **P 00 27 26.1 +1.1**
BRDA Brd 37.55 289 ⇓P **P 00 27 28.2 +1.5**
ISRB Sarab 37.75 285 *e*P **P 00 27 29.8 +1.1**
TIXI Tiksi 38.02 16 *de*P **P 00 27 29.4 -0.8**
TIXI pmax pmax
comp=Z,16nm,1.0s
IHRS Heris 38.10 286 *e*P **P 00 27 31.5 -0.2**
GANJ Ganja 38.11 290 ⇑P **P 00 27 32.0 +0.5**
SBUM Sibu 38.13 153 *e*P **P 00 27 32.1 +0.3**
comp=Z,13nm,1.0s
SBUM Sibu 38.13 153 P **P 00 27 32.6 +0.8**
comp=Z,14nm,1.3s
MYLDM Lahad Datu 38.37 142 P **P 00 27 35.2 +1.4**
comp=Z,137nm,1.0s,comp=Z,2μm
NAX Nakhchivan 39.06 288 ⇓P **P 00 27 40.4 +0.9**
ISHB Shabestar 39.20 287 *e*P **P 00 27 42.2 +1.3**
GNI Garni 39.40 290 *e*P **P 00 27 43.2 +0.8**
comp=Z,45nm,1.3s
ZEI Tsey 39.47 294 *e*P **P 00 27 43.8 +0.8**
ZEI pmax pmax
comp=Z,18nm,1.4s
KBZ Khabaz 40.02 296 P **P 00 27 47.9 +0.6**
KBZ Khabaz 40.02 296 P **P 00 27 47.9 +0.6**
KBZ Khabaz 40.02 296 P **P 00 27 47.9 +0.6**
comp=Z,8.3nm,0.8s,baz=112,slow=6.9,SNR=16
KBZ LR LR 00 47 19.9
comp=Z,93nm,18.1s,baz=238,slow=41
VRHR Novokhopersk 40.11 307 *e*P **P 00 27 47.9 -0.1**
VRHR pmax pmax
comp=Z,20nm,0.9s
VRHR pmax pmax
comp=N,4.0nm,0.5s
VRHR pmax pmax
comp=E,20nm,0.9s
KIV Kislovodsk 40.13 296 *e*P **P 00 27 47.9 -0.5**
KIV pmax pmax
comp=Z,20nm,1.1s
KIV MLR MLR
comp=Z,102nm,15.0s
KBD Kabd 40.70 273 *e*P **P 00 27 53.7 +0.5**
KBD AMb AMB 00 27 56.4
comp=Z,25nm,1.4s
NAY Al-Naaiem 41.02 273 *e*P **P 00 27 56.6 +0.8**
NAY AMb AMB 00 27 57.8
comp=Z,2.6nm,0.8s
RST Umm Al-Ruwaisa 41.11 273 *e*P **P 00 27 57.0 +0.5**
RST AMb AMB 00 27 58.5
comp=Z,545nm,0.8s
VORD Divnogorie 41.59 307 *e*P **P 00 28 00.3 +0.2**
VORD pmax pmax
comp=Z,10.0nm,0.8s
VORD pmax pmax
comp=N,5.0nm,0.4s
VORD pmax pmax
comp=E,30nm,1.0s
VSR Storozhevoye 41.65 308 *e*P **P 00 28 01.0 +0.3**
VSR pmax pmax
comp=Z,30nm,0.7s
VSR pmax pmax
comp=N,9.0nm,0.8s
VSR pmax pmax
comp=E,40nm,0.9s
KLMR Klimovskoe 41.76 322 *e*P **P 00 27 59.0 -2.4**
KLMR pmax pmax

comp=Z,41nm,1.3s
SEY Seymchan 42.17 35 ⇓*i*P **P 00 28 04.3 -0.5**
MOS Moscow 42.42 315 *e*P P 00 28 03.6 -3.3
MOS pmax pmax
comp=Z,70nm,1.2s
OBN Obninsk 43.03 314 *d i*P **P 00 28 12.1 +0.2**
OBN *e* 00 29 51.9
OBN *e* 00 30 05.0
OBN pmax pmax
comp=Z,33nm,1.2s
OBN MLR MLR
comp=Z,100nm,17.0s
GTOI Gorontalo 44.54 139 P **P 00 28 22.8 -1.6**
comp=Z,66nm,0.9s
MALT Malatya 44.61 289 ⇑P **P 00 28 26.8 +1.8**
MALT Malatya 44.61 289 ⇑*i*P **P 00 28 26.8 +1.8**
PETK Petropavlovsk- 44.68 49 P **P 00 28 24.1 -1.1**
PETK Petropavlovsk- 44.68 49 P **P 00 28 24.1 -1.1**
PETK Petropavlovsk- 44.68 49 P **P 00 28 24.1 -1.1**
comp=Z,10nm,0.8s,baz=264,slow=7.3,SNR=6.9
PETK LR LR 00 47 02.2
comp=Z,95nm,20.1s,baz=47,slow=36
RAYN Ar Rayn 45.05 267 *e*P **P 00 28 28.6 0.0**
JOF Joensuu 45.80 325 *e*P **P 00 28 33.7 -0.2**
JOF pmax pmax
comp=Z,10.0nm,0.7s
JOF Joensuu 45.80 325 *ep* **P 00 28 33.7 -0.2**
comp=Z,9.6nm,0.7s
SPSI Sidrap Palu 47.01 146 P **P 00 28 43.0 -0.9**
comp=Z,28nm,1.2s,comp=Z,2μm
BR131 Keskin Array S 47.72 293 *e*P **P 00 28 49.8 +0.3**
comp=Z,8.2nm,0.7s
BRTR Keskin Array B 47.72 293 P **P 00 28 49.8 +0.3**
BRTR Keskin Array B 47.72 293 P **P 00 28 49.8 +0.3**
comp=Z,10.0nm,0.7s,baz=99,slow=7.3,SNR=28
AKASG Malin Array Be 47.94 308 P **P 00 28 50.9 0.0**
AKASG Malin Array Be 47.94 308 P **P 00 28 50.9 0.0**
AKASG Malin Array Be 47.94 308 P **P 00 28 50.9 0.0**
comp=Z,10.0nm,0.9s,baz=69,slow=7.2,SNR=14
KIEV Kiev 47.95 308 *e*P **P 00 28 51.1 +0.2**
KIEV pmax pmax
comp=Z,12nm,1.0s
KIEV Kiev 47.95 308 *e*P **P 00 28 51.1 +0.2**
comp=Z,12nm,1.0s
KAF Kangasniemi 48.13 324 *e*P **P 00 28 52.1 0.0**
KAF pmax pmax
comp=Z,7.0nm,0.7s
KAF Kangasniemi 48.13 324 *ep* **P 00 28 52.1 0.0**
comp=Z,6.6nm,0.7s
VSU Vasula 48.21 319 ⇑*e*P **P 00 28 53.0 +0.2**
VSU pmax pmax
comp=Z,207nm,2.5s
FINES FINESS Array B 48.28 323 P **P 00 28 53.1 -0.2**
FINES FINESS Array B 48.28 323 P **P 00 28 53.1 -0.2**
comp=Z,9.8nm,0.8s,baz=89,slow=8.7,SNR=19
ANTO Ankara 48.29 293 *e*P **P 00 28 54.3 +0.5**
ANTO pmax pmax
comp=Z,15nm,0.8s
ANTO Ankara 48.29 293 *e*P **P 00 28 54.3 +0.5**
comp=Z,15nm,0.8s
ANTO Ankara 48.29 293 ⇓*i*P **P 00 28 54.6 +0.8**
ARCES ARCESS Array B 48.44 334 P **P 00 28 54.6 +0.2**
ARCES PcP **PcP 00 30 21.6 +1.1**
ARCES ARCESS Array B 48.44 334 P **P 00 28 54.6 +0.2**
comp=Z,3.2nm,0.5s,baz=78,slow=7.5,SNR=13
ARCES PcP **PcP 00 30 21.6 +1.1**
comp=Z,2.0nm,0.6s,baz=113,slow=2.8,SNR=4.9
CSS Prodhromos 49.61 287 *e*P P 00 29 07.7 +3.7
TESR Tescani 50.60 303 ⇓*i*P **P 00 29 11.2 -0.1**
ISP Isparta 50.66 292 *e*P **P 00 29 13.0 +1.1**
ISP pmax pmax
comp=Z,53nm,1.0s
ISP Isparta 50.66 292 *e*P **P 00 29 13.0 +1.1**
comp=Z,53nm,1.0s
VRI Vrincioaia 50.73 303 ⇓P **P 00 29 13.0 +0.7**
VRI Vrincioaia 50.73 303 ⇓*i*P **P 00 29 13.0 +0.7**
PLOR Plostina 50.79 303 ⇑P **P 00 29 14.6 +1.9**
PLOR Plostina 50.79 303 ⇑*i*P **P 00 29 14.6 +1.9**
DAMY Dhamar 50.87 257 *e*P **P 00 29 16.1 +2.1**
SUW Suwalki 50.89 313 *e*P **P 00 29 14.0 +0.7**
SUW pmax pmax
comp=Z,45nm,1.1s
SUW Suwalki 50.89 313 *e*P **P 00 29 14.0 +0.7**
comp=Z,45nm,1.1s
SUW Suwalki 50.89 313 *e*P **P 00 29 13.4 +0.1**
BURAR Bucovina Array 51.23 305 ⇑P **P 00 29 16.8 +0.7**
BURAR Bucovina Array 51.23 305 ⇑*i*P **P 00 29 16.8 +0.7**
BUR08 Bucovina Ar. S 51.23 305 *e*P **P 00 29 16.6 +0.4**
MLR Muntele Rosu 51.37 302 ⇑*i*P **P 00 29 19.3 +2.1**
LVV L'vov 51.39 308 *i*P **P 00 29 17.9 +0.8**
ARCR ARCALIA 51.95 305 ⇓*i*P **P 00 29 23.9 +2.6**
VOIR 51.98 302 ⇓P **P 00 29 22.3 +0.6**
VOIR 51.98 302 ⇓*i*P **P 00 29 22.3 +0.6**
KWP Kalwaria Pacla 52.27 308 ⇑P **P 00 29 25.0 +1.3**
KWP Kalwaria Pacla 52.27 308 *e*P **P 00 29 25.0 +1.3**
comp=Z,36nm,0.9s
KWP Kalwaria Pacla 52.27 308 ⇑*i*P **P 00 29 25.0 +1.3**
KWP Kalwaria Pacla 52.27 308 *e*P **P 00 29 24.6 +0.9**
ARR Arges 52.28 302 ⇑*i*P **P 00 29 24.7 +0.7**
KOLS Kolonicke sedl 52.74 307 *e*P **P 00 29 28.3 +1.1**
KOLS pmax pmax
comp=Z,7.0nm,1.2s
KOLS Kolonicke sedl 52.74 307 *e*P **P 00 29 28.3 +1.1**
TRPA Tarpa 52.81 306 ⇑*i*P **P 00 29 28.9 +1.2**
UZH Uzhgorod 52.82 307 ⇓*i*P **P 00 29 27.4 -0.3**
UZH *e* 00 29 31.6
LOT Lotru 52.84 303 ⇑*i*P **P 00 29 28.5 +0.4**
DRGR 53.11 305 ⇓P **P 00 29 31.1 +1.0**
DRGR 53.11 305 ⇓*i*P **P 00 29 31.0 +1.0**
STHS Stebnicka Huta 53.24 308 *e*P **P 00 29 31.9 +1.0**
STHS pmax pmax
comp=Z,3.0nm,0.9s
STHS Stebnicka Huta 53.24 308 *e*P **P 00 29 31.9 +1.0**
CRVS Cervenica-Dubn 53.26 308 *e*P **P 00 29 31.9 +0.8**
CRVS Cervenica-Dubn 53.26 308 *e*P **P 00 29 31.9 +0.8**
GZR Gura Zlata 53.51 303 ⇑P **P 00 29 33.8 +0.8**
GZR Gura Zlata 53.51 303 ⇑*i*P **P 00 29 33.8 +0.8**
MPEP Malo Peshtene 53.55 300 *e*P **P 00 29 34.5 +1.2**
FX1 Attu Island--F 53.88 47 *e*P **P 00 29 34.3 -1.3**
OJC Ojcow 53.90 310 *e*P **P 00 29 36.5 +0.8**
OJC pmax pmax
comp=Z,17nm,1.0s
OJC Ojcow 53.90 310 *e*P **P 00 29 36.5 +0.8**
comp=Z,17nm,1.0s
OJC Ojcow 53.90 310 *e*P **P 00 29 36.0 +0.3**
SIRR Siria 53.96 304 ⇓*i*P **P 00 29 37.5 +1.2**
KECS Kecovo 54.01 307 *e*P **P 00 29 36.8 +0.3**
KECS pmax pmax
comp=Z,3.0nm,0.9s
KECS Kecovo 54.01 307 *e*P **P 00 29 36.8 +0.3**
VTS Vitosha 54.18 300 ⇓P **P 00 29 38.7 +0.6**
VTS Vitosha 54.18 300 ⇓*i*P **P 00 29 38.7 +0.6**
VTS Vitosha 54.18 300 *e*P **P 00 29 38.4 +0.3**
MMB Musomiste 54.18 298 *e*P **P 00 29 37.3 -0.7**
BZS Buzias 54.21 304 ⇑P **P 00 29 39.1 +1.0**
BZS Buzias 54.21 304 ⇑*i*P **P 00 29 39.0 +1.0**
GKP Gorka Klasztor 54.51 314 *e*P **P 00 29 40.6 +0.6**
KKB Krupnik 54.53 299 *e*P **P 00 29 40.5 0.0**
PSZ Piszkesteto 54.56 307 *e*P **P 00 29 41.9 +1.2**
PSZ pmax pmax
comp=Z,8.0nm,1.1s
PSZ Piszkesteto 54.56 307 *e*P **P 00 29 41.9 +1.2**
comp=Z,8.1nm,1.1s
PSZ Piszkesteto 54.56 307 ⇓*i*P **P 00 29 41.7 +1.0**
OKC Ostrava-Krasne 55.03 309 *e*P **P 00 29 44.6 +0.7**
OKC Ostrava-Krasne 55.03 309 *e*P **P 00 29 44.6 +0.7**
VYHS Vyhne 55.04 308 *e*P **P 00 29 45.0 +0.9**
VYHS pmax pmax
comp=Z,13nm,1.3s
VYHS Vyhne 55.04 308 *e*P **P 00 29 45.0 +0.9**
VAY Valandovo 55.09 298 *i*P **P 00 29 44.3 -0.2**
NB2 NORSAR Subarra 55.41 324 P **P 00 29 45.7 -0.9**
comp=Z,11nm,0.8s,baz=72,slow=7.4
NOA NORSAR Array B 55.41 324 P **P 00 29 46.1 -0.5**
NOA NORSAR Array B 55.41 324 P **P 00 29 46.1 -0.5**
comp=Z,8.9nm,0.9s,baz=74,slow=7.3,SNR=18
NOA LR LR 00 54 25.8
comp=Z,80nm,20.2s,baz=65,slow=37
MORC Moravsky Berou 55.42 310 *e*P **P 00 29 47.7 +0.9**
MORC pmax pmax
comp=Z,11nm,1.1s
MORC Moravsky Berou 55.42 310 *e*P **P 00 29 47.7 +0.9**
comp=Z,11nm,1.1s
SKO Skopje 55.63 300 *i*P **P 00 29 49.1 +0.7**

IDI	Anoyia	55.82 291	eP	P	00 29 49.4	-0.5
	comp=Z,22nm,1.0s					
SMOL	Smolenice	55.91 308	eP	P	00 29 51.7	+1.4
SMOL	Smolenice	55.91 308	eP	P	00 29 51.7	+1.4
PKSM	Moragy	55.95 305	⇑P	P	00 29 51.1	+0.5
PKSM	Moragy	55.95 305	⇑iP	P	00 29 51.1	+0.5
DPC	Dobruska-Polom	55.97 311	eP	P	00 29 51.7	+1.0
DPC		pmax	pmax			
	comp=Z,79nm,1.0s					
DPC	Dobruska-Polom	55.97 311	iP	P	00 29 51.9	+1.2
DPC	Dobruska-Polom	55.97 311	eP	P	00 29 51.7	+1.0
	comp=Z,79nm,1.0s					
BIA	Bitola	56.08 299	iP	P	00 29 51.3	-0.4
UPC	Upice	56.10 311	iP	P	00 29 52.6	+1.0
UPC	Upice	56.10 311	iP	P	00 29 52.6	+1.0
PVCC	Panska Ves	56.96 311	eP	P	00 29 57.7	0.0
PVCC	Panska Ves	56.96 311	eP	P	00 29 57.7	0.0
CONA	Conrad Observa	57.10 308	⇓iPP	P	00 30 00.3	+1.4
	comp=Z,12nm,1.2s					
PRU	Pruhonice	57.17 311	eP	P	00 30 00.0	+0.8
PRU		e			00 30 05.1	
PRU	Pruhonice	57.17 311	eP	P	00 30 00.0	+0.8
PRU		ePP		pP	00 30 05.1	+2.7
PRA	Prague	57.20 311	P	P	00 30 01.0	+1.6
BRG	Berggiesshubel	57.21 312	eP	P	00 29 60.0	+0.5
	comp=Z,14nm,1.2s					
BRG	Berggiesshubel	57.21 312	eP	P	00 30 00.0	+0.5
	comp=Z,15nm,1.2s					
BRG	Berggiesshubel	57.21 312	eP	P	00 29 59.9	+0.5
BRG		pmax	pmax			
	comp=Z,15nm,1.2s					
FBE	Freiberg	57.54 312	eP	P	00 30 02.4	+0.6
	comp=Z,11nm,1.1s					
CLL	Collm	57.61 312	eP	P	00 30 02.3	0.0
	comp=Z,16nm,1.1s					
CLL	Collm	57.61 312	iP	P	00 30 02.7	+0.4
CLL		i			00 30 07.3	
CLL		pmax	pmax			
	comp=Z,16nm,1.1s					
CLL	Collm	57.61 312	iP	P	00 30 02.7	+0.4
	comp=Z,16nm,1.1s					
CLL		iSP		sP	00 30 07.3	+0.6
CLL		ePP		PP	00 32 08.0	-1.7
AMKA	Amchitka	57.95 47	eP	P	00 30 02.7	-2.0
KHC	Kasperske Hory	58.06 310	eP	P	00 30 06.1	+0.5
KHC		pmax	pmax			
	comp=Z,7.0nm,1.2s					
KHC	Kasperske Hory	58.06 310	iP	P	00 30 06.0	+0.5
KHC		epP		pP	00 30 10.9	+2.1
KHC		AMS		AMS	00 51 30.0	
KHC	Kasperske Hory	58.06 310	eP	P	00 30 06.1	+0.5
	comp=Z,7.2nm,1.2s					
SOKA	Soboth	58.09 307	iP	P	00 30 06.7	+0.8
	comp=Z,21nm,1.4s,SNR=6.3					
GEC2	GERESS Array S	58.10 310	eP	P	00 30 06.3	+0.4
	comp=Z,6.0nm,1.0s					
GEC2	GERESS Array S	58.10 310	eP	P	00 30 06.3	+0.4
GEC2		pmax	pmax			
	comp=Z,6.0nm,1.0s					
GEC2	GERESS Array S	58.10 310	eP	P	00 30 06.8	+0.9
GERES	GERESS Array B	58.10 310	P	P	00 30 06.5	+0.5
GERES	GERESS Array B	58.10 310	P	P	00 30 06.5	+0.5
	comp=Z,3.1nm,0.9s,baz=60,slow=7.9,SNR=23					
GERES		LR		LR	00 56 31.4	
	comp=Z,145nm,19.4s,baz=61,slow=38					
MOA	Molln	58.13 308	⇓iPP	P	00 30 07.1	+1.0
	comp=Z,7.6nm,0.9s					
BSEG	Bad Segeberg	58.18 316	eP	P	00 30 07.1	+0.9
	comp=Z,18nm,1.1s					
BSEG	Bad Segeberg	58.18 316	eP	P	00 30 07.1	+0.9
BSEG		pmax	pmax			
	comp=Z,18nm,1.1s					
TANN	Tannenbergstha	58.25 312	eP	P	00 30 07.2	+0.3
	comp=Z,11nm,1.2s					
WERD	Werda	58.33 312	eP	P	00 30 07.9	+0.5
	comp=Z,5.0nm,1.0s					
GUNZ	Gunzen	58.35 312	eP	P	00 30 08.0	+0.4
	comp=Z,13nm,1.1s					
NEUB	Neuenburg	58.36 313	eP	P	00 30 07.9	+0.3
	comp=Z,26nm,1.2s					
BOJS	Bojanci	58.41 305	eP	P	00 30 09.0	+0.9
OBKA	Obir	58.47 307	⇓iPP	P	00 30 09.3	+0.7
	comp=Z,9.3nm,1.1s					
WET	Wettzell	58.49 310	eP	P	00 30 09.1	+0.6
	comp=Z,12nm,1.2s					
WET	Wettzell	58.49 310	eP	P	00 30 09.1	+0.6
WET		pmax	pmax			
	comp=Z,12nm,1.2s					
VISS	Visnje	58.56 306	iP	P	00 30 09.8	+0.8
MANZ	Manzenberg	58.63 311	eP	P	00 30 09.9	+0.4
	comp=Z,14nm,1.4s					
ROTZ	Rotzenmuhle	58.65 311	eP	P	00 30 10.7	+1.1
	comp=Z,21nm,1.2s					
MOX	Moxa	58.67 312	eP	P	00 30 10.0	+0.3
	comp=Z,16nm,1.4s					
MOX		eL		L	00 57 02.9	
	comp=Z,79nm,18.0s					
MOX	Moxa	58.67 312	eP	P	00 30 10.0	+0.3
MOX		pmax	pmax			
	comp=Z,16nm,1.4s					
MOX		MLR		MLR		
	comp=Z,100nm,18.0s					
NRDL	Niedersach Rie	58.83 315	eP	P	00 30 11.9	+1.2
	comp=Z,33nm,1.2s					
CLZ	Clausthal	58.93 314	eP	P	00 30 12.2	+0.6
	comp=Z,16nm,1.0s					
CLZ	Clausthal	58.93 314	eP	P	00 30 12.2	+0.6
CLZ		pmax	pmax			
	comp=Z,16nm,1.0s					
JAVS	Javornik	59.02 306	iP	P	00 30 12.4	0.0
RJOB	Jochberg	59.08 309	eP	P	00 30 13.4	+0.6
	comp=Z,5.0nm,1.1s					
GRF	Grafenberg Arr	59.27 311	eP	P	00 30 14.7	+0.7
	comp=Z,21nm,1.0s					
GRF		eL		L	00 56 44.8	
	comp=Z,114nm,18.7s					
GRF	Grafenberg Arr	59.27 311	eP	P	00 30 14.7	+0.7
GRF		pmax	pmax			
	comp=Z,21nm,1.0s					
GRF		MLR		MLR		
	comp=Z,100nm,18.7s					
GRFO	Grafenberg	59.27 311	eP	P	00 30 15.3	+1.3
GRFO		pmax	pmax			
	comp=Z,14nm,0.9s					
GRFO	Grafenberg	59.27 311	eP	P	00 30 15.2	+1.3
	comp=Z,14nm,0.9s					
ABTA	Abfaltersbach	59.66 308	⇓iP	P	00 30 16.7	-0.1
	comp=Z,9.5nm,1.3s					
FUR	Furstenfeldbru	59.85 310	eP	P	00 30 19.2	+1.2
	comp=Z,25nm,1.1s					
FUR	Furstenfeldbru	59.85 310	eP	P	00 30 19.2	+1.2
FUR		pmax	pmax			
	comp=Z,25nm,1.1s					
WTTA	Wattenberg	59.99 309	iP	P	00 30 19.5	+0.3
	comp=Z,24nm,1.2s,SNR=7.9					
MOTA	Moosalm	60.29 309	iP	P	00 30 21.6	+0.4
	comp=Z,13nm,0.8s,SNR=16					
CUC	Castrocucco	60.32 299	eP	P	00 30 20.6	-0.8
	comp=Z,17nm,0.9s					
RETA	Reutte	60.44 309	⇓iPP	P	00 30 22.8	+0.6
	comp=Z,7.6nm,0.7s					
FETA	Feichten	60.66 309	iP	P	00 30 24.0	+0.3
	comp=Z,14nm,1.1s,SNR=5.7					
TNS	Taunus Mts	60.69 313	eP	P	00 30 24.1	+0.3
	comp=Z,32nm,1.6s					
TNS	Taunus Mts	60.69 313	eP	P	00 30 24.1	+0.3
TNS		pmax	pmax			
	comp=Z,32nm,1.6s					
BUG	Bochum--Univer	60.86 314	eP	P	00 30 25.3	+0.5
	comp=Z,24nm,1.4s					
CEL	Celeste	61.04 298	eP	P	00 30 26.5	+0.2
	comp=Z,19nm,0.8s					
FUORN	Ofenpass-Fuorn	61.12 308	eP	P	00 30 27.3	+0.3
	comp=Z,13nm,1.0s					
DAVOX	Davos/Dischmat	61.29 309	LR	LR	00 58 18.9	
	comp=Z,131nm,18.6s,baz=198,slow=37					
BFO	Black Forest	61.57 311	eP	P	00 30 29.8	+0.1
	comp=Z,16nm,1.3s					
BFO	Black Forest	61.57 311	eP	P	00 30 30.1	+0.4
BFO		pmax	pmax			
	comp=Z,26nm,1.5s					
BFO	Black Forest	61.57 311	eP	P	00 30 30.1	+0.4
	comp=Z,26nm,1.5s					
LANF	Langenberg	61.60 312	eP	P	00 30 30.1	+0.2
TUE	Stuetta	61.75 308	eP	P	00 30 31.3	+0.1
	comp=Z,12nm,0.8s					
MEM	Membach	61.94 314	P	P	00 30 32.9	+0.8
WLS	Welschbruch	62.12 311	eP	P	00 30 33.0	-0.4
FITZ	Fitzroy Crossi	62.15 148	eP	P	00 30 32.8	-1.0
	comp=Z,7.8nm,1.0s					
CDF	Champ du Feu	62.16 311	eP	P	00 30 33.7	-0.1
	comp=Z,22nm,1.1s					
CDF	Champ du Feu	62.16 311	eP	P	00 30 33.7	-0.1
CDF		pmax	pmax			
	comp=Z,22nm,1.1s					
CDF	Champ du Feu	62.16 311	eP	P	00 30 33.7	-0.1
	comp=Z,22nm,1.1s					
WLF	Walferdange	62.27 313	P	P	00 30 35.8	+1.5
	comp=Z,19nm,1.2s					
WLF	Walferdange	62.27 313	eP	P	00 30 35.2	+0.8
	comp=Z,37nm,1.2s					
WLF	Walferdange	62.27 313	eP	P	00 30 35.0	+0.6
WLF		pmax	pmax			
	comp=Z,21nm,1.1s					
WLF	Walferdange	62.27 313	eP	P	00 30 35.0	+0.6
	comp=Z,21nm,1.1s					
ECH	Echery	62.32 311	eP	P	00 30 33.7	-1.1
BCLA	Clavier	62.43 314	P	P	00 30 35.9	+0.6
	comp=Z,27nm,3.1s					
HINF	Hinteralfeld	62.68 311	eP	P	00 30 37.0	-0.2
	comp=Z,6.6nm,0.6s					
HINF	Hinteralfeld	62.68 311	eP	P	00 30 37.0	-0.2
HINF		pmax	pmax			
	comp=Z,7.0nm,0.6s					
HINF	Hinteralfeld	62.68 311	eP	P	00 30 37.0	-0.2
	comp=Z,6.6nm,0.6s					
GIVF	Givet	62.84 314	eP	P	00 30 38.5	+0.3
GIVF	Givet	62.84 314	eP	P	00 30 38.5	+0.3
GIVF	Givet	62.84 314	eP	P	00 30 38.5	+0.3
HAU	Haudompre	62.90 311	eP	P	00 30 38.3	-0.3
	comp=Z,42nm,1.5s					
HAU		eR				
	comp=Z,156nm,18.2s					
HAU	Haudompre	62.90 311	eP	P	00 30 38.3	-0.3
HAU	Haudompre	62.90 311	eP	P	00 30 38.3	-0.3
DOU	Dourbes	62.98 314	P	P	00 30 39.2	+0.1
THEF	They Montfort	63.02 311	eP	P	00 30 39.6	+0.2
PAGF	Fort de Pagny	63.02 312	eP	P	00 30 39.9	+0.5
	comp=Z,14nm,1.2s					
PAGF	Fort de Pagny	63.02 312	eP	P	00 30 39.9	+0.5
	comp=Z,14nm,1.3s					
SENIN	Lac Senin/Sane	63.07 309	eP	P	00 30 40.3	+0.3
	comp=Z,66nm,2.1s					
BAIF	Baives	63.22 314	eP	P	00 30 41.0	+0.4
	comp=Z,23nm,1.0s					
BAIF	Baives	63.22 314	eP	P	00 30 41.0	+0.4
BAIF		pmax	pmax			
	comp=Z,23nm,1.0s					
BAIF	Baives	63.22 314	eP	P	00 30 41.0	+0.4
	comp=Z,23nm,1.0s					
MEZF	Maizieres J'vi	63.44 312	eP	P	00 30 42.5	+0.3
	comp=Z,27nm,1.0s					
MEZF	Maizieres J'vi	63.44 312	eP	P	00 30 42.5	+0.3
	comp=Z,27nm,1.0s					
SFTF	Sexfontaines	63.59 312	eP	P	00 30 43.1	-0.1
	comp=Z,29nm,1.2s					
SFTF	Sexfontaines	63.59 312	eP	P	00 30 43.1	-0.1
	comp=Z,29nm,1.2s					
CABF	La Chapelle	63.70 310	eP	P	00 30 43.7	-0.3
	comp=Z,46nm,1.5s					
CABF	La Chapelle	63.70 310	eP	P	00 30 43.7	-0.3
CABF		pmax	pmax			
	comp=Z,46nm,1.5s					
CABF	La Chapelle	63.70 310	eP	P	00 30 43.7	-0.3
	comp=Z,46nm,1.5s					
PGF	Pioggiola	63.75 305	eP	P	00 30 44.7	+0.2
	comp=Z,81nm,1.4s					
PGF	Pioggiola	63.75 305	eP	P	00 30 44.7	+0.2
PGF		pmax	pmax			
	comp=Z,81nm,1.4s					
PGF	Pioggiola	63.75 305	eP	P	00 30 44.7	+0.2
	comp=Z,81nm,1.4s					
IMA2	Indian Mountai	63.76 25	eP	P	00 30 43.5	-0.6
RSL	Roselend	63.80 309	eP	P	00 30 43.3	-1.5
LPG	La Plagne	63.81 308	eP	P	00 30 45.5	+0.5
	comp=Z,28nm,0.8s					
LPG	La Plagne	63.81 308	eP	P	00 30 45.5	+0.5
LPG		pmax	pmax			
	comp=Z,28nm,0.8s					
LPG	La Plagne	63.81 308	eP	P	00 30 45.5	+0.5
	comp=Z,28nm,0.8s					
LPL	La Plagne	63.81 308	eP	P	00 30 45.4	+0.4
	comp=Z,18nm,0.6s					
LPL	La Plagne	63.81 308	eP	P	00 30 45.4	+0.4
LPL		pmax	pmax			
	comp=Z,18nm,0.6s					
LPL	La Plagne	63.81 308	eP	P	00 30 45.4	+0.4
	comp=Z,18nm,0.6s					
SAOF	Saorge	64.01 307	eP	P	00 30 45.7	-0.4
BNI	Bardonecchia	64.06 308	eP	P	00 30 49.0	+2.5
BNI		pmax	pmax			
	comp=Z,32nm,1.6s					
BNI	Bardonecchia	64.06 308	eP	P	00 30 49.0	+2.5
	comp=Z,32nm,1.6s					
AUTN	L'Aution	64.09 307	eP	P	00 30 47.0	+0.2
SBF	Sospel	64.14 307	eP	P	00 30 47.0	0.0
	comp=Z,45nm,0.8s					
SBF	Sospel	64.14 307	eP	P	00 30 47.0	0.0
SBF		pmax	pmax			
	comp=Z,45nm,0.8s					
SBF	Sospel	64.14 307	eP	P	00 30 47.0	0.0
	comp=Z,45nm,0.8s					
MBDF	Montbardon	64.16 308	eP	P	00 30 46.3	-0.9
	comp=Z,13nm,0.7s					
MBDF	Montbardon	64.16 308	eP	P	00 30 46.3	-0.9
MBDF		pmax	pmax			
	comp=Z,13nm,0.7s					
MBDF	Montbardon	64.16 308	eP	P	00 30 46.3	-0.9
	comp=Z,13nm,0.7s					
LUCF	Luceram	64.19 307	eP	P	00 30 47.2	-0.1
TOUF	Mont Tournerai	64.19 307	eP	P	00 30 47.2	-0.2
COLD	Coldfoot	64.22 23	eP	P	00 30 47.6	+0.6
	comp=Z,25nm,0.9s					
REVF	Revere	64.25 306	eP	P	00 30 46.3	-1.3
MVIF	Mont Vial	64.31 307	eP	P	00 30 47.4	-0.8
ORIF	Oris-en-Rattie	64.62 308	eP	P	00 30 50.1	0.0
	comp=Z,21nm,0.7s					
ORIF		eR				
	comp=Z,179nm,20.5s					
ORIF	Oris-en-Rattie	64.62 308	eP	P	00 30 50.1	0.0
ORIF	Oris-en-Rattie	64.62 308	eP	P	00 30 50.1	0.0
LOR	Lormes	64.73 311	eP	P	00 30 50.1	-0.6
	comp=Z,11nm,0.9s					
LOR		eR				
	comp=Z,101nm,19.8s					
LOR	Lormes	64.73 311	eP	P	00 30 50.1	-0.6
FRF	La Foret Royal	64.79 307	eP	P	00 30 50.7	-0.4
	comp=Z,30nm,1.3s					
FRF	La Foret Royal	64.79 307	eP	P	00 30 50.7	-0.4
FRF		pmax	pmax			
	comp=Z,30nm,1.3s					
FRF	La Foret Royal	64.79 307	eP	P	00 30 50.7	-0.4
	comp=Z,30nm,1.3s					
LMR	La Mourre	64.99 306	eP	P	00 30 52.2	-0.2
	comp=Z,14nm,1.0s					
LMR	La Mourre	64.99 306	eP	P	00 30 52.2	-0.2
LMR		pmax	pmax			
	comp=Z,14nm,1.0s					
LMR	La Mourre	64.99 306	eP	P	00 30 52.2	-0.2
	comp=Z,14nm,1.0s					
SMF	Signal de Mont	65.04 311	eP	P	00 30 52.4	-0.3
	comp=Z,21nm,0.7s					
SMF	Signal de Mont	65.04 311	eP	P	00 30 52.4	-0.3
SMF		pmax	pmax			
	comp=Z,21nm,0.7s					
SMF	Signal de Mont	65.04 311	eP	P	00 30 52.4	-0.3
	comp=Z,21nm,0.7s					
SSF	Saint Saulge	65.04 311	eP	P	00 30 52.1	-0.6
	comp=Z,42nm,1.5s					
SSF	Saint Saulge	65.04 311	eP	P	00 30 52.1	-0.6
SSF		pmax	pmax			
	comp=Z,42nm,1.5s					
SSF	Saint Saulge	65.04 311	eP	P	00 30 52.1	-0.6
	comp=Z,42nm,1.5s					
AVF	Avril sur Loir	65.27 311	eP	P	00 30 53.9	-0.3
	comp=Z,15nm,0.9s					
AVF	Avril sur Loir	65.27 311	eP	P	00 30 53.9	-0.3
AVF		pmax	pmax			
	comp=Z,15nm,0.9s					
AVF	Avril sur Loir	65.27 311	eP	P	00 30 53.9	-0.3
	comp=Z,15nm,0.9s					
VIVF	Saint-Julien-l	65.41 309	eP	P	00 30 55.0	-0.1
	comp=Z,36nm,1.3s					
VIVF	Saint-Julien-l	65.41 309	eP	P	00 30 55.0	-0.1
VIVF		pmax	pmax			
	comp=Z,36nm,1.3s					
VIVF	Saint-Julien-l	65.41 309	eP	P	00 30 55.0	-0.1
	comp=Z,36nm,1.3s					
SUMG	Summit	65.60 346	iP	P	00 30 55.3	-1.1
SUMG		pmax	pmax			
	comp=Z,9.0nm,0.9s					
SUMG	Summit	65.60 346	iP	P	00 30 55.3	-1.1
	comp=Z,9.2nm,0.9s					
SUMG	Summit	65.60 346	eP	P	00 30 55.8	-0.6
BGF	Bois d'Agland	65.69 311	eP	P	00 30 56.6	-0.3
	comp=Z,22nm,1.1s					
BGF	Bois d'Agland	65.69 311	eP	P	00 30 56.6	-0.3
BGF		pmax	pmax			
	comp=Z,22nm,1.1s					
BGF	Bois d'Agland	65.69 311	eP	P	00 30 56.6	-0.3
	comp=Z,22nm,1.1s					
AGO	Saint Agoulin	65.76 310	eP	P	00 30 57.0	-0.4
BPAW	Bear Paw Mtn.	65.83 26	eP	P	00 30 57.7	+0.1
	comp=Z,17nm,0.9s					
CAST	Castle Rocks	65.85 27	eP	P	00 30 58.0	+0.3
	comp=Z,43nm,1.7s					
SVW2	Sparrevohn	65.86 30	eP	P	00 30 58.4	+0.6
PYM	Petit Puy Mans	65.99 310	eP	P	00 30 59.3	+0.4
PPLA	Purkeypile	66.12 28	eP	P	00 31 00.1	+0.5
	comp=Z,30nm,1.0s					
TCF	Toulx Ste Croi	66.20 311	eP	P	00 31 00.2	-0.1
	comp=Z,38nm,1.2s					
TCF	Toulx Ste Croi	66.20 311	eP	P	00 31 00.2	-0.1
TCF		pmax	pmax			
	comp=Z,38nm,1.2s					
TCF	Toulx Ste Croi	66.20 311	eP	P	00 31 00.2	-0.1
	comp=Z,38nm,1.2s					
LASF	Ste Croix	66.30 308	eP	P	00 31 01.1	+0.2
	comp=Z,14nm,0.8s					
LASF	Ste Croix	66.30 308	eP	P	00 31 01.1	+0.2
	comp=Z,14nm,0.8s					
KMBO	Kilima Mbogo	66.31 249	eP	P	00 31 02.2	+0.6
KMBO	Kilima Mbogo	66.31 249	P	P	00 31 02.0	+0.3
	comp=Z,2.6nm,0.7s,baz=239,slow=22,SNR=6.6					
LDF	La Druitiere	66.41 314	eP	P	00 31 01.1	-0.4
	comp=Z,58nm,1.2s					
LDF	La Druitiere	66.41 314	eP	P	00 31 01.1	-0.4
LDF		pmax	pmax			
	comp=Z,58nm,1.2s					
LDF	La Druitiere	66.41 314	eP	P	00 31 01.1	-0.4
	comp=Z,58nm,1.2s					
COLA	College	66.42 25	eP	P	00 31 00.9	-0.4
COLA		pmax	pmax			
	comp=Z,83nm,0.9s					
COLA	College	66.42 25	eP	P	00 31 00.9	-0.4
	comp=Z,83nm,0.9s					
TRF	Thorofare Moun	66.48 27	eP	P	00 31 01.6	-0.3
	comp=Z,12nm,1.0s					
FLN	La Foliniere	66.53 314	eP	P	00 31 02.1	-0.1
	comp=Z,79nm,1.4s					
FLN		eR				
	comp=Z,177nm,21.8s					
FLN	La Foliniere	66.53 314	eP	P	00 31 02.1	-0.1
FLN	La Foliniere	66.53 314	eP	P	00 31 02.1	-0.1
MCK	McKinley	66.78 26	eP	P	00 31 03.9	+0.3
MCK		pmax	pmax			
	comp=Z,6.0nm,0.7s					
MCK	McKinley	66.78 26	eP	P	00 31 03.9	+0.3
	comp=Z,5.8nm,0.7s					
ILAR	Eielson Array	66.81 24	P	P	00 31 02.9	-0.9
ILAR		PP		PP	00 33 28.7	-1.7
ILAR	Eielson Array	66.81 24	P	P	00 31 02.9	-0.9
	comp=Z,7.7nm,0.8s,baz=295,slow=5.5,SNR=72					
ILAR		PP		PP	00 33 28.7	-1.7
	comp=Z,1.1nm,0.8s,baz=303,slow=6.9,SNR=4.3					
ILAR		LR		LR	01 03 38.6	
	comp=Z,107nm,20.0s,baz=300,slow=39					
KEST	Kesra	66.84 298	P	P	00 31 04.7	+0.1
KEST	Kesra	66.84 298	P	P	00 31 04.7	+0.1
	comp=Z,2.4nm,1.0s,baz=39,slow=6.5,SNR=3.1					
GRR	Gorron	66.93 314	eP	P	00 31 04.6	-0.2
	comp=Z,39nm,1.0s					
GRR	Gorron	66.93 314	eP	P	00 31 04.6	-0.2
GRR		pmax	pmax			
	comp=Z,39nm,1.0s					
GRR	Gorron	66.93 314	eP	P	00 31 04.6	-0.2
	comp=Z,39nm,1.0s					
CAF	Calviac	66.98 310	eP	P	00 31 05.5	+0.3
	comp=Z,88nm,1.8s					
CAF	Calviac	66.98 310	eP	P	00 31 05.5	+0.3
CAF		pmax	pmax			
	comp=Z,88nm,1.8s					
CAF	Calviac	66.98 310	eP	P	00 31 05.5	+0.3
	comp=Z,88nm,1.8s					
PMG	Port Moresby	67.01 123	eP	P	00 31 05.3	-0.3
	comp=Z,26nm,1.3s					
RJF	Les Rejaudoux	67.12 310	eP	P	00 31 06.5	+0.4
	comp=Z,44nm,1.3s					
RJF		eR				
	comp=Z,115nm,17.2s					
RJF	Les Rejaudoux	67.12 310	eP	P	00 31 06.5	+0.4
RJF	Les Rejaudoux	67.12 310	eP	P	00 31 06.5	+0.4
MFF	Saint Martin d	67.44 312	eP	P	00 31 07.9	-0.2
	comp=Z,49nm,1.3s					
MFF	Saint Martin d	67.44 312	eP	P	00 31 07.9	-0.2
MFF		pmax	pmax			
	comp=Z,49nm,1.3s					
MFF	Saint Martin d	67.44 312	eP	P	00 31 07.9	-0.2
	comp=Z,49nm,1.3s					
MTLF	Montolieu	67.70 308	eP	P	00 31 09.8	0.0
	comp=Z,26nm,1.4s					
MTLF	Montolieu	67.70 308	eP	P	00 31 09.8	0.0
MTLF		pmax	pmax			
	comp=Z,26nm,1.4s					
MTLF	Montolieu	67.70 308	eP	P	00 31 09.8	0.0
	comp=Z,26nm,1.4s					
LFF	La Frestale	67.78 310	eP	P	00 31 10.6	+0.4
	comp=Z,81nm,1.3s					
LFF	La Frestale	67.78 310	eP	P	00 31 10.6	+0.4
LFF		pmax	pmax			
	comp=Z,81nm,1.3s					
LFF	La Frestale	67.78 310	eP	P	00 31 10.6	+0.4
	comp=Z,81nm,1.3s					
WRAB	Tennant Creek	67.79 141	P	P	00 31 09.6	-0.9
	comp=Z,70nm,0.9s,SNR=5.4					
WRA	Warramunga Arr	67.79 141	P	P	00 31 08.3	-2.2
WRA	Warramunga Arr	67.79 141	P	P	00 31 08.3	-2.2
	comp=Z,7.4nm,0.9s,baz=339,slow=6.5,SNR=33					
SGMF	Saint Gilles	67.97 315	eP	P	00 31 11.6	+0.2
	comp=Z,148nm,1.5s					
SGMF	Saint Gilles	67.97 315	eP	P	00 31 11.6	+0.2
SGMF		pmax	pmax			
	comp=Z,148nm,1.5s					
SGMF	Saint Gilles	67.97 315	eP	P	00 31 11.6	+0.2
	comp=Z,148nm,1.5s					
PMR	Palmer	68.06 28	eP	P	00 31 11.2	-0.5
PMR	Palmer	68.06 28	eP	P	00 31 11.2	-0.5
INK	Inuvik	68.12 18	eP	P	00 31 11.5	-0.5
	comp=Z,16nm,0.9s					
ROSF	Rostrenen	68.33 315	eP	P	00 31 13.7	+0.1
	comp=Z,209nm,1.8s					
ROSF	Rostrenen	68.33 315	eP	P	00 31 13.7	+0.1
ROSF		pmax	pmax			
	comp=Z,209nm,1.8s					
ROSF	Rostrenen	68.33 315	eP	P	00 31 13.7	+0.1
	comp=Z,209nm,1.8s					
QUIF	Quistinic	68.49 314	eP	P	00 31 14.7	0.0
	comp=Z,159nm,1.6s					
QUIF	Quistinic	68.49 314	eP	P	00 31 14.7	0.0
QUIF		pmax	pmax			
	comp=Z,159nm,1.6s					
QUIF	Quistinic	68.49 314	eP	P	00 31 14.7	0.0
	comp=Z,159nm,1.6s					
EGAK	Eagle	68.62 23	eP	P	00 31 15.2	0.0
	comp=Z,17nm,0.9s					
EPF	Esparros	69.03 309	eP	P	00 31 17.5	-0.7
	comp=Z,6.2nm,0.8s					
EPF	Esparros	69.03 309	eP	P	00 31 17.5	-0.7
EPF		pmax	pmax			
	comp=Z,6.0nm,0.8s					
EPF	Esparros	69.03 309	eP	P	00 31 17.5	-0.7
	comp=Z,6.2nm,0.8s					
OHAK	Old Harbor

comp=Z,15nm,0.8s
SJPF Ste Jean 69.95 309 *e*P **P 00 31 23.1 -0.7**
comp=Z,12nm,1.0s
SJPF Ste Jean 69.95 309 *e*P **P 00 31 23.1 -0.7**
SJPF pmax pmax
comp=Z,12nm,1.0s
SJPF Ste Jean 69.95 309 *e*P **P 00 31 23.1 -0.7**
comp=Z,12nm,1.0s
BMRM Bremner River 70.12 27 *e*P **P 00 31 25.2 +0.6**
comp=Z,18nm,1.0s
RAGM Ragged Mountai 70.49 27 *e*P **P 00 31 27.8 +0.9**
comp=Z,51nm,1.3s
AS31 Alice Springs 70.73 143 *e*P **P 00 31 28.1 -0.6**
ASAR Alice Springs 70.73 143 P **P 00 31 27.7 -1.0**
ASAR Alice Springs 70.73 143 P **P 00 31 27.7 -1.0**
comp=Z,7.1nm,0.8s,baz=331,slow=6.0,SNR=51
SFJD Kangerlussuaq 72.58 347 *i* P **P 00 31 38.0 -1.2**
comp=Z,9.5nm,0.8s
HYT Haines Junctio 72.65 24 *e*P **P 00 31 40.4 +0.4**
ESDC Sonseca Array 73.58 308 P **P 00 31 45.8 0.0**
ESDC Sonseca Array 73.58 308 P **P 00 31 45.8 0.0**
comp=Z,2.6nm,0.6s,baz=45,slow=5.6,SNR=14
TAM Tamanrasset 76.68 288 *e*P **P 00 32 04.5 +0.4**
TAM pmax pmax
comp=Z,3.0nm,0.9s
TAM Tamanrasset 76.68 288 *e*P **P 00 32 04.5 +0.4**
comp=Z,2.9nm,0.9s
EVO Evora 76.80 309 *e*P **P 00 32 05.3 +1.1**
comp=Z,28nm,1.2s
EVOP Sao Brissos 76.87 309 *e*P **P 00 32 05.3 +0.7**
EVOP pmax pmax
comp=Z,28nm,1.2s
EVOP Sao Brissos 76.87 309 *e*P **P 00 32 05.3 +0.7**
comp=Z,28nm,1.2s
YKA Yellowknife Ar 77.22 14 P **P 00 32 05.0 -1.2**
YKA Yellowknife Ar 77.22 14 P **P 00 32 05.0 -1.2**
comp=Z,3.9nm,0.9s,baz=336,slow=5.6,SNR=8.4
MDT Midelt 78.06 302 LR LR 01 13 54.9
comp=Z,39nm,19.1s,baz=22,slow=41
STKA Stephens Creek 81.29 142 *e*P **P 00 32 27.3 -1.4**
STKA Stephens Creek 81.29 142 P **P 00 32 26.9 -1.9**
comp=Z,9.6nm,0.7s,baz=329,slow=5.0,SNR=30
STKA LR LR 01 10 27.3
comp=Z,103nm,18.2s,baz=207,slow=37
LSZ Lusaka 82.42 244 *e*P **P 00 32 34.9 -0.3**
comp=Z,5.3nm,0.8s
TORD Torodi Ar. Bea 85.32 283 P **P 00 32 49.4 -0.6**
TORD Torodi Ar. Bea 85.32 283 P **P 00 32 49.4 -0.6**
comp=Z,2.0nm,0.7s,baz=48,slow=4.3,SNR=24
TORD LR LR 01 18 07.1
comp=Z,54nm,18.5s,baz=125,slow=41
B08A Colville Reser 88.82 23 *e*P **P 00 33 06.6 +0.1**
comp=Z,10nm,1.1s
LTY Liberty 89.38 24 *e*P **P 00 33 09.3 +0.1**
comp=Z,10nm,1.1s
LON Longmire 89.45 25 *e*P **P 00 33 10.3 +0.8**
LON pmax pmax
comp=Z,5.0nm,0.9s
LON Longmire 89.45 25 *e*P **P 00 33 10.3 +0.8**
comp=Z,4.7nm,0.9s
NEW Newport 89.56 21 *e*P **P 00 33 10.4 +0.4**
comp=Z,12nm,1.1s
NEW Newport 89.56 21 P **P 00 33 09.9 -0.1**
baz=89
C09A Chrisman Ranch 89.64 22 *e*P **P 00 33 11.0 +0.6**
comp=Z,12nm,0.9s
HAWA Hanford 90.51 24 *e*P **P 00 33 15.1 +0.7**
comp=Z,8.4nm,1.1s
BLMT Blacktail Moun 90.56 20 *e*P **P 00 33 15.6 +0.7**
BSMT Bassoo Peak 90.59 20 *e*P **P 00 33 15.7 +0.7**
YBMT Yellow Bay 90.79 20 *e*P **P 00 33 15.8 -0.1**
comp=Z,13nm,1.0s
JTMT Jette 90.82 20 *e*P **P 00 33 16.5 +0.4**
E09A Wood Farm, Sta 90.83 23 *e*P **P 00 33 16.4 +0.5**
comp=Z,10nm,1.1s
A19A Klindworth Far 91.07 16 P **P 00 33 16.5 -0.5**
baz=91
SWMT Swartz Lake 91.12 20 *e*P **P 00 33 17.5 +0.1**
B19A Brinkman Farms 91.47 16 P **P 00 33 17.9 -1.0**
baz=91
SLMT Seeley Lake 91.50 20 *e*P **P 00 33 19.0 -0.2**
F10A Beach Ranch, E 91.60 22 *e*P **P 00 33 20.2 +0.7**
comp=Z,9.7nm,1.1s
EGMT Eagleton 91.69 17 P **P 00 33 19.0 -1.0**
baz=91
MSO Missoula 91.76 20 *e*P **P 00 33 20.0 -0.4**
comp=Z,9.5nm,1.3s
MSO Missoula 91.76 20 P **P 00 33 19.5 -0.9**
baz=91
C19A Slack Wire Ran 92.13 17 P **P 00 33 21.2 -0.8**
baz=92
A25A Svangstu Ranch 92.15 12 P **P 00 33 21.7 -0.3**
baz=92
C20A Veseth Ranch, 92.38 16 P **P 00 33 21.9 -1.2**
baz=92
D19A Cripps Ranch, 92.70 17 P **P 00 33 23.4 -1.2**
baz=92
A29A Manning Farm, 92.76 10 P **P 00 33 23.5 -1.3**
baz=92
C23A Lambert 92.87 14 P **P 00 33 24.7 -0.7**
baz=92
D21A La Casta Ranch 93.21 15 P **P 00 33 25.9 -1.1**
baz=93
K05A Summer Lake 93.29 26 *e*P **P 00 33 29.2 +1.6**
comp=Z,14nm,1.4s
BOSA Boshof 93.32 236 LR LR 01 14 30.7
comp=Z,78nm,18.5s,baz=345,slow=35
E19A Rath Farm, Rou 93.39 17 P **P 00 33 26.7 -1.1**
baz=93
F18A Big Timber 93.70 18 P **P 00 33 28.0 -1.3**
baz=93
F19A Roth Farm, Mol 93.93 17 P **P 00 33 29.3 -1.0**
baz=94
WVOR Wild Horse Val 94.32 25 *e*P **P 00 33 32.4 +0.2**
WVOR pmax pmax
comp=Z,5.0nm,1.1s
WVOR Wild Horse Val 94.32 25 *e*P **P 00 33 32.4 +0.2**
comp=Z,4.9nm,1.1s
DBIC Dimbokro 94.36 282 P **P 00 33 31.6 -1.1**
DBIC Dimbokro 94.36 282 P **P 00 33 31.6 -1.1**
comp=Z,5.3nm,0.9s,baz=249,slow=3.2,SNR=4.7
DBIC LR LR 01 20 47.8
comp=Z,60nm,18.3s,baz=254,slow=38
D30A Buchanan 94.61 10 P **P 00 33 32.5 -0.8**
baz=94
HLID Hailey 94.62 22 P **P 00 33 33.5 -0.2**
baz=94
G20A Bridger 94.69 17 P **P 00 33 32.7 -1.2**
baz=94
IMW Indian Meadow 95.27 19 *e*P **P 00 33 37.5 +0.8**
comp=Z,7.0nm,1.0s
I19A Meeteetse 95.63 18 P **P 00 33 38.4 +0.1**
baz=95
PDAR Pinedale Array 96.68 19 P **P 00 33 41.9 -1.3**
PDAR PKKP **PKKPdf 00 50 23.4 -1.9**
PDAR Pinedale Array 96.68 19 P **P 00 33 41.9 -1.3**
comp=Z,0.4nm,0.7s,baz=238,slow=2.8,SNR=3.5
PDAR PKKP **PKKPdf 00 50 23.4 -1.9**
comp=Z,0.6nm,0.9s,baz=157,slow=4.9,SNR=4.4
J22A Midwest 96.80 16 P **P 00 33 42.2 -1.4**
baz=96
NVAR Mina Array Bea 98.01 26 P Pdif 00 33 49.6 +0.3
NVAR Mina Array Bea 98.01 26 P Pdif 00 33 49.6 +0.3
comp=Z,0.5nm,0.7s,baz=316,slow=2.5,SNR=5.0
VNDA Vanda 121.58 167 PKP **PKPdf 00 39 02.9 -2.0**
VNDA Vanda 121.58 167 PKP **PKPdf 00 39 02.9 -2.0**
comp=Z,1.0nm,0.9s,baz=301,slow=2.4,SNR=4.6
QSPA South Pole Qui 127.42 180 PKP **PKPdf 00 39 15.3 -1.1**
QSPA South Pole Qui 127.42 180 PKP **PKPdf 00 39 15.3 -1.1**
baz=311,slow=3.1
SNAA Sanae 127.95 203 *e*PKP **PKPdf 00 39 14.3 -3.0**
VNA2 Neumayer--Watz 129.37 204 *e*PKP **PKPdf 00 39 19.0 -1.0**
baz=49,slow=2.7
SAML Samuel 145.71 321 *e*PKPdf **PKPdf 00 39 51.2 -0.4**
CPUP Villa Florida 154.68 289 PKPab **PKPab 00 40 27.3 -1.4**
CPUP Villa Florida 154.68 289 PKPab **PKPab 00 40 27.3 -1.4**
comp=Z,0.6nm,0.5s,baz=63,slow=5.5,SNR=3.7

*ISK **10** 00:57:52.8, 36°.63N×36°.55E, h6km, MD3.7*
*DDA **10** 00:57:52.5, 36°.64N×36°.59E, h16km, ML3.5*
*ISCJB **10** 00:57:53.0±0.5, 36°.65N±0°.03×36°.56E±0°.03, h5km±4km, Error ellipse: s-maj=5.1km s-min=3.0km az=142.2*
*CSEM **10** 00:57:53.2±0.1, 36°.64N×36°.57E, h2km, ML3.5, Error ellipse: s-maj=4.3km s-min=2.9km az=143.0*

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ISC 10 00:57:53.2±1.0, 36°.64N±0°.02×36°.59E±0°.02, h6km±9km, n73, σ1°903/97, 2D, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COBT	**Iskenderun**	**0.29**	**246**	*i* P	**Pg**	**00 57 58.6**	**-0.5**
COBT				*i* S	**Sg**	**00 58 03.3**	**+0.3**
COBT	**Iskenderun**	**0.29**	**246**	*i* P	**Pg**	**00 57 58.6**	**-0.5**
COBT				*i* S	**Sg**	**00 58 03.3**	**+0.3**
KUZU	**Kuzuini**	**0.41**	**71**	*i* P	**Pg**	**00 58 00.2**	**-1.1**
KUZU				*i* S	**Sg**	**00 58 07.0**	**+0.3**
KUZU	**Kuzuini**	**0.41**	**71**	*i* P	**Pg**	**00 58 00.2**	**-1.1**
KUZU				*i* S	**Sg**	**00 58 07.0**	**+0.3**
HTY	**Hatay**	**0.63**	**215**	*e*PG	**Pg**	**00 58 04.8**	**-0.7**
HTY				SG	**Sg**	**00 58 13.7**	**0.0**
HTY	**Hatay**	**0.63**	**215**	*e*Pg	**Pg**	**00 58 04.8**	**-0.7**
HTY				*i* Sg	**Sg**	**00 58 13.7**	**0.0**
YAYL	**Yayladag**	**0.72**	**213**	*i* P	**Pg**	**00 58 06.6**	**-0.5**
YAYL				*i* S	**Sb**	**00 58 18.1**	**-0.3**
YAYL	**Yayladag**	**0.72**	**213**	*i* P	**Pg**	**00 58 06.6**	**-0.5**
YAYL				*i* S	**Sb**	**00 58 18.1**	**-0.3**
CEYT	**Ceyhan**	**0.77**	**299**	*e*PG	**Pg**	**00 58 08.0**	**0.0**
CEYT	**Ceyhan**	**0.77**	**299**	*e*Pg	**Pg**	**00 58 08.0**	**0.0**
YURE	**YUREGIR**	**0.79**	**284**	*i* P	**Pg**	**00 58 08.6**	**+0.2**
YURE				*i* S	**Sn**	**00 58 24.4**	**+1.4**
YURE	**YUREGIR**	**0.79**	**284**	*i* P	**Pg**	**00 58 08.6**	**+0.2**
AYKD	**Aykdinkavak**	**0.79**	**13**	*i* P	**Pg**	**00 58 07.8**	**-0.7**
AYKD				*i* S	**Sb**	**00 58 20.5**	**+0.2**
KMRS	**Kahramanmaras**	**0.90**	**16**	*e*PG	**Pg**	**00 58 10.3**	**-0.2**
KMRS	**Kahramanmaras**	**0.90**	**16**	*e*Pg	**Pg**	**00 58 10.3**	**-0.2**
ANDN	**Andirin**	**0.96**	**348**	*i* P	**Pg**	**00 58 10.9**	**-0.7**
ANDN				*i* S	**Sg**	**00 58 23.6**	**-0.5**
ANDN	**Andirin**	**0.96**	**348**	*i* P	**Pg**	**00 58 10.9**	**-0.7**
ANDN				*i* S	**Sg**	**00 58 23.6**	**-0.5**
KOZT	**Kozan**	**1.03**	**324**	*e*PG	**Pb**	**00 58 13.1**	**-0.5**
KOZT	**Kozan**	**1.03**	**324**	*e*Pg	**Pb**	**00 58 13.1**	**-0.5**
GZT	**Gaziantep**	**1.06**	**47**	*i* P	**Pg**	**00 58 12.2**	**-1.4**
GZT				*i* S	**Sb**	**00 58 28.9**	**+0.8**
KARA	**Karaisali**	**1.38**	**297**	*e*PN	**Pn**	**00 58 18.6**	**-0.4**
KARA	**Karaisali**	**1.38**	**297**	*e*Pn	**Pn**	**00 58 18.6**	**-0.4**
GULE	**Gulek**	**1.59**	**294**	*i* P	**Pb**	**00 58 22.6**	**-0.5**
GULE				*i* S	**Sg**	**00 58 46.8**	**+2.5**
GULE	**Gulek**	**1.59**	**294**	*i* P	**Pb**	**00 58 22.6**	**-0.5**
ATAB	**Bozova**	**1.60**	**58**	*i* P	**Pn**	**00 58 22.1**	**+0.1**
ATAB				*i* S	**Sb**	**00 58 43.9**	**+0.4**
ATAB	**Bozova**	**1.60**	**58**	*i* P	**Pn**	**00 58 22.1**	**+0.1**
ATAB				*i* S	**Sb**	**00 58 43.9**	**+0.4**
URFA	**Urfa**	**1.96**	**65**	*e*PN	**Pn**	**00 58 27.9**	**+0.9**
URFA	**Urfa**	**1.96**	**65**	*e*Pn	**Pn**	**00 58 27.9**	**+0.9**
AKCD	**Akcadag**	**1.96**	**32**	*i* P	**Pb**	**00 58 29.5**	**0.0**
AKCD				*i* S	**Sb**	**00 58 53.8**	**-0.4**
AKCD	**Akcadag**	**1.96**	**32**	*i* P	**Pb**	**00 58 29.5**	**0.0**
AKCD				*i* S	**Sb**	**00 58 53.8**	**-0.4**
KIZK	**Mersin**	**1.97**	**266**	*i* P	**Pn**	**00 58 27.1**	**-0.1**
KIZK				*i* S	**Sn**	**00 58 51.4**	**-0.8**
KIZK	**Mersin**	**1.97**	**266**	*i* P	**Pn**	**00 58 27.1**	**-0.1**
KIZK				*i* S	**Sn**	**00 58 51.4**	**-0.8**
PINB	**Pinarbasi**	**2.04**	**356**	*i* P	**Pn**	**00 58 28.3**	**0.0**
PINB				*i* S	**Sn**	**00 58 51.6**	**-2.5**
PINB	**Pinarbasi**	**2.04**	**356**	*i* P	**Pn**	**00 58 28.3**	**0.0**
DARE	**Darende-Malaty**	**2.05**	**20**	*e*PN	**Pn**	**00 58 29.0**	**+0.7**
NIG	**Nigde**	**2.15**	**314**	*e*PN	**Pn**	**00 58 30.0**	**+0.2**
NIG	**Nigde**	**2.15**	**314**	*e*Pn	**Pn**	**00 58 30.0**	**+0.2**
MALT	**Malatya**	**2.22**	**41**	*e*PN	**Pn**	**00 58 32.0**	**+1.4**
MALT	**Malatya**	**2.22**	**41**	||*i*P	**Pn**	**00 58 30.2**	**-0.5**
MALT	**Malatya**	**2.22**	**41**	||*i*P	**Pn**	**00 58 30.2**	**-0.5**
MALT	**Malatya**	**2.22**	**41**	*e*Pn	**Pn**	**00 58 32.0**	**+1.4**
BNN	**Bunyan**	**2.28**	**345**	*e*PN	**Pn**	**00 58 31.8**	**+0.3**
BNN	**Bunyan**	**2.28**	**345**	*e*Pn	**Pn**	**00 58 31.8**	**+0.3**
IKL	**Isikli**	**2.37**	**261**	*e*PN	**Pn**	**00 58 32.8**	**+0.1**
IKL	**Isikli**	**2.37**	**261**	*e*Pn	**Pn**	**00 58 32.8**	**+0.1**
HWQ	**Hawqa**	**2.42**	**193**	*e*P	**Pn**	**00 58 32.5**	**-0.8**
HWQ	**Hawqa**	**2.42**	**193**	*e*P	**Pn**	**00 58 32.5**	**-0.8**
ELZG	**Elazig**	**2.66**	**45**	*i* P	Pn	00 58 32.0	-4.7
ELZG				*e*S	**Sn**	**00 59 06.1**	**-3.2**
BHL	**Bhannes**	**2.84**	**196**	*e*P	**Pn**	**00 58 39.9**	**+0.8**
BHL	**Bhannes**	**2.84**	**196**	*e*P	**Pn**	**00 58 39.9**	**+0.8**
SULT	**Sultanhani-AKS**	**2.90**	**303**	*e*PN	**Pn**	**00 58 40.5**	**+0.5**
SULT	**Sultanhani-AKS**	**2.90**	**303**	*e*Pn	**Pn**	**00 58 40.5**	**+0.5**
ERMK	**Ermenek**	**2.96**	**271**	*i* P	**Pn**	**00 58 41.8**	**+0.9**
ERMK				*i* S	**Sn**	**00 59 16.0**	**-0.7**
ERMK	**Ermenek**	**2.96**	**271**	*i* P	**Pn**	**00 58 41.8**	**+0.9**
ERMK				*i* S	**Sn**	**00 59 16.0**	**-0.7**
KEMA	**Kemaliye**	**3.02**	**29**	*i* P	**Pn**	**00 58 40.4**	**-1.3**
KEMA	**Kemaliye**	**3.02**	**29**	*i* P	**Pn**	**00 58 40.4**	**-1.3**
DIYA	**Diyarbakir**	**3.10**	**65**	*i* P	**Pb**	**00 58 49.2**	**+0.5**
DIYA				*i* S	**Sb**	**00 59 30.0**	**+3.3**
YOZ	**Yozgat**	**3.16**	**342**	*e*PN	**Pn**	**00 58 44.6**	**+1.1**
YOZ	**Yozgat**	**3.16**	**342**	*e*Pn	**Pn**	**00 58 44.6**	**+1.1**
PTK	**Pertek**	**3.16**	**44**	*e*PN	**Pn**	**00 58 45.2**	**+1.5**
PTK	**Pertek**	**3.16**	**44**	*e*Pn	**Pn**	**00 58 45.2**	**+1.5**
MAZI	**Mazidag**	**3.19**	**74**	*e*PN	**Pn**	**00 58 45.7**	**+1.7**
MAZI	**Mazidag**	**3.19**	**74**	*e*Pn	**Pn**	**00 58 45.7**	**+1.7**
ILIC	**ilic-Erzincan**	**3.21**	**29**	*e*PN	**Pn**	**00 58 45.8**	**+1.5**
ILIC	**ilic-Erzincan**	**3.21**	**29**	*e*Pn	**Pn**	**00 58 45.8**	**+1.5**
SVSK	**Karacayir**	**3.29**	**6**	*e*PN	**Pn**	**00 58 46.2**	**+1.0**
SVSK	**Karacayir**	**3.29**	**6**	*e*Pn	**Pn**	**00 58 46.2**	**+1.0**
HDMB	**Hadim**	**3.31**	**277**	*e*PN	**Pn**	**00 58 46.3**	**+0.6**
HDMB	**Hadim**	**3.31**	**277**	*e*Pn	**Pn**	**00 58 46.3**	**+0.6**
CORM	**Corum**	**3.85**	**337**	*e*PN	**Pn**	**00 58 54.6**	**+1.5**
CORM	**Corum**	**3.85**	**337**	*e*Pn	**Pn**	**00 58 54.6**	**+1.5**
SIRT	**Sirnak**	**4.76**	**78**	*e*PN	**Pn**	**00 59 08.0**	**+2.5**
SIRT	**Sirnak**	**4.76**	**78**	*e*Pn	**Pn**	**00 59 08.0**	**+2.5**

THE 10 00:58:48.3, 39°.12N×23°.40E, h8km±2km, Error ellipse: s-maj=2.9km s-min=0.8km az=48.0, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKIA	**Skiathos**	**0.07**	**49**	P	Pg	00 58 50.5	+0.2
SKIA				S	Sg	00 58 52.0	+0.2
NEO	**Neokhori**	**0.23**	**325**	P	Pg	00 58 53.5	+0.5
SMIA	**Simia**	**0.28**	**211**	P	Pg	00 58 54.3	+0.4
XOR	**Xorichti**	**0.29**	**327**	P	Pg	00 58 54.4	+0.2
XOR				S	Sg	00 58 58.1	-0.1
AOS	**Alonnisos**	**0.38**	**82**	P	Pg	00 58 55.0	-0.8
MRKA	**Markates**	**0.44**	**160**	P	Pg	00 58 56.5	-0.4
LKR	**Lokris**	**0.56**	**214**	P	Pg	00 58 58.4	-0.8
ERET	**Eretria**	**0.75**	**154**	P	Pg	00 59 02.4	-0.4
AGG	**Agios Georgios**	**0.83**	**264**	P	Pg	00 59 04.2	-0.2
PAIG	**Paliouri**	**0.84**	**15**	P	Pg	00 59 04.6	+0.2
MAKR	**Makrakomi, Fth**	**0.99**	**264**	P	Pg	00 59 07.0	-0.4

*ATH **10** 00:58:49.5, 39°.12N×23°.45E, h23km, MD3.4/40, ML3.8*
*CSEM **10** 00:58:49.8±0.1, 39°.11N×23°.46E, h8km, ML3.4/45, Error ellipse: s-maj=2.6km s-min=1.8km az=97.0*
*IDC **10** 00:58:49.5±1.0, 39°.08N×23°.32E, h0km, mb3.4/6, mb1 3.5/10, mb1mx3.5/30, mbtmp3.4/10, ML3.2/3, Error ellipse: s-maj=19.9km s-min=15.1km az=103.0*
*ISCJB **10** 00:58:49.7±0.3, 39°.13N±0°.01×23°.47E±0°.02, h12km±2km, mb3.3/6, Error ellipse: s-maj=2.4km s-min=1.7km az=6.0*
*THE **10** 00:58:50.2, 39°.11N×23°.43E, h12km, ML3.4/45, Error ellipse: s-maj=0.6km s-min=0.4km az=291.0*
*SKO **10** 00:58:56.8, 39°.68N×23°.23E, h0km*
ISC 10 00:58:50.4±0.7, 39°.12N±0°.01×23°.43E±0°.01, h11km±4km, n242, σ0°991/317, mb3.5/6, 14C-10D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKIA	**Skiathos**	**0.06**	**30**	P	**Pg**	**00 58 52.6**	**0.0**
SKIA				S	**Sg**	**00 58 54.1**	**-0.1**
SKIA	**Skiathos**	**0.06**	**30**	P	**Pg**	**00 58 52.6**	**0.0**
SKIA				S	**Sg**	**00 58 54.1**	**-0.1**
NEO	**Neokhori**	**0.25**	**320**	P	**Pg**	**00 58 55.5**	**-0.1**
NEO				S	**Sg**	**00 58 59.0**	**0.0**
NEO	**Neokhori**	**0.25**	**320**	*e*PB	**Pg**	**00 58 55.7**	**+0.1**
NEO				*e*SB	**Sg**	**00 58 59.6**	**+0.6**
NEO	**Neokhori**	**0.25**	**320**	P	**Pg**	**00 58 55.5**	**-0.1**
NEO				S	**Sg**	**00 58 59.0**	**0.0**
SMIA	**Simia**	**0.29**	**216**	P	**Pg**	**00 58 56.2**	**-0.2**
SMIA				S	**Sg**	**00 59 00.5**	**+0.2**
SMIA	**Simia**	**0.29**	**216**	P	**Pg**	**00 58 56.2**	**-0.2**
SMIA				S	**Sg**	**00 59 00.5**	**+0.2**
XOR	**Xorichti**	**0.31**	**323**	P	**Pg**	**00 58 56.5**	**-0.2**
XOR				S	**Sg**	**00 59 00.9**	**0.0**
XOR	**Xorichti**	**0.31**	**323**	P	**Pg**	**00 58 56.5**	**-0.2**
XOR				S	**Sg**	**00 59 00.9**	**0.0**
AOS	**Alonnisos**	**0.35**	**81**	P	**Pg**	**00 58 57.1**	**-0.4**

AOS S **Sg 00 59 02.0 -0.2**
AOS Alonnisos 0.35 81 *e*PB **Pg 00 58 57.1 -0.4**
AOS *e*SB **Sg 00 59 02.2 0.0**
AOS Alonnisos 0.35 81 *e*Pb **Pg 00 58 57.1 -0.4**
AOS S **Sg 00 59 02.0 -0.2**
MRKA Markates 0.43 163 P **Pg 00 58 58.6 -0.2**
MRKA S **Sg 00 59 04.8 +0.3**
MRKA Markates 0.43 163 P **Pg 00 58 58.6 -0.2**
MRKA S **Sg 00 59 04.8 +0.3**
LKR Lokris 0.57 216 P **Pg 00 59 01.1 -0.5**
LKR S **Sg 00 59 09.3 +0.2**
LKR Lokris 0.57 216 *e*PN **Pg 00 59 01.3 -0.3**
LKR *e*SN **Sb 00 59 09.6 -1.1**
LKR Lokris 0.57 216 P **Pg 00 59 01.1 -0.5**
LKR S **Sg 00 59 09.3 +0.2**
AXAR Agios Charalam 0.70 240 P **Pg 00 59 03.7 -0.2**
AXAR S **Sb 00 59 13.4 -0.8**
AXAR Agios Charalam 0.70 240 P **Pg 00 59 03.7 -0.2**
AXAR S **Sb 00 59 13.4 -0.8**
ERET Eretria 0.73 156 P **Pg 00 59 03.9 -0.7**
ERET S **Sg 00 59 14.6 +0.4**
ERET Eretria 0.73 156 P **Pg 00 59 03.9 -0.7**
ERET S **Sg 00 59 14.6 +0.4**
PAIG Paliouri 0.83 13 P **Pg 00 59 06.7 +0.2**
PAIG S **Sb 00 59 18.8 +0.6**
PAIG Paliouri 0.83 13 *e*PN **Pg 00 59 05.7 -0.8**
PAIG *e*SN **Sg 00 59 17.2 -0.1**
PAIG Paliouri 0.83 13 *e*Pn **Pg 00 59 05.7 -0.8**
PAIG Paliouri 0.83 13 P **Pg 00 59 06.7 +0.2**
PAIG *e*Sn **Sg 00 59 17.2 -0.1**
PAIG S **Sb 00 59 18.8 +0.6**
AGG Agios Georgios 0.86 264 P **Pg 00 59 05.9 -1.1**
AGG S **Sb 00 59 18.4 -0.6**
AGG Agios Georgios 0.86 264 *e*PN **Pg 00 59 06.3 -0.7**
AGG *e*SN **Sb 00 59 19.1 +0.1**
AGG Agios Georgios 0.86 264 P **Pg 00 59 05.9 -1.1**
AGG Agios Georgios 0.86 264 *e*Pn **Pg 00 59 06.3 -0.7**
AGG S **Sb 00 59 18.4 -0.6**
AGG *e*Sn **Sb 00 59 19.1 +0.1**
DSF Desfina 1.00 225 P **Pb 00 59 08.4 -1.4**
DSF S **Sg 00 59 22.8 +0.2**
DSF Desfina 1.00 225 P **Pb 00 59 08.4 -1.4**
DSF S **Sg 00 59 22.8 +0.2**
MAKR Makrakomi, Fth 1.02 265 P **Pb 00 59 08.8 -1.3**
MAKR S **Sn 00 59 24.1 -0.9**
MAKR Makrakomi, Fth 1.02 265 P **Pb 00 59 08.8 -1.3**
MAKR S **Sn 00 59 24.1 -0.9**
PTL Penteli 1.12 162 P **Pb 00 59 10.1 -1.7**
PTL S **Sb 00 59 25.7 -0.7**
PTL Penteli 1.12 162 *e*PN **Pb 00 59 10.8 -1.0**
PTL *e*SN **Sb 00 59 25.7 -0.7**
PTL Penteli 1.12 162 P **Pb 00 59 10.1 -1.7**
PTL Penteli 1.12 162 *e*Pn **Pb 00 59 10.8 -1.0**
PTL *e*Sn **Sb 00 59 25.7 -0.7**
LTK Loutraki 1.15 199 P **Pb 00 59 10.8 -1.6**
LTK S **Sb 00 59 27.1 -0.2**
LTK Loutraki 1.15 199 *e*PN **Pb 00 59 11.4 -1.0**
LTK *e*SN **Sn 00 59 27.6 -0.7**
LTK Loutraki 1.15 199 P **Pb 00 59 10.8 -1.6**
LTK Loutraki 1.15 199 *e*Pn **Pb 00 59 11.4 -1.0**
LTK S **Sb 00 59 27.1 -0.2**
ATH Athens Observa 1.17 169 P **Pb 00 59 11.4 -1.2**
ATH S **Sb 00 59 27.2 -0.5**
ATH Athens Observa 1.17 169 *e*PN **Pb 00 59 11.8 -0.8**
ATH *e*SN **Sb 00 59 27.3 -0.5**
ATH Athens Observa 1.17 169 P **Pb 00 59 11.4 -1.2**
ATH Athens Observa 1.17 169 *e*Pn **Pb 00 59 11.8 -0.8**
ATH S **Sb 00 59 27.2 -0.5**
ATHU Athens Univers 1.18 166 P **Pn 00 59 11.2 -1.8**
ATHU S **Sb 00 59 27.3 -0.9**
ATHU Athens Univers 1.18 166 P **Pn 00 59 11.2 -1.8**
ATHU S **Sb 00 59 27.3 -0.9**
THL Klokotos Trika 1.19 293 P **Pn 00 59 11.1 -1.9**
THL S **Sg 00 59 29.1 +0.5**
THL Klokotos Trika 1.19 293 *e*PN **Pn 00 59 12.3 -0.7**
THL Klokotos Trika 1.19 293 P **Pn 00 59 11.1 -1.9**
THL Klokotos Trika 1.19 293 *e*Pn **Pn 00 59 12.3 -0.7**
THL S **Sg 00 59 29.1 +0.5**
LIT Litokhoron 1.22 324 P **Pn 00 59 12.9 -0.6**
LIT Litokhoron 1.22 324 *e*PN **Pn 00 59 13.0 -0.6**
LIT Litokhoron 1.22 324 *e*Pn **Pn 00 59 13.0 -0.6**
KALE Kalithea 1.24 235 P **Pn 00 59 12.8 -1.0**
KALE S **Sb 00 59 29.2 -0.8**
KALE Kalithea 1.24 235 *e*PN **Pn 00 59 13.0 -0.8**
KALE Kalithea 1.24 235 P **Pn 00 59 12.8 -1.0**
KALE S **Sb 00 59 29.2 -0.8**
PLG Polygyros 1.26 1 P **Pn 00 59 13.1 -0.9**
PLG Polygyros 1.26 1 *e*PN **Pn 00 59 12.8 -1.2**
PLG Polygyros 1.26 1 *e*Pn **Pn 00 59 12.8 -1.2**
PLG Polygyros 1.26 1 P **Pn 00 59 13.1 -0.9**
EVR Evrytania 1.28 262 P **Pn 00 59 13.2 -1.1**
EVR Evrytania 1.28 262 *e*PN **Pn 00 59 13.3 -1.1**
EVR Evrytania 1.28 262 P **Pn 00 59 13.2 -1.1**
OUR Ouranopolis 1.29 19 P **Pn 00 59 13.6 -0.8**
OUR S **Sb 00 59 30.8 -0.5**
OUR Ouranopolis 1.29 19 P **Pn 00 59 13.6 -0.8**
OUR S **Sb 00 59 30.8 -0.5**
MRMA Marmari 1.29 145 P **Pn 00 59 13.1 -1.4**
MRMA S **Sb 00 59 31.0 -0.4**
MRMA Marmari 1.29 145 P **Pn 00 59 13.1 -1.4**
MRMA S **Sb 00 59 31.0 -0.4**
TRIZ Trizonia 1.30 235 P **Pn 00 59 14.2 -0.3**
TRIZ Trizonia 1.30 235 *e*PN **Pb 00 59 14.4 -0.5**
TRIZ Trizonia 1.30 235 *e*Pn **Pb 00 59 14.4 -0.5**
ACOR Acrocorinthos 1.30 200 P **Pn 00 59 13.7 -0.9**
ACOR S **Sn 00 59 31.8 -0.2**
ACOR Acrocorinthos 1.30 200 P **Pn 00 59 13.7 -0.9**
ACOR S **Sn 00 59 31.8 -0.2**
NAIG Nisos Aigina 1.36 178 *e*PN **Pb 00 59 15.4 -0.5**
NAIG Nisos Aigina 1.36 178 *e*Pn **Pb 00 59 15.4 -0.5**
EFP Efpalio 1.38 240 P **Pn 00 59 15.5 0.0**
EFP Efpalio 1.38 240 *e*PN **Pn 00 59 15.6 0.0**
EFP Efpalio 1.38 240 *e*Pn **Pn 00 59 15.6 0.0**
LAKA Lakka 1.43 233 P **Pn 00 59 16.3 -0.2**
LAKA Lakka 1.43 233 *e*PN **Pn 00 59 16.5 0.0**
LAKA Lakka 1.43 233 *e*Pn **Pn 00 59 16.5 0.0**
PSA1 Psathopyrgos 1.45 237 *e*PN **Pb 00 59 16.6 -0.8**
GUR Goura 1.46 216 P **Pn 00 59 16.2 -0.6**
GUR S **Sn 00 59 34.7 -1.3**
GUR Goura 1.46 216 *e*PN **Pn 00 59 16.4 -0.4**
GUR Goura 1.46 216 *e*Pn **Pn 00 59 16.4 -0.4**
GUR S **Sn 00 59 34.7 -1.3**
KLV Kalavryta, Ach 1.47 223 P **Pn 00 59 16.3 -0.6**
KLV S **Sn 00 59 35.1

RLS	Riolos of Patr	1.87	236	*e*PN	Pb	00 59 23.1	-1.5
RLS	Riolos of Patr	1.87	236	*e*Pn	Pb	00 59 23.1	-1.5
VLX	Vlachokerasia	1.93	206	P	Pn	00 59 23.4	+0.1
VLX	Vlachokerasia	1.93	206	*e*PN	Pn	00 59 23.5	+0.1
VLX	Vlachokerasia	1.93	206	*e*Pn	Pn	00 59 23.5	+0.1
SRS	Serrai	2.00	4	P	Pn	00 59 23.6	-0.7
SRS				S	Sn	00 59 48.7	-0.6
SRS	Serrai	2.00	4	P	Pn	00 59 23.6	-0.7
SRS				S	Sn	00 59 48.7	-0.6
KAVA	Kavala	2.05	24	P	Pn	00 59 23.6	-1.3
KAVA				S	Sn	00 59 49.4	-1.2
KAVA	Kavala	2.05	24	P	Pn	00 59 23.6	-1.3
KAVA				S	Sn	00 59 49.4	-1.2
JAN	Janina	2.07	286	P	Pb	00 59 26.5	-1.6
JAN	Janina	2.07	286	P	Pb	00 59 26.5	-1.6
AMT	Artemida-Makis	2.08	221	P	Pn	00 59 25.4	0.0
AMT	Artemida-Makis	2.08	221	*e*PN	Pn	00 59 26.2	+0.8
AMT	Artemida-Makis	2.08	221	P	Pn	00 59 25.4	0.0
AMT	Artemida-Makis	2.08	221	*e*Pn	Pn	00 59 26.2	+0.8
KNT	Kendrikon	2.08	349	P	Pn	00 59 25.6	+0.2
KNT	Kendrikon	2.08	349	P	Pn	00 59 25.6	+0.2
SMTH	Samothraki Isl	2.11	49	P	Pn	00 59 24.2	-1.5
SMTH	Samothraki Isl	2.11	49	*e*PB	Pn	00 59 24.3	-1.5
SMTH	Samothraki Isl	2.11	49	P	Pn	00 59 24.2	-1.5
CHOS	Chios island	2.18	109	P	Pn	00 59 26.5	-0.2
CHOS	Chios island	2.18	109	*e*PB	Pn	00 59 26.5	-0.2
CHOS	Chios island	2.18	109	P	Pn	00 59 26.5	-0.2
LKD2	Lefkada island	2.19	262	P	Pb	00 59 28.7	-1.3
LKD2	Lefkada island	2.19	262	*e*PN	Pn	00 59 26.9	+0.1
LKD2	Lefkada island	2.19	262	*e*Pn	Pn	00 59 26.9	+0.1
LKD2	Lefkada island	2.19	262	P	Pb	00 59 28.7	-1.3
PRK	Paraskevi	2.21	86	P	Pn	00 59 26.7	-0.4
PRK	Paraskevi	2.21	86	P	Pn	00 59 26.7	-0.4
NEST	Nestorio	2.25	306	P	Pn	00 59 27.6	-0.1
NEST	Nestorio	2.25	306	P	Pn	00 59 27.6	-0.1
NVR	Nevrokopi	2.25	8	P	Pn	00 59 27.0	-0.7
NVR	Nevrokopi	2.25	8	*e*PN	Pn	00 59 27.1	-0.7
NVR	Nevrokopi	2.25	8	P	Pn	00 59 27.0	-0.7
ITM	Ithomi	2.27	212	P	Pn	00 59 28.0	+0.2
ITM	Ithomi	2.27	212	*e*PN	Pn	00 59 28.1	+0.2
ITM	Ithomi	2.27	212	*e*Pn	Pn	00 59 28.1	+0.2
FNA	Florina	2.29	317	P	Pn	00 59 28.6	+0.3
FNA	Florina	2.29	317	*e*PB	Pn	00 59 28.8	+0.5
FNA	Florina	2.29	317	P	Pn	00 59 28.6	+0.3
VAY	Valandovo	2.30	344	P	Pn	00 59 27.5	-0.8
VAY	Valandovo	2.30	344	*i* Pn	Pn	00 59 27.9	-0.4
VAY	Valandovo	2.30	344	P	Pn	00 59 27.5	-0.8
KFL	Anninata	2.30	245	P	Pb	00 59 30.5	-1.5
KFL	Anninata	2.30	245	P	Pb	00 59 30.5	-1.5
VLS	Valsamata	2.41	248	P	Pn	00 59 31.2	+1.3
VLS	Valsamata	2.41	248	*e*PN	Pn	00 59 30.5	+0.6
VLS	Valsamata	2.41	248	*e*Pn	Pn	00 59 30.5	+0.6
VLS	Valsamata	2.41	248	P	Pn	00 59 31.2	+1.3
VLI	Veliai	2.43	189	P	Pn	00 59 29.2	-0.9
VLI	Veliai	2.43	189	*e*PN	Pn	00 59 29.7	-0.4
VLI	Veliai	2.43	189	P	Pn	00 59 29.2	-0.9
VLI	Veliai	2.43	189	*e*Pn	Pn	00 59 29.7	-0.4
IGT	Igoumenitsa	2.44	281	P	Pb	00 59 32.2	-2.1
IGT	Igoumenitsa	2.44	281	P	Pb	00 59 32.2	-2.1
BIA	Bitola	2.49	320	*i* Pn	Pn	00 59 31.4	+0.4
BIA	Bitola	2.49	320	*i* Pn	Pn	00 59 30.9	-0.2
DYR	Agios Nikonas	2.50	201	P	Pn	00 59 30.3	-0.9
DYR	Agios Nikonas	2.50	201	*e*PB	Pn	00 59 31.8	+0.6
DYR	Agios Nikonas	2.50	201	P	Pn	00 59 30.3	-0.9
KBN	Korca	2.53	307	P	Pn	00 59 32.0	+0.4
KBN	Korca	2.53	307	P	Pn	00 59 32.0	+0.4
PYL	PYLOS	2.59	212	P	Pn	00 59 33.0	+0.7
PYL	PYLOS	2.59	212	*e*PN	Pn	00 59 32.5	+0.2
PYL	PYLOS	2.59	212	*e*Pn	Pn	00 59 32.5	+0.2
PYL	PYLOS	2.59	212	P	Pn	00 59 33.0	+0.7
APE	Apeiranthos	2.63	140	⇑*i*P	Pn	00 59 32.6	-0.3
APE	Apeiranthos	2.63	140	⇑*i*P	Pn	00 59 32.6	-0.3
SRN	Sarande	2.76	287	P	Pn	00 59 36.3	+1.7
SRN	Sarande	2.76	287	P	Pn	00 59 36.3	+1.7
KYTH	Kithira	2.85	186	P	Pn	00 59 35.9	+0.1
KYTH	Kithira	2.85	186	*e*PN	Pn	00 59 36.0	+0.1
KYTH	Kithira	2.85	186	*e*Pn	Pn	00 59 36.0	+0.1
KEK	Kerkira	2.88	283	P	Pn	00 59 38.2	+2.0
KEK	Kerkira	2.88	283	P	Pn	00 59 38.2	+2.0
SMG	Samos	3.02	117	P	Pn	00 59 38.3	0.0
SMG	Samos	3.02	117	*e*PN	Pn	00 59 38.4	+0.1
SMG	Samos	3.02	117	*e*Pn	Pn	00 59 38.4	+0.1
PLD	Plovdiv	3.14	18	P	Pn	00 59 39.4	-0.4
PLD	Plovdiv	3.14	18	P	Pn	00 59 39.4	-0.4
ANKY	Antikythira Is	3.25	182	P	Pn	00 59 41.3	-0.1
ANKY	Antikythira Is	3.25	182	*e*PN	Pn	00 59 41.2	-0.1
ANKY	Antikythira Is	3.25	182	*e*Pn	Pn	00 59 41.2	-0.1
PHP	Peshkopia	3.43	319	P	Pn	00 59 44.8	+0.8
PHP	Peshkopia	3.43	319	P	Pn	00 59 44.8	+0.8
VTS	Vitosha	3.48	357	P	Pn	00 59 44.1	-0.5
VTS	Vitosha	3.48	357	⇓*i*P	Pn	00 59 45.3	+0.7
VTS	Vitosha	3.48	357	P	Pn	00 59 44.1	-0.5
KARN	Karanos	3.73	174	P	Pn	00 59 47.1	-0.9
KARN	Karanos	3.73	174	P	Pn	00 59 47.1	-0.9
BARS	Barje	3.89	342	⇑*i*Pn	Pn	00 59 50.5	+0.3
IDI	Anoyia	4.00	163	P	Pn	00 59 51.6	-0.1
IDI	Anoyia	4.00	163	Pn	Pn	00 59 51.9	+0.1
	2.3nm,0.3s,baz=336,slow=9.4,SNR=17						
IDI				Sn	Sn	01 00 39.7	+1.1
	1.5nm,0.3s,baz=260,slow=11,SNR=3.7						
IDI	Anoyia	4.00	163	P	Pn	00 59 51.6	-0.1
JMB	Yambol	4.11	35	P	Pn	00 59 52.8	-0.5
JMB	Yambol	4.11	35	P	Pn	00 59 52.8	-0.5
SIVA	Sivas	4.24	164	P	Pn	00 59 55.0	0.0
SIVA	Sivas	4.24	164	P	Pn	00 59 55.0	0.0
LAST	Lasithi	4.27	157	P	Pn	00 59 55.9	+0.3
LAST	Lasithi	4.27	157	P	Pn	00 59 55.9	+0.3
ZIMR		4.76	17	⇓*i*P	Pn	01 00 02.8	+0.6
BOLS	Boljevac	4.84	347	*e*Pn	Pn	01 00 00.9	-2.3
GRUS	Gruza	5.18	338	*e*Pn	Pn	01 00 07.9	-0.1
STON	Ston	5.73	313	*i* Pn	Pn	01 00 15.3	-0.1
STON				Sn	Sn	01 01 16.4	-4.8
GZR	Gura Zlata	6.29	356	⇓*i*P	Pn	01 00 23.1	-0.1
GZR	Gura Zlata	6.29	356	⇓*i*P	Pn	01 00 23.1	-0.1
ARR	Arges	6.31	8	⇑*i*P	Pn	01 00 23.8	+0.3
ARR	Arges	6.31	8	⇑*i*P	Pn	01 00 23.8	+0.3
VOIR		6.43	10	⇓*i*P	Pn	01 00 25.3	+0.2
VOIR		6.43	10	⇓*i*P	Pn	01 00 25.3	+0.2
BZS	Buzias	6.63	349	⇑*i*P	Pn	01 00 26.8	-1.0
BZS	Buzias	6.63	349	⇑*i*P	Pn	01 00 26.8	-1.0
MLR	Muntele Rosu	6.64	15	⇑*i*P	Pn	01 00 29.8	+1.8
MLR	Muntele Rosu	6.64	15	Pn	Pn	01 00 29.9	+1.8
	0.3nm,0.3s,baz=202,slow=11,SNR=20						
MLR				Sn	Sn	01 01 44.9	+1.1
	0.1nm,0.3s,baz=342,slow=16,SNR=1.6						
MLR				Lg	Lg	01 02 22.3	
	baz=195,slow=18,SNR=2.4						
MLR	Muntele Rosu	6.64	15	⇑*i*P	Pn	01 00 29.8	+1.8
PLOR	Plostina	7.14	18	⇑*i*P	Pn	01 00 37.4	+2.6
VRI	Vrincioaia	7.17	19	⇓*i*P	Pn	01 00 37.1	+1.8
VRI	Vrincioaia	7.17	19	⇓*i*P	Pn	01 00 37.1	+1.8
DRGR		7.69	356	⇑*i*P	Pn	01 00 41.8	-0.6
DRGR		7.69	356	⇑*i*P	Pn	01 00 41.8	-0.6
TESR	Tescani	7.76	17	⇑*i*P	Pn	01 00 44.8	+1.5
TESR	Tescani	7.76	17	⇑*i*P	Pn	01 00 44.8	+1.5
BRTR	Keskin Array B	7.93	82	Pn	Pn	01 00 47.3	+1.5
	0.1nm,0.3s,baz=263,slow=14,SNR=3.2						
BURAR	Bucovina Array	8.59	8	⇓*i*P	Pn	01 00 56.3	+1.5
BURAR	Bucovina Array	8.59	8	⇓*i*P	Pn	01 00 56.3	+1.5
MMAI	Mount Meron Ar	11.44	118	Pn	Pn	01 01 34.3	+0.5
	baz=306,slow=15,SNR=1.6						
ESDC	Sonseca Array	21.15	280	P	P	01 03 35.6	0.0
	0.1nm,0.2s,baz=74,slow=11,SNR=4.0						
HFS	Hagfors	21.92	347	P	P	01 03 44.7	+1.2
	3.7nm,1.0s,baz=147,slow=8.6,SNR=2.7						
EKA	Eskdalemuir Ar	24.05	321	P	P	01 04 05.2	-0.2
	0.5nm,0.5s,baz=119,slow=9.8,SNR=4.2						
TORD	Torodi Ar. Bea	32.23	223	P	P	01 05 18.8	0.0
	0.3nm,0.5s,baz=34,slow=8.7,SNR=8.5						
MKAR	Makanchi Array	42.87	60	P	P	01 06 50.0	+1.3
	0.4nm,0.7s,baz=277,slow=7.7,SNR=4.6						
ZALV	Zalesovo Beam	43.36	49	P	P	01 06 54.2	+1.7
	0.5nm,0.4s,baz=265,slow=9.7,SNR=3.7						

*SKO **10** 01:13:51.5, 41.′65N×20.′40E, h45km, M1.4, ML1.9*
*TIR **10** 01:13:54.9±0.8, 41.′44N×20.′46E, h2km±10km, ML2.7*
*ISCJB **10** 01:13:55.1±0.6, 41.′55N±0.′04×20.′46E±0.′06, h29km±7km, Error ellipse: s-maj=7.8km s-min=6.8km az=43.9*
*CSEM **10** 01:13:55.3±0.4, 41.′49N×20.′46E, h22km±7km, ML2.7,*

Error ellipse: s-maj=12.1km s-min=7.8km az=17.0
ISC 10 01:13:54.9±1.0, **41.′54N**±0.′04×**20.′51E**±0.′03, **h22**km±1km, **n15**, σ0‡**88**/27, **Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHP	**Peshkopia**	**0.16**	**341**	*e*PG	**Pb**	**01 14 00.3**	**-0.4**
PHP				*e*SG	**Sb**	**01 14 04.7**	**0.0**
PHP	**Peshkopia**	**0.16**	**341**	*i* PG	**Pb**	**01 14 00.3**	**-0.4**
PHP				*i* SG	**Sb**	**01 14 04.8**	**0.0**
PHP	**Peshkopia**	**0.16**	**341**	*i* Pg	**Pb**	**01 14 00.3**	**-0.4**
	SNR=114						
PHP				*i* Sg	**Sb**	**01 14 04.8**	**0.0**
	SNR=114						
TIR	**Tirane**	**0.52**	**249**	*e*PG	**Pb**	**01 14 04.6**	**-0.7**
TIR				*e*SG	**Sb**	**01 14 11.9**	**-0.6**
TIR	**Tirane**	**0.52**	**249**	*i* PG	**Pb**	**01 14 04.7**	**-0.7**
TIR				*i* SG	**Sb**	**01 14 11.9**	**-0.6**
TIR	**Tirane**	**0.52**	**249**	*i* Pg	**Pb**	**01 14 04.7**	**-0.7**
	SNR=101						
TIR				*i* Sg	**Sb**	**01 14 11.9**	**-0.6**
	SNR=101						
PUK	**Puka**	**0.68**	**318**	*e*PG	**Pn**	**01 14 09.3**	**0.0**
PUK				*e*SG	**Sn**	**01 14 21.3**	**+1.9**
PUK	**Puka**	**0.68**	**318**	*i* PG	**Pn**	**01 14 09.4**	**0.0**
PUK				*i* SG	**Sn**	**01 14 21.4**	**+1.9**
PUK	**Puka**	**0.68**	**318**	*i* Pg	**Pn**	**01 14 09.4**	**0.0**
	SNR=96						
BIA	**Bitola**	**0.80**	**130**	*e*Pg	**Pb**	**01 14 10.3**	**+0.1**
BIA				*e*Sg	**Sn**	**01 14 23.1**	**+0.8**
BIA	**Bitola**	**0.80**	**130**	*e*Pg	**Pb**	**01 14 09.8**	**-0.4**
BIA				*e*Sg	**Sn**	**01 14 22.6**	**+0.3**
SKO	**Skopje**	**0.82**	**58**	*e*Pg	Pb	01 14 01.6	-8.9
SKO				*e*Sg	**Sb**	**01 14 21.7**	**+0.5**
SKO				*e*Lg	Lg	01 14 28.1	
	comp=N,34nm,0.4s						
SKO				*e*Lg	Lg	01 14 30.7	
	comp=E,23nm,0.7s						
SKO	**Skopje**	**0.82**	**58**	*e*Pg	**Pb**	**01 14 08.6**	**-1.9**
SKO				*e*Lg	Lg	01 14 29.6	
	comp=E,23nm,0.7s						
FNA	**Florina**	**1.00**	**139**	*i* PG	**Pn**	**01 14 13.7**	**0.0**
FNA				*e*SG	**Sn**	**01 14 28.2**	**+1.1**
FNA	**Florina**	**1.00**	**139**	*i* Pg	**Pn**	**01 14 13.7**	**0.0**
	SNR=95						
FNA				*e*Sg	**Sn**	**01 14 28.2**	**+1.1**
	SNR=95						

*AUST **10** 01:15:27.0, 19.′25S×175.′19W, h200km*
*ISCJB **10** 01:16:13.6±0.8, 20.′6S±0.′2×178.′3W±0.′2, h495km, mb3.7/7, Error ellipse: s-maj=27.2km s-min=15.7km az=141.7*
*IDC **10** 01:16:23.2±3.9, 21.′06S×178.′25W, h610km±48km, mb3.2/7, mb1 3.5/9, mb1mx3.2/20, mbtmp3.2/9, Error ellipse: s-maj=41.8km s-min=22.3km az=162.0*
ISC 10 01:16:13.7±1.0, **20.′7S**±0.′2×**178.′2W**±0.′2, **h495**km, **n18**, σ1‡**27**/16, **mb3.8**/7, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.41**	**262**	P	P	01 19 24.8	+6.8
	0.4nm,0.3s,baz=94,slow=19,SNR=4.4						
URZ	**Urewera**	**18.02**	**192**	P	**P**	**01 19 53.4**	**-0.9**
	1.1nm,0.3s,baz=314,slow=8.5,SNR=3.8						
STKA	**Stephens Creek**	**37.59**	**244**	P	**P**	**01 22 46.2**	**+0.8**
	1.6nm,0.5s,baz=68,slow=9.7,SNR=6.1						
STKA	**Stephens Creek**	**37.59**	**244**	P	**P**	**01 22 46.9**	**+1.5**
	baz=41,SNR=4.6						
MANU	**Manus Island**	**38.37**	**294**	S	S	01 28 37.0	+26
	baz=40,SNR=4.3						
BBOO	**Buckleboo**	**42.35**	**244**	P	**P**	**01 23 24.4**	**+0.8**
	baz=45,SNR=8.2						
ASAR	**Alice Springs**	**44.34**	**257**	P	**P**	**01 23 39.9**	**+0.5**
	4.6nm,0.5s,baz=92,slow=8.0,SNR=38						
ASAR				PcP	**pP**	**01 25 11.8**	**+0.4**
	0.8nm,0.8s,baz=101,slow=4.8,SNR=3.9						
WRA	**Warramunga Arr**	**44.43**	**262**	P	**P**	**01 23 40.1**	**0.0**
	3.3nm,0.3s,baz=97,slow=7.8,SNR=117						
KDU	**Kakadu**	**47.80**	**271**	P	**P**	**01 24 05.9**	**0.0**
	baz=51,SNR=7.4						
FITZ	**Fitzroy Crossi**	**52.86**	**263**	P	**P**	**01 24 43.2**	**+0.3**
	baz=56,SNR=3.8						
NVAR	**Mina Array Bea**	**81.24**	**43**	P	**P**	**01 27 39.7**	**+1.9**
	0.5nm,0.7s,baz=231,slow=9.2,SNR=3.9						
ILAR	**Eielson Array**	**88.49**	**13**	P	**P**	**01 28 11.9**	**-0.4**
	0.3nm,0.6s,baz=207,slow=4.7,SNR=4.3						
PDAR	**Pinedale Array**	**89.17**	**43**	P	**P**	**01 28 17.4**	**+1.0**
	0.4nm,0.7s,baz=230,slow=5.6,SNR=2.8						
CMAR	**Chiang Mai Arr**	**90.02**	**290**	P	**P**	**01 28 19.3**	**-1.2**
	1.3nm,0.3s,baz=134,slow=2.6,SNR=5.1						
MKAR	**Makanchi Array**	**111.19**	**313**	PKiKP	**PKiKP**	**01 33 48.0**	**-2.6**
	0.1nm,0.3s,baz=169,slow=1.1,SNR=4.7						
AKASG	**Malin Array Be**	**143.07**	**331**	PKP	PKPab	01 34 46.6	-1.4
	2.0nm,0.4s,baz=43,slow=4.8,SNR=8.7						
BRTR	**Keskin Array B**	**146.83**	**312**	PKPbc	**PKPdf**	**01 34 58.7**	**+1.1**
	0.7nm,0.5s,baz=140,slow=4.7,SNR=5.7						
GERES	**GERESS Array B**	**150.30**	**344**	PKPbc	**PKPbc**	**01 35 07.3**	**-1.3**
	0.5nm,0.6s,baz=17,slow=1.8,SNR=6.7						

IDC 10 01:50:38.6±1.2, **31.′92N**×**104.′92E**, **h0**km, **mb3.7**/6, **mb1 3.8**/6, **mb1mx3.5**/26, **mbtmp3.7**/6, **Error ellipse: s-maj=180.9km s-min=21.8km az=55.0, Sichuan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**22.84**	**317**	P	P	01 55 44.0	+0.8
	0.4nm,0.5s,baz=133,slow=12,SNR=5.8						
ZALV	**Zalesovo Beam**	**26.30**	**333**	P	P	01 56 17.4	+1.7
	0.9nm,0.5s,baz=125,slow=9.3,SNR=4.7						
KURBB	**Kurchatov Arra**	**27.02**	**321**	P	P	01 56 22.6	+0.4
	0.7nm,0.8s,baz=129,slow=8.5,SNR=8.0						
FINES	**FINESS Array B**	**57.28**	**326**	P	P	02 00 27.6	-0.1
	2.0nm,0.9s,baz=104,slow=10,SNR=4.4						
WRA	**Warramunga Arr**	**58.77**	**147**	P	P	02 00 38.9	+0.3
	0.5nm,0.8s,baz=339,slow=7.6,SNR=11						
NOA	**NORSAR Array B**	**64.35**	**327**	P	P	02 01 13.9	-2.0
	1.1nm,1.0s,baz=73,slow=4.6,SNR=2.3						

*IDC **10** 01:55:59.8±8.4, 1.′63S×99.′01E, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.3/23, mbtmp3.4/2, Error ellipse: s-maj=391.5km s-min=34.2km az=52.0*
*ISCJB **10** 01:56:04.1±1.9, 1.′4S±0.′1×99.′3E±0.′2, h30km, mb3.4/2, Error ellipse: s-maj=28.8km s-min=14.6km az=38.9*
*DJA **10** 01:56:10.5±0.9, 1.′S±8.′×10.′0E±.′, h10km, M3.3/5, MLv3.3/5*
ISC 10 01:56:06.9±1.3, **1.′4S**±0.′1×**99.′56E**±0.′06, **h30**km, **n8**, σ1‡**58**/10, **Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.01**	**63**	P	**Pn**	**01 56 24.7**	**-0.4**
PDSI				S	**Sb**	**01 56 41.1**	**+2.2**
PPI	**Padang Panjang**	**1.24**	**43**	P	**Pn**	**01 56 28.1**	**-0.1**
PPI				S	**Sn**	**01 56 44.1**	**+0.2**
PBSI	**Pulau Batu**	**1.83**	**316**	P	**Pb**	**01 56 41.8**	**+2.0**
SDSI	**Sungai Dareh**	**1.92**	**77**	P	**Pb**	**01 56 43.0**	**+1.7**
BKNI	**Bangkinang**	**2.25**	**41**	P	**Pb**	**01 56 46.1**	**-0.7**
WRA	**Warramunga Arr**	**38.69**	**121**	P	**P**	**02 03 28.4**	**0.0**
	0.9nm,1.1s,baz=297,slow=8.3,SNR=2.8						
MKAR	**Makanchi Array**	**50.31**	**345**	P	**P**	**02 04 58.9**	**-2.0**
	0.2nm,0.5s,baz=152,slow=9.0,SNR=3.6						
TXAR	**Lajitas Array**	**144.47**	**36**	PKPbc	**PKPab**	**02 15 38.6**	**-0.9**
	0.1nm,0.4s,baz=209,slow=0.9,SNR=3.7						

IDC 10 02:08:42.9±2.5, **5.′96S**×**130.′43E**, **h0**km, **mb3.6**/1, **mb1 3.6**/3, **mb1mx3.4**/17, **mbtmp3.4**/3, **ML3.4**/2, **Error ellipse: s-maj=151.9km s-min=32.7km az=70.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDU	**Kakadu**	**6.98**	**163**	P	Pn	02 10 31.6	+5.1
	baz=7.6,SNR=32						
KDU				S	Sn	02 11 41.8	-4.9
	baz=7.6,SNR=6.7						
SOEI	**Soe**	**7.17**	**238**	P	Sg	02 12 25.4	-8.0
	baz=16,SNR=16						
KNRA	**Kununurra**	**9.79**	**189**	P	Pn	02 11 09.2	+4.1
	baz=10,SNR=10						
FITZ	**Fitzroy Crossi**	**12.94**	**201**	P	Pn	02 11 51.1	+2.9
	baz=13,SNR=5.0						
WRA	**Warramunga Arr**	**14.41**	**165**	Pn	Pn	02 12 06.8	-1.5
	0.2nm,0.3s,baz=348,slow=13,SNR=13						
WRA				Sn	Sn	02 14 33.4	-16
	0.2nm,0.3s,baz=336,slow=22,SNR=5.9						
ASAR	**Alice Springs**	**17.92**	**170**	Pn	P	02 12 54.9	+0.5
	0.1nm,0.3s,baz=346,slow=11,SNR=7.5						
MKAR	**Makanchi Array**	**67.60**	**326**	P	P	02 19 41.4	0.0
	0.2nm,0.3s,baz=121,slow=8.0,SNR=4.2						

*ISCJB **10** 02:11:53.8±0.7, 60.′03N±0.′06×60.′1E±0.′1, h10km, mb3.3/3, Error ellipse: s-maj=9.9km s-min=7.6km az=35.5*
*IDC **10** 02:11:53.9±1.2, 60.′43N×60.′22E, h0km, mb3.4/3, mb1 3.7/11, mb1mx3.5/30, mbtmp3.6/11, ML3.5/8, MS2.8/1, Ms1 2.8/1, ms1mx2.2/32, Error ellipse: s-maj=28.9km s-min=11.3km az=33.0*
*NNC **10** 02:12:06.3±6.3, 59.′44N×61.′11E, h0km, mb4.1, mpv4.0, Error ellipse: s-maj=53.5km s-min=31.1km az=168.0*
ISC 10 02:11:55.1±1.1, **60.′15N**±0.′10×**60.′31E**±0.′08, **h10**km, **n18**, σ1‡**81**/19, **mb3.3**/3, **7C-3D, Ural Mountains region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRVK	**Borovoye**	**8.98**	**138**	⇑Pn	**Pn**	**02 14 07.4**	**+2.8**
	6.3nm,0.8s						
BRVK				⇑Sn	Sn	02 15 40.4	-5.3
	5.4nm,0.8s						
BVA0	**Borovoye Array**	**9.04**	**138**	⇑Pn	**Pn**	**02 14 07.8**	**+2.3**
	11nm,1.0s,baz=330,slow=15						
BVA0				⇓Sn	Sn	02 15 41.7	-5.5
	1.6nm,0.3s,baz=324,slow=26						
BVAR	**Borovoye Array**	**9.04**	**138**	Pn	**Pn**	**02 14 07.6**	**+2.1**
	2.1nm,0.3s,baz=329,slow=14,SNR=32						
BVAR				Sn	Sn	02 15 42.9	-4.4
	1.2nm,0.3s,baz=337,slow=24,SNR=6.1						
BVAR				Lg	Lg	02 16 45.9	
	baz=316,slow=28,SNR=2.5						
VOSK	**Vostochnaya**	**9.49**	**137**	⇑Pn	**Pn**	**02 14 13.4**	**+1.7**
	1.8nm,0.5s						
VOSK				⇑Sn	**Sn**	**02 15 54.4**	**-3.9**
	2.2nm,0.5s						
AKTO	**Aktyubinsk**	**9.82**	**189**	⇑Pn	**Pn**	**02 14 18.0**	**+1.8**
	2.4nm,0.9s						
AKTO				⇓Sn	**Sn**	**02 16 06.1**	**-0.4**
	5.6nm,1.1s						
AKTO	**Aktyubinsk**	**9.82**	**189**	Pn	**Pn**	**02 14 17.4**	**+1.2**
	0.3nm,0.3s,baz=349,slow=9.1,SNR=5.7						
AKTO				Sn	**Sn**	**02 16 06.3**	**-0.1**
	0.2nm,0.3s,baz=137,slow=18,SNR=4.6						
AKTO				Lg	Lg	02 17 07.1	
	0.2nm,0.3s,baz=136,slow=22,SNR=4.8						
AB31	**Akbulak array**	**10.92**	**181**	⇑Pn	**Pn**	**02 14 32.5**	**+1.3**
	0.6nm,0.3s,baz=14,slow=11,SNR=30						
AB31				⇓Sn	**Sn**	**02 16 31.2**	**-2.1**
	7.1nm,0.7s,baz=9.3,slow=22,SNR=5.5						
KURBB	**Kurchatov Arra**	**14.03**	**125**	Pn	**Pn**	**02 15 13.0**	**-0.7**
	0.2nm,0.3s,baz=324,slow=12,SNR=6.9						
ZALV	**Zalesovo Beam**	**14.66**	**104**	Pn	**Pn**	**02 15 23.0**	**+0.8**
	0.2nm,0.3s,baz=317,slow=12,SNR=2.3						
FINES	**FINESS Array B**	**16.64**	**289**	Pn	Pn	02 15 42.0	-6.0
	0.1nm,0.3s,baz=98,slow=14,SNR=6.6						
ARCES	**ARCESS Array B**	**17.25**	**317**	P	Pn	02 15 52.0	-3.6
	0.3nm,0.3s,baz=100,slow=14,SNR=5.5						
MKAR	**Makanchi Array**	**18.58**	**126**	P	**P**	**02 16 13.2**	**+1.1**
	0.1nm,0.3s,baz=324,slow=8.4,SNR=6.6						
KBZ	**Khabaz**	**19.53**	**220**	P	**P**	**02 16 22.0**	**-0.3**
	0.1nm,0.3s,baz=356,slow=14,SNR=3.3						
AAK	**Ala-Archa**	**19

SKR			*i* S	Sn	02 47 54.0	-11
SKR			A	A	02 48 16.0	
	166μm,4.0s					
SKR			AMS	AMS	02 48 52.0	
	87μm,14.0s					
PEA0B	**Petropavlovsk-**	**5.29 22**	*e*Pn	**Pn**	**02 48 10.3**	**+1.1**
PEA0B			*e*S	Sn	02 49 22.7	+14
PETK	**Petropavlovsk-**	**5.29 22**	PN	**Pn**	**02 48 10.5**	**+1.2**
PETK			S	**Sn**	**02 49 08.4**	**-0.5**
PETK	**Petropavlovsk-**	**5.29 22**	P	**Pn**	**02 48 10.5**	**+1.2**
PETK			S	**Sn**	**02 49 08.4**	**-0.5**
PETK	**Petropavlovsk-**	**5.29 22**	P	**Pn**	**02 48 10.5**	**+1.2**
	180nm,0.3s,baz=180,slow=12,SNR=698					
PETK			S	**Sn**	**02 49 08.4**	**-0.5**
	54nm,0.3s,baz=173,slow=16,SNR=2.4					
PETK			LR	LR	02 50 26.1	
	comp=Z,42μm,21.8s,baz=203,slow=40					
KUR	**Kuril'sk**	**5.39 238⇓**	*i*PN	**Pn**	**02 48 13.0**	**+2.4**
KUR			*i* S	**Sn**	**02 49 15.5**	**+4.3**
KUR			pmax	pmax		
	comp=N,514nm,0.7s					
KUR			pmax	pmax		
	comp=E,1μm,0.7s					
KUR			pmax	pmax		
	comp=Z,3μm,0.7s					
KUR			smax	smax		
	comp=N,4μm,1.6s					
KUR			smax	smax		
	comp=E,4μm,1.6s					
KUR			MLR	MLR		
	comp=N,21μm,14.0s					
KUR			MLR	MLR		
	comp=E,23μm,14.0s					
KUR			MLR	MLR		
	comp=Z,20μm,14.0s					
KUR	**Kuril'sk**	**5.39 238**	*i* P	**Pn**	**02 48 13.0**	**+2.4**
KUR			AMB	AMB	02 48 16.4	
	comp=Z,514nm,0.7s					
KUR			AMB	AMB	02 48 16.4	
	comp=Z,1μm,0.7s					
KUR			AMB	AMB	02 48 16.4	
	comp=Z,3μm,0.7s					
KUR			*i* S	**Sn**	**02 49 15.5**	**+4.3**
KUR			AMS	AMS	02 50 25.8	
	comp=Z,21μm,14.0s					
KUR			AMS	AMS	02 50 25.8	
	comp=Z,23μm,14.0s					
KUR			AMS	AMS	02 50 25.8	
	comp=Z,20μm,14.0s					
PET	**Petropavlovsk**	**5.49 28⇓**	*i*PN	**Pn**	**02 48 11.2**	**-0.7**
PET			*e*S	**Sn**	**02 49 13.3**	**-0.4**
PET			pmax	pmax		
	comp=Z,4μm,3.1s					
PET			pmax	pmax		
	comp=Z,978nm,0.9s					
PET			smax	smax		
	comp=N,10μm,0.7s					
PET			smax	smax		
	comp=E,10μm,0.6s					
PET			MLR	MLR		
	comp=Z,30μm,20.0s					
PET			MLR	MLR		
	comp=Z,27μm,18.0s					
PET	**Petropavlovsk**	**5.49 28**	*e*P	**Pn**	**02 48 11.3**	**-0.7**
YUK	**Yuzh-Kuril'sk**	**7.25 237**	*i* PN	**Pn**	**02 48 36.9**	**+0.8**
YUK			*i* S	**Sn**	**02 49 59.2**	**+2.2**
YUK			pmax	pmax		
	comp=N,459nm,0.5s					
YUK			pmax	pmax		
	comp=E,1μm,0.5s					
YUK			pmax	pmax		
	comp=Z,3μm,0.5s					
YUK			MLR	MLR		
	comp=Z,277μm,15.0s					
YUK	**Yuzh-Kuril'sk**	**7.25 237**	*i* P	**Pn**	**02 48 36.9**	**+0.8**
YUK			AMB	AMB	02 48 39.4	
	comp=Z,459nm,0.5s					
YUK			AMB	AMB	02 48 39.4	
	comp=Z,1μm,0.5s					
YUK			AMB	AMB	02 48 39.4	
	comp=Z,3μm,0.5s					
YUK			*i* S	**Sn**	**02 49 59.2**	**+2.2**
YUK			AMS	AMS	02 51 01.1	
	comp=Z,277μm,15.0s					
JRA	**Rausu**	**7.74 239**	P	**Pn**	**02 48 43.4**	**+0.7**
JRA			*e*S	**Sn**	**02 50 10.1**	**+1.3**
NEM2	**Nemuro 2**	**7.75 234**	⇑P	**Pn**	**02 48 40.5**	**-2.5**
NEM2			*e*S	**Sn**	**02 50 03.9**	**-5.4**
YSS	**Yuzh-Sakhalins**	**7.95 265κ**	*i*PN	Pn	02 48 50.0	+4.4
YSS			*e*S	**Sn**	**02 50 16.0**	**+2.0**
YSS			pmax	pmax		
	comp=N,2μm,1.0s					
YSS			pmax	pmax		
	comp=E,2μm,1.0s					
YSS			pmax	pmax		
	comp=Z,2μm,1.0s					
YSS			pmax	pmax		
	comp=Z,5μm,4.0s					
YSS			pmax	pmax		
	comp=E,6μm,5.0s					
YSS			MLR	MLR		
	comp=Z,42μm,17.0s					
YSS			MLR	MLR		
	comp=N,8μm,12.0s					
YSS			MLR	MLR		
	comp=E,39μm,18.0s					
YSS	**Yuzh-Sakhalins**	**7.95 265**	*i* P	Pn	02 48 50.0	+4.4
YSS			AMB	AMB	02 48 53.0	
	comp=E,2μm,1.0s					
YSS			AMB	AMB	02 48 53.0	
	comp=E,2μm,1.0s					
YSS			AMB	AMB	02 48 53.0	
	comp=E,2μm,1.0s					
YSS			AMB	AMB	02 48 54.0	
	comp=E,6μm,5.0s					
YSS			AMB	AMB	02 48 54.0	
	comp=E,5μm,5.0s					
YSS			*e*S	**Sn**	**02 50 16.0**	**+2.0**
YSS			AMS	AMS	02 51 40.0	
	comp=E,8μm,15.0s					
YSS			AMS	AMS	02 51 40.0	
	comp=E,39μm,15.0s					
YSS			AMS	AMS	02 51 40.0	
	comp=E,48μm,15.0s					
UGL	**Uglegorsk**	**8.18 280⇑**	*i*PN	Pn	02 48 52.6	+3.9
UGL			S	**Sn**	**02 50 22.0**	**+2.5**
UGL			pmax	pmax		
	comp=Z,1μm,0.6s					
UGL			pmax	pmax		
	comp=Z,4μm,1.0s					
UGL			smax	smax		
	comp=N,3μm,4.0s					
UGL			smax	smax		
	comp=E,6μm,4.0s					
UGL			smax	smax		
	comp=N,670nm,0.8s					
UGL			smax	smax		
	comp=E,590nm,0.6s					
UGL			MLR	MLR		
	comp=Z,81μm,18.0s					
UGL			MLR	MLR		
	comp=N,59μm,17.0s					
UGL			MLR	MLR		
	comp=E,154μm,20.0s					
UGL	**Uglegorsk**	**8.18 280**	*i* P	Pn	02 48 52.6	+3.9
UGL			AMB	AMB	02 48 53.5	
	comp=E,1μm,0.6s					
UGL			AMB	AMB	02 48 54.0	
	comp=E,4μm,1.0s					
UGL			*e*S	**Sn**	**02 50 22.0**	**+2.5**
UGL			A	A	02 50 27.0	
	comp=E,3μm,4.0s					
UGL			A	A	02 50 27.0	
	comp=E,6μm,4.0s					
UGL			A	A	02 50 30.5	
	comp=E,670nm,0.8s					
UGL			A	A	02 50 30.5	
	comp=E,590nm,0.8s					
UGL			AMS	AMS	02 52 04.0	
	comp=E,59μm,18.0s					
UGL			AMS	AMS	02 52 04.0	
	comp=E,54μm,18.0s					
UGL			AMS	AMS	02 52 04.0	
	comp=E,84μm,18.0s					
JNK	**Nakash**	**8.18 239**	P	**Pn**	**02 48 49.3**	**+0.5**
JTKR	**Abashiri--Toko**	**8.43 243**	⇑P	**Pn**	**02 48 53.4**	**+1.2**
JAK	**Akkeshi**	**8.57 236**	P	**Pn**	**02 48 51.9**	**-2.2**
JAK			*e*S	**Sn**	**02 50 24.1**	**-5.2**
JMP	**Maruseppu**	**8.74 245**	P	**Pn**	**02 48 58.5**	**+2.1**
JSE	**Soyaes**	**8.75 252**	P	Pn	02 49 00.1	+3.6
JAR	**Ashorobuto**	**8.90 240**	P	**Pn**	**02 48 58.5**	**-0.2**
JAR			*e*S	**Sn**	**02 50 39.2**	**+1.7**
OKH	**Okha**	**8.94 311**	*e*PN	Pn	02 49 03.0	+3.9
OKH			*e*S	**Sn**	**02 50 40.0**	**+1.8**
OKH			pmax	pmax		
	comp=Z,13μm,2.4s					
OKH			smax	smax		
	comp=Z,41μm,14.0s					
OKH	**Okha**	**8.94 311**	*e*P	Pn	02 49 03.0	+3.9
OKH			AMB	AMB	02 49 04.2	
	comp=Z,8μm,3.5s					
OKH			AMB	AMB	02 49 04.2	
	comp=Z,9μm,3.5s					
OKH			AMB	AMB	02 49 04.2	
	comp=Z,13μm,3.5s					
OKH			*e*S	**Sn**	**02 50 40.0**	**+1.8**
OKH			AMS	AMS	02 52 41.8	
	comp=Z,30μm,14.0s					
OKH			AMS	AMS	02 52 41.8	
	comp=Z,56μm,14.0s					
OKH			AMS	AMS	02 52 41.8	
	comp=Z,41μm,14.0s					
JWK2	**Keihoku**	**9.04 256**	P	Pn	02 49 05.9	+5.4
JOB	**Onbets**	**9.11 238**	P	**Pn**	**02 49 00.0**	**-1.5**
JOB			*e*S	**Sn**	**02 50 38.1**	**-4.5**
ASAJ	**Asahikawa**	**9.15 247**	P	**Pn**	**02 49 04.9**	**+2.9**
ASAJ			*e*S	Sn	02 50 53.4	+10
ASAJ	**Asahikawa**	**9.15 247**	*e*Pn	**Pn**	**02 49 04.9**	**+2.9**
ASAJ			S	Sn	02 50 54.1	+11
ASAJ	**Asahikawa**	**9.15 247**	P	**Pn**	**02 49 05.1**	**+3.1**
	comp=Z,68nm,0.3s,baz=78,slow=12,SNR=167					
ASAJ			S	Sn	02 50 54.1	+11
	baz=53,slow=20,SNR=2.2					
ASAJ			LR	LR	02 52 18.5	
	comp=Z,52μm,21.0s,baz=64,slow=36					
JKK2	**Kamakawa 2**	**9.18 246**	P	**Pn**	**02 49 04.6**	**+2.1**
JSS	**Shosan**	**9.47 251**	P	Pn	02 49 11.9	+5.5
JCH	**Churui**	**9.57 238**	P	**Pn**	**02 49 06.2**	**-1.5**
JCH			*e*S	**Sn**	**02 50 50.5**	**-3.1**
JAB	**Ashibetsu**	**9.70 245**	P	**Pn**	**02 49 11.5**	**+1.9**
JHR	**Hokuryu**	**9.88 247**	P	Pn	02 49 17.2	+5.2
JBT2	**Biratori 2**	**10.04 241**	P	**Pn**	**02 49 13.3**	**-0.9**
JEM	**Erimo**	**10.07 236**	P	**Pn**	**02 49 13.5**	**-1.1**
JEM			*e*S	**Sn**	**02 51 01.6**	**-4.4**
ERM	**Erimo**	**10.07 236**	Pn	**Pn**	**02 49 13.0**	**-1.6**
	comp=Z,6μm,0.5s,SNR=44					
ERM	**Erimo**	**10.07 236**	*e*PN	**Pn**	**02 49 13.6**	**-1.0**
ERM	**Erimo**	**10.07 236**	*e*P	**Pn**	**02 49 13.1**	**-1.6**
ERM	**Erimo**	**10.07 236**	*e*Pn	**Pn**	**02 49 13.6**	**-1.0**
ERM			*e*S	**Sn**	**02 51 07.8**	**+1.8**
JNBK	**Urakawa-nobuka**	**10.13 238**	P	**Pn**	**02 49 13.0**	**-2.4**
JEW	**Eniwo**	**10.54 244**	P	**Pn**	**02 49 21.8**	**+0.7**
JSK	**Shakotan**	**10.86 248**	P	**Pn**	**02 49 28.2**	**+2.9**
JKB	**Kayabe**	**11.37 241**	P	Pn	02 49 29.1	-3.2
JKB			*e*S	Sn	02 51 31.2	-6.4
JSH	**Shimam**	**11.51 246**	P	**Pn**	**02 49 33.8**	**-0.4**
JYM2	**Yakumo 2**	**11.62 243**	P	**Pn**	**02 49 34.9**	**-0.8**
JYM2			*e*S	**Sn**	**02 51 46.1**	**+2.4**
JSR	**Shiriuchi**	**11.95 241**	P	**Pn**	**02 49 37.6**	**-2.6**
JSR			*e*S	**Sn**	**02 51 48.0**	**-3.8**
JTM	**Tenmabayashi**	**12.06 237**	P	Pn	02 49 37.4	-4.4
JTM			*e*S	Sn	02 51 46.3	-8.3
JANG	**Nango**	**12.10 234**	P	Pn	02 49 36.6	-5.8
JANG			*e*S	Sn	02 51 43.3	-12
JOSM	**Okushiri--Mats**	**12.17 245**	P	**Pn**	**02 49 41.7**	**-1.6**
JTH	**Tanohata**	**12.23 232**	P	Pn	02 49 38.4	-5.7
JTH			*e*S	Sn	02 51 44.8	-14
FX1	**Attu Island--F**	**12.81 62**	*e*Pn	Pn	02 49 48.3	-3.6
FX1			S	Sn	02 51 57.1	-16
FX1			*e*S	Sn	02 51 58.8	-14
FX1	**Attu Island--F**	**12.81 62**	P	Pn	02 49 48.3	-3.6
	comp=Z,127nm,0.3s,baz=265,slow=4.5,SNR=383					
FX1			S	Sn	02 51 57.1	-16
	comp=Z,293nm,0.3s,baz=35,slow=16,SNR=14					
HABR	**Khabarovsk**	**12.84 278***c*	*i*PN	Pn	02 49 56.3	+4.0
HABR			*e*S	**Sn**	**02 52 16.2**	**+2.8**
HABR			pmax	pmax		
	comp=N,79nm,1.7s					
HABR			pmax	pmax		
	comp=E,621nm,1.7s					
HABR			pmax	pmax		
	comp=Z,808nm,1.7s					
HABR			MLR	MLR		
	comp=Z,36μm,18.0s					
OFUJ	**Ofunato**	**12.97 230**	P	Pn	02 49 48.0	-6.2
OFUJ			*e*S	Sn	02 52 03.7	-13
JRG	**Rokugo**	**13.27 233**	P	Pn	02 49 53.6	-4.7
SMY	**Shemya**	**13.33 63**	*e*PN	Pn	02 49 55.0	-4.0
SMY	**Shemya**	**13.33 63**	*e*Pn	Pn	02 49 55.0	-4.0
SMY			*e*S	Sn	02 52 13.9	-11
JIO	**Ouri**	**13.61 229**	P	Pn	02 49 56.6	-6.2
JIO			*e*S	Sn	02 52 18.9	-13
SEY	**Seymchan**	**14.74 356***ce*P		**Pn**	**02 50 17.4**	**-0.3**
SEY	**Seymchan**	**14.74 356**	*e*P	**Pn**	**02 50 17.4**	**-0.3**
KLR	**Kul'dur**	**14.94 282⇓**	*e*P	**Pn**	**02 50 19.8**	**-0.5**
KLR			pmax	pmax		
	comp=E,7μm,10.5s					
KLR			pmax	pmax		
	comp=Z,5μm,10.5s					
KLR			MLR	MLR		
	comp=N,21μm,14.5s					
KLR			MLR	MLR		
	comp=E,27μm,14.5s					
KLR			MLR	MLR		
	comp=Z,31μm,14.5s					
JFY	**Yanaizu**	**15.24 230**	P	**Pn**	**02 50 20.0**	**-4.3**
USRK	**Ussuriysk Arra**	**15.98 264**	P	**Pn**	**02 50 33.7**	**0.0**
	comp=Z,11nm,0.3s,baz=74,slow=8.7,SNR=156					
USRK			LR	LR	02 56 13.3	
	comp=Z,19μm,21.9s,baz=66,slow=35					
AMKA	**Amchitka**	**16.38 70**	*e*Pn	**Pn**	**02 50 38.7**	**+0.2**
AMKA			*e*S	Sn	02 53 21.4	-18
VLA	**Vladivostok**	**16.50 260***c*	*i*P	**Pn**	**02 50 39.6**	**-0.6**
VLA			*i* S	**Sn**	**02 53 40.2**	**-2.1**
VLA			pmax	pmax		
	comp=Z,662nm,0.7s					
VLA	**Vladivostok**	**16.50 260**	*e*P	**Pn**	**02 50 39.5**	**-0.6**
MJAR	**Matsushiro Arr**	**16.67 231**	P	**Pn**	**02 50 39.0**	**-3.5**
MJAR			ScP	**ScP**	**02 58 57.8**	**-0.4**
MJAR	**Matsushiro Arr**	**16.67 231**	P	**Pn**	**02 50 39.0**	**-3.5**
	comp=Z,8.0nm,0.3s,baz=27,slow=12,SNR=161					
MJAR			LR	LR	02 58 18.9	
	comp=Z,5μm,18.9s,baz=60,slow=41					
MJAR			ScP	**ScP**	**02 58 57.8**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=92,slow=0.7,SNR=12					
MDJ	**Mudanjiang**	**17.43 267**	P	**P**	**02 50 52.2**	**0.0**
MDJ			pP	**pP**	**02 51 03.9**	**-0.9**
MDJ			sP	**sP**	**02 51 10.7**	**-1.6**
MDJ			S	**Sn**	**02 54 02.4**	**-2.4**
MDJ			pmax	pmax		
	comp=Z,320nm,1.0s					
MDJ			pmax	pmax		
	comp=Z,6μm,7.5s					
MDJ			LR	LR		
	comp=N,8μm,35.5s					
MDJ			LR	LR		
	comp=E,11μm,28.0s					
MDJ			LR	LR		
	comp=Z,19μm,26.4s					
MDJ	**Mudanjiang**	**17.43 267**	*e*Pn	**Pn**	**02 50 51.8**	**+0.1**
	comp=Z,261nm,0.8s					
ADK	**Adak**	**18.88 68**	*e*P	**P**	**02 51 05.2**	**-2.9**
ADK			*e*S	S	02 54 30.0	-9.4
ADK			pmax	pmax		
	comp=Z,236nm,1.2s					
ADK	**Adak**	**18.88 68**	*e*Pn	**P**	**02 51 05.2**	**-2.9**
	comp=Z,236nm,1.2s					
ADK			*e*S	S	02 54 30.0	-9.4
YAK	**Yakutsk**	**19.54 324**	*e*P	**P**	**02 51 15.1**	**-0.2**
YAK			*e*S	**S**	**02 54 51.1**	**-1.5**
YAK			pmax	pmax		
	comp=Z,544nm,1.0s					
YAK			pmax	pmax		
	comp=N,217nm,1.2s					
YAK			pmax	pmax		
	comp=E,358nm,1.3s					
YAK			smax	smax		
	comp=N,179nm,1.4s					
YAK			smax	smax		
	comp=E,542nm,2.0s					
YAK	**Yakutsk**	**19.54 324**	*e*P	**P**	**02 51 14.8**	**-0.5**
CLNS	**Chul'man**	**19.73 307**	*e*P	**Pn**	**02 51 21.2**	**+1.9**
CLNS			pmax	pmax		
	comp=N,1μm,1.2s					
CLNS			pmax	pmax		
	comp=Z,1μm,1.0s					
CLNS			pmax	pmax		
	comp=E,792nm,1.1s					
CLNS			MLR	MLR		
	comp=E,21μm,19.0s					
CLNS			MLR	MLR		
	comp=Z,33μm,21.0s					
CLNS			MLR	MLR		
	comp=N,13μm,17.0s					
CN2	**Changchun**	**20.50 268**	⇑P	**P**	**02 51 23.5**	**-2.3**
CN2			*e*pP	**pP**	**02 51 35.4**	**-3.2**
CN2			*e*S	S	02 55 02.5	-9.2
CN2			pmax	pmax		
	comp=Z,1μm,0.8s					
CN2			pmax	pmax		
	comp=Z,3μm,9.0s					
CN2			LR	LR		
	comp=N,14μm,16.0s					
CN2			LR	LR		
	comp=E,8μm,16.0s					
CN2			LR	LR		
	comp=Z,15μm,16.0s					
KSRS	**Korea Array**	**22.07 250**	P	**P**	**02 51 42.9**	**+0.2**
	comp=Z,695nm,0.9s,baz=51,slow=10,SNR=327					
KSRS			PcP	**PcP**	**02 55 39.1**	**+0.8**
	comp=Z,10nm,0.7s,baz=332,slow=1.8,SNR=6.0					
KSRS			ScP	**ScP**	**02 59 11.2**	**+0.9**
	comp=Z,5.3nm,0.9s,baz=83,slow=0.3,SNR=7.0					
KSRS			LR	LR	02 59 57.2	
	comp=Z,18μm,18.4s,baz=56,slow=36					
KSAR	**Wonju Array Be**	**22.11 251**	P	**P**	**02 51 42.9**	**-0.2**
KSAR			PcP	**PcP**	**02 55 39.1**	**+0.7**
KSAR			ScP	**ScP**	**02 59 11.2**	**+0.8**
SNY	**Shenyang**	**22.57 265**	⇑P	**P**	**02 51 45.5**	**-2.6**
SNY			S	**S**	**02 55 47.0**	**-4.3**
SNY			pmax	pmax		
	comp=Z,58nm,1.0s					
SNY			pmax	pmax		
	comp=Z,2μm,10.0s					
SNY			LR	LR		
	comp=N,11μm,19.1s					
SNY			LR	LR		
	comp=E,11μm,17.6s					
SNY			LR	LR		
	comp=Z,13μm,23.5s					
HIA	**Hailar**	**22.72 286**	*e*P	**P**	**02 51 48.4**	**-1.2**
	comp=Z,138nm,0.9s					
HIA			LR	LR		
	comp=Z,31μm,20.0s					
INCN	**Inchon**	**22.87 252**	P	**P**	**02 51 51.2**	**-0.1**
	SNR=36					
INCN	**Inchon**	**22.87 252**	*e*P	**P**	**02 51 51.0**	**-0.3**
	comp=Z,404nm,0.8s					
INCN			LR	LR		
	comp=Z,16μm,19.0s					
CBIJ	**Chichi jima**	**23.17 209**	P	**P**	**02 51 53.6**	**-0.6**
CBIJ			S	**S**	**02 56 01.9**	**+0.6**
CBIJ	**Chichi jima**	**23.17 209**	P	**P**	**02 51 53.6**	**-0.6**
	comp=Z,284nm,0.8s,baz=74,slow=4.2,SNR=7.6					
CBIJ			S	**S**	**02 56 01.9**	**+0.6**
	comp=Z,59nm,0.6s,baz=281,slow=19,SNR=2.8					
CBIJ			LR	LR	02 59 12.6	
	comp=Z,4μm,20.0s,baz=16,slow=32					
JNU	**Nakatsue**	**23.23 238**	*e*P	**P**	**02 51 54.5**	**-0.3**
	comp=Z,96nm,1.1s					
JNU			ScP	**ScP**	**02 59 12.7**	**-0.8**
JNU	**Nakatsue**	**23.23 238**	P	**P**	**02 51 54.5**	**-0.3**
	comp=Z,158nm,0.9s,baz=36,slow=8.0,SNR=40					
JNU			ScP	**ScP**	**02 59 12.7**	**-0.8**
	comp=Z,9.8nm,1.0s,baz=48,slow=7.1,SNR=3.8					
JNU			LR	LR	03 01 14.5	
	comp=Z,6μm,19.8s,baz=38,slow=37					
DL2	**Dalian**	**25.32 261**	P	**P**	**02 52 13.0**	**-0.8**
DL2			S	**S**	**02 56 36.3**	**+0.7**
DL2			pmax	pmax		
	comp=Z,290nm,0.7s					
DL2			pmax	pmax		
	comp=Z,2μm,8.4s					
DL2			LR	LR		
	comp=N,3μm,18.5s					
DL2			LR	LR		
	comp=E,4μm,25.6s					
DL2			LR	LR		
	comp=Z,5μm,22.6s					
CIT	**Chita**	**26.17 294**	*e*P	**pP**	**02 52 34.4**	**-1.5**
CIT			*e*		02 52 59.2	
CIT			*e*		02 53 24.2	
CIT			pmax	pmax		
	comp=Z,218nm,2.4s					
TIXI	**Tiksi**	**26.27 342⇑**	*e*P	**P**	**02 52 20.4**	**-1.7**
TIXI			pmax	pmax		
	comp=Z,90nm,1.7s					
TNA	**Tin City**	**26.31 35**	*e*P	**P**	**02 52 23.7**	**+1.2**
	comp=Z,715nm,1.3s					
BJI	**Beijing**	**28.36 267**	P	**P**	**02 52 41.0**	**-0.1**
BJI			pP	**pP**	**02 52 53.7**	**-1.9**
BJI			sP	**sP**	**02 52 59.7**	**-2.9**
BJI			pmax	pmax		
	comp=Z,79nm,0.9s					
BJI			pmax	pmax		
	comp=Z,1μm,11.3s					
BJI			LR	LR		
	comp=N,4μm,17.5s					
BJI			LR	LR		
	comp=E,11μm,17.0s					
BJI			LR	LR		
	comp=Z,8μm,25.5s					
BJT	**Baijiatuau**	**28.37 267**	*e*P	**P**	**02 52 40.2**	**-1.1**
	comp=Z,60nm,0.6s					
BJT			LR	LR		
	comp=Z,8μm,20.0s					
JOW	**Kunigami**	**29.51 233**	*e*P	**P**	**02 52 50.6**	**-0.8**
	comp=Z,40nm,0.7s					
MIDW	**Midway**	**29.63 122**	PFAKE		02 53 10.0	+17
MIDW			LR	LR		
	comp=Z,11μm,20.0s					
TIA	**Tai'an**	**29.79 260**	⇑P	**P**	**02 52 53.6**	**-0.3**
TIA			S	**S**	**02 57 51.4**	**+5.3**
TIA			pmax	pmax		
	comp=Z,140nm,0.9s					
TIA			pmax	pmax		
	comp=Z,1μm,4.5s					
TIA			LR	LR		
	comp=N,6μm,16.7s					
TIA			LR	LR		
	comp=E,10μm,14.7s					
TIA			LR	LR		
	comp=Z,8μm,19.6s					
SSE	**Sheshan**	**30.44 248**	P	**P**	**02 53 00.8**	**+1.2**
SSE			pP	**pP**	**02 53 16.0**	**+1.8**
SSE			sP	**sP**	**02 53 23.2**	**+2.1**
SSE			S	**S**	**02 57 55.7**	**-0.6**
SSE			sS	**sS**	**02 58 24.9**	**+3.8**
SSE			pmax	pmax		
	comp=Z,62nm,1.0s					
SSE			pmax	pmax		
	comp=Z,860nm,5.5s					
SSE			LR	LR		
	comp=N,1μm,16.2s					
SSE			LR	LR		
	comp=E,6μm,16.3s					
SSE			LR	LR		
	comp=Z,8μm,16.4s					
WAKE	**Wake Island**	**30.58 157**	PFAKE		02 53 10.0	+9.0
WAKE			LR	LR		
	comp=Z,11μm,19.0s					
SVW2	**Sparrevohn**	**30.83 47**	*e*P	**P**	**02 53 03.6**	**+0.7**
	comp=Z,217nm,1.4s					
HHC	**Hu-ho-hao-te**	**31.05 272**	*e*P	**P**	**02 53 04.3**	**-0.8**
HHC			pP	**pP**	**02 53 18.5**	**-1.2**
HHC			sP	**sP**	**02 53 26.8**	**+0.2**
HHC			PcP	**PcP**	**02 56 00.2**	**+0.7**
HHC			S	**S**	**02 58 01.5**	**-4.5**
HHC			sS	**sS**	**02 58 27.7**	**-3.1**
HHC			SS	**SnSn**	**02 59 48.6**	**-2.9**
HHC			pmax	pmax		
	comp=Z,56nm,1.0s					
HHC			pmax	pmax		
	comp=Z,2μm,6.3s					
HHC			LR	LR		
	comp=N,17μm,19.0s					
HHC			LR	LR		

comp=E,22μm,20.2s
HHC LR LR
comp=Z,28μm,22.6s
ULN Ulaanbaatar 31.22 287 P **P** **02 53 07.1 +0.5**
SNR=15
ULN Ulaanbaatar 31.22 287 *e*P **P** **02 53 05.2 -1.4**
ULN Ulaanbaatar 31.22 287 *e*P **P** **02 53 05.2 -1.4**
ULN *e*PcP **PcP** **02 56 00.3 +0.4**
ULN *e*ScP **ScP** **02 59 37.9 +0.4**
ULN LR LR
comp=Z,25μm,19.0s
ULN Ulaanbaatar 31.22 287 P **P** **02 53 06.3 -0.3**
comp=Z,52nm,1.1s,comp=Z,1μm
NJ2 Nanjing 31.25 252 *e*P **P** **02 53 06.8 0.0**
NJ2 sP **sP** **02 53 23.5 -4.8**
NJ2 S **S** **02 58 14.3 +5.2**
NJ2 sS **sS** **02 58 38.7 +4.8**
NJ2 pmax pmax
comp=Z,98nm,0.9s
NJ2 pmax pmax
comp=Z,1μm,4.9s
NJ2 LR LR
comp=N,12μm,17.9s
NJ2 LR LR
comp=E,10μm,19.5s
NJ2 LR LR
comp=Z,15μm,19.5s
SONM Songino Array 31.65 288 P **P** **02 53 08.5 -1.8**
SONM PcP **PcP** **02 56 01.1 +0.1**
SONM ScP **ScP** **02 59 39.2 +0.2**
SONM *e* 03 24 45.5
SONM Songino Array 31.65 288 P **P** **02 53 08.5 -1.8**
comp=Z,38nm,0.8s,baz=69,slow=8.4,SNR=72
SONM PcP **PcP** **02 56 01.1 +0.1**
comp=Z,21nm,0.6s,baz=109,slow=2.5,SNR=12
SONM ScP **ScP** **02 59 39.2 +0.2**
comp=Z,10.0nm,0.8s,baz=105,slow=1.8,SNR=8.8
SONM LR LR 03 07 11.1
comp=Z,30μm,18.4s,baz=63,slow=39
SONM P3KPbc 03 24 45.5
comp=Z,1.8nm,0.8s,baz=241,slow=4.8,SNR=5.2
IM04 Indian Mountai 32.04 37 *e*P **P** **02 53 13.4 0.0**
IM04 *e*PcP **PcP** **02 56 03.0 +1.4**
TIY Taiyuan 32.06 267 *e*P **P** **02 53 14.5 +0.5**
TIY S **S** **02 58 20.0 -1.8**
TIY pmax pmax
comp=Z,220nm,1.0s
TIY pmax pmax
comp=Z,930nm,5.9s
TIY LR LR
comp=N,5μm,14.8s
TIY LR LR
comp=E,2μm,9.5s
TIY LR LR
comp=Z,12μm,21.8s
IMA2 Indian Mountai 32.09 37 *e*P **P** **02 53 14.3 +0.4**
IMA2 *e*PcP **PcP** **02 56 03.0 +1.2**
BTO Baotou 32.19 273 *e*P **P** **02 53 14.9 -0.2**
OHAK Old Harbor 32.19 54 *e*P **P** **02 53 13.2 -1.5**
comp=Z,486nm,1.7s
OHAK *e*PcP **PcP** **02 56 03.0 +0.9**
RSO Redoubt South 32.22 48 *e*P **P** **02 53 15.2 -0.1**
PPLA Purkeypile 32.48 43 *e*P **P** **02 53 18.2 +0.7**
comp=Z,636nm,1.4s
KDAK Kodiak Island 32.51 53 P **P** **02 53 16.6 -0.9**
comp=Z,532nm,0.8s,SNR=24
KDAK Kodiak Island 32.51 53 *e*P **P** **02 53 16.1 -1.4**
KDAK Kodiak Island 32.51 53 *e*P **P** **02 53 16.1 -1.4**
comp=Z,600nm,2.0s
KDAK PcP **PcP** **02 56 03.3 +0.4**
KDAK LR LR
comp=Z,13μm,22.0s
KDAK Kodiak Island 32.51 53 P **P** **02 53 16.3 -1.2**
comp=Z,42nm,0.6s,baz=309,slow=4.7,SNR=33
KDAK PcP **PcP** **02 56 03.3 +0.4**
comp=Z,24nm,0.7s,baz=219,slow=1.2,SNR=5.0
CAST Castle Rocks 32.54 42 *e*P **P** **02 53 18.7 +0.8**
comp=Z,130nm,1.0s
SPU Mount Spurr 32.54 46 *e*P **P** **02 53 18.4 +0.5**
ZAK Zakamensk 32.82 293 *e*P **P** **02 53 19.8 -0.8**
ZAK *e* 02 53 38.6
ZAK *e* 02 56 04.6
ZAK pmax pmax
comp=Z,37nm,1.0s
BPAW Bear Paw Mtn. 33.06 41 *e*P **P** **02 53 22.6 +0.2**
comp=Z,198nm,1.1s
BPAW *e*PcP **PcP** **02 56 04.5 +0.1**
TRF Thorofare Moun 33.35 42 *e*P **P** **02 53 24.8 -0.3**
comp=Z,200nm,1.0s
TRF *e*PcP **PcP** **02 56 02.1 -3.3**
COLD Coldfoot 33.61 35 *e*P **P** **02 53 27.9 +0.8**
comp=Z,133nm,0.8s
COLD *e*S **PcP** **02 56 07.4 +1.5**
MOY Mondy 33.85 296 *e*P **P** **02 53 29.5 0.0**
PMR Palmer 33.93 46 *e*P **P** **02 53 28.7 -1.2**
PMR *e* 02 56 07.1
PMR pmax pmax
comp=Z,70nm,0.9s
PMR Palmer 33.93 46 *e*P **P** **02 53 28.7 -1.2**
comp=Z,70nm,0.9s
PMR *e*PcP **PcP** **02 56 07.1 +0.2**
MCK McKinley 33.96 42 *e*P **P** **02 53 30.0 -0.2**
MCK pmax pmax
comp=Z,170nm,1.0s
MCK McKinley 33.96 42 *e*P **P** **02 53 30.0 -0.2**
comp=Z,170nm,1.0s
COLA College 34.43 40 *e*P **P** **02 53 35.0 +0.8**
COLA MLR MLR
comp=Z,3μm,20.0s
COLA College 34.43 40 *e*P **P** **02 53 34.4 +0.2**
COLA College 34.43 40 *e*P **P** **02 53 35.0 +0.8**
COLA LR LR
comp=Z,3μm,20.0s
TATO Taipei 34.74 240 *e*P **P** **02 53 37.6 +0.4**
comp=Z,126nm,1.1s
TATO LR LR
comp=Z,8μm,20.0s
ILAR Eielson Array 34.84 40 P **P** **02 53 37.8 0.0**
ILAR Eielson Array 34.84 40 P **P** **02 53 37.8 0.0**
comp=Z,59nm,0.9s,baz=259,slow=8.6,SNR=162
ILAR LR LR 03 09 44.5
comp=Z,3μm,18.7s,baz=167,slow=39
YHNB Yeheng 35.04 240 *e*P **P** **02 53 37.4 -2.5**
comp=Z,34nm,0.6s
YHNB LR LR
comp=Z,8μm,19.0s
WHN Wuhan 35.13 254 ⇑P **P** **02 53 40.4 -0.2**
WHN PcP **PcP** **02 56 11.5 +0.6**
WHN S **S** **02 59 05.4 -3.9**
WHN pmax pmax
comp=Z,3μm,4.4s
WHN LR LR
comp=N,5μm,14.4s
WHN LR LR
comp=E,9μm,14.0s
WHN LR LR
comp=Z,14μm,21.5s
NACB Ningancliao 35.30 239 *e*P **P** **02 53 40.1 -2.0**
comp=Z,46nm,0.6s
GUMO Guam 35.46 196 PFAKE 02 54 00.0 +17
GUMO LR LR
comp=Z,4μm,20.0s
MID Middleton Isla 35.53 49 *e*P **P** **02 53 44.0 +0.3**
MID pmax pmax
comp=Z,334nm,0.8s
MID Middleton Isla 35.53 49 *e*P **P** **02 53 44.0 +0.3**
comp=Z,334nm,0.8s
PAX Paxson 35.55 43 *e*P **P** **02 53 44.9 +0.9**
PAX pmax pmax
comp=Z,103nm,1.2s
PAX Paxson 35.55 43 *e*P **P** **02 53 44.9 +0.9**
comp=Z,103nm,1.2s
DIV Divide 35.59 46 *e*P **P** **02 53 44.3 0.0**
comp=Z,160nm,0.7s
SSLB Suanglung 35.96 239 *e*P **P** **02 53 46.4 -1.5**
comp=Z,23nm,0.6s
SSLB *e*PcP **PcP** **02 56 14.1 +0.6**
YULB Yu-li 36.07 238 *e*P **P** **02 53 48.4 -0.3**
comp=Z,65nm,0.7s
BMRM Bremner River 36.17 46 *e*P **P** **02 53 49.5 +0.3**
comp=Z,244nm,1.0s
BMRM *e*PcP **PcP** **02 56 14.7 +1.2**
RAGM Ragged Mountai 36.22 47 *e*P **P** **02 53 50.5 +0.9**
QZH Quanzhou 36.46 243 ⇑*i*P **P** **02 53 51.7 -0.3**
QZH S **S** **02 59 27.5 -2.2**
QZH pmax pmax
comp=Z,330nm,0.8s
QZH pmax pmax
comp=Z,4μm,4.0s
QZH LR LR
comp=N,5μm,16.0s
QZH LR LR
comp=E,5μm,15.7s
QZH LR LR
comp=Z,12μm,27.8s
XAN Xi'an 36.49 264 P **P** **02 53 51.4 -0.9**
XAN pP **pP** **02 54 07.1 0.0**
XAN sP **sP** **02 54 14.8 +0.9**
XAN PP **PnPn** **02 55 19.3 +2.9**
XAN PcS PcS 02 59 56.4 -6.5
XAN pmax pmax
comp=Z,50nm,0.9s
XAN pmax pmax
comp=Z,260nm,7.2s
XAN LR LR
comp=N,6μm,22.7s
XAN LR LR
comp=E,3μm,20.6s
XAN LR LR
comp=Z,3μm,21.6s
TPUB Ta-pu 36.53 239 *e*P **P** **02 53 52.5 -0.1**
comp=Z,211nm,0.8s
TWG Pinlang 36.65 238 *e*P **P** **02 53 53.3 -0.4**
comp=Z,682nm,0.8s
EGAK Eagle 37.29 40 *e*P **P** **02 53 58.4 -0.2**
comp=Z,403nm,1.0s
EGAK LR LR
comp=Z,6μm,19.0s
KRAR Krasnoyarsk 37.37 306 ⇓*i*P **P** **02 53 59.6 +0.2**
KRAR pmax pmax
comp=Z,97nm,1.2s
DAWY Dawson 38.14 41 *e*P **P** **02 54 06.3 +0.4**
HVS Khovu-Aksy 38.36 298 *d i*P **P** **02 54 07.9 -0.1**
HVS pmax pmax
comp=Z,218nm,0.7s
ENH Enshi 38.48 259 *e*P **P** **02 54 08.5 -0.6**
comp=Z,201nm,0.9s
ENH *e*PcP **PcP** **02 56 21.6 +0.5**
ENH LR LR
comp=Z,32nm,20.0s
LZH Lanzhou 38.69 271 *e*P **P** **02 54 11.6 +0.6**
LZH pP **pP** **02 54 26.3 +0.4**
LZH sP **sP** **02 54 33.6 +0.9**
LZH PcP **PcP** **02 56 24.1 +2.3**
LZH *e*S **S** **03 00 02.0 -1.7**
LZH pmax pmax
comp=Z,120nm,1.1s
LZH pmax pmax
comp=Z,500nm,4.3s
LZH LR LR
comp=N,5μm,14.2s
LZH LR LR
comp=E,5μm,14.3s
LZH LR LR
comp=Z,7μm,15.5s
GTA Gaotai 39.58 278 P **P** **02 54 17.7 -0.6**
GTA pP **pP** **02 54 32.6 -0.6**
GTA sP **sP** **02 54 39.3 -0.8**
GTA PP **PnPn** **02 55 54.5 +1.1**
GTA ScP **ScP** **03 00 08.2 +0.2**
GTA S **S** **03 00 14.6 -2.2**
GTA sS **sS** **03 00 41.0 -1.1**
GTA SS **SS** **03 03 03.8 -9.5**
GTA ScS **ScS** **03 04 20.0 -0.6**
GTA pmax pmax
comp=Z,750nm,6.1s
GTA LR LR
comp=N,10μm,18.8s
GTA LR LR
comp=E,16μm,16.3s
GTA LR LR
comp=Z,23μm,17.3s
HYT Haines Junctio 39.61 46 *e*P **P** **02 54 19.8 +1.5**
INK Inuvik 39.92 33 *e*P **P** **02 54 22.1 +1.5**
comp=Z,170nm,0.8s
INK pP **pP** **02 54 33.7 -1.8**
INK *e*PP **PnPn** **02 55 56.5 -0.3**
INK Inuvik 39.92 33 P **P** **02 54 22.1 +1.5**
comp=Z,124nm,0.7s,baz=291,slow=7.2,SNR=166
INK pP **pP** **02 54 33.7 -1.8**
comp=Z,86nm,0.8s,baz=299,slow=10,SNR=12
SKAG Skagway 41.01 47 *e*P **P** **02 54 31.3 +1.6**
comp=Z,297nm,1.6s
GZH Guangzhou 41.03 247 P P 02 54 25.0 -5.2
GZH S S 03 00 29.2 -9.2
GZH LR LR
comp=N,12μm,16.2s
GZH LR LR
comp=E,10μm,14.7s
GZH LR LR
comp=Z,20μm,16.9s
SIT Sitka 41.75 51 *e*P **P** **02 54 37.7 +1.9**
SIT pmax pmax
comp=Z,390nm,1.6s
SIT Sitka 41.75 51 *e*P **P** **02 54 37.7 +1.9**
comp=Z,390nm,1.6s
CD2 Chengdu 41.85 264 P **P** **02 54 36.8 -0.2**
CD2 pP **pP** **02 54 51.4 -0.6**
CD2 sP **sP** **02 54 58.4 -0.4**
CD2 PP **PP** **02 56 16.9 +2.3**
CD2 S **S** **03 00 48.6 -2.1**
CD2 sS **sS** **03 01 14.2 -1.8**
CD2 SS SS 03 03 50.5 -8.0
CD2 pmax pmax
comp=Z,160nm,0.8s
CD2 pmax pmax
comp=Z,2μm,7.9s
CD2 LR LR
comp=N,8μm,20.2s
CD2 LR LR
comp=Z,11μm,21.4s
ZAA0 Zalesovo Array 42.42 305 *e*P **P** **02 54 40.2 -1.1**
ZAA0 *e*PcP **PcP** **02 56 33.7 +0.4**
ZALV Zalesovo Beam 42.42 305 P **P** **02 54 40.1 -1.2**
ZALV 02 56 33.6
ZALV 03 04 37.3
ZALV Zalesovo Beam 42.42 305 P **P** **02 54 40.1 -1.2**
ZALV PcP **PcP** **02 56 33.5 +0.2**
ZALV ScP **ScP** **03 00 19.1 +0.4**
ZALV ScS **ScS** **03 04 37.2 +0.3**
ZALV Zalesovo Beam 42.42 305 P **P** **02 54 40.1 -1.2**
comp=Z,33nm,0.6s,baz=63,slow=6.9,SNR=65
ZALV PcP **PcP** **02 56 33.5 +0.2**
comp=Z,49nm,0.7s,baz=66,slow=3.4,SNR=14
ZALV ScP **ScP** **03 00 19.1 +0.4**
comp=Z,3.0nm,0.7s,baz=297,slow=0.3,SNR=3.1
ZALV ScS **ScS** **03 04 37.2 +0.3**
comp=Z,0.8nm,0.4s,baz=26,slow=12,SNR=3.9
ZALV LR LR 03 13 11.3
comp=Z,14μm,20.8s,baz=75,slow=37
GYA Guiyang 42.87 257 ⇑*i*P **P** **02 54 44.8 -0.6**
GYA pP **pP** **02 55 01.4 +0.9**
GYA sP **sP** **02 55 09.3 +2.0**
GYA PP **PP** **02 56 27.0 +1.3**
GYA PcP **PcP** **02 56 37.2 +1.7**
GYA ScP **ScP** **03 00 21.6 +0.4**
GYA S **S** **03 01 08.2 +2.4**
GYA sS **sS** **03 01 30.9 -0.4**
GYA SS SS 03 04 09.4 -9.3
GYA pmax pmax
comp=Z,500nm,0.9s
GYA pmax pmax
comp=Z,380nm,5.0s
GYA LR LR
comp=N,10μm,17.9s
GYA LR LR
comp=E,7μm,18.0s
GYA LR LR
comp=Z,9μm,17.6s
NVS Novosibirsk 42.95 307 ⇓*i*P **P** **02 54 44.2 -1.4**
NVS *i* 02 56 33.4
NVS *i* SS SS 03 04 38.7 +20
NVS *i* 03 04 59.8
NVS pmax pmax
comp=Z,109nm,1.7s
NVS pmax pmax
comp=N,63nm,2.0s
NVS pmax pmax
comp=E,106nm,2.0s
CRAG Craig 43.46 52 *e*P **P** **02 54 51.5 +1.9**
comp=E,74nm,1.1s
WRAK Wrangell Islan 43.51 51 *e*P **P** **02 54 52.1 +2.1**
comp=E,95nm,0.9s
WRAK LR LR
comp=Z,3μm,21.0s
DLBC Dease Lake 43.94 47 *e*P **P** **02 54 55.7 +2.1**
DLBC Dease Lake 43.94 47 P **P** **02 54 55.6 +2.1**
comp=Z,81nm,1.0s,baz=291,slow=9.2,SNR=80
WMQ Urumqi 45.17 290 P **P** **02 55 04.0 +0.4**
WMQ pP **pP** **02 55 19.5 +0.7**
WMQ sP **sP** **02 55 26.6 +1.1**
WMQ PcP **PcP** **02 56 44.0 +1.0**
WMQ PP **PP** **02 56 51.0 +1.1**
WMQ ScP **ScP** **03 00 30.1 -0.2**
WMQ S **S** **03 01 38.1 -0.8**
WMQ sS **sS** **03 02 05.0 +0.5**
WMQ ScS **ScS** **03 04 52.7 -2.1**
WMQ pmax pmax
comp=Z,89nm,0.8s
WMQ pmax pmax
comp=Z,780nm,8.0s
WMQ LR LR
comp=N,11μm,19.0s
WMQ LR LR
comp=E,8μm,22.3s
WMQ LR LR
comp=Z,12μm,22.3s
QIZ Qiongzhong 46.22 247 P **P** **02 55 13.4 +1.4**
QIZ pP **pP** **02 55 25.6 -1.6**
QIZ sP **sP** **02 55 31.4 -2.6**
QIZ S **S** **03 01 54.6 +0.3**
QIZ pmax pmax
comp=Z,46nm,1.1s
QIZ pmax pmax
comp=Z,1μm,14.8s
QIZ LR LR
comp=N,4μm,16.8s
QIZ LR LR
comp=E,2μm,15.7s
QIZ LR LR
comp=Z,7μm,15.6s
QIZ Qiongzhong 46.22 247 *e*P **P** **02 55 13.1 +1.1**
comp=Z,238nm,1.4s
QIZ LR LR
comp=Z,4μm,21.0s
KMI Kunming 46.35 259 ⇑P **P** **02 55 13.3 0.0**
KMI pP **pP** **02 55 28.2 -0.3**
KMI sP **sP** **02 55 36.4 +1.2**
KMI PcP **PcP** **02 56 49.1 +1.5**
KMI PP **PP** **02 57 02.7 -0.1**
KMI S **S** **03 01 54.7 -1.8**
KMI sS **sS** **03 02 20.4 -1.8**
KMI ScS **ScS** **03 05 00.9 -2.3**
KMI SS SS 03 05 13.3 -9.1
KMI pmax pmax
comp=Z,310nm,1.1s
KMI pmax pmax
comp=Z,2μm,4.7s
KMI LR LR
comp=N,4μm,16.0s
KMI LR LR
comp=E,3μm,17.4s
KMI LR LR
comp=Z,5μm,17.0s
KIP Kipapa 46.39 108 *de*P **P** **02 55 13.0 -0.4**
KIP pmax pmax
comp=Z,268nm,1.2s
KIP Kipapa 46.39 108 *e*P **P** **02 55 13.2 -0.2**
comp=Z,209nm,1.0s
KIP LR LR
comp=Z,10μm,20.0s
MK31 Makanchi Array 47.00 297 *e*P **P** **02 55 17.0 -0.9**
MK31 *e* 02 56 49.9
MK31 Makanchi Array 47.00 297 *e*P **P** **02 55 17.0 -0.9**
MK31 *e*PcP **PcP** **02 56 49.9 +0.6**
MKAR Makanchi Array 47.00 297 P **P** **02 55 16.2 -1.7**
MKAR *PP **pP** **02 55 30.7 -2.4**
MKAR 02 56 48.8
MKAR 03 05 06.0
MKAR Makanchi Array 47.00 297 *e*P **P** **02 55 16.1 -1.8**
MKAR Makanchi Array 47.00 297 P **P** **02 55 16.2 -1.7**
MKAR pP **pP** **02 55 30.7 -2.4**
MKAR PcP **PcP** **02 56 48.8 -0.5**
MKAR ScP **ScP** **03 00 37.6 -0.2**
MKAR ScS **ScS** **03 05 06.0 -0.6**
MKAR Makanchi Array 47.00 297 P **P** **02 55 16.2 -1.7**
comp=Z,80nm,0.8s,baz=67,slow=8.1,SNR=125
MKAR pP **pP** **02 55 30.7 -2.4**
comp=Z,26nm,0.8s,baz=68,slow=11,SNR=6.2
MKAR PcP **PcP** **02 56 48.8 -0.5**
comp=Z,20nm,0.7s,baz=54,slow=2.5,SNR=3.1
MKAR ScP **ScP** **03 00 37.6 -0.2**
comp=Z,7.5nm,0.9s,baz=35,slow=3.4,SNR=5.2
MKAR ScS **ScS** **03 05 06.0 -0.6**
comp=Z,5.0nm,1.0s,baz=60,slow=8.7,SNR=5.9
MKAR LR LR 03 16 44.6
comp=Z,18μm,18.8s,baz=44,slow=38
KURK Kurchatov 47.23 303 P **P** **02 55 18.5 -1.1**
KURK 02 56 50.4
KURK Kurchatov 47.23 303 P **P** **02 55 18.5 -1.1**
KURK PcP **PcP** **02 56 50.4 +0.4**
KURBB Kurchatov Arra 47.33 303 P **P** **02 55 18.5 -1.8**
comp=Z,168nm,0.7s,baz=66,slow=8.5,SNR=518
KURBB PcP **PcP** **02 56 50.4 +0.1**
comp=Z,36nm,0.7s,baz=64,slow=3.3,SNR=8.1
DAV Davao City (W) 47.76 220 PFAKE 02 55 40.0 +16
DAV LR LR
comp=Z,2μm,20.0s
ALE Alert 48.15 6 P **P** **02 55 25.1 -1.2**
comp=Z,434nm,1.0s,SNR=16
CTBH Cotabato--PC H 48.21 222 ⇓*i*P **P** **02 55 29.0 +1.5**
RES Resolute Bay 49.13 19 *e*P **P** **02 55 34.5 +0.6**
comp=Z,219nm,0.8s
RES Resolute Bay 49.13 19 P **P** **02 55 34.5 +0.6**
comp=Z,168nm,0.7s,baz=304,slow=6.3,SNR=33
RES LR LR 03 17 26.0
comp=Z,4μm,21.3s,baz=310,slow=37
YKW3 Yellowknife Ar 49.17 38 *e*P **P** **02 55 35.0 +0.6**
comp=Z,4.8nm,1.1s
YKA Yellowknife Ar 49.21 38 P **P** **02 55 35.4 +0.7**
YKA pP **pP** **02 55 48.1 -1.8**
YKA Yellowknife Ar 49.21 38 P **P** **02 55 35.3 +0.7**
comp=Z,123nm,0.9s,baz=298,slow=7.5,SNR=103
YKA pP **pP** **02 55 48.1 -1.8**
comp=Z,55nm,0.8s,baz=295,slow=7.1,SNR=9.8
TARA Tarawa 49.41 155 PFAKE 02 55 50.0 +13
TARA LR LR
comp=Z,12μm,21.0s
VOSK Vostochnaya 50.40 308 P **P** **02 55 43.1 -0.7**
VOSK pmax pmax
comp=Z,101nm,0.7s
BVA0 Borovoye Array 50.55 309 P **P** **02 55 44.4 -0.6**
BVA0 pmax pmax
comp=Z,140nm,0.7s
BVAR Borovoye Array 50.55 309 P **P** **02 55 43.3 -1.7**
BVAR 02 57 02.4
BVAR Borovoye Array 50.55 309 P **P** **02 55 43.3 -1.7**
BVAR PcP **PcP** **02 57 02.4 +0.4**
BVAR Borovoye Array 50.55 309 P **P** **02 55 43.3 -1.7**
comp=Z,112nm,0.5s,baz=62,slow=9.6,SNR=383
BVAR PcP **PcP** **02 57 02.4 +0.4**
comp=Z,53nm,0.6s,baz=71,slow=4.1,SNR=9.6
BRVK Borovoye 50.59 309 P **P** **02 55 45.0 -0.2**
comp=Z,2μm,0.6s,SNR=56
BRVK Borovoye 50.59 309 *e*P **P** **02 55 45.1 -0.2**
BRVK *e* 02 57 02.5
BRVK pmax pmax
comp=Z,159nm,0.6s
BRVK MLR MLR
comp=Z,21μm,19.0s
BRVK Borovoye 50.59 309 P **P** **02 55 44.5 -0.7**
SNR=31
BRVK Borovoye 50.59 309 *e*P **P** **02 55 44.1 -1.2**
BRVK Borovoye 50.59 309 *e*P **P** **02 55 45.1 -0.2**
comp=Z,159nm,0.6s
BRVK *e*PcP **PcP** **02 57 02.5 +0.4**
BRVK LR LR
comp=Z,21μm,19.0s
LSA Lhasa 51.03 273 P **P** **02 55 50.2 +0.7**
LSA S S 03 03 09.2 +6.4
LSA LR LR
comp=N,3μm,19.2s
LSA LR LR
comp=E,6μm,22.1s
LSA LR LR
comp=Z,8μm,25.0s

LSA	**Lhasa**	**51.03 273**	*e*P	**P**	**02 55 50.6 +1.1**
LSA			pmax	pmax	
	comp=Z,141nm,0.8s				
LSA			MLR	MLR	
	comp=Z,8μm,22.0s				
LSA	**Lhasa**	**51.03 273**	*e*P	**P**	**02 55 50.6 +1.1**
	comp=Z,141nm,0.8s				
LSA			LR	LR	
	comp=Z,8μm,22.0s				
KBS	**Kingsbay**	**51.13 351**	*e*P	**P**	**02 55 48.3 -0.6**
KBS			AMB	AMB	02 55 50.7
	comp=Z,56nm,0.8s				
KBS	**Kingsbay**	**51.13 351**	*ce*P	**P**	**02 55 48.5 -0.4**
KBS			pmax	pmax	
	comp=Z,33nm,0.7s				
KBS	**Kingsbay**	**51.13 351**	*e*P	**P**	**02 55 47.8 -1.1**
	comp=Z,30nm,0.6s				
KBS			LR	LR	
	comp=Z,5μm,22.0s				
CRAI	**Chiangrai**	**51.34 257**	P	**P**	**02 55 49.6 -1.7**
	comp=Z,137nm,1.0s,comp=Z,2μm				
SKNT	**Sakolnakorn**	**51.41 251**	P	**P**	**02 55 52.4 +0.5**
	comp=Z,166nm,1.6s,comp=Z,5μm				
UBPT	**Khong Chiam**	**51.76 248**	P	**P**	**02 55 55.8 +1.3**
	comp=Z,109nm,1.7s,comp=Z,3μm				
UBPT	**Khong Chiam**	**51.76 248**	P	**P**	**02 55 55.8 +1.3**
	comp=Z,109nm,1.7s,comp=Z,3μm				
PGC	**Sidney**	**51.90 57**	*e*P	**P**	**02 55 55.3 +0.2**
	comp=Z,14nm,1.6s				
KDM	**Kudat**	**52.04 230**	P	**P**	**02 55 57.7 +1.3**
AAA	**Alma-Ata**	**52.08 295**	*e*P	P	02 55 53.2 -3.4
AAA			*e*S	S	03 03 05.0 -11
AAA			pmax	pmax	
	comp=Z,900nm,10.4s				
AAA			smax	smax	
	comp=E,800nm,14.0s				
AAA			MLR	MLR	
	comp=Z,21μm,18.0s				
AAA	**Alma-Ata**	**52.08 295**	*e*P	**P**	**02 55 54.3 -2.3**
PAYA	**Payao**	**52.29 256**	P	**P**	**02 55 59.2 +0.8**
	comp=Z,138nm,0.8s,comp=Z,975nm				
NLWA	**Neilton Lookou**	**52.35 58**	*e*P	**P**	**02 55 58.5 -0.1**
	comp=Z,104nm,0.9s				
NLWA			LR	LR	
	comp=Z,3μm,22.0s				
CMAI	**Chiengmai2**	**52.41 257**	P	**P**	**02 55 59.9 +0.4**
	comp=Z,186nm,1.1s,comp=Z,2μm				
VDB	**Vedder Mountai**	**52.44 56**	P	**P**	**02 55 59.2 0.0**
MYLDM	**Lahad Datu**	**52.69 227**	P	P	02 56 05.0 +3.6
MYLDM	**Lahad Datu**	**52.69 227**	P	P	02 56 04.7 +3.4
	comp=Z,142nm,1.1s,comp=Z,3μm				
LOEI	**Loei**	**52.74 253**	P	**P**	**02 55 59.7 -2.0**
	comp=Z,112nm,0.8s,comp=Z,2μm				
JCW	**Jim Creek**	**53.00 56**	P	**P**	**02 56 03.6 +0.3**
ULHL	**Ulahol**	**53.09 295**	*i* P	**P**	**02 56 05.3 +1.0**
ULHL	**Ulahol**	**53.09 295**	P	**P**	**02 56 05.3 +1.0**
	SNR=9.4				
TKM2	**Tokmak 2**	**53.09 296**	*e*P	**P**	**02 56 03.3 -1.0**
TKM2			*e*		02 57 12.7
TKM2			pmax	pmax	
	comp=Z,33nm,0.8s				
TKM2			MLR	MLR	
	comp=Z,10μm,22.0s				
TKM2	**Tokmak 2**	**53.09 296**	P	**P**	**02 56 05.2 +0.9**
	SNR=24				
TKM2	**Tokmak 2**	**53.09 296**	*e*P	**P**	**02 56 03.2 -1.0**
	comp=Z,33nm,0.8s				
TKM2			*e*PcP	**PcP**	**02 57 12.7 +0.7**
TKM2			LR	LR	
	comp=Z,10μm,22.0s				
KKM	**Kota Kinabalu**	**53.09 230**	*e*P	**P**	**02 56 05.1 +0.6**
	comp=Z,53nm,1.1s				
KKM			LR	LR	
	comp=Z,2μm,21.0s				
KKM	**Kota Kinabalu**	**53.09 230**	P	**P**	**02 56 05.9 +1.4**
KKM	**Kota Kinabalu**	**53.09 230**	P	**P**	**02 56 07.4 +3.0**
	comp=Z,50nm,2.1s,comp=Z,2μm				
SHL	**Shillong**	**53.25 268**	*i* P	**P**	**02 56 05.0 -0.6**
SHL			*ex*	x	03 03 30.0
CHTO	**Chiang Mai**	**53.29 257**	*e*P	**P**	**02 56 06.5 +0.8**
CHTO			pmax	pmax	
	comp=Z,181nm,0.8s				
CHTO			MLR	MLR	
	comp=Z,6μm,19.0s				
CHTO	**Chiang Mai**	**53.29 257**	P	**P**	**02 56 06.8 +1.1**
	SNR=74				
CHTO	**Chiang Mai**	**53.29 257**	*e*P	**P**	**02 56 06.5 +0.8**
	comp=Z,181nm,0.8s				
CHTO			LR	LR	
	comp=Z,6μm,19.0s				
CHTO	**Chiang Mai**	**53.29 257**	P	**P**	**02 56 06.1 +0.4**
	comp=Z,295nm,1.2s,comp=Z,4μmcomp=Z,8μm				
CHTO	**Chiang Mai**	**53.29 257**	P	**P**	**02 56 06.1 +0.4**
	comp=Z,295nm,1.2s,comp=Z,4μm				
SVE	**Sverdlovsk**	**53.30 317**⇑	*i* P	**P**	**02 56 05.3 0.0**
SVE			*e*		02 57 10.3
SVE			*e*S	**S**	**03 03 33.4 +1.3**
SVE			pmax	pmax	
	comp=Z,60nm,0.8s				
SVE			MLR	MLR	
	comp=Z,8μm,22.0s				
SOKR	**Solikamsk**	**53.43 321**	*e*P	**P**	**02 56 06.7 +0.5**
SOKR			pmax	pmax	
	comp=Z,20nm,1.0s				
SOKR			MLR	MLR	
	comp=Z,8μm,23.0s				
CHAI	**Chaiyaphum**	**53.48 251**	P	**P**	**02 56 07.3 +0.2**
	comp=Z,74nm,0.9s,comp=Z,568nm				
CM31	**Chiang Mai Arr**	**53.55 256**	*e*P	**P**	**02 56 08.6 +0.9**
	comp=Z,87nm,0.7s				
CM31			*e*PcP	**PcP**	**02 57 15.0 +1.3**
CMAR	**Chiang Mai Arr**	**53.55 256**	PcP	**PcP**	**02 57 14.8 +1.1**
CMAR	**Chiang Mai Arr**	**53.55 256**	PcP	**PcP**	**02 57 14.8 +1.1**
	baz=21,slow=3.4				
USP	**Ospenovka**	**53.55 297**	*i* P	**P**	**02 56 06.6 -0.9**
USP	**Ospenovka**	**53.55 297**	P	**P**	**02 56 06.6 -0.9**
	SNR=62				
CHMS	**Chumysh**	**53.55 296**	*i* P	**P**	**02 56 08.3 +0.8**
CHMS	**Chumysh**	**53.55 296**	P	**P**	**02 56 08.3 +0.8**
	SNR=11				
PBKT	**Sadao Pong**	**53.62 253**	P	**P**	**02 56 08.7 +0.5**
	comp=Z,77nm,1.5s,comp=Z,2μm				
PBKT	**Sadao Pong**	**53.62 253**	P	**P**	**02 56 08.7 +0.5**
	comp=Z,77nm,1.5s,comp=Z,2μm				
KBK	**Karagaybulak**	**53.63 296**	*i* P	**P**	**02 56 09.1 +0.9**
KBK	**Karagaybulak**	**53.63 296**	P	**P**	**02 56 09.1 +0.9**
	SNR=20				
WAMI	**Wamena**	**53.71 199**	P	**P**	**02 56 11.0 +2.3**
	comp=Z,137nm,0.8s				
FRU	**Bishkek**	**53.73 296**	*e*P	**P**	**02 56 09.5 +0.7**
FRU			*e*		02 57 14.0
FRU			pmax	pmax	
	comp=Z,130nm,2.0s				
FRU			MLR	MLR	
	comp=Z,10μm,18.0s				
TSM	**Tawau**	**53.76 227**	P	**P**	**02 56 09.9 +0.7**
KZA	**Kyzart**	**53.79 295**	*i* P	**P**	**02 56 11.1 +1.5**
KZA	**Kyzart**	**53.79 295**	P	**P**	**02 56 11.1 +1.5**
	SNR=36				
TDL	**Tradedollar La**	**53.88 58**	P	**P**	**02 56 10.2 +0.3**
LON	**Longmire**	**53.88 58**	*e*P	**P**	**02 56 10.0 +0.2**
LON			pmax	pmax	
	comp=Z,45nm,1.0s				
LON	**Longmire**	**53.88 58**	*e*P	**P**	**02 56 09.9 +0.2**
	comp=Z,45nm,1.0s				
FL2	**Flat Top 2**	**53.89 59**	P	**P**	**02 56 10.3 +0.4**
AAK	**Ala-Archa**	**53.92 296**	P	**P**	**02 56 09.7 -0.6**
	comp=Z,329nm,0.7s,SNR=14				
AAK	**Ala-Archa**	**53.92 296**	*e*P	**P**	**02 56 09.6 -0.7**
AAK			pmax	pmax	
	comp=Z,49nm,0.8s				
AAK			MLR	MLR	
	comp=Z,11μm,20.0s				
AAK	**Ala-Archa**	**53.92 296**	P	**P**	**02 56 09.3 -1.0**
	SNR=22				
AAK	**Ala-Archa**	**53.92 296**	P	**P**	**02 56 09.8 -0.6**
	SNR=39				
AAK	**Ala-Archa**	**53.92 296**	*e*P	**P**	**02 56 09.2 -1.1**
AAK	**Ala-Archa**	**53.92 296**	*e*P	**P**	**02 56 09.6 -0.7**
	comp=Z,48nm,0.8s				
AAK			LR	LR	
	comp=Z,11μm,20.0s				
AAK	**Ala-Archa**	**53.92 296**	P	**P**	**02 56 09.3 -1.1**
	comp=Z,50nm,0.9s,baz=102,slow=6.6,SNR=37				
LBMI	**Labuha**	**53.99 214**	P	**P**	**02 56 11.0 +0.1**
	comp=Z,123nm,1.1s,comp=Z,2μm				

WPW	**White Pass**	**54.06 58**	P	**P**	**02 56 11.5 +0.3**
COR	**Corvallis**	**54.26 61**	*e*P	**P**	**02 56 12.6 +0.1**
COR			*e*		02 57 18.8
COR			pmax	pmax	
	comp=Z,237nm,1.4s				
COR	**Corvallis**	**54.26 61**	*e*P	**P**	**02 56 12.6 +0.1**
	comp=Z,237nm,1.4s				
COR			*e*PcP	**PcP**	**02 57 18.8 +2.7**
KMSI	**Cibinong**	**54.28 219**	P	**P**	**02 56 14.4 +1.5**
KMSI	**Cibinong**	**54.28 219**	P	**P**	**02 56 15.0 +2.1**
	comp=Z,250nm,0.9s				
EKS2	**Erkin-Say**	**54.33 296**	*e*P	**P**	**02 56 12.3 -1.0**
EKS2			*e*		02 57 16.7
EKS2			pmax	pmax	
	comp=Z,51nm,0.8s				
EKS2			MLR	MLR	
	comp=Z,10μm,21.0s				
EKS2	**Erkin-Say**	**54.33 296**	P	**P**	**02 56 12.4 -0.9**
	SNR=51				
EKS2	**Erkin-Say**	**54.33 296**	*e*P	**P**	**02 56 12.3 -0.9**
	comp=Z,51nm,0.8s				
EKS2			*e*PcP	**PcP**	**02 57 16.7 +0.1**
EKS2			LR	LR	
	comp=Z,10μm,21.0s				
B08A	**Colville Reser**	**54.34 55**	P	**P**	**02 56 13.3 +0.2**
NAC	**Naches**	**54.44 57**	P	**P**	**02 56 14.5 +0.6**
ARU	**Arti**	**54.47 317** *d* *i* P		**P**	**02 56 12.8 -1.1**
ARU			*PP	**pP**	**02 56 30.3 +0.9**
ARU			*SP	**sP**	**02 56 38.6 +2.5**
ARU					02 57 13.8
ARU					02 58 12.9
ARU			PPP	PPP	02 59 25.9
ARU			S	**S**	**03 03 47.9 -0.1**
ARU			pmax	pmax	
	comp=Z,119nm,0.9s				
ARU			MLR	MLR	
	comp=Z,8μm,23.0s				
ARU	**Arti**	**54.47 317**	P	**P**	**02 56 12.7 -1.1**
	comp=Z,1000nm,0.7s,SNR=24				
FAKI	**Fak Fak**	**54.50 207**	P	**P**	**02 56 14.3 -0.3**
	comp=Z,128nm,1.1s,comp=Z,2μm				
GTOI	**Gorontalo**	**54.63 220**	P	**P**	**02 56 15.7 +0.2**
	comp=Z,104nm,1.0s,comp=Z,3μm				
KEBM	**Edson Butte**	**54.65 63**	*e*P	**P**	**02 56 16.7 +1.2**
	comp=Z,323nm,1.5s				
KEBM			*e*PcP	**PcP**	**02 57 19.4 +1.7**
EDM	**Edmonton**	**54.66 47**	*e*P	**P**	**02 56 15.7 +0.3**
EDM	**Edmonton**	**54.66 47**	*e*P	**P**	**02 56 15.7 +0.3**
VLL	**Laurance Lake**	**54.69 59**	P	**P**	**02 56 16.6 +0.7**
AML	**Almayashu**	**54.69 296**	*i* P	**P**	**02 56 17.4 +1.2**
AML	**Almayashu**	**54.69 296**	P	**P**	**02 56 17.4 +1.2**
	SNR=14				
H04A	**Detroit Lake**	**54.85 60**	P	**P**	**02 56 17.4 +0.5**
TAPN	**Taplejung**	**54.85 273**	*e*P	**P**	**02 56 17.5 0.0**
	comp=Z,167nm,0.9s				
KSH	**Kashi**	**54.86 292**	P	P	02 56 21.5 +4.4
KSH			pP	pP	02 56 36.7 +4.0
KSH			PP	PP	02 58 26.6 +6.5
KSH			PcS	**PcS**	**03 01 19.8 +1.2**
KSH			S	**S**	**03 03 57.1 +3.2**
KSH			sS	sS	03 04 24.3 +4.1
KSH			pmax	pmax	
	comp=Z,31nm,1.2s				
KSH			pmax	pmax	
	comp=Z,570nm,6.7s				
KSH			LR	LR	
	comp=N,9μm,17.9s				
KSH			LR	LR	
	comp=E,6μm,16.6s				
KSH			LR	LR	
	comp=Z,15μm,23.8s				
VFP	**Flag Point**	**54.90 59**	P	**P**	**02 56 17.9 +0.5**
BROR	**Big Rock Looko**	**54.94 61**	P	**P**	**02 56 18.5 +1.0**
KBO	**Bosley Butte**	**55.10 64**	*e*P	**P**	**02 56 20.3 +1.5**
	comp=Z,431nm,1.5s				
DAG	**Danmarks Havn**	**55.16 358**⇑	*i* P	**P**	**02 56 16.6 -2.0**
DAG			pmax	pmax	
	comp=Z,14nm,0.9s				
DAG			MLR	MLR	
	comp=Z,3μm,24.0s				
DAG	**Danmarks Havn**	**55.16 358**⇑	*i* P	**P**	**02 56 16.6 -2.0**
	comp=Z,16nm,0.9s				
DAG					
	comp=Z,2μm,24.0s				
IRO	**Indian Ridge**	**55.21 61**	P	**P**	**02 56 20.4 +0.7**
MRSI	**Marisa**	**55.23 221**	P	**P**	**02 56 19.0 -0.9**
MRSI	**Marisa**	**55.23 221**	P	**P**	**02 56 21.8 +1.9**
	comp=Z,192nm,2.1s,comp=Z,4μm				
OD2	**Odessa Site #2**	**55.24 56**	P	**P**	**02 56 19.6 -0.1**
UTHA	**Uthaitani**	**55.35 253**	P	**P**	**02 56 21.7 +1.0**
	comp=Z,49nm,0.8s,comp=Z,394nm				
HAWA	**Hanford**	**55.37 57**	*e*P	**P**	**02 56 20.8 +0.2**
	comp=Z,68nm,0.9s				
HAWA			LR	LR	
	comp=Z,2μm,21.0s				
ODAN	**Odare**	**55.39 273**	*e*P	**P**	**02 56 21.7 +0.4**
	comp=Z,124nm,0.7s				
NEW	**Newport**	**55.60 54**	*e*P	**P**	**02 56 22.2 +0.1**
	comp=Z,279nm,1.7s				
NEW			PcP	**PcP**	**02 57 22.4 +1.2**
NEW			LR	LR	
	comp=Z,1μm,20.0s				
NEW	**Newport**	**55.60 54**	P	**P**	**02 56 22.1 -0.2**
	comp=Z,27nm,1.0s,baz=305,slow=7.3,SNR=50				
NEW			PcP	**PcP**	**02 57 22.4 +1.2**
	comp=Z,23nm,0.8s,baz=324,slow=8.6,SNR=4.7				
NEW	**Newport**	**55.60 54**	⇓P	**P**	**02 56 22.3 +0.1**
	baz=55,SNR=43				
NEW			⇑S	**S**	**03 04 04.6 +1.2**
	baz=55				
HUMO	**Hull Mountain**	**55.63 63**	*e*P	**P**	**02 56 23.4 +0.9**
	comp=Z,180nm,1.4s				
KULLO	**Kullorsuaq**	**55.63 10**	*i* P	**P**	**02 56 21.0 -1.0**
KULLO			pmax	pmax	
	comp=Z,150nm,0.8s				
KULLO			MLR	MLR	
	comp=Z,5μm,21.0s				
CHBT	**CHBT**	**55.64 249**	P	**P**	**02 56 24.1 +1.3**
	comp=Z,144nm,1.9s,comp=Z,3μm				
CHBT	**CHBT**	**55.64 249**	P	**P**	**02 56 24.1 +1.3**
	comp=Z,151nm,1.1s,comp=Z,3μm				
JIRN	**Jiri**	**55.66 274**	*e*P	**P**	**02 56 23.3 -0.1**
	comp=Z,352nm,0.8s				
GUN	**Gumba**	**55.71 275**	*e*P	**P**	**02 56 23.8 +0.2**
	comp=Z,139nm,0.6s				
KRMB	**Red Mountain**	**55.71 64**	*e*P	**P**	**02 56 24.3 +1.1**
	comp=Z,134nm,1.5s				
LVZ	**Lovozero**	**55.71 337** *de*P		**P**	**02 56 21.3 -1.4**
LVZ			pmax	pmax	
	comp=Z,133nm,2.5s				
RAMN	**Ramite**	**55.86 273**	*e*P	**P**	**02 56 24.6 0.0**
	comp=Z,409nm,0.8s				
KK31	**Karatay Array**	**56.01 299**	*i* P	**P**	**02 56 24.3 -0.9**
KK31			pmax	pmax	
	comp=Z,28nm,0.8s				
KKAR	**Karatay Array**	**56.01 299**	*e*P	**P**	**02 56 24.4 -0.8**
KKAR			pmax	pmax	
	comp=Z,17nm,0.7s				
KKAR	**Karatay Array**	**56.01 299**	*e*P	**P**	**02 56 24.4 -0.8**
	comp=Z,16nm,0.7s				
KKN	**Kakani**	**56.19 275**	*e*P	**P**	**02 56 27.3 +0.4**
	comp=Z,208nm,0.6s				
KHMM	**Horse Mountain**	**56.20 65**	*e*P	**P**	**02 56 28.0 +1.2**
	comp=Z,285nm,1.3s				
LUWI	**Luwuk**	**56.24 219**	P	**P**	**02 56 25.4 -1.7**
PKI	**Pulchoki**	**56.24 275**	*e*P	**P**	**02 56 27.7 +0.2**
	comp=Z,158nm,0.7s				
PKIN	**Phulchoki**	**56.25 275**	*e*P	**P**	**02 56 27.9 +0.5**
	comp=Z,111nm,0.7s				
APA	**Apatity**	**56.28 337**⇑	*i* P	**P**	**02 56 26.4 -0.3**
APA			*i*		02 57 25.0
APA			*i*		02 58 30.0
APA			*e*S	**S**	**03 04 09.0 -2.8**
APA			*e*PS	**PnS**	**03 04 37.0 +7.6**
APA			pmax	pmax	
	comp=Z,113nm,1.4s				
APA			MLR	MLR	
	comp=Z,11μm,18.0s				
YBH	**Yreka Blue Hor**	**56.30 63**	*e*P	**P**	**02 56 28.4 +1.0**
	comp=Z,227nm,1.4s				
DMN	**Daman**	**56.42 275**	*e*P	**P**	**02 56 29.1 +0.5**
	comp=Z,295nm,0.8s				
NLAI	**Namlea**	**56.54 213**	P	**P**	**02 56 28.8 -0.4**
	comp=Z,46nm,1.0s,comp=Z,3μm				
AAI	**Ambon**	**56.56 212**	P	**P**	**02 56 30.8 +1.4**
	comp=Z,155nm,1.3s,comp=Z,4μm				

APSI	**Ampana**	**56.60 220**	P	**P**	**02 56 27.9 -1.7**
APSI	**Ampana**	**56.60 220**	P	**P**	**02 56 29.5 -0.1**
	comp=Z,169nm,0.8s,comp=Z,2μm				
ARCES	**ARCESS Array B**	**56.70 341**	P	**P**	**02 56 28.4 -1.3**
ARCES			PcP	**PcP**	**02 57 25.5 +0.4**
ARCES	**ARCESS Array B**	**56.70 341**	P	**P**	**02 56 28.4 -1.3**
	comp=Z,13nm,0.8s,baz=30,slow=7.4,SNR=15				
ARCES			PcP	**PcP**	**02 57 25.5 +0.4**
	comp=Z,10nm,0.7s,baz=35,slow=4.9,SNR=4.3				
ARCES			LR	LR	03 24 50.1
	comp=Z,12μm,20.9s,baz=32,slow=40				
BNDI	**Bandanaira**	**56.76 210**	P	**P**	**02 56 31.5 +0.8**
	comp=Z,304nm,1.1s,comp=Z,5μm				
DANN	**Dangsing**	**56.83 277**	*e*P	**P**	**02 56 31.9 +0.3**
	comp=Z,468nm,0.7s				
WALA	**Waterton Lakes**	**56.83 52**	*e*P	**P**	**02 56 31.4 +0.3**
	comp=Z,15nm,1.6s				
TLE	**Tual**	**56.93 206**	P	**P**	**02 56 32.9 +1.0**
	comp=Z,104nm,2.1s				
KIPM	**Iron Peak**	**57.00 65**	*e*P	**P**	**02 56 33.5 +1.1**
	comp=Z,227nm,1.4s				
KIPM			*e*		02 56 46.4
KCPM	**Cahto Peak**	**57.02 66**	*e*P	**P**	**02 56 33.5 +0.9**
	comp=Z,156nm,1.4s				
KCPM			*e*		02 56 46.6
BSMT	**Bassoo Peak**	**57.10 53**	*e*P	**P**	**02 56 33.5 +0.4**
	comp=Z,225nm,1.5s				
WDC	**Whiskeytown Da**	**57.10 64**	*e*P	**P**	**02 56 33.3 +0.4**
WDC			pmax	pmax	
	comp=Z,162nm,1.4s				
WDC	**Whiskeytown Da**	**57.10 64**	*e*P	**P**	**02 56 33.3 +0.4**
	comp=Z,162nm,1.4s				
BTM	**Bintulu**	**57.13 232**	P	**P**	**02 56 33.6 +0.2**
BLMT	**Blacktail Moun**	**57.23 53**	*e*P	**P**	**02 56 34.8 +0.7**
	comp=Z,559nm,1.6s				
KOLN	**Koldanda**	**57.31 276**	*e*P	**P**	**02 56 35.8 +0.9**
	comp=Z,270nm,0.7s				
TMCR	**Tamitsa**	**57.39 332**	*e*P	**P**	**02 56 33.6 -1.0**
TMCR			pmax	pmax	
	comp=Z,156nm,1.3s				
JTMT	**Jette**	**57.43 53**	*e*P	**P**	**02 56 36.0 +0.6**
	comp=Z,51nm,0.9s				
PYUN	**Piuthan**	**57.50 277**	*e*P	**P**	**02 56 37.2 +1.0**
	comp=Z,761nm,0.9s				
YBMT	**Yellow Bay**	**57.51 53**	*e*P	**P**	**02 56 36.4 +0.5**
	comp=Z,241nm,1.8s				
BMO	**Blue Mountains**	**57.54 57**	*e*P	**P**	**02 56 36.7 +0.6**
	comp=Z,77nm,0.9s				
BMO			LR	LR	
	comp=Z,3μm,22.0s				
KTK1	**Kautokeino**	**57.61 341**	*e*P	**P**	**02 56 36.5 +0.4**
MOD	**Modoc**	**57.62 62**	*e*P	**P**	**02 56 37.7 +0.9**
	comp=Z,390nm,0.9s				
MOD			*e*PcP	**PcP**	**02 57 30.1 +0.6**
HNR	**Honiara**	**57.66 173**	LR	LR	03 18 01.9
	comp=Z,4μm,21.6s,baz=1.0,slow=32				
SWMT	**Swartz Lake**	**57.73 53**	*e*P	**P**	**02 56 38.0 +0.5**
	comp=Z,264nm,1.8s				
HOPS	**Hopland**	**57.76 66**	*e*P	**P**	**02 56 38.1 +0.5**
	comp=Z,249nm,1.8s				
PMG	**Port Moresby**	**57.77 188**	*e*P	**P**	**02 56 37.3 -0.5**
	comp=Z,62nm,0.9s				
PMG			LR	LR	
	comp=Z,3μm,22.0s				
PMG	**Port Moresby**	**57.77 188**	P	**P**	**02 56 37.7 -0.1**
	comp=Z,80nm,1.2s				
MMPI	**Merauke**	**57.82 196**	P	**P**	**02 56 39.0 +0.9**
	comp=Z,354nm,0.5s				
AB31	**Akbulak array**	**58.10 310**	*e*P	**P**	**02 56 39.5 -0.3**
AB31			pmax	pmax	
	comp=Z,70nm,0.6s				
ABKAR	**Akbulak array**	**58.10 310**	*e*P	**P**	**02 56 39.4 -0.4**
	comp=Z,70nm,0.6s				
SLMT	**Seeley Lake**	**58.17 53**	*e*P	**P**	**02 56 41.1 +0.6**
	comp=Z,414nm,1.5s				
MSO	**Missoula**	**58.18 54**	⇑P	**P**	**02 56 41.0 +0.3**
	baz=58,SNR=59				
SKSI	**Soroako, Sulaw**	**58.19 220**	P	**P**	**02 56 40.6 -0.3**
SKSI	**Soroako, Sulaw**	**58.19 220**	P	**P**	**02 56 42.1 +1.2**
	comp=Z,34nm,0.8s,comp=Z,7μm				
SBUM	**Sibu**	**58.22 232**	P	**P**	**02 56 42.7 +1.7**
SBUM	**Sibu**	**58.22 232**	P	**P**	**02 56 42.1 +1.1**
	comp=Z,56nm,0.9s,comp=Z,2μm				
WVOR	**Wild Horse Val**	**58.27 60**	*e*P	**P**	**02 56 42.2 +0.9**
WVOR			pmax	pmax	
	comp=Z,83nm,0.9s				
WVOR			MLR	MLR	
	comp=Z,3μm,22.0s				
WVOR	**Wild Horse Val**	**58.27 60**	*e*P	**P**	**02 56 42.2 +0.9**
	comp=Z,84nm,0.9s				
WVOR			LR	LR	
	comp=Z,3μm,22.0s				
AKTO	**Aktyubinsk**	**58.34 312**	P	**P**	**02 56 40.5 -1.1**
AKTO					02 57 32.1
AKTO	**Aktyubinsk**	**58.34 312**	P	**P**	**02 56 40.5 -1.1**
AKTO			PcP	**PcP**	**02 57 32.1 +0.2**
AKTO	**Aktyubinsk**	**58.34 312**	P	**P**	**02 56 40.5 -1.1**
	comp=Z,13nm,0.5s,baz=67,slow=8.3,SNR=29				
AKTO			PcP	**PcP**	**02 57 32.1 +0.2**
	comp=Z,26nm,0.8s,baz=10,slow=8.2,SNR=6.5				
LGTI	**Lohaghat**	**58.43 280**	*ex*	P	02 56 46.4 +4.0
CHMT	**Chamberlain Mo**	**58.50 53**	*e*P	**P**	**02 56 43.1 +0.2**
	comp=Z,47nm,1.0s				
BEKR	**Beckworth**	**58.85 64**	*e*P	**P**	**02 56 45.8 +0.3**
	comp=Z,38nm,0.9s				
BEKR			*e*PcP	**PcP**	**02 57 35.2 +0.9**
FFC	**Flin Flon**	**59.04 41**	P	**P**	**02 56 47.0 +0.7**
	comp=Z,901nm,0.9s,SNR=32				
FFC	**Flin Flon**	**59.04 41**	*e*P	**P**	**02 56 46.9 +0.7**
FFC			pmax	pmax	
	comp=Z,733nm,1.4s				
FFC			MLR	MLR	
	comp=Z,1μm,20.0s				
FFC	**Flin Flon**	**59.04 41**	*e*P	**P**	**02 56 46.9 +0.6**
	comp=Z,734nm,1.4s				
FFC			LR	LR	
	comp=Z,1μm,20.0s				
SUMG	**Summit**	**59.13 4**	*e*P	**P**	**02 56 47.1 0.0**
SUMG			*e*		02 58 54.6
SUMG			pmax	pmax	
	comp=Z,189nm,0.8s				
SUMG	**Summit**	**59.13 4**	*i* P	**P**	**02 56 46.9 -0.2**
	comp=Z,126nm,0.8s				
SUMG					
	comp=Z,3μm,18.0s				
SUMG	**Summit**	**59.13 4**	*e*P	**P**	**02 56 47.1 0.0**
	comp=Z,189nm,0.8s				
SUMG			*e*PP	**PP**	**02 58 54.6 -3.0**
DLH	**Dalhousie**	**59.21 286**	*e*P	**P**	**02 56 47.0 -1.1**
SDNR	**Sundarnagar**	**59.23 284**	*ex*	**P**	**02 56 47.0 -1.0**
KLMR	**Klimovskoe**	**59.24 329**	*e*P	**P**	**02 56 45.5 -2.1**
KLMR			*e**PP	**pP**	**02 57 04.0 +0.7**
KLMR			*e**SP	**sP**	**02 57 12.1 +2.2**
KLMR			*e*		02 57 34.1
KLMR			*e*		02 59 01.5
KLMR			PPP	PPP	03 00 23.2
KLMR			S	**S**	**03 04 52.5 +1.8**
KLMR			pmax	pmax	
	comp=Z,85nm,0.8s				
KLMR			MLR	MLR	
	comp=Z,10μm,18.0s				
MFID	**Camas Ranch**	**59.27 58**	⇑P	**P**	**02 56 48.8 +0.6**
	baz=59,SNR=69				
TTSI	**Tana Toraja**	**59.31 221**	P	**P**	**02 56 45.6 -3.0**
TTSI	**Tana Toraja**	**59.31 221**	P	**P**	**02 56 49.2 +0.6**
	comp=Z,26nm,0.9s,comp=Z,1μm				
SMLA	**Simla**	**59.35 284**	*i* P	**P**	**02 56 48.6 -0.1**
SMLA	**Simla**	**59.35 284**	*e*P	**P**	**02 56 48.6 -0.1**
HRY	**Holter Researc**	**59.39 53**	*e*P	**P**	**02 56 49.9 +0.9**
	comp=Z,350nm,1.4s				
MMSI	**Mamuju**	**59.

baz=59,SNR=36
LRM Limekiln Ridge 59.62 54 *e*P **P 02 56 51.1 +0.4**
comp=Z,3μm,1.5s
EGMT Eagleton 59.64 51 *e*P **P 02 56 51.0 +0.3**
EGMT comp=Z,535nm,1.7s LR LR
comp=Z,3μm,19.0s
EGMT Eagleton 59.64 51 ⇓P **P 02 56 51.1 +0.4**
baz=60,SNR=36
BHK Bhakra 59.65 284 *ex* **P 02 56 52.8 +1.9**
D17A Six Diamond Ra 59.71 52 ⇓P **P 02 56 51.9 +0.6**
baz=60,SNR=48
MTKI Muara Teweh, K 59.76 227 P **P 02 56 52.1 +0.4**
MTKI Muara Teweh, K 59.76 227 P **P 02 56 53.3 +1.6**
comp=Z,187nm,0.7s,comp=Z,9μm
B19A Brinkman Farms 59.78 50 ⇑P **P 02 56 52.1 +0.5**
baz=60
DLMT Dillon 59.83 55 *e*P **P 02 56 52.6 +0.5**
comp=Z,371nm,1.6s
HLID Hailey 59.97 57 *e*P **P 02 56 53.5 +0.4**
comp=Z,200nm,1.4s
HLID comp=Z,3μm,22.0s LR LR
HLID Hailey 59.97 57 ⇑P **P 02 56 53.9 +0.8**
baz=60,SNR=67
CMB Columbia Colle 59.99 65 *e*P **P 02 56 53.4 +0.2**
CMB *e* 02 57 39.2
CMB comp=Z,234nm,1.5s pmax pmax
CMB Columbia Colle 59.99 65 *e*P **P 02 56 53.4 +0.2**
comp=Z,234nm,1.5s
CMB *e*PcP **PcP 02 57 39.2 +0.4**
A20A Cobblestone Ra 60.03 49 ⇑P **P 02 56 54.0 +0.7**
baz=60,SNR=62
MCMT McKenzie Canyo 60.03 55 *e*P **P 02 56 53.6 0.0**
comp=Z,36nm,1.1s
KSM Kuching 60.06 233 *e*P **P 02 56 54.5 +0.7**
comp=Z,47nm,0.8s
KSM comp=Z,2μm,22.0s LR LR
KSM Kuching 60.06 233 P **P 02 56 55.7 +2.0**
KSM Kuching 60.06 233 P **P 02 56 55.9 +2.1**
comp=Z,84nm,1.1s,comp=Z,2μm
D18A Linhart Farms, 60.15 51 ⇑P **P 02 56 55.1 +0.9**
baz=60,SNR=25
SPSI Sidrap Palu 60.15 221 P **P 02 56 54.3 -0.1**
SPSI Sidrap Palu 60.15 221 P **P 02 56 55.9 +1.6**
comp=Z,65nm,1.2s,comp=Z,2μm
SAO San Andreas Ge 60.16 67 *e*P **P 02 56 54.4 +0.1**
SAO comp=Z,42nm,1.0s pmax pmax
SAO San Andreas Ge 60.16 67 *e*P **P 02 56 54.4 +0.1**
comp=Z,42nm,1.0s
BOZ Bozeman (W) 60.17 54 *e*P **P 02 56 55.2 +0.8**
BOZ comp=Z,537nm,1.6s pmax pmax
BOZ comp=Z,1μm,20.0s MLR MLR
BOZ Bozeman (W) 60.17 54 *e*P **P 02 56 55.2 +0.8**
comp=Z,537nm,1.6s
BOZ comp=Z,1μm,20.0s LR LR
C19A Slack Wire Ran 60.19 51 ⇓P **P 02 56 55.5 +1.1**
baz=60,SNR=64
B20A Solberg Farm, 60.27 49 ⇓P **P 02 56 55.4 +0.5**
baz=60,SNR=77
WAKR Walker 60.27 64 *e*P **P 02 56 55.7 +0.5**
comp=Z,83nm,0.8s
JOF Joensuu 60.35 334 *e*P **P 02 56 54.5 -0.6**
JOF comp=Z,31nm,0.6s pmax pmax
JOF Joensuu 60.35 334 *ep* **P 02 56 54.5 -0.6**
comp=Z,30nm,0.6s
BBSI Bau Bau 60.35 217 P **P 02 56 57.2 +1.5**
comp=Z,68nm,2.3s,comp=Z,2μm
BMN Battle Mountai 60.35 61 *e*P **P 02 56 56.5 +0.7**
BMN comp=Z,96nm,0.8s pmax pmax
BMN comp=Z,2μm,22.0s MLR MLR
BMN Battle Mountai 60.35 61 *e*P **P 02 56 56.5 +0.7**
comp=Z,96nm,0.8s
BMN comp=Z,2μm,22.0s LR LR
BNSI Bone 60.39 220 P **P 02 56 55.7 -0.3**
A21A Bergtoll Ranch 60.46 48 ⇓P **P 02 56 57.1 +0.9**
baz=60,SNR=63
SRIT Nakonsritamara 60.54 248 P **P 02 56 58.6 +1.5**
comp=Z,84nm,1.1s,comp=Z,2μm
STKI Sintang 60.62 231 P **P 02 56 58.9 +1.3**
comp=Z,147nm,0.8s,comp=Z,16μm
D19A Cripps Ranch, 60.65 51 ⇑P **P 02 56 58.2 +0.7**
baz=60,SNR=45
C20A Veseth Ranch, 60.74 50 ⇑P **P 02 56 59.2 +1.0**
baz=61,SNR=120
B21A Ellsworth Farm 60.78 49 ⇓P **P 02 56 59.1 +0.8**
baz=61
QLMT Earthquake Lak 60.80 54 *e*P **P 02 57 00.2 +1.3**
comp=Z,68nm,1.4s
NDI New Delhi 60.92 281 *e*P **P 02 56 57.0 -2.6**
NDI *ex* x 03 05 08.0
A22A Carney Farms, 60.96 48 ⇓P **P 02 57 00.3 +0.7**
baz=61,SNR=57
KTGM Kuala Trenggan 60.96 243 P **P 02 57 02.0 +2.0**
NVAR Mina Array Bea 61.00 64 P **P 02 57 00.7 +0.4**
NVAR pP **pP 02 57 13.6 -2.5**
NVAR PcP **PcP 02 57 43.9 +0.9**
NVAR Mina Array Bea 61.00 64 P **P 02 57 00.7 +0.4**
comp=Z,70nm,0.8s,baz=290,slow=7.4,SNR=494
NVAR pP **pP 02 57 13.6 -2.5**
comp=Z,31nm,1.1s,baz=238,slow=28,SNR=6.2
NVAR PcP **PcP 02 57 43.9 +0.9**
comp=Z,25nm,0.7s,baz=296,slow=4.9,SNR=5.3
SKLT Songkhla 61.02 246 P **P 02 57 01.8 +1.5**
comp=Z,82nm,1.0s,comp=Z,2μm
SKLT Songkhla 61.02 246 P **P 02 57 01.8 +1.5**
comp=Z,82nm,1.0s,comp=Z,2μm
F18A Big Timber 61.03 53 ⇓P **P 02 57 01.2 +1.0**
baz=61,SNR=89
D20A Manuel Ranch, 61.08 51 ⇑P **P 02 57 01.7 +1.3**
baz=61,SNR=108
NV11 Mina Array Sit 61.09 64 *e*P **P 02 57 01.0 +0.3**
KAPI Kappang 61.10 220 P **P 02 57 00.1 -0.7**
comp=Z,315nm,0.8s,SNR=6.5
KAPI Kappang 61.10 220 P **P 02 56 60.0 -0.8**
SNR=8.1
KAPI Kappang 61.10 220 *e*P **P 02 56 59.9 -0.8**
comp=Z,31nm,0.8s
KAPI comp=Z,1μm,21.0s LR LR
KAPI Kappang 61.10 220 P **P 02 56 59.4 -1.4**
KAPI Kappang 61.10 220 P **P 02 57 00.2 -0.6**
comp=Z,58nm,1.9s,comp=Z,2μm
GCMT Greycliff 61.13 53 *e*P **P 02 57 02.2 +1.3**
comp=Z,405nm,1.6s
C21A Desert Coulee 61.13 50 ⇑P **P 02 57 01.8 +1.0**
baz=61,SNR=62
E19A Rath Farm, Rou 61.16 52 ⇑P **P 02 57 02.1 +1.1**
baz=61,SNR=84
YMR Madison River 61.16 54 *e*P **P 02 57 02.1 +0.8**
comp=Z,567nm,1.5s
MLAC Mammoth Lakes 61.19 65 ⇓P **P 02 57 02.7 +1.1**
baz=61,SNR=8.9
BKSI Bulukumba 61.21 220 P **P 02 57 01.3 -0.3**
YNR Norris Junctio 61.29 54 *e*P **P 02 57 03.7 +1.6**
comp=Z,243nm,1.4s
ELK Elko 61.31 60 *e*P **P 02 57 03.0 +0.7**
comp=Z,58nm,0.9s
ILULI Ilulissat 61.34 10⇑*i*P **P 02 57 01.1 -0.7**
ILULI comp=Z,170nm,0.8s pmax pmax
ILULI comp=Z,4μm,20.0s MLR MLR
YFT Old Faithful 61.37 54 *e*P **P 02 57 04.7 +2.0**
comp=Z,237nm,1.2s
B22A Reddig Ranch S 61.38 49 ⇑P **P 02 57 03.2 +0.7**
baz=61,SNR=38
I16A Newdale 61.39 55 ⇓P **P 02 57 04.1 +1.4**
baz=61,SNR=19
E20A Meyer Farm, Mu 61.47 51 ⇑P **P 02 57 04.2 +1.0**
baz=61,SNR=45
F19A Roth Farm, Mol 61.47 52 ⇑P **P 02 57 04.0 +0.8**
baz=61,SNR=83
G18A Lazy EL Ranch, 61.49 53 ⇑P **P 02 57 03.9 +0.5**
baz=61,SNR=15
A23A Redstone 61.49 47 ⇓P **P 02 57 03.8 +0.6**
baz=61,SNR=15

SCO Scoresbysund 61.53 359 *i*P **P 02 57 03.2 +0.2**
SCO comp=Z,27nm,0.9s pmax pmax
SCO Scoresbysund 61.53 359 *i*P **P 02 57 03.2 +0.2**
comp=Z,27nm,0.9s
LKWY Lake 61.54 54 *e*P **P 02 57 06.1 +2.3**
LKWY comp=Z,131nm,1.0s pmax pmax
LKWY comp=Z,3μm,20.0s MLR MLR
LKWY Lake 61.54 54 *e*P **P 02 57 06.1 +2.3**
comp=Z,131nm,1.0s
LKWY comp=Z,3μm,20.0s LR LR
IMW Indian Meadow 61.68 55 *e*P **P 02 57 06.2 +1.4**
comp=Z,288nm,1.5s
D21A La Casta Ranch 61.69 50 ⇓P **P 02 57 05.5 +1.0**
baz=62,SNR=88
B23A Brockton 61.77 48 ⇓P **P 02 57 05.8 +0.7**
baz=62,SNR=54
RLMT Red Lodge 61.78 53 *e*P **P 02 57 06.6 +1.2**
comp=Z,512nm,1.4s
RLMT comp=Z,2μm,19.0s LR LR
C22A Vida 61.80 49 ⇑P **P 02 57 05.9 +0.6**
baz=62,SNR=62
RCTC Rector, Farmer 61.81 66 ⇑P **P 02 57 05.5 0.0**
baz=62,SNR=8.7
MOR8 Moi Rana 61.83 343 *e*P **P 02 57 02.9 -2.2**
MOR8 *ep*P pP 02 57 13.6 -7.3
RRI2 Red Ridge 61.83 56 *e*P **P 02 57 07.1 +1.2**
comp=Z,96nm,0.8s
H18A Shoshone NF, C 61.86 54 ⇓P **P 02 57 07.2 +1.2**
baz=62,SNR=36
I17A Pilgrim Ck. 61.86 55 ⇓P **P 02 57 07.9 +1.9**
baz=62,SNR=12
PKDT Phuket 61.87 249 P P 02 57 12.9 +6.8
comp=Z,73nm,1.0s,comp=Z,2μm
XMAS Kiritimati 61.87 122 *e*P **P 02 57 05.6 -0.5**
comp=Z,165nm,0.9s
XMAS comp=Z,4μm,21.0s LR LR
TPH Tonopah 61.88 63 PFAKE 02 57 20.0 +14
TPH comp=Z,2μm,22.0s LR LR
MOOW Moose Ponds 61.88 55 *e*P **P 02 57 07.2 +1.1**
comp=Z,370nm,1.7s
MOOW *e* 02 57 20.6
F20A Billings 61.92 52 ⇑P **P 02 57 07.1 +0.9**
baz=62,SNR=21
TIN Tinemaha 61.94 65 ⇑P **P 02 57 07.3 +0.8**
baz=62,SNR=12
TPAW Teton Pass 61.94 55 *e*P **P 02 57 07.9 +1.3**
comp=Z,505nm,1.5s
TPAW *e* 02 57 21.9
A24A Westby 61.95 47 ⇓P **P 02 57 06.9 +0.7**
baz=62,SNR=55
BBKI Banjar Baru 61.97 226 P **P 02 57 07.1 +0.4**
E21A Keefer Ranch, 61.99 51 ⇓P **P 02 57 07.9 +1.3**
baz=62,SNR=30
SMMC Simmler 61.99 67 ⇑P **P 02 57 07.3 +0.6**
baz=62,SNR=18
HVU Hansel Valley 62.04 58 *e*P **P 02 57 07.6 +0.4**
HVU comp=Z,81nm,1.1s pmax pmax
HVU Hansel Valley 62.04 58 *e*P **P 02 57 07.6 +0.4**
comp=Z,81nm,1.1s
D22A Cohagen 62.05 50 ⇓P **P 02 57 07.9 +0.9**
baz=62,SNR=50
LOHW Long Hollow 62.05 55 *e*P **P 02 57 08.6 +1.4**
comp=Z,487nm,1.6s
LOHW *e* 02 57 21.9
SNOW Snow King Moun 62.06 55 *e*P **P 02 57 08.9 +1.5**
comp=Z,422nm,1.5s
SNOW *e* 02 57 22.2
REDW Red Top Meadow 62.08 55 *e*P **P 02 57 08.8 +1.3**
comp=Z,516nm,1.5s
C23A Lambert 62.12 49 ⇓P **P 02 57 08.2 +0.8**
baz=62,SNR=26
DGMT Dagmar 62.16 48 *e*P **P 02 57 08.7 +1.0**
comp=Z,579nm,1.4s
DGMT *e* 02 57 21.2
DGMT LR LR
comp=Z,2μm,22.0s
DGMT Dagmar 62.16 48 ⇑P **P 02 57 08.2 +0.6**
baz=62,SNR=29
VES Vestal, Richgr 62.21 66 ⇑P **P 02 57 07.8 -0.4**
baz=62,SNR=19
H19A Powell 62.23 53 ⇓P **P 02 57 09.4 +1.1**
baz=62,SNR=22
G20A Bridger 62.27 52 ⇑P **P 02 57 09.0 +0.4**
baz=62,SNR=39
KBL Kabul 62.29 292 *e*P **P 02 57 07.7 -1.3**
KBL comp=Z,57nm,0.8s pmax pmax
KBL Kabul 62.29 292 *e*P **P 02 57 07.7 -1.3**
comp=Z,57nm,0.8s
AHID Auburn Hatcher 62.33 56 *e*P **P 02 57 09.2 +0.1**
comp=Z,62nm,1.1s
AHID *e* 02 57 22.8
LAO LASA Array 62.33 50 *e*P **P 02 57 09.7 +0.8**
comp=Z,884nm,1.7s
LAO *e* 02 57 22.9
LAO comp=Z,2μm,19.0s LR LR
A25A Svangstu Ranch 62.37 47 ⇓P **P 02 57 09.8 +0.7**
baz=62,SNR=28
PKM Peak Mountain 62.38 68 ⇓P **P 02 57 10.1 +0.6**
baz=62,SNR=33
KAF Kangasniemi 62.42 335 *e*P **P 02 57 07.5 -1.6**
KAF comp=Z,19nm,0.5s pmax pmax
KAF Kangasniemi 62.42 335 *ep* **P 02 57 07.5 -1.6**
comp=Z,19nm,0.5s
I18A Diamond G Ranc 62.42 54 ⇓P **P 02 57 11.1 +1.3**
baz=62,SNR=25
CWC Cottonwood Cre 62.43 65 ⇓P **P 02 57 10.2 +0.4**
baz=62,SNR=24
F21A Absaloka Mine, 62.45 51 ⇓P **P 02 57 10.4 +0.7**
baz=62,SNR=11
BGU Big Grassy Mou 62.46 59 *e*P **P 02 57 10.5 +0.5**
comp=Z,273nm,1.9s
KULM Kulim 62.48 245 *e*P **P 02 57 10.6 +0.5**
comp=Z,66nm,0.8s
KULM comp=Z,3μm,22.0s LR LR
KULM Kulim 62.48 245 P **P 02 57 12.0 +1.8**
KULM Kulim 62.48 245 P **P 02 57 11.1 +0.9**
comp=Z,101nm,0.8s,comp=Z,2μm
GRAC Grapevine Rang 62.49 64 ⇓P **P 02 57 10.9 +0.8**
baz=62,SNR=33
SPUT South Promonto 62.54 58 *e*P **P 02 57 11.2 +0.8**
comp=Z,369nm,1.6s
E22A Miles City 62.64 50 ⇓P **P 02 57 11.8 +0.9**
baz=62,SNR=58
I19A Meeetse 62.64 54 ⇓P **P 02 57 12.3 +1.1**
baz=62,SNR=26
R11A Troy Canyon, C 62.67 62 *e*P **P 02 57 11.5 +0.1**
R11A *e* 02 57 25.1
R11A Troy Canyon, C 62.67 62 ⇓P **P 02 57 11.8 +0.4**
baz=62,SNR=189
C24A Savage 62.68 48 ⇑P **P 02 57 12.0 +0.9**
baz=62,SNR=17
ISA Isabella 62.70 66 *e*P **P 02 57 10.4 -1.1**
ISA comp=Z,36nm,0.9s pmax pmax
ISA Isabella 62.70 66 *e*P **P 02 57 10.4 -1.1**
comp=Z,36nm,0.9s
ISA Isabella 62.70 66 ⇓P **P 02 57 10.8 -0.7**
baz=63,SNR=31
COEN Coen 62.74 192 *e*P **P 02 57 11.4 -0.3**
comp=Z,564nm,1.0s
SBC Santa Barbara 62.74 68 ⇑P **P 02 57 12.2 +0.5**
baz=63,SNR=6.4
B25A Knox Farm, Ray 62.80 47 ⇓P **P 02 57 12.9 +0.9**
baz=63,SNR=13
G21A Lodge Grass 62.80 52 ⇓P **P 02 57 12.4 +0.3**
baz=63,SNR=13
ARVC Arvin 62.83 67 ⇓P **P 02 57 11.9 -0.4**
baz=63,SNR=11
HWUT Hardware Ranch 62.84 57 *e*P **P 02 57 13.1 +0.6**
comp=Z,625nm,1.9s
HWUT *e* 02 57 26.6
HWUT LR LR
comp=Z,2μm,21.0s
H20A Greybull 62.88 53 ⇑P **P 02 57 12.8 +0.2**
baz=63

IPM Ipoh 62.90 244 *e*P **P 02 57 12.9 -0.1**
comp=Z,35nm,0.8s
IPM Ipoh 62.90 244 P **P 02 57 14.0 +1.1**
IPM Ipoh 62.90 244 P **P 02 57 13.3 +0.3**
comp=Z,48nm,1.3s,comp=Z,1μm
A26A Wade Farm, Ken 62.92 46 ⇑P **P 02 57 13.0 +0.3**
baz=63,SNR=19
F22A Rosebud 62.93 51 ⇓P **P 02 57 13.6 +0.8**
baz=63,SNR=68
E23A Ismay 62.93 50 ⇓P **P 02 57 13.9 +1.0**
baz=63,SNR=87
D24A Glendive 63.01 49 ⇑P **P 02 57 14.4 +1.1**
baz=63
FIA1 FINESS Array S 63.02 335 *e*P **P 02 57 11.6 -1.5**
FINES FINESS Array B 63.02 335 P **P 02 57 11.9 -1.3**
FINES ⇑*e* 03 26 15.9
FINES FINESS Array B 63.02 335 P **P 02 57 11.9 -1.3**
comp=Z,53nm,0.6s,baz=36,slow=7.3,SNR=106
FINES PKP2bc 03 26 15.9
comp=Z,2.5nm,0.8s,baz=211,slow=1.6,SNR=4.0
FINES LR LR 03 27 10.0
comp=Z,9μm,21.4s,baz=33,slow=38
MPMC Manual Prospec 63.04 65 ⇓P **P 02 57 14.2 +0.3**
baz=63,SNR=56
DUG Dugway 63.07 59 *e*P **P 02 57 14.7 +0.7**
comp=Z,308nm,1.4s
DUG LR LR
comp=Z,2μm,21.0s
DUG Dugway 63.07 59 ⇓P **P 02 57 14.8 +0.9**
baz=63,SNR=127
PUL Pulkovo 63.10 332⇑*e*P **P 02 57 12.5 -1.1**
PUL pmax pmax
comp=Z,62nm,0.4s
J19A Crowheart 63.12 54 ⇓P **P 02 57 15.4 +1.1**
baz=63,SNR=42
C25A Freed Ranch, W 63.14 48 ⇑P **P 02 57 15.1 +0.9**
baz=63,SNR=24
FURC Furnace Creek, 63.15 65 ⇓P **P 02 57 14.9 +0.6**
baz=63,SNR=100
I20A Worland 63.17 53 ⇑P **P 02 57 15.7 +1.1**
baz=63,SNR=50
B26A Jensen Ranch, 63.18 47 ⇓P **P 02 57 15.4 +0.9**
baz=63
BW06 Boulder Array 63.18 55 *e*P **P 02 57 15.2 +0.4**
comp=Z,462nm,1.5s
BW06 *e* 02 57 28.6
BW06 LR LR
comp=Z,1μm,21.0s
PDAR Pinedale Array 63.18 55 P **P 02 57 15.3 +0.5**
PDAR pP **pP 02 57 28.4 -2.3**
PDAR P'P' 03 26 11.8
PDAR Pinedale Array 63.18 55 P **P 02 57 15.3 +0.5**
comp=Z,52nm,0.9s,baz=295,slow=1.9,SNR=264
PDAR pP **pP 02 57 28.4 -2.3**
comp=Z,104nm,0.9s,baz=307,slow=1.4,SNR=22
PDAR LR LR 03 25 45.1
comp=Z,872nm,20.9s,baz=336,slow=37
PDAR PKPPKP P'P'df 03 26 11.8 -5.4
comp=Z,1.8nm,1.0s,baz=114,slow=4.4,SNR=5.2
OSI Osito Adit 63.24 67 *e*P **P 02 57 15.6 +0.5**
comp=Z,124nm,0.8s
OSI Osito Adit 63.24 67 ⇓P **P 02 57 15.5 +0.4**
baz=63,SNR=13
A27A Ledoux Ranch, 63.26 46 ⇓P **P 02 57 15.9 +0.9**
baz=63,SNR=47
G22A Birney 63.28 51 ⇑P **P 02 57 15.9 +0.6**
baz=63,SNR=33
H21A Big Horn, Sher 63.29 52 ⇓P **P 02 57 16.1 +0.7**
baz=63,SNR=115
LRMC Laurel Mountai 63.30 66 ⇑P **P 02 57 15.6 0.0**
baz=63,SNR=21
BLG Laguna Peak 63.36 68 ⇑P **P 02 57 15.6 -0.2**
baz=63,SNR=11
MYKOM Kota Tinggi 63.39 240 P **P 02 57 17.7 +1.5**
comp=Z,55nm,1.3s,comp=Z,2μm
E24A Baker 63.40 49 ⇓P **P 02 57 16.6 +0.7**
baz=63,SNR=9.5
F23A Volborg 63.41 50 ⇑P **P 02 57 16.7 +0.7**
baz=63,SNR=48
M17A Scullys Gap (B 63.43 57 ⇑P **P 02 57 16.9 +0.4**
baz=63,SNR=38
L18A Fontenelle, Gr 63.48 56 ⇑P **P 02 57 17.5 +0.7**
baz=63,SNR=31
D25A Fairfield 63.49 48 ⇑P **P 02 57 17.3 +0.8**
baz=63,SNR=9.9
SFJD Kangerlussuaq 63.51 11⇑*i*P **P 02 57 15.6 -0.6**
SFJD comp=Z,88nm,0.8s
comp=Z,3μm,19.0s
SFJD Kangerlussuaq 63.51 11 *e*P **P 02 57 15.8 -0.4**
comp=Z,144nm,0.9s
SFJD LR LR
comp=Z,5μm,20.0s
EDW2 Edwards Air Fo 63.51 67 ⇓P **P 02 57 17.2 +0.3**
baz=63,SNR=76
KGM Kluang 63.52 240 P **P 02 57 18.9 +1.9**
K19A Absolon Red Bu 63.53 55 ⇑P **P 02 57 17.0 -0.1**
baz=63,SNR=34
JLU Jordanelle 63.57 58 *e*P **P 02 57 17.9 +0.5**
comp=Z,440nm,1.7s
J20A Shoshoni 63.59 54 ⇑P **P 02 57 18.3 +0.9**
baz=63,SNR=60
C26A Wahner Farm, P 63.63 47 ⇑P **P 02 57 18.4 +1.0**
baz=63,SNR=8.4
B27A Peters Farms, 63.63 46 ⇑P **P 02 57 18.3 +0.9**
baz=63,SNR=15
NLU North Lily Min 63.65 59 *e*P **P 02 57 18.6 +0.6**
comp=Z,180nm,1.2s
MOS Moscow 63.66 326 *e*P P 02 57 26.4 +9.0
MOS *e* 02 57 47.7
MOS *i*SS SS 03 10 02.9 +8.6
MOS pmax pmax
comp=Z,45nm,1.0s
MOS MLR MLR
comp=N,4μm,20.0s
MOS MLR MLR
comp=E,4μm,20.0s
MOS MLR MLR
comp=Z,6μm,20.0s
H22A Clearmont 63.68 52 ⇑P **P 02 57 18.4 +0.5**
baz=64,SNR=15
I21A Big Trails, Te 63.71 53 ⇓P **P 02 57 18.7 +0.5**
baz=64,SNR=75
DECC Green Verdugo 63.72 67 ⇑P **P 02 57 18.4 +0.2**
baz=64,SNR=8.0
L19A Farson 63.74 56 ⇑P **P 02 57 18.9 +0.4**
baz=64
A28A Rude Farm, Bot 63.76 45 ⇑P **P 02 57 19.0 +0.8**
baz=64,SNR=23
G23A Biddle 63.77 51 ⇑P **P 02 57 18.8 +0.4**
baz=64,SNR=38
DAU Daniels Canyon 63.81 58 *e*P **P 02 57 19.8 +0.7**
comp=Z,543nm,1.8s
F24A Ekalaka 63.81 50 ⇓P **P 02 57 19.3 +0.6**
baz=64,SNR=31
MPU Maple Canyon 63.86 59 *e*P **P 02 57 20.1 +0.8**
comp=Z,519nm,1.7s
PASC Pasadena Art C 63.87 67 *e*P **P 02 57 19.0 -0.2**
comp=Z,43nm,0.8s
PASC *e* 02 57 32.2
SHOC Shoshone 63.88 65 ⇓P **P 02 57 19.5 +0.3**
baz=64,SNR=38
E25A Miller Ranch, 63.89 49 ⇓P **P 02 57 19.8 +0.5**
baz=64,SNR=7.8
MWC Mount Wilson 63.91 67 *e*P **P 02 57 19.8 +0.1**
comp=Z,339nm,1.4s
MWC *e* 02 57 32.9
K20A Yellowstone Ra 63.92 55 ⇓P **P 02 57 19.4 -0.2**
baz=64,SNR=43
J21A Lysite 63.94 53 ⇑P **P 02 57 20.2 +0.4**
baz=64,SNR=27
GSC Goldstone 63.96 66 *e*P **P 02 57 20.0 +0.2**
comp=Z,63nm,0.9s
GSC Goldstone 63.96 66 ⇓P **P 02 57 20.0 +0.2**
baz=64,SNR=58
C27A Sayler Ranch, 63.99 47 ⇑P **P 02 57 20.7 +0.8**
baz=64
D26A Manning 64.01 48 ⇑P **P 02 57 20.5 +0.5**
baz=64,SNR=12
B28A Dugan Ranch, T 64.03 46 ⇓P **P 02 57 20.8 +0.7**
baz=64,SNR=18
I22A 9 Mile Ranch, 64.08 53 ⇑P **P 02 57 21.5 +0.9**
baz=64,SNR=54
FMP Fort Macarthur 64.11 68 ⇓P **P 02 57 20.5 -0.2**
baz=64
RRX Edison Barstow 64.12 66 ⇑P **P 02 57 21.3 +0.4**
baz=64
BFSC Mount Baldy Ra 64.14 67 ⇓P **P 02 57 21.1 -0.1**

baz=64,SNR=38
SHPR Sheep Range 64.14 64 *e*P **P 02 57 21.4 +0.2**
comp=Z,250nm,1.4s
SHPR *e* 02 57 34.8
G24A Alzada 64.18 50 ⇑P **P 02 57 21.2 0.0**
baz=64,SNR=18
H23A Clabaugh Cattl 64.20 51 ⇓P **P 02 57 21.3 0.0**
baz=64
A29A Manning Farm, 64.24 45 ⇑P **P 02 57 22.0 +0.7**
baz=64,SNR=58
CIS Catalina Islan 64.24 68 ⇓P **P 02 57 21.5 -0.2**
baz=64,SNR=8.9
M19A Rock Springs 64.25 56 ⇓P **P 02 57 22.0 +0.1**
baz=64,SNR=14
F25A Bowman 64.26 49 ⇓P **P 02 57 22.3 +0.6**
baz=64,SNR=15
L20A Wamsutter 64.36 55 ⇓P **P 02 57 23.1 +0.5**
baz=64,SNR=26
E26A Carlson Angus 64.38 48 ⇓P **P 02 57 22.6 +0.2**
baz=64
TUQ Turquoise Moun 64.40 65 ⇑P **P 02 57 23.2 +0.3**
baz=64,SNR=112
D27A Center 64.40 47 ⇓P **P 02 57 23.3 +0.8**
baz=64,SNR=9.0
J22A Midwest 64.41 53 ⇑P **P 02 57 23.3 +0.5**
baz=64,SNR=52
SCI San Clemente I 64.44 69 ⇑P **P 02 57 23.0 0.0**
baz=64,SNR=7.1
B29A Wagenman Farm, 64.50 45 ⇑P **P 02 57 23.6 +0.5**
baz=64,SNR=34
H24A Dirks Ranch, A 64.51 51 ⇓P **P 02 57 23.4 +0.1**
baz=64,SNR=47
CCUT Cedar City 64.51 62 *e*P **P 02 57 24.1 +0.4**
comp=Z,198nm,1.4s
CCUT *e* 02 57 37.6
K21A Alcova 64.53 54 ⇓P **P 02 57 23.8 +0.2**
baz=64,SNR=53
OBN Obninsk 64.53 326 *c e*P **P 02 57 21.3 -1.8**
OBN *e**PP **pP 02 57 37.8 -1.2**
OBN *e**SP **sP 02 57 48.2 +2.6**
OBN *e* 02 57 57.9
OBN *e*S **S 03 05 54.7 -2.9**
OBN *e*SS **SS 03 10 02.6 -5.2**
OBN pmax pmax
comp=Z,41nm,1.2s
OBN MLR MLR
comp=Z,6μm,19.0s
OBN Obninsk 64.53 326 *e*P **P 02 57 21.3 -1.8**
C28A Hausauer Farms 64.53 46 ⇓P **P 02 57 24.1 +0.7**
baz=64,SNR=8.2
MVU Marysvale 64.54 60 *e*P **P 02 57 24.4 +0.6**
comp=Z,200nm,1.6s
HEC Hector,Ludlow 64.56 66 ⇓P **P 02 57 24.2 +0.3**
baz=64,SNR=72
I23A Meade Ranch, G 64.58 52 ⇑P **P 02 57 23.8 -0.1**
baz=64
BBRC Big Bear Solar 64.58 66 ⇑P **P 02 57 24.3 +0.2**
baz=64,SNR=12
TMUT Trail Mountain 64.59 59 *e*P **P 02 57 24.8 +0.6**
comp=Z,198nm,1.3s
A30A Hoffart Farm, 64.66 44 ⇓P **P 02 57 24.7 +0.5**
baz=64,SNR=17
F26A Lodgepole 64.71 49 ⇑P **P 02 57 25.0 +0.4**
baz=64,SNR=37
G25A Newell 64.79 50 ⇑P **P 02 57 25.4 +0.3**
baz=65,SNR=14
M20A Sweetwater, Wa 64.80 55 ⇑P **P 02 57 26.2 +0.8**
baz=65,SNR=32
D28A Regan 64.81 47 ⇑P **P 02 57 25.9 +0.7**
baz=65
MDND Maddock 64.82 46 *e*P **P 02 57 26.0 +0.8**
MDND Maddock 64.82 46 ⇓P **P 02 57 25.8 +0.6**
baz=65,SNR=17
NGP Nagpur 64.84 274 *e*P **P 02 57 25.3 -0.4**
NGP *e*S **S 03 06 03.5 +1.1**
MURC Murrieta 64.86 67 ⇓P **P 02 57 25.7 0.0**
baz=65,SNR=47
E27A Carson 64.86 48 ⇓P **P 02 57 26.0 +0.5**
baz=65,SNR=18
Q16A Castle Valley 64.86 59 *e*P **P 02 57 26.4 +0.6**
Q16A Castle Valley 64.86 59 ⇓P **P 02 57 26.6 +0.7**
baz=65,SNR=20
G27A Dupree 64.91 49 ⇑P **P 02 57 29.0 +3.2**
baz=65,SNR=36
K22A Casper 64.91 54 ⇓P **P 02 57 26.2 +0.2**
baz=65,SNR=35
J23A Dilts Ranch, B 64.91 52 ⇑P **P 02 57 26.3 +0.2**
baz=65
L21A Rawlins 64.92 55 ⇑P **P 02 57 26.5 +0.3**
baz=65,SNR=24
B30A Myrvik Farm, E 64.99 45 ⇑P **P 02 57 27.0 +0.7**
baz=65,SNR=89
GMRC Granite Mounta 65.00 65 ⇑P **P 02 57 27.1 +0.3**
baz=65,SNR=74
F27A Lemmon 65.02 49 ⇑P **P 02 57 26.7 +0.1**
baz=65,SNR=20
I24A Kuemmerle Ranc 65.08 52 ⇑P **P 02 57 27.0 -0.1**
baz=65,SNR=18
O19A Miners Draw (B 65.09 57 ⇑P **P 02 57 27.4 +0.2**
baz=65,SNR=50
H25A Fruitdale 65.09 50 ⇑P **P 02 57 27.1 +0.1**
baz=65,SNR=19
SRU San Rafael 65.10 59 *e*P **P 02 57 27.8 +0.4**
SRU pmax pmax
comp=Z,511nm,1.5s
SRU San Rafael 65.10 59 *e*P **P 02 57 27.8 +0.4**
comp=Z,511nm,1.5s
G26A Maurine 65.13 49 ⇑P **P 02 57 27.6 +0.3**
baz=65,SNR=64
M21A Separation Pea 65.17 55 ⇓P **P 02 57 28.1 +0.3**
baz=65
E28A Huff 65.19 47 ⇑P **P 02 57 28.0 +0.3**
baz=65,SNR=20
RWWY Rawlins 65.19 55 *e*P **P 02 57 28.1 +0.1**
comp=Z,636nm,1.9s
N20A Spence Gulch, 65.20 56 ⇓P **P 02 57 28.9 +0.9**
baz=65,SNR=59
RSSD Black Hills 65.21 51 *e*P **P 02 57 28.3 +0.2**
RSSD *e* 02 57 41.6
RSSD pmax pmax
comp=Z,693nm,0.9s
RSSD Black Hills 65.21 51 *e*P **P 02 57 28.3 +0.2**
comp=Z,693nm,0.9s
RSSD *e* 02 57 41.6
VSU Vasula 65.26 333 *c i*P **P 02 57 26.9 -0.9**
VSU pmax pmax
comp=Z,118nm,0.6s
PFO Pinyon Flat Ob 65.31 67 P **P 02 57 28.0 -0.7**
comp=Z,292nm,1.5s,SNR=16
PFO Pinyon Flat Ob 65.31 67 *e*P **P 02 57 28.1 -0.6**
comp=Z,186nm,1.6s
PFO Pinyon Flat Ob 65.31 67 LR LR 03 21 09.1
comp=Z,1μm,19.6s,baz=298,slow=32
PFO Pinyon Flat Ob 65.31 67 ⇑P **P 02 57 28.4 -0.3**
baz=65,SNR=20
K23A Bowen Ranch, D 65.32 53 ⇓P **P 02 57 28.5 -0.2**
baz=65,SNR=11
BELC Belle Mtn. Jos 65.32 66 ⇑P **P 02 57 28.4 -0.4**
baz=65,SNR=42
D29A Pettibone, Tap 65.38 46 ⇓P **P 02 57 28.8 0.0**
baz=65
L22A Ellis Ranch, M 65.38 54 ⇓P **P 02 57 30.1 +0.9**
baz=65,SNR=31
109C Camp Elliot, M 65.39 68 ⇑P **P 02 57 29.2 0.0**
baz=65,SNR=19
J24A Dixon Ranch, L 65.43 52 ⇑P **P 02 57 29.3 -0.1**
baz=65,SNR=15
I25A Rochford 65.44 51 ⇑P **P 02 57 29.6 +0.1**
baz=65,SNR=40
C30A Mose, Pekin 65.46 45 ⇑P **P 02 57 29.4 +0.1**
baz=65,SNR=11
VRHR Novokhopersk 65.50 320 *e*P **P 02 57 26.8 -2.7**
VRHR pmax pmax
comp=Z,30nm,0.5s
VRHR pmax pmax
comp=N,20nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.6s
VRHR MLR MLR
comp=N,930nm,18.0s
VRHR MLR MLR
comp=Z,5μm,18.0s
VRHR MLR MLR
comp=E,4μm,22.0s
H26A Fairpoint 65.52 50 ⇓P **P 02 57 29.9 +0.1**
baz=65,SNR=22
F28A McLaughlin 65.64 48 ⇑P **P 02 57 30.8 +0.2**
baz=65,SNR=14
N21A Black Mountain 65.66 56 ⇓P **P 02 57 31.4 +0.3**
baz=66,SNR=26
O20A White River Ci 65.69 57 *e*P **P 02 57 31.6 +0.4**
O20A White River Ci 65.69 57 ⇑P **P 02 57 31.3 +0.1**
baz=66,SNR=29
E29A Napoleon 65.70 47 ⇓P **P 02 57 30.6 -0.3**
baz=66,SNR=9.1
L23A Garrett 65.72 54 ⇓P **P 02 57 31.3 -0.1**
baz=66,SNR=30
M22A Cedar Creek Ra 65.73 55 ⇓P **P 02 57 31.8 +0.3**
baz=66,SNR=42
IRM Iron Mountain 65.73 65 ⇑P **P 02 57 31.6 +0.3**
baz=66,SNR=84
D30A Buchanan 65.75 46 ⇓P **P 02 57 31.2 0.0**
baz=66,SNR=17
K24A Anderson Ranch 65.77 53 ⇓P **P 02 57 30.9 -0.7**
baz=66
BAR Barrett 65.80 68 *e*P **P 02 57 31.7 -0.1**
comp=E,44nm,0.8s
MONP Monument Peak 65.82 67 ⇓P **P 02 57 31.9 -0.2**
baz=66,SNR=17
J25A Sunshine Ranch 65.84 51 ⇓P **P 02 57 31.6 -0.4**
baz=66,SNR=24
SRBI Singaraja 65.84 223 P **P 02 57 33.1 +1.0**
W13A Hualapai Mount 65.86 64 ⇓P **P 02 57 32.6 +0.2**
baz=66,SNR=55
H27A Howes 65.86 50 ⇑P **P 02 57 32.0 0.0**
baz=66,SNR=18
I26A New Underwood 65.88 50 ⇑P **P 02 57 32.6 +0.4**
baz=66,SNR=24
BC3 Big Chuckawall 65.89 66 ⇑P **P 02 57 32.4 0.0**
baz=66,SNR=62
MTNI Mataram 65.90 222 P **P 02 57 32.1 -0.3**
comp=E,106nm,0.9s,comp=E,1μm
U15A North Rim 65.90 62 ⇑P **P 02 57 33.5 +0.8**
baz=66,SNR=108
ABJI Asem Bagus 66.04 224 P **P 02 57 36.0 +2.6**
comp=E,153nm,0.9s,comp=E,3μm
P20A De Beque 66.04 57 ⇑P **P 02 57 33.5 0.0**
baz=66,SNR=24
O21A Pagoda 66.06 56 ⇑P **P 02 57 34.0 +0.3**
baz=66,SNR=16
E30A Jud 66.11 46 ⇓P **P 02 57 33.3 -0.2**
baz=66,SNR=21
G28A Parade 66.13 49 ⇑P **P 02 57 33.8 +0.1**
baz=66,SNR=18
F29A Eureka 66.14 47 ⇑P **P 02 57 33.8 +0.1**
baz=66,SNR=19
M23A Laramie 66.16 54 ⇓P **P 02 57 34.4 +0.2**
baz=66,SNR=7.9
SWSC Sam W. Stewart 66.17 67 ⇑P **P 02 57 33.8 -0.3**
baz=66,SNR=20
DVTC Desert V Tower 66.17 67 ⇓P **P 02 57 34.3 0.0**
baz=66,SNR=19
L24A Wheatland 66.18 53 ⇓P **P 02 57 34.6 +0.3**
baz=66
N22A Wattenberg Ran 66.22 55 ⇓P **P 02 57 35.4 +0.7**
baz=66,SNR=40
AGMN Agassiz Nation 66.25 43 *e*P **P 02 57 34.3 -0.1**
comp=E,140nm,1.1s
AGMN LR LR
comp=Z,4μm,20.0s
PDMCI Parker Dam,Lak 66.25 65 ⇑P **P 02 57 34.8 +0.2**
baz=66,SNR=12
I27A Quinn 66.27 50 ⇑P **P 02 57 34.9 +0.2**
baz=66,SNR=40
J26A Sides Ranch, S 66.27 51 ⇑P **P 02 57 35.0 +0.2**
baz=66,SNR=19
BLJI Banyuglugur 66.30 225 P **P 02 57 36.9 +1.9**
comp=Z,93nm,1.2s,comp=Z,3μm
K25A Mack Ranch, Ha 66.35 52 ⇓P **P 02 57 35.4 +0.1**
baz=66,SNR=10
NBBI Negara 66.37 224 P **P 02 57 34.9 -0.5**
comp=Z,134nm,0.9s,comp=Z,2μm
Y12C Blythe 66.39 65 ⇑P **P 02 57 36.0 +0.4**
baz=66,SNR=42
MOL Molde 66.39 344 *e*P **P 02 57 35.1 +0.1**
MOL AMB AMB 02 57 39.6
comp=Z,107nm,1.7s
PHWY Pilot Hill 66.41 54 *e*P **P 02 57 35.9 -0.1**
comp=Z,190nm,1.7s
N23A Red Feather La 66.43 55 ⇓P **P 02 57 36.8 +0.8**
baz=66,SNR=29
VSR Storozhevoye 66.45 322 *e*P **P 02 57 34.4 -1.2**
VSR pmax pmax
comp=Z,40nm,1.2s
VSR pmax pmax
comp=N,30nm,1.4s
VSR pmax pmax
comp=E,4.0nm,0.5s
Q20A Ridgley Place, 66.47 58 ⇑P **P 02 57 36.2 0.0**
baz=66,SNR=44
IMYA Miami 66.48 299 *e*P **P 02 57 35.9 -0.4**
AKL Akola 66.51 275 *e*P **P 02 57 37.0 +0.5**
AKL AMP 02 57 40.4
comp=Z,404nm,1.1s
PV04 Paradox Valley 66.52 58 *e*P **P 02 57 36.8 +0.3**
PV04 *e* 02 57 50.5
P21A Newcastle 66.55 57 ⇓P **P 02 57 37.3 +0.5**
baz=66,SNR=49
VORD Divnogorie 66.58 321 *e*P **P 02 57 34.9 -1.5**
VORD pmax pmax
comp=Z,20nm,0.7s
VORD pmax pmax
comp=N,10.0nm,0.6s
VORD pmax pmax
comp=E,20nm,0.6s
VORD MLR MLR
comp=Z,6μm,23.0s
VORD MLR MLR
comp=N,3μm,22.0s
VORD MLR MLR
comp=E,4μm,19.0s
DOMB Dombas 66.59 343 *e*P **P 02 57 37.6 +1.2**
IEMG Emamgholi 66.59 300 *e*P **P 02 57 37.7 +0.6**
L25A Engebretsen Ra 66.62 52 ⇑P **P 02 57 37.4 +0.4**
baz=66,SNR=7.5
M24A Cheyenne 66.64 54 ⇑P **P 02 57 38.2 +0.9**
baz=66,SNR=27
K26A Motz Farm, Whi 66.65 52 ⇑P **P 02 57 37.0 -0.1**
baz=66,SNR=14
GLA Glamis 66.68 66 *e*P **P 02 57 37.5 +0.1**
GLA pmax pmax
comp=Z,103nm,0.9s
GLA Glamis 66.68 66 *e*P **P 02 57 37.5 +0.1**
comp=Z,103nm,0.9s
GLA Glamis 66.68 66 ⇑P **P 02 57 37.9 +0.4**
baz=67,SNR=32
GMJI Gumukmas 66.83 225 P P 02 57 50.5 +12
J27A Elkhorn Farm, 66.87 51 ⇑P **P 02 57 39.0 +0.4**
baz=67,SNR=22
PV01 Paradox Valley 66.88 58 *e*P **P 02 57 39.1 +0.2**
comp=Z,29μm,1.8s
P22A Eagle 66.89 56 ⇓P **P 02 57 39.5 +0.6**
baz=67,SNR=34
O23A Lake Granby, G 66.92 55 ⇓P **P 02 57 40.3 +1.1**
baz=67,SNR=56
R20A Redvale 66.95 58 ⇑P **P 02 57 39.7 +0.4**
baz=67,SNR=26
Q21A Lamborn Mesa, 66.96 57 ⇓P **P 02 57 39.7 +0.4**
baz=67,SNR=30
NGJI Ngawi 67.00 227 P P 02 57 42.9 +3.4
comp=Z,168nm,2.2s
IPAY Payeh 67.06 299 *e*P **P 02 57 40.7 +0.7**
N24A Carr 67.06 54 ⇑P **P 02 57 40.7 +0.9**
baz=67,SNR=16
SMCO Snowmass 67.06 57 *e*P **P 02 57 40.7 +0.5**
comp=Z,260nm,1.4s
NB2 NORSAR Subarra 67.06 342 P **P 02 57 38.4 -1.0**
comp=Z,45nm,0.8s,baz=26,slow=6.5
NB2 NORSAR Subarra 67.06 342 P **P 02 57 38.4 -1.0**
baz=26,slow=6.5
NOA NORSAR Array B 67.06 342 P **P 02 57 38.3 -1.0**
NOA P'P' 03 26 03.8
NOA NORSAR Array B 67.06 342 P **P 02 57 38.3 -1.0**
comp=Z,29nm,0.7s,baz=26,slow=6.4,SNR=78
NOA PKPPKP P'P'df 03 26 03.8 -7.4
comp=Z,2.1nm,1.0s,baz=250,slow=4.0,SNR=3.5
NOA LR LR 03 31 44.3
comp=Z,4μm,18.5s,baz=25,slow=40
WUAZ Wupatki 67.07 62 *e*P **P 02 57 40.7 +0.7**
comp=Z,274nm,1.5s
WUAZ LR LR
comp=Z,3μm,21.0s
WUAZ Wupatki 67.07 62 ⇑P **P 02 57 40.8 +0.7**
baz=67,SNR=44
M25A Palm-Egli Farm 67.08 53 ⇓P **P 02 57 40.8 +0.8**
baz=67,SNR=9.5
IAKL Akhelmad 67.09 300 *e*P **P 02 57 41.0 +0.7**
IAKL *e* 02 58 04.2
comp=Z,353nm,0.4s
IMOG Moghan 67.09 299 *e*P **P 02 57 41.5 +1.2**
IKRD Kardeh 67.11 300 *e*P **P 02 57 37.8 -2.6**
K27A Flueckinger Fa 67.14 51 ⇑P **P 02 57 40.1 -0.2**
baz=67,SNR=6.4
J28A Allard Ranch,
baz=67,SNR=60
SJI Sawahan 67.14 50 ⇑P **P 02 57 40.8 +0.5**
67.17 227 P **P 02 57 40.7 0.0**
comp=Z,261nm,1.0s,comp=Z,4μm
L26A Underwood Farm 67.17 52 ⇑P **P 02 57 40.4 -0.1**
baz=67
Y14A Wickenburg 67.18 64 ⇑P **P 02 57 41.0 +0.4**
baz=67,SNR=26
KRKI Karangkates 67.20 226 P **P 02 57 41.0 +0.2**
S20A Disappointment 67.22 58 ⇑P **P 02 57 41.3 +0.2**
baz=67,SNR=49
ISFR Sfrayin 67.22 300 *e*P **P 02 57 41.9 +0.8**
NC602 NORSAR Array S 67.27 341 *e*P **P 02 57 40.4 -0.3**
BORG Borgarnes 67.28 358 P **P 02 57 42.9 +2.3**
comp=Z,868nm,1.3s,SNR=6.8
BORG Borgarnes 67.28 358 *e*P **P 02 57 42.5 +1.8**
comp=Z,315nm,1.4s
BORG LR LR
comp=Z,3μm,22.0s
NAO01 NORSAR Array S 67.31 342 *e*P **P 02 57 40.0 -0.9**
comp=Z,18nm,0.7s
Q22A Crested Butte, 67.31 57 ⇑P **P 02 57 42.3 +0.6**
baz=67,SNR=49
HFS Hagfors 67.33 340 P **P 02 57 40.0 -1.0**
HFS Hagfors 67.33 340 P **P 02 57 40.0 -1.0**
comp=Z,27nm,0.5s,baz=34,slow=3.9,SNR=54
ISCO Idaho Springs 67.38 55 *e*P **P 02 57 42.9 +0.8**
ISCO *e* 02 57 56.3
ISCO pmax pmax
comp=Z,296nm,1.4s
ISCO MLR MLR
comp=Z,3μm,22.0s
ISCO Idaho Springs 67.38 55 *e*P **P 02 57 42.9 +0.8**
comp=Z,296nm,1.4s
ISCO *e* 02 57 56.3
ISCO LR LR
comp=Z,3μm,22.0s
ISCO Idaho Springs 67.38 55 ⇓P **P 02 57 42.9 +0.8**
baz=67,SNR=68
PWJI Pagerwojo 67.40 227 P **P 02 57 41.6 -0.4**
O24A Longmont 67.45 55 ⇓P **P 02 57 43.4 +1.0**
baz=67
N25A Grover 67.50 54 ⇑P **P 02 57 43.3 +0.7**
baz=67
113A Mohawk Valley, 67.53 66 ⇑P **P 02 57 42.7 0.0**
baz=67,SNR=43
L27A T5 Ranch, Ells 67.54 52 ⇓P **P 02 57 42.8 0.0**
baz=67
M26A McRoberts Ranc 67.54 53 ⇓P **P 02 57 43.5 +0.7**
baz=67,SNR=6.3
P23A Jefferson 67.55 56 ⇑P **P 02 57 44.3 +1.1**
baz=67,SNR=19
BRSD Miller 67.56 48 *e*P **P 02 57 42.4 -0.4**
BRSD *e*PP **PP 03 00 09.2 -2.6**
BRSD Miller 67.56 48 ⇑P **P 02 57 42.5 -0.4**
baz=67,SNR=10
MVCO Mesa Verde 67.57 59 *e*P **P 02 57 43.4 +0.2**
comp=Z,308nm,1.5s
MVCO LR LR
comp=Z,2μm,22.0s
MVCO Mesa Verde 67.57 59 ⇓P **P 02 57 43.5 +0.2**
baz=67,SNR=34
K28A Ten Mile Ranch 67.58 51 ⇓P **P 02 57 43.2 +0.1**
baz=67,SNR=24
Z14A Wintersburg 67.61 65 ⇑P **P 02 57 43.5 +0.2**
baz=68,SNR=10
S21A Coal Bank Pass 67.66 58 ⇑P **P 02 57 44.8 +0.9**
baz=68,SNR=81
TGJI Tegal 67.74 230 P **P 02 57 45.1 +0.9**
X16A Lo Mia Camp, P 67.78 63 ⇓P **P 02 57 45.4 +0.8**
baz=68,SNR=86
HYB Hyderabad 67.80 272 *i* P **P 02 57 44.0 -0.7**
BJII Banjamegara 67.84 229 P **P 02 57 45.7 +0.8**
comp=Z,94nm,1.1s
R22A Saguache, Gunn 67.84 57 ⇓P **P 02 57 46.3 +1.2**
baz=68,SNR=44
Q23A Hartsel 67.88 56 ⇑P **P 02 57 46.1 +0.8**
baz=68,SNR=45
M27A Reverse DX Ran 67.89 52 ⇑P **P 02 57 45.5 +0.5**
baz=68,SNR=6.1
HYA Hoyanger 67.94 344 *e*P **P 02 57 44.2 -0.6**
HYA AMB AMB 02 57 48.6
comp=Z,199nm,1.6s
N26A Koester Ranch, 67.95 53 ⇓P **P 02 57 46.2 +0.8**
baz=68,SNR=9.4
P24A Kohler Place, 67.97 55 ⇑P **P 02 57 46.8 +1.1**
baz=68,SNR=6.6
O25A Wiggins 67.97 54 ⇑P **P 02 57 46.1 +0.5**
baz=68,SNR=6.4
L28A Connealy Angus 68.01 51 ⇑P **P 02 57 46.0 +0.3**
baz=68
K29A Lazy Trails An 68.09 50 ⇓P **P 02 57 46.7 +0.5**
baz=68
MICGM Minsk 68.12 330⇑*e*P **P 02 57 43.0 -3.1**
U20A Newcomb 68.14 60 ⇓P **P 02 57 47.1 +0.4**
baz=68,SNR=7.0
MNK Minsk 68.14 330⇑*e*P P 02 57 43.0 -3.2
MNK MLR MLR
comp=E,9μm,20.0s
MNK MLR MLR
comp=Z,8μm,18.0s
S22A 4UR Ranch, Cre 68.14 58 ⇑P **P 02 57 47.8 +0.9**
baz=68,SNR=93
NACGM Naroch 68.16 330 *e*P P 02 57 42.0 -4.3
OSL Oslo 68.16 341 *e*P **P 02 57 45.8 -0.4**
Q24A Divide 68.22 56 ⇓P **P 02 57 47.7 +0.3**
baz=68,SNR=8.9
KPJI Karang Pucung 68.23 230 P **P 02 57 46.9 -0.4**
comp=Z,46nm,1.1s
T21A Navajo Lake 68.27 59 ⇓P **P 02 57 48.2 +0.6**
baz=68,SNR=12
SUE Sulen 68.30 345 *e*P **P 02 57 47.0 -0.1**
W18A Petrified Fore 68.31 61 *e*P **P 02 57 48.0 +0.1**
W18A Petrified Fore 68.31 61 ⇑P **P 02 57 48.5 +0.6**
baz=68,SNR=10
O26A Horse Wrangler 68.32 54 ⇓P **P 02 57 48.1 +0.3**
baz=68,SNR=11
N27A Anderson Farm, 68.33 53 ⇓P **P 02 57 48.4 +0.6**
baz=68,SNR=44
P25A Willow Gulch B 68.37 55 ⇑P **P 02 57 48.9 +0.7**
baz=68,SNR=9.2
R23A Moffat 68.39 57 ⇑P **P 02 57 49.4 +0.9**
baz=68,SNR=22
LATR Latur 68.42 274 *ex* P 02 57 44.3 -4.2
LATR *ex* x 02 57 47.4
comp=Z,314nm,1.0s
EYMN Ely 68.47 41 *e*P **P 02 57 48.4 -0.1**
comp=Z,127nm,1.0s
EYMN LR LR
comp=Z,2μm,22.0s
LEM Lembang 68.47 231 P **P 02 57 50.9 +1.9**
comp=Z,68nm,1.2s,comp=Z,2μm
OGNE Ogallala 68.50 52 *e*P **P 02 57 49.4 +0.5**
comp=Z,418nm,1.0s
OGNE *e* 02 58 02.3
OGNE LR LR
comp=Z,2μm,19.0s
OGNE Ogallala 68.50 52 ⇑P **P 02 57 49.3 +0.5**
baz=68,SNR=23
L29A Maesberg Ranch 68.51 51 ⇓P **P 02 57 48.9 0.0**
baz=68
M28A Bar X Bar Ranc 68.52 52 ⇑P **P 02 57 49.2 +0.2**
baz=68,SNR=37
V20A Brimhall 68.57 60 ⇓P **P 02 57 49.8 +0.3**
baz=68,SNR=25
X18A Snowflake 68.59 62 ⇓P **P 02 57 50.3 +0.7**
baz=68,SNR=36
U21A Nageezi 68.59 59 ⇑P **P 02 57 50.1 +0.4**
baz=68,SNR=40
T22A Edith 68.61 58 ⇓P **P 02 57 50.7 +0.9**
baz=68,SNR=53
S23A Nye Farm, Mont 68.63 57 ⇑P **P 02 57 50.9 +1.0**
baz=68,SNR=22
KONO Kongsberg 68.67 342 *e*P **P 02 57 48.2 -1.2**
KONO IAmb IAmb 02 57 51.1
comp=Z,315nm,1.6s
KONO AMB AMB 02 57 52.7
comp=Z,112nm,1.2s
KONO *e*S **S 03 06 50.5 +3.0**

KONO	Kongsberg	68.67	342	eP		P	02 57 49.8	+0.4
KONO				pmax		pmax		
	comp=Z,58nm,0.9s							
KONO				MLR		MLR		
	comp=Z,5µm,20.0s							
KONO	Kongsberg	68.67	342	eP		P	02 57 49.8	+0.4
	comp=Z,58nm,0.9s							
KONO				LR		LR		
	comp=Z,5µm,20.0s							
214A	Organ Pipe Nat	68.67	66	⇓P		P	02 57 50.3	+0.3
	baz=69,SNR=34							
MAK	Makhachkala	68.71	311	eP		P	02 57 52.0	+2.0
MAK				e*SP		sP	02 58 13.3	+0.7
MAK				ePPP		PPP	03 01 57.8	
MAK				eS		S	03 06 54.9	+6.4
MAK				e*SS		sS	03 07 19.9	+4.3
MAK				e			03 07 45.1	
MAK				pmax		pmax		
	comp=Z,291nm,1.4s							
MAK				MLR		MLR		
	comp=Z,15µm,17.0s							
Q25A	Bedland, Calha	68.75	55	⇓P		P	02 57 51.0	+0.4
	baz=69,SNR=30							
ASK	Askoy	68.76	344	eP		P	02 57 49.3	-0.6
ASK				AMB		AMB	02 57 52.3	
	comp=Z,199nm,1.4s							
R24A	Sanders Place,	68.76	56	⇓P		P	02 57 51.4	+0.7
	baz=69,SNR=33							
P26A	Davis Ranch, A	68.78	54	⇑P		P	02 57 51.1	+0.4
	baz=69,SNR=16							
RUND	Rundenannen	68.79	344	eP		P	02 57 49.8	-0.4
RUND				AMB		AMB	02 57 52.2	
	comp=Z,248nm,0.7s							
O27A	Beecher Island	68.80	53	⇑P		P	02 57 51.0	+0.2
	baz=69,SNR=36							
BER	Bergen	68.83	344	eP		P	02 57 50.7	+0.3
BER				eS		S	03 06 52.4	+3.1
BER				AMS		AMS	03 33 27.6	
	comp=Z,4µm,15.1s							
AFI	Afiamalu	68.84	145	LR		LR	03 24 13.6	
	comp=Z,4µm,19.9s,baz=323,slow=32							
M29A	Burnside Ranch	68.84	51	⇓P		P	02 57 50.8	-0.2
	baz=69,SNR=6.0							
SDCO	Great Sand Dun	68.89	57	eP		P	02 57 52.0	+0.4
	comp=Z,216nm,1.6s							
SDCO				e			02 58 05.2	
SDCO				LR		LR		
	comp=Z,2µm,22.0s							
N28A	Pribbeno Ranch	68.94	52	⇓P		P	02 57 51.7	+0.1
	baz=69,SNR=17							
EGD	Espegrend	68.95	344	eP		P	02 57 50.8	-0.4
EGD				AMB		AMB	02 57 53.7	
	comp=Z,178nm,1.3s							
ODD1	Odda	69.02	343	eP		P	02 57 52.2	+0.5
ODD1				AMB		AMB	02 57 55.6	
	comp=Z,163nm,1.9s							
W20A	Ramah	69.02	61	⇑P		P	02 57 52.7	+0.4
	baz=69,SNR=56							
MSVF	Nonsavu	69.03	156	P		P	02 57 53.6	+1.4
	comp=Z,573nm,1.0s,SNR=9.4							
MSVF	Nonsavu	69.03	156	eP		P	02 57 53.0	+0.8
MSVF				pmax		pmax		
	comp=Z,94nm,1.0s							
MSVF				MLR		MLR		
	comp=Z,5µm,20.0s							
MSVF	Nonsavu	69.03	156	eP		P	02 57 53.0	+0.8
	comp=Z,94nm,1.0s							
MSVF				LR		LR		
	comp=Z,5µm,20.0s							
V21A	Milan	69.04	60	⇓P		P	02 57 53.0	+0.5
	baz=69,SNR=30							
T23A	Casias Ranch,	69.09	58	⇓P		P	02 57 53.4	+0.6
	baz=69,SNR=23							
U22A	Llaves	69.09	59	⇑P		P	02 57 53.5	+0.7
	baz=69,SNR=26							
S24A	Houchin Ranch,	69.12	57	⇑P		P	02 57 53.7	+0.7
	baz=69,SNR=30							
Q26A	Hugo	69.14	55	⇓P		P	02 57 53.2	+0.3
	baz=69,SNR=24							
M30A	Dale-Ortello V	69.20	51	⇑P		P	02 57 52.8	-0.4
	baz=69							
P27A	Ficken Ranch,	69.20	54	⇑P		P	02 57 53.1	-0.2
	baz=69,SNR=11							
O28A	Krutsinger Ran	69.22	53	⇓P		P	02 57 53.2	-0.1
	baz=69,SNR=17							
ECSD	EROS Data Cent	69.23	47	eP		P	02 57 53.0	-0.3
	comp=Z,174nm,1.1s							
ECSD				LR		LR		
	comp=Z,2µm,20.0s							
R25A	Fountain Ranch	69.28	56	⇑P		P	02 57 53.9	+0.1
	baz=69,SNR=20							
N29A	Votaw Ranch, W	69.33	52	⇓P		P	02 57 53.7	-0.2
	baz=69,SNR=5.3							
V22A	San Miguel Ran	69.39	59	⇓P		P	02 57 55.0	+0.4
	baz=69,SNR=32							
X20A	Quemado	69.43	61	⇓P		P	02 57 56.0	+1.1
	baz=69,SNR=77							
T24B	San Luis	69.44	57	⇑P		P	02 57 56.0	+1.0
	baz=69,SNR=41							
U23A	El Rito	69.50	58	⇓P		P	02 57 56.2	+0.9
	baz=69,SNR=76							
BLS5	Blasjo	69.51	343	eP		P	02 57 55.1	+0.4
BLS5				AMB		AMB	02 57 57.9	
	comp=Z,53nm,0.8s							
W21A	San Fidel	69.52	60	⇓P		P	02 57 55.7	+0.2
	baz=69							
S25A	Robets Cordova	69.54	56	⇓P		P	02 57 55.4	-0.1
	baz=69,SNR=23							
KSCO	Kaye Shedlock'	69.56	54	eP		P	02 57 55.9	+0.3
KSCO				e			02 58 09.0	
KSCO	Kaye Shedlock'	69.56	54	⇑P		P	02 57 55.5	0.0
	baz=69,SNR=7.9							
N30A	Hueftle Ranch,	69.62	51	⇓P		P	02 57 55.3	-0.5
	baz=69							
R26A	Arlington	69.63	55	⇑P		P	02 57 56.0	0.0
	baz=70,SNR=55							
P28A	Saint Francis	69.63	53	⇓P		P	02 57 55.7	-0.2
	baz=69,SNR=15							
TUC	Tucson	69.65	64	eP		P	02 57 56.3	+0.2
TUC				pmax		pmax		
	comp=Z,149nm,1.4s							
TUC				MLR		MLR		
	comp=Z,1µm,20.0s							
TUC	Tucson	69.65	64	eP		P	02 57 56.3	+0.2
	comp=Z,149nm,1.4s							
TUC				LR		LR		
	comp=Z,1µm,20.0s							
O29A	4D Ranch, Culb	69.74	52	⇓P		P	02 57 56.2	-0.3
	baz=70,SNR=11							
NRS	Narsarsuaq	69.77	10	i P		P	02 57 56.7	+0.5
NRS				pmax		pmax		
	comp=Z,27nm,0.7s							
NRS				MLR		MLR		
	comp=Z,2µm,20.0s							
X21A	Alamocita Cree	69.92	61	⇓P		P	02 57 58.7	+0.8
	baz=70,SNR=67							
V23A	Ortiz Mt. (NFS	69.92	59	⇑P		P	02 57 59.3	+1.4
	baz=70,SNR=63							
T25A	Trinidad	69.93	57	⇑P		P	02 57 58.3	+0.4
	baz=70,SNR=38							
KMY	Karmoy	69.94	344	eP		P	02 57 57.6	+0.4
KMY				AMB		AMB	02 58 02.2	
	comp=Z,234nm,1.5s							
SPMN	St. Paul	69.94	44	eP		P	02 57 57.7	+0.2
SPMN	St. Paul	69.94	44	⇑P		P	02 57 57.3	-0.3
	baz=70,SNR=33							
Y20A	Horse Springs,	69.95	61	⇓P		P	02 57 59.1	+1.0
	baz=70,SNR=67							
Q28A	Sharon Springs	69.96	54	⇓P		P	02 57 57.6	-0.3
	baz=70,SNR=6.4							
U24A	Moreno Valley	69.96	58	⇑P		P	02 57 59.2	+1.0
	baz=70,SNR=22							
IGLO	Ghaloghah	69.98	303	eP		P	02 57 58.6	+0.4
R27A	Eads	69.99	55	⇓P		P	02 57 58.1	-0.1
	baz=70,SNR=26							
W22A	Albuquerque	70.01	60	⇓P		P	02 57 59.4	+1.0
	baz=70,SNR=7.7							
P29A	Atwood	70.05	53	⇑P		P	02 57 57.9	-0.5
	baz=70							
SUW	Suwalki	70.06	332	eP		P	02 57 56.9	-1.2
SUW				pmax		pmax		
	comp=Z,73nm,0.8s							
SUW	Suwalki	70.06	332	eP		P	02 57 56.9	-1.2
	comp=Z,73nm,0.8s							
SUW	Suwalki	70.06	332	eP		P	02 57 57.2	-0.9
SUW				LMZ		LR	03 27 57.2	
O30A	MW Ranch, Wils	70.09	52	⇓P		P	02 57 58.0	-0.7
	baz=70,SNR=7.9							
S26A	Kim	70.10	56	⇓P		P	02 57 58.5	-0.4
	baz=70,SNR=20							
HOMB	Homborsund	70.16	342	eP		P	02 57 58.8	+0.1
HOMB				AMB		AMB	02 58 03.9	
	comp=Z,68nm,1.1s							
HOMB				eS		S	03 07 09.1	+4.1
BGNE	Belgrade	70.18	50	eP		P	02 57 58.9	-0.2
BGNE				e			02 58 11.9	
BGNE	Belgrade	70.18	50	⇑P		P	02 57 58.6	-0.5
	baz=70,SNR=15							
WRAB	Tennant Creek	70.21	200	P		P	02 57 59.0	-0.3
	comp=Z,1µm,0.8s,SNR=72							
WRAB	Tennant Creek	70.21	200	eP		P	02 57 59.1	-0.3
WRAB				pmax		pmax		
	comp=Z,152nm,0.9s							
WRAB				MLR		MLR		
	comp=Z,2µm,22.0s							
WRAB	Tennant Creek	70.21	200	eP		P	02 57 59.1	-0.2
	comp=Z,152nm,0.9s							
WRAB				LR		LR		
	comp=Z,2µm,22.0s							
WRA	Warramunga Arr	70.22	200	P		P	02 57 58.6	-0.8
WRA				⇑e			03 25 59.5	
WRA	Warramunga Arr	70.22	200	P		P	02 57 58.6	-0.8
	comp=Z,122nm,0.7s,baz=16,slow=6.4,SNR=174							
WRA				PKP2bc			03 25 59.5	
	comp=Z,0.8nm,0.7s,baz=194,slow=3.0,SNR=5.3							
WRA				LR		LR	03 31 13.1	
	comp=Z,1µm,18.7s,baz=15,slow=38							
IKIA	Kiasar	70.27	302	eP		P	02 58 00.2	+0.1
Y21A	Point of Rocks	70.29	61	⇓P		P	02 58 01.2	+1.0
	baz=70,SNR=16							
LAZ	Ladron	70.33	60	eP		P	02 58 01.4	+1.0
	comp=Z,120nm,1.4s							
LAZ				e			02 58 14.8	
X22A	Bernardo	70.33	60	⇓P		P	02 58 01.6	+1.3
	baz=70,SNR=18							
ANMO	Albuquerque	70.33	59	eP		P	02 58 00.7	+0.3
	comp=Z,83nm,1.1s							
ANMO				e			02 58 14.4	
ANMO				LR		LR		
	comp=Z,2µm,22.0s							
KIV	Kislovodsk	70.34	315	eP		P	02 58 00.1	-0.1
KIV				e			03 00 35.8	
KIV				ePPP		PPP	03 02 18.9	
KIV				eS		S	03 07 08.2	+0.4
KIV				eSS		SS	03 11 39.1	+0.8
KIV				pmax		pmax		
	comp=Z,382nm,4.2s							
KIV				pmax		pmax		
	comp=Z,52nm,0.9s							
KIV				MLR		MLR		
	comp=Z,8µm,18.0s							
KIV	Kislovodsk	70.34	315	P		P	02 58 00.6	+0.5
	comp=Z,422nm,0.6s,SNR=8.1							
T26A	Comanche Natio	70.36	56	⇓P		P	02 58 00.2	-0.3
	baz=70,SNR=43							
W23A	Werner Place,	70.36	59	⇑P		P	02 58 01.3	+0.7
	baz=70,SNR=21							
S27A	Las Animas	70.37	55	⇑P		P	02 58 00.4	-0.1
	baz=70							
KBZ	Khabaz	70.41	314	P		P	02 58 00.4	0.0
KBZ	Khabaz	70.41	314	P		P	02 58 00.4	0.0
KBZ				P'P'			03 25 54.5	
KBZ	Khabaz	70.41	314	P		P	02 58 00.4	0.0
	comp=Z,25nm,0.6s,baz=42,slow=2.9,SNR=32							
KBZ				PKPPKP		P'P'df	03 25 54.5	-10
	comp=Z,1.7nm,0.8s,baz=205,slow=4.0,SNR=4.8							
KBZ				LR		LR	03 32 25.5	
	comp=Z,8µm,21.0s,baz=31,slow=39							
P30A	Selden	70.45	52	⇓P		P	02 58 00.4	-0.5
	baz=70,SNR=20							
V24A	Rampart Ranch,	70.45	58	⇑P		P	02 58 01.9	+0.7
	baz=70,SNR=45							
U25A	Circle Dot Ran	70.46	57	⇓P		P	02 58 01.3	+0.1
	baz=70,SNR=58							
R28A	Tribune	70.49	54	⇑P		P	02 58 00.8	-0.4
	baz=70,SNR=18							
Q29A	Oakley	70.54	53	⇓P		P	02 58 01.0	-0.4
	baz=70,SNR=17							
LENM	Lemitar	70.59	60	eP		P	02 58 02.4	+0.5
	comp=Z,134nm,1.5s							
LENM				e			02 58 15.9	
ZEI	Tsey	70.63	313	eP		P	02 58 00.7	-1.4
ZEI				pmax		pmax		
	comp=Z,37nm,0.9s							
LPM	Los Pinos Moun	70.68	60	eP		P	02 58 03.2	+0.7
	comp=Z,129nm,1.5s							
LPM				e			02 58 16.5	
Y22D	IRIS PASSCAL I	70.69	60	⇓P		P	02 58 03.5	+1.0
	baz=70							
W24A	Lazy 6 Ranch,	70.75	59	⇓P		P	02 58 03.9	+1.0
	baz=71,SNR=59							
X23A	Hourglass Bar	70.75	60	⇓P		P	02 58 03.4	+0.4
	baz=71							
AKASG	Malin Array Be	70.75	327	P		P	02 58 01.2	-1.2
AKASG	Malin Array Be	70.75	327	P		P	02 58 01.2	-1.2
AKASG				P'P'			03 25 56.0	
AKASG	Malin Array Be	70.75	327	P		P	02 58 01.2	-1.2
	comp=Z,53nm,0.6s,baz=32,slow=6.2,SNR=94							
AKASG				PKPPKP		P'P'df	03 25 56.0	-8.5
	comp=Z,1.4nm,0.7s,baz=241,slow=2.0,SNR=4.3							
AKASG				LR		LR	03 31 14.9	
	comp=Z,6µm,20.9s,baz=35,slow=38							
Y22A	Socorro	70.76	61	⇑P		P	02 58 03.7	+0.7
	baz=71,SNR=26							
KIEV	Kiev	70.76	327	eP		P	02 58 01.2	-1.2
KIEV				pmax		pmax		
	comp=Z,55nm,0.6s							
KIEV				MLR		MLR		
	comp=Z,7µm,21.0s							
KIEV	Kiev	70.76	327	eP		P	02 58 01.2	-1.2
	comp=Z,55nm,0.6s							
KIEV				LR		LR		
	comp=Z,7µm,21.0s							
120A	U Bar Ranch, L	70.77	63	⇓P		P	02 58 03.9	+0.9
	baz=71,SNR=50							
Z21A	St. Cloud Mine	70.79	61	⇓P		P	02 58 04.1	+0.9
	baz=71,SNR=53							
KAD	Karad	70.79	275	eP		P	02 58 06.0	+2.8
R29A	Marienthal	70.79	54	⇑P		P	02 58 02.8	-0.2
	baz=71,SNR=18							
BNM	Barren Site	70.80	60	eP		P	02 58 03.9	+0.5
	comp=Z,202nm,1.6s							
BNM				e			02 58 17.3	
U26A	Atchley Ranch,	70.83	57	⇑P		P	02 58 03.2	-0.2
	baz=71,SNR=18							
DZM	Mont Dzumac	70.85	168	eP		P	02 58 04.0	+0.7
	comp=Z,163nm,0.9s							
DZM				eS		S	03 07 16.2	+2.3
	comp=Z,4µm,29.9s							
DZM				eLQ		LQ	03 16 31.9	
	comp=Z,9µm,31.4s							
DZM				eLR		LR	03 19 44.5	
	comp=Z,10µm,25.0s							
DZM	Mont Dzumac	70.85	168	eP		P	02 58 03.9	+0.7
	comp=Z,74nm,0.9s							
IALA	Alasht	70.86	303	eP		P	02 58 04.0	+0.3
Q30A	Quinter	70.88	53	⇑P		P	02 58 03.0	-0.5
	baz=71,SNR=40							
T27A	Campo	70.92	56	⇑P		P	02 58 03.5	-0.3
	baz=71,SNR=11							
COWI	Conover	70.92	41	eP		P	02 58 03.0	-0.5
	comp=Z,127nm,1.2s							
COWI				e			02 58 16.1	
COWI				LR		LR		
	comp=Z,2µm,19.0s							
P31A	Stockton	70.93	52	⇑P		P	02 58 03.1	-0.6
	baz=71,SNR=37							
S28A	Manter	70.99	55	⇓P		P	02 58 04.1	-0.1
	baz=71,SNR=30							
X24A	Lazy VL Ranch,	71.19	59	⇑P		P	02 58 06.6	+1.0
	baz=71,SNR=6.6							
IFIR	Firoozkooh	71.20	303	eP		P	02 58 06.8	+1.0
319A	Douglas	71.21	64	⇑P		P	02 58 06.3	+0.7
	baz=71,SNR=113							
T28A	Walsh	71.21	55	⇓P		P	02 58 05.2	-0.4
	baz=71,SNR=20							
V26A	Tequesquite Ra	71.24	57	⇑P		P	02 58 05.6	-0.2
	baz=71,SNR=29							
Z22A	Elephant Butte	71.24	61	⇓P		P	02 58 06.6	+0.7
	baz=71,SNR=56							
121A	Cookes Peak, D	71.28	62	⇑P		P	02 58 07.0	+0.9
	baz=71,SNR=54							
W25A	X Bar L Ranch,	71.28	58	⇓P		P	02 58 06.6	+0.5
	baz=71,SNR=47							
220A	Playas Peak, P	71.29	63	⇓P		P	02 58 06.7	+0.6
	baz=71,SNR=50							
Y23A	Lovelace Mesa,	71.29	60	⇓P		P	02 58 06.8	+0.6
	baz=71,SNR=45							
Q31A	Ellis	71.30	52	⇑P		P	02 58 05.2	-0.8
	baz=71							
U27A	Thompson Grove	71.33	56	⇑P		P	02 58 06.1	-0.2
	baz=71,SNR=36							
R30A	Dighton	71.36	53	⇓P		P	02 58 05.8	-0.6
	baz=71,SNR=21							
S29A	Ulysses	71.39	54	⇑P		P	02 58 06.1	-0.5
	baz=71,SNR=13							
BSD	Bornholm Skovb	71.50	337	i P		P	02 58 06.4	-0.4
BSD				pmax		pmax		
	comp=Z,82nm,0.8s							
BSD				MLR		MLR		
	comp=Z,5µm,17.0s							
BSD	Bornholm Skovb	71.50	337	⇑i P		P	02 58 06.4	-0.4
	comp=Z,82nm,0.7s							
BSD								
	comp=Z,5µm,17.0s							
SCHQ	Schefferville	71.58	24	eP		P	02 58 08.2	+0.8
	comp=Z,196nm,1.0s							
SCHQ	Schefferville	71.58	24	P		P	02 58 08.1	+0.6
	comp=Z,132nm,0.9s,baz=346,slow=5.6,SNR=95							
SCHQ				LR		LR	03 33 05.9	
	comp=Z,2µm,20.5s,baz=345,slow=39							
COP	Copenhagen	71.62	338	i P		P	02 58 07.7	+0.2
COP				pmax		pmax		
	comp=Z,88nm,0.8s							
COP				MLR		MLR		
	comp=Z,3µm,24.0s							
COP	Copenhagen	71.62	338	i P		P	02 58 07.7	+0.2
	comp=Z,88nm,0.7s							
COP								
	comp=Z,3µm,24.0s							
122A	Conniff Cattle	71.62	61	⇓P		P	02 58 09.2	+1.1
	baz=72							
T29A	Hugoton	71.63	55	⇓P		P	02 58 07.5	-0.6
	baz=72,SNR=14							
Y24A	Capitan	71.65	60	⇓P		P	02 58 08.9	+0.5
	baz=72,SNR=50							
221A	Mesquite Ranch	71.66	62	⇑P		P	02 58 09.2	+0.8
	baz=72,SNR=19							
IDMV	Damavand	71.66	303	eP		P	02 58 08.8	+0.3
X25A	Clemmons Ranch	71.66	59	⇑P		P	02 58 09.0	+0.6
	baz=72,SNR=18							
Z23A	Rita Site, Whi	71.67	61	⇑P		P	02 58 09.0	+0.6
	baz=72,SNR=22							
MUD	Monsted U'grnd	71.68	340	i P		P	02 58 08.3	+0.4
MUD				pmax		pmax		
	comp=Z,45nm,0.7s							
MUD				MLR		MLR		
	comp=Z,5µm,16.0s							
MUD	Monsted U'grnd	71.68	340	i P		P	02 58 08.3	+0.4
	comp=Z,45nm,0.7s							
MUD								
	comp=Z,5µm,15.0s							
320A	Kipp Ranch, An	71.69	63	⇑P		P	02 58 09.2	+0.6
	baz=72,SNR=26							
U28A	Mallet	71.69	56	⇓P		P	02 58 07.8	-0.6
	baz=72							
S30A	Montezuma	71.73	54	⇑P		P	02 58 08.1	-0.5
	baz=72,SNR=9.9							
R31A	Burdett	71.75	53	⇓P		P	02 58 07.6	-1.1
	baz=72,SNR=12							
W26A	Owens Ranch, T	71.76	58	⇑P		P	02 58 09.5	+0.5
	baz=72,SNR=14							
V27A	Dan Oppiter Fa	71.80	57	⇑P		P	02 58 09.0	-0.2
	baz=72,SNR=12							
222A	Williams Famil	71.99	62	⇓P		P	02 58 10.8	+0.4
	baz=72,SNR=29							
LLD	Lille Linde	71.99	338	i P		P	02 58 09.9	+0.1
LLD				pmax		pmax		
	comp=Z,220nm,0.7s							
LLD	Lille Linde	71.99	338	i P		P	02 58 09.9	+0.1
	comp=Z,223nm,0.7s							
SOC	Sochi	72.02	316	c i P		P	02 58 08.6	-1.6
SOC				e*PP		pP	02 58 27.0	+0.7
SOC				e*SP		sP	02 58 35.3	+2.4
SOC				e			03 00 49.3	
SOC				ePPP		PPP	03 02 33.0	
SOC				eS		S	03 07 25.9	-1.1
SOC				e*SS		sS	03 07 56.3	+2.0
SOC				eSSS		SSS	03 15 17.4	
SOC				pmax		pmax		
	comp=Z,64nm,0.4s							
IGZV	Ghazvin	72.07	305	eP		P	02 58 11.1	+0.2
Y25A	Mesa, Roswell	72.08	59	⇑P		P	02 58 11.1	+0.2
	baz=72,SNR=60							
123A	Bell Site, Whi	72.10	61	⇑P		P	02 58 11.8	+0.8
	baz=72,SNR=11							
ANN	Anapa	72.11	318	eP		P	02 58 09.7	-1.0
ANN				e			02 58 23.9	
ANN				e*PP		PcP	02 58 28.7	-0.1
ANN				e			03 00 59.7	
ANN				ePPP		PPP	03 02 34.1	
ANN				eS		S	03 07 29.0	+0.9
ANN				e			03 08 06.1	
ANN				pmax		pmax		
	comp=Z,572nm,6.9s							
ANN				pmax		pmax		
	comp=Z,97nm,1.4s							
Z24A	Sheeppen Canyo	72.12	60	⇓P		P	02 58 11.6	+0.4
	baz=72,SNR=27							
T30A	Plains	72.12	54	⇓P		P	02 58 10.3	-0.7
	baz=72							
X26A	CR and CF Fran	72.13	58	⇑P		P	02 58 11.5	+0.3
	baz=72,SNR=29							
V28A	Channing	72.15	56	⇑P		P	02 58 10.8	-0.4
	baz=72							
U29A	Oasis Ranch, S	72.16	55	⇑P		P	02 58 10.8	-0.5
	baz=72							
W27A	Bowe Ranch, En	72.18	57	⇑P		P	02 58 11.4	0.0
	baz=72,SNR=22							
GNI	Garni	72.19	311	P		P	02 58 13.5	+2.0
	SNR=12							
GNI	Garni	72.19	311	eP		P	02 58 12.3	+0.8
GNI				LR		LR		
	comp=Z,9µm,20.0s							
IVRN	Varamin	72.25	303	eP		P	02 58 12.3	+0.5
SCIA	State Center	72.26	46	eP		P	02 58 11.7	0.0
	comp=Z,970nm,1.6s							
SCIA				e			02 58 24.9	
SCIA				LR		LR		
	comp=Z,3µm,19.0s							
S31A	Mullinville	72.27	53	⇓P		P	02 58 10.7	-1.2
	baz=72,SNR=8.2							
IR3	Iran Long-Peri	72.29	304	eP		P	02 58 12.5	+0.4
IHRS	Heris	72.36	308	eP		P	02 58 12.8	+0.2
ISRB	Sarab	72.40	307	eP		P	02 58 12.5	-0.3
U30A	WK&E Inc. Balk	72.44	55	⇑P		P	02 58 12.2	-0.7
	baz=72,SNR=11							
V29A	Stinnett	72.45	56	⇑P		P	02 58 12.3	-0.7
	baz=72							
223A	Chaparral, Ant	72.45	62	⇑P		P	02 58 13.6	+0.4
	baz=72							
X27A	F and S Farms,	72.46	58	⇑P		P	02 58 13.7	+0.6
	baz=72,SNR=21							
GKP	Gorka Klasztor	72.50	335	eP		P	02 58 12.6	-0.2
GKP				LMZ		LR	03 32 37.2	
W28A	Vega	72.52	57	⇓P		P	02 58 13.7	+0.2
	baz=72,SNR=12							
124A	Stringfield Ra	72.52	60	⇓P		P	02 58 14.0	+0.3
	baz=72,SNR=54							
Z25A	Roswell	72.53	60	⇓P		P	02 58 14.0	+0.4
	baz=

JFWS LR LR
comp=Z,3µm,21.0s
ITBZ Tabriz 72.89 308 *eP* **P 02 58 16.5 +0.8**
MCD Coleburn Disti 72.90 348⇑ *eP* **P 02 58 14.0 -1.2**
W29A Amraillo 72.93 56 ⇑P P 02 58 15.8 -0.1
baz=73,SNR=7.3
IRAZ Razeghan 72.95 304 *eP* **P 02 58 16.0 -0.2**
Z26A Caprock 72.96 59 ⇑P P 02 58 16.4 +0.3
baz=73,SNR=100
Y27A Causey 72.98 58 ⇓P P 02 58 16.5 +0.2
baz=73,SNR=74
V30A Spur Ranch, Mi 72.99 55 ⇓P P 02 58 15.6 -0.6
baz=73
U31A Nine Bar Ranch 73.00 54 ⇑P P 02 58 15.9 -0.3
baz=73
125A Gardner Draw, 73.02 60 ⇓P P 02 58 16.7 +0.3
baz=73,SNR=53
X28A Dimmitt 73.06 57 ⇑P P 02 58 16.7 0.0
baz=73,SNR=18
MME1 Meikle Cairn 73.11 347⇑ *eP* **P 02 58 15.9 -0.5**
ISHB Shabestar 73.13 309 *eP* **P 02 58 17.6 +0.4**
MSTX Muleshoe 73.14 58 *eP* **P 02 58 16.9 -0.2**
MSTX Muleshoe 73.14 58 ⇑P P 02 58 17.2 +0.1
baz=73,SNR=45
MDO Dochfour 73.19 348⇑ *iP* **P 02 58 16.7 -0.2**
KAC Achnashellach 73.26 349⇑ *iP* **P 02 58 16.9 -0.4**
MNTX Cornudas Mount 73.29 61 *eP* **P 02 58 18.4 +0.4**
comp=Z,164nm,1.4s
MNTX *e* 02 58 31.9
MNTX LR LR
comp=Z,791nm,20.0s
225A Deer Hill, Car 73.32 60 ⇑P P 02 58 18.6 +0.3
baz=73,SNR=17
LVV L'vov 73.33 329 *eP* **P 02 58 19.3 +1.4**
LVV *e* 02 58 33.5
LVV *e* 03 00 57.5
LVV *e*PPP PPP 03 02 43.7
LVV *e*S **SKiKP 03 07 43.1 -0.2**
LVV *e*PS **PnS 03 08 15.5 -4.9**
EIDS Eidsvold 73.35 183 *eP* **P 02 58 18.5 +0.5**
comp=Z,107nm,0.9s
Z27A Tatum 73.37 59 ⇓P P 02 58 18.6 +0.1
baz=73,SNR=78
126A Clayton Basin, 73.39 60 ⇓P P 02 58 18.6 0.0
baz=73,SNR=13
X29A Tulia 73.39 57 ⇓P P 02 58 19.0 +0.4
baz=73,SNR=76
324A Moseley Ranch, 73.42 61 ⇓P P 02 58 18.9 0.0
baz=73,SNR=29
DRUM Mains of Drumt 73.43 347⇑ *eP* **P 02 58 18.0 -0.3**
DRUM AMB AMB 02 58 20.2
comp=Z,222nm,1.7s
DRUM AMS AMS 03 36 48.3
comp=Z,2µm,17.1s
IZEF Zefreh 73.44 301 *eP* **P 02 58 19.5 +0.4**
V31A Spring Creek L 73.44 55 ⇑P P 02 58 19.1 +0.3
baz=73,SNR=27
SIM Simferopol' 73.45 320 *c iP* **P 02 58 18.0 -0.6**
SIM *e* 03 01 01.0
SIM *e*PPP PPP 03 02 51.0
SIM S **S 03 07 42.0 -1.3**
SIM pmax pmax
comp=Z,44nm,0.6s
SIM MLR MLR
comp=Z,2µm,14.7s
KPL Plockton 73.46 349⇑ *eP* **P 02 58 18.2 -0.2**
KPL AMB AMB 02 58 20.6
comp=Z,216nm,1.6s
KPL AMS AMS 03 25 50.1
comp=Z,2µm,23.7s
W30A Crocket Farms 73.47 56 ⇓P P 02 58 19.3 +0.3
baz=73
Y28A McKinney Farm, 73.48 58 ⇓P P 02 58 19.1 -0.1
baz=73,SNR=24
GDL2 Guadalupe Moun 73.52 60 *eP* **P 02 58 19.8 +0.4**
comp=Z,94nm,1.3s
IKLH Kolahrood 73.56 302 *eP* **P 02 58 20.1 +0.3**
226B Tecolote Peak, 73.72 60 ⇑P P 02 58 20.9 +0.3
baz=74,SNR=48
BSEG Bad Segeberg 73.72 339 *eP* **P 02 58 20.6 +0.6**
comp=Z,155nm,1.4s
BSEG Bad Segeberg 73.72 339 *eP* **P 02 58 20.6 +0.6**
BSEG pmax pmax
comp=Z,155nm,1.4s
PALK Pallekele 73.73 263 P **P 02 58 21.9 +1.2**
comp=Z,368nm,0.8s,SNR=6.0
PALK Pallekele 73.73 263 *eP* **P 02 58 20.9 +0.1**
comp=Z,81nm,1.0s
PALK Pallekele 73.73 263 P **P 02 58 22.5 +1.8**
comp=Z,80nm,1.1s
127A Arkansas Junct 73.75 59 ⇑P P 02 58 20.6 -0.2
baz=74,SNR=9.1
325A Bean Ranch, Si 73.77 61 ⇑P P 02 58 20.9 0.0
baz=74,SNR=34
W31A Holland Ranch, 73.82 55 ⇓P P 02 58 21.2 +0.2
baz=74,SNR=31
Y29A Porterfield Fa 73.84 57 ⇓P P 02 58 21.5 +0.2
baz=74
X30A Coker Ranch, T 73.85 56 ⇑P P 02 58 21.2 -0.1
baz=74,SNR=22
Z28A Tucker Farm, M 73.86 58 ⇑P P 02 58 21.2 -0.2
baz=74,SNR=13
AS31 Alice Springs 73.91 199 *eP* **P 02 58 22.0 +0.6**
ASAR Alice Springs 73.92 199 P **P 02 58 21.7 +0.2**
ASAR P'P' 03 25 58.6
ASAR Alice Springs 73.92 199 P **P 02 58 21.7 +0.2**
comp=Z,58nm,0.8s,baz=13,slow=5.4,SNR=317
ASAR PKPPKP P'P'df 03 25 58.6 +8.0
comp=Z,0.8nm,0.7s,baz=178,slow=1.8,SNR=6.7
ASAR LR LR 03 27 43.0
comp=Z,2µm,21.4s,baz=14,slow=33
KIS Kishinev 73.94 325⇑ *iP* **P 02 58 21.0 -0.5**
comp=Z,700nm,2.4s
KIS *e*pP **pP 02 58 42.0 +4.3**
KIS Kishinev 73.94 325 *e*PP PP 03 01 05.0 -1.4
KIS Kishinev 73.94 325⇑ *iP* **P 02 58 21.0 -0.5**
KIS *e**PP **pP 02 58 42.0 +4.3**
KIS *e* 03 01 05.0
KIS *e*PPP PPP 03 02 54.0
KIS *e*S **SKiKP 03 07 40.0 -4.2**
KIS *e* 03 08 20.0
KIS *e* 03 08 42.0
KIS pmax pmax
comp=Z,700nm,2.4s
KIS pmax pmax
comp=Z,1µm,8.0s
KIS MLR MLR
comp=Z,4µm,20.0s
KIS MLR MLR
comp=N,7µm,21.0s
KIS MLR MLR
comp=E,2µm,17.0s
KIS MLR MLR
comp=Z,6µm,24.0s
KIS Kishinev 73.94 325⇑ *iP* **P 02 58 21.2 -0.3**
KWP Kalwaria Pacla 73.95 330 *eP* **P 02 58 21.9 +0.4**
KWP pmax pmax
comp=Z,678nm,1.5s
KWP MLR MLR
comp=Z,6µm,20.0s
KWP Kalwaria Pacla 73.95 330 *eP* **P 02 58 21.9 +0.4**
comp=Z,678nm,1.5s
KWP LR LR
comp=Z,6µm,20.0s
KWP Kalwaria Pacla 73.95 330⇑ *iP* **P 02 58 21.8 +0.3**
KWP Kalwaria Pacla 73.95 330 *eP* **P 02 58 21.8 +0.3**
KWP *e*PcP **PcP 02 58 32.7 -3.9**
KWP LMZ LR 03 28 28.8
RUE Ruedersdorf 74.16 336 *eP* **P 02 58 22.8 +0.2**
comp=Z,114nm,0.8s
425A Indio Mountain 74.19 62 ⇑P P 02 58 23.7 +0.4
baz=74,SNR=54
X31A McDonald Ranch 74.21 56 ⇑P P 02 58 23.4 +0.1
baz=74,SNR=32
Y30A Stafford Cattl 74.26 57 ⇑P P 02 58 23.7 +0.1
baz=74,SNR=44
Z29A Hungry Hill Ra 74.26 58 ⇓P P 02 58 24.1 +0.4
baz=74,SNR=47
227A Bennet, Jal 74.28 60 ⇓P P 02 58 23.6 -0.2
baz=74
128A Castleberry Fa 74.29 59 ⇓P P 02 58 24.1 +0.2
baz=74,SNR=39
326A Caldwell Ranch 74.39 60 ⇓P P 02 58 24.6 +0.1
baz=74,SNR=17
OJC Ojcow 74.39 332⇑ *iP* **P 02 58 24.2 +0.1**
OJC *e**PP **pP 02 58 40.7 +0.4**
OJC MLR MLR
comp=Z,6µm,18.9s
OJC Ojcow 74.39 332 *i P* **P 02 58 24.2 +0.1**
OJC *e*pP **pP 02 58 40.7 +0.4**
OJC L L 03 36 27.0
comp=Z,6µm,18.9s
EAB Aberfoyle 74.40 348⇑ *eP* **P 02 58 23.7 -0.3**
ESY Stoneypath 74.41 347⇑ *iP* **P 02 58 23.9 -0.1**
EDI Edinburgh 74.49 347⇑ *eP* **P 02 58 22.3 -2.2**
EDI AMS AMS 03 23 41.2
comp=Z,2µm,47.7s
Y31A Rekieta Farm, 74.55 56 ⇑P P 02 58 25.1 -0.2
baz=74,SNR=13
Z30A Sanderson Ranc 74.57 57 ⇑P P 02 58 25.5 0.0
baz=74,SNR=111
LEOM Leova 74.60 325 ⇑P P 02 58 25.2 -0.1
LEOM Leova 74.60 325⇑ *iP* **P 02 58 25.2 -0.1**
228A UT Block 9, Go 74.60 59 ⇑P P 02 58 25.7 0.0
baz=74,SNR=18
EBL Broad Law 74.62 347⇑ *iP* **P 02 58 25.1 -0.1**
STHS Stebnicka Huta 74.62 330 *eP* **P 02 58 26.4 +1.0**
STHS pmax pmax
comp=Z,81nm,1.0s
STHS Stebnicka Huta 74.62 330 *eP* **P 02 58 26.3 +0.9**
PRAR RASCA 74.62 326⇓ *iP* **P 02 58 25.0 -0.5**
327A Balmorhea Ranc 74.63 60 ⇑P P 02 58 26.1 +0.3
baz=74
129A Stewart Farms, 74.64 58 ⇑P P 02 58 25.7 -0.2
baz=74,SNR=6.3
KOLS Kolonicke sedl 74.69 330 *eP* **P 02 58 25.9 +0.1**
KOLS pmax pmax
comp=Z,95nm,1.4s
KOLS Kolonicke sedl 74.69 330 *eP* **P 02 58 25.9 +0.1**
KOLS *e* 03 08 21.4
KOLS *e* 03 13 43.0
BUR08 Bucovina Ar. S 74.76 327 *eP* **P 02 58 26.2 -0.2**
BURAR Bucovina Array 74.78 327 ⇓P P 02 58 26.0 -0.5
BURAR Bucovina Array 74.78 327⇓ *iP* **P 02 58 26.0 -0.5**
PGBU Glenifferbraes 74.79 348⇑ *eP* **P 02 58 26.4 +0.2**
PGBU AMB AMB 02 58 28.6
comp=Z,444nm,1.5s
WMOK Wichita Mounta 74.79 55 *eP* **P 02 58 26.6 -0.1**
WMOK pmax pmax
comp=Z,106nm,1.2s
WMOK MLR MLR
comp=Z,2µm,21.0s
WMOK Wichita Mounta 74.79 55 *eP* **P 02 58 26.6 -0.1**
comp=Z,106nm,1.2s
WMOK LR LR
comp=Z,2µm,21.0s
426A McDonald Obser 74.83 61 ⇑P P 02 58 27.1 -0.1
baz=75,SNR=42
IBND Bandar-abas 74.90 294 *eP* **P 02 58 27.1 -0.3**
KSP Ksiaz 74.92 334⇑ *eP* **P 02 58 26.3 -0.8**
KSP *e*S **S 03 07 56.0 -3.5**
KSP Ksiaz 74.92 334 *eP* **P 02 58 26.9 -0.2**
KSP LMZ LR 03 36 54.9
NIE Niedzica 74.92 331⇑ *iP* **P 02 58 27.2 0.0**
NIE *e**SP **sP 02 58 50.6 +0.6**
NIE MLR MLR
comp=Z,7µm,18.6s
NIE Niedzica 74.92 331 *i P* **P 02 58 27.2 0.0**
NIE *e*sP **sP 02 58 50.6 +0.6**
NIE L L 03 36 07.0
comp=Z,7µm,18.6s
ILIN Lien 74.94 306 *eP* **P 02 58 27.3 -0.5**
UZH Uzhgorod 74.94 329⇑ *iP* **P 02 58 26.6 -0.6**
UZH *e* 02 58 40.6
UZH *e*S **S 03 07 59.8 -0.1**
UZH *i* 03 08 25.2
UZH MLR MLR
comp=N,3µm,23.0s
UZH MLR MLR
comp=E,3µm,23.0s
UZH MLR MLR
comp=Z,900nm,23.0s
Y32A R-V Farms, Ver 74.97 56 ⇓P P 02 58 27.7 -0.1
baz=75,SNR=27
RAC Raciborz 75.01 332 *eP* **P 02 58 28.0 +0.4**
RAC MLR MLR
comp=Z,8µm,25.3s
328A Wristen Ranch, 75.02 60 ⇓P P 02 58 28.2 +0.2
baz=75,SNR=82
427A Hayter Ranch, 75.06 60 ⇓P P 02 58 28.5 +0.1
baz=75,SNR=39
ESK Eskdalemuir 75.08 347⇑ *eP* **P 02 58 27.9 0.0**
ESK AMB AMB 02 58 30.1
comp=Z,145nm,0.8s
ESK AMS AMS 03 24 24.9
comp=Z,2µm,35.8s
ESK Eskdalemuir 75.08 347 P **P 02 58 28.5 +0.6**
comp=Z,1µm,0.6s,SNR=92
ESK Eskdalemuir 75.08 347 *eP* **P 02 58 27.9 0.0**
ESK pmax pmax
comp=Z,119nm,0.6s
ESK MLR MLR
comp=Z,2µm,20.0s
ESK Eskdalemuir 75.08 347 *eP* **P 02 58 27.9 0.0**
comp=Z,119nm,0.6s
ESK LR LR
comp=Z,2µm,20.0s
NRDL Niedersach Rie 75.10 338 *eP* **P 02 58 28.0 0.0**
comp=Z,112nm,1.3s
Z31A Sharp Cattle R 75.10 57 ⇓P P 02 58 28.4 -0.1
baz=75,SNR=76
229A Bryant Ranch, 75.16 59 ⇑P P 02 58 29.2 +0.3
baz=75,SNR=28
130A Snyder 75.17 58 ⇑P P 02 58 28.9 0.0
baz=75,SNR=23
TESR Tescani 75.18 326⇓ *iP* **P 02 58 28.3 -0.4**
IKOM Komasi 75.20 305 *eP* **P 02 58 28.8 -0.4**
ECK Cauldkaine Hil 75.20 347⇑ *iP* **P 02 58 28.6 -0.1**
526A Mary Lane Ranc 75.24 61 ⇑P P 02 58 29.8 +0.3
baz=75,SNR=44
OKC Ostrava-Krasne 75.24 332 *i P* **P 02 58 29.6 +0.6**
OKC *e* 02 58 45.0
OKC *e*S **S 03 08 04.3 +1.1**
OKC MLR MLR
comp=Z,5µm,18.7s
OKC Ostrava-Krasne 75.24 332⇑ *iP* **P 02 58 29.6 +0.6**
OKC *e*sP sP 02 58 45.0 -6.7
OKC *e*S **S 03 08 04.3 +1.1**
OKC AMS AMS 03 36 20.0
comp=Z,5µm,18.7s
IPAR Pars 75.25 298 *eP* **P 02 58 30.2 +0.4**
GHRR 75.26 325⇓ *iP* **P 02 58 29.9 +0.8**
TRPA Tarpa 75.29 329⇑ *iP* **P 02 58 29.4 +0.2**
IVIS Veis 75.29 306 *eP* **P 02 58 29.4 -0.3**
UPC Upice 75.30 334 *i P* **P 02 58 29.8 +0.5**
UPC Upice 75.30 334⇑ *iP* **P 02 58 29.8 +0.5**
TRD Trivandrum 75.31 266⇓ *ex* Px 02 58 37.4
DPC Dobruska-Polom 75.34 334⇑ *iP* **P 02 58 29.8 +0.2**
DPC Dobruska-Polom 75.34 334⇑ *iP* **P 02 58 29.8 +0.2**
DPC *ex* x 03 13 55.4
DPC AMS AMS 03 37 30.0
XAL Allendale 75.37 346⇑ *eP* **P 02 58 29.4 -0.2**
329A Wagon Wheel Ra 75.42 59 ⇓P P 02 58 30.7 +0.3
baz=75,SNR=80
IDHR Dehrash 75.42 306 *eP* **P 02 58 29.8 -0.7**
CLL Collm 75.43 336 *eP* **P 02 58 29.8 -0.2**
comp=Z,178nm,0.8s
CLL Collm 75.43 336 *i P* **P 02 58 30.0 0.0**
CLL *e* 03 01 22.0
CLL pmax pmax
comp=Z,179nm,0.8s
CLL MLR MLR
comp=Z,7µm,21.7s
CLL Collm 75.43 336 *i P* **P 02 58 30.0 0.0**
comp=Z,179nm,0.8s
CLL *e* 03 00 16.0
CLL *e*PP **PP 03 01 22.0 +3.2**
CLL *e*PPP PPP 03 03 13.0
CLL *e* 03 05 30.0
CLL *e*S **S 03 08 00.0 -5.2**
CLL *e*PS **PnS 03 08 46.0 -1.3**
CLL *e*SS SS 03 13 12.0 +17
CLL *e* 03 18 00.0
CLL Lm MLR 03 34 00.0
comp=N,5µm,21.8s
CLL Lm MLR 03 34 00.0
comp=E,2µm,19.3s
CLL Lm MLR 03 34 00.0
comp=Z,7µm,21.7s
131A Roby 75.44 57 ⇓P P 02 58 30.6 +0.1
baz=75,SNR=23
TLCR 75.44 324 ⇓P P 02 58 30.2 +0.1
TLCR 75.44 324⇓ *iP* **P 02 58 30.2 +0.1**
527A Woodward Ranch 75.46 61 ⇑P P 02 58 30.8 0.0
baz=75,SNR=61
Z32A Haskell 75.47 56 ⇓P P 02 58 30.5 -0.2
baz=75,SNR=34
MORC Moravsky Berou 75.48 333 *eP* **P 02 58 30.9 +0.5**
MORC pmax pmax
comp=Z,102nm,0.8s
MORC Moravsky Berou 75.48 333 *eP* **P 02 58 30.9 +0.5**
comp=Z,102nm,0.8s
TUL1 Tulsa 75.51 52 *eP* **P 02 58 30.7 0.0**
TUL1 Tulsa 75.51 52 ⇑P P 02 58 30.6 -0.2
baz=75
ARCR ARCALIA 75.54 327⇑ *iP* **P 02 58 31.6 +0.9**
BRG Berggiesshubel 75.56 335 *i P* **P 02 58 30.6 -0.1**
comp=Z,50nm,0.8s
BRG PP **PP 03 01 21.0 +1.1**
BRG *i* 03 03 09.0
BRG S **S 03 08 12.0 +5.3**
BRG SS SS 03 13 13.0 +16
BRG
comp=N,6µm,21.2s
BRG
comp=E,2µm,21.8s
BRG
comp=Z,6µm,22.7s
BRG Berggiesshubel 75.56 335 *eP* **P 02 58 30.6 -0.1**
comp=Z,70nm,0.9s
BRG Berggiesshubel 75.56 335 *i P* **P 02 58 30.6 -0.1**
BRG 03 01 21.0
BRG *i* 03 03 09.0
BRG S **S 03 08 12.0 +5.3**
BRG pmax pmax
comp=Z,50nm,0.7s
BRG MLR MLR
comp=N,6µm,21.2s
BRG MLR MLR
comp=E,2µm,21.8s
BRG MLR MLR
comp=Z,6µm,22.7s
428A Kincaid Ranch, 75.57 60 ⇓P P 02 58 32.1 +0.8
baz=75,SNR=63
626A Big Bend Ranch 75.59 62 ⇑P P 02 58 31.5 +0.1
baz=76,SNR=78
230A Sterling City 75.61 58 ⇓P P 02 58 31.4 0.0
baz=76,SNR=37
PETR Petresti 75.61 325⇓ *iP* **P 02 58 32.1 +1.0**
CLZ Clausthal 75.63 338 *eP* **P 02 58 31.7 +0.5**
comp=Z,434nm,1.6s
CLZ Clausthal 75.63 338 *eP* **P 02 58 31.7 +0.5**
CLZ pmax pmax
comp=Z,434nm,1.6s
KECS Kecovo 75.68 330 *eP* **P 02 58 31.6 +0.1**
KECS pmax pmax
comp=Z,41nm,1.2s
KECS Kecovo 75.68 330 *eP* **P 02 58 31.6 +0.1**
VRI Vrincioaia 75.69 325 ⇓P P 02 58 31.9 +0.3
VRI Vrincioaia 75.69 325⇓ *iP* **P 02 58 31.9 +0.3**
PVCC Panska Ves 75.69 335 *i P* **P 02 58 31.0 -0.5**
PVCC MLR MLR
comp=Z,9µm,21.1s
PVCC Panska Ves 75.69 335⇑ *iP* **P 02 58 31.0 -0.5**
PVCC AMS AMS 03 33 40.0
comp=Z,9µm,21.1s
CFR Carcaliu 75.72 324 ⇑P P 02 58 31.4 -0.3
CFR Carcaliu 75.72 324⇑ *iP* **P 02 58 31.4 -0.3**
PLOR Plostina 75.73 325 ⇑P P 02 58 32.0 +0.1
PLOR Plostina 75.73 325⇑ *iP* **P 02 58 32.0 +0.1**
GAL1 Galloway 75.74 348⇑ *eP* **P 02 58 31.5 -0.1**
GAL1 AMB AMB 02 58 33.7
comp=Z,198nm,1.7s
GAL1 AMS AMS 03 32 58.9
comp=Z,2µm,25.4s
MBWA Marble Bar 75.74 213 P **P 02 58 33.0 +0.9**
SNR=7.1
MBWA Marble Bar 75.74 213 *eP* **P 02 58 31.9 -0.1**
comp=Z,91nm,1.0s
MBWA LR LR
comp=Z,942nm,19.0s
KESW Keswick, Cumbr 75.77 347⇑ *eP* **P 02 58 31.9 0.0**
KESW AMB AMB 02 58 34.3
comp=Z,337nm,1.6s
KESW AMS AMS 03 37 15.1
comp=Z,2µm,21.9s
LPIG La Paz 75.80 70 LR LR 03 26 15.8
comp=Z,492nm,20.1s,baz=97,slow=31
IBBN Ibbenburen 75.83 340 *eP* **P 02 58 32.5 +0.2**
comp=Z,130nm,0.9s
ABTX Abilene, Hawle 75.89 57 *eP* **P 02 58 33.1 +0.1**
ABTX Abilene, Hawle 75.89 57 ⇑P P 02 58 33.0 0.0
baz=76,SNR=25
528A Cox Ranch, San 75.93 61 ⇑P P 02 58 33.8 +0.5
baz=76,SNR=63
330A Mertzon 75.94 59 ⇓P P 02 58 33.1 -0.3
baz=76,SNR=46
GRER 76.00 325⇑ *iP* **P 02 58 34.4 +1.0**
IKAZ Kazeroun 76.01 299 *eP* **P 02 58 34.5 +0.4**
TXAR Lajitas Array 76.03 62 P **P 02 58 34.0 0.0**
TXAR PKKPbc **PKKPbc 03 17 47.2 +0.8**
TXAR P'P'ab 03 25 39.3
TXAR Lajitas Array 76.03 62 P **P 02 58 34.0 0.0**
comp=Z,68nm,0.7s,baz=298,slow=4.4,SNR=537
TXAR PKKPbc **PKKPbc 03 17 47.2 +0.8**
comp=Z,0.5nm,0.7s,baz=145,slow=4.9,SNR=6.4
TXAR PKP2ab 03 25 39.3
comp=Z,0.4nm,0.9s,baz=177,slow=2.5,SNR=4.2
231A Bronte 76.03 58 ⇓P P 02 58 33.5 -0.3
baz=76,SNR=19
627A Terlingua Ranc 76.10 61 ⇑P P 02 58 34.5 +0.1
baz=76,SNR=59
429A Davenport Ranc 76.10 60 ⇓P P 02 58 34.0 -0.3
baz=76,SNR=42
DOPR Dopca 76.11 326⇑ *iP* **P 02 58 35.2 +1.2**
CJR Cluj-Napoca 76.13 328 ⇓P P 02 58 34.6 +0.4
CJR Cluj-Napoca 76.13 328⇓ *iP* **P 02 58 34.6 +0.4**
HPK Haverah Park 76.14 346⇑ *eP* **P 02 58 34.0 0.0**
HPK AMB AMB 02 58 35.7
comp=Z,409nm,1.7s
HPK AMS AMS 03 37 38.7
comp=Z,2µm,16.8s
PRA Prague 76.14 335 ⇑P P 02 58 35.0 +0.9
PRA S **S 03 08 15.0 +1.9**
BANOM Banah 76.16 293 P **P 02 58 35.6 +0.9**
SNR=13
PRU Pruhonice 76.19 335⇑ *iP* **P 02 58 34.3 0.0**
PRU *e* 02 58 46.5
PRU *e*S **S 03 08 13.9 +0.3**
PRU *e* 03 09 01.6
PRU MLR MLR
comp=Z,7µm,20.8s
PRU Pruhonice 76.19 335⇑ *iP* **P 02 58 34.3 0.0**
PRU *e*pP **PcP 02 58 46.5 +0.3**
PRU *e*S **S 03 08 13.9 +0.3**
PRU *e*x x 03 09 01.6
PRU *e*x x 03 13 53.9
PRU AMS AMS 03 34 00.0
comp=Z,7µm,20.8s
VRAC Vranov 76.19 333 P **P 02 58 35.1 +0.7**
VRAC Vranov 76.19 333 P **P 02 58 35.1 +0.7**
comp=Z,101nm,0.8s,baz=32,slow=5.8,SNR=106
VRAC LR LR 03 38 07.8
comp=Z,10µm,19.2s,baz=37,slow=40
TIRR Tirgusor 76.20 323 *eP* **P 02 58 34.1 -0.4**
TIRR pmax pmax
comp=Z,66nm,0.8s
TIRR Tirgusor 76.20 323 *eP* **P 02 58 34.1 -0.4**
comp=Z,66nm,0.8s
TIRR Tirgusor 76.20 323⇑ *iP* **P 02 58 34.3 -0.2**
VYHS Vyhne 76.21 331 *eP* **P 02 58 35.1 +0.6**
VYHS pmax pmax
comp=Z,198nm,2.0s
VYHS Vyhne 76.21 331 *eP* **P 02 58 35.1 +0.6**
VYHS *e* 03 08 45.9
VYHS *e* 03 13 57.1
SLM Saint Louis 76.23 47 *eP* **P 02 58 34.8 0.0**
SLM *e* 02 58 47.8
SLM pmax pmax
comp=Z,186nm,1.4s
SLM Saint Louis 76.23 47 *eP* **P 02 58 34.8 0.0**
comp=Z,186nm,1.4s
SLM *e* 02 58 47.8
TLB Topalu 76.25 324 ⇑P P 02 58 34.4 -0.3
TLB Topalu 76.25 324⇑ *iP* **P 02 58 34.4 -0.3**

529A Stev Forest Ra 76.28 60 ⇓P P 02 58 35.6 +0.2
baz=76,SNR=47
MLR Muntele Rosu 76.30 325 P P 02 58 35.2 -0.1
MLR Muntele Rosu 76.30 325⇑*i*P P 02 58 35.9 +0.6
MLR Muntele Rosu 76.30 325 P P 02 58 35.2 -0.1
comp=Z,24nm,0.7s,baz=332,slow=4.0,SNR=145
MLR LR LR 03 34 40.9
comp=Z,1μm,21.8s,baz=9.4,slow=38
MDB Medias 76.33 327⇑P P 02 58 36.0 +0.7
MDB Medias 76.33 327⇑*i*P P 02 58 36.0 +0.7
SFIN Scholer Farm 76.34 44 *e*P P 02 58 35.1 -0.3
SFIN Scholer Farm 76.34 44⇑P P 02 58 34.9 -0.5
baz=76,SNR=11
430A Baggett Ranch, 76.36 59 ⇓P P 02 58 35.7 0.0
baz=76,SNR=63
PSZ Piszkesteto 76.36 330 *e*P P 02 58 36.1 +0.6
PSZ pmax pmax
comp=Z,346nm,1.6s
PSZ MLR MLR
comp=Z,4μm,20.0s
PSZ Piszkesteto 76.36 330 *e*P P 02 58 36.1 +0.6
comp=Z,346nm,1.6s
PSZ LR LR
comp=Z,4μm,20.0s
PSZ Piszkesteto 76.36 330⇑*i*P P 02 58 35.6 +0.1
WTSB Winterswijk 76.37 340 *e*P P 02 58 35.2 -0.1
comp=Z,120nm,0.7s
DRGR 76.38 328⇑P P 02 58 35.3 -0.3
DRGR 76.38 328⇑*i*P P 02 58 35.3 -0.3
TANN Tannenbergstha 76.38 336 *e*P P 02 58 35.6 +0.1
comp=Z,268nm,1.8s
ISR Istrita 76.39 325 ⇓P P 02 58 36.6 +1.0
ISR Istrita 76.39 325⇓*i*P P 02 58 36.6 +1.0
MOX Moxa 76.40 337 *e*P P 02 58 35.7 +0.1
comp=Z,514nm,2.2s
MOX *e*L L 03 35 22.4
comp=Z,6μm,20.9s
MOX Moxa 76.40 337 *e*P P 02 58 35.7 +0.1
MOX pmax pmax
comp=Z,514nm,2.2s
MOX MLR MLR
comp=Z,6μm,20.9s
LMK Market Rasen 76.40 345 *e*P P 02 58 35.2 -0.2
LMK AMB AMB 02 58 37.5
comp=Z,216nm,1.8s
331A San Angelo 76.43 58 ⇓P P 02 58 36.1 -0.1
baz=76,SNR=37
232A Coleman 76.44 57 ⇓P P 02 58 36.1 0.0
baz=76,SNR=24
CVD Cernavoda 76.47 323⇑*i*P P 02 58 36.6 +0.5
AMRR Amara 76.50 324 ⇓P P 02 58 36.9 +0.7
AMRR Amara 76.50 324⇓*i*P P 02 58 36.9 +0.7
GMM Mts of Mourne 76.52 348⇑*i*P P 02 58 35.7 -0.5
TREC Trest 76.53 334 *i* P P 02 58 36.3 -0.1
TREC *e* 02 58 54.4
TREC MLR MLR
comp=Z,9μm,19.2s
TREC Trest 76.53 334⇑*i*P P 02 58 36.3 -0.1
TREC *es*P **sP** **02 58 54.4 -4.8**
TREC *ex* x 03 14 16.4
TREC AMS AMS 03 37 40.0
comp=Z,9μm,19.2s
SMOL Smolenice 76.63 332 *e*P P 02 58 38.0 +1.1
SMOL Smolenice 76.63 332 *e*P P 02 58 38.0 +1.1
SECR 76.64 325⇓*i*P P 02 58 37.1 +0.1
UBBA Unterbreizbach 76.66 338 *e*P P 02 58 36.8 -0.1
comp=Z,218nm,1.6s
MANR Mangalia 76.67 323⇑*i*P P 02 58 37.9 +0.8
VOIR 76.68 326⇑P P 02 58 37.6 +0.2
VOIR 76.68 326⇑*i*P P 02 58 37.6 +0.2
KBSD Kabsdagh 76.71 311 *e*P P 02 58 36.4 -1.2
MALT Malatya 76.73 313⇑P P 02 58 38.8 +1.0
MALT Malatya 76.73 313⇑*i*P P 02 58 38.8 +1.0
BUG Bochum--Univer 76.75 340 *e*P P 02 58 37.3 -0.2
comp=Z,324nm,1.6s
332A Millersview 76.77 58 ⇓P P 02 58 38.1 +0.1
baz=77,SNR=62
530A J-C Ranch, Com 76.78 60 ⇑P P 02 58 38.2 +0.1
baz=77,SNR=39
431A Sonora 76.80 59 ⇓P P 02 58 38.0 -0.2
baz=77,SNR=61
KBI1 Birley Grange 76.80 345⇑*i*P P 02 58 37.8 0.0
SULR 76.87 325⇑*i*P P 02 58 38.1 -0.1
ARR Arges 76.90 326⇓*i*P P 02 58 39.3 +0.8
WBK Wadi Bani Khal 76.91 289 P P 02 58 40.6 +1.7
SNR=15
AEU East Anglia Un 76.92 344⇑*e*P P 02 58 38.5 +0.1
UOSS Wadi Hilu 76.93 293 P P 02 58 39.0 0.0
comp=Z,849nm,1.1s,SNR=40
ZST Bratislava 77.02 332 *e*P P 02 58 39.1 0.0
ZST Bratislava 77.02 332 *e*P P 02 58 39.1 0.0
BUD Budapest 77.03 331⇑*e* P 02 58 39.3 +0.2
ROTZ Rotzennuhle 77.04 336 *e*P P 02 58 39.6 +0.4
comp=Z,500nm,1.9s
STNC Stoke 77.07 346⇑*e*P P 02 58 38.9 -0.3
STNC AMB AMB 02 58 41.1
comp=Z,188nm,1.6s
DEV Deva 77.09 328 ⇓P P 02 58 40.4 +0.9
DEV Deva 77.09 328⇓*i*P P 02 58 40.4 +0.9
WME Myndd Eilian 77.11 347⇑*i*P P 02 58 39.2 -0.3
432A Menard 77.12 58 ⇓P P 02 58 39.8 -0.2
baz=77,SNR=31
LOT Lotru 77.15 327⇑*i*P P 02 58 39.3 -0.7
BUC Bucharest 77.15 325 ⇓P P 02 58 40.3 +0.4
SMDO Samad 77.16 290 P P 02 58 40.8 +0.4
SNR=21
OLIL Olney 77.18 45 *e*P P 02 58 40.2 0.0
comp=Z,245nm,1.4s
WPM1 Penmaenmawr 77.18 347⇑*i*P P 02 58 39.5 -0.4
SIRR Siria 77.20 328⇓*i*P P 02 58 39.9 -0.3
ASHO Ashiyiah 77.21 293 P P 02 58 40.8 +0.2
SNR=43
531A Rocksprings 77.22 59 ⇑P P 02 58 40.5 -0.1
baz=77,SNR=59
WLF1 Llynfaes 77.22 347⇑*e*P P 02 58 39.6 -0.5
WLF1 AMB AMB 02 58 41.1
comp=Z,97nm,2.0s
BUC1 Bucharest 77.23 325⇓*i*P P 02 58 40.3 0.0
KHC Kasperske Hory 77.23 335⇑*i*P P 02 58 40.3 0.0
KHC *e* 02 58 56.1
KHC *e*S **S** **03 08 22.2 -2.9**
KHC *e* 03 09 17.2
KHC MLR MLR
comp=Z,8μm,21.5s
KHC Kasperske Hory 77.23 335⇑*i*P P 02 58 40.3 0.0
KHC *ex* x 02 58 45.5
KHC *es*P sP 02 58 56.1 -7.0
KHC *e*S **S** **03 08 22.2 -2.9**
KHC *ex* x 03 09 17.2
KHC AMS AMS 03 34 40.0
comp=Z,8μm,21.5s
KHC Kasperske Hory 77.23 335 *e*P P 02 58 40.3 0.0
comp=Z,147nm,0.8s
HOQ Hoqain 77.24 291 P P 02 58 41.4 +0.7
SNR=48
PKSN Nyarlorinc 77.27 330⇓*e*SKSac P 02 58 41.3 +0.8
YRC Rhoscolyn 77.29 347⇓*e*P P 02 58 39.7 -0.7
PKSG 77.32 331⇓*e* P 02 58 41.6 +0.8
YLL Llanberis 77.33 347⇓*e*P P 02 58 39.9 -0.8
PKS7 Kunszentmiklos 77.37 330⇓*e*SKSac P 02 58 41.7 +0.7
GRF Grafenberg Arr 77.37 336 *e*P P 02 58 41.6 +0.5
comp=Z,226nm,0.9s
GRF *e*L L 03 36 22.8
comp=Z,7μm,20.9s
GRF Grafenberg Arr 77.37 336 *e*P P 02 58 41.6 +0.5
GRF pmax pmax
comp=Z,226nm,0.9s
GRF MLR MLR
comp=Z,6μm,20.9s
GRFO Grafenberg 77.37 336 *e*P P 02 58 41.4 +0.4
GRFO pmax pmax
comp=Z,166nm,0.8s
GRFO Grafenberg 77.37 336 *e*P P 02 58 41.4 +0.4
comp=Z,166nm,0.8s
JCT Junction City 77.41 58 *e*P P 02 58 41.5 -0.2
JCT pmax pmax
comp=Z,214nm,1.4s
JCT MLR MLR
comp=Z,2μm,20.0s
JCT Junction City 77.41 58 *e*P P 02 58 41.5 -0.2
comp=Z,214nm,1.4s
JCT LR LR
comp=Z,2μm,20.0s
JCT Junction City 77.41 58⇑P P 02 58 41.5 -0.2
baz=77,SNR=42

WET Wettzell 77.42 335 *e*P P 02 58 41.9 +0.6
comp=Z,116nm,0.8s
WET Wettzell 77.42 335 *e*P P 02 58 41.9 +0.6
WET pmax pmax
comp=Z,116nm,0.8s
FOEL Foel Wylfa 77.43 346⇑*e*P P 02 58 41.4 +0.1
FOEL AMB AMB 02 58 42.9
comp=Z,221nm,1.8s
FOEL AMS AMS 03 39 38.8
comp=Z,2μm,21.0s
SIUC Southern Illin 77.45 47 *e*P P 02 58 41.8 +0.2
comp=Z,276nm,1.4s
GEC2 GERESS Array S 77.45 335 *e*P P 02 58 41.7 +0.1
comp=Z,67nm,0.7s
GEC2 GERESS Array S 77.45 335 *e*P P 02 58 41.7 +0.1
GEC2 pmax pmax
comp=Z,67nm,0.7s
GERES GERESS Array B 77.45 335 P P 02 58 41.6 0.0
GERES P'P' 03 25 42.6
GERES GERESS Array B 77.45 335 P P 02 58 41.6 0.0
comp=Z,53nm,0.6s,baz=31,slow=5.0,SNR=557
GERES PKPPKP P'P'df 03 25 42.6 -10
comp=Z,0.8nm,0.9s,baz=221,slow=1.2,SNR=5.3
GERES LR LR 03 35 15.2
comp=Z,8μm,21.6s,baz=18,slow=38
YRE Yr Eifl 77.53 347⇑*i*P P 02 58 41.5 -0.3
PKST T``s 77.55 331⇓*e* P 02 58 42.6 +0.5
GZR Gura Zlata 77.56 327 ⇓P P 02 58 42.3 +0.1
GZR Gura Zlata 77.56 327⇓*i*P P 02 58 42.3 +0.1
MZRK Al-Mazaregh 77.57 310 *e*P P 02 58 43.4 +1.0
BLO Bloomington 77.57 44 *e*P P 02 58 42.1 -0.2
BLO pmax pmax
comp=Z,45nm,0.9s
BLO Bloomington 77.57 44 *e*P P 02 58 42.1 -0.2
comp=Z,46nm,0.9s
WHTX Lake Whitney 77.58 56 *e*P P 02 58 42.8 +0.3
WHTX Lake Whitney 77.58 56⇑P P 02 58 42.5 -0.1
baz=77
TNS Taunus Mts 77.60 338 *e*P P 02 58 42.6 +0.2
comp=Z,143nm,1.1s
TNS Taunus Mts 77.60 338 *e*P P 02 58 42.6 +0.2
TNS pmax pmax
comp=Z,143nm,1.1s
532A Rocksprings 77.61 59 ⇓P P 02 58 42.6 -0.2
baz=78,SNR=64
JMDO Jabal Madar 77.63 290 P P 02 58 43.5 +0.5
SNR=34
CONA Conrad Observa 77.64 333 *i* P P 02 58 43.3 +0.6
comp=Z,134nm,1.0s,SNR=74
SOP Sopron 77.64 332⇑*e* P 02 58 43.2 +0.6
PRD Provadia 77.66 323 P P 02 58 42.8 +0.1
HGN Heimansgroeve 77.69 340 *e*P P 02 58 42.6 -0.1
comp=Z,491nm,1.6s
HGN *e*PP PP 03 01 32.1 -5.6
HGN *e*PPP PPP 03 03 52.7
HGN *e*S S 03 08 38.7 +8.8
HGN *e*SS SS 03 13 40.7 +11
BEBN Eben Emael 77.72 340 P P 02 58 43.0 +0.1
comp=Z,59nm,0.8s
MIAR Mount Ida 77.72 52 *e*P P 02 58 43.3 +0.1
MIAR pmax pmax
comp=Z,122nm,1.1s
MIAR MLR MLR
comp=Z,2μm,19.0s
MIAR Mount Ida 77.72 52 *e*P P 02 58 43.3 +0.1
comp=Z,122nm,1.1s
MIAR LR LR
comp=Z,2μm,19.0s
HLM1 Long Mynd 77.73 346⇑*e*P P 02 58 42.9 -0.2
HLM1 AMB AMB 02 58 45.4
comp=Z,173nm,1.8s
631A Perdido Creek 77.77 60 ⇑P P 02 58 43.6 0.0
baz=78,SNR=28
BZS Buzias 77.78 328 ⇓P P 02 58 42.6 -0.8
BZS Buzias 77.78 328⇓*i*P P 02 58 42.6 -0.8
TIM Timisoara 77.81 328⇑*i*P P 02 58 44.6 +1.1
MEM Membach 77.82 340 P P 02 58 43.3 -0.2
comp=Z,144nm,1.6s
BR131 Keskin Array S 77.85 317 *e*P P 02 58 44.3 +0.2
comp=Z,79nm,0.7s
BRTR Keskin Array B 77.85 317 P P 02 58 44.2 +0.2
BRTR P'P'ab 03 25 36.5
BRTR P'P' 03 25 49.5
BRTR Keskin Array B 77.85 317 P P 02 58 44.2 +0.2
comp=Z,112nm,0.8s,baz=69,slow=3.5,SNR=411
BRTR PKP2ab 03 25 36.5
comp=Z,0.6nm,0.8s,baz=238,slow=7.1,SNR=3.8
BRTR PKPPKP **P'P'df** **03 25 49.5 -2.3**
comp=Z,0.5nm,0.9s,baz=220,slow=3.8,SNR=3.5
BRTR LR LR 03 38 42.8
comp=Z,3μm,19.4s,baz=211,slow=40
ARQ Araqi 77.91 291 P P 02 58 45.4 +0.9
SNR=22
BSY Bisya 77.92 290 P P 02 58 45.5 +1.0
SNR=49
USIN University of 78.00 46 *e*P P 02 58 45.2 +0.5
comp=Z,544nm,1.4s
UCC Uccle 78.01 341 P P 02 58 44.9 +0.4
comp=Z,56nm,1.6s
PARMO Parma 78.01 48 *e*P P 02 58 45.1 +0.3
SRE Strehaia 78.03 327 ⇑P P 02 58 44.9 +0.1
SRE Strehaia 78.03 327⇑*i*P P 02 58 44.8 0.0
LONY Lake Ozonia 78.03 33 *e*P P 02 58 44.2 -0.6
comp=Z,46nm,1.0s
LONY *e* 02 58 54.3
LONY LR LR
comp=Z,2μm,20.0s
PKS9 Tamasi 78.06 331⇓*e* P 02 58 44.8 -0.1
ZIMR 78.07 325 ⇓P P 02 58 44.6 -0.4
ZIMR 78.07 325⇓*i*P P 02 58 44.6 -0.4
SSW Stow on the Wo 78.10 345⇑*e*P P 02 58 45.1 +0.1
ANTO Ankara 78.12 318 *e*P P 02 58 46.0 +0.6
ANTO pmax pmax
comp=Z,166nm,0.6s
ANTO MLR MLR
comp=Z,5μm,21.0s
ANTO Ankara 78.12 318 P P 02 58 46.4 +0.9
SNR=40
ANTO Ankara 78.12 318 *e*P P 02 58 46.0 +0.6
comp=Z,166nm,0.6s
ANTO LR LR
comp=Z,5μm,21.0s
ANTO Ankara 78.12 318⇑*i*P P 02 58 46.1 +0.6
632A Uvalde 78.15 59 ⇓P P 02 58 45.8 0.0
baz=78,SNR=34
SKP1 Kophill 78.15 345⇑*i*P P 02 58 44.8 -0.6
BCLA Clavier 78.15 340 P P 02 58 45.4 0.0
comp=Z,122nm,1.6s
SZH Strazhica 78.18 324 P P 02 58 44.9 -0.8
UALR University of 78.18 51 *e*P P 02 58 45.8 +0.1
comp=Z,177nm,1.8s
MOA Molln 78.19 334 *i* P P 02 58 45.9 +0.3
comp=Z,81nm,0.8s,SNR=46
FRNY Flat Rock 78.21 33 *e*P P 02 58 45.1 -0.7
comp=Z,40nm,1.1s
MCH1 Michaelchurch 78.26 346⇑*e*P P 02 58 44.1 -1.8
MCH1 AMB AMB 02 58 46.6
comp=Z,180nm,1.7s
MCH1 AMS AMS 03 38 32.6
comp=Z,2μm,17.1s
PKSM Moragy 78.27 330 ⇑P P 02 58 45.1 -1.0
PKSM Moragy 78.27 330⇑*i*P P 02 58 45.1 -1.0
PKSM Moragy 78.27 330⇑*e* P 02 58 45.2 -0.9
SNF Seneffe 78.30 341 P P 02 58 46.1 0.0
ACSO Alum Creek Sta 78.31 41 *e*P P 02 58 46.6 +0.1
comp=Z,214nm,1.5s
ACSO LR LR
comp=Z,2μm,20.0s
LPW Lampeter 78.31 347⇑*e*P P 02 58 45.9 -0.3
LPW AMB AMB 02 58 47.5
comp=Z,749nm,1.6s
ELSH Elham, Standar 78.34 343⇑*e*P P 02 58 46.2 -0.1
ELSH AMB AMB 02 58 48.2
comp=Z,382nm,1.0s
ELSH AMS AMS 03 38 12.9
comp=Z,5μm,21.4s
ARSA Arzberg 78.35 333⇑*i*P P 02 58 47.1 +0.5
comp=Z,159nm,1.3s,SNR=66
ALLY Aleghenу Colle 78.36 39 *e*P P 02 58 47.2 +0.5
comp=Z,243nm,1.3s
ARMA Armidale 78.36 182 *e*P P 02 58 47.5 +0.8
comp=Z,138nm,0.9s
GNAR Gosnell 78.43 48 *e*P P 02 58 47.8 +0.7
comp=Z,6μm,1.4s
HBAR Harrisburg 78.43 49 *e*P P 02 58 47.7 +0.6
WCI Wyandotte Cave 78.43 44 *e*P P 02 58 47.2 +0.1

WCI *e* 02 59 00.4
WCI pmax pmax
comp=Z,550nm,1.6s
WCI Wyandotte Cave 78.43 44 *e*P P 02 58 47.2 +0.1
comp=Z,550nm,1.6s
WCI *e* 02 59 00.4
SWN1 Swindon 78.52 345⇑*e*P P 02 58 47.9 +0.5
SWN1 AMB AMB 02 58 50.1
comp=Z,726nm,0.8s
UMR Umm Al-Rimmam 78.56 302 *e*P P 02 58 48.1 +0.2
UMR AMb AMB 02 58 51.1
comp=Z,342nm,0.9s
GIVF Givet 78.56 341⇑*i*P P 02 58 47.4 -0.2
comp=Z,117nm,0.8s
GIVF Givet 78.56 341⇑*i*P P 02 58 47.4 -0.2
GIVF pmax pmax
comp=Z,117nm,0.8s
GIVF Givet 78.56 341⇑*i*P P 02 58 47.4 -0.2
comp=Z,117nm,0.8s
JMB Yambol 78.60 323 P P 02 58 48.3 +0.3
JMB Yambol 78.60 323 P P 02 58 48.3 +0.3
JMB Yambol 78.60 323 P P 02 58 48.3 +0.3
DOU Dourbes 78.61 341 P P 02 58 47.7 -0.2
comp=Z,82nm,1.7s
WOL Wolverton 78.62 345⇑*e*P P 02 58 47.9 0.0
WOL AMB AMB 02 58 49.1
comp=Z,270nm,0.7s
732A Laxson Ranch, 78.63 60 ⇑P P 02 58 49.0 +0.6
baz=78,SNR=63
BEHE Becsehely 78.65 332⇑*e* P 02 58 48.2 0.0
WLF Walferdange 78.67 340 P P 02 58 48.4 +0.1
WLF Walferdange 78.67 340 *e*P P 02 58 48.7 +0.5
comp=Z,142nm,1.4s
WLF Walferdange 78.67 340 *e*P P 02 58 48.3 +0.1
WLF pmax pmax
comp=Z,262nm,1.6s
WLF MLR MLR
comp=Z,9μm,20.0s
WLF Walferdange 78.67 340 *e*P P 02 58 48.3 +0.1
comp=Z,262nm,1.6s
WLF LR LR
comp=Z,9μm,20.0s
RJOB Jochberg 78.72 335 *e*P P 02 58 49.2 +0.6
comp=Z,117nm,0.9s
NCB Newcomb 78.72 34 *e*P P 02 58 48.3 -0.3
comp=Z,78nm,1.1s
NCB LR LR
comp=Z,2μm,21.0s
BAIF Baives 78.73 341⇑*i*P P 02 58 48.5 -0.1
comp=Z,137nm,0.8s
BAIF Baives 78.73 341⇑*i*P P 02 58 48.5 -0.1
BAIF pmax pmax
comp=Z,137nm,0.8s
BAIF Baives 78.73 341⇑*i*P P 02 58 48.5 -0.1
comp=Z,137nm,0.8s
STU Stuttgart 78.75 337 *e*P P 02 58 48.8 +0.1
comp=Z,254nm,1.5s
STU Stuttgart 78.75 337 *e*P P 02 58 48.6 -0.1
STU pmax pmax
comp=Z,182nm,1.2s
STU Stuttgart 78.75 337 *e*P P 02 58 48.6 -0.1
comp=Z,182nm,1.2s
FUR Furstenfeldbru 78.75 336 *e*P P 02 58 49.2 +0.5
comp=Z,229nm,1.1s
FUR Furstenfeldbru 78.75 336 *e*P P 02 58 49.2 +0.5
FUR pmax pmax
comp=Z,229nm,1.1s
HMNX Herstmonceux 78.76 344⇑*e*P P 02 58 49.4 +0.7
HMNX AMB AMB 02 58 51.7
comp=Z,471nm,0.8s
HMNX AMS AMS 03 38 39.6
comp=Z,4μm,17.7s
COCO West Island 78.77 237 PFAKE 02 59 00.0 +11
COCO LR LR
comp=Z,1μm,20.0s
HALT Halls 78.81 48 *e*P P 02 58 48.7 -0.5
KBD Kabd 78.85 301 *e*P P 02 58 49.3 -0.3
KBD AMb AMB 02 58 52.9
comp=Z,176nm,0.9s
LANF Langenberg 78.91 338 *e*P P 02 58 49.7 +0.1
MPEP Malo Peshtene 78.95 326 P P 02 58 49.5 -0.4
RST Umm Al-Ruwaisa 79.00 302 *e*P P 02 58 49.9 -0.5
RST AMb AMB 02 58 53.7
comp=Z,3μm,0.9s
SOKA Soboth 79.01 333 *i* P P 02 58 50.5 +0.2
comp=Z,260nm,1.1s,SNR=121
QRN Al-Qurain 79.05 301 *e*P P 02 58 50.7 +0.1
QRN AMb AMB 02 58 54.0
comp=Z,454nm,1.1s
NAY Al-Naaiem 79.05 302 *e*P P 02 58 50.2 -0.4
NAY AMb AMB 02 58 54.3
comp=Z,11nm,1.4s
MDV Middlebury 79.08 33 *e*P P 02 58 51.3 +0.8
RDF Al-Radifah 79.12 301 *e*P P 02 58 51.4 +0.3
RDF AMb AMB 02 58 55.1
comp=Z,606nm,1.2s
KBA Koelnbreinsper 79.15 334 *i* P P 02 58 51.7 +0.6
comp=Z,437nm,0.7s,SNR=296
STR Strasbourg 79.28 338 *e*P P 02 58 52.3 +0.7
NATX Nacogdoches 79.29 54 *e*P P 02 58 52.8 +0.9
comp=Z,275nm,1.1s
NATX LR LR
comp=Z,2μm,22.0s
OBKA Obir 79.31 333 *i* P P 02 58 51.9 0.0
comp=Z,84nm,0.7s,SNR=31
VAL Valentia 79.31 350 *e*P P 02 58 52.4 +0.8
LBNH Lisbon 79.32 32 *e*P P 02 58 52.4 +0.5
LBNH pmax pmax
comp=Z,97nm,1.4s
LBNH MLR MLR
comp=Z,2μm,20.0s
LBNH Lisbon 79.32 32 *e*P P 02 58 52.4 +0.5
comp=Z,97nm,1.4s
LBNH LR LR
comp=Z,2μm,20.0s
PKME Peaks-Kenny Pk 79.32 30 *e*P P 02 58 52.7 +0.9
comp=Z,54nm,1.2s
PKME LR LR
comp=Z,2μm,19.0s
DIM Dimitrovgrad 79.37 324 P P 02 58 52.3 +0.1
BFO Black Forest 79.38 338 P P 02 58 52.8 +0.6
comp=Z,786nm,1.4s,SNR=57
BFO Black Forest 79.38 338 *e*P P 02 58 52.3 +0.1
comp=Z,224nm,1.3s
BFO Black Forest 79.38 338 *e*P P 02 58 52.2 +0.1
BFO pmax pmax
comp=Z,230nm,1.3s
BFO MLR MLR
comp=Z,4μm,21.0s
BFO Black Forest 79.38 338 *e*P P 02 58 52.2 0.0
comp=Z,230nm,1.3s
BFO LR LR
comp=Z,4μm,21.0s
WVT Waverly 79.38 47 *e*P P 02 58 52.5 +0.1
WVT pmax pmax
comp=Z,247nm,0.8s
WVT Waverly 79.38 47 *e*P P 02 58 52.5 +0.1
comp=Z,247nm,0.8s
ACCN Adirondack Com 79.43 33 *e*P P 02 58 52.5 -0.1
comp=Z,127nm,1.2s
ACCN *e* 02 59 04.9
HTL Hartland 79.47 347⇑*e*P P 02 58 52.1 -0.4
HTL AMB AMB 02 58 54.2
comp=Z,266nm,1.8s
HTL AMS AMS 03 39 43.2
comp=Z,3μm,23.1s
MYKA Terra Mystica 79.47 334⇑*i*P P 02 58 52.6 -0.2
comp=Z,94nm,0.7s,SNR=53
PGB Panagyurishte 79.47 325 P P 02 58 52.5 -0.3
WTTA Wattenberg 79.47 335⇑*i*P P 02 58 53.7 +0.8
comp=Z,315nm,0.7s,SNR=154
RETA Reutte 79.51 336 *i* P P 02 58 53.4 +0.5
comp=Z,120nm,0.7s,SNR=49
WLS Welschbruch 79.54 338 *e*P P 02 58 53.0 -0.1
MOTA Moosalm 79.55 336⇑*i*P P 02 58 53.6 +0.3
comp=Z,188nm,0.7s,SNR=200
CDF Champ du Feu 79.56 338⇑*i*P P 02 58 53.2 -0.1
comp=Z,313nm,1.0s
CDF Champ du Feu 79.56 338⇑*i*P P 02 58 53.2 -0.1
CDF pmax pmax
comp=Z,313nm,1.0s
CDF Champ du Feu 79.56 338⇑*i*P P 02 58 53.2 -0.1
comp=Z,313nm,1.0s
BINY Binghamton 79.57 36 PFAKE 02 59 10.0 +17
BINY LR LR
comp=Z,3μm,22.0s

PLD	Plovdiv	79.65 324	P	P	02 58 53.3	-0.4
PLD	Plovdiv	79.65 324	P	P	02 58 53.3	-0.4
PLD	Plovdiv	79.65 324	P	P	02 58 53.3	-0.4
DIVS	Divibare	79.67 328	P	P	02 58 53.3	-0.6
ABTA	Abfaltersbach	79.69 334⇑	iP	P	02 58 53.8	-0.2
	comp=Z,138nm,1.3s,SNR=44					
KDZ	Kurdzhali	79.75 324	P	P	02 58 54.5	+0.2
ECH	Echery	79.78 338	eP	P	02 58 54.2	-0.1
ECH			pmax	pmax		
	comp=Z,115nm,0.9s					
ECH			MLR	MLR		
	comp=Z,5μm,22.0s					
ECH	Echery	79.78 338	eP	P	02 58 54.3	-0.1
ECH	Echery	79.78 338	eP	P	02 58 54.2	-0.1
	comp=Z,115nm,0.9s					
ECH			LR	LR		
	comp=Z,5μm,22.0s					
PAGF	Fort de Pagny	79.80 339⇑	iP	P	02 58 54.8	+0.4
	comp=Z,120nm,0.7s					
PAGF	Fort de Pagny	79.80 339⇑	iP	P	02 58 54.8	+0.4
	comp=Z,120nm,0.7s					
VTS	Vitosha	79.80 326	P	P	02 58 54.3	-0.4
VTS	Vitosha	79.80 326	⇓P	P	02 58 55.0	+0.3
VTS	Vitosha	79.80 326	P	P	02 58 54.3	-0.4
VTS	Vitosha	79.80 326	⇓iP	P	02 58 55.0	+0.3
VTS	Vitosha	79.80 326	P	P	02 58 54.1	-0.6
WVL	Waterville	79.82 30	eP	P	02 58 54.8	+0.2
	comp=Z,208nm,1.3s					
STEIN	Stein am Rhein	79.85 337⇑	iP	P	02 58 54.5	-0.2
	comp=Z,1μm,1.8s					
VISS	Visnje	79.85 333	i P	P	02 58 54.2	-0.6
SLE	Schleitheim	79.86 337⇑	iP	P	02 58 54.9	+0.1
	comp=Z,497nm,2.5s					
ARNB	Al Arnab	79.87 313	eP	P	02 58 55.8	+0.7
OXF	Oxford	79.88 49	eP	P	02 58 55.0	-0.1
OXF			pmax	pmax		
	comp=Z,332nm,1.2s					
OXF			MLR	MLR		
	comp=Z,3μm,21.0s					
OXF	Oxford	79.88 49	eP	P	02 58 55.0	-0.1
	comp=Z,332nm,1.2s					
OXF			LR	LR		
	comp=Z,3μm,21.0s					
DYA	Yadsworthy	79.92 346⇑	eP	P	02 58 54.4	-0.6
DYA			AMB	AMB	02 58 56.5	
	comp=Z,326nm,1.7s					
DYA			AMS	AMS	03 41 15.1	
	comp=Z,3μm,16.9s					
DAVA	Damuels	79.94 336⇑	iP	P	02 58 55.8	+0.4
	comp=Z,149nm,0.8s,SNR=51					
VOY	Vojsko	79.94 333⇑	eP	P	02 58 54.0	-1.3
VOY			e		02 59 15.8	
VOY			e		02 59 36.0	
FETA	Feichten	79.95 336⇑	iP	P	02 58 56.0	+0.6
	comp=Z,248nm,1.4s,SNR=92					
WEIN	Weingarten	79.95 337⇑	iP	P	02 58 55.4	+0.1
	comp=Z,687nm,1.5s					
BOJS	Bojanci	79.99 332	i P	P	02 58 55.0	-0.5
BOJS			i S	SKiKP	03 08 07.6	+14
RZN	Rozhen	80.00 324	P	P	02 58 55.7	-0.1
JAVS	Javornik	80.01 333	i P	P	02 58 54.6	-1.1
MEZF	Maizieres J'vi	80.01 340⇑	iP	P	02 58 55.8	+0.3
	comp=Z,282nm,0.7s					
MEZF	Maizieres J'vi	80.01 340⇑	iP	P	02 58 55.8	+0.3
	comp=Z,282nm,0.7s					
FLACH	Flaach	80.02 337⇑	iP	P	02 58 55.6	0.0
	comp=Z,503nm,1.6s					
LIENZ	Kamor/St.Gall	80.03 337⇑	iP	P	02 58 55.9	0.0
	comp=Z,373nm,1.5s					
HKT	Hockley	80.04 56	eP	P	02 58 56.5	+0.6
HKT			pmax	pmax		
	comp=Z,180nm,1.9s					
HKT	Hockley	80.04 56	eP	P	02 58 56.5	+0.6
	comp=Z,180nm,1.9s					
THEF	They Montfort	80.05 339	eP	P	02 58 56.0	+0.2
WILA	Wila	80.08 337⇑	iP	P	02 58 56.1	+0.1
	comp=Z,711nm,1.6s					
FFD	Franklin Falls	80.09 32	eP	P	02 58 57.4	+1.4
	comp=Z,699nm,1.9s					
MOF	Molkenrain	80.12 338	eP	P	02 58 56.2	-0.1
SSPA	Standing Stone	80.14 38	eP	P	02 58 56.3	0.0
	comp=Z,85nm,1.3s					
MCWV	Mont Chateau	80.14 39	eP	P	02 58 56.8	+0.4
	comp=Z,158nm,1.3s					
MCWV			LR	LR		
	comp=Z,4μm,19.0s					
HAU	Haudompre	80.17 339⇑	iP	P	02 58 56.3	-0.2
	comp=Z,162nm,0.8s					
HAU			eR			
	comp=Z,11μm,23.0s					
HAU	Haudompre	80.17 339⇑	iP	P	02 58 56.3	-0.2
HAU			pmax	pmax		
	comp=Z,162nm,0.8s					
HAU	Haudompre	80.17 339⇑	iP	P	02 58 56.3	-0.2
	comp=Z,162nm,0.8s					
SULZ	Cheisacher	80.18 338⇑	iP	P	02 58 56.5	0.0
	comp=Z,855nm,1.8s					
ZUR	Degenried	80.20 337⇑	iP	P	02 58 56.9	+0.3
	comp=Z,667nm,1.4s					
HINF	Hinteralfeld	80.22 338⇑	iP	P	02 58 56.4	-0.4
	comp=Z,96nm,0.9s					
HINF	Hinteralfeld	80.22 338⇑	iP	P	02 58 56.4	-0.4
HINF			pmax	pmax		
	comp=Z,96nm,0.9s					
HINF	Hinteralfeld	80.22 338⇑	iP	P	02 58 56.4	-0.4
	comp=Z,96nm,0.9s					
TRI	Trieste	80.27 333	eP	P	02 58 55.9	-1.0
TRI			pmax	pmax		
	comp=Z,78nm,0.6s					
TRI	Trieste	80.27 333	eP	P	02 58 55.9	-1.0
	comp=Z,78nm,0.6s					
PLONS	Plons/SG	80.29 337⇑	iP	P	02 58 57.4	+0.2
	comp=Z,560nm,1.7s					
SFTF	Sexfontaines	80.29 340⇑	iP	P	02 58 57.1	0.0
	comp=Z,562nm,0.8s					
SFTF	Sexfontaines	80.29 340⇑	iP	P	02 58 57.1	0.0
	comp=Z,562nm,0.8s					
CCA1	Carnmenellis	80.36 347⇑	eP	P	02 58 57.2	-0.2
CCA1			AMB	AMB	02 58 59.8	
	comp=Z,186nm,1.2s					
DAVOX	Davos/Dischmat	80.40 336⇑	iP	P	02 58 58.3	+0.4
	comp=Z,405nm,1.3s					
DAVOX	Davos/Dischmat	80.40 336	P	P	02 58 58.5	+0.6
DAVOX	Davos/Dischmat	80.40 336	P	P	02 58 58.5	+0.6
	comp=Z,131nm,0.7s,baz=10,slow=3.4,SNR=169					
DAVOX			LR	LR	03 40 15.4	
	comp=Z,4μm,18.4s,baz=25,slow=40					
EMMW	East Machias	80.41 29	eP	P	02 58 58.0	+0.3
	comp=Z,396nm,1.4s					
RAR	Rarotonga	80.42 137	PFAKE		02 59 10.0	+12
RAR			LR	LR		
	comp=Z,4μm,20.0s					
FUORN	Ofenpass-Fuorn	80.44 336⇑	iP	P	02 58 58.4	+0.2
	comp=Z,1μm,2.5s					
BALST	Balsthal	80.46 338⇑	iP	P	02 58 58.6	+0.5
	comp=Z,1μm,1.4s					
MMB	Musomiste	80.46 325	P	P	02 58 58.3	+0.1
KKB	Krupnik	80.47 325	P	P	02 58 58.0	-0.2
BOURR	Bourrignon	80.52 338⇑	iP	P	02 58 58.9	+0.5
	comp=Z,416nm,1.5s					
PLE	Pljevlja	80.55 328⇑	iP	P	02 58 58.2	-0.5
MUO	Muotathal	80.56 337⇑	iP	P	02 58 59.0	+0.2
	comp=Z,641nm,1.4s					
LLS	Linth-Limmern	80.57 337⇑	iP	P	02 58 59.1	+0.2
	comp=Z,347nm,1.2s					
STKA	Stephens Creek	80.59 191	eP	P	02 58 58.3	-0.3
	comp=Z,8.9nm,0.9s					
STKA	Stephens Creek	80.59 191	P	P	02 58 58.2	-0.3
	comp=Z,23nm,0.6s,baz=351,slow=6.7,SNR=55					
STKA			LR	LR	03 34 35.3	
	comp=Z,2μm,20.7s,baz=7.6,slow=36					
NVR	Nevrokopi	80.62 325	P	P	02 58 58.9	-0.1
NVR	Nevrokopi	80.62 325	eP	P	02 58 58.5	-0.5
NVR	Nevrokopi	80.62 325	P	P	02 58 58.9	-0.1
LOMF	Lomont	80.66 338	eP	P	02 58 59.4	+0.2
KAVA	Kavala	80.67 324	P	P	02 58 58.9	-0.3
KAVA	Kavala	80.67 324	P	P	02 58 58.9	-0.3
BERNI	Berninapass	80.70 336⇑	iP	P	02 58 59.7	+0.1
	comp=Z,384nm,1.3s					
BNALP	Bannalp	80.70 337⇑	iP	P	02 59 00.1	+0.6
	comp=Z,360nm,1.6s					
SMTH	Samothraki Isl	80.71 323	P	P	02 58 58.4	-1.1
SMTH	Samothraki Isl	80.71 323	eP	P	02 58 57.6	-1.9
SMTH	Samothraki Isl	80.71 323	P	P	02 58 58.4	-1.1
KVTX	Kingsville	80.72 59	eP	P	02 59 01.7	+2.0
	comp=Z,114nm,1.0s					
KVTX			LR	LR		
	comp=Z,1μm,19.0s					
IVA	Berane	80.78 328⇑	iP	P	02 58 59.1	-0.8
TAOE	Nuku Hiva Isla	80.79 114	eLR	LR	03 24 00.5	
	comp=Z,12μm,24.7s					
VDL	Val di Lei	80.79 336⇑	iP	P	02 59 00.5	+0.5
	comp=Z,235nm,0.7s					
ISP	Isparta	80.81 318	P	P	02 58 59.5	-0.6
ISP	Isparta	80.81 318	eP	P	02 58 59.6	-0.6
ISP			pmax	pmax		
	comp=Z,88nm,0.6s					
ISP			MLR	MLR		
	comp=Z,4μm,20.0s					
ISP	Isparta	80.81 318	eP	P	02 58 59.6	-0.6
	comp=Z,88nm,0.6s					
ISP			LR	LR		
	comp=Z,4μm,20.0s					
ISP	Isparta	80.81 318	⇓iP	P	02 58 59.9	-0.3
TUE	Stuetta	80.83 336	eP	P	02 59 00.6	+0.4
	comp=Z,266nm,0.8s					
TUE			LR	LR		
	comp=Z,5μm,20.0s					
JSA	Saint Aubin	80.83 345⇑	eP	P	02 58 59.9	0.0
JSA			AMB	AMB	02 59 01.6	
	comp=Z,307nm,1.5s					
UPM	Unac-Piva	80.83 329⇑	iP	P	02 58 59.1	-1.2
HASLI	Hasliberg/Brie	80.88 337⇑	iP	P	02 59 00.5	+0.1
	comp=Z,560nm,1.5s					
SRS	Serrai	80.92 325	P	P	02 58 59.8	-0.8
SRS	Serrai	80.92 325	P	P	02 58 59.8	-0.8
SRS	Serrai	80.92 325	P	P	02 58 59.8	-0.8
FLN	La Foliniere	80.93 343⇑	iP	P	02 59 00.3	-0.1
	comp=Z,391nm,1.0s					
FLN			eR			
	comp=Z,5μm,21.5s					
FLN	La Foliniere	80.93 343⇑	iP	P	02 59 00.3	-0.1
FLN			pmax	pmax		
	comp=Z,391nm,1.0s					
FLN	La Foliniere	80.93 343⇑	iP	P	02 59 00.3	-0.1
	comp=Z,391nm,1.0s					
NVLJ	Novalja	80.96 332	P	P	02 58 59.9	-0.8
HRV	Adam Dziewonsk	80.96 33	eP	P	02 59 01.7	+1.0
HRV			pmax	pmax		
	comp=Z,46nm,1.0s					
HRV	Adam Dziewonsk	80.96 33	eP	P	02 59 01.7	+1.0
	comp=Z,46nm,1.0s					
PVY	Plav	80.99 328⇑	iP	P	02 59 00.3	-0.8
SKO	Skopje	81.00 326	P	P	02 59 01.4	+0.4
SKO	Skopje	81.00 326	P	P	02 59 01.4	+0.4
SKO	Skopje	81.00 326	P	P	02 59 01.4	+0.4
SKO	Skopje	81.00 326	i P	P	02 59 01.4	+0.4
LDF	La Druitiere	81.02 343⇑	iP	P	02 59 00.7	-0.2
	comp=Z,131nm,0.8s					
LDF	La Druitiere	81.02 343⇑	iP	P	02 59 00.7	-0.2
LDF			pmax	pmax		
	comp=Z,131nm,0.8s					
LDF	La Druitiere	81.02 343⇑	iP	P	02 59 00.7	-0.2
	comp=Z,131nm,0.8s					
FUSIO	Fusio	81.03 337⇑	iP	P	02 59 01.6	+0.4
	comp=Z,712nm,1.8s					
SWET	Sewanee	81.03 46	eP	P	02 59 00.8	-0.5
	comp=Z,119nm,1.1s					
RAO	Raoul Island	81.08 156	PFAKE		02 59 10.0	+8.8
RAO			LR	LR		
	comp=Z,5μm,21.0s					
TZTN	Tazewell	81.08 44	eP	P	02 59 01.9	+0.4
	comp=Z,170nm,1.6s					
MARH	Ras Al Marh	81.08 312	eP	P	02 59 02.4	+0.5
WIMIS	Wimmis	81.10 338⇑	iP	P	02 59 01.7	+0.2
	comp=Z,200nm,1.4s					
VBMS	Vicksburg	81.13 51	PFAKE		02 59 10.0	+8.2
VBMS			LR	LR		
	comp=Z,2μm,19.0s					
BRANT	Les Verrieres	81.14 338⇑	iP	P	02 59 02.0	+0.3
	comp=Z,655nm,1.6s					
VAY	Valandovo	81.14 325	P	P	02 59 00.5	-1.2
VAY	Valandovo	81.14 325	P	P	02 59 00.5	-1.2
VAY	Valandovo	81.14 325	P	P	02 59 00.5	-1.2
VAY	Valandovo	81.14 325	i P	P	02 59 01.0	-0.7
NKY	Niksic	81.14 328⇑	iP	P	02 59 00.6	-1.3
HWQ	Hawqa	81.15 313	eP	P	02 59 01.8	-0.2
KNT	Kendrikon	81.15 325	P	P	02 59 01.5	-0.3
KNT	Kendrikon	81.15 325	P	P	02 59 01.5	-0.3
KNT	Kendrikon	81.15 325	P	P	02 59 01.5	-0.3
PMOR	Pomariorio Ree	81.19 124	eP	P	02 59 02.4	+0.2
	comp=Z,337nm,1.0s					
NKME	Niksic	81.20 328	eP	P	02 59 00.9	-1.2
BRY	Bratogost	81.22 329⇑	iP	P	02 59 01.0	-1.3
SOH	Sokhos	81.27 325	P	P	02 59 01.7	-0.8
SOH	Sokhos	81.27 325	P	P	02 59 01.7	-0.8
SOH	Sokhos	81.27 325	P	P	02 59 01.7	-0.8
LIA	Limnos Island	81.33 323	P	P	02 59 02.3	-0.4
LIA	Limnos Island	81.33 323	P	P	02 59 02.3	-0.4
GRR	Gorron	81.36 344⇑	iP	P	02 59 02.9	+0.2
	comp=Z,628nm,1.0s					
GRR	Gorron	81.36 344⇑	iP	P	02 59 02.9	+0.2
GRR			pmax	pmax		
	comp=Z,628nm,1.0s					
GRR	Gorron	81.36 344⇑	iP	P	02 59 02.9	+0.2
	comp=Z,628nm,1.0s					
LKBD	Leukerbad	81.36 337⇑	iP	P	02 59 02.9	-0.1
	comp=Z,324nm,1.2s					
PDG	Podgorica	81.39 328	P	P	02 59 02.2	-0.8
TTG	Podgorica	81.39 328	eP	P	02 59 02.2	-0.8
TTG	Podgorica	81.39 328	P	P	02 59 02.2	-0.8
TTG	Podgorica	81.39 328	P	P	02 59 02.2	-0.8
MUGIO	Muggio	81.42 336⇑	iP	P	02 59 03.1	-0.1
	comp=Z,838nm,1.9s					
OUR	Ouranopolis	81.44 324	P	P	02 59 02.7	-0.6
OUR	Ouranopolis	81.44 324	P	P	02 59 02.7	-0.6
OUR	Ouranopolis	81.44 324	P	P	02 59 02.7	-0.6
PRK	Paraskevi	81.44 322	P	P	02 59 02.8	-0.5
PRK	Paraskevi	81.44 322	P	P	02 59 02.8	-0.5
PRK	Paraskevi	81.44 322	eP	P	02 59 02.4	-0.9
PRK	Paraskevi	81.44 322	P	P	02 59 02.8	-0.5
LOR	Lormes	81.44 340⇑	iP	P	02 59 03.2	-0.1
	comp=Z,301nm,0.8s					
LOR			eR			
	comp=Z,10μm,22.2s					
LOR	Lormes	81.44 340⇑	iP	P	02 59 03.2	-0.1
	comp=Z,301nm,0.8s					
SENIN	Lac Senin/Sane	81.46 338⇑	iP	P	02 59 03.9	+0.3
	comp=Z,406nm,1.7s					
BRYW	Bryant College	81.48 33	eP	P	02 59 04.5	+0.9
	comp=Z,234nm,1.3s					
PHNC	Paralimni	81.49 314	P	P	02 59 02.9	-0.8
	comp=Z,3.1nm,0.8s					
CPCT	Cooper Cave	81.51 45	eP	P	02 59 03.6	-0.2
GRG	Griva	81.52 325	P	P	02 59 03.3	-0.5
GRG	Griva	81.52 325	P	P	02 59 03.3	-0.5
GRG	Griva	81.52 325	P	P	02 59 03.3	-0.5
CABF	La Chapelle	81.53 338⇑	iP	P	02 59 04.0	+0.2
	comp=Z,256nm,1.0s					
CABF	La Chapelle	81.53 338⇑	iP	P	02 59 04.0	+0.2
CABF			pmax	pmax		
	comp=Z,256nm,1.0s					
CABF	La Chapelle	81.53 338⇑	iP	P	02 59 04.0	+0.2
	comp=Z,256nm,1.0s					
ZALF	Zalf	81.54 311	eP	P	02 59 05.5	+1.5
STON	Ston	81.54 329	P	P	02 59 02.1	-1.7
HORT	Hortiatis	81.56 325	P	P	02 59 03.0	-1.1
HORT	Hortiatis	81.56 325	P	P	02 59 03.0	-1.1
GIMEL	St. Georges /	81.56 338⇑	iP	P	02 59 04.1	+0.1
	comp=Z,253nm,1.6s					
AIGLE	Aigle	81.57 338⇑	iP	P	02 59 04.1	+0.1
	comp=Z,381nm,1.4s					
THE	Thessaloniki	81.58 325	P	P	02 59 02.9	-1.1
THE	Thessaloniki	81.58 325	P	P	02 59 02.9	-1.1
THE	Thessaloniki	81.58 325	P	P	02 59 02.9	-1.1
MMK	Mattmark	81.58 337⇑	iP	P	02 59 04.5	+0.2
	comp=Z,467nm,1.8s					
BHL	Bhannes	81.59 312	eP	P	02 59 03.6	-0.8
SDMD	Soldier's Deli	81.60 38	eP	P	02 59 04.3	+0.1
	comp=Z,25nm,0.9s					
PHP	Peshkopia	81.61 327	P	P	02 59 03.4	-0.9
PHP	Peshkopia	81.61 327	P	P	02 59 03.4	-0.9
PHP	Peshkopia	81.61 327	P	P	02 59 03.4	-0.9
GRYON	Gryon	81.62 338⇑	iP	P	02 59 04.9	+0.6
	comp=Z,390nm,1.4s					
PLG	Polygyros	81.62 324	P	P	02 59 03.4	-0.9
PLG	Polygyros	81.62 324	P	P	02 59 03.4	-0.9
PLG	Polygyros	81.62 324	eP	P	02 59 03.5	-0.9
PLG	Polygyros	81.62 324	P	P	02 59 03.4	-0.9
DRME	Dracevica, Mon	81.63 328	eP	P	02 59 03.1	-1.2
BUM	Brajici-Budva	81.63 328⇑	iP	P	02 59 02.7	-1.7
HCY	Herceg Novi	81.64 329⇑	iP	P	02 59 03.0	-1.4
OG01	Vacheresse	81.65 338	eP	P	02 59 04.8	+0.3
TKL	Tuckaleechee C	81.69 44	eP	P	02 59 04.4	-0.4
DIX	Grande Dixence	81.70 337⇑	iP	P	02 59 05.4	+0.5
	comp=Z,286nm,1.0s					
HYF	Humbligny	81.71 341⇑	iP	P	02 59 05.0	+0.3
HYF	Humbligny	81.71 341⇑	iP	P	02 59 05.0	+0.3
SSF	Saint Saulge	81.72 340⇑	iP	P	02 59 04.6	-0.1
	comp=Z,227nm,0.8s					
SSF	Saint Saulge	81.72 340⇑	iP	P	02 59 04.6	-0.1
SSF			pmax	pmax		
	comp=Z,227nm,0.8s					
SSF	Saint Saulge	81.72 340⇑	iP	P	02 59 04.6	-0.1
	comp=Z,227nm,0.8s					
MAMC	Mammari	81.74 315	P	P	02 59 04.4	-0.6
SALAN	Lac Salanfe	81.75 338⇑	iP	P	02 59 05.6	+0.5
	comp=Z,453nm,1.7s					
SGMF	Saint Gilles	81.80 345⇑	iP	P	02 59 05.2	+0.1
	comp=Z,758nm,1.3s					
SGMF	Saint Gilles	81.80 345⇑	iP	P	02 59 05.2	+0.1
SGMF			pmax	pmax		
	comp=Z,758nm,1.3s					
SGMF	Saint Gilles	81.80 345⇑	iP	P	02 59 05.2	+0.1
	comp=Z,758nm,1.3s					
ULC	Ulcinj	81.80 328⇑	iP	P	02 59 04.4	-0.8
RCY	Rachaya	81.83 312	eP	P	02 59 05.9	+0.2
ROSF	Rostrenen	81.84 345⇑	iP	P	02 59 05.6	+0.3
	comp=Z,566nm,1.1s					
ROSF	Rostrenen	81.84 345⇑	iP	P	02 59 05.6	+0.3
ROSF			pmax	pmax		
	comp=Z,567nm,1.1s					
ROSF	Rostrenen	81.84 345⇑	iP	P	02 59 05.6	+0.3
	comp=Z,566nm,1.1s					
EMV	Vieux Emosson	81.84 338⇑	iP	P	02 59 06.0	+0.3
	comp=Z,502nm,1.4s					
CSS	Prodhromos	81.86 315	P	P	02 59 05.6	-0.1
	comp=Z,3.2nm,1.1s					
CSS	Prodhromos	81.86 315	P	P	02 59 05.5	-0.1
CSS	Prodhromos	81.86 315	eP	P	02 59 05.3	-0.4
	comp=Z,215nm,0.7s					
CSS			LR	LR		
	comp=Z,3μm,19.0s					
BIA	Bitola	81.87 326	P	P	02 59 04.0	-1.7
BIA	Bitola	81.87 326	P	P	02 59 04.0	-1.7
BIA	Bitola	81.87 326	i P	P	02 59 01.9	-3.8
PAIG	Paliouri	81.91 324	P	P	02 59 04.9	-0.9
PAIG	Paliouri	81.91 324	P	P	02 59 04.9	-0.9
PAIG	Paliouri	81.91 324	P	P	02 59 04.9	-0.9
BLA	Blacksburg	81.93 41	eP	P	02 59 06.3	+0.2
BLA			pmax	pmax		
	comp=Z,73nm,1.1s					
BLA			MLR	MLR		
	comp=Z,2μm,19.0s					
BLA	Blacksburg	81.93 41	eP	P	02 59 06.3	+0.2
	comp=Z,73nm,1.1s					
BLA			LR	LR		
	comp=Z,2μm,19.0s					
AVF	Avril sur Loir	82.01 340⇑	iP	P	02 59 06.3	+0.1
	comp=Z,232nm,0.7s					
AVF	Avril sur Loir	82.01 340⇑	iP	P	02 59 06.3	+0.1
AVF			pmax	pmax		
	comp=Z,232nm,0.7s					
AVF	Avril sur Loir	82.01 340⇑	iP	P	02 59 06.3	+0.1
	comp=Z,232nm,0.7s					
BST	Brest	82.01 346	eP	P	02 59 05.8	-0.4
SMF	Signal de Mont	82.03 340⇑	iP	P	02 59 06.5	+0.1
	comp=Z,1μm,1.4s					
SMF	Signal de Mont	82.03 340⇑	iP	P	02 59 06.5	+0.1
SMF			pmax	pmax		
	comp=Z,1μm,1.4s					
SMF	Signal de Mont	82.03 340⇑	iP	P	02 59 06.5	+0.1
	comp=Z,1μm,1.4s					
ALFC	Alevga	82.05 315	P	P	02 59 05.8	-0.9
	comp=Z,4.9nm,0.7s					
FNA	Florina	82.05 326	P	P	02 59 05.7	-0.9
FNA	Florina	82.05 326	P	P	02 59 05.7	-0.9
FNA	Florina	82.05 326	P	P	02 59 05.7	-0.9
TIR	Tirane	82.12 327	P	P	02 59 06.4	-0.5
TIR	Tirane	82.12 327	eP	P	02 59 06.1	-0.8
TIR			pmax	pmax		
	comp=Z,254nm,0.7s					
TIR			MLR	MLR		
	comp=Z,7μm,20.0s					
TIR	Tirane	82.12 327	eP	P	02 59 06.1	-0.8
	comp=Z,254nm,0.7s					
TIR			LR	LR		
	comp=Z,7μm,20.0s					
FORT	Forrest	82.14 203	eP	P	02 59 07.3	+0.5
	comp=Z,536nm,0.6s					
OG35	Corcelles	82.19 339	eP	P	02 59 07.2	-0.1
LIT	Litokhoron	82.22 325	P	P	02 59 09.8	+2.3
LIT	Litokhoron	82.22 325	P	P	02 59 09.8	+2.3
LIT	Litokhoron	82.22 325	P	P	02 59 09.8	+2.3
QUIF	Quistinic	82.23 345⇑	iP	P	02 59 07.3	0.0
	comp=Z,584nm,1.4s					
QUIF	Quistinic	82.23 345⇑	iP	P	02 59 07.3	0.0
QUIF			pmax	pmax		
	comp=Z,584nm,1.4s					
QUIF	Quistinic	82.23 345⇑	iP	P	02 59 07.3	0.0
	comp=Z,584nm,1.4s					
SZAC	Souni-Zanaja	82.24 315	P	P	02 59 06.7	-1.0
CHOS	Chios island	82.26 322	P	P	02 59 07.2	-0.6
CHOS	Chios island	82.26 322	P	P	02 59 07.2	-0.6
RSL	Roselend	82.26 338	eP	P	02 59 08.1	+0.3
LRAL	Lakeview Retre	82.27 48	eP	P	02 59 07.4	-0.4
	comp=Z,28nm,0.8s					
LRAL			LR	LR		
	comp=Z,2μm,20.0s					
AKMC	Akamas	82.28 315	P	P	02 59 07.1	-0.8
KZN	Kozani	82.32 325	eP	P	02 59 06.8	-1.3
BGF	Bois d'Agland	82.34 341⇑	iP	P	02 59 08.1	+0.1
	comp=Z,177nm,0.8s					
BGF	Bois d'Agland	82.34 341⇑	iP	P	02 59 08.1	+0.1
BGF			pmax	pmax		
	comp=Z,177nm,0.8s					
BGF	Bois d'Agland	82.34 341⇑	iP	P	02 59 08.1	+0.1
	comp=Z,177nm,0.8s					
BBOO	Buckleboo	82.36 195	eP	P	02 59 08.0	+0.1
	comp=Z,1μm,1.0s					
ASF	Jabal al Asfar	82.36 311	P	P	02 59 09.0	+0.6
ASF	Jabal al Asfar	82.36 311	P	P	02 59 09.0	+0.6
	comp=Z,73nm,0.9s,baz=4.0,slow=3.3,SNR=91					
PPT	Papeete	82.38 127	P	P	02 59 08.8	+0.4
PPT	Papeete	82.38 127	P	P	02 59 08.8	+0.4
	comp=Z,154nm,0.9s,baz=348,slow=4.2,SNR=8.8					
PPT			LR	LR	03 27 57.0	
	comp=Z,4μm,21.3s,baz=288,slow=30					
PPCY	Paphos	82.39 315	P	P	02 59 07.6	-0.8
LPL	La Plagne	82.40 338⇑	iP	P	02 59 09.3	+0.7
	comp=Z,302nm,0.8s					
LPL	La Plagne	82.40 338⇑	iP	P	02 59 09.3	+0.7
LPL			pmax	pmax		
	comp=Z,302nm,0.8s					
LPL	La Plagne	82.40 338⇑	iP	P	02 59 09.3	+0.7
	comp=Z,302nm,0.8s					
PPT2	Papeete2	82.40 127	eP	P	02 59 09.1	+0.5
	comp=Z,175nm,1.1s					
PPT2	Papeete2	82.40 127	eS	S	03 09 12.6	-7.6
	comp=Z

SMG	Samos	82.50 321	P	P	02 59 07.8	-1.2
XOR	Xorichti	82.58 324	P	P	02 59 07.8	-1.6
XOR	Xorichti	82.58 324	P	P	02 59 07.8	-1.6
NEO	Neokhori	82.62 324	P	P	02 59 08.3	-1.3
NEO	Neokhori	82.62 324	eP	P	02 59 08.4	-1.2
NEO	Neokhori	82.62 324	P	P	02 59 08.3	-1.3
JSRW	J. Sargeant Re	82.63 39	eP	P	02 59 09.8	+0.2
SKIA	Skiathos	82.65 324	P	P	02 59 08.6	-1.1
VLC	Villacollemand	82.67 335	eP	P	02 59 09.7	-0.1
	comp=Z,94nm,0.8s					
VLC			LR	LR		
	comp=Z,8µm,21.0s					
TVO	Taravao	82.73 127	eP	P	02 59 11.0	+0.7
	comp=Z,155nm,0.9s					
TCF	Toulx Ste Croi	82.74 341⇑	iP	P	02 59 10.3	+0.2
	comp=Z,262nm,0.9s					
TCF	Toulx Ste Croi	82.74 341⇑	iP	P	02 59 10.3	+0.2
TCF			pmax	pmax		
	comp=Z,262nm,0.9s					
TCF	Toulx Ste Croi	82.74 341⇑	iP	P	02 59 10.3	+0.2
	comp=Z,262nm,0.9s					
AGO	Saint Agoulin	82.76 340	eP	P	02 59 10.8	+0.6
BNI	Bardonecchia	82.84 338	eP	P	02 59 11.4	+0.6
BNI			pmax	pmax		
	comp=Z,93nm,0.8s					
BNI			MLR	MLR		
	comp=Z,3µm,21.0s					
BNI	Bardonecchia	82.84 338	eP	P	02 59 11.4	+0.6
	comp=Z,93nm,0.8s					
BNI			LR	LR		
	comp=Z,3µm,21.0s					
GDM	Grand'Maison	82.84 338	eP	P	02 59 11.7	+0.9
THL	Klokotos Trika	82.87 325	P	P	02 59 09.2	-1.6
THL	Klokotos Trika	82.87 325	eP	P	02 59 09.2	-1.6
GRN	Grenoble	82.90 338	eP	P	02 59 12.0	+1.0
MFF	Saint Martin d	82.93 343⇑	iP	P	02 59 11.3	+0.3
	comp=Z,157nm,0.6s					
MFF	Saint Martin d	82.93 343⇑	iP	P	02 59 11.3	+0.3
MFF			pmax	pmax		
	comp=Z,157nm,0.6s					
MFF	Saint Martin d	82.93 343⇑	iP	P	02 59 11.3	+0.3
	comp=Z,157nm,0.6s					
OG22	Abries	82.99 337	eP	P	02 59 11.6	0.0
MRKA	Markates	82.99 323	P	P	02 59 10.3	-1.2
SMIA	Simia	83.00 324	P	P	02 59 10.4	-1.1
PYM	Petit Puy Mans	83.07 340	eP	P	02 59 12.0	+0.1
MBDF	Montbardon	83.12 337⇑	iP	P	02 59 12.3	+0.1
	comp=Z,282nm,1.1s					
MBDF	Montbardon	83.12 337⇑	iP	P	02 59 12.3	+0.1
MBDF			pmax	pmax		
	comp=Z,282nm,1.1s					
MBDF	Montbardon	83.12 337⇑	iP	P	02 59 12.3	+0.1
	comp=Z,282nm,1.1s					
ERET	Eretria	83.13 323	P	P	02 59 11.1	-1.2
SSB	Saint Sauveur	83.16 339	eP	P	02 59 12.8	+0.5
SSB			pmax	pmax		
	comp=Z,129nm,0.8s					
SSB			MLR	MLR		
	comp=Z,5µm,22.0s					
SSB	Saint Sauveur	83.16 339	eP	P	02 59 12.8	+0.5
	comp=Z,129nm,0.8s					
SSB			LR	LR		
	comp=Z,5µm,22.0s					
ORIF	Oris-en-Rattie	83.17 338⇑	iP	P	02 59 13.2	+0.8
	comp=Z,358nm,0.9s					
ORIF			eR			
	comp=Z,5µm,22.2s					
ORIF	Oris-en-Rattie	83.17 338⇑	iP	P	02 59 13.2	+0.8
ORIF			pmax	pmax		
	comp=Z,358nm,0.9s					
ORIF	Oris-en-Rattie	83.17 338⇑	iP	P	02 59 13.2	+0.8
	comp=Z,358nm,0.9s					
ARG	Arkhangelos	83.20 319	P	P	02 59 12.2	-0.4
ARG	Arkhangelos	83.20 319	P	P	02 59 12.2	-0.4
ARG	Arkhangelos	83.20 319	P	P	02 59 12.2	-0.4
AGG	Agios Georgios	83.22 324	P	P	02 59 10.5	-2.2
AGG	Agios Georgios	83.22 324	P	P	02 59 10.5	-2.2
AGG	Agios Georgios	83.22 324	P	P	02 59 10.5	-2.2
MRMA	Marmari	83.23 322	P	P	02 59 12.8	+0.1
JAN	Janina	83.23 326	P	P	02 59 12.5	-0.2
JAN	Janina	83.23 326	P	P	02 59 12.5	-0.2
JAN	Janina	83.23 326	P	P	02 59 12.5	-0.2
KMSC	Kings Mountain	83.25 43	eP	P	02 59 13.1	+0.2
KMSC	Kings Mountain	83.25 43	⇓P	P	02 59 12.6	-0.3
	baz=83,SNR=11					
LKR	Lokris	83.28 324	P	P	02 59 11.3	-1.7
LKR	Lokris	83.28 324	eP	P	02 59 11.2	-1.7
LKR	Lokris	83.28 324	P	P	02 59 11.3	-1.7
MAKR	Makrakomi, Fth	83.30 324	P	P	02 59 11.5	-1.6
MAKR	Makrakomi, Fth	83.30 324	P	P	02 59 11.5	-1.6
AXAR	Agios Charalam	83.31 324	P	P	02 59 11.3	-1.8
AXAR	Agios Charalam	83.31 324	P	P	02 59 11.3	-1.8
SURF	Saint Ours	83.34 337	eP	P	02 59 14.1	+0.7
CAN	Canberra	83.35 184	eP	P	02 59 13.4	+0.3
CAN			pmax	pmax		
	comp=Z,39nm,0.8s					
CAN			MLR	MLR		
	comp=Z,3µm,19.0s					
CAN	Canberra	83.35 184	eP	P	02 59 13.4	+0.3
	comp=Z,39nm,0.8s					
CAN			LR	LR		
	comp=Z,3µm,19.0s					
SRN	Sarande	83.36 326	P	P	02 59 12.0	-1.3
SRN	Sarande	83.36 326	P	P	02 59 12.0	-1.3
PTL	Penteli	83.45 323	P	P	02 59 12.2	-1.7
PTL	Penteli	83.45 323	P	P	02 59 12.2	-1.7
LBL	Lubilhac	83.51 340	eP	P	02 59 14.9	+0.8
EVR	Evrytania	83.51 325	P	P	02 59 12.8	-1.5
EVR	Evrytania	83.51 325	eP	P	02 59 12.7	-1.5
EVR	Evrytania	83.51 325	P	P	02 59 12.8	-1.5
VIVF	Saint-Julien-l	83.53 339⇑	iP	P	02 59 14.7	+0.5
	comp=Z,423nm,1.2s					
VIVF	Saint-Julien-l	83.53 339⇑	iP	P	02 59 14.7	+0.5
VIVF			pmax	pmax		
	comp=Z,423nm,1.2s					
VIVF	Saint-Julien-l	83.53 339⇑	iP	P	02 59 14.7	+0.5
	comp=Z,423nm,1.2s					
IGT	Igoumenitsa	83.53 326	P	P	02 59 13.2	-1.1
IGT	Igoumenitsa	83.53 326	P	P	02 59 13.2	-1.1
IGT	Igoumenitsa	83.53 326	P	P	02 59 13.2	-1.1
ATHU	Athens Univers	83.55 323	P	P	02 59 12.5	-1.9
ATHU	Athens Univers	83.55 323	P	P	02 59 12.5	-1.9
ATH	Athens Observa	83.57 323	P	P	02 59 12.7	-1.7
ATH	Athens Observa	83.57 323	P	P	02 59 12.7	-1.7
ATH	Athens Observa	83.57 323	P	P	02 59 12.7	-1.7
KEK	Kerkira	83.58 326	P	P	02 59 13.5	-1.0
KEK	Kerkira	83.58 326	eP	P	02 59 13.4	-1.0
KEK	Kerkira	83.58 326	P	P	02 59 13.5	-1.0
APE	Apeiranthos	83.60 321	P	P	02 59 13.1	-1.6
APE	Apeiranthos	83.60 321	P	P	02 59 13.1	-1.6
APE	Apeiranthos	83.60 321	P	P	02 59 13.1	-1.6
APE	Apeiranthos	83.60 321	⇓P	P	02 59 13.2	-1.5
AUTN	L'Aution	83.63 337	eP	P	02 59 14.7	-0.3
TOUF	Mont Tournerai	83.66 337	eP	P	02 59 15.2	+0.1
DSF	Desfina	83.67 324	P	P	02 59 12.8	-2.2
DSF	Desfina	83.67 324	P	P	02 59 12.8	-2.2
RBK	Rabkut	83.68 289	P	P	02 59 15.5	+0.1
	SNR=13					
LUCF	Luceram	83.75 337	eP	P	02 59 15.3	-0.1
SBF	Sospel	83.75 337⇑	iP	P	02 59 15.1	-0.3
	comp=Z,497nm,0.9s					
SBF	Sospel	83.75 337⇑	iP	P	02 59 15.1	-0.3
SBF			pmax	pmax		
	comp=Z,497nm,0.9s					
SBF	Sospel	83.75 337⇑	iP	P	02 59 15.1	-0.3
	comp=Z,497nm,0.9s					
MVIF	Mont Vial	83.80 337	eP	P	02 59 15.6	-0.1
RJF	Les Rejaudoux	83.82 341⇑	iP	P	02 59 15.8	+0.2
	comp=Z,364nm,1.2s					
RJF			eR			
	comp=Z,9µm,22.2s					
RJF	Les Rejaudoux	83.82 341⇑	iP	P	02 59 15.8	+0.2
RJF			pmax	pmax		
	comp=Z,364nm,1.2s					
RJF	Les Rejaudoux	83.82 341⇑	iP	P	02 59 15.8	+0.2
	comp=Z,364nm,1.2s					
LTK	Loutraki	83.83 323	P	P	02 59 13.2	-2.6
LTK	Loutraki	83.83 323	P	P	02 59 13.2	-2.6
KALE	Kalithea	83.84 324	P	P	02 59 14.1	-1.8
KALE	Kalithea	83.84 324	P	P	02 59 14.1	-1.8
BRAL	Brewton	83.86 49	PFAKE		02 59 30.0	+14
BRAL			LR	LR		
	comp=Z,2µm,21.0s					
TRIZ	Trizonia	83.89 324	P	P	02 59 14.4	-1.6
REVF	Revere	83.89 337	eP	P	02 59 15.9	-0.1
EFP	Efpalio	83.90 324	P	P	02 59 14.8	-1.3
ACOR	Acrocorinthos	83.98 323	P	P	02 59 14.1	-2.5
CALN	Calern	84.00 337	eP	P	02 59 16.8	+0.1
LAKA	Lakka	84.03 324	P	P	02 59 15.6	-1.3
LAKA	Lakka	84.03 324	P	P	02 59 15.6	-1.3
LKD2	Lefkada island	84.06 325	P	P	02 59 16.0	-1.0
LKD2	Lefkada island	84.06 325	P	P	02 59 16.0	-1.0
CAF	Calviac	84.06 341	eP	P	02 59 17.5	+0.6
	comp=Z,192nm,0.9s					
CAF	Calviac	84.06 341	eP	P	02 59 17.5	+0.6
CAF			pmax	pmax		
	comp=Z,192nm,0.9s					
CAF	Calviac	84.06 341	eP	P	02 59 17.5	+0.6
	comp=Z,192nm,0.9s					
SMRF	Simiane la Rot	84.13 338⇑	iP	P	02 59 17.8	+0.5
	comp=Z,721nm,1.5s					
SMRF	Simiane la Rot	84.13 338⇑	iP	P	02 59 17.8	+0.5
	comp=Z,721nm,1.5s					
KLV	Kalavryta, Ach	84.13 324	P	P	02 59 15.8	-1.6
KLV	Kalavryta, Ach	84.13 324	P	P	02 59 15.8	-1.6
GUR	Goura	84.15 324	P	P	02 59 15.7	-1.9
GUR	Goura	84.15 324	P	P	02 59 15.7	-1.9
DID	Didima	84.17 323	P	P	02 59 14.6	-3.0
DID	Didima	84.17 323	P	P	02 59 14.6	-3.0
KARP	Karpathos	84.19 319	P	P	02 59 16.4	-1.3
KARP	Karpathos	84.19 319	P	P	02 59 16.4	-1.3
DIDY	Didyma	84.20 323	P	P	02 59 14.9	-2.9
SANT	Santorini	84.22 321	P	P	02 59 14.8	-3.1
SANT	Santorini	84.22 321	eP	P	02 59 17.4	-0.5
	comp=Z,81nm,1.3s					
SANT			LR	LR		
	comp=Z,3µm,20.0s					
AXS	Araxos	84.30 325	P	P	02 59 17.2	-1.0
LFF	La Frestale	84.34 342⇑	iP	P	02 59 18.6	+0.4
	comp=Z,180nm,0.7s					
LFF	La Frestale	84.34 342⇑	iP	P	02 59 18.6	+0.4
LFF			pmax	pmax		
	comp=Z,180nm,0.7s					
LFF	La Frestale	84.34 342⇑	iP	P	02 59 18.6	+0.4
	comp=Z,180nm,0.7s					
ABTO	Aybut	84.36 290	P	P	02 59 19.4	+0.5
	SNR=20					
RLS	Riolos of Patr	84.39 324	P	P	02 59 17.9	-0.7
RLS	Riolos of Patr	84.39 324	P	P	02 59 17.9	-0.7
RAYN	Ar Rayn	84.43 299	P	P	02 59 19.5	+0.4
	comp=Z,1µm,0.7s,SNR=72					
LASF	Ste Croix	84.46 339⇑	iP	P	02 59 19.6	+0.7
	comp=Z,412nm,1.5s					
LASF	Ste Croix	84.46 339⇑	iP	P	02 59 19.6	+0.7
	comp=Z,412nm,1.5s					
LMR	La Mourre	84.49 337⇑	iP	P	02 59 19.2	+0.2
	comp=Z,1µm,1.5s					
LMR	La Mourre	84.49 337⇑	iP	P	02 59 19.2	+0.2
LMR			pmax	pmax		
	comp=Z,1µm,1.5s					
LMR	La Mourre	84.49 337⇑	iP	P	02 59 19.2	+0.2
	comp=Z,1µm,1.5s					
PGF	Pioggiola	84.55 335⇑	iP	P	02 59 19.1	-0.4
	comp=Z,170nm,0.8s					
PGF	Pioggiola	84.55 335⇑	iP	P	02 59 19.1	-0.4
PGF			pmax	pmax		
	comp=Z,170nm,0.8s					
PGF	Pioggiola	84.55 335⇑	iP	P	02 59 19.1	-0.4
	comp=Z,170nm,0.8s					
KFL	Anninata	84.61 325	P	P	02 59 18.4	-1.3
VLS	Valsamata	84.62 325	P	P	02 59 18.7	-1.1
VLS	Valsamata	84.62 325	P	P	02 59 18.7	-1.1
VLS	Valsamata	84.62 325	P	P	02 59 18.7	-1.1
VLX	Vlachokerasia	84.63 323	P	P	02 59 18.3	-1.7
VLX	Vlachokerasia	84.63 323	P	P	02 59 18.3	-1.7
CNNC	Cliffs of the	84.70 41	eP	P	02 59 21.0	+0.8
	comp=Z,131nm,1.4s					
CNNC			LR	LR		
	comp=Z,2µm,19.0s					
CUC	Castrocucco	84.74 329	eP	P	02 59 19.1	-1.4
	comp=Z,80nm,1.1s					
CUC			LR	LR		
	comp=Z,6µm,20.0s					
AMT	Artemida-Makis	84.75 324	P	P	02 59 19.4	-1.1
OUZ	Omahuta	84.88 164	eP	P	02 59 21.2	+0.5
	comp=Z,87nm,0.9s					
ZKR	Zakros	84.96 320	P	P	02 59 20.9	-0.7
ZKR	Zakros	84.96 320	P	P	02 59 20.9	-0.7
VLI	Veliai	84.97 323	P	P	02 59 18.6	-3.0
VLI	Veliai	84.97 323	P	P	02 59 18.6	-3.0
ITM	Ithomi	84.97 324	P	P	02 59 20.2	-1.4
ITM	Ithomi	84.97 324	P	P	02 59 20.2	-1.4
NPS	Neapolis	85.10 320	P	P	02 59 20.4	-1.9
NPS	Neapolis	85.10 320	P	P	02 59 20.4	-1.9
NPS	Neapolis	85.10 320	P	P	02 59 20.4	-1.9
DYR	Agios Nikonas	85.17 323	P	P	02 59 21.2	-1.4
TIGA	Tifton	85.24 47	eP	P	02 59 23.8	+0.8
TIGA	Tifton	85.24 47	⇑P	P	02 59 23.7	+0.7
	baz=85,SNR=33					
LAST	Lasithi	85.24 320	P	P	02 59 22.4	-0.7
LAST	Lasithi	85.24 320	P	P	02 59 22.4	-0.7
PYL	PYLOS	85.29 324	P	P	02 59 21.3	-1.9
PYL	PYLOS	85.29 324	P	P	02 59 21.3	-1.9
KYTH	Kithira	85.30 322	P	P	02 59 21.5	-1.8
KYTH	Kithira	85.30 322	P	P	02 59 21.5	-1.8
OSPF	L'Ospedale	85.31 335	eP	P	02 59 23.3	0.0
EIL	Elat	85.36 310	P	P	02 59 23.8	+0.1
EIL	Elat	85.36 310	P	P	02 59 23.8	+0.1
	comp=Z,107nm,0.9s,baz=8.8,slow=3.5,SNR=49					
IDI	Anoyia	85.39 321	P	P	02 59 21.4	-2.4
IDI	Anoyia	85.39 321	eP	P	02 59 21.4	-2.4
	comp=Z,142nm,1.1s					
IDI	Anoyia	85.39 321	P	P	02 59 21.5	-2.2
	comp=Z,46nm,0.6s,baz=27,slow=8.9,SNR=54					
MTLF	Montolieu	85.53 340⇑	iP	P	02 59 24.0	-0.3
	comp=Z,69nm,1.0s					
MTLF	Montolieu	85.53 340⇑	iP	P	02 59 24.0	-0.3
MTLF			pmax	pmax		
	comp=Z,69nm,1.0s					
MTLF	Montolieu	85.53 340⇑	iP	P	02 59 24.0	-0.3
	comp=Z,69nm,1.0s					
ANKY	Antikythira Is	85.55 322	P	P	02 59 22.8	-1.7
ANKY	Antikythira Is	85.55 322	P	P	02 59 22.8	-1.7
VAM	Vamos	85.57 321	P	P	02 59 22.7	-1.9
VAM	Vamos	85.57 321	P	P	02 59 22.7	-1.9
VAM	Vamos	85.57 321	P	P	02 59 22.7	-1.9
SIVA	Sivas	85.65 321	P	P	02 59 24.1	-0.9
SIVA	Sivas	85.65 321	P	P	02 59 24.1	-0.9
KARN	Karanos	85.70 321	P	P	02 59 24.1	-1.1
KARN	Karanos	85.70 321	P	P	02 59 24.1	-1.1
LRDF	Laroque-de-Fa	85.84 340	eP	P	02 59 26.1	+0.3
GVD	Gavdhos	86.11 321	P	P	02 59 25.8	-1.5
GVD	Gavdhos	86.11 321	eP	P	02 59 25.9	-1.3
	comp=Z,242nm,0.9s					
MLS	Moulis	86.15 341	eP	P	02 59 27.1	-0.3
CARF	Carcanieres	86.15 340	eP	P	02 59 27.7	+0.2
SJAF	Saint Jean de	86.19 339	eP	P	02 59 28.9	+1.3
FILF	Fillols	86.20 340	eP	P	02 59 27.6	-0.1
EPF	Esparros	86.25 341	eP	P	02 59 26.6	-1.3
	comp=Z,39nm,0.5s					
EPF	Esparros	86.25 341	eP	P	02 59 26.6	-1.3
EPF			pmax	pmax		
	comp=Z,39nm,0.5s					
EPF	Esparros	86.25 341	eP	P	02 59 26.6	-1.3
	comp=Z,39nm,0.5s					
CEL	Celeste	86.27 328	eP	P	02 59 26.1	-2.0
	comp=Z,53nm,0.6s					
CEL			LR	LR		
	comp=Z,6µm,22.0s					
LABF	Labassere	86.29 341	eP	P	02 59 27.7	-0.4
VIEF	Viey	86.45 341	eP	P	02 59 29.2	+0.3
VALF	Valcebollere	86.47 340	eP	P	02 59 29.5	+0.4
SJPF	Ste Jean	86.49 342	eP	P	02 59 28.7	-0.3
	comp=Z,32nm,0.7s					
SJPF	Ste Jean	86.49 342	eP	P	02 59 28.7	-0.3
SJPF			pmax	pmax		
	comp=Z,32nm,0.7s					
SJPF	Ste Jean	86.49 342	eP	P	02 59 28.7	-0.3
	comp=Z,32nm,0.7s					
LARF	Larrau	86.52 342	eP	P	02 59 29.8	+0.6
ETSF	Etsaut	86.56 342	eP	P	02 59 28.9	-0.6
	comp=Z,65nm,0.6s					
ETSF	Etsaut	86.56 342	eP	P	02 59 28.9	-0.6
ETSF			pmax	pmax		
	comp=Z,65nm,0.6s					
ETSF	Etsaut	86.56 342	eP	P	02 59 28.9	-0.6
	comp=Z,65nm,0.6s					
TBI	Tubuai	87.22 130	eP	P	02 59 33.9	+1.3
	comp=Z,202nm,0.9s					
TBI	Tubuai	87.22 130	eS	S	03 10 08.4	+0.8
	comp=Z,1µm,27.2s					
TBI			eSS	SS	03 15 55.6	+2.2
	comp=Z,862nm,29.2s					
TBI	Tubuai	87.22 130	eLR	LR	03 27 07.4	
	comp=Z,12µm,30.5s,baz=326					
VSL	Villasalto	87.25 334	eP	P	02 59 32.7	-0.1
	comp=Z,76nm,1.0s					
VSL			LR	LR		
	comp=Z,5µm,22.0s					
URZ	Urewera	88.50 162	eP	P	02 59 36.4	-1.9
	comp=Z,84nm,1.0s					
PBRG	Braganca	88.77 346	eP	P	02 59 40.2	+0.2
	comp=Z,65nm,1.8s					
PBRG	Braganca	88.77 346	ePP	PP	03 03 10.7	+2.2
PGAV	Gavieira, Arco	88.85 347	eP	P	02 59 41.0	+0.6
	comp=Z,100nm,1.4s					
PGAV	Gavieira, Arco	88.85 347	ePP	PP	03 03 03.7	-5.5
PGAV			eSKS	S	03 10 26.5	+3.3
PGAV	Gavieira, Arco	88.85 347	eLR	LR	03 29 45.6	
	comp=Z,2µm,22.0s					
POLO	Lamas de Olo	89.36 347	eP	P	02 59 42.9	+0.1
	comp=Z,41nm,1.4s					
POLO	Lamas de Olo	89.36 347	ePP	PP	03 03 12.6	-0.7
POLO			eSKS	S	03 10 34.4	+6.4
MVO	Moncorvo	89.44 346	eP	P	02 59 43.5	+0.3
	comp=Z,70nm,2.0s					
MVO	Moncorvo	89.44 346	ePP	PP	03 03 14.0	+0.1
MVO			eSKS	S	03 10 35.9	+7.2
MVO	Moncorvo	89.44 346	eLR	LR	03 30 01.4	
	comp=Z,2µm,20.0s					
PVRL	Vila Real	89.44 347	eP	P	02 59 43.3	+0.1
	comp=Z,107nm,1.9s					
PTO	Porto	89.71 347	eP	P	02 59 44.1	-0.2
	comp=Z,93nm,1.5s					
PVIS	Viseu	90.02 347	eP	P	02 59 46.9	+1.0
	comp=Z,76nm,2.0s					
MTE	Manteigas	90.27 346	eP	P	02 59 47.3	+0.2
	comp=Z,73nm,1.7s					
MTE	Manteigas	90.27 346	ePP	PP	03 03 15.7	-4.8
MTE			eSKS	S	03 10 40.9	+4.5
MTE	Manteigas	90.27 346	eLR	LR	03 30 25.5	
	comp=Z,3µm,20.0s					
MTE	Manteigas	90.27 346	PFAKE		03 00 00.0	+13
MTE			LR	LR		
	comp=Z,3µm,21.0s					
ESDC	Sonseca Array	90.35 343	P	P	02 59 46.2	-1.2
ESDC	Sonseca Array	90.35 343	P	P	02 59 46.2	-1.2
	comp=Z,10nm,0.6s,baz=2.2,slow=3.5,SNR=46					
ESDC			LR	LR	03 45 10.6	
	comp=Z,4µm,21.4s,baz=15,slow=39					
ESLA	Sonseca Array	90.35 343	eP	P	02 59 45.8	-1.7
	comp=Z,17nm,1.3s					
CMAH	Djebel Manchou	90.49 334	P	P	02 59 48.9	+0.7
PAB	San Pablo	90.55 344	eP	P	02 59 47.1	-1.3
PAB			pmax	pmax		
	comp=Z,113nm,0.7s					
PAB			MLR	MLR		
	comp=Z,8µm,20.0s					
PAB	San Pablo	90.55 344	eP	P	02 59 47.1	-1.3
	comp=Z,113nm,0.7s					
PAB			LR	LR		
	comp=Z,8µm,20.0s					
KEST	Kesra	90.73 332	eP	P	02 59 49.2	-0.1
KEST	Kesra	90.73 332	P	P	02 59 49.2	-0.1
	comp=Z,13nm,0.8s,baz=311,slow=0.9,SNR=45					
KEST			LR	LR	03 45 29.4	
	comp=Z,2µm,20.5s,baz=160,slow=39					
PCAS	Casmilo, Conde	90.76 347	eP	P	02 59 49.0	-0.3
	comp=Z,62nm,1.5s					
PCAS	Casmilo, Conde	90.76 347	ePP	PP	03 03 25.6	+1.3
PCAS			eSKS	S	03 10 46.9	+6.1
ABSA	Djebel Ababsia	90.80 334	P	P	02 59 50.5	+0.9
PCBR	Castelo Branco	90.81 346	eP	P	02 59 49.3	-0.2
	comp=Z,61nm,1.8s					
CKFL	Kef-Lekhel	90.90 334	P	P	02 59 50.7	+0.5
SNZO	South Karori	90.99 165	PFAKE		03 00 00.0	+10
SNZO			LR	LR		
	comp=Z,4µm,22.0s					
TAU	Tasmania Unive	91.00 185	eP	P	02 59 50.3	+0.4
TAU			pmax	pmax		
	comp=Z,48nm,0.8s					
TAU			MLR	MLR		
	comp=Z,3µm,19.0s					
TAU	Tasmania Unive	91.00 185	eP	P	02 59 50.3	+0.4
	comp=Z,48nm,0.8s					
TAU			LR	LR		
	comp=Z,3µm,19.0s					
DFRA	Djebel Bou Aff	91.01 335	P	P	02 59 52.2	+1.6
CASM	Ain Smara	91.10 335	P	P	02 59 52.9	+1.9
PMRV	Marv??o	91.19 346	eP	P	02 59 51.2	-0.1
	comp=Z,47nm,1.7s					
PMRV	Marv??o	91.19 346	ePP	PP	03 03 30.3	+2.5
PMRV			eSKS	S	03 10 47.3	+2.5
PMRV	Marv??o	91.19 346	eLR	LR	03 31 26.4	
	comp=Z,5µm,20.0s					
SET	Setif	91.46 335	P	P	02 59 55.0	+2.3
CKHR	Kef el Ahmar	91.60 335	P	P	02 59 54.0	+0.6
PMTG	Montargil	91.68 347	eP	P	02 59 53.6	+0.1
	comp=Z,46nm,1.8s					
PMTG	Montargil	91.68 347	eSKS	S	03 10 53.2	+4.1
PESTR	Estremoz	91.77 346	eP	P	02 59 53.8	-0.2
	comp=Z,41nm,1.6s					
PESTR	Estremoz	91.77 346	ePP	PP	03 03 37.6	+5.2
PESTR			eSKS	S	03 10 53.6	+3.5
TEIG	Tepich	91.88 57	eP	P	02 59 54.5	-0.3
	comp=Z,40nm,1.4s					
TEIG			LR	LR		
	comp=Z,1µm,22.0s					
PMAFR	Mafra	91.95 347	eP	P	02 59 54.9	+0.1
	comp=Z,116nm,1.7s					
PMAFR	Mafra	91.95 347	eSKS	S	03 10 54.3	+2.7
PMAFR	Mafra	91.95 347	eLR	LR	03 31 36.0	
LIS	Lisbon	92.16 347	eP	P	02 59 55.7	-0.1
LIS			AMS	AMS	03 44 22.7	
	comp=E,3µm,19.5s					
LIS	Lisbon	92.16 347	eP	P	02 59 55.7	-0.1
LIS	Lisbon	92.16 347	eP	P	02 59 55.7	-0.1
EVO	Evora	92.17 346	eP	P	02 59 54.7	-1.1
	comp=E,81nm,1.4s					
EVO			eR			
	comp=E,6µm,21.2s					
EVOP	Sao Brissos	92.19 346	eP	P	02 59 54.7	-1.2
EVOP	Sao Brissos	92.19 346	eP	P	02 59 54.7	-1.2
PBAR	Barrancos	92.36 345	eP	P	02 59 56.3	-0.4
	comp=E,52nm,1.9s					
PBAR	Barrancos	92.36 345	ePP	PP	03 03 44.1	+7.2
PBAR			eSKS	S	03 11 01.6	+6.3
BBSR	BB Station	92.45 32	PFAKE		03 00 10.0	+13
BBSR			LR	LR		
	comp=Z,1µm,20.0s					
PBEJ	Beja	92.64 346	eP	P	02 59 58.3	+0.3
	comp=Z,55nm,1.6s					
PNCL	Nicolau / Gran	92.66 347	eP	P	02 59 57.8	-0.3
	comp=Z,34nm,1.8s					
PNCL	Nicolau / Gran	92.66 347	ePP	PP	03 03 47.7	+8.4
PNCL			eSKS	S	03 10 58.2	+0.2
RPZ	Rata Peaks	92.77 168	eP	P	02 59 59.

comp=Z,3μm,20.0s
GTBY Guantanamo Bay 99.00 46 PFAKE 03 00 40.0 +13
GTBY LR LR
comp=Z,2μm,20.0s
MSEY Mahe Island 99.38 274 PFAKE 03 00 40.0 +11
MSEY LR LR
comp=Z,3μm,22.0s
GRTK Grand Turk 99.50 42 PFAKE 03 00 40.0 +11
GRTK LR LR
comp=Z,2μm,20.0s
SDDR Presa de Saban 101.63 44 PFAKE 03 00 50.0 +11
SDDR LR LR
comp=Z,2μm,20.0s
TAM Tamanrasset 103.95 331 PFAKE 03 01 00.0 +11
TAM LR LR
comp=Z,5μm,22.0s
SJG San Juan 104.67 40 PFAKE 03 01 00.0 +7.6
SJG LR LR
comp=Z,2μm,21.0s
BCIP Isla Barro Col 105.56 56 PFAKE 03 05 20.0
BCIP LR LR
comp=Z,620nm,20.0s
ANWB Willy Bob 106.86 36 PFAKE 03 05 20.0
ANWB LR LR
comp=Z,1μm,20.0s
PAYG Puerto Ayora 107.15 71 PFAKE 03 05 20.0
PAYG LR LR
comp=Z,1μm,21.0s
KMBO Kilima Mbogo 108.59 290 PFAKE 03 05 30.0
KMBO LR LR
comp=Z,4μm,21.0s
BBGH Gun Hill 111.84 36 PFAKE 03 05 30.0
BBGH LR LR
comp=Z,2μm,22.0s
GRGR Grenville 111.92 38 PFAKE 03 05 30.0
GRGR LR LR
comp=Z,791nm,20.0s
MBAR Mbarara 112.19 296 PFAKE 03 05 30.0
MBAR LR LR
comp=Z,825nm,21.0s
OTAV Otavalo 113.63 60 PFAKE 03 05 40.0
OTAV LR LR
comp=Z,789nm,21.0s
TORD Torodi Ar. Bea 114.20 331 Pdif **Pdif** **03 01 35.0 0.0**
TORD PKP **PKiKP** **03 05 25.3 -0.5**
TORD PP PP 03 06 14.1 -6.4
TORD PKKPbc **PKKPbc** **03 16 03.2 -1.0**
TORD SKKPbc SKKPbc 03 19 44.7 +4.0
TORD Torodi Ar. Bea 114.20 331 Pdiff **Pdif** **03 01 35.0 0.0**
comp=Z,0.6nm,0.9s,baz=16,slow=4.7,SNR=3.6
TORD PKP **PKiKP** **03 05 25.3 -0.5**
comp=Z,4.8nm,0.6s,baz=12,slow=1.6,SNR=78
TORD PP PP 03 06 14.1 -6.4
comp=Z,2.9nm,0.9s,baz=8.9,slow=6.3,SNR=4.1
TORD PKKPbc **PKKPbc** **03 16 03.2 -1.0**
comp=Z,3.8nm,0.8s,baz=228,slow=1.7,SNR=18
TORD SKKPbc SKKPbc 03 19 44.7 +4.0
comp=Z,1.9nm,1.0s,baz=202,slow=2.2,SNR=4.0
DRV Dumont d'Urvil 115.12 186 Pdif **Pdif** **03 01 29.0 -8.5**
DRV Dumont d'Urvil 115.12 186 PP PP 03 06 19.0 -8.4
DRV SKKS 03 15 41.0
DRV SS SS 03 22 10.0 -9.5
ABPO Ambohimpanom 115.28 269 PFAKE 03 05 40.0 +12
ABPO LR LR
comp=Z,2μm,21.0s
CASY Casey 119.03 199 *e*PKPdf **PKPdf** **03 05 32.5 -0.9**
CASY LR LR
comp=Z,880nm,22.0s
DBIC Dimbokro 122.32 335 PKP **PKPdf** **03 05 41.2 -0.3**
DBIC *e*PKPdf **PKiKP** **03 05 41.5 -0.1**
DBIC PKKPbc **PKKPbc** **03 15 34.6 -0.5**
DBIC Dimbokro 122.32 335 PKP **PKPdf** **03 05 41.2 -0.3**
comp=Z,19nm,0.7s,baz=22,slow=2.4,SNR=21
DBIC PKKPbc **PKKPbc** **03 15 34.6 -0.5**
comp=Z,6.5nm,1.0s,baz=171,slow=6.6,SNR=3.4
TIC Toumodi 122.39 336 *e*PKIKP **PKPdf** **03 05 41.5 -0.1**
comp=Z,70nm,1.0s
TIC Toumodi 122.39 336 *e*P **PKKPbc** **03 15 31.9 -3.0**
comp=Z,8.6nm,0.2s
MSKU Masuku 122.58 311 PFAKE 03 05 50.0 +8.0
MSKU LR LR
comp=Z,2.0nm,21.0s
KIC Kosan Boka 122.58 335 *e*PKIKP **PKPdf** **03 05 41.8 -0.2**
comp=Z,77nm,1.1s
KIC Kosan Boka 122.58 335 *e*P **PKKPbc** **03 15 34.7 +0.6**
comp=Z,46nm,1.1s
LIC Lamto 122.79 335 ⇑*i*PKIKP **PKPdf** **03 05 42.3 -0.1**
comp=Z,32nm,0.8s
LIC *e*R
comp=Z,3μm,23.0s
LIC Lamto 122.79 335 *e*PKIKP **PKPdf** **03 05 42.0 -0.4**
comp=Z,51nm,0.8s
LIC Lamto 122.79 335 *e*P **PKKPbc** **03 15 32.0 -1.3**
comp=Z,27nm,0.9s
LIC Lamto 122.79 335 ⇑*i*PKPdf **PKPdf** **03 05 42.3 -0.1**
NNA Nana 124.28 67 PFAKE 03 06 00.0 +15
NNA LR LR
comp=Z,1μm,21.0s
LSZ Lusaka 125.12 288 *e*PKPdf **PKPdf** **03 05 47.0 +0.1**
LSZ LR LR
comp=Z,3μm,20.0s
VNDA Vanda 125.60 178 *e*PKPdf **PKPdf** **03 05 45.0 -0.8**
VNDA PKP **PKPdf** **03 05 45.5 -0.3**
VNDA Vanda 125.60 178 PKP **PKPdf** **03 05 45.5 -0.3**
comp=Z,11nm,0.8s,baz=318,slow=4.3,SNR=54
SBA Scott Base 126.08 177 *e*PKIKP **PKPdf** **03 05 46.4 -0.3**
SBA MLR MLR
comp=Z,1μm,21.0s
SBA Scott Base 126.08 177 *e*PKPdf **PKPdf** **03 05 46.4 -0.3**
SBA LR LR
comp=Z,1μm,21.0s
SAML Samuel 129.68 51 *e*PKPdf **PKPdf** **03 05 55.1 -0.4**
SAML LR LR
comp=Z,1μm,22.0s
LPAZ La Paz 132.89 62 PKPpre PKPpre 03 05 49.6
LPAZ *e*PKPdf **PKPdf** **03 06 02.0 -0.2**
LPAZ PKP **PKPdf** **03 06 02.5 +0.3**
LPAZ La Paz 132.89 62 PKhKP PKPpre 03 05 49.6
comp=Z,0.7nm,0.5s,baz=45,slow=4.3,SNR=4.3
LPAZ PKP **PKPdf** **03 06 02.5 +0.3**
comp=Z,6.5nm,0.9s,baz=33,slow=2.3,SNR=15
LBTB Lobatse 133.82 281 *e*PKPdf **PKPdf** **03 06 04.4 +1.3**
MAW Mawson 133.93 212 PKPpre PKPpre 03 05 52.2
MAW PKP **PKPdf** **03 06 02.0 +0.2**
MAW SKPbc **SKPbc** **03 09 25.2 -0.4**
MAW Mawson 133.93 212 PKhKP PKPpre 03 05 52.2
comp=Z,2.2nm,0.8s,baz=275,slow=8.5,SNR=3.1
MAW PKP **PKPdf** **03 06 02.0 +0.2**
comp=Z,13nm,0.6s,baz=70,slow=1.8,SNR=19
MAW SKPbc **SKPbc** **03 09 25.2 -0.4**
comp=Z,11nm,0.9s,baz=4.0,slow=3.1,SNR=7.5
TSUM Tsumeb 134.69 294 PFAKE 03 06 20.0 +15
TSUM LR LR
comp=Z,2μm,20.0s
BOSA Boshof 136.46 278 PKPpre PKPpre 03 05 54.9
BOSA SKPbc **SKPbc** **03 09 34.8 -0.3**
BOSA Boshof 136.46 278 PKhKP PKPpre 03 05 54.9
comp=Z,5.4nm,0.7s,baz=66,slow=3.2,SNR=8.7
BOSA SKPbc **SKPbc** **03 09 34.8 -0.3**
comp=Z,4.0nm,0.7s,baz=325,slow=0.9,SNR=3.3
RCBR Riachuelo 136.82 15 PFAKE 03 06 20.0 +11
RCBR LR LR
comp=Z,2μm,19.0s
LVC Limon Verde 137.23 69 PFAKE 03 06 20.0 +10
LVC LR LR
comp=Z,1μm,21.0s
QSPA South Pole Qui 138.00 180 PFAKE 03 06 20.0 +10
QSPA LR LR
comp=Z,2μm,21.0s
ASCN Ascension 138.68 343 PFAKE 03 06 20.0 +7.6
ASCN LR LR
comp=Z,550nm,20.0s
LCO Las Campanas 140.57 77 PFAKE 03 06 30.0 +14
LCO LR LR
comp=Z,2μm,21.0s
SUR Sutherland 141.81 277 PFAKE 03 06 30.0 +12
SUR LR LR
comp=Z,2μm,19.0s
BDFB Brasilia 142.62 37 PKPpre PKPpre 03 06 15.3
BDFB Brasilia 142.62 37 PKhKP PKPpre 03 06 15.3
comp=Z,19nm,0.8s,baz=315,slow=4.3,SNR=24
SHEL Horse Pasture 143.87 326 PFAKE 03 06 30.0 +8.4
SHEL LR LR
comp=Z,3μm,20.0s
CFAA Coronel Fontan 143.88 78 PKPpre PKPpre 03 06 18.2

CFAA Coronel Fontan 143.88 78 PKhKP PKPpre 03 06 18.2
comp=Z,13nm,0.9s,baz=288,slow=2.8,SNR=117
LMEL Las Melosas 143.97 83 ⇑*i*P PKPab 03 06 18.9 0.0
CPUP Villa Florida 146.98 60 *e*PKPdf **PKPdf** **03 06 26.8 +0.2**
CPUP PKPbc **PKPdf** **03 06 27.4 +0.8**
CPUP *e*PKPbc **PKPab** **03 06 28.5 -1.7**
CPUP Villa Florida 146.98 60 PKPbc **PKPdf** **03 06 27.4 +0.8**
comp=Z,42nm,0.7s,baz=317,slow=2.7,SNR=78
PLCA Paso Flores 147.49 94 PKP **PKPdf** **03 06 26.5 -0.6**
PLCA *e*PKPdf **PKPbc** **03 06 27.1 -2.6**
PLCA PKPbc **PKPbc** **03 06 29.1 -0.6**
PLCA Paso Flores 147.49 94 PKP **PKPdf** **03 06 26.5 -0.6**
comp=Z,39nm,0.8s,baz=277,slow=3.1,SNR=31
PLCA PKPbc **PKPbc** **03 06 29.1 -0.6**
comp=Z,56nm,0.9s,baz=305,slow=4.0,SNR=61
MAIT Maitri 151.38 205 *e*P **PKPbc** **03 06 36.2 -2.2**
TRQA Tornquist 151.84 82 *e*PKPdf **PKPdf** **03 06 33.9 -0.2**
TRQA *e*PKPbc **PKPbc** **03 06 40.3 -0.2**
TRQA LR LR
comp=Z,2μm,22.0s
SNAA Sanae 154.24 196 *e*PKPdf **PKPdf** **03 06 35.5 -1.0**
SNAA Sanae 154.24 196 *e*PKP **PKPbc** **03 06 44.0 -0.8**
SNAA Sanae 154.24 196 *e*pPKPdf pPKPdf 03 06 52.0 -1.9
SNAA Sanae 154.24 196 *e*PKPab **PKPab** **03 06 58.6 -0.4**
SNAA Sanae 154.24 196 *e*pPKiKP **PKPab** **03 07 03.4 +4.4**
SNAA Sanae 154.24 196 *e*PP PP 03 10 33.2 -1.5
SNAA Sanae 154.24 196 *e*P **PKPbc** **03 06 46.9 +2.1**
SNAA Sanae 154.24 196 PKP **PKPdf** **03 06 35.8 -0.7**
SNAA *e*PKPdf **PKPdf** **03 06 36.1 -0.4**
SNAA PKPbc **PKPbc** **03 06 43.8 -1.0**
SNAA *e*PKPbc **PKPbc** **03 06 44.2 -0.6**
SNAA PKPab **PKPab** **03 06 58.6 -0.4**
SNAA Sanae 154.24 196 PKP **PKPdf** **03 06 35.8 -0.7**
comp=Z,0.6nm,0.7s,baz=169,slow=2.9,SNR=8.0
SNAA PKPbc **PKPbc** **03 06 43.8 -1.0**
comp=Z,9.9nm,0.7s,baz=183,slow=2.0,SNR=57
SNAA PKPab **PKPab** **03 06 58.6 -0.4**
comp=Z,19nm,0.9s,baz=174,slow=2.5,SNR=15
VNA2 Neumayer--Watz 155.68 194 *e*PKPdf **PKPdf** **03 06 37.5 -0.9**
VNA2 Neumayer--Watz 155.68 194 *e*sPKPdf sPKPdf 03 06 58.7 -3.3
VNA2 Neumayer--Watz 155.68 194 *e*PKPab **PKPab** **03 07 05.3 +0.2**
VNA2 Neumayer--Watz 155.68 194 *e*PP PP 03 10 38.1 -4.5
VNA2 Neumayer--Watz 155.68 194 *e*P PKPdf 03 06 47.6 +9.2
baz=111,slow=1.8
VNA1 Neumayer--Stat 156.06 194 *e*PKPdf **PKPdf** **03 06 38.3 -0.6**
VNA1 Neumayer--Stat 156.06 194 *e*sPKPdf sPKPdf 03 06 59.1 -3.4
VNA1 Neumayer--Stat 156.06 194 *e*PKPab **PKPab** **03 07 06.8 +0.1**
VNA1 Neumayer--Stat 156.06 194 *e*PP PP 03 10 42.9 -1.8
VNA1 Neumayer--Stat 156.06 194 *e*P PKPdf 03 06 48.8 +10
TRIS Tristan da Cun 165.15 314 PFAKE 03 07 00.0 +10
TRIS LR LR
comp=Z,3μm,21.0s

IDC ***10*** *02:51:08.7±1.9, 41°.83N×47°.82E, h0km, mb3.6/4, mb1 3.7/6, mb1mx3.5/25, mbtmp3.6/6, ML3.5/2, MS3.9/1, Ms1 3.9/1, ms1mx2.9/39, Error ellipse: s-maj=29.4km s-min=14.8km az=177.0*
NSSP ***10*** *02:51:11.3, 41°.87N×47°.68E, h10km, Ms3.0*
AZER ***10*** *02:51:12.1±2.0, 42°.01N×47°.75E, h4km±8km, Error ellipse: s-maj=15.2km s-min=7.2km az=176.0*
CSEM ***10*** *02:51:12.9±0.2, 41°.99N×47°.83E, h10km, mb4.0, Error ellipse: s-maj=5.5km s-min=3.2km az=60.0*
MOS ***10*** *02:51:12.7±0.9, 41°.95N×47°.81E, h10km, mb4.0/1, Error ellipse: s-maj=10.4km s-min=4.7km az=122.2*
ISCJB ***10*** *02:51:13.1±0.3, 41°.94N±0°.02×47°.72E±0°.03, h5km±3km, mb3.5/4, Error ellipse: s-maj=4.1km s-min=2.3km az=142.4*
ISC 10 02:51:12.6±0.9, 41°.94N±0°.01×47°.76E±0°.02, h11km±6km, n93, σ1°.44/142, mb3.6/4, 14C-17D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URKR	**Urkarakh**	**0.24**	**338**	*i* PG	**Pg**	**02 51 18.0**	**+0.3**
URKR				*i* S	**Sg**	**02 51 22.0**	**+0.9**
URKR				pmax	pmax		
	comp=Z,668nm,0.2s						
URKR	**Urkarakh**	**0.24**	**338**	*i* Pg	**Pg**	**02 51 18.0**	**+0.3**
	comp=Z,668nm,0.2s						
URKR				*i* Sg	**Sg**	**02 51 22.0**	**+0.9**
DRN	**Derbent**	**0.44**	**78**	⇓*i*PG	**Pb**	**02 51 21.8**	**-0.5**
DRN				*e*S	**Sb**	**02 51 28.5**	**-0.3**
DRN	**Derbent**	**0.44**	**78**	*i* Pg	**Pb**	**02 51 21.8**	**-0.5**
DRN				*e*Sg	**Sb**	**02 51 28.5**	**-0.3**
KSMR	**Kasumkent**	**0.44**	**141**	PG	**Pb**	**02 51 22.5**	**+0.1**
KSMR				*e*S	**Sb**	**02 51 29.5**	**+0.5**
KSMR				pmax	pmax		
	comp=Z,1μm,0.1s						
KSMR	**Kasumkent**	**0.44**	**141**	Pg	**Pb**	**02 51 22.5**	**+0.1**
	comp=Z,1μm,0.1s						
KSMR				*e*Sg	**Sb**	**02 51 29.5**	**+0.5**
AKT	**Akhty**	**0.46**	**182**	*i* PG	**Pb**	**02 51 22.5**	**-0.3**
AKT				*e*S	**Sg**	**02 51 29.0**	**+1.2**
AKT	**Akhty**	**0.46**	**182**	*i* Pg	**Pb**	**02 51 22.5**	**-0.3**
AKT				*e*Sg	**Sg**	**02 51 29.0**	**+1.2**
SGKR	**Sergokala**	**0.52**	**352**	*e*PG	**Pg**	**02 51 23.0**	**+0.2**
SGKR				*e*S	**Sg**	**02 51 30.5**	**+0.8**
SGKR				pmax	pmax		
	comp=Z,374nm,0.1s						
SGKR	**Sergokala**	**0.52**	**352**	*e*Pg	**Pg**	**02 51 23.0**	**+0.2**
	comp=Z,374nm,0.1s						
SGKR				*e*Sg	**Sg**	**02 51 30.5**	**+0.8**
KMKR	**Kumukh**	**0.52**	**291**	*e*PG	**Pb**	**02 51 24.0**	**+0.1**
KMKR				*i* S	**Sb**	**02 51 32.0**	**+0.4**
KMKR				pmax	pmax		
	comp=Z,451nm,0.3s						
KMKR	**Kumukh**	**0.52**	**291**	*e*Pg	**Pb**	**02 51 24.0**	**+0.1**
	comp=Z,451nm,0.3s						
KMKR				*i* Sg	**Sb**	**02 51 32.0**	**+0.4**
GNBR	**Gunib**	**0.74**	**307**	*i* PG	**Pg**	**02 51 27.0**	**+0.1**
GNBR				*e*S	**Sb**	**02 51 37.3**	**-0.3**
GNBR	**Gunib**	**0.74**	**307**	*i* Pg	**Pg**	**02 51 27.0**	**+0.1**
GNBR				*e*Sg	**Sb**	**02 51 37.3**	**-0.3**
MNSR	**Manas**	**0.76**	**358**	⇓*i*PG	**Pb**	**02 51 28.0**	**+0.2**
MNSR				*i* S	**Sb**	**02 51 38.5**	**+0.4**
MNSR				pmax	pmax		
	comp=Z,225nm,0.2s						
MNSR	**Manas**	**0.76**	**358**	*i* Pg	**Pb**	**02 51 28.0**	**+0.2**
	comp=Z,225nm,0.2s						
MNSR				*i* Sg	**Sb**	**02 51 38.5**	**+0.4**
QUBA	**Quba, Azerbaij**	**0.81**	**137**	⇑P	**Pb**	**02 51 28.5**	**-0.1**
	SNR=42						
QUBA				⇑S	**Sg**	**02 51 37.8**	**-0.9**
QUBA	**Quba, Azerbaij**	**0.81**	**137**	P	**Pb**	**02 51 28.5**	**-0.1**
	SNR=42						
SEKA	**Sheki**	**0.84**	**210**	P	**Pg**	**02 51 28.9**	**0.0**
	SNR=98						
SEKA				⇓S	**Sb**	**02 51 40.9**	**+0.2**
SEKA	**Sheki**	**0.84**	**210**	P	**Pg**	**02 51 28.9**	**0.0**
	SNR=98						
SEKA				S	**Sb**	**02 51 40.9**	**+0.2**
ARKR	**Arakani**	**0.87**	**320**	*e*PG	**Pg**	**02 51 29.5**	**+0.2**
ARKR				*e*S	**Sb**	**02 51 42.0**	**+0.7**
ARKR				pmax	pmax		
	comp=Z,145nm,0.2s						
ARKR	**Arakani**	**0.87**	**320**	*e*Pg	**Pg**	**02 51 29.5**	**+0.2**
	comp=Z,145nm,0.2s						
ARKR				*e*Sg	**Sb**	**02 51 42.0**	**+0.7**
XNZR	**Khunzakh**	**0.98**	**308**	*e*PG	**Pg**	**02 51 31.6**	**+0.1**
XNZR				*e*S	**Sb**	**02 51 45.0**	**+0.2**
XNZR	**Khunzakh**	**0.98**	**308**	*e*Pg	**Pg**	**02 51 31.6**	**+0.1**
XNZR				*e*Sg	**Sb**	**02 51 45.0**	**+0.2**
BUJR	**Buynaksk**	**1.00**	**332**	PG	**Pn**	**02 51 34.0**	**+1.4**
BUJR				*e*S	**Sn**	**02 51 49.0**	**+2.2**
BUJR	**Buynaksk**	**1.00**	**332**	Pg	**Pn**	**02 51 34.0**	**+1.4**
BUJR				*e*Sg	**Sn**	**02 51 49.0**	**+2.2**
MAK	**Makhachkala**	**1.03**	**350**	*e*PG	**Pn**	**02 51 33.0**	**0.0**
MAK				*e*		02 51 48.1	
MAK				pmax	pmax		
	comp=Z,269nm,0.4s						
MAK				smax	smax		
	comp=E,2μm,0.5s						
MAK				smax	smax		
	comp=N,2μm,0.5s						
MAK	**Makhachkala**	**1.03**	**350**	*e*Pg	**Pn**	**02 51 33.0**	**0.0**
	comp=N,269nm,0.4s						
MAK				*e*Sg	**Sn**	**02 51 48.1**	**+0.7**
	comp=N,2μm,0.5s						
UNCR	**Uncukul**	**1.05**	**318**	⇑*i*PG	**Pb**	**02 51 32.8**	**0.0**
UNCR				*i* S	**Sb**	**02 51 47.0**	**+0.5**
UNCR				pmax	pmax		
	comp=Z,135nm,0.2s						
UNCR	**Uncukul**	**1.05**	**318**	*i* Pg	**Pb**	**02 51 32.8**	**0.0**
	comp=Z,135nm,0.2s						
UNCR				*i* Sg	**Sb**	**02 51 47.0**	**+0.5**
KRNR	**Karanay**	**1.08**	**325**	*e*PG	**Pb**	**02 51 32.8**	**0.0**
KRNR				*e*S	**Sg**	**02 51 48.2**	**+0.6**
KRNR				pmax	pmax		
	comp=Z,143nm,0.2s						
KRNR	**Karanay**	**1.08**	**325**	*e*Pg	**Pb**	**02 51 33.5**	**+0.1**
	comp=Z,143nm,0.2s						
KRNR				*e*Sg	**Sg**	**02 51 48.2**	**+0.6**
IML	**Ismayilli**	**1.19**	**164**	P	**Pg**	**02 51 36.9**	**+1.4**
	SNR=7.0						
IML	**Ismayilli**	**1.19**	**164**	P	**Pg**	**02 51 36.9**	**+1.4**
	SNR=7.0						
SIZA	**Siyzn**	**1.22**	**135**	⇑P	**Pg**	**02 51 36.7**	**+0.7**
	SNR=15						
SIZA				⇓S	**Sn**	**02 51 53.0**	**+0.8**
SIZA	**Siyzn**	**1.22**	**135**	P	**Pg**	**02 51 36.7**	**+0.7**
	SNR=15						
SIZA				S	**Sn**	**02 51 53.0**	**+0.8**
DBC	**Dubki**	**1.27**	**328**	⇑*i*PG	**Pn**	**02 51 36.0**	**-0.4**
DBC				*i* S	**Sg**	**02 51 54.5**	**+0.8**
DBC	**Dubki**	**1.27**	**328**	*i* Pg	**Pn**	**02 51 36.0**	**-0.4**
DBC				*i* Sg	**Sg**	**02 51 54.5**	**+0.8**
PQL	**Pirkuli**	**1.31**	**151**	⇓P	**Pg**	**02 51 38.3**	**+0.5**
	SNR=18						
PQL				⇑S	**Sg**	**02 51 56.4**	**+1.5**
PQL	**Pirkuli**	**1.31**	**151**	P	**Pg**	**02 51 38.3**	**+0.5**
	SNR=18						
PQL				S	**Sg**	**02 51 56.4**	**+1.5**
BTLR	**Botlikh**	**1.35**	**303**	PG	**Pg**	**02 51 39.0**	**+0.6**
BTLR				*e*S	**Sg**	**02 51 56.5**	**+0.6**
BTLR				pmax	pmax		
	comp=Z,112nm,0.5s						
BTLR	**Botlikh**	**1.35**	**303**	Pg	**Pg**	**02 51 39.0**	**+0.6**
	comp=Z,112nm,0.5s						
BTLR				*e*Sg	**Sg**	**02 51 56.5**	**+0.6**
ATGJ	**Altiaghaj**	**1.40**	**140**	⇑P	**Pg**	**02 51 39.6**	**+0.1**
	SNR=14						
ATGJ				⇑S	**Sg**	**02 51 59.9**	**+2.2**
ATGJ	**Altiaghaj**	**1.40**	**140**	P	**Pg**	**02 51 39.6**	**+0.1**
	SNR=14						
ATGJ				S	**Sg**	**02 51 59.9**	**+2.2**
DLMR	**Dylym**	**1.40**	**324**	*e*PG	**Pb**	**02 51 39.1**	**+0.4**
DLMR				*e*S	**Sg**	**02 51 59.4**	**+1.7**
DLMR				pmax	pmax		
	comp=Z,246nm,0.3s						
DLMR	**Dylym**	**1.40**	**324**	*e*Pg	**Pb**	**02 51 39.1**	**+0.4**
	comp=Z,246nm,0.3s						
DLMR				*e*Sg	**Sg**	**02 51 59.4**	**+1.7**
GANJ	**Ganja**	**1.69**	**220**	⇓Pn	**Pb**	**02 51 43.0**	**-0.7**
	SNR=73						
GANJ				⇓Sn	**Sb**	**02 52 05.5**	**+0.6**
GANJ	**Ganja**	**1.69**	**220**	Pn	**Pb**	**02 51 43.0**	**-0.7**
	SNR=73						
GANJ				Sn	**Sb**	**02 52 05.5**	**+0.6**
BRDA	**Brd**	**1.73**	**195**	⇓Pn	**Pb**	**02 51 44.4**	**0.0**
	SNR=9.3						
BRDA				⇓Lg	Lg	02 52 12.2	
BRDA	**Brd**	**1.73**	**195**	Pn	**Pb**	**02 51 44.4**	**0.0**
	SNR=9.3						
BRDA				Lg	Lg	02 52 12.2	
MTKZ	**Martakert**	**1.88**	**202**	⇑*i*P	**Pn**	**02 51 44.3**	**-0.4**
MTKZ				⇓*i*S	**Sn**	**02 52 09.3**	**+1.0**
MTKZ	**Martakert**	**1.88**	**202**	⇑P	**Pn**	**02 51 44.3**	**-0.4**
MTKZ				S	**Sn**	**02 52 09.4**	**+1.0**
STKZ		**2.26**	**200**	⇑*i*P	Pn	02 51 42.3	-7.7
STKZ				⇑*i*S	Sn	02 52 11.7	-6.2
BTKR	**Batakoyurt**	**2.77**	**302**	*de*PN	**Pb**	**02 51 59.8**	**-2.2**
BTKR	**Batakoyurt**	**2.77**	**302**	*e*Pn	**Pb**	**02 51 59.8**	**-2.2**
GNI	**Garni**	**2.90**	**233**	⇓*i*P	**Pb**	**02 52 03.0**	**-1.4**
GNI				⇑*i*S	**Sb**	**02 52 41.3**	**+1.4**
GNI	**Garni**	**2.90**	**233**	*e*Pn	**Pn**	**02 52 01.7**	**+2.9**
GNI	**Garni**	**2.90**	**233**	⇓P	**Pb**	**02 52 03.0**	**-1.4**
KORR	**Kora**	**2.96**	**294**	*e*PN	**Pb**	**02 52 03.7**	**-1.6**
KORR	**Kora**	**2.96**	**294**	*e*Pn	**Pb**	**02 52 03.7**	**-1.6**
ZEI	**Tsey**	**2.98**	**288**	*e*PN	**Pb**	**02 52 03.7**	**-2.0**
ZEI	**Tsey**	**2.98**	**288**	*e*Pn	**Pb**	**02 52 03.7**	**-2.0**
PRTR	**Priterechnaya**	**3.13**	**306**	*e*PN	**Pn**	**02 52 04.6**	**+2.8**
PRTR	**Priterechnaya**	**3.13**	**306**	*e*Pn	**Pn**	**02 52 04.6**	**+2.8**
DIGR	**Digorskoe uzhe**	**3.23**	**289**	*e*PN	**Pb**	**02 52 08.8**	**-1.3**
DIGR	**Digorskoe uzhe**	**3.23**	**289**	*e*Pn	**Pb**	**02 52 08.8**	**-1.3**
NCK	**Nalchik**	**3.44**	**298**	*e*PN	**Pn**	**02 52 08.0**	**+2.0**
NCK	**Nalchik**	**3.44**	**298**	*e*Pn	**Pn**	**02 52 08.0**	**+2.0**
KBZ	**Khabaz**	**3.99**	**298**	PN	**Pn**	**02 52 14.7**	**+1.1**
KBZ						02 53 03.7	
KBZ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KBZ				pmax	pmax		
	comp=N,1.0nm,0.3s						
KBZ	**Khabaz**	**3.99**	**298**	Pn	**Pn**	**02 52 14.7**	**+1.1**
	comp=N,0.6nm,0.3s,baz=154,slow=6.5,SNR=14						
KBZ				Sn	**Sn**	**02 53 03.7**	**+3.3**
	comp=N,1.2nm,0.3s,baz=285,slow=20,SNR=2.7						
KBZ				Lg	Lg	02 53 17.9	
	comp=N,1.1nm,0.3s,baz=327,slow=20,SNR=4.2						
KBZ	**Khabaz**	**3.99**	**298**	Pn	**Pn**	**02 52 14.7**	**+1.1**
	comp=N,1.0nm,0.3s						
KBZ				Sn	**Sn**	**02 53 03.7**	**+3.3**
KIV	**Kislovodsk**	**4.23**	**300**	*e*PN	**Pn**	**02 52 17.6**	**+0.6**
KIV	**Kislovodsk**	**4.23**	**300**	*e*Pn	**Pn**	**02 52 17.6**	**+0.6**
ANN	**Anapa**	**8.04**	**294**	⇓*e*P	**Pn**	**02 53 10.8**	**+1.5**
ANN	**Anapa**	**8.04**	**294**	*e*P	**Pn**	**02 53 10.8**	**+1.5**
AKTK	**Aktyubinsk**	**11.07**	**36**	P	**Pn**	**02 53 47.9**	**-2.8**
	comp=N,1.0nm,0.3s						
AKTO	**Aktyubinsk**	**11.07**	**36**	⇓Pn	**Pn**	**02 53 48.9**	**-1.8**
	comp=N,10nm,1.5s						
AKTO				⇓Sn	Sn	02 55 45.4	-9.0
	comp=N,2.5nm,0.8s						
AKTO	**Aktyubinsk**	**11.07**	**36**	P	**Pn**	**02 53 47.9**	**-2.8**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKTO	**Aktyubinsk**	**11.07**	**36**	Pn	**Pn**	**02 53 47.9**	**-2.8**
	comp=Z,0.6nm,0.3s,baz=203,slow=13,SNR=7.5						
AKTO				Sn	Sn	02 55 43.6	-11
	comp=Z,0.2nm,0.3s,baz=0.0,slow=20,SNR=3.4						
AKTO	**Aktyubinsk**	**11.07**	**36**	Pn	**Pn**	**02 53 48.9**	**-1.8**
	comp=Z,1.0nm,1.5s						
AB31	**Akbulak array**	**11.23**	**45**	Pn	**Pn**	**02 53 50.1**	**-2.8**
	comp=Z,0.7nm,0.5s,baz=230,slow=12,SNR=15						
AB31				⇑Sn	Sn	02 55 49.3	-9.1
	comp=Z,0.6nm,0.4s,baz=228,slow=16,SNR=3.7						
AB31	**Akbulak array**	**11.23**	**45**	Pn	**Pn**	**02 53 50.1**	**-2.8**
	comp=Z,0.7nm,0.5s,baz=230,SNR=15						
MMAI	**Mount Meron Ar**	**13.24**	**232**	LR	LR	02 59 50.2	
	comp=Z,575nm,21.7s,baz=50,slow=40						
KIEV	**Kiev**	**15.48**	**311**	*e*P	**P**	**02 54 54.2**	**-1.0**
KIEV	**Kiev**	**15.48**	**311**	*e*P	**P**	**02 54 54.2**	**-1.0**
ARU	**Arti**	**16.10**	**22**	*d*P	**P**	**02 55 01.7**	**-0.2**
ARU				S	**Sn**	**02 58 02.7**	**+5.8**
ARU				pmax	pmax		
	comp=Z,14nm,2.5s						
ARU	**Arti**	**16.10**	**22**	*i* P	**P**	**02 55 01.7**	**-0.2**
	comp=Z,14nm,2.5s						
ARU				S	**Sn**	**02 58 02.7**	**+5.8**
FINES	**FINESS Array B**	**23.49**	**334**	P	**P**	**02 56 19.7**	**-2.3**
	comp=Z,1.0nm,0.4s,baz=133,slow=9.7,SNR=14						
GERES	**GERESS Array B**	**24.74**	**298**	P	**P**	**02 56 33.4**	**-0.6**
	comp=Z,0.4nm,0.8s,baz=84,slow=9.0,SNR=3.8						
GERES	**GERESS Array B**	**24.74**	**298**

KURBB Kurchatov Arra 47.34 303 P P 03 09 10.4 -0.5
1.0nm,0.6s,baz=70,slow=8.8,SNR=5.3
BVAR Borovoye Array 50.55 309 P P 03 09 34.7 -0.9
1.4nm,0.4s,baz=75,slow=5.5,SNR=5.3
NVAR Mina Array Bea 60.96 64 P P 03 10 50.6 0.0
0.3nm,0.7s,baz=300,slow=7.2,SNR=5.3
TXAR Lajitas Array 75.99 62 P P 03 12 24.1 -0.1
0.3nm,0.6s,baz=303,slow=3.6,SNR=3.8
GERES GERESS Array B 77.44 335 P P 03 12 32.1 0.0
0.3nm,0.6s,baz=46,slow=6.2,SNR=3.6
BRTR Keskin Array B 77.85 317 P P 03 12 35.0 +0.5
0.5nm,0.5s,baz=96,slow=2.9,SNR=4.0

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*MOS **10** 03:09:18.2±2.0, 48°.19N×154°.52E, h33km, mb4.2/11, Error ellipse: s-maj=22.8km s-min=10.0km az=65.6*
*ISCJB **10** 03:09:19.2±0.5, 48°.14N±0°.07×154°.6E±0°.1, h42km, mb4.3/27, Error ellipse: s-maj=13.7km s-min=6.0km az=42.5*
*IDC **10** 03:09:22.3±0.9, 48°.20N×154°.37E, h53km±7km, mb3.7/14, mb1 4.0/15, mb1mx3.8/25, mbtmp3.8/15, Error ellipse: s-maj=20.9km s-min=13.7km az=152.0*

ISC 10 03:09:21.1±0.7, 48°.1N±0°.1×154°.4E±0°.1, h42km, n48, σ1§03/53, mb4.3/27, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.81**	**23**	*e*PN	Pn	03 09 55.0	-8.4
SKR				pmax	pmax		
	comp=Z,170nm,0.5s						
PETK	**Petropavlovsk-**	**5.42**	**21**	PN	**Pn**	**03 10 40.2**	**+0.8**
PETK				*PP		03 11 40.7	
PETK				pmax	pmax		
	comp=Z,9.0nm,0.3s						
PETK				pmax	pmax		
	comp=N,1.0nm,0.3s						
PETK	**Petropavlovsk-**	**5.42**	**21**	P	**Pn**	**03 10 40.2**	**+0.8**
	comp=N,8.5nm,0.3s,baz=180,slow=12,SNR=47						
PETK				S	**Sn**	**03 11 40.7**	**+0.3**
	comp=N,0.9nm,0.3s,baz=222,slow=25,SNR=2.3						
PET	**Petropavlovsk**	**5.61**	**27**	*e*PN	**Pn**	**03 10 41.9**	**0.0**
PET				*e*S	**Sn**	**03 11 43.8**	**-1.2**
PET				smax	smax		
	comp=E,181nm,0.9s						
PET				smax	smax		
	comp=N,243nm,0.8s						
ASAJ	**Asahikawa**	**9.13**	**248**	P	Pn	03 11 34.7	+4.5
	comp=N,0.7nm,0.3s,baz=115,slow=9.5,SNR=3.1						
FX1	**Attu Island--F**	**12.84**	**61**	P	**Pn**	**03 12 19.0**	**-1.8**
	comp=N,1.8nm,0.3s,baz=15,slow=16,SNR=10						
FX1				S	Sn	03 14 26.8	-15
	comp=N,1.6nm,0.3s,baz=356,slow=15,SNR=4.1						
USRK	**Ussuriysk Arra**	**16.02**	**264**	P	**P**	**03 13 07.0**	**+0.9**
	comp=N,0.3nm,0.3s,baz=76,slow=14,SNR=5.7						
MJAR	**Matsushiro Arr**	**16.61**	**232**	P	**Pn**	**03 13 09.0**	**-1.9**
	comp=N,0.1nm,0.3s,baz=32,slow=13,SNR=4.3						
KSRS	**Korea Array**	**22.07**	**251**	P	**P**	**03 14 14.2**	**+1.9**
	comp=N,5.6nm,0.9s,baz=50,slow=9.9,SNR=16						
ILAR	**Eielson Array**	**34.93**	**40**	P	**P**	**03 16 08.0**	**-0.5**
	comp=N,1.6nm,0.9s,baz=262,slow=8.3,SNR=13						
ILAR				pP	**pP**	**03 16 21.6**	**+1.7**
	comp=N,1.0nm,1.0s,baz=283,slow=13,SNR=5.6						
INK	**Inuvik**	**40.03**	**33**	P	**P**	**03 16 51.6**	**+0.2**
	comp=N,2.5nm,0.7s,baz=310,slow=6.3,SNR=4.1						
ZALV	**Zalesovo Beam**	**42.55**	**305**	PcP	**PcP**	**03 19 03.8**	**-0.3**
	comp=N,1.9nm,0.9s,baz=57,slow=5.3,SNR=1.8						
MKAR	**Makanchi Array**	**47.12**	**297**	P	**P**	**03 17 48.1**	**-0.7**
MKAR				*PP	**pP**	**03 18 02.2**	**+1.6**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**47.12**	**297**	P	**P**	**03 17 48.1**	**-0.7**
	comp=Z,1.0nm,0.7s,baz=64,slow=8.2,SNR=6.6						
MKAR				pP	**pP**	**03 18 02.2**	**+1.6**
	comp=Z,0.3nm,0.8s,baz=107,slow=42,SNR=2.0						
KURK	**Kurchatov**	**47.36**	**303**	P	**P**	**03 17 50.8**	**+0.2**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.4s						
KURBB	**Kurchatov Arra**	**47.46**	**303**	P	**P**	**03 17 50.8**	**-0.5**
	comp=Z,1.5nm,0.4s,baz=60,slow=7.5,SNR=7.5						
YKA	**Yellowknife Ar**	**49.30**	**38**	P	**P**	**03 18 05.2**	**-0.1**
	comp=Z,2.1nm,0.8s,baz=300,slow=7.8,SNR=5.0						
YKA				pP	**pP**	**03 18 18.7**	**+1.4**
	comp=Z,0.6nm,0.6s,baz=35,slow=17,SNR=3.1						
NVAR	**Mina Array Bea**	**61.02**	**64**	P	**P**	**03 19 30.9**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=299,slow=7.3,SNR=6.9						
FINES	**FINESS Array B**	**63.19**	**335**	P	**P**	**03 19 42.8**	**-1.6**
	comp=Z,0.9nm,0.4s,baz=21,slow=8.6,SNR=5.4						
PDAR	**Pinedale Array**	**63.23**	**55**	P	**P**	**03 19 45.0**	**-0.3**
	comp=Z,0.8nm,0.9s,baz=236,slow=1.6,SNR=5.0						
WRA	**Warramunga Arr**	**70.09**	**200**	P	**P**	**03 20 28.4**	**-0.4**
	comp=Z,1.7nm,0.8s,baz=15,slow=6.3,SNR=7.2						
ASAR	**Alice Springs**	**73.78**	**200**	P	**P**	**03 20 51.4**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=14,slow=6.0,SNR=6.0						
TXAR	**Lajitas Array**	**76.06**	**62**	P	**P**	**03 21 04.2**	**-0.1**
	comp=Z,0.9nm,0.8s,baz=297,slow=4.0,SNR=10						
TXAR				pP	**pP**	**03 21 19.5**	**+2.7**
	comp=Z,0.5nm,0.8s,baz=306,slow=5.6,SNR=2.9						
GERES	**GERESS Array B**	**77.62**	**335**	P	**P**	**03 21 11.7**	**-1.0**
	comp=Z,1.4nm,0.8s,baz=23,slow=4.4,SNR=11						
BRTR	**Keskin Array B**	**78.00**	**317**	P	**P**	**03 21 14.7**	**-0.4**
	comp=Z,3.2nm,0.6s,baz=31,slow=6.7,SNR=13						
CDF	**Champ du Feu**	**79.73**	**338**	*e*P	**P**	**03 21 23.2**	**-1.1**
	comp=Z,9.3nm,1.1s						
PAGF	**Fort de Pagny**	**79.97**	**339**	*e*P	**P**	**03 21 24.8**	**-0.7**
	comp=Z,3.8nm,0.7s						
MEZF	**Maizieres J'vi**	**80.17**	**340**	*e*P	**P**	**03 21 25.9**	**-0.7**
HAU	**Haudompre**	**80.33**	**339**	*e*P	**P**	**03 21 26.4**	**-1.1**
HINF	**Hinteralfeld**	**80.39**	**338**	*e*P	**P**	**03 21 27.4**	**-0.4**
SFTF	**Sexfontaines**	**80.46**	**340**	*e*P	**P**	**03 21 28.0**	**-0.2**
GRR	**Gorron**	**81.52**	**344**	*e*P	**P**	**03 21 32.9**	**-0.9**
LOR	**Lormes**	**81.61**	**340**	*e*P	**P**	**03 21 33.2**	**-1.1**
	comp=Z,14nm,0.9s						
CABF	**La Chapelle**	**81.70**	**339**	*e*P	**P**	**03 21 34.8**	**-0.1**
SSF	**Saint Saulge**	**81.88**	**340**	*e*P	**P**	**03 21 34.6**	**-1.1**
	comp=Z,9.2nm,1.0s						
SGMF	**Saint Gilles**	**81.96**	**345**	*e*P	**P**	**03 21 35.1**	**-1.0**
ROSF	**Rostrenen**	**82.01**	**345**	*e*P	**P**	**03 21 35.5**	**-0.9**
AVF	**Avril sur Loir**	**82.17**	**340**	*e*P	**P**	**03 21 36.3**	**-1.0**
SMF	**Signal de Mont**	**82.20**	**340**	*e*P	**P**	**03 21 36.5**	**-0.9**
	comp=Z,47nm,1.5s						
LPL	**La Plagne**	**82.56**	**338**	*e*P	**P**	**03 21 39.3**	**-0.3**
	comp=Z,9.8nm,0.9s						
LPG	**La Plagne**	**82.58**	**338**	*e*P	**P**	**03 21 38.7**	**-1.1**
	comp=Z,16nm,1.0s						
TCF	**Toulx Ste Croi**	**82.90**	**341**	*e*P	**P**	**03 21 40.5**	**-0.6**
	comp=Z,7.6nm,0.8s						
MFF	**Saint Martin d**	**83.10**	**343**	*e*P	**P**	**03 21 41.3**	**-0.8**
MBDF	**Montbardon**	**83.29**	**337**	*e*P	**P**	**03 21 42.6**	**-0.7**
ORIF	**Oris-en-Rattie**	**83.34**	**338**	*e*P	**P**	**03 21 43.3**	**-0.2**
	comp=Z,12nm,0.9s						
VIVF	**Saint-Julien-l**	**83.69**	**339**	*e*P	**P**	**03 21 44.8**	**-0.4**
CAF	**Calviac**	**84.23**	**341**	*e*P	**P**	**03 21 46.7**	**-1.3**
	comp=Z,12nm,1.2s						
LMR	**La Mourre**	**84.66**	**337**	*e*P	**P**	**03 21 49.3**	**-0.8**
	comp=Z,17nm,1.0s						

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*ISCJB **10** 03:22:21.6±0.6, 48°.25N±0°.09×154°.7E±0°.1, h42km, mb3.9/11, Error ellipse: s-maj=18.1km s-min=7.2km az=42.7*
*MOS **10** 03:22:22.4±1.9, 48°.28N×154°.63E, h51km, mb4.4/6, Error ellipse: s-maj=22.7km s-min=10.0km az=64.9*
*IDC **10** 03:22:26.8±3.0, 48°.24N×154°.49E, h73km±25km, mb3.5/10, mb1 3.8/13, mb1mx3.5/28, mbtmp3.6/13, Error ellipse: s-maj=27.7km s-min=16.0km az=117.0*

ISC 10 03:22:23.4±0.9, 48°.1N±0°.1×154°.7E±0°.1, h42km, n20, σ2§16/19, mb4.0/11, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.73**	**19**	*e*PN	Pn	03 22 58.5	-6.1
SKR				*e*S	**Sn**	**03 23 31.0**	**-5.3**
SKR				pmax	pmax		
	comp=Z,90nm,0.5s						
SKR				smax	smax		
	comp=N,200nm,0.5s						
SKR				smax	smax		
	comp=E,230nm,0.5s						
PETK	**Petropavlovsk-**	**5.35**	**20**	PN	**Pn**	**03 23 42.9**	**+2.4**
PETK				*PP		03 24 45.0	
PETK				pmax	pmax		
	comp=Z,3.0nm,0.3s						
PETK				pmax	pmax		
	comp=N,1.0nm,0.3s						
PETK	**Petropavlovsk-**	**5.35**	**20**	P	**Pn**	**03 23 42.9**	**+2.4**
	comp=N,2.8nm,0.3s,baz=182,slow=14,SNR=26						
PETK				S	**Sn**	**03 24 45.0**	**+4.2**
	comp=N,0.8nm,0.3s,baz=175,slow=15,SNR=2.8						
PET	**Petropavlovsk**	**5.52**	**26**	*i* PN	**Pn**	**03 23 44.2**	**+1.3**
ASAJ	**Asahikawa**	**9.30**	**249**	P	**Pn**	**03 24 37.0**	**+2.3**
	comp=N,0.5nm,0.3s,baz=94,slow=13,SNR=4.3						
ERM	**Erimo**	**10.18**	**237**	*i* PN	Pn	03 24 50.9	+4.1
FX1	**Attu Island--F**	**12.68**	**61**	P	**Pn**	**03 25 21.1**	**+0.1**
	comp=N,3.7nm,0.3s,baz=232,slow=2.1,SNR=9.8						
FX1				S	Sn	03 27 31.0	-10
	comp=N,0.5nm,0.3s,baz=180,slow=20,SNR=4.4						
USRK	**Ussuriysk Arra**	**16.19**	**264**	P	**Pn**	**03 26 09.3**	**+1.6**
	comp=N,0.2nm,0.3s,baz=73,slow=14,SNR=6.4						
MJAR	**Matsushiro Arr**	**16.76**	**232**	P	**Pn**	**03 26 13.8**	**-1.2**
	comp=N,0.2nm,0.3s,baz=23,slow=9.8,SNR=3.3						
KSRS	**Korea Array**	**22.24**	**251**	P	**P**	**03 27 16.1**	**-0.3**
	comp=N,3.6nm,0.8s,baz=49,slow=10,SNR=9.7						
CMAR	**Chiang Mai Arr**	**53.73**	**257**	P	**P**	**03 31 41.4**	**+0.1**
	comp=N,0.5nm,0.3s,baz=39,slow=5.9,SNR=5.0						
FINES	**FINESS Array B**	**63.25**	**335**	P	**P**	**03 32 45.8**	**-1.2**
	comp=N,2.2nm,0.7s,baz=13,slow=16,SNR=2.5						
OBN	**Obninsk**	**64.78**	**326**	*e*P	P	03 32 53.5	-3.6
OBN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
HFS	**Hagfors**	**67.54**	**340**	P	**P**	**03 33 13.6**	**-1.1**
	comp=Z,2.3nm,0.9s,baz=54,slow=7.3,SNR=3.3						
WRA	**Warramunga Arr**	**70.17**	**200**	P	**P**	**03 33 31.3**	**-0.2**
	comp=Z,0.7nm,0.8s,baz=22,slow=4.5,SNR=4.0						
ASAR	**Alice Springs**	**73.86**	**200**	P	**P**	**03 33 54.0**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=15,slow=5.4,SNR=3.0						
EKA	**Eskdalemuir Ar**	**75.25**	**347**	P	**P**	**03 34 00.1**	**-1.2**
	comp=Z,0.8nm,0.4s,baz=20,slow=5.2,SNR=11						
TXAR	**Lajitas Array**	**75.89**	**62**	P	**P**	**03 34 06.6**	**+1.0**
	comp=Z,0.2nm,0.5s,baz=304,slow=7.2,SNR=4.4						
GERES	**GERESS Array B**	**77.68**	**335**	P	**P**	**03 34 14.5**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=23,slow=5.3,SNR=4.1						
BRTR	**Keskin Array B**	**78.11**	**318**	P	**P**	**03 34 17.1**	**-0.9**
	comp=Z,1.5nm,1.0s,baz=44,slow=5.7,SNR=4.7						

GUC 10 03:28:24.4±0.5, 31°.25S×69°.72W, h166km±10km, MD3.7, ML3.4, 1C-1D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**1.10**	**274**	⇓*i*P	Pn	03 28 52.3	+0.6
CMCH				*i* S	Sn	03 29 13.1	+0.5
CMCH				AML	AML	03 29 15.3	
	comp=N,3μm,0.5s						
TLL	**Tololo Astrono**	**1.43**	**319**	*i* P	Pn	03 28 55.8	+0.8
TLL				*i* S	Sn	03 29 19.1	+0.8
TLL				AML	AML	03 29 21.9	
	comp=N,227nm,0.6s						
ROCH	**El Roble**	**2.04**	**212**	*i* P	Pn	03 29 02.0	+0.8
ROCH				*e*S	Sn	03 29 30.4	+0.7
PEL	**Peldehue**	**2.06**	**203**	*e*P	Pn	03 29 01.8	+0.6
PEL				*i* S	Sn	03 29 30.1	+0.3
PEL				AML	AML	03 29 31.6	
	comp=E,122nm,0.3s						
CLCH	**Cerro Calan**	**2.25**	**198**	*i* P	Pn	03 29 04.1	+0.6
CLCH				*i* S	Sn	03 29 34.0	+0.3
CLCH				AML	AML	03 29 36.2	
	comp=E,115nm,0.4s						
LCO	**Las Campanas**	**2.39**	**339**	⇑*i*P	Pn	03 29 06.1	+0.7
LCO				*i* S	Sn	03 29 37.7	+0.6
LCO				AML	AML	03 29 38.6	
	comp=E,159nm,0.5s						
LMEL	**Las Melosas**	**2.62**	**189**	*i* P	Pn	03 29 08.8	+0.9
LMEL				*i* S	Sn	03 29 42.5	+0.6
LMEL				AML	AML	03 29 51.2	
	comp=N,66nm,0.2s						

KRSC 10 03:38:24.2±1.1, 48°.12N×156°.35E, h4km±5km, ML4.7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.57**	**357**	P	Pn	03 39 06.3	-0.3
SKR				*i* S	Sn	03 39 36.5	-1.7
PAU	**Pauzhetka**	**3.36**	**5**	P	Pn	03 39 18.6	+1.1
PAU				*i* S	Sn	03 39 59.1	+1.3
ASAK	**Asacha**	**4.38**	**13**	P	Pn	03 39 34.3	+2.7
MTVR	**Mutnovka**	**4.52**	**14**	P	Pn	03 39 36.2	+2.6
MTVR				*i* S	Sn	03 40 29.0	+2.2
RUS	**Russkaya**	**4.54**	**17**	P	Pn	03 39 35.8	+2.2
RUS				*i* S	Sn	03 40 28.0	+1.3
GRL	**Gorelyy**	**4.57**	**13**	P	Pn	03 39 37.2	+2.9
KOK	**Koryaka**	**5.38**	**15**	P	Pn	03 39 49.3	+4.0
KRER	**Koryakskii**	**5.41**	**15**	P	Pn	03 39 49.1	+3.2
KRER				*i* S	Sn	03 40 50.5	+1.8
SDLR	**Sedlovina**	**5.41**	**16**	P	Pn	03 39 47.2	+1.4
GNL	**Ganaly**	**5.67**	**10**	P	Pn	03 39 52.1	+2.7
KBTR	**Krutoberegovo**	**9.02**	**24**	P	Pn	03 40 37.2	+2.1

IDC 10 03:45:16.6±3.8, 10°.82S×162°.56E, h56km±27km, mb3.2/3, mb1 3.6/5, mb1mx3.4/20, mbtmp3.6/5, ML4.1/2, Error ellipse: s-maj=48.4km s-min=20.2km az=49.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.92**	**298**	P	Pn	03 45 59.9	-0.7
	64nm,0.3s,baz=146,slow=7.3,SNR=12						
HNR				S	Sn	03 46 35.2	+0.7
	110nm,0.3s,baz=172,slow=23,SNR=8.3						
DZM	**Mont Dzumac**	**11.79**	**162**	P	Pn	03 48 02.6	+0.4
	0.4nm,0.3s,baz=341,slow=18,SNR=8.5						
CTA	**Charters Tower**	**18.20**	**238**	P	Pn	03 49 29.0	+3.6
	0.5nm,0.3s,baz=60,slow=13,SNR=5.5						
WRA	**Warramunga Arr**	**28.64**	**248**	P	P	03 51 08.8	+0.6
	0.6nm,0.7s,baz=80,slow=9.4,SNR=3.4						
ASAR	**Alice Springs**	**30.12**	**241**	P	P	03 51 20.6	-0.8
	0.2nm,0.4s,baz=64,slow=10,SNR=4.8						
MKAR	**Makanchi Array**	**91.23**	**317**	P	P	03 58 15.8	-0.1
	0.1nm,0.4s,baz=100,slow=6.0,SNR=2.7						

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*IDC **10** 03:49:29.4±0.9, 8°.82S×117°.49E, h0km, mb3.8/6, mb1 3.9/8, mb1mx3.8/22, mbtmp3.8/8, ML4.0/2, Error ellipse: s-maj=39.1km s-min=17.3km az=66.0*
*AUST **10** 03:49:32.0, 9°.48S×117°.44E, h0km*
*DJA **10** 03:49:34.9±0.3, 9°.S±6°.×11°.8E±°., h11km, M4.8/17, mb5.0/3, mB6.1/1, MLv4.7/17, Mw(mB)5.8/1*

ISC 10 03:49:33.1±1.7, 8°.77S±0°.06×117°.57E±0°.06, h23km±15km, n43, σ2§05/37, mb3.8/6, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTNI	**Mataram**	**1.39**	**275**	P	**Pb**	**03 50 00.5**	**+2.0**
LBFI	**Labuhan Bajo,**	**2.31**	**83**	P	**Pn**	**03 50 10.7**	**+0.9**
LBFI				S	**Sn**	**03 50 40.0**	**+2.4**
DNP	**Denpasar**	**2.34**	**272**	P	**Pb**	**03 50 14.9**	**+0.3**
DNP				S	**Sb**	**03 50 48.0**	**+5.0**
IGBI	**Denpasar**	**2.40**	**269**	P	**Pb**	**03 50 14.7**	**-0.9**
IGBI				S	**Sb**	**03 50 46.6**	**+1.8**
SRBI	**Singaraja**	**2.43**	**286**	P	**Pb**	**03 50 14.4**	**-1.8**
SRBI				S	**Sb**	**03 50 45.5**	**-0.3**
WSI	**Waingapu**	**2.84**	**109**	P	**Pn**	**03 50 19.3**	**+2.2**
WSI	**Waingapu**	**2.84**	**109**	P	**Pn**	**03 50 17.9**	**+0.8**
	baz=2.8,SNR=4.6						
BYJI	**Banyuwangi**	**3.23**	**280**	P	**Pb**	**03 50 26.8**	**-3.0**
JAGI	**Jajag, Banyuwa**	**3.40**	**275**	P	**Pn**	**03 50 27.7**	**+2.9**
JAGI	**Jajag, Banyuwa**	**3.40**	**275**	P	**Pn**	**03 50 27.7**	**+2.9**
	baz=3.4,SNR=17						
JAGI				S	**Sb**	**03 51 10.1**	**-3.5**
	baz=3.4,SNR=5.3						
ABJI	**Asem Bagus**	**3.44**	**286**	P	Pb	03 50 29.9	-3.5
KMMI	**Kalianget**	**3.96**	**295**	P	Pb	03 50 50.1	+7.8
BLJI	**Banyuglugur**	**4.07**	**284**	P	Pn	03 50 38.0	+4.0
GMJI	**Gumukmas**	**4.11**	**277**	P	Pn	03 50 38.0	+3.4
BKSI	**Bulukumba**	**4.26**	**37**	P	**Pn**	**03 50 37.1**	**+0.5**
KAPI	**Kappang**	**4.31**	**30**	P	**Pn**	**03 50 39.8**	**+2.4**
KAPI	**Kappang**	**4.31**	**30**	Pn	**Pn**	**03 50 37.4**	**0.0**
	9.9nm,0.3s,baz=175,slow=3.7,SNR=11						
KAPI				Sn	**Sn**	**03 51 26.0**	**-1.0**
	25nm,0.3s,baz=73,slow=19,SNR=20						
MMRI	**Maumere**	**4.61**	**89**	P	**Pn**	**03 50 42.8**	**+1.3**
BNSI	**Bone**	**5.02**	**30**	P	**Pn**	**03 50 49.5**	**+2.4**
KRKI	**Karangkates**	**5.10**	**276**	P	Pb	03 50 55.7	-6.0
	298nm,0.8s,19μm2.0nm						
PWJI	**Pagerwojo**	**5.75**	**277**	P	Pn	03 51 02.0	+4.8
	65nm,0.6s						
SJI	**Sawahan**	**5.84**	**280**	P	**Pb**	**03 51 13.1**	**-1.2**
SOEI	**Soe**	**6.68**	**99**	P	**Pn**	**03 51 11.4**	**+1.3**
SOEI	**Soe**	**6.68**	**99**	P	**Pn**	**03 51 12.1**	**+2.0**
	baz=6.7,SNR=7.5						
UGM	**Wanagama**	**7.03**	**276**	P	Pn	03 51 20.0	+5.2
	baz=7.0,SNR=6.5						
SMKI	**Samarinda**	**8.28**	**357**	P	Pn	03 51 38.2	+6.3
LUWI	**Luwuk**	**9.26**	**34**	S	Sn	03 53 50.4	+22
	baz=10.0,SNR=4.1						
CISI	**Cisompet, Garu**	**9.73**	**276**	S	Sn	03 54 05.0	+24
	baz=9.7,SNR=3.7						
FITZ	**Fitzroy Crossi**	**12.15**	**141**	Pn	Pn	03 52 21.3	-3.5
	0.5nm,0.3s,baz=321,slow=9.0,SNR=14						
FITZ				Sn	Sn	03 54 27.7	-12
	0.6nm,0.3s,baz=174,slow=18,SNR=4.4						
FITZ	**Fitzroy Crossi**	**12.15**	**141**	P	Pn	03 52 21.4	-3.5
	baz=12,SNR=10						
KNRA	**Kununurra**	**12.91**	**123**	P	**Pn**	**03 52 33.9**	**-1.4**
	baz=13,SNR=5.0						
MTN	**Manton Dam**	**13.92**	**108**	P	**Pn**	**03 52 47.5**	**-1.7**
	baz=14,SNR=8.5						
MTN				S	Sn	03 55 13.5	-10
	baz=14,SNR=3.7						
KDU	**Kakadu**	**15.15**	**106**	P	**Pn**	**03 53 02.3**	**-3.6**
	baz=15,SNR=6.6						
MEEK	**Meekatharra**	**17.80**	**177**	P	**Pn**	**03 53 37.5**	**-2.0**
	baz=17,SNR=5.4						
MEEK				S	Sn	03 56 36.0	-22
	baz=17,SNR=18						
WRA	**Warramunga Arr**	**19.66**	**126**	P	**P**	**03 53 59.3**	**-1.4**
	0.4nm,0.3s,baz=297,slow=12,SNR=18						
WRA				S	S	03 57 27.3	-14
	0.1nm,0.3s,baz=300,slow=20,SNR=3.3						
MORW	**Morawa**	**20.25**	**184**	S	S	03 57 40.5	-13
	baz=20,SNR=4.1						
ASAR	**Alice Springs**	**21.54**	**135**	P	**P**	**03 54 19.8**	**-1.2**
	1.7nm,0.5s,baz=306,slow=9.8,SNR=29						
STKA	**Stephens Creek**	**32.04**	**139**	P	**P**	**03 55 58.0**	**-0.2**
	1.9nm,0.6s,baz=302,slow=14,SNR=6.7						
STKA				PcP	**PcP**	**03 58 48.1**	**+0.4**
	4.3nm,1.2s,baz=288,slow=3.2,SNR=3.1						
KSRS	**Korea Array**	**46.99**	**11**	P	**P**	**03 58 04.0**	**+1.5**
	0.8nm,0.7s,baz=179,slow=9.5,SNR=3.9						
MKAR	**Makanchi Array**	**63.62**	**334**	P	**P**	**04 00 01.8**	**-0.5**
	0.5nm,0.8s,baz=144,slow=8.4,SNR=3.6						
ZALV	**Zalesovo Beam**	**68.33**	**340**	P	**P**	**04 00 31.8**	**-0.7**
	0.3nm,0.3s,baz=146,slow=8.0,SNR=2.5						
VNDA	**Vanda**	**72.44**	**171**	P	**P**	**04 00 58.1**	**+0.9**
	0.4nm,0.4s,baz=324,slow=7.8,SNR=6.8						
TORD	**Torodi Ar. Bea**	**117.03**	**280**	PKP	**PKPdf**	**04 08 16.4**	**-0.9**
	0.5nm,1.1s,baz=30,slow=2.3,SNR=3.3						

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*NNC **10** 03:58:21.2±7.0, 37°.11N×70°.85E, h77km±166km, mb3.6, mpv3.7, Error ellipse: s-maj=91.5km s-min=40.2km az=63.0*
*IDC **10** 03:58:21.9±9.1, 36°.91N×71°.76E, h110km±69km, mb3.0/1, mb1 3.3/4, mb1mx3.0/28, mbtmp3.2/4, Error ellipse: s-maj=179.6km s-min=54.9km az=97.0*

ISC 10 03:58:19.8±2.8, 37°.1N±0°.2×71°.0E±0°.1, h88km, n13, σ1§33/15, 3C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.49**	**22**	P	**Pn**	**03 59 39.8**	**+0.4**
	SNR=6.9						
EKS2	**Erkin-Say**	**6.00**	**20**	P	**Pn**	**03 59 47.7**	**+1.5**
	SNR=5.8						
KK31	**Karatay Array**	**6.05**	**357**	⇓P	**Pn**	**03 59 47.8**	**+1.2**
	3.1nm,0.2s						
KK31				⇑S	**Sn**	**04 00 55.1**	**+0.8**
	1.8nm,0.2s,baz=186,slow=27,SNR=6.2						
AAK	**Ala-Archa**	**6.20**	**25**	P	**Pn**	**03 59 50.1**	**+1.3**
	1.8nm,0.3s,baz=181,slow=4.5,SNR=11						
AAK				S	**Sn**	**04 00 58.4**	**+0.1**
	0.9nm,0.3s,baz=330,slow=22,SNR=12						
CHMS	**Chumysh**	**6.61**	**25**	P	**Pn**	**03 59 55.2**	**+0.9**
	SNR=5.8						
USP	**Ospenovka**	**6.77**	**23**	P	**Pn**	**03 59 56.9**	**+0.4**
	SNR=9.2						
TKM2	**Tokmak 2**	**6.85**	**30**	⇑P	**Pn**	**03 59 58.6**	**+0.9**
	1.3nm,0.3s						
TKM2	**Tokmak 2**	**6.85**	**30**	P	**Pn**	**03 59 58.7**	**+0.9**
	SNR=5.8						
MKAR	**Makanchi Array**	**12.86**	**37**	P	**Pn**	**04 01 16.9**	**-2.2**
	0.1nm,0.3s,baz=227,slow=15,SNR=4.2						
AB31	**Akbulak array**	**14.58**	**330**	P	**Pn**	**04 01 40.5**	**-1.0**
	0.7nm,0.3s,baz=139,slow=14,SNR=35						
AB31				S	**S

PMTG				*e*Sn	**Sn**	**04 02 41.3**	**+0.6**
PMTG				A	A	04 02 47.8	
2.2nm,0.8s							
PMTG	**Montargil**	**4.37**	**61**	*e*Pn	**Pn**	**04 01 50.0**	**+0.2**
PMTG				*e*Sn	**Sn**	**04 02 41.3**	**+0.6**
2.2nm,0.8s							
PTOM	**Tomar**	**4.51**	**54**	*e*Pn	**Pn**	**04 01 52.4**	**+0.6**
PTOM				*e*Sn	**Sn**	**04 02 44.8**	**+0.5**
PTOM	**Tomar**	**4.51**	**54**	P	**Pn**	**04 01 52.4**	**+0.6**
PTOM				S	**Sn**	**04 02 44.8**	**+0.5**
PTOM	**Tomar**	**4.51**	**54**	P	**Pn**	**04 01 52.4**	**+0.6**
PTOM				S	**Sn**	**04 02 44.8**	**+0.5**
EGRO	**El Granado**	**4.54**	**82**	P	**Pn**	**04 01 53.4**	**+1.2**
0.1nm,0.1s,SNR=7.9							
EGRO				S	**Sn**	**04 02 43.5**	**-1.5**
0.6nm,0.1s,SNR=7.9							
EGRO	**El Granado**	**4.54**	**82**	P	**Pn**	**04 01 53.4**	**+1.2**
0.1nm,0.1s,SNR=7.9							
EGRO				S	**Sn**	**04 02 43.5**	**-1.5**
0.6nm,0.1s,SNR=7.9							
PESTR	**Estremoz**	**4.74**	**66**	*e*Pn	**Pn**	**04 01 56.9**	**+1.9**
PESTR				*e*Sn	**Sn**	**04 02 50.5**	**+0.4**
PESTR				A	A	04 02 56.6	
1.4nm,0.6s							
PESTR	**Estremoz**	**4.74**	**66**	P	**Pn**	**04 01 56.9**	**+1.9**
PESTR				S	**Sn**	**04 02 50.5**	**+0.4**
0.7nm,0.6s							
PESTR	**Estremoz**	**4.74**	**66**	P	**Pn**	**04 01 56.9**	**+1.9**
PESTR				S	**Sn**	**04 02 50.5**	**+0.4**
0.7nm,0.6s							
PBAR	**Barrancos**	**4.97**	**75**	*e*Sn	**Sn**	**04 02 55.5**	**-0.2**
PBAR				A	A	04 03 12.8	
1.5nm,0.6s							
PBAR	**Barrancos**	**4.97**	**75**	S	**Sn**	**04 02 55.5**	**-0.2**
1.5nm,0.6s							
PBAR	**Barrancos**	**4.97**	**75**	S	**Sn**	**04 02 55.5**	**-0.2**
1.5nm,0.6s							
PMRV	**Marv??o**	**5.11**	**61**	*e*Pn	**Pn**	**04 02 00.8**	**+0.8**
PMRV				*e*Sn	**Sn**	**04 02 59.2**	**+0.2**
PMRV				A	A	04 03 01.6	
1.1nm,0.3s							
PMRV	**Marv??o**	**5.11**	**61**	P	**Pn**	**04 02 00.8**	**+0.8**
PMRV				S	**Sn**	**04 02 59.2**	**+0.2**
1.1nm,0.3s							
PMRV	**Marv??o**	**5.11**	**61**	P	**Pn**	**04 02 00.8**	**+0.8**
PMRV				S	**Sn**	**04 02 59.2**	**+0.2**
1.1nm,0.3s							
EBAD	**Badajoz**	**5.13**	**69**	P	**Pn**	**04 02 00.9**	**+0.5**
0.2nm,0.1s,SNR=7.9							
EBAD				S	**Sn**	**04 02 57.8**	**-1.9**
0.5nm,0.1s,SNR=7.9							
EBAD	**Badajoz**	**5.13**	**69**	P	**Pn**	**04 02 00.9**	**+0.5**
0.2nm,0.1s,SNR=7.9							
EBAD				S	**Sn**	**04 02 57.8**	**-1.9**
0.5nm,0.1s,SNR=7.9							
EMIN	**Mina Concepcio**	**5.20**	**80**	S	**Sn**	**04 02 59.9**	**-1.4**
0.3nm,0.1s,SNR=7.9							
EMIN	**Mina Concepcio**	**5.20**	**80**	S	**Sn**	**04 02 59.9**	**-1.4**
0.3nm,0.1s,SNR=7.9							
PVIS	**Viseu**	**5.48**	**47**	*e*Sn	**Sn**	**04 03 06.8**	**-1.5**
PVIS	**Viseu**	**5.48**	**47**	S	**Sn**	**04 03 06.8**	**-1.5**
PVIS	**Viseu**	**5.48**	**47**	S	**Sn**	**04 03 06.8**	**-1.5**
ESPR	**Espera**	**5.84**	**90**	S	**Sn**	**04 03 15.5**	**-1.6**
0.1nm,0.1s,SNR=7.9							
ESPR	**Espera**	**5.84**	**90**	S	**Sn**	**04 03 15.5**	**-1.6**
0.1nm,0.1s,SNR=7.9							
POLO	**Lamas de Olo**	**5.98**	**42**	*e*Pn	**Pn**	**04 02 12.0**	**-0.1**
POLO				*e*Sn	**Sn**	**04 03 19.2**	**-1.4**
POLO	**Lamas de Olo**	**5.98**	**42**	*e*Pn	**Pn**	**04 02 12.0**	**-0.1**
POLO				*e*Sn	**Sn**	**04 03 19.2**	**-1.4**
PGAV	**Gavieira, Arco**	**6.17**	**36**	*e*Pn	**Pn**	**04 02 14.5**	**-0.2**
PGAV				*e*Sn	Sn	04 03 20.4	-5.0
PGAV	**Gavieira, Arco**	**6.17**	**36**	*e*Pn	**Pn**	**04 02 14.5**	**-0.2**
ECAB	**El Cabril**	**6.22**	**78**	P	**Pn**	**04 02 16.4**	**+1.0**
0.1nm,0.0s,SNR=7.9							
ECAB				S	**Sn**	**04 03 24.0**	**-2.5**
0.1nm,0.1s,SNR=7.9							
ECAB	**El Cabril**	**6.22**	**78**	P	**Pn**	**04 02 16.4**	**+1.0**
0.1nm,0.0s,SNR=7.9							
ECAB				S	**Sn**	**04 03 24.0**	**-2.5**
0.1nm,0.1s,SNR=7.9							
EADA	**Adamuz**	**6.89**	**78**	S	**Sn**	**04 03 39.9**	**-3.1**
0.1nm,0.1s,SNR=7.9							
EADA	**Adamuz**	**6.89**	**78**	S	**Sn**	**04 03 39.9**	**-3.1**
0.1nm,0.1s,SNR=7.9							

NIED ***10*** *04:09:00,35°.60N×141°.00E,h50km,Mw4.3 Best double couple: M0=2.80000×10^15 NP1:φs=12.00000°,δ73.00000°, λ86.00000°. NP2:φs=206.00000°,δ18.00000°,λ103.00000°.*
ISCJB ***10*** *04:09:14.6±0.9,35°.53N±0°.03×141°.22E±0°.09,h37km±7km, mb4.0/11,Error ellipse: s-maj=11.8km s-min=5.7km az=175.2*
JMA ***10*** *04:09:16.1±0.1,35°.56N×141°.04E,h38km±1km,M3.5*
JMA Felt I J1.
IDC ***10*** *04:09:17.9±2.5,35°.39N×140°.92E,h46km±22km,mb3.8/11, mb1 3.9/14,mb1mx3.8/26,mbtmp3.8/14,ML3.5/1,MS3.5/2, Ms1 3.5/2,ms1mx3.0/39,Error ellipse: s-maj=31.7km s-min=15.5km az=70.0*

ISC 10 04:09:16.3±0.8,35°.51N±0°.04×141°.11E±0°.07,h35km±2km, n29,σ1§10/34,mb4.0/11,4D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.29**	**314**	||P	**Pb**	**04 09 23.2**	**-0.9**
CHOJ				S	**Sb**	**04 09 28.2**	**-1.1**
KTR	**Katsuura**	**0.74**	**242**	*e*S	**Sn**	**04 09 40.1**	**-0.3**
JCN	**Nagara**	**0.75**	**264**	P	**Pb**	**04 09 30.6**	**-0.5**
BSO2	**Boso 2**	**0.81**	**202**	*e*S	**Sb**	**04 09 41.7**	**-0.7**
BSO4	**Boso 4**	**0.82**	**231**	||P	**Pb**	**04 09 31.3**	**-0.8**
BSO1	**Boso 1**	**0.86**	**188**	P	**Pb**	**04 09 31.8**	**-0.7**
BSO1				*e*S	**Sb**	**04 09 43.8**	**+0.3**
BSO3	**Boso 3**	**0.86**	**215**	||P	**Pb**	**04 09 31.8**	**-0.9**
BSO3				*e*S	**Sb**	**04 09 43.7**	**-0.1**
JYT	**Yasato**	**1.04**	**314**	P	**Pn**	**04 09 33.1**	**-1.3**
JYT				*e*S	**Sn**	**04 09 44.8**	**-2.9**
JHO	**Hitachi**	**1.19**	**338**	||P	**Pn**	**04 09 35.3**	**-1.2**
MJAR	**Matsushiro Arr**	**2.57**	**295**	P	**Pn**	**04 09 56.5**	**+0.9**
11nm,0.3s,baz=99,slow=7.6,SNR=49							
MAT	**Matsushiro**	**2.57**	**295**	P	**Pn**	**04 09 56.4**	**+0.8**
MAT				*e*S	**Sn**	**04 10 28.0**	**+2.3**
CBIJ	**Chichi jima**	**8.43**	**173**	P	**Pn**	**04 11 14.7**	**-1.4**
8.4nm,0.3s,baz=319,slow=20,SNR=3.1							
CBIJ				S	Sn	04 12 43.2	-6.9
3.9nm,0.3s,baz=287,slow=20,SNR=2.3							
ASAJ	**Asahikawa**	**8.68**	**7**	P	**Pn**	**04 11 19.5**	**+0.2**
0.9nm,0.3s,baz=200,slow=12,SNR=2.3							
JNU	**Nakatsue**	**8.79**	**257**	LR	LR	04 13 55.3	
comp=Z,217nm,18.8s,baz=230,slow=32							
KSRS	**Korea Array**	**10.80**	**284**	P	Pn	04 11 51.6	+3.2
0.2nm,0.3s,baz=101,slow=13,SNR=5.0							
KSRS				LR	LR	04 15 47.4	
comp=Z,414nm,21.2s,baz=308,slow=36							
USRK	**Ussuriysk Arra**	**11.15**	**324**	P	**Pn**	**04 11 54.9**	**+1.7**
0.1nm,0.3s,baz=121,slow=14,SNR=2.9							
ZALV	**Zalesovo Beam**	**42.78**	**314**	P	**P**	**04 17 10.0**	**-0.3**
1.5nm,0.4s,baz=90,slow=6.6,SNR=6.2							
MKAR	**Makanchi Array**	**44.74**	**303**	P	**P**	**04 17 25.8**	**-0.4**
1.1nm,0.5s,baz=89,slow=10,SNR=16							
KURBB	**Kurchatov Arra**	**46.76**	**309**	P	**P**	**04 17 41.4**	**-0.7**
2.0nm,0.6s,baz=84,slow=7.9,SNR=15							
KURBB				pP	**pP**	**04 17 52.6**	**+0.3**
1.0nm,0.4s,baz=85,slow=8.2,SNR=3.4							
ILAR	**Eielson Array**	**50.92**	**32**	P	**P**	**04 18 15.4**	**+1.6**
0.5nm,0.8s,baz=264,slow=5.6,SNR=5.4							
WRA	**Warramunga Arr**	**55.52**	**188**	P	**P**	**04 18 47.4**	**-0.6**
2.3nm,0.7s,baz=6.0,slow=7.7,SNR=18							
ASAR	**Alice Springs**	**59.24**	**188**	P	**P**	**04 19 13.8**	**-0.5**
0.6nm,0.8s,baz=10,slow=5.7,SNR=5.9							
ASAR				pP	**pP**	**04 19 25.8**	**+1.0**
0.6nm,0.8s,baz=18,slow=10,SNR=4.1							
FINES	**FINESS Array B**	**70.05**	**332**	P	**P**	**04 20 24.5**	**+0.1**
1.4nm,0.7s,baz=100,slow=7.6,SNR=4.6							
KBZ	**Khabaz**	**71.72**	**311**	P	**P**	**04 20 35.3**	**+0.5**
2.5nm,0.9s,baz=90,slow=4.0,SNR=4.0							
AKASG	**Malin Array Be**	**75.36**	**322**	P	**P**	**04 20 55.5**	**-0.5**
0.9nm,0.5s,baz=43,slow=6.6,SNR=3.1							
NB2	**NORSAR Subarra**	**75.50**	**337**	P	**P**	**04 20 56.8**	**0.0**
comp=Z,1.0nm,0.6s,baz=39,slow=6.2							
NOA	**NORSAR Array B**	**75.50**	**337**	P	**P**	**04 20 56.9**	**+0.1**
comp=Z,1.9nm,0.8s,baz=39,slow=5.8,SNR=5.2							
BRTR	**Keskin Array B**	**79.68**	**312**	P	**P**	**04 21 21.8**	**+1.2**
comp=Z,1.7nm,1.0s,baz=41,slow=3.9,SNR=4.4							
LPAZ	**La Paz**	**147.66**	**61**	PKPbc	**PKPbc**	**04 28 59.4**	**+1.0**
comp=Z,1.3nm,0.9s,baz=153,slow=3.3,SNR=3.7							

IDC ***10*** *04:34:17.5±1.7,8°.27S×131°.77E,h0km,mb3.9/2, mb1 4.1/5,mb1mx3.8/18,mbtmp3.9/5,ML4.0/3,Error ellipse: s-maj=65.3km s-min=25.1km az=73.0*
AUST ***10*** *04:34:21.1±0.0,8°.04S×131°.56E,h157km,Error ellipse: s-maj=1.3km s-min=0.9km az=274.0*

ISC 10 04:34:17.6±0.8,8°.33S±0°.06×131°.8E±0°.1,h10km,n18, σ3§06/14,Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLE	**Tual**	**2.83**	**19**	P	**Pb**	**04 35 07.6**	**-0.7**
baz=2.7,SNR=3.7							
KDU	**Kakadu**	**4.38**	**171**	P	Pn	04 35 28.9	+4.8
baz=4.7,SNR=70							
MTN	**Manton Dam**	**4.53**	**188**	P	Pb	04 35 32.1	-5.2
baz=4.8,SNR=20							
FAKI	**Fak Fak**	**5.40**	**5**	P	**Pn**	**04 35 35.5**	**-2.8**
baz=5.2,SNR=10							
SWI	**Sorong**	**7.44**	**356**	S	Sn	04 37 20.8	-10
baz=7.2,SNR=3.4							
KNRA	**Kununurra**	**7.88**	**202**	P	Pn	04 36 18.2	+5.8
baz=8.1,SNR=7.1							
JAY	**Jayapura**	**10.57**	**57**	S	Sn	04 39 02.5	+14
baz=11,SNR=4.0							
FITZ	**Fitzroy Crossi**	**11.41**	**211**	Pn	**Pn**	**04 37 03.3**	**+2.5**
1.0nm,0.3s,baz=36,slow=12,SNR=50							
FITZ				Sn	**Sn**	**04 39 04.8**	**-3.7**
0.7nm,0.3s,baz=194,slow=15,SNR=4.3							
FITZ				Lg	Lg	04 40 24.6	
0.6nm,0.3s,baz=168,slow=20,SNR=2.0							
FITZ	**Fitzroy Crossi**	**11.41**	**211**	P	**Pn**	**04 37 03.8**	**+3.0**
baz=12,SNR=14							
WSI	**Waingapu**	**11.45**	**262**	S	Sn	04 38 55.8	-14
baz=11,SNR=3.7							
WRA	**Warramunga Arr**	**11.80**	**168**	Pn	**Pn**	**04 37 06.0**	**-0.1**
0.8nm,0.3s,baz=348,slow=14,SNR=26							
WRA				Sn	**Sn**	**04 39 13.8**	**-4.2**
1.5nm,0.3s,baz=349,slow=24,SNR=5.9							
WRA				Lg	Lg	04 40 36.0	
baz=359,slow=26,SNR=3.6							
COEN	**Coen**	**12.47**	**118**	P	Pn	04 37 19.1	+3.7
baz=13,SNR=4.5							
ASAR	**Alice Springs**	**15.38**	**173**	Pn	**Pn**	**04 37 55.6**	**+0.7**
0.6nm,0.3s,baz=0.7,slow=14,SNR=15							
ASAR				Sn	**Sn**	**04 40 40.7**	**-4.7**
0.2nm,0.3s,baz=352,slow=25,SNR=5.3							
MTSU	**Mount Surprise**	**15.58**	**130**	P	**Pn**	**04 37 58.0**	**+0.4**
baz=16,SNR=6.1							
STKA	**Stephens Creek**	**25.13**	**160**	P	**P**	**04 39 45.8**	**+2.8**
1.6nm,0.4s,baz=342,slow=11,SNR=6.8							
STKA	**Stephens Creek**	**25.13**	**160**	P	**P**	**04 39 46.6**	**+3.6**
baz=26,SNR=4.4							
NFK	**Norfolk Island**	**39.70**	**126**	S	**S**	**04 47 55.8**	**+1.7**
baz=40,SNR=3.9							
MKAR	**Makanchi Array**	**70.32**	**326**	P	**P**	**04 45 32.5**	**+1.0**
0.4nm,0.4s,baz=124,slow=7.8,SNR=6.5							

IDC ***10*** *04:46:09.0±0.5,28°.56N×66°.53E,h0km,mb4.5/34, mb1 4.6/35,mb1mx4.6/37,mbtmp4.5/35,ML3.8/1,MS4.1/8, Ms1 4.1/8,ms1mx3.8/40,Error ellipse: s-maj=12.8km s-min=10.4km az=7.0*
ISCJB ***10*** *04:46:09.5±0.2,28°.41N±0°.03×66°.55E±0°.02,h20km, mb4.8/128,MS4.2/20,Error ellipse: s-maj=4.1km s-min=2.5km az=0.1*
TEH ***10*** *04:46:12.0,28°.57N×66°.46E,h16km,ML4.9*
MOS ***10*** *04:46:13.2±1.2,28°.56N×66°.46E,h41km,mb5.0/46,Error ellipse: s-maj=7.1km s-min=4.3km az=123.5*
DJA ***10*** *04:46:14.4±0.4,28°.N±6°.×6°.7E±°.,h10km,M4.9/9,mB5.0/1, mb4.9/9,MLv4.9/1,Mw(mB)4.3/1*
NEIC ***10*** *04:46:14.7±1.2,28°.61N×66°.44E,h38km±10km,mb4.9/52, Error ellipse: s-maj=6.4km s-min=4.4km az=184.0*
BJI ***10*** *04:46:16.3,28°.89N×66°.94E,h25km,mB5.0/32,mb4.7/40, Ms4.7/34,Ms7 4.4/30*

ISC 10 04:46:12.4±0.3,28°.45N±0°.04×66°.53E±0°.03,h20km,n409, σ1§69/415,mb4.8/129,MS4.2/23,13C-16D,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHJ	**Bhuj**	**5.89**	**151**	*e*P	**Pn**	**04 47 37.3**	**-1.2**
BHJ				*e*S	**Sn**	**04 48 40.8**	**-4.7**
THW	**Thamme Wali**	**6.24**	**45**	||P	**Pn**	**04 47 43.0**	**-0.3**
THW				S	**Sn**	**04 48 55.0**	**+0.9**
KBL	**Kabul**	**6.44**	**19**	*e*P	**Pn**	**04 47 46.1**	**-0.1**
KBL	**Kabul**	**6.44**	**19**	*e*Pn	**Pn**	**04 47 46.1**	**-0.1**
CEP	**Cherat**	**7.07**	**39**	P	**Pn**	**04 47 54.5**	**-0.3**
IDAH	**Dahanechah**	**7.16**	**308**	*e*P	**Pn**	**04 47 58.2**	**+2.0**
IDAH				*e*P	**Pb**	**04 48 18.6**	**+2.5**
IKOO	**Kooshah**	**7.61**	**303**	*e*P	**Pn**	**04 48 02.2**	**-0.2**
CHCP	**Chirah Chowk**	**7.76**	**46**	P	**Pn**	**04 48 04.7**	**+0.4**
ITEG	**Tejag**	**8.03**	**305**	*e*P	**Pn**	**04 48 11.0**	**+2.9**
THN	**Thein Dam**	**8.87**	**61**	*e*P	**Pn**	**04 48 17.5**	**-1.9**
THN				*ex*	**Sn**	**04 49 59.5**	**+0.8**
WBK	**Wadi Bani Khal**	**8.97**	**231**	Pn	**Pn**	**04 48 18.8**	**-2.1**
SNR=12							
BHK	**Bhakra**	**9.07**	**69**	*e*P	**Pn**	**04 48 21.0**	**-1.2**
BHK				*e*4		04 49 53.0	
DLH	**Dalhousie**	**9.10**	**61**	*e*P	**Pn**	**04 48 22.0**	**-0.8**
DLH				*ex*	**Sn**	**04 50 04.0**	**-0.9**
DHRM	**DHARAMSHALA**	**9.25**	**63**	*e*P	**Pn**	**04 48 24.9**	**0.0**
NDI	**New Delhi**	**9.40**	**86**	*e*P	Pn	04 48 23.0	-3.7
NDI				*e*4	Sn	04 50 05.0	-6.8
SDNR	**Sundarnagar**	**9.55**	**69**	*e*P	**Pn**	**04 48 27.0**	**-1.8**
SDNR				*e*4	**Sn**	**04 50 11.0**	**-4.5**
IMYA	**Miami**	**9.56**	**327**	*e*P	**Pn**	**04 48 29.6**	**+0.6**
HOQ	**Hoqain**	**9.60**	**242**	Pn	**Pn**	**04 48 29.8**	**+0.2**
SNR=11							
SMLA	**Simla**	**9.62**	**71**	*i* P	**Pn**	**04 48 29.1**	**-0.6**
SMLA				*ex*	Sn	04 50 09.8	-7.3
JMDO	**Jabal Madar**	**9.73**	**233**	Pn	**Pn**	**04 48 30.1**	**-1.2**
SNR=18							
ISRO	**Mashad**	**9.85**	**325**	*e*P	**Pn**	**04 48 34.3**	**+1.4**
IBAF	**Bafgh**	**10.00**	**291**	*e*P	**Pn**	**04 48 34.7**	**-0.5**
ASHO	**Ashiyiah**	**10.10**	**251**	Pn	**Pn**	**04 48 38.4**	**+2.0**
SNR=10							
BSY	**Bisya**	**10.16**	**238**	Pn	**Pn**	**04 48 36.8**	**-0.3**
SNR=20							
IPAY	**Payeh**	**10.20**	**323**	*e*P	Pn	04 48 40.9	+3.0
DDI	**Dehra Dun**	**10.22**	**77**	*e*P	**Pn**	**04 48 38.0**	**-0.1**
DDI				*ex*	x	04 48 47.0	
DDI				*e*S	Sn	04 50 22.4	-10
DDI				AML	AML	04 59 08.5	
comp=E,431nm,0.5s							
DDI				AML	AML	04 59 08.6	
comp=N,476nm,0.4s							
ARQ	**Araqi**	**10.35**	**243**	Pn	**Pn**	**04 48 39.9**	**+0.1**
SNR=16							
IKRD	**Kardeh**	**10.70**	**323**	*e*P	Pn	04 48 39.5	-5.2
IMEH	**Mehriz**	**10.75**	**289**	*e*P	Pn	04 48 49.7	+4.3
BHPL	**Bhopal**	**11.10**	**115**	*e*P	**Pn**	**04 48 49.2**	**-0.9**
BHPL				*ex*	x	04 50 44.5	
ISHV	**Shirvan**	**11.70**	**323**	*e*P	Pn	04 49 05.9	+7.6
IPAR	**Pars**	**11.87**	**280**	*e*P	**Pn**	**04 48 59.9**	**-0.9**
POO	**Poona**	**11.94**	**144**	*i* x	x	04 49 13.0	
LGTI	**Lohaghat**	**12.05**	**82**	*ex*	**Pn**	**04 49 05.5**	**+2.5**
AKL	**Akola**	**12.26**	**127**	*e*P	**Pn**	**04 49 03.5**	**-2.4**
ISHM	**Shahmirzad**	**13.39**	**307**	*e*P	Pn	04 49 25.1	+3.5
NGP	**Nagpur**	**13.49**	**120**	*e*P	**Pn**	**04 49 21.4**	**-1.3**
NGP				*ex*	x	04 52 03.1	
KSH	**Kashi**	**13.52**	**33**	P	Pn	04 49 15.8	-7.4
KSH				sP		04 49 27.8	
KSH				S	Sn	04 51 35.8	-17
KSH				sS	S	04 51 47.2	-29
KSH				SS	SnSn	04 51 50.6	-15
KSH				pmax	pmax		
comp=Z,11nm,0.6s							
KSH				pmax	pmax		
comp=Z,130nm,6.0s							
KSH				LR	LR		
comp=N,2μm,8.1s							
KSH				LR	LR		
comp=E,2μm,9.6s							
KSH				LR	LR		
comp=Z,2μm,10.2s							
PYUN	**Piuthan**	**14.51**	**87**	*e*P	Pn	04 49 32.9	-3.9
comp=Z,215nm,0.7s							
KK31	**Karatay Array**	**14.97**	**11**	*e*P	**P**	**04 49 47.3**	**-0.9**
KK31				pmax	pmax		
comp=Z,5.0nm,0.6s							
KKAR	**Karatay Array**	**14.97**	**11**	*e*P	**Pn**	**04 49 42.2**	**-0.6**
KKAR	**Karatay Array**	**14.97**	**11**	*e*Pn	**Pn**	**04 49 42.2**	**-0.6**
KOLN	**Koldanda**	**15.08**	**89**	*e*P	**Pn**	**04 49 41.4**	**-3.2**
comp=Z,36nm,0.4s							
DANN	**Dangsing**	**15.17**	**86**	*e*P	**Pn**	**04 49 41.2**	**-4.6**
comp=Z,145nm,0.9s							
AAK	**Ala-Archa**	**15.55**	**22**	*e*P	**Pn**	**04 49 47.8**	**-2.8**
AAK				*e*S	**Sn**	**04 52 41.3**	**-1.1**
AAK				pmax	pmax		
comp=Z,15nm,0.8s							
AAK	**Ala-Archa**	**15.55**	**22**	*e*Pn	**Pn**	**04 49 47.8**	**-2.8**
comp=Z,15nm,0.8s							
AAK				*e*S	**Sn**	**04 52 41.3**	**-1.1**
AAK	**Ala-Archa**	**15.55**	**22**	Pn	**Pn**	**04 49 47.7**	**-3.0**
comp=Z,0.4nm,0.3s,baz=216,slow=10,SNR=6.9							
AAK				Sn	**Sn**	**04 52 40.8**	**-1.6**
comp=Z,0.2nm,0.3s,baz=180,slow=20,SNR=2.8							
HYB	**Hyderabad**	**15.58**	**132**	*i* P	**Pn**	**04 49 52.0**	**+1.0**
FRU	**Bishkek**	**15.77**	**22**	*e*P	**Pn**	**04 49 49.0**	**-4.3**
FRU				*e*		04 52 51.0	
FRU				pmax	pmax		
comp=Z,90nm,2.2s							
DMN	**Daman**	**16.43**	**89**	*e*P	**Pn**	**04 49 58.6**	**-3.4**
comp=Z,66nm,0.7s							
KKN	**Kakani**	**16.56**	**88**	*e*P	**Pn**	**04 49 59.7**	**-4.0**
comp=Z,42nm,0.6s							
RDF	**Al-Radifah**	**16.67**	**276**	*e*P	**Pn**	**04 50 02.7**	**-2.1**
RDF				AMb	AMB	04 50 06.7	
comp=Z,81nm,1.2s							
PKIN	**Phulchoki**	**16.68**	**89**	*e*P	**Pn**	**04 50 02.3**	**-3.0**
comp=Z,44nm,0.6s							
PKI	**Pulchoki**	**16.70**	**89**	*e*P	**Pn**	**04 50 02.4**	**-3.2**
comp=Z,136nm,1.0s							
NAY	**Al-Naaiem**	**16.92**	**277**	*e*P	**Pn**	**04 50 05.2**	**-2.9**
NAY				AMb	AMB	04 50 10.3	
comp=Z,1.7nm,1.2s							
GUN	**Gumba**	**17.07**	**87**	*e*P	**Pn**	**04 50 06.8**	**-3.5**
comp=Z,319nm,0.8s							
RST	**Umm Al-Ruwaisa**	**17.13**	**278**	*e*P	**Pn**	**04 50 07.2**	**-3.4**
RST				AMb	AMB	04 50 16.9	
comp=Z,703nm,1.0s							
JIRN	**Jiri**	**17.37**	**88**	*e*P	**Pn**	**04 50 10.8**	**-3.3**
comp=Z,66nm,0.5s							
IVIS	**Veis**	**17.83**	**295**	*e*P	**Pn**	**04 50 17.3**	**-2.2**
RAMN	**Ramite**	**17.84**	**90**	*e*P	**Pn**	**04 50 17.9**	**-1.8**
comp=Z,87nm,0.7s							
ODAN	**Odare**	**18.55**	**90**	*e*P	**P**	**04 50 27.1**	**-1.1**
comp=Z,70nm,0.8s							
TAPN	**Taplejung**	**18.75**	**88**	*e*P	**P**	**04 50 28.8**	**-1.7**
comp=Z,105nm,1.1s							
RAYN	**Ar Rayn**	**19.52**	**260**	*e*P	**P**	**04 50 38.7**	**0.0**
comp=Z,41nm,1.3s							
AB31	**Akbulak array**	**21.38**	**348**	*ce*P	**P**	**04 50 58.2**	**-0.3**
AB31				pmax	pmax		
comp=Z,10.0nm,0.7s							
ABKAR	**Akbulak array**	**21.38**	**348**	*e*P	**P**	**04 50 57.9**	**-0.6**
comp=Z,13nm,0.8s							
GNI	**Garni**	**21.39**	**309**	P	**P**	**04 50 58.5**	**-0.4**
comp=Z,36nm,1.0s							
LSA	**Lhasa**	**21.55**	**81**	P	**P**	**04 50 59.5**	**-1.5**
LSA				LR	LR		
comp=N,860nm,20.0s							
LSA	**Lhasa**	**21.55**	**81**	*e*P	**P**	**04 51 01.9**	**+0.9**
LSA				pmax	pmax		
comp=Z,41nm,1.0s							
LSA	**Lhasa**	**21.55**	**81**	*e*P	**P**	**04 51 01.9**	**+0.9**
comp=Z,41nm,1.0s							
MK31	**Makanchi Array**	**22.09**	**30**	*ce*P	**P**	**04 51 06.9**	**+0.7**
MK31				pmax	pmax		
comp=Z,13nm,0.8s							
MK31	**Makanchi Array**	**22.09**	**30**	*e*P	**P**	**04 51 05.0**	**-1.1**
MKAR	**Makanchi Array**	**22.09**	**30**	*i* P	**P**	**04 51 04.3**	**-1.9**
MKAR				pmax	pmax		
comp=Z,10.0nm,0.7s							
MKAR	**Makanchi Array**	**22.09**	**30**	*e*P	**P**	**04 51 05.2**	**-0.9**
MKAR	**Makanchi Array**	**22.09**	**30**	P	**P**	**04 51 04.3**	**-1.9**
comp=Z,9.6nm,0.7s,baz=213,slow=10.0,SNR=41							
MKAR				LR	LR	05 01 25.0	
comp=Z,1μm,22.0s,baz=222,slow=42							
WMQ	**Urumqi**	**22.87**	**42**	P	**P**	**04 51 15.8**	**+1.2**
WMQ				pP	**pP**	**04 51 25.1**	**+4.8**
WMQ				sP	sP	04 51 29.2	+6.3
WMQ				PP	**PnPn**	**04 51 45.2**	**+6.0**
WMQ				S	**S**	**04 55 18.2**	**-5.0**
WMQ				PcS	**PcS**	**04 58 44.8**	**+0.8**

NVS smax smax
comp=N,49nm,3.5s
NVS smax smax
comp=E,114nm,3.7s
BRTR Keskin Array B 29.32 301 P **P 04 52 12.6 -1.2**
BRTR Keskin Array B 29.32 301 P **P 04 52 12.6 -1.2**
comp=E,1.3nm,0.8s,baz=97,slow=10,SNR=5.7
GTA Gaotai 29.55 60 *eP* **P 04 52 17.0 +1.2**
GTA pP **pP 04 52 21.6 -0.4**
GTA sP **sP 04 52 24.1 -0.4**
GTA S **S 04 57 11.3 +1.5**
GTA sS **sS 04 57 17.5 -2.4**
GTA pmax pmax
comp=Z,7.0nm,1.2s
GTA pmax pmax
comp=Z,91nm,5.7s
GTA LR LR
comp=N,710nm,18.0s
GTA LR LR
comp=E,550nm,16.6s
GTA LR LR
comp=Z,460nm,17.3s
SIM Simferopol' 30.51 311 *eP* **P 04 52 26.0 +1.9**
SIM pmax pmax
comp=Z,25nm,0.9s
CHTO Chiang Mai 31.12 101 *eP* **P 04 52 31.2 +1.4**
CHTO pmax pmax
comp=Z,4.0nm,0.9s
CHTO Chiang Mai 31.12 101 *eP* **P 04 52 31.2 +1.4**
comp=Z,3.8nm,0.9s
LZH Lanzhou 32.31 67 *eP* P 04 52 44.1 +3.8
LZH pP pP 04 52 49.3 +2.9
LZH sP sP 04 52 52.2 +3.3
LZH pmax pmax
comp=Z,32nm,1.4s
LZH pmax pmax
comp=Z,170nm,5.4s
LZH LR LR
comp=N,550nm,13.3s
LZH LR LR
comp=E,380nm,11.2s
LZH LR LR
comp=Z,490nm,16.3s
CD2 Chengdu 32.34 76 P **P 04 52 42.7 +2.2**
CD2 pP pP 04 52 52.6 +6.0
CD2 sP sP 04 52 56.8 +7.7
CD2 PP **PP 04 53 50.7 -2.9**
CD2 S **S 04 57 52.8 -0.7**
CD2 sS sS 04 58 09.5 +5.8
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,240nm,4.4s
CD2 LR LR
comp=N,600nm,8.3s
CD2 LR LR
comp=Z,470nm,9.5s
KMI Kunming 32.42 87 P P 04 52 44.7 +3.3
KMI S **S 04 57 57.6 +2.4**
KMI pmax pmax
comp=Z,6.0nm,0.7s
KMI pmax pmax
comp=Z,190nm,4.8s
KMI LR LR
comp=N,360nm,17.0s
KMI LR LR
comp=E,270nm,15.4s
KMI LR LR
comp=Z,400nm,17.8s
TIRR Tirgusor 34.22 308⇑ *iP* **P 04 52 55.5 -1.1**
MOS Moscow 34.23 331 *eP* **P 04 52 57.3 +0.8**
OBN Obninsk 34.29 329⇓ *iP* **P 04 52 59.6 +2.5**
OBN *e* 04 55 35.0
OBN *e*S **S 04 58 21.3 -1.7**
OBN *e*SS **SnSn 05 00 30.9 -1.7**
OBN pmax pmax
comp=Z,36nm,1.7s
TLB Topalu 34.51 308⇑ *iP* **P 04 52 58.2 -0.9**
KIS Kishinev 34.68 313 *eP* P 04 53 04.0 +3.4
KIS LRM MLR 05 10 16.0
comp=Z,300nm,16.0s
KIS Kishinev 34.68 313 *eP* P 04 53 04.0 +3.4
KIS MLR MLR
comp=Z,300nm,16.0s
ZAK Zakamensk 35.34 41 *eP* **P 04 53 06.5 +0.2**
ZAK *e* 04 55 30.4
ZAK pmax pmax
comp=Z,4.0nm,0.9s
GYA Guiyang 35.56 84 P **P 04 53 11.0 +2.5**
GYA pP pP 04 53 19.8 +5.1
GYA PP **PP 04 54 32.0 +2.6**
GYA PcP **PcP 04 55 39.7 +2.2**
GYA S **S 04 58 43.2 -0.3**
GYA sS sS 04 59 00.8 +7.1
GYA ScP **ScP 04 59 20.6 -1.8**
GYA ScS **ScS 05 03 24.3 -3.0**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,4.9s
GYA LR LR
comp=N,850nm,17.5s
GYA LR LR
comp=E,640nm,18.3s
GYA LR LR
comp=Z,750nm,17.8s
VRI Vrincioaia 35.73 310⇓ P **P 04 53 10.6 +0.9**
VRI Vrincioaia 35.73 310⇓ *iP* **P 04 53 10.6 +0.9**
PLOR Plostina 35.78 310⇓ P **P 04 53 10.2 0.0**
PLOR Plostina 35.78 310⇓ *iP* **P 04 53 10.2 0.0**
AKASG Malin Array Be 35.79 319 P **P 04 53 08.2 -1.9**
AKASG Malin Array Be 35.79 319 P **P 04 53 08.2 -1.9**
AKASG Malin Array Be 35.79 319 P **P 04 53 08.2 -1.9**
comp=Z,8.5nm,0.8s,baz=107,slow=7.7,SNR=18
KIEV Kiev 35.80 319 *eP* **P 04 53 09.0 -1.2**
KIEV pmax pmax
comp=Z,19nm,0.9s
KIEV Kiev 35.80 319 *eP* **P 04 53 08.9 -1.2**
comp=Z,19nm,0.9s
MLR Muntele Rosu 36.17 309⇑ *iP* **P 04 53 14.5 +0.9**
SONM Songino Array 36.33 47 P **P 04 53 15.4 +0.5**
SONM Songino Array 36.33 47 P **P 04 53 15.4 +0.5**
comp=Z,5.1nm,0.8s,baz=253,slow=7.9,SNR=9.1
XAN Xi'an 36.48 70 P P 04 53 21.0 +4.8
XAN pP pP 04 53 27.8 +5.4
XAN pmax pmax
comp=Z,2.0nm,0.8s
XAN LR LR
comp=N,420nm,27.8s
ULN Ulaanbaatar 36.76 47 *eP* **P 04 53 18.9 +0.2**
comp=N,7.2nm,1.0s
ULN Ulaanbaatar 36.76 47 P P 04 53 23.7 +5.0
comp=N,7.7nm,1.0s
ARR Arges 37.04 309⇑ *iP* **P 04 53 20.0 -1.0**
KLMR Klimovskoe 37.13 338 *eP* P 04 53 24.8 +3.5
KLMR pmax pmax
comp=Z,33nm,1.7s
BURAR Bucovina Array 37.20 312⇓ P **P 04 53 21.8 -0.6**
BURAR Bucovina Array 37.20 312⇓ *iP* **P 04 53 21.8 -0.6**
BUR08 Bucovina Ar. S 37.22 312 *eP* **P 04 53 21.5 -1.1**
VTS Vitosha 37.57 304⇓ P **P 04 53 24.5 -1.1**
VTS Vitosha 37.57 304⇓ *iP* **P 04 53 24.5 -1.1**
GZR Gura Zlata 38.33 308⇓ *iP* **P 04 53 33.6 +1.8**
LVV L'vov 38.59 315 *eP* **P 04 53 31.9 -2.0**
DRGR 38.66 310⇓ P **P 04 53 33.9 -0.7**
DRGR 38.66 310⇓ *iP* **P 04 53 33.9 -0.7**
HHC Hu-ho-hao-te 38.66 59 *eP* **P 04 53 35.5 +0.8**
HHC pP **pP 04 53 45.6 +4.7**
HHC sP sP 04 53 49.3 +5.9
HHC PP **PnPn 04 55 08.2 +2.8**
HHC PcP **PcP 04 55 47.5 +0.9**
HHC S **S 04 59 30.2 -0.3**
HHC sS sS 04 59 46.5 +5.8
HHC pmax pmax
comp=Z,26nm,0.8s
HHC pmax pmax
comp=Z,370nm,5.8s
HHC LR LR
comp=N,480nm,14.6s
HHC LR LR
comp=E,840nm,13.4s
HHC LR LR
comp=Z,790nm,14.1s
TRPA Tarpa 39.08 312⇑ *iP* **P 04 53 39.7 +1.7**

BZS Buzias 39.17 308⇑ P **P 04 53 38.1 -0.7**
BZS Buzias 39.17 308⇑ *iP* **P 04 53 38.1 -0.7**
KWP Kalwaria Pacla 39.36 315⇓ P **P 04 53 40.1 -0.3**
KWP Kalwaria Pacla 39.36 315⇓ *iP* **P 04 53 40.1 -0.3**
UZH Uzhgorod 39.36 313 *eP* **P 04 53 39.4 -0.9**
KOLS Kolonicke sedl 39.45 314 *eP* **P 04 53 41.4 +0.3**
KOLS pmax pmax
comp=Z,29nm,1.6s
KOLS Kolonicke sedl 39.45 314 *eP* **P 04 53 41.4 +0.3**
PSI Prapat 40.03 124 P **P 04 53 47.4 +1.0**
PSI Prapat 40.03 124 P **P 04 53 47.4 +1.0**
comp=Z,3.9nm,0.6s,baz=323,slow=10,SNR=5.7
STHS Stebnicka Huta 40.23 314 *eP* **P 04 53 50.4 +2.8**
STHS pmax pmax
comp=Z,4.0nm,1.1s
STHS Stebnicka Huta 40.23 314 *eP* **P 04 53 50.4 +2.8**
KECS Kecovo 40.49 312 *eP* **P 04 53 49.5 -0.3**
KECS pmax pmax
comp=Z,4.0nm,0.8s
KECS Kecovo 40.49 312 *eP* **P 04 53 49.5 -0.3**
QIZ Qiongzhong 40.56 94 P P 04 53 53.8 +3.1
QIZ S **S 05 00 04.3 +5.1**
QIZ pmax pmax
comp=Z,9.0nm,1.5s
QIZ pmax pmax
comp=Z,190nm,7.2s
KMBO Kilima Mbogo 40.65 229 P **P 04 53 53.4 +1.7**
KMBO Kilima Mbogo 40.65 229 P **P 04 53 53.4 +1.7**
comp=Z,1.7nm,0.5s,baz=34,slow=14,SNR=7.0
KMBO LR LR 05 12 50.9
comp=Z,207nm,20.0s,baz=90,slow=39
PSZ Piszkesteto 40.77 312 *eP* **P 04 53 51.3 -0.8**
PSZ pmax pmax
comp=Z,21nm,1.2s
PSZ Piszkesteto 40.77 312 *eP* **P 04 53 51.3 -0.8**
comp=Z,21nm,1.2s
NIE Niedzica 40.82 314 *eP* **P 04 53 54.9 +2.4**
NIE Niedzica 40.82 314 *eP* **P 04 53 54.9 +2.4**
PKSM Moragy 41.32 309⇑ P **P 04 53 56.0 -0.6**
PKSM Moragy 41.32 309⇑ *iP* **P 04 53 56.0 -0.6**
JOF Joensuu 41.35 336 *eP* P 04 54 01.9 +5.3
JOF pmax pmax
comp=Z,4.0nm,0.4s
JOF Joensuu 41.35 336 *ep* P 04 54 01.9 +5.3
comp=Z,4.4nm,0.4s
WHN Wuhan 41.43 75⇓ P **P 04 53 56.9 -0.8**
VYHS Vyhne 41.57 312 *eP* **P 04 53 58.0 -0.7**
VYHS pmax pmax
comp=Z,7.0nm,1.0s
VYHS Vyhne 41.57 312 *eP* **P 04 53 58.0 -0.7**
BJI Beijing 42.15 61 P **P 04 54 04.5 +1.1**
BJI PP **PP 04 55 40.3 -0.7**
BJI pmax pmax
comp=Z,10.0nm,0.6s
BJI pmax pmax
comp=Z,210nm,5.5s
BJI LR LR
comp=N,300nm,14.6s
BJI LR LR
comp=E,310nm,12.9s
BJI LR LR
comp=Z,170nm,21.8s
OKC Ostrava-Krasne 42.28 314 *eP* **P 04 54 05.6 +1.2**
OKC Ostrava-Krasne 42.28 314 *eP* **P 04 54 05.6 +1.2**
FINES FINESS Array B 42.47 333 P **P 04 54 05.1 -0.7**
FINES FINESS Array B 42.47 333 P **P 04 54 05.1 -0.7**
comp=Z,8.9nm,0.9s,baz=129,slow=6.8,SNR=9.2
MORC Moravsky Berou 42.65 314 *eP* **P 04 54 08.7 +1.2**
MORC pmax pmax
comp=Z,86nm,2.3s
MORC Moravsky Berou 42.65 314 *eP* **P 04 54 08.7 +1.2**
comp=Z,86nm,2.3s
KAF Kangasniemi 42.74 333 *eP* **P 04 54 07.5 -0.5**
KAF pmax pmax
comp=Z,6.0nm,0.6s
KAF Kangasniemi 42.74 333 *ep* **P 04 54 07.5 -0.5**
comp=Z,6.3nm,0.6s
CUC Castrocucco 42.97 299 *eP* **P 04 54 09.4 -0.8**
comp=Z,35nm,1.1s
DPC Dobruska-Polom 43.54 314 *eP* **P 04 54 16.4 +1.7**
DPC pmax pmax
comp=Z,40nm,1.0s
DPC Dobruska-Polom 43.54 314 *eP* **P 04 54 15.7 +1.0**
DPC AMS AMS 05 11 10.0
DPC Dobruska-Polom 43.54 314 *eP* **P 04 54 16.4 +1.7**
comp=Z,40nm,1.0s
BOJS Bojanci 43.59 307 *i* P **P 04 54 16.4 +1.3**
TREC Trest 43.89 313 *eP* **P 04 54 16.6 -0.9**
TREC MLR MLR
comp=Z,500nm,18.9s
TREC Trest 43.89 313 *eP* **P 04 54 16.6 -0.9**
TREC AMS AMS 05 14 20.0
comp=Z,500nm,18.9s
VISS Visnje 43.90 308 *i* P **P 04 54 20.3 +2.7**
MYKOM Kota Tinggi 44.38 120 P **P 04 54 24.1 +2.3**
comp=Z,32nm,0.8s
JAVS Javornik 44.45 308 *i* P **P 04 54 20.5 -1.6**
PRU Pruhonice 44.60 314 AMS AMS 05 11 50.0
comp=Z,300nm,18.5s
GEC2 GERESS Array S 44.99 312 *eP* **P 04 54 25.4 -1.0**
GEC2 GERESS Array S 44.99 312 *eP* **P 04 54 25.4 -1.0**
GERES GERESS Array B 44.99 312 P **P 04 54 24.0 -2.3**
GERES GERESS Array B 44.99 312 P **P 04 54 24.0 -2.3**
comp=Z,2.9nm,0.7s,baz=94,slow=8.0,SNR=18
KHC Kasperske Hory 45.10 312 *eP* **P 04 54 27.2 0.0**
KHC MLR MLR
comp=Z,600nm,23.3s
KHC Kasperske Hory 45.10 312 *eP* **P 04 54 27.2 0.0**
KHC AMS AMS 05 12 00.0
comp=Z,600nm,23.3s
BRG Berggiesshubel 45.12 315 *eP* **P 04 54 29.2 +1.9**
comp=Z,17nm,1.1s
BRG Berggiesshubel 45.12 315 *eP* **P 04 54 29.1 +1.9**
BRG pmax pmax
comp=Z,17nm,1.1s
CLL Collm 45.77 315 *eP* **P 04 54 33.0 +0.6**
CLL Collm 45.77 315 *eP* **P 04 54 33.0 +0.6**
CLL *e*S **S 05 01 17.0 +2.1**
CLL *e*SS **SS 05 04 36.0 -3.1**
CLL LmV 05 08 00.0
comp=Z,300nm,20.2s
MOX Moxa 46.55 314 *eL* L 05 10 23.4
comp=Z,324nm,21.7s
GRF Grafenberg Arr 46.70 313 *eP* **P 04 54 41.2 +1.5**
comp=Z,17nm,1.1s
GRF *eL* L 05 10 08.5
comp=Z,255nm,21.4s
GRF Grafenberg Arr 46.70 313 *eP* **P 04 54 41.2 +1.5**
GRF pmax pmax
comp=Z,17nm,1.1s
FUORN Ofenpass-Fuorn 47.12 309 *eP* **P 04 54 42.4 -1.0**
comp=Z,8.1nm,0.8s
ARCES ARCESS Array B 47.37 342 P **P 04 54 43.9 -0.8**
ARCES ARCESS Array B 47.37 342 P **P 04 54 43.9 -0.8**
comp=Z,5.3nm,0.9s,baz=95,slow=8.6,SNR=5.0
TUE Stuetta 47.75 308 *eP* P 04 54 44.9 -3.3
comp=Z,6.8nm,0.8s
PGF Pioggiola 48.04 303 *eP* **P 04 54 48.7 -1.7**
comp=Z,79nm,1.5s
PGF Pioggiola 48.04 303 *eP* **P 04 54 48.7 -1.7**
PGF pmax pmax
comp=Z,79nm,1.5s
PGF Pioggiola 48.04 303 *eP* **P 04 54 48.7 -1.7**
comp=Z,79nm,1.5s
KEST Kesra 48.41 294 *eP* **P 04 54 52.7 -0.7**
KEST Kesra 48.41 294 P **P 04 54 52.8 -0.5**
comp=Z,3.7nm,0.7s,baz=62,slow=1.9,SNR=13
NB2 NORSAR Subarra 48.86 328 P **P 04 54 54.7 -1.7**
comp=Z,22nm,1.1s,baz=107,slow=7.9
NOA NORSAR Array B 48.86 328 P **P 04 54 55.0 -1.4**
NOA NORSAR Array B 48.86 328 P **P 04 54 55.0 -1.4**
comp=Z,11nm,0.9s,baz=108,slow=7.5,SNR=14
NOA LR LR 05 17 29.8
comp=Z,190nm,20.1s,baz=230,slow=39
CN2 Changchun 49.00 55 *eP* P 04 54 49.9 -7.7
CN2 *e*S S 05 01 49.6 -11
CN2 LR LR
comp=N,440nm,16.0s
CN2 LR LR
comp=E,240nm,16.0s
CN2 LR LR
comp=Z,530nm,16.0s
SBF Sospel 49.13 305 *eP* **P 04 54 56.5 -2.2**
comp=Z,38nm,0.8s
SBF Sospel 49.13 305 *eP* **P 04 54 56.5 -2.2**

SBF pmax pmax
comp=Z,38nm,0.8s
SBF Sospel 49.13 305 *eP* **P 04 54 56.5 -2.2**
comp=Z,38nm,0.8s
SENIN Lac Senin/Sane 49.17 308 *eP* **P 04 54 57.8 -1.4**
comp=Z,104nm,2.6s
CDF Champ du Feu 49.20 311 *eP* **P 04 54 56.9 -2.4**
CDF Champ du Feu 49.20 311 *eP* **P 04 54 56.9 -2.4**
CDF Champ du Feu 49.20 311 *eP* **P 04 54 56.9 -2.4**
LPG La Plagne 49.56 307 *eP* **P 04 55 00.8 -1.5**
comp=Z,21nm,1.1s
LPG La Plagne 49.56 307 *eP* **P 04 55 00.8 -1.5**
LPG pmax pmax
comp=Z,21nm,1.1s
LPG La Plagne 49.56 307 *eP* **P 04 55 00.8 -1.5**
comp=Z,21nm,1.1s
MBDF Montbardon 49.57 306 *eP* **P 04 55 00.3 -1.9**
comp=Z,20nm,1.0s
MBDF Montbardon 49.57 306 *eP* **P 04 55 00.3 -1.9**
MBDF pmax pmax
comp=Z,20nm,1.0s
MBDF Montbardon 49.57 306 *eP* **P 04 55 00.3 -1.9**
comp=Z,20nm,1.0s
LPL La Plagne 49.58 307 *eP* **P 04 55 00.1 -2.2**
LPL La Plagne 49.58 307 *eP* **P 04 55 00.1 -2.2**
LPL La Plagne 49.58 307 *eP* **P 04 55 00.1 -2.2**
BNI Bardonecchia 49.62 306 *eP* **P 04 55 00.0 -2.6**
BNI pmax pmax
comp=Z,9.0nm,1.0s
BNI Bardonecchia 49.62 306 *eP* **P 04 55 00.0 -2.6**
comp=Z,8.8nm,1.0s
LMR La Mourre 49.83 304 *eP* **P 04 55 02.1 -1.9**
LMR La Mourre 49.83 304 *eP* **P 04 55 02.1 -1.9**
LMR La Mourre 49.83 304 *eP* **P 04 55 02.1 -1.9**
CABF La Chapelle 50.00 308 *eP* **P 04 55 03.9 -1.5**
CABF La Chapelle 50.00 308 *eP* **P 04 55 03.9 -1.5**
CABF La Chapelle 50.00 308 *eP* **P 04 55 03.9 -1.5**
MEM Membach 50.11 314 P **P 04 55 05.6 -0.4**
ORIF Oris-en-Rattie 50.20 306 *eP* P 04 55 03.4 -3.5
comp=Z,6.1nm,0.8s
ORIF Oris-en-Rattie 50.20 306 *eP* P 04 55 03.4 -3.5
ORIF pmax pmax
comp=Z,6.0nm,0.8s
ORIF Oris-en-Rattie 50.20 306 *eP* P 04 55 03.4 -3.5
comp=Z,6.1nm,0.8s
PAGF Fort de Pagny 50.24 311 *eP* **P 04 55 06.4 -0.6**
PAGF Fort de Pagny 50.24 311 *eP* **P 04 55 06.4 -0.6**
OPO Ambohidratompo 50.35 204 LR LR 05 13 14.2
comp=Z,182nm,19.5s,baz=210,slow=32
SMRF Simiane la Rot 50.46 305 *eP* **P 04 55 06.2 -2.7**
SMRF Simiane la Rot 50.46 305 *eP* **P 04 55 06.2 -2.7**
SFTF Sexfontaines 50.70 311 *eP* **P 04 55 08.9 -1.6**
comp=Z,43nm,1.0s
SFTF Sexfontaines 50.70 311 *eP* **P 04 55 08.9 -1.6**
comp=Z,43nm,1.0s
GIVF Givet 50.85 313 *eP* **P 04 55 11.1 -0.5**
comp=Z,44nm,1.1s
GIVF Givet 50.85 313 *eP* **P 04 55 11.1 -0.5**
GIVF pmax pmax
comp=Z,44nm,1.1s
GIVF Givet 50.85 313 *eP* **P 04 55 11.1 -0.5**
comp=Z,44nm,1.1s
DOU Dourbes 51.00 313 AP pP 04 55 16.8 -2.2
VIVF Saint-Julien-I 51.06 306 *eP* **P 04 55 11.2 -2.1**
comp=Z,20nm,1.1s
VIVF Saint-Julien-I 51.06 306 *eP* **P 04 55 11.2 -2.1**
VIVF pmax pmax
comp=Z,20nm,1.1s
VIVF Saint-Julien-I 51.06 306 *eP* **P 04 55 11.2 -2.1**
comp=Z,20nm,1.1s
SSB Saint Sauveur 51.13 307 *eP* **P 04 55 12.2 -1.6**
SSB pmax pmax
comp=Z,114nm,2.3s
SSB Saint Sauveur 51.13 307 *eP* **P 04 55 12.2 -1.6**
comp=Z,114nm,2.3s
KSAR Wonju Array Be 51.47 63 P **P 04 55 16.1 -0.4**
KSRS Korea Array 51.50 63 P **P 04 55 16.1 -0.6**
comp=Z,3.0nm,0.7s,baz=268,slow=7.4,SNR=14
LOR Lormes 51.51 309 *eP* **P 04 55 14.5 -2.2**
comp=Z,8.8nm,0.8s
LOR Lormes 51.51 309 *eP* **P 04 55 14.5 -2.2**
comp=Z,8.8nm,0.8s
SMF Signal de Mont 51.55 309 *eP* **P 04 55 15.0 -1.9**
comp=Z,24nm,0.8s
SMF Signal de Mont 51.55 309 *eP* **P 04 55 15.0 -1.9**
SMF pmax pmax
comp=Z,25nm,0.8s
SMF Signal de Mont 51.55 309 *eP* **P 04 55 15.0 -1.9**
comp=Z,24nm,0.8s
LASF Ste Croix 51.69 305 *eP* **P 04 55 16.9 -1.2**
comp=Z,21nm,0.9s
LASF Ste Croix 51.69 305 *eP* **P 04 55 16.9 -1.2**
comp=Z,21nm,0.9s
SSF Saint Saulge 51.76 309 *eP* **P 04 55 16.7 -1.8**
comp=Z,16nm,0.8s
SSF Saint Saulge 51.76 309 *eP* **P 04 55 16.7 -1.8**
SSF pmax pmax
comp=Z,17nm,0.8s
SSF Saint Saulge 51.76 309 *eP* **P 04 55 16.7 -1.8**
comp=Z,16nm,0.8s
AVF Avril sur Loir 51.88 309 *eP* **P 04 55 17.2 -2.2**
comp=Z,9.2nm,1.0s
AVF Avril sur Loir 51.88 309 *eP* **P 04 55 17.2 -2.2**
AVF pmax pmax
comp=Z,9.0nm,1.0s
AVF Avril sur Loir 51.88 309 *eP* **P 04 55 17.2 -2.2**
comp=Z,9.2nm,1.0s
MDJ Mudanjiang 51.93 54 P **P 04 55 19.8 0.0**
MDJ PcP **PcP 04 56 32.8 +0.6**
MDJ PP **PP 04 57 17.8 +0.1**
MDJ S **S 05 02 42.8 +1.1**
MDJ ScS **ScS 05 05 02.5 -6.4**
MDJ pmax pmax
comp=Z,5.0nm,1.0s
MDJ pmax pmax
comp=Z,120nm,7.4s
MDJ LR LR
comp=N,460nm,21.4s
MDJ LR LR
comp=E,150nm,14.2s
MDJ LR LR
comp=Z,350nm,10.3s
BGF Bois d'Agland 52.24 309 *eP* **P 04 55 20.0 -2.1**
comp=Z,17nm,0.9s
BGF Bois d'Agland 52.24 309 *eP* **P 04 55 20.0 -2.1**
BGF pmax pmax
comp=Z,17nm,0.9s
BGF Bois d'Agland 52.24 309 *eP* **P 04 55 20.0 -2.1**
comp=Z,17nm,0.9s
TCF Toulx Ste Croi 52.69 308 *eP* **P 04 55 23.9 -1.6**
TCF Toulx Ste Croi 52.69 308 *eP* **P 04 55 23.9 -1.6**
TCF Toulx Ste Croi 52.69 308 *eP* **P 04 55 23.9 -1.6**
YAK Yakutsk 52.74 32 *eP* **P 04 55 23.8 -1.7**
YAK pmax pmax
comp=Z,23nm,0.9s
CAF Calviac 52.90 307 *eP* **P 04 55 25.5 -1.5**
comp=Z,11nm,0.8s
CAF Calviac 52.90 307 *eP* **P 04 55 25.5 -1.5**
CAF pmax pmax
comp=Z,11nm,0.8s
CAF Calviac 52.90 307 *eP* **P 04 55 25.5 -1.5**
comp=Z,11nm,0.8s
MTLF Montolieu 52.94 305 *eP* **P 04 55 25.3 -2.1**
comp=Z,9.8nm,0.9s
MTLF Montolieu 52.94 305 *eP* **P 04 55 25.3 -2.1**
MTLF pmax pmax
comp=Z,10.0nm,0.9s
MTLF Montolieu 52.94 305 *eP* **P 04 55 25.3 -2.1**
comp=Z,9.8nm,0.9s
RJF Les Rejaudoux 53.25 307 *eP* **P 04 55 28.6 -1.0**
RJF Les Rejaudoux 53.25 307 *eP* **P 04 55 28.6 -1.0**
RJF Les Rejaudoux 53.25 307 *eP* **P 04 55 28.6 -1.0**
USRK Ussuriysk Ara 53.68 54 P **P 04 55 32.3 -0.4**
comp=Z,1.7nm,0.7s,baz=270,slow=4.3,SNR=2.9
LDF La Druitiere 54.12 311 *eP* **P 04 55 34.5 -1.4**
LDF La Druitiere 54.12 311 *eP* **P 04 55 34.5 -1.4**
LDF La Druitiere 54.12 311 *eP* **P 04 55 34.5 -1.4**
EPF Esparros 54.34 304 *eP* **P 04 55 36.5 -1.2**
comp=Z,5.9nm,0.8s
EPF Esparros 54.34 304 *eP* **P 04 55 36.5 -1.2**
EPF pmax pmax
comp=Z,6.0nm,0.8s
EPF Esparros 54.34 304 *eP* **P 04 55 36.5 -1.2**
comp=Z,5.9nm,0.8s
FLN La Foliniere 54.35 311 *eP* **P 04 55 36.4 -1.1**
FLN La Foliniere 54.35 311 *eP* **P 04 55 36.4 -1.1**

IDC 10 04:52:47.6±5.8, 20°.16N×119°.33E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.5/23, mbtmp3.4/4, ML3.9/1, Error ellipse: s-maj=285.7km s-min=25.0km az=92.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**18.79**	**22**	P	Pn	04 57 09.8	+0.8
	0.3nm,0.3s,baz=205,slow=11,SNR=2.9						
WRA	**Warramunga Arr**	**42.48**	**159**	P	P	05 00 44.3	-0.5
	0.4nm,0.6s,baz=341,slow=8.7,SNR=4.7						
ASAR	**Alice Springs**	**45.82**	**161**	P	P	05 01 11.9	+0.3
	0.3nm,0.5s,baz=346,slow=6.7,SNR=3.6						
ILAR	**Eielson Array**	**73.56**	**26**	P	P	05 04 21.8	-0.6
	0.1nm,0.5s,baz=284,slow=5.6,SNR=3.5						

*IDC **10** 04:54:29.7±0.5, 28°.45N×66°.53E, h0km, mb4.4/29, mb1 4.5/30, mb1mx4.4/35, mbtmp4.4/30, ML3.9/1, MS4.2/5, Ms1 4.2/5, ms1mx3.7/35, Error ellipse: s-maj=14.6km s-min=11.6km az=6.0*

*ISCJB **10** 04:54:31.3±0.2, 28°.54N±0°.04×66°.47E±0°.02, h20km, mb4.8/115, MS4.2/13, Error ellipse: s-maj=5.3km s-min=2.8km az=175.7*

*NEIC **10** 04:54:32.0±3.5, 28°.58N×66°.45E, h12km±21km, mb4.9/49, Error ellipse: s-maj=8.7km s-min=5.0km az=174.0*

*MOS **10** 04:54:32.6±1.1, 28°.54N×66°.46E, h29km, mb4.9/45, Error ellipse: s-maj=7.3km s-min=4.3km az=120.3*

*TEH **10** 04:54:33.0, 28°.72N×66°.39E, h10km, ML4.7*

*BJI **10** 04:54:37.5, 29°.02N×66°.93E, h20km, mB5.1/27, mb4.7/35, Ms4.7/27, Ms7 4.3/27*

ISC 10 04:54:33.7±0.4, 28°.61N±0°.06×66°.49E±0°.04, h20km, n342, σ1§41/353, mb4.8/115, MS4.3/13, 19C-15D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THW	**Thamme Wali**	**6.15**	**46**	P	**Pn**	**04 56 04.2**	**+0.7**
THW				S	**Sn**	**04 57 15.0**	**+1.6**
KBL	**Kabul**	**6.30**	**20**	*e*P	**Pn**	**04 56 05.8**	**+0.1**
KBL	**Kabul**	**6.30**	**20**	*e*Pn	**Pn**	**04 56 05.8**	**+0.1**
CEP	**Cherat**	**6.97**	**40**	⇓P	**Pn**	**04 56 16.1**	**+1.3**
IDAH	**Dahanechah**	**7.03**	**307**	*e*P	Pn	04 56 20.1	+4.3
IMON	**Monand**	**7.43**	**310**	*e*P	Pb	04 56 32.5	-10
IKOO	**Kooshah**	**7.49**	**302**	*e*P	**Pn**	**04 56 22.2**	**+0.1**
THN	**Thein Dam**	**8.82**	**62**	*e*P	**Pn**	**04 56 39.7**	**-0.4**
THN				*e*4	**Sn**	**04 58 19.8**	**+0.8**
BHK	**Bhakra**	**9.05**	**70**	*e*P	**Pn**	**04 56 43.0**	**-0.3**
BHK				*e*4		04 58 48.0	
DLH	**Dalhousie**	**9.06**	**62**	*e*P	**Pn**	**04 56 44.0**	**+0.4**
DLH				*e*4		04 58 23.0	
NDI	**New Delhi**	**9.43**	**87**	*e*P	Pn	04 56 44.0	-4.5
NDI				*e*S	Sn	04 58 27.5	-6.4
SDNR	**Sundarnagar**	**9.53**	**70**	*e*P	**Pn**	**04 56 49.0**	**-0.9**
SDNR				*e*4	**Sn**	**04 58 31.0**	**-5.4**
HOQ	**Hoqain**	**9.65**	**241**	Pn	**Pn**	**04 56 51.1**	**-0.4**
	SNR=11						
JMDO	**Jabal Madar**	**9.79**	**233**	Pn	**Pn**	**04 56 53.2**	**-0.3**
	SNR=9.8						
IBAF	**Bafgh**	**9.91**	**290**	*e*P	Pn	04 56 49.7	-5.5
ASHO	**Ashiyiah**	**10.11**	**250**	Pn	**Pn**	**04 56 59.7**	**+1.8**
	SNR=11						
BSY	**Bisya**	**10.21**	**237**	Pn	**Pn**	**04 56 59.9**	**+0.6**
	SNR=15						
DDI	**Dehra Dun**	**10.23**	**78**	*ex*	Sn	04 58 43.0	-11
IAKL	**Akhelmad**	**10.29**	**323**	*e*P	Pn	04 57 07.0	+6.5
ARQ	**Araqi**	**10.39**	**242**	Pn	**Pn**	**04 57 03.6**	**+1.9**
	SNR=16						
IMEH	**Mehriz**	**10.66**	**288**	*e*P	**Pn**	**04 57 08.2**	**+2.6**
ISHV	**Shirvan**	**11.55**	**323**	*e*P	Pn	04 57 28.9	+11
IPAR	**Pars**	**11.80**	**279**	*e*P	**Pn**	**04 57 21.0**	**-0.3**
LGTI	**Lohaghat**	**12.07**	**83**	*e*4	Pn	04 57 28.1	+3.5
AKL	**Akola**	**12.39**	**127**	*e*P	Pn	04 57 24.7	-4.4
AKL				AMB	AMB	04 57 34.0	
	comp=Z,37nm,1.0s						
AKL				*e*S	Sn	04 59 31.1	-15
KSH	**Kashi**	**13.41**	**33**	P	Pn	04 57 37.0	-6.0
KSH				sP		04 57 48.7	
KSH				S	Sn	04 59 56.7	-15
KSH				sS	S	05 00 08.0	-27
KSH				SS	SnSn	05 00 11.6	-13
KSH				pmax	pmax		
	comp=Z,18nm,0.6s						
KSH				pmax	pmax		
	comp=Z,370nm,8.8s						
KSH				LR	LR		
	comp=N,1μm,8.2s						
KSH				LR	LR		
	comp=E,2μm,10.5s						
KSH				LR	LR		
	comp=Z,1μm,12.3s						
NGP	**Nagpur**	**13.60**	**120**	*e*P	Pn	04 57 42.1	-3.5
NGP				AMB	AMB	04 57 42.6	
	comp=Z,27nm,1.4s						
NGP				*ex*	x	05 00 07.8	
PYUN	**Piuthan**	**14.54**	**88**	*e*P	Pn	04 57 54.7	-3.9
	comp=Z,167nm,0.7s						
KK31	**Karatay Array**	**14.82**	**12**	*e*P	**P**	**04 58 06.2**	**-1.7**
KK31				pmax	pmax		
	comp=Z,5.0nm,0.6s						
KKAR	**Karatay Array**	**14.82**	**12**	*e*P	**Pn**	**04 58 00.7**	**-1.5**
KKAR	**Karatay Array**	**14.82**	**12**	*e*Pn	**Pn**	**04 58 00.7**	**-1.5**
KOLN	**Koldanda**	**15.12**	**89**	*e*P	**Pn**	**04 58 02.9**	**-3.5**
	comp=Z,84nm,0.9s						
DANN	**Dangsing**	**15.20**	**87**	*e*P	**Pn**	**04 58 03.6**	**-3.9**
	comp=Z,70nm,0.7s						
EKS2	**Erkin-Say**	**15.21**	**21**	*e*P	**Pn**	**04 58 05.9**	**-1.6**
EKS2				pmax	pmax		
	comp=Z,22nm,1.0s						
EKS2	**Erkin-Say**	**15.21**	**21**	*e*Pn	**Pn**	**04 58 05.9**	**-1.6**
	comp=Z,22nm,1.0s						
EKS2				*e*S	Sn	05 00 39.3	-16
AAK	**Ala-Archa**	**15.42**	**23**	*e*P	**Pn**	**04 58 09.0**	**-1.3**
AAK				*e*S	**Sn**	**05 00 54.8**	**-5.8**
AAK				pmax	pmax		
	comp=Z,13nm,0.9s						
AAK	**Ala-Archa**	**15.42**	**23**	*e*Pn	**Pn**	**04 58 09.0**	**-1.3**
	comp=Z,13nm,0.9s						
AAK				*e*S	**Sn**	**05 00 54.8**	**-5.8**
AAK				Sn	**Sn**	**05 00 56.6**	**-4.0**
AAK	**Ala-Archa**	**15.42**	**23**	Pn	**Pn**	**04 58 09.0**	**-1.3**
	comp=Z,0.5nm,0.3s,baz=190,slow=7.1,SNR=10						
AAK				Sn	**Sn**	**05 00 56.6**	**-4.0**
	comp=Z,0.1nm,0.3s,baz=311,slow=20,SNR=2.3						
AAK				LR	LR	05 05 28.9	
	comp=Z,868nm,20.3s,baz=210,slow=42						
IRAZ	**Razeghan**	**15.59**	**300**	*e*P	**Pn**	**04 58 13.1**	**+0.6**
HYB	**Hyderabad**	**15.72**	**133**	*i* P	**Pn**	**04 58 14.5**	**+0.4**
TKM2	**Tokmak 2**	**16.06**	**25**	*e*P	**Pn**	**04 58 17.0**	**-1.6**
TKM2				pmax	pmax		
	comp=Z,17nm,1.0s						
TKM2	**Tokmak 2**	**16.06**	**25**	*e*Pn	**Pn**	**04 58 16.9**	**-1.6**
	comp=Z,17nm,1.0s						
DMN	**Daman**	**16.46**	**89**	*e*P	**Pn**	**04 58 21.5**	**-2.3**
	comp=Z,56nm,0.7s						
KKN	**Kakani**	**16.59**	**88**	*e*P	**Pn**	**04 58 23.5**	**-1.9**
	comp=Z,33nm,0.5s						
PKIN	**Phulchoki**	**16.72**	**89**	*e*P	**Pn**	**04 58 25.5**	**-1.6**
	comp=Z,43nm,0.6s						
PKI	**Pulchoki**	**16.73**	**89**	*e*P	**Pn**	**04 58 25.8**	**-1.6**
	comp=Z,44nm,0.7s						
GUN	**Gumba**	**17.10**	**88**	*e*P	**Pn**	**04 58 30.7**	**-1.3**
	comp=Z,222nm,0.9s						
JIRN	**Jiri**	**17.41**	**88**	*e*P	**Pn**	**04 58 34.8**	**-1.1**
	comp=Z,72nm,0.7s						
IVIS	**Veis**	**17.73**	**294**	*e*P	Pn	04 58 31.9	-7.7
RAMN	**Ramite**	**17.88**	**91**	*e*P	**P**	**04 58 41.9**	**-0.2**
	comp=Z,52nm,0.6s						
ISRB	**Sarab**	**18.21**	**305**	*e*P	**P**	**04 58 47.6**	**+2.0**
ODAN	**Odare**	**18.59**	**90**	*e*P	**Pn**	**04 58 51.6**	**+1.4**
	comp=Z,82nm,0.8s						
TAPN	**Taplejung**	**18.79**	**89**	*e*P	**Pn**	**04 58 53.9**	**+1.2**
	comp=Z,95nm,1.0s						
RAYN	**Ar Rayn**	**19.51**	**260**	*e*P	**P**	**04 58 58.4**	**-1.5**
	comp=Z,40nm,1.2s						
AB31	**Akbulak array**	**21.22**	**348**	*i* P	**P**	**04 59 19.3**	**+1.2**
AB31				pmax	pmax		
	comp=Z,12nm,0.8s						
ABKAR	**Akbulak array**	**21.22**	**348**	*e*P	**P**	**04 59 18.6**	**+0.5**
	comp=Z,14nm,0.8s						
GNI	**Garni**	**21.26**	**308**	*e*P	**P**	**04 59 17.8**	**-1.1**
	comp=Z,30nm,0.9s						
LSA	**Lhasa**	**21.56**	**81**	P	**P**	**04 59 21.6**	**-0.9**
LSA	**Lhasa**	**21.56**	**81**	*e*P	**P**	**04 59 23.3**	**+0.8**
LSA				pmax	pmax		
	comp=Z,24nm,1.0s						
LSA	**Lhasa**	**21.56**	**81**	*e*P	**P**	**04 59 23.3**	**+0.8**
	comp=Z,24nm,1.0s						
MK31	**Makanchi Array**	**21.97**	**30**	*ce*P	**P**	**04 59 26.4**	**+0.1**
MK31				pmax	pmax		
	comp=Z,18nm,0.7s						
MK31	**Makanchi Array**	**21.97**	**30**	*e*P	**P**	**04 59 25.7**	**-0.6**
MKAR	**Makanchi Array**	**21.97**	**30**	*ce*P	**P**	**04 59 26.1**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,16nm,0.7s						
MKAR	**Makanchi Array**	**21.97**	**30**	*e*P	**P**	**04 59 26.2**	**0.0**
MKAR	**Makanchi Array**	**21.97**	**30**	P	**P**	**04 59 25.5**	**-0.7**
	comp=Z,16nm,0.7s,baz=214,slow=9.9,SNR=47						
MKAR				LR	LR	05 09 45.9	
	comp=Z,1μm,21.9s,baz=225,slow=42						
AKTO	**Aktyubinsk**	**22.72**	**346**	P	**P**	**04 59 34.8**	**+0.5**
AKTO				pmax	pmax		
	comp=Z,9.0nm,0.8s						
AKTO	**Aktyubinsk**	**22.72**	**346**	P	**P**	**04 59 34.7**	**+0.5**
AKTO	**Aktyubinsk**	**22.72**	**346**	P	**P**	**04 59 34.7**	**+0.5**
	comp=Z,3.7nm,0.8s,baz=166,slow=9.2,SNR=11						
AKTO				LR	LR	05 10 08.1	
	comp=Z,245nm,18.7s,baz=294,slow=41						
WMQ	**Urumqi**	**22.78**	**43**	P	**P**	**04 59 36.8**	**+1.8**
WMQ				pP	pP	04 59 46.8	+6.1
WMQ				sP	sP	04 59 50.2	+6.9
WMQ				PP	**PnPn**	**05 00 06.2**	**+6.9**
WMQ				pmax	pmax		
	comp=Z,65nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,260nm,6.0s						
WMQ				LR	LR		
	comp=N,2μm,22.0s						
WMQ				LR	LR		
	comp=E,980nm,21.0s						
WMQ				LR	LR		
	comp=Z,730nm,15.0s						
ZEI	**Tsey**	**23.07**	**314**	*e*P	**P**	**04 59 38.4**	**+0.2**
ZEI				pmax	pmax		
	comp=Z,12nm,0.8s						
KURBB	**Kurchatov Arra**	**23.80**	**19**	P	**P**	**04 59 45.0**	**-0.1**
	comp=Z,8.6nm,0.8s,baz=212,slow=8.8,SNR=55						
KURK	**Kurchatov**	**23.91**	**19**	P	**P**	**04 59 45.0**	**-1.1**
KURK	**Kurchatov**	**23.91**	**19**	P	**P**	**04 59 45.0**	**-1.1**
KBZ	**Khabaz**	**24.18**	**315**	P	**P**	**04 59 49.4**	**+0.7**
KBZ	**Khabaz**	**24.18**	**315**	P	**P**	**04 59 49.4**	**+0.7**
KBZ	**Khabaz**	**24.18**	**315**	P	**P**	**04 59 49.4**	**+0.7**
	comp=Z,14nm,0.8s,baz=129,slow=5.9,SNR=24						
VOSK	**Vostochnaya**	**24.32**	**7**	*e*P	**P**	**04 59 50.6**	**+0.7**
VOSK				pmax	pmax		
	comp=Z,13nm,0.8s						
VOSK	**Vostochnaya**	**24.32**	**7**	*e*P	**P**	**04 59 50.6**	**+0.7**
	comp=Z,13nm,0.8s						
KIV	**Kislovodsk**	**24.43**	**315**	*e*P	**P**	**04 59 52.6**	**+1.5**
KIV				pmax	pmax		
	comp=Z,22nm,1.1s						
KIV				MLR	MLR		
	comp=Z,123nm,15.0s						
BVA0	**Borovoye Array**	**24.56**	**6**	P	**P**	**04 59 53.6**	**+1.5**
BVA0				pmax	pmax		
	comp=Z,16nm,0.8s						
BVAR	**Borovoye Array**	**24.56**	**6**	P	**P**	**04 59 53.3**	**+1.2**
BVAR	**Borovoye Array**	**24.56**	**6**	P	**P**	**04 59 53.3**	**+1.2**
BVAR	**Borovoye Array**	**24.56**	**6**	P	**P**	**04 59 53.3**	**+1.2**
	comp=Z,12nm,0.7s,baz=171,slow=9.2,SNR=43						
BRVK	**Borovoye**	**24.59**	**6**	*ce*P	**P**	**04 59 53.9**	**+1.6**
BRVK				pmax	pmax		
	comp=Z,23nm,1.0s						
BRVK	**Borovoye**	**24.59**	**6**	P	**P**	**04 59 55.2**	**+2.9**
	SNR=9.1						
BRVK	**Borovoye**	**24.59**	**6**	*e*P	**P**	**04 59 53.7**	**+1.4**
	comp=Z,26nm,0.9s						
DAMY	**Dhamar**	**24.78**	**240**	*e*P	**P**	**04 59 56.5**	**+1.7**
ASF	**Jabal al Asfar**	**25.73**	**285**	P	**P**	**05 00 04.4**	**+1.4**
ASF	**Jabal al Asfar**	**25.73**	**285**	P	**P**	**05 00 04.4**	**+1.4**
	comp=Z,6.1nm,0.9s,baz=160,slow=0.4,SNR=6.9						
EIL	**Elat**	**27.52**	**280**	P	**P**	**05 00 19.2**	**+0.1**
EIL	**Elat**	**27.52**	**280**	P	**P**	**05 00 19.2**	**+0.1**
	comp=Z,3.8nm,0.7s,baz=38,slow=2.5,SNR=4.2						
ZAA0	**Zalesovo Array**	**28.65**	**23**	*e*P	**P**	**05 00 29.2**	**+0.3**
ZALV	**Zalesovo Beam**	**28.65**	**23**	P	**P**	**05 00 29.1**	**+0.2**
ZALV	**Zalesovo Beam**	**28.65**	**23**	P	**P**	**05 00 29.1**	**+0.2**
ZALV	**Zalesovo Beam**	**28.65**	**23**	P	**P**	**05 00 29.1**	**+0.2**
	comp=Z,2.5nm,0.4s,baz=226,slow=10,SNR=10						
ZALV				LR	LR	05 13 18.9	
	comp=Z,548nm,20.6s,baz=248,slow=39						
NVS	**Novosibirsk**	**28.88**	**20**	*i* P	**P**	**05 00 30.2**	**-0.7**
NVS				*e*		05 01 25.1	
NVS				pmax	pmax		
	comp=N,6.0nm,0.8s						
NVS				pmax	pmax		
	comp=Z,9.0nm,0.8s						
NVS				pmax	pmax		
	comp=E,14nm,1.9s						
BRTR	**Keskin Array B**	**29.20**	**301**	P	**P**	**05 00 35.2**	**+1.1**
BRTR	**Keskin Array B**	**29.20**	**301**	P	**P**	**05 00 35.2**	**+1.1**
	comp=E,1.0nm,0.6s,baz=111,slow=7.6,SNR=6.3						
GTA	**Gaotai**	**29.50**	**60**	*e*P	**P**	**05 00 37.9**	**+1.1**
GTA				pP	**pP**	**05 00 42.5**	**-0.4**
GTA				sP	**sP**	**05 00 44.9**	**-0.5**
GTA				S	**S**	**05 05 32.9**	**+2.5**
GTA				sS	**sS**	**05 05 38.8**	**-1.7**
GTA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
GTA				pmax	pmax		
	comp=Z,92nm,5.1s						
GTA				LR	LR		
	comp=N,610nm,15.9s						
GTA				LR	LR		
	comp=E,390nm,15.9s						
GTA				LR	LR		
	comp=Z,460nm,16.4s						
LZH	**Lanzhou**	**32.28**	**67**	*e*P	**P**	**05 01 03.0**	**+1.6**
LZH				pP	**pP**	**05 01 08.3**	**+0.8**
LZH				sP	**sP**	**05 01 11.3**	**+1.3**
LZH				PP	**PP**	**05 02 12.0**	**-2.3**
LZH				*e*S	**S**	**05 06 15.0**	**+0.9**
LZH				sS	**sS**	**05 06 23.0**	**-1.2**
LZH				pmax	pmax		
	comp=Z,16nm,1.2s						
LZH				pmax	pmax		
	comp=Z,110nm,5.9s						
LZH				LR	LR		
	comp=N,960nm,15.2s						
LZH				LR	LR		
	comp=E,370nm,15.2s						
LZH				LR	LR		
	comp=Z,990nm,16.7s						
CD2	**Chengdu**	**32.34**	**77**	P	P	05 01 05.5	+3.7
CD2				pP	pP	05 01 15.4	+7.4
CD2				sP	sP	05 01 19.6	+9.1
CD2				PP	**PP**	**05 02 13.8**	**-1.2**
CD2				S	**S**	**05 06 16.2**	**+1.3**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,230nm,5.5s						
CD2				LR	LR		
	comp=N,710nm,4.1s						
CD2				LR	LR		
	comp=Z,400nm,11.3s						
KMI	**Kunming**	**32.45**	**88**	P	P	05 01 07.6	+4.6
KMI				pmax	pmax		
	comp=Z,7.0nm,1.3s						
MOS	**Moscow**	**34.07**	**331**	*e*P	**P**	**05 01 17.5**	**+1.0**
MOS				pmax	pmax		
	comp=Z,35nm,1.0s						
TIRR	**Tirgusor**	**34.09**	**308**	⇓P	**P**	**05 01 16.7**	**-0.1**
TIRR	**Tirgusor**	**34.09**	**308**	⇓*i* P	**P**	**05 01 16.7**	**-0.1**
OBN	**Obninsk**	**34.13**	**329**	*e*P	**P**	**05 01 18.5**	**+1.4**
OBN				*e*		05 03 53.9	
OBN				pmax	pmax		
	comp=Z,13nm,1.6s						
OBN				MLR	MLR		
	comp=Z,300nm,18.0s						
TLB	**Topalu**	**34.38**	**308**	⇑P	**P**	**05 01 19.1**	**-0.2**
TLB	**Topalu**	**34.38**	**308**	⇑*i* P	**P**	**05 01 19.1**	**-0.2**
HARR	**Harsova**	**34.48**	**308**	⇑P	**P**	**05 01 19.9**	**-0.3**
HARR	**Harsova**	**34.48**	**308**	⇑*i* P	**P**	**05 01 19.9**	**-0.3**
ZAK	**Zakamensk**	**35.24**	**42**	⇑*i* P	**P**	**05 01 27.7**	**+0.8**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.2s						
GYA	**Guiyang**	**35.58**	**84**	P	**P**	**05 01 32.2**	**+2.1**
GYA				pP	pP	05 01 42.4	+6.2

GYA			PP	**PP**	**05 02 52.5**	**+1.6**
GYA			PcP	**PcP**	**05 04 00.9**	**+2.0**
GYA			S	**S**	**05 07 04.3**	**-0.9**
GYA			sS	sS	05 07 22.0	+6.7
GYA			ScP	**ScP**	**05 07 42.1**	**-1.7**
GYA			ScS	**ScS**	**05 11 45.7**	**-3.1**
GYA			pmax	pmax		
	comp=Z,10.0nm,0.8s					
GYA			pmax	pmax		
	comp=Z,90nm,4.9s					
GYA			LR	LR		
	comp=N,480nm,17.8s					
GYA			LR	LR		
	comp=E,390nm,18.0s					
GYA			LR	LR		
	comp=Z,450nm,17.6s					
VRI	**Vrincioaia**	**35.60 310**	⇓P	**P**	**05 01 31.1**	**+1.2**
VRI	**Vrincioaia**	**35.60 310**	⇓*i*P	**P**	**05 01 31.1**	**+1.2**
AKASG	**Malin Array Be**	**35.65 319**	P	**P**	**05 01 29.5**	**-0.7**
AKASG	**Malin Array Be**	**35.65 319**	P	**P**	**05 01 29.4**	**-0.7**
AKASG	**Malin Array Be**	**35.65 319**	P	**P**	**05 01 29.4**	**-0.7**
	comp=Z,10.0nm,1.0s,baz=106,slow=7.9,SNR=10					
KIEV	**Kiev**	**35.65 319**	*e*P	**P**	**05 01 29.5**	**-0.7**
KIEV			pmax	pmax		
	comp=Z,11nm,0.9s					
KIEV	**Kiev**	**35.65 319**	*e*P	**P**	**05 01 29.5**	**-0.7**
	comp=Z,11nm,0.9s					
PLOR	**Plostina**	**35.65 310**	⇑P	**P**	**05 01 31.4**	**+1.0**
PLOR	**Plostina**	**35.65 310**	⇑*i*P	**P**	**05 01 31.4**	**+1.0**
MLR	**Muntele Rosu**	**36.04 309**	⇑*i*P	**P**	**05 01 35.8**	**+2.0**
SONM	**Songino Array**	**36.25 47**	P	**P**	**05 01 36.6**	**+1.0**
SONM	**Songino Array**	**36.25 47**	P	**P**	**05 01 36.6**	**+1.0**
	comp=Z,3.5nm,0.7s,baz=260,slow=8.9,SNR=9.9					
SONM			LR	LR	05 19 17.7	
	comp=Z,467nm,18.6s,baz=253,slow=41					
MTUR	**Matau**	**36.59 308**	⇓P	**P**	**05 01 41.3**	**+2.8**
MTUR	**Matau**	**36.59 308**	⇓*i*P	**P**	**05 01 41.3**	**+2.8**
ULN	**Ulaanbaatar**	**36.68 47**	*e*P	**P**	**05 01 40.5**	**+1.2**
	comp=Z,5.1nm,1.0s					
ARR	**Arges**	**36.91 308**	⇓*i*P	**P**	**05 01 41.4**	**+0.2**
BURAR	**Bucovina Array**	**37.07 312**	⇓P	**P**	**05 01 43.0**	**+0.4**
BURAR	**Bucovina Array**	**37.07 312**	⇓*i*P	**P**	**05 01 43.0**	**+0.4**
BUR08	**Bucovina Ar. S**	**37.09 312**	*e*P	**P**	**05 01 43.1**	**+0.4**
VTS	**Vitosha**	**37.45 304**	⇑P	**P**	**05 01 45.9**	**0.0**
VTS	**Vitosha**	**37.45 304**	⇑*i*P	**P**	**05 01 45.8**	**-0.1**
GZR	**Gura Zlata**	**38.20 308**	⇓*i*P	**P**	**05 01 53.0**	**+0.9**
DRGR		**38.53 310**	⇓P	**P**	**05 01 54.6**	**-0.2**
DRGR		**38.53 310**	⇓*i*P	**P**	**05 01 54.6**	**-0.2**
HHC	**Hu-ho-hao-te**	**38.61 59**	*e*P	**P**	**05 01 57.5**	**+1.8**
HHC			pP	pP	05 02 07.6	+5.7
HHC			sP	sP	05 02 11.9	+7.5
HHC			PP	**PnPn**	**05 03 30.8**	**+4.6**
HHC			PcP	**PcP**	**05 04 10.1**	**+2.3**
HHC			S	**S**	**05 07 51.3**	**+0.2**
HHC			ScS	**ScS**	**05 12 03.4**	**-2.0**
HHC			pmax	pmax		
	comp=Z,21nm,0.7s					
HHC			pmax	pmax		
	comp=Z,430nm,5.4s					
HHC			LR	LR		
	comp=N,350nm,14.3s					
HHC			LR	LR		
	comp=E,480nm,15.5s					
HHC			LR	LR		
	comp=Z,390nm,16.7s					
BZS	**Buzias**	**39.04 308**	⇑P	**P**	**05 01 59.5**	**+0.4**
BZS	**Buzias**	**39.04 308**	⇑*i*P	**P**	**05 01 59.5**	**+0.4**
KWP	**Kalwaria Pacla**	**39.22 315**	*e*P	**P**	**05 01 58.9**	**-1.7**
KWP			pmax	pmax		
	comp=Z,66nm,1.5s					
KWP	**Kalwaria Pacla**	**39.22 315**	*e*P	**P**	**05 01 58.9**	**-1.7**
	comp=Z,66nm,1.5s					
KWP	**Kalwaria Pacla**	**39.22 315**	⇑*i*P	**P**	**05 02 00.8**	**+0.2**
UZH	**Uzhgorod**	**39.23 313**	*e*P	**P**	**05 02 00.4**	**-0.2**
UZH			*e*		05 02 07.6	
UZH			*e*		05 02 16.6	
KOLS	**Kolonicke sedl**	**39.31 313**	*e*P	**P**	**05 02 02.3**	**+1.0**
KOLS			pmax	pmax		
	comp=Z,53nm,1.9s					
KOLS	**Kolonicke sedl**	**39.31 313**	*e*P	**P**	**05 02 02.3**	**+1.0**
STHS	**Stebnicka Huta**	**40.09 314**	*e*P	**P**	**05 02 07.7**	**-0.1**
STHS			pmax	pmax		
	comp=Z,2.0nm,0.8s					
STHS	**Stebnicka Huta**	**40.09 314**	*e*P	**P**	**05 02 07.7**	**-0.1**
STHS			*e*		05 18 12.2	
KECS	**Kecovo**	**40.36 312**	*e*P	**P**	**05 02 10.0**	**0.0**
KECS			pmax	pmax		
	comp=Z,4.0nm,1.0s					
KECS	**Kecovo**	**40.36 312**	*e*P	**P**	**05 02 10.0**	**0.0**
PKSM	**Moragy**	**41.19 309**	⇓P	**P**	**05 02 16.9**	**0.0**
PKSM	**Moragy**	**41.19 309**	⇓*i*P	**P**	**05 02 16.9**	**0.0**
JOF	**Joensuu**	**41.19 336**	*e*P	P	05 02 22.5	+5.8
JOF			pmax	pmax		
	comp=Z,4.0nm,0.4s					
JOF	**Joensuu**	**41.19 336**	*e*p	P	05 02 22.5	+5.8
	comp=Z,3.5nm,0.4s					
WHN	**Wuhan**	**41.43 75**	P	P	05 02 22.5	+3.5
VYHS	**Vyhne**	**41.44 312**	*e*P	**P**	**05 02 18.9**	**0.0**
VYHS			pmax	pmax		
	comp=Z,53nm,2.9s					
VYHS	**Vyhne**	**41.44 312**	*e*P	**P**	**05 02 18.9**	**0.0**
FINES	**FINESS Array B**	**42.31 332**	P	**P**	**05 02 26.2**	**+0.4**
FINES	**FINESS Array B**	**42.31 332**	P	**P**	**05 02 26.2**	**+0.4**
	comp=Z,8.8nm,0.7s,baz=122,slow=14,SNR=17					
KAF	**Kangasniemi**	**42.58 333**	*e*P	**P**	**05 02 28.8**	**+0.8**
KAF			pmax	pmax		
	comp=Z,11nm,0.8s					
KAF	**Kangasniemi**	**42.58 333**	*e*p	**P**	**05 02 28.8**	**+0.8**
	comp=Z,11nm,0.8s					
CUC	**Castrocucco**	**42.86 299**	*e*P	**P**	**05 02 30.5**	**-0.2**
	comp=Z,34nm,0.7s					
DPC	**Dobruska-Polom**	**43.40 314**	*e*P	**P**	**05 02 34.8**	**-0.1**
DPC			pmax	pmax		
	comp=Z,148nm,1.7s					
DPC	**Dobruska-Polom**	**43.40 314**	*e*P	**P**	**05 02 34.8**	**-0.1**
	comp=Z,148nm,1.7s					
BOJS	**Bojanci**	**43.46 307**	*i* P	**P**	**05 02 35.1**	**-0.3**
VISS	**Visnje**	**43.77 308**	*i* P	**P**	**05 02 40.1**	**+2.1**
JAVS	**Javornik**	**44.32 308**	*i* P	**P**	**05 02 41.8**	**-0.7**
GEC2	**GERESS Array S**	**44.85 312**	*e*P	**P**	**05 02 46.5**	**-0.2**
GEC2	**GERESS Array S**	**44.85 312**	*e*P	**P**	**05 02 46.5**	**-0.2**
GERES	**GERESS Array B**	**44.85 312**	P	**P**	**05 02 46.4**	**-0.2**
GERES	**GERESS Array B**	**44.85 312**	P	**P**	**05 02 46.4**	**-0.2**
	comp=Z,2.2nm,0.6s,baz=94,slow=7.6,SNR=25					
NJ2	**Nanjing**	**44.97 72**	*e*P	**P**	**05 02 49.0**	**+1.3**
NJ2			pmax	pmax		
	comp=Z,19nm,0.7s					
BRG	**Berggiesshubel**	**44.98 315**	*e*P	**P**	**05 02 48.3**	**+0.8**
	comp=Z,34nm,1.8s					
BRG	**Berggiesshubel**	**44.98 315**	*e*P	**P**	**05 02 48.3**	**+0.8**
BRG			pmax	pmax		
	comp=Z,34nm,1.8s					
FUORN	**Ofenpass-Fuorn**	**46.99 308**	*e*P	**P**	**05 03 03.4**	**-0.3**
	comp=Z,90nm,2.5s					
ARCES	**ARCESS Array B**	**47.20 342**	P	**P**	**05 03 04.6**	**-0.1**
ARCES	**ARCESS Array B**	**47.20 342**	P	**P**	**05 03 04.6**	**-0.1**
	comp=Z,2.5nm,0.7s,baz=140,slow=4.6,SNR=4.9					
TUE	**Stuetta**	**47.62 308**	*e*P	**P**	**05 03 07.5**	**-1.1**
	comp=Z,6.1nm,0.6s					
PGF	**Pioggiola**	**47.92 303**	*e*P	**P**	**05 03 10.1**	**-0.7**
	comp=Z,30nm,1.0s					
PGF	**Pioggiola**	**47.92 303**	*e*P	**P**	**05 03 10.1**	**-0.7**
PGF			pmax	pmax		
	comp=Z,30nm,1.0s					
PGF	**Pioggiola**	**47.92 303**	*e*P	**P**	**05 03 10.1**	**-0.7**
	comp=Z,30nm,1.0s					
KEST	**Kesra**	**48.31 294**	*e*P	**P**	**05 03 14.0**	**+0.1**
KEST	**Kesra**	**48.31 294**	P	**P**	**05 03 14.2**	**+0.3**
	comp=Z,4.1nm,0.8s,baz=42,slow=2.0,SNR=13					
NB2	**NORSAR Subarra**	**48.71 328**	P	**P**	**05 03 15.9**	**-0.6**
	comp=Z,9.7nm,0.8s,baz=109,slow=7.4					
NOA	**NORSAR Array B**	**48.71 328**	P	**P**	**05 03 16.2**	**-0.3**
NOA	**NORSAR Array B**	**48.71 328**	P	**P**	**05 03 16.2**	**-0.3**
	comp=Z,8.2nm,0.7s,baz=108,slow=7.5,SNR=23					
CN2	**Changchun**	**48.94 55**	*e*P	**P**	**05 03 20.9**	**+2.3**
CN2			*e*S	**S**	**05 10 20.6**	**-0.9**
CN2			LR	LR		
	comp=N,360nm,18.0s					
CN2			LR	LR		
	comp=E,390nm,18.0s					
CN2			LR	LR		
	comp=Z,430nm,18.0s					
SBF	**Sospel**	**49.00 305**	*e*P	**P**	**05 03 17.8**	**-1.3**
	comp=Z,30nm,0.8s					
SBF	**Sospel**	**49.00 305**	*e*P	**P**	**05 03 17.8**	**-1.3**
SBF			pmax	pmax		
	comp=Z,30nm,0.8s					
SBF	**Sospel**	**49.00 305**	*e*P	**P**	**05 03 17.8**	**-1.3**
	comp=Z,30nm,0.8s					
CDF	**Champ du Feu**	**49.07 311**	*e*P	**P**	**05 03 18.0**	**-1.6**
CDF	**Champ du Feu**	**49.07 311**	*e*P	**P**	**05 03 18.0**	**-1.6**
CDF	**Champ du Feu**	**49.07 311**	*e*P	**P**	**05 03 18.0**	**-1.6**
HINF	**Hinteralfeld**	**49.35 310**	*e*P	**P**	**05 03 20.7**	**-1.0**
	comp=Z,5.5nm,0.5s					
HINF	**Hinteralfeld**	**49.35 310**	*e*P	**P**	**05 03 20.7**	**-1.0**
HINF			pmax	pmax		
	comp=Z,6.0nm,0.5s					
HINF	**Hinteralfeld**	**49.35 310**	*e*P	**P**	**05 03 20.7**	**-1.0**
	comp=Z,5.5nm,0.5s					
LPG	**La Plagne**	**49.44 307**	*e*P	**P**	**05 03 21.3**	**-1.4**
	comp=Z,9.2nm,0.7s					
LPG	**La Plagne**	**49.44 307**	*e*P	**P**	**05 03 21.3**	**-1.4**
LPG			pmax	pmax		
	comp=Z,9.0nm,0.7s					
LPG	**La Plagne**	**49.44 307**	*e*P	**P**	**05 03 21.3**	**-1.4**
	comp=Z,9.2nm,0.7s					
MBDF	**Montbardon**	**49.45 306**	*e*P	**P**	**05 03 21.4**	**-1.2**
	comp=Z,13nm,0.7s					
MBDF	**Montbardon**	**49.45 306**	*e*P	**P**	**05 03 21.4**	**-1.2**
MBDF			pmax	pmax		
	comp=Z,13nm,0.7s					
MBDF	**Montbardon**	**49.45 306**	*e*P	**P**	**05 03 21.4**	**-1.2**
	comp=Z,13nm,0.7s					
LPL	**La Plagne**	**49.45 307**	*e*P	**P**	**05 03 21.3**	**-1.4**
	comp=Z,6.3nm,0.6s					
LPL	**La Plagne**	**49.45 307**	*e*P	**P**	**05 03 21.3**	**-1.4**
LPL			pmax	pmax		
	comp=Z,6.0nm,0.6s					
LPL	**La Plagne**	**49.45 307**	*e*P	**P**	**05 03 21.3**	**-1.4**
	comp=Z,6.3nm,0.6s					
BNI	**Bardonecchia**	**49.50 306**	*e*P	**P**	**05 03 21.4**	**-1.6**
BNI			pmax	pmax		
	comp=Z,11nm,1.0s					
BNI	**Bardonecchia**	**49.50 306**	*e*P	**P**	**05 03 21.4**	**-1.6**
	comp=Z,11nm,1.0s					
LMR	**La Mourre**	**49.70 304**	*e*P	**P**	**05 03 23.0**	**-1.4**
	comp=Z,7.2nm,0.8s					
LMR	**La Mourre**	**49.70 304**	*e*P	**P**	**05 03 23.0**	**-1.4**
LMR			pmax	pmax		
	comp=Z,7.0nm,0.8s					
LMR	**La Mourre**	**49.70 304**	*e*P	**P**	**05 03 23.0**	**-1.4**
	comp=Z,7.2nm,0.8s					
CABF	**La Chapelle**	**49.87 308**	*e*P	**P**	**05 03 25.1**	**-0.7**
	comp=Z,52nm,1.2s					
CABF	**La Chapelle**	**49.87 308**	*e*P	**P**	**05 03 25.1**	**-0.7**
CABF			pmax	pmax		
	comp=Z,52nm,1.2s					
CABF	**La Chapelle**	**49.87 308**	*e*P	**P**	**05 03 25.1**	**-0.7**
	comp=Z,52nm,1.2s					
ORIF	**Oris-en-Rattie**	**50.07 306**	*e*P	**P**	**05 03 24.7**	**-2.6**
	comp=Z,9.1nm,0.9s					
ORIF	**Oris-en-Rattie**	**50.07 306**	*e*P	**P**	**05 03 24.7**	**-2.6**
ORIF			pmax	pmax		
	comp=Z,9.0nm,0.9s					
ORIF	**Oris-en-Rattie**	**50.07 306**	*e*P	**P**	**05 03 24.7**	**-2.6**
	comp=Z,9.1nm,0.9s					
PAGF	**Fort de Pagny**	**50.11 311**	*e*P	**P**	**05 03 26.9**	**-0.5**
PAGF	**Fort de Pagny**	**50.11 311**	*e*P	**P**	**05 03 26.9**	**-0.5**
SMRF	**Simiane la Rot**	**50.34 305**	*e*P	**P**	**05 03 27.8**	**-1.5**
SMRF	**Simiane la Rot**	**50.34 305**	*e*P	**P**	**05 03 27.8**	**-1.5**
SFTF	**Sexfontaines**	**50.56 310**	*e*P	**P**	**05 03 30.1**	**-0.8**
	comp=Z,25nm,0.6s					
SFTF	**Sexfontaines**	**50.56 310**	*e*P	**P**	**05 03 30.1**	**-0.8**
	comp=Z,25nm,0.6s					
GIVF	**Givet**	**50.71 313**	*e*P	**P**	**05 03 32.3**	**+0.4**
	comp=Z,15nm,0.8s					
GIVF	**Givet**	**50.71 313**	*e*P	**P**	**05 03 32.3**	**+0.4**
GIVF			pmax	pmax		
	comp=Z,15nm,0.8s					
GIVF	**Givet**	**50.71 313**	*e*P	**P**	**05 03 32.3**	**+0.4**
	comp=Z,15nm,0.8s					
VIVF	**Saint-Julien-l**	**50.93 306**	*e*P	**P**	**05 03 32.3**	**-1.4**
VIVF	**Saint-Julien-l**	**50.93 306**	*e*P	**P**	**05 03 32.3**	**-1.4**
VIVF	**Saint-Julien-l**	**50.93 306**	*e*P	**P**	**05 03 32.3**	**-1.4**
BAIF	**Baives**	**51.11 313**	*e*P	**P**	**05 03 35.2**	**+0.3**
	comp=Z,22nm,0.9s					
BAIF	**Baives**	**51.11 313**	*e*P	**P**	**05 03 35.2**	**+0.3**
BAIF			pmax	pmax		
	comp=Z,22nm,0.9s					
BAIF	**Baives**	**51.11 313**	*e*P	**P**	**05 03 35.2**	**+0.3**
	comp=Z,22nm,0.9s					
LOR	**Lormes**	**51.38 309**	*e*P	**P**	**05 03 35.7**	**-1.3**
	comp=Z,8.8nm,0.6s					
LOR	**Lormes**	**51.38 309**	*e*P	**P**	**05 03 35.7**	**-1.3**
	comp=Z,8.8nm,0.6s					
SMF	**Signal de Mont**	**51.42 308**	*e*P	**P**	**05 03 36.2**	**-1.1**
	comp=Z,25nm,0.6s					
SMF	**Signal de Mont**	**51.42 308**	*e*P	**P**	**05 03 36.2**	**-1.1**
SMF			pmax	pmax		
	comp=Z,25nm,0.6s					
SMF	**Signal de Mont**	**51.42 308**	*e*P	**P**	**05 03 36.2**	**-1.1**
	comp=Z,25nm,0.6s					
KSAR	**Wonju Array Be**	**51.43 63**	P	**P**	**05 03 37.7**	**+0.1**
KSRS	**Korea Array**	**51.46 63**	P	**P**	**05 03 37.7**	**-0.1**
	comp=Z,4.4nm,0.7s,baz=281,slow=7.1,SNR=11					
LASF	**Ste Croix**	**51.57 305**	*e*P	**P**	**05 03 37.3**	**-1.2**
	comp=Z,16nm,1.0s					
LASF	**Ste Croix**	**51.57 305**	*e*P	**P**	**05 03 37.3**	**-1.2**
	comp=Z,16nm,1.0s					
SSF	**Saint Saulge**	**51.63 309**	*e*P	**P**	**05 03 37.2**	**-1.7**
	comp=Z,14nm,0.7s					
SSF	**Saint Saulge**	**51.63 309**	*e*P	**P**	**05 03 37.2**	**-1.7**
SSF			pmax	pmax		
	comp=Z,14nm,0.7s					
SSF	**Saint Saulge**	**51.63 309**	*e*P	**P**	**05 03 37.2**	**-1.7**
	comp=Z,14nm,0.7s					
AVF	**Avril sur Loir**	**51.75 309**	*e*P	**P**	**05 03 38.5**	**-1.2**
	comp=Z,7.4nm,0.8s					
AVF	**Avril sur Loir**	**51.75 309**	*e*P	**P**	**05 03 38.5**	**-1.2**
AVF			pmax	pmax		
	comp=Z,7.0nm,0.8s					
AVF	**Avril sur Loir**	**51.75 309**	*e*P	**P**	**05 03 38.5**	**-1.2**
	comp=Z,7.4nm,0.8s					
MDJ	**Mudanjiang**	**51.87 54**	P	**P**	**05 03 40.5**	**-0.2**
MDJ			pmax	pmax		
	comp=Z,5.0nm,0.7s					
MDJ			pmax	pmax		
	comp=Z,110nm,5.9s					
BGF	**Bois d'Agland**	**52.11 308**	*e*P	**P**	**05 03 41.3**	**-1.2**
	comp=Z,12nm,0.7s					
BGF	**Bois d'Agland**	**52.11 308**	*e*P	**P**	**05 03 41.3**	**-1.2**
BGF			pmax	pmax		
	comp=Z,12nm,0.7s					
BGF	**Bois d'Agland**	**52.11 308**	*e*P	**P**	**05 03 41.3**	**-1.2**
	comp=Z,12nm,0.7s					
TCF	**Toulx Ste Croi**	**52.56 308**	*e*P	**P**	**05 03 44.9**	**-1.0**
	comp=Z,7.1nm,0.7s					
TCF	**Toulx Ste Croi**	**52.56 308**	*e*P	**P**	**05 03 44.9**	**-1.0**
TCF			pmax	pmax		
	comp=Z,7.0nm,0.7s					
TCF	**Toulx Ste Croi**	**52.56 308**	*e*P	**P**	**05 03 44.9**	**-1.0**
	comp=Z,7.1nm,0.7s					
CAF	**Calviac**	**52.78 306**	*e*P	**P**	**05 03 46.6**	**-0.9**
	comp=Z,10nm,0.8s					
CAF	**Calviac**	**52.78 306**	*e*P	**P**	**05 03 46.6**	**-0.9**
CAF			pmax	pmax		
	comp=Z,10.0nm,0.8s					
CAF	**Calviac**	**52.78 306**	*e*P	**P**	**05 03 46.6**	**-0.9**
	comp=Z,10nm,0.8s					
MTLF	**Montolieu**	**52.82 304**	*e*P	**P**	**05 03 46.7**	**-1.1**
	comp=Z,3.7nm,0.7s					
MTLF	**Montolieu**	**52.82 304**	*e*P	**P**	**05 03 46.7**	**-1.1**
MTLF			pmax	pmax		
	comp=Z,4.0nm,0.7s					
MTLF	**Montolieu**	**52.82 304**	*e*P	**P**	**05 03 46.7**	**-1.1**
	comp=Z,3.7nm,0.7s					
KLR	**Kul'dur**	**53.06 48**	*e*P	P	05 03 53.0	+3.5
RJF	**Les Rejaudoux**	**53.13 307**	*e*P	**P**	**05 03 49.3**	**-0.7**
	comp=Z,20nm,1.0s					
RJF	**Les Rejaudoux**	**53.13 307**	*e*P	**P**	**05 03 49.3**	**-0.7**
RJF			pmax	pmax		
	comp=Z,20nm,1.0s					
RJF	**Les Rejaudoux**	**53.13 307**	*e*P	**P**	**05 03 49.3**	**-0.7**
	comp=Z,20nm,1.0s					
USRK	**Ussuriysk Arra**	**53.62 54**	P	**P**	**05 03 55.1**	**+1.5**
	comp=Z,2.5nm,0.9s,baz=258,slow=14,SNR=2.8					
LFF	**La Frestale**	**53.71 307**	*e*P	**P**	**05 03 53.5**	**-0.8**
	comp=Z,9.7nm,0.7s					
LFF	**La Frestale**	**53.71 307**	*e*P	**P**	**05 03 53.5**	**-0.8**
LFF			pmax	pmax		
	comp=Z,10.0nm,0.7s					
LFF	**La Frestale**	**53.71 307**	*e*P	**P**	**05 03 53.5**	**-0.8**
	comp=Z,9.7nm,0.7s					
LDF	**La Druitiere**	**53.99 311**	*e*P	**P**	**05 03 55.8**	**-0.4**
	comp=Z,30nm,1.0s					
LDF	**La Druitiere**	**53.99 311**	*e*P	**P**	**05 03 55.8**	**-0.4**
LDF			pmax	pmax		
	comp=Z,30nm,1.0s					
LDF	**La Druitiere**	**53.99 311**	*e*P	**P**	**05 03 55.8**	**-0.4**
	comp=Z,30nm,1.0s					
MFF	**Saint Martin d**	**54.16 309**	*e*P	**P**	**05 03 56.7**	**-0.9**
MFF	**Saint Martin d**	**54.16 309**	*e*P	**P**	**05 03 56.7**	**-0.9**
MFF	**Saint Martin d**	**54.16 309**	*e*P	**P**	**05 03 56.7**	**-0.9**
FLN	**La Foliniere**	**54.21 311**	*e*P	**P**	**05 03 57.6**	**-0.3**
	comp=Z,40nm,1.1s					
FLN	**La Foliniere**	**54.21 311**	*e*P	**P**	**05 03 57.6**	**-0.3**
FLN			pmax	pmax		
	comp=Z,40nm,1.1s					
FLN	**La Foliniere**	**54.21 311**	*e*P	**P**	**05 03 57.6**	**-0.3**
	comp=Z,40nm,1.1s					
JNU	**Nakatsue**	**54.69 68**	P	**P**	**05 04 01.6**	**-0.1**
JNU	**Nakatsue**	**54.69 68**	P	**P**	**05 04 01.6**	**-0.1**
	comp=Z,3.5nm,0.7s,baz=297,slow=6.8,SNR=2.3					
ETSF	**Etsaut**	**54.90 304**	*e*P	**P**	**05 04 02.1**	**-1.0**
	comp=Z,14nm,0.9s					
ETSF	**Etsaut**	**54.90 304**	*e*P	**P**	**05 04 02.1**	**-1.0**
ETSF			pmax	pmax		
	comp=Z,14nm,0.9s					
ETSF	**Etsaut**	**54.90 304**	*e*P	**P**	**05 04 02.1**	**-1.0**
	comp=Z,14nm,0.9s					
SJPF	**Ste Jean**	**55.35 305**	*e*P	**P**	**05 04 05.3**	**-0.9**
SJPF	**Ste Jean**	**55.35 305**	*e*P	**P**	**05 04 05.3**	**-0.9**
SJPF	**Ste Jean**	**55.35 305**	*e*P	**P**	**05 04 05.3**	**-0.9**
SGMF	**Saint Gilles**	**55.63 311**	*e*P	**P**	**05 04 07.6**	**-0.6**
SGMF	**Saint Gilles**	**55.63 311**	*e*P	**P**	**05 04 07.6**	**-0.6**
SGMF	**Saint Gilles**	**55.63 311**	*e*P	**P**	**05 04 07.6**	**-0.6**
QUIF	**Quistinic**	**56.07 311**	*e*P	**P**	**05 04 10.4**	**-0.9**
	comp=Z,22nm,0.9s					
QUIF	**Quistinic**	**56.07 311**	*e*P	**P**	**05 04 10.4**	**-0.9**
QUIF			pmax	pmax		
	comp=Z,22nm,0.9s					
QUIF	**Quistinic**	**56.07 311**	*e*P	**P**	**05 04 10.4**	**-0.9**
	comp=Z,22nm,0.9s					
ROSF	**Rostrenen**	**56.10 311**	*e*P	**P**	**05 04 10.8**	**-0.7**
ROSF	**Rostrenen**	**56.10 311**	*e*P	**P**	**05 04 10.8**	**-0.7**
ROSF	**Rostrenen**	**56.10 311**	*e*P	**P**	**05 04 10.8**	**-0.7**
ESDC	**Sonseca Array**	**57.99 301**	P	**P**	**05 04 23.9**	**-1.3**
ESDC	**Sonseca Array**	**57.99 301**	P	**P**	**05 04 23.9**	**-1.3**
	comp=Z,3.2nm,0.7s,baz=66,slow=7.4,SNR=22					
PAB	**San Pablo**	**58.31 301**	*e*P	**P**	**05 04 26.2**	**-1.3**
PAB			pmax	pmax		
	comp=Z,213nm,1.5s					
PAB	**San Pablo**	**58.31 301**	*e*P	**P**	**05 04 26.1**	**-1.3**
	comp=Z,213nm,1.5s					
PVRL	**Vila Real**	**60.43 304**	*e*P	**P**	**05 04 41.6**	**-0.4**
	comp=Z,47nm,1.6s					
POLO	**Lamas de Olo**	**60.47 304**	*e*P	**P**	**05 04 41.5**	**-0.8**
MTE	**Manteigas**	**60.51 302**	*e*P	**P**	**05 04 42.7**	**+0.1**
	comp=Z,39nm,1.6s					
PCBR	**Castelo Branco**	**60.59 302**	*e*P	**P**	**05 04 42.7**	**-0.4**
	comp=Z,55nm,1.7s					
PMRV	**Marv??o**	**60.63 301**	*e*P	**P**	**05 04 42.5**	**-0.9**
	comp=Z,35nm,1.4s					
PGAV	**Gavieira, Arco**	**60.67 304**	*e*P	**P**	**05 04 43.2**	**-0.5**
	comp=Z,42nm,1.5s					
PBAR	**Barrancos**	**60.68 300**	*e*P	**P**	**05 04 42.2**	**-1.5**
	comp=Z,58nm,1.4s					
PVIS	**Viseu**	**60.69 303**	*e*P	**P**	**05 04 43.5**	**-0.3**
	comp=Z,33nm,1.7s					
PESTR	**Estremoz**	**60.92 301**	*e*P	**P**	**05 04 44.4**	**-0.9**
	comp=Z,27nm,2.1s					
EVO	**Evora**	**61.33 301**	⇑*i*P	**P**	**05 04 47.5**	**-0.6**
	comp=Z,14nm,0.8s					
PBEJ	**Beja**	**61.35 300**	*e*P	**P**	**05 04 46.5**	**-1.7**
	comp=Z,31nm,1.6s					
PTOM	**Tomar**	**61.35 302**	*e*P	**P**	**05 04 47.4**	**-0.8**
	comp=Z,64nm,1.4s					
EVOP	**Sao Brissos**	**61.41 301**	⇑*i*P	**P**	**05 04 47.5**	**-1.1**
EVOP			pmax	pmax		
	comp=Z,14nm,0.8s					
EVOP	**Sao Brissos**	**61.41 301**	⇑*i*P	**P**	**05 04 47.5**	**-1.1**
	comp=Z,14nm,0.8s					
TORD	**Torodi Ar. Bea**	**61.81 270**	P	**P**	**05 04 50.1**	**-1.5**
TORD	**Torodi Ar. Bea**	**61.81 270**	P	**P**	**05 04 50.1**	**-1.5**
	comp=Z,16nm,1.1s,baz=59,slow=6.5,SNR=21					
PNCL	**Nicolau / Gran**	**61.83 300**	*e*P	**P**	**05 04 51.2**	**-0.3**
	comp=Z,68nm,1.6s					
BOSA	**Boshof**	**69.24 218**	P	**P**	**05 05 38.8**	**-0.7**
BOSA	**Boshof**	**69.24 218**	P	**P**	**05 05 38.8**	**-0.7**
	comp=Z,7.2nm,1.1s,baz=47,slow=4.9,SNR=3.5					
DBIC	**Dimbokro**	**70.47 267**	P	**P**	**05 05 48.0**	**+0.7**
DBIC	**Dimbokro**	**70.47 267**	P	**P**	**05 05 48.0**	**+0.7**
	comp=Z,4.2nm,0.8s,baz=101,slow=5.5,SNR=5.8					
KIC	**Kosan Boka**	**70.51 267**	*e*P	P	05 05 52.1	+4.5
	comp=Z,62nm,1.5s					
TIC	**Toumodi**

KURBB	Kurchatov Arra	50.08	326	P	P	05 04 13.1	-0.6
	3.3nm,0.9s,baz=128,slow=7.5,SNR=11						
BVAR	Borovoye Array	55.66	326	P	P	05 04 53.7	-0.9
	1.1nm,0.6s,baz=108,slow=9.3,SNR=4.5						
AKTO	Aktyubinsk	62.07	320	P	P	05 05 39.0	0.0
	0.7nm,0.5s,baz=74,slow=7.4,SNR=3.0						

TAP 10 05:43:26.4,22°.03N×120°.39E,h46km,ML3.6,4D,D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWP	**Hsiaoliuchiu**	**0.32**	**356**	P	Pn	05 43 35.9	+0.5
TWP	baz=356			S	Sn	05 43 43.6	+1.9
HEN	**Hengchun**	**0.33**	**94**	⇓*i*P	Pn	05 43 35.6	+0.2
HEN	baz=94			*i* S	Sn	05 43 43.0	+1.2
TWK1	**Hengchun**	**0.40**	**102**	⇓*i*P	Pn	05 43 36.6	+0.4
TWK1	baz=102			*i* S	Sn	05 43 44.4	+1.3
SCZT	**Fangliau**	**0.40**	**32**	⇓*i*P	Pn	05 43 36.1	-0.2
SCZT	baz=33			*i* S	Sn	05 43 43.1	-0.2
TSEB	**Hengchuen, Pin**	**0.49**	**105**	⇓P	Pn	05 43 37.4	+0.1
TSEB	baz=106			S	Sn	05 43 45.8	+0.7
KAU	**Kaohsiung**	**0.54**	**352**	*i* P	Pn	05 43 38.3	+0.3
KAU	baz=352			*i* S	Sn	05 43 47.3	+1.1
TAW	**Tawu**	**0.57**	**55**	*e*P	Pn	05 43 38.7	+0.4
TAW	baz=55			*e*S	Sn	05 43 47.9	+1.0
SGLT	**Jiouru**	**0.70**	**8**	*e*P	Pn	05 43 41.0	+1.0
SGLT	baz=8.0			*e*S	Sn	05 43 52.9	+3.1
TWM1	**Shoushan**	**0.79**	**2**	*e*P	Pn	05 43 42.9	+1.6
TWM1	baz=2.0			*e*S	Sn	05 43 54.9	+2.8
TWG	**Pinlang**	**1.01**	**39**	P	Pn	05 43 45.0	+0.9
TWG	baz=39			S	Sn	05 43 58.7	+1.4
CHN3	**Shinhua**	**1.04**	**359**	*e*P	Pn	05 43 45.8	+1.2
CHN3	baz=358			*e*S	Sn	05 43 59.7	+1.7
SGST	**Jiashian**	**1.06**	**10**	P	Pn	05 43 45.9	+0.9
SGST	baz=10.0			S	Sn	05 43 59.5	+0.9
SCLT	**Jiali**	**1.16**	**351**	*e*S	Sn	05 44 01.9	+1.1
CHN1	**Nanshi**	**1.16**	**6**	*e*P	Pn	05 43 47.2	+1.0
CHN1	baz=6.0			*e*S	Sn	05 44 01.5	+0.6
WTP	**Ta-pu**	**1.23**	**10**	*e*P	Pn	05 43 48.4	+1.2
WTP	baz=10.0			*e*S	Sn	05 44 03.8	+1.0
ELDTW	**Lidau**	**1.29**	**27**	*e*P	Pn	05 43 48.8	+0.6
ELDTW	baz=27			*e*S	Sn	05 44 05.9	+1.4
CHN4	**Tsaushan**	**1.33**	**8**	P	Pn	05 43 49.0	+0.5
CHN4	baz=8.0			*e*S	Sn	05 44 05.6	+0.5
CHKT	**Chengkung**	**1.40**	**40**	*e*P	Pn	05 43 51.0	+1.6
CHKT	baz=40			*e*S	Sn	05 44 04.4	-2.3
WDGT	**Dungji**	**1.40**	**331**	*e*P	Pn	05 43 49.9	+0.4
WDGT	baz=331			*e*S	Sn	05 44 06.5	-0.2
CHY	**Chiayi**	**1.46**	**1**	*e*S	Sn	05 44 09.3	+1.0
TWF1	**Yuli**	**1.56**	**32**	*e*P	Pn	05 43 53.2	+1.4
TWF1	baz=32			*e*S	Sn	05 44 12.1	+1.3
CHN5	**Tsauling**	**1.58**	**10**	P	Pn	05 43 52.8	+0.7
CHN5	baz=9.0			S	Sn	05 44 11.9	+0.4
WGK	**Gukeng**	**1.66**	**6**	*e*S	Sn	05 44 14.3	+1.2
EHY	**Hungye**	**1.70**	**30**	*e*P	Pn	05 43 55.2	+1.5
EHY	baz=30			*e*S	Sn	05 44 14.9	+0.6
PNG	**Penghu**	**1.71**	**333**	*e*P	Pn	05 43 54.5	+0.7
PNG	baz=333			*e*S	Sn	05 44 14.3	-0.1
SMLT	**Sun Moon Lake**	**1.91**	**14**	P	Pn	05 43 58.3	+1.7
SMLT	baz=14			S	Sn	05 44 21.4	+2.0
TYC	**Yuchr**	**1.92**	**13**	P	Pn	05 43 57.0	+0.4
TYC	baz=13			S	Sn	05 44 19.1	-0.3
ESL	**Shilin**	**2.02**	**28**	*e*P	Pn	05 43 59.4	+1.4
ESL	baz=28			*e*S	Sn	05 44 22.9	+0.8
TCU	**Taichung**	**2.12**	**7**	*e*P	Pn	05 44 01.3	+1.8
TCU	baz=7.0			*e*S	Sn	05 44 25.3	+0.7
WHF	**Hehuan Shan**	**2.26**	**21**	P	Pn	05 44 03.6	+1.8
WHF	baz=21			S	Sn	05 44 29.5	+0.7
TWQ1	**Liyutan**	**2.33**	**9**	*e*P	Pn	05 44 03.4	+1.1
TWQ1	baz=8.0			*e*S	Sn	05 44 31.7	+1.9
NSY	**Sanyi**	**2.40**	**8**	*e*P	Pn	05 44 04.4	+1.1
NSY	baz=8.0			*e*S	Sn	05 44 32.1	+0.7
NNS	**Nan Shan**	**2.56**	**20**	*e*P	Pn	05 44 08.0	+2.3
NNS	baz=20			*e*S	Sn	05 44 37.1	+1.3
NSTT	**Nanjuang**	**2.65**	**12**	*e*P	Pn	05 44 08.2	+1.6
NSTT	baz=12			*e*S	Sn	05 44 36.5	-1.0
ENA	**Nanau**	**2.69**	**27**	*e*P	Pn	05 44 09.4	+2.2
ENA	baz=27			*e*S	Sn	05 44 40.8	+2.2
NSK	**Sanguang**	**2.78**	**19**	*e*P	Pn	05 44 09.5	+1.0
NSK	baz=18			S	Sn	05 44 41.7	+0.7
ENTT	**Nioudou**	**2.81**	**22**	*e*P	Pn	05 44 10.3	+1.4
ENTT	baz=22			*e*S	Sn	05 44 42.2	+0.5
TWC	**Suao**	**2.90**	**27**	*e*P	Pn	05 44 11.0	+1.0
TWC	baz=27			*e*S	Sn	05 44 44.3	+0.7
TWE	**Neicheng**	**2.93**	**23**	*e*P	Pn	05 44 12.4	+2.0
TWE	baz=23			*e*S	Sn	05 44 45.6	+1.3
KNM	**Kinmen**	**2.98**	**323**	*e*P	Pn	05 44 13.3	+2.1
KNM	baz=320			*e*S	Sn	05 44 46.5	+0.8

AUST ***10*** *05:54:50.3±0.6,2°.48S×129°.55E,h51km,Error ellipse: s-maj=1.3km s-min=1.0km az=312.0*

DJA 10 05:54:32.1±1.5,4°S±11°×12°8E±°,h21km,M3.3/3, MLv3.3/3,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.74**	**63**	P	Pb	05 54 46.4	0.0
AAI				S	Sb	05 54 56.9	+0.8
NLAI	**Namlea**	**0.90**	**331**	P	Pb	05 54 47.8	-1.1
NLAI				S	Sb	05 55 01.1	+0.7
BNDI	**Bandanaira**	**2.42**	**102**	P	Pb	05 55 23.6	+8.7
	baz=2.1,SNR=5.5						
FAKI	**Fak Fak**	**4.84**	**77**	P	Pn	05 55 33.6	-10
	baz=2.7,SNR=3.5						

IDC ***10*** *06:04:18.0±0.9,38°.31N×23°.94E,h0km,mb3.9/9, mb1 3.9/12,mb1mx3.8/27,mbtmp3.9/12,ML3.3/3,Error ellipse: s-maj=19.4km s-min=15.0km az=110.0*
ATH ***10*** *06:04:18.7,38°.30N×24°.05E,h23km,MD3.6/32,ML4.2*
ISCJB ***10*** *06:04:19.2±0.3,38°.30N±0°.01×24°.02E±0°.02,h13km±2km, mb3.9/9,Error ellipse: s-maj=2.1km s-min=2.0km az=147.9*
CSEM ***10*** *06:04:19.5±0.1,38°.30N×23°.98E,h8km,ML4.0,Error ellipse: s-maj=2.0km s-min=1.9km az=131.0*
THE ***10*** *06:04:19.9,38°.30N×23°.98E,h9km,ML3.7/40,Error ellipse: s-maj=0.6km s-min=0.3km az=157.0*
SKO ***10*** *06:04:23.0,38°.60N×23°.94E,h0km*
DDA ***10*** *06:04:27.7,38°.61N×24°.51E,h31km,MD3.6*
SOF ***10*** *06:04:32.9,39°.44N×24°.30E,h3km,MD3.2*

ISC 10 06:04:19.7±0.8,38°.31N±0°.01×24°.01E±0°.02,h13km±5km, n262,σ0∞91/332,mb3.8/9,10C-4D,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERET	**Eretria**	**0.21**	**310**	P	**Pg**	06 04 24.2	-0.1
ERET				S	**Sg**	06 04 27.4	-0.2
ERET	**Eretria**	**0.21**	**310**	P	**Pg**	06 04 24.3	-0.1
ERET				S	**Sg**	06 04 27.4	-0.2
PTL	**Penteli**	**0.28**	**204**	P	**Pg**	06 04 25.0	-0.6
PTL				S	**Sg**	06 04 29.0	-0.6
PTL	**Penteli**	**0.28**	**204**	*e*PB	**Pg**	06 04 25.2	-0.4
PTL				*e*SB	**Sg**	06 04 29.2	-0.4
PTL	**Penteli**	**0.28**	**204**	P	**Pg**	06 04 25.2	-0.4
PTL				*e*Sb	**Sg**	06 04 29.2	-0.4
MRMA	**Marmari**	**0.38**	**131**	P	**Pb**	06 04 28.1	-0.3
MRMA				S	**Sg**	06 04 33.4	+0.9
MRMA	**Marmari**	**0.38**	**131**	P	**Pb**	06 04 28.1	-0.3
MRMA				S	**Sg**	06 04 33.4	+0.9
ATHU	**Athens Univers**	**0.39**	**208**	P	**Pg**	06 04 26.7	-0.7
ATHU				S	**Sg**	06 04 31.8	-0.8
ATHU	**Athens Univers**	**0.39**	**208**	P	**Pg**	06 04 26.8	-0.7
ATHU				S	**Sg**	06 04 31.8	-0.8
ATH	**Athens Observa**	**0.41**	**215**	P	**Pg**	06 04 27.4	-0.4
ATH				S	**Sg**	06 04 32.8	-0.5
ATH	**Athens Observa**	**0.41**	**215**	*e*PB	**Pg**	06 04 27.4	-0.4
ATH				*e*SB	**Sg**	06 04 33.3	0.0
ATH	**Athens Observa**	**0.41**	**215**	P	**Pg**	06 04 27.4	-0.4
ATH				*e*Sb	**Sg**	06 04 33.3	0.0
MRKA	**Markates**	**0.52**	**320**	P	**Pg**	06 04 29.5	-0.4
MRKA				S	**Sg**	06 04 37.1	+0.3
MRKA	**Markates**	**0.52**	**320**	P	**Pg**	06 04 29.5	-0.4
MRKA				S	**Sg**	06 04 37.1	+0.3
NAIG	**Nisos Aigina**	**0.69**	**217**	*e*PN	**Pg**	06 04 32.3	-0.8
NAIG	**Nisos Aigina**	**0.69**	**217**	*e*Pn	**Pg**	06 04 32.3	-0.8
SMIA	**Simia**	**0.85**	**312**	P	**Pg**	06 04 35.5	-0.7
SMIA				S	**Sb**	06 04 48.1	+0.4
SMIA	**Simia**	**0.85**	**312**	P	**Pg**	06 04 35.5	-0.7
SMIA				S	**Sb**	06 04 48.1	+0.4
LKR	**Lokris**	**0.87**	**294**	P	**Pg**	06 04 35.3	-1.2
LKR				S	**Sb**	06 04 48.3	+0.2
LKR	**Lokris**	**0.87**	**294**	*e*PN	**Pg**	06 04 35.6	-0.9
LKR				*e*SN	**Sb**	06 04 48.8	+0.7
LKR	**Lokris**	**0.87**	**294**	P	**Pg**	06 04 35.3	-1.2
LKR	**Lokris**	**0.87**	**294**	*e*Pn	**Pg**	06 04 35.6	-0.9
LKR				S	**Sb**	06 04 48.3	+0.2
AOS	**Alonnisos**	**0.87**	**353**	P	**Pg**	06 04 35.7	-0.8
AOS				S	**Sb**	06 04 49.3	+1.1
AOS	**Alonnisos**	**0.87**	**353**	*e*PN	**Pg**	06 04 35.7	-0.8
AOS				*e*SN	**Sb**	06 04 48.3	+0.1
AOS	**Alonnisos**	**0.87**	**353**	P	**Pg**	06 04 35.7	-0.8
AOS				*e*Sn	**Sb**	06 04 48.3	+0.1
AOS				S	**Sb**	06 04 49.3	+1.1
LTK	**Loutraki**	**0.87**	**251**	P	**Pg**	06 04 35.6	-1.0
LTK				S	**Sb**	06 04 48.0	-0.3
LTK	**Loutraki**	**0.87**	**251**	*e*PN	**Pb**	06 04 36.4	-0.3
LTK				*e*SN	**Sb**	06 04 49.0	+0.7
LTK	**Loutraki**	**0.87**	**251**	P	**Pg**	06 04 35.9	-0.7
LTK	**Loutraki**	**0.87**	**251**	*e*Pn	**Pb**	06 04 36.4	-0.3
LTK				S	**Sb**	06 04 48.0	-0.3
LTK				*e*Sn	**Sb**	06 04 49.0	+0.7
SKIA	**Skiathos**	**0.96**	**334**	P	**Pg**	06 04 37.5	-0.7
SKIA				S	**Sb**	06 04 51.3	+0.5
SKIA	**Skiathos**	**0.96**	**334**	P	**Pg**	06 04 37.5	-0.7
SKIA				S	**Sg**	06 04 50.7	0.0
ACOR	**Acrocorinthos**	**0.99**	**246**	P	**Pg**	06 04 37.9	-1.0
ACOR				S	**Sb**	06 04 52.1	+0.2
ACOR	**Acrocorinthos**	**0.99**	**246**	P	**Pg**	06 04 37.9	-1.0
ACOR				S	**Sb**	06 04 52.1	+0.2
DID	**Didima**	**1.01**	**218**	P	**Pg**	06 04 38.1	-1.1
DID				S	**Sb**	06 04 52.9	+0.6
DID	**Didima**	**1.01**	**218**	*e*PN	**Pg**	06 04 38.1	-1.1
DID	**Didima**	**1.01**	**218**	P	**Pg**	06 04 38.1	-1.1
DID				S	**Sb**	06 04 52.9	+0.6
DIDY	**Didyma**	**1.04**	**218**	P	**Pg**	06 04 38.8	-1.1
DIDY				S	**Sb**	06 04 53.5	+0.1
DIDY	**Didyma**	**1.04**	**218**	P	**Pg**	06 04 38.8	-1.1
DIDY				S	**Sb**	06 04 53.5	+0.1
AXAR	**Agios Charalam**	**1.16**	**294**	P	**Pg**	06 04 40.5	-1.5
AXAR				S	**Sb**	06 04 56.9	+0.4
AXAR	**Agios Charalam**	**1.16**	**294**	P	**Pg**	06 04 40.5	-1.5
AXAR				S	**Sb**	06 04 56.9	+0.4
DSF	**Desfina**	**1.17**	**276**	P	**Pg**	06 04 40.5	-1.8
DSF				S	**Sb**	06 04 57.1	+0.1
DSF	**Desfina**	**1.17**	**276**	P	**Pg**	06 04 40.5	-1.8
DSF				S	**Sb**	06 04 57.1	+0.1
NEO	**Neokhori**	**1.17**	**329**	P	**Pg**	06 04 41.2	-1.1
NEO				S	**Sb**	06 04 57.9	+0.9
NEO	**Neokhori**	**1.17**	**329**	*e*PN	**Pg**	06 04 41.3	-1.1
NEO				*e*SN	**Sb**	06 04 57.4	+0.4
NEO	**Neokhori**	**1.17**	**329**	P	**Pg**	06 04 41.4	-0.9
NEO				*e*Sn	**Sb**	06 04 57.4	+0.4
XOR	**Xorichti**	**1.24**	**329**	P	**Pn**	06 04 42.3	-0.5
XOR				S	**Sg**	06 04 59.5	-0.1
XOR	**Xorichti**	**1.24**	**329**	P	**Pn**	06 04 42.3	-0.5
XOR				S	**Sg**	06 04 59.5	-0.1
KALE	**Kalithea**	**1.48**	**274**	P	**Pn**	06 04 45.8	-0.3
KALE				S	**Sn**	06 05 05.5	+0.2
KALE	**Kalithea**	**1.48**	**274**	*e*PN	**Pn**	06 04 45.8	-0.3
KALE	**Kalithea**	**1.48**	**274**	P	**Pn**	06 04 45.8	-0.3
KALE				S	**Sn**	06 05 05.5	+0.2
KLV	**Kalavryta, Ach**	**1.49**	**260**	P	**Pn**	06 04 45.8	-0.5
KLV				S	**Sn**	06 05 04.7	-1.0
KLV	**Kalavryta, Ach**	**1.49**	**260**	*e*PN	**Pn**	06 04 45.8	-0.5
KLV	**Kalavryta, Ach**	**1.49**	**260**	P	**Pn**	06 04 45.8	-0.5
KLV				S	**Sn**	06 05 04.7	-1.0
TRIZ	**Trizonia**	**1.53**	**273**	P	**Pn**	06 04 46.4	-0.3
TRIZ				S	**Sn**	06 05 06.5	+0.1
TRIZ	**Trizonia**	**1.53**	**273**	*e*PN	**Pn**	06 04 46.6	-0.1
TRIZ	**Trizonia**	**1.53**	**273**	P	**Pn**	06 04 46.6	-0.1
TRIZ				S	**Sn**	06 05 06.5	+0.1
VLX	**Vlachokerasia**	**1.60**	**235**	P	**Pn**	06 04 47.5	-0.3
VLX				S	**Sn**	06 05 07.9	-0.4
VLX	**Vlachokerasia**	**1.60**	**235**	*e*PN	**Pn**	06 04 47.7	-0.1
VLX	**Vlachokerasia**	**1.60**	**235**	P	**Pn**	06 04 47.7	-0.1
VLX				S	**Sn**	06 05 07.9	-0.4
LAKA	**Lakka**	**1.60**	**268**	P	**Pn**	06 04 47.7	-0.1
LAKA				S	**Sn**	06 05 08.2	-0.2
LAKA	**Lakka**	**1.60**	**268**	*e*PN	**Pn**	06 04 47.9	+0.1
LAKA	**Lakka**	**1.60**	**268**	P	**Pn**	06 04 47.7	-0.1
LAKA				S	**Sn**	06 05 08.2	-0.2
CHOS	**Chios island**	**1.61**	**87**	P	**Pn**	06 04 47.6	-0.3
CHOS	**Chios island**	**1.61**	**87**	*e*PN	**Pn**	06 04 47.6	-0.3
CHOS	**Chios island**	**1.61**	**87**	P	**Pn**	06 04 47.6	-0.3
MAKR	**Makrakomi, Fth**	**1.63**	**296**	P	**Pn**	06 04 48.5	+0.3
MAKR				S	**Sn**	06 05 09.6	+0.5
MAKR	**Makrakomi, Fth**	**1.63**	**296**	P	**Pn**	06 04 48.5	+0.3
MAKR				S	**Sn**	06 05 09.6	+0.5
PAIG	**Paliouri**	**1.64**	**351**	P	**Pn**	06 04 47.7	-0.6
PAIG	**Paliouri**	**1.64**	**351**	*e*PB	**Pn**	06 04 47.6	-0.7
PAIG	**Paliouri**	**1.64**	**351**	P	**Pn**	06 04 47.7	-0.6
EFP	**Efpalio**	**1.66**	**275**	P	**Pn**	06 04 48.6	0.0
EFP				S	**Sn**	06 05 09.8	0.0
EFP	**Efpalio**	**1.66**	**275**	*e*PN	**Pn**	06 04 48.7	+0.1
EFP	**Efpalio**	**1.66**	**275**	P	**Pn**	06 04 48.6	0.0
EFP				S	**Sn**	06 05 09.4	-0.4
APE	**Apeiranthos**	**1.73**	**135**	*e*PN	**Pn**	06 04 48.8	-0.7
APE				*e*SN	**Sb**	06 05 13.4	+0.4
APE	**Apeiranthos**	**1.73**	**135**	P	**Pn**	06 04 49.1	-0.4
APE	**Apeiranthos**	**1.73**	**135**	*e*PN	**Pn**	06 04 49.1	-0.4
APE	**Apeiranthos**	**1.73**	**135**	P	**Pn**	06 04 49.1	-0.4
APE				*e*Sn	**Sb**	06 05 13.4	+0.4
VLI	**Veliai**	**1.80**	**209**	P	**Pn**	06 04 50.1	-0.5
VLI	**Veliai**	**1.80**	**209**	*e*PB	**Pn**	06 04 50.0	-0.5
VLI	**Veliai**	**1.80**	**209**	P	**Pn**	06 04 50.1	-0.5
EVR	**Evrytania**	**1.83**	**290**	P	**Pn**	06 04 50.7	-0.3
EVR				S	**Sn**	06 05 13.9	-0.2
EVR	**Evrytania**	**1.83**	**290**	*e*PN	**Pn**	06 04 51.3	+0.3
EVR	**Evrytania**	**1.83**	**290**	P	**Pn**	06 04 50.8	-0.3
EVR	**Evrytania**	**1.83**	**290**	*e*Pn	**Pn**	06 04 51.3	+0.3
EVR				S	**Sn**	06 05 13.9	-0.2
LIA	**Limnos Island**	**1.83**	**29**	P	**Pn**	06 04 49.9	-1.0
LIA	**Limnos Island**	**1.83**	**29**	*e*PB	**Pn**	06 04 49.9	-1.0
LIA	**Limnos Island**	**1.83**	**29**	P	**Pn**	06 04 49.9	-1.0
PVO	**Paravola**	**1.98**	**280**	P	**Pn**	06 04 53.6	+0.7
AMT	**Artemida-Makis**	**1.98**	**248**	P	**Pn**	06 04 52.5	-0.5
AMT	**Artemida-Makis**	**1.98**	**248**	*e*PN	**Pn**	06 04 54.3	+1.3
AMT	**Artemida-Makis**	**1.98**	**248**	P	**Pn**	06 04 52.5	-0.5
AMT	**Artemida-Makis**	**1.98**	**248**	*e*Pn	**Pn**	06 04 54.3	+1.3
PRK	**Paraskevi**	**2.00**	**61**	P	**Pn**	06 04 53.4	+0.2
PRK	**Paraskevi**	**2.00**	**61**	P	**Pn**	06 04 53.4	+0.2
ITM	**Ithomi**	**2.00**	**236**	P	**Pn**	06 04 53.9	+0.7
ITM	**Ithomi**	**2.00**	**236**	*e*PN	**Pn**	06 04 54.0	+0.7
ITM	**Ithomi**	**2.00**	**236**	P	**Pn**	06 04 53.9	+0.7
THL	**Klokotos Trika**	**2.00**	**309**	P	**Pn**	06 04 53.8	+0.5
THL				S	**Sn**	06 05 18.0	-0.2
THL	**Klokotos Trika**	**2.00**	**309**	*e*PN	**Pn**	06 04 53.7	+0.5
THL	**Klokotos Trika**	**2.00**	**309**	*e*Pn	**Pn**	06 04 53.7	+0.5
THL				S	**Sn**	06 05 18.0	-0.2
RLS	**Riolos of Patr**	**2.02**	**264**	P	**Pn**	06 04 53.8	+0.3
RLS	**Riolos of Patr**	**2.02**	**264**	*e*PB	**Pn**	06 04 53.9	+0.4
RLS	**Riolos of Patr**	**2.02**	**264**	P	**Pn**	06 04 53.5	0.0
RLS	**Riolos of Patr**	**2.02**	**264**	*e*Pb	**Pn**	06 04 53.9	+0.4
OUR	**Ouranopolis**	**2.02**	**359**	P	**Pn**	06 04 53.2	-0.4
OUR	**Ouranopolis**	**2.02**	**359**	P	**Pn**	06 04 53.2	-0.4
URLA	**Izmir**	**2.03**	**88**	*i* P	**Pn**	06 04 53.5	-0.2
URLA	**Izmir**	**2.03**	**88**	*i* P	**Pn**	06 04 53.5	-0.2
DYR	**Agios Nikonas**	**2.04**	**221**	P	**Pn**	06 04 54.0	+0.2
DYR	**Agios Nikonas**	**2.04**	**221**	*e*PN	**Pn**	06 04 54.5	+0.7
DYR	**Agios Nikonas**	**2.04**	**221**	P	**Pn**	06 04 54.0	+0.2
DYR	**Agios Nikonas**	**2.04**	**221**	*e*Pn	**Pn**	06 04 54.5	+0.7
AXS	**Araxos**	**2.08**	**268**	P	**Pn**	06 04 54.4	+0.1
AXS	**Araxos**	**2.08**	**268**	P	**Pn**	06 04 54.4	+0.1
PLG	**Polygyros**	**2.11**	**348**	P	**Pn**	06 04 54.4	-0.3
PLG	**Polygyros**	**2.11**	**348**	*e*PN	**Pn**	06 04 54.5	-0.3
PLG	**Polygyros**	**2.11**	**348**	*e*Pn	**Pn**	06 04 54.5	-0.3
KYTH	**Kithira**	**2.17**	**201**	P	**Pn**	06 04 55.6	-0.1
KYTH	**Kithira**	**2.17**	**201**	*e*PN	**Pn**	06 04 55.6	-0.1
KYTH	**Kithira**	**2.17**	**201**	P	**Pn**	06 04 55.5	-0.1
BOZC	**Bozcaada**	**2.21**	**45**	*i* P	**Pn**	06 04 54.9	-1.2
BOZC				*i* S	**Sn**	06 05 20.6	-2.6
SANT	**Santorini**	**2.25**	**149**	P	**Pn**	06 04 56.7	0.0
SANT	**Santorini**	**2.25**	**149**	*e*PB	**Pn**	06 04 57.2	+0.5
SANT	**Santorini**	**2.25**	**149**	P	**Pn**	06 04 56.7	0.0
SANT	**Santorini**	**2.25**	**149**	*e*Pb	**Pn**	06 04 57.2	+0.5
PYL	**PYLOS**	**2.29**	**233**	P	**Pn**	06 04 58.4	+1.2
PYL	**PYLOS**	**2.29**	**233**	*e*PB	**Pn**	06 04 58.5	+1.2
PYL	**PYLOS**	**2.29**	**233**	P	**Pn**	06 04 58.4	+1.2
SMG	**Samos**	**2.31**	**104**	P	**Pn**	06 04 57.4	-0.1
SMG	**Samos**	**2.31**	**104**	*e*PN	**Pn**	06 04 57.3	-0.2
SMG	**Samos**	**2.31**	**104**	*e*Pn	**Pn**	06 04 57.3	-0.2
HORT	**Hortiatis**	**2.39**	**343**	P	**Pn**	06 04 58.9	+0.2
HORT				S	**Sn**	06 05 28.4	+0.4
HORT	**Hortiatis**	**2.39**	**343**	P	**Pn**	06 04 58.9	+0.2
HORT				S	**Sn**	06 05 28.4	+0.4
THE	**Thessaloniki**	**2.46**	**341**	P	**Pn**	06 04 59.4	-0.1
THE	**Thessaloniki**	**2.46**	**341**	P	**Pn**	06 04 59.4	-0.1
SMTH	**Samothraki Isl**	**2.46**	**28**	P	**Pn**	06 04 58.2	-1.4
SMTH	**Samothraki Isl**	**2.46**	**28**	P	**Pn**	06 04 58.2	-1.4
ANKY	**Antikythira Is**	**2.50**	**193**	P	**Pn**	06 04 59.6	-0.5
ANKY	**Antikythira Is**	**2.50**	**193**	*e*PN	**Pn**	06 05 00.5	+0.4
ANKY	**Antikythira Is**	**2.50**	**193**	P	**Pn**	06 04 59.6	-0.5
ANKY	**Antikythira Is**	**2.50**	**193**	*e*Pn	**Pn**	06 05 00.5	+0.4
KFL	**Anninata**	**2.55**	**267**	P	**Pn**	06 05 01.9	+1.1
KFL	**Anninata**	**2.55**	**267**	P	**Pn**	06 05 01.9	+1.1
IZM	**Izmir**	**2.56**	**87**	*e*PN	**Pn**	06 05 01.6	+0.7
IZM	**Izmir**	**2.56**	**87**	*e*Pn	**Pn**	06 05 01.6	+0.7
SOH	**Sokhos**	**2.56**	**349**	P	**Pn**	06 05 01.3	+0.3
SOH	**Sokhos**	**2.56**	**349**	*e*PN	**Pn**	06 05 01.7	+0.7
SOH	**Sokhos**	**2.56**	**349**	P	**Pn**	06 05 01.3	+0.3
SOH	**Sokhos**	**2.56**	**349**	*e*Pn	**Pn**	06 05 01.7	+0.7
KZN	**Kozani**	**2.65**	**320**	P	**Pn**	06 05 03.1	+0.9
KZN	**Kozani**	**2.65**	**320**	*e*PN	**Pn**	06 05 02.3	+0.1
KZN	**Kozani**	**2.65**	**320**	*e*Pn	**Pn**	06 05 02.3	+0.1
KZN	**Kozani**	**2.65**	**320**	P	**Pn**	06 05 03.1	+0.9
LKD2	**Lefkada island**	**2.67**	**281**	*e*PB	**Pn**	06 05 04.0	+1.5
LKD2	**Lefkada island**	**2.67**	**281**	*e*Pb	**Pn**	06 05 04.0	+1.5
VLS	**Valsamata**	**2.70**	**268**	P	**Pn**	06 05 04.6	+1.7
VLS	**Valsamata**	**2.70**	**268**	*e*PB	**Pn**	06 05 04.8	+1.9
VLS	**Valsamata**	**2.70**	**268**	P	**Pn**	06 05 04.6	+1.7
KAVA	**Kavala**	**2.71**	**8**	P	**Pn**	06 05 02.3	-0.7
KAVA	**Kavala**	**2.71**	**8**	P	**Pn**	06 05 02.3	-0.7
JAN	**Janina**	**2.81**	**300**	*e*PN	**Pn**	06 05 05.2	+0.8
JAN	**Janina**	**2.81**	**300**	*e*Pn	**Pn**	06 05 05.2	+0.8
SRS	**Serrai**	**2.82**	**354**	P	**Pn**	06 05 04.2	-0.4
SRS	**Serrai**	**2.82**	**354**	P	**Pn**	06 05 04.2	-0.4
**GELI

RZN	Rozhen	3.42	9	P		Pn	06 05 12.7	-0.2
RZN	Rozhen	3.42	9	P		Pn	06 05 12.7	-0.2
KDZ	Kurdzhali	3.51	17	P		Pn	06 05 12.8	-1.2
KDZ	Kurdzhali	3.51	17	P		Pn	06 05 12.8	-1.2
YER	Yerkesik	3.58	108	*e*PN		Pn	06 05 16.4	+1.3
YER	Yerkesik	3.58	108	*e*Pn		Pn	06 05 16.4	+1.3
KKB	Krupnik	3.62	349	P		Pn	06 05 15.5	-0.1
KKB	Krupnik	3.62	349	P		Pn	06 05 15.5	-0.1
ZKR	Zakros	3.65	150	*e*PN		Pn	06 05 17.0	+1.1
ZKR	Zakros	3.65	150	*e*Pn		Pn	06 05 17.0	+1.1
BNT	Bandirma	3.66	55	*e*PN		Pn	06 05 17.7	+1.7
BNT	Bandirma	3.66	55	*e*Pn		Pn	06 05 17.7	+1.7
KULA	Kula-Manisa	3.66	85	*e*PN		Pn	06 05 18.1	+2.0
KULA	Kula-Manisa	3.66	85	*e*Pn		Pn	06 05 18.1	+2.0
DURS	Dursunbey	3.71	68	*i* P		Pn	06 05 17.8	+1.0
DURS	Dursunbey	3.71	68	*i* P		Pn	06 05 17.8	+1.0
DST	Dursunbey	3.82	69	*e*PN		Pn	06 05 20.6	+2.3
DST	Dursunbey	3.82	69	*e*Pn		Pn	06 05 20.6	+2.3
KCTX	Karacabey (Bur	3.90	59	*e*PN		Pn	06 05 21.4	+2.0
KCTX	Karacabey (Bur	3.90	59	*e*Pn		Pn	06 05 21.4	+2.0
DALY	Dalyan (Mu˘la	3.98	111	*e*PN		Pn	06 05 22.0	+1.6
DALY	Dalyan (Mu˘la	3.98	111	*e*Pn		Pn	06 05 22.0	+1.6
EDRB	Edirne	4.11	30	*e*PN		Pn	06 05 23.8	+1.6
EDRB	Edirne	4.11	30	*e*Pn		Pn	06 05 23.8	+1.6
VTS	Vitosha	4.32	352	⇑*i*P		Pn	06 05 26.8	+1.5
VTS	Vitosha	4.32	352	*i* P		Pn	06 05 26.5	+1.2
VTS	Vitosha	4.32	352	*i* P		Pn	06 05 26.5	+1.2
BARS	Barje	4.80	340	⇑*i*Pn		Pn	06 05 32.9	+1.1
MPEP	Malo Peshtene	5.05	358	*i* P		Pn	06 05 36.0	+0.9
GRUS	Gruza	6.11	337	*e*Pn		Pn	06 05 51.2	+1.5
TRUS	Trudelj	6.50	336	*e*Pn		Pn	06 05 56.2	+1.1
BBLS	Lazići	6.55	329	⇑*i*Pn		Pn	06 05 58.1	+2.2
ARR	Arges	7.07	4	⇓*i*P		Pn	06 05 57.4	-5.6
LOT	Lotru	7.14	359	⇑*i*P		Pn	06 06 03.9	0.0
LOT	Lotru	7.14	359	⇑*i*P		Pn	06 06 03.9	0.0
GZR	Gura Zlata	7.14	353	⇑*i*P		Pn	06 06 04.2	+0.3
GZR	Gura Zlata	7.14	353	⇑*i*P		Pn	06 06 04.2	+0.3
VOIR		7.17	6	⇑*i*P		Pn	06 06 04.9	+0.6
VOIR		7.17	6	⇑*i*P		Pn	06 06 04.9	+0.6
MLR	Muntele Rosu	7.32	11	⇓*i*P		Pn	06 06 08.6	+2.1
MLR	Muntele Rosu	7.32	11	Pn		Pn	06 06 07.6	+1.1
	0.2nm,0.3s,baz=164,slow=11,SNR=7.1							
MLR	Muntele Rosu	7.32	11	⇓*i*P		Pn	06 06 08.6	+2.1
BRTR	Keskin Array B	7.63	76	Pn		Pn	06 06 12.5	+1.8
	0.1nm,0.3s,baz=256,slow=13,SNR=2.8							
PLOR	Plostina	7.79	14	⇑*i*P		Pn	06 06 15.7	+2.9
VRI	Vrincioaia	7.82	14	⇓*i*P		Pn	06 06 16.4	+3.2
KECS	Kecovo	10.49	347	*e*		Pn	06 06 56.6	+6.9
ESDC	Sonseca Array	21.76	282	P		P	06 09 10.5	-0.6
	2.1nm,0.6s,baz=74,slow=11,SNR=10.0							
HFS	Hagfors	22.81	347	P		P	06 09 22.3	+0.3
	1.6nm,0.6s,baz=134,slow=6.2,SNR=6.5							
NB2	NORSAR Subarra	24.13	345	P		P	06 09 35.0	-0.1
	comp=Z,0.2nm,0.5s,baz=143,slow=11							
NOA	NORSAR Array B	24.13	345	P		P	06 09 34.7	-0.4
	comp=Z,1.3nm,0.6s,baz=143,slow=9.5,SNR=4.8							
EKA	Eskdalemuir Ar	24.97	322	P		P	06 09 42.7	-0.1
	comp=Z,3.1nm,0.6s,baz=120,slow=9.7,SNR=14							
TORD	Torodi Ar. Bea	31.95	224	P		P	06 10 45.3	-0.2
	comp=Z,1.7nm,0.5s,baz=34,slow=9.4,SNR=13							
DBIC	Dimbokro	40.92	227	P		P	06 12 02.0	0.0
	comp=Z,3.1nm,0.5s,baz=25,slow=8.7,SNR=7.3							
MKAR	Makanchi Array	42.88	59	P		P	06 12 18.5	+0.7
	comp=Z,1.1nm,0.6s,baz=277,slow=6.6,SNR=12							
ZALV	Zalesovo Beam	43.55	48	P		P	06 12 22.5	-0.6
	comp=Z,0.6nm,0.5s,baz=264,slow=8.5,SNR=3.8							
SCHQ	Schefferville	60.21	318	P		P	06 14 27.1	-0.1
	comp=Z,4.8nm,0.9s,baz=63,slow=5.7,SNR=7.9							

*IDC **10** 06:20:55.8±0.5, 1˚.42S×99˚.31E, h0km, mb4.1/19, mb1 4.2/21, mb1mx4.1/29, mbtmp4.1/21, ML3.1/1, Error ellipse: s-maj=21.8km s-min=12.3km az=54.0*
*NEIC **10** 06:20:57.4±0.3, 1˚.51S×99˚.30E, h10km, mb4.6/3, Error ellipse: s-maj=11.8km s-min=6.5km az=59.0*
*ISCJB **10** 06:20:58.6±0.4, 1˚.45S±0˚.04×99˚.24E±0˚.04, h30km, mb4.2/21, Error ellipse: s-maj=6.8km s-min=5.5km az=43.5*
*DJA **10** 06:21:01.1±0.5, 1˚S±3˚×10˚0E±˚, h10km, M4.6/10, mb4.5/2, MLv4.7/10*

ISC 10 06:21:00.3±0.4, **1˚.37S**±0˚.05×**99˚.28E**±0˚.05, **h30**km, **n68**, σ1§**30**/73, **mb4.2**/21, **Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.27**	**69**	P	**Pn**	**06 21 20.5**	**-1.6**
PDSI				S	**Sn**	**06 21 37.0**	**-1.1**
PPI	**Padang Panjang**	**1.44**	**51**	P	**Pn**	**06 21 23.8**	**-0.6**
PPI				S	**Sb**	**06 21 44.1**	**-0.5**
BKNI	**Bangkinang**	**2.44**	**46**	P	**Pb**	**06 21 41.9**	**-1.7**
GSI	**Gunungsitoli**	**3.16**	**327**	P	**Pb**	**06 21 54.8**	**-1.0**
RGRI	**Rengat**	**3.22**	**72**	P	**Pn**	**06 21 51.3**	**+2.4**
RGRI				S	**Sb**	**06 22 37.6**	**+1.9**
MASI	**Maura Aman, Be**	**3.44**	**121**	P	**Pn**	**06 21 52.2**	**+0.2**
MBSI	**MBSI**	**3.82**	**128**	S	**Sn**	**06 22 43.2**	**+2.2**
KSI	**Kapahiang**	**4.01**	**124**	P	**Pn**	**06 22 01.8**	**+1.9**
PSI	**Prapat**	**4.16**	**355**	Pn	**Pn**	**06 22 01.1**	**-0.9**
PSI	**Prapat**	**4.16**	**355**	Pn	**Pn**	**06 22 01.1**	**-0.9**
	1.3nm,0.3s,baz=173,slow=11,SNR=7.9						
LHSI	**Lahat**	**4.89**	**120**	P	**Pn**	**06 22 13.2**	**+1.3**
EGSI	**Enggano, Bengk**	**4.96**	**143**	P	**Pn**	**06 22 10.9**	**-1.9**
KCSI	**Kotacane, Aceh**	**5.09**	**343**	P	Pn	06 22 20.7	+6.1
	40nm,0.7s						
MYKOM	**Kota Tinggi**	**5.55**	**56**	P	**Pn**	**06 22 23.6**	**+2.7**
IPM	**Ipoh**	**6.07**	**17**	*e*Pn	Pn	06 22 31.4	+3.3
	17nm,0.5s						
CMAR	**Chiang Mai Arr**	**19.71**	**359**	P	**Pn**	**06 25 28.9**	**-0.2**
CMAR	**Chiang Mai Arr**	**19.71**	**359**	P	**Pn**	**06 25 28.9**	**-0.2**
	baz=185,slow=10.0						
KAPI	**Kappang**	**20.76**	**101**	P	**P**	**06 25 37.9**	**-1.1**
KAPI	**Kappang**	**20.76**	**101**	P	**P**	**06 25 37.9**	**-1.1**
	7.2nm,0.8s,baz=272,slow=14,SNR=2.7						
FITZ	**Fitzroy Crossi**	**30.76**	**124**	P	**P**	**06 27 13.4**	**+0.1**
FITZ	**Fitzroy Crossi**	**30.76**	**124**	P	**P**	**06 27 13.4**	**+0.1**
	1.9nm,0.8s,baz=306,slow=8.4,SNR=4.0						
WRA	**Warramunga Arr**	**38.93**	**121**	P	**P**	**06 28 22.4**	**-1.5**
WRA	**Warramunga Arr**	**38.93**	**121**	P	**P**	**06 28 22.4**	**-1.5**
	1.2nm,0.5s,baz=300,slow=9.6,SNR=17						
WRAB	**Tennant Creek**	**38.94**	**121**	*e*P	**P**	**06 28 22.2**	**-1.7**
	5.8nm,0.6s						
ASAR	**Alice Springs**	**40.20**	**126**	P	**P**	**06 28 33.1**	**-1.4**
ASAR				PcP	**PcP**	**06 30 39.0**	**+0.7**
ASAR				S	**S**	**06 34 36.9**	**-2.9**
ASAR	**Alice Springs**	**40.20**	**126**	P	**P**	**06 28 33.1**	**-1.4**
	1.5nm,0.5s,baz=304,slow=7.8,SNR=16						
ASAR				PcP	**PcP**	**06 30 39.0**	**+0.7**
	0.7nm,0.7s,baz=320,slow=2.4,SNR=5.0						
ASAR				S	**S**	**06 34 36.9**	**-2.9**
	0.2nm,0.3s,baz=298,slow=16,SNR=5.2						
KSAR	**Wonju Array Be**	**46.83**	**32**	P	**P**	**06 29 27.8**	**+0.2**
KSRS	**Korea Array**	**46.86**	**32**	P	**P**	**06 29 27.8**	**0.0**
	0.9nm,0.4s,baz=225,slow=8.3,SNR=5.5						
TKM2	**Tokmak 2**	**48.98**	**337**	*e*P	**P**	**06 29 46.3**	**+1.9**
	4.6nm,0.8s						
SONM	**Songino Array**	**49.40**	**6**	P	**P**	**06 29 48.8**	**+1.4**
SONM	**Songino Array**	**49.40**	**6**	P	**P**	**06 29 48.8**	**+1.4**
	1.7nm,0.7s,baz=187,slow=8.6,SNR=3.0						
EKS2	**Erkin-Say**	**49.49**	**335**	*e*P	**P**	**06 29 50.4**	**+2.2**
	5.5nm,0.8s						
CTA	**Charters Tower**	**49.52**	**115**	P	**P**	**06 29 48.5**	**-0.1**
CTA	**Charters Tower**	**49.52**	**115**	P	**P**	**06 29 48.5**	**-0.1**
	0.8nm,0.3s,baz=270,slow=9.7,SNR=2.0						
STKA	**Stephens Creek**	**50.10**	**132**	P	**P**	**06 29 52.7**	**-0.3**
STKA	**Stephens Creek**	**50.10**	**132**	P	**P**	**06 29 52.7**	**-0.3**
	2.1nm,0.8s,baz=311,slow=8.8,SNR=5.2						
MK31	**Makanchi Array**	**50.24**	**345**	*e*P	**P**	**06 29 55.2**	**+1.5**
MKAR	**Makanchi Array**	**50.24**	**345**	P	**P**	**06 29 54.9**	**+1.2**
MKAR	**Makanchi Array**	**50.24**	**345**	P	**P**	**06 29 54.9**	**+1.2**
	2.3nm,0.6s,baz=159,slow=8.5,SNR=22						
USRK	**Ussuriysk Arra**	**53.95**	**29**	P	**P**	**06 30 19.5**	**-1.9**
	1.4nm,0.6s,baz=245,slow=5.5,SNR=3.0						
ZAA0	**Zalesovo Array**	**56.42**	**350**	P	**P**	**06 30 36.2**	**-2.7**
ZALV	**Zalesovo Beam**	**56.42**	**350**	P	**P**	**06 30 38.9**	**0.0**
ZALV	**Zalesovo Beam**	**56.42**	**350**	P	**P**	**06 30 38.9**	**0.0**
	1.8nm,0.6s,baz=182,slow=5.6,SNR=6.3						
KMBO	**Kilima Mbogo**	**62.01**	**269**	P	**P**	**06 31 18.2**	**-0.6**
KMBO	**Kilima Mbogo**	**62.01**	**269**	P	**P**	**06 31 18.2**	**-0.6**
	1.0nm,0.5s,baz=233,slow=20,SNR=2.2						
AKTO	**Aktyubinsk**	**62.47**	**332**	P	**P**	**06 31 20.9**	**+0.1**
AKTO	**Aktyubinsk**	**62.47**	**332**	P	**P**	**06 31 20.9**	**+0.1**
	1.8nm,0.4s,baz=124,slow=7.3,SNR=6.3						
KBZ	**Khabaz**	**67.36**	**319**	P	**P**	**06 31 51.9**	**-0.9**
KBZ	**Khabaz**	**67.36**	**319**	P	**P**	**06 31 51.9**	**-0.9**
	2.2nm,0.6s,baz=136,slow=5.4,SNR=5.4						
BRTR	**Keskin Array B**	**72.37**	**313**	P	**P**	**06 32 24.2**	**+0.3**
BRTR	**Keskin Array B**	**72.37**	**313**	P	**P**	**06 32 24.2**	**+0.3**
	1.1nm,0.7s,baz=128,slow=6.5,SNR=5.2						
BUR08	**Bucovina Ar. S**	**80.33**	**319**	*e*P	**P**	**06 33 10.8**	**+2.0**
VNDA	**Vanda**	**82.91**	**169**	P	**P**	**06 33 21.3**	**-0.5**
VNDA	**Vanda**	**82.91**	**169**	P	**P**	**06 33 21.3**	**-0.5**
	0.8nm,0.8s,baz=301,slow=3.4,SNR=4.3						
FINES	**FINESS Array B**	**83.22**	**332**	P	**P**	**06 33 24.8**	**+1.2**
FINES	**FINESS Array B**	**83.22**	**332**	P	**P**	**06 33 24.8**	**+1.2**
	1.2nm,0.6s,baz=94,slow=4.3,SNR=5.9						
GERES	**GERESS Array B**	**88.10**	**319**	P	**P**	**06 33 49.5**	**+1.2**
GERES	**GERESS Array B**	**88.10**	**319**	P	**P**	**06 33 49.5**	**+1.2**
	0.7nm,0.3s,baz=90,slow=4.3,SNR=4.6						
QSPA	**South Pole Qui**	**88.59**	**180**	P	**P**	**06 33 51.3**	**+1.0**
QSPA	**South Pole Qui**	**88.59**	**180**	P	**P**	**06 33 51.3**	**+1.0**
	1.4nm,0.5s,baz=265,slow=0.4,SNR=19						
CPUP	**Villa Florida**	**144.38**	**218**	PKP	**PKPdf**	**06 40 34.1**	**-0.3**
CPUP	**Villa Florida**	**144.38**	**218**	PKP	**PKPdf**	**06 40 34.1**	**-0.3**
	4.2nm,0.6s,baz=129,slow=1.1,SNR=5.1						
TXAR	**Lajitas Array**	**144.63**	**36**	PKP	**PKPdf**	**06 40 34.4**	**-0.6**
TXAR	**Lajitas Array**	**144.63**	**36**	PKP	**PKPdf**	**06 40 34.4**	**-0.6**
	1.0nm,0.6s,baz=207,slow=0.7,SNR=6.1						
MIAR	**Mount Ida**	**144.88**	**19**	*e*PKPdf	**PKPdf**	**06 40 35.0**	**-0.2**
CFAA	**Coronel Fontan**	**145.13**	**199**	PKPbc	**PKPdf**	**06 40 36.6**	**+0.9**
CFAA	**Coronel Fontan**	**145.13**	**199**	PKPbc	**PKPdf**	**06 40 36.6**	**+0.9**
	2.0nm,0.6s,baz=198,slow=2.6,SNR=44						
JCT	**Junction City**	**145.86**	**30**	*e*PKPbc	**PKPab**	**06 40 38.5**	**+0.5**

IDC 10 06:29:50.8±0.8, **59˚.86S**×**28˚.65W**, **h0**km, **mb3.9**/8, **mb1 4.0**/8, **mb1mx4.0**/16, **mbtmp3.9**/8, **MS3.8**/9, **Ms1 3.8**/9, **ms1mx3.7**/15, **Error ellipse: s-maj=28.4km s-min=19.0km az=53.0, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**15.69**	**149**	Pn	Pn	06 33 32.8	-0.1
	baz=299,slow=13,SNR=1.8						
SNAA				LR	LR	06 38 41.3	
	comp=Z,65nm,19.7s,baz=272,slow=34						
PMSA	**Palmer Station**	**17.00**	**238**	LR	LR	06 39 17.3	
	comp=Z,480nm,19.0s,baz=242,slow=33						
USHA	**Ushuaia**	**21.80**	**266**	LR	LR	06 40 38.7	
	comp=Z,695nm,21.3s,baz=133,slow=30						
QSPA	**South Pole Qui**	**30.38**	**180**	P	P	06 36 04.6	+0.4
	2.0nm,0.9s,baz=184,slow=7.5,SNR=4.2						
PLCA	**Paso Flores**	**32.16**	**288**	P	P	06 36 20.0	0.0
	44nm,0.6s,baz=216,slow=15,SNR=50						
MAW	**Mawson**	**37.60**	**141**	P	P	06 37 06.0	-0.3
	1.6nm,0.6s,baz=258,slow=9.3,SNR=2.2						
MAW				LR	LR	06 50 28.5	
	comp=Z,150nm,20.4s,baz=232,slow=33						
CPUP	**Villa Florida**	**38.91**	**317**	P	P	06 37 17.4	-0.5
	0.5nm,0.4s,baz=136,slow=10,SNR=3.6						
CPUP				LR	LR	06 51 36.9	
	comp=Z,119nm,19.8s,baz=143,slow=34						
VNDA	**Vanda**	**42.72**	**183**	P	P	06 37 48.6	-0.2
	0.4nm,0.7s,baz=192,slow=9.3,SNR=3.0						
VNDA				LR	LR	06 55 56.6	
	comp=Z,96nm,18.2s,baz=171,slow=37						
BOSA	**Boshof**	**47.72**	**74**	LR	LR	06 54 14.2	
	comp=Z,92nm,18.2s,baz=30,slow=31						
LBTB	**Lobatse**	**50.91**	**72**	P	P	06 38 55.0	+1.4
	2.0nm,0.7s,baz=209,slow=10,SNR=2.5						
LPAZ	**La Paz**	**52.07**	**309**	P	P	06 39 03.4	+0.3
	2.2nm,1.1s,baz=225,slow=5.7,SNR=3.6						
LPAZ				LR	LR	06 57 20.1	
	comp=Z,74nm,20.2s,baz=65,slow=32						
DBIC	**Dimbokro**	**68.96**	**25**	LR	LR	07 03 38.6	
	comp=Z,101nm,20.4s,baz=235,slow=29						
TORD	**Torodi Ar. Bea**	**76.76**	**30**	P	P	06 41 42.6	-1.1
	0.6nm,0.7s,baz=190,slow=6.8,SNR=5.9						
ASAR	**Alice Springs**	**95.55**	**164**	P	P	06 43 16.1	-1.6
	0.4nm,0.8s,baz=195,slow=6.7,SNR=3.6						
SONM	**Songino Array**	**151.47**	**95**	PKPbc	PKPbc	06 49 45.9	+0.3
	1.3nm,0.6s,baz=209,slow=2.6,SNR=2.5						
ILAR	**Eielson Array**	**151.93**	**307**	PKPbc	PKPbc	06 49 46.6	+0.7
	0.8nm,0.8s,baz=55,slow=1.3,SNR=3.1						

IDC 10 07:05:39.4±1.0, **28˚.49N**×**142˚.12E**, **h0**km, **mb3.8**/7, **mb1 4.0**/8, **mb1mx3.8**/23, **mbtmp3.8**/8, **ML3.6**/1, **MS3.0**/2, **Ms1 3.0**/2, **ms1mx2.4**/30, **Error ellipse: s-maj=29.7km s-min=26.9km az=68.0, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNU	**Nakatsue**	**10.71**	**298**	LR	LR	07 12 01.5	
	comp=Z,72nm,19.1s,baz=64,slow=36						
KSRS	**Korea Array**	**14.88**	**311**	Pn	Pn	07 09 12.9	+1.9
	0.2nm,0.3s,baz=118,slow=12,SNR=2.4						
KSRS				LR	LR	07 14 51.1	
	comp=Z,52nm,19.2s,baz=156,slow=37						
ZALV	**Zalesovo Beam**	**48.40**	**318**	P	P	07 14 22.7	-0.4
	1.1nm,0.4s,baz=108,slow=8.1,SNR=5.1						
WRA	**Warramunga Arr**	**48.73**	**190**	P	P	07 14 25.9	-0.1
	1.7nm,0.6s,baz=14,slow=8.6,SNR=16						
MKAR	**Makanchi Array**	**49.55**	**309**	P	P	07 14 31.6	-0.5
	1.0nm,0.8s,baz=92,slow=8.9,SNR=9.3						
ILAR	**Eielson Array**	**56.52**	**29**	P	P	07 15 23.2	0.0
	0.4nm,0.8s,baz=261,slow=5.2,SNR=4.2						
NVAR	**Mina Array Bea**	**79.70**	**52**	P	P	07 17 50.1	+0.5
	0.2nm,0.7s,baz=292,slow=4.8,SNR=2.6						
BRTR	**Keskin Array B**	**85.01**	**313**	P	P	07 18 17.5	+0.3
	1.0nm,0.6s,baz=98,slow=3.7,SNR=5.1						
TXAR	**Lajitas Array**	**94.81**	**53**	P	P	07 19 02.7	-0.9
	0.2nm,0.7s,baz=298,slow=1.9,SNR=2.6						

MEX 10 07:22:04.3±1.1, **17˚.64N**×**101˚.03W**, **h20**km±29km, **MD3.6, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.42**	**266**	*i* P	Pb	07 22 11.0	-2.0
ZIIG				*i* S	Sb	07 22 18.1	-0.9
ARIG	**Puente Sto Nin**	**0.91**	**45**	*e*P	Pb	07 22 18.1	-3.4
ARIG				*i* S	Sb	07 22 30.2	-3.1
CAIG	**El Cayaco**	**0.93**	**129**	*i* P	Pb	07 22 18.6	-3.1
CAIG				*i* S	Sb	07 22 31.1	-2.6
PLIG	**Platanillo**	**1.63**	**62**	*i* P	Pn	07 22 28.8	-3.3
PLIG				*i* S	Sn	07 22 48.0	-4.6
MOIG	**Morelia**	**2.04**	**356**	*i* P	Pn	07 22 35.8	-2.1
MOIG				*i* S	Sn	07 22 59.7	-3.2
PPM	**Popocatepetl**	**2.69**	**58**	*e*P	Pn	07 22 45.3	-1.8
PPM				*i* S	Sn	07 23 16.8	-2.7

*ISCJB **10** 07:50:36.8±1.2, 1˚.6S±0˚.1×99˚.31E±0˚.09, h30km, mb3.7/3, Error ellipse: s-maj=15.0km s-min=13.0km az=5.5*
*IDC **10** 07:50:36.5±3.5, 1˚.40S×99˚.82E, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.6/24, mbtmp3.6/4, ML4.3/1, Error ellipse: s-maj=139.5km s-min=21.9km az=60.0*
*DJA **10** 07:50:39.1±1.5, 2˚S±14˚×10˚0E±1˚2, h10km, M4.2/3, MLv4.2/3*

ISC 10 07:50:39.2±1.3, **1˚.5S**±0˚.1×**99˚.52E**±0˚.09, **h30**km, **n10**, σ1§**16**/11, **mb3.7**/3, **Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.12**	**57**	P	**Pn**	**07 50 58.7**	**-0.3**
PDSI				S	**Sb**	**07 51 15.9**	**+1.5**
PPI	**Padang Panjang**	**1.38**	**40**	P	**Pn**	**07 51 02.6**	**+0.2**
SDSI	**Sungai Dareh**	**2.00**	**73**	P	**Pb**	**07 51 13.0**	**-2.0**
BKNI	**Bangkinang**	**2.39**	**40**	P	**Pb**	**07 51 20.6**	**-0.9**
PSI	**Prapat**	**4.34**	**352**	Pn	**Pn**	**07 51 42.0**	**-1.2**
	0.3nm,0.3s,baz=172,slow=11,SNR=3.7						
CMAR	**Chiang Mai Arr**	**19.86**	**358**	P	**P**	**07 55 08.2**	**+0.1**
	0.3nm,0.3s,baz=182,slow=9.7,SNR=4.0						
WRA	**Warramunga Arr**	**38.65**	**121**	P	**P**	**07 58 00.3**	**-0.1**
	0.9nm,0.6s,baz=297,slow=9.0,SNR=14						
ASAR	**Alice Springs**	**39.92**	**126**	P	**P**	**07 58 11.5**	**+0.5**
	0.5nm,0.6s,baz=302,slow=7.7,SNR=8.7						
ZALV	**Zalesovo Beam**	**56.62**	**350**	P	**P**	**08 00 20.6**	**+1.4**
	0.9nm,0.5s,baz=186,slow=5.8,SNR=2.6						
TXAR	**Lajitas Array**	**144.61**	**36**	PKP	**PKPdf**	**08 10 13.9**	**+0.1**
	0.6nm,0.6s,baz=279,slow=0.7,SNR=9.0						

NNC 10 07:55:36.1±5.0, **53˚.50N**×**87˚.39E**, **h1**km±29km, **mb3.8, mpv3.5, 5C-2D, Error ellipse: s-maj=36.2km s-min=23.6km az=60.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**6.17**	**246**	⇑Pn	Pn	07 57 08.3	0.0
	3.5nm,0.4s						
KURBB				⇑Sn	Sn	07 58 21.2	+1.8
	5.1nm,0.4s						
KURBB				⇓Lg	Lg	07 58 50.6	
	14nm,0.7s						
MK31	**Makanchi Array**	**7.46**	**208**	Pn	Pn	07 57 26.1	0.0
	0.9nm,0.6s,baz=29,slow=14,SNR=24						
MK31				⇑Sn	Sn	07 58 52.4	+1.0
	0.4nm,0.5s,baz=27,slow=23,SNR=4.4						
MK31				⇑Lg	Lg	07 59 33.8	
	5.6nm,1.0s,baz=37,slow=33,SNR=5.8						
VOSK	**Vostochnaya**	**9.90**	**272**	⇓Pn	Pn	07 58 00.0	+0.6
	1.6nm,0.8s						
VOSK				⇑Sn	Sn	07 59 50.7	-0.4
	1.6nm,0.7s						

*IDC **10** 08:16:15.1±1.0, 6˚.75N×126˚.31E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.7/26, mbtmp3.7/7, Error ellipse: s-maj=62.1km s-min=18.2km az=73.0*
*ISCJB **10** 08:16:22.3±0.7, 6˚.45N±0˚.06×126˚.09E±0˚.06, h63km±7km, mb3.5/7, Error ellipse: s-maj=10.7km s-min=9.8km az=137.7*
*MAN **10** 08:16:23, 6˚.61N×126˚.14E, h47km, mb4.3, ML3.1, MS2.9*

ISC 10 08:16:22.9±1.3, **6˚.39N**±0˚.07×**126˚.08E**±0˚.07, **h45**km±15km, **n15**, σ1§**32**/19, **mb3.6**/7, **2C-3D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.58**	**17**	*e*P	**Pn**	**08 16 34.8**	**-0.2**
MATI				*e*S	**Sn**	**08 16 42.7**	**-0.8**
DMPH	**Davao City--Mi**	**0.90**	**320**	⇓*i*P	**Pn**	**08 16 39.8**	**+0.7**
DMPH				*i* S	**Sn**	**08 16 52.0**	**+1.0**
KCP	**Kidapawan**	**1.16**	**302**	⇓*i*P	**Pn**	**08 16 43.0**	**+0.1**
KCP				*i* S	**Sn**	**08 16 57.6**	**0.0**
GSPH	**General Santos**	**1.17**	**255**	⇑*i*P	**Pn**	**08 16 42.0**	**-0.9**
GSPH				*e*S	**Sn**	**08 16 57.3**	**-0.5**
BUKP	**Musuan**	**1.79**	**326**	*e*P	**Pn**	**08 16 51.5**	**+0.1**
BUKP				*e*S	**Sn**	**08 17 13.0**	**-0.1**
CTBH	**Cotabato--PC H**	**2.00**	**295**	⇑*i*P	**Pn**	**08 16 54.6**	**+0.3**
CGP	**Cagayan de Oro**	**2.47**	**326**	⇓*e*P	**Pn**	**08 17 03.6**	**+2.9**
SCPH	**Surigao**	**3.42**	**350**	*e*P	**Pn**	**08 17 13.4**	**-0.4**
FITZ	**Fitzroy Crossi**	**24.34**	**181**	P	**P**	**08 21 38.0**	**+1.4**
	0.8nm,0.4s,baz=356,slow=9.8,SNR=6.5						
WRA	**Warramunga Arr**	**27.40**	**163**	P	**P**	**08 22 05.0**	**+0.6**
	0.4nm,0.4s,baz=340,slow=9.8,SNR=17						
ASAR	**Alice Springs**	**30.83**	**166**	P	**P**	**08 22 35.6**	**+0.7**
	0.5nm,0.5s,baz=337,slow=7.6,SNR=10						
STKA	**Stephens Creek**	**40.83**	**160**	P	**P**	**08 24 01

baz=5.3,SNR=3.1
FITZ Fitzroy Crossi 10.38 145 Pn **Pn 08 42 24.5 +0.2**
0.4nm,0.3s,baz=332,slow=11,SNR=18
FITZ Fitzroy Crossi 10.38 145 P **Pn 08 42 24.9 +0.7**
baz=10,SNR=7.6
FITZ S **Sn 08 44 18.6 -0.6**
baz=10,SNR=6.2
BNDI Bandanaira 11.57 65 S Sn 08 44 17.3 -31
baz=12,SNR=6.1
MTN Manton Dam 11.94 107 P **Pn 08 42 46.0 +0.5**
baz=12,SNR=3.6
WRA Warramunga Arr 17.70 127 P **Pn 08 43 59.5 -1.5**
0.1nm,0.3s,baz=301,slow=12,SNR=4.1
WRA S Sn 08 47 08.0 -10
0.1nm,0.3s,baz=307,slow=23,SNR=5.4
ASAR Alice Springs 19.68 137 P **P 08 44 22.7 -0.3**
0.2nm,0.5s,baz=318,slow=10,SNR=3.0
MKAR Makanchi Array 65.18 333 P P 08 50 24.6 -9.3
0.1nm,0.4s,baz=125,slow=7.6,SNR=3.1

NIED ***10*** *08:45:00,24.°00N×123.°60E,h35km,Mw4.1 Best double couple: M0:1.40000×1015 NP1:φ=58.00000°,δ71.00000°,λ85.00000°. NP2:φ=254.00000°,δ20.00000°,λ105.00000°.*
IDC ***10*** *08:45:36.9±0.9,23.°97N×123.°39E,h0km,mb3.8/8, mb1 3.9/9,mb1mx3.7/24,mbtmp3.7/9,ML3.4/1,MS3.2/3, Ms1 3.2/3,ms1mx2.7/37,Error ellipse: s-maj=44.0km s-min=19.1km az=68.0*
ISCJB ***10*** *08:45:41.0±0.9,23.°94N±0.°08×123.°55E±0.°06,h41km±7km, mb3.6/8,MS3.2/2,Error ellipse: s-maj=13.7km s-min=8.3km az=10.2*
JMA ***10*** *08:45:41.7±0.2,23.°96N×123.°58E,h32km±2km,M4.0*
JMA Felt I J1.
ISC 10 08:45:41.4±1.4,23.°95N±0.°09×123.°54E±0.°07,h30km±8km, n21,σ0.°87/26,mb3.7/8,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.27**	**67**	P	**Pb**	**08 45 48.2**	**-0.2**
HATJ				*e*S	**Sb**	**08 45 53.2**	**+0.1**
IRIF	**Iriomote-Funau**	**0.42**	**25**	P	**Pb**	**08 45 50.4**	**-0.2**
IRIF				*e*S	**Sb**	**08 45 56.7**	**-0.1**
JKRS	**Kuro-shima**	**0.52**	**56**	P	**Pb**	**08 45 51.8**	**-0.3**
JKRS				*e*S	**Sb**	**08 45 59.3**	**-0.1**
JIJ	**Ishigaki jima**	**0.69**	**53**	P	**Pb**	**08 45 54.0**	**-0.9**
JIJ				*e*S	**Sb**	**08 46 03.0**	**-1.2**
YOJ	**Yonaguni jima**	**0.70**	**317**	P	**Pn**	**08 45 55.7**	**+0.5**
YOJ				*e*S	**Sn**	**08 46 06.0**	**+1.0**
JTJ	**Tarama**	**1.27**	**57**	P	**Pb**	**08 46 03.8**	**-0.8**
JTJ				*e*S	**Sb**	**08 46 20.4**	**-0.1**
JMJ	**Miyako jima 2**	**1.82**	**61**	P	**Pb**	**08 46 13.6**	**-0.4**
JOGS	**Gusukube**	**1.89**	**64**	P	**Pb**	**08 46 14.1**	**-1.0**
JOGS				*e*S	**Sb**	**08 46 40.3**	**+2.0**
JKE	**Kume jima 2**	**3.78**	**51**	P	**Pn**	**08 46 38.3**	**+0.7**
KSRS	**Korea Array**	**13.97**	**15**	Pn	**Pn**	**08 48 58.0**	**+0.7**
0.2nm,0.3s,baz=201,slow=12,SNR=2.7							
KSRS				LR	LR	08 53 57.6	
comp=Z,41nm,20.6s,baz=205,slow=36							
USRK	**Ussuriysk Arra**	**21.36**	**17**	LR	LR	08 58 36.5	
comp=Z,61nm,18.9s,baz=234,slow=36							
SONM	**Songino Array**	**27.46**	**334**	LR	LR	09 03 43.3	
comp=Z,96nm,18.6s,baz=48,slow=40							
MKAR	**Makanchi Array**	**40.01**	**315**	P	**P**	**08 53 12.9**	**-0.6**
0.8nm,0.6s,baz=105,slow=11,SNR=10							
ZALV	**Zalesovo Beam**	**41.62**	**326**	P	**P**	**08 53 24.7**	**-2.0**
1.2nm,0.5s,baz=112,slow=6.6,SNR=4.6							
KURBB	**Kurchatov Arra**	**43.68**	**319**	P	**P**	**08 53 42.8**	**-0.6**
0.4nm,0.3s,baz=116,slow=9.2,SNR=5.0							
WRA	**Warramunga Arr**	**44.88**	**166**	P	**P**	**08 53 53.4**	**+0.1**
0.7nm,0.6s,baz=346,slow=8.9,SNR=8.4							
ASAR	**Alice Springs**	**48.39**	**167**	P	**P**	**08 54 21.4**	**+0.5**
0.2nm,0.5s,baz=357,slow=14,SNR=6.4							
ILAR	**Eielson Array**	**68.43**	**27**	P	**P**	**08 56 40.6**	**+0.5**
0.1nm,0.5s,baz=270,slow=4.9,SNR=3.9							
BRTR	**Keskin Array B**	**75.03**	**307**	P	**P**	**08 57 20.9**	**+0.3**
0.9nm,0.6s,baz=86,slow=5.6,SNR=4.4							
NB2	**NORSAR Subarra**	**79.42**	**333**	P	**P**	**08 57 43.9**	**-0.7**
comp=Z,0.7nm,0.5s,baz=52,slow=5.9							
NOA	**NORSAR Array B**	**79.42**	**333**	P	**P**	**08 57 43.7**	**-0.9**
comp=Z,0.7nm,0.5s,baz=54,slow=5.6,SNR=4.9							

IDC ***10*** *09:07:10.3±1.4,40.°91S×174.°28E,h0km,mb3.3/2, mb1 3.5/3,mb1mx3.5/14,mbtmp3.3/3,ML3.0/1,Error ellipse: s-maj=41.6km s-min=24.2km az=151.0*
ISCJB ***10*** *09:07:18.4±0.2,40.°73S±0.°02×174.°31E±0.°04,h80km, mb3.2/2,Error ellipse: s-maj=4.1km s-min=2.8km az=26.6*
WEL ***10*** *09:07:19.8±0.2,40.°73S×174.°35E,h72km±3km,ML4.1/18, Error ellipse: s-maj=1.1km s-min=0.9km az=90.0*
WEL Felt from Manawatu to Nelson, maximum reported intensity MM 4.
NEIC ***10*** *09:07:20.2,40.°72S×174.°36E,h65km,ML4.1(WEL),After WEL.*
ISC 10 09:07:19.0±0.9,40.°72S±0.°03×174.°32E±0.°03,h80km,n163, σ0.°95/170,13C-9D,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUWZ	**D'Urville Isla**	**0.32**	**254**	↓PN	**Pn**	**09 07 29.7**	**-1.7**
DUWZ				SN	**Sn**	**09 07 37.4**	**-3.1**
DUWZ	**D'Urville Isla**	**0.32**	**254**	Pn	**Pn**	**09 07 29.8**	**-1.7**
DUWZ				Sn	**Sn**	**09 07 37.4**	**-3.1**
KIW	**Kapiti Island**	**0.47**	**108**	↓PN	**Pn**	**09 07 32.0**	**-0.5**
KIW				AML	AML	09 07 41.4	
KIW				AML	AML	09 07 41.7	
KIW	**Kapiti Island**	**0.47**	**108**	Pn	**Pn**	**09 07 32.0**	**-0.5**
TCW	**Tory Channel**	**0.50**	**184**	↓PN	**Pn**	**09 07 32.4**	**-0.4**
TCW				AML	AML	09 07 42.9	
TCW				AML	AML	09 07 43.0	
TCW	**Tory Channel**	**0.50**	**184**	Pn	**Pn**	**09 07 32.4**	**-0.4**
OGWZ	**Otaki Gorge**	**0.65**	**99**	↓PN	**Pn**	**09 07 34.1**	**-0.1**
OGWZ	**Otaki Gorge**	**0.65**	**99**	Pn	**Pn**	**09 07 34.1**	**-0.1**
SNZO	**South Karori**	**0.66**	**154**	PN	**Pn**	**09 07 34.4**	**+0.2**
SNZO				AML	AML	09 07 46.2	
SNZO				AML	AML	09 07 46.2	
SNZO				AML	AML	09 07 46.2	
SNZO				AML	AML	09 07 46.2	
SNZO	**South Karori**	**0.66**	**154**	Pn	**Pn**	**09 07 34.4**	**+0.2**
WEL	**Wellington**	**0.66**	**149**	↑PN	**Pn**	**09 07 34.5**	**+0.3**
WEL	**Wellington**	**0.66**	**149**	Pn	**Pn**	**09 07 34.5**	**+0.3**
CAW	**Cannon Point**	**0.69**	**125**	PN	**Pn**	**09 07 34.6**	**0.0**
CAW				SN	**Sn**	**09 07 46.5**	**+0.4**
CAW				AML	AML	09 07 48.4	
CAW	**Cannon Point**	**0.69**	**125**	Pn	**Pn**	**09 07 34.6**	**0.0**
CAW				Sn	**Sn**	**09 07 46.5**	**+0.4**
TUWZ	**Tuamarina**	**0.77**	**202**	↓PN	**Pn**	**09 07 35.2**	**-0.2**
TUWZ				AML	AML	09 07 47.5	
TUWZ				AML	AML	09 07 48.6	
TUWZ	**Tuamarina**	**0.77**	**202**	Pn	**Pn**	**09 07 35.2**	**-0.2**
BHW	**Baring Head**	**0.81**	**149**	PN	**Pn**	**09 07 35.9**	**+0.1**
BHW				AML	AML	09 07 51.2	
BHW				AML	AML	09 07 52.3	
BHW	**Baring Head**	**0.81**	**149**	Pn	**Pn**	**09 07 35.9**	**+0.1**
NNZ	**Nelson**	**0.87**	**235**	↓PN	**Pn**	**09 07 36.3**	**-0.2**
NNZ	**Nelson**	**0.87**	**235**	Pn	**Pn**	**09 07 36.3**	**-0.2**
HOWZ	**Holdsworth Sta**	**0.92**	**102**	PN	**Pn**	**09 07 36.9**	**-0.2**
HOWZ	**Holdsworth Sta**	**0.92**	**102**	Pn	**Pn**	**09 07 36.9**	**-0.2**
MRZ	**Mangatainoka R**	**0.96**	**87**	↓PN	**Pn**	**09 07 37.3**	**-0.3**
MRZ				AML	AML	09 07 53.7	
MRZ				AML	AML	09 07 58.1	
MRZ	**Mangatainoka R**	**0.96**	**87**	Pn	**Pn**	**09 07 37.3**	**-0.3**
MSWZ	**Moikau Station**	**0.99**	**135**	PN	**Pn**	**09 07 38.0**	**+0.1**
MSWZ				AML	AML	09 07 56.3	
MSWZ				AML	AML	09 07 57.5	
MSWZ	**Moikau Station**	**0.99**	**135**	Pn	**Pn**	**09 07 38.0**	**+0.1**
MSWZ				Sn	**Sn**	**09 07 55.1**	**+3.0**
MTW	**Mount Morrison**	**1.00**	**117**	PN	**Pn**	**09 07 37.9**	**-0.1**
MTW				AML	AML	09 07 57.6	
MTW				AML	AML	09 07 58.7	
MTW	**Mount Morrison**	**1.00**	**117**	Pn	**Pn**	**09 07 37.9**	**-0.1**
CMWZ	**Cape Campbell**	**1.03**	**184**	PN	**Pn**	**09 07 40.0**	**+1.5**
CMWZ				AML	AML	09 08 00.5	
CMWZ				AML	AML	09 08 01.0	
CMWZ	**Cape Campbell**	**1.03**	**184**	Pn	**Pn**	**09 07 40.0**	**+1.5**
BSWZ	**Blackbirch Sta**	**1.05**	**198**	PN	**Pn**	**09 07 39.5**	**+0.9**
BSWZ				AML	AML	09 07 58.6	
BSWZ				AML	AML	09 07 60.0	
BSWZ	**Blackbirch Sta**	**1.05**	**198**	Pn	**Pn**	**09 07 39.5**	**+0.9**
PAWZ	**Paruwai Farm**	**1.07**	**129**	↑PN	**Pn**	**09 07 38.9**	**0.0**
PAWZ				AML	AML	09 07 59.4	
PAWZ				AML	AML	09 08 00.3	
PAWZ	**Paruwai Farm**	**1.07**	**129**	Pn	**Pn**	**09 07 38.9**	**0.0**
WAZ	**Wanganui**	**1.08**	**28**	↑PN	**Pn**	**09 07 39.5**	**+0.4**
WAZ	**Wanganui**	**1.08**	**28**	Pn	**Pn**	**09 07 39.5**	**+0.4**
PLWZ	**Palliser**	**1.11**	**141**	PN	**Pn**	**09 07 39.4**	**0.0**
PLWZ	**Palliser**	**1.11**	**141**	Pn	**Pn**	**09 07 39.4**	**0.0**
POWZ	**Post Office Ro**	**1.15**	**74**	PN	**Pn**	**09 07 39.7**	**-0.2**
POWZ	**Post Office Ro**	**1.15**	**74**	Pn	**Pn**	**09 07 39.7**	**-0.2**
TIWZ	**Tintock**	**1.19**	**93**	PN	**Pn**	**09 07 40.0**	**-0.3**
TIWZ	**Tintock**	**1.19**	**93**	Pn	**Pn**	**09 07 40.0**	**-0.3**
TRWZ	**Traveller**	**1.24**	**124**	PN	**Pn**	**09 07 40.9**	**-0.1**
TRWZ				AML	AML	09 08 06.1	
TRWZ				AML	AML	09 08 07.4	
TRWZ	**Traveller**	**1.24**	**124**	Pn	**Pn**	**09 07 40.9**	**-0.1**
TMWZ	**Te Maipa**	**1.25**	**109**	PN	**Pn**	**09 07 40.9**	**-0.2**
TMWZ	**Te Maipa**	**1.25**	**109**	Pn	**Pn**	**09 07 40.9**	**-0.2**
PRWZ	**Pori Road**	**1.27**	**83**	↑PN	**Pn**	**09 07 41.3**	**0.0**
NMEZ	**Namu Road**	**1.34**	**345**	PN	**Pn**	**09 07 42.6**	**+0.3**
QRZ	**Quartz Range**	**1.37**	**265**	PN	**Pn**	**09 07 42.5**	**-0.1**
QRZ	**Quartz Range**	**1.37**	**265**	Pn	**Pn**	**09 07 42.5**	**-0.1**
CPWZ	**Castlepoint**	**1.44**	**98**	PN	**Pn**	**09 07 43.9**	**+0.4**
KHEZ	**Kahui Hut**	**1.44**	**350**	↑PN	**Pn**	**09 07 44.1**	**+0.4**
NEZ	**North Egmont**	**1.45**	**353**	↑PN	**Pn**	**09 07 44.2**	**+0.4**
NEZ	**North Egmont**	**1.45**	**353**	Pn	**Pn**	**09 07 44.2**	**+0.4**
BFZ	**Birch Farm**	**1.46**	**89**	↑PN	**Pn**	**09 07 43.2**	**-0.6**
BFZ	**Birch Farm**	**1.46**	**89**	Pn	**Pn**	**09 07 43.2**	**-0.6**
DVHZ	**Dannevirke**	**1.47**	**74**	PN	**Pn**	**09 07 43.3**	**-0.5**
DVHZ	**Dannevirke**	**1.47**	**74**	Pn	**Pn**	**09 07 43.3**	**-0.5**
THZ	**Tophouse**	**1.50**	**225**	PN	**Pn**	**09 07 45.4**	**+1.1**
THZ	**Tophouse**	**1.50**	**225**	Pn	**Pn**	**09 07 45.4**	**+1.1**
DREZ	**Durham Road**	**1.53**	**356**	↑PN	**Pn**	**09 07 45.3**	**+0.7**
DREZ	**Durham Road**	**1.53**	**356**	Pn	**Pn**	**09 07 45.3**	**+0.7**
PKE	**Pukeiti**	**1.54**	**350**	↑PN	**Pn**	**09 07 45.3**	**+0.4**
PKE	**Pukeiti**	**1.54**	**350**	Pn	**Pn**	**09 07 45.3**	**+0.4**
MTVZ	**Mangateitei**	**1.59**	**34**	PN	**Pn**	**09 07 46.3**	**+0.7**
MTVZ	**Mangateitei**	**1.59**	**34**	Pn	**Pn**	**09 07 46.3**	**+0.7**
VRZ	**Vera Road**	**1.62**	**12**	↑PN	**Pn**	**09 07 46.5**	**+0.6**
VRZ	**Vera Road**	**1.62**	**12**	Pn	**Pn**	**09 07 46.2**	**+0.3**
MHEZ	**Mangahewa**	**1.64**	**0**	↓PN	**Pn**	**09 07 47.1**	**+1.1**
MHEZ	**Mangahewa**	**1.64**	**0**	Pn	**Pn**	**09 07 47.1**	**+1.1**
PNHZ	**Pukenui**	**1.64**	**61**	PN	**Pn**	**09 07 45.7**	**-0.5**
PNHZ	**Pukenui**	**1.64**	**61**	Pn	**Pn**	**09 07 45.7**	**-0.5**
ANWZ	**Angora Road**	**1.66**	**82**	PN	**Pn**	**09 07 45.9**	**-0.4**
WNVZ	**Wahianoa**	**1.70**	**36**	PN	**Pn**	**09 07 47.7**	**+0.7**
WNVZ	**Wahianoa**	**1.70**	**36**	Pn	**Pn**	**09 07 47.7**	**+0.7**
TRVZ	**Turoa**	**1.70**	**34**	PN	**Pn**	**09 07 48.0**	**+0.8**
TRVZ	**Turoa**	**1.70**	**34**	Pn	**Pn**	**09 07 48.0**	**+0.8**
MOVZ	**Moawhango**	**1.71**	**41**	PN	**Pn**	**09 07 47.3**	**+0.3**
MOVZ	**Moawhango**	**1.71**	**41**	Pn	**Pn**	**09 07 47.3**	**+0.3**
DRZ	**Dome Shelter**	**1.73**	**34**	PN	**Pn**	**09 07 48.6**	**+1.0**
DRZ	**Dome Shelter**	**1.73**	**34**	Pn	**Pn**	**09 07 48.6**	**+1.0**
WHVZ	**Whangaehu Hut**	**1.73**	**35**	PN	**Pn**	**09 07 48.4**	**+0.9**
FWVZ	**Far West T-bar**	**1.74**	**33**	PN	**Pn**	**09 07 48.0**	**+0.4**
FWVZ	**Far West T-bar**	**1.74**	**33**	Pn	**Pn**	**09 07 48.4**	**+0.8**
WPHZ	**Waipukurau**	**1.74**	**69**	PN	**Pn**	**09 07 47.1**	**-0.4**
WPHZ	**Waipukurau**	**1.74**	**69**	Pn	**Pn**	**09 07 47.1**	**-0.4**
TUVZ	**Tukino**	**1.77**	**36**	PN	**Pn**	**09 07 49.0**	**+1.0**
TUVZ	**Tukino**	**1.77**	**36**	Pn	**Pn**	**09 07 49.0**	**+1.0**
WPVZ	**Whakapapa**	**1.78**	**32**	PN	**Pn**	**09 07 48.8**	**+0.7**
WPVZ	**Whakapapa**	**1.78**	**32**	Pn	**Pn**	**09 07 48.8**	**+0.7**
KHZ	**Kahutara**	**1.80**	**199**	PN	**Pn**	**09 07 49.0**	**+0.8**
KHZ				AML	AML	09 08 09.6	
KHZ				AML	AML	09 08 18.1	
KHZ	**Kahutara**	**1.80**	**199**	Pn	**Pn**	**09 07 49.0**	**+0.8**
BHHZ	**Black Hill Sta**	**1.81**	**48**	PN	**Pn**	**09 07 48.6**	**+0.1**
BHHZ	**Black Hill Sta**	**1.81**	**48**	Pn	**Pn**	**09 07 48.6**	**+0.1**
PRHZ	**Porangahau**	**1.82**	**77**	PN	**Pn**	**09 07 48.2**	**-0.3**
PRHZ	**Porangahau**	**1.82**	**77**	Pn	**Pn**	**09 07 48.2**	**-0.3**
NGZ	**Ngauruhoe**	**1.82**	**33**	PN	**Pn**	**09 07 49.6**	**+0.8**
NGZ	**Ngauruhoe**	**1.82**	**33**	Pn	**Pn**	**09 07 49.6**	**+0.8**
TWVZ	**Taurewa**	**1.85**	**28**	PN	**Pn**	**09 07 49.4**	**+0.4**
TWVZ	**Taurewa**	**1.85**	**28**	Pn	**Pn**	**09 07 49.4**	**+0.4**
OTVZ	**Oturere**	**1.86**	**34**	PN	**Pn**	**09 07 50.3**	**+1.1**
WTVZ	**West Tongariro**	**1.87**	**32**	PN	**Pn**	**09 07 49.7**	**+0.4**
WTVZ	**West Tongariro**	**1.87**	**32**	Pn	**Pn**	**09 07 49.7**	**+0.4**
KRVZ	**Karewarewa**	**1.91**	**33**	PN	**Pn**	**09 07 50.3**	**+0.5**
KRVZ	**Karewarewa**	**1.91**	**33**	Pn	**Pn**	**09 07 50.3**	**+0.5**
KATZ	**Kakaramea**	**2.03**	**32**	PN	**Pn**	**09 07 52.4**	**+0.9**
KATZ	**Kakaramea**	**2.03**	**32**	Pn	**Pn**	**09 07 52.4**	**+0.9**
PXZ	**Pawanui**	**2.06**	**71**	*e*PN	**Pn**	**09 07 50.7**	**-1.0**
PXZ				AML	AML	09 08 36.4	
PXZ				AML	AML	09 08 37.0	
PXZ	**Pawanui**	**2.06**	**71**	Pn	**Pn**	**09 07 51.0**	**-0.7**
RITZ	**Rihia Road**	**2.10**	**35**	Pn	**Pn**	**09 07 53.5**	**+1.3**
RATZ	**Rangitukua**	**2.16**	**32**	PN	**Pn**	**09 07 54.4**	**+1.4**
RATZ	**Rangitukua**	**2.16**	**32**	Pn	**Pn**	**09 07 54.4**	**+1.4**
KAHZ	**Kahuranaki**	**2.16**	**66**	PN	**Pn**	**09 07 52.4**	**-0.6**
KAHZ	**Kahuranaki**	**2.16**	**66**	Pn	**Pn**	**09 07 52.4**	**-0.6**
DSZ	**Denniston Nort**	**2.16**	**241**	PN	**Pn**	**09 07 53.9**	**+0.8**
DSZ	**Denniston Nort**	**2.16**	**241**	Pn	**Pn**	**09 07 54.0**	**+1.0**
MCHZ	**McNeill Hill**	**2.22**	**56**	PN	**Pn**	**09 07 53.4**	**-0.4**
MCHZ	**McNeill Hill**	**2.22**	**56**	Pn	**Pn**	**09 07 53.5**	**-0.3**
HIZ	**Hauiti**	**2.24**	**11**	↑PN	**Pn**	**09 07 54.5**	**+0.4**
HIZ	**Hauiti**	**2.24**	**11**	Pn	**Pn**	**09 07 54.5**	**+0.4**
BKZ	**Black Stump Fm**	**2.27**	**48**	PN	**Pn**	**09 07 54.2**	**-0.4**
BKZ				AML	AML	09 08 32.7	
BKZ				AML	AML	09 08 33.3	
BKZ	**Black Stump Fm**	**2.27**	**48**	Pn	**Pn**	**09 07 54.2**	**-0.4**
NMHZ	**Naumai**	**2.50**	**51**	PN	**Pn**	**09 07 57.3**	**-0.4**
TLZ	**Tolley Road**	**2.56**	**22**	↑PN	**Pn**	**09 07 58.8**	**+0.3**
LTZ	**Lake Taylor**	**2.57**	**216**	PN	**Pn**	**09 07 58.9**	**+0.3**
LTZ	**Lake Taylor**	**2.57**	**216**	Pn	**Pn**	**09 07 58.9**	**+0.3**
KNZ	**Kokohu**	**3.08**	**58**	PN	**Pn**	**09 08 03.1**	**-2.3**
OXZ	**Oxford**	**3.11**	**212**	PN	**Pn**	**09 08 04.9**	**-1.0**
TOZ	**Tauhuroa Road**	**3.12**	**17**	PN	**Pn**	**09 08 06.3**	**+0.4**
CRLZ	**Canterbury Las**	**3.13**	**203**	PN	**Pn**	**09 08 05.1**	**-0.8**
CRLZ	**Canterbury Las**	**3.13**	**203**	Pn	**Pn**	**09 08 05.2**	**-0.8**
MHGZ	**Mahia Peninsul**	**3.17**	**62**	PN	**Pn**	**09 08 05.2**	**-1.4**
MHGZ	**Mahia Peninsul**	**3.17**	**62**	Pn	**Pn**	**09 08 05.2**	**-1.4**
MQZ	**McQueen's Vall**	**3.24**	**202**	↓PN	**Pn**	**09 08 06.1**	**-1.3**
MQZ	**McQueen's Vall**	**3.24**	**202**	Pn	**Pn**	**09 08 06.1**	**-1.3**
URZ	**Urewera**	**3.27**	**42**	PN	**Pn**	**09 08 06.0**	**-1.9**
URZ				AML	AML	09 09 08.3	
URZ				AML	AML	09 09 11.0	
URZ	**Urewera**	**3.27**	**42**	Pn	**Pn**	**09 08 06.0**	**-1.9**
URZ	**Urewera**	**3.27**	**42**	Pn	**Pn**	**09 08 06.0**	**-1.9**
1.4nm,0.3s,baz=236,slow=5.4,SNR=26							
URZ				Pg		09 08 12.1	
22nm,0.3s,baz=234,slow=8.2,SNR=116							
URZ				Sn	**Sn**	**09 08 43.6**	**-2.1**
21nm,0.3s,baz=74,slow=19,SNR=10							
PRGZ	**Paritu Road**	**3.27**	**58**	PN	**Pn**	**09 08 06.0**	**-2.0**
PRGZ	**Paritu Road**	**3.27**	**58**	Pn	**Pn**	**09 08 06.0**	**-2.0**
MWZ	**Matawai**	**3.44**	**47**	PN	**Pn**	**09 08 08.5**	**-1.8**
MWZ				AML	AML	09 09 05.5	
MWZ				AML	AML	09 09 08.1	
MWZ	**Matawai**	**3.44**	**47**	Pn	**Pn**	**09 08 08.5**	**-1.8**
WVZ	**Waitaha Valley**	**3.57**	**227**	PN	**Pn**	**09 08 12.8**	**+0.8**
WVZ	**Waitaha Valley**	**3.57**	**227**	Pn	**Pn**	**09 08 12.8**	**+0.8**
KBAZ	**Karaka Road Bo**	**3.64**	**7**	PN	**Pn**	**09 08 14.0**	**+1.0**
MKAZ	**Moumakai**	**3.66**	**11**	↑PN	**Pn**	**09 08 13.7**	**+0.4**
MKAZ	**Moumakai**	**3.66**	**11**	Pn	**Pn**	**09 08 13.7**	**+0.4**
RPZ	**Rata Peaks**	**3.86**	**218**	PN	**Pn**	**09 08 15.1**	**-0.8**
RPZ	**Rata Peaks**	**3.86**	**218**	Pn	**Pn**	**09 08 15.6**	**-0.3**
RPZ	**Rata Peaks**	**3.86**	**218**	Pn	**Pn**	**09 08 14.6**	**-1.3**
2.4nm,0.3s,baz=312,slow=3.5,SNR=12							
RPZ				Sn	**Sn**	**09 08 57.1**	**-3.0**
20nm,0.3s,baz=348,slow=21,SNR=14							
RVAZ	**Riverhead Bore**	**3.94**	**3**	*e*PN	**Pn**	**09 08 17.1**	**-0.1**
KUZ	**Kuaotunu**	**4.11**	**16**	PN	**Pn**	**09 08 19.4**	**0.0**
KUZ	**Kuaotunu**	**4.11**	**16**	Pn	**Pn**	**09 08 19.5**	**+0.1**
WCZ	**Waipu Caves**	**4.77**	**0**	PN	**Pn**	**09 08 28.4**	**+0.1**
ODZ	**Otahua Downs**	**5.10**	**211**	PN	**Pn**	**09 08 31.6**	**-1.3**
ODZ	**Otahua Downs**	**5.10**	**211**	Pn	**Pn**	**09 08 32.0**	**-0.9**
OUZ	**Omahuta**	**5.51**	**354**	PN	**Pn**	**09 08 39.1**	**+0.5**
TUZ	**Tuapeka**	**6.25**	**212**	*e*PN	**Pn**	**09 08 47.9**	**-0.7**
CTZ	**Chatham Island**	**7.37**	**117**	PN	**Pn**	**09 09 03.0**	**-0.8**
CTZ				SN	Sn	09 10 17.8	-8.1
ASAR	**Alice Springs**	**37.82**	**284**	P	**P**	**09 14 28.2**	**+0.4**
0.1nm,0.3s,baz=110,slow=6.2,SNR=3.4							
WRA	**Warramunga Arr**	**39.80**	**289**	P	**P**	**09 14 45.9**	**+1.5**
0.3nm,0.5s,baz=125,slow=8.5,SNR=8.1							
DBIC	**Dimbokro**	**146.09**	**181**	PKPbc	**PKPab**	**09 26 51.5**	**+0.6**
6.7nm,1.0s,baz=153,slow=2.3,SNR=4.0							
TORD	**Torodi Ar. Bea**	**151.79**	**195**	PKPbc	**PKPbc**	**09 27 06.3**	**+1.5**
0.3nm,0.8s,baz=149,slow=3.9,SNR=4.1							

BER ***10*** *09:07:54.9,61.°71N×3.°82E,h18km,MD2.5,ML2.7, ML2.6(NAO)*

CSEM ***10*** *09:07:56.0±1.0,61.°68N×4.°38E,h15km,ML2.7,Error ellipse: s-maj=26.3km s-min=8.3km az=102.0*
NAO ***10*** *09:07:56.1±4.5,61.°48N×4.°63E,ML2.6*
ISC 10 09:07:54.9±2.7,61.°69N±0.°06×4.°1E±0.°1,h11km±13km,n23, σ1.°17/35,Southern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUE	**Sulen**	**0.70**	**155**	*e*P	**Pg**	**09 08 08.5**	**0.0**
SUE				*e*S	**Sb**	**09 08 19.3**	**+0.5**
SUE				AML	AML	09 08 20.2	
comp=Z,249nm,0.1s							
SUE	**Sulen**	**0.70**	**155**	*e*P	**Pg**	**09 08 08.5**	**0.0**
SNR=96							
SUE				*e*S	**Sb**	**09 08 19.3**	**+0.5**
comp=Z,234nm,0.4s,SNR=96							
HYA	**Hoyanger**	**1.11**	**117**	*e*P	**Pn**	**09 08 15.0**	**-1.4**
HYA				*e*S	**Sb**	**09 08 31.0**	**+0.4**
HYA				AML	AML	09 08 33.6	
comp=Z,262nm,0.4s							
ASK	**Askoy**	**1.32**	**157**	*e*P	**Pn**	**09 08 17.3**	**-1.9**
ASK				*e*Sg	**Sb**	**09 08 36.9**	**+0.5**
ASK				AML	AML	09 08 38.0	
comp=Z,251nm,0.5s							
RUND	**Rundenannen**	**1.41**	**155**	*e*P	**Pn**	**09 08 19.2**	**-1.4**
RUND				*e*Sg	**Sb**	**09 08 39.7**	**+0.4**
RUND				AML	AML	09 08 40.4	
comp=Z,234nm,0.4s							
BER	**Bergen**	**1.44**	**156**	*e*P	**Pn**	**09 08 21.1**	**+0.3**
BER				*e*Sg	**Sg**	**09 08 41.3**	**+0.3**
BER				AML	AML	09 08 42.0	
comp=Z,215nm,0.3s							
BER	**Bergen**	**1.44**	**156**	*e*P	**Pn**	**09 08 21.1**	**+0.3**
SNR=55							
BER				*e*Sg	**Sg**	**09 08 41.3**	**+0.3**
comp=Z,163nm,0.3s,SNR=93							
EGD	**Espegrend**	**1.52**	**159**	*e*	**Pn**	**09 08 21.7**	**-0.3**
EGD				*e*Sg	**Sb**	**09 08 42.4**	**+0.1**
EGD				AML	AML	09 08 45.0	
comp=Z,163nm,0.3s							
MOL	**Molde**	**1.83**	**60**	*e*P	**Pn**	**09 08 26.1**	**-0.1**
MOL				*e*S	**Sn**	**09 08 49.6**	**+0.4**
MOL				AML	AML	09 08 51.7	
comp=Z,91nm,0.2s							
MOL	**Molde**	**1.83**	**60**	*e*P	**Pn**	**09 08 26.1**	**-0.1**
SNR=55							
MOL				*e*S	**Sn**	**09 08 49.6**	**+0.4**
comp=Z,91nm,0.2s,SNR=55							
ODD1	**Odda**	**2.16**	**145**	*e

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSU	**Vasula**	**0.85**	**194**	Pg	Pg	09 20 21.5	-2.4
VSU				Lg	Lg	09 20 35.9	
VSU	**Vasula**	**0.85**	**194**	Pg	Pg	09 20 21.5	-2.4
VSU				Lg	Lg	09 20 35.9	
VSU	**Vasula**	**0.85**	**194**	Pg	Pg	09 20 21.5	-2.4
VSU				Lg	Lg	09 20 35.9	
	SNR=96						
VSU				*e*S	**Sg**	**09 20 36.9**	**+1.9**
	SNR=90						
VJF	**Virojoki**	**1.27**	**10**	PG	**Pg**	**09 20 31.5**	**-0.6**
VJF				SG	**Sg**	**09 20 48.5**	**-0.1**
VJF				RG	Rg	09 20 53.6	
VJF	**Virojoki**	**1.27**	**10**	Pg	**Pg**	**09 20 31.4**	**-0.6**
PVF	**Pernaja**	**1.41**	**334**	PG	**Pn**	**09 20 34.2**	**-0.4**
PVF				SG	**Sg**	**09 20 52.2**	**-0.8**
PVF	**Pernaja**	**1.41**	**334**	Pg	**Pn**	**09 20 34.2**	**-0.4**
MEF	**Metsahovi**	**1.67**	**305**	PG	**Pn**	**09 20 39.1**	**+0.9**
MEF				SG	**Sg**	**09 21 02.7**	**+1.5**
MEF				MSG		09 21 02.7	
	comp=Z,15nm,0.4s						
MEF	**Metsahovi**	**1.67**	**305**	*e*P	**Pn**	**09 20 39.0**	**+0.9**
	SNR=50						
MTSE	**Matsula**	**1.81**	**253**	PN	**Pn**	**09 20 41.7**	**+1.7**
MTSE				SG	**Sn**	**09 21 04.8**	**+1.2**
MTSE	**Matsula**	**1.81**	**253**	Pn	**Pn**	**09 20 41.7**	**+1.7**
MTSE				Sg	**Sn**	**09 21 04.7**	**+1.2**
FIA0	**FINESS Array S**	**2.23**	**347**	Pn	**Pn**	**09 20 46.5**	**+0.8**
	baz=162,slow=16						
FIA0				Lg	Lg	09 21 17.8	
	baz=171,slow=28						
FIA0				Rg	Rg	09 21 29.9	
	baz=162,slow=56						
FIA0	**FINESS Array S**	**2.23**	**347**	Pn	**Pn**	**09 20 46.5**	**+0.8**
	baz=162,slow=16						
FIA0				Lg	Lg	09 21 17.8	
	baz=171,slow=28						
FIA0				Rg	Rg	09 21 29.9	
	baz=162,slow=56						
FIA0	**FINESS Array S**	**2.23**	**347**	PN	**Pn**	**09 20 46.3**	**+0.5**
	baz=165						
FIA0				SG	**Sn**	**09 21 16.3**	**+2.4**
FIA0				MSG		09 21 16.3	
	comp=Z,7.4nm,0.5s						
FIA0				RG	Rg	09 21 31.3	
FIA0	**FINESS Array S**	**2.23**	**347**	Pn	**Pn**	**09 20 46.5**	**+0.8**
	baz=162,slow=16,SNR=0.6						
FIA0				Lg	Lg	09 21 17.8	
	baz=171,slow=28,SNR=55						
KAF	**Kangasniemi**	**2.87**	**352**	PN	**Pn**	**09 20 55.9**	**+1.4**
KAF				SG	**Sn**	**09 21 31.0**	**+1.3**
KAF				MSG		09 21 31.0	
	comp=Z,3.3nm,0.2s						
KAF	**Kangasniemi**	**2.87**	**352**	Pn	**Pn**	**09 20 55.9**	**+1.4**
KEF	**Keuruu**	**3.10**	**340**	SG	**Sb**	**09 21 43.2**	**+1.4**
KEF				MSG		09 21 43.2	
	comp=Z,6.7nm,0.4s						
KEF	**Keuruu**	**3.10**	**340**	Sg	**Sb**	**09 21 43.2**	**+1.4**
RAF	**Rauma**	**3.20**	**305**	PN	**Pn**	**09 21 01.7**	**+2.6**
	baz=118						
RAF				SG	**Sb**	**09 21 44.7**	**0.0**
RAF				MSG		09 21 44.7	
	comp=Z,3.4nm,0.4s						
RAF	**Rauma**	**3.20**	**305**	Pn	**Pn**	**09 21 01.6**	**+2.6**
RAF				*e*S	**Sn**	**09 21 42.6**	**+4.8**
	comp=Z,8.6nm,0.5s,SNR=50						
RAF				Sg	**Sb**	**09 21 44.7**	**0.0**
SUF	**Sumiainen**	**3.48**	**353**	PN	**Pn**	**09 21 05.1**	**+2.2**
SUF				SG	**Sb**	**09 21 54.3**	**+1.5**
SUF				MSG		09 21 54.3	
	comp=Z,9.7nm,0.4s						
SUF	**Sumiainen**	**3.48**	**353**	Pn	**Pn**	**09 21 05.1**	**+2.2**
SUF				Sg	**Sb**	**09 21 54.3**	**+1.5**
JOF	**Joensuu**	**4.17**	**27**	SG	**Sb**	**09 22 15.4**	**+2.7**
JOF				MSG		09 22 15.4	
	comp=Z,6.7nm,0.4s						
HFS	**Hagfors**	**6.85**	**283**	Sn	Sn	09 23 02.3	-5.5
	baz=94,slow=28						
HFS				Lg	Lg	09 23 39.9	
	baz=91,slow=28						
HFS	**Hagfors**	**6.85**	**283**	Sn	Sn	09 23 02.3	-5.5
	baz=94,slow=28						
HFS				Lg	Lg	09 23 39.9	
	baz=91,slow=28						
NB2	**NORSAR Subarra**	**8.13**	**289**	Pn	**Pn**	**09 22 06.3**	**-0.5**
NB2				Lg	Lg	09 24 19.5	
	baz=111,slow=37						
NB2	**NORSAR Subarra**	**8.13**	**289**	Pn	**Pn**	**09 22 06.3**	**-0.5**
NB2				Lg	Lg	09 24 19.5	
	baz=111,slow=37						
NB2	**NORSAR Subarra**	**8.13**	**289**	Pn	**Pn**	**09 22 06.3**	**-0.5**
NB2				Lg	Lg	09 24 19.5	
	baz=111,slow=35,SNR=3.0						
ARA0	**ARCESS Array S**	**10.31**	**357**	Pn	**Pn**	**09 22 35.3**	**-1.4**
	baz=171,slow=14						
ARA0				Sn	Sn	09 24 26.9	-6.0
	baz=174,slow=22						
ARA0	**ARCESS Array S**	**10.31**	**357**	Pn	**Pn**	**09 22 35.3**	**-1.4**
	baz=171,slow=14						
ARA0				Sn	Sn	09 24 26.9	-6.0
	baz=174,slow=22						
ARA0	**ARCESS Array S**	**10.31**	**357**	Pn	**Pn**	**09 22 35.3**	**-1.4**
	baz=171,slow=13,SNR=4.4						

*CSEM **10** 09:27:39.5, 41.°07N×19.°96E, h30km, ML3.5, After TIR*
TIR 10 09:27:39.5±1.3, 41.°07N×19.°96E, h30km±11km, ML3.5, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.28**	**346**	*e*PG	Pb	09 27 46.6	-0.1
TIR				*e*SG	Sn	09 27 52.9	0.0
TIR	**Tirane**	**0.28**	**346**	*i* PG	Pb	09 27 46.5	-0.3
TIR				*i* SG	Sn	09 27 52.9	0.0
TIR	**Tirane**	**0.28**	**346**	*i* Pg	Pb	09 27 46.5	-0.3
	SNR=130						
TIR				*i* Sg	Sn	09 27 52.9	0.0
	SNR=130						
PHP	**Peshkopia**	**0.71**	**31**	*e*PG	Pb	09 27 53.1	-0.4
PHP				*e*SG	Sn	09 28 04.9	+1.3
PHP	**Peshkopia**	**0.71**	**31**	*i* PG	Pb	09 27 53.1	-0.4
PHP				*i* SG	Sn	09 28 05.0	+1.3
PHP	**Peshkopia**	**0.71**	**31**	*i* Pg	Pb	09 27 53.1	-0.4
	SNR=104						
PHP				*i* Sg	Sn	09 28 05.0	+1.3
	SNR=104						
KBN	**Korca**	**0.78**	**125**	*e*PG	Pb	09 27 55.6	+1.0
KBN	**Korca**	**0.78**	**125**	*i* PG	Pb	09 27 55.6	+1.0
KBN	**Korca**	**0.78**	**125**	*i* Pg	Pb	09 27 55.6	+1.0
	SNR=102						
PUK	**Puka**	**0.97**	**357**	*e*PG	Pb	09 27 58.6	+0.7
PUK				*e*SG	Sb	09 28 13.0	+2.6
PUK	**Puka**	**0.97**	**357**	*i* PG	Pb	09 27 58.8	+0.9
PUK				*i* SG	Sb	09 28 13.0	+2.6
PUK	**Puka**	**0.97**	**357**	*i* Pg	Pb	09 27 58.8	+0.9
	SNR=99						
PUK				*i* Sg	Sb	09 28 13.0	+2.5
	SNR=99						

*BGS **10** 09:28:57.1±2.0, 39.°83N×150.°74E, h80km, mb4.8*
*NIED **10** 09:29:00, 43.°20N×146.°20E, h74km, Mw4.7 Best double couple: M0 1.13000×10^16 NP1:φs247.00000°, δ85.00000°, λ-102.00000°. NP2:φs135.00000°, δ12.00000°, λ-23.00000°.*
*IDC **10** 09:29:17.4±2.2, 43.°24N×146.°27E, h62km±20km, mb4.7/26, mb1 4.8/30, mb1mx4.8/32, mbtmp4.7/30, MS3.6/24, Ms1 3.6/24, ms1mx3.5/39, Error ellipse: s-maj=12.8km s-min=10.4km az=139.0*
*MOS **10** 09:29:17.3±0.7, 43.°17N×146.°23E, h76km, mb5.3/78, Error ellipse: s-maj=6.9km s-min=4.4km az=108.0*
MOS Felt (III) at Yuzhno-Kuril'sk.
*ISCJB **10** 09:29:18.2±0.3, 43.°25N±0.°03×146.°22E±0.°02, h80km±2km, mb4.9/182, Error ellipse: s-maj=4.5km s-min=2.5km az=166.5*
*SKHL **10** 09:29:18.5±0.4, 43.°17N×146.°41E, h75km±5km, mb5.5/3*
SKHL Felt (III) at Yushno-Kurilsk.
*BJI **10** 09:29:18.5, 43.°50N×146.°22E, h85km, mB5.2/24, mb4.9/45, Ms4.6/22, Ms7 4.3/21*
*JMA **10** 09:29:18.6±0.1, 43.°16N×146.°26E, h68km±1km, M4.7*

JMA Felt III J1.
*NEIC **10** 09:29:19.6±0.5, 43.°22N×146.°18E, h81km±4km, mb4.9/93, Error ellipse: s-maj=4.2km s-min=2.6km az=169.0*
NEIC Felt [III] at Yuzhno-Kuril'sk. Recorded [3 JMA] in eastern Hokkaido.
*TEH **10** 09:29:21.0, 43.°27N×146.°17E, h88km, ML4.8*
*SZGRF **10** 09:29:24.1, 43.°83N×146.°01E, h75km, mb4.9, Kuril Islands, Russia*
ISC 10 09:29:19.2±0.3, 43.°26N±0.°04×146.°26E±0.°03, h80km±2km, h79km:pP-P, n867, σ1§10/953, mb5.0/183, 218C-167D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.39**	**286**	⇓P	**Pn**	**09 29 30.6**	**-1.4**
NEM2				*e*S	**Sn**	**09 29 39.3**	**-2.2**
YUK	**Yuzh-Kuril'sk**	**0.83**	**340**	*i* PN	**Pn**	**09 29 35.4**	**-0.8**
YUK				*i* S	**Sn**	**09 29 47.8**	**-1.0**
YUK				pmax	pmax		
	comp=N,584nm,0.3s						
YUK				pmax	pmax		
	comp=E,1μm,0.3s						
YUK				pmax	pmax		
	comp=Z,9μm,0.3s						
YUK				smax	smax		
	comp=E,41μm,0.5s						
YUK				smax	smax		
	comp=N,7μm,0.2s						
YUK	**Yuzh-Kuril'sk**	**0.83**	**340**	*i* P	**Pn**	**09 29 35.4**	**-0.8**
YUK				AMB	AMB	09 29 35.8	
	comp=N,584nm,0.3s						
YUK				AMB	AMB	09 29 35.8	
	comp=N,1μm,0.3s						
YUK				AMB	AMB	09 29 35.8	
	comp=N,9μm,0.3s						
YUK				*i* S	**Sn**	**09 29 47.8**	**-1.0**
YUK				A	A	09 29 50.0	
	comp=N,7μm,0.5s						
YUK				A	A	09 29 50.0	
	comp=N,41μm,0.5s						
JRA	**Rausu**	**1.07**	**310**	⇓P	**Pn**	**09 29 38.7**	**-0.3**
JRA				*e*S	**Sn**	**09 29 54.3**	**+0.4**
JNK	**Nakash**	**1.17**	**287**	⇓P	**Pn**	**09 29 39.3**	**-1.0**
JNK				*e*S	**Sn**	**09 29 54.4**	**-1.7**
JAK	**Akkeshi**	**1.18**	**258**	⇓P	**Pn**	**09 29 39.0**	**-1.3**
JAK				*e*S	**Sn**	**09 29 54.2**	**-2.0**
JOB	**Onbets**	**1.81**	**259**	⇓P	**Pn**	**09 29 47.9**	**-0.7**
JOB				*e*S	**Sn**	**09 30 09.2**	**-1.7**
JAR	**Ashorobuto**	**1.82**	**272**	⇓P	**Pn**	**09 29 48.3**	**-0.4**
JAR				*e*S	**Sn**	**09 30 10.5**	**-0.6**
JTKR	**Abashiri--Toko**	**1.85**	**293**	⇓P	**Pn**	**09 29 49.4**	**+0.3**
JTKR				*e*S	**Sn**	**09 30 12.6**	**+0.8**
JCH	**Churui**	**2.23**	**254**	P	**Pn**	**09 29 52.9**	**-1.2**
JCH				*e*S	**Sn**	**09 30 17.8**	**-2.9**
JMP	**Maruseppu**	**2.23**	**290**	⇓P	**Pn**	**09 29 54.6**	**+0.4**
JMP				*e*S	**Sn**	**09 30 21.9**	**+0.9**
KUR	**Kuril'sk**	**2.29**	**30**	*i* PN	**Pn**	**09 29 55.2**	**+0.3**
KUR				*i* S	**Sn**	**09 30 22.1**	**0.0**
KUR				pmax	pmax		
	comp=E,312nm,0.4s						
KUR				pmax	pmax		
	comp=N,293nm,0.2s						
KUR				pmax	pmax		
	comp=Z,1μm,0.4s						
KUR				smax	smax		
	comp=N,5μm,0.6s						
KUR				smax	smax		
	comp=E,1527μm,0.3s						
KUR	**Kuril'sk**	**2.29**	**30**	*i* P	**Pn**	**09 29 55.2**	**+0.3**
KUR				AMB	AMB	09 29 56.0	
	comp=E,293nm,0.4s						
KUR				AMB	AMB	09 29 56.0	
	comp=E,312nm,0.4s						
KUR				AMB	AMB	09 29 56.0	
	comp=E,1μm,0.4s						
KUR				*i* S	**Sn**	**09 30 22.1**	**0.0**
KUR				A	A	09 30 25.0	
	comp=E,5μm,0.6s						
KUR				A	A	09 30 25.0	
	comp=E,2μm,0.6s						
ERM	**Erimo**	**2.61**	**243**	*e*PN	**Pn**	**09 29 59.7**	**+0.5**
ERM				*e*		09 30 28.6	
ERM	**Erimo**	**2.61**	**243**	*e*P	**Pn**	**09 29 59.7**	**+0.5**
ERM	**Erimo**	**2.61**	**243**	*e*Pn	**Pn**	**09 29 59.7**	**+0.5**
ERM				*e*Sn	**Sn**	**09 30 28.6**	**-1.3**
ASAJ	**Asahikawa**	**2.79**	**289**	*e*Pn	**Pn**	**09 30 02.9**	**+1.2**
ASAJ				S	**Sn**	**09 30 35.2**	**+0.8**
ASAJ	**Asahikawa**	**2.79**	**289**	P	**Pn**	**09 30 02.4**	**+0.7**
	comp=E,134nm,0.3s,baz=111,slow=11,SNR=934						
ASAJ				S	**Sn**	**09 30 35.2**	**+0.8**
	comp=E,96nm,0.3s,baz=88,slow=32,SNR=9.9						
ASAJ				LR	LR	09 31 16.1	
	comp=E,1μm,21.9s,baz=161,slow=42						
YSS	**Yuzh-Sakhalins**	**4.45**	**327**	⇓*e*PN	**Pn**	**09 30 26.0**	**+1.8**
YSS				*e*S	**Sn**	**09 31 14.5**	**-0.2**
YSS				pmax	pmax		
	comp=Z,230nm,0.5s						
YSS				smax	smax		
	comp=N,670nm,1.2s						
YSS				smax	smax		
	comp=E,820nm,1.2s						
YSS	**Yuzh-Sakhalins**	**4.45**	**327**	*e*P	**Pn**	**09 30 26.0**	**+1.8**
YSS				AMB	AMB	09 30 28.1	
	comp=E,230nm,0.5s						
YSS				*e*S	**Sn**	**09 31 14.5**	**-0.2**
YSS				A	A	09 31 17.0	
	comp=E,670nm,1.2s						
YSS				A	A	09 31 17.0	
	comp=E,820nm,1.2s						
UGL	**Uglegorsk**	**6.51**	**335**	*e*PN	**Pn**	**09 30 54.3**	**+2.1**
UGL				S	**Sn**	**09 32 08.0**	**+3.1**
UGL				pmax	pmax		
	comp=Z,270nm,0.8s						
UGL				smax	smax		
	comp=N,72nm,0.6s						
UGL				smax	smax		
	comp=E,170nm,0.6s						
UGL				smax	smax		
	comp=Z,140nm,0.6s						
UGL	**Uglegorsk**	**6.51**	**335**	*e*P	**Pn**	**09 30 54.3**	**+2.1**
UGL				AMB	AMB	09 30 56.0	
	comp=Z,270nm,0.8s						
UGL				*e*S	**Sn**	**09 32 08.0**	**+3.1**
UGL				A	A	09 32 13.0	
	comp=Z,72nm,0.6s						
UGL				A	A	09 32 13.0	
	comp=Z,170nm,0.6s						
UGL				A	A	09 32 13.0	
	comp=Z,14nm,0.6s						
MAT	**Matsushiro**	**9.12**	**225**	P	**Pn**	**09 31 25.4**	**-2.7**
MAT				S	**Sn**	**09 33 11.9**	**+2.8**
MJAR	**Matsushiro Arr**	**9.12**	**225**	P	**Pn**	**09 31 25.2**	**-2.9**
MJAR				S	**Sn**	**09 33 11.1**	**+2.0**
MJAR	**Matsushiro Arr**	**9.12**	**225**	P	**Pn**	**09 31 25.2**	**-2.9**
	comp=Z,1.8nm,0.3s,baz=27,slow=14,SNR=25						
MJAR				S	**Sn**	**09 33 11.1**	**+2.0**
	comp=Z,0.9nm,0.3s,baz=306,slow=45,SNR=3.1						
MJAR				LR	LR	09 35 48.4	
	comp=Z,196nm,19.5s,baz=75,slow=43						
HABR	**Khabarovsk**	**9.39**	**308**	*e*PN	**Pn**	**09 31 33.3**	**+1.7**
HABR				pmax	pmax		
	comp=N,12nm,1.3s						
HABR				pmax	pmax		
	comp=E,37nm,1.3s						
HABR				pmax	pmax		
	comp=Z,39nm,0.9s						
HABR				MLR	MLR		
	comp=Z,248nm,18.0s						
SKR	**Severo-Kuril's**	**10.02**	**39**	*e*PN	Pn	09 31 30.5	-10
USRK	**Ussuriysk Arra**	**10.38**	**280**	P	**Pn**	**09 31 44.9**	**-0.2**
	comp=Z,1.7nm,0.3s,baz=92,slow=13,SNR=28						
KLR	**Kul'dur**	**11.68**	**306**	*e*PN	**Pn**	**09 32 02.0**	**-0.7**
MDJ	**Mudanjiang**	**12.10**	**282**	P	**Pn**	**09 32 08.3**	**-0.1**
MDJ				S	**Sn**	**09 34 22.3**	**+0.9**
MDJ				ScP	**ScP**	**09 41 13.2**	**+1.2**
MDJ				PcS	**PcS**	**09 41 23.1**	**+2.8**
MDJ				ScS	**ScS**	**09 44 49.4**	**+1.6**
MDJ				pmax	pmax		
	comp=Z,25nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,120nm,6.0s						
MDJ				LR	LR		
	comp=N,200nm,6.2s						
MDJ				LR	LR		
	comp=E,120nm,6.2s						
MDJ				LR	LR		
	comp=Z,130nm,10.2s						
MDJ	**Mudanjiang**	**12.10**	**282**	*e*Pn	**Pn**	**09 32 07.4**	**-1.1**
	comp=Z,24nm,0.9s						
PETK	**Petropavlovsk-**	**12.45**	**34**	PN	**Pn**	**09 32 10.1**	**-3.1**
PETK	**Petropavlovsk-**	**12.45**	**34**	P	**Pn**	**09 32 10.1**	**-3.1**
PETK	**Petropavlovsk-**	**12.45**	**34**	P	**Pn**	**09 32 10.1**	**-3.1**
	comp=Z,2.1nm,0.3s,baz=194,slow=12,SNR=20						
PETK				LR	LR	09 37 35.2	
	comp=Z,86nm,19.4s,baz=238,slow=40						
PET	**Petropavlovsk**	**12.78**	**36**	*i* PN	**Pn**	**09 32 14.5**	**-3.2**
PET	**Petropavlovsk**	**12.78**	**36**	*e*P	**Pn**	**09 32 14.4**	**-3.2**
CN2	**Changchun**	**15.11**	**279**	⇓P	**Pn**	**09 32 46.5**	**-1.6**
CN2				*e*sP	**sP**	**09 33 12.0**	**-5.1**
CN2				*e*S	**Sn**	**09 35 30.5**	**-3.9**
CN2				pmax	pmax		
	comp=Z,20nm,0.6s						
KSRS	**Korea Array**	**15.13**	**254**	P	**Pn**	**09 32 47.5**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=61,slow=12,SNR=6.4						
KSRS				LR	LR	09 39 18.1	
	comp=Z,47nm,18.5s,baz=70,slow=40						
KSRS				ScP	**ScP**	**09 41 19.9**	**+2.8**
	comp=Z,0.0nm,0.3s,baz=48,slow=1.9,SNR=4.9						
KSAR	**Wonju Array Be**	**15.16**	**254**	P	**Pn**	**09 32 47.5**	**-1.3**
KSAR				ScP	**ScP**	**09 41 19.9**	**+2.7**
JNU	**Nakatsue**	**15.75**	**235**	P	**P**	**09 32 58.1**	**-0.6**
JNU	**Nakatsue**	**15.75**	**235**	P	**P**	**09 32 58.1**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=18,slow=23,SNR=3.6						
JNU				LR	LR	09 39 27.4	
	comp=Z,116nm,20.1s,baz=244,slow=39						
CBIJ	**Chichi jima**	**16.46**	**193**	P	**Pn**	**09 33 03.2**	**-2.1**
CBIJ				S	Sn	09 35 54.2	-13
CBIJ	**Chichi jima**	**16.46**	**193**	P	**Pn**	**09 33 03.2**	**-2.1**
	comp=Z,8.0nm,0.3s,baz=294,slow=18,SNR=3.3						
CBIJ				S	Sn	09 35 54.2	-13
	comp=Z,6.3nm,0.3s,baz=258,slow=19,SNR=3.1						
CBIJ				LR	LR	09 37 50.5	
	comp=Z,237nm,20.8s,baz=43,slow=31						
HIA	**Hailar**	**19.24**	**297**	*e*P	**P**	**09 33 35.0**	**-2.0**
SEY	**Seymchan**	**20.03**	**8**	*i* P	**P**	**09 33 43.0**	**-2.4**
FX1	**Attu Island--F**	**20.28**	**52**	*e*P	Pn	09 33 50.1	-0.8
FX1				S	S	09 37 20.6	-10
FX1	**Attu Island--F**	**20.28**	**52**	P	Pn	09 33 49.8	-1.1
	comp=Z,15nm,0.4s,baz=341,slow=4.9,SNR=26						
FX1				S	S	09 37 20.6	-10
	comp=Z,5.4nm,0.6s,baz=255,slow=20,SNR=5.2						
YAK	**Yakutsk**	**21.20**	**338**	*e*P	**P**	**09 33 54.7**	**-3.3**
YAK				*e*S	**S**	**09 37 45.9**	**-3.1**
YAK				*e**SS	**sS**	**09 38 17.2**	**+1.7**
YAK				pmax	pmax		
	comp=Z,19nm,0.9s						
YAK				smax	smax		
	comp=N,13nm,1.1s						
YAK				smax	smax		
	comp=E,50nm,1.1s						
YAK	**Yakutsk**	**21.20**	**338**	*e*P	**P**	**09 33 56.8**	**-1.2**
BJI	**Beijing**	**22.65**	**272**	P	**P**	**09 34 12.8**	**-0.9**
BJI				sP	**sP**	**09 34 39.6**	**-0.2**
BJI				S	**S**	**09 38 15.3**	**-0.5**
BJI				sS	**sS**	**09 38 45.1**	**+0.4**
BJI				pmax	pmax		
	comp=Z,51nm,0.8s						
BJI				pmax	pmax		
	comp=Z,210nm,3.9s						
BJI				LR	LR		
	comp=N,200nm,12.2s						
BJI				LR	LR		
	comp=E,100nm,12.4s						
BJT	**Baijiatuau**	**22.66**	**272**	*e*P	**P**	**09 34 12.7**	**-1.2**
	comp=E,30nm,0.6s						
NJ2	**Nanjing**	**24.31**	**252**	*e*P	**P**	**09 34 30.8**	**+1.6**
NJ2				pmax	pmax		
	comp=Z,21nm,0.7s						
HHC	**Hu-ho-hao-te**	**25.77**	**277**	*e*P	**P**	**09 34 43.2**	**+0.6**
HHC				pP	**pP**	**09 35 04.4**	**+3.6**
HHC				sP	sP	09 35 16.5	+6.3
HHC				PP	**PnPn**	**09 35 26.8**	**+3.2**
HHC				PcP	**PcP**	**09 38 12.1**	**+1.8**
HHC				S	**S**	**09 39 01.8**	**-4.1**
HHC				sS	**sS**	**09 39 38.9**	**+1.3**
HHC				SS	**SnSn**	**09 40 12.2**	**+3.2**
HHC				ScS	**ScS**	**09 45 29.8**	**-2.2**
HHC				pmax	pmax		
	comp=Z,63nm,1.1s						
HHC				pmax	pmax		
	comp=Z,230nm,3.7s						
HHC				LR	LR		
	comp=N,910nm,16.5s						
HHC				LR	LR		
	comp=E,590nm,13.5s						
HHC				LR	LR		
	comp=Z,880nm,15.5s						
ULN	**Ulaanbaatar**	**27.62**	**293**	*e*P	**P**	**09 34 59.8**	**+0.6**
ULN	**Ulaanbaatar**	**27.62**	**293**	*e*P	**P**	**09 34 59.6**	**+0.4**
	comp=Z,55nm,0.7s						
SONM	**Songino Array**	**28.07**	**293**	P	**P**	**09 35 03.9**	**+0.8**
SONM	**Songino Array**	**28.07**	**293**	P	**P**	**09 35 03.9**	**+0.8**
	comp=Z,82nm,0.7s,baz=87,slow=8.7,SNR=184						
SONM				LR	LR	09 47 16.1	
	comp=Z,156nm,19.6s,baz=240,slow=38						
ZAK	**Zakamensk**	**29.92**	**299**	⇑*i*P	**P**	**09 35 19.7**	**+0.2**
ZAK				pmax	pmax		
	comp=Z,27nm,1.1s						
XAN	**Xi'an**	**30.37**	**265**	P	P	09 35 29.5	+5.9
XAN				pP	pP	09 35 49.6	+7.5
XAN				sP	sP	09 35 59.5	+8.2
XAN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
LZH	**Lanzhou**	**33.14**	**272**	*e*P	**P**	**09 35 47.6**	**-0.4**
LZH				pP	**pP**	**09 36 07.7**	**+1.1**
LZH				sP	**sP**	**09 36 18.2**	**+2.3**
LZH				pmax	pmax		
	comp=Z,33nm,1.0s						
LZH				pmax	pmax		
	comp=Z,160nm,4.5s						
LZH	**Lanzhou**	**33.14**	**272**	*e*P	**P**	**09 35 49.3**	**+1.3**
LZH				pmax	pmax		
	comp=Z,33nm,1.0s						
LZH				pmax	pmax		
	comp=Z,170nm,5.0s						
TNA	**Tin City**	**33.61**	**33**	*e*P	**P**	**09 35 52.1**	**+0.6**
GTA	**Gaotai**	**34.74**	**280**	*e*P	**P**	**09 36 02.4**	**+0.6**
GTA				pP	**pP**	**09 36 21.7**	**+1.2**
GTA				sP	**sP**	**09 36 31.4**	**+1.7**
GTA				S	**S**	**09 41 23.6**	**-2.7**
GTA				SS	**SnSn**	**09 43 38.9**	**-7.9**
GTA				pmax	pmax		
	comp=Z,7.0nm,0.7s						
GTA				pmax	pmax		
	comp=Z,120nm,3.7s						
GTA				LR	LR		
	comp=N,410nm,9.4s						
GTA				LR	LR		
	comp=E,1μm,13.3s						
GTA				LR	LR		
	comp=Z,180nm,10.4s						
CD2	**Chengdu**	**35.71**	**264**	P	**P**	**09 36 10.6**	**+0.5**
CD2				pP	**pP**	**09 36 31.4**	**+2.5**
CD2				sP	**sP**	**09 36 42.0**	**+3.9**
CD2				PP	**PP**	**09 37 33.4**	**+0.9**
CD2				S	**S**	**09 41 39.2**	**-2.0**
CD2				sS	**ScP**	**09 42 15.0**	**-0.4**
CD2				SS	**SnSn**	**09 44 03.3**	**-7.2**
CD2				pmax	pmax		
	comp=Z,30nm,1.0s						
CD2				pmax	pmax		
	comp=Z,390nm,4.2s						
CD2				LR	LR		
	comp=N,970nm,4.1s						
CD2				LR	LR		
	comp=Z,380nm,8.3s						
GYA	**Guiyang**	**36.17**	**255**	P	**P**	**09 36 13.8**	**-0.4**
GYA				pP	**p

GYA LR LR
comp=N,490nm,17.6s
GYA LR LR
comp=E,430nm,18.8s
GYA LR LR
comp=Z,470nm,17.9s
SVW2 Sparrevohn 38.36 42 *e*P **P 09 36 33.6 +1.4**
QIZ Qiongzhong 38.97 243 P **P 09 36 38.6 +0.9**
QIZ pP **pP 09 36 58.2 +1.5**
QIZ sP **sP 09 37 06.6 +0.8**
QIZ S **S 09 42 32.5 +1.8**
QIZ LR LR
comp=N,510nm,4.3s
QIZ LR LR
comp=E,600nm,4.2s
QIZ LR LR
comp=Z,800nm,4.0s
IM04 Indian Mountai 39.40 34 *e*P **P 09 36 41.3 +0.5**
IMA2 Indian Mountai 39.44 34 *e*P **P 09 36 41.6 +0.4**
RSO Redoubt South 39.76 43 *e*P **P 09 36 44.6 +0.6**
KMI Kunming 39.78 257 P P 09 36 47.9 +3.3
KMI pmax pmax
comp=Z,8.0nm,1.1s
PPLA Purkeypile 39.97 39 *e*P **P 09 36 47.2 +1.5**
comp=Z,43nm,1.2s
CAST Castle Rocks 40.01 38 *e*P **P 09 36 47.3 +1.4**
comp=Z,25nm,0.8s
KDAK Kodiak Island 40.05 47 *e*P **P 09 36 45.7 -0.5**
KDAK Kodiak Island 40.05 47 P **P 09 36 45.5 -0.7**
KDAK Kodiak Island 40.05 47 P **P 09 36 45.5 -0.7**
comp=Z,18nm,0.5s,baz=252,slow=2.8,SNR=16
SPU Mount Spurr 40.07 42 *e*P **P 09 36 47.7 +1.3**
BPAW Bear Paw Mtn. 40.50 37 *e*P **P 09 36 50.9 +1.0**
comp=Z,9.0nm,0.7s
ZALV Zalesovo Beam 40.78 307 *i*P **P 09 36 52.2 -0.1**
ZALV pmax pmax
comp=Z,5.0nm,0.4s
ZALV Zalesovo Beam 40.78 307 P **P 09 36 51.6 -0.6**
ZALV PcP **PcP 09 38 52.4 +0.5**
ZALV Zalesovo Beam 40.78 307 P **P 09 36 51.6 -0.6**
comp=Z,5.3nm,0.4s,baz=90,slow=7.4,SNR=14
ZALV PcP **PcP 09 38 52.4 +0.5**
comp=Z,4.3nm,0.5s,baz=102,slow=2.7,SNR=6.8
ZALV LR LR 09 55 02.0
comp=Z,61nm,21.8s,baz=250,slow=38
TRF Thorofare Moun 40.82 38 *e*P **P 09 36 52.6 -0.2**
comp=Z,12nm,0.8s
COLD Coldfoot 40.91 32 *e*P **P 09 36 54.0 +0.8**
comp=Z,50nm,1.1s
MCK McKinley 41.41 37 *e*P **P 09 36 58.1 +0.7**
MCK pmax pmax
comp=Z,22nm,0.9s
MCK McKinley 41.41 37 *e*P **P 09 36 58.1 +0.7**
comp=Z,22nm,0.9s
PMR Palmer 41.45 41 *e*P **P 09 36 57.8 +0.1**
PMR Palmer 41.45 41 *e*P **P 09 36 57.8 +0.1**
NVS Novosibirsk 41.52 309⇑*i*P **P 09 36 57.2 -1.1**
NVS pmax pmax
comp=E,20nm,1.4s
NVS pmax pmax
comp=Z,23nm,1.4s
NVS pmax pmax
comp=N,8.0nm,1.8s
WMQ Urumqi 41.67 292 P **P 09 36 59.8 -0.1**
WMQ pP **pP 09 37 22.8 +3.8**
WMQ sP sP 09 37 33.8 +5.7
WMQ PP **PnPn 09 38 40.6 -2.3**
WMQ pmax pmax
comp=Z,41nm,0.8s
WMQ pmax pmax
comp=Z,130nm,4.0s
WMQ LR LR
comp=N,220nm,23.6s
WMQ LR LR
comp=Z,190nm,20.0s
SML Sawmill 41.81 40 *e*P **P 09 37 02.2 +1.5**
SML Sawmill 41.81 40 *e*P **P 09 37 02.2 +1.5**
COLA College 41.85 36 *e*P **P 09 37 01.9 +1.0**
COLA pmax pmax
comp=Z,40nm,0.6s
COLA College 41.85 36 *e*P **P 09 37 01.8 +1.0**
COLA College 41.85 36 *e*P **P 09 37 01.9 +1.0**
comp=Z,40nm,0.6s
ILAR Eielson Array 42.26 36 P **P 09 37 04.2 0.0**
ILAR Eielson Array 42.26 36 P **P 09 37 04.2 0.0**
comp=Z,7.8nm,0.5s,baz=254,slow=4.7,SNR=126
PAX Paxson 43.03 38 *e*P **P 09 37 12.1 +1.5**
PAX pmax pmax
comp=Z,7.0nm,0.7s
PAX Paxson 43.03 38 *e*P **P 09 37 12.1 +1.5**
comp=Z,6.8nm,0.7s
DIV Divide 43.11 41 *e*P **P 09 37 12.3 +1.0**
comp=Z,18nm,1.0s
BMRM Bremner River 43.69 41 *e*P **P 09 37 16.3 +0.3**
comp=Z,19nm,0.8s
MK31 Makanchi Array 44.24 298 *i*P **P 09 37 20.5 0.0**
MK31 pmax pmax
comp=Z,59nm,0.7s
MK31 Makanchi Array 44.24 298 *e*P **P 09 37 20.7 +0.2**
MKAR Makanchi Array 44.24 298 P **P 09 37 20.8 +0.3**
MKAR pmax pmax
comp=Z,37nm,0.7s
MKAR MLR MLR
comp=Z,56nm,18.1s
MKAR Makanchi Array 44.24 298 *e*P **P 09 37 20.9 +0.4**
MKAR Makanchi Array 44.24 298 P **P 09 37 20.8 +0.3**
comp=Z,37nm,0.7s,baz=80,slow=8.9,SNR=280
MKAR LR LR 09 56 48.0
comp=Z,56nm,18.1s,baz=163,slow=37
EGAK Eagle 44.71 36 *e*P **P 09 37 24.0 +0.1**
comp=Z,67nm,1.4s
KURK Kurchatov 45.27 304 P **P 09 37 29.3 +0.8**
KURK Kurchatov 45.27 304 P **P 09 37 29.3 +0.8**
KURBB Kurchatov Arra 45.35 304 P **P 09 37 29.3 +0.1**
comp=Z,46nm,0.7s,baz=69,slow=8.8,SNR=153
DAWY Dawson 45.57 36 *e*P **P 09 37 31.0 +0.2**
HYT Haines Junctio 47.12 40 *e*P **P 09 37 45.0 +1.9**
INK Inuvik 47.15 30 P **P 09 37 43.8 +0.8**
INK Inuvik 47.15 30 P **P 09 37 43.8 +0.8**
comp=Z,42nm,0.8s,baz=302,slow=7.5,SNR=88
VOSK Vostochnaya 49.09 309 P **P 09 37 57.8 -0.4**
VOSK pmax pmax
comp=Z,31nm,1.0s
BVA0 Borovoye Array 49.31 309 P **P 09 37 59.7 -0.2**
BVA0 pmax pmax
comp=Z,18nm,0.7s
BVAR Borovoye Array 49.31 309 LR LR 10 00 28.6
comp=Z,58nm,21.8s,baz=100,slow=38
BRVK Borovoye 49.36 309 *e*P **P 09 38 00.8 +0.5**
BRVK pmax pmax
comp=Z,125nm,1.9s
BRVK Borovoye 49.36 309 *e*P **P 09 38 00.4 +0.1**
BRVK Borovoye 49.36 309 *e*P **P 09 38 00.8 +0.5**
comp=Z,125nm,1.9s
TAPN Taplejung 49.38 271 *e*P **P 09 38 02.1 +1.0**
comp=Z,21nm,0.8s
ODAN Odare 49.89 271 *e*P **P 09 38 05.3 +0.4**
comp=Z,11nm,0.5s
ULHL Ulahol 50.00 294 *i*P **P 09 38 06.3 +0.7**
ULHL Ulahol 50.00 294 P **P 09 38 06.3 +0.7**
SNR=5.9
TKM2 Tokmak 2 50.13 295 *e*P **P 09 38 07.3 +0.8**
TKM2 pmax pmax
comp=Z,23nm,0.9s
TKM2 Tokmak 2 50.13 295 P **P 09 38 07.3 +0.8**
SNR=22
TKM2 Tokmak 2 50.13 295 *e*P **P 09 38 07.3 +0.8**
comp=Z,23nm,0.9s
JIRN Jiri 50.31 273 *e*P **P 09 38 08.9 +0.6**
comp=Z,43nm,1.0s
GUN Gumba 50.40 273 *e*P **P 09 38 09.4 +0.5**
comp=Z,67nm,0.8s
RAMN Ramite 50.41 272 *e*P **P 09 38 08.9 0.0**
comp=Z,54nm,0.9s
KBK Karagaybulak 50.68 295 *i*P **P 09 38 11.2 +0.6**
KBK Karagaybulak 50.68 295 P **P 09 38 11.2 +0.6**
SNR=13
USP Ospenovka 50.70 296 *i*P **P 09 38 11.3 +0.7**
USP Ospenovka 50.70 296 P **P 09 38 11.3 +0.7**
SNR=8.4
KZA Kyzart 50.74 295 *i*P **P 09 38 12.7 +1.4**
KZA Kyzart 50.74 295 P **P 09 38 12.7 +1.4**
SNR=8.4
KKN Kakani 50.90 273 *e*P **P 09 38 12.7 +0.2**
comp=Z,37nm,0.9s
PKI Pulchoki 50.93 273 *e*P **P 09 38 13.2 +0.3**
comp=Z,8.8nm,0.5s
PKIN Phulchoki 50.94 273 *e*P **P 09 38 13.1 +0.2**
comp=Z,15nm,0.8s
AAK Ala-Archa 50.99 296 *e*P **P 09 38 13.2 +0.2**
AAK Ala-Archa 50.99 296 P **P 09 38 13.2 +0.2**
SNR=6.7
AAK Ala-Archa 50.99 296 *e*P **P 09 38 13.1 +0.2**
AAK Ala-Archa 50.99 296 *e*P **P 09 38 13.2 +0.2**
AAK Ala-Archa 50.99 296 LR LR 10 01 14.4
comp=Z,69nm,19.2s,baz=213,slow=38
DMN Daman 51.13 273 *e*P **P 09 38 14.5 +0.2**
comp=Z,36nm,0.8s
KSH Kashi 51.44 291 P P 09 38 19.7 +3.4
KSH sP sP 09 38 54.2 +9.2
KSH PcP **PcP 09 39 32.1 +2.4**
KSH PP PP 09 40 19.2 +5.3
KSH PcS **PcS 09 43 28.7 +1.0**
KSH S **S 09 45 31.3 +1.1**
KSH pmax pmax
comp=Z,13nm,1.2s
KSH pmax pmax
comp=Z,110nm,3.6s
KSH LR LR
comp=N,120nm,4.6s
KSH LR LR
comp=E,94nm,5.7s
KSH LR LR
comp=Z,190nm,8.2s
EKS2 Erkin-Say 51.45 296 *e*P **P 09 38 16.8 +0.5**
EKS2 pmax pmax
comp=Z,9.0nm,0.6s
EKS2 Erkin-Say 51.45 296 P **P 09 38 16.8 +0.5**
SNR=11
EKS2 Erkin-Say 51.45 296 *e*P **P 09 38 16.8 +0.5**
comp=Z,8.6nm,0.6s
DANN Dangsing 51.69 275 *e*P **P 09 38 18.6 +0.1**
comp=Z,120nm,0.8s
KOLN Koldanda 52.14 274 *e*P **P 09 38 21.3 -0.4**
comp=Z,42nm,0.8s
PYUN Piuthan 52.39 275 *e*P **P 09 38 22.3 -1.3**
comp=Z,94nm,0.8s
PMG Port Moresby 52.42 179 LR LR 09 56 45.3
comp=Z,106nm,19.6s,baz=290,slow=31
SVE Sverdlovsk 53.05 317⇑*e*P **P 09 38 28.0 +0.2**
SVE pmax pmax
comp=Z,120nm,1.1s
KK31 Karatay Array 53.37 298 *i*P **P 09 38 30.1 -0.3**
KK31 pmax pmax
comp=Z,6.0nm,0.4s
KKAR Karatay Array 53.37 298 *e*P **P 09 38 30.3 -0.1**
KKAR Karatay Array 53.37 298 *e*P **P 09 38 30.3 -0.1**
SOKR Solikamsk 53.74 321*c i*P **P 09 38 32.9 +0.1**
SOKR pmax pmax
comp=Z,130nm,1.0s
HNR Honiara 53.90 163 LR LR 09 57 50.8
comp=Z,69nm,19.5s,baz=57,slow=32
ARU Arti 54.26 317*c i*P **P 09 38 36.6 0.0**
ARU *PP **pP 09 38 56.0 -0.6**
ARU *SP **sP 09 39 04.4 -1.1**
ARU 09 39 36.5
ARU 09 40 35.9
ARU S **S 09 46 10.2 +2.4**
ARU SS **SS 09 49 48.4 -1.7**
ARU pmax pmax
comp=Z,121nm,1.2s
ARU Arti 54.26 317 *e*P **P 09 38 36.7 +0.1**
SPA0 Spitsbergen Ar 55.14 349 *e*P **P 09 38 44.2 +1.5**
KBS Kingsbay 55.16 350*ce*P **P 09 38 43.1 +0.3**
KBS pmax pmax
comp=Z,40nm,1.7s
RES Resolute Bay 55.62 16 P **P 09 38 46.4 +0.2**
RES Resolute Bay 55.62 16 P **P 09 38 46.4 +0.2**
comp=Z,40nm,0.3s,baz=326,slow=7.5,SNR=47
YKA Yellowknife Ar 56.57 33 P **P 09 38 53.4 +0.3**
YKA Yellowknife Ar 56.57 33 P **P 09 38 53.3 +0.3**
comp=Z,7.7nm,0.8s,baz=301,slow=7.6,SNR=21
AB31 Akbulak array 56.86 309 *i*P **P 09 38 55.8 +0.4**
AB31 pmax pmax
comp=Z,22nm,0.3s
ABKAR Akbulak array 56.86 309 *e*P **P 09 38 55.3 -0.1**
comp=Z,49nm,0.5s
ABKAR *e*P **P 09 38 55.5 +0.1**
COEN Coen 57.01 184 *e*P **P 09 38 57.4 +0.7**
comp=Z,157nm,1.1s
AKTO Aktyubinsk 57.36 311 *i*P **P 09 38 59.0 +0.1**
AKTO pmax pmax
comp=Z,26nm,0.7s
KBL Kabul 58.74 290 *e*P **P 09 39 08.6 -0.5**
KBL pmax pmax
comp=Z,13nm,0.8s
KBL Kabul 58.74 290 *e*P **P 09 39 08.6 -0.5**
comp=Z,13nm,0.8s
TMCR Tamitsa 59.09 331 *e*P **P 09 39 10.9 +0.2**
TMCR *e* 09 41 24.9
TMCR pmax pmax
comp=Z,60nm,0.4s
ARCES ARCESS Array B 59.48 339 P **P 09 39 13.1 -0.2**
ARCES ARCESS Array B 59.48 339 P **P 09 39 13.1 -0.2**
comp=Z,7.3nm,0.4s,baz=40,slow=7.2,SNR=39
ARCES LR LR 10 06 49.3
comp=Z,62nm,21.1s,baz=260,slow=38
ARE0 ARCESS Array S 59.48 339 *e*P **P 09 39 13.6 +0.2**
DAG Danmarks Havn 59.86 356⇑*i*P **P 09 39 15.0 -0.8**
DAG pmax pmax
comp=Z,14nm,0.8s
DAG Danmarks Havn 59.86 356⇑*i*P **P 09 39 15.0 -0.8**
comp=Z,18nm,0.8s
KTK1 Kautokeino 60.42 340 *e*P **P 09 39 19.7 -0.1**
KLMR Klimovskoe 60.50 327 *e*P **P 09 39 19.1 -1.3**
KLMR pmax pmax
comp=Z,93nm,1.3s
B08A Colville Reser 61.88 49 *e*P **P 09 39 30.4 +0.3**
comp=Z,10nm,1.4s
EDM Edmonton 62.20 42 *e*P **P 09 39 32.2 +0.1**
EDM Edmonton 62.20 42 *e*P **P 09 39 32.2 +0.1**
JOF Joensuu 62.22 332 *e*P **P 09 39 32.6 +0.6**
JOF pmax pmax
comp=Z,55nm,0.7s
JOF Joensuu 62.22 332 *e*p **P 09 39 32.6 +0.6**
comp=Z,55nm,0.7s
H04A Detroit Lake 62.33 54 *e*P **P 09 39 34.0 +1.0**
comp=Z,6.7nm,0.9s
C09A Chrisman Ranch 62.78 49 *e*P **P 09 39 36.8 +0.8**
comp=Z,14nm,1.4s
HAWA Hanford 62.88 51 *e*P **P 09 39 37.4 +0.7**
comp=Z,12nm,1.4s
NEW Newport 63.14 48 *e*P **P 09 39 38.6 +0.2**
NEW Newport 63.14 48 P **P 09 39 38.5 0.0**
comp=Z,4.1nm,0.9s,baz=306,slow=7.1,SNR=9.7
NEW Newport 63.14 48 ⇓P **P 09 39 38.7 +0.2**
baz=63
KHMM Horse Mountain 63.57 58 *e*P **P 09 39 43.8 +2.2**
comp=Z,15nm,1.1s
E09A Wood Farm, Sta 63.60 50 *e*P **P 09 39 42.5 +1.1**
comp=Z,9.4nm,0.9s
PINOR Pine Mountain 63.60 54 *e*P **P 09 39 43.2 +1.8**
YBH Yreka Blue Hor 63.70 57 P **P 09 39 42.3 0.0**
YBH Yreka Blue Hor 63.70 57 P **P 09 39 42.3 0.0**
comp=Z,4.2nm,0.9s,baz=96,slow=6.5,SNR=4.8
WRA Warramunga Arr 63.84 193 P **P 09 39 42.2 -1.0**
WRA Warramunga Arr 63.84 193 P **P 09 39 42.2 -1.0**
comp=Z,7.0nm,0.9s,baz=11,slow=6.9,SNR=28
WRA LR LR 10 04 43.5
comp=Z,37nm,18.9s,baz=240,slow=33
K05A Summer Lake 64.22 55 *e*P **P 09 39 47.5 +1.7**
SUMG Summit 64.42 2⇑*i*P **P 09 39 47.5 +0.6**
SUMG pmax pmax
comp=Z,55nm,0.9s
SUMG Summit 64.42 2⇑*i*P **P 09 39 47.5 +0.6**
comp=Z,55nm,0.9s
SUMG Summit 64.42 2 *e*P **P 09 39 47.2 +0.3**
comp=Z,85nm,1.0s
KAF Kangasniemi 64.46 333 *e*P **P 09 39 46.7 -0.1**
KAF pmax pmax
comp=Z,35nm,0.8s
KAF Kangasniemi 64.46 333 *e*p **P 09 39 46.7 -0.1**
comp=Z,35nm,0.8s
MOS Moscow 64.46 324 *e*P **P 09 39 46.0 -0.9**
MOS *e* 09 43 47.5
IAKL Akhelmad 64.47 297 *e*P **P 09 39 47.4 -0.2**
WDC Whiskeytown Da 64.48 58 *e*P **P 09 39 47.8 +0.5**
WDC pmax pmax
comp=Z,11nm,1.2s
WDC Whiskeytown Da 64.48 58 *e*P **P 09 39 47.8 +0.5**
comp=Z,11nm,1.2s
ISHV Shirvan 64.60 298 *e*P P 09 39 52.2 +3.8
BSMT Bassoo Peak 64.65 47 P **P 09 39 49.5 +1.0**
ISFR Sfrayin 64.69 298 *e*P **P 09 39 49.0 -0.1**
MOR8 Moi Rana 64.78 340⇑*i*P **P 09 39 47.3 -1.5**
MOR8 AMB AMB 09 39 48.1
comp=Z,77nm,0.7s
MOR8 IAmb IAmb 09 39 48.9
comp=Z,91nm,1.0s
FIA1 FINESS Array S 65.01 333 *e*P **P 09 39 49.9 -0.5**
FINES FINESS Array B 65.01 333 P **P 09 39 50.3 -0.1**
FINES FINESS Array B 65.01 333 P **P 09 39 50.3 -0.1**
comp=Z,48nm,0.7s,baz=46,slow=8.2,SNR=93
FINES LR LR 10 09 02.4
comp=Z,65nm,18.9s,baz=174,slow=37
MOD Modoc 65.06 55 *e*P **P 09 39 51.9 +0.6**
comp=Z,78nm,1.6s
SWMT Swartz Lake 65.28 47 *e*P **P 09 39 53.5 +1.0**
OBN Obninsk 65.32 323⇓*i*P **P 09 39 52.7 +0.2**
OBN *e* 09 40 25.0
OBN *e* 09 42 15.9
OBN *e*SS SS 09 52 47.6 +4.4
OBN pmax pmax
comp=Z,94nm,1.7s
OBN MLR MLR
comp=Z,100nm,17.0s
OBN Obninsk 65.32 323 *e*P **P 09 39 52.7 +0.2**
VRHR Novokhopersk 65.57 318 *e*P **P 09 39 53.1 -1.0**
VRHR pmax pmax
comp=N,20nm,0.6s
VRHR pmax pmax
comp=Z,40nm,0.6s
VRHR pmax pmax
comp=E,20nm,1.4s
SLMT Seeley Lake 65.71 47 *e*P **P 09 39 56.1 +0.7**
MSO Missoula 65.73 48 *e*P **P 09 39 56.1 +0.7**
comp=E,8.6nm,1.0s
MSO *e*pP **pP 09 40 13.9 -2.1**
MSO Missoula 65.73 48⇑P **P 09 39 55.6 +0.2**
baz=66
OHCM Honcut 65.87 58 *e*P **P 09 39 57.0 +0.7**
OHCM *e*pP **pP 09 40 15.6 -1.2**
CHMT Chamberlain Mo 66.05 48 *e*P **P 09 39 57.9 +0.3**
comp=E,4.7nm,1.2s
BEKR Beckworth 66.24 57 *e*P **P 09 39 59.1 +0.2**
comp=E,5.7nm,1.1s
SCO Scoresbysund 66.25 356 *i*P **P 09 39 58.3 +0.1**
SCO pmax pmax
comp=Z,14nm,0.8s
SCO Scoresbysund 66.25 356 *i*P **P 09 39 58.3 +0.1**
comp=Z,14nm,0.8s
FFC Flin Flon 66.48 36 *e*P **P 09 39 59.9 0.0**
FFC pmax pmax
comp=Z,33nm,1.1s
FFC Flin Flon 66.48 36 *e*P **P 09 39 59.9 0.0**
comp=Z,33nm,1.1s
VSR Storozhevoye 66.68 319 *e*P **P 09 40 01.5 +0.2**
VSR pmax pmax
comp=Z,30nm,0.5s
VSR pmax pmax
comp=N,30nm,1.1s
VSR pmax pmax
comp=E,30nm,1.0s
MFID Camas Ranch 66.77 52⇑P **P 09 40 02.6 +0.4**
baz=67
VORD Divnogorie 66.78 319 *e*P **P 09 40 02.1 +0.2**
VORD pmax pmax
comp=Z,50nm,1.1s
VORD pmax pmax
comp=N,20nm,0.6s
VORD pmax pmax
comp=E,40nm,0.6s
HRY Holter Researc 66.94 47 *e*P **P 09 40 04.2 +1.0**
PAHR Pah Rah Range 66.94 57 *e*P **P 09 40 04.4 +1.0**
comp=E,20nm,1.3s
PAHR *e*pP **pP 09 40 22.5 -1.4**
A19A Klindworth Far 67.13 44⇑P **P 09 40 04.6 +0.4**
baz=67,SNR=5.3
LRM Limekiln Ridge 67.16 48 *e*P **P 09 40 05.7 +0.9**
LRM *e*pP **pP 09 40 23.6 -1.8**
EGMT Eagleton 67.19 45 *e*P **P 09 40 05.4 +0.7**
comp=E,26nm,1.4s
EGMT *e*pP **pP 09 40 23.4 -1.9**
EGMT Eagleton 67.19 45⇑P **P 09 40 05.1 +0.3**
baz=67
D17A Six Diamond Ra 67.26 46⇑P **P 09 40 05.5 +0.3**
baz=67
CMB Columbia Colle 67.34 59 *e*P **P 09 40 06.8 +1.0**
CMB *e**PP **pP 09 40 25.9 -0.5**
CMB Columbia Colle 67.34 59 *e*P **P 09 40 06.8 +1.0**
CMB *e*pP **pP 09 40 25.9 -0.5**
DLMT Dillon 67.37 49 *e*P **P 09 40 06.6 +0.7**
comp=E,12nm,1.3s
HLID Hailey 67.49 51 *e*P **P 09 40 07.5 +0.7**
HLID *e*pP **pP 09 40 26.2 -1.2**
HLID Hailey 67.49 51⇓P **P 09 40 07.3 +0.5**
baz=67,SNR=5.1
AS31 Alice Springs 67.56 192 *e*P **P 09 40 07.1 0.0**
ASAR Alice Springs 67.56 192 P **P 09 40 07.4 +0.3**
ASAR Alice Springs 67.56 192 P **P 09 40 07.4 +0.3**
comp=E,7.3nm,0.7s,baz=8.4,slow=5.6,SNR=113
A20A Cobblestone Ra 67.57 43⇑P **P 09 40 07.8 +0.7**
baz=67
WAKR Walker 67.64 58 *e*P **P 09 40 09.2 +1.3**
WAKR *e*pP **pP 09 40 27.7 -0.8**
D18A Linhart Farms, 67.70 46⇓P **P 09 40 08.1 +0.2**
baz=68
BOZ Bozeman (W) 67.72 48 *e*P **P 09 40 08.8 +0.6**
BOZ pmax pmax
comp=Z,5.0nm,0.6s
BOZ Bozeman (W) 67.72 48 *e*P **P 09 40 08.8 +0.6**
comp=Z,4.7nm,0.6s
C19A Slack Wire Ran 67.74 45⇓P **P 09 40 08.8 +0.6**
baz=68,SNR=6.5
A21A Bergtoll Ranch 68.00 43⇑P **P 09 40 10.2 +0.5**
baz=68,SNR=6.9
D19A Cripps Ranch, 68.20 45⇑P **P 09 40 11.5 +0.5**
baz=68
C20A Veseth Ranch, 68.29 44⇑P **P 09 40 12.1 +0.5**
baz=68,SNR=5.4
B21A Ellsworth Farm 68.32 43⇑P **P 09 40 12.4 +0.6**
baz=68
QLMT Earthquake Lak 68.35 48 *e*P **P 09 40 11.3 -0.9**
EIDS Eidsvold 68.43 175 *e*P **P 09 40 13.5 +1.1**
comp=Z,120nm,3.0s
NV11 Mina Array Sit 68.48 57 *e*P **P 09 40 13.9 +0.9**
NV11 *e*pP **pP 09 40 31.9 -1.8**
A22A Carney Farms, 68.50 42⇑P **P 09 40 13.1 +0.2**
baz=68,SNR=7.1
MLAC Mammoth Lakes 68.56 58⇑P **P 09 40 14.5 +0.8**
baz=68
F18A Big Timber 68.58 47⇑P **P 09 40 14.0 +0.6**
baz=68
D20A Manuel Ranch, 68.63 45⇑P **P 09 40 14.3 +0.6**
baz=68,SNR=8.6
C21A Desert Coulee 68.68 44⇑P **P 09 40 14.4 +0.4**
baz=68
E19A Rath Farm, Rou 68.71 46⇑P **P 09 40 15.1 +0.8**
baz=68,SNR=5.0
B22A Reddig Ranch S 68.92 43⇓P **P 09 40 15.9 +0.5**
baz=69
PTRM Twissleman Ran 68.92 61 *e*P **P 09 40 17.0 +1.3**
PTRM *e*pP **pP 09 40 36.2 -0.2**
I16A Newdale 68.93 49⇑P **P 09 40 16.8 +1.0**
baz=69,SNR=8.9
E20A Meyer Farm, Mu 69.02 45⇓P **P 09 40 16.5 +0.4**
baz=69
F19A Roth Farm, Mol 69.02 46⇑P **P 09 40 16.9 +0.7**
baz=69,SNR=7.1
A23A Redstone 69.03 42⇑P **P 09 40 16.5 +0.4**
baz=69
G18A Lazy EL Ranch, 69.04 47⇑P **P 09 40 17.1 +0.6**
baz=69
IMW Indian Meadow 69.22 49 *e*P **P 09 40 18.8 +1.1**
comp=Z,11nm,1.2s
FLWY Flagg Ranch 69.23 49 *e*pP pP 09 40 44.9 +6.6
D21A La Casta Ranch 69.24 44⇑P **P 09 40 18.2 +0.7**
baz=69
B23A Brockton 69.31 42⇓P **P 09 40 18.3 +0.5**
baz=69,SNR=6.3
SFJD Kangerlussuaq 69.32 7 *i*P **P 09 40 17.2 -0.3**
comp=Z,24nm,0.8s
RLMT Red Lodge 69.33 47 *e*P **P 09 40 19.0 +0.7**
comp=Z,11nm,1.2s
C22A Vida 69.34 43⇑P **P 09 40 18.6 +0.5**
baz=69
RRI2 Red Ridge 69.36 50 *e*P **P 09 40 19.9 +1.3**

comp=Z,7.4nm,0.8s
I17A Pilgrim Ck. 69.40 49 ⇓P P 09 40 20.4 +1.7
baz=69
H18A Shoshone NF, C 69.41 48 ⇓P P 09 40 19.6 +0.8
baz=69
MOOW Moose Ponds 69.42 49 eP P 09 40 19.7 +0.8
comp=Z,4.9nm,0.9s
TPAW Teton Pass 69.47 49 eP P 09 40 21.0 +1.7
comp=Z,14nm,1.1s
A24A Westby 69.48 42 ⇑P P 09 40 19.3 +0.4
baz=69
VES Vestal, Richgr 69.52 60 ⇑P P 09 40 19.4 +0.1
baz=69
NACGM Naroch 69.53 328 e P 09 40 17.0 -2.0
HVU Hansel Valley 69.55 52 eP P 09 40 20.7 +1.0
HVU e*PP pP 09 40 38.8 -1.5
HVU pmax pmax
comp=Z,6.0nm,0.9s
HVU Hansel Valley 69.55 52 eP P 09 40 20.6 +1.0
comp=Z,5.6nm,0.9s
HVU epP pP 09 40 38.8 -1.5
LOHW Long Hollow 69.59 49 eP P 09 40 20.4 +0.5
LOHW epP pP 09 40 39.8 -0.8
D22A Cohagen 69.59 44 ⇑P P 09 40 19.9 +0.2
baz=69
SNOW Snow King Moun 69.60 49 eP P 09 40 21.7 +1.6
SNOW epP pP 09 40 40.6 -0.1
KIV Kislovodsk 69.61 311 eP P 09 40 21.3 +1.5
KIV pmax pmax
comp=Z,57nm,1.1s
KIV MLR MLR
comp=Z,47nm,18.0s
REDW Red Top Meadow 69.61 49 eP P 09 40 21.2 +1.2
comp=Z,11nm,1.2s
REDW epP pP 09 40 39.2 -1.6
KBZ Khabaz 69.64 311 P P 09 40 21.3 +1.4
KBZ Khabaz 69.64 311 P P 09 40 21.3 +1.4
KBZ Khabaz 69.64 311 P P 09 40 21.3 +1.4
comp=Z,21nm,0.8s,baz=59,slow=4.1,SNR=18
KBZ LR LR 10 16 23.9
comp=Z,55nm,19.5s,baz=230,slow=41
PKM Peak Mountain 69.64 61 ⇓P P 09 40 20.8 +0.5
baz=70
C23A Lambert 69.66 43 ⇑P P 09 40 20.3 +0.2
baz=70
ZEI Tsey 69.69 310 eP P 09 40 19.7 -0.8
ZEI pmax pmax
comp=Z,24nm,1.1s
DGMT Dagmar 69.69 42 eP P 09 40 20.6 +0.4
comp=Z,14nm,0.6s
DGMT epP pP 09 40 39.0 -1.9
DGMT Dagmar 69.69 42 ⇓P P 09 40 20.3 +0.1
baz=70
CWC Cottonwood Cre 69.77 59 ⇑P P 09 40 21.5 +0.4
baz=70
H19A Powell 69.78 47 ⇓P P 09 40 21.1 +0.2
baz=70
NB2 NORSAR Subarra 69.82 339 P P 09 40 20.7 -0.1
comp=Z,48nm,1.0s,baz=32,slow=6.5
NB2 NORSAR Subarra 69.82 339 P P 09 40 20.7 -0.1
baz=32,slow=6.5
NOA NORSAR Array B 69.82 339 P P 09 40 20.6 -0.1
NOA NORSAR Array B 69.82 339 P P 09 40 20.6 -0.1
comp=Z,24nm,0.9s,baz=32,slow=6.2,SNR=47
NOA LR LR 10 13 31.2
comp=Z,40nm,19.1s,baz=15,slow=38
G20A Bridger 69.82 47 ⇑P P 09 40 21.1 -0.1
baz=70
GRAC Grapevine Rang 69.86 58 ⇑P P 09 40 22.5 +1.1
baz=70,SNR=22
LAO LASA Array 69.88 44 eP P 09 40 22.3 +0.9
comp=Z,2.9nm,0.4s
A25A Svangstu Ranch 69.90 41 ⇓P P 09 40 21.8 +0.4
baz=70
I18A Diamond G Ranc 69.96 49 ⇓P P 09 40 23.1 +0.9
baz=70
ISA Isabella 70.02 60 eP P 09 40 22.6 +0.1
ISA Isabella 70.02 60 eP P 09 40 22.6 +0.1
ISA Isabella 70.02 60 ⇓P P 09 40 22.5 +0.1
baz=70
R11A Troy Canyon, C 70.09 56 eP P 09 40 23.3 +0.3
R11A epP pP 09 40 42.1 -1.6
R11A Troy Canyon, C 70.09 56 ⇓P P 09 40 23.5 +0.5
baz=70,SNR=9.4
I19A Meeteetse 70.19 48 ⇑P P 09 40 24.0 +0.5
baz=70
E22A Miles City 70.19 44 ⇓P P 09 40 23.9 +0.6
baz=70
HWUT Hardware Ranch 70.35 51 eP P 09 40 25.2 +0.6
comp=Z,14nm,1.4s
HWUT epP pP 09 40 43.0 -2.3
MPMC Manual Prospec 70.38 59 ⇑P P 09 40 25.4 +0.5
baz=70,SNR=8.0
H20A Greybull 70.42 47 ⇓P P 09 40 24.8 -0.1
baz=70
A26A Wade Farm, Ken 70.44 41 ⇓P P 09 40 24.9 +0.1
baz=70
F22A Rosebud 70.48 45 ⇑P P 09 40 25.3 +0.2
baz=70
FURC Furnace Creek, 70.51 58 ⇑P P 09 40 26.1 +0.8
baz=70,SNR=14
D24A Glendive 70.55 43 ⇓P P 09 40 26.0 +0.5
baz=70
DUG Dugway 70.55 53 eP P 09 40 26.3 +0.6
DUG pmax pmax
comp=Z,10.0nm,1.1s
DUG Dugway 70.55 53 eP P 09 40 26.3 +0.6
comp=Z,9.7nm,1.1s
DUG Dugway 70.55 53 ⇑P P 09 40 26.4 +0.6
baz=70,SNR=8.2
LRMC Laurel Mountai 70.63 59 ⇑P P 09 40 27.1 +0.9
baz=70
J19A Crowheart 70.67 48 ⇓P P 09 40 27.4 +1.0
baz=70,SNR=8.5
I20A Worland 70.71 47 ⇓P P 09 40 27.5 +0.8
baz=70,SNR=6.1
BW06 Boulder Array 70.72 49 eP P 09 40 26.8 0.0
comp=Z,8.4nm,1.0s
PDAR Pinedale Array 70.72 49 P P 09 40 27.1 +0.2
PDAR Pinedale Array 70.72 49 P P 09 40 27.1 +0.2
comp=Z,4.5nm,0.8s,baz=267,slow=1.7,SNR=35
A27A Ledoux Ranch, 70.78 40 ⇓P P 09 40 27.5 +0.7
baz=71,SNR=5.8
EDW2 Edwards Air Fo 70.82 60 ⇑P P 09 40 28.0 +0.7
baz=71,SNR=6.0
G22A Birney 70.83 46 ⇑P P 09 40 27.9 +0.6
baz=71
H21A Big Horn, Sher 70.84 46 ⇓P P 09 40 28.1 +0.7
baz=71,SNR=5.2
F23A Volborg 70.95 45 ⇑P P 09 40 28.3 +0.3
baz=71,SNR=6.4
HYA Hoyanger 70.99 341 eP P 09 40 26.8 -1.0
L18A Fontenelle, Gr 71.01 50 ⇑P P 09 40 29.7 +1.1
baz=71
D25A Fairfield 71.03 43 ⇑P P 09 40 29.5 +1.1
baz=71
K19A Absolon Red Bu 71.07 49 ⇓P P 09 40 29.2 +0.2
baz=71
JLU Jordanelle 71.08 52 eP P 09 40 29.9 +0.9
J20A Shoshoni 71.14 48 ⇑P P 09 40 29.5 +0.3
baz=71,SNR=7.4
NLU North Lily Min 71.14 53 eP P 09 40 30.6 +1.2
B27A Peters Farms, 71.15 41 ⇓P P 09 40 29.9 +0.9
baz=71
I21A Big Trails, Te 71.25 47 ⇑P P 09 40 30.5 +0.5
baz=71,SNR=9.8
A28A Rude Farm, Bot 71.27 40 ⇑P P 09 40 30.5 +0.7
baz=71
L19A Farson 71.27 50 ⇑P P 09 40 30.9 +0.7
baz=71
GSC Goldstone 71.29 59 eP P 09 40 31.1 +0.8
GSC e*PP PcP 09 40 49.1 -0.6
GSC pmax pmax
comp=Z,6.0nm,0.9s
GSC Goldstone 71.29 59 eP P 09 40 31.1 +0.8
comp=Z,5.9nm,0.9s
GSC epP PcP 09 40 49.1 -0.6
GSC Goldstone 71.29 59 ⇓P P 09 40 30.9 +0.7
baz=71
DAU Daniels Canyon 71.31 52 eP P 09 40 31.5 +0.9
DAU Daniels Canyon 71.31 52 eP P 09 40 31.5 +0.9
MPU Maple Canyon 71.36 52 eP P 09 40 31.8 +1.1
F24A Ekalaka 71.36 44 ⇑P P 09 40 30.8 +0.3
baz=71,SNR=5.7
E25A Miller Ranch, 71.44 43 ⇑P P 09 40 31.7 +0.8
baz=71
BFSC Mount Baldy Ra 71.44 60 ⇓P P 09 40 31.7 +0.5
baz=71
K20A Yellowstone Ra 71.46 49 ⇓P P 09 40 31.3 0.0
baz=71,SNR=5.6
J21A Lysite 71.49 48 ⇑P P 09 40 31.6 +0.2
baz=71
CIS Catalina Islan 71.50 61 ⇓P P 09 40 32.0 +0.6
baz=71
SHPR Sheep Range 71.54 57 eP P 09 40 33.1 +1.3
D26A Manning 71.55 42 ⇓P P 09 40 31.9 +0.3
baz=71
B28A Dugan Ranch, T 71.55 40 ⇓P P 09 40 31.9 +0.5
baz=71
AKASG Malin Array Be 71.59 323 i P P 09 40 31.7 +0.1
AKASG pmax pmax
comp=Z,17nm,0.5s
AKASG Malin Array Be 71.59 323 P P 09 40 31.8 +0.1
AKASG Malin Array Be 71.59 323 P P 09 40 31.8 +0.1
comp=Z,16nm,0.5s,baz=39,slow=5.8,SNR=50
KIEV Kiev 71.60 323 eP P 09 40 31.5 -0.2
KIEV pmax pmax
comp=Z,23nm,0.7s
KIEV Kiev 71.60 323 eP P 09 40 31.5 -0.2
comp=Z,22nm,0.7s
I22A 9 Mile Ranch, 71.63 47 ⇓P P 09 40 33.0 +0.8
baz=71
G24A Alzada 71.73 45 ⇓P P 09 40 33.1 +0.4
baz=72
A29A Manning Farm, 71.74 39 ⇓P P 09 40 33.3 +0.7
baz=72
ARUT Antelope Range 71.75 55 eP P 09 40 33.5 +0.4
ARUT Antelope Range 71.75 55 eP P 09 40 33.5 +0.4
comp=Z,196nm,0.8s
TUQ Turquoise Moun 71.76 58 ⇓P P 09 40 33.8 +0.7
baz=72,SNR=7.3
M19A Rock Springs 71.78 50 ⇑P P 09 40 33.3 +0.1
baz=72
F25A Bowman 71.81 44 ⇑P P 09 40 33.7 +0.6
baz=72
ANN Anapa 71.84 315 eP P 09 40 24.5 -8.7
ANN pmax pmax
comp=Z,48nm,1.3s
BBRC Big Bear Solar 71.89 60 ⇑P P 09 40 34.5 +0.5
baz=72
HEC Hector,Ludlow 71.89 59 ⇓P P 09 40 34.4 +0.5
baz=72
L20A Wamsutter 71.90 49 ⇓P P 09 40 34.4 +0.5
baz=72
E26A Carlson Angus 71.92 43 ⇓P P 09 40 34.4 +0.6
baz=72
CCUT Cedar City 71.95 55 eP P 09 40 34.9 +0.6
comp=Z,78nm,2.8s
J22A Midwest 71.96 47 ⇑P P 09 40 34.6 +0.4
baz=72,SNR=7.2
B29A Wagenman Farm, 72.01 40 ⇑P P 09 40 34.4 +0.2
baz=72
C28A Hausauer Farms 72.05 41 ⇑P P 09 40 35.0 +0.5
baz=72
H24A Dirks Ranch, A 72.06 45 ⇓P P 09 40 34.6 -0.1
baz=72
K21A Alcova 72.07 48 ⇑P P 09 40 35.4 +0.5
baz=72
MURC Murrieta 72.14 61 ⇑P P 09 40 35.9 +0.6
baz=72
F26A Lodgepole 72.25 43 ⇓P P 09 40 36.2 +0.5
baz=72
GMRC Granite Mounta 72.35 59 ⇑P P 09 40 37.0 +0.3
baz=72,SNR=5.2
G27A Dupree 72.45 44 ⇓P P 09 40 39.9 +2.9
baz=73
K22A Casper 72.45 48 ⇓P P 09 40 37.2 0.0
baz=72,SNR=5.3
L21A Rawlins 72.46 49 ⇑P P 09 40 37.5 +0.2
baz=72
B30A Myrvik Farm, E 72.49 39 ⇑P P 09 40 37.4 +0.3
baz=72
SRU San Rafael 72.60 53 eP P 09 40 38.7 +0.6
SRU San Rafael 72.60 53 eP P 09 40 38.7 +0.6
PFO Pinyon Flat Ob 72.61 60 epP pP 09 40 58.1 -0.9
H25A Fruitdale 72.64 45 ⇓P P 09 40 38.2 +0.1
baz=72
BELC Belle Mtn. Jos 72.64 60 ⇓P P 09 40 38.6 +0.2
baz=72
G26A Maurine 72.68 44 ⇑P P 09 40 38.2 -0.2
baz=72,SNR=5.6
M21A Separation Pea 72.71 49 ⇑P P 09 40 38.7 -0.1
baz=72
E28A Huff 72.72 42 ⇓P P 09 40 38.6 +0.1
baz=72
N20A Spence Gulch, 72.73 50 ⇑P P 09 40 39.4 +0.4
baz=72,SNR=7.4
RWWY Rawlins 72.73 49 eP P 09 40 39.5 +0.5
comp=Z,11nm,1.0s
RSSD Black Hills 72.76 45 eP P 09 40 39.3 +0.2
RSSD pmax pmax
comp=Z,32nm,1.0s
RSSD Black Hills 72.76 45 eP P 09 40 39.2 +0.2
comp=Z,32nm,1.0s
K23A Bowen Ranch, D 72.87 47 ⇑P P 09 40 39.6 0.0
baz=73
L22A Ellis Ranch, M 72.92 48 ⇓P P 09 40 40.2 +0.2
baz=73
J24A Dixon Ranch, L 72.98 46 ⇑P P 09 40 40.0 -0.2
baz=73
I25A Rochford 72.99 45 ⇓P P 09 40 40.3 -0.1
baz=73
H26A Fairpoint 73.06 44 ⇓P P 09 40 40.8 +0.2
baz=73
IRM Iron Mountain 73.07 59 ⇓P P 09 40 41.3 +0.5
baz=73,SNR=7.1
MONP Monument Peak 73.10 61 ⇑P P 09 40 41.5 +0.3
baz=73
F28A McLaughlin 73.18 42 ⇑P P 09 40 41.5 +0.2
baz=73
N21A Black Mountain 73.19 50 ⇓P P 09 40 42.0 +0.3
baz=73,SNR=5.7
BC3 Big Chuckawall 73.21 60 ⇓P P 09 40 42.0 +0.3
baz=73
O20A White River Ci 73.21 51 eP P 09 40 41.7 0.0
O20A White River Ci 73.21 51 ⇑P P 09 40 42.0 +0.2
baz=73
W13A Hualapai Mount 73.24 58 ⇑P P 09 40 42.6 +0.6
baz=73,SNR=5.9
D30A Buchanan 73.26 40 ⇓P P 09 40 41.8 +0.1
baz=73
L23A Garrett 73.27 48 ⇑P P 09 40 42.1 0.0
baz=73
U15A North Rim 73.33 56 ⇓P P 09 40 43.6 +1.0
baz=73,SNR=15
H27A Howes 73.41 44 ⇓P P 09 40 42.8 +0.2
baz=73
I26A New Underwood 73.43 45 ⇓P P 09 40 43.0 +0.2
baz=73
DVTC Desert V Tower 73.45 61 ⇓P P 09 40 43.7 +0.6
baz=73
SWSC Sam W. Stewart 73.46 60 ⇓P P 09 40 43.6 +0.6
baz=73
P20A De Beque 73.56 51 ⇑P P 09 40 43.9 +0.2
baz=73
PDMCI Parker Dam,Lak 73.61 58 ⇓P P 09 40 44.4 +0.5
baz=74
BSD Bornholm Skovb 73.64 333 i P P 09 40 44.8 +1.1
BSD pmax pmax
comp=Z,22nm,0.8s
BSD Bornholm Skovb 73.64 333 i P P 09 40 44.8 +1.1
comp=Z,22nm,0.7s
F29A Eureka 73.67 42 ⇓P P 09 40 44.3 +0.2
baz=74
G28A Parade 73.67 43 ⇓P P 09 40 44.5 +0.3
baz=74
M23A Laramie 73.70 48 ⇓P P 09 40 45.0 +0.4
baz=74
Y12C Blythe 73.73 59 ⇓P P 09 40 45.3 +0.7
baz=74
N22A Wattenberg Ran 73.76 49 ⇓P P 09 40 44.9 -0.1
baz=74
PV09 Paradox Valley 73.81 52 eP P 09 40 46.9 +1.5
I27A Quinn 73.82 44 ⇑P P 09 40 45.4 +0.3
baz=74
J26A Sides Ranch, S 73.82 45 ⇓P P 09 40 45.5 +0.3
baz=74
N23A Red Feather La 73.97 49 ⇑P P 09 40 46.9 +0.6
baz=74,SNR=5.4
Q20A Ridgley Place, 73.98 51 ⇑P P 09 40 47.1 +0.8
baz=74,SNR=5.1
GLA Glamis 74.00 60 eP P 09 40 47.4 +1.1
GLA pmax pmax
comp=Z,6.0nm,0.8s
GLA Glamis 74.00 60 eP P 09 40 47.4 +1.1
comp=Z,6.3nm,0.8s
GLA Glamis 74.00 60 ⇓P P 09 40 47.1 +0.9
baz=74
PV04 Paradox Valley 74.02 52 eP P 09 40 47.9 +1.4
P21A Newcastle 74.08 51 ⇓P P 09 40 47.3 +0.5
baz=74,SNR=7.2
PV05 Paradox Valley 74.12 53 eP P 09 40 48.2 +1.1
O22A Kremmling 74.14 50 ⇓P P 09 40 47.9 +0.6
baz=74
MUD Monsted U'grnd 74.28 337 eP P 09 40 49.1 +1.7
MUD pmax pmax
comp=Z,14nm,1.0s
MUD Monsted U'grnd 74.28 337 i P P 09 40 49.1 +1.7
comp=Z,14nm,0.9s
PV15 Paradox Valley 74.29 52 eP P 09 40 49.0 +0.8
PV01 Paradox Valley 74.38 52 eP P 09 40 49.0 +0.3
comp=Z,356nm,0.8s
P22A Eagle 74.42 50 ⇓P P 09 40 49.4 +0.6
baz=74,SNR=5.8
J27A Elkhorn Farm, 74.42 45 ⇓P P 09 40 49.2 +0.5
baz=74
R20A Redvale 74.46 52 ⇑P P 09 40 49.6 +0.5
baz=74
O23A Lake Granby, G 74.46 49 ⇑P P 09 40 50.1 +1.0
baz=74,SNR=6.5
LVV L'vov 74.46 325 eP P 09 40 49.5 +0.9
Q21A Lamborn Mesa, 74.48 51 ⇑P P 09 40 49.8 +0.6
baz=74
WUAZ Wupatki 74.50 56 eP P 09 40 49.9 +0.7
comp=Z,4.9nm,0.8s
WUAZ Wupatki 74.50 56 ⇓P P 09 40 50.3 +1.0
baz=74,SNR=7.5
Y14A Wickenburg 74.55 58 ⇑P P 09 40 50.2 +0.7
baz=74,SNR=7.0
SMCO Snowmass 74.58 51 eP P 09 40 50.9 +0.8
K27A Flueckinger Fa 74.69 45 ⇓P P 09 40 50.7 +0.5
baz=74
J28A Allard Ranch, 74.69 44 ⇓P P 09 40 50.5 +0.3
baz=74,SNR=8.8
S20A Disappointment 74.71 52 ⇓P P 09 40 51.2 +0.6
baz=74
Q22A Crested Butte, 74.83 51 ⇓P P 09 40 51.9 +0.5
baz=75,SNR=7.2
113A Mohawk Valley, 74.86 59 ⇓P P 09 40 52.0 +0.8
baz=75
STKA Stephens Creek 74.90 184 P P 09 40 51.8 +0.7
STKA Stephens Creek 74.90 184 P P 09 40 51.8 +0.7
comp=Z,6.1nm,0.8s,baz=320,slow=12,SNR=11
ISCO Idaho Springs 74.91 49 eP P 09 40 52.3 +0.5
ISCO pmax pmax
comp=Z,5.0nm,0.9s
ISCO Idaho Springs 74.91 49 eP P 09 40 52.3 +0.5
comp=Z,4.8nm,0.9s
ISCO Idaho Springs 74.91 49 ⇑P P 09 40 52.1 +0.3
baz=75
MVCO Mesa Verde 75.06 53 eP P 09 40 53.5 +0.9
MVCO Mesa Verde 75.06 53 ⇓P P 09 40 53.2 +0.6
baz=75
P23A Jefferson 75.08 50 ⇓P P 09 40 53.6 +0.8
baz=75
K28A Ten Mile Ranch 75.13 45 ⇓P P 09 40 53.2 +0.4
baz=75
KWP Kalwaria Pacla 75.15 326 eP P 09 40 53.6 +1.0
KWP pmax pmax
comp=Z,68nm,1.0s
KWP Kalwaria Pacla 75.15 326 eP P 09 40 53.6 +1.0
comp=Z,68nm,1.0s
KWP Kalwaria Pacla 75.15 326 ⇓iP P 09 40 53.9 +1.3
S21A Coal Bank Pass 75.16 52 ⇑P P 09 40 54.1 +0.9
baz=75,SNR=7.4
X16A Lo Mia Camp, P 75.19 57 ⇓P P 09 40 54.2 +0.9
baz=75,SNR=16
R22A Saguache, Gunn 75.36 51 ⇑P P 09 40 55.4 +1.0
baz=75,SNR=7.1
Q23A Hartsel 75.41 50 ⇑P P 09 40 55.4 +0.7
baz=75,SNR=6.5
O25A Wiggins 75.51 48 ⇓P P 09 40 55.7 +0.7
baz=75
U20A Newcomb 75.61 54 ⇓P P 09 40 56.7 +0.9
baz=75
BUR08 Bucovina Ar. S 75.63 323 eP P 09 40 56.3 +0.8
K29A Lazy Trails An 75.63 44 ⇓P P 09 40 56.0 +0.5
baz=75
BURAR Bucovina Array 75.64 323⇑iP P 09 40 56.1 +0.5
S22A 4UR Ranch, Cre 75.65 52 ⇓P P 09 40 57.2 +1.1
baz=76,SNR=6.4
W18A Petrified Fore 75.75 55 ⇓P P 09 40 57.4 +0.8
baz=76
Q24A Divide 75.75 50 ⇓P P 09 40 57.7 +1.1
baz=76
T21A Navajo Lake 75.77 52 ⇓P P 09 40 57.4 +0.8
baz=76
MALT Malatya 75.78 309⇓iP P 09 40 58.3 +1.8
TESR Tescani 75.84 322⇑iP P 09 40 56.8 +0.2
OJC Ojcow 75.85 328 eP P 09 40 57.2 +0.7
OJC pmax pmax
comp=Z,37nm,1.3s
OJC Ojcow 75.85 328 eP P 09 40 57.2 +0.7
comp=Z,37nm,1.3s
OJC Ojcow 75.85 328 eP P 09 40 57.3 +0.7
O26A Horse Wrangler 75.86 48 ⇓P P 09 40 57.9 +0.9
baz=76
KOLS Kolonicke sedl 75.87 326 eP P 09 40 57.2 +0.4
KOLS pmax pmax
comp=Z,8.0nm,0.9s
KOLS Kolonicke sedl 75.87 326 eP P 09 40 57.2 +0.4
N27A Anderson Farm, 75.88 47 ⇑P P 09 40 57.7 +0.7
baz=76
EYMN Ely 75.91 36 eP P 09 40 56.8 -0.2
P25A Willow Gulch B 75.91 49 ⇓P P 09 40 58.0 +0.6
baz=76
R23A Moffat 75.91 51 ⇓P P 09 40 58.5 +1.0
baz=76,SNR=8.8
STHS Stebnicka Huta 75.91 327 eP P 09 40 58.6 +1.6
STHS pmax pmax
comp=Z,10.0nm,0.7s
STHS Stebnicka Huta 75.91 327 eP P 09 40 58.6 +1.6
214A Organ Pipe Nat 76.00 59 ⇑P P 09 40 58.8 +1.0
baz=76
X18A Snowflake 76.02 56 ⇑P P 09 40 58.9 +0.8
baz=76,SNR=6.8
V20A Brimhall 76.04 54 ⇑P P 09 40 58.6 +0.4
baz=76
OGNE Ogallala 76.05 46 ⇑P P 09 40 58.4 +0.4
baz=76
U21A Nageezi 76.08 53 ⇑P P 09 40 58.9 +0.5
baz=76,SNR=5.1
BSEG Bad Segeberg 76.10 335 eP P 09 40 58.5 +0.6
comp=Z,20nm,0.8s
BSEG Bad Segeberg 76.10 335 eP P 09 40 58.5 +0.6
BSEG pmax pmax
comp=Z,20nm,0.8s
T22A Edith 76.11 52 ⇑P P 09 40 59.4 +0.7
baz=76,SNR=5.6
CFR Carcaliu 76.16 320⇑iP P 09 40 59.7 +1.3
NIE Niedzica 76.28 327 eP P 09 41 00.2 +1.1
NIE Niedzica 76.28 327 eP P 09 41 00.2 +1.1
Q25A Bedland, Calha 76.29 49 ⇑P P 09 41 00.0 +0.5
baz=76,SNR=5.1
R24A Sanders Place, 76.29 50 ⇑P P 09 41 00.3 +0.7
baz=76
VRI Vrincioaia 76.30 321⇓iP P 09 41 00.3 +1.1
P26A Davis Ranch, A 76.33 48 ⇑P P 09 41 00.3 +0.6
baz=76
O27A Beecher Island 76.35 47 ⇑P P 09 41 00.2 +0.4
baz=76
SDCO Great Sand Dun 76.41 51 eP P 09 41 00.8 +0.4
comp=Z,7.9nm,1.4s
W20A Ramah 76.48 54 ⇑P P 09 41 01.1 +0.4
baz=76
V21A Milan 76.52 53 ⇑P P 09 41 01.7 +0.8
baz=76
TIRR Tirgusor 76.57 319⇓iP P 09 41 01.4 +0.7
T23A Casias Ranch, 76.60 52 ⇓P P 09 41 02.1 +0.7
baz=76
S24A Houchin Ranch, 76.64 51 ⇓P P 09 41 02.1 +0.4
baz=76
TLB Topalu 76.65 320⇓iP P 09 41 03.5 +2.3
KSP Ksiaz 76.67 330 eP P 09 41 01.8 +0.6
Q26A Hugo 76.68 49 ⇑P P 09 41 02.5 +0.8
baz=76
P27A Ficken Ranch, 76.75 48 ⇓P P 09 41 02.1 +0.1
baz=77
ECSD EROS Data Cent 76.76 42 eP P 09 41 01.4 -0.5
comp=Z,23nm,1.4s
ECSD epP pP 09 41 20.1 -2.8
O28A Krutsinger Ran 76.77 47 ⇑P P 09 41 02.2 +0.1

baz=77
OKC Ostrava-Krasne 76.79 328 *i* P **P 09 41 02.3 +0.4**
OKC Ostrava-Krasne 76.79 328 *i* P **P 09 41 02.3 +0.4**
R25A Fountain Ranch 76.81 50 ⇓P **P 09 41 02.7 +0.3**
baz=77
KAC Achnashellach 76.82 345 *e*P **P 09 41 02.0 +0.1**
V22A San Miguel Ran 76.87 53 ⇓P **P 09 41 03.4 +0.5**
baz=77
N29A Votaw Ranch, W 76.88 46 ⇓P **P 09 41 02.9 +0.2**
baz=77
X20A Quemado 76.89 55 ⇑P **P 09 41 04.0 +1.0**
baz=77,SNR=7.7
MLR Muntele Rosu 76.94 321 ⇑*i*P **P 09 41 04.5 +1.5**
ISR Istrita 76.95 321 ⇓*i*P **P 09 41 04.3 +1.4**
T24B San Luis 76.95 51 ⇑P **P 09 41 04.6 +1.1**
baz=77,SNR=5.3
KECS Kecovo 76.96 326 *e*P **P 09 41 02.2 -0.7**
KECS pmax pmax
comp=Z,3.0nm,1.0s
KECS Kecovo 76.96 326 *e*P **P 09 41 02.2 -0.7**
U23A El Rito 77.00 52 ⇑P **P 09 41 04.5 +0.9**
baz=77,SNR=16
TUC Tucson 77.02 58 *e*P **P 09 41 04.4 +0.8**
TUC Tucson 77.02 58 *e*P **P 09 41 04.4 +0.8**
KPL Plockton 77.04 345 *e*P **P 09 41 03.4 +0.3**
UPC Upice 77.05 330 *i* P **P 09 41 04.6 +1.3**
UPC *e* 09 41 25.2
UPC Upice 77.05 330 *i* P **P 09 41 04.6 +1.3**
UPC *e*pP **pP 09 41 25.2 +0.8**
DPC Dobruska-Polom 77.06 330 *i* P **P 09 41 04.1 +0.6**
DPC *e* 09 41 22.6
DPC Dobruska-Polom 77.06 330 *i* P **P 09 41 04.1 +0.6**
DPC *e*pP **pP 09 41 22.6 -1.9**
DPC Dobruska-Polom 77.06 330 *e*P **P 09 41 04.3 +0.8**
S25A Robets Cordova 77.07 50 ⇓P **P 09 41 04.6 +0.6**
baz=77
MORC Moravsky Berou 77.07 329 *e*P **P 09 41 04.2 +0.6**
MORC pmax pmax
comp=Z,12nm,0.8s
MORC Moravsky Berou 77.07 329 *e*P **P 09 41 04.2 +0.6**
comp=Z,12nm,0.8s
KSCO Kaye Shedlock' 77.11 48 ⇓P **P 09 41 04.5 +0.4**
baz=77
R26A Arlington 77.16 49 ⇓P **P 09 41 04.5 +0.1**
baz=77,SNR=10.0
O29A 4D Ranch, Culb 77.29 46 ⇑P **P 09 41 05.1 +0.1**
baz=77
X21A Alamocita Cree 77.38 55 ⇑P **P 09 41 07.2 +1.4**
baz=77,SNR=8.3
VOIR 77.39 322 ⇓*i*P **P 09 41 06.7 +1.3**
Y20A Horse Springs, 77.39 55 ⇓P **P 09 41 07.2 +1.3**
baz=77,SNR=8.3
BR131 Keskin Array S 77.41 313 *e*P **P 09 41 06.2 +0.5**
comp=Z,2.5nm,0.8s
BRTR Keskin Array B 77.41 313 P **P 09 41 06.0 +0.2**
BRTR PP PP 09 43 44.2 -16
BRTR Keskin Array B 77.41 313 P **P 09 41 06.0 +0.2**
comp=Z,2.8nm,0.7s,baz=83,slow=3.8,SNR=12
BRTR PP PP 09 43 44.2 -16
comp=Z,1.0nm,0.8s,baz=76,slow=10,SNR=4.2
BRTR LR LR 10 19 38.4
comp=Z,22nm,18.8s,baz=223,slow=39
V23A Ortiz Mt. (NFS 77.41 53 ⇑P **P 09 41 07.3 +1.4**
baz=77
CLL Collm 77.45 332 *e*P **P 09 41 05.3 -0.2**
comp=Z,27nm,1.3s
CLL Collm 77.45 332 *i* P **P 09 41 05.3 -0.2**
CLL *e**PP **pP 09 41 27.0 +0.4**
CLL pmax pmax
comp=Z,27nm,1.3s
CLL Collm 77.45 332 *i* P **P 09 41 05.3 -0.2**
comp=Z,27nm,1.3s
CLL *e*(PcP) **PcP 09 41 14.0 -1.7**
CLL *e*pP **pP 09 41 27.0 +0.4**
T25A Trinidad 77.45 51 ⇓P **P 09 41 06.7 +0.6**
baz=77
U24A Moreno Valley 77.47 52 ⇓P **P 09 41 07.7 +1.4**
baz=77
BRG Berggiesshubel 77.48 331 *e*P **P 09 41 06.1 +0.3**
comp=Z,6.7nm,1.0s
BRG Berggiesshubel 77.48 331 *e*P **P 09 41 05.7 -0.1**
comp=Z,7.0nm,1.0s
BRG Berggiesshubel 77.48 331 *e*P **P 09 41 06.1 +0.3**
BRG pmax pmax
comp=Z,7.0nm,1.0s
R27A Eads 77.53 49 ⇑P **P 09 41 06.8 +0.3**
baz=77
VYHS Vyhne 77.61 327 *e*P **P 09 41 07.2 +0.7**
VYHS pmax pmax
comp=Z,10.0nm,1.5s
VYHS Vyhne 77.61 327 *e*P **P 09 41 07.2 +0.7**
S26A Kim 77.63 50 ⇓P **P 09 41 07.2 +0.2**
baz=77
PSZ Piszkesteto 77.65 326 *e*P **P 09 41 08.1 +1.3**
PSZ Piszkesteto 77.65 326 *e*P **P 09 41 08.1 +1.3**
PSZ Piszkesteto 77.65 326 ⇓*i*P **P 09 41 08.1 +1.3**
BGNE Belgrade 77.72 44 ⇑P **P 09 41 07.9 +0.6**
baz=78
ESY Stoneypath 77.74 343 *e*P **P 09 41 07.5 +0.4**
Y21A Point of Rocks 77.75 55 ⇑P **P 09 41 09.1 +1.3**
baz=78,SNR=6.5
LAZ Ladron 77.79 54 *e*P **P 09 41 09.3 +1.3**
comp=Z,2.0nm,1.2s
X22A Bernardo 77.79 54 ⇓P **P 09 41 09.3 +1.3**
baz=78
Z20A Nine Sixteen R 77.81 56 ⇓P **P 09 41 09.4 +1.3**
baz=78,SNR=10
W23A Werner Place, 77.84 53 ⇓P **P 09 41 09.3 +1.0**
baz=78
CLZ Clausthal 77.87 334 *e*P **P 09 41 08.4 +0.5**
comp=Z,42nm,1.5s
CLZ Clausthal 77.87 334 *e*P **P 09 41 08.4 +0.5**
CLZ pmax pmax
comp=Z,42nm,1.5s
T26A Comanche Natio 77.88 50 ⇑P **P 09 41 08.5 0.0**
baz=78,SNR=6.3
V24A Rampart Ranch, 77.95 52 ⇑P **P 09 41 09.7 +0.7**
baz=78
U25A Circle Dot Ran 77.97 51 ⇑P **P 09 41 09.3 +0.3**
baz=78
PRA Prague 77.98 331 P **P 09 41 11.0 +2.5**
PRU Pruhonice 78.01 330 *i* P **P 09 41 09.2 +0.5**
PRU *e* 09 41 27.9
PRU Pruhonice 78.01 330 *i* P **P 09 41 09.2 +0.5**
PRU *e*pP **pP 09 41 27.9 -1.9**
R28A Tribune 78.03 48 ⇑P **P 09 41 09.0 -0.2**
baz=78
120A U Bar Ranch, L 78.18 56 ⇑P **P 09 41 11.1 +0.9**
baz=78,SNR=8.0
Y22A Socorro 78.22 54 ⇓P **P 09 41 11.1 +0.7**
baz=78
SIRR Siria 78.22 324 ⇓*i*P **P 09 41 10.8 +0.8**
X23A Hourglass Bar 78.23 53 ⇓P **P 09 41 11.2 +0.8**
baz=78
Z21A St. Cloud Mine 78.23 55 ⇑P **P 09 41 11.7 +1.2**
baz=78,SNR=14
W24A Lazy 6 Ranch, 78.24 53 ⇑P **P 09 41 11.4 +0.9**
baz=78,SNR=6.0
IBBN Ibbenburen 78.28 335 *e*P **P 09 41 10.4 +0.3**
comp=Z,31nm,1.1s
SCHQ Schefferville 78.29 19 P **P 09 41 10.3 +0.1**
SCHQ Schefferville 78.29 19 P **P 09 41 10.3 +0.1**
comp=Z,9.4nm,0.7s,baz=330,slow=3.3,SNR=11
SCHQ LR LR 10 17 46.2
comp=Z,65nm,18.5s,baz=17,slow=37
R29A Marienthal 78.34 48 ⇑P **P 09 41 11.1 +0.2**
baz=78
U26A Atchley Ranch, 78.35 51 ⇓P **P 09 41 11.9 +0.7**
baz=78
ESK Eskdalemuir 78.43 343 *e*P **P 09 41 10.5 -0.3**
ESK AMB AMB 09 41 14.9
comp=Z,19nm,2.1s
ESK Eskdalemuir 78.43 343 *e*P **P 09 41 10.8 -0.1**
ESK pmax pmax
comp=Z,41nm,1.5s
ESK Eskdalemuir 78.43 343 *e*P **P 09 41 10.8 -0.1**
comp=Z,41nm,1.5s
Q30A Quinter 78.43 47 ⇓P **P 09 41 10.9 -0.4**
baz=78
MOX Moxa 78.48 332 *e*P **P 09 41 11.5 +0.2**
comp=Z,13nm,1.4s
MOX Moxa 78.48 332 *e*P **P 09 41 11.5 +0.2**
MOX pmax pmax
comp=Z,13nm,1.4s
P31A Stockton 78.48 46 ⇓P **P 09 41 11.3 -0.3**
baz=78
S28A Manter 78.53 49 ⇓P **P 09 41 12.3 +0.3**
baz=78
ECK Cauldkaine Hil 78.53 343 *e*P **P 09 41 11.9 +0.4**
319A Douglas 78.59 58 ⇑P **P 09 41 13.1 +0.7**
baz=78,SNR=8.7
X24A Lazy VL Ranch, 78.68 53 ⇓P **P 09 41 14.0 +1.0**
baz=78,SNR=8.0
220A Playas Peak, P 78.69 57 ⇑P **P 09 41 13.8 +0.8**
baz=78,SNR=7.6
Z22A Elephant Butte 78.69 55 ⇑P **P 09 41 14.0 +1.0**
baz=78,SNR=5.7
121A Cookes Peak, D 78.70 56 ⇓P **P 09 41 13.8 +0.7**
baz=78,SNR=8.9
V26A Tequesquite Ra 78.76 51 ⇑P **P 09 41 13.6 +0.3**
baz=79
Y23A Lovelace Mesa, 78.76 54 ⇓P **P 09 41 13.9 +0.6**
baz=79,SNR=9.5
W25A X Bar L Ranch, 78.78 52 ⇓P **P 09 41 14.1 +0.7**
baz=79,SNR=5.1
U27A Thompson Grove 78.85 50 ⇓P **P 09 41 14.0 +0.2**
baz=79
UBBA Unterbreizbach 78.86 333 *e*P **P 09 41 13.2 -0.1**
comp=Z,4.0nm,0.8s
ROTZ Rotzenmuhle 79.02 332 *e*P **P 09 41 14.9 +0.6**
comp=Z,9.0nm,1.3s
KHC Kasperske Hory 79.07 331 *i* P **P 09 41 15.1 +0.5**
KHC *e* 09 41 33.9
KHC Kasperske Hory 79.07 331 *i* P **P 09 41 15.1 +0.5**
KHC *e*pP **pP 09 41 33.9 -1.8**
KHC Kasperske Hory 79.07 331 *e*P **P 09 41 15.0 +0.5**
comp=Z,8.1nm,0.6s
KESW Keswick, Cumbr 79.08 342 *e*P **P 09 41 14.9 +0.4**
KESW AMB AMB 09 41 15.6
comp=Z,42nm,1.2s
320A Kipp Ranch, An 79.08 57 ⇓P **P 09 41 15.9 +0.8**
baz=79
Z23A Rita Site, Whi 79.13 54 ⇑P **P 09 41 16.2 +0.9**
baz=79
Y24A Capitan 79.13 54 ⇑P **P 09 41 15.9 +0.5**
baz=79,SNR=6.6
GAL1 Galloway 79.17 343 *e*P **P 09 41 14.9 0.0**
GAL1 AMB AMB 09 41 16.7
comp=Z,33nm,2.1s
GEC2 GERESS Array S 79.27 330 *e*P **P 09 41 15.9 +0.1**
comp=Z,13nm,1.6s
GEC2 GERESS Array S 79.27 330 *e*P **P 09 41 15.9 +0.1**
GEC2 pmax pmax
comp=Z,13nm,1.6s
GERES GERESS Array B 79.27 330 P **P 09 41 15.9 +0.1**
GERES GERESS Array B 79.27 330 P **P 09 41 15.9 +0.1**
comp=Z,1.6nm,0.6s,baz=33,slow=5.1,SNR=11
GERES LR LR 10 18 22.9
comp=Z,68nm,18.7s,baz=42,slow=37
S30A Montezuma 79.27 48 ⇓P **P 09 41 16.0 0.0**
baz=79
R31A Burdett 79.30 47 ⇓P **P 09 41 15.7 -0.4**
baz=79
WET Wettzell 79.31 331 *e*P **P 09 41 16.4 +0.5**
comp=Z,8.0nm,0.9s
WET Wettzell 79.31 331 *e*P **P 09 41 16.4 +0.5**
WET pmax pmax
comp=Z,8.0nm,0.9s
V27A Dan Oppiter Fa 79.32 51 ⇑P **P 09 41 16.4 +0.1**
baz=79
HPK Haverah Park 79.33 341 *e*P **P 09 41 16.3 +0.5**
HPK AMB AMB 09 41 20.0
comp=Z,36nm,1.7s
GRF Grafenberg Arr 79.42 332 *e*P **P 09 41 17.0 +0.5**
comp=Z,22nm,1.0s
GRF Grafenberg Arr 79.42 332 *e*P **P 09 41 17.0 +0.5**
GRF pmax pmax
comp=Z,22nm,1.0s
123A Bell Site, Whi 79.55 55 ⇑P **P 09 41 18.3 +0.7**
baz=79
Y25A Mesa, Roswell 79.57 53 ⇓P **P 09 41 18.2 +0.5**
baz=79
Z24A Sheeppen Canyo 79.59 54 ⇑P **P 09 41 18.7 +0.8**
baz=79
X26A CR and CF Fran 79.63 52 ⇑P **P 09 41 18.8 +0.7**
baz=80
W27A Bowe Ranch, En 79.69 51 ⇓P **P 09 41 18.9 +0.6**
baz=80
TNS Taunus Mts 79.88 334 *e*P **P 09 41 19.0 0.0**
comp=Z,6.0nm,0.9s
TNS Taunus Mts 79.88 334 *e*P **P 09 41 19.0 0.0**
TNS pmax pmax
comp=Z,6.0nm,0.9s
KBI1 Birley Grange 79.95 341 *e*P **P 09 41 19.8 +0.5**
124A Stringfield Ra 79.98 54 ⇑P **P 09 41 20.9 +0.8**
baz=80
GMM Mts of Mourne 80.01 344 *e*P **P 09 41 19.5 0.0**
Z25A Roswell 80.01 54 ⇑P **P 09 41 21.1 +1.0**
baz=80
W28A Vega 80.04 51 ⇑P **P 09 41 21.0 +0.8**
baz=80
Y26A Elida 80.07 53 ⇓P **P 09 41 20.9 +0.5**
baz=80
T31A Randall Ranch, 80.10 48 ⇓P **P 09 41 20.4 0.0**
baz=80
MEM Membach 80.30 336 P **P 09 41 21.5 +0.3**
comp=Z,7.3nm,1.1s
VTS Vitosha 80.43 321 ⇓*i*P **P 09 41 23.3 +1.1**
Z26A Caprock 80.45 53 ⇑P **P 09 41 22.8 +0.4**
baz=80,SNR=13
Y27A Causey 80.48 52 ⇓P **P 09 41 23.0 +0.4**
baz=80
125A Gardner Draw, 80.49 54 ⇑P **P 09 41 23.3 +0.6**
baz=80,SNR=7.7
RJOB Jochberg 80.53 330 *e*P **P 09 41 23.0 +0.5**
comp=Z,12nm,1.4s
FOEL Foel Wylfa 80.68 342 *e*P **P 09 41 23.2 0.0**
FOEL AMB AMB 09 41 24.7
comp=Z,28nm,0.8s
BCLA Clavier 80.68 336 P **P 09 41 23.5 +0.3**
MNTX Cornudas Mount 80.74 55 *e*P **P 09 41 24.5 +0.6**
comp=Z,8.9nm,1.1s
225A Deer Hill, Car 80.78 54 ⇓P **P 09 41 24.9 +0.6**
baz=81,SNR=5.6
324A Moseley Ranch, 80.86 55 ⇓P **P 09 41 25.3 +0.6**
baz=81,SNR=7.7
Z27A Tatum 80.86 53 ⇑P **P 09 41 24.9 +0.2**
baz=81,SNR=9.6
126A Clayton Basin, 80.87 54 ⇑P **P 09 41 25.3 +0.7**
baz=81
HLM1 Long Mynd 80.95 341 *e*P **P 09 41 23.9 -0.7**
V31A Spring Creek L 80.98 49 ⇑P **P 09 41 25.9 +0.8**
baz=81
226B Tecolote Peak, 81.19 54 ⇑P **P 09 41 26.8 +0.4**
baz=81,SNR=12
325A Bean Ranch, Si 81.22 55 ⇓P **P 09 41 27.0 +0.3**
baz=81,SNR=7.0
W31A Holland Ranch, 81.36 49 ⇓P **P 09 41 28.1 +0.9**
baz=81
VISS Visnje 81.38 328 *i* P **P 09 41 26.8 -0.2**
MCH1 Michaelchurch 81.46 341 *e*P **P 09 41 25.9 -1.4**
MCH1 AMB AMB 09 41 29.9
comp=Z,38nm,3.7s
BOJS Bojanci 81.47 328 *i* P **P 09 41 29.4 +2.0**
BFO Black Forest 81.56 333 *e*P **P 09 41 28.0 0.0**
comp=Z,7.0nm,0.9s
BFO Black Forest 81.56 333 *e*P **P 09 41 28.0 0.0**
BFO pmax pmax
comp=Z,7.0nm,0.9s
BFO Black Forest 81.56 333 *e*P **P 09 41 27.9 -0.1**
comp=Z,3.1nm,0.6s
JAVS Javornik 81.60 328 *i* P **P 09 41 27.8 -0.5**
425A Indio Mountain 81.62 55 ⇑P **P 09 41 29.3 +0.5**
baz=82,SNR=6.2
X31A McDonald Ranch 81.74 50 ⇑P **P 09 41 29.7 +0.6**
baz=82
Z29A Hungry Hill Ra 81.77 52 ⇑P **P 09 41 29.9 +0.5**
baz=82,SNR=7.6
128A Castleberry Fa 81.78 53 ⇑P **P 09 41 30.0 +0.5**
baz=82,SNR=6.4
CDF Champ du Feu 81.84 334 ⇑*i*P **P 09 41 29.5 0.0**
comp=Z,20nm,0.9s
CDF Champ du Feu 81.84 334 ⇑*i*P **P 09 41 29.5 0.0**
CDF pmax pmax
comp=Z,20nm,0.9s
CDF Champ du Feu 81.84 334 ⇑*i*P **P 09 41 29.5 0.0**
comp=Z,20nm,0.9s
326A Caldwell Ranch 81.85 54 ⇑P **P 09 41 30.4 +0.6**
baz=82,SNR=9.2
Z30A Sanderson Ranc 82.08 51 ⇓P **P 09 41 31.3 +0.3**
baz=82
228A UT Block 9, Go 82.09 53 ⇓P **P 09 41 31.4 +0.3**
baz=82
PAGF Fort de Pagny 82.20 335 ⇑*i*P **P 09 41 31.6 +0.3**
comp=Z,7.3nm,0.7s
PAGF Fort de Pagny 82.20 335 ⇑*i*P **P 09 41 31.6 +0.3**
comp=Z,7.3nm,0.7s
426A McDonald Obser 82.28 55 ⇑P **P 09 41 32.6 +0.3**
baz=82,SNR=7.5
MEZF Maizieres J'vi 82.46 335 *e*P **P 09 41 33.0 +0.4**
MEZF Maizieres J'vi 82.46 335 *e*P **P 09 41 33.0 +0.4**
328A Wristen Ranch, 82.49 54 ⇑P **P 09 41 33.6 +0.4**
baz=82,SNR=10
HAU Haudompre 82.49 334 *e*P **P 09 41 32.7 -0.2**
HAU *e*R
comp=Z,81nm,17.5s
HAU Haudompre 82.49 334 *e*P **P 09 41 32.7 -0.2**
HAU Haudompre 82.49 334 *e*P **P 09 41 32.7 -0.2**
Y32A R-V Farms, Ver 82.51 50 ⇑P **P 09 41 33.4 +0.2**
baz=82
427A Hayter Ranch, 82.53 54 ⇑P **P 09 41 33.7 +0.3**
baz=82,SNR=8.7
Z31A Sharp Cattle R 82.62 51 ⇓P **P 09 41 34.0 +0.2**
baz=82
229A Bryant Ranch, 82.65 53 ⇓P **P 09 41 34.7 +0.7**
baz=82
130A Snyder 82.68 52 ⇑P **P 09 41 34.7 +0.6**
baz=82
526A Mary Lane Ranc 82.68 55 ⇑P **P 09 41 34.9 +0.6**
baz=82,SNR=10
SFTF Sexfontaines 82.73 335 *e*P **P 09 41 34.0 0.0**
SFTF Sexfontaines 82.73 335 *e*P **P 09 41 34.0 0.0**
329A Wagon Wheel Ra 82.90 53 ⇓P **P 09 41 36.3 +0.9**
baz=83,SNR=9.9
527A Woodward Ranch 82.91 55 ⇑P **P 09 41 36.1 +0.6**
baz=83,SNR=5.9
Z32A Haskell 83.00 50 ⇑P **P 09 41 36.1 +0.3**
baz=83
626A Big Bend Ranch 83.02 56 ⇑P **P 09 41 36.8 +0.8**
baz=83,SNR=8.5
428A Kincaid Ranch, 83.04 54 ⇑P **P 09 41 37.0 +0.9**
baz=83,SNR=9.0
TUL1 Tulsa 83.06 46 ⇑P **P 09 41 36.3 +0.3**
baz=83
230A Sterling City 83.11 52 ⇑P **P 09 41 37.1 +0.7**
baz=83,SNR=8.2
528A Cox Ranch, San 83.39 55 ⇑P **P 09 41 38.7 +0.8**
baz=83,SNR=11
ABTX Abilene, Hawle 83.41 51 ⇓P **P 09 41 39.0 +1.1**
baz=83
330A Mertzon 83.43 53 ⇑P **P 09 41 38.5 +0.4**
baz=83
TXAR Lajitas Array 83.46 56 P **P 09 41 38.8 +0.5**
TXAR Lajitas Array 83.46 56 P **P 09 41 38.8 +0.5**
comp=Z,5.1nm,0.7s,baz=299,slow=3.9,SNR=70
231A Bronte 83.54 52 ⇓P **P 09 41 39.0 +0.4**
baz=83
627A Terlingua Ranc 83.54 55 ⇓P **P 09 41 39.1 +0.4**
baz=83,SNR=6.0
429A Davenport Ranc 83.58 54 ⇑P **P 09 41 38.9 +0.1**
baz=83
529A Stev Forest Ra 83.75 54 ⇓P **P 09 41 40.5 +0.8**
baz=84,SNR=13
CABF La Chapelle 83.81 334 *e*P **P 09 41 39.6 -0.1**
comp=Z,15nm,0.8s
CABF La Chapelle 83.81 334 *e*P **P 09 41 39.6 -0.1**
CABF pmax pmax
comp=Z,15nm,0.8s
CABF La Chapelle 83.81 334 *e*P **P 09 41 39.6 -0.1**
comp=Z,15nm,0.8s
FLN La Foliniere 83.81 339 *e*P **P 09 41 40.0 +0.4**
FLN *e*R
comp=Z,49nm,18.5s
FLN La Foliniere 83.81 339 *e*P **P 09 41 40.0 +0.4**
FLN La Foliniere 83.81 339 *e*P **P 09 41 40.0 +0.4**
SFIN Scholer Farm 83.82 38 ⇑P **P 09 41 39.6 -0.2**
baz=84
430A Baggett Ranch, 83.85 53 ⇓P **P 09 41 40.4 +0.2**
baz=84,SNR=7.8
LDF La Druitiere 83.87 338 ⇑*i*P **P 09 41 40.4 +0.5**
comp=Z,14nm,0.7s
LDF La Druitiere 83.87 338 ⇑*i*P **P 09 41 40.4 +0.5**
LDF pmax pmax
comp=Z,14nm,0.7s
LDF La Druitiere 83.87 338 ⇑*i*P **P 09 41 40.4 +0.5**
comp=Z,14nm,0.7s
LOR Lormes 83.92 335 ⇑*i*P **P 09 41 40.0 -0.2**
comp=Z,18nm,0.8s
LOR *e*R
comp=Z,57nm,22.2s
LOR Lormes 83.92 335 ⇑*i*P **P 09 41 40.0 -0.2**
comp=Z,18nm,0.8s
331A San Angelo 83.94 52 ⇑P **P 09 41 40.8 +0.2**
baz=84
232A Coleman 83.95 51 ⇑P **P 09 41 41.0 +0.3**
baz=84,SNR=6.4
SSF Saint Saulge 84.22 335 ⇑*i*P **P 09 41 41.6 -0.1**
comp=Z,9.7nm,0.8s
SSF Saint Saulge 84.22 335 ⇑*i*P **P 09 41 41.6 -0.1**
SSF pmax pmax
comp=Z,10.0nm,0.8s
SSF Saint Saulge 84.22 335 ⇑*i*P **P 09 41 41.6 -0.1**
comp=Z,9.7nm,0.8s
530A J-C Ranch, Com 84.25 54 ⇑P **P 09 41 42.7 +0.5**
baz=84,SNR=9.8
GRR Gorron 84.25 339 ⇑*i*P **P 09 41 42.1 +0.3**
comp=Z,31nm,0.7s
GRR Gorron 84.25 339 ⇑*i*P **P 09 41 42.1 +0.3**
GRR pmax pmax
comp=Z,31nm,0.7s
GRR Gorron 84.25 339 ⇑*i*P **P 09 41 42.1 +0.3**
comp=Z,31nm,0.7s
332A Millersview 84.27 52 ⇓P **P 09 41 42.9 +0.6**
baz=84,SNR=9.2
431A Sonora 84.29 53 ⇓P **P 09 41 42.2 -0.2**
baz=84,SNR=7.2
PPT Papeete 84.33 120 LR LR 10 14 34.2
comp=Z,122nm,19.9s,baz=354,slow=32
SMF Signal de Mont 84.49 335 ⇑*i*P **P 09 41 43.1 0.0**
comp=Z,25nm,0.8s
SMF Signal de Mont 84.49 335 ⇑*i*P **P 09 41 43.1 0.0**
SMF pmax pmax
comp=Z,25nm,0.8s
SMF Signal de Mont 84.49 335 ⇑*i*P **P 09 41 43.1 0.0**
comp=Z,25nm,0.8s
AVF Avril sur Loir 84.50 335 ⇑*i*P **P 09 41 43.3 +0.2**
comp=Z,21nm,0.8s
AVF Avril sur Loir 84.50 335 ⇑*i*P **P 09 41 43.3 +0.2**
AVF pmax pmax
comp=Z,21nm,0.8s
AVF Avril sur Loir 84.50 335 ⇑*i*P **P 09 41 43.3 +0.2**
comp=Z,21nm,0.8s
LPL La Plagne 84.56 333 *e*P **P 09 41 44.0 +0.3**
LPL La Plagne 84.56 333 *e*P **P 09 41 44.0 +0.3**
LPL La Plagne 84.56 333 *e*P **P 09 41 44.0 +0.3**
LPG La Plagne 84.57 333 ⇑*i*P **P 09 41 44.3 +0.4**
comp=Z,11nm,0.6s
LPG La Plagne 84.57 333 ⇑*i*P **P 09 41 44.3 +0.4**
LPG pmax pmax
comp=Z,11nm,0.6s
LPG La Plagne 84.57 333 ⇑*i*P **P 09 41 44.3 +0.4**
comp=Z,11nm,0.6s
432A Menard 84.62 52 ⇓P **P 09 41 44.4 +0.3**
baz=84,SNR=6.9
531A Rocksprings 84.71 53 ⇓P **P 09 41 44.9 +0.3**
baz=84,SNR=5.2
SGMF Saint Gilles 84.82 340 *e*P **P 09 41 45.2 +0.5**
SGMF Saint Gilles 84.82 340 *e*P **P 09 41 45.2 +0.5**
SGMF Saint Gilles 84.82 340 *e*P **P 09 41 45.2 +0.5**
BGF Bois d'Agland 84.87 336 *e*P **P 09 41 45.5 +0.5**
BGF Bois d'Agland 84.87 336 *e*P **P 09 41 45.5 +0.5**
BGF Bois d'Agland 84.87 336 *e*P **P 09 41 45.5 +0.5**
JCT Junction City 84.91 52 *e*P **P 09 41 45.5 -0.1**
JCT pmax pmax
comp=Z,5.0nm,0.9s
JCT Junction City 84.91 52 *e*P **P 09 41 45.5 -0.1**
comp=Z,5.1nm,0.9s
JCT Junction City 84.91 52 ⇑P **P 09 41 45.7 +0.2**
baz=85
ROSF Rostrenen 84.92 340 ⇑*i*P **P 09 41 45.9 +0.7**
comp=Z,105nm,1.0s
ROSF Rostrenen 84.92 340 ⇑*i*P **P 09 41 45.9 +0.7**
ROSF pmax pmax
comp=Z,105nm,1.0s
ROSF Rostrenen 84.92 340 ⇑*i*P **P 09 41 45.9 +0.7**
comp=Z,105nm,1.0s
SIUC Southern Illin 84.97 41 *e*P **P 09 41 45.6 0.0**
comp=Z,7.6nm,0.6s
532A Rocksprings 85.11 53 ⇑P **P 09 41 46.6 0.0**
baz=85,SNR=9.3

WHTX	**Lake Whitney**	**85.11**	**50**	⇑P	**P**	**09 41 46.4**	**0.0**
	baz=85						
MBDF	**Montbardon**	**85.24**	**332**	*e*P	**P**	**09 41 47.1**	**0.0**
	comp=Z,6.5nm,0.6s						
MBDF	**Montbardon**	**85.24**	**332**	*e*P	**P**	**09 41 47.1**	**0.0**
MBDF				pmax	pmax		
	comp=Z,7.0nm,0.6s						
MBDF	**Montbardon**	**85.24**	**332**	*e*P	**P**	**09 41 47.1**	**0.0**
	comp=Z,6.5nm,0.6s						
631A	**Perdido Creek**	**85.24**	**54**	⇓P	**P**	**09 41 47.6**	**+0.4**
	baz=85,SNR=11						
MIAR	**Mount Ida**	**85.27**	**46**	*e*P	**P**	**09 41 47.4**	**+0.2**
MIAR				pmax	pmax		
	comp=Z,9.0nm,0.9s						
MIAR	**Mount Ida**	**85.27**	**46**	*e*P	**P**	**09 41 47.4**	**+0.2**
	comp=Z,8.9nm,0.9s						
QUIF	**Quistinic**	**85.29**	**340**	⇑*i*P	**P**	**09 41 47.5**	**+0.5**
	comp=Z,31nm,0.8s						
QUIF	**Quistinic**	**85.29**	**340**	⇑*i*P	**P**	**09 41 47.5**	**+0.5**
QUIF				pmax	pmax		
	comp=Z,31nm,0.8s						
QUIF	**Quistinic**	**85.29**	**340**	⇑*i*P	**P**	**09 41 47.5**	**+0.5**
	comp=Z,31nm,0.8s						
TCF	**Toulx Ste Croi**	**85.30**	**336**	*e*P	**P**	**09 41 47.7**	**+0.5**
TCF	**Toulx Ste Croi**	**85.30**	**336**	*e*P	**P**	**09 41 47.7**	**+0.5**
TCF	**Toulx Ste Croi**	**85.30**	**336**	*e*P	**P**	**09 41 47.7**	**+0.5**
ORIF	**Oris-en-Rattie**	**85.37**	**333**	*e*P	**P**	**09 41 48.0**	**+0.4**
	comp=Z,11nm,0.8s						
ORIF				*e*R			
	comp=Z,72nm,19.5s						
ORIF	**Oris-en-Rattie**	**85.37**	**333**	*e*P	**P**	**09 41 48.0**	**+0.4**
ORIF				pmax	pmax		
	comp=Z,11nm,0.8s						
ORIF	**Oris-en-Rattie**	**85.37**	**333**	*e*P	**P**	**09 41 48.0**	**+0.4**
	comp=Z,11nm,0.8s						
632A	**Uvalde**	**85.64**	**53**	⇓P	**P**	**09 41 49.5**	**+0.3**
	baz=86						
MFF	**Saint Martin d**	**85.70**	**338**	*e*P	**P**	**09 41 49.7**	**+0.6**
	comp=Z,27nm,0.9s						
MFF	**Saint Martin d**	**85.70**	**338**	*e*P	**P**	**09 41 49.7**	**+0.6**
MFF				pmax	pmax		
	comp=Z,27nm,0.9s						
MFF	**Saint Martin d**	**85.70**	**338**	*e*P	**P**	**09 41 49.7**	**+0.6**
	comp=Z,27nm,0.9s						
SBF	**Sospel**	**85.77**	**331**	*e*P	**P**	**09 41 49.7**	**+0.1**
	comp=Z,16nm,0.6s						
SBF	**Sospel**	**85.77**	**331**	*e*P	**P**	**09 41 49.7**	**+0.1**
SBF				pmax	pmax		
	comp=Z,17nm,0.6s						
SBF	**Sospel**	**85.77**	**331**	*e*P	**P**	**09 41 49.7**	**+0.1**
	comp=Z,16nm,0.6s						
VIVF	**Saint-Julien-l**	**85.82**	**334**	*e*P	**P**	**09 41 50.2**	**+0.4**
	comp=Z,13nm,0.9s						
VIVF	**Saint-Julien-l**	**85.82**	**334**	*e*P	**P**	**09 41 50.2**	**+0.4**
VIVF				pmax	pmax		
	comp=Z,13nm,0.9s						
VIVF	**Saint-Julien-l**	**85.82**	**334**	*e*P	**P**	**09 41 50.2**	**+0.4**
	comp=Z,13nm,0.9s						
732A	**Laxson Ranch,**	**86.10**	**54**	⇓P	**P**	**09 41 52.0**	**+0.5**
	baz=86						
SMRF	**Simiane la Rot**	**86.30**	**333**	*e*P	**P**	**09 41 52.7**	**+0.5**
SMRF	**Simiane la Rot**	**86.30**	**333**	*e*P	**P**	**09 41 52.7**	**+0.5**
RJF	**Les Rejaudoux**	**86.40**	**336**	*e*P	**P**	**09 41 53.1**	**+0.5**
RJF				*e*R			
	comp=Z,78nm,21.2s						
RJF	**Les Rejaudoux**	**86.40**	**336**	*e*P	**P**	**09 41 53.1**	**+0.5**
RJF	**Les Rejaudoux**	**86.40**	**336**	*e*P	**P**	**09 41 53.1**	**+0.5**
LMR	**La Mourre**	**86.55**	**332**	⇑*i*P	**P**	**09 41 53.2**	**-0.2**
	comp=Z,43nm,1.0s						
LMR	**La Mourre**	**86.55**	**332**	⇑*i*P	**P**	**09 41 53.2**	**-0.2**
LMR				pmax	pmax		
	comp=Z,43nm,1.0s						
LMR	**La Mourre**	**86.55**	**332**	⇑*i*P	**P**	**09 41 53.2**	**-0.2**
	comp=Z,43nm,1.0s						
CAF	**Calviac**	**86.58**	**335**	⇑*i*P	**P**	**09 41 54.5**	**+1.0**
	comp=Z,40nm,0.9s						
CAF	**Calviac**	**86.58**	**335**	⇑*i*P	**P**	**09 41 54.5**	**+1.0**
CAF				pmax	pmax		
	comp=Z,40nm,0.9s						
CAF	**Calviac**	**86.58**	**335**	⇑*i*P	**P**	**09 41 54.5**	**+1.0**
	comp=Z,40nm,0.9s						
LASF	**Ste Croix**	**86.78**	**334**	*e*P	**P**	**09 41 55.2**	**+0.7**
	comp=Z,11nm,0.9s						
LASF	**Ste Croix**	**86.78**	**334**	*e*P	**P**	**09 41 55.2**	**+0.7**
	comp=Z,11nm,0.9s						
WVT	**Waverly**	**86.90**	**41**	*e*P	**P**	**09 41 55.1**	**-0.1**
WVT				pmax	pmax		
	comp=Z,6.0nm,1.0s						
WVT	**Waverly**	**86.90**	**41**	*e*P	**P**	**09 41 55.1**	**-0.1**
	comp=Z,6.1nm,1.0s						
MTLF	**Montolieu**	**87.96**	**335**	⇑*i*P	**P**	**09 42 01.0**	**+0.8**
	comp=Z,8.8nm,0.7s						
MTLF	**Montolieu**	**87.96**	**335**	⇑*i*P	**P**	**09 42 01.0**	**+0.8**
MTLF				pmax	pmax		
	comp=Z,9.0nm,0.7s						
MTLF	**Montolieu**	**87.96**	**335**	⇑*i*P	**P**	**09 42 01.0**	**+0.8**
	comp=Z,8.8nm,0.7s						
SWET	**Sewanee**	**88.55**	**40**	*e*P	**P**	**09 42 02.7**	**-0.4**
	comp=Z,7.6nm,0.8s						
EPF	**Esparros**	**88.82**	**336**	*e*P	**P**	**09 42 04.1**	**-0.2**
EPF	**Esparros**	**88.82**	**336**	*e*P	**P**	**09 42 04.1**	**-0.2**
EPF	**Esparros**	**88.82**	**336**	*e*P	**P**	**09 42 04.1**	**-0.2**
ETSF	**Etsaut**	**89.21**	**336**	⇑*i*P	**P**	**09 42 06.7**	**+0.6**
	comp=Z,13nm,0.7s						
ETSF	**Etsaut**	**89.21**	**336**	⇑*i*P	**P**	**09 42 06.7**	**+0.6**
ETSF				pmax	pmax		
	comp=Z,13nm,0.7s						
ETSF	**Etsaut**	**89.21**	**336**	⇑*i*P	**P**	**09 42 06.7**	**+0.6**
	comp=Z,13nm,0.7s						
KMSC	**Kings Mountain**	**90.71**	**37**	⇑P	**P**	**09 42 12.9**	**-0.3**
	baz=90						
KEST	**Kesra**	**92.12**	**326**	LR	LR	10 26 59.5	
	comp=Z,28nm,19.8s,baz=212,slow=38						
ESDC	**Sonseca Array**	**93.16**	**337**	P	**P**	**09 42 24.2**	**-0.3**
ESDC	**Sonseca Array**	**93.16**	**337**	P	**P**	**09 42 24.2**	**-0.3**
	comp=Z,3.3nm,0.7s,baz=23,slow=3.8,SNR=11						
ESDC				LR	LR	10 26 55.4	
	comp=Z,36nm,18.3s,baz=270,slow=37						
TORD	**Torodi Ar. Bea**	**115.18**	**321**	PKP	**PKPdf**	**09 47 50.7**	**-1.0**
TORD				PP	PP	09 48 45.6	-6.2
TORD	**Torodi Ar. Bea**	**115.18**	**321**	PKP	**PKPdf**	**09 47 50.7**	**-1.0**
	comp=Z,0.2nm,0.4s,baz=26,slow=1.8,SNR=4.8						
TORD				PP	PP	09 48 45.6	-6.2
	comp=Z,4.6nm,1.0s,baz=19,slow=5.5,SNR=13						
DBIC	**Dimbokro**	**123.82**	**325**	PP	PP	09 49 47.6	-3.5
DBIC	**Dimbokro**	**123.82**	**325**	PP	PP	09 49 47.6	-3.5
	comp=Z,5.3nm,0.9s,baz=348,slow=6.4,SNR=3.8						
SNAA	**Sanae**	**147.79**	**198**	*e*PKPab	**PKPbc**	**09 48 54.0**	**+0.3**
SNAA	**Sanae**	**147.79**	**198**	*e*PKP	pPKPdf	09 49 14.8	+1.7
SNAA	**Sanae**	**147.79**	**198**	*es*PKP	sPKPbc	09 49 23.6	-0.7
SNAA	**Sanae**	**147.79**	**198**	*e*SKPbc	**SKPbc**	**09 52 20.8**	**-3.5**
SNAA	**Sanae**	**147.79**	**198**	*e*PKPbc	**PKPbc**	**09 48 53.6**	**-0.1**
SNAA	**Sanae**	**147.79**	**198**	PKPbc	**PKPbc**	**09 48 54.2**	**+0.5**
	comp=Z,2.1nm,0.8s,baz=150,slow=2.7,SNR=17						
VNA2	**Neumayer--Watz**	**149.33**	**197**	*e*PKPab	**PKPbc**	**09 48 58.6**	**+1.1**
VNA2	**Neumayer--Watz**	**149.33**	**197**	*ep*PKPdf	pPKPdf	09 49 12.8	-2.8
VNA2	**Neumayer--Watz**	**149.33**	**197**	*e*PKP	pPKPdf	09 49 17.4	+1.9
VNA2	**Neumayer--Watz**	**149.33**	**197**	*es*PKPdf	sPKPdf	09 49 19.3	-4.6
VNA2	**Neumayer--Watz**	**149.33**	**197**	*e*SKPdf	**SKPdf**	**09 52 14.0**	**-5.5**
VNA2	**Neumayer--Watz**	**149.33**	**197**	*e*PKSbc	**PKSdf**	**09 52 31.3**	**+3.8**
VNA1	**Neumayer--Stat**	**149.73**	**197**	*e*PKPab	**PKPbc**	**09 48 59.3**	**+0.8**
BDFB	**Brasilia**	**149.89**	**28**	PKPbc	**PKPbc**	**09 49 00.6**	**-0.1**
BDFB	**Brasilia**	**149.89**	**28**	PKPbc	**PKPbc**	**09 49 00.6**	**-0.1**
	comp=Z,3.9nm,0.8s,baz=136,slow=3.7,SNR=4.3						
CPUP	**Villa Florida**	**154.43**	**56**	PKPbc	**PKPbc**	**09 49 10.1**	**-0.3**
CPUP				PKPab	**PKPab**	**09 49 25.1**	**0.0**
CPUP	**Villa Florida**	**154.43**	**56**	PKPbc	**PKPbc**	**09 49 10.1**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=236,slow=7.3,SNR=3.4						
CPUP				PKPab	**PKPab**	**09 49 25.1**	**0.0**
	comp=Z,5.4nm,1.2s,baz=248,slow=5.4,SNR=3.3						

*ISCJB **10** 09:43:01.7±0.4,27°.63N±0°.05×104°.01E±0°.05,h10km, mb4.0/17,MS3.4/3,Error ellipse: s-maj=7.1km s-min=6.5km az=140.8*
*BJI **10** 09:43:01.4,27°.68N×103°.90E,h10km,mB4.8/5,mb4.7/6, ML4.1/20,Ms4.2/7,Ms7 3.8/7*
*IDC **10** 09:43:02.2±0.6,27°.65N×104°.02E,h0km,mb4.0/18, mb1 4.2/18,mb1mx4.0/30,mbtmp4.0/18,MS3.6/3, Ms1 3.6/3,ms1mx2.9/40,Error ellipse: s-maj=21.1km s-min=13.4km az=46.0*
*NEIC **10** 09:43:07.4±0.3,27°.63N×103°.99E,h35km,mb4.1/1,Error ellipse: s-maj=7.9km s-min=7.4km az=70.0*
ISC 10 09:43:03.3±0.5,27°.66N±0°.04×104°.03E±0°.04,h10km,n48, σ1s26/53,mb4.2/17,MS3.5/3,Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GYA	**Guiyang**	**2.64**	**116**	Pn	**Pb**	**09 43 49.5**	**-1.3**
GYA				Pg	**Pg**	**09 43 54.0**	**+0.1**
GYA				Sn	**Sb**	**09 44 21.6**	**-1.7**
GYA				Sg	**Sg**	**09 44 25.8**	**-2.4**
GYA				smax	smax		
	comp=N,860nm,0.8s						
GYA				smax	smax		
	comp=E,520nm,0.9s						
KMI	**Kunming**	**2.77**	**205**	Pg	**Pb**	**09 43 50.3**	**-2.9**
KMI				Sg	**Sb**	**09 44 25.7**	**-1.6**
KMI				smax	smax		
	comp=N,140nm,1.4s						
KMI				smax	smax		
	comp=E,200nm,1.3s						
KMI				LR	LR		
	comp=N,2μm,5.1s						
KMI				LR	LR		
	comp=E,2μm,3.8s						
CD2	**Chengdu**	**3.25**	**356**	Pn	**Pn**	**09 43 56.0**	**+1.6**
CD2				Sn	**Sb**	**09 44 36.3**	**-4.5**
CD2				Sg	**Sg**	**09 44 47.6**	**-0.1**
CD2				smax	smax		
	comp=N,1μm,1.0s						
CD2				smax	smax		
	comp=E,2μm,0.9s						
CD2				LR	LR		
	comp=N,7μm,5.9s						
CD2				LR	LR		
	comp=Z,2μm,10.8s						
ENH	**Enshi**	**5.45**	**60**	*e*Pn	Pn	09 44 27.5	+2.9
	comp=Z,127nm,0.9s						
ENH				*e*Sn	**Sn**	**09 45 27.9**	**+0.5**
XAN	**Xi'an**	**7.63**	**32**	Pn	**Pn**	**09 44 54.9**	**+0.3**
XAN				LR	LR		
	comp=N,460nm,7.3s						
XAN				LR	LR		
	comp=Z,260nm,12.4s						
LZH	**Lanzhou**	**8.40**	**359**	*e*P	**Pn**	**09 45 03.6**	**-1.8**
LZH				*e*S	**Sn**	**09 46 38.2**	**-2.2**
LZH				pmax	pmax		
	comp=Z,44nm,1.0s						
LZH				pmax	pmax		
	comp=Z,200nm,4.5s						
LZH				smax	smax		
	comp=N,130nm,1.3s						
LZH				smax	smax		
	comp=E,120nm,1.0s						
LZH				LR	LR		
	comp=N,430nm,5.3s						
LZH				LR	LR		
	comp=E,1μm,8.4s						
LZH				LR	LR		
	comp=Z,930nm,9.0s						
CHTO	**Chiang Mai**	**9.96**	**209**	P	**Pn**	**09 45 27.0**	**+0.4**
SONM	**Songino Array**	**20.23**	**5**	P	Pn	09 47 39.0	-1.6
SONM	**Songino Array**	**20.23**	**5**	P	Pn	09 47 39.0	-1.6
	comp=Z,5.6nm,0.8s,baz=184,slow=12,SNR=9.7						
SONM				LR	LR	09 56 12.3	
	comp=Z,225nm,18.5s,baz=36,slow=39						
ULN	**Ulaanbaatar**	**20.31**	**6**	*e*P	Pn	09 47 40.1	-1.5
	comp=Z,9.8nm,0.9s						
WMQ	**Urumqi**	**20.81**	**325**	P	**P**	**09 47 43.2**	**-1.8**
WMQ				pP	pP	09 47 53.2	+5.4
WMQ				sP	sP	09 47 57.2	+8.1
WMQ				pmax	pmax		
	comp=Z,10.0nm,1.2s						
WMQ				pmax	pmax		
	comp=Z,58nm,4.1s						
KSAR	**Wonju Array Be**	**22.30**	**58**	P	**P**	**09 48 01.7**	**+0.8**
KSRS	**Korea Array**	**22.33**	**58**	P	**P**	**09 48 01.7**	**+0.4**
	comp=Z,4.3nm,0.6s,baz=246,slow=10,SNR=23						
KSRS				LR	LR	09 58 02.4	
	comp=Z,106nm,18.8s,baz=245,slow=40						
JNU	**Nakatsue**	**23.76**	**70**	P	**P**	**09 48 17.2**	**+1.1**
JNU	**Nakatsue**	**23.76**	**70**	P	**P**	**09 48 17.2**	**+1.1**
	comp=Z,4.4nm,0.7s,baz=310,slow=4.3,SNR=4.4						
MK31	**Makanchi Array**	**25.63**	**324**	*e*P	**P**	**09 48 34.5**	**+1.6**
MKAR	**Makanchi Array**	**25.63**	**324**	P	**P**	**09 48 33.3**	**+0.3**
MKAR				PcP	**PcP**	**09 52 04.5**	**+0.8**
MKAR	**Makanchi Array**	**25.63**	**324**	P	**P**	**09 48 33.3**	**+0.3**
	comp=Z,6.6nm,0.9s,baz=134,slow=10,SNR=17						
MKAR				PcP	**PcP**	**09 52 04.5**	**+0.8**
	comp=Z,0.2nm,0.6s,baz=127,slow=2.2,SNR=2.9						
USRK	**Ussuriysk Arra**	**27.84**	**46**	P	**P**	**09 48 53.0**	**+0.2**
	comp=Z,6.1nm,0.7s,baz=247,slow=9.5,SNR=14						
ZALV	**Zalesovo Beam**	**29.82**	**337**	P	**P**	**09 49 11.2**	**+0.8**
ZALV	**Zalesovo Beam**	**29.82**	**337**	P	**P**	**09 49 11.2**	**+0.8**
	comp=Z,0.6nm,0.3s,baz=142,slow=7.3,SNR=3.3						
KURBB	**Kurchatov Arra**	**30.01**	**327**	P	**P**	**09 49 12.4**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=132,slow=9.2,SNR=6.1						
KURK	**Kurchatov**	**30.03**	**327**	P	**P**	**09 49 12.4**	**+0.1**
AKTO	**Aktyubinsk**	**41.50**	**316**	P	**P**	**09 50 51.5**	**+0.9**
AKTO	**Aktyubinsk**	**41.50**	**316**	P	**P**	**09 50 51.5**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=106,slow=7.4,SNR=2.4						
PETK	**Petropavlovsk-**	**46.75**	**42**	LR	LR	10 13 29.8	
	comp=Z,47nm,19.2s,baz=84,slow=39						
WRA	**Warramunga Arr**	**55.68**	**145**	P	**P**	**09 52 39.4**	**-0.7**
WRA	**Warramunga Arr**	**55.68**	**145**	P	**P**	**09 52 39.4**	**-0.7**
	comp=Z,2.2nm,0.5s,baz=335,slow=8.3,SNR=35						
ASF	**Jabal al Asfar**	**57.52**	**292**	P	**P**	**09 52 54.2**	**+1.1**
ASF	**Jabal al Asfar**	**57.52**	**292**	P	**P**	**09 52 54.2**	**+1.1**
	comp=Z,4.0nm,0.9s,baz=136,slow=1.8,SNR=3.8						
BRTR	**Keskin Array B**	**58.43**	**301**	P	**P**	**09 52 59.6**	**+0.1**
BRTR	**Keskin Array B**	**58.43**	**301**	P	**P**	**09 52 59.6**	**+0.1**
	comp=Z,2.0nm,1.0s,baz=92,slow=4.2,SNR=6.6						
ASAR	**Alice Springs**	**58.61**	**148**	P	**P**	**09 53 01.7**	**+1.0**
ASAR	**Alice Springs**	**58.61**	**148**	P	**P**	**09 53 01.7**	**+1.0**
	comp=Z,1.1nm,0.6s,baz=326,slow=6.8,SNR=27						
FINES	**FINESS Array B**	**60.40**	**327**	P	**P**	**09 53 12.8**	**+0.2**
FINES	**FINESS Array B**	**60.40**	**327**	P	**P**	**09 53 12.8**	**+0.2**
	comp=Z,1.8nm,0.8s,baz=55,slow=7.2,SNR=4.1						
NOA	**NORSAR Array B**	**67.53**	**328**	P	**P**	**09 53 58.6**	**-0.9**
NOA	**NORSAR Array B**	**67.53**	**328**	P	**P**	**09 53 58.6**	**-0.9**
	comp=Z,1.6nm,0.8s,baz=74,slow=6.5,SNR=3.2						
STKA	**Stephens Creek**	**69.18**	**146**	P	**P**	**09 54 10.6**	**+0.4**
STKA	**Stephens Creek**	**69.18**	**146**	P	**P**	**09 54 10.6**	**+0.4**
	comp=Z,1.5nm,0.8s,baz=330,slow=8.1,SNR=3.3						
GERES	**GERESS Array B**	**69.92**	**315**	P	**P**	**09 54 15.8**	**+1.0**
GERES	**GERESS Array B**	**69.92**	**315**	P	**P**	**09 54 15.8**	**+1.0**
	comp=Z,0.5nm,0.3s,baz=79,slow=6.9,SNR=5.8						
ILAR	**Eielson Array**	**72.97**	**25**	P	**P**	**09 54 32.9**	**+0.1**
ILAR	**Eielson Array**	**72.97**	**25**	P	**P**	**09 54 32.9**	**+0.1**
	comp=Z,0.2nm,0.6s,baz=326,slow=4.7,SNR=4.2						
YKA	**Yellowknife Ar**	**85.00**	**17**	P	**P**	**09 55 39.9**	**+1.2**
YKA	**Yellowknife Ar**	**85.00**	**17**	P	**P**	**09 55 39.9**	**+1.2**
	comp=Z,0.7nm,0.7s,baz=328,slow=5.0,SNR=3.4						
TXAR	**Lajitas Array**	**117.44**	**27**	PKP	**PKPdf**	**10 01 50.4**	**+0.4**
TXAR	**Lajitas Array**	**117.44**	**27**	PKP	**PKPdf**	**10 01 50.4**	**+0.4**
	comp=Z,0.3nm,0.9s,baz=50,slow=2.0,SNR=3.8						

KRSC 10 09:47:21.7±1.1,51°.30N×159°.34E,h5km±5km,ML3.6,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**1.25**	**336**	P	Pn	09 47 45.8	+0.1
RUS				S	Sn	09 48 03.1	+0.2
MTVR	**Mutnovka**	**1.39**	**329**	P	Pb	09 47 48.3	0.0
MTVR				S	Sn	09 48 07.9	+1.2
ASAK	**Asacha**	**1.41**	**321**	P	Pg	09 47 48.7	-0.1
ASAK				S	Sg	09 48 08.4	+1.3
GRL	**Gorelyy**	**1.48**	**328**	P	Pn	09 47 48.8	-0.4
GRL				S	Sn	09 48 08.7	-0.3
PAU	**Pauzhetka**	**1.59**	**277**	P	Pb	09 47 51.5	-0.1
PAU				S	Sg	09 48 13.4	+0.5
PET	**Petropavlovsk**	**1.78**	**346**	P	Pn	09 47 53.4	+0.3
PET				S	Sb	09 48 16.7	-0.6
SPN	**Mys Shipunski**	**1.85**	**13**	P	Pb	09 47 55.6	-0.4
MIPR	**Malaya Ipel'ka**	**1.88**	**302**	P	Pb	09 47 55.7	-0.8
MIPR				S	Sb	09 48 20.5	+0.2
SMAR	**Somma**	**1.99**	**351**	P	Pb	09 47 57.9	-0.8
SDLR	**Sedlovina**	**2.00**	**352**	P	Pb	09 47 58.0	-0.7
AVH	**Avacha**	**2.00**	**350**	P	Pb	09 47 58.6	-0.1
KRER	**Koryakskii**	**2.04**	**350**	P	Pn	09 47 57.4	+0.4
KRER				S	Sn	09 48 23.6	+0.6
KOK	**Koryaka**	**2.04**	**348**	P	Pn	09 47 58.0	+1.2
KOK				S	Sb	09 48 24.7	-0.5
KRX	**Arik**	**2.11**	**349**	P	Pn	09 47 58.7	+0.9
SKR	**Severo-Kuril's**	**2.13**	**254**	S	Sn	09 48 24.4	-0.2
GNL	**Ganaly**	**2.55**	**341**	P	Pn	09 48 05.4	+1.6
GNL				S	Sb	09 48 37.8	-2.0
KBTR	**Krutoberegovo**	**5.33**	**21**	P	Pn	09 48 42.9	+1.0

*CSEM **10** 09:51:44.8,40°.10N×29°.02E,h7km,MD2.8,After ISK*
ISK 10 09:51:44.8,40°.10N×29°.02E,h7km,MD2.8,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORLT	**Orhaneli**	**0.11**	**240**	*e*PG	Pg	09 51 47.6	+0.3
ORLT				*e*SG	Sg	09 51 50.0	+0.9
ORLT	**Orhaneli**	**0.11**	**240**	*e*Pg	Pg	09 51 47.6	+0.3
ORLT				*e*Sg	Sg	09 51 50.0	+0.9
ARMT	**Armutlu**	**0.48**	**345**	*e*PG	Pg	09 51 54.7	+0.5
ARMT	**Armutlu**	**0.48**	**345**	*e*Pg	Pg	09 51 54.7	+0.5
DST	**Dursunbey**	**0.58**	**212**	*e*PG	Pg	09 51 56.6	+0.4
DST	**Dursunbey**	**0.58**	**212**	*e*Pg	Pg	09 51 56.6	+0.4
CAVI	**Cavuskoy**	**0.64**	**81**	*e*PG	Pg	09 51 57.6	+0.4
CAVI	**Cavuskoy**	**0.64**	**81**	*e*Pg	Pg	09 51 57.6	+0.5
ADVT	**Abdulvahap**	**0.64**	**59**	*e*PG	Pg	09 51 57.7	+0.6
ADVT	**Abdulvahap**	**0.64**	**59**	*e*Pg	Pg	09 51 57.7	+0.5
BNT	**Bandirma**	**0.88**	**287**	*e*PG	Pb	09 52 02.6	+0.1
BNT	**Bandirma**	**0.88**	**287**	*e*Pg	Pb	09 52 02.6	+0.1
ISK	**Istanbul-Kandi**	**0.96**	**2**	*e*PG	Pb	09 52 03.8	-0.1
ISK	**Istanbul-Kandi**	**0.96**	**2**	*e*Pg	Pb	09 52 03.8	0.0
GONE	**Gonen-Balikesi**	**1.03**	**267**	*e*PG	Pb	09 52 04.9	0.0
GONE	**Gonen-Balikesi**	**1.03**	**267**	*e*Pg	Pb	09 52 04.9	0.0
GULT	**Gulveren**	**1.19**	**73**	*e*PN	Pn	09 52 07.9	-0.1
GULT	**Gulveren**	**1.19**	**73**	*e*Pn	Pb	09 52 07.9	+0.1
KRBG	**Karabiga-Canak**	**1.35**	**283**	*e*PN	Pg	09 52 10.7	0.0
KRBG	**Karabiga-Canak**	**1.35**	**283**	*e*Pn	Pg	09 52 10.7	0.0
RKY	**Sarkoy-Tekirda**	**1.53**	**293**	*e*PN	Pn	09 52 13.0	+0.5
RKY	**Sarkoy-Tekirda**	**1.53**	**293**	*e*Pn	Pn	09 52 13.0	+0.4
KULA	**Kula-Manisa**	**1.61**	**190**	*e*PN	Pn	09 52 14.3	+0.6
KULA	**Kula-Manisa**	**1.61**	**190**	*e*Pn	Pn	09 52 14.3	+0.5
LPK	**Lapseki**	**1.75**	**280**	*e*PN	Pb	09 52 16.5	-0.8
LPK	**Lapseki**	**1.75**	**280**	*e*Pn	Pb	09 52 16.5	-0.8
GELI	**Tayfur-Gelibol**	**1.97**	**279**	*e*PN	Pn	09 52 19.6	+1.0
GELI	**Tayfur-Gelibol**	**1.97**	**279**	*e*Pn	Pn	09 52 19.6	+1.0

WEL 10 09:55:34.0±1.2,35°.57S×178°.58E,h216km±15km,ML3.5/6, Error ellipse: s-maj=25.3km s-min=11.8km az=90.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.00**	**186**	PN	Pn	09 56 13.7	+0.1
PUZ	**Puketiti**	**2.51**	**186**	*e*PN	Pn	09 56 19.7	+0.7
PUZ				SN	S	09 56 53.3	-0.7
MWZ	**Matawai**	**2.89**	**197**	PN	Pn	09 56 23.8	+0.7
CNGZ	**Carnagh Statio**	**2.93**	**186**	PN	Pn	09 56 24.6	+1.0
URZ	**Urewera**	**2.93**	**203**	PN	Pn	09 56 24.0	+0.4
KNZ	**Kokohu**	**3.52**	**192**	PN	Pn	09 56 30.4	-0.1
KAHZ	**Kahuranaki**	**4.43**	**197**	PN	Pn	09 56 41.6	-0.1
PXZ	**Pawanui**	**4.66**	**197**	PN	Pn	09 56 43.4	-1.0
PXZ				SN	S	09 57 37.8	-2.1
PRHZ	**Porangahau**	**4.94**	**198**	PN	Pn	09 56 47.0	-0.9
BFZ	**Birch Farm**	**5.43**	**199**	PN	Pn	09 56 53.3	-0.8
MRZ	**Mangatainoka R**	**5.61**	**204**	PN	Pn	09 56 54.9	-1.5
MRZ				SN	S	09 57 57.8	-3.8
KHZ	**Kahutara**	**7.88**	**208**	PN	Pn	09 57 23.9	-1.7

MEX 10 09:59:43.0±0.7,15°.38N×93°.52W,h75km±7km,MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.44**	**41**	*e*P	Pn	09 59 54.1	-1.7
PCIG				*i* S	Sn	10 00 03.7	-1.3
TGIG		**1.45**	**15**	*i* P	Pn	10 00 06.3	-1.2
TGIG				*e*S	Sn	10 00 23.6	-2.4
CCIG	**Comitan**	**1.61**	**56**	*i* P	Pn	10 00 08.8	-1.0
CCIG				*i*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**Plate Boundary**	**0.40**	**231**	⇓*iP*	Pn	11 18 07.1	+0.6
PB09				*i* S	Sn	11 18 20.1	+0.5
PB09				AML	AML	11 18 21.2	
	comp=N,4μm,0.4s						
PB01	**Plate Boundary**	**0.73**	**313**	⇑*iP*	Pn	11 18 08.8	+0.2
PB01				*i* S	Sn	11 18 24.0	+0.7
PB01				AML	AML	11 18 25.2	
	comp=N,1μm,0.2s						
PB04	**Plate Boundary**	**0.90**	**217**	⇑*iP*	Pn	11 18 16.0	+6.1
PB04				*i* S	Sn	11 18 36.4	+11
PB07	**Plate Boundary**	**0.93**	**258**	⇑*iP*	Pn	11 18 11.4	+0.9
PB07				*i* S	Sn	11 18 28.1	+1.5
PB07				AML	AML	11 18 30.2	
	comp=E,676nm,0.3s						
HMBC	**Humberstone**	**1.56**	**324**	*i* P	Pn	11 18 16.8	-0.3
HMBC				*i* S	Sn	11 18 38.7	+0.1
HMBC				AML	AML	11 18 40.5	
	comp=N,887nm,0.5s						
PSGC	**Pisagua**	**2.24**	**329**	*eP*	Pn	11 18 24.5	-1.1
PSGC				*i* S	Sn	11 18 53.0	-0.6
PSGC				AML	AML	11 18 54.1	
	comp=N,256nm,0.4s						
PB10	**Plate Boundary**	**2.48**	**217**	*eP*	Pn	11 18 29.4	+0.9
PB10				AML	AML	11 19 05.3	
	comp=Z,154nm,0.4s						
MNMC	**Minimini**	**2.48**	**345**	*eP*	Pn	11 18 28.4	-0.5
MNMC				*i* S	Sn	11 18 59.5	-0.1
MNMC				AML	AML	11 19 02.4	
	comp=E,269nm,0.2s						
ANCH	**Antofagasta**	**2.54**	**213**	*i* P	Pn	11 18 29.9	+0.7
ANCH				*i* S	Sn	11 19 01.5	+1.3

*ISCJB **10** 11:18:21.5±0.4, 59°.66N±0°.03×24°.54E±0°.07, h0km, Error ellipse: s-maj=4.9km s-min=3.9km az=173.4*
*CSEM **10** 11:18:22.8±0.2, 59°.66N×24°.60E, h1km, ML3.0, Error ellipse: s-maj=4.2km s-min=3.6km az=103.0, Mining explosion.*
*BER **10** 11:18:24.2±3.4, 59°.67N×24°.52E, h0km, ML2.4(NAO), Suspected explosion*
*HEL **10** 11:18:24.5±0.1, 59°.67N×24°.57E, h0km, ML2.5, Explosion*
*NAO **10** 11:18:24.0±1.0, 59°.67N×24°.56E, ML2.4*
*IDC **10** 11:18:25.4±1.0, 59°.74N×24°.61E, h0km, mb1 3.7/4, mb1mx3.3/25, mbtmp3.6/4, ML3.7/4, Error ellipse: s-maj=11.9km s-min=8.3km az=138.0*

ISC 10 11:18:22.1±0.6, 59°.68N±0°.03×24°.45E±0°.03, h0km, n42, σ1s22/63, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**0.54**	**357**	*eP*	**Pb**	**11 18 34.4**	**0.0**
MEF				*eS*	**Sg**	**11 18 40.7**	**+1.3**
MEF	**Metsahovi**	**0.54**	**357**	*eP*	**Pb**	**11 18 34.4**	**0.0**
	SNR=90						
MEF				S	**Sg**	**11 18 40.7**	**+1.3**
MTSE	**Matsula**	**1.02**	**199**	*eP*	**Pg**	**11 18 42.7**	**+1.1**
MTSE				*eS*	**Sb**	**11 18 56.8**	**+0.3**
MTSE	**Matsula**	**1.02**	**199**	P	**Pg**	**11 18 42.7**	**+1.1**
MTSE				S	**Sb**	**11 18 56.8**	**+0.3**
PVF	**Pernaja**	**1.12**	**38**	*eP*	**Pb**	**11 18 44.0**	**-0.3**
PVF	**Pernaja**	**1.12**	**38**	P	**Pb**	**11 18 43.9**	**-0.3**
VSU	**Vasula**	**1.70**	**135**	Pg	**Pb**	**11 18 54.0**	**-0.1**
VSU				Lg	Lg	11 19 15.5	
VSU	**Vasula**	**1.70**	**135**	Pg	**Pb**	**11 18 54.0**	**-0.1**
VSU				Lg	Lg	11 19 15.5	
VSU	**Vasula**	**1.70**	**135**	*eP*	**Pb**	**11 18 53.9**	**-0.1**
VSU				*eSG*	**Sn**	**11 19 15.5**	**+0.2**
VSU	**Vasula**	**1.70**	**135**	Pg	**Pb**	**11 18 54.0**	**-0.1**
	SNR=90						
VSU				Sg	**Sn**	**11 19 15.4**	**+0.2**
VJF	**Virojoki**	**1.78**	**60**	*eP*	**Pb**	**11 18 54.9**	**-0.5**
VJF				MSG		11 19 22.8	
	comp=Z,45nm,0.1s						
VJF	**Virojoki**	**1.78**	**60**	P	**Pb**	**11 18 54.9**	**-0.5**
RAF	**Rauma**	**1.90**	**316**	*eP*	**Pg**	**11 18 58.9**	**+0.5**
RAF				*eS*	**Sg**	**11 19 24.2**	**+1.2**
RAF				MSG		11 19 28.2	
	comp=Z,55nm,0.1s						
RAF	**Rauma**	**1.90**	**316**	P	**Pg**	**11 18 58.9**	**+0.5**
RAF				S	**Sg**	**11 19 24.2**	**+1.2**
FIA0	**FINESS Array S**	**1.94**	**24**	Pg	**Pb**	**11 18 58.9**	**+0.5**
	baz=194,slow=18						
FIA0				Lg	Lg	11 19 24.1	
	baz=196,slow=37						
FIA0	**FINESS Array S**	**1.94**	**24**	Pg	**Pb**	**11 18 58.9**	**+0.5**
	baz=194,slow=18						
FIA0				Lg	Lg	11 19 24.1	
	baz=196,slow=37						
FIA0	**FINESS Array S**	**1.94**	**24**	*eP*	**Pb**	**11 18 58.8**	**+0.5**
FIA0				MSG		11 19 27.9	
	comp=Z,26nm,0.1s						
FIA0	**FINESS Array S**	**1.94**	**24**	Pg	**Pb**	**11 18 58.8**	**+0.5**
	baz=194,slow=17,SNR=90						
FIA0				Lg	Lg	11 19 24.1	
	baz=196,slow=31,SNR=8.5						
FINES	**FINESS Array B**	**1.94**	**24**	Pg	**Pb**	**11 18 58.8**	**+0.5**
	comp=Z,21nm,0.3s,baz=200,slow=16,SNR=395						
FINES				Sn	**Sg**	**11 19 23.8**	**-0.6**
	comp=Z,13nm,0.3s,baz=196,slow=26,SNR=17						
AAL	**Aland**	**2.30**	**285**	*eP*	**Pb**	**11 19 03.9**	**-0.5**
AAL				*eSB*	**Sg**	**11 19 35.6**	**-0.3**
AAL	**Aland**	**2.30**	**285**	P	**Pb**	**11 19 03.9**	**-0.5**
AAL				Sb	**Sg**	**11 19 35.6**	**-0.3**
HFS	**Hagfors**	**5.43**	**279**	Pn	**Pn**	**11 19 47.1**	**+2.9**
	baz=93,slow=12						
HFS				Sn	**Sn**	**11 20 47.5**	**+0.1**
	baz=90,slow=28						
HFS				Lg	Lg	11 21 08.8	
	baz=81,slow=28						
HFS	**Hagfors**	**5.43**	**279**	Pn	**Pn**	**11 19 47.1**	**+2.9**
	baz=93,slow=12						
HFS				Sn	**Sn**	**11 20 47.5**	**+0.1**
	baz=90,slow=28						
HFS				Lg	Lg	11 21 08.8	
	baz=81,slow=28						
HFS	**Hagfors**	**5.43**	**279**	Pn	**Pn**	**11 19 47.0**	**+2.9**
	comp=Z,1.1nm,0.3s,baz=116,slow=13,SNR=41						
HFS				Sn	**Sn**	**11 20 48.3**	**+0.9**
	comp=Z,1.3nm,0.3s,baz=96,slow=29,SNR=7.1						
HFS				Lg	Lg	11 21 10.8	
	comp=Z,2.2nm,0.3s,baz=87,slow=31,SNR=5.4						
HFS	**Hagfors**	**5.43**	**279**	Pn	**Pn**	**11 19 47.1**	**+2.9**
	baz=93,slow=12,SNR=50						
HFS				Sn	**Sn**	**11 20 47.5**	**+0.1**
	baz=90,slow=25,SNR=50						
HFS				Lg	Lg	11 21 08.8	
	baz=81,slow=25,SNR=50						
NB2	**NORSAR Subarra**	**6.71**	**287**	Pn	**Pn**	**11 20 02.1**	**+0.4**
	baz=101,slow=14						
NB2				Sn	**Sn**	**11 21 17.2**	**-1.6**
	baz=98,slow=22						
NB2				Lg	Lg	11 21 51.5	
	baz=95,slow=37						
NB2	**NORSAR Subarra**	**6.71**	**287**	Pn	**Pn**	**11 20 02.1**	**+0.4**
	baz=101,slow=14						
NB2				Sn	**Sn**	**11 21 17.2**	**-1.6**
	baz=98,slow=22						
NB2				Lg	Lg	11 21 51.5	
	baz=95,slow=37						
NB2	**NORSAR Subarra**	**6.71**	**287**	Pn	**Pn**	**11 20 02.2**	**+0.4**
	baz=101,slow=13,SNR=50						
NB2				Sn	**Sn**	**11 21 17.2**	**-1.6**
	baz=98,slow=21,SNR=50						
NB2				Lg	Lg	11 21 51.5	
	baz=95,slow=32,SNR=50						
NOA	**NORSAR Array B**	**6.71**	**287**	Pn	**Pn**	**11 20 03.0**	**+1.3**
	comp=Z,1.0nm,0.3s,baz=90,slow=14,SNR=19						
NOA				Sn	**Sn**	**11 21 18.0**	**-0.8**
	comp=Z,1.0nm,0.3s,baz=82,slow=19,SNR=5.1						
NOA				Lg	Lg	11 21 46.1	
	comp=Z,1.3nm,0.3s,baz=206,slow=20,SNR=4.5						
BSD	**Bornholm Skovb**	**6.89**	**233**	*i* P	**Pn**	**11 20 04.7**	**+0.5**
BSD				*i* S	**Sn**	**11 21 20.6**	**-2.6**
BSD	**Bornholm Skovb**	**6.89**	**233**	*i* P	**Pn**	**11 20 04.7**	**+0.5**
APA0	**Apatity Array**	**8.81**	**22**	Pn	**Pn**	**11 20 31.1**	**+0.7**
	baz=211,slow=12						
APA0	**Apatity Array**	**8.81**	**22**	Pn	**Pn**	**11 20 31.1**	**+0.7**
	baz=211,slow=12						
APA0	**Apatity Array**	**8.81**	**22**	Pn	**Pn**	**11 20 31.1**	**+0.7**
	baz=211,slow=11,SNR=50						
AKASG	**Malin Array Be**	**9.40**	**161**	Pn	**Pn**	**11 20 37.1**	**-1.5**
	comp=Z,1.3nm,0.3s,baz=339,slow=12,SNR=5.3						
ARA0	**ARCESS Array S**	**9.91**	**2**	Pn	**Pn**	**11 20 45.6**	**+0.1**
	baz=173,slow=16						
ARA0	**ARCESS Array S**	**9.91**	**2**	Pn	**Pn**	**11 20 45.6**	**+0.1**
	baz=173,slow=16						
ARA0	**ARCESS Array S**	**9.91**	**2**	Pn	**Pn**	**11 20 45.6**	**+0.1**
	baz=173,slow=15,SNR=50						
ARCES	**ARCESS Array B**	**9.91**	**2**	Pn	**Pn**	**11 20 45.6**	**+0.1**
	comp=Z,1.6nm,0.3s,baz=178,slow=13,SNR=31						
ARCES				Sn	**Sn**	**11 22 32.6**	**-4.7**
	comp=Z,0.4nm,0.3s,baz=192,slow=20,SNR=3.1						
SPA0	**Spitsbergen Ar**	**18.78**	**355**	P	**P**	**11 22 42.5**	**+0.1**
	baz=151,slow=14						
SPA0	**Spitsbergen Ar**	**18.78**	**355**	P	**P**	**11 22 42.5**	**+0.1**
	baz=151,slow=14						
SPA0	**Spitsbergen Ar**	**18.78**	**355**	P	**P**	**11 22 42.5**	**+0.1**
	baz=151,slow=14,SNR=47						

GUC 10 11:21:25.2±0.4, 30°.58S×69°.01W, h150km, MD3.5, ML3.7, 1C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLL	**Tololo Astrono**	**1.60**	**284**	*eP*	Pn	11 21 56.9	+0.7
TLL				*i* S	Sn	11 22 20.9	+1.0
CMCH	**Combarbala**	**1.81**	**250**	⇑*iP*	Pn	11 21 58.5	+0.3
CMCH				*i* S	Sn	11 22 24.1	+0.6
CMCH				AML	AML	11 22 26.9	
	comp=N,911nm,0.1s						
LCO	**Las Campanas**	**2.14**	**316**	*eP*	Pn	11 22 03.3	+0.9
LCO				*i* S	Sn	11 22 31.7	+0.8
LCO				AML	AML	11 22 33.2	
	comp=E,266nm,0.3s						
VACH	**Vallenar**	**2.51**	**322**	⇓*iP*	Pn	11 22 06.9	+0.4
VACH				*i* S	Sn	11 22 38.6	+0.3
PEL	**Peldehue**	**2.93**	**209**	*i* P	Pn	11 22 12.1	+0.4
PEL				*i* S	Sn	11 22 48.1	+0.4
PEL				AML	AML	11 22 53.5	
	comp=E,142nm,0.5s						
ROCH	**El Roble**	**2.93**	**215**	*eP*	Pn	11 22 11.7	-0.3
ROCH				*i* S	Sn	11 22 47.9	-0.3
LMEL	**Las Melosas**	**3.41**	**197**	*eP*	Pn	11 22 18.9	+0.8
LMEL				*i* S	Sn	11 22 59.9	+0.8
LMEL				AML	AML	11 23 12.8	
	comp=N,52nm,0.2s						
CDCH	**Caldera**	**3.84**	**335**	AML	AML	11 23 20.7	
	comp=N,48nm,0.4s						

*IDC **10** 11:22:40.6±2.5, 34°.30N×120°.63W, h0km, mb3.5/1, mb1 3.6/5, mb1mx3.5/27, mbtmp3.3/5, ML3.6/4, MS3.3/2, Ms1 3.5/2, ms1mx2.6/25, Error ellipse: s-maj=40.4km s-min=12.0km az=39.0*
*NEIC **10** 11:22:42.6, 34°.53N×120°.53W, h10km, ML3.8(PAS), After PAS.*
NEIC Felt [III] at Lompoc and [II] at Arroyo Grande, Buellton, Goleta, Grover Beach, Oceano, Pismo Beach, San Luis Obispo, Santa Barbara, Santa Maria, Santa Ynez and Solvang. Also felt at Carpinteria, Casmalia, Los Osos and Nipomo.

ISC 10 11:22:43.6±1.6, 34°.49N±0°.04×120°.41W±0°.05, h10km±9km, n83, σ1s29/100, 36C-28D, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBC	**Santa Barbara**	**0.58**	**95**	⇓P	**Pb**	**11 22 55.5**	**-0.4**
	baz=0.7,SNR=138						
SBC				⇑S	**Sb**	**11 23 05.6**	**+1.5**
	baz=0.7						
PKM	**Peak Mountain**	**0.63**	**50**	P	**Pg**	**11 22 55.4**	**-0.5**
	baz=0.7,SNR=580						
PKM				⇑S	**Sg**	**11 23 05.5**	**+1.2**
	baz=0.7						
SMMC	**Simmler**	**0.88**	**22**	P	**Pg**	**11 22 59.1**	**-1.5**
	baz=0.9,SNR=606						
SMMC				⇑S	**Sg**	**11 23 11.7**	**-0.5**
	baz=0.9						
PTRM	**Twissleman Ran**	**1.17**	**8**	*e*Pg	Pb	11 23 02.7	-3.3
BLG	**Laguna Peak**	**1.18**	**109**	⇓P	**Pb**	**11 23 04.6**	**-1.5**
	baz=1.3,SNR=102						
BLG				⇓S	**Sg**	**11 23 21.9**	**+0.3**
	baz=1.3						
OSI	**Osito Adit**	**1.40**	**85**	*e*Pn	**Pn**	**11 23 08.2**	**-1.1**
OSI	**Osito Adit**	**1.40**	**85**	⇓P	**Pn**	**11 23 08.1**	**-1.1**
	baz=1.5,SNR=48						
OSI				⇑S	**Sn**	**11 23 28.0**	**+0.1**
	baz=1.5						
ARVC	**Arvin**	**1.45**	**64**	⇑P	**Pn**	**11 23 08.5**	**-1.4**
	baz=1.5,SNR=134						
VES	**Vestal, Richgr**	**1.73**	**39**	⇑P	**Pn**	**11 23 11.4**	**-2.3**
	baz=1.8,SNR=118						
VES				⇑S	**Sn**	**11 23 34.0**	**-1.9**
	baz=1.8						
DECC	**Green Verdugo**	**1.74**	**97**	⇓P	**Pn**	**11 23 12.8**	**-1.1**
	baz=1.8,SNR=48						
DECC				⇑S	**Sn**	**11 23 36.8**	**+0.6**
	baz=1.8						
PASC	**Pasadena Art C**	**1.87**	**99**	*e*Pn	**Pn**	**11 23 14.6**	**-1.1**
PASC				*e*Sn	**Sb**	**11 23 41.2**	**-0.1**
FMP	**Fort Macarthur**	**1.92**	**113**	⇑P	**Pn**	**11 23 15.1**	**-1.3**
	baz=2.0,SNR=21						
MWC	**Mount Wilson**	**1.97**	**97**	*e*Pn	**Pn**	**11 23 16.1**	**-1.0**
ISA	**Isabella**	**1.97**	**53**	*e*Pn	**Pn**	**11 23 15.5**	**-1.8**
ISA	**Isabella**	**1.97**	**53**	⇑P	**Pn**	**11 23 15.4**	**-1.8**
	baz=2.0,SNR=148						
CIS	**Catalina Islan**	**1.99**	**122**	⇓P	**Pn**	**11 23 15.8**	**-1.6**
	baz=2.1,SNR=64						
CIS				⇑S	**Sn**	**11 23 42.4**	**0.0**
	baz=2.1						
EDW2	**Edwards Air Fo**	**2.03**	**78**	⇑P	**Pn**	**11 23 16.9**	**-1.1**
	baz=2.1,SNR=97						
EDW2				⇑S	**Sn**	**11 23 43.2**	**-0.3**
	baz=2.1						
RCTC	**Rector, Farmer**	**2.05**	**28**	⇓P	**Pn**	**11 23 15.5**	**-2.7**
	baz=2.1,SNR=36						
RCTC				⇑S	**Sn**	**11 23 41.1**	**-2.8**
	baz=2.1						
SCI	**San Clemente I**	**2.17**	**134**	⇑P	**Pn**	**11 23 19.0**	**-0.8**
	baz=2.3,SNR=96						
SCI				⇓S	**Sn**	**11 23 47.5**	**+0.8**
	baz=2.3						
BFSC	**Mount Baldy Ra**	**2.29**	**96**	⇓P	**Pn**	**11 23 20.5**	**-1.1**
	baz=2.4,SNR=87						
BFSC				⇓S	**Sn**	**11 23 50.3**	**+0.3**
	baz=2.4						
SAO	**San Andreas Ge**	**2.42**	**340**	*e*Pn	Pn	11 23 18.8	-4.4
LRMC	**Laurel Mountai**	**2.44**	**66**	⇑P	**Pn**	**11 23 22.7**	**-0.9**
	baz=2.5,SNR=58						
LRMC				⇓S	**Sn**	**11 23 53.2**	**-0.5**
	baz=2.5						
CWC	**Cottonwood Cre**	**2.72**	**44**	⇓P	**Pn**	**11 23 26.1**	**-1.5**
	baz=2.8,SNR=39						
MURC	**Murrieta**	**2.81**	**108**	⇓P	**Pn**	**11 23 27.5**	**-1.2**
	baz=2.9,SNR=44						
MURC				⇓S	**Sn**	**11 24 02.0**	**-0.7**
	baz=2.9						
MPMC	**Manual Prospec**	**2.86**	**56**	⇑P	**Pn**	**11 23 28.0**	**-1.5**
	baz=2.9,SNR=78						
BBRC	**Big Bear Solar**	**2.90**	**94**	⇑P	**Pn**	**11 23 29.5**	**-0.6**
	baz=3.0,SNR=54						
BBRC				⇑S	**Sn**	**11 24 05.7**	**+0.6**
	baz=3.0						
GSC	**Goldstone**	**3.07**	**74**	*e*Pn	**Pn**	**11 23 32.5**	**+0.2**
GSC	**Goldstone**	**3.07**	**74**	⇑P	**Pn**	**11 23 30.9**	**-1.4**
	baz=3.2,SNR=29						
GSC				⇑S	**Sn**	**11 24 08.4**	**-0.8**
	baz=3.2						
109C	**Camp Elliot, M**	**3.19**	**119**	⇑P	**Pn**	**11 23 32.2**	**-1.6**
	baz=3.3,SNR=8.3						
109C				⇑S	**Sn**	**11 24 10.0**	**-1.8**
	baz=3.3						
MTUM	**Tungsten Hills**	**3.23**	**27**	*e*Pn	**Pn**	**11 23 34.2**	**-0.3**
HEC	**Hector,Ludlow**	**3.38**	**83**	⇑P	**Pn**	**11 23 34.9**	**-1.6**
	baz=3.5						
HEC				⇑S	**Sn**	**11 24 16.4**	**-0.4**
	baz=3.5						
PFO	**Pinyon Flat Ob**	**3.40**	**104**	*e*Pn	**Pn**	**11 23 35.5**	**-1.4**
PFO				Sn	**Sn**	**11 24 17.4**	**0.0**
PFO	**Pinyon Flat Ob**	**3.40**	**104**	Pn	**Pn**	**11 23 36.2**	**-0.7**
	4.9nm,0.3s,baz=284,slow=13,SNR=46						
PFO				Sn	**Sn**	**11 24 17.4**	**0.0**
	12nm,0.3s,baz=278,slow=19,SNR=8.2						
PFO	**Pinyon Flat Ob**	**3.40**	**104**	⇓P	**Pn**	**11 23 35.8**	**-1.1**
	baz=3.5,SNR=23						
PFO				⇓S	**Sn**	**11 24 17.5**	**+0.1**
	baz=3.5						
SAC	**San Andreas**	**3.48**	**333**	*e*Pn	**Pn**	**11 23 36.7**	**-1.2**
CMB	**Columbia Colle**	**3.54**	**0**	*e*Pn	**Pn**	**11 23 36.4**	**-2.3**
BAR	**Barrett**	**3.61**	**119**	*e*Pn	**Pn**	**11 23 38.4**	**-1.3**
SHOC	**Shoshone**	**3.66**	**66**	⇑S	**Sn**	**11 24 22.8**	**-0.9**
	baz=3.7						
BELC	**Belle Mtn. Jos**	**3.69**	**96**	⇑P	**Pn**	**11 23 40.1**	**-0.7**
	baz=3.8,SNR=55						
MONP	**Monument Peak**	**3.69**	**115**	⇓P	**Pn**	**11 23 39.9**	**-1.1**
	baz=3.8,SNR=25						
MONP				⇑S	**Sn**	**11 24 24.1**	**-0.6**
	baz=3.8						
TUQ	**Turquoise Moun**	**3.80**	**74**	⇓P	**Pn**	**11 23 41.4**	**-1.0**
	baz=3.9,SNR=16						
TUQ				⇓S	**Sn**	**11 24 26.9**	**-0.5**
	baz=3.9						
GMRC	**Granite Mounta**	**3.93**	**84**	⇑P	**Pn**	**11 23 43.0**	**-1.2**
	baz=4.0,SNR=12						
GMRC				⇓S	**Sn**	**11 24 29.4**	**-1.0**
	baz=4.0						
DVTC	**Desert V Tower**	**4.04**	**116**	⇓P	**Pn**	**11 23 44.8**	**-0.8**
	baz=4.1,SNR=25						
DVTC				⇓S	**Sn**	**11 24 32.5**	**-0.4**
	baz=4.1						
WAKR	**Walker**	**4.08**	**11**	*e*Pn	**Pn**	**11 23 46.3**	**0.0**
SWSC	**Sam W. Stewart**	**4.15**	**111**	⇑P	**Pn**	**11 23 45.9**	**-1.1**
	baz=4.2						
BC3	**Big Chuckawall**	**4.20**	**100**	⇑P	**Pn**	**11 23 46.8**	**-1.0**
	baz=4.3,SNR=13						
BC3				⇑S	**Sn**	**11 24 37.4**	**+0.4**
	baz=4.3						
NV11	**Mina Array Sit**	**4.33**	**24**	*e*Pn	**Pn**	**11 23 52.1**	**+2.5**
IRM	**Iron Mountain**	**4.37**	**93**	⇑P	**Pn**	**11 23 49.0**	**-1.0**
	baz=4.5,SNR=7.8						
SHPR	**Sheep Range**	**4.73**	**63**	*e*Pn	**Pn**	**11 23 56.8**	**+1.6**
GLA	**Glamis**	**4.87**	**106**	*e*Pn	**Pn**	**11 23 59.5**	**+2.6**
GLA	**Glamis**	**4.87**	**106**	⇓P	**Pn**	**11 23 56.0**	**-1.0**
	baz=5.0						
OHCM	**Honcut**	**4.91**	**350**	*e*Pn	**Pn**	**11 23 55.9**	**-1.5**
Y12C	**Blythe**	**4.94**	**97**	⇓P	**Pn**	**11 23 56.7**	**-1.2**
	baz=5.0						
Y12C				⇓S	**Sn**	**11 24 54.7**	**-0.4**
	baz=5.0						
PDMCI	**Parker Dam,Lak**	**5.19**	**90**	⇓P	**Pn**	**11 24 00.1**	**-1.2**
	baz=5.3						
PAHR	**Pah Rah Range**	**5.27**	**9**	*e*Pn	Pn	11 24 06.7	+4.1
BEKR	**Beckworth**	**5.36**	**0**	*e*Pn	**Pn**	**11 24 03.0**	**-0.9**
	7.5nm,0.8s						
BEKR				*e*Sn	**Sn**	**11 25 04.8**	**-1.1**
W13A	**Hualapai Mount**	**5.40**	**82**	⇑P	**Pn**	**11 24 03.9**	**-0.6**
	baz=5.5,SNR=10						
W13A				⇑S	**Sn**	**11 25 06.0**	**-1.0**
	baz=5.5						
R11A	**Troy Canyon, C**	**5.47**	**44**	*e*Pn	**Pn**	**11 24 08.5**	**+3.1**
Y14A	**Wickenburg**	**6.16**	**93**	⇓P	**Pn**	**11 24 14.2**	**-0.6**
	baz=6.2,SNR=20						
CCUT	**Cedar City**	**6.48**	**60**	*e*Pn	Pn	11 24 26.2	+6.9
ARUT	**Antelope Range**	**6.53**	**58**	Pn	**Pn**	**11 24 20.0**	**+0.1**
	147nm,0.6s						
MOD	**Modoc**	**7.40**	**1**	*e*Pn	**Pn**	**11 24 34.4**	**+2.5**
X16A	**Lo Mia Camp, P**	**7.41**	**88**	⇑P	**Pn**	**11 24 31.4**	**-0.6**
	baz=7.5,SNR=13						
YBH	**Yreka Blue Hor**	**7.45**	**347**	Pn	**Pn**	**11 24 33.0**	**+0.5**
YBH	**Yreka Blue Hor**	**7.45**	**347**	Pn	**Pn**	**11 24 33.0**	**+0.5**
	0.2nm,0.3s,baz=167,slow=8.2,SNR=5.8						
ELK	**Elko**	**7.47**	**32**	*e*Pn	**Pn**	**11 24 36.0**	**+3.2**
WUAZ	**Wupatki**	**7.49**	**80**	*e*Pn	**Pn**	**11 24 34.4**	**+1.3**
	6.7nm,0.8s						
DUG	**Dugway**	**8.30**	**45**	*e*Pn	Pn	11 24 47.7	+3.5
DUG				*e*Pg	**Pg**	**11 25 24.6**	**+2.0**
TUC	**Tucson**	**8.34**	**102**	*e*Pn	**Pn**	**11 24 46.0**	**+1.3**
X18A	**Snowflake**	**8.64**	**87**	⇓S	**Sn**	**11 26 26.4**	**0.0**
	baz=8.7						
HWUT	**Hardware Ranch**	**9.95**	**42**	*e*Pn	Pn	11 25 12.0	+5.2
	5.9nm,1.1s						
PV01	**Paradox Valley**	**10.22**	**66**	*e*Pn	Pn	11 25 14.3	+3.7
ANMO	**Albuquerque**	**11.49**	**84**	Pn	Pn	11 25 34.5	+6.5
ANMO	**Albuquerque**	**11.49**	**84**	Pn	Pn	11 25 34.5	+6.5
	0.0nm,0.3s,baz=309,slow=11,SNR=3.8						
PDAR	**Pinedale Array**	**11.84**	**43**	Pn	Pn	11 25 39.0	+6.3
PDAR	**Pinedale Array**	**11.84**	**43**	Pn	Pn	11 25 39.0	+6.3
	0.0nm,0.3s,baz=212,slow=8.5,SNR=3.9						
GDL2	**Guadalupe Moun**	**13.61**	**95**	*e*Pn	P	11 26 01.6	-4.3
NEW	**Newport**	**13.98**	**9**	LR	LR	11 31 20.4	
	comp=Z,45nm,21.7s,baz=204,slow=37						
TXAR	**Lajitas Array**	**15.12**	**105**	Pn	**P**	**11 26 21.6**	**-1.1**
TXAR	**Lajitas Array**	**15.12**	**105**	Pn	**P**	**11 26 21.6**	**-1.1**
	0.1nm,0.3s,baz=294,slow=14,SNR=3.5						
ILAR	**Eielson Array**	**34.29**	**340**	P	**P**	**11 29 30.1**	**+0.4**
ILAR	**Eielson Array**	**34.29**	**340**	P	**P**	**11 29 30.1**	**+0.4**
	0.7nm,0.7s,baz=156,slow=8.9,SNR=6.5						
LPAZ	**La Paz**	**70.84**	**126**	LR	LR	12 00 08.7	
	comp=Z,78nm,21.7s,baz=235,slow=32						

*ISCJB **10** 11:24:53.8±0.8, 7°.29S±0°.08×39°.93E±0°.07, h10km, mb4.3/5, MS3.5/7, Error ellipse: s-maj=12.9km s-min=9.3km az=36.1*
*IDC **10** 11:24:55.1±1.0, 7°.35S×39°.99E, h0km, mb4.3/5, mb1 4.5/9, mb1mx4.0/30, mbtmp4.4/9, ML4.5/4, MS3.5/9, Ms1 3.5/9, ms1mx3.2/30, Error ellipse: s-maj=27.2km s-min=20.7km az=113.0*
*BUL **10** 11:25:00.4±8.9, 6°.91S×40°.79E, h31km±999km, MD4.0*

**ISC 10 11:24:56.3±0.9, 7°.29S±0°.08×39°

Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.19**	**175**	Pn	Pn	12 15 36.9	+0.6
	0.4nm,0.3s,baz=39,slow=14,SNR=12						
DZM				Sn	Sn	12 16 57.2	-1.6
	0.3nm,0.3s,baz=343,slow=19,SNR=3.5						
STKA	**Stephens Creek**	**27.81**	**228**	P	P	12 19 40.9	+0.2
	1.1nm,0.4s,baz=41,slow=9.5,SNR=3.7						
WRA	**Warramunga Arr**	**30.39**	**256**	P	P	12 20 04.4	+0.7
	0.1nm,0.3s,baz=84,slow=8.4,SNR=4.8						
ASAR	**Alice Springs**	**31.27**	**249**	P	P	12 20 10.8	-0.8
	0.4nm,0.4s,baz=78,slow=9.1,SNR=9.1						

*TIF **10** 12:18:32.0, 42°.56N×43°.45E, h15km*
*CSEM **10** 12:18:33.4, 42°.53N×43°.54E, h9km, mb3.9, After OBN*
*MOS **10** 12:18:33.4±1.1, 42°.53N×43°.54E, h9km, mb3.9/1, Error ellipse: s-maj=14.4km s-min=6.3km az=79.8*

ISC 10 12:18:33.3±0.9, 42°.53N±0°.02×43°.48E±0°.02, h7km±6km, n39, σ0$99/78, 2C-2D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.06**	**342**	P	**Pg**	12 18 35.0	-0.1
ONI				S	**Sg**	12 18 36.7	+0.4
DIGR	**Digorskoe uzhe**	**0.37**	**12**	*i* PG	**Pg**	12 18 40.2	-0.5
DIGR				*i* S	**Sg**	12 18 46.0	+0.4
DIGR	**Digorskoe uzhe**	**0.37**	**12**	*i* Pg	**Pg**	12 18 40.2	-0.5
DIGR				*i* Sg	**Sg**	12 18 46.0	+0.4
ZEI	**Tsey**	**0.40**	**51**	*i* PG	**Pg**	12 18 40.9	-0.3
ZEI				*i* S	**Sg**	12 18 47.0	+0.5
ZEI	**Tsey**	**0.40**	**51**	*i* Pg	**Pg**	12 18 40.9	-0.3
ZEI				*i* Sg	**Sg**	12 18 47.0	+0.5
LACR	**Lac**	**0.67**	**64**	*i* PG	**Pg**	12 18 45.7	-0.5
LACR				*i* S	**Sg**	12 18 55.2	+0.2
LACR	**Lac**	**0.67**	**64**	*i* Pg	**Pg**	12 18 45.7	-0.5
LACR				*i* Sg	**Sg**	12 18 55.2	+0.2
KORR	**Kora**	**0.70**	**38**	*i* PG	**Pg**	12 18 46.9	+0.1
KORR				*e*S	**Sb**	12 18 57.1	-0.7
KORR	**Kora**	**0.70**	**38**	*i* Pg	**Pg**	12 18 46.9	+0.1
KORR				*e*Sg	**Sb**	12 18 57.1	-0.7
LSNR	**Lesken**	**0.79**	**19**	*i* PG	**Pg**	12 18 48.4	0.0
LSNR				*i* S	**Sb**	12 18 59.5	-0.8
LSNR	**Lesken**	**0.79**	**19**	*i* Pg	**Pg**	12 18 48.4	0.0
LSNR				*i* Sg	**Sb**	12 18 59.5	-0.8
STDR	**Stavd-Durt**	**0.94**	**27**	*i* PG	**Pn**	12 18 52.6	-0.3
STDR				*e*S	**Sn**	12 19 05.8	-0.8
STDR	**Stavd-Durt**	**0.94**	**27**	*i* Pg	**Pn**	12 18 52.6	-0.3
STDR				*e*Sg	**Sn**	12 19 05.8	-0.8
NCK	**Nalchik**	**0.97**	**5⇓**	*e*PG	**Pb**	12 18 52.4	0.0
NCK				*i* S	**Sb**	12 19 05.9	+0.5
NCK	**Nalchik**	**0.97**	**5**	*e*Pg	**Pb**	12 18 52.4	0.0
NCK				*i* Sg	**Sb**	12 19 05.9	+0.5
DUS	**Dusheti**	**1.01**	**116**	P	**Pg**	12 18 53.0	+0.3
DUS				S	**Sb**	12 19 07.8	+1.1
VLKR	**Vladikavkaz**	**1.02**	**59**	*e*PG	**Pg**	12 18 52.5	-0.4
VLKR				*e*S	**Sb**	12 19 06.7	-0.3
VLKR	**Vladikavkaz**	**1.02**	**59**	*e*Pg	**Pg**	12 18 52.5	-0.4
VLKR				*e*Sg	**Sb**	12 19 06.7	-0.3
AKH	**Akhalkalaki**	**1.12**	**179**	P	**Pg**	12 18 53.8	-1.1
AKH				S	**Sg**	12 19 09.4	0.0
BTKR	**Batakoyurt**	**1.15**	**43**	*i* PG	**Pn**	12 18 56.8	+1.0
BTKR				*e*S	**Sn**	12 19 12.8	+1.0
BTKR	**Batakoyurt**	**1.15**	**43**	*i* Pg	**Pn**	12 18 56.8	+1.0
BTKR				*e*Sg	**Sn**	12 19 12.8	+1.0
TBLG	**Delisi**	**1.23**	**130**	P	**Pn**	12 18 56.2	-0.8
TBLG				S	**Sn**	12 19 14.0	+0.1
KUBR	**Kubataba**	**1.27**	**358⇑**	*e*PG	**Pg**	12 18 57.9	+0.3
KUBR				*e*S	**Sn**	12 19 16.0	+1.2
KUBR	**Kubataba**	**1.27**	**358**	*e*Pg	**Pg**	12 18 57.9	+0.3
KUBR				*e*Sg	**Sn**	12 19 16.0	+1.2
KZR	**Kazreti**	**1.35**	**148**	P	**Pn**	12 18 58.0	-0.6
KZR				S	**Sb**	12 19 15.5	-0.8
SHAR	**Shatzhatmas**	**1.35**	**334**	*e*PG	**Pn**	12 18 58.2	-0.5
SHAR				*e*S	**Sb**	12 19 15.6	-0.9
SHAR	**Shatzhatmas**	**1.35**	**334**	*e*Pg	**Pn**	12 18 58.2	-0.5
SHAR				*e*Sg	**Sb**	12 19 15.6	-0.9
PRTR	**Priterechnaya**	**1.35**	**26**	*e*PG	**Pn**	12 18 58.4	-0.2
PRTR				*e*S	**Sg**	12 19 16.9	+0.1
PRTR	**Priterechnaya**	**1.35**	**26**	*e*Pg	**Pn**	12 18 58.4	-0.2
PRTR				*e*Sg	**Sg**	12 19 16.9	+0.1
PYA	**Pyatigorsk**	**1.53**	**349⇓**	*e*PG	**Pb**	12 19 02.0	0.0
PYA				*e*S	**Sg**	12 19 22.2	-0.3
PYA	**Pyatigorsk**	**1.53**	**349**	*e*Pg	**Pb**	12 19 02.0	0.0
PYA				*e*Sg	**Sg**	12 19 22.2	-0.3
KIV	**Kislovodsk**	**1.54**	**338⇑**	*e*PG	**Pn**	12 19 01.2	0.0
KIV				*i* S	**Sn**	12 19 21.3	-0.2
KIV	**Kislovodsk**	**1.54**	**338**	*e*Pg	**Pn**	12 19 01.2	0.0
KIV				*i* Sg	**Sn**	12 19 21.3	-0.2
ARTV	**Artvin**	**1.78**	**221**	*i* P	**Pn**	12 19 04.4	-0.2
ARTV				*i* S	**Sn**	12 19 28.2	+0.7
DGRG	**David-gareji**	**1.78**	**127**	P	**Pb**	12 19 06.2	0.0
DGRG				S	**Sg**	12 19 29.0	+0.2
DBOC	**Borcka**	**1.80**	**229**	*i* P	**Pn**	12 19 04.1	-0.7
DBOC				*i* S	**Sn**	12 19 28.6	+0.8
DAGI	**Agillar**	**1.87**	**219**	*i* P	**Pn**	12 19 06.1	+0.4
DAGI				*i* S	**Sn**	12 19 30.9	+1.2
DBAD	**Bademkaya**	**2.02**	**222**	*i* P	**Pn**	12 19 08.6	+0.7
DBAD				*i* S	**Sb**	12 19 35.4	-0.3
DDEM	**Demirkent**	**2.09**	**219**	*i* P	**Pn**	12 19 09.9	+1.1
DDEM				*i* S	**Sb**	12 19 37.7	-0.1

*TIR **10** 12:19:24.6±9.7, 41°.45N×20°.46E, h7km±66km, ML3.2*
*ATH **10** 12:19:29.7, 41°.50N×20°.52E, h8km±1km, MD3.1/10*
*CSEM **10** 12:19:29.9±0.2, 41°.44N×20°.46E, h2km, ML2.6/3, Error ellipse: s-maj=4.1km s-min=2.6km az=43.0*
*THE **10** 12:19:29.7, 41°.48N×20°.49E, h2km±1km, ML2.6/3, Error ellipse: s-maj=1.7km s-min=0.6km az=175.0*
*PDG **10** 12:19:29.4±0.3, 41°.46N×20°.48E, h9km, ML2.8/12, Error ellipse: s-maj=0.5km s-min=0.6km az=0.0*
*SKO **10** 12:19:29.1, 41°.40N×20°.41E, h1km, M2.3, ML2.7*
*BEO **10** 12:19:30.6±0.4, 41°.42N×20°.49E, h6km±3km, ML2.4/1*

ISC 10 12:19:29.5±1.1, 41°.45N±0°.02×20°.46E±0°.01, h3km±9km, n89, σ0$99/154, 14C-14D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHP	**Peshkopia**	**0.23**	**357**	*i* PG	**Pg**	12 19 33.8	-0.2
PHP				*i* SG	**Sg**	12 19 37.6	+0.5
PHP	**Peshkopia**	**0.23**	**357**	*i* PG	**Pg**	12 19 33.8	-0.2
PHP				*i* SG	**Sg**	12 19 37.6	+0.5
PHP	**Peshkopia**	**0.23**	**357**	P	**Pg**	12 19 33.8	-0.2
PHP				S	**Sg**	12 19 37.6	+0.5
PHP	**Peshkopia**	**0.23**	**357**	P	**Pg**	12 19 33.8	-0.2
PHP				S	**Sg**	12 19 37.6	+0.5
TIR	**Tirane**	**0.46**	**257**	*i* PG	**Pg**	12 19 38.6	+0.3
TIR				*i* SG	**Sg**	12 19 45.2	+1.0
TIR	**Tirane**	**0.46**	**257**	*i* PG	**Pg**	12 19 38.6	+0.3
TIR				*i* SG	**Sg**	12 19 45.2	+1.0
TIR	**Tirane**	**0.46**	**257**	P	**Pg**	12 19 38.6	+0.3
TIR				S	**Sg**	12 19 45.7	+1.5
TIR	**Tirane**	**0.46**	**257⇓**	*i* Pg	**Pg**	12 19 38.6	+0.3
TIR				*e*Sg	**Sb**	12 19 47.0	-0.4
TIR	**Tirane**	**0.46**	**257**	*e*Pb	**Pg**	12 19 38.7	+0.4
TIR				*i* Sg	**Sg**	12 19 45.2	+1.0
	SNR=10.0						
PUK	**Puka**	**0.73**	**325**	*i* PG	**Pg**	12 19 42.8	-0.6
PUK				*i* SG	**Sg**	12 19 54.3	+1.4
PUK	**Puka**	**0.73**	**325**	*i* PG	**Pg**	12 19 42.8	-0.6
PUK				*i* SG	**Sg**	12 19 54.3	+1.4
PUK	**Puka**	**0.73**	**325**	*i* Pg	**Pg**	12 19 42.8	-0.6
	SNR=10.0						
PUK				*i* Sg	**Sg**	12 19 54.3	+1.4
	SNR=10.0						
BIA	**Bitola**	**0.78**	**123**	P	**Pg**	12 19 43.5	-1.0
BIA				S	**Sb**	12 19 55.6	-1.2
BIA	**Bitola**	**0.78**	**123**	*i* Pg	**Pg**	12 19 44.0	-0.5
BIA				*e*Sg	**Sb**	12 19 56.7	-0.1
BIA	**Bitola**	**0.78**	**123**	P	**Pg**	12 19 43.5	-1.0
BIA				S	**Sb**	12 19 55.6	-1.2
BIA				*e*Sg	**Sg**	12 19 56.2	+1.5
SKO	**Skopje**	**0.90**	**54**	P	**Pg**	12 19 46.2	-0.6
SKO				S	**Sb**	12 20 00.7	+0.5
SKO	**Skopje**	**0.90**	**54**	*e*Sg	**Sb**	12 19 59.8	-0.4
SKO	**Skopje**	**0.90**	**54**	*i* Pg	**Pb**	12 19 47.8	0.0
SKO				*e*Lg	Lg	12 20 01.1	
	comp=E,252nm,0.5s						
SKO				*i* Sg	**Sn**	12 20 01.4	-1.3
SKO				*e*Lg	Lg	12 20 01.9	
	comp=N,359nm,0.5s						
SKO	**Skopje**	**0.90**	**54**	P	**Pg**	12 19 46.2	-0.6
SKO	**Skopje**	**0.90**	**54**	*i* Pg	**Pg**	12 19 46.8	0.0
SKO				*e*Sg	**Sb**	12 19 59.8	-0.4
SKO				S	**Sb**	12 20 00.7	+0.5
SKO				*e*Lg	Lg	12 20 01.1	
	comp=N,252nm,0.5s						
BCI	**Bajram Curri**	**0.96**	**343**	*e*PG	**Pg**	12 19 46.5	-1.4
BCI				*e*SG	**Sb**	12 20 02.0	+0.1
BCI	**Bajram Curri**	**0.96**	**343**	*i* SG	**Pg**	12 19 46.5	-1.4
BCI				*i* SG	**Sb**	12 20 02.5	+0.6
FNA	**Florina**	**0.96**	**133**	P	**Pg**	12 19 47.5	-0.4
FNA				S	**Sb**	12 20 02.2	+0.2
FNA	**Florina**	**0.96**	**133**	*e*PG	**Pg**	12 19 47.5	-0.4
FNA				*e*SB	**Sb**	12 20 01.6	-0.4
FNA	**Florina**	**0.96**	**133**	P	**Pg**	12 19 47.5	-0.4
FNA				*e*Sb	**Sb**	12 20 01.6	-0.4
FNA				S	**Sb**	12 20 02.2	+0.2
ULC	**Ulcinj**	**1.04**	**300⇓**	*i* Pg	**Pg**	12 19 48.1	-1.4
ULC				*e*Sg	**Sn**	12 20 05.4	-0.7
ULC	**Ulcinj**	**1.04**	**300⇓**	*i* Pg	**Pg**	12 19 48.1	-1.4
ULC				*e*Sg	**Sn**	12 20 05.4	-0.7
NEST	**Nestorio**	**1.13**	**156**	P	**Pg**	12 19 51.1	0.0
NEST				S	**Sn**	12 20 08.5	+0.2
NEST	**Nestorio**	**1.13**	**156**	P	**Pg**	12 19 51.1	0.0
DRME	**Dracevica, Mon**	**1.20**	**308⇓**	*i* Pg	**Pg**	12 19 51.1	-1.4
DRME				*e*Sg	**Sn**	12 20 10.8	+0.8
DRME	**Dracevica, Mon**	**1.20**	**308⇓**	*i* Pg	**Pg**	12 19 51.1	-1.4
DRME				*e*Sg	**Sn**	12 20 10.8	+0.8
PVY	**Plav**	**1.20**	**342⇓**	*i* Pg	**Pg**	12 19 51.7	-0.8
PVY				*e*Sg	**Sn**	12 20 10.6	+0.4
PDG	**Podgorica**	**1.33**	**318**	P	**Pn**	12 19 54.5	-0.4
PDG				S	**Sn**	12 20 13.7	+0.6
PDG	**Podgorica**	**1.33**	**318**	*e*Pg	**Pn**	12 19 54.1	-0.8
PDG				*e*Sg	**Sn**	12 20 14.9	+1.8
PDG	**Podgorica**	**1.33**	**318**	*e*Pg	**Pn**	12 19 54.1	-0.8
PDG	**Podgorica**	**1.33**	**318**	P	**Pn**	12 19 54.5	-0.4
PDG				S	**Sn**	12 20 13.7	+0.6
PDG				*e*Sg	**Sn**	12 20 14.9	+1.8
TTG	**Podgorica**	**1.33**	**318⇓**	*i* Pg	**Pn**	12 19 53.5	-1.4
TTG				*e*Sg	**Sn**	12 20 15.0	+1.8
BUM	**Brajici-Budva**	**1.44**	**307⇓**	*i* Pg	**Pn**	12 19 55.8	-0.8
BUM				*e*Sg	**Sg**	12 20 18.5	+2.6
BEY	**Berane**	**1.48**	**344⇓**	*i* Pg	**Pn**	12 19 56.9	-0.2
BEY				*e*Sg	**Sg**	12 20 18.9	+1.8
IVA	**Berane**	**1.48**	**344⇓**	*i* Pg	**Pn**	12 19 56.9	-0.2
IVA				*e*Sg	**Sg**	12 20 18.9	+1.8
KZN	**Kozani**	**1.52**	**138**	*e*PB	**Sg**	12 19 58.9	+0.3
KZN				*e*SB	**Sg**	12 20 19.3	+1.1
KZN	**Kozani**	**1.52**	**138**	*e*Pb	**Sg**	12 19 58.9	+0.3
KZN				*e*Sb	**Sg**	12 20 19.3	+1.1
GRG	**Griva**	**1.55**	**108**	P	**Pn**	12 19 57.0	-1.0
GRG				S	**Sb**	12 20 18.3	-0.5
GRG	**Griva**	**1.55**	**108**	P	**Pn**	12 19 57.0	-1.0
GRG				S	**Sb**	12 20 18.3	-0.5
VAY	**Valandovo**	**1.60**	**94**	*e*Pn	**Pn**	12 19 57.6	-1.0
VAY				*e*Sg	**Sg**	12 20 20.4	-0.4
VAY	**Valandovo**	**1.60**	**94**	*i* Pn	**Pg**	12 20 00.1	0.0
VAY				*i* Sg	**Sg**	12 20 20.8	0.0
VAY				*e*Lg	Lg	12 20 21.1	
	comp=N,49nm,0.6s						
VAY				*e*Lg	Lg	12 20 22.6	
	comp=E,52nm,0.6s						
VAY	**Valandovo**	**1.60**	**94**	*i* Pn	**Pb**	12 19 59.5	-0.1
VAY				*e*Sg	**Sg**	12 20 20.4	-0.4
VAY				*e*Lg	Lg	12 20 22.0	
	comp=E,52nm,0.6s						
BARS	**Barje**	**1.70**	**36⇑**	*i* Pn	**Pb**	12 20 01.5	+0.1
BARS				*e*Sg	**Sg**	12 20 26.2	+2.1
BARS	**Barje**	**1.70**	**36⇑**	*i* Pn	**Pb**	12 20 01.5	+0.1
BARS				*e*Sg	**Sg**	12 20 26.2	+2.1
NKME	**Niksic**	**1.73**	**320⇑**	*i* Pn	**Pn**	12 20 00.6	+0.1
NKME				*e*Sn	**Sg**	12 20 25.8	+0.8
NKME	**Niksic**	**1.73**	**320⇑**	*i* Pn	**Pn**	12 20 00.6	+0.1
NKME				*e*Sn	**Sg**	12 20 25.8	+0.8
NKY	**Niksic**	**1.74**	**322⇑**	*i* Pn	**Pn**	12 20 01.1	+0.3
NKY				*e*Sn	**Sg**	12 20 25.8	+0.3
NKY	**Niksic**	**1.74**	**322⇑**	*i* Pn	**Pn**	12 20 01.1	+0.3
NKY				*e*Sn	**Sg**	12 20 25.8	+0.3
HCY	**Herceg Novi**	**1.77**	**305⇑**	*i* Pn	**Pn**	12 20 01.2	+0.2
HCY				*e*Sn	**Sg**	12 20 26.6	+0.2
HCY	**Herceg Novi**	**1.77**	**305⇑**	*i* Pn	**Pn**	12 20 01.2	+0.2
HCY				*e*Sn	**Sg**	12 20 26.6	+0.2
KEK	**Kerkira**	**1.81**	**196**	*e*PN	**Pg**	12 20 03.9	-0.2
KEK	**Kerkira**	**1.81**	**196**	*e*Pg	**Pg**	12 20 03.9	-0.2
JAN	**Janina**	**1.82**	**170**	*e*PN	**Pg**	12 20 04.0	-0.3
JAN	**Janina**	**1.82**	**170**	*e*Pg	**Pg**	12 20 04.0	-0.3
SELS	**Selova**	**1.83**	**15**	*e*Pn	**Pn**	12 20 01.8	-0.2
SELS				*e*Sg	**Sg**	12 20 28.9	+0.5
SJES	**Sjenica**	**1.84**	**349**	*e*Pn	**Pn**	12 20 02.5	+0.3
SJES				*e*Sg	**Sg**	12 20 28.8	0.0
TREB	**Trebinje**	**2.02**	**310⇑**	*i* Pn	**Pb**	12 20 06.1	-0.7
TREB	**Trebinje**	**2.02**	**310⇑**	*i* Pn	**Pb**	12 20 06.1	-0.7
BRY	**Bratogost**	**2.03**	**316⇓**	*i* Pn	**Pn**	12 20 05.5	+0.7
BRY				*e*Sn	**Sb**	12 20 33.4	+0.5
BRY	**Bratogost**	**2.03**	**316⇓**	*i* Pn	**Pn**	12 20 05.5	+0.7
BRY				*e*Sn	**Sb**	12 20 33.4	+0.5
PLE	**Pljevlja**	**2.04**	**338⇑**	*i* Pn	**Pn**	12 20 04.6	-0.2
PLE				*e*Sn	**Sb**	12 20 32.5	-0.5
PLE	**Pljevlja**	**2.04**	**338⇑**	*i* Pn	**Pn**	12 20 04.6	-0.2
PLE				*e*Sn	**Sb**	12 20 32.5	-0.5
UPM	**Unac-Piva**	**2.10**	**327⇓**	*i* Pn	**Pn**	12 20 06.3	+0.6
UPM				*e*Sn	**Sb**	12 20 34.4	-0.3
UPM	**Unac-Piva**	**2.10**	**327⇓**	*i* Pn	**Pn**	12 20 06.3	+0.6
UPM				*e*Sn	**Sb**	12 20 34.4	-0.3
SOH	**Sokhos**	**2.28**	**105**	*e*PN	**Pn**	12 20 09.3	+1.3
SOH				*e*SN	**Sb**	12 20 38.1	-1.7
ZAPS	**Zavoj**	**2.43**	**41**	*e*Pn	**Pn**	12 20 11.7	+1.5
ZAPS	**Zavoj**	**2.43**	**41**	*e*Pn	**Pn**	12 20 11.7	+1.5
GRUS	**Gruza**	**2.44**	**4**	*e*Pn	**Pn**	12 20 11.8	+1.5
GRUS	**Gruza**	**2.44**	**4**	*e*Pn	**Pn**	12 20 11.8	+1.5
STON	**Ston**	**2.49**	**306⇑**	*i* Pn	**Pb**	12 20 13.4	-1.5
STON	**Ston**	**2.49**	**306⇑**	*i* Pn	**Pb**	12 20 13.4	-1.5
PLG	**Polygyros**	**2.51**	**114**	*e*PN	**Pn**	12 20 12.6	+1.4
PLG				*e*SN	**Sn**	12 20 43.5	+1.2
BBLS	**Lazići**	**2.54**	**343**	*e*Pn	**Pb**	12 20 14.3	-1.4
BBLS	**Lazići**	**2.54**	**343**	*e*Pn	**Pb**	12 20 14.3	-1.4
NVR	**Nevrokopi**	**2.56**	**91**	*e*PN	**Pb**	12 20 14.1	-2.0
NVR	**Nevrokopi**	**2.56**	**91**	*e*Pn	**Pb**	12 20 14.1	-2.0
LKD2	**Lefkada island**	**2.66**	**177**	*e*PN	**Pb**	12 20 15.9	-1.9
LKD2	**Lefkada island**	**2.66**	**177**	*e*Pn	**Pb**	12 20 15.9	-1.9
DIVS	**Divibare**	**2.67**	**353**	*e*Pn	**Pn**	12 20 14.3	+0.8
DIVS	**Divibare**	**2.67**	**353**	*e*Pn	**Pn**	12 20 14.3	+0.8
AGG	**Agios Georgios**	**2.82**	**149**	*e*PB	**Pn**	12 20 17.4	+1.9
AGG	**Agios Georgios**	**2.82**	**149**	*e*Pb	**Pn**	12 20 17.4	+1.9
PAIG	**Paliouri**	**2.88**	**121**	*e*PB	**Pn**	12 20 18.1	+1.8
MRVN	**Minervino Murg**	**3.23**	**264**	*i* PG	**Pn**	12 20 20.7	-0.5

DJA 10 12:30:44.6±0.6, 1°N±5°×12°2E±°, h10km, M3.7/6, MLv3.7/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.90**	**170**	P	Pg	12 31 01.0	-1.0
MRSI				S	Sb	12 31 14.1	-0.3
TOLI	**Toli-Toli**	**1.03**	**256**	P	Pg	12 31 04.0	-0.4
TOLI				S	Sg	12 31 17.4	-0.3
APSI	**Ampana**	**2.27**	**184**	P	Pb	12 31 24.8	-0.9
KMSI	**Cibinong**	**2.33**	**110**	P	Pb	12 31 24.9	-1.8
LUWI	**Luwuk**	**2.59**	**158**	P	Pb	12 31 29.3	-1.9

*CSEM **10** 12:33:21.2, 41°.42N×20°.49E, h7km, ML3.2, After TIR*
*SKO **10** 12:33:21.6, 41°.33N×20°.43E, h15km, M1.7, ML2.1*
*TIR **10** 12:33:21.2±1.3, 41°.42N×20°.49E, h7km±132km, ML3.2*
*ISCJB **10** 12:33:22.0±0.7, 41°.40N±0°.04×20°.47E±0°.04, h0km±10km, Error ellipse: s-maj=6.6km s-min=5.0km az=29.8*

ISC 10 12:33:21.8±1.2, 41°.42N±0°.04×20°.47E±0°.03, h10km±8km, n15, σ0$49/30, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHP	**Peshkopia**	**0.27**	**356**	*i* PG	**Pg**	12 33 26.9	-0.4
PHP				*i* SG	**Sg**	12 33 31.4	+0.5
PHP	**Peshkopia**	**0.27**	**356**	*i* PG	**Pg**	12 33 26.8	-0.4
PHP				*i* SG	**Sg**	12 33 31.4	+0.5
PHP	**Peshkopia**	**0.27**	**356**	*i* Pg	**Pg**	12 33 26.8	-0.4
	SNR=9.0						
PHP				*i* Sg	**Sg**	12 33 31.4	+0.5
	SNR=9.0						
TIR	**Tirane**	**0.46**	**261**	*i* PG	**Pg**	12 33 30.7	0.0
TIR				*i* SG	**Sb**	12 33 38.6	-0.3
TIR	**Tirane**	**0.46**	**261**	*i* PG	**Pg**	12 33 30.7	0.0
TIR				*i* SG	**Sb**	12 33 38.5	-0.3
TIR	**Tirane**	**0.46**	**261**	*i* Pg	**Pg**	12 33 30.7	0.0
	SNR=9.0						
TIR				*i* Sg	**Sb**	12 33 38.5	-0.3
	SNR=9.0						
PUK	**Puka**	**0.76**	**326**	*i* PG	**Pg**	12 33 35.6	-0.8
PUK				*i* SG	**Sb**	12 33 48.1	+0.6
PUK	**Puka**	**0.76**	**326**	*i* PG	**Pg**	12 33 35.6	-0.8
PUK				*i* SG	**Sb**	12 33 48.0	+0.5
PUK	**Puka**	**0.76**	**326**	*i* Pg	**Pg**	12 33 35.6	-0.8
	SNR=9.0						
PUK				*i* Sg	**Sb**	12 33 48.0	+0.5
	SNR=9.0						
BIA	**Bitola**	**0.76**	**121**	*e*Pg	**Pg**	12 33 36.1	-0.4
BIA				*e*Sg	**Sb**	12 33 47.6	+0.1
BIA				*e*Lg	Lg	12 33 49.0	
	comp=N,33nm,0.4s						
BIA				*e*Lg	Lg	12 33 50.2	
	comp=E,36nm,0.5s						
SKO	**Skopje**	**0.92**	**52**	*e*Pg	**Pn**	12 33 41.3	+0.6
SKO				*e*Sg	**Sn**	12 33 53.4	-0.6
SKO				*e*Lg	Lg	12 33 55.2	
	comp=N,77nm,0.3s						
SKO				*e*Lg	Lg	12 33 55.5	
	comp=E,43nm,0.6s						
BCI	**Bajram Curri**	**0.99**	**343**	*i* PG	**Pn**	12 33 41.4	-0.4
BCI				*e*SG	**Sn**	12 33 56.5	+0.6
BCI	**Bajram Curri**	**0.99**	**343**	*i* PG	**Pn**	12 33 41.4	-0.4
BCI				*i* SG	**Sn**	12 33 56.4	+0.5
BCI	**Bajram Curri**	**0.99**	**343**	*i* Pg	**Pn**	12 33 41.4	-0.4
	SNR=9.0						
BCI				*i* Sg	**Sn**	12 33 56.4	+0.5
	SNR=9.0						
VAY	**Valandovo**	**1.59**	**93**	*e*Pn	**Pg**	12 33 52.0	-0.2
VAY				*e*Sn	**Sg**	12 34 12.7	-0.1
VAY				*e*Lg	Lg	12 34 12.8	
	comp=N,17nm,0.9s						
VAY				*e*Lg	Lg	12 34 14.1	
	comp=E,13nm,0.6s						

*DJA **10** 12:34:16.0±1.6, 3°S±10°×10°0E±1°4, h10km, M4.4/5, MLv4.4/5*
*ISCJB **10** 12:34:17.5±1.1, 3°.15S±0°.09×99°.9E±0°.1, h27km, mb4.0/10, Error ellipse: s-maj=20.3km s-min=6.4km az=141.9*
*IDC **10** 12:34:21.7±1.7, 2°.92S×100°.28E, h26km±4km, mb3.8/8, mb1 3.9/9, mb1mx3.7/22, mbtmp3.8/9, ML3.5/1, Error ellipse: s-maj=58.3km s-min=15.1km az=58.0*

ISC 10 12:34:20.2±1.3, 3°.0S±0°.1×100°.1E±0°.1, h27km, n22, σ1$29/22, mb4.0/10, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**2.13**	**11**	P	**Pn**	12 34 54.1	-0.1
MASI	**Maura Aman, Be**	**2.17**	**93**	P	**Pn**	12 34 55.7	+1.0
PPI	**Padang Panjang**	**2.57**	**7**	P	**Pn**	12 35 00.4	+0.3
KSI	**Kapahiang**	**2.60**	**104**	P	**Pb**	12 35 03.1	-3.1
MNAI	**Manna**	**3.17**	**115**	S	**Sn**	12 35 44.7	-0.7
EGSI	**Enggano, Bengk**	**3.19**	**137**	S	**Sn**	12 35 44.3	-1.7
BKNI

HILG	Hillesheim	0.64 262	ePg	Pg	12 36 34.6	+0.6
HILG			eSg	Sg	12 36 43.4	+1.0
422nm,1.0s						
HILG	Hillesheim	0.64 262	Pg	Pg	12 36 34.6	+0.6
HILG			Sg	Sg	12 36 43.3	+1.0
422nm,1.0s						
HOBG	Hohbusch	0.64 341	ePg	Pb	12 36 35.0	+0.1
HOBG			eSg	Sb	12 36 43.3	-0.6
1µm,0.4s						
HOBG	Hohbusch	0.64 341	Pg	Pb	12 36 35.0	+0.1
HOBG			Sg	Sb	12 36 43.3	-0.6
1µm,0.4s						
BNS	Bensberg	0.66 332	ePg	Pb	12 36 35.2	-0.1
BNS			eSg	Sg	12 36 44.0	+0.9
374nm,0.2s						
BNS	Bensberg	0.66 332	Pg	Pb	12 36 35.2	-0.1
BNS			Sg	Sg	12 36 44.0	+0.9
374nm,0.2s						
LOH	Wallersheim-Lo	0.75 255	ePg	Pg	12 36 37.0	+0.8
LOH			eSg	Sg	12 36 47.2	+1.3
203nm,0.2s						
LOH	Wallersheim-Lo	0.75 255	Pg	Pg	12 36 37.0	+0.8
LOH			Sg	Sg	12 36 47.2	+1.3
203nm,0.2s						
RUP	Ruppelstein	0.78 210⇑	eP*	Pg	12 36 36.6	-0.2
RUP	Ruppelstein	0.78 210	Pb	Pg	12 36 36.6	-0.2
RUP			Sg	Sg	12 36 47.7	+0.7
OLFT	Oleftalsperre	0.80 279	ePg	Pb	12 36 37.9	+0.2
OLFT			eSg	Sb	12 36 48.8	+0.2
OLFT	Oleftalsperre	0.80 279	Pg	Pb	12 36 37.9	+0.2
OLFT			Sg	Sb	12 36 48.8	+0.2
PLH	Pulheim	0.82 320	ePg	Pb	12 36 38.4	+0.4
PLH	Pulheim	0.82 320	Pg	Pb	12 36 38.4	+0.4
ENTS	Ennepetalsperr	0.88 350	ePg	Pg	12 36 38.7	+0.1
ENTS			eSg	Sg	12 36 50.1	+0.1
335nm,0.1s						
ENTS	Ennepetalsperr	0.88 350	Pg	Pg	12 36 38.7	+0.1
ENTS			Sg	Sg	12 36 50.1	+0.1
335nm,0.1s						
GSH	Grosshau	0.89 294	ePg	Pb	12 36 39.5	+0.3
GSH			eSg	Sg	12 36 51.1	+0.7
112nm,0.1s						
GSH	Grosshau	0.89 294	Pg	Pb	12 36 39.5	+0.3
GSH			Sg	Sg	12 36 51.1	+0.7
112nm,0.1s						
KLL	Kalltalsperre	0.90 288	ePg	Pb	12 36 39.7	+0.3
KLL			eSg	Sb	12 36 52.0	+0.5
117nm,0.6s						
KLL	Kalltalsperre	0.90 288	Pg	Pb	12 36 39.7	+0.3
KLL			Sg	Sb	12 36 52.0	+0.5
117nm,0.6s						
DREG	Dreilaegerbach	0.95 288	ePg	Pg	12 36 40.6	+0.6
DREG			eSg	Sb	12 36 53.8	+0.8
269nm,0.5s						
DREG	Dreilaegerbach	0.95 288	Pg	Pg	12 36 40.6	+0.6
DREG			Sg	Sb	12 36 53.8	+0.8
269nm,0.5s						
SORT	Sorpetalsperre	0.99 11	ePg	Pg	12 36 40.3	-0.4
SORT			eSg	Sg	12 36 53.1	-0.5
SORT	Sorpetalsperre	0.99 11	Pg	Pg	12 36 40.3	-0.4
SORT			Sg	Sg	12 36 53.1	-0.5
JCK	Jackerath	1.02 310	ePg	Pg	12 36 41.2	-0.1
JCK			eSg	Sg	12 36 54.5	0.0
431nm,0.1s						
JCK	Jackerath	1.02 310	Pg	Pg	12 36 41.2	-0.1
JCK			Sg	Sg	12 36 54.5	0.0
431nm,0.1s						
LKLB	Kalborn	1.04 255	P	Pg	12 36 41.8	+0.2
LKLB			S	Sg	12 36 54.9	-0.1
120nm,0.3s						
LVIA	Vianden	1.04 245	P	Pg	12 36 41.5	-0.1
LVIA			S	Sg	12 36 55.3	+0.2
288nm,0.3s						
TOD	Tromm	1.07 136	Pn	Pg	12 36 41.4	-0.8
TOD	Tromm	1.07 136	Pg	Pg	12 36 41.2	-1.1
TOD			Sg	Sg	12 36 54.8	-1.4
LAUG	Laupendahl	1.07 335	ePg	Pb	12 36 42.5	+0.2
LAUG			eSg	Sb	12 36 57.0	+0.6
LAUG	Laupendahl	1.07 335	Pg	Pb	12 36 42.5	+0.2
LAUG			Sg	Sb	12 36 57.0	+0.6
MEM	Membach	1.08 283	⇓P	Pb	12 36 43.1	+0.7
MEM			S	Sg	12 36 56.4	-0.1
comp=N,165nm,0.5s						
BUG	Bochum-Univer	1.09 347	ePg	Pb	12 36 42.9	+0.3
SNR=22						
BUG			eSg	Sb	12 36 57.1	+0.2
KTD	Kalmit	1.10 165	Pn	Pg	12 36 42.4	-0.3
KTD	Kalmit	1.10 165	Pg	Pg	12 36 42.3	-0.5
KTD			Sg	Sg	12 36 55.4	-1.6
SWS	Schriesheim-Wi	1.12 143	Pg	Pg	12 36 43.2	0.0
SWS			Sg	Sg	12 36 57.4	-0.4
SWS	Schriesheim-Wi	1.12 143	Pg	Pg	12 36 43.2	0.0
SWS			Sg	Sg	12 36 57.4	-0.4
HGN	Heimansgroeve	1.17 290	ePn	Pb	12 36 44.2	+0.3
SNR=6.2						
HGN			ePg	Pn	12 36 45.1	+1.1
SNR=59						
HGN			eSg	Sg	12 37 00.2	+0.9
HGN	Heimansgroeve	1.17 290	ePg	Pb	12 36 44.2	+0.3
comp=N,104nm,0.1s,baz=106						
HGN			eSg	Sg	12 36 59.9	+0.7
HGN	Heimansgroeve	1.17 290	Pn	Pb	12 36 44.2	+0.3
SNR=6.2						
RWB	Wassenberg	1.20 308	eSg	Sb	12 36 59.5	-0.5
RWB	Wassenberg	1.20 308	Sg	Sb	12 36 59.5	-0.5
WLF	Walferdange	1.21 234	⇑P	Pn	12 36 44.2	-0.5
WLF			S	Sb	12 37 00.6	+0.2
comp=E,104nm,0.4s						
WLF	Walferdange	1.21 234	ePn	Pn	12 36 44.2	-0.5
SNR=1.2						
WLF			ePg	Pn	12 36 45.1	+0.5
SNR=10						
WLF			eSg	Sg	12 37 01.3	+0.7
WLF	Walferdange	1.21 234	P	Pn	12 36 44.1	-0.5
WLF	Walferdange	1.21 234	Pg	Pn	12 36 45.1	+0.5
SNR=10						
WLF			S	Sb	12 37 00.5	+0.2
comp=E,104nm,0.4s						
WLF			Sg	Sg	12 37 01.3	+0.7
BEBN	Eben Emael	1.33 289	P	Pn	12 36 46.8	+0.5
BEBN			S	Sb	12 37 03.8	0.0
comp=N,74nm,0.3s						
LANF	Langenberg	1.41 176	P	Pb	12 36 48.3	+0.3
LANF	Langenberg	1.41 176	Pg	Pn	12 36 48.0	+0.6
LANF	Langenberg	1.41 176	Pg	Pn	12 36 48.0	+0.6
LANF	Langenberg	1.41 176	P	Pb	12 36 48.3	+0.3
BCLA	Clavier	1.51 272	⇑P	Pb	12 36 49.8	+0.1
BCLA			S	Sn	12 37 09.3	+0.9
comp=N,69nm,0.3s						
UBBA	Unterbreizbach	1.55 73	ePn	Pn	12 36 47.2	-2.1
SNR=4.4						
UBBA			ePg	Pb	12 36 49.3	-1.2
SNR=25						
UBBA			eSg	Sn	12 37 09.5	0.0
UBBA	Unterbreizbach	1.55 73	Pn	Pn	12 36 47.2	-2.1
SNR=4.4						
SIND	Sindeldorf	1.63 129	P	Pn	12 36 50.1	-0.3
SIND			Sg	Sn	12 37 11.9	+0.5
SIND	Sindeldorf	1.63 129	P	Pn	12 36 50.1	-0.3
SIND			Sg	Sn	12 37 11.9	+0.5
WTSB	Winterswijk	1.68 341	ePn	Pn	12 36 51.5	+0.4
SNR=1.1						
WTSB			ePg	Pb	12 36 53.1	+0.4
SNR=3.8						
WTSB			eSg	Sg	12 37 15.6	0.0
WTSB	Winterswijk	1.68 341	ePg	Pb	12 36 52.8	+0.2
baz=158						
WTSB			eSg	Sg	12 37 15.6	0.0
WTSB	Winterswijk	1.68 341	Pn	Pn	12 36 51.5	+0.4
SNR=1.1						
WTSB	Winterswijk	1.68 341	ePg	Pb	12 36 52.8	+0.2
WTSB			eSg	Sg	12 37 15.6	0.0
OPLO	Oploo	1.68 317	ePn	Pn	12 36 51.8	+0.7
SNR=0.8						
OPLO			ePg	Pg	12 36 54.1	+0.2
SNR=1.4						
OPLO			eSg	Sg	12 37 16.7	+1.0
OPLO	Oploo	1.68 317	Pn	Pn	12 36 51.8	+0.7
SNR=0.8						
GIVF	Givet	1.84 262	ePn	Pn	12 36 53.5	+0.1
SNR=1.0						
GIVF	Givet	1.84 262	ePg	Pg	12 36 57.0	0.0
GIVF			eSn	Sn	12 37 16.5	-0.2
comp=N,137nm,0.2s,SNR=1.0						
GIVF			eSg	Sg	12 37 21.8	+0.9
comp=N,143nm,0.2s						
GIVF	Givet	1.84 262	ePn	Pn	12 36 53.5	+0.1
SNR=1.0						
GIVF	Givet	1.84 262	ePg	Pg	12 36 57.0	0.0
GIVF			eSn	Sn	12 37 16.5	-0.2
comp=N,68nm,0.2s,SNR=1.0						
GIVF			eSg	Sg	12 37 21.8	+0.9
comp=N,71nm,0.2s						
BDSL	Dessel	1.85 298	P	Pb	12 36 56.3	+0.8
LBG	Lerchenberg	1.87 156	Pg	Pg	12 36 58.4	+0.9
LBG	Lerchenberg	1.87 156	Pg	Pg	12 36 58.4	+0.9
STU	Stuttgart	1.90 148	ePn	Pn	12 36 51.6	-2.5
SNR=1.2						
STU	Stuttgart	1.90 148	Pn	Pn	12 36 51.6	-2.5
SNR=1.2						
IBBN	Ibbenburen	1.93 2	ePn	Pn	12 36 54.2	-0.3
SNR=8.3						
IBBN			eSg	Sb	12 37 22.2	+1.2
IBBN	Ibbenburen	1.93 2	Pn	Pn	12 36 54.2	-0.3
SNR=8.3						
IBBN			Sg	Sb	12 37 22.2	+1.2
CDF	Champ du Feu	1.99 187	ePn	Pn	12 36 55.1	-0.3
SNR=1.0						
CDF	Champ du Feu	1.99 187	ePg	Pb	12 36 58.9	+0.9
SNR=1.0						
CDF			eSn	Sn	12 37 18.1	-2.3
comp=N,89nm,0.4s,SNR=1.0						
CDF			eSg	Sb	12 37 24.8	+2.0
comp=N,93nm,0.4s						
CDF	Champ du Feu	1.99 187	ePn	Pn	12 36 55.1	-0.3
SNR=1.0						
CDF	Champ du Feu	1.99 187	ePg	Pb	12 36 58.9	+0.9
SNR=1.0						
CDF			eSn	Sn	12 37 18.1	-2.3
comp=N,45nm,0.4s,SNR=1.0						
CDF			eSg	Sb	12 37 24.8	+2.0
comp=N,46nm,0.4s						
DOU	Dourbes	1.99 263	P	Pn	12 36 56.4	+1.1
DOU			S	Sn	12 37 22.2	+1.9
comp=E,68nm,0.4s						
BFO	Black Forest	2.10 168	Pn	Pn	12 36 56.1	-0.8
BFO			eSg	Sg	12 37 29.1	0.0
BFO	Black Forest	2.10 168	Pn	Pn	12 36 56.1	-0.8
BFO			Sg	Sg	12 37 29.1	0.0
ECH	Echery	2.19 189	ePn	Pn	12 36 59.7	+1.5
SNR=1.6						
ECH			eSg	Sb	12 37 30.3	+1.6
ECH	Echery	2.19 189	Pn	Pn	12 36 57.8	-0.4
ECH	Echery	2.19 189	Pn	Pn	12 36 59.7	+1.5
SNR=1.6						
ECH			Sg	Sb	12 37 30.3	+1.6
PAGF	Fort de Pagny	2.22 215	ePn	Pn	12 36 58.4	-0.2
baz=32						
PAGF	Fort de Pagny	2.22 215	ePg	Pb	12 37 03.6	+1.7
baz=31						
PAGF			eSg	Sg	12 37 32.7	-0.3
comp=E,17nm,0.4s						
PAGF	Fort de Pagny	2.22 215	ePn	Pn	12 36 58.4	-0.2
baz=32						
PAGF	Fort de Pagny	2.22 215	ePg	Pb	12 37 03.6	+1.7
baz=31						
PAGF			eSg	Sg	12 37 32.7	-0.3
comp=E,8.4nm,0.4s						
BUCH	Bad Urach	2.23 150	Pn	Pn	12 36 58.4	-0.4
BUCH			Sg	Sg	12 37 32.1	-1.1
BUCH	Bad Urach	2.23 150	Pn	Pn	12 36 58.3	-0.4
BUCH			Sg	Sg	12 37 32.1	-1.1
LIBD	Limburg	2.23 181	Pn	Pn	12 36 57.3	-1.4
LIBD			Sg	Sg	12 37 33.7	+0.3
BAIF	Baives	2.24 263	ePn	Pn	12 36 59.0	+0.2
SNR=1.0						
BAIF	Baives	2.24 263	ePg	Pg	12 37 04.2	-0.4
SNR=1.0						
BAIF			eSn	Sn	12 37 24.5	-2.0
comp=E,91nm,0.2s,SNR=1.0						
BAIF			eSg	Sg	12 37 33.5	-0.2
comp=E,102nm,0.3s						
BAIF	Baives	2.24 263	ePn	Pn	12 36 59.0	+0.2
SNR=1.0						
BAIF	Baives	2.24 263	ePg	Pg	12 37 04.2	-0.4
SNR=1.0						
BAIF			eSn	Sn	12 37 24.5	-2.0
comp=E,46nm,0.2s,SNR=1.0						
BAIF			eSg	Sg	12 37 33.5	-0.2
comp=E,51nm,0.3s						
CLZ	Clausthal	2.25 48	ePn	Pn	12 36 58.1	-0.9
SNR=5.5						
CLZ			ePg	Pb	12 37 01.8	-0.6
SNR=30						
CLZ			eSg	Sb	12 37 31.7	+1.4
CLZ	Clausthal	2.25 48	Pn	Pn	12 36 58.1	-0.9
SNR=5.5						
GRA1	Grafenberg Arr	2.40 105	Sg	Sb	12 37 36.1	+1.6
GRF	Grafenberg Arr	2.40 105	eSg	Sb	12 37 36.1	+1.6
THEF	They Montfort	2.42 208	Pn	Pn	12 37 01.2	-0.1
THEF	They Montfort	2.42 208	Pn	Pn	12 37 01.2	-0.1
KIZ	Kirchzarten	2.43 176	Pn	Pn	12 37 01.6	0.0
KIZ			Sg	Sb	12 37 38.1	+2.6
KIZ	Kirchzarten	2.43 176	Pn	Pn	12 37 01.5	0.0
KIZ			Sg	Sb	12 37 38.1	+2.6
GUT	Gutenstein	2.50 157	Pg	Pn	12 37 03.8	+1.4
GUT	Gutenstein	2.50 157	Pg	Pn	12 37 03.8	+1.4
FELD	Feldberg im Sc	2.52 175	Pg	Pg	12 37 09.4	-0.5
FELD	Feldberg im Sc	2.52 175	Pn	Pn	12 37 01.3	-1.5
FELD	Feldberg im Sc	2.52 175	Pg	Pg	12 37 09.4	-0.5
HAU	Haudompre	2.53 200	ePn	Pn	12 37 02.3	-0.5
SNR=1.0						
HAU	Haudompre	2.53 200	ePg	Pb	12 37 09.1	+1.9
HAU			eSn	Sn	12 37 30.4	-3.3
SNR=1.0						
HAU			eSg	Sb	12 37 40.5	+2.2
comp=E,51nm,0.2s,SNR=1.0						
HAU	Haudompre	2.53 200	ePn	Pn	12 37 02.3	-0.5
SNR=1.0						
HAU	Haudompre	2.53 200	ePg	Pb	12 37 09.1	+1.9
HAU			eSn	Sn	12 37 30.4	-3.3
SNR=1.0						
HAU			eSg	Sb	12 37 40.5	+2.2
comp=E,25nm,0.2s,SNR=1.0						
MEZF	Maizieres J'vi	2.54 223	ePn	Pn	12 37 02.5	-0.4
baz=41,SNR=1.0						
MEZF	Maizieres J'vi	2.54 223	ePg	Pg	12 37 09.4	-0.9
baz=42						
MEZF			eSn	Sn	12 37 32.9	-0.9
SNR=1.0						
MEZF			eSg	Sg	12 37 42.5	-0.6
comp=E,75nm,0.4s,SNR=1.0						
MEZF	Maizieres J'vi	2.54 223	ePn	Pn	12 37 02.5	-0.4
baz=41,SNR=1.0						
MEZF	Maizieres J'vi	2.54 223	ePg	Pg	12 37 09.4	-0.9
baz=42						
MEZF			eSn	Sn	12 37 32.9	-0.9
SNR=1.0						
MEZF			eSg	Sg	12 37 42.5	-0.6
comp=E,37nm,0.4s,SNR=1.0						
MOX	Moxa	2.54 83	ePn	Pn	12 37 02.5	-0.4
SNR=3.4						
MOX	Moxa	2.54 83	Pn	Pn	12 37 02.5	-0.4
SNR=3.4						
MOF	Molkenrain	2.56 188	Pg	Pg	12 37 09.8	-0.8
MOF	Molkenrain	2.56 188	Pn	Pn	12 37 02.2	-1.0
MOF	Molkenrain	2.56 188	Pg	Pb	12 37 09.6	+1.9
MOF	Molkenrain	2.56 188	Pn	Pn	12 37 02.2	-1.0
MOF	Molkenrain	2.56 188	Pg	Pg	12 37 09.8	-0.8
HINF	Hinteralfeld	2.62 192	ePn	Pn	12 37 04.0	-0.1
SNR=1.0						
HINF	Hinteralfeld	2.62 192	ePg	Pb	12 37 10.6	+1.9
HINF			eSn	Sn	12 37 32.9	-3.1
SNR=1.0						
HINF			eSg	Sb	12 37 43.9	+2.9
comp=E,53nm,0.3s,SNR=1.0						
HINF	Hinteralfeld	2.62 192	ePn	Pn	12 37 04.0	-0.1
SNR=1.0						
HINF	Hinteralfeld	2.62 192	ePg	Pb	12 37 10.6	+1.9
HINF			eSn	Sn	12 37 32.9	-3.1
SNR=1.0						
HINF			eSg	Sb	12 37 43.9	+2.9
comp=E,27nm,0.3s,SNR=1.0						
SFTF	Sexfontaines	2.77 219	ePn	Pn	12 37 05.0	-1.1
SFTF	Sexfontaines	2.77 219	ePg	Pb	12 37 13.6	+2.3
SFTF			eSn	Sn	12 37 38.3	-1.4
SFTF			eSg	Sg	12 37 49.6	-1.1
comp=E,30nm,0.2s						
SFTF	Sexfontaines	2.77 219	ePn	Pn	12 37 05.0	-1.1
SFTF	Sexfontaines	2.77 219	ePg	Pb	12 37 13.6	+2.3
SFTF			eSn	Sn	12 37 38.3	-1.4
SFTF			eSg	Sg	12 37 49.6	-1.1
comp=E,15nm,0.2s						
SISB	Singen-Schiene	2.83 162	P	Pn	12 37 08.4	+1.5
SISB	Singen-Schiene	2.83 162	P	Pn	12 37 08.4	+1.5
PLN	Plauen	2.88 86	ePg	Pb	12 37 14.5	+1.4
SNR=5.1						
PLN	Plauen	2.88 86	Pg	Pb	12 37 14.5	+1.4
SNR=5.1						
MANZ	Manzenberg	2.89 96	ePg	Pb	12 37 14.5	+1.2
SNR=2.7						
MANZ	Manzenberg	2.89 96	Pg	Pb	12 37 14.5	+1.2
SNR=2.7						
ROTZ	Rotzenmuhle	2.99 100	eSg	Sb	12 37 54.1	+2.5
ROTZ	Rotzenmuhle	2.99 100	Sg	Sb	12 37 54.1	+2.5
TANN	Tannenbergstha	3.07 88	ePn	Pn	12 37 10.4	+0.1
SNR=3.1						
TANN			eSg	Sb	12 37 56.9	+2.9
TANN	Tannenbergstha	3.07 88	Pn	Pn	12 37 10.4	+0.1
SNR=3.1						
TANN			Sg	Sb	12 37 56.9	+2.9
CLL	Collm	3.51 73	ePn	Pn	12 37 16.0	-0.3
CLL			*i* Pg	Pb	12 37 25.4	+1.5
CLL			eSg	Sg	12 38 11.0	-3.3
comp=Z,21nm,0.7s						
WET	Wettzell	3.60 108	eSg	Sg	12 38 14.3	-3.0
WET	Wettzell	3.60 108	Sg	Sg	12 38 14.3	-3.0
MOTA	Moosalm	3.79 142	⇑*i*Pn	Pn	12 37 20.1	-0.2
comp=Z,2.3nm,0.2s						
MOTA			⇑*i*Sg	Sg	12 38 24.5	+1.0
comp=Z,3.6nm,0.3s						
MOTA	Moosalm	3.79 142	Pn	Pn	12 37 20.1	-0.2
comp=Z,2.3nm,0.2s						
MOTA			Sg	Sg	12 38 24.5	+1.0
comp=Z,3.6nm,0.3s						
CABF	La Chapelle	3.92 196	ePn	Pn	12 37 19.9	-2.0
SNR=1.0						
CABF	La Chapelle	3.92 196	ePg	Pg	12 37 34.5	-2.2
CABF			eSn	Sn	12 38 04.6	-3.4
comp=Z,28nm,0.6s,SNR=1.0						
CABF			eSg	Sg	12 38 24.6	-2.8
comp=Z,107nm,1.0s						
CABF	La Chapelle	3.92 196	ePn	Pn	12 37 19.9	-2.0
SNR=1.0						
CABF	La Chapelle	3.92 196	ePg	Pg	12 37 34.5	-2.2
CABF			eSn	Sn	12 38 04.6	-3.4
comp=Z,14nm,0.6s,SNR=1.0						
CABF			eSg	Sg	12 38 24.6	-2.8
comp=Z,54nm,1.0s						
FETA	Feichten	3.93 148	⇑*i*Pn	Pn	12 37 24.6	+2.4
comp=Z,2.3nm,0.3s						
FETA			⇑eSg	Sg	12 38 31.1	+3.3
comp=Z,1.5nm,0.3s						
FETA	Feichten	3.93 148	Pn	Pn	12 37 24.6	+2.4
comp=Z,2.3nm,0.3s						
FETA			Sg	Sg	12 38 31.1	+3.3
comp=Z,1.5nm,0.3s						
LOR	Lormes	4.00 220	ePn	Pn	12 37 21.9	-1.1
baz=49,SNR=1.0						
LOR	Lormes	4.00 220	ePg	Pg	12 37 36.7	-1.6
baz=43						
LOR			eSn	Sn	12 38 07.2	-2.8
LOR			eSg	Sg	12 38 29.1	-1.0
comp=Z,33nm,0.4s,SNR=1.0						
LOR	Lormes	4.00 220	ePn	Pn	12 37 21.9	-1.1
baz=49,SNR=1.0						
LOR	Lormes	4.00 220	ePg	Pg	12 37 36.7	-1.6
baz=43						
LOR			eSn	Sn	12 38 07.2	-2.8
LOR			eSg	Sg	12 38 29.1	-1.0
comp=Z,16nm,0.4s,SNR=1.0						
BRG	Berggiesshubel	4.03 81	PN	Pn	12 37 23.4	0.0
BRG			PG	Pb	12 37 34.5	+1.8
BRG			SG	Sb	12 38 23.2	+1.7
comp=Z,9.0nm,0.9s						
BRG	Berggiesshubel	4.03 81	ePn	Pn	12 37 23.6	+0.2
SNR=1.4						
BRG	Berggiesshubel	4.03 81	Pn	Pn	12 37 23.6	+0.2
SNR=1.4						
KHC	Kasperske Hory	4.04 106	ePN	Pn	12 37 24.0	+0.5
KHC			ePG	Pg	12 37 38.5	-0.5
KHC			eSN	Sn	12 38 08.0	-2.8
KHC			eSB	Sb	12 38 24.2	+2.5
comp=Z,5.1nm,0.4s						
KHC	Kasperske Hory	4.04 106	Pn	Pn	12 37 24.0	+0.5
KHC			Sn	Sn	12 38 08.0	-2.8
KHC			Sg	Sb	12 38 24.2	+2.5
comp=Z,5.1nm,0.4s						
WTTA	Wattenberg	4.08 138	⇓*i*Pn	Pn	12 37 26.1	+1.9
comp=Z,3.9nm,0.3s						
WTTA	Wattenberg	4.08 138	Pn	Pn	12 37 26.1	+1.9
comp=Z,3.9nm,0.3s						
GEC2	GERESS Array S	4.22 109	ePn	Pn	12 37 26.6	+0.5
SNR=10						
GEC2	GERESS Array S	4.22 109	Pn	Pn	12 37 26.6	+0.5
SNR=10						
SSF	Saint Saulge	4.31 221	ePn	Pn	12 37 26.9	-0.4
SNR=1.0						
SSF			eSg	Sg	12 38 38.4	-1.7
comp=Z,10nm,0.3s						
SSF	Saint Saulge	4.31 221	ePn	Pn	12 37 26.9	-0.4
SNR=1.0						
SSF			eSg	Sg	12 38 38.4	-1.7
comp=Z,5.1nm,0.3s						
PRU	Pruhonice	4.44 92	eSB	Sb	12 38 36.7	+3.5
comp=Z,34nm,1.2s						
SMF	Signal de Mont	4.52 216	ePn	Pn	12 37 28.9	-1.2
SNR=1.0						
SMF			eSn	Sn	12 38 19.7	-3.0
SMF			eSg	Sg	12 38 44.2	-2.5
comp=Z,14nm,0.3s,SNR=1.0						
SMF	Signal de Mont	4.52 216	ePn	Pn	12 37 28.9	-1.2
SNR=1.0						
SMF			eSg	Sg	12 38 44.2	-2.5
comp=Z,7.2nm,0.3s,SNR=1.0						
AVF	Avril sur Loir	4.59 220	ePn	Pn	12 37 30.1	-1.0
SNR=1.0						
AVF			eSn	Sn	12 38 21.1	-3.4
comp=Z,5.9nm,0.4s,SNR=1.0						
AVF			eSg	Sg	12 38 46.4	-2.6
comp=Z,7.5nm,0.4s						
AVF	Avril sur Loir	4.59 220	ePn	Pn	12 37 30.1	-1.0
SNR=1.0						
AVF			eSg	Sg	12 38 46.4	-2.6
comp=Z,3.8nm,0.4s						
BGF	Bois d'Agland	4.99 222	ePn	Pn	12 37 35.7	-0.9
BGF			eSn	Sn	12 38 30.6	-3.7
SNR=1.0						
BGF			eSg	Sg	12 38 57.7	-4.1
comp=Z,38nm,0.4s,SNR=1.0						
BGF	Bois d'Agland	4.99 222	ePn	Pn	12 37 35.7	-0.9
KBA	Koelnbreinsper	5.01 129	⇑*i*Pn	Pn	12 37 39.8	+2.8
comp=Z,4.8nm,0.4s						
KBA			⇓*i*Sn	Sn	12 38 36.6	+1.6
comp=Z,3.3nm,0.4s						
KBA	Koelnbreinsper	5.01 129	Pn	Pn	12 37 39.8	+2.8
comp=Z,4.8nm,0.4s						
KBA			Sn	Sn	12 38 36.6	+1.6
comp=Z,3.3nm,0.4s						
MOA	Molln	5.02 118	⇓*i*Pn	Pn	12 37 38.8	+1.7
comp=Z,4.7nm,0.7s						
MOA			⇑*i*Sn	Sn	12 38 33.0	-2.2
comp=Z,5.3nm,0.6s						
MOA			⇑*i*Sg	Sg	12 39 05.5	+2.6
comp=Z,7.5nm,0.6s						
MOA	Molln	5.02 118	Pn	Pn	12 37 38.8	+1.7
comp=Z,4.7nm,0.7s						
MOA			Sn	Sn	12 38 33.0	-2

CONA ⇑iSg **Sg** **12 39 34.2 +2.8**
comp=Z,5.0nm,0.5s

IDC 10 13:16:36.6±1.6, 28°.56N×140°.82E, h437km±66km, mb2.7/2, mb1 3.0/3, mb1mx2.7/22, mbtmp2.8/3, Error ellipse: s-maj=311.3km s-min=20.0km az=76.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.90**	**140**	P	P	13 17 35.7	+0.2
	16nm,0.3s,baz=287,slow=16,SNR=9.6						
CBIJ				S	S	13 18 23.4	+0.3
	50nm,0.3s,baz=282,slow=22,SNR=19						
USRK	**Ussuriysk Arra**	**17.13**	**338**	P	P	13 20 10.6	+0.1
	0.5nm,0.3s,baz=155,slow=11,SNR=8.6						
WRA	**Warramunga Arr**	**48.62**	**188**	P	P	13 24 38.7	-0.4
	0.4nm,0.4s,baz=7.1,slow=7.5,SNR=12						
ASAR	**Alice Springs**	**52.35**	**188**	P	P	13 25 06.7	+0.1
	0.2nm,0.5s,baz=2.3,slow=5.5,SNR=13						

*ISCJB **10** 13:32:46.4±0.5, 59°.64N±0°.03×24°.36E±0°.07, h0km, Error ellipse: s-maj=5.1km s-min=4.0km az=2.1*
*NAO **10** 13:32:47.7±1.0, 59°.64N×24°.48E, ML2.3*
*CSEM **10** 13:32:47.6±0.2, 59°.65N×24°.37E, h2km, ML2.2, Error ellipse: s-maj=4.5km s-min=3.8km az=109.0, Mining explosion.*
*IDC **10** 13:32:48.6±2.9, 59°.66N×24°.65E, h0km, mb1 3.3/3, mb1mx3.0/23, mbtmp3.2/3, ML3.1/3, Error ellipse: s-maj=36.7km s-min=9.9km az=153.0*
*BER **10** 13:32:48.7±5.0, 59°.64N×24°.41E, h0km, ML2.3(NAO), Suspected explosion*
*HEL **10** 13:32:48.7±0.1, 59°.65N×24°.47E, h0km, ML2.2, Explosion*
ISC 10 13:32:46.7±0.7, 59°.62N±0°.03×24°.40E±0°.03, h0km, n33, σ0.71/50, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**0.60**	**0**	*e*P	**Pg**	**13 32 58.7**	**+0.6**
MEF				*e*S	**Sg**	**13 33 06.2**	**+0.3**
MEF	**Metsahovi**	**0.60**	**0**	*e*P	**Pg**	**13 32 58.6**	**+0.5**
	SNR=90						
MEF				*e*S	**Sg**	**13 33 05.8**	**-0.1**
	19nm,0.2s,SNR=90						
MTSE	**Matsula**	**0.96**	**198**	*e*P	**Pb**	**13 33 06.5**	**+0.4**
MTSE				*e*S	**Sb**	**13 33 19.2**	**-0.1**
MTSE	**Matsula**	**0.96**	**198**	P	**Pb**	**13 33 06.5**	**+0.4**
MTSE				S	**Sb**	**13 33 19.1**	**-0.1**
PVF	**Pernaja**	**1.18**	**38**	*e*P	**Pg**	**13 33 09.0**	**-0.3**
PVF	**Pernaja**	**1.18**	**38**	P	**Pg**	**13 33 09.0**	**-0.3**
VSU	**Vasula**	**1.68**	**133**	Pg	**Pb**	**13 33 18.6**	**+0.2**
VSU				Lg	Lg	13 33 40.9	
VSU	**Vasula**	**1.68**	**133**	Pg	**Pb**	**13 33 18.6**	**+0.2**
VSU				Lg	Lg	13 33 40.9	
VSU	**Vasula**	**1.68**	**133**	*e*P	**Pb**	**13 33 18.5**	**+0.2**
VSU				*e*S	**Sg**	**13 33 40.5**	**0.0**
VSU	**Vasula**	**1.68**	**133**	*e*P	**Pb**	**13 33 18.5**	**+0.2**
	SNR=50						
VSU				*e*S	**Sg**	**13 33 40.6**	**+0.1**
	187nm,0.3s,SNR=50						
VSU				Lg	Lg	13 33 40.9	
	SNR=91						
VJF	**Virojoki**	**1.83**	**58**	*e*S	**Sn**	**13 33 43.2**	**0.0**
VJF				MSG		13 33 46.5	
	comp=Z,21nm,0.2s						
VJF	**Virojoki**	**1.83**	**58**	S	**Sn**	**13 33 43.2**	**0.0**
RAF	**Rauma**	**1.92**	**318**	*e*P	**Pb**	**13 33 22.7**	**+0.2**
RAF				*e*S	**Sb**	**13 33 47.8**	**+0.8**
RAF				MSG		13 33 51.9	
	comp=Z,13nm,0.2s						
RAF	**Rauma**	**1.92**	**318**	P	**Pb**	**13 33 22.7**	**+0.2**
RAF				S	**Sb**	**13 33 47.8**	**+0.8**
FIA0	**FINESS Array S**	**2.01**	**24**	Pn	**Pb**	**13 33 23.8**	**-0.2**
	baz=194,slow=18						
FIA0				Lg	Lg	13 33 49.1	
	baz=184,slow=28						
FIA0	**FINESS Array S**	**2.01**	**24**	Pn	**Pb**	**13 33 23.8**	**-0.2**
	baz=194,slow=18						
FIA0				Lg	Lg	13 33 49.1	
	baz=184,slow=28						
FIA0	**FINESS Array S**	**2.01**	**24**	*e*PG	**Pb**	**13 33 23.7**	**-0.4**
FIA0				MSG		13 33 52.0	
	comp=Z,18nm,0.2s						
FIA0	**FINESS Array S**	**2.01**	**24**	Pn	**Pb**	**13 33 23.8**	**-0.2**
	baz=194,slow=17,SNR=50						
FIA0				Lg	Lg	13 33 49.1	
	baz=184,slow=26,SNR=91						
FINES	**FINESS Array B**	**2.01**	**24**	Pn	**Pb**	**13 33 23.7**	**-0.2**
	comp=Z,4.3nm,0.3s,baz=204,slow=16,SNR=118						
FINES				Sn	**Sn**	**13 33 49.0**	**+1.4**
	comp=Z,7.2nm,0.3s,baz=190,slow=24,SNR=30						
AAL	**Aland**	**2.29**	**286**	*e*PB	**Pb**	**13 33 29.2**	**+0.4**
AAL	**Aland**	**2.29**	**286**	Pb	**Pb**	**13 33 29.1**	**+0.4**
HFS	**Hagfors**	**5.42**	**280**	Pn	**Pn**	**13 34 09.0**	**+0.4**
	baz=104,slow=12						
HFS				Sn	**Sn**	**13 35 10.4**	**-1.2**
	baz=75,slow=22						
HFS				Lg	Lg	13 35 31.1	
	baz=94,slow=37						
HFS	**Hagfors**	**5.42**	**280**	Pn	**Pn**	**13 34 09.0**	**+0.4**
	baz=104,slow=12						
HFS				Sn	**Sn**	**13 35 10.4**	**-1.2**
	baz=75,slow=22						
HFS				Lg	Lg	13 35 31.1	
	baz=94,slow=37						
HFS	**Hagfors**	**5.42**	**280**	Pn	**Pn**	**13 34 10.7**	**+2.1**
	comp=Z,0.3nm,0.3s,baz=106,slow=13,SNR=7.6						
HFS				Sn	**Sn**	**13 35 11.6**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=101,slow=29,SNR=7.1						
HFS	**Hagfors**	**5.42**	**280**	Pn	**Pn**	**13 34 09.0**	**+0.4**
	baz=104,slow=11,SNR=50						
HFS				Sn	**Sn**	**13 35 10.4**	**-1.2**
	baz=75,slow=21,SNR=50						
HFS				Lg	Lg	13 35 31.0	
	baz=94,slow=29,SNR=50						
NB2	**NORSAR Subarra**	**6.70**	**288**	Pn	**Pn**	**13 34 26.6**	**+0.4**
	baz=97,slow=14						
NB2				Sn	**Sn**	**13 35 41.8**	**-1.3**
	baz=99,slow=22						
NB2	**NORSAR Subarra**	**6.70**	**288**	Pn	**Pn**	**13 34 26.6**	**+0.4**
	baz=97,slow=14						
NB2				Sn	**Sn**	**13 35 41.8**	**-1.3**
	baz=99,slow=22						
NB2	**NORSAR Subarra**	**6.70**	**288**	Pn	**Pn**	**13 34 26.6**	**+0.4**
	baz=97,slow=13,SNR=50						
NB2				Sn	**Sn**	**13 35 41.8**	**-1.3**
	baz=99,slow=21,SNR=50						
NOA	**NORSAR Array B**	**6.70**	**288**	Pn	**Pn**	**13 34 26.9**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=100,slow=12,SNR=6.2						
NOA				Sn	**Sn**	**13 35 43.0**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=347,slow=16,SNR=3.9						
ARA0	**ARCESS Array S**	**9.97**	**2**	Pn	**Pn**	**13 35 10.0**	**-0.9**
	baz=181,slow=14						
ARA0	**ARCESS Array S**	**9.97**	**2**	Pn	**Pn**	**13 35 10.0**	**-0.9**
	baz=181,slow=14						
ARA0	**ARCESS Array S**	**9.97**	**2**	Pn	**Pn**	**13 35 10.0**	**-0.9**
	baz=181,slow=13,SNR=50						
ARCES	**ARCESS Array B**	**9.97**	**2**	Pn	**Pn**	**13 35 10.2**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=184,slow=13,SNR=5.6						

*IDC **10** 13:32:44.0±1.0, 39°.33N×71°.96E, h0km, mb3.9/6, mb1 3.8/12, mb1mx3.7/32, mbtmp3.8/12, ML3.7/6, MS2.9/2, Ms1 2.9/2, ms1mx2.2/41, Error ellipse: s-maj=16.2km s-min=12.9km az=126.0*
*NNC **10** 13:32:49.7±7.2, 39°.65N×71°.77E, h11km±31km, mb4.1, mpv3.8, Error ellipse: s-maj=48.2km s-min=15.7km az=173.0*
ISC 10 13:32:50.5±2.0, 39°.9N±0°.1×71°.70E±0°.08, h10km, n26, σ1.49/23, mb4.0/6, 6C, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**2.73**	**33**	P	**Pb**	**13 33 38.6**	**-1.1**
	SNR=52						
EKS2	**Erkin-Say**	**3.22**	**28**	P	Pn	13 33 45.4	+4.2
	SNR=22						
KK31	**Karatay Array**	**3.37**	**345**	Pn	**Pn**	**13 33 46.2**	**+3.0**
	4.2nm,0.4s,baz=165,slow=13,SNR=329						
KK31				⇑Pg	**Pg**	**13 33 55.3**	**+0.2**
	29nm,0.6s,baz=164,slow=15,SNR=6.7						
KK31				⇑Lg	Lg	13 34 43.5	
	109nm,0.8s,baz=163,slow=29,SNR=7.2						
AAK	**Ala-Archa**	**3.49**	**36**	P	**Pn**	**13 33 47.2**	**+2.3**
	SNR=34						
AAK	**Ala-Archa**	**3.49**	**36**	Pn	**Pn**	**13 33 47.3**	**+2.3**
	9.9nm,0.3s,baz=182,slow=6.8,SNR=44						
AAK				Sn	**Sb**	**13 34 34.2**	**-0.8**
	4.6nm,0.3s,baz=357,slow=20,SNR=8.3						
AAK				Lg	Lg	13 34 42.0	
	10nm,0.3s,baz=21,slow=20,SNR=7.5						
KZA	**Kyzart**	**3.49**	**49**	P	**Pn**	**13 33 47.1**	**+1.9**
	SNR=24						
KBK	**Karagaybulak**	**3.72**	**40**	P	Pn	13 33 51.9	+3.7
	SNR=20						
CHMS	**Chumysh**	**3.90**	**35**	P	**Pn**	**13 33 52.7**	**+2.3**
	SNR=34						
USP	**Ospenovka**	**4.01**	**31**	P	Pn	13 33 55.2	+3.2
	SNR=46						
ULHL	**Ulahol**	**4.19**	**54**	P	**Pn**	**13 33 55.0**	**+0.4**
	SNR=9.2						
TKM2	**Tokmak 2**	**4.25**	**42**	⇑Pn	**Pn**	**13 33 56.3**	**+1.0**
	9.4nm,0.5s						
TKM2				⇑Lg	Lg	13 35 07.7	
	34nm,0.8s						
TKM2	**Tokmak 2**	**4.25**	**42**	P	**Pn**	**13 33 56.4**	**+1.0**
	SNR=28						
MKAR	**Makanchi Array**	**10.37**	**45**	Pn	**Pn**	**13 35 20.1**	**+0.8**
	0.1nm,0.3s,baz=226,slow=17,SNR=4.9						
KURBB	**Kurchatov Arra**	**11.79**	**22**	Pn	**Pn**	**13 35 37.2**	**-1.4**
	0.3nm,0.3s,baz=213,slow=12,SNR=7.5						
KURBB				Lg	Lg	13 39 09.3	
	0.1nm,0.3s,baz=242,slow=39,SNR=6.9						
AB31	**Akbulak array**	**12.59**	**322**	P	**Pn**	**13 35 48.5**	**-1.0**
	2.0nm,0.6s,baz=128,slow=13,SNR=48						
AB31				⇑S	**Sn**	**13 38 08.6**	**-1.0**
	5.2nm,0.7s,baz=144,slow=22,SNR=7.0						
BVAR	**Borovoye Array**	**13.21**	**357**	Pn	**Pn**	**13 35 59.5**	**+1.5**
	0.2nm,0.3s,baz=148,slow=8.5,SNR=3.2						
BVAR				Lg	Lg	13 39 55.8	
	0.3nm,0.3s,baz=179,slow=29,SNR=3.1						
BVAR				LR	LR	13 41 38.0	
	comp=Z,40nm,19.8s,baz=284,slow=39						
AKTO	**Aktyubinsk**	**14.30**	**322**	⇑P	**Pn**	**13 36 12.0**	**-0.9**
	2.8nm,0.6s						
AKTO	**Aktyubinsk**	**14.30**	**322**	Pn	**Pn**	**13 36 12.2**	**-0.7**
	0.3nm,0.3s,baz=119,slow=12,SNR=4.3						
AKTO				Sn	**Sn**	**13 38 50.1**	**-1.4**
	0.3nm,0.3s,baz=143,slow=20,SNR=3.8						
ZALV	**Zalesovo Beam**	**16.67**	**28**	P	**Pn**	**13 36 44.9**	**+0.9**
	0.4nm,0.3s,baz=230,slow=16,SNR=6.1						
FINES	**FINESS Array B**	**35.07**	**323**	P	**P**	**13 39 43.5**	**+0.2**
	1.1nm,0.5s,baz=110,slow=10,SNR=7.3						
ARCES	**ARCESS Array B**	**38.29**	**336**	P	**P**	**13 40 10.8**	**+0.1**
	2.3nm,0.8s,baz=119,slow=9.4,SNR=3.9						
HFS	**Hagfors**	**40.83**	**320**	P	**P**	**13 40 30.9**	**-1.0**
	0.7nm,0.4s,baz=100,slow=14,SNR=4.9						
NOA	**NORSAR Array B**	**42.09**	**321**	LR	LR	13 58 52.8	
	comp=Z,16nm,20.7s,baz=330,slow=37						
TORD	**Torodi Ar. Bea**	**66.38**	**268**	P	P	13 43 35.4	-4.4
	0.6nm,0.5s,baz=50,slow=5.7,SNR=10						
WRA	**Warramunga Arr**	**83.31**	**123**	P	P	13 45 10.3	-7.3
	0.9nm,0.8s,baz=323,slow=4.8,SNR=9.1						
ASAR	**Alice Springs**	**85.73**	**126**	P	P	13 45 22.9	-7.0
	0.2nm,0.4s,baz=310,slow=4.5,SNR=5.6						

IDC 10 13:37:54.8±0.9, 6°.14N×61°.54E, h0km, mb3.8/11, mb1 3.9/11, mb1mx3.7/26, mbtmp3.8/11, MS3.5/12, Ms1 3.5/12, ms1mx3.2/35, Error ellipse: s-maj=23.5km s-min=21.5km az=110.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**19.23**	**287**	LR	LR	13 47 54.2	
	comp=Z,64nm,19.8s,baz=42,slow=31						
KMBO	**Kilima Mbogo**	**25.30**	**254**	P	P	13 43 23.2	-0.5
	1.9nm,0.5s,baz=52,slow=18,SNR=6.2						
OPO	**Ambohidratompo**	**28.34**	**210**	LR	LR	13 52 27.1	
	comp=Z,170nm,20.1s,baz=192,slow=31						
CMAR	**Chiang Mai Arr**	**38.45**	**68**	P	P	13 45 22.6	+3.9
	0.3nm,0.3s,baz=250,slow=7.6,SNR=5.1						
CMAR				LR	LR	14 00 38.0	
	comp=Z,52nm,20.2s,baz=190,slow=36						
BRTR	**Keskin Array B**	**41.81**	**320**	P	P	13 45 47.2	+0.6
	2.0nm,1.1s,baz=108,slow=4.0,SNR=4.9						
AKTO	**Aktyubinsk**	**44.25**	**357**	LR	LR	14 03 37.8	
	comp=Z,36nm,19.9s,baz=222,slow=35						
MKAR	**Makanchi Array**	**44.27**	**20**	P	P	13 46 04.7	-1.6
	0.8nm,1.0s,baz=137,slow=2.5,SNR=4.6						
MKAR				LR	LR	14 05 23.7	
	comp=Z,39nm,21.0s,baz=175,slow=37						
IDI	**Anoyia**	**44.46**	**316**	LR	LR	14 06 42.7	
	comp=Z,31nm,18.7s,baz=262,slow=39						
KURBB	**Kurchatov Arra**	**46.56**	**15**	P	P	13 46 24.5	+0.2
	0.4nm,0.6s,baz=215,slow=7.2,SNR=3.3						
BVAR	**Borovoye Array**	**47.30**	**7**	LR	LR	14 07 24.9	
	comp=Z,80nm,20.8s,baz=235,slow=37						
BOSA	**Boshof**	**49.15**	**223**	P	P	13 46 45.9	+1.1
	4.2nm,0.9s,baz=66,slow=10.0,SNR=3.1						
BOSA				LR	LR	14 06 25.3	
	comp=Z,90nm,18.2s,baz=238,slow=35						
ZALV	**Zalesovo Beam**	**51.28**	**17**	P	P	13 47 00.7	+0.2
	1.3nm,0.8s,baz=238,slow=10.0,SNR=3.1						
ZALV				LR	LR	14 08 45.8	
	comp=Z,40nm,20.3s,baz=250,slow=36						
AKASG	**Malin Array Be**	**51.95**	**334**	P	P	13 47 05.5	-0.1
	0.4nm,0.3s,baz=139,slow=7.2,SNR=4.1						
SONM	**Songino Array**	**56.40**	**35**	P	P	13 47 40.1	+1.8
	0.8nm,0.8s,baz=197,slow=3.0,SNR=4.3						
FINES	**FINESS Array B**	**61.17**	**341**	LR	LR	14 15 11.8	
	comp=Z,44nm,19.9s,baz=201,slow=37						
HFS	**Hagfors**	**64.79**	**336**	P	P	13 48 34.1	-1.1
	2.1nm,0.7s,baz=145,slow=5.3,SNR=3.2						
DBIC	**Dimbokro**	**65.94**	**275**	LR	LR	14 18 06.0	
	comp=Z,46nm,19.8s,baz=87,slow=37						
KSRS	**Korea Array**	**67.58**	**52**	LR	LR	14 18 31.6	
	comp=Z,34nm,19.3s,baz=240,slow=36						
WRA	**Warramunga Arr**	**76.08**	**112**	P	P	13 49 44.8	-0.1
	0.6nm,1.0s,baz=299,slow=4.1,SNR=3.6						
ASAR	**Alice Springs**	**76.48**	**116**	P	P	13 49 46.6	-0.6
	0.3nm,0.6s,baz=285,slow=5.6,SNR=4.1						

*ISCJB **10** 13:43:08.1±0.5, 59°.65N±0°.03×24°.51E±0°.08, h0km, Error ellipse: s-maj=5.9km s-min=4.1km az=19.7*
*NAO **10** 13:43:09.9±1.0, 59°.65N×24°.63E, ML2.2*
*CSEM **10** 13:43:09.6±0.2, 59°.66N×24°.57E, h2km, ML2.7, Error ellipse: s-maj=6.2km s-min=4.3km az=110.0, Mining explosion.*
*IDC **10** 13:43:10.1±2.1, 59°.67N×24°.71E, h0km, mb1 3.3/3, mb1mx3.1/24, mbtmp3.3/3, ML3.5/2, Error ellipse: s-maj=24.9km s-min=9.1km az=150.0*
*BER **10** 13:43:10.4±3.7, 59°.67N×24°.60E, h0km, ML2.2(NAO), Suspected explosion*
*HEL **10** 13:43:10.3±0.1, 59°.66N×24°.55E, h0km, ML2.3, Explosion*
ISC 10 13:43:08.9±0.8, 59°.66N±0°.03×24°.51E±0°.03, h0km, n37, σ1.03/51, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**0.57**	**354**	*e*P	**Pg**	**13 43 20.4**	**+0.7**
MEF				*e*S	**Sg**	**13 43 27.8**	**+0.7**
MEF	**Metsahovi**	**0.57**	**354**	*e*P	**Pg**	**13 43 20.5**	**+0.7**
	SNR=90						
MEF				*e*S	**Sg**	**13 43 27.8**	**+0.7**
	89nm,0.2s,SNR=90						
MTSE	**Matsula**	**1.01**	**201**	*e*P	**Pg**	**13 43 28.5**	**+0.3**
MTSE				*e*S	**Sg**	**13 43 41.8**	**+0.5**
MTSE	**Matsula**	**1.01**	**201**	P	**Pg**	**13 43 28.4**	**+0.3**
MTSE				S	**Sg**	**13 43 41.7**	**+0.5**
PVF	**Pernaja**	**1.12**	**37**	*e*P	**Pg**	**13 43 29.9**	**-0.4**
PVF	**Pernaja**	**1.12**	**37**	P	**Pg**	**13 43 29.9**	**-0.4**
VSU	**Vasula**	**1.66**	**135**	Pg	**Pn**	**13 43 39.7**	**+0.5**
VSU				Lg	Lg	13 44 01.1	
VSU	**Vasula**	**1.66**	**135**	Pg	**Pn**	**13 43 39.7**	**+0.5**
VSU				Lg	Lg	13 44 01.1	
VSU	**Vasula**	**1.66**	**135**	*e*P	**Pn**	**13 43 39.6**	**+0.5**
VSU	**Vasula**	**1.66**	**135**	*e*P	**Pn**	**13 43 39.5**	**+0.3**
	SNR=50						
VSU				Lg	Lg	13 44 01.1	
VJF	**Virojoki**	**1.76**	**59**	*e*S	**Sn**	**13 44 03.5**	**-0.3**
VJF				MSG		13 44 06.7	
	comp=Z,34nm,0.1s						
VJF	**Virojoki**	**1.76**	**59**	S	**Sn**	**13 44 03.4**	**-0.3**
RAF	**Rauma**	**1.94**	**316**	*e*P	**Pb**	**13 43 45.0**	**0.0**
RAF				*e*S	**Sg**	**13 44 11.2**	**+0.2**
RAF				MSG		13 44 13.6	
	comp=Z,15nm,0.1s						
RAF	**Rauma**	**1.94**	**316**	P	**Pb**	**13 43 44.9**	**0.0**
RAF				S	**Sg**	**13 44 11.2**	**+0.2**
FIA0	**FINESS Array S**	**1.96**	**23**	Pg	**Pb**	**13 43 44.7**	**-0.6**
	baz=194,slow=18						
FIA0				Lg	Lg	13 44 10.6	
	baz=192,slow=37						
FIA0				Rg	Rg	13 44 20.8	
	baz=194,slow=37						
FIA0	**FINESS Array S**	**1.96**	**23**	Pg	**Pb**	**13 43 44.7**	**-0.6**
	baz=194,slow=18						
FIA0				Lg	Lg	13 44 10.6	
	baz=192,slow=37						
FIA0				Rg	Rg	13 44 20.8	
	baz=194,slow=37						
FIA0	**FINESS Array S**	**1.96**	**23**	*e*P	**Pb**	**13 43 44.8**	**-0.5**
FIA0				MSG		13 44 12.4	
	comp=Z,15nm,0.1s						
FIA0	**FINESS Array S**	**1.96**	**23**	P	**Pb**	**13 43 44.8**	**-0.5**
FIA0				Lg	Lg	13 44 10.6	
	baz=192,slow=30,SNR=91						
FINES	**FINESS Array B**	**1.96**	**23**	Pn	**Pb**	**13 43 45.0**	**-0.3**
	comp=Z,8.9nm,0.3s,baz=202,slow=16,SNR=479						
FINES				Sn	**Sb**	**13 44 10.2**	**+0.1**
	comp=Z,6.7nm,0.3s,baz=197,slow=26,SNR=18						
AAL	**Aland**	**2.33**	**285**	*e*P	**Pn**	**13 43 50.0**	**+1.5**
AAL	**Aland**	**2.33**	**285**	P	**Pn**	**13 43 49.9**	**+1.5**
SLIT	**Slitere, Latvi**	**2.34**	**211**	*e*P	**Pb**	**13 43 51.1**	**-0.8**
	SNR=50						
HFS	**Hagfors**	**5.47**	**280**	Pn	**Pn**	**13 44 32.5**	**+1.0**
	baz=100,slow=12						
HFS				Sn	**Sn**	**13 45 35.5**	**+0.5**
	baz=96,slow=28						
HFS				Lg	Lg	13 45 56.5	
	baz=90,slow=37						
HFS	**Hagfors**	**5.47**	**280**	Pn	**Pn**	**13 44 32.5**	**+1.0**
	baz=100,slow=12						
HFS				Sn	**Sn**	**13 45 35.5**	**+0.5**
	baz=96,slow=28						
HFS				Lg	Lg	13 45 56.5	
	baz=90,slow=37						
HFS	**Hagfors**	**5.47**	**280**	Pn	**Pn**	**13 44 32.8**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=110,slow=13,SNR=18						
HFS				Sn	**Sn**	**13 45 35.3**	**+0.3**
	comp=Z,0.5nm,0.3s,baz=101,slow=30,SNR=5.7						
HFS				Lg	Lg	13 45 54.9	
	comp=Z,0.5nm,0.3s,baz=86,slow=22,SNR=4.1						
HFS	**Hagfors**	**5.47**	**280**	Pn	**Pn**	**13 44 32.5**	**+1.0**
	baz=100,slow=12,SNR=50						
HFS				Sn	**Sn**	**13 45 35.5**	**+0.5**
	baz=96,slow=27,SNR=50						
HFS				Lg	Lg	13 45 56.5	
	baz=90,slow=31,SNR=50						
NB2	**NORSAR Subarra**	**6.74**	**288**	Pn	**Pn**	**13 44 48.3**	**-0.7**
	baz=97,slow=12						
NB2				Sn	**Sn**	**13 46 04.1**	**-2.4**
	baz=91,slow=22						
NB2				Lg	Lg	13 46 39.1	
	baz=98,slow=37						
NB2	**NORSAR Subarra**	**6.74**	**288**	Pn	**Pn**	**13 44 48.3**	**-0.7**
	baz=97,slow=12						
NB2				Sn	**Sn**	**13 46 04.1**	**-2.4**
	baz=91,slow=22						
NB2				Lg	Lg	13 46 39.1	
	baz=98,slow=37						
NB2	**NORSAR Subarra**	**6.74**	**288**	Pn	**Pn**	**13 44 48.3**	**-0.7**
	baz=97,slow=12,SNR=50						
NB2				Lg	Lg	13 46 39.1	
	baz=98,slow=34,SNR=50						
NOA	**NORSAR Array B**	**6.74**	**288**	Pn	**Pn**	**13 44 48.4**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=93,slow=13,SNR=9.7						
NOA				Sn	**Sn**	**13 46 03.2**	**-3.3**
	comp=Z,0.3nm,0.3s,baz=147,slow=17,SNR=2.8						
NOA				Lg	Lg	13 46 36.5	
	comp=Z,0.7nm,0.3s,baz=256,slow=19,SNR=4.0						
APA0	**Apatity Array**	**8.82**	**22**	Pn	**Pn**	**13 45 18.7**	**+1.3**
	baz=221,slow=14						
APA0	**Apatity Array**	**8.82**	**22**	Pn	**Pn**	**13 45 18.7**	**+1.3**
	baz=221,slow=14						
APA0	**Apatity Array**	**8.82**	**22**	Pn	**Pn**	**13 45 18.7**	**+1.3**
	baz=221,slow=13,SNR=50						
ARA0	**ARCESS Array S**	**9.93**	**2**	Pn	**Pn**	**13 45 31.4**	**-1.2**
	baz=181,slow=14						
ARA0	**ARCESS Array S**	**9.93**	**2**	Pn	**Pn**	**13 45 31.4**	**-1.2**
	baz=181,slow=14						
ARA0	**ARCESS Array S**	**9.93**	**2**	Pn	**Pn**	**13 45 31.5**	**-1.2**
	baz=181,slow=13,SNR=50						
ARCES	**ARCESS Array B**	**9.93**	**2**	Pn	**Pn**	**13 45 31.5**	**-1.1**
	comp=Z,0.8nm,0.3s,baz=182,slow=12,SNR=17						
ARCES				Sn	Sn	13 47 17.7	-6.9
	comp=Z,0.2nm,0.3s,baz=186,slow=22,SNR=2.3						

IDC 10 13:47:46.6±2.8, 19°.75N×144°.38E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.4/22, mbtmp3.7/3, Error ellipse: s-maj=467.0km s-min=24.7km az=110.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.65**	**195**	P	P	13 55 29.0	+0.3
	1.0nm,0.7s,baz=15,slow=10,SNR=12						
ASAR	**Alice Springs**	**44.34**	**194**	P	P	13 55 58.1	-0.6
	0.2nm,0.5s,baz=20,slow=8.4,SNR=6.2						
ILAR	**Eielson Array**	**63.27**	**27**	P	P	13 58 16.8	0.0
	1.6nm,0.8s,baz=252,slow=5.2,SNR=13						

*IDC **10** 13:53:11.9±1.8, 9°.85N×126°.08E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/23, mbtmp3.7/5, Error ellipse: s-maj=196.6km s-min=21.0km az=66.0*
*ISCJB **10** 13:53:19.8±0.9, 9°.74N±0°.07×126°.27E±0°.07, h67km, mb3.7/5, Error ellipse: s-maj=10.1km s-min=8.6km az=136.6*
*MAN **10** 13:53:23, 9°.60N×125°.96E, h95km, mb4.4, ML3.2, MS3.1*
**ISC 10 13:

WRA	Warramunga Arr	34.14 196	P		P		14 56 07.7	+0.2
	1.1nm,0.6s,baz=20,slow=9.4,SNR=22							
ASAR	Alice Springs	37.82 195	P		P		14 56 38.5	-0.4
	0.4nm,0.8s,baz=16,slow=13,SNR=7.3							
CMAR	Chiang Mai Arr	43.23 283	P		P		14 57 24.3	+0.3
	0.3nm,0.5s,baz=82,slow=6.3,SNR=4.5							
MKAR	Makanchi Array	60.96 316	P		P		14 59 34.9	-0.7
	0.3nm,0.5s,baz=94,slow=8.1,SNR=5.0							
ILAR	Eielson Array	69.47 25	P		P		15 00 30.8	+0.3
	0.3nm,0.6s,baz=215,slow=9.3,SNR=2.6							

IDC 10 14:56:16.9±4.4, 20°.81N×144°.91E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/24, mbtmp3.5/4, Error ellipse: s-maj=117.7km s-min=26.6km az=68.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	Korea Array	22.19	322	P	P	15 01 15.0	+0.3
	1.5nm,0.8s,baz=137,slow=8.0,SNR=7.7						
WRA	Warramunga Arr	41.80	195	P	P	15 04 08.8	+0.4
	0.8nm,0.7s,baz=17,slow=8.6,SNR=7.4						
CMAR	Chiang Mai Arr	43.25	275	P	P	15 04 20.1	-0.2
	0.2nm,0.5s,baz=80,slow=6.5,SNR=4.3						
ASAR	Alice Springs	45.49	194	P	P	15 04 37.6	-0.6
	0.5nm,0.8s,baz=18,slow=9.1,SNR=8.8						

*IDC **10** 14:57:32.0±0.9, 6°.07N×60°.92E, h0km, mb3.7/11, mb1 3.9/11, mb1mx3.7/25, mbtmp3.7/11, MS3.9/17, Ms1 3.8/17, ms1mx3.7/25, Error ellipse: s-maj=27.3km s-min=19.0km az=0.0*
*ISCJB **10** 14:57:32.3±0.7, 6°.1N±0°.1×60°.9E±0°.1, h14km, mb4.0/15, MS3.9/16, Error ellipse: s-maj=19.2km s-min=14.2km az=167.8*
*NEIC **10** 14:57:33.1±0.7, 6°.00N×60°.83E, h10km, mb4.7/5, Error ellipse: s-maj=17.2km s-min=12.8km az=166.0*

ISC 10 14:57:34.1±0.9, 6°.1N±0°.2×60°.9E±0°.1, h14km, n38, σ0s99/26, mb3.9/15, MS3.9/16, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	Arta Tunnel	18.61	288	LR	LR	15 07 35.1	
	comp=Z,136nm,21.8s,baz=70,slow=32						
KMBO	Kilima Mbogo	24.64	254	eP	P	15 02 53.1	-1.8
	12nm,1.0s						
KMBO	Kilima Mbogo	24.64	254	P	P	15 02 56.4	+1.6
	2.7nm,0.7s,baz=242,slow=22,SNR=6.0						
OPO	Ambohidratompo	27.96	209	LR	LR	15 11 58.3	
	comp=Z,315nm,18.8s,baz=358,slow=31						
MBAR	Mbarara	30.80	259	LR	LR	15 16 43.1	
	comp=Z,243nm,19.9s,baz=153,slow=37						
LSA	Lhasa	36.97	47	eP	P	15 04 43.7	0.0
	83nm,1.9s						
EKS2	Erkin-Say	38.19	15	eP	P	15 04 54.9	+1.4
	33nm,1.5s						
AAK	Ala-Archa	38.36	16	eP	P	15 04 54.2	-0.7
	40nm,1.9s						
CMAR	Chiang Mai Arr	39.09	68	P	P	15 05 02.5	+1.3
CMAR	Chiang Mai Arr	39.09	68	P	P	15 05 02.5	+1.3
	1.9nm,0.9s,baz=260,slow=8.8,SNR=5.9						
KBZ	Khabaz	40.70	340	LR	LR	15 23 33.3	
	comp=Z,54nm,18.4s,baz=155,slow=38						
BRTR	Keskin Array B	41.51	328	P	P	15 05 21.1	-0.1
BRTR	Keskin Array B	41.51	328	P	P	15 05 21.1	-0.1
	0.5nm,0.5s,baz=117,slow=5.7,SNR=4.4						
ABKAR	Akbulak array	43.04	359	eP	P	15 05 33.1	-0.2
	2.6nm,0.9s						
MKAR	Makanchi Array	44.57	21	P	P	15 05 44.9	-0.8
MKAR	Makanchi Array	44.57	21	P	P	15 05 44.9	-0.8
	0.6nm,0.7s,baz=213,slow=8.8,SNR=5.9						
MKAR				LR	LR	15 25 38.9	
	comp=Z,64nm,19.7s,baz=199,slow=38						
BOSA	Boshof	48.64	223	LR	LR	15 24 52.6	
	comp=Z,244nm,19.2s,baz=345,slow=34						
ZALV	Zalesovo Beam	51.54	18	P	P	15 06 40.4	+0.9
ZALV	Zalesovo Beam	51.54	18	P	P	15 06 40.4	+0.9
	0.7nm,0.6s,baz=227,slow=5.9,SNR=5.2						
ZALV				LR	LR	15 28 15.4	
	comp=Z,111nm,19.5s,baz=69,slow=36						
SONM	Songino Array	56.83	35	P	P	15 07 18.4	0.0
SONM	Songino Array	56.83	35	P	P	15 07 18.4	0.0
	1.0nm,0.9s,baz=233,slow=8.9,SNR=7.0						
SONM				LR	LR	15 32 22.6	
	comp=Z,147nm,19.1s,baz=88,slow=37						
TORD	Torodi Ar. Bea	58.65	282	P	P	15 07 33.0	+1.4
TORD	Torodi Ar. Bea	58.65	282	P	P	15 07 33.0	+1.4
	1.4nm,1.2s,baz=92,slow=4.7,SNR=4.8						
TORD				LR	LR	15 33 55.2	
	comp=Z,91nm,18.1s,baz=175,slow=37						
FINES	FINESS Array B	61.01	342	LR	LR	15 36 45.1	
	comp=Z,80nm,21.9s,baz=294,slow=39						
DBIC	Dimbokro	65.27	275	LR	LR	15 35 29.8	
	comp=Z,113nm,20.6s,baz=80,slow=35						
NOA	NORSAR Array B	66.10	336	LR	LR	15 39 07.8	
	comp=Z,30nm,18.3s,baz=90,slow=38						
ESDC	Sonseca Array	66.84	311	P	P	15 08 24.8	-1.1
ESDC	Sonseca Array	66.84	311	P	P	15 08 24.8	-1.1
	0.2nm,0.3s,baz=112,slow=5.8,SNR=3.6						
ARCES	ARCESS Array B	67.44	347	LR	LR	15 41 36.9	
	comp=Z,67nm,18.1s,baz=281,slow=39						
KSAR	Wonju Array Be	68.12	52	P	P	15 08 33.5	-0.4
KSRS	Korea Array	68.15	52	P	P	15 08 33.5	-0.6
	0.7nm,0.7s,baz=246,slow=8.1,SNR=4.2						
KSRS				LR	LR	15 37 37.0	
	comp=Z,68nm,20.4s,baz=79,slow=35						
MAW	Mawson	73.52	179	LR	LR	15 34 44.1	
	comp=Z,60nm,20.0s,baz=191,slow=30						
WRA	Warramunga Arr	76.67	112	P	P	15 09 24.9	-0.4
WRA	Warramunga Arr	76.67	112	P	P	15 09 24.9	-0.4
	1.1nm,0.9s,baz=303,slow=4.7,SNR=4.7						
ASAR	Alice Springs	77.05	116	P	P	15 09 26.6	-0.8
ASAR	Alice Springs	77.05	116	P	P	15 09 26.6	-0.8
	0.7nm,0.8s,baz=278,slow=5.3,SNR=9.1						
PETK	Petropavlovsk-	89.28	37	LR	LR	15 52 34.0	
	comp=Z,92nm,18.7s,baz=164,slow=37						
VNDA	Vanda	98.27	168	LR	LR	15 51 50.5	
	comp=Z,89nm,18.8s,baz=293,slow=33						

WEL 10 15:04:45.9±0.4, 37°.16S×176°.67E, h327km±3km, ML4.3/16, 19C-5D, Error ellipse: s-maj=5.6km s-min=4.1km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPRZ	Ohinepanea	0.69	188	PN	Pn	15 05 27.8	-0.1
TARZ	Mount Tarawera	1.08	187	PN	Pn	15 05 30.0	+0.4
URZ	Urewera	1.15	162	↑PN	Pn	15 05 29.5	-0.2
URZ				SN	S	15 06 03.9	-0.8
URZ				AML	AML	15 06 08.2	
RRRZ	Republican Roa	1.18	186	↑PN	Pn	15 05 30.1	+0.1
PRRZ	Plateau Road	1.35	189	↑PN	Pn	15 05 30.8	0.0
MWZ	Matawai	1.35	150	↑PN	Pn	15 05 30.9	+0.1
MWZ				AML	AML	15 06 07.3	
MWZ				AML	AML	15 06 10.4	
MXZ	Matakaoa Point	1.36	108	↑PN	Pn	15 05 31.0	+0.1
MXZ				SN	S	15 06 06.7	-0.1
MXZ				AML	AML	15 06 07.7	
ALRZ	Allen Road	1.42	190	↓PN	Pn	15 05 31.3	+0.1
PUZ	Puketiti	1.56	126	PN	Pn	15 05 32.0	0.0
PUZ				AML	AML	15 06 11.9	
PUZ				AML	AML	15 06 13.6	
RAHZ	Arahi	1.78	170	PN	Pn	15 05 33.7	+0.2
CNGZ	Carnagh Statio	1.80	138	PN	Pn	15 05 34.2	+0.7
RATZ	Rangitukua	1.85	202	↑PN	Pn	15 05 33.7	-0.2
RITZ	Rihia Road	1.92	199	PN	Pn	15 05 34.6	+0.1
NMHZ	Naumai	1.94	177	PN	Pn	15 05 35.0	+0.4
HIZ	Hauiti	1.97	226	↑PN	Pn	15 05 35.3	+0.5
PRGZ	Paritu Road	2.00	152	PN	Pn	15 05 35.3	+0.3
BKZ	Black Stump Fm	2.01	184	↑PN	Pn	15 05 34.6	-0.5
BKZ				SN	S	15 06 13.6	-0.9
BKZ				AML	AML	15 06 16.9	
KNZ	Kokohu	2.02	157	↑PN	Pn	15 05 35.1	0.0
KNZ				SN	S	15 06 14.6	+0.2
KRVZ	Karewarewa	2.10	202	↓PN	Pn	15 05 35.4	-0.4
WTVZ	West Tongariro	2.13	203	PN	Pn	15 05 35.6	-0.5
TWVZ	Taurewa	2.14	207	PN	Pn	15 05 35.8	-0.4
OTVZ	Oturere	2.15	201	↑PN	Pn	15 05 36.1	-0.2
MHGZ	Mahia Peninsul	2.22	154	↑PN	Pn	15 05 37.1	+0.4
WPVZ	Whakapapa	2.23	203	PN	Pn	15 05 36.3	-0.5
TUVZ	Tukino	2.25	201	PN	Pn	15 05 36.6	-0.5
FWVZ	Far West T-bar	2.27	202	↓PN	Pn	15 05 36.9	-0.5
MCHZ	McNeill Hill	2.28	179	↑PN	Pn	15 05 37.2	+0.1
WHVZ	Whangaehu Hut	2.28	202	↑PN	Pn	15 05 36.8	-0.6
WNVZ	Wahianoa	2.32	201	PN	Pn	15 05 37.1	-0.6
MOVZ	Moawhango	2.36	198	PN	Pn	15 05 36.7	-1.1
BHHZ	Black Hill Sta	2.37	191	↑PN	Pn	15 05 37.2	-0.8
MTVZ	Mangateitei	2.41	203	PN	Pn	15 05 37.7	-0.6
VRZ	Vera Road	2.47	217	PN	Pn	15 05 38.8	+0.1
CKHZ	Cape Kidnapper	2.52	173	PN	Pn	15 05 39.1	+0.1
KAHZ	Kahuranaki	2.64	177	PN	Pn	15 05 40.1	-0.1
PNHZ	Pukenui	2.77	187	PN	Pn	15 05 40.5	-0.9
PXZ	Pawanui	2.87	177	↑PN	Pn	15 05 41.7	-0.5
PXZ				AML	AML	15 06 31.8	
PXZ				AML	AML	15 06 31.9	
PXZ				AML	AML	15 06 33.0	
PXZ				AML	AML	15 06 33.0	
WPHZ	Waipukurau	2.91	183	PN	Pn	15 05 42.0	-0.6
WAZ	Wanganui	2.91	207	↓PN	Pn	15 05 41.6	-1.0
PRHZ	Porangahau	3.10	180	↑PN	Pn	15 05 43.8	-0.6
DVHZ	Dannevirke	3.16	187	PN	Pn	15 05 44.0	-1.0
ANWZ	Angora Road	3.30	183	↑PN	Pn	15 05 45.7	-0.6
POWZ	Post Office Ro	3.30	192	PN	Pn	15 05 44.8	-1.5
PRWZ	Pori Road	3.43	189	PN	Pn	15 05 46.8	-0.9
BFZ	Birch Farm	3.53	185	↓PN	Pn	15 05 47.4	-1.2
BFZ				SN	S	15 06 34.7	-4.3
MRZ	Mangatainoka R	3.60	193	↑PN	Pn	15 05 47.4	-1.9
MRZ				AML	AML	15 06 40.4	
MRZ				AML	AML	15 06 40.5	
TIWZ	Tintock	3.66	189	PN	Pn	15 05 48.7	-1.3
CPWZ	Castlepoint	3.76	185	PN	Pn	15 05 50.1	-0.8
OGWZ	Otaki Gorge	3.83	197	↑PN	Pn	15 05 49.7	-2.0
HOWZ	Holdsworth Sta	3.84	193	PN	Pn	15 05 49.8	-2.0
KIW	Kapiti Island	3.94	200	PN	Pn	15 05 50.7	-2.2
KIW				AML	AML	15 06 44.9	
KIW				AML	AML	15 06 45.7	
TMWZ	Te Maipa	3.99	188	PN	Pn	15 05 51.7	-1.6
MTW	Mount Morrison	4.09	192	PN	Pn	15 05 52.2	-2.3
MTW				AML	AML	15 06 49.1	
MTW				AML	AML	15 06 50.8	
CAW	Cannon Point	4.13	197	PN	Pn	15 05 52.6	-2.3
CAW				AML	AML	15 06 49.8	
CAW				AML	AML	15 06 51.0	
DUWZ	D'Urville Isla	4.22	210	PN	Pn	15 05 53.2	-2.6
TRWZ	Traveller	4.30	190	PN	Pn	15 05 54.9	-1.7
TRWZ				AML	AML	15 06 56.2	
WEL	Wellington	4.38	199	PN	Pn	15 05 55.0	-2.4
MSWZ	Moikau Station	4.39	194	PN	Pn	15 05 55.2	-2.4
MSWZ				AML	AML	15 06 54.8	
MSWZ				AML	AML	15 06 56.4	
SNZO	South Karori	4.42	200	PN	Pn	15 05 55.4	-2.4
SNZO				AML	AML	15 06 55.8	
SNZO				AML	AML	15 06 57.7	
TCW	Tory Channel	4.45	204	PN	Pn	15 05 55.9	-2.4
TCW				AML	AML	15 06 53.9	
TCW				AML	AML	15 06 54.1	
BHW	Baring Head	4.47	198	PN	Pn	15 05 55.9	-2.5
BHW				AML	AML	15 06 55.9	
BHW				AML	AML	15 06 56.4	
PLWZ	Palliser	4.54	194	PN	Pn	15 05 56.9	-2.4
TUWZ	Tuamarina	4.76	206	PN	Pn	15 05 58.9	-2.7
TUWZ				AML	AML	15 07 00.0	
TUWZ				AML	AML	15 07 00.6	
QRZ	Quartz Range	4.88	220	PN	Pn	15 05 59.3	-3.7
BSWZ	Blackbirch Sta	5.04	205	PN	Pn	15 06 02.0	-2.8
THZ	Tophouse	5.44	211	PN	Pn	15 06 05.9	-3.6
KHZ	Kahutara	5.78	204	PN	Pn	15 06 10.5	-2.7
LTZ	Lake Taylor	6.55	210	PN	Pn	15 06 18.9	-3.5
MQZ	McQueen's Vall	7.22	204	PN	Pn	15 06 26.4	-3.8
MQZ				SN	S	15 07 47.4	-7.5

IDC 10 15:05:51.1±1.9, 6°.00N×60°.27E, h0km, mb3.5/7, mb1 3.7/7, mb1mx3.5/25, mbtmp3.5/7, Error ellipse: s-maj=53.0km s-min=27.9km az=51.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	39.67	68	P	P	15 13 25.1	-0.2
	0.4nm,0.7s,baz=260,slow=9.9,SNR=4.1						
BRTR	Keskin Array B	41.25	328	P	P	15 13 38.1	-0.1
	0.2nm,0.4s,baz=157,slow=7.8,SNR=2.8						
MKAR	Makanchi Array	44.85	21	P	P	15 14 05.9	-1.2
	0.6nm,0.8s,baz=203,slow=7.0,SNR=4.7						
ZALV	Zalesovo Beam	51.79	18	P	P	15 15 00.8	+0.3
	0.3nm,0.4s,baz=208,slow=5.9,SNR=2.3						
SONM	Songino Array	57.24	35	P	P	15 15 41.4	+0.9
	0.2nm,0.4s,baz=262,slow=8.6,SNR=2.9						
WRA	Warramunga Arr	77.20	112	P	P	15 17 47.4	-0.2
	0.5nm,0.9s,baz=292,slow=5.1,SNR=3.1						
ASAR	Alice Springs	77.56	116	P	P	15 17 49.8	+0.2
	0.5nm,0.9s,baz=285,slow=5.1,SNR=5.3						

NEIC 10 15:54:59.6, 51°.21N×179°.65W, h20km, ML3.5(AEIC), After AEIC., Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAKI	Gareloi-Kavalg	0.63	56	P	Pb	15 55 11.8	-0.1
GALAA	Gareloi Lava P	0.78	44	P	Pb	15 55 14.6	+0.1
GAEA	Gareloi East	0.81	44	P	Pb	15 55 14.9	-0.1
GANE	Gareloi Northe	0.82	41	P	Pb	15 55 14.9	-0.3
GANE				S	Sb	15 55 25.5	-0.3
TASE	Tanaga Southea	1.19	57	P	Pn	15 55 20.7	-0.5
TANO	Tanaga North	1.19	53	P	Pn	15 55 20.9	-0.2
TAFP	Tanaga Falls P	1.25	56	P	Pn	15 55 21.4	-0.6
TAFP				S	Sn	15 55 38.1	-0.1
TAPA	Tanaga Point A	1.30	61	P	Pn	15 55 22.2	-0.5
KIKV	Kanaga Island	1.69	66	P	Pn	15 55 27.8	-0.2
KICM	Kanaga Island	1.69	64	P	Pn	15 55 28.2	+0.3
KINC	Kanaga Island	1.73	64	P	Pn	15 55 28.5	-0.1
KIRH	Kanaga Island	1.74	65	P	Pn	15 55 28.8	+0.2
ADK	Adak	1.97	69	P	Pn	15 55 31.2	-0.6
ADK				S	Sn	15 55 56.8	+0.9
ADAG	Mount Adagdak	2.05	67	P	Pn	15 55 32.5	-0.5
ETKA	Kagalaska Isla	2.13	71	P	Pn	15 55 34.6	+0.6
GSCK	Great Sitkin C	2.32	68	P	Pn	15 55 36.8	+0.2
GSTD	Great Sitkin T	2.34	67	P	Pn	15 55 37.5	+0.4
GSTD				S	Sn	15 56 07.0	+1.7
GSMY	Great Sitkin M	2.39	68	P	Pn	15 55 37.6	0.0
GSTR	Great Sitkin T	2.41	67	ePn	Pn	15 55 38.3	+0.4
FX1	Attu Island--F	4.74	294	P	Pn	15 56 09.8	-0.1
NIKH	Nikolski High	6.88	71	P	Pn	15 56 40.9	+1.6

*NSSC **10** 16:20:44.4±1.8, 38°.63N×39°.63E, h0km±38km, ML3.2*
*ISCJB **10** 16:20:47.9±0.5, 38°.47N±0°.02×39°.05E±0°.03, h10km±4km, Error ellipse: s-maj=4.4km s-min=4.1km az=34.4*
*ISK **10** 16:20:47.1, 38°.47N×39°.05E, h6km, MD3.5*
*DDA **10** 16:20:47.6, 38°.43N×39°.04E, h15km, MD3.5*
*CSEM **10** 16:20:48.0±0.2, 38°.46N×39°.02E, h10km, MD3.5, Error ellipse: s-maj=4.6km s-min=4.2km az=77.0*

ISC 10 16:20:47.9±0.8, 38°.45N±0°.02×39°.01E±0°.02, h14km±5km, n50, σ0s87/71, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELZG	Elazig	0.06	336	iP	Pg	16 20 51.0	0.0
ELZG				iS	Sg	16 20 53.1	+0.1
ELZG	Elazig	0.06	336	iP	Pg	16 20 51.0	0.0
ELZG				iS	Sg	16 20 53.1	+0.1
MALT	Malatya	0.48	254	ePG	Pg	16 20 57.5	0.0
MALT				eSG	Sb	16 21 05.1	0.0
MALT	Malatya	0.48	254	ePg	Pg	16 20 57.5	0.0
MALT				eSg	Sb	16 21 05.1	0.0
PTK	Pertek	0.54	34	ePG	Pg	16 20 57.4	-1.2
PTK	Pertek	0.54	34	ePg	Pg	16 20 57.4	-1.2
AKCD	Akcadag	0.87	260	iP	Pg	16 21 04.8	-0.1
AKCD				iS	Sg	16 21 16.4	+0.1
AKCD	Akcadag	0.87	260	iP	Pg	16 21 04.8	-0.1
AKCD				iS	Sg	16 21 16.4	+0.1
KEMA	Kemaliye	0.92	334	iP	Pg	16 21 05.5	-0.2
KEMA				iS	Sg	16 21 18.0	+0.2
KEMA	Kemaliye	0.92	334	iP	Pg	16 21 05.5	-0.2
KEMA				iS	Sg	16 21 18.0	+0.2
URFA	Urfa	1.01	189	ePG	Pg	16 21 07.4	-0.2
URFA	Urfa	1.01	189	ePg	Pg	16 21 07.4	-0.2
DIYA	Diyarbakir	1.02	121	iP	Pb	16 21 07.3	0.0
DIYA				iS	Sg	16 21 20.4	-0.5
DIYA	Diyarbakir	1.02	121	iP	Pb	16 21 07.3	0.0
DIYA				iS	Sg	16 21 20.4	-0.5
ILIC	ilic-Erzincan	1.06	341	ePG	Pb	16 21 07.7	-0.5
DIY	Diyarbakir	1.10	120	ePN	Pb	16 21 08.5	-0.3
DIY	Diyarbakir	1.10	120	ePn	Pb	16 21 08.5	-0.3
ATAB	Bozova	1.13	210	iP	Pg	16 21 10.1	+0.4
ATAB				iS	Sn	16 21 24.5	-0.1
ATAB	Bozova	1.13	210	iP	Pg	16 21 10.1	+0.4
ATAB				iS	Sn	16 21 24.5	-0.1
DARE	Darende-Malaty	1.21	276	ePN	Pn	16 21 10.2	-0.3
BINT	Bingol	1.23	69	ePn	Pg	16 21 13.7	+2.0
ERZN	Erzincan	1.27	26	ePN	Pn	16 21 10.9	-0.4
EZC	Erzincan	1.33	11	ePN	Pn	16 21 12.4	+0.2
EZC	Erzincan	1.33	11	ePn	Pn	16 21 10.9	-1.3
BNGB	Bing¶ll	1.41	67	ePN	Pn	16 21 13.7	+0.4
MAZI	Mazidag	1.50	131	ePN	Pn	16 21 14.8	+0.3
MAZI	Mazidag	1.50	131	ePn	Pn	16 21 14.8	+0.3
BEST	Besiri	1.86	107	iP	Pn	16 21 19.8	+0.3
BEST				iS	Sn	16 21 42.9	+0.1
GUMT	Gumushane	2.04	10	ePN	Pn	16 21 22.8	+0.8
GUMT	Gumushane	2.04	10	ePn	Pn	16 21 22.8	+0.8
SFNV	Sufian	2.21	156	eP	Pn	16 21 23.8	-0.4
SFNV				eS	Sn	16 21 51.1	-0.1
SFNV				AML	AML	16 22 09.9	
	comp=Z,617nm,0.6s						
SFNV	Sufian	2.21	156	eP	Pn	16 21 23.8	-0.4
	SNR=45						
SFNV				eS	Sn	16 21 51.1	-0.1
	comp=Z,617nm,0.6s,SNR=40						
EZM	Erzurum	2.34	51	ePN	Pn	16 21 26.7	+0.6
RSDY	Resadiye-TOKAT	2.34	327	ePN	Pn	16 21 27.1	+1.1
RSDY	Resadiye-TOKAT	2.34	327	ePn	Pn	16 21 27.1	+1.1
ESPY	Espiye-Giresun	2.48	355	ePN	Pn	16 21 28.9	+1.1
ESPY	Espiye-Giresun	2.48	355	ePn	Pn	16 21 28.9	+1.1
MNKR	ALMNKUR	2.51	175	eP	Pn	16 21 29.1	+0.8
MNKR				eS	Sb	16 22 02.1	-1.3
MNKR				AML	AML	16 22 08.0	
	comp=Z,248nm,0.3s						
MNKR	ALMNKUR	2.51	175	eP	Pn	16 21 29.1	+0.8
	SNR=45						
MNKR				eS	Sb	16 22 02.1	-1.3
	comp=Z,248nm,0.3s,SNR=40						
DRWC	Darouich	2.61	226	eP	Pb	16 21 35.5	+1.0
DRWC				eS	Sg	16 22 12.0	+0.2
DRWC				AML	AML	16 22 19.7	
	comp=E,90nm,0.6s						
DRWC				AML	AML	16 22 22.6	
	comp=N,180nm,0.5s						
DRWC	Darouich	2.61	226	eP	Pb	16 21 35.5	+1.0
	SNR=45						
JHLN	Al Jahlan	2.81	190	eP	Pn	16 21 33.4	+1.0
JHLN				eS	Sb	16 22 10.7	-1.3
JHLN				AML	AML	16 22 29.5	
	comp=Z,74nm,0.4s						
JHLN	Al Jahlan	2.81	190	eP	Pn	16 21 33.4	+1.0
	SNR=45						
JHLN				eS	Sb	16 22 10.7	-1.3
	comp=Z,74nm,0.4s,SNR=40						
SIRT	Sirnak	2.87	108	ePN	Pn	16 21 34.5	+1.2
SIRT	Sirnak	2.87	108	ePn	Pn	16 21 34.5	+1.2
BTCH	Batrach	3.15	221	eP	Pb	16 21 41.6	-2.1
BTCH				eS	Sb	16 22 23.4	+1.4
BTCH				AML	AML	16 22 33.0	
	comp=E,115nm,0.4s						
BTCH				AML	AML	16 22 36.4	
	comp=N,257nm,0.4s						
BTCH	Batrach	3.15	221	eP	Pb	16 21 41.6	-2.1
	SNR=45						
AGRB	Hanur-Agry	3.30	69	ePN	Pn	16 21 40.5	+1.2
CUKT	Cukurca	3.83	107	ePN	Pn	16 21 48.1	+1.6
CUKT	Cukurca	3.83	107	ePn	Pn	16 21 48.1	+1.6

*ISCJB **10** 16:27:31.1±0.3, 3°.27N±0°.03×125°.77E±0°.04, h150km, mb4.0/23, Error ellipse: s-maj=6.2km s-min=4.3km az=160.8*
*IDC **10** 16:27:31.1±2.0, 3°.21N×125°.44E, h132km±17km, mb3.8/22, mb1 3.9/22, mb1mx3.8/29, mbtmp3.8/22, Error ellipse: s-maj=22.7km s-min=9.4km az=71.0*
*DJA **10** 16:27:39.2±0.5, 3°.N±5°.×12°.6E±°, h98km±22km, M4.7/12, mb5.0/7, mB5.2/6, MLv4.7/12, Mw(mB)4.5/6*
*AUST **10** 16:27:42.6, 2°.50N×126°.00E, h200km*

ISC 10 16:27:32.6±0.5, 3°.24N±0°.06×125°.62E±0°.09, h150km, n63, σ1s60/53, mb4.0/20, 1C-1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	0.46	348	P	Sn	16 28 02.0	-7.9
GSPH	General Santos	2.91	347	↑iP	Pn	16 28 17.0	-2.0
GSPH				iS	Sn	16 28 50.5	-4.4
TNTI	Ternate	3.01	145	P	Pn	16 28 16.8	-3.3
TNTI				S	Sn	16 28 45.7	-11
GTOI	Gorontalo	3.67	225	P	Pn	16 28 29.1	+0.5
MATI	Mati	3.74	10	eP	Pn	16 28 32.8	+3.3
MATI				eS	Sn	16 28 59.9	-14
CTBH	Cotabato--PC H	4.19	341	↓eP	Pn	16 28 34.4	-1.0
LBMI	Labuha	4.28	154	P	Pn	16 28 33.6	-3.0
LBMI				S	Sn	16 29 16.4	-10
MRSI	Marisa	4.59	233	P	Pn	16 28 42.2	+1.6
BUKP	Musuan	4.64	353	eP	Pn	16 28 40.6	-0.8
PAGZ	Pagadian	5.09	334	eP	Pn	16 28 47

BBOO	Buckleboo	37.19	165	P	P	16 34 30.3	+1.0
	baz=37,SNR=7.0						
EIDS	Eidsvold	37.66	140	P	P	16 34 34.1	+0.7
	baz=37,SNR=4.2						
STKA	Stephens Creek	38.08	158	P	P	16 34 37.5	+0.7
	4.3nm,0.4s,baz=341,slow=7.4,SNR=35						
STKA	Stephens Creek	38.08	158	P	P	16 34 38.3	+1.4
	baz=37,SNR=22						
USRK	Ussuriysk Arra	41.18	7	P	P	16 35 02.9	+0.6
	1.7nm,0.6s,baz=169,slow=3.9,SNR=5.4						
ARMA	Armidale	41.68	145	P	P	16 35 09.0	+2.3
	baz=41,SNR=4.5						
ASAJ	Asahikawa	43.39	18	P	P	16 35 21.4	+1.3
	10nm,0.9s,baz=220,slow=7.9,SNR=6.5						
SONM	Songino Array	47.42	342	P	P	16 35 52.4	+0.4
	1.1nm,0.6s,baz=157,slow=9.2,SNR=8.0						
SONM				PcP	PcP	16 37 21.5	+1.4
	1.0nm,0.9s,baz=170,slow=2.8,SNR=3.7						
MKAR	Makanchi Array	57.33	326	P	P	16 37 04.8	-0.2
	0.9nm,0.4s,baz=127,slow=8.1,SNR=7.3						
MKAR				PcP	PcP	16 37 58.2	+0.8
	5.2nm,0.6s,baz=119,slow=4.2,SNR=22						
MKAR				ScP	ScP	16 41 45.1	+1.9
	0.3nm,0.6s,baz=92,slow=4.3,SNR=3.0						
ZALV	Zalesovo Beam	60.53	334	P	P	16 37 25.8	-1.0
	0.4nm,0.3s,baz=150,slow=6.0,SNR=3.1						
ZALV				PcP	PcP	16 38 08.0	-1.9
	0.5nm,0.4s,baz=105,slow=3.9,SNR=3.7						
BVAR	Borovoye Array	67.13	327	P	P	16 38 09.7	-0.4
	0.5nm,0.3s,baz=122,slow=7.5,SNR=7.2						
BVAR				PcP	PcP	16 38 36.7	-0.4
	0.7nm,0.6s,baz=121,slow=5.7,SNR=4.9						
AKTO	Aktyubinsk	73.36	322	P	P	16 38 47.0	-1.1
	0.9nm,0.3s,baz=93,slow=6.4,SNR=5.2						
ILAR	Eielson Array	86.02	25	P	P	16 39 56.8	+0.9
	0.3nm,0.5s,baz=251,slow=5.8,SNR=4.6						
BRTR	Keskin Array B	89.48	310	P	P	16 40 13.2	+0.1
	0.7nm,0.8s,baz=74,slow=9.2,SNR=3.9						
ARCES	ARCESS Array B	90.53	340	P	P	16 40 17.2	0.0
	4.7nm,1.0s,baz=92,slow=6.1,SNR=9.9						
FINES	FINESS Array B	91.74	332	P	P	16 40 22.3	-0.6
	1.1nm,0.7s,baz=58,slow=4.7,SNR=6.6						
BBB	Bella Bella	97.35	37	P	Pdif	16 40 50.2	+1.3
	7.1nm,0.8s,baz=333,slow=4.5,SNR=2.9						
HFS	Hagfors	97.93	332	P	Pdif	16 40 50.8	-0.6
	0.7nm,0.4s,baz=123,slow=5.5,SNR=5.8						
NOA	NORSAR Array B	98.73	333	P	Pdif	16 40 53.9	-1.0
	1.1nm,0.8s,baz=70,slow=4.6,SNR=3.1						
TORD	Torodi Ar. Bea	122.02	288	PKP	PKPdf	16 46 10.6	+0.2
	0.6nm,0.7s,baz=68,slow=1.6,SNR=2.9						
TXAR	Lajitas Array	122.77	52	PKP	PKPdf	16 46 13.0	+1.4
	0.2nm,0.6s,baz=328,slow=3.2,SNR=4.3						

*TIR **10** 16:32:57.8, 41°.43N×20°.45E, h6km, ML2.4*
*SKO **10** 16:32:58.1, 41°.49N×20°.45E, h11km, M1.7, ML2.0*
*CSEM **10** 16:32:59.1±0.4, 41°.48N×20°.50E, h2km, ML1.9, Error ellipse: s-maj=10.9km s-min=4.4km az=43.0*

ISC 10 16:32:58.9±1.3, 41°.47N±0°.05×20°.46E±0°.05, h13km±8km, n12, σ0°67/24, Albania

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PHP	Peshkopia	0.22	355	ePG	Pg	Pg	16 33 03.6	-0.2
PHP				eSG	Sg	Sg	16 33 06.7	-0.3
PHP	Peshkopia	0.22	355	iPG	Pg	Pg	16 33 03.5	-0.2
PHP				iSG	Sg	Sg	16 33 07.6	+0.6
PHP	Peshkopia	0.22	355	iPg	Pg	Pg	16 33 03.5	-0.2
	SNR=9.0							
PHP				iSg		Sg	16 33 07.6	+0.6
	SNR=9.0							
PUK	Puka	0.71	323	ePG		Pb	16 33 12.5	-0.9
PUK				eSG		Sb	16 33 24.1	+0.9
PUK	Puka	0.71	323	iPG		Pb	16 33 12.4	-0.9
PUK				iSG		Sb	16 33 24.0	+0.9
PUK	Puka	0.71	323	iPg		Pb	16 33 12.4	-0.9
	SNR=9.0							
PUK				iSg		Sb	16 33 24.0	+0.9
	SNR=9.0							
BIA	Bitola	0.79	124	iPg		Pb	16 33 14.4	-0.1
BIA				iSg		Sb	16 33 25.5	+0.3
BIA	Bitola	0.79	124	iPg		Pg	16 33 13.9	-0.3
BIA				iSg		Sg	16 33 24.9	+0.3
SKO	Skopje	0.89	55	iPg		Pb	16 33 16.0	-0.2
SKO				iSn		Sn	16 33 30.7	+0.9
SKO				iLg		Lg	16 33 32.0	
	comp=E,29nm,0.3s							
SKO				iLg		Lg	16 33 32.1	
	comp=N,46nm,0.3s							
SKO	Skopje	0.89	55	iPg		Pg	16 33 14.9	-1.2
SKO				iSn		Sn	16 33 29.7	-0.2
SKO				iLg		Lg	16 33 31.1	
	comp=N,46nm,0.3s							
VAY	Valandovo	1.59	95	ePn		Pg	16 33 29.0	-0.5
VAY				eSn		Sg	16 33 50.3	+0.1
VAY				iLg		Lg	16 33 51.6	
	comp=E,12nm,0.7s							
VAY				iLg		Lg	16 33 51.7	
	comp=N,12nm,0.4s							
VAY	Valandovo	1.59	95	ePn		Pb	16 33 28.4	+0.2
VAY				eSn		Sg	16 33 49.7	-0.4
VAY				iLg		Lg	16 33 51.2	
	comp=N,12nm,0.4s							

*ISCJB **10** 16:41:54.3±0.7, 5°.56S±0°.05×131°.04E±0°.07, h153km±12km, Error ellipse: s-maj=11.8km s-min=8.2km az=169.9*
*AUST **10** 16:41:54.4±0.0, 5°.54S×131°.02E, h169km, Error ellipse: s-maj=1.4km s-min=0.9km az=263.0*
*DJA **10** 16:41:57.1±0.7, 6°.5±5°.×13°.1E±°, h122km±9km, M4.1/4, mb4.7/1, mB4.9/1, MLv3.8/4, Mw(mB)4.2/1*

ISC 10 16:41:54.4±1.1, 5°.61S±0°.06×131°.00E±0°.06, h156km±14km, n13, σ1°90/20, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BNDI	Bandanaira	1.53	315	P		Pn	16 42 25.8	+1.1
BNDI				S		Sn	16 42 47.2	-0.8
BNDI	Bandanaira	1.53	315	P		Pn	16 42 26.3	+1.6
	baz=1.5,SNR=19							
BNDI				S		Sn	16 42 47.6	-0.4
	baz=1.5,SNR=6.3							
TLE	Tual	1.73	91	P		Pn	16 42 28.3	+1.5
TLE				S		Sn	16 42 50.8	-0.9
TLE	Tual	1.73	91	P		Pn	16 42 28.4	+1.6
	baz=1.7,SNR=40							
TLE				S		Sn	16 42 50.9	-0.8
	baz=1.7,SNR=5.8							
FAKI	Fak Fak	2.94	25	P		Pn	16 42 42.3	+1.0
FAKI	Fak Fak	2.94	25	P		Pn	16 42 42.4	+1.1
	baz=2.9,SNR=82							
FAKI				S		Sn	16 43 15.4	-2.3
	baz=2.9,SNR=22							
SWI	Sorong	4.72	3	P		Pn	16 43 05.2	+1.0
SWI	Sorong	4.72	3	P		Pn	16 43 06.0	+1.8
	baz=4.7,SNR=25							
SWI				S		Sn	16 43 56.2	-2.5
	baz=4.7,SNR=11							
KDU	Kakadu	7.19	168	P		Pn	16 43 38.3	+1.4
	baz=7.3,SNR=71							
KDU				S		Sn	16 44 56.4	-1.2
	baz=7.3,SNR=5.6							
MTN	Manton Dam	7.19	179	P		Pn	16 43 39.3	+2.2
	baz=7.3,SNR=96							
SOEI	Soe	7.84	238	S		Sn	16 44 53.5	-20
	baz=7.9,SNR=5.7							
KNRA	Kununurra	10.25	192	P		Pn	16 44 19.4	+1.8
	baz=10,SNR=42							
KNRA				S		Sn	16 46 07.0	-4.2
	baz=10,SNR=5.1							
FITZ	Fitzroy Crossi	13.48	202	P		Pn	16 45 00.2	+0.7
	baz=14,SNR=25							

*ISCJB **10** 17:00:00.6±0.7, 41°.41N±0°.04×20°.40E±0°.04, h2km±10km, Error ellipse: s-maj=6.8km s-min=5.4km az=11.8*
*CSEM **10** 17:00:00.8±0.3, 41°.41N×20°.38E, h2km, ML1.9, Error ellipse: s-maj=7.4km s-min=5.1km az=22.0*
*TIR **10** 17:00:00.2±0.8, 41°.42N×20°.43E, h25km±42km, ML2.8*
*SKO **10** 17:00:00.9, 41°.33N×20°.41E, h10km, M1.6, ML2.0*

ISC 10 17:00:00.8±1.0, 41°.43N±0°.04×20°.40E±0°.03, h9km±11km, n13, σ0°68/25, Albania

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PHP	Peshkopia	0.26	6	ePG		Pg	17 00 05.5	-0.7
PHP				eSG		Sg	17 00 09.7	0.0
TIR	Tirane	0.41	259	ePG		Pg	17 00 08.6	-0.3
TIR				eSG		Sg	17 00 14.7	+0.4
TIR	Tirane	0.41	259	iPG		Pg	17 00 08.6	-0.3
TIR				iSG		Sg	17 00 14.7	+0.4
TIR	Tirane	0.41	259	iPg		Pg	17 00 08.6	-0.3
PUK	Puka	0.73	328	ePG		Pg	17 00 14.0	-0.8
PUK				eSG		Sg	17 00 25.6	+1.3
PUK	Puka	0.73	328	iPG		Pg	17 00 14.0	-0.8
PUK				iSG		Sg	17 00 25.6	+1.3
PUK	Puka	0.73	328	iPg		Pg	17 00 14.0	-0.8
PUK				iSg		Sg	17 00 25.6	+1.3
BIA	Bitola	0.81	120	iPg		Pg	17 00 16.2	-0.1
BIA				iSg		Sb	17 00 27.5	-0.5
BIA				iLg		Lg	17 00 28.4	
	comp=N,18nm,0.3s							
BIA				iLg		Lg	17 00 28.9	
	comp=E,16nm,0.2s							
BIA	Bitola	0.81	120	iPg		Pg	17 00 15.7	-0.6
BIA				iSg		Sg	17 00 26.9	+0.1
BIA				iLg		Lg	17 00 28.3	
	comp=E,16nm,0.2s							
SKO	Skopje	0.95	55	iPg		Pn	17 00 20.4	+0.1
SKO				iSg		Sn	17 00 33.7	-0.3
SKO				iLg		Lg	17 00 34.9	
	comp=E,21nm,0.3s							
SKO				iLg		Lg	17 00 37.3	
	comp=N,65nm,0.5s							
SKO	Skopje	0.95	55	iPg		Pb	17 00 19.4	0.0
SKO				iSg		Sb	17 00 32.6	+0.5
SKO				iLg		Lg	17 00 36.2	
	comp=N,65nm,0.5s							
VAY	Valandovo	1.64	93	ePn		Pg	17 00 32.6	+0.5
VAY				eSn		Sb	17 00 51.8	0.0
VAY				iLg		Lg	17 00 52.8	
	comp=E,18nm,1.2s							
VAY				iLg		Lg	17 00 53.6	
	comp=N,13nm,0.6s							
VAY	Valandovo	1.64	93	ePn		Pg	17 00 32.1	-0.1
VAY				eSn		Sb	17 00 51.2	-0.6
VAY				iLg		Lg	17 00 53.1	
	comp=N,13nm,0.6s							

IDC 10 17:10:52.1±523.0, 30°.79N×132°.23E, h0km, Error ellipse: s-maj=170.5km s-min=80.7km az=34.0, Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
I30JP	ISUMI INFRASON	8.14	54	i			17 56 50.0	
	baz=238,slow=320,SNR=1.3							
I45RU	USSURIYSK INFR	13.38	359	i			18 33 59.0	
	baz=179,slow=322,SNR=0.8							
I44RU	PETROPAVLOVSK	28.98	32	i			20 04 30.0	
	baz=231,slow=327,SNR=0.9							

*IDC **10** 17:24:18.8±2.3, 6°.26N×126°.49E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/24, mbtmp3.5/4, Error ellipse: s-maj=134.3km s-min=27.9km az=68.0*
*ISCJB **10** 17:24:28.0±1.0, 6°.03N±0°.08×126°.70E±0°.10, h71km, mb3.3/4, Error ellipse: s-maj=16.0km s-min=8.0km az=145.7*
*MAN **10** 17:24:31, 6°.45N×126°.41E, h135km, mb4.5, ML3.3, MS3.2*

ISC 10 17:24:28.7±1.3, 6°.08N±0°.09×126°.6E±0°.1, h71km, n9, σ1°93/11, mb3.3/4, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MATI	Mati	0.94	336	eP		Pn	17 24 52.6	+6.1
MATI				eS		Sn	17 25 01.7	+2.0
DMPH	Davao City--Mi	1.50	312	eP		Pn	17 24 56.4	+2.7
DMPH				eS		Sn	17 25 11.8	-0.8
GSPH	General Santos	1.68	270	iP		Pn	17 24 58.1	+1.9
GSPH				eS		Sn	17 25 17.9	+1.0
BUKP	Musuan	2.37	319	eP		Pn	17 25 06.5	+1.1
BUKP				eS		Sn	17 25 23.1	-11
CTBH	Cotabato--PC H	2.63	296	iP		Pn	17 25 06.6	-2.3
FITZ	Fitzroy Crossi	24.05	182	P		P	17 29 37.4	0.0
	2.1nm,0.8s,baz=8.7,slow=8.4,SNR=6.3							
WRA	Warramunga Arr	26.95	164	P		P	17 30 04.1	+0.4
	0.2nm,0.3s,baz=346,slow=10,SNR=7.4							
ASAR	Alice Springs	30.40	167	P		P	17 30 34.8	+0.4
	0.3nm,0.3s,baz=341,slow=7.3,SNR=16							
MKAR	Makanchi Array	55.59	324	P		P	17 33 54.6	-2.5
	0.1nm,0.4s,baz=132,slow=7.4,SNR=2.7							

IDC 10 17:27:05.9±0.8, 28°.91N×140°.20E, h445km±11km, mb2.7/6, mb1 2.8/7, mb1mx2.7/22, mbtmp2.7/7, Error ellipse: s-maj=27.8km s-min=14.9km az=78.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	2.52	135	P		P	17 28 10.6	+1.4
	22nm,0.3s,baz=315,slow=19,SNR=11							
CBIJ				S		S	17 29 00.6	0.0
	29nm,0.3s,baz=307,slow=20,SNR=8.8							
SONM	Songino Array	32.19	315	P		P	17 32 54.9	-0.6
	0.5nm,0.5s,baz=128,slow=7.7,SNR=5.5							
ZALV	Zalesovo Beam	46.97	318	P		P	17 34 55.0	+0.1
	0.4nm,0.5s,baz=79,slow=7.5,SNR=1.6							
MKAR	Makanchi Array	47.97	308	P		P	17 35 02.5	-0.1
	0.4nm,0.5s,baz=82,slow=10,SNR=6.8							
WRA	Warramunga Arr	48.90	187	P		P	17 35 09.4	-0.4
	0.3nm,0.3s,baz=14,slow=7.5,SNR=7.0							
ASAR	Alice Springs	52.62	187	P		P	17 35 37.1	0.0
	0.1nm,0.3s,baz=1.0,slow=5.7,SNR=9.4							
ILAR	Eielson Array	56.98	29	P		P	17 36 07.1	-0.1
	0.3nm,0.6s,baz=246,slow=6.5,SNR=3.3							

CASC 10 17:33:14.3±1.5, 8°.34N×82°.83W, h14km±9km, MD3.7, 1D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ACR	Cerro Adams	0.46	313	eP		Pg	17 33 22.3	-1.2
ACR				eS		Sb	17 33 31.2	+0.2
BRU2	Volcan	0.47	17	iP		Pb	17 33 24.3	-0.3
BRU2				eS		Sb	17 33 31.4	-0.2
BRU	Baru	0.53	30	eP		Pg	17 33 25.6	+0.2
CTCR	Cotoan	0.56	7	eP		Pg	17 33 25.6	+0.1
CTCR				eS		Sg	17 33 33.0	-0.1
CNI	Changuinola	1.11	16	eP		Pb	17 33 34.6	-0.7
CNI				eS		Sb	17 33 48.7	-1.0
BUS	Buena Vista	1.52	323	eP		Pn	17 33 40.5	-1.2
BUS				eS		Sb	17 34 02.2	-0.2
URSC	Urasca	1.76	328	eP		Pn	17 33 44.3	-0.3
URSC				eS		Sb	17 34 08.7	0.0

CASC 10 17:33:39.1±2.6, 13°.47N×90°.78W, h19km±11km, MD3.5, ML3.9, 5C-3D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
IXG	Ixpaco	0.77	25	eP		Pg	17 33 54.4	0.0
IXG				eS		Sg	17 34 04.9	+0.1
PCG	Pacaya	0.93	11	eP		Pb	17 33 56.7	-0.3
PCG				eS		Sb	17 34 08.8	-0.4
FUG	Fuego 3	0.97	357	eP		Pb	17 33 56.9	-0.7
JAT	Jato	1.18	315	eP		Pn	17 34 00.3	-0.4
RTR	El Retiro	1.18	69	iP		Pn	17 33 59.9	-1.0
SBLS	San Blas	1.19	72	iP		Pn	17 33 59.6	-1.4
SBLS				eS		Sb	17 34 15.9	-0.6
NBG	Las Nubes	1.19	21	eP		Pn	17 34 01.2	+0.1
SNJE	San Jose	1.21	71	iP		Pn	17 34 00.1	-1.2
BOQS	Boqueron	1.48	80	iP		Pn	17 34 04.5	-0.7
BOQS				eS		Sb	17 34 25.0	-0.1
SNET	Serv Nac Est T	1.52	82	iP		Pn	17 34 04.9	-0.6
SNET				eS		Sn	17 34 24.3	-0.6
SNET				AML		AML	17 34 26.4	
	comp=Z,2μm,0.3s							
LFRS	El Faro	1.68	85	iP		Pn	17 34 07.2	-0.5
LFRS				eS		Sn	17 34 29.2	+0.4
LBRS	Las Brisas	1.71	81	iP		Pn	17 34 07.9	-0.2
MRL	Marmol	1.91	34	eP		Pn	17 34 11.4	+0.6
VSM	San Miguel	2.44	91	eP		Pn	17 34 18.6	+0.3
BLLM	Bellamira	2.48	90	eP		Pn	17 34 18.6	0.0
BLLM				eS		Sb	17 34 51.0	-2.4
CNCH	Conchagua	2.88	94	eP		Pn	17 34 24.3	+0.1
CNCH				eS		Sb	17 35 01.7	-3.3

TIR 10 17:41:19.3±1.3, 41°.59N×20°.50E, h26km±104km, ML2.4, Albania

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PHP	Peshkopia	0.11	335	ePG		Pb	17 41 23.2	-1.1
PHP				eSG		Sb	17 41 26.4	-1.1
PHP	Peshkopia	0.11	335	iPG		Pb	17 41 23.1	-1.1
PHP				iSG		Sb	17 41 26.4	-1.1
TIR	Tirane	0.53	244	ePG		Pb	17 41 28.3	-1.8
TIR				eSG		Sb	17 41 37.2	-0.3
TIR	Tirane	0.53	244	iPG		Pb	17 41 28.2	-1.9
TIR				iSG		Sb	17 41 37.2	-0.3
PUK	Puka	0.64	315	ePG		Pb	17 41 31.0	-1.1
PUK	Puka	0.64	315	iPG		Pb	17 41 30.9	-1.2

IDC 10 17:52:31.0±1.8, 7°.41S×129°.52E, h0km, mb3.3/2, mb1 3.3/5, mb1mx3.2/20, mbtmp3.2/5, ML3.0/3, Error ellipse: s-maj=76.4km s-min=26.4km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.28	199	Pn		Pn	17 55 12.7	-0.9
	0.1nm,0.3s,baz=15,slow=13,SNR=15							
FITZ				Sn		Sn	17 57 03.5	-17
	0.5nm,0.3s,baz=91,slow=13,SNR=8.0							
WRA	Warramunga Arr	13.31	160	Pn		Pn	17 55 42.3	+1.0
	0.2nm,0.3s,baz=340,slow=14,SNR=12							
WRA				Sn		Sn	17 58 00.2	-10
	0.5nm,0.3s,baz=333,slow=22,SNR=12							
ASAR	Alice Springs	16.70	166	Pn		Pn	17 56 26.6	-0.1
	0.0nm,0.3s,baz=340,slow=9.3,SNR=2.8							
ASAR				Sn		Sn	17 59 23.1	-10
	0.1nm,0.3s,baz=327,slow=17,SNR=5.9							
MKAR	Makanchi Array	68.31	327	P		P	18 03 34.1	0.0
	0.1nm,0.4s,baz=132,slow=6.0,SNR=4.5							
KURBB	Kurchatov Arra	72.61	329	P		P	18 04 00.2	+0.1
	0.2nm,0.5s,baz=137,slow=4.9,SNR=4.1							

*ISCJB **10** 18:00:43.6±0.5, 59°.69N±0°.03×24°.52E±0°.07, h0km, Error ellipse: s-maj=5.4km s-min=4.7km az=160.3*
*CSEM **10** 18:00:45.5±0.2, 59°.67N×24°.63E, h2km, ML2.6, Error ellipse: s-maj=4.8km s-min=3.8km az=121.0, Mining explosion.*
*NAO **10** 18:00:46.6±1.0, 59°.68N×24°.66E, ML2.6*
*HEL **10** 18:00:46.8±0.1, 59°.67N×24°.62E, h0km, ML2.6, Explosion*
*BER **10** 18:00:46.9±4.0, 59°.68N×24°.67E, h0km±18km, ML2.6(NAO)*
*IDC **10** 18:00:48.5±0.9, 59°.80N×24°.53E, h0km, mb1 3.4/5, mb1mx3.2/26, mbtmp3.4/5, ML3.8/5, Error ellipse: s-maj=10.4km s-min=6.3km az=135.0*

ISC 10 18:00:45.2±0.7, 59°.67N±0°.03×24°.59E±0°.04, h0km, n40, σ1°06/51, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MEF	Metsahovi	0.56	350	eP		Pg	18 00 56.8	+0.8
MEF	Metsahovi	0.56	350	P		Pg	18 00 56.8	+0.8
MTSE	Matsula	1.03	203	eP		Pg	18 01 05.5	+0.5
MTSE				eS		Sg	18 01 17.8	-0.5
MTSE	Matsula	1.03	203	P		Pg	18 01 05.4	+0.5
MTSE				S		Sg	18 01 17.8	-0.5
PVF	Pernaja	1.09	35	eP		Pg	18 01 05.9	-0.1
PVF	Pernaja	1.09	35	P		Pg	18 01 05.9	-0.1
VSU	Vasula	1.64	137	Pg		Pn	18 01 16.0	+0.8
VSU				Lg		Lg	18 01 36.7	
VSU	Vasula	1.64	137	Pg		Pn	18 01 16.0	+0.8
VSU				Lg		Lg	18 01 36.7	
VSU	Vasula	1.64	137	eP		Pn	18 01 16.0	+0.8
VSU				eS		Sn	18 01 36.8	-0.1
VSU	Vasula	1.64	137	P		Pn	18 01 16.0	+0.8
VSU				Lg		Lg	18 01 36.7	
VJF	Virojoki	1.72	58	eP		Pn	18 01 16.9	+0.5
VJF	Virojoki	1.72	58	P		Pn	18 01 16.9	+0.5
FIA0	FINESS Array S	1.93	22	Pg		Pb	18 01 20.9	-0.2
	baz=190,slow=18							
FIA0				Lg		Lg	18 01 46.1	
	baz=206,slow=37							
FIA0	FINESS Array S	1.93	22	Pg		Pb	18 01 20.9	-0.2
	baz=190,slow=18							
FIA0				Lg		Lg	18 01 46.1	
	baz=206,slow=37							
FIA0	FINESS Array S	1.93	22	eP		Pb	18 01 20.9	-0.2
FIA0				MSG			18 01 50.0	
	comp=Z,46nm,0.2s							
FIA0	FINESS Array S	1.93	22	Pg		Pb	18 01 21.0	-0.2
	baz=190,slow=18,SNR=90							
FIA0				Lg		Lg	18 01 46.2	
	baz=206,slow=28,SNR=5.4							
FINES	FINESS Array B	1.93	22	Pn		Pb	18 01 21.1	0.0
	comp=Z,20nm,0.3s,baz=205,slow=16,SNR=594							
FINES				Lg		Lg	18 01 45.6	
	comp=Z,22nm,0.3s,baz=207,slow=27,SNR=20							
RAF	Rauma	1.96	315	eP		Pb	18 01 21.7	+0.1
RAF				MSG			18 01 54.3	
	comp=Z,40nm,0.3s							
RAF	Rauma	1.96	315	P		Pb	18 01 21.7	+0.1
AAL	Aland	2.37	285	eP		Pn	18 01 27.0	+1.7
AAL	Aland	2.37	285	P		Pn	18 01 26.9	+1.7
HFS	Hagfors	5.51	280	Pn		Pn	18 02 09.4	+1.1
	baz=97,slow=12							
HFS				Sn		Sn	18 03 12.8	+0.5
	baz=83,slow=28							
HFS				Lg		Lg	18 03 34.9	
	baz=82,slow=28							
HFS	Hagfors	5.51	280	Pn		Pn	18 02 09.4	+1.1
	baz=97,slow=12							
HFS				Sn		Sn	18 03 12.8	+0.5
	baz=83,slow=28							
HFS				Lg		Lg	18 03 34.9	
	baz=82,slow=28							
HFS	Hagfors	5.51	280	Pn		Pn	18 02 09.4	+1.1
	comp=Z,1.1nm,0.3s,baz=90,slow=13,SNR=33							
HFS				Sn		Sn	18 03 11.4	-0.9
	comp=Z,1.8nm,0.3s,baz=91,slow=27,SNR=9.4							
HFS				Lg		Lg	18 03 34.3	
	comp=Z,2.6nm,0.3s,baz=90,slow=30,SNR=6.8							
HFS	Hagfors	5.51	280	Pn		Pn	18 02 09.4	+1.1
	baz=97,slow=12,SNR=50							
HFS				Sn		Sn	18 03 12.8	+0.5
	baz=83,slow=24,SNR=50							
HFS				Lg		Lg	18 03 34.9	
	baz=82,slow=28,SNR=7.4							
NB2	NORSAR Subarra	6.78	287	Pn		Pn	18 02 25.8	0.0
	baz=99,slow=14							
NB2				Sn		Sn	18 03 42.3	-1.4
	baz=94,slow=28							

comp=Z,2.1nm,0.3s,baz=340,slow=12,SNR=6.8
ARA0 ARCESS Array S 9.92 2 Pn Pn 18 03 08.0 -0.8
baz=175,slow=16
ARA0 ARCESS Array S 9.92 2 Pn Pn 18 03 08.0 -0.8
baz=175,slow=16
ARA0 ARCESS Array S 9.92 2 Pn Pn 18 03 08.0 -0.8
baz=175,slow=15,SNR=50
ARCES ARCESS Array B 9.92 2 Pn Pn 18 03 08.1 -0.7
comp=Z,1.2nm,0.3s,baz=184,slow=13,SNR=63
ARCES Sn Sn 18 04 54.6 -6.1
comp=Z,0.3nm,0.3s,baz=180,slow=21,SNR=3.2
EKA Eskdalemuir Ar 15.47 266 Pn Pn 18 04 26.4 +2.0
baz=63,slow=11,SNR=3.4

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*JMA **10** 18:04:56.3±0.2,29°.99N×131°.31E,h31km±2km,M3.4*
*IDC **10** 18:05:01.0±3.0,30°.15N×130°.97E,h51km±28km,mb3.3/10, mb1 3.5/13,mb1mx3.4/28,mbtmp3.3/13,ML2.7/3,MS3.3/5, Ms1 3.3/5,ms1mx3.0/19,Error ellipse: s-maj=32.3km s-min=17.6km az=72.0*
ISC 10 18:04:57.5±1.7,30°.05N±0°.05×131°.18E±0°.08,h26km±12km, n28,σ0°95/32,mb3.5/10,MS3.5/3,Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**0.63**	**344**	P	**Pb**	**18 05 09.9**	**0.0**
JTN				*e*S	**Sn**	18 05 20.2	+0.2
JKC	**Kuchinoerabu**	**0.95**	**296**	P	**Pn**	18 05 15.8	+0.7
JKC				*e*S	**Sn**	18 05 30.1	+2.3
JTSR	**Tashiro 2**	**1.14**	**349**	P	**Pn**	18 05 17.6	-0.2
JTSR				*e*S	**Sb**	18 05 32.9	0.0
JNN	**Nakanoshima**	**1.15**	**260**	P	**Pn**	18 05 18.3	+0.4
JNAR	**Kushima--Naru**	**1.48**	**3**	P	**Pn**	18 05 22.5	+0.1
JSU	**Suzuyama**	**1.58**	**337**	P	**Pn**	18 05 23.9	0.0
JSU				*e*S	**Sb**	18 05 44.8	-0.9
JTZ	**Takazaki**	**1.85**	**358**	P	**Pn**	18 05 27.9	+0.4
JZK	**Kikaishima**	**2.02**	**212**	P	**Pn**	18 05 29.8	-0.1
JZK				*e*S	**Sn**	18 05 52.8	-1.6
JSJ	**Shimokoshiki**	**2.06**	**323**	P	**Pn**	18 05 30.0	-0.4
JSJ				*e*S	**Sn**	18 05 56.2	+1.0
JAM	**Amami Oshima**	**2.13**	**221**	P	**Pn**	18 05 32.0	+0.6
JAM				*e*S	**Sn**	18 05 57.5	+0.4
JZO	**Okuchi**	**2.15**	**347**	P	**Pn**	18 05 32.3	+0.7
JNU	**Nakatsue**	**3.08**	**355**	P	**Pn**	18 05 45.3	+0.9
	3.0nm,0.3s,baz=116,slow=8.8,SNR=31						
JNU				S	**Sn**	18 06 20.8	+0.4
	1.8nm,0.3s,baz=208,slow=19,SNR=5.5						
KSRS	**Korea Array**	**7.87**	**341**	P	**Pn**	18 06 49.4	-0.8
	0.0nm,0.3s,baz=157,slow=14,SNR=8.0						
CBIJ	**Chichi jima**	**10.11**	**104**	LR	LR	18 11 02.0	
	comp=Z,79nm,18.5s,baz=322,slow=35						
USRK	**Ussuriysk Arra**	**14.14**	**2**	P	**Pn**	18 08 16.9	+0.9
	0.2nm,0.3s,baz=178,slow=6.5,SNR=3.0						
ASAJ	**Asahikawa**	**16.71**	**30**	LR	LR	18 15 44.3	
	comp=Z,96nm,20.1s,baz=336,slow=38						
SONM	**Songino Array**	**26.04**	**320**	P	**P**	18 10 28.1	-0.5
	0.4nm,0.5s,baz=144,slow=11,SNR=5.9						
SONM				LR	LR	18 20 57.5	
	comp=Z,75nm,18.7s,baz=229,slow=37						
ZALV	**Zalesovo Beam**	**40.93**	**319**	LR	LR	18 30 52.3	
	comp=Z,60nm,18.1s,baz=70,slow=38						
MKAR	**Makanchi Array**	**41.09**	**308**	P	**P**	18 12 38.3	-0.7
	0.5nm,0.7s,baz=95,slow=11,SNR=6.4						
KURBB	**Kurchatov Arra**	**44.02**	**313**	P	**P**	18 13 01.7	-1.0
	0.5nm,0.9s,baz=97,slow=8.5,SNR=5.8						
BVAR	**Borovoye Array**	**49.26**	**316**	P	**P**	18 13 43.3	-0.5
	1.3nm,0.7s,baz=92,slow=10,SNR=8.6						
WRA	**Warramunga Arr**	**49.79**	**176**	P	**P**	18 13 49.9	+1.8
	0.3nm,0.9s,baz=352,slow=8.8,SNR=2.7						
ASAR	**Alice Springs**	**53.47**	**177**	P	**P**	18 14 16.8	+1.3
	0.2nm,0.5s,baz=9.4,slow=13,SNR=4.6						
ILAR	**Eielson Array**	**59.85**	**29**	P	**P**	18 15 00.9	+0.4
	0.3nm,0.7s,baz=258,slow=4.5,SNR=3.7						
DZM	**Mont Dzumac**	**61.93**	**143**	LR	LR	18 40 53.2	
	comp=Z,31nm,18.5s,baz=183,slow=35						
KBZ	**Khabaz**	**68.78**	**309**	P	**P**	18 15 58.8	-0.4
	1.6nm,0.8s,baz=38,slow=0.6,SNR=4.0						
FINES	**FINESS Array B**	**70.83**	**331**	P	**P**	18 16 11.0	-0.6
	1.0nm,0.7s,baz=71,slow=9.4,SNR=4.0						
BRTR	**Keskin Array B**	**76.74**	**308**	P	**P**	18 16 45.1	-1.7
	0.7nm,0.8s,baz=83,slow=3.5,SNR=3.3						

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*NIED **10** 18:24:00,30°.40N×139°.00E,h400km,Mw4.2 Best double couple: M0:2.64000×10^15 NP1:φ=300.00000°, δ61.00000°,λ-78.00000°. NP2:φ=96.00000°,δ31.00000°, λ-111.00000°.*
*ISCJB **10** 18:24:50.9±0.4,30°.30N±0°.04×138°.72E±0°.05, h443km±3km,mb4.0/34,Error ellipse: s-maj=7.3km s-min=6.3km az=8.7*
*JMA **10** 18:24:50.9±0.3,30°.40N×138°.95E,h457km±5km,M4.3*
*MOS **10** 18:24:50.9±1.0,30°.31N×138°.46E,h438km,mb4.0/24, Error ellipse: s-maj=16.6km s-min=7.4km az=103.3*
*IDC **10** 18:24:51.2±0.9,30°.34N×138°.58E,h422km±10km, mb3.5/22,mb1 3.6/27,mb1mx3.6/34,mbtmp3.5/27,Error ellipse: s-maj=13.0km s-min=8.2km az=68.0*
ISC 10 18:24:52.0±0.7,30°.36N±0°.06×138°.70E±0°.07,h436km±6km, n87,σ1°38/108,mb4.0/34,5C,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	**2.86**	**19**	P	**P**	**18 25 57.5**	**+0.6**
JHCJ				*e*S	**S**	18 26 48.7	-0.9
JHJ2	**Mitsune**	**2.91**	**19**	P	**P**	18 25 56.8	-0.3
JHJ2				*e*S	**S**	18 26 49.5	-0.6
TK01	**Tokai 1**	**3.52**	**345**	P	P	18 26 05.2	+3.5
TK01				S	**S**	18 27 00.3	+1.8
TTO1	**TONANKAI O.B.S**	**3.64**	**334**	P	**P**	18 26 04.7	+2.0
TK02	**Tokai 2**	**3.67**	**348**	P	**P**	18 26 05.4	+2.4
TK02				*e*S	**S**	18 27 03.8	+3.0
JWZ	**Kozaga**	**4.05**	**322**	P	**P**	18 26 07.8	+1.1
JWZ				*e*S	**S**	18 27 07.4	-0.1
JIE	**Ise**	**4.36**	**338**	P	**P**	18 26 11.2	+1.8
JIE				*e*S	**S**	18 27 14.7	+2.1
CBIJ	**Chichi jima**	**4.47**	**136**	P	**P**	18 26 09.9	-0.8
CBIJ	**Chichi jima**	**4.47**	**136**	P	**P**	18 26 09.8	-0.8
	12nm,0.3s,baz=277,slow=17,SNR=14						
CBIJ				S	**S**	18 27 11.1	-3.5
	58nm,0.3s,baz=301,slow=23,SNR=25						
BSO1	**Boso 1**	**4.70**	**24**	P	**P**	18 26 12.3	+0.3
BSO1				*e*S	**S**	18 27 16.5	-0.9
JOD2	**Odawara 2**	**4.90**	**4**	P	**P**	18 26 14.3	-0.3
JOD2				*e*S	**S**	18 27 21.0	-1.1
JRY	**Ryogami san**	**5.65**	**2**	P	**P**	18 26 22.2	+0.1
JRY				*e*S	**S**	18 27 31.5	-4.2
MAT	**Matsushiro**	**6.18**	**356**	P	**P**	18 26 27.1	-0.5
MAT				S	**S**	18 27 41.2	-4.6
JHS	**Saijyo**	**6.60**	**316**	P	**P**	18 26 33.0	+0.8
JHS				*e*S	**S**	18 27 53.7	-0.2
JNU	**Nakatsue**	**7.21**	**294**	P	**P**	18 26 38.6	-0.2
	0.3nm,0.3s,baz=77,slow=6.4,SNR=5.3						
JMK	**Ichinoseki**	**8.82**	**13**	P	**P**	18 26 56.7	+0.6
JMK				*e*S	**S**	18 28 33.9	-4.3
JOT	**Ohata**	**11.16**	**9**	P	**P**	18 27 23.4	+1.7
JKE	**Kume jima 2**	**11.23**	**252**	P	**P**	18 27 22.9	+0.2
KSRS	**Korea Array**	**11.40**	**311**	P	**P**	18 27 24.4	+0.1
	0.4nm,0.3s,baz=123,slow=11,SNR=21						
JKB	**Kayabe**	**11.66**	**9**	P	**P**	18 27 28.2	+1.1
JOSM	**Okushiri--Mats**	**11.72**	**3**	P	**P**	18 27 28.7	+1.0
ERM	**Erimo**	**12.18**	**16**	⇑*i*P	**P**	18 27 35.2	+2.5
ERM				pmax	pmax		
	comp=Z,53nm,0.9s						
VLA	**Vladivostok**	**13.85**	**339**	*e*P	**P**	18 27 51.1	+0.2
ASAJ	**Asahikawa**	**14.08**	**12**	P	**P**	18 27 55.2	+1.8
	comp=Z,4.9nm,0.3s,baz=233,slow=11,SNR=33						
JTKR	**Abashiri--Toko**	**14.20**	**16**	P	**P**	18 27 56.9	+2.2
USRK	**Ussuriysk Arra**	**14.80**	**341**	P	**P**	18 28 01.4	+0.2
	comp=Z,3.9nm,0.3s,baz=151,slow=8.3,SNR=55						
YSS	**Yuzh-Sakhalins**	**16.87**	**10**	*e*P	**P**	18 28 25.3	+2.2
HABR	**Khabarovsk**	**18.30**	**352**	*ce*P	**P**	18 28 36.6	-1.5
HABR				*e*S	**S**	18 31 46.4	+2.8
HABR				pmax	pmax		
	comp=N,28nm,2.0s						
HABR				pmax	pmax		
	comp=E,29nm,2.0s						
HABR				pmax	pmax		
	comp=Z,41nm,2.0s						
HABR				MLR	MLR		
	comp=Z,146nm,19.0s						
KLR	**Kul'dur**	**19.57**	**346**	*e*P	**P**	18 28 47.0	-3.1
PETK	**Petropavlovsk-**	**26.63**	**26**	P	**P**	18 29 55.6	+2.1
PETK				pmax	pmax		
	comp=Z,5.0nm,1.1s						
PETK	**Petropavlovsk-**	**26.63**	**26**	P	**P**	18 29 55.6	+2.1
	comp=Z,5.2nm,1.1s,baz=210,slow=3.4,SNR=5.9						
SONM	**Songino Array**	**30.25**	**314**	P	**P**	18 30 25.1	-0.4
	comp=Z,0.6nm,0.7s,baz=121,slow=8.5,SNR=6.1						
SONM				ScP	**ScP**	18 36 13.2	-0.4
	comp=Z,0.3nm,0.5s,baz=126,slow=3.5,SNR=3.7						
YAK	**Yakutsk**	**32.23**	**352**	*e*P	**P**	18 30 41.1	-1.0
YAK				pmax	pmax		
	comp=Z,8.0nm,0.9s						
SEY	**Seymchan**	**33.76**	**11**	⇑*i*P	**P**	18 30 56.5	+1.3
SKNT	**Sakolnakorn**	**34.33**	**255**	P	**P**	18 31 00.8	+0.2
	comp=Z,25nm,1.1s						
CRAI	**Chiangrai**	**35.94**	**263**	P	**P**	18 31 12.1	-2.1
	comp=Z,56nm,0.8s,comp=Z,3μm						
LOEI	**Loei**	**36.36**	**258**	P	P	18 31 14.1	-3.6
	comp=Z,29nm,1.0s						
CHAI	**Chaiyaphum**	**36.52**	**255**	P	**P**	18 31 18.4	-0.6
	comp=Z,8.4nm,0.9s						
PBKT	**Sadao Pong**	**37.05**	**257**	P	**P**	18 31 23.0	-0.4
	comp=Z,16nm,0.9s						
CHTO	**Chiang Mai**	**37.75**	**262**	P	**P**	18 31 28.5	-0.7
	comp=Z,24nm,0.8s						
CMAR	**Chiang Mai Arr**	**37.91**	**261**	P	**P**	18 31 30.3	-0.2
	comp=Z,4.6nm,0.6s,baz=60,slow=6.2						
UTHA	**Uthaitani**	**38.81**	**257**	P	**P**	18 31 38.6	+0.7
	comp=Z,3.9nm,0.9s						
HVS	**Khovu-Aksy**	**39.14**	**315**	*e*P	**P**	18 31 40.1	-0.1
TIXI	**Tiksi**	**41.69**	**355**	*e*P	**P**	18 31 59.6	-0.7
TAPN	**Taplejung**	**44.45**	**279**	*e*P	**P**	18 32 22.5	-0.7
	comp=Z,12nm,0.5s						
ODAN	**Odare**	**44.87**	**279**	*e*P	**P**	18 32 25.6	-0.7
	comp=Z,32nm,0.7s						
ZALV	**Zalesovo Beam**	**45.02**	**318**	P	**P**	18 32 26.1	-0.7
ZALV						18 33 58.7	
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ZALV	**Zalesovo Beam**	**45.02**	**318**	P	**P**	18 32 26.1	-0.7
	comp=Z,0.7nm,0.5s,baz=112,slow=7.0,SNR=4.9						
ZALV				PcP	**PcP**	18 33 58.7	-0.2
	comp=Z,1.8nm,0.5s,baz=120,slow=3.2,SNR=8.4						
RAMN	**Ramite**	**45.52**	**279**	*e*P	**P**	18 32 30.8	-0.5
	comp=Z,40nm,0.5s						
JIRN	**Jiri**	**45.66**	**280**	*e*P	**P**	18 32 32.6	0.0
	comp=Z,86nm,0.6s						
GUN	**Gumba**	**45.86**	**281**	*e*P	**P**	18 32 33.9	-0.2
	comp=Z,64nm,0.7s						
MKAR	**Makanchi Array**	**46.05**	**307**	*ce*P	**P**	18 32 34.5	-0.4
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MKAR	**Makanchi Array**	**46.05**	**307**	P	**P**	18 32 34.5	-0.4
	comp=Z,2.0nm,0.6s,baz=91,slow=9.6,SNR=26						
MKAR				PcP	**PcP**	18 34 02.7	-0.1
	comp=Z,1.2nm,0.6s,baz=76,slow=5.3,SNR=12						
PKI	**Pulchoki**	**46.35**	**280**	*e*P	**P**	18 32 37.0	-0.8
	comp=Z,20nm,0.8s						
PKIN	**Phulchoki**	**46.36**	**280**	*e*P	**P**	18 32 37.1	-0.7
	comp=Z,9.5nm,0.6s						
KKN	**Kakani**	**46.40**	**281**	*e*P	**P**	18 32 37.7	-0.4
	comp=Z,31nm,0.9s						
DMN	**Daman**	**46.60**	**281**	*e*P	**P**	18 32 38.9	-0.7
	comp=Z,19nm,0.7s						
DANN	**Dangsing**	**47.53**	**282**	*e*P	**P**	18 32 46.7	0.0
	comp=Z,51nm,0.7s						
PYUN	**Piuthan**	**48.25**	**282**	*e*P	**P**	18 32 51.9	-0.2
	comp=Z,150nm,0.5s						
KURK	**Kurchatov**	**48.52**	**313**	P	**P**	18 32 53.1	-0.4
KURK						18 34 10.9	
KURK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KURK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KURBB	**Kurchatov Arra**	**48.58**	**313**	P	**P**	18 32 53.1	-0.8
	comp=Z,3.0nm,0.7s,baz=92,slow=8.0,SNR=66						
KURBB				PcP	**PcP**	18 34 10.9	-0.8
	comp=Z,0.5nm,0.7s,baz=92,slow=4.3,SNR=4.3						
WRAB	**Tennant Creek**	**50.18**	**185**	*e*P	**P**	18 33 04.8	-1.3
WRAB				pmax	pmax		
	comp=Z,16nm,1.1s						
WRA	**Warramunga Arr**	**50.19**	**185**	P	**P**	18 33 06.3	+0.1
	comp=Z,8.9nm,0.5s,baz=2.1,slow=7.6,SNR=59						
WRA				PcP	**PcP**	18 34 19.1	+1.1
	comp=Z,0.9nm,0.7s,baz=354,slow=3.7,SNR=4.9						
AAK	**Ala-Archa**	**51.91**	**302**	P	**P**	18 33 17.9	-0.9
AAK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AAK	**Ala-Archa**	**51.91**	**302**	P	**P**	18 33 17.9	-0.9
	comp=Z,2.2nm,0.6s,baz=105,slow=6.6,SNR=7.0						
BVAR	**Borovoye Array**	**53.58**	**316**	P	**P**	18 33 30.3	-0.2
BVAR						18 34 30.7	
BVAR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BVAR	**Borovoye Array**	**53.58**	**316**	P	**P**	18 33 30.3	-0.2
	comp=Z,2.8nm,0.5s,baz=92,slow=8.2,SNR=20						
BVAR				PcP	**PcP**	18 34 30.7	+0.2
	comp=Z,2.1nm,0.6s,baz=95,slow=5.1,SNR=8.5						
BRVK	**Borovoye**	**53.64**	**316**	⇑*i*P	**P**	18 33 30.8	-0.1
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KDAK	**Kodiak Island**	**53.65**	**38**	P	**P**	18 33 32.4	+1.6
	comp=Z,14nm,0.8s,baz=132,slow=11,SNR=4.2						
ASAR	**Alice Springs**	**53.91**	**185**	P	**P**	18 33 33.8	+0.6
	comp=Z,3.9nm,0.6s,baz=16,slow=12,SNR=82						
ASAR				PcP	**PcP**	18 34 32.0	-0.1
	comp=Z,1.0nm,0.9s,baz=359,slow=4.5,SNR=4.1						
ILAR	**Eielson Array**	**56.37**	**30**	P	**P**	18 33 50.6	+0.7
	comp=Z,1.0nm,0.7s,baz=277,slow=5.4,SNR=7.7						
ARU	**Arti**	**59.97**	**321**	P	**P**	18 34 12.4	-2.2
ARU						18 36 29.5	
ARU				S	**S**	18 41 52.6	+0.5
ARU				SS	**SS**	18 45 54.8	-2.3
AKTO	**Aktyubinsk**	**61.57**	**314**	P	**P**	18 34 24.8	-0.5
AKTO				pmax	pmax		
	comp=Z,4.0nm,0.6s						
AKTO	**Aktyubinsk**	**61.57**	**314**	P	**P**	18 34 24.8	-0.5
	comp=Z,3.7nm,0.6s,baz=79,slow=14,SNR=19						
STKA	**Stephens Creek**	**61.96**	**177**	P	**P**	18 34 28.7	+0.7
	comp=Z,5.9nm,0.6s,baz=353,slow=7.6,SNR=14						
ARCES	**ARCESS Array B**	**69.45**	**340**	P	**P**	18 35 15.8	+1.1
	comp=Z,3.3nm,0.9s,baz=67,slow=9.3,SNR=7.2						
YKA	**Yellowknife Ar**	**70.73**	**28**	P	**P**	18 35 23.6	+1.2
	comp=Z,1.1nm,0.7s,baz=300,slow=5.9,SNR=4.7						
OBN	**Obninsk**	**72.11**	**324**	*e*P	**P**	18 35 30.1	-0.5
OBN				*e*		18 35 44.0	
OBN				pmax	pmax		
	comp=Z,9.0nm,1.1s						
KBZ	**Khabaz**	**73.56**	**311**	P	**P**	18 35 39.5	+0.3
KBZ				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KBZ	**Khabaz**	**73.56**	**311**	P	**P**	18 35 39.5	+0.3
	comp=Z,6.2nm,0.8s,baz=83,slow=3.0,SNR=9.2						
FINES	**FINESS Array B**	**73.66**	**332**	P	**P**	18 35 38.7	-0.8
	comp=Z,1.8nm,0.5s,baz=106,slow=4.6,SNR=5.8						
HFS	**Hagfors**	**79.21**	**335**	P	**P**	18 36 10.0	-0.3
	comp=Z,3.0nm,0.8s,baz=51,slow=5.7,SNR=6.8						
NB2	**NORSAR Subarra**	**79.44**	**337**	P	**P**	18 36 11.1	-0.4
	comp=Z,1.1nm,0.6s,baz=45,slow=5.3						
NOA	**NORSAR Array B**	**79.44**	**337**	P	**P**	18 36 11.2	-0.3
	comp=Z,1.5nm,0.7s,baz=48,slow=4.8,SNR=4.4						
BRTR	**Keskin Array B**	**81.55**	**311**	P	**P**	18 36 23.5	+0.3
	comp=Z,3.8nm,0.8s,baz=92,slow=3.5,SNR=12						
MMAI	**Mount Meron Ar**	**83.93**	**305**	P	**P**	18 36 35.3	0.0
	comp=Z,4.2nm,0.8s,baz=35,slow=5.3,SNR=3.3						
TORD	**Torodi Ar. Bea**	**120.14**	**310**	PKP	**PKPdf**	18 42 52.7	-0.3
	comp=Z,0.5nm,0.6s,baz=22,slow=1.2,SNR=8.5						

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*ISN **10** 18:29:45.2±1.7,39°.57N×32°.97E,h0km±999km,ML4.5*
*BJI **10** 18:29:45.9,37°.78N×31°.55E,h10km,mB4.9/4,mb4.6/10, Ms4.7/2,Ms7 4.4/2*
*NEIC **10** 18:29:52.9,37°.95N×32°.48E,h5km,mb4.7/36,ML4.5(ISK), After ISK.*
*MOS **10** 18:29:52.9±0.9,37°.93N×32°.57E,h12km,mb4.8/42,Error ellipse: s-maj=5.0km s-min=3.2km az=105.0*
*ISK **10** 18:29:52.1,37°.94N×32°.52E,h2km,ML4.4*
*IDC **10** 18:29:52.6±0.5,37°.94N×32°.56E,h0km,mb4.3/23, mb1 4.3/34,mb1mx4.3/38,mbtmp4.2/34,ML3.7/10, MS3.7/15,Ms1 3.7/15,ms1mx3.5/34,Error ellipse: s-maj=10.3km s-min=8.7km az=111.0*
*DDA **10** 18:29:52.5,37°.92N×32°.50E,h15km,MD4.4*
*ISCJB **10** 18:29:53.5±0.4,37°.92N±0°.01×32°.54E±0°.02,h14km±3km, mb4.5/70,MS3.8/13,Error ellipse: s-maj=2.3km s-min=1.7km az=140.5*
*CSEM **10** 18:29:54.6±0.1,37°.93N×32°.54E,h10km,mb4.6/48,Ms3.4, Mw4.6,Error ellipse: s-maj=2.5km s-min=1.7km az=52.0*
*NIC **10** 18:29:55.5±0.3,37°.99N×32°.45E,h46km,mb4.7,ML4.5, MW4.2*
*NSSC **10** 18:29:56.5±1.7,37°.24N×32°.36E,h0km±201km*
*GCMT **10** 18:29:56.1±0.4,37°.76N×32°.51E,h22km±1km,MW4.9, Moment Tensor Solution. s20,c23; s61,c93; Moment tensor: Scale 10^16Nm; Mrr-2.38±.18; Mθθ0.43±.10; Mφφ1.96±.11; Mrθ-0.12±.19; Mθφ0.80±.06; Mφr0.34±.15; Best double couple: M0:2.40000×10^16 NP1:φ=197.00000°, δ49.00000°,λ-97.00000°. NP2:φ=28.00000°,δ42.00000°, λ-82.00000°. Principal axes: T 2.3100, Plg3.0000°, Azm293.0000°; N 0.1100, Plg5.0000°, Azm202.0000°; P -2.4200, Plg84.0000°, Azm53.0000°; Data Used: II IC IU CN G.*
*BEO **10** 18:30:00.7±0.8,38°.45N×32°.59E,h0km,ML4.2/4*
ISC 10 18:29:54.0±0.9,37°.93N±0°.02×32°.52E±0°.02,h8km±5km, n763,σ1°30/792,mb4.5/70,MS3.8/13,40C-23D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KONT	**Konya--Tatoy**	**0.13**	**278**	PG	**Pg**	**18 29 55.4**	**-1.4**
KONT	**Konya--Tatoy**	**0.13**	**278**	*i*Pg	**Pg**	18 29 55.4	-1.4
LADK	**Ladik-KONYA**	**0.30**	**336**	PG	**Pg**	18 29 58.1	-1.8
LADK				*e*SG	**Sg**	18 30 03.7	-0.1
LADK	**Ladik-KONYA**	**0.30**	**336**	*i*Pg	**Pg**	18 29 58.1	-1.8
LADK				*e*Sg	**Sg**	18 30 03.7	-0.1
KDHN	**Kadinhani**	**0.67**	**332**	*i*P	**Pg**	18 30 06.0	-0.9
KDHN				*i*S	**Sg**	18 30 14.9	-0.8
KDHN	**Kadinhani**	**0.67**	**332**	*i*P	**Pg**	18 30 06.0	-0.9
KDHN				*i*S	**Sg**	18 30 14.9	-0.8
SULT	**Sultanhani-AKS**	**0.83**	**71**	*e*PG	**Pg**	18 30 08.8	-1.2
SULT	**Sultanhani-AKS**	**0.83**	**71**	*e*Pg	**Pg**	18 30 08.8	-1.2
HDMB	**Hadim**	**0.96**	**182**	*e*PG	**Pg**	18 30 11.7	-0.8
HDMB	**Hadim**	**0.96**	**182**	*e*Pg	**Pg**	18 30 11.7	-0.8
KIZT	**Kizilcal**	**1.07**	**332**	*e*PG	**Pg**	18 30 12.9	-1.7
KIZT	**Kizilcal**	**1.07**	**332**	*e*Pg	**Pg**	18 30 12.9	-1.7
BSTP	**Nigde**	**1.26**	**88**	*i*P	**Pb**	18 30 18.2	+0.1
BSTP				*i*S	**Sn**	18 30 40.3	+5.1
SUTC	**Sutluce-Ispart**	**1.29**	**250**	*e*PN	**Pn**	18 30 17.7	-0.7
SUTC	**Sutluce-Ispart**	**1.29**	**250**	*e*Pn	**Pn**	18 30 17.7	-0.7
ERMK	**Ermenek**	**1.32**	**166**	*i*P	**Pn**	18 30 17.3	-1.7
ERMK				*i*S	**Sb**	18 30 35.9	-0.5
ERMK	**Ermenek**	**1.32**	**166**	*i*P	**Pn**	18 30 17.3	-1.7
ERMK				*i*S	**Sb**	18 30 35.9	-0.5
BOLV	**Bolvadin**	**1.46**	**303**	*i*P	**Pn**	18 30 20.2	-0.7
BOLV				*i*S	**Sg**	18 30 41.5	+0.5
BOLV	**Bolvadin**	**1.46**	**303**	*i*P	**Pn**	18 30 20.2	-0.7
BOLV				*i*S	**Sg**	18 30 41.5	+0.5
AFSR	**Af¯ar-Bala (A**	**1.58**	**16**	*e*PN	**Pn**	18 30 21.7	-0.6
AFSR	**Af¯ar-Bala (A**	**1.58**	**16**	*e*Pn	**Pn**	18 30 21.7	-0.6
ISP	**Isparta**	**1.58**	**267**	*e*PN	**Pn**	18 30 22.0	-0.4
ISP	**Isparta**	**1.58**	**267**	⇑P	**Pn**	18 30 23.0	+0.6
ISP	**Isparta**	**1.58**	**267**	*e*P	**Pn**	18 30 22.8	+0.4
ISP	**Isparta**	**1.58**	**267**	⇑*i*P	**Pn**	18 30 23.0	+0.6
ISP	**Isparta**	**1.58**	**267**	*e*Pn	**Pn**	18 30 22.0	-0.4
ISP	**Isparta**	**1.58**	**267**	P	**Pn**	18 30 23.0	+0.6
ISP				Sn	**Sn**	18 30 41.7	-1.5
BCK	**Bucak**	**1.60**	**254**	*e*PN	**Pn**	18 30 22.5	-0.2
BCK	**Bucak**	**1.60**	**254**	*e*Pn	**Pn**	18 30 22.5	-0.2
NIG	**Nigde**	**1.66**	**83**	*e*PN	**Pn**	18 30 23.1	-0.6
NIG	**Nigde**	**1.66**	**83**	*e*Pn	**Pn**	18 30 23.1	-0.6
BBAL	**Bala**	**1.68**	**16**	*i*P	**Pn**	18 30 23.5	-0.3
BBAL				*i*S	**Sb**	18 30 46.5	-0.1
BBAL	**Bala**	**1.68**	**16**	*i*P	**Pn**	18 30 23.5	-0.3
BBAL				*i*S	**Sb**	18 30 46.5	-0.1
GAZI	**Gazipasa**	**1.70**	**186**	*i*P	**Pn**	18 30 24.0	+0.1
GAZI				*i*S	**Sb**	18 30 46.8	-0.2
GAZI	**Gazipasa**	**1.70**	**186**	*i*P	**Pn**	18 30 24.0	+0.1
GAZI				*i*S	**Sb**	18 30 46.8	-0.2
SVRH	**Sivrihisar-ESK**	**1.71**	**333**	*e*PN	**Pn**	18 30 23

AKAS *i* S **Sb** **18 31 20.4 -0.7**
AKMC Akamas 2.90 183 P **Pn** **18 30 40.0 -0.5**
AKMC Akamas 2.90 183 P **Pn** **18 30 40.0 -0.5**
GPA Golpazari 2.92 325 *e*PN **Pn** **18 30 40.8 +0.1**
GPA Golpazari 2.92 325 *e*Pn **Pn** **18 30 40.8 +0.1**
KSL Kastellorizon 2.94 234 *e*P **Pn** **18 30 43.6 +2.6**
GULT Gulveren 2.94 329 *e*PN **Pn** **18 30 41.3 +0.1**
GULT Gulveren 2.94 329 *e*Pn **Pn** **18 30 41.3 +0.1**
FETY Fethiye 3.03 246 *e*PN **Pn** **18 30 42.9 +0.7**
FETY Fethiye 3.03 246 *e*Pn **Pn** **18 30 42.9 +0.7**
CSS Prodhromos 3.03 167 P **Pn** **18 30 41.5 -0.8**
23nm,0.6s
CSS S **Sn** **18 31 18.8 0.0**
CSS Prodhromos 3.03 167 *e*P **Pn** **18 30 41.3 -1.0**
CSS Prodhromos 3.03 167 P **Pn** **18 30 41.5 -0.8**
23nm,0.6s
CSS Sn **Sn** **18 31 14.7 -4.1**
CSS S **Sn** **18 31 18.8 0.0**
PPCY Paphos 3.04 183 P **Pn** **18 30 44.0 +1.6**
PPCY Paphos 3.04 183 P **Pn** **18 30 44.0 +1.6**
ANDN Andirin 3.05 95 *i* P **Pn** **18 30 43.6 +1.0**
ANDN Andirin 3.05 95 *i* P **Pn** **18 30 43.6 +1.0**
CAVI Cavuskoy 3.08 318 *e*PN **Pn** **18 30 43.4 +0.4**
CAVI Cavuskoy 3.08 318 *e*Pn **Pn** **18 30 43.4 +0.4**
KULA Kula-Manisa 3.09 282 *e*PN **Pn** **18 30 43.2 +0.1**
KULA Kula-Manisa 3.09 282 *e*Pn **Pn** **18 30 43.3 +0.1**
PHNC Paralimni 3.16 157 P **Pn** **18 30 43.8 -0.3**
18nm,1.0s
PHNC S **Sn** **18 31 18.6 -3.4**
PHNC Paralimni 3.16 157 P **Pn** **18 30 43.8 -0.3**
18nm,1.0s
PHNC S **Sn** **18 31 18.6 -3.4**
SZAC Souni-Zanaja 3.18 175 P **Pb** **18 30 51.1 +0.4**
CTKT Corum 3.22 33 *i* P **Pn** **18 30 46.1 +1.1**
CTKT Corum 3.22 33 *i* P **Pn** **18 30 46.1 +1.1**
SPNC Sapanca-Adapaz 3.24 329 *e*PN **Pn** **18 30 45.6 +0.4**
SPNC Sapanca-Adapaz 3.24 329 *e*Pn **Pn** **18 30 45.6 +0.4**
DALY Dalyan (Mu¨la 3.27 251 *e*PN **Pn** **18 30 46.2 +0.7**
DALY Dalyan (Mu¨la 3.27 251 *e*Pn **Pn** **18 30 46.2 +0.7**
COBT Iskenderun 3.30 114 *i* P **Pn** **18 30 47.5 +1.4**
COBT Iskenderun 3.30 114 *i* P **Pn** **18 30 47.5 +1.4**
ADVT Abdulvahap 3.31 320 *e*PN **Pn** **18 30 46.4 +0.4**
ADVT Abdulvahap 3.31 320 *e*Pn **Pn** **18 30 46.4 +0.4**
SAFT Safranbolu 3.31 2 *e*PN **Pn** **18 30 46.5 +0.4**
SAFT Safranbolu 3.31 2 *e*Pn **Pn** **18 30 46.5 +0.4**
HTY Hatay 3.41 121 *e*PN **Pn** **18 30 48.0 +0.5**
HTY Hatay 3.41 121 *e*Pn **Pn** **18 30 48.0 +0.5**
ARNB Al Arnab 3.45 126 *e*P **Pn** **18 30 48.5 +0.3**
ARNB Al Arnab 3.45 126 *e*P **Pn** **18 30 48.5 +0.3**
SNR=45
DST Dursunbey 3.48 300 *e*PN **Pn** **18 30 48.8 +0.4**
DST Dursunbey 3.48 300 *e*Pn **Pn** **18 30 48.8 +0.4**
KDZE Karadeniz Ereo 3.48 347 *e*PN **Pn** **18 30 49.0 +0.5**
KDZE Karadeniz Ereo 3.48 347 *e*Pn **Pn** **18 30 49.0 +0.5**
ORLT Orhaneli 3.53 308 *e*PN **Pn** **18 30 49.4 +0.3**
ORLT Orhaneli 3.53 308 *e*Pn **Pn** **18 30 49.4 +0.3**
HRT Hereke 3.64 323 *e*PN **Pn** **18 30 51.0 +0.4**
HRT Hereke 3.64 323 *e*Pn **Pn** **18 30 51.0 +0.4**
BTCH Batrach 3.68 120 *e*P **Pn** **18 30 52.4 +1.2**
BTCH *e*S **Sn** **18 31 32.6 -2.2**
BTCH Batrach 3.68 120 *e*P **Pn** **18 30 52.4 +1.2**
SNR=45
BTCH *e*S **Sn** **18 31 32.6 -2.2**
SNR=40
MDNY Mudanya-Bursa 3.73 312 *e*PN **Pn** **18 30 52.6 +0.7**
MDNY Mudanya-Bursa 3.73 312 *e*Pn **Pn** **18 30 52.6 +0.7**
ARMT Armutlu 3.87 314 *e*PN **Pn** **18 30 54.2 +0.4**
ARMT Armutlu 3.87 314 *e*Pn **Pn** **18 30 54.2 +0.4**
ARG Arkhangelos 3.91 245 *e*P **Pn** **18 30 55.9 +1.6**
SILT Sile 3.91 326 *e*PN **Pn** **18 30 55.2 +0.8**
SILT Sile 3.91 326 *e*Pn **Pn** **18 30 55.2 +0.8**
DARE Darende-Malaty 3.96 76 *e*PN **Pn** **18 30 56.0 +0.9**
SVSK Karacayir 4.02 59 *e*PN **Pn** **18 30 56.7 +0.9**
SVSK Karacayir 4.02 59 *e*Pn **Pn** **18 30 56.7 +0.9**
ISK Istanbul-Kandi 4.12 321 *e*PN **Pn** **18 30 57.9 +0.7**
ISK Istanbul-Kandi 4.12 321 *e*Pn **Pn** **18 30 57.9 +0.7**
KVT Kavak 4.17 40 *e*PN **Pn** **18 30 58.7 +0.8**
KVT Kavak 4.17 40 *e*Pn **Pn** **18 30 58.7 +0.8**
BZK Bozkurt 4.18 15 *e*PN **Pn** **18 30 58.9 +0.8**
BZK Bozkurt 4.18 15 *e*Pn **Pn** **18 30 58.9 +0.8**
BIDA Albida 4.22 132 *e*P **Pn** **18 30 58.5 -0.3**
BIDA Albida 4.22 132 *e*P **Pn** **18 30 58.5 -0.3**
SNR=45
KLYT Kilyos 4.27 322 *e*PN **Pn** **18 31 00.0 +0.7**
KLYT Kilyos 4.27 322 *e*Pn **Pn** **18 31 00.0 +0.7**
DIKM Dikmen 4.27 29 *e*PN **Pn** **18 31 00.3 +1.0**
DIKM Dikmen 4.27 29 *e*Pn **Pn** **18 31 00.3 +1.0**
ERBA Erbaa 4.28 49 *i* P Pn 18 31 03.4 +3.9
ERBA *i* S **Sb** **18 32 03.3 +1.8**
ERBA Erbaa 4.28 49 *i* P Pn 18 31 03.4 +3.9
BGKT Bogazkoy 4.35 319 *e*PN **Pn** **18 31 01.1 +0.7**
BGKT Bogazkoy 4.35 319 *e*Pn **Pn** **18 31 01.1 +0.7**
RSDY Resadiye-TOKAT 4.48 55 *e*PN **Pn** **18 31 03.2 +1.0**
RSDY Resadiye-TOKAT 4.48 55 *e*Pn **Pn** **18 31 03.2 +1.0**
SMG Samos 4.50 269 *e*P **Pn** **18 31 02.3 -0.2**
HWQ Hawqa 4.58 142 *e*P **Pn** **18 31 03.2 -0.5**
HWQ Hawqa 4.58 142 *e*P **Pn** **18 31 03.2 -0.5**
MALT Malatya 4.68 83 *e*PN **Pn** **18 31 06.1 +1.0**
MALT Malatya 4.68 83 ⇓P **Pn** **18 31 06.0 +1.0**
MALT Malatya 4.68 83 ⇓*i*P **Pn** **18 31 06.0 +1.0**
MALT Malatya 4.68 83 P **Pn** **18 31 06.0 +1.0**
BHL Bhannes 4.75 147 *e*P **Pn** **18 31 06.3 +0.3**
BHL Bhannes 4.75 147 *e*P **Pn** **18 31 06.3 +0.3**
FKH Fakeheh 4.84 138 *e*P **Pn** **18 31 07.4 +0.1**
FKH Fakeheh 4.84 138 *e*P **Pn** **18 31 07.4 +0.1**
KARP Karpathos 4.92 243 *e*P **Pn** **18 31 08.6 +0.4**
PRK Paraskevi 5.07 287 *e*P **Pn** **18 31 12.0 +1.8**
RCY Rachaya 5.18 148 *e*P **Pn** **18 31 11.7 -0.2**
RCY Rachaya 5.18 148 *e*P **Pn** **18 31 11.7 -0.2**
HNTI Hanita 5.30 155 Pn **Pn** **18 31 13.8 +0.4**
KSDI Kefar Szold 5.37 151 Pn **Pn** **18 31 15.2 +0.7**
KSDI Sn **Sn** **18 32 15.0 -1.5**
MMA0 Mount Meron ar 5.44 153 Pn **Pn** **18 31 16.0 +0.6**
MMAI Mount Meron Ar 5.44 153 Pn **Pn** **18 31 14.7 -0.7**
MMAI Sn **Sn** **18 32 20.4 +2.2**
MMAI Mount Meron Ar 5.44 153 Pn **Pn** **18 31 14.7 -0.7**
11nm,0.3s,baz=338,slow=13,SNR=45
MMAI Sn **Sn** **18 32 20.4 +2.2**
14nm,0.3s,baz=329,slow=22,SNR=3.1
MMAI Mount Meron Ar 5.44 153 Pn **Pn** **18 31 14.7 -0.7**
MMAI Sn **Sn** **18 32 20.5 +2.2**
KSRV Kasrt alli 5.59 110 *e*P Pn 18 31 22.9 +5.4
KSRV *e*S **Sn** **18 32 26.8 +4.9**
APE Apeiranthos 5.62 263 ⇑P **Pn** **18 31 21.0 +3.1**
APE Apeiranthos 5.62 263 ⇑*i*P **Pn** **18 31 21.0 +3.1**
APE Apeiranthos 5.62 263 P **Pn** **18 31 21.0 +3.1**
BLGI Bet Lehem HaGe 5.62 156 Pn **Pn** **18 31 20.3 +2.4**
OFRI 'Ofer 5.67 158 Pn **Pn** **18 31 19.1 +0.6**
MNKR ALMNKUR 5.76 108 *e*P **Pn** **18 31 21.9 +2.1**
MNKR *e*S **Sn** **18 32 26.3 +0.2**
MNKR ALMNKUR 5.76 108 *e*P **Pn** **18 31 21.9 +2.1**
SNR=45
MNKR *e*S **Sn** **18 32 26.3 +0.2**
SNR=40
ZKR Zakros 5.80 243 *e*P **Pn** **18 31 21.6 +1.3**
SANT Santorini 5.85 257 *e*P **Pn** **18 31 19.5 -1.5**
100nm,0.9s
SANT Santorini 5.85 257 *e*P **Pn** **18 31 19.5 -1.5**
100nm,0.9s
MMLI Mount Malkishu 5.97 156 Pn **Pn** **18 31 24.1 +1.4**
SMTH Samothraki Isl 5.99 297 *e*P **Pn** **18 31 24.4 +1.5**
SLTI Sal'it 6.04 159 Pn **Pn** **18 31 24.1 +0.5**
HMDT Nahal Hemdat 6.17 156 Pn **Pn** **18 31 26.9 +1.4**
JMB Yambol 6.42 317 *e*PN **Pn** **18 31 30.2 +1.4**
JMB Yambol 6.42 317 *e*Pn **Pn** **18 31 30.2 +1.4**
KBSD Kabsdagh 6.45 96 *e*P Pn 18 31 35.1 +5.9
MANR Mangalia 6.59 334 ⇑P **Pn** **18 31 31.6 +0.4**
MANR Mangalia 6.59 334 ⇑P **Pn** **18 31 31.6 +0.4**
SEV Sevastopol' 6.67 7 *e*P **Pn** **18 31 31.8 -0.4**
SEV *e*S **Sn** **18 32 45.3 -3.0**
SEV Sevastopol' 6.67 7 *e*P **Pn** **18 31 31.8 -0.4**
YAL Yalta 6.67 10 *e*P **Pn** **18 31 34.6 +2.4**
YAL *e*S **Sn** **18 32 50.6 +2.3**
YAL Yalta 6.67 10 *e*P **Pn** **18 31 34.6 +2.4**
YAL *e*S **Sn** **18 32 50.6 +2.3**
IDI Anoyia 6.68 249 *e*P **Pn** **18 31 32.0 -0.4**
37nm,0.6s
IDI Sn **Sn** **18 32 48.2 -0.5**
IDI Anoyia 6.68 249 Pn **Pn** **18 31 32.8 +0.3**
1.8nm,0.3s,baz=75,slow=11,SNR=17
IDI Sn **Sn** **18 32 48.2 -0.5**
4.6nm,0.3s,baz=330,slow=20,SNR=2.5
IDI Anoyia 6.68 249 *e*P **Pn** **18 31 32.0 -0.4**
37nm,0.6s
IDI Sn **Sn** **18 32 48.2 -0.5**
DSI Dead Sea 6.77 159 Pn **Pn** **18 31 34.6 +1.0**
ASF Jabal al Asfar 6.77 147 Pn **Pn** **18 31 33.9 +0.1**
ASF Sn **Sn** **18 32 54.2 +3.1**
ASF Jabal al Asfar 6.77 147 Pn **Pn** **18 31 33.9 +0.1**
0.2nm,0.3s,baz=322,slow=12,SNR=4.5
ASF Sn **Sn** **18 32 54.2 +3.1**
0.5nm,0.3s,baz=324,slow=18,SNR=2.0
ASF LR LR 18 34 46.2
comp=Z,876nm,18.8s,baz=280,slow=43
MZRK Al-Mazaregh 6.85 105 *e*P Pn 18 31 39.2 +4.4
ALU Alushta 6.89 11 *e*P **Pn** **18 31 36.2 +0.9**
ALU *e*S **Sn** **18 32 55.3 +1.4**
ALU Alushta 6.89 11 *e*P **Pn** **18 31 36.2 +0.9**
ALU *e*S **Sn** **18 32 55.3 +1.4**
MZDA Masada 7.01 160 Pn **Pn** **18 31 38.2 +1.4**
SIM Simferopol' 7.12 9 *e*P **Pn** **18 31 40.4 +2.0**
SIM *e*S **Sn** **18 32 57.5 -1.9**
SIM Simferopol' 7.12 9 *e*P **Pn** **18 31 40.4 +2.0**
SIM *e*S **Sn** **18 32 57.5 -1.9**
KZIT Kziot 7.17 167 Pn **Pn** **18 31 40.1 +0.9**
SUDU Sudak 7.20 14 *e*P **Pn** **18 31 41.8 +2.3**
SUDU *e*S **Sn** **18 33 03.7 +2.2**
SUDU Sudak 7.20 14 *e*P **Pn** **18 31 41.8 +2.3**
SUDU *e*S **Sn** **18 33 03.7 +2.2**
TIRR Tirgusor 7.22 336 ⇑P **Pn** **18 31 39.7 -0.1**
TIRR Tirgusor 7.22 336 *e*P **Pn** **18 31 39.3 -0.4**
92nm,0.6s
TIRR Tirgusor 7.22 336 ⇑*i*P **Pn** **18 31 39.7 -0.1**
TIRR Tirgusor 7.22 336 P **Pn** **18 31 39.7 -0.1**
CVD Cernavoda 7.22 333 ⇑P **Pn** **18 31 41.1 +1.3**
CVD Cernavoda 7.22 333 ⇑*i*P **Pn** **18 31 41.0 +1.3**
CVD Cernavoda 7.22 333 P **Pn** **18 31 41.1 +1.3**
PLD Plovdiv 7.30 307 *e*Pn **Pn** **18 31 43.2 +2.3**
PLD *e*Sn **Sn** **18 33 01.5 -2.5**
PLD Plovdiv 7.30 307 *e*Pn **Pn** **18 31 43.2 +2.3**
TLB Topalu 7.46 335 ⇑P **Pn** **18 31 42.7 -0.3**
TLB Topalu 7.46 335 ⇑*i*P **Pn** **18 31 42.7 -0.3**
TLB Topalu 7.46 335 P **Pn** **18 31 42.7 -0.3**
GVD Gavdhos 7.46 248 *e*P Pn 18 31 46.8 +3.6
ZFRI Zfri 7.68 163 Pn **Pn** **18 31 46.5 +0.4**
VLI Veliai 7.73 264 *e*P **Pn** **18 31 46.6 -0.2**
TLCR 7.76 340 ⇓P **Pn** **18 31 49.0 +1.8**
TLCR 7.76 340 ⇓*i*P **Pn** **18 31 49.0 +1.8**
TLCR 7.76 340 P **Pn** **18 31 49.0 +1.8**
ANN Anapa 7.79 27 *e*P Pn 18 31 39.9 -7.8
ANN pmax pmax
comp=Z,55nm,1.0s
ANN MLR MLR
comp=N,287nm,11.0s
ANN MLR MLR
comp=E,288nm,11.0s
ANN MLR MLR
comp=Z,307nm,11.0s
PRNI Paran 7.83 164 Pn **Pn** **18 31 48.5 +0.2**
SOC Sochi 7.86 42 *e*P **Pn** **18 31 47.7 -0.8**
SOC *e* 18 33 13.8
SOC pmax pmax
comp=Z,10.0nm,0.4s
SOC MLR MLR
comp=Z,653nm,13.0s
SOC Sochi 7.86 42 *e*P **Pn** **18 31 47.7 -0.8**
comp=Z,10.0nm,0.4s
CFR Carcaliu 7.95 337 ⇑P **Pn** **18 31 49.9 +0.1**
CFR Carcaliu 7.95 337 ⇑*i*P **Pn** **18 31 49.9 +0.1**
CFR Carcaliu 7.95 337 P **Pn** **18 31 49.9 +0.1**
KRMI Paran Flat 8.00 166 Pn **Pn** **18 31 51.1 +0.5**
HRFI Mount Harif 8.14 164 Pn **Pn** **18 31 53.1 +0.6**
HRFI Sn **Sn** **18 33 22.4 -2.4**
MBRI Mt Berech 8.35 166 Pn **Pn** **18 31 56.4 +0.9**
MBRI Sn **Sn** **18 33 28.8 -1.3**
VAY Valandovo 8.39 297 *e*Pn Pn 18 32 00.8 +5.0
VAY Valandovo 8.39 297 *e*Pn Pn 18 32 00.3 +4.5
EIL Elat 8.48 165 Pn **Pn** **18 31 58.2 +1.1**
EIL Sn **Sn** **18 33 31.4 -1.7**
EIL Elat 8.48 165 Pn **Pn** **18 31 58.2 +1.1**
comp=Z,3.8nm,0.3s,baz=344,slow=13,SNR=25
EIL Sn **Sn** **18 33 31.4 -1.7**
comp=Z,1.3nm,0.3s,baz=20,slow=18,SNR=2.7
EIL LR LR 18 35 39.3
comp=Z,534nm,20.7s,baz=347,slow=41
EIL Elat 8.48 165 Pn **Pn** **18 31 57.9 +0.8**
EIL Sn **Sn** **18 33 31.4 -1.7**
VTS Vitosha 8.50 306 ⇓P **Pn** **18 32 00.3 +2.7**
VTS Vitosha 8.50 306 ⇓*i*P **Pn** **18 32 00.3 +2.7**
VTS Vitosha 8.50 306 *e*Pn **Pn** **18 32 00.0 +2.4**
VTS *e*Sn **Sn** **18 33 30.1 -3.7**
VTS Vitosha 8.50 306 *e*Pn **Pn** **18 32 00.0 +2.4**
VTS Vitosha 8.50 306 P **Pn** **18 32 00.3 +2.7**
GRER 8.52 333 ⇑P **Pn** **18 31 59.0 +1.4**
GRER 8.52 333 ⇑*i*P **Pn** **18 31 59.0 +1.4**
PETR Petresti 8.73 335 ⇑P **Pn** **18 32 01.9 +1.4**
PETR Petresti 8.73 335 ⇑*i*P **Pn** **18 32 01.9 +1.4**
MLR Muntele Rosu 9.01 329 Pn **Pn** **18 32 06.2 +1.7**
MLR Muntele Rosu 9.01 329 ⇑*i*P **Pn** **18 32 06.6 +2.1**
MLR Muntele Rosu 9.01 329 *e*Pn **Pn** **18 32 05.9 +1.4**
MLR Muntele Rosu 9.01 329 Pn **Pn** **18 32 06.2 +1.7**
comp=Z,0.1nm,0.3s,baz=163,slow=9.5,SNR=17
MLR LR LR 18 36 09.8
comp=Z,149nm,20.5s,baz=166,slow=42
MLR Muntele Rosu 9.01 329 *e*Pn **Pn** **18 32 05.9 +1.4**
MLR Muntele Rosu 9.01 329 P **Pn** **18 32 06.6 +2.1**
VRI Vrincioaia 9.03 333 ⇑P **Pn** **18 32 05.5 +0.9**
VRI Vrincioaia 9.03 333 ⇑*i*P **Pn** **18 32 05.5 +0.9**
VRI Vrincioaia 9.03 333 P **Pn** **18 32 05.5 +0.9**
PLOR Plostina 9.04 333 ⇑P **Pn** **18 32 05.7 +0.9**
PLOR Plostina 9.04 333 ⇑*i*P **Pn** **18 32 05.7 +0.9**
PLOR Plostina 9.04 333 P **Pn** **18 32 05.7 +0.9**
BIA Bitola 9.19 293 *e*Pn Pn 18 32 12.0 +5.1
BIA Bitola 9.19 293 *e*Pn Pn 18 32 11.4 +4.5
ZAPS Zavoj 9.22 308 *e*Pn **Pn** **18 32 09.6 +2.4**
VOIR 9.35 326 ⇓P **Pn** **18 32 10.7 +1.6**
VOIR 9.35 326 ⇓*i*P **Pn** **18 32 10.7 +1.6**
VOIR 9.35 326 P **Pn** **18 32 10.7 +1.6**
SKO Skopje 9.41 299 *e*Pn Pn 18 32 14.7 +4.8
SKO Skopje 9.41 299 *e*Pn Pn 18 32 13.7 +3.8
KIS Kishinev 9.47 344 *e*P Pn 18 32 16.0 +5.4
KIS LRM MLR 18 36 40.0
comp=Z,900nm,12.0s
KIS Kishinev 9.47 344 *e*P Pn 18 32 16.0 +5.4
KIS *e* 18 34 08.0
KIS MLR MLR
comp=Z,1μm,10.0s
KIS MLR MLR
comp=Z,900nm,12.0s
BARS Barje 9.51 304 *e*Pn **Pn** **18 32 14.0 +2.8**
BARS *e*Sn **Sn** **18 33 56.0 -2.4**
BARS Barje 9.51 304 *e*Pn **Pn** **18 32 14.0 +2.8**
TESR Tescani 9.62 335 ⇓*i*P **Pn** **18 32 13.4 +0.8**
TESR Tescani 9.62 335 ⇓*i*P **Pn** **18 32 13.4 +0.8**
DOPR Dopca 9.62 329 ⇑*i*P **Pn** **18 32 13.4 +0.6**
DOPR Dopca 9.62 329 ⇑*i*P **Pn** **18 32 13.4 +0.6**
KIV Kislovodsk 9.77 49 *e*P **Pn** **18 32 16.3 +1.5**
KIV pmax pmax
comp=Z,11nm,1.1s
KIV MLR MLR
comp=Z,54nm,9.0s
KIV Kislovodsk 9.77 49 *e*P **Pn** **18 32 16.3 +1.5**
comp=Z,54nm,9.0s
KBZ Khabaz 9.77 50 P **Pn** **18 32 15.8 +1.1**
KBZ Khabaz 9.77 50 Pn **Pn** **18 32 15.8 +1.1**
KBZ Khabaz 9.77 50 Pn **Pn** **18 32 15.8 +1.1**
comp=Z,0.0nm,0.3s,baz=270,slow=5.1,SNR=2.0
KBZ LR LR 18 36 03.0
comp=Z,153nm,20.2s,baz=60,slow=38
KBZ Khabaz 9.77 50 P **Pn** **18 32 15.8 +1.1**
BOLS Boljevac 9.93 310 *e*Pn **Pn** **18 32 19.8 +2.8**
BOLS Boljevac 9.93 310 *e*Pn **Pn** **18 32 19.8 +2.8**
ZEI Tsey 9.95 57 *e*P Pn 18 32 20.9 +3.5
ZEI pmax pmax
comp=Z,5.0nm,0.5s
LOT Lotru 9.96 322 ⇓*i*P **Pn** **18 32 18.4 +1.0**
LOT Lotru 9.96 322 ⇓*i*P **Pn** **18 32 18.4 +1.0**
SELS Selova 10.15 305 *e*Pn **Pn** **18 32 22.0 +2.0**
SELS *e*Sn **Sn** **18 34 10.7 -3.4**
SELS Selova 10.15 305 *e*Pn **Pn** **18 32 22.0 +2.0**
BHD Baghdad 10.71 112 *e*Pn **Pn** **18 32 29.0 +1.3**
SNR=39
GRUS Gruza 10.73 307 *e*Pn **Pn** **18 32 30.3 +2.4**
GRUS Gruza 10.73 307 *e*Pn **Pn** **18 32 30.3 +2.4**
SJES Sjenica 10.92 303 *e*Pn Pn 18 32 33.9 +3.3
BURAR Bucovina Array 11.06 333 ⇓P **Pn** **18 32 34.2 +1.7**
BURAR Bucovina Array 11.06 333 ⇓*i*P **Pn** **18 32 34.2 +1.7**
BURAR Bucovina Array 11.06 333 ⇓*i*P **Pn** **18 32 34.2 +1.7**
TRUS Trudelj 11.09 308 *e*Pn **Pn** **18 32 35.5 +2.7**
TRUS Trudelj 11.09 308 *e*Pn **Pn** **18 32 35.5 +2.7**
BUR08 Bucovina Ar. S 11.09 333 *e*P **Pn** **18 32 34.0 +1.0**
BUR08 Bucovina Ar. S 11.09 333 *e*P **Pn** **18 32 34.0 +1.0**
BZS Buzias 11.18 317 ⇓P **Pn** **18 32 35.7 +1.6**
BZS Buzias 11.18 317 ⇓*i*P **Pn** **18 32 35.7 +1.6**
BZS Buzias 11.18 317 P **Pn** **18 32 35.7 +1.6**
DIVS Divibare 11.29 307 *e*Pn Pn 18 32 38.9 +3.3
BBLS Lazići 11.55 305 *e*Pn **Pn** **18 32 41.8 +2.5**
BBLS Lazići 11.55 305 *e*Pn **Pn** **18 32 41.8 +2.5**
SIRR Siria 11.59 319 ⇓*i*P **Pn** **18 32 40.5 +0.9**
SIRR Siria 11.59 319 ⇓*i*P **Pn** **18 32 40.5 +0.9**
TEKS Tekeris 11.80 308 *e*Pn **Pn** **18 32 44.7 +2.2**
TEKS Tekeris 11.80 308 *e*Pn **Pn** **18 32 44.7 +2.2**
FGSL Fruska Gora 11.94 311 *e*Pn **Pn** **18 32 45.7 +1.2**
FRGS Fruska Gora 11.94 311 *e*Pn **Pn** **18 32 45.7 +1.2**
MAK Makhachkala 12.47 62 *e*P **Pn** **18 32 53.8 +2.1**
MAK *e*S Sn 18 35 18.9 +8.1
MAK pmax pmax
comp=Z,207nm,1.7s
MAK MLR MLR
comp=Z,513nm,8.0s
MAK Makhachkala 12.47 62 *e*P **Pn** **18 32 53.8 +2.1**
comp=Z,207nm,1.7s
TRPA Tarpa 12.53 328 ⇑*i*P **Pn** **18 32 53.5 +1.1**
TRPA Tarpa 12.53 328 ⇑*i*P **Pn** **18 32 53.5 +1.1**
KIEV Kiev 12.98 351 *e*P Pn 18 32 54.0 -4.6
KIEV pmax pmax
comp=Z,7.0nm,0.8s
KIEV Kiev 12.98 351 *e*P Pn 18 32 54.0 -4.6
comp=Z,6.9nm,0.8s
AKASG Malin Array Be 12.98 351 *i* P **Pn** **18 33 00.8 +2.1**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 12.98 351 Pn **Pn** **18 32 57.3 -1.4**
AKASG Malin Array Be 12.98 351 Pn **Pn** **18 32 57.3 -1.4**
comp=Z,1.3nm,0.3s,baz=179,slow=13,SNR=7.0
AKASG Malin Array Be 12.98 351 Pn **Pn** **18 32 57.3 -1.4**
AKASG Malin Array Be 12.98 351 *i* P **Pn** **18 33 00.8 +2.1**
comp=Z,1.0nm,0.4s
UZH Uzhgorod 13.02 328 *e*P Pn 18 33 03.8 +4.6
UZH *e*S **Sn** **18 35 28.0 +3.8**
UZH MLR MLR
comp=N,700nm,9.0s
UZH MLR MLR
comp=E,800nm,9.0s
UZH MLR MLR
comp=Z,800nm,9.0s
CUC Castrocucco 13.16 284 *e*P **Pn** **18 33 01.1 -0.2**
comp=Z,48nm,1.4s
CUC Castrocucco 13.16 284 *e*P **Pn** **18 33 01.1 -0.2**
comp=Z,48nm,1.4s
NSR Nassriya 13.18 118 *e*Sn **Sn** **18 35 26.9 -1.3**
SNR=39
KOLS Kolonicke sedl 13.27 329 *e*P **Pn** **18 33 03.8 +1.2**
KOLS Kolonicke sedl 13.27 329 *e*PN **Pn** **18 33 03.8 +1.2**
KOLS Kolonicke sedl 13.27 329 *e*P **Pn** **18 33 03.8 +1.2**
KECS Kecovo 13.70 324 *e*PN Pn 18 33 11.9 +3.4
VORD Divnogorie 13.89 18 *e*P **Pn** **18 33 12.0 +0.9**
VORD pmax pmax
comp=Z,7.0nm,1.0s
VORD pmax pmax
comp=N,10.0nm,1.4s
VORD pmax pmax
comp=E,8.0nm,0.6s
VORD Divnogorie 13.89 18 *e*P **Pn** **18 33 12.0 +0.9**
comp=E,10.0nm,1.4s
STHS Stebnicka Huta 14.07 328 *e*P **Pn** **18 33 15.0 +1.5**
STHS Stebnicka Huta 14.07 328 *e*PN **Pn** **18 33 15.0 +1.5**
STHS Stebnicka Huta 14.07 328 *e*SN Sn 18 35 32.5 -17
STHS Stebnicka Huta 14.07 328 *e*P **Pn** **18 33 15.0 +1.5**
VSR Storozhevoye 14.10 17 *e*P **Pn** **18 33 13.8 0.0**
VSR pmax pmax
comp=Z,7.0nm,0.6s
VSR pmax pmax
comp=N,20nm,1.1s
VSR pmax pmax
comp=E,10.0nm,1.0s
VSR Storozhevoye 14.10 17 *e*P **Pn** **18 33 13.8 0.0**
comp=E,20nm,1.1s
VYHS Vyhne 14.50 321 *e*P **Pn** **18 33 22.3 +2.8**
VYHS Vyhne 14.50 321 *e*PN **Pn** **18 33 22.3 +2.8**
VYHS Vyhne 14.50 321 *e*Pn **Pn** **18 33 22.3 +2.8**
VRHR Novokhopersk 14.66 23 *e*P **Pn** **18 33 23.4 +1.8**
VRHR pmax pmax
comp=Z,10.0nm,1.2s
VRHR pmax pmax
comp=N,30nm,1.1s
VRHR pmax pmax
comp=E,7.0nm,0.7s
RST Umm Al-Ruwaisa 14.68 121 *e*P **Pn** **18 33 23.1 +1.1**
NAY Al-Naaiem 15.00 121 *e*P **Pn** **18 33 26.6 +0.3**
KBD Kabd 15.36 120 *e*P **Pn** **18 33 27.3 -3.7**
ARSA Arzberg 15.57 312 ⇑*i*P **P** **18 33 40.1 +1.9**
comp=E,12nm,1.0s
ARSA Arzberg 15.57 312 P **P** **18 33 40.1 +1.9**
comp=E,12nm,1.0s
SOKA Soboth 15.59 310 ⇑*i*P **P** **18 33 40.5 +2.1**
comp=E,10nm,1.0s,SNR=5.1
SOKA Soboth 15.59 310 P **P** **18 33 40.5 +2.1**
comp=E,10nm,1.0s,SNR=5.1
CONA Conrad Observa 15.74 315 ⇑*i*pP **P** **18 33 40.0 0.0**
comp=E,7.8nm,1.2s
CONA Conrad Observa 15.74 315 P **P** **18 33 40.0 0.0**
comp=E,7.8nm,1.2s
OKC Ostrava-Krasne 15.75 324 *e*P **Pn** **18 33 37.5 +1.5**
OKC MLR MLR
comp=Z,1μm,10.7s
OKC Ostrava-Krasne 15.75 324 *e*P **Pn** **18 33 37.5 +1.5**
OKC AMS AMS 18 40 50.0
comp=Z,1μm,10.7s
OBKA Obir 15.81 309 *i* P **P** **18 33 43.2 +2.4**
comp=Z,22nm,0.9s,SNR=7.6
OBKA Obir 15.81 309 P **P** **18 33 43.2 +2.4**
comp=Z,22nm,0.9s,SNR=7.6
MORC Moravsky Berou 15.99 323 *e*P **P** **18 33 44.0 +1.2**
VRAC Vranov 16.16 320 Pn **Pn** **18 33 42.9 +1.6**
VRAC Vranov 16.16 320 Pn **Pn** **18 33 42.9 +1.6**
baz=116,slow=11,SNR=6.8
VRAC LR LR 18 40 00.2
comp=Z,187nm,20.2s,baz=135,slow=38
VRAC Vranov 16.16 320 P **Pn** **18 33 42.9 +1.6**
MYKA Terra Mystica 16.42 308 ⇑*i*P **P** **18 33 49.9 +2.3**
comp=Z,38nm,1.5s,SNR=11
MYKA Terra Mystica 16.42 308 P **P** **18 33 49.9 +2.3**
comp=Z,38nm,1.5s,SNR=11
MOA Molln 16.61 312 ⇑*i*P **P** **18 33 52.6 +3.0**
comp=Z,14nm,1.4s
MOA Molln 16.61 312 P **P** **18 33 52.6 +3.0**
comp=Z,14nm,1.4s
TREC Trest 16.73 318 AMS AMS 18 41 20.0
comp=Z,600nm,13.7s
MICGM Minsk 16.88 351 *e*P Pn 18 33 38.0 -12
MNK Minsk 16.88 351 *e*P Pn 18 33 38.0 -12
DPC Dobruska-Polom 16.96 322 *e*P **P** **18 33 54.4 +0.9**
DPC Dobruska-Polom 16.96 322 *e*P **P** **18 33 54.4 +0.9**
DPC *ex* x 18 33 58.4
DPC *e*S S 18 37 19.8 +9.3
DPC AMS AMS 18 41 40.0
DPC Dobruska-Polom 16.96 322 *e*P **P** **18 33 54.4 +0.9**
OBN Obninsk 17.41 8 ⇓*e*P **P** **18 33 59.5 +1.2**
OBN pmax pmax
comp=Z,38nm,1.8s
OBN MLR MLR
comp=Z,400nm,20.0s
OBN Obninsk 17.41 8 *e*P **P** **18 33 59.5 +1.2**
comp=Z,400nm,20.0s
GERES GERESS Array B 17.45 315 P **P** **18 33 59.5 +0.5**
GERES GERESS Array B 17.45 315 P **P** **18 33 59.5 +0.5**
comp=Z,0.2nm,0.3s,baz=130,slow=12,SNR=15
GERES GERESS Array B 17.45 315 P **P** **18 33 59.5 +0.5**
PRU Pruhonice 17.63 319 *e*P **P** **18 34 03.3 +2.4**
PRU MLR MLR
comp=Z,700nm,12.3s
PRU Pruhonice 17.63 319 *e*P **P** **18 34 03.3 +2.4**
PRU *ex* x 18 34 07.7
PRU *e*S S 18 37 33.1 +9.1
PRU AMS AMS 18 42 00.0
comp=Z,700nm,12.3s

PRU Pruhonice 17.63 319 eP P 18 34 03.3 +2.4
comp=Z,700nm,12.3s
KHC Kasperske Hory 17.67 315 eP P 18 34 04.0 +2.7
KHC MLR MLR
comp=Z,800nm,10.7s
KHC Kasperske Hory 17.67 315 eP P 18 34 04.0 +2.7
KHC ex x 18 34 12.4
KHC eS S 18 37 29.2 +4.4
KHC AMS AMS 18 41 50.0
comp=Z,800nm,10.7s
KHC Kasperske Hory 17.67 315 P **P 18 34 01.5 +0.2**
comp=Z,15nm,1.4s
KHC Kasperske Hory 17.67 315 P **P 18 34 01.5 +0.2**
comp=Z,15nm,1.4s
WTTA Wattenberg 17.94 308⇑ *i*P **P 18 34 08.6 +4.1**
comp=Z,18nm,1.0s
PVCC Panska Ves 17.94 320 AMS AMS 18 42 30.0
comp=Z,600nm,10.5s
MOS Moscow 18.15 9 eP **Pn 18 34 04.1 -2.1**
MOS pmax pmax
comp=Z,105nm,1.6s
MOTA Moosalm 18.30 308⇑ *i*pP pP 18 34 09.8 -0.8
comp=Z,14nm,0.9s,SNR=5.9
MOTA Moosalm 18.30 308 P pP 18 34 09.8 -0.8
comp=Z,14nm,0.9s,SNR=5.9
FETA Feichten 18.41 306⇑ *i*P **Pn 18 34 13.3 +3.6**
comp=Z,18nm,1.1s,SNR=8.4
BRG Berggiesshubel 18.47 320 eP Pn 18 34 16.6 +6.5
comp=Z,3.7nm,0.9s
BRG S **S 18 37 42.0 +1.0**
BRG
comp=N,460nm,11.8s
BRG
comp=E,296nm,9.9s
BRG
comp=Z,690nm,10.5s
BRG Berggiesshubel 18.47 320 eP Pn 18 34 16.6 +6.5
BRG S **S 18 37 42.0 +1.0**
BRG pmax pmax
comp=Z,4.0nm,0.9s
BRG MLR MLR
comp=N,460nm,11.8s
BRG MLR MLR
comp=E,296nm,9.8s
BRG MLR MLR
comp=Z,690nm,10.5s
RETA Reutte 18.57 308⇑ *i*pP pP 18 34 13.5 0.0
comp=Z,15nm,0.9s,SNR=6.6
RETA Reutte 18.57 308 P pP 18 34 13.5 0.0
comp=Z,15nm,0.9s,SNR=6.6
KEST Kesra 18.67 270 P **Pn 18 34 13.9 +1.1**
KEST Kesra 18.67 270 P **Pn 18 34 13.9 +1.1**
comp=Z,0.1nm,0.3s,baz=28,slow=6.4,SNR=8.0
KEST Kesra 18.67 270 P **Pn 18 34 13.9 +1.1**
DAVOX Davos/Dischmat 18.87 305 P **Pn 18 34 16.0 +0.7**
DAVOX Davos/Dischmat 18.87 305 P **Pn 18 34 16.0 +0.7**
comp=Z,0.2nm,0.3s,baz=110,slow=9.2,SNR=9.4
DAVOX Davos/Dischmat 18.87 305 P **Pn 18 34 16.0 +0.7**
DAVA Damuels 19.05 307 *i* P **Pn 18 34 18.1 +0.7**
comp=Z,20nm,0.8s,SNR=8.1
DAVA Damuels 19.05 307 P **Pn 18 34 18.1 +0.7**
comp=Z,20nm,0.8s,SNR=8.1
CLL Collm 19.20 320 eP **Pn 18 34 21.0 +1.9**
CLL eS **S 18 37 58.0 +2.2**
CLL Collm 19.20 320 e(P) **Pn 18 34 21.0 +1.9**
CLL ePP **PnPn 18 34 33.0 +1.2**
CLL eS **S 18 37 58.0 +2.2**
comp=N,200nm,24.0s
CLL eS **S 18 37 58.0 +2.2**
comp=E,100nm,21.7s
CLL e 18 38 42.0
CLL Lmax 18 43 00.0
CLL Collm 19.20 320 eP **Pn 18 34 21.0 +1.9**
CLL eS **S 18 37 58.0 +2.2**
GRA1 Grafenberg Arr 19.28 314 eP **Pn 18 34 20.9 +0.9**
comp=E,9.0nm,0.9s
GRF Grafenberg Arr 19.28 314 eP **Pn 18 34 20.9 +0.9**
comp=Z,9.0nm,0.9s
GRF Grafenberg Arr 19.28 314 eP **Pn 18 34 20.9 +0.9**
GRF pmax pmax
comp=Z,9.0nm,0.9s
MOX Moxa 19.55 317 eP **Pn 18 34 23.8 +0.6**
comp=Z,69nm,2.2s
MOX Moxa 19.55 317 eP **Pn 18 34 23.8 +0.6**
MOX pmax pmax
comp=Z,69nm,2.2s
MOX Moxa 19.55 317 eP **Pn 18 34 23.8 +0.6**
comp=Z,69nm,2.2s
SAOF Saorge 19.76 296 eP **Pn 18 34 25.6 -0.3**
SAOF Saorge 19.76 296 eP **Pn 18 34 25.6 -0.3**
SBF Sospel 19.83 295 eP **P 18 34 25.8 +0.7**
comp=Z,78nm,1.0s
SBF Sospel 19.83 295 eP **P 18 34 25.8 +0.7**
SBF pmax pmax
comp=Z,78nm,1.0s
SBF Sospel 19.83 295 eP **P 18 34 25.8 +0.7**
comp=Z,78nm,1.0s
SBF Sospel 19.83 295 eP **P 18 34 25.8 +0.7**
comp=Z,39nm,1.0s
AUTN L'Aution 19.86 296 eP **P 18 34 26.2 +0.6**
AUTN L'Aution 19.86 296 eP **P 18 34 26.2 +0.6**
LUCF Luceram 19.90 295 eP **P 18 34 26.6 +0.7**
LUCF Luceram 19.90 295 eP **P 18 34 26.6 +0.7**
TOUF Mont Tournerai 19.98 296 eP **Pn 18 34 28.0 -0.7**
TOUF Mont Tournerai 19.98 296 eP **Pn 18 34 28.0 -0.7**
MVIF Mont Vial 20.04 295 eP **P 18 34 28.2 +0.7**
MVIF Mont Vial 20.04 295 eP **P 18 34 28.2 +0.7**
SPAK Spaichingen-Ko 20.04 308 eP Pn 18 34 28.5 -0.7
STU Stuttgart 20.05 310 eP Pn 18 34 28.7 -0.5
comp=Z,120nm,1.8s
STU Stuttgart 20.05 310 eP **P 18 34 27.9 +0.5**
STU pmax pmax
comp=Z,31nm,0.8s
STU Stuttgart 20.05 310 eP **P 18 34 27.9 +0.5**
comp=Z,31nm,0.8s
STU Stuttgart 20.05 310 eP **P 18 34 27.9 +0.5**
comp=Z,31nm,0.8s
CALN Calern 20.20 295 eP Pn 18 34 30.4 -0.8
CALN Calern 20.20 295 eP Pn 18 34 30.4 -0.8
FRF La Foret Royal 20.35 294 eP Pn 18 34 31.9 -0.9
comp=Z,56nm,1.1s
FRF La Foret Royal 20.35 294 eP Pn 18 34 31.9 -0.9
FRF pmax pmax
comp=Z,56nm,1.1s
FRF La Foret Royal 20.35 294 eP Pn 18 34 31.9 -0.9
comp=Z,56nm,1.1s
FRF La Foret Royal 20.35 294 eP Pn 18 34 31.9 -0.9
comp=Z,28nm,1.1s
BFO Black Forest 20.41 308 eP Pn 18 34 32.6 -0.8
comp=Z,44nm,1.5s
BFO Black Forest 20.41 308 eP Pn 18 34 32.6 -0.8
BFO pmax pmax
comp=Z,44nm,1.5s
BFO Black Forest 20.41 308 eP Pn 18 34 32.6 -0.8
comp=Z,45nm,1.5s
BFO Black Forest 20.41 308 eP Pn 18 34 32.6 -0.8
comp=Z,45nm,1.5s
LMR La Mourre 20.43 294 eP **P 18 34 32.2 +0.7**
comp=Z,31nm,0.9s
LMR La Mourre 20.43 294 eP **P 18 34 32.2 +0.7**
LMR pmax pmax
comp=Z,31nm,0.9s
LMR La Mourre 20.43 294 eP **P 18 34 32.2 +0.7**
comp=Z,31nm,0.9s
LMR La Mourre 20.43 294 eP **P 18 34 32.2 +0.7**
comp=Z,16nm,0.9s
MBDF Montbardon 20.44 298 eP **P 18 34 32.5 +0.6**
comp=Z,100nm,1.0s
MBDF Montbardon 20.44 298 eP **P 18 34 32.5 +0.6**
MBDF pmax pmax
comp=Z,100nm,1.0s
MBDF Montbardon 20.44 298 eP **P 18 34 32.5 +0.6**
comp=Z,100nm,1.0s
MBDF Montbardon 20.44 298 eP **P 18 34 32.5 +0.6**
comp=Z,50nm,1.0s
FELD Feldberg im Sc 20.45 307 eP **P 18 34 30.3 -1.6**
UBBA Unterbreizbach 20.52 316 eP Pn 18 34 33.7 -0.8
comp=Z,44nm,1.8s
BNI Bardonecchia 20.57 298 eP **P 18 34 34.0 +0.8**
BNI pmax pmax
comp=Z,43nm,1.1s
BNI Bardonecchia 20.57 298 eP **P 18 34 34.0 +0.8**
comp=Z,43nm,1.1s
BNI Bardonecchia 20.57 298 eP **P 18 34 34.0 +0.8**
comp=Z,43nm,1.1s
LPG La Plagne 20.61 300 eP **P 18 34 34.4 +0.5**
comp=Z,52nm,0.9s
LPG La Plagne 20.61 300 eP **P 18 34 34.4 +0.5**
LPG pmax pmax
comp=Z,52nm,0.9s
LPG La Plagne 20.61 300 eP **P 18 34 34.4 +0.5**
comp=Z,52nm,0.9s
LPG La Plagne 20.61 300 eP **P 18 34 34.4 +0.5**
comp=Z,26nm,0.9s
LPL La Plagne 20.63 300 eP Pn 18 34 35.2 -1.1
comp=Z,54nm,1.0s
LPL La Plagne 20.63 300 eP Pn 18 34 35.2 -1.1
LPL pmax pmax
comp=Z,54nm,1.0s
LPL La Plagne 20.63 300 eP Pn 18 34 35.2 -1.1
comp=Z,54nm,1.0s
LPL La Plagne 20.63 300 eP Pn 18 34 35.2 -1.1
comp=Z,27nm,1.0s
RSL Roselend 20.74 300 eP Pn 18 34 37.3 -0.2
RSL Roselend 20.74 300 eP Pn 18 34 37.3 -0.2
OG25 Le Caire 20.88 296 eP **P 18 34 37.2 +0.7**
OG25 Le Caire 20.88 296 eP **P 18 34 37.2 +0.7**
VSU Vasula 20.89 351 *i* P **P 18 34 37.1 +0.7**
VSU pmax pmax
comp=Z,144nm,1.6s
VSU Vasula 20.89 351 *i* P **P 18 34 37.1 +0.7**
comp=Z,144nm,1.6s
MOF Molkenrain 20.99 306 eP **P 18 34 36.9 -0.9**
MOF Molkenrain 20.99 306 eP **P 18 34 36.9 -0.9**
CDF Champ du Feu 21.09 308 eP **P 18 34 39.3 +0.5**
comp=Z,36nm,1.1s
CDF Champ du Feu 21.09 308 eP **P 18 34 39.3 +0.5**
CDF pmax pmax
comp=Z,36nm,1.1s
CDF Champ du Feu 21.09 308 eP **P 18 34 39.3 +0.5**
comp=Z,36nm,1.1s
CDF Champ du Feu 21.09 308 eP **P 18 34 39.3 +0.5**
comp=Z,18nm,1.1s
ECH Echery 21.10 307 eP **P 18 34 39.5 +0.7**
ECH pmax pmax
comp=Z,9.0nm,0.9s
ECH Echery 21.10 307 eP **P 18 34 39.5 +0.7**
comp=Z,9.1nm,0.9s
ECH Echery 21.10 307 eP **P 18 34 39.5 +0.7**
comp=Z,9.1nm,0.9s
ORIF Oris-en-Rattie 21.10 298 eP **P 18 34 40.4 +1.4**
comp=Z,43nm,0.9s
ORIF eR
comp=Z,325nm,17.5s
ORIF Oris-en-Rattie 21.10 298 eP **P 18 34 40.4 +1.4**
ORIF pmax pmax
comp=Z,43nm,0.9s
ORIF Oris-en-Rattie 21.10 298 eP **P 18 34 40.4 +1.4**
comp=Z,43nm,0.9s
ORIF Oris-en-Rattie 21.10 298 eP **P 18 34 40.4 +1.4**
comp=Z,22nm,0.9s
SMRF Simiane la Rot 21.18 295 eP **P 18 34 40.5 +0.8**
comp=Z,32nm,1.1s
SMRF Simiane la Rot 21.18 295 eP **P 18 34 40.5 +0.8**
comp=Z,32nm,1.1s
SMRF Simiane la Rot 21.18 295 eP **P 18 34 40.5 +0.8**
comp=Z,16nm,1.1s
CABF La Chapelle 21.32 302 eP **P 18 34 42.1 +0.8**
comp=Z,100nm,1.4s
CABF La Chapelle 21.32 302 eP **P 18 34 42.1 +0.8**
CABF pmax pmax
comp=Z,100nm,1.4s
CABF La Chapelle 21.32 302 eP **P 18 34 42.1 +0.8**
comp=Z,100nm,1.4s
CABF La Chapelle 21.32 302 eP **P 18 34 42.1 +0.8**
comp=Z,50nm,1.4s
HAU Haudompre 21.54 306 eP **P 18 34 43.5 -0.1**
comp=Z,28nm,1.0s
HAU eR
comp=Z,105nm,19.2s
HAU Haudompre 21.54 306 eP **P 18 34 43.5 -0.1**
HAU pmax pmax
comp=Z,28nm,1.0s
HAU Haudompre 21.54 306 eP **P 18 34 43.5 -0.1**
comp=Z,28nm,1.0s
HAU Haudompre 21.54 306 eP **P 18 34 43.5 -0.1**
comp=Z,14nm,1.0s
RUP Ruppelstein 21.70 311 eP **P 18 34 46.0 +0.7**
VIVF Saint-Julien-l 21.94 297 eP **P 18 34 49.4 +1.5**
comp=Z,31nm,1.2s
VIVF Saint-Julien-l 21.94 297 eP **P 18 34 49.4 +1.5**
VIVF pmax pmax
comp=Z,31nm,1.2s
VIVF Saint-Julien-l 21.94 297 eP **P 18 34 49.4 +1.5**
comp=Z,31nm,1.2s
VIVF Saint-Julien-l 21.94 297 eP **P 18 34 49.4 +1.5**
comp=Z,15nm,1.2s
AKTK Aktyubinsk 22.02 47 P **P 18 34 48.3 -0.4**
AKTO Aktyubinsk 22.02 47 P **P 18 34 48.3 -0.4**
AKTO Aktyubinsk 22.02 47 P **P 18 34 48.3 -0.4**
AKTO Aktyubinsk 22.02 47 P **P 18 34 48.3 -0.4**
comp=Z,6.8nm,0.8s,baz=217,slow=7.7,SNR=9.9
AKTO Aktyubinsk 22.02 47 P **P 18 34 48.3 -0.4**
LASF Ste Croix 22.42 295 eP **P 18 34 52.8 -0.2**
comp=Z,49nm,1.5s
LASF Ste Croix 22.42 295 eP **P 18 34 52.8 -0.2**
comp=Z,49nm,1.5s
LASF Ste Croix 22.42 295 eP **P 18 34 52.8 -0.2**
comp=Z,24nm,1.5s
SFTF Sexfontaines 22.44 306 eP **P 18 34 53.1 -0.1**
comp=Z,64nm,1.3s
SFTF Sexfontaines 22.44 306 eP **P 18 34 53.1 -0.1**
comp=Z,64nm,1.3s
SFTF Sexfontaines 22.44 306 eP **P 18 34 53.1 -0.1**
comp=Z,32nm,1.3s
MEZF Maizieres J'vi 22.52 307 eP **P 18 34 55.9 +1.9**
comp=Z,68nm,1.1s
MEZF Maizieres J'vi 22.52 307 eP **P 18 34 55.9 +1.9**
comp=Z,68nm,1.1s
MEZF Maizieres J'vi 22.52 307 eP **P 18 34 55.9 +1.9**
comp=Z,34nm,1.1s
ABKAR Akbulak array 22.73 51 eP **P 18 34 57.5 +1.2**
comp=Z,3.6nm,0.8s
ABKAR Akbulak array 22.73 51 eP **P 18 34 57.5 +1.2**
comp=Z,3.6nm,0.8s
SMF Signal de Mont 22.83 302 eP **P 18 34 56.6 -0.8**
comp=Z,49nm,1.1s
SMF Signal de Mont 22.83 302 eP **P 18 34 56.6 -0.8**
SMF pmax pmax
comp=Z,49nm,1.1s
SMF Signal de Mont 22.83 302 eP **P 18 34 56.6 -0.8**
comp=Z,49nm,1.1s
SMF Signal de Mont 22.83 302 eP **P 18 34 56.6 -0.8**
comp=Z,25nm,1.1s
LOR Lormes 22.96 303 eP **P 18 34 58.5 -0.2**
comp=Z,21nm,1.0s
LOR eR
comp=Z,243nm,18.5s
LOR Lormes 22.96 303 eP **P 18 34 58.5 -0.2**
comp=Z,21nm,1.0s
LOR Lormes 22.96 303 eP **P 18 34 58.5 -0.2**
comp=Z,10nm,1.0s
SSF Saint Saulge 23.15 302 eP **P 18 35 00.5 -0.1**
comp=Z,59nm,1.4s
SSF Saint Saulge 23.15 302 eP **P 18 35 00.5 -0.1**
SSF pmax pmax
comp=Z,59nm,1.4s
SSF Saint Saulge 23.15 302 eP **P 18 35 00.5 -0.1**
comp=Z,59nm,1.4s
SSF Saint Saulge 23.15 302 eP **P 18 35 00.5 -0.1**
comp=Z,30nm,1.4s
AVF Avril sur Loir 23.19 302 eP **P 18 35 00.5 -0.6**
comp=Z,23nm,0.8s
AVF Avril sur Loir 23.19 302 eP **P 18 35 00.5 -0.6**
AVF pmax pmax
comp=Z,23nm,0.8s
AVF Avril sur Loir 23.19 302 eP **P 18 35 00.5 -0.6**
comp=Z,23nm,0.8s
AVF Avril sur Loir 23.19 302 eP **P 18 35 00.5 -0.6**
comp=Z,11nm,0.8s
AGO Saint Agoulin 23.20 300 eP **P 18 35 00.5 -0.7**
AGO Saint Agoulin 23.20 300 eP **P 18 35 00.5 -0.7**
PYM Petit Puy Mans 23.24 299 eP **P 18 35 01.0 -0.7**
PYM Petit Puy Mans 23.24 299 eP **P 18 35 01.0 -0.7**
KLMR Klimovskoe 23.37 9 eP **P 18 35 01.2 -1.5**
KLMR S S 18 39 06.7 -8.9
KLMR pmax pmax
comp=Z,90nm,1.5s
KLMR MLR MLR
comp=Z,393nm,15.0s
KLMR Klimovskoe 23.37 9 eP **P 18 35 01.2 -1.5**
comp=Z,90nm,1.5s
MTLF Montolieu 23.55 293 eP **P 18 35 05.4 +0.7**
comp=Z,34nm,1.4s
MTLF Montolieu 23.55 293 eP **P 18 35 05.4 +0.7**
MTLF pmax pmax
comp=Z,34nm,1.4s
MTLF Montolieu 23.55 293 eP **P 18 35 05.4 +0.7**
comp=Z,34nm,1.4s
MTLF Montolieu 23.55 293 eP **P 18 35 05.4 +0.7**
comp=Z,17nm,1.4s
EMHD Djebel Mahouad 23.61 275 P **P 18 35 08.0 +2.4**
EMHD Djebel Mahouad 23.61 275 P **P 18 35 08.0 +2.4**
VALF Valcebollere 23.66 291 eP **P 18 35 06.5 +0.5**
VALF Valcebollere 23.66 291 eP **P 18 35 06.5 +0.5**
CAF Calviac 23.79 297 eP **P 18 35 07.7 +0.6**
comp=Z,13nm,0.9s
CAF Calviac 23.79 297 eP **P 18 35 07.7 +0.6**
CAF pmax pmax
comp=Z,13nm,0.9s
CAF Calviac 23.79 297 eP **P 18 35 07.7 +0.6**
comp=Z,13nm,0.9s
CAF Calviac 23.79 297 eP **P 18 35 07.7 +0.6**
comp=Z,6.3nm,0.9s
TCF Toulx Ste Croi 23.87 300 eP **P 18 35 07.3 -0.6**
comp=Z,69nm,1.5s
TCF Toulx Ste Croi 23.87 300 eP **P 18 35 07.3 -0.6**
TCF pmax pmax
comp=Z,69nm,1.5s
TCF Toulx Ste Croi 23.87 300 eP **P 18 35 07.3 -0.6**
comp=Z,69nm,1.5s
TCF Toulx Ste Croi 23.87 300 eP **P 18 35 07.3 -0.6**
comp=Z,34nm,1.5s
FINES FINESS Array B 23.88 352 P **P 18 35 07.2 -0.5**
FINES FINESS Array B 23.88 352 P **P 18 35 07.2 -0.5**
comp=Z,8.8nm,0.7s,baz=147,slow=11,SNR=22
FINES FINESS Array B 23.88 352 P **P 18 35 07.2 -0.5**
RJF Les Rejaudoux 24.21 298 eP **P 18 35 11.5 +0.4**
comp=Z,23nm,0.9s
RJF eR
comp=Z,229nm,17.8s
RJF Les Rejaudoux 24.21 298 eP **P 18 35 11.5 +0.4**
RJF pmax pmax
comp=Z,23nm,0.9s
RJF Les Rejaudoux 24.21 298 eP **P 18 35 11.5 +0.4**
comp=Z,23nm,0.9s
RJF Les Rejaudoux 24.21 298 eP **P 18 35 11.5 +0.4**
comp=Z,12nm,0.9s
MLS Moulis 24.35 292 eP **P 18 35 12.0 -0.4**
MLS Moulis 24.35 292 eP **P 18 35 12.0 -0.4**
KAF Kangasniemi 24.52 353 eP **P 18 35 12.7 -0.9**
KAF pmax pmax
comp=Z,6.0nm,0.6s
KAF Kangasniemi 24.52 353 ep **P 18 35 12.7 -0.9**
comp=Z,6.2nm,0.6s
KAF Kangasniemi 24.52 353 eP **P 18 35 12.7 -0.9**
comp=Z,6.0nm,0.6s
EBNR Beni Rached 24.71 276 P **P 18 35 11.2 -4.5**
EBNR Beni Rached 24.71 276 P **P 18 35 11.2 -4.5**
LFF La Frestale 24.72 297 eP **P 18 35 16.1 +0.4**
LFF La Frestale 24.72 297 eP **P 18 35 16.1 +0.4**
LFF La Frestale 24.72 297 eP **P 18 35 16.1 +0.4**
LFF La Frestale 24.72 297 eP **P 18 35 16.1 +0.4**
ECHA Ech Chlef 24.87 276 P **P 18 35 13.2 -3.9**
ECHA Ech Chlef 24.87 276 P **P 18 35 13.2 -3.9**
EPF Esparros 24.91 292 eP **P 18 35 17.2 -0.2**
comp=Z,17nm,1.0s
EPF Esparros 24.91 292 eP **P 18 35 17.2 -0.2**
EPF pmax pmax
comp=Z,17nm,1.0s
EPF Esparros 24.91 292 eP **P 18 35 17.2 -0.2**
comp=Z,17nm,1.0s
EPF Esparros 24.91 292 eP **P 18 35 17.2 -0.2**
comp=Z,8.6nm,1.0s
JOF Joensuu 25.03 359 eP **P 18 35 17.7 -0.5**
JOF pmax pmax
comp=Z,13nm,0.8s
JOF Joensuu 25.03 359 ep **P 18 35 17.7 -0.5**
comp=Z,13nm,0.8s
JOF Joensuu 25.03 359 eP **P 18 35 17.7 -0.5**
comp=Z,13nm,0.8s
ETRT Tiaret 25.11 274 P **P 18 35 21.0 +1.6**
ETRT Tiaret 25.11 274 P **P 18 35 21.0 +1.6**
EANR 'Ain N'Sour 25.13 275 P **P 18 35 15.0 -4.5**
EANR 'Ain N'Sour 25.13 275 P **P 18 35 15.0 -4.5**
HFS Hagfors 25.24 338 P **P 18 35 20.6 +0.5**
HFS Hagfors 25.24 338 P **P 18 35 20.6 +0.5**
comp=Z,9.2nm,0.9s,baz=126,slow=7.5,SNR=13
HFS Hagfors 25.24 338 P **P 18 35 20.6 +0.5**
ARU Arti 25.36 35*d* *i*P **P 18 35 21.1 -0.2**
ARU 18 35 53.5
ARU S **S 18 39 45.9 -1.7**
ARU pmax pmax
comp=Z,30nm,1.2s
ARU Arti 25.36 35 *i* P **P 18 35 21.1 -0.2**
comp=Z,30nm,1.2s
ARU S **S 18 39 45.9 -1.7**
MFF Saint Martin d 25.53 300 eP **P 18 35 22.2 -0.8**
comp=Z,49nm,1.1s
MFF Saint Martin d 25.53 300 eP **P 18 35 22.2 -0.8**
MFF pmax pmax
comp=Z,49nm,1.1s
MFF Saint Martin d 25.53 300 eP **P 18 35 22.2 -0.8**
comp=Z,49nm,1.1s
MFF Saint Martin d 25.53 300 eP **P 18 35 22.2 -0.8**
comp=Z,24nm,1.1s
ETSF Etsaut 25.57 292 eP **P 18 35 23.5 +0.1**
ETSF Etsaut 25.57 292 eP **P 18 35 23.5 +0.1**
ETSF Etsaut 25.57 292 eP **P 18 35 23.5 +0.1**
ETSF Etsaut 25.57 292 eP **P 18 35 23.5 +0.1**
SJPF Ste Jean 26.06 292 eP **P 18 35 28.1 +0.3**
SJPF Ste Jean 26.06 292 eP **P 18 35 28.1 +0.3**
SJPF Ste Jean 26.06 292 eP **P 18 35 28.1 +0.3**
SJPF Ste Jean 26.06 292 eP **P 18 35 28.1 +0.3**
KONO Kongsberg 26.21 333 eP **P 18 35 30.4 +1.4**
KONO pmax pmax
comp=Z,31nm,1.2s
KONO Kongsberg 26.21 333 eP **P 18 35 30.4 +1.4**
comp=Z,31nm,1.2s
GRR Gorron 26.30 304 eP **P 18 35 28.7 -1.2**
comp=Z,21nm,0.7s
GRR Gorron 26.30 304 eP **P 18 35 28.7 -1.2**
GRR pmax pmax
comp=Z,21nm,0.7s
GRR Gorron 26.30 304 eP **P 18 35 28.7 -1.2**
comp=Z,21nm,0.7s
GRR Gorron 26.30 304 eP **P 18 35 28.7 -1.2**
comp=Z,11nm,0.7s
SVE Sverdlovsk 26.53 35 eP **P 18 35 31.9 0.0**
SVE pmax pmax
comp=Z,24nm,1.5s
SVE Sverdlovsk 26.53 35 eP **P 18 35 31.9 0.0**
comp=Z,24nm,1.5s
SOKR Solikamsk 26.66 28 eP **P 18 35 33.4 +0.4**
SOKR pmax pmax
comp=Z,10.0nm,1.3s
SOKR MLR MLR
comp=Z,260nm,23.0s
SOKR Solikamsk 26.66 28 eP **P 18 35 33.4 +0.4**
comp=Z,260nm,23.0s
NB2 NORSAR Subarra 26.71 337 P **P 18 35 33.1 -0.4**
comp=Z,18nm,1.7s,baz=137,slow=10
NB2 NORSAR Subarra 26.71 337 P **P 18 35 33.1 -0.4**
comp=Z,18nm,1.7s,SNR=5.9
NOA NORSAR Array B 26.71 337 P **P 18 35 33.5 -0.1**
NOA NORSAR Array B 26.71 337 P **P 18 35 33.5 -0.1**
comp=Z,1.4nm,0.7s,baz=139,slow=9.1,SNR=6.6
NOA LR LR 18 48 36.9
comp=Z,82nm,18.5s,baz=140,slow=42
NOA NORSAR Array B 26.71 337 P **P 18 35 33.5 -0.1**
TAM Tamanrasset 27.62 245 eP **P 18 35 43.1 +0.9**
TAM pmax pmax
comp=Z,19nm,1.4s
TAM Tamanrasset 27.62 245 eP **P 18 35 43.1 +0.9**
comp=Z,19nm,1.4s
TAM Tamanrasset 27.62 245 eP **P 18 35 43.1 +0.9**
comp=Z,19nm,1.4s
ATD Arta Tunnel 27.87 158 LR LR 18 46 02.1
comp=Z,52nm,20.6s,baz=166,slow=35
ESDC Sonseca Array 28.36 285 P **P 18 35 48.3 -0.3**
ESDC Sonseca Array 28.36 285 P **P 18 35 48.3 -0.3**
comp=Z,4.2nm,0.9s,baz=72,slow=9.5,SNR=24
ESDC Sonseca Array 28.36 285 P **P 18 35 48.3 -0.3**
KKAR Karatay Array 29.17 68 eP **P 18 35 55.7 0.0**
KKAR pmax pmax
comp=Z,2.0nm,0.7s
KKAR Karatay Array 29.17 68 eP **P 18 35 55.7 0.0**
comp=Z,2.3nm,0.7s

KKAR Karatay Array 29.17 68 *eP* **P 18 35 55.7 0.0**
comp=Z,2.3nm,0.7s
EKA Eskdalemuir Ar 29.61 318 P **P 18 35 58.8 -0.6**
EKA PcP **PcP 18 39 02.5 -1.3**
EKA Eskdalemuir Ar 29.61 318 P **P 18 35 58.8 -0.6**
comp=Z,2.4nm,0.9s,baz=112,slow=10.0,SNR=8.0
EKA PcP **PcP 18 39 02.5 -1.3**
comp=Z,0.9nm,0.6s,baz=108,slow=2.7,SNR=3.5
EKA Eskdalemuir Ar 29.61 318 P **P 18 35 58.8 -0.6**
BRVK Borovoye 30.08 48 *i P* **P 18 36 03.0 -0.6**
BRVK pmax pmax
comp=Z,10.0nm,1.9s
BRVK Borovoye 30.08 48 *i P* **P 18 36 03.0 -0.6**
comp=Z,10.0nm,1.9s
BVAR Borovoye Array 30.13 48 P **P 18 36 04.2 +0.1**
BVAR Borovoye Array 30.13 48 P **P 18 36 04.2 +0.1**
BVAR Borovoye Array 30.13 48 P **P 18 36 04.2 +0.1**
comp=Z,1.3nm,0.7s,baz=248,slow=2.7,SNR=9.1
BVAR Borovoye Array 30.13 48 P **P 18 36 04.2 +0.1**
MVO Moncorvo 30.49 289 *eP* **P 18 36 07.7 +0.3**
comp=Z,35nm,1.6s
MVO Moncorvo 30.49 289 *eP* **P 18 36 07.7 +0.3**
comp=Z,35nm,1.6s
MTE Manteigas 30.98 287 *eP* **P 18 36 11.9 +0.1**
comp=Z,43nm,1.8s
MTE Manteigas 30.98 287 *eP* **P 18 36 11.9 +0.1**
comp=Z,43nm,1.8s
PCBR Castelo Branco 31.02 286 *eP* **P 18 36 12.4 +0.4**
comp=Z,32nm,1.1s
PCBR Castelo Branco 31.02 286 *eP* **P 18 36 12.4 +0.4**
comp=Z,32nm,1.1s
PVIS Viseu 31.20 288 *eP* **P 18 36 14.2 +0.5**
comp=Z,33nm,1.9s
PVIS Viseu 31.20 288 *eP* **P 18 36 14.2 +0.5**
comp=Z,33nm,1.9s
PESTR Estremoz 31.27 284 *eP* **P 18 36 14.3 0.0**
comp=Z,42nm,1.9s
PESTR Estremoz 31.27 284 *eP* **P 18 36 14.3 0.0**
comp=Z,42nm,1.9s
PVAQ Vaqueiros 31.68 282 *eP* **P 18 36 18.6 +0.7**
comp=Z,52nm,2.0s
PVAQ Vaqueiros 31.68 282 *eP* **P 18 36 18.6 +0.7**
comp=Z,52nm,2.0s
PMTG Montargil 31.72 285 *eP* **P 18 36 18.1 -0.1**
comp=Z,22nm,1.7s
PMTG Montargil 31.72 285 *eP* **P 18 36 18.1 -0.1**
comp=Z,22nm,1.7s
PCAS Casmilo, Conde 31.75 287 *eP* **P 18 36 18.9 +0.4**
comp=Z,39nm,1.7s
PCAS Casmilo, Conde 31.75 287 *eP* **P 18 36 18.9 +0.4**
comp=Z,39nm,1.7s
ARCES ARCESS Array B 31.89 355 P **P 18 36 19.2 -0.2**
ARCES ARCESS Array B 31.89 355 P **P 18 36 19.2 -0.2**
comp=Z,11nm,0.7s,baz=162,slow=8.6,SNR=18
ARCES LR LR 18 50 31.1
comp=Z,234nm,21.8s,baz=317,slow=39
ARCES ARCESS Array B 31.89 355 P **P 18 36 19.2 -0.2**
AAK Ala-Archa 32.12 68 *eP* **P 18 36 22.0 0.0**
AAK pmax pmax
comp=Z,3.0nm,0.7s
AAK Ala-Archa 32.12 68 *eP* **P 18 36 22.0 0.0**
comp=Z,3.3nm,0.7s
AAK Ala-Archa 32.12 68 P **P 18 36 21.9 0.0**
comp=Z,2.6nm,0.6s,baz=273,slow=5.2,SNR=7.9
AAK Ala-Archa 32.12 68 *eP* **P 18 36 22.0 0.0**
comp=Z,3.3nm,0.7s
FRU Bishkek 32.19 68 *eP* **P 18 36 22.0 -0.4**
FRU Bishkek 32.19 68 *eP* **P 18 36 22.0 -0.4**
KURBB Kurchatov Arra 34.75 54 P **P 18 36 44.4 -0.1**
comp=Z,15nm,0.8s,baz=273,slow=8.8,SNR=117
KURBB PcP **PcP 18 39 16.8 -1.2**
comp=Z,1.5nm,0.8s,baz=271,slow=3.4,SNR=7.8
KURK Kurchatov 34.81 53 P **P 18 36 44.4 -0.6**
KURK 18 39 16.8
KURK Kurchatov 34.81 53 P **P 18 36 44.4 -0.6**
KURK PcP **PcP 18 39 16.8 -1.3**
KURK Kurchatov 34.81 53 P **P 18 36 44.4 -0.6**
TOA0 Torodi Ar. Sit 36.88 236 *eP* **P 18 37 01.3 -1.9**
TOA0 Torodi Ar. Sit 36.88 236 *eP* **P 18 37 01.3 -1.9**
TORD Torodi Ar. Bea 36.88 236 P **P 18 37 02.5 -0.7**
TORD PcP **PcP 18 39 23.6 -1.3**
TORD Torodi Ar. Bea 36.88 236 P **P 18 37 02.5 -0.7**
comp=Z,16nm,0.8s,baz=31,slow=9.3,SNR=91
TORD PcP **PcP 18 39 23.6 -1.3**
comp=Z,1.6nm,1.0s,baz=36,slow=2.1,SNR=3.4
TORD Torodi Ar. Bea 36.88 236 P **P 18 37 02.5 -0.7**
MK31 Makanchi Array 37.28 60 *eP* **P 18 37 05.8 -0.6**
MK31 Makanchi Array 37.28 60 *eP* **P 18 37 05.8 -0.6**
MK31 Makanchi Array 37.28 60 *eP* **P 18 37 05.8 -0.6**
MKAR Makanchi Array 37.28 60 P **P 18 37 06.0 -0.4**
MKAR Makanchi Array 37.28 60 P **P 18 37 06.0 -0.4**
MKAR Makanchi Array 37.28 60 P **P 18 37 06.0 -0.4**
comp=Z,4.9nm,0.8s,baz=279,slow=6.5,SNR=36
MKAR LR LR 18 54 06.6
comp=Z,80nm,20.1s,baz=266,slow=39
MKAR Makanchi Array 37.28 60 P **P 18 37 06.0 -0.4**
NVS Novosibirsk 37.91 47⇑ *iP* **P 18 37 10.7 -0.8**
NVS pmax pmax
comp=Z,13nm,1.1s
NVS pmax pmax
comp=N,2.0nm,0.8s
NVS pmax pmax
comp=E,4.0nm,1.1s
NVS Novosibirsk 37.91 47 *i P* **P 18 37 10.7 -0.8**
comp=E,2.0nm,0.8s
MBAR Mbarara 38.38 183 P **P 18 37 15.2 -0.7**
MBAR Mbarara 38.38 183 P **P 18 37 15.2 -0.7**
comp=E,1.1nm,0.3s,baz=68,slow=21,SNR=4.3
MBAR Mbarara 38.38 183 P **P 18 37 15.2 -0.7**
ZAA0 Zalesovo Array 38.78 48 *eP* **P 18 37 17.5 -1.3**
ZAA0 Zalesovo Array 38.78 48 *eP* **P 18 37 17.5 -1.3**
ZALV Zalesovo Beam 38.78 48 P **P 18 37 18.9 +0.1**
ZALV Zalesovo Beam 38.78 48 P **P 18 37 18.9 +0.1**
ZALV Zalesovo Beam 38.78 48 P **P 18 37 18.9 +0.1**
comp=E,3.9nm,0.7s,baz=266,slow=9.4,SNR=12
ZALV LR LR 18 58 21.0
comp=E,77nm,19.1s,baz=249,slow=44
ZALV Zalesovo Beam 38.78 48 P **P 18 37 18.9 +0.1**
KMBO Kilima Mbogo 39.11 172 P **P 18 37 22.8 +0.6**
KMBO Kilima Mbogo 39.11 172 P **P 18 37 22.8 +0.6**
comp=E,0.6nm,0.2s,baz=27,slow=18,SNR=2.8
KMBO Kilima Mbogo 39.11 172 P **P 18 37 22.8 +0.6**
WMQ Urumqi 41.48 64 P **P 18 37 39.5 -1.9**
WMQ pP pP 18 37 49.5 +5.7
WMQ sP sP 18 37 53.5 +8.7
WMQ pmax pmax
comp=Z,9.0nm,0.8s
WMQ pmax pmax
comp=Z,110nm,4.5s
WMQ LR LR
comp=N,160nm,21.6s
WMQ LR LR
comp=E,87nm,18.1s
WMQ LR LR
comp=Z,100nm,15.0s
PYUN Piuthan 42.99 88 *eP* **P 18 37 52.5 -1.6**
comp=Z,47nm,0.5s
DANN Dangsing 43.49 87 *eP* **P 18 37 58.3 0.0**
comp=Z,90nm,0.8s
KOLN Koldanda 43.62 88 *eP* **P 18 37 59.1 -0.1**
comp=Z,16nm,0.6s
DMN Daman 44.89 87 *eP* **P 18 38 09.2 -0.2**
comp=Z,52nm,0.9s
KKN Kakani 44.94 87 *eP* **P 18 38 09.7 -0.1**
comp=Z,24nm,0.7s
PKIN Phulchoki 45.13 87 *eP* **P 18 38 10.5 -0.9**
comp=Z,10nm,0.6s
PKI Pulchoki 45.14 87 *eP* **P 18 38 10.9 -0.6**
DBIC Dimbokro 45.98 237 P **P 18 38 16.4 -1.5**
DBIC Dimbokro 45.98 237 P **P 18 38 16.4 -1.5**
comp=Z,6.5nm,0.9s,baz=11,slow=15,SNR=5.5
DBIC Dimbokro 45.98 237 P **P 18 38 16.4 -1.5**
RAMN Ramite 46.37 87 *eP* **P 18 38 20.6 -0.5**
comp=Z,67nm,1.0s
LIC Lamto 46.43 237 *eP* **P 18 38 20.0 -1.4**
comp=Z,13nm,0.7s
LIC Lamto 46.43 237 *eP* **P 18 38 20.0 -1.4**
comp=Z,13nm,0.7s
LIC Lamto 46.43 237 *eP* **P 18 38 20.0 -1.4**
comp=Z,6.4nm,0.7s
ODAN Odare 47.03 87 *eP* **P 18 38 25.3 -1.0**
TAPN Taplejung 47.06 86 *eP* **P 18 38 26.2 -0.4**
ZAK Zakamensk 50.43 52 *eP* **P 18 38 51.9 -0.1**
ZAK pmax pmax
comp=Z,4.0nm,1.4s
ZAK Zakamensk 50.43 52 *eP* **P 18 38 51.9 -0.1**
comp=Z,4.0nm,1.4s
GTA Gaotai 51.43 66 *eP* **P 18 38 59.5 -0.2**
GTA pP pP 18 39 07.6 +5.5
GTA sP sP 18 39 11.6 +8.5
GTA pmax pmax
comp=Z,7.0nm,1.5s
SONM Songino Array 53.11 54 P **P 18 39 11.3 -0.8**
SONM Songino Array 53.11 54 P **P 18 39 11.3 -0.8**
comp=Z,1.9nm,0.8s,baz=290,slow=8.0,SNR=15
SONM LR LR 19 04 43.1
comp=Z,176nm,20.9s,baz=144,slow=39
SONM Songino Array 53.11 54 P **P 18 39 11.3 -0.8**
ULN Ulaanbaatar 53.52 54 *i P* **P 18 39 15.4 +0.3**
comp=Z,12nm,1.9s
TIXI Tiksi 56.43 22 *ceP* **P 18 39 35.5 -0.1**
TIXI pmax pmax
comp=Z,9.0nm,2.5s
TIXI Tiksi 56.43 22 *eP* **P 18 39 35.5 -0.1**
comp=Z,9.0nm,2.5s
CMAR Chiang Mai Arr 60.47 89 P **P 18 40 05.1 +0.5**
CMAR Chiang Mai Arr 60.47 89 P **P 18 40 05.1 +0.5**
comp=Z,1.2nm,0.8s,baz=299,slow=7.8,SNR=7.0
CMAR Chiang Mai Arr 60.47 89 P **P 18 40 05.1 +0.5**
SCHQ Schefferville 64.86 321 LR LR 19 09 45.3
comp=Z,59nm,18.9s,baz=87,slow=37
BOSA Boshof 66.54 187 P **P 18 40 44.9 +0.4**
BOSA Boshof 66.54 187 P **P 18 40 44.9 +0.4**
comp=Z,11nm,0.9s,baz=5.7,slow=8.8,SNR=11
BOSA Boshof 66.54 187 P **P 18 40 44.9 +0.4**
SEY Seymchan 68.64 25 *i P* **P 18 40 57.8 +0.5**
SEY Seymchan 68.64 25 *i P* **P 18 40 57.8 +0.5**
USRK Ussuriysk Arra 70.63 49 P **P 18 41 08.9 -1.0**
comp=Z,2.9nm,0.8s,baz=282,slow=7.1,SNR=5.5
KSAR Wonju Array Be 71.84 57 P **P 18 41 16.1 -1.1**
KSAR Wonju Array Be 71.84 57 P **P 18 41 16.2 -1.1**
KSRS Korea Array 71.86 56 P **P 18 41 16.1 -1.2**
comp=Z,3.8nm,0.9s,baz=309,slow=5.4,SNR=17
KSRS Korea Array 71.86 56 P **P 18 41 16.2 -1.2**
comp=Z,4.0nm,0.9s
IM04 Indian Mountai 76.31 3 *eP* **P 18 41 42.2 -0.8**
IM04 Indian Mountai 76.31 3 *eP* **P 18 41 42.2 -0.8**
YKA Yellowknife Ar 76.48 345 P **P 18 41 43.5 -0.5**
YKA Yellowknife Ar 76.48 345 P **P 18 41 43.5 -0.5**
comp=Z,2.4nm,0.8s,baz=29,slow=5.8,SNR=8.4
YKA Yellowknife Ar 76.48 345 P **P 18 41 43.5 -0.5**
ILAR Eielson Array 77.63 360 P **P 18 41 51.2 +0.8**
ILAR Eielson Array 77.63 360 P **P 18 41 51.2 +0.8**
comp=Z,1.3nm,1.0s,baz=344,slow=3.2,SNR=8.1
ILAR Eielson Array 77.63 360 P **P 18 41 51.2 +0.8**
PETK Petropavlovsk- 77.66 30 LR LR 19 23 15.7
comp=Z,67nm,18.0s,baz=172,slow=41
BDFB Brasilia 92.22 252 LR LR 19 27 47.0
comp=Z,76nm,18.0s,baz=79,slow=38
PDAR Pinedale Array 92.59 333 LR LR 19 25 51.6
comp=Z,49nm,18.4s,baz=234,slow=36

*IDC **10** 18:33:29.9±2.4, 33°.51N×138°.80E, h268km±26km, mb3.2/7, mb1 3.3/9, mb1mx3.1/27, mbtmp3.2/9, Error ellipse: s-maj=51.7km s-min=16.5km az=56.0*
*ISCJB **10** 18:33:32.7±0.5, 33°.34N±0°.06×138°.47E±0°.07, h300km, mb3.4/7, Error ellipse: s-maj=8.9km s-min=7.9km az=179.6*
*JMA **10** 18:33:32.8±0.1, 33°.47N×138°.42E, h316km, M3.2*
ISC 10 18:33:32.8±0.8, 33°.29N±0°.07×138°.45E±0°.07, h300km, n26, σ1§**68**/31**, mb3.3/7, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
TK02	**Tokai 2**	**0.88**	**319**	P		**Pn**	**18 34 14.2**	**+1.9**
TTO4	**TONANKAI O.B.S**	**1.05**	**313**	P		**Pn**	**18 34 14.6**	**+1.6**
TTO5	**TONANKAI O.B.S**	**1.14**	**328**	P		**Pn**	**18 34 15.3**	**+1.7**
JHJ2	**Mitsune**	**1.16**	**99**	P		**Pn**	**18 34 16.6**	**+2.6**
TK04	**Tokai 4**	**1.19**	**336**	P		**Pn**	**18 34 15.8**	**+1.9**
TTO1	**TONANKAI O.B.S**	**1.43**	**284**	P		**Pn**	**18 34 16.8**	**+1.6**
JIE	**Ise**	**1.82**	**308**	P		**Pn**	**18 34 18.8**	**+0.6**
JOD2	**Odawara 2**	**2.04**	**15**	P		**Pn**	**18 34 21.1**	**+1.3**
JWZ	**Kozaga**	**2.30**	**277**	P		**Pn**	**18 34 22.2**	**+0.1**
BSO1	**Boso 1**	**2.50**	**56**	P		**Pn**	**18 34 23.6**	**+0.5**
BSO1				*eS*		**S**	**18 35 02.9**	**-0.5**
JWY	**Kouya**	**2.56**	**292**	P		**Pn**	**18 34 25.0**	**+0.6**
JRY	**Ryogami san**	**2.74**	**8**	P		**Pn**	**18 34 27.0**	**+1.0**
JRY				*eS*		**S**	**18 35 07.2**	**-1.3**
JGM	**Miyama**	**2.80**	**330**	P		**Pn**	**18 34 26.9**	**+0.3**
JWT	**Wachi**	**3.21**	**309**	P		**Pn**	**18 34 30.7**	**+0.1**
JWT				*eS*		**S**	**18 35 15.0**	**-1.9**
JAG	**Ashikaga**	**3.23**	**14**	P		**Pn**	**18 34 30.4**	**-0.4**
JAG				*eS*		**S**	**18 35 13.1**	**-4.1**
JAI	**Aioi**	**3.38**	**280**	P		**Pn**	**18 34 32.4**	**0.0**
JMN	**Monobe**	**3.85**	**278**	P		**Pn**	**18 34 37.8**	**+0.4**
CBIJ	**Chichi jima**	**6.97**	**151**	P		**Pn**	**18 35 12.9**	**-0.9**
	4.1nm,0.3s,baz=15,slow=20,SNR=3.4							
CBIJ				S		**S**	**18 36 30.8**	**-4.8**
	12nm,0.3s,baz=288,slow=20,SNR=4.6							
KSRS	**Korea Array**	**9.55**	**299**	P		**Pn**	**18 35 44.8**	**-0.5**
	0.2nm,0.3s,baz=117,slow=11,SNR=8.9							
SONM	**Songino Array**	**28.12**	**311**	P		**P**	**18 38 58.3**	**+0.6**
	0.5nm,0.5s,baz=118,slow=9.7,SNR=6.5							
MKAR	**Makanchi Array**	**44.16**	**305**	P		**P**	**18 41 12.8**	**+0.5**
	0.6nm,0.5s,baz=84,slow=9.5,SNR=10							
KURBB	**Kurchatov Arra**	**46.49**	**311**	P		**P**	**18 41 30.2**	**-0.1**
	0.7nm,0.4s,baz=86,slow=9.2,SNR=15							
BVAR	**Borovoye Array**	**51.36**	**314**	P		**P**	**18 42 07.9**	**+0.7**
	0.5nm,0.5s,baz=107,slow=8.1,SNR=5.4							
WRA	**Warramunga Arr**	**53.08**	**185**	P		**P**	**18 42 22.1**	**+2.1**
	0.4nm,0.4s,baz=360,slow=7.3,SNR=3.4							
ARCES	**ARCESS Array B**	**66.64**	**339**	P		**P**	**18 43 50.0**	**-1.0**
	3.5nm,0.9s,baz=19,slow=6.8,SNR=2.8							
FINES	**FINESS Array B**	**70.98**	**332**	P		**P**	**18 44 18.1**	**+0.3**
	0.9nm,0.4s,baz=70,slow=4.6,SNR=8.3							

IDC 10 18:35:57.9±1.7, 2°.23N×126°.82E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.5/20, mbtmp3.5/5, Error ellipse: s-maj=183.2km s-min=19.1km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.23**	**162**	P		P	18 41 06.7	-0.2
	1.6nm,0.4s,baz=341,slow=11,SNR=17							
ASAR	**Alice Springs**	**26.64**	**165**	P		P	18 41 38.6	+0.1
	0.2nm,0.5s,baz=344,slow=10,SNR=5.6							
STKA	**Stephens Creek**	**36.70**	**159**	P		P	18 43 06.8	0.0
	1.9nm,0.8s,baz=331,slow=8.8,SNR=4.7							
MKAR	**Makanchi Array**	**58.84**	**326**	P		P	18 45 57.9	-0.5
	0.2nm,0.5s,baz=132,slow=8.2,SNR=4.2							
KURBB	**Kurchatov Arra**	**63.05**	**328**	P		P	18 46 27.3	+0.4
	0.1nm,0.4s,baz=132,slow=6.6,SNR=3.9							

*BKK **10** 18:48:50.5±3.7, 10°.N±12°.×12°.9E±4°.5, h10km, M4.9/12, mB4.7/1, mb4.6/12, MLv5.0/1, Mw(mB)3.9/1*
*IDC **10** 18:49:35.5±0.6, 10°.33N×123°.15E, h0km, mb4.1/20, mb1 4.2/21, mb1mx4.2/28, mbtmp4.1/21, ML4.1/1, MS3.8/21, Ms1 3.8/21, ms1mx3.5/42, Error ellipse: s-maj=22.4km s-min=12.2km az=77.0*
*MAN **10** 18:49:36, 10°.41N×123°.03E, h9km, mb5.9, ML4.9, MS4.9*
MAN INTENSITY IV - LA CARLOTA CITY; INTENSITY II - HINIGARAN & KAWAYAN NEGROS OCCIDENTAL.
*ISCJB **10** 18:49:39.3±0.2, 10°.41N±0°.03×123°.07E±0°.03, h33km, mb4.2/29, MS3.8/20, Error ellipse: s-maj=5.2km s-min=3.4km az=139.2*
*NEIC **10** 18:49:42.7±1.6, 10°.32N×123°.11E, h52km±15km, mb4.3/4, Error ellipse: s-maj=14.7km s-min=7.5km az=78.0*
NEIC Felt [IV PIVS] at La Carlota and [II PIVS] at Cauayan and Hinigaran, Negros.
ISC 10 18:49:41.0±0.4, 10°.40N±0°.04×123°.09E±0°.04, h35km, n94, σ1§**24**/75**, mb4.2**/29**, MS3.9**/20**, 3C-5D, Cebu**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**0.54**	**294**	*eP*		Pn	18 49 46.3	-5.9
LLP	**Lapu-Lapu**	**0.87**	**96**⇓	*iP*		Pn	18 49 53.4	-3.4
LLP				*i* S		**Sn**	**18 50 08.2**	**-0.1**
TBP	**Tagbilaran**	**1.04**	**133**	*eP*		**Pn**	**18 49 56.2**	**-3.0**
TBP				*eS*		**Sn**	**18 50 10.9**	**-1.6**
RCP	**Roxas**	**1.20**	**344**⇑	*eP*		Pn	18 49 57.9	-3.4
RCP				*eS*		**Sn**	**18 50 16.6**	**+0.3**
KALP	**Kalibo**	**1.46**	**330**⇑	*eP*		Pn	18 50 01.4	-3.6
OCLP	**Ormoc**	**1.63**	**67**	*eP*		**Pn**	**18 50 06.4**	**-0.8**
MSLP	**Maasin**	**1.77**	**99**	*eP*		**Pn**	**18 50 08.7**	**-0.4**
DCPH	**Dipolog City**	**1.83**	**172**⇑	*eP*		**Pn**	**18 50 08.3**	**-1.7**
CUYO	**Cuyo Island**	**2.08**	**282**	*eP*		**Pn**	**18 50 10.9**	**-2.5**
OTRP	**Odiongan**	**2.21**	**332**	*eP*		**Pn**	**18 50 14.1**	**-1.1**
SCPH	**Surigao**	**2.45**	**104**	*eP*		**Pn**	**18 50 18.1**	**-0.3**
CGP	**Cagayan de Oro**	**2.50**	**141**⇓	*eP*		**Pn**	**18 50 19.4**	**+0.1**
CGP				*eS*		**Sn**	**18 50 49.1**	**+0.5**
PAGZ	**Pagadian**	**2.56**	**173**	*eP*		**Pn**	**18 50 20.3**	**+0.3**
CNP	**Catarman**	**2.60**	**36**	*eP*		**Pn**	**18 50 19.9**	**-0.7**
IPIL	**Ipil**	**2.65**	**191**⇓	*iP*		**Pn**	**18 50 21.0**	**-0.3**
SJMP	**San Jose**	**2.81**	**317**	*eP*		**Pn**	**18 50 22.2**	**-1.3**
BUTP	**Butuan**	**2.88**	**119**	*eP*		**Pn**	**18 50 26.4**	**+1.9**
AUQP	**San Andres**	**2.93**	**352**	*eP*		**Pn**	**18 50 26.3**	**+1.2**
BUKP	**Musuan**	**3.18**	**142**	*eP*		**Pn**	**18 50 29.0**	**+0.4**
BUSP	**Coron**	**3.25**	**300**	*eP*		**Pn**	**18 50 27.4**	**-2.1**
BOAC	**Boac**	**3.27**	**338**	*eP*		**Pn**	**18 50 28.4**	**-1.4**
PVCP	**Virac**	**3.34**	**18**⇓	*iP*		**Pn**	**18 50 28.7**	**-2.1**
GQP	**Guinayangan**	**3.54**	**350**⇓	*eP*		Pn	18 50 22.4	-11
ENPP	**El Nido**	**3.68**	**283**	*eP*		**Pn**	**18 50 33.3**	**-2.2**
TGY	**Tagaytay City**	**4.23**	**330**	Pn		Pn	18 50 46.6	+3.4
TGY	**Tagaytay City**	**4.23**	**330**	Pn		Pn	18 50 46.6	+3.4
	2.9nm,0.3s,baz=275,slow=18,SNR=2.5							
BATP	**Bataraza**	**5.45**	**253**	*eP*		**Pn**	**18 51 02.0**	**+2.2**
KSM	**Kuching**	**15.49**	**236**	*eP*		**Pn**	**18 53 18.1**	**+1.0**
	23nm,1.1s							
KAPI	**Kappang**	**15.67**	**192**	Pn		**Pn**	**18 53 18.6**	**-0.8**
KAPI	**Kappang**	**15.67**	**192**	Pn		**Pn**	**18 53 18.6**	**-0.8**
	0.8nm,0.3s,baz=80,slow=18,SNR=4.0							
KAPI				LR		LR	18 59 20.7	
	comp=Z,283nm,18.6s,baz=205,slow=38							
UBPT	**Khong Chiam**	**17.84**	**288**	P		P	18 53 54.5	+7.4
	30nm,1.0s							
PANO	**Nakornpanom**	**19.14**	**293**	P		Pn	18 54 12.4	+10
SKNT	**Sakolnakorn**	**19.67**	**291**	P		Pn	18 54 13.7	+4.9
	18nm,1.6s							
CHAI	**Chaiyaphum**	**21.25**	**287**	P		P	18 54 29.6	+5.2
	3.1nm,1.0s							
LOEI	**Loei**	**22.31**	**291**	P		**P**	**18 54 35.3**	**-0.5**
	95nm,1.1s							
PBKT	**Sadao Pong**	**22.35**	**288**	P		**P**	**18 54 38.3**	**+2.1**
	10nm,1.0s							
UTHA	**Uthaitani**	**23.59**	**285**	P		**P**	**18 54 50.0**	**+1.2**
	4.0nm,1.1s							
JNU	**Nakatsue**	**23.72**	**16**	P		**P**	**18 54 49.9**	**0.0**
JNU	**Nakatsue**	**23.72**	**16**	P		**P**	**18 54 49.9**	**0.0**
	13nm,1.3s,baz=192,slow=7.7,SNR=4.0							
JNU				LR		LR	19 04 21.5	
	comp=Z,97nm,18.6s,baz=75,slow=37							
CRAI	**Chiangrai**	**23.95**	**297**	P		**P**	**18 54 52.1**	**-0.2**
	97nm,0.8s							
CMAR	**Chiang Mai Arr**	**24.69**	**292**	P		**P**	**18 54 59.5**	**+0.5**
CMAR	**Chiang Mai Arr**	**24.69**	**292**	P		**P**	**18 54 59.5**	**+0.5**
	2.7nm,0.9s,baz=103,slow=7.9,SNR=12							
CMAR				LR		LR	19 04 52.2	
	comp=Z,246nm,18.3s,baz=268,slow=37							
CMAI	**Chiengmai2**	**25.03**	**295**	P		**P**	**18 55 03.1**	**+0.8**
	339nm,1.5s							
PSI	**Prapat**	**25.14**	**254**	P		**P**	**18 55 03.4**	**+0.1**
PSI	**Prapat**	**25.14**	**254**	P		**P**	**18 55 03.4**	**+0.1**
	7.4nm,0.6s,baz=351,slow=19,SNR=4.9							
KSAR	**Wonju Array Be**	**27.27**	**8**	P		**P**	**18 55 22.6**	**+0.5**
KSRS	**Korea Array**	**27.28**	**8**	P		**P**	**18 55 22.6**	**+0.4**
	1.4nm,0.8s,baz=182,slow=10,SNR=7.8							
KSRS				LR		LR	19 06 21.3	
	comp=Z,116nm,18.6s,baz=37,slow=37							
FITZ	**Fitzroy Crossi**	**28.44**	**175**	P		**P**	**18 55 31.5**	**-1.2**
FITZ	**Fitzroy Crossi**	**28.44**	**175**	P		**P**	**18 55 31.5**	**-1.2**
	4.2nm,1.1s,baz=343,slow=11,SNR=4.0							
WRA	**Warramunga Arr**	**32.13**	**160**	P		**P**	**18 56 02.7**	**-2.7**
WRA	**Warramunga Arr**	**32.13**	**160**	P		**P**	**18 56 02.7**	**-2.7**
	4.8nm,1.2s,baz=342,slow=9.3,SNR=7.5							
USRK	**Ussuriysk Arra**	**34.54**	**11**	P		**P**	**18 56 25.0**	**-1.1**
	2.9nm,0.9s,baz=215,slow=8.6,SNR=6.5							
AS31	**Alice Springs**	**35.48**	**163**	*eP*		**P**	**18 56 36.7**	**+2.2**
ASAR	**Alice Springs**	**35.48**	**163**	P		**P**	**18 56 32.9**	**-1.6**
ASAR	**Alice Springs**	**35.48**	**163**	P		**P**	**18 56 32.9**	**-1.6**
	2.3nm,0.7s,baz=345,slow=7.5,SNR=16							
CTA	**Charters Tower**	**37.92**	**143**	P		**P**	**18 56 54.8**	**-0.6**
CTA	**Charters Tower**	**37.92**	**143**	P		**P**	**18 56 54.8**	**-0.6**
	4.0nm,1.0s,baz=328,slow=15,SNR=2.9							
SONM	**Songino Array**	**39.87**	**342**	P		**P**	**18 57 12.7**	**+1.2**
SONM	**Songino Array**	**39.87**	**342**	P		**P**	**18 57 12.7**	**+1.2**
	0.7nm,0.7s,baz=163,slow=11,SNR=5.4							
HNR	**Honiara**	**41.63**	**117**	LR		LR	19 12 06.0	
	comp=Z,84nm,21.4s,baz=272,slow=32							
STKA	**Stephens Creek**	**45.62**	**158**	P		**P**	**18 57 58.0**	**-0.1**
STKA	**Stephens Creek**	**45.62**	**158**	P		**P**	**18 57 58.0**	**-0.1**
	3.9nm,0.8s,baz=321,slow=11,SNR=5.9							
MKAR	**Makanchi Array**	**50.05**	**324**	P		**P**	**18 58 33.8**	**+1.4**
MKAR	**Makanchi Array**	**50.05**	**324**	P		**P**	**18 58 33.8**	**+1.4**
	1.0nm,0.8s,baz=130,slow=8.3,SNR=7.0							
PETK	**Petropavlovsk-**	**50.86**	**26**	P		**P**	**18 58 38.6**	**+0.3**
PETK	**Petropavlovsk-**	**50.86**	**26**	P		**P**	**18 58 38.6**	**+0.3**
	4.0nm,0.9s,baz=206,slow=6.4,SNR=3.4							
ZALV	**Zalesovo Beam**	**53.04**	**333**	P		**P**	**18 58 53.9**	**-0.6**
ZALV	**Zalesovo Beam**	**53.04**	**333**	P		**P**	**18 58 53.9**	**-0.6**
	0.9nm,0.5s,baz=118,slow=6.5,SNR=5.6							
ZALV				LR		LR	19 23 00.1	
	comp=Z,87nm,19.5s,baz=70,slow=38							
KKAR	**Karatay Array**	**55.94**	**315**	*eP*		**P**	**18 59 14.4**	**-1.4**
	1.9nm,0.8s							
BRVK	**Borovoye**	**59.87**	**326**	P		**P**	**18 59 44.7**	**+1.6**
	2.7nm,0.8s							
GNI	**Garni**	**74.48**	**309**	LR		LR	19 36 59.5	
	comp=Z,44nm,19.7s,baz=213,slow=38							
KBZ	**Khabaz**	**75.81**	**313**	P		**P**	**19 01 24.4**	**+0.8**
KBZ	**Khabaz**	**75.81**	**313**	P		**P**	**19 01 24.4**	**+0.8**
	2.0nm,1.0s,baz=5.9,slow=6.9,SNR=3.5							
KBZ				LR		LR	19 39 12.5	
	comp=Z,67nm,20.1s,baz=184,slow=39							
CASY	**Casey**	**77.03**	**185**	*eP*		**P**	**19 01 29.9**	**-0.1**
	8.7nm,1.0s							
ILAR	**Eielson Array**	**80.68**	**26**	P		**P**	**19 01 51.1**	**+0.8**
ILAR	**Eielson Array**	**80.68**	**26**	P		**P**	**19 01 51.1**	**+0.8**
	0.3nm,0.7s,baz=260,slow=5.0,SNR=2.7							
ASF	**Jabal al Asfar**	**81.34**

GUIM	**Jordan**	**0.45**	**294**	*e*P	**Pn**	**19 03 33.9**	**-2.8**
GUIM				*e*S	**Sn**	**19 03 41.5**	**-2.0**
LLP	**Lapu-Lapu**	**0.95**	**98**	⇓*i*P	**Pn**	**19 03 41.2**	**-2.5**
LLP				*i* S	**Sn**	**19 03 54.4**	**-1.7**
TBP	**Tagbilaran**	**1.13**	**132**	*e*P	**Pn**	**19 03 44.4**	**-1.7**
TBP				*e*S	**Sn**	**19 03 59.9**	**-0.5**
RCP	**Roxas**	**1.14**	**347**	⇑*e*P	**Pn**	**19 03 45.6**	**-0.6**
RCP				*e*S	**Sn**	**19 04 03.4**	**+2.8**
KALP	**Kalibo**	**1.39**	**332**	*e*P	**Pn**	**19 03 50.2**	**+0.6**
OCLP	**Ormoc**	**1.69**	**69**	*e*P	**Pn**	**19 03 54.2**	**+0.4**
MSLP	**Maasin**	**1.85**	**99**	*e*P	**Pn**	**19 03 57.1**	**+1.1**
DCPH	**Dipolog City**	**1.88**	**169**	⇑*e*P	**Pn**	**19 03 56.5**	**+0.1**
PAGZ	**Pagadian**	**2.61**	**172**	*e*P	**Pn**	**19 04 08.1**	**+1.7**
IPIL	**Ipil**	**2.67**	**189**	*e*P	**Pn**	**19 04 08.5**	**+1.2**
BUKP	**Musuan**	**3.26**	**141**	*e*P	**Pn**	**19 04 16.3**	**+0.9**
CTBH	**Cotabato--PC H**	**3.43**	**159**	⇑*e*P	**Pn**	**19 04 17.9**	**+0.1**
CMAR	**Chiang Mai Arr**	**24.60**	**292**	P	**P**	**19 08 46.6**	**+2.7**
	0.4nm,0.8s,baz=106,slow=8.6,SNR=5.0						
WRA	**Warramunga Arr**	**32.19**	**160**	P	**P**	**19 09 49.7**	**-1.9**
	0.3nm,0.8s,baz=338,slow=9.0,SNR=3.4						
ASAR	**Alice Springs**	**35.54**	**163**	P	**P**	**19 10 20.4**	**-0.2**
	0.2nm,0.5s,baz=344,slow=7.2,SNR=6.9						

MAN 10 19:19:44,10.˚42N×123.˚00E,h9km,mb4.2,ML3.0,MS2.7, 1C,Panay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**0.45**	**298**	*e*P	Pb	19 19 54.1	-0.1
GUIM				*e*S	Sb	19 20 00.2	-0.8
RCP	**Roxas**	**1.16**	**348**	⇑*e*P	Pb	19 20 06.1	-0.3
MSLP	**Maasin**	**1.86**	**98**	*e*P	Pb	19 20 17.1	-1.0
CUYO	**Cuyo Island**	**1.99**	**283**	*e*P	Pn	19 20 18.8	+0.9

*ISCJB **10** 19:31:32.9±0.3,59.˚61N±0.˚03×24.˚45E±0.˚05,h0km, mb3.5/4,Error ellipse: s-maj=4.0km s-min=3.7km az=150.8*
*IDC **10** 19:31:34.7±0.8,59.˚62N×24.˚65E,h0km,mb3.5/4, mb1 3.7/9,mb1mx3.4/28,mbtmp3.6/9,ML3.8/4,Error ellipse: s-maj=10.6km s-min=6.7km az=135.0*
*CSEM **10** 19:31:34.6±0.2,59.˚64N×24.˚50E,h2km,ML3.1,Error ellipse: s-maj=4.3km s-min=3.1km az=134.0,Mining explosion.*
*NAO **10** 19:31:34.7±0.9,59.˚66N×24.˚48E,ML2.9*
*HEL **10** 19:31:35.4±0.1,59.˚65N×24.˚46E,h0km,ML3.1, ML2.0(UPP),Explosion*
*BER **10** 19:31:35.4±3.7,59.˚66N×24.˚47E,h0km±14km, ML2.9(NAO)*
*UPP **10** 19:31:40.9,59.˚77N×23.˚64E,h0km,ML2.0,Suspected Mining explosion.*

ISC 10 19:31:32.9±0.4,59.˚65N±0.˚02×24.˚43E±0.˚03,h0km,n98, σ1ⓢ75/113,mb3.5/4,Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**0.57**	**358**	*e*P	**Pb**	**19 31 45.6**	**-0.1**
MEF				*e*S	**Sg**	**19 31 53.0**	**+1.8**
MEF	**Metsahovi**	**0.57**	**358**	P	**Pb**	**19 31 45.6**	**-0.1**
MEF				S	**Sg**	**19 31 52.9**	**+1.8**
MTSE	**Matsula**	**0.99**	**199**	*e*P	**Pb**	**19 31 53.1**	**+0.1**
MTSE				*e*S	**Sb**	**19 32 06.4**	**-0.1**
MTSE	**Matsula**	**0.99**	**199**	P	**Pb**	**19 31 53.0**	**+0.1**
MTSE				S	**Sb**	**19 32 06.4**	**-0.1**
PVF	**Pernaja**	**1.15**	**38**	*e*P	**Pb**	**19 31 55.7**	**+0.1**
PVF	**Pernaja**	**1.15**	**38**	P	**Pb**	**19 31 55.7**	**+0.1**
VSU	**Vasula**	**1.69**	**134**	Pg	**Pb**	**19 32 05.1**	**+0.3**
VSU				Lg	Lg	19 32 27.3	
VSU	**Vasula**	**1.69**	**134**	Pg	**Pb**	**19 32 05.1**	**+0.3**
VSU				Lg	Lg	19 32 27.3	
VSU	**Vasula**	**1.69**	**134**	*e*P	**Pb**	**19 32 05.2**	**+0.3**
VSU				*e*S	**Sg**	**19 32 26.9**	**-0.2**
VSU	**Vasula**	**1.69**	**134**	P	**Pb**	**19 32 05.1**	**+0.3**
VSU				S	**Sg**	**19 32 26.9**	**-0.2**
VSU				Lg	Lg	19 32 27.3	
VJF	**Virojoki**	**1.80**	**59**	*e*P	**Pb**	**19 32 06.7**	**-0.1**
VJF				MSG		19 32 34.1	
	comp=Z,220nm,0.3s						
VJF	**Virojoki**	**1.80**	**59**	P	**Pb**	**19 32 06.6**	**-0.1**
RAF	**Rauma**	**1.91**	**317**	*e*P	**Pg**	**19 32 09.5**	**0.0**
RAF				*e*S	**Sg**	**19 32 35.0**	**+0.8**
RAF				MSG		19 32 38.4	
	comp=Z,118nm,0.2s						
RAF	**Rauma**	**1.91**	**317**	P	**Pg**	**19 32 09.5**	**0.0**
RAF				S	**Sg**	**19 32 35.0**	**+0.8**
FIA0	**FINESS Array S**	**1.97**	**24**	Pn	**Pb**	**19 32 10.2**	**+0.5**
	baz=204,slow=18						
FIA0				Lg	Lg	19 32 35.8	
	baz=195,slow=28						
FIA0				Rg	Rg	19 32 46.6	
	baz=203,slow=37						
FIA0	**FINESS Array S**	**1.97**	**24**	Pn	**Pb**	**19 32 10.2**	**+0.5**
	baz=204,slow=18						
FIA0				Lg	Lg	19 32 35.8	
	baz=195,slow=28						
FIA0				Rg	Rg	19 32 46.6	
	baz=203,slow=37						
FIA0	**FINESS Array S**	**1.97**	**24**	*e*P	**Pb**	**19 32 10.0**	**+0.2**
FIA0				MSG		19 32 39.1	
	comp=Z,200nm,0.2s						
FIA0	**FINESS Array S**	**1.97**	**24**	P	**Pb**	**19 32 09.9**	**+0.2**
FIA0	**FINESS Array S**	**1.97**	**24**	Pn	**Pb**	**19 32 10.2**	**+0.5**
	baz=204,slow=16,SNR=50						
FIA0				Lg	Lg	19 32 35.8	
	baz=195,slow=25,SNR=7.1						
FINES	**FINESS Array B**	**1.97**	**24**	Pn	**Pb**	**19 32 10.3**	**+0.5**
	comp=Z,44nm,0.3s,baz=205,slow=16,SNR=1688						
FINES				Lg	Lg	19 32 36.1	
	comp=Z,73nm,0.3s,baz=201,slow=30,SNR=37						
AAL	**Aland**	**2.29**	**285**	*e*P	**Pb**	**19 32 14.4**	**-0.8**
AAL	**Aland**	**2.29**	**285**	P	**Pb**	**19 32 14.3**	**-0.8**
NRTU	**Norrtaelje**	**2.94**	**273**	P	**Pn**	**19 32 23.5**	**+2.6**
NRTU	**Norrtaelje**	**2.94**	**273**	P	**Pn**	**19 32 23.4**	**+2.6**
FORU	**Forsmark**	**3.22**	**286**	P	**Pn**	**19 32 26.8**	**+2.1**
FORU	**Forsmark**	**3.22**	**286**	P	**Pn**	**19 32 26.8**	**+2.1**
FLYU	**Flymyra**	**3.33**	**281**	P	**Pn**	**19 32 28.0**	**+1.8**
FLYU	**Flymyra**	**3.33**	**281**	P	**Pn**	**19 32 28.0**	**+1.8**
UPP	**Uppsala**	**3.45**	**276**	P	**Pn**	**19 32 30.5**	**+2.7**
UPP	**Uppsala**	**3.45**	**276**	P	**Pn**	**19 32 30.5**	**+2.7**
BACU	**Backbrunna**	**3.71**	**276**	P	**Pn**	**19 32 33.6**	**+2.1**
BACU	**Backbrunna**	**3.71**	**276**	P	**Pn**	**19 32 33.5**	**+2.1**
IGGU	**Iggoen**	**3.75**	**292**	P	**Pn**	**19 32 34.1**	**+2.2**
IGGU	**Iggoen**	**3.75**	**292**	P	**Pn**	**19 32 34.1**	**+2.2**
ESKU	**Eskilstuna**	**4.12**	**268**	P	**Pn**	**19 32 39.9**	**+2.8**
ESKU	**Eskilstuna**	**4.12**	**268**	P	**Pn**	**19 32 39.8**	**+2.8**
HUDU	**Hudiksvall**	**4.16**	**303**	P	**Pn**	**19 32 39.7**	**+2.1**
HUDU	**Hudiksvall**	**4.16**	**303**	P	**Pn**	**19 32 39.6**	**+2.1**
HEMU	**Hemsoen**	**4.33**	**317**	P	Pn	19 32 43.1	+3.1
HEMU	**Hemsoen**	**4.33**	**317**	P	Pn	19 32 43.1	+3.1
FALU	**Falun**	**4.39**	**285**	P	**Pn**	**19 32 42.8**	**+2.0**
FALU	**Falun**	**4.39**	**285**	P	**Pn**	**19 32 42.8**	**+2.0**
HUSU	**Husum**	**4.46**	**328**	P	Pn	19 32 45.1	+3.3
HUSU	**Husum**	**4.46**	**328**	P	Pn	19 32 45.0	+3.3
HASU	**Hassela**	**4.57**	**307**	P	**Pn**	**19 32 45.8**	**+2.6**
HASU	**Hassela**	**4.57**	**307**	P	**Pn**	**19 32 45.8**	**+2.6**
VSTU	**Vaestervik**	**4.58**	**248**	P	**Pn**	**19 32 46.1**	**+2.8**
VSTU	**Vaestervik**	**4.58**	**248**	P	**Pn**	**19 32 46.1**	**+2.8**
ROTU	**Roteberg**	**4.61**	**296**	P	**Pn**	**19 32 45.4**	**+1.7**
ROTU	**Roteberg**	**4.61**	**296**	P	**Pn**	**19 32 45.4**	**+1.7**
NRAU	**Nora**	**4.77**	**273**	P	**Pn**	**19 32 48.0**	**+2.0**
NRAU	**Nora**	**4.77**	**273**	P	**Pn**	**19 32 48.0**	**+2.0**
ASKU	**Askersund**	**4.98**	**265**	P	**Pn**	**19 32 51.3**	**+2.4**
ASKU	**Askersund**	**4.98**	**265**	P	**Pn**	**19 32 51.3**	**+2.4**
EKSU	**Eksjoe**	**5.21**	**250**	P	**Pn**	**19 32 54.0**	**+2.0**
EKSU	**Eksjoe**	**5.21**	**250**	P	**Pn**	**19 32 54.0**	**+2.0**
HFS	**Hagfors**	**5.43**	**280**	Pn	**Pn**	**19 32 56.5**	**+1.5**
	baz=98,slow=14						
HFS				Sn	**Sn**	**19 33 58.3**	**+0.2**
	baz=104,slow=28						
HFS				Lg	Lg	19 34 20.0	
	baz=82,slow=28						
HFS	**Hagfors**	**5.43**	**280**	Pn	**Pn**	**19 32 56.5**	**+1.5**
	baz=98,slow=14						
HFS				Sn	**Sn**	**19 33 58.3**	**+0.2**
	baz=104,slow=28						
HFS				Lg	Lg	19 34 20.0	
	baz=82,slow=28						
HFS	**Hagfors**	**5.43**	**280**	Pn	**Pn**	**19 32 56.9**	**+1.9**
	comp=Z,1.7nm,0.3s,baz=96,slow=15,SNR=54						
HFS				Sn	**Sn**	**19 33 58.3**	**+0.2**
	comp=Z,4.1nm,0.3s,baz=101,slow=29,SNR=13						
HFS				Lg	Lg	19 34 19.9	
	comp=Z,6.9nm,0.3s,baz=100,slow=31,SNR=8.6						
HFS	**Hagfors**	**5.43**	**280**	Pn	**Pn**	**19 32 56.5**	**+1.5**
	baz=98,slow=14,SNR=50						
HFS				Sn	**Sn**	**19 33 58.3**	**+0.2**
	baz=104,slow=25,SNR=50						
HFS				Lg	Lg	19 34 20.0	
	baz=82,slow=28,SNR=50						
UDD	**Uddeholm**	**5.47**	**279**	P	**Pn**	**19 32 56.9**	**+1.2**
UDD	**Uddeholm**	**5.47**	**279**	P	**Pn**	**19 32 56.8**	**+1.2**
FKPU	**Falk**	**5.75**	**260**	P	**Pn**	**19 33 01.6**	**+2.2**
NASU	**Vaermlandsnaes**	**5.81**	**268**	P	**Pn**	**19 33 02.5**	**+2.3**
NASU	**Vaermlandsnaes**	**5.81**	**268**	P	**Pn**	**19 33 02.5**	**+2.3**
FINU	**Finntorp**	**6.09**	**273**	P	**Pn**	**19 33 05.9**	**+1.9**
FINU	**Finntorp**	**6.09**	**273**	P	**Pn**	**19 33 05.9**	**+1.9**
BORU	**Boraas**	**6.41**	**257**	P	**Pn**	**19 33 10.7**	**+2.2**
BORU	**Boraas**	**6.41**	**257**	P	**Pn**	**19 33 10.7**	**+2.2**
VANU	**Vaenersborg**	**6.48**	**265**	P	**Pn**	**19 33 11.3**	**+1.9**
VANU	**Vaenersborg**	**6.48**	**265**	P	**Pn**	**19 33 11.3**	**+1.9**
NB2	**NORSAR Subarra**	**6.70**	**288**	Pn	**Pn**	**19 33 12.6**	**0.0**
	baz=99,slow=14						
NB2				Sn	**Sn**	**19 34 26.9**	**-2.7**
	baz=96,slow=28						
NB2				Lg	Lg	19 35 02.8	
	baz=104,slow=37						
NB2	**NORSAR Subarra**	**6.70**	**288**	Pn	**Pn**	**19 33 12.6**	**0.0**
	baz=99,slow=14						
NB2				Sn	**Sn**	**19 34 26.9**	**-2.7**
	baz=96,slow=28						
NB2				Lg	Lg	19 35 02.8	
	baz=104,slow=37						
NB2	**NORSAR Subarra**	**6.70**	**288**	Pn	**Pn**	**19 33 12.6**	**0.0**
	baz=99,slow=13,SNR=50						
NB2				Lg	Lg	19 35 02.8	
	baz=104,slow=29,SNR=50						
NOA	**NORSAR Array B**	**6.70**	**288**	Pn	**Pn**	**19 33 13.3**	**+0.7**
	comp=Z,2.0nm,0.3s,baz=94,slow=14,SNR=62						
NOA				Sn	**Sn**	**19 34 27.3**	**-2.3**
	comp=Z,3.0nm,0.3s,baz=102,slow=17,SNR=10						
NOA				Lg	Lg	19 35 04.2	
	comp=Z,3.5nm,0.3s,baz=69,slow=18,SNR=5.8						
STRU	**Stroemstad**	**6.80**	**270**	P	**Pn**	**19 33 14.6**	**+0.7**
STRU	**Stroemstad**	**6.80**	**270**	P	**Pn**	**19 33 14.6**	**+0.7**
BSD	**Bornholm Skovb**	**6.86**	**233**	*i* P	**Pn**	**19 33 15.3**	**+0.6**
BSD				*i* S	**Sn**	**19 34 32.1**	**-1.3**
BSD	**Bornholm Skovb**	**6.86**	**233**	*i* P	**Pn**	**19 33 15.3**	**+0.6**
APA0	**Apatity Array**	**8.84**	**22**	Pn	**Pn**	**19 33 41.9**	**+0.1**
	baz=209,slow=12						
APA0	**Apatity Array**	**8.84**	**22**	Pn	**Pn**	**19 33 41.9**	**+0.1**
	baz=209,slow=12						
APA0	**Apatity Array**	**8.84**	**22**	Pn	**Pn**	**19 33 41.8**	**+0.1**
	baz=209,slow=12,SNR=50						
AKASG	**Malin Array Be**	**9.38**	**161**	Pn	**Pn**	**19 33 48.7**	**-0.5**
	comp=Z,2.1nm,0.3s,baz=342,slow=12,SNR=5.1						
AKASG				Lg	Lg	19 36 25.3	
	comp=Z,1.3nm,0.3s,baz=346,slow=30,SNR=3.0						
ARA0	**ARCESS Array S**	**9.94**	**2**	Pn	**Pn**	**19 33 56.8**	**0.0**
	baz=175,slow=16						
ARA0				Sn	**Sn**	**19 35 43.8**	**-5.1**
	baz=186,slow=28						
ARA0	**ARCESS Array S**	**9.94**	**2**	Pn	**Pn**	**19 33 56.8**	**0.0**
	baz=175,slow=16						
ARA0				Sn	**Sn**	**19 35 43.8**	**-5.1**
	baz=186,slow=28						
ARA0	**ARCESS Array S**	**9.94**	**2**	Pn	**Pn**	**19 33 56.8**	**0.0**
	baz=175,slow=15,SNR=50						
ARCES	**ARCESS Array B**	**9.94**	**2**	Pn	**Pn**	**19 33 56.8**	**+0.1**
	comp=Z,1.6nm,0.3s,baz=178,slow=14,SNR=87						
ARCES				Sn	**Sn**	**19 35 44.0**	**-4.8**
	comp=Z,1.2nm,0.3s,baz=186,slow=23,SNR=4.7						
ARCES				Lg	Lg	19 36 41.1	
	comp=Z,1.1nm,0.3s,baz=186,slow=27,SNR=3.5						
CLL	**Collm**	**10.56**	**223**	*e*Sg	Sn	19 35 58.0	-6.3
GERES	**GERESS Array B**	**12.49**	**215**	Pn	**Pn**	**19 34 31.8**	**-0.1**
	baz=24,slow=13,SNR=2.5						
EKA	**Eskdalemuir Ar**	**15.39**	**266**	Pn	**Pn**	**19 35 09.8**	**-1.3**
	baz=65,slow=12,SNR=3.0						
EKA				Sn	**Sn**	**19 38 03.8**	**+1.9**
	baz=231,slow=32,SNR=4.3						
SPA0	**Spitsbergen Ar**	**18.80**	**355**	P	**Pn**	**19 35 55.3**	**+1.4**
	baz=143,slow=12						
SPA0	**Spitsbergen Ar**	**18.80**	**355**	P	**Pn**	**19 35 55.3**	**+1.4**
	baz=143,slow=12						
SPA0	**Spitsbergen Ar**	**18.80**	**355**	P	**Pn**	**19 35 55.3**	**+1.4**
	baz=143,slow=12,SNR=47						
SPITS	**Spitsbergen Ar**	**18.80**	**355**	P	**Pn**	**19 35 55.9**	**+2.0**
	baz=161,slow=15,SNR=4.2						
AKTO	**Aktyubinsk**	**21.12**	**101**	P	**P**	**19 36 18.9**	**-0.1**
	comp=Z,1.1nm,0.3s,baz=309,slow=9.9,SNR=8.7						
BVAR	**Borovoye Array**	**25.87**	**84**	P	**P**	**19 37 06.8**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=306,slow=7.9,SNR=4.0						
MKAR	**Makanchi Array**	**35.75**	**85**	P	**P**	**19 38 33.6**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=313,slow=6.9,SNR=11						
TORD	**Torodi Ar. Bea**	**49.39**	**210**	P	**P**	**19 40 24.5**	**+0.3**
	comp=Z,0.2nm,0.4s,baz=12,slow=7.1,SNR=8.8						

GUC 10 19:31:37.9±0.4,22.˚93S×67.˚12W,h220km,ML4.1,1C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**Plate Boundary**	**2.27**	**299**	*e*P	Pn	19 32 22.5	+1.6
PB09				*e*S	S	19 32 56.5	+2.3
PB09				AML	AML	19 33 03.1	
	comp=N,271nm,0.3s						
PB04	**Plate Boundary**	**2.29**	**286**	*e*P	Pn	19 32 29.2	+8.4
PB04				*i* S	S	19 33 08.3	+14
PB04				AML	AML	19 33 12.5	
	comp=N,147nm,0.2s						
PB07	**Plate Boundary**	**2.83**	**294**	*i* P	Pn	19 32 28.8	+1.8
PB07				*i* S	S	19 33 07.2	+2.1
PB07				AML	AML	19 33 07.7	
	comp=N,221nm,0.2s						
PB01	**Plate Boundary**	**2.89**	**310**	*i* P	Pn	19 32 29.2	+1.6
PB01				*i* S	S	19 33 08.6	+2.4
PB01				AML	AML	19 33 11.2	
	comp=N,139nm,0.2s						
PB10	**Plate Boundary**	**3.21**	**259**	⇑*i*P	Pn	19 32 33.2	+2.1
MNMC	**Minimini**	**4.43**	**328**	AML	AML	19 33 43.1	
	comp=N,185nm,0.5s						

*IDC **10** 19:46:02.5±0.4,29.˚85S×111.˚82W,h0km,mb4.7/19, mb1 4.9/19,mb1mx4.9/20,mbtmp4.7/19,MS4.9/17, Ms1 4.9/17,ms1mx4.9/20,Error ellipse: s-maj=16.5km s-min=15.3km az=100.0*
*ISCJB **10** 19:46:02.4±0.2,29.˚89S±0.˚04×111.˚71W±0.˚06,h10km, mb5.2/121,MS5.0/31,Error ellipse: s-maj=7.8km s-min=5.1km az=178.2*
*MOS **10** 19:46:03.3±1.2,29.˚77S×111.˚73W,h10km,mb5.6/34, MS5.0/7,Error ellipse: s-maj=15.8km s-min=8.1km az=87.5*
*NEIC **10** 19:46:03.9±0.1,29.˚93S×111.˚82W,h10km,mb5.4/98, Error ellipse: s-maj=6.4km s-min=4.3km az=88.0*
*BJI **10** 19:46:04.5,29.˚90S×111.˚80W,h10km,mB5.5/23, Ms5.4/22,Ms7 5.1/23*
*GCMT **10** 19:46:10.4±0.1,30.˚11S×111.˚78W,h12km,MW5.5, Moment Tensor Solution. s79,c131; s34,c35; Moment tensor: Scale 10^{17}Nm; M_{rr}1.51±.03; $M_{\theta\theta}$-2.24±.02; $M_{\phi\phi}$0.73±.03; $M_{r\theta}$-0.65±.06; $M_{r\phi}$0.56±.02; $M_{\theta\phi}$0.19±.08; Best double couple: $M_0$2.00000×10^{17} NP1:ϕ_s285.00000°, δ55.00000°,λ96.00000°. NP2:ϕ_s94.00000°,δ36.00000°, λ81.00000°. Principal axes: T 1.6300, Plg79.0000°, Azm218.0000°; N 0.8300, Plg5.0000°, Azm101.0000°; P -2.4500, Plg10.0000°, Azm10.0000°; Data Used: II IU IC G CN. Surface waves: sta=102, comp=196, per= 50.*

ISC 10 19:46:03.8±0.2,29.˚96S±0.˚07×111.˚79W±0.˚06,h10km, n754,σ0ⓢ99/779,mb5.4/120,MS5.0/32,222C-215D,Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKT	**Rikitea**	**21.81**	**283**	*e*P	**P**	**19 50 57.9**	**+1.6**
	93nm,1.2s						
RKT				*e*LR	LR	19 56 05.4	
	2μm,26.5s,baz=122						
RKT	**Rikitea**	**21.81**	**283**	*e*T	T	20 12 59.0	
TBI	**Tubuai**	**34.20**	**272**	*e*LQ	LQ	20 00 29.8	
	2μm,27.0s						
TBI				*e*LR	LR	20 01 44.4	
	2μm,25.5s,baz=109						
PLCA	**Paso Flores**	**35.02**	**119**	*e*P	**P**	**19 52 58.1**	**+1.4**
	117nm,1.4s						
PLCA	**Paso Flores**	**35.02**	**119**	P	**P**	**19 52 58.3**	**+1.6**
	32nm,1.1s,baz=278,slow=9.0,SNR=22						
LCO	**Las Campanas**	**35.64**	**99**	*e*P	**P**	**19 53 04.6**	**+2.2**
	88nm,1.2s						
PMOR	**Pomariorio Ree**	**36.36**	**286**	*e*P	**P**	**19 53 09.1**	**+0.8**
	142nm,1.1s						
PPT2	**Papeete2**	**36.55**	**281**	*e*LR	LR	20 02 47.6	
	2μm,25.2s,baz=106						
PPT	**Papeete**	**36.55**	**281**	LR	LR	20 03 27.7	
	comp=Z,1μm,21.1s,baz=5.4,slow=29						
LVC	**Limon Verde**	**38.96**	**90**	*e*P	**P**	**19 53 32.0**	**+1.5**
	130nm,1.6s						
USHA	**Ushuaia**	**39.62**	**141**	P	**P**	**19 53 35.4**	**+0.1**
USHA	**Ushuaia**	**39.62**	**141**	P	**P**	**19 53 35.4**	**+0.1**
	13nm,1.0s,baz=266,slow=15,SNR=2.6						
TRQA	**Tornquist**	**41.66**	**115**	*e*P	**P**	**19 53 53.5**	**+0.9**
	84nm,1.4s						
LPAZ	**La Paz**	**42.14**	**81**	*e*P	**P**	**19 53 57.0**	**-0.4**
	64nm,1.5s						
LPAZ				PcP	**PcP**	**19 55 51.8**	**-0.2**
LPAZ	**La Paz**	**42.14**	**81**	P	**P**	**19 53 57.9**	**+0.5**
	27nm,1.3s,baz=238,slow=7.0,SNR=20						
LPAZ				PcP	**PcP**	**19 55 51.8**	**-0.2**
	3.2nm,0.8s,baz=197,slow=2.7,SNR=3.9						
LPAZ				LR	LR	20 08 29.0	
	comp=Z,538nm,18.8s,baz=240,slow=32						
OTAV	**Otavalo**	**43.70**	**53**	*e*P	**P**	**19 54 10.5**	**+0.7**
	53nm,1.7s						
EFI	**East Falkland**	**44.89**	**135**	*e*P	**P**	**19 54 17.7**	**-0.6**
EFI				pmax	pmax		
	comp=Z,166nm,1.2s						
CPUP	**Villa Florida**	**47.78**	**100**	P	**P**	**19 54 41.0**	**-0.5**
CPUP	**Villa Florida**	**47.78**	**100**	P	**P**	**19 54 41.0**	**-0.5**
	comp=Z,38nm,1.3s,baz=242,slow=8.3,SNR=8.4						
CPUP				LR	LR	20 11 24.6	
	comp=Z,865nm,19.6s,baz=247,slow=32						
CMIG	**Matias Romero**	**49.53**	**21**	P	**P**	**19 54 54.4**	**-0.5**
CMIG	**Matias Romero**	**49.53**	**21**	P	**P**	**19 54 54.4**	**-0.5**
	comp=Z,4.4nm,0.8s,baz=203,slow=6.5,SNR=9.1						
ROSC	**El Rosal**	**49.86**	**52**	*e*P	**P**	**19 54 58.0**	**0.0**
ROSC	**El Rosal**	**49.86**	**52**	P	**P**	**19 54 58.1**	**0.0**
	comp=Z,9.7nm,0.5s,baz=271,slow=8.0,SNR=9.2						
ROSC				LR	LR	20 12 25.3	
	comp=Z,901nm,19.2s,baz=202,slow=32						
SAML	**Samuel**	**49.93**	**76**	*e*P	**P**	**19 54 57.4**	**-0.7**
	comp=Z,69nm,1.8s						
URZ	**Urewera**	**58.15**	**241**	P	**P**	**19 55 58.3**	**+0.4**
URZ	**Urewera**	**58.15**	**241**	P	**P**	**19 55 58.3**	**+0.4**
	comp=Z,22nm,1.1s,baz=165,slow=19,SNR=3.9						
SBA	**Scott Base**	**59.15**	**194**	*e*P	**P**	**19 56 05.7**	**+1.5**
SBA				pmax	pmax		
	comp=Z,52nm,1.1s						
SBA	**Scott Base**	**59.15**	**194**	*e*P	**P**	**19 56 05.7**	**+1.5**
	comp=Z,52nm,1.1s						
732A	**Laxson Ranch,**	**59.44**	**12**	⇓P	**P**	**19 56 06.3**	**-0.5**
	baz=60						
TXAR	**Lajitas Array**	**59.47**	**8**	P	**P**	**19 56 07.3**	**+0.2**
TXAR	**Lajitas Array**	**59.47**	**8**	P	**P**	**19 56 07.3**	**+0.2**
	comp=Z,3.5nm,1.0s,baz=188,slow=7.6,SNR=16						
TXAR				LR	LR	20 16 57.7	
	comp=Z,1μm,20.2s,baz=15,slow=31						
627A	**Terlingua Ranc**	**59.62**	**8**	⇓P	**P**	**19 56 08.6**	**+0.4**
	baz=60,SNR=23						
626A	**Big Bend Ranch**	**59.63**	**8**	⇓P	**P**	**19 56 08.6**	**+0.5**
	baz=60,SNR=8.9						
628A	**Black Gap, Mar**	**59.72**	**9**	⇑P	**P**	**19 56 09.1**	**+0.4**
	baz=60,SNR=11						
BDFB	**Brasilia**	**59.83**	**91**	P	**P**	**19 56 11.6**	**+1.7**
BDFB	**Brasilia**	**59.83**	**91**	P	**P**	**19 56 11.6**	**+1.7**
	comp=Z,4.0nm,0.6s,baz=295,slow=7.2,SNR=7.0						
BDFB				LR	LR	20 20 48.0	
	comp=Z,331nm,18.2s,baz=52,slow=35						
631A	**Perdido Creek**	**60.00**	**11**	⇑P	**P**	**19 56 10.3**	**-0.3**
	baz=60,SNR=13						
526A	**Mary Lane Ranc**	**60.13**	**8**	⇑P	**P**	**19 56 12.5**	**+0.8**
	baz=60,SNR=14						
526A				⇑S	**S**	**20 04 31.0**	**+5.8**
	baz=60						
VNDA	**Vanda**	**60.20**	**194**	*e*P	**P**	**19 56 12.9**	**+1.4**
	comp=Z,30nm,1.3s						
VNDA	**Vanda**	**60.20**	**194**	P	**P**	**19 56 13.2**	**+1.8**
	comp=Z,12nm,1.2s,baz=94,slow=6.7,SNR=15						
VNDA				LR	LR	20 16 50.5	
	comp=Z,3μm,19.3s,baz=82,slow=31						
QSPA	**South Pole Qui**	**60.23**	**180**	*e*P	**P**	**19 56 12.5**	**+0.5**
	comp=Z,84nm

332A Millersview 62.07 12 ⇓P P 19 56 24.1 -0.6
baz=62,SNR=8.5
226B Tecolote Peak, 62.12 7 ⇑P P 19 56 24.7 -0.4
baz=62,SNR=14
227A Bennet, Jal 62.16 8 ⇓P P 19 56 25.2 -0.1
baz=62
120A U Bar Ranch, L 62.23 3 ⇓P P 19 56 26.5 +0.6
baz=62,SNR=8.1
121A Cookes Peak, D 62.27 4 ⇑P P 19 56 26.4 +0.3
baz=63,SNR=15
229A Bryant Ranch, 62.31 10 ⇑P P 19 56 25.9 -0.5
baz=63
230A Sterling City 62.34 10 ⇑P P 19 56 26.2 -0.3
baz=63,SNR=8.2
228A UT Block 9, Go 62.35 9 ⇓P P 19 56 26.4 -0.2
baz=63
DVTC Desert V Tower 62.41 356 ⇓P P 19 56 27.7 +0.8
baz=63
113A Mohawk Valley, 62.41 358 ⇑P P 19 56 27.3 +0.4
baz=63,SNR=8.9
123A Bell Site, Whi 62.47 5 ⇑P P 19 56 27.8 +0.4
baz=63
122A Conniff Cattle 62.48 5 ⇑P P 19 56 28.0 +0.5
baz=63
231A Bronte 62.51 11 ⇓P P 19 56 26.8 -0.8
baz=63
232A Coleman 62.58 12 ⇑P P 19 56 27.6 -0.4
baz=63,SNR=8.4
124A Stringfield Ra 62.60 6 ⇑P P 19 56 28.8 +0.4
baz=63,SNR=24
125A Gardner Draw, 62.64 7 ⇑P P 19 56 28.2 -0.4
baz=63,SNR=42
MONP Monument Peak 62.66 356 ⇓P P 19 56 29.4 +0.6
baz=63
SWSC Sam W. Stewart 62.67 356 ⇑P P 19 56 29.1 +0.5
baz=63
126A Clayton Basin, 62.70 7 ⇓P P 19 56 28.6 -0.3
baz=63
109C Camp Elliot, M 62.71 355 ⇑P P 19 56 29.1 +0.3
baz=63
GLA Glamis 62.73 357 eP P 19 56 28.0 -1.1
GLA pmax pmax
comp=Z,15nm,1.3s
GLA Glamis 62.73 357 eP P 19 56 28.0 -1.1
comp=Z,15nm,1.3s
GLA Glamis 62.73 357 ⇓P P 19 56 29.8 +0.7
baz=63
Z20A Nine Sixteen R 62.80 3 ⇓P P 19 56 30.4 +0.7
baz=63,SNR=14
127A Arkansas Junct 62.80 8 ⇑P P 19 56 29.3 -0.4
baz=63
128A Castleberry Fa 62.86 9 ⇓P P 19 56 29.7 -0.3
baz=63,SNR=12
SCI San Clemente I 62.92 354 ⇓P P 19 56 30.7 +0.4
baz=63
129A Stewart Farms, 62.95 9 ⇓P P 19 56 30.7 0.0
baz=63
Z14A Wintersburg 62.99 359 ⇑P P 19 56 31.4 +0.6
baz=63
Z22A Elephant Butte 63.04 5 ⇓P P 19 56 31.7 +0.5
baz=63
Z21A St. Cloud Mine 63.04 4 ⇓P P 19 56 31.9 +0.5
baz=63,SNR=6.6
130A Snyder 63.05 10 ⇓P P 19 56 31.1 -0.2
baz=63
WHTX Lake Whitney 63.09 14 ⇓P P 19 56 31.3 -0.1
baz=63
Z23A Rita Site, Whi 63.10 5 ⇑P P 19 56 32.2 +0.6
baz=63,SNR=11
131A Roby 63.22 11 ⇑P P 19 56 31.8 -0.5
baz=64,SNR=6.6
Z24A Sheeppen Canyo 63.24 6 ⇓P P 19 56 32.6 -0.1
baz=64
Z25A Roswell 63.25 7 ⇑P P 19 56 32.8 +0.1
baz=64,SNR=16
ABTX Abilene, Hawle 63.30 11 ⇓P P 19 56 32.4 -0.4
baz=64
Z26A Caprock 63.32 7 ⇓P P 19 56 32.5 -0.6
baz=64,SNR=30
CIS Catalina Islan 63.33 354 ⇓P P 19 56 33.3 +0.3
baz=64
BC3 Big Chuckawall 63.36 357 ⇓P P 19 56 34.0 +0.6
baz=64,SNR=11
PFO Pinyon Flat Ob 63.38 356 eP P 19 56 32.9 -0.6
comp=Z,9.6nm,1.1s
PFO Pinyon Flat Ob 63.38 356 P P 19 56 33.5 0.0
comp=Z,2.0nm,0.3s,baz=157,slow=9.1,SNR=5.3
PFO Pinyon Flat Ob 63.38 356 ⇑P P 19 56 34.3 +0.9
baz=64
Y12C Blythe 63.42 357 ⇑P P 19 56 34.6 +1.0
baz=64
MURC Murrieta 63.42 355 ⇑P P 19 56 33.9 +0.2
baz=64
Z27A Tatum 63.45 8 ⇓P P 19 56 33.3 -0.6
baz=64,SNR=21
NATX Nacogdoches 63.50 16 eP P 19 56 35.3 +1.1
comp=Z,93nm,1.3s
Z28A Tucker Farm, M 63.53 9 ⇑P P 19 56 33.9 -0.6
baz=64
Y14A Wickenburg 63.56 359 ⇑P P 19 56 34.9 +0.3
baz=64
Z29A Hungry Hill Ra 63.59 9 ⇓P P 19 56 34.4 -0.5
baz=64,SNR=12
Y20A Horse Springs, 63.60 3 ⇓P P 19 56 35.7 +0.6
baz=64,SNR=14
FMP Fort Macarthur 63.62 354 ⇑P P 19 56 35.6 +0.7
baz=64
Z30A Sanderson Ranc 63.70 10 ⇓P P 19 56 35.4 -0.2
baz=64,SNR=8.1
Y22A Socorro 63.71 4 ⇑P P 19 56 36.0 +0.2
baz=64,SNR=7.4
BELC Belle Mtn. Jos 63.74 356 ⇓P P 19 56 36.8 +1.0
baz=64,SNR=12
Y21A Point of Rocks 63.74 4 ⇑P P 19 56 36.6 +0.6
baz=64,SNR=7.3
Y23A Lovelace Mesa, 63.77 5 ⇑P P 19 56 36.5 +0.3
baz=64,SNR=16
Y24A Capitan 63.82 6 ⇓P P 19 56 36.9 +0.4
baz=64,SNR=28
IRM Iron Mountain 63.85 357 ⇓P P 19 56 37.1 +0.6
baz=64,SNR=7.7
Y22D IRIS PASSCAL I 63.85 4 ⇓P P 19 56 37.4 +0.7
baz=64
Y25A Mesa, Roswell 63.89 7 ⇑P P 19 56 36.7 -0.1
baz=64,SNR=19
Z31A Sharp Cattle R 63.89 11 ⇓P P 19 56 36.6 -0.1
baz=64,SNR=17
LENM Lemitar 63.94 4 eP P 19 56 37.4 +0.2
comp=Z,107nm,2.0s
BNM Barren Site 63.95 5 eP P 19 56 37.6 +0.2
comp=Z,14nm,1.2s
PDMCI Parker Dam,Lak 63.95 358 ⇓P P 19 56 37.8 +0.7
baz=64
Y26A Elida 63.98 7 ⇓P P 19 56 36.3 -1.1
baz=64,SNR=9.1
Z32A Haskell 63.99 11 ⇑P P 19 56 37.5 +0.1
baz=64
Y27A Causey 64.02 8 ⇑P P 19 56 37.1 -0.6
baz=64,SNR=32
X16A Lo Mia Camp, P 64.03 0 ⇑P P 19 56 38.3 +0.4
baz=64,SNR=6.0
BBRC Big Bear Solar 64.06 355 ⇓P P 19 56 38.8 +0.7
baz=64
BFSC Mount Baldy Ra 64.09 355 ⇓P P 19 56 38.4 +0.2
baz=64
BLG Laguna Peak 64.09 353 ⇑P P 19 56 38.0 0.0
baz=64
MSTX Muleshoe 64.15 8 ⇓P P 19 56 38.2 -0.3
baz=64,SNR=15
Y28A McKinney Farm, 64.16 9 ⇑P P 19 56 38.4 -0.2
baz=64
DECC Green Verdugo 64.16 354 ⇓P P 19 56 38.6 +0.1
baz=64
LAZ Ladron 64.16 4 eP P 19 56 39.2 +0.5
comp=Z,51nm,1.9s
X18A Snowflake 64.16 2 ⇓P P 19 56 39.4 +0.7
baz=64,SNR=14
X21A Alamocita Cree 64.17 4 ⇓P P 19 56 39.3 +0.5
baz=64,SNR=17
Y29A Porterfield Fa 64.19 9 ⇑P P 19 56 38.3 -0.4
baz=64
X20A Quemado 64.23 3 ⇑P P 19 56 39.8 +0.6
baz=64,SNR=8.5
CRPR Cabo Rojo, PR 64.24 48 eP P 19 56 40.1 +0.8
comp=Z,66nm,1.3s
X22A Bernardo 64.28 4 ⇓P P 19 56 40.8 +1.3
baz=65
Y30A Stafford Cattl 64.32 10 ⇓P P 19 56 38.9 -0.7
baz=65
X23A Hourglass Bar 64.41 5 ⇓P P 19 56 41.0 +0.7
baz=65
X24A Lazy VL Ranch, 64.46 6 ⇓P P 19 56 40.8 +0.2
baz=65
MSVF Nonsavu 64.46 264 iP P 19 56 43.1 +2.1
MSVF pmax pmax
comp=Z,82nm,1.3s
X25A Clemmons Ranch 64.49 7 ⇓P P 19 56 40.6 -0.3
baz=65
GMRC Granite Mounta 64.50 356 ⇓P P 19 56 41.8 +1.0
baz=65,SNR=7.5
Y31A Rekieta Farm, 64.50 11 ⇑P P 19 56 41.0 +0.2
baz=65,SNR=16
OSI Osito Adit 64.56 354 ⇑P P 19 56 41.6 +0.4
baz=65
HEC Hector,Ludlow 64.58 356 ⇑P P 19 56 42.2 +0.9
baz=65
X26A CR and CF Fran 64.60 7 ⇑P P 19 56 41.0 -0.5
baz=65,SNR=12
RRX Edison Barstow 64.68 355 ⇑P P 19 56 42.3 +0.5
baz=65
Y32A R-V Farms, Ver 64.68 11 ⇓P P 19 56 42.1 +0.3
baz=65
W13A Hualapai Mount 64.74 358 ⇓P P 19 56 42.9 +0.4
baz=65,SNR=5.6
ANMO Albuquerque 64.75 5 eP P 19 56 42.7 +0.1
comp=Z,75nm,2.0s
EDW2 Edwards Air Fo 64.76 354 ⇑P P 19 56 42.8 +0.3
baz=65
W18A Petrified Fore 64.76 2 ⇓P P 19 56 43.2 +0.6
baz=65
X29A Tulia 64.76 9 ⇑P P 19 56 42.1 -0.4
baz=65
X28A Dimmitt 64.77 9 ⇓P P 19 56 42.3 -0.2
baz=65
X27A F and S Farms, 64.78 8 ⇓P P 19 56 42.3 -0.4
baz=65
W20A Ramah 64.81 3 ⇑P P 19 56 43.4 +0.4
baz=65,SNR=8.7
W21A San Fidel 64.84 4 ⇑P P 19 56 43.9 +0.7
baz=65
W22A Albuquerque 64.85 4 ⇓P P 19 56 44.0 +0.8
baz=65
X30A Coker Ranch, T 64.88 10 ⇓P P 19 56 42.8 -0.4
baz=65
PKM Peak Mountain 64.95 353 ⇓P P 19 56 44.1 +0.2
baz=65
W23A Werner Place, 64.99 5 ⇑P P 19 56 44.3 +0.2
baz=65,SNR=18
ARVC Arvin 65.08 354 ⇓P P 19 56 44.8 +0.4
baz=65
GSC Goldstone 65.08 355 eP P 19 56 45.3 +0.7
GSC pmax pmax
comp=Z,90nm,1.8s
GSC Goldstone 65.08 355 eP P 19 56 45.3 +0.7
comp=Z,90nm,1.8s
GSC Goldstone 65.08 355 ⇑P P 19 56 45.0 +0.4
baz=65,SNR=10
W24A Lazy 6 Ranch, 65.10 6 ⇑P P 19 56 44.9 +0.1
baz=65,SNR=43
WUAZ Wupatki 65.13 0 eP P 19 56 45.4 +0.5
comp=Z,19nm,1.1s
WUAZ Wupatki 65.13 0 ⇓P P 19 56 45.3 +0.4
baz=65,SNR=6.3
W26A Owens Ranch, T 65.14 7 ⇑P P 19 56 45.0 0.0
baz=66,SNR=6.8
TUQ Turquoise Moun 65.16 356 ⇑P P 19 56 46.0 +0.9
baz=66
W25A X Bar L Ranch, 65.19 7 ⇓P P 19 56 45.1 -0.2
baz=66,SNR=21
W27A Bowe Ranch, En 65.19 8 ⇓P P 19 56 45.0 -0.3
baz=66,SNR=21
X31A McDonald Ranch 65.20 11 ⇓P P 19 56 45.2 -0.1
baz=66,SNR=5.3
LRMC Laurel Mountai 65.32 355 ⇓P P 19 56 46.6 +0.4
baz=66
SMMC Simmler 65.38 353 ⇑P P 19 56 46.4 0.0
baz=66
W29A Amraillo 65.43 9 ⇑P P 19 56 47.1 +0.2
baz=66
V20A Brimhall 65.48 3 ⇓P P 19 56 47.6 +0.3
baz=66,SNR=22
W28A Vega 65.49 9 ⇑P P 19 56 46.9 -0.3
baz=66
V21A Milan 65.53 4 ⇓P P 19 56 47.9 +0.3
baz=66,SNR=6.7
V23A Ortiz Mt. (NFS 65.57 5 ⇑P P 19 56 48.1 +0.2
baz=66
ISA Isabella 65.58 354 eP P 19 56 48.2 +0.5
ISA pmax pmax
comp=Z,54nm,1.8s
ISA Isabella 65.58 354 eP P 19 56 48.2 +0.5
comp=Z,54nm,1.8s
ISA Isabella 65.58 354 ⇑P P 19 56 48.4 +0.7
baz=66,SNR=6.7
V24A Rampart Ranch, 65.62 6 ⇓P P 19 56 47.8 -0.5
baz=66
SHOC Shoshone 65.64 356 ⇑P P 19 56 48.6 +0.5
baz=66
W30A Crooked Farms 65.65 10 ⇑P P 19 56 47.9 -0.3
baz=66
V22A San Miguel Ran 65.68 4 ⇑P P 19 56 49.2 +0.5
baz=66,SNR=11
W31A Holland Ranch, 65.75 11 ⇑P P 19 56 48.4 -0.5
baz=66
VES Vestal, Richgr 65.81 354 ⇓P P 19 56 49.2 +0.1
baz=66
V26A Tequesquite Ra 65.84 7 ⇓P P 19 56 49.0 -0.5
baz=66,SNR=20
MPMC Manual Prospec 65.89 355 ⇓P P 19 56 49.8 -0.1
baz=66,SNR=17
V27A Dan Oppiter Fa 65.91 8 ⇑P P 19 56 49.7 -0.2
baz=66
V28A Channing 65.98 9 ⇑P P 19 56 50.6 +0.2
baz=66
U15A North Rim 66.04 360 ⇑P P 19 56 51.2 +0.2
baz=66,SNR=16
U20A Newcomb 66.06 3 ⇓P P 19 56 51.2 +0.2
baz=66
U23A El Rito 66.15 5 ⇓P P 19 56 52.3 +0.7
baz=66
U22A Llaves 66.15 4 ⇓P P 19 56 51.9 +0.3
baz=66,SNR=14
U21A Nageezi 66.15 4 ⇑P P 19 56 51.8 +0.2
baz=66,SNR=14
SHPR Sheep Range 66.19 357 eP P 19 56 52.4 +0.6
comp=Z,92nm,1.9s
V29A Stinett 66.19 9 ⇑P P 19 56 51.7 0.0
baz=66
V30A Spur Ranch, Mi 66.20 10 ⇑P P 19 56 52.2 +0.5
baz=66
FURC Furnace Creek, 66.25 356 ⇑P P 19 56 52.5 +0.6
baz=67
RCTC Rector, Farmer 66.29 353 ⇓P P 19 56 52.7 +0.5
baz=67
U24A Moreno Valley 66.30 6 ⇓P P 19 56 53.4 +0.7
baz=67
CWC Cottonwood Cre 66.31 354 ⇓P P 19 56 53.4 +0.8
baz=67
V31A Spring Creek L 66.34 11 ⇓P P 19 56 53.5 +0.9
baz=67
U25A Circle Dot Ran 66.37 6 ⇑P P 19 56 53.2 +0.2
baz=67,SNR=8.6
VNA1 Neumayer--Stat 66.37 159 eP P 19 56 52.7 +0.3
MIAR Mount Ida 66.42 16 eP P 19 56 52.5 -0.6
MIAR pmax pmax
comp=Z,34nm,1.4s
MIAR Mount Ida 66.42 16 eP P 19 56 52.5 -0.6
comp=Z,34nm,1.4s
U26A Atchley Ranch, 66.43 7 ⇑P P 19 56 53.2 -0.2
baz=67,SNR=12
VNA2 Neumayer--Watz 66.53 160 eP P 19 56 53.4 -0.1
U27A Thompson Grove 66.56 8 ⇑P P 19 56 54.1 -0.1
baz=67,SNR=12
U28A Mallet 66.60 8 ⇓P P 19 56 54.5 +0.2
baz=67
TIGA Tifton 66.68 26 ⇑P P 19 56 54.7 -0.1
baz=67
T21A Navajo Lake 66.72 4 ⇑P P 19 56 55.3 +0.1
baz=67,SNR=6.8
T22A Edith 66.78 4 ⇑P P 19 56 56.2 +0.5
baz=67,SNR=20
U29A Oasis Ranch, S 66.79 9 ⇓P P 19 56 55.5 0.0
baz=67
GRAC Grapevine Rang 66.81 355 ⇓P P 19 56 56.5 +0.8
baz=67
T23A Casias Ranch, 66.86 5 ⇓P P 19 56 56.5 +0.3
baz=67
MVCO Mesa Verde 66.89 3 eP P 19 56 56.3 0.0
comp=Z,79nm,1.4s
MVCO Mesa Verde 66.89 3 ⇑P P 19 56 56.3 0.0
baz=67,SNR=15
LRAL Lakeview Retre 66.91 23 eP P 19 56 56.1 -0.1
comp=Z,132nm,1.8s
U31A Nine Bar Ranch 66.92 10 ⇑P P 19 56 56.9 +0.5
baz=67
TIN Tinemaha 66.94 354 ⇑P P 19 56 57.4 +0.9
baz=67
T24B San Luis 66.94 6 ⇑P P 19 56 57.2 +0.5
baz=67,SNR=6.2
UALR University of 66.95 17 eP P 19 56 56.7 +0.3
comp=Z,5.2nm,0.6s
U30A WK&E Inc. Balk 66.96 10 ⇓P P 19 56 56.8 +0.2
baz=67
T25A Trinidad 67.10 6 ⇓P P 19 56 57.9 +0.2
baz=67,SNR=7.6
CCUT Cedar City 67.17 359 eP P 19 56 58.6 +0.5
comp=Z,75nm,1.9s
T27A Campo 67.21 8 ⇑P P 19 56 57.7 -0.6
baz=68,SNR=6.2
T26A Comanche Natio 67.22 7 ⇓P P 19 56 58.4 0.0
baz=68,SNR=21
TUL1 Tulsa 67.22 14 ⇓P P 19 56 57.5 -0.7
baz=68
T28A Walsh 67.34 8 ⇑P P 19 56 58.8 -0.3
baz=68,SNR=11
S21A Coal Bank Pass 67.37 3 ⇓P P 19 56 59.6 +0.1
baz=68,SNR=15
ARUT Antelope Range 67.41 359 eP P 19 56 59.9 +0.3
ARUT pmax pmax
comp=Z,933nm,1.9s
ARUT Antelope Range 67.41 359 eP P 19 56 59.9 +0.3
comp=Z,933nm,1.9s
T29A Hugoton 67.48 9 ⇑P P 19 56 59.3 -0.6
baz=68
T30A Plains 67.49 10 ⇓P P 19 56 59.8 -0.1
baz=68
S20A Disappointment 67.51 3 ⇑P P 19 57 00.7 +0.4
baz=68,SNR=18
S22A 4UR Ranch, Cre 67.51 4 ⇑P P 19 57 01.0 +0.6
baz=68,SNR=8.7
S24A Houchin Ranch, 67.53 6 ⇑P P 19 57 00.8 +0.3
baz=68,SNR=11
S23A Nye Farm, Mont 67.53 5 ⇑P P 19 57 01.3 +0.9
baz=68
SNAA Sanae 67.53 161 eP P 19 56 59.4 -0.5
SNAA Sanae 67.53 161 eP P 19 56 59.1 -0.8
comp=Z,34nm,1.0s
MLAC Mammoth Lakes 67.56 354 ⇑P P 19 57 01.1 +0.5
baz=68
SDCO Great Sand Dun 67.61 5 eP P 19 57 00.7 -0.2
comp=Z,71nm,1.8s
S25A Robets Cordova 67.62 6 ⇑P P 19 57 00.9 0.0
baz=68,SNR=21
T31A Randall Ranch, 67.66 10 ⇑P P 19 57 01.2 +0.2
baz=68
S27A Las Animas 67.80 8 ⇑P P 19 57 02.0 0.0
baz=68
PV01 Paradox Valley 67.81 3 eP P 19 57 02.0 -0.1
comp=Z,1µm,1.1s
S28A Manter 67.83 8 ⇓P P 19 57 01.7 -0.4
baz=68
R20A Redvale 67.87 3 ⇑P P 19 57 02.6 +0.1
baz=68,SNR=6.6
S29A Ulysses 67.96 9 ⇑P P 19 57 02.8 -0.1
baz=68
R22A Saguache, Gunn 68.00 4 ⇑P P 19 57 04.0 +0.6
baz=68,SNR=10.0
R23A Moffat 68.02 5 ⇓P P 19 57 03.5 -0.1
baz=68,SNR=8.7
R11A Troy Canyon, C 68.05 357 ⇓P P 19 57 04.6 +1.0
baz=68,SNR=14
PV04 Paradox Valley 68.05 2 eP P 19 57 03.6 0.0
S30A Montezuma 68.08 10 ⇓P P 19 57 03.9 +0.2
baz=68
MVU Marysvale 68.11 360 eP P 19 57 04.5 +0.4
comp=Z,97nm,2.1s
R25A Fountain Ranch 68.11 6 ⇓P P 19 57 04.0 0.0
baz=68,SNR=11
R24A Sanders Place, 68.12 6 ⇑P P 19 57 04.3 +0.2
baz=68,SNR=6.1
S31A Mullinville 68.20 10 ⇓P P 19 57 04.7 +0.3
baz=68
NV11 Mina Array Sit 68.30 355 eP P 19 57 05.9 +0.8
R26A Arlington 68.35 7 ⇑P P 19 57 05.6 +0.2
baz=69
R27A Eads 68.41 8 ⇑P P 19 57 05.7 0.0
baz=69,SNR=9.0
WAKR Walker 68.48 354 eP P 19 57 06.6 +0.3
comp=Z,109nm,2.2s
Q16A Castle Valley 68.52 1 ⇓P P 19 57 06.8 +0.2
baz=69,SNR=8.7
Q21A Lamborn Mesa, 68.55 4 ⇓P P 19 57 07.0 +0.2
baz=69
R28A Tribune 68.58 8 ⇑P P 19 57 07.2 +0.3
baz=69
Q22A Crested Butte, 68.62 4 ⇑P P 19 57 07.4 +0.1
baz=69
Q20A Ridgley Place, 68.63 3 ⇑P P 19 57 07.0 -0.2
baz=69
SRU San Rafael 68.72 1 eP P 19 57 07.4 -0.4
SRU pmax pmax
comp=Z,26nm,0.9s
SRU San Rafael 68.72 1 eP P 19 57 07.4 -0.4
comp=Z,26nm,0.9s
Q23A Hartsel 68.73 5 ⇑P P 19 57 07.9 -0.2
baz=69,SNR=7.6
R30A Dighton 68.73 10 ⇑P P 19 57 07.5 -0.2
baz=69,SNR=9.8
R29A Marienthal 68.75 9 ⇑P P 19 57 08.0 +0.1
baz=69
Q24A Divide 68.85 6 ⇓P P 19 57 08.7 0.0
baz=69
R31A Burdett 68.85 10 ⇑P P 19 57 08.5 0.0
baz=69
Q25A Bedland, Calha 68.88 6 ⇑P P 19 57 08.7 -0.2
baz=69
TMUT Trail Mountain 68.90 0 eP P 19 57 09.3 +0.2
comp=Z,229nm,2.1s
SMCO Snowmass 68.93 4 eP P 19 57 09.3 0.0
comp=Z,14nm,1.0s
Q26A Hugo 68.96 7 ⇑P P 19 57 08.9 -0.3
baz=69,SNR=5.4
KSCO Kaye Shedlock' 69.14 8 ⇓P P 19 57 10.6 +0.2
baz=70
P20A De Beque 69.17 3 ⇑P P 19 57 10.9 +0.3
baz=70
P23A Jefferson 69.20 5 ⇑P P 19 57 11.3 +0.3
baz=70,SNR=9.0
Q29A Oakley 69.23 9 ⇑P P 19 57 11.0 +0.1
baz=70
Q28A Sharon Springs 69.29 8 ⇑P P 19 57 11.3 +0.1
baz=70
P22A Eagle 69.36 4 ⇑P P 19 57 12.0 +0.2
baz=70,SNR=9.9
P24A Kohler Place, 69.41 6 ⇓P P 19 57 12.1 0.0
baz=70
Q30A Quinter 69.42 10 ⇓P P 19 57 12.2 +0.1
baz=70,SNR=11
P25A Willow Gulch B 69.48 6 ⇑P P 19 57 12.7 +0.3
baz=70
WVT Waverly 69.49 21 eP P 19 57 11.5 -0.9
WVT pmax pmax
comp=Z,11nm,0.8s
WVT Waverly 69.49 21 eP P 19 57 11.5 -0.9
comp=Z,12nm,0.8s
NLU North Lily Min 69.56 360 eP P 19 57 13.6 +0.6
comp=Z,19nm,1.1s
Q31A Ellis 69.57 10 ⇓P P 19 57 13.1 +0.2
baz=70
P26A Davis Ranch, A 69.61 7 ⇓P P 19 57 13.4 +0.2
baz=70,SNR=7.3
MPU Maple Canyon 69.62 0 eP P 19 57 13.6 +0.2
comp=Z,10.0nm,0.8s
ISCO Idaho Springs 69.64 5 eP P 19 57 14.0 +0.3
ISCO pmax pmax
comp=Z,71nm,1.8s
ISCO Idaho Springs 69.64 5 eP P 19 57 14.0 +0.3
comp=Z,72nm,1.8s
ISCO Idaho Springs 69.64 5 ⇓P P 19 57 13.9 +0.2
baz=70,SNR=8.2
DRV Dumont d'Urvil 69.65 204 P P 19 57 00.0 -13
DRV S S 20 06 07.0 -14
DRV SS SS 20 10 21.0 -27
DRV L L 20 14 00.0

DRV R 20 19 00.0
P27A Ficken Ranch, 69.69 8 ⇓P P 19 57 13.9 +0.2
baz=70
DUG Dugway 69.80 359 eP P 19 57 14.7 +0.3
DUG pmax pmax
comp=Z,90nm,2.1s
DUG Dugway 69.80 359 eP P 19 57 14.7 +0.3
comp=Z,90nm,2.1s
DUG Dugway 69.80 359 ⇑P P 19 57 15.0 +0.6
baz=70,SNR=5.8
P28A Saint Francis 69.80 8 ⇓P P 19 57 14.5 +0.1
baz=70
O21A Pagoda 69.93 4 ⇑P P 19 57 15.7 +0.3
baz=70
O22A Kremmling 69.93 4 ⇑P P 19 57 15.9 +0.5
baz=70,SNR=11
P29A Atwood 69.94 9 ⇓P P 19 57 15.7 +0.5
baz=70
O19A Miners Draw (B 69.94 2 ⇓P P 19 57 15.4 0.0
baz=70,SNR=8.0
P30A Selden 69.98 9 ⇓P P 19 57 15.8 +0.4
baz=70
O24A Longmont 70.00 5 ⇓P P 19 57 16.1 +0.4
baz=70
DAU Daniels Canyon 70.02 0 eP P 19 57 16.1 +0.2
DAU pmax pmax
comp=Z,114nm,1.6s
DAU Daniels Canyon 70.02 0 eP P 19 57 16.1 +0.2
comp=Z,114nm,1.6s
O23A Lake Granby, G 70.03 5 ⇑P P 19 57 16.2 +0.3
baz=70
O25A Wiggins 70.08 6 ⇑P P 19 57 16.4 +0.3
baz=70
KSU1 Kansas State U 70.14 13 eP P 19 57 16.5 +0.2
comp=Z,14nm,0.6s
JLU Jordanelle 70.20 0 eP P 19 57 17.1 0.0
comp=Z,88nm,1.5s
BMN Battle Mountai 70.21 356 eP P 19 57 17.6 +0.6
BMN pmax pmax
comp=Z,163nm,2.0s
BMN Battle Mountai 70.21 356 eP P 19 57 17.6 +0.6
comp=Z,163nm,2.0s
O26A Horse Wrangler 70.29 7 ⇑P P 19 57 18.0 +0.6
baz=71,SNR=7.0
CTU Camp Tracy 70.29 0 eP P 19 57 16.5 -0.9
comp=Z,15nm,0.8s
O27A Beecher Island 70.33 8 ⇑P P 19 57 17.7 +0.1
baz=71
O28A Krutsinger Ran 70.35 8 ⇓P P 19 57 17.9 +0.3
baz=71
ELK Elko 70.42 357 eP P 19 57 17.5 -0.9
comp=Z,120nm,2.3s
O29A 4D Ranch, Culb 70.47 9 ⇑P P 19 57 18.7 +0.3
baz=71
N21A Black Mountain 70.47 3 ⇑P P 19 57 19.3 +0.7
baz=71,SNR=5.6
N20A Spence Gulch, 70.51 3 ⇑P P 19 57 19.0 +0.1
baz=71,SNR=13
BGU Big Grassy Mou 70.54 359 eP P 19 57 18.4 -0.5
comp=Z,102nm,2.0s
SIUC Southern Illin 70.56 19 eP P 19 57 18.7 -0.2
comp=Z,66nm,1.1s
N22A Wattenberg Ran 70.58 4 ⇑P P 19 57 20.0 +0.7
baz=71,SNR=12
O30A MW Ranch, Wils 70.63 10 ⇑P P 19 57 19.8 +0.4
baz=71
N23A Red Feather La 70.70 5 ⇓P P 19 57 20.5 +0.4
baz=71,SNR=9.1
N24A Carr 70.72 6 ⇓P P 19 57 20.6 +0.5
baz=71
N25A Grover 70.78 6 ⇑P P 19 57 20.9 +0.5
baz=71
KMSC Kings Mountain 70.83 26 ⇓P P 19 57 20.7 +0.1
baz=71
N26A Koester Ranch, 70.88 7 ⇓P P 19 57 21.3 +0.3
baz=71
WDC Whiskeytown Da 70.89 351 eP P 19 57 20.8 -0.1
WDC pmax pmax
comp=Z,11nm,1.0s
WDC Whiskeytown Da 70.89 351 eP P 19 57 20.8 -0.1
comp=Z,11nm,1.0s
SPUT South Promonto 70.91 359 eP P 19 57 20.8 -0.5
comp=Z,26nm,1.4s
N27A Anderson Farm, 70.93 7 ⇑P P 19 57 21.9 +0.6
baz=71
N28A Pribbeno Ranch 70.93 8 ⇑P P 19 57 21.5 +0.3
baz=71
M17A Scullys Gap (B 71.08 1 ⇓P P 19 57 21.9 -0.4
baz=71
OGNE Ogallala 71.12 8 eP P 19 57 22.8 +0.3
comp=Z,108nm,1.4s
OGNE Ogallala 71.12 8 ⇓P P 19 57 22.9 +0.5
baz=71
M19A Rock Springs 71.15 2 ⇓P P 19 57 21.9 -0.8
baz=72
M22A Cedar Creek Ra 71.17 4 ⇓P P 19 57 22.9 +0.1
baz=72
N29A Votaw Ranch, W 71.17 9 ⇓P P 19 57 23.2 +0.5
baz=72
HWUT Hardware Ranch 71.21 0 eP P 19 57 22.3 -0.7
comp=Z,12nm,1.1s
USIN University of 71.24 20 eP P 19 57 22.6 -0.4
comp=Z,70nm,1.1s
M23A Laramie 71.29 5 ⇓P P 19 57 23.9 +0.3
baz=72
M21A Separation Pea 71.32 4 ⇑P P 19 57 23.3 -0.5
baz=72,SNR=6.8
HVU Hansel Valley 71.39 359 eP P 19 57 23.5 -0.6
HVU pmax pmax
comp=Z,62nm,2.0s
HVU Hansel Valley 71.39 359 eP P 19 57 23.5 -0.6
comp=Z,62nm,2.0s
M25A Palm-Egli Farm 71.39 6 ⇑P P 19 57 24.4 +0.3
baz=72
RWWY Rawlins 71.41 4 eP P 19 57 23.5 -0.9
comp=Z,106nm,1.8s
M26A McRoberts Ranc 71.51 7 ⇑P P 19 57 25.2 +0.3
baz=72
L18A Fontenelle, Gr 71.54 1 ⇓P P 19 57 24.5 -0.6
baz=72
M28A Bar X Bar Ranc 71.65 8 ⇓P P 19 57 26.2 +0.6
baz=72
M27A Reverse DX Ran 71.66 7 ⇓P P 19 57 25.8 +0.1
baz=72
L20A Wamsutter 71.68 3 ⇑P P 19 57 25.5 -0.4
baz=72,SNR=9.5
L21A Rawlins 71.68 3 ⇓P P 19 57 25.0 -0.9
baz=72,SNR=7.2
L19A Farson 71.74 2 ⇑P P 19 57 25.4 -0.9
baz=72
L22A Ellis Ranch, M 71.80 4 ⇓P P 19 57 27.0 +0.4
baz=72,SNR=9.2
L24A Wheatland 71.92 5 ⇓P P 19 57 27.5 +0.2
baz=72
L23A Garrett 71.93 5 ⇑P P 19 57 27.3 -0.2
baz=72
MOD Modoc 71.93 353 eP P 19 57 27.6 +0.2
comp=Z,477nm,1.9s
MAIT Maitri 71.94 163 eP P 19 57 25.5 -1.5
M30A Dale-Ortello V 71.98 9 ⇓P P 19 57 28.0 +0.4
baz=72
L26A Underwood Farm 72.09 7 ⇑P P 19 57 28.5 +0.2
baz=72
L25A Engebretsen Ra 72.12 6 ⇑P P 19 57 28.5 +0.1
baz=72
BGNE Belgrade 72.12 11 ⇑P P 19 57 28.8 +0.4
baz=72
L27A T5 Ranch, Ells 72.21 7 ⇑P P 19 57 29.0 0.0
baz=72
L28A Connealy Angus 72.23 8 ⇑P P 19 57 29.1 0.0
baz=73
WVOR Wild Horse Val 72.31 355 eP P 19 57 30.2 +0.6
WVOR pmax pmax
comp=Z,165nm,2.0s
WVOR Wild Horse Val 72.31 355 eP P 19 57 30.1 +0.6
comp=Z,165nm,2.0s
K20A Yellowstone Ra 72.33 3 ⇓P P 19 57 28.9 -0.8
baz=73,SNR=10
K21A Alcova 72.35 4 ⇑P P 19 57 29.6 -0.4
baz=73,SNR=12
AHID Auburn Hatcher 72.37 1 eP P 19 57 29.1 -0.9
comp=Z,12nm,0.8s
BW06 Boulder Array 72.39 2 eP P 19 57 29.0 -1.2
comp=Z,77nm,1.8s
PDAR Pinedale Array 72.39 2 P P 19 57 29.3 -0.9
PDAR Pinedale Array 72.39 2 P P 19 57 29.3 -0.9
comp=Z,5.6nm,1.0s,baz=176,slow=5.8,SNR=21
PDAR LR LR 20 23 59.2
comp=Z,1μm,20.4s,baz=198,slow=32
K22A Casper 72.41 4 ⇓P P 19 57 30.2 -0.1
baz=73,SNR=15
L29A Maesberg Ranch 72.42 9 ⇓P P 19 57 30.2 0.0
baz=73
K19A Absolon Red Bu 72.47 2 ⇓P P 19 57 29.4 -1.2
baz=73,SNR=7.4
DZM Mont Dzumac 72.49 254 eS S 20 06 52.6 -3.3
comp=Z,452nm,26.2s
DZM eLQ LQ 20 16 39.8
comp=Z,1μm,27.1s
DZM eLR LR 20 19 31.6
comp=Z,310nm,24.7s
DZM Mont Dzumac 72.49 254 eP P 19 57 32.0 +0.8
comp=Z,60nm,1.4s
DZM Mont Dzumac 72.49 254 LR LR 20 21 43.8
comp=Z,220nm,21.7s,baz=180,slow=30
K23A Bowen Ranch, D 72.58 5 ⇓P P 19 57 31.1 -0.1
baz=73,SNR=20
K25A Mack Ranch, Ha 72.58 6 ⇑P P 19 57 31.6 +0.5
baz=73
K24A Anderson Ranch 72.61 5 ⇑P P 19 57 31.7 +0.3
baz=73
K26A Motz Farm, Whi 72.73 7 ⇓P P 19 57 32.1 0.0
baz=73,SNR=5.7
K27A Flueckinger Fa 72.83 7 ⇑P P 19 57 32.9 +0.3
baz=73
J19A Crowheart 72.91 2 ⇓P P 19 57 32.5 -0.7
baz=73
HUMO Hull Mountain 72.94 351 eP P 19 57 33.8 +0.6
comp=Z,88nm,1.9s
K28A Ten Mile Ranch 72.95 8 ⇓P P 19 57 34.2 +0.9
baz=73,SNR=8.5
RRI2 Red Ridge 72.95 0 eP P 19 57 33.1 -0.5
comp=Z,83nm,1.6s
REDW Red Top Meadow 72.97 1 eP P 19 57 32.3 -1.3
comp=Z,24nm,1.2s
J20A Shoshoni 73.03 3 ⇓P P 19 57 33.7 -0.2
baz=73,SNR=18
J21A Lysite 73.05 3 ⇑P P 19 57 34.1 0.0
baz=73,SNR=18
TPAW Teton Pass 73.09 1 eP P 19 57 33.9 -0.5
comp=Z,15nm,0.8s
MFID Camas Ranch 73.11 357 ⇑P P 19 57 34.5 +0.2
baz=73
J22A Midwest 73.17 4 ⇑P P 19 57 34.2 -0.6
baz=74,SNR=11
HDIL Hopedale 73.19 18 eP P 19 57 33.9 -0.8
comp=Z,28nm,0.8s
HLID Hailey 73.20 358 eP P 19 57 35.1 +0.3
comp=Z,106nm,1.7s
HLID Hailey 73.20 358 ⇓P P 19 57 35.2 +0.3
baz=74,SNR=17
J24A Dixon Ranch, L 73.22 5 ⇓P P 19 57 34.8 -0.1
baz=74
J23A Dilts Ranch, B 73.23 5 ⇑P P 19 57 34.6 -0.4
baz=74
I18A Diamond G Ranc 73.32 1 ⇑P P 19 57 35.4 -0.3
baz=74,SNR=7.6
J26A Sides Ranch, S 73.35 7 ⇓P P 19 57 35.8 +0.2
baz=74,SNR=8.4
MOOW Moose Ponds 73.35 1 eP P 19 57 34.6 -1.2
comp=Z,76nm,2.0s
J25A Sunshine Ranch 73.36 6 ⇓P P 19 57 35.9 +0.1
baz=74,SNR=11
J27A Elkhorn Farm, 73.40 7 ⇓P P 19 57 36.5 +0.5
baz=74
I16A Newdale 73.47 0 ⇑P P 19 57 36.3 -0.2
baz=74
IMW Indian Meadow 73.50 1 eP P 19 57 36.3 -0.5
comp=Z,37nm,1.3s
I17A Pilgrim Ck. 73.53 1 ⇓P P 19 57 36.6 -0.3
baz=74
I21A Big Trails, Te 73.53 3 ⇓P P 19 57 36.4 -0.4
baz=74,SNR=31
SCIA State Center 73.53 14 eP P 19 57 35.5 -1.2
comp=Z,24nm,0.9s
I20A Worland 73.62 3 ⇓P P 19 57 36.8 -0.5
baz=74,SNR=8.0
SFIN Scholer Farm 73.64 19 ⇑P P 19 57 36.8 -0.5
baz=74
I22A 9 Mile Ranch, 73.65 4 ⇑P P 19 57 37.1 -0.4
baz=74,SNR=8.6
J28A Allard Ranch, 73.66 8 ⇑P P 19 57 37.8 +0.3
baz=74,SNR=11
I19A Meeteetse 73.68 2 ⇓P P 19 57 37.5 -0.2
baz=74,SNR=11
I24A Kuemmerle Ranc 73.75 5 ⇓P P 19 57 37.7 -0.4
baz=74
I23A Meade Ranch, G 73.79 5 ⇓P P 19 57 38.0 -0.3
baz=74
I25A Rochford 73.99 6 ⇓P P 19 57 39.4 -0.1
baz=74,SNR=11
I26A New Underwood 74.08 7 ⇓P P 19 57 40.5 +0.5
baz=74
H20A Greybull 74.17 3 ⇓P P 19 57 40.1 -0.4
baz=74
I27A Quinn 74.20 7 ⇓P P 19 57 41.1 +0.4
baz=74
H18A Shoshone NF, C 74.30 2 ⇑P P 19 57 40.9 -0.5
baz=75,SNR=6.9
H19A Powell 74.31 2 ⇓P P 19 57 41.1 -0.3
baz=75
H21A Big Horn, Sher 74.35 4 ⇑P P 19 57 40.6 -1.0
baz=75
H22A Clearmont 74.36 4 ⇑P P 19 57 41.2 -0.4
baz=75,SNR=7.1
H23A Clabaugh Cattl 74.39 5 ⇑P P 19 57 41.0 -0.7
baz=75
QLMT Earthquake Lak 74.43 0 eP P 19 57 42.7 +0.6
comp=Z,1.8nm,0.9s
MCMT McKenzie Canyo 74.43 359 P P 19 57 42.4 +0.2
VIPM Ingram Point 74.55 353 P P 19 57 43.7 +1.0
VIPM Ingram Point 74.55 353 P P 19 57 43.7 +1.0
H25A Fruitdale 74.60 6 ⇓P P 19 57 42.7 -0.2
baz=75
BMO Blue Mountains 74.62 356 eP P 19 57 42.1 -1.0
comp=Z,78nm,1.9s
H24A Dirks Ranch, A 74.64 5 ⇓P P 19 57 42.7 -0.5
baz=75,SNR=6.8
ECSD EROS Data Cent 74.64 11 eP P 19 57 42.4 -0.8
comp=Z,19nm,0.9s
H26A Fairpoint 74.67 7 ⇑P P 19 57 43.1 -0.2
baz=75
RLMT Red Lodge 74.76 2 eP P 19 57 43.9 -0.2
comp=Z,39nm,1.4s
H27A Howes 74.76 7 ⇓P P 19 57 43.3 -0.5
baz=75
G20A Bridger 74.89 3 ⇓P P 19 57 43.5 -1.1
baz=75,SNR=13
H28A Mission Ridge 74.92 8 ⇓P P 19 57 44.6 -0.2
baz=75
G21A Lodge Grass 74.94 3 ⇓P P 19 57 44.6 -0.4
baz=75
G18A Lazy EL Ranch, 74.94 2 ⇓P P 19 57 44.8 -0.2
baz=75,SNR=10
BRSD Miller 74.97 9 ⇓P P 19 57 44.6 -0.4
baz=75
DLMT Dillon 74.97 359 eP P 19 57 44.1 -1.0
comp=Z,15nm,1.2s
G22A Birney 74.98 4 ⇓P P 19 57 44.3 -0.9
baz=75
G23A Biddle 75.03 5 ⇑P P 19 57 44.8 -0.6
baz=75,SNR=8.4
G25A Newell 75.18 6 ⇓P P 19 57 46.0 -0.3
baz=76,SNR=6.8
G24A Alzada 75.23 5 ⇑P P 19 57 46.1 -0.5
baz=76
BOZ Bozeman (W) 75.25 0 eP P 19 57 46.3 -0.4
BOZ pmax pmax
comp=Z,68nm,1.9s
BOZ Bozeman (W) 75.25 0 eP P 19 57 46.3 -0.4
comp=Z,68nm,1.9s
G28A Parade 75.33 8 ⇓P P 19 57 46.6 -0.5
baz=76
G26A Maurine 75.36 7 ⇓P P 19 57 47.1 -0.2
baz=76,SNR=7.5
G27A Dupree 75.41 6 ⇑P P 19 57 48.1 +0.5
baz=76
VFP Flag Point 75.43 353 P P 19 57 47.8 -0.1
F20A Billings 75.47 3 ⇓P P 19 57 47.6 -0.4
baz=76
F19A Roth Farm, Mol 75.50 2 ⇑P P 19 57 47.5 -0.6
baz=76
F18A Big Timber 75.53 1 ⇑P P 19 57 47.9 -0.4
baz=76,SNR=5.9
F21A Absaloka Mine, 75.54 3 ⇑P P 19 57 48.1 -0.2
baz=76
F23A Volborg 75.54 5 ⇑P P 19 57 48.2 -0.2
baz=76,SNR=14
F22A Rosebud 75.55 4 ⇓P P 19 57 48.0 -0.3
baz=76,SNR=5.4
F24A Ekalaka 75.74 5 ⇑P P 19 57 49.0 -0.5
baz=76
F25A Bowman 75.90 6 ⇑P P 19 57 50.1 -0.3
baz=76
F27A Lemmon 75.99 7 ⇓P P 19 57 51.0 +0.1
baz=76,SNR=6.6
F28A McLaughlin 76.10 8 ⇓P P 19 57 51.6 +0.1
baz=76
E19A Rath Farm, Rou 76.11 2 ⇓P P 19 57 51.5 -0.1
baz=76,SNR=6.2
E20A Meyer Farm, Mu 76.17 3 ⇓P P 19 57 51.6 -0.3
baz=76,SNR=6.7
F29A Eureka 76.21 9 ⇑P P 19 57 51.7 -0.4
baz=76
E22A Miles City 76.22 4 ⇓P P 19 57 51.9 -0.3
baz=76
E21A Keefer Ranch, 76.26 3 ⇑P P 19 57 52.2 -0.2
baz=77
HRY Holter Researc 76.31 360 eP P 19 57 53.0 +0.2
comp=Z,14nm,0.8s
FL2 Flat Top 2 76.40 352 P P 19 57 54.1 +0.8
NLO Nicolai Mounta 76.42 352 P P 19 57 54.6 +1.3
LAO LASA Array 76.45 4 eP P 19 57 53.5 0.0
comp=Z,38nm,1.2s
MSO Missoula 76.45 358 ⇑P P 19 57 53.4 -0.1
baz=77
E24A Baker 76.46 5 ⇓P P 19 57 53.5 -0.1
baz=77
E25A Miller Ranch, 76.48 6 ⇑P P 19 57 53.8 +0.2
baz=77
CHMT Chamberlain Mo 76.53 359 eP P 19 57 54.4 +0.3
comp=Z,30nm,1.5s
TDL Tradedollar La 76.54 353 P P 19 57 55.0 +1.0
E26A Carlson Angus 76.54 7 ⇓P P 19 57 54.3 +0.3
baz=77
E27A Carson 76.59 7 ⇓P P 19 57 54.5 +0.2
baz=77
D17A Six Diamond Ra 76.76 1 ⇓P P 19 57 55.5 +0.2
baz=77,SNR=9.3
D20A Manuel Ranch, 76.76 3 ⇑P P 19 57 55.3 +0.1
baz=77
D21A La Casta Ranch 76.79 3 ⇑P P 19 57 55.5 +0.1
baz=77,SNR=10
SPMN St. Paul 76.80 14 ⇓P P 19 57 55.5 +0.1
baz=77
D19A Cripps Ranch, 76.81 2 ⇑P P 19 57 55.7 +0.2
baz=77
E28A Huff 76.83 8 ⇑P P 19 57 55.5 -0.2
baz=77
SLMT Seeley Lake 76.86 359 eP P 19 57 56.2 +0.3
comp=Z,82nm,1.8s
LON Longmire 76.89 353 eP P 19 57 54.5 -1.5
LON pmax pmax
comp=Z,4.0nm,0.3s
LON Longmire 76.89 353 eP P 19 57 54.5 -1.5
comp=Z,4.2nm,0.3s
D22A Cohagen 76.92 4 ⇓P P 19 57 56.6 +0.4
baz=77,SNR=11
E29A Napoleon 76.96 9 ⇑P P 19 57 56.2 -0.2
baz=77
E30A Jud 76.99 9 ⇑P P 19 57 56.1 -0.4
baz=77
D24A Glendive 77.01 5 ⇑P P 19 57 56.7 +0.1
baz=77,SNR=8.9
D26A Manning 77.09 7 ⇑P P 19 57 57.7 +0.6
baz=77
D25A Fairfield 77.13 6 ⇑P P 19 57 58.2 +0.9
baz=78
SWMT Swartz Lake 77.14 358 eP P 19 57 57.6 +0.2
comp=Z,14nm,1.2s
D27A Center 77.27 7 ⇓P P 19 57 58.6 +0.6
baz=78
C19A Slack Wire Ran 77.37 2 ⇓P P 19 57 59.4 +0.7
baz=78,SNR=10.0
JTMT Jette 77.38 358 eP P 19 57 58.2 -0.6
comp=Z,13nm,0.9s
C20A Veseth Ranch, 77.39 3 ⇓P P 19 57 59.3 +0.6
baz=78
C24A Savage 77.41 5 ⇓P P 19 57 59.6 +0.7
baz=78
D29A Pettibone, Tap 77.45 9 ⇓P P 19 57 58.5 -0.5
baz=78
D28A Regan 77.46 8 ⇑P P 19 57 59.1 0.0
baz=78
YBMT Yellow Bay 77.49 358 eP P 19 57 59.0 -0.5
comp=Z,25nm,1.5s
BSMT Bassoo Peak 77.50 358 P P 19 58 00.0 +0.5
C22A Vida 77.53 4 ⇓P P 19 57 59.6 +0.1
baz=78,SNR=12
C21A Desert Coulee 77.54 3 ⇓P P 19 57 59.5 -0.1
baz=78,SNR=5.4
ETW Entiat 77.59 354 P P 19 58 00.6 +0.6
D30A Buchanan 77.60 9 ⇑P P 19 58 00.0 +0.1
baz=78
C23A Lambert 77.63 5 ⇓P P 19 58 00.4 +0.3
baz=78
BLMT Blacktail Moun 77.64 358 eP P 19 58 00.4 0.0
comp=Z,54nm,1.6s
EGMT Eagleton 77.64 1 ⇑P P 19 58 01.0 +0.8
baz=78
C25A Freed Ranch, W 77.69 6 ⇓P P 19 58 00.6 +0.2
baz=78
NLWA Neilton Lookou 77.76 352 eP P 19 58 00.5 -0.3
comp=Z,162nm,1.9s
C26A Wahner Farm, P 77.92 7 ⇑P P 19 58 02.2 +0.6
baz=78
C28A Hausauer Farms 77.99 8 ⇓P P 19 58 02.2 +0.1
baz=78
NEW Newport 78.01 356 eP P 19 58 02.4 +0.2
comp=Z,133nm,1.8s
NEW Newport 78.01 356 LR LR 20 27 20.5
comp=Z,2μm,18.2s,baz=175,slow=32
NEW Newport 78.01 356 ⇑P P 19 58 02.6 +0.4
baz=78,SNR=11
B22A Reddig Ranch S 78.07 4 ⇑P P 19 58 03.2 +0.7
baz=78
B19A Brinkman Farms 78.10 2 ⇓P P 19 58 03.4 +0.7
baz=78
B20A Solberg Farm, 78.11 3 ⇑P P 19 58 03.3 +0.6
baz=78
B21A Ellsworth Farm 78.14 3 ⇓P P 19 58 03.3 +0.3
baz=78
MDND Maddock 78.22 8 ⇑P P 19 58 03.0 -0.3
baz=78
C30A Mose, Pekin 78.22 9 ⇑P P 19 58 03.7 +0.3
baz=79
B25A Knox Farm, Ray 78.25 6 ⇑P P 19 58 03.9 +0.3
baz=79
B23A Brockton 78.30 5 ⇓P P 19 58 04.1 +0.3
baz=79
DGMT Dagmar 78.37 5 eP P 19 58 04.3 +0.1
comp=Z,36nm,1.2s
DGMT Dagmar 78.37 5 ⇑P P 19 58 04.7 +0.6
baz=79
COWI Conover 78.44 16 eP P 19 58 04.5 0.0
comp=Z,31nm,1.2s
B26A Jensen Ranch, 78.45 6 ⇑P P 19 58 04.9 +0.3
baz=79
A20A Cobblestone Ra 78.56 3 ⇑P P 19 58 05.5 +0.3
baz=79
B27A Peters Farms, 78.57 7 ⇓P P 19 58 05.1 -0.1
baz=79
A19A Klindworth Far 78.58 2 ⇓P P 19 58 05.5 +0.2
baz=79
A21A Bergtoll Ranch 78.71 3 ⇓P P 19 58 06.4 +0.3
baz=79
B28A Dugan Ranch, T 78.72 8 ⇓P P 19 58 06.2 +0.1
baz=79
A22A Carney Farms, 78.77 4 ⇑P P 19 58 06.7 +0.3
baz=79
CASY Casey 78.77 196 eP P 19 58 06.8 +0.5
comp=Z,19nm,1.0s
A23A Redstone 78.80 5 ⇑P P 19 58 06.9 +0.3
baz=79
A24A Westby 78.83 5 ⇑P P 19 58 06.8 +0.1
baz=79
B29A Wagenman Farm, 78.86 8 ⇑P P 19 58 06.3 -0.5
baz=79
A25A Svangstu Ranch 78.92 6 ⇑P P 19 58 07.6 +0.5
baz=79
PGC Sidney 78.94 352 eP P 19 58 07.3 0.0
comp=Z,8.8nm,1.7s
B30A Myrvik Farm, E 78.98 9 ⇑P P 19 58 07.7 +0.2
baz=79,SNR=6.9

SYO	Syowa Base	79.11	170	⇑	*i*P	P	19 58 07.0	-1.1
SYO	Syowa Base	79.11	170	⇓	*e*pP	pP	19 58 11.0	-0.4
A27A	Ledoux Ranch, baz=79	79.12	7	⇑	P	P	19 58 08.7	+0.5
A28A	Rude Farm, Bot baz=80	79.18	8	⇓	P	P	19 58 08.8	+0.2
AGMN	Agassiz Nation comp=Z,38nm,1.4s	79.20	11		*e*P	P	19 58 08.7	0.0
A29A	Manning Farm, baz=80	79.32	8	⇓	P	P	19 58 08.7	-0.7
A30A	Hoffart Farm, baz=80	79.46	9	⇓	P	P	19 58 10.1	0.0
EYMN	Ely comp=Z,75nm,1.7s	79.66	14		*e*P	P	19 58 10.5	-0.7
CAN	Canberra	80.08	235		*e*P	P	19 58 14.4	+0.2
CAN	comp=Z,44nm,1.1s				pmax	pmax		
CAN	Canberra comp=Z,44nm,1.1s	80.08	235		*e*P	P	19 58 14.3	+0.2
SADO	Sadowa comp=Z,1μm,21.5s,baz=191,slow=33	80.11	23		LR	LR	20 29 43.1	
LONY	Lake Ozonia comp=Z,148nm,1.8s	81.61	26		*e*P	P	19 58 21.7	-0.1
MAW	Mawson	82.66	178		P	P	19 58 27.6	+0.5
MAW	Mawson comp=Z,5.3nm,0.8s,baz=207,slow=6.1,SNR=7.9	82.66	178		P	P	19 58 27.6	+0.5
MAW					LR	LR	20 32 47.5	
EDM	Edmonton comp=Z,2μm,18.9s,baz=185,slow=34	82.84	359		*e*P	P	19 58 27.7	-0.3
EDM	Edmonton	82.84	359		*e*P	P	19 58 27.7	-0.3
EIDS	Eidsvold comp=Z,70nm,1.6s	83.44	245		*e*P	P	19 58 31.5	-0.5
FFC	Flin Flon comp=Z,156nm,1.0s,SNR=6.3	84.76	6		P	P	19 58 37.0	-0.8
FFC	Flin Flon comp=Z,319nm,1.8s	84.76	6		*e*P	P	19 58 37.3	-0.5
FFC					pmax	pmax		
FFC	Flin Flon comp=Z,319nm,1.8s	84.76	6		*e*P	P	19 58 37.2	-0.5
STKA	Stephens Creek	87.14	235		P	P	19 58 51.1	+0.7
STKA	Stephens Creek comp=Z,8.4nm,1.2s,baz=155,slow=14,SNR=4.1	87.14	235		P	P	19 58 51.1	+0.7
STKA					LR	LR	20 34 52.0	
YKA	Yellowknife Ar comp=Z,495nm,18.0s,baz=294,slow=34	92.15	359		P	P	19 59 12.4	-0.5
YKA	Yellowknife Ar comp=Z,3.1nm,0.7s,baz=172,slow=4.5,SNR=14	92.15	359		P	P	19 59 12.4	-0.5
SCHQ	Schefferville comp=Z,3.8nm,0.7s,baz=133,slow=6.1,SNR=3.7	92.86	24		P	P	19 59 15.7	-0.7
SCHQ	Schefferville	92.86	24		P	P	19 59 15.7	-0.7
SCHQ					LR	LR	20 39 04.0	
ASAR	Alice Springs comp=Z,583nm,18.7s,baz=254,slow=34	97.43	237		P	P	19 59 37.7	-0.6
ASAR	Alice Springs comp=Z,1.0nm,1.0s,baz=106,slow=2.7,SNR=5.0	97.43	237		P	P	19 59 37.7	-0.6
ASAR					LR	LR	20 36 13.1	
ILAR	Eielson Array comp=Z,749nm,19.4s,baz=129,slow=31	98.31	346		P	P	19 59 40.7	-0.3
ILAR	Eielson Array comp=Z,0.6nm,0.8s,baz=188,slow=4.7,SNR=5.2	98.31	346		P	P	19 59 40.7	-0.3
ILAR					LR	LR	20 35 36.8	
COLA	College comp=Z,572nm,18.6s,baz=146,slow=30	98.61	345		*e*P	Pdif	19 59 43.5	+1.2
COLA					pmax	pmax		
WRA	Warramunga Arr comp=Z,27nm,1.6s	99.32	241		P	Pdif	19 59 47.7	+0.9
WRA	Warramunga Arr comp=Z,1.4nm,1.1s,baz=124,slow=4.2,SNR=3.3	99.32	241		P	Pdif	19 59 47.7	+0.9
WRA					LR	LR	20 39 00.2	
TORD	Torodi Ar. Bea comp=Z,711nm,18.4s,baz=165,slow=32	116.69	90		PKP	PKPdf	20 04 47.3	-1.7
TORD					PP	PP	20 05 54.9	-2.1
TORD	Torodi Ar. Bea comp=Z,2.1nm,1.2s,baz=267,slow=1.5,SNR=3.8	116.69	90		PKP	PKPdf	20 04 47.3	-1.7
TORD					PP	PP	20 05 54.9	-2.1
ESDC	Sonseca Array comp=Z,3.6nm,1.2s,baz=246,slow=4.4,SNR=6.6	121.39	59		PKP	PKPdf	20 04 58.5	+1.0
ESDC	Sonseca Array comp=Z,0.9nm,0.8s,baz=318,slow=2.0,SNR=6.5	121.39	59		PKP	PKPdf	20 04 58.5	+1.0
TIXI	Tiksi	127.30	340		*i* PKIKP	PKPdf	20 05 08.1	+0.4
TIXI	comp=Z,9.0nm,1.2s				pmax	pmax		
USRK	Ussuriysk Arra comp=Z,2.0nm,0.9s,baz=156,slow=1.9,SNR=11	128.39	305		PKP	PKPdf	20 05 10.6	0.0
KLR	Kul'dur	128.96	311		*e*PKIKP	PKPdf	20 05 07.2	-4.3
YAK	Yakutsk	129.32	328		*e*PKIKP	PKPdf	20 05 11.2	-0.6
YAK					pmax	pmax		
MDJ	Mudanjiang comp=Z,18nm,1.4s	130.14	305		PKP	PKPdf	20 05 15.0	+1.1
MDJ					PP	PP	20 07 30.8	+3.6
MDJ					PKS	PKSdf	20 08 48.9	-1.4
MDJ					SKS	SKSdf	20 12 26.5	+1.0
MDJ					LR	LR		
MDJ	comp=N,29nm,27.7s				LR	LR		
MDJ	comp=E,66nm,18.5s				LR	LR		
MDJ	comp=Z,76nm,22.4s	130.14	305		*e*P	PKPdf	20 05 13.1	-0.8
MDJ	Mudanjiang							
KSRS	Korea Array comp=Z,1.2nm,0.8s,baz=124,slow=2.3,SNR=8.2	130.48	295		PKP	PKPdf	20 05 15.8	+1.0
KSAR	Wonju Array Be comp=Z,2.9nm,1.1s,baz=295,slow=5.9,SNR=2.6	130.51	295		PKP	PKPdf	20 05 15.8	+0.9
NOA	NORSAR Array B	131.61	33		PKP	PKPdf	20 05 17.2	+1.0
NOA	NORSAR Array B comp=Z,100nm,1.7s,baz=254,slow=2.0,SNR=28	131.61	33		PKP	PKPdf	20 05 17.2	+1.0
STU	Stuttgart	131.92	50		*e*PKPdf	PKPdf	20 05 18.0	+0.8
BSEG	Bad Segeberg	132.33	43		*e*PKPdf	PKPdf	20 05 18.3	+0.6
BSEG	Bad Segeberg	132.33	43		*e*PKIKP	PKPdf	20 05 18.3	+0.6
DAVA	Damuels	132.38	52	⇑	*i*pPKPdf	pPKPdf	20 05 20.9	-0.9
CLZ	Clausthal	132.55	45		*e*PKPdf	PKPdf	20 05 19.5	+1.2
CLZ	Clausthal	132.55	45		*e*PKIKP	PKPdf	20 05 19.5	+1.2
FETA	Feichten comp=Z,22nm,1.5s,SNR=6.8	132.96	52	⇑	*i*PKiKP	PKiKP	20 05 20.7	+0.1
CN2	Changchun comp=Z,210nm,20.0s	133.06	304		*e*PKP	PKPdf	20 05 17.5	-2.0
CN2					*e*PP	PP	20 07 47.6	+1.5
CN2	comp=N,180nm,20.0s				LR	LR		
CN2	comp=E,150nm,20.0s				LR	LR		
CN2					LR	LR		
MOTA	Moosalm comp=Z,12nm,1.2s	133.22	52	⇑	*i*PKPdf	PKPdf	20 05 20.1	+0.3
GRF	Grafenberg Arr comp=Z,229nm,21.9s	133.22	48		*e*PKPdf	PKPdf	20 05 20.9	+1.3
GRF					*e*L	L	20 55 14.3	
GRF	Grafenberg Arr comp=Z,200nm,21.9s	133.22	48		*e*PKIKP	PKPdf	20 05 20.9	+1.3
GRF					MLR	MLR		
MOX	Moxa comp=Z,344nm,18.7s	133.42	47		*e*PKPdf	PKPdf	20 05 20.8	+0.9
MOX					*e*L	L	21 00 21.2	
MOX	Moxa comp=Z,300nm,18.7s	133.42	47		*e*PKIKP	PKPdf	20 05 20.8	+0.9
MOX					MLR	MLR		
WTTA	Wattenberg comp=Z,30nm,1.7s,SNR=7.9	133.58	52	⇑	*i*PKiKP	PKiKP	20 05 21.6	-0.3
ROTZ	Rotzenmuhle	133.86	48		*e*PKPdf	PKPdf	20 05 21.5	+0.7
TANN	Tannenbergstha	133.97	47		*e*PKPdf	PKPdf	20 05 21.8	+0.7
CLL	Collm	134.23	46		*e*PKPdf	PKPdf	20 05 22.3	+0.9
CLL	Collm comp=Z,26nm,1.7s	134.23	46	⇓	*i*PKIKP	PKPdf	20 05 21.8	+0.4
CLL					pmax	pmax		
CLL					MLR	MLR		
CLL	Collm comp=Z,26nm,1.7s	134.23	46	⇓	*i*PKPdf	PKPdf	20 05 21.8	+0.4
CLL					*e*SS	SS	20 25 36.0	-6.8
CLL					*e*SSS	SSS	20 30 42.0	
CLL					Lm	MLR	20 59 00.0	
CLL	comp=N,100nm,20.1s				Lm	MLR	20 59 00.0	
CLL	comp=E,200nm,20.5s				Lm	MLR	20 59 00.0	
WET	Wettzell comp=Z,200nm,20.5s	134.33	49		*e*PKPdf	PKPdf	20 05 22.3	+0.6
WET	Wettzell	134.33	49		*e*PKIKP	PKPdf	20 05 22.3	+0.6
RJOB	Jochberg	134.35	51		*e*PKPdf	PKPdf	20 05 22.3	+0.4
KHC	Kasperske Hory comp=Z,300nm,19.7s	134.79	49		*e*PKIKP	PKPdf	20 05 23.3	+0.7
KHC					*e*		20 05 29.6	
KHC					MLR	MLR		
KHC	Kasperske Hory comp=Z,300nm,19.7s	134.79	49		*e*PKPdf	PKPdf	20 05 23.3	+0.7
KHC					*ep*PKP	pPKPdf	20 05 29.6	+3.5
KHC					AMS	AMS	20 56 00.0	
BRG	Berggiesshubel comp=Z,48nm,2.0s	134.87	47		*e*P	PKPdf	20 05 23.3	+0.6
BRG	Berggiesshubel	134.87	47		*e*PKPdf	PKPdf	20 05 23.2	+0.6
BRG	Berggiesshubel comp=Z,48nm,1.9s	134.87	47		*e*PKIKP	PKPdf	20 05 23.3	+0.6
BRG					pmax	pmax		
GEC2	GERESS Array S	134.90	49		*e*PKPdf	PKPdf	20 05 23.4	+0.5
GEC2	GERESS Array S	134.90	49		*e*PKIKP	PKPdf	20 05 23.4	+0.5
GERES	GERESS Array B	134.90	49		PKP	PKPdf	20 05 23.4	+0.5
GERES	GERESS Array B comp=Z,1.1nm,0.9s,baz=253,slow=3.0,SNR=9.6	134.90	49		PKP	PKPdf	20 05 23.4	+0.5
PRA	Prague	135.26	48		PKPdf	PKPdf	20 05 25.0	+1.6
PVCC	Panska Ves	135.30	47		*e*PKIKP	PKPdf	20 05 24.9	+1.4
PVCC	Panska Ves	135.30	47		*e*PKPdf	PKPdf	20 05 24.9	+1.4
PRU	Pruhonice	135.34	48		*e*PKIKP	PKPdf	20 05 24.5	+0.9
PRU					*e*		20 05 30.4	
PRU	comp=Z,200nm,18.9s				MLR	MLR		
PRU	Pruhonice	135.34	48		*e*PKPdf	PKPdf	20 05 24.5	+0.9
PRU					*ep*PKP	pPKPdf	20 05 30.4	+3.4
PRU	comp=Z,200nm,18.9s				AMS	AMS	21 05 20.0	
SOKA	Soboth comp=Z,8.4nm,1.2s	135.92	52	⇑	*i* PKPdf	PKPdf	20 05 25.2	+0.4
TREC	Trest comp=Z,200nm,18.4s	136.03	49		AMS	AMS	21 05 30.0	
UPC	Upice	136.22	47		*e*PKIKP	PKPdf	20 05 28.3	+3.1
UPC	Upice	136.22	47		*e*PKPdf	PKPdf	20 05 28.3	+3.1
ARSA	Arzberg comp=Z,7.9nm,1.3s	136.22	52	⇑	*i* PKPdf	PKPdf	20 05 25.6	+0.2
CONA	Conrad Observa comp=Z,9.7nm,1.3s,SNR=5.5	136.40	51	⇑	*i* PKPdf	PKPdf	20 05 26.0	+0.2
DPC	Dobruska-Polom	136.44	47		*e*PKIKP	PKPdf	20 05 26.1	+0.4
DPC					*e*		20 05 31.9	
DPC	Dobruska-Polom	136.44	47		*e*PKPdf	PKPdf	20 05 26.1	+0.4
DPC					*ep*PKP	pPKPdf	20 05 31.9	+2.8
OKC	Ostrava-Krasne	137.67	48		*e*PKIKP	PKPpre	20 05 23.0	
OKC					*e*		20 05 28.6	
OKC	Ostrava-Krasne	137.67	48		*e*PKPpre	PKPpre	20 05 23.0	
OKC					*e*PKPdf	PKPdf	20 05 28.6	+0.7
FINES	FINESS Array B	138.16	29		PKP	PKPdf	20 05 27.3	-1.1
FINES	FINESS Array B comp=Z,14nm,1.3s,baz=323,slow=6.0,SNR=3.7	138.16	29		PKP	PKPdf	20 05 27.3	-1.1
VYHS	Vyhne	138.32	49		*e*PKIKP	PKPdf	20 05 31.0	+1.9
VYHS	Vyhne	138.32	49		*e*PKP	PKPdf	20 05 31.0	+1.9
KECS	Kecovo	139.40	49		*e*PKP	PKPdf	20 05 32.5	+1.4
STHS	Stebnicka Huta	139.73	48		*e*PKIKP	PKPdf	20 05 34.1	+2.4
STHS	Stebnicka Huta	139.73	48		*e*PKP	PKPdf	20 05 34.1	+2.4
SUW	Suwalki	139.73	40		*e*PKIKP	PKPdf	20 05 29.8	-1.7
SUW	Suwalki	139.73	40		*e*PKPdf	PKPdf	20 05 29.8	-1.7
BJI	Beijing	139.86	298		PKP	PKPdf	20 05 32.6	+0.4
BJI	comp=N,250nm,22.8s				LR	LR		
BJI	comp=E,220nm,17.1s				LR	LR		
BJI	comp=Z,170nm,21.6s				LR	LR		
WHN	Wuhan	140.36	283		PKP	PKPdf	20 05 33.2	-0.2
QIZ	Qiongzhong	140.78	264		PKP	PKPdf	20 05 35.1	+0.6
QIZ					PP	PP	20 08 35.4	+0.6
QIZ					SS	SS	20 27 02.8	+0.9
QIZ	comp=Z,220nm,3.8s				AMB	AMB		
HHC	Hu-ho-hao-te	143.37	299		*e*PKP	PKPbc	20 05 35.9	+0.1
HHC					sPKP		20 05 45.6	
HHC					PP	PP	20 08 51.2	+0.9
HHC					SKS	SKSdf	20 12 40.7	-7.7
HHC					SS	SS	20 27 27.2	-4.3
HHC	comp=Z,280nm,9.0s				AMB	AMB		
HHC	comp=N,470nm,17.8s				LR	LR		
HHC	comp=E,500nm,17.8s				LR	LR		
HHC	comp=Z,300nm,20.2s				LR	LR		
KLMR	Klimovskoe	143.70	23		*e*PKHKP	PKPpre	20 05 33.7	
KLMR	comp=Z,170nm,1.5s				pmax	pmax		
KIEV	Kiev	144.32	43		*e*PKIKP	PKPab	20 05 37.3	-0.5
KIEV	Kiev	144.32	43		*e*PKPdf	PKPab	20 05 37.3	-0.5
AKASG	Malin Array Be	144.33	43		PKIKP	PKPab	20 05 37.4	-0.5
AKASG	Malin Array Be	144.33	43		PKP	PKPab	20 05 37.4	-0.5
AKASG	Malin Array Be comp=Z,2.9nm,0.6s,baz=273,slow=4.2,SNR=20	144.33	43		PKP	PKPab	20 05 37.4	-0.5
ENH	Enshi	144.44	281		*e*PKPdf	PKPbc	20 05 39.3	+0.1
BTO	Baotou	144.55	299		*e*PKP	PKPbc	20 05 39.3	-0.1
KIS	Kishinev	145.21	50	⇓	*i*PKP	PKPbc	20 05 40.0	-1.1
KIS					M		20 05 40.5	
KIS	comp=Z,400nm,2.0s				LRM	MLR	21 11 02.0	
KIS	comp=Z,300nm,24.0s							
KIS	Kishinev	145.21	50κ		*i*PKP2	PKPbc	20 05 40.0	-1.1
KIS					pmax	pmax		
KIS	comp=Z,400nm,2.0s				pmax	pmax		
KIS	comp=Z,700nm,3.0s				pmax	pmax		
KIS	comp=Z,300nm,24.0s							
ULN	Ulaanbaatar	145.34	312		*e*PKPdf	PKPbc	20 05 41.1	-0.7
XAN	Xi'an	145.40	288		PKPbc	PKPbc	20 05 41.4	-0.8
IRK	Irkutsk	145.41	320	⇑	*i*PKIKP	PKPbc	20 05 41.6	0.0
IRK	comp=Z,402nm,1.9s				pmax	pmax		
TIRR	Tirgusor	145.51	54		*e*PKIKP	PKPab	20 05 42.8	+0.4
TIRR	Tirgusor	145.51	54		*e*PKPdf	PKPab	20 05 42.8	+0.4
SONM	Songino Array	145.77	312		PKPbc	PKPbc	20 05 43.0	-0.1
SONM	Songino Array comp=Z,7.8nm,1.0s,baz=100,slow=2.0,SNR=28	145.77	312		PKPbc	PKPbc	20 05 43.0	-0.1
GYA	Guiyang	146.04	274		PKPbc	PKPdf	20 05 44.1	+0.4
GYA					PP	PP	20 09 09.8	+3.1
GYA					PKS	PKSdf	20 09 17.4	-1.9
GYA					SKKS		20 15 57.2	
GYA					SS	SS	20 28 02.7	-0.2
GYA	comp=Z,150nm,7.9s				AMB	AMB		
GYA	comp=N,290nm,22.0s				LR	LR		
GYA	comp=E,180nm,24.6s				LR	LR		
GYA	comp=Z,270nm,23.5s				LR	LR		
OBN	Obninsk	146.21	33	*d*	*i*PKP2	PKPdf	20 05 43.1	+0.2
OBN					*e*		20 09 04.8	
OBN					*e*SS	SKSdf	20 12 44.7	-6.9
OBN	comp=Z,52nm,1.1s				pmax	pmax		
MOS	Moscow	146.33	31		*e*PKIKP	PKPdf	20 05 42.8	-0.3
MOS	comp=Z,104nm,1.4s				pmax	pmax		
ZAK	Zakamensk	146.76	318		*e*PKP2	PKPbc	20 05 45.1	-0.8
ZAK	comp=Z,42nm,1.4s				pmax	pmax		
MOY	Mondy	147.47	321		*e*PKP2	PKPbc	20 05 47.4	-0.5
MOY	comp=Z,153nm,2.2s				pmax	pmax		
KMI	Kunming	149.08	269		PKPbc	PKPbc	20 05 53.3	+0.2
KMI					PP	PP	20 09 30.1	+5.4
KMI					SS	SS	20 28 37.5	0.0
KMI	comp=Z,180nm,5.2s				AMB	AMB		
KMI	comp=N,240nm,19.0s				LR	LR		
KMI	comp=E,260nm,23.7s				LR	LR		
KMI	comp=Z,280nm,18.5s				LR	LR		
SIM	Simferopol'	149.33	51		*i*PKP2	PKPbc	20 05 53.0	+0.2
SIM	comp=Z,21nm,1.3s				pmax	pmax		
SOKR	Solikamsk	149.37	11		*i*PKIKP	PKPdf	20 05 49.3	+1.4
SOKR	comp=Z,70nm,1.6s				pmax	pmax		
SOKR	comp=Z,740nm,23.0s				MLR	MLR		
CD2	Chengdu	149.41	281		PKPbc	PKPbc	20 05 53.7	+0.2
CD2					PKS	PP	20 09 27.2	+0.8
CD2					PP	PP	20 09 33.9	+7.5
CD2					SKS	SKSdf	20 12 59.1	+1.7
CD2					SKKS	SKKSac	20 16 21.3	+3.7
CD2					SS	SS	20 28 44.9	+4.2
CD2					AMB	AMB		
CD2	comp=Z,410nm,4.8s				LR	LR		
CD2	comp=N,670nm,4.4s				LR	LR		
CD2	comp=Z,450nm,4.8s				LR	LR		
ANTO	Ankara	149.49	61		*e*PKP2	PKPbc	20 05 53.8	+0.4
ANTO	Ankara	149.49	61		*e*PKPbc	PKPbc	20 05 53.8	+0.4
LZH	Lanzhou	149.62	291		*e*PKPbc	PKPdf	20 05 44.5	-4.9
LZH					pPKP	pPKPdf	20 05 50.3	-2.5
LZH					sPKP		20 05 52.2	
LZH					SS	SS	20 28 38.5	-4.5
LZH	comp=Z,220nm,5.9s				AMB	AMB		
VSR	Storozhevoye	149.70	37		*e*PKP2	PKPbc	20 05 53.1	-0.4
VSR	comp=Z,60nm,1.3s				pmax	pmax		
VSR	comp=N,20nm,1.7s				pmax	pmax		
VSR	comp=E,10.0nm,0.8s				pmax	pmax		
CM31	Chiang Mai Arr	149.82	255		*e*PKPbc	PKPbc	20 05 54.5	-0.3
CMAR	Chiang Mai Arr	149.82	255		PKP	PKPdf	20 05 49.5	-0.5
CMAR					PKPbc	PKPbc	20 05 55.0	+0.2
CMAR	Chiang Mai Arr comp=E,1.4nm,1.1s,baz=256,slow=0.7,SNR=7.0	149.82	255		PKP	PKPdf	20 05 49.5	-0.5
CMAR	comp=E,26nm,1.2s,baz=220,slow=1.6,SNR=15				PKPbc	PKPbc	20 05 55.0	+0.2
VORD	Divnogorie	149.91	38		*e*PKP2	PKPbc	20 05 53.7	-0.3
VORD	comp=Z,50nm,1.3s				pmax	pmax		
VORD	comp=N,20nm,0.7s				pmax	pmax		
VORD	comp=E,40nm,0.8s				pmax	pmax		
CHTO	Chiang Mai	149.98	255		*e*PKIKP	PKPdf	20 05 49.5	-0.8
CHTO					*e*		20 05 54.8	
CHTO	Chiang Mai	149.98	255		*e*PKPdf	PKPdf	20 05 49.5	-0.8
CHTO					*e*PKPbc	PKPbc	20 05 54.8	-0.3
BR131	Keskin Array S	150.15	62		*e*PKPbc	PKPbc	20 05 55.0	-0.1
BRTR	Keskin Array B	150.15	62		PKPbc	PKPbc	20 05 54.9	-0.3
BRTR	Keskin Array B comp=E,17nm,1.2s,baz=236,slow=2.2,SNR=35	150.15	62		PKPbc	PKPbc	20 05 54.9	-0.3
CSS	Prodhromos	150.24	71		*e*PKPbc	PKPbc	20 05 55.1	-0.3
VRHR	Novokhopersk	151.04	36		*e*PKIKP	PKPbc	20 05 56.4	-0.3
VRHR	comp=Z,50nm,1.6s				pmax	pmax		
VRHR	comp=N,20nm,1.0s				pmax	pmax		
VRHR	comp=E,10.0nm,1.7s				pmax	pmax		
ANN	Anapa	151.61	50		*i* PKIKP	PKPbc	20 05 57.0	-1.2
ANN					*e*		20 06 06.2	
ANN	comp=Z,75nm,1.7s				pmax	pmax		
GTA	Gaotai	152.47	299		PKPbc	PKPdf	20 05 53.0	-0.6
GTA					pPKP	PKiKP	20 06 01.9	+1.1
GTA					PKPab	PKPab	20 06 13.4	+2.5
GTA					PP	PP	20 09 43.1	-0.6
GTA					SKS	SKSdf	20 12 55.9	-5.2
GTA					SKKS	SKKSac	20 16 27.6	-6.5
GTA	comp=Z,110nm,6.7s				AMB	AMB		
GTA	comp=N,250nm,17.8s				LR	LR		
GTA	comp=E,170nm,17.8s				LR	LR		
GTA	comp=Z,280nm,17.6s				LR	LR		
SVE	Sverdlovsk	152.62	9		*i* PKIKP	PKPdf	20 05 53.8	+0.7
SVE	comp=Z,28nm,1.6s				pmax	pmax		
ARU	Arti	152.68	12		*i* PKIKP	PKPdf	20 05 53.5	+0.3
ARU	comp=Z,793nm,26.0s				MLR	MLR		
NVS	Novosibirsk	152.89	341		*e*PKIKP	PKPdf	20 05 48.0	-5.5
NVS	comp=Z,82nm,2.5s				pmax	pmax		
NVS	comp=N,20nm,2.0s				pmax	pmax		
NVS	comp=E,11nm,1.2s				pmax	pmax		
ZAA0	Zalesovo Array	153.17	338		*e*PKPdf	PKPdf	20 05 52.5	-1.5
ZALV	Zalesovo Beam	153.17	338		PKIKP	PKPdf	20 05 52.9	-1.1
ZALV							20 05 59.9	
ZALV	Zalesovo Beam	153.17	338		PKP	PKPdf	20 05 52.9	-1.1
ZALV					PKPbc	PKPbc	20 05 59.9	-1.5
ZALV	Zalesovo Beam comp=E,3.4nm,0.9s,baz=22,slow=1.6,SNR=18	153.17	338		PKP	PKPdf	20 05 52.9	-1.1
ZALV					PKPbc	PKPbc	20 05 59.9	-1.5
SOC	Sochi comp=E,4.6nm,0.7s,baz=15,slow=2.0,SNR=10	153.58	51		*e*PKIKP	PKPdf	20 05 53.2	-1.7
SOC					*e*		20 09 44.9	
SOC	comp=Z,7.0nm,0.4s				pmax	pmax		
KIV	Kislovodsk	155.40	48		*e*PKIKP	PKPdf	20 05 56.7	-0.9
KIV					*e*		20 09 59.4	
KIV					*e*SS	SS	20 29 41.3	-4.0
KIV	comp=Z,13nm,1.1s				pmax	pmax		
KBZ	Khabaz	155.63	49		PKIKP	PKPdf	20 05 58.7	+0.9
KBZ	Khabaz	155.63	49		PKP	PKPdf	20 05 58.6	+0.9
KBZ	Khabaz comp=Z,7.8nm,1.0s,baz=280,slow=0.5,SNR=12	155.63	49		PKP	PKPdf	20 05 58.6	+0.9
MAK	Makhachkala	158.95	46		*e*PKIKP	PKPdf	20 05 56.2	-5.7
MAK					*e*		20 13 04.6	
MAK					*e*SS	SS	20 30 18.3	-4.6
MAK	comp=Z,207nm,1.8s				pmax	pmax		
WMQ	Urumqi	159.23	317		*e*PKP	PKPdf	20 06 02.3	-0.1
WMQ					pPKP	pPKPdf	20 06 11.3	+5.5
WMQ					PKS	PKSdf	20 09 34.4	-1.5
WMQ					PP	PP	20 10 23.8	+3.2
WMQ					SKS	SKSdf	20 13 02.5	-5.5
WMQ					SKKS	SKKSac	20 17 06.7	-2.9
WMQ					SS	SS	20 30 23.8	-2.1
WMQ	comp=Z,250nm,4.3s				AMB	AMB		
WMQ	comp=N,400nm,22.4s				LR	LR		
WMQ	comp=E,290nm,23.6s				LR	LR		
WMQ	comp=Z,350nm,21.5s				LR	LR		
ABKAR	Akbulak array	159.72	16		*e*PKPdf	PKPdf	20 06 02.5	-0.1
MKAR	Makanchi Array	159.94	331		PKIKP	PKPdf	20 06 01.7	-1.3
MKAR							20 06 41.8	
MKAR	Makanchi Array	159.94	331		PKP	PKPdf	20 06 01.7	-1.3
MKAR					PKPab	PKPab	20 06 41.8	-0.7
MKAR	Makanchi Array comp=Z,1.9nm,1.0s,baz=343,slow=3.8,SNR=6.4	159.94	331		PKP	PKPdf	20 06 01.7	-1.3
MKAR	comp=Z,1.2nm,0.7s,baz=22,slow=3.1,SNR=6.8				PKPab	PKPab	20 06 41.8	-0.7
LSA	Lhasa	160.10	275		PKP	PKPdf	20 06 00.1	-4.2
LSA	Lhasa	160.10	275		*e*PKIKP	PKPdf	20 06 04.6	+0.3
LSA	Lhasa	160.10	275		*e*PKPdf	PKPdf	20 06 04.6	+0.3
TKM2	Tokmak 2	165.77	337		*e*PKIKP	PKPdf	20 06 07.7	-1.4
TKM2	Tokmak 2	165.77	337		*e*PKPdf	PKPdf	20 06 07.7	-1.4
KKAR	Karatay Array	166.75	353		*e*PKIKP	PKPdf	20 06 09.8	+0.2
KKAR	Karatay Array	166.75	353		*e*PKPdf	PKPdf	20 06 09.8

MNMC	**Minimini**	**1.40**	**338** ⇓	*i* P	Pn	19 57 17.0 +0.2
MNMC				*i* S	Sn	19 57 38.1 +1.1
MNMC				AML	AML	19 57 41.9
	comp=E,6μm,0.5s					
PB07	**Plate Boundary**	**1.50**	**211**	*i* P	Pn	19 57 18.8 +0.9
PB07				*i* S	Sn	19 57 39.9 +1.0
PB04	**Plate Boundary**	**1.86**	**193**	*eP*	Pn	19 57 26.9 +5.0
PB04				*i* S	Sn	19 57 54.0 +7.8
PB04				AML	AML	19 58 05.0
	comp=N,881nm,0.4s					
MACH	**Maria Elena**	**1.87**	**201**	*i* P	Pn	19 57 23.6 +1.3
MACH				*i* S	Sn	19 57 48.2 +1.4

*IDC **10** 20:18:04.3±1.6, 27°.47S×71°.43W, h0km, mb3.7/2, mb1 3.8/6, mb1mx3.6/19, mbtmp3.7/6, ML3.7/4, Error ellipse: s-maj=48.3km s-min=24.5km az=84.0*
*GUC **10** 20:18:09.9±0.4, 27°.52S×70°.85W, h41km±2km, MD4.1, ML4.1*
*ISCJB **10** 20:18:10.1±0.8, 27°.47S±0°.04×70°.9W±0°.1, h42km±9km, mb3.7/2, Error ellipse: s-maj=15.8km s-min=6.1km az=10.7*
ISC 10 20:18:10.4±1.0,**27°.46S**±0°.05×**70°.8W**±0°.1,**h46**km±10km, **n13**,σ1§**09**/15,**2C-1D, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCH	**Caldera**	**0.39**	**359**	*i* P	**Pn**	**20 18 20.0**	**-0.1**
CDCH				*i* S	**Sn**	**20 18 27.4**	**+0.5**
CDCH				AML	AML	20 18 28.3	
	comp=N,4μm,0.2s						
CPCH	**Copiapo**	**0.42**	**77**	*i* P	**Pn**	**20 18 20.4**	**-0.1**
CPCH				*i* S	**Sn**	**20 18 28.4**	**+0.7**
CPCH				AML	AML	20 18 34.9	
	comp=N,43μm,0.1s						
VACH	**Vallenar**	**1.12**	**178** ⇓	*i* P	**Pn**	**20 18 28.9**	**-0.8**
VACH				*i* S	**Sn**	**20 18 43.5**	**-0.5**
VACH				AML	AML	20 18 47.7	
	comp=E,14μm,0.1s						
LCO	**Las Campanas**	**1.55**	**176** ⇑	*i* P	**Pn**	**20 18 35.8**	**-0.1**
LCO				*i* S	**Sn**	**20 18 55.5**	**+0.5**
LCO				AML	AML	20 18 59.7	
	comp=E,5μm,0.4s						
TLL	**Tololo Astrono**	**2.70**	**180** ⇑	*i* P	**Pn**	**20 18 51.8**	**+0.1**
TLL				*i* S	**Sn**	**20 19 23.5**	**+0.3**
TLL				AML	AML	20 19 42.4	
	comp=N,1μm,0.6s						
CFAA	**Coronel Fontan**	**4.71**	**152**	Pn	Pn	20 19 22.3	+3.3
	comp=N,0.9nm,0.3s,baz=329,slow=12,SNR=42						
CFAA				Sn	Sn	20 20 19.5	+7.2
	comp=N,1.1nm,0.3s,baz=241,slow=19,SNR=4.0						
LPAZ	**La Paz**	**11.39**	**13**	Pn	**Pn**	**20 20 50.9**	**-0.2**
	comp=N,0.2nm,0.3s,baz=204,slow=7.5,SNR=3.4						
CPUP	**Villa Florida**	**12.09**	**88**	Pn	P	20 21 05.4	-6.3
	comp=N,0.2nm,0.3s,baz=258,slow=9.3,SNR=2.6						
SIV	**San Ignacio**	**14.55**	**40**	Pn	**P**	**20 21 37.8**	**-1.4**
	comp=N,0.4nm,0.3s,baz=227,slow=19,SNR=4.1						
SNAA	**Sanae**	**57.28**	**160**	P	**P**	**20 27 54.0**	**+0.9**
	comp=N,0.3nm,0.7s,baz=280,slow=14,SNR=3.7						
TORD	**Torodi Ar. Bea**	**80.99**	**70**	P	P	20 30 23.5	+2.8
	comp=N,1.1nm,0.6s,baz=256,slow=5.3,SNR=16						
ZALV	**Zalesovo Beam**	**148.04**	**27**	PKPbc	**PKPab**	**20 37 51.8**	**-1.5**
	comp=N,0.8nm,0.6s,baz=323,slow=3.8,SNR=4.5						
MKAR	**Makanchi Array**	**151.37**	**40**	PKPbc	**PKPbc**	**20 38 01.4**	**+2.5**
	comp=N,0.6nm,0.6s,baz=309,slow=1.3,SNR=4.9						

*NIED **10** 20:18:00, 24°.20N×125°.20E, h20km, Mw4.0 Best double couple: M0 1.26000×10^15 NP1:φs236.00000°, δ75.00000°, λ76.00000°. NP2:φs98.00000°, δ20.00000°, λ131.00000°.*
*IDC **10** 20:18:55.9±1.1, 23°.82N×124°.36E, h0km, mb3.8/8, mb1 3.9/9, mb1mx3.7/23, mbtmp3.8/9, ML3.1/1, MS3.9/2, Ms1 3.9/2, ms1mx3.1/35, Error ellipse: s-maj=73.7km s-min=17.3km az=67.0*
*ISCJB **10** 20:18:56.8±0.8, 24°.20N±0°.06×125°.39E±0°.04, h36km±9km, mb3.7/9, MS3.9/2, Error ellipse: s-maj=11.5km s-min=5.7km az=157.6*
*JMA **10** 20:18:57.8±0.3, 24°.20N×125°.24E, h22km, M4.1*
ISC 10 20:18:56.8±0.9,**24°.22N**±0°.08×**125°.29E**±0°.06,**h21**km±6km, **n28**,σ0§**87**/28,**mb3.8**/9,**Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**0.55**	**11**	P	**Pb**	**20 19 09.2**	**+1.4**
JOGS				*eS*	**Sn**	**20 19 18.1**	**+0.1**
JMJ	**Miyako jima 2**	**0.59**	**0**	P	**Pb**	**20 19 09.6**	**+1.0**
JMJ				*eS*	**Sn**	**20 19 18.6**	**-0.5**
JTJ	**Tarama**	**0.68**	**308**	P	**Pn**	**20 19 10.5**	**-0.7**
JTJ				*eS*	**Sb**	**20 19 18.6**	**-0.4**
JIJ	**Ishigaki jima**	**1.06**	**278**	P	**Pn**	**20 19 16.6**	**+0.2**
JIJ				*eS*	**Sn**	**20 19 30.1**	**-0.4**
JKRS	**Kuro-shima**	**1.17**	**271**	P	**Pb**	**20 19 18.7**	**+0.4**
JKRS				*eS*	**Sn**	**20 19 35.1**	**+1.8**
HATJ	**Hateruma jima**	**1.37**	**263**	P	**Pb**	**20 19 21.0**	**-0.6**
IRIF	**Iriomote-Funau**	**1.43**	**275**	P	**Pb**	**20 19 22.0**	**-0.7**
YOJ	**Yonaguni jima**	**2.09**	**277**	P	**Pn**	**20 19 31.4**	**+0.7**
JKE	**Kume jima 2**	**2.50**	**33**	P	**Pn**	**20 19 36.0**	**-0.2**
JAGN	**Aguni-jima**	**2.95**	**36**	P	**Pn**	**20 19 42.5**	**+0.1**
JIH	**Iheya**	**3.70**	**40**	P	**Pn**	**20 19 53.0**	**+0.2**
JOW	**Kunigami**	**3.75**	**45**	P	**Pn**	**20 19 53.5**	**+0.1**
JTK	**Tokunoshima**	**4.84**	**42**	P	**Pn**	**20 20 07.6**	**-0.9**
JAMN	**Amaminishikomi**	**5.31**	**40**	P	**Pn**	**20 20 13.6**	**-1.3**
JMZ	**Minamidaito 2**	**5.61**	**72**	P	Pn	20 20 16.5	-2.6
JAM	**Amami Oshima**	**5.69**	**42**	P	**Pn**	**20 20 19.0**	**-1.2**
KSRS	**Korea Array**	**13.38**	**9**	Pn	**P**	**20 22 13.3**	**-1.6**
	0.1nm,0.3s,baz=188,slow=14,SNR=4.4						
SONM	**Songino Array**	**27.94**	**332**	LR	LR	20 37 23.1	
	comp=Z,69nm,20.0s,baz=71,slow=40						
MKAR	**Makanchi Array**	**40.96**	**314**	P	**P**	**20 26 37.7**	**-0.3**
	0.7nm,0.4s,baz=100,slow=9.8,SNR=18						
ZALV	**Zalesovo Beam**	**42.30**	**325**	P	**P**	**20 26 49.9**	**+1.0**
	0.5nm,0.4s,baz=131,slow=7.7,SNR=3.4						
KURBB	**Kurchatov Arra**	**44.53**	**319**	P	**P**	**20 27 07.1**	**+0.2**
	0.4nm,0.3s,baz=110,slow=8.8,SNR=5.9						
WRA	**Warramunga Arr**	**44.77**	**168**	P	**P**	**20 27 09.2**	**+0.1**
	1.3nm,0.6s,baz=348,slow=8.8,SNR=12						
ASAR	**Alice Springs**	**48.33**	**169**	P	**P**	**20 27 37.8**	**+0.8**
	0.6nm,0.6s,baz=355,slow=7.2,SNR=17						
BVAR	**Borovoye Array**	**50.04**	**320**	P	**P**	**20 27 49.3**	**-0.5**
	0.3nm,0.3s,baz=101,slow=9.2,SNR=4.1						
FINES	**FINESS Array B**	**73.29**	**330**	P	**P**	**20 30 27.0**	**+0.5**
	1.1nm,0.8s,baz=41,slow=6.1,SNR=4.7						
BRTR	**Keskin Array B**	**76.15**	**307**	P	P	20 30 48.6	+4.9
	0.5nm,0.6s,baz=112,slow=1.9,SNR=3.3						
ATD	**Arta Tunnel**	**78.54**	**278**	LR	LR	21 07 21.9	
	comp=Z,211nm,20.3s,baz=338,slow=37						
NOA	**NORSAR Array B**	**79.92**	**333**	P	P	20 31 08.4	+4.4
	1.5nm,1.1s,baz=54,slow=5.8,SNR=2.7						

*ISCJB **10** 20:21:58.0±0.6, 26°.83N±0°.06×128°.38E±0°.06, h51km±4km, mb3.9/13, MS3.9/2, Error ellipse: s-maj=13.3km s-min=4.9km az=137.5*
*JMA **10** 20:21:58.1±0.1, 26°.83N×128°.44E, h30km±1km, M3.9*
JMA Felt II J1.
*NIED **10** 20:22:00, 26°.80N×128°.40E, h41km, Mw4.2 Best double couple: M0 2.10000×10^15 NP1:φs49.00000°, δ79.00000°, λ92.00000°. NP2:φs220.00000°, δ11.00000°, λ80.00000°.*
*IDC **10** 20:22:08.1±3.6, 27°.45N×128°.36E, h101km±33km, mb3.7/11, mb1 3.7/12, mb1mx3.6/27, mbtmp3.7/12, MS3.3/4, Ms1 3.3/4, ms1mx2.9/36, Error ellipse: s-maj=37.7km s-min=21.5km az=61.0*
ISC 10 20:21:57.0±1.0,**26°.75N**±0°.05×**128°.50E**±0°.05,**h33**km±6km, **n28**,σ1§**13**/34,**mb3.9**/13,**Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**0.21**	**294**	P	**Pb**	**20 22 03.8**	**+0.1**
JOW				*eS*	**Sb**	**20 22 07.7**	**-0.6**
JIH	**Iheya**	**0.55**	**301**	P	**Pb**	**20 22 07.9**	**-0.5**
JIH				*eS*	**Sb**	**20 22 15.4**	**-0.8**
JJT2	**Tamagusuku 2**	**0.90**	**228**	P	**Pb**	**20 22 15.3**	**+1.1**
JJT2				*eS*	**Sb**	**20 22 27.8**	**+1.9**
JTK	**Tokunoshima**	**1.11**	**21**	P	**Pn**	**20 22 17.2**	**+0.9**
JTK				*eS*	**Sb**	**20 22 32.1**	**+0.2**
JAGN	**Aguni-jima**	**1.13**	**262**	P	**Pn**	**20 22 17.1**	**+0.6**
JAGN				S	**Sb**	**20 22 31.7**	**-0.7**
JKE	**Kume jima 2**	**1.59**	**255**	P	**Pn**	**20 22 23.4**	**+0.6**
JAMN	**Amaminishikomi**	**1.61**	**22**	P	**Pn**	**20 22 24.4**	**+1.3**
JAM	**Amami Oshima**	**1.93**	**30**	P	**Pn**	**20 22 29.0**	**+1.5**
JAM				*eS*	**Sn**	**20 22 52.4**	**+1.7**
JZK	**Kikaishima**	**2.04**	**40**	P	**Pn**	**20 22 30.9**	**+1.8**
JZK				*eS*	**Sb**	**20 22 56.9**	**-1.5**
JMZ	**Minamidaito 2**	**2.62**	**110**	P	**Pn**	**20 22 37.0**	**0.0**
JMZ				*eS*	**Sn**	**20 23 06.2**	**-1.4**
JNN	**Nakanoshima**	**3.31**	**21**	P	**Pn**	**20 22 47.7**	**+1.1**
JNN				*eS*	**Sn**	**20 23 25.3**	**+0.4**
JNU	**Nakatsue**	**6.68**	**17**	P	**Pn**	**20 23 35.7**	**+2.8**
	1.9nm,0.3s,baz=255,slow=3.5,SNR=38						
JNU				LR	LR	20 25 27.4	
	comp=Z,54nm,20.9s,baz=263,slow=33						
KSRS	**Korea Array**	**10.69**	**358**	P	**Pn**	**20 24 27.1**	**-0.7**
	0.1nm,0.3s,baz=177,slow=13,SNR=2.6						
KSRS				LR	LR	20 28 46.3	
	comp=Z,74nm,18.5s,baz=180,slow=40						
SONM	**Songino Array**	**27.25**	**326**	P	**P**	**20 27 38.8**	**+0.5**
	0.7nm,0.5s,baz=142,slow=11,SNR=7.4						
PETK	**Petropavlovsk-**	**34.13**	**32**	LR	LR	20 42 13.3	
	comp=Z,178nm,20.7s,baz=78,slow=36						
MKAR	**Makanchi Array**	**41.37**	**311**	P	**P**	**20 29 39.3**	**-0.7**
	1.4nm,0.6s,baz=90,slow=9.3,SNR=14						
ZALV	**Zalesovo Beam**	**41.98**	**322**	P	**P**	**20 29 43.3**	**-1.5**
	1.3nm,0.5s,baz=110,slow=6.5,SNR=6.7						
KURBB	**Kurchatov Arra**	**44.65**	**316**	P	**P**	**20 30 05.5**	**-0.9**
	1.1nm,0.3s,baz=102,slow=9.1,SNR=6.6						
AAK	**Ala-Archa**	**46.37**	**304**	P	**P**	**20 30 20.4**	**0.0**
	0.8nm,0.3s,baz=163,slow=11,SNR=2.5						
WRA	**Warramunga Arr**	**46.76**	**172**	P	P	20 30 33.0	+10
	0.6nm,0.5s,baz=354,slow=8.6,SNR=6.1						
BVAR	**Borovoye Array**	**50.05**	**318**	P	**P**	**20 30 47.7**	**-0.7**
	2.3nm,0.7s,baz=79,slow=9.3,SNR=16						
JOF	**Joensuu**	**69.71**	**331**	*ep*	**P**	**20 33 03.0**	**-0.3**
	0.5nm,0.4s						
KAF	**Kangasniemi**	**72.16**	**331**	*ep*	**P**	**20 33 17.9**	**-0.3**
	0.4nm,0.3s						
FINES	**FINESS Array B**	**72.53**	**331**	P	**P**	**20 33 20.0**	**-0.3**
	1.9nm,0.4s,baz=60,slow=5.7,SNR=28						
BRTR	**Keskin Array B**	**76.91**	**308**	P	**P**	**20 33 46.3**	**0.0**
	0.5nm,0.5s,baz=72,slow=4.7,SNR=3.6						
YKA	**Yellowknife Ar**	**77.96**	**25**	P	**P**	**20 33 51.5**	**-0.1**
	0.6nm,0.6s,baz=294,slow=8.0,SNR=3.5						
NOA	**NORSAR Array B**	**78.96**	**334**	P	**P**	**20 33 56.2**	**-1.0**
	0.5nm,0.6s,baz=54,slow=5.5,SNR=2.5						
MLR	**Muntele Rosu**	**79.54**	**316**	LR	LR	21 14 16.3	
	comp=Z,62nm,18.2s,baz=163,slow=40						

DJA 10 20:24:28.3±0.3,**2°S**±2°×**12°1E**±°,**h10**km,**M4.1**/13,**mb4.7**/1, **mB5.2**/1,**MLv3.8**/13,**Mw(mB)4.5**/1,**Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKSI	**Soroako, Sulaw**	**0.19**	**172**	P	Pg	20 24 31.0	-1.4
SKSI				S	Sg	20 24 34.4	-0.8
APSI	**Ampana**	**1.46**	**13**	P	Pn	20 24 54.8	+0.1
KKSI	**Kolaka, Sulawe**	**1.85**	**169**	P	Pb	20 25 02.6	+0.3
LUWI	**Luwuk**	**1.95**	**49**	P	Pn	20 25 01.4	-0.1
LUWI				S	Sb	20 25 29.5	+1.2
SPSI	**Sidrap Palu**	**2.23**	**224**	P	Pn	20 25 06.1	+0.8
SPSI				S	Sn	20 25 34.4	+1.4
BNSI	**Bone**	**2.37**	**210**	P	Pn	20 25 08.5	+1.2
MMSI	**Mamuju**	**2.42**	**262**	P	Pn	20 25 09.5	+1.5
MJSI	**Majene**	**2.62**	**243**	P	Pb	20 25 14.3	-1.1
MRSI	**Marisa**	**2.87**	**13**	P	Pn	20 25 14.3	+0.2
KAPI	**Kappang**	**3.08**	**210**	P	Pn	20 25 17.6	+0.6
BKSI	**Bulukumba**	**3.19**	**202**	P	Pn	20 25 19.7	+1.1
GTOI	**Gorontalo**	**3.41**	**30**	P	Pn	20 25 22.3	+0.7
LBMI	**Labuha**	**6.42**	**75**	P	Pn	20 26 03.8	+0.9

*ISCJB **10** 21:12:53.5±0.5, 20°.84N±0°.07×144°.6E±0°.1, h33km, mb4.1/24, MS3.2/1, Error ellipse: s-maj=15.1km s-min=10.2km az=165.3*
*NEIC **10** 21:12:55.3±0.3, 20°.88N×144°.68E, h35km, mb4.4/7, Error ellipse: s-maj=11.9km s-min=8.9km az=68.0*
*IDC **10** 21:12:58.2±6.8, 20°.87N×144°.61E, h59km±60km, mb3.8/17, mb1 4.0/17, mb1mx3.9/25, mbtmp3.8/17, MS3.2/2, Ms1 3.2/2, ms1mx2.7/37, Error ellipse: s-maj=25.3km s-min=14.4km az=87.0*
ISC 10 21:12:55.2±0.6,**20°.9N**±0°.1×**144°.7E**±0°.1,**h35**km,**n50**, σ0§**85**/48,**mb4.1**/23,**Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**6.62**	**340**	LR	LR	21 16 49.7	
	comp=Z,160nm,18.2s,baz=302,slow=35						
KSRS	**Korea Array**	**22.04**	**322**	P	**P**	**21 17 47.6**	**+1.0**
	5.6nm,0.8s,baz=146,slow=8.9,SNR=26						
KSAR	**Wonju Array Be**	**22.05**	**322**	P	**P**	**21 17 47.6**	**+0.8**
SSLB	**Suanglung**	**22.16**	**282**	*eP*	**P**	**21 17 49.5**	**+1.3**
	21nm,0.8s						
USRK	**Ussuriysk Arra**	**25.56**	**338**	P	**P**	**21 18 22.4**	**+1.6**
	1.1nm,0.6s,baz=157,slow=7.1,SNR=5.0						
PETK	**Petropavlovsk-**	**33.70**	**14**	LR	LR	21 30 49.7	
	comp=Z,54nm,21.9s,baz=6.4,slow=32						
ULN	**Ulaanbaatar**	**40.51**	**321**	*eP*	**P**	**21 20 30.8**	**-0.1**
	1.1nm,0.4s						
SONM	**Songino Array**	**40.88**	**320**	P	**P**	**21 20 33.8**	**-0.2**
SONM	**Songino Array**	**40.88**	**320**	P	**P**	**21 20 33.8**	**-0.2**
	1.0nm,0.8s,baz=134,slow=9.0,SNR=5.8						
WRAB	**Tennant Creek**	**41.80**	**195**	*eP*	**P**	**21 20 42.6**	**+1.0**
	2.3nm,0.6s						
WRA	**Warramunga Arr**	**41.81**	**195**	P	**P**	**21 20 41.9**	**+0.2**
WRA	**Warramunga Arr**	**41.81**	**195**	P	**P**	**21 20 41.9**	**+0.2**
	2.8nm,0.8s,baz=15,slow=8.6,SNR=12						
FITZ	**Fitzroy Crossi**	**43.01**	**207**	P	**P**	**21 20 50.6**	**-0.8**
FITZ	**Fitzroy Crossi**	**43.01**	**207**	P	**P**	**21 20 50.6**	**-0.8**
	2.1nm,0.9s,baz=21,slow=7.1,SNR=3.8						
CMAR	**Chiang Mai Arr**	**43.06**	**275**	P	**P**	**21 20 53.5**	**+1.5**
CMAR	**Chiang Mai Arr**	**43.06**	**275**	P	**P**	**21 20 53.5**	**+1.5**
	1.7nm,1.0s,baz=65,slow=7.5,SNR=9.1						
ASAR	**Alice Springs**	**45.50**	**194**	P	**P**	**21 21 11.3**	**-0.1**
ASAR	**Alice Springs**	**45.50**	**194**	P	**P**	**21 21 11.3**	**-0.1**
	1.2nm,0.7s,baz=15,slow=8.9,SNR=17						
DZM	**Mont Dzumac**	**47.66**	**152**	*eP*	**P**	**21 21 28.1**	**-0.3**
	33nm,1.4s						
ZALV	**Zalesovo Beam**	**55.74**	**322**	P	**P**	**21 22 26.8**	**-1.5**
ZALV	**Zalesovo Beam**	**55.74**	**322**	P	**P**	**21 22 26.8**	**-1.5**
	0.9nm,0.5s,baz=101,slow=7.7,SNR=5.1						
MK31	**Makanchi Array**	**56.30**	**313**	*eP*	**P**	**21 22 31.7**	**-0.8**
MKAR	**Makanchi Array**	**56.30**	**313**	P	**P**	**21 22 32.1**	**-0.4**
MKAR	**Makanchi Array**	**56.30**	**313**	P	**P**	**21 22 32.1**	**-0.4**
	2.6nm,0.9s,baz=96,slow=7.9,SNR=9.7						
ILAR	**Eielson Array**	**62.13**	**27**	P	**P**	**21 23 12.4**	**0.0**
ILAR	**Eielson Array**	**62.13**	**27**	P	**P**	**21 23 12.4**	**0.0**
	1.7nm,0.8s,baz=265,slow=6.0,SNR=11						
KKAR	**Karatay Array**	**64.69**	**309**	*eP*	**P**	**21 23 28.9**	**-0.9**
	2.9nm,0.8s						
ABKAR	**Akbulak array**	**71.13**	**316**	*eP*	**P**	**21 24 08.5**	**-1.6**
	0.8nm,0.5s						
YKA	**Yellowknife Ar**	**76.52**	**28**	P	**P**	**21 24 42.4**	**+1.0**
YKA	**Yellowknife Ar**	**76.52**	**28**	P	**P**	**21 24 42.4**	**+1.0**
	2.9nm,0.8s,baz=291,slow=5.7,SNR=5.7						
ARCES	**ARCESS Array B**	**80.15**	**342**	P	**P**	**21 25 01.4**	**0.0**
ARCES	**ARCESS Array B**	**80.15**	**342**	P	**P**	**21 25 01.4**	**0.0**
	2.7nm,0.7s,baz=58,slow=4.8,SNR=8.6						
KBZ	**Khabaz**	**83.97**	**314**	P	**P**	**21 25 22.2**	**+0.3**
KBZ	**Khabaz**	**83.97**	**314**	P	**P**	**21 25 22.2**	**+0.3**
	2.5nm,0.8s,baz=142,slow=2.8,SNR=6.4						
FINES	**FINESS Array B**	**84.54**	**335**	P	**P**	**21 25 22.9**	**-1.5**
FINES	**FINESS Array B**	**84.54**	**335**	P	**P**	**21 25 22.9**	**-1.5**
	2.1nm,0.6s,baz=67,slow=6.3,SNR=10						
DUG	**Dugway**	**85.82**	**49**	*eP*	**P**	**21 25 32.5**	**+1.0**
	3.0nm,0.6s						
PDAR	**Pinedale Array**	**86.97**	**45**	P	**P**	**21 25 37.9**	**+0.6**
PDAR	**Pinedale Array**	**86.97**	**45**	P	**P**	**21 25 37.9**	**+0.6**
	0.6nm,0.6s,baz=281,slow=3.9,SNR=5.5						
BRTR	**Keskin Array B**	**91.94**	**314**	P	**P**	**21 25 59.9**	**-0.7**
BRTR	**Keskin Array B**	**91.94**	**314**	P	**P**	**21 25 59.9**	**-0.7**
	0.5nm,0.7s,baz=82,slow=5.1,SNR=2.7						
TXAR	**Lajitas Array**	**97.37**	**55**	P	Pdif	21 26 27.4	+1.7
TXAR	**Lajitas Array**	**97.37**	**55**	P	Pdif	21 26 27.3	+1.7
	0.2nm,0.5s,baz=316,slow=6.3,SNR=2.0						
TORD	**Torodi Ar. Bea**	**130.37**	**310**	PKP	**PKPdf**	**21 32 02.6**	**-0.2**
TORD	**Torodi Ar. Bea**	**130.37**	**310**	PKP	**PKPdf**	**21 32 02.6**	**-0.2**
	0.7nm,0.9s,baz=18,slow=1.0,SNR=4.3						
LPAZ	**La Paz**	**148.57**	**87**	*e*PKPbc	**PKPbc**	**21 32 40.3**	**+0.2**
LPAZ	**La Paz**	**148.57**	**87**	PKPbc	**PKPbc**	**21 32 40.9**	**+0.9**
	1.9nm,0.6s,baz=278,slow=4.4,SNR=7.5						
CFAA	**Coronel Fontan**	**148.68**	**117**	PKPbc	**PKPbc**	**21 32 38.6**	**-0.6**
CFAA	**Coronel Fontan**	**148.68**	**117**	PKPbc	**PKPbc**	**21 32 38.6**	**-0.6**
	0.5nm,0.6s,baz=300,slow=3.5,SNR=7.6						
SAML	**Samuel**	**150.61**	**70**	*e*PKPdf	**PKPdf**	**21 32 39.1**	**+0.1**
SAML				*e*PKPbc	**PKPbc**	**21 32 44.6**	**+0.2**
SAML				*e*PKPab	**PKPab**	**21 32 51.1**	**-0.2**

IDC 10 21:24:59.1±1.4,**13°.58N**×**94°.08E**,**h0**km,**mb3.6**/4, **mb1 3.7**/5,**mb1mx3.4**/26,**mbtmp3.5**/5,**ML3.3**/1,**Error ellipse: s-maj=45.3km s-min=21.5km az=70.0**,**Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**6.74**	**43**	Pn	Pn	21 26 39.1	-0.3
	0.2nm,0.3s,baz=225,slow=13,SNR=3.9						
CMAR				Sn	Sn	21 27 56.9	0.0
	0.3nm,0.3s,baz=242,slow=23,SNR=4.8						
MKAR	**Makanchi Array**	**34.56**	**346**	P	P	21 31 49.0	-0.5
	0.4nm,0.8s,baz=155,slow=6.9,SNR=4.1						
ZALV	**Zalesovo Beam**	**40.93**	**352**	P	P	21 32 44.0	+0.8
	0.5nm,0.4s,baz=157,slow=5.2,SNR=3.0						
WRA	**Warramunga Arr**	**51.76**	**129**	P	P	21 34 09.6	+0.7
	0.3nm,0.5s,baz=299,slow=7.0,SNR=8.2						
WRA				PcP	PcP	21 35 19.3	-3.0
	0.2nm,0.4s,baz=319,slow=2.7,SNR=5.1						
ASAR	**Alice Springs**	**53.73**	**133**	P	P	21 34 24.0	+0.6
	0.5nm,0.4s,baz=310,slow=6.8,SNR=15						

*MOS **10** 21:37:18.3±0.9, 4°.55S×153°.09E, h33km, mb5.3/15, Error ellipse: s-maj=11.6km s-min=9.1km az=110.7*
*ISCJB **10** 21:37:19.2±1.0, 4°.63S±0°.04×153°.22E±0°.04, h54km±9km, mb5.0/63, MS4.1/7, Error ellipse: s-maj=7.0km s-min=6.0km az=176.7*
*IDC **10** 21:37:20.4±1.8, 4°.61S×153°.23E, h50km±15km, mb4.3/18, mb1 4.4/20, mb1mx4.4/22, mbtmp4.3/20, ML3.7/2, MS3.8/5, Ms1 3.8/5, ms1mx3.4/23, Error ellipse: s-maj=14.5km s-min=9.8km az=100.0*
*AUST **10** 21:37:21.8±0.6, 4°.67S×153°.41E, h69km, Error ellipse: s-maj=1.5km s-min=1.0km az=301.0*
*NEIC **10** 21:37:21.8±2.0, 4°.64S×153°.11E, h61km±4km, mb5.3/38, Error ellipse: s-maj=16.4km s-min=13.5km az=73.0*
*BJI **10** 21:37:21.2, 4°.41S×153°.34E, h69km, mB5.1/22, mb4.9/35, Ms5.2/12, Ms7 4.7/13*
*TEH **10** 21:37:23.0, 4°.65S×153°.20E, h75km, ML5.3*
ISC 10 21:37:23.4±0.3,**4°.66S**±0°.04×**153°.24E**±0°.05,**h77**km±2km, **n389**,σ1§**22**/451,**mb5.1**/63,**34C-11D, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**6.41**	**294**	P	Pn	21 38 58.7	+3.4
	baz=6.6,SNR=5.0						
PMG	**Port Moresby**	**7.65**	**232**	*e*Pn	**Pn**	**21 39 11.6**	**-0.6**
PMG				*e*Sn	**Sn**	**21 40 33.9**	**-3.6**
PMG	**Port Moresby**	**7.65**	**232**	P	**Pn**	**21 39 11.6**	**-0.6**
	3.7nm,0.3s,baz=42,slow=16,SNR=9.7						
PMG				S	**Sn**	**21 40 36.1**	**-1.4**
	8.6nm,0.3s,baz=140,slow=19,SNR=6.0						
HNR	**Honiara**	**8.17**	**126**	*e*Pn	**Pn**	**21 39 19.5**	**+0.1**
HNR				*e*Sn	Sn	21 40 39.3	-11
HNR	**Honiara**	**8.17**	**126**	P	**Pn**	**21 39 20.6**	**+1.3**
	22nm,0.3s,baz=185,slow=12,SNR=5.0						
HNR				S	**Sn**	**21 40 51.1**	**+0.9**
	24nm,0.3s,baz=128,slow=20,SNR=3.5						
PATS	**Pohnpei**	**12.50**	**24**	P	**Pn**	**21 40 16.9**	**-1.5**
	baz=12,SNR=6.9						
MTSU	**Mount Surprise**	**15.98**	**212**	P	**P**	**21 41 06.2**	**+0.4**
	baz=16,SNR=6.8						
CTA	**Charters Tower**	**16.77**	**203**	*e*Pn	**Pn**	**21 41 13.6**	**+0.1**
CTA	**Charters Tower**	**16.77**	**203**	P	**Pn**	**21 41 13.6**	**+0.1**
	0.3nm,0.3s,baz=15,slow=15,SNR=5.1						
EIDS	**Eidsvold**	**20.69**	**186**	*e*P	Pn	21 41 59.4	-1.0
	8.8nm,0.8s

comp=Z,21nm,1.0s
MJAR Matsushiro Arr 43.33 342 P **P** 21 45 16.0 -1.9
baz=175,slow=6.1
MAJO Matsushiro 43.33 342 *e*P **P** 21 45 16.0 -1.9
MAJO Matsushiro 43.33 342 *e*P **P** 21 45 16.0 -1.9
MAT Matsushiro 43.33 342 P **P** 21 45 16.0 -2.0
CISI Cisompet, Garu 45.24 264 *e*P **P** 21 45 32.1 -1.5
comp=Z,98nm,1.4s
KSRS Korea Array 48.08 333 P **P** 21 45 55.0 -0.2
comp=Z,3.5nm,0.7s,baz=151,slow=7.8,SNR=22
KSRS PcP **PcP** 21 47 21.5 -0.5
comp=Z,1.1nm,0.6s,baz=164,slow=4.0,SNR=4.2
KSRS LR LR 22 06 22.7
comp=Z,43nm,18.4s,baz=358,slow=36
KS15 Wonju Array Si 48.08 333 *e*P **P** 21 45 55.0 -0.3
KS15 *e*PcP **PcP** 21 47 21.5 -0.5
QIZ Qiongzhong 48.77 300 P **P** 21 46 00.7 -0.3
QIZ S **S** 21 52 59.3 +0.7
QIZ pmax pmax
comp=Z,470nm,3.8s
NJ2 Nanjing 49.01 321 *e*P **P** 21 46 03.1 +0.5
NJ2 pmax pmax
comp=Z,13nm,0.5s
ASAJ Asahikawa 49.49 350 *e*P **P** 21 46 05.4 -0.6
comp=Z,62nm,1.5s
USRK Ussuriysk Arra 52.26 341 P **P** 21 46 26.6 -0.2
comp=Z,6.1nm,0.7s,baz=176,slow=7.2,SNR=25
USRK PcP **PcP** 21 47 37.1 -0.1
comp=Z,1.0nm,0.5s,baz=88,slow=5.6,SNR=4.2
IPM Ipoh 52.94 279 *e*P **P** 21 46 31.3 -1.1
comp=Z,78nm,1.9s
KULM Kulim 53.44 280 *e*P **P** 21 46 34.4 -1.7
comp=Z,48nm,1.6s
MDJ Mudanjiang 53.45 339 P **P** 21 46 35.6 +0.1
MDJ pP **pP** 21 46 53.2 -1.7
MDJ sP **sP** 21 47 01.5 -2.1
MDJ PcP **PcP** 21 47 41.8 +0.1
MDJ PP **PP** 21 48 36.4 -0.4
MDJ PcS **PcS** 21 51 38.5 -2.2
MDJ S **S** 21 54 05.7 +3.5
MDJ sS **sS** 21 54 34.3 -1.0
MDJ ScS **ScS** 21 56 18.0 +0.2
MDJ pmax pmax
comp=Z,7.0nm,0.8s
MDJ pmax pmax
comp=Z,86nm,5.8s
MDJ LR LR
comp=N,120nm,5.1s
MDJ LR LR
comp=E,74nm,7.2s
MDJ LR LR
comp=Z,120nm,5.1s
CN2 Changchun 54.35 335 *e*P **P** 21 46 41.9 -0.3
CN2 *e*pP **pP** 21 47 01.2 -0.4
CN2 *e*PcP **PcP** 21 47 44.9 -0.3
CN2 *e*S **S** 21 54 13.4 -1.1
CN2 pmax pmax
comp=Z,10.0nm,1.0s
GYA Guiyang 54.66 307 P **P** 21 46 45.8 +0.9
GYA pP **pP** 21 47 05.4 +1.1
GYA sP **sP** 21 47 13.3 +0.3
GYA PP **PP** 21 48 51.0 +2.8
GYA ScP **ScP** 21 51 37.8 -0.9
GYA PcS **PcS** 21 51 46.4 -0.6
GYA S **S** 21 54 18.9 -0.6
GYA sS **sS** 21 54 52.2 -0.4
GYA SS **SS** 21 58 01.3 -2.3
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,140nm,5.6s
GYA LR LR
comp=N,690nm,18.0s
GYA LR LR
comp=E,580nm,19.6s
GYA LR LR
comp=Z,670nm,18.5s
XAN Xi'an 56.82 316 P **P** 21 46 59.2 -1.0
XAN pP **pP** 21 47 14.7 -5.0
XAN pmax pmax
comp=Z,2.0nm,0.8s
KMI Kunming 57.27 304 P **P** 21 47 05.2 +1.5
KMI S **S** 21 54 54.8 +0.4
KMI sS **sS** 21 55 27.5 -0.3
KMI pmax pmax
comp=Z,7.0nm,2.0s
PEA0 Petropavlovsk- 57.68 3 *e*P **P** 21 47 06.2 +0.5
PETK Petropavlovsk- 57.68 3 P **P** 21 47 06.2 +0.4
comp=Z,3.0nm,0.4s,baz=176,slow=8.9,SNR=4.8
CM01 Chiang Mai Arr 58.19 295 *e*P **P** 21 47 10.3 +0.4
CM31 Chiang Mai Arr 58.21 295 *e*P **P** 21 47 10.5 +0.4
CMAR Chiang Mai Arr 58.21 295 P **P** 21 47 10.5 +0.4
comp=Z,4.0nm,0.7s,baz=119,slow=5.6,SNR=20
CD2 Chengdu 58.98 310 P **P** 21 47 17.5 +2.2
CD2 pP **pP** 21 47 36.7 +1.7
CD2 sP **sP** 21 47 45.4 +1.8
CD2 PcP **PcP** 21 48 05.4 +1.7
CD2 PP **PP** 21 49 30.5 +3.9
CD2 S **S** 21 55 16.7 +0.5
CD2 sS **sS** 21 55 49.9 +0.2
CD2 SS **SS** 21 59 13.4 +2.1
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,130nm,5.1s
CD2 LR LR
comp=N,900nm,4.2s
CD2 LR LR
comp=Z,190nm,6.2s
HHC Hu-ho-hao-te 59.19 324 *e*P **P** 21 47 19.1 +2.4
HHC pP **pP** 21 47 38.4 +2.0
HHC sP **sP** 21 47 47.2 +2.2
HHC PP **PP** 21 49 32.9 +4.6
HHC S **S** 21 55 20.2 +1.5
HHC ScS **ScS** 21 56 58.9 -1.0
HHC pmax pmax
comp=Z,21nm,0.7s
HHC pmax pmax
comp=Z,320nm,6.7s
HHC LR LR
comp=N,350nm,17.8s
HHC LR LR
comp=E,1μm,17.8s
HHC LR LR
comp=Z,240nm,17.8s
LZH Lanzhou 61.44 316 *e*P **P** 21 47 33.9 +1.8
LZH pP **pP** 21 47 52.9 +0.9
LZH sP **sP** 21 48 02.2 +1.7
LZH PP **PP** 21 49 51.5 +3.2
LZH *e*S **S** 21 55 45.2 -2.5
LZH sS **sS** 21 56 18.5 -2.9
LZH SS **SS** 21 59 50.2 +0.3
LZH pmax pmax
comp=Z,16nm,1.0s
LZH pmax pmax
comp=Z,83nm,4.6s
GTA Gaotai 65.85 317 *e*P **P** 21 48 02.2 +1.1
GTA pP **pP** 21 48 21.9 +0.7
GTA sP **sP** 21 48 30.5 +0.8
GTA S **S** 21 56 45.3 +2.9
GTA pmax pmax
comp=Z,10.0nm,1.1s
GTA pmax pmax
comp=Z,180nm,5.9s
ULN Ulaanbaatar 66.11 328 *e*P **P** 21 48 00.1 -2.5
SONA0 Songino Array 66.44 328 *e*P **P** 21 48 04.8 +0.1
SONM Songino Array 66.44 328 P **P** 21 48 04.8 +0.1
comp=Z,2.3nm,0.5s,baz=141,slow=5.6,SNR=32
SONA1 Songino Array 66.44 328 *e*P **P** 21 48 05.0 +0.2
SEY Seymchan 67.41 360 *e*P **P** 21 48 08.7 -1.7
YAK Yakutsk 68.93 348 *e*P **P** 21 48 20.2 +0.3
YAK pmax pmax
comp=Z,12nm,1.3s
ZAK Zakamensk 69.60 328 *e*P **P** 21 48 23.5 -1.0
ZAK pmax pmax
comp=Z,3.0nm,1.2s
ODAN Odare 70.85 300 *e*P **P** 21 48 32.5 -0.2
comp=Z,12nm,0.5s
RAMN Ramite 71.55 300 *e*P **P** 21 48 36.9 -0.1
JIRN Jiri 72.09 301 *e*P **P** 21 48 40.2 -0.2
comp=Z,7.1nm,0.4s
CHGN Chignik 72.41 26 *e*P **P** 21 48 40.9 -0.2
GUN Gumba 72.42 301 *e*P **P** 21 48 42.6 +0.3
PKIN Phulchoki 72.75 301 *e*P **P** 21 48 44.3 +0.1

KKN Kakani 72.90 301 *e*P **P** 21 48 45.0 0.0
comp=Z,6.8nm,0.5s
VNDA Vanda 72.95 178 *e*P **P** 21 48 44.8 +0.8
comp=Z,7.1nm,0.8s
VNDA Vanda 72.95 178 P **P** 21 48 44.9 +0.9
comp=Z,8.0nm,0.8s,baz=330,slow=6.3,SNR=33
DMN Daman 73.01 301 *e*P **P** 21 48 45.5 -0.2
comp=Z,11nm,0.6s
PALK Pallekele 73.34 279 *e*P **P** 21 48 46.3 -1.3
OHAK Old Harbor 75.23 27 *e*P **P** 21 48 57.1 -0.5
comp=Z,786nm,2.6s
WMQ Urumqi 75.94 317 P **P** 21 49 03.0 +0.9
WMQ PcP **PcP** 21 49 15.6 +1.4
WMQ pP **pP** 21 49 23.1 +0.5
WMQ sP **sP** 21 49 31.6 +0.6
WMQ pmax pmax
comp=Z,22nm,0.8s
WMQ pmax pmax
comp=Z,170nm,5.4s
RSO Redoubt South 77.29 24 *e*P **P** 21 49 10.0 +0.5
TIXI Tiksi 77.82 352 *e*P **P** 21 49 11.3 -0.6
TIXI pmax pmax
comp=Z,5.0nm,1.2s
PPLA Purkeypile 78.88 22 *e*P **P** 21 49 17.6 -0.6
comp=Z,54nm,1.6s
TRF Thorofare Moun 79.91 22 *e*P P 21 49 19.3 -4.5
comp=Z,163nm,2.5s
MK01 Makanchi Array 80.50 319 *e*P **P** 21 49 27.4 +0.3
MK32 Makanchi Array 80.51 319 *e*P **P** 21 49 27.3 +0.1
MKAR Makanchi Array 80.51 319 *c e*P **P** 21 49 27.2 0.0
MKAR pmax pmax
comp=Z,7.0nm,0.6s
MKAR Makanchi Array 80.51 319 *e*P **P** 21 49 27.3 0.0
MKAR Makanchi Array 80.51 319 P **P** 21 49 27.3 +0.1
comp=Z,7.3nm,0.6s,baz=95,slow=7.6,SNR=118
ZAA0 Zalesovo Array 81.28 326 *e*P **P** 21 49 30.3 -0.8
ZALV Zalesovo Beam 81.28 326 *i* P **P** 21 49 30.2 -0.9
ZALV pmax pmax
comp=Z,5.0nm,0.4s
ZALV Zalesovo Beam 81.28 326 P **P** 21 49 30.3 -0.9
comp=Z,4.7nm,0.4s,baz=111,slow=6.2,SNR=26
COLA College 81.56 22 *e*P **P** 21 49 30.2 -2.1
COLA pmax pmax
comp=Z,31nm,1.2s
IL1 Eielson Array 81.87 22 *e*P **P** 21 49 32.3 -1.7
ILAR Eielson Array 81.87 22 P **P** 21 49 32.2 -1.8
comp=Z,1.8nm,0.6s,baz=244,slow=5.5,SNR=13
ILB Eielson Array 81.87 22 *e*P **P** 21 49 32.2 -1.8
KSH Kashi 83.18 311 *e*P **P** 21 49 43.5 +2.0
KSH pP **pP** 21 50 03.7 +1.4
KSH PP **PP** 21 52 58.0 +4.2
KSH SKS **S** 21 59 54.8 -1.0
KSH S **SKSac** 21 59 56.0 -1.1
KSH sS **sS** 22 00 32.1 +0.9
KSH pmax pmax
comp=Z,7.0nm,1.0s
KSH pmax pmax
comp=Z,94nm,5.0s
KSH LR LR
comp=N,84nm,4.8s
KSH LR LR
comp=E,130nm,5.0s
KSH LR LR
comp=Z,120nm,6.0s
HYT Haines Junctio 84.11 27 *e*P **P** 21 49 47.1 +1.2
TKM2 Tokmak 2 84.15 314 *e*P **P** 21 49 47.0 +0.5
TKM2 pmax pmax
comp=Z,14nm,0.8s
TKM2 Tokmak 2 84.15 314 P **P** 21 49 46.8 +0.2
SNR=18
TKM2 Tokmak 2 84.15 314 *e*P **P** 21 49 47.0 +0.5
comp=Z,14nm,0.8s
KZA Kyzart 84.23 313 *i* P **P** 21 49 48.7 +1.4
KZA Kyzart 84.23 313 P **P** 21 49 48.6 +1.4
SNR=14
KBK Karagaybulak 84.56 313 *i* P **P** 21 49 49.3 +0.7
KBK Karagaybulak 84.56 313 P **P** 21 49 49.3 +0.7
SNR=13
CHMS Chumysh 84.77 314 *i* P **P** 21 49 49.9 +0.5
CHMS Chumysh 84.77 314 P **P** 21 49 50.0 +0.5
SNR=21
AAK Ala-Archa 84.89 313 P **P** 21 49 50.0 -0.2
comp=Z,207nm,0.6s,SNR=13
AAK Ala-Archa 84.89 313 *e*P **P** 21 49 51.1 +0.9
AAK pmax pmax
comp=Z,21nm,0.6s
AAK Ala-Archa 84.89 313 P **P** 21 49 50.9 +0.7
SNR=24
AAK Ala-Archa 84.89 313 *e*P **P** 21 49 51.1 +0.9
comp=Z,21nm,0.6s
USP Ospenovka 85.00 314 *i* P **P** 21 49 51.0 +0.4
USP Ospenovka 85.00 314 P **P** 21 49 51.0 +0.4
SNR=36
QSPA South Pole Qui 85.30 180 *e*P **P** 21 49 52.2 +0.5
comp=Z,16nm,0.7s
AML Almayashu 85.38 313 *i* P **P** 21 49 54.0 +1.1
AML Almayashu 85.38 313 P **P** 21 49 54.0 +1.1
SNR=36
EKS2 Erkin-Say 85.41 313 *e*P **P** 21 49 53.6 +0.8
EKS2 pmax pmax
comp=Z,20nm,0.8s
EKS2 Erkin-Say 85.41 313 P **P** 21 49 53.7 +0.9
SNR=22
EKS2 Erkin-Say 85.41 313 *e*P **P** 21 49 53.6 +0.8
comp=Z,20nm,0.8s
MAW Mawson 85.86 203 *e*P **P** 21 49 54.3 0.0
comp=Z,29nm,2.7s
MAW Mawson 85.86 203 P **P** 21 49 54.0 -0.3
comp=Z,5.6nm,0.7s,baz=92,slow=7.3,SNR=10
MAW Mawson 85.86 203 P **P** 21 49 54.5 +0.2
baz=86,SNR=5.1
KKAR Karatay Array 87.85 313 *e*P **P** 21 50 04.4 -0.1
KKAR Karatay Array 87.85 313 *e*P **P** 21 50 04.4 -0.1
VOSK Vostochnaya 88.99 323 *e*P **P** 21 50 08.6 -1.1
VOSK pmax pmax
comp=Z,15nm,0.6s
VOSK Vostochnaya 88.99 323 *e*P **P** 21 50 08.6 -1.1
comp=Z,15nm,0.6s
BVAR Borovoye Array 89.39 323 LR LR 22 28 08.5
comp=Z,47nm,21.5s,baz=115,slow=34
BRVK Borovoye 89.46 323 P **P** 21 50 10.1 -1.7
comp=Z,138nm,0.6s,SNR=8.4
BRVK Borovoye 89.46 323 *d i* P **P** 21 50 10.7 -1.1
BRVK pmax pmax
comp=Z,20nm,1.0s
BRVK Borovoye 89.46 323 *e*P **P** 21 50 10.2 -1.6
comp=Z,14nm,0.7s
PIER Pier 30 Seattl 89.65 42 *e*P P 21 50 16.9 +4.1
PASC Pasadena Art C 91.41 56 *e*PKiKP **PKiKP** 21 55 11.6 -1.6
PLM Palomar 92.45 57 *e*P **P** 21 50 26.6 +0.2
PLM Palomar 92.45 57 *e*P **P** 21 50 26.6 +0.2
BBRC Big Bear Solar 92.47 56 *e*PKiKP **PKiKP** 21 55 13.8 -1.4
YKA Yellowknife Ar 95.10 28 P **P** 21 50 37.9 +0.2
comp=Z,0.6nm,0.6s,baz=276,slow=5.3,SNR=3.1
IMYA Miami 95.26 306 *e*P pP 21 51 05.4 +5.1
ARU Arti 96.45 326 P **P** 21 50 42.1 -1.8
IKRD Kardeh 96.55 306 *e*P pP 21 51 03.7 -2.6
PDAR Pinedale Array 98.44 48 LR LR 22 27 10.3
comp=Z,71nm,21.3s,baz=351,slow=30
ARA0 ARCESS Array S 106.86 343 *e*PKiKP **PKiKP** 21 55 39.8 +0.1
ARCES ARCESS Array B 106.86 343 PKiKP **PKiKP** 21 55 39.8 +0.1
comp=Z,2.7nm,0.9s,baz=25,slow=0.2,SNR=6.8
JOF Joensuu 108.24 336 *e*P **Pdif** 21 51 34.5 -1.9
JOF pmax pmax
comp=Z,3.0nm,0.6s
JOF Joensuu 108.24 336 *e p* **Pdif** 21 51 34.5 -1.9
comp=Z,3.4nm,0.6s
OBN Obninsk 108.85 327 *e*P **Pdif** 21 51 37.4 -1.8
OBN *e* 22 02 15.0
OBN *e*SS SS 22 11 27.9 +4.4
OBN pmax pmax
comp=Z,5.0nm,1.6s
FIA0 FINESS Array S 111.11 336 *e*P **Pdif** 21 51 47.6 -1.5
FIA0 *i* 21 55 47.9
FIA0 FINESS Array S 111.11 336 *e*Pdif **Pdif** 21 51 47.6 -1.5
FIA0 *e*PKiKP **PKiKP** 21 55 47.9 0.0
FINES FINESS Array B 111.11 336 Pdiff **Pdif** 21 51 47.6 -1.5
comp=Z,1.4nm,0.7s,baz=64,slow=4.8,SNR=13
FINES PKiKP **PKiKP** 21 55 47.9 0.0
comp=Z,0.5nm,0.3s,baz=66,slow=2.7,SNR=7.5
ANN Anapa 111.44 316 *i* PKIKP **PKiKP** 21 55 51.6 +2.7
ANN pmax pmax
comp=Z,83nm,2.0s
AKASG Malin Array Be 114.64 325 *c i* PKIKP PKPdf 21 55 54.7 -0.2
AKASG pmax pmax

comp=Z,2.0nm,0.5s
AKASG Malin Array Be 114.64 325 PKP PKPdf 21 55 54.8 -0.1
comp=Z,2.2nm,0.5s,baz=62,slow=2.5,SNR=6.8
AKBB Malin Array Si 114.64 325 *e*PKIKP PKPdf 21 55 54.8 -0.1
AKBB Malin Array Si 114.64 325 *e*PKiKP **PKiKP** 21 55 54.8 -0.1
BR101 Keskin Array S 115.53 312 *e*PKPdf **PKPdf** 21 55 56.9 -0.3
BRTR Keskin Array B 115.53 312 PKP **PKPdf** 21 55 56.9 -0.3
comp=Z,1.2nm,0.6s,baz=135,slow=1.3,SNR=8.7
BR231 Keskin MP Arra 116.14 312 *e*PKPdf **PKPdf** 21 55 57.6 -0.7
NB2 NORSAR Subarra116.93 340 PKPdf **PKPdf** 21 55 58.3 -0.8
comp=Z,1.5nm,0.6s,baz=45,slow=1.9
NB200 NORSAR Array S 116.93 340 *e*PKPdf **PKPdf** 21 55 58.9 -0.2
NOA NORSAR Array B 116.93 340 PKP **PKPdf** 21 55 58.9 -0.2
comp=Z,1.8nm,0.6s,baz=48,slow=2.0,SNR=8.9
CSS Prodhromos 117.01 307 *e*PKPdf **PKPdf** 21 55 59.7 -0.2
NBO02 NORSAR Array S 117.04 341 *e*PKPdf **PKPdf** 21 55 59.5 +0.2
TIRR Tirgusor 117.64 318 *e*PKIKP **PKPdf** 21 56 00.4 -0.4
TIRR Tirgusor 117.64 318 *e*PKPdf **PKPdf** 21 56 00.4 -0.4
TLB Topalu 117.84 319 ⇑ *i*P **PKPdf** 21 56 01.2 0.0
VRI Vrincioaia 118.17 320 ⇑ *i*P **PKPdf** 21 56 02.0 +0.1
BURAR Bucovina Array 118.35 323 ⇑ *i*P **PKPdf** 21 56 02.3 0.0
BUR04 Bucovina Ar. S 118.35 323 *e*PKPdf **PKPdf** 21 56 01.6 -0.6
KONO Kongsberg 118.50 340 *e*PKIKP **PKPdf** 21 56 01.2 -0.9
KONO Kongsberg 118.50 340 *e*PKPdf **PKPdf** 21 56 01.2 -0.9
MLR Muntele Rosu 118.83 320 ⇑ *i*P **PKPdf** 21 56 02.9 -0.4
KWP Kalwaria Pacla 118.85 326 *e*PKIKP **PKPdf** 21 56 03.3 +0.2
KWP Kalwaria Pacla 118.85 326 *e*PKPdf **PKPdf** 21 56 03.3 +0.2
KWP Kalwaria Pacla 118.85 326 ⇓ *i*P **PKPdf** 21 56 03.3 +0.2
KOLS Kolonicke sedl 119.45 325 *e*PKIKP **PKPdf** 21 56 05.2 +1.0
KOLS Kolonicke sedl 119.45 325 *e*PKP **PKPdf** 21 56 05.2 +1.0
PLCA Paso Flores 119.63 143 *e*PKPdf **PKPdf** 21 56 05.1 +0.2
PLCA Paso Flores 119.63 143 PKP **PKPdf** 21 56 06.1 +1.2
comp=Z,3.1nm,0.7s,baz=304,slow=1.3,SNR=4.3
STHS Stebnicka Huta 119.78 326 *e*PKIKP **PKPdf** 21 56 06.1 +1.2
STHS Stebnicka Huta 119.78 326 *e*PKP **PKPdf** 21 56 06.1 +1.2
BOSA Boshof 120.05 233 *e*PKPdf **PKPdf** 21 56 05.7 -0.5
BOSA Boshof 120.05 233 PKP **PKPdf** 21 56 05.7 -0.5
comp=Z,9.8nm,1.3s,baz=356,slow=1.7,SNR=3.9
KECS Kecovo 120.69 325 *e*PKP **PKPdf** 21 56 06.0 -0.6
SIRR Siria 121.13 323 ⇑ *i*P **PKPdf** 21 56 08.3 +0.7
LBTB Lobatse 121.22 237 *e*PKPdf **PKPdf** 21 56 08.2 -0.3
OKC Ostrava-Krasne 121.24 328 *e*PKIKP **PKPdf** 21 56 07.9 +0.3
OKC Ostrava-Krasne 121.24 328 *e*PKPdf **PKPdf** 21 56 07.9 +0.3
BZS Buzias 121.48 322 ⇑ *i*P **PKPdf** 21 56 08.7 +0.5
MORC Moravsky Berou 121.59 328 *e*PKIKP **PKPdf** 21 56 08.7 +0.3
MORC Moravsky Berou 121.59 328 *e*PKPdf **PKPdf** 21 56 08.7 +0.3
VYHS Vyhne 121.61 326 *e*PKIKP **PKPdf** 21 56 08.3 -0.1
VYHS Vyhne 121.61 326 *e*PKP **PKPdf** 21 56 08.3 -0.1
VTS Vitosha 121.86 318 ⇓ *i*P **PKPdf** 21 56 09.3 0.0
DPC Dobruska-Polom 121.89 329 *e*PKIKP **PKPdf** 21 56 09.6 +0.7
DPC Dobruska-Polom 121.89 329 *e*PKPdf **PKPdf** 21 56 09.6 +0.7
UPC Upice 121.96 329 *e*PKIKP **PKPdf** 21 56 09.4 +0.4
UPC Upice 121.96 329 *e*PKPdf **PKPdf** 21 56 09.4 +0.4
PVCC Panska Ves 122.67 330 *e*PKIKP **PKPdf** 21 56 14.3 +3.9
PVCC Panska Ves 122.67 330 *e*PKPdf **PKPdf** 21 56 14.3 +3.9
BRG Berggiesshubel 122.77 331 *i* PKP **PKPdf** 21 56 10.6 0.0
comp=Z,6.9nm,0.6s
BRG Berggiesshubel 122.77 331 *e*PKPdf **PKPdf** 21 56 11.2 +0.7
BRG Berggiesshubel 122.77 331 *i* PKIKP **PKPdf** 21 56 10.5 0.0
BRG pmax pmax
comp=Z,7.0nm,0.6s
CLL Collm 122.94 331 *e*PKPdf **PKPdf** 21 56 11.3 +0.4
CLL Collm 122.94 331 ⇓ *i*PKIKP **PKPdf** 21 56 11.2 +0.4
CLL pmax pmax
comp=Z,10.0nm,0.8s
CLL Collm 122.94 331 ⇓ *i*PKPdf **PKPdf** 21 56 11.2 +0.4
comp=Z,10.0nm,0.8s
PKSM Moragy 122.96 324 ⇑ *i*P **PKPdf** 21 56 11.7 +0.7
TREC Trest 122.96 328 *e*PKIKP **PKPdf** 21 56 11.4 +0.4
TREC Trest 122.96 328 *e*PKPdf **PKPdf** 21 56 11.4 +0.4
PRU Pruhonice 123.02 329 *e*PKIKP **PKPdf** 21 56 11.3 +0.2
PRU Pruhonice 123.02 329 *e*PKPdf **PKPdf** 21 56 11.3 +0.2
IDI Anoyia 123.53 310 *e*PKPdf **PKPdf** 21 56 12.8 +0.2
CONA Conrad Observa 123.57 327 ⇓ *i*PKiKP **PKiKP** 21 56 12.6 0.0
comp=Z,3.9nm,0.6s,SNR=5.9
TANN Tannenbergstha 123.78 331 *e*PKPdf **PKPdf** 21 56 13.2 +0.6
CLZ Clausthal 123.80 333 *e*PKPdf **PKPdf** 21 56 13.6 +1.1
CLZ Clausthal 123.80 333 *e*PKIKP **PKPdf** 21 56 13.6 +1.1
KHC Kasperske Hory 124.05 329 *e*PKIKP **PKPdf** 21 56 13.9 +0.8
KHC Kasperske Hory 124.05 329 *e*PKPdf **PKPdf** 21 56 13.5 +0.4
KHC Kasperske Hory 124.05 329 *e*PKPdf **PKPdf** 21 56 13.9 +0.8
GEC2 GERESS Array S 124.16 329 *e*PKPdf **PKPdf** 21 56 13.9 +0.5
GEC2 GERESS Array S 124.16 329 *e*PKIKP **PKPdf** 21 56 14.1 +0.7
GEC2 GERESS Array S 124.16 329 *e*PKPdf **PKPdf** 21 56 14.1 +0.7
GERES GERESS Array B 124.16 329 PKP **PKPdf** 21 56 13.9 +0.5
comp=Z,3.4nm,0.5s,baz=72,slow=1.7,SNR=35
GRF Grafenberg Arr 124.86 331 *e*PKIKP **PKPdf** 21 56 15.1 +0.5
GRF Grafenberg Arr 124.86 331 *e*PKPdf **PKPdf** 21 56 15.1 +0.5
TNS Taunus Mts 125.80 333 *e*PKPdf **PKPdf** 21 56 17.1 +0.6
TNS Taunus Mts 125.80 333 *e*PKIKP **PKPdf** 21 56 17.1 +0.6
ESK Eskdalemuir 126.05 344 *e*PKIKP **PKPdf** 21 56 15.5 -1.2
ESK Eskdalemuir 126.05 344 *e*PKPdf **PKPdf** 21 56 15.5 -1.2
ABTA Abfaltersbach 126.10 327 ⇓ *i*PKiKP **PKPdf** 21 56 16.9 -0.2
comp=Z,11nm,1.2s,SNR=6.8
LCO Las Campanas 126.14 131 *e*PKPdf **PKPdf** 21 56 18.0 -0.1
WTTA Wattenberg 126.24 328 ⇓ *i*PKiKP **PKiKP** 21 56 17.8 -0.2
comp=Z,7.6nm,0.5s
TRQA Tornquist 126.39 146 *e*PKPdf **PKPdf** 21 56 17.5 -0.5
MOTA Moosalm 126.46 329 ⇓ *i*PKiKP **PKPdf** 21 56 18.0 0.0
comp=Z,7.0nm,0.5s,SNR=6.1
STU Stuttgart 126.46 331 *e*PKPdf **PKPdf** 21 56 18.5 +0.8
RETA Reutte 126.55 329 ⇓ *i*PKiKP **PKiKP** 21 56 19.1 +0.6
comp=Z,2.6nm,0.5s,SNR=5.3
MEM Membach 126.60 335 PKP **PKPdf** 21 56 18.1 +0.3
MEM Membach 126.60 335 *e*PKIKP **PKPdf** 21 56 17.3 -0.6
MEM Membach 126.60 335 *e*PKPdf **PKPdf** 21 56 17.2 -0.6
FETA Feichten 126.87 329 ⇓ *i*PKiKP **PKiKP** 21 56 19.2 0.0
comp=Z,6.8nm,0.6s
DAVA Damuels 127.13 329 ⇑ *i*PKiKP **PKiKP** 21 56 20.0 +0.3
comp=Z,5.9nm,0.6s
BFO Black Forest 127.18 331 *e*PKIKP **PKPdf** 21 56 19.5 +0.4
BFO Black Forest 127.18 331 *e*PKPdf **PKPdf** 21 56 19.5 +0.4
FUORN Ofenpass-Fuorn 127.37 329 *e*PKIKP **PKPdf** 21 56 21.2 +1.4
GIVF Givet 127.48 335 ⇑ *i*PKIKP **PKPdf** 21 56 20.7 +1.1
GIVF Givet 127.48 335 *e*PKIKP **PKPdf** 21 56 20.7 +1.1
GIVF Givet 127.48 335 *e*PKPdf **PKPdf** 21 56 20.7 +1.1
DOU Dourbes 127.58 335 PKP **PKPdf** 21 56 20.9 +1.2
CDF Champ du Feu 127.63 332 ⇑ *i*PKIKP **PKPdf** 21 56 20.5 +0.5
comp=Z,4.2nm,0.5s
CDF Champ du Feu 127.63 332 *e*PKIKP **PKPdf** 21 56 20.5 +0.5
CDF Champ du Feu 127.63 332 *e*PKPdf **PKPdf** 21 56 20.5 +0.5
BAIF Baives 127.78 335 ⇑ *i*PKIKP **PKPdf** 21 56 21.3 +1.2
BAIF Baives 127.78 335 *e*PKIKP **PKPdf** 21 56 21.3 +1.2
BAIF Baives 127.78 335 *e*PKPdf **PKPdf** 21 56 21.3 +1.2
TUE Stuetta 127.94 329 *e*PKPdf **PKPdf** 21 56 21.2 +0.3
PAGF Fort de Pagny 128.24 333 *e*PKIKP **PKPdf** 21 56 22.5 +1.4
HINF Hinteralfeld 128.25 332 ⇑ *i*PKIKP **PKPdf** 21 56 21.8 +0.6
comp=Z,6.7nm,0.6s
HINF Hinteralfeld 128.25 332 *e*PKIKP **PKPdf** 21 56 21.8 +0.6
HINF Hinteralfeld 128.25 332 *e*PKPdf **PKPdf** 21 56 21.8 +0.6
HAU Haudompre 128.35 332 ⇑ *i*PKIKP **PKPdf** 21 56 22.2 +0.8
comp=Z,15nm,0.7s
HAU *e*R
comp=Z,43nm,17.0s
HAU Haudompre 128.35 332 *e*PKIKP **PKPdf** 21 56 22.2 +0.8
HAU Haudompre 128.35 332 *e*PKPdf **PKPdf** 21 56 22.2 +0.8
MEZF Maizieres J'vi 128.58 333 ⇑ *i*PKIKP **PKPdf** 21 56 23.1 +1.4
comp=Z,10.0nm,0.6s
MEZF Maizieres J'vi 128.58 333 *e*PKPdf **PKPdf** 21 56 23.1 +1.4
CABF La Chapelle 129.47 331 ⇑ *i*PKIKP **PKPdf** 21 56 25.1 +1.5
comp=Z,9.1nm,0.6s
CABF La Chapelle 129.47 331 *e*PKIKP **PKPdf** 21 56 25.1 +1.5
CABF La Chapelle 129.47 331 *e*PKPdf **PKPdf** 21 56 25.1 +1.5
LPL La Plagne 129.93 330 ⇑ *i*PKIKP **PKPdf** 21 56 25.5 +0.8
comp=Z,4.7nm,0.5s
LPL La Plagne 129.93 330 *e*PKIKP **PKPdf** 21 56 25.5 +0.8
LPL La Plagne 129.93 330 *e*PKPdf **PKPdf** 21 56 25.5 +0.8
LPG La Plagne 129.93 330 *e*PKIKP **PKPdf** 21 56 25.5 +0.7
comp=Z,6.3nm,0.5s
LPG La Plagne 129.93 330 *e*PKIKP **PKPdf** 21 56 25.5 +0.7
LPG La Plagne 129.93 330 *e*PKPdf **PKPdf** 21 56 25.5 +0.7
LOR Lormes 130.03 333 ⇑ *i*PKIKP **PKPdf** 21 56 25.9 +1.3
comp=Z,17nm,0.8s
LOR *e*R
comp=Z,49nm,22.8s
LOR Lormes 130.03 333 *e*PKPdf **PKPdf** 21 56 25.9 +1.3
BNI Bardonecchia 130.28 329 *e*PKIKP **PKPdf** 21 56 26.2 +0.9
BNI Bardonecchia 130.28 329 *e*PKPdf **PKPdf** 21 56 26.2 +0.9
SSF Saint Saulge 130.35 333 ⇑ *i*PKIKP **PKPdf** 21 56 26.5 +1.3
comp=Z,7.9nm,0.8s
SSF Saint Saulge 130.35 333 *e*PKIKP **PKPdf** 21 56 26.5 +1.3
SSF Saint Saulge 130.35 333 *e*PKPdf **PKPdf** 21 56 26.5 +1.3

MBDF	Montbardon	130.46	329	eP	KIPK	PKPdf	21 56 26.5 +0.9
	comp=Z,7.2nm,0.8s						
MBDF	Montbardon	130.46	329	eP	KIPK	PKPdf	21 56 26.5 +0.9
MBDF	Montbardon	130.46	329	eP	KIPdf	PKPdf	21 56 26.5 +0.9
SMF	Signal de Mont	130.51	333	⇑i	PKIPK	PKPdf	21 56 26.5 +1.0
SMF	Signal de Mont	130.51	333	eP	KIPK	PKPdf	21 56 26.5 +1.0
SMF	Signal de Mont	130.51	333	eP	KIPdf	PKPdf	21 56 26.5 +1.0
AVF	Avril sur Loir	130.62	333	⇑i	PKIPK	PKPdf	21 56 26.5 +0.8
	comp=Z,5.9nm,0.8s						
AVF	Avril sur Loir	130.62	333	eP	KIPK	PKPdf	21 56 26.5 +0.8
AVF	Avril sur Loir	130.62	333	eP	KIPdf	PKPdf	21 56 26.5 +0.8
LDF	La Druitiere	130.68	337	eP	KIPK	PKPdf	21 56 26.6 +0.9
	comp=Z,21nm,1.0s						
LDF	La Druitiere	130.68	337	eP	KIPK	PKPdf	21 56 26.6 +0.9
LDF	La Druitiere	130.68	337	eP	KIPdf	PKPdf	21 56 26.6 +0.9
FLN	La Foliniere	130.68	337	eP	KIPK	PKPdf	21 56 26.3 +0.6
	comp=Z,7.5nm,0.5s						
FLN				eR			
	comp=Z,38nm,23.0s						
FLN	La Foliniere	130.68	337	eP	KIPK	PKPdf	21 56 26.3 +0.6
FLN	La Foliniere	130.68	337	eP	KIPdf	PKPdf	21 56 26.3 +0.6
SBF	Sospel	130.70	328	⇑i	PKIPK	PKPdf	21 56 26.7 +0.7
SBF	Sospel	130.70	328	eP	KIPK	PKPdf	21 56 26.7 +0.7
SBF	Sospel	130.70	328	eP	KIPdf	PKPdf	21 56 26.7 +0.7
PGF	Pioggiola	130.70	325	⇑i	PKIPK	PKPdf	21 56 26.3 +0.2
	comp=Z,7.0nm,0.4s						
PGF	Pioggiola	130.70	325	eP	KIPK	PKPdf	21 56 26.3 +0.2
PGF	Pioggiola	130.70	325	eP	KIPdf	PKPdf	21 56 26.3 +0.2
ORIF	Oris-en-Rattie	130.78	330	⇑i	PKIPK	PKPdf	21 56 27.4 +1.2
	comp=Z,12nm,0.8s						
ORIF				eR			
	comp=Z,34nm,23.0s						
ORIF	Oris-en-Rattie	130.78	330	eP	KIPK	PKPdf	21 56 27.4 +1.2
ORIF	Oris-en-Rattie	130.78	330	eP	KPdf	PKPdf	21 56 27.4 +1.2
BGF	Bois d'Agland	131.03	333	⇑i	PKIPK	PKPdf	21 56 27.7 +1.2
	comp=Z,20nm,0.8s						
BGF	Bois d'Agland	131.03	333	eP	KIPK	PKPdf	21 56 27.7 +1.2
BGF	Bois d'Agland	131.03	333	eP	KIPdf	PKPdf	21 56 27.7 +1.2
GRR	Gorron	131.13	337	eP	KIPK	PKPdf	21 56 27.1 +0.5
	comp=Z,8.2nm,0.6s						
GRR	Gorron	131.13	337	eP	KIPK	PKPdf	21 56 27.1 +0.5
GRR	Gorron	131.13	337	eP	KIPdf	PKPdf	21 56 27.1 +0.5
FRF	La Foret Royal	131.32	328	⇑i	PKIPK	PKPdf	21 56 27.4 +0.3
FRF	La Foret Royal	131.32	328	eP	KIPK	PKPdf	21 56 27.4 +0.3
FRF	La Foret Royal	131.32	328	eP	KIPdf	PKPdf	21 56 27.4 +0.3
VIVF	Saint-Julien-l	131.42	330	eP	KIPK	PKPdf	21 56 27.9 +0.6
VIVF	Saint-Julien-l	131.42	330	eP	KIPK	PKPdf	21 56 27.9 +0.6
VIVF	Saint-Julien-l	131.42	330	eP	KIPdf	PKPdf	21 56 27.9 +0.6
TCF	Toulx Ste Croi	131.52	333	⇑i	PKIPK	PKPdf	21 56 28.8 +1.4
	comp=Z,13nm,0.8s						
TCF	Toulx Ste Croi	131.52	333	eP	KIPK	PKPdf	21 56 28.8 +1.4
TCF	Toulx Ste Croi	131.52	333	eP	KIPdf	PKPdf	21 56 28.8 +1.4
LMR	La Mourre	131.55	328	⇑i	PKIPK	PKPdf	21 56 28.0 +0.5
	comp=Z,11nm,0.8s						
LMR	La Mourre	131.55	328	eP	KIPK	PKPdf	21 56 28.0 +0.5
LMR	La Mourre	131.55	328	eP	KIPdf	PKPdf	21 56 28.0 +0.5
SMRF	Simiane la Rot	131.59	329	⇑i	PKIPK	PKPdf	21 56 28.6 +0.9
	comp=Z,8.0nm,0.7s						
SMRF	Simiane la Rot	131.59	329	eP	KIPdf	PKPdf	21 56 28.6 +0.9
SGMF	Saint Gilles	131.88	338	eP	KIPK	PKPdf	21 56 29.1 +1.1
SGMF	Saint Gilles	131.88	338	eP	KIPK	PKPdf	21 56 29.1 +1.1
SGMF	Saint Gilles	131.88	338	eP	KIPdf	PKPdf	21 56 29.1 +1.1
ROSF	Rostrenen	132.07	339	eP	KIPK	PKPdf	21 56 29.4 +1.0
ROSF	Rostrenen	132.07	339	eP	KIPK	PKPdf	21 56 29.4 +1.0
ROSF	Rostrenen	132.07	339	eP	KIPdf	PKPdf	21 56 29.4 +1.0
MFF	Saint Martin d	132.29	335	⇑i	PKIPK	PKPdf	21 56 30.1 +1.3
MFF	Saint Martin d	132.29	335	eP	KIPK	PKPdf	21 56 30.1 +1.3
MFF	Saint Martin d	132.29	335	eP	KIPdf	PKPdf	21 56 30.1 +1.3
QUIF	Quistinic	132.39	339	eP	KIPK	PKPdf	21 56 30.5 +1.5
QUIF	Quistinic	132.39	339	eP	KIPK	PKPdf	21 56 30.5 +1.5
QUIF	Quistinic	132.39	339	eP	KIPdf	PKPdf	21 56 30.5 +1.5
LASF	Ste Croix	132.39	330	⇑i	PKIPK	PKPdf	21 56 30.0 +0.9
	comp=Z,11nm,0.8s						
LASF	Ste Croix	132.39	330	eP	KIPdf	PKPdf	21 56 30.0 +0.9
RJF	Les Rejaudoux	132.58	333	eP	KIPK	PKPdf	21 56 30.6 +1.1
RJF				eR			
	comp=Z,47nm,22.9s						
RJF	Les Rejaudoux	132.58	333	eP	KIPK	PKPdf	21 56 30.6 +1.1
RJF	Les Rejaudoux	132.58	333	eP	KIPdf	PKPdf	21 56 30.6 +1.1
CAF	Calviac	132.62	332	eP	KIPK	PKPdf	21 56 30.6 +1.0
CAF	Calviac	132.62	332	eP	KIPK	PKPdf	21 56 30.6 +1.0
CAF	Calviac	132.62	332	eP	KIPdf	PKPdf	21 56 30.6 +1.0
LFF	La Frestale	133.22	333	eP	KIPK	PKPdf	21 56 31.6 +1.0
LFF	La Frestale	133.22	333	eP	KIPK	PKPdf	21 56 31.6 +1.0
LFF	La Frestale	133.22	333	eP	KIPdf	PKPdf	21 56 31.6 +1.0
MTLF	Montolieu	133.74	331	⇑i	PKIPK	PKPdf	21 56 33.2 +1.5
	comp=Z,3.4nm,0.6s						
MTLF	Montolieu	133.74	331	eP	KIPK	PKPdf	21 56 33.2 +1.5
MTLF	Montolieu	133.74	331	eP	KIPdf	PKPdf	21 56 33.2 +1.5
LPAZ	La Paz	134.10	118	eP	KPdf	PKPpre	21 56 31.5
LPAZ	La Paz	134.10	118	PK	KIPK	PKPpre	21 56 31.0
	comp=Z,1.3nm,0.4s,baz=225,slow=5.7,SNR=3.2						
LPAZ				PK	P	PKPdf	21 56 33.9 0.0
	comp=Z,1.3nm,0.4s,baz=207,slow=2.3,SNR=6.2						
KEST	Kesra	134.60	318	PK	P	PKPdf	21 56 34.2 +0.6
	comp=Z,0.7nm,0.5s,baz=338,slow=2.9,SNR=7.1						
EPF	Esparros	134.87	332	eP	KIPK	PKPdf	21 56 34.8 +0.9
	comp=Z,2.0nm,0.4s						
EPF	Esparros	134.87	332	eP	KIPK	PKPdf	21 56 34.8 +0.9
EPF	Esparros	134.87	332	eP	KPdf	PKPdf	21 56 34.8 +0.9
ETSF	Etsaut	135.39	332	⇑i	PKIPK	PKPdf	21 56 36.3 +1.4
	comp=Z,9.3nm,0.6s						
ETSF	Etsaut	135.39	332	eP	KIPK	PKPdf	21 56 36.3 +1.4
ETSF	Etsaut	135.39	332	eP	KPdf	PKPdf	21 56 36.3 +1.4
SJPF	Ste Jean	135.53	333	eP	KIPK	PKPdf	21 56 36.2 +1.2
	comp=Z,9.2nm,0.8s						
SJPF	Ste Jean	135.53	333	eP	KIPK	PKPdf	21 56 36.2 +1.2
SJPF	Ste Jean	135.53	333	eP	KPdf	PKPdf	21 56 36.2 +1.2
SDV	Santo Domingo	136.26	82	eP	KPdf	PKPdf	21 56 33.1 -4.3
CPUP	Villa Florida	137.27	138	PK	P	PKPdf	21 56 39.2 +0.5
	comp=Z,0.7nm,0.4s,baz=281,slow=5.2,SNR=3.1						
ESDC	Sonseca Array	139.51	333	eP	KPdf	PKPdf	21 56 44.0 +1.4
ESDC	Sonseca Array	139.51	333	PK	P	PKPdf	21 56 44.0 +1.4
	comp=Z,0.5nm,0.5s,baz=13,slow=3.9,SNR=5.3						
SIV	San Ignacio	140.33	122	eP	KPdf	PKPdf	21 56 44.8 +0.2
SIV	San Ignacio	140.33	122	PK	P	PKPdf	21 56 44.8 +0.2
	comp=Z,2.1nm,0.7s,baz=260,slow=5.2,SNR=5.1						
SAML	Samuel	141.26	110	eP	KPdf	PKPdf	21 56 44.7 -1.6
TOA0	Torodi Ar. Sit	150.68	289	eP	KPdf	PKPdf	21 57 03.8 +1.5
TOA0				eP	KPbc	PKPbc	21 57 07.5 -0.3
TORD	Torodi Ar. Bea	150.68	289	PK	Pbc	PKPbc	21 57 07.5 -0.3
	comp=Z,25nm,0.8s,baz=48,slow=1.9,SNR=159						
BDFB	Brasilia	150.85	134	eP	KPdf	PKPdf	21 57 01.5 -1.2
BDFB				eP	KPbc	PKiKP	21 57 08.7 -0.2
BDFB	Brasilia	150.85	134	PK	P	PKPdf	21 57 03.6 +1.0
	comp=Z,11nm,0.5s,baz=186,slow=4.2,SNR=5.2						
BDFB				PK	Pbc	PKPbc	21 57 07.6 -0.7
	comp=Z,11nm,0.5s,baz=229,slow=2.5,SNR=16						
DBIC	Dimbokro	158.11	276	PK	Pab	PKPab	21 57 45.3 -1.3
	comp=Z,8.7nm,1.1s,baz=101,slow=5.2,SNR=4.0						

*ISCJB **10** 21:46:43.4±0.5, 28°.46S±0°.05×69°.68W±0°.09, h109km±8km, mb3.7/3, Error ellipse: s-maj=13.5km s-min=7.2km az=165.8*
*IDC **10** 21:46:44.0±2.2, 28°.46S×69°.75W, h100km±19km, mb3.5/3, mb1 3.8/8, mb1mx3.6/19, mbtmp3.5/8, Error ellipse: s-maj=30.8km s-min=16.4km az=88.0*
*GUC **10** 21:46:44.3±0.3, 28°.44S×69°.50W, h33km±2km, MD3.9, ML3.9*

ISC 10 21:46:44.3±0.8, 28°.45S±0°.05×69°.69W±0°.08, h101km±8km, n18, σ0°.89/22, mb3.7/3, 1C-3D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
VACH	Vallenar	0.95	262	eP		Pn	21 47 04.1	-0.1
VACH				eS		Sn	21 47 19.0	-0.3
VACH				AML		AML	21 47 21.2	
	comp=E,5μm,0.2s							
LCO	Las Campanas	1.05	237	⇑i	P	Pn	21 47 05.8	+0.1
LCO				i	S	Sn	21 47 22.3	+0.6
LCO				AML		AML	21 47 22.8	
	comp=E,6μm,0.5s							
CPCH	Copiapo	1.23	331	⇓i	P	Pn	21 47 07.1	-0.3
CPCH				⇓i	S	Sn	21 47 24.6	-0.3
CDCH	Caldera	1.70	324	⇓i	P	Pn	21 47 14.4	+1.3
CDCH				i	S	Sn	21 47 37.0	+2.1
CDCH				AML		AML	21 47 40.3	
	comp=N,2μm,0.5s							
CFAA	Coronel Fontan	3.39	159	P		Pn	21 47 36.0	+0.7
	baz=337,slow=13							
CFAA				S		Sn	21 48 15.4	+0.7
	comp=N,8.8nm,0.3s,baz=211,slow=22,SNR=18							
CPUP	Villa Florida	11.18	82	P		Pn	21 49 20.8	-0.2
	comp=N,0.5nm,0.3s,baz=238,slow=16,SNR=2.7							
LPAZ	La Paz	12.19	7	P		Pn	21 49 33.8	-1.3
	comp=N,0.9nm,0.3s,baz=196,slow=8.8,SNR=16							
PLCA	Paso Flores	12.28	183	P		Pn	21 49 33.3	-2.4
	comp=N,0.1nm,0.3s,baz=348,slow=13,SNR=3.6							
SIV	San Ignacio	14.73	35	P		Pn	21 50 07.3	-0.3
	comp=N,0.4nm,0.3s,baz=240,slow=11,SNR=4.7							
TXAR	Lajitas Array	66.00	328	P		P	21 57 20.8	+0.5
	comp=N,0.9nm,0.8s,baz=153,slow=8.4,SNR=4.8							
PDAR	Pinedale Array	79.80	331	P		P	21 58 41.8	+0.2
	comp=N,0.5nm,0.6s,baz=119,slow=5.8,SNR=4.1							
TORD	Torodi Ar. Bea	80.40	69	P		P	21 58 45.3	+0.1
	comp=N,1.2nm,0.6s,baz=259,slow=5.3,SNR=3.3							
ASAR	Alice Springs	123.42	206	PKP		PKPdf	22 05 28.9	-1.5
	comp=N,1.0nm,0.6s,baz=140,slow=1.7,SNR=9.2							
WRA	Warramunga Arr	126.58	208	PKP		PKPdf	22 05 35.3	-1.1
	comp=N,2.0nm,0.6s,baz=157,slow=1.8,SNR=36							
KURBB	Kurchatov Arra	147.36	38	PKPbc		PKPdf	22 06 13.8	+0.4
	comp=N,1.4nm,0.7s,baz=304,slow=3.2,SNR=20							
AAK	Ala-Archa	147.86	54	PKPbc		PKPbc	22 06 18.6	+0.8
	comp=N,1.3nm,0.4s,baz=200,slow=5.6,SNR=7.1							
ZALV	Zalesovo Beam	148.44	29	PKPbc		PKPbc	22 06 18.5	-0.2
	comp=N,3.8nm,0.5s,baz=302,slow=3.7,SNR=21							
MKAR	Makanchi Array	151.45	42	PKPbc		PKPbc	22 06 25.9	-0.4
	comp=N,1.9nm,0.5s,baz=310,slow=1.5,SNR=33							

*IDC **10** 21:49:50.3±1.7, 6°.46S×129°.43E, h0km, mb3.9/3, mb1 4.4/6, mb1mx4.0/19, mbtmp4.2/6, ML4.4/3, Error ellipse: s-maj=90.3km s-min=24.1km az=77.0*
*ISCJB **10** 21:50:07.8±0.5, 7°.18S±0°.03×129°.42E±0°.05, h139km, mb3.6/3, Error ellipse: s-maj=6.7km s-min=4.6km az=177.7*
*DJA **10** 21:50:09.4±1.4, 7°.5S±4°.×12°.9E±°, h10km, M4.8/7, mb5.0/4, mB5.9/2, MLv4.8/7, Mw(mB)5.5/2*
*AUST **10** 21:50:10.3±0.0, 7°.40S×129°.46E, h124km, Error ellipse: s-maj=0.9km s-min=0.7km az=282.0*

ISC 10 21:50:08.2±0.8, 7°.22S±0°.05×129°.42E±0°.06, h139km, n30, σ1s82/26, mb3.6/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	2.02	112	P		Pn	21 50 49.8	+6.9
SAUI				S		Sn	21 51 18.2	+8.7
BNDI	Bandanaira	2.72	10	P		Pn	21 50 55.4	+3.8
TLE	Tual	3.65	65	P		Pn	21 51 08.8	+5.1
TLE	Tual	3.65	65	P		Pn	21 51 09.0	+5.3
	baz=3.7,SNR=29							
TLE				S		Sn	21 51 45.5	-1.1
	baz=3.7,SNR=5.2							
AAI	Ambon	3.71	341	P		Pn	21 51 06.5	+2.1
AAI				S		Sn	21 51 46.5	-1.5
AAI	Ambon	3.71	341	P		Pn	21 51 06.9	+2.5
	baz=3.9,SNR=4.4							
FAKI	Fak Fak	5.12	34	P		Pn	21 51 22.8	-0.3
FAKI	Fak Fak	5.12	34	P		Pn	21 51 22.8	-0.3
	baz=5.3,SNR=31							
FAKI				S		Sn	21 52 18.2	-3.2
	baz=5.3,SNR=22							
SOEI	Soe	5.68	243	P		Pn	21 51 31.9	+1.2
	35nm,0.6s,0.3nm							
SOEI	Soe	5.68	243	P		Pn	21 51 32.0	+1.3
	baz=5.6,SNR=17							
SOEI				S		Sn	21 52 35.8	+0.7
	baz=5.6,SNR=4.6							
MTN	Manton Dam	5.84	163	P		Pn	21 51 35.7	+3.0
	baz=5.7,SNR=76							
MTN				S		Sn	21 52 39.6	+0.9
	baz=5.7,SNR=13							
KDU	Kakadu	6.21	151	P		Pn	21 51 40.6	+2.9
	baz=6.1,SNR=76							
KDU				S		Sn	21 52 48.8	+1.1
	baz=6.1,SNR=5.6							
SWI	Sorong	6.57	16	P		Pn	21 51 41.9	-0.6
SWI	Sorong	6.57	16	P		Pn	21 51 42.1	-0.4
	baz=6.8,SNR=5.5							
SWI				S		Sn	21 52 50.0	-6.4
	baz=6.8,SNR=6.1							
LBMI	Labuha	6.81	344	P		Pn	21 51 47.1	+1.4
	66nm,0.7s,0.2nm							
RKPI	Ransiki, Papua	7.39	40	P		Pn	21 51 55.1	+1.6
KNRA	Kununurra	8.43	184	P		Pn	21 52 08.1	+0.7
	baz=8.3,SNR=80							
KNRA				S		Sn	21 53 37.9	-3.2
	baz=8.3,SNR=16							
LUWI	Luwuk	9.03	313	P		Pn	21 52 26.4	+11
	baz=9.2,SNR=4.5							
FITZ	Fitzroy Crossi	11.43	198	Pn		Pn	21 52 45.6	-1.8
	2.7nm,0.3s,baz=35,slow=11,SNR=61							
FITZ				Sn		Sn	21 54 46.3	-7.3
	2.4nm,0.3s,baz=88,slow=18,SNR=6.1							
FITZ	Fitzroy Crossi	11.43	198	P		Pn	21 52 45.8	-1.6
	baz=11,SNR=52							
JAY	Jayapura	12.18	68	P		P	21 53 12.1	+8.1
	baz=12,SNR=5.4							
WRA	Warramunga Arr	13.52	160	Pn		Pn	21 53 12.7	-1.9
	1.0nm,0.3s,baz=342,slow=12,SNR=46							
WRA				Sn		Sn	21 55 38.5	-5.6
	2.7nm,0.3s,baz=340,slow=16,SNR=6.5							
COEN	Coen	15.09	117	P		P	21 53 37.6	+1.4
	baz=15,SNR=7.8							
ASAR	Alice Springs	16.91	166	P		Pn	21 53 57.4	+0.7
	3.9nm,0.3s,baz=342,slow=9.9,SNR=228							
ASAR				S		S	21 57 02.7	-3.0
	0.7nm,0.3s,baz=341,slow=26,SNR=6.2							
MTSU	Mount Surprise	18.12	128	P		P	21 54 11.2	+1.5
	baz=18,SNR=4.8							
RABL	Rabaul	22.83	84	P		P	21 55 05.7	+6.1
	baz=23,SNR=11							
ARPS	Mount Arapiles	31.52	161	P		P	21 56 17.0	-0.1
	baz=32,SNR=6.2							
MKAR	Makanchi Array	68.09	327	P		P	22 00 48.5	-4.5
	0.8nm,0.5s,baz=119,slow=7.5,SNR=21							
ZALV	Zalesovo Beam	71.52	334	P		P	22 01 08.5	-5.2
	0.4nm,0.4s,baz=157,slow=7.7,SNR=3.2							
KURBB	Kurchatov Arra	72.39	329	P		P	22 01 14.3	-4.7
	0.5nm,0.4s,baz=128,slow=4.7,SNR=6.9							

MEX 10 22:13:26.6±0.6, 16°.65N×99°.73W, h10km±6km, MD4.1, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CAIG	El Cayaco	0.65	308	eP		Pg	22 13 37.8	-1.4
CAIG				eS		Sg	22 13 46.3	-1.4
PNIG	Pinotepa	1.56	99	eP		Pn	22 13 50.8	-3.7
PNIG				i	S	Sn	22 14 10.2	-4.7
ARIG	Puente Sto Nin	1.72	340	eP		Pn	22 13 53.5	-3.3
ARIG				i	S	Sn	22 14 14.1	-4.7
PLIG	Platanillo	1.75	7	eP		Pn	22 13 53.3	-3.9
PLIG				i	S	Sn	22 14 14.3	-5.3
ZIIG	Zihuatanejo	1.91	300	i	P	Pn	22 13 54.9	-4.3
ZIIG				i	S	Sn	22 14 18.8	-4.5
PPM	Popocatepetl	2.62	24	eP		Pn	22 14 07.2	-2.5
PPM				i	S	Sn	22 14 38.3	-3.8
VHO	Vista Hermosa	2.90	81	i	P	Pn	22 14 10.7	-2.5
VHO				i	S	Sn	22 14 44.8	-3.6
MOIG	Morelia	3.31	336	i	P	Pn	22 14 16.5	-2.4
MOIG				i	S	Sn	22 14 55.5	-3.1
MMIG	Aquila	3.81	296	i	P	Pn	22 14 22.9	-2.5
MMIG				i	S	Sn	22 15 07.5	-2.9

GUC 10 22:34:00.1±0.7, 31°.29S×71°.73W, h21km±4km, MD3.8, ML3.7, 4C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMCH	Combarbala	0.64	80	⇑i	P	Pb	22 34 12.4	-0.3
CMCH				i	S	Sb	22 34 21.1	-0.2
CMCH				AML		AML	22 34 22.4	
	comp=N,10μm,0.4s							
PACH	Papudo	1.27	169	⇑i	P	Pn	22 34 22.0	-0.6
PACH				i	S	Sn	22 34 38.7	-0.4
TLL	Tololo Astrono	1.38	36	i	P	Pn	22 34 24.4	0.0
TLL				i	S	Sb	22 34 42.6	-0.3
TLL				AML		AML	22 34 44.6	
	comp=E,1μm,0.3s							
JACH	Jahuel	1.69	145	eP		Pn	22 34 29.2	+0.7
JACH				i	S	Sb	22 34 51.2	-0.4
ROCH	El Roble	1.78	160	⇑i	P	Pn	22 34 29.7	-0.3
ROCH				i	S	Sn	22 34 52.8	+0.6
PEL	Peldehue	2.05	155	AML		AML	22 35 10.5	
	comp=E,1μm,0.5s							
CLCH	Cerro Calan	2.33	155	⇑i	P	Pn	22 34 38.7	+1.4
CLCH				i	S	Sb	22 35 07.7	-2.3
CLCH				AML		AML	22 35 17.2	
	comp=E,896nm,0.5s							

*IDC **10** 22:57:33.8±0.8, 81°.71N×120°.09E, h0km, mb3.9/11, mb1 4.1/12, mb1mx3.9/27, mbtmp3.9/12, ML3.8/1, MS3.4/14, Ms1 3.4/14, ms1mx3.2/36, Error ellipse: s-maj=24.0km s-min=17.3km az=163.0*
*ISCJB **10** 22:57:34.4±0.5, 81°.84N±0°.07×119°.6E±0°.5, h10km, mb3.9/17, MS3.3/16, Error ellipse: s-maj=11.1km s-min=8.8km az=28.4*
*MOS **10** 22:57:34.4±1.1, 81°.80N×119°.51E, h11km, mb4.1/16, Error ellipse: s-maj=69.5km s-min=11.5km az=91.0*

ISC 10 22:57:35.8±0.7, 81°.89N±0°.09×119°.40E±0°.09, h10km, n32, σ1s46/26, mb3.9/17, MS3.4/16, East of Severnaya Zemlya

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TIXI	Tiksi	10.49	163	eP		Pn	23 00 06.9	+0.9
TIXI				pmax		pmax		
	comp=Z,2.0nm,1.3s							
SPITS	Spitsbergen Ar	15.85	313	Pn		Pn	23 01 18.6	0.0
	baz=48,slow=12,SNR=7.1							
SPITS				Sn		Sn	23 04 10.0	-3.9
	baz=48,slow=24,SNR=2.6							
YAK	Yakutsk	20.14	166	eP		Pn	23 02 11.5	+0.1
YAK				pmax		pmax		
	comp=Z,24nm,1.1s							
SEY	Seymchan	20.82	136	eP		Pn	23 02 18.6	-0.7
ARCES	ARCESS Array B	22.60	294	P		P	23 02 36.3	+0.3
	comp=Z,3.5nm,0.7s,baz=27,slow=11,SNR=11							
ARCES				LR		LR	23 12 00.2	
	comp=Z,53nm,19.1s,baz=212,slow=38							
RES	Resolute Bay	22.62	23	LR		LR	23 10 42.9	
	comp=Z,74nm,18.9s,baz=36,slow=35							
JMIC	Jan Mayen	24.96	322	LR		LR	23 12 32.1	
	comp=Z,31nm,18.1s,baz=83,slow=36							
INK	Inuvik	25.39	56	LR		LR	23 12 06.4	
	comp=Z,68nm,20.4s,baz=356,slow=34							
COLA	College	26.85	71	eP		P	23 03 16.6	+0.7
COLA				pmax		pmax		
	comp=Z,12nm,0.8s							
ILAR	Eielson Array	27.08	70	P		P	23 03 18.2	+0.3
	comp=Z,1.2nm,0.7s,baz=338,slow=10,SNR=9.3							
ILAR				LR		LR	23 14 20.6	
	comp=Z,86nm,19.5s,baz=3.7,slow=37							
ZALV	Zalesovo Beam	29.82	222	LR		LR	23 16 16.2	
	comp=Z,95nm,21.5s,baz=69,slow=38							
FINES	FINESS Array B	30.21	288	LR		LR	23 18 58.6	
	comp=Z,60nm,19.5s,baz=234,slow=42							
ARU	Arti	30.51	253	eP		P	23 03 49.1	+0.6
ARU				pmax		pmax		
	comp=Z,2.0nm,1.1s							
BRVK	Borovoye	32.29	239	i P		P	23 04 04.8	+0.6
BRVK				pmax		pmax		
	comp=Z,2.0nm,0.9s							
NOA	NORSAR Array B	32.53	301	P		P	23 04 07.2	+0.9
	comp=Z,0.5nm,0.6s,baz=14,slow=8.9,SNR=3.7							
NOA				LR		LR	23 19 09.3	
	comp=Z,22nm,18.1s,baz=10.0,slow=40							
SONM	Songino Array	34.44	196	P		P	23 04 21.5	-1.7
	comp=Z,1.0nm,0.8s,baz=10,slow=7.0,SNR=5.8							
SONM				PcP		PcP	23 06 56.7	-1.5
	comp=Z,0.7nm,0.8s,baz=250,slow=3.0,SNR=3.7							
OBN	Obninsk	34.88	275	eP		P	23 04 27.3	+0.6
OBN				e			23 06 58.6	
OBN				pmax		pmax		
	comp=Z,6.0nm,1.6s							
OBN				MLR		MLR		
	comp=Z,100nm,20.0s							
MKAR	Makanchi Array	37.15	223	P		P	23 04 44.4	-1.9
MKAR							23 07 04.1	
MKAR				pmax		pmax		
	comp=Z,1.0nm,0.8s							
MKAR				pmax		pmax		
	comp=Z,1.0nm,0.8s							
MKAR				MLR		MLR		
	comp=Z,57nm,19.4s							
MKAR	Makanchi Array	37.15	223	P	

*MOS **10** 23:31:24.1±1.1,29°.61S×111°.53W,h10km,mb5.4/46, Error ellipse: s-maj=17.3km s-min=7.1km az=85.1*
*BJI **10** 23:31:24.2,29°.90S×112°.00W,h10km,mB5.4/14, Ms5.5/11,Ms7 5.2/13*
*GCMT **10** 23:31:30.9±0.1,30°.12S×111°.83W,h12km,MW5.3 Best double couple: NP1:φs289.00000°,δ59.00000°, λ88.00000°. NP2:φs113.00000°,δ31.00000°,λ93.00000°. Principal axes: T 1.1300, Plg76.0000°, Azm194.0000°; N 0.1800, Plg2.0000°, Azm290.0000°; P -1.3100, Plg14.0000°, Azm20.0000°; Data Used: II IU IC G CN.*
ISC 10 23:31:23.8±0.2,30°.01S±0°.07×111°.83W±0°.06,h10km, n883,σ1¶00/914,mb5.3/176,MS4.8/31,215C-212D,Easter Island region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RKT	**Rikitea** 3μm,28.0s	**21.79**	**283**		*e*LQ		LQ	23 40 24.8	
RKT	573nm,32.2s				*e*LR		LR	23 41 20.4	
TBI	**Tubuai** 2μm,27.2s	**34.16**	**272**		*e*LQ		LQ	23 45 53.1	
TBI	711nm,27.2s				*e*LR		LR	23 47 03.7	
PLCA	**Paso Flores** 61nm,1.5s	**35.03**	**119**		*e*P		**P**	**23 38 17.0**	**+0.2**
PLCA	**Paso Flores** 18nm,1.2s,baz=271,slow=10,SNR=11	**35.03**	**119**	P			**P**	**23 38 19.1**	**+2.3**
PLCA	4.7nm,1.1s,baz=302,slow=3.9,SNR=3.5				PcP		**PcP**	**23 40 48.4**	**-0.4**
PPT2	**Papeete2** 108nm,27.2s	**36.52**	**281**		*e*S		**S**	**23 44 18.0**	**+5.8**
PPT2	794nm,26.2s				*e*LQ		LQ	23 46 53.1	
PPT2	691nm,28.0s				*e*LR		LR	23 48 18.2	
PPT	**Papeete** comp=Z,223nm,21.3s,baz=302,slow=28	**36.53**	**281**	LR			LR	23 48 34.6	
CFAA	**Coronel Fontan**	**37.29**	**104**		*e*P		**P**	**23 38 37.3**	**+1.1**
CFAA					*e*PcP		**PcP**	**23 40 54.9**	**-0.7**
CFAA	**Coronel Fontan** 3.2nm,1.2s,baz=264,slow=7.4,SNR=18	**37.29**	**104**	P			**P**	**23 38 37.3**	**+1.1**
CFAA	0.1nm,0.4s,baz=317,slow=5.3,SNR=3.8				PcP		**PcP**	**23 40 54.9**	**-0.7**
LVC	**Limon Verde** 60nm,1.5s	**38.99**	**90**		*e*P		**P**	**23 38 52.2**	**+1.3**
USHA	**Ushuaia**	**39.60**	**141**		*e*SS		SKiKP	23 51 58.1	+12
USHA	**Ushuaia** comp=Z,916nm,18.7s,baz=34,slow=31	**39.60**	**141**	LR			LR	23 51 58.1	
TRQA	**Tornquist** 88nm,1.8s	**41.67**	**115**		*e*P		**P**	**23 39 11.7**	**-0.9**
LPAZ	**La Paz** 59nm,1.7s	**42.19**	**81**		*e*P		**P**	**23 39 19.1**	**+1.4**
LPAZ					*e*PcP		**PcP**	**23 41 12.4**	**+0.4**
LPAZ	**La Paz** 8.7nm,1.1s,baz=251,slow=7.4,SNR=13	**42.19**	**81**	P			**P**	**23 39 18.5**	**+0.8**
LPAZ	3.1nm,0.8s,baz=223,slow=2.3,SNR=3.7				PcP		**PcP**	**23 41 12.4**	**+0.4**
LPAZ	comp=Z,391nm,19.3s,baz=242,slow=31				LR		LR	23 53 07.0	
OTAV	**Otavalo** 29nm,1.5s	**43.76**	**53**		*e*P		**P**	**23 39 31.2**	**+0.9**
RAR	**Rarotonga** comp=Z,452nm,20.6s,baz=91,slow=28	**43.85**	**270**	LR			LR	23 52 09.3	
JTS	**JuntasAbangare** 223nm,1.8s	**47.69**	**37**		*e*P		**P**	**23 40 01.2**	**+0.4**
CPUP	**Villa Florida**	**47.81**	**100**		*e*P		**P**	**23 40 01.1**	**-0.6**
CPUP	**Villa Florida** 1.9nm,0.7s,baz=232,slow=14,SNR=4.2	**47.81**	**100**	P			**P**	**23 40 02.0**	**+0.3**
CPUP	comp=Z,190nm,21.4s,baz=63,slow=31				LR		LR	23 56 19.4	
CMIG	**Matias Romero** comp=Z,768nm,19.9s,baz=135,slow=30	**49.59**	**21**	LR			LR	23 56 28.0	
ROSC	**El Rosal**	**49.92**	**52**		*e*P		**P**	**23 40 17.7**	**-0.7**
ROSC	**El Rosal** comp=Z,943nm,19.4s,baz=193,slow=32	**49.92**	**52**	LR			LR	23 57 47.2	
SAML	**Samuel** 74nm,2.1s	**49.98**	**76**		*e*P		**P**	**23 40 17.9**	**-0.5**
LPIG	**La Paz** comp=Z,2μm,19.9s,baz=194,slow=30	**53.82**	**2**	LR			LR	23 58 25.0	
XMAS	**Kiritimati** 318nm,1.8s	**53.94**	**298**		*e*P		**P**	**23 40 46.5**	**-1.5**
TEIG	**Tepich** 68nm,1.8s	**54.85**	**27**		*e*P		**P**	**23 40 54.0**	**-0.4**
TEIG					*e*PcP		**PcP**	**23 41 57.1**	**+0.5**
TEIG	**Tepich** comp=Z,1μm,19.5s,baz=183,slow=31	**54.85**	**27**	LR			LR	23 59 41.3	
SDV	**Santo Domingo** 57nm,2.0s	**55.35**	**52**		*e*P		**P**	**23 40 57.0**	**-1.4**
BFZ	**Birch Farm** 130nm,1.8s	**58.14**	**238**		*e*P		**P**	**23 41 17.1**	**-0.7**
BKZ	**Black Stump Fm** 50nm,1.5s	**58.33**	**240**		*e*P		**P**	**23 41 18.7**	**-0.5**
SBA	**Scott Base**	**59.09**	**194**		*e*P		**P**	**23 41 25.2**	**+1.5**
SBA	comp=Z,58nm,1.5s				pmax		pmax		
SBA	**Scott Base** comp=Z,58nm,1.5s	**59.09**	**194**		*e*P		**P**	**23 41 25.2**	**+1.5**
732A	**Laxson Ranch,** baz=60	**59.50**	**12**		⇓P		**P**	**23 41 28.4**	**+1.3**
LTX	**Lajitas**	**59.52**	**8**		*e*P		**P**	**23 41 28.1**	**+0.7**
LTX	**Lajitas**	**59.52**	**8**		*e*P		**P**	**23 41 28.1**	**+0.7**
TX31	**Lajitas Ar. Si**	**59.52**	**8**		*e*P		**P**	**23 41 27.2**	**-0.3**
TXAR	**Lajitas Array** comp=Z,9.7nm,1.2s,baz=187,slow=8.8,SNR=24	**59.52**	**8**	P			**P**	**23 41 28.1**	**+0.7**
TXAR	comp=Z,526nm,20.3s,baz=300,slow=31				LR		LR	00 02 18.8	
627A	**Terlingua Ranc** baz=60,SNR=37	**59.68**	**9**		⇓P		**P**	**23 41 29.3**	**+0.8**
626A	**Big Bend Ranch** baz=60,SNR=21	**59.69**	**8**		⇑P		**P**	**23 41 29.3**	**+0.8**
628A	**Black Gap, Mar** baz=60,SNR=19	**59.77**	**9**		⇓P		**P**	**23 41 29.8**	**+0.7**
BDFB	**Brasilia**	**59.86**	**91**		*e*P		**P**	**23 41 29.9**	**-0.3**
BDFB	**Brasilia** comp=Z,5.5nm,0.9s,baz=240,slow=11,SNR=4.9	**59.86**	**91**	P			**P**	**23 41 32.5**	**+2.4**
631A	**Perdido Creek** baz=60	**60.06**	**11**		⇑P		**P**	**23 41 31.2**	**+0.2**
VNDA	**Vanda** comp=Z,45nm,2.0s	**60.14**	**194**		*e*P		**P**	**23 41 30.6**	**-0.5**
VNDA	**Vanda** comp=Z,4.4nm,1.0s,baz=68,slow=4.2,SNR=9.9	**60.14**	**194**	P			**P**	**23 41 33.4**	**+2.3**
VNDA	comp=Z,2μm,18.7s,baz=70,slow=30				LR		LR	00 02 00.7	
QSPA	**South Pole Qui** comp=Z,289nm,2.6s	**60.17**	**180**		*e*P		**P**	**23 41 31.0**	**-0.6**
526A	**Mary Lane Ranc** baz=60,SNR=18	**60.19**	**8**		⇓P		**P**	**23 41 32.5**	**+0.5**
632A	**Uvalde** baz=61,SNR=22	**60.29**	**12**		⇓P		**P**	**23 41 32.9**	**+0.3**
527A	**Woodward Ranch** baz=61,SNR=38	**60.33**	**8**		⇓P		**P**	**23 41 33.6**	**+0.6**
528A	**Cox Ranch, San** baz=61,SNR=16	**60.45**	**9**		⇓P		**P**	**23 41 33.8**	**0.0**
529A	**Stev Forest Ra** baz=61,SNR=46	**60.50**	**10**		⇑P		**P**	**23 41 34.5**	**+0.4**
530A	**J-C Ranch, Com** baz=61,SNR=38	**60.65**	**10**		⇓P		**P**	**23 41 35.5**	**+0.4**
426A	**McDonald Obser** baz=61,SNR=20	**60.80**	**8**		⇑P		**P**	**23 41 36.4**	**+0.1**
531A	**Rocksprings** baz=61,SNR=26	**60.80**	**11**		⇑P		**P**	**23 41 36.4**	**+0.3**
425A	**Indio Mountain** baz=61,SNR=27	**60.81**	**7**		⇓P		**P**	**23 41 36.6**	**+0.4**
532A	**Rocksprings** baz=61,SNR=31	**60.87**	**12**		⇓P		**P**	**23 41 37.6**	**+1.0**
GTBY	**Guantanamo Bay** comp=Z,43nm,1.3s	**60.95**	**40**		*e*P		**P**	**23 41 36.8**	**-0.5**
428A	**Kincaid Ranch,** baz=61,SNR=21	**61.02**	**9**		⇓P		**P**	**23 41 38.6**	**+0.9**
429A	**Davenport Ranc** baz=61,SNR=16	**61.04**	**10**		⇓P		**P**	**23 41 37.9**	**+0.2**
427A	**Hayter Ranch,** baz=61,SNR=26	**61.05**	**8**		⇓P		**P**	**23 41 37.8**	**-0.1**
320A	**Kipp Ranch, An** baz=61,SNR=14	**61.09**	**3**		⇑P		**P**	**23 41 39.2**	**+1.0**
319A	**Douglas** baz=61,SNR=10	**61.10**	**2**		⇑P		**P**	**23 41 38.1**	**-0.1**
RPZ	**Rata Peaks** comp=Z,101nm,1.7s	**61.12**	**234**		*e*P		**P**	**23 41 38.1**	**-0.2**
JCT	**Junction City**	**61.23**	**12**		*e*P		**P**	**23 41 39.1**	**+0.1**
JCT	comp=Z,79nm,1.3s				pmax		pmax		
JCT	**Junction City** comp=Z,79nm,1.3s	**61.23**	**12**		*e*P		**P**	**23 41 39.1**	**+0.1**
JCT	**Junction City** baz=62,SNR=18	**61.23**	**12**		⇓P		**P**	**23 41 39.5**	**+0.4**
431A	**Sonora** baz=62,SNR=40	**61.29**	**11**		⇓P		**P**	**23 41 39.4**	**-0.1**
430A	**Baggett Ranch,** baz=62,SNR=9.2	**61.30**	**10**		⇓P		**P**	**23 41 39.6**	**+0.2**
325A	**Bean Ranch, Si** baz=62,SNR=29	**61.39**	**7**		⇓P		**P**	**23 41 39.8**	**-0.4**
324A	**Moseley Ranch,** baz=62,SNR=38	**61.41**	**6**		⇓P		**P**	**23 41 40.2**	**-0.1**
326A	**Caldwell Ranch** baz=62	**61.44**	**8**		⇓P		**P**	**23 41 40.2**	**-0.3**
HKT	**Hockley**	**61.54**	**16**		*e*P		**P**	**23 41 41.6**	**+0.6**
HKT	comp=Z,80nm,1.6s				pmax		pmax		
HKT	**Hockley** comp=Z,80nm,1.6s	**61.54**	**16**		*e*P		**P**	**23 41 41.6**	**+0.6**
327A	**Balmorhea Ranc** baz=62	**61.55**	**8**		⇑P		**P**	**23 41 40.8**	**-0.4**
432A	**Menard** baz=62,SNR=10	**61.62**	**12**		⇓P		**P**	**23 41 41.3**	**-0.3**
214A	**Organ Pipe Nat** baz=62,SNR=8.8	**61.63**	**359**		⇑P		**P**	**23 41 41.9**	**+0.2**
328A	**Wristen Ranch,** baz=62,SNR=19	**61.65**	**9**		⇑P		**P**	**23 41 42.1**	**+0.2**
220A	**Playas Peak, P** baz=62,SNR=17	**61.65**	**3**		⇑P		**P**	**23 41 42.6**	**+0.7**
OUZ	**Omahta** comp=Z,268nm,2.0s	**61.67**	**244**		*e*P		**P**	**23 41 41.8**	**-0.3**
MNTX	**Cornudas Mount** comp=Z,18nm,1.1s	**61.67**	**6**		*e*P		**P**	**23 41 41.8**	**-0.2**
221A	**Mesquite Ranch** baz=62,SNR=5.9	**61.80**	**4**		⇑P		**P**	**23 41 43.7**	**+0.8**
329A	**Wagon Wheel Ra** baz=62,SNR=20	**61.87**	**10**		⇑P		**P**	**23 41 43.4**	**+0.1**
223A	**Chaparral, Ant** baz=62	**61.89**	**5**		⇓P		**P**	**23 41 43.6**	**+0.1**
330A	**Mertzon** baz=62,SNR=22	**61.91**	**10**		⇓P		**P**	**23 41 43.3**	**-0.3**
331A	**San Angelo** baz=62,SNR=9.2	**61.94**	**11**		⇑P		**P**	**23 41 43.7**	**0.0**
222A	**Williams Famil** baz=62	**61.94**	**5**		⇑P		**P**	**23 41 44.4**	**+0.6**
TUC	**Tucson**	**61.99**	**1**		*e*P		**P**	**23 41 44.4**	**+0.3**
TUC	comp=Z,12nm,1.0s				pmax		pmax		
TUC	**Tucson** comp=Z,12nm,1.0s	**61.99**	**1**		*e*P		**P**	**23 41 44.4**	**+0.3**
224A	**Cornudas Mount** baz=62,SNR=52	**62.03**	**6**		⇑P		**P**	**23 41 44.3**	**-0.2**
332A	**Millersview** baz=62,SNR=15	**62.13**	**12**		⇑P		**P**	**23 41 44.7**	**-0.3**
225A	**Deer Hill, Car** baz=62	**62.14**	**7**		⇑P		**P**	**23 41 44.6**	**-0.6**
226B	**Tecolote Peak,** baz=62,SNR=18	**62.17**	**7**		⇓P		**P**	**23 41 45.4**	**0.0**
227A	**Bennet, Jal** baz=62	**62.21**	**8**		⇓P		**P**	**23 41 45.2**	**-0.4**
GDL2	**Guadalupe Moun**	**62.27**	**7**		*e*P		**P**	**23 41 45.1**	**-1.0**
120A	**U Bar Ranch, L** baz=62,SNR=9.0	**62.29**	**3**		⇑P		**P**	**23 41 46.9**	**+0.7**
121A	**Cookes Peak, D** baz=63,SNR=11	**62.32**	**4**		⇓P		**P**	**23 41 47.5**	**+1.0**
229A	**Bryant Ranch,** baz=63	**62.37**	**10**		⇓P		**P**	**23 41 46.8**	**+0.1**
CLNB	**Carlsbad**	**62.39**	**8**		*e*P		**P**	**23 41 45.7**	**-1.2**
230A	**Sterling City** baz=63,SNR=6.8	**62.39**	**10**		⇓P		**P**	**23 41 46.6**	**-0.3**
228A	**UT Block 9, Go** baz=63,SNR=8.4	**62.41**	**9**		⇓P		**P**	**23 41 46.7**	**-0.3**
SDDR	**Presa de Saban** comp=Z,65nm,1.8s	**62.43**	**44**		*e*P		**P**	**23 41 46.9**	**-0.4**
DVTC	**Desert V Tower** baz=63	**62.46**	**356**		⇑P		**P**	**23 41 47.2**	**-0.1**
113A	**Mohawk Valley,** baz=63,SNR=13	**62.46**	**358**		⇓P		**P**	**23 41 47.8**	**+0.7**
BAR	**Barrett** comp=Z,38nm,1.5s	**62.52**	**355**		*e*P		**P**	**23 41 48.7**	**+1.1**
123A	**Bell Site, Whi** baz=63	**62.53**	**5**		⇓P		**P**	**23 41 48.0**	**+0.2**
122A	**Conniff Cattle** baz=63	**62.53**	**5**		⇓P		**P**	**23 41 48.2**	**+0.3**
231A	**Bronte** baz=63	**62.57**	**11**		⇑P		**P**	**23 41 47.7**	**-0.3**
232A	**Coleman** baz=63,SNR=19	**62.64**	**12**		⇑P		**P**	**23 41 48.3**	**-0.2**
124A	**Stringfield Ra** baz=63,SNR=25	**62.66**	**6**		⇑P		**P**	**23 41 49.2**	**+0.4**
125A	**Gardner Draw,** baz=63,SNR=48	**62.70**	**7**		⇓P		**P**	**23 41 49.1**	**+0.2**
MONP	**Monument Peak** baz=63	**62.71**	**356**		⇓P		**P**	**23 41 48.6**	**-0.5**
SWSC	**Sam W. Stewart** baz=63	**62.72**	**356**		⇑P		**P**	**23 41 48.9**	**0.0**
126A	**Clayton Basin,** baz=63,SNR=9.9	**62.75**	**7**		⇓P		**P**	**23 41 49.6**	**+0.3**
109C	**Camp Elliot, M** baz=63	**62.76**	**355**		⇑P		**P**	**23 41 49.2**	**0.0**
GLA	**Glamis**	**62.78**	**357**		*e*P		**P**	**23 41 50.4**	**+1.0**
GLA	comp=Z,54nm,1.8s				pmax		pmax		
GLA	**Glamis** comp=Z,54nm,1.8s	**62.78**	**357**		*e*P		**P**	**23 41 50.4**	**+1.0**
GLA	**Glamis** baz=63	**62.78**	**357**		⇓P		**P**	**23 41 49.5**	**+0.1**
127A	**Arkansas Junct** baz=63,SNR=5.7	**62.86**	**8**		⇓P		**P**	**23 41 49.7**	**-0.3**
128A	**Castleberry Fa** baz=63,SNR=20	**62.92**	**9**		⇓P		**P**	**23 41 50.6**	**+0.2**
SCI	**San Clemente I** baz=63	**62.97**	**354**		⇑P		**P**	**23 41 50.7**	**+0.2**
129A	**Stewart Farms,** baz=63,SNR=11	**63.01**	**9**		⇓P		**P**	**23 41 50.8**	**-0.2**
Z14A	**Wintersburg** baz=63	**63.04**	**359**		⇓P		**P**	**23 41 50.8**	**-0.2**
Z22A	**Elephant Butte** baz=63,SNR=14	**63.09**	**5**		⇑P		**P**	**23 41 52.1**	**+0.6**
Z21A	**St. Cloud Mine** baz=63,SNR=32	**63.10**	**4**		⇑P		**P**	**23 41 52.3**	**+0.6**
130A	**Snyder** baz=63,SNR=5.9	**63.11**	**10**		⇓P		**P**	**23 41 51.6**	**0.0**
Z23A	**Rita Site, Whi** baz=63,SNR=9.6	**63.15**	**5**		⇑P		**P**	**23 41 52.6**	**+0.7**
WHTX	**Lake Whitney**	**63.15**	**14**		*e*P		**P**	**23 41 51.5**	**-0.3**
WHTX	**Lake Whitney** baz=63,SNR=7.3	**63.15**	**14**		⇓P		**P**	**23 41 51.6**	**-0.3**
131A	**Roby** baz=64,SNR=11	**63.28**	**11**		⇓P		**P**	**23 41 52.6**	**-0.1**
Z24A	**Sheeppen Canyo** baz=64,SNR=11	**63.29**	**6**		⇑P		**P**	**23 41 53.2**	**+0.2**
Z25A	**Roswell** baz=64,SNR=18	**63.30**	**7**		⇓P		**P**	**23 41 52.9**	**0.0**
ABTX	**Abilene, Hawle**	**63.35**	**11**		*e*P		**P**	**23 41 52.5**	**-0.7**
ABTX	**Abilene, Hawle** baz=64,SNR=15	**63.35**	**11**		⇑P		**P**	**23 41 52.9**	**-0.2**
Z26A	**Caprock** baz=64,SNR=25	**63.38**	**7**		⇑P		**P**	**23 41 52.6**	**-0.8**
CIS	**Catalina Islan** baz=64	**63.38**	**354**		⇓P		**P**	**23 41 53.9**	**+0.6**
BC3	**Big Chuckawall** baz=64,SNR=13	**63.41**	**357**		⇑P		**P**	**23 41 54.3**	**+0.6**
PFO	**Pinyon Flat Ob** comp=Z,12nm,1.2s	**63.43**	**356**		*e*P		**P**	**23 41 53.8**	**0.0**
PFO	**Pinyon Flat Ob** comp=Z,669nm,18.7s,baz=178,slow=30	**63.43**	**356**	LR			LR	00 03 05.4	
PFO	**Pinyon Flat Ob** baz=64	**63.43**	**356**		⇓P		**P**	**23 41 53.8**	**0.0**
Y12C	**Blythe** baz=64	**63.47**	**357**		⇓P		**P**	**23 41 54.0**	**+0.2**
MURC	**Murrieta** baz=64	**63.47**	**355**		⇑P		**P**	**23 41 54.0**	**+0.1**
Z27A	**Tatum** baz=64,SNR=27	**63.51**	**8**		⇓P		**P**	**23 41 54.2**	**0.0**
NATX	**Nacogdoches** comp=Z,494nm,2.3s	**63.56**	**16**		*e*P		**P**	**23 41 53.7**	**-0.8**
Z28A	**Tucker Farm, M** baz=64	**63.59**	**9**		⇓P		**P**	**23 41 54.8**	**0.0**
Y14A	**Wickenburg** baz=64,SNR=7.5	**63.61**	**359**		⇓P		**P**	**23 41 55.5**	**+0.6**
Z29A	**Hungry Hill Ra** baz=64,SNR=5.2	**63.65**	**9**		⇑P		**P**	**23 41 55.3**	**+0.1**
Y20A	**Horse Springs,** baz=64,SNR=24	**63.66**	**3**		⇑P		**P**	**23 41 56.3**	**+0.8**
FMP	**Fort Macarthur** baz=64	**63.67**	**354**		⇑P		**P**	**23 41 55.6**	**+0.4**
Z30A	**Sanderson Ranc** baz=64,SNR=13	**63.76**	**10**		⇓P		**P**	**23 41 55.8**	**-0.1**
Y22A	**Socorro** baz=64,SNR=20	**63.77**	**5**		⇑P		**P**	**23 41 56.4**	**+0.3**
BELC	**Belle Mtn. Jos** baz=64,SNR=10	**63.79**	**356**		⇓P		**P**	**23 41 57.5**	**+1.4**
Y21A	**Point of Rocks** baz=64,SNR=18	**63.79**	**4**		⇓P		**P**	**23 41 57.2**	**+0.8**
Y23A	**Lovelace Mesa,** baz=64,SNR=27	**63.83**	**5**		⇓P		**P**	**23 41 57.3**	**+0.8**
Y24A	**Capitan** baz=64,SNR=47	**63.88**	**6**		⇑P		**P**	**23 41 57.2**	**+0.4**
IRM	**Iron Mountain** baz=64,SNR=8.6	**63.90**	**357**		⇑P		**P**	**23 41 57.5**	**+0.7**
Y22D	**IRIS PASSCAL I** baz=64	**63.91**	**5**		⇓P		**P**	**23 41 56.9**	**0.0**
Y25A	**Mesa, Roswell** baz=64,SNR=30	**63.94**	**7**		⇓P		**P**	**23 41 57.3**	**+0.1**
Z31A	**Sharp Cattle R** baz=64,SNR=18	**63.95**	**11**		⇑P		**P**	**23 41 57.5**	**+0.4**
LENM	**Lemitar**	**63.99**	**4**		*e*P		**P**	**23 41 58.1**	**+0.5**
PDMCI	**Parker Dam,Lak** baz=64	**64.00**	**358**		⇑P		**P**	**23 41 56.7**	**-0.6**
BNM	**Barren Site**	**64.00**	**5**		*e*P		**P**	**23 41 58.1**	**+0.5**
Y26A	**Elida** baz=64,SNR=24	**64.04**	**7**		⇑P		**P**	**23 41 57.1**	**-0.7**
Z32A	**Haskell** baz=64,SNR=13	**64.05**	**11**		⇑P		**P**	**23 41 58.0**	**+0.3**
Y27A	**Causey** baz=64,SNR=32	**64.08**	**8**		⇓P		**P**	**23 41 57.5**	**-0.5**
X16A	**Lo Mia Camp, P** baz=64,SNR=9.6	**64.08**	**0**		⇓P		**P**	**23 41 58.7**	**+0.6**
BSC	**Santa Cruz Isl** baz=64	**64.08**	**353**		⇑P		**P**	**23 41 57.6**	**-0.4**
BBRC	**Big Bear Solar** baz=64	**64.11**	**355**		⇓P		**P**	**23 41 58.2**	**-0.1**
PASC	**Pasadena Art C**	**64.12**	**354**		*e*P		**P**	**23 41 55.7**	**-2.5**
BFSC	**Mount Baldy Ra** baz=64	**64.14**	**355**		⇑P		**P**	**23 41 58.8**	**+0.4**
BLG	**Laguna Peak** baz=64	**64.14**	**353**		⇑P		**P**	**23 41 58.7**	**+0.4**
LPM	**Los Pinos Moun**	**64.16**	**5**		*e*P		**P**	**23 41 56.8**	**-1.9**
MSTX	**Muleshoe** comp=Z,70nm,1.0s	**64.21**	**8**		*e*P		**P**	**23 41 58.7**	**-0.2**
MSTX	**Muleshoe** baz=64,SNR=27	**64.21**	**8**		⇑P		**P**	**23 41 58.4**	**-0.5**
DECC	**Green Verdugo** baz=64	**64.21**	**354**		⇓P		**P**	**23 41 58.9**	**+0.2**
Y28A	**McKinney Farm,** baz=64,SNR=15	**64.22**	**9**		⇑P		**P**	**23 41 58.8**	**-0.1**
X18A	**Snowflake** baz=64,SNR=12	**64.22**	**2**		⇓P		**P**	**23 41 60.0**	**+0.9**
LAZ	**Ladron**	**64.22**	**4**		*e*P		**P**	**23 41 59.8**	**+0.7**
X21A	**Alamocita Cree** baz=64,SNR=26	**64.22**	**4**		⇑P		**P**	**23 41 59.6**	**+0.5**
Y29A	**Porterfield Fa** baz=64	**64.25**	**9**		⇑P		**P**	**23 41 58.9**	**-0.3**
X20A	**Quemado** baz=64,SNR=12	**64.28**	**3**		⇑P		**P**	**23 41 59.9**	**+0.4**
CRPR	**Cabo Rojo, PR** comp=Z,109nm,1.5s	**64.30**	**48**		*e*P		**P**	**23 41 59.2**	**-0.5**
X22A	**Bernardo** baz=65,SNR=5.3	**64.33**	**4**		⇓P		**P**	**23 42 00.7**	**+0.9**
Y30A	**Stafford Cattl** baz=65	**64.38**	**10**		⇑P		**P**	**23 42 00.9**	**+1.0**
MSVF	**Nonsavu**	**64.42**	**264**		*e*P		**P**	**23 42 00.3**	**-0.4**
MSVF	comp=Z,117nm,1.6s				pmax		pmax		
MSVF	**Nonsavu** comp=Z,117nm,1.6s	**64.42**	**264**		*e*P		**P**	**23 42 00.3**	**-0.4**
X23A	**Hourglass Bar** baz=65,SNR=5.9	**64.46**	**5**		⇑P		**P**	**23 42 01.1**	**+0.4**
X24A	**Lazy VL Ranch,** baz=65	**64.51**	**6**		⇓P		**P**	**23 42 01.4**	**+0.4**
SBC	**Santa Barbara** baz=65	**64.53**	**353**		⇑P		**P**	**23 42 01.5**	**+0.7**
GMRC	**Granite Mounta** baz=65,SNR=6.3	**64.54**	**357**		⇓P		**P**	**23 42 02.3**	**+1.2**
X25A	**Clemmons Ranch** baz=65,SNR=8.1	**64.55**	**7**		⇑P		**P**	**23 42 01.2**	**+0.1**
Y31A	**Rekieta Farm,** baz=65,SNR=21	**64.56**	**11**		⇓P		**P**	**23 42 02.0**	**+0.9**
OSI	**Osito Adit** baz=65	**64.61**	**354**		⇓P		**P**	**23 42 02.8**	**+1.4**
HEC	**Hector,Ludlow** baz=65	**64.63**	**356**		⇓P		**P**	**23 42 02.9**	**+1.3**
X26A	**CR and CF Fran** baz=65,SNR=9.6	**64.66**	**7**		⇑P		**P**	**23 42 03.2**	**+1.3**
RRX	**Edison Barstow** baz=65	**64.73**	**355**		⇑P		**P**	**23 42 02.8**	**+0.6**
Y32A	**R-V Farms, Ver** baz=65	**64.74**	**11**		⇓P		**P**	**23 42 02.8**	**+0.6**
AOPR	**Arecibo Observ** comp=Z,30nm,1.1s	**64.78**	**48**		*e*P		**P**	**23 42 01.3**	**-1.5**
W13A	**Hualapai Mount** baz=65,SNR=6.5	**64.79**	**358**		⇓P		**P**	**23 42 03.5**	**+0.7**
EDW2	**Edwards Air Fo** baz=65	**64.80**	**354**		⇓P		**P**	**23 42 03.3**	**+0.6**
ANMO	**Albuquerque** comp=Z,60nm,2.1s	**64.81**	**5**		*e*P		**P**	**23 42 03.1**	**+0.2**
ANMO	**Albuquerque** comp=Z,889nm,18.6s,baz=180,slow=32	**64.81**	**5**	LR			LR	00 05 18.4	
W18A	**Petrified Fore** comp=Z,16nm,1.0s	**64.81**	**2**		*e*P		**P**	**23 42 01.7**	**-1.2**
W18A	**Petrified Fore** baz=65	**64.81**	**2**		⇓P		**P**	**23 42 03.3**	**+0.4**
X29A	**Tulia** baz=65	**64.82**	**9**		⇓P		**P**	**23 42 03.3**	**+0.5**
X28A	**Dimmitt** baz=65	**64.82**	**9**		⇑P		**P**	**23 42 03.1**	**+0.2**
X27A	**F and S Farms,** baz=65	**64.84**	**8**		⇑P		**P**	**23 42 03.2**	**+0.2**
W20A	**Ramah** baz=65,SNR=18	**64.86**	**3**		⇑P		**P**	**23 42 03.9**	**+0.6**
W21A	**San Fidel** baz=65	**64.90**	**4**		⇑P		**P**	**23 42 04.2**	**+0.6**
W22A	**Albuquerque** baz=65	**64.90**	**4**		⇓P		**P**	**23 42 04.3**	**+0.8**
X30A	**Coker Ranch, T** baz=65	**64.94**	**10**		⇑P		**P**	**23 42 04.4**	**+0.8**
PKM	**Peak Mountain** baz=65	**65.00**	**353**		⇑P		**P**	**23 42 05.4**	**+1.3**
SJG	**San Juan** comp=Z,73nm,1.9s	**65.00**	**49**		*e*P		**P**	**23 42 02.7**	**-1.5**
W23A	**Werner Place,** baz=65,SNR=14	**65.04**	**5**		⇑P		**P**	**23 42 04.7**	**+0.3**
BRAL	**Brewton** comp=Z,184nm,1.7s	**65.10**	**23**		*e*P		**P**	**23 42 07.7**	**+3.1**
CPD	**Cerro la Pandu**	**65.10**	**49**		*e*P		**P**	**23 42 03.7**	**-1.2**
CPD	comp=Z,40nm,1.4s				pmax		pmax		
CPD	**Cerro la Pandu** comp=Z,40nm,1.4s	**65.10**	**49**		*e*P		**P**	**23 42 03.7**	**-1.2**
VBMS	**Vicksburg** comp=Z,69nm,0.4s	**65.11**	**20**		*e*P		**P**	**23 42 05.2**	**+0.6**
ARVC	**Arvin** baz=65	**65.12**	**354**		⇓P		**P**	**23 42 06.1**	**+1.4**
GSC	**Goldstone**	**65.13**	**356**		*e*P		**P**	**23 42 05.6**	**+0.8**
GSC	comp

baz=66,SNR=6.5
WMOK Wichita Mounta 65.57 12 eP P 23 42 07.0 -0.6
WMOK pmax pmax
comp=Z,45nm,2.3s
WMOK Wichita Mounta 65.57 12 eP P 23 42 07.0 -0.6
comp=Z,45nm,2.3s
V21A Milan 65.58 4 ⇑P P 23 42 08.5 +0.5
baz=66
V23A Ortiz Mt. (NFS 65.62 5 ⇓P P 23 42 08.7 +0.5
baz=66
ISA Isabella 65.62 354 eP P 23 42 07.2 -0.8
ISA pmax pmax
comp=Z,37nm,1.8s
ISA Isabella 65.62 354 eP P 23 42 07.2 -0.8
comp=Z,37nm,1.8s
ISA Isabella 65.62 354 ⇓P P 23 42 09.1 +1.1
baz=66
V24A Rampart Ranch, 65.68 6 ⇑P P 23 42 09.3 +0.7
baz=66
SHOC Shoshone 65.69 356 ⇑P P 23 42 09.3 +0.9
baz=66
CLC China Lake 65.70 355 eP P 23 42 04.7 -3.8
CLC China Lake 65.70 355 eP P 23 42 04.7 -3.8
W30A Crocket Farms 65.70 10 ⇓P P 23 42 09.0 +0.4
baz=66
V22A San Miguel Ran 65.74 4 ⇑P P 23 42 09.1 +0.1
baz=66,SNR=14
W31A Holland Ranch, 65.81 11 ⇓P P 23 42 09.0 -0.2
baz=66,SNR=7.2
VES Vestal, Richgr 65.86 354 ⇑P P 23 42 10.4 +1.0
baz=66
V26A Tequesquite Ra 65.89 7 ⇑P P 23 42 09.7 -0.1
baz=66,SNR=24
MPMC Manual Prospec 65.94 355 ⇓P P 23 42 10.6 +0.4
baz=66,SNR=5.5
STVI Saint Thomas 65.96 49 eP P 23 42 09.6 -0.8
comp=Z,31nm,1.1s
V27A Dan Oppiter Fa 65.96 8 ⇑P P 23 42 10.6 +0.4
baz=66
V28A Channing 66.03 9 ⇑P P 23 42 11.3 +0.6
baz=66
U15A North Rim 66.09 360 ⇑P P 23 42 11.9 +0.6
baz=66,SNR=20
U20A Newcomb 66.11 3 ⇑P P 23 42 11.7 +0.5
baz=66
U23A El Rito 66.20 5 ⇑P P 23 42 12.6 +0.6
baz=66,SNR=34
U22A Llaves 66.20 4 ⇓P P 23 42 12.6 +0.7
baz=66
U21A Nageezi 66.20 4 ⇓P P 23 42 12.2 +0.3
baz=66,SNR=13
SHPR Sheep Range 66.24 357 eP P 23 42 12.7 +0.6
V29A Stinnett 66.25 9 ⇑P P 23 42 12.2 +0.2
baz=66
V30A Spur Ranch, Mi 66.26 10 ⇓P P 23 42 12.6 +0.5
baz=66
FURC Furnace Creek, 66.30 356 ⇓P P 23 42 12.4 +0.3
baz=66,SNR=7.1
RCTC Rector, Farmer 66.34 353 ⇑P P 23 42 13.2 +0.7
baz=67
VNA1 Neumayer--Stat 66.34 159 eP P 23 42 13.8 +1.6
U24A Moreno Valley 66.35 6 ⇑P P 23 42 13.4 +0.4
baz=67,SNR=7.9
CWC Cottonwood Cre 66.36 355 ⇑P P 23 42 13.4 +0.5
baz=67,SNR=8.8
V31A Spring Creek L 66.40 11 ⇑P P 23 42 13.5 +0.6
baz=67,SNR=6.9
U25A Circle Dot Ran 66.43 7 ⇑P P 23 42 13.5 +0.2
baz=67,SNR=10
MIAR Mount Ida 66.48 16 eP P 23 42 13.2 -0.3
MIAR pmax pmax
comp=Z,18nm,1.0s
MIAR Mount Ida 66.48 16 eP P 23 42 13.2 -0.3
comp=Z,18nm,1.0s
U26A Atchley Ranch, 66.49 7 ⇑P P 23 42 13.9 +0.2
baz=67,SNR=20
VNA2 Neumayer--Watz 66.49 160 eP P 23 42 13.7 +0.5
U27A Thompson Grove 66.62 8 ⇑P P 23 42 14.6 +0.1
baz=67
U28A Mallet 66.65 8 ⇓P P 23 42 14.7 0.0
baz=67
KNB Kanab 66.68 359 eP P 23 42 15.2 +0.3
KNB pmax pmax
comp=Z,38nm,1.5s
KNB Kanab 66.68 359 eP P 23 42 15.2 +0.3
comp=Z,38nm,1.5s
TIGA Tifton 66.74 26 ⇓P P 23 42 15.1 -0.1
baz=67
T21A Navajo Lake 66.77 4 ⇑P P 23 42 15.8 +0.3
baz=67,SNR=6.8
T22A Edith 66.83 4 ⇓P P 23 42 16.9 +0.9
baz=67,SNR=23
U29A Oasis Ranch, S 66.85 9 ⇑P P 23 42 16.9 +1.0
baz=67
GRAC Grapevine Rang 66.86 355 ⇓P P 23 42 16.4 +0.5
baz=67
T23A Casias Ranch, 66.92 5 ⇑P P 23 42 16.9 +0.3
baz=67
MVCO Mesa Verde 66.94 3 eP P 23 42 16.5 -0.2
comp=Z,88nm,1.4s
MVCO Mesa Verde 66.94 3 ⇑P P 23 42 17.1 +0.4
baz=67,SNR=18
LRAL Lakeview Retre 66.97 23 eP P 23 42 17.0 +0.4
comp=Z,25nm,1.0s
U31A Nine Bar Ranch 66.98 10 ⇑P P 23 42 17.6 +0.9
baz=67
TIN Tinemaha 66.98 354 eP P 23 42 18.3 +1.6
TIN Tinemaha 66.98 354 eP P 23 42 18.3 +1.6
TIN Tinemaha 66.98 354 ⇓P P 23 42 17.8 +1.1
baz=67
T24B San Luis 66.99 6 ⇓P P 23 42 17.7 +0.7
baz=67,SNR=6.8
UALR University of 67.01 17 eP P 23 42 17.4 +0.6
comp=Z,70nm,1.5s
U30A WK&E Inc. Balk 67.02 10 ⇑P P 23 42 17.6 +0.7
baz=67
SAO San Andreas Ge 67.03 352 eP P 23 42 18.0 +1.1
SAO pmax pmax
comp=Z,36nm,1.8s
SAO San Andreas Ge 67.03 352 eP P 23 42 18.0 +1.1
comp=Z,36nm,1.8s
T25A Trinidad 67.16 6 ⇓P P 23 42 18.4 +0.4
baz=67,SNR=11
CCUT Cedar City 67.22 359 eP P 23 42 19.1 +0.7
comp=Z,37nm,1.4s
T27A Campo 67.26 8 ⇓P P 23 42 18.7 +0.1
baz=68,SNR=6.3
T26A Comanche Natio 67.28 7 ⇓P P 23 42 18.9 +0.2
baz=68,SNR=33
TUL1 Tulsa 67.28 14 eP P 23 42 18.1 -0.4
comp=Z,53nm,1.3s
TUL1 Tulsa 67.28 14 ⇑P P 23 42 18.4 -0.2
baz=68,SNR=7.9
T28A Walsh 67.40 8 ⇓P P 23 42 19.7 +0.3
baz=68,SNR=12
S21A Coal Bank Pass 67.42 3 ⇑P P 23 42 19.9 +0.1
baz=68,SNR=19
ARUT Antelope Range 67.46 359 eP P 23 42 19.6 -0.3
ARUT Antelope Range 67.46 359 eP P 23 42 19.6 -0.3
SNAA Sanae 67.50 161 eP P 23 42 19.7 0.0
SNAA Sanae 67.50 161 eP P 23 42 18.7 -0.9
comp=Z,20nm,1.1s
T29A Hugoton 67.54 9 ⇓P P 23 42 19.7 -0.6
baz=68
T30A Plains 67.55 10 ⇑P P 23 42 20.0 -0.3
baz=68
S22A 4UR Ranch, Cre 67.56 4 ⇑P P 23 42 21.0 +0.3
baz=68,SNR=14
OXF Oxford 67.58 20 eP P 23 42 19.3 -1.1
OXF pmax pmax
comp=Z,32nm,1.0s
OXF Oxford 67.58 20 eP P 23 42 19.3 -1.1
comp=Z,32nm,1.0s
S24A Houchin Ranch, 67.58 6 ⇑P P 23 42 20.9 +0.1
baz=68,SNR=12
S23A Nye Farm, Mont 67.58 5 ⇓P P 23 42 20.7 0.0
baz=68
FUNA Funafuti 67.60 273 eP P 23 42 18.6 -2.5
comp=Z,361nm,1.3s
MLAC Mammoth Lakes 67.61 354 ⇓P P 23 42 20.8 -0.1
baz=68
SDCO Great Sand Dun 67.66 5 eP P 23 42 20.9 -0.4
comp=Z,34nm,1.4s
S25A Robets Cordova 67.67 6 ⇑P P 23 42 21.4 +0.2
baz=68,SNR=29
T31A Randall Ranch, 67.72 10 ⇓P P 23 42 21.4 +0.1
baz=68
S26A Kim 67.73 7 ⇓P P 23 42 21.7 +0.1
baz=68,SNR=19
PV05 Paradox Valley 67.78 2 eP P 23 42 23.4 +1.4
S27A Las Animas 67.86 8 ⇓P P 23 42 22.1 -0.2
baz=68
PV01 Paradox Valley 67.86 3 eP P 23 42 22.8 +0.3
S28A Manter 67.89 9 ⇑P P 23 42 22.5 0.0
baz=68,SNR=6.1
R20A Redvale 67.92 3 ⇓P P 23 42 23.0 +0.2
baz=68,SNR=12
S29A Ulysses 68.02 9 ⇓P P 23 42 23.3 +0.1
baz=68
R22A Saguache, Gunn 68.05 4 ⇓P P 23 42 24.2 +0.4
baz=68,SNR=11
PV15 Paradox Valley 68.07 3 eP P 23 42 24.1 +0.3
R23A Moffat 68.08 5 ⇓P P 23 42 23.7 -0.2
baz=68,SNR=10
PV10 Paradox Valley 68.08 2 eP P 23 42 24.0 +0.2
R11A Troy Canyon, C 68.09 357 eP P 23 42 23.6 -0.3
comp=Z,38nm,1.8s
R11A Troy Canyon, C 68.09 357 ⇑P P 23 42 24.4 +0.5
baz=68,SNR=11
PV04 Paradox Valley 68.10 2 eP P 23 42 23.5 -0.4
S30A Montezuma 68.13 10 ⇓P P 23 42 23.9 -0.1
baz=68,SNR=6.2
MVU Marysvale 68.16 360 eP P 23 42 22.9 -1.4
comp=Z,13nm,1.1s
CMB Columbia Colle 68.16 353 eP P 23 42 24.0 -0.1
CMB pmax pmax
comp=Z,32nm,1.8s
CMB Columbia Colle 68.16 353 eP P 23 42 24.0 -0.1
comp=Z,32nm,1.8s
R25A Fountain Ranch 68.17 6 ⇑P P 23 42 24.7 +0.4
baz=68,SNR=16
R24A Sanders Place, 68.18 6 ⇓P P 23 42 24.8 +0.4
baz=68,SNR=7.4
HBAR Harrisburg 68.19 18 eP P 23 42 24.2 -0.1
PV09 Paradox Valley 68.20 2 eP P 23 42 24.8 +0.1
S31A Mullinville 68.26 11 ⇑P P 23 42 24.8 +0.1
baz=68,SNR=6.4
NV01 Mina Array Sit 68.35 355 eP P 23 42 25.0 -0.5
NVAR Mina Array Bea 68.35 355 P P 23 42 26.3 +0.8
comp=Z,13nm,1.1s,baz=164,slow=3.6,SNR=16
R26A Arlington 68.41 7 ⇑P P 23 42 26.0 +0.3
baz=69,SNR=12
PLAL Pickwick Lake 68.41 21 eP P 23 42 25.2 -0.4
comp=Z,19nm,1.0s
R27A Eads 68.46 8 ⇓P P 23 42 26.5 +0.4
baz=69,SNR=11
WAKR Walker 68.53 354 eP P 23 42 27.0 +0.4
GOGA Godfrey 68.55 25 eP P 23 42 26.2 -0.4
GOGA pmax pmax
comp=Z,21nm,1.1s
GOGA Godfrey 68.55 25 eP P 23 42 26.2 -0.4
comp=Z,20nm,1.1s
Q16A Castle Valley 68.58 1 eP P 23 42 27.3 +0.5
Q16A Castle Valley 68.58 1 ⇓P P 23 42 27.4 +0.5
baz=69,SNR=7.2
Q21A Lamborn Mesa, 68.60 4 ⇑P P 23 42 27.5 +0.5
baz=69,SNR=8.4
R28A Tribune 68.64 8 ⇑P P 23 42 27.6 +0.4
baz=69,SNR=11
Q22A Crested Butte, 68.67 4 ⇓P P 23 42 27.7 +0.1
baz=69
Q20A Ridgley Place, 68.69 3 ⇓P P 23 42 27.8 +0.3
baz=69,SNR=7.4
GNAR Gosnell 68.76 19 eP P 23 42 25.4 -2.4
SRU San Rafael 68.78 1 eP P 23 42 27.3 -0.8
SRU pmax pmax
comp=Z,28nm,1.0s
SRU San Rafael 68.78 1 eP P 23 42 27.3 -0.8
comp=Z,28nm,1.0s
Q23A Hartsel 68.79 5 ⇓P P 23 42 28.3 -0.1
baz=69
R30A Dighton 68.79 10 ⇑P P 23 42 28.5 +0.5
baz=69,SNR=9.4
R29A Marienthal 68.81 9 ⇑P P 23 42 28.4 +0.2
baz=69
HALT Halls 68.90 19 eP P 23 42 29.3 +0.6
Q24A Divide 68.90 6 ⇑P P 23 42 28.9 -0.2
baz=69
R31A Burdett 68.91 10 ⇓P P 23 42 29.0 +0.2
baz=69,SNR=6.1
Q25A Bedland, Calha 68.93 6 ⇑P P 23 42 29.4 +0.3
baz=69,SNR=6.8
TMUT Trail Mountain 68.95 1 eP P 23 42 29.5 +0.1
comp=Z,90nm,2.0s
SMCO Snowmass 68.98 4 eP P 23 42 30.1 +0.5
comp=Z,13nm,0.9s
Q26A Hugo 69.02 7 ⇑P P 23 42 29.8 +0.3
baz=69
KSCO Kaye Shedlock' 69.20 8 eP P 23 42 30.8 +0.2
KSCO Kaye Shedlock' 69.20 8 ⇓P P 23 42 31.0 +0.3
baz=70
P20A De Beque 69.23 3 ⇑P P 23 42 31.4 +0.5
baz=70,SNR=5.8
GLAT Glass 69.25 19 eP P 23 42 30.9 +0.1
P23A Jefferson 69.25 5 ⇓P P 23 42 31.9 +0.7
baz=70,SNR=14
Q29A Oakley 69.29 9 ⇓P P 23 42 32.1 +1.0
baz=70,SNR=11
SWET Sewanee 69.31 22 eP P 23 42 30.7 -0.7
comp=Z,39nm,1.0s
P19A Cripple Cowboy 69.34 2 ⇑P P 23 42 31.5 -0.2
baz=70
Q28A Sharon Springs 69.35 8 ⇑P P 23 42 31.5 -0.1
baz=70,SNR=8.6
P22A Eagle 69.41 4 ⇑P P 23 42 32.6 +0.6
baz=70,SNR=18
P24A Kohler Place, 69.47 6 ⇑P P 23 42 33.0 +0.6
baz=70
PARMO Parma 69.48 19 eP P 23 42 32.2 -0.1
P25A Willow Gulch B 69.53 6 ⇓P P 23 42 33.1 +0.4
baz=70
WVT Waverly 69.55 21 eP P 23 42 32.3 -0.4
WVT pmax pmax
comp=Z,113nm,2.1s
WVT Waverly 69.55 21 eP P 23 42 32.3 -0.4
comp=Z,113nm,2.1s
NLU North Lily Min 69.61 360 eP P 23 42 33.3 0.0
comp=Z,14nm,0.8s
Q31A Ellis 69.63 10 ⇓P P 23 42 33.7 +0.5
baz=70,SNR=7.2
P26A Davis Ranch, A 69.66 7 ⇓P P 23 42 34.1 +0.5
baz=70
MPU Maple Canyon 69.67 0 eP P 23 42 33.7 +0.1
comp=Z,20nm,1.1s
ISCO Idaho Springs 69.69 5 eP P 23 42 34.4 +0.5
ISCO pmax pmax
comp=Z,21nm,1.1s
ISCO Idaho Springs 69.69 5 eP P 23 42 34.4 +0.5
comp=Z,21nm,1.1s
ISCO Idaho Springs 69.69 5 ⇓P P 23 42 34.4 +0.5
baz=70,SNR=14
PAHR Pah Rah Range 69.72 354 eP P 23 42 32.4 -1.4
comp=Z,37nm,1.9s
P27A Ficken Ranch, 69.74 8 ⇓P P 23 42 34.2 +0.2
baz=70
DUG Dugway 69.85 359 eP P 23 42 34.9 +0.2
DUG pmax pmax
comp=Z,18nm,1.1s
DUG Dugway 69.85 359 eP P 23 42 34.9 +0.2
comp=Z,18nm,1.1s
DUG Dugway 69.85 359 ⇑P P 23 42 35.2 +0.5
baz=70,SNR=12
P28A Saint Francis 69.86 8 ⇑P P 23 42 35.3 +0.6
baz=70
O20A White River Ci 69.87 3 ⇓P P 23 42 34.6 -0.3
baz=70
BEKR Beckworth 69.97 353 eP P 23 42 34.7 -0.8
comp=Z,8.4nm,1.5s
O21A Pagoda 69.98 4 ⇓P P 23 42 35.7 0.0
baz=70,SNR=6.9
O22A Kremmling 69.99 4 ⇑P P 23 42 35.8 +0.1
baz=70,SNR=15
P29A Atwood 70.00 9 ⇑P P 23 42 36.1 +0.6
baz=70,SNR=8.2
O19A Miners Draw (B 70.00 2 ⇓P P 23 42 35.5 -0.1
baz=70
CPCT Cooper Cave 70.00 23 eP P 23 42 36.0 +0.4
P30A Selden 70.03 10 ⇓P P 23 42 36.6 +0.9
baz=70
O24A Longmont 70.06 6 ⇑P P 23 42 36.8 +0.8
baz=70
DAU Daniels Canyon 70.07 0 eP P 23 42 36.9 +0.7
DAU Daniels Canyon 70.07 0 eP P 23 42 36.9 +0.7
O23A Lake Granby, G 70.08 5 ⇑P P 23 42 36.8 +0.5
baz=70
O25A Wiggins 70.13 6 ⇑P P 23 42 36.8 +0.4
baz=70
KSU1 Kansas State U 70.20 13 eP P 23 42 36.2 -0.5
comp=Z,34nm,1.0s
JLU Jordanelle 70.25 0 eP P 23 42 37.1 -0.2
comp=Z,138nm,1.8s
BMN Battle Mountai 70.26 356 eP P 23 42 37.9 +0.7
BMN pmax pmax
comp=Z,30nm,1.2s
BMN Battle Mountai 70.26 356 eP P 23 42 37.9 +0.7
comp=Z,30nm,1.2s
O26A Horse Wrangler 70.34 7 ⇑P P 23 42 38.4 +0.7
baz=71
CTU Camp Tracy 70.34 0 eP P 23 42 37.5 -0.3
comp=Z,24nm,1.1s
O27A Beecher Island 70.38 8 ⇓P P 23 42 38.5 +0.6
baz=71
O28A Krutsinger Ran 70.40 8 ⇑P P 23 42 38.5 +0.5
baz=71
ELK Elko 70.47 357 eP P 23 42 37.3 -1.3
comp=Z,20nm,1.7s
N21A Black Mountain 70.53 3 ⇓P P 23 42 39.3 +0.3
baz=71,SNR=7.0
O29A 4D Ranch, Culb 70.53 9 ⇑P P 23 42 39.2 +0.5
baz=71
N20A Spence Gulch, 70.56 3 ⇓P P 23 42 39.4 +0.2
baz=71,SNR=9.9
BGU Big Grassy Mou 70.59 359 eP P 23 42 38.6 -0.6
comp=Z,35nm,1.5s
SIUC Southern Illin 70.62 19 eP P 23 42 39.5 +0.3
comp=Z,96nm,1.3s
N22A Wattenberg Ran 70.63 4 ⇓P P 23 42 40.1 +0.5
baz=71,SNR=11
O30A MW Ranch, Wils 70.68 10 ⇓P P 23 42 40.3 +0.6
baz=71
N23A Red Feather La 70.76 5 ⇑P P 23 42 40.8 +0.4
baz=71,SNR=13
N24A Carr 70.77 6 ⇑P P 23 42 40.9 +0.5
baz=71
N25A Grover 70.83 6 ⇓P P 23 42 41.0 +0.3
baz=71
KMSC Kings Mountain 70.89 26 eP P 23 42 39.4 -1.5
comp=Z,30nm,1.1s
KMSC Kings Mountain 70.89 26 ⇓P P 23 42 41.2 +0.2
baz=71
N26A Koester Ranch, 70.93 7 ⇑P P 23 42 40.8 -0.4
baz=71
WDC Whiskeytown Da 70.93 351 eP P 23 42 40.4 -0.7
WDC pmax pmax
comp=Z,14nm,1.1s
WDC Whiskeytown Da 70.93 351 eP P 23 42 40.4 -0.7
comp=Z,14nm,1.1s
SPUT South Promonto 70.96 360 eP P 23 42 41.6 +0.1
comp=Z,33nm,1.5s
N27A Anderson Farm, 70.98 7 ⇑P P 23 42 41.5 -0.1
baz=71
N28A Pribbeno Ranch 70.98 8 ⇓P P 23 42 41.8 +0.2
baz=71
M17A Scullys Gap (B 71.13 1 ⇓P P 23 42 42.5 -0.1
baz=71
OGNE Ogallala 71.18 8 ⇑P P 23 42 42.8 +0.1
baz=72
PHWY Pilot Hill 71.20 5 eP P 23 42 41.3 -1.8
comp=Z,21nm,1.0s
M19A Rock Springs 71.20 2 ⇑P P 23 42 43.0 0.0
baz=72
SLM Saint Louis 71.20 18 eP P 23 42 42.0 -0.8
SLM pmax pmax
comp=Z,31nm,1.1s
SLM Saint Louis 71.20 18 eP P 23 42 42.0 -0.8
comp=Z,31nm,1.1s
M22A Cedar Creek Ra 71.22 4 ⇑P P 23 42 43.1 -0.1
baz=72,SNR=8.4
M20A Sweetwater, Wa 71.22 3 ⇑P P 23 42 43.2 +0.1
baz=72,SNR=14
N29A Votaw Ranch, W 71.23 9 ⇑P P 23 42 43.2 +0.2
baz=72
HWUT Hardware Ranch 71.26 0 eP P 23 42 42.5 -0.8
comp=Z,59nm,2.3s
USIN University of 71.30 20 eP P 23 42 43.8 +0.5
comp=Z,42nm,0.9s
TZTN Tazewell 71.33 24 eP P 23 42 43.5 -0.1
comp=Z,212nm,2.0s
M23A Laramie 71.34 5 ⇓P P 23 42 44.2 +0.3
baz=72
M21A Separation Pea 71.38 4 ⇑P P 23 42 43.7 -0.4
baz=72,SNR=5.3
KHMM Horse Mountain 71.38 351 eP P 23 42 45.1 +1.0
comp=Z,38nm,1.3s
M24A Cheyenne 71.41 6 ⇓P P 23 42 44.4 +0.1
baz=72,SNR=13
HVU Hansel Valley 71.44 359 eP P 23 42 43.5 -0.9
HVU pmax pmax
comp=Z,67nm,2.2s
HVU Hansel Valley 71.44 359 eP P 23 42 43.5 -0.9
comp=Z,67nm,2.2s
M25A Palm-Egli Farm 71.45 6 ⇑P P 23 42 44.5 0.0
baz=72
RWWY Rawlins 71.47 4 eP P 23 42 44.0 -0.7
comp=Z,23nm,1.2s
M26A McRoberts Ranc 71.57 7 ⇓P P 23 42 44.4 -0.7
baz=72
L18A Fontenelle, Gr 71.59 1 ⇑P P 23 42 45.2 -0.1
baz=72
M28A Bar X Bar Ranc 71.70 8 ⇑P P 23 42 46.2 +0.3
baz=72
M27A Reverse DX Ran 71.71 7 ⇓P P 23 42 45.8 -0.2
baz=72
L20A Wamsutter 71.73 3 ⇓P P 23 42 45.8 -0.4
baz=72,SNR=14
L21A Rawlins 71.73 4 ⇓P P 23 42 45.4 -0.8
baz=72,SNR=8.3
L19A Farson 71.79 2 ⇑P P 23 42 46.1 -0.4
baz=72,SNR=7.3
L22A Ellis Ranch, M 71.86 4 ⇑P P 23 42 46.8 -0.1
baz=72,SNR=11
OLIL Olney 71.88 19 eP P 23 42 46.3 -0.5
comp=Z,106nm,1.8s
WCI Wyandotte Cave 71.96 21 eP P 23 42 46.8 -0.6
WCI pmax pmax
comp=Z,23nm,1.1s
WCI Wyandotte Cave 71.96 21 eP P 23 42 46.8 -0.6
comp=Z,23nm,1.1s
L24A Wheatland 71.98 5 ⇓P P 23 42 47.6 +0.1
baz=72,SNR=6.7
MOD Modoc 71.98 353 eP P 23 42 46.8 -0.9
comp=Z,63nm,1.0s
L23A Garrett 71.99 5 ⇓P P 23 42 47.2 -0.5
baz=72
KRMB Red Mountain 72.05 350 eP P 23 42 47.3 -0.7
comp=Z,172nm,2.8s
YBH Yreka Blue Hor 72.09 351 eP P 23 42 46.1 -2.0
comp=Z,18nm,1.6s
YBH Yreka Blue Hor 72.09 351 LR LR 00 07 24.8
comp=Z,1μm,20.6s,baz=177,slow=30
L25A Engebretsen Ra 72.17 6 ⇑P P 23 42 48.9 +0.2
baz=72
BGNE Belgrade 72.18 11 eP P 23 42 49.2 +0.6
comp=Z,172nm,1.8s
BGNE Belgrade 72.18 11 ⇓P P 23 42 48.8 +0.1
baz=72
L27A T5 Ranch, Ells 72.27 7 ⇓P P 23 42 49.0 -0.3
baz=73
L28A Connealy Angus 72.29 8 ⇑P P 23 42 49.3 0.0
baz=73
CNNC Cliffs of the 72.35 29 eP P 23 42 50.2 +0.5
comp=Z,57nm,1.4s
WVOR Wild Horse Val 72.36 355 eP P 23 42 51.1 +1.3
WVOR pmax pmax
comp=Z,74nm,1.7s
WVOR Wild Horse Val 72.36 355 eP P 23 42 51.1 +1.3
comp=Z,74nm,1.7s
K20A Yellowstone Ra 72.38 3 ⇑P P 23 42 49.6 -0.5
baz=73,SNR=12
K21A Alcova 72.41 4 ⇑P P 23 42 50.0 -0.2
baz=73,SNR=18
AHID Auburn Hatcher 72.42 1 eP P 23 42 49.5 -0.8
comp=Z,44nm,1.5s
DZM Mont Dzumac 72.44 254 eS S 23 52 12.8 -2.4
comp=Z,188nm,25.7s
DZM Mont Dzumac 72.44 254 eLR LR 00 04 51.6
comp=Z,1μm,28.3s
BW06 Boulder Array 72.45 2 eP P 23 42 49.3 -1.2
comp=Z,36nm,1.4s
PD31 Pinedale Array 72.45 2 eP P 23 42 49.7 -0.8
PDAR Pinedale Array 72.45 2 P P 23 42 49.7 -0.8
comp=Z,6.7nm,1.0s,baz=175,slow=5.4,SNR=34
PDAR LR LR 00 09 30.3

comp=Z,713nm,19.7s,baz=199,slow=32
K22A **Casper** 72.47 4 ⇓P P 23 42 50.3 -0.2
baz=73,SNR=16
L29A **Maesberg Ranch** 72.48 9 ⇑P P 23 42 50.8 +0.4
baz=73
K19A **Absolon Red Bu** 72.53 2 ⇓P P 23 42 50.2 -0.7
baz=73,SNR=7.3
K23A **Bowen Ranch, D** 72.63 5 ⇑P P 23 42 51.7 +0.2
baz=73,SNR=22
K25A **Mack Ranch, Ha** 72.63 6 ⇓P P 23 42 51.8 +0.3
baz=73
K24A **Anderson Ranch** 72.66 5 ⇓P P 23 42 51.7 0.0
baz=73
BLO **Bloomington** 72.75 20 *e*P P 23 42 51.7 -0.4
BLO pmax pmax
comp=Z,35nm,1.4s
BLO **Bloomington** 72.75 20 *e*P P 23 42 51.7 -0.4
comp=Z,35nm,1.4s
K26A **Motz Farm, Whi** 72.79 7 ⇑P P 23 42 52.8 +0.5
baz=73,SNR=6.0
K05A **Summer Lake** 72.86 353 *e*P P 23 42 53.6 +0.8
comp=Z,134nm,2.1s
K27A **Flueckinger Fa** 72.89 7 ⇓P P 23 42 53.3 +0.4
baz=73,SNR=6.2
J19A **Crowheart** 72.96 2 ⇑P P 23 42 52.9 -0.6
baz=73,SNR=5.4
HUMO **Hull Mountain** 72.98 351 *e*P P 23 42 54.5 +1.1
comp=Z,14nm,1.1s
RRI2 **Red Ridge** 73.00 0 *e*P P 23 42 53.4 -0.5
comp=Z,44nm,1.3s
K28A **Ten Mile Ranch** 73.00 8 ⇓P P 23 42 54.5 +0.9
baz=73,SNR=8.0
REDW **Red Top Meadow** 73.02 1 *e*P P 23 42 53.6 -0.2
comp=Z,48nm,1.6s
BLA **Blacksburg** 73.06 26 *e*P P 23 42 53.1 -0.9
BLA pmax pmax
comp=Z,25nm,0.9s
BLA **Blacksburg** 73.06 26 *e*P P 23 42 53.1 -0.9
comp=Z,25nm,0.9s
J20A **Shoshoni** 73.08 3 ⇑P P 23 42 54.2 +0.1
baz=73,SNR=22
J21A **Lysite** 73.11 3 ⇑P P 23 42 54.6 +0.3
baz=73,SNR=20
SNOW **Snow King Moun** 73.12 1 *e*P P 23 42 53.9 -0.6
comp=Z,49nm,1.8s
TPAW **Teton Pass** 73.14 1 *e*P P 23 42 54.0 -0.6
comp=Z,29nm,1.1s
MFID **Camas Ranch** 73.16 357 ⇑P P 23 42 54.8 +0.3
baz=73,SNR=8.8
J22A **Midwest** 73.23 4 ⇓P P 23 42 55.9 +0.9
baz=74,SNR=9.9
HLID **Hailey** 73.25 358 *e*P P 23 42 55.7 +0.5
comp=Z,37nm,1.2s
HLID **Hailey** 73.25 358 ⇑P P 23 42 55.6 +0.4
baz=74,SNR=28
HDIL **Hopedale** 73.25 18 *e*P P 23 42 55.3 +0.3
comp=Z,33nm,0.9s
VWCC **Virginia Weste** 73.26 26 *e*P P 23 42 53.1 -2.0
J08A **Circle Bar Ran** 73.26 355 *e*P P 23 42 52.8 -2.3
comp=Z,56nm,1.6s
LOHW **Long Hollow** 73.27 1 *e*P P 23 42 54.1 -1.2
comp=Z,38nm,1.5s
J24A **Dixon Ranch, L** 73.28 5 ⇑P P 23 42 55.5 +0.2
baz=74
J23A **Dilts Ranch, B** 73.28 5 ⇑P P 23 42 55.0 -0.3
baz=74
I18A **Diamond G Ranc** 73.38 2 ⇑P P 23 42 55.9 0.0
baz=74,SNR=6.5
J26A **Sides Ranch, S** 73.41 7 ⇑P P 23 42 56.7 +0.8
baz=74,SNR=9.5
MOOW **Moose Ponds** 73.41 1 *e*P P 23 42 55.6 -0.5
comp=Z,9.3nm,1.0s
J25A **Sunshine Ranch** 73.41 6 ⇓P P 23 42 56.1 +0.1
baz=74,SNR=12
J27A **Elkhorn Farm,** 73.46 7 ⇑P P 23 42 56.7 +0.4
baz=74
I16A **Newdale** 73.53 0 ⇑P P 23 42 57.0 +0.2
baz=74
IMW **Indian Meadow** 73.55 1 *e*P P 23 42 56.5 -0.6
comp=Z,15nm,0.9s
I17A **Pilgrim Ck.** 73.58 1 ⇑P P 23 42 57.0 -0.1
baz=74
I21A **Big Trails, Te** 73.58 3 ⇓P P 23 42 57.1 +0.1
baz=74,SNR=41
SCIA **State Center** 73.59 14 *e*P P 23 42 56.8 -0.2
comp=Z,35nm,1.0s
I20A **Worland** 73.68 3 ⇑P P 23 42 57.6 0.0
baz=74,SNR=11
SFIN **Scholer Farm** 73.70 19 *e*P P 23 42 56.6 -1.0
comp=Z,28nm,1.2s
SFIN **Scholer Farm** 73.70 19 ⇑P P 23 42 58.0 +0.4
baz=74
I22A **9 Mile Ranch,** 73.71 4 ⇓P P 23 42 58.0 +0.2
baz=74,SNR=11
J28A **Allard Ranch,** 73.72 8 ⇓P P 23 42 58.2 +0.4
baz=74,SNR=14
I19A **Meeteetse** 73.73 2 ⇓P P 23 42 58.4 +0.4
baz=74,SNR=12
FLWY **Flagg Ranch** 73.74 1 *e*P P 23 42 57.9 -0.2
comp=Z,21nm,0.8s
I24A **Kuemmerle Ranc** 73.81 5 ⇓P P 23 42 58.4 +0.1
baz=74
I23A **Meade Ranch, G** 73.84 5 ⇑P P 23 42 58.3 -0.3
baz=74
PINOR **Pine Mountain** 73.93 353 *e*P P 23 42 60.0 +1.1
comp=Z,94nm,2.1s
I25A **Rochford** 74.04 6 ⇓P P 23 42 59.9 +0.1
baz=74,SNR=14
I07A **Izee** 74.07 354 *e*P P 23 43 00.6 +0.7
YFT **Old Faithful** 74.11 1 *e*P P 23 43 01.1 +0.8
comp=Z,42nm,1.6s
RSSD **Black Hills** 74.12 6 *e*P P 23 42 59.6 -0.7
RSSD pmax pmax
comp=Z,246nm,1.7s
RSSD **Black Hills** 74.12 6 *e*P P 23 42 59.6 -0.7
comp=Z,246nm,1.7s
I26A **New Underwood** 74.14 7 ⇓P P 23 43 00.6 +0.4
baz=74,SNR=8.7
H20A **Greybull** 74.22 3 ⇓P P 23 43 00.3 -0.5
baz=74
LKWY **Lake** 74.23 1 *e*P P 23 42 59.3 -1.7
LKWY pmax pmax
comp=Z,21nm,0.9s
LKWY **Lake** 74.23 1 *e*P P 23 42 59.3 -1.7
comp=Z,21nm,0.9s
I27A **Quinn** 74.26 7 ⇑P P 23 43 01.5 +0.5
baz=74,SNR=11
I28A **Midland** 74.29 8 ⇑P P 23 43 01.2 +0.1
baz=75,SNR=6.8
YMR **Madison River** 74.32 1 *e*P P 23 43 01.5 0.0
comp=Z,115nm,1.8s
H18A **Shoshone NF, C** 74.35 2 ⇓P P 23 43 01.3 -0.4
baz=75,SNR=11
H19A **Powell** 74.37 2 ⇑P P 23 43 01.5 -0.1
baz=75
YNR **Norris Junctio** 74.37 1 *e*P P 23 43 01.2 -0.6
comp=Z,14nm,1.2s
H21A **Big Horn, Sher** 74.41 4 ⇓P P 23 43 01.5 -0.4
baz=75
H22A **Clearmont** 74.41 4 ⇓P P 23 43 01.7 -0.1
baz=75,SNR=6.5
H23A **Clabaugh Cattl** 74.44 5 ⇑P P 23 43 01.7 -0.4
baz=75
QLMT **Earthquake Lak** 74.48 0 *e*P P 23 43 00.8 -1.6
MCMT **McKenzie Canyo** 74.48 359 *e*P P 23 43 02.6 +0.1
H25A **Fruitdale** 74.65 6 ⇑P P 23 43 03.5 +0.3
baz=75
BMO **Blue Mountains** 74.67 356 *e*P P 23 43 02.7 -0.6
comp=Z,59nm,1.8s
H24A **Dirks Ranch, A** 74.69 5 ⇓P P 23 43 03.5 0.0
baz=75,SNR=7.6
ECSD **EROS Data Cent** 74.70 11 *e*P P 23 43 02.8 -0.7
comp=Z,19nm,0.9s
H26A **Fairpoint** 74.73 7 ⇓P P 23 43 03.9 +0.3
baz=75
RLMT **Red Lodge** 74.81 2 *e*P P 23 43 03.2 -1.1
comp=Z,15nm,1.1s
H27A **Howes** 74.81 7 ⇓P P 23 43 04.2 +0.1
baz=75
H04A **Detroit Lake** 74.93 352 *e*P P 23 43 05.5 +0.7
comp=Z,61nm,1.8s
G20A **Bridger** 74.94 3 ⇑P P 23 43 04.8 -0.1
baz=75,SNR=15
COR **Corvallis** 74.97 352 *e*P P 23 43 05.8 +0.9
COR pmax pmax
comp=Z,215nm,1.9s
COR **Corvallis** 74.97 352 *e*P P 23 43 05.8 +0.9
comp=Z,215nm,1.9s

H28A **Mission Ridge** 74.98 8 ⇓P P 23 43 05.1 +0.1
baz=75
G21A **Lodge Grass** 74.99 3 ⇓P P 23 43 05.2 0.0
baz=75
G18A **Lazy EL Ranch,** 75.00 2 ⇓P P 23 43 05.0 -0.3
baz=75,SNR=11
DLMT **Dillon** 75.02 359 *e*P P 23 43 05.7 +0.3
comp=Z,36nm,1.6s
BRSD **Miller** 75.02 10 *e*P P 23 43 05.2 -0.1
comp=Z,34nm,1.1s
BRSD **Miller** 75.02 10 ⇑P P 23 43 05.2 -0.1
baz=75
G22A **Birney** 75.04 4 ⇑P P 23 43 05.0 -0.5
baz=75
G23A **Biddle** 75.08 5 ⇑P P 23 43 05.6 -0.1
baz=75,SNR=11
G08A **Pilot Rock** 75.22 355 *e*P P 23 43 07.3 +0.8
comp=Z,85nm,1.8s
JFWS **Jewell Farm** 75.23 16 *e*P P 23 43 06.9 +0.4
JFWS pmax pmax
comp=Z,11nm,0.9s
JFWS **Jewell Farm** 75.23 16 *e*P P 23 43 06.8 +0.4
comp=Z,11nm,0.9s
G25A **Newell** 75.23 6 ⇓P P 23 43 06.5 -0.1
baz=76
G24A **Alzada** 75.28 5 ⇑P P 23 43 06.5 -0.4
baz=76
BOZ **Bozeman (W)** 75.30 0 *e*P P 23 43 06.7 -0.3
BOZ pmax pmax
comp=Z,25nm,1.4s
BOZ **Bozeman (W)** 75.30 0 *e*P P 23 43 06.7 -0.3
comp=Z,25nm,1.4s
G06A **Carlson Farm,** 75.31 354 *e*P P 23 43 05.8 -1.2
comp=Z,188nm,2.5s
G28A **Parade** 75.38 8 ⇓P P 23 43 07.2 -0.2
baz=76
G26A **Maurine** 75.41 7 ⇓P P 23 43 07.9 +0.3
baz=76,SNR=8.7
MCWV **Mont Chateau** 75.43 25 *e*P P 23 43 06.1 -1.6
G27A **Dupree** 75.47 6 ⇑P P 23 43 08.3 +0.4
baz=76,SNR=11
GCMT **Greycliff** 75.47 2 *e*P P 23 43 08.0 0.0
LRM **Limekiln Ridge** 75.47 360 *e*P P 23 43 09.0 +0.8
F20A **Billings** 75.53 3 ⇑P P 23 43 08.0 -0.2
baz=76
F19A **Roth Farm, Mol** 75.55 2 ⇓P P 23 43 08.3 -0.1
baz=76
F18A **Big Timber** 75.58 2 ⇓P P 23 43 08.5 -0.1
baz=76
F21A **Absaloka Mine,** 75.59 3 ⇑P P 23 43 08.5 -0.1
baz=76
F23A **Volborg** 75.60 5 ⇑P P 23 43 09.1 +0.4
baz=76,SNR=9.3
F22A **Rosebud** 75.60 4 ⇓P P 23 43 08.2 -0.4
baz=76
F10A **Beach Ranch, E** 75.78 356 *e*P P 23 43 09.9 +0.1
F24A **Ekalaka** 75.79 5 ⇓P P 23 43 09.4 -0.4
baz=76
F25A **Bowman** 75.96 6 ⇑P P 23 43 10.2 -0.5
baz=76
F27A **Lemmon** 76.05 7 ⇓P P 23 43 10.9 -0.3
baz=76
F28A **McLaughlin** 76.16 8 ⇓P P 23 43 11.4 -0.4
baz=76
E19A **Rath Farm, Rou** 76.16 2 ⇓P P 23 43 11.4 -0.4
baz=76
F04A **Amboy** 76.19 352 *e*P P 23 43 12.5 +0.6
comp=Z,55nm,1.4s
E20A **Meyer Farm, Mu** 76.23 3 ⇓P P 23 43 11.8 -0.4
baz=76
F29A **Eureka** 76.27 9 ⇑P P 23 43 11.8 -0.6
baz=76
E22A **Miles City** 76.28 4 ⇓P P 23 43 11.8 -0.7
baz=77
E21A **Keefer Ranch,** 76.31 3 ⇑P P 23 43 12.0 -0.7
baz=77
HAWA **Hanford** 76.36 355 *e*P P 23 43 12.2 -0.7
comp=Z,45nm,1.6s
E23A **Ismay** 76.38 5 ⇓P P 23 43 12.5 -0.5
baz=77
E09A **Wood Farm, Sta** 76.38 356 *e*P P 23 43 11.8 -1.2
comp=Z,43nm,1.7s
MSO **Missoula** 76.50 359 *e*P P 23 43 13.8 0.0
comp=Z,18nm,1.1s
MSO **Missoula** 76.50 359 ⇑P P 23 43 14.2 +0.4
baz=77,SNR=7.5
LAO **LASA Array** 76.51 4 *e*P P 23 43 13.3 -0.5
comp=Z,83nm,1.4s
E24A **Baker** 76.52 5 ⇑P P 23 43 13.6 -0.2
baz=77
E25A **Miller Ranch,** 76.53 6 ⇓P P 23 43 13.9 -0.1
baz=77
CHMT **Chamberlain Mo** 76.58 359 *e*P P 23 43 14.2 -0.1
E26A **Carlson Angus** 76.59 7 ⇑P P 23 43 14.3 +0.1
baz=77
E27A **Carson** 76.65 7 ⇓P P 23 43 14.7 +0.2
baz=77
D17A **Six Diamond Ra** 76.81 1 ⇑P P 23 43 15.8 +0.2
baz=77,SNR=11
D20A **Manuel Ranch,** 76.81 3 ⇑P P 23 43 16.0 +0.4
baz=77,SNR=7.1
D21A **La Casta Ranch** 76.84 3 ⇑P P 23 43 15.6 -0.1
baz=77
SPMN **St. Paul** 76.85 14 *e*P P 23 43 14.8 -0.9
comp=Z,20nm,1.0s
SPMN **St. Paul** 76.85 14 ⇑P P 23 43 15.8 +0.2
baz=77
D19A **Cripps Ranch,** 76.86 2 ⇑P P 23 43 16.0 +0.2
baz=77
E28A **Huff** 76.89 8 ⇓P P 23 43 16.0 +0.1
baz=77
SLMT **Seeley Lake** 76.91 359 *e*P P 23 43 16.3 +0.1
LON **Longmire** 76.93 353 *e*P P 23 43 16.0 -0.2
LON pmax pmax
comp=Z,24nm,1.7s
LON **Longmire** 76.93 353 *e*P P 23 43 16.0 -0.2
comp=Z,24nm,1.7s
E03A **Lebam** 76.93 352 *e*P P 23 43 14.8 -1.3
comp=Z,22nm,1.0s
D22A **Cohagen** 76.97 4 ⇑P P 23 43 16.5 +0.1
baz=77
D08A **Wollman Farm,** 76.97 355 *e*P P 23 43 17.5 +1.2
comp=Z,54nm,1.9s
E29A **Napoleon** 77.01 9 ⇑P P 23 43 16.9 +0.3
baz=77
E30A **Jud** 77.05 9 ⇑P P 23 43 17.1 +0.3
baz=77
D24A **Glendive** 77.06 5 ⇓P P 23 43 17.5 +0.6
baz=77,SNR=7.6
ALLY **Alegheny Colle** 77.07 24 *e*P P 23 43 15.1 -2.0
D26A **Manning** 77.15 7 ⇑P P 23 43 18.2 +0.8
baz=77
D25A **Fairfield** 77.19 6 ⇑P P 23 43 18.0 +0.4
baz=78,SNR=5.1
SWMT **Swartz Lake** 77.19 358 *e*P P 23 43 17.7 0.0
D27A **Center** 77.32 7 ⇑P P 23 43 18.8 +0.4
baz=78
LTY **Liberty** 77.32 354 *e*P P 23 43 18.5 +0.2
comp=Z,32nm,1.6s
D05A **Enumclaw** 77.38 353 *e*P P 23 43 19.4 +0.8
comp=Z,42nm,1.3s
C19A **Black Wire Ran** 77.43 2 ⇓P P 23 43 19.4 +0.4
baz=78
JTMT **Jette** 77.43 358 *e*P P 23 43 19.0 0.0
C20A **Veseth Ranch,** 77.44 3 ⇓P P 23 43 19.2 +0.2
baz=78,SNR=5.8
C24A **Savage** 77.47 5 ⇑P P 23 43 19.2 +0.1
baz=78
D29A **Pettibone, Tap** 77.50 9 ⇓P P 23 43 19.4 +0.1
baz=78
D28A **Regan** 77.51 8 ⇑P P 23 43 20.0 +0.6
baz=78
YBMT **Yellow Bay** 77.54 358 *e*P P 23 43 20.3 +0.7
BSMT **Bassoo Peak** 77.55 358 *e*P P 23 43 20.2 +0.4
C22A **Vida** 77.58 4 ⇑P P 23 43 20.0 +0.2
baz=78,SNR=7.0
C21A **Desert Coulee** 77.59 3 ⇓P P 23 43 20.7 +0.8
baz=78
D30A **Buchanan** 77.66 9 ⇑P P 23 43 20.6 +0.5
baz=78
C09A **Chrisman Ranch** 77.67 356 *e*P P 23 43 21.0 +0.8
comp=Z,68nm,1.5s
C23A **Lambert** 77.68 5 ⇓P P 23 43 20.4 +0.1
baz=78,SNR=6.4
BLMT **Blacktail Moun** 77.69 358 *e*P P 23 43 21.0 +0.4
EGMT **Eagleton** 77.70 1 *e*P P 23 43 22.0 +1.5
comp=Z,160nm,2.0s
EGMT **Eagleton** 77.70 1 ⇓P P 23 43 21.0 +0.5

baz=78
C25A **Freed Ranch, W** 77.75 6 ⇓P P 23 43 21.6 +0.9
baz=78
NLWA **Neilton Lookou** 77.80 352 *e*P P 23 43 21.2 +0.2
comp=Z,24nm,1.0s
PIER **Pier 30 Seattl** 77.81 353 *e*PKiKP PKiKP 23 49 02.1 +2.2
NIHS **Ingelmoor High** 77.95 353 *e*P P 23 43 23.9 +2.1
C26A **Wahner Farm, P** 77.97 7 ⇓P P 23 43 22.5 +0.6
baz=78
C28A **Hausauer Farms** 78.05 8 ⇑P P 23 43 22.9 +0.6
baz=78
NEW **Newport** 78.06 356 *e*P P 23 43 23.0 +0.6
comp=Z,49nm,1.3s
NEW **Newport** 78.06 356 ⇓P P 23 43 22.9 +0.5
baz=78,SNR=17
B22A **Reddig Ranch S** 78.13 4 ⇑P P 23 43 23.3 +0.4
baz=78
B19A **Brinkman Farms** 78.15 2 ⇑P P 23 43 23.6 +0.7
baz=78
B20A **Solberg Farm,** 78.17 3 ⇑P P 23 43 24.0 +0.9
baz=78
MDND **Maddock** 78.28 8 *e*P P 23 43 23.4 -0.2
comp=Z,234nm,2.2s
MDND **Maddock** 78.28 8 ⇑P P 23 43 24.4 +0.8
baz=79
C30A **Mose, Pekin** 78.28 9 ⇓P P 23 43 24.3 +0.7
baz=79
B08A **Colville Reser** 78.30 355 *e*P P 23 43 22.8 -1.0
comp=Z,94nm,2.6s
B23A **Brockton** 78.36 5 ⇑P P 23 43 25.1 +1.1
baz=79
DGMT **Dagmar** 78.42 5 *e*P P 23 43 23.3 -1.1
comp=Z,157nm,1.6s
DGMT **Dagmar** 78.42 5 ⇓P P 23 43 25.2 +0.8
baz=79
COWI **Conover** 78.50 16 *e*P P 23 43 25.0 +0.2
comp=Z,32nm,1.1s
B26A **Jensen Ranch,** 78.50 7 ⇓P P 23 43 25.6 +0.7
baz=79
A20A **Cobblestone Ra** 78.61 3 ⇓P P 23 43 26.9 +1.4
baz=79
A19A **Klindworth Far** 78.63 2 ⇑P P 23 43 25.5 -0.1
baz=79
B06A **Marblemount** 78.65 353 *e*P P 23 43 25.7 +0.2
comp=Z,73nm,1.9s
CASY **Casey** 78.71 196 *e*P P 23 43 25.6 -0.3
comp=Z,30nm,1.4s
WALA **Waterton Lakes** 78.73 359 *e*P P 23 43 26.6 +0.4
A21A **Bergtoll Ranch** 78.77 3 ⇓P P 23 43 26.8 +0.4
baz=79,SNR=5.0
B28A **Dugan Ranch, T** 78.78 8 ⇑P P 23 43 26.7 +0.3
baz=79
MMNY **Mt. Morris Dam** 78.82 25 *e*P P 23 43 25.5 -1.2
comp=Z,166nm,1.5s
A22A **Carney Farms,** 78.82 4 ⇑P P 23 43 27.0 +0.3
baz=79
A23A **Redstone** 78.86 5 ⇓P P 23 43 27.3 +0.5
baz=79
A24A **Westby** 78.89 5 ⇓P P 23 43 27.4 +0.5
baz=79
PGC **Sidney** 78.99 352 *e*P P 23 43 28.1 +0.7
B30A **Myrvik Farm, E** 79.03 9 ⇓P P 23 43 28.1 +0.3
baz=79
SYO **Syowa Base** 79.06 170⇑ *e*P P 23 43 25.0 -2.8
SYO **Syowa Base** 79.06 170⇑ *e*pP P 23 43 28.4 +0.6
BINY **Binghamton** 79.08 26 *e*P P 23 43 26.4 -1.7
comp=Z,106nm,1.8s
A27A **Ledoux Ranch,** 79.17 7 ⇓P P 23 43 29.1 +0.6
baz=80
A05A **Maple Falls** 79.18 353 *e*P P 23 43 27.4 -1.1
comp=Z,78nm,1.8s
A28A **Rude Farm, Bot** 79.24 8 ⇑P P 23 43 29.2 +0.3
baz=80
AGMN **Agassiz Nation** 79.25 11 *e*P P 23 43 28.8 -0.2
comp=Z,17nm,1.0s
A29A **Manning Farm,** 79.38 8 ⇓P P 23 43 30.1 +0.4
baz=80
A30A **Hoffart Farm,** 79.52 9 ⇓P P 23 43 30.8 +0.4
baz=80
EYMN **Ely** 79.72 14 *e*P P 23 43 31.0 -0.5
comp=Z,25nm,1.1s
SADO **Sadowa** 80.17 23 LR LR 00 15 04.8
comp=Z,859nm,21.8s,baz=187,slow=33
LONY **Lake Ozonia** 81.68 26 *e*P P 23 43 39.9 -2.2
comp=Z,26nm,1.0s
MAW **Mawson** 82.61 178 P P 23 43 47.3 +0.5
comp=Z,3.9nm,0.7s,baz=186,slow=10.0,SNR=6.7
MAW LR LR 00 18 07.4
comp=Z,1μm,18.2s,baz=184,slow=34
EDM **Edmonton** 82.89 359 *e*P P 23 43 47.5 -0.8
EDM **Edmonton** 82.89 359 *e*P P 23 43 47.5 -0.8
BBB **Bella Bella** 83.08 350 LR LR 00 12 54.1
comp=Z,262nm,21.0s,baz=26,slow=30
EIDS **Eidsvold** 83.38 245 *e*P P 23 43 50.5 -1.1
comp=Z,31nm,1.4s
WVL **Waterville** 83.60 29 *e*P P 23 43 50.0 -2.1
FFC **Flin Flon** 84.81 6 *e*P P 23 43 57.0 -1.0
FFC pmax pmax
comp=Z,289nm,2.0s
FFC **Flin Flon** 84.81 6 *e*P P 23 43 57.0 -1.0
comp=Z,289nm,2.0s
STKA **Stephens Creek** 87.08 235 LR LR 00 18 44.1
comp=Z,210nm,20.1s,baz=199,slow=33
DLBC **Dease Lake** 89.42 351 *e*P P 23 44 20.0 -0.3
DLBC **Dease Lake** 89.42 351 LR LR 00 15 48.8
comp=Z,340nm,18.4s,baz=167,slow=30
YKA **Yellowknife Ar** 92.20 359 P P 23 44 32.5 -0.6
comp=Z,3.1nm,0.8s,baz=171,slow=4.9,SNR=12
YKB5 **Yellowknife Ar** 92.20 359 *e*P P 23 44 33.5 +0.4
HYT **Haines Junctio** 92.91 348 *e*P P 23 44 34.1 -2.5
SCHQ **Schefferville** 92.92 24 LR LR 00 22 09.4
comp=Z,465nm,21.3s,baz=88,slow=33
PMG **Port Moresby** 94.74 256 LR LR 00 17 05.1
comp=Z,243nm,21.5s,baz=202,slow=29
AS01 **Alice Springs** 97.33 237 *e*P P 23 44 56.6 -1.2
AS12 **Alice Springs** 97.37 237 *e*P P 23 44 57.5 -0.4
ASAR **Alice Springs** 97.37 237 P P 23 44 57.5 -0.4
comp=Z,2.1nm,1.2s,baz=140,slow=4.3,SNR=4.5
ASAR LR LR 00 22 48.3
comp=Z,592nm,19.9s,baz=164,slow=32
SVW2 **Sparrevohn** 97.50 340 *e*P P 23 44 56.1 -1.3
comp=Z,22nm,1.0s
MCK **McKinley** 97.92 344 *e*P P 23 44 58.5 -0.8
MCK pmax pmax
comp=Z,141nm,2.5s
MCK **McKinley** 97.92 344 *e*P P 23 44 58.5 -0.8
comp=Z,141nm,2.5s
TRF **Thorofare Moun** 98.01 344 *e*P P 23 44 59.7 -0.2
comp=Z,85nm,1.8s
IL1 **Eielson Array** 98.35 346 *e*P P 23 45 00.0 -1.2
ILAR **Eielson Array** 98.35 346 P P 23 45 00.8 -0.4
comp=Z,0.6nm,0.8s,baz=189,slow=3.6,SNR=5.3
ILAR LR LR 00 19 57.0
comp=Z,256nm,19.7s,baz=284,slow=30
ILB **Eielson Array** 98.35 346 *e*P P 23 45 00.8 -0.4
COLA **College** 98.65 345 *i*P Pdif 23 45 02.7 +0.2
COLA pmax pmax
comp=Z,23nm,1.4s
WRA **Warramunga Arr** 99.26 241 LR LR 00 23 15.8
comp=Z,841nm,21.1s,baz=145,slow=31
TOA0 **Torodi Ar. Sit** 116.73 90 *e*PKPdf PKPdf 23 50 09.5 +0.4
TOA0 *e*PP PP 23 51 17.3 +0.1
TORD **Torodi Ar. Bea** 116.73 90 PKP PKPdf 23 50 09.5 +0.4
comp=Z,1.8nm,1.2s,baz=270,slow=2.9,SNR=3.4
TORD PP PP 23 51 17.3 +0.1
comp=Z,1.6nm,1.1s,baz=230,slow=7.9,SNR=5.2
ESDC **Sonseca Array** 121.45 59 *e*PKPdf PKPdf 23 50 17.2 -0.3
ESDC **Sonseca Array** 121.45 59 PKP PKPdf 23 50 17.2 -0.3
comp=Z,0.2nm,0.6s,baz=253,slow=1.5,SNR=4.4
ESK **Eskdalemuir** 124.52 41 *e*PKIKP PKPdf 23 50 20.3 -2.5
ESK **Eskdalemuir** 124.52 41 *e*PKPdf PKPdf 23 50 20.3 -2.5
TIXI **Tiksi** 127.33 340 *i*PKIKP PKPdf 23 50 27.5 -0.2
USRK **Ussuriysk Arra** 128.39 305 PKP PKPdf 23 50 31.3 +0.7
comp=Z,1.7nm,0.6s,baz=45,slow=11,SNR=5.9
YAK **Yakutsk** 129.34 328 *i*PKIKP PKPdf 23 50 31.5 -0.3
MDJ **Mudanjiang** 130.14 305 PKP PKPdf 23 50 35.5 +1.6
MDJ PP PP 23 52 51.9 +4.7
MDJ PKS PKSdf 23 54 10.3 0.0
MDJ **Mudanjiang** 130.14 305 *e*PKPdf PKPdf 23 50 34.8 +0.9
KSRS **Korea Array** 130.47 295 PKP PKPdf 23 50 34.8 +0.1
comp=Z,1.0nm,0.8s,baz=70,slow=0.8,SNR=7.3
KS01 **Wonju Array Si** 130.50 295 *e*PKPdf PKPdf 23 50 35.3 +0.5
KS15 **Wonju Array Si** 130.50 295 *e*PKPdf PKPdf 23 50 34.8 0.0
SENIN **Lac Senin/Sane** 130.65 53 *e*PKPdf PKPdf 23 50 36.5 +1.5
BFO **Black Forest** 131.41 50 *e*PKIKP PKPdf 23 50 36.8 +0.6
BFO **Black Forest** 131.41 50 *e*PKPdf PKPdf 23 50 36.8 +0.6

TUE	**Stuetta**	**132.07**	**53**	*e*PKPdf	**PKPdf**	**23 50 36.0**	**-1.7**
FUORN	**Ofenpass-Fuorn**	**132.70**	**53**	*e*PKPdf	**PKPdf**	**23 50 37.8**	**-1.2**
TPUB	**Ta-pu**	**132.97**	**275**	*e*PKPdf	**PKPdf**	**23 50 35.9**	**-4.0**
GRFO	**Grafenberg**	**133.28**	**48**	*e*PKIKP	**PKPdf**	**23 50 39.0**	**-0.7**
GRFO	**Grafenberg**	**133.28**	**48**	*e*PKPdf	**PKPdf**	**23 50 39.0**	**-0.7**
GRF	**Grafenberg Arr**	**133.28**	**48**	*e*PKPdf	**PKPdf**	**23 50 41.0**	**+1.3**
GRF				*e*L	L	00 45 01.9	
	comp=Z,191nm,20.2s						
GRF	**Grafenberg Arr**	**133.28**	**48**	*e*PKIKP	**PKPdf**	**23 50 41.0**	**+1.3**
MOX	**Moxa**	**133.48**	**47**	*e*L	L	00 45 42.4	
	comp=Z,232nm,18.8s						
CLL	**Collm**	**134.30**	**46**	*i* PKIKP	**PKPdf**	**23 50 43.1**	**+1.6**
CLL				pmax	pmax		
	comp=Z,12nm,1.4s						
CLL	**Collm**	**134.30**	**46**	*i* PKPdf	**PKPdf**	**23 50 43.1**	**+1.6**
	comp=Z,12nm,1.4s						
CLL				*e*SKPdf	**SKiKP**	**23 54 18.0**	**-1.0**
CLL				*e*SKSac	**SKSac**	**23 57 54.0**	**+0.1**
CLL				*e*SS	SS	00 11 11.0	+7.5
CLL				LmV		00 48 00.0	
	comp=Z,200nm,19.0s						
KHC	**Kasperske Hory**	**134.86**	**49**	*e*PKIKP	**PKPdf**	**23 50 42.5**	**-0.2**
KHC	**Kasperske Hory**	**134.86**	**49**	*e*PKPdf	**PKPdf**	**23 50 42.5**	**-0.2**
BRG	**Berggiesshubel**	**134.93**	**47**	*e*P	**PKPdf**	**23 50 44.0**	**+1.3**
	comp=Z,19nm,1.8s						
BRG	**Berggiesshubel**	**134.93**	**47**	*e*PKIKP	**PKPdf**	**23 50 44.0**	**+1.3**
BRG				pmax	pmax		
	comp=Z,19nm,1.7s						
GEC2	**GERESS Array S**	**134.96**	**49**	*e*PKIKP	**PKPdf**	**23 50 43.7**	**+0.7**
GEC2	**GERESS Array S**	**134.96**	**49**	*e*PKPdf	**PKPdf**	**23 50 43.7**	**+0.7**
GERES	**GERESS Array B**	**134.96**	**49**	PKP	**PKPdf**	**23 50 42.4**	**-0.6**
	comp=Z,0.9nm,0.8s,baz=90,slow=1.3,SNR=7.1						
FIA0	**FINESS Array S**	**138.22**	**29**	*e*PKHKP	PKPpre	23 50 39.6	
FIA0				*e*		23 50 48.6	
FIA0	**FINESS Array S**	**138.22**	**29**	*e*PKPpre	PKPpre	23 50 39.6	
FIA0				*e*PKPdf	**PKPdf**	**23 50 48.6**	**+0.2**
FINES	**FINESS Array B**	**138.22**	**29**	PKhKP	PKPpre	23 50 39.6	
	comp=Z,1.6nm,0.9s,baz=186,slow=1.3,SNR=3.1						
FINES				PKP	**PKPdf**	**23 50 48.6**	**+0.2**
	comp=Z,5.2nm,1.1s,baz=281,slow=2.3,SNR=4.5						
VYHS	**Vyhne**	**138.38**	**49**	*e*PKIKP	**PKPdf**	**23 50 51.7**	**+2.5**
VYHS	**Vyhne**	**138.38**	**49**	*e*PKP	**PKPdf**	**23 50 51.7**	**+2.5**
KECS	**Kecovo**	**139.47**	**49**	*e*PKP	**PKPdf**	**23 50 54.2**	**+3.0**
STHS	**Stebnicka Huta**	**139.79**	**48**	*e*PKIKP	**PKPdf**	**23 50 53.4**	**+1.6**
STHS	**Stebnicka Huta**	**139.79**	**48**	*e*PKP	**PKPdf**	**23 50 53.3**	**+1.5**
SUW	**Suwalki**	**139.80**	**40**	*e*PKIKP	**PKPdf**	**23 50 51.2**	**-0.4**
SUW	**Suwalki**	**139.80**	**40**	*e*PKPdf	**PKPdf**	**23 50 51.2**	**-0.4**
SUW	**Suwalki**	**139.80**	**40**	*e*PKP	**PKPdf**	**23 50 53.5**	**+1.9**
WHN	**Wuhan**	**140.33**	**283**	PKP	**PKPdf**	**23 50 57.5**	**+4.2**
KOLS	**Kolonicke sedl**	**140.55**	**48**	*e*PKIKP	**PKPdf**	**23 50 56.0**	**+2.8**
KOLS	**Kolonicke sedl**	**140.55**	**48**	*e*PKP	**PKPdf**	**23 50 56.0**	**+2.8**
UZH	**Uzhgorod**	**140.62**	**49**	*e*PKHKP	PKPpre	23 50 37.0	
BUR04	**Bucovina Ar. S**	**142.74**	**50**	*e*PKPpre	PKPpre	23 50 54.7	
HHC	**Hu-ho-hao-te**	**143.36**	**299**	*e*PKP	PKPbc	23 50 56.1	+0.4
HHC				sPKP		23 51 06.6	
HHC				PP	**PP**	**23 54 10.9**	**+0.7**
HHC				SKS	SKSdf	23 58 00.5	-7.9
HHC				SKKS	**SKKSac**	**00 00 56.4**	**-6.6**
HHC				SS	**SS**	**00 12 47.8**	**-3.6**
HHC				AMB	AMB		
	comp=Z,170nm,8.3s						
HHC				LR	LR		
	comp=N,610nm,21.4s						
HHC				LR	LR		
	comp=E,2μm,21.4s						
HHC				LR	LR		
	comp=Z,400nm,19.0s						
IDI	**Anoyia**	**143.40**	**70**	*e*PKPdf	PKPbc	23 50 57.2	+1.2
IDI	**Anoyia**	**143.40**	**70**	PKP	PKPbc	23 50 57.0	+1.0
	comp=Z,6.8nm,0.8s,baz=337,slow=7.7,SNR=3.6						
MLR	**Muntele Rosu**	**143.66**	**53**	*e*PKPpre	PKPbc	23 50 56.4	-0.1
MLR	**Muntele Rosu**	**143.66**	**53**	⇑*i*P	PKPbc	23 50 56.7	+0.2
MLR	**Muntele Rosu**	**143.66**	**53**	PKhKP	PKPbc	23 50 56.4	-0.1
	comp=Z,2.2nm,0.9s,baz=309,slow=3.1,SNR=12						
KLMR	**Klimovskoe**	**143.76**	**23**	*e*PKHKP	PKPab	23 50 54.1	-1.2
KLMR				pmax	pmax		
	comp=Z,177nm,1.7s						
KIEV	**Kiev**	**144.39**	**43**	*e*PKIKP	**PKPab**	**23 50 57.7**	**-0.3**
KIEV				*e*		23 50 58.0	
KIEV	**Kiev**	**144.39**	**43**	*e*PKPdf	**PKPab**	**23 50 57.7**	**-0.3**
KIEV				*ep*PKPdf	PKPbc	23 50 58.0	-0.3
AKASG	**Malin Array Be**	**144.39**	**43**	PKP	**PKPab**	**23 50 58.0**	**-0.1**
	comp=Z,0.6nm,0.3s,baz=272,slow=4.3,SNR=16						
AKBB	**Malin Array Si**	**144.39**	**43**	*e*PKIKP	**PKPab**	**23 50 58.0**	**-0.1**
AKBB	**Malin Array Si**	**144.39**	**43**	*e*PKPdf	**PKPab**	**23 50 58.0**	**-0.1**
ENH	**Enshi**	**144.41**	**281**	*e*PKPdf	**PKPab**	**23 50 57.1**	**-1.7**
CFR	**Carcaliu**	**145.24**	**53**	⇓*i*P	**PKPdf**	**23 51 02.6**	**+1.1**
KIS	**Kishinev**	**145.27**	**50**	*e*PKP	**PKPbc**	**23 51 01.0**	**-0.3**
KIS				M		23 51 02.0	
	comp=Z,200nm,1.6s						
KIS				LRM	MLR	00 56 30.0	
	comp=Z,300nm,24.0s						
KIS	**Kishinev**	**145.27**	**50**	*e*PKIKP	**PKPbc**	**23 51 01.0**	**-0.3**
KIS				pmax	pmax		
	comp=Z,200nm,1.6s						
KIS				MLR	MLR		
	comp=Z,300nm,24.0s						
FURI	**Furi**	**145.34**	**121**	*e*PKPdf	**PKPdf**	**23 51 04.7**	**+1.6**
ULN	**Ulaanbaatar**	**145.34**	**312**	*e*PKPbc	**PKPbc**	**23 51 00.7**	**-1.0**
ULN				*e*PKPdf	**PKPdf**	**23 51 01.5**	**-0.4**
XAN	**Xi'an**	**145.38**	**287**	PKPbc	**PKPab**	**23 51 02.3**	**0.0**
IRK	**Irkutsk**	**145.42**	**320**	*e*PKIKP	**PKPbc**	**23 51 01.6**	**0.0**
IRK				pmax	pmax		
	comp=Z,207nm,1.7s						
TIRR	**Tirgusor**	**145.57**	**54**	*e*PKP2	**PKPdf**	**23 50 59.9**	**-2.2**
TIRR	**Tirgusor**	**145.57**	**54**	*e*PKPdf	**PKPdf**	**23 50 59.9**	**-2.2**
SONA1	**Songino Array**	**145.76**	**312**	*e*PKPdf	**PKPdf**	**23 51 02.7**	**+0.1**
SONA1				*e*PP	**PP**	**23 54 21.1**	**-3.1**
SONA0	**Songino Array**	**145.77**	**312**	*e*PKPdf	**PKPbc**	**23 51 02.9**	**-0.2**
SONA0				*e*PP	**PP**	**23 54 21.3**	**-3.0**
SONM	**Songino Array**	**145.77**	**312**	PKPbc	**PKPbc**	**23 51 02.9**	**-0.2**
	comp=Z,4.2nm,0.8s,baz=103,slow=1.6,SNR=27						
SONM				PP	**PP**	**23 54 21.3**	**-3.0**
	comp=Z,1.3nm,1.1s,baz=74,slow=6.3,SNR=3.7						
GYA	**Guiyang**	**146.01**	**274**	PKPbc	**PKPbc**	**23 51 04.3**	**-0.1**
GYA				PP	**PP**	**23 54 30.0**	**+3.5**
GYA				PKS	**PKSdf**	**23 54 37.6**	**-1.7**
GYA				SKKS		00 01 17.8	
GYA				SS	**SS**	**00 13 22.4**	**-0.1**
GYA				AMB	AMB		
	comp=Z,120nm,7.8s						
GYA				LR	LR		
	comp=N,140nm,22.6s						
GYA				LR	LR		
	comp=E,120nm,24.4s						
GYA				LR	LR		
	comp=Z,150nm,23.8s						
TLY	**Talaya**	**146.02**	**320**	*c i*PKP2	**PKPab**	**23 51 04.2**	**+0.1**
TLY				pmax	pmax		
	comp=Z,96nm,1.5s						
OBN	**Obninsk**	**146.28**	**33**	*e*PKIKP	**PKPdf**	**23 51 01.5**	**-1.4**
OBN				*e*		23 54 26.9	
OBN				pmax	pmax		
	comp=Z,56nm,1.3s						
MOS	**Moscow**	**146.40**	**31**	*e*PKP2	**PKPdf**	**23 51 03.6**	**+0.5**
MOS				pmax	pmax		
	comp=Z,74nm,1.4s						
ZAK	**Zakamensk**	**146.78**	**318**	*e*PKIKP	**PKPbc**	**23 51 05.2**	**-0.7**
ZAK				pmax	pmax		
	comp=Z,32nm,1.5s						
MOY	**Mondy**	**147.49**	**321**	*e*PKP2	**PKPbc**	**23 51 08.4**	**+0.5**
MOY				pmax	pmax		
	comp=Z,87nm,1.9s						
ISP	**Isparta**	**147.97**	**66**	*e*PKP2	**PKPbc**	**23 51 10.1**	**+0.5**
ISP	**Isparta**	**147.97**	**66**	*e*PKPdf	**PKPbc**	**23 51 10.1**	**+0.5**
KMI	**Kunming**	**149.04**	**269**	PKPbc	**PKPbc**	**23 51 13.8**	**+0.9**
KMI				SKKS		00 01 37.1	
KMI				LR	LR		
	comp=N,250nm,20.6s						
KMI				LR	LR		
	comp=E,190nm,21.6s						
KMI				LR	LR		
	comp=Z,270nm,19.9s						
CD2	**Chengdu**	**149.39**	**281**	PKPbc	**PKPdf**	**23 51 09.9**	**+0.9**
CD2				PKS	**PKSdf**	**23 54 43.4**	**-0.6**
CD2				PP	**PP**	**23 54 50.2**	**+4.0**
CD2				SKS	**SKSdf**	**23 58 15.3**	**-2.1**
CD2				SKKS	**SKKSac**	**00 01 37.5**	**+0.1**
CD2				SS	**SS**	**00 14 01.3**	**+0.9**
CD2				AMB	AMB		
	comp=Z,240nm,5.3s						
CD2				LR	LR		
	comp=N,700nm,4.8s						
CD2				LR	LR		
	comp=Z,210nm,7.7s						
SIM	**Simferopol'**	**149.39**	**51**	*i* PKP2	**PKPbc**	**23 51 14.0**	**+1.1**
SIM				pmax	pmax		
	comp=Z,18nm,1.5s						
SOKR	**Solikamsk**	**149.42**	**11**	*e*PKIKP	**PKPdf**	**23 51 08.5**	**+0.5**
SOKR				pmax	pmax		
	comp=Z,10.0nm,1.3s						
BR231	**Keskin MP Arra**	**149.54**	**62**	*e*PKPdf	**PKPdf**	**23 51 09.3**	**+0.3**
BR231				*e*PKPbc	**PKPbc**	**23 51 14.1**	**+0.5**
ANTO	**Ankara**	**149.55**	**62**	*e*PKIKP	**PKPdf**	**23 51 10.8**	**+1.8**
ANTO	**Ankara**	**149.55**	**62**	*e*PKPdf	**PKPdf**	**23 51 10.8**	**+1.8**
LZH	**Lanzhou**	**149.61**	**291**	*e*PKPbc	**PKPdf**	**23 51 04.9**	**-4.4**
LZH				pPKP	**pPKPdf**	**23 51 12.0**	**-0.8**
LZH				sPKP		23 51 14.7	
LZH				PKS	PKSdf	23 54 38.0	-6.4
LZH				SS	SS	00 13 55.8	-7.0
LZH				AMB	AMB		
	comp=Z,170nm,4.6s						
CM01	**Chiang Mai Arr**	**149.74**	**255**	*e*PKPdf	**PKPdf**	**23 51 08.9**	**-1.0**
CM01				*e*PKPbc	**PKiKP**	**23 51 15.3**	**-0.2**
VSR	**Storozhevoye**	**149.77**	**37**	*e*PKP2	**PKPbc**	**23 51 13.5**	**-0.1**
VSR				pmax	pmax		
	comp=Z,40nm,1.2s						
VSR				pmax	pmax		
	comp=N,6.0nm,0.6s						
VSR				pmax	pmax		
	comp=E,7.0nm,1.1s						
CHTO	**Chiang Mai**	**149.93**	**255**	*e*PKIKP	**PKPbc**	**23 51 15.7**	**+0.7**
CHTO	**Chiang Mai**	**149.93**	**255**	*e*PKPbc	**PKPbc**	**23 51 15.7**	**+0.7**
VORD	**Divnogorie**	**149.97**	**38**	*e*PKP2	**PKPbc**	**23 51 13.8**	**-0.3**
VORD				pmax	pmax		
	comp=Z,20nm,1.1s						
VORD				pmax	pmax		
	comp=N,8.0nm,0.9s						
VORD				pmax	pmax		
	comp=E,10.0nm,1.1s						
BR101	**Keskin Array S**	**150.21**	**62**	*e*PKPbc	**PKPbc**	**23 51 14.7**	**-0.6**
BRTR	**Keskin Array B**	**150.21**	**62**	PKPbc	**PKPbc**	**23 51 14.7**	**-0.6**
	comp=E,9.0nm,1.0s,baz=212,slow=1.8,SNR=26						
CSS	**Prodhromos**	**150.29**	**71**	*e*PKPbc	**PKPbc**	**23 51 15.6**	**+0.2**
VRHR	**Novokhopersk**	**151.11**	**36**	*e*PKIKP	**PKPbc**	**23 51 17.3**	**+0.5**
VRHR				pmax	pmax		
	comp=Z,30nm,1.0s						
VRHR				pmax	pmax		
	comp=N,9.0nm,0.6s						
VRHR				pmax	pmax		
	comp=E,8.0nm,0.8s						
EIL	**Elat**	**151.24**	**82**	*e*PKPdf	**PKPdf**	**23 51 12.8**	**+0.9**
EIL				*e*PKPbc	**PKiKP**	**23 51 18.3**	**0.0**
EIL	**Elat**	**151.24**	**82**	PKP	**PKPdf**	**23 51 12.8**	**+0.9**
	comp=E,2.6nm,0.7s,baz=301,slow=20,SNR=4.1						
EIL				*e*P	**PKiKP**	**23 51 18.3**	**0.0**
	comp=E,10nm,0.9s,baz=303,slow=3.6,SNR=8.9						
MMAI	**Mount Meron Ar**	**151.97**	**75**	PKP	**PKPdf**	**23 51 13.7**	**+0.7**
	comp=E,8.6nm,1.1s,baz=208,slow=8.2,SNR=5.4						
GTA	**Gaotai**	**152.46**	**298**	*e*PKPbc	**PKPdf**	**23 51 14.7**	**+1.1**
GTA				pPKP	**PKiKP**	**23 51 22.1**	**+1.4**
GTA				PKPab	**PKPab**	**23 51 34.1**	**+3.3**
GTA				PP	**PP**	**23 55 07.0**	**+3.4**
GTA				SKS	**SKSdf**	**23 58 17.6**	**-3.4**
GTA				SKKS	**SKKSac**	**00 01 51.3**	**-2.7**
GTA				SS	**SS**	**00 14 32.1**	**-1.9**
GTA				AMB	AMB		
	comp=Z,150nm,6.7s						
GTA				LR	LR		
	comp=N,110nm,17.6s						
GTA				LR	LR		
	comp=E,100nm,18.3s						
GTA				LR	LR		
	comp=Z,140nm,20.0s						
SVE	**Sverdlovsk**	**152.67**	**9**	*e*PKIKP	**PKPdf**	**23 51 14.6**	**+1.5**
SVE				pmax	pmax		
	comp=Z,32nm,1.7s						
ARU	**Arti**	**152.73**	**12**	*i* PKIKP	**PKPdf**	**23 51 13.9**	**+0.7**
ASF	**Jabal al Asfar**	**153.18**	**77**	*e*PKPdf	**PKPdf**	**23 51 15.7**	**+0.9**
ASF				*e*PKPbc	**PKiKP**	**23 51 24.2**	**+1.9**
ASF	**Jabal al Asfar**	**153.18**	**77**	PKP	**PKPdf**	**23 51 15.7**	**+0.9**
	comp=Z,7.8nm,1.2s,baz=219,slow=4.9,SNR=11						
ASF				PKPbc	**PKiKP**	**23 51 24.2**	**+1.9**
	comp=Z,15nm,1.3s,baz=168,slow=1.9,SNR=8.9						
ZAA0	**Zalesovo Array**	**153.20**	**338**	*e*PKPdf	**PKPdf**	**23 51 12.3**	**-1.7**
ZAA0				*e*PKPab	**PKPab**	**23 51 32.6**	**-0.5**
ZALV	**Zalesovo Beam**	**153.20**	**338**	PKP	**PKPdf**	**23 51 13.6**	**-0.4**
	comp=Z,1.8nm,0.7s,baz=234,slow=1.3,SNR=6.7						
ZALV				PKPbc	**PKPbc**	**23 51 21.3**	**-0.1**
	comp=Z,4.5nm,0.8s,baz=37,slow=2.2,SNR=12						
DAMY	**Dhamar**	**153.25**	**120**	*e*PKPdf	**PKPdf**	**23 51 15.8**	**+0.2**
DAMY				*e*PKPab	**PKPab**	**23 51 36.8**	**+1.9**
MALT	**Malatya**	**154.12**	**63**	⇑*i*P	**PKPdf**	**23 51 18.8**	**+2.8**
KIV	**Kislovodsk**	**155.46**	**48**	*e*PKIKP	**PKPdf**	**23 51 18.7**	**+1.1**
KIV				*e*		23 55 19.4	
KIV				*e*SS	SS	00 15 06.4	+0.5
KIV				pmax	pmax		
	comp=Z,10.0nm,1.1s						
KBZ	**Khabaz**	**155.70**	**49**	*e*PKIKP	**PKPdf**	**23 51 18.7**	**+0.9**
KBZ	**Khabaz**	**155.70**	**49**	*e*PKPdf	**PKPdf**	**23 51 18.7**	**+0.9**
KBZ	**Khabaz**	**155.70**	**49**	PKP	**PKPdf**	**23 51 18.7**	**+0.9**
	comp=Z,5.8nm,0.9s,baz=333,slow=0.8,SNR=11						
BRVK	**Borovoye**	**156.92**	**357**	*e*PKIKP	**PKPdf**	**23 51 20.1**	**+1.0**
BRVK	**Borovoye**	**156.92**	**357**	*e*PKPdf	**PKPdf**	**23 51 20.1**	**+1.0**
BRVK				*e*PKPab	**PKPab**	**23 51 49.1**	**+0.1**
BVAR	**Borovoye Array**	**156.94**	**357**	PKPab	**PKPab**	**23 51 48.7**	**-0.5**
	comp=Z,4.2nm,0.8s,baz=310,slow=3.4,SNR=12						
VOSK	**Vostochnaya**	**157.21**	**356**	*e*PKIKP	**PKPdf**	**23 51 19.8**	**+0.3**
VOSK	**Vostochnaya**	**157.21**	**356**	*e*PKPdf	**PKPdf**	**23 51 19.8**	**+0.3**
VOSK				*e*PKPab	**PKPab**	**23 51 48.1**	**-2.2**
KURK	**Kurchatov**	**157.88**	**342**	*e*PKIKP	**PKPdf**	**23 51 19.6**	**-0.7**
KURK	**Kurchatov**	**157.88**	**342**	*e*PKPdf	**PKPdf**	**23 51 19.6**	**-0.7**
KURK				*e*PKPab	**PKPab**	**23 51 53.3**	**+0.1**
KURBB	**Kurchatov Arra**	**157.99**	**342**	PKP	**PKPdf**	**23 51 19.6**	**-0.9**
	comp=Z,3.3nm,1.0s,baz=25,slow=1.0,SNR=22						
KURBB				PKPab	**PKPab**	**23 51 53.3**	**-0.4**
	comp=Z,2.7nm,0.8s,baz=28,slow=4.2,SNR=14						
AKTO	**Aktyubinsk**	**158.21**	**18**	PKP	**PKPdf**	**23 51 20.7**	**-0.1**
	comp=Z,1.8nm,0.8s,baz=8.6,slow=3.7,SNR=7.0						
AKTO				PKPab	**PKPab**	**23 51 54.5**	**-0.2**
	comp=Z,2.7nm,0.7s,baz=315,slow=7.3,SNR=7.6						
GNI	**Garni**	**158.38**	**56**	*e*PKPab	**PKPab**	**23 51 54.7**	**-1.4**
RAYN	**Ar Rayn**	**158.77**	**102**	*e*PKPdf	**PKPdf**	**23 51 22.7**	**+0.3**
RAYN				*e*PKPab	**PKPab**	**23 51 57.1**	**-1.0**
WMQ	**Urumqi**	**159.24**	**317**	*e*PKP	**PKPdf**	**23 51 23.3**	**+0.9**
WMQ				PKS	**PKSdf**	**23 54 55.4**	**-0.5**
WMQ				PP	**PP**	**23 55 44.8**	**+4.2**
WMQ				SKKS		00 02 27.7	
WMQ				SS	**SS**	**00 15 44.8**	**-1.2**
WMQ				AMB	AMB		
	comp=Z,180nm,4.1s						
WMQ				LR	LR		
	comp=N,200nm,24.5s						
WMQ				LR	LR		
	comp=E,120nm,24.5s						
WMQ				LR	LR		
	comp=Z,170nm,25.8s						
MK32	**Makanchi Array**	**159.97**	**331**	*e*PKPdf	**PKPdf**	**23 51 22.2**	**-0.8**
MK32				*e*PKPab	**PKPab**	**23 52 01.9**	**-0.6**
MKAR	**Makanchi Array**	**159.97**	**331**	*e*PKIKP	**PKPdf**	**23 51 22.4**	**-0.7**
MKAR				*e*		23 52 03.5	
MKAR	**Makanchi Array**	**159.97**	**331**	*e*PKPdf	**PKPdf**	**23 51 22.4**	**-0.7**
MKAR				*e*PKPab	**PKPab**	**23 52 03.5**	**+0.9**
MKAR	**Makanchi Array**	**159.97**	**331**	PKP	**PKPdf**	**23 51 22.2**	**-0.8**
	comp=Z,2.4nm,1.1s,baz=64,slow=2.8,SNR=6.2						
MKAR				PKPab	**PKPab**	**23 52 01.9**	**-0.6**
	comp=Z,1.0nm,0.8s,baz=36,slow=5.1,SNR=4.8						
MK01	**Makanchi Array**	**159.99**	**331**	*e*PKPdf	**PKPdf**	**23 51 21.4**	**-1.6**
MK01				*e*PKPab	**PKPab**	**23 52 02.8**	**+0.3**
LSA	**Lhasa**	**160.07**	**275**	*e*PKIKP	**PKPdf**	**23 51 23.8**	**-0.4**
LSA	**Lhasa**	**160.07**	**275**	*e*PKPdf	**PKPdf**	**23 51 23.8**	**-0.4**
TKM2	**Tokmak 2**	**165.81**	**337**	*e*PKIKP	**PKPdf**	**23 51 28.3**	**-0.8**
TKM2				*e*		23 52 27.4	
TKM2	**Tokmak 2**	**165.81**	**337**	*e*PKPdf	**PKPdf**	**23 51 28.3**	**-0.8**
TKM2				*e*PKPab	**PKPab**	**23 52 27.4**	**-1.0**
AAK	**Ala-Archa**	**166.41**	**340**	*e*PKIKP	**PKPdf**	**23 51 29.4**	**-0.1**
AAK				*e*		23 52 27.9	
AAK	**Ala-Archa**	**166.41**	**340**	*e*PKPdf	**PKPdf**	**23 51 29.4**	**-0.1**
AAK				*e*PKPab	**PKPab**	**23 52 27.9**	**-3.1**
EKS2	**Erkin-Say**	**166.59**	**342**	*e*PKIKP	**PKPdf**	**23 51 27.9**	**-1.7**
EKS2				*e*		23 52 31.9	
EKS2	**Erkin-Say**	**166.59**	**342**	*e*PKPdf	**PKPdf**	**23 51 27.9**	**-1.7**
EKS2				*e*PKPab	**PKPab**	**23 52 31.9**	**+0.1**
KKAR	**Karatay Array**	**166.80**	**352**	*e*PKIKP	**PKPdf**	**23 51 29.3**	**-0.3**
KKAR				*e*		23 52 32.1	
KKAR	**Karatay Array**	**166.80**	**352**	*e*PKPdf	**PKPdf**	**23 51 29.3**	**-0.3**
KKAR				*e*PKPab	**PKPab**	**23 52 32.0**	**-0.4**
KSH	**Kashi**	**168.56**	**328**	*e*PKP	**PKPdf**	**23 51 32.5**	**+1.4**
KSH				PKS	**PKSdf**	**23 55 04.2**	**+0.5**
KSH				PP	**PP**	**23 56 34.0**	**+4.7**
KSH				SKS	**SKSdf**	**23 58 35.5**	**+0.5**
KSH				SKKS	**SKKSac**	**00 03 19.8**	**+2.7**
KSH				SS	**SS**	**00 17 23.9**	**+2.6**
KSH				AMB	AMB		
	comp=Z,110nm,5.0s						
KSH				LR	LR		
	comp=N,75nm,4.5s						
KSH				LR	LR		
	comp=E,99nm,5.3s						
KSH				LR	LR		
	comp=Z,160nm,5.3s						
KBL	**Kabul**	**175.42**	**351**	*e*PKIKP	**PKPdf**	**23 51 33.1**	**-1.4**
KBL				*e*		23 53 10.6	
KBL	**Kabul**	**175.42**	**351**	*e*PKPdf	**PKPdf**	**23 51 33.1**	**-1.4**
KBL				*e*PKPab	**PKPab**	**23 53 10.6**	**-0.5**

ISCJB ***10*** *23:35:21.9±0.3,29°.99S±0°.05×111°.82W±0°.09,h10km, mb4.9/88,MS4.8/5,Error ellipse: s-maj=11.9km s-min=7.1km az=167.2*

MOS ***10*** *23:35:22.1±1.3,29°.85S×111°.59W,h10km,mb5.2/27, Error ellipse: s-maj=20.1km s-min=9.0km az=87.2*

IDC ***10*** *23:35:22.5±0.6,29°.87S×111°.94W,h0km,mb4.2/11, mb1 4.4/11,mb1mx4.4/17,mbtmp4.2/11,Error ellipse: s-maj=25.8km s-min=18.1km az=48.0*

BJI ***10*** *23:35:23.4,29°.90S×111°.80W,h6km,mB5.5/10,Ms5.5/4, Ms7 5.0/8*

NEIC ***10*** *23:35:24.0±2.0,29°.92S×111°.92W,h11km±3km,mb5.1/82, Error ellipse: s-maj=17.0km s-min=16.1km az=47.0*

GCMT ***10*** *23:35:29.2±0.5,30°.05S×112°.06W,h23km±1km,MW5.1, Moment Tensor Solution. s39,c46; s51,c68; Moment tensor: Scale 10^16^Nm; Mrr5.13±.41; Mθθ-4.72±.27; Mφφ-0.41±.28; Mrθ-1.17±.41; Mrφ1.39±.18; Mθφ-2.05±.53; Best double couple: M0:5.60000×10^16^ NP1:φs266.00000°, δ52.00000°,λ63.00000°. NP2:φs125.00000°,δ45.00000°, λ120.00000°. Principal axes: T 6.0300, Plg69.0000°, Azm114.0000°; N -0.8700, Plg21.0000°, Azm284.0000°; P -5.1600, Plg3.0000°, Azm15.0000°; Data Used: II IU G CN IC.*

ISC 10 23:35:23.4±0.3,29°.93S±0°.09×111°.90W±0°.08,h10km, n537,σ1$25/566,mb5.1/88,MS4.8/5,143C-158D,Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**35.12**	**119**	*e*P	**P**	**23 42 16.7**	**-0.4**
	49nm,1.7s						
PLCA	**Paso Flores**	**35.12**	**119**	P	**P**	**23 42 19.3**	**+2.2**
	5.5nm,0.9s,baz=270,slow=8.8,SNR=7.1						
CFAA	**Coronel Fontan**	**37.37**	**104**	*e*P	**P**	**23 42 37.2**	**+0.9**
CFAA	**Coronel Fontan**	**37.37**	**104**	P	**P**	**23 42 37.2**	**+0.9**
	1.2nm,0.9s,baz=267,slow=8.1,SNR=7.4						
TRQA	**Tornquist**	**41.75**	**115**	*e*P	**P**	**23 43 11.8**	**-1.1**
	52nm,1.9s						
LPAZ	**La Paz**	**42.23**	**81**	*e*P	**P**	**23 43 16.3**	**-1.3**
	32nm,1.9s						
LPAZ				*e*PcP	**PcP**	**23 45 11.8**	**0.0**
LPAZ	**La Paz**	**42.23**	**81**	P	**P**	**23 43 17.9**	**+0.3**
	4.9nm,1.1s,baz=237,slow=1.8,SNR=4.7						
LPAZ				PcP	**PcP**	**23 45 11.8**	**0.0**
	1.8nm,0.9s,baz=226,slow=2.0,SNR=4.3						
CPUP	**Villa Florida**	**47.88**	**100**	*e*P	**P**	**23 44 00.7**	**-1.1**
CPUP	**Villa Florida**	**47.88**	**100**	P	**P**	**23 44 02.0**	**+0.2**
	0.8nm,0.5s,baz=253,slow=15,SNR=5.3						
SAML	**Samuel**	**50.01**

MNTX	Cornudas Mount	61.61	6	eP	P	23 45 41.0 -0.1
	comp=Z,9.6nm,1.1s					
221A	Mesquite Ranch	61.73	4	⇓P	P	23 45 43.0 +1.0
	baz=62					
329A	Wagon Wheel Ra	61.81	10	⇑P	P	23 45 43.6 +1.1
	baz=62,SNR=9.9					
223A	Chaparral, Ant	61.82	5	⇓P	P	23 45 43.5 +0.9
	baz=62					
330A	Mertzon	61.85	10	⇓P	P	23 45 43.5 +0.7
	baz=62,SNR=9.5					
331A	San Angelo	61.87	11	⇓P	P	23 45 43.9 +1.0
	baz=62					
TUC	Tucson	61.91	1	eP	P	23 45 42.3 -0.9
TUC				pmax	pmax	
	comp=Z,33nm,2.0s					
TUC	Tucson	61.91	1	eP	P	23 45 42.3 -0.9
	comp=Z,33nm,2.0s					
224A	Cornudas Mount	61.97	6	⇑P	P	23 45 45.0 +1.3
	baz=62,SNR=18					
332A	Millersview	62.06	12	⇑P	P	23 45 44.8 +0.6
	baz=62					
225A	Deer Hill, Car	62.07	7	⇑P	P	23 45 45.2 +0.8
	baz=62					
226B	Tecolote Peak,	62.11	7	⇑P	P	23 45 45.7 +1.1
	baz=62					
GDL2	Guadalupe Moun	62.21	7	eP	P	23 45 44.3 -0.9
120A	U Bar Ranch, L	62.22	3	⇑P	P	23 45 46.7 +1.4
	baz=62					
121A	Cookes Peak, D	62.25	4	⇓P	P	23 45 47.2 +1.6
	baz=63,SNR=8.7					
229A	Bryant Ranch,	62.30	10	⇓P	P	23 45 47.3 +1.5
	baz=63					
230A	Sterling City	62.33	10	⇓P	P	23 45 47.3 +1.3
	baz=63					
228A	UT Block 9, Go	62.34	9	⇓P	P	23 45 47.4 +1.3
	baz=63					
DVTC	Desert V Tower	62.38	356	⇑P	P	23 45 48.0 +1.7
	baz=63					
113A	Mohawk Valley,	62.39	358	⇓P	P	23 45 48.0 +1.8
	baz=63					
122A	Conniff Cattle	62.47	5	⇓P	P	23 45 48.9 +1.9
	baz=63					
231A	Bronte	62.51	11	⇑P	P	23 45 48.9 +1.7
	baz=63					
232A	Coleman	62.57	12	⇓P	P	23 45 48.3 +0.7
	baz=63,SNR=11					
124A	Stringfield Ra	62.59	6	⇓P	P	23 45 48.8 +0.9
	baz=63,SNR=12					
125A	Gardner Draw,	62.63	7	⇑P	P	23 45 48.9 +0.9
	baz=63,SNR=20					
MONP	Monument Peak	62.63	356	⇓P	P	23 45 49.6 +1.4
	baz=63					
SWSC	Sam W. Stewart	62.64	356	⇓P	P	23 45 50.0 +2.1
	baz=63					
126A	Clayton Basin,	62.69	7	⇓P	P	23 45 49.4 +1.0
	baz=63					
GLA	Glamis	62.71	357	eP	P	23 45 50.3 +1.8
GLA				pmax	pmax	
	comp=Z,8.0nm,1.0s					
GLA	Glamis	62.71	357	eP	P	23 45 50.3 +1.8
	comp=Z,7.6nm,1.0s					
128A	Castleberry Fa	62.85	9	⇑P	P	23 45 50.5 +1.0
	baz=63,SNR=12					
SCI	San Clemente I	62.89	354	⇓P	P	23 45 51.6 +1.9
	baz=63					
Z22A	Elephant Butte	63.02	5	⇓P	P	23 45 52.2 +1.5
	baz=63					
Z21A	St. Cloud Mine	63.03	4	⇓P	P	23 45 52.4 +1.5
	baz=63,SNR=19					
130A	Snyder	63.05	10	⇓P	P	23 45 52.0 +1.2
	baz=63					
Z23A	Rita Site, Whi	63.08	5	⇓P	P	23 45 52.3 +1.3
	baz=63					
WHTX	Lake Whitney	63.09	14	eP	P	23 45 51.1 +0.1
WHTX	Lake Whitney	63.09	14	⇑P	P	23 45 52.0 +1.0
	baz=63					
131A	Roby	63.22	11	⇑P	P	23 45 53.0 +1.1
	baz=64					
Z24A	Sheeppen Canyo	63.22	6	⇓P	P	23 45 53.1 +1.0
	baz=64					
Z25A	Roswell	63.24	7	⇓P	P	23 45 52.5 +0.4
	baz=64,SNR=8.3					
ABTX	Abilene, Hawle	63.29	12	eP	P	23 45 52.0 -0.3
ABTX	Abilene, Hawle	63.29	12	⇑P	P	23 45 53.1 +0.8
	baz=64					
Z26A	Caprock	63.31	7	⇓P	P	23 45 52.8 +0.2
	baz=64,SNR=12					
BC3	Big Chuckawall	63.34	357	⇓P	P	23 45 54.4 +1.7
	baz=64					
PFO	Pinyon Flat Ob	63.35	356	⇓P	P	23 45 54.0 +1.2
	baz=64					
Y12C	Blythe	63.39	358	⇑P	P	23 45 54.2 +1.3
	baz=64					
Z27A	Tatum	63.44	8	⇑P	P	23 45 54.2 +0.7
	baz=64,SNR=14					
NATX	Nacogdoches	63.50	16	eP	P	23 45 55.1 +1.4
	comp=Z,100nm,1.8s					
Z28A	Tucker Farm, M	63.52	9	⇓P	P	23 45 54.2 +0.2
	baz=64					
Y14A	Wickenburg	63.54	359	⇓P	P	23 45 54.8 +0.8
	baz=64					
Y20A	Horse Springs,	63.59	3	⇓P	P	23 45 55.7 +1.2
	baz=64,SNR=12					
Z29A	Hungry Hill Ra	63.59	10	⇓P	P	23 45 55.2 +0.9
	baz=64					
Y22A	Socorro	63.70	5	⇓P	P	23 45 56.4 +1.2
	baz=64,SNR=9.8					
Z30A	Sanderson Ranc	63.70	10	⇓P	P	23 45 55.8 +0.8
	baz=64					
BELC	Belle Mtn. Jos	63.71	356	⇑P	P	23 45 56.5 +1.3
	baz=64,SNR=9.3					
Y21A	Point of Rocks	63.72	4	⇓P	P	23 45 56.6 +1.2
	baz=64					
Y23A	Lovelace Mesa,	63.76	5	⇓P	P	23 45 57.2 +1.6
	baz=64,SNR=13					
Y24A	Capitan	63.81	6	⇑P	P	23 45 57.1 +1.2
	baz=64,SNR=22					
IRM	Iron Mountain	63.82	357	⇑P	P	23 45 57.2 +1.4
	baz=64					
Y25A	Mesa, Roswell	63.88	7	⇓P	P	23 45 57.1 +0.7
	baz=64,SNR=14					
Z31A	Sharp Cattle R	63.89	11	⇓P	P	23 45 57.3 +1.0
	baz=64					
LENM	Lemitar	63.92	5	eP	P	23 45 57.9 +1.2
BNM	Barren Site	63.93	5	eP	P	23 45 57.7 +0.9
Y26A	Elida	63.97	7	⇓P	P	23 45 57.3 +0.4
	baz=64,SNR=11					
Z32A	Haskell	63.99	12	⇓P	P	23 45 57.6 +0.7
	baz=64					
X16A	Lo Mia Camp, P	64.01	0	⇑P	P	23 45 58.2 +0.9
	baz=64					
Y27A	Causey	64.01	8	⇓P	P	23 45 57.8 +0.6
	baz=64,SNR=18					
BBRC	Big Bear Solar	64.03	355	eP	P	23 45 59.8 +2.4
PASC	Pasadena Art C	64.04	354	ePKiKP	PKiKP	23 52 39.1 -1.3
MSTX	Muleshoe	64.14	8	eP	P	23 45 58.4 +0.4
	comp=Z,41nm,1.0s					
MSTX	Muleshoe	64.14	8	⇑P	P	23 45 58.5 +0.5
	baz=64,SNR=15					
X18A	Snowflake	64.14	2	⇓P	P	23 45 59.2 +1.0
	baz=64,SNR=9.2					
LAZ	Ladron	64.15	4	eP	P	23 45 57.9 -0.3
Y28A	McKinney Farm,	64.15	9	⇑P	P	23 45 58.6 +0.5
	baz=64,SNR=8.3					
X21A	Alamocita Cree	64.15	4	⇑P	P	23 45 59.3 +1.0
	baz=64,SNR=10					
X20A	Quemado	64.21	3	⇑P	P	23 45 59.9 +1.3
	baz=64					
X22A	Bernardo	64.26	4	⇓P	P	23 46 00.2 +1.4
	baz=65					
Y30A	Stafford Cattl	64.31	10	⇑P	P	23 46 00.2 +1.1
	baz=65					
GMRC	Granite Mounta	64.47	357	⇓P	P	23 46 01.5 +1.3
	baz=65					
X25A	Clemmons Ranch	64.48	7	⇓P	P	23 46 01.4 +1.1
	baz=65					
Y31A	Rekieta Farm,	64.50	11	⇓P	P	23 46 01.7 +1.4
	baz=65,SNR=10					
HEC	Hector,Ludlow	64.55	356	⇓P	P	23 46 02.3 +1.6
	baz=65					
ALPC	Antelope	64.56	354	eP	P	23 45 57.3 -3.4
X26A	CR and CF Fran	64.59	7	⇑P	P	23 46 02.0 +1.0
	baz=65					
W13A	Hualapai Mount	64.71	358	⇓P	P	23 46 03.3 +1.4
	baz=65					
EDW2	Edwards Air Fo	64.72	354	⇑P	P	23 46 02.9 +1.1
	baz=65					
W18A	Petrified Fore	64.74	2	⇓P	P	23 46 02.9 +0.9
	baz=65					
X29A	Tulia	64.75	9	⇓P	P	23 46 03.4 +1.4
	baz=65					
X28A	Dimmitt	64.76	9	⇑P	P	23 46 03.5 +1.5
	baz=65					
W20A	Ramah	64.79	3	⇑P	P	23 46 03.8 +1.3
	baz=65					
PKM	Peak Mountain	64.92	353	⇓P	P	23 46 04.6 +1.4
	baz=65					
W23A	Werner Place,	64.97	5	⇓P	P	23 46 05.0 +1.4
	baz=65,SNR=9.4					
GSC	Goldstone	65.05	356	eP	P	23 46 03.1 -0.8
GSC				pmax	pmax	
	comp=Z,11nm,1.0s					
GSC	Goldstone	65.05	356	eP	P	23 46 03.1 -0.8
	comp=Z,11nm,1.0s					
GSC	Goldstone	65.05	356	⇓P	P	23 46 05.7 +1.7
	baz=65					
W24A	Lazy 6 Ranch,	65.08	6	⇓P	P	23 46 05.9 +1.6
	baz=65,SNR=18					
WUAZ	Wupatki	65.11	0	eP	P	23 46 05.5 +1.2
	comp=Z,35nm,1.9s					
WUAZ	Wupatki	65.11	0	⇑P	P	23 46 05.6 +1.2
	baz=65					
W26A	Owens Ranch, T	65.13	7	⇑P	P	23 46 05.5 +1.0
	baz=66,SNR=6.3					
TUQ	Turquoise Moun	65.13	356	⇓P	P	23 46 06.0 +1.5
	baz=66					
W25A	X Bar L Ranch,	65.18	7	⇓P	P	23 46 05.9 +1.0
	baz=66,SNR=6.3					
W27A	Bowe Ranch, En	65.19	8	⇑P	P	23 46 06.1 +1.3
	baz=66,SNR=8.0					
X31A	McDonald Ranch	65.20	11	⇑P	P	23 46 06.2 +1.4
	baz=66					
BAKC	Calstate	65.28	354	ePKiKP	PKiKP	23 52 42.9 +0.9
LRMC	Laurel Mountai	65.29	355	⇓P	P	23 46 07.1 +1.6
	baz=66					
W29A	Amraillo	65.42	9	⇓P	P	23 46 07.8 +1.4
	baz=66					
V20A	Brimhall	65.46	3	⇓P	P	23 46 08.0 +1.2
	baz=66					
W28A	Vega	65.48	9	⇑P	P	23 46 07.8 +1.0
	baz=66					
V21A	Milan	65.51	4	⇓P	P	23 46 07.8 +0.7
	baz=66					
ISA	Isabella	65.54	354	⇑P	P	23 46 08.6 +1.5
	baz=66					
V23A	Ortiz Mt. (NFS	65.55	5	⇓P	P	23 46 08.4 +1.1
	baz=66					
V24A	Rampart Ranch,	65.61	6	⇓P	P	23 46 08.9 +1.2
	baz=66					
SHOC	Shoshone	65.61	356	⇓P	P	23 46 09.4 +1.9
	baz=66					
V22A	San Miguel Ran	65.67	4	⇓P	P	23 46 09.7 +1.6
	baz=66,SNR=6.2					
W31A	Holland Ranch,	65.75	11	⇓P	P	23 46 09.8 +1.4
	baz=66					
VES	Vestal, Richgr	65.78	354	⇑P	P	23 46 10.1 +1.6
	baz=66					
V26A	Tequesquite Ra	65.83	7	⇑P	P	23 46 10.1 +1.1
	baz=66,SNR=13					
MPMC	Manual Prospec	65.86	355	⇑P	P	23 46 10.6 +1.3
	baz=66,SNR=9.5					
V28A	Chaning	65.97	9	⇓P	P	23 46 11.0 +1.1
	baz=66					
U15A	North Rim	66.01	360	⇑P	P	23 46 11.9 +1.6
	baz=66,SNR=12					
U22A	Llaves	66.13	4	⇓P	P	23 46 12.0 +1.0
	baz=66					
U23A	El Rito	66.13	5	⇑P	P	23 46 12.0 +0.9
	baz=66,SNR=18					
U21A	Nageezi	66.13	4	⇑P	P	23 46 12.0 +1.0
	baz=66,SNR=8.9					
SHPR	Sheep Range	66.16	357	eP	P	23 46 11.9 +0.7
V29A	Stinnett	66.18	9	⇑P	P	23 46 12.5 +1.3
	baz=66					
FURC	Furnace Creek,	66.22	356	⇑P	P	23 46 13.0 +1.8
	baz=66					
CWC	Cottonwood Cre	66.28	355	⇓P	P	23 46 13.3 +1.4
	baz=67					
U24A	Moreno Valley	66.29	6	⇑P	P	23 46 13.2 +1.1
	baz=67					
V31A	Spring Creek L	66.34	11	⇑P	P	23 46 13.6 +1.4
	baz=67					
U25A	Circle Dot Ran	66.36	7	⇓P	P	23 46 13.6 +1.1
	baz=67					
U26A	Atchley Ranch,	66.42	7	⇓P	P	23 46 14.1 +1.2
	baz=67					
VNA1	Neumayer--Stat	66.43	159	epP	P	23 46 13.0 +0.7
U27A	Thompson Grove	66.55	8	⇑P	P	23 46 15.2 +1.5
	baz=67					
VNA2	Neumayer--Watz	66.58	160	eP	P	23 46 06.5 -6.9
VNA2	Neumayer--Watz	66.58	160	epP	P	23 46 13.7 +0.3
VNA2	Neumayer--Watz	66.58	160	esP	sP	23 46 18.8 +1.0
U28A	Mallet	66.59	8	⇓P	P	23 46 15.6 +1.8
	baz=67					
KNB	Kanab	66.61	359	eP	P	23 46 15.0 +1.0
KNB				pmax	pmax	
	comp=Z,15nm,1.2s					
KNB	Kanab	66.61	359	eP	P	23 46 15.0 +1.0
	comp=Z,15nm,1.2s					
T21A	Navajo Lake	66.70	4	⇓P	P	23 46 15.8 +1.1
	baz=67					
T22A	Edith	66.76	4	⇓P	P	23 46 16.5 +1.4
	baz=67,SNR=8.0					
GRAC	Grapevine Rang	66.78	355	⇑P	P	23 46 16.6 +1.6
	baz=67					
T23A	Casias Ranch,	66.84	5	⇑P	P	23 46 17.1 +1.4
	baz=67					
MVCO	Mesa Verde	66.87	3	eP	P	23 46 15.8 +0.1
	comp=Z,30nm,1.3s					
MVCO	Mesa Verde	66.87	3	⇑P	P	23 46 16.8 +1.0
	baz=67,SNR=9.0					
T24B	San Luis	66.92	6	⇑P	P	23 46 16.8 +0.6
	baz=67					
T25A	Trinidad	67.09	6	⇑P	P	23 46 18.9 +1.7
	baz=67					
CCUT	Cedar City	67.15	359	eP	P	23 46 19.3 +1.8
	comp=Z,13nm,1.1s					
T27A	Campo	67.20	8	⇓P	P	23 46 19.3 +1.5
	baz=68					
T26A	Comanche Natio	67.21	7	⇑P	P	23 46 19.0 +1.1
	baz=68,SNR=17					
TUL1	Tulsa	67.22	14	eP	P	23 46 17.9 +0.2
	comp=Z,18nm,0.9s					
TUL1	Tulsa	67.22	14	⇑P	P	23 46 18.8 +1.0
	baz=68					
T28A	Walsh	67.33	8	⇓P	P	23 46 19.6 +1.0
	baz=68					
S21A	Coal Bank Pass	67.35	4	⇓P	P	23 46 19.7 +0.8
	baz=68,SNR=9.1					
ARUT	Antelope Range	67.39	359	eP	P	23 46 19.8 +0.8
ARUT	Antelope Range	67.39	359	eP	P	23 46 19.8 +0.8
S22A	4UR Ranch, Cre	67.49	4	⇑P	P	23 46 21.0 +1.1
	baz=68,SNR=7.5					
S24A	Houchin Ranch,	67.51	6	⇑P	P	23 46 20.9 +1.0
	baz=68					
SNAA	Sanae	67.58	161	eP	P	23 46 14.5 -5.3
SNAA	Sanae	67.58	161	epP	P	23 46 19.6 -0.2
SNAA	Sanae	67.58	161	eP	P	23 46 19.6 -0.2
	comp=Z,15nm,1.1s					
SDCO	Great Sand Dun	67.59	5	eP	P	23 46 21.0 +0.5
	comp=Z,11nm,1.1s					
S25A	Robets Cordova	67.60	6	⇑P	P	23 46 21.5 +1.1
	baz=68,SNR=17					
T31A	Randall Ranch,	67.66	11	⇑P	P	23 46 21.5 +1.0
	baz=68					
S26A	Kim	67.67	7	⇑P	P	23 46 21.6 +0.9
	baz=68,SNR=9.8					
PV05	Paradox Valley	67.71	2	eP	P	23 46 20.1 -1.0
PV01	Paradox Valley	67.79	3	eP	P	23 46 22.6 +1.0
S28A	Manter	67.82	9	⇑P	P	23 46 22.4 +0.8
	baz=68					
R20A	Redvale	67.85	3	⇓P	P	23 46 23.2 +1.3
	baz=68					
S29A	Ulysses	67.95	9	⇑P	P	23 46 23.5 +1.1
	baz=68					
R22A	Saguache, Gunn	67.98	4	⇓P	P	23 46 24.0 +1.1
	baz=68					
PV15	Paradox Valley	68.00	3	eP	P	23 46 23.4 +0.5
PV10	Paradox Valley	68.01	2	eP	P	23 46 23.3 +0.3
R23A	Moffat	68.01	5	⇑P	P	23 46 24.1 +1.0
	baz=68					
R11A	Troy Canyon, C	68.02	357	eP	P	23 46 23.4 +0.4
	comp=Z,6.7nm,1.2s					
R11A	Troy Canyon, C	68.02	357	⇓P	P	23 46 23.6 +0.6
	baz=68					
PV04	Paradox Valley	68.03	3	eP	P	23 46 23.8 +0.7
S30A	Montezuma	68.07	10	⇑P	P	23 46 23.9 +0.7
	baz=68					
CMB	Columbia Colle	68.08	353	eP	P	23 46 22.4 -0.8
CMB				pmax	pmax	
	comp=Z,10.0nm,1.4s					
CMB	Columbia Colle	68.08	353	eP	P	23 46 22.4 -0.8
	comp=Z,10nm,1.4s					
MVU	Marysvale	68.08	360	eP	P	23 46 22.1 -1.3
	comp=Z,9.2nm,1.3s					
R25A	Fountain Ranch	68.10	6	⇑P	P	23 46 24.4 +0.9
	baz=68,SNR=7.5					
R24A	Sanders Place,	68.11	6	⇓P	P	23 46 24.7 +1.1
	baz=68					
PV09	Paradox Valley	68.13	2	eP	P	23 46 24.3 +0.5
S31A	Mullinville	68.20	11	⇓P	P	23 46 24.9 +1.0
	baz=68					
NV01	Mina Array Sit	68.27	355	eP	P	23 46 26.1 +1.5
R26A	Arlington	68.34	7	⇑P	P	23 46 25.8 +0.9
	baz=69					
R27A	Eads	68.40	8	⇓P	P	23 46 26.1 +0.8
	baz=69					
Q16A	Castle Valley	68.50	1	eP	P	23 46 27.0 +1.0
Q16A	Castle Valley	68.50	1	⇑P	P	23 46 27.1 +1.0
	baz=69					
Q21A	Lamborn Mesa,	68.53	4	⇓P	P	23 46 27.2 +1.0
	baz=69					
R28A	Tribune	68.57	9	⇑P	P	23 46 27.3 +0.9
	baz=69					
Q22A	Crested Butte,	68.60	4	⇓P	P	23 46 27.4 +0.6
	baz=69					
Q20A	Ridgley Place,	68.62	3	⇓P	P	23 46 27.1 +0.5
	baz=69					
SRU	San Rafael	68.70	1	eP	P	23 46 28.0 +0.8
SRU				pmax	pmax	
	comp=Z,17nm,1.0s					
SRU	San Rafael	68.70	1	eP	P	23 46 28.0 +0.8
	comp=Z,17nm,1.0s					
GNAR	Gosnell	68.70	19	eP	P	23 46 28.1 +1.1
Q23A	Hartsel	68.72	5	⇑P	P	23 46 28.4 +0.9
	baz=69					
R30A	Dighton	68.73	10	⇓P	P	23 46 27.9 +0.6
	baz=69					
R29A	Marienthal	68.74	9	⇑P	P	23 46 28.3 +1.0
	baz=69					
Q24A	Divide	68.83	6	⇑P	P	23 46 29.1 +0.9
	baz=69					
R31A	Burdett	68.85	10	⇓P	P	23 46 28.6 +0.6
	baz=69					
Q25A	Bedland, Calha	68.86	6	⇓P	P	23 46 29.6 +1.3
	baz=69					
TMUT	Trail Mountain	68.88	1	eP	P	23 46 30.0 +1.5
	comp=Z,88nm,2.4s					
SMCO	Snowmass	68.91	4	eP	P	23 46 29.9 +1.1
	comp=Z,8.0nm,0.9s					
Q26A	Hugo	68.95	7	⇑P	P	23 46 30.6 +1.9
	baz=69					
KSCO	Kaye Shedlock'	69.13	8	eP	P	23 46 31.3 +1.5
KSCO	Kaye Shedlock'	69.13	8	⇓P	P	23 46 31.5 +1.7
	baz=70					
P20A	De Beque	69.16	3	⇑P	P	23 46 31.5 +1.4
	baz=70					
P23A	Jefferson	69.18	5	⇑P	P	23 46 31.6 +1.2
	baz=70					
Q29A	Oakley	69.22	9	⇑P	P	23 46 31.6 +1.2
	baz=70					
P19A	Cripple Cowboy	69.27	2	⇑P	P	23 46 31.9 +1.2
	baz=70					
SWET	Sewanee	69.27	23	eP	P	23 46 30.8 +0.1
	comp=Z,25nm,1.1s					
Q28A	Sharon Springs	69.28	8	⇑P	P	23 46 31.9 +1.2
	baz=70					
P22A	Eagle	69.34	4	⇑P	P	23 46 32.6 +1.4
	baz=70					
WVT	Waverly	69.50	21	eP	P	23 46 31.3 -0.7
WVT				pmax	pmax	
	comp=Z,68nm,2.1s					
WVT	Waverly	69.50	21	eP	P	23 46 31.2 -0.7
	comp=Z,68nm,2.1s					
NLU	North Lily Min	69.53	360	eP	P	23 46 33.5 +1.1
	comp=Z,7.4nm,0.9s					
Q31A	Ellis	69.57	10	⇓P	P	23 46 34.2 +1.7
	baz=70					
MPU	Maple Canyon	69.59	0	eP	P	23 46 31.9 -0.9
	comp=Z,9.8nm,1.0s					
ISCO	Idaho Springs	69.62	5	eP	P	23 46 33.9 +0.8
ISCO				pmax	pmax	
	comp=Z,18nm,1.4s					
ISCO	Idaho Springs	69.62	5	eP	P	23 46 33.9 +0.8
	comp=Z,18nm,1.4s					
ISCO	Idaho Springs	69.62	5	⇑P	P	23 46 34.6 +1.5
	baz=70,SNR=9.8					
PAHR	Pah Rah Range	69.64	354	eP	P	23 46 34.6 +1.7
	comp=Z,30nm,1.8s					
DUG	Dugway	69.78	359	eP	P	23 46 33.1 -0.7
DUG				pmax	pmax	
	comp=Z,7.0nm,1.1s					
DUG	Dugway	69.78	359	eP	P	23 46 33.1 -0.7
	comp=Z,7.2nm,1.1s					
DUG	Dugway	69.78	359	⇓P	P	23 46 35.0 +1.2
	baz=70					
O20A	White River Ci	69.80	3	⇓P	P	23 46 35.2 +1.2
	baz=70					
O21A	Pagoda	69.91	4	⇓P	P	23 46 36.3 +1.5
	baz=70					
O22A	Kremmling	69.92	4	⇓P	P	23 46 36.0 +1.1
	baz=70					
P29A	Atwood	69.93	9	⇑P	P	23 46 35.7 +1.0
	baz=70					
O24A	Longmont	69.99	6	⇓P	P	23 46 37.0 +1.8
	baz=70					
DAU	Daniels Canyon	69.99	1	eP	P	23 46 33.8 -1.6
DAU	Daniels Canyon	69.99	1	eP	P	23 46 33.8 -1.6
O23A	Lake Granby, G	70.01	5	⇑P	P	23 46 37.5 +2.0
	baz=70					
O25A	Wiggins	70.06	6	⇓P	P	23 46 37.7 +2.1
	baz=70					
KCPM	Cahto Peak	70.11	350	eP	P	23 46 34.8 -1.1
	comp=Z,22nm,1.3s					
KSU1	Kansas State U	70.14	13	eP	P	23 46 34.9 -1.1
	comp=Z,26nm,1.0s					
JLU	Jordanelle	70.18	0	eP	P	23 46 35.6 -0.8
	comp=Z,16nm,1.1s					
CTU	Camp Tracy	70.27	0	eP	P	23 46 37.7 +0.8
	comp=Z,14nm,1.0s					
O26A	Horse Wrangler	70.27	7	⇑P	P	23 46 38.9 +2.1
	baz=71					
ELK	Elko	70.39	357	eP	P	23 46 38.9 +1.2
	comp=Z,34nm,2.5s					
N21A	Black Mountain	70.45	4	⇑P	P	23 46 39.6 +1.5
	baz=71					
N20A	Spence Gulch,	70.49	3	⇓P	P	23 46 39.2 +0.9
	baz=71					
BGU	Big Grassy Mou	70.51	359	eP	P	23 46 39.1 +0.8
	comp=Z,47nm,2.0s					
N22A	Wattenberg Ran	70.56	4	⇑P	P	23 46 40.0 +1.2
	baz=71					
SIUC	Southern Illin	70.56	19	eP	P	23 46 37.6 -0.9
	comp=Z,66nm,1.3s					
N23A	Red Feather La	70.69	5	⇓P	P	23 46 41.1 +1.6
	baz=71					
KMSC	Kings Mountain	70.85	26	⇑P	P	23 46 41.7 +1.4
	baz=71					
WDC	Whiskeytown Da	70.85	351	eP	P	23 46 40.9 +0.7
WDC				pmax	pmax	
	comp=Z,10.0nm,1.1s					
WDC	Whiskeytown Da	70.85	351	eP	P	23 46 40.9 +0.7
	comp=Z,9.7nm,1.1s					
SPUT	South Promonto	70.89	360	eP	P	23 46 40.6 -0.1
	comp=Z,15nm,1.5s					
PHWY	Pilot Hill	71.13	5	eP	P	23 46 42.4 +0.1
	comp=Z,8.5nm,0.9s					
M22A	Cedar Creek Ra	71.15	4	⇓P	P	23 46 44.2 +1.8
	baz=72					
SLM	Saint Louis	71.15	18	eP	P	23 46 42.2 +0.1
SLM				pmax	pmax	
	comp=Z,42nm,1.4s					
SL

M24A	Cheyenne	71.34	6	⇓P	P	23 46 44.8 +1.4
	baz=72					
L18A	Fontenelle, Gr	71.52	1	⇑P	P	23 46 44.8 +0.3
	baz=72					
L20A	Wamsutter	71.66	3	⇓P	P	23 46 46.1 +0.8
	baz=72,SNR=11					
L21A	Rawlins	71.66	4	⇓P	P	23 46 45.9 +0.5
	baz=72					
L19A	Farson	71.72	2	⇓P	P	23 46 46.1 +0.4
	baz=72					
L22A	Ellis Ranch, M	71.78	4	⇓P	P	23 46 46.7 +0.7
	baz=72					
OLIL	Olney	71.83	19	*e*P	P	23 46 46.1 -0.1
	comp=Z,24nm,1.0s					
MOD	Modoc	71.90	353	*e*P	P	23 46 46.1 -0.6
	comp=Z,33nm,0.9s					
L24A	Wheatland	71.91	5	⇓P	P	23 46 46.7 0.0
	baz=72					
L23A	Garrett	71.92	5	⇓P	P	23 46 47.3 +0.4
	baz=72					
BGNE	Belgrade	72.11	11	*e*P	P	23 46 47.9 0.0
	comp=Z,76nm,1.4s					
BGNE	Belgrade	72.11	11	⇑P	P	23 46 48.6 +0.8
	baz=72					
WVOR	Wild Horse Val	72.28	355	*e*P	P	23 46 47.7 -1.3
WVOR				pmax	pmax	
	comp=Z,8.0nm,1.1s					
WVOR	Wild Horse Val	72.28	355	*e*P	P	23 46 47.6 -1.3
	comp=Z,8.3nm,1.1s					
K20A	Yellowstone Ra	72.31	3	⇓P	P	23 46 49.8 +0.6
	baz=73					
K21A	Alcova	72.34	4	⇑P	P	23 46 49.6 +0.2
	baz=73,SNR=8.5					
BW06	Boulder Array	72.38	2	*e*P	P	23 46 49.0 -0.6
PD31	Pinedale Array	72.38	2	*e*P	P	23 46 49.6 0.0
PDAR	Pinedale Array	72.38	2	P	P	23 46 49.6 0.0
	comp=Z,2.4nm,0.9s,baz=177,slow=5.3,SNR=12					
K22A	Casper	72.40	4	⇑P	P	23 46 50.4 +0.7
	baz=73,SNR=9.8					
K19A	Absolon Red Bu	72.45	2	⇑P	P	23 46 50.3 +0.2
	baz=73					
K23A	Bowen Ranch, D	72.56	5	⇓P	P	23 46 51.9 +1.2
	baz=73,SNR=9.4					
K25A	Mack Ranch, Ha	72.56	6	⇓P	P	23 46 51.9 +1.2
	baz=73					
K05A	Summer Lake	72.78	353	*e*P	P	23 46 53.6 +1.7
	comp=Z,20nm,1.2s					
K27A	Flueckinger Fa	72.82	7	⇓P	P	23 46 53.4 +1.2
	baz=73					
J19A	Crowheart	72.89	2	⇑P	P	23 46 53.8 +1.2
	baz=73					
RRI2	Red Ridge	72.92	0	*e*P	P	23 46 53.6 +0.7
	comp=Z,21nm,1.2s					
K28A	Ten Mile Ranch	72.94	8	⇑P	P	23 46 54.3 +1.5
	baz=73					
REDW	Red Top Meadow	72.94	1	*e*P	P	23 46 53.5 +0.5
	comp=Z,24nm,1.4s					
J20A	Shoshoni	73.01	3	⇓P	P	23 46 54.3 +1.0
	baz=73,SNR=11					
J21A	Lysite	73.04	3	⇓P	P	23 46 54.3 +0.8
	baz=73,SNR=11					
SNOW	Snow King Moun	73.05	1	*e*P	P	23 46 53.4 -0.3
	comp=Z,179nm,2.8s					
TPAW	Teton Pass	73.07	1	*e*P	P	23 46 54.0 +0.2
	comp=Z,14nm,1.0s					
MFID	Camas Ranch	73.08	357	⇓P	P	23 46 54.4 +0.7
	baz=73					
J22A	Midwest	73.16	4	⇓P	P	23 46 54.5 +0.4
	baz=74					
HLID	Hailey	73.17	358	*e*P	P	23 46 55.4 +1.1
	comp=Z,22nm,1.1s					
HLID	Hailey	73.17	358	⇑P	P	23 46 55.5 +1.1
	baz=74					
J08A	Circle Bar Ran	73.18	355	*e*P	P	23 46 56.2 +1.9
	comp=Z,92nm,2.5s					
LOHW	Long Hollow	73.20	1	*e*P	P	23 46 54.6 +0.1
	comp=Z,12nm,1.2s					
I18A	Diamond G Ranc	73.30	2	⇑P	P	23 46 56.0 +0.9
	baz=74					
MOOW	Moose Ponds	73.33	1	*e*P	P	23 46 55.5 +0.3
	comp=Z,5.8nm,1.0s					
J26A	Sides Ranch, S	73.34	7	⇑P	P	23 46 55.9 +0.8
	baz=74					
J25A	Sunshine Ranch	73.34	6	⇑P	P	23 46 56.5 +1.3
	baz=74					
I16A	Newdale	73.45	0	⇓P	P	23 46 57.2 +1.3
	baz=74					
IMW	Indian Meadow	73.48	1	*e*P	P	23 46 56.5 +0.2
	comp=Z,11nm,1.1s					
I21A	Big Trails, Te	73.51	3	⇓P	P	23 46 57.1 +0.9
	baz=74,SNR=20					
I20A	Worland	73.61	3	⇑P	P	23 46 57.7 +0.9
	baz=74					
I22A	9 Mile Ranch,	73.64	4	⇑P	P	23 46 57.7 +0.8
	baz=74					
SFIN	Scholer Farm	73.64	20	⇑P	P	23 46 57.7 +0.8
	baz=74					
J28A	Allard Ranch,	73.65	8	⇑P	P	23 46 57.8 +0.8
	baz=74					
I19A	Meeteetse	73.66	2	⇓P	P	23 46 58.0 +0.8
	baz=74					
I24A	Kuemmerle Ranc	73.74	5	⇑P	P	23 46 58.0 +0.5
	baz=74					
I25A	Rochford	73.97	6	⇑P	P	23 46 59.7 +0.7
	baz=74					
I07A	Izee	73.99	354	*e*P	P	23 46 58.1 -0.9
	comp=Z,16nm,1.3s					
RSSD	Black Hills	74.05	6	*e*P	P	23 46 59.6 +0.1
RSSD				pmax	pmax	
	comp=Z,53nm,1.2s					
RSSD	Black Hills	74.05	6	*e*P	P	23 46 59.6 +0.1
	comp=Z,52nm,1.2s					
I26A	New Underwood	74.07	7	⇓P	P	23 47 00.3 +0.9
	baz=74					
H20A	Greybull	74.15	3	⇓P	P	23 47 00.2 +0.3
	baz=74					
I27A	Quinn	74.19	7	⇑P	P	23 47 01.1 +0.9
	baz=74					
I28A	Midland	74.23	8	⇑P	P	23 47 01.2 +0.9
	baz=75					
H18A	Shoshone NF, C	74.28	2	⇑P	P	23 47 01.3 +0.4
	baz=75					
QLMT	Earthquake Lak	74.41	0	*e*P	P	23 47 01.4 -0.1
MCMT	McKenzie Canyo	74.41	359	*e*P	P	23 47 02.7 +1.1
H25A	Fruitdale	74.58	6	⇑P	P	23 47 03.1 +0.7
	baz=75					
H24A	Dirks Ranch, A	74.62	5	⇓P	P	23 47 03.2 +0.5
	baz=75					
ECSD	EROS Data Cent	74.64	11	*e*P	P	23 47 02.7 +0.1
	comp=Z,77nm,2.1s					
H27A	Howes	74.75	7	⇓P	P	23 47 03.6 +0.3
	baz=75					
G20A	Bridger	74.87	3	⇓P	P	23 47 04.5 +0.4
	baz=75,SNR=12					
H28A	Mission Ridge	74.91	8	⇑P	P	23 47 04.8 +0.6
	baz=75					
G21A	Lodge Grass	74.92	3	⇑P	P	23 47 04.8 +0.4
	baz=75					
G18A	Lazy EL Ranch,	74.92	2	⇓P	P	23 47 05.0 +0.5
	baz=75					
BRSD	Miller	74.96	10	⇓P	P	23 47 05.1 +0.6
	baz=75					
G22A	Birney	74.97	4	⇑P	P	23 47 05.2 +0.6
	baz=75					
G23A	Biddle	75.01	5	⇓P	P	23 47 04.8 -0.1
	baz=75					
G08A	Pilot Rock	75.14	355	*e*P	P	23 47 06.2 +0.5
	comp=Z,75nm,2.1s					
G25A	Newell	75.17	6	⇓P	P	23 47 06.3 +0.6
	baz=76					
BOZ	Bozeman (W)	75.22	0	*e*P	P	23 47 05.1 -1.1
BOZ				pmax	pmax	
	comp=Z,49nm,2.4s					
BOZ	Bozeman (W)	75.22	0	*e*P	P	23 47 05.1 -1.1
	comp=Z,49nm,2.4s					
G06A	Carlson Farm,	75.23	354	*e*P	P	23 47 06.2 +0.1
	comp=Z,73nm,2.1s					
G28A	Parade	75.32	8	⇑P	P	23 47 06.8 +0.2
	baz=76					
G26A	Maurine	75.35	7	⇓P	P	23 47 06.7 0.0
	baz=76					
G27A	Dupree	75.40	7	⇑P	P	23 47 07.6 +0.6
	baz=76					
LRM	Limekiln Ridge	75.40	360	*e*P	P	23 47 07.5 +0.2
F19A	Roth Farm, Mol	75.48	2	⇓P	P	23 47 07.2 -0.4
	baz=76					
F18A	Big Timber	75.51	2	⇑P	P	23 47 07.8 +0.1
	baz=76					
F23A	Volborg	75.53	5	⇑P	P	23 47 07.9 +0.1
	baz=76					
F22A	Rosebud	75.53	4	⇓P	P	23 47 07.6 -0.3
	baz=76					
F10A	Beach Ranch, E	75.70	356	*e*P	P	23 47 09.5 +0.7
	comp=Z,96nm,2.4s					
F27A	Lemmon	75.98	7	⇑P	P	23 47 09.8 -0.5
	baz=76					
E19A	Rath Farm, Rou	76.09	2	⇑P	P	23 47 09.8 -1.3
	baz=76					
F04A	Amboy	76.11	352	*e*P	P	23 47 12.5 +1.5
	comp=Z,103nm,2.1s					
E20A	Meyer Farm, Mu	76.16	3	⇓P	P	23 47 10.5 -0.9
	baz=76					
HRY	Holter Researc	76.29	0	*e*P	P	23 47 13.1 +0.9
E23A	Ismay	76.31	5	⇓P	P	23 47 12.0 -0.2
	baz=77					
MSO	Missoula	76.43	359	*e*P	P	23 47 13.6 +0.6
	comp=Z,9.3nm,1.0s					
MSO	Missoula	76.43	359	⇓P	P	23 47 13.6 +0.6
	baz=77					
E24A	Baker	76.45	5	⇑P	P	23 47 13.4 +0.3
	baz=77					
CHMT	Chamberlain Mo	76.50	359	*e*P	P	23 47 14.4 +0.9
D17A	Six Diamond Ra	76.74	1	⇑P	P	23 47 15.4 +0.7
	baz=77					
D20A	Manuel Ranch,	76.74	3	⇓P	P	23 47 15.4 +0.8
	baz=77					
D21A	La Casta Ranch	76.77	3	⇑P	P	23 47 15.8 +1.0
	baz=77					
SPMN	St. Paul	76.79	14	⇑P	P	23 47 15.7 +0.7
	baz=77					
E28A	Huff	76.82	8	⇑P	P	23 47 17.1 +2.0
	baz=77					
SLMT	Seeley Lake	76.83	359	*e*P	P	23 47 16.5 +1.2
D22A	Cohagen	76.90	4	⇑P	P	23 47 17.7 +2.1
	baz=77					
E29A	Napoleon	76.95	9	⇓P	P	23 47 17.5 +1.7
	baz=77					
E30A	Jud	76.98	9	⇑P	P	23 47 17.2 +1.2
	baz=77					
D24A	Glendive	77.00	5	⇓P	P	23 47 17.3 +1.2
	baz=77					
D26A	Manning	77.08	7	⇑P	P	23 47 18.0 +1.5
	baz=77					
SWMT	Swartz Lake	77.11	359	*e*P	P	23 47 15.7 -1.1
C19A	Slack Wire Ran	77.35	2	⇑P	P	23 47 19.5 +1.4
	baz=78					
JTMT	Jette	77.35	358	*e*P	P	23 47 18.7 +0.5
C20A	Veseth Ranch,	77.37	3	⇓P	P	23 47 18.2 0.0
	baz=78					
BSMT	Bassoo Peak	77.47	358	*e*P	P	23 47 19.7 +0.8
C22A	Vida	77.51	4	⇓P	P	23 47 20.5 +1.5
	baz=78					
C21A	Desert Coulee	77.52	3	⇑P	P	23 47 20.8 +1.7
	baz=78					
C09A	Chrisman Ranch	77.59	356	*e*P	P	23 47 18.6 -0.8
	comp=Z,35nm,1.8s					
BLMT	Blacktail Moun	77.62	358	*e*P	P	23 47 20.8 +1.0
EGMT	Eagleton	77.62	1	⇓P	P	23 47 21.1 +1.5
	baz=78					
C25A	Freed Ranch, W	77.68	6	⇓P	P	23 47 21.1 +1.2
	baz=78					
C26A	Wahner Farm, P	77.90	7	⇓P	P	23 47 22.6 +1.5
	baz=78					
NEW	Newport	77.98	356	*e*P	P	23 47 22.4 +0.8
	comp=Z,18nm,1.1s					
NEW	Newport	77.98	356	⇓P	P	23 47 22.9 +1.3
	baz=78,SNR=9.1					
B20A	Solberg Farm,	78.09	3	⇑P	P	23 47 23.0 +0.8
	baz=78					
DGMT	Dagmar	78.35	5	*e*P	P	23 47 22.0 -1.6
	comp=Z,70nm,1.6s					
DGMT	Dagmar	78.35	5	⇓P	P	23 47 26.1 +2.5
	baz=79					
COWI	Conover	78.44	16	*e*P	P	23 47 25.1 +1.0
	comp=Z,12nm,1.1s					
A19A	Klindworth Far	78.56	2	⇑P	P	23 47 26.5 +1.7
	baz=79					
A21A	Bergtoll Ranch	78.69	3	⇑P	P	23 47 28.0 +2.5
	baz=79					
B28A	Dugan Ranch, T	78.71	8	⇓P	P	23 47 28.3 +2.7
	baz=79					
A22A	Carney Farms,	78.75	4	⇓P	P	23 47 28.3 +2.5
	baz=79					
B30A	Myrvik Farm, E	78.97	9	⇑P	P	23 47 28.7 +1.7
	baz=79					
SYO	Syowa Base	79.15	170	⇑*e*P	P	23 47 26.9 -1.0
AGMN	Agassiz Nation	79.19	11	*e*P	P	23 47 26.8 -1.4
	comp=Z,27nm,1.4s					
LONY	Lake Ozonia	81.63	26	*e*P	P	23 47 38.0 -3.4
	comp=Z,92nm,2.0s					
MAW	Mawson	82.68	178	*e*P	P	23 47 47.7 +0.9
	comp=Z,38nm,3.0s					
MAW	Mawson	82.68	178	P	P	23 47 47.7 +0.9
	comp=Z,2.6nm,0.8s,baz=185,slow=10,SNR=5.5					
EDM	Edmonton	82.81	359	*e*P	P	23 47 46.3 -1.1
EDM	Edmonton	82.81	359	*e*P	P	23 47 46.3 -1.1
YKA	Yellowknife Ar	92.13	359	P	P	23 48 32.9 +0.6
	comp=Z,1.8nm,0.8s,baz=179,slow=4.2,SNR=5.6					
ILAR	Eielson Array	98.27	346	P	P	23 48 59.6 -0.7
	comp=Z,1.0nm,1.1s,baz=147,slow=3.8,SNR=2.9					
ILB	Eielson Array	98.27	346	*e*P	P	23 48 59.6 -0.7
PAB	San Pablo	121.14	59	*e*PKIKP	PKPdf	23 54 13.6 -2.9
PAB	San Pablo	121.14	59	*e*PKPdf	PKPdf	23 54 13.6 -2.9
GERES	GERESS Array B	134.95	49	PKP	PKPdf	23 54 42.5 -0.1
	comp=Z,0.7nm,0.8s,baz=270,slow=0.8,SNR=4.4					
VYHS	Vyhne	138.37	49	*e*PKIKP	PKPdf	23 54 50.2 +1.4
VYHS	Vyhne	138.37	49	*e*PKP	PKPdf	23 54 50.2 +1.4
KECS	Kecovo	139.46	49	*e*PKP	PKPdf	23 54 53.1 +2.3
STHS	Stebnicka Huta	139.78	48	*e*PKIKP	PKPdf	23 54 53.9 +2.5
STHS	Stebnicka Huta	139.78	48	*e*PKP	PKPdf	23 54 53.9 +2.5
HHC	Hu-ho-hao-te	143.27	299	*e*PKP	PKPbc	23 54 56.1 +1.0
HHC				sPKP		23 55 05.5
HHC				PP	PP	23 58 11.9 +2.6
HHC				SKKS		00 04 57.9
HHC				SS	SS	00 16 47.5 -2.5
HHC				AMB	AMB	
	comp=Z,180nm,7.1s					
HHC				LR	LR	
	comp=N,590nm,17.8s					
HHC				LR	LR	
	comp=E,1μm,17.8s					
HHC				LR	LR	
	comp=Z,240nm,17.8s					
MLR	Muntele Rosu	143.66	53	*e*PKPpre	PKPpre	23 54 56.0
MLR	Muntele Rosu	143.66	53	PKhKP	PKPpre	23 54 56.0
	baz=330,slow=7.1					
KLMR	Klimovskoe	143.71	23	*e*PKIKP	PKPab	23 54 54.5 -0.2
KLMR				pmax	pmax	
	comp=Z,70nm,1.5s					
ENH	Enshi	144.34	281	*e*PKPdf	PKPab	23 54 57.2 -1.0
KIEV	Kiev	144.37	43	*e*PKIKP	PKPab	23 54 56.4 -1.2
KIEV				*e*		23 54 56.7
KIEV	Kiev	144.37	43	*e*PKPdf	PKPab	23 54 56.4 -1.2
KIEV				*ep*PKPdf	PKPbc	23 54 56.7 -1.1
AKASG	Malin Array Be	144.38	43	PKP	PKPab	23 54 57.5 0.0
	comp=Z,0.5nm,0.3s,baz=280,slow=3.8,SNR=7.6					
AKBB	Malin Array Si	144.38	43	*e*PKIKP	PKPab	23 54 57.5 -0.1
AKBB	Malin Array Si	144.38	43	*e*PKPdf	PKPab	23 54 57.5 -0.1
ULN	Ulaanbaatar	145.25	312	*e*PKPbc	PKPdf	23 55 01.6 +0.3
XAN	Xi'an	145.30	288	PKPbc	PKPdf	23 55 02.4 +0.7
FURI	Furi	145.42	121	*e*PKPdf	PKPab	23 55 05.2 +2.3
SONA1	Songino Array	145.67	312	*e*PKPdf	PKPdf	23 55 00.8 -1.2
SONA1				*e*PP	PP	23 58 21.8 -1.5
SONA0	Songino Array	145.68	312	*e*PKPdf	PKPab	23 55 02.7 0.0
SONA0				*e*PP	PP	23 58 21.9 -1.4
SONM	Songino Array	145.68	312	PKPbc	PKPab	23 55 02.7 0.0
	comp=Z,3.5nm,0.8s,baz=91,slow=2.3,SNR=14					
SONM				PP	PP	23 58 21.9 -1.4
	comp=Z,0.3nm,0.4s,baz=77,slow=6.5,SNR=4.0					
TLY	Talaya	145.92	320	*c i* PKP2	PKPab	23 55 03.9 +0.6
TLY				pmax	pmax	
	comp=Z,50nm,1.5s					
GYA	Guiyang	145.95	274	PKPbc	PKPab	23 55 04.2 -0.1
GYA				PP	PP	23 58 29.8 +4.1
GYA				PKS	PKSdf	23 58 38.0 -0.8
GYA				SKKS		00 05 17.2
GYA				SS	SS	00 17 22.5 +1.1
GYA				AMB	AMB	
	comp=Z,120nm,7.6s					
GYA				LR	LR	
	comp=N,120nm,22.3s					
GYA				LR	LR	
	comp=E,110nm,24.0s					
GYA				LR	LR	
	comp=Z,120nm,23.5s					
OBN	Obninsk	146.25	33	*e*PKIKP	PKPdf	23 55 00.3 -2.2
OBN				*e*		23 58 25.8
OBN				*e*SS	SS	00 17 21.1 -1.0
OBN				pmax	pmax	
	comp=Z,28nm,1.5s					
KMI	Kunming	148.99	270	PKPbc	PKPbc	23 55 13.7 +1.3
KMI				PP	PP	23 58 51.1 +7.4
KMI				AMB	AMB	
	comp=Z,130nm,4.1s					
KMI				LR	LR	
	comp=Z,78nm,22.8s					
CD2	Chengdu	149.32	281	PKPbc	PKPdf	23 55 09.9 +1.4
CD2				PKS	PKSdf	23 58 43.4 -0.1
CD2				PP	PP	23 58 50.3 +5.0
CD2				SKS	SKSdf	00 02 15.3 -1.6
CD2				SKKS	SKKSac	00 05 37.5 +0.9
CD2				SS	SS	00 18 01.4 +2.2
CD2				AMB	AMB	
	comp=Z,200nm,3.8s					
CD2				LR	LR	
	comp=Z,140nm,6.3s					
LZH	Lanzhou	149.53	291	*e*PKPbc	PKPdf	23 55 04.2 -4.6
LZH				pPKP	pPKPdf	23 55 10.4 -1.8
LZH				sPKP		23 55 14.2
LZH				PKS	PKSdf	23 58 39.0 -4.9
LZH				AMB	AMB	
	comp=Z,180nm,4.6s					
BR231	Keskin MP Arra	149.55	61	*e*PKPdf	PKPdf	23 55 10.2 +1.6
BR231				*e*PKPbc	PKiKP	23 55 14.7 +0.4
BR231				*e*PKPab	PKPab	23 55 19.6 +1.4
ANTO	Ankara	149.56	61	*e*PKP2	PKPbc	23 55 13.7 +0.5
ANTO	Ankara	149.56	61	*e*PKPbc	PKPbc	23 55 13.7 +0.5
ANTO				*e*PKPab	PKPab	23 55 18.7 +0.5
CM01	Chiang Mai Arr	149.70	255	*e*PKPdf	PKPdf	23 55 07.4 -1.9
CM01				*e*PKPbc	PKiKP	23 55 15.2 +0.2
VSR	Storozhevoye	149.74	37	*e*PKP2	PKPbc	23 55 13.0 -0.1
VSR				pmax	pmax	
	comp=Z,10.0nm,0.8s					
VSR				pmax	pmax	
	comp=N,4.0nm,0.5s					
VSR				pmax	pmax	
	comp=E,6.0nm,1.1s					
CHTO	Chiang Mai	149.90	256	*e*PKIKP	PKPdf	23 55 09.0 -0.7
CHTO				*e*		23 55 15.3
CHTO	Chiang Mai	149.90	256	*e*PKPdf	PKPdf	23 55 09.0 -0.7
CHTO				*e*PKPbc	PKiKP	23 55 15.3 -0.2
VORD	Divnogorie	149.95	37	*e*PKP2	PKPbc	23 55 13.5 -0.1
VORD				pmax	pmax	
	comp=Z,9.0nm,0.9s					
VORD				pmax	pmax	
	comp=N,10.0nm,0.8s					
VORD				pmax	pmax	
	comp=E,7.0nm,0.8s					
BR101	Keskin Array S	150.22	62	*e*PKPbc	PKPbc	23 55 14.2 -0.6
BRTR	Keskin Array B	150.22	62	PKPbc	PKPbc	23 55 14.2 -0.6
	comp=E,3.3nm,1.0s,baz=208,slow=2.4,SNR=13					
CSS	Prodhromos	150.32	71	*e*PKPdf	PKPdf	23 55 08.1 -1.8
CSS				*e*PKPbc	PKiKP	23 55 15.9 0.0
VRHR	Novokhopersk	151.08	36	*e*PKIKP	PKPbc	23 55 16.4 +0.1
VRHR				pmax	pmax	
	comp=Z,10.0nm,0.8s					
VRHR				pmax	pmax	
	comp=N,10.0nm,0.9s					
VRHR				pmax	pmax	
	comp=E,8.0nm,0.8s					
EIL	Elat	151.28	82	*e*PKPbc	PKPbc	23 55 18.7 +1.2
EIL	Elat	151.28	82	PKPbc	PKPbc	23 55 18.7 +1.2
	comp=E,5.9nm,0.9s,baz=297,slow=2.7,SNR=5.2					
GTA	Gaotai	152.38	299	PKPbc	PKPdf	23 55 13.5 +0.5
GTA				PKPab	PKPab	23 55 33.1 +3.1
GTA				SKS	SKSdf	00 02 16.3 -4.2
GTA				SKKS	SKKSac	00 05 50.1 -3.1
GTA				SS	SS	00 18 30.6 -2.1
GTA				AMB	AMB	
	comp=Z,92nm,5.0s					
GTA				LR	LR	
	comp=N,140nm,18.3s					
GTA				LR	LR	
	comp=E,120nm,18.1s					
GTA				LR	LR	
	comp=Z,120nm,17.6s					
ARU	Arti	152.67	12	*i* PKIKP	PKPdf	23 55 03.9 -8.8
ZAA0	Zalesovo Array	153.11	338	*e*PKPdf	PKPdf	23 55 12.2 -1.2
ZALV	Zalesovo Beam	153.11	338	PKP	PKPdf	23 55 12.9 -0.6
	comp=Z,1.5nm,0.8s,baz=48,slow=2.2,SNR=7.4					
ZALV				PKPbc	PKiKP	23 55 21.0 0.0
	comp=Z,2.4nm,0.7s,baz=23,slow=3.8,SNR=7.6					
ASF	Jabal al Asfar	153.22	77	*e*PKPdf	PKPdf	23 55 14.0 -0.5
ASF				*e*PKPbc	PKPbc	23 55 20.9 -1.0
ASF	Jabal al Asfar	153.22	77	PKP	PKPdf	23 55 14.0 -0.5
	comp=Z,0.7nm,0.4s,baz=143,slow=1.7,SNR=4.9					
ASF				PKPbc	PKPbc	23 55 20.9 -1.0
	comp=Z,2.1nm,0.8s,baz=192,slow=2.5,SNR=4.2					
KBZ	Khabaz	155.69	49	*e*PKIKP	PKPdf	23 55 18.6 +1.2
KBZ	Khabaz	155.69	49	*e*PKPdf	PKPdf	23 55 18.6 +1.2
KBZ	Khabaz	155.69	49	PKP	PKPdf	23 55 18.6 +1.2
	comp=Z,2.5nm,0.8s,baz=26,slow=4.9,SNR=5.0					
BRVK	Borovoye	156.84	357	*e*PKIKP	PKPdf	23 55 16.3 -2.3
BRVK	Borovoye	156.84	357	*e*PKPdf	PKPdf	23 55 16.3 -2.3
BRVK				*e*PKPab	PKPab	23 55 46.8 -1.5
BVAR	Borovoye Array	156.87	356	PKP	PKPdf	23 55 19.5 +0.8
	comp=Z,0.2nm,0.4s,baz=120,slow=5.7,SNR=3.3					
BVAR				PKPab	PKPab	23 55 49.1 +0.7
	comp=Z,2.0nm,0.7s,baz=5.7,slow=3.0,SNR=6.8					
VOSK	Vostochnaya	157.13	355	*e*PKIKP	PKPdf	23 55 16.7 -2.3
VOSK	Vostochnaya	157.13	355	*e*PKPdf	PKPdf	23 55 16.7 -2.3
KURK	Kurchatov	157.79	342	*e*PKIKP	PKPdf	23 55 20.0 +0.1
KURK	Kurchatov	157.79	342	*e*PKPdf	PKPdf	23 55 19.9 +0.1
KURK				*e*PKPab	PKPab	23 55 53.1 +0.7
KURBB	Kurchatov Arra	157.90	342	PKP	PKPdf	23 55 19.9 0.0
	comp=Z,1.3nm,0.8s,baz=33,slow=1.0,SNR=13					
KURBB				PKPab	PKPab	23 55 53.1 +0.2
	comp=Z,1.8nm,0.9s,baz=28,slow=4.0,SNR=9.1					
AKTO	Aktyubinsk	158.16	18	PKP	PKPdf	23 55 21.4 +1.0
	comp=Z,1.2nm,0.8s,baz=304,slow=1.6,SNR=3.5					
AKTO				PKPab	PKPab	23 55 55.2 +1.2
	comp=Z,2.7nm,0.9s,baz=308,slow=3.6,SNR=5.5					
RAYN	Ar Rayn	158.84	102	*e*PKPdf	PKPdf	23 55 22.1 +0.1
RAYN				*e*PKPab	PKPab	23 55 59.2 +1.1
WMQ	Urumqi	159.15	317	*e*P	PKPdf	23 55 23.3 +1.5
WMQ				LR	LR	
	comp=N,160nm,20.7s					
WMQ				LR	LR	
	comp=E,94nm,19.6s					
WMQ				LR	LR	
	comp=Z,160nm,22.1s					
MK32	Makanchi Array	159.88	331	*e*PKPdf	PKPdf	23 55 22.5 -0.1
MK32				*e*PKPab	PKPab	23 56 01.9 +0.1
MKAR	Makanchi Array	159.88	331	PKP	PKPdf	23 55 22.5 0.0
	comp=Z,0.7nm,0.8s,baz=20,slow=

ML4.2
NEIC ***11*** *00:04:26.4±1.3, 32°.44S×71°.79W, h36km±10km, mb4.7/3, Error ellipse: s-maj=17.8km s-min=8.8km az=89.0*
NEIC Felt [II] at Papudo, Puchuncavi, Renaca and Zapallar. Also felt at Hijuela.

ISC 11 00:04:25.5±1.6, 32°.44S±0°.04×71°.78W±0°.08, h28km±10km, n47, σ0°.92/52, mb4.3/7, 4C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.30**	**109**	*i* P	**Pb**	**00 04 33.0**	**+0.1**
ROCH	**El Roble**	**0.83**	**130**	⇓*i* P	**Pn**	**00 04 40.6**	**-1.0**
ROCH				AML	AML	00 04 52.4	
	comp=E,10μm,0.5s						
PEL	**Peldehue**	**1.16**	**128**	AML	AML	00 05 04.0	
	comp=E,16μm,0.2s						
RCDM	**Rinconada Maip**	**1.33**	**142**	⇓*i* P	**Pn**	**00 04 48.1**	**0.0**
RCDM				*i* S	**Sn**	**00 05 04.4**	**-0.6**
RCDM				AML	AML	00 05 07.6	
	comp=N,5μm,0.3s						
SAN	**Santiago**	**1.38**	**137**	⇑*i* P	**Pn**	**00 04 49.0**	**+0.1**
SAN				*i* S	**Sn**	**00 05 06.0**	**-0.2**
SAN				AML	AML	00 05 13.0	
	comp=N,5μm,0.5s						
TACH	**Talagante**	**1.40**	**150**	*i* P	**Pn**	**00 04 49.2**	**0.0**
CLCH	**Cerro Calan**	**1.41**	**133**	⇓*i* P	**Pn**	**00 04 49.6**	**+0.2**
CLCH				*i* S	**Sn**	**00 05 07.1**	**-0.1**
CLCH				AML	AML	00 05 09.9	
	comp=N,6μm,0.4s						
CMCH	**Combarbala**	**1.42**	**28**	⇑*i* P	**Pb**	**00 04 51.0**	**-0.4**
CMCH				*i* S	**Sb**	**00 05 09.9**	**+0.8**
CMCH				AML	AML	00 05 11.9	
	comp=E,14μm,0.8s						
FCH	**Farellones**	**1.53**	**126**	AML	AML	00 05 21.5	
	comp=E,4μm,0.2s						
PCH	**Pirque**	**1.58**	**138**	⇑*i* P	**Pn**	**00 04 52.1**	**+0.3**
LMEL	**Las Melosas**	**1.93**	**137**	⇑*i* P	**Pn**	**00 04 57.7**	**+1.1**
LMEL				*i* S	**Sn**	**00 05 21.2**	**+1.2**
LMEL				AML	AML	00 05 25.7	
	comp=N,4μm,0.5s						
CACH	**El Canelo**	**1.94**	**150**	*i* P	**Pn**	**00 04 58.1**	**+1.4**
TLL	**Tololo Astrono**	**2.41**	**20**	AML	AML	00 05 46.8	
	comp=N,1μm,0.6s						
CFAA	**Coronel Fontan**	**3.12**	**75**	Pn	**Pn**	**00 05 15.8**	**+3.0**
CFAA				Sn	**Sb**	**00 05 56.9**	**-1.0**
CFAA	**Coronel Fontan**	**3.12**	**75**	Pn	**Pn**	**00 05 15.8**	**+3.0**
	comp=N,4.1nm,0.3s,baz=246,slow=9.8,SNR=181						
CFAA				Sn	**Sb**	**00 05 56.9**	**-1.0**
	comp=N,5.4nm,0.3s,baz=62,slow=12,SNR=7.6						
LCO	**Las Campanas**	**3.54**	**15**	*e*Pn	**Pn**	**00 05 20.1**	**+1.2**
LCO				*e*Sn	**Sn**	**00 06 00.1**	**+0.2**
LCO	**Las Campanas**	**3.54**	**15**	AML	AML	00 06 21.2	
	comp=E,498nm,0.6s						
PLCA	**Paso Flores**	**8.34**	**174**	*e*Pn	**Pn**	**00 06 24.4**	**-0.1**
PLCA	**Paso Flores**	**8.34**	**174**	Pn	**Pn**	**00 06 24.7**	**+0.2**
	comp=E,0.6nm,0.3s,baz=336,slow=11,SNR=10						
TRQA	**Tornquist**	**9.77**	**128**	*e*Pn	**Pn**	**00 06 44.3**	**+0.2**
	comp=E,7.4nm,0.8s						
LVC	**Limon Verde**	**10.11**	**15**	*e*Pn	**Pn**	**00 06 47.8**	**-1.3**
CPUP	**Villa Florida**	**13.98**	**68**	*e*Pn	**Pn**	**00 07 40.4**	**-1.4**
CPUP	**Villa Florida**	**13.98**	**68**	Pn	**Pn**	**00 07 42.4**	**+0.7**
	comp=E,0.6nm,0.3s,baz=227,slow=11,SNR=3.7						
LPAZ	**La Paz**	**16.42**	**12**	*e*Pn	**Pn**	**00 08 15.7**	**+1.2**
	comp=E,3.9nm,0.9s						
LPAZ	**La Paz**	**16.42**	**12**	Pn	**Pn**	**00 08 15.1**	**+0.6**
	comp=E,0.2nm,0.3s,baz=189,slow=6.1,SNR=7.8						
SIV	**San Ignacio**	**19.04**	**33**	P	**P**	**00 08 45.8**	**+0.3**
SIV	**San Ignacio**	**19.04**	**33**	P	**P**	**00 08 45.8**	**+0.3**
	comp=E,0.2nm,0.3s,baz=240,slow=12,SNR=5.1						
SIV				LR	LR	00 17 45.8	
	comp=E,109nm,18.2s,slow=42						
BDFB	**Brasilia**	**27.30**	**58**	P	**P**	**00 10 07.3**	**-0.7**
BDFB	**Brasilia**	**27.30**	**58**	P	**P**	**00 10 07.3**	**-0.7**
	comp=E,7.4nm,1.0s,baz=299,slow=1.2,SNR=5.9						
SNAA	**Sanae**	**52.95**	**158**	*e*P	**P**	**00 13 39.0**	**+0.1**
	comp=E,7.2nm,1.4s						
SNAA	**Sanae**	**52.95**	**158**	P	**P**	**00 13 39.1**	**+0.1**
	comp=E,0.5nm,0.7s,baz=276,slow=8.2,SNR=16						
QSPA	**South Pole Qui**	**57.79**	**180**	*e*P	**P**	**00 14 13.3**	**+0.3**
QSPA	**South Pole Qui**	**57.79**	**180**	P	**P**	**00 14 14.6**	**+0.6**
	comp=E,2.0nm,0.9s,baz=157,slow=2.7,SNR=3.6						
TXAR	**Lajitas Array**	**68.49**	**330**	P	**P**	**00 15 25.4**	**+0.1**
TXAR	**Lajitas Array**	**68.49**	**330**	P	**P**	**00 15 25.4**	**+0.1**
	comp=E,0.4nm,0.6s,baz=150,slow=6.1,SNR=5.1						
DBIC	**Dimbokro**	**74.47**	**72**	*e*P	**P**	**00 16 01.1**	**-0.5**
	comp=E,9.5nm,1.0s						
DBIC	**Dimbokro**	**74.47**	**72**	P	**P**	**00 16 01.6**	**0.0**
	comp=E,3.6nm,0.7s,baz=240,slow=7.9,SNR=6.9						
BOSA	**Boshof**	**80.60**	**118**	*e*P	**P**	**00 16 35.9**	**0.0**
	comp=E,11nm,1.1s						
BOSA	**Boshof**	**80.60**	**118**	P	**P**	**00 16 35.8**	**-0.1**
	comp=E,1.5nm,0.5s,baz=238,slow=21,SNR=6.2						
TOA0	**Torodi Ar. Sit**	**83.47**	**70**	*e*P	**P**	**00 16 50.7**	**-0.2**
TORD	**Torodi Ar. Bea**	**83.47**	**70**	P	**P**	**00 16 51.1**	**+0.2**
TORD	**Torodi Ar. Bea**	**83.47**	**70**	P	**P**	**00 16 51.1**	**+0.2**
	comp=E,2.9nm,0.7s,baz=289,slow=5.1,SNR=26						
AAK	**Ala-Archa**	**151.55**	**59**	*e*PKPdf	**PKPdf**	**00 24 08.9**	**-1.9**
AAK				*e*PKPbc	**PKiKP**	**00 24 17.8**	**+0.3**
ZALV	**Zalesovo Beam**	**152.78**	**31**	PKPbc	**PKPbc**	**00 24 19.7**	**+0.5**
ZALV	**Zalesovo Beam**	**152.78**	**31**	PKPbc	**PKPbc**	**00 24 19.7**	**+0.5**
	comp=E,2.7nm,0.7s,baz=295,slow=3.3,SNR=13						
MKAR	**Makanchi Array**	**155.55**	**47**	PKPab	**PKPab**	**00 24 42.5**	**+0.3**
MKAR	**Makanchi Array**	**155.55**	**47**	PKPab	**PKPab**	**00 24 42.5**	**+0.3**
	comp=E,0.7nm,0.6s,baz=305,slow=2.9,SNR=7.6						

TRN 11 00:12:17.6, 14°.32N×60°.61W, h25km, MD3.5, M3.7(FDF), 8C, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCLT	**Moule a Chique**	**0.69**	**209**	⇑*e*P	Pn	00 12 33.0	+1.2
MCLT				*e*S	Sn	00 12 44.3	+2.6
DBCT	**Belle View Cho**	**1.19**	**323**	*e*P	Pb	00 12 40.5	+0.8
DBCT				*e*S	Sb	00 12 57.7	+3.0
SVB	**Belmont**	**1.21**	**211**	⇑*e*P	Pb	00 12 40.5	+0.5
SVB	**Belmont**	**1.21**	**211**	⇑*i* P	Pb	00 12 40.5	+0.6
SVB				*e*S	Sb	00 12 57.1	+1.8
MDN	**Morne-Daniel**	**1.25**	**323**	*e*P	Pb	00 12 41.3	+0.6
MDN				*e*S	Sb	00 12 58.1	+1.7
DWS	**Wesley**	**1.42**	**331**	*e*P	Pb	00 12 44.2	+0.7
DWS				*e*S	Sb	00 13 02.0	+0.8
DVCT	**Vielle Casse P**	**1.51**	**329**	*e*P	Pb	00 12 44.6	-0.3
DVCT				*e*S	Sb	00 13 03.8	+0.2
MGG	**Marie-Galante**	**1.74**	**337**	⇑*i* P	Pn	00 12 46.8	+0.6
TBG	**Guadaloupe-3**	**1.83**	**327**	⇑*i* P	Pb	00 12 49.1	-1.3
PHG	**Guadaloupe-2**	**1.96**	**329**	*e*P	Pb	00 12 51.2	-1.7
HMG	**Houelmont**	**1.97**	**328**	*e*P	Pb	00 12 51.8	-1.1
DOG	**Dongo Capester**	**1.97**	**330**	⇑*i* P	Pn	00 12 51.1	+1.6
ECG	**Echelle**	**1.99**	**330**	*e*P	Pn	00 12 51.5	+1.5
SCG	**Saint Claude**	**2.00**	**329**	*e*P	Pn	00 12 51.6	+1.7
TAG	**Tarade**	**2.00**	**329**	*e*P	Pn	00 12 51.7	+1.6
CRG	**Carmichael**	**2.01**	**330**	*e*P	Pn	00 12 51.5	+1.3
DEG	**La Desirade**	**2.04**	**348**	*e*P	Pn	00 12 49.9	-0.6
SSG	**Sans Toucher**	**2.05**	**330**	*e*P	Pn	00 12 52.1	+1.4
LZG	**Guadaloupe-1**	**2.14**	**328**	⇑*i* P	Pn	00 12 53.5	+1.8
GRSS	**Sisters**	**2.23**	**206**	*e*P	Pb	00 12 55.3	-2.0
GRSS				*e*S	Sb	00 13 22.4	-2.1
SEG	**Port Louis**	**2.25**	**337**	⇑*e*P	Pn	00 12 54.6	+1.3
GRHS	**Sauteurs**	**2.31**	**206**	*e*P	Pn	00 12 55.6	+1.5
GRHS				*e*S	Sb	00 13 24.4	-2.4
GRGR	**Grenville**	**2.40**	**205**	*e*P	Pn	00 12 56.8	+1.4
TOSP	**Speyside**	**3.00**	**179**	*e*P	Pn	00 13 05.7	+2.1
TOSP				*e*S	Sn	00 13 40.8	+2.0
SKI	**Saint Kitts**	**3.64**	**326**	*e*P	Pn	00 13 14.9	+2.5
SKI				*e*S	Sn	00 13 56.2	+1.6

CSEM ***11*** *00:13:07.4±0.1, 42°.55N×43°.41E, h2km, mb3.7, Error ellipse: s-maj=3.6km s-min=2.4km az=117.0*
MOS ***11*** *00:13:08.0±1.6, 42°.56N×43°.46E, h15km, mb3.7/1, Error ellipse: s-maj=0.1km s-min=0.0km az=99.0*
DDA ***11*** *00:13:34.3, 41°.42N×41°.94E, h11km, MD3.1*

ISC 11 00:13:07.3±1.0, 42°.54N±0°.02×43°.42E±0°.03, h5km±8km, n48, σ0°.51/88, 3C-1D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.06**	**28**	PG	**Pg**	**00 13 08.9**	**+0.1**
DIGR	**Digorskoe uzhe**	**0.38**	**19**	*i* PG	**Pg**	**00 13 14.1**	**-0.6**
DIGR				*i* S	**Sg**	**00 13 19.5**	**-0.2**
DIGR	**Digorskoe uzhe**	**0.38**	**19**	*i* Pg	**Pg**	**00 13 14.1**	**-0.6**
DIGR				*i* Sg	**Sg**	**00 13 19.5**	**-0.2**
ZEI	**Tsey**	**0.42**	**57**	*i* PG	**Pg**	**00 13 15.2**	**-0.3**
ZEI				*i* S	**Sg**	**00 13 21.1**	**0.0**
ZEI	**Tsey**	**0.42**	**57**	*i* Pg	**Pg**	**00 13 15.2**	**-0.3**
ZEI				*i* Sg	**Sg**	**00 13 21.1**	**0.0**
LACR	**Lac**	**0.71**	**66**	*i* PG	**Pg**	**00 13 20.1**	**-0.8**
LACR				*i* S	**Sg**	**00 13 29.9**	**-0.2**
LACR	**Lac**	**0.71**	**66**	*i* Pg	**Pg**	**00 13 20.1**	**-0.8**
LACR				*i* Sg	**Sg**	**00 13 29.9**	**-0.2**
KORR	**Kora**	**0.72**	**41**	*i* PG	**Pg**	**00 13 20.9**	**-0.3**
KORR				*e*S	**Sg**	**00 13 30.9**	**+0.3**
KORR	**Kora**	**0.72**	**41**	*i* Pg	**Pg**	**00 13 20.9**	**-0.3**
KORR				*e*Sg	**Sg**	**00 13 30.9**	**+0.3**
LSNR	**Lesken**	**0.79**	**22**	*i* PG	**Pg**	**00 13 22.3**	**-0.1**
LSNR				*e*S	**Sg**	**00 13 33.1**	**+0.4**
LSNR	**Lesken**	**0.79**	**22**	*i* Pg	**Pg**	**00 13 22.3**	**-0.1**
LSNR				*e*Sg	**Sg**	**00 13 33.1**	**+0.4**
STDR	**Stavd-Durt**	**0.95**	**30**	*i* PG	**Pb**	**00 13 26.3**	**0.0**
STDR				*e*S	**Sb**	**00 13 39.2**	**0.0**
STDR	**Stavd-Durt**	**0.95**	**30**	*i* Pg	**Pb**	**00 13 26.3**	**0.0**
STDR				*e*Sg	**Sb**	**00 13 39.2**	**0.0**
NCK	**Nalchik**	**0.96**	**8**	⇑*i* PG	**Pg**	**00 13 26.1**	**+0.3**
NCK				*i* S	**Sb**	**00 13 40.0**	**+0.5**
NCK	**Nalchik**	**0.96**	**8**	*i* Pg	**Pg**	**00 13 26.1**	**+0.3**
NCK				*i* Sg	**Sb**	**00 13 40.0**	**+0.5**
VLKR	**Vladikavkaz**	**1.06**	**61**	*e*PG	**Pg**	**00 13 27.5**	**0.0**
VLKR				*e*S	**Sg**	**00 13 41.6**	**+0.4**
VLKR	**Vladikavkaz**	**1.06**	**61**	*e*Pg	**Pg**	**00 13 27.5**	**0.0**
VLKR				*e*Sg	**Sg**	**00 13 41.6**	**+0.4**
AKH	**Akhalkalaki**	**1.13**	**177**	PG	**Pg**	**00 13 28.8**	**-0.2**
AKH	**Akhalkalaki**	**1.13**	**177**	Pg	**Pg**	**00 13 28.8**	**-0.2**
SNJR	**Sundja**	**1.15**	**62**	*e*PG	**Pg**	**00 13 29.3**	**-0.1**
SNJR				*e*S	**Sg**	**00 13 44.8**	**+0.4**
SNJR	**Sundja**	**1.15**	**62**	*e*Pg	**Pg**	**00 13 29.3**	**-0.1**
SNJR				*e*Sg	**Sg**	**00 13 44.8**	**+0.4**
BTKR	**Batakoyurt**	**1.17**	**44**	*i* PG	**Pn**	**00 13 31.1**	**+0.7**
BTKR				*e*S	**Sn**	**00 13 46.6**	**-0.1**
BTKR	**Batakoyurt**	**1.17**	**44**	*i* Pg	**Pn**	**00 13 31.1**	**+0.7**
BTKR				*e*Sg	**Sn**	**00 13 46.6**	**-0.1**
KUBR	**Kubataba**	**1.26**	**360**	⇓*i* PG	**Pg**	**00 13 31.7**	**+0.3**
KUBR				*i* S	**Sn**	**00 13 49.6**	**+0.7**
KUBR	**Kubataba**	**1.26**	**360**	*i* Pg	**Pg**	**00 13 31.7**	**+0.3**
KUBR				*i* Sg	**Sn**	**00 13 49.6**	**+0.7**
TBLG	**Delisi**	**1.27**	**129**	*e*PG	**Pn**	**00 13 31.0**	**-0.7**
TBLG	**Delisi**	**1.27**	**129**	*e*Pg	**Pn**	**00 13 31.0**	**-0.7**
SHAR	**Shatzhatmas**	**1.32**	**336**	⇓*i* PG	**Pn**	**00 13 31.7**	**-0.9**
SHAR				*i* S	**Sb**	**00 13 49.1**	**-0.9**
SHAR	**Shatzhatmas**	**1.32**	**336**	*e*Pg	**Pn**	**00 13 31.7**	**-0.9**
SHAR				*i* Sg	**Sb**	**00 13 49.1**	**-0.9**
PRTR	**Priterechnaya**	**1.36**	**27**	*e*PG	**Pg**	**00 13 33.8**	**+0.3**
PRTR				*e*S	**Sn**	**00 13 51.9**	**+0.5**
PRTR	**Priterechnaya**	**1.36**	**27**	*e*Pg	**Pg**	**00 13 33.8**	**+0.3**
PRTR				*e*Sg	**Sn**	**00 13 51.9**	**+0.5**
KIV	**Kislovodsk**	**1.51**	**340**	*e*PG	**Pn**	**00 13 34.9**	**-0.2**
KIV				*i* S	**Sn**	**00 13 54.2**	**-1.0**
KIV				pmax	pmax		
	comp=Z,9.0nm,0.5s						
KIV				smax	smax		
	comp=E,47nm,0.6s						
KIV	**Kislovodsk**	**1.51**	**340**	*e*Pg	**Pn**	**00 13 34.9**	**-0.2**
	comp=E,9.0nm,0.5s						
KIV				*i* Sg	**Sn**	**00 13 54.2**	**-1.0**
PYA	**Pyatigorsk**	**1.51**	**350**	⇑*i* PG	**Pb**	**00 13 35.9**	**0.0**
PYA				*i* S	**Sb**	**00 13 55.4**	**0.0**
PYA	**Pyatigorsk**	**1.51**	**350**	*i* Pg	**Pb**	**00 13 35.9**	**0.0**
PYA				*i* Sg	**Sb**	**00 13 55.4**	**0.0**
TRKR	**Terskaya**	**1.52**	**39**	*e*PG	**Pg**	**00 13 36.9**	**+0.4**
TRKR				*e*S	**Sg**	**00 13 56.9**	**+0.6**
TRKR	**Terskaya**	**1.52**	**39**	*e*Pg	**Pg**	**00 13 36.9**	**+0.4**
TRKR				*e*Sg	**Sg**	**00 13 56.9**	**+0.6**
ARTV	**Artvin**	**1.75**	**220**	*i* P	**Pn**	**00 13 39.0**	**+0.5**
ARTV				*i* S	**Sb**	**00 14 02.9**	**+0.5**
ARTV	**Artvin**	**1.75**	**220**	*i* P	**Pn**	**00 13 39.0**	**+0.5**
ARTV				*i* S	**Sb**	**00 14 02.9**	**+0.5**
DBOC	**Borcka**	**1.77**	**228**	*i* P	**Pn**	**00 13 38.6**	**0.0**
DBOC				*i* S	**Sn**	**00 14 02.3**	**+0.8**
DBOC	**Borcka**	**1.77**	**228**	*i* P	**Pn**	**00 13 38.6**	**0.0**
DBOC				*i* S	**Sn**	**00 14 02.3**	**+0.8**
DGRG	**David-gareji**	**1.82**	**126**	*e*PN	**Pb**	**00 13 41.2**	**+0.1**
DGRG	**David-gareji**	**1.82**	**126**	*e*Pn	**Pb**	**00 13 41.2**	**+0.1**
DBAD	**Bademkaya**	**1.99**	**221**	*i* P	**Pn**	**00 13 42.9**	**+1.2**
DBAD				*i* S	**Sb**	**00 14 09.4**	**+0.2**
DBAD	**Bademkaya**	**1.99**	**221**	*i* P	**Pn**	**00 13 42.9**	**+1.2**
DBAD				*i* S	**Sb**	**00 14 09.4**	**+0.2**
DDEM	**Demirkent**	**2.07**	**218**	*i* P	**Pb**	**00 13 44.4**	**-0.9**
DDEM				*i* S	**Sb**	**00 14 11.2**	**-0.1**
DDEM	**Demirkent**	**2.07**	**218**	*i* P	**Pb**	**00 13 44.4**	**-0.9**
DDEM				*i* S	**Sb**	**00 14 11.2**	**-0.1**
BRVK	**Borovoye**	**20.77**	**50**	*i* P	**P**	**00 17 48.3**	**-0.5**

IDC 11 00:15:54.1±6.3, 20°.84N×144°.59E, h60km±57km, mb3.8/13, mb1 4.0/14, mb1mx3.9/26, mbtmp3.8/14, ML3.8/1, MS3.2/3, Ms1 3.2/3, ms1mx2.7/30, Error ellipse: s-maj=28.7km s-min=17.1km az=90.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**6.61**	**341**	LR	LR	00 18 57.9	
	comp=Z,62nm,20.5s,baz=266,slow=28						
MJAR	**Matsushiro Arr**	**16.61**	**342**	P	Pn	00 19 41.0	-2.1
	0.4nm,0.3s,baz=164,slow=9.9,SNR=3.8						
KSRS	**Korea Array**	**21.99**	**322**	P	P	00 20 44.7	+1.6
	8.7nm,0.9s,baz=146,slow=9.0,SNR=27						
KSRS				LR	LR	00 28 40.6	
	comp=Z,41nm,18.2s,baz=120,slow=35						
USRK	**Ussuriysk Arra**	**25.54**	**339**	P	P	00 21 18.4	+1.2
	1.2nm,0.6s,baz=141,slow=9.3,SNR=3.7						
PMG	**Port Moresby**	**30.16**	**175**	LR	LR	00 32 27.3	
	comp=Z,150nm,20.6s,baz=222,slow=33						
SONM	**Songino Array**	**40.84**	**320**	P	P	00 23 29.9	-0.1
	0.6nm,0.5s,baz=127,slow=8.9,SNR=5.0						
WRA	**Warramunga Arr**	**41.75**	**195**	P	P	00 23 37.5	-0.1
	0.8nm,0.7s,baz=13,slow=8.7,SNR=5.8						
ASAR	**Alice Springs**	**45.45**	**194**	P	P	00 24 07.0	-0.3
	0.7nm,0.6s,baz=16,slow=8.7,SNR=10						
MKAR	**Makanchi Array**	**56.24**	**313**	P	P	00 25 28.0	-0.3
	2.0nm,0.9s,baz=90,slow=8.7,SNR=8.9						
ILAR	**Eielson Array**	**62.20**	**27**	P	P	00 26 07.4	-1.7
	1.5nm,0.8s,baz=264,slow=5.7,SNR=13						
YKA	**Yellowknife Ar**	**76.60**	**28**	P	P	00 27 38.4	+0.5
	1.7nm,0.8s,baz=286,slow=5.6,SNR=3.7						
ARCES	**ARCESS Array B**	**80.15**	**342**	P	P	00 27 57.4	0.0
	3.0nm,0.7s,baz=64,slow=8.2,SNR=11						
JOF	**Joensuu**	**81.65**	**335**	*ep*	P	00 28 04.0	-1.5
NVAR	**Mina Array Bea**	**82.64**	**52**	P	P	00 28 12.8	+1.2
	1.5nm,0.5s,baz=280,slow=5.4,SNR=9.9						
KBZ	**Khabaz**	**83.91**	**314**	P	P	00 28 18.0	+0.4
	2.2nm,0.8s,baz=83,slow=6.5,SNR=5.3						
FINES	**FINESS Array B**	**84.52**	**335**	P	P	00 28 19.0	-1.3
	2.5nm,0.6s,baz=58,slow=4.6,SNR=16						
PDAR	**Pinedale Array**	**87.07**	**45**	P	P	00 28 35.0	+1.2
	0.3nm,0.5s,baz=269,slow=2.1,SNR=4.7						

IDC 11 01:02:14.4±11.0, 11°.48S×169°.43E, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.5/18, mbtmp3.6/3, Error ellipse: s-maj=318.7km s-min=44.5km az=122.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**34.75**	**252**	P	P	01 09 07.1	+0.3
	0.2nm,0.3s,baz=84,slow=8.7,SNR=10						
ASAR	**Alice Springs**	**35.87**	**245**	P	P	01 09 15.8	-0.6
	0.2nm,0.4s,baz=69,slow=9.5,SNR=5.9						
SONM	**Songino Array**	**81.18**	**323**	P	P	01 14 32.2	0.0
	0.5nm,0.8s,baz=123,slow=5.3,SNR=2.5						

IDC 11 01:14:01.2±1.8, 19°.35S×169°.51E, h242km±16km, mb3.6/12, mb1 3.8/14, mb1mx3.8/21, mbtmp3.7/14, Error ellipse: s-maj=20.4km s-min=16.2km az=140.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.94**	**226**	P	Pn	01 15 05.7	+1.6
	7.8nm,0.3s,baz=71,slow=18,SNR=33						
DZM				S	S	01 15 52.8	-1.1
	15nm,0.3s,baz=122,slow=22,SNR=5.8						
HNR	**Honiara**	**13.52**	**315**	P	Pn	01 17 04.3	+0.4
	8.5nm,0.3s,baz=207,slow=6.2,SNR=8.6						
CTA	**Charters Tower**	**21.90**	**264**	P	P	01 18 35.4	+0.2
	0.9nm,0.3s,baz=107,slow=14,SNR=2.3						
STKA	**Stephens Creek**	**28.00**	**238**	P	P	01 19 31.2	+1.3
	3.2nm,0.7s,baz=56,slow=13,SNR=4.6						
WRA	**Warramunga Arr**	**33.09**	**263**	P	P	01 20 14.1	-0.6
	0.4nm,0.3s,baz=81,slow=5.8,SNR=13						
WRA				PcP	PcP	01 22 51.9	-0.3
	1.4nm,0.8s,baz=92,slow=3.0,SNR=8.9						
ASAR	**Alice Springs**	**33.34**	**256**	P	P	01 20 17.1	+0.1
	4.5nm,0.5s,baz=83,slow=9.2,SNR=78						
ASAR				PcP	PcP	01 22 52.3	-0.6
	0.6nm,0.7s,baz=120,slow=2.4,SNR=4.4						
VNDA	**Vanda**	**58.33**	**182**	P	P	01 23 30.6	+0.1
	0.6nm,0.5s,baz=331,slow=8.5,SNR=3.9						
USRK	**Ussuriysk Arra**	**71.95**	**333**	P	P	01 24 59.0	+0.7
	1.6nm,0.8s,baz=133,slow=8.1,SNR=4.1						
PETK	**Petropavlovsk-**	**72.87**	**353**	P	P	01 25 04.2	+0.6
	4.4nm,0.9s,baz=172,slow=14,SNR=3.6						
YBH	**Yreka Blue Hor**	**87.20**	**44**	P	P	01 26 21.0	+0.6
	3.5nm,0.8s,baz=185,slow=2.9,SNR=9.5						
SONM	**Songino Array**	**87.46**	**323**	P	P	01 26 21.7	+0.2
	2.6nm,0.9s,baz=143,slow=4.3,SNR=11						
NVAR	**Mina Array Bea**	**88.69**	**48**	P	P	01 26 27.8	+0.1
	3.0nm,1.0s,baz=223,slow=8.3,SNR=14						
ILAR	**Eielson Array**	**90.26**	**17**	P	P	01 26 32.0	-2.0
	1.0nm,0.7s,baz=232,slow=5.3,SNR=8.9						
TXAR	**Lajitas Array**	**96.60**	**61**	P	P	01 27 04.5	+0.4
	0.4nm,0.7s,baz=225,slow=4.8,SNR=4.2						
ARCES	**ARCESS Array B**	**125.23**	**345**	PKP	PKPdf	01 32 31.1	-1.3
	1.0nm,0.4s,baz=65,slow=2.3,SNR=14						
GERES	**GERESS Array B**	**144.70**	**332**	PKP	PKPbc	01 33 08.2	-0.4
	1.6nm,0.5s,baz=35,slow=4.1,SNR=18						
TORD	**Torodi Ar. Bea**	**166.78**	**244**	PKPab	PKPab	01 34 42.8	-0.3
	0.6nm,0.9s,baz=116,slow=4.4,SNR=4.2						

GUC 11 01:34:42.3±0.7, 33°.25S×72°.98W, h24km±3km, MD3.7, ML3.1, 2C-4D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**1.48**	**62**	*i* S	Sn	01 35 26.6	+0.5
LNV	**Longovilo**	**1.49**	**119**	⇑*i* P	Pn	01 35 07.5	0.0
LNV				*i* S	Sb	01 35 27.0	-0.8
RCDM	**Rinconada Maip**	**1.83**	**98**	⇑*i* P	Pn	01 35 13.7	+1.4
RCDM				*i* S	Sb	01 35 36.6	-1.2
RCDM				AML	AML	01 35 40.5	
	comp=N,89nm,0.2s						
PEL	**Peldehue**	**1.93**	**88**	⇓*i* P	Pn	01 35 15.0	+1.3
PEL				*i* S	Sb	01 35 39.6	-0.9
PEL				AML	AML	01 35 41.6	
	comp=E,216nm,0.3s						
CLCH	**Cerro Calan**	**2.05**	**95**	*e*P	Pn	01 35 16.8	+1.4
CLCH				*i* S	Sb	01 35 43.2	-0.9
CLCH				AML	AML	01 35 49.6	
	comp=E,98nm,0.4s						
PCH	**Pirque**	**2.10**	**101**	⇓*i* P	Pn	01 35 17.3	+1.3
PCH				*i* S	Sb	01 35 43.8	-1.6
CACH	**El Canelo**	**2.17**	**114**	⇓*i* P	Pn	01 35 18.8	+1.8
CACH				*i* S	Sb	01 35 46.5	-1.0
CMCH	**Combar

GAZI *i* S **Sb** **01 59 22.7 -0.9**
GAZI Gazipasa 1.70 186 *i* P **Pb** **01 59 01.3 -1.1**
GAZI *i* S **Sb** **01 59 22.7 -0.9**
SVRH Sivrihisar-ESK 1.70 333 *e*PN **Pb** **01 59 00.6 -1.9**
SVRH Sivrihisar-ESK 1.70 333 *e*Pn **Pb** **01 59 00.6 -1.9**
GULE Gulek 1.90 109 *i* P **Pn** **01 59 02.9 -0.7**
GULE *i* S **Sg** **01 59 30.7 -1.9**
GULE Gulek 1.90 109 *i* P **Pn** **01 59 02.9 -0.7**
GULE *i* S **Sg** **01 59 30.7 -1.9**
BR231 Keskin MP Arra 1.92 6 *e*Pn **Pb** **01 59 04.0 -2.2**
BR231 *e*Sn **Sg** **01 59 30.8 -2.3**
BR231 Keskin MP Arra 1.92 6 *e*Pn **Pb** **01 59 04.0 -2.2**
BR231 *e*Sn **Sg** **01 59 30.8 -2.3**
IKL Isikli 1.93 151 *e*PN **Pb** **01 59 04.4 -1.9**
IKL Isikli 1.93 151 *e*Pn **Pb** **01 59 04.4 -1.9**
KIZK Mersin 1.94 138 *i* P **Pb** **01 59 04.7 -1.8**
KIZK *i* S **Sb** **01 59 30.7 +0.1**
KIZK Mersin 1.94 138 *i* P **Pb** **01 59 04.7 -1.8**
KIZK *i* S **Sb** **01 59 30.7 +0.1**
ANTO Ankara 1.95 6 *e*PN **Pb** **01 59 04.3 -2.3**
ANTO Ankara 1.95 6 *e*P **Pb** **01 59 04.4 -2.3**
ANTO *e* 01 59 35.3
ANTO Ankara 1.95 6 *e*Pn **Pb** **01 59 04.4 -2.3**
ANTO *e*Sn **Sg** **01 59 35.3 +1.3**
ANTO Ankara 1.95 6 *e*P **Pb** **01 59 04.4 -2.3**
KORT Korkueli 1.96 242 *i* P **Pb** **01 59 04.2 -2.7**
KORT *i* S **Sg** **01 59 34.2 -0.1**
KORT Korkueli 1.96 242 *i* P **Pb** **01 59 04.2 -2.7**
KORT *i* S **Sg** **01 59 34.2 -0.1**
BR131 Keskin Array S 2.00 26 *e*Pn **Pn** **01 59 04.5 -0.3**
BR131 *e*Pg **Pg** **01 59 08.8 -0.8**
BR131 *e*Sg **Sg** **01 59 33.1 -2.4**
BR131 Keskin Array S 2.00 26 *e*Pn **Pn** **01 59 04.5 -0.3**
BRTR Keskin Array B 2.00 26 Pn **Pb** **01 59 04.8 -2.7**
BRTR Pg **Pg** **01 59 08.3 -1.2**
BRTR Lg Lg 01 59 34.2
BRTR Keskin Array B 2.00 26 Pn **Pb** **01 59 04.8 -2.7**
39nm,0.3s,baz=188,slow=16,SNR=406
BRTR Pg **Pg** **01 59 08.4 -1.2**
190nm,0.3s,baz=204,slow=16,SNR=192
BRTR Lg Lg 01 59 34.2
313nm,0.3s,baz=190,slow=29,SNR=14
BRTR LR LR 02 00 09.9
comp=Z,5μm,19.4s,baz=72,slow=50
BRTR Keskin Array B 2.00 26 P **Pb** **01 59 04.8 -2.7**
BRTR Keskin Array B 2.00 26 Pg **Pg** **01 59 08.4 -1.2**
BRTR S **Sg** **01 59 34.2 -1.3**
ESKT Eskisehir 2.06 321 *e*PN **Pb** **01 59 05.7 -2.9**
ESKT Eskisehir 2.06 321 *e*Pn **Pb** **01 59 05.7 -2.9**
SEYT Eskypehyr 2.06 321 *i* P **Pb** **01 59 05.9 -2.6**
SEYT Eskypehyr 2.06 321 *i* P **Pb** **01 59 05.9 -2.6**
CDAG Cicekdag 2.23 40 *i* P **Pb** **01 59 08.6 -2.8**
CDAG *i* S **Sb** **01 59 39.2 +0.3**
CDAG Cicekdag 2.23 40 *i* P **Pb** **01 59 08.6 -2.8**
CDAG *i* S **Sb** **01 59 39.2 +0.3**
ELL Elmali 2.39 241 *e*PN Pb 01 59 10.6 -3.7
ELL Elmali 2.39 241 *e*Pn Pb 01 59 10.6 -3.7
KHL Karahalli 2.40 280 *e*PN **Pn** **01 59 10.3 +0.1**
KHL Karahalli 2.40 280 *e*Pn **Pn** **01 59 10.4 +0.1**
KHAL Karahalli 2.43 281 *i* P Pb 01 59 11.3 -3.5
KHAL *i* S **Sg** **01 59 51.5 +2.2**
KHAL Karahalli 2.43 281 *i* P Pb 01 59 11.3 -3.5
BORA Eskisehir 2.53 321 *i* P Pb 01 59 12.4 -4.2
BORA *i* S **Sn** **01 59 43.3 +0.5**
BORA Eskisehir 2.53 321 *i* P Pb 01 59 12.4 -4.2
BORA *i* S **Sn** **01 59 43.3 +0.5**
GDZ Gediz 2.65 297 *i* P **Pn** **01 59 14.3 +0.5**
GDZ Gediz 2.65 297 *i* P **Pn** **01 59 14.3 +0.5**
ELDT Eldivan 2.65 15 *i* P **Pn** **01 59 13.7 -0.1**
ELDT Eldivan 2.65 15 *i* P **Pn** **01 59 13.7 -0.1**
KOZT Kozan 2.66 99 *e*PN Pb 01 59 15.1 -3.7
KOZT Kozan 2.66 99 *e*Pn Pb 01 59 15.1 -3.7
SGKT Sivrigoynuk 2.67 352 *i* P Pb 01 59 15.0 -3.9
SGKT Sivrigoynuk 2.67 352 *i* P Pb 01 59 15.0 -3.9
YURE YUREGIR 2.71 113 *i* P Pb 01 59 16.1 -3.6
YURE YUREGIR 2.71 113 *i* P Pb 01 59 16.1 -3.6
CEYT Ceyhan 2.73 109 *e*PN **Pn** **01 59 15.7 +1.0**
CEYT Ceyhan 2.73 109 *e*Pn **Pn** **01 59 15.7 +1.0**
EREN Erenkoy 2.74 151 *e*PN **Pn** **01 59 16.1 +1.3**
EREN Erenkoy 2.74 151 *e*Pn **Pn** **01 59 16.1 +1.3**
MDUB Mudurnu 2.74 338 *e*PN **Pn** **01 59 15.3 +0.3**
MDUB Mudurnu 2.74 338 *e*Pn **Pn** **01 59 15.3 +0.3**
DENT Denizli 2.77 267 *e*PN **Pn** **01 59 15.8 +0.5**
DENT Denizli 2.77 267 *e*Pn **Pn** **01 59 15.8 +0.5**
ALFC Alevga 2.77 179 P **Pn** **01 59 14.6 -0.7**
64nm,0.8s
ALFC S **Sn** **01 59 48.2 -0.4**
ALFC Alevga 2.77 179 P **Pn** **01 59 14.6 -0.7**
64nm,0.8s
ALFC S **Sn** **01 59 48.2 -0.4**
BNN Bunyan 2.77 70 *e*PN **Pn** **01 59 16.2 +0.8**
BNN Bunyan 2.77 70 *e*Pn **Pn** **01 59 16.2 +0.8**
YOZ Yozgat 2.78 51 *e*PN **Pn** **01 59 16.3 +0.8**
YOZ Yozgat 2.78 51 *e*Pn **Pn** **01 59 16.3 +0.8**
CORM Corum 2.78 36 *e*PN **Pn** **01 59 16.4 +0.8**
CORM Corum 2.78 36 *e*Pn **Pn** **01 59 16.4 +0.8**
CANT Cankiri 2.81 17 *e*PN **Pn** **01 59 15.9 0.0**
MAMC Mammari 2.81 168 P **Pn** **01 59 16.0 +0.1**
MAMC Mammari 2.81 168 P **Pn** **01 59 16.0 +0.1**
LEF Lefka 2.82 174 *e*PN **Pn** **01 59 15.6 -0.4**
LEF Lefka 2.82 174 *e*Pn **Pn** **01 59 15.6 -0.4**
AKAS Kas 2.88 235 *i* P **Pb** **01 59 19.8 -2.8**
AKAS Kas 2.88 235 *i* P **Pb** **01 59 19.8 -2.8**
AKMC Akamas 2.90 183 P **Pn** **01 59 16.7 -0.4**
AKMC Akamas 2.90 183 P **Pn** **01 59 16.7 -0.4**
GPA Golpazari 2.92 325 *e*PN **Pn** **01 59 17.6 +0.2**
GPA Golpazari 2.92 325 *e*Pn **Pn** **01 59 17.6 +0.2**
GULT Gulveren 2.94 329 *e*PN **Pn** **01 59 18.1 +0.3**
GULT Gulveren 2.94 329 *e*Pn **Pn** **01 59 18.1 +0.3**
AKIN Ak¯–nc¯–lar- K 3.01 165 *e*PN **Pn** **01 59 19.8 +1.2**
AKIN Ak¯–nc¯–lar- K 3.01 165 *e*Pn **Pn** **01 59 19.8 +1.2**
FETY Fethiye 3.03 246 *e*PN **Pn** **01 59 19.5 +0.6**
FETY Fethiye 3.03 246 *e*Pn **Pn** **01 59 19.5 +0.6**
CSS Prodhromos 3.03 167 P **Pn** **01 59 18.6 -0.3**
28nm,0.6s
CSS S **Sn** **01 59 55.8 +0.7**
CSS Prodhromos 3.03 167 *e*PN **Pn** **01 59 19.5 +0.6**
CSS Prodhromos 3.03 167 P **Pn** **01 59 18.1 -0.8**
CSS Prodhromos 3.03 167 *e*Pn **Pn** **01 59 18.6 -0.3**
CSS *e*Pg Pg 01 59 25.8 -3.6
CSS *e*Sn **Sn** **01 59 53.2 -1.9**
CSS Prodhromos 3.03 167 P **Pn** **01 59 18.6 -0.3**
28nm,0.6s
CSS Prodhromos 3.03 167 *e*Pn **Pn** **01 59 19.5 +0.6**
CSS Prodhromos 3.03 167 *e*Pg Pg 01 59 25.8 -3.6
CSS S **Sn** **01 59 55.8 +0.7**
PPCY Paphos 3.04 183 P **Pn** **01 59 20.2 +1.2**
PPCY Paphos 3.04 183 P **Pn** **01 59 20.2 +1.2**
ANDN Andirin 3.05 95 *i* P Pb 01 59 21.2 -4.3
ANDN Andirin 3.05 95 *i* P Pb 01 59 21.2 -4.3
CAVI Cavuskoy 3.08 318 *e*PN **Pn** **01 59 20.1 +0.5**
CAVI Cavuskoy 3.08 318 *e*Pn **Pn** **01 59 20.1 +0.5**
KULA Kula-Manisa 3.10 282 *e*PN **Pn** **01 59 20.0 +0.1**
KULA Kula-Manisa 3.10 282 P **Pn** **01 59 20.7 +0.8**
KULA Kula-Manisa 3.10 282 *e*Pn **Pn** **01 59 20.0 +0.1**
KULA Kula-Manisa 3.10 282 P **Pn** **01 59 20.7 +0.8**
PHNC Paralimni 3.16 157 P **Pn** **01 59 21.0 +0.3**
45nm,0.9s
PHNC Paralimni 3.16 157 P **Pn** **01 59 21.0 +0.3**
45nm,0.9s
SPNC Sapanca-Adapaz 3.24 329 *e*PN **Pn** **01 59 22.4 +0.6**
SPNC Sapanca-Adapaz 3.24 329 *e*Pn **Pn** **01 59 22.4 +0.6**
DALY Dalyan (Mu¯la 3.27 251 *e*PN **Pn** **01 59 22.9 +0.7**
DALY Dalyan (Mu¯la 3.27 251 *e*Pn **Pn** **01 59 22.9 +0.7**
COBT Iskenderun 3.30 114 *i* P **Pn** **01 59 24.7 +2.0**
COBT Iskenderun 3.30 114 *i* P **Pn** **01 59 24.7 +2.0**
ADVT Abdulvahap 3.31 320 *e*PN **Pn** **01 59 23.4 +0.8**
ADVT Abdulvahap 3.31 320 *e*Pn **Pn** **01 59 23.4 +0.8**
SAFT Safranbolu 3.31 2 *e*PN **Pn** **01 59 23.4 +0.7**
SAFT Safranbolu 3.31 2 *e*Pn **Pn** **01 59 23.5 +0.7**
TOS Tosya 3.31 20 *e*PN **Pn** **01 59 23.7 +0.8**
TOS Tosya 3.31 20 *e*Pn **Pn** **01 59 23.7 +0.8**
HTY Hatay 3.41 121 *e*PN **Pn** **01 59 25.6 +1.5**
HTY Hatay 3.41 121 *e*Pn **Pn** **01 59 25.6 +1.5**
AYKD Aykdinkavak 3.44 97 *i* P **Pn** **01 59 25.9 +1.4**
ARNB Al Arnab 3.45 126 *e*P Pn 01 59 20.8 -4.0
ARNB *e*S **Sn** **02 00 04.3 -1.3**
ARNB Al Arnab 3.45 126 *e*P Pn 01 59 21.3 -3.5
ARNB *e*S Sn 01 59 50.7 -15
ARNB AML AML 02 00 23.9
comp=E,1μm,0.6s
ARNB AML AML 02 00 25.0
comp=N,940nm,0.6s
ARNB Al Arnab 3.45 126 *e*P Pn 01 59 21.3 -3.5
SNR=45
ARNB *e*S Sn 01 59 50.7 -15
comp=N,940nm,0.6s,SNR=40
YER Yerkesik 3.46 258 *e*PN **Pn** **01 59 25.7 +0.8**
YER Yerkesik 3.46 258 *e*Pn **Pn** **01 59 25.7 +0.8**
DST Dursunbey 3.48 300 *e*PN **Pn** **01 59 25.8 +0.7**
DST Dursunbey 3.48 300 *e*Pn **Pn** **01 59 25.8 +0.7**
KDZE Karadeniz Ereo 3.48 347 *e*PN **Pn** **01 59 26.0 +0.9**
KDZE Karadeniz Ereo 3.48 347 *e*Pn **Pn** **01 59 26.0 +0.9**
DRWC Darouich 3.56 110 *e*P **Pn** **01 59 25.2 -1.0**
DRWC AML AML 01 59 48.5
comp=E,383nm,0.6s
DRWC AML AML 02 00 49.4
comp=N,481nm,0.7s
DRWC Darouich 3.56 110 *e*P **Pn** **01 59 25.2 -1.0**
SNR=45
DURS Dursunbey 3.58 299 *i* P **Pn** **01 59 27.5 +1.0**
DURS Dursunbey 3.58 299 *i* P **Pn** **01 59 27.5 +1.0**
HRT Hereke 3.64 323 *e*PN **Pn** **01 59 27.6 +0.3**
HRT Hereke 3.64 323 *e*Pn **Pn** **01 59 27.6 +0.3**
BTCH Batrach 3.68 120 *i* P **Pn** **01 59 25.6 -2.2**
BTCH *e*S Sn 01 59 54.8 -16
BTCH AML AML 02 00 27.9
comp=E,883nm,0.7s
BTCH AML AML 02 00 29.3
comp=N,1μm,0.8s
BTCH Batrach 3.68 120 *i* P **Pn** **01 59 25.6 -2.2**
SNR=45
BTCH *e*S Sn 01 59 54.8 -16
comp=N,1μm,0.8s,SNR=40
AYDN Tasoluk 3.69 267 *i* P **Pn** **01 59 29.0 +1.0**
AYDN Tasoluk 3.69 267 *i* P **Pn** **01 59 29.0 +1.0**
MDNY Mudanya-Bursa 3.73 312 *e*PN **Pn** **01 59 29.3 +0.8**
MDNY Mudanya-Bursa 3.73 312 *e*Pn **Pn** **01 59 29.3 +0.8**
AKHS Akhisar 3.82 286 *i* P **Pn** **01 59 30.4 +0.7**
AKHS Akhisar 3.82 286 *i* P **Pn** **01 59 30.4 +0.7**
AKS Akhisar 3.82 286 *e*PN **Pn** **01 59 30.5 +0.8**
AKS Akhisar 3.82 286 *e*Pn **Pn** **01 59 30.5 +0.8**
ARMT Armutlu 3.87 314 *e*PN **Pn** **01 59 31.0 +0.5**
ARMT Armutlu 3.87 314 *e*Pn **Pn** **01 59 31.0 +0.5**
ARG Arkhangelos 3.91 245 P Pn 01 59 32.9 +1.9
ARG Arkhangelos 3.91 245 *e*P Pb 01 59 33.8 -6.2
ARG Arkhangelos 3.91 245 P Pn 01 59 32.9 +1.9
BYBT Boyabat 3.94 25 *e*PN **Pn** **01 59 31.7 +0.4**
BYBT Boyabat 3.94 25 *e*Pn **Pn** **01 59 31.7 +0.4**
TOKT Tokat 3.94 51 *e*PN **Pn** **01 59 32.8 +1.4**
TOKT Tokat 3.94 51 *e*Pn **Pn** **01 59 32.8 +1.4**
KCTX Karacabey (Bur 3.99 307 *e*PN Pn 01 59 33.5 +1.4
KCTX Karacabey (Bur 3.99 307 *e*Pn Pn 01 59 33.5 +1.4
BALB Balikesir 4.01 297 *e*PN **Pn** **01 59 33.4 +1.1**
BALB Balikesir 4.01 297 *e*Pn **Pn** **01 59 33.4 +1.1**
SVSK Karacayir 4.02 59 *e*PN **Pn** **01 59 34.2 +1.8**
SVSK Karacayir 4.02 59 *e*Pn **Pn** **01 59 34.2 +1.8**
DAT Datca 4.12 255 *e*PN **Pn** **01 59 35.0 +1.1**
DAT Datca 4.12 255 *e*Pn **Pn** **01 59 35.0 +1.1**
ISK Istanbul-Kandi 4.12 321 *e*PN **Pn** **01 59 34.4 +0.5**
ISK Istanbul-Kandi 4.12 321 P **Pn** **01 59 34.3 +0.5**
ISK S **Sn** **02 00 23.2 +1.3**
ISK Istanbul-Kandi 4.12 321 *e*Pn **Pn** **01 59 34.4 +0.5**
ISK S **Sn** **02 00 23.2 +1.3**
KVT Kavak 4.16 40 *e*PN **Pn** **01 59 36.2 +1.7**
KVT Kavak 4.16 40 *e*Pn **Pn** **01 59 36.2 +1.7**
IZM Izmir 4.17 278 *e*PN **Pn** **01 59 35.5 +0.9**
IZM Izmir 4.17 278 *e*Pn **Pn** **01 59 35.5 +0.9**
BZK Bozkurt 4.18 15 *e*PN Pn 01 59 36.3 +1.6
BZK Bozkurt 4.18 15 *e*Pn Pn 01 59 36.3 +1.6
BALY Balya 4.23 297 *i* P **Pn** **01 59 36.8 +1.3**
BALY Balya 4.23 297 *i* P **Pn** **01 59 36.8 +1.3**
BODT Bodrum 4.23 260 *e*PN **Pn** **01 59 36.5 +1.0**
BODT Bodrum 4.23 260 *e*Pn **Pn** **01 59 36.5 +1.0**
KLYT Kilyos 4.27 322 *e*PN **Pn** **01 59 36.6 +0.7**
KLYT Kilyos 4.27 322 *e*Pn **Pn** **01 59 36.6 +0.7**
DIKM Dikmen 4.27 29 *e*PN **Pn** **01 59 37.6 +1.6**
DIKM Dikmen 4.27 29 *e*Pn **Pn** **01 59 37.6 +1.6**
AKCD Akcadag 4.28 83 *i* P **Pn** **01 59 37.7 +1.6**
AKCD Akcadag 4.28 83 *i* P **Pn** **01 59 37.7 +1.6**
GONE Gonen-Balikesi 4.32 301 *e*PN **Pn** **01 59 37.5 +0.9**
GONE Gonen-Balikesi 4.32 301 *e*Pn **Pn** **01 59 37.5 +0.9**
BNT Bandirma 4.32 306 *e*PN Pn 01 59 38.1 +1.5
BNT Bandirma 4.32 306 *e*Pn Pn 01 59 38.1 +1.5
BGKT Bogazkoy 4.35 319 *e*PN **Pn** **01 59 37.6 +0.6**
BGKT Bogazkoy 4.35 319 *e*Pn **Pn** **01 59 37.6 +0.6**
KFRA Kufra 4.38 127 *e*P **Pn** **01 59 35.6 -1.9**
KFRA *e*S **Sn** **02 00 27.3 -1.2**
KFRA Kufra 4.38 127 *e*P **Pn** **01 59 36.4 -1.2**
KFRA *e*S Sn 02 00 12.7 -16
KFRA AML AML 02 00 49.5
comp=E,1μm,0.6s
KFRA AML AML 02 00 54.8
comp=N,1μm,0.6s
KFRA Kufra 4.38 127 *e*P **Pn** **01 59 36.4 -1.2**
SNR=45
KFRA *e*S Sn 02 00 12.7 -16
comp=N,1μm,0.6s,SNR=40
RSDY Resadiye-TOKAT 4.48 55 *e*PN Pn 01 59 40.6 +1.9
RSDY Resadiye-TOKAT 4.48 55 *e*Pn Pn 01 59 40.7 +1.9
SMG Samos 4.50 269 P **Pn** **01 59 40.1 +0.9**
SMG Samos 4.50 269 P **Pn** **01 59 40.1 +0.9**
CTKS Kestanelik-??a 4.53 318 *e*PN **Pn** **01 59 40.6 +1.1**
CTKS Kestanelik-??a 4.53 318 *e*Pn **Pn** **01 59 40.6 +1.1**
HWQ Hawqa 4.58 142 *e*P **Pn** **01 59 40.5 +0.2**
HWQ Hawqa 4.58 142 *e*P **Pn** **01 59 40.5 +0.2**
HAWK Haweek 4.63 136 *e*P **Pn** **01 59 39.7 -1.3**
HAWK *e*S **Sn** **02 00 29.5 -5.2**
HAWK Haweek 4.63 136 *e*P **Pn** **01 59 41.0 0.0**
HAWK *e*S Sn 02 00 20.5 -14
HAWK Haweek 4.63 136 *e*P **Pn** **01 59 41.0 0.0**
SNR=45
HAWK *e*S Sn 02 00 20.5 -14
SNR=40
MALT Malatya 4.67 83 *e*PN **Pn** **01 59 43.2 +1.6**
MALT Malatya 4.67 83 ⇓P **Pn** **01 59 43.3 +1.7**
MALT Malatya 4.67 83 ⇑*i*P **Pn** **01 59 43.1 +1.6**
MALT Malatya 4.67 83 *e*Pn **Pn** **01 59 43.2 +1.6**
SLVT Silivri 4.69 316 *e*PN **Pn** **01 59 42.4 +0.8**
SLVT Silivri 4.69 316 *e*Pn **Pn** **01 59 42.4 +0.8**
KRBG Karabiga-Canak 4.75 303 *e*PN Pn 01 59 43.9 +1.4
KRBG Karabiga-Canak 4.75 303 *e*Pn Pn 01 59 43.9 +1.4
BHL Bhannes 4.75 147 *e*P **Pn** **01 59 44.6 +1.9**
BHL Bhannes 4.75 147 *e*P **Pn** **01 59 44.6 +1.9**
CTYL Yal??k??y-??at 4.81 319 *e*PN **Pn** **01 59 43.9 +0.5**
CTYL Yal??k??y-??at 4.81 319 *e*Pn **Pn** **01 59 43.9 +0.5**
FKH Fakeheh 4.84 138 *e*P **Pn** **01 59 43.9 0.0**
FKH Fakeheh 4.84 138 *e*P **Pn** **01 59 43.9 0.0**
KARP Karpathos 4.92 243 P **Pn** **01 59 45.1 +0.2**
KARP Karpathos 4.92 243 *e*P Pn 01 59 46.5 +1.6
KARP Karpathos 4.92 243 P **Pn** **01 59 45.1 +0.2**
TKR Tekirdag 4.92 310 *e*PN Pn 01 59 46.3 +1.4
TKR Tekirdag 4.92 310 *e*Pn Pn 01 59 46.3 +1.4
ILIC ilic-Erzincan 4.97 70 *e*PN Pn 01 59 47.6 +1.9
ILIC ilic-Erzincan 4.97 70 *e*Pn Pn 01 59 47.6 +1.9
RKY Sarkoy-Tekirda 4.97 305 *e*PN **Pn** **01 59 47.0 +1.3**
RKY Sarkoy-Tekirda 4.97 305 *e*Pn **Pn** **01 59 47.0 +1.3**
URFA Urfa 5.02 94 *e*PN Pn 01 59 48.7 +2.4
URFA Urfa 5.02 94 *e*Pn Pn 01 59 48.7 +2.4
MARH Ras Al Marh 5.05 139 *e*P **Pn** **01 59 47.5 +0.6**
MARH *e*S Sn 02 00 31.8 -14
MARH AML AML 02 01 00.8
comp=E,210nm,0.7s
MARH AML AML 02 01 13.5
comp=N,208nm,0.6s
MARH Ras Al Marh 5.05 139 *e*P **Pn** **01 59 47.5 +0.6**
SNR=45
MARH *e*S Sn 02 00 31.8 -14
comp=N,208nm,0.6s,SNR=40
PRK Paraskevi 5.07 287 P Pn 01 59 48.6 +1.7
PRK Paraskevi 5.07 287 *e*P Pn 01 59 48.5 +1.7
PRK Paraskevi 5.07 287 P Pn 01 59 48.6 +1.7
LPK Lapseki 5.10 300 *e*PN Pn 01 59 48.7 +1.4
LPK Lapseki 5.10 300 *e*Pn Pn 01 59 48.7 +1.4
CHOS Chios island 5.12 277 P Pn 01 59 49.2 +1.6
CHOS Chios island 5.12 277 P Pn 01 59 49.2 +1.6
RCY Rachaya 5.18 148 *e*P **Pn** **01 59 49.0 +0.4**
RCY Rachaya 5.18 148 *e*P **Pn** **01 59 49.0 +0.4**
EZN Ezine 5.19 293 *e*PN Pn 01 59 50.2 +1.6
EZN Ezine 5.19 293 *e*Pn Pn 01 59 50.2 +1.6
GELI Tayfur-Gelibol 5.31 300 *e*PN Pn 01 59 51.8 +1.7
GELI Tayfur-Gelibol 5.31 300 *e*Pn Pn 01 59 51.8 +1.7
PHSR Pinarhisar 5.34 315 *e*PN **Pn** **01 59 50.7 +0.1**
PHSR Pinarhisar 5.34 315 *e*Pn **Pn** **01 59 50.7 +0.1**
QASN Qassioun 5.34 144 *e*P **Pn** **01 59 50.1 -0.7**
QASN *e*S Sn 02 00 39.8 -13
QASN AML AML 02 01 15.3
comp=N,229nm,0.7s
QASN AML AML 02 01 35.9
comp=E,245nm,0.6s
QASN Qassioun 5.34 144 *e*P **Pn** **01 59 50.1 -0.7**
SNR=45
QASN *e*S Sn 02 00 39.8 -13
comp=E,245nm,0.6s,SNR=40
MMAI Mount Meron Ar 5.44 154 Pn **Pn** **01 59 51.8 -0.3**
MMAI Sn **Sn** **02 00 54.1 -0.4**
MMAI Mount Meron Ar 5.44 154 Pn **Pn** **01 59 51.8 -0.3**
comp=E,11nm,0.3s,baz=340,slow=13,SNR=45
MMAI Sn **Sn** **02 00 54.1 -0.4**
comp=E,7.1nm,0.3s,baz=342,slow=28,SNR=1.2
MMAI Mount Meron Ar 5.44 154 Pn **Pn** **01 59 51.8 -0.3**
MMAI Sn **Sn** **02 00 54.1 -0.4**
PTK Pertek 5.48 78 *e*PN **Pn** **01 59 54.6 +1.8**
PTK Pertek 5.48 78 *e*Pn **Pn** **01 59 54.6 +1.8**
TOTH TOTAH 5.56 144 *e*P Pn 01 59 55.9 +2.2
TOTH *e*S Sn 02 00 44.6 -13
TOTH AML AML 02 01 10.0
comp=E,120nm,0.6s
TOTH AML AML 02 01 28.5
comp=N,75nm,0.8s
TOTH TOTAH 5.56 144 *e*P Pn 01 59 55.9 +2.2
SNR=45
TOTH *e*S Sn 02 00 44.6 -13
comp=N,75nm,0.8s,SNR=40
APE Apeiranthos 5.62 263 *e*PN Pn 01 59 57.0 +2.5
APE Apeiranthos 5.62 263 P Pn 01 59 56.1 +1.5
APE Apeiranthos 5.62 263 ⇓P **Pn** **01 59 54.1 -0.5**
APE Apeiranthos 5.62 263 P Pn 01 59 56.1 +1.5
APE Apeiranthos 5.62 263 *e*Pn Pn 01 59 57.1 +2.5
ESPY Espiye-Giresun 5.66 56 *e*PN Pn 01 59 57.4 +2.4
ESPY Espiye-Giresun 5.66 56 *e*Pn Pn 01 59 57.4 +2.4
ZKR Zakros 5.80 243 P Pn 01 59 58.9 +1.9
ZKR Zakros 5.80 243 P Pn 01 59 58.9 +1.9
ALN Alexandroupoli 5.82 303 P Pn 01 59 58.7 +1.4
ALN Alexandroupoli 5.82 303 P Pn 01 59 58.7 +1.4
SANT Santorini 5.85 257 *e*Pn Pn 01 59 53.4 -4.3
SANT *e*Sn **Sn** **02 01 00.5 -4.1**
SANT *e*Sg Sg 02 01 30.7 -8.4
EDRB Edirne 5.92 313 *e*PN **Pn** **01 59 59.7 +1.2**
EDRB Edirne 5.92 313 P **Pn** **01 59 59.5 +0.9**
EDRB Edirne 5.92 313 P **Pn** **01 59 59.5 +0.9**
GUMT Gumushane 5.97 63 *e*PN Pn 02 00 01.8 +2.4
GUMT Gumushane 5.97 63 *e*Pn Pn 02 00 01.8 +2.4
SMTH Samothraki Isl 5.99 297 P Pn 02 00 01.3 +1.7
SMTH Samothraki Isl 5.99 297 *e*P Pn 02 00 01.1 +1.5
SMTH Samothraki Isl 5.99 297 P Pn 02 00 01.3 +1.7
LIA Limnos Island 6.05 291 P Pn 02 00 02.1 +1.7
LIA Limnos Island 6.05 291 *e*P Pn 02 00 02.3 +1.9
LIA Limnos Island 6.05 291 P Pn 02 00 02.1 +1.7
NPS Neapolis 6.16 246 P **Pn** **02 00 02.2 +0.3**
NPS Neapolis 6.16 246 P **Pn** **02 00 02.2 +0.3**
SALA Sala 6.24 145 *e*P **Pn** **02 00 04.6 +1.4**
SALA *e*S Sn 02 01 00.5 -14
SALA AML AML 02 01 26.4
comp=N,94nm,0.6s
SALA AML AML 02 01 59.8
comp=E,11nm,0.7s
SALA Sala 6.24 145 *e*P **Pn** **02 00 04.6 +1.4**
SNR=45
SALA *e*S Sn 02 01 00.5 -14
comp=E,11nm,0.7s,SNR=40
SFNV Sufian 6.25 102 *e*P **Pn** **02 00 04.7 +1.5**
SFNV *e*S Sn 02 00 59.1 -15
SFNV AML AML 02 02 26.0
comp=Z,136nm,0.7s
SFNV Sufian 6.25 102 *e*P **Pn** **02 00 04.7 +1.5**
SNR=45
SFNV *e*S Sn 02 00 59.1 -15
comp=Z,136nm,0.7s,SNR=40
RDO Rodhopi 6.28 303 P Pn 02 00 05.2 +1.7
RDO Rodhopi 6.28 303 *e*P Pn 02 00 05.1 +1.6
RDO Rodhopi 6.28 303 P Pn 02 00 05.2 +1.7
MAZI Mazidag 6.30 92 *e*PN Pn 02 00 06.8 +2.8
MAZI Mazidag 6.30 92 *e*Pn Pn 02 00 06.8 +2.8
LAST Lasithi 6.30 246 P **Pn** **02 00 04.9 +0.9**
LAST Lasithi 6.30 246 P **Pn** **02 00 04.9 +0.9**
ZALF Zalf 6.36 140 *e*P **Pn** **02 00 05.9 +1.2**
ZALF *e*S Sn 02 01 02.7 -14
ZALF AML AML 02 01 41.3
comp=E,79nm,0.7s
ZALF AML AML 02 01 46.9
comp=N,69nm,0.7s
ZALF Zalf 6.36 140 *e*P **Pn** **02 00 05.9 +1.2**
SNR=45
ZALF *e*S Sn 02 01 02.7 -14
comp=N,69nm,0.7s,SNR=40
JMB Yambol 6.42 317 P Pn 02 00 07.1 +1.6
JMB Yambol 6.42 317 ⇑*i*Pn Pn 02 00 07.0 +1.6
JMB Yambol 6.42 317 ⇑*i*Pn Pn 02 00 07.0 +1.6
KBSD Kabsdagh 6.45 96 *e*P Pn 02 00 07.9 +2.0
KBSD *e*S **Sn** **02 01 22.2 +2.9**
BNGB Bing¯¶l 6.49 78 *e*PN Pn 02 00 09.1 +2.5
MANR Mangalia 6.59 334 ⇑*i*P **Pn** **02 00 07.5 -0.3**
MANR Mangalia 6.59 334 ⇑*i*P **Pn** **02 00 07.5 -0.3**
SEV Sevastopol' 6.67 7 *e*P **Pn** **02 00 09.1 +0.3**
SEV *e*S **Sn** **02 01 22.7 -1.9**
SEV Sevastopol' 6.67 7 *e*P **Pn** **02 00 09.1 +0.3**
SEV *e*S **Sn** **02 01 22.7 -1.9**
YAL Yalta 6.67 10 *e*P Pb 02 00 21.1 -5.9
YAL *e*S **Sn** **02 01 23.8 -0.8**
IDI Anoyia 6.68 249 P Pn 02 00 10.7 +1.6
IDI Anoyia 6.68 249 *e*Pn **Pn** **02 00 09.5 +0.4**
IDI *e*Sn **Sn** **02 01 23.8 -1.3**
IDI Anoyia 6.68 249 Pn **Pn** **02 00 09.4 +0.3**
comp=N,3.6nm,0.3s,baz=61,slow=12,SNR=24
IDI Sn **Sn** **02 01 25.4 +0.4**
comp=N,4.9nm,0.3s,baz=355,slow=20,SNR=1.4
IDI Anoyia 6.68 249 *e*Pn **Pn** **02 00 09.5 +0.4**
IDI Anoyia 6.68 249 P Pn 02 00 10.7 +1.6
IDI *e*Sn **Sn** **02 01 23.8 -1.3**
ASF Jabal al Asfar 6.77 147 Pn **Pn** **02 00 10.5 +0.1**
ASF Sn **Sn** **02 01 28.6 +1.2**
ASF Jabal al Asfar 6.77 147 Pn **Pn** **02 00 10.5 +0.1**
comp=N,0.7nm,0.3s,baz=289,slow=3.4,SNR=20
ASF Sn **Sn** **02 01 28.6 +1.2**
comp=N,0.3nm,0.3s,baz=261,slow=11,SNR=3.2
ASF LR LR 02 03 23.1
comp=N,1μm,19.2s,baz=280,slow=43
MZRK Al-Mazaregh 6.85 105 *e*P Pn 02 00 15.5 +4.1
MZRK *e*S **Sn** **02 01 31.8 +2.7**
SIVA Sivas 6.86 247 P Pn 02 00 13.3 +1.8
SIVA Sivas 6.86 247 P Pn 02 00 13.3 +1.8
ALU Alushta 6.89 11 *e*P Pn 02 00 16.5 +4.6
ALU *e*S **Sn** **02 01 31.9 +1.7**
KAVA Kavala 6.91 299 P Pn 02 00 13.7 +1.5
KAVA Kavala 6.91 299 P Pn 02 00 13.7 +1.5
RSH 7.02 172 P **Pn** **02 00 12.5 -1.3**
SIM Simferopol' 7.12 9 *d i*P Pn 02 00 18.3 +3.3
SIM *e*S **Sn** **02 01 35.0 -0.7**
SIM pmax pmax
comp=Z,21nm,1.1s
EZM Erzurum 7.17 71 *e*PN Pn 02 00 18.4 +2.4
TIRR Tirgusor 7.22 336 *e*P **Pn** **02 00 15.7 -0.7**
TIRR *e* 02 01 34.4
TIRR Tirgusor 7.22 336 *e*Pn **Pn** **02 00 15.7 -0.7**
TIRR *e*Sn **Sn** **02 01 34.4 -3.8**
TIRR *e*Sg Sg 02 02 12.9 -10
TIRR Tirgusor 7.22 336 ⇑*i*P **Pn** **02 00 17.0 +0.6**
**TIRR Tirgusor 7

FEO	**Feodosiya**	**7.40 16**	*eP*	**Pn**	**02 00 20.0 +1.1**
FEO			*eS*	**Sn**	**02 01 42.9 +0.2**
FEO	**Feodosiya**	**7.40 16**	*eP*	**Pn**	**02 00 20.0 +1.1**
FEO			*eS*	**Sn**	**02 01 42.9 +0.2**
TLB	**Topalu**	**7.46 335**	⇑P	**Pn**	**02 00 20.0 +0.4**
TLB	**Topalu**	**7.46 335**	⇓*i*P	**Pn**	**02 00 19.8 +0.2**
TLB	**Topalu**	**7.46 335**	P	**Pn**	**02 00 20.0 +0.4**
PLG	**Polygyros**	**7.46 292**	P	Pn	02 00 21.8 +2.0
PLG	**Polygyros**	**7.46 292**	P	Pn	02 00 21.8 +2.0
GVD	**Gavdhos**	**7.47 248**	*e*Pn	**Pn**	**02 00 18.5 -1.3**
GVD	**Gavdhos**	**7.47 248**	*e*Pn	**Pn**	**02 00 18.5 -1.3**
NVR	**Nevrokopi**	**7.50 300**	P	Pn	02 00 22.0 +1.6
NVR	**Nevrokopi**	**7.50 300**	*e*P	Pn	02 00 21.8 +1.4
NVR	**Nevrokopi**	**7.50 300**	P	Pn	02 00 22.0 +1.6
HARR	**Harsova**	**7.58 334**	⇑P	**Pn**	**02 00 22.2 +0.8**
HARR	**Harsova**	**7.58 334**	⇑*i*P	**Pn**	**02 00 20.2 -1.2**
HARR	**Harsova**	**7.58 334**	P	**Pn**	**02 00 22.2 +0.8**
SRS	**Serrai**	**7.60 298**	P	Pn	02 00 23.1 +1.4
SRS	**Serrai**	**7.60 298**	P	Pn	02 00 23.1 +1.4
HBRG	**Burj al 'Arab**	**7.66 198**	P	**Pn**	**02 00 21.8 -0.8**
	baz=197				
HBRG	**Burj al 'Arab**	**7.66 198**	P	**Pn**	**02 00 21.8 -0.8**
TLCR		**7.76 340**	⇓P	**Pn**	**02 00 24.3 +0.4**
TLCR		**7.76 340**	⇑*i*P	**Pn**	**02 00 23.7 -0.2**
TLCR		**7.76 340**	P	**Pn**	**02 00 24.3 +0.4**
ANN	**Anapa**	**7.79 27**	*e*P	**Pn**	**02 00 22.8 -1.5**
ANN			*e*S	**Sn**	**02 01 49.5 -2.8**
ANN			pmax	pmax	
	comp=Z,29nm,1.1s				
ANN			MLR	MLR	
	comp=N,513nm,13.0s				
ANN			MLR	MLR	
	comp=E,522nm,13.0s				
ANN			MLR	MLR	
	comp=Z,478nm,13.0s				
ANN	**Anapa**	**7.79 27**	*e*P	**Pn**	**02 00 22.8 -1.5**
	comp=Z,29nm,1.1s				
SOC	**Sochi**	**7.86 42**	*e*P	**Pn**	**02 00 25.7 +0.6**
SOC			*e*		02 01 54.2
SOC			MLR	MLR	
	comp=Z,733nm,13.0s				
SOC	**Sochi**	**7.86 42**	*e*P	**Pn**	**02 00 25.7 +0.6**
	comp=Z,733nm,13.0s				
SOC			*e*S	**Sn**	**02 01 54.2 +0.4**
ZIMR		**7.88 319**	⇑*i*P	**Pn**	**02 00 26.2 +0.7**
CFR	**Carcaliu**	**7.95 337**	⇑P	**Pn**	**02 00 26.6 +0.2**
CFR	**Carcaliu**	**7.95 337**	⇓*i*P	**Pn**	**02 00 26.9 +0.5**
CFR	**Carcaliu**	**7.95 337**	P	**Pn**	**02 00 26.6 +0.2**
GUR	**Goura**	**8.04 273**	P	Pn	02 00 30.7 +2.8
GUR	**Goura**	**8.04 273**	P	Pn	02 00 30.7 +2.8
HNKL	**Nakhl**	**8.07 171**	P	**Pn**	**02 00 26.8 -1.4**
	baz=171				
HNKL	**Nakhl**	**8.07 171**	P	**Pn**	**02 00 26.8 -1.4**
KNT	**Kendrikon**	**8.10 296**	P	Pn	02 00 30.8 +2.2
KNT	**Kendrikon**	**8.10 296**	P	Pn	02 00 30.8 +2.2
PGOR	**Pogoanele**	**8.12 331**	⇑*i*P	**Pn**	**02 00 28.7 0.0**
PGOR	**Pogoanele**	**8.12 331**	⇑*i*P	**Pn**	**02 00 28.7 0.0**
KLV	**Kalavryta, Ach**	**8.19 274**	P	Pn	02 00 32.5 +2.7
KLV	**Kalavryta, Ach**	**8.19 274**	*e*P	Pn	02 00 33.2 +3.4
KLV	**Kalavryta, Ach**	**8.19 274**	P	Pn	02 00 32.5 +2.7
KALE	**Kalithea**	**8.19 276**	P	Pn	02 00 31.9 +2.1
KALE	**Kalithea**	**8.19 276**	P	Pn	02 00 31.9 +2.1
LAKA	**Lakka**	**8.32 275**	P	Pn	02 00 34.6 +3.0
LAKA	**Lakka**	**8.32 275**	P	Pn	02 00 34.6 +3.0
THL	**Klokotos Trika**	**8.37 284**	*e*P	Pn	02 00 35.8 +3.6
VAY	**Valandovo**	**8.39 297**	*e*Pn	Pn	02 00 41.5 +9.0
HNAT	**Natroun**	**8.43 191**	P	**Pn**	**02 00 32.0 -1.0**
	baz=192				
HNAT	**Natroun**	**8.43 191**	P	**Pn**	**02 00 32.0 -1.0**
ITM	**Ithomi**	**8.45 268**	*e*P	Pn	02 00 36.9 +3.6
EIL	**Elat**	**8.48 166**	Pn	**Pn**	**02 00 34.7 +0.9**
EIL			Sn	**Sn**	**02 02 10.1 +0.7**
EIL	**Elat**	**8.48 166**	Pn	**Pn**	**02 00 34.7 +0.9**
	comp=Z,1.6nm,0.3s,baz=349,slow=9.3,SNR=17				
EIL			Sn	**Sn**	**02 02 10.1 +0.7**
	comp=Z,2.1nm,0.3s,baz=68,slow=19,SNR=2.5				
EIL			LR	LR	02 04 16.0
	comp=Z,703nm,20.6s,baz=146,slow=41				
EIL	**Elat**	**8.48 166**	Pn	**Pn**	**02 00 34.7 +0.9**
EIL			Sn	**Sn**	**02 02 10.1 +0.7**
VTS	**Vitosha**	**8.51 306**	P	Pn	02 00 36.2 +2.0
VTS	**Vitosha**	**8.51 306**	⇑P	**Pn**	**02 00 35.5 +1.3**
VTS	**Vitosha**	**8.51 306**	⇑*i*P	Pn	02 00 36.1 +1.9
VTS	**Vitosha**	**8.51 306**	⇑*i*Pn	Pn	02 00 35.9 +1.7
VTS			*e*Sn	**Sn**	**02 02 06.9 -3.2**
VTS	**Vitosha**	**8.51 306**	P	**Pn**	**02 00 35.5 +1.3**
VTS	**Vitosha**	**8.51 306**	⇑*i*Pn	Pn	02 00 35.9 +1.7
GRER		**8.52 333**	⇑*i*P	Pn	02 00 36.4 +2.1
GRER		**8.52 333**	⇑*i*P	Pn	02 00 36.4 +2.1
PETR	**Petresti**	**8.73 335**	⇑*i*P	Pn	02 00 40.1 +3.0
PETR	**Petresti**	**8.73 335**	⇑*i*P	Pn	02 00 40.1 +3.0
GHRR		**8.97 337**	⇑*i*P	Pn	02 00 43.7 +3.3
MLR	**Muntele Rosu**	**9.01 329**	Pn	**Pn**	**02 00 42.5 +1.4**
MLR			Sn	**Sn**	**02 02 23.4 +1.0**
MLR	**Muntele Rosu**	**9.01 329**	⇓*i*P	Pn	02 00 43.0 +1.8
MLR	**Muntele Rosu**	**9.01 329**	*e*Pn	Pn	02 00 42.9 +1.8
MLR	**Muntele Rosu**	**9.01 329**	Pn	**Pn**	**02 00 42.5 +1.4**
	comp=Z,0.3nm,0.3s,baz=90,slow=22,SNR=13				
MLR			Sn	**Sn**	**02 02 23.4 +1.0**
	comp=Z,0.0nm,0.3s,baz=121,slow=13,SNR=1.5				
MLR			LR	LR	02 04 47.0
	comp=Z,201nm,20.8s,baz=160,slow=42				
MLR	**Muntele Rosu**	**9.01 329**	P	**Pn**	**02 00 42.5 +1.4**
MLR			S	**Sn**	**02 02 23.4 +1.0**
VRI	**Vrincioaia**	**9.03 333**	⇑P	**Pn**	**02 00 42.0 +0.8**
VRI	**Vrincioaia**	**9.03 333**	⇓*i*P	**Pn**	**02 00 42.6 +1.4**
VRI	**Vrincioaia**	**9.03 333**	P	**Pn**	**02 00 42.0 +0.8**
PLOR	**Plostina**	**9.04 333**	⇑P	**Pn**	**02 00 42.6 +1.1**
PLOR	**Plostina**	**9.04 333**	⇓*i*P	Pn	02 00 43.9 +2.4
PLOR	**Plostina**	**9.04 333**	P	**Pn**	**02 00 42.6 +1.1**
LEOM	**Leova**	**9.11 341**	⇑P	**Pn**	**02 00 42.1 -0.2**
LEOM	**Leova**	**9.11 341**	⇓*i*P	**Pn**	**02 00 41.8 -0.5**
LEOM	**Leova**	**9.11 341**	P	**Pn**	**02 00 42.1 -0.2**
BIA	**Bitola**	**9.19 293**	*e*Pn	Pn	02 00 47.0 +3.5
BIA	**Bitola**	**9.19 293**	*e*Pn	Pn	02 00 46.5 +3.0
ZAPS	**Zavoj**	**9.22 308**	⇓*i*Pn	Pn	02 00 46.0 +2.1
ZAPS			*e*Sn	**Sn**	**02 02 25.0 -2.4**
VOIR		**9.35 326**	⇓P	**Pn**	**02 00 47.0 +1.3**
VOIR		**9.35 326**	⇓*i*P	**Pn**	**02 00 46.6 +0.9**
VOIR		**9.35 326**	P	**Pn**	**02 00 47.0 +1.3**
KIS	**Kishinev**	**9.46 344**	*e*P	**Pn**	**02 00 48.0 +0.8**
KIS			LRM	MLR	02 05 20.0
	comp=Z,1μm,14.0s				
KIS	**Kishinev**	**9.46 344**	*e*P	**Pn**	**02 00 48.0 +0.8**
KIS			*e*		02 02 40.0
KIS			MLR	MLR	
	comp=Z,1μm,12.0s				
KIS			MLR	MLR	
	comp=Z,1μm,14.0s				
KIS	**Kishinev**	**9.46 344**	*e*P	**Pn**	**02 00 48.0 +0.8**
ARR	**Arges**	**9.49 324**	⇑*i*P	**Pn**	**02 00 47.8 +0.2**
ARR	**Arges**	**9.49 324**	⇑*i*P	**Pn**	**02 00 47.8 +0.2**
BARS	**Barje**	**9.51 304**	⇓*i*Pn	Pn	02 00 50.1 +2.2
BARS			*e*Sn	**Sn**	**02 02 31.0 -3.6**
BARS	**Barje**	**9.51 304**	⇓*i*Pn	Pn	02 00 50.1 +2.2
TR2		**9.57 174**	P	**Pn**	**02 00 48.4 -0.3**
	baz=173				
TR2		**9.57 174**	P	**Pn**	**02 00 48.4 -0.3**
TESR	**Tescani**	**9.62 335**	⇑*i*P	**Pn**	**02 00 50.1 +0.8**
TESR	**Tescani**	**9.62 335**	⇑*i*P	**Pn**	**02 00 50.1 +0.8**
DOPR	**Dopca**	**9.62 329**	⇑*i*P	Pn	02 00 51.2 +1.8
DOPR	**Dopca**	**9.62 329**	⇑*i*P	Pn	02 00 51.2 +1.8
KIV	**Kislovodsk**	**9.76 49**	⇑*i*P	Pn	02 00 55.9 +4.5
KIV			pmax	pmax	
	comp=Z,18nm,1.0s				
KIV			MLR	MLR	
	comp=Z,200nm,14.0s				
GNI	**Garni**	**9.76 73**	*e*Pn	**Pn**	**02 00 51.9 +0.3**
	comp=Z,39nm,1.6s				
GNI	**Garni**	**9.76 73**	*e*Pn	**Pn**	**02 00 51.8 +0.3**
	comp=Z,39nm,1.6s				
GNI	**Garni**	**9.76 73**	*e*P	Pn	02 00 53.4 +1.9
	comp=Z,36nm,2.5s				
KBZ	**Khabaz**	**9.76 50**	P	**Pn**	**02 00 52.3 +1.0**
KBZ	**Khabaz**	**9.76 50**	Pn	**Pn**	**02 00 52.3 +1.0**
KBZ	**Khabaz**	**9.76 50**	Pn	**Pn**	**02 00 52.3 +1.0**
	comp=Z,0.1nm,0.3s,baz=52,slow=11,SNR=1.8				
KBZ			LR	LR	02 04 40.4
	comp=Z,266nm,21.6s,baz=247,slow=38				
KBZ	**Khabaz**	**9.76 50**	P	**Pn**	**02 00 52.3 +1.0**
BOLS	**Boljevac**	**9.93 310**	*e*Pn	**Pn**	**02 00 54.8 +1.2**
BOLS	**Boljevac**	**9.93 310**	*e*Pn	**Pn**	**02 00 54.8 +1.2**

ZEI	**Tsey**	**9.95 57**	*e*P	Pn	02 00 57.8 +3.8
ZEI			pmax	pmax	
	comp=Z,32nm,1.8s				
LOT	**Lotru**	**9.96 322**	⇓*i*P	**Pn**	**02 00 54.7 +0.6**
LOT	**Lotru**	**9.96 322**	⇓*i*P	**Pn**	**02 00 54.7 +0.6**
SELS	**Selova**	**10.15 305**	*e*Pn	**Pn**	**02 00 57.7 +1.0**
MDB	**Medias**	**10.19 326**	⇑*i*P	Pn	02 00 58.7 +1.5
MDB	**Medias**	**10.19 326**	⇑*i*P	Pn	02 00 58.7 +1.5
ISHB	**Shabestar**	**10.33 84**	*e*P	Pn	02 01 03.0 +3.7
GZR	**Gura Zlata**	**10.42 319**	⇑*i*P	**Pn**	**02 01 00.3 -0.1**
GZR	**Gura Zlata**	**10.42 319**	⇑*i*P	**Pn**	**02 01 00.3 -0.1**
SWA2		**10.47 216**	P	**Pn**	**02 00 59.7 -1.4**
	baz=216				
SWA2		**10.47 216**	P	**Pn**	**02 00 59.7 -1.4**
BHD	**Baghdad**	**10.71 112**	*e*PN4	Pn	02 01 09.2 +4.8
BHD			*e*S	**Sn**	**02 02 58.8 -5.3**
GRUS	**Gruza**	**10.73 307**	*e*Pn	**Pn**	**02 01 05.9 +1.4**
GRUS	**Gruza**	**10.73 307**	*e*Pn	**Pn**	**02 01 05.9 +1.4**
ARCR	**ARCALIA**	**10.95 329**	⇓*i*P	Pn	02 01 09.3 +1.8
ARCR	**ARCALIA**	**10.95 329**	⇓*i*P	Pn	02 01 09.3 +1.8
BURAR	**Bucovina Array**	**11.06 333**	⇑P	**Pn**	**02 01 10.5 +1.3**
BURAR	**Bucovina Array**	**11.06 333**	⇑*i*P	Pn	02 01 12.5 +3.3
BUR04	**Bucovina Ar. S**	**11.07 333**	*e*Pn	Pn	02 01 11.2 +2.0
BUR04	**Bucovina Ar. S**	**11.07 333**	*e*Pn	Pn	02 01 11.2 +2.0
TRUS	**Trudelj**	**11.09 308**	*e*Pn	**Pn**	**02 01 10.6 +1.1**
TRUS	**Trudelj**	**11.09 308**	*e*Pn	**Pn**	**02 01 10.6 +1.1**
BUR08	**Bucovina Ar. S**	**11.09 333**	*e*Pn	**Pn**	**02 01 10.0 +0.4**
BUR08	**Bucovina Ar. S**	**11.09 333**	*e*Pn	**Pn**	**02 01 10.0 +0.4**
BZS	**Buzias**	**11.18 317**	⇓P	**Pn**	**02 01 10.0 -0.8**
BZS	**Buzias**	**11.18 317**	⇑*i*P	Pn	02 01 14.0 +3.2
BZS	**Buzias**	**11.18 317**	P	**Pn**	**02 01 10.0 -0.8**
DIVS	**Divibare**	**11.29 307**	*e*Pn	Pn	02 01 14.2 +1.9
DIVS	**Divibare**	**11.29 307**	*e*Pn	Pn	02 01 14.2 +1.9
DRGR		**11.44 324**	⇑P	**Pn**	**02 01 14.6 +0.3**
DRGR		**11.44 324**	P	**Pn**	**02 01 14.6 +0.3**
IHRS	**Heris**	**11.45 84**	*e*P	Pn	02 01 19.1 +4.5
IGHG	**Ghaleghazi**	**11.91 103**	*e*P	**Pn**	**02 01 21.8 +0.8**
IGHG	**Ghaleghazi**	**11.91 103**	*e*P	**Pn**	**02 01 21.8 +0.8**
IBDR	**Badra**	**11.93 110**	*e*P	Pn	02 01 27.9 +6.8
ISRB	**Sarab**	**11.97 86**	*e*P	Pn	02 01 26.0 +4.2
ILIN	**Lien**	**12.02 100**	*e*P	Pn	02 01 26.7 +4.3
IVIS	**Veis**	**12.06 102**	*e*P	Pn	02 01 26.8 +3.9
MAK	**Makhachkala**	**12.47 62**	*e*P	**Pn**	**02 01 27.4 -0.9**
MAK			*e*S	**Sn**	**02 03 46.1 -0.9**
MAK			pmax	pmax	
	comp=Z,106nm,1.4s				
MAK			MLR	MLR	
	comp=Z,596nm,7.0s				
MAK	**Makhachkala**	**12.47 62**	*e*P	**Pn**	**02 01 27.4 -0.9**
	comp=Z,596nm,7.0s				
MAK			*e*S	**Sn**	**02 03 46.1 -0.9**
TRPA	**Tarpa**	**12.53 328**	⇑*i*P	**Pn**	**02 01 29.3 +0.2**
TRPA	**Tarpa**	**12.53 328**	⇑*i*P	**Pn**	**02 01 29.3 +0.2**
IKOM	**Komasi**	**12.70 103**	*e*P	Pn	02 01 27.8 -3.8
KIEV	**Kiev**	**12.98 351**	*e*P	**Pn**	**02 01 34.8 -0.4**
KIEV	**Kiev**	**12.98 351**	*e*Pn	**Pn**	**02 01 34.8 -0.4**
KIEV	**Kiev**	**12.98 351**	*e*P	**Pn**	**02 01 34.8 -0.4**
AKASG	**Malin Array Be**	**12.98 351**	P	**Pn**	**02 01 33.9 -1.4**
AKASG					02 03 56.5
AKASG	**Malin Array Be**	**12.98 351**	Pn	**Pn**	**02 01 33.9 -1.4**
AKASG			Sn	**Sn**	**02 03 56.5 -3.0**
AKASG	**Malin Array Be**	**12.98 351**	Pn	**Pn**	**02 01 33.9 -1.4**
	comp=Z,2.6nm,0.3s,baz=167,slow=12,SNR=7.5				
AKASG			Sn	**Sn**	**02 03 56.5 -3.0**
	comp=Z,2.6nm,0.3s,baz=195,slow=23,SNR=4.7				
AKASG	**Malin Array Be**	**12.98 351**	P	**Pn**	**02 01 33.9 -1.4**
UZH	**Uzhgorod**	**13.02 328**	*e*P	**Pn**	**02 01 36.8 +1.0**
UZH			*e*S	**Sn**	**02 04 00.6 +0.2**
UZH			MLR	MLR	
	comp=N,860nm,1.0s				
UZH			MLR	MLR	
	comp=E,870nm,1.0s				
UZH	**Uzhgorod**	**13.02 328**	*e*P	**Pn**	**02 01 36.8 +1.0**
UZH			*e*S	**Sn**	**02 04 00.6 +0.2**
CUC	**Castrocucco**	**13.16 284**	*e*Pn	**Pn**	**02 01 35.8 -2.1**
NSR	**Nassriya**	**13.18 118**	*e*PN4	**P**	**02 01 46.9 -1.2**
NSR			*e*SN4	**Sn**	**02 04 02.6 -1.9**
NSR	**Nassriya**	**13.18 118**	*e*Sn	**Sn**	**02 04 02.6 -1.9**
	SNR=39				
PKSM	**Moragy**	**13.21 313**	⇑P	Pn	02 01 39.8 +1.4
PKSM	**Moragy**	**13.21 313**	⇑*i*P	P	02 01 41.8 -6.5
PKSM	**Moragy**	**13.21 313**	P	Pn	02 01 39.8 +1.4
KOLS	**Kolonicke sedl**	**13.27 329**	*e*P	Pn	02 01 41.0 +1.8
KOLS	**Kolonicke sedl**	**13.27 329**	*e*PN	Pn	02 01 41.0 +1.8
KOLS	**Kolonicke sedl**	**13.27 329**	*e*P	Pn	02 01 41.0 +1.8
LVV	**L'vov**	**13.36 336**	*e*P	Pn	02 01 36.0 -4.4
LVV			MLR	MLR	
	comp=N,300nm,9.0s				
LVV			MLR	MLR	
	comp=E,200nm,9.0s				
LVV			MLR	MLR	
	comp=Z,200nm,9.0s				
PSZ	**Piszkesteto**	**13.59 321**	*e*P	**Pn**	**02 01 44.2 +0.5**
PSZ	**Piszkesteto**	**13.59 321**	*e*Pn	**Pn**	**02 01 44.1 +0.5**
PSZ	**Piszkesteto**	**13.59 321**	⇓*i*P	P	02 01 46.7 -6.0
PSZ	**Piszkesteto**	**13.59 321**	*e*P	**Pn**	**02 01 44.2 +0.5**
KWP	**Kalwaria Pacla**	**13.66 332**	⇓P	Pn	02 01 46.1 +1.5
KWP	**Kalwaria Pacla**	**13.66 332**	*e*Pn	Pn	02 01 46.3 +1.7
KWP	**Kalwaria Pacla**	**13.66 332**	⇑*i*P	Pn	02 01 46.6 +2.0
KWP	**Kalwaria Pacla**	**13.66 332**	*e*P	P	02 01 48.3 -5.1
KWP	**Kalwaria Pacla**	**13.66 332**	P	Pn	02 01 46.1 +1.5
KECS	**Kecovo**	**13.70 324**	*e*P	Pn	02 01 47.7 +2.6
KECS	**Kecovo**	**13.70 324**	*e*PN	Pn	02 01 47.7 +2.6
KECS	**Kecovo**	**13.70 324**	*e*P	Pn	02 01 47.7 +2.6
VORD	**Divnogorie**	**13.89 18**	*e*P	**Pn**	**02 01 48.2 +0.5**
VORD			pmax	pmax	
	comp=Z,30nm,1.5s				
VORD			pmax	pmax	
	comp=N,50nm,1.6s				
VORD			pmax	pmax	
	comp=E,10.0nm,0.6s				
VORD	**Divnogorie**	**13.89 18**	*e*P	**Pn**	**02 01 48.2 +0.5**
	comp=E,50nm,1.6s				
STHS	**Stebnicka Huta**	**14.07 328**	*e*P	Pn	02 01 52.1 +2.0
STHS	**Stebnicka Huta**	**14.07 328**	*e*PN	Pn	02 01 52.1 +2.0
STHS	**Stebnicka Huta**	**14.07 328**	*e*P	Pn	02 01 52.1 +2.0
VSR	**Storozhevoye**	**14.09 17**	*e*P	**Pn**	**02 01 51.2 +0.7**
VSR			pmax	pmax	
	comp=Z,20nm,1.5s				
VSR			pmax	pmax	
	comp=N,30nm,1.4s				
VSR			pmax	pmax	
	comp=E,10.0nm,1.5s				
VSR	**Storozhevoye**	**14.09 17**	*e*P	**Pn**	**02 01 51.2 +0.7**
	comp=E,30nm,1.4s				
IRAZ	**Razeghan**	**14.20 95**	*e*P	Pn	02 01 54.4 +2.2
IRAZ	**Razeghan**	**14.20 95**	*e*P	Pn	02 01 54.4 +2.2
VYHS	**Vyhne**	**14.50 321**	*e*P	P	02 01 58.1 -4.7
VYHS	**Vyhne**	**14.50 321**	*e*PN	P	02 01 58.1 -4.7
VYHS	**Vyhne**	**14.50 321**	*e*Pn	P	02 01 58.1 -4.7
VRHR	**Novokhopersk**	**14.66 23**	*e*P	**Pn**	**02 01 59.6 +1.4**
VRHR			pmax	pmax	
	comp=Z,30nm,1.6s				
VRHR			pmax	pmax	
	comp=N,40nm,1.3s				
VRHR			pmax	pmax	
	comp=E,10.0nm,1.3s				
GCIS	**Gornji Cirnik**	**14.85 308**	*e*Pn	**P**	**02 02 08.1 +1.4**
NAY	**Al-Naaiem**	**15.00 121**	*e*P	**Pn**	**02 02 03.2 +0.2**
NAY			AMb	AMB	02 02 23.5
	comp=Z,1.2nm,1.1s				
IR3	**Iran Long-Peri**	**15.04 94**	*e*P	**P**	**02 02 06.6 -2.3**
VISS	**Visnje**	**15.32 306**	*i* Pn	**P**	**02 02 13.8 +1.9**
KBD	**Kabd**	**15.36 120**	*e*P	**Pn**	**02 02 05.2 -2.4**
KBD			AMb	AMB	02 02 15.8
	comp=Z,58nm,1.5s				
ARSA	**Arzberg**	**15.57 312**	⇑*e*P	**P**	**02 02 13.4 -1.3**
	comp=Z,16nm,1.4s				
ARSA	**Arzberg**	**15.57 312**	P	**P**	**02 02 13.4 -1.3**
	comp=Z,16nm,1.4s				
SOKA	**Soboth**	**15.59 310**	⇑*i*P	**P**	**02 02 13.0 -1.9**
	comp=Z,18nm,1.6s				
LJU	**Ljubljana**	**15.62 307**	*i* Pn	**P**	**02 02 17.0 +1.8**
CONA	**Conrad Observa**	**15.74 315**	⇑*i*P	**P**	**02 02 14.8 -1.8**
	comp=Z,9.8nm,1.3s				
CONA	**Conrad Observa**	**15.74 315**	P	**P**	**02 02 14.8 -1.8**
	comp=Z,9.8nm,1.3s				
OKC	**Ostrava-Krasne**	**15.75 324**	*e*P	**P**	**02 02 13.4 -3.1**
OKC			MLR	MLR	
	comp=Z,1μm,10.1s				
OKC	**Ostrava-Krasne**	**15.75 324**	*e*P	**P**	**02 02 13.4 -3.1**
OKC			*ex*	x	02 02 25.3
OKC			*e*S	S	02 05 30.6 +8.9

OKC			AMS	AMS	02 09 30.0
	comp=Z,1μm,10.1s				
OBKA	**Obir**	**15.81 309**	⇑*i*P	**P**	**02 02 19.7 +2.4**
	comp=Z,32nm,1.1s				
OBKA	**Obir**	**15.81 309**	P	**P**	**02 02 19.7 +2.4**
	comp=Z,32nm,1.1s				
MORC	**Moravsky Berou**	**15.99 323**	*e*P	**Pn**	**02 02 15.5 -0.3**
MORC			pmax	pmax	
	comp=Z,38nm,1.8s				
MORC	**Moravsky Berou**	**15.99 323**	*e*Pn	**Pn**	**02 02 15.5 -0.3**
	comp=Z,38nm,1.8s				
MORC	**Moravsky Berou**	**15.99 323**	*e*Pn	**Pn**	**02 02 15.5 -0.3**
	comp=Z,38nm,1.8s				
MORC	**Moravsky Berou**	**15.99 323**	*e*P	**P**	**02 02 20.4 +1.1**
VRAC	**Vranov**	**16.16 320**	Pn	**P**	**02 02 19.3 -1.9**
VRAC	**Vranov**	**16.16 320**	Pn	**P**	**02 02 19.3 -1.9**
	comp=Z,0.2nm,0.3s,baz=132,slow=8.4,SNR=12				
VRAC			LR	LR	02 08 37.2
	comp=Z,292nm,19.5s,baz=133,slow=37				
VRAC	**Vranov**	**16.16 320**	Pn	**P**	**02 02 19.3 -1.9**
VRAC	**Vranov**	**16.16 320**	*e*P	**P**	**02 02 22.9 +1.8**
IKLH	**Kolahrood**	**16.16 101**	*e*P	**P**	**02 02 19.1 -2.4**
IFIR	**Firoozkooh**	**16.37 92**	*e*P	P	02 02 28.4 +4.5
MYKA	**Terra Mystica**	**16.42 308**	⇑*i*P	**P**	**02 02 26.7 +2.5**
	comp=Z,51nm,1.5s,SNR=12				
MYKA	**Terra Mystica**	**16.42 308**	P	**P**	**02 02 26.7 +2.5**
	comp=Z,51nm,1.5s,SNR=12				
ILAS	**Lasjerd**	**16.60 93**	*e*P	**P**	**02 02 27.3 +1.0**
ILAS	**Lasjerd**	**16.60 93**	*e*P	**P**	**02 02 27.3 +1.0**
MOA	**Molln**	**16.61 312**	⇑*i*pP	pP	02 02 29.0 -0.9
	comp=Z,18nm,1.3s,SNR=6.2				
MOA	**Molln**	**16.61 312**	P	pP	02 02 29.0 -0.9
	comp=Z,18nm,1.3s,SNR=6.2				
TREC	**Trest**	**16.73 318**	*e*P	**P**	**02 02 25.8 -1.6**
TREC			MLR	MLR	
	comp=Z,600nm,11.5s				
TREC	**Trest**	**16.73 318**	*e*P	**P**	**02 02 25.8 -1.6**
TREC			*e*S	**S**	**02 05 47.4 +5.7**
TREC			AMS	AMS	02 09 50.0
	comp=Z,600nm,11.5s				
TREC	**Trest**	**16.73 318**	*e*P	**P**	**02 02 25.8 -1.6**
	comp=Z,600nm,11.5s				
KBA	**Koelnbreinsper**	**16.80 309**	⇑*i*P	P	02 02 32.3 +3.9
	comp=Z,24nm,1.3s				
MICGM	**Minsk**	**16.88 351**	⇑*e*P	**P**	**02 02 27.0 -2.0**
IGAR	**Gharneh**	**16.88 103**	*e*P	**P**	**02 02 30.9 +1.4**
MNK	**Minsk**	**16.88 351**	*e*P	**P**	**02 02 27.0 -2.1**
MNK			pmax	pmax	
	comp=Z,280nm,1.5s				
MNK			pmax	pmax	
	comp=N,290nm,1.5s				
DPC	**Dobruska-Polom**	**16.96 322**	*e*P	**P**	**02 02 30.9 +0.8**
DPC	**Dobruska-Polom**	**16.96 322**	*e*P	**P**	**02 02 30.9 +0.8**
DPC			*ex*	x	02 02 42.6
DPC			AMS	AMS	02 10 20.0
DPC	**Dobruska-Polom**	**16.96 322**	*e*P	**P**	**02 02 31.1 +1.0**
	comp=N,85nm,1.3s				
DPC	**Dobruska-Polom**	**16.96 322**	*e*P	**P**	**02 02 30.9 +0.8**
ABTA	**Abfaltersbach**	**17.18 307**	⇑*i*pP	pP	02 02 34.9 -1.4
	comp=N,17nm,1.3s				
ABTA	**Abfaltersbach**	**17.18 307**	P	pP	02 02 34.9 -1.4
	comp=N,17nm,1.3s				
UPC	**Upice**	**17.22 322**	*e*P	**P**	**02 02 34.0 +1.2**
UPC	**Upice**	**17.22 322**	*e*P	**P**	**02 02 34.0 +1.2**
UPC			*ex*	x	02 02 42.4
UPC	**Upice**	**17.22 322**	*e*P	**P**	**02 02 34.0 +1.2**
KSP	**Ksiaz**	**17.30 323**	*e*P	**P**	**02 02 34.3 +0.5**
KSP			*e*S	**S**	**02 05 50.0 -3.4**
KSP	**Ksiaz**	**17.30 323**	*e*P	**P**	**02 02 35.6 +1.8**
KSP	**Ksiaz**	**17.30 323**	*e*P	**P**	**02 02 34.3 +0.5

BRG	**Berggiesshubel**	**18.47 320**	*e*P	Pn	02 02 50.8 +4.0
BRG			pmax	pmax	
	comp=Z,8.0nm,1.0s				
BRG			MLR	MLR	
	comp=N,550nm,9.9s				
BRG			MLR	MLR	
	comp=E,454nm,12.5s				
BRG			MLR	MLR	
	comp=Z,1µm,9.0s				
PGF	**Pioggiola**	**18.52 292**	*e*P	**Pn**	**02 02 46.8 -0.8**
	comp=Z,49nm,1.1s				
PGF	**Pioggiola**	**18.52 292**	*e*P	**Pn**	**02 02 46.8 -0.8**
PGF			pmax	pmax	
	comp=Z,49nm,1.1s				
PGF	**Pioggiola**	**18.52 292**	*e*P	**Pn**	**02 02 46.8 -0.8**
	comp=Z,49nm,1.1s				
PGF	**Pioggiola**	**18.52 292**	*e*P	**Pn**	**02 02 46.8 -0.8**
	comp=Z,24nm,1.1s				
RETA	**Reutte**	**18.57 308** ⇑	*i*pP	pP	02 02 49.9 -1.8
	comp=Z,23nm,0.9s,SNR=9.8				
RETA	**Reutte**	**18.57 308**	P	pP	02 02 49.9 -1.8
	comp=Z,23nm,0.9s,SNR=9.8				
FUORN	**Ofenpass-Fuorn**	**18.57 305**	*e*P	**P**	**02 02 44.3 -3.8**
	comp=Z,16nm,1.0s				
KEST	**Kesra**	**18.67 270**	*e*P	**Pn**	**02 02 50.7 +1.3**
KEST			*e*Pn	pP	02 02 57.9 +5.0
KEST	**Kesra**	**18.67 270**	P	**Pn**	**02 02 51.2 +1.8**
	comp=Z,0.1nm,0.3s,baz=2.7,slow=2.0,SNR=11				
KEST	**Kesra**	**18.67 270**	*e*P	**Pn**	**02 02 50.7 +1.3**
ROTZ	**Rotzenmuhle**	**18.76 316**	*e*P	**Pn**	**02 02 52.2 +1.9**
	comp=Z,27nm,1.5s				
ICHK	**Chekchek**	**18.77 101**	*e*Pn	**P**	**02 02 49.2 -1.2**
ICHK	**Chekchek**	**18.77 101**	*e*Pn	**P**	**02 02 49.2 -1.2**
IPAR	**Pars**	**18.83 109**	*e*P	**Pn**	**02 02 52.5 +0.9**
IPAR	**Pars**	**18.83 109**	*e*P	**Pn**	**02 02 52.5 +0.9**
DAVOX	**Davos/Dischmat**	**18.88 305**	P	**Pn**	**02 02 52.4 +0.5**
DAVOX	**Davos/Dischmat**	**18.88 305**	P	**Pn**	**02 02 52.4 +0.5**
	comp=Z,0.3nm,0.3s,baz=119,slow=7.9,SNR=13				
DAVOX	**Davos/Dischmat**	**18.88 305**	P	**Pn**	**02 02 52.4 +0.5**
MANZ	**Manzenberg**	**18.93 316**	*e*P	**Pn**	**02 02 54.1 +1.7**
	comp=Z,30nm,1.6s				
TANN	**Tannenbergstha**	**18.97 318**	*e*P	**Pn**	**02 02 54.7 +1.8**
	comp=Z,12nm,1.2s				
DAVA	**Damuels**	**19.05 307**	*i* P	**Pn**	**02 02 54.6 +0.6**
	comp=Z,50nm,1.3s,SNR=12				
DAVA	**Damuels**	**19.05 307**	P	**Pn**	**02 02 54.6 +0.6**
	comp=Z,50nm,1.3s,SNR=12				
ISRV	**Sarvestan**	**19.12 110**	*e*P	**Pn**	**02 02 54.4 -0.7**
ISRV	**Sarvestan**	**19.12 110**	*e*P	**Pn**	**02 02 54.4 -0.7**
CLL	**Collm**	**19.20 320**	*e*P	**Pn**	**02 02 58.0 +2.4**
CLL			*e*S	**S**	**02 06 35.0 +3.1**
CLL			MLR	MLR	
	comp=Z,400nm,18.1s				
CLL	**Collm**	**19.20 320**	*e*(sP)	**Pn**	**02 02 58.0 +2.4**
CLL			*e*		02 03 21.0
CLL			*e*S	**S**	**02 06 35.0 +3.1**
CLL			LmV		02 11 00.0
	comp=Z,400nm,18.1s				
CLL			Lmax		02 11 00.0
GRA1	**Grafenberg Arr**	**19.28 314**	*e*P	**Pn**	**02 02 57.1 +0.6**
	comp=Z,31nm,1.1s				
GRF	**Grafenberg Arr**	**19.28 314**	*e*P	**Pn**	**02 02 57.1 +0.6**
	comp=Z,31nm,1.1s				
GRF	**Grafenberg Arr**	**19.28 314**	*e*P	**Pn**	**02 02 57.1 +0.6**
GRF			pmax	pmax	
	comp=Z,31nm,1.1s				
GRFO	**Grafenberg**	**19.28 314**	*e*P	**Pn**	**02 02 55.8 -0.7**
GRFO			pmax	pmax	
	comp=Z,24nm,1.1s				
GRFO	**Grafenberg**	**19.28 314**	*e*P	**Pn**	**02 02 55.8 -0.7**
	comp=Z,24nm,1.1s				
GRFO	**Grafenberg**	**19.28 314**	*e*P	**Pn**	**02 02 55.8 -0.7**
	comp=Z,24nm,1.1s				
IMEH	**Mehriz**	**19.29 103**	*e*P	**Pn**	**02 02 57.8 +0.7**
IMEH	**Mehriz**	**19.29 103**	*e*P	**Pn**	**02 02 57.8 +0.7**
MOX	**Moxa**	**19.55 317**	*e*P	**Pn**	**02 03 01.1 +1.3**
	comp=Z,24nm,1.5s				
MOX	**Moxa**	**19.55 317**	*e*P	**Pn**	**02 03 01.1 +1.3**
MOX			pmax	pmax	
	comp=Z,24nm,1.5s				
MOX	**Moxa**	**19.55 317**	*e*P	**Pn**	**02 03 01.1 +1.3**
	comp=Z,24nm,1.5s				
SAOF	**Saorge**	**19.76 296**	*e*P	**Pn**	**02 03 02.1 -0.3**
SAOF	**Saorge**	**19.76 296**	*e*P	**Pn**	**02 03 02.1 -0.3**
SBF	**Sospel**	**19.83 295**	*e*P	**Pn**	**02 03 01.9 -1.4**
	comp=Z,68nm,0.9s				
SBF	**Sospel**	**19.83 295**	*e*P	**Pn**	**02 03 01.9 -1.4**
SBF			pmax	pmax	
	comp=Z,68nm,0.9s				
SBF	**Sospel**	**19.83 295**	*e*P	**Pn**	**02 03 01.9 -1.4**
	comp=Z,68nm,0.9s				
SBF	**Sospel**	**19.83 295**	*e*P	**Pn**	**02 03 01.9 -1.4**
	comp=Z,34nm,0.9s				
AUTN	**L'Aution**	**19.86 296**	*e*P	**Pn**	**02 03 03.0 -0.7**
AUTN	**L'Aution**	**19.86 296**	*e*P	**Pn**	**02 03 03.0 -0.7**
REVF	**Revere**	**19.86 295**	*e*P	**Pn**	**02 03 04.6 +1.0**
REVF	**Revere**	**19.86 295**	*e*P	**Pn**	**02 03 04.6 +1.0**
LUCF	**Luceram**	**19.90 295**	*e*P	**Pn**	**02 03 03.6 -0.5**
LUCF	**Luceram**	**19.90 295**	*e*P	**Pn**	**02 03 03.6 -0.5**
IBAF	**Bafgh**	**19.94 102**	*e*P	**Pn**	**02 03 05.3 +0.6**
IBAF	**Bafgh**	**19.94 102**	*e*P	**Pn**	**02 03 05.3 +0.6**
TOUF	**Mont Tournerai**	**19.99 296**	*e*P	**Pn**	**02 03 03.3 -1.9**
TOUF	**Mont Tournerai**	**19.99 296**	*e*P	**Pn**	**02 03 03.3 -1.9**
CMAH	**Djebel Manchou**	**20.00 274**	P	Pn	02 03 08.7 +3.3
ABSA	**Djebel Ababsia**	**20.03 273**	P	Pn	02 03 10.9 +5.1
SPAK	**Spaichingen-Ko**	**20.04 308**	*e*P	Pn	02 03 04.6 -1.1
STU	**Stuttgart**	**20.05 310**	*e*P	Pn	02 03 05.1 -0.6
	comp=Z,70nm,1.2s				
STU	**Stuttgart**	**20.05 310**	*e*P	Pn	02 03 04.6 -1.1
STU			pmax	pmax	
	comp=Z,60nm,1.1s				
STU	**Stuttgart**	**20.05 310**	*e*P	Pn	02 03 04.6 -1.1
	comp=Z,60nm,1.1s				
STU	**Stuttgart**	**20.05 310**	*e*P	Pn	02 03 04.6 -1.1
	comp=Z,60nm,1.1s				
ISFR	**Sfrayin**	**20.22 85**	*e*P	Pn	02 03 07.5 -0.8
ISFR	**Sfrayin**	**20.22 85**	*e*P	Pn	02 03 07.5 -0.8
OG22	**Abries**	**20.34 298**	*e*P	Pn	02 03 09.3 -0.2
OG22	**Abries**	**20.34 298**	*e*P	Pn	02 03 09.3 -0.2
FRF	**La Foret Royal**	**20.35 294**	*e*P	Pn	02 03 07.8 -1.6
	comp=Z,61nm,1.0s				
FRF	**La Foret Royal**	**20.35 294**	*e*P	Pn	02 03 07.8 -1.6
FRF			pmax	pmax	
	comp=Z,61nm,1.0s				
FRF	**La Foret Royal**	**20.35 294**	*e*P	Pn	02 03 07.8 -1.6
	comp=Z,61nm,1.0s				
FRF	**La Foret Royal**	**20.35 294**	*e*P	Pn	02 03 07.8 -1.6
	comp=Z,30nm,1.0s				
BFO	**Black Forest**	**20.41 308**	*e*P	Pn	02 03 09.3 -0.7
	comp=Z,60nm,1.4s				
BFO	**Black Forest**	**20.41 308**	*e*P	Pn	02 03 09.3 -0.7
BFO			pmax	pmax	
	comp=Z,60nm,1.4s				
BFO	**Black Forest**	**20.41 308**	*e*P	Pn	02 03 07.8 -2.1
	comp=Z,64nm,1.4s				
BFO	**Black Forest**	**20.41 308**	*e*P	Pn	02 03 09.3 -0.7
	comp=Z,60nm,1.4s				
LMR	**La Mourre**	**20.43 294**	*e*P	Pn	02 03 08.3 -1.9
	comp=Z,51nm,1.2s				
LMR	**La Mourre**	**20.43 294**	*e*P	Pn	02 03 08.3 -1.9
LMR			pmax	pmax	
	comp=Z,51nm,1.2s				
LMR	**La Mourre**	**20.43 294**	*e*P	Pn	02 03 08.3 -1.9
	comp=Z,51nm,1.2s				
LMR	**La Mourre**	**20.43 294**	*e*P	Pn	02 03 08.3 -1.9
	comp=Z,26nm,1.2s				
MBDF	**Montbardon**	**20.44 298**	*e*P	Pn	02 03 08.4 -2.2
	comp=Z,102nm,0.9s				
MBDF	**Montbardon**	**20.44 298**	*e*P	Pn	02 03 08.4 -2.2
MBDF			pmax	pmax	
	comp=Z,102nm,0.9s				
MBDF	**Montbardon**	**20.44 298**	*e*P	Pn	02 03 08.4 -2.2
	comp=Z,102nm,0.9s				
MBDF	**Montbardon**	**20.44 298**	*e*P	Pn	02 03 08.4 -2.2
	comp=Z,51nm,0.9s				
SENIN	**Lac Senin/Sane**	**20.45 302**	*e*P	Pn	02 03 09.4 -1.3
	comp=Z,45nm,1.4s				
SENIN	**Lac Senin/Sane**	**20.45 302**	*e*P	Pn	02 03 09.4 -1.3
	comp=Z,45nm,1.4s				
FELD	**Feldberg im Sc**	**20.45 307**	*e*P	Pn	02 03 09.2 -1.4
BNI	**Bardonecchia**	**20.57 298**	*e*P	Pn	02 03 11.5 -0.6
BNI			pmax	pmax	
	comp=Z,65nm,1.2s				
BNI	**Bardonecchia**	**20.57 298**	*e*P	Pn	02 03 11.5 -0.6
	comp=Z,65nm,1.2s				
BNI	**Bardonecchia**	**20.57 298**	*e*P	Pn	02 03 11.5 -0.6
	comp=Z,65nm,1.2s				
CKFL	**Kef-Lekhel**	**20.60 274**	P	Pn	02 03 11.5 -1.0
CKFL	**Kef-Lekhel**	**20.60 274**	P	Pn	02 03 11.5 -1.0
LPG	**La Plagne**	**20.61 300**	*e*P	Pn	02 03 11.2 -1.6
	comp=Z,86nm,0.9s				
LPG	**La Plagne**	**20.61 300**	*e*P	Pn	02 03 11.2 -1.6
LPG			pmax	pmax	
	comp=Z,86nm,0.9s				
LPG	**La Plagne**	**20.61 300**	*e*P	Pn	02 03 11.2 -1.6
	comp=Z,86nm,0.9s				
LPG	**La Plagne**	**20.61 300**	*e*P	Pn	02 03 11.2 -1.6
	comp=Z,43nm,0.9s				
BBS	**Basel-Blauen**	**20.63 305**	*e*P	**P**	**02 03 09.0 -1.3**
LPL	**La Plagne**	**20.63 300**	*e*P	Pn	02 03 11.5 -1.4
	comp=Z,36nm,0.7s				
LPL	**La Plagne**	**20.63 300**	*e*P	Pn	02 03 11.5 -1.4
LPL			pmax	pmax	
	comp=Z,36nm,0.7s				
LPL	**La Plagne**	**20.63 300**	*e*P	Pn	02 03 11.5 -1.4
	comp=Z,36nm,0.7s				
LPL	**La Plagne**	**20.63 300**	*e*P	Pn	02 03 11.5 -1.4
	comp=Z,18nm,0.7s				
TOD	**Tromm**	**20.63 312**	*e*P	Pn	02 03 10.8 -1.8
IEMG	**Emamgholi**	**20.68 83**	*e*P	Pn	02 03 12.7 -0.9
IEMG	**Emamgholi**	**20.68 83**	*e*P	Pn	02 03 12.7 -0.9
IKRD	**Kardeh**	**20.68 85**	*e*P	Pn	02 03 19.8 +6.2
RSL	**Roselend**	**20.74 300**	*e*P	Pn	02 03 12.1 -2.0
RSL	**Roselend**	**20.74 300**	*e*P	Pn	02 03 12.1 -2.0
CASM	**Ain Smara**	**20.81 273**	P	Pn	02 03 14.4 -0.5
CASM	**Ain Smara**	**20.81 273**	P	Pn	02 03 14.4 -0.5
CLZ	**Clausthal**	**20.86 319**	*e*P	Pn	02 03 13.8 -1.4
	comp=Z,25nm,1.5s				
CLZ	**Clausthal**	**20.86 319**	*e*P	Pn	02 03 13.8 -1.4
CLZ			pmax	pmax	
	comp=Z,25nm,1.5s				
CLZ	**Clausthal**	**20.86 319**	*e*P	Pn	02 03 13.8 -1.4
	comp=Z,25nm,1.5s				
OG25	**Le Caire**	**20.88 296**	*e*P	Pn	02 03 13.6 -2.0
OG25	**Le Caire**	**20.88 296**	*e*P	Pn	02 03 13.6 -2.0
VSU	**Vasula**	**20.89 351**	*e*P	**P**	**02 03 12.0 -0.9**
VSU			pmax	pmax	
	comp=Z,86nm,1.1s				
VSU	**Vasula**	**20.89 351**	*e*P	**P**	**02 03 12.0 -0.9**
	comp=Z,86nm,1.1s				
IAKL	**Akhelmad**	**20.91 86**	*e*P	Pn	02 03 15.7 -0.6
BSD	**Bornholm Skovb**	**20.93 331**	*e*P	Pn	02 03 16.7 +0.8
BSD			*i*		02 07 03.5
BSD	**Bornholm Skovb**	**20.93 331**	*i* P	Pn	02 03 16.7 +0.8
BSD			*i*		02 07 03.5
MOF	**Molkenrain**	**20.99 306**	*e*P	**P**	**02 03 13.7 -0.6**
MOF	**Molkenrain**	**20.99 306**	*e*P	**P**	**02 03 13.7 -0.6**
CDF	**Champ du Feu**	**21.09 308**	*e*P	**P**	**02 03 15.5 +0.2**
	comp=Z,53nm,1.1s				
CDF	**Champ du Feu**	**21.09 308**	*e*P	**P**	**02 03 15.5 +0.2**
CDF			pmax	pmax	
	comp=Z,53nm,1.1s				
CDF	**Champ du Feu**	**21.09 308**	*e*P	**P**	**02 03 15.5 +0.2**
	comp=Z,53nm,1.1s				
CDF	**Champ du Feu**	**21.09 308**	*e*P	**P**	**02 03 15.5 +0.2**
	comp=Z,26nm,1.1s				
ECH	**Echery**	**21.10 307**	*e*P	**P**	**02 03 15.9 +0.6**
ECH			pmax	pmax	
	comp=Z,36nm,1.4s				
ECH	**Echery**	**21.10 307**	*e*P	**P**	**02 03 14.9 -0.4**
ECH	**Echery**	**21.10 307**	*e*P	**P**	**02 03 15.9 +0.6**
	comp=Z,36nm,1.4s				
ECH	**Echery**	**21.10 307**	*e*P	**P**	**02 03 15.9 +0.6**
	comp=Z,36nm,1.4s				
ORIF	**Oris-en-Rattie**	**21.10 298**	*e*P	**P**	**02 03 16.3 +0.8**
	comp=Z,69nm,1.1s				
ORIF			*e*R		
	comp=Z,422nm,21.0s				
ORIF	**Oris-en-Rattie**	**21.10 298**	*e*P	**P**	**02 03 16.3 +0.8**
ORIF			pmax	pmax	
	comp=Z,69nm,1.1s				
ORIF	**Oris-en-Rattie**	**21.10 298**	*e*P	**P**	**02 03 16.3 +0.8**
	comp=Z,69nm,1.1s				
ORIF	**Oris-en-Rattie**	**21.10 298**	*e*P	**P**	**02 03 16.3 +0.8**
	comp=Z,34nm,1.1s				
IPAY	**Payeh**	**21.12 86**	*e*P	**P**	**02 03 17.0 +1.0**
IPAY	**Payeh**	**21.12 86**	*e*P	**P**	**02 03 17.0 +1.0**
HINF	**Hinteralfeld**	**21.16 306**	*e*P	**P**	**02 03 16.3 +0.3**
	comp=Z,20nm,1.0s				
HINF	**Hinteralfeld**	**21.16 306**	*e*P	**P**	**02 03 16.3 +0.3**
HINF			pmax	pmax	
	comp=Z,20nm,1.0s				
HINF	**Hinteralfeld**	**21.16 306**	*e*P	**P**	**02 03 16.3 +0.3**
	comp=Z,20nm,1.0s				
HINF	**Hinteralfeld**	**21.16 306**	*e*P	**P**	**02 03 16.3 +0.3**
	comp=Z,9.8nm,1.0s				
SMRF	**Simiane la Rot**	**21.18 295**	*e*P	**P**	**02 03 17.0 +0.8**
	comp=Z,103nm,1.5s				
SMRF	**Simiane la Rot**	**21.18 295**	*e*P	**P**	**02 03 17.0 +0.8**
	comp=Z,103nm,1.5s				
SMRF	**Simiane la Rot**	**21.18 295**	*e*P	**P**	**02 03 17.0 +0.8**
	comp=Z,52nm,1.5s				
DFRA	**Djebel Bou Aff**	**21.24 274**	P	**P**	**02 03 19.9 +2.9**
DFRA	**Djebel Bou Aff**	**21.24 274**	P	**P**	**02 03 19.9 +2.9**
CABF	**La Chapelle**	**21.32 302**	*e*P	**P**	**02 03 17.6 -0.2**
	comp=Z,51nm,0.9s				
CABF	**La Chapelle**	**21.32 302**	*e*P	**P**	**02 03 17.6 -0.2**
CABF			pmax	pmax	
	comp=Z,51nm,0.9s				
CABF	**La Chapelle**	**21.32 302**	*e*P	**P**	**02 03 17.6 -0.2**
	comp=Z,51nm,0.9s				
CABF	**La Chapelle**	**21.32 302**	*e*P	**P**	**02 03 17.6 -0.2**
	comp=Z,26nm,0.9s				
IMOG	**Moghan**	**21.47 87**	*e*P	**P**	**02 03 20.8 +1.1**
IMOG	**Moghan**	**21.47 87**	*e*P	**P**	**02 03 20.8 +1.1**
ISRO	**Mashad**	**21.53 86**	*e*P	**P**	**02 03 18.7 -1.5**
ISRO	**Mashad**	**21.53 86**	*e*P	**P**	**02 03 18.7 -1.5**
HAU	**Haudompre**	**21.54 306**	*e*P	**P**	**02 03 19.9 -0.2**
	comp=Z,20nm,0.9s				
HAU			*e*R		
	comp=Z,136nm,20.4s				
HAU	**Haudompre**	**21.54 306**	*e*P	**P**	**02 03 19.9 -0.2**
HAU			pmax	pmax	
	comp=Z,20nm,0.9s				
HAU	**Haudompre**	**21.54 306**	*e*P	**P**	**02 03 19.9 -0.2**
	comp=Z,20nm,0.9s				
HAU	**Haudompre**	**21.54 306**	*e*P	**P**	**02 03 19.9 -0.2**
	comp=Z,9.8nm,0.9s				
CKHR	**Kef el Ahmar**	**21.64 273**	P	P	02 03 25.1 +3.7
SET	**Setif**	**21.69 274**	P	P	02 03 27.0 +5.2
RUP	**Ruppelstein**	**21.70 311**	*e*P	**P**	**02 03 23.0 +1.1**
PUL	**Pulkovo**	**21.90 357**	*e*P	**P**	**02 03 24.2 +0.4**
PUL			pmax	pmax	
	comp=Z,90nm,1.1s				
PUL	**Pulkovo**	**21.90 357**	*e*P	**P**	**02 03 24.2 +0.4**
	comp=Z,90nm,1.1s				
ITEG	**Tejag**	**21.93 95**	*e*P	**P**	**02 03 25.7 +1.1**
ITEG	**Tejag**	**21.93 95**	*e*P	**P**	**02 03 25.7 +1.1**
VIVF	**Saint-Julien-l**	**21.94 297**	*e*P	**P**	**02 03 24.3 -0.1**
	comp=Z,17nm,1.0s				
VIVF	**Saint-Julien-l**	**21.94 297**	*e*P	**P**	**02 03 24.3 -0.1**
VIVF			pmax	pmax	
	comp=Z,17nm,1.0s				
VIVF	**Saint-Julien-l**	**21.94 297**	*e*P	**P**	**02 03 24.3 -0.1**
	comp=Z,17nm,1.0s				
VIVF	**Saint-Julien-l**	**21.94 297**	*e*P	**P**	**02 03 24.3 -0.1**
	comp=Z,8.6nm,1.0s				
IMYA	**Miami**	**22.02 86**	*e*P	**P**	**02 03 26.6 +1.1**
IMYA	**Miami**	**22.02 86**	*e*P	**P**	**02 03 26.6 +1.1**
AKTK	**Aktyubinsk**	**22.02 47**	*i* P	**P**	**02 03 24.4 -0.8**
	comp=Z,42nm,1.2s				
AKTO	**Aktyubinsk**	**22.02 47**	*i* P	**P**	**02 03 24.4 -0.8**
AKTO			pmax	pmax	
	comp=Z,42nm,1.2s				
AKTO	**Aktyubinsk**	**22.02 47**	P	**P**	**02 03 24.1 -1.1**
AKTO	**Aktyubinsk**	**22.02 47**	P	**P**	**02 03 24.1 -1.1**
	comp=Z,14nm,0.9s,baz=242,slow=11,SNR=28				
AKTO	**Aktyubinsk**	**22.02 47**	P	**P**	**02 03 24.1 -1.1**
SSB	**Saint Sauveur**	**22.10 298**	*e*P	**P**	**02 03 25.3 -0.8**
SSB			pmax	pmax	
	comp=Z,6.0nm,0.9s				
SSB	**Saint Sauveur**	**22.10 298**	*e*P	**P**	**02 03 25.3 -0.8**
	comp=Z,6.4nm,0.9s				
SSB	**Saint Sauveur**	**22.10 298**	*e*P	**P**	**02 03 25.3 -0.8**
	comp=Z,6.4nm,0.9s				
PAGF	**Fort de Pagny**	**22.11 307**	*e*P	**P**	**02 03 25.9 -0.3**
PAGF	**Fort de Pagny**	**22.11 307**	*e*P	**P**	**02 03 25.9 -0.3**
PAGF	**Fort de Pagny**	**22.11 307**	*e*P	**P**	**02 03 25.9 -0.3**
WLF	**Walferdange**	**22.23 310**	P	**P**	**02 03 28.9 +1.4**
WLF	**Walferdange**	**22.23 310**	*e*P	**P**	**02 03 27.3 -0.2**
WLF			pmax	pmax	
	comp=Z,25nm,1.1s				
WLF	**Walferdange**	**22.23 310**	*e*P	**P**	**02 03 27.3 -0.2**
	comp=Z,25nm,1.1s				
WLF	**Walferdange**	**22.23 310**	*e*P	**P**	**02 03 27.3 -0.2**
	comp=Z,25nm,1.1s				
COP	**Copenhagen**	**22.32 329**	*e*P	P	02 03 34.1 +5.8
COP			*i* S	**S**	**02 07 37.8 +4.6**
COP	**Copenhagen**	**22.32 329**	*i* P	P	02 03 34.1 +5.8
COP			*i* S	**S**	**02 07 37.8 +4.6**
LASF	**Ste Croix**	**22.42 295**	*e*P	**P**	**02 03 30.8 +1.2**
	comp=Z,68nm,1.4s				
LASF	**Ste Croix**	**22.42 295**	*e*P	**P**	**02 03 30.8 +1.2**
	comp=Z,68nm,1.4s				
LASF	**Ste Croix**	**22.42 295**	*e*P	**P**	**02 03 30.8 +1.2**
	comp=Z,34nm,1.4s				
SFTF	**Sexfontaines**	**22.44 306**	*e*P	**P**	**02 03 29.2 -0.5**
	comp=Z,12nm,0.6s				
SFTF	**Sexfontaines**	**22.44 306**	*e*P	**P**	**02 03 29.2 -0.5**
	comp=Z,12nm,0.6s				
SFTF	**Sexfontaines**	**22.44 306**	*e*P	**P**	**02 03 29.2 -0.5**
	comp=Z,6.2nm,0.6s				
MEZF	**Maizieres J'vi**	**22.52 307**	*e*P	**P**	**02 03 31.0 +0.4**
	comp=Z,123nm,1.3s				
MEZF	**Maizieres J'vi**	**22.52 307**	*e*P	**P**	**02 03 31.0 +0.4**
	comp=Z,123nm,1.3s				
MEZF	**Maizieres J'vi**	**22.52 307**	*e*P	**P**	**02 03 31.0 +0.4**
	comp=Z,62nm,1.3s				
MEM	**Membach**	**22.69 312**	P	**P**	**02 03 33.4 +1.2**
	comp=Z,22nm,1.7s				
MEM	**Membach**	**22.69 312**	*e*P	**P**	**02 03 33.6 +1.3**
MEM			pmax	pmax	
	comp=Z,50nm,1.3s				
MEM	**Membach**	**22.69 312**	*e*P	**P**	**02 03 33.5 +1.3**
	comp=Z,50nm,1.3s				
MEM	**Membach**	**22.69 312**	*e*P	**P**	**02 03 33.5 +1.2**
	comp=Z,50nm,1.3s				
IBND	**Bandar-abas**	**22.70 110**	*e*P	**P**	**02 03 33.2 +0.6**
IBND	**Bandar-abas**	**22.70 110**	*e*P	**P**	**02 03 33.2 +0.6**
AB31	**Akbulak array**	**22.73 51**	*i* P	**P**	**02 03 33.7 +0.9**
AB31			pmax	pmax	
	comp=Z,6.0nm,0.7s				
AB31	**Akbulak array**	**22.73 51**	*i* P	**P**	**02 03 33.7 +0.9**
	comp=Z,6.0nm,0.7s				
ABKAR	**Akbulak array**	**22.73 51**	*e*P	**P**	**02 03 32.5 -0.3**
	comp=Z,5.2nm,0.6s				
ABKAR	**Akbulak array**	**22.73 51**	*e*P	**P**	**02 03 32.5 -0.3**
	comp=Z,5.2nm,0.6s				
SMF	**Signal de Mont**	**22.83 302**	*e*P	**P**	**02 03 34.1 +0.2**
	comp=Z,77nm,1.2s				
SMF	**Signal de Mont**	**22.83 302**	*e*P	**P**	**02 03 34.1 +0.2**
SMF			pmax	pmax	
	comp=Z,77nm,1.2s				
SMF	**Signal de Mont**	**22.83 302**	*e*P	**P**	**02 03 34.1 +0.2**
	comp=Z,77nm,1.2s				
SMF	**Signal de Mont**	**22.83 302**	*e*P	**P**	**02 03 34.1 +0.2**
	comp=Z,38nm,1.2s				
IDAH	**Dahanechah**	**22.86 95**	*e*P	**P**	**02 03 36.1 +1.5**
IDAH	**Dahanechah**	**22.86 95**	*e*P	**P**	**02 03 36.1 +1.5**
LOR	**Lormes**	**22.96 303**	*e*P	**P**	**02 03 34.3 -0.9**
	comp=Z,52nm,1.2s				
LOR			*e*R		
	comp=Z,322nm,18.5s				
LOR	**Lormes**	**22.96 303**	*e*P	**P**	**02 03 34.3 -0.9**
	comp=Z,52nm,1.2s				
LOR	**Lormes**	**22.96 303**	*e*P	**P**	**02 03 34.3 -0.9**
	comp=Z,26nm,1.2s				
LBL	**Lubilhac**	**22.99 298**	*e*P	**P**	**02 03 36.5 +0.8**
LBL	**Lubilhac**	**22.99 298**	*e*P	**P**	**02 03 36.5 +0.8**
SSF	**Saint Saulge**	**23.15 302**	*e*P	**P**	**02 03 36.5 -0.7**
	comp=Z,97nm,1.4s				
SSF	**Saint Saulge**	**23.15 302**	*e*P	**P**	**02 03 36.5 -0.7**
SSF			pmax	pmax	
	comp=Z,97nm,1.4s				
SSF	**Saint Saulge**	**23.15 302**	*e*P	**P**	**02 03 36.5 -0.7**
	comp=Z,97nm,1.4s				
SSF	**Saint Saulge**	**23.15 302**	*e*P	**P**	**02 03 36.5 -0.7**
	comp=Z,48nm,1.4s				
AVF	**Avril sur Loir**	**23.19 302**	*e*P	**P**	**02 03 36.5 -1.1**
	comp=Z,22nm,0.9s				
AVF	**Avril sur Loir**	**23.19 302**	*e*P	**P**	**02 03 36.5 -1.1**
AVF			pmax	pmax	
	comp=Z,22nm,0.9s				
AVF	**Avril sur Loir**	**23.19 302**	*e*P	**P**	**02 03 36.5 -1.1**
	comp=Z,22nm,0.9s				
AVF	**Avril sur Loir**	**23.19 302**	*e*P	**P**	**02 03 36.5 -1.1**
	comp=Z,11nm,0.9s				
GIVF	**Givet**	**23.19 311**	*e*P	**P**	**02 03 37.1 -0.5**
GIVF	**Givet**	**23.19 311**	*e*P	**P**	**02 03 37.1 -0.5**
GIVF	**Givet**	**23.19 311**	*e*P	**P**	**02 03 37.1 -0.5**
GIVF	**Givet**	**23.19 311**	*e*P	**P**	**02 03 37.1 -0.5**
AGO	**Saint Agoulin**	**23.20 300**	*e*P	**P**	**02 03 37.2 -0.6**
AGO	**Saint Agoulin**	**23.20 300**	*e*P	**P**	**02 03 37.2 -0.6**
PYM	**Petit Puy Mans**	**23.24 299**	*e*P	**P**	**02 03 37.0 -1.2**
PYM	**Petit Puy Mans**	**23.24 299**	*e*P	**P**	**02 03 37.0 -1.2**
FILF	**Fillols**	**23.27 291**	*e*P	**P**	**02 03 39.0 +0.5**
FILF	**Fillols**	**23.27 291**	*e*P	**P**	**02 03 39.0 +0.5**
LRDF	**Laroque-de-Fa**	**23.30 292**	*e*P	**P**	**02 03 37.5 -1.2**
LRDF	**Laroque-de-Fa**	**23.30 292**	*e*P	**P**	**02 03 37.5 -1.2**
DOU	**Dourbes**	**23.33 310**	P	**P**	**02 03 40.3 +1.4**
DOU	**Dourbes**	**23.33 310**	P	**

MUD	Monsted U'grnd	24.19	328	*i* P	P	02 03 53.2 +6.1
MUD				*i* S	S	02 08 20.0 +15
RJF	Les Rejaudoux	24.21	298	*e*P	P	02 03 47.1 -0.4
	comp=Z,43nm,1.0s					
RJF				*e*R		
	comp=Z,321nm,17.2s					
RJF	Les Rejaudoux	24.21	298	*e*P	P	02 03 47.1 -0.4
RJF				pmax	pmax	
	comp=Z,43nm,1.0s					
RJF	Les Rejaudoux	24.21	298	*e*P	P	02 03 47.1 -0.4
	comp=Z,43nm,1.0s					
RJF	Les Rejaudoux	24.21	298	*e*P	P	02 03 47.1 -0.4
	comp=Z,21nm,1.0s					
MLS	Moulis	24.36	292	*e*P	P	02 03 49.2 +0.4
MLS	Moulis	24.36	292	*e*P	P	02 03 49.2 +0.4
KAF	Kangasniemi	24.51	353	*e*P	P	02 03 49.3 -0.7
KAF				pmax	pmax	
	comp=Z,12nm,0.7s					
KAF	Kangasniemi	24.51	353	*e*p	P	02 03 49.3 -0.7
	comp=Z,12nm,0.7s					
KAF	Kangasniemi	24.51	353	*e*P	P	02 03 49.3 -0.7
	comp=Z,12nm,0.7s					
EBNR	Beni Rached	24.71	276	P	P	02 03 53.0 +0.8
EBNR	Beni Rached	24.71	276	P	P	02 03 53.0 +0.8
LFF	La Frestale	24.72	297	*e*P	P	02 03 52.7 +0.6
	comp=Z,83nm,1.4s					
LFF	La Frestale	24.72	297	*e*P	P	02 03 52.7 +0.6
LFF				pmax	pmax	
	comp=Z,83nm,1.4s					
LFF	La Frestale	24.72	297	*e*P	P	02 03 52.7 +0.6
	comp=Z,83nm,1.4s					
LFF	La Frestale	24.72	297	*e*P	P	02 03 52.7 +0.6
	comp=Z,42nm,1.4s					
ECHA	Ech Chlef	24.88	276	P	P	02 03 56.0 +2.4
ECHA	Ech Chlef	24.88	276	P	P	02 03 56.0 +2.4
EPF	Esparros	24.91	292	*e*P	P	02 03 52.5 -1.4
	comp=Z,18nm,0.9s					
EPF	Esparros	24.91	292	*e*P	P	02 03 52.5 -1.4
EPF				pmax	pmax	
	comp=Z,19nm,0.9s					
EPF	Esparros	24.91	292	*e*P	P	02 03 52.5 -1.4
	comp=Z,18nm,0.9s					
EPF	Esparros	24.91	292	*e*P	P	02 03 52.5 -1.4
	comp=Z,9.2nm,0.9s					
JOF	Joensuu	25.03	359	*e*P	P	02 03 53.3 -1.4
JOF				pmax	pmax	
	comp=Z,35nm,1.1s					
JOF	Joensuu	25.03	359	*e*p	P	02 03 53.3 -1.4
	comp=Z,35nm,1.1s					
JOF	Joensuu	25.03	359	*e*P	P	02 03 53.3 -1.4
	comp=Z,35nm,1.1s					
LABF	Labassere	25.11	292	*e*P	P	02 03 54.0 -1.7
LABF	Labassere	25.11	292	*e*P	P	02 03 54.0 -1.7
ETRT	Tiaret	25.11	274	P	P	02 04 01.0 +5.1
EANR	'Ain N'Sour	25.13	275	P	P	02 03 58.0 +2.0
EANR	'Ain N'Sour	25.13	275	P	P	02 03 58.0 +2.0
VIEF	Viey	25.14	292	*e*P	P	02 03 56.9 +0.9
VIEF	Viey	25.14	292	*e*P	P	02 03 56.9 +0.9
HFS	Hagfors	25.24	338	P	P	02 03 57.3 +0.7
HFS	Hagfors	25.24	338	P	P	02 03 57.3 +0.7
	comp=Z,19nm,1.1s,baz=146,slow=8.6,SNR=13					
HFS	Hagfors	25.24	338	P	P	02 03 57.3 +0.7
ARU	Arti	25.36	35*c*	*i* P	P	02 03 58.1 +0.4
ARU						02 04 31.5
ARU				S	S	02 08 24.6 +1.1
ARU				SS	SnSn	02 09 19.3 +4.2
ARU				pmax	pmax	
	comp=Z,45nm,1.2s					
ARU	Arti	25.36	35	*i* P	P	02 03 58.1 +0.4
	comp=Z,45nm,1.2s					
ARU				S	S	02 08 24.6 +1.1
MFF	Saint Martin d	25.53	300	*e*P	P	02 03 58.5 -0.9
	comp=Z,93nm,1.2s					
MFF	Saint Martin d	25.53	300	*e*P	P	02 03 58.5 -0.9
MFF				pmax	pmax	
	comp=Z,93nm,1.2s					
MFF	Saint Martin d	25.53	300	*e*P	P	02 03 58.5 -0.9
	comp=Z,93nm,1.2s					
MFF	Saint Martin d	25.53	300	*e*P	P	02 03 58.5 -0.9
	comp=Z,47nm,1.2s					
DAMY	Dhamar	25.54	152	*e*P	P	02 04 07.3 +7.3
ETSF	Etsaut	25.57	292	*e*P	P	02 03 59.8 -0.1
	comp=Z,68nm,1.5s					
ETSF	Etsaut	25.57	292	*e*P	P	02 03 59.8 -0.1
ETSF				pmax	pmax	
	comp=Z,68nm,1.5s					
ETSF	Etsaut	25.57	292	*e*P	P	02 03 59.8 -0.1
	comp=Z,68nm,1.5s					
ETSF	Etsaut	25.57	292	*e*P	P	02 03 59.8 -0.1
	comp=Z,34nm,1.5s					
LDF	La Druitiere	25.86	305	*e*P	P	02 04 02.2 -0.2
	comp=Z,13nm,0.7s					
LDF	La Druitiere	25.86	305	*e*P	P	02 04 02.2 -0.2
LDF				pmax	pmax	
	comp=Z,13nm,0.7s					
LDF	La Druitiere	25.86	305	*e*P	P	02 04 02.2 -0.2
	comp=Z,13nm,0.7s					
LDF	La Druitiere	25.86	305	*e*P	P	02 04 02.2 -0.2
	comp=Z,6.7nm,0.7s					
SJPF	Ste Jean	26.06	292	*e*P	P	02 04 04.9 +0.6
	comp=Z,37nm,1.1s					
SJPF	Ste Jean	26.06	292	*e*P	P	02 04 04.9 +0.6
SJPF				pmax	pmax	
	comp=Z,37nm,1.1s					
SJPF	Ste Jean	26.06	292	*e*P	P	02 04 04.9 +0.6
	comp=Z,37nm,1.1s					
SJPF	Ste Jean	26.06	292	*e*P	P	02 04 04.9 +0.6
	comp=Z,19nm,1.1s					
KONO	Kongsberg	26.21	333	*e*P	P	02 04 07.3 +1.8
KONO				pmax	pmax	
	comp=Z,67nm,1.3s					
KONO	Kongsberg	26.21	333	*e*P	P	02 04 07.2 +1.8
	comp=Z,67nm,1.3s					
KONO	Kongsberg	26.21	333	*e*P	P	02 04 07.2 +1.8
	comp=Z,67nm,1.3s					
GRR	Gorron	26.30	304	*e*P	P	02 04 05.5 -0.9
	comp=Z,32nm,0.8s					
GRR	Gorron	26.30	304	*e*P	P	02 04 05.5 -0.9
GRR				pmax	pmax	
	comp=Z,32nm,0.8s					
GRR	Gorron	26.30	304	*e*P	P	02 04 05.5 -0.9
	comp=Z,32nm,0.8s					
GRR	Gorron	26.30	304	*e*P	P	02 04 05.5 -0.9
	comp=Z,16nm,0.8s					
TMCR	Tamitsa	26.48	5	*e*P	P	02 04 07.7 -0.1
TMCR				*e*		02 04 49.9
TMCR				pmax	pmax	
	comp=Z,62nm,1.3s					
TMCR	Tamitsa	26.48	5	*e*P	P	02 04 07.7 -0.1
	comp=Z,62nm,1.3s					
SVE	Sverdlovsk	26.52	35‖	*e*P	P	02 04 09.0 +0.7
SVE				pmax	pmax	
	comp=Z,33nm,1.2s					
SVE	Sverdlovsk	26.52	35	*e*P	P	02 04 09.0 +0.7
	comp=Z,33nm,1.2s					
SOKR	Solikamsk	26.66	28	*e*P	P	02 04 09.5 +0.1
SOKR				pmax	pmax	
	comp=Z,30nm,1.0s					
SOKR	Solikamsk	26.66	28	*e*P	P	02 04 09.5 +0.1
	comp=Z,30nm,1.0s					
NAO01	NORSAR Array S	26.66	336	*e*P	P	02 04 08.1 -1.5
	comp=Z,37nm,1.3s					
NAO01	NORSAR Array S	26.66	336	*e*P	P	02 04 08.1 -1.5
	comp=Z,37nm,1.3s					
NB2	NORSAR Subarra	26.71	337	P	P	02 04 09.9 -0.1
	comp=Z,20nm,1.4s,baz=140,slow=9.3					
NB2	NORSAR Subarra	26.71	337	P	P	02 04 09.9 -0.1
	comp=Z,20nm,1.4s,baz=140,slow=9.0,SNR=9.9					
NOA	NORSAR Array B	26.71	337	P	P	02 04 10.3 +0.3
NOA				PcP	PcP	02 07 30.9 -2.2
NOA	NORSAR Array B	26.71	337	P	P	02 04 10.3 +0.3
	comp=Z,2.6nm,0.8s,baz=140,slow=8.8,SNR=8.7					
NOA				PcP	PcP	02 07 30.9 -2.2
	comp=Z,1.4nm,0.8s,baz=41,slow=2.3,SNR=3.4					
NOA	NORSAR Array B	26.71	337	P	P	02 04 10.3 +0.3
SGMF	Saint Gilles	27.40	303	*e*P	P	02 04 15.4 -0.9
	comp=Z,60nm,1.2s					
SGMF	Saint Gilles	27.40	303	*e*P	P	02 04 15.4 -0.9
SGMF				pmax	pmax	
	comp=Z,60nm,1.2s					
SGMF	Saint Gilles	27.40	303	*e*P	P	02 04 15.4 -0.9
	comp=Z,60nm,1.2s					
SGMF	Saint Gilles	27.40	303	*e*P	P	02 04 15.4 -0.9
	comp=Z,30nm,1.2s					
TAM	Tamanrasset	27.62	245	*e*P	P	02 04 19.5 +0.8
TAM				pmax	pmax	
	comp=Z,20nm,1.3s					
TAM	Tamanrasset	27.62	245	*e*P	P	02 04 19.5 +0.8
	comp=Z,20nm,1.3s					
TAM	Tamanrasset	27.62	245	*e*P	P	02 04 19.5 +0.8
	comp=Z,20nm,1.3s					
QUIF	Quistinic	27.75	303	*e*P	P	02 04 19.6 +0.2
	comp=Z,123nm,1.5s					
QUIF	Quistinic	27.75	303	*e*P	P	02 04 19.6 +0.2
QUIF				pmax	pmax	
	comp=Z,123nm,1.5s					
QUIF	Quistinic	27.75	303	*e*P	P	02 04 19.6 +0.2
	comp=Z,123nm,1.5s					
QUIF	Quistinic	27.75	303	*e*P	P	02 04 19.6 +0.2
	comp=Z,62nm,1.5s					
ATD	Arta Tunnel	27.87	158	LR	LR	02 14 25.5
	comp=Z,103nm,18.9s,baz=341,slow=34					
ROSF	Rostrenen	27.88	303	*e*P	P	02 04 19.6 -1.0
	comp=Z,73nm,1.2s					
ROSF	Rostrenen	27.88	303	*e*P	P	02 04 19.6 -1.0
ROSF				pmax	pmax	
	comp=Z,73nm,1.2s					
ROSF	Rostrenen	27.88	303	*e*P	P	02 04 19.6 -1.0
	comp=Z,73nm,1.2s					
ROSF	Rostrenen	27.88	303	*e*P	P	02 04 19.6 -1.0
	comp=Z,36nm,1.2s					
ES19	SONSECA Array	28.31	285	*e*P	P	02 04 25.1 +0.5
ES19	SONSECA Array	28.31	285	*e*P	P	02 04 25.1 +0.5
ESDC	Sonseca Array	28.36	285	P	P	02 04 25.4 +0.3
ESDC				PcP	PcP	02 07 37.4 -0.1
ESDC	Sonseca Array	28.36	285	P	P	02 04 25.4 +0.3
	comp=Z,3.0nm,0.6s,baz=73,slow=9.2,SNR=36					
ESDC				PcP	PcP	02 07 37.4 -0.1
	comp=Z,0.4nm,0.5s,baz=54,slow=2.1,SNR=4.5					
ESDC	Sonseca Array	28.36	285	P	P	02 04 25.4 +0.3
ESLA	Sonseca Array	28.36	285	*e*P	P	02 04 25.2 +0.1
	comp=Z,9.3nm,1.3s					
ESLA	Sonseca Array	28.36	285	*e*P	P	02 04 25.2 +0.1
	comp=Z,9.3nm,1.3s					
PAB	San Pablo	28.68	285	*e*P	P	02 04 29.0 +1.1
PAB				pmax	pmax	
	comp=Z,233nm,1.6s					
PAB	San Pablo	28.68	285	*e*P	P	02 04 29.0 +1.1
	comp=Z,233nm,1.6s					
PAB	San Pablo	28.68	285	*e*P	P	02 04 29.0 +1.1
	comp=Z,233nm,1.6s					
KK31	Karatay Array	29.17	68	*i* P	P	02 04 32.3 +0.2
KK31				pmax	pmax	
	comp=Z,7.0nm,0.7s					
KK31	Karatay Array	29.17	68	*i* P	P	02 04 32.3 +0.2
	comp=Z,7.0nm,0.7s					
KKAR	Karatay Array	29.17	68	*e*P	P	02 04 33.0 +0.9
KKAR				pmax	pmax	
	comp=Z,8.0nm,0.8s					
KKAR	Karatay Array	29.17	68	*e*P	P	02 04 33.0 +0.9
	comp=Z,7.7nm,0.8s					
KKAR	Karatay Array	29.17	68	*e*P	P	02 04 33.0 +0.9
	comp=Z,7.7nm,0.8s					
KBL	Kabul	29.53	85	*e*P	P	02 04 37.5 +1.8
KBL				pmax	pmax	
	comp=Z,7.0nm,0.8s					
KBL	Kabul	29.53	85	*e*P	P	02 04 37.5 +1.8
	comp=Z,7.4nm,0.8s					
KBL	Kabul	29.53	85	*e*P	P	02 04 37.5 +1.8
	comp=Z,7.4nm,0.8s					
EKA	Eskdalemuir Ar	29.61	318	P	P	02 04 35.6 -0.3
EKA				PcP	PcP	02 07 39.4 -0.8
EKA	Eskdalemuir Ar	29.61	318	P	P	02 04 35.6 -0.3
	comp=Z,6.9nm,1.0s,baz=111,slow=9.1,SNR=11					
EKA				PcP	PcP	02 07 39.4 -0.8
	comp=Z,3.0nm,0.8s,baz=99,slow=3.8,SNR=7.7					
EKA	Eskdalemuir Ar	29.61	318	P	P	02 04 35.6 -0.3
ESK	Eskdalemuir	29.63	318	*e*P	P	02 04 35.5 -0.6
ESK				pmax	pmax	
	comp=Z,20nm,1.4s					
ESK	Eskdalemuir	29.63	318	*e*P	P	02 04 35.5 -0.6
	comp=Z,20nm,1.4s					
ESK	Eskdalemuir	29.63	318	*e*P	P	02 04 35.5 -0.6
	comp=Z,20nm,1.4s					
EDI	Edinburgh	29.84	319	*e*P	P	02 04 37.8 -0.1
EDI				pmax	pmax	
	comp=Z,12nm,1.1s					
EDI	Edinburgh	29.84	319	*e*P	P	02 04 37.8 -0.1
	comp=Z,12nm,1.1s					
EDI	Edinburgh	29.84	319	*e*P	P	02 04 37.8 -0.1
	comp=Z,12nm,1.1s					
LVZ	Lovozero	30.04	2	*e*P	P	02 04 39.4 -0.2
LVZ				pmax	pmax	
	comp=Z,37nm,1.4s					
LVZ	Lovozero	30.04	2	*e*P	P	02 04 39.4 -0.2
	comp=Z,37nm,1.4s					
BRVK	Borovoye	30.07	48	*e*P	P	02 04 40.7 +0.7
BRVK				pmax	pmax	
	comp=Z,20nm,1.7s					
BRVK	Borovoye	30.07	48	*e*P	P	02 04 38.7 -1.3
	comp=Z,18nm,1.3s					
BRVK	Borovoye	30.07	48	*e*P	P	02 04 40.7 +0.7
	comp=Z,20nm,1.7s					
BVA0	Borovoye Array	30.13	48	P	P	02 04 41.0 +0.5
BVA0				pmax	pmax	
	comp=Z,20nm,1.3s					
BVA0	Borovoye Array	30.13	48	P	P	02 04 41.0 +0.5
	comp=Z,20nm,1.3s					
BVAR	Borovoye Array	30.13	48	P	P	02 04 40.3 -0.2
BVAR						02 05 39.1
BVAR						02 07 40.8
BVAR	Borovoye Array	30.13	48	P	P	02 04 40.3 -0.2
BVAR				PP	PnPn	02 05 39.1 +1.5
BVAR				PcP	PcP	02 07 40.8 -0.9
BVAR	Borovoye Array	30.13	48	P	P	02 04 40.3 -0.2
	comp=Z,6.2nm,1.0s,baz=238,slow=5.1,SNR=22					
BVAR				PP	PnPn	02 05 39.1 +1.5
	comp=Z,4.3nm,0.9s,baz=248,slow=12,SNR=4.0					
BVAR				PcP	PcP	02 07 40.8 -0.9
	comp=Z,1.4nm,0.8s,baz=106,slow=3.1,SNR=3.2					
BVAR				LR	LR	02 19 24.1
	comp=Z,150nm,20.0s,baz=125,slow=42					
BVAR	Borovoye Array	30.13	48	P	P	02 04 40.3 -0.2
VOSK	Vostochnaya	30.40	48	*e*P	P	02 04 43.2 +0.3
VOSK				pmax	pmax	
	comp=Z,29nm,1.3s					
VOSK	Vostochnaya	30.40	48	*e*P	P	02 04 43.2 +0.3
	comp=Z,29nm,1.3s					
VOSK	Vostochnaya	30.40	48	*e*P	P	02 04 43.2 +0.3
	comp=Z,29nm,1.3s					
MVO	Moncorvo	30.49	289	*e*P	P	02 04 43.7 -0.2
	comp=Z,47nm,1.1s					
MVO	Moncorvo	30.49	289	*e*P	P	02 04 43.7 -0.2
	comp=Z,47nm,1.1s					
MDT	Midelt	30.57	272	P	P	02 04 45.5 +0.8
MDT	Midelt	30.57	272	P	P	02 04 45.5 +0.8
	comp=Z,4.8nm,1.0s,baz=74,slow=9.8,SNR=6.9					
MDT	Midelt	30.57	272	P	P	02 04 45.5 +0.8
MTE	Manteigas	30.98	287	*e*P	P	02 04 49.1 +0.9
	comp=Z,66nm,1.3s					
MTE	Manteigas	30.98	287	*e*P	P	02 04 48.9 +0.6
	comp=Z,41nm,1.1s					
MTE	Manteigas	30.98	287	*e*P	P	02 04 49.1 +0.9
	comp=Z,66nm,1.3s					
PVRL	Vila Real	30.99	289	*e*P	P	02 04 51.7 +3.4
PBAR	Barrancos	30.99	283	*e*P	P	02 04 49.1 +0.8
PBAR	Barrancos	30.99	283	*e*P	P	02 04 49.1 +0.8
PCBR	Castelo Branco	31.02	286	*e*P	P	02 04 48.8 +0.3
	comp=Z,37nm,1.3s					
PCBR	Castelo Branco	31.02	286	*e*P	P	02 04 48.8 +0.3
	comp=Z,37nm,1.3s					
PMRV	Marv??o	31.02	285	*e*P	P	02 04 48.8 +0.2
	comp=Z,30nm,1.6s					
PMRV	Marv??o	31.02	285	*e*P	P	02 04 48.8 +0.2
	comp=Z,30nm,1.6s					
PVIS	Viseu	31.20	288	*e*P	P	02 04 51.1 +1.0
	comp=Z,43nm,1.7s					
PVIS	Viseu	31.20	288	*e*P	P	02 04 51.1 +1.0
	comp=Z,43nm,1.7s					
PESTR	Estremoz	31.28	284	*e*P	P	02 04 50.7 -0.1
	comp=Z,28nm,1.1s					
PESTR	Estremoz	31.28	284	*e*P	P	02 04 50.7 -0.1
	comp=Z,28nm,1.1s					
EKS2	Erkin-Say	31.59	68	*e*P	P	02 04 54.7 +1.0
EKS2				pmax	pmax	
	comp=Z,7.0nm,0.9s					
EKS2	Erkin-Say	31.59	68	*e*P	P	02 04 54.7 +1.0
	comp=Z,7.4nm,0.9s					
EKS2	Erkin-Say	31.59	68	*e*P	P	02 04 54.7 +1.0
	comp=Z,7.4nm,0.9s					
PBEJ	Beja	31.66	283	*e*P	P	02 04 54.8 +0.6
	comp=Z,31nm,1.3s					
PBEJ	Beja	31.66	283	*e*P	P	02 04 54.8 +0.6
	comp=Z,31nm,1.3s					
EVO	Evora	31.67	284	*e*P	P	02 04 53.8 -0.4
EVO	Evora	31.67	284	*e*P	P	02 04 53.8 -0.4
PVAQ	Vaqueiros	31.68	282	*e*P	P	02 04 54.8 +0.4
PVAQ	Vaqueiros	31.68	282	*e*P	P	02 04 54.8 +0.4
PMTG	Montargil	31.72	285	*e*P	P	02 04 54.8 +0.1
	comp=Z,19nm,1.6s					
PMTG	Montargil	31.72	285	*e*P	P	02 04 54.8 +0.1
	comp=Z,19nm,1.6s					
PCAS	Casmilo, Conde	31.75	287	*e*P	P	02 04 55.8 +0.8
	comp=Z,38nm,1.8s					
PCAS	Casmilo, Conde	31.75	287	*e*P	P	02 04 55.8 +0.8
	comp=Z,38nm,1.8s					
PTOM	Tomar	31.76	286	*e*P	P	02 04 56.4 +1.3
	comp=Z,60nm,1.5s					
PTOM	Tomar	31.76	286	*e*P	P	02 04 56.4 +1.3
	comp=Z,60nm,1.5s					
PBDV	Barranco-do-Ve	31.89	281	*e*P	P	02 04 56.8 +0.6
	comp=Z,81nm,1.9s					
PBDV	Barranco-do-Ve	31.89	281	*e*P	P	02 04 56.8 +0.6
	comp=Z,81nm,1.9s					
ARA0	ARCESS Array S	31.89	355	*e*P	P	02 04 56.0 +0.1
ARA0	ARCESS Array S	31.89	355	*e*P	P	02 04 56.0 +0.1
ARCES	ARCESS Array B	31.89	355	P	P	02 04 56.0 +0.1
ARCES	ARCESS Array B	31.89	355	P	P	02 04 56.0 +0.1
	comp=Z,11nm,0.6s,baz=167,slow=8.2,SNR=64					
ARCES				LR	LR	02 18 57.9
	comp=Z,266nm,19.9s,baz=163,slow=38					
ARCES	ARCESS Array B	31.89	355	P	P	02 04 56.0 +0.1
ARE0	ARCESS Array S	31.89	355	*e*P	P	02 04 55.7 -0.2
ARE0	ARCESS Array S	31.89	355	*e*P	P	02 04 55.7 -0.2
AAK	Ala-Archa	32.12	68*d*	*i* P	P	02 04 59.7 +1.3
AAK				pmax	pmax	
	comp=Z,22nm,0.7s					
AAK	Ala-Archa	32.12	68	*e*P	P	02 04 59.8 +1.3
	comp=Z,9.2nm,0.7s					
AAK	Ala-Archa	32.12	68	LR	LR	02 18 44.4
	comp=Z,110nm,18.9s,baz=276,slow=38					
AAK	Ala-Archa	32.12	68	*i* P	P	02 04 59.7 +1.3
	comp=Z,22nm,0.7s					
PNCL	Nicolau / Gran	32.15	283	*e*P	P	02 04 58.4 -0.1
PNCL	Nicolau / Gran	32.15	283	*e*P	P	02 04 58.4 -0.1
TKM2	Tokmak 2	32.90	67	*e*P	P	02 05 06.2 +0.9
TKM2				pmax	pmax	
	comp=Z,6.0nm,0.8s					
TKM2	Tokmak 2	32.90	67	*e*P	P	02 05 06.2 +0.9
	comp=Z,6.3nm,0.8s					
TKM2	Tokmak 2	32.90	67	*e*P	P	02 05 06.2 +0.9
	comp=Z,6.3nm,0.8s					
KSH	Kashi	33.70	74	P	P	02 05 11.7 -0.5
KSH				*e*pP	pP	02 05 19.2 +2.9
KSH				PP	PnPn	02 06 23.8 -0.3
KSH				S	S	02 10 30.3 -4.7
KSH				PcS	PcS	02 11 37.7 0.0
KSH				pmax	pmax	
	comp=Z,110nm,3.4s					
KSH				LR	LR	
	comp=N,100nm,4.7s					
KSH				LR	LR	
	comp=E,140nm,5.0s					
KSH				LR	LR	
	comp=Z,160nm,7.3s					
KURBB	Kurchatov Arra	34.74	54	P	P	02 05 21.6 +0.7
	comp=Z,36nm,0.8s,baz=273,slow=8.7,SNR=373					
KURBB				PP	PP	02 06 42.5 +3.0
	comp=Z,1.4nm,0.9s,baz=274,slow=11,SNR=4.0					
KURBB				PcP	PcP	02 07 53.8 -0.5
	comp=Z,4.4nm,0.8s,baz=268,slow=3.7,SNR=12					
KURK	Kurchatov	34.81	53	P	P	02 05 21.6 +0.1
KURK						02 06 42.6
KURK						02 07 53.8
KURK	Kurchatov	34.81	53	P	P	02 05 21.6 +0.1
KURK				PP	PP	02 06 42.5 +2.3
KURK				PcP	PcP	02 07 53.8 -0.7
KURK	Kurchatov	34.81	53	P	P	02 05 21.6 +0.1
TOA0	Torodi Ar. Sit	36.89	236	*e*P	P	02 05 39.0 -0.6
TOA0	Torodi Ar. Sit	36.89	236	*e*P	P	02 05 39.0 -0.6
TORD	Torodi Ar. Bea	36.89	236	P	P	02 05 39.2 -0.4
TORD	Torodi Ar. Bea	36.89	236	P	P	02 05 39.2 -0.4
	comp=Z,23nm,0.9s,baz=33,slow=8.8,SNR=103					
TORD	Torodi Ar. Bea	36.89	236	P	P	02 05 39.2 -0.4
MK31	Makanchi Array	37.28	60	*e*P	P	02 05 43.3 +0.5
MK31	Makanchi Array	37.28	60	*e*P	P	02 05 43.3 +0.5
MK31	Makanchi Array	37.28	60	*e*P	P	02 05 43.3 +0.5
MKAR	Makanchi Array	37.28	60	P	P	02 05 43.4 +0.6
MKAR				pmax	pmax	
	comp=Z,20nm,0.8s					
MKAR				MLR	MLR	
	comp=Z,126nm,18.3s					
MKAR	Makanchi Array	37.28	60	*e*P	P	02 05 43.5 +0.6
MKAR	Makanchi Array	37.28	60	P	P	02 05 43.4 +0.6
	comp=Z,20nm,0.8s,baz=281,slow=6.4,SNR=125					
MKAR				LR	LR	02 23 34.0
	comp=Z,126nm,18.2s,baz=267,slow=40					
MKAR	Makanchi Array	37.28	60	P	P	02 05 43.4 +0.6
	comp=Z,126nm,18.3s					
MK01	Makanchi Array	37.29	60	*e*P	P	02 05 43.3 +0.5
MK01	Makanchi Array	37.29	60	*e*P	P	02 05 43.3 +0.5
ZAA0	Zalesovo Array	38.78	48	*e*P	P	02 05 54.9 -0.3
ZAA0	Zalesovo Array	38.78	48	*e*P	P	02 05 54.9 -0.3
ZALV	Zalesovo Beam	38.78	48	P	P	02 05 55.0 -0.2
ZALV	Zalesovo Beam	38.78	48	P	P	02 05 55.0 -0.2
ZALV	Zalesovo Beam	38.78	48	P	P	02 05 55.0 -0.2
	comp=Z,9.2nm,0.7s,baz=263,slow=9.1,SNR=31					
ZALV				LR	LR	02 23 42.8
	comp=Z,107nm,19.8s,baz=70,slow=39					
ZALV	Zalesovo Beam	38.78	48	P	P	02 05 55.0 -0.2
KMBO	Kilima Mbogo	39.11	172	*e*P	P	02 05 56.0 -2.6
	comp=Z,4.1nm,0.8s					
KMBO	Kilima Mbogo	39.11	172	P	P	02 05 59.5 +0.9
	comp=Z,2.0nm,0.8s,baz=52,slow=23,SNR=6.1					
KMBO	Kilima Mbogo	39.11	172	P	P	02 05 59.5 +0.9
	comp=Z,2.0nm,0.8s					
SPITS	Spitsbergen Ar	40.92	355	P	P	02 06 12.8 0.0
SPITS	Spitsbergen Ar	40.92	355	P	P	02 06 12.8 0.0
	comp=Z,6.3nm,0.7s,baz=160,slow=13,SNR=2.8					
SPITS	Spitsbergen Ar	40.92	355	P	P	02 06 12.8 0.0
WMQ	Urumqi	41.48	64	P	P	02 06 19.7 +1.8
WMQ				pP	pP	02 06 27.1 +5.0
WMQ				sP	sP	02 06 30.5 +6.8
WMQ				PP	PnPn	02 07 58.7 +0.4
WMQ				PcP	PcP	02 08 17.7 +2.3
WMQ				*e*S	S	02 12 33.5 +0.6
W

LIC	**Lamto**	**46.43**	**237**	*e*P		**P**	**02 06 57.0**	**-0.8**
	comp=Z,28nm,0.9s							
LIC				*e*R				
	comp=Z,232nm,21.8s							
LIC	**Lamto**	**46.43**	**237**	*e*P		**P**	**02 06 56.6**	**-1.2**
	comp=Z,46nm,1.0s							
LIC	**Lamto**	**46.43**	**237**	*e*P		**P**	**02 06 57.0**	**-0.8**
	comp=Z,28nm,0.9s							
LIC	**Lamto**	**46.43**	**237**	*e*P		**P**	**02 06 57.0**	**-0.8**
	comp=Z,14nm,0.9s							
ODAN	**Odare**	**47.03**	**87**	*e*P		**P**	**02 07 02.8**	**0.0**
	comp=Z,72nm,1.1s							
TAPN	**Taplejung**	**47.06**	**86**	*e*P		**P**	**02 07 03.2**	**+0.2**
	comp=Z,43nm,1.0s							
MOY	**Mondy**	**48.73**	**50**	*e*P		**P**	**02 07 17.0**	**+1.6**
MOY	**Mondy**	**48.73**	**50**	*e*P		**P**	**02 07 17.0**	**+1.6**
ZAK	**Zakamensk**	**50.43**	**52**	*e*P		**P**	**02 07 28.1**	**-0.3**
ZAK				pmax		pmax		
	comp=Z,9.0nm,1.2s							
ZAK	**Zakamensk**	**50.43**	**52**	*e*P		**P**	**02 07 28.1**	**-0.3**
	comp=Z,9.0nm,1.2s							
GTA	**Gaotai**	**51.43**	**66**	⇓P		**P**	**02 07 36.4**	**+0.3**
GTA				pP		pP	02 07 43.8	+3.4
GTA				sP		sP	02 07 47.2	+5.2
GTA				PcP		**PcP**	**02 08 50.7**	**+0.2**
GTA				S		**S**	**02 14 55.0**	**-0.6**
GTA				sS		sS	02 15 06.9	+4.3
GTA				SS		**SS**	**02 18 28.5**	**-2.6**
GTA				pmax		pmax		
	comp=Z,15nm,0.9s							
GTA				pmax		pmax		
	comp=Z,100nm,4.3s							
GTA				LR		LR		
	comp=N,170nm,18.3s							
GTA				LR		LR		
	comp=E,180nm,19.9s							
GTA				LR		LR		
	comp=Z,130nm,17.3s							
LSZ	**Lusaka**	**53.08**	**185**	*e*P		**P**	**02 07 49.1**	**+0.6**
	comp=Z,6.1nm,0.8s							
LSZ	**Lusaka**	**53.08**	**185**	*e*P		**P**	**02 07 49.1**	**+0.6**
	comp=Z,6.1nm,0.8s							
SONM	**Songino Array**	**53.11**	**54**	P		**P**	**02 07 49.2**	**+0.7**
SONM				PcP		**PcP**	**02 08 56.5**	**-0.2**
SONM	**Songino Array**	**53.11**	**54**	P		**P**	**02 07 49.2**	**+0.7**
	comp=Z,5.1nm,0.8s,baz=288,slow=7.5,SNR=30							
SONM				PcP		**PcP**	**02 08 56.5**	**-0.2**
	comp=Z,2.2nm,1.0s,baz=270,slow=4.2,SNR=4.9							
SONM				LR		LR	02 33 19.3	
	comp=Z,228nm,19.9s,baz=160,slow=39							
SONM	**Songino Array**	**53.11**	**54**	P		**P**	**02 07 49.2**	**+0.7**
SONA1	**Songino Array**	**53.11**	**54**	*e*P		**P**	**02 07 48.5**	**0.0**
SONA1	**Songino Array**	**53.11**	**54**	*e*P		**P**	**02 07 48.5**	**0.0**
PALK	**Pallekele**	**53.13**	**112**	*e*P		**P**	**02 07 49.2**	**+0.3**
	comp=Z,15nm,1.0s							
PALK	**Pallekele**	**53.13**	**112**	*e*P		**P**	**02 07 49.2**	**+0.3**
	comp=Z,15nm,1.0s							
ULN	**Ulaanbaatar**	**53.52**	**54**	*e*P		**P**	**02 07 52.3**	**+0.7**
	comp=Z,14nm,1.1s							
ULN	**Ulaanbaatar**	**53.52**	**54**	*e*P		**P**	**02 07 52.3**	**+0.7**
	comp=Z,14nm,1.1s							
LZH	**Lanzhou**	**55.66**	**68**	*e*P		**P**	**02 08 08.0**	**+0.7**
LZH				pP		pP	02 08 14.3	+2.7
LZH				sP		sP	02 08 18.2	+5.0
LZH				PcP		**PcP**	**02 09 07.9**	**+1.2**
LZH				PP		**PP**	**02 10 11.5**	**+0.1**
LZH				*e*S		**S**	**02 15 49.1**	**-4.2**
LZH				SS		**SS**	**02 19 39.0**	**+0.8**
LZH				pmax		pmax		
	comp=Z,50nm,1.3s							
LZH				pmax		pmax		
	comp=Z,130nm,4.0s							
LZH				LR		LR		
	comp=N,1μm,12.8s							
LZH				LR		LR		
	comp=E,1μm,16.2s							
LZH				LR		LR		
	comp=Z,1μm,17.6s							
TIXI	**Tiksi**	**56.43**	**22**	*e*P		**P**	**02 08 11.7**	**-0.3**
TIXI				pmax		pmax		
	comp=Z,11nm,1.2s							
TIXI	**Tiksi**	**56.43**	**22**	*e*P		**P**	**02 08 11.7**	**-0.3**
	comp=Z,11nm,1.2s							
CD2	**Chengdu**	**57.89**	**74**	P		**P**	**02 08 24.6**	**+1.5**
CD2				pP		pP	02 08 31.9	+4.5
CD2				sP		sP	02 08 35.1	+6.1
CD2				PP		**PP**	**02 10 34.3**	**+3.1**
CD2				S		**S**	**02 16 20.5**	**-2.1**
CD2				SS		**SS**	**02 20 12.5**	**-0.7**
CD2				pmax		pmax		
	comp=Z,10.0nm,0.7s							
CD2				pmax		pmax		
	comp=Z,210nm,4.6s							
CD2				LR		LR		
	comp=N,550nm,4.5s							
CD2				LR		LR		
	comp=Z,330nm,4.8s							
TSUM	**Tsumeb**	**58.54**	**197**	*e*P		**P**	**02 08 27.6**	**0.0**
	comp=Z,17nm,1.1s							
TSUM	**Tsumeb**	**58.54**	**197**	*e*P		**P**	**02 08 27.6**	**0.0**
	comp=Z,17nm,1.1s							
HHC	**Hu-ho-hao-te**	**59.15**	**60**	*e*P		**P**	**02 08 31.6**	**-0.1**
HHC				pP		pP	02 08 39.1	+3.0
HHC				sP		sP	02 08 42.5	+4.8
HHC				PP		**PP**	**02 10 44.3**	**+2.2**
HHC				S		**S**	**02 16 34.4**	**-4.4**
HHC				ScS		**ScS**	**02 18 16.7**	**-4.9**
HHC				SS		**SS**	**02 20 32.2**	**-0.4**
HHC				pmax		pmax		
	comp=Z,67nm,1.0s							
HHC				pmax		pmax		
	comp=Z,200nm,4.0s							
HHC				LR		LR		
	comp=N,340nm,14.3s							
HHC				LR		LR		
	comp=E,510nm,16.7s							
HHC				LR		LR		
	comp=Z,350nm,14.3s							
KMI	**Kunming**	**59.93**	**80**	P		P	02 08 40.6	+3.1
KMI				pP		pP	02 08 45.8	+4.0
KMI				sP		sP	02 08 48.6	+5.1
KMI				pmax		pmax		
	comp=Z,12nm,0.9s							
CHTO	**Chiang Mai**	**60.28**	**89**	*e*P		**P**	**02 08 40.1**	**+0.4**
CHTO				pmax		pmax		
	comp=Z,3.0nm,0.7s							
CHTO	**Chiang Mai**	**60.28**	**89**	*e*P		**P**	**02 08 40.0**	**+0.4**
	comp=Z,2.7nm,0.7s							
CHTO	**Chiang Mai**	**60.28**	**89**	*e*P		**P**	**02 08 40.0**	**+0.4**
	comp=Z,2.7nm,0.7s							
GYA	**Guiyang**	**62.29**	**77**	*e*P		**P**	**02 08 53.8**	**+0.4**
GYA				pP		pP	02 09 04.0	+6.3
GYA				PP		**PP**	**02 11 12.6**	**+2.3**
GYA				ScP		**ScP**	**02 13 33.2**	**-1.6**
GYA				S		**S**	**02 17 16.7**	**-2.7**
GYA				SKS		**SKKSac**	**02 18 41.0**	**-4.6**
GYA				pmax		pmax		
	comp=Z,10.0nm,1.0s							
GYA				pmax		pmax		
	comp=Z,90nm,5.2s							
GYA				LR		LR		
	comp=N,380nm,18.8s							
GYA				LR		LR		
	comp=E,270nm,19.4s							
GYA				LR		LR		
	comp=Z,360nm,20.2s							
RES	**Resolute Bay**	**62.46**	**346**	*e*P		**P**	**02 08 53.7**	**+0.1**
	comp=Z,40nm,0.9s							
RES	**Resolute Bay**	**62.46**	**346**	*e*P		**P**	**02 08 53.7**	**+0.1**
	comp=Z,40nm,0.9s							
BJI	**Beijing**	**62.66**	**59**	P		**P**	**02 08 55.6**	**+0.2**
BJI				pmax		pmax		
	comp=Z,26nm,0.8s							
BJI				LR		LR		
	comp=Z,92nm,19.8s							
LBTB	**Lobatse**	**62.95**	**187**	*e*P		**P**	**02 08 59.3**	**+1.8**
	comp=Z,21nm,1.1s							
LBTB	**Lobatse**	**62.95**	**187**	*e*P		**P**	**02 08 59.3**	**+1.8**
	comp=Z,21nm,1.1s							
SCHQ	**Schefferville**	**64.86**	**321**	P		**P**	**02 09 10.0**	**+0.3**
SCHQ	**Schefferville**	**64.86**	**321**	P		**P**	**02 09 10.0**	**+0.3**
	comp=Z,3.4nm,0.8s,baz=58,slow=8.8,SNR=3.6							
SCHQ				LR		LR	02 37 32.1	
	comp=Z,57nm,18.6s,baz=301,slow=36							
SCHQ	**Schefferville**	**64.86**	**321**	P		**P**	**02 09 10.0**	**+0.3**
WHN	**Wuhan**	**66.02**	**69**	P		**P**	**02 09 19.5**	**+1.9**
BOSA	**Boshof**	**66.54**	**187**	*e*P		**P**	**02 09 21.8**	**+0.9**
	comp=Z,22nm,0.8s							
BOSA	**Boshof**	**66.54**	**187**	P		**P**	**02 09 21.4**	**+0.5**
	comp=Z,22nm,0.8s,baz=7.2,slow=6.3,SNR=24							
BOSA				LR		LR	02 39 59.5	
	comp=Z,94nm,20.5s,baz=7.8,slow=37							
CN2	**Changchun**	**66.86**	**52**	*e*P		**P**	**02 09 22.6**	**-0.2**
CN2				*e*pP		pP	02 09 30.4	+3.2
CN2				*e*S		**S**	**02 18 10.6**	**-4.5**
CN2				pmax		pmax		
	comp=Z,10.0nm,0.7s							
CN2				LR		LR		
	comp=Z,160nm,13.0s							
KLR	**Kul'dur**	**67.72**	**44**	*e*P		P	02 09 23.8	-4.4
NJ2	**Nanjing**	**68.52**	**66**	*e*P		**P**	**02 09 32.9**	**-0.5**
NJ2				pmax		pmax		
	comp=Z,9.0nm,0.6s							
SEY	**Seymchan**	**68.64**	**25**	⇑*i*P		**P**	**02 09 34.9**	**+1.2**
QIZ	**Qiongzhong**	**68.74**	**82**	P		**P**	**02 09 34.7**	**-0.3**
QIZ				S		**S**	**02 18 37.5**	**-0.8**
QIZ				pmax		pmax		
	comp=Z,43nm,2.7s							
PSI	**Prapat**	**69.77**	**103**	P		**P**	**02 09 41.0**	**-0.5**
PSI	**Prapat**	**69.77**	**103**	P		**P**	**02 09 41.0**	**-0.5**
	comp=Z,6.6nm,0.8s,baz=254,slow=11,SNR=6.1							
USRK	**Ussuriysk Arra**	**70.63**	**49**	P		**P**	**02 09 45.0**	**-1.3**
	comp=Z,9.7nm,0.8s,baz=293,slow=5.6,SNR=28							
SUR	**Sutherland**	**70.80**	**190**	*e*P		**P**	**02 09 48.3**	**+0.9**
	comp=Z,16nm,0.9s							
KS01	**Wonju Array Si**	**71.82**	**56**	*e*P		**P**	**02 09 52.4**	**-1.2**
KSAR	**Wonju Array Be**	**71.84**	**57**	P		**P**	**02 09 53.1**	**-0.6**
KSRS	**Korea Array**	**71.86**	**56**	P		**P**	**02 09 53.1**	**-0.7**
	comp=Z,7.5nm,0.7s,baz=301,slow=5.5,SNR=39							
KSRS				LR		LR	02 45 02.9	
	comp=Z,134nm,18.6s,baz=166,slow=39							
INK	**Inuvik**	**73.56**	**355**	*e*P		**P**	**02 10 02.7**	**-0.7**
	comp=Z,10nm,1.0s							
COLD	**Coldfoot**	**75.15**	**1**	*e*P		**P**	**02 10 13.3**	**+0.6**
	comp=Z,19nm,1.1s							
IMA2	**Indian Mountai**	**76.22**	**3**	*e*P		**P**	**02 10 19.1**	**+0.1**
IM04	**Indian Mountai**	**76.31**	**3**	*e*P		**P**	**02 10 19.2**	**-0.2**
YKW3	**Yellowknife Ar**	**76.42**	**345**	*e*P		**P**	**02 10 20.0**	**-0.1**
	comp=Z,0.2nm,1.0s							
YKA	**Yellowknife Ar**	**76.48**	**345**	P		**P**	**02 10 20.6**	**+0.2**
YKA	**Yellowknife Ar**	**76.48**	**345**	P		**P**	**02 10 20.5**	**+0.2**
	comp=Z,4.8nm,0.8s,baz=29,slow=5.7,SNR=14							
YKB5	**Yellowknife Ar**	**76.48**	**345**	*e*P		**P**	**02 10 20.1**	**-0.2**
COLA	**College**	**77.53**	**0**	*e*P		**P**	**02 10 26.7**	**+0.5**
COLA				pmax		pmax		
	comp=Z,27nm,1.2s							
COLA	**College**	**77.53**	**0**	*e*P		**P**	**02 10 26.7**	**+0.5**
	comp=Z,28nm,1.2s							
IL1	**Eielson Array**	**77.63**	**360**	*e*P		**P**	**02 10 26.6**	**-0.2**
ILAR	**Eielson Array**	**77.63**	**360**	P		**P**	**02 10 27.1**	**+0.3**
ILAR				PP		**PP**	**02 13 21.1**	**0.0**
ILAR	**Eielson Array**	**77.63**	**360**	P		**P**	**02 10 27.1**	**+0.3**
	comp=Z,3.6nm,1.0s,baz=333,slow=2.5,SNR=16							
ILAR				PP		**PP**	**02 13 21.1**	**0.0**
	comp=Z,0.9nm,1.0s,baz=358,slow=7.0,SNR=4.2							
PETK	**Petropavlovsk-**	**77.66**	**30**	P		**P**	**02 10 25.9**	**-1.3**
PETK	**Petropavlovsk-**	**77.66**	**30**	P		**P**	**02 10 25.9**	**-1.3**
PETK	**Petropavlovsk-**	**77.66**	**30**	P		**P**	**02 10 25.9**	**-1.3**
	comp=Z,3.0nm,0.8s,baz=232,slow=7.3,SNR=4.2							
PETK				LR		LR	02 49 09.8	
	comp=Z,78nm,20.8s,baz=84,slow=39							
MCK	**McKinley**	**78.67**	**1**	*e*P		**P**	**02 10 32.3**	**-0.3**
MCK				pmax		pmax		
	comp=Z,27nm,1.2s							
MCK	**McKinley**	**78.67**	**1**	*e*P		**P**	**02 10 32.3**	**-0.3**
	comp=Z,27nm,1.2s							
CAST	**Castle Rocks**	**78.92**	**2**	*e*P		**P**	**02 10 33.4**	**-0.6**
	comp=Z,30nm,1.2s							
MJAR	**Matsushiro Arr**	**79.01**	**52**	P		**P**	**02 10 34.5**	**-0.5**
MJAR	**Matsushiro Arr**	**79.01**	**52**	P		**P**	**02 10 34.5**	**-0.5**
	comp=Z,4.8nm,0.8s,baz=301,slow=4.9,SNR=12							
MJAR				LR		LR	02 48 16.6	
	comp=Z,78nm,21.1s,baz=345,slow=38							
PPLA	**Purkeypile**	**79.45**	**2**	*e*P		**P**	**02 10 37.9**	**+0.9**
	comp=Z,39nm,1.4s							
FFC	**Flin Flon**	**79.80**	**335**	*e*P		**P**	**02 10 38.4**	**-0.5**
FFC				pmax		pmax		
	comp=Z,20nm,1.0s							
FFC	**Flin Flon**	**79.80**	**335**	*e*P		**P**	**02 10 38.4**	**-0.5**
	comp=Z,20nm,1.0s							
HYT	**Haines Junctio**	**81.26**	**355**	*e*P		**P**	**02 10 48.0**	**+1.2**
RSSD	**Black Hills**	**89.36**	**330**	*e*P		**P**	**02 11 27.5**	**-0.2**
RSSD				pmax		pmax		
	comp=Z,16nm,0.9s							
RSSD	**Black Hills**	**89.36**	**330**	*e*P		**P**	**02 11 27.5**	**-0.2**
	comp=Z,16nm,0.9s							
SWMT	**Swartz Lake**	**89.84**	**338**	*e*P		**P**	**02 11 29.8**	**+0.1**
NEW	**Newport**	**90.03**	**340**	*e*P		**P**	**02 11 30.3**	**-0.2**
	comp=Z,9.7nm,1.1s							
BOZ	**Bozeman (W)**	**90.77**	**336**	*e*P		**P**	**02 11 34.2**	**+0.1**
BOZ	**Bozeman (W)**	**90.77**	**336**	*e*P		**P**	**02 11 34.2**	**+0.1**
KAPI	**Kappang**	**90.86**	**96**	*e*P		**P**	**02 11 34.5**	**-0.4**
	comp=Z,13nm,1.0s							
E09A	**Wood Farm, Sta**	**91.91**	**340**	*e*P		**P**	**02 11 39.6**	**+0.4**
	comp=Z,22nm,1.5s							
PHWY	**Pilot Hill**	**92.30**	**330**	*e*P		**P**	**02 11 41.5**	**0.0**
	comp=Z,5.6nm,1.0s							
TPAW	**Teton Pass**	**92.45**	**334**	*e*P		**P**	**02 11 42.0**	**-0.1**
	comp=Z,6.1nm,1.2s							
BW06	**Boulder Array**	**92.59**	**333**	*e*P		**P**	**02 11 41.8**	**-1.0**
	comp=Z,4.1nm,1.3s							
PDAR	**Pinedale Array**	**92.59**	**333**	P		**P**	**02 11 41.9**	**-0.9**
PDAR	**Pinedale Array**	**92.59**	**333**	P		**P**	**02 11 41.9**	**-0.9**
	comp=Z,0.8nm,0.9s,baz=63,slow=7.0,SNR=5.4							
PDAR				LR		LR	02 55 10.5	
	comp=Z,68nm,18.4s,baz=228,slow=37							
HWUT	**Hardware Ranch**	**94.32**	**334**	*e*P		**P**	**02 11 49.5**	**-1.2**
	comp=Z,6.8nm,1.1s							
WVOR	**Wild Horse Val**	**95.81**	**339**	*e*P		**P**	**02 11 57.5**	**+0.1**
WVOR				pmax		pmax		
	comp=Z,7.0nm,1.3s							
WVOR	**Wild Horse Val**	**95.81**	**339**	*e*P		**P**	**02 11 57.5**	**+0.1**
	comp=Z,6.8nm,1.3s							
DUG	**Dugway**	**96.01**	**334**	*e*P		**P**	**02 11 57.7**	**-0.7**
DUG				pmax		pmax		
	comp=Z,4.0nm,1.2s							
DUG	**Dugway**	**96.01**	**334**	*e*P		**P**	**02 11 57.7**	**-0.7**
	comp=Z,4.0nm,1.2s							
ELK	**Elko**	**96.33**	**336**	*e*P		**P**	**02 11 59.6**	**-0.4**
	comp=Z,1.8nm,1.1s							
AS31	**Alice Springs**	**112.80**	**103**	*e*PKP		**PKiKP**	**02 17 08.6**	**+0.6**
QSPA	**South Pole Qui**	**127.77**	**180**	*e*PKPdf		**PKPdf**	**02 17 33.5**	**-1.9**

*IDC **11** 02:09:28.5±0.9, 15°.04S×173°.69W, h0^km, mb4.0/6, mb1 4.3/7, mb1mx4.0/18, mbtmp4.0/7, MS3.4/1, Ms1 3.4/1, ms1mx2.9/22, Error ellipse: s-maj=47.4km s-min=19.3km az=145.0*
*NEIC **11** 02:09:29.7±0.6, 15°.08S×173°.65W, h10^km, mb4.4/3, Error ellipse: s-maj=29.0km s-min=10.3km az=149.0*
*ISCJB **11** 02:09:30.7±0.7, 15°.1S±0°.2×173°.7W±0°.2, h30^km, mb4.1/8, MS3.2/1, Error ellipse: s-maj=37.1km s-min=12.3km az=150.3*

ISC 11 02:09:32.3±0.8, 15°.0S±0°.2×173°.5W±0°.2, h30^km, n21, σ1§66/22, mb4.1/8, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.98**	**57**	Pn	**Pn**	**02 10 04.2**	**+0.4**
AFI				Sn	**Sn**	**02 10 24.7**	**-2.9**
AFI	**Afiamalu**	**1.98**	**57**	Pn	**Pn**	**02 10 04.2**	**+0.4**
	320nm,0.3s,baz=171,slow=1.6,SNR=128						
AFI				Sn	**Sn**	**02 10 24.7**	**-2.9**
	498nm,0.3s,baz=52,slow=22,SNR=8.4						
PPT	**Papeete**	**23.08**	**100**	LR	LR	02 21 24.9	
	comp=Z,84nm,18.2s,baz=300,slow=31						
STKA	**Stephens Creek**	**44.17**	**240**	P	**P**	**02 17 37.5**	**-1.1**
STKA	**Stephens Creek**	**44.17**	**240**	P	**P**	**02 17 37.5**	**-1.1**
	2.8nm,0.9s,baz=77,slow=17,SNR=2.8						
WRAB	**Tennant Creek**	**49.85**	**256**	*e*P	**P**	**02 18 21.4**	**-1.8**
	4.6nm,1.2s						
WRA	**Warramunga Arr**	**49.86**	**256**	P	**P**	**02 18 21.8**	**-1.4**
WRA	**Warramunga Arr**	**49.86**	**256**	P	**P**	**02 18 21.8**	**-1.4**
	0.5nm,0.6s,baz=97,slow=7.7,SNR=22						
AS31	**Alice Springs**	**50.16**	**252**	*e*P	**P**	**02 18 24.0**	**-1.5**
ASAR	**Alice Springs**	**50.16**	**252**	P	**P**	**02 18 23.9**	**-1.6**
ASAR	**Alice Springs**	**50.16**	**252**	P	**P**	**02 18 23.9**	**-1.6**
	2.4nm,0.5s,baz=87,slow=8.0,SNR=40						
VNDA	**Vanda**	**63.76**	**186**	*e*P	**P**	**02 20 01.2**	**+0.3**
	1.1nm,0.7s						
VNDA	**Vanda**	**63.76**	**186**	P	**P**	**02 20 01.8**	**+0.9**
	1.1nm,0.8s,baz=3.3,slow=6.8,SNR=4.6						
KKM	**Kota Kinabalu**	**72.73**	**281**	*e*P	**P**	**02 20 57.7**	**-0.6**
	8.8nm,0.7s						
NVAR	**Mina Array Bea**	**74.09**	**42**	P	**P**	**02 21 07.8**	**+1.8**
NVAR	**Mina Array Bea**	**74.09**	**42**	P	**P**	**02 21 07.8**	**+1.8**
	0.7nm,0.8s,baz=234,slow=9.2,SNR=5.3						
YKA	**Yellowknife Ar**	**89.77**	**23**	P	**P**	**02 22 29.6**	**+2.1**
YKA	**Yellowknife Ar**	**89.77**	**23**	P	**P**	**02 22 29.6**	**+2.1**
	0.6nm,0.7s,baz=264,slow=34,SNR=2.9						
BR131	**Keskin Array S**	**145.81**	**321**	*e*PKPbc	**PKPab**	**02 29 10.3**	**+0.8**
BRTR	**Keskin Array B**	**145.81**	**321**	PKPbc	**PKPab**	**02 29 10.1**	**+0.6**
BRTR	**Keskin Array B**	**145.81**	**321**	PKPbc	**PKPab**	**02 29 10.1**	**+0.6**
	1.2nm,0.7s,baz=90,slow=2.6,SNR=9.5						

*IDC **11** 02:16:59.0±1.3, 36°.05N×68°.38E, h0^km, mb3.8/4, mb1 4.0/9, mb1mx3.6/30, mbtmp3.8/9, ML3.7/5, Error ellipse: s-maj=31.2km s-min=19.3km az=127.0*
*ISCJB **11** 02:17:03.6±0.5, 36°.54N±0°.03×68°.04E±0°.06, h30^km, mb3.8/4, Error ellipse: s-maj=7.2km s-min=4.8km az=0.4*
*NNC **11** 02:17:06.5±3.8, 36°.89N×67°.97E, h0^km, mb4.0, mpv3.7, Error ellipse: s-maj=33.7km s-min=24.8km az=171.0*
*NEIC **11** 02:17:07.1±1.1, 36°.43N×68°.28E, h60^km±13^km, mb4.1/1, Error ellipse: s-maj=14.5km s-min=10.2km az=104.0*

ISC 11 02:17:05.0±0.7, 36°.53N±0°.06×67°.92E±0°.07, h30^km, n44, σ1§64/50, mb3.9/5, 4C-6D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**2.18**	**155**	*e*Pn	**Pn**	**02 17 38.9**	**-0.5**
KBL				*e*Sn	**Sn**	**02 18 04.8**	**-0.8**
CEP	**Cherat**	**4.24**	**128**	P	**Pn**	**02 18 07.5**	**-0.1**
CEP				S	**Sn**	**02 18 53.0**	**-3.1**
CHCP	**Chirah Chowk**	**5.23**	**122**	P	Pn	02 18 27.2	+6.0
KK31	**Karatay Array**	**6.86**	**16**	⇓Pn	**Pn**	**02 18 45.5**	**+1.9**
	0.8nm,0.2s,baz=204,slow=15,SNR=43						
KK31				⇓Sn	**Sn**	**02 20 00.4**	**-0.3**
	1.7nm,0.3s,baz=197,slow=22,SNR=5.9						
KKAR	**Karatay Array**	**6.86**	**16**	*e*Pn	**Pn**	**02 18 45.4**	**+1.8**
	3.8nm,0.3s						
KKAR				*e*Sn	**Sn**	**02 20 00.9**	**+0.3**
AML	**Almayashu**	**7.16**	**37**	P	**Pn**	**02 18 49.1**	**+1.1**
	SNR=9.3						
EKS2	**Erkin-Say**	**7.61**	**35**	*e*Pn	**Pn**	**02 18 55.4**	**+1.5**
	3.9nm,0.8s						
AAK	**Ala-Archa**	**7.93**	**38**	P	**Pn**	**02 19 00.4**	**+2.0**
	SNR=7.0						
AAK	**Ala-Archa**	**7.93**	**38**	Pn	**Pn**	**02 18 59.2**	**+0.8**
AAK				Sn	**Sn**	**02 20 29.5**	**+2.4**
AAK	**Ala-Archa**	**7.93**	**38**	Pn	**Pn**	**02 18 59.2**	**+0.8**
	2.0nm,0.3s,baz=179,slow=3.0,SNR=12						
AAK				Sn	**Sn**	**02 20 29.5**	**+2.4**
	0.4nm,0.3s,baz=18,slow=19,SNR=2.1						
KZA	**Kyzart**	**7.93**	**43**	P	**Pn**	**02 19 00.2**	**+1.5**
	SNR=13						
KBK	**Karagaybulak**	**8.18**	**39**	P	**Pn**	**02 19 03.3**	**+1.6**
	SNR=8.4						
USP	**Ospenovka**	**8.41**	**35**	P	**Pn**	**02 19 05.4**	**+0.5**
	SNR=7.0						
TKM2	**Tokmak 2**	**8.70**	**40**	⇑Pn	**Pn**	**02 19 09.0**	**+0.1**
	3.9nm,0.7s						
TKM2				⇑Sn	**Sn**	**02 20 45.6**	**-0.4**
	5.6nm,0.9s						
TKM2	**Tokmak 2**	**8.70**	**40**	P	**Pn**	**02 19 10.0**	**+1.1**
	SNR=6.2						
TKM2	**Tokmak 2**	**8.70**	**40**	*e*Pn	**Pn**	**02 19 08.8**	**-0.2**
	4.6nm,0.6s						
AB31	**Akbulak array**	**13.99**	**338**	⇑P	**Pn**	**02 20 21.1**	**0.0**
	0.8nm,0.5s,baz=152,slow=14,SNR=29						
AB31				⇓S	**Sn**	**02 22 50.8**	**-4.3**
	0.8nm,0.5s,baz=154,slow=24,SNR=7.2						
ABKAR	**Akbulak array**	**13.99**	**338**	*e*Pn	**Pn**	**02 20 21.1**	**+0.1**
	0.9nm,0.3s						
ABKAR				*e*Sn	**Sn**	**02 22 50.7**	**-4.5**
MK31	**Makanchi Array**	**14.83**	**42**	⇑P	**Pn**	**02 20 29.6**	**-2.8**
	1.6nm,0.7s,baz=219,slow=9.8,SNR=7.3						
MK31	**Makanchi Array**	**14.83**	**42**	*e*Pn	**Pn**	**02 20 30.5**	**-2.0**
MKAR	**Makanchi Array**	**14.83**	**42**	Pn	**Pn**	**02 20 30.4**	**-2.1**
MKAR	**Makanchi Array**	**14.83**	**42**	Pn	**Pn**	**02 20 30.4**	**-2.1**
	0.1nm,0.3s,baz=233,slow=14,SNR=18						
AKTO	**Aktyubinsk**	**15.63**	**336**	⇓P	**Pn**	**02 20 44.7**	**+1.7**
	1.1nm,0.5s						
AKTO	**Aktyubinsk**	**15.63**	**336**	Pn	**P**	**02 20 46.7**	**-0.1**
AKTO	**Aktyubinsk**	**15.63**	**336**	Pn	**P**	**02 20 46.7**	**-0.1**
	0.2nm,0.3s,baz=152,slow=12,SNR=4.5						
KURBB	**Kurchatov Arra**	**16.02**	**25**	⇓P	**P**	**02 20 50.1**	**-1.1**
	2.0nm,0.6s						
KURBB	**Kurchatov Arra**	**16.02**	**25**	Pn	**Pn**	**02 20 46.8**	**-1.2**
	0.1nm,0.3s,baz

OJC eSg **Sg** **02 27 56.2 0.0**
OKC Ostrava-Krasne 0.65 225 ePG **Pb** **02 27 50.1 -0.7**
OKC eSG **Sg** **02 27 56.2 -1.3**
21nm,0.2s
OKC Ostrava-Krasne 0.65 225 Pg **Pb** **02 27 50.1 -0.7**
MORC Moravsky Berou 1.00 238 ePg **Pb** **02 27 56.6 -0.1**
MORC eSg **Sg** **02 28 09.4 +0.8**
26nm,0.2s,baz=54
NIE Niedzica 1.29 133 ePg **Pn** **02 28 02.1 +0.2**
NIE eSg **Sn** **02 28 20.9 +0.9**
NIE Niedzica 1.29 133 ePg **Pn** **02 28 02.1 +0.2**
NIE eSg **Sn** **02 28 20.9 +0.9**
DPC Dobruska-Polom 1.62 273 ePG **Pn** **02 28 05.6 -0.9**
DPC eSG **Sn** **02 28 28.0 -0.1**
DPC Dobruska-Polom 1.62 273 Pg **Pn** **02 28 05.6 -0.9**
DPC Sg **Sn** **02 28 28.0 -0.1**
KSP Ksiaz 1.72 289 ePg **Pb** **02 28 08.5 -0.5**
KSP eSg **Sg** **02 28 32.5 +0.7**
KSP Ksiaz 1.72 289 ePg **Pb** **02 28 08.5 -0.5**
KSP eSg **Sg** **02 28 32.5 +0.7**
VRAC Vranov 1.77 237 Pg **Pb** **02 28 09.5 -0.4**
1.3nm,0.3s,baz=49,slow=12,SNR=6.6
VRAC Lg Lg 02 28 34.4
3.4nm,0.3s,baz=140,slow=23,SNR=7.4
VRAC Vranov 1.77 237 ePn **Pn** **02 28 08.8 +0.3**
VRAC eSg **Sg** **02 28 33.4 -0.1**
13nm,0.3s,baz=53
STHS Stebnicka Huta 1.78 119 ePN **Pg** **02 28 10.8 +0.1**
STHS Stebnicka Huta 1.78 119 ePn **Pg** **02 28 10.8 +0.1**
VYHS Vyhne 1.81 180 ePN **Pn** **02 28 09.6 +0.6**
VYHS eSN **Sn** **02 28 32.7 0.0**
VYHS Vyhne 1.81 180 ePn **Pn** **02 28 09.6 +0.6**
VYHS eSn **Sn** **02 28 32.7 0.0**
UPC Upice 1.83 277 ePG **Pn** **02 28 09.8 +0.5**
UPC eSG **Sg** **02 28 35.2 -0.1**
UPC Upice 1.83 277 Pg **Pn** **02 28 09.8 +0.5**
UPC Sg **Sg** **02 28 35.2 -0.1**
KRUC Moravsky 2.03 233 ePn **Pn** **02 28 12.4 +0.5**
baz=50
KRUC eSn **Sb** **02 28 40.0 0.0**
5.9nm,0.2s,baz=50
KECS Kecovo 2.11 149 ePn **Pn** **02 28 13.6 +0.5**
KECS eSN **Sn** **02 28 38.6 -1.5**
KECS Kecovo 2.11 149 ePn **Pn** **02 28 13.6 +0.5**
KECS eSn **Sn** **02 28 38.6 -1.5**
TREC Trest 2.41 246 eSG **Sb** **02 28 51.5 +0.6**
10nm,0.6s
KOLS Kolonicke sedl 2.61 120 ePn **Pn** **02 28 21.1 +1.1**
KOLS Kolonicke sedl 2.61 120 ePn **Pn** **02 28 21.1 +1.1**
PRU Pruhonice 2.79 265 eSG **Sb** **02 29 03.2 +1.2**
BRG Berggiesshubel 3.18 282 PG **Pb** **02 28 32.7 -1.2**
BRG SG **Sg** **02 29 17.4 -1.3**
3.0nm,0.5s
KHC Kasperske Hory 3.62 253 ePG **Pb** **02 28 41.0 -0.4**
KHC eSG **Sg** **02 29 32.4 -0.4**
3.8nm,0.4s
GERES GERESS Array B 3.66 248 Pn **Pn** **02 28 35.3 +0.8**
0.1nm,0.3s,baz=68,slow=16,SNR=2.3
GERES Pg **Pb** **02 28 44.0 +1.9**
0.4nm,0.3s,baz=64,slow=18,SNR=6.6
GERES Lg Lg 02 29 32.5
0.9nm,0.3s,baz=70,slow=31,SNR=9.3
CLL Collm 3.85 287 eSg **Sg** **02 29 43.0 +3.0**
MLR Muntele Rosu 6.78 133 Pn Pn 02 29 09.4 -7.9
0.0nm,0.3s,baz=153,slow=15,SNR=3.8
FINES FINESS Array B 11.87 17 Pn Pn 02 30 19.0 -7.8
0.1nm,0.3s,baz=173,slow=13,SNR=1.3
ARCES ARCESS Array B 19.55 7 P **P** **02 32 04.6 -0.9**
0.1nm,0.3s,baz=201,slow=12,SNR=2.0

*ISCJB **11** 02:28:12.3±0.7, 22°.46S±0°.05×68°.36W±0°.07, h149km±7km, mb3.2/1, Error ellipse: s-maj=11.4km s-min=8.2km az=3.4*
*GUC **11** 02:28:13.2±0.9, 22°.44S×68°.38W, h138km±6km, ML3.6*
*IDC **11** 02:28:25.4±8.9, 21°.47S×67°.88W, h218km±61km, mb3.1/1, mb1 3.1/3, mb1mx3.0/15, mbtmp3.0/3, Error ellipse: s-maj=100.8km s-min=48.2km az=35.0*
ISC 11 02:28:13.1±1.1, 22°.45S±0°.06×68°.34W±0°.08, h144km±9km, n12, σ0°60/19, 2C-4D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPCH	**San Pedro de A**	**0.48**	**164**	*e*P	**Pn**	**02 28 33.5**	**-0.5**
SPCH				*i* S	**Sn**	**02 28 50.0**	**+0.2**
SPCH				AML	AML	02 28 50.6	
comp=E,2μm,0.4s							
PB09	**Plate Boundary**	**1.05**	**308**	⇓*i*P	**Pn**	**02 28 38.5**	**+0.6**
PB09				*i* S	**Sn**	**02 28 57.3**	**+0.5**
PB09				AML	AML	02 29 01.1	
comp=E,2μm,0.2s							
PB04	**Plate Boundary**	**1.07**	**279**	*e*P	Pn	02 28 44.6	+6.8
PB04				*i* S	Sn	02 29 08.2	+11
PB04				AML	AML	02 29 13.2	
comp=E,923nm,0.2s							
MACH	**Maria Elena**	**1.33**	**281**	⇓*i*P	**Pn**	**02 28 41.1**	**+0.4**
MACH				*i* S	**Sn**	**02 29 01.4**	**-0.2**
MACH				AML	AML	02 29 02.1	
comp=N,34nm,0.2s							
PB07	**Plate Boundary**	**1.60**	**296**	⇓*i*P	**Pn**	**02 28 43.7**	**+0.3**
PB07				*e*S	**Sn**	**02 29 06.2**	**-0.4**
PB01	**Plate Boundary**	**1.75**	**323**	⇓*i*P	**Pn**	**02 28 44.9**	**-0.2**
PB01				*i* S	**Sn**	**02 29 09.8**	**+0.2**
ANCH	**Antofagasta**	**2.27**	**237**	⇑*i*P	**Pn**	**02 28 51.7**	**+0.7**
ANCH				*i* S	**Sn**	**02 29 20.0**	**-0.1**
ANCH				AML	AML	02 29 22.7	
comp=E,440nm,0.2s							
PB10	**Plate Boundary**	**2.30**	**242**	*e*P	**Pn**	**02 28 51.3**	**0.0**
PB10				*e*S	**Sn**	**02 29 19.7**	**-1.1**
PB10				AML	AML	02 29 24.1	
comp=E,841nm,0.3s							
MNMC	**Minimini**	**3.50**	**340**	⇑*i*P	**Pn**	**02 29 06.2**	**-0.7**
MNMC				*i* S	**Sn**	**02 29 47.7**	**-1.0**
MNMC				AML	AML	02 29 52.1	
comp=N,307nm,0.2s							
LPAZ	**La Paz**	**6.13**	**2**	P	**Pn**	**02 29 43.0**	**+0.9**
comp=N,0.7nm,0.3s,baz=179,slow=8.4,SNR=37							
LPAZ				S	Sn	02 30 44.8	-6.7
comp=N,0.2nm,0.3s,baz=203,slow=11,SNR=2.9							
BDFB	**Brasilia**	**20.36**	**74**	P	**P**	**02 32 38.6**	**0.0**
comp=N,0.3nm,0.3s,baz=256,slow=8.3,SNR=3.0							
TORD	**Torodi Ar. Bea**	**77.18**	**70**	P	**P**	**02 39 51.6**	**+0.1**
comp=N,0.3nm,0.4s,baz=255,slow=5.9,SNR=9.7							

*ISCJB **11** 02:35:33.1±0.7, 5°.99N±0°.07×125°.93E±0°.09, h129km±5km, mb3.7/9, Error ellipse: s-maj=14.8km s-min=10.9km az=7.1*
*MAN **11** 02:35:34, 6°.13N×125°.98E, h119km, mb4.8, ML3.7, MS3.7*
*IDC **11** 02:35:40.4±6.5, 5°.99N×125°.78E, h184km±63km, mb3.5/9, mb1 3.6/9, mb1mx3.4/24, mbtmp3.5/9, Error ellipse: s-maj=48.4km s-min=14.2km az=85.0*
ISC 11 02:35:33.9±1.1, 5°.98N±0°.08×125°.92E±0°.09, h122km±7km, n19, σ1°17/24, mb3.7/9, 4C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**0.97**	**277**	⇑*i*P	**Pn**	**02 35 55.6**	**-0.4**
GSPH				*i* S	**Sn**	**02 36 12.2**	**-0.5**
MATI	**Mati**	**1.02**	**19**	*e*P	**Pn**	**02 35 56.5**	**+0.2**
MATI				*e*S	**Sn**	**02 36 12.8**	**-0.5**
DMPH	**Davao City--Mi**	**1.17**	**340**	⇑*e*P	**Pn**	**02 35 57.5**	**-0.4**
DMPH				*e*S	**Sn**	**02 36 14.9**	**-1.2**
KCP	**Kidapawan**	**1.32**	**321**	⇑*e*P	**Pn**	**02 36 00.1**	**+0.7**
KCP				*e*S	**Sn**	**02 36 19.8**	**+0.9**
BUKP	**Musuan**	**2.07**	**336**	*e*P	**Pn**	**02 36 09.1**	**+0.7**
CTBH	**Cotabato--PC H**	**2.07**	**307**	⇓*i*P	**Pn**	**02 36 09.1**	**+0.7**
CGP	**Cagayan de Oro**	**2.75**	**334**	⇑*i*P	Pn	02 36 22.6	+5.7
CGP				*i* S	**Sn**	**02 36 52.1**	**+2.0**
BUTP	**Butuan**	**2.99**	**354**	*e*P	**Pn**	**02 36 20.9**	**+0.8**
FITZ	**Fitzroy Crossi**	**23.93**	**181**	P	**P**	**02 40 38.6**	**+1.9**
1.1nm,0.4s,baz=313,slow=8.4,SNR=9.9							
WRA	**Warramunga Arr**	**27.05**	**162**	P	**P**	**02 41 05.6**	**+0.6**
0.3nm,0.4s,baz=337,slow=10.0,SNR=13							
ASAR	**Alice Springs**	**30.48**	**165**	P	**P**	**02 41 36.6**	**+1.3**
0.6nm,0.5s,baz=345,slow=7.0,SNR=10							
KSRS	**Korea Array**	**31.39**	**3**	P	**P**	**02 41 44.6**	**+1.5**
0.4nm,0.3s,baz=191,slow=9.9,SNR=3.1							
USRK	**Ussuriysk Arra**	**38.44**	**7**	P	**P**	**02 42 43.8**	**+0.2**
1.8nm,0.7s,baz=192,slow=7.5,SNR=4.4							
SONM	**Songino Array**	**44.92**	**341**	PcP	**PcP**	**02 45 16.2**	**+0.2**
0.4nm,0.5s,baz=162,slow=2.2,SNR=5.7							
MKAR	**Makanchi Array**	**55.26**	**325**	P	**P**	**02 44 53.5**	**-1.0**
0.5nm,0.5s,baz=125,slow=9.1,SNR=4.3							
MKAR				PcP	**PcP**	**02 45 52.8**	**-1.1**
1.0nm,0.6s,baz=117,slow=5.2,SNR=5.8							
ILAR	**Eielson Array**	**83.44**	**26**	P	**P**	**02 47 47.4**	**-0.4**
0.7nm,0.7s,baz=247,slow=5.3,SNR=6.1							
ARCES	**ARCESS Array B**	**88.08**	**340**	P	**P**	**02 48 08.0**	**-2.3**
3.0nm,1.0s,baz=81,slow=9.0,SNR=3.6							
FINES	**FINESS Array B**	**89.48**	**332**	P	**P**	**02 48 15.2**	**-1.8**
5.3nm,1.1s,baz=71,slow=4.2,SNR=7.5							
TORD	**Torodi Ar. Bea**	**121.44**	**289**	PKP	**PKPdf**	**02 54 13.5**	**-0.3**
0.1nm,0.3s,baz=77,slow=1.7,SNR=4.6							

IDC 11 02:38:26.0±1.6, 2°.43S×140°.91E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.5/17, mbtmp3.6/4, ML3.7/1, MS3.4/1, Ms1 3.4/1, ms1mx2.5/24, Error ellipse: s-maj=101.9km s-min=26.5km az=116.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.55**	**200**	P	P	02 42 43.3	-1.3
0.3nm,0.3s,baz=18,slow=12,SNR=5.2							
FITZ	**Fitzroy Crossi**	**21.61**	**223**	P	P	02 43 19.1	+1.3
1.6nm,0.8s,baz=36,slow=11,SNR=2.2							
ASAR	**Alice Springs**	**22.18**	**197**	P	P	02 43 23.0	-0.9
2.1nm,1.0s,baz=26,slow=11,SNR=8.6							
ASAJ	**Asahikawa**	**46.36**	**2**	LR	LR	03 07 15.3	
comp=Z,38nm,19.4s,baz=118,slow=37							
ILAR	**Eielson Array**	**84.67**	**24**	P	P	02 51 01.6	+0.2
0.2nm,0.5s,baz=256,slow=3.6,SNR=2.9							

ATH 11 02:52:42.5, 36°.65N×22°.87E, h13km, MD2.0/3, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLI	**Veliai**	**0.09**	**38**	*e*PG	Pg	02 52 45.5	+0.1
KYTH	**Kithira**	**0.39**	**160**	*e*PB	Pg	02 52 50.2	-0.2
DYR	**Agios Nikonas**	**0.45**	**285**	*e*PB	Pg	02 52 51.5	+0.1
DYR				*e*SB	Sg	02 52 57.5	+0.1

*IDC **11** 02:56:59.3±1.5, 14°.14N×60°.26W, h0km, mb3.5/6, mb1 3.9/6, mb1mx3.7/24, mbtmp3.5/6, MS3.3/1, Ms1 3.2/1, ms1mx2.6/27, Error ellipse: s-maj=43.7km s-min=16.8km az=20.0*
*TRN **11** 02:57:01.4, 13°.86N×60°.45W, h14km, MD3.3, M3.5(FDF)*
ISC 11 02:56:59.3±1.4, 13°.95N±0°.03×60°.34W±0°.05, h3km±9km, n33, σ1°14/42, mb3.7/6, 1C, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLPA	**Patience**	**0.57**	**261**	*e*S	**Sb**	**02 57 20.5**	**+0.2**
SLW	**Petit Monier**	**0.58**	**277**	*e*P	**Pn**	**02 57 13.6**	**-0.9**
SLW				*e*S	**Sn**	**02 57 22.9**	**-1.6**
MCLT	**Moule a Chique**	**0.62**	**248**	*e*P	**Pb**	**02 57 13.2**	**+0.3**
MCLT				*e*S	**Sb**	**02 57 22.1**	**+0.1**
SLB	**Belfond**	**0.69**	**260**	*e*P	**Pb**	**02 57 14.8**	**+0.8**
SLB				*e*S	**Sb**	**02 57 24.5**	**+0.7**
SLDE	**Delcer**	**0.71**	**259**	*e*S	**Sb**	**02 57 25.3**	**+0.9**
BBGH	**Gun Hill**	**1.10**	**136**	*e*P	**Pg**	**02 57 20.7**	**+0.2**
SVB	**Belmont**	**1.11**	**233**	*e*P	**Pg**	**02 57 20.3**	**-0.3**
SVB	**Belmont**	**1.11**	**233**	⇑*i*P	**Pg**	**02 57 20.3**	**-0.3**
SVB				*e*S	**Sb**	**02 57 35.9**	**-0.1**
DWS	**Wesley**	**1.87**	**330**	*e*P	**Pg**	**02 57 35.2**	**+0.1**
DWS				*e*S	**Sg**	**02 57 59.6**	**+0.3**
DVCT	**Vielle Casse P**	**1.95**	**328**	*e*P	**Pg**	**02 57 36.6**	**-0.1**
DVCT				*e*S	**Sg**	**02 58 01.4**	**-0.7**
GRSS	**Sisters**	**2.05**	**217**	*e*P	**Pn**	**02 57 35.4**	**+0.8**
GRSS				*e*S	**Sn**	**02 58 00.5**	**-0.3**
GRHS	**Sauteurs**	**2.13**	**217**	*e*P	**Pn**	**02 57 36.5**	**+0.8**
GRHS				*e*S	**Sn**	**02 58 01.8**	**-0.8**
GRW	**Mount Saint Ca**	**2.19**	**216**	*e*P	**Pn**	**02 57 37.5**	**+0.9**
GRW				*e*S	**Sn**	**02 58 02.8**	**-1.5**
TBG	**Guadaloupe-3**	**2.28**	**327**	*e*P	**Pb**	**02 57 39.6**	**-1.4**
PHG	**Guadaloupe-2**	**2.41**	**329**	*e*P	**Pn**	**02 57 41.2**	**+1.5**
DOG	**Dongo Capester**	**2.41**	**329**	*e*P	**Pb**	**02 57 41.7**	**-1.7**
HMG	**Houelmont**	**2.41**	**327**	*e*P	**Pb**	**02 57 41.8**	**-1.6**
ECG	**Echelle**	**2.44**	**329**	*e*P	**Pb**	**02 57 42.5**	**-1.4**
SCG	**Saint Claude**	**2.44**	**328**	*e*P	**Pb**	**02 57 42.5**	**-1.4**
FNG	**Fond-Bernard**	**2.47**	**329**	*e*P	**Pn**	**02 57 42.0**	**+1.5**
LZG	**Guadaloupe-1**	**2.58**	**328**	*e*P	**Pn**	**02 57 43.1**	**+1.1**
TOSP	**Speyside**	**2.64**	**184**	*e*P	**Pn**	**02 57 43.9**	**+1.1**
SEG	**Port Louis**	**2.69**	**336**	*e*P	**Pn**	**02 57 44.9**	**+1.4**
TPR	**Prospect**	**2.77**	**189**	*e*S	**Sn**	**02 58 16.9**	**-1.7**
TRN	**Trinidad (W)**	**3.44**	**198**	*e*P	**Pn**	**02 57 54.8**	**+1.0**
SKI	**Saint Kitts**	**4.08**	**326**	*e*P	**Pn**	**02 58 05.8**	**+3.1**
SKI				*e*S	**Sn**	**02 58 51.5**	**+0.5**
BDFB	**Brasilia**	**31.82**	**157**	LR	LR	03 17 03.0	
comp=Z,53nm,18.9s,baz=46,slow=38							
TXAR	**Lajitas Array**	**42.82**	**298**	P	**P**	**03 05 00.1**	**+1.3**
0.2nm,0.7s,baz=81,slow=7.4,SNR=2.6							
PDAR	**Pinedale Array**	**51.02**	**314**	P	**P**	**03 06 03.1**	**+0.1**
0.8nm,0.7s,baz=118,slow=9.8,SNR=8.1							
NVAR	**Mina Array Bea**	**56.44**	**307**	P	**P**	**03 06 43.5**	**+0.8**
0.3nm,0.7s,baz=97,slow=7.6,SNR=2.8							
TORD	**Torodi Ar. Bea**	**60.16**	**83**	P	**P**	**03 07 07.9**	**-0.9**
0.6nm,1.0s,baz=281,slow=6.0,SNR=2.5							
YKA	**Yellowknife Ar**	**61.62**	**335**	P	**P**	**03 07 17.2**	**-0.7**
1.3nm,0.7s,baz=107,slow=7.2,SNR=3.2							
ILAR	**Eielson Array**	**76.03**	**334**	P	**P**	**03 08 47.5**	**-0.3**
0.4nm,0.5s,baz=80,slow=4.8,SNR=8.4							

IDC 11 02:58:31.0±2.7, 10°.67S×161°.21E, h61km±20km, mb3.5/6, mb1 3.7/8, mb1mx3.6/19, mbtmp3.6/8, MS3.1/1, Ms1 3.1/1, ms1mx2.8/15, Error ellipse: s-maj=31.9km s-min=15.1km az=71.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.75**	**315**	P	Pn	02 59 00.2	+1.1
101nm,0.3s,baz=151,slow=7.6,SNR=10							
HNR				S	Sn	02 59 20.3	0.0
504nm,0.3s,baz=100,slow=14,SNR=18							
DZM	**Mont Dzumac**	**12.39**	**157**	P	Pn	03 01 25.1	+0.3
0.9nm,0.3s,baz=296,slow=16,SNR=57							
DZM				S	Sn	03 03 35.7	-5.7
0.3nm,0.3s,baz=191,slow=5.2,SNR=4.0							
CTA	**Charters Tower**	**17.18**	**235**	P	Pn	03 02 26.1	-0.9
0.5nm,0.3s,baz=70,slow=12,SNR=2.2							
WRA	**Warramunga Arr**	**27.47**	**247**	P	P	03 04 12.8	+1.1
0.7nm,0.5s,baz=77,slow=8.8,SNR=10							
ASAR	**Alice Springs**	**29.04**	**240**	P	P	03 04 25.9	+0.3
0.3nm,0.7s,baz=63,slow=10.0,SNR=3.1							
KSRS	**Korea Array**	**57.15**	**329**	LR	LR	03 31 15.6	
comp=Z,16nm,21.0s,baz=200,slow=34							
USRK	**Ussuriysk Arra**	**60.71**	**336**	P	P	03 08 37.6	+1.5
0.7nm,0.5s,baz=179,slow=5.8,SNR=1.9							
VNDA	**Vanda**	**66.83**	**180**	P	P	03 09 14.8	-1.1
1.3nm,0.8s,baz=333,slow=6.5,SNR=4.6							
SONM	**Songino Array**	**75.78**	**325**	P	P	03 10 10.0	-0.5
0.4nm,0.5s,baz=144,slow=5.6,SNR=2.5							
MKAR	**Makanchi Array**	**90.22**	**318**	P	P	03 11 23.7	-1.3
0.3nm,0.4s,baz=92,slow=7.5,SNR=4.2							

KRSC 11 02:58:47.4±1.0, 50°.65N×157°.40E, h40km±39km, ML3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.82**	**273**	*i* P	Pn	02 59 02.1	-0.3
SKR				*i* S	Sn	02 59 12.7	-0.6
PAU	**Pauzhetka**	**0.90**	**336**	*i* P	Pn	02 59 04.6	+1.1
PAU				*i* S	Sn	02 59 16.9	+1.6
MIPR	**Malaya Ipel'ka**	**1.68**	**346**	*e*P	Pn	02 59 15.3	+1.0
ASAK	**Asacha**	**1.76**	**10**	*e*P	Pn	02 59 17.4	+1.9
ASAK				*i* S	Sn	02 59 39.5	+2.7
MTVR	**Mutnovka**	**1.90**	**15**	*i* P	Pn	02 59 19.3	+1.8
MTVR				*i* S	Sn	02 59 42.6	+2.3
RUS	**Russkaya**	**1.92**	**21**	*i* P	Pn	02 59 19.0	+1.5
RUS				*i* S	Sn	02 59 41.9	+1.5
UGLR	**Uglovaya**	**2.71**	**18**	*e*P	Pn	02 59 31.3	+2.7
AVH	**Avacha**	**2.75**	**17**	P	Pn	02 59 32.4	+3.4
KOK	**Koryaka**	**2.75**	**16**	*e*P	Pn	02 59 31.8	+2.6
KRER	**Koryakskii**	**2.79**	**17**	*e*P	Pn	02 59 32.0	+2.3
SDLR	**Sedlovina**	**2.79**	**19**	*e*P	Pn	02 59 32.0	+2.3
KRX	**Arik**	**2.82**	**15**	*e*P	Pn	02 59 32.4	+2.3
SPN	**Mys Shipunski**	**2.94**	**33**	*e*P	Pn	02 59 33.8	+2.2
SPN				*i* S	Sn	03 00 07.3	+1.7
GNL	**Ganaly**	**3.07**	**6**	*e*P	Pn	02 59 36.4	+2.9

*CSEM **11** 03:00:03.3, 42°.56N×43°.47E, h11km, mb3.7, After OBN*
MOS 11 03:00:03.3±1.0, 42°.56N×43°.47E, h11km, mb3.7/1, 4C-1D, Error ellipse: s-maj=0.1km s-min=0.0km az=120.0, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.03**	**333**	PG	Pg	03 00 04.8	-0.6
ONI	**Oni**	**0.03**	**333**	Pg	Pg	03 00 04.8	-0.6
DIGR	**Digorskoe uzhe**	**0.34**	**14**	*i* PG	Pg	03 00 09.7	-0.8
DIGR				*i* S	Sg	03 00 14.9	-0.5
DIGR	**Digorskoe uzhe**	**0.34**	**14**	*i* Pg	Pg	03 00 09.7	-0.8
DIGR				*i* Sg	Sg	03 00 14.9	-0.5
ZEI	**Tsey**	**0.39**	**55**	*i* PG	Pg	03 00 10.7	-0.6
ZEI				*i* S	Sg	03 00 16.5	-0.2
ZEI	**Tsey**	**0.39**	**55**	*i* Pg	Pg	03 00 10.7	-0.6
ZEI				*i* Sg	Sg	03 00 16.5	-0.2
LACR	**Lac**	**0.66**	**66**	*i* PG	Pg	03 00 15.6	-0.8
LACR				*i* S	Sg	03 00 24.9	-0.3
LACR	**Lac**	**0.66**	**66**	*i* Pg	Pg	03 00 15.6	-0.8
LACR				*i* Sg	Sg	03 00 24.9	-0.3
KORR	**Kora**	**0.68**	**40**	*i* PG	Pg	03 00 16.5	-0.1
KORR				*e*S	Sg	03 00 26.1	+0.5
KORR	**Kora**	**0.68**	**40**	*i* Pg	Pg	03 00 16.5	-0.1
KORR				*e*Sg	Sg	03 00 26.1	+0.5
LSNR	**Lesken**	**0.76**	**20**	*i* PG	Pg	03 00 17.8	-0.3
LSNR				*i* S	Sg	03 00 28.4	+0.3
LSNR	**Lesken**	**0.76**	**20**	*i* Pg	Pg	03 00 17.8	-0.3
LSNR				*i* Sg	Sg	03 00 28.4	+0.3
STDR	**Stavd-Durt**	**0.91**	**28**	*i* PG	Pn	03 00 22.1	0.0
STDR				*e*S	Sn	03 00 34.8	-0.5
STDR	**Stavd-Durt**	**0.91**	**28**	*i* Pg	Pn	03 00 22.1	0.0
STDR				*e*Sg	Sn	03 00 34.8	-0.5
NCK	**Nalchik**	**0.94**	**6**	⇑*e*PG	Pn	03 00 22.6	+0.1
NCK				*i* S	Sn	03 00 35.6	-0.3
NCK	**Nalchik**	**0.94**	**6**	*e*Pg	Pn	03 00 22.6	+0.1
NCK				*i* Sg	Sn	03 00 35.6	-0.3
VLKR	**Vladikavkaz**	**1.01**	**61**	*e*PG	Pb	03 00 22.9	0.0
VLKR				*e*S	Sb	03 00 36.8	+0.5
VLKR	**Vladikavkaz**	**1.01**	**61**	*e*Pg	Pb	03 00 22.9	0.0
VLKR				*e*Sg	Sb	03 00 36.8	+0.5
SNJR	**Sundja**	**1.11**	**62**	*e*PG	Pb	03 00 24.2	-0.4
SNJR				*e*S	Sg	03 00 39.4	+0.2
SNJR	**Sundja**	**1.11**	**62**	*e*Pg	Pb	03 00 24.2	-0.4
SNJR				*e*Sg	Sg	03 00 39.4	+0.2
BTKR	**Batakoyurt**	**1.13**	**44**	*i* PG	Pn	03 00 26.6	+1.5
BTKR				*e*S	Sn	03 00 42.1	+1.5
BTKR	**Batakoyurt**	**1.13**	**44**	*i* Pg	Pn	03 00 26.6	+1.5
BTKR				*e*Sg	Sn	03 00 42.1	+1.5
AKH	**Akhalkalaki**	**1.15**	**179**	PG	Pb	03 00 24.3	-1.2
AKH	**Akhalkalaki**	**1.15**	**179**	Pg	Pb	03 00 24.3	-1.2
KUBR	**Kubataba**	**1.24**	**358**	⇑*i*PG	Pg	03 00 27.5	+0.3
KUBR				*e*S	Sn	03 00 43.6	+0.2
KUBR	**Kubataba**	**1.24**	**358**	*i* Pg	Pg	03 00 27.5	+0.3
KUBR				*e*Sg	Sn	03 00 43.6	+0.2
TBLG	**Delisi**	**1.26**	**131**	*e*PG	Pn	03 00 26.8	-0.1
TBLG	**Delisi**	**1.26**	**131**	*e*Pg	Pn	03 00 26.8	-0.1
SHAR	**Shatzhatmas**	**1.32**	**334**	⇓*e*PG	Pn	03 00 27.4	-0.6
SHAR				*i* S	Sb	03 00 44.7	-0.8
SHAR	**Shatzhatmas**	**1.32**	**334**	*e*Pg	Pn	03 00 27.4	-0.6
SHAR				*i* Sg	Sb	03 00 44.7	-0.8
PRTR	**Priterechnaya**	**1.33**	**26**	*e*PG	Pg	03 00 30.2	+1.4
PRTR				*e*S	Sg	03 00 48.3	+2.2
PRTR	**Priterechnaya**	**1.33**	**26**	*e*Pg	Pg	03 00 30.2	+1.4
PRTR				*e*Sg	Sg	03 00 48.3	+2.2
TRKR	**Terskaya**	**1.48**	**38**	*e*PG	Pn	03 00 30.3	+0.4
TRKR				*e*S	Sg	03 00 50.5	-0.5
TRKR	**Terskaya**	**1.48**	**38**	*e*Pg	Pn	03 00 30.3	+0.4
TRKR				*e*Sg	Sg	03 00 50.5	-0.5
PYA	**Pyatigorsk**	**1.50**	**349**	⇑*i*PG	Pb	03 00 31.1	-0.1
PYA				*i* S	Sb	03 00 50.6	+0.3
PYA	**Pyatigorsk**	**1.50**	**349**	*i* Pg	Pb	03 00 31.1	-0.1
PYA				*i* Sg	Sb	03 00 50.6	+0.3
KIV	**Kislovodsk**	**1.50**	**338**	*e*PG	Pn	03 00 30.0	-0.4
KIV				*i* S	Sn	03 00 49.9	-0.2
KIV				pmax	pmax		
comp=Z,10.0nm,0.6s							
KIV				smax	smax		
comp=N,19nm,0.6s							
KIV	**Kislovodsk**	**1.50**	**338**	*e*Pg	Pn	03 00 30.0	-0.4
comp=N,10.0nm,0.6s							
KIV				*i* Sg	Sn	03 00 49.9	-0.2
comp=N,19nm,0.6s							
DGRG	**David-gareji**	**1.80**	**127**	*e*PN	Pb	03 00 36.6	+0.2
DGRG	**David-gareji**	**1.80**	**127**	*e*Pn	Pb	03 00 36.6	+0.2
DBC	**Dubki**	**2.

Ms1 3.3/1, ms1mx2.6/32, Error ellipse: s-maj=17.2km s-min=13.0km az=85.0
*LDG **11** 03:10:17.9±0.2, 6°61N×2°39E, h10km, Mb4.3/22, Ms2.9/1, Error ellipse: s-maj=7.9km s-min=4.4km az=167.0*
*NEIC **11** 03:10:18.8±0.3, 6°56N×2°42E, h10km, mb4.4/23, Error ellipse: s-maj=6.5km s-min=5.9km az=123.0*
NEIC Felt in the Cotonou-Porto-Novo area, Benin.

ISC 11 03:10:19.1±0.5, 6°68N±0°08×2°17E±0°05, h10km, n147, σ1§26/153, mb4.4/60, 8C-4D, Benin - Togo region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**6.44**	**356**	Pn	**Pn**	**03 11 54.0**	**-0.1**
TORD				Sn	Sn	03 12 57.9	-10
TORD				Lg	Lg	03 13 36.3	
TORD	**Torodi Ar. Bea**	**6.44**	**356**	Pn	**Pn**	**03 11 54.0**	**-0.1**
	2.2nm,0.3s,baz=175,slow=14,SNR=106						
TORD				Sn	Sn	03 12 57.9	-10
	3.9nm,0.3s,baz=201,slow=15,SNR=5.3						
TORD				Lg	Lg	03 13 36.3	
	54nm,0.3s,baz=174,slow=30,SNR=23						
KIC	**Kosan Boka**	**6.88**	**268**	*e*P	**Pn**	**03 12 01.8**	**+1.7**
	67nm,0.4s						
DBIC	**Dimbokro**	**6.98**	**270**	*e*Pn	**Pn**	**03 12 03.2**	**+1.7**
	20nm,0.7s						
DBIC				*e*Sn	**Sn**	**03 13 19.4**	**-1.6**
DBIC				Lg	Lg	03 13 57.4	
DBIC	**Dimbokro**	**6.98**	**270**	Pn	**Pn**	**03 12 03.4**	**+1.9**
	11nm,0.3s,baz=72,slow=12,SNR=131						
DBIC				Sn	**Sn**	**03 13 20.0**	**-1.1**
	12nm,0.3s,baz=9.1,slow=20,SNR=9.0						
DBIC				Lg	Lg	03 13 57.4	
	26nm,0.3s,baz=153,slow=22,SNR=6.0						
DBIC				LR	LR	03 14 52.6	
	comp=Z,223nm,18.2s,baz=272,slow=38						
TIC	**Toumodi**	**7.14**	**270**	*e*P	**Pn**	**03 12 05.7**	**+1.9**
	231nm,0.2s						
LIC	**Lamto**	**7.17**	**267**	*e*Pn	**Pn**	**03 12 05.7**	**+1.6**
	baz=85						
LIC				*e*Sn	**Sn**	**03 13 23.2**	**-2.5**
LIC				*e*Sg	**Sg**	**03 14 06.3**	**-3.1**
	2μm,0.8s						
LIC				*e*R			
	282nm,22.0s						
LIC	**Lamto**	**7.17**	**267**	*e*P	**Pn**	**03 12 05.7**	**+1.6**
	133nm,0.4s						
LIC	**Lamto**	**7.17**	**267**	*e*Pn	**Pn**	**03 12 05.7**	**+1.6**
LIC				*e*Sn	**Sn**	**03 13 23.2**	**-2.5**
LIC				*e*Sg	**Sg**	**03 14 06.3**	**-3.1**
TAM	**Tamanrasset**	**16.34**	**11**	*e*Pn	Pn	03 14 01.8	-7.2
	4.3nm,0.8s						
TAM				*e*Sn	Sn	03 17 03.7	-6.8
TAM				*e*Lg	Lg	03 18 57.3	
BBTS	**Babate**	**20.01**	**295**	P	Pn	03 14 55.8	+1.9
BBTS	**Babate**	**20.01**	**295**	P	Pn	03 14 55.8	+1.9
	17nm,0.6s,baz=230,slow=3.9,SNR=5.0						
MDT	**Midelt**	**26.76**	**347**	P	**P**	**03 16 01.9**	**+2.6**
MDT	**Midelt**	**26.76**	**347**	P	**P**	**03 16 01.9**	**+2.6**
	2.6nm,0.9s,baz=189,slow=10,SNR=5.7						
MBAR	**Mbarara**	**29.41**	**103**	P	**P**	**03 16 22.6**	**-0.6**
MBAR	**Mbarara**	**29.41**	**103**	P	**P**	**03 16 22.6**	**-0.6**
	3.6nm,0.6s,baz=297,slow=14,SNR=6.7						
PAB	**San Pablo**	**33.24**	**351**	*e*P	**P**	**03 16 57.8**	**+1.2**
ESDC	**Sonseca Array**	**33.31**	**351**	P	**P**	**03 16 58.2**	**+1.1**
ESDC	**Sonseca Array**	**33.31**	**351**	P	**P**	**03 16 58.2**	**+1.1**
	3.4nm,0.8s,baz=170,slow=8.1,SNR=21						
ESLA	**Sonseca Array**	**33.31**	**351**	*e*P	**P**	**03 16 54.8**	**-2.4**
	1.9nm,0.9s						
LSZ	**Lusaka**	**33.77**	**130**	*e*P	P	03 16 57.2	-4.3
	6.1nm,1.2s						
IDI	**Anoyia**	**35.31**	**33**	P	**P**	**03 17 13.7**	**-0.9**
IDI	**Anoyia**	**35.31**	**33**	P	**P**	**03 17 13.7**	**-0.9**
	6.7nm,0.8s,baz=264,slow=6.8,SNR=6.1						
ETSF	**Etsaut**	**36.15**	**357**	*e*P	**P**	**03 17 23.3**	**+1.6**
	5.0nm,0.7s						
ETSF	**Etsaut**	**36.15**	**357**	*e*P	**P**	**03 17 23.3**	**+1.6**
	5.0nm,0.7s						
EPF	**Esparros**	**36.24**	**358**	*e*P	**P**	**03 17 24.3**	**+1.9**
	13nm,1.0s						
EPF	**Esparros**	**36.24**	**358**	*e*P	**P**	**03 17 24.3**	**+1.9**
	13nm,1.0s						
SJPF	**Ste Jean**	**36.41**	**356**	*e*P	**P**	**03 17 25.5**	**+1.7**
	13nm,0.7s						
SJPF	**Ste Jean**	**36.41**	**356**	*e*P	**P**	**03 17 25.5**	**+1.7**
	13nm,0.7s						
MTLF	**Montolieu**	**36.51**	**0**	*e*P	**P**	**03 17 25.9**	**+1.2**
	5.5nm,0.8s						
MTLF	**Montolieu**	**36.51**	**0**	*e*P	**P**	**03 17 25.9**	**+1.2**
	5.5nm,0.8s						
FRF	**La Foret Royal**	**36.94**	**5**	*e*P	**P**	**03 17 29.7**	**+1.3**
FRF	**La Foret Royal**	**36.94**	**5**	*e*P	**P**	**03 17 29.7**	**+1.3**
LASF	**Ste Croix**	**37.28**	**2**	*e*P	**P**	**03 17 32.6**	**+1.4**
	22nm,1.1s						
LASF	**Ste Croix**	**37.28**	**2**	*e*P	**P**	**03 17 32.6**	**+1.4**
	22nm,1.1s						
SBF	**Sospel**	**37.32**	**6**	*e*P	**P**	**03 17 32.1**	**+0.4**
	13nm,0.7s						
SBF	**Sospel**	**37.32**	**6**	*e*P	**P**	**03 17 32.1**	**+0.4**
	13nm,0.7s						
CAF	**Calviac**	**38.10**	**360**	*e*P	**P**	**03 17 39.2**	**+1.0**
	13nm,1.0s						
CAF	**Calviac**	**38.10**	**360**	*e*P	**P**	**03 17 39.2**	**+1.0**
	13nm,1.0s						
MBDF	**Montbardon**	**38.11**	**5**	*e*P	**P**	**03 17 40.5**	**+2.1**
	8.8nm,0.9s						
MBDF	**Montbardon**	**38.11**	**5**	*e*P	**P**	**03 17 40.5**	**+2.1**
	8.8nm,0.9s						
ORIF	**Oris-en-Rattie**	**38.23**	**4**	*e*P	**P**	**03 17 41.0**	**+1.7**
	3.2nm,0.5s						
ORIF	**Oris-en-Rattie**	**38.23**	**4**	*e*P	**P**	**03 17 41.0**	**+1.7**
	3.2nm,0.5s						
BNI	**Bardonecchia**	**38.42**	**5**	*e*P	**P**	**03 17 41.9**	**+0.8**
	4.9nm,1.0s						
LBTB	**Lobatse**	**38.89**	**145**	*e*P	**P**	**03 17 43.3**	**-1.8**
	4.7nm,0.9s						
LBTB	**Lobatse**	**38.89**	**145**	P	**P**	**03 17 43.6**	**-1.5**
	3.1nm,0.7s,baz=308,slow=12,SNR=5.8						
LPL	**La Plagne**	**38.89**	**5**	*e*P	**P**	**03 17 46.8**	**+1.8**
	4.6nm,0.8s						
LPL	**La Plagne**	**38.89**	**5**	*e*P	**P**	**03 17 46.8**	**+1.8**
	4.6nm,0.8s						
BGF	**Bois d'Agland**	**39.73**	**1**	*e*P	**P**	**03 17 53.4**	**+1.6**
	15nm,0.9s						
BGF	**Bois d'Agland**	**39.73**	**1**	*e*P	**P**	**03 17 53.4**	**+1.6**
	15nm,0.9s						
CABF	**La Chapelle**	**39.93**	**4**	*e*P	**P**	**03 17 54.1**	**+0.6**
	7.6nm,0.7s						
CABF	**La Chapelle**	**39.93**	**4**	*e*P	**P**	**03 17 54.1**	**+0.6**
	7.6nm,0.7s						
AVF	**Avril sur Loir**	**39.98**	**1**	*e*P	**P**	**03 17 54.9**	**+1.1**
AVF	**Avril sur Loir**	**39.98**	**1**	*e*P	**P**	**03 17 54.9**	**+1.1**
SSF	**Saint Saulge**	**40.25**	**1**	*e*P	**P**	**03 17 57.1**	**+1.0**
	7.7nm,0.8s						
SSF	**Saint Saulge**	**40.25**	**1**	*e*P	**P**	**03 17 57.1**	**+1.0**
	7.7nm,0.8s						
VTS	**Vitosha**	**40.31**	**24**	||*i*P	**P**	**03 17 57.8**	**+0.9**
LOR	**Lormes**	**40.47**	**2**	*e*P	**P**	**03 17 58.5**	**+0.6**
LOR	**Lormes**	**40.47**	**2**	*e*P	**P**	**03 17 58.5**	**+0.6**
HINF	**Hinteralfeld**	**41.18**	**5**	*e*P	**P**	**03 18 03.7**	**-0.2**
	11nm,1.0s						
HINF	**Hinteralfeld**	**41.18**	**5**	*e*P	**P**	**03 18 03.7**	**-0.2**
	11nm,1.0s						
HAU	**Haudompre**	**41.33**	**4**	*e*P	**P**	**03 18 05.2**	**+0.2**
	5.1nm,0.7s						
HAU	**Haudompre**	**41.33**	**4**	*e*P	**P**	**03 18 05.2**	**+0.2**
	5.1nm,0.7s						
SFTF	**Sexfontaines**	**41.45**	**3**	*e*P	**P**	**03 18 06.6**	**+0.6**
SFTF	**Sexfontaines**	**41.45**	**3**	*e*P	**P**	**03 18 06.6**	**+0.6**
BOSA	**Boshof**	**41.55**	**149**	*e*P	**P**	**03 18 05.0**	**-2.2**
	8.3nm,0.7s						
BOSA	**Boshof**	**41.55**	**149**	P	**P**	**03 18 05.3**	**-1.9**
	7.2nm,0.6s,baz=329,slow=8.3,SNR=26						
GRR	**Gorron**	**41.64**	**357**	*e*P	**P**	**03 18 08.5**	**+1.0**
GRR	**Gorron**	**41.64**	**357**	*e*P	**P**	**03 18 08.5**	**+1.0**
MEZF	**Maizieres J'vi**	**41.75**	**3**	*e*P	**P**	**03 18 09.4**	**+1.0**
	21nm,0.8s						
MEZF	**Maizieres J'vi**	**41.75**	**3**	*e*P	**P**	**03 18 09.4**	**+1.0**
	21nm,0.8s						
CDF	**Champ du Feu**	**41.81**	**5**	*e*P	**P**	**03 18 09.1**	**+0.1**
	2.8nm,0.5s						
CDF	**Champ du Feu**	**41.81**	**5**	*e*P	**P**	**03 18 09.1**	**+0.1**
	2.8nm,0.5s						
LDF	**La Druitiere**	**41.81**	**358**	*e*P	**P**	**03 18 09.8**	**+0.9**
LDF	**La Druitiere**	**41.81**	**358**	*e*P	**P**	**03 18 09.8**	**+0.9**
BZS	**Buzias**	**42.29**	**20**	||*i*P	**P**	**03 18 14.2**	**+1.3**
SUR	**Sutherland**	**42.71**	**157**	P	**P**	**03 18 17.2**	**+0.5**
SUR	**Sutherland**	**42.71**	**157**	P	**P**	**03 18 17.2**	**+0.5**
	9.1nm,1.1s,baz=262,slow=7.1,SNR=3.3						
GERES	**GERESS Array B**	**43.14**	**11**	P	**P**	**03 18 19.7**	**-0.1**
GERES	**GERESS Array B**	**43.14**	**11**	P	**P**	**03 18 19.7**	**-0.1**
	0.4nm,0.3s,baz=189,slow=8.9,SNR=7.6						
ARR	**Arges**	**43.19**	**23**	||*i*P	**P**	**03 18 21.3**	**+1.0**
BAIF	**Baives**	**43.27**	**2**	*e*P	**P**	**03 18 21.9**	**+1.2**
BAIF	**Baives**	**43.27**	**2**	*e*P	**P**	**03 18 21.9**	**+1.2**
GIVF	**Givet**	**43.33**	**2**	*e*P	**P**	**03 18 21.4**	**+0.1**
	13nm,0.7s						
GIVF	**Givet**	**43.33**	**2**	*e*P	**P**	**03 18 21.4**	**+0.1**
	13nm,0.7s						
BRTR	**Keskin Array B**	**43.37**	**36**	P	**P**	**03 18 21.7**	**-0.2**
BRTR				PcP	**PcP**	**03 20 11.0**	**+0.5**
BRTR	**Keskin Array B**	**43.37**	**36**	P	**P**	**03 18 21.7**	**-0.2**
	3.4nm,1.2s,baz=200,slow=9.2,SNR=8.1						
BRTR				PcP	**PcP**	**03 20 11.0**	**+0.5**
	1.1nm,0.8s,baz=143,slow=3.1,SNR=5.4						
BR131	**Keskin Array S**	**43.37**	**36**	*e*P	**P**	**03 18 21.3**	**-0.6**
	2.3nm,0.9s						
KHC	**Kasperske Hory**	**43.39**	**11**	*e*P	**P**	**03 18 21.6**	**-0.2**
	1.2nm,0.4s						
VOIR		**43.41**	**23**	||*i*P	**P**	**03 18 22.6**	**+0.5**
DRGR		**43.69**	**20**	||*i*P	**P**	**03 18 25.1**	**+0.8**
MLR	**Muntele Rosu**	**43.82**	**24**	P	**P**	**03 18 25.7**	**+0.3**
MLR	**Muntele Rosu**	**43.82**	**24**	||*i*P	**P**	**03 18 25.8**	**+0.3**
MLR	**Muntele Rosu**	**43.82**	**24**	P	**P**	**03 18 25.7**	**+0.3**
	1.1nm,0.7s,baz=256,slow=6.0,SNR=8.2						
TIRR	**Tirgusor**	**44.06**	**27**	P	**P**	**03 18 26.4**	**-0.8**
	7.8nm,0.9s						
PLOR	**Plostina**	**44.40**	**24**	||*i*P	**P**	**03 18 30.8**	**+0.8**
VRI	**Vrincioaia**	**44.44**	**25**	||*i*P	**P**	**03 18 30.4**	**+0.1**
CFR	**Carcaliu**	**44.49**	**26**	||*i*P	**P**	**03 18 29.7**	**-1.0**
TESR	**Tescani**	**44.93**	**24**	||*i*P	**P**	**03 18 34.1**	**-0.1**
BURAR	**Bucovina Array**	**45.29**	**22**	||*i*P	**P**	**03 18 38.1**	**+1.0**
BUR08	**Bucovina Ar. S**	**45.31**	**22**	*e*P	**P**	**03 18 37.8**	**+0.5**
KWP	**Kalwaria Pacla**	**46.16**	**18**	*e*P	**P**	**03 18 43.2**	**-0.7**
	3.8nm,0.8s						
KWP	**Kalwaria Pacla**	**46.16**	**18**	||*i*P	**P**	**03 18 44.2**	**+0.3**
EKA	**Eskdalemuir Ar**	**48.70**	**356**	P	**P**	**03 19 03.9**	**+0.3**
EKA				PcP	**PcP**	**03 20 28.6**	**-0.1**
EKA	**Eskdalemuir Ar**	**48.70**	**356**	P	**P**	**03 19 03.9**	**+0.3**
	1.2nm,0.7s,baz=138,slow=9.3,SNR=6.6						
EKA				PcP	**PcP**	**03 20 28.6**	**-0.1**
	0.9nm,0.6s,baz=177,slow=2.8,SNR=5.1						
KIEV	**Kiev**	**49.32**	**22**	*e*P	**P**	**03 19 06.3**	**-2.0**
	3.4nm,0.6s						
AKASG	**Malin Array Be**	**49.33**	**22**	P	**P**	**03 19 06.0**	**-2.4**
AKASG	**Malin Array Be**	**49.33**	**22**	P	**P**	**03 19 06.0**	**-2.4**
	1.1nm,0.4s,baz=221,slow=7.4,SNR=4.3						
HFS	**Hagfors**	**54.04**	**7**	P	**P**	**03 19 42.7**	**-0.8**
HFS	**Hagfors**	**54.04**	**7**	P	**P**	**03 19 42.7**	**-0.8**
	1.3nm,0.4s,baz=187,slow=8.4,SNR=11						
NAO01	**NORSAR Array S**	**54.44**	**5**	*e*P	**P**	**03 19 47.4**	**+1.0**
	10nm,1.1s						
FINES	**FINESS Array B**	**57.47**	**13**	P	**P**	**03 20 07.4**	**-0.7**
FINES	**FINESS Array B**	**57.47**	**13**	P	**P**	**03 20 07.4**	**-0.7**
	2.0nm,0.5s,baz=194,slow=4.9,SNR=18						
JOF	**Joensuu**	**60.01**	**15**	*e*p	**P**	**03 20 23.8**	**-1.9**
	3.1nm,0.4s						
AKTO	**Aktyubinsk**	**63.55**	**36**	P	**P**	**03 20 49.1**	**-0.7**
AKTO	**Aktyubinsk**	**63.55**	**36**	P	**P**	**03 20 49.1**	**-0.7**
	4.3nm,0.5s,baz=230,slow=6.3,SNR=20						
ABKAR	**Akbulak array**	**64.25**	**38**	*e*P	**P**	**03 20 52.9**	**-1.6**
	1.9nm,0.6s						
ARCES	**ARCESS Array B**	**64.60**	**9**	P	**P**	**03 20 55.5**	**-0.9**
ARCES	**ARCESS Array B**	**64.60**	**9**	P	**P**	**03 20 55.5**	**-0.9**
	1.9nm,0.6s,baz=210,slow=7.0,SNR=12						
CPUP	**Villa Florida**	**66.33**	**238**	*e*P	**P**	**03 21 10.1**	**+1.8**
	14nm,0.8s						
CPUP	**Villa Florida**	**66.33**	**238**	P	**P**	**03 21 10.6**	**+2.2**
	1.5nm,0.6s,baz=52,slow=7.5,SNR=4.7						
KKAR	**Karatay Array**	**69.68**	**47**	*e*P	**P**	**03 21 28.0**	**-1.2**
	2.3nm,0.6s						
BRVK	**Borovoye**	**71.60**	**36**	*e*P	**P**	**03 21 39.7**	**-1.0**
	2.5nm,0.8s						
BVAR	**Borovoye Array**	**71.65**	**36**	P	**P**	**03 21 39.6**	**-1.4**
BVAR	**Borovoye Array**	**71.65**	**36**	P	**P**	**03 21 39.6**	**-1.4**
	0.9nm,0.6s,baz=297,slow=1.3,SNR=5.1						
SPITS	**Spitsbergen Ar**	**71.84**	**3**	P	**P**	**03 21 41.9**	**+0.2**
SPITS	**Spitsbergen Ar**	**71.84**	**3**	P	**P**	**03 21 41.9**	**+0.2**
	15nm,1.0s,baz=156,slow=8.2,SNR=6.6						
EKS2	**Erkin-Say**	**71.99**	**47**	*e*P	**P**	**03 21 42.9**	**-0.5**
	3.8nm,0.8s						
AAK	**Ala-Archa**	**72.51**	**47**	*e*P	**P**	**03 21 45.5**	**-1.1**
	3.6nm,0.8s						
AAK	**Ala-Archa**	**72.51**	**47**	P	**P**	**03 21 46.3**	**-0.3**
	1.2nm,0.3s,baz=224,slow=8.0,SNR=5.6						
SCHQ	**Schefferville**	**72.53**	**326**	P	**P**	**03 21 47.5**	**+1.3**
SCHQ	**Schefferville**	**72.53**	**326**	P	**P**	**03 21 47.5**	**+1.3**
	5.0nm,0.8s,baz=212,slow=5.2,SNR=3.9						
LPAZ	**La Paz**	**73.18**	**251**	*e*P	**P**	**03 21 52.5**	**+1.0**
	1.4nm,1.0s						
TKM2	**Tokmak 2**	**73.35**	**47**	*e*P	**P**	**03 21 50.9**	**-0.7**
	5.9nm,1.1s						
ROSC	**El Rosal**	**76.07**	**273**	*e*P	**P**	**03 22 10.1**	**+1.9**
KURBB	**Kurchatov Arra**	**76.21**	**40**	P	**P**	**03 22 07.6**	**-0.1**
	2.8nm,0.2s,baz=264,slow=6.4,SNR=17						
KURK	**Kurchatov**	**76.28**	**40**	P	**P**	**03 22 07.6**	**-0.5**
MK31	**Makanchi Array**	**78.40**	**44**	*e*P	**P**	**03 22 18.4**	**-1.7**
MKAR	**Makanchi Array**	**78.40**	**44**	P	**P**	**03 22 19.6**	**-0.6**
MKAR	**Makanchi Array**	**78.40**	**44**	P	**P**	**03 22 19.6**	**-0.6**
	2.8nm,1.0s,baz=264,slow=3.9,SNR=13						
ZAA0	**Zalesovo Array**	**80.31**	**36**	*e*P	**P**	**03 22 29.8**	**-0.5**
ZALV	**Zalesovo Beam**	**80.31**	**36**	P	**P**	**03 22 29.9**	**-0.4**
ZALV	**Zalesovo Beam**	**80.31**	**36**	P	**P**	**03 22 29.9**	**-0.4**
	1.9nm,0.7s,baz=266,slow=5.9,SNR=6.2						
BCIP	**Isla Barro Col**	**81.11**	**278**	*e*P	**P**	**03 22 34.8**	**-0.6**
	22nm,1.0s						
PLCA	**Paso Flores**	**81.43**	**227**	P	**P**	**03 22 37.9**	**+1.2**
PLCA	**Paso Flores**	**81.43**	**227**	P	**P**	**03 22 37.9**	**+1.2**
	1.6nm,0.5s,baz=230,slow=12,SNR=5.8						
WMOK	**Wichita Mounta**	**95.16**	**306**	*e*P	**P**	**03 23 44.4**	**+1.2**
	3.7nm,1.0s						

IDC 11 03:51:43.9±3.9, 5°40S×152°42E, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.4/17, mbtmp3.5/2, Error ellipse: s-maj=179.5km s-min=47.3km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.77**	**229**	P	P	03 56 47.5	-0.8
	0.8nm,0.6s,baz=52,slow=9.7,SNR=8.0						
ASAR	**Alice Springs**	**25.46**	**223**	P	P	03 57 14.2	+0.3
	0.9nm,0.7s,baz=62,slow=9.4,SNR=9.0						
TORD	**Torodi Ar. Bea**	**150.13**	**287**	PKPbc	PKPbc	04 11 37.7	-0.2
	0.3nm,1.0s,baz=94,slow=2.6,SNR=3.5						

*IDC **11** 03:52:24.2±0.6, 31°74S×178°46W, h0km, mb4.5/12, mb1 4.6/12, mb1mx4.4/20, mbtmp4.5/12, MS3.8/12, Ms1 3.8/12, ms1mx3.7/20, Error ellipse: s-maj=22.1km s-min=19.0km az=43.0*
*ISCJB **11** 03:52:29.5±0.5, 32°07S±0°05×178°67W±0°09, h45km, mb4.6/19, MS3.9/12, Error ellipse: s-maj=11.0km s-min=6.0km az=21.9*
*NEIC **11** 03:52:33.8±1.1, 31°77S×178°56W, h73km±9km, mb4.8/11, Error ellipse: s-maj=10.0km s-min=8.0km az=125.0*
*AUST **11** 03:52:38.7, 32°59S×179°32W, h60km*

ISC 11 03:52:30.8±0.4, 32°01S±0°06×178°62W±0°09, h45km, n110, σ1§34/98, mb4.7/18, MS3.8/12, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.81**	**13**	Pn	**Pn**	**03 53 12.3**	**-1.0**
RAO				Sn	**Sn**	**03 53 48.8**	**+2.9**
RAO	**Raoul Island**	**2.81**	**13**	Pn	**Pn**	**03 53 12.3**	**-1.0**
	136nm,0.3s,baz=73,slow=23,SNR=10						
RAO				Sn	**Sn**	**03 53 48.8**	**+2.9**
	418nm,0.3s,baz=99,slow=23,SNR=6.1						
URZ	**Urewera**	**7.15**	**208**	*e*Pn	**Pn**	**03 54 11.7**	**-1.1**
	88nm,0.4s						
URZ				*e*Sn	**Sn**	**03 55 31.3**	**-1.5**
URZ	**Urewera**	**7.15**	**208**	Pn	**Pn**	**03 54 11.0**	**-1.8**
	25nm,0.3s,baz=331,slow=2.4,SNR=90						
URZ				Sn	**Sn**	**03 55 31.8**	**-0.9**
	25nm,0.3s,baz=41,slow=21,SNR=11						
OUZ	**Omahuta**	**7.25**	**242**	*e*Pn	Pn	03 54 19.6	+5.5
	42nm,0.4s						
RPZ	**Rata Peaks**	**14.24**	**212**	Pn	Pn	03 55 46.0	-3.7
RPZ				Sn	Sn	03 58 12.9	-13
RPZ	**Rata Peaks**	**14.24**	**212**	Pn	Pn	03 55 46.0	-3.7
	1.4nm,0.3s,baz=45,slow=1.4,SNR=4.4						
RPZ				Sn	Sn	03 58 12.9	-13
	2.7nm,0.3s,baz=7.9,slow=22,SNR=9.8						
DZM	**Mont Dzumac**	**16.57**	**303**	*e*LR	LR	03 59 57.0	
	2μm,25.5s						
TBI	**Tubuai**	**27.16**	**79**	*e*LQ	LQ	04 03 34.1	
	226nm,28.0s						
TBI				*e*LR	LR	04 05 01.0	
	433nm,27.0s						
EIDS	**Eidsvold**	**27.34**	**276**	P	**P**	**03 58 08.1**	**-3.5**
	baz=27,SNR=3.4						
EIDS				S	S	04 02 29.0	-19
	baz=27,SNR=10						
RMQ	**Roma**	**28.93**	**273**	P	P	03 58 30.0	+4.2
	baz=28,SNR=4.0						
PPT2	**Papeete2**	**29.90**	**68**	*e*S	**S**	**04 03 25.5**	**-3.4**
	78nm,26.8s						
PPT2				*e*LR	LR	04 06 09.7	
	423nm,28.5s						
PPT	**Papeete**	**29.91**	**68**	LR	LR	04 07 07.7	
	comp=Z,167nm,21.3s,baz=195,slow=30						
HNR	**Honiara**	**29.99**	**314**	LR	LR	04 08 16.0	
	comp=Z,91nm,19.2s,baz=69,slow=32						
CMSA	**Cobar Meteorol**	**30.27**	**261**	P	**P**	**03 58 40.0**	**+2.4**
	baz=30,SNR=23						
CTA	**Charters Tower**	**33.58**	**282**	P	**P**	**03 59 08.3**	**+1.5**
CTA	**Charters Tower**	**33.58**	**282**	P	**P**	**03 59 08.3**	**+1.5**
	8.5nm,0.5s,baz=110,slow=10,SNR=18						
CTAO	**Charters Tower**	**33.58**	**282**	*e*P	**P**	**03 59 08.0**	**+1.2**
	12nm,0.6s						
STKA	**Stephens Creek**	**33.63**	**259**	P	**P**	**03 59 08.8**	**+1.6**
STKA	**Stephens Creek**	**33.63**	**259**	P	**P**	**03 59 08.8**	**+1.6**
	5.0nm,0.8s,baz=96,slow=10,SNR=6.6						
STKA	**Stephens Creek**	**33.63**	**259**	P	**P**	**03 59 09.8**	**+2.7**
	baz=33,SNR=6.6						
MTSU	**Mount Surprise**	**36.12**	**283**	P	**P**	**03 59 30.4**	**+1.7**
	baz=36,SNR=22						
BBOO	**Buckleboo**	**38.05**	**256**	P	**P**	**03 59 45.4**	**+0.4**
	baz=37,SNR=9.1						
PMG	**Port Moresby**	**38.85**	**298**	P	**P**	**03 59 52.3**	**+0.5**
PMG	**Port Moresby**	**38.85**	**298**	P	**P**	**03 59 52.3**	**+0.5**
	11nm,0.7s,baz=30,slow=5.6,SNR=3.4						
COEN	**Coen**	**39.24**	**288**	*e*P	**P**	**03 59 56.1**	**+1.0**
COEN	**Coen**	**39.24**	**288**	P	**P**	**03 59 57.0**	**+2.0**
	baz=39,SNR=24						
RKT	**Rikitea**	**39.47**	**88**	*e*LR	LR	04 10 46.4	
	376nm,26.5s						
AS31	**Alice Springs**	**42.52**	**269**	*e*P	**P**	**04 00 22.1**	**0.0**
ASAR	**Alice Springs**	**42.52**	**269**	P	**P**	**04 00 22.4**	**+0.2**
ASAR	**Alice Springs**	**42.52**	**269**	P	**P**	**04 00 22.4**	**+0.2**
	9.3nm,0.5s,baz=103,slow=7.5,SNR=105						
ASAR				LR	LR	04 15 32.8	
	comp=Z,122nm,20.7s,baz=108,slow=33						
WRAB	**Tennant Creek**	**43.65**	**274**	*e*P	**P**	**04 00 30.9**	**-0.4**
	22nm,0.6s						
WRA	**Warramunga Arr**	**43.66**	**274**	P	**P**	**04 00 30.9**	**-0.4**
WRA	**Warramunga Arr**	**43.66**	**274**	P	**P**	**04 00 30.9**	**-0.4**
	21nm,0.6s,baz=115,slow=7.7,SNR=256						
WRA				LR	LR	04 16 20.9	
	comp=Z,267nm,19.7s,baz=110,slow=33						
MANU	**Manus Island**	**43.74**	**306**	S	S	04 07 08.4	+9.0
	baz=44,SNR=12						
FORT	**Forrest**	**45.15**	**257**	*e*P	**P**	**04 00 42.2**	**-0.9**
	22nm,0.6s						
FORT	**Forrest**	**45.15**	**257**	P	**P**	**04 00 42.9**	**-0.2**
	baz=44,SNR=11						
SBA	**Scott Base**	**46.40**	**184**	*e*P	P	04 00 56.0	+3.7
	4.6nm,0.8s						
VNDA	**Vanda**	**46.45**	**186**	*e*P	**P**	**04 00 55.0**	**+2.3**
	1.2nm,0.6s						
VNDA	**Vanda**	**46.45**	**186**	P	**P**	**04 00 55.3**	**+2.6**
	0.8nm,0.5s,baz=9.9,slow=7.8,SNR

FINES	FINESS Array B	146.46	339	PKPbc	PKPdf	04 12 05.2	+0.5
	12nm,0.6s,baz=56,slow=4.4,SNR=61						
NB2	NORSAR Subarra	150.25	350	PKP	PKPbc	04 12 15.3	-0.9
	comp=Z,4.6nm,0.5s,baz=15,slow=2.6						
NOA	NORSAR Array B	150.25	350	PKPbc	PKPbc	04 12 15.6	-0.6
NOA	NORSAR Array B	150.25	350	PKPbc	PKPbc	04 12 15.6	-0.6
	comp=Z,4.8nm,0.6s,baz=15,slow=4.1,SNR=25						
NAO01	NORSAR Array S	150.48	351	ePKPbc	PKPbc	04 12 16.2	-0.6
NAO01				ePKPab	PKPab	04 12 22.3	-1.1
AKASG	Malin Array Be	152.23	320	PKPbc	PKPbc	04 12 19.9	-1.2
AKASG	Malin Array Be	152.23	320	PKPbc	PKPbc	04 12 19.9	-1.2
	comp=Z,0.8nm,0.3s,baz=41,slow=3.9,SNR=6.1						
BR131	Keskin Array S	152.86	296	ePKPdf	PKPdf	04 12 15.8	0.0
BR131				ePKPbc	PKPbc	04 12 21.7	-1.3
BR131				ePKPab	PKPab	04 12 34.2	0.0
BRTR	Keskin Array B	152.86	296	PKPbc	PKPbc	04 12 21.8	-1.3
BRTR	Keskin Array B	152.86	296	PKPbc	PKPbc	04 12 21.8	-1.3
	comp=Z,1.6nm,0.7s,baz=130,slow=2.3,SNR=11						
DBIC	Dimbokro	154.13	166	ePKPdf	PKPdf	04 12 17.1	-1.2
DBIC				ePKPbc	PKiKP	04 12 27.0	+0.6
BUR08	Bucovina Ar. S	156.09	318	ePKPdf	PKPdf	04 12 18.6	-1.4
CLL	Collm	158.90	339	ePKPab	PKPab	04 13 01.0	+1.5
TORD	Torodi Ar. Bea	161.23	181	PKPab	PKPab	04 13 10.6	+0.2
TORD	Torodi Ar. Bea	161.23	181	PKPab	PKPab	04 13 10.6	+0.2
	comp=Z,2.7nm,0.6s,baz=177,slow=3.5,SNR=27						
BNI	Bardonecchia	166.34	344	ePKPab	PKPab	04 13 31.9	-0.5
ESDC	Sonseca Array	171.21	28	PKP	PKPdf	04 12 35.3	+1.1
ESDC	Sonseca Array	171.21	28	PKP	PKPdf	04 12 35.3	+1.1
	comp=Z,0.4nm,0.7s,baz=6.8,slow=2.0,SNR=3.6						

IDC 11 03:56:47.8±55.0, 17.80S×175.76W, h0km, mb3.9/3, mb1 4.0/3, mb1mx3.7/18, mbtmp3.9/3, Error ellipse: s-maj=1025.0km s-min=182.0km az=80.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	40.90	242	P	P	04 04 31.5	-0.4
	1.9nm,1.0s,baz=84,slow=10,SNR=2.2						
WRA	Warramunga Arr	47.13	259	P	P	04 05 21.2	-0.9
	0.3nm,0.4s,baz=95,slow=7.5,SNR=1.8						
ASAR	Alice Springs	47.24	254	P	P	04 05 23.6	+0.5
	1.4nm,0.4s,baz=89,slow=8.2,SNR=12						

*ISCJB **11** 04:25:49.7±1.2, 20.73S±0.06×169.79E±0.04, h130km±11km, mb4.7/71, Error ellipse: s-maj=10.7km s-min=6.2km az=175.8*
*IDC **11** 04:25:49.1±1.6, 20.74S×169.85E, h121km±11km, mb4.1/14, mb1 4.3/16, mb1mx4.3/20, mbtmp4.2/16, MS3.6/1, Ms1 3.6/1, ms1mx2.9/27, Error ellipse: s-maj=17.9km s-min=14.4km az=133.0*
*BJI **11** 04:25:49.6, 20.70S×169.80E, h129km, mB5.0/20, mb4.9/33*
*NEIC **11** 04:25:52.1±1.1, 20.75S×169.79E, h144km±10km, mb4.8/53, Error ellipse: s-maj=8.2km s-min=5.8km az=166.0*
*AUST **11** 04:25:58.0, 21.00S×170.00E, h200km*
*SZGRF **11** 04:25:58.0, 20.36S×169.58E, h179km, Vanuatu Islands*
ISC 11 04:25:50.3±0.4, 20.81S±0.06×169.88E±0.06, h130km±2km, h130km:pP-P, n281, σ1.27/333, mb4.9/73, 52C-46D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.44	248	ePn	Pn	04 26 42.2	-0.6
DZM				eSn	Sn	04 27 22.8	-0.5
DZM	Mont Dzumac	3.44	248	P	Pn	04 26 42.4	-0.3
	263nm,0.3s,baz=64,slow=17,SNR=2325						
DZM				S	Sn	04 27 21.4	-2.0
	170nm,0.3s,baz=74,slow=20,SNR=9.6						
NFK	Norfolk Island	8.38	192	P	Pn	04 27 51.1	+2.2
	baz=8.3,SNR=13						
EIDS	Eidsvold	17.88	252	ePn	Pn	04 29 52.3	+1.4
	19nm,1.0s						
EIDS	Eidsvold	17.88	252	P	Pn	04 29 52.6	+1.7
	baz=18,SNR=5.4						
URZ	Urewera	18.48	162	eP	Pn	04 29 57.9	0.0
	75nm,1.3s						
URZ	Urewera	18.48	162	P	Pn	04 29 57.2	-0.7
	1.7nm,0.3s,baz=354,slow=4.0,SNR=12						
ARMA	Armidale	19.02	236	eP	Pn	04 30 05.0	+0.6
	31nm,0.7s						
ARMA	Armidale	19.02	236	P	Pn	04 30 05.4	+1.0
	baz=19,SNR=27						
RMQ	Roma	20.15	250	P	Pn	04 30 17.5	-0.1
	baz=20,SNR=4.1						
CTA	Charters Tower	22.15	268	P	P	04 30 36.7	+0.9
CTA	Charters Tower	22.15	268	P	P	04 30 36.7	+0.9
	2.8nm,0.5s,baz=92,slow=14,SNR=7.2						
CTAO	Charters Tower	22.15	268	eP	P	04 30 37.1	+1.3
	5.0nm,0.7s						
CNB	Canberra Magne	23.10	227	P	P	04 30 46.7	+1.8
	baz=23,SNR=8.1						
YNG	Young	23.25	230	P	P	04 30 48.2	+2.0
	baz=23,SNR=13						
CAN	Canberra	23.35	227	eP	P	04 30 48.2	+1.0
	37nm,0.8s						
CMSA	Cobar Meteorol	24.14	239	P	P	04 30 55.3	+1.0
	baz=24,SNR=17						
MTSU	Mount Surprise	24.24	272	P	P	04 30 56.4	+1.0
	baz=24,SNR=14						
PMG	Port Moresby	24.66	294	eP	P	04 30 58.8	-0.4
	28nm,0.8s						
PMG	Port Moresby	24.66	294	P	P	04 30 57.6	-1.5
	27nm,0.7s,baz=118,slow=5.6,SNR=6.7						
COEN	Coen	26.36	281	eP	P	04 31 15.2	+0.6
	103nm,1.1s						
STKA	Stephens Creek	27.56	241	P	P	04 31 24.4	-0.8
STKA				PcP	PcP	04 34 39.9	0.0
STKA				ScP	ScP	04 38 10.4	+1.9
STKA	Stephens Creek	27.56	241	P	P	04 31 24.4	-0.8
	2.6nm,0.7s,baz=89,slow=7.1,SNR=4.4						
STKA				PcP	PcP	04 34 39.9	0.0
	3.7nm,0.7s,baz=0.5,slow=9.2,SNR=3.4						
STKA				ScP	ScP	04 38 10.4	+1.9
	6.9nm,1.1s,baz=33,slow=2.5,SNR=4.3						
MANU	Manus Island	28.81	307	P	P	04 31 46.1	+10
	baz=29,SNR=7.9						
WRAB	Tennant Creek	33.28	265	eP	P	04 32 14.5	-1.2
	2.4nm,0.4s						
WRA	Warramunga Arr	33.29	265	P	P	04 32 14.6	-1.2
WRA				PcP	PcP	04 34 54.7	-0.4
WRA				ScP	ScP	04 38 28.7	+1.2
WRA	Warramunga Arr	33.29	265	P	P	04 32 14.6	-1.2
	2.5nm,0.4s,baz=94,slow=8.4,SNR=82						
WRA				PcP	PcP	04 34 54.7	-0.4
	1.9nm,0.6s,baz=91,slow=2.8,SNR=5.5						
WRA				ScP	ScP	04 38 28.7	+1.2
	2.0nm,0.9s,baz=93,slow=3.8,SNR=7.2						
WRA				LR	LR	04 43 58.4	
	comp=Z,94nm,19.7s,baz=265,slow=33						
AS31	Alice Springs	33.37	258	eP	P	04 32 15.9	-0.6
ASAR	Alice Springs	33.37	258	P	P	04 32 16.0	-0.5
ASAR				PcP	PcP	04 34 54.8	-0.6
ASAR				ScP	ScP	04 38 28.6	+0.8
ASAR	Alice Springs	33.37	258	P	P	04 32 16.0	-0.5
	3.2nm,0.4s,baz=92,slow=8.8,SNR=66						
ASAR				PcP	PcP	04 34 54.8	-0.6
	3.7nm,0.7s,baz=92,slow=3.0,SNR=13						
ASAR				ScP	ScP	04 38 28.6	+0.8
	1.7nm,0.8s,baz=109,slow=3.4,SNR=10						
MTN	Manton Dam	37.85	276	P	P	04 32 54.4	-0.4
	baz=38,SNR=4.0						
FORT	Forrest	38.75	246	eP	P	04 33 01.9	-0.3
	24nm,1.0s						
FAKI	Fak Fak	40.73	291	P	P	04 33 17.6	-1.1
	baz=41,SNR=3.3						
FITZ	Fitzroy Crossi	41.71	266	eP	P	04 33 26.8	+0.1
	13nm,0.9s						
FITZ	Fitzroy Crossi	41.71	266	P	P	04 33 26.7	+0.1
	baz=42,SNR=24						
MBWA	Marble Bar	46.66	260	eP	P	04 34 05.4	-0.7
	7.9nm,0.8s						
MBWA				epP	pP	04 34 33.3	-2.5
MEEK	Meekatharra	47.04	253	P	P	04 34 08.7	-0.4
	baz=47,SNR=5.2						
WSI	Waingapu	48.93	275	S	S	04 41 17.8	-0.3
	baz=49,SNR=3.7						
KAPI	Kappang	51.09	281	eP	P	04 34 39.1	-0.9
	14nm,0.9s						
VNDA	Vanda	56.89	182	eP	P	04 35 21.6	+0.5
	2.8nm,0.9s						
VNDA	Vanda	56.89	182	P	P	04 35 21.2	+0.1
	1.4nm,0.7s,baz=352,slow=5.2,SNR=4.6						
SBA	Scott Base	57.10	181	eP	P	04 35 24.0	+1.3
	12nm,0.9s						
SBA				epP	pP	04 35 52.0	-1.4
KKM	Kota Kinabalu	59.05	291	eP	P	04 35 36.7	-0.6
	33nm,1.4s						
JOW	Kunigami	62.20	318	eP	P	04 35 57.7	-0.6
	7.4nm,0.8s						
MJAR	Matsushiro Arr	64.42	332	P	P	04 36 11.4	-1.3
MJAR				PcP	PcP	04 36 45.3	-0.7
MJAR	Matsushiro Arr	64.42	332	P	P	04 36 11.4	-1.3
	5.6nm,0.8s,baz=168,slow=6.8,SNR=17						
MJAR				PcP	PcP	04 36 45.3	-0.7
	2.1nm,0.7s,baz=171,slow=5.7,SNR=4.3						
MAT	Matsushiro	64.42	332	P	P	04 36 11.5	-1.2
JNU	Nakatsue	65.29	324	eP	P	04 36 17.8	-0.6
	3.9nm,0.9s						
QSPA	South Pole Qui	69.25	180	eP	P	04 36 43.1	0.0
	19nm,1.3s						
QSPA				epP	pP	04 37 11.4	-3.5
KSRS	Korea Array	70.14	326	P	P	04 36 48.6	-0.1
	2.2nm,0.8s,baz=139,slow=6.3,SNR=8.9						
KSAR	Wonju Array Be	70.15	326	P	P	04 36 48.6	-0.2
QIZ	Qiongzhong	70.88	300	P	P	04 36 55.1	+1.5
QIZ				S	S	04 46 01.8	+3.0
QIZ				pmax	pmax		
	comp=Z,26nm,1.4s						
NJ2	Nanjing	71.75	316	eP	P	04 37 00.8	+2.2
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
IPM	Ipoh	72.00	282	eP	P	04 37 00.2	-0.4
	comp=Z,11nm,0.7s						
KULM	Kulim	72.66	283	eP	P	04 37 04.1	-0.3
	comp=Z,27nm,1.4s						
USRK	Ussuriysk Arra	73.41	333	P	P	04 37 07.4	-0.7
	comp=Z,2.5nm,0.6s,baz=150,slow=4.5,SNR=9.6						
WHN	Wuhan	73.85	312	P	P	04 37 13.8	+2.8
PETK	Petropavlovsk-	74.37	352	P	P	04 37 14.4	+0.9
PETK	Petropavlovsk-	74.37	352	P	P	04 37 14.4	+0.9
	comp=Z,5.3nm,0.9s,baz=157,slow=8.0,SNR=4.2						
CN2	Changchun	76.11	329	eP	P	04 37 23.2	-0.5
CN2				eS	S	04 46 55.5	-1.2
CN2				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA	Guiyang	77.21	305	eP	P	04 37 32.0	+1.6
GYA				pP	pP	04 38 05.8	+2.9
GYA				sP	sP	04 38 19.4	+2.6
GYA				PP	PP	04 40 29.5	+3.1
GYA				S	S	04 47 10.2	+0.5
GYA				SKS	SKSac	04 47 28.5	-3.0
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GYA				pmax	pmax		
	comp=Z,110nm,5.4s						
BJI	Beijing	78.53	321	P	P	04 37 37.4	+0.1
BJI				pmax	pmax		
	comp=Z,18nm,0.6s						
KMI	Kunming	79.61	302	P	P	04 37 44.9	+1.1
KMI				pmax	pmax		
	comp=Z,15nm,0.9s						
XAN	Xi'an	79.61	312	P	P	04 37 43.2	-0.2
XAN				pP	pP	04 38 13.4	-2.7
XAN				sP	sP	04 38 28.3	-1.6
XAN				pmax	pmax		
	comp=Z,5.0nm,1.0s						
XAN				pmax	pmax		
	comp=Z,22nm,4.6s						
CMAR	Chiang Mai Arr	79.70	294	P	P	04 37 45.4	+1.3
CMAR	Chiang Mai Arr	79.70	294	P	P	04 37 45.4	+1.3
	comp=Z,5.4nm,0.2s,baz=135,slow=4.6						
CHTO	Chiang Mai	79.85	295	eP	P	04 37 45.9	+0.9
	comp=Z,13nm,0.7s						
CD2	Chengdu	81.67	307	P	P	04 37 55.6	+1.2
CD2				pP	pP	04 38 28.5	+1.3
CD2				sP	sP	04 38 42.6	+1.6
CD2				PP	PP	04 41 06.3	+3.1
CD2				S	S	04 47 56.1	-0.3
CD2				sS	sS	04 48 53.3	+0.3
CD2				SS	SS	04 53 19.6	+2.3
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,200nm,3.8s						
CD2				LR	LR		
	comp=N,630nm,4.2s						
CD2				LR	LR		
	comp=Z,260nm,8.9s						
HHC	Hu-ho-hao-te	81.80	319	eP	P	04 37 57.1	+2.1
HHC				pP	pP	04 38 29.3	+1.5
HHC				sP	sP	04 38 42.2	+0.6
HHC				PP	PP	04 41 07.3	+3.1
HHC				S	S	04 47 58.8	+1.3
HHC				sS	sS	04 48 53.5	-0.6
HHC				SS	SS	04 53 21.0	+2.0
HHC				pmax	pmax		
	comp=Z,34nm,0.7s						
HHC				pmax	pmax		
	comp=Z,140nm,5.0s						
HHC				LR	LR		
	comp=N,400nm,16.7s						
HHC				LR	LR		
	comp=E,590nm,16.7s						
HHC				LR	LR		
	comp=Z,270nm,17.8s						
SYO	Syowa Base	83.60	196	⇓epP	pP	04 38 36.3	-0.3
LZH	Lanzhou	84.23	312	eP	P	04 38 08.7	+1.1
LZH				pP	pP	04 38 39.5	-1.1
LZH				sP	sP	04 38 52.2	-2.2
LZH				PP	PP	04 41 28.3	+4.1
LZH				SKS	SKSac	04 48 19.4	+0.1
LZH				eS	S	04 48 23.4	+1.0
LZH				sS	sS	04 49 18.6	-0.7
LZH				SS	SS	04 53 57.5	+2.3
LZH				pmax	pmax		
	comp=Z,32nm,1.2s						
LZH				pmax	pmax		
	comp=Z,98nm,4.8s						
SAO	San Andreas Ge	86.40	49	eP	P	04 38 19.5	+1.3
	comp=Z,9.8nm,0.9s						
PKM	Peak Mountain	86.67	51	⇑P	P	04 38 20.1	+0.2
	baz=87						
SMMC	Simmler	86.73	50	⇓P	P	04 38 20.8	+0.9
	baz=87						
KHMM	Horse Mountain	86.91	44	eP	P	04 38 21.2	+0.4
	comp=Z,42nm,1.4s						
ARVC	Arvin	87.50	51	⇑P	P	04 38 23.9	+0.3
	baz=88						
SNAA	Sanae	87.62	182	eP	P	04 38 23.1	-0.6
	comp=Z,2.4nm,0.8s						
OHCM	Honcut	87.63	46	eP	P	04 38 24.6	+0.6
VES	Vestal, Richgr	87.64	50	⇑P	P	04 38 24.5	+0.3
	baz=88						
RCTC	Rector, Farmer	87.75	50	⇓P	P	04 38 25.4	+0.7
	baz=88						
CMB	Columbia Colle	87.75	48	eP	P	04 38 24.8	0.0
	comp=Z,10.0nm,0.8s						
109C	Camp Elliot, M	87.76	54	⇓P	P	04 38 25.5	+0.6
	baz=88						
BFSC	Mount Baldy Ra	87.95	52	⇑P	P	04 38 26.2	+0.3
	baz=88						
EDW2	Edwards Air Fo	88.00	52	⇓P	P	04 38 26.2	+0.1
	baz=88,SNR=6.3						
ISA	Isabella	88.00	51	eP	P	04 38 26.4	+0.3
	comp=Z,12nm,0.9s						
ISA	Isabella	88.00	51	⇓P	P	04 38 26.8	+0.7
	baz=88,SNR=10						
MURC	Murrieta	88.01	53	⇑P	P	04 38 26.1	+0.1
	baz=88						
MONP	Monument Peak	88.28	54	⇑P	P	04 38 27.4	-0.2
	baz=88,SNR=6.0						
HUMO	Hull Mountain	88.29	43	eP	P	04 38 27.6	+0.4
	comp=Z,11nm,1.0s						
ULN	Ulaanbaatar	88.48	323	eP	P	04 38 27.4	-0.7
	comp=Z,8.8nm,1.2s						
LRMC	Laurel Mountai	88.49	51	⇑P	P	04 38 28.8	+0.4
	baz=89,SNR=9.8						
BBRC	Big Bear Solar	88.51	52	⇑P	P	04 38 28.6	-0.1
	baz=89						
PFO	Pinyon Flat Ob	88.57	53	eP	P	04 38 28.5	-0.3
	comp=Z,7.5nm,1.1s						
PFO	Pinyon Flat Ob	88.57	53	⇑P	P	04 38 28.9	0.0
	baz=89						
WAKR	Walker	88.64	48	eP	P	04 38 29.7	+0.6
CWC	Cottonwood Cre	88.64	50	⇑P	P	04 38 29.7	+0.6
	baz=89						
GTA	Gaotai	88.64	313	⇓P	P	04 38 28.9	-0.1
GTA				pP	pP	04 39 01.3	-1.0
GTA				sP	sP	04 39 14.3	-1.7
GTA				S	S	04 49 03.6	-1.3
GTA				sS	sS	04 50 00.4	-2.0
GTA				SS	SS	04 55 01.8	+2.2
GTA				pmax	pmax		
	comp=Z,9.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,54nm,6.2s						
GTA				LR	LR		
	comp=N,230nm,18.3s						
GTA				LR	LR		
	comp=E,310nm,19.7s						
GTA				LR	LR		
	comp=Z,89nm,19.9s						
MTUM	Tungsten Hills	88.71	49	eP	P	04 38 30.4	+0.9
SWSC	Sam W. Stewart	88.77	54	⇑P	P	04 38 30.2	+0.6
	baz=89						
TIN	Tinemaha	88.81	50	⇑P	P	04 38 30.4	+0.6
	baz=89						
SONM	Songino Array	88.83	323	P	P	04 38 29.5	-0.3
SONM	Songino Array	88.83	323	P	P	04 38 29.5	-0.3
	comp=Z,4.4nm,0.9s,baz=136,slow=5.8,SNR=19						
MPMC	Manual Prospec	88.89	51	⇓P	P	04 38 31.4	+1.0
	baz=89,SNR=12						
GSC	Goldstone	89.05	52	eP	P	04 38 32.1	+1.1
	comp=Z,14nm,1.3s						
GSC	Goldstone	89.05	52	⇓P	P	04 38 31.5	+0.5
	baz=89						
BELC	Belle Mtn. Jos	89.08	53	⇑P	P	04 38 31.6	+0.4
	baz=89,SNR=15						
HEC	Hector,Ludlow	89.20	52	⇓P	P	04 38 32.3	+0.6
	baz=89,SNR=5.7						
PAHR	Pah Rah Range	89.23	47	eP	P	04 38 32.5	+0.6
	comp=Z,16nm,1.1s						
BC3	Big Chuckawall	89.34	54	⇓P	P	04 38 33.1	+0.7
	baz=90,SNR=9.4						
GRAC	Grapevine Rang	89.40	50	⇑P	P	04 38 32.9	+0.3
	baz=90,SNR=10						
NV11	Mina Array Sit	89.49	48	eP	P	04 38 32.9	-0.2
FURC	Furnace Creek,	89.53	51	⇑P	P	04 38 33.7	+0.6
	baz=90,SNR=13						
GLA	Glamis	89.56	54	eP	P	04 38 34.6	+1.2
	comp=Z,24nm,0.9s						
GLA	Glamis	89.56	54	⇓P	P	04 38 34.1	+0.8
	baz=90,SNR=6.9						
MOD	Modoc	89.66	44	eP	P	04 38 33.8	0.0
	comp=Z,45nm,1.0s						
GMRC	Granite Mounta	89.67	52	⇑P	P	04 38 34.4	+0.5
	baz=90,SNR=8.5						
K05A	Summer Lake	89.67	44	eP	P	04 38 34.4	+0.5
	comp=Z,16nm,1.0s						
SHOC	Shoshone	89.70	51	⇑P	P	04 38 34.1	+0.2
	baz=90,SNR=8.2						
TUQ	Turquoise Moun	89.76	52	⇑P	P	04 38 34.8	+0.4
	baz=90,SNR=6.1						
IRM	Iron Mountain	89.78	53	⇑P	P	04 38 35.4	+1.1
	baz=90,SNR=13						
H04A	Detroit Lake	89.82	41	eP	P	04 38 33.9	-0.4
	comp=Z,8.4nm,0.8s						
E03A	Lebam	89.92	39	eP	P	04 38 34.5	-0.1
	comp=Z,26nm,1.0s						
Y12C	Blythe	90.08	54	⇑P	P	04 38 36.5	+0.7
	baz=90,SNR=9.7						
NLWA	Neilton Lookou	90.18	38	eP	P	04 38 36.4	+0.5
	comp=Z,13nm,1.0s						
PINOR	Pine Mountain	90.21	43	eP	P	04 38 37.1	+1.1
	comp=Z,14nm,0.9s						
113A	Mohawk Valley,	90.25	55	⇑P	P	04 38 36.9	+0.4
	baz=90,SNR=9.9						
PDMCI	Parker Dam,Lak	90.60	53	⇓P	P	04 38 38.7	+0.5
	baz=91,SNR=5.5						
214A	Organ Pipe Nat	90.65	56	⇑P	P	04 38 39.2	+0.7
	baz=91,SNR=7.8						
SHPR	Sheep Range	90.78	51	eP	P	04 38 39.6	+0.4
WVOR	Wild Horse Val	91.00	45	eP	P	04 38 39.8	-0.2
	comp=Z,7.6nm,1.0s						
Z14A	Wintersburg	91.12	55	⇓P	P	04 38 41.1	+0.5
	baz=91,SNR=5.7						
W13A	Hualapai Mount	91.12	53	⇓P	P	04 38 41.3	+0.4
	baz=91,SNR=11						
D05A	Enumclaw	91.18	39	eP	P	04 38 41.9	+1.4
	comp=Z,50nm,1.5s						
I07A	Izee	91.21	43	eP	P	04 38 41.1	+0.2
	comp=Z,6.7nm,0.9s						
R11A	Troy Canyon, C	91.27	49	eP	P	04 38 41.6	+0.2
	comp=Z,4.0nm,0.8s						
R11A	Troy Canyon, C	91.27	49	⇑P	P	04 38 41.7	+0.3
	baz=92						
Y14A	Wickenburg	91.31	54	⇓P	P	04 38 41.7	+0.1
	baz=92,SNR=7.7						
J08A	Circle Bar Ran	91.53	44	eP	P	04 38 42.0	-0.4
	comp=Z,9.8nm,0.8s						
ILAR	Eielson Array	91.55	17	P	P	04 38 39.5	-2.4
ILAR	Eielson Array	91.55	17	P	P	04 38 39.5	-2.4
	comp=Z,1.0nm,0.8s,baz=235,slow=4.6,SNR=11						
G08A	Pilot Rock	92.12	42	eP	P	04 38 45.3	+0.2
	comp=Z,5.9nm,0.8s						
TUC	Tucson	92.36	56	eP	P	04 38 47.0	+0.5
	comp=Z,8.0nm,1.1s						
CCUT	Cedar City	92.52	51	eP	P	04 38 48.2	+0.9
	comp=Z,4.1nm,1.0s						
ELK	Elko	92.54	47	eP	P	04 38 47.6	+0.4
	comp=Z,57nm,3.0s						
X16A	Lo Mia Camp, P	92.69	54	⇓P	P	04 38 48.4	+0.4
	baz=93,SNR=17						
U15A	North Rim	92.85	52	⇓P	P	04 38 49.8	+1.0
	baz=93						
WUAZ	Wupatki	93.17	53	eP	P	04 38 50.8	+0.6
	comp=Z,9.1nm,1.0s						
WUAZ	Wupatki	93.17	53	⇑P	P	04 38 51.2	+0.9
	baz=93						
319A	Douglas	93.19	58	⇓P	P	04 38 51.1	+0.7
	baz=93						
MFID	Camas Ranch	93.29	45	⇓P	P	04 38 51.1	+0.6
	baz=94						
F10A	Beach Ranch, E	93.51	42	eP	P	04 38 51.0	-0.5
	comp=Z,109nm,3.0s						
MVU	Marysvale	93.74	50	eP	P	04 38 53.8	+0.9
	comp=Z,55nm,2.6s						
320A	Kipp Ranch, An	93.77	58	⇓P	P	04 38 53.8	+0.7
	baz=94,SNR=6.2						
X18A	Snowflake	93.86	55	⇑P	P	04 38 54.3	+0.8
	baz=94						
DUG	Dugway	93.99	49	⇑P	P	04 38 54.1	+0.2
	baz=94						
HLID	Hailey	94.28	45	⇑P	P	04 38 55.7	+0.5
	baz=94						
121A	Cookes Peak, D	94.80	57	⇑P	P	04 38 58.4	+0.6
	baz=95						
X20A	Quemado	94.98	55	⇓P	P	04 38 58.9	+0.2
	baz=95						
Z21A	St. Cloud Mine	95.17	56	⇓P	P	04 38 60.0	+0.5
	baz=95						
SRU	San Rafael	95.19	50	eP	P	04 38 60.0	+0.6
	comp=Z,56nm,2.9s						
W20A	Ramah	95.19	55	⇓P	P	04 38 60.0	+0.4

baz=97
PLCA Paso Flores 96.96 138 *e*P **P 04 39 07.9 +0.5**
TXAR Lajitas Array 96.98 61 P **P 04 39 07.9 +0.2**
TXAR Lajitas Array 96.98 61 P **P 04 39 07.9 +0.2**
comp=Z,1.5nm,1.0s,baz=210,slow=7.2,SNR=7.6
T22A Edith 97.08 53 ⇑P **P 04 39 07.6 -0.6**
baz=97
Y24A Capitan 97.13 57 ⇑P Pdif 04 39 08.5 +0.1
baz=97
426A McDonald Obser 97.14 60 ⇓P Pdif 04 39 08.9 +0.3
baz=97
627A Terlingua Ranc 97.25 61 ⇑P Pdif 04 39 09.3 +0.3
baz=97
527A Woodward Ranch 97.30 61 ⇓P Pdif 04 39 09.6 +0.4
baz=98
125A Gardner Draw, 97.31 58 ⇑P Pdif 04 39 09.3 +0.1
baz=98
S22A 4UR Ranch, Cre 97.39 53 ⇓P Pdif 04 39 09.7 +0.1
baz=98
W24A Lazy 6 Ranch, 97.59 55 ⇑P Pdif 04 39 11.3 +0.8
baz=98
427A Hayter Ranch, 97.71 60 ⇓P **P 04 39 10.7 -0.2**
baz=98
L20A Wamsutter 97.81 48 ⇑Pdiff Pdif 04 39 12.3 +1.0
baz=98
INK Inuvik 97.84 18 *e*P **P 04 39 09.8 -0.6**
comp=Z,24nm,1.7s
V24A Rampart Ranch, 97.87 55 ⇓Pdiff Pdif 04 39 12.2 +0.4
baz=98
Z26A Caprock 98.05 58 ⇑Pdiff **P 04 39 12.1 -0.3**
baz=98
WMQ Urumqi 98.72 313 *e*P P 04 39 05.8 -9.3
WMQ pP pP 04 39 38.4 -10
WMQ sP sP 04 39 51.8 -10
WMQ pmax pmax
comp=Z,8.0nm,1.0s
WMQ pmax pmax
comp=Z,79nm,4.1s
WMQ LR LR
comp=N,72nm,28.0s
WMQ LR LR
comp=Z,45nm,18.3s
429A Davenport Ranc 98.86 61 ⇑Pdiff **P 04 39 16.1 0.0**
baz=99
N23A Red Feather La 99.11 50 ⇓Pdiff **Pdif 04 39 17.7 +0.5**
baz=99
Z30A Sanderson Ranc 100.32 58 ⇓Pdiff **Pdif 04 39 23.7 +1.2**
baz=100
231A Bronte 100.56 60 ⇓Pdiff **Pdif 04 39 24.2 +0.7**
baz=101
432A Menard 100.66 61 ⇑Pdiff **Pdif 04 39 25.1 +1.1**
baz=101
Z32A Haskell 101.64 59 ⇓Pdiff **Pdif 04 39 29.1 +0.8**
baz=102
MKAR Makanchi Array 103.28 315 Pdif **Pdif 04 39 34.8 -0.4**
MKAR Makanchi Array 103.28 315 Pdiff **Pdif 04 39 34.8 -0.4**
comp=Z,0.5nm,0.5s,baz=98,slow=5.6,SNR=6.0
KSH Kashi 105.86 307 *e*Pdif **Pdif 04 39 45.7 -1.3**
KSH PP **PP 04 44 13.4 +1.6**
KSH S **Sdif 04 51 25.6 -7.9**
KSH SS **SS 04 58 59.0 -2.9**
KSH LR LR
comp=N,91nm,6.9s
KSH LR LR
comp=E,130nm,4.7s
KSH LR LR
comp=Z,150nm,5.9s
TKM2 Tokmak 2 106.92 310 *e*PKP **PKiKP 04 44 01.7 +0.7**
KBL Kabul 110.16 300 *e*PKP **PKiKP 04 44 06.0 -1.3**
ABKAR Akbulak array 118.42 316 *e*PKPdif **PKPdif 04 44 22.0 -0.3**
ARCES ARCESS Array B 126.74 345 PKP **PKPdif 04 44 36.7 -1.0**
ARCES ARCESS Array B 126.74 345 PKP **PKPdif 04 44 36.7 -1.0**
comp=Z,2.7nm,0.6s,baz=38,slow=1.6,SNR=14
LSZ Lusaka 128.03 229 *e*PKPdif **PKPdif 04 44 42.0 0.0**
KMBO Kilima Mbogo 128.80 251 *e*PKPdif **PKPdif 04 44 44.3 +0.6**
FINES FINESS Array B 132.26 337 PKP **PKPdif 04 44 46.1 -2.3**
FINES SKPbc **SKPbc 04 48 01.2 -1.9**
FINES FINESS Array B 132.26 337 PKP **PKPdif 04 44 46.2 -2.3**
comp=Z,2.4nm,0.8s,baz=101,slow=8.0,SNR=4.4
FINES SKPbc **SKPbc 04 48 01.2 -1.9**
comp=Z,2.5nm,1.0s,baz=307,slow=6.9,SNR=4.6
AKASG Malin Array Be 137.11 324 PKP **PKPdif 04 44 57.3 -0.5**
AKASG Malin Array Be 137.11 324 PKP **PKPdif 04 44 57.3 -0.5**
comp=Z,1.3nm,0.6s,baz=96,slow=0.9,SNR=4.0
NB2 NORSAR Subarra137.11 345 PKPdif PKPpre 04 44 45.5
comp=Z,8.1nm,1.7s,baz=31,slow=1.9
NOA NORSAR Array B 137.11 345 PKP **PKPdif 04 44 56.3 -1.3**
NOA NORSAR Array B 137.11 345 PKP **PKPdif 04 44 56.3 -1.3**
comp=Z,1.0nm,0.7s,baz=29,slow=2.0,SNR=5.6
KIEV Kiev 137.13 324 *e*PKPdif **PKPdif 04 44 58.0 +0.1**
NAO01 NORSAR Array S 137.36 345 *e*PKPdif **PKPdif 04 44 59.1 +1.1**
BR131 Keskin Array S 138.24 307 *e*PKPdif **PKPdif 04 45 01.2 +0.7**
BRTR Keskin Array B 138.24 307 PKP **PKPdif 04 44 59.6 -0.9**
BRTR SKPbc **SKPbc 04 48 21.9 -1.1**
BRTR Keskin Array B 138.24 307 PKP **PKPdif 04 44 59.6 -0.9**
comp=Z,0.8nm,0.5s,baz=174,slow=4.5,SNR=4.4
BRTR SKPbc **SKPbc 04 48 21.9 -1.1**
comp=Z,1.3nm,0.9s,baz=36,slow=3.2,SNR=4.7
KOLS Kolonicke sedl 141.86 325 *e*PKP **PKPdif 04 45 08.7 +2.1**
STHS Stebnicka Huta 142.11 326 *e*PKP **PKPdif 04 45 06.9 -0.1**
KECS Kecovo 143.08 326 *e*PKP **PKPdif 04 45 09.9 +1.1**
MORC Moravsky Berou 143.72 329 *e*PKPpre PKPpre 04 45 06.5
MORC *e*PKPdif **PKPdif 04 45 09.8 -0.1**
DPC Dobruska-Polom 143.89 331 *e*PKP PKPab 04 45 07.7 +0.1
DPC *ex* x 04 45 39.8
DPC Dobruska-Polom 143.89 331 *e*PKPdif PKPab 04 45 07.6 -0.1
VYHS Vyhne 143.93 327 *e*PKP PKPbc 04 45 08.3 -0.1
PVCC Panska Ves 144.53 333 *e*PKP **PKPab 04 45 09.1 -0.9**
BRG Berggiesshubel 144.54 334 *i* PKP **PKPab 04 45 09.1 -0.9**
comp=Z,16nm,0.6s
BRG *i* 04 45 10.5
comp=Z,16nm,0.9s
BRG *e* 04 45 55.0
comp=Z,7.1nm,0.9s
BRG Berggiesshubel 144.54 334 *e*PKPbc **PKPab 04 45 09.1 -0.9**
comp=Z,16nm,0.6s
CLL Collm 144.59 335 *e*PKPbc **PKPab 04 45 09.1 -1.1**
comp=Z,17nm,0.7s
CLL Collm 144.59 335 ⇓*i*PKPdif **PKPab 04 45 09.2 -1.0**
comp=Z,17nm,0.7s
CLL *e*pPKiKP **pPKiKP 04 45 55.0 +5.2**
FBE Freiberg 144.75 334 *e*PKPbc **PKPab 04 45 10.2 -0.5**
comp=Z,20nm,0.8s
PRU Pruhonice 144.94 332 *e*PKP PKPbc 04 45 10.7 -0.8
TREC Trest 145.02 330 *e*PKP **PKPbc 04 45 10.8 -1.0**
CLZ Clausthal 145.16 338 *e*PKPbc **PKPbc 04 45 11.3 -0.9**
comp=Z,22nm,1.0s
ESK Eskdalemuir 145.16 353 *e*PKPbc **PKPbc 04 45 10.2 -1.8**
TANN Tannenbergstha 145.50 334 *e*pPKPbc pPKPbc 04 45 59.0 +11
WERD Werda 145.54 334 *e*PKPbc **PKPdf 04 45 12.6 -0.4**
comp=Z,18nm,0.8s
PLN Plauen 145.57 335 *e*PKPbc **PKPdf 04 45 12.5 -0.5**
PLN *e*pPKPbc pPKPbc 04 45 59.2 +11
GUNZ Gunzen 145.59 334 *e*PKPbc **PKPdf 04 45 13.3 +0.2**
comp=Z,26nm,0.9s
MOX Moxa 145.66 335 *e*PKPbc **PKPdf 04 45 13.3 +0.1**
comp=Z,10.0nm,0.9s
MOX *e*pPKPbc pPKPbc 04 45 59.5 +11
ROHR Rohrbach 145.70 334 *e*PKPbc **PKPbc 04 45 13.8 -0.1**
CONA Conrad Observa 145.79 328 ⇑*i*PKPab **PKPbc 04 45 14.2 -0.1**
comp=Z,30nm,1.7s,SNR=9.9
CONA ⇓*i*PKiKP **pPKiKP 04 45 59.4 +6.9**
comp=Z,12nm,1.0s
MANZ Manzenberg 145.98 334 *e*PKPbc **PKPdf 04 45 14.0 +0.2**
comp=Z,9.0nm,1.0s
KHC Kasperske Hory 146.00 332 *e*PKP **PKPdf 04 45 13.8 -0.1**
KHC *ex* x 04 45 46.1
KHC *ex* x 04 46 00.0
KHC Kasperske Hory 146.00 332 *e*PKPbc **PKPdf 04 45 14.1 +0.2**
KHC *e*pPKPdf **pPKPdf 04 45 46.2 -2.5**
IDI Anoyia 146.10 303 *e*PKPdif **PKPdf 04 45 14.5 0.0**
ROTZ Rotzenmuhle 146.11 334 *e*PKPbc **PKPdf 04 45 14.5 +0.5**
GEC2 GERESS Array S 146.16 331 *e*PKPbc **PKPdf 04 45 14.3 +0.1**
comp=Z,10.0nm,0.7s
GEC2 *e*pPKPbc pPKPbc 04 46 00.7 +11
GEC2 GERESS Array S 146.16 331 *e*PKPdif **PKPdf 04 45 14.4 +0.3**
GEC2 *e*PKPdif **PKPbc 04 45 14.9 -0.5**
GERES GERESS Array B 146.16 331 PKPbc **PKPdf 04 45 14.5 +0.3**
GERES GERESS Array B 146.16 331 PKPbc **PKPdf 04 45 14.5 +0.3**
comp=Z,8.1nm,0.6s,baz=34,slow=2.9,SNR=67
GRF Grafenberg Arr 146.57 335 *e*PKPbc **PKPbc 04 45 15.9 -0.6**
MOA Molln 146.62 330 ⇑*i*PKPbc **PKPbc 04 45 16.0 -0.7**
comp=Z,8.8nm,0.5s
SOKA Soboth 147.06 327 ⇑*i*PKPbc **PKPbc 04 45 17.0 -1.0**
comp=Z,4.6nm,0.7s

CRES Cresnjev 147.42 326 *i* PKPbc **PKPbc 04 45 18.1 -0.9**
CRES *i* pPKPbc pPKPbc 04 46 04.0 +11
PDKS Podkum 147.50 327 *i* PKPbc **PKPbc 04 45 18.2 -1.0**
KBA Koelnbreinsper 147.61 329 ⇑*i*PKPbc **PKPdf 04 45 18.2 +1.4**
comp=Z,9.0nm,0.6s
MEM Membach 147.66 341 PKPbc **PKPbc 04 45 18.7 -0.7**
LJU Ljubljana 147.75 327 *i* PKPbc **PKPbc 04 45 18.9 -0.9**
LJU *i* pPKPbc pPKPbc 04 46 05.0 +11
MYKA Terra Mystica 147.78 329 ⇑*i*PKPbc **PKPdf 04 45 18.5 +1.5**
comp=Z,7.3nm,0.5s
CEY Cerknica 148.01 327 *i* PKPbc **PKPbc 04 45 19.5 -1.1**
BCLA Clavier 148.04 341 PKPbc **PKPbc 04 45 21.4 +1.0**
STU Stuttgart 148.10 336 *e*PKPdif **PKPdf 04 45 17.7 +0.4**
STU *e*PKPbc **PKPbc 04 45 20.2 -0.5**
STU *e*PKPab **PKPab 04 45 23.3 -0.5**
ABTA Abfaltersbach 148.24 330 ⇑*i*PKPbc **PKPbc 04 45 19.7 -1.5**
comp=Z,8.6nm,0.6s
WTTA Wattenberg 148.26 331 ⇓*i*PKPbc **PKPbc 04 45 20.1 -1.2**
WTTA ⇓*is*PKPdf **sPKPdf 04 46 06.0 -0.1**
comp=Z,14nm,1.0s
MOTA Moosalm 148.44 332 *i* PKPbc **PKPbc 04 45 20.7 -1.1**
comp=Z,11nm,0.8s,SNR=7.8
MOTA ⇑*is*PKPdf **sPKPdf 04 46 06.5 +0.1**
RETA Reutte 148.47 332 ⇑*i*PKPbc **PKPbc 04 45 20.8 -1.0**
comp=Z,6.6nm,1.0s
DOU Dourbes 148.54 342 PKPbc **PKPbc 04 45 21.0 -0.7**
BFO Black Forest 148.79 336 *e*PKPdif **PKPdf 04 45 18.1 -0.4**
BFO *e*PKPbc **PKPbc 04 45 21.2 -1.3**
BFO *e*PKPab **PKPab 04 45 25.8 -0.9**
FETA Feichten 148.85 332 *i* PKPbc **PKPbc 04 45 22.2 -0.6**
comp=Z,10nm,0.7s,SNR=5.7
FETA ⇓*is*PKPdf **sPKPdf 04 46 08.0 +1.0**
comp=Z,10nm,0.7s
DAVA Damuels 149.01 333 ⇑*i*PKPbc **PKPbc 04 45 22.5 -0.8**
comp=Z,10nm,0.7s
FUORN Ofenpass-Fuorn 149.36 332 *e*PKPbc **PKPbc 04 45 23.6 -0.7**
TUE Stuetta 149.87 333 *e*PKPbc **PKPbc 04 45 24.2 -1.3**
TUE *e*PKPab **PKPab 04 45 30.7 -0.7**
SENIN Lac Senin/Sane 150.81 335 *e*PKPbc **PKPbc 04 45 26.6 -1.1**
BNI Bardonecchia 152.13 334 *e*PKPbc **PKPbc 04 45 30.2 -0.4**
TAM Tamanrasset 165.34 281 *e*PKPab **PKPab 04 46 38.9 +0.1**
TORD Torodi Ar. Bea 166.38 238 PKP **PKPdf 04 45 39.8 -1.2**
TORD Torodi Ar. Bea 166.38 238 PKP **PKPdf 04 45 39.8 -1.2**
comp=Z,0.4nm,0.6s,baz=129,slow=0.3,SNR=4.8

IDC 11 04:48:01.4±7.5, 19°.36N×109°.48W, h0km, mb3.2/2, mb1 3.8/4, mb1mx3.7/20, mbtmp3.5/4, ML3.9/2, MS3.1/2, Ms1 3.1/2, ms1mx2.7/11, Error ellipse: s-maj=127.4km s-min=68.3km az=144.0, Revilla Gigedo Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**4.79**	**351**	Pn	Pn	04 49 13.8	-0.9
	8.7nm,0.3s,baz=158,slow=5.6,SNR=4.8						
LPIG				LR	LR	04 50 49.8	
	comp=Z,155nm,19.7s,baz=162,slow=35						
TXAR	**Lajitas Array**	**11.26**	**27**	Pn	Pn	04 50 45.0	+1.3
	0.1nm,0.3s,baz=197,slow=12,SNR=16						
PFO	**Pinyon Flat Ob**	**15.50**	**338**	LR	LR	04 57 16.0	
	comp=Z,70nm,18.2s,baz=348,slow=36						
PDAR	**Pinedale Array**	**23.34**	**360**	P	P	04 53 12.2	+0.7
	0.2nm,0.6s,baz=155,slow=13,SNR=2.8						
ILAR	**Eielson Array**	**51.75**	**341**	P	P	04 57 10.0	-0.4
	0.5nm,0.6s,baz=145,slow=6.7,SNR=7.2						

IDC 11 04:57:16.3±1.1, 13°.94N×93°.16E, h0km, mb3.7/7, mb1 3.9/8, mb1mx3.7/29, mbtmp3.7/8, Error ellipse: s-maj=39.7km s-min=18.3km az=63.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.14**	**50**	Pn	Pn	04 59 03.3	+1.1
	baz=238,slow=16						
MKAR	**Makanchi Array**	**33.99**	**347**	P	P	05 04 01.2	-0.5
	0.5nm,0.9s,baz=166,slow=8.3,SNR=3.7						
SONM	**Songino Array**	**35.54**	**15**	P	P	05 04 14.3	-0.9
	0.1nm,0.4s,baz=188,slow=8.7,SNR=2.0						
KURBB	**Kurchatov Arra**	**38.47**	**345**	P	P	05 04 40.5	+0.7
	0.4nm,0.4s,baz=160,slow=8.5,SNR=4.3						
FITZ	**Fitzroy Crossi**	**45.17**	**134**	P	P	05 05 34.8	-0.3
	1.7nm,0.4s,baz=332,slow=6.8,SNR=20						
WRA	**Warramunga Arr**	**52.68**	**129**	P	P	05 06 32.7	-0.2
	1.3nm,0.8s,baz=313,slow=8.2,SNR=18						
ASAR	**Alice Springs**	**54.63**	**133**	P	P	05 06 47.3	+0.1
	1.0nm,0.5s,baz=309,slow=7.2,SNR=5.9						
TORD	**Torodi Ar. Bea**	**88.28**	**283**	P	P	05 10 10.5	0.0
	0.6nm,0.8s,baz=87,slow=6.1,SNR=3.5						

MAN 11 04:58:28, 18°.29N×120°.70E, h33km, mb4.3, ML3.1, MS2.8, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.09**	**292**	⇓*i*P	Pb	04 58 34.5	+0.8
SIPP	**Brgy, Tapao**	**0.44**	**212**	⇑*i*P	Pn	04 58 39.9	+1.9
ABRA	**Dolores**	**0.64**	**179**	*e*P	Pb	04 58 41.9	+1.0
ABRA				*e*S	Sb	04 58 47.5	-2.2
APYP	**Conner**	**0.67**	**130**	*e*P	Pb	04 58 43.1	+1.7
APYP				*e*S	Sn	04 58 52.0	+1.5
CAUP	**Cauayan**	**1.71**	**141**	*e*P	Pb	04 59 00.7	+1.8

NIED ***11*** *05:01:00, 45°.10N×141°.90E, h5km, Mw3.7 Best double couple: M₀3.56000×10¹⁴ NP1:ϕs178.00000°, δ65.00000°, λ118.00000°. NP2:ϕs306.00000°, δ37.00000°, λ44.00000°.*

JMA 11 05:01:42.5±0.1, 45°.08N×141°.88E, h10km±3km, M3.4, 1C-3D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWK2	**Keihoku**	**0.24**	**3**	⇓P	Pg	05 01 47.4	0.0
JWK2				*e*S	Sg	05 01 52.8	+2.2
JRR	**Rishiri**	**0.41**	**278**	⇓P	Pg	05 01 50.1	-0.4
JRR				*e*S	Sb	05 01 57.6	-0.4
JSE	**Soyaes**	**0.51**	**103**	⇓P	Pg	05 01 51.9	-0.6
JSE				*e*S	Sb	05 02 00.7	-0.4
JSS	**Shosan**	**0.68**	**182**	⇑P	Pg	05 01 55.3	-0.4

MAN 11 05:02:56, 18°.28N×120°.64E, h49km, mb4.1, ML2.9, MS2.7, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.05**	**332**	⇓*i*P	Pn	05 03 04.2	+0.6
SIPP	**Brgy, Tapao**	**0.40**	**206**	⇑*i*P	Pn	05 03 09.4	+3.4
ABRA	**Dolores**	**0.63**	**174**	*e*P	Pn	05 03 11.4	+2.5
ABRA				*e*S	Sn	05 03 19.9	+1.7
APYP	**Conner**	**0.71**	**126**	*e*P	Pn	05 03 12.6	+2.8
APYP				*e*S	Sn	05 03 19.5	-0.3
CAUP	**Cauayan**	**1.74**	**140**	*e*P	Pn	05 03 24.7	+0.8

NIED ***11*** *05:08:00, 45°.10N×141°.90E, h8km, Mw3.8 Best double couple: M₀5.15000×10¹⁴ NP1:ϕs163.00000°, δ58.00000°, λ90.00000°. NP2:ϕs343.00000°, δ32.00000°, λ90.00000°.*
IDC ***11*** *05:08:33.8±1.0, 45°.06N×141°.99E, h0km, mb3.6/6, mb1 4.0/6, mb1mx3.7/21, mbtmp3.6/6, MS2.6/1, Ms1 2.6/1, ms1mx2.2/32, Error ellipse: s-maj=27.8km s-min=16.5km az=83.0*
ISCJB ***11*** *05:08:36.4±0.5, 45°.10N±0°.04×141°.88E±0°.06, h29km±4km, mb3.5/6, Error ellipse: s-maj=7.3km s-min=6.3km az=165.7*
JMA ***11*** *05:08:37.0±0.1, 45°.08N×141°.87E, h10km±3km, M3.7*
JMA Felt III J1.

ISC 11 05:08:36.6±2.1, 45°.07N±0°.04×141°.91E±0°.05, h20km±7km, n13, σ0s76/17, mb3.5/6, 4D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWK2	**Keihoku**	**0.25**	**358**	⇓P	**Pb**	**05 08 42.0**	**-0.4**
JWK2				*e*S	**Sb**	**05 08 47.5**	**+1.3**
JRR	**Rishiri**	**0.43**	**280**	⇓P	**Pb**	**05 08 44.6**	**-1.0**
JRR				*e*S	**Sb**	**05 08 52.1**	**+0.5**
JSE	**Soyaes**	**0.49**	**102**	⇓P	**Pb**	**05 08 46.5**	**-0.1**
JSE				*e*S	**Sn**	**05 08 55.0**	**-1.5**
JSS	**Shosan**	**0.67**	**183**	⇓P	**Pb**	**05 08 49.9**	**+0.3**
JSS				S	**Sn**	**05 09 00.6**	**-0.2**
JYG	**Yagishiri**	**0.72**	**208**	S	**Sb**	**05 08 59.3**	**-0.7**

ASAJ Asahikawa 1.07 152 Pn **Pb 05 08 56.0 -0.5**
65nm,0.3s,baz=322,slow=9.9,SNR=78
ASAJ Sn **Sn 05 09 11.0 +0.2**
52nm,0.3s,baz=99,slow=19,SNR=12
KSRS Korea Array 12.97 239 LR LR 05 16 05.1
comp=Z,25nm,18.3s,baz=240,slow=35
SONM Songino Array 24.49 289 P **P 05 13 55.4 +0.8**
0.5nm,0.7s,baz=72,slow=9.4,SNR=3.1
ILAR Eielson Array 42.67 37 P **P 05 16 30.9 -0.6**
0.7nm,0.8s,baz=287,slow=8.0,SNR=8.1
YKA Yellowknife Ar 56.76 33 P **P 05 18 18.8 +0.1**
1.5nm,0.7s,baz=317,slow=7.0,SNR=2.7
WRA Warramunga Arr 65.06 188 P **P 05 19 15.5 0.0**
0.4nm,0.8s,baz=6.7,slow=6.7,SNR=3.9
PDAR Pinedale Array 71.85 47 P **P 05 19 58.4 +0.1**
0.6nm,0.7s,baz=315,slow=0.6,SNR=5.3
TXAR Lajitas Array 84.95 53 P **P 05 21 11.2 +0.6**
0.1nm,0.7s,baz=302,slow=4.4,SNR=4.1

MEX 11 05:20:14.9±0.7, 17°.64N×102°.89W, h16km±15km, MD3.7, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.78**	**326**	*e*P	Pb	05 20 27.0	-3.1
MMIG				*e*S	Sg	05 20 36.9	-3.6
ZIIG	**Zihuatanejo**	**1.36**	**91**	*e*P	Pn	05 20 35.5	-3.8
ZIIG				*i* S	Sn	05 20 51.3	-5.7
ARIG	**Puente Sto Nin**	**2.50**	**75**	*e*P	Pn	05 20 52.5	-2.5
ARIG				*i* S	Sn	05 21 20.7	-4.6

IDC ***11*** *05:24:33.8±1.1, 15°.69N×120°.21E, h0km, mb3.5/6, mb1 3.7/6, mb1mx3.5/26, mbtmp3.5/6, Error ellipse: s-maj=40.1km s-min=19.7km az=70.0*
ISCJB ***11*** *05:24:38.3±1.4, 15°.53N±0°.08×119°.6E±0°.1, h47km±10km, mb3.4/5, Error ellipse: s-maj=24.6km s-min=11.5km az=161.6*
MAN ***11*** *05:24:43, 15°.80N×119°.88E, h28km*

ISC 11 05:24:39.3±1.5, 15°.56N±0°.07×119°.7E±0°.1, h42km±12km, n17, σ1s87/17, mb3.5/5, 2C-2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCZP	**Santa Cruz**	**0.30**	**43**	*e*P	**Pn**	**05 24 48.5**	**+0.8**
SCZP				*e*S	**Sn**	**05 24 53.1**	**-0.5**
PCPH	**Palayan**	**1.35**	**90**	⇓*e*P	**Pn**	**05 25 03.2**	**+1.6**
BALP	**Baler**	**1.82**	**84**	*e*P	**Pn**	**05 25 10.3**	**+2.2**
LQP	**Lukban**	**2.29**	**129**	*e*P	**Pn**	**05 25 14.4**	**-0.3**
ABRA	**Dolores**	**2.29**	**25**	*e*P	**Pn**	**05 25 14.4**	**-0.3**
ABRA				*e*S	**Sn**	**05 25 38.3**	**-3.4**
SIPP	**Brgy, Tapao**	**2.46**	**17**	⇑*i*P	**Pn**	**05 25 19.5**	**+2.6**
CAUP	**Cauayan**	**2.46**	**56**	*e*P	**Pn**	**05 25 18.7**	**+1.8**
APYP	**Conner**	**2.73**	**33**	*e*P	**Pn**	**05 25 20.8**	**+0.2**
PIP	**Pasuquin**	**2.89**	**18**	⇓*i*P	**Pn**	**05 25 24.8**	**+2.0**
PALP	**Palanan**	**3.02**	**60**	*e*P	**Pn**	**05 25 26.4**	**+1.9**
GQP	**Guinayangan**	**3.12**	**121**	⇑*e*P	Pn	05 25 31.3	+5.3
CMAR	**Chiang Mai Arr**	**20.05**	**281**	P	Pn	05 29 14.3	+3.2
	1.0nm,0.3s,baz=91,slow=8.2,SNR=9.3						
KSRS	**Korea Array**	**23.00**	**17**	P	**P**	**05 29 38.4**	**-2.0**
	1.2nm,0.7s,baz=199,slow=10.0,SNR=5.4						
SONM	**Songino Array**	**34.01**	**344**	P	**P**	**05 31 18.7**	**-0.5**
	0.3nm,0.5s,baz=168,slow=7.4,SNR=2.5						
WRA	**Warramunga Arr**	**38.10**	**157**	P	**P**	**05 31 53.5**	**-0.8**
	0.2nm,0.3s,baz=346,slow=7.9,SNR=6.5						
ASAR	**Alice Springs**	**41.38**	**160**	P	**P**	**05 32 21.9**	**+0.3**
	0.5nm,0.5s,baz=337,slow=6.6,SNR=5.9						
KURBB	**Kurchatov Arra**	**48.12**	**326**	P	**P**	**05 33 16.6**	**+1.7**
	0.3nm,0.6s,baz=120,slow=7.9,SNR=4.6						

ISCJB ***11*** *05:59:12.5±0.7, 4°.37S±0°.07×142°.75E±0°.08, h115km, mb3.9/5, Error ellipse: s-maj=11.9km s-min=9.0km az=146.0*
IDC ***11*** *05:59:12.4±3.0, 4°.26S×142°.86E, h96km±32km, mb3.6/6, mb1 3.7/8, mb1mx3.6/17, mbtmp3.6/8, MS3.8/1, Ms1 3.8/1, ms1mx2.9/24, Error ellipse: s-maj=28.7km s-min=10.7km az=104.0*

ISC 11 05:59:14.2±0.8, 4°.25S±0°.08×142°.9E±0°.1, h115km, n15, σ1s50/15, mb3.7/6, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.63**	**141**	P	**Pn**	**06 00 48.8**	**-0.3**
	2.9nm,0.3s,baz=275,slow=11,SNR=5.9						
PMG				S	**Sn**	**06 02 03.9**	**+0.6**
	1.9nm,0.3s,baz=323,slow=22,SNR=5.7						
KDU	**Kakadu**	**13.30**	**230**	P	Pn	06 02 12.0	-6.5
	baz=3.6,SNR=18						
PALU	**Palau**	**14.27**	**324**	P	**Sn**	**06 05 08.5**	**-0.2**
	baz=18,SNR=5.1						
MTN	**Manton Dam**	**14.44**	**233**	P	Pn	06 02 28.2	-5.1
	baz=4.8,SNR=5.5						
WRA	**Warramunga Arr**	**17.70**	**207**	P	**P**	**06 03 10.8**	**-2.0**
	0.7nm,0.3s,baz=30,slow=13,SNR=29						
WRA				S	S	06 06 16.9	-14
	0.2nm,0.3s,baz=30,slow=22,SNR=2.9						
KNRA	**Kununurra**	**17.96**	**230**	P	**P**	**06 03 13.8**	**-1.8**
	baz=8.3,SNR=4.9						
SOEI	**Soe**	**19.30**	**253**	P	**Pn**	**06 03 31.7**	**-1.0**
	baz=11,SNR=3.4						
ASAR	**Alice Springs**	**21.17**	**203**	P	**P**	**06 03 49.9**	**-0.6**
	1.5nm,0.8s,baz=32,slow=9.0,SNR=12						
ASAR				S	**S**	**06 07 39.9**	**+0.3**
	0.6nm,0.6s,baz=21,slow=26,SNR=3.8						
FITZ	**Fitzroy Crossi**	**21.80**	**230**	P	**P**	**06 03 55.3**	**-1.9**
	3.1nm,0.8s,baz=83,slow=8.6,SNR=12						
FITZ				S	**S**	**06 07 54.4**	**+3.0**
	4.4nm,0.9s,baz=174,slow=11,SNR=5.2						
FITZ	**Fitzroy Crossi**	**21.80**	**230**	P	**P**	**06 03 59.3**	**+2.1**
	baz=12,SNR=8.1						
KSRS	**Korea Array**	**43.78**	**343**	P	**P**	**06 07 08.4**	**+0.1**
	1.3nm,0.6s,baz=171,slow=9.1,SNR=8.7						
AFI	**Afiamalu**	**45.68**	**105**	LR	LR	06 25 10.3	
	comp=Z,115nm,20.0s,baz=228,slow=34						
USRK	**Ussuriysk Arra**	**49.22**	**350**	P	**P**	**06 07 51.4**	**+0.5**
	3.5nm,0.6s,baz=179,slow=8.4,SNR=12						
MKAR	**Makanchi Array**	**73.59**	**321**	P	**P**	**06 10 35.3**	**+0.4**
	0.7nm,0.6s,baz=100,slow=7.2,SNR=5.5						
ILAR	**Eielson Array**	**85.51**	**24**	P	**P**	**06 11 39.0**	**0.0**
	0.6nm,0.7s,baz=252,slow=4.5,SNR=6.9						

ISCJB ***11*** *06:14:26.5±0.5, 42°.62N±0°.02×43°.36E±0°.03, h5km±4km, Error ellipse: s-maj=3.9km s-min=2.9km az=143.1*
CSEM ***11*** *06:14:26.3, 42°.58N×43°.35E, h11km, mb4.0, After OBN*
MOS ***11*** *06:14:26.3±1.5, 42°.58N×43°.35E, h11km, mb4.0/1, Error ellipse: s-maj=9.1km s-min=5.6km az=78.7*
TIF ***11*** *06:14:26.5, 42°.63N×43°.45E, h15km±1km*

ISC 11 06:14:27.4±0.8, 42°.60N±0°.02×43°.42E±0°.02, h11km±5km, n50, σ0s71/89, 4C-1D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.03**	**106**	PG	**Pg**	**06 14 29.5**	**-0.1**
ONI	**Oni**	**0.03**	**106**	Pg	**Pg**	**06 14 29.5**	**-0.1**
ONI	**Oni**	**0.03**	**106**	P	**Pg**	**06 14 29.5**	**-0.1**
ONI				S	**Sg**	**06 14 31.4**	**+0.4**
DIGR	**Digorskoe uzhe**	**0.32**	**21**

NCK	**Nalchik**	**0.91**	**8**	⇓*i*PG		**Pg**	**06 14 44.9**	**0.0**
NCK				*i* S		**Sb**	**06 14 57.8**	**+0.5**
NCK	**Nalchik**	**0.91**	**8**	*i* Pg		**Pg**	**06 14 44.9**	**0.0**
NCK				*i* Sg		**Sb**	**06 14 57.8**	**+0.5**
CHVG	**Ch'k'valeri**	**0.99**	**277**	P		**Pg**	**06 14 46.1**	**-0.5**
CHVG				S		**Sg**	**06 14 59.3**	**-0.2**
VLKR	**Vladikavkaz**	**1.03**	**64**	*e*PG		**Pg**	**06 14 46.3**	**-0.9**
VLKR				*e*S		**Sg**	**06 15 00.1**	**-0.5**
VLKR	**Vladikavkaz**	**1.03**	**64**	*e*Pg		**Pg**	**06 14 46.3**	**-0.9**
VLKR				*e*Sg		**Sg**	**06 15 00.1**	**-0.5**
DUS	**Dusheti**	**1.08**	**118**	P		**Pn**	**06 14 50.3**	**+1.8**
DUS				S		**Sn**	**06 15 05.6**	**+2.2**
SNJR	**Sundja**	**1.13**	**65**	*e*PG		**Pb**	**06 14 48.2**	**-0.7**
SNJR				*e*S		**Sb**	**06 15 03.2**	**-0.4**
SNJR	**Sundja**	**1.13**	**65**	*e*Pg		**Pb**	**06 14 48.2**	**-0.7**
SNJR				*e*Sg		**Sb**	**06 15 03.2**	**-0.4**
BTKR	**Batakoyurt**	**1.13**	**46**	*i* PG		**Pn**	**06 14 50.2**	**+1.0**
BTKR				*e*S		**Sn**	**06 15 05.3**	**+0.6**
BTKR	**Batakoyurt**	**1.13**	**46**	*i* Pg		**Pn**	**06 14 50.2**	**+1.0**
BTKR				*e*Sg		**Sn**	**06 15 05.3**	**+0.6**
AKH	**Akhalkalaki**	**1.19**	**177**	PG		**Pb**	**06 14 49.8**	**-0.2**
AKH	**Akhalkalaki**	**1.19**	**177**	Pg		**Pb**	**06 14 49.8**	**-0.2**
AKH	**Akhalkalaki**	**1.19**	**177**	P		**Pb**	**06 14 49.4**	**-0.6**
AKH				S		**Sg**	**06 15 05.9**	**+0.2**
KUBR	**Kubataba**	**1.20**	**360**	⇑*i*PG		**Pb**	**06 14 50.4**	**+0.2**
KUBR				*i* S		**Sn**	**06 15 08.1**	**+1.6**
KUBR	**Kubataba**	**1.20**	**360**	*i* Pg		**Pb**	**06 14 50.4**	**+0.2**
KUBR				*i* Sg		**Sn**	**06 15 08.1**	**+1.6**
SHAR	**Shatzhatmas**	**1.27**	**335**	⇑*i*PG		**Pn**	**06 14 50.9**	**-0.4**
SHAR				*i* S		**Sb**	**06 15 07.7**	**-0.2**
SHAR	**Shatzhatmas**	**1.27**	**335**	*i* Pg		**Pn**	**06 14 50.9**	**-0.4**
SHAR				*i* Sg		**Sb**	**06 15 07.7**	**-0.2**
TBLG	**Delisi**	**1.31**	**131**	*e*PG		**Pb**	**06 14 51.9**	**-0.1**
TBLG	**Delisi**	**1.31**	**131**	*e*Pg		**Pb**	**06 14 51.9**	**-0.1**
TBLG	**Delisi**	**1.31**	**131**	P		**Pb**	**06 14 51.9**	**-0.1**
TBLG				S		**Sg**	**06 15 09.4**	**-0.1**
PRTR	**Priterechnaya**	**1.31**	**28**	*e*PG		**Pg**	**06 14 52.8**	**+0.1**
PRTR				*e*S		**Sg**	**06 15 10.6**	**+0.8**
PRTR	**Priterechnaya**	**1.31**	**28**	*e*Pg		**Pg**	**06 14 52.8**	**+0.1**
PRTR				*e*Sg		**Sg**	**06 15 10.6**	**+0.8**
KZR	**Kazreti**	**1.42**	**148**	P		**Pn**	**06 14 52.8**	**-0.5**
KZR				S		**Sn**	**06 15 11.9**	**-0.1**
KIV	**Kislovodsk**	**1.46**	**339**	*c i*PG		**Pn**	**06 14 53.4**	**-0.4**
KIV				*i* S		**Sn**	**06 15 12.9**	**0.0**
KIV				pmax	pmax			
	comp=Z,6.0nm,0.4s							
KIV	**Kislovodsk**	**1.46**	**339**	*i* Pg		**Pn**	**06 14 53.4**	**-0.4**
	comp=Z,6.0nm,0.4s							
KIV				*i* Sg		**Sn**	**06 15 12.9**	**0.0**
PYA	**Pyatigorsk**	**1.46**	**350**	⇑*i*PG		**Pb**	**06 14 54.4**	**-0.2**
PYA				*i* S		**Sb**	**06 15 13.8**	**+0.6**
PYA	**Pyatigorsk**	**1.46**	**350**	*i* Pg		**Pb**	**06 14 54.4**	**-0.2**
PYA				*i* Sg		**Sb**	**06 15 13.8**	**+0.6**
DGRG	**David-gareji**	**1.85**	**128**	*e*PN		**Pb**	**06 15 01.3**	**0.0**
DGRG	**David-gareji**	**1.85**	**128**	*e*Pn		**Pb**	**06 15 01.3**	**0.0**
DGRG	**David-gareji**	**1.85**	**128**	P		**Pb**	**06 15 01.3**	**0.0**
DGRG				S		**Sg**	**06 15 26.6**	**-0.3**
GNI	**Garni**	**2.64**	**157**	*e*Pn		**Pn**	**06 15 09.9**	**-0.2**
SOC	**Sochi**	**2.89**	**291**	*e*PN		**Pn**	**06 15 12.4**	**-0.9**
SOC	**Sochi**	**2.89**	**291**	*e*Pn		**Pn**	**06 15 12.4**	**-0.9**
ANN	**Anapa**	**4.87**	**299**	*e*PN		**Pn**	**06 15 39.6**	**-0.9**
ANN				*e*S		**Sn**	**06 16 38.3**	**+1.5**
ANN				pmax	pmax			
	comp=Z,16nm,0.3s							
ANN	**Anapa**	**4.87**	**299**	*e*Pn		**Pn**	**06 15 39.6**	**-0.9**
	comp=Z,16nm,0.3s							
ANN				*e*Sn		**Sn**	**06 16 38.3**	**+1.5**

KRSC ***11*** *06:16:53.6±1.3, 52°.73N×154°.40E, h554km±44km, ML4.3*
MOS ***11*** *06:16:58.8±0.4, 52°.84N×154°.91E, h524km, mb4.4/1, Error ellipse: s-maj=58.2km s-min=22.9km az=52.0*
ISCJB ***11*** *06:16:59.2±0.7, 52°.8N±0°.1×155°.1E±0°.2, h529km±10km, mb3.0/2, Error ellipse: s-maj=27.9km s-min=10.0km az=40.7*
IDC ***11*** *06:17:00.8±2.4, 53°.35N×153°.68E, h473km±22km, mb2.5/2, mb1 3.1/6, mb1mx2.8/26, mbtmp3.0/6, Error ellipse: s-maj=97.2km s-min=19.2km az=141.0*
ISC 11 06:16:59.8±1.4, 52°.9N±0°.1×155°.0E±0°.1, h522km±12km, n39, σ1§14/52, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIPR	**Malaya Ipel'ka**	**1.21**	**118**	*e*P	**P**	**06 18 03.5**	**-0.3**
APC	**Apacha**	**1.29**	**86**	*i* P	**P**	**06 18 03.8**	**-0.2**
APC				*e*S	**S**	**06 18 55.7**	**-0.7**
PETK	**Petropavlovsk-**	**1.64**	**80**	P	**P**	**06 18 05.9**	**+0.7**
PETK				S	**S**	**06 18 59.2**	**+0.5**
PETK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PETK	**Petropavlovsk-**	**1.64**	**80**	P	**P**	**06 18 05.9**	**+0.7**
	comp=Z,1.5nm,0.3s,baz=86,slow=2.8,SNR=6.1						
PETK				S	**S**	**06 18 59.2**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=137,slow=21,SNR=1.6						
PAU	**Pauzhetka**	**1.78**	**141**	P	**P**	**06 18 05.7**	**-0.2**
PAU	**Pauzhetka**	**1.78**	**141**	*i* P	**P**	**06 18 05.7**	**-0.2**
ASAK	**Asacha**	**1.82**	**104**	*e*P	**P**	**06 18 04.9**	**-1.2**
GNL	**Ganaly**	**1.94**	**63**	*e*P	**P**	**06 18 06.9**	**+0.3**
GNL				*e*S	**S**	**06 19 01.3**	**0.0**
MTVR	**Mutnovka**	**1.96**	**100**	*e*P	**P**	**06 18 06.6**	**-0.2**
MTVR				*e*S	**S**	**06 19 00.3**	**-1.2**
RUS	**Russkaya**	**2.17**	**100**	P	**P**	**06 18 07.4**	**-0.2**
RUS				S	**S**	**06 19 02.4**	**-0.5**
RUS	**Russkaya**	**2.17**	**100**	*e*P	**P**	**06 18 07.4**	**-0.2**
RUS				*e*S	**S**	**06 19 02.4**	**-0.5**
PET	**Petropavlovsk**	**2.20**	**84**	*e*P	**P**	**06 18 07.2**	**-0.5**
PET				*e*S	**S**	**06 19 04.2**	**+0.9**
PET				pmax	pmax		
	comp=Z,29nm,0.4s						
PET				smax	smax		
	comp=N,23nm,0.5s						
PET				smax	smax		
	comp=E,44nm,0.4s						
PET	**Petropavlovsk**	**2.20**	**84**	*i* P	**P**	**06 18 08.9**	**+1.2**
PET				*e*S	**S**	**06 19 04.9**	**+1.6**
KOK	**Koryaka**	**2.22**	**77**	*e*P	**P**	**06 18 09.1**	**+1.1**
AVH	**Avacha**	**2.28**	**78**	*e*P	**P**	**06 18 10.1**	**+1.9**
AVH				*e*S	**S**	**06 19 06.4**	**+2.2**
SKR	**Severo-Kuril's**	**2.28**	**162**	*i* P	**P**	**06 18 07.9**	**-0.4**
KRER	**Koryakskii**	**2.29**	**77**	*e*P	**P**	**06 18 09.7**	**+1.2**
NLC	**Nalytchevo**	**2.63**	**81**	*e*S	**S**	**06 19 08.0**	**+0.5**
SPN	**Mys Shipunski**	**3.03**	**83**	P	**P**	**06 18 13.7**	**+1.1**
SPN				S	**S**	**06 19 12.4**	**+0.3**
SPN	**Mys Shipunski**	**3.03**	**83**	*e*P	**P**	**06 18 13.7**	**+1.1**
SPN				*i* S	**S**	**06 19 12.4**	**+0.3**
ESO	**Esso**	**3.75**	**34**	P	**P**	**06 18 17.5**	**0.0**
ESO	**Esso**	**3.75**	**34**	*e*P	**P**	**06 18 17.5**	**0.0**
KMNR	**Kamenistaya**	**4.21**	**44**	*e*P	**P**	**06 18 22.3**	**+1.1**
KOZ	**Kozyrevsk**	**4.28**	**40**	*e*P	**P**	**06 18 23.0**	**+1.4**
KOZR	**Kozyr**	**4.29**	**40**	P	**P**	**06 18 23.0**	**+1.2**
MKZ	**Mys Kozlova**	**4.33**	**64**	P	**P**	**06 18 23.3**	**+1.2**
MKZ				S	**S**	**06 19 26.9**	**-2.6**
MKZ	**Mys Kozlova**	**4.33**	**64**	*e*P	**P**	**06 18 23.3**	**+1.2**
MKZ				*e*S	**S**	**06 19 26.9**	**-2.6**
KPT	**Kopyto**	**4.35**	**42**	*e*P	**P**	**06 18 23.1**	**+0.8**
BZMR	**Bezymyannaya**	**4.44**	**44**	*e*P	**P**	**06 18 24.0**	**+0.9**
BZWR	**Bezymyannyi-We**	**4.46**	**44**	*e*P	**P**	**06 18 24.5**	**+1.2**
BZGR	**Bezymyannyi-Gr**	**4.53**	**45**	*e*P	**P**	**06 18 24.4**	**+0.6**
KBTR	**Krutoberegovo**	**5.64**	**50**	P	**P**	**06 18 33.6**	**+0.1**
KBTR				S	**S**	**06 19 48.6**	**-1.8**
KBTR	**Krutoberegovo**	**5.64**	**50**	*e*P	**P**	**06 18 33.6**	**+0.1**
KBTR				*e*S	**S**	**06 19 48.6**	**-1.8**
BKI	**Bering**	**6.86**	**66**	*e*S	**S**	**06 20 10.5**	**-1.1**
FX1	**Attu Island--F**	**10.97**	**83**	P	P	06 19 36.3	+9.0
	comp=E,1.5nm,0.3s,baz=356,slow=13,SNR=2.2						
ASAJ	**Asahikawa**	**12.01**	**228**	P	**P**	**06 19 37.2**	**-1.0**
	comp=E,0.7nm,0.3s,baz=336,slow=20,SNR=1.3						
MJAR	**Matsushiro Arr**	**20.14**	**223**	P	**P**	**06 21 00.6**	**+2.1**
	comp=E,0.6nm,0.3s,baz=11,slow=8.5,SNR=3.1						
ILAR	**Eielson Array**	**31.15**	**45**	P	P	06 22 40.8	+5.7
	comp=E,0.4nm,0.8s,baz=271,slow=6.1,SNR=2.6						
TXAR	**Lajitas Array**	**73.52**	**63**	P	P	06 27 47.7	+8.4
	comp=E,0.2nm,0.4s,baz=309,slow=5.2,SNR=4.0						

ISCJB ***11*** *06:34:37.5±0.2, 46°.54N±0°.01×9°.70E±0°.01, h2km±2km, Error ellipse: s-maj=2.0km s-min=1.5km az=178.6*
ROM ***11*** *06:34:37.8±0.1, 46°.54N×9°.69E, h8km±1km, Ml3.3/12, Error ellipse: s-maj=1.8km s-min=1.4km az=160.0*
CSEM ***11*** *06:34:38.4±0.1, 46°.55N×9°.72E, h2km, ML3.8/23, Error ellipse: s-maj=1.9km s-min=1.4km az=178.0*
PRU ***11*** *06:34:38.4, 46°.48N×9°.86E, h0km*
ZUR ***11*** *06:34:38.1, 46°.53N×9°.70E, h11km, ML3.5/6*
GEN ***11*** *06:34:38.5, 46°.73N×9°.65E, h28km, ML3.5*
VIE ***11*** *06:34:38.2±0.3, 46°.53N×9°.72E, h8km±4km, mb3.1/8, ML3.7/9, Error ellipse: s-maj=1.9km s-min=1.3km az=20.0*
12 km NW of St. Moritz
LDG ***11*** *06:34:39.8±0.1, 46°.58N×9°.79E, h7km, Md3.4/2, Ml3.6/29, Error ellipse: s-maj=2.6km s-min=1.9km az=58.0*
BGR ***11*** *06:34:41.2±0.6, 46°.60N×9°.66E, h10km, ML3.6/10, Error ellipse: s-maj=8.9km s-min=6.7km az=6.0*
SZGRF ***11*** *06:34:41.3, 46°.60N×9°.66E, h10km, mb3.6, Switzerland*
STR ***11*** *06:34:42.2±0.2, 46°.59N×9°.55E, h10km, Ml3.5, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
ISC 11 06:34:38.4±0.8, 46°.55N±0°.01×9°.684E±0°.010, h13km±5km, n332, σ1§43/487, 61C-32D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VDL	**Val di Lei**	**0.17**	**247**	⇑*i*Pg	**Pg**	**06 34 42.6**	**0.0**
	23μm,0.2s						
VDL				*i* Sg	**Sg**	**06 34 45.0**	**-0.6**
	23μm,0.2s						
TUE	**Stuetta**	**0.24**	**251**	⇑*i*Pg	**Pg**	**06 34 43.7**	**-0.1**
TUE				Sg	**Sg**	**06 34 47.1**	**-0.3**
	6μm,0.2s						
TUE	**Stuetta**	**0.24**	**251**	⇑*i*Pg	**Pg**	**06 34 43.7**	**-0.1**
TUE				*i* Sg	**Sg**	**06 34 47.0**	**-0.3**
DAVOX	**Davos/Dischmat**	**0.27**	**30**	⇑*i*Pg	**Pg**	**06 34 44.4**	**+0.3**
	14μm,0.3s						
DAVOX				*e*Sg	**Sg**	**06 34 48.4**	**+0.4**
	14μm,0.3s						
DAVOX	**Davos/Dischmat**	**0.27**	**30**	⇑*i*Pg	**Pg**	**06 34 44.4**	**+0.3**
DAVOX				Sg	**Sg**	**06 34 48.4**	**+0.4**
DAVOX	**Davos/Dischmat**	**0.27**	**30**	⇑*i*Pg	**Pg**	**06 34 44.4**	**+0.3**
	14μm,0.3s						
DAVOX				*e*Sg	**Sg**	**06 34 48.4**	**+0.4**
	14μm,0.3s						
BERNI	**Berninapass**	**0.27**	**120**	⇓*i*Pg	**Pg**	**06 34 43.9**	**-0.3**
	13μm,0.2s						
BERNI				*i* Sg	**Sg**	**06 34 47.3**	**-0.9**
	13μm,0.2s						
BERNI	**Berninapass**	**0.27**	**120**	⇓*i*Pg	**Pg**	**06 34 43.9**	**-0.3**
BERNI				Sg	**Sg**	**06 34 47.4**	**-0.8**
BERNI	**Berninapass**	**0.27**	**120**	⇓*i*Pg	**Pg**	**06 34 43.9**	**-0.3**
	13μm,0.2s						
BERNI				*i* Sg	**Sg**	**06 34 47.3**	**-0.9**
	13μm,0.2s						
FUORN	**Ofenpass-Fuorn**	**0.41**	**80**	⇑*i*Pg	**Pg**	**06 34 46.4**	**-0.2**
	6μm,0.5s						
FUORN				*e*Sg	**Sg**	**06 34 51.9**	**-0.2**
	6μm,0.5s						
FUORN	**Ofenpass-Fuorn**	**0.41**	**80**	⇑*i*Pg	**Pg**	**06 34 46.4**	**-0.2**
FUORN				Sg	**Sg**	**06 34 52.0**	**-0.2**
FUORN	**Ofenpass-Fuorn**	**0.41**	**80**	⇑*i*Pg	**Pg**	**06 34 46.4**	**-0.2**
	6μm,0.5s						
FUORN				*e*Sg	**Sg**	**06 34 51.9**	**-0.2**
	6μm,0.5s						
BRMO	**Bormio**	**0.48**	**99**	Pg	**Pg**	**06 34 47.5**	**-0.5**
BRMO	**Bormio**	**0.48**	**99**	⇑*i*Pg	**Pg**	**06 34 47.5**	**-0.5**
BRMO				*i* Sg	**Sg**	**06 34 53.3**	**-1.1**
PLONS	**Plons/SG**	**0.54**	**337**	*e*Pg	**Pb**	**06 34 49.4**	**-0.4**
PLONS				*e*Sg	**Sb**	**06 34 56.8**	**-0.8**
PLONS	**Plons/SG**	**0.54**	**337**	⇑*i*Pg	**Pb**	**06 34 49.4**	**-0.4**
	4μm,0.3s						
PLONS				*i* Sg	**Sb**	**06 34 56.8**	**-0.8**
	4μm,0.3s						
PLONS	**Plons/SG**	**0.54**	**337**	*e*Pg	**Pb**	**06 34 49.4**	**-0.4**
PLONS				*e*Sg	**Sb**	**06 34 56.8**	**-0.8**
PLONS	**Plons/SG**	**0.54**	**337**	Pg	**Pb**	**06 34 49.4**	**-0.4**
PLONS				Sg	**Sb**	**06 34 56.8**	**-0.8**
	1μm,0.4s						
PLONS	**Plons/SG**	**0.54**	**337**	⇑*i*Pg	**Pb**	**06 34 49.4**	**-0.4**
	4μm,0.3s						
PLONS				*i* Sg	**Sb**	**06 34 56.8**	**-0.8**
	4μm,0.3s						
LLS	**Linth-Limmern**	**0.55**	**303**	⇓*i*Pg	**Pg**	**06 34 49.5**	**+0.2**
	1μm,0.5s						
MOSI	**Grossmontoni**	**0.60**	**83**	Pg	**Pg**	**06 34 49.7**	**-0.5**
MOSI				Sg	**Sg**	**06 34 57.8**	**-0.4**
	4μm,0.3s						
MOSI	**Grossmontoni**	**0.60**	**83**	⇑*e*Pg	**Pg**	**06 34 49.6**	**-0.6**
MOSI				*e*Sg	**Sg**	**06 34 57.8**	**-0.4**
FUSIO	**Fusio**	**0.71**	**263**	⇑*i*Pg	**Pg**	**06 34 52.0**	**-0.3**
	4μm,0.2s						
FUSIO	**Fusio**	**0.71**	**263**	Pg	**Pg**	**06 34 52.0**	**-0.3**
FUSIO				Sg	**Sg**	**06 35 01.4**	**-0.3**
FUSIO	**Fusio**	**0.71**	**263**	⇑*i*Pg	**Pg**	**06 34 52.0**	**-0.3**
	4μm,0.2s						
FUSIO				Sg	**Sg**	**06 35 01.4**	**-0.3**
DAVA	**Damuels**	**0.75**	**10**	⇑*i*Pg	**Pb**	**06 34 53.2**	**-0.2**
	31nm,0.1s,SNR=53						
DAVA				⇑*i*Sg	**Sb**	**06 35 04.3**	**+0.7**
	485nm,0.2s						
DAVA	**Damuels**	**0.75**	**10**	⇑*i*Pg	**Pb**	**06 34 53.2**	**-0.2**
DAVA				*i* Sg	**Sb**	**06 35 04.3**	**+0.7**
LIENZ	**Kamor/St.Gall**	**0.76**	**350**	⇑*i*Pg	**Pb**	**06 34 53.5**	**-0.1**
	2μm,0.5s						
LIENZ	**Kamor/St.Gall**	**0.76**	**350**	⇑*i*Pg	**Pb**	**06 34 53.5**	**-0.1**
	2μm,0.5s						
MABI	**Malga Bissina**	**0.76**	**130**	Pg	**Pg**	**06 34 52.5**	**-0.7**
	287nm,0.4s						
MABI	**Malga Bissina**	**0.76**	**130**	Pg	**Pg**	**06 34 52.5**	**-0.7**
	287nm,0.4s						
MUGIO	**Muggio**	**0.77**	**216**	⇑*i*Pg	**Pg**	**06 34 52.9**	**-0.5**
	2μm,0.3s						
MUGIO	**Muggio**	**0.77**	**216**	⇑*i*Pg	**Pg**	**06 34 53.0**	**-0.5**
MUGIO				Sg	**Sg**	**06 35 03.3**	**-0.2**
MUGIO	**Muggio**	**0.77**	**216**	⇑*i*Pg	**Pg**	**06 34 52.9**	**-0.5**
	2μm,0.3s						
MUGIO				Sg	**Sg**	**06 35 03.3**	**-0.2**
MDI	**Monti di Nese**	**0.77**	**179**	Pg	**Pg**	**06 34 53.5**	**0.0**
MDI				Sg	**Sg**	**06 35 03.4**	**-0.2**
MDI	**Monti di Nese**	**0.77**	**179**	Pg	**Pg**	**06 34 53.5**	**0.0**
MDI				Sg	**Sg**	**06 35 03.4**	**-0.2**
MUO	**Muotathal**	**0.83**	**300**	⇓*i*Pg	**Pg**	**06 34 54.9**	**+0.3**
	3μm,0.6s						
MUO	**Muotathal**	**0.83**	**300**	⇓*i*Pg	**Pg**	**06 34 54.9**	**+0.3**
	3μm,0.6s						
FETA	**Feichten**	**0.86**	**56**	⇑*e*Pg	**Pg**	**06 34 54.2**	**-0.9**
	325nm,0.3s,SNR=192						
FETA				*e*Pg	**Pg**	**06 34 54.2**	**-0.9**
	SNR=678						
FETA				⇑*i*Sg	**Sg**	**06 35 05.8**	**-0.5**
	136nm,0.2s						
FETA	**Feichten**	**0.86**	**56**	⇑*e*Pg	**Pg**	**06 34 54.2**	**-0.9**
FETA				*i* Sg	**Sg**	**06 35 05.8**	**-0.5**
RNI	**Roncone**	**0.88**	**130**	⇓*e*Pg	**Pg**	**06 34 54.5**	**-0.9**
RNI				*e*Sg	**Sg**	**06 35 05.5**	**-1.4**
RNI	**Roncone**	**0.88**	**130**	*e*Pg	**Pg**	**06 34 54.5**	**-0.9**
RNI				*e*Sg	**Sg**	**06 35 05.5**	**-1.4**
BNALP	**Bannalp**	**0.92**	**291**	⇓*i*Pg	**Pg**	**06 34 56.4**	**+0.1**
	2μm,0.5s						
BNALP	**Bannalp**	**0.92**	**291**	Pg	**Pg**	**06 34 56.5**	**+0.1**
	486nm,0.4s						
BNALP	**Bannalp**	**0.92**	**291**	⇓*i*Pg	**Pg**	**06 34 56.4**	**+0.1**
	2μm,0.5s						
OBER	**Oberstdorf**	**0.95**	**26**	*e*Pg	**Pb**	**06 34 57.0**	**+0.1**
OBER				*e*Sg	**Sn**	**06 35 11.8**	**+0.7**
OBER	**Oberstdorf**	**0.95**	**26**	*e*Pg	**Pb**	**06 34 57.0**	**+0.1**
OBER				*e*Sg	**Sn**	**06 35 11.8**	**+0.7**
OBER	**Oberstdorf**	**0.95**	**26**	Pg	**Pb**	**06 34 57.0**	**+0.1**
OBER				Sg	**Sn**	**06 35 11.8**	**+0.7**
WILA	**Wila**	**1.01**	**329**	*e*Pg	**Pn**	**06 34 59.0**	**+0.5**
	17μm,0.3s						
WILA	**Wila**	**1.01**	**329**	*e*Pg	**Pn**	**06 34 59.0**	**+0.5**
	17μm,0.3s						
WILA				Sg	**Sn**	**06 35 13.2**	**+0.6**
MAGA	**Magasa**	**1.02**	**139**	Pg	**Pg**	**06 34 57.7**	**-0.3**
	1μm,0.4s						
MAGA	**Magasa**	**1.02**	**139**	Pg	**Pg**	**06 34 57.7**	**-0.3**
	1μm,0.4s						
HASLI	**Hasliberg/Brie**	**1.07**	**282**	⇑*i*Pg	**Pg**	**06 34 59.1**	**-0.1**
	5μm,0.3s						
HASLI	**Hasliberg/Brie**	**1.07**	**282**	⇑*i*Pg	**Pg**	**06 34 59.1**	**-0.1**
	5μm,0.3s						
SALO	**Salr**	**1.10**	**148**	Pg	**Pb**	**06 34 59.2**	**-0.2**
	551nm,0.3s						
SALO	**Salr**	**1.10**	**148**	Pg	**Pb**	**06 34 59.2**	**-0.2**
	551nm,0.3s						
ZUR	**Degenried**	**1.11**	**318**	*e*Pg	**Pn**	**06 35 00.8**	**+1.0**
	3μm,0.3s						
ZUR	**Degenried**	**1.11**	**318**	*e*Pg	**Pn**	**06 35 00.8**	**+1.0**
	3μm,0.3s						
ABSI	**Aberstueckl**	**1.14**	**80**	Pg	**Pb**	**06 34 59.8**	**-0.3**
	567nm,0.4s						
ABSI	**Aberstueckl**	**1.14**	**80**	⇑*e*Pg	**Pb**	**06 34 59.2**	**-0.9**
ABSI				*e*Sg	**Sb**	**06 35 14.5**	**-0.5**
KOSI	**Kohlern**	**1.17**	**94**	Pg	**Pb**	**06 35 00.2**	**-0.5**
	519nm,1.0s						
KOSI	**Kohlern**	**1.17**	**94**	⇑*e*Pg	**Pb**	**06 35 00.2**	**-0.5**
KOSI				*e*Sg	**Sg**	**06 35 16.5**	**+0.2**
RETA	**Reutte**	**1.19**	**38**	⇓*e*Pg	**Pb**	**06 35 00.3**	**-0.7**
	71nm,0.2s,SNR=50						
RETA				⇑*i*Sg	**Sn**	**06 35 22.0**	**+4.9**
	209nm,0.3s						
RETA	**Reutte**	**1.19**	**38**	⇓*e*Pg	**Pb**	**06 35 00.3**	**-0.7**
PANI	**Panarotta**	**1.23**	**113**	*e*Pg	**Pn**	**06 35 01.7**	**+0.1**
PANI	**Panarotta**	**1.23**	**113**	*e*Pg	**Pn**	**06 35 01.7**	**+0.1**
DDS	**Dosso del Somm**	**1.24**	**122**	*e*Pg	**Pn**	**06 35 02.2**	**+0.6**
DDS	**Dosso del Somm**	**1.24**	**122**	*e*Pg	**Pn**	**06 35 02.2**	**+0.6**
ROSI	**Rosskopf**	**1.25**	**72**	Pg	**Pn**	**06 35 01.4**	**-0.4**
ROSI	**Rosskopf**	**1.25**	**72**	⇑*e*Pg	**Pn**	**06 35 01.3**	**-0.5**
STEIN	**Stein am Rhein**	**1.25**	**334**	*e*PmP		06 35 01.7	
	1μm,0.4s						
MOTA	**Moosalm**	**1.26**	**50**	⇑*i*Pg	**Pn**	**06 35 01.6**	**-0.3**
	SNR=103						
MOTA				⇓*i*Sg	**Sn**	**06 35 21.9**	**+3.2**
	201nm,0.3s						
MOTA	**Moosalm**	**1.26**	**50**	⇑*i*Pg	**Pn**	**06 35 01.6**	**-0.3**
MOTA				Sg	**Sn**	**06 35 21.9**	**+3.2**
	201nm,0.3s						
FLACH	**Flaach**	**1.27**	**324**	*e*Pn	**Pg**	**06 35 03.5**	**+0.5**
	1μm,0.2s						
MMK	**Mattmark**	**1.29**	**248**	⇑*i*Pg	**Pb**	**06 35 03.5**	**+0.7**
	919nm,0.2s						
MMK	**Mattmark**	**1.29**	**248**	Pg	**Pn**	**06 35 01.8**	**-0.6**
MMK	**Mattmark**	**1.29**	**248**	Pg	**Pn**	**06 35 01.8**	**-0.6**
TRULL	**Truellikon**	**1.29**	**328**	*e*PmP		06 35 04.2	
	1μm,0.2s						
ROVR	**Rover¯¤ Verone**	**1.32**	**133**	Pg	**Pn**	**06 35 03.0**	**+0.3**
	323nm,0.3s						
ROVR	**Rover¯¤ Verone**	**1.32**	**133**	Pg	**Pn**	**06 35 03.0**	**+0.3**
	323nm,0.3s						
LKBD	**Leukerbad**	**1.43**	**264**	⇑*i*P*	**Pn**	**06 35 05.1**	**+0.9**
	1μm,0.4s						
SULZ	**Cheisacher**	**1.45**	**313**	⇓*i*Pn	**Pg**	**06 35 06.3**	**0.0**
	2μm,0.6s						
SLE	**Schleitheim**	**1.46**	**327**	*e*Pn	**Pg**	**06 35 06.3**	**-0.2**
SLE	**Schleitheim**	**1.46**	**327**	⇓*i*Pn	**Pg**	**06 35 06.6**	**+0.1**
	3μm,0.5s						
SLE	**Schleitheim**	**1.46**	**327**	*e*Pn	**Pg**	**06 35 06.3**	**-0.2**
SLE	**Schleitheim**	**1.46**	**327**	Pn	**Pg**	**06 35 06.3**	**-0.2**
WTTA	**Wattenberg**	**1.52**	**61**	Pg	**Pb**	**06 35 06.4**	**-0.2**
	411nm,0.9s						
WTTA	**Wattenberg**	**1.52**	**61**	⇑*i*Pn	**Pb**	**06 35 06.3**	**-0.2**
	18nm,0.2s,SNR=37						
WTTA				⇓*i*Sg	**Sg**	**06 35 31.9**	**+4.6**
	151nm,0.4s						
WTTA	**Wattenberg**	**1.52**	**61**	⇑*i*Pn	**Pb**	**06 35 06.3**	**-0.2**
BALST	**Balsthal**	**1.57**	**301**	*e*Pn	**Pg

LPG eSn Sn 06 35 45.3 +0.7
LPG eSg Sg 06 35 53.9 +1.6
47nm,0.3s,SNR=1.0
LPL La Plagne 2.30 244 eP Pb 06 35 19.7 -0.2
SNR=1.0
LPL eSn Sn 06 35 45.1 +0.5
LPL eSg Sg 06 35 54.2 +1.8
59nm,0.3s,SNR=1.0
LPL La Plagne 2.30 244 eP Pb 06 35 19.7 -0.2
SNR=1.0
LPL eSn Sn 06 35 45.1 +0.5
LPL eSg Sg 06 35 54.2 +1.8
30nm,0.3s,SNR=1.0
HINF Hinteralfeld 2.31 304 ePn Pn 06 35 17.4 +1.2
SNR=1.0
HINF eSn Sn 06 35 44.5 0.0
SNR=1.0
HINF eSg Sg 06 35 53.0 +0.4
99nm,0.3s,SNR=1.0
HINF Hinteralfeld 2.31 304 ePn Pn 06 35 17.4 +1.2
SNR=1.0
HINF eSn Sn 06 35 44.5 0.0
SNR=1.0
HINF eSg Sg 06 35 53.0 +0.4
50nm,0.3s,SNR=1.0
GIMEL St. Georges / 2.36 271 ⇓iPn Pb 06 35 19.9 -0.9
384nm,0.7s
ECH Echery 2.39 315 Pn Pn 06 35 19.1 +1.8
ECH Echery 2.39 315 Pn Pn 06 35 19.1 +1.8
PLRO Paularo 2.39 89⇓ePg Pb 06 35 20.9 -0.5
PLRO Paularo 2.39 89⇓ePn Pb 06 35 20.9 -0.5
RJOB Jochberg 2.43 60 ePn Pb 06 35 20.8 -1.3
RJOB Jochberg 2.43 60 ePn Pb 06 35 20.8 -1.3
RJOB Jochberg 2.43 60 Pn Pb 06 35 20.8 -1.3
CDF Champ du Feu 2.48 320 ePn Pn 06 35 20.4 +1.8
SNR=1.0
CDF eSn Sn 06 35 48.0 -0.7
SNR=1.0
CDF eSg Sg 06 35 58.1 +0.1
130nm,0.3s,SNR=1.0
CDF Champ du Feu 2.48 320 ePn Pn 06 35 20.4 +1.8
SNR=1.0
CDF eSn Sn 06 35 48.0 -0.7
SNR=1.0
CDF eSg Sg 06 35 58.1 +0.1
65nm,0.3s,SNR=1.0
CABF La Chapelle 2.48 273 ePn Pn 06 35 21.1 +2.5
CABF La Chapelle 2.48 273 ePg Pg 06 35 26.7 +0.7
SNR=1.0
CABF eSn Sn 06 35 49.2 +0.4
CABF eSg Sg 06 35 58.5 +0.4
101nm,0.4s,SNR=1.0
CABF La Chapelle 2.48 273 ePn Pn 06 35 21.1 +2.5
CABF La Chapelle 2.48 273 ePg Pg 06 35 26.7 +0.7
SNR=1.0
CABF eSn Sn 06 35 49.2 +0.4
CABF eSg Sg 06 35 58.5 +0.4
50nm,0.4s,SNR=1.0
VINO Villanova 2.51 95 ePg Pn 06 35 21.3 +2.4
VINO Villanova 2.51 95 ePg Pn 06 35 21.3 +2.4
KBA Koelnbreinsper 2.57 77⇓ePn Pb 06 35 24.2 -0.2
22nm,0.3s
KBA ⇑iSg Sb 06 35 58.5 +2.5
29nm,0.3s
KBA Koelnbreinsper 2.57 77⇑ePn Pb 06 35 24.2 -0.2
KBA Sg Sb 06 35 58.5 +2.5
29nm,0.3s
ACOM Acomizza, Ital 2.64 89 ePg Pb 06 35 24.8 -1.0
ACOM Acomizza, Ital 2.64 89 ePg Pb 06 35 24.8 -1.0
LSR Lussari 2.66 90⇑ePg Pn 06 35 23.4 +2.3
LSR Lussari 2.66 90⇑ePn Pn 06 35 23.4 +2.3
HAU Haudompre 2.70 304 ePn Pn 06 35 23.6 +2.1
SNR=1.0
HAU Haudompre 2.70 304 ePg Pg 06 35 30.3 +0.2
SNR=1.0
HAU eSn Sn 06 35 53.6 -0.5
HAU eSg Sg 06 36 05.1 0.0
127nm,0.3s,SNR=1.0
HAU Haudompre 2.70 304 ePn Pn 06 35 23.6 +2.1
SNR=1.0
HAU Haudompre 2.70 304 ePg Pg 06 35 30.3 +0.2
SNR=1.0
HAU eSn Sn 06 35 53.6 -0.5
HAU eSg Sg 06 36 05.1 0.0
64nm,0.3s,SNR=1.0
MYKA Terra Mystica 2.73 87⇑iPn Pb 06 35 27.2 +0.1
14nm,0.5s
MYKA ⇑iSg Sg 06 36 04.9 -1.2
18nm,0.4s
MYKA Terra Mystica 2.73 87⇑ePn Pb 06 35 27.2 +0.1
MYKA Sg Sg 06 36 04.9 -1.2
18nm,0.4s
MBDF Montbardon 2.74 229 ePn Pn 06 35 23.1 +0.9
SNR=1.0
MBDF eSn Sn 06 35 55.0 -0.3
61nm,0.4s
MBDF Montbardon 2.74 229 ePn Pn 06 35 23.1 +0.9
SNR=1.0
MBDF eSn Sn 06 35 55.0 -0.3
31nm,0.4s
LANF Langenberg 2.74 333 Pn Pn 06 35 23.4 +1.3
LANF Langenberg 2.74 333 Pn Pn 06 35 23.4 +1.3
CADS Cadrg 2.82 95 iPn Pb 06 35 26.7 -2.0
CADS eSn Sg 06 36 07.5 -1.6
CADS
comp=Z,9.0nm,0.1s
CADS Cadrg 2.82 95 iPn Pb 06 35 26.7 -2.0
SURF Saint Ours 2.89 225 Pn Pn 06 35 25.6 +1.2
SURF Saint Ours 2.89 225 Pn Pn 06 35 25.6 +1.2
OG35 Corcelles 2.90 261 Pn Pn 06 35 26.3 +2.0
VOJS Vojsko 2.96 99 iPn Pn 06 35 27.4 +2.2
VOJS eSn Sg 06 36 10.8 -2.6
VOJS
comp=Z,28nm,0.3s
VOJS Vojsko 2.96 99 iPn Pn 06 35 27.4 +2.2
VOY Vojsko 2.96 99 ePn Pn 06 35 27.3 +2.0
VOY e 06 35 29.6
VOY e 06 35 34.2
VOY eSn Sb 06 36 10.5 +3.2
SAOF Saorge 2.97 211 Pn Pn 06 35 26.8 +1.5
SAOF Saorge 2.97 211 Pn Pn 06 35 26.8 +1.5
AUTN L'Aution 3.01 213 Pn Pn 06 35 27.5 +1.5
AUTN L'Aution 3.01 213 Pn Pn 06 35 27.5 +1.5
THEF They Montfort 3.02 305 Pn Pn 06 35 27.4 +1.4
THEF They Montfort 3.02 305 Pn Pn 06 35 27.4 +1.4
GRN Grenoble 3.05 246 Pn Pn 06 35 28.1 +1.7
GRN Grenoble 3.05 246 Pn Pn 06 35 28.1 +1.7
TOUF Mont Tournerai 3.06 215 Pn Pn 06 35 28.9 +2.2
TOUF Mont Tournerai 3.06 215 Pn Pn 06 35 28.9 +2.2
TOD Tromm 3.11 349 Pn Pn 06 35 28.6 +1.3
SBF Sospel 3.12 211 ePn Pn 06 35 29.1 +1.7
SNR=1.0
SBF eSn Sn 06 36 04.6 0.0
comp=Z,126nm,0.4s,SNR=1.0
SBF Sospel 3.12 211 ePn Pn 06 35 29.1 +1.7
SNR=1.0
SBF eSn Sn 06 36 04.6 0.0
comp=Z,63nm,0.4s,SNR=1.0
ORIF Oris-en-Rattie 3.12 240 ePn Pn 06 35 29.8 +2.3
ORIF Oris-en-Rattie 3.12 240 eP Pb 06 35 32.3 -1.6
SNR=1.0
ORIF eSn Sn 06 36 05.3 +0.6
comp=Z,76nm,0.4s
ORIF Oris-en-Rattie 3.12 240 ePn Pn 06 35 29.8 +2.3
ORIF Oris-en-Rattie 3.12 240 eP Pb 06 35 32.3 -1.6
SNR=1.0
ORIF eSn Sn 06 36 05.3 +0.6
comp=Z,38nm,0.4s
LUCF Luceram 3.13 213 Pn Pn 06 35 29.3 +1.8
LUCF Luceram 3.13 213 Pn Pn 06 35 29.3 +1.8
MVIF Mont Vial 3.20 215 Pn Pn 06 35 30.3 +1.7
MVIF Mont Vial 3.20 215 Pn Pn 06 35 30.3 +1.7
REVF Revere 3.25 211 Pn Pn 06 35 31.6 +2.4
REVF Revere 3.25 211 Pn Pn 06 35 31.6 +2.4
GRA1 Grafenberg Arr 3.31 18 Pn Pn 06 35 29.8 -0.1
GRA1 Grafenberg Arr 3.31 18 Pg Pg 06 35 41.3 -0.5
GRF Grafenberg Arr 3.31 18 ePn Pn 06 35 29.8 -0.1
GRF ePg Pg 06 35 41.3 -0.5
GRF Grafenberg Arr 3.31 18 ePn Pn 06 35 29.8 -0.1
GRF ePg Pg 06 35 41.3 -0.5
PAGF Fort de Pagny 3.35 308 ePn Pn 06 35 33.0 +2.6
PAGF eSg Sg 06 36 25.5 -0.4
comp=Z,10nm,0.4s
PAGF Fort de Pagny 3.35 308 ePn Pn 06 35 33.0 +2.6
PAGF eSg Sg 06 36 25.5 -0.4
comp=Z,5.2nm,0.4s
OG25 Le Caire 3.35 231 Pn Pn 06 35 33.0 +2.5
OG25 Le Caire 3.35 231 Pn Pn 06 35 33.0 +2.5
OBKA Obir 3.36 89⇑ePn Pb 06 35 37.0 -0.9
OBKA ⇓eSg Sg 06 36 23.7 -2.6
comp=Z,18nm,0.4s
WET Wettzell 3.37 38 ePn Pn 06 35 31.9 +1.1
WET Wettzell 3.37 38 ePn Pn 06 35 31.9 +1.1
WET Wettzell 3.37 38 Pn Pn 06 35 31.9 +1.1
MOA Molln 3.38 66⇓iPn Pn 06 35 33.3 +2.3
MOA ⇑iSg Sb 06 36 15.6 -3.7
comp=Z,10nm,0.2s
MOA Molln 3.38 66⇑ePn Pn 06 35 33.3 +2.3
CALN Calern 3.43 216 Pn Pn 06 35 33.4 +1.7
CALN Calern 3.43 216 Pn Pn 06 35 33.4 +1.7
GEC2 GERESS Array S 3.55 48 ePn Pn 06 35 34.9 +1.5
GEC2 GERESS Array S 3.55 48 ePn Pn 06 35 34.9 +1.5
GEC2 GERESS Array S 3.55 48 Pn Pn 06 35 34.9 +1.5
SFTF Sexfontaines 3.56 299 eSg Sg 06 36 32.3 -0.5
comp=Z,83nm,0.5s
SFTF Sexfontaines 3.56 299 eSg Sg 06 36 32.3 -0.5
comp=Z,41nm,0.5s
RUP Ruppelstein 3.61 332 Pn Pn 06 35 35.5 +1.4
ABH Alteburg 3.63 338 Pn Pn 06 35 36.7 +2.4
ABH Alteburg 3.63 338 Pg Pg 06 35 49.1 +1.2
KHC Kasperske Hory 3.68 44 ePN Pn 06 35 36.5 +1.4
KHC ePG Pg 06 35 47.0 -1.9
KHC eSN Sn 06 36 18.7 +0.4
KHC eSG Sg 06 36 32.8 -3.7
comp=Z,37nm,0.3s
KHC Kasperske Hory 3.68 44 Pn Pn 06 35 36.5 +1.4
FRF La Foret Royal 3.68 217 ePn Pn 06 35 36.4 +1.3
SNR=1.0
FRF eSn Sn 06 36 18.2 -0.1
comp=Z,25nm,0.3s,SNR=1.0
FRF La Foret Royal 3.68 217 ePn Pn 06 35 36.4 +1.3
SNR=1.0
FRF eSn Sn 06 36 18.2 -0.1
comp=Z,12nm,0.3s,SNR=1.0
MEZF Maizieres J'vi 3.69 304 ePn Pn 06 35 37.0 +1.8
baz=114
MEZF Maizieres J'vi 3.69 304 ePg Pg 06 35 47.9 -1.3
baz=120,SNR=1.0
MEZF eSg Sg 06 36 36.8 -0.2
comp=Z,51nm,0.4s,SNR=1.0
MEZF Maizieres J'vi 3.69 304 ePn Pn 06 35 37.0 +1.8
baz=114
MEZF Maizieres J'vi 3.69 304 ePg Pg 06 35 47.9 -1.3
baz=120,SNR=1.0
MEZF eSg Sg 06 36 36.8 -0.2
comp=Z,26nm,0.4s,SNR=1.0
TNS Taunus Mts 3.77 348 ePn Pn 06 35 37.9 +1.7
TNS Taunus Mts 3.77 348 ePn Pn 06 35 37.9 +1.7
TNS Taunus Mts 3.77 348 Pn Pn 06 35 37.9 +1.7
SMRF Simiane la Rot 3.88 230 ePn Pn 06 35 40.0 +2.2
SNR=1.0
SMRF eSn Sn 06 36 23.1 -0.1
comp=Z,14nm,0.3s
SMRF Simiane la Rot 3.88 230 ePn Pn 06 35 40.0 +2.2
SNR=1.0
SMRF eSn Sn 06 36 23.1 -0.1
comp=Z,7.2nm,0.3s
VIVF Saint-Julien-l 3.90 246 ePn Pn 06 35 40.0 +1.9
SNR=1.0
VIVF eSn Sn 06 36 22.5 -1.2
comp=Z,15nm,0.3s,SNR=1.0
VIVF Saint-Julien-l 3.90 246 ePn Pn 06 35 40.0 +1.9
SNR=1.0
VIVF eSn Sn 06 36 22.5 -1.2
comp=Z,7.4nm,0.3s,SNR=1.0
LMR La Mourre 3.93 216 ePn Pn 06 35 39.5 +1.1
SNR=1.0
LMR eSn Sn 06 36 23.8 -0.5
comp=Z,26nm,0.3s,SNR=1.0
LMR La Mourre 3.93 216 ePn Pn 06 35 39.5 +1.1
SNR=1.0
LMR eSn Sn 06 36 23.8 -0.5
comp=Z,13nm,0.3s,SNR=1.0
SMF Signal de Mont 4.03 273 ePn Pn 06 35 42.0 +2.2
SNR=1.0
SMF eSn Sn 06 36 25.5 -1.4
comp=Z,38nm,0.3s,SNR=1.0
SMF Signal de Mont 4.03 273 ePn Pn 06 35 42.0 +2.2
SNR=1.0
SMF eSn Sn 06 36 25.5 -1.4
comp=Z,19nm,0.3s,SNR=1.0
PGF Pioggiola 4.03 187 ePn Pn 06 35 41.3 +1.3
PGF eSn Sn 06 36 25.7 -1.4
comp=Z,12nm,0.5s,SNR=1.0
PGF Pioggiola 4.03 187 ePn Pn 06 35 41.3 +1.3
PGF eSn Sn 06 36 25.7 -1.4
comp=Z,6.0nm,0.5s,SNR=1.0
LOR Lormes 4.06 282 ePn Pn 06 35 42.6 +2.4
baz=103,SNR=1.0
LOR eSn Sn 06 36 26.6 -1.0
LOR eSg Sg 06 36 46.0 -2.6
comp=Z,23nm,0.3s
LOR Lormes 4.06 282 ePn Pn 06 35 42.6 +2.4
baz=103,SNR=1.0
LOR eSn Sn 06 36 26.6 -1.0
LOR eSg Sg 06 36 46.0 -2.6
comp=Z,11nm,0.3s
ARSA Arzberg 4.06 78⇓iPn Pn 06 35 43.8 +3.5
comp=Z,5.6nm,0.3s
ARSA Arzberg 4.06 78 Pn Pn 06 35 43.8 +3.5
comp=Z,5.6nm,0.3s
PLDF La Plantade 4.25 264 Pn Pn 06 35 44.1 +1.2
PLDF La Plantade 4.25 264 Pn Pn 06 35 44.1 +1.2
SSF Saint Saulge 4.27 279 ePn Pn 06 35 45.5 +2.3
SNR=1.0
SSF eSn Sn 06 36 29.2 -3.7
SNR=1.0
SSF eSg Sg 06 36 51.2 -4.4
comp=Z,20nm,0.3s,SNR=1.0
SSF Saint Saulge 4.27 279 ePn Pn 06 35 45.5 +2.3
SNR=1.0
MOX Moxa 4.29 17 ePn Pn 06 35 42.6 -0.8
MOX Moxa 4.29 17 ePn Pn 06 35 42.6 -0.8
MOX Moxa 4.29 17 Pn Pn 06 35 42.6 -0.8
AVF Avril sur Loir 4.37 275 ePn Pn 06 35 46.7 +2.3
SNR=1.0
AVF eSn Sn 06 36 33.9 -1.2
SNR=1.0
AVF eSg Sg 06 36 57.3 -1.2
comp=Z,17nm,0.4s,SNR=1.0
AVF Avril sur Loir 4.37 275 ePn Pn 06 35 46.7 +2.3
SNR=1.0
AVF eSn Sn 06 36 33.9 -1.2
SNR=1.0
AVF eSg Sg 06 36 57.3 -1.2
comp=Z,8.6nm,0.4s,SNR=1.0
CONA Conrad Observa 4.43 70⇑iPn Pn 06 35 47.7 +2.3
comp=Z,3.0nm,0.3s
CONA ⇓iSn Sn 06 36 38.4 +1.6
comp=Z,8.1nm,0.3s
CONA ⇑iSg Sg 06 37 00.4 -0.2
comp=Z,12nm,0.3s
CONA Conrad Observa 4.43 70 Pn Pn 06 35 47.7 +2.3
comp=Z,3.0nm,0.3s
CONA Sn Sn 06 36 38.4 +1.6
comp=Z,8.1nm,0.3s
CONA Sg Sg 06 37 00.4 -0.2
comp=Z,12nm,0.3s
AGO Saint Agoulin 4.57 266 Pn Pn 06 35 48.2 +1.0
AGO Saint Agoulin 4.57 266 Pn Pn 06 35 48.2 +1.0
LBL Lubilhac 4.68 256 Pn Pn 06 35 50.8 +1.9
LBL Lubilhac 4.68 256 Pn Pn 06 35 50.8 +1.9
PYM Petit Puy Mans 4.71 263 Pn Pn 06 35 50.1 +0.9
PYM Petit Puy Mans 4.71 263 Pn Pn 06 35 50.1 +0.9
BGF Bois d'Agland 4.72 273 ePn Pn 06 35 51.5 +2.2
SNR=1.0
BGF eSn Sn 06 36 42.4 -1.4
SNR=1.0
BGF eSg Sg 06 37 09.0 -0.8
comp=Z,32nm,0.3s,SNR=1.0
BGF Bois d'Agland 4.72 273 ePn Pn 06 35 51.5 +2.2
SNR=1.0
BGF eSn Sn 06 36 42.4 -1.4
SNR=1.0
BGF eSg Sg 06 37 09.0 -0.8
comp=Z,16nm,0.3s,SNR=1.0
PRU Pruhonice 4.73 42 ePN Pn 06 35 50.5 +1.1
PRU eSG Sg 06 37 07.5 -2.6
comp=Z,18nm,0.4s
PRU Pruhonice 4.73 42 Pn Pn 06 35 50.5 +1.1
PRU Sg Sg 06 37 07.5 -2.6
comp=Z,18nm,0.4s
LASF Ste Croix 4.80 241 ePn Pn 06 35 52.4 +2.0
SNR=1.0
LASF eSn Sn 06 36 43.2 -2.6
comp=Z,21nm,0.4s,SNR=1.0
LASF Ste Croix 4.80 241 ePn Pn 06 35 52.4 +2.0
SNR=1.0
GIVF Givet 4.81 319 ePn Pn 06 35 52.0 +1.5
SNR=1.0
GIVF eSn Sn 06 36 44.3 -1.8
GIVF eSg Sg 06 37 10.8 -1.9
comp=Z,36nm,0.5s
GIVF Givet 4.81 319 ePn Pn 06 35 52.0 +1.5
SNR=1.0
GIVF eSn Sn 06 36 44.3 -1.8
GIVF eSg Sg 06 37 10.8 -1.9
comp=Z,18nm,0.5s
HYF Humbligny 4.88 281 ePn Pn 06 35 54.3 +2.8
HYF eSn Sn 06 36 47.2 -0.7
HYF eSg Sg 06 37 14.2 -0.8
HYF Humbligny 4.88 281 ePn Pn 06 35 54.3 +2.8
HYF eSn Sn 06 36 47.2 -0.7
HYF eSg Sg 06 37 14.2 -0.8
BAIF Baives 5.07 316 ePn Pn 06 35 55.9 +1.9
BAIF eSn Sn 06 36 50.1 -2.3
BAIF eSg Sg 06 37 18.9 -2.1
comp=Z,16nm,0.6s
BAIF Baives 5.07 316 ePn Pn 06 35 55.9 +1.9
BAIF eSg Sg 06 37 18.9 -2.1
comp=Z,8.2nm,0.6s
PVCC Panska Ves 5.13 37 eSB Sg 06 37 18.8 -4.3
comp=Z,37nm,0.4s
PVCC Panska Ves 5.13 37 Sg Sg 06 37 18.8 -4.3
comp=Z,37nm,0.4s
BRG Berggiesshubel 5.16 32 PG Pg 06 36 13.9 -3.3
BRG SN Sn 06 36 51.2 -3.6
BRG SG Sg 06 37 22.1 -1.9
comp=Z,12nm,0.5s
TCF Toulx Ste Croi 5.17 270 ePn Pn 06 35 56.6 +1.0
SNR=1.0
TCF eSn Sn 06 36 53.8 -1.3
SNR=1.0
TCF eSg Sg 06 37 21.7 -2.8
comp=Z,15nm,0.5s,SNR=1.0
TCF Toulx Ste Croi 5.17 270 ePn Pn 06 35 56.6 +1.0
SNR=1.0
TCF eSn Sn 06 36 53.8 -1.3
SNR=1.0
TCF eSg Sg 06 37 21.7 -2.8
comp=Z,7.4nm,0.5s,SNR=1.0
CLL Collm 5.24 23 e Pb 06 36 10.0 +0.2
CLL ePg Pg 06 36 19.0 +0.3
CLL e 06 37 13.0
CLL e 06 37 18.0
CLL eSg Sg 06 37 29.0 +2.5
comp=Z,27nm,0.7s
CLZ Clausthal 5.32 5 ePg Pg 06 36 18.6 -1.5
CLZ Clausthal 5.32 5 ePg Pg 06 36 18.6 -1.5
CLZ Clausthal 5.32 5 Pg Pg 06 36 18.6 -1.5
VRAC Vranov 5.40 57 eSn Sn 06 36 59.8 -0.9
VRAC eSg Sg 06 37 30.5 -1.2
CAF Calviac 5.58 256 ePn Pn 06 36 03.4 +2.3
SNR=1.0
CAF Calviac 5.58 256 ePn Pn 06 36 03.4 +2.3
SNR=1.0
DPC Dobruska-Polom 5.83 47 eSN Sn 06 37 09.4 -1.8
DPC ex x 06 37 42.3
DPC Dobruska-Polom 5.83 47 Sg Sg 06 37 42.3 -3.0
MORC Moravsky Berou 6.17 56 ePn Pn 06 36 10.1 +0.9
MTLF Montolieu 6.19 241 ePn Pn 06 36 10.9 +1.3
MTLF Montolieu 6.19 241 ePn Pn 06 36 10.9 +1.3
VYHS Vyhne 6.50 69 ePN Pn 06 36 15.6 +1.9
VYHS Vyhne 6.50 69 ePn Pn 06 36 15.6 +1.9
MFF Saint Martin d 6.78 274 ePn Pn 06 36 19.6 +2.1
SNR=1.0
MFF Saint Martin d 6.78 274 ePn Pn 06 36 19.6 +2.1
SNR=1.0
FLN La Foliniere 7.21 292 ePn Pn 06 36 26.0 +2.5
SNR=1.0
FLN La Foliniere 7.21 292 ePn Pn 06 36 26.0 +2.5
SNR=1.0
GRR Gorron 7.38 288 ePn Pn 06 36 27.9 +2.1
SNR=1.0
GRR Gorron 7.38 288 ePn Pn 06 36 27.9 +2.1
SNR=1.0
KECS Kecovo 7.57 71 ePN Pn 06 36 25.6 -2.8

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*ISK **11** 06:48:31.9, 38.°66N×39.°00E, h5km, MD2.4*
*CSEM **11** 06:48:33.9±0.5, 38.°67N×39.°00E, h5km, MD2.4, Error ellipse: s-maj=14.0km s-min=9.9km az=122.0*
*DDA **11** 06:48:34.4, 38.°69N×39.°12E, h7km, MD2.7*
ISC 11 06:48:33.6±0.9, **38.°70N**±0.°04×**38.°97E**±0.°05, **h14**km±9km, **n10**, σ1°**09**/20, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELZG	**Elazig**	**0.20**	**176**	*i* P	**Pb**	**06 48 39.0**	**-0.2**
ELZG				*i* S	**Sg**	**06 48 42.9**	**+1.4**
ELZG	**Elazig**	**0.20**	**176**	*i* P	**Pb**	**06 48 39.0**	**-0.2**
ELZG				*i* S	**Sg**	**06 48 42.9**	**+1.4**
PTK	**Pertek**	**0.38**	**59**	*e*PG	**Pg**	**06 48 40.7**	**-0.8**
PTK				*e*SG	**Sg**	**06 48 47.0**	**+0.2**
PTK	**Pertek**	**0.38**	**59**	*e*Pg	**Pg**	**06 48 40.7**	**-0.8**
PTK				*e*Sg	**Sg**	**06 48 47.0**	**+0.2**
MALT	**Malatya**	**0.57**	**228**	*e*PG	**Pg**	**06 48 43.7**	**-1.2**
MALT				*e*SG	**Sb**	**06 48 53.0**	**-0.5**
MALT	**Malatya**	**0.57**	**228**	*e*Pg	**Pg**	**06 48 43.7**	**-1.2**
MALT				*e*Sg	**Sb**	**06 48 53.0**	**-0.5**
KEMA	**Kemaliye**	**0.68**	**327**	*i* P	**Pn**	**06 48 49.1**	**+0.2**
KEMA				*i* S	**Sn**	**06 49 01.6**	**+2.2**
KEMA	**Kemaliye**	**0.68**	**327**	*i* P	**Pn**	**06 48 49.1**	**+0.2**
KEMA				*i* S	**Sn**	**06 49 01.6**	**+2.2**
ILIC	**ilic-Erzincan**	**0.82**	**338**	*e*PG	**Pb**	**06 48 49.5**	**-0.2**
ILIC				*e*SG	**Sn**	**06 49 02.4**	**-0.4**
ILIC	**ilic-Erzincan**	**0.82**	**338**	*e*Pg	**Pb**	**06 48 49.5**	**-0.2**
ILIC				*e*Sg	**Sn**	**06 49 02.4**	**-0.4**

DJA 11 06:55:16.4±2.7, **8.°S**±16.°×**10.°7E**±.°, **h13**km±14km, **M3.6**/5, **MLv3.6**/5, **Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.62**	**45**	P	Pg	06 55 28.4	-0.3
CISI				S	Sg	06 55 37.4	+0.4
LEM	**Lembang**	**1.19**	**12**	P	Pn	06 55 37.8	-1.2
DBJI	**Dramaga**	**1.56**	**337**	P	Pn	06 55 42.3	-1.6
KPJI	**Karang Pucung**	**1.68**	**67**	P	Pn	06 55 44.7	-0.8

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*NEIC **11** 07:12:03.8, 16.°81N×95.°37W, h89km, MD4.1(MEX), After MEX.*
MEX 11 07:12:03.8±0.9, **16.°81N**×**95.°37W**, **h89**km±8km, **MD4.1**, **Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.54**	**59**	*i* P	Pn	07 12 17.3	-1.4
CMIG				*i* S	Sn	07 12 28.4	-1.5
CMIG	**Matias Romero**	**0.54**	**59**	*i* P	Pn	07 12 17.3	-1.4
CMIG				*i* S	Sn	07 12 28.4	-1.5
HUIG	**Huatulco**	**1.26**	**214**	*e*P	Pn	07 12 24.6	-1.9
HUIG				*i* S	Sn	07 12 42.3	-1.3
HUIG	**Huatulco**	**1.26**	**214**	*e*P	Pn	07 12 24.6	-1.9
HUIG				*i* S	Sn	07 12 42.3	-1.3
VHO	**Vista Hermosa**	**1.33**	**281**	*i* P	Pn	07 12 26.5	-1.2
VHO				*i* S	Sn	07 12 44.1	-1.6
VHO	**Vista Hermosa**	**1.33**	**281**	*i* P	Pn	07 12 26.5	-1.2
VHO				*i* S	Sn	07 12 44.1	-1.6
TGIG		**2.15**	**91**	*e*P	Pn	07 12 37.0	-1.1
TGIG				*i* S	Sn	07 13 01.9	-2.3
TGIG		**2.15**	**91**	*e*P	Pn	07 12 37.0	-1.1
TGIG				*i* S	Sn	07 13 01.9	-2.3
PCIG		**2.34**	**118**	*i* P	Pn	07 12 40.0	-0.5
PCIG				*i* S	Sn	07 13 07.8	-0.7
PCIG		**2.34**	**118**	*i* P	Pn	07 12 40.0	-0.5
PCIG				*i* S	Sn	07 13 07.8	-0.7
TPIG	**Tehuac#an**	**2.48**	**310**	*i* P	Pn	07 12 41.3	-1.4
TPIG				*i* S	Sn	07 13 10.7	-1.7
TPIG	**Tehuac#an**	**2.48**	**310**	*i* P	Pn	07 12 41.3	-1.4
TPIG				*i* S	Sn	07 13 10.7	-1.7
PNIG	**Pinotepa**	**2.68**	**261**	*e*P	Pn	07 12 41.8	-3.3

PNIG				*i* S	Sn	07 13 13.2	-3.6
PNIG	**Pinotepa**	**2.68**	**261**	*e*P	Pn	07 12 41.8	-3.3
PNIG				*i* S	Sn	07 13 13.2	-3.6
CCIG	**Comitan**	**3.14**	**99**	*e*P	Pn	07 12 51.2	-0.3
CCIG				*i* S	Sn	07 13 27.6	-0.7
CCIG	**Comitan**	**3.14**	**99**	*e*P	Pn	07 12 51.2	-0.3
CCIG				*i* S	Sn	07 13 27.6	-0.7

ISCJB ***11*** *07:12:12.6±1.0, 14°.41N±0°.09×93°.17E±0°.07, h33km, mb3.5/3, Error ellipse: s-maj=13.9km s-min=9.0km az=21.7*
IDC ***11*** *07:12:18.0±1.9, 13°.80N×94°.20E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.4/27, mbtmp3.5/4, ML4.2/1, Error ellipse: s-maj=49.2km s-min=27.1km az=76.0*
ISC 11 07:12:14.8±1.5, 14°.41N±0°.1×93°.1E±0°.1, h35km, n16, σ0°.83/16, mb3.4/3, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**6.93**	**54**	Pn	**Pn**	**07 13 55.8**	**+1.8**
	1.3nm,0.3s,baz=242,slow=15,SNR=3.3						
CMAR				Sn	**Sn**	**07 15 10.0**	**-1.6**
	1.6nm,0.3s,baz=244,slow=27,SNR=6.5						
ODAN	**Odare**	**13.49**	**338**	*e*P	**Pn**	**07 15 24.1**	**+0.1**
	62nm,0.3s						
TAPN	**Taplejung**	**13.83**	**340**	*e*P	**Pn**	**07 15 27.8**	**-0.8**
	53nm,0.4s						
RAMN	**Ramite**	**13.88**	**335**	*e*P	**Pn**	**07 15 28.3**	**-1.0**
	38nm,0.3s						
JIRN	**Jiri**	**14.67**	**335**	*e*P	**Pn**	**07 15 40.3**	**+0.1**
	44nm,0.3s						
PKI	**Pulchoki**	**14.93**	**333**	*e*P	**Pn**	**07 15 43.7**	**+0.1**
	48nm,0.3s						
PKIN	**Phulchoki**	**14.94**	**333**	*e*P	**Pn**	**07 15 44.1**	**+0.4**
GUN	**Gumba**	**15.02**	**335**	*e*P	**Pn**	**07 15 45.1**	**+0.2**
DMN	**Daman**	**15.10**	**332**	*e*P	**Pn**	**07 15 45.7**	**-0.1**
KKN	**Kakani**	**15.17**	**333**	*e*P	**Pn**	**07 15 46.7**	**-0.1**
KOLN	**Koldanda**	**15.96**	**328**	*e*P	**Pn**	**07 15 56.3**	**-0.7**
	56nm,0.5s						
DANN	**Dangsing**	**16.36**	**330**	*e*P	**Pn**	**07 16 02.4**	**+0.3**
	30nm,0.4s						
PYUN	**Piuthan**	**16.55**	**327**	*e*P	**Pn**	**07 16 04.3**	**-0.1**
MKAR	**Makanchi Array**	**33.54**	**347**	P	P	07 19 06.7	+16
	0.4nm,0.8s,baz=169,slow=8.7,SNR=4.1						
WRA	**Warramunga Arr**	**53.03**	**129**	P	**P**	**07 21 27.9**	**-0.7**
	0.2nm,0.6s,baz=311,slow=7.9,SNR=3.0						
ASAR	**Alice Springs**	**55.00**	**133**	P	**P**	**07 21 42.8**	**-0.3**
	0.3nm,0.3s,baz=309,slow=7.4,SNR=7.5						

IDC 11 07:15:52.9±1.9, 1°.31N×124°.30E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/23, mbtmp3.5/3, Error ellipse: s-maj=195.4km s-min=25.8km az=63.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.30**	**156**	P	P	07 21 02.8	+0.1
	2.7nm,0.7s,baz=334,slow=10,SNR=22						
ASAR	**Alice Springs**	**26.53**	**160**	P	P	07 21 32.3	-0.2
	0.3nm,0.7s,baz=348,slow=8.2,SNR=5.0						
MKAR	**Makanchi Array**	**58.20**	**327**	P	P	07 25 48.9	0.0
	0.2nm,0.4s,baz=119,slow=9.0,SNR=5.1						

IDC 11 07:22:17.5±3.3, 2°.38S×140°.89E, h0km, mb3.4/3, mb1 3.8/4, mb1mx3.6/18, mbtmp3.6/4, ML3.9/1, MS3.2/1, Ms1 3.2/1, ms1mx2.5/13, Error ellipse: s-maj=97.8km s-min=29.0km az=92.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.59**	**200**	P	P	07 26 36.2	-0.3
	0.4nm,0.3s,baz=22,slow=12,SNR=21						
HNR	**Honiara**	**20.20**	**111**	LR	LR	07 34 01.2	
	comp=Z,64nm,18.4s,baz=192,slow=35						
FITZ	**Fitzroy Crossi**	**21.63**	**223**	P	P	07 27 09.0	-0.6
	0.9nm,0.6s,baz=59,slow=12,SNR=6.2						
ASAR	**Alice Springs**	**22.21**	**197**	P	P	07 27 15.8	-0.1
	1.1nm,0.5s,baz=28,slow=9.9,SNR=18						
MKAR	**Makanchi Array**	**70.87**	**322**	P	P	07 33 36.9	+0.4
	0.2nm,0.3s,baz=98,slow=7.5,SNR=4.6						

IDC 11 07:28:45.9±52.0, 16°.40S×175°.13W, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/17, mbtmp3.6/3, Error ellipse: s-maj=983.6km s-min=182.8km az=79.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**42.09**	**240**	P	P	07 36 40.6	+0.7
	0.8nm,0.4s,baz=72,slow=9.6,SNR=2.8						
WRA	**Warramunga Arr**	**48.00**	**258**	P	P	07 37 26.4	-0.7
	0.2nm,0.4s,baz=95,slow=8.3,SNR=4.7						
ASAR	**Alice Springs**	**48.22**	**253**	P	P	07 37 28.6	-0.1
	0.8nm,0.6s,baz=88,slow=8.0,SNR=14						

CSEM ***11*** *07:32:21.8±0.1, 37°.91N×32°.49E, h2km, ML3.5, Error ellipse: s-maj=2.5km s-min=2.1km az=51.0*
IDC ***11*** *07:32:21.4±1.3, 37°.95N×32°.17E, h0km, mb3.7/4, mb1 3.7/6, mb1mx3.5/24, mbtmp3.7/6, ML3.4/2, Error ellipse: s-maj=32.9km s-min=14.4km az=123.0*
ISK ***11*** *07:32:21.1, 37°.91N×32°.48E, h5km, ML3.5*
DDA ***11*** *07:32:22.8, 37°.91N×32°.52E, h11km, MD3.5*
ISC 11 07:32:22.2±1.1, 37°.91N±0°.02×32°.49E±0°.02, h3km±9km, n112, σ0°.88/135, mb3.7/4, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KONT	**Konya--Tatoy**	**0.10**	**290**	PG	**Pg**	**07 32 24.1**	**-0.2**
KONT	**Konya--Tatoy**	**0.10**	**290**	*i* Pg	**Pg**	**07 32 24.1**	**-0.2**
LADK	**Ladik-KONYA**	**0.30**	**342**	PG	**Pg**	**07 32 27.2**	**-0.9**
LADK				*e*SG	**Sg**	**07 32 32.5**	**+0.3**
LADK	**Ladik-KONYA**	**0.30**	**342**	*i* Pg	**Pg**	**07 32 27.2**	**-0.9**
LADK				*e*Sg	**Sg**	**07 32 32.5**	**+0.3**
KDHN	**Kadinhani**	**0.68**	**335**	*i* P	**Pg**	**07 32 34.4**	**-0.8**
KDHN				*i* S	**Sg**	**07 32 43.3**	**-0.7**
KDHN	**Kadinhani**	**0.68**	**335**	*i* P	**Pg**	**07 32 34.4**	**-0.8**
KDHN				*i* S	**Sg**	**07 32 43.3**	**-0.7**
SULT	**Sultanhani-AKS**	**0.86**	**70**	*e*PG	**Pg**	**07 32 37.9**	**-0.9**
SULT	**Sultanhani-AKS**	**0.86**	**70**	*e*Pg	**Pg**	**07 32 37.9**	**-0.9**
HDMB	**Hadim**	**0.94**	**180**	*e*PG	**Pg**	**07 32 39.7**	**-0.6**
HDMB	**Hadim**	**0.94**	**180**	*e*Pg	**Pg**	**07 32 39.7**	**-0.6**
KIZT	**Kizilcal**	**1.08**	**334**	*e*PG	**Pg**	**07 32 41.5**	**-1.4**
KIZT	**Kizilcal**	**1.08**	**334**	*e*Pg	**Pg**	**07 32 41.5**	**-1.4**
SUTC	**Sutluce-Ispart**	**1.26**	**250**	*e*PN	**Pg**	**07 32 45.2**	**-1.1**
SUTC	**Sutluce-Ispart**	**1.26**	**250**	*e*Pn	**Pg**	**07 32 45.2**	**-1.1**
BSTP	**Nigde**	**1.28**	**88**	*i* P	**Pg**	**07 32 45.8**	**-1.1**
BSTP				*i* S	**Sn**	**07 33 09.1**	**+4.1**
ERMK	**Ermenek**	**1.31**	**165**	*i* P	**Pn**	**07 32 46.3**	**-1.3**
ERMK				*i* S	**Sg**	**07 33 05.1**	**+0.8**
ERMK	**Ermenek**	**1.31**	**165**	*i* P	**Pn**	**07 32 46.3**	**-1.3**
ERMK				*i* S	**Sg**	**07 33 05.1**	**+0.8**
BOLV	**Bolvadin**	**1.45**	**304**	*i* P	**Pn**	**07 32 48.7**	**-0.8**
BOLV				*i* S	**Sg**	**07 33 10.1**	**+1.2**
BOLV	**Bolvadin**	**1.45**	**304**	*i* P	**Pn**	**07 32 48.7**	**-0.8**
BOLV				*i* S	**Sg**	**07 33 10.1**	**+1.2**
ISP	**Isparta**	**1.56**	**267**	*e*PN	**Pn**	**07 32 50.4**	**-0.5**
ISP	**Isparta**	**1.56**	**267**	*e*Pn	**Pn**	**07 32 50.4**	**-0.5**
BCK	**Bucak**	**1.57**	**254**	*e*PN	**Pn**	**07 32 50.1**	**-1.0**
BCK	**Bucak**	**1.57**	**254**	*e*Pn	**Pn**	**07 32 50.1**	**-1.0**
AFSR	**Af¨ar-Bala (A**	**1.60**	**16**	*e*PN	**Pn**	**07 32 50.9**	**-0.7**
AFSR	**Af¨ar-Bala (A**	**1.60**	**16**	*e*Pn	**Pn**	**07 32 50.9**	**-0.7**
GAZI	**Gazipasa**	**1.68**	**185**	*i* P	**Pn**	**07 32 52.2**	**-0.3**
GAZI				*i* S	**Sn**	**07 33 14.0**	**-0.5**
GAZI	**Gazipasa**	**1.68**	**185**	*i* P	**Pn**	**07 32 52.2**	**-0.3**
GAZI				*i* S	**Sn**	**07 33 14.0**	**-0.5**
NIG	**Nigde**	**1.69**	**83**	*e*PN	**Pn**	**07 32 52.0**	**-0.9**
NIG	**Nigde**	**1.69**	**83**	*e*Pn	**Pn**	**07 32 52.0**	**-0.9**
BBAL	**Bala**	**1.71**	**17**	*i* P	**Pn**	**07 32 52.7**	**-0.3**
BBAL				*i* S	**Sg**	**07 33 18.0**	**+1.0**
BBAL	**Bala**	**1.71**	**17**	*i* P	**Pn**	**07 32 52.7**	**-0.3**
BBAL				*i* S	**Sg**	**07 33 18.0**	**+1.0**
SVRH	**Sivrihisar-ESK**	**1.71**	**334**	*e*PN	**Pn**	**07 32 52.4**	**-0.6**
SVRH	**Sivrihisar-ESK**	**1.71**	**334**	*e*Pn	**Pn**	**07 32 52.4**	**-0.6**
KAMT	**Kaman**	**1.75**	**33**	*e*PN	**Pn**	**07 32 52.8**	**-0.7**
KAMT	**Kaman**	**1.75**	**33**	*e*Pn	**Pn**	**07 32 52.8**	**-0.7**
GULE	**Gulek**	**1.92**	**108**	*i* P	**Pn**	**07 32 54.2**	**-1.8**
GULE				*i* S	**Sg**	**07 33 24.4**	**+0.4**
GULE	**Gulek**	**1.92**	**108**	*i* P	**Pn**	**07 32 54.2**	**-1.8**
GULE				*i* S	**Sg**	**07 33 24.4**	**+0.4**
IKL	**Isikli**	**1.92**	**150**	*e*PN	**Pn**	**07 32 55.5**	**-0.4**
IKL	**Isikli**	**1.92**	**150**	*e*Pn	**Pn**	**07 32 55.5**	**-0.4**
KIZK	**Mersin**	**1.95**	**137**	*i* P	**Pn**	**07 32 56.2**	**0.0**
KIZK				*i* S	**Sg**	**07 33 25.4**	**+0.7**
KIZK	**Mersin**	**1.95**	**137**	*i* P	**Pn**	**07 32 56.2**	**0.0**
KIZK				*i* S	**Sg**	**07 33 25.4**	**+0.7**
ANTO	**Ankara**	**1.97**	**7**	*e*PN	**Pn**	**07 32 56.2**	**-0.4**
ANTO	**Ankara**	**1.97**	**7**	*e*Pn	**Pn**	**07 32 56.2**	**-0.4**
BRTR	**Keskin Array B**	**2.02**	**26**	Pn	**Pn**	**07 32 56.8**	**-0.6**
	6.1nm,0.3s,baz=198,slow=17,SNR=53						
BRTR				Pg	**Pg**	**07 33 00.5**	**-0.6**
	11nm,0.3s,baz=200,slow=18,SNR=104						
BRTR				Sn	**Sb**	**07 33 24.3**	**-1.1**
	13nm,0.3s,baz=207,slow=30,SNR=9.7						
BRTR				Lg	Lg	07 33 29.5	
	13nm,0.3s,baz=204,slow=32,SNR=9.3						
ESKT	**Eskisehir**	**2.06**	**322**	*e*PN	**Pn**	**07 32 57.1**	**-0.7**
ESKT	**Eskisehir**	**2.06**	**322**	*e*Pn	**Pn**	**07 32 57.1**	**-0.7**
SEYT	**Eskypehyr**	**2.06**	**322**	*i* P	**Pn**	**07 32 57.7**	**-0.1**
SEYT				*i* S	**Sb**	**07 33 25.9**	**-0.3**
SEYT	**Eskypehyr**	**2.06**	**322**	*i* P	**Pn**	**07 32 57.7**	**-0.1**
SEYT				*i* S	**Sb**	**07 33 25.9**	**-0.3**
CDAG	**Cicekdag**	**2.26**	**40**	*i* P	**Pn**	**07 33 00.6**	**0.0**
CDAG				*i* S	**Sb**	**07 33 32.9**	**+0.8**
CDAG	**Cicekdag**	**2.26**	**40**	*i* P	**Pn**	**07 33 00.6**	**0.0**
CDAG				*i* S	**Sb**	**07 33 32.9**	**+0.8**
ELL	**Elmali**	**2.36**	**241**	*e*PN	**Pn**	**07 33 01.2**	**-0.7**
ELL	**Elmali**	**2.36**	**241**	*e*Pn	**Pn**	**07 33 01.3**	**-0.7**
KHL	**Karahalli**	**2.37**	**281**	*e*PN	**Pn**	**07 33 01.6**	**-0.6**
KHL	**Karahalli**	**2.37**	**281**	*e*Pn	**Pn**	**07 33 01.6**	**-0.6**
KHAL	**Karahalli**	**2.41**	**282**	*i* P	**Pn**	**07 33 02.1**	**-0.5**
KHAL				*i* S	**Sg**	**07 33 44.3**	**+4.8**
KHAL	**Karahalli**	**2.41**	**282**	*i* P	**Pn**	**07 33 02.1**	**-0.5**
KOZT	**Kozan**	**2.68**	**98**	*e*PN	**Pn**	**07 33 06.5**	**+0.2**
KOZT	**Kozan**	**2.68**	**98**	*e*Pn	**Pn**	**07 33 06.5**	**+0.2**
EREN	**Erenkoy**	**2.73**	**150**	*e*PN	**Pn**	**07 33 06.8**	**-0.2**
EREN	**Erenkoy**	**2.73**	**150**	*e*Pn	**Pn**	**07 33 06.8**	**-0.2**
CEYT	**Ceyhan**	**2.75**	**108**	*e*PN	**Pn**	**07 33 07.3**	**+0.1**
CEYT	**Ceyhan**	**2.75**	**108**	*e*Pn	**Pn**	**07 33 07.3**	**+0.1**
MDUB	**Mudurnu**	**2.75**	**339**	*e*PN	**Pn**	**07 33 07.1**	**-0.2**
MDUB	**Mudurnu**	**2.75**	**339**	*e*Pn	**Pn**	**07 33 07.1**	**-0.2**
BNN	**Bunyan**	**2.80**	**69**	*e*PN	**Pn**	**07 33 08.1**	**0.0**
BNN	**Bunyan**	**2.80**	**69**	*e*Pn	**Pn**	**07 33 08.1**	**0.0**
LEF	**Lefka**	**2.80**	**173**	*e*PN	**Pn**	**07 33 08.0**	**0.0**
LEF	**Lefka**	**2.80**	**173**	*e*Pn	**Pn**	**07 33 08.0**	**0.0**
YOZ	**Yozgat**	**2.81**	**51**	*e*PN	**Pn**	**07 33 08.2**	**0.0**
YOZ	**Yozgat**	**2.81**	**51**	*e*Pn	**Pn**	**07 33 08.2**	**0.0**
CORM	**Corum**	**2.81**	**36**	*e*PN	**Pn**	**07 33 08.3**	**+0.1**
CORM	**Corum**	**2.81**	**36**	*e*Pn	**Pn**	**07 33 08.3**	**+0.1**
GPA	**Golpazari**	**2.92**	**325**	*e*PN	**Pn**	**07 33 09.4**	**-0.2**
GPA	**Golpazari**	**2.92**	**325**	*e*Pn	**Pn**	**07 33 09.4**	**-0.2**
GULT	**Gulveren**	**2.95**	**329**	*e*PN	**Pn**	**07 33 09.9**	**-0.1**
GULT	**Gulveren**	**2.95**	**329**	*e*Pn	**Pn**	**07 33 09.9**	**-0.1**
FETY	**Fethiye**	**3.00**	**246**	*e*PN	**Pn**	**07 33 10.5**	**-0.2**
FETY	**Fethiye**	**3.00**	**246**	*e*Pn	**Pn**	**07 33 10.5**	**-0.2**
CSS	**Prodhromos**	**3.02**	**167**	*e*PN	**Pn**	**07 33 11.7**	**+0.7**
CSS	**Prodhromos**	**3.02**	**167**	*e*Pn	**Pn**	**07 33 11.7**	**+0.7**
KULA	**Kula-Manisa**	**3.07**	**282**	*e*PN	**Pn**	**07 33 11.7**	**-0.1**
KULA	**Kula-Manisa**	**3.07**	**282**	*e*Pn	**Pn**	**07 33 11.7**	**-0.1**
CAVI	**Cavuskoy**	**3.08**	**319**	*e*PN	**Pn**	**07 33 11.8**	**0.0**
CAVI	**Cavuskoy**	**3.08**	**319**	*e*Pn	**Pn**	**07 33 11.8**	**0.0**
DALY	**Dalyan (Mu¨la**	**3.24**	**252**	*e*PN	**Pn**	**07 33 13.9**	**-0.1**
DALY	**Dalyan (Mu¨la**	**3.24**	**252**	*e*Pn	**Pn**	**07 33 13.9**	**-0.1**
SAFT	**Safranbolu**	**3.33**	**3**	*e*PN	**Pn**	**07 33 15.5**	**+0.3**
SAFT	**Safranbolu**	**3.33**	**3**	*e*Pn	**Pn**	**07 33 15.5**	**+0.3**
YER	**Yerkesik**	**3.43**	**258**	*e*PN	**Pn**	**07 33 16.4**	**-0.2**
YER	**Yerkesik**	**3.43**	**258**	*e*Pn	**Pn**	**07 33 16.5**	**-0.2**
ARMT	**Armutlu**	**3.87**	**314**	*e*PN	**Pn**	**07 33 22.9**	**+0.3**
ARMT	**Armutlu**	**3.87**	**314**	*e*Pn	**Pn**	**07 33 22.9**	**+0.3**
SILT	**Sile**	**3.91**	**327**	*e*PN	**Pn**	**07 33 23.8**	**+0.6**
SILT	**Sile**	**3.91**	**327**	*e*Pn	**Pn**	**07 33 23.8**	**+0.6**
BUY	**Buyukada**	**3.93**	**319**	*e*PN	**Pn**	**07 33 23.9**	**+0.5**
BUY	**Buyukada**	**3.93**	**319**	*e*Pn	**Pn**	**07 33 23.9**	**+0.5**
BALB	**Balikesir**	**3.99**	**297**	*e*PN	**Pn**	**07 33 24.8**	**+0.5**
BALB	**Balikesir**	**3.99**	**297**	*e*Pn	**Pn**	**07 33 24.8**	**+0.5**
SVSK	**Karacayir**	**4.05**	**59**	*e*PN	**Pn**	**07 33 25.8**	**+0.7**
SVSK	**Karacayir**	**4.05**	**59**	*e*Pn	**Pn**	**07 33 25.8**	**+0.7**
DAT	**Datca**	**4.09**	**255**	*e*PN	**Pn**	**07 33 26.1**	**+0.4**
DAT	**Datca**	**4.09**	**255**	*e*Pn	**Pn**	**07 33 26.1**	**+0.4**
IZM	**Izmir**	**4.15**	**278**	*e*PN	**Pn**	**07 33 26.9**	**+0.4**
IZM	**Izmir**	**4.15**	**278**	*e*Pn	**Pn**	**07 33 26.9**	**+0.4**
GONE	**Gonen-Balikesi**	**4.31**	**301**	*e*PN	**Pn**	**07 33 29.1**	**+0.5**
GONE	**Gonen-Balikesi**	**4.31**	**301**	*e*Pn	**Pn**	**07 33 29.1**	**+0.5**
MMAI	**Mount Meron Ar**	**5.43**	**153**	Pn	**Pn**	**07 33 45.0**	**+0.8**
	2.6nm,0.3s,baz=341,slow=15,SNR=4.6						
EIL	**Elat**	**8.47**	**165**	Pn	Pn	07 34 30.8	+5.0
	0.5nm,0.3s,baz=18,slow=9.6,SNR=2.9						
FINES	**FINESS Array B**	**23.90**	**352**	P	**P**	**07 37 35.8**	**-1.0**
	1.6nm,0.7s,baz=155,slow=10,SNR=3.4						
ARCES	**ARCESS Array B**	**31.91**	**355**	P	**P**	**07 38 47.2**	**-1.4**
	1.5nm,0.7s,baz=162,slow=8.4,SNR=7.8						
TORD	**Torodi Ar. Bea**	**36.85**	**236**	P	**P**	**07 39 30.2**	**-1.7**
	1.0nm,0.8s,baz=25,slow=9.5,SNR=5.9						
MKAR	**Makanchi Array**	**37.31**	**60**	P	**P**	**07 39 37.3**	**+1.7**
	0.6nm,0.7s,baz=288,slow=5.9,SNR=6.0						

ISCJB ***11*** *08:10:00.1±2.9, 16°.42S±0°.06×72°.74W±0°.08, h15km±21km, mb4.4/37, MS4.6/3, Error ellipse: s-maj=14.0km s-min=7.0km az=147.6*
IDC ***11*** *08:10:03.6±0.6, 16°.43S×72°.73W, h26km±3km, mb4.0/11, mb1 4.1/13, mb1mx4.0/21, mbtmp3.9/13, ML3.2/2, MS3.2/5, Ms1 3.2/5, ms1mx3.2/25, Error ellipse: s-maj=23.2km s-min=16.1km az=40.0*
NEIC ***11*** *08:10:04.9±0.3, 16°.46S×72°.72W, h35km, mb4.6/28, ML4.5(ARE), Error ellipse: s-maj=9.6km s-min=5.5km az=51.0*
NEIC Felt [III] at Camana.
BJI ***11*** *08:10:05.9, 16°.28S×73°.34W, h52km, mB5.2/5, Ms5.4/2, Ms7 5.2/3*
ISC 11 08:10:04.4±0.6, 16°.52S±0°.07×72°.76W±0°.07, h32km±3km, h32km:pP-P, n270, σ1°.06/291, mb4.5/37, MS5.2/3, 87C-96D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.45**	**88**	*e*Pn	Pb	08 11 17.0	-5.3
LPAZ	**La Paz**	**4.45**	**88**	Pn	Pb	08 11 16.8	-5.4
	7.1nm,0.3s,baz=273,slow=9.3,SNR=58						
LPAZ				Sn	**Sn**	**08 12 04.7**	**+3.5**
	1.5nm,0.3s,baz=280,slow=3.7,SNR=2.1						
LPAZ				LR	LR	08 12 21.6	
	comp=Z,91nm,19.3s,baz=204,slow=31						
NNA	**Nana**	**6.00**	**318**	*e*Pn	**Pn**	**08 11 32.9**	**+1.8**
NNA				*e*Sn	Sn	08 12 49.1	+10
NNA	**Nana**	**6.00**	**318**	Pn	**Pn**	**08 11 33.3**	**+2.2**
	5.4nm,0.3s,baz=152,slow=9.5,SNR=11						
NNA				Sn	**Sn**	**08 12 40.4**	**+1.7**
	9.8nm,0.3s,baz=276,slow=21,SNR=2.1						
LVC	**Limon Verde**	**7.06**	**150**	*e*Pn	**Pn**	**08 11 47.1**	**+1.3**
LVC				*e*Sn	**Sn**	**08 13 06.5**	**+1.4**
SIV	**San Ignacio**	**11.23**	**89**	Pn	**Pn**	**08 12 43.7**	**+0.8**
SIV	**San Ignacio**	**11.23**	**89**	Pn	**Pn**	**08 12 43.7**	**+0.8**
	0.5nm,0.3s,baz=271,slow=12,SNR=5.4						
SIV				LR	LR	08 17 37.7	
	comp=Z,552nm,18.7s,slow=40						
SAML	**Samuel**	**11.99**	**52**	*e*Pn	**Pn**	**08 12 53.0**	**-0.3**
	15nm,1.0s						
CFAA	**Coronel Fontan**	**15.57**	**165**	Pn	**Pn**	**08 13 42.5**	**+0.9**
CFAA	**Coronel Fontan**	**15.57**	**165**	Pn	**Pn**	**08 13 42.5**	**+0.9**
	0.0nm,0.3s,baz=336,slow=16,SNR=7.4						
CFAA				LR	LR	08 19 04.2	
	comp=Z,29nm,19.8s,baz=357,slow=35						
CPUP	**Villa Florida**	**17.35**	**127**	LR	LR	08 21 51.1	
	comp=Z,131nm,18.3s,baz=287,slow=41						
OTAV	**Otavalo**	**17.58**	**341**	*e*P	**P**	**08 14 11.3**	**+2.9**
	9.5nm,1.0s						
ROSC	**El Rosal**	**21.30**	**356**	*e*P	**P**	**08 14 49.5**	**+0.6**
ROSC	**El Rosal**	**21.30**	**356**	P	**P**	**08 14 47.0**	**-2.0**
	6.7nm,0.4s,baz=82,slow=23,SNR=1.8						
BDFB	**Brasilia**	**23.79**	**91**	P	**P**	**08 15 14.1**	**-0.5**
BDFB	**Brasilia**	**23.79**	**91**	P	**P**	**08 15 14.1**	**-0.5**
	2.6nm,0.4s,baz=248,slow=13,SNR=4.7						
BDFB				LR	LR	08 25 38.5	
	comp=Z,67nm,19.1s,baz=132,slow=39						
PLCA	**Paso Flores**	**24.20**	**176**	*e*P	**P**	**08 15 19.1**	**+0.9**
	8.0nm,1.1s						
PLCA	**Paso Flores**	**24.20**	**176**	P	**P**	**08 15 18.1**	**0.0**
	5.8nm,1.1s,baz=26,slow=11,SNR=5.3						
CMIG	**Matias Romero**	**39.89**	**326**	P	**P**	**08 17 34.7**	**-0.9**
CMIG	**Matias Romero**	**39.89**	**326**	P	**P**	**08 17 34.7**	**-0.9**
	1.6nm,0.7s,baz=161,slow=7.6,SNR=4.4						
732A	**Laxson Ranch,**	**52.12**	**329**	⇓P	**P**	**08 19 12.0**	**+0.3**
	baz=52						
632A	**Uvalde**	**52.67**	**330**	⇑P	**P**	**08 19 15.5**	**-0.4**
	baz=53						
631A	**Perdido Creek**	**52.98**	**329**	⇓P	**P**	**08 19 16.9**	**-1.3**
	baz=53,SNR=5.7						
532A	**Rocksprings**	**53.25**	**330**	⇓P	**P**	**08 19 21.3**	**+1.1**
	baz=53						
JCT	**Junction City**	**53.49**	**331**	⇑P	**P**	**08 19 22.0**	**0.0**
	baz=54						
531A	**Rocksprings**	**53.59**	**330**	⇓P	**P**	**08 19 22.5**	**-0.2**
	baz=54						
WHTX	**Lake Whitney**	**53.74**	**334**	⇓P	**P**	**08 19 23.3**	**-0.4**
	baz=54						
432A	**Menard**	**53.82**	**331**	⇑P	**P**	**08 19 23.9**	**-0.5**
	baz=54						
530A	**J-C Ranch, Com**	**53.96**	**329**	⇓P	**P**	**08 19 24.8**	**-0.6**
	baz=54						
431A	**Sonora**	**54.05**	**330**	⇓P	**P**	**08 19 24.7**	**-1.3**
	baz=54,SNR=5.9						
628A	**Black Gap, Mar**	**54.20**	**327**	⇑P	**P**	**08 19 27.2**	**+0.1**
	baz=54						
332A	**Millersview**	**54.23**	**331**	⇓P	**P**	**08 19 26.3**	**-0.9**
	baz=54,SNR=6.7						
529A	**Stev Forest Ra**	**54.38**	**328**	⇑P	**P**	**08 19 28.3**	**-0.1**
	baz=55						
430A	**Baggett Ranch,**	**54.43**	**330**	⇓P	**P**	**08 19 28.1**	**-0.7**
	baz=55						
627A	**Terlingua Ranc**	**54.44**	**327**	⇓P	**P**	**08 19 28.7**	**-0.3**
	baz=55						
331A	**San Angelo**	**54.48**	**331**	⇓P	**P**	**08 19 28.3**	**-0.8**
	baz=55						
TXAR	**Lajitas Array**	**54.49**	**327**	P	**P**	**08 19 28.4**	**-0.8**
TXAR	**Lajitas Array**	**54.49**	**327**	P	**P**	**08 19 28.4**	**-0.8**
	1.2nm,0.7s,baz=149,slow=9.3,SNR=12						
MIAR	**Mount Ida**	**54.51**	**339**	*e*P	**P**	**08 19 28.2**	**-1.0**
	13nm,1.3s						
232A	**Coleman**	**54.61**	**332**	⇓P	**P**	**08 19 29.1**	**-0.9**
	baz=55,SNR=7.2						
429A	**Davenport Ranc**	**54.62**	**329**	⇓P	**P**	**08 19 29.2**	**-1.0**
	baz=55,SNR=6.0						
626A	**Big Bend Ranch**	**54.91**	**326**	⇓P	**P**	**08 19 31.8**	**-0.5**
	baz=55,SNR=7.5						
330A	**Mertzon**	**54.92**	**330**	⇑P	**P**	**08 19 31.3**	**-1.0**
	baz=55						
ABTX	**Abilene, Hawle**	**55.23**	**332**	⇑P	**P**	**08 19 33.5**	**-1.0**
	baz=55,SNR=7.6						
526A	**Mary Lane Ranc**	**55.29**	**327**	⇑P	**P**	**08 19 34.4**	**-0.7**
	baz=56						
329A	**Wagon Wheel Ra**	**55.37**	**330**	⇑P	**P**	**08 19 34.9**	**-0.7**
	baz=56						
427A	**Hayter Ranch,**	**55.56**	**328**	⇓P	**P**	**08 19 36.1**	**-0.9

	baz=60					
V26A	Tequesquite Ra	59.76 331	⇓P	P	08 20 05.7	-0.8
	baz=60,SNR=5.3					
T29A	Hugoton	59.78 334	⇓P	P	08 20 06.6	0.0
	baz=60					
Y22A	Socorro	59.84 327	⇓P	P	08 20 06.8	-0.3
	baz=60					
W24A	Lazy 6 Ranch,	60.06 329	⇑P	P	08 20 07.8	-0.9
	baz=60					
U26A	Atchley Ranch,	60.23 331	⇑P	P	08 20 09.4	-0.4
	baz=60					
Y21A	Point of Rocks	60.26 327	⇓P	P	08 20 10.4	+0.3
	baz=60,SNR=6.2					
LAZ	Ladron	60.29 327	eP	P	08 20 11.3	+1.1
	2.6nm,0.9s					
R30A	Dighton	60.33 335	⇑P	P	08 20 10.2	0.0
	baz=60					
ANMO	Albuquerque	60.37 328	eP	P	08 20 10.5	-0.3
	3.0nm,0.9s					
V24A	Rampart Ranch,	60.41 330	⇓P	P	08 20 10.6	-0.5
	baz=61					
U25A	Circle Dot Ran	60.54 331	⇑P	P	08 20 11.9	0.0
	baz=61					
Y20A	Horse Springs,	60.56 326	⇓P	P	08 20 12.1	-0.1
	baz=61					
X21A	Alamocita Cree	60.66 327	⇓P	P	08 20 12.8	0.0
	baz=61,SNR=6.4					
T26A	Comanche Natio	60.80 332	⇑P	P	08 20 13.7	0.0
	baz=61					
U24A	Moreno Valley	60.96 330	⇓P	P	08 20 15.1	+0.2
	baz=61					
R28A	Tribune	61.00 334	⇑P	P	08 20 14.6	-0.4
	baz=61					
S26A	Kim	61.12 332	⇓P	P	08 20 15.6	-0.1
	baz=61,SNR=6.0					
Q29A	Oakley	61.13 335	⇓P	P	08 20 15.4	-0.3
	baz=61					
T25A	Trinidad	61.15 331	⇑P	P	08 20 16.0	0.0
	baz=61					
U23A	El Rito	61.33 330	⇓P	P	08 20 17.2	-0.2
	baz=62,SNR=5.8					
V22A	San Miguel Ran	61.36 329	⇑P	P	08 20 17.7	+0.2
	baz=62,SNR=8.4					
T24B	San Luis	61.53 331	⇓P	P	08 20 19.0	+0.2
	baz=62					
W20A	Ramah	61.56 327	⇑P	P	08 20 19.0	+0.1
	baz=62					
S25A	Robets Cordova	61.58 332	⇑P	P	08 20 19.0	0.0
	baz=62					
Q28A	Sharon Springs	61.62 335	⇑P	P	08 20 19.4	+0.3
	baz=62					
214A	Organ Pipe Nat	61.62 322	⇑P	P	08 20 19.1	-0.1
	baz=62					
R26A	Arlington	61.67 333	⇑P	P	08 20 19.2	-0.2
	baz=62					
P29A	Atwood	61.72 336	⇓P	P	08 20 20.4	+0.7
	baz=62					
X18A	Snowflake	61.88 326	⇑P	P	08 20 21.2	+0.2
	baz=62					
KSCO	Kaye Shedlock'	61.91 334	⇓P	P	08 20 21.5	+0.4
	baz=62					
S24A	Houchin Ranch,	61.92 331	⇑P	P	08 20 21.9	+0.5
	baz=62					
V20A	Brimhall	62.06 328	⇓P	P	08 20 22.6	+0.4
	baz=62					
U21A	Nageezi	62.14 329	⇓P	P	08 20 23.2	+0.4
	baz=62					
SDCO	Great Sand Dun	62.14 331	eP	P	08 20 22.0	-0.8
	8.2nm,1.0s					
Q26A	Hugo	62.22 333	⇓P	P	08 20 23.8	+0.6
	baz=62					
T22A	Edith	62.23 329	⇑P	P	08 20 23.8	+0.4
	baz=62					
T21A	Navajo Lake	62.52 329	⇑P	P	08 20 25.7	+0.5
	baz=63					
U20A	Newcomb	62.53 328	⇓P	P	08 20 25.8	+0.4
	baz=63					
X16A	Lo Mia Camp, P	62.61 324	⇓P	P	08 20 26.3	+0.4
	baz=63,SNR=9.2					
P26A	Davis Ranch, A	62.67 334	⇓P	P	08 20 26.9	+0.7
	baz=63					
113A	Mohawk Valley,	62.77 322	⇑P	P	08 20 26.7	0.0
	baz=63					
S22A	4UR Ranch, Cre	62.77 330	⇓P	P	08 20 27.1	0.0
	baz=63					
Y14A	Wickenburg	63.15 323	⇑P	P	08 20 29.3	-0.1
	baz=63,SNR=5.8					
MVCO	Mesa Verde	63.17 328	⇓P	P	08 20 29.9	+0.3
	baz=63					
S21A	Coal Bank Pass	63.17 329	⇑P	P	08 20 29.9	+0.1
	baz=63					
WUAZ	Wupatki	63.39 325	eP	P	08 20 30.8	-0.2
	4.9nm,0.8s					
WUAZ	Wupatki	63.39 325	⇓P	P	08 20 31.5	+0.4
	baz=64,SNR=6.0					
S20A	Disappointment	63.58 329	⇑P	P	08 20 32.9	+0.5
	baz=64					
ECSD	EROS Data Cent	63.82 341	eP	P	08 20 31.8	-1.8
	5.6nm,1.2s					
ISCO	Idaho Springs	63.86 332	⇑P	P	08 20 34.4	+0.1
	baz=64					
R20A	Redvale	63.87 329	⇓P	P	08 20 34.6	+0.3
	baz=64,SNR=5.8					
Y12C	Blythe	63.91 322	⇓P	P	08 20 35.1	+0.8
	baz=64					
SPMN	St. Paul	64.10 344	eP	P	08 20 34.1	-1.2
	33nm,1.8s					
P22A	Eagle	64.21 331	⇓P	P	08 20 36.7	+0.2
	baz=64					
O23A	Lake Granby, G	64.33 332	⇓P	P	08 20 37.6	+0.3
	baz=64					
BC3	Big Chuckawall	64.40 321	⇑P	P	08 20 38.1	+0.4
	baz=65					
P21A	Newcastle	64.48 331	⇑P	P	08 20 38.9	+0.7
	baz=65					
W13A	Hualapai Mount	64.49 323	⇑P	P	08 20 39.0	+0.6
	baz=65					
U15A	North Rim	64.56 325	⇑P	P	08 20 39.3	+0.4
	baz=65,SNR=6.1					
IRM	Iron Mountain	64.57 322	⇓P	P	08 20 39.5	+0.9
	baz=65					
O22A	Kremmling	64.57 332	⇓P	P	08 20 40.2	+1.2
	baz=65					
PFO	Pinyon Flat Ob	64.97 320	⇓P	P	08 20 42.3	+0.9
	baz=65					
M23A	Laramie	65.27 333	⇓P	P	08 20 44.3	+1.0
	baz=66					
P19A	Cripple Cowboy	65.29 330	⇑P	P	08 20 43.9	+0.3
	baz=66					
O20A	White River Ci	65.33 331	⇓P	P	08 20 44.4	+0.7
	baz=66					
N21A	Black Mountain	65.50 332	⇓P	P	08 20 46.0	+1.2
	baz=66					
I28A	Midland	65.59 338	⇓P	P	08 20 46.9	+1.7
	baz=66					
SRU	San Rafael	65.65 328	eP	P	08 20 45.8	0.0
	3.8nm,0.9s					
HEC	Hector,Ludlow	65.73 322	⇑P	P	08 20 46.6	+0.3
	baz=66,SNR=5.1					
Q16A	Castle Valley	65.83 328	⇑P	P	08 20 47.9	+0.9
	baz=66					
O19A	Miners Draw (B	65.88 330	⇑P	P	08 20 47.8	+0.6
	baz=66					
TUQ	Turquoise Moun	65.91 322	⇓P	P	08 20 47.8	+0.3
	baz=66					
CCUT	Cedar City	65.97 326	eP	P	08 20 48.7	+0.8
	4.7nm,0.9s					
MVU	Marysvale	66.06 327	eP	P	08 20 49.0	+0.6
	7.7nm,1.0s					
SHPR	Sheep Range	66.22 324	eP	P	08 20 50.2	+0.7
GSC	Goldstone	66.34 322	⇑P	P	08 20 50.6	+0.4
	baz=66					
SHOC	Shoshone	66.44 322	⇑P	P	08 20 51.7	+0.9
	baz=67					
VNA2	Neumayer--Watz	66.52 161	eP	P	08 20 43.4	-7.4
EDW2	Edwards Air Fo	66.77 321	⇓P	P	08 20 53.6	+0.7
	baz=67					
LRMC	Laurel Mountai	66.99 321	⇑P	P	08 20 55.0	+0.6
	baz=67					
FURC	Furnace Creek,	67.17 323	⇓P	P	08 20 56.2	+0.9
	baz=67,SNR=8.1					
J22A	Midwest	67.18 334	⇑P	P	08 20 55.7	+0.3
	baz=67					
JLU	Jordanelle	67.24 329	eP	P	08 20 55.7	-0.4
	2.4nm,0.8s					
MPMC	Manual Prospec	67.26 322	⇑P	P	08 20 56.9	+0.7
	baz=67					
I22A	9 Mile Ranch,	67.57 334	⇓P	P	08 20 57.8	-0.1
	baz=68					
L18A	Fontenelle, Gr	67.58 331	⇑P	P	08 20 58.3	+0.3
	baz=68					
ISA	Isabella	67.58 321	eP	P	08 20 59.1	+1.0
	3.9nm,0.8s					
ISA	Isabella	67.58 321	⇑P	P	08 20 58.9	+0.8
	baz=68					
DUG	Dugway	67.62 328	eP	P	08 20 58.1	-0.2
	6.6nm,0.9s					
DUG	Dugway	67.62 328	⇑P	P	08 20 58.9	+0.6
	baz=68,SNR=10					
R11A	Troy Canyon, C	67.76 325	eP	P	08 21 00.1	+0.8
	6.6nm,1.3s					
R11A	Troy Canyon, C	67.76 325	⇓P	P	08 20 59.9	+0.6
	baz=68,SNR=6.8					
GRAC	Grapevine Rang	67.83 323	⇑P	P	08 21 00.6	+1.0
	baz=68					
PKM	Peak Mountain	67.91 319	⇑P	P	08 21 01.0	+0.8
	baz=68					
PDAR	Pinedale Array	68.01 332	P	P	08 20 58.5	-2.3
PDAR	Pinedale Array	68.01 332	P	P	08 20 58.5	-2.3
	0.5nm,0.8s,baz=132,slow=2.2,SNR=3.4					
HWUT	Hardware Ranch	68.06 330	eP	P	08 21 00.6	-0.5
	4.9nm,1.1s					
VES	Vestal, Richgr	68.07 321	⇓P	P	08 21 01.8	+0.8
	baz=68					
SNAA	Sanae	68.14 161	P	P	08 21 01.2	+0.1
SNAA	Sanae	68.14 161	P	P	08 21 01.2	+0.1
	1.5nm,0.9s,baz=308,slow=4.6,SNR=2.9					
J19A	Crowheart	68.18 332	⇑P	P	08 21 02.0	+0.3
	baz=68					
BGU	Big Grassy Mou	68.28 328	eP	P	08 21 02.0	-0.4
	2.9nm,0.9s					
SMMC	Simmler	68.29 320	⇓P	P	08 21 03.2	+0.8
	baz=68					
B30A	Myrvik Farm, E	68.58 342	⇑P	P	08 21 03.9	-0.1
	baz=69					
I19A	Meeteetse	68.76 333	⇑P	P	08 21 05.5	0.0
	baz=69					
B29A	Wagenman Farm,	68.90 341	⇑P	P	08 21 05.7	-0.2
	baz=69					
A29A	Manning Farm,	69.28 342	⇓P	P	08 21 07.5	-0.7
	baz=70					
RRI2	Red Ridge	69.28 331	eP	P	08 21 08.5	-0.3
	29nm,1.8s					
H18A	Shoshone NF, C	69.56 333	⇓P	P	08 21 11.0	+0.6
	baz=70					
G18A	Lazy EL Ranch,	70.03 333	⇑P	P	08 21 13.2	0.0
	baz=70					
WAKR	Walker	70.06 323	eP	P	08 21 14.7	+1.1
	3.3nm,1.1s					
D22A	Cohagen	70.13 336	⇑P	P	08 21 14.6	+1.0
	baz=70					
F19A	Roth Farm, Mol	70.19 334	⇑P	P	08 21 14.4	+0.3
	baz=70					
CMB	Columbia Colle	70.30 322	eP	P	08 21 14.8	-0.1
	2.7nm,1.0s					
E20A	Meyer Farm, Mu	70.37 335	⇑P	P	08 21 15.7	+0.5
	baz=71					
D21A	La Casta Ranch	70.38 336	⇓P	P	08 21 15.7	+0.5
	baz=71					
DGMT	Dagmar	70.51 338	⇓P	P	08 21 16.6	+0.7
	baz=71					
C22A	Vida	70.51 337	⇓P	P	08 21 16.6	+0.6
	baz=71					
F18A	Big Timber	70.56 334	⇑P	P	08 21 16.5	+0.1
	baz=71					
E19A	Rath Farm, Rou	70.61 334	⇑P	P	08 21 17.2	+0.6
	baz=71					
B23A	Brockton	70.79 338	⇑P	P	08 21 18.6	+1.0
	baz=71					
PAHR	Pah Rah Range	70.83 324	eP	P	08 21 19.1	+0.8
	12nm,0.9s					
HLID	Hailey	70.92 329	eP	P	08 21 19.1	+0.4
	2.0nm,1.0s					
HLID	Hailey	70.92 329	⇓P	P	08 21 19.8	+1.1
	baz=71					
DBIC	Dimbokro	70.98 77	P	P	08 21 18.9	-0.6
DBIC			pP	pP	08 21 26.7	-2.9
DBIC	Dimbokro	70.98 77	P	P	08 21 18.9	-0.6
	2.8nm,0.8s,baz=252,slow=6.4,SNR=1.5					
DBIC			pP	pP	08 21 26.7	-2.9
	7.9nm,0.9s,baz=323,slow=11,SNR=3.8					
D19A	Cripps Ranch,	71.21 335	⇓P	P	08 21 20.6	+0.3
	baz=71					
B21A	Ellsworth Farm	71.50 337	⇓P	P	08 21 22.9	+1.0
	baz=72					
MFID	Camas Ranch	71.52 328	⇑P	P	08 21 23.0	+0.7
	baz=72					
A22A	Carney Farms,	71.56 338	⇑P	P	08 21 22.9	+0.6
	baz=72					
C19A	Slack Wire Ran	71.74 335	⇑P	P	08 21 24.0	+0.6
	baz=72					
A20A	Cobblestone Ra	72.22 336	⇑P	P	08 21 26.6	+0.3
	baz=72					
B19A	Brinkman Farms	72.28 336	⇓P	P	08 21 27.0	+0.4
	baz=72					
MOD	Modoc	72.83 325	eP	P	08 21 29.3	-0.9
	16nm,0.8s					
PINOR	Pine Mountain	74.42 326	eP	P	08 21 40.4	+1.2
H04A	Detroit Lake	75.70 326	eP	P	08 21 46.7	0.0
	4.9nm,0.8s					
EDM	Edmonton	77.75 336	eP	P	08 21 56.9	-1.2
TORD	Torodi Ar. Bea	79.25 73	P	P	08 22 06.5	-0.6
TORD			pP	PcP	08 22 14.7	-0.6
TORD	Torodi Ar. Bea	79.25 73	P	P	08 22 06.5	-0.6
	4.5nm,0.6s,baz=268,slow=5.3,SNR=27					
TORD			pP	PcP	08 22 14.7	-0.6
	5.7nm,0.9s,baz=255,slow=4.5,SNR=13					
ESDC	Sonseca Array	84.95 46	P	P	08 22 37.2	+0.6
ESDC			pP	pP	08 22 45.7	-1.2
ESDC	Sonseca Array	84.95 46	P	P	08 22 37.2	+0.6
	0.2nm,0.3s,baz=254,slow=5.3,SNR=2.0					
ESDC			pP	pP	08 22 45.7	-1.2
	0.2nm,0.3s,baz=256,slow=5.0,SNR=1.7					
YKA	Yellowknife Ar	85.33 342	P	P	08 22 37.1	-0.8
YKA	Yellowknife Ar	85.33 342	P	P	08 22 37.1	-0.8
	2.5nm,0.7s,baz=143,slow=4.8,SNR=3.8					
ASAR	Alice Springs	132.31 214	PKP	PKPdf	08 29 16.0	-0.1
ASAR	Alice Springs	132.31 214	PKP	PKPdf	08 29 16.0	-0.1
	0.7nm,0.9s,baz=104,slow=1.3,SNR=2.5					
WRA	Warramunga Arr	135.03 217	PKP	PKPdf	08 29 21.3	0.0
WRA	Warramunga Arr	135.03 217	PKP	PKPdf	08 29 21.3	0.0
	1.0nm,0.8s,baz=138,slow=2.0,SNR=4.3					
ZALV	Zalesovo Beam	138.77 20	PKP	PKPdf	08 29 26.8	-0.3
ZALV			pPKP	pPKPdf	08 29 36.6	-1.1
ZALV	Zalesovo Beam	138.77 20	PKP	PKPdf	08 29 26.8	-0.3
	0.9nm,0.4s,baz=343,slow=4.6,SNR=1.9					
ZALV			pPKP	pPKPdf	08 29 36.6	-1.1
	1.5nm,0.6s,baz=277,slow=3.6,SNR=2.1					
MKAR	Makanchi Array	143.41 29	PKP	PKPbc	08 29 33.3	+0.3
MKAR	Makanchi Array	143.41 29	PKP	PKPbc	08 29 33.3	+0.3
	0.2nm,0.5s,baz=347,slow=3.1,SNR=3.2					
KSH	Kashi	144.42 44	PKP	PKPdf	08 29 37.3	-0.6
KSH			pPKP	pPKPdf	08 29 47.9	-0.7
KSH			PKS	PKSdf	08 33 11.6	-2.0
KSH			SKKS		08 39 34.4	
KSH			AMB	AMB		
	comp=Z,140nm,4.5s					
KSH			LR	LR		
	comp=N,83nm,6.5s					
KSH			LR	LR		
	comp=E,100nm,7.1s					
KSH			LR	LR		
	comp=Z,370nm,11.5s					
USRK	Ussuriysk Arra	145.38 328	PKPbc	PKPbc	08 29 38.8	-0.3
	comp=Z,3.2nm,0.9s,baz=59,slow=2.8,SNR=5.6					
USRK			pPKPbc	pPKPbc	08 29 46.9	-2.9
	comp=Z,2.5nm,0.9s,baz=66,slow=3.8,SNR=3.8					
MJAR	Matsushiro Arr	146.09 312	PKPbc	PKPdf	08 29 41.0	+0.3
MJAR			pPKPbc	pPKPbc	08 29 49.2	-2.9
MJAR	Matsushiro Arr	146.09 312	PKPbc	PKPdf	08 29 41.0	+0.3
	comp=Z,4.5nm,0.8s,baz=156,slow=1.0,SNR=10					
MJAR			pPKPbc	pPKPbc	08 29 49.2	-2.9
	comp=Z,4.0nm,0.9s,baz=110,slow=2.3,SNR=5.9					
MAJO	Matsushiro	146.09 312	ePKPdf	PKPdf	08 29 41.0	+0.3
WMQ	Urumqi	148.14 27	ePKPbc	PKPdf	08 29 43.6	-0.4
SONM	Songino Array	148.77 1	PKPbc	PKPbc	08 29 49.3	+0.5
SONM			pPKPbc	pPKPbc	08 29 57.5	-1.9
SONM	Songino Array	148.77 1	PKPbc	PKPbc	08 29 49.3	+0.5
	comp=Z,2.8nm,0.8s,baz=337,slow=1.6,SNR=9.8					
SONM			pPKPbc	pPKPbc	08 29 57.5	-1.9
	comp=Z,2.4nm,0.8s,baz=313,slow=3.3,SNR=6.5					
KSRS	Korea Array	152.29 323	PKPbc	PKPbc	08 29 57.9	+0.5
	comp=Z,2.6nm,0.9s,baz=25,slow=1.3,SNR=5.6					
KSRS			pPKPbc	PKPab	08 30 06.2	-1.0
	comp=Z,2.7nm,0.9s,baz=352,slow=1.5,SNR=4.4					
KSAR	Wonju Array Be	152.32 323	PKPbc	PKPbc	08 29 57.9	+0.5
KSAR			pPKPbc	PKPab	08 30 06.2	-1.1
HHC	Hu-ho-hao-te	155.47 352	ePKP	PKPdf	08 29 53.6	-1.5
HHC			pPKP	pPKPdf	08 30 12.3	+6.5
HHC			sPKP		08 30 19.4	
HHC			PP	PP	08 33 59.2	+3.0
HHC			SKS	SKSdf	08 36 54.3	-5.1
HHC			SKKS	SKKSac	08 40 42.6	-2.1
HHC			SS	SS	08 53 39.4	+0.4
HHC			AMB	AMB		
	comp=Z,150nm,9.5s					
HHC			LR	LR		
	comp=N,250nm,20.2s					
HHC			LR	LR		
	comp=E,350nm,20.2s					
HHC			LR	LR		
	comp=Z,340nm,19.0s					
GTA	Gaotai	156.29 14	PKP	PKPdf	08 29 58.3	+2.0
GTA			pPKP	pPKPdf	08 30 09.4	+2.4
GTA			sPKP		08 30 13.6	
LZH	Lanzhou	160.28 8	ePKP	PKPdf	08 30 03.4	+2.1
LZH			pPKP	pPKPdf	08 30 20.0	+8.0
LZH			sPKP		08 30 26.1	
LZH			PP	PP	08 34 24.6	+2.0
LZH			SKS	SKSdf	08 36 56.0	-8.5
LZH			AMB	AMB		
	comp=Z,110nm,5.2s					
CD2	Chengdu	165.33 12	PKP	PKPdf	08 30 05.2	-1.0
GYA	Guiyang	170.10 3	ePKP	PKPdf	08 30 08.9	-0.9
GYA			sPKP		08 30 25.6	
GYA			PKPab	PKPab	08 31 26.5	+1.5
GYA			PKS	PKSdf	08 33 39.8	-2.7
GYA			PP	PP	08 35 17.0	+3.4
GYA			AMB	AMB		
	comp=Z,80nm,8.0s					

ISCJB ***11*** *08:12:02.3±0.3, 56°.00S±0°.06×26°.6W±0°.1, h35km, mb4.9/30, MS4.2/10, Error ellipse: s-maj=9.8km s-min=6.7km az=137.8*

IDC ***11*** *08:12:02.7±2.1, 56°.02S×26°.73W, h26km±13km, mb4.6/19, mb1 4.6/20, mb1mx4.5/25, mbtmp4.6/20, ML4.1/1, MS4.2/11, Ms1 4.2/11, ms1mx4.1/18, Error ellipse: s-maj=15.7km s-min=12.1km az=40.0*

NEIC ***11*** *08:12:03.8±0.2, 55°.98S×26°.64W, h35km, mb5.1/21, Error ellipse: s-maj=6.6km s-min=5.1km az=212.0*

MOS ***11*** *08:12:03.2±1.0, 56°.05S×26°.67W, h39km, mb5.0/9, Error ellipse: s-maj=23.7km s-min=12.9km az=101.4*

GCMT ***11*** *08:12:05.8±0.4, 56°.06S×26°.31W, h32km±1km, MW5.0, Moment Tensor Solution. s27,c38; s50,c64; Moment tensor: Scale 10^{16}Nm; M_{rr}3.47±.24; $M_{\theta\theta}$-1.00±.19; $M_{\phi\phi}$-2.48±.16; $M_{r\theta}$0.36±.23; $M_{r\phi}$1.64±.11; $M_{\theta\phi}$1.57±.17; Best double couple: $M_0$3.90000×10^{16} NP1:ϕ_s343.00000°, δ56.00000°, λ109.00000°. NP2:ϕ_s132.00000°, δ38.00000°, λ64.00000°. Principal axes: T 3.9800, Plg72.0000°, Azm300.0000°; N -0.2600, Plg16.0000°, Azm153.0000°; P -3.7200, Plg9.0000°, Azm60.0000°; Data Used: IU II G IC CN.*

ISC 11 08:12:03.8±0.3, 56°.00S±0°.07×26°.67W±0°.08, h35km, n166, σ0°82/184, mb4.8/30, MS4.1/10, 3C-1D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	16.73	159	eP	P	08 15 58.3	+1.3
VNA1	Neumayer--Stat	16.73	159	ePn	P	08 16 03.4	+6.4
VNA2	Neumayer--Watz	17.13	158	eP	P	08 16 03.2	+1.7
VNA2	Neumayer--Watz	17.13	158	ePn	P	08 16 07.5	+6.0
VNA2	Neumayer--Watz	17.13	158	eS	Sn	08 19 11.9	+2.8
SNAA	Sanae	18.67	156	eP	P	08 16 17.9	-0.5
	23nm,0.7s						
SNAA				PcP	PcP	08 20 45.7	+0.4
SNAA				ScP	ScP	08 24 20.0	+2.1
SNAA	Sanae	18.67	156	P	P	08 16 18.0	-0.5
	0.6nm,0.3s,baz=309,slow=10.0,SNR=146						
SNAA				PcP	PcP	08 20 45.7	+0.4
	0.2nm,0.3s,baz=216,slow=4.1,SNR=6.9						
SNAA				LR	LR	08 22 09.3	
	comp=Z,192nm,20.4s,baz=328,slow=32						
SNAA				ScP	ScP	08 24 20.0	+2.1
	0.1nm,0.3s,baz=336,slow=1.6,SNR=7.9						
EFI	East Falkland	18.93	270	eP	Pn	08 16 22.9	+0.7
EFI				pmax	pmax		
	comp=Z,112nm,0.7s						
EFI	East Falkland	18.93	270	eP	Pn	08 16 22.9	+0.7
	comp=Z,112nm,0.7s						
PMSA	Palmer Station	20.15	229	eP	Pn	08 16 36.5	-0.2
	comp=Z,158nm,1.0s						
PMSA	Palmer Station	20.15	229	P	Pn	08 16 36.7	0.0
	comp=Z,51nm,0.5s,baz=63,slow=7.2,SNR=28						
PMSA				LR	LR	08 23 07.5	
	comp=Z,889nm,20.8s,baz=74,slow=33						
MAIT	Maitri	22.11	147	eP	P	08 16 53.4	-2.3
USHA	Ushuaia	23.48	255	P	P	08 17 09.2	-0.7
USHA	Ushuaia	23.48	255	P	P	08 17 09.2	-0.7
	comp=Z,14nm,0.7s,baz=82,slow=8.0,SNR=10						
USHA				LR	LR	08 23 57.3	
	comp=Z,765nm,21.1s,baz=275,slow=30						
TRQA	Tornquist	29.57	292	eP	P	08 18 05.0	-0.2
	comp=Z,10nm,0.6s						
SYO	Syowa Base	31.43	141	eP	P	08 18 19.6	-1.6
PLCA	Paso Flores	32.28	279	eP	P	08 18 28.1	-1.0
	comp=Z,4.8nm,1.0s						
PLCA				PcP	PcP	08 21 16.5	0.0
PLCA	Paso Flores	32.28	279	P	P	08 18 27.6	-1.5
	comp=Z,3.0nm,0.8s,baz=151,slow=6.0,SNR=7.3						
PLCA				PcP	PcP	08 21 16.5	0.0
	comp=Z,1.8nm,0.9s,baz=193,slow=1.9,SNR=3.6						
QSPA	South Pole Qui	34.25	180	eP	P	08 18 46.0	-0.1
	comp=Z,49nm,0.8s						
QSPA				PcP	PcP	08 21 21.6	-0.1
QSPA				ScP	ScP	08 25 02.4	-1.3
QSPA	South Pole Qui	34.25	180	P	P	08 18 46.3	+0.2
	comp=Z,27nm,0.5s,baz=205,slow=4.2,SNR=204						
QSPA				PcP	PcP	08 21 21.6	-0.1
	comp=Z,4.4nm,0.4s,baz=135,slow=2.4,SNR=5.6						
QSPA				ScP	ScP	08 25 02.4	-1.3
	comp=Z,5.6nm,0.8s,baz=200,slow=2.1,SNR=6.5						
QSPA				LR	LR	08 32 16.3	
	comp=Z,322nm,19.2s,baz=194,slow=36						
CPUP	Villa Florida	37.00	310	eP	P	08 19 09.5	-0.3
	comp=Z,62nm,0.8s						
CPUP				PcP	PcP	08 21 30.2	0.0
CPUP				ScP	ScP	08 25 15.0	+0.9
CPUP	Villa Florida	37.00	310	P	P	08 19 09.8	0.0
	comp=Z,9.0nm,0.6s,baz=132,slow=6.6,SNR=40						
CPUP				PcP	PcP	08 21 30.2	0.0
	comp=Z,1.8nm,0.5s,baz=180,slow=3.9,SNR=4.8						
CPUP				ScP	ScP	08 25 15.0	+0.9
	comp=Z,1.0nm,0.6s,baz=220,slow=5.8,SNR=3.1						
CPUP				LR	LR	08 32 00.7	
	comp=Z,284nm,21.9s,baz=146,slow=32						
CFAA	Coronel Fontan	37.81	293	P	P	08 19 15.4	-1.3
CFAA				PcP	PcP	08 21 32.4	-0.4
CFAA	Coronel Fontan	37.81	293	P	P	08 19 15.4	-1.3
	comp=Z,4.1nm,0.6s,baz=146,slow=8.9						
CFAA				PcP	PcP	08 21 32.4	-0.4
	comp=Z,0.6nm,0.5s,baz=110,slow=2.7,SNR=6.2						
MAW	Mawson	40.01	143	P	P	08 19 35.3	+0.6
MAW	Mawson	40.01	143	P	P	08 19 35

SBA				pmax	pmax		
	comp=Z,11nm,0.7s						
SBA	**Scott Base**	**46.15**	**184**	*e*P	**P**	**08 20 25.3**	**+1.2**
	comp=Z,11nm,0.7s						
VNDA	**Vanda**	**46.63**	**183**	P	**P**	**08 20 28.3**	**+0.4**
VNDA	**Vanda**	**46.63**	**183**	P	**P**	**08 20 28.3**	**+0.4**
	comp=Z,18nm,0.7s,baz=188,slow=5.8,SNR=38						
SIV	**San Ignacio**	**47.76**	**313**	P	**P**	**08 20 37.1**	**-0.3**
SIV				ScP	**ScP**	**08 25 57.8**	**+0.4**
SIV	**San Ignacio**	**47.76**	**313**	P	**P**	**08 20 37.1**	**-0.3**
	comp=Z,7.0nm,0.6s,baz=168,slow=8.1,SNR=28						
SIV				ScP	**ScP**	**08 25 57.8**	**+0.4**
	comp=Z,2.1nm,0.9s,baz=160,slow=6.7,SNR=4.1						
LBTB	**Lobatse**	**48.71**	**73**	*e*P	**P**	**08 20 44.2**	**-0.6**
	comp=Z,10nm,1.0s						
LBTB	**Lobatse**	**48.71**	**73**	P	**P**	**08 20 44.5**	**-0.3**
	comp=Z,3.4nm,0.7s,baz=225,slow=12,SNR=4.4						
LPAZ	**La Paz**	**50.59**	**305**	*e*P	**P**	**08 21 00.5**	**+0.8**
	comp=Z,43nm,0.8s						
LPAZ				ScP	**ScP**	**08 26 11.1**	**+0.9**
LPAZ	**La Paz**	**50.59**	**305**	P	**P**	**08 21 00.6**	**+0.8**
	comp=Z,20nm,0.5s,baz=145,slow=4.9,SNR=124						
LPAZ				ScP	**ScP**	**08 26 11.1**	**+0.9**
	comp=Z,1.0nm,0.7s,baz=162,slow=3.2,SNR=4.9						
LPAZ				LR	LR	08 43 16.0	
	comp=Z,105nm,19.1s,baz=238,slow=37						
CASY	**Casey**	**53.85**	**160**	*e*P	**P**	**08 21 22.4**	**-0.3**
	comp=Z,7.0nm,0.9s						
SAML	**Samuel**	**54.98**	**314**	*e*P	**P**	**08 21 31.2**	**-0.3**
	comp=Z,16nm,0.9s						
LSZ	**Lusaka**	**58.08**	**68**	*e*P	**P**	**08 21 54.1**	**+0.4**
	comp=Z,9.5nm,1.2s						
DBIC	**Dimbokro**	**65.00**	**24**	P	**P**	**08 22 40.8**	**+0.6**
DBIC	**Dimbokro**	**65.00**	**24**	P	**P**	**08 22 40.8**	**+0.6**
	comp=Z,2.5nm,0.6s,baz=162,slow=1.1,SNR=3.6						
DBIC				LR	LR	08 44 01.1	
	comp=Z,245nm,21.6s,baz=174,slow=30						
OTAV	**Otavalo**	**69.87**	**303**	*e*P	**P**	**08 23 12.6**	**+1.0**
	comp=Z,11nm,0.7s						
ROSC	**El Rosal**	**72.10**	**309**	LR	LR	08 58 07.3	
	comp=Z,116nm,19.5s,baz=185,slow=38						
TORD	**Torodi Ar. Bea**	**72.87**	**29**	P	**P**	**08 23 29.1**	**+0.1**
TORD	**Torodi Ar. Bea**	**72.87**	**29**	P	**P**	**08 23 29.1**	**+0.1**
	comp=Z,4.4nm,0.6s,baz=199,slow=6.4,SNR=27						
SCG	**Saint Claude**	**77.56**	**326**	*e*P	**P**	**08 23 57.5**	**+1.5**
ECG	**Echelle**	**77.57**	**326**	*e*P	**P**	**08 23 57.8**	**+1.7**
CRG	**Carmichael**	**77.58**	**326**	*e*P	**P**	**08 23 56.8**	**+0.6**
FNG	**Fond-Bernard**	**77.59**	**326**	*e*P	**P**	**08 23 57.7**	**+1.5**
SSG	**Sans Toucher**	**77.62**	**326**	*e*P	**P**	**08 23 58.0**	**+1.6**
RPZ	**Rata Peaks**	**79.53**	**193**	*e*P	**P**	**08 24 06.6**	**0.0**
	comp=Z,9.0nm,0.3s						
RKT	**Rikitea**	**80.76**	**242**	*e*T	T	09 52 54.0	
	comp=Z,0.8nm,0.2s						
MTP	**Monte Pirata**	**80.77**	**323**	*e*P	**P**	**08 24 12.7**	**-0.7**
	comp=Z,10.0nm,0.7s						
JTS	**JuntasAbangare**	**81.73**	**302**	*e*P	**P**	**08 24 19.2**	**+0.5**
	comp=Z,149nm,1.0s						
TBI	**Tubuai**	**87.34**	**231**	*e*LR	LR	08 52 33.0	
	comp=Z,206nm,24.8s						
STKA	**Stephens Creek**	**91.90**	**170**	P	**P**	**08 25 08.1**	**-0.2**
STKA	**Stephens Creek**	**91.90**	**170**	P	**P**	**08 25 08.1**	**-0.2**
	comp=Z,1.5nm,0.5s,baz=151,slow=9.7,SNR=6.6						
TEIG	**Tepich**	**91.92**	**304**	P	**P**	**08 25 08.9**	**+0.5**
TEIG	**Tepich**	**91.92**	**304**	P	**P**	**08 25 08.9**	**+0.5**
	comp=Z,17nm,0.5s,baz=80,slow=1.4,SNR=42						
CMIG	**Matias Romero**	**92.42**	**297**	P	**P**	**08 25 10.9**	**+0.2**
CMIG	**Matias Romero**	**92.42**	**297**	P	**P**	**08 25 10.9**	**+0.2**
	comp=Z,4.0nm,0.7s,baz=113,slow=4.2,SNR=14						
PPT2	**Papeete2**	**92.44**	**233**	*e*LR	LR	08 55 00.4	
	comp=Z,201nm,29.0s						
ASAR	**Alice Springs**	**98.94**	**162**	P	**P**	**08 25 39.6**	**-1.0**
ASAR				PP	**PP**	**08 29 40.9**	**-0.8**
ASAR				PKKPbc	**PKKPdf**	**08 42 05.8**	**-0.6**
ASAR	**Alice Springs**	**98.94**	**162**	P	**P**	**08 25 39.6**	**-1.0**
	comp=Z,1.8nm,0.8s,baz=190,slow=3.8,SNR=21						
ASAR				PP	**PP**	**08 29 40.9**	**-0.8**
	comp=Z,0.6nm,0.7s,baz=182,slow=6.5,SNR=6.2						
ASAR				PKKPbc	**PKKPdf**	**08 42 05.8**	**-0.6**
	comp=Z,0.6nm,0.6s,baz=16,slow=2.3,SNR=14						
WRA	**Warramunga Arr**	**102.66**	**162**	P	**Pdif**	**08 25 56.1**	**-1.0**
WRA				PKKPbc	**PKKPbc**	**08 41 54.9**	**+1.1**
WRA	**Warramunga Arr**	**102.66**	**162**	P	**Pdif**	**08 25 56.1**	**-1.0**
	comp=Z,0.5nm,0.5s,baz=197,slow=4.4,SNR=6.9						
WRA				PKKPbc	**PKKPbc**	**08 41 54.9**	**+1.1**
	comp=Z,0.7nm,0.6s,baz=349,slow=3.0,SNR=8.2						
WRAB	**Tennant Creek**	**102.67**	**162**	*e*P	**Pdif**	**08 25 56.9**	**-0.3**
WRAB				pmax	pmax		
	comp=Z,18nm,1.6s						
WRAB	**Tennant Creek**	**102.67**	**162**	*e*Pdif	**Pdif**	**08 25 56.9**	**-0.3**
	comp=Z,18nm,1.6s						
SCHQ	**Schefferville**	**115.24**	**336**	PKP	**PKPdf**	**08 30 39.1**	**-1.0**
SCHQ	**Schefferville**	**115.24**	**336**	PKP	**PKPdf**	**08 30 39.1**	**-1.0**
	comp=Z,3.7nm,0.8s,baz=187,slow=8.1,SNR=3.1						
EDW2	**Edwards Air Fo**	**118.79**	**290**	P	**PKPdf**	**08 30 47.7**	**-0.1**
	baz=119						
H26A	**Fairpoint**	**118.87**	**308**	P	**PKPdf**	**08 30 47.1**	**-0.5**
	baz=119						
H24A	**Dirks Ranch, A**	**119.77**	**307**	P	**PKPdf**	**08 30 48.6**	**-0.8**
	baz=120						
DUG	**Dugway**	**120.19**	**298**	*e*PKIKP	**PKPdf**	**08 30 50.0**	**-0.4**
DUG	**Dugway**	**120.19**	**298**	*e*PKPdf	**PKPdf**	**08 30 50.0**	**-0.4**
DUG	**Dugway**	**120.19**	**298**	P	**PKPdf**	**08 30 50.3**	**0.0**
	baz=120						
NOA	**NORSAR Array B**	**120.46**	**20**	PKP	**PKPdf**	**08 30 50.2**	**+0.2**
NOA	**NORSAR Array B**	**120.46**	**20**	PKP	**PKPdf**	**08 30 50.2**	**+0.2**
	comp=Z,0.9nm,0.7s,baz=206,slow=2.0,SNR=2.9						
PDAR	**Pinedale Array**	**120.57**	**302**	PKP	**PKPdf**	**08 30 49.9**	**-1.2**
PDAR	**Pinedale Array**	**120.57**	**302**	PKP	**PKPdf**	**08 30 49.9**	**-1.2**
	comp=Z,0.4nm,0.5s,baz=129,slow=4.5,SNR=5.6						
D24A	**Glendive**	**121.49**	**309**	P	**PKPdf**	**08 30 52.2**	**-0.3**
	baz=122						
B26A	**Jensen Ranch,**	**121.55**	**311**	P	**PKPdf**	**08 30 53.1**	**+0.5**
	baz=122						
SNOW	**Snow King Moun**	**121.67**	**302**	*e*PKPdf	**PKPdf**	**08 30 54.9**	**+1.7**
TPAW	**Teton Pass**	**121.78**	**302**	*e*PKPdf	**PKPdf**	**08 30 53.1**	**-0.3**
MOOW	**Moose Ponds**	**121.88**	**302**	*e*PKPdf	**PKPdf**	**08 30 52.7**	**-0.9**
OBN	**Obninsk**	**122.13**	**37**	*i*PKIKP	**PKPdf**	**08 30 52.7**	**-0.6**
OBN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
DGMT	**Dagmar**	**122.47**	**310**	P	**PKPdf**	**08 30 54.4**	**+0.1**
	baz=123						
F19A	**Roth Farm, Mol**	**122.61**	**305**	P	**PKPdf**	**08 30 54.4**	**-0.4**
	baz=123						
F18A	**Big Timber**	**123.01**	**304**	P	**PKPdf**	**08 30 55.6**	**+0.1**
	baz=123						
D20A	**Manuel Ranch,**	**123.17**	**306**	P	**PKPdf**	**08 30 55.3**	**-0.4**
	baz=123						
C20A	**Veseth Ranch,**	**123.58**	**307**	P	**PKPdf**	**08 30 56.1**	**-0.3**
	baz=124						
A22A	**Carney Farms,**	**123.61**	**309**	P	**PKPdf**	**08 30 56.4**	**-0.1**
	baz=124						
B21A	**Ellsworth Farm**	**123.67**	**308**	P	**PKPdf**	**08 30 56.3**	**-0.3**
	baz=124						
A21A	**Bergtoll Ranch**	**124.05**	**308**	P	**PKPdf**	**08 30 57.2**	**-0.2**
	baz=124						
C19A	**Slack Wire Ran**	**124.06**	**306**	P	**PKPdf**	**08 30 57.3**	**-0.1**
	baz=124						
FINES	**FINESS Array B**	**124.20**	**28**	PKP	**PKPdf**	**08 30 56.7**	**-0.5**
FINES	**FINESS Array B**	**124.20**	**28**	PKP	**PKPdf**	**08 30 56.7**	**-0.5**
	comp=Z,2.9nm,0.5s,baz=162,slow=1.0,SNR=16						
A20A	**Cobblestone Ra**	**124.41**	**308**	P	**PKPdf**	**08 30 57.9**	**-0.1**
	baz=125						
HRY	**Holter Researc**	**124.59**	**304**	*e*PKPdf	**PKPdf**	**08 30 58.9**	**+0.3**
WVOR	**Wild Horse Val**	**124.78**	**296**	*e*PKIKP	**PKPdf**	**08 30 59.6**	**+0.5**
WVOR	**Wild Horse Val**	**124.78**	**296**	*e*PKPdf	**PKPdf**	**08 30 59.6**	**+0.5**
A19A	**Klindworth Far**	**124.81**	**307**	P	**PKPdf**	**08 30 58.5**	**-0.3**
	baz=125						
KAF	**Kangasniemi**	**124.83**	**27**	*e*PKIKP	**PKPdf**	**08 30 57.1**	**-1.2**
KAF				pmax	pmax		
	comp=Z,5.0nm,0.6s						
KAF	**Kangasniemi**	**124.83**	**27**	*ep*	**PKPdf**	**08 30 57.1**	**-1.2**
	comp=Z,4.9nm,0.6s						
MSO	**Missoula**	**125.67**	**302**	P	**PKPdf**	**08 31 00.4**	**-0.2**
	baz=126						
JOF	**Joensuu**	**126.82**	**29**	*e*PKIKP	**PKPdf**	**08 31 00.9**	**-1.2**
JOF				pmax	pmax		
	comp=Z,1.0nm,0.4s						
JOF	**Joensuu**	**126.82**	**29**	*ep*	**PKPdf**	**08 31 00.9**	**-1.2**
	comp=Z,1.2nm,0.4s						
ABKAR	**Akbulak array**	**127.10**	**55**	*e*PKPdf	**PKPdf**	**08 31 02.8**	**-0.3**
KLMR	**Klimovskoe**	**127.62**	**34**	*e*PKIKP	**PKPdf**	**08 31 01.7**	**-2.0**
KLMR				pmax	pmax		
	comp=Z,22nm,1.6s						
KKAR	**Karatay Array**	**127.93**	**67**	*e*PKIKP	**PKPdf**	**08 31 05.0**	**+0.1**
KKAR	**Karatay Array**	**127.93**	**67**	*e*PKPdf	**PKPdf**	**08 31 05.0**	**+0.1**
EKS2	**Erkin-Say**	**129.32**	**70**	*e*PKIKP	**PKPdf**	**08 31 08.0**	**+0.2**
EKS2	**Erkin-Say**	**129.32**	**70**	*e*PKPdf	**PKPdf**	**08 31 08.0**	**+0.2**
AAK	**Ala-Archa**	**129.68**	**70**	*i*PKIKP	**PKPdf**	**08 31 08.5**	**0.0**
AAK				pmax	pmax		
	comp=Z,20nm,1.2s						
AAK	**Ala-Archa**	**129.68**	**70**	*e*PKPdf	**PKPdf**	**08 31 08.1**	**-0.4**
ARCES	**ARCESS Array B**	**130.79**	**22**	PKP	**PKPdf**	**08 31 09.7**	**+0.2**
ARCES	**ARCESS Array B**	**130.79**	**22**	PKP	**PKPdf**	**08 31 09.7**	**+0.2**
	comp=Z,2.1nm,0.6s,baz=117,slow=1.4,SNR=4.0						
ARU	**Arti**	**131.45**	**48**	*i*PKIKP	**PKPdf**	**08 31 12.3**	**+1.2**
ARU						08 33 32.1	
BRVK	**Borovoye**	**134.48**	**57**	*i*PKIKP	**PKPdf**	**08 31 17.3**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.2s						
BVAR	**Borovoye Array**	**134.51**	**57**	PKIKP	**PKPdf**	**08 31 17.3**	**+0.3**
BVAR	**Borovoye Array**	**134.51**	**57**	PKP	**PKPdf**	**08 31 17.3**	**+0.3**
BVAR	**Borovoye Array**	**134.51**	**57**	PKP	**PKPdf**	**08 31 17.3**	**+0.3**
	comp=Z,1.9nm,0.5s,baz=163,slow=2.3,SNR=3.4						
YKA	**Yellowknife Ar**	**136.33**	**318**	PKP	**PKPdf**	**08 31 20.1**	**0.0**
YKA	**Yellowknife Ar**	**136.33**	**318**	PKP	**PKPdf**	**08 31 20.1**	**0.0**
	comp=Z,1.2nm,0.5s,baz=134,slow=1.9,SNR=8.2						
KURBB	**Kurchatov Arra**	**137.02**	**64**	PKP	**PKPdf**	**08 31 20.4**	**-1.3**
	comp=Z,1.1nm,0.5s,baz=232,slow=2.6,SNR=7.8						
KURK	**Kurchatov**	**137.12**	**64**	PKIKP	**PKPdf**	**08 31 20.4**	**-1.5**
KURK	**Kurchatov**	**137.12**	**64**	PKP	**PKPdf**	**08 31 20.4**	**-1.5**
NVS	**Novosibirsk**	**141.76**	**61**	*e*PKHKP	PKPpre	08 31 18.2	
ZALV	**Zalesovo Beam**	**142.09**	**64**	PKHKP	PKPpre	08 31 25.7	
ZALV	**Zalesovo Beam**	**142.09**	**64**	PKPpre	PKPpre	08 31 25.6	
ZALV				PKP	**PKiKP**	**08 31 32.6**	**-1.2**
ZALV	**Zalesovo Beam**	**142.09**	**64**	PKhKP	PKPpre	08 31 25.6	
	comp=Z,1.1nm,0.5s,baz=198,slow=2.3,SNR=3.5						
ZALV				PKP	**PKiKP**	**08 31 32.6**	**-1.2**
	comp=Z,2.9nm,0.5s,baz=246,slow=2.4,SNR=8.8						
HYT	**Haines Junctio**	**145.00**	**307**	*e*PKPdf	**PKPab**	**08 31 35.6**	**+0.2**
INK	**Inuvik**	**145.95**	**321**	*e*PKPdf	**PKPbc**	**08 31 37.7**	**-0.3**
DAWY	**Dawson**	**146.98**	**312**	*e*PKPbc	**PKPbc**	**08 31 40.6**	**-0.7**
EGAK	**Eagle**	**147.92**	**313**	*e*PKPbc	**PKPbc**	**08 31 42.7**	**-1.0**
MENT	**Mentasta**	**148.49**	**309**	*e*PKPbc	**PKPbc**	**08 31 45.3**	**0.0**
DIV	**Divide**	**148.87**	**305**	*e*PKPbc	**PKPbc**	**08 31 46.6**	**+0.3**
PAX	**Paxson**	**149.27**	**308**	*e*PKP2	**PKPbc**	**08 31 47.0**	**-0.3**
PAX	**Paxson**	**149.27**	**308**	*e*PKPbc	**PKPbc**	**08 31 47.0**	**-0.3**
ZAK	**Zakamensk**	**150.05**	**79**	*i*PKIKP	**PKPbc**	**08 31 49.0**	**-0.7**
ZAK				pmax	pmax		
	comp=Z,10.0nm,1.3s						
ILAR	**Eielson Array**	**150.30**	**312**	PKPbc	**PKPbc**	**08 31 49.4**	**-0.3**
ILAR	**Eielson Array**	**150.30**	**312**	PKPbc	**PKPbc**	**08 31 49.4**	**-0.3**
	comp=Z,12nm,0.8s,baz=138,slow=2.8,SNR=128						
SONM	**Songino Array**	**150.43**	**86**	PKPbc	**PKPbc**	**08 31 50.5**	**-0.2**
SONM	**Songino Array**	**150.43**	**86**	PKPbc	**PKPbc**	**08 31 50.5**	**-0.2**
	comp=Z,7.2nm,0.8s,baz=222,slow=3.1,SNR=25						
COLA	**College**	**150.73**	**312**	*e*PKIKP	**PKPbc**	**08 31 49.8**	**-0.8**
COLA	**College**	**150.73**	**312**	*e*PKPbc	**PKPbc**	**08 31 49.8**	**-0.8**
ULN	**Ulaanbaatar**	**150.82**	**86**	*e*PKPbc	**PKPbc**	**08 31 51.1**	**-0.5**
TLY	**Talaya**	**150.89**	**77**	*e*PKIKP	**PKPbc**	**08 31 51.7**	**+0.2**
TLY				pmax	pmax		
	comp=Z,12nm,1.2s						
MCK	**McKinley**	**150.97**	**309**	*e*PKIKP	**PKPbc**	**08 31 50.9**	**-0.4**
MCK	**McKinley**	**150.97**	**309**	*e*PKPbc	**PKPbc**	**08 31 50.9**	**-0.4**
OHAK	**Old Harbor**	**151.22**	**295**	*e*PKPbc	**PKPbc**	**08 31 51.9**	**-0.1**
TRF	**Thorofare Moun**	**151.50**	**308**	*e*PKPbc	**PKPbc**	**08 31 51.2**	**-1.5**
BPAW	**Bear Paw Mtn.**	**151.93**	**310**	*e*PKPbc	**PKPbc**	**08 31 53.2**	**-0.3**
RSO	**Redoubt South**	**151.95**	**302**	*e*PKPbc	**PKPbc**	**08 31 53.1**	**-0.8**
COLD	**Coldfoot**	**151.99**	**316**	*e*PKPbc	**PKPbc**	**08 31 53.6**	**+0.1**
PPLA	**Purkeypile**	**152.24**	**307**	*e*PKPbc	**PKPbc**	**08 31 53.7**	**-0.7**
IMA2	**Indian Mountai**	**153.29**	**314**	*e*PKPbc	**PKPbc**	**08 31 56.9**	**+0.3**
IMA2				*e*PKPab	**PKPab**	**08 32 10.0**	**+1.2**
IM04	**Indian Mountai**	**153.33**	**313**	*e*PKPbc	**PKPbc**	**08 31 56.5**	**0.0**
IM04				*e*PKPab	**PKPab**	**08 32 09.4**	**+0.5**

RSPR 11 08:17:42.8, 18.73N×65.44W, h70km±9km, 4C-2D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBYP	**Canovanas**	**0.60**	**221**	↑*e*P	Pn	08 17 56.4	-0.4
CBYP	**Canovanas**	**0.60**	**221**	*e*S	Sn	08 18 06.3	-0.7
CBYP	**Canovanas**	**0.60**	**221**	↑*e*P	Pn	08 17 56.4	-0.4
CBYP				*e*S	Sn	08 18 06.3	-0.7
MTP	**Monte Pirata**	**0.64**	**189**	↓*e*P	Pn	08 17 56.1	-1.0
MTP	**Monte Pirata**	**0.64**	**189**	*e*S	Sn	08 18 07.4	-0.2
MTP	**Monte Pirata**	**0.64**	**189**	↓*e*P	Pn	08 17 56.1	-1.0
MTP				*e*S	Sn	08 18 07.4	-0.2
HUMP	**Col San Antoni**	**0.70**	**214**	↑*e*P	Pn	08 17 57.4	-0.5
HUMP	**Col San Antoni**	**0.70**	**214**	*e*S	Sn	08 18 08.3	-0.5
HUMP	**Col San Antoni**	**0.70**	**214**	↑*e*P	Pn	08 17 57.4	-0.5
HUMP				*e*S	Sn	08 18 08.3	-0.5

*NEIC **11** 08:24:26.7, 16.83N×98.68W, h55km, MD4.1(MEX), After MEX.*

MEX 11 08:24:26.0±0.9, 16.88N×98.69W, h5km±8km, MD4.1, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.72**	**132**	*i*P	Pg	08 24 38.4	-1.5
PNIG				*i*S	Sg	08 24 49.3	0.0
PNIG	**Pinotepa**	**0.72**	**132**	*i*P	Pg	08 24 38.4	-1.5
PNIG				*i*S	Sg	08 24 49.3	0.0
CAIG	**El Cayaco**	**1.52**	**277**	*e*P	Pn	08 24 49.8	-4.1
CAIG				*i*S	Sn	08 25 09.5	-4.6
CAIG	**El Cayaco**	**1.52**	**277**	*e*P	Pn	08 24 49.8	-4.1
CAIG				*i*S	Sn	08 25 09.5	-4.6
PLIG	**Platanillo**	**1.70**	**333**	*e*P	Pn	08 24 52.6	-3.9
PLIG				*i*S	Sn	08 25 13.7	-5.0
PLIG	**Platanillo**	**1.70**	**333**	*e*P	Pn	08 24 52.6	-3.9
PLIG				*i*S	Sn	08 25 13.7	-5.0
VHO	**Vista Hermosa**	**1.88**	**84**	*e*P	Pn	08 24 55.7	-3.4
VHO				*i*S	Sn	08 25 18.1	-5.3
VHO	**Vista Hermosa**	**1.88**	**84**	*e*P	Pn	08 24 55.7	-3.4
VHO				*i*S	Sn	08 25 18.1	-5.3
YAIG	**Yautepec**	**2.01**	**350**	*i*P	Pn	08 24 57.8	-3.0
YAIG				*i*S	Sn	08 25 21.4	-5.1
YAIG	**Yautepec**	**2.01**	**350**	*i*P	Pn	08 24 57.8	-3.0
YAIG				*i*S	Sn	08 25 21.4	-5.1
ARIG	**Puente Sto Nin**	**2.11**	**312**	*e*P	Pn	08 24 59.7	-2.4
ARIG				*i*S	Sn	08 25 24.6	-4.2
PPM	**Popocatepetl**	**2.18**	**1**	*i*P	Pn	08 25 00.4	-3.3
PPM				*i*S	Sn	08 25 26.1	-5.4
PPM	**Popocatepetl**	**2.18**	**1**	*i*P	Pn	08 25 00.4	-3.3
PPM				*i*S	Sn	08 25 26.1	-5.4
ZIIG	**Zihuatanejo**	**2.75**	**286**	*i*P	Pn	08 25 07.7	-3.2
ZIIG				*i*S	Sn	08 25 41.1	-3.4
ZIIG	**Zihuatanejo**	**2.75**	**286**	*i*P	Pn	08 25 07.7	-3.2
ZIIG				*i*S	Sn	08 25 39.4	-5.1
MOIG	**Morelia**	**3.66**	**320**	*e*P	Pn	08 25 20.5	-3.2
MOIG	**Morelia**	**3.66**	**320**	*e*P	Pn	08 25 20.5	-3.2
MMIG	**Aquila**	**4.66**	**288**	*i*P	Pn	08 25 32.9	-4.3
MMIG	**Aquila**	**4.66**	**288**	*i*P	Pn	08 25 32.9	-4.3

*NEIC **11** 08:31:40.6, 18.86N×64.71W, h8km, MD2.8(RSPR), After RSPR.*

RSPR 11 08:31:40.6, 18.86N×64.71W, h8km±2km, MD2.8/4, 9C-3D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABV	**Anegada**	**0.38**	**110**	↑*e*P	Pg	08 31 47.5	-0.5
ABV	**Anegada**	**0.38**	**110**	*e*S	Sg	08 31 54.0	+1.0
ABV	**Anegada**	**0.38**	**110**	↑*e*P	Pg	08 31 47.5	-0.5
ABV				*e*S	Sg	08 31 54.0	+1.0
ABVI	**Anegada Island**	**0.38**	**110**	↑*e*P	Pg	08 31 47.5	-0.5
ABVI				*e*S	Sg	08 31 54.0	+1.1
STVI	**Saint Thomas**	**0.56**	**205**	↓*e*P	Pg	08 31 51.1	-0.3
STVI	**Saint Thomas**	**0.56**	**205**	*e*S	Sg	08 31 59.2	+0.6
STVI	**Saint Thomas**	**0.56**	**205**	↓*e*P	Pg	08 31 51.7	+0.4
STVI				*e*S	Sg	08 31 59.2	+0.6
STVI	**Saint Thomas**	**0.56**	**205**	↓*e*P	Pg	08 31 51.1	-0.3
STVI				*e*S	Sg	08 31 59.2	+0.6
MTP	**Monte Pirata**	**1.10**	**227**	↑*e*P	Pg	08 31 59.0	-2.7
MTP	**Monte Pirata**	**1.10**	**227**	*e*S	Sg	08 32 13.1	-3.0
MTP	**Monte Pirata**	**1.10**	**227**	↑*e*P	Pg	08 31 59.4	-2.4
MTP				*e*S	Sg	08 32 13.1	-3.0
MTP	**Monte Pirata**	**1.10**	**227**	↑*e*P	Pg	08 31 59.0	-2.7
MTP				*e*S	Sg	08 32 13.1	-3.0
CBYP	**Canovanas**	**1.24**	**242**	↑*e*P	Pn	08 32 01.3	-3.0
CBYP	**Canovanas**	**1.24**	**242**	*e*S	Sb	08 32 17.1	-3.3
CBYP	**Canovanas**	**1.24**	**242**	↑*e*P	Pn	08 32 01.3	-3.0
CBYP				*e*S	Sb	08 32 17.1	-3.3
CBYP	**Canovanas**	**1.24**	**242**	↑*e*P	Pn	08 32 01.3	-3.0
CBYP				*e*S	Sb	08 32 17.1	-3.3
HUMP	**Col San Antoni**	**1.30**	**237**	*e*S	Sb	08 32 18.2	-3.9
HUMP	**Col San Antoni**	**1.30**	**237**	*e*S	Sb	08 32 18.2	-3.9

*NIED **11** 08:49:00, 48.10N×155.10E, h17km, Mw5.1 Best double couple: M0:5.70000×10^16 NP1:φ=56.00000°, δ=64.00000°, λ=64.00000°. NP2:φ=284.00000°, δ=36.00000°, λ=132.00000°.*
*BJI **11** 08:49:06.7, 48.26N×154.95E, h34km, mB5.2/42, mb5.1/57, Ms5.1/55, Ms7 4.9/54*
*SKHL **11** 08:49:07.8±1.7, 47.79N×155.34E, h62km±7km, mb6.0/1, Ms5.0/4, msh5.9/2*
*BKK **11** 08:49:07.2±0.9, 48°N±9°×15°5E±1°5, h10km, M5.1/25, mB5.6/10, mb5.2/25, Mw(mB)5.1/10*
*MOS **11** 08:49:10.5±0.9, 48.21N×154.37E, h41km, mb5.8/124, MS5.0/70, Error ellipse: s-maj=6.0km s-min=3.8km az=95.3*
*DJA **11** 08:49:10.9±4.2, 48°N±20°×15°4E±6°5, h10km, M5.2/7, mB5.6/2, mb5.2/7, Mw(mB)5.1/2*
*ISCJB **11** 08:49:11.5±0.4, 48.23N±0.02×154.38E±0.02, h47km±3km, mb5.5/408, MS5.0/212, Error ellipse: s-maj=3.7km s-min=1.7km az=168.1*
*NEIC **11** 08:49:12.0±0.1, 48.29N×154.23E, h35km, mb5.8/252, MS5.0/130, MW5.5, MW5.6, MW5.6(USGS), Error ellipse: s-maj=3.7km s-min=2.0km az=166.0, Moment Tensor Solution. s71 Moment tensor: Scale 10^17Nm; Mrr1.40; Mθθ-1.47; Mφφ0.07; Mrθ1.15; Mθφ-0.65; Mφr-0.20; Best double couple: M0:2.00000×10^17 NP1:φ=89.00000°, δ=64.00000°, λ=110.00000°. NP2:φ=229.00000°, δ=32.00000°, λ=55.00000°. Principal axes: T 1.9000, Plg65.0000°, Azm32.0000°; N 0.1200, Plg17.0000°, Azm259.0000°; P -2.0200, Plg17.0000°, Azm164.0000°;*
*TEH **11** 08:49:12.0, 48.28N×154.33E, h35km, ML5.7*
*IDC **11** 08:49:14.6±1.7, 48.28N×154.32E, h59km±14km, mb4.8/33, mb1 4.9/35, mb1mx4.9/36, mbtmp4.8/35, MS4.9/38, Ms1 4.9/38, ms1mx4.9/42, Error ellipse: s-maj=13.1km s-min=9.6km az=133.0*
*GCMT **11** 08:49:16.0±0.1, 48.14N×154.66E, h47km, MW5.6, Moment Tensor Solution. s92,c166; s23,c25; Moment tensor: Scale 10^17Nm; Mrr1.90±.04; Mθθ-1.61±.03; Mφφ-0.29±.03; Mrθ1.54±.04; Mθφ-1.31±.02; Mφr-0.13±.03; Best double couple: M0:2.70000×10^17 NP1:φ=80.00000°, δ=64.00000°, λ=114.00000°. NP2:φ=215.00000°, δ=35.00000°, λ=51.00000°. Principal axes: T 2.6100, Plg63.0000°, Azm29.0000°; N 0.1600, Plg21.0000°, Azm249.0000°; P -2.7700, Plg16.0000°, Azm153.0000°; Data Used: II IU G CN IC. Surface waves: sta=105, comp=213, per= 50.*
*BGS **11** 08:49:19.1±1.4, 49.56N×153.89E, h33km, mb5.5, MS4.7*
*NEIC **11** 08:49:21.2±0.0, 48.15N×154.26E, h50km

comp=Z,902nm,0.5s
YUK smax smax
comp=N,5μm,4.2s
YUK smax smax
comp=E,2μm,3.1s
YUK MLR MLR
comp=N,4μm,17.0s
YUK MLR MLR
comp=E,8μm,17.0s
YUK MLR MLR
comp=Z,7μm,17.0s
YUK Yuzh-Kuril'sk 7.25 238 *i* P **Pn 08 50 57.9 +2.4**
YUK AMB AMB 08 51 01.9
comp=Z,188nm,0.5s
YUK AMB AMB 08 51 01.9
comp=Z,902nm,0.5s
YUK *i* S **Sn 08 52 21.8 +5.4**
YUK A A 08 52 55.7
comp=Z,5μm,4.2s
YUK A A 08 52 55.7
comp=Z,2μm,4.2s
YUK AMS AMS 08 53 53.2
comp=Z,4μm,17.0s
YUK AMS AMS 08 53 53.2
comp=Z,8μm,17.0s
YUK AMS AMS 08 53 53.2
comp=Z,7μm,17.0s
JRA Rausu 7.73 239 P **Pn 08 51 04.5 +2.4**
NEM2 Nemuro 2 7.75 234 P **Pn 08 51 01.4 -0.9**
NEM2 *e*S **Sn 08 52 26.2 -2.5**
YSS Yuzh-Sakhalins 7.94 265 ⇓*i*PN Pn 08 51 11.0 +6.0
YSS *e* 08 52 46.0
YSS pmax pmax
comp=N,120nm,0.7s
YSS pmax pmax
comp=E,210nm,0.7s
YSS pmax pmax
comp=Z,240nm,0.7s
YSS MLR MLR
comp=N,3μm,16.0s
YSS MLR MLR
comp=E,4μm,16.0s
YSS MLR MLR
comp=Z,4μm,16.0s
YSS Yuzh-Sakhalins 7.94 265 *i* P Pn 08 51 11.0 +6.0
YSS AMB AMB 08 51 12.1
comp=Z,120nm,0.7s
YSS AMB AMB 08 51 12.1
comp=Z,210nm,0.7s
YSS AMB AMB 08 51 12.1
comp=Z,240nm,0.7s
YSS *i* S **Sn 08 52 35.0 +1.5**
YSS A A 08 52 40.0
comp=Z,300nm,0.7s
YSS A A 08 52 40.0
comp=Z,330nm,0.7s
YSS AMS AMS 08 53 57.0
comp=Z,3μm,16.0s
YSS AMS AMS 08 53 57.0
comp=Z,4μm,16.0s
YSS AMS AMS 08 53 57.0
comp=Z,4μm,16.0s
UGL Uglegorsk 8.17 280 *e*PN Pn 08 51 13.8 +5.7
UGL S **Sn 08 52 44.5 +5.4**
UGL pmax pmax
comp=Z,240nm,0.6s
UGL pmax pmax
comp=Z,1μm,2.5s
UGL smax smax
comp=N,140nm,0.6s
UGL smax smax
comp=E,240nm,0.6s
UGL MLR MLR
comp=N,9μm,15.0s
UGL MLR MLR
comp=E,8μm,15.0s
UGL MLR MLR
comp=Z,9μm,15.0s
UGL Uglegorsk 8.17 280 *e*P Pn 08 51 13.8 +5.7
UGL AMB AMB 08 51 15.0
comp=Z,240nm,0.6s
UGL AMB AMB 08 51 18.0
comp=Z,1μm,2.5s
UGL *e*S **Sn 08 52 44.5 +5.4**
UGL A A 08 52 48.5
comp=Z,140nm,0.6s
UGL A A 08 52 48.5
comp=Z,240nm,0.6s
UGL AMS AMS 08 54 38.0
comp=Z,9μm,15.0s
JNK Nakash 8.17 239 P **Pn 08 51 10.0 +1.8**
JNK *e*S **Sn 08 52 43.4 +4.2**
JTKR Abashiri--Toko 8.42 243 P Pn 08 51 15.5 +3.9
JAK Akkeshi 8.56 236 P **Pn 08 51 12.7 -0.8**
JAK *e*S **Sn 08 52 46.1 -2.7**
JMP Maruseppu 8.73 245 P Pn 08 51 19.9 +4.0
JSE Soyaes 8.74 252 P Pn 08 51 21.5 +5.5
JAR Ashorobuto 8.90 240 P **Pn 08 51 20.4 +2.3**
JAR *e*S **Sn 08 53 00.0 +3.0**
OKH Okha 8.94 311 *e*PN Pn 08 51 23.0 +4.3
OKH Okha 8.94 311 *e*P Pn 08 51 23.0 +4.3
OKH *e*S **Sn 08 53 02.4 +4.4**
OKH AMS AMS 08 55 01.8
comp=Z,2μm,15.0s
OKH AMS AMS 08 55 01.8
comp=Z,3μm,15.0s
OKH AMS AMS 08 55 01.8
comp=Z,8μm,15.0s
JWK2 Keihoku 9.03 256 P Pn 08 51 27.2 +7.3
JOB Onbets 9.10 238 P **Pn 08 51 21.6 +0.6**
ASAJ Asahikawa 9.14 247 P Pn 08 51 26.2 +4.8
ASAJ Asahikawa 9.14 247 *e*Pn Pn 08 51 26.4 +5.0
ASAJ Asahikawa 9.14 247 P Pn 08 51 27.0 +5.5
comp=Z,14nm,0.3s,baz=73,slow=15,SNR=68
ASAJ LR LR 08 55 19.2
comp=Z,2μm,21.5s,baz=59,slow=40
JKK2 Kamakawa 2 9.17 246 P Pn 08 51 25.7 +3.8
JCH Churui 9.56 238 P **Pn 08 51 27.1 -0.1**
JFR Furan 9.66 243 P Pn 08 51 31.8 +3.1
JAB Ashibetsu 9.69 245 P Pn 08 51 33.1 +4.1
JEM Erimo 10.06 236 P **Pn 08 51 34.2 +0.1**
ERM Erimo 10.06 236 Pn **Pn 08 51 35.3 +1.1**
comp=Z,1μm,0.5s,SNR=29
ERM Erimo 10.06 236 *e*PN **Pn 08 51 35.2 +1.1**
ERM Erimo 10.06 236 *e*P **Pn 08 51 34.9 +0.8**
ERM Erimo 10.06 236 *e*Pn **Pn 08 51 35.2 +1.1**
ERM *e*Sn **Sn 08 53 28.1 +2.5**
JNBK Urakawa-nobuka 10.12 238 P **Pn 08 51 33.5 -1.3**
JKB Kayabe 11.36 241 P **Pn 08 51 50.8 -1.0**
JKB *e*S Sn 08 53 51.3 -5.9
JSH Shimam 11.50 246 P **Pn 08 51 55.7 +2.0**
JYM2 Yakumo 2 11.61 243 P **Pn 08 51 54.4 -0.8**
JSR Shiriuchi 11.94 241 P **Pn 08 51 58.2 -1.5**
JTM Tenmabayashi 12.05 237 P **Pn 08 51 58.4 -2.9**
JOSM Okushiri--Mats 12.16 245 P **Pn 08 52 03.5 +0.7**
FX1 Attu Island--F 12.82 62 *e*Pn **Pn 08 52 10.0 -1.7**
FX1 *e*Sn Sn 08 54 21.5 -11
FX1 Attu Island--F 12.82 62 P **Pn 08 52 10.5 -1.2**
comp=Z,50nm,0.3s,baz=277,slow=4.6,SNR=111
FX1 S Sn 08 54 20.4 -13
comp=Z,140nm,0.3s,baz=59,slow=18,SNR=17
FX1 LR LR 08 56 53.1
comp=Z,780nm,20.5s,baz=284,slow=36
HABR Khabarovsk 12.83 278 *ce*PN Pn 08 52 16.5 +4.6
HABR pmax pmax
comp=E,97nm,3.1s
HABR pmax pmax
comp=N,45nm,3.1s
HABR pmax pmax
comp=Z,26nm,1.5s
HABR MLR MLR
comp=Z,4μm,15.0s
JRG Rokugo 13.26 233 P **Pn 08 52 14.7 -3.2**
JRG *e*S Sn 08 54 37.5 -6.4
SMY Shemya 13.34 63 *e*PN **Pn 08 52 17.5 -1.3**
SMY Shemya 13.34 63 *e*Pn **Pn 08 52 17.5 -1.3**
SMY *e*Sn Sn 08 54 36.0 -10
JYA Atsumi 14.34 233 P Pn 08 52 29.1 -3.4
JYA *e*S **Sn 08 55 07.9 -2.2**
SEY Seymchan 14.75 356 ⇓*i*P **Pn 08 52 40.0 +2.2**
SEY Seymchan 14.75 356 *e*P **Pn 08 52 40.0 +2.2**
KLR Kul'dur 14.93 282 *e*P **Pn 08 52 41.0 +0.7**
KLR MLR MLR
comp=N,3μm,15.0s
KLR MLR MLR
comp=Z,4μm,15.0s
JFY Yanaizu 15.23 230 P **Pn 08 52 41.9 -2.5**
USRK Ussuriysk Arra 15.98 264 P **P 08 52 57.0 +0.1**
comp=Z,4.4nm,0.3s,baz=68,slow=12,SNR=40
USRK S **Sn 08 55 54.8 +5.0**
comp=Z,0.1nm,0.3s,baz=74,slow=21,SNR=2.5
USRK LR LR 08 59 15.7
comp=Z,2μm,19.8s,baz=198,slow=38
USRK ScP **ScP 09 01 17.9 -2.1**
comp=Z,0.1nm,0.3s,baz=93,slow=7.6,SNR=5.6
VLA Vladivostok 16.49 260 ⇑*i*P **P 08 53 02.6 0.0**
VLA *i* S **Sn 08 56 03.6 +1.4**
VLA pmax pmax
comp=Z,94nm,1.2s
VLA Vladivostok 16.49 260 *e*P **P 08 53 02.7 +0.1**
MJAR Matsushiro Arr 16.66 231 P **Pn 08 53 00.7 -2.0**
MJAR Matsushiro Arr 16.66 231 P **Pn 08 53 00.7 -2.0**
comp=Z,2.2nm,0.3s,baz=26,slow=12,SNR=39
MJAR LR LR 09 00 34.6
comp=Z,2μm,18.6s,baz=60,slow=41
MAJO Matsushiro 16.66 231 *e*P **Pn 08 53 00.4 -2.3**
MAJO pmax pmax
comp=Z,60nm,0.6s
MAJO Matsushiro 16.66 231 *e*P **Pn 08 53 00.3 -2.3**
MAJO Matsushiro 16.66 231 *e*P **Pn 08 53 00.4 -2.3**
comp=Z,60nm,0.6s
MAT Matsushiro 16.66 231 P **Pn 08 53 01.4 -1.3**
MAT S **S 08 56 17.0 +0.5**
MDJ Mudanjiang 17.42 267 P **Pn 08 53 11.8 -0.2**
MDJ pP **pP 08 53 20.6 -2.2**
MDJ sP **sP 08 53 24.8 -3.2**
MDJ S **Sn 08 56 24.9 +0.1**
MDJ sS **sS 08 56 46.7 -0.9**
MDJ PcP **PcP 08 57 51.4 0.0**
MDJ ScP **ScP 09 01 23.6 +0.7**
MDJ PcS **PcS 09 01 27.5 0.0**
MDJ ScS **ScS 09 05 03.4 +0.6**
MDJ pmax pmax
comp=Z,18nm,1.0s
MDJ pmax pmax
comp=Z,230nm,4.9s
MDJ LR LR
comp=N,1μm,16.8s
MDJ LR LR
comp=E,1μm,22.2s
MDJ LR LR
comp=Z,2μm,25.6s
ADK Adak 18.89 68 *e*P **P 08 53 27.0 -2.0**
ADK pmax pmax
comp=Z,171nm,1.2s
ADK Adak 18.89 68 *e*P **P 08 53 26.9 -2.0**
comp=Z,171nm,1.2s
YAK Yakutsk 19.55 324 *e*P **Pn 08 53 36.9 -0.7**
YAK *e*S **S 08 57 14.0 -0.4**
YAK pmax pmax
comp=E,35nm,1.1s
YAK pmax pmax
comp=Z,95nm,1.0s
YAK pmax pmax
comp=N,36nm,1.3s
YAK pmax pmax
comp=Z,156nm,0.6s
YAK smax smax
comp=E,315nm,2.0s
YAK smax smax
comp=N,415nm,2.0s
YAK MLR MLR
comp=N,2μm,20.0s
YAK MLR MLR
comp=Z,5μm,23.0s
YAK MLR MLR
comp=E,3μm,20.0s
YAK Yakutsk 19.55 324 *e*P **P 08 53 36.6 +0.5**
CLNS Chul'man 19.73 307 *e*P **Pn 08 53 40.1 +0.2**
CLNS *e*S **Sn 08 57 21.4 +1.1**
CLNS pmax pmax
comp=Z,153nm,1.1s
CLNS pmax pmax
comp=E,105nm,1.1s
CLNS pmax pmax
comp=N,92nm,1.3s
CLNS smax smax
comp=E,2μm,11.9s
CLNS smax smax
comp=N,3μm,13.2s
CLNS MLR MLR
comp=Z,5μm,18.0s
CLNS MLR MLR
comp=E,4μm,18.0s
CLNS MLR MLR
comp=N,2μm,15.0s
CN2 Changchun 20.49 268 *e*P **P 08 53 46.4 -0.1**
CN2 *es*P **sP 08 53 59.4 -2.3**
CN2 *e*S **S 08 57 28.1 -5.3**
CN2 pmax pmax
comp=Z,130nm,0.9s
CN2 LR LR
comp=N,2μm,17.0s
CN2 LR LR
comp=E,1μm,17.0s
CN2 LR LR
comp=Z,2μm,20.0s
KSRS Korea Array 22.07 250 P **P 08 54 05.3 +1.9**
comp=Z,114nm,0.9s,baz=52,slow=10.0,SNR=79
KSRS PcP **PcP 08 58 00.8 +0.9**
comp=Z,5.3nm,0.9s,baz=41,slow=1.8,SNR=7.6
KSRS ScP **ScP 09 01 33.2 -0.6**
comp=Z,1.4nm,1.0s,baz=45,slow=2.5,SNR=4.8
KSRS LR LR 09 02 45.3
comp=Z,2μm,18.3s,baz=60,slow=37
KS01 Wonju Array Si 22.07 251 *e*P **P 08 54 04.1 +0.6**
KSAR Wonju Array Be 22.10 251 P **P 08 54 05.3 +1.5**
KSAR PcP **PcP 08 58 00.8 +0.8**
KSAR ScP **ScP 09 01 33.2 -0.7**
SNY Shenyang 22.57 265 ⇑P **P 08 54 09.4 +0.6**
SNY S **S 08 58 14.0 +0.7**
SNY pmax pmax
comp=Z,34nm,2.0s
SNY pmax pmax
comp=Z,280nm,11.7s
SNY LR LR
comp=N,420nm,10.7s
SNY LR LR
comp=E,2μm,18.7s
SNY LR LR
comp=Z,2μm,17.8s
INCN Inchon 22.86 252 *e*P **P 08 54 14.1 +2.1**
comp=Z,69nm,0.9s
INCN LR LR
comp=Z,2μm,20.0s
CBIJ Chichi jima 23.16 209 LR LR 09 02 05.3
comp=Z,1μm,21.1s,baz=232,slow=33
JNU Nakatsue 23.22 238 *e*P **P 08 54 16.6 +1.0**
comp=Z,82nm,1.3s
JNU Nakatsue 23.22 238 P **P 08 54 16.4 +0.8**
comp=Z,24nm,0.9s,baz=40,slow=7.5,SNR=16
JNU LR LR 09 03 34.4
comp=Z,2μm,21.1s,baz=46,slow=37
TIXI Tiksi 26.27 342 *ce*P **P 08 54 41.5 -1.7**
TIXI pmax pmax
comp=Z,47nm,2.6s
TIXI MLR MLR
comp=Z,3μm,17.0s
TNA Tin City 26.32 35 *e*P **P 08 54 45.9 +2.2**
comp=Z,224nm,0.9s
BJI Beijing 28.35 267 P P 08 55 06.7 +4.5
BJI S **S 08 59 47.6 +1.7**
BJI sS sS 09 00 02.1 -2.4
BJI pmax pmax
comp=Z,22nm,0.8s
BJI LR LR
comp=N,2μm,15.5s
BJI LR LR
comp=E,2μm,15.9s
BJI LR LR
comp=Z,1μm,19.8s
SSE Sheshan 30.43 248 *e*P **P 08 55 21.3 +0.6**
SSE pP **pP 08 55 31.9 +0.1**
SSE S **S 09 00 19.5 +0.8**
SSE sS **sS 09 00 39.2 +1.9**
SSE pmax pmax
comp=Z,26nm,0.6s
SSE pmax pmax
comp=Z,120nm,6.0s
SSE LR LR
comp=N,1μm,23.1s
SSE LR LR
comp=E,320nm,23.1s
SSE LR LR
comp=Z,1μm,22.9s
WAKE Wake Island 30.58 157 PFAKE 08 55 40.0 +18
WAKE LR LR
comp=Z,5μm,21.0s
SVW2 Sparrevohn 30.84 47 *e*P **P 08 55 25.2 +1.2**
comp=Z,101nm,1.0s
HHC Hu-ho-hao-te 31.04 272 *e*P **P 08 55 25.6 -0.6**
HHC pP **pP 08 55 36.3 -1.0**
HHC sP **sP 08 55 39.9 -2.3**
HHC PP **PnPn 08 56 27.5 -0.7**
HHC PcP **PcP 08 58 20.4 -0.7**
HHC S **S 09 00 26.5 -1.9**
HHC pmax pmax
comp=Z,63nm,1.0s
HHC pmax pmax
comp=Z,370nm,6.0s
HHC LR LR
comp=N,3μm,15.5s
HHC LR LR
comp=E,3μm,14.3s
HHC LR LR
comp=Z,5μm,15.5s
ULN Ulaanbaatar 31.22 287 *e*P **P 08 55 29.0 +1.3**
ULN Ulaanbaatar 31.22 287 *e*P **P 08 55 29.2 +1.5**
comp=Z,55nm,2.2s
ULN *e*ScP **ScP 09 02 00.8 -0.2**
ULN LR LR
comp=Z,4μm,20.0s
ULN Ulaanbaatar 31.22 287 P **P 08 55 28.1 +0.4**
comp=Z,8.0nm,1.4s,comp=Z,530nm
NJ2 Nanjing 31.25 252 *e*P **P 08 55 27.8 -0.1**
NJ2 pP **pP 08 55 37.1 -1.9**
NJ2 sP **sP 08 55 41.2 -2.7**
NJ2 PP **PP 08 56 39.2 +0.4**
NJ2 S **S 09 00 35.0 +3.5**
NJ2 sS **sS 09 00 51.8 +1.7**
NJ2 pmax pmax
comp=Z,14nm,0.6s
NJ2 pmax pmax
comp=Z,280nm,5.3s
NJ2 LR LR
comp=N,3μm,16.3s
NJ2 LR LR
comp=E,3μm,24.9s
NJ2 LR LR
comp=Z,3μm,27.1s
SONA1 Songino Array 31.64 288 *e*PcP **PcP 08 58 23.0 +0.4**
SONM Songino Array 31.65 288 P **P 08 55 32.1 +0.7**
SONM PcP **PcP 08 58 22.9 +0.3**
SONM ScP **ScP 09 02 00.3 -2.0**
SONM Songino Array 31.65 288 P **P 08 55 32.1 +0.7**
comp=Z,3.8nm,0.9s,baz=65,slow=8.4,SNR=15
SONM PcP **PcP 08 58 22.9 +0.3**
comp=Z,3.0nm,0.6s,baz=118,slow=0.9,SNR=6.9
SONM ScP **ScP 09 02 00.3 -2.0**
comp=Z,1.5nm,0.8s,baz=104,slow=1.4,SNR=5.8
SONM LR LR 09 09 31.3
comp=Z,4μm,18.5s,baz=71,slow=38
IM04 Indian Mountai 32.05 37 *e*P **P 08 55 35.3 +0.6**
IMA2 Indian Mountai 32.10 37 *e*P **P 08 55 35.5 +0.4**
OHAK Old Harbor 32.20 54 *e*P **P 08 55 35.6 -0.4**
comp=Z,341nm,1.4s
RSO Redoubt South 32.23 48 *e*P **P 08 55 37.2 +0.7**
TLY Talaya 32.26 295 *e*P **P 08 55 38.6 +2.0**
TLY *e* 08 56 41.6
TLY *e*SS SS 09 02 47.6 -19
TLY *e*SSS SSS 09 03 13.1
TLY pmax pmax
comp=Z,12nm,0.9s
TLY MLR MLR
comp=Z,4μm,19.0s
TLY Talaya 32.26 295 *e*P **P 08 55 38.6 +2.0**
PPLA Purkeypile 32.49 43 *e*P **P 08 55 40.1 +1.4**
comp=Z,644nm,1.5s
KDAK Kodiak Island 32.52 53 *e*P **P 08 55 38.2 -0.5**
KDAK Kodiak Island 32.52 53 *e*P **P 08 55 38.3 -0.5**
comp=Z,94nm,1.0s
KDAK LR LR
comp=Z,4μm,20.0s
CAST Castle Rocks 32.55 42 *e*P **P 08 55 40.3 +1.2**
comp=Z,102nm,1.0s
SPU Mount Spurr 32.55 46 *e*P **P 08 55 40.0 +0.9**
ZAK Zakamensk 32.82 293 *e*P **P 08 55 43.3 +1.6**
ZAK *e* 08 58 24.8
BPAW Bear Paw Mtn. 33.07 41 *e*P **P 08 55 44.4 +0.9**
comp=Z,165nm,1.1s
TRF Thorofare Moun 33.36 42 *e*P **P 08 55 46.6 +0.2**
comp=Z,146nm,1.1s
COLD Coldfoot 33.62 35 *e*P **P 08 55 49.2 +0.9**
comp=Z,104nm,1.0s
MOY Mondy 33.85 296 *e*P P 08 55 55.2 +4.5
PMR Palmer 33.94 46 *e*P **P 08 55 51.0 -0.1**
PMR pmax pmax
comp=Z,101nm,1.0s
PMR Palmer 33.94 46 *e*P **P 08 55 51.0 -0.1**
comp=Z,101nm,1.0s
MCK McKinley 33.97 42 *e*P **P 08 55 51.8 +0.4**
MCK pmax pmax
comp=Z,270nm,1.1s
MCK McKinley 33.97 42 *e*P **P 08 55 51.8 +0.4**
comp=Z,270nm,1.1s
COLA College 34.44 40 *e*P **P 08 55 55.5 +0.1**
COLA pmax pmax
comp=Z,398nm,1.1s
COLA MLR MLR
comp=Z,2μm,21.0s
COLA College 34.44 40 *e*P **P 08 55 56.4 +1.0**
COLA College 34.44 40 *e*P **P 08 55 55.5 +0.1**
comp=Z,398nm,1.1s
COLA LR LR
comp=Z,2μm,21.0s
TATO Taipei 34.73 240 PFAKE 08 56 10.0 +12
TATO LR LR
comp=Z,2μm,20.0s
IL1 Eielson Array 34.85 40 *e*P **P 08 55 58.0 -1.0**
ILAR Eielson Array 34.85 40 P **P 08 55 59.0 0.0**
ILAR Eielson Array 34.85 40 P **P 08 55 59.0 0.0**
comp=Z,96nm,1.1s,baz=259,slow=7.6,SNR=220
ILAR LR LR 09 10 38.8
comp=Z,2μm,20.6s,baz=285,slow=37
YHNB Yeheng 35.03 240 PFAKE 08 56 10.0 +9.0
YHNB LR LR
comp=Z,2μm,20.0s
WHN Wuhan 35.13 255 ⇓P **P 08 56 01.9 +0.2**
WHN S **S 09 01 30.0 -1.7**
WHN LR LR
comp=Z,3μm,16.4s
GUMO Guam 35.45 196 PFAKE 08 56 20.0 +15
GUMO LR LR
comp=Z,2μm,20.0s
PAX Paxson 35.56 43 *e*P **P 08 56 06.3 +1.1**
PAX pmax pmax
comp=Z,166nm,1.3s
PAX Paxson 35.56 43 *e*P **P 08 56 06.3 +1.1**
comp=Z,166nm,1.3s
DIV Divide 35.59 46 *e*P **P 08 56 06.2 +0.6**
comp=Z,169nm,0.8s
YULB Yu-li 36.06 238 *e*P **P 08 56 10.8 +1.0**
comp=Z,13nm,0.7s
BMRM Bremner River 36.18 46 *e*P **P 08 56 11.7 +1.2**
comp=Z,231nm,1.0s
MENT Mentasta 36.36 43 *e*P **P 08 56 12.9 +1.0**
XAN Xi'an 36.49 264 P **P 08 56 13.8 +0.4**
XAN sP **sP 08 56 27.3 -2.2**
XAN PP **PP 08 57 37.6 +0.8**
XAN PcP **PcP 08 58 37.5 +1.0**
XAN ScS **ScS 09 06 27.6 +1.4**
XAN pmax pmax
comp=Z,5.0nm,1.0s
XAN LR LR
comp=N,620nm,18.1s
XAN LR LR
comp=E,250nm,18.7s
XAN LR LR
comp=Z,360nm,15.7s
TPUB Ta-pu 36.52 239 *e*P **P 08 56 14.8 +1.1**
comp=Z,104nm,1.2s
TWG Pinlang 36.64 238 *e*P **P 08 56 15.1 +0.4**
comp=Z,269nm,1.2s
EGAK Eagle 37.30 40 *e*P **P 08 56 19.6 -0.3**
comp=Z,275nm,1.1s
EGAK LR LR
comp=Z,2μm,22.0s

DAWY	**Dawson**	**38.15**	**41**	*e*P	**P**	**08 56 27.6 +0.4**
LZH	**Lanzhou**	**38.69**	**271**	*e*P	**P**	**08 56 32.0 -0.1**
LZH				pP	**pP**	**08 56 42.1 -1.4**
LZH				sP	**sP**	**08 56 45.8 -2.5**
LZH				PP	**PnPn**	**08 58 06.3 +2.9**
LZH				PcP	**PcP**	**08 58 45.2 +1.8**
LZH				*e*S	**S**	**09 02 25.3 -0.9**
LZH				sS	**sS**	**09 02 42.0 -3.0**
LZH				pmax	pmax	
	comp=Z,28nm,1.1s					
LZH				pmax	pmax	
	comp=Z,150nm,4.9s					
LZH				LR	LR	
	comp=N,580nm,12.2s					
LZH				LR	LR	
	comp=E,1μm,15.2s					
LZH				LR	LR	
	comp=Z,1μm,17.0s					
GTA	**Gaotai**	**39.57**	**278**	⇓P	**P**	**08 56 40.4 +0.9**
GTA				pP	**pP**	**08 56 50.3 -0.5**
GTA				sP	**sP**	**08 56 54.1 -1.5**
GTA				PcP	**PcP**	**08 58 48.0 +1.9**
GTA				ScP	**ScP**	**09 02 30.9 -0.5**
GTA				PcS	**PcS**	**09 02 37.9 +1.7**
GTA				S	**S**	**09 02 40.0 +0.6**
GTA				sS	**sS**	**09 02 56.1 -2.1**
GTA				ScS	**ScS**	**09 06 44.1 +0.2**
GTA				pmax	pmax	
	comp=Z,9.0nm,1.5s					
GTA				pmax	pmax	
	comp=Z,180nm,8.5s					
GTA				LR	LR	
	comp=N,1μm,17.6s					
GTA				LR	LR	
	comp=E,1μm,16.2s					
GTA				LR	LR	
	comp=Z,2μm,17.6s					
HYT	**Haines Junctio**	**39.62**	**45**	*e*P	**P**	**08 56 41.2 +1.7**
INK	**Inuvik**	**39.93**	**33**	*e*P	**P**	**08 56 40.5 -1.4**
	comp=Z,129nm,0.9s					
SKAG	**Skagway**	**41.02**	**47**	*e*P	P	08 56 53.7 +2.7
	comp=Z,147nm,1.4s					
SIT	**Sitka**	**41.76**	**51**	*e*P	P	08 56 59.8 +2.8
SIT				pmax	pmax	
	comp=Z,551nm,1.7s					
SIT	**Sitka**	**41.76**	**51**	*e*P	P	08 56 59.8 +2.8
	comp=Z,551nm,1.7s					
CD2	**Chengdu**	**41.85**	**264**	P	**P**	**08 56 59.5 +1.3**
CD2				pP	**pP**	**08 57 09.7 +0.1**
CD2				sP	**sP**	**08 57 14.0 -0.4**
CD2				PP	**PnPn**	**08 58 39.8 -0.8**
CD2				PcP	**PcP**	**08 58 56.1 +2.6**
CD2				S	**S**	**09 03 14.1 +0.9**
CD2				sS	**sS**	**09 03 31.1 -1.0**
CD2				SS	**SS**	**09 06 15.3 -4.9**
CD2				pmax	pmax	
	comp=Z,90nm,1.0s					
CD2				pmax	pmax	
	comp=Z,540nm,3.5s					
CD2				LR	LR	
	comp=N,890nm,16.1s					
CD2				LR	LR	
	comp=Z,1μm,17.8s					
ZAA0	**Zalesovo Array**	**42.42**	**305**	*e*P	**P**	**08 57 02.0 -0.5**
ZALV	**Zalesovo Beam**	**42.42**	**305**	P	**P**	**08 57 02.2 -0.4**
ZALV						08 58 55.3
ZALV	**Zalesovo Beam**	**42.42**	**305**	P	**P**	**08 57 02.1 -0.4**
ZALV				PcP	**PcP**	**08 58 55.3 +0.4**
ZALV	**Zalesovo Beam**	**42.42**	**305**	P	**P**	**08 57 02.1 -0.4**
	comp=Z,4.6nm,0.4s,baz=65,slow=6.4,SNR=19					
ZALV				PcP	**PcP**	**08 58 55.3 +0.4**
	comp=Z,26nm,1.0s,baz=90,slow=1.5,SNR=17					
ZALV				LR	LR	09 15 32.0
	comp=Z,3μm,20.8s,baz=68,slow=37					
GYA	**Guiyang**	**42.86**	**257**	⇓*i*P	**P**	**08 57 07.0 +0.4**
GYA				pP	**pP**	**08 57 16.9 -1.1**
GYA				PP	**PP**	**08 58 48.9 +2.5**
GYA				PcP	**PcP**	**08 58 58.7 +1.7**
GYA				ScP	**ScP**	**09 02 46.0 +1.5**
GYA				S	**S**	**09 03 26.2 -2.1**
GYA				sS	**sS**	**09 03 43.5 -3.8**
GYA				ScS	**ScS**	**09 07 03.0 -1.1**
GYA				pmax	pmax	
	comp=Z,80nm,1.0s					
GYA				pmax	pmax	
	comp=Z,420nm,5.5s					
GYA				LR	LR	
	comp=N,5μm,17.1s					
GYA				LR	LR	
	comp=E,3μm,17.3s					
GYA				LR	LR	
	comp=Z,3μm,18.1s					
NVS	**Novosibirsk**	**42.95**	**307**	*e*P	**P**	**08 57 06.9 +0.1**
NVS				*i*		08 58 56.2
NVS				*i*		09 07 01.0
NVS				pmax	pmax	
	comp=Z,17nm,0.6s					
NVS				pmax	pmax	
	comp=N,8.0nm,0.8s					
NVS				pmax	pmax	
	comp=E,9.0nm,0.5s					
WRAK	**Wrangell Islan**	**43.52**	**51**	*e*P	P	08 57 14.1 +2.7
	comp=E,79nm,0.9s					
WRAK				LR	LR	
	comp=Z,2μm,22.0s					
DLBC	**Dease Lake**	**43.95**	**47**	*e*P	**P**	**08 57 16.9 +2.0**
WMQ	**Urumqi**	**45.17**	**290**	P	**P**	**08 57 26.6 +1.8**
WMQ				pP	**pP**	**08 57 36.5 +0.2**
WMQ				sP	**sP**	**08 57 40.4 -0.7**
WMQ				PcP	**PcP**	**08 59 07.6 +3.0**
WMQ				PP	**PP**	**08 59 12.8 +2.1**
WMQ				S	**S**	**09 04 02.9 +1.4**
WMQ				sS	**sS**	**09 04 19.3 -1.3**
WMQ				ScS	**ScS**	**09 07 18.6 +0.5**
WMQ				pmax	pmax	
	comp=Z,17nm,0.7s					
WMQ				pmax	pmax	
	comp=Z,290nm,6.1s					
WMQ				LR	LR	
	comp=N,2μm,20.0s					
WMQ				LR	LR	
	comp=E,1μm,22.5s					
WMQ				LR	LR	
	comp=Z,2μm,21.7s					
QIZ	**Qiongzhong**	**46.21**	**247**	P	**P**	**08 57 33.4 +0.2**
QIZ				S	**S**	**09 04 19.1 +2.3**
QIZ				pmax	pmax	
	comp=Z,47nm,2.1s					
QIZ				pmax	pmax	
	comp=Z,310nm,5.6s					
KMI	**Kunming**	**46.34**	**259**	P	**P**	**08 57 35.1 +0.6**
KMI				pP	**pP**	**08 57 47.2 +1.2**
KMI				PcP	**PcP**	**08 59 10.1 +1.0**
KMI				S	**S**	**09 04 18.5 -0.6**
KMI				sS	**sS**	**09 04 39.2 +1.0**
KMI				SS	**SS**	**09 07 45.2 +0.4**
KMI				pmax	pmax	
	comp=Z,34nm,1.0s					
KMI				pmax	pmax	
	comp=Z,310nm,4.3s					
KMI				LR	LR	
	comp=N,800nm,17.2s					
KMI				LR	LR	
	comp=E,610nm,16.1s					
KMI				LR	LR	
	comp=Z,1μm,18.8s					
KIP	**Kipapa**	**46.40**	**108**	*c i*P	**P**	**08 57 34.3 -0.3**
KIP				pmax	pmax	
	comp=Z,225nm,1.6s					
KIP	**Kipapa**	**46.40**	**108**	*e*P	**P**	**08 57 35.4 +0.7**
	comp=Z,248nm,1.7s					
MK31	**Makanchi Array**	**47.00**	**297**	*ce*P	**P**	**08 57 39.2 0.0**
MK31				pmax	pmax	
	comp=Z,7.0nm,0.5s					
MK31	**Makanchi Array**	**47.00**	**297**	*e*P	**P**	**08 57 39.0 -0.2**
MKAR	**Makanchi Array**	**47.00**	**297**	*e*P	**P**	**08 57 39.5 +0.3**
MKAR						08 59 10.3
MKAR	**Makanchi Array**	**47.00**	**297**	*e*P	**P**	**08 57 39.5 +0.3**
MKAR	**Makanchi Array**	**47.00**	**297**	*e*P	**P**	**08 57 39.5 +0.3**
MKAR				PcP	**PcP**	**08 59 10.3 -0.6**
MKAR				ScP	**ScP**	**09 02 59.8 -1.4**
MKAR	**Makanchi Array**	**47.00**	**297**	P	**P**	**08 57 39.5 +0.3**
	comp=Z,8.4nm,0.7s,baz=63,slow=8.0,SNR=58					
MKAR				PcP	**PcP**	**08 59 10.3 -0.6**
	comp=Z,7.1nm,0.8s,baz=60,slow=4.5,SNR=5.0					
MKAR				ScP	**ScP**	**09 02 59.8 -1.4**
	comp=Z,1.5nm,0.9s,baz=75,slow=1.6,SNR=4.1					
MKAR				LR	LR	09 19 05.1
	comp=Z,3μm,18.6s,baz=49,slow=38					
MK01	**Makanchi Array**	**47.01**	**297**	*e*P	**P**	**08 57 38.4 -0.8**
DAV	**Davao City (W)**	**47.75**	**220**	PFAKE		08 58 00.0 +15
DAV				LR	LR	
	comp=Z,977nm,22.0s					
ALE	**Alert**	**48.16**	**6**	P	**P**	**08 57 48.5 +0.9**
	comp=Z,221nm,0.9s,SNR=5.9					
YKW3	**Yellowknife Ar**	**49.18**	**38**	*e*P	**P**	**08 57 56.9 +1.1**
	comp=Z,3.1nm,1.2s					
POHA	**Pohakuloa**	**49.19**	**107**	*e*P	**P**	**08 57 56.9 +0.3**
	comp=Z,83nm,0.8s					
YKA	**Yellowknife Ar**	**49.22**	**38**	P	**P**	**08 57 57.3 +1.3**
YKA	**Yellowknife Ar**	**49.22**	**38**	P	**P**	**08 57 57.3 +1.3**
	comp=Z,61nm,0.9s,baz=298,slow=7.5,SNR=46					
YKB5	**Yellowknife Ar**	**49.22**	**38**	*e*P	**P**	**08 57 56.4 +0.4**
TARA	**Tarawa**	**49.40**	**155**	PFAKE		08 58 10.0 +12
TARA				LR	LR	
	comp=Z,4μm,22.0s					
VOSK	**Vostochnaya**	**50.40**	**308**	P	**P**	**08 58 04.7 -0.4**
VOSK				pmax	pmax	
	comp=Z,15nm,0.5s					
VOSK	**Vostochnaya**	**50.40**	**308**	*e*P	**P**	**08 58 04.3 -0.9**
	comp=Z,27nm,0.5s					
BVA0	**Borovoye Array**	**50.55**	**309**	P	**P**	**08 58 06.0 -0.3**
BVA0				pmax	pmax	
	comp=Z,14nm,0.5s					
BVAR	**Borovoye Array**	**50.55**	**309**	PcP	**PcP**	**08 59 23.6 +0.1**
BVAR	**Borovoye Array**	**50.55**	**309**	PcP	**PcP**	**08 59 23.6 +0.1**
	comp=Z,8.0nm,0.5s,baz=70,slow=4.9,SNR=6.1					
BVAR				LR	LR	09 21 10.0
	comp=Z,3μm,19.8s,baz=58,slow=38					
BRVK	**Borovoye**	**50.59**	**309**	P	**P**	**08 58 06.4 -0.2**
	comp=Z,290nm,0.8s,SNR=15					
BRVK	**Borovoye**	**50.59**	**309**	*e*P	**P**	**08 58 06.6 +0.1**
BRVK				*e*		08 59 24.6
BRVK				pmax	pmax	
	comp=Z,30nm,0.5s					
BRVK				MLR	MLR	
	comp=Z,4μm,20.0s					
BRVK	**Borovoye**	**50.59**	**309**	*e*P	**P**	**08 58 06.6 +0.1**
	comp=Z,30nm,0.5s					
BRVK				*e*PcP	**PcP**	**08 59 24.6 +0.9**
BRVK				LR	LR	
	comp=Z,4μm,20.0s					
PANO	**Nakornpanom**	**50.88**	**250**	P	P	08 58 11.9 +2.8
	comp=Z,30nm,1.3s					
LSA	**Lhasa**	**51.03**	**273**	P	**P**	**08 58 11.9 +1.2**
MGB	**Mount Grey**	**51.03**	**57**	P	**P**	**08 58 10.5 +0.4**
KBS	**Kingsbay**	**51.13**	**351**	*c i*P	**P**	**08 58 10.6 +0.3**
KBS				pmax	pmax	
	comp=Z,20nm,1.1s					
KBS				MLR	MLR	
	comp=Z,958nm,22.0s					
KBS	**Kingsbay**	**51.13**	**351**	PFAKE		08 58 20.0 +10
KBS				LR	LR	
	comp=Z,2μm,22.0s					
SPITS	**Spitsbergen Ar**	**51.28**	**350**	P	**P**	**08 58 10.7 -0.7**
SPITS				PcP	**PcP**	**08 59 27.1 +1.3**
SPITS	**Spitsbergen Ar**	**51.28**	**350**	P	**P**	**08 58 10.7 -0.7**
	comp=Z,3.2nm,0.5s,baz=48,slow=4.3,SNR=7.0					
SPITS				PcP	**PcP**	**08 59 27.1 +1.3**
	comp=Z,32nm,1.1s,baz=90,slow=9.4,SNR=4.4					
SPITS				LR	LR	09 23 37.2
	comp=Z,1μm,18.6s,baz=40,slow=40					
UBPT	**Khong Chiam**	**51.75**	**248**	P	**P**	**08 58 17.6 +1.9**
UBPT	**Khong Chiam**	**51.75**	**248**	P	**P**	**08 58 18.3 +2.6**
	comp=Z,42nm,2.0s					
PGC	**Sidney**	**51.91**	**57**	*e*P	**P**	**08 58 17.3 +0.8**
OSD	**Olympics--Snow**	**52.22**	**58**	P	**P**	**08 58 20.3 +1.2**
PAYA	**Payao**	**52.28**	**256**	P	**P**	**08 58 22.0 +2.4**
	comp=Z,18nm,0.9s					
NLWA	**Neilton Lookou**	**52.36**	**58**	*e*P	**P**	**08 58 20.8 +0.8**
	comp=Z,102nm,1.0s					
NLWA				*e*PcP	**PcP**	**08 59 31.8 +1.3**
NLWA				LR	LR	
	comp=Z,632nm,21.0s					
CMAI	**Chiengmai2**	**52.41**	**257**	P	**P**	**08 58 22.4 +1.7**
	comp=Z,23nm,1.0s					
A05A	**Maple Falls**	**52.48**	**56**	*e*P	**P**	**08 58 21.2 +0.6**
	comp=Z,136nm,1.4s					
MYLDM	**Lahad Datu**	**52.68**	**227**	P	**P**	**08 58 23.9 +1.4**
	comp=Z,35nm,1.6s					
LOEI	**Loei**	**52.73**	**253**	P	**P**	**08 58 22.3 -0.7**
	comp=Z,29nm,1.4s,comp=Z,588nm					
E03A	**Lebam**	**53.01**	**59**	*e*P	**P**	**08 58 26.0 +1.4**
	comp=Z,89nm,1.0s					
JCW	**Jim Creek**	**53.01**	**56**	P	**P**	**08 58 25.1 +0.4**
LAMP	**Lampang**	**53.04**	**256**	P	**P**	**08 58 27.7 +2.5**
	comp=Z,19nm,1.0s,comp=Z,152nm					
B06A	**Marblemount**	**53.08**	**56**	*e*P	**P**	**08 58 25.4 +0.4**
	comp=Z,94nm,1.1s					
KKM	**Kota Kinabalu**	**53.09**	**230**	*e*P	**P**	**08 58 26.9 +1.3**
	comp=Z,32nm,1.1s					
KKM				LR	LR	
	comp=Z,612nm,20.0s					
TKM2	**Tokmak 2**	**53.09**	**296**	*e*P	**P**	**08 58 26.7 +1.1**
TKM2				*e*		08 58 43.5
TKM2				pmax	pmax	
	comp=Z,24nm,1.1s					
TKM2				MLR	MLR	
	comp=Z,701nm,19.0s					
TKM2	**Tokmak 2**	**53.09**	**296**	*e*P	**P**	**08 58 26.7 +1.1**
	comp=Z,24nm,1.1s					
TKM2				*e*		08 58 43.5
TKM2				LR	LR	
	comp=Z,701nm,19.0s					
SHL	**Shillong**	**53.25**	**268**	*e*P	**P**	**08 58 29.0 +2.1**
CHTO	**Chiang Mai**	**53.28**	**257**	*e*P	**P**	**08 58 28.0 +1.0**
CHTO				pmax	pmax	
	comp=Z,50nm,1.2s					
CHTO				MLR	MLR	
	comp=Z,1μm,19.0s					
CHTO	**Chiang Mai**	**53.28**	**257**	*e*P	**P**	**08 58 28.0 +1.0**
	comp=Z,50nm,1.2s					
CHTO				LR	LR	
	comp=Z,1μm,19.0s					
CHTO	**Chiang Mai**	**53.28**	**257**	P	**P**	**08 58 28.0 +1.0**
	comp=Z,42nm,1.8s,comp=Z,710nm					
CHTO	**Chiang Mai**	**53.28**	**257**	P	**P**	**08 58 28.3 +1.3**
	comp=Z,49nm,0.9s,comp=Z,712nm					
SVE	**Sverdlovsk**	**53.30**	**317**	⇓*e*P	**P**	**08 58 26.9 +0.3**
SVE				*e*		09 09 40.9
SVE				pmax	pmax	
	comp=Z,20nm,0.9s					
SVE				MLR	MLR	
	comp=Z,2μm,22.0s					
HTW	**Haystack Looko**	**53.31**	**57**	P	**P**	**08 58 27.3 +0.3**
F03A	**Seaside**	**53.35**	**59**	*e*P	**P**	**08 58 28.4 +1.1**
	comp=Z,230nm,1.4s					
SOKR	**Solikamsk**	**53.43**	**321**	*e*P	**P**	**08 58 29.3 +1.8**
SOKR				pmax	pmax	
	comp=Z,10.0nm,1.0s					
CHAI	**Chaiyaphum**	**53.47**	**251**	P	**P**	**08 58 29.9 +1.5**
	comp=Z,12nm,1.1s,comp=Z,330nm					
CM31	**Chiang Mai Arr**	**53.54**	**256**	*e*P	**P**	**08 58 30.9 +2.0**
	comp=Z,15nm,0.8s					
CMAR	**Chiang Mai Arr**	**53.54**	**256**	P	**P**	**08 58 30.1 +1.2**
CMAR	**Chiang Mai Arr**	**53.54**	**256**	P	**P**	**08 58 30.1 +1.2**
	comp=Z,18nm,0.9s,baz=32,slow=6.5,SNR=9.7					
D05A	**Enumclaw**	**53.54**	**57**	*e*P	**P**	**08 58 29.6 +1.1**
	comp=Z,90nm,0.9s					
CM01	**Chiang Mai Arr**	**53.55**	**256**	*e*P	**P**	**08 58 29.4 +0.4**
PBKT	**Sadao Pong**	**53.62**	**253**	P	**P**	**08 58 30.7 +1.3**
	comp=Z,18nm,0.8s					
PBKT	**Sadao Pong**	**53.62**	**253**	P	**P**	**08 58 31.3 +1.9**
	comp=Z,20nm,1.4s					
PNT	**Penticton**	**53.65**	**54**	P	**P**	**08 58 29.7 +0.3**
PNT	**Penticton**	**53.65**	**54**	P	**P**	**08 58 29.6 +0.3**
FRU	**Bishkek**	**53.73**	**296**	*e*P	**P**	**08 58 28.0 -2.1**
FRU				*e*		08 59 34.0
FRU				pmax	pmax	
	comp=Z,40nm,1.6s					
SUKH	**Sukhothai**	**53.80**	**255**	P	**P**	**08 58 33.3 +2.5**
	comp=Z,4.6nm,1.1s					
RCS	**Mount Rainier-**	**53.86**	**58**	P	**P**	**08 58 32.0 +0.7**
LON	**Longmire**	**53.89**	**58**	*e*P	**P**	**08 58 31.4 +0.2**
LON				pmax	pmax	
	comp=Z,49nm,1.5s					
LON	**Longmire**	**53.89**	**58**	*e*P	**P**	**08 58 31.4 +0.2**
	comp=Z,49nm,1.5s					
AAK	**Ala-Archa**	**53.92**	**296**	⇓*i*P	**P**	**08 58 32.4 +0.8**
AAK				pmax	pmax	
	comp=Z,47nm,1.7s					
AAK				MLR	MLR	
	comp=Z,4μm,22.0s					
AAK	**Ala-Archa**	**53.92**	**296**	*e*P	**P**	**08 58 32.4 +0.8**
AAK	**Ala-Archa**	**53.92**	**296**	*e*P	**P**	**08 58 32.0 +0.3**
	comp=Z,14nm,1.1s					
AAK				PcP	**PcP**	**08 59 35.7 -0.9**
AAK	**Ala-Archa**	**53.92**	**296**	P	**P**	**08 58 32.2 +0.6**
	comp=Z,5.2nm,0.5s,baz=102,slow=5.2,SNR=10					
AAK				PcP	**PcP**	**08 59 35.7 -0.9**
	comp=Z,3.8nm,0.4s,baz=336,slow=2.3,SNR=4.1					
AAK				LR	LR	09 23 02.8
	comp=Z,2μm,20.2s,baz=39,slow=38					
F04A	**Amboy**	**54.01**	**59**	*e*P	**P**	**08 58 32.5 +0.5**
	comp=Z,70nm,0.8s					
WPW	**White Pass**	**54.06**	**58**	P	**P**	**08 58 33.0 +0.4**
LTY	**Liberty**	**54.24**	**57**	*e*P	**P**	**08 58 33.9 +0.1**
	comp=Z,49nm,1.0s					
COR	**Corvallis**	**54.27**	**61**	*e*P	**P**	**08 58 36.0 +2.1**
COR				pmax	pmax	
	comp=Z,219nm,1.7s					
COR	**Corvallis**	**54.27**	**61**	*e*P	**P**	**08 58 36.0 +2.1**
	comp=Z,219nm,1.7s					
TBM	**Table Mountain**	**54.33**	**57**	P	**P**	**08 58 34.7 +0.2**
EKS2	**Erkin-Say**	**54.33**	**296**	*e*P	**P**	**08 58 35.9 +1.3**
EKS2				*e*		08 59 39.2
EKS2				pmax	pmax	
	comp=Z,25nm,1.3s					
EKS2				MLR	MLR	
	comp=Z,1μm,19.0s					
EKS2	**Erkin-Say**	**54.33**	**296**	*e*P	**P**	**08 58 35.9 +1.3**
	comp=Z,26nm,1.3s					
EKS2				*e*PcP	**PcP**	**08 59 39.2 +1.1**
EKS2				LR	LR	
	comp=Z,1μm,19.0s					
B08A	**Colville Reser**	**54.35**	**55**	*e*P	**P**	**08 58 34.9 +0.3**
	comp=Z,108nm,1.1s					
RNO	**Roman Nose**	**54.41**	**62**	P	**P**	**08 58 37.0 +2.0**
ARU	**Arti**	**54.47**	**317**	*d i*P	**P**	**08 58 34.8 -0.4**
ARU				*PP	**pP**	**08 58 50.7 +3.8**
ARU						08 59 35.9
ARU						09 00 39.6
ARU				S	**S**	**09 06 11.3 +0.5**
ARU				SS	**SS**	**09 09 47.5 -5.3**
ARU				pmax	pmax	
	comp=Z,39nm,1.0s					
ARU				MLR	MLR	
	comp=Z,2μm,22.0s					
ARU	**Arti**	**54.47**	**317**	*e*P	**P**	**08 58 34.8 -0.4**
ARU	**Arti**	**54.47**	**317**	P	**P**	**08 58 34.1 -1.1**
	comp=Z,284nm,0.4s,SNR=8.3					
SSOR	**Sweet Springs**	**54.60**	**60**	P	**P**	**08 58 38.1 +1.6**
SSOR	**Sweet Springs**	**54.60**	**60**	P	**P**	**08 58 38.0 +1.6**
KEBM	**Edson Butte**	**54.66**	**63**	*e*P	**P**	**08 58 37.8 +0.9**
	comp=Z,145nm,1.6s					
EDM	**Edmonton**	**54.67**	**47**	*e*P	**P**	**08 58 37.1 +0.3**
EDM				*e*		08 58 49.7
EDM	**Edmonton**	**54.67**	**47**	*e*P	**P**	**08 58 37.1 +0.3**
EDM				*e*		08 58 49.7
VLL	**Laurance Lake**	**54.70**	**59**	P	**P**	**08 58 38.6 +1.4**
TAPN	**Taplejung**	**54.85**	**273**	*e*P	**P**	**08 58 38.6 -0.1**
KSH	**Kashi**	**54.85**	**292**	P	P	08 58 41.7 +3.3
KSH				pP	pP	08 58 51.9 +1.8
KSH				PP	PP	09 00 47.1 +5.9
KSH				PcS	**PcS**	**09 03 42.1 +2.0**
KSH				S	**S**	**09 06 20.1 +3.4**
KSH				pmax	pmax	
	comp=Z,44nm,1.8s					
KSH				pmax	pmax	
	comp=Z,160nm,5.0s					
KSH				LR	LR	
	comp=N,2μm,17.0s					
KSH				LR	LR	
	comp=E,1μm,15.7s					
KSH				LR	LR	
	comp=Z,2μm,20.9s					
H04A	**Detroit Lake**	**54.86**	**60**	*e*P	**P**	**08 58 38.9 +0.6**
	comp=Z,193nm,1.5s					
KBO	**Bosley Butte**	**55.11**	**64**	*e*P	**P**	**08 58 41.4 +1.2**
	comp=Z,253nm,1.4s					
MDW	**Midway**	**55.12**	**57**	P	**P**	**08 58 41.1 +1.0**
MDW	**Midway**	**55.12**	**57**	P	**P**	**08 58 41.1 +1.0**
FRIS	**Frissel Point**	**55.19**	**60**	P	**P**	**08 58 41.7 +0.9**
IRO	**Indian Ridge**	**55.22**	**61**	P	**P**	**08 58 41.7 +0.7**
C09A	**Chrisman Ranch**	**55.25**	**55**	*e*P	**P**	**08 58 40.8 -0.2**
	comp=Z,87nm,1.0s					
D08A	**Wollman Farm,**	**55.33**	**56**	*e*P	**P**	**08 58 41.8 +0.2**
	comp=Z,44nm,0.9s					
UTHA	**Uthaitani**	**55.34**	**253**	P	**P**	**08 58 44.6 +2.6**
	comp=Z,5.0nm,1.0s,comp=Z,66nm					
HAWA	**Hanford**	**55.38**	**57**	*e*P	**P**	**08 58 42.5 +0.6**
	comp=Z,79nm,1.0s					
HAWA				LR	LR	
	comp=Z,822nm,19.0s					
G06A	**Carlson Farm,**	**55.43**	**59**	*e*P	**P**	**08 58 43.4 +1.0**
	comp=Z,296nm,2.1s					
REDWA	**Red Mountain**	**55.48**	**57**	P	**P**	**08 58 43.8 +1.1**
NEW	**Newport**	**55.61**	**54**	*e*P	**P**	**08 58 43.8 +0.1**
	comp=Z,96nm,1.3s					
NEW				LR	LR	
	comp=Z,1μm,19.0s					
NEW	**Newport**	**55.61**	**54**	⇑P	**P**	**08 58 43.5 -0.1**
	baz=55,SNR=46					
BBOR	**Butler Butte**	**55.63**	**62**	P	**P**	**08 58 45.2 +1.2**
CHBT	**CHBT**	**55.63**	**249**	P	**P**	**08 58 46.0 +1.9**
CHBT	**CHBT**	**55.63**	**249**	P	**P**	**08 58 46.4 +2.3**
	comp=Z,54nm,1.3s					
HUMO	**Hull Mountain**	**55.64**	**63**	*e*P	**P**	**08 58 45.1 +1.2**
	comp=Z,117nm,1.4s					
JIRN	**Jiri**	**55.66**	**274**	*e*P	**P**	**08 58 45.3 +0.6**
	comp=Z,44nm,0.5s					
GUN	**Gumba**	**55.70**	**275**	*e*P	**P**	**08 58 45.2 +0.3**
	comp=Z,26nm,0.4s					
KRMB	**Red Mountain**	**55.72**	**64**	*e*P	**P**	**08 58 46.5 +1.9**
	comp=Z,249nm,1.7s					
KTRM	**Thompson Ridge**	**55.80**	**63**	P	**P**	**08 58 46.5 +1.3**
RAMN	**Ramite**	**55.85**	**273**	*e*P	**P**	**08 58 46.7 +0.8**
	comp=Z,29nm,0.3s					
KK31	**Karatay Array**	**56.01**	**299**	*ce*P	**P**	**08 58 46.4 -0.1**
KKAR	**Karatay Array**	**56.01**	**299**	*e*P	**P**	**08 58 46.9 +0.4**
KKAR	**Karatay Array**	**56.01**	**299**	*e*P	**P**	**08 58 46.9 +0.4**
KKN	**Kakani**	**56.18**	**275**	*e*P	**P**	**08 58 49.1 +0.9**
KHMM	**Horse Mountain**	**56.21**	**65**	*e*P	**P**	**08 58 49.8 +1.6**
	comp=Z,130nm,1.2s					
PKI	**Pulchoki**	**56.24**	**275**	*e*P	**P**	**08 58 49.3 +0.6**
PKIN	**Phulchoki**	**56.24**	**275**	*e*P	**P**	**08 58 50.1 +1.4**
APA	**Apatity**	**56.28**	**337**	⇑*i*P	**P**	**08 58 47.0 -1.1**
APA				*i* S	**S**	**09 06 30.0 -4.7**
APA				*i*		09 08 30.0
APA				pmax	pmax	
	comp=Z,64nm,1.5s					
APA				MLR	MLR	
	comp=Z,3μm,19.0s					
YBH	**Yreka Blue Hor**	**56.31**	**63**	*e*P	**P**	**08 58 50.0 +1.2**
	comp=Z,120nm,1.3s					
DMN	**Daman**	**56.41**	**275**	*e*P	**P**	**08 58 50.7 +0.8**
	comp=Z,41nm,0.5s					
ARCES	**ARCESS Array B**	**56.70**	**341**	P	**P**	**08 58 49.8 -1.3**
ARCES	**ARCESS Array B**	**56.70**	**341**	P	**P**	**08 58 49.8 -1.3**
	comp=Z,1.7nm,0.4s,baz=37,slow=7.8,SNR=18					
ARCES				LR	LR	09 27 00.6
	comp=Z,3μm,21.1s,baz=34,slow=40					
DANN	**Dangsing**	**56.82**	**277**	*e*P	**P**	**08 58 53.6 +0.8**
	comp=Z,66nm,0.6s					
WALA	**Waterton Lakes**	**56.84**	**52**	*e*P	**P**	**08 58 52.8 +0.3**
	comp=Z,4.6nm,1.3s					
KIPM	**Iron Peak**	**57.01**	**65**	*e*P	**P**	**08 58 54.8 +0.9**
	comp=Z,128nm,

YBMT Yellow Bay 57.52 53 *eP* **P 08 58 58.6 +1.3**
BMO Blue Mountains 57.55 57 *eP* **P 08 58 58.1 +0.6**
BMO pmax pmax
comp=Z,110nm,1.2s
BMO MLR MLR
comp=Z,592nm,20.0s
BMO Blue Mountains 57.55 57 *eP* **P 08 58 58.1 +0.6**
comp=Z,110nm,1.2s
BMO *e*PcP **PcP 08 59 50.7 +0.2**
BMO *e*PP **PP 09 01 06.8 +1.7**
BMO LR LR
comp=Z,592nm,20.0s
MOD Modoc 57.63 62 *eP* **P 08 58 59.1 +0.9**
comp=Z,312nm,1.0s
SWMT Swartz Lake 57.74 53 *eP* **P 08 58 59.5 +0.6**
PMG Port Moresby 57.76 188 PFAKE 08 59 10.0 +11
PMG LR LR
comp=Z,2µm,19.0s
HOPS Hopland 57.77 66 *eP* **P 08 59 00.3 +1.3**
comp=Z,92nm,1.3s
AB31 Akbulak array 58.10 310 *ceP* **P 08 59 00.3 -0.9**
AB31 pmax pmax
comp=Z,25nm,0.8s
ABKAR Akbulak array 58.10 310 *eP* **P 08 59 00.6 -0.6**
SLMT Seeley Lake 58.18 53 *eP* P 08 58 58.4 -3.6
MSO Missoula 58.19 54 ⇑P **P 08 59 02.4 +0.4**
baz=58,SNR=43
WVOR Wild Horse Val 58.28 60 *eP* **P 08 59 03.2 +0.5**
WVOR pmax pmax
comp=Z,102nm,1.2s
WVOR MLR MLR
comp=Z,506nm,20.0s
WVOR Wild Horse Val 58.28 60 *eP* **P 08 59 03.2 +0.5**
comp=Z,102nm,1.2s
WVOR LR LR
comp=Z,506nm,20.0s
AKTO Aktyubinsk 58.34 312 P **P 08 59 02.9 0.0**
AKTO 08 59 53.3
AKTO Aktyubinsk 58.34 312 P **P 08 59 02.9 0.0**
AKTO PcP **PcP 08 59 53.3 -0.2**
AKTO Aktyubinsk 58.34 312 P **P 08 59 02.9 0.0**
comp=Z,5.8nm,0.6s,baz=54,slow=7.3,SNR=12
AKTO PcP **PcP 08 59 53.3 -0.2**
comp=Z,9.6nm,0.8s,baz=67,slow=6.1,SNR=7.6
AKTO LR LR 09 26 32.0
comp=Z,990nm,18.8s,baz=239,slow=38
CHMT Chamberlain Mo 58.51 53 *eP* **P 08 59 04.6 +0.3**
OHCM Honcut 58.52 65 *eP* **P 08 59 04.4 +0.2**
BEKR Beckworth 58.86 64 *eP* **P 08 59 07.0 +0.1**
comp=Z,77nm,1.4s
BEKR *e*PcP **PcP 08 59 56.4 +0.4**
FFC Flin Flon 59.05 41 P **P 08 59 08.0 +0.3**
comp=Z,533nm,1.0s,SNR=24
FFC Flin Flon 59.05 41 *eP* **P 08 59 08.5 +0.8**
FFC *e* 08 59 20.8
FFC *e* 08 59 57.2
FFC pmax pmax
comp=Z,273nm,1.1s
FFC MLR MLR
comp=Z,789nm,20.0s
FFC Flin Flon 59.05 41 *eP* **P 08 59 08.5 +0.8**
comp=Z,273nm,1.1s
FFC *e* 08 59 20.8
FFC *e*PcP **PcP 08 59 57.2 +1.0**
FFC LR LR
comp=Z,789nm,20.0s
SUMG Summit 59.14 4⇑*iP* **P 08 59 09.0 +0.5**
SUMG pmax pmax
comp=Z,62nm,1.0s
SUMG Summit 59.14 4⇑*iP* **P 08 59 09.0 +0.5**
comp=Z,62nm,1.0s
SUMG Summit 59.14 4 *eP* **P 08 59 09.0 +0.5**
comp=Z,102nm,1.0s
KLMR Klimovskoe 59.25 329 *eP* **P 08 59 07.2 -1.8**
KLMR SS SS 09 11 15.6 +8.0
KLMR pmax pmax
comp=Z,27nm,1.4s
KLMR MLR MLR
comp=Z,2µm,19.0s
MFID Camas Ranch 59.28 58 ⇓P **P 08 59 10.0 +0.4**
baz=59,SNR=36
HRY Holter Researc 59.40 53 *eP* **P 08 59 11.3 +0.9**
PAHR Pah Rah Range 59.55 63 *eP* **P 08 59 12.0 +0.5**
comp=Z,97nm,1.1s
PAHR *e*PP **PP 09 01 23.4 +0.5**
FCC Fort Churchill 59.55 34 *eP* **P 08 59 11.5 +0.5**
FCC Fort Churchill 59.55 34 *eP* **P 08 59 11.5 +0.5**
A19A Klindworth Far 59.59 49 ⇑P **P 08 59 11.7 +0.1**
baz=59,SNR=20
LRM Limekiln Ridge 59.63 54 *eP* **P 08 59 12.7 +0.5**
EGMT Eagleton 59.65 51 *eP* **P 08 59 12.5 +0.4**
comp=Z,240nm,1.5s
EGMT LR LR
comp=Z,1µm,20.0s
EGMT Eagleton 59.65 51 ⇑P **P 08 59 12.0 -0.1**
baz=59,SNR=32
D17A Six Diamond Ra 59.72 52 ⇑P **P 08 59 13.0 +0.4**
baz=60,SNR=42
B19A Brinkman Farms 59.79 50 ⇑P **P 08 59 13.5 +0.5**
baz=60,SNR=46
DLMT Dillon 59.84 55 *eP* **P 08 59 14.0 +0.5**
comp=Z,154nm,1.6s
HLID Hailey 59.98 57 *eP* **P 08 59 15.0 +0.5**
comp=Z,80nm,1.2s
HLID LR LR
comp=Z,639nm,19.0s
HLID Hailey 59.98 57 ⇑P **P 08 59 15.0 +0.5**
baz=60,SNR=75
CMB Columbia Colle 60.00 65 *eP* **P 08 59 14.9 +0.3**
CMB *e* 09 00 01.0
CMB pmax pmax
comp=Z,69nm,1.0s
CMB Columbia Colle 60.00 65 *eP* **P 08 59 14.9 +0.3**
comp=Z,69nm,1.0s
CMB *e*PcP **PcP 09 00 01.0 +0.6**
A20A Cobblestone Ra 60.04 49 ⇓P **P 08 59 15.3 +0.6**
baz=60,SNR=55
MCMT McKenzie Canyo 60.04 55 *eP* **P 08 59 15.2 +0.2**
comp=Z,22nm,1.1s
KSM Kuching 60.05 233 *eP* **P 08 59 16.9 +1.8**
comp=Z,40nm,1.2s
KSM LR LR
comp=Z,577nm,19.0s
SAO San Andreas Ge 60.17 67 *eP* **P 08 59 16.4 +0.7**
SAO pmax pmax
comp=Z,41nm,1.0s
SAO San Andreas Ge 60.17 67 *eP* **P 08 59 16.4 +0.7**
comp=Z,41nm,1.0s
BOZ Bozeman (W) 60.18 54 *eP* **P 08 59 16.9 +1.0**
BOZ pmax pmax
comp=Z,161nm,1.3s
BOZ MLR MLR
comp=Z,682nm,22.0s
BOZ Bozeman (W) 60.18 54 *eP* **P 08 59 16.9 +1.0**
comp=Z,161nm,1.3s
BOZ LR LR
comp=Z,682nm,22.0s
C19A Slack Wire Ran 60.20 51 ⇑P **P 08 59 16.7 +0.8**
baz=60,SNR=54
B20A Solberg Farm, 60.27 49 ⇓P **P 08 59 16.8 +0.5**
baz=60,SNR=7.9
WAKR Walker 60.28 64 *eP* **P 08 59 17.5 +0.8**
JOF Joensuu 60.35 334 *eP* **P 08 59 17.0 +0.5**
JOF pmax pmax
comp=Z,3.0nm,0.3s
JOF Joensuu 60.35 334 *ep* **P 08 59 17.0 +0.5**
comp=Z,2.7nm,0.3s
BMN Battle Mountai 60.36 61 *eP* **P 08 59 18.1 +0.9**
BMN pmax pmax
comp=Z,95nm,0.9s
BMN MLR MLR
comp=Z,669nm,19.0s
BMN Battle Mountai 60.36 61 *eP* **P 08 59 18.1 +0.9**
comp=Z,95nm,0.9s
BMN LR LR
comp=Z,669nm,19.0s
JMIC Jan Mayen 60.43 354 LR LR 09 23 20.1
comp=Z,680nm,20.3s,baz=60,slow=34
FUNA Funafuti 60.65 152 PFAKE 08 59 30.0 +11
FUNA LR LR
comp=Z,18µm,19.0s
D19A Cripps Ranch, 60.66 51 ⇓P **P 08 59 19.9 +0.9**
baz=60,SNR=39
C20A Veseth Ranch, 60.76 50 ⇑P **P 08 59 20.6 +1.0**
baz=60,SNR=77
B21A Ellsworth Farm 60.79 49 ⇑P **P 08 59 20.5 +0.7**
baz=61,SNR=24
QLMT Earthquake Lak 60.81 54 *eP* **P 08 59 21.2 +1.0**
A22A Carney Farms, 60.97 48 ⇑P **P 08 59 21.9 +0.8**
baz=61
NV01 Mina Array Sit 61.01 64 *eP* **P 08 59 21.2 -0.4**
F18A Big Timber 61.04 53 ⇑P **P 08 59 22.5 +0.9**
baz=61,SNR=49
KAPI Kappang 61.09 220 *eP* **P 08 59 21.9 -0.2**
KAPI LR LR
comp=Z,508nm,20.0s
D20A Manuel Ranch, 61.09 51 ⇑P **P 08 59 22.9 +1.0**
baz=61,SNR=74
NV11 Mina Array Sit 61.09 64 *eP* **P 08 59 22.4 +0.2**
NV11 *e*PcP **PcP 09 00 05.2 +0.3**
GCMT Greycliff 61.14 53 *eP* **P 08 59 23.7 +1.4**
comp=Z,102nm,1.4s
GCMT *e* 08 59 35.3
C21A Desert Coulee 61.14 50 ⇓P **P 08 59 23.1 +0.8**
baz=61,SNR=19
E19A Rath Farm, Rou 61.17 52 ⇑P **P 08 59 23.3 +0.8**
baz=61,SNR=39
YMR Madison River 61.17 54 *eP* **P 08 59 23.8 +1.1**
comp=Z,229nm,1.5s
MLAC Mammoth Lakes 61.20 65 ⇑P **P 08 59 24.1 +1.1**
baz=61,SNR=21
YNR Norris Junctio 61.30 54 *eP* **P 08 59 25.7 +2.1**
comp=Z,91nm,1.2s
ELK Elko 61.32 60 *eP* **P 08 59 24.5 +0.8**
comp=Z,316nm,2.3s
YFT Old Faithful 61.38 54 *eP* P 08 59 26.9 +2.7
comp=Z,106nm,1.2s
B22A Reddig Ranch S 61.39 49 ⇑P **P 08 59 24.7 +0.8**
baz=61
I16A Newdale 61.40 55 ⇑P **P 08 59 25.3 +1.1**
baz=61,SNR=35
E20A Meyer Farm, Mu 61.48 51 ⇓P **P 08 59 25.1 +0.6**
baz=61,SNR=40
F19A Roth Farm, Mol 61.48 52 ⇑P **P 08 59 25.4 +0.8**
baz=61,SNR=60
G18A Lazy EL Ranch, 61.50 53 ⇓P **P 08 59 25.4 +0.6**
baz=61,SNR=20
A23A Redstone 61.51 47 ⇑P **P 08 59 25.5 +0.8**
baz=61,SNR=5.5
LKWY Lake 61.55 54 *eP* P 08 59 28.0 +2.8
LKWY pmax pmax
comp=Z,90nm,1.2s
LKWY MLR MLR
comp=Z,1µm,21.0s
LKWY Lake 61.55 54 *eP* P 08 59 28.0 +2.8
comp=Z,90nm,1.2s
LKWY LR LR
comp=Z,1µm,21.0s
MTUM Tungsten Hills 61.55 65 *eP* **P 08 59 25.9 +0.7**
IMW Indian Meadow 61.69 55 *eP* P 08 59 22.7 -3.6
comp=Z,103nm,1.3s
D21A La Casta Ranch 61.70 50 ⇓P **P 08 59 26.7 +0.7**
baz=62,SNR=50
FLWY Flagg Ranch 61.70 55 *eP* **P 08 59 28.5 +2.2**
comp=Z,94nm,1.3s
B23A Brockton 61.78 48 ⇓P **P 08 59 27.0 +0.5**
baz=62,SNR=39
RLMT Red Lodge 61.79 53 *eP* **P 08 59 27.8 +1.0**
comp=Z,218nm,1.5s
RLMT LR LR
comp=Z,916nm,21.0s
C22A Vida 61.81 49 ⇑P **P 08 59 27.1 +0.3**
baz=62,SNR=24
RCTC Rector, Farmer 61.81 66 ⇓P **P 08 59 26.3 -0.5**
baz=62,SNR=14
RRI2 Red Ridge 61.84 56 *eP* **P 08 59 28.6 +1.4**
comp=Z,112nm,1.0s
H18A Shoshone NF, C 61.87 54 ⇓P **P 08 59 28.4 +1.0**
baz=62,SNR=25
I17A Pilgrim Ck. 61.87 55 ⇑P **P 08 59 29.2 +1.8**
baz=62
TPH Tonopah 61.88 63 PFAKE 08 59 40.0 +12
TPH LR LR
comp=Z,470nm,19.0s
MOOW Moose Ponds 61.89 55 *eP* **P 08 59 28.7 +1.1**
comp=Z,101nm,1.4s
F20A Billings 61.93 52 ⇑P **P 08 59 28.5 +0.8**
baz=62,SNR=19
TIN Tinemaha 61.95 65 ⇑P **P 08 59 28.5 +0.7**
baz=62,SNR=6.8
TPAW Teton Pass 61.95 55 *eP* **P 08 59 29.5 +1.5**
comp=Z,148nm,1.1s
A24A Westby 61.96 47 ⇑P **P 08 59 28.3 +0.6**
baz=62,SNR=23
SMMC Simmler 62.00 67 ⇑P **P 08 59 28.7 +0.5**
baz=62,SNR=25
E21A Keefer Ranch, 62.00 51 ⇑P **P 08 59 29.0 +1.0**
baz=62,SNR=24
HVU Hansel Valley 62.05 58 *eP* **P 08 59 30.0 +1.4**
HVU pmax pmax
comp=Z,54nm,1.1s
HVU Hansel Valley 62.05 58 *eP* **P 08 59 30.0 +1.4**
comp=Z,54nm,1.1s
D22A Cohagen 62.06 50 ⇑P **P 08 59 29.0 +0.6**
baz=62,SNR=28
LOHW Long Hollow 62.06 55 *eP* **P 08 59 29.9 +1.2**
comp=Z,150nm,1.4s
SNOW Snow King Moun 62.08 55 *eP* **P 08 59 30.3 +1.5**
comp=Z,124nm,1.2s
SNOW *e* 08 59 42.7
REDW Red Top Meadow 62.09 55 *eP* **P 08 59 30.2 +1.3**
comp=Z,182nm,1.3s
C23A Lambert 62.12 49 ⇑P **P 08 59 29.7 +0.8**
baz=62,SNR=17
DGMT Dagmar 62.17 48 *eP* **P 08 59 29.8 +0.7**
comp=Z,178nm,1.1s
DGMT *e* 08 59 42.6
DGMT LR LR
comp=Z,2µm,21.0s
DGMT Dagmar 62.17 48 ⇑P **P 08 59 29.6 +0.5**
baz=62,SNR=30
VES Vestal, Richgr 62.22 66 ⇓P **P 08 59 29.2 -0.4**
baz=62,SNR=20
H19A Powell 62.24 53 ⇓P **P 08 59 31.0 +1.3**
baz=62,SNR=21
G20A Bridger 62.28 52 ⇑P **P 08 59 30.1 0.0**
baz=62,SNR=31
KBL Kabul 62.28 292 *eP* **P 08 59 30.7 +0.4**
KBL pmax pmax
comp=Z,18nm,1.1s
KBL Kabul 62.28 292 *eP* **P 08 59 30.6 +0.4**
comp=Z,18nm,1.1s
AHID Auburn Hatcher 62.34 56 *eP* **P 08 59 30.8 +0.3**
comp=Z,194nm,1.7s
AHID LR LR
comp=Z,786nm,19.0s
LAO LASA Array 62.34 50 *eP* **P 08 59 31.4 +1.0**
comp=Z,368nm,1.7s
LAO LR LR
comp=Z,1µm,20.0s
A25A Svangstu Ranch 62.38 47 ⇑P **P 08 59 31.4 +0.9**
baz=62,SNR=18
PKM Peak Mountain 62.39 68 ⇑P **P 08 59 31.6 +0.7**
baz=62,SNR=27
BEI Bear River Ran 62.39 57 *eP* **P 08 59 32.2 +1.3**
KAF Kangasniemi 62.42 335 *eP* **P 08 59 28.5 -2.0**
KAF pmax pmax
comp=Z,4.0nm,0.3s
KAF Kangasniemi 62.42 335 *ep* **P 08 59 28.5 -2.0**
comp=Z,4.4nm,0.3s
I18A Diamond G Ranc 62.43 54 ⇓P **P 08 59 32.4 +1.2**
baz=62,SNR=27
CWC Cottonwood Cre 62.44 65 ⇓P **P 08 59 31.6 +0.4**
baz=62,SNR=7.0
F21A Absaloka Mine, 62.46 51 ⇓P **P 08 59 31.8 +0.7**
baz=62,SNR=13
BGU Big Grassy Mou 62.47 59 *eP* **P 08 59 32.2 +0.9**
comp=Z,259nm,2.4s
KULM Kulin 62.47 245 *eP* **P 08 59 32.6 +1.1**
comp=Z,47nm,1.3s
KULM LR LR
comp=Z,380nm,20.0s
GRAC Grapevine Rang 62.50 64 ⇑P **P 08 59 32.2 +0.7**
baz=62,SNR=69
D23A Lindsay 62.54 49 ⇓P **P 08 59 32.6 +0.9**
baz=62,SNR=25
SPUT South Promonto 62.55 58 *eP* **P 08 59 32.7 +0.8**
comp=Z,119nm,1.3s
HDU Hyde Park 62.61 57 *eP* **P 08 59 33.3 +1.0**
E22A Miles City 62.65 50 ⇓P **P 08 59 33.0 +0.6**
baz=62,SNR=20
I19A Meeteetse 62.65 54 ⇓P **P 08 59 33.6 +0.9**
baz=62,SNR=22
R11A Troy Canyon, C 62.68 62 ⇑P **P 08 59 32.9 +0.1**
baz=62,SNR=116
C24A Savage 62.69 48 ⇑P **P 08 59 33.2 +0.6**
baz=62,SNR=12
ISA Isabella 62.71 66 *eP* **P 08 59 32.4 -0.5**
ISA pmax pmax
comp=Z,38nm,1.0s
ISA Isabella 62.71 66 *eP* **P 08 59 32.4 -0.5**
comp=Z,38nm,1.0s
ISA Isabella 62.71 66 ⇓P **P 08 59 32.5 -0.5**
baz=63,SNR=30
COEN Coen 62.73 192 *eP* **P 08 59 32.9 -0.1**
comp=Z,177nm,1.2s
SBC Santa Barbara 62.75 68 ⇑P **P 08 59 33.4 +0.3**
baz=63,SNR=5.9
B25A Knox Farm, Ray 62.81 47 ⇑P **P 08 59 34.0 +0.6**
baz=63
G21A Lodge Grass 62.81 52 ⇑P **P 08 59 33.6 0.0**
baz=63,SNR=8.9
ARVC Arvin 62.84 67 ⇓P **P 08 59 33.1 -0.6**
baz=63,SNR=18
HWUT Hardware Ranch 62.85 57 *eP* **P 08 59 34.9 +0.9**
comp=Z,103nm,1.3s
HWUT LR LR
comp=Z,543nm,21.0s
H20A Greybull 62.89 53 ⇓P **P 08 59 34.3 +0.3**
baz=63,SNR=6.5
A26A Wade Farm, Ken 62.93 46 ⇓P **P 08 59 34.8 +0.6**
baz=63,SNR=11
F22A Rosebud 62.94 51 ⇑P **P 08 59 34.9 +0.6**
baz=63,SNR=31
E23A Ismay 62.94 50 ⇓P **P 08 59 35.3 +1.0**
baz=63,SNR=40
D24A Glendive 63.02 49 ⇑P **P 08 59 35.8 +1.0**
baz=63,SNR=24
FIA1 FINESS Array S 63.03 335 *eP* **P 08 59 34.4 -0.1**
FINES FINESS Array B 63.03 335 P **P 08 59 34.5 -0.1**
FINES FINESS Array B 63.03 335 P **P 08 59 34.5 -0.1**
comp=Z,11nm,0.3s,baz=32,slow=8.1,SNR=101
FINES LR LR 09 29 08.7
comp=Z,3µm,21.9s,baz=29,slow=38
MPMC Manual Prospec 63.05 65 ⇑P **P 08 59 35.6 +0.2**
baz=63,SNR=74
DUG Dugway 63.08 59 *eP* **P 08 59 36.3 +0.9**
DUG pmax pmax
comp=Z,127nm,1.1s
DUG MLR MLR
comp=Z,478nm,21.0s
DUG Dugway 63.08 59 *eP* **P 08 59 36.2 +0.9**
comp=Z,127nm,1.1s
DUG LR LR
comp=Z,478nm,21.0s
DUG Dugway 63.08 59 ⇓P **P 08 59 36.0 +0.6**
baz=63,SNR=112
PUL Pulkovo 63.10 332 *eP* **P 08 59 35.7 +0.7**
PUL pmax pmax
comp=Z,63nm,0.8s
PUL MLR MLR
comp=Z,1µm,22.0s
J19A Crowheart 63.13 54 ⇑P **P 08 59 36.8 +1.0**
baz=63,SNR=36
FURC Furnace Creek, 63.16 65 ⇑P **P 08 59 36.1 +0.4**
baz=63,SNR=138
I20A Worland 63.18 53 ⇑P **P 08 59 37.0 +1.0**
baz=63,SNR=35
B26A Jensen Ranch, 63.19 47 ⇓P **P 08 59 37.1 +1.2**
baz=63
BW06 Boulder Array 63.19 55 *eP* **P 08 59 36.6 +0.3**
comp=Z,107nm,1.3s
BW06 *e* 08 59 49.3
BW06 LR LR
comp=Z,852nm,21.0s
PDAR Pinedale Array 63.19 55 P **P 08 59 36.7 +0.4**
PDAR P'P' 09 28 35.8
PDAR Pinedale Array 63.19 55 P **P 08 59 36.7 +0.4**
comp=Z,51nm,1.0s,baz=295,slow=1.4,SNR=190
PDAR PKPPKP **P'P'df 09 28 35.8 -3.7**
comp=Z,1.5nm,1.1s,baz=90,slow=3.0,SNR=4.8
OSI Osito Adit 63.25 67 *eP* **P 08 59 37.1 +0.6**
comp=Z,100nm,0.8s
OSI Osito Adit 63.25 67 ⇑P **P 08 59 36.9 +0.4**
baz=63,SNR=11
A27A Ledoux Ranch, 63.27 46 ⇑P **P 08 59 37.0 +0.6**
baz=63,SNR=47
G22A Birney 63.30 51 ⇓P **P 08 59 37.2 +0.4**
baz=63,SNR=19
H21A Big Horn, Sher 63.30 52 ⇑P **P 08 59 37.2 +0.4**
baz=63,SNR=51
LRMC Laurel Mountai 63.31 66 ⇑P **P 08 59 36.8 -0.2**
baz=63,SNR=27
CTU Camp Tracy 63.35 58 *eP* **P 08 59 38.4 +1.2**
comp=Z,60nm,1.2s
BLG Laguna Peak 63.37 68 ⇑P **P 08 59 37.2 -0.1**
baz=63,SNR=6.5
E24A Baker 63.41 49 ⇑P **P 08 59 38.0 +0.6**
baz=63,SNR=7.7
F23A Volborg 63.41 50 ⇓P **P 08 59 38.1 +0.6**
baz=63,SNR=34
M17A Scullys Gap (B 63.44 57 ⇑P **P 08 59 38.7 +0.8**
baz=63,SNR=30
L18A Fontenelle, Gr 63.49 56 ⇑P **P 08 59 39.0 +0.8**
baz=63,SNR=40
D25A Fairfield 63.50 48 ⇓P **P 08 59 38.6 +0.6**
baz=63,SNR=8.3
SFJD Kangerlussuaq 63.52 11 *iP* **P 08 59 37.6 -0.1**
comp=Z,25nm,0.9s
SFJD Kangerlussuaq 63.52 11 *eP* **P 08 59 37.9 +0.2**
comp=Z,28nm,0.8s
SFJD LR LR
comp=Z,2µm,20.0s
EDW2 Edwards Air Fo 63.52 67 ⇑P **P 08 59 38.4 0.0**
baz=63,SNR=92
K19A Absolon Red Bu 63.54 55 ⇑P **P 08 59 38.5 0.0**
baz=63,SNR=29
JLU Jordanelle 63.58 58 *eP* **P 08 59 39.8 +0.9**
comp=Z,109nm,1.3s
J20A Shoshoni 63.60 54 ⇑P **P 08 59 39.9 +1.0**
baz=63,SNR=7.5
C26A Wahner Farm, P 63.64 47 ⇑P **P 08 59 39.6 +0.7**
baz=63
B27A Peters Farms, 63.64 46 ⇓P **P 08 59 39.9 +1.0**
baz=63,SNR=19
NLU North Lily Min 63.66 59 *eP* **P 08 59 40.3 +0.9**
comp=Z,66nm,1.0s
H22A Clearmont 63.69 52 ⇓P **P 08 59 39.9 +0.5**
baz=64
I21A Big Trails, Te 63.72 53 ⇓P **P 08 59 40.0 +0.4**
baz=64,SNR=70
DECC Green Verdugo 63.73 67 ⇑P **P 08 59 39.7 0.0**
baz=64,SNR=7.5
L19A Farson 63.75 56 ⇑P **P 08 59 40.4 +0.4**
baz=64,SNR=13
A28A Rude Farm, Bot 63.77 45 ⇑P **P 08 59 40.1 +0.3**
baz=64,SNR=25
G23A Biddle 63.77 51 ⇑P **P 08 59 40.2 +0.3**
baz=64,SNR=24
DAU Daniels Canyon 63.82 58 *eP* **P 08 59 40.6 +0.1**
DAU Daniels Canyon 63.82 58 *eP* **P 08 59 40.6 +0.1**
F24A Ekalaka 63.82 50 ⇓P **P 08 59 40.6 +0.4**
baz=64,SNR=27
MPU Maple Canyon 63.87 59 *eP* **P 08 59 41.7 +0.9**
comp=Z,97nm,1.1s
PASC Pasadena Art C 63.87 67 *eP* **P 08 59 40.9 +0.3**
comp=Z,124nm,1.3s
SHOC Shoshone 63.88 65 ⇓P **P 08 59 41.0 +0.3**
baz=64,SNR=14
E25A Miller Ranch, 63.90 49 ⇑P **P 08 59 41.3 +0.6**
baz=64,SNR=14
MWC Mount Wilson 63.92 67 *eP* **P 08 59 41.2 +0.1**
MWC pmax pmax
comp=Z,152nm,1.1s
MWC Mount Wilson 63.92 67 *eP* **P 08 59 41.2 +0.1**
comp=Z,152nm,1.1s
K20A Yellowstone Ra 63.93 55 ⇑P **P 08 59 40.9 -0.1**
baz=64,SNR=22
J21A Lysite 63.95 53 ⇑P **P 08 59 41.5 +0.3**
baz=64,SNR=24
GSC Goldstone 63.97 66 *eP* **P 08 59 41.5 +0.2**
GSC pmax pmax
comp=Z,67nm,1.0s
GSC Goldstone 63.97 66 *eP* **P 08 59 41.5 +0.2**
comp=Z,67nm,1.0s
GSC Goldstone 63.97 66 ⇓P **P 08 59 41.4 +0.1**
baz=64,SNR=36
C27A Sayler Ranch, 64.00 47 ⇓P **P 08 59 41.9 +0.6**
baz=64,SNR=8.4
B28A Dugan Ranch, T 64.04 46 ⇓P **P 08 59 42.5 +1.0**
baz=64,SNR=22
I22A 9 Mile Ranch, 64.09 53 ⇓P **P 08 59 42.8 +0.8**

baz=64,SNR=26
FMP Fort Macarthur 64.11 68 ⇑P P 08 59 42.2 0.0
baz=64
RRX Edison Barstow 64.13 66 ⇓P P 08 59 42.5 +0.2
baz=64
BFSC Mount Baldy Ra 64.15 67 ⇓P P 08 59 42.3 -0.3
baz=64,SNR=30
SHPR Sheep Range 64.15 64 eP P 08 59 43.1 +0.5
G24A Alzada 64.19 50 ⇑P P 08 59 42.7 0.0
baz=64,SNR=19
H23A Clabaugh Cattl 64.21 51 ⇑P P 08 59 42.9 +0.2
baz=64
A29A Manning Farm, 64.25 45 ⇑P P 08 59 43.3 +0.5
baz=64,SNR=44
CIS Catalina Islan 64.25 68 ⇑P P 08 59 42.8 -0.3
baz=64,SNR=9.7
M19A Rock Springs 64.26 56 ⇓P P 08 59 43.4 +0.1
baz=64,SNR=7.4
F25A Bowman 64.27 49 ⇓P P 08 59 43.7 +0.6
baz=64,SNR=8.8
WCU Willow Creek 64.31 60 eP KiKP PKiKP 09 06 26.3 +1.5
ARUT Antelope Range 64.31 61 eP P 08 59 44.3 +0.6
ARUT Antelope Range 64.31 61 eP P 08 59 44.2 +0.6
L20A Wamsutter 64.37 55 ⇓P P 08 59 44.3 +0.3
baz=64,SNR=31
E26A Carlson Angus 64.39 48 ⇓P P 08 59 44.2 +0.3
baz=64,SNR=20
TUQ Turquoise Moun 64.41 65 ⇓P P 08 59 44.3 0.0
baz=64,SNR=49
D27A Center 64.41 47 ⇑P P 08 59 44.5 +0.5
baz=64,SNR=8.7
J22A Midwest 64.42 53 ⇓P P 08 59 44.6 +0.4
baz=64,SNR=36
SCI San Clemente I 64.45 69 ⇓P P 08 59 44.8 +0.4
baz=64
B29A Wagenman Farm, 64.51 45 ⇓P P 08 59 44.9 +0.4
baz=64,SNR=28
CCUT Cedar City 64.52 62 eP P 08 59 45.8 +0.7
comp=Z,81nm,1.1s
H24A Dirks Ranch, A 64.52 51 ⇓P P 08 59 44.6 -0.2
baz=64,SNR=31
OBN Obninsk 64.54 326 ⇑eP P 08 59 44.2 -0.3
OBN i *PP pP 08 59 56.4 -0.1
OBN i 09 00 18.8
OBN eS S 09 08 19.7 -0.8
OBN pmax pmax
comp=Z,11nm,1.2s
OBN MLR MLR
comp=Z,1µm,20.0s
OBN Obninsk 64.54 326 eP P 08 59 44.2 -0.3
K21A Alcova 64.54 54 ⇑P P 08 59 45.0 -0.1
baz=64,SNR=40
C28A Hausauer Farms 64.54 46 ⇓P P 08 59 45.4 +0.6
baz=64,SNR=12
MVU Marysvale 64.55 60 eP P 08 59 46.2 +0.9
comp=Z,50nm,1.1s
MVU LR LR
comp=Z,709nm,19.0s
HEC Hector,Ludlow 64.57 66 ⇑P P 08 59 45.4 +0.1
baz=64,SNR=79
I23A Meade Ranch, G 64.58 52 ⇓P P 08 59 45.8 +0.5
baz=64
BBRC Big Bear Solar 64.59 66 ⇑P P 08 59 45.4 -0.2
baz=64,SNR=32
TMUT Trail Mountain 64.59 59 eP P 08 59 46.7 +1.0
comp=Z,78nm,1.1s
TMUT e 08 59 59.0
F26A Lodgepole 64.72 49 ⇑P P 08 59 46.1 +0.1
baz=64,SNR=30
G25A Newell 64.80 50 ⇓P P 08 59 46.5 0.0
baz=65,SNR=20
M20A Sweetwater, Wa 64.81 55 ⇓P P 08 59 47.3 +0.4
baz=65,SNR=26
D28A Regan 64.82 47 ⇓P P 08 59 47.5 +0.9
baz=65,SNR=6.0
MDND Maddock 64.83 46 ⇓P P 08 59 47.1 +0.5
baz=65,SNR=18
MURC Murrieta 64.86 67 ⇑P P 08 59 47.1 0.0
baz=65,SNR=36
E27A Carson 64.87 48 ⇓P P 08 59 47.6 +0.6
baz=65,SNR=20
Q16A Castle Valley 64.87 59 eP P 08 59 48.0 +0.7
Q16A Castle Valley 64.87 59 ⇓P P 08 59 47.7 +0.4
baz=65,SNR=32
G27A Dupree 64.92 49 ⇓P P 08 59 50.8 +3.5
baz=65,SNR=6.3
K22A Casper 64.92 54 ⇑P P 08 59 47.7 +0.2
baz=65,SNR=24
J23A Dilts Ranch, B 64.92 52 ⇓P P 08 59 47.4 -0.1
baz=65
L21A Rawlins 64.93 55 ⇓P P 08 59 47.8 +0.2
baz=65,SNR=15
B30A Myrvik Farm, E 65.00 45 ⇓P P 08 59 48.3 +0.5
baz=65,SNR=70
GMRC Granite Mounta 65.01 65 ⇓P P 08 59 48.2 0.0
baz=65,SNR=64
F27A Lemmon 65.03 49 ⇓P P 08 59 48.5 +0.5
baz=65,SNR=15
I24A Kuemmerle Ranc 65.09 52 ⇑P P 08 59 48.5 -0.1
baz=65,SNR=10
O19A Miners Draw (B 65.10 57 ⇓P P 08 59 48.7 0.0
baz=65,SNR=27
H25A Fruitdale 65.10 50 ⇓P P 08 59 48.7 +0.2
baz=65,SNR=13
SRU San Rafael 65.11 59 eP P 08 59 49.4 +0.5
SRU pmax pmax
comp=Z,113nm,1.0s
SRU San Rafael 65.11 59 eP P 08 59 49.4 +0.5
comp=Z,113nm,1.0s
G26A Maurine 65.14 49 ⇑P P 08 59 48.9 +0.1
baz=65,SNR=38
M21A Separation Pea 65.18 55 ⇑P P 08 59 49.7 +0.4
baz=65,SNR=22
E28A Huff 65.20 47 ⇓P P 08 59 49.2 +0.1
baz=65,SNR=10
KNB Kanab 65.20 62 eP P 08 59 50.4 +1.0
KNB pmax pmax
comp=Z,165nm,1.1s
KNB Kanab 65.20 62 eP P 08 59 50.4 +1.0
comp=Z,165nm,1.1s
RWWY Rawlins 65.20 55 eP P 08 59 50.2 +0.7
comp=Z,53nm,1.1s
N20A Spence Gulch, 65.21 56 ⇓P P 08 59 50.0 +0.4
baz=65,SNR=26
RSSD Black Hills 65.22 51 eP P 08 59 49.8 +0.3
RSSD pmax pmax
comp=Z,347nm,1.0s
RSSD Black Hills 65.22 51 eP P 08 59 49.8 +0.3
comp=Z,347nm,1.0s
VSU Vasula 65.26 333 i P P 08 59 49.7 +0.5
VSU pmax pmax
comp=Z,46nm,0.9s
VSU MLR MLR
comp=Z,3µm,20.0s
PFO Pinyon Flat Ob 65.32 67 P P 08 59 49.5 -0.7
comp=Z,199nm,1.3s,SNR=12
PFO Pinyon Flat Ob 65.32 67 eP P 08 59 50.0 -0.2
comp=Z,86nm,1.4s
PFO eP cP PcP 09 00 22.1 -0.1
PFO LR LR
comp=Z,334nm,21.0s
PFO Pinyon Flat Ob 65.32 67 ⇑P P 08 59 50.0 -0.2
baz=65,SNR=20
K23A Bowen Ranch, D 65.33 53 ⇓P P 08 59 49.7 -0.5
baz=65,SNR=8.7
BELC Belle Mtn. Jos 65.33 66 ⇓P P 08 59 49.8 -0.4
baz=65,SNR=26
D29A Pettibone, Tap 65.39 46 ⇓P P 08 59 49.9 -0.4
baz=65,SNR=5.4
L22A Ellis Ranch, M 65.39 54 ⇓P P 08 59 51.3 +0.7
baz=65,SNR=9.9
109C Camp Elliot, M 65.40 68 ⇓P P 08 59 50.6 0.0
baz=65,SNR=14
J24A Dixon Ranch, L 65.44 52 ⇓P P 08 59 50.9 0.0
baz=65,SNR=7.8
I25A Rochford 65.45 51 ⇑P P 08 59 51.0 +0.1
baz=65,SNR=28
C30A Mose, Pekin 65.47 45 ⇑P P 08 59 50.8 0.0
baz=65,SNR=11
VRHR Novokhopersk 65.50 320 eP P 08 59 51.3 +0.4
VRHR pmax pmax
comp=Z,30nm,1.2s
VRHR pmax pmax
comp=N,20nm,0.8s
VRHR pmax pmax
comp=E,20nm,0.9s
VRHR MLR MLR
comp=Z,740nm,22.0s
VRHR MLR MLR
comp=N,180nm,16.0s
VRHR MLR MLR
comp=E,920nm,20.0s
H26A Fairpoint 65.53 50 ⇑P P 08 59 51.4 +0.1
baz=65,SNR=19
P19A Cripple Cowboy 65.63 57 ⇑P P 08 59 52.7 +0.5
baz=65,SNR=45
F28A McLaughlin 65.65 48 ⇑P P 08 59 52.0 0.0
baz=65,SNR=6.2
N21A Black Mountain 65.67 56 ⇑P P 08 59 52.8 +0.3
baz=66,SNR=22
O20A White River Ci 65.70 57 eP P 08 59 53.5 +0.9
O20A White River Ci 65.70 57 ⇑P P 08 59 52.9 +0.2
baz=66,SNR=20
E29A Napoleon 65.71 47 ⇓P P 08 59 52.3 -0.1
baz=66
L23A Garrett 65.73 54 ⇑P P 08 59 52.4 -0.5
baz=66,SNR=5.2
M22A Cedar Creek Ra 65.74 55 ⇓P P 08 59 53.1 +0.1
baz=66,SNR=37
IRM Iron Mountain 65.74 65 ⇑P P 08 59 53.1 +0.3
baz=66,SNR=89
D30A Buchanan 65.76 46 ⇑P P 08 59 52.4 -0.2
baz=66,SNR=20
K24A Anderson Ranch 65.78 53 ⇑P P 08 59 52.5 -0.6
baz=66
BAR Barrett 65.81 68 eP P 08 59 53.6 +0.3
comp=E,74nm,1.0s
MONP Monument Peak 65.83 67 ⇓P P 08 59 53.4 -0.1
baz=66,SNR=18
J25A Sunshine Ranch 65.85 51 ⇑P P 08 59 53.2 -0.2
baz=66,SNR=6.4
W13A Hualapai Mount 65.87 64 ⇓P P 08 59 53.8 -0.1
baz=66,SNR=43
H27A Howes 65.87 50 ⇓P P 08 59 53.6 +0.1
baz=66,SNR=13
I26A New Underwood 65.89 50 ⇑P P 08 59 53.7 +0.1
baz=66,SNR=15
BC3 Big Chuckawall 65.90 66 ⇓P P 08 59 53.6 -0.3
baz=66,SNR=40
U15A North Rim 65.91 62 ⇓P P 08 59 54.5 +0.3
baz=66,SNR=86
P20A De Beque 66.05 57 ⇑P P 08 59 55.0 +0.1
baz=66,SNR=28
O21A Pagoda 66.07 56 ⇑P P 08 59 55.3 +0.2
baz=66,SNR=27
E30A Jud 66.12 46 ⇑P P 08 59 54.6 -0.4
baz=66,SNR=20
G28A Parade 66.14 49 ⇓P P 08 59 55.5 +0.2
baz=66,SNR=7.3
F29A Eureka 66.14 47 ⇓P P 08 59 55.2 0.0
baz=66,SNR=7.2
M23A Laramie 66.17 54 ⇓P P 08 59 55.8 +0.2
baz=66,SNR=10.0
SWSC Sam W. Stewart 66.17 67 ⇓P P 08 59 55.1 -0.5
baz=66,SNR=14
DVTC Desert V Tower 66.18 67 ⇓P P 08 59 55.7 0.0
baz=66,SNR=13
L24A Wheatland 66.19 53 ⇑P P 08 59 55.5 -0.2
baz=66
N22A Wattenberg Ran 66.23 55 ⇓P P 08 59 56.7 +0.6
baz=66,SNR=28
PDMCI Parker Dam,Lak 66.26 65 ⇑P P 08 59 56.1 +0.1
baz=66,SNR=36
AGMN Agassiz Nation 66.26 43 PFAKE 09 00 10.0 +14
AGMN LR LR
comp=Z,942nm,19.0s
I27A Quinn 66.28 50 ⇑P P 08 59 56.5 +0.3
baz=66,SNR=25
J26A Sides Ranch, S 66.28 51 ⇓P P 08 59 56.3 +0.1
baz=66,SNR=17
K25A Mack Ranch, Ha 66.36 52 ⇓P P 08 59 56.8 0.0
baz=66
Y12C Blythe 66.40 65 ⇑P P 08 59 57.2 +0.3
baz=66,SNR=37
PHWY Pilot Hill 66.42 54 eP P 08 59 58.0 +0.6
comp=Z,46nm,1.4s
N23A Red Feather La 66.44 55 ⇑P P 08 59 58.0 +0.5
baz=66,SNR=24
VSR Storozhevoye 66.45 322 eP P 08 59 56.9 -0.1
VSR pmax pmax
comp=Z,20nm,1.1s
VSR pmax pmax
comp=N,10.0nm,1.2s
VSR pmax pmax
comp=E,10.0nm,0.8s
VSR MLR MLR
comp=Z,1µm,18.0s
VSR MLR MLR
comp=N,780nm,14.0s
VSR MLR MLR
comp=E,610nm,15.0s
Q20A Ridgley Place, 66.48 57 ⇓P P 08 59 57.6 -0.1
baz=66,SNR=44
P21A Newcastle 66.56 57 ⇓P P 08 59 58.7 +0.5
baz=66,SNR=18
VORD Divnogorie 66.59 321 eP P 08 59 58.2 +0.4
VORD pmax pmax
comp=E,10.0nm,0.7s
VORD pmax pmax
comp=Z,10.0nm,0.7s
VORD pmax pmax
comp=N,10.0nm,1.3s
VORD MLR MLR
comp=Z,1µm,23.0s
VORD MLR MLR
comp=N,410nm,16.0s
VORD MLR MLR
comp=E,760nm,19.0s
O22A Kremmling 66.62 56 ⇑P P 08 59 58.5 -0.2
baz=66,SNR=13
L25A Engebretsen Ra 66.63 52 ⇑P P 08 59 58.0 -0.5
baz=66
M24A Cheyenne 66.65 54 ⇓P P 08 59 59.3 +0.6
baz=66,SNR=14
K26A Motz Farm, Whi 66.66 52 ⇑P P 08 59 58.7 +0.1
baz=66,SNR=9.8
GLA Glamis 66.69 66 eP P 08 59 59.4 +0.5
GLA pmax pmax
comp=Z,117nm,1.0s
GLA Glamis 66.69 66 eP P 08 59 59.4 +0.5
comp=Z,118nm,1.0s
GLA Glamis 66.69 66 ⇓P P 08 59 59.2 +0.3
baz=66,SNR=28
I28A Midland 66.78 49 ⇓P P 08 59 59.2 -0.1
baz=66,SNR=16
J27A Elkhorn Farm, 66.88 51 ⇑P P 09 00 00.4 +0.4
baz=67,SNR=10
P22A Eagle 66.90 56 ⇓P P 09 00 00.9 +0.6
baz=67,SNR=21
O23A Lake Granby, G 66.93 55 ⇓P P 09 00 01.5 +0.8
baz=67,SNR=21
R20A Redvale 66.97 58 ⇓P P 09 00 01.0 +0.2
baz=67,SNR=33
Q21A Lamborn Mesa, 66.97 57 ⇓P P 09 00 01.4 +0.6
baz=67,SNR=23
N24A Carr 67.07 54 ⇑P P 09 00 02.2 +0.9
baz=67,SNR=11
NB2 NORSAR Subarra 67.07 342 P P 09 00 00.6 -0.2
comp=Z,12nm,0.8s,baz=26,slow=6.5
NB2 NORSAR Subarra 67.07 342 P P 09 00 00.6 -0.2
baz=26,slow=6.5
NOA NORSAR Array B 67.07 342 P P 09 00 00.8 -0.1
NOA NORSAR Array B 67.07 342 P P 09 00 00.8 -0.1
comp=Z,10nm,0.9s,baz=25,slow=6.3,SNR=25
NOA LR LR 09 34 05.4
comp=Z,1µm,18.8s,baz=15,slow=40
SMCO Snowmass 67.07 57 eP P 09 00 02.0 +0.4
comp=Z,37nm,0.9s
WUAZ Wupatki 67.08 62 eP P 09 00 01.8 +0.3
comp=Z,150nm,1.4s
WUAZ LR LR
comp=Z,481nm,20.0s
WUAZ Wupatki 67.08 62 ⇓P P 09 00 02.1 +0.6
baz=67,SNR=53
M25A Palm-Egli Farm 67.08 53 ⇑P P 09 00 02.2 +0.7
baz=67,SNR=7.4
NBO02 NORSAR Array S 67.13 342 eP P 09 00 01.6 +0.3
K27A Flueckinger Fa 67.15 51 ⇑P P 09 00 01.7 -0.1
baz=67,SNR=7.1
J28A Allard Ranch, 67.15 50 ⇓P P 09 00 02.1 +0.3
baz=67,SNR=13
L26A Underwood Farm 67.18 52 ⇓P P 09 00 02.1 +0.2
baz=67
Y14A Wickenburg 67.19 64 ⇓P P 09 00 02.1 0.0
baz=67,SNR=70
S20A Disappointment 67.22 58 ⇓P P 09 00 02.6 +0.1
baz=67,SNR=44
BORG Borgarnes 67.29 358 eP P 09 00 03.5 +1.4
comp=Z,96nm,1.1s
BORG Borgarnes 67.29 358 P P 09 00 03.2 +1.1
comp=Z,50nm,0.9s,baz=335,slow=3.7,SNR=5.6
BORG LR LR 09 29 00.4
comp=Z,580nm,18.6s,baz=202,slow=36
NAO01 NORSAR Array S 67.31 342 eP P 09 00 02.9 +0.5
comp=Z,24nm,1.1s
Q22A Crested Butte, 67.32 57 ⇓P P 09 00 03.7 +0.5
baz=67,SNR=35
HFS Hagfors 67.33 340 P P 09 00 02.9 +0.4
HFS Hagfors 67.33 340 P P 09 00 02.9 +0.4
comp=Z,6.1nm,0.5s,baz=93,slow=3.0,SNR=25
ISCO Idaho Springs 67.39 55 eP P 09 00 04.4 +0.8
ISCO e 09 00 17.6
ISCO pmax pmax
comp=Z,55nm,1.0s
ISCO MLR MLR
comp=Z,978nm,21.0s
ISCO Idaho Springs 67.39 55 eP P 09 00 04.4 +0.8
comp=Z,55nm,1.0s
ISCO e 09 00 17.6
ISCO LR LR
comp=Z,978nm,21.0s
ISCO Idaho Springs 67.39 55 ⇓P P 09 00 04.3 +0.7
baz=67,SNR=62
O24A Longmont 67.46 55 ⇑P P 09 00 05.1 +1.3
baz=67,SNR=12
N25A Grover 67.50 54 ⇓P P 09 00 04.9 +0.8
baz=67
113A Mohawk Valley, 67.53 66 ⇓P P 09 00 04.2 0.0
baz=67,SNR=8.1
L27A T5 Ranch, Ells 67.55 52 ⇓P P 09 00 04.2 -0.1
baz=67
M26A McRoberts Ranc 67.55 53 ⇑P P 09 00 05.5 +1.2
baz=67,SNR=9.0
P23A Jefferson 67.56 56 ⇑P P 09 00 05.8 +1.0
baz=67,SNR=10
BRSD Miller 67.57 48 ⇑P P 09 00 04.1 -0.2
baz=67
MVCO Mesa Verde 67.58 59 eP P 09 00 05.0 +0.3
MVCO pmax pmax
comp=Z,90nm,1.2s
MVCO LR LR
comp=Z,558nm,21.0s
MVCO Mesa Verde 67.58 59 ⇓P P 09 00 04.9 +0.3
baz=67,SNR=36
K28A Ten Mile Ranch 67.59 51 ⇓P P 09 00 04.7 +0.2
baz=67,SNR=7.3
Z14A Wintersburg 67.62 65 ⇑P P 09 00 05.1 +0.4
baz=68,SNR=13
S21A Coal Bank Pass 67.66 58 ⇓P P 09 00 06.0 +0.6
baz=68,SNR=78
HYB Hyderabad 67.79 272 i P P 09 00 06.0 -0.1
X16A Lo Mia Camp, P 67.79 63 ⇑P P 09 00 06.9 +0.8
baz=68,SNR=80
R22A Saguache, Gunn 67.85 57 ⇓P P 09 00 07.5 +1.0
baz=68,SNR=44
Q23A Hartsel 67.89 56 ⇓P P 09 00 07.7 +1.0
baz=68,SNR=15
M27A Reverse DX Ran 67.90 52 ⇑P P 09 00 06.7 +0.2
baz=68
HYA Hoyanger 67.95 344 eP P 09 00 07.4 +1.1
HYA AMB AMB 09 00 08.7
comp=Z,97nm,1.5s
N26A Koester Ranch, 67.96 53 ⇑P P 09 00 07.5 +0.6
baz=68
P24A Kohler Place, 67.97 55 ⇑P P 09 00 08.2 +1.1
baz=68,SNR=13
O25A Wiggins 67.98 54 ⇓P P 09 00 07.8 +0.7
baz=68,SNR=5.5
L28A Connealy Angus 68.02 51 ⇓P P 09 00 07.4 +0.2
baz=68
K29A Lazy Trails An 68.10 50 ⇑P P 09 00 07.9 +0.2
baz=68,SNR=28
MICGM Minsk 68.12 330 eP P 09 00 07.0 -0.5
MNK Minsk 68.14 330 eP P 09 00 07.0 -0.6
MNK e*PP PcP 09 00 37.0 +3.6
MNK e 09 02 34.0
MNK eS S 09 08 56.0 -8.3
MNK MLR MLR
comp=Z,2µm,20.0s
U20A Newcomb 68.14 60 ⇓P P 09 00 08.7 +0.4
baz=68,SNR=7.5
S22A 4UR Ranch, Cre 68.15 58 ⇑P P 09 00 09.3 +0.9
baz=68,SNR=59
Q24A Divide 68.23 56 ⇑P P 09 00 09.2 +0.3
baz=68,SNR=6.0
T21A Navajo Lake 68.28 59 ⇓P P 09 00 10.0 +0.9
baz=68,SNR=11
W18A Petrified Fore 68.31 61 ⇓P P 09 00 10.1 +0.8
baz=68,SNR=13
O26A Horse Wrangler 68.33 54 ⇓P P 09 00 09.8 +0.5
baz=68
N27A Anderson Farm, 68.34 53 ⇑P P 09 00 09.7 +0.4
baz=68,SNR=22
P25A Willow Gulch B 68.38 55 ⇓P P 09 00 10.4 +0.7
baz=68,SNR=24
R23A Moffat 68.40 57 ⇓P P 09 00 10.7 +0.8
baz=68,SNR=38
CTAO Charters Tower 68.42 188 eP P 09 00 09.3 -0.4
CTAO pmax pmax
comp=Z,9.0nm,0.6s
CTAO MLR MLR
comp=Z,986nm,22.0s
CTAO Charters Tower 68.42 188 eP P 09 00 09.3 -0.4
comp=Z,8.9nm,0.6s
CTAO LR LR
comp=Z,986nm,22.0s
EYMN Ely 68.48 41 eP P 09 00 09.6 -0.4
comp=Z,74nm,1.1s
EYMN e 09 00 22.3
EYMN LR LR
comp=Z,1µm,21.0s
OGNE Ogallala 68.51 52 eP P 09 00 11.2 +0.9
comp=Z,482nm,1.4s
OGNE LR LR
comp=Z,911nm,20.0s
OGNE Ogallala 68.51 52 ⇓P P 09 00 10.8 +0.5
baz=68,SNR=16
L29A Maesberg Ranch 68.52 51 ⇓P P 09 00 10.2 -0.1
baz=68,SNR=7.9
M28A Bar X Bar Ranc 68.53 52 ⇓P P 09 00 10.4 0.0
baz=68,SNR=11
V20A Brimhall 68.58 60 ⇑P P 09 00 11.5 +0.5
baz=68,SNR=30
X18A Snowflake 68.60 62 ⇓P P 09 00 11.6 +0.5
baz=68,SNR=62
U21A Nageezi 68.60 59 ⇑P P 09 00 11.4 +0.2
baz=68,SNR=45
T22A Edith 68.62 58 ⇑P P 09 00 12.0 +0.7
baz=68,SNR=36
S23A Nye Farm, Mont 68.64 57 ⇓P P 09 00 12.2 +0.8
baz=68,SNR=29
KONO Kongsberg 68.67 342 eP P 09 00 12.1 +1.3
KONO Kongsberg 68.67 342 eP P 09 00 11.6 +0.7
KONO pmax pmax
comp=Z,41nm,1.1s
KONO MLR MLR
comp=Z,1µm,20.0s
KONO Kongsberg 68.67 342 eP P 09 00 11.6 +0.7
comp=Z,41nm,1.1s
KONO LR LR
comp=Z,1µm,20.0s
214A Organ Pipe Nat 68.68 66 ⇓P P 09 00 11.9 +0.5
baz=68,SNR=41
MAK Makhachkala 68.71 311 eP P 09 00 12.3 +0.9
MAK e 09 02 41.7
MAK eS S 09 09 13.8 +2.4
MAK eSS SS 09 13 36.7 +1.0
MAK pmax pmax
comp=Z,130nm,1.2s
MAK MLR MLR
comp=Z,3µm,18.0s
Q25A Bedland, Calha 68.76 55 ⇑P P 09 00 12.4 +0.3
baz=69,SNR=11
ASK Askoy 68.77 344 eP P 09 00 11.6 +0.2
R24A Sanders Place, 68.77 56 ⇑P P 09 00 12.9 +0.7
baz=69,SNR=22
P26A Davis Ranch, A 68.79 54 ⇑P P 09 00 12.5 +0.3
baz=69,SNR=11
RUND Rundenannen 68.80 344 eP P 09 00 11.8 +0.2
RUND AMB AMB 09 00 13.6
comp=Z,159nm,1.3s
O27A Beecher Island 68.81 53 ⇑P P 09 00 12.4 +0.2
baz=69,SNR=17
BER Bergen 68.83 344 eP P 09 00 12.6 +0.8

AFI Afiamalu 68.83 145 LR LR 09 26 54.8
comp=Z,1µm,19.3s,baz=347,slow=33
M29A Burnside Ranch 68.85 51 ⇑P **P 09 00 12.3 -0.2**
baz=69
SDCO Great Sand Dun 68.90 57 *e*P **P 09 00 13.1 +0.1**
comp=Z,63nm,1.5s
SDCO *e*PP **PP 09 02 44.1 -1.0**
SDCO LR LR
comp=Z,719nm,20.0s
N28A Pribbeno Ranch 68.95 52 ⇓P **P 09 00 13.2 +0.1**
baz=69,SNR=7.6
MSVF Nonsavu 69.02 156 PFAKE 09 00 30.0 +16
MSVF LR LR
comp=Z,2µm,21.0s
ODD1 Odda 69.03 343 *e*P **P 09 00 15.1 +1.9**
ODD1 AMB AMB 09 00 17.7
comp=Z,58nm,1.3s
W20A Ramah 69.03 61 ⇑P **P 09 00 14.0 +0.1**
baz=69,SNR=42
V21A Milan 69.05 60 ⇓P **P 09 00 14.2 +0.3**
baz=69,SNR=12
T23A Casias Ranch, 69.10 58 ⇓P **P 09 00 14.7 +0.4**
baz=69,SNR=12
U22A Llaves 69.10 59 ⇑P **P 09 00 15.0 +0.7**
baz=69,SNR=29
S24A Houchin Ranch, 69.13 57 ⇓P **P 09 00 15.3 +0.7**
baz=69,SNR=21
Q26A Hugo 69.15 55 ⇓P **P 09 00 14.7 +0.3**
baz=69,SNR=27
M30A Dale-Ortello V 69.21 51 ⇑P **P 09 00 14.0 -0.6**
baz=69
P27A Ficken Ranch, 69.21 54 ⇓P **P 09 00 14.6 -0.2**
baz=69,SNR=13
ECSD EROS Data Cent 69.24 47 *e*P **P 09 00 14.5 -0.3**
comp=Z,86nm,1.0s
ECSD LR LR
comp=Z,1µm,20.0s
R25A Fountain Ranch 69.29 56 ⇓P **P 09 00 15.5 +0.2**
baz=69,SNR=15
N29A Votaw Ranch, W 69.34 52 ⇓P **P 09 00 14.8 -0.6**
baz=69
V22A San Miguel Ran 69.39 59 ⇓P **P 09 00 16.5 +0.4**
baz=69,SNR=34
X20A Quemado 69.44 61 ⇑P **P 09 00 17.3 +0.9**
baz=69,SNR=67
T24B San Luis 69.45 57 ⇓P **P 09 00 17.2 +0.8**
baz=69,SNR=26
U23A El Rito 69.51 58 ⇑P **P 09 00 17.6 +0.9**
baz=69,SNR=81
BLS5 Blasjo 69.52 343 *e*P **P 09 00 17.4 +1.2**
BLS5 AMB AMB 09 00 18.7
comp=Z,32nm,1.4s
W21A San Fidel 69.53 60 ⇑P **P 09 00 17.3 +0.4**
baz=69
S25A Robets Cordova 69.55 56 ⇓P **P 09 00 17.0 0.0**
baz=69,SNR=9.7
KSCO Kaye Shedlock' 69.58 54 *e*P **P 09 00 17.7 +0.7**
KSCO Kaye Shedlock' 69.58 54 ⇑P **P 09 00 17.2 +0.2**
baz=69,SNR=10
N30A Hueftle Ranch, 69.63 51 ⇓P **P 09 00 16.5 -0.7**
baz=69
R26A Arlington 69.64 55 ⇓P **P 09 00 17.5 +0.1**
baz=69,SNR=26
P28A Saint Francis 69.64 53 ⇑P **P 09 00 17.2 -0.2**
baz=69,SNR=8.9
TUC Tucson 69.66 64 *e*P **P 09 00 17.4 -0.2**
TUC pmax pmax
comp=Z,59nm,1.2s
TUC MLR MLR
comp=Z,397nm,19.0s
TUC Tucson 69.66 64 *e*P **P 09 00 17.4 -0.2**
comp=Z,59nm,1.2s
TUC LR LR
comp=Z,397nm,19.0s
O29A 4D Ranch, Culb 69.75 52 ⇑P **P 09 00 17.7 -0.2**
baz=70,SNR=15
X21A Alamocita Cree 69.93 61 ⇓P **P 09 00 20.4 +1.0**
baz=70,SNR=89
V23A Ortiz Mt. (NFS 69.93 59 ⇑P **P 09 00 20.7 +1.4**
baz=70,SNR=32
T25A Trinidad 69.94 57 ⇓P **P 09 00 19.7 +0.4**
baz=70,SNR=24
SPMN St. Paul 69.95 44 ⇑P **P 09 00 18.9 -0.1**
baz=70,SNR=18
Y20A Horse Springs, 69.96 61 ⇓P **P 09 00 20.6 +1.0**
baz=70,SNR=76
Q28A Sharon Springs 69.97 54 ⇑P **P 09 00 19.2 -0.2**
baz=70
U24A Moreno Valley 69.97 58 ⇓P **P 09 00 20.8 +1.2**
baz=70,SNR=26
R27A Eads 70.00 55 ⇓P **P 09 00 19.4 -0.3**
baz=70,SNR=16
W22A Albuquerque 70.02 60 ⇓P **P 09 00 20.9 +1.1**
baz=70,SNR=6.5
P29A Atwood 70.06 53 ⇓P **P 09 00 19.5 -0.4**
baz=70,SNR=13
SUW Suwalki 70.07 332 *e*P **P 09 00 20.1 +0.5**
SUW LMZ LR 09 30 19.2
O30A MW Ranch, Wils 70.10 52 ⇓P **P 09 00 19.8 -0.4**
baz=70,SNR=14
S26A Kim 70.11 56 ⇑P **P 09 00 20.2 -0.2**
baz=70,SNR=13
BGNE Belgrade 70.19 50 ⇑P **P 09 00 19.8 -0.8**
baz=70,SNR=7.7
WRAB Tennant Creek 70.20 200 P **P 09 00 20.9 +0.2**
comp=Z,234nm,1.5s,SNR=14
WRAB Tennant Creek 70.20 200 *e*P **P 09 00 20.1 -0.6**
WRAB pmax pmax
comp=Z,96nm,1.4s
WRAB MLR MLR
comp=Z,2µm,21.0s
WRAB Tennant Creek 70.20 200 *e*P **P 09 00 20.1 -0.6**
comp=Z,96nm,1.4s
WRAB LR LR
comp=Z,2µm,21.0s
WRA Warramunga Arr 70.21 200 P **P 09 00 20.3 -0.5**
WRA Warramunga Arr 70.21 200 P **P 09 00 20.3 -0.5**
comp=Z,38nm,1.1s,baz=16,slow=6.4,SNR=86
WRA LR LR 09 31 21.4
comp=Z,235nm,18.6s,baz=10.0,slow=36
Y21A Point of Rocks 70.30 61 ⇑P **P 09 00 22.7 +1.0**
baz=70,SNR=42
LAZ Ladron 70.33 60 *e*P **P 09 00 22.7 +0.9**
X22A Bernardo 70.33 60 ⇓P **P 09 00 23.4 +1.6**
baz=70,SNR=17
KIV Kislovodsk 70.34 315*c i*P **P 09 00 21.3 -0.3**
KIV *e*S **S 09 09 33.6 +2.8**
KIV pmax pmax
comp=Z,32nm,1.1s
KIV MLR MLR
comp=Z,2µm,23.0s
ANMO Albuquerque 70.34 59 *e*P **P 09 00 21.5 -0.4**
comp=Z,34nm,1.1s
ANMO LR LR
comp=Z,492nm,19.0s
T26A Comanche Natio 70.36 56 ⇑P **P 09 00 21.6 -0.4**
baz=70,SNR=36
W23A Werner Place, 70.36 59 ⇓P **P 09 00 22.8 +0.8**
baz=70,SNR=18
S27A Las Animas 70.38 55 ⇑P **P 09 00 21.6 -0.4**
baz=70
KBZ Khabaz 70.41 314 P **P 09 00 22.4 +0.5**
KBZ Khabaz 70.41 314 P **P 09 00 22.4 +0.5**
KBZ Khabaz 70.41 314 P **P 09 00 22.4 +0.5**
comp=Z,7.4nm,0.8s,baz=47,slow=6.4,SNR=14
KBZ LR LR 09 34 36.3
comp=Z,2µm,21.6s,baz=32,slow=39
P30A Selden 70.46 52 ⇑P **P 09 00 21.9 -0.5**
baz=70,SNR=19
V24A Rampart Ranch, 70.46 58 ⇑P **P 09 00 23.5 +0.9**
baz=70,SNR=32
U25A Circle Dot Ran 70.47 57 ⇓P **P 09 00 22.8 +0.1**
baz=70,SNR=32
R28A Tribune 70.50 54 ⇓P **P 09 00 22.4 -0.3**
baz=70,SNR=14
Q29A Oakley 70.55 53 ⇑P **P 09 00 22.7 -0.2**
baz=70,SNR=17
LENM Lemitar 70.60 60 *e*P **P 09 00 24.1 +0.7**
ZEI Tsey 70.63 313 *e*P **P 09 00 22.0 -1.5**
ZEI pmax pmax
comp=Z,19nm,1.4s
LPM Los Pinos Moun 70.69 60 *e*P **P 09 00 24.9 +0.9**
Y22D IRIS PASSCAL I 70.69 60 ⇑P **P 09 00 25.0 +1.0**
baz=70
AKASG Malin Array Be 70.75 327 P **P 09 00 23.2 -0.6**
AKASG Malin Array Be 70.75 327 P **P 09 00 23.2 -0.6**
AKASG Malin Array Be 70.75 327 P **P 09 00 23.2 -0.6**
comp=Z,16nm,0.7s,baz=32,slow=6.3,SNR=23
AKASG LR LR 09 35 48.9
comp=Z,1µm,19.0s,baz=40,slow=40
W24A Lazy 6 Ranch, 70.75 59 ⇓P **P 09 00 25.3 +0.9**
baz=71,SNR=48
X23A Hourglass Bar 70.76 60 ⇑P **P 09 00 25.0 +0.5**
baz=71,SNR=41
KIEV Kiev 70.76 327 *e*P **P 09 00 23.3 -0.6**
KIEV pmax pmax
comp=Z,15nm,0.7s
KIEV MLR MLR
comp=Z,1µm,20.0s
KIEV Kiev 70.76 327 *e*P **P 09 00 23.3 -0.6**
comp=Z,15nm,0.7s
KIEV LR LR
comp=Z,1µm,20.0s
Y22A Socorro 70.77 61 ⇓P **P 09 00 25.0 +0.6**
baz=71,SNR=35
120A U Bar Ranch, L 70.78 63 ⇑P **P 09 00 25.2 +0.7**
baz=71,SNR=55
Z21A St. Cloud Mine 70.80 61 ⇓P **P 09 00 25.5 +0.8**
baz=71,SNR=64
R29A Marienthal 70.80 54 ⇓P **P 09 00 24.2 -0.2**
baz=71,SNR=24
BNM Barren Site 70.81 60 *e*P **P 09 00 25.6 +0.8**
comp=Z,85nm,1.7s
BNM *e*PP **PP 09 03 02.5 +0.9**
DZM Mont Dzumac 70.84 168 *e*S **S 09 09 41.3 +4.5**
comp=Z,1µm,30.2s
DZM *e*SS **SS 09 14 12.6 +2.2**
comp=Z,459nm,31.1s
DZM *e*LR LR 09 22 06.6
comp=Z,3µm,25.8s
U26A Atchley Ranch, 70.84 57 ⇓P **P 09 00 24.9 0.0**
baz=71,SNR=12
T27A Campo 70.93 56 ⇓P **P 09 00 25.2 -0.2**
baz=71,SNR=8.2
P31A Stockton 70.94 52 ⇓P **P 09 00 24.4 -0.8**
baz=71
S28A Manter 71.00 55 ⇓P **P 09 00 25.6 -0.1**
baz=71,SNR=17
319A Douglas 71.22 64 ⇓P **P 09 00 27.8 +0.6**
baz=71,SNR=66
T28A Walsh 71.22 55 ⇓P **P 09 00 26.8 -0.3**
baz=71,SNR=16
V26A Tequesquite Ra 71.25 57 ⇓P **P 09 00 26.9 -0.4**
baz=71,SNR=14
Z22A Elephant Butte 71.25 61 ⇓P **P 09 00 28.0 +0.6**
baz=71,SNR=42
ILAS Lasjerd 71.28 302 *e*P **P 09 00 28.5 +0.9**
121A Cookes Peak, D 71.29 62 ⇓P **P 09 00 28.3 +0.6**
baz=71,SNR=47
W25A X Bar L Ranch, 71.29 58 ⇑P **P 09 00 27.8 +0.2**
baz=71,SNR=36
220A Playas Peak, P 71.30 63 ⇓P **P 09 00 28.1 +0.4**
baz=71,SNR=50
Y23A Lovelace Mesa, 71.30 60 ⇑P **P 09 00 28.1 +0.5**
baz=71,SNR=39
Q31A Ellis 71.31 52 ⇓P **P 09 00 26.8 -0.7**
baz=71,SNR=6.0
U27A Thompson Grove 71.33 56 ⇓P **P 09 00 27.5 -0.3**
baz=71,SNR=18
R30A Dighton 71.37 53 ⇑P **P 09 00 27.5 -0.3**
baz=71,SNR=26
S29A Ulysses 71.40 54 ⇑P **P 09 00 28.0 -0.1**
baz=71,SNR=9.7
BSD Bornholm Skovb 71.50 337 *i* P **P 09 00 29.3 +1.0**
BSD pmax pmax
comp=Z,37nm,0.9s
BSD MLR MLR
comp=Z,1µm,17.0s
BSD Bornholm Skovb 71.50 337 *i* P **P 09 00 29.3 +1.0**
comp=Z,37nm,0.9s
BSD
comp=Z,1µm,16.0s
SCHQ Schefferville 71.59 24 *e*P **P 09 00 29.7 +0.8**
comp=Z,81nm,1.1s
SCHQ *e* 09 00 41.4
SCHQ Schefferville 71.59 24 P **P 09 00 29.2 +0.3**
comp=Z,50nm,1.1s,baz=351,slow=6.5,SNR=17
SCHQ LR LR 09 35 53.2
comp=Z,716nm,18.3s,baz=185,slow=39
COP Copenhagen 71.62 338 *i* P **P 09 00 28.8 -0.2**
COP pmax pmax
comp=Z,29nm,0.9s
COP MLR MLR
comp=Z,790nm,24.0s
COP Copenhagen 71.62 338 *i* P **P 09 00 28.8 -0.2**
comp=Z,29nm,0.8s
COP
comp=Z,790nm,24.0s
122A Conniff Cattle 71.63 61 ⇑P **P 09 00 30.7 +1.0**
baz=72,SNR=19
T29A Hugoton 71.64 55 ⇑P **P 09 00 29.2 -0.3**
baz=71,SNR=7.4
Y24A Capitan 71.66 60 ⇓P **P 09 00 30.3 +0.4**
baz=72,SNR=33
221A Mesquite Ranch 71.67 62 ⇑P **P 09 00 30.5 +0.7**
baz=72,SNR=35
X25A Clemmons Ranch 71.67 59 ⇑P **P 09 00 30.5 +0.6**
baz=72,SNR=28
Z23A Rita Site, Whi 71.68 61 ⇑P **P 09 00 30.3 +0.4**
baz=72,SNR=27
320A Kipp Ranch, An 71.70 63 ⇑P **P 09 00 30.6 +0.6**
baz=72,SNR=34
U28A Mallet 71.70 56 ⇓P **P 09 00 29.7 -0.2**
baz=72
S30A Montezuma 71.74 54 ⇑P **P 09 00 29.7 -0.5**
baz=72,SNR=16
R31A Burdett 71.76 53 ⇓P **P 09 00 29.3 -0.9**
baz=72,SNR=10
W26A Owens Ranch, T 71.77 58 ⇑P **P 09 00 31.1 +0.6**
baz=72,SNR=7.6
V27A Dan Oppiter Fa 71.81 57 ⇑P **P 09 00 30.7 0.0**
baz=72,SNR=6.9
222A Williams Famil 72.00 62 ⇑P **P 09 00 32.5 +0.7**
baz=72,SNR=18
LLD Lille Linde 72.00 338 *i* P **P 09 00 32.3 +1.1**
LLD pmax pmax
comp=Z,80nm,0.8s
LLD Lille Linde 72.00 338 *i* P **P 09 00 32.3 +1.1**
comp=Z,80nm,0.8s
SOC Sochi 72.02 316*c i*P **P 09 00 30.9 -0.7**
SOC *e**PP **PcP 09 00 47.3 -2.7**
SOC *e*S **S 09 09 49.7 -0.3**
SOC pmax pmax
comp=Z,34nm,1.1s
SOC MLR MLR
comp=Z,2µm,15.0s
Y25A Mesa, Roswell 72.09 59 ⇓P **P 09 00 32.6 +0.3**
baz=72,SNR=45
123A Bell Site, Whi 72.11 61 ⇓P **P 09 00 32.9 +0.4**
baz=72,SNR=16
ANN Anapa 72.12 318 *e*P **P 09 00 30.4 -1.7**
ANN *e**PP **PcP 09 00 47.5 -2.8**
ANN *e*S S 09 09 44.9 -6.2
ANN pmax pmax
comp=Z,83nm,1.3s
ANN MLR MLR
comp=N,633nm,18.0s
ANN MLR MLR
comp=E,267nm,18.0s
ANN MLR MLR
comp=Z,757nm,18.0s
Z24A Sheeppen Canyo 72.13 60 ⇓P **P 09 00 33.0 +0.3**
baz=72,SNR=33
T30A Plains 72.14 54 ⇑P **P 09 00 31.9 -0.6**
baz=72
X26A CR and CF Fran 72.14 58 ⇑P **P 09 00 32.8 +0.1**
baz=72,SNR=17
V28A Channing 72.16 56 ⇑P **P 09 00 32.4 -0.4**
baz=72,SNR=5.6
U29A Oasis Ranch, S 72.17 55 ⇓P **P 09 00 32.0 -0.7**
baz=72
GNI Garni 72.19 311 *e*P **P 09 00 34.5 +1.7**
comp=Z,53nm,1.2s
GNI Garni 72.19 311 LR LR 09 36 00.9
comp=Z,2µm,20.1s,baz=36,slow=39
W27A Bowe Ranch, En 72.19 57 ⇓P **P 09 00 32.7 -0.2**
baz=72
SCIA State Center 72.27 46 *e*P **P 09 00 33.2 +0.1**
comp=Z,174nm,1.1s
SCIA *e* 09 00 45.2
SCIA LR LR
comp=Z,877nm,21.0s
S31A Mullinville 72.28 53 ⇑P **P 09 00 32.0 -1.3**
baz=72,SNR=7.0
U30A WK&E Inc. Balk 72.45 55 ⇑P **P 09 00 33.7 -0.7**
baz=72,SNR=5.6
V29A Stinnett 72.46 56 ⇓P **P 09 00 34.0 -0.5**
baz=72
223A Chaparral, Ant 72.46 62 ⇑P **P 09 00 35.2 +0.6**
baz=72
X27A F and S Farms, 72.47 58 ⇑P **P 09 00 35.0 +0.4**
baz=72,SNR=13
W28A Vega 72.53 57 ⇑P **P 09 00 34.9 0.0**
baz=72,SNR=5.4
124A Stringfield Ra 72.53 60 ⇑P **P 09 00 35.2 +0.1**
baz=72,SNR=20
Z25A Roswell 72.54 60 ⇓P **P 09 00 35.4 +0.3**
baz=72,SNR=27
T31A Randall Ranch, 72.56 54 ⇑P **P 09 00 34.1 -0.9**
baz=72,SNR=11
Y26A Elida 72.58 59 ⇓P **P 09 00 35.5 +0.1**
baz=72,SNR=18
BEL Belsk 72.68 332 *e*P **P 09 00 36.2 +0.8**
BEL LMZ LR 09 32 29.8
KSU1 Kansas State U 72.69 50 PFAKE 09 00 50.0 +14
KSU1 LR LR
comp=Z,2µm,20.0s
MVH1 Achvaich 72.70 348⇑*e*P **P 09 00 34.9 -0.5**
IMRD Marand 72.77 309 *e*P **P 09 00 36.4 0.0**
JFWS Jewell Farm 72.90 44 *e*P **P 09 00 36.3 -0.6**
JFWS pmax pmax
comp=Z,161nm,2.1s
JFWS MLR MLR
comp=Z,997nm,20.0s
JFWS Jewell Farm 72.90 44 *e*P **P 09 00 36.3 -0.6**
comp=Z,162nm,2.1s
JFWS LR LR
comp=Z,997nm,20.0s
MCD Coleburn Disti 72.91 348⇑*i*P **P 09 00 36.0 -0.6**
W29A Amraillo 72.94 56 ⇑P **P 09 00 37.4 0.0**
baz=73
224A Cornudas Mount 72.94 61 ⇓P **P 09 00 37.7 +0.2**
baz=73,SNR=32
Z26A Caprock 72.97 59 ⇑P **P 09 00 37.8 +0.2**
baz=73,SNR=55
Y27A Causey 72.99 58 ⇓P **P 09 00 37.9 +0.2**
baz=73,SNR=46
V30A Spur Ranch, Mi 73.00 55 ⇓P **P 09 00 37.1 -0.6**
baz=73
U31A Nine Bar Ranch 73.00 54 ⇑P **P 09 00 37.3 -0.4**
baz=73
125A Gardner Draw, 73.03 60 ⇑P **P 09 00 38.2 +0.3**
baz=73,SNR=38
DBAD Bademkaya 73.04 313 *i* P **P 09 00 40.1 +2.2**
X28A Dimmitt 73.07 57 ⇓P **P 09 00 38.1 -0.1**
baz=73,SNR=15
DDEM Demirkent 73.11 313 *i* P **P 09 00 40.5 +2.2**
MME1 Meikle Cairn 73.12 347⇑*i*P **P 09 00 37.3 -0.7**
MSTX Muleshoe 73.15 58 *e*P **P 09 00 39.0 +0.4**
comp=Z,82nm,1.1s
MSTX Muleshoe 73.15 58 ⇓P **P 09 00 38.2 -0.5**
baz=73,SNR=30
MDO Dochfour 73.20 348⇑*i*P **P 09 00 38.1 -0.3**
KAC Achnashellach 73.27 349⇑*i*P **P 09 00 38.1 -0.7**
MNTX Cornudas Mount 73.30 61 *e*P **P 09 00 39.5 0.0**
comp=Z,52nm,1.4s
MNTX LR LR
comp=Z,392nm,21.0s
225A Deer Hill, Car 73.33 60 ⇑P **P 09 00 39.9 +0.1**
baz=73,SNR=21
LVV L'vov 73.34 329 *e*P **P 09 00 38.9 -0.4**
LVV MLR MLR
comp=N,700nm,22.0s
LVV MLR MLR
comp=E,600nm,22.0s
LVV MLR MLR
comp=Z,1µm,22.0s
EIDS Eidsvold 73.34 183 *e*P **P 09 00 39.8 +0.3**
comp=Z,28nm,1.1s
EIDS *e* 09 00 53.5
Z27A Tatum 73.38 59 ⇓P **P 09 00 39.9 -0.1**
baz=73,SNR=58
126A Clayton Basin, 73.40 60 ⇓P **P 09 00 40.0 -0.2**
baz=73,SNR=11
X29A Tulia 73.40 57 ⇓P **P 09 00 40.3 +0.2**
baz=73,SNR=42
324A Moseley Ranch, 73.43 61 ⇑P **P 09 00 40.4 +0.1**
baz=73,SNR=18
DRUM Mains of Drumt 73.44 347⇑*e*P **P 09 00 39.4 -0.3**
DRUM AMB AMB 09 00 41.1
comp=Z,84nm,1.5s
SIM Simferopol' 73.45 320 *e*P **P 09 00 41.0 +0.9**
SIM pmax pmax
comp=Z,25nm,1.3s
SIM MLR MLR
comp=Z,500nm,13.0s
V31A Spring Creek L 73.45 55 ⇓P **P 09 00 40.6 +0.3**
baz=73,SNR=26
KPL Plockton 73.47 349⇑*e*P **P 09 00 39.6 -0.3**
KPL AMB AMB 09 00 41.5
comp=Z,88nm,1.3s
W30A Crocket Farms 73.48 56 ⇓P **P 09 00 41.0 +0.4**
baz=73
Y28A McKinney Farm, 73.49 58 ⇑P **P 09 00 40.3 -0.3**
baz=73,SNR=11
KSB Sheil Bridge 73.56 349⇑*i*P **P 09 00 40.1 -0.4**
BSEG Bad Segeberg 73.73 339 *e*P **P 09 00 42.3 +0.8**
comp=Z,68nm,1.2s
BSEG Bad Segeberg 73.73 339 *e*P **P 09 00 42.3 +0.8**
BSEG pmax pmax
comp=Z,68nm,1.2s
226B Tecolote Peak, 73.73 60 ⇓P **P 09 00 42.1 0.0**
baz=74,SNR=42
127A Arkansas Junct 73.76 59 ⇓P **P 09 00 41.8 -0.4**
baz=74,SNR=7.5
325A Bean Ranch, Si 73.78 61 ⇓P **P 09 00 42.4 -0.1**
baz=74,SNR=16
W31A Holland Ranch, 73.83 55 ⇓P **P 09 00 42.6 +0.1**
baz=74,SNR=18
Y29A Porterfield Fa 73.85 57 ⇑P **P 09 00 42.7 -0.1**
baz=74,SNR=17
X30A Coker Ranch, T 73.86 56 ⇓P **P 09 00 42.7 0.0**
baz=74,SNR=14
Z28A Tucker Farm, M 73.87 58 ⇑P **P 09 00 42.5 -0.3**
baz=74,SNR=14
AS01 Alice Springs 73.89 199 *e*P **P 09 00 42.4 -0.3**
AS31 Alice Springs 73.90 199 *e*P **P 09 00 43.5 +0.7**
ASAR Alice Springs 73.91 199 P **P 09 00 43.1 +0.3**
ASAR Alice Springs 73.91 199 P **P 09 00 43.1 +0.3**
comp=Z,15nm,1.0s,baz=14,slow=5.4,SNR=107
ASAR LR LR 09 28 48.2
comp=Z,980nm,21.0s,baz=13,slow=32
KIS Kishinev 73.95 325 *e*P **P 09 00 41.0 -1.9**
comp=Z,200nm,2.0s
KIS *e*S S 09 10 18.0 +6.2
KIS *e*LR LR 09 26 50.0
comp=Z,1µm,22.0s
KIS Kishinev 73.95 325 *e*P **P 09 00 41.0 -1.9**
KIS *e* 09 00 50.0
KIS *e* 09 03 28.0
KIS *e*S S 09 10 18.0 +6.2
KIS pmax pmax
comp=Z,200nm,2.0s
KIS MLR MLR
comp=Z,1µm,17.0s
KIS MLR MLR
comp=N,1µm,20.0s
KIS MLR MLR
comp=Z,1µm,22.0s
KWP Kalwaria Pacla 73.95 330 ⇓P **P 09 00 43.0 +0.1**
KWP Kalwaria Pacla 73.95 330 *e*P **P 09 00 43.8 +0.8**
comp=Z,220nm,1.4s
KWP LR LR
comp=Z,2µm,19.0s
KWP Kalwaria Pacla 73.95 330⇓*i*P **P 09 00 43.0 +0.1**
KWP Kalwaria Pacla 73.95 330 *e*P **P 09 00 43.8 +0.8**
KWP LMZ LR 09 30 46.5
RUE Ruedersdorf 74.17 336 *e*P **P 09 00 44.9 +0.8**
comp=Z,78nm,0.9s
425A Indio Mountain 74.19 62 ⇑P **P 09 00 45.1 +0.2**
baz=74,SNR=38
X31A McDonald Ranch 74.22 56 ⇑P **P 09 00 44.8 0.0**
baz=74,SNR=27
Y30A Stafford Cattl 74.27 57 ⇑P **P 09 00 45.1 0.0**
baz=74,SNR=38
Z29A Hungry Hill Ra 74.27 58 ⇓P **P 09 00 45.3 +0.1**
baz=74,SNR=36
227A Bennet, Jal 74.28 60 ⇑P **P 09 00 45.4 +0.1**
baz=74
128A Castleberry Fa 74.30 59 ⇑P **P 09 00 45.2 -0.2**
baz=74,SNR=28
326A Caldwell Ranch 74.40 60 ⇑P **P 09 00 46.3 +0.4**

baz=74,SNR=43
KOPT Kop Dagi 74.40 313 *i* P P 09 00 49.8 +3.7
OJC Ojcow 74.40 332⇑ *eP* **P 09 00 45.6 +0.1**
OJC *e**PP **pP 09 00 56.0 -1.7**
OJC Ojcow 74.40 332 *eP* **P 09 00 45.6 +0.1**
OJC *e*pP **pP 09 00 56.0 -1.7**
OJC L L 09 37 20.0
comp=Z,2µm,19.0s
EAB Aberfoyle 74.41 348⇑ *iP* **P 09 00 45.5 0.0**
ESY Stoneypath 74.42 347⇑ *iP* **P 09 00 45.0 -0.5**
EDI Edinburgh 74.50 347 *eP* **P 09 00 44.9 -1.1**
EDI pmax pmax
comp=Z,20nm,0.8s
EDI Edinburgh 74.50 347 *eP* **P 09 00 44.9 -1.1**
comp=Z,20nm,0.8s
Y31A Rekieta Farm, 74.56 56 ⇑P **P 09 00 46.4 -0.4**
baz=74,SNR=18
Z30A Sanderson Ranc 74.58 57 ⇑P **P 09 00 46.8 -0.1**
baz=74,SNR=26
228A UT Block 9, Go 74.61 59 ⇓P **P 09 00 46.9 -0.3**
baz=74,SNR=12
EBL Broad Law 74.62 347⇑ *eP* **P 09 00 46.8 0.0**
STHS Stebnicka Huta 74.62 330 *eP* **P 09 00 48.2 +1.3**
STHS pmax pmax
comp=Z,50nm,1.5s
STHS Stebnicka Huta 74.62 330 *eP* **P 09 00 48.2 +1.3**
327A Balmorhea Ranc 74.64 60 ⇓P **P 09 00 47.7 +0.4**
baz=74
129A Stewart Farms, 74.64 58 ⇑P **P 09 00 47.1 -0.3**
baz=74,SNR=16
KOLS Kolonicke sedl 74.70 330 *eP* **P 09 00 47.6 +0.3**
KOLS pmax pmax
comp=Z,41nm,1.4s
KOLS Kolonicke sedl 74.70 330 *eP* **P 09 00 47.6 +0.3**
BUR08 Bucovina Ar. S 74.77 327 *eP* **P 09 00 48.0 +0.2**
BUR04 Bucovina Ar. S 74.78 327 *eP* **P 09 00 47.5 -0.4**
BURAR Bucovina Array 74.78 327 ⇑P **P 09 00 47.7 -0.2**
BURAR Bucovina Array 74.78 327⇑ *iP* **P 09 00 47.7 -0.2**
PGBU Glenifferbraes 74.80 348⇑ *eP* **P 09 00 47.6 -0.1**
PGBU AMB AMB 09 00 49.5
comp=Z,212nm,1.2s
WMOK Wichita Mounta 74.80 55 *eP* **P 09 00 47.8 -0.4**
WMOK pmax pmax
comp=Z,57nm,1.1s
WMOK MLR MLR
comp=Z,764nm,20.0s
WMOK Wichita Mounta 74.80 55 *eP* **P 09 00 47.8 -0.4**
comp=Z,57nm,1.1s
WMOK LR LR
comp=Z,764nm,20.0s
426A McDonald Obser 74.84 61 ⇓P **P 09 00 48.3 -0.4**
baz=75,SNR=23
KSP Ksiaz 74.92 334⇑ *eP* **P 09 00 48.2 -0.3**
KSP Ksiaz 74.92 334 *eP* **P 09 00 48.1 -0.4**
KSP LMZ LR 09 36 32.3
NIE Niedzica 74.93 331⇑ *eP* **P 09 00 48.9 +0.2**
NIE Niedzica 74.93 331 *eP* **P 09 00 48.9 +0.2**
UZH Uzhgorod 74.95 329 *eP* **P 09 00 50.0 +1.3**
UZH *i* 09 00 57.2
UZH *e*S **S 09 10 23.0 +0.1**
UZH *e* 09 10 53.0
UZH *e* 09 11 12.2
UZH MLR MLR
comp=N,900nm,19.5s
UZH MLR MLR
comp=E,800nm,19.5s
Y32A R-V Farms, Ver 74.98 56 ⇓P **P 09 00 48.9 -0.3**
baz=75,SNR=24
328A Wristen Ranch, 75.03 60 ⇓P **P 09 00 49.4 -0.2**
baz=75,SNR=60
EKA Eskdalemuir Ar 75.07 347 P **P 09 00 49.2 0.0**
EKA Eskdalemuir Ar 75.07 347 P **P 09 00 49.2 0.0**
comp=E,28nm,0.6s,baz=21,slow=5.4,SNR=144
427A Hayter Ranch, 75.07 60 ⇓P **P 09 00 49.8 -0.1**
baz=75,SNR=23
ESK Eskdalemuir 75.09 347⇑ *eP* **P 09 00 48.8 -0.6**
ESK AMB AMB 09 00 51.0
comp=Z,83nm,2.8s
ESK AMS AMS 09 26 42.4
comp=Z,522nm,32.7s
ESK Eskdalemuir 75.09 347 P **P 09 00 49.4 0.0**
comp=Z,391nm,0.8s,SNR=8.2
ESK Eskdalemuir 75.09 347 *i* P **P 09 00 50.6 +1.2**
ESK Eskdalemuir 75.09 347 *eP* **P 09 00 48.9 -0.6**
comp=Z,51nm,0.8s
ESK LR LR
comp=Z,547nm,20.0s
NRDL Niedersach Rie 75.10 338 *eP* **P 09 00 49.4 0.0**
comp=Z,53nm,1.2s
Z31A Sharp Cattle R 75.11 57 ⇑P **P 09 00 49.7 -0.2**
baz=75,SNR=42
229A Bryant Ranch, 75.17 59 ⇑P **P 09 00 50.1 -0.2**
baz=75,SNR=17
TESR Tescani 75.18 326 ⇓*iP* **P 09 00 49.8 -0.3**
130A Snyder 75.18 58 ⇑P **P 09 00 50.3 -0.1**
baz=75,SNR=16
ECK Cauldkaine Hil 75.21 347⇑ *iP* **P 09 00 49.7 -0.4**
OKC Ostrava-Krasne 75.25 332 *eP* **P 09 00 50.9 +0.5**
OKC MLR MLR
comp=Z,1µm,19.4s
OKC Ostrava-Krasne 75.25 332⇑ *eP* **P 09 00 50.9 +0.5**
OKC AMS AMS 09 38 40.0
comp=Z,1µm,19.4s
526A Mary Lane Ranc 75.25 61 ⇑P **P 09 00 50.9 0.0**
baz=75,SNR=36
TRPA Tarpa 75.29 329 ⇓*iP* **P 09 00 51.5 +0.8**
UPC Upice 75.30 334 *eP* **P 09 00 51.5 +0.8**
UPC Upice 75.30 334⇑ *eP* **P 09 00 51.5 +0.8**
DPC Dobruska-Polom 75.35 334 *eP* **P 09 00 51.4 +0.3**
DPC Dobruska-Polom 75.35 334 *eP* **P 09 00 51.4 +0.3**
DPC AMS AMS 09 39 50.0
329A Wagon Wheel Ra 75.42 59 ⇑P **P 09 00 51.9 0.0**
baz=75,SNR=33
CLL Collm 75.43 336 *eP* **P 09 00 51.3 -0.2**
comp=Z,81nm,0.9s
CLL Collm 75.43 336⇑ *iP* **P 09 00 51.0 -0.5**
CLL pmax pmax
comp=Z,81nm,0.9s
CLL MLR MLR
comp=Z,2µm,21.6s
CLL Collm 75.43 336⇑ *iP* **P 09 00 51.0 -0.5**
comp=Z,81nm,0.9s
CLL *e*PP **PP 09 03 43.0 +3.0**
CLL *e*PPP PPP 09 05 36.0
CLL *e* 09 07 42.0
CLL *e*S **S 09 10 24.0 -4.2**
CLL *e*PS **PnS 09 11 12.0 +4.4**
CLL *e*SS SS 09 15 36.0 +18
CLL *e*SSSS 09 20 36.0
CLL Lm MLR 09 36 00.0
comp=N,1µm,21.1s
CLL Lm MLR 09 36 00.0
comp=E,400nm,20.0s
CLL Lm MLR 09 36 00.0
comp=Z,2µm,21.6s
TLCR 75.44 324 ⇑P **P 09 00 52.2 +0.6**
TLCR 75.44 324⇑ *iP* **P 09 00 52.2 +0.6**
131A Roby 75.45 57 ⇑P **P 09 00 52.0 0.0**
baz=75,SNR=10
527A Woodward Ranch 75.47 61 ⇓P **P 09 00 52.1 -0.2**
baz=75,SNR=23
Z32A Haskell 75.48 56 ⇓P **P 09 00 51.8 -0.3**
baz=75,SNR=30
MORC Moravsky Berou 75.49 333 *eP* **P 09 00 52.5 +0.6**
MORC pmax pmax
comp=Z,88nm,1.2s
MORC Moravsky Berou 75.49 333 *eP* **P 09 00 52.5 +0.6**
comp=Z,88nm,1.2s
TUL1 Tulsa 75.52 52 ⇓P **P 09 00 51.9 -0.4**
baz=75,SNR=31
BRG Berggiesshubel 75.56 335 *eP* **P 09 00 52.2 0.0**
comp=Z,59nm,1.3s
BRG Berggiesshubel 75.56 335 *eP* **P 09 00 52.1 -0.1**
BRG 09 03 39.0
BRG S **S 09 10 30.0 +0.3**
BRG pmax pmax
comp=Z,59nm,1.3s
BRG MLR MLR
comp=N,2µm,21.6s
BRG MLR MLR
comp=E,878nm,21.0s
BRG MLR MLR
comp=Z,1µm,23.3s
428A Kincaid Ranch, 75.58 60 ⇑P **P 09 00 53.3 +0.5**
baz=75,SNR=31

626A Big Bend Ranch 75.60 62 ⇑P **P 09 00 52.8 -0.1**
baz=75,SNR=47
230A Sterling City 75.62 58 ⇓P **P 09 00 52.6 -0.4**
baz=75,SNR=27
CLZ Clausthal 75.63 338 *eP* **P 09 00 53.1 +0.4**
comp=Z,147nm,1.4s
CLZ Clausthal 75.63 338 *eP* **P 09 00 53.1 +0.4**
CLZ pmax pmax
comp=Z,147nm,1.4s
KECS Kecovo 75.68 330 *eP* **P 09 00 53.6 +0.6**
KECS pmax pmax
comp=Z,13nm,1.0s
KECS Kecovo 75.68 330 *eP* **P 09 00 53.6 +0.6**
FBE Freiberg 75.69 336 *eP* **P 09 00 53.5 +0.6**
comp=Z,75nm,1.0s
VRI Vrincioaia 75.69 325 ⇓P **P 09 00 54.1 +1.0**
VRI Vrincioaia 75.69 325 ⇓*iP* **P 09 00 54.1 +1.0**
PVCC Panska Ves 75.70 335 *eP* **P 09 00 53.5 +0.5**
PVCC MLR MLR
comp=Z,2µm,21.9s
PVCC Panska Ves 75.70 335⇑ *eP* **P 09 00 53.5 +0.5**
PVCC AMS AMS 09 35 50.0
comp=Z,2µm,21.9s
CFR Carcaliu 75.72 324 ⇓P **P 09 00 52.8 -0.4**
CFR Carcaliu 75.72 324 ⇓*iP* **P 09 00 52.8 -0.4**
PLOR Plostina 75.73 325 ⇓P **P 09 00 54.3 +0.9**
PLOR Plostina 75.73 325 ⇓*iP* **P 09 00 54.3 +0.9**
MBWA Marble Bar 75.73 213 *eP* **P 09 00 53.3 -0.1**
comp=Z,74nm,1.3s
KESW Keswick, Cumbr 75.78 347⇑ *eP* **P 09 00 53.5 +0.1**
KESW AMB AMB 09 00 55.2
comp=Z,150nm,1.4s
KESW AMS AMS 09 29 13.6
comp=Z,510nm,27.3s
IBBN Ibbenburen 75.84 340 *eP* **P 09 00 54.5 +0.8**
comp=Z,67nm,0.9s
NEUB Neuenburg 75.85 337 *eP* **P 09 00 54.3 +0.5**
comp=Z,90nm,1.3s
ABTX Abilene, Hawle 75.90 57 *eP* **P 09 00 54.5 0.0**
ABTX Abilene, Hawle 75.90 57 ⇓P **P 09 00 54.2 -0.3**
baz=76,SNR=24
528A Cox Ranch, San 75.94 61 ⇑P **P 09 00 55.1 +0.2**
baz=76,SNR=32
330A Mertzon 75.94 59 ⇓P **P 09 00 54.9 0.0**
baz=76,SNR=23
KEMA Kemaliye 75.95 314 *i* P **P 09 00 55.8 +1.1**
TX31 Lajitas Ar. Si 76.03 62 *eP* **P 09 00 54.7 -0.7**
TXAR Lajitas Array 76.03 62 P **P 09 00 55.6 +0.2**
TXAR Lajitas Array 76.03 62 P **P 09 00 55.6 +0.2**
comp=Z,32nm,0.7s,baz=298,slow=4.3,SNR=341
231A Bronte 76.04 58 ⇓P **P 09 00 54.6 -0.7**
baz=76,SNR=17
627A Terlingua Ranc 76.11 61 ⇑P **P 09 00 55.9 0.0**
baz=76,SNR=44
429A Davenport Ranc 76.11 60 ⇑P **P 09 00 55.7 -0.1**
baz=76,SNR=25
HPK Haverah Park 76.15 346 *eP* **P 09 00 55.4 -0.1**
HPK AMB AMB 09 00 57.4
comp=Z,188nm,1.0s
HPK AMS AMS 09 39 40.6
comp=Z,604nm,17.0s
PRA Prague 76.15 335 ⇑P **P 09 00 56.0 +0.4**
PRA S **S 09 10 31.0 -5.2**
PRU Pruhonice 76.19 335 *eP* **P 09 00 55.9 +0.1**
PRU *e* 09 01 13.9
PRU *e*S S 09 10 29.2 -7.5
PRU MLR MLR
comp=Z,2µm,21.4s
PRU Pruhonice 76.19 335⇑ *eP* **P 09 00 55.9 +0.1**
PRU *e*sP **sP 09 01 13.9 +1.3**
PRU *e*S S 09 10 29.2 -7.5
PRU AMS AMS 09 36 20.0
comp=Z,2µm,21.4s
VRAC Vranov 76.19 333 P **P 09 00 56.5 +0.6**
VRAC Vranov 76.19 333 P **P 09 00 56.5 +0.6**
comp=Z,43nm,0.9s,baz=28,slow=5.4,SNR=48
TIRR Tirgusor 76.21 323 ⇑P **P 09 00 55.7 -0.3**
TIRR Tirgusor 76.21 323 *eP* **P 09 00 57.2 +1.2**
comp=Z,42nm,1.1s
TIRR Tirgusor 76.21 323⇑ *iP* **P 09 00 55.7 -0.3**
VYHS Vyhne 76.21 331 *eP* **P 09 00 56.4 +0.4**
VYHS pmax pmax
comp=Z,38nm,1.3s
VYHS Vyhne 76.21 331 *eP* **P 09 00 56.4 +0.4**
SLM Saint Louis 76.24 47 *eP* **P 09 00 56.6 +0.3**
SLM pmax pmax
comp=Z,157nm,1.4s
SLM Saint Louis 76.24 47 *eP* **P 09 00 56.6 +0.3**
comp=Z,157nm,1.4s
TLB Topalu 76.25 324 ⇑P **P 09 00 56.1 -0.1**
TLB Topalu 76.25 324⇑ *iP* **P 09 00 56.1 -0.1**
529A Stev Forest Ra 76.29 60 ⇓P **P 09 00 56.6 -0.2**
baz=76,SNR=34
MLR Muntele Rosu 76.30 325 *iP* **P 09 00 56.7 0.0**
ELZG Elazig 76.31 313 *i* P **P 09 00 59.4 +2.4**
SFIN Scholer Farm 76.35 44 *eP* **P 09 00 57.0 +0.1**
comp=Z,39nm,1.0s
SFIN Scholer Farm 76.35 44 ⇓P **P 09 00 56.3 -0.6**
baz=76,SNR=5.0
430A Baggett Ranch, 76.37 59 ⇑P **P 09 00 57.3 0.0**
baz=76,SNR=39
PSZ Piszkesteto 76.37 330 ⇑P **P 09 00 57.3 +0.3**
PSZ Piszkesteto 76.37 330 *eP* **P 09 00 57.8 +0.9**
comp=Z,75nm,1.3s
PSZ LR LR
comp=Z,1µm,19.0s
PSZ Piszkesteto 76.37 330⇑ *iP* **P 09 00 57.3 +0.3**
PSZ Piszkesteto 76.37 330⇑ *eP* **P 09 00 57.2 +0.3**
WTSB Winterswijk 76.38 340 *eP* **P 09 00 56.9 +0.1**
comp=Z,286nm,1.9s
628A Black Gap, Mar 76.38 61 ⇑P **P 09 00 57.5 +0.2**
baz=76,SNR=21
DRGR 76.38 328 ⇑P **P 09 00 56.9 -0.2**
DRGR 76.38 328⇑ *iP* **P 09 00 56.8 -0.3**
TANN Tannenbergstha 76.39 336 *eP* **P 09 00 56.7 -0.3**
comp=Z,100nm,1.7s
ISR Istrita 76.39 325 ⇑P **P 09 00 58.3 +1.2**
ISR Istrita 76.39 325⇑ *iP* **P 09 00 58.3 +1.2**
WERD Werda 76.40 336 *eP* **P 09 00 57.0 0.0**
comp=Z,72nm,1.3s
MOX Moxa 76.40 337 *eP* **P 09 00 57.2 +0.2**
comp=Z,81nm,1.3s
MOX Moxa 76.40 337 *eP* **P 09 00 57.2 +0.2**
MOX pmax pmax
comp=Z,81nm,1.3s
331A San Angelo 76.44 58 ⇑P **P 09 00 57.1 -0.6**
baz=76,SNR=40
232A Coleman 76.45 57 ⇓P **P 09 00 57.3 -0.3**
baz=76,SNR=50
GUNZ Gunzen 76.47 336 *eP* **P 09 00 57.6 +0.1**
comp=Z,58nm,1.0s
TREC Trest 76.53 334 *eP* **P 09 00 58.2 +0.4**
TREC MLR MLR
comp=Z,2µm,20.3s
TREC Trest 76.53 334⇑ *eP* **P 09 00 58.2 +0.4**
TREC AMS AMS 09 39 50.0
comp=Z,2µm,20.3s
SMOL Smolenice 76.64 332 *eP* **P 09 00 59.9 +1.5**
SMOL Smolenice 76.64 332 *eP* **P 09 00 59.9 +1.5**
UBBA Unterbreizbach 76.66 338 *eP* **P 09 00 58.3 -0.1**
comp=Z,134nm,1.6s
MALT Malatya 76.73 313 ⇑P **P 09 01 00.4 +1.2**
MALT Malatya 76.73 313⇑ *iP* **P 09 01 00.4 +1.2**
ILGA Ilgaz 76.75 318 *i* P **P 09 01 00.7 +1.3**
BUG Bochum--Univer 76.76 340 *eP* **P 09 00 59.0 0.0**
comp=Z,106nm,1.2s
332A Millersview 76.78 58 ⇓P **P 09 00 59.4 -0.1**
baz=77,SNR=46
530A J-C Ranch, Com 76.79 60 ⇓P **P 09 00 59.8 +0.2**
baz=77,SNR=43
431A Sonora 76.81 59 ⇓P **P 09 00 59.6 -0.1**
baz=77,SNR=36
KBI1 Birley Grange 76.81 345⇑ *eP* **P 09 00 59.1 -0.1**
MANZ Manzenberg 76.87 336 *eP* **P 09 00 59.8 +0.1**
comp=Z,55nm,1.2s
ARR Arges 76.90 326 ⇓*iP* **P 09 01 01.4 +1.4**
UOSS Wadi Hilu 76.93 293 P **P 09 01 00.2 -0.2**
comp=Z,315nm,1.0s,SNR=9.8
AKCD Akcadag 76.99 314 *i* P **P 09 01 01.9 +1.2**
ZST Bratislava 77.02 332 *eP* **P 09 01 01.6 +1.1**
ZST Bratislava 77.02 332 *eP* **P 09 01 01.6 +1.1**
BUD Budapest 77.04 331⇑ *eP* **P 09 01 01.1 +0.5**
ROTZ Rotzenmuhle 77.04 336 *eP* **P 09 01 01.1 +0.4**
comp=Z,89nm,1.3s
WME Myndd Eilian 77.11 347⇑ *eP* **P 09 01 01.3 +0.3**

432A Menard 77.13 58 ⇓P **P 09 01 01.2 -0.3**
baz=77,SNR=36
LOT Lotru 77.15 327⇑ *iP* **P 09 01 00.8 -0.7**
WPM1 Penmaenmawr 77.19 347⇑ *iP* **P 09 01 01.2 -0.1**
OLIL Olney 77.19 45 *eP* **P 09 01 02.1 +0.5**
comp=Z,169nm,1.5s
OLIL *e* 09 01 14.6
SIRR Siria 77.20 328 ⇓*iP* **P 09 01 01.6 0.0**
531A Rocksprings 77.23 59 ⇓P **P 09 01 01.9 -0.2**
baz=77,SNR=46
WLF1 Llynfaes 77.23 347 *eP* **P 09 01 01.1 -0.5**
WLF1 AMB AMB 09 01 02.0
comp=Z,54nm,1.8s
KHC Kasperske Hory 77.24 335⇑ *iP* **P 09 01 02.0 +0.2**
KHC *e* 09 01 21.3
KHC *e*S **S 09 10 45.7 -2.5**
KHC *e* 09 11 35.3
KHC MLR MLR
comp=Z,2µm,26.3s
KHC Kasperske Hory 77.24 335⇑ *iP* **P 09 01 02.0 +0.2**
KHC *e*x x 09 01 21.3
KHC *e*x x 09 01 43.5
KHC *e*S **S 09 10 45.7 -2.5**
KHC *e*PS **PnS 09 11 35.3 +4.4**
KHC AMS AMS 09 35 50.0
comp=Z,2µm,26.3s
KHC Kasperske Hory 77.24 335 *eP* **P 09 01 01.8 0.0**
comp=Z,126nm,1.3s
YRC Rhoscolyn 77.30 347 *eP* **P 09 01 01.8 -0.2**
PKSG 77.32 331 ⇓*eP* **P 09 01 03.1 +0.9**
ELDT Eldivan 77.33 318 *i* P **P 09 01 03.2 +0.5**
YLL Llanberis 77.34 347⇑ *iP* **P 09 01 01.9 -0.3**
PKS7 Kunszentmiklos 77.37 330 ⇓*eP* **P 09 01 03.6 +1.1**
GRF Grafenberg Arr 77.38 336 *eP* **P 09 01 03.2 +0.6**
comp=Z,123nm,1.0s
GRF Grafenberg Arr 77.38 336 *eP* **P 09 01 03.2 +0.6**
GRF pmax pmax
comp=Z,123nm,1.0s
GRFO Grafenberg 77.38 336 *eP* **P 09 01 03.3 +0.8**
GRFO pmax pmax
comp=Z,80nm,0.9s
GRFO Grafenberg 77.38 336 *eP* **P 09 01 03.3 +0.8**
comp=Z,80nm,0.9s
SFNV Sufian 77.38 311 *i* P **P 09 01 03.6 +0.7**
JCT Junction City 77.42 58 *eP* **P 09 01 03.0 -0.2**
JCT pmax pmax
comp=Z,78nm,1.1s
JCT MLR MLR
comp=Z,437nm,19.0s
JCT Junction City 77.42 58 *eP* **P 09 01 03.0 -0.2**
comp=Z,78nm,1.1s
JCT LR LR
comp=Z,437nm,19.0s
JCT Junction City 77.42 58 ⇑P **P 09 01 02.6 -0.6**
baz=77,SNR=32
WET Wettzell 77.42 335 *eP* **P 09 01 03.4 +0.6**
comp=Z,102nm,1.2s
WET Wettzell 77.42 335 *eP* **P 09 01 03.4 +0.6**
WET pmax pmax
comp=Z,102nm,1.2s
FOEL Foel Wylfa 77.43 346⇑ *eP* **P 09 01 02.9 +0.1**
FOEL AMB AMB 09 01 03.7
comp=Z,78nm,1.8s
FOEL AMS AMS 09 28 07.5
comp=Z,528nm,44.0s
SIUC Southern Illin 77.46 47 *eP* **P 09 01 03.5 +0.4**
comp=Z,94nm,1.1s
GEC2 GERESS Array S 77.46 335 *eP* **P 09 01 03.1 0.0**
comp=Z,44nm,1.0s
GEC2 GERESS Array S 77.46 335 *eP* **P 09 01 03.1 0.0**
GEC2 pmax pmax
comp=Z,44nm,1.0s
GERES GERESS Array B 77.46 335 P **P 09 01 03.0 -0.2**
GERES GERESS Array B 77.46 335 P **P 09 01 03.0 -0.2**
comp=Z,14nm,0.7s,baz=33,slow=5.1,SNR=66
GERES LR LR 09 37 35.8
comp=Z,2µm,21.6s,baz=15,slow=38
YRE Yr Eifl 77.53 347⇑ *eP* **P 09 01 03.0 -0.4**
PKST T''s 77.56 331 ⇓*eP* **P 09 01 04.2 +0.6**
MZRK Al-Mazaregh 77.57 310 *i* P **P 09 01 04.4 +0.5**
BLO Bloomington 77.58 44 *eP* **P 09 01 04.2 +0.4**
BLO pmax pmax
comp=Z,87nm,1.6s
BLO Bloomington 77.58 44 *eP* **P 09 01 04.2 +0.4**
comp=Z,87nm,1.6s
WHTX Lake Whitney 77.59 56 *eP* **P 09 01 04.5 +0.5**
WHTX Lake Whitney 77.59 56 ⇓P **P 09 01 04.1 +0.1**
baz=77,SNR=18
TNS Taunus Mts 77.60 338 *eP* **P 09 01 04.0 +0.2**
comp=Z,59nm,1.1s
TNS Taunus Mts 77.60 338 *eP* **P 09 01 04.0 +0.2**
TNS pmax pmax
comp=Z,59nm,1.1s
CDAG Cicekdag 77.60 317 *i* P **P 09 01 04.8 +0.7**
532A Rocksprings 77.62 59 ⇑P **P 09 01 03.7 -0.6**
baz=77,SNR=38
CONA Conrad Observa 77.64 333⇑ *iP* **P 09 01 05.1 +0.9**
comp=Z,82nm,1.3s,SNR=27
SOP Sopron 77.65 332⇑ *eP* **P 09 01 04.8 +0.8**
HGN Heimansgroeve 77.69 340 *eP* **P 09 01 04.4 +0.1**
comp=Z,195nm,1.4s
HGN *e*PP **PP 09 04 01.8 +2.8**
HGN *e*PPP PPP 09 06 13.0
HGN *e*S **S 09 10 51.8 -1.2**
BEBN Eben Emael 77.72 340 P **P 09 01 04.7 +0.3**
comp=Z,40nm,1.5s
MIAR Mount Ida 77.73 52 *eP* **P 09 01 04.7 0.0**
MIAR pmax pmax
comp=Z,62nm,1.0s
MIAR MLR MLR
comp=Z,2µm,21.0s
MIAR Mount Ida 77.73 52 *eP* **P 09 01 04.7 0.0**
comp=Z,62nm,1.0s
MIAR LR LR
comp=Z,2µm,21.0s
HLM1 Long Mynd 77.74 346⇑ *eP* **P 09 01 04.0 -0.5**
HLM1 AMB AMB 09 01 05.3
comp=Z,73nm,2.0s
631A Perdido Creek 77.78 60 ⇓P **P 09 01 04.9 -0.2**
baz=78,SNR=96
BZS Buzias 77.78 328 ⇑P **P 09 01 04.3 -0.5**
BZS Buzias 77.78 328⇑ *iP* **P 09 01 04.3 -0.5**
MEM Membach 77.82 340 P **P 09 01 05.2 +0.3**
comp=Z,57nm,1.1s
BR131 Keskin Array S 77.86 317 *eP* **P 09 01 05.9 +0.3**
comp=Z,34nm,0.9s
BRTR Keskin Array B 77.86 317 P **P 09 01 05.7 +0.1**
BRTR Keskin Array B 77.86 317 P **P 09 01 05.7 +0.1**
comp=Z,48nm,1.0s,baz=64,slow=3.6,SNR=97
BRTR LR LR 09 43 11.5
comp=Z,663nm,18.5s,baz=218,slow=42
SGKT Sivrigoynuk 77.87 319 *i* P **P 09 01 06.6 +0.9**
GZT Gaziantep 77.91 313 *i* P **P 09 01 07.3 +1.4**
USIN University of 78.01 46 *eP* **P 09 01 06.8 +0.6**
comp=Z,137nm,1.1s
UCC Uccle 78.01 341 P **P 09 01 07.5 +1.4**
PARMO Parma 78.02 48 *eP* **P 09 01 07.2 +0.9**
LONY Lake Ozonia 78.04 33 *eP* **P 09 01 05.3 -1.0**
comp=Z,40nm,1.4s
LONY *e* 09 01 18.4
LONY *e*pP **pP 09 01 18.8 +0.2**
LONY LR LR
comp=Z,739nm,20.0s
ERPA Erie 78.05 38 *eP* **P 09 01 06.7 +0.3**
comp=Z,105nm,1.5s
ERPA LR LR
comp=Z,849nm,19.0s
SSW Stow on the Wo 78.10 345 *eP* **P 09 01 07.2 +0.7**
ANTO Ankara 78.12 318 ⇑P **P 09 01 07.4 +0.5**
ANTO Ankara 78.12 318 *eP* **P 09 01 08.0 +1.0**
comp=Z,140nm,1.4s
ANTO LR LR
comp=Z,905nm,21.0s
ANTO Ankara 78.12 318⇑ *iP* **P 09 01 07.4 +0.5**
BR231 Keskin MP Arra 78.15 318 *eP* **P 09 01 06.2 -0.9**
632A Uvalde 78.16 59 ⇓P **P 09 01 07.1 -0.1**
baz=78,SNR=24
BCLA Clavier 78.16 340 P **P 09 01 07.4 +0.6**
MNKR ALMNKUR 78.17 311 *i* P **P 09 01 07.0 -0.3**
SZH Strazhica 78.18 324 P **P 09 01 06.7 -0.4**
MOA Molln 78.19 334 *i* P **P 09 01 07.5 +0.4**
comp=Z,34nm,0.9s,SNR=14
UALR University of 78.19 51 *eP* **P 09 01 06.7 -0.7**
comp=Z,50nm,1.5s
AYKD Aykdinkavak 78.22 314 *i* P **P 09 01 08.6 +1.1**

BBAL Bala 78.24 318 *i* P **P 09 01 08.2 +0.5**
MCH1 Michaelchurch 78.26 346 *eP* **P 09 01 05.4 -2.0**
MCH1 AMB AMB 09 01 06.6
comp=Z,84nm,1.6s
MCH1 AMS AMS 09 28 48.3
comp=Z,610nm,35.3s
PKSM Moragy 78.28 330 ⇑P **P 09 01 06.7 -0.9**
PKSM Moragy 78.28 330⇑*i*P **P 09 01 06.7 -0.9**
PKSM Moragy 78.28 330⇑*eP* **P 09 01 06.4 -1.2**
SNF Seneffe 78.30 341 P **P 09 01 08.2 +0.6**
ANDN Andirin 78.31 314 *i* P **P 09 01 08.9 +0.8**
LPW Lampeter 78.32 347 *eP* **P 09 01 07.5 -0.2**
LPW AMB AMB 09 01 08.2
comp=Z,428nm,1.9s
ACSO Alum Creek Sta 78.32 41 *eP* **P 09 01 08.3 +0.4**
ACSO LR LR
comp=Z,1μm,22.0s
ARSA Arzberg 78.35 333 *i* P **P 09 01 08.8 +0.7**
comp=Z,62nm,1.4s,SNR=15
ARMA Armidale 78.35 182 *eP* **P 09 01 08.9 +0.9**
comp=Z,45nm,1.3s
ALLY Alegheny Colle 78.37 39 *eP* **P 09 01 08.7 +0.5**
comp=Z,24nm,0.8s
KSRV Kasrt alli 78.37 311 *i* P **P 09 01 07.7 -0.6**
GNAR Gosnell 78.44 48 *eP* **P 09 01 09.8 +1.1**
comp=Z,2μm,1.2s
HBAR Harrisburg 78.44 49 *eP* **P 09 01 09.4 +0.7**
WCI Wyandotte Cave 78.44 44 *eP* **P 09 01 08.4 -0.3**
WCI pmax pmax
comp=Z,87nm,1.1s
WCI Wyandotte Cave 78.44 44 *eP* **P 09 01 08.4 -0.3**
comp=Z,87nm,1.1s
SWN1 Swindon 78.53 345 *eP* **P 09 01 09.2 +0.4**
SWN1 AMB AMB 09 01 11.0
comp=Z,333nm,1.1s
UMR Umm Al-Rimmam 78.56 302 *eP* **P 09 01 09.6 +0.2**
UMR AMb AMB 09 01 11.9
comp=Z,88nm,0.9s
GLAT Glass 78.56 48 *eP* **P 09 01 10.2 +0.9**
GIVF Givet 78.56 341 *eP* **P 09 01 09.0 -0.1**
comp=Z,330nm,1.5s
GIVF Givet 78.56 341 *eP* **P 09 01 09.0 -0.1**
GIVF pmax pmax
comp=Z,330nm,1.5s
GIVF Givet 78.56 341 *eP* **P 09 01 09.0 -0.1**
comp=Z,330nm,1.5s
JMB Yambol 78.60 323 P **P 09 01 08.5 -0.9**
JMB Yambol 78.60 323 P **P 09 01 08.5 -0.9**
JMB Yambol 78.60 323 P **P 09 01 08.5 -0.9**
DOU Dourbes 78.62 341 P **P 09 01 09.5 +0.1**
DOU AP **pP 09 01 21.1 -0.6**
WOL Wolverton 78.62 345 *eP* **P 09 01 09.1 -0.3**
WOL AMB AMB 09 01 11.0
comp=Z,180nm,2.6s
SLMH Al Salmeh 78.63 312 *i* P **P 09 01 09.8 0.0**
732A Laxson Ranch, 78.64 60 ⇑P **P 09 01 10.1 +0.3**
baz=78,SNR=51
WLF Walferdange 78.67 340 P **P 09 01 11.0 +1.3**
WLF Walferdange 78.67 340 *eP* P 09 01 12.5 +2.8
WLF pmax pmax
comp=Z,15nm,0.6s
WLF MLR MLR
comp=Z,2μm,21.0s
WLF Walferdange 78.67 340 *eP* P 09 01 12.5 +2.8
comp=Z,15nm,0.6s
WLF LR LR
comp=Z,2μm,21.0s
RJOB Jochberg 78.72 335 *eP* **P 09 01 10.7 +0.6**
comp=Z,112nm,1.9s
NCB Newcomb 78.73 34 PFAKE 09 01 20.0 +10
NCB LR LR
comp=Z,860nm,21.0s
BAIF Baives 78.74 341 *eP* **P 09 01 10.2 +0.1**
comp=Z,223nm,1.4s
BAIF Baives 78.74 341 *eP* **P 09 01 10.2 +0.1**
BAIF pmax pmax
comp=Z,223nm,1.4s
BAIF Baives 78.74 341 *eP* **P 09 01 10.2 +0.1**
comp=Z,223nm,1.4s
STU Stuttgart 78.75 337 *eP* **P 09 01 11.3 +1.1**
comp=Z,112nm,1.3s
STU Stuttgart 78.75 337 *eP* **P 09 01 11.7 +1.5**
STU pmax pmax
comp=Z,61nm,1.0s
STU Stuttgart 78.75 337 *eP* **P 09 01 11.7 +1.5**
comp=Z,61nm,1.0s
FUR Furstenfeldbru 78.76 336 *eP* **P 09 01 10.7 +0.5**
comp=Z,133nm,1.1s
FUR Furstenfeldbru 78.76 336 *eP* **P 09 01 10.7 +0.5**
FUR pmax pmax
comp=Z,133nm,1.1s
JHLN Al Jahlan 78.80 312 *i* P **P 09 01 10.1 -0.6**
HALT Halls 78.82 48 *eP* **P 09 01 11.4 +0.7**
KOGS Kog 78.84 332 *eP* **P 09 01 10.3 -0.4**
LANF Langenberg 78.91 338 *eP* **P 09 01 11.2 +0.1**
DRWC Darouich 78.92 313 *i* P P 09 01 17.5 +6.1
MPEP Malo Peshtene 78.95 326 P **P 09 01 10.7 -0.7**
RST Umm Al-Ruwaisa 79.00 302 *eP* **P 09 01 11.7 -0.1**
RST AMb AMB 09 01 13.8
comp=Z,1μm,1.3s
SOKA Soboth 79.01 333⇑*i*P **P 09 01 12.1 +0.3**
comp=Z,93nm,1.1s,SNR=43
QRN Al-Qurain 79.05 301 *eP* **P 09 01 12.6 +0.5**
QRN AMb AMB 09 01 15.8
comp=Z,187nm,1.3s
NAY Al-Naaiem 79.05 302 *eP* **P 09 01 12.4 +0.3**
NAY AMb AMB 09 01 14.5
comp=Z,6.1nm,1.1s
EDRB Edirne 79.06 323 P **P 09 01 11.2 -0.8**
EDRB Edirne 79.06 323 P **P 09 01 11.2 -0.8**
RDF Al-Radifah 79.12 301 *eP* **P 09 01 12.9 +0.4**
RDF AMb AMB 09 01 15.2
comp=Z,263nm,1.1s
KBA Koelnbreinsper 79.16 334⇑*i*P **P 09 01 13.4 +0.8**
comp=Z,99nm,0.7s,SNR=45
COBT Iskenderun 79.20 314 *i* P **P 09 01 14.7 +1.6**
YURE YUREGIR 79.26 314 *i* P **P 09 01 13.7 +0.5**
SEYT Eskypehyr 79.27 319 *i* P **P 09 01 13.2 -0.1**
GULE Gulek 79.30 315 *i* P **P 09 01 14.4 +0.8**
NATX Nacogdoches 79.30 54 *eP* **P 09 01 13.8 +0.3**
comp=Z,633nm,1.8s
NATX LR LR
comp=Z,988nm,21.0s
OBKA Obir 79.31 333⇑*i*P **P 09 01 14.2 +0.9**
comp=Z,18nm,0.7s,SNR=6.7
VAL Valentia 79.32 350 *eP* **P 09 01 15.0 +1.9**
LBNH Lisbon 79.33 32 PFAKE 09 01 30.0 +17
LBNH LR LR
comp=Z,1μm,21.0s
PKME Peaks-Kenny Pk 79.33 30 PFAKE 09 01 30.0 +17
PKME LR LR
comp=Z,1μm,19.0s
BFO Black Forest 79.38 338 P **P 09 01 13.4 -0.3**
comp=Z,300nm,1.2s,SNR=9.7
BFO Black Forest 79.38 338 *eP* **P 09 01 13.3 -0.4**
comp=Z,91nm,1.2s
BFO Black Forest 79.38 338 *eP* **P 09 01 13.3 -0.4**
BFO pmax pmax
comp=Z,91nm,1.2s
BFO Black Forest 79.38 338 *eP* **P 09 01 14.2 +0.5**
comp=Z,63nm,1.1s
BFO LR LR
comp=Z,796nm,19.0s
WVT Waverly 79.39 47 *eP* **P 09 01 13.6 -0.3**
WVT pmax pmax
comp=Z,48nm,1.3s
WVT Waverly 79.39 47 *eP* **P 09 01 13.6 -0.3**
comp=Z,48nm,1.3s
HTL Hartland 79.47 347 *eP* **P 09 01 14.4 +0.4**
HTL AMB AMB 09 01 15.9
comp=Z,91nm,1.2s
HTL AMS AMS 09 41 44.0
comp=Z,713nm,22.7s
MYKA Terra Mystica 79.48 334⇓*i*P **P 09 01 14.4 +0.1**
comp=Z,23nm,0.7s,SNR=12
WTTA Wattenberg 79.48 335⇑*i*P **P 09 01 15.3 +0.9**
comp=Z,156nm,0.9s,SNR=50
RETA Reutte 79.52 336 *i* P **P 09 01 15.1 +0.6**
comp=Z,57nm,0.9s,SNR=18
WLS Welschbruch 79.55 338 *eP* **P 09 01 14.9 +0.3**
MOTA Moosalm 79.55 336⇑*i*P **P 09 01 15.3 +0.5**
comp=Z,186nm,1.1s,SNR=39
GCIS Gornji Cirnik 79.56 332 *eP* **P 09 01 14.6 0.0**
CDF Champ du Feu 79.57 338 *eP* **P 09 01 14.8 0.0**
comp=Z,419nm,1.5s
CDF Champ du Feu 79.57 338 *eP* **P 09 01 14.8 0.0**
CDF pmax pmax
comp=Z,419nm,1.5s
CDF Champ du Feu 79.57 338 *eP* **P 09 01 14.8 0.0**
comp=Z,419nm,1.5s
BINY Binghamton 79.58 36 PFAKE 09 01 30.0 +15
BINY LR LR
comp=Z,944nm,20.0s
PLD Plovdiv 79.65 324 P **P 09 01 14.8 -0.4**
PLD Plovdiv 79.65 324 P **P 09 01 14.8 -0.4**
PLD Plovdiv 79.65 324 P **P 09 01 14.8 -0.4**
YAYL Yayladag 79.66 313 *i* P **P 09 01 16.4 +0.8**
DIVS Divibare 79.67 328 P **P 09 01 14.6 -0.8**
ABTA Abfaltersbach 79.70 334⇑*i*P **P 09 01 15.3 -0.2**
comp=Z,49nm,1.2s,SNR=15
LJU Ljubljana 79.74 333 *eP* **P 09 01 14.8 -0.8**
ECH Echery 79.78 338 *eP* **P 09 01 15.3 -0.5**
ECH pmax pmax
comp=Z,101nm,1.2s
ECH MLR MLR
comp=Z,2μm,22.0s
ECH Echery 79.78 338 *eP* **P 09 01 15.9 +0.1**
ECH Echery 79.78 338 *eP* **P 09 01 15.3 -0.5**
comp=Z,101nm,1.2s
ECH LR LR
comp=Z,2μm,22.0s
VTS Vitosha 79.81 326 P **P 09 01 15.4 -0.8**
VTS Vitosha 79.81 326 ⇓P **P 09 01 16.4 +0.2**
VTS Vitosha 79.81 326 P **P 09 01 15.4 -0.8**
VTS Vitosha 79.81 326⇓*i*P **P 09 01 16.4 +0.2**
VTS Vitosha 79.81 326 P **P 09 01 15.4 -0.8**
PAGF Fort de Pagny 79.81 339 *eP* **P 09 01 16.4 +0.5**
comp=Z,112nm,1.2s
PAGF Fort de Pagny 79.81 339 *eP* **P 09 01 16.4 +0.5**
comp=Z,112nm,1.2s
VISS Visnje 79.86 333 *eP* **P 09 01 15.9 -0.4**
ARNB Al Arnab 79.87 313 *i* P **P 09 01 16.4 -0.1**
OXF Oxford 79.89 49 *eP* **P 09 01 16.6 0.0**
OXF pmax pmax
comp=Z,175nm,1.2s
OXF MLR MLR
comp=Z,949nm,20.0s
OXF Oxford 79.89 49 *eP* **P 09 01 16.6 0.0**
comp=Z,175nm,1.2s
OXF LR LR
comp=Z,949nm,20.0s
DYA Yadsworthy 79.93 346 *eP* **P 09 01 17.1 +0.6**
DYA AMB AMB 09 01 18.1
comp=Z,150nm,1.3s
DYA Yadsworthy 79.93 346 *eP* **P 09 01 17.9 +1.4**
comp=Z,176nm,1.2s
WRDH Warideh 79.94 313 *i* P **P 09 01 16.8 -0.2**
DAVA Damuels 79.94 336⇑*i*P **P 09 01 17.4 +0.5**
comp=Z,87nm,1.1s,SNR=20
FETA Feichten 79.95 336 *i* P **P 09 01 17.6 +0.6**
comp=Z,77nm,1.2s,SNR=29
KFRA Kufra 79.98 312 *i* P **P 09 01 17.3 +0.1**
BOJS Bojanci 80.00 332 *eP* **P 09 01 16.7 -0.3**
MEZF Maizieres J'vi 80.02 340 *eP* **P 09 01 17.4 +0.4**
comp=Z,357nm,1.3s,baz=18
MEZF Maizieres J'vi 80.02 340 *eP* **P 09 01 17.4 +0.4**
comp=Z,357nm,1.3s
HKT Hockley 80.05 56 *eP* **P 09 01 17.8 +0.4**
HKT pmax pmax
comp=Z,34nm,1.4s
HKT Hockley 80.05 56 *eP* **P 09 01 17.8 +0.4**
comp=Z,34nm,1.4s
THEF They Montfort 80.06 339 *eP* **P 09 01 17.6 +0.3**
MOF Molkenrain 80.13 338 *eP* **P 09 01 17.6 -0.2**
RDO Rodhopi 80.14 323 P **P 09 01 17.4 -0.4**
RDO Rodhopi 80.14 323 P **P 09 01 17.4 -0.4**
SSPA Standing Stone 80.15 38 *eP* **P 09 01 18.2 +0.3**
comp=Z,194nm,2.0s
MCWV Mont Chateau 80.15 39 *eP* **P 09 01 18.8 +0.8**
MCWV LR LR
comp=Z,2μm,19.0s
HAU Haudompre 80.17 339 *eP* **P 09 01 17.9 -0.1**
comp=Z,231nm,1.4s
HAU *eR*
comp=Z,3μm,23.0s
HAU Haudompre 80.17 339 *eP* **P 09 01 17.9 -0.1**
HAU pmax pmax
comp=Z,231nm,1.4s
HAU Haudompre 80.17 339 *eP* **P 09 01 17.9 -0.1**
comp=Z,231nm,1.4s
HINF Hinteralfeld 80.23 338 *eP* **P 09 01 18.1 -0.2**
comp=Z,168nm,1.4s
HINF Hinteralfeld 80.23 338 *eP* **P 09 01 18.1 -0.2**
HINF pmax pmax
comp=Z,168nm,1.4s
HINF Hinteralfeld 80.23 338 *eP* **P 09 01 18.1 -0.2**
comp=Z,168nm,1.4s
TRI Trieste 80.27 333 *eP* **P 09 01 18.0 -0.5**
TRI pmax pmax
comp=Z,48nm,1.1s
TRI Trieste 80.27 333 *eP* **P 09 01 18.0 -0.5**
comp=Z,48nm,1.1s
SFTF Sexfontaines 80.30 340 *eP* **P 09 01 18.7 +0.1**
comp=Z,334nm,1.1s
SFTF Sexfontaines 80.30 340 *eP* **P 09 01 18.7 +0.1**
comp=Z,334nm,1.1s
BIDA Albida 80.38 313 *i* P **P 09 01 19.6 +0.3**
DAVOX Davos/Dischmat 80.41 336 P **P 09 01 19.9 +0.5**
DAVOX Davos/Dischmat 80.41 336 P **P 09 01 19.9 +0.5**
comp=Z,32nm,0.7s,baz=24,slow=5.3,SNR=39
RAR Rarotonga 80.42 137 LR LR 09 29 06.1
comp=Z,644nm,20.2s,baz=186,slow=30
EMMW East Machias 80.42 29 *eP* **P 09 01 18.7 -0.6**
comp=Z,20nm,1.0s
MMB Musomiste 80.47 325 P **P 09 01 19.3 -0.4**
BALY Balya 80.47 321 *i* P **P 09 01 19.6 -0.1**
KKB Krupnik 80.48 325 P **P 09 01 19.2 -0.5**
PLE Pljevlja 80.56 328⇑*i*P **P 09 01 19.1 -1.1**
STKA Stephens Creek 80.58 191 *eP* **P 09 01 20.1 +0.1**
comp=Z,4.8nm,1.1s
STKA Stephens Creek 80.58 191 P **P 09 01 20.2 +0.2**
comp=Z,11nm,1.0s,baz=353,slow=8.0,SNR=9.3
STKA LR LR 09 37 17.5
comp=Z,701nm,18.8s,baz=18,slow=36
NVR Nevrokopi 80.62 325 P **P 09 01 20.0 -0.5**
NVR Nevrokopi 80.62 325 P **P 09 01 20.0 -0.5**
KAVA Kavala 80.67 324 P **P 09 01 20.3 -0.4**
KAVA Kavala 80.67 324 P **P 09 01 20.3 -0.4**
LOMF Lomont 80.67 338 *eP* **P 09 01 21.2 +0.5**
KVTX Kingsville 80.72 59 *eP* **P 09 01 23.0 +1.8**
comp=Z,127nm,1.3s
KVTX LR LR
comp=Z,433nm,19.0s
HAWK Haweek 80.73 312 *i* P **P 09 01 20.6 -0.6**
IVA Berane 80.78 328⇑*i*P **P 09 01 21.2 -0.2**
ISP Isparta 80.81 318 P **P 09 01 21.1 -0.6**
ISP Isparta 80.81 318 P **P 09 01 21.1 -0.6**
ISP MLR MLR
comp=Z,764nm,21.0s
ISP Isparta 80.81 318 P **P 09 01 21.1 -0.6**
ISP LR LR
comp=Z,764nm,21.0s
KHAL Karahalli 80.81 319 *i* P **P 09 01 21.6 0.0**
TUE Stuetta 80.83 336 *eP* **P 09 01 21.8 +0.1**
comp=Z,94nm,1.0s
TUE LR LR
comp=Z,1μm,20.0s
JSA Saint Aubin 80.83 345 *eP* **P 09 01 21.5 +0.1**
JSA AMB AMB 09 01 23.2
comp=Z,106nm,1.1s
UPM Unac-Piva 80.83 329⇑*i*P **P 09 01 20.6 -1.2**
SRS Serrai 80.92 325 P **P 09 01 21.2 -0.9**
SRS Serrai 80.92 325 P **P 09 01 21.2 -0.9**
SRS Serrai 80.92 325 P **P 09 01 21.2 -0.9**
FLN La Foliniere 80.93 343 *eP* **P 09 01 21.9 -0.1**
comp=Z,162nm,1.1s,baz=29
FLN *eR*
comp=Z,1μm,21.0s
FLN La Foliniere 80.93 343 *eP* **P 09 01 21.9 -0.1**
FLN pmax pmax
comp=Z,162nm,1.1s
FLN La Foliniere 80.93 343 *eP* **P 09 01 21.9 -0.1**
comp=Z,162nm,1.1s
PVY Plav 81.00 328 *eP* **P 09 01 22.0 -0.6**
SKO Skopje 81.00 326 P **P 09 01 22.8 +0.3**
SKO Skopje 81.00 326 P **P 09 01 22.8 +0.3**
SKO Skopje 81.00 326 P **P 09 01 22.8 +0.3**
LDF La Druitiere 81.03 343 *eP* **P 09 01 22.3 -0.2**
comp=Z,322nm,1.7s
LDF La Druitiere 81.03 343 *eP* **P 09 01 22.3 -0.2**
LDF pmax pmax
comp=Z,322nm,1.7s
LDF La Druitiere 81.03 343 *eP* **P 09 01 22.3 -0.2**
comp=Z,322nm,1.7s
SWET Sewanee 81.04 46 *eP* **P 09 01 22.4 -0.5**
comp=Z,104nm,1.2s
KULA Kula-Manisa 81.05 320 P **P 09 01 22.2 -0.7**
KULA Kula-Manisa 81.05 320 P **P 09 01 22.2 -0.7**
RAO Raoul Island 81.07 156 LR LR 09 31 28.9
comp=Z,1μm,21.6s,baz=348,slow=31
MARH Ras Al Marh 81.08 312 *i* P **P 09 01 23.2 -0.2**
TZTN Tazewell 81.08 44 *eP* **P 09 01 23.3 +0.3**
comp=Z,59nm,1.4s
VBMS Vicksburg 81.14 51 *eP* **P 09 01 24.1 +0.8**
comp=Z,169nm,1.3s
VBMS LR LR
comp=Z,996nm,20.0s
VAY Valandovo 81.14 325 P **P 09 01 22.0 -1.2**
VAY Valandovo 81.14 325 P **P 09 01 22.0 -1.2**
VAY Valandovo 81.14 325 P **P 09 01 22.0 -1.2**
VAY Valandovo 81.14 325 *i* P **P 09 01 22.2 -1.0**
KNT Kendrikon 81.15 325 P **P 09 01 23.1 -0.2**
KNT Kendrikon 81.15 325 P **P 09 01 23.1 -0.2**
KNT Kendrikon 81.15 325 P **P 09 01 23.1 -0.2**
PMOR Pomariorio Ree 81.19 124 *eT* T 10 30 27.2
comp=Z,39nm,0.2s
NKME Niksic 81.20 328⇑*i*P **P 09 01 23.1 -0.5**
BRY Bratogost 81.23 329 *eP* **P 09 01 22.9 -0.9**
LIA Limnos Island 81.34 323 P **P 09 01 23.2 -1.0**
LIA Limnos Island 81.34 323 P **P 09 01 23.2 -1.0**
GRR Gorron 81.36 344⇑*i*P **P 09 01 24.4 +0.2**
comp=Z,257nm,1.2s
GRR Gorron 81.36 344⇑*i*P **P 09 01 24.4 +0.2**
GRR pmax pmax
comp=Z,257nm,1.2s
GRR Gorron 81.36 344⇑*i*P **P 09 01 24.4 +0.2**
comp=Z,257nm,1.2s
PDG Podgorica 81.39 328 P **P 09 01 23.6 -0.9**
TTG Podgorica 81.39 328⇑*i*P **P 09 01 23.8 -0.7**
TTG Podgorica 81.39 328 P **P 09 01 23.6 -0.9**
TTG Podgorica 81.39 328 P **P 09 01 23.6 -0.9**
PRK Paraskevi 81.45 322 P **P 09 01 24.2 -0.6**
PRK Paraskevi 81.45 322 P **P 09 01 24.2 -0.6**
PRK Paraskevi 81.45 322 P **P 09 01 24.2 -0.6**
LOR Lormes 81.45 340⇑*i*P **P 09 01 24.7 -0.1**
comp=Z,146nm,1.0s,baz=27
LOR *eR*
comp=Z,2μm,22.2s
LOR Lormes 81.45 340⇑*i*P **P 09 01 24.7 -0.1**
comp=Z,146nm,1.0s
GRG Griva 81.52 325 P **P 09 01 24.8 -0.5**
GRG Griva 81.52 325 P **P 09 01 24.8 -0.5**
GRG Griva 81.52 325 P **P 09 01 24.8 -0.5**
CPCT Cooper Cave 81.52 45 *eP* **P 09 01 25.2 -0.2**
ZALF Zalf 81.54 311 *i* P **P 09 01 24.8 -0.8**
CABF La Chapelle 81.54 338⇑*i*P **P 09 01 25.6 +0.2**
comp=Z,244nm,1.4s
CABF La Chapelle 81.54 338⇑*i*P **P 09 01 25.6 +0.2**
CABF pmax pmax
comp=Z,244nm,1.4s
CABF La Chapelle 81.54 338⇑*i*P **P 09 01 25.6 +0.2**
comp=Z,244nm,1.4s
HORT Hortiatis 81.56 325 P **P 09 01 23.4 -2.2**
HORT Hortiatis 81.56 325 P **P 09 01 23.4 -2.2**
THE Thessaloniki 81.58 325 P **P 09 01 24.0 -1.5**
THE Thessaloniki 81.58 325 P **P 09 01 24.0 -1.5**
THE Thessaloniki 81.58 325 P **P 09 01 24.0 -1.5**
PHP Peshkopia 81.62 327 P **P 09 01 25.0 -0.8**
PHP Peshkopia 81.62 327 P **P 09 01 25.0 -0.8**
PHP Peshkopia 81.62 327 P **P 09 01 25.0 -0.8**
PLG Polygyros 81.62 324 P **P 09 01 24.9 -0.9**
PLG Polygyros 81.62 324 P **P 09 01 24.9 -0.9**
PLG Polygyros 81.62 324 P **P 09 01 24.9 -0.9**
DRME Dracevica, Mon 81.63 328⇑*i*P **P 09 01 24.7 -1.1**
BUM Brajici-Budva 81.63 328⇑*i*P **P 09 01 24.8 -1.1**
HCY Herceg Novi 81.64 329⇑*i*P **P 09 01 24.5 -1.4**
OG01 Vacheresse 81.66 338 *eP* **P 09 01 26.4 +0.4**
HYF Humbligny 81.72 341 *eP* **P 09 01 26.6 +0.4**
HYF Humbligny 81.72 341 *eP* **P 09 01 26.6 +0.4**
SSF Saint Saulge 81.72 340 *eP* **P 09 01 26.3 +0.1**
comp=Z,62nm,0.9s
SSF Saint Saulge 81.72 340 *eP* **P 09 01 26.3 +0.1**
SSF pmax pmax
comp=Z,62nm,0.9s
SSF Saint Saulge 81.72 340 *eP* **P 09 01 26.3 +0.1**
comp=Z,62nm,0.9s
SGMF Saint Gilles 81.80 345 *eP* **P 09 01 26.8 +0.2**
comp=Z,250nm,1.2s
SGMF Saint Gilles 81.80 345 *eP* **P 09 01 26.8 +0.2**
SGMF pmax pmax
comp=Z,250nm,1.2s
SGMF Saint Gilles 81.80 345 *eP* **P 09 01 26.8 +0.2**
comp=Z,250nm,1.2s
BRBR Barbar 81.84 312 *i* P **P 09 01 27.1 -0.2**
ROSF Rostrenen 81.85 345⇑*i*P **P 09 01 27.0 +0.2**
comp=Z,305nm,1.1s
ROSF Rostrenen 81.85 345⇑*i*P **P 09 01 27.0 +0.2**
ROSF pmax pmax
comp=Z,305nm,1.1s
ROSF Rostrenen 81.85 345⇑*i*P **P 09 01 27.0 +0.2**
comp=Z,305nm,1.1s
CSS Prodhromos 81.86 315 P **P 09 01 26.1 -1.1**
CSS Prodhromos 81.86 315 *eP* **P 09 01 27.5 +0.4**
comp=Z,79nm,1.1s
CSS LR LR
comp=Z,647nm,19.0s
BLA Blacksburg 81.94 41 *eP* **P 09 01 27.8 +0.2**
BLA pmax pmax
comp=Z,40nm,1.3s
BLA MLR MLR
comp=Z,749nm,20.0s
BLA Blacksburg 81.94 41 *eP* **P 09 01 27.8 +0.2**
comp=Z,40nm,1.3s
BLA LR LR
comp=Z,749nm,20.0s
SALA Sala 82.01 311 *i* P **P 09 01 27.9 -0.3**
AVF Avril sur Loir 82.02 340⇑*i*P **P 09 01 27.8 +0.1**
comp=Z,260nm,1.3s
AVF Avril sur Loir 82.02 340⇑*i*P **P 09 01 27.8 +0.1**
AVF pmax pmax
comp=Z,260nm,1.3s
AVF Avril sur Loir 82.02 340⇑*i*P **P 09 01 27.8 +0.1**
comp=Z,260nm,1.3s
SMF Signal de Mont 82.04 340⇑*i*P **P 09 01 28.0 +0.1**
comp=Z,546nm,1.5s
SMF Signal de Mont 82.04 340⇑*i*P **P 09 01 28.0 +0.1**
SMF pmax pmax
comp=Z,546nm,1.5s
SMF Signal de Mont 82.04 340⇑*i*P **P 09 01 28.0 +0.1**
comp=Z,546nm,1.5s
FNA Florina 82.06 326 P **P 09 01 27.3 -0.8**
FNA Florina 82.06 326 P **P 09 01 27.3 -0.8**
FNA Florina 82.06 326 P **P 09 01 27.3 -0.8**
URLA Izmir 82.06 321 *i* P **P 09 01 26.0 -2.1**
AYDN Tasoluk 82.10 320 *i* P **P 09 01 29.1 +0.7**
TIR Tirane 82.12 327 *eP* **P 09 01 28.4 0.0**
TIR pmax pmax
comp=Z,71nm,0.9s
TIR MLR MLR
comp=Z,2μm,20.0s
TIR Tirane 82.12 327 *eP* **P 09 01 28.4 0.0**
comp=Z,71nm,0.9s
TIR LR LR
comp=Z,2μm,20.0s
FORT Forrest 82.13 203 *eP* **P 09 01 28.8 +0.6**
comp=Z,96nm,0.7s
OG35 Corcelles 82.20 339 *eP* **P 09 01 29.3 +0.5**
QUIF Quistinic 82.24 345 *eP* **P 09 01 28.9 +0.1**
comp=Z,232nm,1.3s
QUIF Quistinic 82.24 345 *eP* **P 09 01 28.9 +0.1**
QUIF pmax pmax
comp=Z,232nm,1.3s
QUIF Quistinic 82.24 345 *eP* **P 09 01 28.9 +0.1**
comp=Z,232nm,1.3s
CHOS Chios island 82.26 322 P **P 09 01 28.1 -1.2**
CHOS Chios island 82.26 322 P **P 09 01 28.1 -1.2**
RSL Roselend 82.27 338 *eP* **P 09 01 29.9 +0.6**
LRAL Lakeview Retre 82.28 48 *eP* **P 09 01 29.0 -0.3**
comp=Z,38nm,1.2s
LRAL LR LR
comp=Z,734nm,22.0s
KZN Kozani 82.32 325 P **P 09 01 28.5 -1.1**
KZN Kozani 82.32 325 P **P 09 01 28.5 -1.1**
KZN Kozani 82.32 325 P **P 09 01 28.5 -1.1**

BBOO Buckleboo 82.35 195 *eP* **P 09 01 29.7 +0.3**
comp=Z,488nm,1.4s
BGF Bois d'Agland 82.35 341 *eP* **P 09 01 29.6 +0.1**
comp=Z,212nm,1.4s
BGF Bois d'Agland 82.35 341 *eP* **P 09 01 29.6 +0.1**
BGF pmax pmax
comp=Z,212nm,1.4s
BGF Bois d'Agland 82.35 341 *eP* **P 09 01 29.6 +0.1**
comp=Z,212nm,1.4s
PPT Papeete 82.38 127 LR LR 09 29 45.3
comp=Z,922nm,20.4s,baz=4.7,slow=30
PPT2 Papeete2 82.40 127 *eS* S 09 11 48.9 +5.6
comp=Z,210nm,26.0s
PPT2 Papeete2 82.40 127 *e*LR LR 09 27 13.1
comp=Z,2µm,23.0s,baz=318
PPT2 Papeete2 82.40 127 *eT* T 10 31 57.0
comp=Z,12nm,0.3s
LPL La Plagne 82.40 338⇑*iP* **P 09 01 30.9 +0.8**
comp=Z,214nm,1.2s
LPL La Plagne 82.40 338⇑*iP* **P 09 01 30.9 +0.8**
LPL pmax pmax
comp=Z,214nm,1.2s
LPL La Plagne 82.40 338⇑*iP* **P 09 01 30.9 +0.8**
comp=Z,214nm,1.2s
LPG La Plagne 82.42 338⇑*iP* **P 09 01 31.1 +0.9**
comp=Z,290nm,1.2s
LPG La Plagne 82.42 338⇑*iP* **P 09 01 31.1 +0.9**
LPG pmax pmax
comp=Z,290nm,1.2s
LPG La Plagne 82.42 338⇑*iP* **P 09 01 31.1 +0.9**
comp=Z,290nm,1.2s
CBN Corbin 82.42 39 PFAKE 09 01 40.0 +10
CBN LR LR
comp=Z,1µm,21.0s
MMAI Mount Meron Ar 82.43 312 P **P 09 01 30.8 +0.6**
MMAI Mount Meron Ar 82.43 312 P **P 09 01 30.8 +0.6**
comp=Z,98nm,1.0s,baz=38,slow=7.4,SNR=45
MMAI LR LR 09 42 51.0
comp=Z,680nm,19.4s,baz=45,slow=39
PAE Paea 82.46 127 *eT* T 10 32 00.8
comp=Z,2.9nm,0.2s
NEST Nestorio 82.50 326 P **P 09 01 29.8 -0.7**
SMG Samos 82.51 321 P **P 09 01 29.4 -1.1**
SMG Samos 82.51 321 P **P 09 01 29.4 -1.1**
NEO Neokhori 82.62 324 P **P 09 01 29.7 -1.4**
NEO Neokhori 82.62 324 P **P 09 01 29.7 -1.4**
VLC Villacollemand 82.67 335 *eP* **P 09 01 31.4 +0.1**
comp=Z,52nm,1.0s
VLC LR LR
comp=Z,2µm,21.0s
TCF Toulx Ste Croi 82.74 341 *eP* **P 09 01 31.9 +0.3**
comp=Z,265nm,1.4s
TCF Toulx Ste Croi 82.74 341 *eP* **P 09 01 31.9 +0.3**
TCF pmax pmax
comp=Z,265nm,1.4s
TCF Toulx Ste Croi 82.74 341 *eP* **P 09 01 31.9 +0.3**
comp=Z,265nm,1.4s
AGO Saint Agoulin 82.76 340 *eP* **P 09 01 32.6 +0.9**
BNI Bardonecchia 82.85 338 *eP* **P 09 01 33.6 +1.3**
BNI pmax pmax
comp=Z,59nm,1.1s
BNI MLR MLR
comp=Z,813nm,21.0s
BNI Bardonecchia 82.85 338 *eP* **P 09 01 33.5 +1.3**
comp=Z,58nm,1.1s
BNI LR LR
comp=Z,813nm,21.0s
GDM Grand'Maison 82.85 338 *eP* **P 09 01 33.3 +1.0**
URVA University of 82.89 39 *eP* **P 09 01 33.3 +0.9**
GRN Grenoble 82.91 338 *eP* **P 09 01 33.8 +1.3**
MFF Saint Martin d 82.94 343⇑*iP* **P 09 01 32.8 +0.3**
comp=Z,275nm,1.5s
MFF Saint Martin d 82.94 343⇑*iP* **P 09 01 32.8 +0.3**
MFF pmax pmax
comp=Z,275nm,1.5s
MFF Saint Martin d 82.94 343⇑*iP* **P 09 01 32.8 +0.3**
comp=Z,275nm,1.5s
OG22 Abries 83.00 337 *eP* **P 09 01 33.3 +0.2**
PYM Petit Puy Mans 83.08 340 *eP* **P 09 01 34.1 +0.7**
MBDF Montbardon 83.13 337⇑*iP* **P 09 01 34.0 +0.2**
comp=Z,126nm,1.1s
MBDF Montbardon 83.13 337⇑*iP* **P 09 01 34.0 +0.2**
MBDF pmax pmax
comp=Z,125nm,1.1s
MBDF Montbardon 83.13 337⇑*iP* **P 09 01 34.0 +0.2**
comp=Z,126nm,1.1s
SSB Saint Sauveur 83.17 339 *eP* **P 09 01 34.5 +0.7**
SSB pmax pmax
comp=Z,116nm,1.2s
SSB MLR MLR
comp=Z,1µm,22.0s
SSB Saint Sauveur 83.17 339 *eP* **P 09 01 34.4 +0.7**
SSB Saint Sauveur 83.17 339 *eP* **P 09 01 34.5 +0.7**
comp=Z,116nm,1.2s
SSB LR LR
comp=Z,1µm,22.0s
ORIF Oris-en-Rattie 83.18 338⇑*iP* **P 09 01 34.7 +0.8**
comp=Z,430nm,1.5s
ORIF *e*R
comp=Z,2µm,22.2s
ORIF Oris-en-Rattie 83.18 338⇑*iP* **P 09 01 34.7 +0.8**
ORIF pmax pmax
comp=Z,430nm,1.5s
ORIF Oris-en-Rattie 83.18 338⇑*iP* **P 09 01 34.7 +0.8**
comp=Z,430nm,1.5s
VERF Verneugheol 83.19 341 *eP* **P 09 01 35.2 +1.2**
ARG Arkhangelos 83.21 319 P **P 09 01 33.2 -0.9**
ARG Arkhangelos 83.21 319 P **P 09 01 33.2 -0.9**
ARG Arkhangelos 83.21 319 P **P 09 01 33.2 -0.9**
AGG Agios Georgios 83.22 324 P **P 09 01 31.7 -2.5**
AGG Agios Georgios 83.22 324 P **P 09 01 31.7 -2.5**
AGG Agios Georgios 83.22 324 P **P 09 01 31.7 -2.5**
JAN Janina 83.24 326 P **P 09 01 34.0 -0.2**
JAN Janina 83.24 326 P **P 09 01 34.0 -0.2**
JAN Janina 83.24 326 P **P 09 01 34.0 -0.2**
KMSC Kings Mountain 83.25 43 *eP* **P 09 01 34.6 +0.3**
KMSC Kings Mountain 83.25 43 ⇑*P* **P 09 01 34.1 -0.3**
baz=83
LKR Lokris 83.28 324 P **P 09 01 32.6 -1.8**
LKR Lokris 83.28 324 P **P 09 01 32.6 -1.8**
CAN Canberra 83.34 184 PFAKE 09 01 50.0 +15
CAN LR LR
comp=Z,1µm,21.0s
SURF Saint Ours 83.35 337 *eP* **P 09 01 35.7 +0.8**
SRN Sarande 83.36 326 P **P 09 01 33.0 -1.8**
SRN Sarande 83.36 326 P **P 09 01 33.0 -1.8**
LBL Lubilhac 83.51 340 *eP* **P 09 01 35.6 0.0**
VIVF Saint-Julien-I 83.53 339⇑*iP* **P 09 01 36.2 +0.5**
comp=Z,428nm,1.5s
VIVF Saint-Julien-I 83.53 339⇑*iP* **P 09 01 36.2 +0.5**
VIVF pmax pmax
comp=Z,428nm,1.5s
VIVF Saint-Julien-I 83.53 339⇑*iP* **P 09 01 36.2 +0.5**
comp=Z,428nm,1.5s
KEK Kerkira 83.58 326 P **P 09 01 34.6 -1.4**
KEK Kerkira 83.58 326 P **P 09 01 34.6 -1.4**
SAOF Saorge 83.61 337 *eP* **P 09 01 36.0 -0.1**
OG26 St.-Nazaire-De 83.64 338 *eP* **P 09 01 37.3 +1.0**
AUTN L'Aution 83.64 337 *eP* **P 09 01 36.0 -0.5**
OG25 Le Caire 83.64 338 *eP* **P 09 01 37.0 +0.7**
TOUF Mont Tournerai 83.67 337 *eP* **P 09 01 36.6 0.0**
GOGA Godfrey 83.69 45 *eP* **P 09 01 36.9 +0.3**
GOGA pmax pmax
comp=Z,159nm,1.8s
GOGA Godfrey 83.69 45 *eP* **P 09 01 36.9 +0.3**
comp=Z,159nm,1.8s
LUCF Luceram 83.76 337 *eP* **P 09 01 36.5 -0.4**
SBF Sospel 83.76 337 *eP* **P 09 01 36.7 -0.2**
comp=Z,202nm,1.1s
SBF Sospel 83.76 337 *eP* **P 09 01 36.7 -0.2**
SBF pmax pmax
comp=Z,202nm,1.1s
SBF Sospel 83.76 337 *eP* **P 09 01 36.7 -0.2**
comp=Z,202nm,1.1s
MVIF Mont Vial 83.80 337 *eP* **P 09 01 37.0 -0.2**
RJF Les Rejaudoux 83.83 341 *eP* **P 09 01 37.3 +0.1**
comp=Z,146nm,1.4s
RJF *e*R
comp=Z,2µm,22.5s
RJF Les Rejaudoux 83.83 341 *eP* **P 09 01 37.3 +0.1**
RJF pmax pmax
comp=Z,146nm,1.4s
RJF Les Rejaudoux 83.83 341 *eP* **P 09 01 37.3 +0.1**
comp=Z,146nm,1.4s
KALE Kalithea 83.84 324 P **P 09 01 35.4 -2.0**

KALE Kalithea 83.84 324 *eP* **P 09 01 35.8 -1.6**
KALE Kalithea 83.84 324 P **P 09 01 35.4 -2.0**
BRAL Brewton 83.88 49 *eP* **P 09 01 38.5 +0.9**
comp=Z,126nm,1.0s
BRAL LR LR
comp=Z,744nm,20.0s
REVF Revere 83.89 337 *eP* **P 09 01 37.2 -0.4**
ACOR Acrocorinthos 83.98 323 P P 09 01 34.2 -3.9
CALN Calern 84.01 337 *eP* **P 09 01 38.3 0.0**
LKD2 Lefkada island 84.07 325 P **P 09 01 37.1 -1.4**
LKD2 Lefkada island 84.07 325 P **P 09 01 37.1 -1.4**
CAF Calviac 84.07 341 *eP* **P 09 01 39.0 +0.6**
comp=Z,159nm,1.4s
CAF Calviac 84.07 341 *eP* **P 09 01 39.0 +0.6**
CAF pmax pmax
comp=Z,159nm,1.4s
CAF Calviac 84.07 341 *eP* **P 09 01 39.0 +0.6**
comp=Z,159nm,1.4s
SMRF Simiane la Rot 84.14 338⇑*iP* **P 09 01 39.5 +0.7**
comp=Z,289nm,1.5s
SMRF Simiane la Rot 84.14 338⇑*iP* **P 09 01 39.5 +0.7**
comp=Z,289nm,1.5s
KLV Kalavryta, Ach 84.14 324 P **P 09 01 37.0 -1.9**
KLV Kalavryta, Ach 84.14 324 P **P 09 01 37.0 -1.9**
GUR Goura 84.15 324 *eP* P 09 01 35.4 -3.7
KARP Karpathos 84.19 319 P **P 09 01 37.9 -1.3**
KARP Karpathos 84.19 319 *eP* **P 09 01 38.0 -1.3**
KARP Karpathos 84.19 319 P **P 09 01 37.9 -1.3**
SANT Santorini 84.22 321 PFAKE 09 01 50.0 +11
SANT LR LR
comp=Z,602nm,20.0s
FRF La Foret Royal 84.25 337 *eP* **P 09 01 39.2 -0.1**
comp=Z,328nm,1.5s
FRF La Foret Royal 84.25 337 *eP* **P 09 01 39.2 -0.1**
FRF pmax pmax
comp=Z,328nm,1.5s
FRF La Foret Royal 84.25 337 *eP* **P 09 01 39.2 -0.1**
comp=Z,328nm,1.5s
LFF La Frestale 84.34 342 *eP* **P 09 01 40.2 +0.4**
LFF La Frestale 84.34 342 *eP* **P 09 01 40.2 +0.4**
LFF La Frestale 84.34 342 *eP* **P 09 01 40.2 +0.4**
RLS Riolos of Patr 84.39 324 P **P 09 01 39.4 -0.7**
RLS Riolos of Patr 84.39 324 P **P 09 01 39.4 -0.7**
RAYN Ar Rayn 84.42 299 P **P 09 01 40.5 -0.1**
comp=Z,346nm,1.1s,SNR=31
LASF Ste Croix 84.46 339⇑*iP* **P 09 01 41.1 +0.7**
comp=Z,177nm,1.6s
LASF Ste Croix 84.46 339⇑*iP* **P 09 01 41.1 +0.7**
comp=Z,177nm,1.6s
LMR La Mourre 84.50 337⇑*iP* **P 09 01 40.7 +0.1**
comp=Z,485nm,1.5s
LMR La Mourre 84.50 337⇑*iP* **P 09 01 40.7 +0.1**
LMR pmax pmax
comp=Z,485nm,1.5s
LMR La Mourre 84.50 337⇑*iP* **P 09 01 40.7 +0.1**
comp=Z,485nm,1.5s
PGF Pioggiola 84.55 335⇑*iP* **P 09 01 40.7 -0.3**
comp=Z,156nm,1.4s
PGF Pioggiola 84.55 335⇑*iP* **P 09 01 40.7 -0.3**
PGF pmax pmax
comp=Z,156nm,1.4s
PGF Pioggiola 84.55 335⇑*iP* **P 09 01 40.7 -0.3**
comp=Z,156nm,1.4s
CNNC Cliffs of the 84.71 41 *eP* **P 09 01 42.4 +0.6**
comp=Z,57nm,1.2s
CNNC LR LR
comp=Z,1µm,21.0s
CUC Castrocucco 84.75 329 *eP* **P 09 01 41.6 -0.4**
comp=Z,15nm,1.0s
CUC LR LR
comp=Z,2µm,21.0s
ZKR Zakros 84.97 320 P **P 09 01 41.9 -1.2**
ZKR Zakros 84.97 320 *eP* **P 09 01 42.9 -0.2**
ZKR Zakros 84.97 320 P **P 09 01 41.9 -1.2**
ITM Ithomi 84.97 324 P **P 09 01 41.3 -1.8**
ITM Ithomi 84.97 324 *eP* **P 09 01 42.2 -0.9**
ITM Ithomi 84.97 324 P **P 09 01 41.3 -1.8**
NPS Neapolis 85.10 320 *eP* **P 09 01 42.6 -1.2**
DYR Agios Nikonas 85.17 323 P **P 09 01 42.6 -1.5**
DYR Agios Nikonas 85.17 323 *eP* **P 09 01 43.2 -0.9**
LAST Lasithi 85.25 320 P **P 09 01 42.2 -2.4**
LAST Lasithi 85.25 320 *eP* **P 09 01 44.0 -0.6**
LAST Lasithi 85.25 320 P **P 09 01 42.2 -2.4**
TIGA Tifton 85.25 47 *eP* **P 09 01 45.8 +1.3**
TIGA Tifton 85.25 47 ⇓*P* **P 09 01 45.2 +0.6**
baz=85
PYL PYLOS 85.29 324 *eP* **P 09 01 43.3 -1.4**
OSPF L'Ospedale 85.31 335 *eP* **P 09 01 44.7 -0.1**
IDI Anoyia 85.39 321 *eP* **P 09 01 43.5 -1.8**
IDI Anoyia 85.39 321 *eP* **P 09 01 44.2 -1.0**
comp=Z,103nm,1.7s
IDI Anoyia 85.39 321 P **P 09 01 43.8 -1.5**
comp=Z,16nm,0.6s,baz=22,slow=9.5,SNR=18
MTLF Montolieu 85.54 340 *eP* **P 09 01 46.5 +0.7**
comp=Z,26nm,1.1s
MTLF Montolieu 85.54 340 *eP* **P 09 01 46.5 +0.7**
MTLF pmax pmax
comp=Z,27nm,1.1s
MTLF Montolieu 85.54 340 *eP* **P 09 01 46.5 +0.7**
comp=Z,26nm,1.1s
SIVA Sivas 85.65 321 P **P 09 01 45.2 -1.3**
SIVA Sivas 85.65 321 P **P 09 01 45.2 -1.3**
KARN Karanos 85.70 321 P **P 09 01 45.3 -1.5**
KARN Karanos 85.70 321 *eP* P 09 01 42.6 -4.2
KARN Karanos 85.70 321 P **P 09 01 45.3 -1.5**
EPF Esparros 86.25 341 *eP* **P 09 01 49.2 -0.2**
comp=Z,11nm,0.6s
EPF Esparros 86.25 341 *eP* **P 09 01 49.2 -0.2**
EPF pmax pmax
comp=Z,11nm,0.6s
EPF Esparros 86.25 341 *eP* **P 09 01 49.2 -0.2**
comp=Z,11nm,0.6s
CEL Celeste 86.27 328 PFAKE 09 02 00.0 +10
CEL LR LR
comp=Z,1µm,22.0s
SJPF Ste Jean 86.50 342 *eP* **P 09 01 51.1 +0.5**
comp=Z,25nm,1.0s
SJPF Ste Jean 86.50 342 *eP* **P 09 01 51.1 +0.5**
SJPF pmax pmax
comp=Z,25nm,1.0s
SJPF Ste Jean 86.50 342 *eP* **P 09 01 51.1 +0.5**
comp=Z,25nm,1.0s
ETSF Etsaut 86.57 342 *eP* **P 09 01 51.5 +0.5**
comp=Z,19nm,0.7s
ETSF Etsaut 86.57 342 *eP* **P 09 01 51.5 +0.5**
ETSF pmax pmax
comp=Z,19nm,0.7s
ETSF Etsaut 86.57 342 *eP* **P 09 01 51.5 +0.5**
comp=Z,19nm,0.7s
TBI Tubuai 87.22 130 *eS* **S 09 12 32.1 +1.4**
comp=Z,606nm,34.8s
TBI Tubuai 87.22 130 *e*LR LR 09 29 29.6
comp=Z,2µm,30.2s,baz=327
TBI Tubuai 87.22 130 *eT* T 10 37 56.1
comp=Z,22nm,0.3s
VSL Villasalto 87.26 334 PFAKE 09 02 10.0 +16
VSL LR LR
comp=Z,1µm,22.0s
URZ Urewera 88.49 162 LR LR 09 34 12.4
comp=Z,1µm,21.9s,baz=178,slow=30
BKZ Black Stump Fm 89.24 163 *eP* **P 09 02 02.5 -0.9**
comp=Z,62nm,0.4s
MTE Manteigas 90.28 346 PFAKE 09 02 20.0 +11
MTE LR LR
comp=Z,717nm,20.0s
ES19 SONSECA Array 90.32 343 *eP* **P 09 02 08.9 +0.1**
ESDC Sonseca Array 90.36 343 P **P 09 02 08.5 -0.5**
ESDC Sonseca Array 90.36 343 P **P 09 02 08.5 -0.5**
comp=Z,5.1nm,0.9s,baz=12,slow=4.6,SNR=13
ESDC LR LR 09 47 20.9
comp=Z,867nm,21.5s,baz=25,slow=39
PAB San Pablo 90.55 344 *eP* **P 09 02 09.4 -0.6**
PAB pmax pmax
comp=Z,24nm,0.7s
PAB MLR MLR
comp=Z,2µm,21.0s
PAB San Pablo 90.55 344 *eP* **P 09 02 09.3 -0.6**
comp=Z,24nm,0.7s
PAB LR LR
comp=Z,2µm,21.0s
KEST Kesra 90.74 332 *eP* **P 09 02 11.6 +0.8**
KEST Kesra 90.74 332 P **P 09 02 10.9 +0.1**
comp=Z,5.9nm,0.9s,baz=40,slow=1.8,SNR=12
KEST LR LR 09 47 50.9
comp=Z,525nm,20.9s,baz=325,slow=39

SNZO South Karori 90.99 165 PFAKE 09 02 20.0 +8.7
SNZO LR LR
comp=Z,1µm,22.0s
TEIG Tepich 91.89 57 PFAKE 09 02 30.0 +14
TEIG LR LR
comp=Z,484nm,21.0s
EVO Evora 92.18 346 *eP* **P 09 02 16.2 -1.2**
comp=Z,5.9nm,0.7s
EVO *e*R
comp=Z,1µm,21.0s
EVOP Sao Brissos 92.20 346 *eP* **P 09 02 16.2 -1.2**
EVOP pmax pmax
comp=Z,6.0nm,0.7s
EVOP Sao Brissos 92.20 346 *eP* **P 09 02 16.2 -1.2**
comp=Z,5.9nm,0.7s
BBSR BB Station 92.46 32 PFAKE 09 02 30.0 +11
BBSR LR LR
comp=Z,636nm,19.0s
RKT Rikitea 94.99 119 *eS* **S 09 13 40.3 -1.3**
comp=Z,493nm,33.0s
RKT Rikitea 94.99 119 *e*LR LR 09 32 59.4
comp=Z,724nm,31.2s,baz=311
RTC Rabat Centre 96.41 344 PFAKE 09 02 50.0 +13
RTC LR LR
comp=Z,699nm,21.0s
GTBY Guantanamo Bay 99.02 46 PFAKE 09 03 00.0 +11
GTBY LR LR
comp=Z,640nm,20.0s
MTDJ Mount Denham 99.26 49 PFAKE 09 03 00.0 +10
MTDJ LR LR
comp=Z,438nm,21.0s
MSEY Mahe Island 99.37 273 PFAKE 09 03 00.0 +10
MSEY LR LR
comp=Z,479nm,21.0s
GRTK Grand Turk 99.51 42 PFAKE 09 03 00.0 +9.1
GRTK LR LR
comp=Z,733nm,21.0s
SDDR Presa de Saban 101.64 44 PFAKE 09 03 10.0 +9.5
SDDR LR LR
comp=Z,428nm,20.0s
JTS JuntasAbangare 101.76 60 PFAKE 09 03 10.0 +8.9
JTS LR LR
comp=Z,493nm,22.0s
SJG San Juan 104.69 40 PFAKE 09 03 30.0 +16
SJG LR LR
comp=Z,520nm,20.0s
BCIP Isla Barro Col 105.57 56 PFAKE 09 07 40.0
BCIP LR LR
comp=Z,342nm,19.0s
ANWB Willy Bob 106.87 36 PFAKE 09 07 50.0
ANWB LR LR
comp=Z,369nm,20.0s
KMBO Kilima Mbogo 108.59 290 PFAKE 09 07 50.0
KMBO LR LR
comp=Z,714nm,21.0s
BBGH Gun Hill 111.86 36 PFAKE 09 07 50.0
BBGH LR LR
comp=Z,1µm,22.0s
GRGR Grenville 111.93 38 PFAKE 09 08 00.0
GRGR LR LR
comp=Z,358nm,20.0s
MBAR Mbarara 112.19 296 PFAKE 09 08 00.0
MBAR LR LR
comp=Z,643nm,21.0s
OTAV Otavalo 113.64 60 PFAKE 09 08 00.0
OTAV LR LR
comp=Z,273nm,19.0s
TOA0 Torodi Ar. Sit 114.21 331 *e*PKiKP **PKiKP 09 07 46.6 -0.8**
TORD Torodi Ar. Bea 114.21 331 PKP PKPdf 09 07 46.7 -0.8
TORD PKKPbc **PKKPbc 09 18 25.9 0.0**
TORD Torodi Ar. Bea 114.21 331 PKP PKPdf 09 07 46.7 -0.8
comp=Z,1.6nm,0.8s,baz=17,slow=1.6,SNR=12
TORD PKKPbc **PKKPbc 09 18 25.9 0.0**
comp=Z,0.8nm,0.7s,baz=196,slow=1.4,SNR=7.9
CASY Casey 119.03 199 PFAKE 09 08 10.0 +15
CASY LR LR
comp=Z,599nm,22.0s
DBIC Dimbokro 122.33 335 PKP **PKPdf 09 08 02.8 -0.3**
DBIC Dimbokro 122.33 335 PKP **PKPdf 09 08 02.8 -0.3**
comp=Z,7.4nm,0.9s,baz=34,slow=3.4,SNR=4.5
LIC Lamto 122.80 335 *e*PKiKP **PKPdf 09 08 02.5 -1.5**
LIC *e*R
comp=Z,525nm,21.2s
LIC Lamto 122.80 335 *e*PKPdf **PKPdf 09 08 02.5 -1.5**
VNDA Vanda 125.59 178 *e*PKPdf **PKPdf 09 08 06.8 -0.6**
VNDA PKP **PKPdf 09 08 06.9 -0.5**
VNDA Vanda 125.59 178 PKP **PKPdf 09 08 06.9 -0.5**
comp=Z,3.7nm,0.8s,baz=338,slow=4.3,SNR=10
SBA Scott Base 126.07 177 *e*PKiKP **PKPdf 09 08 08.3 0.0**
SBA MLR MLR
comp=Z,561nm,21.0s
SBA Scott Base 126.07 177 *e*PKPdf **PKPdf 09 08 08.3 0.0**
SBA LR LR
comp=Z,561nm,21.0s
SAML Samuel 129.69 51 PFAKE 09 08 30.0 +13
SAML LR LR
comp=Z,533nm,22.0s
LPAZ La Paz 132.90 62 PKP **PKPdf 09 08 23.9 0.0**
LPAZ *e*PKPdf **PKiKP 09 08 24.0 -1.0**
LPAZ La Paz 132.90 62 PKP **PKPdf 09 08 23.9 0.0**
comp=Z,3.3nm,1.1s,baz=8.7,slow=6.0,SNR=7.9
LBTB Lobatse 133.81 281 *e*PKPdf **PKPdf 09 08 25.2 +0.4**
TSUM Tsumeb 134.69 294 PFAKE 09 08 40.0 +13
TSUM LR LR
comp=Z,481nm,19.0s
RCBR Riachuelo 136.83 15 PFAKE 09 08 40.0 +9.4
RCBR LR LR
comp=Z,415nm,20.0s
QSPA South Pole Qui 137.99 180 *e*PKPpre PKPpre 09 08 18.1
QSPA *e*PKPdf **PKiKP 09 08 32.2 -0.9**
QSPA LR LR
comp=Z,533nm,20.0s
SYO Syowa Base 142.63 213⇓*iX* PKPdf 09 08 34.0 -5.3
BDFB Brasilia 142.63 37 PKPpre PKPpre 09 08 37.4
BDFB Brasilia 142.63 37 PKhKP PKPpre 09 08 37.4
comp=Z,15nm,1.0s,baz=342,slow=5.0,SNR=12
LMEL Las Melosas 143.98 83 *i* P PKPbc 09 08 40.9 -0.1
CPUP Villa Florida 146.99 60 *e*PKPdf **PKPdf 09 08 48.6 +0.3**
CPUP PKPbc **PKPbc 09 08 49.5 -0.7**
CPUP Villa Florida 146.99 60 PKPbc **PKPbc 09 08 49.5 -0.7**
comp=Z,107nm,1.3s,baz=301,slow=2.8,SNR=24
PLCA Paso Flores 147.49 94 *e*PKPdf **PKPdf 09 08 48.8 0.0**
PLCA PKPbc **PKPbc 09 08 51.3 -0.1**
PLCA *e*PKPbc **PKiKP 09 08 51.8 -1.7**
PLCA Paso Flores 147.49 94 PKPbc **PKPbc 09 08 51.3 -0.1**
comp=Z,44nm,1.1s,baz=303,slow=3.0,SNR=29
MAIT Maitri 151.38 205 *eP* **PKPbc 09 08 57.5 -2.5**
TRQA Tornquist 151.85 82 *e*PKPdf **PKPdf 09 08 54.6 -1.1**
TRQA *e*PKPbc **PKPbc 09 09 02.1 0.0**
TRQA LR LR
comp=Z,541nm,20.0s
PMSA Palmer Station 153.71 143 *e*PKPbc **PKPbc 09 09 05.0 -0.3**
SNAA Sanae 154.23 196 *e*PKPdf **PKPdf 09 08 57.6 -0.6**
SNAA *e*PKPbc **PKPbc 09 09 05.3 -1.1**
SNAA *e*PKPab **PKPab 09 09 19.4 -1.2**
VNA2 Neumayer--Watz 155.67 194 *e*PKPdf **PKPdf 09 08 59.9 -0.2**
VNA2 Neumayer--Watz 155.67 194 *ep*PKPdf pPKPdf 09 09 09.2 -3.7
VNA2 Neumayer--Watz 155.67 194 *e*PKPab **PKPab 09 09 26.7 +0.1**
VNA2 Neumayer--Watz 155.67 194 *ep*PKPab pPKPab 09 09 34.0 -5.1
VNA2 Neumayer--Watz 155.67 194 *es*PKPab sPKPab 09 09 39.8 -3.9
VNA2 Neumayer--Watz 155.67 194 *e*PP PP 09 13 04.0 0.0
VNA1 Neumayer--Stat 156.05 194 *e*PKPdf **PKPdf 09 08 59.4 -1.1**
VNA1 Neumayer--Stat 156.05 194 *ep*PKPdf pPKPdf 09 09 10.0 -3.4
VNA1 Neumayer--Stat 156.05 194 *e*PKPab **PKPab 09 09 28.3 +0.1**
VNA1 Neumayer--Stat 156.05 194 *ep*PKPab pPKPab 09 09 35.8 -4.9
VNA1 Neumayer--Stat 156.05 194 *es*PKPab sPKPab 09 09 41.9 -3.4
EFI East Falkland 158.97 112 PFAKE 09 09 20.0 +15
EFI LR LR
comp=Z,651nm,19.0s

TAP 11 08:58:35.2, 23°.84N×121°.15E, h38km, ML3.6, 5C-4D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMLT	**Sun Moon Lake**	**0.23**	**281**	⇓*iP*	Pn	08 58 43.1	-0.9
baz=287							
SMLT				*i* S	Sn	08 58 48.7	-3.4
baz=287							
ESL	**Shilin**	**0.26**	**95**	*i* P	Pn	08 58 43.3	-0.3
baz=95							
ESL				S	Sn	08 58 48.4	-2.8
baz=95							
TYC	**Yuchr**	**0.28**	**284**	⇓*iP*	Pn	08 58 43.4	-0.1

	baz=290							
TYC				*i* S	Sn	08 58 49.4	-1.4	
	baz=290							
WHF	**Hehuan Shan**	**0.32**	**19**	⇓*i* P	Pn	08 58 44.5	+0.3	
	baz=25							
WHF				*i* S	Sn	08 58 50.6	-0.8	
	baz=25							
ESF	**Shoufeng Towns**	**0.33**	**84**	*e*P	Pn	08 58 44.1	+0.5	
	baz=84							
ESF				*e*S	Sn	08 58 50.1	-0.3	
	baz=84							
EHY	**Hungye**	**0.37**	**155**	⇑*i* P	Pn	08 58 44.7	+0.8	
	baz=158							
EHY				*e*S	Sn	08 58 51.1	+0.5	
	baz=158							
TEGC	**Jichi Village**	**0.38**	**110**	*e*P	Pn	08 58 46.3	+2.3	
	baz=113							
TWT	**Tachien**	**0.41**	**3**	P	Pn	08 58 45.0	+0.2	
	baz=6.0							
TWT				*i* S	Sn	08 58 52.5	+0.7	
	baz=6.0							
WNT	**Mingjian**	**0.43**	**275**	*e*P	Pn	08 58 45.6	+0.9	
	baz=275							
WNT				*e*S	Sn	08 58 53.3	+1.6	
	baz=275							
HWA	**Hwalien**	**0.44**	**71**	*e*P	Pn	08 58 46.2	+1.3	
	baz=72							
HWA				*e*S	Sn	08 58 53.2	+1.4	
	baz=72							
TWD	**Chiawan**	**0.47**	**59**	*i* P	Pn	08 58 46.0	+0.6	
	baz=68							
TWD				*e*S	Sn	08 58 53.1	+0.5	
	baz=68							
CHN5	**Tsauling**	**0.49**	**241**	⇓*i* P	Pn	08 58 46.5	+0.5	
	baz=241							
CHN5				*e*S	Sn	08 58 54.7	+1.3	
	baz=241							
TWF1	**Yuli**	**0.50**	**164**	⇑*i* P	Pn	08 58 46.6	+0.7	
	baz=167							
TWF1				S	Sn	08 58 54.7	+1.3	
	baz=167							
TCU	**Taichung**	**0.53**	**305**	*i* P	Pn	08 58 47.2	+0.8	
	baz=306							
TCU				S	Sn	08 58 56.1	+1.9	
	baz=306							
WGK	**Gukeng**	**0.56**	**254**	*e*P	Pn	08 58 47.8	+1.0	
	baz=254							
WGK				*e*S	Sn	08 58 56.6	+1.7	
	baz=254							
TWQ1	**Liyutan**	**0.61**	**326**	⇑*i* P	Pn	08 58 48.5	+0.9	
	baz=326							
TWQ1				*i* S	Sn	08 58 58.1	+1.8	
	baz=326							
NNS	**Nan Shan**	**0.63**	**19**	P	Pn	08 58 48.7	+0.7	
	baz=26							
NNS				S	Sn	08 58 57.6	+0.6	
	baz=26							
ELDTW	**Lidau**	**0.66**	**191**	*e*P	Pn	08 58 49.0	+0.6	
	baz=190							
ELDTW				*e*S	Sn	08 58 58.5	+1.0	
	baz=190							
NSY	**Sanyi**	**0.68**	**328**	⇑*i* P	Pn	08 58 49.6	+1.2	
	baz=329							
NSY				S	Sn	08 59 00.0	+2.2	
	baz=329							
CHN4	**Tsaushan**	**0.70**	**227**	*e*P	Pn	08 58 50.0	+1.2	
	baz=226							
CHN4				*e*S	Sn	08 59 00.2	+1.9	
	baz=226							
CHY	**Chiayi**	**0.75**	**243**	*e*P	Pn	08 58 50.7	+1.5	
	baz=242							
CHY				*e*S	Sn	08 59 01.8	+2.5	
	baz=242							
CHKT	**Chengkung**	**0.76**	**165**	*e*P	Pn	08 58 50.4	+0.9	
	baz=153							
CHKT				S	Sn	08 59 02.1	+2.4	
	baz=153							
WTP	**Ta-pu**	**0.77**	**220**	*e*P	Pn	08 58 50.6	+0.9	
	baz=229							
WTP				*e*S	Sn	08 59 01.5	+1.5	
	baz=229							
ENA	**Nanau**	**0.80**	**42**	*e*P	Pn	08 58 51.0	+1.0	
	baz=38							
ENA				*e*S	Sn	08 59 01.7	+1.0	
	baz=38							
WTCT	**Ta-ch'eng**	**0.80**	**272**	*e*P	Pn	08 58 50.1	+0.2	
	baz=272							
WTCT				*e*S	Sn	08 59 02.3	+1.7	
	baz=272							
NSTT	**Nanjuang**	**0.80**	**350**	⇑*i* P	Pn	08 58 51.0	+1.0	
	baz=351							
NSTT				*e*S	Sn	08 59 02.4	+1.6	
	baz=351							
NSK	**Sanguang**	**0.85**	**13**	P	Pn	08 58 52.1	+1.2	
	baz=22							
NSK				*e*S	Sn	08 59 03.0	+0.7	
	baz=22							
CHN1	**Nanshi**	**0.87**	**221**	P	Pn	08 58 52.2	+1.2	
	baz=221							
CHN1				*e*S	Sn	08 59 03.8	+1.3	
	baz=221							
WSF	**Szhu**	**0.87**	**257**	*e*P	Pn	08 58 52.5	+1.5	
	baz=256							
WSF				*e*S	Sn	08 59 05.3	+2.7	
	baz=256							
ENTT	**Nioudou**	**0.88**	**25**	P	Pn	08 58 52.4	+1.2	
	baz=18							
ENTT				*e*S	Sn	08 59 04.7	+1.8	
	baz=18							
SGST	**Jiashian**	**0.92**	**215**	*e*P	Pn	08 58 52.4	+0.8	
	baz=224							
SGST				*e*S	Sn	08 59 05.5	+1.9	
	baz=224							
HSN	**Hsinchu**	**0.97**	**350**	*e*P	Pn	08 58 53.8	+1.4	
	baz=353							
HSN				*e*S	Sn	08 59 07.7	+2.7	
	baz=353							
TWE	**Neicheng**	**1.00**	**28**	*e*P	Pn	08 58 54.2	+1.5	
	baz=23							
TWE				*e*S	Sn	08 59 07.6	+2.1	
	baz=23							
TWC	**Suao**	**1.00**	**40**	*e*P	Pn	08 58 54.1	+1.4	
	baz=35							
TWC				*e*S	Sn	08 59 07.2	+1.7	
	baz=35							
TWG	**Pinlang**	**1.01**	**184**	*e*P	Pn	08 58 54.3	+1.3	
	baz=183							
TWG				*e*S	Sn	08 59 07.6	+1.6	
	baz=183							
NCU	**National Centr**	**1.13**	**2**	*e*P	Pn	08 58 56.2	+1.7	
	baz=3.0							
NCU				*e*S	Sn	08 59 11.1	+2.3	
	baz=3.0							
TWA	**Mucha**	**1.20**	**19**	*e*P	Pn	08 58 57.8	+2.2	
	baz=8.0							
TWA				*e*S	Sn	08 59 14.5	+3.8	
	baz=8.0							
TWM1	**Shoushan**	**1.21**	**214**	*e*P	Pn	08 58 56.8	+1.1	
	baz=203							
TWM1				*e*S	Sn	08 59 12.5	+1.6	
	baz=203							
TWS1	**Kuangyinshan**	**1.28**	**11**	*e*P	Pn	08 58 57.2	+0.6	
	baz=355							
TWS1				*e*S	Sn	08 59 14.9	+2.3	
	baz=355							
NWF	**Wu-fen Shan**	**1.35**	**25**	*e*P	Pn	08 59 00.7	+2.9	
	baz=14							
NWF				*e*S	Sn	08 59 18.5	+4.0	
	baz=14							
TWB1	**Santiao Chiao**	**1.39**	**33**	*e*P	Pn	08 59 02.0	+3.9	
	baz=46							
WDGT	**Dungji**	**1.48**	**247**	*e*P	Pn	08 59 00.2	+0.8	
	baz=246							
WDGT				*e*S	Sn	08 59 17.8	+0.2	
	baz=246							
PNG	**Penghu**	**1.49**	**260**	*e*P	Pn	08 59 01.8	+2.4	
	baz=259							
PNG				*e*S	Sn	08 59 18.5	+0.9	
	baz=259							
SCZT	**Fangliau**	**1.54**	**199**	*e*P	Pn	08 59 01.8	+1.7	
	baz=198							
SCZT				*e*S	Sn	08 59 21.0	+2.1	
	baz=198							
LAY	**Lan-yu**	**1.83**	**168**	*e*P	Pn	08 59 05.2	+1.0	
	baz=158							
LAY				*e*S	Sn	08 59 27.0	+0.9	
	baz=158							
TWK1	**Hengchun**	**1.91**	**190**	*e*P	Pn	08 59 07.1	+1.8	
	baz=202							

NNC 11 09:10:01.4±6.4, 54°45N×86°40E, h0km, mb4.1, mpv3.8, 7C-3D, Error ellipse: s-maj=50.2km s-min=33.3km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**6.14**	**235**	⇑Pn	Pn	09 11 35.7	+2.4
	13nm,0.6s						
KURBB				⇑Sn	Sn	09 12 46.5	+2.3
	13nm,0.7s						
KURBB				⇓Lg	Lg	09 13 21.8	
	25nm,0.8s						
MK31	**Makanchi Array**	**8.10**	**200**	⇑Pn	Pn	09 11 59.5	-0.8
	1.1nm,0.6s,baz=20,slow=12,SNR=4.7						
MK31				⇓Sn	Sn	09 13 30.2	-2.3
	0.6nm,0.4s,baz=24,slow=23,SNR=12						
MK31				⇑Lg	Lg	09 14 15.2	
	13nm,0.9s,baz=25,slow=29,SNR=6.2						
VOSK	**Vostochnaya**	**9.33**	**266**	⇓Pn	Pn	09 12 20.2	+3.0
	3.0nm,0.6s						
VOSK				⇑Sn	Sn	09 14 01.7	-1.0
	8.0nm,0.8s						
BVA0	**Borovoye Array**	**9.60**	**268**	⇑Pn	Pn	09 12 20.2	-0.5
	2.3nm,0.8s,baz=64,slow=16,SNR=4.0						
BVA0				⇑Sn	Sn	09 14 07.0	-2.2
	3.3nm,0.7s,baz=69,slow=27,SNR=10						

*ISCJB **11** 09:12:24.5±0.8, 59°34N±0°03×27°0E±0°1, h0km, Error ellipse: s-maj=7.9km s-min=4.1km az=4.3*
*NAO **11** 09:12:26.7±1.1, 59°31N×27°00E, ML2.2*
*CSEM **11** 09:12:26.9±0.5, 59°30N×26°99E, h1km, ML2.2, Error ellipse: s-maj=11.0km s-min=6.1km az=94.0, Mining explosion.*
*HEL **11** 09:12:27.1±0.9, 59°28N×27°04E, h0km, ML1.6, Explosion*
*BER **11** 09:12:27.4±2.4, 59°33N×27°11E, h0km, ML2.2(NAO), Suspected explosion*
*IDC **11** 09:12:29.3±2.0, 59°43N×26°95E, h0km, mb1 3.2/4, mb1mx3.0/25, mbtmp3.1/4, ML2.5/4, Error ellipse: s-maj=19.6km s-min=11.2km az=123.0*
ISC 11 09:12:26.7±1.0, 59°32N±0°03×27°07E±0°05, h0km, n34, σ1°16/45, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSU	**Vasula**	**0.88**	**192**	Pg	**Pg**	**09 12 43.5**	**0.0**
VSU				Lg	Lg	09 12 55.1	
VSU	**Vasula**	**0.88**	**192**	Pg	**Pg**	**09 12 43.5**	**0.0**
VSU				Lg	Lg	09 12 55.1	
VSU	**Vasula**	**0.88**	**192**	Pg	**Pg**	**09 12 43.5**	**0.0**
VSU	**Vasula**	**0.88**	**192**	*e*P	**Pg**	**09 12 43.8**	**+0.3**
	SNR=90						
VSU				*e*S	**Sg**	**09 12 54.5**	**-0.4**
	281nm,0.8s,SNR=90						
VSU				Lg	Lg	09 12 55.1	
	SNR=95						
VJF	**Virojoki**	**1.25**	**11**	PG	**Pg**	**09 12 49.7**	**-0.8**
VJF				SG	**Sn**	**09 13 10.2**	**+1.4**
VJF				MSG		09 13 10.2	
	comp=Z,4.3nm,0.2s						
VJF	**Virojoki**	**1.25**	**11**	Pg	**Pg**	**09 12 49.7**	**-0.8**
VJF				Sg	**Sn**	**09 13 10.2**	**+1.4**
PVF	**Pernaja**	**1.37**	**334**	PG	**Pg**	**09 12 52.1**	**-0.9**
PVF				SG	**Sg**	**09 13 10.1**	**-0.6**
PVF				MSG		09 13 10.1	
	comp=Z,1.7nm,0.2s						
PVF	**Pernaja**	**1.37**	**334**	Pg	**Pg**	**09 12 52.0**	**-0.9**
PVF				Sg	**Sg**	**09 13 10.0**	**-0.6**
MEF	**Metsahovi**	**1.62**	**305**	PG	**Pn**	**09 12 56.6**	**+0.1**
MEF				SG	**Sg**	**09 13 20.2**	**+1.3**
MEF				MSG		09 13 20.2	
	comp=Z,3.9nm,0.2s						
MEF	**Metsahovi**	**1.62**	**305**	Pg	**Pn**	**09 12 56.6**	**+0.1**
MEF	**Metsahovi**	**1.62**	**305**	*e*P	**Pb**	**09 12 57.2**	**-0.3**
	SNR=50						
MEF				*e*S	**Sb**	**09 13 18.4**	**-0.1**
	comp=Z,25nm,0.8s,SNR=50						
MEF				Sg	**Sg**	**09 13 20.1**	**+1.3**
MTSE	**Matsula**	**1.79**	**252**	PG	**Pn**	**09 12 58.2**	**-0.6**
MTSE				SG	**Sn**	**09 13 20.7**	**-1.5**
MTSE	**Matsula**	**1.79**	**252**	Pg	**Pn**	**09 12 58.2**	**-0.6**
MTSE				Sg	**Sn**	**09 13 20.7**	**-1.5**
FIA0	**FINESS Array S**	**2.19**	**347**	Pn	**Pn**	**09 13 04.5**	**+0.3**
	baz=160,slow=18						
FIA0				Lg	Lg	09 13 34.9	
	baz=165,slow=37						
FIA0				Rg	Rg	09 13 47.8	
	baz=165,slow=37						
FIA0	**FINESS Array S**	**2.19**	**347**	Pn	**Pn**	**09 13 04.5**	**+0.3**
	baz=160,slow=18						
FIA0				Lg	Lg	09 13 34.9	
	baz=165,slow=37						
FIA0				Rg	Rg	09 13 47.8	
	baz=165,slow=37						
FIA0	**FINESS Array S**	**2.19**	**347**	PN	**Pn**	**09 13 04.6**	**+0.3**
	baz=163						
FIA0				SG	**Sb**	**09 13 34.2**	**-0.4**
FIA0				MSG		09 13 34.2	
	comp=Z,8.0nm,0.5s						
FIA0				RG	Rg	09 13 47.7	
FIA0				RG	Rg	09 13 47.7	
FIA0				RG	Rg	09 13 47.7	
FIA0	**FINESS Array S**	**2.19**	**347**	Pn	**Pn**	**09 13 04.6**	**+0.3**
	baz=160,slow=17,SNR=0.4						
FIA0				Sg	**Sb**	**09 13 34.2**	**-0.4**
FINES	**FINESS Array B**	**2.19**	**347**	Pn	**Pn**	**09 13 04.5**	**+0.3**
	comp=Z,1.6nm,0.3s,baz=166,slow=15,SNR=30						
FINES				Pg	**Pb**	**09 13 06.2**	**-0.8**
	comp=Z,1.6nm,0.3s,baz=158,slow=15,SNR=30						
FINES				Lg	Lg	09 13 35.1	
	comp=Z,2.3nm,0.3s,baz=168,slow=28,SNR=20						
FINES				Rg	Rg	09 13 48.1	
	comp=Z,16nm,0.9s,baz=159,slow=32,SNR=6.2						
KAF	**Kangasniemi**	**2.83**	**353**	SG	**Sb**	**09 13 55.1**	**+2.0**
KAF				MSG		09 13 55.1	
	comp=Z,3.2nm,0.2s						
KEF	**Keuruu**	**3.05**	**340**	SG	**Sb**	**09 13 59.8**	**+0.2**
KEF				MSG		09 13 59.8	
	comp=Z,1.8nm,0.4s						
RAF	**Rauma**	**3.15**	**305**	PN	**Pn**	**09 13 19.4**	**+1.8**
RAF	**Rauma**	**3.15**	**305**	*e*P	**Pn**	**09 13 19.0**	**+1.5**
	SNR=50						
RAF	**Rauma**	**3.15**	**305**	Pn	**Pn**	**09 13 19.3**	**+1.8**
RAF				*e*S	**Sn**	**09 13 57.7**	**+1.9**
	SNR=50						
SUF	**Sumiainen**	**3.44**	**353**	PN	**Pn**	**09 13 23.6**	**+2.1**
SUF	**Sumiainen**	**3.44**	**353**	Pn	**Pn**	**09 13 23.5**	**+2.1**
HFS	**Hagfors**	**6.81**	**283**	Sn	Sn	09 15 18.7	-7.2
HFS				Lg	Lg	09 15 59.2	
	baz=84,slow=28						
HFS	**Hagfors**	**6.81**	**283**	Sn	Sn	09 15 18.7	-7.2
HFS				Lg	Lg	09 15 59.2	
	baz=84,slow=28						
HFS	**Hagfors**	**6.81**	**283**	Pn	**Pn**	**09 14 07.4**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=106,slow=15,SNR=2.7						
HFS				Lg	Lg	09 15 58.8	
	comp=Z,0.4nm,0.3s,baz=93,slow=31,SNR=5.8						
HFS	**Hagfors**	**6.81**	**283**	Lg	Lg	09 15 59.2	
	baz=84,slow=26,SNR=6.3						
NOA	**NORSAR Array B**	**8.09**	**289**	Pn	**Pn**	**09 14 23.8**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=121,slow=11,SNR=2.7						
NOA				Lg	Lg	09 16 37.3	
	comp=Z,0.2nm,0.3s,baz=95,slow=14,SNR=3.8						
ARA0	**ARCESS Array S**	**10.28**	**357**	Pn	**Pn**	**09 14 53.5**	**-1.7**
	baz=171,slow=16						
ARA0	**ARCESS Array S**	**10.28**	**357**	Pn	**Pn**	**09 14 53.5**	**-1.7**
	baz=171,slow=16						
ARA0	**ARCESS Array S**	**10.28**	**357**	Pn	**Pn**	**09 14 53.5**	**-1.7**
	baz=171,slow=15,SNR=0.6						
ARCES	**ARCESS Array B**	**10.28**	**357**	Pn	**Pn**	**09 14 53.7**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=177,slow=13,SNR=6.6						

*NEIC **11** 09:26:22.4, 17°15N×94°09W, h181km, MD4.0(MEX), After MEX.*
MEX 11 09:26:22.4±1.1, 17°15N×94°09W, h181km±9km, MD4.0, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.76**	**266**	*e*P	Pn	09 26 47.7	-0.9
CMIG				*i* S	Sn	09 27 06.7	-2.0
CMIG	**Matias Romero**	**0.76**	**266**	*e*P	Pn	09 26 47.7	-0.9
CMIG				*i* S	Sn	09 27 06.7	-2.0
TGIG		**1.00**	**111**	*i* P	Pn	09 26 48.8	-1.5
TGIG				*i* S	Sn	09 27 08.7	-3.1
TGIG		**1.00**	**111**	*i* P	Pn	09 26 48.8	-1.5
TGIG				*i* S	Sn	09 27 08.7	-3.1
PCIG		**1.66**	**150**	*i* P	Pn	09 26 55.4	-0.7
PCIG				*i* S	Sn	09 27 19.9	-2.2
PCIG		**1.66**	**150**	*i* P	Pn	09 26 55.4	-0.7
PCIG				*i* S	Sn	09 27 19.9	-2.2
CCIG	**Comitan**	**2.06**	**114**	*i* P	Pn	09 26 59.3	-1.1
CCIG				*i* S	Sn	09 27 27.5	-2.5
CCIG	**Comitan**	**2.06**	**114**	*i* P	Pn	09 26 59.3	-1.1
CCIG				*i* S	Sn	09 27 27.5	-2.5
HUIG	**Huatulco**	**2.37**	**235**	*i* P	Pn	09 27 01.5	-2.2
HUIG				*i* S	Sn	09 27 34.0	-1.7
HUIG	**Huatulco**	**2.37**	**235**	*i* P	Pn	09 27 01.5	-2.2
HUIG				*i* S	Sn	09 27 34.0	-1.7
VHO	**Vista Hermosa**	**2.52**	**269**	*i* P	Pn	09 27 04.3	-1.4
VHO				*i* S	Sn	09 27 37.8	-1.6
VHO	**Vista Hermosa**	**2.52**	**269**	*i* P	Pn	09 27 04.3	-1.4
VHO				*i* S	Sn	09 27 37.8	-1.6
PNIG	**Pinotepa**	**3.94**	**260**	*i* P	Pn	09 27 21.3	-1.5
PNIG				*i* S	Sn	09 28 08.3	-1.7
PNIG	**Pinotepa**	**3.94**	**260**	*i* P	Pn	09 27 21.3	-1.5
PNIG				*i* S	Sn	09 28 08.3	-1.7

*ISK **11** 09:28:23.5, 37°32N×28°18E, h6km, MD2.5*
*ISCJB **11** 09:28:24.1±0.5, 37°28N±0°03×28°20E±0°04, h0km, Error ellipse: s-maj=5.5km s-min=3.4km az=34.4*
*CSEM **11** 09:28:24.3±0.2, 37°28N×28°21E, h1km, MD2.5, Error ellipse: s-maj=5.6km s-min=4.2km az=31.0*
*DDA **11** 09:28:24.4, 37°22N×28°16E, h14km, MD2.7*
ISC 11 09:28:24.1±0.8, 37°30N±0°03×28°19E±0°02, h0km, n28, σ1°04/39, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.18**	**156**	*e*PG	**Pg**	**09 28 27.8**	**+0.3**
YER	**Yerkesik**	**0.18**	**156**	*e*Pg	**Pg**	**09 28 27.8**	**+0.3**
AYDN	**Tasoluk**	**0.44**	**326**	*i* P	**Pb**	**09 28 34.6**	**-0.2**
AYDN				*i* S	**Sb**	**09 28 42.0**	**-0.1**
AYDN	**Tasoluk**	**0.44**	**326**	*i* P	**Pb**	**09 28 34.6**	**-0.2**
AYDN				*i* S	**Sb**	**09 28 42.0**	**-0.1**
TURN	**Turunc**	**0.54**	**142**	*i* P	**Pg**	**09 28 32.7**	**-1.7**
TURN				*i* S	**Sg**	**09 28 40.8**	**-0.5**
TURN	**Turunc**	**0.54**	**142**	*i* P	**Pg**	**09 28 32.7**	**-1.7**
TURN				*i* S	**Sg**	**09 28 40.8**	**-0.5**
DALY	**Dalyan (Mu¨la**	**0.60**	**142**	*e*PG	**Pg**	**09 28 36.1**	**+0.4**
DALY				*e*SG	**Sb**	**09 28 45.4**	**-1.2**
DALY	**Dalyan (Mu¨la**	**0.60**	**142**	*e*Pg	**Pg**	**09 28 36.1**	**+0.4**
DALY				*e*Sg	**Sb**	**09 28 45.4**	**-1.2**
BDRM	**Kayabasi**	**0.64**	**249**	*i* P	**Pg**	**09 28 36.3**	**-0.1**
BDRM				*i* S	**Sg**	**09 28 45.5**	**+0.8**
BDRM	**Kayabasi**	**0.64**	**249**	*i* P	**Pg**	**09 28 36.3**	**-0.1**
BDRM				*i* S	**Sg**	**09 28 45.5**	**+0.8**
BODT	**Bodrum**	**0.74**	**252**	*e*PG	**Pg**	**09 28 38.2**	**-0.2**
BODT	**Bodrum**	**0.74**	**252**	*e*Pg	**Pg**	**09 28 38.2**	**-0.2**
DAT	**Datca**	**0.75**	**221**	*e*PG	**Pg**	**09 28 38.7**	**+0.2**
DAT	**Datca**	**0.75**	**221**	*e*Pg	**Pg**	**09 28 38.7**	**+0.2**
DNZL	**Cakiroluk**	**0.78**	**60**	*i* P	**Pg**	**09 28 39.8**	**+0.6**
DNZL	**Cakiroluk**	**0.78**	**60**	*i* P	**Pg**	**09 28 39.8**	**+0.6**
DENT	**Denizli**	**0.81**	**55**	*e*PG	**Pg**	**09 28 39.5**	**-0.1**
DENT	**Denizli**	**0.81**	**55**	*e*Pg	**Pg**	**09 28 39.5**	**-0.1**
GCAM	**G?zelcaml?**	**0.86**	**298**	*i* P	**Pb**	**09 28 41.6**	**-0.4**
GCAM				*i* S	**Sg**	**09 28 53.0**	**+1.1**
GCAM	**G?zelcaml?**	**0.86**	**298**	*i* P	**Pb**	**09 28 41.6**	**-0.4**
GCAM				*i* S	**Sg**	**09 28 53.0**	**+1.1**
FETY	**Fethiye**	**0.97**	**133**	*e*PG	**Pg**	**09 28 43.1**	**+0.3**
FETY	**Fethiye**	**0.97**	**133**	*e*Pg	**Pg**	**09 28 43.1**	**+0.3**
KULA	**Kula-Manisa**	**1.27**	**17**	*e*PN	**Pg**	**09 28 47.8**	**-0.7**
KULA	**Kula-Manisa**	**1.27**	**17**	*e*Pn	**Pg**	**09 28 47.8**	**-0.7**
ELL	**Elmali**	**1.48**	**111**	*e*PN	**Pn**	**09 28 51.6**	**-0.5**
ELL	**Elmali**	**1.48**	**111**	*e*Pn	**Pn**	**09 28 51.7**	**-0.5**
AKAS	**Kas**	**1.55**	**133**	*i* P	**Pn**	**09 28 53.3**	**+0.1**
AKAS				*i* S	**Sg**	**09 29 18.8**	**+4.8**
AKAS	**Kas**	**1.55**	**133**	*i* P	**Pn**	**09 28 53.3**	**+0.1**

*ISCJB **11** 09:28:45.0±0.5, 39°90N±0°04×28°85E±0°06, h19km±9km, Error ellipse: s-maj=8.2km s-min=4.9km az=36.0*
*CSEM **11** 09:28:44.5±0.2, 39°90N×28°84E, h15km, MD2.6, Error ellipse: s-maj=5.7km s-min=3.6km az=127.0*
*ISK **11** 09:28:44.7, 39°94N×28°81E, h22km, MD2.6*
ISC 11 09:28:44.7±0.9, 39°91N±0°03×28°81E±0°03, h16km±7km, n32, σ0°86/38, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORLT	**Orhaneli**	**0.15**	**24**	*e*PG	**Pg**	**09 28 49.4**	**+0.5**
ORLT	**Orhaneli**	**0.15**	**24**	*e*Pg	**Pg**	**09 28 49.4**	**+0.5**
ULDT	**Uludag**	**0.34**	**46**	*i* P	**Pg**	**09 28 50.4**	**-1.5**
ULDT	**Uludag**	**0.34**	**46**	*i* P	**Pg**	**09 28 50.4**	**-1.5**
DURS	**Dursunbey**	**0.40**	**221**	*i* P	**Pg**	**09 28 51.6**	**-1.3**
DURS				*i* S	**Sg**	**09 28 58.6**	**0.0**
DURS	**Dursunbey**	**0.40**	**221**	*i* P	**Pg**	**09 28 51.6**	**-1.4**
DURS				*i* S	**Sg**	**09 28 58.6**	**0.0**
ARMT	**Armutlu**	**0.66**	**3**	*e*PG	**Pg**	**09 28 57.6**	**-0.1**
ARMT				*e*SG	**Sg**	**09 29 07.2**	**+0.8**
ARMT	**Armutlu**	**0.66**	**3**	*e*Pg	**Pg**	**09 28 57.6**	**-0.1**
ARMT				*e*Sg	**Sg**	**09 29 07.2**	**+0.8**
BALB	**Balikesir**	**0.77**	**250**	*e*PG	**Pn**	**09 29 00.5**	**-0.4**
BALB	**Balikesir**	**0.77**	**250**	*e*Pg	**Pn**	**09 29 00.5**	**-0.4**
CAVI	**Cavuskoy**	**0.84**	**69**	*e*PG	**Pn**	**09 29 01.4**	**-0.6**
CAVI	**Cavuskoy**	**0.84**	**69**	*e*Pg	**Pn**	**09 29 01.4**	**-0.6**
DEMI	**Demirci**	**0.87**	**185**	*i* P	**Pb**	**09 29 01.4**	**0.0**
DEMI				*i* S	**Sn**	**09 29 16.2**	**+1.5**
DEMI	**Demirci**	**0.87**	**185**	*i* P	**Pb**	**09 29 01.4**	**0.0**
GONE	**Gonen-Balikesi**	**0.88**	**279**	*e*PG	**Pg**	**09 29 01.9**	**+0.2**
GONE	**Gonen-Balikesi**	**0.88**	**279**	*e*Pg	**Pg**	**09 29 02.0**	**+0.2**
ADVT	**Abdulvahap**	**0.88**	**53**	*e*PG	**Pn**	**09 29 01.9**	**-0.6**
ADVT	**Abdulvahap**	**0.88**	**53**	*e*Pg	**Pn**	**09 29 01.9**	**-0.6**
BALY	**Balya**	**0.94**	**260**	*i* P	Pb	09 28 57.5	-5.1
BALY				*i* S	**Sn**	**09 29 16.1**	**-0.2**
BALY	**Balya**	**0.94**	**260**	*i* S	**Sn**	**09 29 16.1**	**-0.2**
GDZ	**Gediz**	**0.97**	**148**	*i* P	**Pb**	**09 29 02.9**	**-0.3**
GDZ				*i* S	**Sn**	**09 29 20.0**	**+2.8**
GDZ	**Gediz**	**0.97**	**148**	*i* P	**

*KRSC **11** 10:11:47.8±0.9, 48°.82N×155°.69E, h3km±2km, ML4.0*
*IDC **11** 10:11:47.8±1.1, 48°.78N×155°.54E, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.4/23, mbtmp3.4/5, ML3.1/1, Error ellipse: s-maj=40.7km s-min=27.7km az=120.0*
*ISCJB **11** 10:11:52.6±0.7, 48°.91N±0°.06×155°.8E±0°.2, h51km, mb3.4/4, Error ellipse: s-maj=19.5km s-min=6.4km az=21.1*

ISC 11 10:11:54.4±1.1, 48°.94N±0°.10×155°.7E±0°.2, h51km, n23, σ0§84/30, mb3.3/4, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.77**	**9**	*e*P	**Pn**	**10 12 20.1**	**-2.5**
SKR				*i* S	**Sn**	**10 12 44.0**	**+0.2**
PAU	**Pauzhetka**	**2.63**	**15**	*e*P	**Pn**	**10 12 32.5**	**-1.9**
PAU				*i* S	**Sn**	**10 13 05.1**	**+0.1**
MIPR	**Malaya Ipel'ka**	**3.41**	**11**	*e*P	**Pn**	**10 12 45.9**	**+0.8**
ASAK	**Asacha**	**3.72**	**21**	*e*P	**Pn**	**10 12 49.2**	**-0.2**
MTVR	**Mutnovka**	**3.88**	**23**	*e*P	**Pn**	**10 12 51.0**	**-0.7**
MTVR				*i* S	**Sn**	**10 13 36.3**	**+0.2**
RUS	**Russkaya**	**3.93**	**26**	*e*P	**Pn**	**10 12 51.2**	**-1.0**
RUS				*i* S	**Sn**	**10 13 36.7**	**-0.3**
APC	**Apacha**	**4.10**	**12**	*e*P	**Pn**	**10 12 54.4**	**-0.1**
APC				*i* S	**Sn**	**10 13 41.9**	**+0.8**
PETK	**Petropavlovsk-** 1.0nm,0.3s,baz=183,slow=14,SNR=13	**4.36**	**16**	Pn	**Pn**	**10 12 59.1**	**+1.0**
PET	**Petropavlovsk**	**4.50**	**23**	*e*P	**Pn**	**10 13 00.1**	**+0.2**
PET				*i* S	**Sn**	**10 13 51.3**	**+0.4**
UGLR	**Uglovaya**	**4.71**	**24**	*e*P	**Pn**	**10 13 03.4**	**+0.4**
KOK	**Koryaka**	**4.74**	**22**	*e*P	**Pn**	**10 13 03.5**	**+0.2**
AVH	**Avacha**	**4.74**	**23**	*e*P	**Pn**	**10 13 03.1**	**-0.2**
SMAR	**Somma**	**4.75**	**23**	*e*P	**Pn**	**10 13 04.3**	**+0.7**
KRER	**Koryakskii**	**4.78**	**23**	*e*P	**Pn**	**10 13 04.1**	**+0.1**
SDLR	**Sedlovina**	**4.79**	**24**	*e*P	**Pn**	**10 13 04.5**	**+0.5**
KRX	**Arik**	**4.80**	**22**	*e*P	**Pn**	**10 13 04.7**	**+0.5**
GNL	**Ganaly**	**4.97**	**16**	*e*P	**Pn**	**10 13 07.1**	**+0.6**
SPN	**Mys Shipunski**	**4.98**	**32**	*e*P	**Pn**	**10 13 05.9**	**-0.7**
SPN				*i* S	**Sn**	**10 14 01.6**	**-1.2**
MKZ	**Mys Kozlova**	**6.76**	**31**	*e*P	**Pn**	**10 13 30.5**	**-0.4**
MKAR	**Makanchi Array** 0.4nm,0.6s,baz=72,slow=6.8,SNR=4.4	**47.49**	**297**	P	**P**	**10 20 23.9**	**-0.2**
WRA	**Warramunga Arr** 0.5nm,1.0s,baz=14,slow=6.5,SNR=4.1	**71.17**	**201**	P	**P**	**10 23 07.0**	**-0.7**
ASAR	**Alice Springs** 0.2nm,0.6s,baz=22,slow=5.3,SNR=3.3	**74.86**	**201**	P	**P**	**10 23 29.6**	**+0.2**
TXAR	**Lajitas Array** 0.2nm,0.6s,baz=294,slow=4.8,SNR=3.6	**74.92**	**63**	P	**P**	**10 23 31.3**	**+1.2**

*IDC **11** 10:24:24.6±1.6, 1°.73N×126°.80E, h0km, mb4.1/3, mb1 4.2/5, mb1mx3.8/23, mbtmp4.1/5, ML3.9/2, Error ellipse: s-maj=56.7km s-min=22.1km az=70.0*
*NEIC **11** 10:24:26.4±0.9, 1°.70N×126°.77E, h10km, mb4.3/1, Error ellipse: s-maj=23.2km s-min=12.9km az=69.0*
*ISCJB **11** 10:24:29.4±0.9, 1°.72N±0°.07×126°.63E±0°.05, h47km, mb4.1/4, Error ellipse: s-maj=11.3km s-min=5.9km az=22.3*
*DJA **11** 10:24:32.6±1.0, 1°N±3°×12°6E±°, h20km±14km, M4.1/5, MLv4.1/5*

ISC 11 10:24:32.2±1.0, 1°.54N±0°.07×126°.63E±0°.07, h47km, n20, σ1§44/23, mb4.1/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.06**	**136**	P	**Pn**	**10 24 50.7**	**0.0**
TNTI				S	**Sn**	**10 25 05.2**	**+0.8**
LBMI	**Labuha**	**2.33**	**158**	P	Pn	10 25 13.5	+5.4
LBMI				S	**Sn**	**10 25 38.7**	**+3.1**
SGSI	**Sangihe**	**2.40**	**333**	S	**Sn**	**10 25 39.6**	**+2.5**
KMSI	**Cibinong**	**2.81**	**250**	P	**Pn**	**10 25 15.3**	**+0.6**
KMSI				S	**Sn**	**10 25 47.0**	**-0.4**
GTOI	**Gorontalo**	**3.72**	**256**	P	**Pn**	**10 25 29.0**	**+1.8**
GTOI				S	**Sn**	**10 26 11.8**	**+2.0**
LUWI	**Luwuk**	**4.63**	**236**	P	**Pn**	**10 25 38.6**	**-1.0**
MRSI	**Marisa**	**4.80**	**257**	P	**Pn**	**10 25 40.2**	**-1.8**
KAPI	**Kappang**	**9.46**	**226**	Pn	**Pn**	**10 26 46.3**	**+0.3**
KAPI				*e*Pn	Pn	10 26 47.7	+1.7
KAPI	**Kappang** 1.5nm,0.3s,baz=8.0,slow=12,SNR=4.3	**9.46**	**226**	Pn	**Pn**	**10 26 46.3**	**+0.3**
FITZ	**Fitzroy Crossi**	**19.54**	**183**	P	**P**	**10 28 54.8**	**-1.2**
FITZ	**Fitzroy Crossi** 0.2nm,0.3s,baz=16,slow=10,SNR=6.1	**19.54**	**183**	P	**P**	**10 28 54.8**	**-1.2**
WRAB	**Tennant Creek** 6.3nm,0.6s	**22.65**	**161**	*e*P	**P**	**10 29 29.1**	**-0.4**
WRA	**Warramunga Arr**	**22.65**	**161**	P	**P**	**10 29 28.3**	**-1.3**
WRA	**Warramunga Arr** 5.9nm,0.7s,baz=340,slow=11,SNR=97	**22.65**	**161**	P	**P**	**10 29 28.3**	**-1.3**
AS31	**Alice Springs**	**26.04**	**165**	*e*P	**P**	**10 30 02.2**	**+1.0**
ASAR	**Alice Springs**	**26.04**	**165**	P	**P**	**10 30 01.9**	**+0.6**
ASAR	**Alice Springs** 2.0nm,0.4s,baz=344,slow=9.6,SNR=79	**26.04**	**165**	P	**P**	**10 30 01.8**	**+0.6**
MK31	**Makanchi Array**	**59.29**	**326**	*e*P	**P**	**10 34 28.0**	**-1.2**
MKAR	**Makanchi Array**	**59.29**	**326**	P	**P**	**10 34 27.9**	**-1.3**
MKAR	**Makanchi Array** 0.7nm,0.4s,baz=119,slow=8.3,SNR=14	**59.29**	**326**	P	**P**	**10 34 27.9**	**-1.3**

IDC 11 10:30:39.2±2.5, 16°.31S×173°.35W, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.8/19, mbtmp3.9/5, ML1.8/1, Error ellipse: s-maj=131.4km s-min=23.3km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.83**	**33**	Pn	Pn	10 31 24.1	-1.7
AFI	9.4nm,0.3s,baz=110,slow=19,SNR=16			Sn	Sn	10 31 53.3	-7.4
STKA	**Stephens Creek** 1.8nm,0.6s,baz=90,slow=13,SNR=2.8	**43.63**	**241**	P	P	10 38 45.3	-0.4
WRA	**Warramunga Arr** 0.2nm,0.4s,baz=96,slow=6.6,SNR=10	**49.69**	**258**	P	P	10 39 32.7	-0.7
ASAR	**Alice Springs** 2.3nm,0.6s,baz=90,slow=7.9,SNR=66	**49.88**	**253**	P	P	10 39 34.5	-0.3
PDAR	**Pinedale Array** 0.4nm,0.7s,baz=212,slow=3.2,SNR=4.0	**82.91**	**42**	P	P	10 43 06.5	+0.2
BRTR	**Keskin Array B** 1.3nm,0.8s,baz=36,slow=5.4,SNR=7.2	**146.89**	**320**	PKPbc	PKPab	10 50 24.8	-0.6

IDC 11 10:39:34.4±4.8, 62°.81S×155°.42E, h0km, mb3.7/4, mb1 4.0/5, mb1mx3.9/14, mbtmp3.8/5, ML4.0/1, MS3.9/5, Ms1 3.9/5, ms1mx3.5/23, Error ellipse: s-maj=279.4km s-min=20.6km az=77.0, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda** 0.7nm,0.3s,baz=342,slow=14,SNR=21	**14.93**	**175**	Pn	Pn	10 43 04.0	-2.2
VNDA	comp=Z,316nm,20.1s,baz=302,slow=35			LR	LR	10 48 21.9	
RPZ	**Rata Peaks** comp=Z,300nm,18.8s,baz=27,slow=35	**21.17**	**33**	LR	LR	10 51 50.0	
QSPA	**South Pole Qui** 4.4nm,1.0s,baz=29,slow=5.1,SNR=13	**27.28**	**180**	P	P	10 45 20.9	+0.6
QSPA	comp=Z,257nm,20.9s,baz=155,slow=35			LR	LR	10 55 23.8	
ASAR	**Alice Springs** 0.9nm,0.8s,baz=166,slow=9.3,SNR=7.3	**41.72**	**330**	P	P	10 47 25.3	+0.5
SNAA	**Sanae** 0.3nm,0.8s,baz=179,slow=10,SNR=4.2	**44.96**	**190**	P	P	10 47 50.2	-0.4
WRA	**Warramunga Arr** 4.3nm,1.4s,baz=163,slow=7.0,SNR=6.0	**45.22**	**332**	P	P	10 47 52.1	-0.9
AFI	**Afiamalu** comp=Z,138nm,19.8s,baz=147,slow=32	**54.04**	**41**	LR	LR	11 08 10.8	
BOSA	**Boshof** comp=Z,117nm,18.4s,baz=168,slow=32	**80.64**	**223**	LR	LR	11 23 17.0	

*CSEM **11** 11:04:41.0, 35°.02N×26°.77E, h13km, MD3.5, After ATH*

ATH 11 11:04:41.0, 35°.02N×26°.77E, h13km±4km, MD3.5/9, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.46**	**282**	*e*PG	Pg	11 04 49.8	-0.4
ZKR				*e*SB	Sb	11 04 57.5	-0.4
ZKR	**Zakros**	**0.46**	**282**	*e*Pg	Pg	11 04 49.8	-0.4
ZKR				*e*Sb	Sb	11 04 57.5	-0.4
KARP	**Karpathos**	**0.62**	**31**	*e*PB	Pg	11 04 51.9	-1.2
KARP				*e*SB	Sg	11 05 01.8	+0.5
KARP	**Karpathos**	**0.62**	**31**	*e*Pb	Pg	11 04 51.9	-1.2
KARP				*e*Sb	Sg	11 05 01.8	+0.5
NPS	**Neapolis**	**0.98**	**285**	*e*PG	Pb	11 04 59.4	-0.5
NPS	**Neapolis**	**0.98**	**285**	*e*Pg	Pb	11 04 59.4	-0.5
LAST	**Lasithi**	**1.07**	**278**	*e*PG	Pb	11 05 00.8	-0.7
LAST	**Lasithi**	**1.07**	**278**	*e*Pg	Pb	11 05 00.8	-0.7
IDI	**Anoyia**	**1.56**	**280**	*e*PB	Pg	11 05 10.6	-0.6
IDI	**Anoyia**	**1.56**	**280**	*e*Pb	Pg	11 05 10.6	-0.6
SIVA	**Sivas**	**1.61**	**270**	*e*PB	Pg	11 05 11.9	0.0
SIVA	**Sivas**	**1.61**	**270**	*e*Pb	Pg	11 05 11.9	0.0
ARG	**Arkhangelos**	**1.63**	**42**	*e*PB	Pg	11 05 12.1	-0.2
ARG	**Arkhangelos**	**1.63**	**42**	*e*Pb	Pg	11 05 12.1	-0.2
VAM	**Vamos**	**2.14**	**281**	*e*PN	Pb	11 05 18.2	-1.4
VAM	**Vamos**	**2.14**	**281**	*e*Pn	Pb	11 05 18.2	-1.4
APE	**Apeiranthos**	**2.28**	**334**	*e*PB	Pn	11 05 19.3	+0.9
APE	**Apeiranthos**	**2.28**	**334**	*e*Pb	Pn	11 05 19.3	+0.9
KARN	**Karanos**	**2.37**	**280**	*e*PN	Pb	11 05 21.7	-1.8
KARN	**Karanos**	**2.37**	**280**	*e*Pn	Pb	11 05 21.7	-1.8
VLI	**Veliai**	**3.54**	**300**	*e*PN	Pn	11 05 38.0	+2.3
VLI	**Veliai**	**3.54**	**300**	*e*Pn	Pn	11 05 38.0	+2.3

*ISCJB **11** 11:32:22.4±1.4, 67°.53N±0°.04×33°.6E±0°.2, h0km, Error ellipse: s-maj=10.0km s-min=5.7km az=177.5*
*CSEM **11** 11:32:25.0±0.5, 67°.55N×33°.59E, h1km, ML3.0, Error ellipse: s-maj=8.1km s-min=5.8km az=72.0, Mining explosion.*
*IDC **11** 11:32:25.9±1.8, 67°.72N×33°.70E, h0km, mb1 3.6/5, mb1mx3.3/27, mbtmp3.6/5, ML3.2/5, Error ellipse: s-maj=19.6km s-min=9.6km az=83.0*
*NAO **11** 11:32:25.3±1.2, 67°.57N×33°.76E, ML3.0*
*HEL **11** 11:32:25.1±0.7, 67°.62N×33°.87E, h0km, ML2.2, Explosion*

ISC 11 11:32:21.5±1.6, 67°.58N±0°.04×34°.10E±0°.09, h0km, n35, σ1§15/51, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA0	**Apatity Array** baz=74,slow=18	**0.42**	**274**	Pg	**Pg**	**11 32 30.6**	**+1.0**
APA0	baz=92,slow=37			Lg	Lg	11 32 35.6	
APA0	baz=100,slow=37			Rg	Rg	11 32 36.8	
APA0	**Apatity Array** baz=74,slow=18	**0.42**	**274**	Pg	**Pg**	**11 32 30.6**	**+1.0**
APA0	baz=92,slow=37			Lg	Lg	11 32 35.6	
APA0	baz=100,slow=37			Rg	Rg	11 32 36.8	
APA0	**Apatity Array** baz=74,slow=18,SNR=230	**0.42**	**274**	Pg	**Pg**	**11 32 30.5**	**+1.0**
APA0	baz=92,slow=32,SNR=90			Lg	Lg	11 32 35.7	
VRF	**Varrio** baz=92	**1.72**	**278**	PG	**Pg**	**11 32 54.5**	**+0.1**
VRF				SG	**Sb**	**11 33 15.8**	**-0.3**
VRF	comp=Z,15nm,0.1s			MSG		11 33 15.8	
VRF	**Varrio**	**1.72**	**278**	Pg	**Pg**	**11 32 54.5**	**+0.1**
VRF				Sg	**Sb**	**11 33 15.8**	**-0.3**
KU6	**Riekki** baz=49	**2.28**	**229**	PN	**Pg**	**11 33 04.7**	**-0.6**
KU6				SG	**Sg**	**11 33 34.4**	**-0.3**
KU6	comp=Z,8.0nm,0.1s			MSG		11 33 34.4	
KU6	**Riekki**	**2.28**	**229**	Pn	**Pg**	**11 33 04.6**	**-0.6**
KU6				Sg	**Sg**	**11 33 34.4**	**-0.3**
MSF	**Maaselka**	**2.62**	**232**	PN	**Pb**	**11 33 08.9**	**-0.2**
MSF				SG	**Sb**	**11 33 43.3**	**+1.5**
MSF	comp=Z,9.4nm,0.4s			MSG		11 33 43.3	
MSF	**Maaselka**	**2.62**	**232**	Pn	**Pb**	**11 33 08.9**	**-0.2**
MSF				Sg	**Sb**	**11 33 43.3**	**+1.5**
SGF	**Sodankyl**	**2.91**	**271**	SG	**Sb**	**11 33 50.4**	**+0.1**
SGF	comp=Z,22nm,0.4s			MSG	**Sb**	**11 33 50.4**	**+0.1**
SGF	comp=Z,22nm,0.4s			SG	**Sb**	**11 33 50.4**	**+0.1**
SGF				MSG		11 33 50.4	
SGF	**Sodankyl**	**2.91**	**271**	Sg	**Sb**	**11 33 50.4**	**+0.1**
RNF	**Rovaniemi**	**3.31**	**257**	PN	**Pn**	**11 33 16.8**	**+2.4**
RNF	**Rovaniemi**	**3.31**	**257**	Pn	**Pn**	**11 33 16.8**	**+2.4**
ARA0	**ARCESS Array S** baz=122,slow=16	**3.71**	**306**	Pn	**Pn**	**11 33 21.3**	**+1.3**
ARA0	baz=126,slow=28			Sn	**Sn**	**11 34 03.5**	**-0.9**
ARA0	baz=126,slow=37			Lg	Lg	11 34 15.2	
ARA0	**ARCESS Array S** baz=122,slow=16	**3.71**	**306**	Pn	**Pn**	**11 33 21.3**	**+1.3**
ARA0	baz=126,slow=28			Sn	**Sn**	**11 34 03.5**	**-0.9**
ARA0	baz=126,slow=37			Lg	Lg	11 34 15.2	
ARA0	**ARCESS Array S** baz=122,slow=14,SNR=117	**3.71**	**306**	Pn	**Pn**	**11 33 21.3**	**+1.3**
ARA0	baz=126,slow=24,SNR=0.9			Sn	**Sn**	**11 34 03.5**	**-0.9**
ARA0	baz=126,slow=29,SNR=90			Lg	Lg	11 34 15.1	
ARCES	**ARCESS Array B** comp=Z,6.4nm,0.3s,baz=122,slow=15,SNR=75	**3.71**	**306**	Pn	**Pn**	**11 33 21.3**	**+1.3**
ARCES	comp=Z,4.6nm,0.3s,baz=122,slow=26,SNR=11			Sn	**Sn**	**11 34 03.0**	**-1.4**
ARCES	comp=Z,8.6nm,0.3s,baz=113,slow=34,SNR=11			Lg	Lg	11 34 14.8	
OUL	**Oulu**	**4.15**	**237**	SG	**Sb**	**11 34 25.7**	**-0.1**
OUL	comp=Z,2.4nm,0.4s			MSG		11 34 25.7	
KTK1	**Kautokeino**	**4.28**	**295**	*e*S	**Sn**	**11 34 17.2**	**-1.2**
KTK1	comp=Z,117nm,0.8s			AML	AML	11 34 39.4	
KTK1	**Kautokeino** comp=Z,117nm,0.8s,SNR=49	**4.28**	**295**	*e*S	**Sn**	**11 34 17.2**	**-1.2**
FIA0	**FINESS Array S** baz=27,slow=14	**7.06**	**213**	Pn	**Pn**	**11 34 08.3**	**+2.4**
FIA0	baz=26,slow=22			Sn	**Sn**	**11 35 25.5**	**-1.3**
FIA0	baz=24,slow=28			Lg	Lg	11 36 00.1	
FIA0	**FINESS Array S** baz=27,slow=14	**7.06**	**213**	Pn	**Pn**	**11 34 08.3**	**+2.4**
FIA0	baz=26,slow=22			Sn	**Sn**	**11 35 25.5**	**-1.3**
FIA0	baz=24,slow=28			Lg	Lg	11 36 00.1	
FIA0	**FINESS Array S** baz=27,slow=13,SNR=6.7	**7.06**	**213**	Pn	**Pn**	**11 34 08.3**	**+2.4**
FIA0	baz=26,slow=21,SNR=3.0			Sn	**Sn**	**11 35 25.5**	**-1.3**
FIA0	baz=24,slow=25,SNR=6.1			Lg	Lg	11 36 00.1	
FINES	**FINESS Array B** comp=Z,0.2nm,0.3s,baz=29,slow=14,SNR=5.7	**7.06**	**213**	Pn	**Pn**	**11 34 08.1**	**+2.1**
FINES	comp=Z,0.8nm,0.3s,baz=30,slow=23,SNR=6.6			Sn	**Sn**	**11 35 25.8**	**-0.9**
FINES	comp=Z,1.8nm,0.3s,baz=28,slow=33,SNR=9.4			Lg	Lg	11 36 00.1	
HFS	**Hagfors** baz=39,slow=14	**11.63**	**240**	Pn	**Pn**	**11 35 08.5**	**0.0**
HFS	**Hagfors** baz=39,slow=14	**11.63**	**240**	Pn	**Pn**	**11 35 08.5**	**0.0**
HFS	**Hagfors** comp=Z,0.2nm,0.3s,baz=41,slow=13,SNR=6.0	**11.63**	**240**	Pn	**Pn**	**11 35 08.6**	**0.0**
HFS	comp=Z,0.2nm,0.3s,baz=45,slow=22,SNR=4.3			Sn	Sn	11 37 12.4	-6.6
HFS	comp=Z,0.5nm,0.3s,baz=54,slow=31,SNR=3.8			Lg	Lg	11 38 22.7	
HFS	**Hagfors** baz=39,slow=12,SNR=6.2	**11.63**	**240**	Pn	**Pn**	**11 35 08.5**	**0.0**
SPA0	**Spitsbergen Ar** baz=141,slow=14	**11.76**	**342**	Pn	**Pn**	**11 35 09.3**	**-0.9**
SPA0	**Spitsbergen Ar** baz=141,slow=14	**11.76**	**342**	Pn	**Pn**	**11 35 09.3**	**-0.9**
SPITS	**Spitsbergen Ar** baz=144,slow=16,SNR=5.8	**11.76**	**342**	Pn	**Pn**	**11 35 09.0**	**-1.2**
NB2	**NORSAR Subarra**	**11.84**	**247**	Pn	**Pn**	**11 35 11.6**	**+0.3**
NB2	**NORSAR Subarra**	**11.84**	**247**	Pn	**Pn**	**11 35 11.6**	**+0.3**
NB2	**NORSAR Subarra**	**11.84**	**247**	Pn	**Pn**	**11 35 11.6**	**+0.3**
NOA	**NORSAR Array B** comp=Z,0.3nm,0.3s,baz=45,slow=11,SNR=6.1	**11.84**	**247**	Pn	**Pn**	**11 35 11.2**	**-0.1**

*IDC **11** 11:37:03.2±2.0, 8°.91S×117°.45E, h0km, mb3.9/4, mb1 4.1/7, mb1mx3.8/22, mbtmp3.9/7, ML3.9/3, Error ellipse: s-maj=64.2km s-min=20.5km az=69.0*

*AUST **11** 11:37:07.3, 8°.99S×117°.95E, h5km*
*NEIC **11** 11:37:08.2±1.3, 8°.93S×117°.49E, h35km, mb4.5/2, Error ellipse: s-maj=31.0km s-min=11.7km az=79.0*
*ISCJB **11** 11:37:09.3±0.5, 8°.84S±0°.04×117°.74E±0°.02, h59km±8km, mb3.9/5, Error ellipse: s-maj=6.6km s-min=3.9km az=173.0*
*DJA **11** 11:37:11.1±0.2, 9°S±3°×11°8E±°, h87km±11km, M4.6/21, mb4.5/6, mB4.7/2, MLv4.6/21, Mw(mB)4.0/2*

ISC 11 11:37:09.8±0.8, 8°.89S±0°.04×117°.74E±0°.03, h53km±10km, n50, σ2§41/70, mb4.0/5, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTNI	**Mataram**	**1.57**	**279**	P	**Pn**	**11 37 35.1**	**-0.3**
MTNI				S	**Sn**	**11 37 56.1**	**+1.4**
LBFI	**Labuhan Bajo,**	**2.16**	**79**	P	**Pn**	**11 37 45.6**	**+2.2**
LBFI				S	**Sn**	**11 38 14.5**	**+5.4**
DNP	**Denpasar**	**2.51**	**275**	P	**Pn**	**11 37 50.3**	**+2.0**
DNP				S	**Sn**	**11 38 22.2**	**+4.5**
IGBI	**Denpasar**	**2.57**	**271**	P	**Pn**	**11 37 49.0**	**0.0**
IGBI				S	**Sn**	**11 38 21.7**	**+2.6**
SRBI	**Singaraja**	**2.63**	**288**	P	**Pn**	**11 37 48.6**	**-1.2**
WSI	**Waingapu**	**2.64**	**107**	P	**Pn**	**11 37 52.6**	**+2.6**
WSI	**Waingapu** baz=2.4,SNR=6.2	**2.64**	**107**	P	Pn	11 37 52.7	+2.7
BYJI	**Banyuwangi**	**3.42**	**281**	P	**Pn**	**11 38 01.2**	**+0.6**
JAGI	**Jajag, Banyuwa**	**3.58**	**276**	P	**Pn**	**11 38 01.9**	**-0.9**
JAGI				S	**Sn**	**11 38 44.7**	**+0.8**
JAGI	**Jajag, Banyuwa** baz=3.8,SNR=26	**3.58**	**276**	P	**Pn**	**11 38 02.5**	**-0.3**
ABJI	**Asem Bagus**	**3.64**	**287**	P	**Pn**	**11 38 03.7**	**0.0**
KMMI	**Kalianget**	**4.16**	**296**	P	**Pn**	**11 38 11.8**	**+0.9**
BKSI	**Bulukumba**	**4.26**	**34**	P	**Pn**	**11 38 11.9**	**-0.3**
BLJI	**Banyuglugur**	**4.26**	**285**	P	**Pn**	**11 38 13.1**	**+0.9**
BLJI				S	**Sn**	**11 39 04.4**	**+3.7**
GMJI	**Gumukmas**	**4.30**	**278**	P	**Pn**	**11 38 13.2**	**+0.5**
GMJI				S	**Sn**	**11 39 02.7**	**+1.1**
KAPI	**Kappang**	**4.33**	**28**	*e*Pn	**Pn**	**11 38 12.1**	**-1.2**
KAPI				*e*Sn	**Sn**	**11 39 03.0**	**+0.4**
KAPI	**Kappang**	**4.33**	**28**	P	**Pn**	**11 38 11.6**	**-1.7**
KAPI	**Kappang** 10nm,0.3s,baz=203,slow=12,SNR=34	**4.33**	**28**	Pn	**Pn**	**11 38 11.9**	**-1.4**
KAPI	33nm,0.3s,baz=72,slow=19,SNR=28			Sn	**Sn**	**11 38 59.8**	**-2.7**
MMRI	**Maumere**	**4.45**	**87**	P	**Pn**	**11 38 17.2**	**+2.4**
MMRI				S	**Sn**	**11 39 08.8**	**+3.4**
BNSI	**Bone**	**5.04**	**28**	P	**Pn**	**11 38 24.4**	**+1.5**
BNSI				S	**Sn**	**11 39 21.8**	**+1.9**
SPSI	**Sidrap Palu** 30nm,0.9s,825nm0.3nm	**5.29**	**22**	P	**Pn**	**11 38 26.3**	**-0.1**
MJSI	**Majene** 79nm,1.3s,0.4nm	**5.44**	**13**	P	**Pn**	**11 38 29.0**	**+0.5**
MJSI	79nm,1.3s,0.4nm			S	**Sn**	**11 39 28.8**	**-1.1**
GRJI	**Gresik** 65nm,0.5s,938nm0.3nm	**5.57**	**290**	P	**Pn**	**11 38 30.5**	**+0.3**
GRJI	65nm,0.5s,938nm0.3nm			S	**Sn**	**11 39 33.0**	**0.0**
PWJI	**Pagerwojo** 64nm,1.4s,0.4nm	**5.94**	**278**	P	**Pn**	**11 38 36.4**	**+1.1**
PWJI	64nm,1.4s,0.4nm			S	**Sn**	**11 39 43.5**	**+1.5**
KKSI	**Kolaka, Sulawe**	**6.08**	**40**	P	**Pn**	**11 38 38.7**	**+1.4**
MMSI	**Mamuju** 30nm,0.9s,0.2nm	**6.27**	**11**	P	**Pn**	**11 38 39.8**	**0.0**
FITZ	**Fitzroy Crossi**	**11.95**	**141**	Pn	**Pn**	**11 39 56.2**	**-1.3**
FITZ				Sn	Sn	11 42 03.0	-6.3
FITZ	**Fitzroy Crossi** 0.4nm,0.3s,baz=327,slow=12,SNR=17	**11.95**	**141**	Pn	**Pn**	**11 39 56.2**	**-1.3**
FITZ	0.7nm,0.3s,baz=180,slow=19,SNR=7.0			Sn	Sn	11 42 03.0	-6.3
FITZ	**Fitzroy Crossi** baz=12,SNR=18	**11.95**	**141**	P	**Pn**	**11 39 56.0**	**-1.5**
FITZ	baz=12,SNR=4.8			S	**Sn**	**11 42 04.5**	**-4.8**
MBWA	**Marble Bar** 7.0nm,0.5s	**12.35**	**171**	*e*Pn	**Pn**	**11 39 59.9**	**-3.2**
KNRA	**Kununurra** baz=12,SNR=31	**12.70**	**123**	P	**Pn**	**11 40 07.7**	**-0.2**
MTN	**Manton Dam** baz=14,SNR=51	**13.72**	**108**	P	**Pn**	**11 40 21.2**	**-0.6**
MTN	baz=14,SNR=4.2			S	**Sn**	**11 42 48.1**	**-4.7**
KDU	**Kakadu** baz=15,SNR=7.1	**14.95**	**106**	P	**Pn**	**11 40 37.6**	**-0.5**
MEEK	**Meekatharra** baz=18,SNR=7.4	**17.67**	**177**	P	**Pn**	**11 41 11.6**	**-0.8**
MEEK	baz=18,SNR=5.0			S	Sn	11 44 07.7	-21
PPI	**Padang Panjang** baz=19,SNR=4.7	**19.20**	**295**	S	S	11 44 46.0	-18
WRA	**Warramunga Arr**	**19.45**	**126**	P	**Pn**	**11 41 34.1**	**+0.3**
WRA				S	**S**	**11 45 02.6**	**-6.9**
WRA				ScP	**PcS**	**11 49 28.7**	**-0.7**
WRA	**Warramunga Arr** 0.4nm,0.3s,baz=301,slow=10,SNR=49	**19.45**	**126**	P	**Pn**	**11 41 34.1**	**+0.3**
WRA	0.2nm,0.3s,baz=299,slow=23,SNR=8.4			S	**S**	**11 45 02.6**	**-6.9**
WRA	0.0nm,0.3s,baz=310,slow=2.1,SNR=4.6			ScP	**PcS**	**11 49 28.7**	**-0.7**
WRAB	**Tennant Creek** 5.3nm,0.6s	**19.45**	**126**	*e*P	**Pn**	**11 41 35.0**	**+1.2**
MORW	**Morawa** baz=20,SNR=3.5	**20.14**	**184**	P	Pn	11 41 45.1	+3.2
MORW	baz=20,SNR=5.1			S	S	11 45 14.9	-8.1
AS31	**Alice Springs**	**21.33**	**135**	*e*P	P	11 41 58.7	+6.0
ASAR	**Alice Springs**	**21.33**	**135**	P	**P**	**11 41 55.0**	**+2.4**
ASAR				S	**S**	**11 45 42.4**	**-4.5**
ASAR				ScP	**PcS**	**11 49 34.6**	**+0.8**
ASAR	**Alice Springs** 0.3nm,0.7s,baz=310,slow=8.8,SNR=4.4	**21.33**	**135**	P	**P**	**11 41 55.0**	**+2.4**
ASAR	0.7nm,0.7s,baz=310,slow=23,SNR=3.5			S	**S**	**11 45 42.4**	**-4.5**
ASAR	0.6nm,0.7s,baz=329,slow=2.7,SNR=4.4			ScP	**PcS**	**11 49 34.6**	**+0.8**
COEN	**Coen** 45nm,0.8s	**25.42**	**104**	*e*P	**P**	**11 42 35.0**	**+2.2**
MTSU	**Mount Surprise** baz=27,SNR=4.4	**27.39**	**112**	P	**P**	**11 42 54.0**	**+3.4**
**STKA

PCIG		**2.84**	**125**	*e*P	Pn	12 09 13.4	-0.7
PCIG				*i* S	Sn	12 09 46.4	-1.4
CCIG	**Comitan**	**3.52**	**107**	*i* P	Pn	12 09 22.8	-0.7
CCIG				*i* S	Sn	12 10 03.0	-1.5
CCIG	**Comitan**	**3.52**	**107**	*i* P	Pn	12 09 22.8	-0.7
CCIG				*i* S	Sn	12 10 03.0	-1.5

IDC 11 12:14:05.0±3.0, 22°.84N×11°.74W, h0km, mb3.8/3, mb1 3.8/6, mb1mx3.5/26, mbtmp3.7/6, ML3.7/2, MS2.7/1, Ms1 2.7/1, ms1mx2.4/28, Error ellipse: s-maj=101.0km s-min=29.1km az=86.0, Mauritania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBTS	**Babate**	**9.31**	**210**	Lg	Lg	12 18 50.6	
	3.2nm,0.3s,baz=18,slow=20,SNR=4.5						
MDT	**Midelt**	**11.77**	**31**	Lg	Lg	12 20 16.3	
	0.3nm,0.3s,baz=315,slow=14,SNR=4.9						
MDT				LR	LR	12 21 21.1	
	comp=Z,39nm,19.1s,baz=24,slow=37						
TORD	**Torodi Ar. Bea**	**16.00**	**125**	Pn	Pn	12 17 51.6	+0.1
	0.2nm,0.3s,baz=312,slow=13,SNR=12						
TORD				Sn	Sn	12 20 44.0	-5.7
	0.1nm,0.3s,baz=305,slow=22,SNR=3.5						
DBIC	**Dimbokro**	**17.39**	**157**	Pn	Pn	12 18 08.9	-0.3
	0.4nm,0.3s,baz=321,slow=11,SNR=3.5						
ESDC	**Sonseca Array**	**18.04**	**20**	P	P	12 18 17.8	+0.1
	baz=212,slow=13,SNR=3.7						
GERES	**GERESS Array B**	**32.85**	**32**	P	P	12 20 40.5	-0.1
	0.6nm,0.6s,baz=224,slow=8.2,SNR=4.6						
FINES	**FINESS Array B**	**46.48**	**24**	P	P	12 22 33.0	-0.5
	1.2nm,0.6s,baz=218,slow=8.8,SNR=6.0						
MKAR	**Makanchi Array**	**76.36**	**45**	P	P	12 25 56.1	0.0
	0.5nm,0.5s,baz=291,slow=5.6,SNR=4.1						
WRA	**Warramunga Arr**	**148.33**	**91**	PKPbc	PKPbc	12 33 53.3	-0.7
	0.7nm,0.7s,baz=290,slow=2.6,SNR=6.5						
ASAR	**Alice Springs**	**148.47**	**98**	PKPbc	PKPbc	12 33 54.0	-0.3
	0.7nm,0.7s,baz=282,slow=2.7,SNR=7.3						

*CSEM **11** 12:16:52.8, 28°.83N×11°.61W, h30km, MD3.7, After CNRM*
CNRM 11 12:16:52.8, 28°.83N×11°.61W, h30km, MD3.7, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YBT	**Youssef Ben Ta**	**2.10**	**61**	*e*P	Pn	12 17 24.0	-2.0
YBT				*i* S	Sn	12 17 50.0	-1.1
OUK	**Oukaimeden**	**4.02**	**53**	*e*P	Pn	12 17 52.0	-0.8
OUK				*i* S	Sn	12 18 34.0	-5.1
CZD	**Col de Zad**	**7.03**	**52**	*e*P	Pn	12 18 35.0	+1.0
CZD				*i* S	Sn	12 19 48.0	-5.1
ZFT	**Errachidia**	**7.03**	**61**	*e*P	Pn	12 18 33.0	-1.0
ZFT				*i* S	Sn	12 19 48.0	-5.2

IDC 11 12:23:31.6±0.7, 24°.76S×69°.34W, h90km±6km, mb3.5/6, mb1 3.6/9, mb1mx3.5/20, mbtmp3.4/9, Error ellipse: s-maj=28.9km s-min=12.7km az=82.0, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**6.89**	**172**	P	Pn	12 25 09.6	-0.4
	0.1nm,0.3s,baz=347,slow=14,SNR=11						
CFAA				S	Sn	12 26 27.2	+0.2
	0.4nm,0.3s,baz=199,slow=16,SNR=5.5						
LPAZ	**La Paz**	**8.50**	**8**	P	Pn	12 25 31.6	-1.2
	1.0nm,0.3s,baz=199,slow=9.2,SNR=23						
SIV	**San Ignacio**	**11.66**	**43**	P	Pn	12 26 12.2	-2.9
	5.4nm,0.3s,baz=239,slow=14,SNR=40						
SIV				S	Sn	12 28 17.6	-5.9
	0.1nm,0.3s,baz=139,slow=19,SNR=2.6						
PLCA	**Paso Flores**	**15.96**	**183**	P	P	12 27 12.4	-0.3
	0.1nm,0.3s,baz=10,slow=11,SNR=3.0						
CMIG	**Matias Romero**	**48.48**	**327**	P	P	12 32 04.8	-0.5
	0.5nm,0.4s,baz=84,slow=19,SNR=3.3						
SNAA	**Sanae**	**59.35**	**160**	P	P	12 33 23.1	-0.9
	0.3nm,0.9s,baz=278,slow=19,SNR=3.4						
SNAA				pP	pP	12 33 46.3	-0.2
	0.2nm,0.6s,baz=307,slow=11,SNR=2.3						
TXAR	**Lajitas Array**	**63.09**	**326**	P	P	12 33 49.0	-0.7
	0.2nm,0.4s,baz=124,slow=4.8,SNR=4.1						
QSPA	**South Pole Qui**	**65.45**	**180**	P	P	12 34 05.1	+0.4
	0.9nm,0.5s,baz=126,slow=1.5,SNR=8.6						
PDAR	**Pinedale Array**	**76.73**	**331**	P	P	12 35 13.3	+0.1
	0.5nm,0.7s,baz=132,slow=5.4,SNR=5.2						
TORD	**Torodi Ar. Bea**	**78.83**	**70**	P	P	12 35 24.6	-0.6
	3.5nm,0.6s,baz=254,slow=4.6,SNR=40						
TORD				pP	pP	12 35 48.8	0.0
	4.2nm,0.8s,baz=255,slow=5.2,SNR=11						
ASAR	**Alice Springs**	**126.85**	**207**	PKP	PKPdf	12 42 25.1	-0.4
	0.5nm,0.7s,baz=150,slow=1.7,SNR=7.5						
ASAR				pPKP	pPKPdf	12 42 50.0	-0.6
	0.4nm,0.7s,baz=127,slow=1.6,SNR=2.7						
ZALV	**Zalesovo Beam**	**145.04**	**27**	PKPbc	PKPdf	12 42 58.2	+0.2
	3.3nm,0.6s,baz=325,slow=3.3,SNR=12						
MKAR	**Makanchi Array**	**148.46**	**39**	PKP	PKPdf	12 43 04.5	+0.5
	1.6nm,0.7s,baz=312,slow=3.1,SNR=13						
MKAR				PKPbc	PKPbc	12 43 07.8	+0.1
	1.5nm,0.6s,baz=311,slow=3.2,SNR=13						
MKAR				pPKPbc	pPKPbc	12 43 32.6	0.0
	0.6nm,0.6s,baz=336,slow=2.7,SNR=3.6						

IDC 11 12:27:35.9±14.0, 17°.73S×167°.44E, h0km, mb4.0/3, mb1 4.1/4, mb1mx3.8/18, mbtmp3.9/4, ML3.6/1, Error ellipse: s-maj=240.0km s-min=40.2km az=72.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.42**	**192**	Pn	Pn	12 28 44.8	+0.3
	3.3nm,0.3s,baz=110,slow=23,SNR=55						
DZM				Sn	Sn	12 29 34.8	-2.0
	3.7nm,0.3s,baz=114,slow=14,SNR=6.1						
STKA	**Stephens Creek**	**27.28**	**234**	P	P	12 33 22.1	-0.1
	4.6nm,0.6s,baz=76,slow=9.0,SNR=12						
WRA	**Warramunga Arr**	**31.38**	**261**	P	P	12 33 59.0	+0.2
	0.6nm,0.9s,baz=85,slow=8.5,SNR=4.4						
ASAR	**Alice Springs**	**31.88**	**254**	P	P	12 34 03.1	0.0
	1.1nm,0.7s,baz=80,slow=8.4,SNR=10						

DJA 11 12:53:52.8±1.4, 2°.S±10°.×10°.0E±1°.0, h10km, M3.9/4, MLv3.9/4, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.10**	**58**	P	Pb	12 54 11.4	-2.6
PDSI				S	Sg	12 54 26.8	-1.6
PPI	**Padang Panjang**	**1.35**	**40**	P	Pn	12 54 14.6	-3.1
SDSI	**Sungai Dareh**	**1.98**	**73**	P	Pn	12 54 27.5	+1.1
BKNI	**Bangkinang**	**2.36**	**40**	P	Pn	12 54 32.1	+0.5
BKNI				S	Sb	12 55 03.0	-1.7

*STR **11** 13:07:00.7±0.3, 42°.06N×8°.92E, h5km, Ml2.9, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*ISCJB **11** 13:07:04.1±0.6, 41°.91N±0°.04×9°.02E±0°.10, h20km±11km, Error ellipse: s-maj=12.3km s-min=7.3km az=4.6*
*LDG **11** 13:07:05.7±0.3, 42°.04N×9°.26E, h10km, Md2.9/1, Ml3.0/10, Error ellipse: s-maj=5.6km s-min=3.9km az=120.0*
*GEN **11** 13:07:08.5, 42°.29N×9°.17E, h4km, ML2.5*
*CSEM **11** 13:07:08.5±0.6, 42°.24N×8°.80E, h2km, ML2.9/10, Error ellipse: s-maj=11.0km s-min=10.0km az=170.0*
ISC 11 13:07:03.5±1.1, 41°.95N±0°.04×9°.22E±0°.08, h17km±9km, n54, σ1°.38/74, Corsica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OSPF	**L'Ospedale**	**0.29**	**184**	Pg	**Pg**	**13 07 08.9**	**-0.9**
OSPF				Sg	**Sb**	**13 07 15.3**	**+0.5**
OSPF	**L'Ospedale**	**0.29**	**184**	Pg	**Pg**	**13 07 08.9**	**-0.9**
OSPF				Sg	**Sb**	**13 07 15.3**	**+0.5**
PGF	**Pioggiola**	**0.62**	**345**	*e*Pg	**Pb**	**13 07 16.1**	**+0.2**
PGF				*e*Sg	**Sg**	**13 07 24.6**	**+0.6**
	221nm,0.2s						
PGF	**Pioggiola**	**0.62**	**345**	*e*Pg	**Pb**	**13 07 16.1**	**+0.2**
PGF				*e*Sg	**Sg**	**13 07 24.6**	**+0.6**
	110nm,0.2s						
MAIM	**Mastiano**	**2.17**	**25**	P	**Pn**	**13 07 40.0**	**+1.2**
NEGI	**Seborga**	**2.20**	**330**	P	**Pn**	**13 07 39.4**	**+0.2**
REVF	**Revere**	**2.25**	**323**	Pg	Pn	13 07 38.6	-1.3
REVF				Sg	**Sn**	**13 08 07.6**	**+0.3**
REVF	**Revere**	**2.25**	**323**	Pg	Pn	13 07 38.6	-1.3
REVF				Sg	**Sn**	**13 08 07.6**	**+0.3**
SBF	**Sospel**	**2.32**	**326**	*e*Pn	**Pn**	**13 07 41.5**	**+0.6**
SBF				*e*Sn	**Sn**	**13 08 07.7**	**-1.3**
	58nm,0.3s						
SBF	**Sospel**	**2.32**	**326**	*e*Pn	**Pn**	**13 07 41.5**	**+0.6**
SBF				*e*Sn	**Sn**	**13 08 07.7**	**-1.3**
	29nm,0.3s						
RORO	**Rocca Rossa**	**2.32**	**339**	P	**Pn**	**13 07 40.8**	**0.0**
SAOF	**Saorge**	**2.37**	**330**	Pg	**Pn**	**13 07 42.5**	**+0.9**
SAOF				Sg	**Sn**	**13 08 10.8**	**+0.5**
SAOF	**Saorge**	**2.37**	**330**	Pg	**Pn**	**13 07 42.5**	**+0.9**
SAOF				Sg	**Sn**	**13 08 10.8**	**+0.5**
LUCF	**Luceram**	**2.38**	**325**	Pg	**Pn**	**13 07 42.5**	**+0.7**
LUCF				Sg	**Sn**	**13 08 10.8**	**+0.2**
LUCF	**Luceram**	**2.38**	**325**	Pg	**Pn**	**13 07 42.5**	**+0.7**
LUCF				Sg	**Sn**	**13 08 10.8**	**+0.2**
AUTN	**L'Aution**	**2.43**	**328**	Pg	**Pn**	**13 07 43.3**	**+0.7**
AUTN				Sg	**Sn**	**13 08 13.0**	**+1.0**
AUTN	**L'Aution**	**2.43**	**328**	Pg	**Pn**	**13 07 43.3**	**+0.7**
AUTN				Sg	**Sn**	**13 08 13.0**	**+1.0**
LMR	**La Mourre**	**2.43**	**306**	*e*Pn	**Pn**	**13 07 43.1**	**+0.7**
LMR				*e*Sn	**Sn**	**13 08 11.1**	**-0.6**
	27nm,0.2s						
LMR	**La Mourre**	**2.43**	**306**	*e*Pn	**Pn**	**13 07 43.1**	**+0.7**
LMR				*e*Sn	**Sn**	**13 08 11.1**	**-0.6**
	14nm,0.2s						
MVIF	**Mont Vial**	**2.47**	**323**	Pg	**Pn**	**13 07 43.5**	**+0.5**
MVIF				Sg	**Sn**	**13 08 14.0**	**+1.2**
MVIF	**Mont Vial**	**2.47**	**323**	Pg	**Pn**	**13 07 43.5**	**+0.5**
MVIF				Sg	**Sn**	**13 08 14.0**	**+1.2**
CALN	**Calern**	**2.48**	**317**	Pg	**Pn**	**13 07 44.2**	**+0.9**
CALN				Sg	**Sn**	**13 08 14.2**	**+1.0**
CALN	**Calern**	**2.48**	**317**	Pg	**Pn**	**13 07 44.2**	**+0.9**
CALN				Sg	**Sn**	**13 08 14.2**	**+1.0**
FRF	**La Foret Royal**	**2.48**	**311**	*e*Pn	**Pn**	**13 07 44.0**	**+0.9**
FRF				*e*Sn	**Sn**	**13 08 12.2**	**-0.8**
	19nm,0.2s						
FRF	**La Foret Royal**	**2.48**	**311**	*e*Pn	**Pn**	**13 07 44.0**	**+0.9**
FRF				*e*Sn	**Sn**	**13 08 12.2**	**-0.8**
	9.4nm,0.2s						
ENR	**Entracque**	**2.63**	**331**	P	**Pn**	**13 07 46.0**	**+0.8**
PCP	**Piancastagn**	**2.63**	**349**	P	**Pn**	**13 07 46.1**	**+0.8**
STV	**Sant Anna di V**	**2.68**	**330**	P	**Pn**	**13 07 47.0**	**+1.1**
MBDF	**Montbardon**	**3.30**	**328**	*e*Pn	**Pn**	**13 07 56.4**	**+1.9**
MBDF	**Montbardon**	**3.30**	**328**	*e*P	Pn	13 07 58.1	+3.6
MBDF				*e*Sn	**Sn**	**13 08 30.8**	**-2.5**
	20nm,0.4s						
MBDF	**Montbardon**	**3.30**	**328**	*e*Pn	**Pn**	**13 07 56.4**	**+1.9**
MBDF	**Montbardon**	**3.30**	**328**	*e*P	Pn	13 07 58.1	+3.6
MBDF				*e*Sn	**Sn**	**13 08 30.8**	**-2.5**
	10nm,0.4s						
SMRF	**Simiane la Rot**	**3.35**	**308**	*e*Pn	**Pn**	**13 07 57.6**	**+2.5**
SMRF				*e*Sn	**Sn**	**13 08 33.5**	**-1.0**
	7.0nm,0.4s						
SMRF	**Simiane la Rot**	**3.35**	**308**	*e*Pn	**Pn**	**13 07 57.6**	**+2.5**
SMRF				*e*Sn	**Sn**	**13 08 33.5**	**-1.0**
	3.5nm,0.4s						
ORIF	**Oris-en-Rattie**	**3.83**	**322**	*e*Pn	**Pn**	**13 08 04.0**	**+2.2**
ORIF				*e*Sn	**Sn**	**13 08 43.7**	**-2.8**
	5.6nm,0.5s						
ORIF	**Oris-en-Rattie**	**3.83**	**322**	*e*Pn	**Pn**	**13 08 04.0**	**+2.2**
ORIF				*e*Sn	**Sn**	**13 08 43.7**	**-2.8**
	2.8nm,0.5s						
LPG	**La Plagne**	**3.97**	**334**	*e*Pn	**Pn**	**13 08 03.8**	**0.0**
LPG	**La Plagne**	**3.97**	**334**	*e*P	Pn	13 08 07.5	+3.7
LPG				*e*Sn	**Sn**	**13 08 47.1**	**-3.0**
	5.0nm,0.6s						
LPG	**La Plagne**	**3.97**	**334**	*e*Pn	**Pn**	**13 08 03.8**	**0.0**
LPG	**La Plagne**	**3.97**	**334**	*e*P	Pn	13 08 07.5	+3.7
LPG				*e*Sn	**Sn**	**13 08 47.1**	**-3.0**
	2.5nm,0.6s						
LPL	**La Plagne**	**3.99**	**334**	*e*Pn	**Pn**	**13 08 04.3**	**+0.2**
LPL	**La Plagne**	**3.99**	**334**	*e*P	Pn	13 08 08.1	+4.0
LPL	**La Plagne**	**3.99**	**334**	*e*Pn	**Pn**	**13 08 04.3**	**+0.2**
LPL	**La Plagne**	**3.99**	**334**	*e*P	Pn	13 08 08.1	+4.0
VIVF	**Saint-Julien-l**	**4.40**	**313**	*e*Pn	**Pn**	**13 08 10.5**	**+1.0**
VIVF				*e*Sn	**Sn**	**13 08 57.8**	**-2.6**
	2.1nm,0.3s						
VIVF	**Saint-Julien-l**	**4.40**	**313**	*e*Pn	**Pn**	**13 08 10.5**	**+1.0**
VIVF				*e*Sn	**Sn**	**13 08 57.8**	**-2.6**
	1.0nm,0.3s						
LASF	**Ste Croix**	**4.47**	**300**	*e*Pn	Pn	13 08 10.9	+0.5
LASF				*e*Sn	**Sn**	**13 09 00.0**	**-2.0**
	6.8nm,0.3s						
LASF	**Ste Croix**	**4.47**	**300**	*e*Pn	Pn	13 08 10.9	+0.5
LASF				*e*Sn	**Sn**	**13 09 00.0**	**-2.0**
	3.4nm,0.3s						
MTLF	**Montolieu**	**5.35**	**287**	*e*Pn	Pn	13 08 23.4	+0.9
MTLF				*e*Sn	Sn	13 09 21.3	-2.3
	1.7nm,0.3s						
MTLF	**Montolieu**	**5.35**	**287**	*e*Pn	Pn	13 08 23.4	+0.9
MTLF				*e*Sn	Sn	13 09 21.3	-2.3
	0.9nm,0.3s						
CAF	**Calviac**	**6.00**	**302**	*e*Pn	**Pn**	**13 08 32.2**	**+0.8**
CAF	**Calviac**	**6.00**	**302**	*e*Pn	**Pn**	**13 08 32.2**	**+0.8**
EPF	**Esparros**	**6.65**	**282**	*e*Pn	Pn	13 08 42.2	+1.8
EPF	**Esparros**	**6.65**	**282**	*e*Pn	Pn	13 08 42.2	+1.8

*IDC **11** 13:46:00.7±2.1, 46°.58S×165°.93E, h0km, mb3.2/2, mb1 3.5/2, mb1mx3.4/14, mbtmp3.2/2, Error ellipse: s-maj=186.9km s-min=49.1km az=34.0*
*ISCJB **11** 13:46:02.4±0.9, 46°.14S±0°.07×165°.99E±0°.08, h13km, mb3.1/2, Error ellipse: s-maj=10.2km s-min=7.9km az=24.7*
*WEL **11** 13:46:03.6±0.4, 46°.12S×165°.84E, h33km, ML4.1/15, Error ellipse: s-maj=4.5km s-min=2.6km az=90.0*
ISC 11 13:46:03.4±1.1, 46°.19S±0°.07×166°.05E±0°.07, h13km, n25, σ0°.91/27, 1C, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**1.05**	**48**	PN	**Pb**	**13 46 22.7**	**-0.7**
DCZ				SN	**Sg**	**13 46 36.8**	**-0.5**
DCZ				AML	AML	13 46 39.0	
DCZ				AML	AML	13 46 39.1	
DCZ				AML	AML	13 46 40.6	
WHZ	**Wether Hill Ro**	**1.35**	**78**	PN	**Pn**	**13 46 28.2**	**+0.2**
WHZ				SN	**Sb**	**13 46 46.6**	**+0.8**
WHZ				AML	AML	13 46 52.2	
APZ	**The Paps**	**1.48**	**116**	⇑PN	**Pn**	**13 46 29.5**	**-0.3**
APZ				SN	**Sn**	**13 46 48.9**	**-0.2**
MLZ	**Mavora Lakes**	**1.71**	**61**	PN	**Pn**	**13 46 33.6**	**+0.7**
MLZ				AML	AML	13 47 04.1	
MLZ				AML	AML	13 47 05.4	
MSZ	**Milford Sound**	**2.01**	**42**	PN	**Pn**	**13 46 37.0**	**0.0**
MSZ				AML	AML	13 47 13.7	
MSZ				AML	AML	13 47 13.7	
MSZ				AML	AML	13 47 19.4	
MSZ				AML	AML	13 47 19.4	
SYZ	**Scrubby Hill**	**2.17**	**100**	PN	**Pn**	**13 46 39.7**	**+0.6**
EAZ	**Earnscleugh**	**2.48**	**68**	PN	**Pn**	**13 46 45.1**	**+1.7**
EAZ				AML	AML	13 47 18.4	
EAZ				AML	AML	13 47 21.6	
EAZ				AML	AML	13 47 23.5	
EAZ				AML	AML	13 47 24.3	
WKZ	**Wanaka**	**2.49**	**58**	PN	**Pn**	**13 46 45.3**	**+1.7**
WKZ				AML	AML	13 47 25.8	
WKZ				AML	AML	13 47 25.8	
WKZ				AML	AML	13 47 27.8	
WKZ				AML	AML	13 47 30.5	
TUZ	**Tuapeka**	**2.50**	**86**	PN	**Pn**	**13 46 44.8**	**+1.1**
TUZ				AML	AML	13 47 19.7	
TUZ				AML	AML	13 47 19.8	
JCZ	**Jackson Bay**	**2.86**	**43**	PN	**Pn**	**13 46 50.2**	**+1.5**
JCZ				AML	AML	13 47 40.6	
JCZ				AML	AML	13 47 43.7	
HHSZ	**Highcliff Hill**	**3.18**	**86**	PN	**Pn**	**13 46 54.1**	**+1.0**
ODZ	**Otahua Downs**	**3.42**	**72**	PN	**Pn**	**13 46 56.2**	**-0.2**
LBZ	**Lake Benmore**	**3.43**	**60**	PN	**Pn**	**13 46 57.1**	**+0.6**
LBZ				AML	AML	13 47 46.4	
LBZ				AML	AML	13 48 05.1	
FOZ	**Fox Glacier**	**3.69**	**46**	PN	**Pn**	**13 47 01.4**	**+1.4**
RPZ	**Rata Peaks**	**4.33**	**57**	PN	**Pn**	**13 47 08.6**	**-0.2**
RPZ				AML	AML	13 48 06.7	
RPZ				AML	AML	13 48 21.7	
WVZ	**Waitaha Valley**	**4.57**	**49**	PN	**Pn**	**13 47 11.9**	**-0.2**
OXZ	**Oxford**	**5.14**	**58**	PN	**Pn**	**13 47 19.5**	**-0.5**
LTZ	**Lake Taylor**	**5.60**	**55**	PN	**Pn**	**13 47 25.4**	**-1.0**
DSZ	**Denniston Nort**	**6.08**	**45**	PN	**Pn**	**13 47 32.5**	**-0.4**
THZ	**Tophouse**	**6.63**	**51**	PN	**Pn**	**13 47 39.4**	**-1.2**
ASAR	**Alice Springs**	**34.27**	**300**	P	**P**	**13 52 48.7**	**-0.5**
	0.3nm,0.8s,baz=131,slow=8.2,SNR=3.3						
WRA	**Warramunga Arr**	**36.88**	**305**	P	**P**	**13 53 13.1**	**+1.4**
	0.2nm,0.7s,baz=138,slow=7.9,SNR=3.2						
TORD	**Torodi Ar. Bea**	**144.51**	**207**	PKP	**PKPab**	**14 05 37.7**	**-0.3**
	0.8nm,0.7s,baz=168,slow=1.8,SNR=6.1						
BRTR	**Keskin Array B**	**145.01**	**277**	PKP			
	0.8nm,0.6s,baz=122,slow=2.9,SNR=5.6						
ARCES	**ARCESS Array B**	**149.54**	**334**	PKPbc	**PKPbc**	**14 05 50.8**	**-0.2**
	3.3nm,0.9s,baz=41,slow=2.9,SNR=6.4						

DJA 11 13:55:09.7±1.5, 8°.S±12°.×10°.7E±°., h22km±11km, M3.6/6, MLv3.6/6, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.62**	**47**	P	Pb	13 55 21.8	-0.2
CISI				S	Sb	13 55 31.2	+0.9
LEM	**Lembang**	**1.17**	**13**	P	Pn	13 55 31.2	+0.2
SKJI	**Sukabumi**	**1.25**	**320**	P	Pn	13 55 30.7	-1.2
SKJI				S	Sn	13 55 46.8	-1.4
DBJI	**Dramaga**	**1.54**	**337**	P	Pn	13 55 36.1	+0.2
KPJI	**Karang Pucung**	**1.69**	**68**	P	Pn	13 55 37.0	-0.8

*ISCJB **11** 13:57:25.7±0.3, 36°.59N±0°.03×27°.56E±0°.04, h118km±4km, mb3.6/4, Error ellipse: s-maj=5.0km s-min=4.5km az=136.4*
*CSEM **11** 13:57:26.7±0.3, 36°.60N×27°.58E, h108km±3km, MD3.2, Error ellipse: s-maj=5.5km s-min=4.4km az=175.0*
*IDC **11** 13:57:27.0±3.9, 36°.99N×27°.20E, h114km±36km, mb3.3/4, mb1 3.2/5, mb1mx3.1/24, mbtmp3.2/5, Error ellipse: s-maj=147.8km s-min=20.1km az=143.0*
*ATH **11** 13:57:26.3, 36°.61N×27°.54E, h111km±2km*
*ISK **11** 13:57:28.0, 36°.84N×27°.60E, h85km, MD3.2*
*HLW **11** 13:57:28.8, 36°.40N×28°.17E, h12km±11km, Md3.6, Ml3.1*
ISC 11 13:57:26.4±0.8, 36°.61N±0°.03×27°.56E±0°.03, h101km±6km, n86, σ1°.73/112, mb3.5/4, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAT	**Datca**	**0.12**	**7**	*e*PG	**Pn**	**13 57 40.8**	**+0.2**
DAT	**Datca**	**0.12**	**7**	*e*Pg	**Pn**	**13 57 40.8**	**+0.2**
BDRM	**Kayabasi**	**0.46**	**348**	*i* P	**Pn**	**13 57 43.5**	**+1.5**
BDRM				*i* S	**Sn**	**13 57 55.5**	**+1.7**
BDRM	**Kayabasi**	**0.46**	**348**	*i* P	**Pn**	**13 57 43.5**	**+1.5**
BDRM				*i* S	**Sn**	**13 57 55.5**	**+1.7**
BODT	**Bodrum**	**0.49**	**336**	*e*PG	**Pn**	**13 57 41.6**	**-0.6**
BODT	**Bodrum**	**0.49**	**336**	*e*Pg	**Pn**	**13 57 41.6**	**-0.6**
ARG	**Arkhangelos**	**0.60**	**131**	*e*P	**Pn**	**13 57 45.2**	**+2.1**
ARG				*e*S	**Sn**	**13 57 58.5**	**+3.0**
ARG	**Arkhangelos**	**0.60**	**131**	*e*P	**Pn**	**13 57 45.2**	**+2.1**
ARG				*e*S	**Sn**	**13 57 58.5**	**+3.0**
YER	**Yerkesik**	**0.78**	**48**	*e*PG	**Pn**	**13 57 44.1**	**-0.5**
YER				*e*SG	**Sn**	**13 57 55.7**	**-2.7**
YER	**Yerkesik**	**0.78**	**48**	*e*Pg	**Pn**	**13 57 44.2**	**-0.5**
TURN	**Turunc**	**0.88**	**72**	*i* P	**Pn**	**13 57 44.6**	**-1.0**
TURN				*i* S	**Sn**	**13 57 57.1**	**-2.9**
TURN	**Turunc**	**0.88**	**72**	*i* P	**Pn**	**13 57 44.6**	**-1.0**
TURN				*i* S	**Sn**	**13 57 57.1**	**-2.9**
DALY	**Dalyan (Mu¨la**	**0.90**	**77**	*e*PG	**Pn**	**13 57 46.7**	**+0.9**
DALY	**Dalyan (Mu¨la**	**0.90**	**77**	*e*Pg	**Pn**	**13 57 46.7**	**+0.9**
AYDN	**Tasoluk**	**1.08**	**14**	*i* P	**Pn**	**13 57 49.3**	**+1.5**
AYDN				*i* S	**Sn**	**13 58 04.8**	**+0.9**
AYDN	**Tasoluk**	**1.08**	**14**	*i* P	**Pn**	**13 57 49.3**	**+1.5**
AYDN				*i* S	**Sn**	**13 58 04.8**	**+0.9**
KARP	**Karpathos**	**1.11**	**197**	*e*P	**Pn**	**13 57 49.7**	**+1.5**
KARP				*e*S	**Sn**	**13 58 05.8**	**+1.3**
KARP	**Karpathos**	**1.11**	**197**	*e*P	**Pn**	**13 57 49.7**	**+1.5**
KARP				*e*S	**Sn**	**13 58 05.8**	**+1.3**
GCAM	**G?zelcaml?**	**1.12**	**347**	*i* P	**Pn**	**13 57 49.5**	**+1.3**
GCAM				*i* S	**Sn**	**13 58 05.7**	**+1.1**
GCAM	**G?zelcaml?**	**1.12**	**347**	*i* P	**Pn**	**13 57 49.5**	**+1.3**
GCAM				*i* S	**Sn**	**13 58 05.7**	**+1.1**
FETY	**Fethiye**	**1.23**	**88**	*e*PN	**Pn**	**13 57 50.6**	**+1.2**
FETY	**Fethiye**	**1.23**	**88**	*e*Pn	**Pn**	**13 57 50.6**	**+1.2**
SMG	**Samos**	**1.24**	**332**	*e*P	**Pn**	**13 57 50.4**	**+0.8**
SMG	**Samos**	**1.24**	**332**	*e*P	**Pn**	**13 57 50.4**	**+0.8**
DNZL	**Cakiroluk**	**1.60**	**47**	*i* P	**Pn**	**13 57 55.3**	**+1.1**
DNZL				*i* S	**Sn**	**13 58 18.2**	**+3.0**
DNZL	**Cakiroluk**	**1.60**	**47**	*i* P	**Pn**	**13 57 55.3**	**+1.1**
DNZL				*i* S	**Sn**	**13 58

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNKL	comp=N,10μm,0.1s,logA/T=4.8,baz=141			S	Sn	14 00 55.0	-7.4
HNKL	baz=141 **Nakhl**	**8.56**	**139**	P	**Pn**	**13 59 26.7**	**-0.8**
TORD	**Torodi Ar. Bea** comp=N,0.5nm,0.4s,baz=33,slow=8.5,SNR=7.9	**32.91**	**231**	P	**P**	**14 03 50.3**	**-0.9**
KURBB	**Kurchatov Arra** comp=N,0.7nm,0.2s,baz=275,slow=8.7,SNR=2.6	**38.69**	**52**	P	**P**	**14 04 38.7**	**-1.5**
MKAR	**Makanchi Array** comp=N,0.3nm,0.6s,baz=276,slow=8.5,SNR=3.9	**41.35**	**58**	P	**P**	**14 05 01.9**	**-0.3**
SONM	**Songino Array** comp=N,0.2nm,0.5s,baz=286,slow=5.4,SNR=3.0	**57.06**	**52**	P	**P**	**14 07 01.7**	**-0.3**

*ISK **11** 14:01:10.7, 38°.70N×28°.83E, h5km, MD2.9*
*DDA **11** 14:01:10.3, 38°.72N×28°.86E, h7km, ML3.6*
*CSEM **11** 14:01:11.0±0.1, 38°.71N×28°.85E, h2km, MD2.9, Error ellipse: s-maj=2.1km s-min=1.8km az=94.0*
ISC 11 14:01:10.8±1.0, 38°.72N±0°.02×28°.85E±0°.02, h5km±11km, n36, σ0§42/54, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULA	**Kula-Manisa**	**0.25**	**216**	*e*PG	**Pg**	**14 01 15.8**	**+0.1**
KULA				*e*SG	**Sg**	**14 01 19.5**	**+0.6**
KULA	**Kula-Manisa**	**0.25**	**216**	*e*Pg	**Pg**	**14 01 15.8**	**+0.1**
KULA				*e*Sg	**Sg**	**14 01 19.5**	**+0.6**
MANT	**Manisa**	**0.32**	**225**	*i* P	**Pg**	**14 01 17.2**	**+0.2**
MANT				*i* S	**Sg**	**14 01 21.4**	**+0.1**
DEMI	**Demirci**	**0.34**	**343**	*i* P	**Pg**	**14 01 17.6**	**+0.1**
DEMI				*i* S	**Sg**	**14 01 21.9**	**-0.1**
DEMI	**Demirci**	**0.34**	**343**	*i* P	**Pg**	**14 01 17.6**	**+0.1**
DEMI				*i* S	**Sg**	**14 01 21.9**	**-0.1**
KHAL	**Karahalli**	**0.61**	**124**	*i* P	**Pg**	**14 01 22.7**	**+0.2**
KHAL				*i* S	**Sg**	**14 01 29.9**	**-0.6**
KHAL	**Karahalli**	**0.61**	**124**	*i* P	**Pg**	**14 01 22.7**	**+0.2**
KHAL				*i* S	**Sg**	**14 01 29.9**	**-0.6**
GDZ	**Gediz**	**0.62**	**53**	*i* P	**Pg**	**14 01 22.7**	**0.0**
GDZ				*i* S	**Sg**	**14 01 30.4**	**-0.4**
GDZ	**Gediz**	**0.62**	**53**	*i* P	**Pg**	**14 01 22.7**	**0.0**
GDZ				*i* S	**Sg**	**14 01 30.4**	**-0.4**
KHL	**Karahalli**	**0.66**	**126**	*e*PG	**Pg**	**14 01 23.9**	**+0.5**
KHL	**Karahalli**	**0.66**	**126**	*e*Pg	**Pg**	**14 01 24.0**	**+0.5**
AKHS	**Akhisar**	**0.82**	**282**	*i* P	**Pb**	**14 01 27.3**	**-0.3**
AKHS				*i* S	**Sb**	**14 01 39.0**	**0.0**
AKS	**Akhisar**	**0.82**	**282**	*e*PG	**Pg**	**14 01 26.9**	**+0.3**
AKS	**Akhisar**	**0.82**	**282**	*e*Pg	**Pg**	**14 01 26.9**	**+0.3**
DURS	**Dursunbey**	**0.93**	**342**	*i* P	**Pg**	**14 01 28.7**	**0.0**
DURS				*i* S	**Sg**	**14 01 40.5**	**-0.3**
DNZL	**Cakiroluk**	**1.04**	**171**	*e*P	**Pg**	**14 01 30.6**	**-0.1**
DNZL				*i* S	**Sb**	**14 01 45.5**	**+0.2**
DNZL	**Cakiroluk**	**1.04**	**171**	*e*P	**Pg**	**14 01 30.6**	**-0.1**
DNZL				*i* S	**Sb**	**14 01 45.5**	**+0.2**
BALB	**Balikesir**	**1.19**	**321**	*e*PN	**Pn**	**14 01 34.1**	**0.0**
BALB	**Balikesir**	**1.19**	**321**	*e*Pn	**Pn**	**14 01 34.1**	**0.0**
AYDN	**Tasoluk**	**1.30**	**216**	*e*P	**Pn**	**14 01 35.3**	**-0.4**
AYDN				*i* S	**Sg**	**14 01 52.5**	**-0.1**
AYDN	**Tasoluk**	**1.30**	**216**	*e*P	**Pn**	**14 01 35.3**	**-0.4**
AYDN				*i* S	**Sg**	**14 01 52.5**	**-0.1**
ORLT	**Orhaneli**	**1.33**	**2**	*e*PN	**Pg**	**14 01 36.8**	**+0.5**
ORLT	**Orhaneli**	**1.33**	**2**	*e*Pn	**Pg**	**14 01 36.8**	**+0.5**
BALY	**Balya**	**1.40**	**317**	*i* P	**Pg**	**14 01 37.8**	**+0.1**
BALY				*i* S	**Sg**	**14 01 55.7**	**-0.1**
KCTX	**Karacabey (Bur**	**1.59**	**346**	*e*PN	**Pb**	**14 01 40.5**	**-0.3**
KCTX	**Karacabey (Bur**	**1.59**	**346**	*e*Pn	**Pb**	**14 01 40.5**	**-0.3**
GONE	**Gonen-Balikesi**	**1.61**	**326**	*e*PN	**Pb**	**14 01 40.6**	**-0.3**
GONE	**Gonen-Balikesi**	**1.61**	**326**	*e*Pn	**Pb**	**14 01 40.6**	**-0.3**
CAVI	**Cavuskoy**	**1.67**	**27**	*e*PN	**Pb**	**14 01 41.7**	**-0.4**
CAVI	**Cavuskoy**	**1.67**	**27**	*e*Pn	**Pb**	**14 01 41.7**	**-0.4**
BORA	**Eskisehir**	**1.70**	**46**	*e*P	**Pb**	**14 01 42.4**	**-0.3**
BORA				*i* S	**Sg**	**14 02 05.4**	**-0.2**
BORA	**Eskisehir**	**1.70**	**46**	*e*P	**Pb**	**14 01 42.4**	**-0.3**
BORA				*i* S	**Sg**	**14 02 05.4**	**-0.2**
ARMT	**Armutlu**	**1.85**	**0**	*e*PN	**Pb**	**14 01 44.2**	**-0.9**
ARMT	**Armutlu**	**1.85**	**0**	*e*Pn	**Pb**	**14 01 44.2**	**-0.9**
GULT	**Gulveren**	**2.15**	**36**	*e*PN	**Pn**	**14 01 48.5**	**+1.2**
GULT	**Gulveren**	**2.15**	**36**	*e*Pn	**Pn**	**14 01 48.5**	**+1.2**

*AUST **11** 14:07:29.9±0.0, 6°.33S×128°.08E, h291km, Error ellipse: s-maj=1.4km s-min=1.2km az=261.0*
*IDC **11** 14:07:30.2±7.3, 6°.39S×127°.80E, h441km±105km, mb2.9/5, mb1 2.9/8, mb1mx2.8/21, mbtmp2.8/8, Error ellipse: s-maj=90.3km s-min=33.0km az=47.0*
ISC 11 14:07:27.3±0.9, 6°.2S±0°.1×128°.0E±0°.2, h400km, n15, σ0§97/12, mb3.4/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLE	**Tual** baz=4.7,SNR=7.3	**4.72**	**83**	P	Pn	14 08 44.9	-1.7
TLE				S	S	14 09 43.9	-7.0
FAKI	**Fak Fak** baz=5.4,SNR=17	**5.35**	**52**	P	Pn	14 08 49.1	-3.9
FAKI				S	S	14 09 54.4	-8.3
MTN	**Manton Dam** baz=7.2,SNR=5.6	**7.24**	**155**	P	**Pn**	**14 09 13.3**	**-0.4**
LUWI	**Luwuk** baz=7.5,SNR=3.3	**7.36**	**314**	P	**P**	**14 09 17.4**	**+1.7**
KDU	**Kakadu** baz=7.7,SNR=7.8	**7.76**	**146**	P	**Pn**	**14 09 19.4**	**-0.2**
KNRA	**Kununurra** baz=9.4,SNR=8.6	**9.40**	**176**	P	**Pn**	**14 09 39.3**	**+0.8**
FITZ	**Fitzroy Crossi** 0.1nm,0.3s,baz=9.3,slow=11,SNR=5.6	**12.02**	**191**	P	**Pn**	**14 10 07.7**	**-1.0**
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=337,slow=11,SNR=13	**14.94**	**156**	P	**P**	**14 10 39.7**	**+0.5**
ASAR	**Alice Springs** 0.3nm,0.3s,baz=343,slow=12,SNR=36	**18.23**	**163**	P	**P**	**14 11 14.8**	**+0.5**
MANU	**Manus Island** baz=20,SNR=9.6	**19.73**	**79**	P	P	14 11 38.4	+8.9
CMAR	**Chiang Mai Arr** 0.6nm,0.3s,baz=102,slow=8.4,SNR=5.1	**37.75**	**311**	P	**P**	**14 14 06.2**	**-1.0**
SONM	**Songino Array** 0.2nm,0.4s,baz=149,slow=7.3,SNR=2.8	**57.12**	**343**	P	**P**	**14 16 34.1**	**+0.2**
MKAR	**Makanchi Array** 0.4nm,0.4s,baz=125,slow=8.5,SNR=3.8	**66.53**	**328**	P	**P**	**14 17 35.4**	**-0.3**
ZALV	**Zalesovo Beam** 0.6nm,0.4s,baz=134,slow=6.2,SNR=2.9	**70.05**	**334**	P	**P**	**14 17 56.0**	**-1.2**
KURBB	**Kurchatov Arra** 0.4nm,0.6s,baz=135,slow=5.3,SNR=4.1	**70.85**	**329**	P	**P**	**14 18 01.4**	**-0.6**

*ISCJB **11** 14:09:38.2±0.5, 9°.63S±0°.04×112°.72E±0°.04, h33km, mb4.0/11, MS3.9/2, Error ellipse: s-maj=6.3km s-min=4.7km az=29.5*
*AUST **11** 14:09:39.6, 9°.94S×112°.89E, h35km*
*DJA **11** 14:09:40.6±0.4, 9°.5±4°×11°.3E±°, h10km, M4.8/20, mb5.1/1, MLv4.6/20*
*IDC **11** 14:09:40.8±1.1, 9°.22S×112°.93E, h51km±7km, mb3.7/11, mb1 3.9/12, mb1mx3.8/24, mbtmp3.8/12, MS3.8/3, Ms1 3.8/3, ms1mx3.2/30, Error ellipse: s-maj=38.8km s-min=13.1km az=52.0*
ISC 11 14:09:39.2±0.6, 9°.51S±0°.07×112°.73E±0°.05, h35km, n49, σ2§02/45, mb4.1/11, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRKI	**Karangkates**	**1.37**	**348**	P	**Pn**	**14 10 02.3**	**+0.5**
GMJI	**Gumukmas**	**1.42**	**30**	P	**Pn**	**14 10 02.7**	**+0.3**
GMJI				S	**Sn**	**14 10 20.8**	**+0.9**
JAGI	**Jajag, Banyuwa**	**1.74**	**54**	P	**Pn**	**14 10 07.7**	**+0.8**
JAGI				S	**Sn**	**14 10 30.0**	**+2.1**
JAGI	**Jajag, Banyuwa** baz=1.9,SNR=77	**1.74**	**54**	P	**Pn**	**14 10 06.9**	**-0.1**
JAGI				S	**Sn**	**14 10 29.8**	**+1.9**
PWJI	**Pagerwojo**	**1.74**	**328**	P	**Pn**	**14 10 07.8**	**+0.9**
PWJI				S	**Sn**	**14 10 29.3**	**+1.4**
BLJI	**Banyuglugur**	**1.95**	**26**	P	**Pn**	**14 10 11.6**	**+1.8**
SJI	**Sawahan**	**2.01**	**331**	P	**Pn**	**14 10 11.9**	**+1.2**
PCJI	**Pacitan**	**2.02**	**310**	P	**Pn**	**14 10 12.6**	**+1.9**
BYJI	**Banyuwangi**	**2.06**	**51**	P	**Pn**	**14 10 13.8**	**+2.6**
ABJI	**Asem Bagus**	**2.26**	**41**	P	**Pn**	**14 10 16.7**	**+2.7**
NGJI	**Ngawi**	**2.47**	**329**	P	Pn	14 10 22.0	+5.0
DNP	**Denpasar**	**2.58**	**71**	P	Pn	14 10 21.9	+3.4
GRJI	**Gresik**	**2.59**	**354**	P	**Pn**	**14 10 20.0**	**+1.4**
UGM	**Wanagama**	**2.70**	**306**	P	Pn	14 10 24.5	+4.3
UGM	**Wanagama** baz=3.1,SNR=18	**2.70**	**306**	P	**Pn**	**14 10 22.6**	**+2.4**
KMMI	**Kalianget**	**2.73**	**27**	P	**Pn**	**14 10 22.4**	**+1.8**
SRBI	**Singaraja**	**2.83**	**60**	P	**Pn**	**14 10 24.5**	**+2.6**
MTNI	**Mataram**	**3.50**	**76**	P	Pn	14 10 36.4	+5.2
BJII	**Banjamegara**	**3.69**	**306**	P	Pn	14 10 39.0	+5.1
KPJI	**Karang Pucung**	**4.34**	**300**	P	Pn	14 10 46.2	+3.5
TGJI	**Tegal**	**4.44**	**306**	P	**Pn**	**14 10 46.3**	**+2.3**
CISI	**Cisompet, Garu**	**5.24**	**291**	P	Pn	14 10 59.7	+4.6
CISI	**Cisompet, Garu** baz=5.6,SNR=6.4	**5.24**	**291**	P	**Pn**	**14 10 57.1**	**+2.0**
LEM	**Lembang**	**5.72**	**297**	P	Pn	14 11 16.0	+14
KAPI	**Kappang** 1.3nm,0.3s,baz=230,slow=7.9,SNR=2.7	**8.27**	**58**	P	**Pn**	**14 11 34.3**	**-2.4**
KAPI	1.3nm,0.3s,baz=58,slow=19,SNR=2.1			S	Sn	14 12 59.5	-9.5
BKSI	**Bulukumba**	**8.43**	**61**	P	Pn	14 11 51.6	+13
MNAI	**Manna** baz=11,SNR=5.0	**10.97**	**297**	P	**Pn**	**14 12 15.5**	**+1.7**
KSM	**Kuching** baz=12,SNR=4.0	**11.18**	**347**	P	Pn	14 12 28.8	+12
KSI	**Kapahiang**	**11.63**	**299**	P	**Pn**	**14 12 24.3**	**+1.4**
FITZ	**Fitzroy Crossi** 0.5nm,0.3s,baz=292,slow=9.6,SNR=10	**15.16**	**126**	P	**Pn**	**14 13 08.4**	**-2.3**
FITZ				S	Sn	14 15 44.4	-13
FITZ	**Fitzroy Crossi** baz=15,SNR=8.0	**15.16**	**126**	P	**Pn**	**14 13 08.6**	**-2.2**
KNRA	**Kununurra** baz=16,SNR=5.0	**16.80**	**113**	P	**P**	**14 13 32.7**	**-1.0**
MEEK	**Meekatharra** baz=18,SNR=6.7	**17.92**	**163**	P	**Pn**	**14 13 45.1**	**-0.7**
MEEK	baz=18,SNR=7.9			S	Sn	14 16 52.5	-12
MTN	**Manton Dam** baz=18,SNR=3.5	**18.35**	**102**	P	**Pn**	**14 13 52.8**	**+1.8**
PSI	**Prapat** comp=Z,334nm,18.9s,baz=150,slow=42	**18.41**	**311**	LR	LR	14 22 32.8	
WRA	**Warramunga Arr** 3.3nm,0.5s,baz=289,slow=12,SNR=31	**23.30**	**119**	P	**P**	**14 14 43.2**	**-0.9**
WRA	0.5nm,1.1s,baz=292,slow=24,SNR=2.9			S	**S**	**14 18 51.5**	**-2.9**
ASAR	**Alice Springs** 4.8nm,0.7s,baz=302,slow=8.6,SNR=73	**24.64**	**127**	P	**P**	**14 14 57.0**	**+0.2**
ASAR	1.1nm,0.6s,baz=300,slow=8.1,SNR=2.9			pP	**pP**	**14 15 11.3**	**+4.6**
MMPI	**Merauke** baz=27,SNR=5.8	**27.33**	**90**	S	**S**	**14 19 55.4**	**-3.2**
CMAR	**Chiang Mai Arr** 1.7nm,0.9s,baz=167,slow=8.0,SNR=11	**30.95**	**334**	P	**P**	**14 15 53.0**	**0.0**
STKA	**Stephens Creek** 1.4nm,0.6s,baz=320,slow=9.3,SNR=4.7	**34.79**	**134**	P	**P**	**14 16 27.0**	**+0.4**
STKA	1.1nm,0.5s,baz=297,slow=11,SNR=1.8			pP	**pP**	**14 16 41.4**	**+4.6**
USRK	**Ussuriysk Arra** 2.2nm,0.9s,baz=208,slow=7.7,SNR=3.5	**56.24**	**17**	P	**P**	**14 19 13.6**	**-2.3**
SONM	**Songino Array** 2.6nm,1.0s,baz=177,slow=8.0,SNR=10	**57.37**	**355**	P	**P**	**14 19 22.5**	**-1.5**
SONM	1.1nm,0.8s,baz=172,slow=8.6,SNR=4.5			pP	**pP**	**14 19 35.4**	**+0.8**
MKAR	**Makanchi Array** 1.3nm,0.4s,baz=151,slow=7.3,SNR=18	**62.29**	**337**	P	**P**	**14 19 56.3**	**-1.5**
AAK	**Ala-Archa** comp=Z,81nm,18.4s,baz=280,slow=39	**62.55**	**329**	LR	LR	14 50 28.0	
KURBB	**Kurchatov Arra** 0.5nm,0.6s,baz=155,slow=5.1,SNR=5.2	**66.85**	**337**	P	**P**	**14 20 25.4**	**-2.1**
ZALV	**Zalesovo Beam** 1.7nm,0.5s,baz=116,slow=3.4,SNR=8.6	**67.49**	**343**	P	**P**	**14 20 29.3**	**-2.1**
ZALV	1.2nm,0.6s,baz=123,slow=5.5,SNR=2.7			pP	**pP**	**14 20 43.3**	**+1.0**
BVAR	**Borovoye Array** 0.4nm,0.5s,baz=125,slow=7.2,SNR=2.8	**71.97**	**335**	P	**P**	**14 20 58.0**	**-1.0**
KMBO	**Kilima Mbogo** comp=Z,52nm,20.4s,baz=96,slow=30	**75.50**	**271**	LR	LR	14 47 14.3	
BRTR	**Keskin Array B** 0.3nm,0.5s,baz=90,slow=4.3,SNR=3.5	**87.74**	**311**	P	**P**	**14 22 24.7**	**-0.2**

*TIR **11** 14:36:06.9, 41°.16N×20°.20E, h8km, ML2.8*
*CSEM **11** 14:36:07.0±0.4, 41°.13N×20°.21E, h2km, ML2.3, Error ellipse: s-maj=8.8km s-min=4.9km az=31.0*
*SKO **11** 14:36:07.8, 41°.13N×20°.18E, h4km, M2.2, ML2.6*
*PDG **11** 14:36:07.6±0.4, 41°.19N×20°.25E, h3km±1km, ML2.6/9, Error ellipse: s-maj=0.7km s-min=0.9km az=0.0*
*BEO **11** 14:36:09.9±0.7, 41°.33N×20°.14E, h5km±3km, ML2.3/9*
ISC 11 14:36:07.5±1.2, 41°.16N±0°.03×20°.21E±0°.02, h0km±11km, n44, σ1§31/78, 8C-10D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.32**	**306**	*i* PG	**Pg**	**14 36 13.1**	**-0.6**
TIR				*i* SG	**Sg**	**14 36 18.8**	**+0.9**
TIR	**Tirane**	**0.32**	**306**	*e*Pg	**Pg**	**14 36 13.2**	**-0.5**
TIR	**Tirane**	**0.32**	**306**	*e*Pg	**Pg**	**14 36 13.2**	**-0.5**
TIR				*i* Sg	**Sg**	**14 36 18.8**	**+0.9**
PHP	**Peshkopia**	**0.56**	**18**	*i* PG	**Pg**	**14 36 17.2**	**-1.0**
PHP				*i* SG	**Sg**	**14 36 26.5**	**+1.1**
PHP	**Peshkopia**	**0.56**	**18**	*i* Pg	**Pg**	**14 36 17.2**	**-1.0**
PHP				*i* Sg	**Sg**	**14 36 26.5**	**+1.1**
KBN	**Korca**	**0.69**	**140**	*i* PG	**Pg**	**14 36 19.8**	**-1.0**
KBN				*i* SG	**Sb**	**14 36 32.9**	**+0.3**
KBN	**Korca**	**0.69**	**140**	*i* Pg	**Pg**	**14 36 19.8**	**-1.0**
KBN				*i* Sg	**Sb**	**14 36 32.9**	**+0.3**
BIA	**Bitola**	**0.85**	**99**	*e*Pg	**Pg**	**14 36 24.6**	**+0.7**
BIA				*e*Sg	**Sg**	**14 36 36.0**	**+1.0**
BIA				*e*Lg	Lg	14 36 36.1	
BIA	comp=N,36nm,0.3s			*e*Lg	Lg	14 36 36.6	
BIA	comp=Z,14nm,0.2s **Bitola**	**0.85**	**99**	*e*Pg	**Pg**	**14 36 24.1**	**+0.2**
BIA				*e*Sg	**Sg**	**14 36 35.4**	**+0.4**
BIA				*e*Lg	Lg	14 36 36.1	
BIA	comp=Z,14nm,0.2s						
PUK	**Puka**	**0.92**	**345**	*i* PG	**Pg**	**14 36 24.3**	**-0.8**
PUK				*i* SG	**Sb**	**14 36 39.1**	**0.0**
PUK	**Puka**	**0.92**	**345**	*i* Pg	**Pg**	**14 36 24.3**	**-0.8**
PUK				*i* Sg	**Sb**	**14 36 39.1**	**0.0**
ULC	**Ulcinj**	**1.08**	**318**	⇓*i* Pg	**Pg**	**14 36 27.1**	**-1.2**
ULC				*e*Sg	**Sb**	**14 36 43.7**	**-0.2**
ULC	**Ulcinj**	**1.08**	**318**	⇓*i* Pg	**Pg**	**14 36 27.1**	**-1.2**
ULC				*e*Sg	**Sb**	**14 36 43.7**	**-0.2**
BCI	**Bajram Curri**	**1.21**	**355**	*i* PG	**Sn**	**14 36 51.0**	**+2.0**
SKO	**Skopje**	**1.23**	**48**	*e*Pg	**Pg**	**14 36 30.8**	**-0.3**
SKO				*e*Sg	**Sg**	**14 36 47.1**	**0.0**
SKO	**Skopje**	**1.23**	**48**	*e*Pg	**Pn**	**14 36 32.1**	**+0.1**
SKO				*e*Sg	**Sn**	**14 36 48.8**	**-0.6**
SKO				*e*Lg	Lg	14 36 48.9	
SKO	comp=E,64nm,0.8s			*e*Lg	Lg	14 36 49.2	
SKO	comp=N,114nm,0.4s **Skopje**	**1.23**	**48**	*e*Pg	**Pg**	**14 36 31.1**	**0.0**
SKO				*e*Sg	**Sb**	**14 36 47.7**	**-0.4**
SKO				*e*Lg	Lg	14 36 48.2	
SKO	comp=N,114nm,0.4s						
DRME	**Dracevica, Mon**	**1.28**	**324**	⇓*i* Pg	**Pg**	**14 36 30.4**	**-1.7**
DRME				*e*Sg	**Sn**	**14 36 51.5**	**+0.9**
DRME	**Dracevica, Mon**	**1.28**	**324**	⇓*i* Pg	**Pg**	**14 36 30.4**	**-1.7**
DRME				*e*Sg	**Sn**	**14 36 51.5**	**+0.9**
PVY	**Plav**	**1.45**	**353**	⇑*i* Pg	**Pn**	**14 36 33.7**	**-1.4**
PVY				*e*Sg	**Sn**	**14 36 56.5**	**+1.6**
PVY	**Plav**	**1.45**	**353**	⇑*i* Pg	**Pn**	**14 36 33.7**	**-1.4**
PVY				*e*Sg	**Sn**	**14 36 56.5**	**+1.6**
PDG	**Podgorica**	**1.46**	**331**	*e*Pg	**Pn**	**14 36 33.4**	**-1.7**
PDG				*e*Sg	**Sb**	**14 36 50.5**	**-4.1**
PDG	**Podgorica**	**1.46**	**331**	⇑*i* Pg	**Pn**	**14 36 34.5**	**-0.6**
PDG				*e*Sg	**Sg**	**14 36 56.6**	**+2.2**
TTG	**Podgorica**	**1.46**	**331**	⇑*i* Pg	**Pn**	**14 36 34.5**	**-0.6**
TTG				*e*Sg	**Sg**	**14 36 56.6**	**+2.2**
BUM	**Brajici-Budva**	**1.51**	**320**	⇓*i* Pg	**Pn**	**14 36 34.8**	**-1.1**
BUM				*e*Sg	**Sg**	**14 36 58.5**	**+2.5**
BUM	**Brajici-Budva**	**1.51**	**320**	⇓*i* Pg	**Pn**	**14 36 34.8**	**-1.1**
BUM				*e*Sg	**Sg**	**14 36 58.5**	**+2.5**
BEY	**Berane**	**1.73**	**352**	⇑*i* Pn	**Pn**	**14 36 38.9**	**-0.1**
BEY				*e*Sn	**Sg**	**14 37 05.2**	**+2.1**
IVA	**Berane**	**1.73**	**352**	⇑*i* Pn	**Pn**	**14 36 38.9**	**-0.1**
IVA				*e*Sn	**Sg**	**14 37 05.2**	**+2.1**
HCY	**Herceg Novi**	**1.82**	**316**	⇑*i* Pn	**Pb**	**14 36 40.9**	**-0.8**
HCY				*e*Sn	**Sg**	**14 37 07.8**	**+1.9**
HCY	**Herceg Novi**	**1.82**	**316**	⇑*i* Pn	**Pb**	**14 36 40.9**	**-0.8**
HCY				*e*Sn	**Sg**	**14 37 07.8**	**+1.9**
NKME	**Niksic**	**1.86**	**330**	⇓*i* Pn	**Pn**	**14 36 41.3**	**+0.6**
NKME				*e*Sn	**Sg**	**14 37 09.1**	**+1.8**
NKME	**Niksic**	**1.86**	**330**	⇓*i* Pn	**Pn**	**14 36 41.3**	**+0.6**
NKME				*e*Sn	**Sg**	**14 37 09.1**	**+1.8**
BARS	**Barje**	**2.04**	**35**	*e*Pn	**Pn**	**14 36 43.3**	**+0.1**
BARS				*e*Sg	**Sb**	**14 37 11.2**	**-0.4**
TREB	**Trebinje**	**2.09**	**319**	*e*Pn	**Pn**	**14 36 43.3**	**-0.5**
TREB	**Trebinje**	**2.09**	**319**	*e*Pn	**Pn**	**14 36 43.3**	**-0.5**
SJES	**Sjenica**	**2.11**	**355**	*e*Pn	**Pn**	**14 36 42.4**	**-1.8**
SJES	**Sjenica**	**2.11**	**355**	*e*Pn	**Pn**	**14 36 42.4**	**-1.8**
BRY	**Bratogost**	**2.14**	**325**	⇓*i* Pn	**Pb**	**14 36 46.0**	**-1.3**
BRY				*e*Sn	**Sb**	**14 37 15.4**	**+1.0**
BRY	**Bratogost**	**2.14**	**325**	⇓*i* Pn	**Pb**	**14 36 46.0**	**-1.3**
BRY				*e*Sn	**Sb**	**14 37 15.4**	**+1.0**
STON	**Ston**	**2.54**	**313**	*e*Pn	**Pn**	**14 36 49.7**	**-0.2**
STON	**Ston**	**2.54**	**313**	*e*Pn	**Pn**	**14 36 50.1**	**+0.2**
STON				Sn	**Sg**	**14 37 31.9**	**+2.9**
STON	**Ston**	**2.54**	**313**	*e*Pn	**Pn**	**14 36 49.7**	**-0.2**
BBLS	**Lazići**	**2.77**	**348**	*e*Pn	**Pn**	**14 36 53.1**	**-0.2**
BBLS	**Lazići**	**2.77**	**348**	*e*Pn	**Pn**	**14 36 53.1**	**-0.2**

*IDC **11** 14:36:28.4±0.8, 31°.41N×103°.98E, h0km, mb3.7/9, mb1 3.8/11, mb1mx3.7/26, mbtmp3.7/11, MS3.4/1, Ms1 3.4/1, ms1mx2.7/33, Error ellipse: s-maj=30.8km s-min=15.8km az=60.0*
*ISCJB **11** 14:36:29.2±0.4, 31°.39N±0°.04×104°.08E±0°.07, h14km, mb3.7/9, MS3.2/1, Error ellipse: s-maj=8.8km s-min=4.3km az=22.9*
*BJI **11** 14:36:32.2, 31°.50N×103°.80E, h15km, mb4.0/2, ML4.0/19, Ms3.6/3, Ms7 3.4/3*
ISC 11 14:36:31.3±0.6, 31°.36N±0°.04×104°.14E±0°.05, h14km, n20, σ1§92/26, mb3.8/9, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**0.56**	**216**	Pg	**Pg**	**14 36 41.0**	**-1.3**
CD2				Sg	**Sg**	**14 36 49.4**	**-0.4**
CD2				smax	smax		
CD2	comp=N,8μm,0.7s			smax	smax		
LZH	comp=E,9μm,0.6s **Lanzhou**	**4.72**	**357**	*e*Pn	**Pn**	**14 37 44.4**	**+2.2**
LZH				Pg	**Pb**	**14 37 54.8**	**+0.9**
LZH				Sn	**Sn**	**14 38 36.7**	**-0.1**
LZH				Sg	**Sb**	**14 38 54.1**	**+3.5**
LZH				smax	smax		
LZH	comp=N,130nm,1.0s			smax	smax		
LZH	comp=E,120nm,0.6s			LR	LR		
LZH	comp=N,370nm,7.8s			LR	LR		
LZH	comp=E,320nm,7.1s			LR	LR		
LZH	comp=Z,360nm,9.3s						
XAN	**Xi'an**	**4.83**	**55**	Pn	**Pn**	**14 37 44.5**	**+0.8**
XAN				Pg	**Pg**	**14 38 03.2**	**-0.7**
XAN				Sn	**Sn**	**14 38 41.3**	**+1.8**
XAN				Sg	**Sg**	**14 39 03.0**	**-3.5**
XAN				smax	smax		
XAN	comp=E,190nm,0.8s						
GYA	**Guiyang**	**5.36**	**155**	Pn	Pn	14 37 55.9	+4.8
GYA				Sn	**Sn**	**14 38 57.3**	**+4.6**
GYA				Sg	**Sg**	**14 39 22.4**	**-1.2**
GYA				smax	smax		
GYA	comp=N,220nm,1.0s			smax	smax		
GYA	comp=E,190nm,1.1s						
KMI	**Kunming**	**6.34**	**192**	Pn	**Pn**	**14 38 05.4**	**+0.8**
KMI				Sn	**Sn**	**14 39 16.5**	**-0.4**
KMI				smax	smax		
KMI	comp=N,35nm,0.6s			smax	smax		
KMI	comp=E,43nm,0.7s						
GTA	**Gaotai**	**8.77**	**337**	*e*P	Pn	14 38 45.2	+7.4
GTA				pP	pP	14 38 49.5	
GTA				sP		14 38 52.1	
GTA				S	S	14 40 33.0	
GTA				sS	sS	14 40 39.6	
GTA				pmax	pmax		
GTA	comp=Z,2.0nm,0.8s			pmax	pmax		
GTA	comp=Z,79nm,7.1s			LR	LR		
GTA	comp=N,110nm,16.1s			LR	LR		
GTA	comp=E,98nm,16.2s			LR	LR		
GTA	comp=Z,140nm,13.3s						
CMAR	**Chiang Mai Arr** baz=12,slow=11	**13.68**	**201**	Pn	**Pn**	**14 39 45.7**	**+0.7**
SONM	**Songino Array** baz=185,slow=16,SNR=2.7	**16.54**	**5**	Pn	**Pn**	**14 40 22.9**	**0.0**
KSRS	**Korea Array** comp=Z,3.1nm,0.7s,baz=258,slow=10,SNR=16	**20.52**	**66**	P	**P**	**14 41 10.2**	**+1.1**
CN2	**Changchun**	**20.89**	**48**	*e*P	Pn	14 41 14.6	-1.0
JNU	**Nakatsue** comp=Z,90nm,20.2s,baz=338,slow=40	**22.66**	**78**	LR	LR	14 51 28.6	
MKAR	**Makanchi Array** comp=Z,0.6nm,0.6s,baz=118,slow=11,SNR

YURE			*i* S	Sn	14 46 59.8	-0.7
YURE	**YUREGIR**	**0.72 117**	*i* P	Pb	14 46 47.5	+0.2
YURE			*i* S	Sn	14 46 59.8	-0.7
YURE	**YUREGIR**	**0.72 117**	*i* P	Pb	14 46 47.5	+0.2
YURE			*i* S	Sn	14 46 59.8	-0.7
KIZK	**Mersin**	**0.87 220**	*i* P	Pg	14 46 48.3	-0.6
KIZK			*i* S	Sb	14 47 01.9	+0.1
KIZK	**Mersin**	**0.87 220**	*i* P	Pg	14 46 48.3	-0.6
KIZK			*i* S	Sb	14 47 01.9	+0.1
KIZK	**Mersin**	**0.87 220**	*i* P	Pg	14 46 48.3	-0.6
KIZK			*i* S	Sb	14 47 01.9	+0.1
NIG	**Nigde**	**0.97 350**	*e*PN	Pn	14 46 53.2	+0.5
IKL	**Isikli**	**1.30 226**	*e*PN	Pg	14 46 57.3	+0.2
IKL	**Isikli**	**1.30 226**	*e*Pn	Pg	14 46 57.3	+0.2

IDC 11 14:50:20.8±1.6, 31°.75S×177°.89W, h0km, mb4.0/2, mb1 4.2/4, mb1mx3.9/18, mbtmp4.1/4, ML3.9/2, Error ellipse: s-maj=50.8km s-min=27.5km az=126.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.49**	**359**	Pn	Pn	14 51 02.4	-0.2
	74nm,0.3s,baz=240,slow=20,SNR=4.3						
RAO				Sn	Sn	14 51 25.6	-8.0
	89nm,0.3s,baz=73,slow=19,SNR=3.0						
URZ	**Urewera**	**7.68**	**211**	Pn	Pn	14 52 14.7	+0.8
	0.5nm,0.3s,baz=7.1,slow=19,SNR=2.8						
URZ				Sn	Sn	14 53 40.2	-1.4
	0.6nm,0.3s,baz=179,slow=18,SNR=3.3						
ASAR	**Alice Springs**	**43.15**	**268**	P	P	14 58 22.9	-0.5
	0.9nm,0.7s,baz=104,slow=7.3,SNR=23						
WRA	**Warramunga Arr**	**44.26**	**273**	P	P	14 58 32.0	-0.3
	1.6nm,0.5s,baz=112,slow=8.0,SNR=21						
SNAA	**Sanae**		**76.81**	**178**	*e*P	P	15 02 11.6	-2.4
VNA3	**Neumayer Olymp**		**76.96**	**176**	*e*P	P	15 02 17.4	+2.6
VNA2	**Neumayer--Watz**		**77.39**	**177**	*e*P	P	15 02 20.7	+3.5
MKAR	**Makanchi Array**		**118.70**	**309**	PKP	PKPdf	15 09 10.1	-0.5
	0.3nm,0.7s,baz=64,slow=3.4,SNR=3.1						
JOF	**Joensuu**		**143.70**	**338**	*e*p	PKPdf	15 09 58.6	+1.7
KAF	**Kangasniemi**		**145.84**	**340**	*e*p	PKPab	15 10 06.9	+5.2
	2.7nm,0.6s						
FINES	**FINESS Array B**		**146.44**	**339**	PKPbc	PKPdf	15 10 01.8	+0.1
	2.1nm,0.6s,baz=56,slow=3.5,SNR=16						
NOA	**NORSAR Array B**		**150.09**	**351**	PKPbc	PKPbc	15 10 11.9	-0.9
	0.6nm,0.8s,baz=31,slow=2.8,SNR=3.0						
AKASG	**Malin Array Be**		**152.42**	**321**	PKPbc	PKPbc	15 10 18.0	-0.5
	0.6nm,0.4s,baz=48,slow=1.4,SNR=3.3						
AKASG					PKPab	PKPab	15 10 30.5	+1.9
	0.4nm,0.3s,baz=66,slow=1.5,SNR=3.9						

GUC 11 14:50:31.7±0.7, 33°.40S×72°.49W, h43km±6km, MD3.6, ML3.1, 2C-3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**1.05**	**122**	⇓*i*P	Pn	14 50 51.1	+1.1
LNV				*i* S	Sn	14 51 05.0	+1.5
ROCH	**El Roble**	**1.31**	**71**	⇑*i*P	Pn	14 50 52.5	-1.3
ROCH				*i* S	Sn	14 51 09.9	-0.4
ROCH				AML	AML	14 51 13.4	
	comp=E,517nm,0.6s						
RCDM	**Rinconada Maip**	**1.41**	**94**	⇑*i*P	Pn	14 50 55.2	+0.3
RCDM				*i* S	Sn	14 51 12.6	+0.3
RCDM				AML	AML	14 51 13.8	
	comp=E,355nm,0.2s						
PEL	**Peldehue**	**1.53**	**81**	⇓*i*P	Pn	14 50 57.7	+1.0
PEL				*i* S	Sn	14 51 17.4	+2.0
PEL				AML	AML	14 51 17.9	
	comp=E,595nm,0.4s						
CLCH	**Cerro Calan**	**1.63**	**90**	*e*P	Pn	14 50 58.9	+0.8
CLCH				*i* S	Sn	14 51 19.9	+2.0
CLCH				AML	AML	14 51 33.2	
	comp=N,316nm,0.7s						
CACH	**El Canelo**	**1.73**	**115**	⇓*i*P	Pn	14 51 01.2	+1.8
CACH				*e*S	Sn	14 51 23.3	+2.9

*CSEM **11** 14:52:34.5, 37°.22N×34°.83E, h9km, MD3.0, After ISK*
*DDA **11** 14:52:34.4, 37°.15N×34°.84E, h1km, MD2.9*
ISK 11 14:52:34.5, 37°.22N×34°.83E, h9km, MD3.0, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARA	**Karaisali**	**0.18**	**76**	*e*PG	Pg	14 52 38.7	+0.3
KARA				*e*SG	Sg	14 52 41.8	+0.8
KARA	**Karaisali**	**0.18**	**76**	*e*Pg	Pg	14 52 38.7	+0.3
KARA				*e*Sg	Sg	14 52 41.8	+0.8
CEYT	**Ceyhan**	**0.76**	**106**	*e*PG	Pb	14 52 49.7	-0.2
CEYT	**Ceyhan**	**0.76**	**106**	*e*Pg	Pb	14 52 49.7	-0.2
NIG	**Nigde**	**0.91**	**349**	*e*PG	Pg	14 52 52.3	-0.1
NIG	**Nigde**	**0.91**	**349**	*e*Pg	Pg	14 52 52.3	-0.1
IKL	**Isikli**	**1.34**	**224**	*e*PN	Pb	14 52 60.0	+0.1
IKL	**Isikli**	**1.34**	**224**	*e*Pn	Pb	14 53 00.0	+0.1
SULT	**Sultanhani-AKS**	**1.43**	**314**	*e*PN	Pb	14 53 01.4	-0.2
SULT	**Sultanhani-AKS**	**1.43**	**314**	*e*Pn	Pb	14 53 01.4	-0.1
KMRS	**Kahramanmaras**	**1.67**	**79**	*e*PN	Pn	14 53 04.8	+0.7
KMRS	**Kahramanmaras**	**1.67**	**79**	*e*Pn	Pb	14 53 04.8	-0.7
BNN	**Bunyan**	**1.82**	**26**	*e*PN	Pn	14 53 06.9	+0.7
BNN	**Bunyan**	**1.82**	**26**	*e*Pn	Pn	14 53 06.9	+0.7
HDMB	**Hadim**	**1.90**	**263**	*e*PN	Pn	14 53 07.8	+0.5
HDMB	**Hadim**	**1.90**	**263**	*e*Pn	Pn	14 53 07.8	+0.5
KONT	**Konya--Tatoy**	**2.10**	**291**	*e*PN	Pn	14 53 10.8	+1.0
KONT	**Konya--Tatoy**	**2.10**	**291**	*e*Pn	Pn	14 53 10.8	+1.0
YOZ	**Yozgat**	**2.45**	**9**	*e*PN	Pn	14 53 15.8	+1.0
YOZ	**Yozgat**	**2.45**	**9**	*e*Pn	Pn	14 53 15.8	+0.9

WEL 11 14:57:42.0±0.1, 38°.37S×177°.18E, h42km±2km, ML3.5/5, 4C-5D, Error ellipse: s-maj=1.0km s-min=0.9km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.12**	**332**	⇓PN	Pn	14 57 48.5	-0.5
URZ				SN	Sn	14 57 53.5	-0.2
URZ				AML	AML	14 57 53.9	
MWZ	**Matawai**	**0.27**	**84**	⇑PN	Pn	14 57 49.6	-0.6
MWZ				SN	Sn	14 57 55.6	-0.4
MWZ				AML	AML	14 57 55.9	
MWZ				AML	AML	14 57 59.1	
MWZ				AML	AML	14 57 59.1	
EDRZ	**Edgecumbe**	**0.43**	**306**	⇓PN	Pn	14 57 51.9	-0.2
RRRZ	**Republican Roa**	**0.53**	**272**	⇓PN	Pn	14 57 52.9	-0.3
TARZ	**Mount Tarawera**	**0.55**	**283**	PN	Pn	14 57 53.5	-0.1
RAHZ	**Arahi**	**0.56**	**188**	⇑PN	Pn	14 57 53.4	-0.2
PRRZ	**Plateau Road**	**0.63**	**258**	⇓PN	Pn	14 57 54.1	-0.5
HLRZ	**Highlands Stat**	**0.66**	**279**	PN	Pn	14 57 55.0	0.0
ALRZ	**Allen Road**	**0.69**	**253**	PN	Pn	14 57 54.9	-0.4
ALRZ				SN	Sn	14 58 04.3	-0.6
OMRZ	**Omania**	**0.69**	**292**	PN	Pn	14 57 54.9	-0.5
OPRZ	**Ohinepanea**	**0.72**	**316**	⇓PN	Pn	14 57 54.9	-0.7
OPRZ				SN	Sn	14 58 05.6	+0.1
KNZ	**Kokohu**	**0.76**	**150**	PN	Pn	14 57 55.8	-0.5
PRGZ	**Paritu Road**	**0.78**	**136**	PN	Pn	14 57 56.2	-0.5
NMHZ	**Naumai**	**0.79**	**202**	PN	Pn	14 57 57.0	+0.2
CNGZ	**Carnagh Statio**	**0.81**	**99**	PN	Pn	14 57 57.5	+0.5
WIZ	**White Island**	**0.83**	**0**	PN	Pn	14 57 56.3	-1.0
PUZ	**Puketiti**	**0.90**	**71**	PN	Pn	14 57 58.1	0.0
PUZ				AML	AML	14 58 17.0	
PUZ				AML	AML	14 58 18.1	
BKZ	**Black Stump Fm**	**0.97**	**214**	PN	Pn	14 57 58.5	-0.7
BKZ				AML	AML	14 58 17.0	
BKZ				AML	AML	14 58 20.3	
MHGZ	**Mahia Peninsul**	**0.97**	**145**	PN	Pn	14 57 58.6	-0.6
MCHZ	**McNeill Hill**	**1.14**	**199**	PN	Pn	14 58 01.9	+0.4
MXZ	**Matakaoa Point**	**1.20**	**48**	PN	Pn	14 58 02.3	+0.1
MXZ				AML	AML	14 58 24.0	
MXZ				AML	AML	14 58 25.3	
CKHZ	**Cape Kidnapper**	**1.30**	**184**	PN	Pn	14 58 02.8	-0.8
KRVZ	**Karewarewa**	**1.41**	**238**	PN	Pn	14 58 04.8	-0.5
BHHZ	**Black Hill Sta**	**1.42**	**218**	*e*PN	Pn	14 58 05.5	+0.1
KAHZ	**Kahuranaki**	**1.45**	**189**	PN	Pn	14 58 05.2	-0.6
TOZ	**Tahuroa Road**	**1.47**	**295**	PN	Pn	14 58 05.2	-0.7
WHVZ	**Whangaehu Hut**	**1.54**	**233**	⇑PN	Pn	14 58 06.7	-0.7
FWVZ	**Far West T-bar**	**1.55**	**235**	PN	Pn	14 58 06.7	-0.7
PXZ	**Pawanui**	**1.68**	**188**	⇑PN	Pn	14 58 07.3	-1.6
PNHZ	**Pukenui**	**1.73**	**206**	PN	Pn	14 58 08.6	-0.9
WPHZ	**Waipukurau**	**1.79**	**198**	PN	Pn	14 58 09.1	-1.3
HIZ	**Hauiti**	**1.83**	**265**	PN	Pn	14 58 11.1	+0.1
PRHZ	**Porangahau**	**1.95**	**192**	PN	Pn	14 58 10.7	-1.8

MKAZ	**Moumakai**	**2.03**	**307**	PN	Pn	14 58 13.1	-0.6

*CSEM **11** 15:00:58.5±0.3, 39°.46N×32°.93E, h2km, MD2.5, Error ellipse: s-maj=7.1km s-min=6.5km az=135.0*
*DDA **11** 15:00:59.1, 39°.44N×33°.08E, h7km, MD2.5*
ISC 11 15:00:59.4±1.1, 39°.48N±0°.03×32°.98E±0°.04, h5km±7km, n14, σ0965/25, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFSR	**Af¯ar-Bala (A**	**0.08**	**113**	*e*PG	**Pg**	**15 01 00.7**	**-0.5**
AFSR				*e*SG	**Sg**	**15 01 03.1**	**+0.6**
AFSR	**Af¯ar-Bala (A**	**0.08**	**113**	*e*Pg	**Pg**	**15 01 00.7**	**-0.5**
AFSR				*e*Sg	**Sg**	**15 01 03.1**	**+0.6**
BBAL	**Bala**	**0.13**	**60**	*i* P	**Pg**	**15 01 01.6**	**-0.5**
BBAL				*i* S	**Sg**	**15 01 04.0**	**+0.1**
BBAL	**Bala**	**0.13**	**60**	*i* P	**Pg**	**15 01 01.6**	**-0.5**
BBAL				*i* S	**Sg**	**15 01 04.0**	**+0.1**
ANTO	**Ankara**	**0.41**	**340**	*e*PG	**Pg**	**15 01 06.5**	**-0.9**
ANTO	**Ankara**	**0.41**	**340**	*e*Pg	**Pg**	**15 01 06.5**	**-0.9**
ELDT	**Eldivan**	**1.07**	**19**	*i* P	**Pg**	**15 01 19.8**	**0.0**
ELDT				*i* S	**Sb**	**15 01 35.5**	**+0.8**
ELDT	**Eldivan**	**1.07**	**19**	*i* P	**Pg**	**15 01 19.8**	**0.0**
ELDT				*i* S	**Sb**	**15 01 35.5**	**+0.8**
CDAG	**Cicekdag**	**1.09**	**82**	*i* P	**Pg**	**15 01 19.1**	**-1.1**
CDAG				*i* S	**Sn**	**15 01 36.8**	**0.0**
CDAG	**Cicekdag**	**1.09**	**82**	*i* P	**Pg**	**15 01 19.1**	**-1.1**
CDAG				*i* S	**Sn**	**15 01 36.8**	**0.0**
KDHN	**Kadinhani**	**1.17**	**215**	*e*P	**Pg**	**15 01 21.1**	**-0.7**
KDHN				*i* S	**Sn**	**15 01 39.2**	**+0.4**
KDHN	**Kadinhani**	**1.17**	**215**	*e*P	**Pg**	**15 01 21.1**	**-0.7**
CTKT	**Corum**	**1.80**	**50**	*e*P	**Pn**	**15 01 31.4**	**+0.2**
CTKT				*i* S	**Sg**	**15 01 56.8**	**-0.4**
CTKT	**Corum**	**1.80**	**50**	*e*P	**Pn**	**15 01 31.4**	**+0.2**
CTKT				*i* S	**Sg**	**15 01 56.8**	**-0.4**

GUC 11 15:30:08.6±0.7, 34°.01S×70°.20W, h7km±1km, MD3.6, ML3.0, 5C-6D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMEL	**Las Melosas**	**0.16**	**358**	*e*P	Pg	15 30 12.2	+0.1
LMEL				*i* S	Sg	15 30 15.5	+0.9
LMEL				AML	AML	15 30 15.7	
	comp=E,15μm,0.3s						
CACH	**El Canelo**	**0.35**	**252**	⇓*i*P	Pg	15 30 15.9	+0.2
CACH				*i* S	Sg	15 30 21.6	+1.1
CHCH	**Chadas Angostu**	**0.39**	**281**	⇑*i*P	Pg	15 30 16.9	+0.7
PCH	**Pirque**	**0.47**	**326**	⇓*i*P	Pg	15 30 18.4	+0.5
PCH				*i* S	Sb	15 30 25.6	-1.0
ANTU	**Antumapu**	**0.57**	**320**	⇑*i*P	Pg	15 30 20.4	+0.6
ANTU				*i* S	Sb	15 30 29.2	-0.2
ANTU				AML	AML	15 30 29.5	
	comp=E,3μm,0.3s						
FSR	**Penalolen**	**0.60**	**332**	⇑*i*P	Pb	15 30 21.8	+0.3
FSR				*i* S	Sb	15 30 30.7	+0.5
CLCH	**Cerro Calan**	**0.67**	**335**	⇑*i*P	Pg	15 30 22.0	+0.2
CLCH				*i* S	Sb	15 30 32.4	0.0
CLCH				AML	AML	15 30 34.1	
	comp=N,864nm,0.2s						
CLCH				AML	AML	15 30 38.6	
	comp=E,1μm,0.5s						
CLCH				AML	AML	15 30 39.2	
	comp=E,1μm,0.5s						
SAN	**Santiago**	**0.68**	**325**	*e*P	Pg	15 30 22.1	+0.3
SAN				*i* S	Sb	15 30 32.0	-0.4
SAN				AML	AML	15 30 32.5	
	comp=E,887nm,0.2s						
RCDM	**Rinconada Maip**	**0.73**	**315**	⇓*i*P	Pg	15 30 22.4	-0.3
RCDM				*i* S	Sb	15 30 33.7	-0.2
RCDM				AML	AML	15 30 34.0	
	comp=N,3μm,0.1s						
PEL	**Peldehue**	**0.95**	**335**	⇓*i*P	Pg	15 30 26.6	-0.5
PEL				*i* S	Sb	15 30 40.7	+0.3
PEL				AML	AML	15 30 41.9	
	comp=E,932nm,0.3s						
LNV	**Longovilo**	**1.01**	**273**	⇓*i*P	Pg	15 30 27.4	-0.6
LNV				*i* S	Sg	15 30 41.4	+0.2
ROCH	**El Roble**	**1.24**	**326**	⇓*i*P	Pb	15 30 31.4	-1.3
ROCH				*e*S	Sb	15 30 49.2	+0.2
ROCH				AML	AML	15 30 52.6	
	comp=E,620nm,0.6s						
PACH	**Papudo**	**1.80**	**324**	⇑*i*P	Pb	15 30 41.8	-0.2
PACH				*i* S	Sg	15 31 05.7	-0.9

IDC 11 15:50:38.4±1.0, 5°.05N×92°.43E, h0km, mb3.9/9, mb1 4.0/10, mb1mx3.8/29, mbtmp3.9/10, ML3.8/1, Error ellipse: s-maj=55.3km s-min=15.2km az=51.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**6.86**	**109**	Pn	Pn	15 52 22.1	+1.6
	1.7nm,0.3s,baz=278,slow=5.5,SNR=4.8						
PSI				Sn	Sn	15 53 37.0	-2.4
	2.9nm,0.3s,baz=347,slow=11,SNR=5.6						
MKAR	**Makanchi Array**	**42.50**	**350**	P	P	15 58 34.9	-0.5
	0.4nm,0.5s,baz=164,slow=7.5,SNR=4.2						
KURBB	**Kurchatov Arra**	**46.89**	**348**	P	P	15 59 10.1	-0.3
	0.9nm,0.9s,baz=169,slow=7.7,SNR=6.2						
WRA	**Warramunga Arr**	**48.11**	**122**	P	P	15 59 20.3	-0.1
	1.7nm,0.7s,baz=296,slow=9.3,SNR=17						
WRA				PcP	PcP	16 00 47.7	-0.5
	0.4nm,0.7s,baz=308,slow=2.9,SNR=3.1						
ZALV	**Zalesovo Beam**	**49.14**	**354**	P	P	15 59 27.6	-0.1
	1.3nm,0.5s,baz=186,slow=10,SNR=8.4						
ASAR	**Alice Springs**	**49.51**	**127**	P	P	15 59 31.1	0.0
	1.3nm,0.9s,baz=297,slow=8.0,SNR=16						
ASAR				PcP	PcP	16 00 52.5	-0.8
	0.5nm,0.6s,baz=307,slow=3.7,SNR=5.4						
BVAR	**Borovoye Array**	**51.13**	**343**	P	P	15 59 43.2	+0.2
	0.8nm,0.5s,baz=121,slow=5.6,SNR=2.5						
STKA	**Stephens Creek**	**59.46**	**132**	P	P	16 00 43.3	-0.1
	2.1nm,0.9s,baz=304,slow=7.3,SNR=5.8						
BRTR	**Keskin Array B**	**63.01**	**312**	P	P	16 01 08.4	+0.8
	0.5nm,0.7s,baz=104,slow=6.1,SNR=3.5						
GERES	**GERESS Array B**	**78.79**	**319**	P	P	16 02 42.7	-0.6
	0.6nm,0.6s,baz=57,slow=3.6,SNR=5.3						

WEL 11 15:52:39.0±0.6, 35°.76S×178°.78E, h241km±14km, ML3.5/3, Error ellipse: s-maj=10.3km s-min=9.6km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**2.35**	**190**	PN	Pn	15 53 24.1	0.0
PUZ				SN	S	15 53 59.4	-0.2
CNGZ	**Carnagh Statio**	**2.76**	**189**	PN	Pn	15 53 29.3	+1.0
CNGZ				*e*SN	S	15 54 06.3	-0.9
MWZ	**Matawai**	**2.76**	**201**	PN	Pn	15 53 29.0	+0.7
URZ	**Urewera**	**2.83**	**208**	PN	Pn	15 53 29.2	+0.2
URZ				*e*SN	S	15 54 08.4	-0.1
KNZ	**Kokohu**	**3.37**	**195**	PN	Pn	15 53 35.4	+0.4
KNZ				*e*SN	S	15 54 18.0	-1.3
BHHZ	**Black Hill Sta**	**4.30**	**209**	PN	Pn	15 53 46.8	+0.7

*BYKL **11** 15:53:43.8±0.2, 56°.51N×113°.70E, h21km±3km*
MOS 11 15:53:42.6±1.2, 56°.44N×113°.86E, h9km, mb4.4/1, 9C, Error ellipse: s-maj=23.3km s-min=11.8km az=76.2, East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVKR	**Severomuysk**	**0.36**	**208**	⇑*i*Pg	Pb	15 53 51.2	-0.1
SVKR				*e*Sg	Sb	15 53 56.5	-0.6
SVKR				Pmax			
	5μm,0.1s						
SVKR				Smax			
	7μm,0.3s						
SVKR	**Severomuysk**	**0.36**	**208**	*e*PG	Pb	15 53 51.1	-0.2
SVKR				*e*		15 53 55.5	
SVKR				pmax	pmax		
	comp=Z,4μm,0.1s						
SVKR				smax	smax		
	comp=N,7μm,0.6s						
UKT	**Uakit**	**0.96**	**188**	⇑*i*Pg	Pn	15 54 02.6	+0.2
UKT				*e*Sg	Sn	15 54 16.5	+0.3
UKT				*e*Sb	Sb	15 54 19.7	+5.3
UKT				Pmax			
	comp=N,121nm,0.4s						
UKT				max			
	comp=N,840nm,0.3s						
UKT	**Uakit**	**0.96**	**188**	⇑*i*PG	Pn	15 54 02.5	+0.1
UKT				*e*		15 54 16.4	
UKT				pmax	pmax		
	comp=Z,109nm,0.2s						
UKT				smax	smax		
	comp=N,850nm,0.3s						
YOA	**Uoyan**	**1.23**	**257**	*e*Pg	Pn	15 54 05.7	-0.3
YOA				*e*Pb	Pg	15 54 06.8	+0.6
YOA				*e*Sg	Sb	15 54 21.7	-0.3
YOA				max			
	comp=N,332nm,0.2s						
YOA				Smax			
	comp=N,2μm,0.2s						
YOA	**Uoyan**	**1.23**	**257**	⇑*i*PG	Pg	15 54 06.6	+0.4
YOA				*e*		15 54 22.8	
YOA				pmax	pmax		
	comp=Z,340nm,0.2s						
YOA				smax	smax		
	comp=N,2μm,0.2s						
BOD	**Bodaibo**	**1.39**	**3**	⇑*i*Pg	Pn	15 54 07.9	-0.3
	comp=N,466nm,0.3s						
BOD				⇑*i*Pg	Pn	15 54 07.9	-0.3
	comp=N,73nm,0.3s						
BOD				⇑*i*Pg	Pn	15 54 07.9	-0.3
	comp=N,440nm,0.3s						
BOD				*e*Sg	Sb	15 54 25.2	-1.4
BOD				Pmax			
	comp=N,406nm,0.2s						
BOD				Smax			
	comp=N,2μm,0.2s						
BOD	**Bodaibo**	**1.39**	**3**	⇑*i*PG	Pn	15 54 07.4	-0.8
BOD				*e*		15 54 24.8	
BOD				pmax	pmax		
	comp=Z,401nm,0.2s						
BOD				smax	smax		
	comp=E,2μm,0.2s						
KMO	**Kumora**	**1.58**	**251**	*e*Pg	Pn	15 54 11.4	+0.5
KMO				*e*Sg	Sn	15 54 31.1	-0.4
KMO				Pmax			
	comp=E,54nm,0.3s						
KMO				Smax			
	comp=E,303nm,0.6s						
KMO	**Kumora**	**1.58**	**251**	*e*PN	Pn	15 54 11.0	+0.1
KMO				*e*		15 54 30.9	
KMO				pmax	pmax		
	comp=Z,54nm,0.3s						
KMO				smax	smax		
	comp=N,279nm,0.7s						
CRS	**Chara**	**2.48**	**77**	*e*Pn	Pb	15 54 25.3	-2.1
CRS				*e*Pg	Pg	15 54 30.3	+0.1
CRS				*e*PgPg	PbPb	15 54 36.8	+6.3
CRS				*e*Sn	Sn	15 54 55.8	+2.2
CRS				*e*Sg	Sg	15 55 03.3	+0.9
CRS				max			
	comp=N,56nm,0.5s						
CRS				Smax			
	comp=N,265nm,1.6s						
CRS	**Chara**	**2.48**	**77**	*e*PN	Pb	15 54 25.5	-1.9
CRS				*e*		15 54 30.5	
CRS				*e*		15 55 03.3	
CRS				pmax	pmax		
	comp=Z,65nm,0.4s						
CRS				smax	smax		
	comp=N,129nm,0.5s						
NIZ	**Nizh Angarsk**	**2.51**	**256**	*e*Pn	Pn	15 54 24.2	+0.7
NIZ				*e*Pg	Pb	15 54 27.2	-0.6
NIZ				*e*		15 54 55.8	
NIZ				*e*Sg	Sb	15 54 58.5	-0.3
NIZ				Pmax			
	comp=N,13nm,0.4s						
NIZ				Smax			
	comp=N,224nm,0.5s						
NIZ	**Nizh Angarsk**	**2.51**	**256**	*e*PN	Pn	15 54 24.9	+1.4
NIZ				*e*		15 54 27.8	
NIZ				*e*S	Sn	15 54 53.1	-1.1
VTMR	**Vitim**	**3.09**	**348**	*e*Pn	Pn	15 54 30.6	-0.9
VTMR				*e*Pg	Pb	15 54 37.8	+0.1
VTMR				*e*Sn	Sn	15 55 06.7	-1.9
VTMR				*e*Sg	Sb	15 55 16.9	+1.4
SYVR	**Suvo**	**3.56**	**220**	*e*Pn	Pn	15 54 38.6	+0.6
SYVR				*e*		15 54 43.2	
SYVR				*e*Pg	Pb	15 54 46.9	+1.2
SYVR				*e*Sn	Sn	15 55 19.9	-0.3
SYVR				*e*Sg	Sg	15 55 33.1	-3.9
SYVR				Pmax			
	comp=N,16nm,0.5s						
SYVR				Smax			
	comp=N,85nm,0.4s						
TUP	**Tupik**	**4.01**	**118**	⇑*i*Pn	Pn	15 54 46.1	+1.8
TUP				*e*		15 54 50.9	
TUP				*e*Sn	Sn	15 55 31.7	+0.2
TUP				*e*Sg	Sg	15 55 51.2	-0.4
TUP				Smax			
	comp=N,200nm,0.9s						
TUP	**Tupik**	**4.01**	**118**	*e*PN	Pn	15 54 45.9	+1.6
TUP				*e*		15 54 56.7	
TUP				*e*		15 55 51.0	
TUP				pmax	pmax		
	comp=Z,10.0nm,0.3s						
TUP				smax	smax		
	comp=N,190nm,0.9s						
YKLR	**Yuktali**	**4.32**	**85**	*e*Pn	Pn	15 54 50.6	+2.1
YKLR				*e*Pg	Pg	15 55 02.5	-2.9
YKLR				*e*Sg	Sg	15 55 59.8	-1.6
MXMB	**Maximikha**	**4.34**	**225**	*e*Pn	Pn	15 54 49.6	+0.9
MXMB				*e*Sn	Sn	15 55 37.0	-2.4
MXMB				*e*Sg	Sg	15 55 57.7	-4.3
MXMB				Smax			
	comp=N,106nm,0.7s						
CIT	**Chita**	**4.43**	**182**	*e*Sg	Sg	15 56 02.9	-2.0
CIT				Smax			
	comp=N,204nm,0.3s						
OGRR	**Ongureny**	**4.56**	**235**	*e*Pn	Pn	15 54 52.5	+0.7
OGRR				*e*Pg	Pb	15 55 04.7	+1.9
OGRR				*e*Sg	Sg	15 56 04.6	-4.4
OGRR	

NIED ***11*** *15:59:00, 33°.00N×141°.60E, h5km, Mw4.5 Best double couple: M0 5.71000×10^15 NP1:φ139.00000°, δ81.00000°, λ90.00000°. NP2:φ322.00000°, δ9.00000°, λ93.00000°.*
ISCJB ***11*** *15:59:32.9±0.7, 32°.90N±0°.03×141°.61E±0°.05, h34km±5km, mb4.4/46, MS3.8/8, Error ellipse: s-maj=7.2km s-min=5.8km az=170.9*
MOS ***11*** *15:59:32.1±1.1, 32°.93N×141°.66E, h28km, mb4.7/14, Error ellipse: s-maj=15.0km s-min=6.4km az=119.8*
JMA ***11*** *15:59:32.9±0.4, 33°.02N×141°.62E, h27km, M4.0*
NEIC ***11*** *15:59:34.1±2.1, 32°.90N×141°.52E, h29km±15km, mb4.5/5, MW4.4(NIED), Error ellipse: s-maj=7.5km s-min=5.0km az=76.0*
IDC ***11*** *15:59:35.5±0.7, 32°.94N×141°.56E, h38km±5km, mb4.0/23, mb1 4.2/25, mb1mx4.1/30, mbtmp4.0/25, ML3.1/2, MS3.2/3, Ms1 3.2/3, ms1mx2.9/29, Error ellipse: s-maj=15.8km s-min=11.7km az=80.0*
BJI ***11*** *15:59:36.5, 33°.00N×141°.40E, h38km, mB4.9/26, mb4.6/35, Ms4.2/22, Ms7 4.0/21*
ISC 11 15:59:35.8±0.4, 32°.93N±0°.04×141°.58E±0°.05, h44km±2km, h43km:pP-P, n157, σ1s51/200, mb4.4/46, MS3.9/8, 8C-1D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.50**	**277**	P	**Pn**	**15 59 59.1**	**-1.0**
JHJ2				S	**Sn**	**16 00 18.3**	**-0.1**
JHCJ	**Hachijojimakas**	**1.51**	**276**	P	**Pn**	**15 59 59.0**	**-1.3**
BSO1	**Boso 1**	**1.79**	**344**	P	**Pn**	**16 00 02.1**	**-1.6**
BSO3	**Boso 3**	**2.07**	**335**	P	**Pn**	**16 00 06.1**	**-1.7**
BSO4	**Boso 4**	**2.30**	**334**	P	**Pn**	**16 00 10.7**	**-0.4**
JKO	**Kozu shima**	**2.40**	**302**	P	**Pn**	**16 00 11.8**	**-0.7**
KTR	**Katsuura**	**2.45**	**335**	S	**Sn**	**16 00 41.1**	**-0.8**
JIM2	**Oshima 3**	**2.53**	**315**	P	**Pn**	**16 00 12.0**	**-2.3**
JIZS	**Izushimoda**	**2.87**	**309**	P	**Pn**	**16 00 17.9**	**-1.1**
JOD2	**Odawara 2**	**3.11**	**319**	P	**Pn**	**16 00 20.3**	**-2.1**
TK02	**Tokai 2**	**3.35**	**289**	P	**Pn**	**16 00 26.1**	**+0.6**
JIE	**Ise**	**4.32**	**291**	P	**Pn**	**16 00 38.6**	**-0.3**
MJAR	**Matsushiro Arr**	**4.55**	**323**	Pn	**Pn**	**16 00 41.5**	**-0.6**
MJAR				Sn	**Sn**	**16 01 33.6**	**-0.1**
MJAR	**Matsushiro Arr**	**4.55**	**323**	Pn	**Pn**	**16 00 41.5**	**-0.6**
	3.5nm,0.3s,baz=154,slow=11,SNR=86						
MJAR				Sn	**Sn**	**16 01 33.6**	**-0.1**
	3.4nm,0.3s,baz=182,slow=18,SNR=4.2						
MAJO	**Matsushiro**	**4.55**	**323**	*e*P	**Pn**	**16 00 41.4**	**-0.7**
MAJO	**Matsushiro**	**4.55**	**323**	*e*Pn	**Pn**	**16 00 41.4**	**-0.7**
MAT	**Matsushiro**	**4.55**	**323**	P	**Pn**	**16 00 41.6**	**-0.5**
MAT				*e*S	**Sn**	**16 01 34.3**	**+0.6**
MAT	**Matsushiro**	**4.55**	**323**	P	**Pn**	**16 00 41.4**	**-0.7**
CBIJ	**Chichi jima**	**5.84**	**175**	Pn	Pn	16 00 56.9	-2.9
CBIJ				Sn	**Sn**	**16 02 00.2**	**-5.3**
CBIJ	**Chichi jima**	**5.84**	**175**	Pn	Pn	16 00 56.9	-2.9
	46nm,0.3s,baz=351,slow=7.8,SNR=29						
CBIJ				Sn	**Sn**	**16 02 00.2**	**-5.3**
	13nm,0.3s,baz=270,slow=20,SNR=2.8						
CBIJ				LR	LR	16 03 25.7	
	comp=Z,215nm,18.5s,baz=120,slow=39						
JNU	**Nakatsue**	**8.99**	**274**	Pn	**Pn**	**16 01 45.4**	**+2.3**
JNU	**Nakatsue**	**8.99**	**274**	Pn	**Pn**	**16 01 45.4**	**+2.3**
	0.2nm,0.3s,baz=146,slow=3.6,SNR=2.8						
ERM	**Erimo**	**9.15**	**7**	*e iP*	Pn	16 01 40.3	-4.9
ASAJ	**Asahikawa**	**11.20**	**4**	Pn	Pn	16 02 08.4	-4.8
ASAJ				Sn	Sn	16 04 09.6	-7.3
ASAJ	**Asahikawa**	**11.20**	**4**	Pn	Pn	16 02 08.4	-4.8
	1.3nm,0.3s,baz=346,slow=31,SNR=13						
ASAJ				Sn	Sn	16 04 09.6	-7.3
	0.1nm,0.3s,baz=357,slow=18,SNR=3.6						
KSRS	**Korea Array**	**12.05**	**296**	Pn	Pn	16 02 28.4	+3.6
	0.3nm,0.3s,baz=106,slow=13,SNR=6.8						
KSRS				LR	LR	16 07 16.1	
	comp=Z,114nm,18.6s,baz=115,slow=38						
KSAR	**Wonju Array Be**	**12.07**	**296**	Pn	Pn	16 02 28.4	+3.2
USRK	**Ussuriysk Arra**	**13.51**	**329**	Pn	**Pn**	**16 02 42.6**	**-2.0**
	0.2nm,0.3s,baz=159,slow=12,SNR=3.2						
YSS	**Yuzh-Sakhalins**	**14.04**	**3**	*e*P	**Pn**	**16 02 51.1**	**-0.7**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
MDJ	**Mudanjiang**	**14.93**	**325**	P	**Pn**	**16 03 03.7**	**-0.2**
MDJ				S	**Sn**	**16 05 46.4**	**-1.6**
MDJ				PcP	**PcP**	**16 08 11.9**	**+0.8**
MDJ				ScP	**ScP**	**16 11 41.8**	**+0.3**
MDJ				PcS	**PcS**	**16 11 48.8**	**+2.6**
MDJ				ScS	**ScS**	**16 15 20.0**	**+0.7**
MDJ				pmax	pmax		
	comp=Z,3.0nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,58nm,5.6s						
MDJ				LR	LR		
	comp=N,220nm,15.4s						
MDJ				LR	LR		
	comp=E,140nm,16.8s						
MDJ				LR	LR		
	comp=Z,200nm,12.6s						
HABR	**Khabarovsk**	**16.29**	**344**	*de*P	**Pn**	**16 03 17.2**	**-4.0**
HABR				*e*S	**Sn**	**16 06 16.9**	**-3.9**
HABR				MLR	MLR		
	comp=Z,74nm,14.0s						
CN2	**Changchun**	**16.64**	**315**	*e*P	**P**	**16 03 28.0**	**+0.3**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
NJ2	**Nanjing**	**19.19**	**274**	*e*P	**P**	**16 03 55.1**	**-0.8**
NJ2				pmax	pmax		
	comp=Z,15nm,0.7s						
GUMO	**Guam**	**19.49**	**170**	*e*P	**P**	**16 03 59.7**	**+0.5**
YHNB	**Yeheng**	**19.51**	**250**	*e*P	**P**	**16 03 58.7**	**-0.8**
	comp=Z,20nm,0.9s						
SSLB	**Suanglung**	**20.28**	**249**	*e*P	**P**	**16 04 07.2**	**-0.7**
	comp=Z,21nm,1.0s						
TWG	**Pinlang**	**20.71**	**246**	*e*P	**P**	**16 04 11.7**	**-0.7**
	comp=Z,53nm,0.7s						
BJI	**Beijing**	**21.58**	**296**	P	**P**	**16 04 21.6**	**-0.1**
BJI				S	**S**	**16 08 17.4**	**-1.0**
BJI				pmax	pmax		
	comp=Z,24nm,0.5s						
BJI				LR	LR		
	comp=N,250nm,16.7s						
BJI				LR	LR		
	comp=E,180nm,13.4s						
BJI				LR	LR		
	comp=Z,73nm,16.5s						
PETK	**Petropavlovsk-**	**23.25**	**25**	LR	LR	16 14 30.1	
	comp=Z,44nm,18.9s,baz=81,slow=38						
WHN	**Wuhan**	**23.26**	**271**	P	**P**	**16 04 39.0**	**-0.4**
HHC	**Hu-ho-hao-te**	**25.19**	**297**	*e*P	**P**	**16 04 58.2**	**+0.9**
HHC				pP	**pP**	**16 05 11.4**	**+2.6**
HHC				sP	**sP**	**16 05 16.1**	**+2.0**
HHC				PP	**PnPn**	**16 05 36.9**	**+4.2**
HHC				PcP	**PcP**	**16 08 33.6**	**+3.5**
HHC				S	**S**	**16 09 16.4**	**-3.2**
HHC				sS	**sS**	**16 09 35.4**	**-3.6**
HHC				SS	**SnSn**	**16 10 17.0**	**+4.5**
HHC				pmax	pmax		
	comp=Z,41nm,1.0s						
HHC				pmax	pmax		
	comp=Z,250nm,5.1s						
HHC				LR	LR		
	comp=N,200nm,13.2s						
HHC				LR	LR		
	comp=E,300nm,13.1s						
ULN	**Ulaanbaatar**	**29.94**	**310**	*e*P	**P**	**16 05 38.3**	**-1.6**
	comp=E,8.6nm,0.7s						
SONM	**Songino Array**	**30.36**	**310**	P	**P**	**16 05 44.2**	**+0.8**
SONM	**Songino Array**	**30.36**	**310**	P	**P**	**16 05 44.2**	**+0.8**
	comp=E,4.9nm,0.8s,baz=111,slow=7.7,SNR=27						
GYA	**Guiyang**	**30.91**	**267**	*e*P	**P**	**16 05 49.0**	**+0.4**
GYA				pP	**pP**	**16 06 02.5**	**+2.2**
GYA				sP	**sP**	**16 06 08.9**	**+3.4**
GYA				PP	**PnPn**	**16 06 51.2**	**+0.9**
GYA				PcP	**PcP**	**16 08 46.0**	**+1.6**
GYA				S	**S**	**16 10 47.4**	**-2.6**
GYA				sS	**sS**	**16 11 10.0**	**+0.4**
GYA				ScP	**ScP**	**16 12 22.3**	**-1.4**
GYA				ScS	**ScS**	**16 16 15.8**	**-5.0**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
LZH	**Lanzhou**	**31.13**	**286**	*e*P	**P**	**16 05 51.3**	**+0.8**
LZH				pP	**pP**	**16 06 01.4**	**-0.8**
LZH				sP	**sP**	**16 06 07.5**	**+0.1**
LZH				pmax	pmax		
	comp=Z,21nm,1.2s						
LZH				pmax	pmax		
	comp=Z,53nm,5.0s						
LZH				LR	LR		
	comp=N,180nm,11.5s						
LZH				LR	LR		
	comp=E,160nm,10.1s						
LZH				LR	LR		
	comp=Z,240nm,16.4s						
CD2	**Chengdu**	**32.06**	**277**	P	**P**	**16 05 58.6**	**0.0**
CD2				pP	**pP**	**16 06 11.2**	**+0.9**
CD2				sP	**sP**	**16 06 17.1**	**+1.6**
CD2				PP	**PnPn**	**16 07 05.4**	**+0.4**
CD2				sS	**sS**	**16 11 26.2**	**-1.1**
CD2				SS	**SnSn**	**16 12 58.1**	**-2.0**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,250nm,3.7s						
CD2				LR	LR		
	comp=N,300nm,8.9s						
CD2				LR	LR		
	comp=Z,280nm,11.3s						
ZAK	**Zakamensk**	**33.05**	**313**	*e*P	**P**	**16 06 07.9**	**+0.8**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.3s						
GTA	**Gaotai**	**34.10**	**293**	⇑P	**P**	**16 06 16.1**	**-0.3**
GTA				pP	**pP**	**16 06 28.7**	**+0.5**
GTA				sP	**sP**	**16 06 33.7**	**+0.4**
GTA				S	**S**	**16 11 35.6**	**-3.8**
GTA				sS	**sS**	**16 11 56.5**	**-2.6**
GTA				SS	**SnSn**	**16 13 43.2**	**-6.4**
GTA				pmax	pmax		
	comp=Z,11nm,0.8s						
GTA				pmax	pmax		
	comp=Z,46nm,6.2s						
GTA				LR	LR		
	comp=N,110nm,16.2s						
GTA				LR	LR		
	comp=E,86nm,15.9s						
GTA				LR	LR		
	comp=Z,130nm,15.7s						
KMI	**Kunming**	**34.69**	**267**	P	**P**	**16 06 21.0**	**-0.8**
KMI				sP	**sP**	**16 06 41.4**	**+2.7**
KMI				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KMI				LR	LR		
	comp=Z,200nm,10.7s						
TIXI	**Tiksi**	**39.37**	**354**	*e*P	**P**	**16 06 59.3**	**-1.3**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.9s						
WMQ	**Urumqi**	**42.94**	**301**	P	**P**	**16 07 31.0**	**+0.6**
WMQ				pP	**pP**	**16 07 43.2**	**+0.8**
WMQ				sP	**sP**	**16 07 48.6**	**+1.0**
WMQ				PP	**PP**	**16 09 13.4**	**+2.9**
WMQ				pmax	pmax		
	comp=Z,12nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,160nm,4.3s						
WMQ				LR	LR		
	comp=N,74nm,17.5s						
WMQ				LR	LR		
	comp=E,43nm,21.5s						
WMQ				LR	LR		
	comp=Z,34nm,19.2s						
ZALV	**Zalesovo Beam**	**44.86**	**315**	P	**P**	**16 07 45.4**	**-0.1**
ZALV						16 09 27.2	
ZALV	**Zalesovo Beam**	**44.86**	**315**	P	**P**	**16 07 45.4**	**-0.1**
ZALV				PcP	**PcP**	**16 09 27.1**	**+0.5**
ZALV	**Zalesovo Beam**	**44.86**	**315**	P	**P**	**16 07 45.4**	**-0.1**
	comp=Z,2.1nm,0.7s,baz=101,slow=7.9,SNR=9.7						
ZALV				PcP	**PcP**	**16 09 27.1**	**+0.5**
	comp=Z,1.1nm,0.6s,baz=76,slow=3.9,SNR=3.6						
NVS	**Novosibirsk**	**45.84**	**317**	*e*P	**P**	**16 07 52.8**	**-0.5**
TAPN	**Taplejung**	**46.51**	**278**	*e*P	**P**	**16 07 59.1**	**-0.2**
MK31	**Makanchi Array**	**46.51**	**305**	*e*P	**P**	**16 07 57.8**	**-1.0**
MK31	**Makanchi Array**	**46.51**	**305**	*e*P	**P**	**16 07 57.8**	**-1.0**
MKAR	**Makanchi Array**	**46.51**	**305**	P	**P**	**16 07 59.2**	**+0.4**
MKAR	**Makanchi Array**	**46.51**	**305**	P	**P**	**16 07 59.1**	**+0.4**
MKAR	**Makanchi Array**	**46.51**	**305**	P	**P**	**16 07 59.1**	**+0.4**
	comp=Z,3.4nm,0.6s,baz=89,slow=10.0,SNR=47						
ODAN	**Odare**	**46.95**	**277**	*e*P	**P**	**16 08 02.3**	**-0.4**
	comp=Z,13nm,0.4s						
RAMN	**Ramite**	**47.57**	**278**	*e*P	**P**	**16 08 07.2**	**-0.4**
	comp=Z,37nm,0.7s						
JIRN	**Jiri**	**47.66**	**279**	*e*P	**P**	**16 08 08.6**	**+0.2**
	comp=Z,47nm,0.6s						
GUN	**Gumba**	**47.83**	**279**	*e*P	**P**	**16 08 09.4**	**-0.3**
	comp=Z,25nm,0.7s						
PKI	**Pulchoki**	**48.34**	**279**	*e*P	**P**	**16 08 13.0**	**-0.6**
KKN	**Kakani**	**48.37**	**280**	*e*P	**P**	**16 08 13.5**	**-0.2**
	comp=Z,27nm,1.0s						
KURK	**Kurchatov**	**48.65**	**311**	P	**P**	**16 08 15.7**	**+0.5**
KURK	**Kurchatov**	**48.65**	**311**	P	**P**	**16 08 15.7**	**+0.5**
KURBB	**Kurchatov Arra**	**48.71**	**311**	P	**P**	**16 08 15.7**	**0.0**
	comp=Z,3.0nm,0.5s,baz=90,slow=7.8,SNR=39						
DANN	**Dangsing**	**49.43**	**281**	*e*P	**P**	**16 08 22.3**	**+0.4**
	comp=Z,30nm,0.7s						
KOLN	**Koldanda**	**49.77**	**280**	*e*P	**P**	**16 08 24.4**	**0.0**
KDAK	**Kodiak Island**	**50.11**	**40**	P	**P**	**16 08 25.9**	**-0.3**
KDAK	**Kodiak Island**	**50.11**	**40**	P	**P**	**16 08 25.9**	**-0.3**
	comp=Z,17nm,1.1s,baz=243,slow=4.5,SNR=2.5						
PYUN	**Piuthan**	**50.16**	**281**	*e*P	**P**	**16 08 27.4**	**+0.1**
	comp=Z,61nm,0.5s						
IMA2	**Indian Mountai**	**50.17**	**29**	*e*P	**P**	**16 08 27.4**	**+0.5**
TKM2	**Tokmak 2**	**51.79**	**301**	*e*P	**P**	**16 08 38.5**	**-0.9**
TKM2	**Tokmak 2**	**51.79**	**301**	*e*P	**P**	**16 08 38.5**	**-0.9**
KSH	**Kashi**	**52.30**	**297**	P	P	16 08 46.7	+3.5
KSH				pP	pP	16 09 02.5	+7.1
KSH				PP	PP	16 10 47.8	+6.0
KSH				PcS	**PcS**	**16 13 53.4**	**+1.0**
KSH				S	**S**	**16 16 08.0**	**+2.5**
KSH				sS	sS	16 16 34.9	+8.9
KSH				pmax	pmax		
	comp=Z,9.0nm,1.3s						
KSH				pmax	pmax		
	comp=Z,77nm,3.7s						
KSH				LR	LR		
	comp=N,77nm,5.5s						
KSH				LR	LR		
	comp=E,85nm,6.1s						
KSH				LR	LR		
	comp=Z,180nm,6.4s						
AAK	**Ala-Archa**	**52.65**	**301**	⇑*i P*	**P**	**16 08 45.8**	**+0.1**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
AAK	**Ala-Archa**	**52.65**	**301**	*e*P	**P**	**16 08 45.2**	**-0.5**
	comp=Z,3.0nm,0.9s						
AAK	**Ala-Archa**	**52.65**	**301**	P	**P**	**16 08 45.9**	**+0.2**
	comp=Z,1.5nm,0.6s,baz=72,slow=3.2,SNR=7.0						
ILAR	**Eielson Array**	**52.91**	**31**	P	**P**	**16 08 46.8**	**-0.3**
ILAR				pP	**pP**	**16 08 59.2**	**-0.2**
ILAR	**Eielson Array**	**52.91**	**31**	P	**P**	**16 08 46.8**	**-0.3**
	comp=Z,1.9nm,0.8s,baz=264,slow=5.9,SNR=8.6						
ILAR				pP	**pP**	**16 08 59.2**	**-0.2**
	comp=Z,1.6nm,0.7s,baz=265,slow=6.4,SNR=4.4						
FITZ	**Fitzroy Crossi**	**52.99**	**199**	P	**P**	**16 08 48.8**	**+0.6**
FITZ	**Fitzroy Crossi**	**52.99**	**199**	P	**P**	**16 08 48.8**	**+0.6**
	comp=Z,4.5nm,0.6s,baz=19,slow=11,SNR=27						
WRA	**Warramunga Arr**	**53.03**	**189**	P	**P**	**16 08 48.2**	**-0.3**
WRA				pP	**pP**	**16 08 59.9**	**-0.9**
WRA	**Warramunga Arr**	**53.03**	**189**	P	**P**	**16 08 48.2**	**-0.3**
	comp=Z,5.7nm,0.4s,baz=5.2,slow=7.4,SNR=228						
WRA				pP	**pP**	**16 08 59.9**	**-0.9**
	comp=Z,5.7nm,0.5s,baz=6.4,slow=7.5,SNR=9.1						
VOSK	**Vostochnaya**	**53.18**	**314**	*e*P	**P**	**16 08 49.4**	**+0.1**
VOSK	**Vostochnaya**	**53.18**	**314**	*e*P	**P**	**16 08 49.4**	**+0.1**
BVAR	**Borovoye Array**	**53.49**	**315**	P	**P**	**16 08 51.7**	**+0.1**
BVAR	**Borovoye Array**	**53.49**	**315**	P	**P**	**16 08 51.7**	**+0.1**
BVAR	**Borovoye Array**	**53.49**	**315**	P	**P**	**16 08 51.7**	**+0.1**
	comp=Z,3.5nm,0.9s,baz=86,slow=7.8,SNR=11						
BRVK	**Borovoye**	**53.55**	**315**	*c iP*	**P**	**16 08 52.4**	**+0.4**
BRVK				pmax	pmax		
	comp=Z,7.0nm,1.3s						
KKAR	**Karatay Array**	**55.38**	**303**	*e*P	**P**	**16 09 04.6**	**-0.9**
KKAR	**Karatay Array**	**55.38**	**303**	*e*P	**P**	**16 09 04.6**	**-0.9**
AS31	**Alice Springs**	**56.76**	**188**	*e*P	**P**	**16 09 15.1**	**-0.3**
ASAR	**Alice Springs**	**56.76**	**188**	P	**P**	**16 09 15.3**	**0.0**
ASAR	**Alice Springs**	**56.76**	**188**	P	**P**	**16 09 15.3**	**0.0**
	comp=Z,1.9nm,0.5s,baz=17,slow=12,SNR=56						
MBWA	**Marble Bar**	**57.70**	**204**	*e*P	**P**	**16 09 20.7**	**-1.3**
INK	**Inuvik**	**57.99**	**26**	P	**P**	**16 09 23.9**	**+0.4**
INK	**Inuvik**	**57.99**	**26**	P	**P**	**16 09 23.9**	**+0.4**
	comp=Z,1.3nm,0.5s,baz=276,slow=2.6,SNR=5.7						
HYB	**Hyderabad**	**58.33**	**271**	*i* P	**P**	**16 09 26.0**	**-0.7**
SVE	**Sverdlovsk**	**58.35**	**320**	*e*P	**P**	**16 09 26.3**	**+0.1**
ARU	**Arti**	**59.56**	**320**	*c iP*	**P**	**16 09 34.7**	**+0.1**
ARU						16 11 45.5	
ARU				S	**S**	**16 17 44.4**	**+3.2**
ARU				pmax	pmax		
	comp=Z,8.0nm,0.8s						
ABKAR	**Akbulak array**	**60.73**	**312**	*e*P	**P**	**16 09 40.8**	**-2.0**
STKA	**Stephens Creek**	**64.46**	**180**	P	**P**	**16 10 08.1**	**+0.4**
STKA	**Stephens Creek**	**64.46**	**180**	P	**P**	**16 10 08.1**	**+0.4**
	comp=Z,2.3nm,0.8s,baz=359,slow=9.0,SNR=5.4						
ARCES	**ARCESS Array B**	**67.89**	**340**	P	**P**	**16 10 29.3**	**0.0**
ARCES	**ARCESS Array B**	**67.89**	**340**	P	**P**	**16 10 29.3**	**0.0**
	comp=Z,1.7nm,0.9s,baz=76,slow=7.5,SNR=2.5						
OBN	**Obninsk**	**71.48**	**324**	*e*P	**P**	**16 10 52.1**	**+0.5**
OBN				pmax	pmax		
	comp=Z,10.0nm,0.6s						
FINES	**FINESS Array B**	**72.51**	**333**	P	**P**	**16 10 57.5**	**-0.2**
FINES	**FINESS Array B**	**72.51**	**333**	P	**P**	**16 10 57.5**	**-0.2**
	comp=Z,2.6nm,0.9s,baz=12,slow=10,SNR=6.5						
K05A	**Summer Lake**	**73.46**	**50**	*e*P	P	16 11 10.7	+6.7
KBZ	**Khabaz**	**73.70**	**312**	P	**P**	**16 11 06.0**	**+0.9**
KBZ	**Khabaz**	**73.70**	**312**	P	**P**	**16 11 06.0**	**+0.9**
KBZ	**Khabaz**	**73.70**	**312**	P	**P**	**16 11 06.0**	**+0.9**
	comp=Z,4.3nm,0.9s,baz=45,slow=1.4,SNR=9.1						
KIV	**Kislovodsk**	**73.72**	**312**	⇑*i* P	**P**	**16 11 06.7**	**+1.4**
KIV				pmax	pmax		
	comp=Z,8.0nm,0.8s						
SUMG	**Summit**	**74.78**	**0**	*i* P	**P**	**16 11 12.6**	**+1.3**
SUMG				pmax	pmax		
	comp=Z,7.0nm,1.0s						
SUMG	**Summit**	**74.78**	**0**	*i* P	**P**	**16 11 12.6**	**+1.3**
	comp=Z,7.4nm,1.0s						
LRM	**Limekiln Ridge**	**77.00**	**44**	*e*P	**P**	**16 11 25.4**	**+1.2**
NVAR	**Mina Array Bea**	**77.35**	**52**	P	**P**	**16 11 27.5**	**+1.1**
NVAR	**Mina Array Bea**	**77.35**	**52**	P	**P**	**16 11 27.5**	**+1.1**
	comp=Z,0.3nm,0.4s,baz=290,slow=5.6						
AKASG	**Malin Array Be**	**77.64**	**323**	*ce*P	**P**	**16 11 27.3**	**-0.1**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKASG	**Malin Array Be**	**77.64**	**323**	P	**P**	**16 11 27.2**	**-0.1**
AKASG				pP	**pP**	**16 11 39.1**	**-1.2**
AKASG	**Malin Array Be**	**77.64**	**323**	P	**P**	**16 11 27.2**	**-0.1**
	comp=Z,1.9nm,0.7s,baz=49,slow=5.8,SNR=4.9						
AKASG				pP	**pP**	**16 11 39.1**	**-1.2**
	comp=Z,1.4nm,0.5s,baz=51,slow=5.3,SNR=2.9						
RDF	**Al-Radifah**	**77.97**	**297**	*e*P	P	16 11 22.6	-7.0
RDF				AMb	AMB	16 11 34.7	
	comp=Z,44nm,1.0s						
NB2	**NORSAR Subarra**	**78.02**	**338**	P	**P**	**16 11 29.5**	**0.0**
	comp=Z,1.3nm,0.8s,baz=37,slow=5.9						
NOA	**NORSAR Array B**	**78.02**	**338**	P	**P**	**16 11 29.4**	**0.0**
NOA	**NORSAR Array B**	**78.02**	**338**	P	**P**	**16 11 29.4**	**0.0**
	comp=Z,2.8nm,0.8s,baz=39,slow=5.6,SNR=5.7						
NAY	**Al-Naaiem**	**78.03**	**297**	*e*P	P	16 11 23.5	-6.5
NAY				AMb	AMB	16 11 31.8	
	comp=Z,1.1nm,1.3s						
RST	**Umm Al-Ruwaisa**	**78.08**	**297**	*e*P	P	16 11 23.9	-6.4
RST				AMb	AMB	16 11 31.7	
	comp=Z,198nm,0.9s						
PDAR	**Pinedale Array**	**80.45**	**45**	P	**P**	**16 11 43.6**	**+0.3**
PDAR	**Pinedale Array**	**80.45**	**45**	P	**P**	**16 11 43.6**	**+0.3**
	comp=Z,0.4nm,0.8s,baz=290,slow=3.7,SNR=2.3						
BRTR	**Keskin Array B**	**81.69**	**312**	P	**P**	**16 11 50.3**	**+0.5**
BRTR	**Keskin Array B**	**81.69**	**312**	P	**P**	**16 11 50.3**	**+0.5**
	comp=Z,2.6nm,0.8s,baz=85,slow=4.0,SNR=15						
KOLS	**Kolonicke sedl**	**82.23**	**325**	*e*P	**P**	**16 11 54.1**	**+1.8**
KOLS	**Kolonicke sedl**	**82.23**	**325**	*e*P	**P**	**16 11 54.1**	**+1.8**
STHS	**Stebnicka Huta**	**82.40**	**325**	*e*P	**P**	**16 11 54.7**	**+1.5**
STHS				pmax	pmax		
	comp=Z,2.0nm,1.2s						
STHS	**Stebnicka Huta**	**82.40**	**325**	*e*P	**P**	**16 11 54.7**	**+1.5**
DPC	**Dobruska-Polom**	**84.01**	**328**	*e*P	**P**	**16 12 02.6**	**+1.1**
DPC				*e*		16 12 14.4	
DPC	**Dobruska-Polom**	**84.01**	**328**	*e*P	**P**	**16 12 02.6**	**+1.1**
DPC				*e*pP	**pP**	**16 12 14.4**	**-0.1**
DPC				*ex*	x	16 12 25.1	
VYHS	**Vyhne**	**84.18**	**326**	*e*P	**P**	**16 12 03.4**	**+1.0**
VYHS				pmax	pmax		
	comp=Z,2.0nm,0.8s						
VYHS	**Vyhne**	**84.18**	**326**	*e*P	**P**	**16 12 03.4**	**+1.0**
CLL	**Collm**	**84.72**	**330**	*e*P	**P**	**16 12 05.0**	**0.0**
CLL				*e*		16 12 17.0	
CLL				pmax	pmax		
	comp=Z,3.0nm,0.8s						
CLL	**Collm**	**84.72**	**330**	*e*P	**P**	**16 12 05.0**	**0.0**
	comp=Z,3.0nm,0.8s						
CLL				*es*P	sP	16 12 17.0	-6.0
KHC	**Kasperske Hory**	**86.11**	**329**	*e*P	P	16 12 21.3	+9.2
KHC	**Kasperske Hory**	**86.11**	**329**	*e*pP	P	16 12 21.3	+9.2
GERES	**GERESS Array B**	**86.27**	**328**	P	**P**	**16 12 13.2**	**+0.2**
GERES				pP	**pP**	**16 12 24.9**	**-1.1**
GERES	**GERESS Array B**	**86.27**	**328**	P	**P**	**16 12 13.1**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=15,slow=4.1,SNR=3.2						
GERES				pP	**pP**	**16 12 24.9**	**-1.1**
	comp=Z,0.5nm,0.5s,baz=27,slow=6.6,SNR=3.4						
TXAR	**Lajitas Array**	**92.51**	**53**	P	**P**	**16 12 43.4**	**+0.7**
TXAR	**Lajitas Array**	**92.51**	**53**	P	**P**	**16 12 43.4**	**+0.7**
	comp=Z,0.5nm

s-min=17.0km az=65.0

ISC 11 17:14:42.7±0.9, 14°.5N±0°.1×92°.73E±0°.08, h18km, n20, σ2°19/17, mb3.8/8, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.15**	**56**	Pn	**Pn**	**17 16 26.7**	**+0.2**
	0.9nm,0.3s,baz=243,slow=15,SNR=9.8						
CMAR				Sn	**Sn**	**17 17 43.8**	**-3.7**
	0.2nm,0.3s,baz=238,slow=28,SNR=2.6						
VIS	**Vishakhapatnam**	**9.59**	**291**	*i* P	Pn	17 17 05.3	+5.4
VIS				*i* S	**Sn**	**17 18 44.4**	**-2.8**
VIS				*i* S	**Sn**	**17 18 45.1**	**-2.1**
VIS				*ex*	x	17 18 48.3	
	comp=N,48nm,0.3s						
VIS				*ex*	x	17 18 48.7	
	comp=E,24nm,0.2s						
ODAN	**Odare**	**13.28**	**339**	*eP*	Pn	17 17 55.5	+4.8
	comp=E,15nm,0.3s						
TAPN	**Taplejung**	**13.63**	**341**	*eP*	P	17 18 00.1	-4.2
	comp=E,15nm,0.5s						
RAMN	**Ramite**	**13.66**	**336**	*eP*	P	17 18 00.8	-3.8
	comp=E,12nm,0.3s						
JIRN	**Jiri**	**14.45**	**336**	*eP*	**P**	**17 18 10.9**	**-2.6**
	comp=E,11nm,0.3s						
PKI	**Pulchoki**	**14.70**	**334**	*eP*	**P**	**17 18 13.9**	**-2.3**
	comp=E,20nm,0.4s						
PKIN	**Phulchoki**	**14.71**	**334**	*eP*	**P**	**17 18 14.7**	**-1.6**
	comp=E,20nm,0.4s						
KKN	**Kakani**	**14.94**	**334**	*eP*	**P**	**17 18 17.2**	**-1.6**
	comp=E,3.9nm,0.3s						
KOLN	**Koldanda**	**15.71**	**329**	*eP*	**P**	**17 18 27.5**	**+0.1**
	comp=E,13nm,0.4s						
PYUN	**Piuthan**	**16.29**	**328**	*eP*	**P**	**17 18 35.2**	**+1.4**
MKAR	**Makanchi Array**	**33.37**	**347**	P	P	17 21 24.3	+4.3
	comp=E,0.6nm,0.6s,baz=169,slow=9.9,SNR=6.2						
SONM	**Songino Array**	**35.13**	**16**	P	**P**	**17 21 37.8**	**+2.4**
	comp=E,0.2nm,0.4s,baz=199,slow=7.2,SNR=3.8						
ZALV	**Zalesovo Beam**	**39.86**	**353**	P	**P**	**17 22 17.8**	**+2.6**
	comp=E,0.3nm,0.4s,baz=171,slow=10,SNR=2.6						
FITZ	**Fitzroy Crossi**	**45.84**	**134**	P	**P**	**17 23 03.0**	**-1.0**
	comp=E,1.0nm,0.6s,baz=338,slow=11,SNR=5.9						
ASAJ	**Asahikawa**	**51.53**	**45**	LR	LR	17 48 11.3	
	comp=E,60nm,18.8s,baz=95,slow=39						
WRA	**Warramunga Arr**	**53.34**	**129**	P	**P**	**17 24 00.6**	**-0.7**
	comp=E,0.3nm,0.4s,baz=310,slow=8.0,SNR=16						
ASAR	**Alice Springs**	**55.30**	**133**	P	**P**	**17 24 15.1**	**-0.5**
	comp=E,0.5nm,0.5s,baz=309,slow=7.1,SNR=15						
STKA	**Stephens Creek**	**65.71**	**135**	P	**P**	**17 25 25.9**	**-0.6**
	comp=E,1.2nm,0.6s,baz=326,slow=9.3,SNR=3.8						
ARCES	**ARCESS Array B**	**68.62**	**340**	P	**P**	**17 25 47.0**	**+2.6**
	comp=E,3.5nm,1.0s,baz=94,slow=7.3,SNR=4.1						

WEL 11 17:19:10.7±0.1, 40°.81S×174°.62E, h45km±1km, ML3.7/14, 8C-6D, Error ellipse: s-maj=0.9km s-min=0.7km az=90.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIW	**Kapiti Island**	**0.23**	**103**	⇓P*		17 19 18.3	-0.4
KIW				S*	Sn	17 19 24.0	-0.4
KIW				AML	AML	17 19 25.1	
OGWZ	**Otaki Gorge**	**0.42**	**91**	⇓P*	Pn	17 19 20.6	-0.1
OGWZ				S*	Sn	17 19 28.1	+0.5
CAW	**Cannon Point**	**0.45**	**131**	⇑P*	Pn	17 19 21.1	0.0
CAW				AML	AML	17 19 31.0	
CAW				AML	AML	17 19 31.5	
TCW	**Tory Channel**	**0.48**	**213**	⇓P*	Pn	17 19 20.9	-0.4
TCW				S*	Sn	17 19 28.8	-0.1
TCW				AML	AML	17 19 30.2	
WEL	**Wellington**	**0.49**	**167**	⇑P*	Pn	17 19 21.5	0.0
WEL				S*	Sn	17 19 30.2	+1.1
SNZO	**South Karori**	**0.50**	**173**	P*	Pn	17 19 21.6	-0.1
SNZO				S*	Sn	17 19 30.2	+0.8
SNZO				AML	AML	17 19 31.6	
SNZO				AML	AML	17 19 31.6	
SNZO				AML	AML	17 19 31.6	
DUWZ	**D'Urville Isla**	**0.53**	**271**	P*	Pn	17 19 20.9	-1.2
DUWZ				S*	Sn	17 19 29.4	-0.8
BHW	**Baring Head**	**0.62**	**162**	⇑PN	Pn	17 19 23.2	0.0
BHW				AML	AML	17 19 36.0	
BHW				AML	AML	17 19 36.0	
HOWZ	**Holdsworth Sta**	**0.68**	**98**	⇑PN	Pn	17 19 23.9	-0.2
MRZ	**Mangatainoka R**	**0.74**	**79**	⇓PN	Pn	17 19 24.6	-0.3
MRZ				AML	AML	17 19 36.5	
MRZ				AML	AML	17 19 36.8	
MTW	**Mount Morrison**	**0.75**	**118**	⇑PN	Pn	17 19 24.7	-0.3
MTW				AML	AML	17 19 40.2	
MTW				AML	AML	17 19 40.3	
MSWZ	**Moikau Station**	**0.77**	**142**	⇑PN	Pn	17 19 25.0	-0.2
MSWZ				AML	AML	17 19 39.4	
MSWZ				AML	AML	17 19 41.5	
TUWZ	**Tuamarina**	**0.80**	**219**	PN	Pn	17 19 25.2	-0.4
TUWZ				AML	AML	17 19 37.6	
TUWZ				AML	AML	17 19 38.5	
PAWZ	**Paruwai Farm**	**0.83**	**133**	⇑PN	Pn	17 19 25.7	-0.3
PAWZ				AML	AML	17 19 42.7	
PAWZ				AML	AML	17 19 43.4	
PLWZ	**Palliser**	**0.90**	**148**	PN	Pn	17 19 26.4	-0.6
TIWZ	**Tintock**	**0.96**	**88**	PN	Pn	17 19 27.3	-0.5
POWZ	**Post Office Ro**	**0.97**	**65**	PN	Pn	17 19 27.3	-0.6
CMWZ	**Cape Campbell**	**0.98**	**198**	AML	AML	17 19 50.6	
CMWZ				AML	AML	17 19 54.7	
TRWZ	**Traveller**	**1.00**	**126**	PN	Pn	17 19 27.6	-0.7
TRWZ				AML	AML	17 19 48.9	
TRWZ				AML	AML	17 19 49.4	
TMWZ	**Te Maipa**	**1.01**	**107**	PN	Pn	17 19 27.8	-0.6
NNZ	**Nelson**	**1.02**	**246**	PN	Pn	17 19 27.9	-0.7
PRWZ	**Pori Road**	**1.06**	**76**	PN	Pn	17 19 28.6	-0.5
BSWZ	**Blackbirch Sta**	**1.06**	**212**	PN	Pn	17 19 29.4	+0.2
BSWZ				AML	AML	17 19 45.5	
BSWZ				AML	AML	17 19 47.4	
WAZ	**Wanganui**	**1.09**	**15**	⇑PN	Pn	17 19 29.4	-0.2
CPWZ	**Castlepoint**	**1.20**	**95**	PN	Pn	17 19 30.9	-0.2
BFZ	**Birch Farm**	**1.24**	**84**	PN	Pn	17 19 30.6	-1.0
DVHZ	**Dannevirke**	**1.28**	**67**	PN	Pn	17 19 30.9	-1.3
ANWZ	**Angora Road**	**1.45**	**77**	PN	Pn	17 19 33.5	-1.0
PNHZ	**Pukenui**	**1.50**	**54**	PN	Pn	17 19 34.0	-1.3
NMEZ	**Namu Road**	**1.51**	**338**	PN	Pn	17 19 35.7	+0.5
WPHZ	**Waipukurau**	**1.58**	**62**	PN	Pn	17 19 34.9	-1.3
KHEZ	**Kahui Hut**	**1.59**	**343**	PN	Pn	17 19 36.6	+0.1
QRZ	**Quartz Range**	**1.59**	**269**	PN	Pn	17 19 35.5	-0.8
THZ	**Tophouse**	**1.60**	**233**	PN	Pn	17 19 36.2	-0.5
PRHZ	**Porangahau**	**1.63**	**71**	PN	Pn	17 19 35.7	-1.2
MOVZ	**Moawhango**	**1.65**	**32**	PN	Pn	17 19 36.7	-0.6
WNVZ	**Wahianoa**	**1.66**	**27**	PN	Pn	17 19 37.7	+0.1
TRVZ	**Turoa**	**1.67**	**26**	PN	Pn	17 19 37.9	+0.1
PKE	**Pukeiti**	**1.69**	**343**	PN	Pn	17 19 37.7	-0.1
VRZ	**Vera Road**	**1.69**	**4**	⇓PN	Pn	17 19 37.5	-0.2
WHVZ	**Whangaehu Hut**	**1.70**	**26**	PN	Pn	17 19 38.2	0.0
FWVZ	**Far West T-bar**	**1.71**	**25**	PN	Pn	17 19 38.1	-0.3
BHHZ	**Black Hill Sta**	**1.72**	**40**	PN	Pn	17 19 37.5	-0.8
TUVZ	**Tukino**	**1.73**	**28**	PN	Pn	17 19 38.5	0.0
MHEZ	**Mangahewa**	**1.75**	**352**	PN	Pn	17 19 38.8	+0.3
WPVZ	**Whakapapa**	**1.76**	**24**	PN	Pn	17 19 38.9	0.0
KHZ	**Kahutara**	**1.80**	**206**	PN	Pn	17 19 38.6	-0.5
OTVZ	**Oturere**	**1.83**	**26**	PN	Pn	17 19 39.9	0.0
TWVZ	**Taurewa**	**1.85**	**20**	PN	Pn	17 19 39.8	-0.2
WTVZ	**West Tongariro**	**1.85**	**24**	PN	Pn	17 19 40.1	-0.1
PXZ	**Pawanui**	**1.88**	**66**	PN	Pn	17 19 38.5	-1.9
KRVZ	**Karewarewa**	**1.89**	**25**	PN	Pn	17 19 40.7	+0.1
KAHZ	**Kahuranaki**	**2.00**	**60**	PN	Pn	17 19 40.4	-1.7
BKZ	**Black Stump Fm**	**2.18**	**42**	⇓PN	Pn	17 19 43.0	-1.6
BKZ				AML	AML	17 20 18.9	
BKZ				AML	AML	17 20 34.1	
HIZ	**Hauiti**	**2.30**	**5**	PN	Pn	17 19 46.1	-0.1
DSZ	**Denniston Nort**	**2.32**	**245**	PN	Pn	17 19 45.7	-0.7
TLZ	**Tolley Road**	**2.58**	**16**	PN	Pn	17 19 49.3	-0.7
LTZ	**Lake Taylor**	**2.64**	**221**	PN	Pn	17 19 49.5	-1.3
TOZ	**Tahuroa Road**	**3.15**	**13**	PN	Pn	17 19 57.2	-0.6
OXZ	**Oxford**	**3.16**	**217**	PN	Pn	17 19 55.6	-2.4
URZ	**Urewera**	**3.19**	**38**	PN	Pn	17 19 55.2	-3.2
MQZ	**McQueen's Vall**	**3.24**	**206**	PN	Pn	17 19 56.1	-2.9
MWZ	**Matawai**	**3.34**	**43**	PN	Pn	17 19 57.0	-3.5
WVZ	**Waitaha Valley**	**3.67**	**231**	PN	Pn	17 20 03.4	-1.5
MKAZ	**Moumakai**	**3.72**	**7**	PN	Pn	17 20 05.3	-0.3
RPZ	**Rata Peaks**	**3.93**	**221**	PN	Pn	17 20 06.1	-2.4
FOZ	**Fox Glacier**	**4.58**	**231**	PN	Pn	17 20 13.2	-4.2
LBZ	**Lake Benmore**	**4.84**	**221**	PN	Pn	17 20 18.1	-3.0
WCZ	**Waipu Caves**	**4.87**	**357**	PN	Pn	17 20 20.5	-0.9
ODZ	**Otahua Downs**	**5.14**	**213**	PN	Pn	17 20 21.8	-3.2
JCZ	**Jackson Bay**	**5.42**	**231**	PN	Pn	17 20 26.5	-2.6

ISCJB 11 17:32:25.8±0.8, 16°.04N±0°.06×96°.47W±0°.05, h28km, Error ellipse: s-maj=9.6km s-min=6.2km az=28.1
MEX 11 17:32:27.6±0.4, 15°.96N×96°.44W, h46km±9km, MD3.5

ISC 11 17:32:24.2±1.1, 15°.97N±0°.07×96°.49W±0°.06, h28km, n5, σ1°39/9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.42**	**119**	*i* P	**Pn**	**17 32 35.7**	**+1.3**
HUIG				*i* S	**Sn**	**17 32 42.0**	**+0.8**
VHO	**Vista Hermosa**	**1.12**	**348**	*eP*	**Pb**	**17 32 46.0**	**+1.0**
VHO				*i* S	**Sb**	**17 32 59.9**	**+0.6**
PNIG	**Pinotepa**	**1.63**	**285**	*eP*	**Pb**	**17 32 53.4**	**-0.1**
PNIG				*i* S	**Sn**	**17 33 12.2**	**+1.2**
CMIG	**Matias Romero**	**1.90**	**54**	*eP*	**Pn**	**17 32 54.9**	**+0.2**
CMIG				*i* S	**Sn**	**17 33 17.8**	**0.0**
MEM	**Membach**	**85.52**	**39**	P	**P**	**17 44 57.1**	**-2.5**

MOS 11 17:52:48.6±0.9, 48°.49N×155°.85E, h3km, mb4.2/1, Error ellipse: s-maj=99.9km s-min=17.5km az=77.5

KRSC 11 17:52:48.6±1.1, 48°.49N×155°.85E, h2km±2km, ML4.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.20**	**4**	*e*PN	Pn	17 53 17.9	-8.2
SKR				pmax	pmax		
	comp=Z,60nm,0.5s						
SKR	**Severo-Kuril's**	**2.20**	**4**	*eP*	Pn	17 53 26.3	+0.2
SKR				*i* S	Sn	17 53 54.1	+0.2
PAU	**Pauzhetka**	**3.04**	**11**	PN	Pn	17 53 38.8	+1.1
PAU				S	Sn	17 54 14.8	+0.1
PAU	**Pauzhetka**	**3.04**	**11**	*eP*	Pn	17 53 38.8	+1.1
PAU				*i* S	Sn	17 54 14.8	+0.1
MIPR	**Malaya Ipel'ka**	**3.83**	**8**	*eP*	Pn	17 53 50.0	+1.4
ASAK	**Asacha**	**4.11**	**18**	*eP*	Pn	17 53 54.7	+2.2
MTVR	**Mutnovka**	**4.27**	**20**	*eP*	Pn	17 53 56.0	+1.3
MTVR				*i* S	Sn	17 54 44.0	-1.2
RUS	**Russkaya**	**4.30**	**22**	PN	Pn	17 53 56.2	+1.3
RUS	**Russkaya**	**4.30**	**22**	*eP*	Pn	17 53 56.2	+1.3
RUS				*i* S	Sn	17 54 45.1	-0.5
APC	**Apacha**	**4.52**	**10**	*eP*	Pn	17 54 00.8	+2.8
PET	**Petropavlovsk**	**4.88**	**20**	*e*PN	Pn	17 54 05.6	+2.7
PET				*e*S	Sb	17 55 08.8	-4.9
PET				smax	smax		
	comp=E,26nm,0.5s						
PET				smax	smax		
	comp=N,18nm,0.6s						
AVH	**Avacha**	**5.12**	**20**	*eP*	Pn	17 54 08.7	+2.4
SDLR	**Sedlovina**	**5.16**	**21**	*eP*	Pn	17 54 08.4	+1.4
SPN	**Mys Shipunski**	**5.32**	**28**	PN	Pn	17 54 10.8	+1.8
SPN	**Mys Shipunski**	**5.32**	**28**	*eP*	Pn	17 54 10.8	+1.8
SPN				*i* S	Sn	17 55 10.2	-0.6
GNL	**Ganaly**	**5.38**	**13**	*eP*	Pn	17 54 12.3	+2.4
KBTR	**Krutoberegovo**	**8.82**	**26**	PN	Pn	17 54 58.4	+1.4
KBTR	**Krutoberegovo**	**8.82**	**26**	*eP*	Pn	17 54 58.4	+1.4

IDC 11 17:53:38.0±2.4, 6°.52N×126°.12E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/23, mbtmp3.4/3, Error ellipse: s-maj=190.7km s-min=27.2km az=65.0
ISCJB 11 17:53:46.9±0.9, 6°.48N±0°.10×126°.0E±0°.2, h97km, mb3.2/3, Error ellipse: s-maj=24.1km s-min=10.7km az=154.6

ISC 11 17:53:48.8±1.3, 6°.5N±0°.1×125°.9E±0°.1, h97km, n11, σ1°27/9, mb3.2/3, 3C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.55**	**38**	*eP*	Pn	17 53 53.7	-11
MATI				*e*S	Sn	17 54 03.2	-13
DMPH	**Davao City--Mi**	**0.70**	**324**	⇑*eP*	Pn	17 54 01.9	-4.0
DMPH				*e*S	**Sn**	**17 54 17.3**	**-1.5**
GSPH	**General Santos**	**1.05**	**246**	⇑*iP*	Pn	17 54 03.6	-6.1
BUKP	**Musuan**	**1.60**	**328**	*eP*	**Pn**	**17 54 14.7**	**-1.5**
CTBH	**Cotabato--PC H**	**1.80**	**293**	⇑*iP*	**Pn**	**17 54 18.5**	**-0.2**
BUTP	**Butuan**	**2.46**	**353**	*eP*	**Pn**	**17 54 27.1**	**-0.2**
PAGZ	**Pagadian**	**2.84**	**298**	*eP*	**Pn**	**17 54 32.6**	**+0.2**
MSLP	**Maasin**	**3.75**	**344**	*eP*	**Pn**	**17 54 44.9**	**+0.4**
WRA	**Warramunga Arr**	**27.56**	**163**	P	**P**	**17 59 27.6**	**+0.7**
	0.7nm,1.1s,baz=344,slow=10,SNR=4.5						
ASAR	**Alice Springs**	**30.99**	**166**	P	**P**	**17 59 56.0**	**-1.2**
	0.1nm,0.4s,baz=342,slow=7.2,SNR=7.6						
MKAR	**Makanchi Array**	**54.83**	**325**	P	**P**	**18 03 10.7**	**+1.8**
	0.4nm,0.6s,baz=112,slow=7.5,SNR=5.5						

AZER 11 18:09:41.0±0.0, 37°.82N×49°.45E, h25km, Error ellipse: s-maj=28.8km s-min=7.8km az=240.0
CSEM 11 18:09:42.1±0.4, 37°.72N×48°.86E, h2km, ML3.6, Error ellipse: s-maj=19.0km s-min=7.8km az=70.0
THR 11 18:09:42.3±0.8, 37°.64N×48°.75E, h15km±12km, ML3.6

ISC 11 18:09:41.3±1.4, 37°.70N±0°.04×48°.88E±0°.05, h4km±12km, n28, σ1°56/40, 6C-8D, Northwestern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKRN	**Lenkeran, Azer**	**1.01**	**355**	⇑P	**Pb**	**18 10 01.8**	**+0.5**
LKRN				⇓S	**Sn**	**18 10 17.5**	**+0.6**
LKRN	**Lenkeran, Azer**	**1.01**	**355**	P	**Pb**	**18 10 01.8**	**+0.5**
LKRN				S	**Sn**	**18 10 17.5**	**+0.6**
GRMI	**Germi**	**1.35**	**325**	*e*Pg	**Pg**	**18 10 07.0**	**-0.2**
GRMI				AML	AML	18 10 26.8	
	comp=E,2μm,0.3s						
GRMI				AML	AML	18 10 26.9	
	comp=N,1μm,0.5s						
GRMI	**Germi**	**1.35**	**325**	*e*Pg	**Pg**	**18 10 07.0**	**-0.2**
GLBA	**Cliilabad**	**1.59**	**346**	⇓Pn	**Pn**	**18 10 10.7**	**+0.6**
GLBA				⇓S	**Sg**	**18 10 33.9**	**+1.7**
GLBA	**Cliilabad**	**1.59**	**346**	Pn	**Pn**	**18 10 10.7**	**+0.6**
GLBA				S	**Sg**	**18 10 33.9**	**+1.7**
THKV	**Tehran--Karaj**	**2.40**	**137**	*e*Pn	**Pb**	**18 10 23.9**	**-1.1**
THKV				AML	AML	18 10 59.6	
	comp=N,228nm,0.9s						
THKV	**Tehran--Karaj**	**2.40**	**137**	*e*Pn	**Pb**	**18 10 24.0**	**-1.1**
CHTH	**Charan**	**2.54**	**134**	*e*Pn	**Pn**	**18 10 25.5**	**+2.0**
CHTH	**Charan**	**2.54**	**134**	*e*Pn	**Pn**	**18 10 25.5**	**+2.0**
BRDA	**Brd**	**2.88**	**333**	⇓S	**Sb**	**18 11 07.5**	**-1.3**
BRDA	**Brd**	**2.88**	**333**	S	**Sb**	**18 11 07.5**	**-1.3**
SNGE	**Sanandaj**	**2.88**	**206**	*e*Pn	**Pn**	**18 10 28.4**	**+0.2**
SNGE	**Sanandaj**	**2.88**	**206**	*e*Pn	**Pn**	**18 10 28.4**	**+0.2**
NAX	**Nakhchivan**	**3.04**	**300**	⇑Pn	**Pb**	**18 10 36.0**	**0.0**
NAX				⇓S	**Sg**	**18 11 18.4**	**-0.5**
NAX	**Nakhchivan**	**3.04**	**300**	Pn	**Pb**	**18 10 36.0**	**0.0**
NAX				S	**Sg**	**18 11 18.4**	**-0.5**
PQL	**Pirkuli**	**3.09**	**356**	⇓Pn	**Pn**	**18 10 30.5**	**-0.5**
PQL				⇑S	**Sn**	**18 11 08.8**	**+0.3**
PQL	**Pirkuli**	**3.09**	**356**	Pn	**Pn**	**18 10 30.5**	**-0.5**
PQL				S	**Sn**	**18 11 08.8**	**+0.3**
ATGJ	**Altiaghaj**	**3.16**	**1**	⇑Pn	**Pn**	**18 10 30.1**	**-1.7**
ATGJ	**Altiaghaj**	**3.16**	**1**	Pn	**Pn**	**18 10 30.1**	**-1.7**
ASAO	**Ashtian**	**3.28**	**163**	*e*Pn	**Pn**	**18 10 35.0**	**+1.3**
ASAO	**Ashtian**	**3.28**	**163**	*e*Pn	**Pn**	**18 10 35.0**	**+1.3**
GANJ	**Ganja**	**3.55**	**327**	⇓Pn	**Pn**	**18 10 39.6**	**+2.4**
	SNR=4.2						
GANJ				⇓S	**Sb**	**18 11 24.2**	**-3.9**
GANJ	**Ganja**	**3.55**	**327**	Pn	**Pn**	**18 10 39.6**	**+2.4**
	SNR=4.2						
GANJ				S	**Sb**	**18 11 24.2**	**-3.9**
MAKU	**Maku**	**3.68**	**298**	*e*Pn	**Pn**	**18 10 40.5**	**+1.4**
MAKU	**Maku**	**3.68**	**298**	*e*Pn	**Pn**	**18 10 40.5**	**+1.4**
SEKA	**Sheki**	**3.74**	**340**	⇑Pn	**Pn**	**18 10 41.3**	**+1.5**
	SNR=5.2						
SEKA				⇑S	**Sn**	**18 11 25.9**	**+1.6**
SEKA	**Sheki**	**3.74**	**340**	Pn	**Pn**	**18 10 41.3**	**+1.5**
	SNR=5.2						
SEKA				S	**Sn**	**18 11 25.9**	**+1.6**

MAN 11 19:16:23.9°.37N×125°.55E, h3km, mb4.7, ML3.6, MS3.6, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.40**	**170**	*eP*	Pg	19 16 31.5	+0.8
BUTP				*e*S	Sb	19 16 40.3	+1.0
SCPH	**Surigao**	**0.42**	**351**	*eP*	Pb	19 16 33.0	-0.1
SCPH				*i* S	Sb	19 16 41.9	+2.1
MSLP	**Maasin**	**1.03**	**318**	*eP*	Pg	19 16 42.6	-0.1
BUKP	**Musuan**	**1.55**	**198**	*eP*	Pb	19 16 52.6	+0.1
OCLP	**Ormoc**	**1.92**	**331**	*eP*	Pg	19 17 00.8	+1.0
MATI	**Mati**	**2.50**	**164**	*eP*	Sb	19 17 40.3	+0.4
PAGZ	**Pagadian**	**2.62**	**235**	*eP*	Pb	19 17 11.4	+0.7

IDC 11 19:34:23.7±4.6, 35°.82N×70°.48E, h79km±42km, mb3.6/12, mb1 3.7/16, mb1mx3.5/32, mbtmp3.6/16, ML4.0/4, MS2.7/1, Ms1 2.7/1, ms1mx2.3/34, Error ellipse: s-maj=29.7km s-min=15.4km az=29.0
ISCJB 11 19:34:24.6±0.3, 35°.93N±0°.03×70°.74E±0°.05, h110km, mb3.7/11, Error ellipse: s-maj=6.5km s-min=3.1km az=151.1
NNC 11 19:34:35.4±9.4, 36°.70N×70°.92E, h141km±102km, mb3.7, mpv4.3, Error ellipse: s-maj=77.8km s-min=53.4km az=11.0

ISC 11 19:34:26.0±0.6, 36°.02N±0°.05×70°.75E±0°.06, h110km, n57, σ1°72/59, mb3.8/11, 8C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.39**	**156**	⇑P	**Pn**	**19 35 05.4**	**+1.2**
CEP				S	**Sn**	**19 35 35.0**	**+1.6**
CHCP	**Chirah Chowk**	**3.14**	**138**	P	**Pn**	**19 35 15.8**	**+1.9**
THW	**Thamme Wali**	**3.32**	**165**	P	**Pn**	**19 35 17.0**	**+0.6**
THW				S	**Sn**	**19 35 54.0**	**-1.2**
JMU	**Jammu**	**4.76**	**133**	*e*S	**Sn**	**19 36 29.0**	**-0.6**
THN	**Thein Dam**	**5.45**	**130**	*e*S	**Sn**	**19 36 46.0**	**-0.4**
DLH	**Dalhousie**	**5.54**	**127**	*eP*	**Pn**	**19 35 48.0**	**+1.6**
DLH				*e*S	**Sn**	**19 36 47.0**	**-1.9**
AML	**Almayashu**	**6.51**	**20**	P	**Pn**	**19 36 00.8**	**+1.2**
	SNR=68						
BHK	**Bhakra**	**6.59**	**133**	*e*S	**Sn**	**19 37 12.8**	**-1.2**
SDNR	**Sundarnagar**	**6.87**	**129**	*ex*	x	19 36 14.0	
SDNR				*e*S	**Sn**	**19 37 18.0**	**-2.8**
KZA	**Kyzart**	**6.99**	**29**	P	**Pn**	**19 36 07.9**	**+1.9**
	SNR=25						
EKS2	**Erkin-Say**	**7.03**	**19**	P	**Pn**	**19 36 07.9**	**+1.5**
	SNR=40						
KK31	**Karatay Array**	**7.07**	**359**	⇓P	**Pn**	**19 36 06.7**	**-0.1**
	10nm,0.3s,baz=181,slow=13,SNR=7.0						
KK31				⇑S	**Sn**	**19 37 21.8**	**-3.9**
	12nm,0.3s,baz=188,slow=25,SNR=5.3						
AAK	**Ala-Archa**	**7.21**	**23**	P	**Pn**	**19 36 10.2**	**+1.4**
	SNR=21						
AAK	**Ala-Archa**	**7.21**	**23**	P	**Pn**	**19 36 10.6**	**+1.8**
	4.8nm,0.3s,baz=172,slow=6.8,SNR=41						
AAK				S	**Sn**	**19 37 29.0**	**-0.3**
	9.4nm,0.3s,baz=118,slow=21,SNR=15						
AAK				LR	LR	19 39 44.2	
	comp=Z,55nm,18.6s,baz=329,slow=43						
SMLA	**Simla**	**7.24**	**131**	*i* P	**Pn**	**19 36 09.8**	**+0.6**
SMLA				*i* S	**Sn**	**19 37 27.5**	**-2.4**
KBK	**Karagaybulak**	**7.38**	**25**	P	**Pn**	**19 36 13.9**	**+2.8**
	SNR=12						
ULHL	**Ulahol**	**7.54**	**33**	P	**Pn**	**19 36 16.1**	**+2.7**
	SNR=10						
CHMS	**Chumysh**	**7.62**	**23**	P	**Pn**	**19 36 15.7**	**+1.4**
	SNR=16						
USP	**Ospenovka**	**7.79**	**21**	P	**Pn**	**19 36 17.3**	**+0.7**
	SNR=15						
TKM2	**Tokmak 2**	**7.84**	**27**	⇑P	**Pn**	**19 36 19.0**	**+1.6**
	5.6nm,0.3s						
TKM2				⇑S	Sn	19 37 35.8	-8.8
	6.6nm,0.6s						
TKM2	**Tokmak 2**	**7.84**	**27**	P	**Pn**	**19 36 19.1**	**+1.6**
	SNR=8.1						
NDI	**New Delhi**	**9.13**	**141**	*e*S	Sn	19 38 08.0	-7.9
KUDL	**Kundal**	**9.24**	**147**	*eP*	**Pn**	**19 36 34.3**	**-2.0**
KUDL				*e*S	Sn	19 38 09.8	-8.6
KUDL				AML	AML	19 38 14.3	
	comp=E,37nm,0.5s						
KUDL				AML	AML	19 38 17.0	
	comp=N,25nm,0.3s						
AYAN	**Aya Nagar**	**9.25**	**143**	*e*S	Sn	19 38 09.4	-9.4
SONA	**Sohna**	**9.43**	**144**	*eP*	**Pn**	**19 36 37.9**	**-0.9**
SONA				*e*S	Sn	19 38 12.7	-10
SONA				AML	AML	19 38 20.7	
	comp=E,63nm,0.4s						
SONA				AML	AML	19 38 22.8	
	comp=

CGA2	Cerro Gallo 2	2.31 315	eP	Pn	19 39 58.8	+0.3
CGA2			eS	Sn	19 40 28.2	+1.9
CAO	Cobano	2.62 300	eP	Pn	19 40 01.1	-1.5
ZANG	Zanguenga, Cho	2.97 79	eP	Pn	19 40 07.4	+0.1
ZANG			eS	Sn	19 40 42.0	-0.2
BCIP	Isla Barro Col	3.04 75	eP	Pn	19 40 08.2	-0.2

IDC 11 19:46:20.3±1.2, 29°.73S×177°.26W, h0km, mb4.3/4, mb1 4.3/6, mb1mx4.0/19, mbtmp4.2/6, ML3.7/2, MS2.9/1, Ms1 2.9/1, ms1mx2.6/30, Error ellipse: s-maj=29.2km s-min=22.7km az=54.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	0.75 310		Pn	Pn	19 46 38.7	+0.6
RAO	690nm,0.3s,baz=119,slow=3.5,SNR=65			Sn	Sn	19 46 49.0	-1.1
URZ	Urewera	9.71 207		Pn	Pn	19 48 43.1	+1.9
URZ	4μm,0.3s,baz=84,slow=19,SNR=26 0.4nm,0.3s,baz=345,slow=19,SNR=4.8			Sn	Sn	19 50 26.0	-4.9
RPZ	Rata Peaks	16.79 211		Pn	Pn	19 50 16.6	-0.2
PPT	1.6nm,0.3s,baz=342,slow=20,SNR=5.7 0.5nm,0.3s,baz=342,slow=20,SNR=5.7 Papeete	28.02 71		LR	LR	20 00 25.7	
CTA	comp=Z,24nm,20.4s,baz=334,slow=30 Charters Tower	34.34 278		P	P	19 53 09.9	+1.0
STKA	2.8nm,0.5s,baz=60,slow=9.2,SNR=12 Stephens Creek	35.26 256		P	P	19 53 17.8	+1.0
ASAR	4.7nm,0.8s,baz=104,slow=9.4,SNR=8.1 Alice Springs	43.79 266		P	P	19 54 26.7	-1.4
WRA	1.1nm,0.7s,baz=106,slow=7.3,SNR=22 Warramunga Arr	44.72 271		P	P	19 54 33.9	-1.7
FINES	3.7nm,0.6s,baz=110,slow=7.9,SNR=51 FINESS Array B	144.73 341		PKP	PKPab	20 05 56.7	-0.5
NB2	3.4nm,0.6s,baz=64,slow=3.2,SNR=25 NORSAR Subarra	148.18 352		PKP	PKPbc	20 06 07.8	+0.2
NOA	comp=Z,5.8nm,1.2s,baz=17,slow=2.6 NORSAR Array B	148.18 352		PKPbc	PKPbc	20 06 08.0	+0.4
AKASG	comp=Z,1.5nm,0.9s,baz=16,slow=4.6,SNR=2.8 Malin Array Be	151.15 324		PKPbc	PKPbc	20 06 14.5	-0.6
BRTR	comp=Z,0.7nm,0.3s,baz=46,slow=2.5,SNR=3.2 Keskin Array B	152.84 300		PKPbc	PKPbc	20 06 19.0	-0.5
TORD	comp=Z,0.9nm,1.0s,baz=346,slow=3.6,SNR=3.4 Torodi Ar. Bea	163.47 176		PKPab	PKPab	20 07 16.7	+0.1
	comp=Z,0.6nm,1.0s,baz=206,slow=2.9,SNR=2.0						

IDC 11 20:16:18.8±2.3, 36°.89N×140°.26E, h124km±15km, mb3.2/5, mb1 3.2/7, mb1mx3.1/26, mbtmp3.2/7, Error ellipse: s-maj=27.4km s-min=19.2km az=96.0
JMA 11 20:16:20.5±0.1, 36°.85N×140°.10E, h125km±1km, M3.0
ISC 11 20:16:19.7±1.0, 36°.87N±0°.06×140°.12E±0°.06, h132km±7km, n24, σ0°66/37, mb3.5/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSB	Shiboa	0.19 301		P	Pn	20 16 38.1	+0.4
JSB				S	Sn	20 16 51.4	0.0
JFY	Yanaizu	0.63 328		P	Pn	20 16 40.0	+0.3
JFT	Otama	0.67 15		P	Pn	20 16 40.5	+0.5
JFT				eS	Sn	20 16 55.3	-0.2
JAG	Ashikaga	0.70 231		P	Pn	20 16 40.3	+0.1
JAG				eS	Sn	20 16 55.3	-0.4
JKT	Katashina	0.71 262		P	Pn	20 16 40.7	+0.3
JFK	Kawauchi	0.78 50		P	Pn	20 16 41.3	+0.5
JFK				S	Sn	20 16 56.4	-0.5
JHK	Hiroka	0.96 293		P	Pn	20 16 42.6	+0.3
JHK				S	Sn	20 16 59.1	-0.4
JMM	Marumori	1.13 28		P	Pn	20 16 44.5	+0.6
JMM				eS	Sn	20 17 02.3	-0.1
JNS	Sasagawa	1.14 326		P	Pn	20 16 44.0	0.0
JRY	Ryogami san	1.30 229		P	Pn	20 16 46.1	+0.4
JRY				S	Sn	20 17 05.5	-0.1
MJAR	Matsushiro Arr	1.57 259		P	Pn	20 16 49.0	+0.4
MJAR	4.0nm,0.3s,baz=70,slow=7.8,SNR=47			S	Sn	20 17 10.9	+0.1
MAT	1.7nm,0.3s,baz=75,slow=19,SNR=16 Matsushiro	1.57 259		P	Pn	20 16 49.0	+0.4
MAT				S	Sn	20 17 11.0	+0.2
MAT	Matsushiro	1.57 259		P	Pn	20 16 49.1	+0.4
MAT				S	Sn	20 17 11.0	+0.2
JAW	Awa shima	1.73 337		P	Pn	20 16 50.6	+0.2
JOD2	Odawara 2	1.81 208		P	Pn	20 16 50.8	-0.7
JOD2				eS	Sn	20 17 14.2	-1.5
JYN	Shimob	1.87 223		P	Pn	20 16 52.7	+0.4
JYN				eS	Sn	20 17 16.9	-0.2
JSD	Sado	1.88 309		P	Pn	20 16 52.1	-0.2
JSD				S	Sn	20 17 15.8	-1.5
ASAJ	Asahikawa	7.48 14		P	Pn	20 18 03.7	-2.3
USRK	0.3nm,0.3s,baz=153,slow=18,SNR=3.8 Ussuriysk Arra	9.58 322		P	Pn	20 18 34.5	+0.3
SONM	0.1nm,0.3s,baz=154,slow=15,SNR=4.0 Songino Array	27.02 305		P	P	20 21 49.2	-0.3
ZALV	0.4nm,0.6s,baz=106,slow=9.1,SNR=5.1 Zalesovo Beam	41.26 313		P	P	20 23 52.6	+1.0
MKAR	0.3nm,0.3s,baz=108,slow=4.7,SNR=2.7 Makanchi Array	43.33 302		P	P	20 24 08.4	-0.1
KURBB	0.5nm,0.7s,baz=91,slow=9.6,SNR=5.6 Kurchatov Arra	45.29 308		P	P	20 24 24.5	+0.6
WRA	0.4nm,0.3s,baz=82,slow=7.7,SNR=14 Warramunga Arr	56.77 187		P	P	20 25 49.9	-0.1
	0.4nm,0.7s,baz=5.4,slow=7.4,SNR=7.4						

MEX 11 20:38:12.2±0.3, 17°.53N×94°.67W, h149km±4km, MD3.5, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.48 205		iP	Pn	20 38 31.9	-1.5
CMIG				iS	Sn	20 38 47.5	-2.0
TGIG		1.66 116		eP	Pn	20 38 42.4	-1.1
TGIG				iS	Sn	20 39 05.5	-1.9
VHO	Vista Hermosa	2.02 257		eP	Pn	20 38 46.4	-1.4
VHO				eS	Sn	20 39 13.8	-1.3
HUIG	Huatulco	2.23 219		eP	Pn	20 38 49.4	-0.6
HUIG				iS	Sn	20 39 16.9	-2.2
PCIG		2.28 142		eP	Pn	20 38 49.8	-0.9
PCIG				iS	Sn	20 39 19.0	-1.2
CCIG	Comitan	2.72 117		eP	Pn	20 38 54.7	-1.6
CCIG				iS	Sn	20 39 27.7	-2.5

IDC 11 20:45:02.5±1.1, 0°.72N×121°.36E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/23, mbtmp3.6/5, MS4.3/2, Ms1 4.3/2, ms1mx3.4/32, Error ellipse: s-maj=149.5km s-min=19.3km az=64.0
ISCJB 11 20:45:08.3±0.6, 1°.10N±0°.05×121°.81E±0°.06, h44km, mb3.5/5, MS4.2/2, Error ellipse: s-maj=9.1km s-min=5.7km az=145.7
DJA 11 20:45:09.9±0.4, 1°N±3°×12°2E±°, h15km±4km, M4.2/12, mb4.3/5, MLv4.2/12
ISC 11 20:45:09.4±0.9, 1°.10N±0°.07×121°.79E±0°.06, h44km, n19, σ1°59/20, mb3.6/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	Marisa	0.64 166		P	Pn	20 45 21.4	-0.8
MRSI				S	Sn	20 45 29.8	-1.5
TOLI	Toli-Toli	0.99 271		P	Pn	20 45 26.0	-0.9
TOLI				S	Sn	20 45 40.0	+0.2
GTOI	Gorontalo	1.31 111		P	Pn	20 45 29.7	-1.6
APSI	Ampana	2.00 184		P	Pn	20 45 40.6	-0.2
APSI				S	Sn	20 46 05.4	+0.7
LUWI	Luwuk	2.35 155		P	Pn	20 45 47.1	+1.6
LUWI				S	Sn	20 46 16.8	+3.7
SKSI	Soroako, Sulaw	3.63 187		P	Pn	20 46 03.0	-0.3
MMSI	Mamuju	4.74 217		P	Pn	20 46 18.4	0.0
MYLDM	Lahad Datu	5.21 321		P	Pn	20 46 27.1	+2.2
SPSI	54nm,0.9s,0.2nm Sidrap Palu	5.42 202		P	Pn	20 46 28.4	+0.6
BNSI	22nm,1.2s,0.1nm Bone	5.72 197		P	Pn	20 46 33.1	+1.2
NLAI	26nm,0.9s,0.1nm Namlea	6.84 129		P	Pn	20 46 50.9	+3.6
KKM	22nm,0.8s,0.2nm Kota Kinabalu	7.42 312		P	Pn	20 46 57.2	+1.9
WRA	Warramunga Arr	24.27 150		P	P	20 50 21.0	-1.7
ASAR	0.7nm,0.4s,baz=324,slow=10,SNR=28 Alice Springs	27.29 155		P	P	20 50 48.3	-1.8
	0.5nm,0.5s,baz=343,slow=13,SNR=17						
ASAR				PcP	PcP	20 54 07.8	-1.2
STKA	0.3nm,0.3s,baz=348,slow=2.1,SNR=12 Stephens Creek	37.79 152		P	P	20 52 18.0	-3.6
MJAR	1.3nm,0.6s,baz=349,slow=10,SNR=3.1 Matsushiro Arr	38.40 22		LR	LR	21 06 58.2	
USRK	comp=Z,344nm,21.6s,baz=165,slow=34 Ussuriysk Arra	43.86 11		LR	LR	21 12 28.9	
SONM	comp=Z,392nm,18.9s,baz=148,slow=37 Songino Array	48.43 346		P	P	20 53 49.0	+1.5
MKAR	0.4nm,0.6s,baz=161,slow=9.0,SNR=5.7 Makanchi Array	57.05 329		P	P	20 54 50.9	-0.2
	0.2nm,0.5s,baz=122,slow=8.9,SNR=2.5						

MEX 11 20:48:51.9±0.8, 16°.92N×94°.03W, h169km±9km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.83 282		iP	Pn	20 49 16.4	-0.9
CMIG				iS	Sn	20 49 34.5	-2.3
TGIG		0.88 99		eP	Pn	20 49 16.5	-1.2
TGIG				iS	Sn	20 49 34.7	-2.8
PCIG		1.44 147		eP	Pn	20 49 21.4	-0.9
PCIG				iS	Sn	20 49 44.5	-1.4
CCIG	Comitan	1.92 109		eP	Pn	20 49 26.3	-1.3
CCIG				iS	Sn	20 49 52.3	-2.8
HUIG	Huatulco	2.30 240		eP	Pn	20 49 29.7	-1.9
HUIG				eS	Sn	20 50 00.6	-1.8
VHO	Vista Hermosa	2.59 274		eP	Pn	20 49 34.3	-1.0
VHO				eS	Sn	20 50 07.7	-1.3
TPIG	Tehuac#an	3.51 296		iP	Pn	20 49 45.7	-0.9
TPIG				iS	Sn	20 50 26.7	-2.5

ISCJB 11 20:52:58.8±0.8, 37°.90N±0°.03×57°.43E±0°.03, h2km±6km, mb3.4/4, Error ellipse: s-maj=5.4km s-min=3.5km az=13.6
CSEM 11 20:53:00.6±0.1, 37°.86N×57°.46E, h2km, ML4.0, Error ellipse: s-maj=4.1km s-min=2.5km az=36.0
TEH 11 20:53:01.1, 37°.89N×57°.50E, h6km, ML4.0
IDC 11 20:53:02.4±1.6, 38°.15N×57°.34E, h0km, mb3.4/5, mb1 3.6/11, mb1mx3.5/32, mbtmp3.5/11, ML3.7/6, MS2.7/2, Ms1 2.7/2, ms1mx2.4/38, Error ellipse: s-maj=24.6km s-min=12.8km az=2.0
NNC 11 20:53:11.3±3.8, 38°.62N×58°.02E, h0km, mb4.0, Error ellipse: s-maj=38.7km s-min=22.2km az=45.0
ISC 11 20:53:00.2±1.4, 37°.94N±0°.05×57°.48E±0°.03, h6km±11km, n90, σ1°50/101, mb3.5/4, 4C-7D, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJRD	Bojnurd	0.25 194		ePg	Pg	20 53 04.2	-0.9
ISHV	Shirvan	0.44 157		eSg	Sg	20 53 13.9	-0.7
ISHV				ePg	Pg	20 53 08.1	-0.7
ISHV				e		20 53 14.4	
	comp=Z,10μm,0.2s						
ISFR	Sfrayin	0.98 155		ePg	Pg	20 53 17.4	-1.6
ISFR				eSg	Sg	20 53 30.0	-1.6
ISFR				e		20 53 35.7	
	comp=Z,84μm,0.2s						
IEMG	Emamgholi	1.07 119		ePg	Pg	20 53 20.6	-0.1
IEMG				e		20 53 21.4	
	comp=Z,51μm,0.1s						
IEMG	Emamgholi	1.07 119		ePg	Pg	20 53 20.6	-0.1
MRVT	Maraveh tapeh	1.14 256		ePg	Pg	20 53 20.6	-1.5
IQHU	Qucahn	1.21 136		ePg	Pg	20 53 22.6	-0.8
IKRD	Kardeh	1.42 144		ePn	Pg	20 53 35.5	+8.0
IKRD				e		20 54 09.7	
	comp=Z,16μm,0.2s						
IAKL	Akhelmad	1.68 142		eSg	Sb	20 53 53.4	+0.1
IAKL				e		20 53 59.9	
	comp=Z,17μm,0.2s						
IAKL	Akhelmad	1.68 142		eSg	Sb	20 53 53.4	+0.1
IMND	Minoodasht	1.78 248		ePn	Pb	20 53 33.0	-0.4
IMND				eSg	Sb	20 53 56.8	+0.8
IMND	Minoodasht	1.78 248		ePn	Pb	20 53 33.0	-0.4
IMND				eSg	Sb	20 53 56.8	+0.8
IPAY	Payeh	1.92 140		ePn	Pn	20 53 33.7	0.0
IPAY				eSg	Sb	20 54 01.0	+0.9
IPAY				e		20 54 09.1	
	comp=Z,20μm,0.3s						
IPAY	Payeh	1.92 140		ePn	Pn	20 53 33.7	0.0
IPAY				eSg	Sb	20 54 01.0	+0.9
ISRO	Mashad	2.27 135		ePn	Pn	20 53 38.6	+0.1
ISRO	Mashad	2.27 135		ePn	Pn	20 53 38.6	+0.1
SHRO	Shahrood	2.28 212		ePn	Pn	20 53 37.8	-0.7
IMOG	Moghan	2.36 140		ePn	Pn	20 53 40.3	+0.5
IMOG				eSg	Sb	20 54 12.0	-0.8
IMOG				e		20 54 17.6	
	comp=Z,9μm,0.2s						
IMOG	Moghan	2.36 140		ePn	Pn	20 53 40.3	+0.5
IMYA	Miami	2.63 127		ePn	Pn	20 53 43.6	+0.1
IMYA				eSg	Sb	20 54 21.0	+0.4
IMYA				e		20 54 39.6	
	comp=Z,7μm,0.2s						
IMYA	Miami	2.63 127		ePn	Pn	20 53 43.6	+0.1
IGLO	Ghaloghah	3.25 245		ePn	Pn	20 53 52.3	+0.3
IGLO				e		20 54 54.3	
	comp=Z,7μm,0.5s						
IKIA	Kiasar	3.50 241		ePn	Pn	20 53 55.7	+0.3
IKIA				e		20 55 06.5	
	comp=Z,2μm,0.4s						
IKIA	Kiasar	3.50 241		ePn	Pn	20 53 55.7	+0.3
IANJ	Anjilo	3.78 230		ePn	Pn	20 53 59.5	+0.1
IANJ				e		20 55 06.0	
	comp=Z,1μm,0.4s						
IANJ	Anjilo	3.78 230		ePn	Pn	20 53 59.5	+0.1
ISHM	Shahmirzad	3.98 239		ePn	Pn	20 54 02.2	+0.1
ISHM				e		20 55 16.1	
	comp=Z,3μm,0.4s						
ISHM	Shahmirzad	3.98 239		ePn	Pn	20 54 02.2	+0.1
IALA	Alasht	4.17 245		ePn	Pn	20 54 05.1	+0.3
IALA				e		20 55 00.1	
	comp=Z,3μm,0.3s						
IALA	Alasht	4.17 245		ePn	Pn	20 54 05.1	+0.3
TABS	Tabas	4.29 184		ePn	Pn	20 54 06.0	-0.2
IFIR	Firoozkooh	4.43 240		ePn	Pn	20 54 10.3	+1.9
IFIR				e		20 54 25.5	
	comp=Z,630nm,0.2s						
IFIR	Firoozkooh	4.43 240		ePn	Pn	20 54 10.3	+1.9
ILAS	Lasjerd	4.44 236		ePn	Pn	20 54 08.5	+0.1
ILAS				e		20 55 27.9	
	comp=Z,814nm,0.4s						
ILAS	Lasjerd	4.44 236		ePn	Pn	20 54 08.5	+0.1
SHRT	Shahrakht	4.86 151		ePn	Pn	20 54 13.6	-0.3
IDMV	Damavand	4.97 243		ePn	Pn	20 54 15.7	0.0
IDMV				e		20 55 44.5	
	comp=Z,543nm,0.3s						
IDMV	Damavand	4.97 243		ePn	Pn	20 54 15.7	0.0
IMON	Monand	5.06 159		ePn	Pn	20 54 16.8	-0.1
IMON	Monand	5.06 159		ePn	Pn	20 54 16.8	-0.1
ITEG	Tejag	5.14 168		ePn	Pn	20 54 18.3	+0.4
ITEG				e		20 54 29.7	
	comp=Z,313nm,0.2s						
ITEG	Tejag	5.14 168		ePn	Pn	20 54 18.3	+0.4
IDAH	Dahanechah	5.54 159		ePn	Pn	20 54 23.3	-0.3
IDAH				e		20 56 23.7	
	comp=Z,294nm,0.4s						
IDAH	Dahanechah	5.54 159		ePn	Pn	20 54 23.3	-0.3
IGZV	Ghazvin	6.00 257		ePn	Pn	20 54 29.6	-0.3
IGZV				e		20 55 51.2	
	comp=Z,332nm,0.3s						
IGZV	Ghazvin	6.00 257		ePn	Pn	20 54 29.6	-0.3
ICHK	Chekchek	6.22 205		ePn	Pn	20 54 32.2	-0.6
ICHK				e		20 55 44.1	
	comp=Z,457nm,0.3s						
ICHK	Chekchek	6.22 205		ePn	Pn	20 54 32.2	-0.6
GOBA	Gobu	6.50 295		Pn	Pn	20 54 39.9	+3.4
	SNR=2.8						
IBAF	Bafgh	6.53 195		ePn	Pn	20 54 36.5	-0.5
IBAF				e		20 56 36.4	
	comp=Z,200nm,0.2s						
IBAF	Bafgh	6.53 195		ePn	Pn	20 54 36.5	-0.5
IRAZ	Razeghan	6.58 250		ePn	Pn	20 54 37.4	-0.3
IRAZ				e		20 57 02.7	
	comp=Z,200nm,0.5s						
IRAZ	Razeghan	6.58 250		ePn	Pn	20 54 37.4	-0.3
ISAD	Sadrabad	6.77 209		ePn	Pn	20 54 39.9	-0.6
ISAD				e		20 56 55.7	
	comp=Z,209nm,0.3s						
ISAD	Sadrabad	6.77 209		ePn	Pn	20 54 39.9	-0.6
LKRN	Lenkeran, Azer	6.89 279		Pn	Pn	20 54 42.2	+0.5
	SNR=3.4						
ALIB	Äli-Bayra	6.91 290		Pn	Pn	20 54 43.4	+1.4
	SNR=6.3						
ATGJ	Altiaghaj	7.23 296		Pn	Pn	20 54 48.5	+1.9
	SNR=10						
GLBA	Cilalabad	7.24 283		Pn	Pn	20 54 46.3	-0.3
	SNR=4.3						
SIZA	Siyzn	7.34 298		Pn	Pn	20 54 50.1	+2.1
	SNR=14						
SIZA				Sn	Sn	20 56 12.5	+0.8
PQL	Pirkuli	7.45 295		Pn	Pn	20 54 51.2	+1.5
	SNR=19						
QUBA	Quba, Azerbaij	7.73 299		Pn	Pn	20 54 55.7	+2.3
QUBA				Sn	Sn	20 56 22.8	+1.6
IML	Ismayilli	7.75 294		Pn	Pn	20 54 54.6	+1.0
	SNR=11						
BRDA	Brd	8.34 289		Pn	Pn	20 55 01.9	+0.2
	SNR=5.6						
BRDA				Sn	Sn	20 56 38.1	+1.9
SEKA	Sheki	8.59 296		Pn	Pn	20 55 05.9	+0.7
	SNR=24						
SEKA				Sn	Sn	20 56 42.0	-0.4
GANJ	Ganja	9.06 291		Pn	Pn	20 55 11.0	-0.7
	SNR=3.7						
NAX	Nakhchivan	9.47 281		Pn	Pn	20 55 18.1	+0.8
	SNR=5.9						
KK31	Karatay Array	11.17 58		Pn	Pn	20 55 42.5	+1.9
	comp=Z,1.5nm,0.5s,baz=248,slow=16,SNR=38						
KK31				⇓Sn	Sn	20 57 40.6	-5.2
	comp=Z,3.9nm,0.6s,baz=293,slow=39,SNR=4.3						
KK31	Karatay Array	11.17 58		Pn	Pn	20 55 42.5	+1.9
	comp=Z,1.5nm,0.5s,baz=248,SNR=38						
AB31	Akbulak array	11.45 8		⇓Pn	Pn	20 55 46.4	+2.1
	comp=Z,1.6nm,0.5s,baz=191,slow=15,SNR=7.3						
AB31				⇑Sn	Sn	20 57 47.7	-4.7
	comp=Z,3.0nm,0.5s,baz=204,slow=21,SNR=5.3						
AB31	Akbulak array	11.45 8		Pn	Pn	20 55 46.4	+2.1
	comp=Z,1.6nm,0.5s,baz=191,SNR=7.3						
KBZ	Khabaz	12.46 302		Pn	Pn	20 55 56.7	-1.4
	comp=Z,0.2nm,0.3s,baz=140,slow=10,SNR=10.0						
KBZ				Sn	Sn	20 58 12.0	-5.2
	comp=Z,0.2nm,0.3s,baz=90,slow=19,SNR=2.8						
AKTO	Aktyubinsk	12.50 2		⇓Pn	Pn	20 55 58.8	+0.2
	comp=Z,4.8nm,0.7s						
AKTO				⇓Sn	Sn	20 58 15.7	-2.4
	comp=Z,9.7nm,1.1s						
AKTO	Aktyubinsk	12.50 2		Pn	Pn	20 55 56.5	-2.1
	comp=Z,1.2nm,0.3s,baz=187,slow=12,SNR=19						
AKTO				Sn	Sn	20 58 13.7	-4.4
	comp=Z,0.3nm,0.3s,baz=72,slow=20,SNR=3.2						
AKTO				LR	LR	21 01 47.1	
	comp=Z,34nm,18.7s,baz=173,slow=43						
AKTO	Aktyubinsk	12.50 2		Pn	Pn	20 55 58.8	+0.2
	comp=Z,4.8nm,0.7s						
AAK	Ala-Archa	13.80 65		Pn	Pn	20 56 17.5	+0.9
	comp=Z,0.4nm,0.3s,baz=242,slow=5.5,SNR=3.9						
AAK				LR	LR	21 01 39.5	
	comp=Z,37nm,19.7s,baz=81,slow=37						
VOSK	Vostochnaya	17.52 28		⇓P	P	20 57 08.1	+1.8
	comp=Z,3.6nm,0.9s						
BVA0	Borovoye Array	17.55 27		⇑P	P	20 57 08.4	+1.9
	comp=Z,5.4nm,0.8s,baz=205,slow=11,SNR=4.8						
BVA0	Borovoye Array	17.55 27		P	P	20 57 08.4	+1.9
	comp=Z,5.4nm,0.8s,SNR=4.8						
BVAR	Borovoye Array	17.55 27		P	Pn	20 57 05.6	+0.2
	comp=Z,0.2nm,0.3s,baz=208,slow=8.2,SNR=8.0						
BRTR	Keskin Array B	18.65 283		P	Pn	20 57 21.6	+2.3
	comp=Z,0.0nm,0.3s,baz=97,slow=9.0,SNR=3.9						
KURBB	Kurchatov Arra	19.61 43		⇑P	Pn	20 57 34.5	+4.0
	comp=Z,3.1nm,1.2s						
KURBB	Kurchatov Arra	19.61 43		P	Pn	20 57 31.1	+0.6
	comp=Z,0.1nm,0.3s,baz=242,slow=12,SNR=9.5						
MK31	Makanchi Array	20.29 56		⇑P	Pn	20 57 39.6	+1.0
	comp=Z,0.9nm,0.5s,baz=242,slow=11,SNR=11						
MK31	Makanchi Array	20.29 56		P	Pn	20 57 39.6	+1.0
	comp=Z,0.9nm,0.5s,SNR=11						
MKAR	Makanchi Array	20.29 56		P	Pn	20 57 39.4	+0.7
	comp=Z,1.3nm,0.7s,baz=246,slow=11,SNR=13						
AKASG	Malin Array Be	23.74 312		P	P	20 58 14.4	+1.3
	comp=Z,2.9nm,0.7s,baz=115,slow=8.4,SNR=3.2						
MLR	Muntele Rosu	24.61 298		P	P	20 58 23.3	+2.0
	comp=Z,0.3nm,0.6s,baz=158,slow=19,SNR=2.3						
ZALV	Zalesovo Beam	24.63 41		P	P	20 58 22.8	+1.4
	comp=Z,1.2nm,0.6s,baz=224,slow=8.3,SNR=6.5						
SONM	Songino Array	36.63 58		P	P	21 00 11.0	+3.5
	comp=Z,0.2nm,0.7s,baz=264,slow=6.8,SNR=2.9						

NIED 11 20:57:00, 23°.90N×142°.70E, h68km, Mw5.3 Best double couple: M0 1.16000×10^17 NP1:φs 11.00000°, δ85.00000°, λ-85.00000°. NP2:φs 147.00000°, δ7.00000°, λ-134.00000°.
BKK 11 20:57:20.8±0.6, 24°N±6°×14°3E±°, h10km, M5.2/38, mB5.6/12, mb5.4/38, Mw(mB)5.1/12
BJI 11 20:57:24.2, 23°.63N×142°.62E, h74km, mB5.0/40, mb5.0/54, Ms4.5/47, Ms7 4.2/43
MOS 11 20:57:25.9±0.9, 23°.62N×142°.21E, h71km, mb5.4/60, Error ellipse: s-maj=8.6km s-min=4.9km az=106.6
ISCJB 11 20:57:27.3±0.5, 23°.70N±0°.02×142°.24E±0°.02, h76km±4km, mb5.1/229, Error ellipse: s-maj=3.6km s-min=2.7km az=136.1
TEH 11 20:57:28.0, 23°.63N×142°.19E, h77km, ML5.2
IDC 11 20:57:29.8±0.6, 23°.70N×142°.24E, h90km±4km, mb4.7/40, mb1 4.8/43, mb1mx4.8/44, mbtmp4.7/43, MS4.1/31, Ms1 4.1/31, ms1mx4.1/35, Error ellipse: s-maj=10.5km s-min=7.2km az=86.0
JMA 11 20:57:29.8±0.3, 23°.87N×142°.72E, h145km, M5.3
NEIC 11 20:57:30.9±0.6, 23°.67N×142°.25E, h101km±5km, mb5.1/99, MW5.3(NIED), Error ellipse: s-maj=4.0km s-min=3.3km az=116.0
GCMT 11 20:57:31.6±0.2, 23°.75N×142°.35E, h88km±1km, MW5.2, Moment Tensor Solution. s72,c104; s94,c174; Moment tensor: Scale 10^16 Nm; Mrr 3.56±.16; Mθθ -6.61±.17; Mφφ 3.05±.19; Mrθ -3.96±.11; Mrφ -4.10±.15; Mθφ 3.38±.12; Best double couple: M0 8.80000×10^16 NP1:φp 287.00000°, δ72.00000°, λ137.00000°. NP2:φp 33.00000°, δ50.00000°, λ24.00000°. Principal axes: T 8.8000, Plg43.0000°, Azm242.0000°; N -0.0800, Plg44.0000°, Azm88.0000°; P -8.7200, Plg13.0000°, Azm344.0000°; Data Used: II IU G CN IC.
DJA 11 20:57:35.6±1.3, 24°N±5°×14°2E±°, h136km±12km, M5.1/71, mB5.6/17, mb5.4/71, Mw(mB)5.1/17
ISC 11 20:57:29.0±0.3, 23°.71N±0°.03×142°.22E±0°.04, h84km±1km, h84km:pP-P, n749, σ1°40/916, mb5.2/229, 98C-114D, Volcano Islands region

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

JIE	**Ise**	**11.68 337**	P	**Pn**	**21 00 14.3 +1.7**
JKN2	**Miekihoku**	**11.71 335**	P	**Pn**	**21 00 14.1 +1.1**
JHMK	**Hamakita**	**11.73 342**	P	**Pn**	**21 00 13.1 -0.1**
HMMJ	**Hamamatsu 2**	**11.78 342**	P	**Pn**	**21 00 13.4 -0.5**
JOD2	**Odawara 2**	**11.83 347**	P	**Pn**	**21 00 13.9 -0.8**
JNY	**Yasuok**	**12.21 343**	P	**Pn**	**21 00 19.1 -0.8**
JAM	**Amami Oshima**	**12.26 295**	P	**P**	**21 00 27.7 -1.8**
JAO	**Obara**	**12.30 341**	P	**Pn**	**21 00 21.3 +0.3**
JTO	**Tosashimizu**	**12.32 320**	P	Pn	21 00 25.6 +4.3
JHU	**Hanno**	**12.37 349**	P	**Pn**	**21 00 19.1 -2.8**
JEG	**Eigenji**	**12.46 337**	P	**Pn**	**21 00 25.4 +2.2**
JRY	**Ryogami san**	**12.60 348**	P	**Pn**	**21 00 22.7 -2.3**
JYT	**Yasato**	**12.60 352**	P	**Pn**	**21 00 22.1 -2.9**
JAG	**Ashikaga**	**12.89 350**	P	Pn	21 00 24.7 -4.3
JHO	**Hitachi**	**12.94 354**	P	Pn	21 00 26.1 -3.5
JOW	**Kunigami**	**12.99 287**	*e*Pn	**P**	**21 00 36.5 -1.2**
	22nm,0.6s				
MJAR	**Matsushiro Arr**	**13.25 346**	P	Pn	21 00 30.2 -3.5
MJAR			S	**Sn**	**21 02 54.8 -4.4**
MJAR			ScP	**ScP**	**21 09 19.4 -4.0**
MJAR	**Matsushiro Arr**	**13.25 346**	P	Pn	21 00 30.2 -3.5
	7.8nm,0.3s,baz=174,slow=15,SNR=129				
MJAR			S	**Sn**	**21 02 54.8 -4.4**
	2.7nm,0.3s,baz=167,slow=18,SNR=5.5				
MJAR			ScP	**ScP**	**21 09 19.4 -4.0**
	baz=215,slow=2.1,SNR=7.8				
MAJO	**Matsushiro**	**13.25 346**	*e*P	**Pn**	**21 00 30.9 -2.8**
MAJO	**Matsushiro**	**13.25 346**	*e*Pn	**Pn**	**21 00 30.9 -2.8**
MAT	**Matsushiro**	**13.25 346**	P	Pn	21 00 30.6 -3.1
MAT			S	**Sn**	**21 02 53.7 -5.6**
JSJ	**Shimokoshiki**	**13.62 308**	P	P	21 00 48.1 +3.5
JFK	**Kawauchi**	**13.66 355**	P	**Pn**	**21 00 37.0 -2.1**
JNU	**Nakatsue**	**13.68 316**	P	**Pn**	**21 00 41.2 +1.8**
JNU			*e*Pn	**P**	**21 00 42.6 -2.7**
JNU	**Nakatsue**	**13.68 316**	P	**Pn**	**21 00 41.2 +1.8**
	0.8nm,0.3s,baz=93,slow=9.3,SNR=10				
JNU			LR	LR	21 05 42.7
	comp=Z,253nm,19.8s,baz=128,slow=36				
JMK	**Ichinoseki**	**15.22 357**	P	**Pn**	**21 00 56.9 -2.3**
JTU	**Tsushima**	**15.53 317**	P	**P**	**21 01 09.2 +3.5**
ERM	**Erimo**	**18.27 2**	Pn	**Pn**	**21 01 38.0 +1.2**
	1μm,0.8s,SNR=18				
ERM	**Erimo**	**18.27 2**	*c i*P	**Pn**	**21 01 38.4 +1.6**
ERM			pmax	pmax	
	comp=Z,209nm,0.9s				
ERM	**Erimo**	**18.27 2**	*e*P	**Pn**	**21 01 37.2 +0.3**
	comp=Z,229nm,1.0s				
ERM			*e*Sn	S	21 04 49.5 -10
KSRS	**Korea Array**	**18.38 321**	P	**Pn**	**21 01 38.1 -0.1**
	comp=Z,7.5nm,0.3s,baz=135,slow=9.9,SNR=193				
KSRS			LR	LR	21 08 05.7
	comp=Z,462nm,18.7s,baz=130,slow=34				
KSRS			ScP	**ScP**	**21 09 33.9 +0.9**
	comp=Z,0.1nm,0.3s,baz=116,slow=2.9,SNR=7.3				
KSAR	**Wonju Array Be**	**18.40 321**	P	**Pn**	**21 01 38.1 -0.3**
KSAR			ScP	**ScP**	**21 09 33.9 +0.8**
NACB	**Ninganchiao**	**18.86 276**	*e*P	**Pn**	**21 01 44.4 +0.4**
	comp=Z,36nm,0.8s				
TATO	**Taipei**	**18.93 278**	*e*P	Pn	21 01 50.1 +5.2
	comp=Z,50nm,0.8s				
YHNB	**Yeheng**	**19.04 277**	*e*P	**Pn**	**21 01 47.6 +1.4**
	comp=Z,58nm,0.9s				
INCN	**Inchon**	**19.16 319**	*e*P	**P**	**21 01 45.5 -0.3**
	comp=Z,37nm,0.8s				
YULB	**Yu-li**	**19.18 273**	*e*P	**Pn**	**21 01 49.5 +1.6**
	comp=Z,72nm,0.9s				
TWG	**Pinlang**	**19.45 272**	*e*P	**Pn**	**21 01 52.5 +1.5**
	comp=Z,262nm,0.8s				
SSLB	**Suanglung**	**19.47 275**	*e*P	**Pn**	**21 01 53.6 +2.3**
	comp=Z,66nm,0.9s				
TPUB	**Ta-pu**	**19.80 273**	*e*P	**Pn**	**21 01 56.7 +1.5**
	comp=Z,101nm,0.9s				
SSE	**Sheshan**	**20.05 296**	*e*P	**P**	**21 01 55.7 +0.2**
SSE			sP	**sP**	**21 02 21.4 -1.2**
SSE			S	**S**	**21 05 36.2 -0.1**
SSE			sS	**sS**	**21 06 03.4 -0.2**
SSE			pmax	pmax	
	comp=Z,53nm,0.6s				
SSE			pmax	pmax	
	comp=Z,95nm,4.1s				
SSE			LR	LR	
	comp=N,1μm,22.2s				
SSE			LR	LR	
	comp=E,330nm,22.2s				
SSE			LR	LR	
	comp=Z,640nm,21.9s				
ASAJ	**Asahikawa**	**20.36 1**	P	**P**	**21 02 00.0 +1.4**
ASAJ	**Asahikawa**	**20.36 1**	P	**P**	**21 02 00.0 +1.4**
	comp=Z,105nm,0.7s,baz=212,slow=13,SNR=70				
ASAJ			LR	LR	21 09 38.2
	comp=Z,248nm,20.3s,baz=182,slow=36				
YUK	**Yuzh-Kuril'sk**	**20.49 8**	*d i*P	P	21 01 54.5 -5.6
YUK			S	**S**	**21 05 43.0 -1.7**
YUK			pmax	pmax	
	comp=Z,574nm,1.1s				
YUK			pmax	pmax	
	comp=N,278nm,1.1s				
YUK			pmax	pmax	
	comp=E,234nm,1.1s				
YUK			MLR	MLR	
	comp=N,144nm,12.0s				
YUK			MLR	MLR	
	comp=Z,299nm,12.0s				
OCLP	**Ormoc**	**20.97 236**	*e*P	**P**	**21 02 02.5 -3.0**
VLA	**Vladivostok**	**21.16 339**	*c i*P	**P**	**21 02 08.7 +1.4**
VLA			pmax	pmax	
	comp=Z,198nm,1.2s				
MSLP	**Maasin**	**21.37 234**	*e*P	**P**	**21 02 13.0 +3.3**
QZH	**Quanzhou**	**21.56 278**	P	**P**	**21 02 07.1 -4.6**
QZH			S	S	21 05 56.1 -10
QZH			LR	LR	
	comp=Z,2μm,27.5s				
USRK	**Ussuriysk Arra**	**22.09 340**	P	**P**	**21 02 15.8 -1.5**
	comp=Z,77nm,0.7s,baz=158,slow=11,SNR=86				
USRK			ScP	**ScP**	**21 09 38.7 -3.0**
	comp=Z,2.5nm,0.8s,baz=178,slow=5.3,SNR=4.4				
RCP	**Roxas**	**22.11 240**⇑	*e*P	**P**	**21 02 18.5 +0.8**
RCP			*e*S	**pP**	**21 02 39.0 +4.4**
NJ2	**Nanjing**	**22.23 297**	*e*P	**P**	**21 02 18.2 -0.6**
NJ2			pP	**pP**	**21 02 33.0 -2.7**
NJ2			sP	**sP**	**21 02 42.2 -4.0**
NJ2			S	**S**	**21 06 18.3 0.0**
NJ2			sS	**sS**	**21 06 44.3 -2.8**
NJ2			pmax	pmax	
	comp=Z,17nm,1.0s				
NJ2			pmax	pmax	
	comp=Z,190nm,6.1s				
NJ2			LR	LR	
	comp=N,2μm,22.8s				
NJ2			LR	LR	
	comp=E,660nm,22.8s				
NJ2			LR	LR	
	comp=Z,730nm,26.0s				
YSS	**Yuzh-Sakhalins**	**23.20 1**	κ*e*P	**P**	**21 02 29.5 +1.0**
YSS			*i* *SP	**pP**	**21 02 43.2 -2.8**
YSS			pmax	pmax	
	comp=N,50nm,1.1s				
YSS			pmax	pmax	
	comp=Z,110nm,1.1s				
YSS			pmax	pmax	
	comp=Z,500nm,6.0s				
MDJ	**Mudanjiang**	**23.27 337**	P	**P**	**21 02 29.4 +0.1**
MDJ			pP	**pP**	**21 02 45.1 -1.7**
MDJ			sP	**sP**	**21 02 53.9 -3.3**
MDJ			PcP	**PcP**	**21 06 14.5 +0.3**
MDJ			S	**S**	**21 06 31.7 -3.2**
MDJ			sS	**sS**	**21 07 06.0 -0.9**
MDJ			ScP	**ScP**	**21 09 46.3 +1.5**
MDJ			PcS	**PcS**	**21 09 54.1 +0.8**
MDJ			ScS	**ScS**	**21 13 33.3 +2.4**
MDJ			pmax	pmax	
	comp=Z,45nm,1.2s				
MDJ			pmax	pmax	
	comp=Z,200nm,6.7s				
MDJ			LR	LR	
	comp=N,250nm,16.5s				
MDJ			LR	LR	
	comp=E,170nm,14.8s				
MDJ			LR	LR	
	comp=Z,450nm,21.4s				
CTBH	**Cotabato--PC H**	**23.80 229**⇑	*i*P	**P**	**21 02 36.5 +2.1**
SNY	**Shenyang**	**23.83 324**	⇓P	**P**	**21 02 33.7 -0.6**
SNY			S	S	21 06 36.4 -7.6
SNY			pmax	pmax	
	comp=Z,71nm,0.7s				
SNY			pmax	pmax	
	comp=Z,330nm,6.1s				
SNY			LR	LR	
	comp=N,490nm,20.6s				
SNY			LR	LR	
	comp=E,420nm,16.3s				
SNY			LR	LR	
	comp=Z,580nm,32.1s				
CN2	**Changchun**	**24.32 330**	*e*P	**P**	**21 02 39.7 +0.9**
CN2			*e*S	**S**	**21 06 51.1 -0.9**
CN2			pmax	pmax	
	comp=Z,50nm,0.7s				
CN2			LR	LR	
	comp=N,270nm,14.0s				
CN2			LR	LR	
	comp=E,440nm,14.0s				
CN2			LR	LR	
	comp=Z,300nm,21.0s				
HABR	**Khabarovsk**	**25.36 349**	*e*P	**P**	**21 02 48.0 -0.1**
HABR			*e**PP	**pP**	**21 03 05.3 -1.9**
HABR			*e*		21 03 26.7
HABR			*e*		21 06 16.7
HABR			*e*S	**S**	**21 07 09.4 +1.1**
HABR			*SS	**sS**	**21 07 41.5 +0.1**
HABR			*e*SS	**SnSn**	**21 08 10.9 +1.9**
HABR			*e*		21 13 37.7
HABR			pmax	pmax	
	comp=N,158nm,1.7s				
HABR			pmax	pmax	
	comp=Z,326nm,1.4s				
HABR			pmax	pmax	
	comp=E,90nm,1.1s				
HABR			MLR	MLR	
	comp=Z,242nm,20.0s				
WHN	**Wuhan**	**25.68 291**	⇓P	**P**	**21 02 53.1 +1.9**
WHN			sP	**sP**	**21 03 20.3 +0.2**
WHN			S	**S**	**21 07 14.2 +0.4**
WHN			LR	LR	
	comp=Z,860nm,21.0s				
SRPI	**Serui, Papua**	**26.08 194**	P	**P**	**21 02 55.3 +0.3**
	comp=Z,216nm,0.5s,comp=Z,6μm				
SWI	**Sorong**	**26.65 205**	P	**P**	**21 03 00.0 -0.1**
	comp=Z,45nm,0.9s,comp=Z,727nm				
TNTI	**Ternate**	**26.97 214**	*e*P	**P**	**21 03 02.4 -0.6**
	comp=Z,172nm,1.6s				
BJI	**Beijing**	**27.32 313**	P	**P**	**21 03 09.3 +3.4**
BJI			sP	**sP**	**21 03 30.1 -4.8**
BJI			S	**S**	**21 07 32.5 -7.0**
BJI			sS	**sS**	**21 08 11.2 -1.6**
BJI			pmax	pmax	
	comp=Z,15nm,0.9s				
BJI			pmax	pmax	
	comp=Z,120nm,3.4s				
BJI			LR	LR	
	comp=N,350nm,13.4s				
BJI			LR	LR	
	comp=E,390nm,19.4s				
BJI			LR	LR	
	comp=Z,330nm,37.9s				
LBMI	**Labuha**	**28.11 213**	P	**P**	**21 03 13.1 -0.1**
	comp=Z,80nm,0.9s,comp=Z,1μm				
MYLDM	**Lahad Datu**	**29.35 235**	P	P	21 03 28.3 +4.1
MYLDM	**Lahad Datu**	**29.35 235**	P	**P**	**21 03 27.0 +2.8**
	comp=Z,51nm,1.4s				
KDM	**Kudat**	**29.55 240**	P	P	21 03 29.4 +3.5
GTOI	**Gorontalo**	**29.55 222**	P	**P**	**21 03 26.0 0.0**
	comp=Z,88nm,1.0s				
MRSI	**Marisa**	**30.34 223**	P	**P**	**21 03 34.0 +1.1**
	comp=Z,182nm,0.8s,comp=Z,2μm				
TSM	**Tawau**	**30.40 234**	P	**P**	**21 03 36.1 +2.6**
QIZ	**Qiongzhong**	**30.47 267**	P	**P**	**21 03 34.0 -0.1**
QIZ			pP	**pP**	**21 03 50.5 -2.9**
QIZ			sP	**sP**	**21 03 58.4 -4.8**
QIZ			S	**S**	**21 08 30.1 +0.7**
QIZ			pmax	pmax	
	comp=Z,44nm,2.4s				
QIZ			pmax	pmax	
	comp=Z,310nm,3.6s				
AAI	**Ambon**	**30.47 208**	P	**P**	**21 03 34.9 +0.8**
	comp=Z,97nm,0.8s				
KKM	**Kota Kinabalu**	**30.56 239**	*e*P	**P**	**21 03 37.4 +2.4**
	comp=Z,26nm,1.0s				
KKM	**Kota Kinabalu**	**30.56 239**	P	**P**	**21 03 37.9 +2.9**
KKM	**Kota Kinabalu**	**30.56 239**	P	**P**	**21 03 37.0 +2.0**
	comp=Z,26nm,0.9s,comp=Z,484nm				
XAN	**Xi'an**	**30.80 297**	P	**P**	**21 03 37.4 +0.5**
HHC	**Hu-ho-hao-te**	**30.83 311**	*e*P	**P**	**21 03 38.7 +1.5**
HHC			pP	**pP**	**21 03 56.4 -0.2**
HHC			sP	**sP**	**21 04 05.6 -0.7**
HHC			PP	**PnPn**	**21 04 42.4 +1.6**
HHC			S	**S**	**21 08 35.4 +0.5**
HHC			sS	**sS**	**21 09 06.2 -2.1**
HHC			SS	**SnSn**	**21 10 22.8 +0.5**
HHC			ScS	**ScS**	**21 14 04.3 -0.3**
HHC			pmax	pmax	
	comp=Z,62nm,1.0s				
HHC			pmax	pmax	
	comp=Z,120nm,4.6s				
HHC			LR	LR	
	comp=N,880nm,14.2s				
HHC			LR	LR	
	comp=E,2μm,13.1s				
HHC			LR	LR	
	comp=Z,2μm,13.2s				
APSI	**Ampana**	**31.60 222**	P	**P**	**21 03 43.2 -0.8**
	comp=Z,60nm,1.0s,comp=Z,1μm				
PETK	**Petropavlovsk-**	**31.62 18**	P	**P**	**21 03 43.6 -0.3**
PETK	**Petropavlovsk-**	**31.62 18**	P	**P**	**21 03 43.5 -0.3**
PETK	**Petropavlovsk-**	**31.62 18**	P	**P**	**21 03 43.5 -0.3**
	comp=Z,10nm,0.9s,baz=200,slow=7.9,SNR=9.0				
PETK			LR	LR	21 14 38.5
	comp=Z,136nm,19.5s,baz=198,slow=32				
PET	**Petropavlovsk**	**31.82 19**	*e*P	**P**	**21 03 46.7 +1.2**
PET			*e**PP	**pP**	**21 04 06.1 +1.2**
PET			*e**SP	**sP**	**21 04 15.4 +0.7**
PET			*e*		21 04 51.1
PET			*e*S	**S**	**21 08 49.4 -0.3**
PET			*e**SS	**sS**	**21 09 22.6 -0.6**
PET			pmax	pmax	
	comp=Z,19nm,0.5s				
PET			pmax	pmax	
	comp=Z,100nm,9.8s				
PET			pmax	pmax	
	comp=Z,100nm,12.2s				
GYA	**Guiyang**	**32.26 282**	⇓*i*P	**P**	**21 03 51.7 +1.8**
GYA			pP	**pP**	**21 04 09.5 +0.2**
GYA			sP	**sP**	**21 04 18.0 -1.1**
GYA			PP	**PP**	**21 05 02.9 -1.3**
GYA			PcP	**PcP**	**21 06 36.5 0.0**
GYA			S	**S**	**21 09 00.4 +3.0**
GYA			sS	**sS**	**21 09 31.8 +0.9**
GYA			ScP	**ScP**	**21 10 13.0 +0.2**
GYA			PcS	**PcS**	**21 10 20.6 -1.2**
GYA			SS	**SnSn**	**21 11 02.1 +5.0**
GYA			ScS	**ScS**	**21 14 10.9 -1.3**
GYA			pmax	pmax	
	comp=Z,20nm,0.7s				
GYA			pmax	pmax	
	comp=Z,190nm,7.5s				
GYA			LR	LR	
	comp=N,910nm,15.8s				
GYA			LR	LR	
	comp=E,860nm,19.3s				
GYA			LR	LR	
	comp=Z,1μm,19.9s				
SKSI	**Soroako, Sulaw**	**33.07 221**	P	**P**	**21 03 58.4 +1.4**
	comp=Z,19nm,0.9s				
PMG	**Port Moresby**	**33.27 171**	*e*P	**P**	**21 03 57.3 -1.3**
KKSI	**Kolaka, Sulawe**	**34.21 219**	P	**P**	**21 04 08.5 +1.7**
	comp=Z,78nm,1.1s				
MMSI	**Mamuju**	**34.69 224**	P	**P**	**21 04 11.2 +0.2**
	comp=Z,36nm,1.4s				
BBSI	**Bau Bau**	**34.78 216**	P	**P**	**21 04 14.1 +2.4**
	comp=Z,66nm,1.0s				
CD2	**Chengdu**	**34.79 290**	P	**P**	**21 04 13.1 +1.3**
CD2			pP	**pP**	**21 04 31.3 0.0**
CD2			sP	**sP**	**21 04 40.6 -0.5**
CD2			PP	**PP**	**21 05 32.0 -0.1**
CD2			PcP	**PcP**	**21 06 45.0 +1.5**
CD2			S	**S**	**21 09 36.5 +0.1**
CD2			sS	**sS**	**21 10 08.3 -1.8**
CD2			pmax	pmax	
	comp=Z,40nm,0.6s				
CD2			pmax	pmax	
	comp=Z,190nm,5.9s				
CD2			LR	LR	
	comp=N,630nm,8.8s				
CD2			LR	LR	
	comp=Z,540nm,19.0s				
SPSI	**Sidrap Palu**	**35.15 221**	P	**P**	**21 04 15.8 +0.9**
	comp=Z,136nm,0.8s,comp=Z,2μm				
LZH	**Lanzhou**	**35.26 299**	*e*P	**P**	**21 04 17.6 +1.7**
LZH			pP	**pP**	**21 04 33.3 -2.2**
LZH			sP	**sP**	**21 04 41.3 -3.9**
LZH			PP	**PnPn**	**21 05 37.0 +0.5**
LZH			PcP	**PcP**	**21 06 46.2 +1.2**
LZH			*e*S	**S**	**21 09 43.0 -0.8**
LZH			pmax	pmax	
	comp=Z,21nm,1.2s				
LZH			pmax	pmax	
	comp=Z,120nm,4.3s				
LZH			LR	LR	
	comp=N,1μm,13.7s				
LZH			LR	LR	
	comp=E,1μm,14.5s				
LZH			LR	LR	
	comp=Z,2μm,16.6s				
BNSI	**Bone**	**35.29 221**	P	**P**	**21 04 18.5 +2.4**
	comp=Z,90nm,1.1s,comp=Z,1μm				
CLNS	**Chul'man**	**35.42 344**	*e*P	**P**	**21 04 18.8 +2.0**
CLNS			pmax	pmax	
	comp=Z,12nm,0.8s				
CLNS			pmax	pmax	
	comp=E,7.0nm,0.8s				
CLNS			pmax	pmax	
	comp=N,11nm,0.8s				
PANO	**Nakornpanom**	**35.76 267**	P	P	21 04 23.8 +3.6
	comp=N,487nm,0.9s,comp=N,19μm				
KMI	**Kunming**	**35.89 281**	P	**P**	**21 04 22.6 +1.1**
KMI			sP	**sP**	**21 04 50.3 -0.5**
KMI			S	**S**	**21 09 49.3 -4.4**
KMI			SS	**SnSn**	**21 12 24.1 -1.1**
KMI			pmax	pmax	
	comp=Z,20nm,0.8s				
KMI			pmax	pmax	
	comp=Z,250nm,6.7s				
KMI			LR	LR	
	comp=N,330nm,12.3s				
KMI			LR	LR	
	comp=E,350nm,14.7s				
KMI			LR	LR	
	comp=Z,290nm,16.0s				
SBUM	**Sibu**	**35.90 238**	P	**P**	**21 04 24.0 +2.6**
SBUM	**Sibu**	**35.90 238**	P	**P**	**21 04 20.5 -0.9**
	comp=Z,13nm,1.1s,comp=Z,697nm				
KAPI	**Kappang**	**35.99 220**	P	**P**	**21 04 22.8 +0.6**
	comp=Z,342nm,0.9s,SNR=9.8				
KAPI	**Kappang**	**35.99 220**	P	**P**	**21 04 21.7 -0.4**
KAPI			*e*PcP	**PcP**	**21 06 46.4 -0.8**
KAPI	**Kappang**	**35.99 220**	P	**P**	**21 04 22.7 +0.6**
	comp=Z,62nm,1.0s				
KAPI	**Kappang**	**35.99 220**	P	**P**	**21 04 21.7 -0.4**
	comp=Z,44nm,0.9s,baz=42,slow=6.3,SNR=20				
BKSI	**Bulukumba**	**36.02 220**	P	**P**	**21 04 23.4 +1.1**
	comp=Z,38nm,0.9s,comp=Z,590nm				
SKNT	**Sakolnakorn**	**36.39 267**	P	P	21 04 30.2 +4.6
	comp=Z,51nm,1.9s				
ULN	**Ulaanbaatar**	**36.85 320**	*e*P	**P**	**21 04 30.0 +0.7**
	comp=Z,4.6nm,0.9s				
ULN			*e*ScP	**ScP**	**21 10 28.5 -0.5**
ULN	**Ulaanbaatar**	**36.85 320**	P	**P**	**21 04 31.2 +1.9**
	comp=Z,6.0nm,0.8s				
SONM	**Songino Array**	**37.23 319**	P	**P**	**21 04 33.1 +0.6**
SONM			pP	**pP**	**21 04 54.6 +2.3**
SONM			PP	**PnPn**	**21 06 04.9 +4.7**
SONM			PcP	**PcP**	**21 06 51.4 +0.8**
SONM			ScP	**ScP**	**21 10 29.1 -1.2**
SONM	**Songino Array**	**37.23 319**	P	**P**	**21 04 33.1 +0.6**
	comp=Z,2.6nm,0.5s,baz=137,slow=9.0,SNR=20				
SONM			pP	**pP**	**21 04 54.6 +2.3**
	comp=Z,2.3nm,0.6s,baz=142,slow=5.3,SNR=3.8				
SONM			PP	**PnPn**	**21 06 04.9 +4.7**
	comp=Z,4.2nm,0.8s,baz=105,slow=8.3,SNR=5.5				
SONM			PcP	**PcP**	**21 06 51.4 +0.8**
	comp=Z,4.4nm,0.8s,baz=152,slow=3.1,SNR=4.2				
SONM			ScP	**ScP**	**21 10 29.1 -1.2**
	comp=Z,3.6nm,0.9s,baz=116,slow=2.1,SNR=7.9				
SONM			LR	LR	21 20 38.5
	comp=Z,238nm,18.5s,baz=25,slow=37				
FX1	**Attu Island--F**	**37.40 31**	P	**P**	**21 04 34.5 +0.9**
FX1	**Attu Island--F**	**37.40 31**	P	**P**	**21 04 34.5 +0.9**
	comp=Z,71nm,0.7s,baz=149,slow=3.2,SNR=12				
SOEI	**Soe**	**37.61 210**	P	**P**	**21 04 36.2 +0.2**
	comp=Z,57nm,1.5s				
MMRI	**Maumere**	**37.62 214**	*e*P	**P**	**21 04 35.6 -0.3**
	comp=Z,63nm,1.0s				
MMRI	**Maumere**	**37.62 214**	P	**P**	**21 04 35.8 -0.1**
	comp=Z,70nm,0.8s,comp=Z,1μm				
STKI	**Sintang**	**37.98 236**	P	**P**	**21 04 39.5 +0.5**
	comp=Z,22nm,1.2s				
KSM	**Kuching**	**38.00 239**	*e*ScP	**ScP**	**21 10 32.4 -1.1**
CHAI	**Chaiyaphum**	**38.54 266**	P	**P**	**21 04 45.5 +1.8**
	comp=Z,19nm,0.9s,comp=Z,162nm				
LBFI	**Labuhan Bajo,**	**38.73 217**	P	**P**	**21 04 45.0 -0.2**
	comp=Z,187nm,1.1s				
LOEI	**Loei**	**38.73 269**	P	**P**	**21 04 44.5 -0.8**
	comp=Z,35nm,0.7s,comp=Z,4μm				
GTA	**Gaotai**	**39.00 304**	*e*P	**P**	**21 04 49.7 +2.2**
GTA			pP	**pP**	**21 05 07.9 +0.6**
GTA			sP	**sP**	**21 05 16.9 -0.1**
GTA			PcP	**PcP**	**21 06 56.7 +0.4**
GTA			ScP	**ScP**	**21 10 36.9 -0.3**
GTA			S	**S**	**21 10 44.8 +4.4**
GTA			sS	**sS**	**21 11 16.7 +2.3**
GTA			SS	**SS**	**21 13 34.9 -0.5**
GTA			ScS	**ScS**	**21 14 50.1 +1.4**
GTA			pmax	pmax	
	comp=Z,4.0nm,0.6s				
GTA			pmax	pmax	
	comp=Z,52nm,8.5s				
GTA			LR	LR	
	comp=N,370nm,19.9s				
GTA			LR	LR	
	comp=E,410nm,19.0s				
GTA			LR	LR	
	comp=Z,300nm,16.6s				
YAK	**Yakutsk**	**39.24 351**	*d i*P	**P**	**21 04 48.7 -0.3**
YAK			*e**PP	**pP**	**21 05 08.2 -0.6**
YAK			*e*		21 06 57.8
YAK			*e*S	**S**	**21 10 41.0 -2.2**
YAK			*e*SS	**SS**	**21 13 40.6 +1.3**
YAK			pmax	pmax	
	comp=Z,97nm,0.8s				
YAK			pmax	pmax	
	comp=N,43nm,1.5s				
YAK			pmax	pmax	
	comp=E,9.0nm,0.8s				
YAK			pmax	pmax	
	comp=Z,7.0nm,0.6s				
YAK			pmax	pmax	
	comp=N,9.0nm,0.8s				
YAK			pmax	pmax	
	comp=E,6.0nm,0.6s				
YAK			smax	smax	
	comp=E,24nm,1.1s				
YAK			smax	smax	
	comp=N,9.0nm,0.9s				
PBKT	**Sadao Pong**	**39.27 267**	P	**P**	**21 04 52.0 +2.3**
	comp=N,37nm,0.9s				
PBKT	**Sadao Pong**	**39.27 267**	P	**P**	**21 04 52.1 +2.3**
	comp=N,37nm,0.9s				
CHBT	**CHBT**	**39.30 261**	P	**P**	**21 04 51.8 +1.8**
	comp=N,34nm,0.9s				
CHBT	**CHBT**	**39.30 261**	P	**P**	**21 04 53.0 +3.0**
	comp=N,34nm,0.9s				
PBKI	**Pangkalan Bun**	**39.67 233**	P	**P**	**21 04 53.6 +0.5**
	comp=N,122nm,0.9s				
SEY	**Seymchan**	**39.80 7**	*ce*P	**P**	**21 04 55.2 +1.6**
LAMP	**Lampang**	**39.95 271**	P	P	21 04 59.0 +3.5
	comp=N,7.2nm,0.9s,comp=N,81nm				
CMAI	**Chiengmai2**	**40.15 273**	P	**P**	**21 05 00.1 +2.8**
	comp=N,151nm,0.9s				
ZAK	**Zakamensk**	**40.22 321**	*e*P	**P**	**21 04 56.5 -0.9**
ZAK			*e*		21 07 00.0
ZAK			pmax	pmax	
	comp=Z,5.0nm,1.1s				
SUKH	**Sukhothai**	**40.23 269**	P	**P**	**21 05 00.6 +2.8**
	comp=Z,12nm,0.9s,comp=Z,112nm				
CHTO	**Chiang Mai**	**40.51 272**	*e*P	**P**	**21 05 01.1 +1.0**
CHTO			*e*		21 07 01.7
CHTO			pmax	pmax	

comp=Z,22nm,0.8s
CHTO Chiang Mai 40.51 272 *e*P **P 21 05 01.1 +1.0**
comp=Z,22nm,0.8s
CHTO *e*PcP **PcP 21 07 01.7 +0.4**
CHTO Chiang Mai 40.51 272 P **P 21 05 01.8 +1.7**
comp=Z,29nm,1.0s
CHTO Chiang Mai 40.51 272 P **P 21 05 02.6 +2.5**
comp=Z,29nm,1.0s
CM31 Chiang Mai Arr 40.60 271 *e*P **P 21 05 03.0 +2.1**
comp=Z,9.8nm,0.5s
CMAR Chiang Mai Arr 40.60 271 P **P 21 05 02.8 +1.9**
CMAR ScP **ScP 21 10 43.0 -0.6**
CMAR Chiang Mai Arr 40.60 271 P **P 21 05 02.8 +1.9**
comp=Z,12nm,0.6s,baz=61,slow=7.5,SNR=92
CMAR ScP **ScP 21 10 43.0 -0.6**
comp=Z,1.3nm,1.0s,baz=115,slow=2.9,SNR=4.2
TLY Talaya 40.62 323 *e*P P 21 05 07.2 +6.6
TLY *e*SS SS 21 13 56.6 -11
TLY pmax pmax
comp=Z,6.0nm,0.9s
TLY MLR MLR
comp=Z,202nm,19.0s
MTNI Mataram 41.01 221 P **P 21 05 04.1 0.0**
comp=Z,134nm,1.2s
NBBI Negara 41.76 223 P **P 21 05 08.5 -1.8**
comp=Z,348nm,0.9s
BYJI Banyuwangi 41.81 224 P **P 21 05 13.0 +2.3**
comp=Z,632nm,0.9s
BLJI Banyuglugur 41.95 225 P **P 21 05 13.2 +1.4**
comp=Z,304nm,0.8s
JAGI Jajag, Banyuwa 42.13 224 P **P 21 05 13.2 -0.2**
comp=Z,220nm,0.9s
KRKI Karangkates 43.00 226 P **P 21 05 21.3 +0.9**
comp=Z,340nm,0.8s
MYKOM Kota Tinggi 43.05 245 P **P 21 05 23.3 +2.4**
MYKOM Kota Tinggi 43.05 245 P **P 21 05 22.2 +1.3**
comp=Z,42nm,0.8s
PWJI Pagerwojo 43.33 227 P **P 21 05 24.2 +1.2**
comp=Z,84nm,0.8s
KGM Kluang 43.38 246 P **P 21 05 25.8 +2.3**
CTA Charters Tower 43.71 175 P **P 21 05 25.5 -0.5**
CTA Charters Tower 43.71 175 P **P 21 05 25.5 -0.5**
comp=Z,15nm,0.6s,baz=346,slow=9.8,SNR=16
CTA LR LR 21 22 15.7
comp=Z,476nm,19.3s,baz=234,slow=34
CTAO Charters Tower 43.71 175 *e*P **P 21 05 25.4 -0.5**
CTAO pmax pmax
comp=Z,95nm,1.5s
CTAO Charters Tower 43.71 175 *e*P **P 21 05 25.4 -0.5**
comp=Z,95nm,1.5s
KULM Kulim 43.99 252 *e*P **P 21 05 30.0 +1.6**
comp=Z,34nm,0.5s
KULM *e*PcP **PcP 21 07 13.4 +0.6**
KULM Kulim 43.99 252 P **P 21 05 30.4 +2.0**
KULM Kulim 43.99 252 P **P 21 05 30.1 +1.7**
comp=Z,48nm,0.7s,comp=Z,1µm
WRAB Tennant Creek 44.05 191 P **P 21 05 28.0 -0.7**
comp=Z,882nm,0.9s,SNR=38
WRAB Tennant Creek 44.05 191 *e*P **P 21 05 27.8 -0.9**
WRAB *e* 21 07 13.3
WRAB pmax pmax
comp=Z,161nm,0.9s
WRAB Tennant Creek 44.05 191 *e*P **P 21 05 27.8 -0.9**
comp=Z,161nm,0.9s
WRAB *e*PcP **PP 21 07 13.3 +0.3**
IPM Ipoh 44.05 251⇓*e*P **P 21 05 30.4 +1.4**
comp=Z,33nm,1.0s
IPM *e*PcP **PP 21 07 13.8 +0.6**
IPM Ipoh 44.05 251 P **P 21 05 31.3 +2.4**
IPM Ipoh 44.05 251 P **P 21 05 30.5 +1.5**
comp=Z,40nm,0.9s
WRA Warramunga Arr 44.06 191 P **P 21 05 27.9 -0.9**
WRA PcP **PcP 21 07 12.9 0.0**
WRA S **S 21 11 50.4 -4.8**
WRA PKiKP **PKiKP 21 14 13.2 -0.7**
WRA Warramunga Arr 44.06 191 P **P 21 05 27.9 -0.9**
comp=Z,102nm,0.9s,baz=9.4,slow=7.9,SNR=277
WRA PcP **PcP 21 07 12.9 0.0**
comp=Z,14nm,0.7s,baz=6.8,slow=3.5,SNR=5.8
WRA S **S 21 11 50.4 -4.8**
comp=Z,2.9nm,0.9s,baz=20,slow=16,SNR=5.1
WRA PKiKP **PKiKP 21 14 13.2 -0.7**
comp=Z,0.3nm,0.4s,baz=24,slow=1.5,SNR=5.3
FRIM Kepong 44.16 249 P **P 21 05 32.0 +2.2**
FITZ Fitzroy Crossi 44.60 203 *e*P **P 21 05 33.3 +0.2**
PKDT Phuket 44.85 257 P **P 21 05 37.9 +2.7**
comp=Z,79nm,0.7s
LEM Lembang 45.41 232 P **P 21 05 41.2 +1.3**
comp=Z,212nm,1.1s
CBJI Citeko 45.70 233 P **P 21 05 43.2 +1.3**
comp=Z,269nm,0.9s
LSA Lhasa 45.71 289 P **P 21 05 45.1 +2.6**
HVS Khovu-Aksy 46.13 319⇑*i*P **P 21 05 44.8 -0.2**
HVS pmax pmax
comp=Z,33nm,0.9s
BKNI Bangkinang 46.20 246 P **P 21 05 47.3 +1.4**
comp=Z,75nm,0.8s
LHSI Lahat 46.58 239 P **P 21 05 49.6 +0.7**
comp=Z,59nm,1.0s
PSI Prapat 46.70 250 P **P 21 05 50.9 +0.9**
PSI Prapat 46.70 250 P **P 21 05 50.9 +0.9**
comp=Z,30nm,0.6s,baz=45,slow=4.8,SNR=39
PSI LR LR 21 22 49.0
comp=Z,204nm,18.6s,baz=219,slow=32
PPI Padang Panjang 47.17 245 P **P 21 05 54.9 +1.5**
comp=Z,30nm,1.1s
MNSI Mandailing Nat 47.18 247 P **P 21 05 54.2 +0.7**
comp=Z,60nm,0.8s,comp=Z,5µm
MASI Maura Aman, Be 47.19 241 P **P 21 05 55.1 +1.4**
comp=Z,165nm,0.9s
KSI Kapahiang 47.21 240 P **P 21 05 53.8 -0.1**
comp=Z,108nm,0.8s
KCSI Kotacane, Aceh 47.35 252 P **P 21 05 54.9 0.0**
comp=Z,33nm,0.8s
PDSI Padang 47.36 245 P **P 21 05 54.2 -0.8**
comp=Z,39nm,0.8s
AS31 Alice Springs 47.78 190 *e*P **P 21 05 56.7 -1.4**
AS31 *e*S **S 21 12 44.0 -4.5**
ASAR Alice Springs 47.78 190 P **P 21 05 56.9 -1.1**
ASAR PcP **PcP 21 07 25.2 -0.6**
ASAR ScP **ScP 21 11 10.9 -1.8**
ASAR S **S 21 12 43.7 -4.9**
ASAR Alice Springs 47.78 190 P **P 21 05 56.9 -1.1**
comp=Z,19nm,0.6s,baz=15,slow=9.9,SNR=131
ASAR PcP **PcP 21 07 25.2 -0.6**
comp=Z,5.0nm,0.8s,baz=15,slow=4.3,SNR=5.2
ASAR ScP **ScP 21 11 10.9 -1.8**
comp=Z,2.0nm,0.8s,baz=5.9,slow=4.7,SNR=5.8
ASAR S **S 21 12 43.7 -4.9**
comp=Z,4.2nm,0.9s,baz=19,slow=17,SNR=15
TIXI Tiksi 48.57 354*ce*P **P 21 06 03.7 +0.2**
TIXI *i* *PP **pP 21 06 26.7 +2.8**
TIXI pmax pmax
comp=Z,19nm,0.6s
GSI Gunungsitoli 48.62 249 P **P 21 06 05.4 +0.7**
comp=Z,77nm,0.7s
WMQ Urumqi 48.63 308 P **P 21 06 06.6 +2.1**
WMQ pP **pP 21 06 25.3 +0.3**
WMQ sP **sP 21 06 34.2 -0.3**
WMQ PcP **PcP 21 07 31.2 +2.4**
WMQ PP **PP 21 08 00.6 +2.6**
WMQ *e*S **S 21 13 02.2 +1.9**
WMQ sS **sS 21 13 34.6 -0.7**
WMQ ScS **ScS 21 15 48.9 -0.1**
WMQ SS **SS 21 16 28.6 -2.7**
WMQ pmax pmax
comp=Z,16nm,0.7s
WMQ pmax pmax
comp=Z,160nm,3.7s
WMQ LR LR
comp=N,380nm,30.0s
WMQ LR LR
comp=E,180nm,25.0s
WMQ LR LR
comp=Z,220nm,20.1s
TAPN Taplejung 49.00 286 *e*P **P 21 06 09.6 +1.8**
comp=Z,47nm,0.5s
AKUT Akutan 49.06 38 *e*P **P 21 06 07.6 +0.2**
comp=Z,98nm,0.7s
AKUT *e* 21 06 30.7
AKUT *e*ScP ScP 21 11 09.5 -8.2
ODAN Odare 49.36 286 *e*P **P 21 06 12.1 +1.6**
comp=Z,157nm,0.8s
EIDS Eidsvold 49.54 169 *e*P **P 21 06 10.3 -1.1**
comp=Z,21nm,1.1s
EIDS *e*PcP **PcP 21 07 31.3 -0.8**

MBWA Marble Bar 49.69 208 *e*P **P 21 06 12.2 -0.4**
comp=Z,66nm,1.0s
MBWA *e*PcP **PcP 21 07 32.0 -0.7**
RAMN Ramite 50.04 286 *e*P **P 21 06 17.1 +1.4**
comp=Z,79nm,0.8s
JIRN Jiri 50.29 287 *e*P **P 21 06 19.7 +2.0**
comp=Z,162nm,0.7s
GUN Gumba 50.52 287 *e*P **P 21 06 21.2 +1.8**
comp=Z,68nm,0.5s
PKI Pulchoki 50.98 287 *e*P **P 21 06 24.3 +1.4**
comp=Z,18nm,0.4s
PKIN Phulchoki 50.99 287 *e*P **P 21 06 24.6 +1.7**
comp=Z,9.2nm,0.3s
KKN Kakani 51.06 287 *e*P **P 21 06 24.8 +1.4**
DMN Daman 51.24 287 *e*P **P 21 06 26.0 +1.2**
comp=Z,19nm,0.4s
DZM Mont Dzumac 51.25 151 *e*P **P 21 06 24.5 0.0**
comp=Z,125nm,1.4s
DZM Mont Dzumac 51.25 151 *e*LR LR 21 20 55.8
comp=Z,611nm,24.4s
DZM Mont Dzumac 51.25 151 LR LR 21 25 32.6
comp=Z,239nm,20.3s,baz=35,slow=33
ZAA0 Zalesovo Array 52.09 321 *e*P **P 21 06 28.5 -1.8**
ZAA0 *e*PcP **PcP 21 07 40.6 -0.6**
ZAA0 *e*ScP **ScP 21 11 27.0 -3.8**
ZALV Zalesovo Beam 52.09 321 P **P 21 06 29.3 -1.0**
ZALV *PP **pP 21 06 51.8 +0.8**
ZALV 21 07 41.4
ZALV Zalesovo Beam 52.09 321 P **P 21 06 29.3 -1.0**
ZALV pP **pP 21 06 51.8 +0.8**
ZALV PcP **PcP 21 07 41.4 +0.2**
ZALV ScP **ScP 21 11 28.2 -2.5**
ZALV Zalesovo Beam 52.09 321 P **P 21 06 29.3 -1.0**
comp=Z,4.0nm,0.7s,baz=109,slow=7.1,SNR=14
ZALV pP **pP 21 06 51.8 +0.8**
comp=Z,4.3nm,0.5s,baz=90,slow=8.9,SNR=4.7
ZALV PcP **PcP 21 07 41.4 +0.2**
comp=Z,11nm,0.8s,baz=111,slow=4.5,SNR=8.2
ZALV ScP **ScP 21 11 28.2 -2.5**
comp=Z,2.6nm,0.8s,baz=97,slow=3.6,SNR=4.0
ZALV LR LR 21 30 16.1
comp=Z,151nm,19.1s,baz=250,slow=38
DANN Dangsing 52.30 288 *e*P **P 21 06 34.4 +1.7**
comp=Z,173nm,0.6s
SDPT Sand Point 52.34 37 *e*P **P 21 06 30.5 -1.6**
comp=Z,431nm,1.8s
KOLN Koldanda 52.54 288 *e*P **P 21 06 35.8 +1.5**
MK31 Makanchi Array 52.69 312 *e*P **P 21 06 34.5 -0.5**
MK31 *e* 21 07 44.0
MK31 Makanchi Array 52.69 312 *e*P **P 21 06 34.5 -0.5**
MK31 *e*PcP **PcP 21 07 44.0 +0.2**
MK31 *e*ScP **ScP 21 11 30.3 -3.3**
MKAR Makanchi Array 52.69 312 *e*P **P 21 06 35.2 +0.2**
MKAR 21 07 44.3
MKAR S **S 21 13 56.0 -0.4**
MKAR Makanchi Array 52.69 312 *e*P **P 21 06 35.2 +0.2**
MKAR PcP **PcP 21 07 44.2 +0.5**
MKAR ScP **ScP 21 11 31.9 -1.7**
MKAR *e*ScP ScP 21 11 35.5 +1.9
MKAR S **S 21 13 56.0 -0.4**
MKAR Makanchi Array 52.69 312 P **P 21 06 35.2 +0.2**
comp=Z,3.8nm,0.5s,baz=88,slow=9.7,SNR=50
MKAR PcP **PcP 21 07 44.2 +0.5**
comp=Z,11nm,0.8s,baz=80,slow=5.3,SNR=9.0
MKAR ScP **ScP 21 11 31.9 -1.7**
comp=Z,2.7nm,0.8s,baz=71,slow=5.3,SNR=6.9
MKAR S **S 21 13 56.0 -0.4**
comp=Z,0.6nm,0.9s,baz=101,slow=13,SNR=4.3
MKAR LR LR 21 27 50.6
comp=Z,144nm,19.9s,baz=96,slow=34
PYUN Piuthan 53.01 288 *e*P **P 21 06 39.3 +1.5**
comp=Z,208nm,0.7s
NVS Novosibirsk 53.17 322 *e*P P 21 06 33.2 -5.1
NVS *e* 21 13 58.4
ARMA Armidale 54.57 170 *e*P **P 21 06 48.6 -0.3**
comp=Z,57nm,1.3s
STKA Stephens Creek 55.28 181 *e*P **P 21 06 52.5 -1.3**
comp=Z,11nm,0.7s
STKA Stephens Creek 55.28 181 P **P 21 06 53.0 -0.8**
comp=Z,41nm,0.4s,baz=345,slow=7.1,SNR=112
STKA LR LR 21 32 06.4
comp=Z,252nm,18.8s,baz=127,slow=38
KURK Kurchatov 55.41 316 P **P 21 06 54.7 +0.1**
KURK S **S 21 14 29.1 -3.6**
KURK Kurchatov 55.41 316 P **P 21 06 54.7 +0.1**
KURK S **S 21 14 29.1 -3.6**
KURBB Kurchatov Arra 55.46 316 P **P 21 06 54.7 -0.3**
comp=Z,9.6nm,0.7s,baz=92,slow=7.9,SNR=68
KURBB S **S 21 14 29.1 -4.3**
comp=Z,1.2nm,0.9s,baz=92,slow=12,SNR=8.6
FORT Forrest 55.85 195 *e*P **P 21 06 57.1 -0.8**
comp=Z,207nm,0.7s
SVW2 Sparrevohn 56.14 31 *e*P **P 21 07 00.3 +0.6**
comp=Z,27nm,1.0s
KDAK Kodiak Island 57.07 35 P **P 21 07 05.8 -0.4**
KDAK *e*ScP **ScP 21 11 53.8 +1.4**
KDAK Kodiak Island 57.07 35 P **P 21 07 05.8 -0.4**
comp=Z,13nm,0.6s,baz=219,slow=3.2,SNR=11
KDAK LR LR 21 29 28.5
comp=Z,286nm,18.7s,baz=251,slow=34
RSO Redoubt South 57.38 32 *e*P **P 21 07 09.4 +0.7**
KSH Kashi 57.38 303 P P 21 07 13.4 +4.4
KSH pP pP 21 07 33.2 +3.2
KSH PP PP 21 09 24.4 +7.4
KSH S **S 21 15 05.3 +5.7**
KSH sS sS 21 15 38.6 +3.2
KSH ScS **ScS 21 16 52.4 +1.6**
KSH pmax pmax
comp=Z,8.0nm,0.7s
KSH pmax pmax
comp=Z,110nm,6.0s
KSH LR LR
comp=N,160nm,6.5s
KSH LR LR
comp=E,130nm,5.4s
KSH LR LR
comp=Z,220nm,11.2s
TKM2 Tokmak 2 57.42 307 *e*P **P 21 07 10.5 +1.2**
TKM2 *e* 21 08 02.2
TKM2 pmax pmax
comp=Z,13nm,0.8s
TKM2 Tokmak 2 57.42 307 *e*P **P 21 07 10.5 +1.2**
comp=Z,14nm,0.8s
TKM2 *e*PcP **PcP 21 08 02.2 -0.1**
IM04 Indian Mountai 58.04 26 *e*P **P 21 07 14.1 +1.0**
IM04 *e* 21 07 37.9
PPLA Purkeypile 58.07 29 *e*P **P 21 07 14.5 +1.1**
comp=Z,79nm,1.6s
IMA2 Indian Mountai 58.10 26 *e*P **P 21 07 14.4 +0.8**
CAST Castle Rocks 58.21 29 *e*P **P 21 07 13.6 -0.7**
comp=Z,44nm,0.9s
AAK Ala-Archa 58.25 307 P **P 21 07 15.9 +0.8**
AAK 21 08 05.8
AAK Ala-Archa 58.25 307 P **P 21 07 15.9 +0.8**
AAK *e*PcP **PcP 21 08 05.0 -0.5**
AAK PcP **PcP 21 08 05.8 +0.3**
AAK *e*ScP **ScP 21 11 56.9 -1.4**
AAK Ala-Archa 58.25 307 P **P 21 07 15.9 +0.8**
comp=Z,1.7nm,0.4s,baz=121,slow=7.2,SNR=8.5
AAK PcP **PcP 21 08 05.8 +0.3**
comp=Z,20nm,0.7s,baz=104,slow=2.1,SNR=18
AFI Afiamalu 58.49 125 LR LR 21 27 47.4
comp=Z,136nm,19.0s,baz=13,slow=31
EKS2 Erkin-Say 58.77 307 *e*P **P 21 07 19.9 +1.2**
EKS2 *e* 21 08 07.9
EKS2 pmax pmax
comp=Z,26nm,0.8s
EKS2 Erkin-Say 58.77 307 *e*P **P 21 07 19.9 +1.2**
comp=Z,26nm,0.8s
EKS2 *e*PcP **PcP 21 08 07.9 +0.3**
EKS2 *e*ScP **ScP 21 11 58.8 -1.8**
BPAW Bear Paw Mtn. 58.81 28 *e*P **P 21 07 19.4 +1.0**
comp=Z,41nm,1.0s
TRF Thorofare Moun 59.01 29 *e*P **P 21 07 19.4 -0.6**
comp=Z,38nm,0.9s
CAN Canberra 59.06 174 *e*P **P 21 07 20.4 0.0**
CAN pmax pmax
comp=Z,62nm,1.0s
CAN Canberra 59.06 174 *e*P **P 21 07 20.4 0.0**
comp=Z,62nm,1.0s
PMR Palmer 59.29 31 *e*P **P 21 07 21.3 -0.3**
PMR pmax pmax
comp=Z,43nm,1.1s
PMR Palmer 59.29 31 *e*P **P 21 07 21.3 -0.3**
comp=Z,43nm,1.1s

HYB Hyderabad 59.52 277 *i* P **P 21 07 25.0 +0.9**
MCK McKinley 59.65 29 *e*P **P 21 07 24.8 +0.6**
MCK pmax pmax
comp=Z,40nm,1.0s
MCK McKinley 59.65 29 *e*P **P 21 07 24.8 +0.6**
comp=Z,40nm,1.0s
COLD Coldfoot 59.71 25 *e*P **P 21 07 25.7 +1.2**
comp=Z,27nm,0.8s
COLD *e* 21 07 46.3
VOSK Vostochnaya 60.22 318 *e*P **P 21 07 27.9 -0.4**
VOSK pmax pmax
comp=Z,7.0nm,0.8s
VOSK Vostochnaya 60.22 318 *e*P **P 21 07 27.9 -0.4**
comp=Z,7.3nm,0.8s
COLA College 60.27 28 *e*P **P 21 07 30.0 +1.6**
COLA pmax pmax
comp=Z,56nm,0.8s
COLA College 60.27 28 *e*P **P 21 07 29.9 +1.6**
comp=Z,56nm,0.8s
BVAR Borovoye Array 60.57 319 P **P 21 07 30.7 0.0**
BVAR 21 08 13.8
BVAR S **S 21 15 37.6 -2.5**
BVAR Borovoye Array 60.57 319 P **P 21 07 30.7 0.0**
BVAR PcP **PcP 21 08 13.8 -0.6**
BVAR S **S 21 15 37.6 -2.5**
BVAR Borovoye Array 60.57 319 P **P 21 07 30.7 0.0**
comp=Z,8.0nm,0.5s,baz=83,slow=7.4,SNR=38
BVAR PcP **PcP 21 08 13.8 -0.6**
comp=Z,10nm,0.6s,baz=102,slow=7.7,SNR=4.1
BVAR S **S 21 15 37.6 -2.5**
comp=Z,6.9nm,0.9s,baz=76,slow=12,SNR=14
BVAR LR LR 21 36 38.4
comp=Z,186nm,18.9s,baz=87,slow=39
BRVK Borovoye 60.64 319 *e*P **P 21 07 30.8 -0.3**
BRVK pmax pmax
comp=Z,17nm,0.8s
BRVK Borovoye 60.64 319 *e*P **P 21 07 30.8 -0.3**
comp=Z,17nm,0.8s
ILAR Eielson Array 60.67 28 P **P 21 07 30.8 -0.3**
ILAR Eielson Array 60.67 28 P **P 21 07 30.8 -0.3**
comp=Z,20nm,0.8s,baz=258,slow=5.3,SNR=107
ILAR LR LR 21 32 18.5
comp=Z,183nm,19.1s,baz=295,slow=34
PALK Pallekele 61.06 265 P **P 21 07 36.2 +1.6**
comp=Z,222nm,0.8s,SNR=5.2
PALK Pallekele 61.06 265 *e*P **P 21 07 35.2 +0.6**
comp=Z,34nm,0.9s
PALK Pallekele 61.06 265 P **P 21 07 35.7 +1.1**
comp=Z,44nm,0.9s
KKAR Karatay Array 61.12 307 *e*P **P 21 07 34.4 -0.2**
KKAR Karatay Array 61.12 307 *e*P **P 21 07 34.4 -0.2**
PAX Paxson 61.12 30 *e*P **P 21 07 35.0 +0.6**
PAX pmax pmax
comp=Z,18nm,0.7s
PAX Paxson 61.12 30 *e*P **P 21 07 35.0 +0.6**
comp=Z,18nm,0.7s
NWAO Narrogin (SRO) 61.16 204 *e*P **P 21 07 34.7 -0.1**
comp=Z,96nm,1.1s
POO Poona 63.46 280 *e*P **P 21 07 51.0 +0.4**
KAD Karad 63.53 278 *e*P **P 21 07 53.0 +1.9**
KBL Kabul 63.60 298⇓*e*P **P 21 07 52.3 +0.8**
KBL pmax pmax
comp=Z,40nm,0.8s
KBL Kabul 63.60 298⇓*e*P **P 21 07 52.2 +0.8**
comp=Z,40nm,0.8s
HYT Haines Junctio 64.89 32 *e*P **P 21 07 59.2 -0.1**
SVE Sverdlovsk 65.93 323⇓*e*P **P 21 08 06.6 +0.6**
SVE pmax pmax
comp=Z,10.0nm,0.7s
INK Inuvik 66.09 24 P **P 21 08 07.0 +0.2**
INK Inuvik 66.09 24 P **P 21 08 07.0 +0.2**
comp=Z,14nm,0.8s,baz=298,slow=7.7,SNR=12
TAU Tasmania Unive 66.45 176 P **P 21 08 09.0 -0.3**
TAU pmax pmax
comp=Z,31nm,1.0s
TAU Tasmania Unive 66.45 176 P **P 21 08 09.0 -0.3**
comp=Z,30nm,1.0s
ARU Arti 67.12 323*d* *i* P **P 21 08 13.5 -0.1**
ARU *PP **pP 21 08 32.7 -2.4**
ARU 21 08 40.6
ARU 21 10 40.5
ARU S **S 21 17 02.4 +1.3**
ARU SS **SS 21 21 17.7 -3.4**
ARU pmax pmax
comp=Z,7.0nm,0.7s
ARU Arti 67.12 323 P **P 21 08 13.2 -0.4**
comp=Z,76nm,0.5s,SNR=6.6
AKTO Aktyubinsk 68.49 317 P **P 21 08 23.3 +1.0**
AKTO S **S 21 17 14.7 -3.0**
AKTO Aktyubinsk 68.49 317 P **P 21 08 23.2 +1.0**
AKTO S **S 21 17 14.7 -3.0**
AKTO Aktyubinsk 68.49 317 P **P 21 08 23.2 +1.0**
comp=Z,4.1nm,0.7s,baz=86,slow=4.6,SNR=11
AKTO S **S 21 17 14.7 -3.0**
comp=Z,1.6nm,0.8s,baz=177,slow=13,SNR=4.1
AKTO LR LR 21 41 16.1
comp=Z,128nm,18.1s,baz=259,slow=38
DLBC Dease Lake 68.96 34 P **P 21 08 26.2 +1.0**
DLBC Dease Lake 68.96 34 P **P 21 08 26.2 +1.0**
comp=Z,12nm,0.4s,baz=139,slow=8.2,SNR=8.5
URZ Urewera 69.80 151 P **P 21 08 30.3 -0.1**
URZ Urewera 69.80 151 P **P 21 08 30.3 -0.1**
comp=Z,10nm,0.6s,baz=24,slow=12,SNR=7.5
URZ LR LR 21 36 47.9
comp=Z,87nm,18.8s,baz=330,slow=34
IMYA Miami 70.28 302 *e*P **P 21 08 33.7 -0.1**
BKZ Black Stump Fm 70.29 152 *e*P **P 21 08 32.5 -0.9**
comp=Z,39nm,1.1s
IMOG Moghan 70.94 302 *e*P **P 21 08 38.1 +0.1**
IPAY Payeh 71.11 302 *e*P **P 21 08 38.1 -0.8**
IAKL Akhelmad 71.25 302 *e*P **P 21 08 40.9 +1.0**
IKRD Kardeh 71.39 303 *e*P P 21 08 36.7 -4.0
IDAH Dahanechah 71.45 298 *e*P **P 21 08 42.2 +1.1**
RAR Rarotonga 71.99 124 LR LR 21 33 56.1
comp=Z,138nm,19.9s,baz=254,slow=30
RPZ Rata Peaks 72.13 158 P **P 21 08 43.2 -1.2**
RPZ Rata Peaks 72.13 158 P **P 21 08 43.2 -1.2**
comp=Z,17nm,0.7s,baz=139,slow=3.1,SNR=6.2
ITEG Tejag 72.31 299 *e*P **P 21 08 48.1 +1.9**
ALE Alert 73.33 3 P **P 21 08 52.0 +0.9**
comp=Z,161nm,0.9s,SNR=5.1
SPITS Spitsbergen Ar 73.70 350 P **P 21 08 53.9 +0.5**
SPITS Spitsbergen Ar 73.70 350 P **P 21 08 53.9 +0.5**
comp=Z,6.7nm,0.7s,baz=80,slow=5.5,SNR=7.4
SPITS LR LR 21 42 12.7
comp=Z,104nm,20.0s,baz=110,slow=36
TMCR Tamitsa 74.87 334 *e*P P 21 09 05.7 +5.5
TMCR *e* 21 09 14.8
TMCR pmax pmax
comp=Z,18nm,0.7s
YKA Yellowknife Ar 75.10 28 P **P 21 09 01.8 +0.2**
YKA pP **pP 21 09 25.8 +2.3**
YKA Yellowknife Ar 75.10 28 P **P 21 09 01.8 +0.2**
comp=Z,8.1nm,0.6s,baz=293,slow=5.8,SNR=16
YKA pP **pP 21 09 25.8 +2.3**
comp=Z,7.9nm,0.7s,baz=293,slow=5.9,SNR=4.4
APA Apatity 75.18 338⇑*i*P P 21 08 58.6 -3.4
APA *i* 21 09 11.4
APA MLR MLR
comp=Z,700nm,20.0s
PGC Sidney 75.32 43 *e*P **P 21 09 03.8 +0.6**
comp=Z,0.4nm,0.6s
PGC *e* 21 09 29.8
IANJ Anjilo 75.34 302 *e*P **P 21 09 04.2 +0.3**
NLWA Neilton Lookou 75.47 44 *e*P **P 21 09 05.8 +1.6**
comp=Z,16nm,0.8s
KLMR Klimovskoe 75.52 330 *e*P **P 21 09 03.8 -0.3**
KLMR pmax pmax
comp=Z,27nm,2.0s
ISHM Shahmirzad 75.71 303 *e*P **P 21 09 07.8 +1.8**
ICHK Chekchek 76.00 299 *e*P **P 21 09 08.6 +0.9**
IFIR Firoozkooh 76.18 303 *e*P **P 21 09 11.1 +2.4**
ISAD Sadrabad 76.68 299 *e*P **P 21 09 13.2 +1.6**
ARCES ARCESS Array B 76.74 341 P **P 21 09 11.4 +0.5**
ARCES ARCESS Array B 76.74 341 P **P 21 09 11.4 +0.5**
comp=Z,7.2nm,0.6s,baz=72,slow=8.5,SNR=62
ARCES LR LR 21 47 42.3
comp=Z,167nm,21.9s,baz=243,slow=39
ARE0 ARCESS Array S 76.74 341 *e*P **P 21 09 11.1 +0.3**
IDMV Damavand 76.75 303 *e*P **P 21 09 12.7 +0.7**
UOSS Wadi Hilu 76.97 292 P **P 21 09 14.8 +1.8**
comp=Z,124nm,1.0s,SNR=5.0
LON Longmire 77.01 45 *e*P **P 21 09 12.3 -0.6**
LON *e* 21 09 37.2
LON pmax pmax

comp=Z,6.0nm,0.8s
LON Longmire 77.01 45 *e*P **P 21 09 12.3 -0.6**
comp=Z,6.4nm,0.8s
LON *e* 21 09 37.2
IZEF Zefreh 77.43 300 *e*P **P 21 09 16.1 +0.3**
H04A Detroit Lake 77.50 47 *e*P **P 21 09 16.4 +0.7**
comp=Z,34nm,0.8s
LTY Liberty 77.56 44 *e*P **P 21 09 15.3 -0.7**
comp=Z,15nm,0.9s
HUMO Hull Mountain 77.72 49 *e*P **P 21 09 17.0 +0.1**
comp=Z,11nm,0.9s
HUMO *e* 21 09 37.4
KHMM Horse Mountain 77.79 51 *e*P **P 21 09 18.0 +0.6**
IGAR Gharneh 77.83 300 *e*P **P 21 09 18.8 +0.9**
IGZV Ghazvin 77.86 304 *e*P **P 21 09 19.0 +1.0**
IKLH Kolahrood 77.88 301 *e*P **P 21 09 18.0 -0.2**
IPAR Pars 77.91 297 *e*P **P 21 09 17.7 -0.8**
B08A Colville Reser 77.99 42 *e*P **P 21 09 18.1 -0.2**
comp=Z,26nm,1.0s
ISRV Sarvestan 78.01 297 *e*P **P 21 09 19.4 +0.3**
JOF Joensuu 78.12 334 *e*P **P 21 09 18.3 -0.4**
JOF pmax pmax
comp=Z,15nm,0.5s
JOF Joensuu 78.12 334 *e*p **P 21 09 18.3 -0.4**
comp=Z,15nm,0.5s
PPT Papeete 78.19 115 P **P 21 09 21.2 +1.4**
PPT Papeete 78.19 115 P **P 21 09 21.2 +1.4**
comp=Z,15nm,0.3s,baz=47,slow=18,SNR=3.8
PPT LR LR 21 35 39.6
comp=Z,103nm,20.8s,baz=4.4,slow=29
PPT2 Papeete2 78.20 115 *e*LR LR 21 33 02.0
comp=Z,284nm,26.5s
VRHR Novokhopersk 78.22 321 *e*P **P 21 09 19.8 +0.4**
VRHR pmax pmax
comp=Z,10.0nm,0.9s
VRHR pmax pmax
comp=N,6.0nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,1.2s
PMOR Pomariorio Ree 78.36 112 *e*T T 22 34 17.0
comp=E,5.8nm,0.2s
HAWA Hanford 78.61 44 *e*P **P 21 09 22.9 +1.2**
comp=E,14nm,0.8s
IPIR Pirpir 78.64 301 *e*P **P 21 09 23.3 +0.8**
PINOR Pine Mountain 78.70 47 *e*P **P 21 09 23.6 +1.4**
comp=E,27nm,0.8s
IKAZ Kazeroun 78.91 298 *e*P **P 21 09 25.2 +1.1**
K05A Summer Lake 79.09 48 *e*P **P 21 09 25.8 +1.1**
comp=E,47nm,1.0s
ISRB Sarab 79.25 307 *e*P **P 21 09 25.9 +0.3**
OBN Obninsk 79.33 326 *e*P **P 21 09 26.6 +1.2**
OBN *i* 21 09 33.0
OBN *e*S **S 21 19 20.2 +1.1**
OBN pmax pmax
comp=Z,42nm,2.2s
OBN MLR MLR
comp=Z,100nm,13.0s
NEW Newport 79.39 42 *e*P **P 21 09 25.8 -0.1**
comp=Z,18nm,0.9s
NEW pP **pP 21 09 48.9 +0.8**
NEW *e* 21 09 48.9
NEW Newport 79.39 42 P **P 21 09 25.9 0.0**
comp=Z,3.4nm,0.5s,baz=289,slow=5.6,SNR=7.8
NEW pP **pP 21 09 48.9 +0.8**
comp=Z,15nm,0.8s,baz=279,slow=7.7,SNR=4.3
NEW Newport 79.39 42 ⇓P **P 21 09 26.7 +0.8**
baz=79
EDM Edmonton 79.51 36 *e*P **P 21 09 27.4 +0.9**
EDM *e**PP **pP 21 09 49.5 +0.8**
EDM Edmonton 79.51 36 *e*P **P 21 09 27.4 +0.9**
EDM *e*pP **pP 21 09 49.5 +0.8**
I07A Izee 79.51 46 *e*pP pP 21 09 45.7 -3.3
IHRS Heris 79.52 307 *e*P **P 21 09 27.3 +0.1**
VSR Storozhevoye 79.59 321 *e*P **P 21 09 27.6 +0.7**
VSR pmax pmax
comp=Z,10.0nm,0.5s
VSR pmax pmax
comp=N,10.0nm,1.2s
VSR pmax pmax
comp=E,20nm,1.4s
VORD Divnogorie 79.62 321 *e*P **P 21 09 28.1 +1.0**
VORD pmax pmax
comp=Z,10.0nm,1.1s
VORD pmax pmax
comp=N,8.0nm,0.6s
VORD pmax pmax
comp=E,10.0nm,1.0s
MOD Modoc 79.81 49 *e*P **P 21 09 29.0 +0.5**
comp=E,71nm,1.0s
ZEI Tsey 80.03 312 *e*P **P 21 09 27.7 -2.1**
ZEI pmax pmax
comp=Z,13nm,0.6s
ITBZ Tabriz 80.21 307 *e*P **P 21 09 30.1 -0.7**
F10A Beach Ranch, E 80.24 44 *e*P **P 21 09 32.4 +1.7**
comp=Z,9.3nm,0.8s
KBZ Khabaz 80.34 313 P **P 21 09 31.9 +0.8**
KBZ Khabaz 80.34 313 P **P 21 09 31.9 +0.8**
KBZ Khabaz 80.34 313 P **P 21 09 31.9 +0.8**
comp=Z,24nm,0.7s,baz=102,slow=3.3,SNR=63
KBZ LR LR 21 51 33.1
comp=Z,120nm,18.5s,baz=248,slow=40
KIV Kislovodsk 80.39 314 *e*P **P 21 09 32.5 +1.0**
KIV *e*S **S 21 19 34.3 +3.3**
KIV pmax pmax
comp=Z,18nm,1.0s
KIV Kislovodsk 80.39 314 P **P 21 09 33.2 +1.7**
comp=Z,108nm,0.7s,SNR=6.7
J08A Circle Bar Ran 80.48 47 *e*P **P 21 09 33.0 +0.9**
comp=Z,36nm,1.0s
GNI Garni 80.48 310 *e*P **P 21 09 33.8 +1.6**
comp=Z,12nm,0.8s
KAF Kangasniemi 80.53 335 *e*P **P 21 09 31.0 -0.8**
KAF pmax pmax
comp=Z,19nm,1.0s
KAF Kangasniemi 80.53 335 *e*p **P 21 09 31.0 -0.8**
comp=Z,19nm,1.0s
ISHB Shabestar 80.57 308 *e*P **P 21 09 33.2 +0.4**
BMO Blue Mountains 80.65 45 *e*P **P 21 09 33.0 +0.1**
BMO *e* 21 09 54.7
BMO pmax pmax
comp=Z,19nm,0.8s
BMO Blue Mountains 80.65 45 *e*P **P 21 09 33.0 +0.1**
comp=Z,19nm,0.8s
BMO *e* 21 09 54.7
IKOM Komasi 80.72 303 *e*P **P 21 09 33.8 +0.2**
ILIN Lien 80.86 304 *e*P **P 21 09 34.2 -0.2**
BSMT Bassoo Peak 80.98 42 *e*P **P 21 09 35.0 +0.2**
FIA1 FINESS Array S 80.99 334 *e*P **P 21 09 33.2 -1.0**
WALA Waterton Lakes 80.99 40 *e*P **P 21 09 35.0 +0.3**
comp=Z,0.8nm,0.8s
WALA *e* 21 09 57.5
FINES FINESS Array B 80.99 334 P **P 21 09 33.9 -0.3**
FINES FINESS Array B 80.99 334 P **P 21 09 33.9 -0.3**
comp=Z,7.2nm,0.5s,baz=69,slow=5.0,SNR=102
FINES LR LR 21 45 19.8
comp=Z,125nm,21.1s,baz=35,slow=35
IVIS Veis 81.09 304 *e*P **P 21 09 35.9 +0.4**
TBI Tubuai 81.16 120 *e*LR LR 21 34 49.2
comp=Z,290nm,32.5s
CMB Columbia Colle 81.25 52 *e*P **P 21 09 35.4 -0.8**
CMB *e**PP **pP 21 09 59.1 +0.7**
CMB Columbia Colle 81.25 52 *e*P **P 21 09 35.4 -0.8**
CMB *e*pP **pP 21 09 59.1 +0.7**
PAHR Pah Rah Range 81.31 51 *e*P **P 21 09 35.5 -1.1**
PAHR *e* 21 09 58.3
JTMT Jette 81.33 42 *e*P **P 21 09 37.1 +0.6**
JTMT *e* 21 09 58.4
IDHR Dehrash 81.38 304 *e*P **P 21 09 36.5 -0.6**
IGHG Ghaleghazi 81.39 304 *e*P **P 21 09 37.1 -0.1**
SWMT Swartz Lake 81.61 42 *e*P **P 21 09 37.6 -0.4**
SWMT *e* 21 10 00.2
WAKR Walker 81.75 52 *e*P **P 21 09 39.3 +0.3**
WAKR *e* 21 10 01.0
MFID Camas Ranch 82.21 46 ⇑P **P 21 09 41.7 +0.4**
baz=82
UMR Umm Al-Rimmam 82.33 299 *e*P **P 21 09 42.2 +0.3**
UMR AMb AMB 21 09 44.6
comp=Z,51nm,0.8s
QRN Al-Qurain 82.48 298 *e*P **P 21 09 43.0 +0.3**
QRN AMb AMB 21 09 44.9
comp=Z,95nm,0.9s
KBD Kabd 82.49 298 *e*P **P 21 09 42.8 +0.1**
KBD AMb AMB 21 09 45.1
comp=Z,36nm,0.8s
RDF Al-Radifah 82.70 298 *e*P **P 21 09 44.2 +0.3**
RDF AMb AMB 21 09 46.5
comp=Z,66nm,0.6s
NAY Al-Naaiem 82.83 299 *e*P **P 21 09 44.9 +0.3**
NAY AMb AMB 21 09 47.8
comp=Z,5.1nm,0.9s
PKM Peak Mountain 82.92 55 ⇑P **P 21 09 45.7 +0.6**
baz=83
RST Umm Al-Ruwaisa 82.92 299 *e*P **P 21 09 45.4 +0.4**
RST AMb AMB 21 09 48.5
comp=Z,883nm,0.8s
HLID Hailey 83.08 45 ⇑P **P 21 09 46.8 +1.0**
baz=83
ANN Anapa 83.44 316 *e*P **P 21 09 47.3 0.0**
ANN *e**PP **pP 21 10 07.3 -2.3**
ANN *e*S **S 21 20 00.0 -2.0**
ANN pmax pmax
comp=Z,46nm,0.9s
ELK Elko 83.76 48 P **P 21 09 49.1 -0.3**
comp=Z,21nm,0.4s
GRAC Grapevine Rang 83.86 52 ⇑P **P 21 09 49.9 +0.1**
baz=84
EGMT Eagleton 83.92 40 P **P 21 09 48.4 -1.5**
comp=Z,20nm,0.9s
EGMT *e* 21 10 17.0
EGMT Eagleton 83.92 40 ⇑P **P 21 09 49.9 0.0**
baz=84
SUMG Summit 83.96 0 *i* P **P 21 09 50.8 +0.8**
SUMG pmax pmax
comp=Z,6.0nm,0.9s
SUMG Summit 83.96 0 *i* P **P 21 09 50.8 +0.8**
comp=Z,5.9nm,0.9s
A19A Klindworth Far 84.07 39 ⇓P **P 21 09 50.9 +0.3**
baz=84,SNR=8.5
MPMC Manual Prospec 84.17 53 ⇓P **P 21 09 51.7 +0.1**
baz=84
B19A Brinkman Farms 84.18 39 ⇓P **P 21 09 51.3 +0.2**
baz=84
LRMC Laurel Mountai 84.27 54 ⇓P **P 21 09 52.3 +0.4**
baz=84
EDW2 Edwards Air Fo 84.29 55 ⇑P **P 21 09 52.2 +0.1**
baz=84
NACGM Naroch 84.32 328 *e* **P 21 09 49.0 -2.6**
FURC Furnace Creek, 84.45 53 ⇑P **P 21 09 53.1 +0.4**
baz=84
C19A Slack Wire Ran 84.47 40 ⇑P **P 21 09 53.4 +0.7**
baz=84
A20A Cobblestone Ra 84.56 39 ⇑P **P 21 09 53.5 +0.4**
baz=84
R11A Troy Canyon, C 84.56 51 *e*P **P 21 09 53.9 +0.4**
comp=Z,14nm,0.9s
R11A Troy Canyon, C 84.56 51 ⇑P **P 21 09 53.7 +0.3**
baz=84
FFC Flin Flon 84.59 32 P **P 21 09 53.6 +0.6**
comp=Z,122nm,1.0s,SNR=7.1
FFC Flin Flon 84.59 32 *e*P **P 21 09 53.0 0.0**
FFC pmax pmax
comp=Z,40nm,0.9s
FFC Flin Flon 84.59 32 *e*P **P 21 09 53.0 0.0**
comp=Z,40nm,0.9s
BFSC Mount Baldy Ra 84.81 55 ⇑P **P 21 09 55.3 +0.6**
baz=85
I16A Newdale 84.83 44 ⇓P **P 21 09 55.4 +0.7**
baz=85
D19A Cripps Ranch, 84.85 40 ⇑P **P 21 09 55.2 +0.6**
baz=85,SNR=15
F18A Big Timber 84.97 42 ⇓P **P 21 09 55.7 +0.4**
baz=85,SNR=6.7
GSC Goldstone 84.99 54 *e*P **P 21 09 56.0 +0.4**
GSC pmax pmax
comp=Z,23nm,1.3s
GSC Goldstone 84.99 54 *e*P **P 21 09 56.0 +0.4**
comp=Z,23nm,1.3s
GSC Goldstone 84.99 54 ⇓P **P 21 09 55.6 0.0**
baz=85,SNR=6.0
C20A Veseth Ranch, 85.10 40 ⇑P **P 21 09 56.4 +0.6**
baz=85,SNR=10
SHOC Shoshone 85.12 53 ⇓P **P 21 09 56.7 +0.6**
baz=85
BGU Big Grassy Mou 85.18 47 *e*P **P 21 09 56.0 -0.5**
comp=Z,9.1nm,1.0s
RRI2 Red Ridge 85.18 45 *e*P **P 21 09 57.0 +0.4**
comp=Z,24nm,0.9s
MZRK Al-Mazaregh 85.20 307 *i* P **P 21 09 57.6 +1.1**
E19A Rath Farm, Rou 85.26 41 ⇓P **P 21 09 57.1 +0.4**
baz=85,SNR=6.8
D20A Manuel Ranch, 85.33 40 ⇓P **P 21 09 57.6 +0.6**
baz=85,SNR=21
SFNV Sufian 85.34 308 *i* P **P 21 09 58.0 +0.7**
G18A Lazy EL Ranch, 85.34 42 ⇓P **P 21 09 57.9 +0.7**
baz=85
TPAW Teton Pass 85.35 44 *e*P **P 21 09 57.7 +0.2**
comp=Z,13nm,0.9s
AKASG Malin Array Be 85.36 324 P **P 21 09 56.5 -0.4**
AKASG Malin Array Be 85.36 324 P **P 21 09 56.5 -0.4**
AKASG Malin Array Be 85.36 324 P **P 21 09 56.5 -0.4**
comp=Z,3.0nm,0.5s,baz=44,slow=5.0,SNR=14
AKASG LR LR 21 52 43.0
comp=Z,152nm,19.6s,baz=70,slow=39
MOOW Moose Ponds 85.36 44 *e*P **P 21 09 57.4 0.0**
comp=Z,49nm,1.8s
KIEV Kiev 85.37 324 *e*P **P 21 09 55.5 -1.5**
KIEV pmax pmax
comp=Z,14nm,1.1s
KIEV Kiev 85.37 324 *e*P **P 21 09 55.5 -1.5**
comp=Z,14nm,1.1s
F19A Roth Farm, Mol 85.46 42 ⇓P **P 21 09 58.4 +0.7**
baz=85
LOHW Long Hollow 85.51 44 *e*P **P 21 09 58.4 +0.2**
comp=Z,11nm,1.0s
HEC Hector,Ludlow 85.55 54 ⇓P **P 21 09 58.8 +0.5**
baz=85
C21A Desert Coulee 85.57 39 ⇓P **P 21 09 58.6 +0.5**
baz=85,SNR=6.5
TUQ Turquoise Moun 85.58 53 ⇓P **P 21 09 58.9 +0.3**
baz=85
H18A Shoshone NF, C 85.59 43 ⇑P **P 21 09 59.4 +0.8**
baz=85,SNR=6.3
FCC Fort Churchill 85.63 26 *e*P **P 21 09 56.9 -1.2**
FCC Fort Churchill 85.63 26 *e*P **P 21 09 56.9 -1.2**
comp=Z,0.4nm,0.9s
E20A Meyer Farm, Mu 85.63 41 ⇑P **P 21 09 58.8 +0.3**
baz=85,SNR=6.1
A22A Carney Farms, 85.64 38 ⇓P **P 21 09 58.9 +0.4**
baz=85
DUG Dugway 85.66 48 *e*P **P 21 09 58.8 -0.1**
DUG *e* 21 10 25.3
DUG pmax pmax
comp=Z,23nm,0.7s
DUG Dugway 85.66 48 *e*P **P 21 09 58.8 -0.1**
comp=Z,23nm,0.7s
DUG *e* 21 10 25.3
DUG Dugway 85.66 48 ⇓P **P 21 09 59.3 +0.4**
baz=86,SNR=13
SHPR Sheep Range 85.67 52 *e*P **P 21 09 59.0 0.0**
SHPR *e* 21 10 21.2
B22A Reddig Ranch S 85.96 38 ⇓P **P 21 10 00.4 +0.4**
baz=86
I18A Diamond G Ranc 85.97 44 ⇑P **P 21 10 00.9 +0.4**
baz=86
PFO Pinyon Flat Ob 85.98 55 *e*P **P 21 10 00.1 -0.5**
comp=Z,5.8nm,0.8s
PFO Pinyon Flat Ob 85.98 55 ⇓P **P 21 10 00.9 +0.3**
baz=86
D21A La Casta Ranch 86.02 40 ⇓P **P 21 10 01.0 +0.6**
baz=86,SNR=12
GMRC Granite Mounta 86.06 54 ⇑P **P 21 10 01.3 +0.3**
baz=86,SNR=6.4
BELC Belle Mtn. Jos 86.16 55 ⇑P **P 21 10 01.1 -0.3**
baz=86
G20A Bridger 86.22 42 ⇑P **P 21 10 01.9 +0.4**
baz=86,SNR=6.1
A23A Redstone 86.24 37 ⇓P **P 21 10 01.8 +0.4**
baz=86
NLU North Lily Min 86.27 48 *e*P **P 21 10 02.0 0.0**
comp=Z,15nm,0.8s
C22A Vida 86.31 39 ⇑P **P 21 10 02.2 +0.4**
baz=86
MONP Monument Peak 86.32 56 ⇓P **P 21 10 02.3 -0.1**
baz=86,SNR=6.2
I19A Meeteetse 86.33 43 ⇑P **P 21 10 02.5 +0.4**
baz=86
KSRV Kasrt alli 86.39 308 *i* P **P 21 10 03.0 +0.6**
JLU Jordanelle 86.39 47 *e*P **P 21 10 02.4 -0.2**
comp=Z,18nm,1.0s
B23A Brockton 86.44 38 ⇓P **P 21 10 02.8 +0.4**
baz=86
D22A Cohagen 86.45 39 ⇓P **P 21 10 03.0 +0.5**
baz=86
CCUT Cedar City 86.49 50 *e*P **P 21 10 03.8 +0.6**
comp=Z,8.3nm,0.9s
M17A Scullys Gap (B 86.50 46 ⇓P **P 21 10 03.3 +0.2**
baz=86,SNR=5.4
RAYN Ar Rayn 86.54 294 P **P 21 10 04.9 +1.5**
comp=Z,382nm,0.8s,SNR=40
RAYN Ar Rayn 86.54 294 *e*P **P 21 10 03.9 +0.5**
comp=Z,44nm,0.8s
SUW Suwalki 86.55 329 *e*P **P 21 10 02.0 -0.7**
SUW Suwalki 86.55 329 *e*P **P 21 10 02.0 -0.7**
SUW Suwalki 86.55 329 *e*P **P 21 10 02.2 -0.5**
PDAR Pinedale Array 86.59 44 P **P 21 10 03.9 +0.3**
PDAR pP **pP 21 10 28.7 +2.7**
PDAR Pinedale Array 86.59 44 P **P 21 10 03.9 +0.3**
comp=Z,2.3nm,0.9s,baz=266,slow=3.1,SNR=12
PDAR pP **pP 21 10 28.7 +2.7**
comp=Z,5.0nm,0.9s,baz=261,slow=3.9,SNR=11
PDAR LR LR 21 41 35.4
comp=Z,93nm,21.1s,baz=301,slow=31
DAU Daniels Canyon 86.61 47 *e*P **P 21 10 03.2 -0.6**
DAU Daniels Canyon 86.61 47 *e*P **P 21 10 03.2 -0.6**
J19A Crowheart 86.67 44 ⇓P **P 21 10 04.1 +0.3**
baz=86
C23A Lambert 86.68 39 ⇓P **P 21 10 03.4 -0.3**
baz=86
L18A Fontenelle, Gr 86.69 45 ⇓P **P 21 10 04.2 +0.2**
baz=86
BC3 Big Chuckawall 86.71 55 ⇓P **P 21 10 04.2 +0.1**
baz=87,SNR=6.7
IRM Iron Mountain 86.72 54 ⇓P **P 21 10 04.2 +0.2**
baz=87
H20A Greybull 86.72 42 ⇓P **P 21 10 04.6 +0.6**
baz=86
A24A Westby 86.75 37 ⇓P **P 21 10 04.3 +0.4**
baz=86
NB2 NORSAR Subarra 86.75 338 P **P 21 10 02.3 -1.4**
comp=Z,14nm,1.0s,baz=44,slow=4.8
NB2 NORSAR Subarra 86.75 338 P **P 21 10 02.3 -1.4**
baz=44,slow=4.8
NOA NORSAR Array B 86.75 338 P **P 21 10 02.6 -1.0**
NOA NORSAR Array B 86.75 338 P **P 21 10 02.6 -1.0**
comp=Z,11nm,0.9s,baz=48,slow=4.7,SNR=22
NOA LR LR 21 54 27.2
comp=Z,74nm,18.8s,baz=45,slow=39
SWSC Sam W. Stewart 86.77 55 ⇑P **P 21 10 04.1 -0.2**
baz=87
G21A Lodge Grass 86.83 42 ⇓P **P 21 10 04.7 +0.2**
baz=87
MVU Marysvale 86.85 49 *e*P **P 21 10 05.4 +0.5**
comp=Z,11nm,0.8s
MVU *e* 21 10 30.7
I20A Worland 86.91 43 ⇑P **P 21 10 05.5 +0.6**
baz=87
E22A Miles City 86.96 40 ⇑P **P 21 10 05.8 +0.8**
baz=87
D23A Lindsay 87.00 39 ⇓P **P 21 10 05.9 +0.7**
baz=87
K19A Absolon Red Bu 87.02 44 ⇓P **P 21 10 05.6 0.0**
baz=87,SNR=5.8
L19A Farson 87.05 45 ⇑P **P 21 10 06.2 +0.5**
baz=87
F22A Rosebud 87.12 41 ⇓P **P 21 10 06.5 +0.7**
baz=87
TMUT Trail Mountain 87.17 48 *e*P **P 21 10 07.3 +0.8**
comp=Z,9.8nm,0.9s
W13A Hualapai Mount 87.23 53 ⇑P **P 21 10 06.7 -0.1**
baz=87,SNR=6.2
H21A Big Horn, Sher 87.24 42 ⇓P **P 21 10 07.6 +1.1**
baz=87
E23A Ismay 87.30 40 ⇓P **P 21 10 07.1 +0.5**
baz=87
Y12C Blythe 87.36 54 ⇓P **P 21 10 07.7 +0.6**
baz=87
Q16A Castle Valley 87.38 48 ⇑P **P 21 10 07.8 +0.4**
baz=87
G22A Birney 87.39 41 ⇑P **P 21 10 07.5 +0.4**
baz=87
PDMCI Parker Dam,Lak 87.40 54 ⇑P **P 21 10 07.5 +0.2**
baz=87
K20A Yellowstone Ra 87.42 44 ⇓P **P 21 10 07.5 0.0**
baz=87
GLA Glamis 87.45 55 *e*P **P 21 10 07.7 +0.1**
GLA pmax pmax
comp=Z,19nm,0.8s
GLA Glamis 87.45 55 *e*P **P 21 10 07.7 +0.1**
comp=Z,19nm,0.8s
GLA Glamis 87.45 55 ⇓P **P 21 10 07.9 +0.3**
baz=87,SNR=5.3
I21A Big Trails, Te 87.50 43 ⇓P **P 21 10 08.7 +0.9**
baz=87
D24A Glendive 87.54 39 ⇑P **P 21 10 08.0 +0.2**
baz=87
F23A Volborg 87.66 40 ⇑P **P 21 10 08.2 -0.2**
baz=88
H22A Clearmont 87.68 42 ⇑P **P 21 10 08.3 -0.3**
baz=88
SRU San Rafael 87.73 48 *e*P **P 21 10 09.1 +0.1**
SRU pmax pmax
comp=Z,19nm,0.8s
SRU San Rafael 87.73 48 *e*P **P 21 10 09.1 +0.1**
comp=Z,19nm,0.8s
L20A Wamsutter 87.75 45 ⇓P **P 21 10 09.6 +0.4**
baz=88
U15A North Rim 87.77 51 ⇓P **P 21 10 09.7 +0.3**
baz=88,SNR=7.4
A26A Wade Farm, Ken 87.84 37 ⇓P **P 21 10 09.4 +0.2**
baz=88
G23A Biddle 87.94 41 ⇑P **P 21 10 09.9 +0.1**
baz=88
I22A 9 Mile Ranch, 87.96 42 ⇑P **P 21 10 10.0 +0.1**
baz=88
D25A Fairfield 88.10 38 ⇑P **P 21 10 11.0 +0.5**
baz=88
M20A Sweetwater, Wa 88.11 45 ⇓P **P 21 10 11.3 +0.4**
baz=88
K21A Alcova 88.13 44 ⇑P **P 21 10 11.1 +0.2**
baz=88
BR131 Keskin Array S 88.32 313 *e*P **P 21 10 11.3 -0.5**
comp=Z,12nm,0.8s
BRTR Keskin Array B 88.32 313 P **P 21 10 11.4 -0.3**
BRTR Keskin Array B 88.32 313 P **P 21 10 11.4 -0.3**
comp=Z,15nm,0.8s,baz=90,slow=3.6,SNR=72
BRTR LR LR 21 52 38.2
comp=Z,48nm,21.3s,baz=234,slow=37
113A Mohawk Valley, 88.37 55 ⇓P **P 21 10 12.0 +0.1**
baz=88,SNR=6.9
N20A Spence Gulch, 88.39 46 ⇑P **P 21 10 12.0 -0.2**
baz=88
L21A Rawlins 88.40 44 ⇑P **P 21 10 12.4 +0.2**
baz=88
P19A Cripple Cowboy 88.52 47 ⇑P **P 21 10 12.7 -0.1**
baz=88,SNR=6.4
M21A Separation Pea 88.58 45 ⇓P **P 21 10 13.2 +0.1**
baz=88
D26A Manning 88.67 38 ⇑P **P 21 10 13.2 +0.1**
baz=88
H24A Dirks Ranch, A 88.69 41 ⇑P **P 21 10 13.2 -0.2**
baz=88
BIDA Albida 88.72 308 *i* P P 21 10 09.7 -3.9
A28A Rude Farm, Bot 88.79 36 ⇓P **P 21 10 14.2 +0.6**
baz=89
ANTO Ankara 88.81 313 *e*P **P 21 10 14.0 0.0**
ANTO pmax pmax
comp=Z,11nm,0.9s
ANTO Ankara 88.81 313 *e*P **P 21 10 14.0 0.0**
comp=Z,11nm,0.9s
WUAZ Wupatki 88.85 52 *e*P **P 21 10 15.0 +0.6**
comp=Z,2.8nm,0.7s
WUAZ *e* 21 10 33.5
WUAZ Wupatki 88.85 52 ⇑P **P 21 10 14.5 +0.1**
baz=89
HAWK Haweek 88.89 307 *i* P **P 21 10 12.7 -1.8**
N21A Black Mountain 88.92 45 ⇓P **P 21 10 14.6 -0.1**
baz=89
B28A Dugan Ranch, T 89.01 36 ⇑P **P 21 10 15.0 +0.4**
baz=89
BEL Belsk 89.02 328 *e*P **P 21 10 14.8 +0.2**
MARH Ras Al Marh 89.07 307 *i* P **P 21 10 14.9 -0.7**
D27A Center 89.14 38 ⇑P **P 21 10 15.7 +0.4**
baz=89
BUR08 Bucovina Ar. S 89.25 323 *e*P **P 21 10 15.6 -0.3**
G27A Dupree 89.30 40 ⇑P P 21 10 19.4 +3.2
baz=90
Q20A Ridgley Place, 89.31 47 ⇓P **P 21 10 16.7 +0.2**
baz=89,SNR=7.4
X16A Lo Mia Camp, P 89.33 53 ⇓P **P 21 10 17.1 +0.4**

	baz=89						
H25A	Fruitdale	89.33	41	⇓P	P	21 10 17.0	+0.7
	baz=89						
A29A	Manning Farm,	89.33	35	⇓P	P	21 10 16.9	+0.7
	baz=89						
L23A	Garrett	89.38	44	⇓P	P	21 10 17.2	+0.4
	baz=89						
KWP	Kalwaria Pacla	89.42	326	*e*P	P	21 10 15.8	-0.7
KWP				pmax	pmax		
	comp=Z,25nm,0.9s						
KWP	Kalwaria Pacla	89.42	326	*e*P	P	21 10 15.8	-0.7
	comp=Z,25nm,0.9s						
KWP	Kalwaria Pacla	89.42	326	*e*P	P	21 10 16.4	-0.1
C28A	Hausauer Farms	89.42	37	⇓P	P	21 10 17.4	+0.8
	baz=89						
214A	Organ Pipe Nat	89.47	55	⇑P	P	21 10 17.9	+0.7
	baz=89						
E27A	Carson	89.50	38	⇑P	P	21 10 17.8	+0.8
	baz=89						
B29A	Wagenman Farm,	89.54	36	⇑P	P	21 10 17.9	+0.7
	baz=89						
G26A	Maurine	89.55	40	⇓P	P	21 10 17.9	+0.6
	baz=89						
I25A	Rochford	89.58	41	⇓P	P	21 10 18.3	+0.7
	baz=89						
ASF	Jabal al Asfar	89.63	305	P	P	21 10 18.5	+0.5
ASF	Jabal al Asfar	89.63	305	P	P	21 10 18.5	+0.5
	comp=Z,7.4nm,0.9s,baz=20,slow=2.9,SNR=17						
R20A	Redvale	89.64	48	⇑P	P	21 10 18.7	+0.6
	baz=90						
MDND	Maddock	89.77	36	⇓P	P	21 10 18.4	+0.2
	baz=90						
H26A	Fairpoint	89.82	40	⇓P	P	21 10 19.0	+0.4
	baz=90						
S20A	Disappointment	89.83	48	⇑P	P	21 10 19.0	-0.1
	baz=90						
O22A	Kremmling	89.86	46	⇓P	P	21 10 19.3	+0.1
	baz=90						
N23A	Red Feather La	89.87	45	⇓P	P	21 10 20.0	+0.8
	baz=90						
L24A	Wheatland	89.90	43	⇑P	P	21 10 19.5	+0.4
	baz=90						
P22A	Eagle	90.01	46	⇓P	P	21 10 20.1	+0.2
	baz=90						
KOLS	Kolonicke sedl	90.06	325	*e*P	P	21 10 19.3	-0.3
KOLS				pmax	pmax		
	comp=Z,33nm,2.5s						
KOLS	Kolonicke sedl	90.06	325	*e*P	P	21 10 19.3	-0.3
SMCO	Snowmass	90.09	47	*e*P	P	21 10 21.1	+0.7
	comp=Z,13nm,1.0s						
B30A	Myrvik Farm, E	90.10	35	⇓P	P	21 10 19.9	+0.2
	baz=90						
R21A	Cimarron	90.11	48	⇓P	P	21 10 20.9	+0.6
	baz=90						
H27A	Howes	90.22	40	⇑P	P	21 10 21.8	+1.4
	baz=90						
K25A	Mack Ranch, Ha	90.26	42	⇑P	P	21 10 21.5	+0.7
	baz=90						
F28A	McLaughlin	90.27	39	⇑P	P	21 10 21.5	+0.9
	baz=90						
Q22A	Crested Butte,	90.29	47	⇓P	P	21 10 21.5	+0.2
	baz=90,SNR=5.2						
STHS	Stebnicka Huta	90.30	326	*e*P	P	21 10 21.6	+0.9
STHS				pmax	pmax		
	comp=Z,4.0nm,0.8s						
STHS	Stebnicka Huta	90.30	326	*e*P	P	21 10 21.6	+0.9
STHS	Stebnicka Huta	90.30	326	*e*P	P	21 10 21.6	+0.9
	comp=Z,3.8nm,0.8s						
S21A	Coal Bank Pass	90.31	48	⇑P	P	21 10 21.6	+0.2
	baz=90						
MMAI	Mount Meron Ar	90.34	306	P	P	21 10 21.6	+0.3
MMAI	Mount Meron Ar	90.34	306	P	P	21 10 21.6	+0.3
	comp=Z,13nm,0.8s,baz=52,slow=5.8,SNR=26						
J26A	Sides Ranch, S	90.36	42	⇓P	P	21 10 22.0	+0.8
	baz=90						
U20A	Newcomb	90.45	50	⇑P	P	21 10 22.4	+0.5
	baz=90						
C30A	Mose, Pekin	90.47	36	⇓P	P	21 10 21.9	+0.4
	baz=90						
E29A	Napoleon	90.50	37	⇑P	P	21 10 22.4	+0.7
	baz=90						
OJC	Ojcow	90.53	327	*e*P	P	21 10 21.5	-0.2
OJC				pmax	pmax		
	comp=Z,144nm,2.9s						
OJC	Ojcow	90.53	327	*e*P	P	21 10 21.5	-0.2
	comp=Z,144nm,2.9s						
OJC	Ojcow	90.53	327	*e*P	P	21 10 21.3	-0.4
N24A	Carr	90.59	44	⇑P	P	21 10 23.1	+0.7
	baz=90						
ISCO	Idaho Springs	90.66	46	*e*P	P	21 10 23.8	+0.9
ISCO				pmax	pmax		
	comp=Z,22nm,1.6s						
ISCO	Idaho Springs	90.66	46	*e*P	P	21 10 23.8	+0.9
	comp=Z,22nm,1.6s						
ISCO	Idaho Springs	90.66	46	⇑P	P	21 10 23.5	+0.6
	baz=90						
D30A	Buchanan	90.67	37	⇑P	P	21 10 22.8	+0.3
	baz=90						
R22A	Saguache, Gunn	90.72	47	⇓P	P	21 10 23.7	+0.5
	baz=90						
NIE	Niedzica	90.78	326	*e*P	P	21 10 22.7	-0.2
NIE	Niedzica	90.78	326	*e*P	P	21 10 22.7	-0.2
NIE	Niedzica	90.78	326	*e*P	P	21 10 22.7	-0.2
V20A	Brimhall	90.78	50	⇑P	P	21 10 23.8	+0.4
	baz=91						
TUC	Tucson	90.81	54	P	P	21 10 23.2	-0.3
TUC				*e*		21 10 45.9	
TUC				pmax	pmax		
	comp=Z,15nm,1.4s						
TUC	Tucson	90.81	54	P	P	21 10 23.2	-0.3
	comp=Z,14nm,1.4s						
TUC				*e*		21 10 45.9	
F29A	Eureka	90.83	38	⇓P	P	21 10 24.0	+0.8
	baz=91						
CSS	Prodhromos	90.89	309	*e*P	P	21 10 21.9	-1.8
	comp=Z,8.9nm,0.9s						
S22A	4UR Ranch, Cre	90.92	48	⇓P	P	21 10 24.7	+0.5
	baz=91						
E30A	Jud	90.95	37	⇑P	P	21 10 24.2	+0.4
	baz=91						
Q23A	Hartsel	90.99	46	⇑P	P	21 10 25.1	+0.6
	baz=91						
U21A	Nageezi	91.03	49	⇓P	P	21 10 25.2	+0.6
	baz=91						
L26A	Underwood Farm	91.07	43	⇓P	P	21 10 25.4	+0.9
	baz=91						
W20A	Ramah	91.09	51	⇑P	P	21 10 25.4	+0.4
	baz=91						
K27A	Flueckinger Fa	91.21	42	⇑P	P	21 10 25.9	+0.8
	baz=91						
T22A	Edith	91.25	48	⇓P	P	21 10 26.4	+0.8
	baz=91						
KECS	Kecovo	91.27	326	*e*P	P	21 10 24.6	-0.6
KECS				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KECS	Kecovo	91.27	326	*e*P	P	21 10 24.6	-0.6
R23A	Moffat	91.37	47	⇓P	P	21 10 27.0	+0.8
	baz=91						
X20A	Quemado	91.39	51	⇓P	P	21 10 27.2	+0.9
	baz=91						
Q24A	Divide	91.41	46	⇓P	P	21 10 27.0	+0.6
	baz=91						
O25A	Wiggins	91.46	45	⇓P	P	21 10 27.2	+0.8
	baz=91						
AGMN	Agassiz Nation	91.49	35	*e*P	P	21 10 25.1	-1.1
	comp=Z,8.2nm,0.9s						
OKC	Ostrava-Krasne	91.59	328	*i*P	P	21 10 26.2	-0.4
OKC				smax	smax		
	comp=N,11nm,0.5s						
OKC	Ostrava-Krasne	91.59	328	*i*P	P	21 10 26.2	-0.4
U22A	Llaves	91.61	49	⇓P	P	21 10 28.0	+0.7
	baz=91						
P25A	Willow Gulch B	91.76	45	⇓P	P	21 10 28.6	+0.8
	baz=92						
Y20A	Horse Springs,	91.79	52	⇑P	P	21 10 29.1	+0.9
	baz=92						
KSP	Ksiaz	91.82	329	*e*P	P	21 10 27.5	-0.2
R24A	Sanders Place,	91.83	47	⇑P	P	21 10 29.1	+0.8
	baz=92						
MORC	Moravsky Berou	91.93	328	*e*P	P	21 10 27.4	-0.9
MORC				pmax	pmax		
	comp=Z,17nm,1.7s						
MORC	Moravsky Berou	91.93	328	*e*P	P	21 10 27.4	-0.9
	comp=Z,16nm,1.7s						
PSZ	Piszkesteto	91.94	325	*e*P	P	21 10 28.1	-0.2
PSZ				pmax	pmax		
	comp=Z,6.0nm,0.9s						
PSZ	Piszkesteto	91.94	325	*e*P	P	21 10 28.1	-0.2
	comp=Z,5.9nm,0.9s						
X21A	Alamocita Cree	91.94	51	⇑P	P	21 10 29.3	+0.4
	baz=92						
Q25A	Bedland, Calha	92.03	46	⇓P	P	21 10 29.6	+0.5
	baz=92						
Z20A	Nine Sixteen R	92.03	52	⇓P	P	21 10 29.9	+0.6
	baz=92						
S24A	Houchin Ranch,	92.07	47	⇑P	P	21 10 30.0	+0.5
	baz=92						
N27A	Anderson Farm,	92.09	43	⇑P	P	21 10 29.5	+0.2
	baz=92						
U23A	El Rito	92.09	49	⇓P	P	21 10 30.1	+0.6
	baz=92						
VYHS	Vyhne	92.11	326	*e*P	P	21 10 29.1	0.0
VYHS				pmax	pmax		
	comp=Z,5.0nm,1.0s						
VYHS	Vyhne	92.11	326	*e*P	P	21 10 29.0	0.0
VYHS	Vyhne	92.11	326	*e*P	P	21 10 29.1	0.0
	comp=Z,5.0nm,1.0s						
DPC	Dobruska-Polom	92.14	329	*i*P	P	21 10 28.7	-0.5
DPC				*e*		21 11 00.8	
DPC	Dobruska-Polom	92.14	329	*i*P	P	21 10 28.7	-0.5
DPC				*ex*	x	21 11 00.8	
DPC	Dobruska-Polom	92.14	329	*e*P	P	21 10 29.0	-0.2
	comp=Z,54nm,1.1s						
BRSD	Miller	92.15	39	*e*P	P	21 10 29.2	-0.1
	comp=Z,21nm,0.7s						
BRSD	Miller	92.15	39	⇓P	P	21 10 29.7	+0.4
	baz=92						
UPC	Upice	92.18	329	*i*P	P	21 10 29.1	-0.2
UPC	Upice	92.18	329	*i*P	P	21 10 29.1	-0.2
Y21A	Point of Rocks	92.24	51	⇑P	P	21 10 30.6	+0.3
	baz=92						
T24B	San Luis	92.26	48	⇓P	P	21 10 31.1	+0.7
	baz=92						
EIL	Elat	92.28	304	P	P	21 10 29.3	-0.9
EIL	Elat	92.28	304	P	P	21 10 29.3	-0.9
	comp=Z,12nm,1.1s,baz=299,slow=4.4,SNR=9.0						
319A	Douglas	92.39	54	⇓P	P	21 10 31.1	+0.3
	baz=92						
R25A	Fountain Ranch	92.42	46	⇑P	P	21 10 30.9	0.0
	baz=92						
M28A	Bar X Bar Ranc	92.48	42	⇑P	P	21 10 31.2	+0.1
	baz=92						
Q26A	Hugo	92.50	45	⇓P	P	21 10 31.8	+0.5
	baz=92						
S25A	Robets Cordova	92.58	47	⇑P	P	21 10 32.1	+0.3
	baz=92						
ANMO	Albuquerque	92.63	50	*e*P	P	21 10 32.5	+0.5
	comp=Z,4.3nm,0.8s						
ANMO				*e*		21 10 55.2	
220A	Playas Peak, P	92.68	53	⇓P	P	21 10 32.9	+0.6
	baz=92						
W23A	Werner Place,	92.73	50	⇑P	P	21 10 33.0	+0.5
	baz=92						
Y22A	Socorro	92.79	51	⇑P	P	21 10 33.3	+0.6
	baz=93						
PVCC	Panska Ves	92.84	330	*e*P	P	21 10 31.3	-1.1
PVCC	Panska Ves	92.84	330	*e*P	P	21 10 31.3	-1.1
T25A	Trinidad	92.88	47	⇑P	P	21 10 33.4	+0.3
	baz=93						
R26A	Arlington	92.89	46	⇓P	P	21 10 33.5	+0.4
	baz=93						
121A	Cookes Peak, D	92.91	53	⇑P	P	21 10 34.2	+0.8
	baz=93						
BNM	Barren Site	92.92	51	*e*P	P	21 10 33.2	-0.2
	comp=Z,8.6nm,1.1s						
320A	Kipp Ranch, An	92.96	54	⇑P	P	21 10 34.2	+0.6
	baz=93						
CLL	Collm	93.01	331	*e*P	P	21 10 31.0	-2.1
CLL				*e*		21 20 56.0	
CLL				*e*S	S	21 21 33.0	+0.7
CLL				pmax	pmax		
	comp=Z,5.0nm,0.9s						
CLL	Collm	93.01	331	*e*P	P	21 10 32.0	-1.1
	comp=Z,5.0nm,0.9s						
CLL				*e*pP	pP	21 10 58.0	+2.3
CLL				*e*SKSac	SKSac	21 20 56.0	-3.6
CLL				*e*S	S	21 21 33.0	+0.7
CLL				*e*PS	PS	21 22 52.0	-2.8
CLL				*e*SS	SS	21 27 47.0	0.0
CLL				*e*SS		21 28 25.0	
CLL				*e*SSSS		21 34 54.0	
CLL				LmV		21 57 00.0	
	comp=Z,100nm,19.1s						
V24A	Rampart Ranch,	93.04	49	⇓P	P	21 10 34.6	+0.6
	baz=93						
Z22A	Elephant Butte	93.14	52	⇓P	P	21 10 34.6	+0.2
	baz=93						
PRA	Prague	93.22	329	P	P	21 10 34.0	-0.1
W24A	Lazy 6 Ranch,	93.22	49	⇑P	P	21 10 35.3	+0.5
	baz=93						
PRU	Pruhonice	93.22	329	*i*P	P	21 10 33.3	-0.8
PRU				*e*		21 11 00.0	
PRU				MLR	MLR		
	comp=Z,200nm,21.4s						
PRU	Pruhonice	93.22	329	*i*P	P	21 10 33.3	-0.8
PRU				*ex*	x	21 10 42.4	
PRU				*e*pP	pP	21 11 00.0	+3.3
PRU				AMS	AMS	21 56 40.0	
	comp=Z,200nm,21.4s						
S26A	Kim	93.24	46	⇓P	P	21 10 34.8	+0.1
	baz=93						
U25A	Circle Dot Ran	93.28	48	⇑P	P	21 10 35.0	+0.1
	baz=93						
R27A	Eads	93.32	46	⇑P	P	21 10 35.2	+0.2
	baz=93						
T26A	Comanche Natio	93.41	47	⇓P	P	21 10 35.6	+0.1
	baz=93						
Y23A	Lovelace Mesa,	93.44	51	⇓P	P	21 10 36.0	+0.3
	baz=93						
W25A	X Bar L Ranch,	93.87	49	⇑P	P	21 10 37.9	+0.2
	baz=94						
Y24A	Capitan	93.88	50	⇓P	P	21 10 37.9	+0.2
	baz=94						
KHC	Kasperske Hory	94.27	329	*i*P	P	21 10 38.4	-0.6
KHC				*e*		21 11 03.6	
KHC				MLR	MLR		
	comp=Z,200nm,17.5s						
KHC	Kasperske Hory	94.27	329	*i*P	P	21 10 38.4	-0.6
KHC				*e*pP	pP	21 11 03.6	+2.0
KHC				AMS	AMS	21 55 30.0	
	comp=Z,200nm,17.5s						
KHC	Kasperske Hory	94.27	329	*e*P	P	21 10 38.0	-1.0
	comp=Z,31nm,2.2s						
Y25A	Mesa, Roswell	94.40	50	⇓P	P	21 10 40.8	+0.7
	baz=94						
GERES	GERESS Array B	94.41	329	P	P	21 10 38.5	-1.3
GERES	GERESS Array B	94.41	329	P	P	21 10 38.5	-1.3
	comp=Z,2.5nm,0.9s,baz=46,slow=5.8,SNR=9.8						
GERES				LR	LR	21 56 12.7	
	comp=Z,173nm,20.2s,baz=271,slow=37						
124A	Stringfield Ra	94.51	51	⇓P	P	21 10 41.1	+0.3
	baz=94						
Z25A	Roswell	94.73	51	⇓P	P	21 10 41.9	+0.4
	baz=94						
R30A	Dighton	94.96	44	⇓P	P	21 10 42.5	+0.1
	baz=95						
Y26A	Elida	95.01	50	⇑P	P	21 10 43.0	+0.1
	baz=95						
Z26A	Caprock	95.25	50	⇓P	P	21 10 43.5	-0.5
	baz=95						
T30A	Plains	95.50	46	⇑P	P	21 10 43.6	-1.3
	baz=95						
425A	Indio Mountain	95.85	53	⇓P	P	21 10 45.8	-0.9
	baz=96						
TXAR	Lajitas Array	97.59	54	P	P	21 10 53.9	-0.7
TXAR				pP	pP	21 11 17.9	+0.6
TXAR				PKKPbc	PKKPbc	21 27 30.3	-0.2
TXAR	Lajitas Array	97.59	54	P	P	21 10 53.9	-0.7
	comp=Z,1.2nm,1.0s,baz=288,slow=3.0,SNR=5.4						
TXAR				pP	pP	21 11 17.9	+0.6
	comp=Z,1.1nm,1.0s,baz=298,slow=2.7,SNR=3.0						
TXAR				PKKPbc	PKKPbc	21 27 30.3	-0.2
	comp=Z,0.9nm,0.8s,baz=122,slow=4.7,SNR=7.0						
TXAR				LR	LR	21 48 14.5	
	comp=Z,106nm,21.1s,baz=0.0,slow=31						
329A	Wagon Wheel Ra	97.64	51	⇑P	Pdif	21 10 55.0	+0.1
	baz=98						
627A	Terlingua Ranc	97.73	53	⇑P	P	21 10 55.3	0.0
	baz=98						
130A	Snyder	97.74	49	⇑P	Pdif	21 10 55.4	+0.1
	baz=98						
SCHQ	Schefferville	97.90	16	LR	LR	21 55 50.9	
	comp=Z,186nm,20.5s,baz=101,slow=36						
330A	Mertzon	98.26	51	⇑P	P	21 10 57.3	-0.2
	baz=98						
ESDC	Sonseca Array	109.48	333	PKKPbc	PKKPbc	21 27 05.6	+10
ESDC	Sonseca Array	109.48	333	PKKPbc	PKKPbc	21 27 05.6	+10
	comp=Z,1.8nm,0.8s,baz=217,slow=4.2,SNR=7.7						
QSPA	South Pole Qui	113.50	180	*e*PKPdf	PKiKP	21 15 55.3	-1.5
QSPA				*e*PP	PP	21 16 47.8	-1.9
BOSA	Boshof	123.77	251	PKP	PKPdf	21 16 17.4	-0.4
BOSA	Boshof	123.77	251	PKP	PKPdf	21 16 17.4	-0.4
	comp=Z,6.7nm,1.0s,baz=245,slow=4.3,SNR=4.7						
TORD	Torodi Ar. Bea	126.78	309	PKP	PKPdf	21 16 23.9	+0.1
TORD	Torodi Ar. Bea	126.78	309	PKP	PKPdf	21 16 23.9	+0.1
	comp=Z,5.5nm,0.8s,baz=21,slow=1.7,SNR=26						
SNAA	Sanae	128.10	193	*e*PKP	PKPdf	21 16 24.1	-0.6
SNAA	Sanae	128.10	193	*es*PKP	sPKPdf	21 16 52.7	-4.3
SNAA	Sanae	128.10	193	*e*PKPdf	PKPdf	21 16 23.9	-0.8
SNAA				*e*SKP		21 19 33.8	
VNA2	Neumayer--Watz	129.61	192	*e*PKP	PKPdf	21 16 27.6	+0.1
VNA2	Neumayer--Watz	129.61	192	*es*PKP	sPKPdf	21 16 55.1	-4.7
VNA1	Neumayer--Stat	130.00	192	*e*PKP	PKPdf	21 16 25.1	-3.1
VNA1	Neumayer--Stat	130.00	192	*es*PKP	sPKPdf	21 16 55.3	-5.2
DBIC	Dimbokro	135.90	309	PKP	PKPdf	21 16 41.4	+0.3
DBIC	Dimbokro	135.90	309	PKP	PKPdf	21 16 41.4	+0.3
	comp=Z,11nm,0.8s,baz=97,slow=2.2,SNR=7.2						
PLCA	Paso Flores	147.74	130	*e*PKPbc	PKPbc	21 17 03.5	-0.8
PLCA	Paso Flores	147.74	130	PKPbc	PKPbc	21 17 04.1	-0.2
	comp=Z,23nm,1.0s,baz=238,slow=3.7,SNR=20						
EFI	East Falkland	148.02	156	*e*PKP2	PKPbc	21 17 03.8	-0.8
EFI	East Falkland	148.02	156	*e*PKPbc	PKPbc	21 17 03.8	-0.8
LCO	Las Campanas	150.09	107	*e*PKPdf	PKPdf	21 17 05.9	+0.1
LCO				*e*PKPdf	PKPbc	21 17 09.8	-1.2
LPAZ	La Paz	150.59	81	PKP	PKPdf	21 17 06.9	-0.4
LPAZ				*e*PKPdf	PKPbc	21 17 07.2	-5.7
LPAZ				PKPbc	PKPbc	21 17 12.5	-0.3
LPAZ	La Paz	150.59	81	PKP	PKPdf	21 17 06.9	-0.4
	comp=Z,7.3nm,0.7s,baz=17,slow=6.9,SNR=13						
LPAZ				PKPbc	PKPbc	21 17 12.5	-0.3
	comp=Z,8.8nm,0.5s,baz=326,slow=3.2,SNR=26						
LVC	Limon Verde	151.38	94	*e*PKPbc	PKPbc	21 17 13.7	-0.4
SAML	Samuel	151.62	63	*e*PKPdf	PKPdf	21 17 07.1	-1.1
SAML				*e*PKPbc	PKPbc	21 17 13.1	-1.4

PRU 11 20:58:23.6, 50.°31N×18.°93E, h0km

CSEM 11 20:58:22.2±0.9, 50.°36N×18.°99E, h1km, Error ellipse: s-maj=19.0km s-min=9.9km az=18.0, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	Ojcow	0.54	104	*e*Pg	Pb	20 58 33.7	-0.8
OJC				*e*Sg	Sg	20 58 40.8	+1.2
OKC	Ostrava-Krasne	0.75	226	*e*PG	Pg	20 58 37.0	+0.4
OKC				*e*SG	Sg	20 58 45.6	-0.7
	3.6nm,0.6s						
OKC	Ostrava-Krasne	0.75	226	Pg	Pg	20 58 37.0	+0.4
OKC				Sg	Sg	20 58 45.6	-0.7
	3.6nm,0.6s						
MORC	Moravsky Berou	1.10	239	*e*Pg	Pb	20 58 44.3	+0.3
MORC				*e*Sg	Sb	20 58 58.4	-0.5
NIE	Niedzica	1.27	137	*e*Pg	Pg	20 58 46.7	+0.1
NIE				*e*Sg	Sg	20 59 03.1	-0.1
DPC	Dobruska-Polom	1.71	271	*e*PG	Pb	20 58 54.4	-0.1
DPC				*e*SG	Sb	20 59 16.3	-0.2
DPC	Dobruska-Polom	1.71	271	Pg	Pb	20 58 54.4	-0.1
DPC				Sg	Sb	20 59 16.3	-0.2
STHS	Stebnicka Huta	1.74	122	*e*PN	Pg	20 58 55.6	+0.1
STHS				*e*SN	Sb	20 59 17.6	+0.3
STHS	Stebnicka Huta	1.74	122	*e*Sn	Sb	20 59 17.6	+0.3
VYHS	Vyhne	1.87	183	*e*PN	Pn	20 58 54.8	-0.5
VYHS				*e*SN	Sn	20 59 17.1	-2.4
VYHS	Vyhne	1.87	183	*e*Pn	Pn	20 58 54.8	-0.5
VYHS				*e*Sn	Sn	20 59 17.1	-2.4

NAO 11 21:04:34.4±2.1, 77.°01N×19.°33E, h19km±21km, ML2.3
BER 11 21:04:35.2±2.9, 77.°00N×19.°74E, h18km±46km, MD1.9, ML2.3(NAO)

CSEM 11 21:04:33.0±0.2, 76.°90N×18.°29E, h2km, ML2.3, Error ellipse: s-maj=23.9km s-min=2.8km az=69.0, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSP	Hornsund	0.63	281	*e*P	Pn	21 04 50.5	+1.6
HSP				*e*S	Sn	21 05 00.1	+0.6
SPA0	Spitsbergen Ar	1.35	343	Pg	Pb	21 04 59.0	0.0
	baz=148,slow=18						
SPA0				Lg	Lg	21 05 16.5	
	baz=149,slow=28						
SPA0	Spitsbergen Ar	1.35	343	Pg	Pb	21 04 59.0	0.0
	baz=148,slow=18						
SPA0				Lg	Lg	21 05 16.5	
	baz=149,slow=28						
SPA0	Spitsbergen Ar	1.35	343	Pg	Pb	21 04 59.0	0.0
	baz=148,slow=18,SNR=0.5						
SPA0				Lg	Lg	21 05 16.5	
	baz=149,slow=26,SNR=2.3						
KBS	Kingsbay	2.44	330	Pn	Pn	21 05 13.8	+0.1
KBS				Pg	Pg	21 05 20.0	+0.3
KBS				Lg	Lg	21 05 50.1	
KBS	Kingsbay	2.44	330	Pn	Pn	21 05 13.8	+0.1
KBS				*e*Pg	Pg	21 05 19.7	0.0
KBS				*e*Sg	Sg	21 05 51.1	-0.1
KBS	Kingsbay	2.44	330	Pn	Pn	21 05 13.8	+0.1
KBS	Kingsbay	2.44	330	*e*Pg	Pg	21 05 19.7	+0.1
	SNR=92						
KBS				Lg	Lg	21 05 50.1	
KBS				*e*Sg	Sg	21 05 51.1	0.0
	SNR=92						
ARA0	ARCESS Array S	7.68	161	Pn	Pn	21 06 25.8	+0.1
	baz=360,slow=11						
ARA0				Sn	Sn	21 07 44.8	-8.4
	baz=358,slow=22						
ARA0	ARCESS Array S	7.68	161	Pn	Pn	21 06 25.8	+0.1
	baz=360,slow=11						
ARA0				Sn	Sn	21 07 44.8	-8.4
	baz=358,slow=22						
ARA0	ARCESS Array S	7.68	161	Pn	Pn	21 06 25.8	+0.1
	baz=360,slow=10,SNR=6.8						

IDC 11 21:20:40.0±1.9, 13.°54N×92.°24E, h0km, mb3.4/5, mb1 3.5/6, mb1mx3.4/27, mbtmp3.3/6, ML3.6/1, Error ellipse: s-maj=58.7km s-min=21.6km az=66.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	8.09	52	Pn	Pn	21 22 40.1	+1.3
	0.2nm,0.3s,baz=243,slow=15,SNR=3.1						
MKAR	Makanchi Array	34.18	348	P	P	21 27 27.6	+0.6
	0.2nm,0.6s,baz=173,slow=6.8,SNR=3.4						

ALFC	**Alevga**	0.62	26	P	Pg	21 28 01.3	-0.9
	52nm,0.3s						
ALFC				S	Sg	21 28 10.8	+0.4
LEF	**Lefka**	0.73	45	*e*PG	Pg	21 28 03.3	-1.0
LEF				*e*SG	Sb	21 28 15.2	+1.0
LEF	**Lefka**	0.73	45	*e*Pg	Pg	21 28 03.3	-1.0
LEF				*e*Sg	Sb	21 28 15.3	+1.0
CSS	**Prodhromos**	0.95	67	P	Pg	21 28 08.5	+0.1
	13nm,0.3s						
CSS				S	Sn	21 28 23.2	+1.0
CSS	**Prodhromos**	0.95	67	*e*PG	Pb	21 28 07.4	-0.8
CSS	**Prodhromos**	0.95	67	*e*Pg	Pb	21 28 07.4	-0.8
CSS	**Prodhromos**	0.95	67	P	Pg	21 28 08.5	+0.1
	13nm,0.3s						
CSS				S	Sn	21 28 23.2	+1.0
MAMC	**Mammari**	0.97	54	P	Pg	21 28 08.8	0.0
MAMC	**Mammari**	0.97	54	P	Pg	21 28 08.8	0.0
AKIN	**Ak¨–nc¨–lar- K**	1.07	67	*e*PN	Pb	21 28 10.0	-0.3
AKIN	**Ak¨–nc¨–lar- K**	1.07	67	*e*Pn	Pb	21 28 10.0	-0.3
PHNC	**Paralimni**	1.51	74	P	Pg	21 28 18.9	-0.2
	5.8nm,0.7s						
PHNC				S	Sg	21 28 40.1	+1.4
PHNC	**Paralimni**	1.51	74	P	Pg	21 28 18.9	-0.2
	5.8nm,0.7s						
PHNC				S	Sg	21 28 40.1	+1.4
GAZI	**Gazipasa**	1.63	1	*i* P	Pn	21 28 18.1	-0.2
GAZI				*i* S	Sn	21 28 37.3	-1.7
GAZI	**Gazipasa**	1.63	1	*i* P	Pn	21 28 18.1	-0.2
GAZI				*i* S	Sn	21 28 37.3	-1.7
EREN	**Erenkoy**	1.81	59	*e*PN	Pn	21 28 21.0	+0.2
EREN	**Erenkoy**	1.81	59	*e*Pn	Pn	21 28 21.0	+0.2
IKL	**Isikli**	2.00	35	*e*PN	Pn	21 28 23.6	+0.3
IKL	**Isikli**	2.00	35	*e*Pn	Pn	21 28 23.7	+0.3
ERMK	**Ermenek**	2.10	14	*i* P	Pn	21 28 25.7	+0.7
ERMK				*i* S	Sb	21 28 54.7	+0.7
ERMK	**Ermenek**	2.10	14	*i* P	Pn	21 28 25.7	+0.7
ERMK				*i* S	Sb	21 28 54.7	+0.7
HDMB	**Hadim**	2.36	4	*e*PN	Pn	21 28 30.0	+1.4
HDMB	**Hadim**	2.36	4	*e*Pn	Pn	21 28 30.0	+1.4
KIZK	**Mersin**	2.42	39	*i* P	Pn	21 28 30.7	+1.6
KIZK				*i* S	Sb	21 29 00.8	-2.1
KIZK	**Mersin**	2.42	39	*i* P	Pn	21 28 30.7	+1.6
KIZK				*i* S	Sb	21 29 00.8	-2.1
ELL	**Elmali**	2.88	319	*e*PN	Pn	21 28 37.1	+1.6
ELL	**Elmali**	2.88	319	*e*Pn	Pn	21 28 37.1	+1.6
SUTC	**Sutluce-Ispart**	3.05	341	*e*PN	Pn	21 28 39.9	+2.0
SUTC	**Sutluce-Ispart**	3.05	341	*e*Pn	Pn	21 28 39.9	+2.0
HWQ	**Hawqa**	3.06	95	*e*P	Pn	21 28 39.4	+1.3
HWQ	**Hawqa**	3.06	95	*e*P	Pn	21 28 39.3	+1.3
BRBR	**Barbar**	3.28	110	*i* P	Pn	21 28 43.3	+2.1
BRBR				*e*S	Sn	21 29 20.8	+0.7
BRBR				AML	AML	21 29 23.0	
	comp=N,51nm,0.4s						
BRBR				AML	AML	21 29 26.7	
	comp=E,19nm,0.6s						
BRBR	**Barbar**	3.28	110	*i* P	Pn	21 28 43.3	+2.1
	SNR=104						
BRBR				*e*S	Sn	21 29 20.8	+0.7
	comp=E,19nm,0.6s,SNR=104						
FETY	**Fethiye**	3.29	309	*e*PN	Pn	21 28 42.6	+1.5
FETY	**Fethiye**	3.29	309	*e*Pn	Pn	21 28 42.6	+1.5
KONT	**Konya--Tatoy**	3.34	1	*e*PN	Pn	21 28 43.9	+2.1
KONT	**Konya--Tatoy**	3.34	1	*e*Pn	Pn	21 28 43.9	+2.1
BIDA	**Albida**	3.36	82	*i* P	Pn	21 28 37.5	-4.6
BIDA				*e*S	Sn	21 29 12.8	-9.1
BIDA				AML	AML	21 29 16.9	
	comp=N,67nm,0.5s						
GULE	**Gulek**	3.36	37	*i* P	Pn	21 28 45.5	+3.2
GULE				*i* S	Sb	21 29 28.6	-1.7
GULE	**Gulek**	3.36	37	*i* P	Pn	21 28 45.5	+3.2
HAWK	**Haweek**	3.42	90	*i* P	Pn	21 28 40.5	-2.4
HAWK				*e*S	Sn	21 29 18.3	-5.0
HAWK				AML	AML	21 29 26.1	
	comp=E,35nm,0.4s						
HAWK				AML	AML	21 29 26.2	
	comp=N,38nm,0.3s						
HAWK	**Haweek**	3.42	90	*i* P	Pn	21 28 40.5	-2.4
	SNR=105						
GOLH	**Golhisar**	3.42	321	*i* P	Pn	21 28 46.2	+3.1
GOLH	**Golhisar**	3.42	321	*i* P	Pn	21 28 46.2	+3.1
YAYL	**Yayladag**	3.45	64	*i* P	Pn	21 28 44.9	+1.5
YAYL				*i* S	Sn	21 29 25.4	+1.3
YAYL	**Yayladag**	3.45	64	*i* P	Pn	21 28 44.9	+1.5
YAYL				*i* S	Sn	21 29 25.4	+1.3
KARA	**Karaisali**	3.49	40	*e*PN	Pn	21 28 45.5	+1.7
KARA	**Karaisali**	3.49	40	*e*Pn	Pn	21 28 45.5	+1.7
HTY	**Hatay**	3.51	63	*e*PN	Pn	21 28 45.1	+1.0
HTY	**Hatay**	3.51	63	*e*Pn	Pn	21 28 45.1	+1.0
MARH	**Ras Al Marh**	3.54	98	*i* P	Pn	21 28 45.0	+0.2
MARH				*e*S	Sn	21 29 23.7	-2.8
MARH	**Ras Al Marh**	3.54	98	*i* P	Pn	21 28 45.0	+0.2
	SNR=104						
LADK	**Ladik-KONYA**	3.59	1	*e*PN	Pn	21 28 47.5	+2.1
LADK	**Ladik-KONYA**	3.59	1	*e*Pn	Pn	21 28 47.5	+2.1
DALY	**Dalyan (Mu¨la**	3.68	308	*e*PN	Pn	21 28 47.8	+1.4
DALY	**Dalyan (Mu¨la**	3.68	308	*e*Pn	Pn	21 28 47.8	+1.4
CEYT	**Ceyhan**	3.71	49	*e*PN	Pn	21 28 48.4	+1.5
CEYT	**Ceyhan**	3.71	49	*e*Pn	Pn	21 28 48.4	+1.5
SULT	**Sultanhani-AKS**	3.73	15	*e*PN	Pn	21 28 49.4	+2.2
SULT	**Sultanhani-AKS**	3.73	15	*e*Pn	Pn	21 28 49.4	+2.2
COBT	**Iskenderun**	3.77	58	*e*P	Pn	21 28 50.2	+2.3
COBT				*i* S	Sn	21 29 33.4	+1.3
COBT	**Iskenderun**	3.77	58	*e*P	Pn	21 28 50.2	+2.3
COBT				*i* S	Sn	21 29 33.4	+1.3
KDHN	**Kadinhani**	3.91	358	*e*P	Pn	21 28 52.4	+2.6
KDHN				*i* S	Sb	21 29 41.4	-4.7
KDHN	**Kadinhani**	3.91	358	*e*P	Pn	21 28 52.4	+2.6
KDHN				*i* S	Sb	21 29 41.4	-4.7
NIG	**Nigde**	3.98	28	*e*PN	Pn	21 28 52.7	+1.9
NIG	**Nigde**	3.98	28	*e*Pn	Pn	21 28 52.7	+1.9
KOZT	**Kozan**	4.07	44	*e*PN	Pn	21 28 53.7	+1.8
KOZT	**Kozan**	4.07	44	*e*Pn	Pn	21 28 53.7	+1.8
YER	**Yerkesik**	4.11	309	*e*PN	Pn	21 28 54.3	+1.9
YER	**Yerkesik**	4.11	309	*e*Pn	Pn	21 28 54.3	+1.9
KHL	**Karahalli**	4.32	330	*e*PN	Pn	21 28 57.9	+2.5
KHL	**Karahalli**	4.32	330	*e*Pn	Pn	21 28 57.9	+2.5
KUZU	**Kuzuini**	4.47	60	*i* P	Pn	21 28 59.1	+1.7
KUZU	**Kuzuini**	4.47	60	*i* P	Pn	21 28 59.1	+1.7
ZALF	**Zalf**	4.54	110	*i* P	Pn	21 28 58.5	+0.1
ZALF				*e*S	Sn	21 29 50.5	-0.4
ZALF	**Zalf**	4.54	110	*i* P	Pn	21 28 58.5	+0.1
	SNR=100						
ZALF				*e*S	Sn	21 29 50.5	-0.4
	SNR=100						
AYKD	**Aykdinkavak**	4.63	51	*i* P	Pn	21 29 01.2	+1.7
AYKD				*i* S	Sn	21 29 54.0	+1.0
KMRS	**Kahramanmaras**	4.74	51	*e*PN	Pn	21 29 03.0	+1.9
KMRS	**Kahramanmaras**	4.74	51	*e*Pn	Pn	21 29 03.0	+1.9

IPEC ***11*** *21:59:35.4±0.3,51˚.56N×16˚.27E,h0km,ML2.3/3,Error ellipse: s-maj=3.2km s-min=1.7km az=66.0*
ISCJB ***11*** *21:59:35.2±0.6,51˚.44N±0˚.03×16˚.14E±0˚.03,h0km,Error ellipse: s-maj=4.2km s-min=2.8km az=6.7*
CSEM ***11*** *21:59:36.0±0.3,51˚.50N×16˚.11E,h2km,ML3.4/12,Error ellipse: s-maj=4.7km s-min=3.8km az=165.0*
WAR ***11*** *21:59:36.4,51˚.55N×16˚.14E*
VIE ***11*** *21:59:37.6±0.8,51˚.41N×16˚.09E,h0km,mb2.3/4,ML3.0/4, Error ellipse: s-maj=8.9km s-min=4.1km az=51.0 73 km WNW of Wroclaw Suspected Mining induced.*
PRU ***11*** *21:59:37.4,51˚.46N×16˚.12E,h0km*
ISC 11 21:59:35.3±0.8,51˚.56N±0˚.03×16˚.11E±0˚.02,h0km,n44, σ1§13/76,6C-2D,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	0.73	171	*e*Pg	Pg	21 59 49.6	+0.4
KSP				*e*Sg	Sg	21 59 59.4	+0.8
KSP	**Ksiaz**	0.73	171	⇓*i*Pg	Pg	21 59 49.7	+0.5
KSP				*e*Sg	Sg	21 59 59.3	+0.7
UPC	**Upice**	1.06	183	*e*PG	Pg	21 59 55.7	+0.2
UPC	**Upice**	1.06	183	Pg	Pg	21 59 55.7	+0.2
DPC	**Dobruska-Polom**	1.22	174	*e*PG	Pg	21 59 58.5	-0.1
DPC				*e*SG	Sg	22 00 13.5	-0.9
DPC	**Dobruska-Polom**	1.22	174	Pg	Pg	21 59 58.5	-0.1
DPC				Sg	Sg	22 00 13.5	-0.9
PVCC	**Panska Ves**	1.42	224	*e*PG	Pb	22 00 02.9	+0.3
PVCC				*e*SG	Sb	22 00 21.5	+0.3
	169nm,0.2s						
PVCC	**Panska Ves**	1.42	224	Pg	Pb	22 00 02.9	+0.3
PVCC				Sg	Sb	22 00 21.5	+0.3
	169nm,0.2s						
BRG	**Berggiesshubel**	1.52	244	PN	Pn	22 00 03.9	+0.1
BRG				PG	Pg	22 00 05.2	+0.7
BRG				SG	Sn	22 00 25.5	+1.2
	92nm,0.5s						
PRA	**Prague**	1.83	216	PG	Pb	22 00 09.0	-0.6
PRA				SG	Sb	22 00 33.0	-0.1
PRU	**Pruhonice**	1.86	213	*e*PN	Pn	22 00 07.9	-0.5
PRU				*e*PG	Pb	22 00 10.4	+0.2
PRU				*e*SG	Sb	22 00 34.2	+0.2
	56nm,0.3s						
PRU	**Pruhonice**	1.86	213	Pn	Pn	22 00 07.9	-0.5
CLL	**Collm**	1.96	264	*e*Pn	Pn	22 00 10.0	+0.3
CLL				*e*Pg	Pg	22 00 13.0	+0.2
CLL				*e*		22 00 16.0	
CLL				*e*Sg	Sb	22 00 38.0	+1.2
	comp=Z,58nm,0.8s						
MORC	**Moravsky Berou**	2.01	152	*e*Pn	Pn	22 00 09.9	-0.5
MORC				*e*Sg	Sn	22 00 37.0	+0.7
	comp=Z,20nm,0.3s,baz=336						
OKC	**Ostrava-Krasne**	2.16	142	*e*PN	Pn	22 00 11.9	-0.6
OKC				*e*PG	Pb	22 00 15.8	+0.6
OKC				*e*SG	Sb	22 00 43.2	+0.7
	comp=Z,26nm,0.4s						
OKC	**Ostrava-Krasne**	2.16	142	Pn	Pn	22 00 11.9	-0.6
VRAC	**Vranov**	2.28	172	*e*Pn	Pn	22 00 14.2	+0.1
VRAC				*e*Sg	Sb	22 00 46.5	+0.6
	comp=Z,16nm,0.2s,baz=355						
TREC	**Trest**	2.30	190	*e*SG	Sb	22 00 47.4	+0.7
	comp=Z,30nm,0.2s						
TREC	**Trest**	2.30	190	Sg	Sb	22 00 47.4	+0.7
	comp=Z,30nm,0.2s						
KRUC	**Moravsky**	2.51	176	*e*Sg	Sg	22 00 54.0	-1.8
	comp=Z,10nm,0.3s,baz=358						
OJC	**Ojcow**	2.70	118	*e*Pg	Pg	22 00 26.4	-0.5
OJC				*e*Sg	Sg	22 01 01.6	-0.2
OJC				*e*		22 01 02.5	
OJC	**Ojcow**	2.70	118	*e*Pg	Pg	22 00 26.4	-0.5
OJC				*e*Sg	Sg	22 01 01.6	-0.2
KHC	**Kasperske Hory**	2.92	215	*e*PN	Pn	22 00 23.2	+0.2
KHC				*e*PG	Pb	22 00 29.4	+1.1
KHC				*e*SN	Sn	22 00 58.1	-0.7
KHC				*e*SG	Sg	22 01 07.4	-1.7
	comp=Z,11nm,0.2s						
KHC	**Kasperske Hory**	2.92	215	Pn	Pn	22 00 23.2	+0.2
NIE	**Niedzica**	3.44	127	*e*P	Pg	22 00 40.7	-0.4
NIE				*e*S	Sg	22 01 24.9	-0.7
VYHS	**Vyhne**	3.54	149	*e*PN	Pn	22 00 31.2	-0.3
VYHS				*e*		22 00 43.4	
VYHS	**Vyhne**	3.54	149	*e*SG	Sg	22 01 25.4	-3.5
VYHS	**Vyhne**	3.54	149	*e*Pn	Pn	22 00 31.2	-0.3
VYHS				*e*Sg	Sg	22 01 25.4	-3.5
BSD	**Bornholm Skovb**	3.63	349	*i* P	Pn	22 00 33.0	+0.3
BSD				*i* S	Sn	22 01 14.2	-2.0
BSD	**Bornholm Skovb**	3.63	349	*i* P	Pn	22 00 33.0	+0.3
BSD				*i* S	Sn	22 01 14.2	-2.0
CONA	**Conrad Observa**	3.64	183	⇑*i*Pn	Pn	22 00 34.0	+1.1
	comp=Z,0.9nm,0.2s						
CONA				⇑Sg	Sg	22 01 31.5	-0.7
	comp=Z,15nm,0.6s						
MOA	**Molln**	3.90	199	⇑*i*Pn	Pn	22 00 37.2	+0.7
	comp=Z,1.3nm,0.1s						
MOA				⇑Sg	Sg	22 01 39.9	-0.7
	comp=Z,7.3nm,0.3s						
STHS	**Stebnicka Huta**	3.92	121	*e*PN	Pn	22 00 37.5	+0.8
STHS				*e*		22 00 51.7	
STHS	**Stebnicka Huta**	3.92	121	*e*SG	Sg	22 01 42.1	+1.0
STHS	**Stebnicka Huta**	3.92	121	*e*Pn	Pn	22 00 37.5	+0.8
STHS				*e*Sg	Sg	22 01 42.1	+1.0
KECS	**Kecovo**	4.18	136	*e*PN	Pn	22 00 40.2	0.0
KECS				*e*		22 00 56.6	
KECS	**Kecovo**	4.18	136	*e*SG	Sg	22 01 49.0	-0.4
KECS	**Kecovo**	4.18	136	*e*Pn	Pn	22 00 40.3	0.0
KECS				*e*Sg	Sg	22 01 49.0	-0.4
ARSA	**Arzberg**	4.33	185	⇓Sg	Sg	22 01 51.1	-3.3
	comp=Z,3.6nm,0.3s						
ARSA	**Arzberg**	4.33	185	Sg	Sg	22 01 51.1	-3.3
	comp=Z,3.6nm,0.3s						
KOLS	**Kolonicke sedl**	4.75	121	*e*PN	Pn	22 00 49.7	+1.6
KOLS				*e*		22 01 06.4	
KOLS	**Kolonicke sedl**	4.75	121	*e*Pn	Pn	22 00 49.7	+1.6
WTTA	**Wattenberg**	5.20	216	⇑*i*Pn	Pn	22 00 56.1	+1.7
	comp=Z,0.6nm,0.1s						
WTTA				⇑*e*Sg	Sg	22 02 21.2	-0.9
	comp=Z,3.1nm,0.4s						
WTTA	**Wattenberg**	5.20	216	Pn	Pn	22 00 56.1	+1.7
	comp=Z,0.6nm,0.1s						
WTTA				Sg	Sg	22 02 21.2	-0.9
	comp=Z,3.1nm,0.4s						

CSEM ***11*** *22:11:43.5,36˚.33N×21˚.53E,h36km,MD3.6,After ATH*
ATH 11 22:11:43.5,36˚.33N×21˚.53E,h36km±3km,MD3.6/25, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DYR	**Agios Nikonas**	0.78	56	*e*PN	Pn	22 11 59.2	+1.2
DYR				*e*SN	Sn	22 12 10.0	+1.5
DYR	**Agios Nikonas**	0.78	56	*e*Pn	Pn	22 11 59.2	+1.2
DYR				*e*Sn	Sn	22 12 10.0	+1.5
ITM	**Ithomi**	0.91	20	*e*PN	Pn	22 12 00.8	+1.0
ITM	**Ithomi**	0.91	20	*e*Pn	Pn	22 12 00.8	+1.0
VLI	**Veliai**	1.20	71	*e*PN	Pn	22 12 06.4	+2.7
VLI				*e*SN	Sn	22 12 21.5	+2.8
VLI	**Veliai**	1.20	71	*e*Pn	Pn	22 12 06.4	+2.7
VLI				*e*Sn	Sn	22 12 21.5	+2.8
KYTH	**Kithira**	1.22	92	*e*PN	Pn	22 12 06.7	+2.7
KYTH	**Kithira**	1.22	92	*e*Pn	Pn	22 12 06.7	+2.7
VLX	**Vlachokerasia**	1.24	33	*e*PN	Pn	22 12 06.7	+2.2
VLX	**Vlachokerasia**	1.24	33	*e*Pn	Pn	22 12 06.7	+2.2
ANKY	**Antikythira Is**	1.51	107	*e*PN	Pn	22 12 10.8	+2.9
ANKY	**Antikythira Is**	1.51	107	*e*Pn	Pn	22 12 10.8	+2.9
RLS	**Riolos of Patr**	1.73	358	*e*PN	Pn	22 12 12.7	+1.7
RLS	**Riolos of Patr**	1.73	358	*e*Pn	Pn	22 12 12.7	+1.7
KLV	**Kalavryta, Ach**	1.78	16	*e*PN	Pn	22 12 13.8	+2.0
KLV	**Kalavryta, Ach**	1.78	16	*e*Pn	Pn	22 12 13.8	+2.0
DID	**Didima**	1.80	49	*e*PN	Pn	22 12 13.7	+1.6
DID	**Didima**	1.80	49	*e*Pn	Pn	22 12 13.7	+1.6
VLS	**Valsamata**	1.99	338	*e*PN	Pn	22 12 16.3	+1.7
VLS	**Valsamata**	1.99	338	*e*Pn	Pn	22 12 16.3	+1.7
LTK	**Loutraki**	2.04	34	*e*PN	Pn	22 12 17.3	+1.9
LTK	**Loutraki**	2.04	34	*e*Pn	Pn	22 12 17.3	+1.9
TRIZ	**Trizonia**	2.08	12	*e*PN	Pn	22 12 18.5	+2.7
TRIZ	**Trizonia**	2.08	12	*e*Pn	Pn	22 12 18.5	+2.7
EFP	**Efpalio**	2.11	8	*e*PN	Pn	22 12 19.1	+2.8
EFP	**Efpalio**	2.11	8	*e*Pn	Pn	22 12 19.1	+2.8
KALE	**Kalithea**	2.11	13	*e*PB	Pn	22 12 19.3	+2.9
KALE	**Kalithea**	2.11	13	*e*Pb	Pn	22 12 19.3	+2.9
KARN	**Karanos**	2.15	115	*e*PN	Pn	22 12 18.9	+2.1
KARN	**Karanos**	2.15	115	*e*Pn	Pn	22 12 18.9	+2.1
VAM	**Vamos**	2.36	112	*e*PN	Pn	22 12 21.6	+2.0
VAM	**Vamos**	2.36	112	*e*Pn	Pn	22 12 21.6	+2.0
PTL	**Penteli**	2.53	47	*e*PN	Pn	22 12 23.4	+1.3
PTL	**Penteli**	2.53	47	*e*Pn	Pn	22 12 23.4	+1.3
LKD2	**Lefkada island**	2.55	344	*e*PN	Pn	22 12 24.1	+1.7
LKD2	**Lefkada island**	2.55	344	*e*Pn	Pn	22 12 24.1	+1.7
GVD	**Gavdhos**	2.56	125	*e*PN	Pn	22 12 23.6	+1.2
GVD	**Gavdhos**	2.56	125	*e*Pn	Pn	22 12 23.6	+1.2
EVR	**Evrytania**	2.59	5	*e*PN	Pn	22 12 26.1	+3.1
EVR	**Evrytania**	2.59	5	*e*Pn	Pn	22 12 26.1	+3.1
LKR	**Lokris**	2.59	26	*e*PN	Pn	22 12 24.5	+1.6
LKR	**Lokris**	2.59	26	*e*Pn	Pn	22 12 24.5	+1.6
AGG	**Agios Georgios**	2.76	13	*e*PN	Pn	22 12 27.4	+2.1
AGG	**Agios Georgios**	2.76	13	*e*Pn	Pn	22 12 27.4	+2.1
IDI	**Anoyia**	2.92	110	*e*PN	Pn	22 12 28.7	+1.2
IDI	**Anoyia**	2.92	110	*e*Pn	Pn	22 12 28.7	+1.2
THL	**Klokotos Trika**	3.25	7	*e*PN	Pn	22 12 34.2	+2.3
THL	**Klokotos Trika**	3.25	7	*e*Pn	Pn	22 12 34.2	+2.3
LAST	**Lasithi**	3.42	109	*e*PN	Pn	22 12 36.7	+2.4
LAST	**Lasithi**	3.42	109	*e*Pn	Pn	22 12 36.7	+2.4

ISCJB ***11*** *22:14:34.8±0.6,37˚.52N±0˚.02×27˚.00E±0˚.03,h4km±5km, Error ellipse: s-maj=4.5km s-min=3.8km az=172.9*
DDA ***11*** *22:14:34.8,37˚.53N×27˚.01E,h7km,ML4.0*
ATH ***11*** *22:14:34.4,37˚.52N×27˚.05E,h19km±2km,MD3.3/6*
CSEM ***11*** *22:14:35.4±0.1,37˚.51N×27˚.01E,h5km,MD3.3,Error ellipse: s-maj=3.9km s-min=2.8km az=57.0*
ISK ***11*** *22:14:36.0,37˚.47N×27˚.05E,h13km,MD3.1*

ISC 11 22:14:35.1±0.9,37˚.51N±0˚.02×27˚.06E±0˚.02,h12km±7km, n57,σ0§80/79,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCAM	**G?zelcaml?**	0.24	37	*i* P	Pg	22 14 40.3	+0.2
GCAM				*i* S	Sg	22 14 44.0	+0.5
GCAM	**G?zelcaml?**	0.24	37	*i* P	Pg	22 14 40.3	+0.2
GCAM				*i* S	Sg	22 14 44.0	+0.5
SMG	**Samos**	0.26	319	*e*PB	Pg	22 14 40.4	-0.3
SMG				*e*SB	Sg	22 14 44.0	-0.4
SMG	**Samos**	0.26	319	*e*Pb	Pg	22 14 40.4	-0.3
SMG				*e*Sb	Sg	22 14 44.0	-0.4
BODT	**Bodrum**	0.49	155	*e*PG	Pb	22 14 45.5	-0.2
BODT				*e*SG	Sb	22 14 52.4	-0.4
BODT	**Bodrum**	0.49	155	*e*Pg	Pb	22 14 45.5	-0.2
BODT				*e*Sg	Sb	22 14 52.4	-0.4
BDRM	**Kayabasi**	0.54	145	*i* P	Pb	22 14 46.4	-0.1
BDRM				*i* S	Sb	22 14 54.8	+0.6
BDRM	**Kayabasi**	0.54	145	*i* P	Pb	22 14 46.4	-0.1
BDRM				*i* S	Sb	22 14 54.8	+0.6
AYDN	**Tasoluk**	0.67	77	*i* P	Pg	22 14 48.4	+0.2
AYDN				*i* S	Sg	22 14 57.1	+0.1
AYDN	**Tasoluk**	0.67	77	*i* P	Pg	22 14 48.4	+0.2
AYDN				*i* S	Sg	22 14 57.1	+0.1
DAT	**Datca**	0.88	152	*e*PG	Pb	22 14 52.7	+0.3
DAT	**Datca**	0.88	152	*e*Pg	Pb	22 14 52.7	+0.3
URLA	**Izmir**	0.92	337	*i* P	Pg	22 14 52.1	-0.9
URLA				*i* S	Sg	22 15 04.9	-0.2
URLA	**Izmir**	0.92	337	*i* P	Pg	22 14 52.1	-0.9
URLA				*i* S	Sg	22 15 04.9	-0.2
YER	**Yerkesik**	1.05	111	*e*PG	Pn	22 14 56.4	+0.7
YER	**Yerkesik**	1.05	111	*e*Pg	Pn	22 14 56.4	+0.7
CHOS	**Chios island**	1.18	318	*e*PN	Pb	22 14 57.5	0.0
CHOS				*e*SN	Sb	22 15 12.9	+0.2
CHOS	**Chios island**	1.18	318	*e*Pn	Pb	22 14 57.5	0.0
CHOS				*e*Sn	Sb	22 15 12.9	+0.2
APE	**Apeiranthos**	1.29	251	*e*PN	Pg	22 14 60.0	0.0
APE	**Apeiranthos**	1.29	251	*e*PN	Pg	22 14 59.5	-0.5
APE				*e*SN	Sn	22 15 16.8	+0.6
APE	**Apeiranthos**	1.29	251	*e*Pn	Pg	22 15 00.0	0.0
APE				*e*Sn	Sn	22 15 16.8	+0.6
TURN	**Turunc**	1.39	117	*i* P	Pn	22 14 58.2	-2.1
TURN				*i* S	Sb	22 15 03.4	-15
TURN	**Turunc**	1.39	117	*i* P	Pn	22 14 58.2	-2.1
DALY	**Dalyan (Mu¨la**	1.45	118	*e*PN	Pb	22 15 01.7	-0.3
DALY	**Dalyan (Mu¨la**	1.45	118	*e*Pn	Pb	22 15 01.7	-0.3
AKHS	**Akhisar**	1.49	23	*i* P	Pg	22 15 03.4	-0.4
AKHS				*i* S	Sn	22 15 19.9	-1.2
AKHS	**Akhisar**	1.49	23	*i* P	Pg	22 15 03.4	-0.4
AKHS				*i* S	Sn	22 15 19.9	-1.2
AKS	**Akhisar**	1.49	23	*e*PN	Pg	22 15 03.4	-0.4
AKS	**Akhisar**	1.49	23	*e*Pn	Pg	22 15 03.4	-0.4
MANT	**Manisa**	1.54	50	*i* P	Pb	22 15 04.1	+0.4
MANT	**Manisa**	1.54	50	*i* P	Pb	22 15 04.1	+0.4
ARG	**Arkhangelos**	1.55	146	*e*PN	Pb	22 15 03.4	-0.3
ARG	**Arkhangelos**	1.55	146	*e*Pn	Pb	22 15 03.4	-0.3
DENT	**Denizli**	1.59	81	*e*PN	Pb	22 15 04.7	+0.3
DENT	**Denizli**	1.59	81	*e*Pn	Pb	22 15 04.7	+0.3
DNZL	**Cakiroluk**	1.59	83	*i* P	Pg	22 15 05.9	+0.2
DNZL				*i* S	Sn	22 15 24.3

n113,σ1°25/106,mb4.1/35,1C,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.69**	**44**	*e*PN	Pn	22 56 48.5	-4.1
SKR				*e*S	**Sn**	**22 57 23.9**	**-1.6**
SKR				pmax	pmax		
	comp=Z,450nm,1.0s						
SKR				pmax	pmax		
	comp=N,70nm,0.7s						
SKR				smax	smax		
	comp=N,370nm,0.5s						
SKR				smax	smax		
	comp=E,230nm,0.5s						
SKR	**Severo-Kuril's**	**2.69**	**44**	*e*P	Pn	22 56 48.5	-4.1
SKR				AMB	AMB	22 56 49.9	
	comp=E,70nm,1.0s						
SKR				AMB	AMB	22 56 49.9	
	comp=E,450nm,1.0s						
SKR				*e*S	**Sn**	**22 57 23.9**	**-1.6**
SKR				A	A	22 57 27.0	
	comp=E,370nm,0.5s						
SKR				A	A	22 57 27.0	
	comp=E,230nm,0.5s						
PEA0	**Petropavlovsk-**	**5.18**	**32**	*e*Pn	Pn	22 57 29.8	+4.3
PETK	**Petropavlovsk-**	**5.18**	**32**	PN	Pn	22 57 30.4	+4.9
PETK				pmax	pmax		
	comp=Z,5.0nm,0.3s						
PETK	**Petropavlovsk-**	**5.18**	**32**	P	Pn	22 57 30.4	+4.9
	comp=Z,4.6nm,0.3s,baz=203,slow=14,SNR=81						
PET	**Petropavlovsk**	**5.48**	**37**	*i* PN	Pn	22 57 34.9	+5.5
PET	**Petropavlovsk**	**5.48**	**37**	*e*P	Pn	22 57 34.9	+5.5
JRA	**Rausu**	**7.38**	**232**	P	**Pn**	**22 57 57.2**	**+2.2**
NEM2	**Nemuro 2**	**7.49**	**226**	P	**Pn**	**22 57 55.9**	**-0.6**
NEM2				*e*S	Sn	22 59 13.8	-6.0
JTKR	**Abashiri--Toko**	**8.01**	**236**	P	Pn	22 58 06.4	+2.9
JAK	**Akkeshi**	**8.27**	**229**	P	**Pn**	**22 58 06.4**	**-0.6**
JAK				*e*S	**Sn**	**22 59 34.7**	**-4.1**
JMP	**Maruseppu**	**8.29**	**238**	P	Pn	22 58 11.3	+4.0
JAR	**Ashorobuto**	**8.53**	**233**	P	Pn	22 58 13.4	+2.8
ASAJ	**Asahikawa**	**8.66**	**241**	P	Pn	22 58 16.9	+4.6
ASAJ	**Asahikawa**	**8.66**	**241**	*e*Pn	**Pn**	**22 58 15.2**	**+3.0**
ASAJ	**Asahikawa**	**8.66**	**241**	P	Pn	22 58 16.9	+4.6
	comp=Z,5.3nm,0.3s,baz=71,slow=12,SNR=58						
JKK2	**Kamakawa 2**	**8.72**	**240**	P	Pn	22 58 16.8	+3.7
JOB	**Onbets**	**8.78**	**231**	P	**Pn**	**22 58 14.1**	**+0.3**
JOB				*e*S	**Sn**	**22 59 46.2**	**-4.8**
JCH	**Churui**	**9.22**	**232**	P	**Pn**	**22 58 19.5**	**-0.3**
JCH				*e*S	Sn	22 59 55.5	-6.4
ERM	**Erimo**	**9.76**	**230**	*e*PN	**Pn**	**22 58 26.8**	**-0.3**
ERM	**Erimo**	**9.76**	**230**	*e*P	**Pn**	**22 58 28.0**	**+0.9**
ERM	**Erimo**	**9.76**	**230**	*e*Pn	**Pn**	**22 58 26.8**	**-0.3**
ERM				*e*Sn	Sn	23 00 06.3	-8.6
JKB	**Kayabe**	**10.97**	**236**	P	**Pn**	**22 58 41.5**	**-1.7**
JKB				*e*S	Sn	23 00 35.3	-8.8
JANG	**Nango**	**11.81**	**229**	P	Pn	22 58 49.9	-4.4
JANG				*e*S	Sn	23 00 51.6	-13
JTH	**Tanohata**	**11.98**	**227**	*e*S	Sn	23 00 55.3	-13
JRG	**Rokugo**	**13.00**	**228**	P	**Pn**	**22 59 06.8**	**-2.9**
FX1	**Attu Island--F**	**13.28**	**65**	*e*Pn	**P**	**22 59 17.4**	**-0.8**
FX1				*e*Sn	Sn	23 01 31.2	-8.3
FX1	**Attu Island--F**	**13.28**	**65**	P	**P**	**22 59 16.7**	**-1.4**
	comp=Z,4.2nm,0.3s,baz=292,slow=20,SNR=8.8						
FX1				S	**Sn**	**23 01 35.0**	**-4.5**
	comp=Z,9.6nm,0.3s,baz=333,slow=22,SNR=13						
KLR	**Kul'dur**	**14.06**	**280**	*e*P	**Pn**	**22 59 24.8**	**+1.6**
USRK	**Ussuriysk Arra**	**15.27**	**260**	P	**P**	**22 59 40.9**	**+0.7**
	comp=Z,1.4nm,0.3s,baz=71,slow=11,SNR=19						
MJA0	**Matsu Arr-Jizo**	**16.40**	**227**	*e*P	**P**	**22 59 53.5**	**+0.6**
MJA0				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MAJO	**Matsushiro**	**16.42**	**227**	*e*P	**Pn**	**22 59 51.5**	**-1.2**
MAJO				pmax	pmax		
	comp=Z,12nm,0.6s						
MAJO	**Matsushiro**	**16.42**	**227**	*e*P	**P**	**22 59 53.6**	**+0.5**
MAJO	**Matsushiro**	**16.42**	**227**	*e*P	**Pn**	**22 59 51.5**	**-1.2**
	comp=Z,12nm,0.6s						
MAT	**Matsushiro**	**16.42**	**227**	P	**P**	**22 59 54.1**	**+1.0**
MJAR	**Matsushiro Arr**	**16.42**	**227**	*e*P	**P**	**22 59 53.5**	**+0.4**
MJAR	**Matsushiro Arr**	**16.42**	**227**	P	**P**	**22 59 53.6**	**+0.4**
	comp=Z,0.9nm,0.3s,baz=24,slow=10,SNR=17						
YAK	**Yakutsk**	**18.65**	**324**	*i* P	**P**	**23 00 18.5**	**+1.2**
YAK	**Yakutsk**	**18.65**	**324**	*e*P	**P**	**23 00 18.4**	**+1.2**
KSRS	**Korea Array**	**21.52**	**248**	P	**P**	**23 00 50.2**	**+1.8**
	comp=Z,4.3nm,0.5s,baz=46,slow=9.7,SNR=12						
KS15	**Wonju Array Si**	**21.55**	**248**	*e*P	**P**	**23 00 50.2**	**+1.4**
TJN	**Taejon**	**22.56**	**246**	*i* P	**P**	**23 00 59.4**	**+0.3**
JNU	**Nakatsue**	**22.86**	**235**	P	**P**	**23 01 02.5**	**+0.4**
	comp=Z,10nm,0.8s,baz=61,slow=11,SNR=5.3						
ULN	**Ulaanbaatar**	**30.31**	**286**	*e*P	**P**	**23 02 08.8**	**-0.1**
SONA0	**Songino Array**	**30.74**	**286**	*e*P	**P**	**23 02 12.2**	**-0.4**
SONA0				*e*PcP	**PcP**	**23 05 06.1**	**-0.8**
SONM	**Songino Array**	**30.74**	**286**	P	**P**	**23 02 12.2**	**-0.4**
	comp=Z,1.2nm,0.9s,baz=68,slow=8.2,SNR=6.3						
SONM				PcP	**PcP**	**23 05 06.1**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=125,slow=2.3,SNR=4.7						
TLY	**Talaya**	**31.32**	**294**	*e*P	P	23 02 21.5	+4.0
TLY				pmax	pmax		
	comp=Z,6.0nm,0.9s						
TLY	**Talaya**	**31.32**	**294**	*e*P	P	23 02 20.8	+3.3
TRF	**Thorofare Moun**	**33.49**	**43**	*e*P	**P**	**23 02 36.4**	**-0.1**
	comp=Z,130nm,2.3s						
ILAR	**Eielson Array**	**34.95**	**40**	*e*P	**P**	**23 02 49.8**	**+0.9**
ILAR	**Eielson Array**	**34.95**	**40**	P	**P**	**23 02 47.9**	**-1.0**
	comp=Z,2.0nm,1.2s,baz=272,slow=11,SNR=5.8						
ILB	**Eielson Array**	**34.95**	**40**	*e*P	**P**	**23 02 47.9**	**-1.0**
GTA	**Gaotai**	**38.72**	**277**	*e*P	**P**	**23 03 22.0**	**+0.7**
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
INK	**Inuvik**	**39.92**	**34**	P	**P**	**23 03 30.9**	**+0.3**
	comp=Z,1.1nm,0.6s,baz=250,slow=11,SNR=4.7						
ZALV	**Zalesovo Beam**	**41.47**	**304**	P	**P**	**23 03 43.6**	**+0.1**
ZALV						23 05 39.3	
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ZALV	**Zalesovo Beam**	**41.47**	**304**	P	**P**	**23 03 43.6**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=69,slow=8.6,SNR=3.3						
ZALV				PcP	**PcP**	**23 05 39.2**	**+0.7**
	comp=Z,0.9nm,0.6s,baz=68,slow=4.0,SNR=3.9						
MK32	**Makanchi Array**	**46.06**	**296**	*e*P	**P**	**23 04 20.0**	**-0.3**
MK32				*e*pP	pP	23 04 59.7	+9.4
MK32				*e*PcP	**PcP**	**23 05 54.4**	**0.0**
MKAR	**Makanchi Array**	**46.06**	**296**	P	**P**	**23 04 20.0**	**-0.3**
MKAR				*PP	pP	23 04 59.7	+9.5
MKAR						23 05 54.4	
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
MKAR	**Makanchi Array**	**46.06**	**296**	*e*P	**P**	**23 04 20.0**	**-0.3**
MKAR	**Makanchi Array**	**46.06**	**296**	*e*P	**P**	**23 04 18.2**	**-2.1**
MKAR	**Makanchi Array**	**46.06**	**296**	P	**P**	**23 04 20.0**	**-0.3**
	comp=Z,2.6nm,0.7s,baz=67,slow=7.4,SNR=27						
MKAR				pP	pP	23 04 59.7	+9.5
	comp=Z,1.8nm,0.8s,baz=64,slow=8.2,SNR=9.2						
MKAR				PcP	**PcP**	**23 05 54.4**	**0.0**
	comp=Z,0.9nm,1.0s,baz=31,slow=2.8,SNR=3.7						
MK01	**Makanchi Array**	**46.06**	**296**	*e*P	**P**	**23 04 19.1**	**-1.3**
VOSK	**Vostochnaya**	**49.45**	**308**	*e*P	**P**	**23 04 45.4**	**-0.9**
VOSK				pmax	pmax		
	comp=Z,35nm,2.6s						
VOSK	**Vostochnaya**	**49.45**	**308**	*e*P	**P**	**23 04 45.4**	**-0.9**
	comp=Z,35nm,2.6s						
BRVK	**Borovoye**	**49.64**	**308**	*e*P	**P**	**23 04 46.3**	**-1.4**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BRVK	**Borovoye**	**49.64**	**308**	*e*P	**P**	**23 04 46.3**	**-1.4**
	comp=Z,2.2nm,0.6s						
CHTO	**Chiang Mai**	**52.65**	**255**	*e*P	**P**	**23 05 10.0**	**-0.6**
CHTO				pmax	pmax		
	comp=Z,13nm,1.2s						
CHTO	**Chiang Mai**	**52.65**	**255**	*e*P	**P**	**23 05 10.0**	**-0.6**
	comp=Z,13nm,1.2s						
CM31	**Chiang Mai Arr**	**52.91**	**255**	*e*P	**P**	**23 05 13.1**	**+0.5**
CMAR	**Chiang Mai Arr**	**52.91**	**255**	P	**P**	**23 05 13.1**	**+0.5**
	comp=Z,5.0nm,0.8s,baz=33,slow=7.1,SNR=30						
CM01	**Chiang Mai Arr**	**52.93**	**255**	*e*P	**P**	**23 05 10.3**	**-2.4**
AAK	**Ala-Archa**	**52.98**	**295**	⇑*i*P	**P**	**23 05 12.8**	**-0.2**
AAK				pmax	pmax		
	comp=Z,12nm,1.7s						
AAK	**Ala-Archa**	**52.98**	**295**	*e*P	**P**	**23 05 12.8**	**-0.2**
ARA0	**ARCESS Array S**	**55.93**	**340**	*e*P	**P**	**23 05 32.5**	**-1.3**
ARCES	**ARCESS Array B**	**55.93**	**340**	P	**P**	**23 05 32.5**	**-1.3**
	comp=Z,1.9nm,0.9s,baz=43,slow=9.3,SNR=6.0						
ABKAR	**Akbulak array**	**57.15**	**309**	*e*P	**P**	**23 05 41.7**	**-0.9**
BPMT	**Black Pine Rid**	**59.02**	**54**	*e*P	**P**	**23 05 56.5**	**+0.5**
WAKR	**Walker**	**60.75**	**64**	*e*P	**P**	**23 06 08.5**	**+0.6**
NV01	**Mina Array Sit**	**61.47**	**63**	*e*P	**P**	**23 06 13.7**	**+0.9**
FIA0	**FINESS Array S**	**62.21**	**334**	*e*P	**P**	**23 06 16.0**	**-1.0**
FIA0	**FINESS Array S**	**62.21**	**334**	*e*P	**P**	**23 06 15.9**	**-1.0**
FINES	**FINESS Array B**	**62.21**	**334**	P	**P**	**23 06 15.9**	**-1.0**
	comp=Z,0.7nm,0.5s,baz=30,slow=8.5,SNR=13						
PD31	**Pinedale Array**	**63.52**	**55**	*e*P	**P**	**23 06 27.2**	**+0.8**
PDAR	**Pinedale Array**	**63.52**	**55**	P	**P**	**23 06 27.2**	**+0.8**
	comp=Z,0.5nm,0.3s,baz=168,slow=3.2,SNR=5.0						
NB200	**NORSAR Array S**	**66.30**	**341**	*e*P	**P**	**23 06 43.3**	**-0.4**
NOA	**NORSAR Array B**	**66.30**	**341**	P	**P**	**23 06 43.3**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=20,slow=6.2,SNR=6.2						
HFS	**Hagfors**	**66.55**	**339**	P	**P**	**23 06 44.2**	**-1.1**
	comp=Z,1.1nm,0.3s,baz=36,slow=2.8,SNR=22						
WRA	**Warramunga Arr**	**70.46**	**199**	*e*P	**P**	**23 07 09.3**	**-0.7**
WRA	**Warramunga Arr**	**70.46**	**199**	P	**P**	**23 07 09.3**	**-0.7**
	comp=Z,1.1nm,0.7s,baz=9.5,slow=6.6,SNR=14						
AS12	**Alice Springs**	**74.16**	**198**	*e*P	**P**	**23 07 32.3**	**+0.4**
ASAR	**Alice Springs**	**74.16**	**198**	P	**P**	**23 07 32.3**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=9.9,slow=5.5,SNR=12						
LTX	**Lajitas**	**76.46**	**61**	*e*P	**P**	**23 07 46.5**	**+1.1**
LTX	**Lajitas**	**76.46**	**61**	*e*P	**P**	**23 07 46.5**	**+1.1**
TX31	**Lajitas Ar. Si**	**76.46**	**61**	*e*P	**P**	**23 07 46.0**	**+0.7**
TXAR	**Lajitas Array**	**76.47**	**61**	P	**P**	**23 07 46.5**	**+1.1**
	comp=Z,2.0nm,0.6s,baz=297,slow=4.7,SNR=26						
CDF	**Champ du Feu**	**78.78**	**338**	*e*P	**P**	**23 07 57.9**	**0.0**
	comp=Z,2.7nm,0.6s						
SFTF	**Sexfontaines**	**79.52**	**339**	*e*P	**P**	**23 08 02.0**	**+0.2**
	comp=Z,9.4nm,0.5s						
SFTF				*e*pP	pP	23 08 44.0	+9.3
LDF	**La Druitiere**	**80.28**	**342**	*e*P	**P**	**23 08 04.3**	**-1.6**
	comp=Z,85nm,1.5s						
GRR	**Gorron**	**80.62**	**343**	*e*P	**P**	**23 08 06.5**	**-1.2**
LOR	**Lormes**	**80.67**	**339**	*e*P	**P**	**23 08 08.0**	**0.0**
	comp=Z,2.4nm,0.5s						
CABF	**La Chapelle**	**80.75**	**338**	*e*P	**P**	**23 08 09.3**	**+0.8**
AVF	**Avril sur Loir**	**81.24**	**340**	*e*P	**P**	**23 08 11.2**	**+0.2**
	comp=Z,4.1nm,0.6s						
SMF	**Signal de Mont**	**81.26**	**339**	*e*P	**P**	**23 08 11.3**	**+0.2**
BGF	**Bois d'Agland**	**81.58**	**340**	*e*P	**P**	**23 08 12.9**	**+0.1**
	comp=Z,4.1nm,0.5s						
LPL	**La Plagne**	**81.60**	**337**	*e*P	**P**	**23 08 14.0**	**+0.8**
	comp=Z,4.0nm,0.6s						
LPG	**La Plagne**	**81.61**	**337**	*e*P	**P**	**23 08 14.2**	**+0.8**
MFF	**Saint Martin d**	**82.18**	**342**	*e*P	**P**	**23 08 16.3**	**+0.4**
ORIF	**Oris-en-Rattie**	**82.38**	**337**	*e*P	**P**	**23 08 17.9**	**+0.8**
	comp=Z,3.9nm,0.6s						
CAF	**Calviac**	**83.30**	**340**	*e*P	**P**	**23 08 22.5**	**+0.7**
FRF	**La Foret Royal**	**83.44**	**336**	*e*P	**P**	**23 08 22.5**	**0.0**
	comp=Z,22nm,1.4s						
LMR	**La Mourre**	**83.69**	**336**	*e*P	**P**	**23 08 23.2**	**-0.6**
	comp=Z,6.8nm,0.8s						
PGF	**Pioggiola**	**83.73**	**334**	*e*P	**P**	**23 08 23.2**	**-0.9**
	comp=Z,37nm,1.2s						
EPF	**Esparros**	**85.48**	**340**	*e*P	**P**	**23 08 33.4**	**+0.5**
	comp=Z,3.3nm,0.6s						

MEX 11 23:08:51.0±0.4, 15°.55N×94°.73W, h17km±5km, MD3.6, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.35**	**279**	*e*P	Pn	23 09 11.7	-3.4
HUIG				*i* S	Sn	23 09 27.4	-5.2
PCIG		**1.46**	**84**	*e*P	Pn	23 09 13.2	-3.4
PCIG				*i* S	Sn	23 09 30.3	-5.1
CMIG	**Matias Romero**	**1.54**	**354**	*e*P	Pn	23 09 14.4	-3.3
CMIG				*i* S	Sn	23 09 32.4	-5.0
TGIG		**1.96**	**51**	*e*P	Pn	23 09 21.0	-2.7
TGIG				*e*S	Sn	23 09 43.8	-4.3
CCIG	**Comitan**	**2.59**	**73**	*e*P	Pn	23 09 29.0	-3.5
CCIG				*e*S	Sn	23 10 00.4	-3.4

IDC 11 23:15:23.6±2.5, 27°.25N×92°.88E, h0km, mb3.3/4, mb1 3.6/5, mb1mx3.3/29, mbtmp3.3/5, ML3.3/1, Error ellipse: s-maj=216.4km s-min=20.3km az=60.0, Eastern Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.38**	**146**	Pn	Pn	23 17 52.6	-1.3
	0.1nm,0.3s,baz=322,slow=12,SNR=4.3						
MKAR	**Makanchi Array**	**21.22**	**340**	P	P	23 20 10.1	-0.9
	0.2nm,0.7s,baz=153,slow=11,SNR=2.4						
KURBB	**Kurchatov Arra**	**25.78**	**339**	P	P	23 20 56.5	+0.5
	0.5nm,0.5s,baz=135,slow=10,SNR=3.6						
WRA	**Warramunga Arr**	**61.76**	**135**	P	P	23 25 44.3	+0.1
	0.6nm,0.6s,baz=324,slow=7.2,SNR=9.9						
ASAR	**Alice Springs**	**64.28**	**138**	P	P	23 26 01.2	+0.2
	0.2nm,0.3s,baz=316,slow=5.2,SNR=3.4						

*IDC **11** 23:20:10.8±6.7, 36°.57N×70°.40E, h170km±62km, mb3.1/2, mb1 2.9/6, mb1mx2.7/29, mbtmp2.9/6, Error ellipse: s-maj=72.9km s-min=41.8km az=145.0*
*NNC **11** 23:20:17.1±14.0, 36°.86N×70°.72E, h159km±274km, mb2.9, mpv3.7, Error ellipse: s-maj=132.7km s-min=68.2km az=8.0*

ISC 11 23:20:08.6±1.9, 36°.4N±0°.2×70°.6E±0°.2, h150km, n9, σ2°06/11, 2C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.70**	**359**	P	Pn	23 21 47.5	+3.0
	2.5nm,0.3s,baz=180,slow=14,SNR=166						
KK31				S	**Sn**	**23 22 58.9**	**-0.9**
	3.4nm,0.4s,baz=184,slow=21,SNR=14						
AAK	**Ala-Archa**	**6.91**	**25**	P	**Pn**	**23 21 49.8**	**+2.2**
	1.4nm,0.3s,baz=182,slow=5.8,SNR=11						
AAK				S	**Sn**	**23 23 04.7**	**-0.4**
	0.9nm,0.3s,baz=121,slow=21,SNR=13						
TKM2	**Tokmak 2**	**7.56**	**29**	⇑P	**Pn**	**23 21 58.6**	**+2.3**
	2.7nm,0.5s						
TKM2				⇓S	**Sn**	**23 23 17.2**	**-3.7**
	2.7nm,0.8s						
MKAR	**Makanchi Array**	**13.56**	**36**	P	**Pn**	**23 23 15.8**	**+0.9**
	0.1nm,0.3s,baz=213,slow=11,SNR=6.5						
AB31	**Akbulak array**	**15.02**	**332**	⇑P	**P**	**23 23 36.8**	**+1.9**
	0.7nm,0.6s,baz=149,slow=12,SNR=15						
BVAR	**Borovoye Array**	**16.63**	**360**	P	**Pn**	**23 23 51.7**	**-1.1**
	0.1nm,0.3s,baz=141,slow=9.3,SNR=3.1						
AKTO	**Aktyubinsk**	**16.71**	**331**	P	**P**	**23 23 52.4**	**-1.2**
	0.1nm,0.3s,baz=104,slow=4.2,SNR=3.5						
ZALV	**Zalesovo Beam**	**20.14**	**25**	P	**P**	**23 24 31.0**	**+0.2**
	1.2nm,0.4s,baz=220,slow=10,SNR=7.7						
TORD	**Torodi Ar. Bea**	**65.40**	**268**	P	**P**	**23 30 34.0**	**-1.4**
	0.3nm,0.6s,baz=49,slow=6.3,SNR=7.4						

MEX 11 23:56:19.1±0.5, 17°.73N×97°.53W, h64km±5km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UTMO	**Huajuapan**	**0.28**	**291**	*e*P	Pn	23 56 28.3	-1.6
UTMO				*i* S	Sn	23 56 36.0	-1.6
TPIG	**Tehuac#an**	**0.70**	**13**	*e*P	Pn	23 56 32.7	-1.2
TPIG				*i* S	Sn	23 56 42.9	-1.9
HMTT	**Tlapaneco**	**0.99**	**274**	*e*P	Pn	23 56 35.5	-1.8
HMTT				*i* S	Sn	23 56 49.0	-1.8
VHO	**Vista Hermosa**	**1.00**	**131**	*e*P	Pn	23 56 37.0	-0.5
VHO				*e*S	Sn	23 56 50.0	-1.3
PNIG	**Pinotepa**	**1.45**	**204**	*e*P	Pn	23 56 41.7	-1.6
PNIG				*e*S	Sn	23 57 00.3	-1.2
PPM	**Popocatepetl**	**1.69**	**322**	*e*P	Pn	23 56 45.1	-2.1
PPM				*i* S	Sn	23 57 05.3	-3.0
YAIG	**Yautepec**	**1.85**	**308**	*e*P	Pn	23 56 48.3	-0.5
YAIG				*i* S	Sn	23 57 09.4	-1.9
PLIG	**Platanillo**	**1.99**	**290**	*e*P	Pn	23 56 50.3	-0.4
PLIG				*i* S	Sn	23 57 12.8	-1.9
HUIG	**Huatulco**	**2.38**	**145**	*i* P	Pn	23 56 53.9	-1.9
HUIG				*i* S	Sn	23 57 21.5	-2.3
ACX	**Acapulco**	**2.39**	**249**	*e*P	Pn	23 56 55.0	-1.0
ACX				*i* S	Sn	23 57 25.5	+1.3
CMIG	**Matias Romero**	**2.60**	**104**	*e*P	Pn	23 56 58.6	-0.3
CMIG				*i* S	Sn	23 57 27.5	-1.8
CAIG	**El Cayaco**	**2.71**	**256**	*e*P	Pn	23 56 58.1	-2.1
CAIG				*i* S	Sn	23 57 29.9	-2.0
ARIG	**Puente Sto Nin**	**2.74**	**282**	*e*P	Pn	23 57 00.6	-0.2
ARIG				*i* S	Sn	23 57 29.7	-3.1
PCIG		**4.59**	**115**	*i* P	Pn	23 57 24.9	-1.1
PCIG				*i* S	Sn	23 58 16.9	-1.2

IDC 11 23:56:49.5±2.3, 6°.63S×129°.82E, h0km, mb3.2/1, mb1 3.5/4, mb1mx3.4/19, mbtmp3.3/4, ML3.4/3, Error ellipse: s-maj=91.6km s-min=29.4km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.11**	**199**	Pn	Pn	23 59 44.6	+1.2
	0.2nm,0.3s,baz=28,slow=8.8,SNR=19						
FITZ				Sn	Sn	00 01 50.3	-9.0
	0.1nm,0.3s,baz=165,slow=20,SNR=3.6						
WRA	**Warramunga Arr**	**13.94**	**162**	Pn	Pn	00 00 08.0	-0.6
	0.2nm,0.3s,baz=339,slow=11,SNR=10						
WRA				Sn	Sn	00 02 31.9	-12
	0.3nm,0.3s,baz=342,slow=23,SNR=7.3						
ASAR	**Alice Springs**	**17.39**	**167**	P	Pn	00 00 53.1	-0.7
	0.1nm,0.3s,baz=341,slow=9.0,SNR=4.8						
MKAR	**Makanchi Array**	**67.82**	**327**	P	P	00 07 49.5	0.0
	0.1nm,0.3s,baz=120,slow=5.5,SNR=4.1						

*IDC **12** 00:09:45.4±2.0, 6°.58S×129°.35E, h0km, mb3.8/1, mb1 3.7/4, mb1mx3.5/20, mbtmp3.6/4, ML3.5/3, Error ellipse: s-maj=87.7km s-min=27.2km az=76.0*
*AUST **12** 00:09:56.9, 6°.98S×129°.54E, h100km*
*ISCJB **12** 00:09:57.4±0.7, 7°.10S±0°.05×129°.64E±0°.08, h139km, mb3.5/1, Error ellipse: s-maj=11.8km s-min=6.6km az=164.7*

ISC 12 00:09:57.3±0.9, 7°.12S±0°.06×129°.64E±0°.09, h139km, n13, σ2°47/17, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLE	**Tual**	**3.41**	**65**	P	**Pn**	**00 10 52.7**	**+3.1**
	baz=3.5,SNR=9.0						
FAKI	**Fak Fak**	**4.92**	**32**	P	**Pn**	**00 11 08.9**	**-0.6**
	baz=4.9,SNR=6.3						
FAKI				S	**Sn**	**00 12 01.8**	**-3.9**
	baz=4.9,SNR=3.1						
MTN	**Manton Dam**	**5.87**	**166**	P	**Pn**	**00 11 25.2**	**+3.0**
	baz=6.1,SNR=9.1						
MTN				S	**Sn**	**00 12 29.0**	**+0.4**
	baz=6.1,SNR=5.1						
SOEI	**Soe**	**5.92**	**243**	P	**Pn**	**00 11 25.7**	**+2.6**
	baz=5.9,SNR=7.8						
KDU	**Kakadu**	**6.19**	**153**	P	**Pn**	**00 11 28.8**	**+2.3**
	baz=6.4,SNR=27						
KDU				S	**Sn**	**00 12 37.2**	**+0.9**
	baz=6.4,SNR=7.4						
KNRA	**Kununurra**	**8.54**	**186**	P	**Pn**	**00 11 59.4**	**+1.3**
	baz=8.7,SNR=10						
KNRA				S	**Sn**	**00 13 29.9**	**-3.1**
	baz=8.7,SNR=7.7						
LUWI	**Luwuk**	**9.13**	**311**	P	**Pn**	**00 12 06.4**	**+0.5**
	baz=9.0,SNR=4.0						
FITZ	**Fitzroy Crossi**	**11.59**	**199**	Pn	**Pn**	**00 12 38.1**	**-0.5**
	0.5nm,0.3s,baz=20,slow=12,SNR=14						
FITZ				Sn	Sn	00 14 40.2	-6.3
	0.7nm,0.3s,baz=203,slow=20,SNR=7.8						
FITZ	**Fitzroy Crossi**	**11.59**	**199**	P	**Pn**	**00 12 38.5**	**-0.1**
	baz=12,SNR=11						
WRA	**Warramunga Arr**	**13.54**	**161**	Pn	**Pn**	**00 13 05.1**	**+1.3**
	0.2nm,0.3s,baz=339,slow=13,SNR=6.9						
WRA				Sn	Sn	00 15 26.8	-6.7
	0.5nm,0.3s,baz=332,slow=22,SNR=8.6						
ASAR	**Alice Springs**	**16.95**	**166**	P	Pn	00 13 52.9	+6.6
	0.1nm,0.3s,baz=347,slow=9.3,SNR=5.0						
ASAR				S	**S**	**00 16 51.0**	**-4.7**
	0.1nm,0.3s,baz=354,slow=27,SNR=4.3						
MK31	**Makanchi Array**	**68.13**	**327**	Lg	**P**	**00 20 43.5**	**+1.1**
	1.2nm,1.1s,baz=115,slow=8.3,SNR=8.9						
MKAR	**Makanchi Array**	**68.13**	**327**	P	**P**	**00 20 43.5**	**+1.2**
	0.5nm,0.5s,baz=114,slow=7.8,SNR=11

s-min=12.3km az=171.0
NEIC **12** *00:50:38.5±0.7, 37°.52N×27°.08E, h2km±5km, mb4.3/19, ML3.8(ATH), ML3.9(ISK), ML4.1(THE), Error ellipse: s-maj=3.2km s-min=2.9km az=53.0*
ISCJB **12** *00:50:39.0±0.4, 37°.53N±0°.01×27°.02E±0°.02, h12km±3km, mb4.0/23, MS3.4/2, Error ellipse: s-maj=2.3km s-min=2.0km az=3.2*
THE **12** *00:50:39.3, 37°.52N×27°.04E, h1km±1km, ML4.1/4, Error ellipse: s-maj=1.5km s-min=0.7km az=223.0*
ATH **12** *00:50:39.0, 37°.56N×26°.99E, h24km±1km, MD3.9/41, ML3.8*
CSEM **12** *00:50:39.7±0.1, 37°.51N×27°.04E, h10km, mb4.4/8, Ms2.7, Error ellipse: s-maj=2.2km s-min=2.0km az=4.0*
DDA **12** *00:50:39.4, 37°.56N×27°.08E, h20km, ML4.5*
ISC 12 00:50:39.8±0.8, 37°.52N±0°.01×27°.06E±0°.02, h12km±5km, n532, σ1$06/581, mb4.0/23, 13C-15D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCAM	**G?zelcaml?**	**0.23**	**38**	*i* P	**Pg**	**00 50 44.6**	**-0.1**
GCAM				*i* S	**Sg**	**00 50 48.4**	**+0.4**
SMG	**Samos**	**0.26**	**317**	P	**Pg**	**00 50 44.7**	**-0.4**
SMG				S	**Sg**	**00 50 48.1**	**-0.7**
SMG	**Samos**	**0.26**	**317**	⇑*i*PB	**Pg**	**00 50 44.8**	**-0.4**
SMG				*e*SB	**Sg**	**00 50 48.4**	**-0.4**
SMG	**Samos**	**0.26**	**317**	P	**Pg**	**00 50 44.7**	**-0.4**
SMG				S	**Sg**	**00 50 48.1**	**-0.7**
SMG	**Samos**	**0.26**	**317**	⇑*i*Pb	**Pg**	**00 50 44.8**	**-0.4**
SMG				S	**Sg**	**00 50 48.1**	**-0.7**
BODT	**Bodrum**	**0.50**	**156**	PG	**Pg**	**00 50 48.9**	**-0.7**
BODT				*e*SG	**Sg**	**00 50 56.1**	**-0.1**
BODT	**Bodrum**	**0.50**	**156**	*i* Pg	**Pg**	**00 50 48.9**	**-0.7**
BODT				*e*Sg	**Sg**	**00 50 56.2**	**-0.1**
BDRM	**Kayabasi**	**0.55**	**146**	*i* P	**Pg**	**00 50 50.6**	**+0.1**
BDRM				*i* S	**Sb**	**00 50 59.1**	**-0.1**
BDRM	**Kayabasi**	**0.55**	**146**	*i* P	**Pg**	**00 50 50.6**	**+0.1**
BDRM				*i* S	**Sb**	**00 50 59.1**	**-0.1**
AYDN	**Tasoluk**	**0.67**	**78**	*i* P	**Pg**	**00 50 52.7**	**-0.1**
AYDN				*i* S	**Sg**	**00 51 01.1**	**-0.5**
AYDN	**Tasoluk**	**0.67**	**78**	*i* P	**Pg**	**00 50 52.7**	**-0.1**
AYDN				*i* S	**Sg**	**00 51 01.1**	**-0.5**
DAT	**Datca**	**0.89**	**152**	*e*PG	**Pg**	**00 50 56.0**	**-1.1**
DAT	**Datca**	**0.89**	**152**	*e*Pg	**Pg**	**00 50 56.0**	**-1.1**
NISR	**Nisiros**	**0.91**	**176**	P	**Pb**	**00 50 57.5**	**+0.1**
NISR	**Nisiros**	**0.91**	**176**	P	**Pb**	**00 50 57.5**	**+0.1**
NISR	**Nisiros**	**0.91**	**176**	P	**Pb**	**00 50 57.5**	**+0.1**
URLA	**Izmir**	**0.91**	**337**	*i* P	**Pg**	**00 50 56.2**	**-1.3**
URLA				*i* S	**Sb**	**00 51 10.2**	**+0.5**
URLA	**Izmir**	**0.91**	**337**	*i* P	**Pg**	**00 50 56.2**	**-1.3**
URLA				*i* S	**Sb**	**00 51 10.2**	**+0.5**
YER	**Yerkesik**	**1.05**	**111**	*e*PN	**Pb**	**00 50 59.4**	**-0.5**
YER	**Yerkesik**	**1.05**	**111**	*e*Pn	**Pb**	**00 50 59.4**	**-0.5**
CHOS	**Chios island**	**1.17**	**318**	P	**Pb**	**00 51 00.5**	**-1.5**
CHOS				S	**Sn**	**00 51 18.3**	**+0.3**
CHOS	**Chios island**	**1.17**	**318**	*e*PN	**Pb**	**00 51 00.9**	**-1.1**
CHOS				*e*SN	**Sb**	**00 51 16.1**	**-1.1**
CHOS	**Chios island**	**1.17**	**318**	P	**Pb**	**00 51 00.5**	**-1.5**
CHOS				S	**Sn**	**00 51 18.3**	**+0.3**
CHOS	**Chios island**	**1.17**	**318**	P	**Pb**	**00 51 00.5**	**-1.5**
CHOS	**Chios island**	**1.17**	**318**	*e*Pn	**Pb**	**00 51 00.9**	**-1.1**
CHOS				*e*Sn	**Sb**	**00 51 16.1**	**-1.1**
CHOS				S	**Sn**	**00 51 18.3**	**+0.3**
APE	**Apeiranthos**	**1.30**	**250**	*e*PN	**Pn**	**00 51 02.5**	**-1.3**
APE	**Apeiranthos**	**1.30**	**250**	P	**Pn**	**00 51 02.4**	**-1.3**
APE				S	**Sb**	**00 51 20.6**	**-0.1**
APE	**Apeiranthos**	**1.30**	**250**	*e*PN	**Pn**	**00 51 02.4**	**-1.3**
APE				*e*SN	**Sg**	**00 51 21.5**	**-0.1**
APE	**Apeiranthos**	**1.30**	**250**	P	**Pn**	**00 51 02.4**	**-1.3**
APE				S	**Sb**	**00 51 20.6**	**-0.1**
APE	**Apeiranthos**	**1.30**	**250**	*e*Pn	**Pn**	**00 51 02.5**	**-1.3**
APE				S	**Sb**	**00 51 20.6**	**-0.1**
APE				*e*Sn	**Sg**	**00 51 21.5**	**-0.1**
TURN	**Turunc**	**1.39**	**117**	*i* P	**Pn**	**00 51 02.7**	**-2.3**
TURN				*i* S	**Sn**	**00 51 19.6**	**-3.7**
DALY	**Dalyan (Mu¨la**	**1.46**	**118**	*e*PN	**Pn**	**00 51 05.8**	**0.0**
DALY	**Dalyan (Mu¨la**	**1.46**	**118**	*e*Pn	**Pn**	**00 51 05.8**	**0.0**
AKHS	**Akhisar**	**1.48**	**24**	*i* P	**Pn**	**00 51 05.0**	**-1.3**
AKHS				*i* S	**Sg**	**00 51 27.2**	**-0.3**
AKHS	**Akhisar**	**1.48**	**24**	*i* P	**Pn**	**00 51 05.0**	**-1.3**
AKHS				*i* S	**Sg**	**00 51 27.2**	**-0.3**
AKS	**Akhisar**	**1.48**	**24**	*e*PN	**Pn**	**00 51 05.2**	**-1.1**
AKS	**Akhisar**	**1.48**	**24**	*e*Pn	**Pn**	**00 51 05.2**	**-1.1**
MANT	**Manisa**	**1.53**	**50**	*i* P	**Pb**	**00 51 08.5**	**+0.3**
MANT				*i* S	**Sn**	**00 51 27.6**	**+0.5**
MANT	**Manisa**	**1.53**	**50**	*i* P	**Pb**	**00 51 08.5**	**+0.3**
MANT				*i* S	**Sn**	**00 51 27.6**	**+0.5**
ARG	**Arkhangelos**	**1.56**	**146**	P	**Pn**	**00 51 07.4**	**+0.2**
ARG				S	**Sb**	**00 51 27.9**	**-0.3**
ARG	**Arkhangelos**	**1.56**	**146**	*e*PB	**Pn**	**00 51 07.5**	**+0.2**
ARG				*e*SN	**Sg**	**00 51 29.9**	**-0.1**
ARG	**Arkhangelos**	**1.56**	**146**	P	**Pn**	**00 51 07.4**	**+0.2**
ARG				S	**Sb**	**00 51 27.9**	**-0.3**
ARG	**Arkhangelos**	**1.56**	**146**	*e*Pb	**Pn**	**00 51 07.5**	**+0.2**
ARG				S	**Sb**	**00 51 27.9**	**-0.3**
ARG				*e*Sn	**Sg**	**00 51 29.9**	**-0.1**
DENT	**Denizli**	**1.59**	**81**	*e*PN	**Pn**	**00 51 08.0**	**+0.3**
DENT	**Denizli**	**1.59**	**81**	*e*Pn	**Pn**	**00 51 08.0**	**+0.3**
KULA	**Kula-Manisa**	**1.61**	**51**	*e*PN	**Pn**	**00 51 07.7**	**-0.4**
KULA	**Kula-Manisa**	**1.61**	**51**	P	**Pn**	**00 51 07.4**	**-0.7**
KULA				S	**Sb**	**00 51 29.4**	**-0.4**
KULA	**Kula-Manisa**	**1.61**	**51**	P	**Pn**	**00 51 07.4**	**-0.7**
KULA				S	**Sb**	**00 51 29.4**	**-0.4**
KULA	**Kula-Manisa**	**1.61**	**51**	P	**Pn**	**00 51 07.4**	**-0.7**
KULA	**Kula-Manisa**	**1.61**	**51**	*e*Pn	**Pn**	**00 51 07.7**	**-0.4**
KULA				S	**Sb**	**00 51 29.4**	**-0.4**
THR2	**Thira island,**	**1.68**	**231**	P	**Pn**	**00 51 08.0**	**-1.0**
THR2	**Thira island,**	**1.68**	**231**	P	**Pn**	**00 51 08.0**	**-1.0**
THR2	**Thira island,**	**1.68**	**231**	P	**Pn**	**00 51 08.0**	**-1.0**
SANT	**Santorini**	**1.72**	**229**	*e*PN	**Pn**	**00 51 07.8**	**-1.7**
SANT	**Santorini**	**1.72**	**229**	P	**Pn**	**00 51 08.7**	**-0.8**
SANT				S	**Sb**	**00 51 32.3**	**-0.5**
SANT	**Santorini**	**1.72**	**229**	*e*PB	**Pn**	**00 51 08.6**	**-0.9**
SANT	**Santorini**	**1.72**	**229**	P	**Pn**	**00 51 08.7**	**-0.8**
SANT				S	**Sb**	**00 51 32.3**	**-0.5**
SANT	**Santorini**	**1.72**	**229**	*e*Pn	**Pn**	**00 51 07.8**	**-1.7**
SANT	**Santorini**	**1.72**	**229**	*e*Pb	**Pn**	**00 51 08.6**	**-0.9**
SANT				S	**Sb**	**00 51 32.3**	**-0.5**
THR1	**Thera Island**	**1.72**	**229**	P	**Pn**	**00 51 08.5**	**-1.0**
THR1	**Thera Island**	**1.72**	**229**	P	**Pn**	**00 51 08.5**	**-1.0**
PRK	**Paraskevi**	**1.83**	**341**	P	**Pn**	**00 51 10.0**	**-1.0**
PRK				S	**Sb**	**00 51 35.7**	**-0.3**
PRK	**Paraskevi**	**1.83**	**341**	*e*PN	**Pn**	**00 51 10.2**	**-0.8**
PRK				*e*SN	**Sn**	**00 51 33.0**	**-1.1**
PRK	**Paraskevi**	**1.83**	**341**	P	**Pn**	**00 51 10.0**	**-1.0**
PRK				S	**Sb**	**00 51 35.7**	**-0.3**
PRK	**Paraskevi**	**1.83**	**341**	*e*Pn	**Pn**	**00 51 10.2**	**-0.8**
PRK				*e*Sn	**Sn**	**00 51 33.0**	**-1.1**
PRK				S	**Sb**	**00 51 35.7**	**-0.3**
FETY	**Fethiye**	**1.85**	**118**	*e*PN	**Pn**	**00 51 11.7**	**+0.4**
FETY	**Fethiye**	**1.85**	**118**	*e*Pn	**Pn**	**00 51 11.7**	**+0.4**
KHL	**Karahalli**	**2.11**	**67**	*e*PN	**Pn**	**00 51 15.1**	**+0.1**
KHL	**Karahalli**	**2.11**	**67**	*e*Pn	**Pn**	**00 51 15.1**	**+0.1**
MRMA	**Marmari**	**2.19**	**285**	P	**Pn**	**00 51 15.7**	**-0.2**
MRMA	**Marmari**	**2.19**	**285**	P	**Pn**	**00 51 15.7**	**-0.2**
BALB	**Balikesir**	**2.21**	**17**	*e*PN	**Pn**	**00 51 16.0**	**-0.3**
BALB	**Balikesir**	**2.21**	**17**	*e*Pn	**Pn**	**00 51 16.0**	**-0.3**
ELL	**Elmali**	**2.41**	**108**	*e*PN	**Pn**	**00 51 19.5**	**+0.4**
ELL	**Elmali**	**2.41**	**108**	*e*Pn	**Pn**	**00 51 19.5**	**+0.4**
AKAS	**Kas**	**2.42**	**121**	*i* P	**Pb**	**00 51 21.4**	**-1.8**
AKAS	**Kas**	**2.42**	**121**	*i* P	**Pb**	**00 51 21.4**	**-1.8**
DST	**Dursunbey**	**2.42**	**30**	*e*PN	**Pn**	**00 51 19.6**	**+0.5**
DST	**Dursunbey**	**2.42**	**30**	*e*Pn	**Pn**	**00 51 19.6**	**+0.5**
KSL	**Kastellorizon**	**2.45**	**123**	*e*PB	**Pn**	**00 51 21.3**	**+1.8**
ZKR	**Zakros**	**2.49**	**196**	P	**Pn**	**00 51 19.4**	**-0.8**
ZKR	**Zakros**	**2.49**	**196**	*e*PB	**Pn**	**00 51 21.6**	**+1.4**
ZKR	**Zakros**	**2.49**	**196**	P	**Pn**	**00 51 19.4**	**-0.8**
ZKR	**Zakros**	**2.49**	**196**	P	**Pn**	**00 51 19.4**	**-0.8**
ZKR	**Zakros**	**2.49**	**196**	*e*Pb	**Pn**	**00 51 21.6**	**+1.4**
NPS	**Neapolis**	**2.54**	**208**	P	**Pn**	**00 51 20.1**	**-0.7**
NPS	**Neapolis**	**2.54**	**208**	*e*PN	**Pn**	**00 51 20.1**	**-0.7**
NPS	**Neapolis**	**2.54**	**208**	P	**Pn**	**00 51 20.1**	**-0.7**
NPS	**Neapolis**	**2.54**	**208**	P	**Pn**	**00 51 20.1**	**-0.7**
GONE	**Gonen-Balikesi**	**2.57**	**11**	*e*PN	**Pn**	**00 51 21.5**	**+0.3**
GONE	**Gonen-Balikesi**	**2.57**	**11**	*e*Pn	**Pn**	**00 51 21.5**	**+0.3**
PTL	**Penteli**	**2.58**	**283**	P	**Pn**	**00 51 20.9**	**-0.5**
PTL	**Penteli**	**2.58**	**283**	*e*PN	**Pn**	**00 51 21.0**	**-0.5**
PTL	**Penteli**	**2.58**	**283**	P	**Pn**	**00 51 20.9**	**-0.5**
PTL	**Penteli**	**2.58**	**283**	*e*Pn	**Pn**	**00 51 21.0**	**-0.5**
ATHU	**Athens Univers**	**2.63**	**281**	P	**Pn**	**00 51 21.3**	**-0.7**
ATHU	**Athens Univers**	**2.63**	**281**	P	**Pn**	**00 51 21.3**	**-0.7**
ATHU	**Athens Univers**	**2.63**	**281**	P	**Pn**	**00 51 21.3**	**-0.7**
LAST	**Lasithi**	**2.68**	**209**	P	**Pn**	**00 51 23.2**	**+0.5**
LAST	**Lasithi**	**2.68**	**209**	*e*PN	**Pn**	**00 51 22.4**	**-0.3**
LAST	**Lasithi**	**2.68**	**209**	P	**Pn**	**00 51 23.2**	**+0.5**
LAST	**Lasithi**	**2.68**	**209**	*e*Pn	**Pn**	**00 51 22.4**	**-0.3**
LAST	**Lasithi**	**2.68**	**209**	P	**Pn**	**00 51 23.2**	**+0.5**
ATH	**Athens Observa**	**2.69**	**281**	*e*PN	**Pn**	**00 51 22.6**	**-0.2**
ATH	**Athens Observa**	**2.69**	**281**	*e*Pn	**Pn**	**00 51 22.6**	**-0.2**
ISP	**Isparta**	**2.77**	**83**	*e*PN	**Pn**	**00 51 25.0**	**+1.0**
ISP	**Isparta**	**2.77**	**83**	P	**Pn**	**00 51 24.6**	**+0.6**
ISP	**Isparta**	**2.77**	**83**	P	**Pn**	**00 51 24.6**	**+0.6**
ISP	**Isparta**	**2.77**	**83**	P	**Pn**	**00 51 24.6**	**+0.6**
ISP	**Isparta**	**2.77**	**83**	*e*Pn	**Pn**	**00 51 25.0**	**+1.0**
LIA	**Limnos Island**	**2.79**	**329**	P	**Pn**	**00 51 23.8**	**-0.4**
LIA	**Limnos Island**	**2.79**	**329**	*e*PN	**Pn**	**00 51 24.0**	**-0.2**
LIA	**Limnos Island**	**2.79**	**329**	P	**Pn**	**00 51 23.8**	**-0.4**
LIA	**Limnos Island**	**2.79**	**329**	*e*Pn	**Pn**	**00 51 24.0**	**-0.2**
BCK	**Bucak**	**2.81**	**90**	*e*PN	**Pn**	**00 51 25.3**	**+0.7**
BCK	**Bucak**	**2.81**	**90**	*e*Pn	**Pn**	**00 51 25.3**	**+0.7**
IDI	**Anoyia**	**2.83**	**219**	P	**Pn**	**00 51 23.9**	**-1.0**
IDI	**Anoyia**	**2.83**	**219**	*e*PN	**Pn**	**00 51 24.2**	**-0.7**
IDI	**Anoyia**	**2.83**	**219**	Pn	**Pn**	**00 51 24.0**	**-0.8**
IDI				Sn	**Sn**	**00 51 59.5**	**+0.6**
IDI	**Anoyia**	**2.83**	**219**	Pn	**Pn**	**00 51 24.0**	**-0.8**
	2.9nm,0.3s,baz=47,slow=15,SNR=42						
IDI				Sn	**Sn**	**00 51 59.5**	**+0.6**
	11nm,0.3s,baz=75,slow=18,SNR=3.0						
IDI	**Anoyia**	**2.83**	**219**	P	**Pn**	**00 51 23.9**	**-1.0**
IDI	**Anoyia**	**2.83**	**219**	*e*Pn	**Pn**	**00 51 24.2**	**-0.7**
IDI				Sn	**Sn**	**00 51 59.5**	**+0.6**
NAIG	**Nisos Aigina**	**2.84**	**276**	*e*PN	**Pn**	**00 51 24.6**	**-0.3**
NAIG	**Nisos Aigina**	**2.84**	**276**	*e*Pn	**Pn**	**00 51 24.6**	**-0.3**
LPK	**Lapseki**	**2.86**	**355**	*e*PN	**Pn**	**00 51 24.9**	**-0.3**
LPK	**Lapseki**	**2.86**	**355**	*e*Pn	**Pn**	**00 51 24.9**	**-0.3**
KRBG	**Karabiga-Canak**	**2.88**	**4**	*e*PN	**Pn**	**00 51 25.7**	**+0.3**
KRBG	**Karabiga-Canak**	**2.88**	**4**	*e*Pn	**Pn**	**00 51 25.7**	**+0.3**
GELI	**Tayfur-Gelibol**	**2.91**	**351**	*e*PN	**Pn**	**00 51 25.6**	**-0.3**
GELI	**Tayfur-Gelibol**	**2.91**	**351**	*e*Pn	**Pn**	**00 51 25.6**	**-0.3**
BNT	**Bandirma**	**2.91**	**13**	*e*PN	**Pn**	**00 51 26.2**	**+0.3**
BNT	**Bandirma**	**2.91**	**13**	*e*Pn	**Pn**	**00 51 26.2**	**+0.3**
KCTX	**Karacabey (Bur**	**2.92**	**20**	*e*PN	**Pn**	**00 51 26.4**	**+0.3**
KCTX	**Karacabey (Bur**	**2.92**	**20**	*e*Pn	**Pn**	**00 51 26.4**	**+0.3**
DID	**Didima**	**3.04**	**271**	P	**Pn**	**00 51 27.0**	**-0.6**
DID	**Didima**	**3.04**	**271**	*e*PN	**Pn**	**00 51 27.1**	**-0.6**
DID	**Didima**	**3.04**	**271**	P	**Pn**	**00 51 27.0**	**-0.6**
DID	**Didima**	**3.04**	**271**	*e*Pn	**Pn**	**00 51 27.1**	**-0.6**
SIVA	**Sivas**	**3.09**	**217**	P	**Pn**	**00 51 28.9**	**+0.7**
SIVA	**Sivas**	**3.09**	**217**	*e*PN	**Pn**	**00 51 29.0**	**+0.7**
SIVA	**Sivas**	**3.09**	**217**	P	**Pn**	**00 51 28.9**	**+0.7**
SIVA	**Sivas**	**3.09**	**217**	*e*Pn	**Pn**	**00 51 29.0**	**+0.7**
VAM	**Vamos**	**3.12**	**228**	P	**Pn**	**00 51 28.0**	**-0.8**
VAM	**Vamos**	**3.12**	**228**	*e*PN	**Pn**	**00 51 29.8**	**+1.0**
VAM	**Vamos**	**3.12**	**228**	P	**Pn**	**00 51 28.0**	**-0.8**
VAM	**Vamos**	**3.12**	**228**	P	**Pn**	**00 51 28.0**	**-0.8**
VAM	**Vamos**	**3.12**	**228**	*e*Pn	**Pn**	**00 51 29.8**	**+1.0**
SUTC	**Sutluce-Ispart**	**3.14**	**90**	*e*PN	**Pn**	**00 51 30.1**	**+1.0**
SUTC	**Sutluce-Ispart**	**3.14**	**90**	*e*Pn	**Pn**	**00 51 30.1**	**+1.0**
RKY	**Sarkoy-Tekirda**	**3.16**	**2**	*e*PN	**Pn**	**00 51 29.8**	**+0.4**
RKY	**Sarkoy-Tekirda**	**3.16**	**2**	*e*Pn	**Pn**	**00 51 29.8**	**+0.4**
SMTH	**Samothraki Isl**	**3.18**	**339**	P	**Pn**	**00 51 28.9**	**-0.6**
SMTH	**Samothraki Isl**	**3.18**	**339**	*e*PN	**Pn**	**00 51 29.0**	**-0.6**
SMTH	**Samothraki Isl**	**3.18**	**339**	P	**Pn**	**00 51 28.9**	**-0.6**
SMTH	**Samothraki Isl**	**3.18**	**339**	*e*Pn	**Pn**	**00 51 29.0**	**-0.6**
MDNY	**Mudanya-Bursa**	**3.18**	**26**	*e*PN	**Pn**	**00 51 30.3**	**+0.7**
MDNY	**Mudanya-Bursa**	**3.18**	**26**	*e*Pn	**Pn**	**00 51 30.3**	**+0.7**
LTK	**Loutraki**	**3.28**	**280**	P	**Pn**	**00 51 31.1**	**+0.1**
LTK	**Loutraki**	**3.28**	**280**	*e*PN	**Pn**	**00 51 30.8**	**-0.2**
LTK	**Loutraki**	**3.28**	**280**	P	**Pn**	**00 51 31.1**	**+0.1**
LTK	**Loutraki**	**3.28**	**280**	*e*Pn	**Pn**	**00 51 30.8**	**-0.2**
LTK	**Loutraki**	**3.28**	**280**	P	**Pn**	**00 51 31.1**	**+0.1**
KARN	**Karanos**	**3.30**	**231**	P	**Pn**	**00 51 31.8**	**+0.6**
KARN	**Karanos**	**3.30**	**231**	*e*PN	**Pn**	**00 51 31.6**	**+0.4**
KARN	**Karanos**	**3.30**	**231**	P	**Pn**	**00 51 31.8**	**+0.6**
KARN	**Karanos**	**3.30**	**231**	P	**Pn**	**00 51 31.8**	**+0.6**
SMIA	**Simia**	**3.32**	**295**	P	**Pn**	**00 51 31.9**	**+0.4**
SMIA	**Simia**	**3.32**	**295**	P	**Pn**	**00 51 31.9**	**+0.4**
ACOR	**Acrocorinthos**	**3.34**	**278**	P	**Pn**	**00 51 31.4**	**-0.4**
ACOR	**Acrocorinthos**	**3.34**	**278**	P	**Pn**	**00 51 31.4**	**-0.4**
ARMT	**Armutlu**	**3.35**	**24**	*e*PN	**Pn**	**00 51 32.7**	**+0.7**
ARMT	**Armutlu**	**3.35**	**24**	*e*Pn	**Pn**	**00 51 32.7**	**+0.7**
VLI	**Veliai**	**3.39**	**258**	P	**Pn**	**00 51 33.0**	**+0.6**
VLI	**Veliai**	**3.39**	**258**	*e*PN	**Pn**	**00 51 33.2**	**+0.8**
VLI	**Veliai**	**3.39**	**258**	P	**Pn**	**00 51 33.0**	**+0.6**
VLI	**Veliai**	**3.39**	**258**	P	**Pn**	**00 51 33.0**	**+0.6**
LKR	**Lokris**	**3.39**	**291**	*e*PN	**Pn**	**00 51 32.4**	**-0.1**
LKR	**Lokris**	**3.39**	**291**	*e*Pn	**Pn**	**00 51 32.4**	**-0.1**
ANKY	**Antikythira Is**	**3.44**	**242**	*e*PN	**Pn**	**00 51 34.2**	**+1.1**
ANKY	**Antikythira Is**	**3.44**	**242**	*e*Pn	**Pn**	**00 51 34.2**	**+1.1**
CAVI	**Cavuskoy**	**3.45**	**38**	*e*PN	**Pn**	**00 51 34.2**	**+0.9**
CAVI	**Cavuskoy**	**3.45**	**38**	*e*Pn	**Pn**	**00 51 34.2**	**+0.9**
KYTH	**Kithira**	**3.45**	**250**	*e*PN	**Pn**	**00 51 34.5**	**+1.2**
KYTH	**Kithira**	**3.45**	**250**	*e*Pn	**Pn**	**00 51 34.5**	**+1.2**
ALN	**Alexandroupoli**	**3.46**	**347**	P	**Pn**	**00 51 32.7**	**-0.8**
ALN	**Alexandroupoli**	**3.46**	**347**	*e*PN	**Pn**	**00 51 33.1**	**-0.4**
ALN	**Alexandroupoli**	**3.46**	**347**	P	**Pn**	**00 51 32.7**	**-0.8**
ALN	**Alexandroupoli**	**3.46**	**347**	P	**Pn**	**00 51 32.7**	**-0.8**
ALN	**Alexandroupoli**	**3.46**	**347**	*e*Pn	**Pn**	**00 51 33.1**	**-0.4**
TKR	**Tekirdag**	**3.48**	**6**	*e*PN	**Pn**	**00 51 34.4**	**+0.6**
TKR	**Tekirdag**	**3.48**	**6**	*e*Pn	**Pn**	**00 51 34.4**	**+0.6**
NEO	**Neokhori**	**3.50**	**302**	*e*PN	**Pn**	**00 51 33.2**	**-0.8**
NEO	**Neokhori**	**3.50**	**302**	*e*Pn	**Pn**	**00 51 33.2**	**-0.8**
PAIG	**Paliouri**	**3.57**	**313**	*e*PN	**Pn**	**00 51 34.9**	**0.0**
PAIG	**Paliouri**	**3.57**	**313**	*e*Pn	**Pn**	**00 51 34.9**	**0.0**
ADVT	**Abdulvahap**	**3.58**	**35**	*e*PN	**Pn**	**00 51 36.1**	**+1.0**
ADVT	**Abdulvahap**	**3.58**	**35**	*e*Pn	**Pn**	**00 51 36.1**	**+1.0**
ESKT	**Eskisehir**	**3.58**	**55**	*e*PN	**Pn**	**00 51 35.7**	**+0.4**
ESKT	**Eskisehir**	**3.58**	**55**	*e*Pn	**Pn**	**00 51 35.7**	**+0.4**
GVD	**Gavdhos**	**3.59**	**223**	*e*PN	**Pn**	**00 51 36.8**	**+1.5**
GVD	**Gavdhos**	**3.59**	**223**	*e*Pn	**Pn**	**00 51 36.8**	**+1.5**
AXAR	**Agios Charalam**	**3.68**	**291**	P	**Pn**	**00 51 36.8**	**+0.3**
AXAR	**Agios Charalam**	**3.68**	**291**	P	**Pn**	**00 51 36.8**	**+0.3**
AXAR	**Agios Charalam**	**3.68**	**291**	P	**Pn**	**00 51 36.8**	**+0.3**
DSF	**Desfina**	**3.69**	**285**	P	**Pn**	**00 51 36.6**	**0.0**
DSF	**Desfina**	**3.69**	**285**	P	**Pn**	**00 51 36.6**	**0.0**
DSF	**Desfina**	**3.69**	**285**	P	**Pn**	**00 51 36.6**	**0.0**
BUY	**Buyukada**	**3.69**	**25**	*e*PN	**Pn**	**00 51 37.8**	**+1.2**
BUY	**Buyukada**	**3.69**	**25**	*e*Pn	**Pn**	**00 51 37.8**	**+1.2**
OUR	**Ouranopolis**	**3.69**	**320**	P	**Pn**	**00 51 36.6**	**0.0**
OUR	**Ouranopolis**	**3.69**	**320**	P	**Pn**	**00 51 36.6**	**0.0**
OUR	**Ouranopolis**	**3.69**	**320**	P	**Pn**	**00 51 36.6**	**0.0**
VLX	**Vlachokerasia**	**3.72**	**269**	P	**Pn**	**00 51 36.5**	**-0.7**
VLX	**Vlachokerasia**	**3.72**	**269**	*e*PN	**Pn**	**00 51 38.0**	**+0.8**
VLX	**Vlachokerasia**	**3.72**	**269**	P	**Pn**	**00 51 36.5**	**-0.7**
VLX	**Vlachokerasia**	**3.72**	**269**	P	**Pn**	**00 51 36.5**	**-0.7**
VLX	**Vlachokerasia**	**3.72**	**269**	*e*Pn	**Pn**	**00 51 38.0**	**+0.8**
GUR	**Goura**	**3.76**	**278**	*e*PN	**Pn**	**00 51 38.0**	**+0.3**
GUR	**Goura**	**3.76**	**278**	*e*Pn	**Pn**	**00 51 38.0**	**+0.3**
RDO	**Rodhopi**	**3.81**	**342**	P	**Pn**	**00 51 37.8**	**-0.4**
RDO	**Rodhopi**	**3.81**	**342**	*e*PN	**Pn**	**00 51 38.1**	**-0.1**
RDO	**Rodhopi**	**3.81**	**342**	P	**Pn**	**00 51 37.8**	**-0.4**
RDO	**Rodhopi**	**3.81**	**342**	P	**Pn**	**00 51 37.8**	**-0.4**
RDO	**Rodhopi**	**3.81**	**342**	*e*Pn	**Pn**	**00 51 38.1**	**-0.1**
SLVT	**Silivri**	**3.81**	**13**	*e*PN	**Pn**	**00 51 39.0**	**+0.8**
SLVT	**Silivri**	**3.81**	**13**	*e*Pn	**Pn**	**00 51 39.0**	**+0.8**
ISK	**Istanbul-Kandi**	**3.87**	**23**	*e*PN	**Pn**	**00 51 40.3**	**+1.3**
ISK	**Istanbul-Kandi**	**3.87**	**23**	P	**Pn**	**00 51 37.6**	**-1.4**
ISK	**Istanbul-Kandi**	**3.87**	**23**	P	**Pn**	**00 51 37.6**	**-1.4**
ISK	**Istanbul-Kandi**	**3.87**	**23**	P	**Pn**	**00 51 37.6**	**-1.4**
ISK	**Istanbul-Kandi**	**3.87**	**23**	*e*Pn	**Pn**	**00 51 40.3**	**+1.3**
HRT	**Hereke**	**3.87**	**31**	*e*PN	**Pn**	**00 51 40.4**	**+1.3**
HRT	**Hereke**	**3.87**	**31**	*e*Pn	**Pn**	**00 51 40.4**	**+1.3**
CTKS	**Kestanelik-??a**	**3.88**	**16**	*e*PN	**Pn**	**00 51 40.2**	**+1.1**
CTKS	**Kestanelik-??a**	**3.88**	**16**	*e*Pn	**Pn**	**00 51 40.2**	**+1.1**
BGKT	**Bogazkoy**	**3.89**	**19**	*e*PN	**Pn**	**00 51 40.6**	**+1.3**
BGKT	**Bogazkoy**	**3.89**	**19**	*e*Pn	**Pn**	**00 51 40.6**	**+1.3**
KLV	**Kalavryta, Ach**	**3.92**	**279**	*e*PN	**Pn**	**00 51 40.1**	**+0.3**
KLV	**Kalavryta, Ach**	**3.92**	**279**	*e*Pn	**Pn**	**00 51 40.1**	**+0.3**
GULT	**Gulveren**	**3.96**	**42**	*e*PN	**Pn**	**00 51 42.2**	**+1.7**
GULT	**Gulveren**	**3.96**	**42**	*e*Pn	**Pn**	**00 51 42.2**	**+1.7**
KALE	**Kalithea**	**3.98**	**284**	*e*PN	**Pn**	**00 51 41.2**	**+0.5**
KALE	**Kalithea**	**3.98**	**284**	*e*Pn	**Pn**	**00 51 41.2**	**+0.5**
KAVA	**Kavala**	**3.99**	**331**	P	**Pn**	**00 51 40.3**	**-0.5**
KAVA	**Kavala**	**3.99**	**331**	P	**Pn**	**00 51 40.3**	**-0.5**
KAVA	**Kavala**	**3.99**	**331**	P	**Pn**	**00 51 40.3**	**-0.5**
SVRH	**Sivrihisar-ESK**	**4.00**	**60**	*e*PN	**Pn**	**00 51 42.0**	**+1.1**
SVRH	**Sivrihisar-ESK**	**4.00**	**60**	*e*Pn	**Pn**	**00 51 42.0**

EIL				Sn	Sn	00 54 56.2	-4.7
	1.9nm,0.3s,baz=318,slow=20,SNR=5.9						
EIL	Elat	10.22	138	Pn	Pn	00 53 05.4	-0.9
KBZ	Khabaz	13.53	58	Pn	P	00 53 56.9	-3.7
KBZ	Khabaz	13.53	58	Pn	P	00 53 56.9	-3.7
	0.1nm,0.3s,baz=225,slow=8.6,SNR=2.6						
VRAC	Vranov	14.01	331	Pn	P	00 54 04.6	-1.3
VRAC	Vranov	14.01	331	Pn	P	00 54 04.6	-1.3
	0.1nm,0.3s,baz=198,slow=15,SNR=3.4						
KEST	Kesra	14.34	268	Pn	Pn	00 54 04.7	+2.1
KEST	Kesra	14.34	268	Pn	Pn	00 54 04.7	+2.1
	0.0nm,0.3s,baz=100,slow=17,SNR=1.8						
KEST	Kesra	14.34	268	Pn	Pn	00 54 04.7	+2.1
TREC	Trest	14.44	328	eP	P	00 54 12.3	+1.6
TREC	Trest	14.44	328	P	P	00 54 12.3	+1.6
PGF	Pioggiola	14.71	296	eP	Pn	00 54 08.3	+0.6
	35nm,1.2s						
PGF	Pioggiola	14.71	296	eP	Pn	00 54 08.3	+0.6
	35nm,1.2s						
GERES	GERESS Array B	14.91	324	Pn	Pn	00 54 11.8	+1.5
GERES	GERESS Array B	14.91	324	Pn	Pn	00 54 11.8	+1.5
	0.0nm,0.3s,baz=144,slow=12,SNR=2.0						
GERES	GERESS Array B	14.91	324	Pn	Pn	00 54 11.8	+1.5
DPC	Dobruska-Polom	14.95	332	eP	P	00 54 18.5	+2.0
DPC	Dobruska-Polom	14.95	332	P	P	00 54 18.5	+2.0
KHC	Kasperske Hory	15.17	324	eP	Pn	00 54 14.0	+0.3
KHC				epP	P	00 54 20.0	+1.2
KHC	Kasperske Hory	15.17	324	P	P	00 54 20.0	+1.2
PRU	Pruhonice	15.37	328	eP	P	00 54 22.2	+1.2
PRU				AMS	AMS	01 01 00.0	
	100nm,12.0s						
PRU	Pruhonice	15.37	328	P	P	00 54 22.2	+1.2
SBF	Sospel	16.16	299	eP	Pn	00 54 26.7	0.0
	13nm,0.9s						
SBF	Sospel	16.16	299	eP	Pn	00 54 26.7	0.0
	13nm,0.9s						
BRG	Berggiesshubel	16.29	329	eP	P	00 54 33.1	+1.9
	4.7nm,1.1s						
BRG							
	comp=N,98nm,13.8s						
BRG							
	comp=E,50nm,17.0s						
BRG							
	comp=Z,109nm,15.0s						
FRF	La Foret Royal	16.63	298	eP	Pn	00 54 32.8	+0.2
	comp=Z,9.6nm,0.9s						
FRF	La Foret Royal	16.63	298	eP	Pn	00 54 32.8	+0.2
	comp=Z,9.6nm,0.9s						
FRF	La Foret Royal	16.63	298	eP	Pn	00 54 32.8	+0.2
	comp=Z,4.8nm,0.9s						
MBDF	Montbardon	16.87	302	eP	Pn	00 54 34.4	-1.4
	comp=Z,5.4nm,0.7s						
MBDF	Montbardon	16.87	302	eP	Pn	00 54 34.4	-1.4
	comp=Z,5.4nm,0.7s						
LPG	La Plagne	17.14	304	eP	Pn	00 54 39.4	+0.1
	comp=Z,9.9nm,0.8s						
LPG	La Plagne	17.14	304	eP	Pn	00 54 39.4	+0.1
	comp=Z,9.9nm,0.8s						
LPG	La Plagne	17.14	304	eP	Pn	00 54 39.4	+0.1
	comp=Z,4.9nm,0.8s						
LPL	La Plagne	17.16	304	eP	Pn	00 54 38.8	-0.7
	comp=Z,12nm,0.8s						
LPL	La Plagne	17.16	304	eP	Pn	00 54 38.8	-0.7
	comp=Z,12nm,0.8s						
CABF	La Chapelle	17.98	307	eP	P	00 54 50.9	+0.8
	comp=Z,22nm,1.1s						
CABF	La Chapelle	17.98	307	eP	P	00 54 50.9	+0.8
	comp=Z,22nm,1.1s						
CABF	La Chapelle	17.98	307	eP	P	00 54 50.9	+0.8
	comp=Z,11nm,1.1s						
LASF	Ste Croix	18.71	298	eP	Pn	00 54 58.7	+0.3
LASF	Ste Croix	18.71	298	eP	Pn	00 54 58.7	+0.3
LASF	Ste Croix	18.71	298	eP	Pn	00 54 58.7	+0.3
SMF	Signal de Mont	19.44	305	eP	Pn	00 55 07.0	-0.1
	comp=Z,13nm,0.8s						
SMF	Signal de Mont	19.44	305	eP	Pn	00 55 07.0	-0.1
	comp=Z,13nm,0.8s						
SMF	Signal de Mont	19.44	305	eP	Pn	00 55 07.0	-0.1
	comp=Z,6.3nm,0.8s						
LOR	Lormes	19.64	307	eP	Pn	00 55 09.3	-0.3
	comp=Z,10.0nm,0.8s						
LOR				eR			
	comp=Z,51nm,17.2s						
LOR	Lormes	19.64	307	eP	Pn	00 55 09.3	-0.3
	comp=Z,10.0nm,0.8s						
LOR	Lormes	19.64	307	eP	Pn	00 55 09.3	-0.3
	comp=Z,5.0nm,0.8s						
MTLF	Montolieu	19.75	295	eP	P	00 55 09.9	+0.5
MTLF	Montolieu	19.75	295	eP	P	00 55 09.9	+0.5
MTLF	Montolieu	19.75	295	eP	P	00 55 09.9	+0.5
SSF	Saint Saulge	19.80	306	eP	P	00 55 10.4	+0.5
	comp=Z,14nm,0.7s						
SSF	Saint Saulge	19.80	306	eP	P	00 55 10.4	+0.5
	comp=Z,14nm,0.7s						
SSF	Saint Saulge	19.80	306	eP	P	00 55 10.4	+0.5
	comp=Z,6.8nm,0.7s						
AVF	Avril sur Loir	19.80	305	eP	Pn	00 55 10.9	-0.6
	comp=Z,22nm,1.1s						
AVF	Avril sur Loir	19.80	305	eP	Pn	00 55 10.9	-0.6
	comp=Z,22nm,1.1s						
AVF	Avril sur Loir	19.80	305	eP	Pn	00 55 10.9	-0.6
	comp=Z,11nm,1.1s						
BGF	Bois d'Agland	20.06	304	eP	Pn	00 55 14.2	-0.3
BGF	Bois d'Agland	20.06	304	eP	Pn	00 55 14.2	-0.3
BGF	Bois d'Agland	20.06	304	eP	Pn	00 55 14.2	-0.3
CAF	Calviac	20.15	299	eP	Pn	00 55 15.4	-0.3
	comp=Z,12nm,1.0s						
CAF	Calviac	20.15	299	eP	Pn	00 55 15.4	-0.3
	comp=Z,12nm,1.0s						
CAF	Calviac	20.15	299	eP	Pn	00 55 15.4	-0.3
	comp=Z,5.9nm,1.0s						
RJF	Les Rejaudoux	20.61	300	eP	P	00 55 19.4	+0.6
	comp=Z,85nm,1.7s						
RJF				eR			
	comp=Z,56nm,20.0s						
RJF	Les Rejaudoux	20.61	300	eP	P	00 55 19.4	+0.6
	comp=Z,85nm,1.7s						
RJF	Les Rejaudoux	20.61	300	eP	P	00 55 19.4	+0.6
	comp=Z,43nm,1.7s						
BAIF	Baives	20.62	315	eP	P	00 55 19.8	+1.1
BAIF	Baives	20.62	315	eP	P	00 55 19.8	+1.1
BAIF	Baives	20.62	315	eP	P	00 55 19.8	+1.1
LFF	La Frestale	21.07	299	eP	P	00 55 25.1	+1.4
	comp=Z,17nm,0.9s						
LFF	La Frestale	21.07	299	eP	P	00 55 25.1	+1.4
	comp=Z,17nm,0.9s						
LFF	La Frestale	21.07	299	eP	P	00 55 25.1	+1.4
	comp=Z,8.4nm,0.9s						
MFF	Saint Martin d	22.05	303	eP	P	00 55 35.3	+1.1
	comp=Z,12nm,0.7s						
MFF	Saint Martin d	22.05	303	eP	P	00 55 35.3	+1.1
	comp=Z,12nm,0.7s						
MFF	Saint Martin d	22.05	303	eP	P	00 55 35.3	+1.1
	comp=Z,6.2nm,0.7s						
LDF	La Druitiere	22.61	308	eP	P	00 55 40.1	-0.1
	comp=Z,19nm,1.1s						
LDF	La Druitiere	22.61	308	eP	P	00 55 40.1	-0.1
	comp=Z,19nm,1.0s						
LDF	La Druitiere	22.61	308	eP	P	00 55 40.1	-0.1
	comp=Z,9.5nm,1.1s						
FLN	La Foliniere	22.89	308	eP	P	00 55 42.5	-0.7
	comp=Z,64nm,1.3s						
FLN				eR			
	comp=Z,59nm,17.8s						
FLN	La Foliniere	22.89	308	eP	P	00 55 42.5	-0.7
	comp=Z,64nm,1.3s						
FLN	La Foliniere	22.89	308	eP	P	00 55 42.5	-0.7
	comp=Z,32nm,1.3s						
GRR	Gorron	23.01	307	eP	P	00 55 43.2	-1.2
	comp=Z,39nm,1.1s						
GRR	Gorron	23.01	307	eP	P	00 55 43.2	-1.2
	comp=Z,39nm,1.1s						
GRR	Gorron	23.01	307	eP	P	00 55 43.2	-1.2
	comp=Z,20nm,1.1s						
FINES	FINESS Array B	23.95	359	P	P	00 55 52.9	-0.7
FINES	FINESS Array B	23.95	359	P	P	00 55 52.9	-0.7
	comp=Z,1.6nm,0.9s,baz=180,slow=11,SNR=2.9						
FINES	FINESS Array B	23.95	359	P	P	00 55 52.9	-0.7
SGMF	Saint Gilles	24.06	306	eP	P	00 55 54.5	-0.2
SGMF	Saint Gilles	24.06	306	eP	P	00 55 54.5	-0.2
SGMF	Saint Gilles	24.06	306	eP	P	00 55 54.5	-0.2
HFS	Hagfors	24.19	344	P	P	00 55 54.5	-1.2
HFS	Hagfors	24.19	344	P	P	00 55 54.5	-1.2
	comp=Z,1.6nm,0.9s,baz=148,slow=12,SNR=4.5						
HFS				LR	LR	01 06 01.3	
	comp=Z,42nm,21.9s,baz=317,slow=38						
HFS	Hagfors	24.19	344	P	P	00 55 54.5	-1.2
ESDC	Sonseca Array	24.28	285	P	P	00 55 56.9	0.0
ESDC	Sonseca Array	24.28	285	P	P	00 55 56.9	0.0
	comp=Z,1.3nm,0.8s,baz=86,slow=9.4,SNR=8.5						
ESDC	Sonseca Array	24.28	285	P	P	00 55 56.9	0.0
QUIF	Quistinic	24.37	305	eP	P	00 55 57.4	-0.1
	comp=Z,66nm,1.3s						
QUIF	Quistinic	24.37	305	eP	P	00 55 57.4	-0.1
	comp=Z,66nm,1.3s						
QUIF	Quistinic	24.37	305	eP	P	00 55 57.4	-0.1
	comp=Z,33nm,1.3s						
ROSF	Rostrenen	24.54	306	eP	P	00 56 01.8	+2.6
	comp=Z,96nm,1.3s						
ROSF	Rostrenen	24.54	306	eP	P	00 56 01.8	+2.6
	comp=Z,96nm,1.3s						
ROSF	Rostrenen	24.54	306	eP	P	00 56 01.8	+2.6
	comp=Z,48nm,1.3s						
AKTO	Aktyubinsk	25.54	50	P	P	00 56 08.6	+0.4
AKTO	Aktyubinsk	25.54	50	P	P	00 56 08.6	+0.4
	comp=Z,1.6nm,0.8s,baz=239,slow=4.1,SNR=6.8						
AKTO	Aktyubinsk	25.54	50	P	P	00 56 08.6	+0.4
NB2	NORSAR Subarra	25.57	342	P	P	00 56 08.1	-0.2
	comp=Z,2.0nm,0.8s,baz=144,slow=9.3						
NB2	NORSAR Subarra	25.57	342	P	P	00 56 08.1	-0.2
	comp=Z,2.0nm,0.8s,SNR=4.3						
NOA	NORSAR Array B	25.57	342	P	P	00 56 08.4	+0.1
NOA	NORSAR Array B	25.57	342	P	P	00 56 08.4	+0.1
	comp=Z,1.0nm,0.7s,baz=152,slow=10,SNR=4.9						
NOA	NORSAR Array B	25.57	342	P	P	00 56 08.4	+0.1
MDT	Midelt	26.24	269	P	P	00 56 16.2	+1.4
MDT	Midelt	26.24	269	P	P	00 56 16.2	+1.4
	comp=Z,2.0nm,0.8s,baz=69,slow=13,SNR=5.3						
MDT	Midelt	26.24	269	P	P	00 56 16.2	+1.4
EKA	Eskdalemuir Ar	27.09	321	P	P	00 56 23.1	+1.0
EKA	Eskdalemuir Ar	27.09	321	P	P	00 56 23.1	+1.0
	comp=Z,0.6nm,0.7s,baz=110,slow=12,SNR=3.5						
EKA	Eskdalemuir Ar	27.09	321	P	P	00 56 23.1	+1.0
TORD	Torodi Ar. Bea	33.18	230	P	P	00 57 16.6	+0.2
TORD	Torodi Ar. Bea	33.18	230	P	P	00 57 16.6	+0.2
	comp=Z,1.3nm,0.7s,baz=38,slow=8.4,SNR=13						
TORD	Torodi Ar. Bea	33.18	230	P	P	00 57 16.6	+0.2
BVAR	Borovoye Array	33.63	48	P	P	00 57 19.6	-0.3
BVAR	Borovoye Array	33.63	48	P	P	00 57 19.6	-0.3
	comp=Z,0.4nm,0.6s,baz=258,slow=2.7,SNR=3.6						
BVAR	Borovoye Array	33.63	48	P	P	00 57 19.6	-0.3
AAK	Ala-Archa	36.28	67	P	P	00 57 43.4	+0.3
AAK	Ala-Archa	36.28	67	P	P	00 57 43.4	+0.3
	comp=Z,0.6nm,0.3s,baz=243,slow=6.8,SNR=4.4						
AAK	Ala-Archa	36.28	67	P	P	00 57 43.4	+0.3
MKAR	Makanchi Array	41.22	59	P	P	00 58 25.3	+0.9
MKAR	Makanchi Array	41.22	59	P	P	00 58 25.3	+0.9
	comp=Z,1.6nm,0.8s,baz=287,slow=6.2,SNR=16						
MKAR	Makanchi Array	41.22	59	P	P	00 58 25.3	+0.9
ZALV	Zalesovo Beam	42.28	48	P	P	00 58 33.0	+0.1
ZALV	Zalesovo Beam	42.28	48	P	P	00 58 33.0	+0.1
	comp=Z,2.6nm,0.6s,baz=263,slow=7.9,SNR=12						
ZALV	Zalesovo Beam	42.28	48	P	P	00 58 33.0	+0.1
SONM	Songino Array	56.82	52	P	P	01 00 24.7	+0.7
SONM				PcP	PcP	01 01 20.1	+0.5
SONM	Songino Array	56.82	52	P	P	01 00 24.7	+0.7
	comp=Z,0.6nm,0.5s,baz=291,slow=8.2,SNR=4.4						
SONM				PcP	PcP	01 01 20.1	+0.5
	comp=Z,0.5nm,0.7s,baz=316,slow=4.0,SNR=2.7						
SONM	Songino Array	56.82	52	P	P	01 00 24.7	+0.7
USRK	Ussuriysk Arra	74.10	46	P	P	01 02 15.5	-0.2
	comp=Z,2.4nm,0.6s,baz=301,slow=5.6,SNR=7.3						
KSAR	Wonju Array Be	75.63	54	P	P	01 02 24.8	+0.2
KSAR	Wonju Array Be	75.63	54	P	P	01 02 24.8	+0.2
KSRS	Korea Array	75.64	54	P	P	01 02 24.8	+0.1
	comp=Z,3.5nm,0.7s,baz=302,slow=4.9,SNR=8.5						
MJAR	Matsushiro Arr	82.62	49	P	P	01 03 03.0	0.0
MJAR	Matsushiro Arr	82.62	49	P	P	01 03 03.0	0.0
	comp=Z,1.3nm,0.7s,baz=312,slow=4.3,SNR=3.5						
MJAR				LR	LR	01 48 11.3	
	comp=Z,45nm,19.5s,baz=230,slow=42						
MJAR	Matsushiro Arr	82.62	49	P	P	01 03 03.0	0.0

ATH ***12*** *00:57:09.8, 37.°53N×26.°99E, h22km±1km, MD3.6/13, ML3.3*
DDA ***12*** *00:57:10.1, 37.°55N×27.°06E, h22km, MD2.9*
CSEM ***12*** *00:57:10.3±0.1, 37.°49N×27.°01E, h5km, MD2.9, Error ellipse: s-maj=3.7km s-min=3.4km az=145.0*
ISCJB ***12*** *00:57:10.2±0.4, 37.°51N±0.°02×27.°01E±0.°02, h10km±3km, Error ellipse: s-maj=2.9km s-min=2.8km az=151.4*
THE ***12*** *00:57:11.0, 37.°55N×27.°04E, h10km±1km, ML3.1/4, Error ellipse: s-maj=1.7km s-min=1.0km az=296.0*
ISK ***12*** *00:57:11.9, 37.°39N×27.°09E, h24km, MD3.4*
ISC 12 00:57:10.2±0.8, 37.°54N±0.°02×27.°06E±0.°02, h14km±6km, n109, σ0.9 81/146, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCAM	G?zelcaml?	0.21	41	i P	Pb	00 57 15.6	-0.2
GCAM				i S	Sb	00 57 19.3	-0.2
GCAM	G?zelcaml?	0.21	41	i P	Pb	00 57 15.6	-0.2
GCAM				i S	Sb	00 57 19.3	-0.2
SMG	Samos	0.24	313	P	Pg	00 57 15.6	+0.1
SMG				S	Sg	00 57 18.9	-0.1
SMG	Samos	0.24	313	ePB	Pg	00 57 15.7	+0.2
SMG				eSB	Sg	00 57 19.4	+0.4
SMG	Samos	0.24	313	P	Pg	00 57 15.6	+0.1
SMG				S	Sg	00 57 18.9	-0.1
SMG				eSb	Sg	00 57 19.4	+0.4
BODT	Bodrum	0.52	157	ePG	Pg	00 57 20.5	+0.1
BODT				eSG	Sg	00 57 26.8	-0.5
BODT	Bodrum	0.52	157	ePg	Pg	00 57 20.5	+0.1
BODT				eSg	Sg	00 57 26.8	-0.5
BDRM	Kayabasi	0.56	147	i P	Pb	00 57 21.6	-0.3
BDRM				i S	Sb	00 57 30.3	+0.5
BDRM	Kayabasi	0.56	147	i P	Pb	00 57 21.6	-0.3
AYDN	Tasoluk	0.66	79	i P	Pb	00 57 23.7	+0.2
AYDN				i S	Sg	00 57 32.2	+0.4
AYDN	Tasoluk	0.66	79	i P	Pb	00 57 23.7	+0.2
AYDN				i S	Sg	00 57 32.2	+0.4
URLA	Izmir	0.90	336	i P	Pb	00 57 27.3	-0.3
URLA				i S	Sg	00 57 40.1	+0.8
URLA	Izmir	0.90	336	i P	Pb	00 57 27.3	-0.3
URLA				i S	Sg	00 57 40.1	+0.8
DAT	Datca	0.91	153	ePG	Pb	00 57 27.6	-0.2
DAT	Datca	0.91	153	ePg	Pb	00 57 27.6	-0.2
NISR	Nisiros	0.93	177	P	Pn	00 57 28.9	+0.1
NISR	Nisiros	0.93	177	P	Pn	00 57 28.9	+0.1
YER	Yerkesik	1.05	112	ePG	Pn	00 57 30.7	+0.1
YER	Yerkesik	1.05	112	ePg	Pn	00 57 30.7	+0.1
CHOS	Chios island	1.16	317	P	Pb	00 57 32.1	0.0
CHOS				S	Sg	00 57 48.4	+0.7
CHOS	Chios island	1.16	317	ePN	Pn	00 57 31.9	-0.2
CHOS				eSN	Sb	00 57 46.7	-0.3
CHOS	Chios island	1.16	317	P	Pb	00 57 32.1	0.0
CHOS				eSn	Sb	00 57 46.7	-0.3
CHOS				S	Sg	00 57 48.4	+0.7
APE	Apeiranthos	1.31	249	ePN	Pb	00 57 34.6	0.0
APE	Apeiranthos	1.31	249	P	Pb	00 57 34.5	0.0
APE				S	Sn	00 57 51.2	-0.1
APE	Apeiranthos	1.31	249	ePN	Pn	00 57 33.6	-0.5
APE				eSN	Sn	00 57 51.3	-0.1
APE	Apeiranthos	1.31	249	ePn	Pn	00 57 33.6	-0.5
APE	Apeiranthos	1.31	249	P	Pb	00 57 34.5	0.0
APE				eSn	Sn	00 57 51.3	-0.1
TURN	Turunc	1.40	118	i P	Pn	00 57 33.0	-2.3
AKHS	Akhisar	1.46	24	i P	Pn	00 57 36.0	-0.2
AKHS				i S	Sn	00 57 55.4	+0.3
AKHS	Akhisar	1.46	24	i P	Pn	00 57 36.0	-0.2
AKS	Akhisar	1.46	24	ePN	Pg	00 57 38.6	+0.3
AKS	Akhisar	1.46	24	ePn	Pg	00 57 38.6	+0.3
DALY	Dalyan (Mu¨la	1.46	119	ePN	Pn	00 57 36.2	+0.1
DALY	Dalyan (Mu¨la	1.46	119	ePn	Pn	00 57 36.2	+0.1
MANT	Manisa	1.52	51	eP	Pn	00 57 37.6	+0.5
MANT				i S	Sg	00 57 59.4	+0.4
MANT	Manisa	1.52	51	eP	Pn	00 57 37.6	+0.5
MANT				i S	Sg	00 57 59.4	+0.4
ARG	Arkhangelos	1.57	147	ePN	Pb	00 57 38.5	-0.6
ARG				eSN	Sg	00 58 00.6	-0.3
ARG	Arkhangelos	1.57	147	ePn	Pb	00 57 38.5	-0.6
ARG				eSn	Sg	00 58 00.6	-0.3
DENT	Denizli	1.58	82	ePN	Pb	00 57 39.3	+0.1
DENT	Denizli	1.58	82	ePn	Pb	00 57 39.3	+0.1
DNZL	Cakiroluk	1.58	84	i P	Pb	00 57 39.2	-0.2
DNZL				i S	Sb	00 57 59.7	+0.4
DNZL	Cakiroluk	1.58	84	i P	Pb	00 57 39.2	-0.2
DNZL				i S	Sb	00 57 59.7	+0.4
KULA	Kula-Manisa	1.59	52	ePN	Pg	00 57 40.5	-0.3
KULA	Kula-Manisa	1.59	52	P	Pn	00 57 38.6	+0.6
KULA				S	Sn	00 57 58.3	-0.2
KULA	Kula-Manisa	1.59	52	P	Pn	00 57 38.6	+0.6
KULA	Kula-Manisa	1.59	52	ePn	Pg	00 57 40.5	-0.3
KULA				S	Sn	00 57 58.3	-0.2
THR2	Thira island,	1.70	230	P	Pn	00 57 39.4	0.0
THR2	Thira island,	1.70	230	P	Pn	00 57 39.4	0.0
SANT	Santorini	1.74	228	ePN	Pb	00 57 41.1	-0.8
SANT	Santorini	1.74	228	P	Pn	00 57 39.5	-0.4
SANT				S	Sn	00 58 01.6	-0.3
SANT	Santorini	1.74	228	ePN	Pn	00 57 39.6	-0.4
SANT	Santorini	1.74	228	ePn	Pn	00 57 39.6	-0.4
SANT				S	Sn	00 58 01.6	-0.3
THR1	Thera Island	1.74	228	P	Pn	00 57 39.5	-0.5
THR1	Thera Island	1.74	228	P	Pn	00 57 39.5	-0.5
THR3	Thira Island,	1.75	230	P	Pn	00 57 40.0	0.0
THR3	Thira Island,	1.75	230	P	Pn	00 57 40.0	0.0
PRK	Paraskevi	1.81	340	P	Pn	00 57 41.1	+0.1
PRK				S	Sn	00 58 03.7	0.0
PRK	Paraskevi	1.81	340	P	Pn	00 57 41.1	+0.1
PRK				S	Sn	00 58 03.7	0.0
FETY	Fethiye	1.85	119	ePN	Pn	00 57 41.7	+0.2
FETY	Fethiye	1.85	119	ePn	Pn	00 57 41.7	+0.2
KARP	Karpathos	1.99	178	ePB	Pn	00 57 43.8	+0.3
KARP	Karpathos	1.99	178	ePb	Pn	00 57 43.8	+0.3
GOLH	Golhisar	2.01	98	i P	Pb	00 57 46.5	-0.1
GOLH				i S	Sb	00 58 11.8	+0.2
GOLH	Golhisar	2.01	98	i P	Pb	00 57 46.5	-0.1
GOLH				i S	Sb	00 58 11.8	+0.2
KHAL	Karahalli	2.09	66	i P	Pn	00 57 45.8	+0.9
KHAL				i S	Sg	00 58 29.1	-2.2
KHAL	Karahalli	2.09	66	i P	Pn	00 57 45.8	+0.9
KHL	Karahalli	2.10	67	ePN	Pb	00 57 47.1	-0.9
KHL	Karahalli	2.10	67	ePn	Pb	00 57 47.1	-0.9
DST	Dursunbey	2.39	30	ePN	Pb	00 57 52.6	-0.5
DST	Dursunbey	2.39	30	ePn	Pb	00 57 52.6	-0.5
ELL	Elmali	2.41	108	ePN	Pn	00 57 49.9	+0.6
ELL	Elmali	2.41	108	ePn	Pn	00 57 49.9	+0.6
AKAS	Kas	2.42	122	i P	Pb	00 57 52.0	-1.6
AKAS				i S	Sb	00 58 24.1	+0.8
AKAS	Kas	2.42	122	i P	Pb	00 57 52.0	-1.6
ZKR	Zakros	2.52	196	ePB	Pn	00 57 52.1	+1.4
ZKR	Zakros	2.52	196	ePb	Pn	00 57 52.1	+1.4
GONE	Gonen-Balikesi	2.55	11	ePN	Pb	00 57 55.0	-0.7
GONE	Gonen-Balikesi	2.55	11	ePn	Pb	00 57 55.0	-0.7
NPS	Neapolis	2.56	208	P	Pn	00 57 50.8	-0.4
NPS	Neapolis	2.56	208	ePN	Pn	00 57 50.9	-0.3
NPS	Neapolis	2.56	208	ePn	Pn	00 57 50.9	-0.3
PTL	Penteli	2.58	282	ePN	Pn	00 57 51.5	-0.1
PTL	Penteli	2.58	282	ePn	Pn	00 57 51.5	-0.1
ATH	Athens Observa	2.69	280	ePN	Pn	00 57 53.6	+0.6
ATH	Athens Observa	2.69	280	ePn	Pn	00 57 53.6	+0.6
LAST	Lasithi	2.70	209	ePN	Pn	00 57 54.1	+0.9
LAST	Lasithi	2.70	209	ePn	Pn	00 57 54.1	+0.9
NAIG	Nisos Aigina	2.84	275	ePB	Pn	00 57 57.1	+1.9
NAIG	Nisos Aigina	2.84	275	ePb	Pn	00 57 57.1	+1.9
IDI	Anoyia	2.85	219	ePN	Pn	00 57 55.1	-0.2
IDI	Anoyia	2.85	219	ePn	Pn	00 57 55.1	-0.2
KRBG	Karabiga-Canak	2.85	4	ePN	Pb	00 57 59.5	-1.3
KRBG	Karabiga-Canak	2.85	4	ePn	Pb	00 57 59.6	-1.3
BNT	Bandirma	2.89	13	ePN	Pb	00 57 59.8	-1.7
BNT	Bandirma	2.89	13	ePn	Pb	00 57 59.8	-1.7
GELI	Tayfur-Gelibol	2.89	351	ePN	Pb	00 58 00.1	-1.4
GELI	Tayfur-Gelibol	2.89	351	ePn	Pb	00 58 00.1	-1.4
KCTX	Karacabey (Bur	2.90	20	ePN	Pb	00 57 59.8	-1.9
KCTX	Karacabey (Bur	2.90	20	ePn	Pb	00 57 59.8	-1.9
SIVA	Sivas	3.11	217	ePN	Pn	00 58 00.0	+1.2
SIVA	Sivas	3.11	217	ePn	Pn	00 58 00.0	+1.2
VAM	Vamos	3.14	228	ePN	Pn	00 57 59.6	+0.4
VAM	Vamos	3.14	228	ePn	Pn	00 57 59.6	+0.4
KARN	Karanos	3.31	231	ePN	Pn	00 58 03.2	+1.6
KARN	Karanos	3.31	231	ePn	Pn	00 58 03.2	+1.6
ARMT	Armutlu	3.33	24	ePN	Pb	00 58 06.0	-3.0
ARMT	Armutlu	3.33	24	ePn	Pb	00 58 06.0	-3.0
KYTH	Kithira	3.46	250	ePN	Pn	00 58 03.8

LAKA	**Lakka**	**1.21**	**116**	*e*PG	**Pg**	**00 57 45.0**	**-2.1**
LAKA				*e*SB	**Sb**	**00 58 02.7**	**+0.1**
LAKA	**Lakka**	**1.21**	**116**	*e*Pg	**Pg**	**00 57 45.0**	**-2.1**
LAKA	**Lakka**	**1.21**	**116**	P	**Pg**	**00 57 45.4**	**-1.7**
LAKA				*e*Sb	**Sb**	**00 58 02.7**	**+0.1**
LAKA				S	**Sn**	**00 58 04.0**	**+0.6**
MAKR	**Makrakomi, Fth**	**1.22**	**78**	P	**Pg**	**00 57 46.3**	**-1.1**
MAKR				S	**Sn**	**00 58 04.0**	**+0.3**
MAKR	**Makrakomi, Fth**	**1.22**	**78**	P	**Pg**	**00 57 46.3**	**-1.1**
MAKR				S	**Sg**	**00 58 02.5**	**-0.7**
TRIZ	**Trizonia**	**1.22**	**109**	P	**Pg**	**00 57 45.9**	**-1.5**
TRIZ				S	**Sn**	**00 58 05.0**	**+1.2**
TRIZ	**Trizonia**	**1.22**	**109**	*e*PN	**Pg**	**00 57 45.8**	**-1.6**
TRIZ	**Trizonia**	**1.22**	**109**	P	**Pg**	**00 57 45.9**	**-1.5**
TRIZ				S	**Sg**	**00 58 02.9**	**-0.4**
KALE	**Kalithea**	**1.27**	**107**	P	**Pg**	**00 57 46.7**	**-1.5**
KALE				S	**Sn**	**00 58 07.2**	**+2.3**
KALE	**Kalithea**	**1.27**	**107**	*e*PG	**Pg**	**00 57 46.6**	**-1.6**
KALE	**Kalithea**	**1.27**	**107**	P	**Pg**	**00 57 46.8**	**-1.5**
KALE				S	**Sn**	**00 58 05.7**	**+0.8**
THL	**Klokotos Trika**	**1.35**	**54**	P	**Pn**	**00 57 48.6**	**-0.3**
THL				S	**Sn**	**00 58 08.6**	**+1.6**
THL	**Klokotos Trika**	**1.35**	**54**	*e*PB	**Pn**	**00 57 48.8**	**-0.1**
THL	**Klokotos Trika**	**1.35**	**54**	P	**Pn**	**00 57 48.6**	**-0.3**
THL				S	**Sn**	**00 58 08.6**	**+1.6**
AGG	**Agios Georgios**	**1.37**	**79**	P	**Pn**	**00 57 48.8**	**-0.4**
AGG				S	**Sn**	**00 58 10.1**	**+2.6**
AGG	**Agios Georgios**	**1.37**	**79**	*e*PB	**Pn**	**00 57 49.0**	**-0.3**
AGG	**Agios Georgios**	**1.37**	**79**	P	**Pn**	**00 57 48.9**	**-0.3**
AGG				S	**Sn**	**00 58 09.2**	**+1.7**
KLV	**Kalavryta, Ach**	**1.42**	**120**	P	**Pn**	**00 57 48.7**	**-1.2**
KLV				S	**Sn**	**00 58 09.9**	**+1.2**
KLV	**Kalavryta, Ach**	**1.42**	**120**	*e*PN	**Pn**	**00 57 48.8**	**-1.2**
KLV	**Kalavryta, Ach**	**1.42**	**120**	P	**Pn**	**00 57 48.7**	**-1.2**
KLV				S	**Sn**	**00 58 09.4**	**+0.7**
AMT	**Artemida-Makis**	**1.52**	**144**	P	**Pn**	**00 57 51.5**	**+0.3**
AMT				S	**Sg**	**00 58 13.1**	**+0.4**
AMT	**Artemida-Makis**	**1.52**	**144**	*e*PB	**Pg**	**00 57 52.8**	**-0.2**
AMT	**Artemida-Makis**	**1.52**	**144**	P	**Pn**	**00 57 51.5**	**+0.3**
AMT	**Artemida-Makis**	**1.52**	**144**	*e*Pb	**Pg**	**00 57 52.8**	**-0.2**
AMT				S	**Sg**	**00 58 13.1**	**+0.4**
DSF	**Desfina**	**1.55**	**103**	P	**Pb**	**00 57 52.7**	**-0.1**
DSF				S	**Sg**	**00 58 14.1**	**+0.2**
DSF	**Desfina**	**1.55**	**103**	P	**Pb**	**00 57 52.6**	**-0.2**
DSF				S	**Sg**	**00 58 14.1**	**+0.2**
GUR	**Goura**	**1.60**	**121**	P	**Pn**	**00 57 52.2**	**-0.3**
GUR				S	**Sg**	**00 58 16.1**	**+0.5**
GUR	**Goura**	**1.60**	**121**	*e*PG	**Pn**	**00 57 52.2**	**-0.3**
GUR	**Goura**	**1.60**	**121**	P	**Pn**	**00 57 52.2**	**-0.3**
GUR				S	**Sg**	**00 58 16.0**	**+0.5**
AXAR	**Agios Charalam**	**1.61**	**90**	P	**Pb**	**00 57 53.6**	**-0.2**
AXAR				S	**Sg**	**00 58 15.6**	**-0.1**
AXAR	**Agios Charalam**	**1.61**	**90**	P	**Pb**	**00 57 53.6**	**-0.2**
AXAR				S	**Sg**	**00 58 15.6**	**-0.1**
NEST	**Nestorio**	**1.68**	**12**	P	**Pb**	**00 57 55.2**	**+0.2**
NEST	**Nestorio**	**1.68**	**12**	P	**Pb**	**00 57 55.2**	**+0.2**
KZN	**Kozani**	**1.78**	**30**	*e*PN	**Pb**	**00 57 56.9**	**+0.2**
KZN	**Kozani**	**1.78**	**30**	*e*Pn	**Pb**	**00 57 56.9**	**+0.2**
LKR	**Lokris**	**1.88**	**93**	*e*PG	**Pb**	**00 57 58.2**	**-0.2**
LKR	**Lokris**	**1.88**	**93**	*e*Pg	**Pb**	**00 57 58.2**	**-0.2**
ITM	**Ithomi**	**1.91**	**146**	P	**Pb**	**00 57 59.1**	**+0.3**
ITM				S	**Sg**	**00 58 25.1**	**-0.1**
ITM	**Ithomi**	**1.91**	**146**	*e*PG	**Pb**	**00 57 59.1**	**+0.3**
ITM	**Ithomi**	**1.91**	**146**	P	**Pb**	**00 57 59.1**	**+0.3**
ITM				S	**Sg**	**00 58 25.1**	**-0.1**
VLX	**Vlachokerasia**	**1.98**	**134**	P	**Pn**	**00 57 58.9**	**+1.2**
VLX	**Vlachokerasia**	**1.98**	**134**	*e*PN	**Pb**	**00 57 59.4**	**-0.8**
VLX	**Vlachokerasia**	**1.98**	**134**	P	**Pn**	**00 57 58.9**	**+1.2**
VLX	**Vlachokerasia**	**1.98**	**134**	*e*Pn	**Pb**	**00 57 59.4**	**-0.8**
ACOR	**Acrocorinthos**	**1.99**	**116**	P	**Pn**	**00 57 59.0**	**+1.3**
ACOR	**Acrocorinthos**	**1.99**	**116**	P	**Pn**	**00 57 59.0**	**+1.3**
LTK	**Loutraki**	**2.00**	**111**	*e*PN	**Pn**	**00 57 59.3**	**+1.4**
LTK	**Loutraki**	**2.00**	**111**	*e*Pn	**Pn**	**00 57 59.3**	**+1.4**
PYL	**PYLOS**	**2.08**	**154**	*e*PN	**Pb**	**00 58 01.0**	**-0.8**
PYL	**PYLOS**	**2.08**	**154**	*e*Pn	**Pb**	**00 58 01.0**	**-0.8**
FNA	**Florina**	**2.10**	**16**	P	**Pn**	**00 58 00.0**	**+0.8**
FNA	**Florina**	**2.10**	**16**	*e*PN	**Pn**	**00 58 00.5**	**+1.3**
FNA	**Florina**	**2.10**	**16**	P	**Pn**	**00 58 00.0**	**+0.8**
FNA	**Florina**	**2.10**	**16**	*e*Pn	**Pn**	**00 58 00.5**	**+1.3**
BIA	**Bitola**	**2.31**	**14**	*e*Pn	**Pn**	**00 58 01.4**	**-0.8**
BIA				*e*Sn	**Sb**	**00 58 34.5**	**+0.1**
BIA	**Bitola**	**2.31**	**14**	*e*Pn	**Pn**	**00 58 03.8**	**+1.6**
BIA				*e*Sn	**Sb**	**00 58 33.9**	**-0.5**
DYR	**Agios Nikonas**	**2.43**	**145**	*e*PN	**Pb**	**00 58 06.8**	**-1.0**
DYR	**Agios Nikonas**	**2.43**	**145**	*e*Pn	**Pb**	**00 58 06.8**	**-1.0**
DID	**Didima**	**2.43**	**120**	*e*PN	**Pb**	**00 58 06.4**	**-1.4**
DID	**Didima**	**2.43**	**120**	*e*Pn	**Pb**	**00 58 06.4**	**-1.4**
PAIG	**Paliouri**	**2.65**	**63**	*e*PN	**Pn**	**00 58 08.8**	**+2.0**
PAIG	**Paliouri**	**2.65**	**63**	*e*Pn	**Pn**	**00 58 08.8**	**+2.0**
VLI	**Veliai**	**2.76**	**137**	*e*PB	**Pn**	**00 58 09.8**	**+1.5**
SOH	**Sokhos**	**2.95**	**45**	*e*PN	**Pn**	**00 58 12.4**	**+1.5**
SOH	**Sokhos**	**2.95**	**45**	*e*Pn	**Pn**	**00 58 12.4**	**+1.5**
STON	**Ston**	**4.65**	**333**	*i* Pn	**Pn**	**00 58 33.2**	**-0.9**
STON				Sn	**Sn**	**00 59 23.5**	**-4.7**

IDC 12 00:59:36.4±1.5, 13°26S×166°63E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.8/20, mbtmp3.8/6, ML3.3/1, Error ellipse: s-maj=50.5km s-min=28.8km az=125.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.76**	**181**	Pn	Pn	01 01 44.9	+0.4
	0.3nm,0.3s,baz=15,slow=12,SNR=4.5						
WRA	**Warramunga Arr**	**31.61**	**254**	P	P	01 06 00.7	-0.5
	0.4nm,0.5s,baz=86,slow=9.7,SNR=7.3						
ASAR	**Alice Springs**	**32.64**	**247**	P	P	01 06 10.2	-0.1
	0.5nm,0.6s,baz=74,slow=9.2,SNR=10						
SONM	**Songino Array**	**80.95**	**324**	P	P	01 11 53.7	+0.8
	0.2nm,0.3s,baz=132,slow=4.3,SNR=3.8						
ILAR	**Eielson Array**	**85.34**	**18**	P	P	01 12 14.2	-0.8
	0.4nm,0.6s,baz=231,slow=5.2,SNR=4.5						
MKAR	**Makanchi Array**	**95.72**	**317**	P	P	01 13 04.4	+0.1
	0.2nm,0.5s,baz=96,slow=4.9,SNR=3.0						
ARCES	**ARCESS Array B**	**118.69**	**345**	PKP	PKPdf	01 18 26.0	0.0
	1.3nm,0.8s,baz=73,slow=2.0,SNR=9.3						

TIF 12 01:10:59.2, 42°55N×43°45E, h14km
CSEM 12 01:11:00.1±0.2, 42°51N×43°45E, h2km, mb4.0, Error ellipse: s-maj=4.4km s-min=2.6km az=119.0
MOS 12 01:11:00.4±1.9, 42°49N×43°50E, h12km, mb4.0/1, Error ellipse: s-maj=12.5km s-min=5.2km az=80.5
ISC 12 01:10:59.9±0.9, 42°50N±0°.02×43°45E±0°.02, h7km±7km, n64, σ0°61/111, 6C-7D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.09**	**2**	PG	**Pg**	**01 11 02.2**	**+0.1**
ONI	**Oni**	**0.09**	**2**	Pg	**Pg**	**01 11 02.2**	**+0.1**
ONI	**Oni**	**0.09**	**2**	P	**Pg**	**01 11 02.2**	**+0.1**
ONI				S	**Sg**	**01 11 03.8**	**+0.1**
DIGR	**Digorskoe uzhe**	**0.41**	**14**	⇓*i*PG	**Pg**	**01 11 07.3**	**-0.7**
DIGR				*i* S	**Sg**	**01 11 13.1**	**-0.3**
DIGR	**Digorskoe uzhe**	**0.41**	**14**	*i* Pg	**Pg**	**01 11 07.3**	**-0.7**
DIGR				*i* Sg	**Sg**	**01 11 13.1**	**-0.3**
ZEI	**Tsey**	**0.44**	**49**	⇓*i*PG	**Pg**	**01 11 08.0**	**-0.5**
ZEI				*i* S	**Sg**	**01 11 14.1**	**-0.2**
ZEI	**Tsey**	**0.44**	**49**	*i* Pg	**Pg**	**01 11 08.0**	**-0.5**
ZEI				*i* Sg	**Sg**	**01 11 14.1**	**-0.2**
LACR	**Lac**	**0.71**	**62**	⇓*i*PG	**Pg**	**01 11 12.8**	**-0.7**
LACR				*i* S	**Sg**	**01 11 22.2**	**-0.5**
LACR	**Lac**	**0.71**	**62**	*i* Pg	**Pg**	**01 11 12.8**	**-0.7**
LACR				*i* Sg	**Sg**	**01 11 22.2**	**-0.5**
KORR	**Kora**	**0.74**	**38**	⇑*i*PG	**Pg**	**01 11 14.0**	**-0.2**
KORR				*i* S	**Sg**	**01 11 24.1**	**+0.2**
KORR	**Kora**	**0.74**	**38**	*i* Pg	**Pg**	**01 11 14.0**	**-0.2**
KORR				*i* Sg	**Sg**	**01 11 24.1**	**+0.2**
LSNR	**Lesken**	**0.83**	**19**	⇓*i*PG	**Pg**	**01 11 15.5**	**-0.3**
LSNR				*i* S	**Sg**	**01 11 26.5**	**-0.1**
LSNR	**Lesken**	**0.83**	**19**	*i* Pg	**Pg**	**01 11 15.5**	**-0.3**
LSNR				*i* Sg	**Sg**	**01 11 26.5**	**-0.1**
STDR	**Stavd-Durt**	**0.98**	**27**	⇑*i*PG	**Pn**	**01 11 19.5**	**-0.6**
STDR				*i* S	**Sb**	**01 11 32.7**	**+0.3**
STDR	**Stavd-Durt**	**0.98**	**27**	*i* Pg	**Pn**	**01 11 19.5**	**-0.6**
STDR				*i* Sg	**Sb**	**01 11 32.7**	**+0.3**
NCK	**Nalchik**	**1.00**	**6**	⇑*i*PG	**Pg**	**01 11 19.3**	**+0.2**
NCK				*i* S	**Sn**	**01 11 33.9**	**-1.0**
NCK	**Nalchik**	**1.00**	**6**	*i* Pg	**Pg**	**01 11 19.3**	**+0.2**
NCK				*i* Sg	**Sn**	**01 11 33.9**	**-1.0**
DUS	**Dusheti**	**1.01**	**113**	P	**Pb**	**01 11 19.9**	**+0.1**
CHVG	**Ch'k'valeri**	**1.03**	**283**	P	**Pg**	**01 11 19.5**	**-0.1**
CHVG				S	**Sb**	**01 11 33.8**	**-0.1**
VLKR	**Vladikavkaz**	**1.06**	**58**	*e*PG	**Pn**	**01 11 20.8**	**-0.4**
VLKR				*e*S	**Sb**	**01 11 34.9**	**+0.2**
VLKR	**Vladikavkaz**	**1.06**	**58**	*e*Pg	**Pn**	**01 11 20.8**	**-0.4**
VLKR				*e*Sg	**Sb**	**01 11 34.9**	**+0.2**
AKH	**Akhalkalaki**	**1.09**	**178**	PG	**Pg**	**01 11 20.4**	**-0.3**
AKH	**Akhalkalaki**	**1.09**	**178**	Pg	**Pg**	**01 11 20.4**	**-0.3**
AKH	**Akhalkalaki**	**1.09**	**178**	P	**Pg**	**01 11 20.7**	**0.0**
AKH				S	**Sn**	**01 11 36.4**	**-0.8**
SNJR	**Sundja**	**1.16**	**60**	*e*PG	**Pg**	**01 11 21.4**	**-0.6**
SNJR				*e*S	**Sg**	**01 11 36.6**	**-0.4**
SNJR	**Sundja**	**1.16**	**60**	*e*Pg	**Pg**	**01 11 21.4**	**-0.6**
SNJR				*e*Sg	**Sg**	**01 11 36.6**	**-0.4**
BTKR	**Batakoyurt**	**1.19**	**42**	⇑*i*PG	**Pn**	**01 11 23.8**	**+0.8**
BTKR				*e*S	**Sn**	**01 11 39.7**	**+0.2**
BTKR	**Batakoyurt**	**1.19**	**42**	*i* Pg	**Pn**	**01 11 23.8**	**+0.8**
BTKR				*e*Sg	**Sn**	**01 11 39.7**	**+0.2**
TBLG	**Delisi**	**1.23**	**128**	PG	**Pg**	**01 11 23.4**	**0.0**
TBLG	**Delisi**	**1.23**	**128**	Pg	**Pg**	**01 11 23.4**	**0.0**
TBLG	**Delisi**	**1.23**	**128**	P	**Pb**	**01 11 23.2**	**-0.2**
TBLG				S	**Sn**	**01 11 40.6**	**+0.2**
KUBR	**Kubataba**	**1.30**	**359**	⇑*i*PG	**Pg**	**01 11 25.0**	**+0.1**
KUBR				*i* S	**Sn**	**01 11 43.8**	**+1.5**
KUBR	**Kubataba**	**1.30**	**359**	*i* Pg	**Pg**	**01 11 25.0**	**+0.1**
KUBR				*i* Sg	**Sn**	**01 11 43.8**	**+1.5**
KZR	**Kazreti**	**1.33**	**147**	P	**Pn**	**01 11 24.4**	**-0.5**
KZR				S	**Sg**	**01 11 42.6**	**+0.1**
SHAR	**Shatzhatmas**	**1.37**	**336**	⇓*e*PG	**Pn**	**01 11 25.4**	**-0.3**
SHAR				*i* S	**Sb**	**01 11 43.4**	**-0.4**
SHAR	**Shatzhatmas**	**1.37**	**336**	*e*Pg	**Pn**	**01 11 25.4**	**-0.3**
SHAR				*i* Sg	**Sb**	**01 11 43.4**	**-0.4**
PRTR	**Priterechnaya**	**1.40**	**26**	⇓*i*PG	**Pg**	**01 11 26.9**	**+0.3**
PRTR				*e*S	**Sg**	**01 11 45.5**	**+0.8**
PRTR	**Priterechnaya**	**1.40**	**26**	*i* Pg	**Pg**	**01 11 26.9**	**+0.3**
PRTR				*e*Sg	**Sg**	**01 11 45.5**	**+0.8**
TRKR	**Terskaya**	**1.54**	**37**	*e*PG	**Pg**	**01 11 29.5**	**0.0**
TRKR				*e*S	**Sg**	**01 11 49.9**	**+0.4**
TRKR	**Terskaya**	**1.54**	**37**	*e*Pg	**Pg**	**01 11 29.5**	**0.0**
TRKR				*e*Sg	**Sg**	**01 11 49.9**	**+0.4**
KIV	**Kislovodsk**	**1.56**	**339**	⇓*i*PG	**Pn**	**01 11 27.9**	**-0.3**
KIV				pmax	pmax		
	comp=Z,55nm,1.1s						
KIV	**Kislovodsk**	**1.56**	**339**	*i* Pg	**Pn**	**01 11 27.9**	**-0.3**
	comp=Z,55nm,1.1s						
PYA	**Pyatigorsk**	**1.56**	**350**	⇑*i*PG	**Pb**	**01 11 29.4**	**+0.2**
PYA				*i* S	**Sg**	**01 11 49.8**	**-0.3**
PYA	**Pyatigorsk**	**1.56**	**350**	*i* Pg	**Pb**	**01 11 29.4**	**+0.2**
PYA				*i* Sg	**Sg**	**01 11 49.8**	**-0.3**
ARTV	**Artvin**	**1.73**	**221**	*i* P	**Pb**	**01 11 31.6**	**-0.6**
ARTV				*i* S	**Sb**	**01 11 55.2**	**+0.9**
ARTV	**Artvin**	**1.73**	**221**	*i* P	**Pb**	**01 11 31.6**	**-0.6**
ARTV				*i* S	**Sb**	**01 11 55.2**	**+0.9**
DBOC	**Borcka**	**1.76**	**230**	*i* P	**Pn**	**01 11 31.2**	**+0.4**
DBOC				*i* S	**Sb**	**01 11 55.6**	**+0.8**
DBOC	**Borcka**	**1.76**	**230**	*i* P	**Pn**	**01 11 31.2**	**+0.4**
DBOC				*i* S	**Sb**	**01 11 55.6**	**+0.8**
DGRG	**David-gareji**	**1.78**	**125**	P	**Pb**	**01 11 33.2**	**+0.4**
DGRG				S	**Sg**	**01 11 57.6**	**+0.7**
DAGI	**Agillar**	**1.82**	**219**	*i* S	**Sb**	**01 11 57.8**	**+1.0**
DBAD	**Bademkaya**	**1.98**	**222**	*i* P	**Pb**	**01 11 35.7**	**-0.5**
DBAD				*i* S	**Sb**	**01 12 02.1**	**+1.0**
DBAD	**Bademkaya**	**1.98**	**222**	*i* P	**Pb**	**01 11 35.7**	**-0.5**
DBAD				*i* S	**Sb**	**01 12 02.1**	**+1.0**
DDEM	**Demirkent**	**2.05**	**219**	*i* P	**Pb**	**01 11 36.6**	**-0.9**
DDEM				*i* S	**Sg**	**01 12 05.0**	**-0.6**
DDEM	**Demirkent**	**2.05**	**219**	*i* P	**Pb**	**01 11 36.6**	**-0.9**
DDEM				*i* S	**Sg**	**01 12 05.0**	**-0.6**
DIGO	**Kars**	**2.08**	**182**	*e*P	**Pb**	**01 11 38.5**	**+0.4**
DIGO				*i* S	**Sg**	**01 12 06.3**	**-0.4**
DIGO	**Kars**	**2.08**	**182**	*e*P	**Pb**	**01 11 38.5**	**+0.4**
DIGO				*i* S	**Sg**	**01 12 06.3**	**-0.4**
GOF	**Gofitskoye**	**2.58**	**354**	*e*PN	**Pg**	**01 11 49.1**	**-0.1**
GOF				*i* S	**Sg**	**01 12 22.4**	**-0.2**
GOF				pmax	pmax		
	comp=Z,20nm,0.8s						
GOF				smax	smax		
	comp=N,90nm,0.8s						
GOF	**Gofitskoye**	**2.58**	**354**	*i* Sb	**Sg**	**01 12 22.4**	**-0.2**
	comp=N,90nm,0.8s						
MACK	**Trabzon**	**3.16**	**242**	*i* P	**Pn**	**01 11 50.7**	**+0.6**
MACK	**Trabzon**	**3.16**	**242**	*i* P	**Pn**	**01 11 50.7**	**+0.6**
KOPT	**Kop Dagi**	**3.33**	**223**	*e*P	**Pb**	**01 11 57.5**	**-1.9**
KOPT	**Kop Dagi**	**3.33**	**223**	*e*P	**Pb**	**01 11 57.5**	**-1.9**
KELT	**Kelkit**	**3.93**	**235**	*i* P	**Pn**	**01 12 02.1**	**+1.2**
KELT	**Kelkit**	**3.93**	**235**	*i* P	**Pn**	**01 12 02.1**	**+1.2**

ISCJB 12 01:18:31.6±1.0, 5°45S±0°.07×147°.4E±0°.1, h170km, mb3.6/5, Error ellipse: s-maj=20.8km s-min=10.0km az=9.3
IDC 12 01:18:34.6±1.5, 5°.67S×147°.49E, h191km±18km, mb3.4/5, mb1 3.7/7, mb1mx3.4/18, mbtmp3.5/7, Error ellipse: s-maj=42.7km s-min=11.0km az=113.0
ISC 12 01:18:33.0±1.1, 5°49S±0°.09×147°.4E±0°.2, h170km, n11, σ1°34/14, mb3.6/5, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.89**	**183**	P	**Pn**	**01 19 34.0**	**+1.5**
	21nm,0.3s,baz=334,slow=5.4,SNR=38						
PMG				S	**Sn**	**01 20 17.7**	**-1.2**
	22nm,0.3s,baz=348,slow=9.0,SNR=8.4						
COEN	**Coen**	**9.37**	**206**	P	**Sn**	**01 22 29.7**	**+1.0**
	baz=5.9,SNR=5.1						
KDU	**Kakadu**	**16.34**	**243**	P	**Pn**	**01 22 13.0**	**0.0**
	baz=4.6,SNR=20						
WRA	**Warramunga Arr**	**19.15**	**220**	P	**P**	**01 22 44.0**	**+0.4**
	2.3nm,0.3s,baz=47,slow=12,SNR=109						
WRA				S	**S**	**01 26 08.7**	**-3.0**
	0.1nm,0.3s,baz=47,slow=18,SNR=4.4						
KNRA	**Kununurra**	**20.87**	**240**	P	**P**	**01 23 03.1**	**+1.1**
	baz=8.4,SNR=5.0						
ASAR	**Alice Springs**	**22.24**	**214**	P	**P**	**01 23 16.6**	**+0.4**
	4.1nm,0.5s,baz=49,slow=8.6,SNR=52						
ASAR				S	**S**	**01 27 07.0**	**-1.5**
	0.8nm,0.7s,baz=34,slow=22,SNR=3.2						
FITZ	**Fitzroy Crossi**	**24.64**	**238**	P	**P**	**01 23 38.4**	**+0.3**
	2.2nm,0.4s,baz=23,slow=6.3,SNR=17						
SONM	**Songino Array**	**64.14**	**331**	P	**P**	**01 28 50.3**	**+0.9**
	0.3nm,0.6s,baz=147,slow=3.4,SNR=2.7						
MKAR	**Makanchi Array**	**77.34**	**320**	P	**P**	**01 30 08.6**	**-0.5**
	0.2nm,0.4s,baz=101,slow=8.4,SNR=5.5						
ILAR	**Eielson Array**	**84.88**	**23**	P	**P**	**01 30 47.4**	**-1.0**
	0.6nm,0.6s,baz=249,slow=4.8,SNR=5.8						
TORD	**Torodi Ar. Bea**	**145.31**	**285**	PKPbc	**PKPdf**	**01 37 51.2**	**-0.4**
	0.9nm,0.6s,baz=74,slow=3.7,SNR=15						

IDC 12 01:55:36.2±0.9, 54°17S×120°99W, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.8/18, mbtmp3.8/7, MS4.0/10, Ms1 4.0/10, ms1mx3.9/16, Error ellipse: s-maj=36.2km s-min=22.5km az=152.0, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**29.74**	**134**	LR	LR	02 09 58.1	
	comp=Z,512nm,20.4s,baz=288,slow=29						
RKT	**Rikitea**	**32.74**	**336**	*e*LR	LR	02 10 43.5	
	528nm,27.5s						
VNDA	**Vanda**	**35.12**	**202**	LR	LR	02 14 53.9	
	comp=Z,114nm,19.7s,baz=285,slow=33						
PLCA	**Paso Flores**	**35.87**	**89**	P	P	02 02 37.5	-0.1
	4.3nm,1.2s,baz=207,slow=2.3,SNR=2.9						
PLCA				LR	LR	02 14 13.3	
	comp=Z,187nm,21.0s,baz=211,slow=31						
QSPA	**South Pole Qui**	**36.02**	**180**	P	P	02 02 39.3	+0.4
	1.5nm,0.9s,baz=56,slow=3.6,SNR=12						
TBI	**Tubuai**	**37.45**	**314**	*e*LR	LR	02 12 58.7	
	315nm,26.8s						
PPT2	**Papeete2**	**42.66**	**318**	*e*LQ	LQ	02 13 26.0	
	230nm,28.0s						
PPT2				*e*LR	LR	02 15 23.2	
	394nm,25.8s						
PPT	**Papeete**	**42.67**	**318**	LR	LR	02 16 03.2	
	comp=Z,213nm,19.4s,baz=166,slow=29						
CFAA	**Coronel Fontan**	**43.49**	**81**	P	P	02 03 40.2	-0.9
	0.2nm,0.8s,baz=188,slow=11,SNR=3.0						
SNAA	**Sanae**	**47.19**	**158**	P	P	02 04 09.5	-0.6
	0.4nm,1.1s,baz=222,slow=12,SNR=3.7						
CPUP	**Villa Florida**	**53.77**	**86**	LR	LR	02 24 51.2	
	comp=Z,311nm,18.1s,baz=203,slow=33						
LPAZ	**La Paz**	**55.50**	**68**	P	P	02 05 13.8	+0.1
	3.5nm,1.1s,baz=204,slow=5.2,SNR=6.7						
LPAZ				LR	LR	02 23 11.6	
	comp=Z,103nm,19.9s,baz=65,slow=30						
MAW	**Mawson**	**58.51**	**182**	LR	LR	02 30 31.0	
	comp=Z,114nm,18.2s,baz=168,slow=36						
BDFB	**Brasília**	**67.51**	**86**	LR	LR	02 34 33.3	
	comp=Z,180nm,18.5s,baz=123,slow=35						
ROSC	**El Rosal**	**70.48**	**50**	LR	LR	02 31 12.6	
	comp=Z,70nm,19.7s,baz=14,slow=30						
ASAR	**Alice Springs**	**79.49**	**244**	P	P	02 07 43.7	-1.0
	0.4nm,0.9s,baz=140,slow=4.9,SNR=3.4						
WRA	**Warramunga Arr**	**82.29**	**247**	P	P	02 07 59.5	-0.1
	2.0nm,0.9s,baz=142,slow=4.9,SNR=8.1						
BOSA	**Boshof**	**92.55**	**151**	LR	LR	02 45 09.4	
	comp=Z,109nm,19.7s,baz=262,slow=32						
EKA	**Eskdalemuir Ar**	**145.15**	**62**	PKPbc	PKPbc	02 15 12.8	-1.2
	2.0nm,1.0s,baz=266,slow=1.9,SNR=3.5						
SONM	**Songino Array**	**149.99**	**278**	PKPbc	PKPbc	02 15 28.4	+0.6
	0.4nm,0.7s,baz=116,slow=3.4,SNR=3.2						
GERES	**GERESS Array B**	**151.69**	**82**	PKPbc	PKPbc	02 15 32.2	+0.5
	0.6nm,0.8s,baz=242,slow=4.1,SNR=4.8						

IDC 12 01:56:59.6±2.9, 8°78S×117°94E, h173km±26km, mb2.8/2, mb1 3.1/5, mb1mx3.0/22, mbtmp2.9/5, Error ellipse: s-maj=34.3km s-min=13.3km az=55.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**4.15**	**26**	P	Pn	01 58 02.9	+0.3
	0.8nm,0.3s,baz=195,slow=12,SNR=3.8						
KAPI				S	Sn	01 58 52.0	+0.3
	0.9nm,0.3s,baz=66,slow=20,SNR=4.0						
FITZ	**Fitzroy Crossi**	**11.90**	**142**	P	Pn	01 59 42.4	-1.7
	0.2nm,0.3s,baz=323,slow=12,SNR=13						
FITZ				S	Sn	02 01 45.4	-11
	0.6nm,0.3s,baz=179,slow=20,SNR=11						
WRA	**Warramunga Arr**	**19.35**	**127**	P	P	02 01 12.9	+0.8
	0.6nm,0.3s,baz=300,slow=12,SNR=157						
WRA				S	S	02 04 42.4	+0.5
	0.1nm,0.3s,baz=308,slow=20,SNR=3.2						
ASAR	**Alice Springs**	**21.27**	**136**	P	P	02 01 33.0	+0.4
	0.5nm,0.6s,baz=311,slow=9.3,SNR=6.3						
MKAR	**Makanchi Array**	**63.79**	**333**	P	P	02 07 13.1	-0.2
	0.2nm,0.4s,baz=148,slow=6.1,SNR=3.7						

ISCJB 12 02:14:44.9±1.2, 32°93N±0°.04×117°.59W±0°.07, h6km±6km, Error ellipse: s-maj=10.5km s-min=4.6km az=157.1
NEIC 12 02:14:46.2, 32°89N×117°.61W, h8km, ML2.7(PAS), After PAS.
NEIC Felt at Oceanside and San Diego.
*ECX 12 02:14:47.1±0.5, 32°91N

VHO			*e*S	Sn	02 40 30.1	-4.0
PNIG	**Pinotepa**	**4.34 290**	*e*P	Pn	02 40 03.2	-2.1
PNIG			*i* S	Sn	02 40 52.1	-3.2

AUST **12** *02:44:36.8±0.5, 4.′55S×153.′49E, h39km, Error ellipse: s-maj=1.0km s-min=0.9km az=263.0*
BJI **12** *02:44:37.4, 5.′34S×153.′69E, h95km, mB5.1/23, mb4.8/31*
ISCJB **12** *02:44:38.8±0.8, 4.′62S±0.′04×153.′31E±0.′05, h64km±6km, mb4.8/59, Error ellipse: s-maj=8.6km s-min=5.6km az=165.2*
IDC **12** *02:44:38.3±0.6, 4.′58S×153.′29E, h47km±4km, mb4.3/21, mb1 4.4/23, mb1mx4.4/25, mbtmp4.3/23, MS4.0/12, Ms1 4.0/12, ms1mx3.9/24, Error ellipse: s-maj=14.6km s-min=8.8km az=106.0*
NEIC **12** *02:44:41.3±1.2, 4.′63S×153.′22E, h72km±10km, mb4.9/25, Error ellipse: s-maj=9.0km s-min=5.1km az=71.0*
ISC 12 02:44:39.3±0.5, 4.′62S±0.′04×153.′29E±0.′06, h54km±3km**, h54**km**:pP-P, n283,** σ1º**38**/330**, mb4.8**/55**, MS4.0**/20**, 2C-7D, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.20**	**291**	P	**Pn**	**02 44 59.8**	**+0.1**
	baz=1.4,SNR=179						
RABL				S	**Sn**	**02 45 16.4**	**+1.4**
	baz=1.4,SNR=11						
MANU	**Manus Island**	**6.44**	**293**	P	Pn	02 46 17.1	+5.5
	baz=6.6,SNR=5.4						
PMG	**Port Moresby**	**7.72**	**232**	*e*Pn	**Pn**	**02 46 29.8**	**+0.7**
PMG				*e*Sn	**Sn**	**02 47 52.0**	**-3.2**
PMG	**Port Moresby**	**7.72**	**232**	P	**Pn**	**02 46 27.3**	**-1.8**
	12nm,0.3s,baz=48,slow=7.4,SNR=26						
PMG				S	**Sn**	**02 47 53.7**	**-1.6**
	33nm,0.3s,baz=47,slow=19,SNR=10						
PATS	**Pohnpei**	**12.43**	**24**	P	**Pn**	**02 47 32.7**	**-0.9**
	baz=12,SNR=11						
COEN	**Coen**	**13.62**	**226**	*e*Pn	**Pn**	**02 47 50.5**	**+0.6**
COEN	**Coen**	**13.62**	**226**	P	**Pn**	**02 47 50.7**	**+0.8**
	baz=14,SNR=5.2						
MTSU	**Mount Surprise**	**16.05**	**212**	P	**P**	**02 48 24.9**	**+0.9**
	baz=16,SNR=7.1						
CTA	**Charters Tower**	**16.84**	**203**	P	**Pn**	**02 48 31.5**	**+0.1**
CTA	**Charters Tower**	**16.84**	**203**	P	**Pn**	**02 48 31.5**	**+0.1**
	0.1nm,0.3s,baz=38,slow=13,SNR=5.3						
CTAO	**Charters Tower**	**16.84**	**203**	*e*P	**Pn**	**02 48 31.9**	**+0.5**
	28nm,1.1s						
GUMO	**Guam**	**19.92**	**335**	*e*P	**Pn**	**02 49 10.2**	**+1.4**
	144nm,1.0s						
EIDS	**Eidsvold**	**20.74**	**186**	*e*P	Pn	02 49 18.3	-0.1
	24nm,1.0s						
EIDS	**Eidsvold**	**20.74**	**186**	P	Pn	02 49 19.4	+1.0
	baz=21,SNR=4.3						
DZM	**Mont Dzumac**	**21.53**	**145**	P	**P**	**02 49 23.9**	**-0.3**
DZM	**Mont Dzumac**	**21.53**	**145**	P	**P**	**02 49 23.9**	**-0.3**
	119nm,0.8s,baz=336,slow=12,SNR=47						
KDU	**Kakadu**	**22.07**	**247**	P	**P**	**02 49 29.1**	**-0.7**
	baz=22,SNR=44						
RMQ	**Roma**	**22.17**	**191**	P	**P**	**02 49 32.1**	**+1.2**
	baz=22,SNR=7.1						
PALU	**Palau**	**22.22**	**302**	P	**P**	**02 49 33.0**	**+1.5**
	baz=22,SNR=6.6						
MTN	**Manton Dam**	**23.36**	**248**	P	**P**	**02 49 42.4**	**-0.8**
	baz=24,SNR=15						
MTN				S	**S**	**02 53 50.7**	**-1.5**
	baz=24,SNR=4.8						
WRAB	**Tennant Creek**	**23.91**	**229**	*e*P	**P**	**02 49 47.7**	**-0.7**
	167nm,1.4s						
WRA	**Warramunga Arr**	**23.93**	**229**	P	**P**	**02 49 47.5**	**-1.0**
WRA				pP	**pP**	**02 50 01.4**	**-0.6**
WRA				PcP	**PcP**	**02 53 29.4**	**-0.7**
WRA				S	**S**	**02 54 03.4**	**+1.9**
WRA	**Warramunga Arr**	**23.93**	**229**	P	**P**	**02 49 47.5**	**-1.0**
	19nm,0.8s,baz=53,slow=9.7,SNR=122						
WRA				pP	**pP**	**02 50 01.4**	**-0.6**
	35nm,0.8s,baz=51,slow=9.7,SNR=14						
WRA				PcP	**PcP**	**02 53 29.4**	**-0.7**
	2.4nm,0.8s,baz=41,slow=1.8,SNR=3.3						
WRA				S	**S**	**02 54 03.4**	**+1.9**
	3.2nm,0.9s,baz=46,slow=16,SNR=4.9						
ARMA	**Armidale**	**25.71**	**183**	*e*P	**P**	**02 50 05.9**	**+1.2**
	25nm,1.0s						
ARMA	**Armidale**	**25.71**	**183**	P	**P**	**02 50 05.9**	**+1.2**
	baz=26,SNR=13						
KNRA	**Kununurra**	**26.49**	**244**	P	**P**	**02 50 12.4**	**+0.6**
	baz=27,SNR=24						
AS31	**Alice Springs**	**26.61**	**223**	*e*P	**P**	**02 50 11.9**	**-1.0**
ASAR	**Alice Springs**	**26.61**	**223**	P	**P**	**02 50 11.8**	**-1.1**
ASAR				PcP	**PcP**	**02 53 37.3**	**+1.2**
ASAR				S	**S**	**02 54 47.5**	**+3.3**
ASAR	**Alice Springs**	**26.61**	**223**	P	**P**	**02 50 11.8**	**-1.1**
	2.7nm,0.6s,baz=55,slow=8.5,SNR=27						
ASAR				PcP	**PcP**	**02 53 37.3**	**+1.2**
	2.3nm,0.9s,baz=27,slow=2.3,SNR=4.0						
ASAR				S	**S**	**02 54 47.5**	**+3.3**
	1.0nm,1.0s,baz=32,slow=25,SNR=3.0						
ASAR				LR	LR	03 00 17.2	
	comp=Z,303nm,21.3s,baz=333,slow=35						
MGCD	**Mangrove Creek**	**28.52**	**184**	P	P	02 50 35.3	+5.5
	baz=29,SNR=5.0						
STKA	**Stephens Creek**	**29.25**	**201**	*e*P	**P**	**02 50 35.8**	**-0.5**
	3.0nm,0.9s						
STKA				PcP	**PcP**	**02 53 43.2**	**+0.9**
STKA	**Stephens Creek**	**29.25**	**201**	P	**P**	**02 50 35.6**	**-0.7**
	8.5nm,0.7s,baz=36,slow=12,SNR=8.6						
STKA				PcP	**PcP**	**02 53 43.2**	**+0.9**
	5.3nm,0.8s,baz=330,slow=1.7,SNR=4.1						
STKA	**Stephens Creek**	**29.25**	**201**	P	**P**	**02 50 35.9**	**-0.5**
	baz=30,SNR=6.4						
FITZ	**Fitzroy Crossi**	**30.17**	**241**	P	**P**	**02 50 42.8**	**-1.8**
	baz=30,SNR=12						
CBIJ	**Chichi jima**	**33.30**	**342**	LR	LR	03 03 12.4	
	comp=Z,214nm,19.6s,baz=135,slow=34						
KAPI	**Kappang**	**33.42**	**268**	*e*P	**P**	**02 51 12.8**	**-0.3**
	6.0nm,0.6s						
ARPS	**Mount Arapiles**	**33.68**	**197**	P	**P**	**02 51 15.4**	**+0.3**
	baz=34,SNR=4.7						
FORT	**Forrest**	**35.24**	**219**	*e*P	**P**	**02 51 27.7**	**-1.0**
	40nm,0.9s						
FORT	**Forrest**	**35.24**	**219**	P	**P**	**02 51 27.9**	**-0.8**
	baz=36,SNR=6.9						
AFI	**Afiamalu**	**35.65**	**107**	LR	LR	03 02 23.6	
	comp=Z,282nm,21.0s,baz=153,slow=30						
MBWA	**Marble Bar**	**36.48**	**240**	*e*P	**P**	**02 51 38.0**	**-1.6**
	20nm,0.9s						
RAO	**Raoul Island**	**36.66**	**135**	LR	LR	03 02 43.0	
	comp=Z,1μm,18.2s,baz=136,slow=30						
KKM	**Kota Kinabalu**	**38.50**	**286**	*e*P	**P**	**02 51 56.2**	**-0.6**
MEEK	**Meekatharra**	**39.70**	**233**	P	**P**	**02 52 05.2**	**-1.4**
	baz=40,SNR=18						
URZ	**Urewera**	**39.90**	**150**	LR	LR	03 06 00.8	
	comp=Z,192nm,18.3s,baz=320,slow=32						
BKZ	**Black Stump Fm**	**40.32**	**152**	*e*P	**P**	**02 52 12.2**	**+0.7**
	134nm,2.2s						
BFZ	**Birch Farm**	**41.42**	**153**	*e*P	**P**	**02 52 20.7**	**+0.2**
	104nm,1.5s						
KHZ	**Kahutara**	**41.74**	**157**	*e*P	**P**	**02 52 22.9**	**-0.1**
	75nm,1.0s						
YULB	**Yu-li**	**41.82**	**313**	*e*P	**P**	**02 52 24.9**	**+0.8**
	9.1nm,0.8s						
RPZ	**Rata Peaks**	**41.98**	**161**	*e*P	**P**	**02 52 25.8**	**+0.7**
	126nm,1.0s						
RPZ	**Rata Peaks**	**41.98**	**161**	P	**P**	**02 52 25.0**	**-0.1**
	82nm,0.9s,baz=3.6,slow=2.3,SNR=38						
RPZ				LR	LR	03 06 51.1	
	comp=Z,427nm,22.0s,baz=119,slow=32						
YHNB	**Yeheng**	**42.55**	**315**	*e*P	**P**	**02 52 30.1**	**0.0**
	15nm,0.7s						
MORW	**Morawa**	**42.84**	**231**	P	**P**	**02 52 34.8**	**+2.5**
	baz=43,SNR=3.2						
ODZ	**Otahua Downs**	**43.04**	**162**	*e*P	**P**	**02 52 34.9**	**+1.2**
	77nm,1.4s						
JNU	**Nakatsue**	**43.12**	**332**	P	**P**	**02 52 34.2**	**-0.3**
JNU	**Nakatsue**	**43.12**	**332**	P	**P**	**02 52 34.2**	**-0.3**
	14nm,0.8s,baz=106,slow=8.3,SNR=7.3						
MJAR	**Matsushiro Arr**	**43.30**	**342**	P	**P**	**02 52 34.7**	**-1.2**
MJAR				pP	**pP**	**02 52 47.4**	**-2.6**
MJAR				PcP	**PcP**	**02 54 23.9**	**-0.2**
MJAR	**Matsushiro Arr**	**43.30**	**342**	P	**P**	**02 52 34.7**	**-1.2**
	1.3nm,0.7s,baz=168,slow=8.5,SNR=4.9						
MJAR				pP	**pP**	**02 52 47.4**	**-2.6**
	1.8nm,0.9s,baz=179,slow=10,SNR=2.7						
MJAR				PcP	**PcP**	**02 54 23.9**	**-0.2**
	3.0nm,0.8s,baz=182,slow=4.1,SNR=7.5						
MJAR				LR	LR	03 08 25.5	
	comp=Z,163nm,20.2s,baz=170,slow=33						
MAJO	**Matsushiro**	**43.30**	**342**	*e*P	**P**	**02 52 36.2**	**+0.3**
KSRS	**Korea Array**	**48.06**	**333**	P	**P**	**02 53 12.2**	**-1.1**
	3.9nm,0.8s,baz=147,slow=8.5,SNR=8.7						
KSRS				pP	**pP**	**02 53 25.4**	**-2.3**
	2.9nm,0.8s,baz=154,slow=10,SNR=4.4						
KSRS				ScP	**ScP**	**02 58 32.6**	**+2.0**
	1.9nm,0.9s,baz=127,slow=5.1,SNR=4.2						
KSRS				LR	LR	03 08 54.6	
	comp=Z,95nm,22.0s,baz=125,slow=30						
KSAR	**Wonju Array Be**	**48.06**	**333**	P	**P**	**02 53 12.2**	**-1.2**
KSAR				pP	**pP**	**02 53 25.4**	**-2.4**
KSAR				ScP	**ScP**	**02 58 32.6**	**+1.9**
QIZ	**Qiongzhong**	**48.80**	**300**	P	**P**	**02 53 20.1**	**+0.7**
QIZ				S	**S**	**03 00 16.3**	**-2.6**
QIZ				pmax	pmax		
	comp=Z,21nm,2.5s						
NJ2	**Nanjing**	**49.01**	**320**	*e*P	**P**	**02 53 22.7**	**+1.9**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
USRK	**Ussuriysk Arra**	**52.23**	**341**	P	**P**	**02 53 44.7**	**-0.2**
	comp=Z,2.4nm,0.6s,baz=179,slow=7.7,SNR=5.5						
MDJ	**Mudanjiang**	**53.42**	**339**	P	**P**	**02 53 56.1**	**+2.5**
MDJ				sP	sP	02 54 28.1	+14
MDJ				PP	**PP**	**02 55 58.4**	**+3.8**
MDJ				S	**S**	**03 01 24.3**	**+2.3**
MDJ				pmax	pmax		
	comp=Z,10.0nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,99nm,12.8s						
MDJ				LR	LR		
	comp=N,66nm,37.9s						
MDJ				LR	LR		
	comp=E,94nm,37.4s						
MDJ				LR	LR		
	comp=Z,120nm,30.1s						
CN2	**Changchun**	**54.33**	**335**	*e*P	**P**	**02 54 01.6**	**+1.3**
CN2				*e*pP	pP	02 54 25.3	+10
CN2				PcP	**PcP**	**02 55 03.4**	**-0.4**
CN2				*e*S	**S**	**03 01 31.3**	**-3.1**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.1s						
CN2				pmax	pmax		
	comp=Z,100nm,5.0s						
CN2				LR	LR		
	comp=N,330nm,16.0s						
CN2				LR	LR		
	comp=E,180nm,16.0s						
CN2				LR	LR		
	comp=Z,150nm,17.0s						
GYA	**Guiyang**	**54.67**	**307**	*e*P	**P**	**02 54 05.2**	**+1.9**
GYA				pP	pP	02 54 29.6	+12
GYA				sP	sP	02 54 41.0	+17
GYA				PcP	**PcP**	**02 55 06.8**	**+1.2**
GYA				PP	**PP**	**02 56 10.4**	**+4.0**
GYA				ScP	**ScP**	**02 58 55.0**	**-4.7**
GYA				PcS	**PcS**	**02 59 06.2**	**+0.6**
GYA				S	**S**	**03 01 35.7**	**-4.1**
GYA				sS	sS	03 02 17.6	+13
GYA				SS	**SS**	**03 05 20.0**	**-3.6**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GYA				pmax	pmax		
	comp=Z,90nm,5.2s						
GYA				LR	LR		
	comp=N,310nm,18.8s						
GYA				LR	LR		
	comp=E,260nm,19.3s						
GYA				LR	LR		
	comp=Z,300nm,18.9s						
LOEI	**Loei**	**55.85**	**295**	P	pP	02 54 23.9	-2.5
	comp=Z,10nm,1.2s						
BJI	**Beijing**	**56.01**	**326**	P	**P**	**02 54 14.3**	**+1.8**
BJI				S	**S**	**03 01 58.9**	**+1.9**
BJI				pmax	pmax		
	comp=Z,17nm,0.6s						
BJI				LR	LR		
	comp=N,140nm,18.0s						
BJI				LR	LR		
	comp=E,150nm,18.4s						
BJI				LR	LR		
	comp=Z,150nm,36.1s						
KMI	**Kunming**	**57.29**	**304**	P	P	02 54 25.8	+3.7
KMI				pmax	pmax		
	comp=Z,15nm,0.6s						
KMI				LR	LR		
	comp=Z,160nm,25.6s						
SUKH	**Sukhothai**	**57.32**	**294**	P	pP	02 54 37.4	+0.5
	comp=Z,4.5nm,1.1s						
CRAI	**Chiangrai**	**57.52**	**297**	P	pP	02 54 37.5	-0.8
	comp=Z,12nm,1.4s						
PETK	**Petropavlovsk-**	**57.63**	**3**	P	**P**	**02 54 24.5**	**+0.7**
PETK				pP	**pP**	**02 54 37.4**	**-1.1**
PETK	**Petropavlovsk-**	**57.63**	**3**	P	**P**	**02 54 24.5**	**+0.7**
	comp=Z,4.4nm,0.9s,baz=179,slow=8.6,SNR=3.3						
PETK				pP	**pP**	**02 54 37.4**	**-1.1**
	comp=Z,15nm,0.9s,baz=169,slow=8.6,SNR=9.6						
PETK				LR	LR	03 14 11.2	
	comp=Z,116nm,21.3s,baz=187,slow=31						
LAMP	**Lampang**	**57.64**	**295**	P	pP	02 54 40.3	+1.2
	comp=Z,5.3nm,1.1s						
CMAR	**Chiang Mai Arr**	**58.24**	**295**	P	**P**	**02 54 29.0**	**+0.3**
CMAR	**Chiang Mai Arr**	**58.24**	**295**	P	**P**	**02 54 29.0**	**+0.3**
	comp=Z,0.8nm,0.3s,baz=118,slow=5.4,SNR=7.8						
CHTO	**Chiang Mai**	**58.35**	**295**	*e*P	**P**	**02 54 31.4**	**+2.0**
	comp=Z,25nm,1.4s						
CHTO	**Chiang Mai**	**58.35**	**295**	P	pP	02 54 44.3	+0.2
	comp=Z,14nm,1.2s						
CD2	**Chengdu**	**58.99**	**310**	P	**P**	**02 54 35.7**	**+2.0**
CD2				pP	pP	02 54 59.8	+11
CD2				sP	sP	02 55 11.1	+16
CD2				PP	**PP**	**02 56 48.1**	**+3.4**
CD2				S	**S**	**03 02 32.2**	**-4.3**
CD2				sS	sS	03 03 14.6	+13
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				pmax	pmax		
	comp=Z,240nm,3.5s						
CD2				LR	LR		
	comp=N,350nm,7.7s						
CD2				LR	LR		
	comp=Z,220nm,8.3s						
HHC	**Hu-ho-hao-te**	**59.18**	**324**	*e*P	**P**	**02 54 36.9**	**+2.0**
HHC				pP	pP	02 55 01.0	+11
HHC				sP	sP	02 55 12.1	+16
HHC				PP	**PP**	**02 56 50.8**	**+4.5**
HHC				PcS	**PcS**	**02 59 24.4**	**-0.6**
HHC				S	**S**	**03 02 35.8**	**-3.0**
HHC				sS	sS	03 03 17.5	+14
HHC				ScS	**ScS**	**03 04 13.9**	**-6.7**
HHC				SS	**SS**	**03 06 33.5**	**-0.6**
HHC				pmax	pmax		
	comp=Z,28nm,1.0s						
HHC				pmax	pmax		
	comp=Z,120nm,5.1s						
HHC				LR	LR		
	comp=N,280nm,16.7s						
HHC				LR	LR		
	comp=E,340nm,15.9s						
HHC				LR	LR		
	comp=Z,400nm,16.7s						
FX1	**Attu Island--F**	**59.70**	**14**	LR	LR	03 15 01.1	
	comp=Z,147nm,20.5s,baz=23,slow=30						
LZH	**Lanzhou**	**61.44**	**316**	*e*P	**P**	**02 54 52.3**	**+1.8**
LZH				pP	pP	02 55 13.8	+8.4
LZH				sP	sP	02 55 23.2	+12
LZH				PcP	**PcP**	**02 55 35.4**	**+3.2**
LZH				PP	**PP**	**02 57 08.2**	**+1.8**
LZH				*e*S	**S**	**03 03 07.1**	**-0.9**
LZH				SS	**SS**	**03 07 10.2**	**+0.4**
LZH				pmax	pmax		
	comp=Z,28nm,1.2s						
LZH				pmax	pmax		
	comp=Z,91nm,4.1s						
GTA	**Gaotai**	**65.85**	**317**	*e*P	**P**	**02 55 20.8**	**+1.3**
GTA				pP	**PcP**	**02 55 45.3**	**-4.9**
GTA				sP	sP	02 55 56.3	+16
GTA				S	**S**	**03 04 02.0**	**-0.7**
GTA				SS	**SS**	**03 08 21.1**	**+2.6**
GTA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,130nm,4.6s						
GTA				LR	LR		
	comp=N,110nm,14.0s						
GTA				LR	LR		
	comp=E,220nm,15.7s						
GTA				LR	LR		
	comp=Z,74nm,17.3s						
ULN	**Ulaanbaatar**	**66.10**	**328**	*e*P	**P**	**02 55 23.1**	**+2.1**
	comp=Z,3.4nm,0.7s						
SONM	**Songino Array**	**66.43**	**328**	P	**P**	**02 55 23.8**	**+0.7**
SONM	**Songino Array**	**66.43**	**328**	P	**P**	**02 55 23.8**	**+0.7**
	comp=Z,2.1nm,0.8s,baz=146,slow=5.1,SNR=5.0						
SHL	**Shillong**	**66.63**	**300**	*e*P	**P**	**02 55 25.0**	**+0.1**
VNDA	**Vanda**	**73.00**	**178**	*e*P	**P**	**02 56 03.2**	**+0.4**
	comp=Z,16nm,0.9s						
VNDA	**Vanda**	**73.00**	**178**	P	**P**	**02 56 03.4**	**+0.6**
	comp=Z,18nm,0.9s,baz=331,slow=6.2,SNR=46						
SBA	**Scott Base**	**73.53**	**177**	*e*P	**P**	**02 56 07.2**	**+1.3**
	comp=Z,19nm,0.9s						
WMQ	**Urumqi**	**75.94**	**317**	*e*P	**P**	**02 56 21.1**	**+0.5**
WMQ				PcP	**PcP**	**02 56 33.6**	**+0.8**
WMQ				pP	pP	02 56 46.1	+10
WMQ				sP	sP	02 56 56.9	+15
WMQ				pmax	pmax		
	comp=Z,15nm,1.0s						
WMQ				pmax	pmax		
	comp=Z,110nm,3.9s						
WMQ				LR	LR		
	comp=N,80nm,27.6s						
WMQ				LR	LR		
	comp=Z,79nm,26.8s						
HYB	**Hyderabad**	**76.89**	**289**	*i* P	**P**	**02 56 25.0**	**-1.4**
IM04	**Indian Mountai**	**80.03**	**19**	*e*P	**P**	**02 56 42.6**	**-0.1**
MK31	**Makanchi Array**	**80.51**	**319**	*e*P	**P**	**02 56 45.3**	**-0.4**
MKAR	**Makanchi Array**	**80.51**	**319**	P	**P**	**02 56 45.4**	**-0.3**
MKAR	**Makanchi Array**	**80.51**	**319**	P	**P**	**02 56 45.4**	**-0.3**
	comp=Z,2.0nm,0.7s,baz=99,slow=7.0,SNR=8.1						
MKAR				LR	LR	03 33 15.2	
	comp=Z,47nm,18.3s,baz=266,slow=36						
MCK	**McKinley**	**80.51**	**22**	*e*P	**P**	**02 56 44.5**	**-0.8**
	comp=Z,20nm,1.4s						
ZALV	**Zalesovo Beam**	**81.27**	**326**	P	**P**	**02 56 49.4**	**-0.2**
ZALV	**Zalesovo Beam**	**81.27**	**326**	P	**P**	**02 56 49.3**	**-0.2**
	comp=Z,2.0nm,0.7s,baz=104,slow=6.3,SNR=5.1						
ZALV				LR	LR	03 30 57.5	
	comp=Z,87nm,20.0s,baz=68,slow=34						
COLA	**College**	**81.50**	**22**	*e*P	**P**	**02 56 49.5**	**-1.0**
	comp=Z,18nm,0.8s						
ILAR	**Eielson Array**	**81.81**	**22**	P	**P**	**02 56 50.4**	**-1.8**
ILAR	**Eielson Array**	**81.81**	**22**	P	**P**	**02 56 50.4**	**-1.8**
	comp=Z,2.7nm,1.0s,baz=254,slow=5.3,SNR=18						
KSH	**Kashi**	**83.18**	**311**	P	**P**	**02 57 02.6**	**+2.5**
KSH				sP	sP	02 57 38.8	+17
KSH				PP	PP	03 00 17.9	+5.8
KSH				S	**S**	**03 07 14.3**	**-2.1**
KSH				sS	sS	03 07 58.8	+16
KSH				SS	**SS**	**03 12 44.6**	**+2.6**
KSH				pmax	pmax		
	comp=Z,120nm,4.9s						
KSH				LR	LR		
	comp=N,90nm,5.2s						
KSH				LR	LR		
	comp=E,77nm,7.3s						
KSH				LR	LR		
	comp=Z,120nm,9.6s						
TKM2	**Tokmak 2**	**84.15**	**314**	P	**P**	**02 57 05.6**	**+0.5**
	SNR=6.7						
TKM2	**Tokmak 2**	**84.15**	**314**	*e*P	**P**	**02 57 05.0**	**-0.1**
	comp=Z,15nm,1.2s						
KZA	**Kyzart**	**84.23**	**313**	P	**P**	**02 57 06.8**	**+1.1**
	SNR=10						
AAK	**Ala-Archa**	**84.89**	**313**	P	**P**	**02 57 09.1**	**+0.3**
	SNR=6.5						
AAK	**Ala-Archa**	**84.89**	**313**	*e*P	**P**	**02 57 08.9**	**+0.1**
	comp=Z,7.1nm,0.8s						
USP	**Ospenovka**	**85.01**	**314**	P	**P**	**02 57 09.3**	**+0.1**
	SNR=8.3						
QSPA	**South Pole Qui**	**85.34**	**180**	*e*P	**P**	**02 57 10.2**	**-0.3**
	comp=Z,28nm,0.8s						
QSPA	**South Pole Qui**	**85.34**	**180**	P	**P**	**02 57 10.4**	**0.0**
	comp=Z,32nm,0.8s,baz=340,slow=3.8						
AML	**Almayashu**	**85.38**	**313**	P	**P**	**02 57 12.7**	**+1.1**
	SNR=13						
EKS2	**Erkin-Say**	**85.42**	**313**	P	**P**	**02 57 11.9**	**+0.5**
	SNR=8.5						
EKS2	**Erkin-Say**	**85.42**	**313**	*e*P	**P**	**02 57 11.5**	**+0.2**
	comp=Z,40nm,1.4s						
MAW	**Mawson**	**85.92**	**203**	P	**P**	**02 57 12.3**	**-0.8**
MAW	**Mawson**	**85.92**	**203**	P	**P**	**02 57 12.3**	**-0.8**
	comp=Z,4.3nm,0.8s,baz=108,slow=7.9,SNR=5.4						
KKAR	**Karatay Array**	**87.86**	**313**	*e*P	**P**	**02 57 22.1**	**-1.1**
	comp=Z,1.2nm,0.6s						
BVAR	**Borovoye Array**	**89.39**	**323**	P	**P**	**02 57 28.8**	**-1.2**
BVAR	**Borovoye Array**	**89.39**	**323**	P	**P**	**02 57 28.8**	**-1.2**
	comp=Z,6.1nm,0.8s,baz=104,slow=6.3,SNR=22						
BRVK	**Borovoye**	**89.45**	**323**	*e*P	**P**	**02 57 28.9**	**-1.4**
	comp=Z,7.6nm,1.0s						
NVAR	**Mina Array Bea**	**91.59**	**52**	P	**P**	**02 57 40.2**	**-0.8**
NVAR	**Mina Array Bea**	**91.59**	**52**	P	**P**	**02 57 40.2**	**-0.8**
	comp=Z,0.7nm,0.8s,baz=268,slow=7.1,SNR=4.6						
ABKAR	**Akbulak array**	**95.65**	**319**	*e*P	**P**	**02 57 56.7**	**-2.4**
AKTO	**Aktyubinsk**	**96.89**	**320**	P	**P**	**02 58 02.5**	**-2.2**
AKTO	**Aktyubinsk**	**96.89**	**320**	P	**P**	**02 58 02.5**	**-2.2**
	comp=Z,1.3nm,0.9s,baz=83,slow=8.1,SNR=4.1						
PDAR	**Pinedale Array**	**98.37**	**48**	P	**P**	**02 58 10.1**	**-1.8**
PDAR	**Pinedale Array**	**98.37**	**48**	P	**P**	**02 58 10.1**	**-1.8**
	comp=Z,0.8nm,1.1s,baz=258,slow=2.7,SNR=3.2						
SNAA	**Sanae**	**102.27**	**188**	P	**Pdif**	**02 58 27.8**	**-0.7**
SNAA	**Sanae**	**102.27**	**188**	P	**Pdif**	**02 58 27.8**	**-0.7**
	baz=146,slow=3.6						
AKASG	**Malin Array Be**	**114.63**	**325**	PKP	PKPdf	03 03 13.2	-0.4
AKASG	**Malin Array Be**	**114.63**	**325**	PKP	PKPdf	03 03 13.2	-0.4
	comp=Z,2.4nm,0.6s,baz=76,slow=1.4,SNR=4.4						
BR131	**Keskin Array S**	**115.54**	**312**	*e*PKPdf	**PKPdf**	**03 03 15.4**	**-0.4**
BRTR	**Keskin Array B**	**115.54**	**312**	PKP	**PKPdf**	**03 03 15.1**	**-0.8**
BRTR	**Keskin Array B**	**115.54**	**312**	PKP	**PKPdf**	**03 03 15.1**	**-0.8**
	comp=Z,1.2nm,0.9s,baz=3.4,slow=4.2,SNR=4.4						
NB2	**NORSAR Subarra**	**116.90**	**340**	PKPdf	**PKPdf**	**03 03 16.7**	**-1.0**
	comp=Z,0.8nm,0.7s,baz=38,slow=1.7						
NOA	**NORSAR Array B**	**116.90**	**340**	PKP	**PKPdf**	**03 03 17.1**	**-0.6**
NOA	**NORSAR Array B**	**116.90**	**340**	PKP	**PKPdf**

2009 SEP

EKA			pPKP	**pPKPdf**	03 03 50.8	-0.7
EKA	**Eskdalemuir Ar**	**126.00 344**	PKP	**PKPdf**	03 03 34.8	-0.4
	comp=Z,2.0nm,0.8s,baz=27,slow=0.2,SNR=6.3					
EKA			pPKP	**pPKPdf**	03 03 50.8	-0.7
	comp=Z,0.4nm,0.5s,baz=22,slow=3.2,SNR=2.8					
ABTA	**Abfaltersbach**	**126.09 327**	ǁ iPKIKP	**PKPdf**	03 03 35.2	-0.7
	comp=Z,9.9nm,1.0s,SNR=7.0					
LCO	**Las Campanas**	**126.13 131**	*e*PKPdf	**PKPdf**	03 03 37.8	+1.1
WTTA	**Wattenberg**	**126.22 326**	ǁ iPKIKP	**PKPdf**	03 03 36.3	+0.1
	comp=Z,20nm,1.0s,SNR=6.5					
TRQA	**Tornquist**	**126.40 146**	*e*PKPdf	**PKPdf**	03 03 36.5	-0.1
STU	**Stuttgart**	**126.45 331**	*e*PKPdf	**PKPdf**	03 03 36.4	-0.1
MOTA	**Moosalm**	**126.45 329**	ǁ iPKIKP	**PKPdf**	03 03 36.4	-0.3
	comp=Z,9.3nm,0.8s,SNR=7.8					
CFAA	**Coronel Fontan**	**126.52 135**	PKP	**PKPdf**	03 03 36.8	-0.3
CFAA	**Coronel Fontan**	**126.52 135**	PKP	**PKPdf**	03 03 36.8	-0.3
	comp=Z,0.4nm,0.8s,baz=293,slow=2.7,SNR=8.3					
RETA	**Reutte**	**126.53 329**	ǁ *e*PKIKP	**PKPdf**	03 03 36.4	-0.3
	comp=Z,7.8nm,1.1s					
MEM	**Membach**	**126.58 335**	PKP	**PKPdf**	03 03 36.9	+0.4
MEM			APKP	**pPKPdf**	03 03 59.3	+6.6
FETA	**Feichten**	**126.85 329**	ǁ *e*PKiKP	**PKPdf**	03 03 37.6	+0.2
	comp=Z,14nm,1.0s					
BCLA	**Clavier**	**127.02 335**	PKP	**PKPdf**	03 03 36.5	-0.9
DAVA	**Damuels**	**127.11 329**	ǁ iPKIKP	**PKPdf**	03 03 37.9	0.0
	comp=Z,8.0nm,0.9s,SNR=5.0					
WLF	**Walferdange**	**127.21 334**	PKP	**PKPdf**	03 03 38.6	+0.8
WLF	**Walferdange**	**127.21 334**	*e*PKPdf	**PKPdf**	03 03 38.4	+0.6
SNF	**Seneffe**	**127.38 336**	PKP	**PKPdf**	03 03 38.9	+0.8
DAVOX	**Davos/Dischmat**	**127.45 329**	PKP	**PKPdf**	03 03 37.9	-0.7
DAVOX	**Davos/Dischmat**	**127.45 329**	PKP	**PKPdf**	03 03 37.9	-0.7
	comp=Z,5.6nm,0.7s,baz=328,slow=1.4,SNR=10					
GIVF	**Givet**	**127.46 335**	*e*PKIKP	**PKPdf**	03 03 38.3	0.0
GIVF	**Givet**	**127.46 335**	*e*PKPdf	**PKPdf**	03 03 38.3	0.0
DOU	**Dourbes**	**127.56 335**	PKP	**PKPdf**	03 03 37.3	-1.1
CDF	**Champ du Feu**	**127.61 332**	*e*PKIKP	**PKPdf**	03 03 38.1	-0.6
CDF	**Champ du Feu**	**127.61 332**	*e*PKPdf	**PKPdf**	03 03 38.1	-0.6
BAIF	**Baives**	**127.75 335**	*e*PKIKP	**PKPdf**	03 03 38.8	0.0
BAIF	**Baives**	**127.75 335**	*e*PKPdf	**PKPdf**	03 03 38.8	0.0
PAGF	**Fort de Pagny**	**128.22 333**	*e*PKIKP	**PKPdf**	03 03 39.9	+0.1
	comp=Z,6.4nm,1.2s					
PAGF	**Fort de Pagny**	**128.22 333**	*e*PKPdf	**PKPdf**	03 03 39.9	+0.1
HINF	**Hinteralfeld**	**128.23 332**	*e*PKIKP	**PKPdf**	03 03 39.3	-0.6
	comp=Z,24nm,1.2s					
HINF	**Hinteralfeld**	**128.23 332**	*e*PKPdf	**PKPdf**	03 03 39.3	-0.6
HAU	**Haudompre**	**128.33 332**	*e*PKIKP	**PKPdf**	03 03 39.7	-0.3
	comp=Z,17nm,1.0s					
HAU	**Haudompre**	**128.33 332**	*e*PKPdf	**PKPdf**	03 03 39.7	-0.3
MEZF	**Maizieres J'vi**	**128.56 333**	*e*PKIKP	**PKPdf**	03 03 40.6	+0.2
MEZF	**Maizieres J'vi**	**128.56 333**	*e*PKPdf	**PKPdf**	03 03 40.6	+0.2
SFTF	**Sexfontaines**	**128.79 333**	*e*PKIKP	**PKPdf**	03 03 40.5	-0.4
SFTF	**Sexfontaines**	**128.79 333**	*e*PKPdf	**PKPdf**	03 03 40.5	-0.4
CABF	**La Chapelle**	**129.46 331**	*e*PKIKP	**PKPdf**	03 03 42.6	+0.3
	comp=Z,32nm,1.1s					
CABF	**La Chapelle**	**129.46 331**	*e*PKPdf	**PKPdf**	03 03 42.6	+0.3
LPL	**La Plagne**	**129.91 330**	*e*PKIKP	**PKPdf**	03 03 43.1	-0.3
LPL	**La Plagne**	**129.91 330**	*e*PKPdf	**PKPdf**	03 03 43.1	-0.3
LOR	**Lormes**	**130.02 333**	*e*PKIKP	**PKPdf**	03 03 43.2	0.0
	comp=Z,28nm,1.2s					
LOR	**Lormes**	**130.02 333**	*e*PKPdf	**PKPdf**	03 03 43.2	0.0
BNI	**Bardonecchia**	**130.26 329**	*e*PKPdf	**PKPdf**	03 03 45.2	+1.2
SSF	**Saint Saulge**	**130.33 333**	*e*PKIKP	**PKPdf**	03 03 44.0	+0.2
	comp=Z,8.0nm,0.9s					
SSF	**Saint Saulge**	**130.33 333**	*e*PKPdf	**PKPdf**	03 03 44.0	+0.2
MBDF	**Montbardon**	**130.44 329**	*e*PKIKP	**PKPdf**	03 03 44.1	-0.2
MBDF	**Montbardon**	**130.44 329**	*e*PKPdf	**PKPdf**	03 03 44.1	-0.2
SMF	**Signal de Mont**	**130.49 333**	*e*PKIKP	**PKPdf**	03 03 44.1	-0.1
SMF	**Signal de Mont**	**130.49 333**	*e*PKPdf	**PKPdf**	03 03 44.1	-0.1
AVF	**Avril sur Loir**	**130.60 333**	*e*PKIKP	**PKPdf**	03 03 44.3	0.0
	comp=Z,17nm,1.4s					
AVF	**Avril sur Loir**	**130.60 333**	*e*PKPdf	**PKPdf**	03 03 44.3	0.0
LDF	**La Druitiere**	**130.66 337**	*e*PKIKP	**PKPdf**	03 03 43.9	-0.5
LDF	**La Druitiere**	**130.66 337**	*e*PKPdf	**PKPdf**	03 03 43.9	-0.5
FLN	**La Foliniere**	**130.66 337**	*e*PKIKP	**PKPdf**	03 03 44.3	-0.1
FLN	**La Foliniere**	**130.66 337**	*e*PKPdf	**PKPdf**	03 03 44.3	-0.1
SBF	**Sospel**	**130.68 328**	*e*PKIKP	**PKPdf**	03 03 44.2	-0.5
	comp=Z,11nm,0.8s					
SBF	**Sospel**	**130.68 328**	*e*PKPdf	**PKPdf**	03 03 44.2	-0.5
PGF	**Pioggiola**	**130.69 325**	*e*PKIKP	**PKPdf**	03 03 43.6	-1.2
	comp=Z,24nm,0.9s					
PGF	**Pioggiola**	**130.69 325**	*e*PKPdf	**PKPdf**	03 03 43.6	-1.2
ORIF	**Oris-en-Rattie**	**130.76 330**	*e*PKIKP	**PKPdf**	03 03 44.9	+0.1
	comp=Z,8.5nm,0.8s					
ORIF	**Oris-en-Rattie**	**130.76 330**	*e*PKPdf	**PKPdf**	03 03 44.9	+0.1
BGF	**Bois d'Agland**	**131.01 333**	*e*PKIKP	**PKPdf**	03 03 45.3	+0.2
BGF	**Bois d'Agland**	**131.01 333**	*e*PKPdf	**PKPdf**	03 03 45.3	+0.2
GRR	**Gorron**	**131.11 337**	*e*PKIKP	**PKPdf**	03 03 45.3	+0.1
GRR	**Gorron**	**131.11 337**	*e*PKPdf	**PKPdf**	03 03 45.3	+0.1
FRF	**La Foret Royal**	**131.31 328**	*e*PKIKP	**PKPdf**	03 03 45.7	-0.1
	comp=Z,9.7nm,0.9s					
FRF	**La Foret Royal**	**131.31 328**	*e*PKPdf	**PKPdf**	03 03 45.7	-0.1
VIVF	**Saint-Julien-l**	**131.41 330**	*e*PKIKP	**PKPdf**	03 03 45.6	-0.4
	comp=Z,6.8nm,1.0s					
VIVF	**Saint-Julien-l**	**131.41 330**	*e*PKPdf	**PKPdf**	03 03 45.6	-0.4
TCF	**Toulx Ste Croi**	**131.50 333**	*e*PKIKP	**PKPdf**	03 03 46.3	+0.2
	comp=Z,24nm,1.2s					
TCF	**Toulx Ste Croi**	**131.50 333**	*e*PKPdf	**PKPdf**	03 03 46.3	+0.2
LMR	**La Mourre**	**131.54 328**	*e*PKIKP	**PKPdf**	03 03 46.2	0.0
	comp=Z,25nm,1.1s					
LMR	**La Mourre**	**131.54 328**	*e*PKPdf	**PKPdf**	03 03 46.2	0.0
SMRF	**Simiane la Rot**	**131.58 329**	*e*PKIKP	**PKPdf**	03 03 47.0	+0.7
	comp=Z,23nm,1.1s					
SMRF	**Simiane la Rot**	**131.58 329**	*e*PKPdf	**PKPdf**	03 03 47.0	+0.7
SGMF	**Saint Gilles**	**131.86 338**	*e*PKIKP	**PKPdf**	03 03 46.6	-0.1
SGMF	**Saint Gilles**	**131.86 338**	*e*PKPdf	**PKPdf**	03 03 46.6	-0.1
ROSF	**Rostrenen**	**132.05 339**	*e*PKIKP	**PKPdf**	03 03 47.0	0.0
ROSF	**Rostrenen**	**132.05 339**	*e*PKPdf	**PKPdf**	03 03 47.0	0.0
MFF	**Saint Martin d**	**132.27 335**	*e*PKIKP	**PKPdf**	03 03 45.7	-1.8
MFF	**Saint Martin d**	**132.27 335**	*e*PKPdf	**PKPdf**	03 03 45.7	-1.8
LASF	**Ste Croix**	**132.38 330**	*e*PKIKP	**PKPdf**	03 03 47.4	-0.4
	comp=Z,18nm,0.9s					
LASF	**Ste Croix**	**132.38 330**	*e*PKPdf	**PKPdf**	03 03 47.4	-0.4
RJF	**Les Rejaudoux**	**132.56 333**	*e*PKIKP	**PKPdf**	03 03 48.5	+0.4
RJF	**Les Rejaudoux**	**132.56 333**	*e*PKPdf	**PKPdf**	03 03 48.5	+0.4
CAF	**Calviac**	**132.60 332**	*e*PKIKP	**PKPdf**	03 03 47.2	-1.0
CAF	**Calviac**	**132.60 332**	*e*PKPdf	**PKPdf**	03 03 47.2	-1.0
LFF	**La Frestale**	**133.20 333**	*e*PKIKP	**PKPdf**	03 03 48.3	-1.0
LFF	**La Frestale**	**133.20 333**	*e*PKPdf	**PKPdf**	03 03 48.3	-1.0
MTLF	**Montolieu**	**133.72 331**	*e*PKIKP	**PKPdf**	03 03 49.1	-1.3
MTLF	**Montolieu**	**133.72 331**	*e*PKPdf	**PKPdf**	03 03 49.1	-1.3
LPAZ	**La Paz**	**134.08 118**	PKP	**PKPdf**	03 03 52.5	0.0
LPAZ	**La Paz**	**134.08 118**	PKP	**PKPdf**	03 03 52.5	0.0
	comp=Z,1.2nm,0.8s,baz=270,slow=2.0,SNR=5.1					
KEST	**Kesra**	**134.60 318**	PKP	**PKPdf**	03 03 52.7	+0.4
KEST	**Kesra**	**134.60 318**	PKP	**PKPdf**	03 03 52.7	+0.4
	comp=Z,0.7nm,0.6s,baz=56,slow=3.6,SNR=3.0					
EPF	**Esparros**	**134.85 332**	*e*PKIKP	**PKPdf**	03 03 51.8	-0.8
EPF	**Esparros**	**134.85 332**	*e*PKPdf	**PKPdf**	03 03 51.8	-0.8
SJPF	**Ste Jean**	**135.51 333**	*e*PKIKP	**PKPdf**	03 03 52.9	-0.8
SJPF	**Ste Jean**	**135.51 333**	*e*PKPdf	**PKPdf**	03 03 52.9	-0.8
SDV	**Santo Domingo**	**136.20 82**	*e*PKPdf	**PKPdf**	03 03 55.1	-0.9
CPUP	**Villa Florida**	**137.27 138**	*e*PKPdf	**PKPdf**	03 03 58.4	+0.9
ESDC	**Sonseca Array**	**139.49 333**	PKP	**PKPdf**	03 04 00.7	-0.5
ESDC	**Sonseca Array**	**139.49 333**	PKP	**PKPdf**	03 04 00.7	-0.5
	comp=Z,0.6nm,0.8s,baz=1.8,slow=4.3,SNR=4.2					
EVO	**Evora**	**142.19 336**	ǁ iPKIKP	**PKPdf**	03 04 06.0	-0.1
	comp=Z,18nm,1.2s					
TAM	**Tamanrasset**	**143.99 303**	*e*PKPdf	PKPbc	03 04 08.2	+0.4
MDT	**Midelt**	**145.17 326**	PKPbc	**PKPbc**	03 04 11.0	-0.2
MDT	**Midelt**	**145.17 326**	PKPbc	**PKPbc**	03 04 11.0	-0.2
	comp=Z,5.6nm,1.0s,baz=27,slow=4.7,SNR=12					
TORD	**Torodi Ar. Bea**	**150.71 289**	PKPbc	**PKPbc**	03 04 25.6	-1.0
TORD			pPKPbc	**pPKPbc**	03 04 40.1	-2.5
TORD	**Torodi Ar. Bea**	**150.71 289**	PKPbc	**PKPbc**	03 04 25.6	-1.0
	comp=Z,18nm,0.9s,baz=63,slow=2.0,SNR=65					
TORD			pPKPbc	**pPKPbc**	03 04 40.1	-2.5
	comp=Z,16nm,0.7s,baz=61,slow=2.2,SNR=13					
BDFB	**Brasilia**	**150.85 134**	PKP	**PKPdf**	03 04 22.1	+0.7
BDFB			PKPbc	**PKPbc**	03 04 26.4	-0.6
BDFB	**Brasilia**	**150.85 134**	PKP	**PKPdf**	03 04 22.1	+0.7
	comp=Z,11nm,0.7s,baz=184,slow=7.1,SNR=5.7					
BDFB			PKPbc	**PKPbc**	03 04 26.4	-0.6
	comp=Z,11nm,0.7s,baz=220,slow=3.6,SNR=13					

MOS ***12*** *02:47:24.5±1.5, 34°.01N×25°.52E, h10km, mb4.3/17, Error ellipse: s-maj=8.9km s-min=4.2km az=91.8*
IDC ***12*** *02:47:25.1±0.8, 34°.14N×25°.63E, h0km, mb4.0/16, mb1 4.1/27, mb1mx4.0/39, mbtmp4.0/27, ML4.2/8, Error ellipse: s-maj=16.3km s-min=13.3km az=168.0*
ISCJB ***12*** *02:47:28.8±0.2, 34°.03N±0°.02×25°.56E±0°.02, h51km±3km, mb4.1/33, Error ellipse: s-maj=3.2km s-min=2.4km*
az=25.4
PRU ***12*** *02:47:30.8, 34°.34N×23°.77E, h0km, M4.4*
CSEM ***12*** *02:47:30.5±0.1, 34°.04N×25°.54E, h50km±1km, mb4.1/27, Ms2.7, Mw3.7, Error ellipse: s-maj=3.2km s-min=2.2km az=31.0*
ATH ***12*** *02:47:32.0, 34°.30N×25°.48E, h83km±2km, ML3.9*
THE ***12*** *02:47:33.0, 34°.19N×25°.48E, h82km±2km, ML4.0/11, Error ellipse: s-maj=2.7km s-min=0.9km az=54.0*
HLW ***12*** *02:47:33.2, 33°.86N×25°.96E, h31km±27km, Md4.1, Ml3.9*
NIC ***12*** *02:47:41.2±0.3, 34°.74N×26°.48E, h25km, mb4.7, ML4.2, MW3.7*
ISC 12 02:47:30.2±0.7, 34°.07N±0°.03×25°.52E±0°.03, h38km±1km, n502, σ1§28/547, mb4.1/32, 10C-7D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAST	**Lasithi**	**1.09 358**		P	**Pn**	02 47 50.0	+1.0
LAST				S	**Sn**	02 48 05.3	+2.5
LAST	**Lasithi**	**1.09 358**		*e*P	**Pn**	02 47 50.2	+1.2
LAST	**Lasithi**	**1.09 358**		*e*P	**Pn**	02 47 50.2	+1.2
LAST				S	**Sn**	02 48 05.3	+2.5
SIVA	**Sivas**	**1.11 328**		P	**Pn**	02 47 50.3	+1.1
SIVA				S	**Sn**	02 48 04.9	+1.6
SIVA	**Sivas**	**1.11 328**		*e*P	**Pn**	02 47 50.3	+1.1
SIVA				*e*S	**Sn**	02 48 04.0	+0.7
SIVA	**Sivas**	**1.11 328**		P	**Pn**	02 47 50.3	+1.1
SIVA				S	**Sn**	02 48 04.9	+1.6
ZKR	**Zakros**	**1.19 29**		P	**Pn**	02 47 52.3	+2.0
ZKR				S	**Sn**	02 48 08.4	+3.2
ZKR	**Zakros**	**1.19 29**		*e*P	**Pn**	02 47 52.4	+2.1
ZKR				*e*S	**Sn**	02 48 06.1	+0.9
ZKR	**Zakros**	**1.19 29**		P	**Pn**	02 47 52.3	+2.0
ZKR				*e*S	**Sn**	02 48 06.1	+0.9
NPS	**Neapolis**	**1.19 4**		P	**Pn**	02 47 51.6	+1.3
NPS	**Neapolis**	**1.19 4**		*e*P	**Pn**	02 47 51.8	+1.5
NPS	**Neapolis**	**1.19 4**		P	**Pn**	02 47 51.6	+1.3
IDI	**Anoyia**	**1.32 337**		P	**Pn**	02 47 53.5	+1.4
IDI				S	**Sn**	02 48 10.6	+2.1
IDI	**Anoyia**	**1.32 337**		*e*P	**Pn**	02 47 53.6	+1.4
IDI	**Anoyia**	**1.32 337**		Pn	**Pn**	02 47 52.4	+0.3
	23nm,0.3s,baz=152,slow=15,SNR=202						
IDI				Sn	**Sn**	02 48 11.3	+2.7
	75nm,0.3s,baz=234,slow=23,SNR=17						
IDI	**Anoyia**	**1.32 337**		P	**Pn**	02 47 53.5	+1.4
IDI				S	**Sn**	02 48 10.6	+2.1
GVD	**Gavdhos**	**1.41 303**		P	**Pn**	02 47 54.9	+1.6
GVD				S	**Sn**	02 48 13.3	+2.6
GVD	**Gavdhos**	**1.41 303**		*e*P	**Pn**	02 47 54.9	+1.6
GVD	**Gavdhos**	**1.41 303**		*e*P	**Pn**	02 47 54.9	+1.6
GVD				S	**Sn**	02 48 13.3	+2.6
VAM	**Vamos**	**1.72 321**		P	**Pn**	02 47 59.5	+1.9
VAM				S	**Sn**	02 48 19.5	+1.2
VAM	**Vamos**	**1.72 321**		*e*P	**Pn**	02 47 59.4	+1.9
VAM				*e*S	**Sn**	02 48 18.5	+0.2
VAM	**Vamos**	**1.72 321**		P	**Pn**	02 47 59.5	+1.9
VAM				*e*S	**Sn**	02 48 18.5	+0.2
KARN	**Karanos**	**1.87 316**		P	**Pn**	02 48 01.2	+1.5
KARN				S	**Sn**	02 48 23.2	+1.1
KARN	**Karanos**	**1.87 316**		*e*P	**Pn**	02 48 01.4	+1.7
KARN	**Karanos**	**1.87 316**		*e*P	**Pn**	02 48 01.4	+1.7
KARN				S	**Sn**	02 48 23.2	+1.1
KARP	**Karpathos**	**2.00 42**		P	**Pn**	02 48 03.9	+2.5
KARP				S	**Sn**	02 48 27.8	+2.6
KARP	**Karpathos**	**2.00 42**		*e*P	**Pn**	02 48 04.1	+2.7
KARP				*e*S	**Sn**	02 48 25.7	+0.5
KARP	**Karpathos**	**2.00 42**		*e*P	**Pn**	02 48 04.1	+2.7
KARP				*e*S	**Sn**	02 48 25.7	+0.5
THR6	**Thira Island,**	**2.28 357**		P	**Pn**	02 48 06.9	+1.6
THR6	**Thira Island,**	**2.28 357**		P	**Pn**	02 48 06.9	+1.6
SANT	**Santorini**	**2.29 359**		*e*PN	**Pn**	02 48 04.4	-1.1
SANT				*e*SN	**Sn**	02 48 33.4	+0.9
SANT	**Santorini**	**2.29 359**		P	**Pn**	02 48 05.7	+0.2
SANT				S	**Sn**	02 48 32.9	+0.4
SANT	**Santorini**	**2.29 359**		*e*P	**Pn**	02 48 06.1	+0.6
SANT	**Santorini**	**2.29 359**		*e*Pn	**Pn**	02 48 04.4	-1.1
SANT	**Santorini**	**2.29 359**		*e*P	**Pn**	02 48 06.1	+0.6
SANT				S	**Sn**	02 48 32.9	+0.4
SANT				*e*Sn	Sn	02 48 33.4	+0.8
THR1	**Thera Island**	**2.29 359**		P	**Pn**	02 48 05.9	+0.4
THR1	**Thera Island**	**2.29 359**		P	**Pn**	02 48 05.9	+0.4
THR3	**Thira Island,**	**2.33 358**		P	**Pn**	02 48 06.7	+0.7
THR3	**Thira Island,**	**2.33 358**		P	**Pn**	02 48 06.7	+0.7
THR5	**Thira Island,**	**2.34 357**		P	**Pn**	02 48 07.1	+0.9
THR5	**Thira Island,**	**2.34 357**		P	**Pn**	02 48 07.1	+0.9
THR2	**Thira island,**	**2.37 358**		P	**Pn**	02 48 06.9	+0.4
THR2	**Thira island,**	**2.37 358**		P	**Pn**	02 48 06.9	+0.4
LTBQ	**Tobruq**	**2.42 214**		*i* P	**Pn**	02 48 09.2	+2.0
	SNR=50						
LTBQ				*e*S	**Sn**	02 48 36.4	+0.8
	305nm,0.3s,SNR=50						
ANKY	**Antikythira Is**	**2.56 315**		P	**Pn**	02 48 10.9	+1.8
ANKY				S	**Sn**	02 48 39.1	+0.2
ANKY	**Antikythira Is**	**2.56 315**		*e*P	**Pn**	02 48 11.2	+2.1
ANKY	**Antikythira Is**	**2.56 315**		P	**Pn**	02 48 10.9	+1.8
ANKY				S	**Sn**	02 48 39.1	+0.2
SLUM		**2.59 186**		P	**Pn**	02 48 10.6	+1.1
	baz=196						
SLUM		**2.59 186**		P	**Pn**	02 48 10.6	+1.1
SLUM				S	**Sn**	02 48 39.0	-0.7
APE	**Apeiranthos**	**2.99 0**		*e*PN	**Pn**	02 48 14.5	-0.6
APE	**Apeiranthos**	**2.99 0**		P	**Pn**	02 48 15.4	+0.4
APE				S	**Sn**	02 48 48.5	-1.2
APE	**Apeiranthos**	**2.99 0**		*i* P	**Pn**	02 48 15.5	+0.4
APE	**Apeiranthos**	**2.99 0**		*e*P	**Pn**	02 48 15.6	+0.5
APE				*e*S	**Sn**	02 48 48.7	-1.0
APE	**Apeiranthos**	**2.99 0**		*e*Pn	**Pn**	02 48 14.5	-0.6
APE	**Apeiranthos**	**2.99 0**		*e*P	**Pn**	02 48 15.6	+0.5
APE				*e*S	**Sn**	02 48 48.7	-1.0
KYTH	**Kithira**	**3.00 318**		P	**Pn**	02 48 16.5	+1.3
KYTH	**Kithira**	**3.00 318**		*e*P	**Pn**	02 48 16.8	+1.6
KYTH	**Kithira**	**3.00 318**		P	**Pn**	02 48 16.5	+1.3
ARG	**Arkhangelos**	**3.02 44**		P	**Pn**	02 48 18.0	+2.5
ARG				S	**Sn**	02 48 50.8	+0.4
ARG	**Arkhangelos**	**3.02 44**		*e*P	**Pn**	02 48 17.9	+2.5
ARG	**Arkhangelos**	**3.02 44**		*e*P	**Pn**	02 48 17.9	+2.5
ARG				S	**Sn**	02 48 50.8	+0.4
DAT	**Datca**	**3.14 32**		*e*PN	**Pn**	02 48 17.8	+0.6
DAT	**Datca**	**3.14 32**		*e*Pn	**Pn**	02 48 17.8	+0.6
HMAT	**Matruh**	**3.25 155**		AMP		02 48 00.0	
	comp=N,330μm,0.3s,logA/T=6.1,baz=160						
BODT	**Bodrum**	**3.32 26**		*e*PN	**Pn**	02 48 20.1	+0.5
BODT	**Bodrum**	**3.32 26**		*e*Pn	**Pn**	02 48 20.1	+0.5
BDRM	**Kayabasi**	**3.37 27**		*i* P	**Pn**	02 48 21.5	+1.2
BDRM	**Kayabasi**	**3.37 27**		*i* P	**Pn**	02 48 21.5	+1.2
VLI	**Veliai**	**3.38 322**		P	**Pn**	02 48 21.1	+0.7
VLI				S	**Sn**	02 48 57.7	-1.5
VLI	**Veliai**	**3.38 322**		*e*P	**Pn**	02 48 20.7	+0.3
VLI	**Veliai**	**3.38 322**		P	**Pn**	02 48 21.1	+0.7
VLI				S	**Sn**	02 48 57.7	-1.5
DYR	**Agios Nikonas**	**3.74 317**		P	**Pn**	02 48 25.9	+0.5
DYR				S	**Sn**	02 49 07.5	-0.6
DYR	**Agios Nikonas**	**3.74 317**		*e*P	**Pn**	02 48 26.2	+0.8
DYR	**Agios Nikonas**	**3.74 317**		*e*P	**Pn**	02 48 26.2	+0.8
DYR				S	**Sn**	02 49 07.5	-0.6
DALY	**Dalyan (Mu¨la**	**3.75 42**		*e*PN	**Pn**	02 48 26.6	+1.2
DALY	**Dalyan (Mu¨la**	**3.75 42**		*e*Pn	**Pn**	02 48 26.6	+1.2
TURN	**Turunc**	**3.76 41**		*i* P	**Pn**	02 48 23.6	-2.0
TURN	**Turunc**	**3.76 41**		*i* P	**Pn**	02 48 23.6	-2.0
SMG	**Samos**	**3.78 16**		P	**Pn**	02 48 26.5	+0.6
SMG	**Samos**	**3.78 16**		*e*P	**Pn**	02 48 26.6	+0.6
SMG	**Samos**	**3.78 16**		*e*P	**Pn**	02 48 26.6	+0.6
YER	**Yerkesik**	**3.79 36**		*e*PN	**Pn**	02 48 27.3	+1.2
YER	**Yerkesik**	**3.79 36**		*e*Pn	**Pn**	02 48 27.3	+1.2
FETY	**Fethiye**	**3.87 48**		*e*PN	**Pn**	02 48 28.3	+1.1
FETY	**Fethiye**	**3.87 48**		*e*Pn	**Pn**	02 48 28.3	+1.1
GCAM	**G?zelcaml?**	**3.88 21**		*i* P	**Pn**	02 48 28.3	+1.1
GCAM	**G?zelcaml?**	**3.88 21**		*i* P	**Pn**	02 48 28.3	+1.1
DID	**Didima**	**3.90 332**		P	**Pn**	02 48 27.5	0.0
DID				S	**Sn**	02 49 11.1	-0.9
DID	**Didima**	**3.90 332**		*e*P	**Pn**	02 48 27.8	+0.3
DID	**Didima**	**3.90 332**		*e*P	**Pn**	02 48 27.8	+0.3
DID				S	**Sn**	02 49 11.1	-0.9
KSL	**Kastellorizon**	**3.92 57**		*e*P	**Pn**	02 48 29.1	+1.3
AKAS	**Kas**	**3.98 56**		*i* P	**Pn**	02 48 30.1	+1.3
AKAS	**Kas**	**3.98 56**		*i* P	**Pn**	02 48 30.1	+1.3
NAIG	**Nisos Aigina**	**4.03 336**		*e*P	**Pn**	02 48 30.9	+1.5
NAIG	**Nisos Aigina**	**4.03 336**		*e*P	**Pn**	02 48 30.9	+1.5
AYDN	**Tasoluk**	**4.06 27**		*i* P	**Pn**	02 48 31.6	+1.8
AYDN	**Tasoluk**	**4.06 27**		*i* P	**Pn**	02 48 31.6	+1.8
ATH	**Athens Observa**	**4.16 340**		*e*P	**Pn**	02 48 31.9	+0.8
ATH	**Athens Observa**	**4.16 340**		*e*P	**Pn**	02 48 31.9	+0.8
VLX	**Vlachokerasia**	**4.17 323**		P	**Pn**	02 48 31.8	+0.5
VLX				S	**Sn**	02 49 17.0	-1.8
VLX	**Vlachokerasia**	**4.17 323**		*e*P	**Pn**	02 48 32.4	+1.1
VLX	**Vlachokerasia**	**4.17 323**		*e*P	**Pn**	02 48 32.4	+1.1
VLX				S	**Sn**	02 49 17.0	-1.8
PYL	**PYLOS**	**4.18 313**		P	**Pn**	02 48 30.6	-0.8
PYL				S	**Sn**	02 49 17.6	-1.3
PYL	**PYLOS**	**4.18 313**		P	**Pn**	02 48 30.6	-0.8
PYL				S	**Sn**	02 49 17.6	-1.3
PTL	**Penteli**	**4.19 342**		*e*P	**Pn**	02 48 32.4	+0.8
PTL	**Penteli**	**4.19 342**		*e*P	**Pn**	02 48 32.4	+0.8
ITM	**Ithomi**	**4.26 318**		*e*P	**Pn**	02 48 32.7	+0.1
ITM	**Ithomi**	**4.26 318**		*e*P	**Pn**	02 48 32.7	+0.1
CHOS	**Chios island**	**4.33 6**		*e*P	**Pn**	02 48 34.3	+0.8
CHOS	**Chios island**	**4.33

KIZT Kizilcal 7.02 45 *e*PN Pn 02 49 12.0 +1.5
KIZT Kizilcal 7.02 45 *e*Pn Pn 02 49 12.0 +1.5
IKL Isikli 7.03 70 *e*PN Pn 02 49 11.4 +0.9
IKL Isikli 7.03 70 *e*Pn Pn 02 49 11.4 +0.9
ADVT Abdulvahap 7.18 27 *e*PN Pn 02 49 14.1 +1.5
ADVT Abdulvahap 7.18 27 *e*Pn Pn 02 49 14.1 +1.5
SVRH Sivrihisar-ESK 7.21 40 *e*PN Pn 02 49 14.6 +1.5
SVRH Sivrihisar-ESK 7.21 40 *e*Pn Pn 02 49 14.6 +1.5
KEK Kerkira 7.26 322 *e*P Pn 02 49 12.8 -0.9
KEK Kerkira 7.26 322 *e*P Pn 02 49 12.8 -0.9
HFRF Wahat Farafira 7.31 160 P Pn 02 49 14.1 -0.3
baz=162
HFRF Wahat Farafira 7.31 160 P Pn 02 49 14.1 -0.3
KIZK Mersin 7.45 69 *i* P Pn 02 49 17.4 +1.1
KIZK Mersin 7.45 69 *i* P Pn 02 49 17.4 +1.1
FNA Florina 7.46 335 *e*P Pn 02 49 17.7 +1.1
FNA Florina 7.46 335 *e*P Pn 02 49 17.7 +1.1
ZAF 7.66 127 P Pn 02 49 18.1 -1.1
baz=127
ZAF 7.66 127 P Pn 02 49 18.1 -1.1
SULT Sultanhani-AKS 7.67 55 *e*PN Pn 02 49 20.8 +1.5
SULT Sultanhani-AKS 7.67 55 *e*Pn Pn 02 49 20.8 +1.5
GULE Gulek 8.18 64 *i* P Pn 02 49 28.5 +2.0
GULE Gulek 8.18 64 *i* P Pn 02 49 28.5 +2.0
HNKL Nakhl 8.29 118 P Pn 02 49 26.1 -1.7
baz=117
HNKL Nakhl 8.29 118 P Pn 02 49 26.1 -1.7
MMAI Mount Meron Ar 8.32 95 Pn Pn 02 49 26.8 -1.4
comp=N,11nm,0.3s,baz=280,slow=11,SNR=59
MMAI Sn Sn 02 50 52.5 -8.4
comp=N,23nm,0.3s,baz=262,slow=24,SNR=14
KARA Karaisali 8.38 65 *e*PN Pn 02 49 30.2 +1.1
KARA Karaisali 8.38 65 *e*Pn Pn 02 49 30.2 +1.1
ASUT 8.44 140 P Pn 02 49 28.8 -1.2
baz=141
ASUT 8.44 140 P Pn 02 49 28.8 -1.2
BRTR Keskin Array B 8.61 47 Pn Pn 02 49 30.6 -1.7
comp=N,0.1nm,0.3s,baz=219,slow=16,SNR=2.6
BRTR Sn Sn 02 51 06.2 -1.9
comp=N,0.7nm,0.3s,baz=218,slow=26,SNR=8.1
BRTR Keskin Array B 8.61 47 P Pn 02 49 30.6 -1.7
comp=N,1.0nm,0.3s
RCY Rachaya 8.61 91 *e*P Pn 02 49 30.5 -1.8
RCY Rachaya 8.61 91 *e*P Pn 02 49 30.5 -1.8
HWQ Hawqa 8.64 86 *e*P Pn 02 49 32.0 -0.8
HWQ Hawqa 8.64 86 *e*P Pn 02 49 32.0 -0.8
YURE YUREGIR 8.70 69 *e*P Pn 02 49 34.0 +0.6
YURE YUREGIR 8.70 69 *e*P Pn 02 49 34.0 +0.6
VTS Vitosha 8.70 349 ⇑P Pn 02 49 33.5 0.0
VTS Vitosha 8.70 349 ⇑*i*P Pn 02 49 33.5 0.0
VTS Vitosha 8.70 349 P Pn 02 49 33.5 0.0
BRBR Barbar 8.71 91 *i* P Pn 02 49 32.9 -0.9
BRBR *e*S Sn 02 51 01.2 -10
BRBR AML AML 02 51 10.1
comp=N,85nm,0.4s
BRBR AML AML 02 51 12.0
comp=E,37nm,0.4s
BRBR Barbar 8.71 91 *i* P Pn 02 49 32.9 -0.9
SNR=136
LZLA Zalla 8.75 233 *i* P Pn 02 49 33.9 -0.3
SNR=46
YAYL Yayladag 8.90 74 *i* P Pn 02 49 35.6 -0.7
YAYL Yayladag 8.90 74 *i* P Pn 02 49 35.6 -0.7
HAWK Haweek 9.02 84 *i* P Pn 02 49 36.8 -1.1
HAWK *e*S Sn 02 51 10.0 -8.2
HAWK AML AML 02 51 14.5
comp=N,60nm,0.4s
HAWK AML AML 02 51 14.6
comp=E,70nm,0.4s
HAWK Haweek 9.02 84 *i* P Pn 02 49 36.8 -1.1
SNR=131
TR2 9.02 127 P Pn 02 49 36.5 -1.4
baz=127
TR2 9.02 127 P Pn 02 49 36.5 -1.4
MARH Ras Al Marh 9.10 87 *i* P Pn 02 49 39.0 -0.2
MARH *e*S Sn 02 51 11.5 -8.9
MARH AML AML 02 51 21.0
comp=N,43nm,0.3s
MARH AML AML 02 51 27.2
comp=E,44nm,0.8s
MARH Ras Al Marh 9.10 87 *i* P Pn 02 49 39.0 -0.2
SNR=133
EIL Elat 9.14 116 Pn Pn 02 49 38.4 -1.2
comp=E,2.5nm,0.3s,baz=299,slow=4.7,SNR=73
EIL Sn Sn 02 51 13.6 -7.5
comp=E,5.1nm,0.3s,baz=319,slow=20,SNR=5.3
BARS Barje 9.20 343 *e*Pn Pn 02 49 41.8 +1.5
HBST Basata 9.22 119 P Pn 02 49 39.1 -1.5
baz=119
HBST Basata 9.22 119 P Pn 02 49 39.1 -1.5
TR1 9.42 128 P Pn 02 49 42.5 -0.9
baz=128
TR1 9.42 128 P Pn 02 49 42.5 -0.9
LJFR Jufra 9.65 242 *i* P Pn 02 49 45.5 -1.0
SNR=46
ASF Jabal al Asfar 9.73 98 Pn Pn 02 49 46.6 -1.1
comp=E,0.9nm,0.3s,baz=236,slow=9.8,SNR=11
ASF Sn Sn 02 51 29.1 -6.5
comp=E,2.4nm,0.3s,baz=308,slow=22,SNR=6.7
BAI Bari 9.81 318 *e*Pn Pn 02 49 48.1 -0.5
GRUS Gruza 10.49 341 *e*Pn Pn 02 49 57.9 0.0
STON Ston 10.71 327 *i* Pn Pn 02 49 57.8 -3.1
STON Sn Sn 02 51 46.0 -13
DIVS Divibare 10.89 338 *e*Pn Pn 02 50 01.9 -1.6
MALT Malatya 11.25 64 ⇑P Pn 02 50 08.5 0.0
MALT Malatya 11.25 64 ⇑*i*P Pn 02 50 08.5 0.0
MALT Malatya 11.25 64 P Pn 02 50 08.5 0.0
VOIR 11.36 358 ⇑P Pn 02 50 09.4 -0.5
VOIR 11.36 358 ⇑*i*P Pn 02 50 09.4 -0.5
VOIR 11.36 358 P Pn 02 50 09.4 -0.5
MLR Muntele Rosu 11.41 2 ⇑*i*P Pn 02 50 11.3 +0.7
MLR Muntele Rosu 11.41 2 Pn Pn 02 50 10.2 -0.5
comp=E,0.1nm,0.3s,baz=182,slow=11,SNR=6.0
MLR Muntele Rosu 11.41 2 P Pn 02 50 11.3 +0.7
TEKS Tekeris 11.44 338 *e*Pn Pn 02 50 09.8 -1.2
PLOR Plostina 11.80 4 ⇑P Pn 02 50 17.2 +1.4
PLOR Plostina 11.80 4 ⇑*i*P Pn 02 50 17.2 +1.4
PLOR Plostina 11.80 4 P Pn 02 50 17.2 +1.4
NVLJ Novalja 13.32 325 *e*Pn Pn 02 50 32.5 -4.0
NVLJ Sn Sn 02 52 48.7 -14
KEST Kesra 13.38 282 Pn Pn 02 50 38.6 +1.0
comp=E,0.1nm,0.3s,baz=60,slow=16,SNR=3.1
BOJS Bojanci 13.87 328 *i* Pn Pn 02 50 41.6 -2.4
CRES Cresnjev 14.03 330 *e*Pn Pn 02 50 42.4 -4.0
KECS Kecovo 14.88 347 *e*P Pn 02 50 58.0 +0.2
KECS Kecovo 14.88 347 *e*PN Pn 02 50 58.0 +0.2
KECS Kecovo 14.88 347 *e*SN Sn 02 53 30.2 -11
KECS Kecovo 14.88 347 *e*Pn Pn 02 50 58.0 +0.2
KOLS Kolonicke sedl 15.04 352 *e*P Pn 02 50 59.9 0.0
KOLS Kolonicke sedl 15.04 352 *e*PN Pn 02 50 59.9 0.0
KOLS Kolonicke sedl 15.04 352 *e*Pn Pn 02 50 59.9 0.0
VYHS Vyhne 15.25 343 *e*P Pn 02 51 01.1 -1.5
VYHS Vyhne 15.25 343 *e*PN Pn 02 51 01.1 -1.5
VYHS Vyhne 15.25 343 *e*Pn Pn 02 51 01.1 -1.5
PGF Pioggiola 15.47 308 *e*P Pn 02 51 02.3 -3.3
comp=E,67nm,1.3s
STHS Stebnicka Huta 15.66 350 *e*P P 02 51 10.6 -1.0
STHS Stebnicka Huta 15.66 350 *e*PN P 02 51 10.6 -1.0
STHS Stebnicka Huta 15.66 350 *e*SN Sn 02 53 52.1 -8.1
STHS Stebnicka Huta 15.66 350 *e*P P 02 51 10.6 -1.0
ABTA Abfaltersbach 16.05 326 ⇓*i*P P 02 51 17.4 +1.3
comp=E,6.1nm,0.6s
ABTA Abfaltersbach 16.05 326 P P 02 51 17.4 +1.3
comp=E,6.1nm,0.6s
MOA Molln 16.15 332 ⇑*i*P P 02 51 17.7 +0.6
comp=E,8.9nm,0.7s
MOA Molln 16.15 332 P P 02 51 17.7 +0.6
comp=E,8.9nm,0.7s
GNI Garni 16.48 63 *e*P Pn 02 51 19.1 +0.5
KIV Kislovodsk 16.56 48 *de*P P 02 51 21.7 -0.1
KIV pmax pmax
comp=Z,7.0nm,0.9s
KIV Kislovodsk 16.56 48 *e*P P 02 51 21.7 -0.1
comp=Z,7.0nm,0.9s
KBZ Khabaz 16.58 49 P Pn 02 51 19.3 -0.4
KBZ Khabaz 16.58 49 Pn Pn 02 51 19.3 -0.4
comp=Z,0.1nm,0.3s,baz=258,slow=9.3,SNR=3.0
KBZ Khabaz 16.58 49 P Pn 02 51 19.3 -0.4
VRAC Vranov 16.60 339 Pn Pn 02 51 20.3 +0.4
comp=Z,0.7nm,0.3s,baz=141,slow=10,SNR=6.1
VRAC Vranov 16.60 339 P Pn 02 51 20.3 +0.4
comp=Z,1.0nm,0.3s
ZEI Tsey 16.80 53 *e*P P 02 51 24.9 +0.4
ZEI pmax pmax
comp=Z,24nm,1.8s
ZEI Tsey 16.80 53 *e*P P 02 51 24.9 +0.4
comp=Z,24nm,1.8s
KIEV Kiev 16.83 8 *i* P P 02 51 23.8 -0.7
KIEV Kiev 16.83 8 *i* P P 02 51 23.8 -0.7
WTTA Wattenberg 16.83 326 ⇓*i*P P 02 51 25.7 +0.8
comp=Z,7.6nm,0.6s
WTTA Wattenberg 16.83 326 P P 02 51 25.7 +0.8
comp=Z,7.6nm,0.6s
AKASG Malin Array Be 16.84 8 P Pn 02 51 21.9 -1.0
AKASG pmax pmax
comp=Z,6.0nm,0.3s
AKASG Malin Array Be 16.84 8 Pn Pn 02 51 21.9 -1.0
comp=Z,6.3nm,0.3s,baz=200,slow=10,SNR=18
TREC Trest 16.93 337 *e*P P 02 51 25.5 -0.2
TREC Trest 16.93 337 *e*P P 02 51 25.5 -0.2
TREC Trest 16.93 337 *e*P P 02 51 25.5 -0.2
SBF Sospel 17.10 310 *e*P Pn 02 51 23.6 -2.7
comp=Z,25nm,1.1s
FETA Feichten 17.10 324 ⇓*i*P P 02 51 29.8 +2.1
comp=Z,3.3nm,0.6s
FETA Feichten 17.10 324 P P 02 51 29.8 +2.1
comp=Z,3.3nm,0.6s
GEC2 GERESS Array S 17.18 333 *e*P P 02 51 29.0 +0.4
comp=Z,10.0nm,1.0s
GEC2 GERESS Array S 17.18 333 *e*P P 02 51 29.0 +0.4
GEC2 pmax pmax
comp=Z,10.0nm,1.0s
GEC2 GERESS Array S 17.18 333 *e*P P 02 51 29.0 +0.4
comp=Z,10.0nm,1.0s
GERES GERESS Array B 17.18 333 P Pn 02 51 26.6 -0.7
comp=Z,0.9nm,0.3s,baz=151,slow=12,SNR=34
GERES GERESS Array B 17.18 333 P Pn 02 51 26.6 -0.7
comp=Z,1.0nm,0.3s
DAVOX Davos/Dischmat 17.36 322 P P 02 51 30.6 -0.1
comp=Z,0.5nm,0.3s,baz=138,slow=16,SNR=7.1
DAVOX Davos/Dischmat 17.36 322 P P 02 51 30.6 -0.1
comp=Z,1.0nm,0.3s
LMR La Mourre 17.45 308 *e*P Pn 02 51 28.9 -1.7
LMR La Mourre 17.45 308 *e*P Pn 02 51 28.9 -1.7
KHC Kasperske Hory 17.46 333 *e*P Pn 02 51 29.7 -1.0
KHC Kasperske Hory 17.46 333 *e*P Pn 02 51 29.7 -1.0
KHC *e*pP P 02 51 32.6 +1.0
KHC Kasperske Hory 17.46 333 *e*P Pn 02 51 29.7 -1.0
FRF La Foret Royal 17.46 308 *e*P Pn 02 51 28.9 -1.8
FRF La Foret Royal 17.46 308 *e*P Pn 02 51 28.9 -1.8
DPC Dobruska-Polom 17.61 340 *e*P Pn 02 51 32.1 -0.5
DPC Dobruska-Polom 17.61 340 *e*P Pn 02 51 32.1 -0.5
DPC *e*pP P 02 51 33.5 +0.2
DPC Dobruska-Polom 17.61 340 *e*P Pn 02 51 32.1 -0.5
WET Wettzell 17.74 332 *e*P P 02 51 35.2 +0.5
comp=Z,21nm,1.5s
WET Wettzell 17.74 332 *e*P P 02 51 35.2 +0.5
WET pmax pmax
comp=Z,21nm,1.5s
WET Wettzell 17.74 332 *e*P P 02 51 35.2 +0.5
comp=Z,21nm,1.5s
PRU Pruhonice 17.84 336 *e*P Pn 02 51 33.4 -1.9
PRU Pruhonice 17.84 336 *e*P Pn 02 51 33.4 -1.9
PRU *e*pP P 02 51 37.1 +1.4
PRU Pruhonice 17.84 336 *e*P Pn 02 51 33.4 -1.9
UPC Upice 17.84 340 *e*P P 02 51 36.1 +0.3
UPC Upice 17.84 340 *e*P P 02 51 36.1 +0.3
UPC Upice 17.84 340 *e*P P 02 51 36.1 +0.3
MBDF Montbardon 17.93 312 *e*P P 02 51 38.2 +1.2
comp=Z,13nm,1.0s
MBDF Montbardon 17.93 312 *e*P P 02 51 38.2 +1.2
comp=Z,6.7nm,1.0s
LPL La Plagne 18.36 314 *e*P P 02 51 40.8 -1.0
comp=Z,3.5nm,0.6s
LPL La Plagne 18.36 314 *e*P P 02 51 40.8 -1.0
comp=Z,1.8nm,0.6s
ORIF Oris-en-Rattie 18.58 311 *e*P Pn 02 51 45.4 +0.9
ORIF *e*R
comp=Z,58nm,22.0s
ORIF Oris-en-Rattie 18.58 311 *e*P Pn 02 51 45.4 +0.9
BRG Berggiesshubel 18.80 337 *e*P P 02 51 46.4 +0.2
comp=Z,2.3nm,0.5s
BRG Berggiesshubel 18.80 337 *e*P P 02 51 46.4 +0.2
BRG pmax pmax
comp=Z,2.0nm,0.5s
BRG Berggiesshubel 18.80 337 *e*P P 02 51 46.4 +0.2
comp=Z,2.0nm,0.5s
RST Umm Al-Ruwaisa 18.81 98 *e*P P 02 51 45.9 -0.7
RST AMb AMB 02 51 50.0
comp=Z,110nm,0.7s
RST Umm Al-Ruwaisa 18.81 98 *e*P P 02 51 45.9 -0.7
comp=Z,110nm,0.7s
TANN Tannenbergstha 18.93 334 *e*P P 02 51 48.0 +0.2
comp=Z,9.0nm,1.0s
NAY Al-Naaiem 19.09 99 *e*P Pn 02 51 51.1 +0.4
NAY AMb AMB 02 51 55.3
comp=Z,0.4nm,0.5s
NAY Al-Naaiem 19.09 99 *e*P Pn 02 51 51.2 +0.4
VIVF Saint-Julien-l 19.31 310 *e*P Pn 02 51 53.1 -0.2
VIVF Saint-Julien-l 19.31 310 *e*P Pn 02 51 53.1 -0.2
CABF La Chapelle 19.34 316 *e*P P 02 51 51.6 -0.7
comp=Z,45nm,1.3s
CABF La Chapelle 19.34 316 *e*P P 02 51 51.6 -0.7
comp=Z,22nm,1.3s
CLL Collm 19.48 336 *e*P P 02 51 54.0 +0.3
CLL pmax pmax
comp=Z,4.0nm,0.6s
CLL Collm 19.48 336 *e*P P 02 51 54.0 +0.3
comp=Z,4.0nm,0.6s
HINF Hinteralfeld 19.61 320 *e*P P 02 51 54.8 -0.5
comp=Z,6.2nm,0.6s
HINF Hinteralfeld 19.61 320 *e*P P 02 51 54.8 -0.5
comp=Z,3.1nm,0.6s
CDF Champ du Feu 19.76 322 *e*P P 02 51 56.5 -0.5
comp=Z,9.7nm,0.8s
CDF Champ du Feu 19.76 322 *e*P P 02 51 56.5 -0.5
comp=Z,4.8nm,0.8s
VSR Storozhevoye 19.80 26 *e*P P 02 51 56.9 -0.3
VSR pmax pmax
comp=Z,20nm,0.8s
VSR pmax pmax
comp=N,10.0nm,0.6s
VSR pmax pmax
comp=E,10.0nm,1.0s
VSR Storozhevoye 19.80 26 *e*P P 02 51 56.9 -0.3
comp=E,10.0nm,0.6s
HAU Haudompre 20.00 320 *e*P P 02 51 57.5 -1.9
comp=E,5.6nm,0.5s
HAU *e*R
comp=E,52nm,18.8s
HAU Haudompre 20.00 320 *e*P P 02 51 57.5 -1.9
comp=E,2.8nm,0.5s
MTLF Montolieu 20.35 304 *e*P Pn 02 52 04.9 -0.6
MTLF Montolieu 20.35 304 *e*P Pn 02 52 04.9 -0.6
TNS Taunus Mts 20.43 327 *e*P Pn 02 52 06.9 +0.4
comp=Z,15nm,0.7s
TNS Taunus Mts 20.43 327 *e*P Pn 02 52 06.9 +0.4
TNS pmax pmax
comp=Z,15nm,0.7s
VRHR Novokhopersk 20.66 30 *e*P Pn 02 52 08.0 -1.0
VRHR pmax pmax
comp=Z,30nm,0.7s
VRHR pmax pmax
comp=N,70nm,0.8s
VRHR pmax pmax
comp=E,20nm,1.2s
VRHR Novokhopersk 20.66 30 *e*P Pn 02 52 08.0 -1.0
comp=E,70nm,0.8s
PAGF Fort de Pagny 20.66 320 *e*P Pn 02 52 08.1 -1.0
comp=E,4.5nm,0.8s
PAGF Fort de Pagny 20.66 320 *e*P Pn 02 52 08.1 -1.0
comp=E,2.2nm,0.8s
SMF Signal de Mont 20.67 314 *e*P Pn 02 52 08.5 -0.7
SMF Signal de Mont 20.67 314 *e*P Pn 02 52 08.5 -0.7
LOR Lormes 20.98 315 *e*P P 02 52 10.6 +0.6
LOR *e*R
comp=E,74nm,22.2s
LOR Lormes 20.98 315 *e*P P 02 52 10.6 +0.6
MEZF Maizieres J'vi 20.99 320 *e*P P 02 52 10.1 0.0
comp=E,25nm,1.0s
MEZF Maizieres J'vi 20.99 320 *e*P P 02 52 10.1 0.0
comp=E,12nm,1.0s
AVF Avril sur Loir 21.04 314 *e*P P 02 52 11.8 +1.2
AVF Avril sur Loir 21.04 314 *e*P P 02 52 11.8 +1.2
SSF Saint Saulge 21.08 315 *e*P P 02 52 13.6 +2.5
comp=E,13nm,1.0s
WLF Walferdange 21.14 323 P P 02 52 14.0 +2.3
comp=Z,12nm,1.3s
WLF Walferdange 21.14 323 *e*P P 02 52 15.9 +4.2
comp=Z,18nm,1.0s
WLF Walferdange 21.14 323 P P 02 52 14.0 +2.3
comp=Z,12nm,1.3s
BGF Bois d'Agland 21.23 313 *e*P P 02 52 13.9 +1.1
comp=Z,19nm,0.8s
BGF Bois d'Agland 21.23 313 *e*P P 02 52 13.9 +1.1
comp=Z,9.3nm,0.8s
TCF Toulx Ste Croi 21.50 312 *e*P P 02 52 16.5 +0.8
comp=Z,75nm,1.8s
TCF Toulx Ste Croi 21.50 312 *e*P P 02 52 16.5 +0.8
comp=Z,38nm,1.8s
RJF Les Rejaudoux 21.53 309 *e*P P 02 52 15.6 -0.4
comp=Z,14nm,1.0s
RJF *e*R
comp=Z,62nm,18.8s
RJF Les Rejaudoux 21.53 309 *e*P P 02 52 15.6 -0.4
comp=Z,7.2nm,1.0s
EPF Esparros 21.57 302 *e*P P 02 52 17.5 +1.1
EPF Esparros 21.57 302 *e*P P 02 52 17.5 +1.1
IKLH Kolahrood 21.68 85 *e*P P 02 52 19.8 +1.8
BUG Bochum--Univer 21.83 328 *e*P P 02 52 23.3 +4.3
comp=Z,11nm,0.7s
MEM Membach 21.83 325 P P 02 52 20.3 +1.2
comp=Z,8.8nm,1.2s
MEM Membach 21.83 325 P P 02 52 20.3 +1.2
comp=Z,8.8nm,1.2s
LFF La Frestale 21.90 307 *e*P P 02 52 20.5 +0.6
LFF La Frestale 21.90 307 *e*P P 02 52 20.5 +0.6
GIVF Givet 22.08 323 *e*P P 02 52 20.4 -1.4
comp=Z,20nm,0.8s
GIVF Givet 22.08 323 *e*P P 02 52 20.4 -1.4
comp=Z,10nm,0.8s
DOU Dourbes 22.19 322 P P 02 52 24.1 +1.1
comp=Z,8.1nm,1.8s
DOU Dourbes 22.19 322 P P 02 52 24.0 +1.1
comp=Z,8.1nm,1.8s
BAIF Baives 22.36 322 *e*P P 02 52 24.3 -0.6
comp=Z,12nm,0.7s
BAIF Baives 22.36 322 *e*P P 02 52 24.3 -0.6
comp=Z,6.2nm,0.7s
IZEF Zefreh 22.37 85 *e*P P 02 52 29.0 +3.6
OBN Obninsk 22.41 17 ⇓*i*P P 02 52 26.8 +1.6
OBN pmax pmax
comp=Z,19nm,1.0s
OBN Obninsk 22.41 17 *i* P P 02 52 26.8 +1.6
comp=Z,19nm,1.0s
BSEG Bad Segeberg 22.58 336 *e*P P 02 52 25.3 -1.8
comp=Z,19nm,1.3s
BSEG Bad Segeberg 22.58 336 *e*P P 02 52 25.3 -1.8
BSEG pmax pmax
comp=Z,19nm,1.3s
BSEG Bad Segeberg 22.58 336 *e*P P 02 52 25.3 -1.8
comp=Z,19nm,1.3s
SNF Seneffe 22.60 323 P P 02 52 28.0 +0.5
SNF Seneffe 22.60 323 P P 02 52 27.9 +0.5
IKAZ Kazeroun 22.72 94 *e*P P 02 52 31.5 +2.3
MFF Saint Martin d 23.11 310 *e*P P 02 52 32.6 -0.1
MFF Saint Martin d 23.11 310 *e*P P 02 52 32.6 -0.1
ISAD Sadrabad 23.69 87 *e*P P 02 52 41.1 +2.3
IPAR Pars 23.70 93 *e*P P 02 52 43.0 +4.0
LDF La Druitiere 23.96 315 *e*P P 02 52 40.4 -0.4
LDF La Druitiere 23.96 315 *e*P P 02 52 40.4 -0.4
ESDC Sonseca Array 24.18 292 P P 02 52 43.5 +0.5
comp=Z,0.5nm,0.6s,baz=78,slow=9.6,SNR=8.0
FLN La Foliniere 24.25 315 *e*P P 02 52 43.9 +0.4
FLN *e*R
comp=Z,39nm,18.5s
FLN La Foliniere 24.25 315 *e*P P 02 52 43.9 +0.4
GRR Gorron 24.30 314 *e*P P 02 52 41.2 -2.8
GRR Gorron 24.30 314 *e*P P 02 52 41.2 -2.8
VSU Vasula 24.41 2 *i* P P 02 52 43.6 -1.2
VSU pmax pmax
comp=Z,20nm,0.7s
VSU Vasula 24.41 2 *i* P P 02 52 43.6 -1.2
comp=Z,20nm,0.7s
MDT Midelt 25.14 276 P P 02 52 52.7 +0.8
comp=Z,1.6nm,0.8s,baz=85,slow=13,SNR=2.8
HFS Hagfors 27.20 347 P P 02 53 09.7 -0.4
comp=Z,2.7nm,0.8s,baz=129,slow=12,SNR=9.3
HFS Hagfors 27.20 347 P P 02 53 09.7 -0.4
comp=Z,3.0nm,0.8s
FINES FINESS Array B 27.39 1 P P 02 53 10.2 -1.5
comp=Z,1.5nm,0.4s,baz=159,slow=12,SNR=20
FINES FINESS Array B 27.39 1 P P 02 53 10.2 -1.5
comp=Z,2.0nm,0.4s
KLMR Klimovskoe 28.29 14 *e*P P 02 53 18.0 -1.8
KLMR pmax pmax
comp=Z,15nm,0.9s
KLMR Klimovskoe 28.29 14 *e*P P 02 53 18.0 -1.8
comp=Z,15nm,0.9s
NB2 NORSAR Subarra 28.52 345 P P 02 53 21.5 -0.4
comp=Z,0.9nm,0.5s,baz=152,slow=9.3
NB2 NORSAR Subarra 28.52 345 P P 02 53 21.5 -0.4
comp=Z,0.9nm,0.5s,baz=152,slow=8.9,SNR=5.4
NOA NORSAR Array B 28.52 345 P P 02 53 21.0 -0.9
comp=Z,1.4nm,0.9s,baz=151,slow=9.2,SNR=5.9
NOA NORSAR Array B 28.52 345 P P 02 53 21.0 -0.9
comp=Z,1.0nm,0.7s
AKTK Aktyubinsk 28.78 46 P P 02 53 23.4 -0.9
comp=Z,1.0nm,0.5s
AKTO Aktyubinsk 28.78 46 P P 02 53 23.4 -0.9
AKTO pmax pmax
comp=Z,1.0nm,0.5s
AKTO Aktyubinsk 28.78 46 P P 02 53 23.4 -0.9
comp=Z,0.7nm,0.5s,baz=256,slow=8.3,SNR=2.7
JOF Joensuu 29.10 5 *e*P P 02 53 25.7 -1.2
JOF pmax pmax
comp=Z,3.0nm,0.5s
JOF Joensuu 29.10 5 *e*p P 02 53 25.7 -1.2
comp=Z,2.8nm,0.5s
JOF Joensuu 29.10 5 *e*P P 02 53 25.7 -1.2
comp=Z,3.0nm,0.5s
EKA Eskdalemuir Ar 29.10 326 P P 02 53 27.1 +0.1
comp=Z,0.5nm,0.4s,baz=132,slow=9.6,SNR=9.7
EKA Eskdalemuir Ar 29.10 326 P P 02 53 27.2 +0.1
comp=Z,1.0nm,0.4s
TORD Torodi Ar. Bea 30.04 232 P P 02 53 36.7 +1.0
comp=Z,1.0nm,0.7s,baz=35,slow=8.4,SNR=13
ARCES ARCESS Array B 35.51 360 P P 02 54 21.5 -1.5
comp=Z,0.7nm,0.3s,baz=181,slow=9.1,SNR=24
ARCES ARCESS Array B 35.51 360 P P 02 54 21.5 -1.5
comp=Z,1.0nm,0.3s
DBIC Dimbokro 39.13 233 P P 02 54 55.4 +1.1
comp=Z,5.2nm,1.1s,baz=16,slow=7.4,SNR=2.4
DBIC Dimbokro 39.13 233 P P 02 54 55.4 +1.1
comp=Z,5.0nm,1.1s
MKAR Makanchi Array 44.13 56 P P 02 55 34.6 -0.3
MKAR pmax pmax
comp=Z,2.0nm,0.6s
MKAR Makanchi Array 44.13 56 P P 02 55 34.6 -0.3
comp=Z,2.0nm,0.6s,baz=278,slow=6.4,SNR=22
MKAR Makanchi Array 44.13 56 P P 02 55 34.6 -0.3
comp=Z,2.0nm,0.6s
SPITS Spitsbergen Ar 44.38 357 P P 02 55 36.5 0.0
comp=Z,4.5nm,0.8s,baz=150,slow=15,SNR=3.7
SPITS Spitsbergen Ar 44.38 357 P P 02 55 36.5 0.0
comp=Z,2.0nm,0.6s
ZALV Zalesovo Beam 45.55 45 P P 02 55 45.5 -0.5
ZALV pmax pmax
comp=Z,1.0nm,0.4s
ZALV Zalesovo Beam 45.55 45 P P 02 55 45.5 -0.5
comp=Z,1.3nm,0.4s,baz=263,slow=10,SNR=6.2
ZALV Zalesovo Beam 45.55 45 P P 02 55 45.5 -0.5
comp=Z,1.0nm,0.4s
SCHQ Schefferville 64.21 320 P P 02 58 01.7 +0.7
comp=Z,1.8nm,0.4s,baz=56,slow=7.3,SNR=12
YKA Yellowknife Ar 78.57 342 P P 02 59 27.6 +0.1
comp=Z,1.1nm,0.7s,baz=28,slow=5.5,SNR=3.4
YKA Yellowknife Ar 78.57 342 P P 02 59 27.6 +0.1
comp=Z,1.0nm,0.7s
ILAR Eielson Array 81.30 357 P P 02 59 42.0 -0.2
comp=Z,0.5nm,0.7s,baz=344,slow=3.8,SNR=4.6
ILAR Eielson Array 81.30 357 P P 02 59 42.0 -0.2
comp=Z,1.0nm,0.6s

IDC ***12*** *02:55:44.6±0.6, 54°.26S×120°.86W, h0km, mb4.2/11, mb1 4.4/11, mb1mx4.2/18, mbtmp4.2/11, MS4.3/17, Ms1 4.3/17, ms1mx4.2/23, Error ellipse: s-maj=24.3km s-min=15.8km az=157.0*
ISCJB ***12*** *02:55:45.0±0.4, 54°.36S±0°.07×120°.7W±0°.1, h10km, mb4.5/25, MS4.3/17, Error ellipse: s-maj=12.8km s-min=9.3km az=29.5*
NEIC ***12*** *02:55:46.2±0.2, 54°.31S×120°.77W, h10km, mb4.8/17, Error ellipse: s-maj=10.8km s-min=7.4km az=141.0*

GCMT ***12*** *02:55:50.5±0.3, 54°.55S×120°.64W, h16km±1km, MW4.9, Moment Tensor Solution. s21,c28; s70,c99; Moment tensor: Scale 10^16Nm; Mrr-0.61±.15; Mθθ1.45±.14; Mφφ-2.05±.13; Mrθ-0.09±.37; Mφφ2.46±.10; Mφr-0.16±.34; Best double couple: M0 3.00000×10^16 NP1:φs198.00000°, δ88.00000°, λ176.00000°. NP2:φs288.00000°, δ86.00000°, λ2.00000°. Principal axes: T 2.7300, Plg4.0000°, Azm153.0000°; N 0.6000, Plg86.0000°, Azm353.0000°; P -3.3200, Plg2.0000°, Azm243.0000°; Data Used: II G IU IC CN.*

ISC 12 02:55:45.9±0.5, 54°.32S±0°.10×120°.7W±0°.1, h10km, n99, σ1§39/82, mb4.6/25, MS4.3/17, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**29.51**	**133**	LR	LR	03 10 03.4	
	comp=Z,699nm,20.4s,baz=282,slow=29						
RKT	**Rikitea**	**32.95**	**335**	*e*LR	LR	03 10 56.6	
	1μm,27.2s,baz=164						
RKT	**Rikitea**	**32.95**	**335**	*e*T	T	03 36 41.9	
	2.4nm,0.3s						
SBA	**Scott Base**	**33.98**	**201**	*e*P	**P**	**03 02 31.1**	**+2.0**
	23nm,0.8s						
VNDA	**Vanda**	**35.05**	**202**	*e*P	**P**	**03 02 38.1**	**-0.2**
	7.8nm,1.3s						
PLCA	**Paso Flores**	**35.70**	**89**	*e*P	**P**	**03 02 45.7**	**+1.3**
	60nm,2.1s						
PLCA	**Paso Flores**	**35.70**	**89**	P	**P**	**03 02 45.9**	**+1.5**
	4.4nm,0.9s,baz=220,slow=7.7,SNR=5.2						
PLCA				LR	LR	03 14 03.4	
	comp=Z,433nm,21.2s,baz=318,slow=31						
QSPA	**South Pole Qui**	**35.87**	**180**	P	**P**	**03 02 47.6**	**+1.9**
QSPA	**South Pole Qui**	**35.87**	**180**	P	**P**	**03 02 47.6**	**+1.9**
	7.5nm,1.1s,baz=118,slow=6.9,SNR=8.7						
QSPA				LR	LR	03 15 51.1	
	comp=Z,372nm,18.4s,baz=302,slow=34						
TBI	**Tubuai**	**37.69**	**314**	*e*LR	LR	03 13 07.0	
	862nm,27.5s						
TBI	**Tubuai**	**37.69**	**314**	*e*T	T	03 42 29.5	
	13nm,0.4s						
TRQA	**Tornquist**	**42.47**	**92**	*e*P	**P**	**03 03 41.9**	**+0.9**
	19nm,1.1s						
PPT2	**Papeete2**	**42.88**	**317**	*e*LQ	LQ	03 13 44.0	
	334nm,25.0s						
PPT2				*e*LR	LR	03 15 31.9	
	1μm,25.5s						
PPT	**Papeete**	**42.90**	**317**	LR	LR	03 17 17.0	
	comp=Z,424nm,19.7s,baz=182,slow=30						
CFAA	**Coronel Fontan**	**43.34**	**80**	P	**P**	**03 03 48.4**	**+0.3**
CFAA	**Coronel Fontan**	**43.34**	**80**	P	**P**	**03 03 48.4**	**+0.3**
	0.7nm,0.8s,baz=229,slow=8.0,SNR=10						
CFAA				LR	LR	03 17 22.3	
	comp=Z,65nm,21.7s,baz=225,slow=30						
LCO	**Las Campanas**	**43.87**	**75**	*e*P	**P**	**03 03 52.9**	**+0.2**
	27nm,1.3s						
PMOR	**Pomariorio Ree**	**44.60**	**321**	*e*T	T	03 51 09.7	
	13nm,0.3s						
VNA1	**Neumayer--Stat**	**46.41**	**155**	*e*P	**P**	**03 04 14.2**	**+2.3**
VNA2	**Neumayer--Watz**	**46.44**	**155**	*e*P	**P**	**03 04 13.4**	**+1.2**
VNA2	**Neumayer--Watz**	**46.44**	**155**	*e*Sn	**S**	**03 10 56.5**	**-3.1**
SNAA	**Sanae**	**46.99**	**158**	*e*P	**P**	**03 04 17.2**	**+0.6**
SNAA	**Sanae**	**46.99**	**158**	*e*Sn	**S**	**03 11 05.5**	**-2.0**
SNAA	**Sanae**	**46.99**	**158**	*e*P	**P**	**03 04 16.8**	**+0.2**
	3.5nm,1.0s						
SNAA	**Sanae**	**46.99**	**158**	P	**P**	**03 04 17.3**	**+0.7**
	0.7nm,0.8s,baz=234,slow=5.8,SNR=6.6						
LVC	**Limon Verde**	**49.85**	**72**	*e*P	**P**	**03 04 40.7**	**+1.2**
	60nm,1.9s						
CPUP	**Villa Florida**	**53.61**	**85**	P	**P**	**03 05 07.5**	**+0.2**
CPUP	**Villa Florida**	**53.61**	**85**	P	**P**	**03 05 07.5**	**+0.2**
	2.1nm,0.8s,baz=194,slow=11,SNR=2.3						
CPUP				LR	LR	03 24 49.8	
	comp=Z,780nm,18.8s,baz=212,slow=32						
NNA	**Nana**	**54.50**	**56**	LR	LR	03 22 20.4	
	comp=Z,254nm,19.6s,baz=153,slow=29						
LPAZ	**La Paz**	**55.39**	**68**	*e*P	**P**	**03 05 21.9**	**+1.0**
	30nm,1.3s						
LPAZ	**La Paz**	**55.39**	**68**	P	**P**	**03 05 21.7**	**+0.7**
	14nm,1.1s,baz=209,slow=6.2,SNR=18						
LPAZ				LR	LR	03 23 08.6	
	comp=Z,367nm,21.9s,baz=215,slow=30						
MAW	**Mawson**	**58.37**	**182**	P	**P**	**03 05 41.0**	**+0.3**
MAW	**Mawson**	**58.37**	**182**	P	**P**	**03 05 41.0**	**+0.3**
	3.4nm,0.9s,baz=196,slow=7.4,SNR=3.1						
SIV	**San Ignacio**	**59.55**	**74**	LR	LR	03 27 01.9	
	comp=Z,139nm,20.8s,slow=32						
DZM	**Mont Dzumac**	**62.43**	**270**	*e*LR	LR	03 24 35.6	
	350nm,22.6s						
SAML	**Samuel**	**64.14**	**68**	*e*P	**P**	**03 06 19.8**	**-0.7**
	3.7nm,1.0s						
OTAV	**Otavalo**	**64.51**	**48**	*e*P	**P**	**03 06 24.0**	**+0.6**
	10nm,1.4s						
OTAV				*e*pP	pP	03 06 35.4	+8.8
BDFB	**Brasilia**	**67.34**	**85**	LR	LR	03 33 41.2	
	comp=Z,401nm,18.8s,baz=225,slow=34						
STKA	**Stephens Creek**	**68.96**	**245**	P	**P**	**03 06 51.3**	**+0.2**
STKA	**Stephens Creek**	**68.96**	**245**	P	**P**	**03 06 51.3**	**+0.2**
	3.2nm,0.8s,baz=124,slow=7.6,SNR=3.7						
STKA				LR	LR	03 29 24.8	
	comp=Z,368nm,20.1s,baz=206,slow=29						
ROSC	**El Rosal**	**70.44**	**50**	*e*P	**P**	**03 07 02.0**	**+1.1**
ROSC	**El Rosal**	**70.44**	**50**	LR	LR	03 32 27.9	
	comp=Z,127nm,18.3s,baz=25,slow=31						
LPIG	**La Paz**	**78.61**	**10**	LR	LR	03 34 47.5	
	comp=Z,103nm,20.2s,baz=210,slow=30						
ASAR	**Alice Springs**	**79.58**	**244**	P	**P**	**03 07 52.9**	**-0.3**
ASAR	**Alice Springs**	**79.58**	**244**	P	**P**	**03 07 52.9**	**-0.3**
	1.9nm,0.8s,baz=147,slow=5.2,SNR=14						
ASAR				LR	LR	03 36 58.8	
	comp=Z,345nm,22.0s,baz=169,slow=31						
WRA	**Warramunga Arr**	**82.39**	**246**	P	**P**	**03 08 08.0**	**-0.2**
WRA	**Warramunga Arr**	**82.39**	**246**	P	**P**	**03 08 08.0**	**-0.2**
	6.8nm,1.0s,baz=143,slow=4.6,SNR=17						
WRA				LR	LR	03 39 35.4	
	comp=Z,301nm,21.4s,baz=200,slow=32						
WRAB	**Tennant Creek**	**82.39**	**246**	*e*P	**P**	**03 08 08.3**	**0.0**
	13nm,1.1s						
TXAR	**Lajitas Array**	**84.59**	**15**	P	**P**	**03 08 19.8**	**+0.6**
TXAR	**Lajitas Array**	**84.59**	**15**	P	**P**	**03 08 19.8**	**+0.6**
	0.3nm,0.9s,baz=194,slow=6.5,SNR=2.8						
JCT	**Junction City**	**86.36**	**18**	*e*P	**P**	**03 08 28.9**	**+1.1**
	7.2nm,1.1s						
MNTX	**Cornudas Mount**	**86.68**	**13**	*e*P	**P**	**03 08 29.6**	**+0.3**
	1.4nm,1.0s						
TUC	**Tucson**	**86.69**	**8**	*e*P	**P**	**03 08 31.4**	**+1.9**
	4.3nm,1.1s						
PFO	**Pinyon Flat Ob**	**87.64**	**4**	LR	LR	03 39 18.8	
	comp=Z,156nm,18.5s,baz=271,slow=30						
LAZ	**Ladron**	**89.13**	**11**	*e*P	**P**	**03 08 41.7**	**+0.5**
	3.7nm,1.5s						
SHPR	**Sheep Range**	**90.58**	**4**	*e*P	**P**	**03 08 48.7**	**+0.8**
	11nm,1.5s						
BOSA	**Boshof**	**92.33**	**150**	LR	LR	03 50 49.1	
	comp=Z,143nm,18.6s,baz=166,slow=36						
MVU	**Marysvale**	**92.74**	**7**	*e*P	**P**	**03 08 58.4**	**+0.3**
	8.9nm,1.4s						
FCC	**Fort Churchill**	**114.75**	**15**	*e*PKP	PKPdf	03 14 26.0	+0.9
ILAR	**Eielson Array**	**120.46**	**347**	PKP	**PKPdf**	**03 14 36.7**	**+0.7**
ILAR	**Eielson Array**	**120.46**	**347**	PKP	**PKPdf**	**03 14 36.7**	**+0.7**
	0.3nm,0.8s,baz=183,slow=3.5,SNR=2.8						
EVOP	**Sao Brissos**	**132.77**	**81**	*e*PKPdf	**PKPdf**	**03 15 00.3**	**-0.1**
EVO	**Evora**	**132.84**	**81**	*e*PKIKP	**PKPdf**	**03 15 00.3**	**-0.2**
	58nm,1.8s						
TCF	**Toulx Ste Croi**	**143.57**	**79**	*e*PKIKP	PKPbc	03 15 17.8	+0.4
	51nm,1.6s						
TCF	**Toulx Ste Croi**	**143.57**	**79**	*e*PKPdf	PKPbc	03 15 17.8	+0.4
LMR	**La Mourre**	**144.35**	**86**	*e*PKIKP	**PKPab**	**03 15 17.5**	**-2.0**
	23nm,1.3s						
LMR	**La Mourre**	**144.35**	**86**	*e*PKPdf	**PKPab**	**03 15 17.5**	**-2.0**
AVF	**Avril sur Loir**	**144.51**	**79**	*e*PKIKP	**PKPab**	**03 15 17.5**	**-2.5**
	28nm,1.3s						
AVF	**Avril sur Loir**	**144.51**	**79**	*e*PKPdf	**PKPab**	**03 15 17.5**	**-2.5**
FRF	**La Foret Royal**	**144.57**	**86**	*e*PKIKP	**PKPab**	**03 15 18.3**	**-2.0**
	16nm,1.1s						
FRF	**La Foret Royal**	**144.57**	**86**	*e*PKPdf	**PKPab**	**03 15 18.3**	**-2.0**
SSF	**Saint Saulge**	**144.74**	**78**	*e*PKIKP	**PKPab**	**03 15 19.0**	**-1.9**
	24nm,1.4s						
SSF	**Saint Saulge**	**144.74**	**78**	*e*PKPdf	**PKPab**	**03 15 19.0**	**-1.9**
ORIF	**Oris-en-Rattie**	**144.92**	**83**	*e*PKIKP	**PKPab**	**03 15 20.0**	**-1.7**
	20nm,1.0s						
ORIF	**Oris-en-Rattie**	**144.92**	**83**	*e*PKPdf	**PKPab**	**03 15 20.0**	**-1.7**
LOR	**Lormes**	**145.06**	**78**	*e*PKIKP	**PKPbc**	**03 15 19.4**	**-2.6**
	28nm,1.4s						
LOR	**Lormes**	**145.06**	**78**	*e*PKPdf	**PKPbc**	**03 15 19.4**	**-2.6**
EKA	**Eskdalemuir Ar**	**145.07**	**62**	PKPbc	**PKPab**	**03 15 21.7**	**0.0**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKA	**Eskdalemuir Ar**	**145.07**	**62**	PKPbc	**PKPab**	**03 15 21.7**	**0.0**
	1.4nm,0.6s,baz=246,slow=2.6,SNR=14						
MBDF	**Montbardon**	**145.33**	**84**	*e*PKIKP	**PKPbc**	**03 15 21.3**	**-1.8**
MBDF	**Montbardon**	**145.33**	**84**	*e*PKPdf	**PKPbc**	**03 15 21.3**	**-1.8**
PGF	**Pioggiola**	**145.34**	**89**	*e*PKIKP	**PKPbc**	**03 15 21.1**	**-2.1**
	41nm,1.1s						
PGF	**Pioggiola**	**145.34**	**89**	*e*PKPdf	**PKPbc**	**03 15 21.1**	**-2.1**
LPL	**La Plagne**	**145.75**	**83**	*e*PKIKP	**PKPdf**	**03 15 20.4**	**-3.6**
	19nm,1.2s						
LPL	**La Plagne**	**145.75**	**83**	*e*PKPdf	**PKPdf**	**03 15 20.4**	**-3.6**
DAVOX	**Davos/Dischmat**	**148.28**	**83**	PKPbc	**PKPbc**	**03 15 31.5**	**-0.1**
DAVOX	**Davos/Dischmat**	**148.28**	**83**	PKPbc	**PKPbc**	**03 15 31.5**	**-0.1**
	1.8nm,0.8s,baz=235,slow=9.1,SNR=3.2						
ULN	**Ulaanbaatar**	**149.82**	**278**	*e*PKPbc	**PKPbc**	**03 15 35.8**	**+0.4**
ULN				*e*PKPab	**PKPab**	**03 15 40.5**	**-0.5**
SONM	**Songino Array**	**150.18**	**277**	PKPbc	**PKPbc**	**03 15 36.5**	**+0.3**
SONM	**Songino Array**	**150.18**	**277**	PKPbc	**PKPbc**	**03 15 36.5**	**+0.3**
	1.1nm,0.8s,baz=104,slow=0.6,SNR=5.7						
GERES	**GERESS Array B**	**151.54**	**82**	PKPbc	**PKPbc**	**03 15 39.5**	**+0.2**
GERES	**GERESS Array B**	**151.54**	**82**	PKPbc	**PKPbc**	**03 15 39.5**	**+0.2**
	1.2nm,0.8s,baz=204,slow=2.9,SNR=12						
CLL	**Collm**	**152.24**	**77**	*i* PKPbc	**PKPbc**	**03 15 40.7**	**0.0**
	comp=Z,4.0nm,1.1s						
CLL				*i* PKPab	**PKPab**	**03 15 51.6**	**+0.9**
	comp=Z,9.0nm,1.3s						
BRTR	**Keskin Array B**	**157.39**	**120**	PKPab	**PKPab**	**03 16 13.2**	**0.0**
BRTR	**Keskin Array B**	**157.39**	**120**	PKPab	**PKPab**	**03 16 13.2**	**0.0**
	comp=Z,1.6nm,0.9s,baz=174,slow=6.8,SNR=7.2						
MKAR	**Makanchi Array**	**163.62**	**252**	PKPab	**PKPab**	**03 16 38.4**	**-1.6**
MKAR	**Makanchi Array**	**163.62**	**252**	PKPab	**PKPab**	**03 16 38.4**	**-1.6**
	comp=Z,0.4nm,0.8s,baz=126,slow=2.0,SNR=3.7						
ZALV	**Zalesovo Beam**	**165.06**	**279**	PKPab	**PKPab**	**03 16 46.0**	**-0.2**
ZALV	**Zalesovo Beam**	**165.06**	**279**	PKPab	**PKPab**	**03 16 46.0**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=116,slow=3.4,SNR=2.9						

CSEM ***12*** *03:04:58.6, 33°.90N×25°.37E, h39km, MD3.8, After ATH*

ATH 12 03:04:58.6, 33°.90N×25°.37E, h39km±19km, MD3.8/18, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**1.21**	**338**	*e*PN	Pn	03 05 21.1	+2.1
SIVA	**Sivas**	**1.21**	**338**	*e*Pn	Pn	03 05 21.1	+2.1
LAST	**Lasithi**	**1.26**	**4**	*e*PN	Pn	03 05 21.5	+1.7
LAST				*e*SN	Sn	03 05 37.4	+1.7
LAST	**Lasithi**	**1.26**	**4**	*e*Pn	Pn	03 05 21.5	+1.7
LAST				*e*Sn	Sn	03 05 37.4	+1.7
NPS	**Neapolis**	**1.37**	**8**	*e*PN	Pn	03 05 22.6	+1.3
NPS				*e*SB	Sn	03 05 40.8	+2.5
NPS	**Neapolis**	**1.37**	**8**	*e*Pn	Pn	03 05 22.6	+1.3
NPS				*e*Sb	Sn	03 05 40.8	+2.5
ZKR	**Zakros**	**1.40**	**30**	*e*PN	Pn	03 05 23.4	+1.8
ZKR				*e*SN	Sn	03 05 41.0	+2.1
ZKR	**Zakros**	**1.40**	**30**	*e*Pn	Pn	03 05 23.4	+1.8
ZKR				*e*Sn	Sn	03 05 41.0	+2.1
IDI	**Anoyia**	**1.44**	**344**	*e*PN	Pn	03 05 24.7	+2.4
IDI	**Anoyia**	**1.44**	**344**	*e*Pn	Pn	03 05 24.7	+2.4
VAM	**Vamos**	**1.79**	**328**	*e*PB	Pn	03 05 29.2	+2.3
VAM	**Vamos**	**1.79**	**328**	*e*Pb	Pn	03 05 29.2	+2.3
KARN	**Karanos**	**1.92**	**322**	*e*PB	Pn	03 05 31.3	+2.5
KARN	**Karanos**	**1.92**	**322**	*e*Pb	Pn	03 05 31.3	+2.5
KARP	**Karpathos**	**2.21**	**41**	*e*PN	Pn	03 05 35.0	+2.2
KARP	**Karpathos**	**2.21**	**41**	*e*Pn	Pn	03 05 35.0	+2.2
SANT	**Santorini**	**2.47**	**2**	*e*PN	Pn	03 05 37.9	+1.6
SANT	**Santorini**	**2.47**	**2**	*e*Pn	Pn	03 05 37.9	+1.6
ANKY	**Antikythira Is**	**2.60**	**320**	*e*PN	Pn	03 05 40.7	+2.6
ANKY	**Antikythira Is**	**2.60**	**320**	*e*Pn	Pn	03 05 40.7	+2.6
KYTH	**Kithira**	**3.05**	**322**	*e*PN	Pn	03 05 47.2	+2.9
KYTH	**Kithira**	**3.05**	**322**	*e*Pn	Pn	03 05 47.2	+2.9
APE	**Apeiranthos**	**3.17**	**2**	*e*PN	Pn	03 05 46.7	+0.8
APE	**Apeiranthos**	**3.17**	**2**	*e*Pn	Pn	03 05 46.7	+0.8
VLI	**Veliai**	**3.44**	**325**	*e*PN	Pn	03 05 52.2	+2.5
VLI	**Veliai**	**3.44**	**325**	*e*Pn	Pn	03 05 52.2	+2.5
DYR	**Agios Nikonas**	**3.78**	**320**	*e*PN	Pn	03 05 57.0	+2.6
DYR	**Agios Nikonas**	**3.78**	**320**	*e*Pn	Pn	03 05 57.0	+2.6
DID	**Didima**	**4.00**	**335**	*e*PN	Pn	03 05 58.4	+1.1
DID	**Didima**	**4.00**	**335**	*e*Pn	Pn	03 05 58.4	+1.1
PYL	**PYLOS**	**4.21**	**316**	*e*PN	Pn	03 06 01.5	+1.3
PYL	**PYLOS**	**4.21**	**316**	*e*Pn	Pn	03 06 01.5	+1.3
VLX	**Vlachokerasia**	**4.23**	**326**	*e*PN	Pn	03 06 02.7	+2.0
VLX	**Vlachokerasia**	**4.23**	**326**	*e*Pn	Pn	03 06 02.7	+2.0
ITM	**Ithomi**	**4.31**	**320**	*e*PN	Pn	03 06 03.6	+1.9
ITM	**Ithomi**	**4.31**	**320**	*e*Pn	Pn	03 06 03.6	+1.9
AMT	**Artemida-Makis**	**4.69**	**322**	*e*PN	Pn	03 06 09.0	+2.1
AMT	**Artemida-Makis**	**4.69**	**322**	*e*Pn	Pn	03 06 09.0	+2.1
GUR	**Goura**	**4.72**	**329**	*e*PN	Pn	03 06 09.1	+1.7
GUR	**Goura**	**4.72**	**329**	*e*Pn	Pn	03 06 09.1	+1.7
LAKA	**Lakka**	**5.13**	**329**	*e*PN	Pn	03 06 14.9	+2.0
LAKA	**Lakka**	**5.13**	**329**	*e*Pn	Pn	03 06 14.9	+2.0
KALE	**Kalithea**	**5.19**	**331**	*e*PN	Pn	03 06 16.2	+2.4
KALE	**Kalithea**	**5.19**	**331**	*e*Pn	Pn	03 06 16.2	+2.4
TRIZ	**Trizonia**	**5.19**	**330**	*e*PN	Pn	03 06 15.8	+2.1
TRIZ	**Trizonia**	**5.19**	**330**	*e*Pn	Pn	03 06 15.8	+2.1

IDC 12 03:30:04.2±2.3, 6°.95S×129°.21E, h0km, mb3.2/1, mb1 3.4/3, mb1mx3.3/19, mbtmp3.2/3, ML3.1/2, Error ellipse: s-maj=122.2km s-min=33.7km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.84**	**159**	Pn	Pn	03 33 22.4	+0.5
	0.1nm,0.3s,baz=338,slow=12,SNR=8.1						
WRA				Sn	Sn	03 35 46.4	-10
	0.1nm,0.3s,baz=334,slow=24,SNR=4.5						
ASAR	**Alice Springs**	**17.22**	**165**	P	Pn	03 34 06.0	-0.5
	0.1nm,0.3s,baz=344,slow=10,SNR=5.1						
MKAR	**Makanchi Array**	**67.76**	**327**	P	P	03 41 03.8	0.0
	0.1nm,0.4s,baz=120,slow=5.2,SNR=2.5						

MEX 12 03:33:31.2±0.4, 16°.04N×97°.53W, h16km±5km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.67**	**302**	*e*P	Pg	03 33 42.0	-2.5
PNIG				*i* S	Sg	03 33 50.6	-2.8
VHO	**Vista Hermosa**	**1.28**	**36**	*e*P	Pn	03 33 50.7	-4.0
VHO				*i* S	Sb	03 34 06.4	-5.3
HUIG	**Huatulco**	**1.39**	**101**	*e*P	Pn	03 33 52.9	-3.1
HUIG				*e*S	Sn	03 34 08.7	-5.4
CMIG	**Matias Romero**	**2.74**	**67**	*e*P	Pn	03 34 12.1	-2.6
CMIG				*i* S	Sn	03 34 43.9	-3.6

IDC ***12*** *03:56:54.5±0.5, 45°.63S×76°.64W, h0km, mb4.6/15, mb1 4.7/16, mb1mx4.7/17, mbtmp4.6/16, ML4.6/1, MS4.2/13, Ms1 4.2/13, ms1mx4.1/23, Error ellipse: s-maj=22.8km s-min=14.0km az=100.0*

ISCJB ***12*** *03:56:56.4±0.2, 45°.58S±0°.04×76°.35W±0°.07, h17km, mb5.0/48, MS4.3/10, Error ellipse: s-maj=7.4km s-min=6.0km az=154.3*

TEH ***12*** *03:56:57.0, 45°.62S×76°.48W, h10km, ML5.1*

GCMT ***12*** *03:56:57.3±0.4, 45°.83S×76°.99W, h18km±1km, MW5.0, Moment Tensor Solution. s16,c24; s55,c76; Moment tensor: Scale 10^16Nm; Mrr-3.46±.27; Mθθ0.72±.15; Mφφ2.75±.17; Mrθ-0.02±.38; Mφθ-0.09±.08; Mφr-2.37±.34; Best double couple: M0 3.90000×10^16 NP1:φs359.00000°, δ64.00000°, λ-89.00000°. NP2:φs176.00000°, δ26.00000°, λ-92.00000°. Principal axes: T 3.5500, Plg19.0000°, Azm88.0000°; N 0.7100, Plg1.0000°, Azm179.0000°; P -4.2600, Plg71.0000°, Azm272.0000°; Data Used: II IU G CN IC.*

NEIC ***12*** *03:56:59.5±2.5, 45°.64S×76°.52W, h32km±16km, mb5.1/42 Error ellipse: s-maj=11.3km s-min=5.5km az=82.0*

MOS ***12*** *03:56:59.2±1.1, 45°.57S×76°.47W, h33km, mb5.4/17, Error ellipse: s-maj=22.5km s-min=10.8km az=84.8*

BJI ***12*** *03:57:00.8, 45°.70S×76°.60W, h30km, mB5.0/7, Ms5.4/9, Ms7 5.1/9*

ISC 12 03:56:57.7±0.3, 45°.57S±0°.05×76°.41W±0°.07, h17km, n440, σ1§11/467, mb5.0/48, MS4.4/10, 4C, Off coast of southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COYC	**Coyhaique**	**3.04**	**92**	⇑*i*P	**Pn**	**03 57 45.1**	**+0.2**
VLCH	**Valdivia**	**6.21**	**23**	*e*P	**Pn**	**03 58 29.1**	**+0.5**
PLCA	**Paso Flores**	**6.46**	**44**	*e*Pn	**Pn**	**03 58 33.0**	**+1.0**
PLCA	**Paso Flores**	**6.46**	**44**	Pn	**Pn**	**03 58 33.6**	**+1.6**
	2.8nm,0.3s,baz=220,slow=13,SNR=52						
PLCA				LR	LR	04 01 10.9	
	comp=Z,4μm,18.3s,baz=305,slow=39						
CCHI	**Chillan**	**9.53**	**22**	*e*P	**Pn**	**03 59 14.2**	**0.0**
USHA	**Ushuaia**	**10.58**	**154**	Pn	**Pn**	**03 59 30.2**	**+1.9**
USHA	**Ushuaia**	**10.58**	**154**	Pn	**Pn**	**03 59 30.2**	**+1.9**
	0.4nm,0.3s,baz=272,slow=10.0,SNR=5.3						
USHA				LR	LR	04 03 38.5	
	comp=Z,1μm,19.9s,baz=300,slow=38						
TRQA	**Tornquist**	**13.11**	**60**	*e*Pn	**Pn**	**04 00 05.5**	**+2.5**
CFAA	**Coronel Fontan**	**15.32**	**27**	Pn	**Pn**	**04 00 29.2**	**-3.9**
CFAA				Sn	**Sn**	**04 03 18.6**	**-3.9**
CFAA	**Coronel Fontan**	**15.32**	**27**	Pn	**Pn**	**04 00 29.2**	**-3.9**
	0.3nm,0.3s,baz=202,slow=12,SNR=32						
CFAA				Sn	**Sn**	**04 03 18.6**	**-3.9**
	0.0nm,0.3s,baz=308,slow=18,SNR=3.0						
CFAA				LR	LR	04 06 45.9	
	comp=Z,137nm,18.7s,baz=200,slow=38						
LCO	**Las Campanas**	**17.13**	**17**	*e*Pn	**Pn**	**04 00 55.2**	**-1.3**
	334nm,2.1s						
PMSA	**Palmer Station**	**20.43**	**165**	*e*P	**P**	**04 01 30.4**	**-3.3**
	44nm,1.0s						
PMSA	**Palmer Station**	**20.43**	**165**	P	**P**	**04 01 29.3**	**-4.4**
	28nm,1.0s,baz=119,slow=23,SNR=8.5						
LVC	**Limon Verde**	**23.70**	**17**	*e*P	**P**	**04 02 09.8**	**+0.9**
	41nm,0.8s						
CPUP	**Villa Florida**	**24.53**	**45**	*e*P	**P**	**04 02 17.2**	**+1.0**
	321nm,0.8s						
CPUP	**Villa Florida**	**24.53**	**45**	P	**P**	**04 02 17.3**	**+1.0**
	78nm,0.7s,baz=203,slow=9.5,SNR=116						
CPUP				LR	LR	04 11 56.2	
	comp=Z,579nm,21.4s,baz=197,slow=36						
LPAZ	**La Paz**	**30.01**	**16**	*e*P	**P**	**04 03 07.3**	**+1.1**
	35nm,1.4s						
LPAZ	**La Paz**	**30.01**	**16**	P	**P**	**04 03 07.4**	**+1.3**
	5.6nm,1.0s,baz=182,slow=7.8,SNR=18						
BB16B	**Bebedouro**	**33.46**	**52**	⇑*i*P	**P**	**04 03 36.1**	**+0.2**
BB16B				*i*		04 03 39.7	
BB16B				*i*		04 03 43.3	
BB16B				*i*		04 03 45.0	
BB16B				*i*		04 03 56.3	
BDFB	**Brasilia**	**38.18**	**48**	*e*P	**P**	**04 04 17.7**	**+1.2**
BDFB	**Brasilia**	**38.18**	**48**	P	**P**	**04 04 17.0**	**+0.6**
	28nm,1.1s,baz=210,slow=5.9,SNR=22						
BDFB				LR	LR	04 20 30.9	
	comp=Z,728nm,18.4s,baz=22,slow=37						
SAML	**Samuel**	**38.23**	**21**	*e*P	**P**	**04 04 16.7**	**0.0**
	51nm,1.2s						
SAML				*e*PcP	**PcP**	**04 06 31.2**	**+0.3**
VNA1	**Neumayer--Stat**	**40.70**	**152**	*e*P	**P**	**04 04 37.5**	**+0.8**
VNA2	**Neumayer--Watz**	**40.98**	**152**	*e*P	**P**	**04 04 38.9**	**-0.2**
VNA2	**Neumayer--Watz**	**40.98**	**152**	*e*pP	**P**	**04 04 41.5**	**+2.4**
SNAA	**Sanae**	**42.44**	**153**	*e*P	**P**	**04 04 50.1**	**-1.0**
SNAA	**Sanae**	**42.44**	**153**	*e*pP	pP	04 04 54.4	-2.0
SNAA	**Sanae**	**42.44**	**153**	*e*P	**P**	**04 04 50.6**	**-0.5**
	54nm,1.4s						
SNAA	**Sanae**	**42.44**	**153**	P	**P**	**04 04 50.2**	**-0.8**
	6.0nm,1.0s,baz=272,slow=7.4,SNR=33						
QSPA	**South Pole Qui**	**44.68**	**180**	*e*P	**P**	**04 05 08.3**	**-1.0**
	16nm,1.0s						
QSPA	**South Pole Qui**	**44.68**	**180**	P	**P**	**04 05 09.5**	**+0.2**
	8.7nm,

	baz=80,SNR=9.5					
232A	Coleman	79.93	340	P	P	04 09 04.8 -0.6
	baz=80,SNR=14					
329A	Wagon Wheel Ra	80.13	338	P	P	04 09 06.3 -0.3
	baz=80,SNR=14					
231A	Bronte	80.14	340	P	P	04 09 05.9 -0.6
	baz=80,SNR=9.2					
328A	Wristen Ranch,	80.25	337	P	P	04 09 06.6 -0.6
	baz=81					
230A	Sterling City	80.29	339	P	P	04 09 06.9 -0.5
	baz=81,SNR=9.8					
425A	Indio Mountain	80.31	335	P	P	04 09 06.7 -0.9
	baz=81					
LBTB	Lobatse	80.40	116	eP	P	04 09 08.4 -0.1
	comp=Z,44nm,1.4s					
KMSC	Kings Mountain	80.46	356	P	P	04 09 08.0 -0.2
	baz=81					
326A	Caldwell Ranch	80.52	336	P	P	04 09 08.9 +0.3
	baz=81,SNR=6.1					
229A	Bryant Ranch,	80.54	338	P	P	04 09 08.7 -0.1
	baz=81,SNR=12					
ABTX	Abilene, Hawle	80.63	340	P	P	04 09 08.6 -0.5
	baz=81,SNR=8.5					
325A	Bean Ranch, Si	80.85	336	P	P	04 09 10.1 -0.5
	baz=81,SNR=5.1					
131A	Roby	80.86	340	P	P	04 09 10.0 -0.3
	baz=81,SNR=20					
SWET	Sewanee	80.87	352	eP	P	04 09 10.3 -0.1
	comp=Z,27nm,0.9s					
130A	Snyder	80.92	339	P	P	04 09 10.4 -0.4
	baz=81,SNR=7.1					
CPCT	Cooper Cave	80.98	353	eP	P	04 09 10.2 -0.7
324A	Moseley Ranch,	81.07	335	P	P	04 09 10.6 -1.1
	baz=81					
129A	Stewart Farms,	81.19	338	P	P	04 09 10.9 -1.3
	baz=82					
MIAR	Mount Ida	81.24	346	eP	P	04 09 12.5 +0.2
MIAR	Mount Ida	81.24	346	eP	P	04 09 12.5 +0.2
Z32A	Haskell	81.25	341	P	P	04 09 12.0 -0.4
	baz=82,SNR=9.4					
MNTX	Cornudas Mount	81.28	335	eP	P	04 09 11.7 -0.9
	comp=Z,4.7nm,1.0s					
226B	Tecolote Peak,	81.28	336	P	P	04 09 12.9 +0.1
	baz=82,SNR=7.0					
128A	Castleberry Fa	81.34	338	P	P	04 09 13.0 0.0
	baz=82,SNR=7.2					
Z31A	Sharp Cattle R	81.41	340	P	P	04 09 13.0 -0.3
	baz=82,SNR=11					
225A	Deer Hill, Car	81.50	336	P	P	04 09 13.7 -0.3
	baz=82,SNR=9.2					
Z30A	Sanderson Ranc	81.62	339	P	P	04 09 13.9 -0.5
	baz=82,SNR=10.0					
127A	Arkansas Junct	81.62	337	P	P	04 09 14.5 0.0
	baz=82,SNR=13					
224A	Cornudas Mount	81.67	335	P	P	04 09 14.8 -0.1
	baz=82					
Z29A	Hungry Hill Ra	81.74	339	P	P	04 09 14.8 -0.3
	baz=82,SNR=20					
126A	Clayton Basin,	81.78	337	P	P	04 09 15.1 -0.3
	baz=82,SNR=5.5					
Y32A	R-V Farms, Ver	81.91	341	P	P	04 09 15.9 0.0
	baz=82,SNR=9.8					
320A	Kipp Ranch, An	81.91	333	P	P	04 09 16.9 +0.7
	baz=82					
Z28A	Tucker Farm, M	81.95	338	P	P	04 09 15.8 -0.4
	baz=82					
125A	Gardner Draw,	81.97	336	P	P	04 09 15.7 -0.6
	baz=82,SNR=7.5					
WVT	Waverly	81.97	351	eP	P	04 09 15.2 -0.9
WVT				pmax	pmax	
	comp=Z,17nm,1.1s					
WVT	Waverly	81.97	351	eP	P	04 09 15.2 -0.9
	comp=Z,17nm,1.1s					
DBIC	Dimbokro	82.03	72	eP	P	04 09 17.5 +0.5
	comp=Z,19nm,1.0s					
DBIC	Dimbokro	82.03	72	P	P	04 09 17.7 +0.7
	comp=Z,5.1nm,0.9s,baz=148,slow=0.6,SNR=3.8					
DBIC				LR	LR	04 42 59.7
	comp=Z,132nm,19.1s,baz=172,slow=34					
Y31A	Rekieta Farm,	82.06	340	P	P	04 09 16.7 0.0
	baz=82,SNR=7.8					
Y30A	Stafford Cattl	82.13	340	P	P	04 09 16.8 -0.3
	baz=82,SNR=13					
Z27A	Tatum	82.19	338	P	P	04 09 17.5 0.0
	baz=83					
319A	Douglas	82.19	332	P	P	04 09 18.2 +0.6
	baz=82,SNR=23					
124A	Stringfield Ra	82.24	336	P	P	04 09 18.3 +0.4
	baz=83,SNR=13					
GLAT	Glass	82.29	350	eP	P	04 09 18.0 +0.2
Y29A	Porterfield Fa	82.31	339	P	P	04 09 17.8 -0.3
	baz=83,SNR=5.3					
Z26A	Caprock	82.36	337	P	P	04 09 18.0 -0.4
	baz=83,SNR=17					
220A	Playas Peak, P	82.43	333	P	P	04 09 19.8 +1.0
	baz=83,SNR=16					
WMOK	Wichita Mounta	82.46	342	eP	P	04 09 18.0 -0.8
WMOK				pmax	pmax	
	comp=Z,16nm,1.0s					
WMOK	Wichita Mounta	82.46	342	eP	P	04 09 18.0 -0.8
	comp=Z,16nm,1.0s					
Y28A	McKinney Farm,	82.50	339	P	P	04 09 19.0 -0.1
	baz=83,SNR=7.3					
Z25A	Roswell	82.57	336	P	P	04 09 19.4 -0.1
	baz=83,SNR=9.1					
X31A	McDonald Ranch	82.63	341	P	P	04 09 19.4 -0.2
	baz=83,SNR=16					
X30A	Coker Ranch, T	82.67	340	P	P	04 09 19.5 -0.4
	baz=83,SNR=15					
MSTX	Muleshoe	82.69	338	P	P	04 09 19.8 -0.3
	baz=83,SNR=14					
Y27A	Causey	82.71	338	P	P	04 09 20.4 +0.2
	baz=83,SNR=5.3					
PARMO	Parma	82.74	349	eP	P	04 09 19.8 -0.3
121A	Cookes Peak, D	82.78	334	P	P	04 09 21.6 +0.9
	baz=83					
Z24A	Sheeppen Canyo	82.80	336	P	P	04 09 21.3 +0.5
	baz=83,SNR=11					
X29A	Tulia	82.87	339	P	P	04 09 20.9 -0.1
	baz=83,SNR=10					
JSRW	J. Sargeant Re	82.89	359	eP	P	04 09 21.0 +0.1
Y26A	Elida	82.93	337	P	P	04 09 21.3 -0.1
	baz=83,SNR=6.6					
TUL1	Tulsa	82.97	344	P	P	04 09 21.0 -0.4
	baz=83,SNR=12					
120A	U Bar Ranch, L	83.06	333	P	P	04 09 23.0 +0.9
	baz=83,SNR=5.3					
X28A	Dimmitt	83.06	339	P	P	04 09 22.7 +0.6
	baz=84					
W31A	Holland Ranch,	83.15	341	P	P	04 09 22.2 -0.2
	baz=84					
Y25A	Mesa, Roswell	83.17	337	P	P	04 09 21.9 -0.7
	baz=84,SNR=5.5					
Z22A	Elephant Butte	83.20	335	P	P	04 09 23.7 +0.8
	baz=84,SNR=7.5					
Y24A	Capitan	83.38	336	P	P	04 09 23.8 0.0
	baz=84,SNR=17					
X27A	F and S Farms,	83.42	338	P	P	04 09 24.0 +0.1
	baz=84					
Z21A	St. Cloud Mine	83.47	334	P	P	04 09 24.6 +0.3
	baz=84,SNR=7.3					
W29A	Amraillo	83.50	339	P	P	04 09 24.4 +0.1
	baz=84					
X26A	CR and CF Fran	83.52	338	P	P	04 09 24.6 +0.2
	baz=84,SNR=18					
TUC	Tucson	83.55	331	eP	P	04 09 24.9 +0.3
TUC				pmax	pmax	
	comp=Z,4.0nm,0.9s					
TUC	Tucson	83.55	331	eP	P	04 09 24.9 +0.3
	comp=Z,3.7nm,0.9s					
Y23A	Lovelace Mesa,	83.56	336	P	P	04 09 25.4 +0.7
	baz=84,SNR=11					
Z20A	Nine Sixteen R	83.57	333	P	P	04 09 25.7 +0.9
	baz=84,SNR=14					
V31A	Spring Creek L	83.69	341	P	P	04 09 25.9 +0.7
	baz=84,SNR=13					
SIUC	Southern Illin	83.70	350	eP	P	04 09 24.4 -0.7
	comp=Z,23nm,1.0s					
X25A	Clemmons Ranch	83.73	337	P	P	04 09 25.7 +0.2
	baz=84					
USIN	University of	83.77	351	eP	P	04 09 24.6 -0.9
	comp=Z,28nm,0.9s					
W27A	Bowe Ranch, En	83.80	338	P	P	04 09 26.1 +0.3
	baz=84,SNR=14					
Y22A	Socorro	83.84	335	P	P	04 09 26.4 +0.3
	baz=84,SNR=6.9					
AFI	Afiamalu	83.91	256	LR	LR	04 36 12.6
	comp=Z,169nm,19.2s,baz=88,slow=28					
214A	Organ Pipe Nat	83.93	330	P	P	04 09 27.1 +0.6
	baz=84					
BNM	Barren Site	83.93	335	eP	P	04 09 27.0 +0.3
	comp=Z,9.5nm,1.4s					
X24A	Lazy VL Ranch,	83.98	336	P	P	04 09 27.4 +0.6
	baz=84,SNR=25					
W26A	Owens Ranch, T	84.01	338	P	P	04 09 27.2 +0.2
	baz=84,SNR=9.1					
Y21A	Point of Rocks	84.12	334	P	P	04 09 28.6 +0.9
	baz=84,SNR=12					
V28A	Channing	84.24	339	P	P	04 09 28.6 +0.6
	baz=85					
Y20A	Horse Springs,	84.24	334	P	P	04 09 28.9 +0.7
	baz=85,SNR=6.6					
U31A	Nine Bar Ranch	84.27	341	P	P	04 09 28.4 +0.3
	baz=85,SNR=6.6					
LAZ	Ladron	84.32	335	eP	P	04 09 29.1 +0.5
	comp=Z,2.2nm,1.0s					
W25A	X Bar L Ranch,	84.32	337	P	P	04 09 28.9 +0.4
	baz=85,SNR=19					
X21A	Alamocita Cree	84.56	334	P	P	04 09 30.6 +0.8
	baz=85,SNR=7.4					
W24A	Lazy 6 Ranch,	84.58	336	P	P	04 09 30.2 +0.3
	baz=85,SNR=8.8					
U30A	WK&E Inc. Balk	84.60	341	P	P	04 09 30.1 +0.3
	baz=85,SNR=7.0					
ANMO	Albuquerque	84.63	336	eP	P	04 09 30.1 0.0
	comp=Z,9.6nm,1.0s					
V26A	Tequesquite Ra	84.69	338	P	P	04 09 30.2 -0.1
	baz=85,SNR=8.3					
W23A	Werner Place,	84.74	336	P	P	04 09 31.2 +0.5
	baz=85					
BLO	Bloomington	84.85	352	eP	P	04 09 30.3 -0.6
BLO				pmax	pmax	
	comp=Z,31nm,0.9s					
BLO	Bloomington	84.85	352	eP	P	04 09 30.3 -0.6
	comp=Z,31nm,0.9s					
X20A	Quemado	84.86	334	P	P	04 09 32.4 +1.0
	baz=85,SNR=5.6					
T31A	Randall Ranch,	84.92	342	P	P	04 09 31.5 +0.2
	baz=85,SNR=5.7					
V24A	Rampart Ranch,	85.02	337	P	P	04 09 32.5 +0.4
	baz=85,SNR=6.2					
U27A	Thompson Grove	85.03	339	P	P	04 09 32.1 0.0
	baz=85,SNR=5.1					
T30A	Plains	85.07	341	P	P	04 09 32.1 -0.1
	baz=86					
U26A	Atchley Ranch,	85.24	338	P	P	04 09 33.2 0.0
	baz=86					
V23A	Ortiz Mt. (NFS	85.29	336	P	P	04 09 33.9 +0.4
	baz=86					
X18A	Snowflake	85.31	333	P	P	04 09 34.3 +0.8
	baz=86					
T29A	Hugoton	85.35	340	P	P	04 09 34.1 +0.5
	baz=86					
S31A	Mullinville	85.38	342	P	P	04 09 33.9 +0.2
	baz=86					
W20A	Ramah	85.40	334	P	P	04 09 34.9 +0.9
	baz=86,SNR=8.5					
U25A	Circle Dot Ran	85.42	338	P	P	04 09 34.6 +0.5
	baz=86,SNR=17					
T28A	Walsh	85.51	340	P	P	04 09 34.4 0.0
	baz=86,SNR=9.3					
S30A	Montezuma	85.62	341	P	P	04 09 35.2 +0.3
	baz=86,SNR=5.8					
V22A	San Miguel Ran	85.66	336	P	P	04 09 36.1 +0.7
	baz=86,SNR=12					
U24A	Moreno Valley	85.66	337	P	P	04 09 36.6 +1.2
	baz=86					
X16A	Lo Mia Camp, P	85.70	332	P	P	04 09 35.5 0.0
	baz=86,SNR=10					
S29A	Ulysses	85.75	341	P	P	04 09 35.7 +0.1
	baz=86					
V21A	Milan	85.77	335	P	P	04 09 36.5 +0.7
	baz=86					
W18A	Petrified Fore	85.78	333	P	P	04 09 36.7 +0.8
	baz=86					
Y14A	Wickenburg	85.80	330	P	P	04 09 36.6 +0.8
	baz=86					
U23A	El Rito	85.84	336	P	P	04 09 36.8 +0.5
	baz=86,SNR=14					
S28A	Manter	85.91	340	P	P	04 09 36.2 -0.1
	baz=86,SNR=11					
SWSC	Sam W. Stewart	85.91	328	P	P	04 09 36.4 +0.1
	baz=86					
T26A	Comanche Natio	85.94	339	P	P	04 09 36.9 +0.3
	baz=86,SNR=7.2					
V20A	Brimhall	86.02	334	P	P	04 09 36.8 -0.3
	baz=86					
R31A	Burdett	86.03	342	P	P	04 09 37.3 +0.5
	baz=86					
U22A	Llaves	86.08	336	P	P	04 09 38.3 +0.9
	baz=86					
T25A	Trinidad	86.12	338	P	P	04 09 37.9 +0.4
	baz=86,SNR=13					
R30A	Dighton	86.19	341	P	P	04 09 37.7 0.0
	baz=87					
KSU1	Kansas State U	86.22	344	eP	P	04 09 36.8 -0.9
	comp=Z,14nm,1.0s					
T24B	San Luis	86.31	337	P	P	04 09 39.3 +0.7
	baz=87,SNR=6.1					
S26A	Kim	86.33	339	P	P	04 09 38.7 +0.2
	baz=87,SNR=13					
U21A	Nageezi	86.36	335	P	P	04 09 39.5 +0.7
	baz=87					
T23A	Casias Ranch,	86.46	337	P	P	04 09 40.2 +0.9
	baz=87					
R29A	Marienthal	86.52	341	P	P	04 09 39.9 +0.5
	baz=87					
U20A	Newcomb	86.57	335	P	P	04 09 40.4 +0.7
	baz=87					
R28A	Tribune	86.60	340	P	P	04 09 39.5 -0.2
	baz=87,SNR=19					
S25A	Robets Cordova	86.61	338	P	P	04 09 40.4 +0.5
	baz=87,SNR=13					
WUAZ	Wupatki	86.68	332	eP	P	04 09 41.0 +0.8
	comp=Z,5.6nm,0.9s					
WUAZ	Wupatki	86.68	332	P	P	04 09 41.5 +1.3
	baz=87,SNR=6.9					
T22A	Edith	86.68	336	P	P	04 09 41.6 +1.2
	baz=87,SNR=11					
PFO	Pinyon Flat Ob	86.75	327	P	P	04 09 41.6 +1.0
	comp=Z,62nm,1.2s,SNR=5.8					
PFO	Pinyon Flat Ob	86.75	327	eP	P	04 09 41.4 +0.8
	comp=Z,13nm,1.1s					
PFO	Pinyon Flat Ob	86.75	327	P	P	04 09 42.0 +1.4
	baz=87,SNR=7.1					
R27A	Eads	86.79	339	P	P	04 09 41.1 +0.4
	baz=87					
S24A	Houchin Ranch,	86.80	337	P	P	04 09 41.5 +0.5
	baz=87,SNR=12					
Q30A	Quinter	86.84	342	P	P	04 09 40.8 -0.1
	baz=87,SNR=5.7					
T21A	Navajo Lake	86.84	336	P	P	04 09 42.0 +0.9
	baz=87					
R26A	Arlington	86.96	339	P	P	04 09 41.9 +0.3
	baz=87,SNR=11					
MURC	Murrieta	87.03	327	P	P	04 09 42.4 +0.5
	baz=87					
R25A	Fountain Ranch	87.03	338	P	P	04 09 42.7 +0.8
	baz=87					
W13A	Hualapai Mount	87.15	330	P	P	04 09 43.3 +0.6
	baz=88					
Q28A	Sharon Springs	87.29	340	P	P	04 09 43.6 +0.5
	baz=88					
R24A	Sanders Place,	87.33	338	P	P	04 09 44.1 +0.7
	baz=88,SNR=17					
MVCO	Mesa Verde	87.33	335	P	P	04 09 44.0 +0.4
	baz=88					
S22A	4UR Ranch, Cre	87.35	336	P	P	04 09 44.4 +0.7
	baz=88,SNR=27					
P30A	Selden	87.39	342	P	P	04 09 43.7 +0.2
	baz=88					
R23A	Moffat	87.48	337	P	P	04 09 45.1 +0.8
	baz=88,SNR=8.5					
GMRC	Granite Mounta	87.50	329	P	P	04 09 45.6 +1.3
	baz=88					
S21A	Coal Bank Pass	87.54	336	P	P	04 09 45.4 +0.8
	baz=88,SNR=8.5					
Q26A	Hugo	87.57	339	P	P	04 09 44.9 +0.4
	baz=88,SNR=7.3					
P29A	Atwood	87.60	341	P	P	04 09 44.8 +0.3
	baz=88					
Q25A	Bedland, Calha	87.75	339	P	P	04 09 45.8 +0.3
	baz=88					
P28A	Saint Francis	87.76	341	P	P	04 09 45.9 +0.5
	baz=88,SNR=7.6					
BFSC	Mount Baldy Ra	87.77	327	P	P	04 09 46.5 +0.9
	baz=88,SNR=7.1					
R22A	Saguache, Gunn	87.78	337	P	P	04 09 46.7 +1.0
	baz=88,SNR=15					
HEC	Hector,Ludlow	87.79	328	P	P	04 09 47.2 +1.7
	baz=88					
U15A	North Rim	87.81	332	P	P	04 09 46.5 +0.6
	baz=88,SNR=7.2					
S20A	Disappointment	87.87	335	P	P	04 09 46.5 +0.4
	baz=88					
P27A	Ficken Ranch,	87.94	340	P	P	04 09 46.7 +0.5
	baz=88					
Q24A	Divide	88.03	338	P	P	04 09 47.5 +0.6
	baz=88					
R21A	Cimarron	88.13	336	P	P	04 09 48.6 +1.3
	baz=88,SNR=9.8					
P26A	Davis Ranch, A	88.13	339	P	P	04 09 47.3 +0.1
	baz=88					
TUQ	Turqoise Moun	88.18	329	P	P	04 09 48.7 +1.2
	baz=88,SNR=13					
R20A	Redvale	88.20	335	P	P	04 09 48.4 +0.8
	baz=89					
P25A	Willow Gulch B	88.29	339	P	P	04 09 49.0 +1.0
	baz=89,SNR=5.2					
O28A	Krutsinger Ran	88.29	341	P	P	04 09 48.1 +0.3
	baz=89					
SCIA	State Center	88.38	348	eP	P	04 09 47.7 -0.3
	comp=Z,31nm,1.0s					
GSC	Goldstone	88.39	328	eP	P	04 09 49.4 +1.0
GSC				pmax	pmax	
	comp=Z,9.0nm,1.1s					
GSC	Goldstone	88.39	328	eP	P	04 09 49.4 +1.0
	comp=Z,9.5nm,1.1s					
GSC	Goldstone	88.39	328	P	P	04 09 49.3 +1.0
	baz=89,SNR=5.4					
Q22A	Crested Butte,	88.41	337	P	P	04 09 49.4 +0.7
	baz=89,SNR=9.7					
EDW2	Edwards Air Fo	88.46	327	P	P	04 09 49.5 +0.8
	baz=89					
O27A	Beecher Island	88.52	340	P	P	04 09 49.6 +0.7
	baz=89					
P23A	Jefferson	88.60	338	P	P	04 09 50.9 +1.3
	baz=89,SNR=5.1					
SMCO	Snowmass	88.72	337	eP	P	04 09 51.1 +0.8
	comp=Z,7.5nm,1.0s					
O26A	Horse Wrangler	88.77	340	P	P	04 09 50.9 +0.8
	baz=89					
SHPR	Sheep Range	88.87	330	eP	P	04 09 51.4 +0.7
	comp=Z,51nm,1.7s					
LRMC	Laurel Mountai	88.88	327	P	P	04 09 51.9 +1.1
	baz=89					
ISCO	Idaho Springs	88.94	338	eP	P	04 09 51.0 -0.2
ISCO				pmax	pmax	
	comp=Z,30nm,2.0s					
ISCO	Idaho Springs	88.94	338	eP	P	04 09 51.0 -0.2
	comp=Z,30nm,2.0s					
ISCO	Idaho Springs	88.94	338	P	P	04 09 51.9 +0.7
	baz=89,SNR=6.3					
JFWS	Jewell Farm	88.96	350	eP	P	04 09 50.3 -0.5
JFWS				pmax	pmax	
	comp=Z,41nm,1.1s					
JFWS	Jewell Farm	88.96	350	eP	P	04 09 50.3 -0.5
	comp=Z,41nm,1.1s					
P22A	Eagle	89.05	337	P	P	04 09 52.6 +1.0
	baz=89					
N27A	Anderson Farm,	89.12	340	P	P	04 09 51.2 -0.5
	baz=90					
P21A	Newcastle	89.18	336	P	P	04 09 53.1 +0.9
	baz=90					
MPMC	Manual Prospec	89.32	328	P	P	04 09 53.5 +0.6
	baz=90					
ISA	Isabella	89.34	327	eP	P	04 09 54.2 +1.4
ISA				pmax	pmax	
	comp=Z,4.0nm,0.9s					
ISA	Isabella	89.34	327	eP	P	04 09 54.2 +1.4
	comp=Z,3.9nm,0.9s					
ISA	Isabella	89.34	327	P	P	04 09 54.3 +1.5
	baz=90					
O23A	Lake Granby, G	89.40	338	P	P	04 09 54.2 +0.9
	baz=90,SNR=7.4					
P20A	De Beque	89.42	336	P	P	04 09 54.4 +1.1
	baz=90,SNR=10					
FURC	Furnace Creek,	89.45	328	P	P	04 09 54.5 +1.3
	baz=90,SNR=6.8					
O22A	Kremmling	89.52	337	P	P	04 09 54.3 +0.4
	baz=90,SNR=8.5					
SMMC	Simmler	89.62	326	P	P	04 09 54.4 +0.2
	baz=90					
L31A	Butterfield Fa	89.63	344	P	P	04 09 54.1 +0.1
	baz=90					
MVU	Marysvale	89.67	333	eP	P	04 09 55.3 +0.7
	comp=Z,12nm,1.4s					
P19A	Cripple Cowboy	89.72	335	P	P	04 09 55.6 +0.9
	baz=90,SNR=5.8					
Q16A	Castle Valley	89.72	334	P	P	04 09 55.9 +1.1
	baz=90					
N23A	Red Feather La	90.05	338	P	P	04 09 56.9 +0.6
	baz=90,SNR=8.2					
M25A	Palm-Egli Farm	90.08	340	P	P	04 09 56.3 0.0
	baz=90					
M24A	Cheyenne	90.30	339	P	P	04 09 58.1 +0.8
	baz=91					
O19A	Miners Draw (B	90.37	336	P	P	04 10 00.1 +2.4
	baz=91					
R11A	Troy Canyon, C	90.67	330	P	P	04 10 00.3 +1.1
	baz=91,SNR=5.7					
K28A	Ten Mile Ranch	90.67	342	P	P	04 09 59.3 +0.4
	baz=91					
M22A	Cedar Creek Ra	90.70	338	P	P	04 09 59.1 -0.2
	baz=91					
ECSD	EROS Data Cent	90.71	345	eP	P	04 09 57.9 -1.1
	comp=Z,16nm,1.0s					
K27A	Flueckinger Fa	90.85	341	P	P	04 09 59.8 +0.1
	baz=91					
L23A	Garrett	91.13	339	P	P	04 10 01.3 +0.1
	baz=92					
TORD	Torodi Ar. Bea	91.13	72	P	P	04 10 00.2 -1.4
TORD	Torodi Ar. Bea	91.13	72	P	P	04 10 00.2 -1.4
	comp=Z,1.0nm,1.0s,baz=175,slow=2.0,SNR=4.1					
TORD				LR	LR	04 47 56.7
	comp=Z,156nm,18.9s,baz=250,slow=34					
K25A	Mack Ranch, Ha	91.15	340	P	P	04 10 01.6 +0.4
	baz=92					
J28A	Allard Ranch,	91.32	342	P	P	04 10 01.7 -0.2
	baz=92					
J27A	Elkhorn Farm,	91.32	342	P	P	04 10 02.0 +0.1
	baz=92					
DUG	Dugway	91.40	333	P	P	04 10 02.2 -0.2
	baz=92					
J26A	Sides Ranch, S	91.62	341	P	P	04 10 03.2 -0.1
	baz=92					
K23A	Bowen Ranch, D	91.71	339	P	P	04 10 03.5 -0.3
	baz=92,SNR=5.2					
NVAR	Mina Array Bea	91.71	328	P	P	04 10 03.5 -0.5
NVAR	Mina Array Bea	91.71	328	P	P	04 10 03.5 -0.5
	comp=Z,2.0nm,0.9s,baz=160,slow=5.8,SNR=11					
DZM	Mont Dzumac	91.80	236	eLR	LR	04 39 28.6
	comp=Z,272nm,29.1s					
K22A	Casper	91.84	338	P	P	04 10 04.6 +0.1
	baz=92,SNR=7.5					
I28A	Midland	91.86	342	P	P	04 10 03.8 -0.5
	baz=92					
I27A	Quinn	92.11	342	P	P	04 10 05.6 +0.1
	baz=92					
K20A	Yellowstone Ra	92.34	337	P	P	04 10 07.3 +0.5
	baz=93					
I25A	Rochford	92.44	341	P	P	04 10 07.4 +0.2
	baz=93					
G30A	Faulkton	92.53	344	P	P	04 10 06.1 -1.2
	baz=93					
K19A	Absolon Red Bu	92.63	337	P	P	04 10 07.3 -0.8
	baz=93					
H27A	Howes	92.65	342	P	P	04 10 07.8 -0.2
	baz=93					
J21A	Lysite	92.73	338	P	P	04 10 08.0 -0.6
	baz=93					
PDAR	Pinedale Array	92.78	336	P	P	04 10 07.8 -1.1
PDAR	Pinedale Array	92.78	336	P	P	04 10 07.8 -1.1
	comp=Z,1.4nm,1.1s,baz=158,slow=4.8,SNR=6.2					
PDAR				LR	LR	04 47 39.9
	comp=Z,112nm,20.2s,baz=351,slow=33					
G28A	Parade	92.83	343	P	P	04 10 08.3 -0.5
	baz=93					
H25A	Fruitdale	92.98	341	P	P	04 10 09.7 +0.1
	baz=93					
I22A	9 Mile Ranch,	93.00	339	P	P	04 10 08.6 -1.1
	baz=93					
J19A	Crowheart	93.10	337	P	P	04 10 10.6 +0.3
	baz=94					

I21A	**Big Trails, Te**	93.13	338	P	**P**	04 10 09.6	-0.8
	baz=94						
F30A	**Leola**	93.19	344	P	**P**	04 10 09.8	-0.6
	baz=94						
H24A	**Dirks Ranch, A**	93.32	340	P	**P**	04 10 10.7	-0.4
	baz=94						
F29A	**Eureka**	93.34	344	P	**P**	04 10 09.7	-1.3
	baz=94						
G25A	**Newell**	93.48	341	P	**P**	04 10 10.7	-1.2
	baz=94						
G27A	**Dupree**	93.55	342	P	**P**	04 10 10.2	-1.9
	baz=94						
I18A	**Diamond G Ranc**	93.71	336	P	**P**	04 10 12.8	-0.3
	baz=94						
E30A	**Jud**	93.81	345	P	**P**	04 10 13.1	-0.1
	baz=94						
F26A	**Lodgepole**	93.94	342	P	**P**	04 10 13.3	-0.6
	baz=94						
G23A	**Biddle**	93.95	340	P	**P**	04 10 13.3	-0.7
	baz=94						
D30A	**Buchanan**	94.36	345	P	**P**	04 10 15.3	-0.4
	baz=95						
F23A	**Volborg**	94.44	340	P	**P**	04 10 15.6	-0.6
	baz=95						
G20A	**Bridger**	94.68	338	P	**P**	04 10 16.6	-0.9
	baz=95						
STKA	**Stephens Creek**	95.56	212	P	**P**	04 10 19.7	-2.2
STKA	**Stephens Creek**	95.56	212	P	**P**	04 10 19.7	-2.2
	comp=Z,4.5nm,1.0s,baz=109,slow=8.1,SNR=4.1						
PMG	**Port Moresby**	112.75	228	*e*PKP	**PKiKP**	04 15 32.9	-0.8
ESK	**Eskdalemuir**	117.90	38	*e*PKIKP	**PKPdf**	04 15 42.6	+0.4
ESK	**Eskdalemuir**	117.90	38	*e*PKPdf	**PKPdf**	04 15 42.6	+0.4
WLF	**Walferdange**	118.81	47	*e*PKIKP	**PKPdf**	04 15 44.3	+0.1
WLF	**Walferdange**	118.81	47	*e*PKPdf	**PKPdf**	04 15 44.2	+0.1
RES	**Resolute Bay**	120.60	354	*e*PKPdf	**PKPdf**	04 15 47.0	+0.1
GERES	**GERESS Array B**	122.36	51	PKP	**PKPdf**	04 15 50.0	-1.2
GERES	**GERESS Array B**	122.36	51	PKP	**PKPdf**	04 15 50.0	-1.2
	comp=Z,1.1nm,0.8s,baz=219,slow=0.9,SNR=6.9						
ILAR	**Eielson Array**	122.85	331	PKP	**PKPdf**	04 15 50.1	-1.4
ILAR	**Eielson Array**	122.85	331	PKP	**PKPdf**	04 15 50.1	-1.4
	comp=Z,0.6nm,0.8s,baz=189,slow=3.0,SNR=8.0						
COLA	**College**	123.24	331	*i* PKIKP	**PKPdf**	04 15 56.3	+4.1
CLL	**Collm**	123.33	49	LmV		04 17 00.0	
	comp=Z,100nm,18.1s						
MORC	**Moravsky Berou**	124.98	52	*e*PKIKP	**PKPdf**	04 15 56.3	+0.2
MORC	**Moravsky Berou**	124.98	52	*e*PKPdf	**PKPdf**	04 15 56.3	+0.2
VYHS	**Vyhne**	125.04	54	*e*PKIKP	**PKPdf**	04 15 57.7	+1.5
VYHS				*e*		04 17 49.5	
VYHS	**Vyhne**	125.04	54	*e*PKP	**PKPdf**	04 15 57.7	+1.5
VYHS				*e*PP	**PP**	04 17 49.5	+3.5
KECS	**Kecovo**	125.97	55	*e*PKIKP	**PKPdf**	04 16 02.5	+4.5
KECS	**Kecovo**	125.97	55	*e*PKP	**PKPdf**	04 16 02.4	+4.5
STHS	**Stebnicka Huta**	126.88	54	*e*PKIKP	PKPdf	04 16 05.9	+6.2
STHS	**Stebnicka Huta**	126.88	54	*e*PKP	PKPdf	04 16 05.9	+6.2
CSS	**Prodhromos**	126.93	75	*e*PKPdf	**PKPdf**	04 16 00.4	+0.1
NAO01	**NORSAR Array S**	127.18	38	*e*PKPdf	**PKPdf**	04 16 00.1	+0.2
KAPI	**Kappang**	127.61	200	*e*PKPdf	**PKPdf**	04 16 00.6	-1.7
BUR08	**Bucovina Ar. S**	128.31	58	*e*PKPdf	**PKPdf**	04 16 02.9	+0.3
BR131	**Keskin Array S**	129.70	70	*e*PKPdf	**PKPdf**	04 16 05.8	+0.2
BRTR	**Keskin Array B**	129.70	70	PKP	**PKPdf**	04 16 04.4	-1.2
BRTR	**Keskin Array B**	129.70	70	PKP	**PKPdf**	04 16 04.4	-1.2
	comp=Z,0.9nm,0.9s,baz=142,slow=4.2,SNR=4.6						
KIEV	**Kiev**	132.03	56	*e*PKIKP	**PKPdf**	04 16 08.5	-0.9
KIEV	**Kiev**	132.03	56	*e*PKPdf	**PKPdf**	04 16 08.5	-0.9
FINES	**FINESS Array B**	134.20	41	PKP	**PKPdf**	04 16 13.0	-0.1
FINES	**FINESS Array B**	134.20	41	PKP	**PKPdf**	04 16 13.0	-0.1
	comp=Z,1.4nm,0.8s,baz=39,slow=7.1,SNR=3.1						
KIV	**Kislovodsk**	137.64	70	*e*PKIKP	**PKPdf**	04 16 21.5	+1.2
KIV				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KULM	**Kulim**	139.80	175	*e*PKPdf	**PKPdf**	04 16 24.8	-0.3
KLMR	**Klimovskoe**	140.44	44	*e*PKIKP	**PKPdf**	04 16 25.4	+0.7
KLMR				pmax	pmax		
	comp=Z,21nm,1.5s						
MAK	**Makhachkala**	140.44	73	*e*PKIKP	PKPdf	04 16 43.9	+19
ITEG	**Tejag**	143.49	94	*e*P	PKPab	04 16 27.1	-0.6
IDAH	**Dahanechah**	144.19	95	*e*P	**PKPab**	04 16 30.3	-0.1
PETK	**Petropavlovsk-**	144.70	302	PKIKP	**PKPab**	04 16 29.8	-1.6
PETK	**Petropavlovsk-**	144.70	302	PKP	**PKPab**	04 16 29.8	-1.6
PETK	**Petropavlovsk-**	144.70	302	PKP	**PKPab**	04 16 29.8	-1.6
	comp=Z,8.2nm,1.0s,baz=58,slow=8.8,SNR=4.6						
HYB	**Hyderabad**	145.02	135	*i* PKP	**PKPbc**	04 16 33.0	-0.5
ISFR	**Sfrayin**	145.11	88	*e*P	**PKPbc**	04 16 33.1	-0.6
IKRD	**Kardeh**	145.34	88	*e*P	**PKPbc**	04 16 34.4	0.0
IAKL	**Akhelmad**	145.43	89	*e*P	**PKPdf**	04 16 34.0	-0.7
IPAY	**Payeh**	145.52	89	*e*P	**PKPdf**	04 16 33.7	-1.1
IEMG	**Emamgholi**	145.74	88	*e*P	**PKPdf**	04 16 34.3	-0.9
ISRO	**Mashad**	145.78	90	*e*P	**PKPdf**	04 16 33.7	-1.4
IMYA	**Miami**	146.24	90	*e*P	**PKPdf**	04 16 36.0	0.0
SOKR	**Solikamsk**	149.02	46*c*	*i* PKP2	**PKPbc**	04 16 45.2	+1.6
SOKR				pmax	pmax		
	comp=Z,30nm,0.9s						
AKTO	**Aktyubinsk**	149.50	64	PKP2	**PKPbc**	04 16 44.8	-0.4
AKTO	**Aktyubinsk**	149.50	64	PKPbc	**PKPbc**	04 16 44.8	-0.4
AKTO	**Aktyubinsk**	149.50	64	PKPbc	**PKPbc**	04 16 44.8	-0.4
	comp=Z,9.3nm,1.1s,baz=258,slow=2.4,SNR=19						
ARU	**Arti**	150.18	52	*i* PKIKP	**PKPbc**	04 16 46.8	+0.2
SVE	**Sverdlovsk**	151.30	51	*e*PKIKP	**PKPbc**	04 16 51.1	+1.9
SVE				pmax	pmax		
	comp=Z,32nm,1.5s						
MJAR	**Matsushiro Arr**	152.56	263	PKPbc	**PKPbc**	04 16 50.2	-2.6
MJAR	**Matsushiro Arr**	152.56	263	PKPbc	**PKPbc**	04 16 50.2	-2.6
	comp=Z,2.4nm,0.9s,baz=184,slow=4.4,SNR=4.7						
MAJO	**Matsushiro**	152.56	263	*e*PKIKP	**PKPdf**	04 16 45.1	-0.7
MAJO				*e*		04 16 51.3	
MAJO	**Matsushiro**	152.56	263	*e*PKPdf	**PKPdf**	04 16 45.0	-0.7
MAJO				*e*PKPbc	**PKPbc**	04 16 51.3	-1.5
CMAR	**Chiang Mai Arr**	152.69	170	PKPbc	**PKPbc**	04 16 53.5	0.0
CMAR	**Chiang Mai Arr**	152.69	170	PKPbc	**PKPbc**	04 16 53.5	0.0
	comp=Z,2.0nm,0.4s,baz=217,slow=3.0,SNR=4.1						
KKAR	**Karatay Array**	156.30	84	*e*PKIKP	**PKPdf**	04 16 50.9	+0.1
KKAR	**Karatay Array**	156.30	84	*e*PKPdf	**PKPdf**	04 16 50.9	+0.1
KKAR				*e*PKPab	**PKPab**	04 17 19.6	+0.5
BVAR	**Borovoye Array**	157.26	59	PKIKP	**PKPdf**	04 16 51.6	-0.1
BVAR	**Borovoye Array**	157.26	59	PKP	**PKPdf**	04 16 51.6	-0.1
BVAR	**Borovoye Array**	157.26	59	PKP	**PKPdf**	04 16 51.6	-0.1
	comp=Z,0.6nm,0.6s,baz=173,slow=1.2,SNR=3.1						
EKS2	**Erkin-Say**	158.46	87	*e*PKIKP	**PKPdf**	04 16 53.8	+0.1
EKS2				*e*		04 17 29.4	
EKS2	**Erkin-Say**	158.46	87	*e*PKPdf	**PKPdf**	04 16 53.8	+0.1
EKS2				*e*PKPab	**PKPab**	04 17 29.4	+0.8
KSH	**Kashi**	158.83	97	*e*PKP	**PKPdf**	04 16 55.4	+1.2
KSH				PKS	**PKSdf**	04 20 28.2	+0.3
KSH				PP	**PP**	04 21 13.5	+2.0
KSH				SKS	**SKSdf**	04 24 00.0	+1.0
KSH				SKKS	**SKKSac**	04 28 00.5	+1.3
KSH				SS	**SS**	04 41 13.3	-1.0
KSH				AMB	AMB		
	comp=Z,92nm,4.2s						
KSH				LR	LR		
	comp=N,77nm,4.7s						
KSH				LR	LR		
	comp=E,66nm,5.2s						
KSH				LR	LR		
	comp=Z,130nm,5.0s						
AAK	**Ala-Archa**	158.95	88	*e*PKIKP	**PKPdf**	04 16 54.6	+0.2
AAK				*e*		04 17 31.2	
AAK	**Ala-Archa**	158.95	88	*e*PKPdf	**PKPdf**	04 16 54.6	+0.2
AAK				PKP	**PKPdf**	04 16 54.8	+0.5
AAK				*e*PKPab	**PKPab**	04 17 31.2	+0.4
AAK	**Ala-Archa**	158.95	88	PKP	**PKPdf**	04 16 54.8	+0.5
	comp=Z,0.6nm,0.3s,baz=220,slow=7.9,SNR=1.9						
AAK				PKPab	**PKPab**	04 17 31.2	+0.4
	comp=Z,1.0nm,0.3s,baz=18,slow=3.2,SNR=4.1						
KMI	**Kunming**	159.59	178	PKP	**PKPdf**	04 16 56.5	+0.8
TKM2	**Tokmak 2**	159.81	88	*e*PKIKP	**PKPdf**	04 16 55.1	-0.3
TKM2				*e*		04 17 35.0	
TKM2	**Tokmak 2**	159.81	88	*e*PKPdf	**PKPdf**	04 16 55.1	-0.3
TKM2				*e*PKPab	**PKPab**	04 17 35.0	+0.4
GYA	**Guiyang**	160.77	188	PKP	**PKPdf**	04 16 56.0	-0.8
GYA				PKPab	**PKPab**	04 17 40.8	+2.0
GYA				PKS	**PKSdf**	04 20 27.5	-2.9
GYA				SKKS		04 28 10.5	
GYA				SS	**SS**	04 41 33.9	+1.4
GYA				AMB	AMB		
	comp=Z,120nm,7.8s						
GYA				LR	LR		
	comp=N,130nm,22.0s						
GYA				LR	LR		
	comp=E,120nm,23.7s						
GYA				LR	LR		
	comp=Z,140nm,21.9s						
MDJ	**Mudanjiang**	161.64	276	PKP	**PKPdf**	04 16 57.5	+0.5
MDJ				AMB	AMB		
	comp=Z,110nm,7.1s						
MDJ				LR	LR		
	comp=N,58nm,21.4s						
MDJ				LR	LR		
	comp=E,60nm,21.4s						
MDJ				LR	LR		
	comp=Z,120nm,21.4s						
KURBB	**Kurchatov Arra**	162.55	64	PKP	**PKPdf**	04 16 57.8	+0.1
	comp=Z,0.3nm,0.3s,baz=271,slow=1.6,SNR=5.6						
KURBB				PKPab	**PKPab**	04 17 45.9	-0.1
	comp=Z,1.2nm,0.7s,baz=283,slow=4.7,SNR=7.0						
KURK	**Kurchatov**	162.59	64	PKIKP	**PKPdf**	04 16 57.8	0.0
KURK						04 17 45.9	
KURK	**Kurchatov**	162.59	64	PKP	**PKPdf**	04 16 57.8	0.0
KURK				PKPab	**PKPab**	04 17 45.9	-0.3
CN2	**Changchun**	164.36	271	*e*PKP	**PKPdf**	04 17 00.8	+1.1
MKAR	**Makanchi Array**	165.19	78	PKIKP	**PKPdf**	04 17 00.1	-0.2
MKAR	**Makanchi Array**	165.19	78	PKP	**PKPdf**	04 17 00.1	-0.2
MKAR				PKPab	**PKPab**	04 17 58.1	+0.3
MKAR	**Makanchi Array**	165.19	78	PKP	**PKPdf**	04 17 00.1	-0.2
	comp=Z,1.0nm,1.0s,baz=8.5,slow=2.5,SNR=4.1						
MKAR				PKPab	**PKPab**	04 17 58.1	+0.3
	comp=Z,2.4nm,1.0s,baz=290,slow=3.6,SNR=8.5						
ZAA0	**Zalesovo Array**	165.29	49	*e*PKPdf	**PKPdf**	04 16 58.3	-1.8
ZALV	**Zalesovo Beam**	165.29	49	PKIKP	**PKPdf**	04 16 58.6	-1.5
ZALV	**Zalesovo Beam**	165.29	49	PKP	**PKPdf**	04 16 58.5	-1.5
ZALV				PKPab	**PKPab**	04 17 59.4	+1.5
ZALV	**Zalesovo Beam**	165.29	49	PKP	**PKPdf**	04 16 58.5	-1.5
	comp=Z,3.0nm,0.9s,baz=264,slow=1.5,SNR=7.9						
ZALV				PKPab	**PKPab**	04 17 59.4	+1.5
	comp=Z,0.4nm,0.3s,baz=289,slow=4.4,SNR=2.9						
CD2	**Chengdu**	165.36	181	PKP	**PKPdf**	04 17 00.5	-0.5
CD2				pPKP	**pPKPdf**	04 17 11.3	+4.4
CD2				sPKP		04 17 14.9	
CD2				PKS	**PKSdf**	04 20 31.9	-2.0
CD2				PP	**PP**	04 21 48.0	+3.1
CD2				SKS	**SKSdf**	04 24 02.0	-2.4
CD2				SKKS	**SKKSac**	04 28 32.7	+0.3
CD2				SS	**SS**	04 42 21.2	+1.4
CD2				AMB	AMB		
	comp=Z,130nm,10.7s						
CD2				LR	LR		
	comp=N,350nm,9.5s						
CD2				LR	LR		
	comp=Z,400nm,11.3s						
WMQ	**Urumqi**	168.55	93	*e*PKP	**PKPdf**	04 17 04.4	+1.4
WMQ				LR	LR		
	comp=N,76nm,20.5s						
WMQ				LR	LR		
	comp=E,150nm,25.8s						
WMQ				LR	LR		
	comp=Z,94nm,21.8s						
LZH	**Lanzhou**	170.53	181	*e*PKP	**PKPdf**	04 17 00.4	-4.2
LZH				LR	LR		
	comp=N,120nm,18.0s						
LZH				LR	LR		
	comp=E,120nm,19.1s						
LZH				LR	LR		
	comp=Z,150nm,20.3s						
HHC	**Hu-ho-hao-te**	172.51	234	*e*PKP	**PKPdf**	04 17 05.6	+0.3
HHC				PKS	**PKSdf**	04 20 36.5	-1.1
HHC				PP	**PP**	04 22 24.0	+2.0
HHC				SKS	**SKSdf**	04 24 07.4	-0.3
HHC				SKKS	**SKKSac**	04 29 10.0	+2.4
HHC				SS	**SS**	04 43 33.0	+0.2
HHC				AMB	AMB		
	comp=Z,63nm,5.6s						
HHC				LR	LR		
	comp=N,290nm,21.4s						
HHC				LR	LR		
	comp=E,380nm,22.0s						
HHC				LR	LR		
	comp=Z,390nm,22.8s						
GTA	**Gaotai**	173.24	154	PKP	**PKPdf**	04 17 08.3	+2.6
GTA				pPKP	pPKPdf	04 17 19.2	+7.6
GTA				sPKP		04 17 22.5	
SONM	**Songino Array**	177.02	321	PKP	**PKPdf**	04 17 04.3	-2.2
SONM				PKPab	PKPab	04 18 48.6	-1.7
SONM				PP	**PP**	04 22 47.9	+4.4
SONM	**Songino Array**	177.02	321	PKP	**PKPdf**	04 17 04.3	-2.2
	comp=Z,0.2nm,0.4s,baz=331,slow=1.9,SNR=3.9						
SONM				PKPab	PKPab	04 18 48.6	-1.7
	comp=Z,1.1nm,0.9s,baz=46,slow=4.2,SNR=6.3						
SONM				PP	**PP**	04 22 47.9	+4.4
	comp=Z,0.2nm,0.5s,baz=50,slow=2.3,SNR=3.7						

*IDC **12** 04:04:35.3±6.2, 38°.22N×73°.93E, h126km±56km, mb3.3/2, mb1 3.1/7, mb1mx2.9/31, mbtmp3.0/7, Error ellipse: s-maj=54.3km s-min=49.4km az=130.0*
*ISCJB **12** 04:04:37.4±1.3, 38°.44N±0°.09×73°.6E±0°.1, h140km, mb3.5/2, Error ellipse: s-maj=15.0km s-min=11.1km az=43.9*
*NNC **12** 04:04:41.7±7.2, 39°.00N×73°.05E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=57.3km s-min=35.6km az=174.0*

ISC 12 04:04:37.8±1.9, 38°.4N±0°.1×73°.6E±0°.1, h140km, n15, σ1§34/17, 3C-3D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.70**	**1**	P	**Pn**	**04 05 35.5**	**+1.3**
	SNR=9.1						
KZA	**Kyzart**	**3.86**	**18**	P	**Pn**	**04 05 36.9**	**+0.6**
	SNR=21						
EKS2	**Erkin-Say**	**4.24**	**2**	P	**Pn**	**04 05 42.8**	**+1.9**
	SNR=12						
AAK	**Ala-Archa**	**4.26**	**9**	P	**Pn**	**04 05 41.5**	**+0.3**
	0.7nm,0.3s,baz=176,slow=13,SNR=5.1						
AAK				S	**Sn**	**04 06 32.3**	**+1.7**
	1.5nm,0.3s,baz=23,slow=18,SNR=9.6						
ULHL	**Ulahol**	**4.31**	**27**	P	**Pn**	**04 05 43.1**	**+1.1**
	SNR=8.5						
TKM2	**Tokmak 2**	**4.74**	**18**	⇑Pn	**Pn**	**04 05 48.5**	**+0.8**
	4.6nm,0.7s						
TKM2				⇓Sn	**Sn**	**04 06 41.3**	**-0.8**
	4.0nm,0.6s						
TKM2				⇓Lg	Lg	04 06 57.2	
	6.3nm,0.7s						
TKM2	**Tokmak 2**	**4.74**	**18**	P	**Pn**	**04 05 48.8**	**+1.2**
	SNR=7.2						
KK31	**Karatay Array**	**5.23**	**334**	⇑Pn	**Pn**	**04 05 55.4**	**+1.3**
	0.5nm,0.2s,baz=156,slow=13,SNR=16						
KK31				Sn	**Sn**	**04 06 51.8**	**-1.9**
	9.2nm,0.4s,baz=162,slow=26,SNR=15						
MKAR	**Makanchi Array**	**10.52**	**35**	P	**Pn**	**04 07 03.4**	**-1.4**
	0.1nm,0.3s,baz=217,slow=16,SNR=3.8						
KURBB	**Kurchatov Arra**	**12.69**	**14**	P	**Pn**	**04 07 31.3**	**-1.8**
	0.1nm,0.3s,baz=199,slow=12,SNR=3.1						
AB08	**Akbulak array**	**14.62**	**322**	⇑Pn	**P**	**04 07 58.9**	**-1.3**
	0.7nm,0.9s						
AB08				⇓Sn	Sn	04 10 31.6	-7.9
	0.6nm,0.7s						
BVAR	**Borovoye Array**	**14.77**	**352**	P	**Pn**	**04 07 59.6**	**0.0**
	0.1nm,0.3s,baz=161,slow=11,SNR=2.2						
ZALV	**Zalesovo Beam**	**17.32**	**23**	P	**Pn**	**04 08 30.0**	**-0.7**
	0.4nm,0.3s,baz=215,slow=12,SNR=5.1						
FINES	**FINESS Array B**	**37.10**	**324**	P	P	04 11 36.2	+2.0
	2.3nm,1.0s,baz=110,slow=12,SNR=3.2						
TORD	**Torodi Ar. Bea**	**67.83**	**269**	P	**P**	**04 15 21.5**	**+0.5**
	0.2nm,0.3s,baz=47,slow=6.3,SNR=7.7						

TAP 12 04:12:13.9, 22°.01N×120°.40E, h53km±1km, ML3.5, 3D, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEN	**Hengchun**	**0.31**	**91**	⇓*i*P	Pn	04 12 23.7	+0.3
	baz=91						
HEN				*i* S	Sn	04 12 30.9	+0.7
	baz=91						
TWP	**Hsiaoliuchiu**	**0.33**	**354**	*e*P	Pn	04 12 23.9	+0.3
	baz=354						
TWP				S	Sn	04 12 31.8	+1.3
	baz=354						
TWK1	**Hengchun**	**0.38**	**100**	⇓*i*P	Pn	04 12 24.6	+0.6
	baz=100						
TWK1				*i* S	Sn	04 12 32.3	+1.0
	baz=100						
SCZT	**Fangliau**	**0.41**	**29**	⇓*i*P	Pn	04 12 24.1	-0.2
	baz=30						
SCZT				*e*S	Sn	04 12 31.4	-0.5
	baz=30						
TSEB	**Hengchuen, Pin**	**0.48**	**103**	P	Pn	04 12 25.4	+0.4
	baz=104						
TSEB				S	Sn	04 12 33.9	+0.8
	baz=104						
KAU	**Kaohsiung**	**0.56**	**351**	*e*P	Pn	04 12 26.6	+0.5
	baz=351						
KAU				*e*S	Sn	04 12 36.2	+1.5
	baz=351						
TAW	**Tawu**	**0.57**	**53**	*e*P	Pn	04 12 26.4	+0.2
	baz=53						
SGLT	**Jiouru**	**0.71**	**7**	*e*P	Pn	04 12 27.9	0.0
	baz=7.0						
SGLT				*e*S	Sn	04 12 41.1	+2.9
	baz=7.0						
TWM1	**Shoushan**	**0.81**	**1**	*e*P	Pn	04 12 30.0	+0.8
	baz=1.0						
TWG	**Pinlang**	**1.02**	**38**	P	Pn	04 12 33.1	+1.1
	baz=38						
TWG				S	Sn	04 12 46.5	+1.3
	baz=38						
TAI1	**Yung-k'ang**	**1.04**	**351**	*e*P	Pn	04 12 34.5	+2.4
	baz=351						
LAY	**Lan-yu**	**1.07**	**88**	*e*P	Pn	04 12 32.7	+0.1
	baz=88						
LAY				*e*S	Sn	04 12 47.7	+1.2
	baz=88						
SGST	**Jiashian**	**1.08**	**9**	*e*P	Pn	04 12 33.2	+0.4
	baz=9.0						
SGST				*e*S	Sn	04 12 47.6	+0.8
	baz=9.0						
CHN1	**Nanshi**	**1.17**	**6**	*e*P	Pn	04 12 34.9	+0.8
	baz=5.0						
CHN1				*e*S	Sn	04 12 49.5	+0.5
	baz=5.0						
SCLT	**Jiali**	**1.17**	**351**	*e*P	Pn	04 12 35.0	+1.0
	baz=350						
SCLT				*e*S	Sn	04 12 49.8	+0.8
	baz=350						
WTP	**Ta-pu**	**1.24**	**9**	*e*P	Pn	04 12 35.7	+0.7
	baz=9.0						
WTP				*e*S	Sn	04 12 51.8	+1.0
	baz=9.0						
ELDTW	**Lidau**	**1.30**	**26**	*e*P	Pn	04 12 37.0	+1.1
	baz=26						
ELDTW				*e*S	Sn	04 12 53.5	+1.1
	baz=26						
CHN4	**Tsaushan**	**1.34**	**8**	*e*P	Pn	04 12 37.2	+0.9
	baz=7.0						
CHN4				*e*S	Sn	04 12 53.8	+0.6
	baz=7.0						
CHKT	**Chengkung**	**1.40**	**39**	*e*P	Pn	04 12 36.8	-0.3
	baz=39						
CHKT				*e*S	Sn	04 12 56.5	+2.0
	baz=39						
WDGT	**Dungji**	**1.42**	**331**	*e*P	Pn	04 12 37.2	-0.2
	baz=331						
WDGT				*e*S	Sn	04 12 53.8	-1.1
	baz=331						
TWF1	**Yuli**	**1.57**	**32**	*e*P	Pn	04 12 41.1	+1.7
	baz=32						
TWF1				S	Sn	04 13 00.3	+1.6
	baz=32						
CHN5	**Tsauling**	**1.60**	**9**	*e*P	Pn	04 12 40.8	+0.9
	baz=9.0						
CHN5				S	Sn	04 13 00.5	+1.0
	baz=9.0						
WSF	**Szhu**	**1.63**	**354**	*e*P	Pn	04 12 40.3	+0.1
	baz=354						
WSF				*e*S	Sn	04 13 00.6	+0.6
	baz=354						
WGK	**Gukeng**	**1.67**	**5**	*e*P	Pn	04 12 43.3	+2.5
	baz=5.0						
WGK				*e*S	Sn	04 13 02.3	+1.2
	baz=5.0						
EHY	**Hungye**	**1.71**	**30**	*e*P	Pn	04 12 42.1	+0.7
	baz=29						
EHY				S	Sn	04 13 04.1	+1.9
	baz=29						
PNG	**Penghu**	**1.73**	**333**	*e*P	Pn	04 12 41.4	-0.2
	baz=333						
PNG				*e*S	Sn	04 13 02.5	-0.1
	baz=333						
SMLT	**Sun Moon Lake**	**1.92**	**14**	*e*P	Pn	04 12 45.2	+0.9
	baz=14						
SMLT				*e*S	Sn	04 13 08.5	+1.1
	baz=14						
TYC	**Yuchr**	**1.93**	**12**	*e*P	Pn	04 12 45.8	+1.5
	baz=12						
TYC				*e*S	Sn	04 13 07.8	+0.4
	baz=12						
WHF	**Hehuan Shan**	**2.27**	**20**	*e*P	Pn	04 12 51.1	+1.6
	baz=20						
WHF				*e*S	Sn	04 13 17.5	+0.8
	baz=20						
TWT	**Tachien**	**2.34**	**18**	*e*P	Pn	04 12 52.2	+2.0
	baz=17						
TWT				*e*S	Sn	04 13 18.6	+0.7
	baz=17						
TWQ1	**Liyutan**	**2.35**	**8**	*e*P	Pn	04 12 51.4	+1.3
	baz=8.0						
TWQ1				*e*S	Sn	04 13 18.4	+0.7
	baz=8.0						
NNS	**Nan Shan**	**2.58**	**20**	*e*P	Pn	04 12 56.0	+2.7
	baz=20						
NNS				*e*S	Sn	04 13 25.5	+1.9
	baz=20						
ENA	**Nanau**	**2.70**	**27**	*e*P	Pn	04 12 57.0	+2.1
	baz=27						
ENA				*e*S	Sn	04 13 27.7	+1.4
	baz=27						
NSK	**Sanguang**	**2.

0.3nm,0.1s,SNR=7.9
CSOR Lg Lg 04 24 34.4
2.7nm,0.1s,SNR=7.9
GRBF Gourbit 0.50 71 Pg Pg 04 24 31.8 0.0
GRBF Lg Lg 04 24 37.5
EPF Esparros 0.54 311 *e*Pg Pg 04 24 32.4 -0.2
EPF *e*Sg Sg 04 24 39.8 0.0
5.7nm,0.3s
EPF Esparros 0.54 311 Pg Pg 04 24 32.4 -0.2
EPF *e*Sg Sg 04 24 39.8 0.0
2.8nm,0.3s
EBIE Bielsa 0.56 271 Pg Pg 04 24 33.2 0.0
EBIE Lg Lg 04 24 41.5
0.1nm,0.3s,SNR=7.9
0.8nm,0.2s,SNR=7.9
EBIE Bielsa 0.56 271 Pg Pg 04 24 33.2 0.0
EBIE Lg Lg 04 24 41.5
0.1nm,0.3s,SNR=7.9
0.8nm,0.2s,SNR=7.9
CLLI Llivia 0.82 104 Pg Pg 04 24 38.0 -0.1
CLLI Lg Lg 04 24 50.0
0.1nm,0.1s,SNR=7.9
0.1nm,0.3s,SNR=7.9
CLLI Llivia 0.82 104 Pg Pg 04 24 38.0 0.0
CLLI Lg Lg 04 24 50.0
0.1nm,0.1s,SNR=7.9
0.1nm,0.3s,SNR=7.9
ETSF Etsaut 1.09 282 *e*Pg Pn 04 24 43.7 +0.2
ETSF *e*Sg Sb 04 24 57.9 +0.3
1.8nm,0.2s
ETSF Etsaut 1.09 282 Pg Pn 04 24 43.7 +0.2
ETSF *e*Sg Sb 04 24 57.9 +0.3
0.9nm,0.2s
MTLF Montolieu 1.17 55 *e*Pg Pg 04 24 45.1 +0.5
MTLF *e*Sg Sg 04 25 00.0 +0.2
2.7nm,0.3s
MTLF Montolieu 1.17 55 Pg Pg 04 24 45.1 +0.5
MTLF *e*Sg Sg 04 25 00.0 +0.2
1.4nm,0.3s
EPOB Poblet 1.33 174 Pg Pb 04 24 47.4 +0.2
EPOB Lg Lg 04 25 06.3
0.2nm,0.1s,SNR=7.9
1.0nm,0.1s,SNR=7.9
EPOB Poblet 1.33 174 Pg Pb 04 24 47.4 +0.2
EPOB Lg Lg 04 25 06.3
0.2nm,0.1s,SNR=7.9
1.0nm,0.1s,SNR=7.9
ESAC San Caprasio 1.40 227 Pg Pb 04 24 48.6 +0.3
ESAC Lg Lg 04 25 09.1
1.5nm,0.2s,SNR=7.9
3.9nm,0.2s,SNR=7.9
ESAC San Caprasio 1.40 227 Pg Pb 04 24 48.6 +0.3
ESAC Lg Lg 04 25 09.1
1.5nm,0.2s,SNR=7.9
3.9nm,0.2s,SNR=7.9
CFON Fontmartina 1.47 128 Pg Pg 04 24 51.0 +0.7
CFON Lg Lg 04 25 10.2
0.6nm,0.2s,SNR=7.9
2.0nm,0.2s,SNR=7.9
CFON Fontmartina 1.47 128 Pg Pg 04 24 51.0 +0.7
CFON Lg Lg 04 25 10.2
0.6nm,0.2s,SNR=7.9
2.0nm,0.2s,SNR=7.9
IELO Elcoad 1.58 277 Pg Pg 04 24 52.3 -0.1
IELO Lg Lg 04 25 14.6
0.1nm,0.3s,SNR=7.9
0.8nm,0.2s,SNR=7.9
IELO Elcoad 1.58 277 Pg Pg 04 24 52.3 -0.1
IELO Lg Lg 04 25 14.6
0.1nm,0.3s,SNR=7.9
0.8nm,0.2s,SNR=7.9
LASF Ste Croix 2.57 56 *e*Sg Sg 04 25 43.3 -1.3
0.4nm,0.2s
LASF Ste Croix 2.57 56 *e*Sg Sg 04 25 43.3 -1.3
0.2nm,0.2s

IDC ***12*** *04:43:25.0±0.5, 8.°60N×93.°84E, h0km, mb4.1/22, mb1 4.3/23, mb1mx4.2/30, mbtmp4.1/23, ML3.8/1, MS3.9/12, Ms1 3.9/12, ms1mx3.5/48, Error ellipse: s-maj=18.2km s-min=12.6km az=55.0*
BJI ***12*** *04:43:27.3, 8.°63N×94.°25E, h28km, mB4.7/19, mb4.5/27, Ms4.4/19, Ms7 4.1/17*
ISCJB ***12*** *04:43:28.7±0.7, 8.°61N±0.°04×93.°98E±0.°05, h36km±7km, mb4.5/56, MS4.0/17, Error ellipse: s-maj=7.9km s-min=5.6km az=155.9*
NEIC ***12*** *04:43:29.5±0.2, 8.°57N×93.°90E, mb4.6/13, Error ellipse: s-maj=8.8km s-min=4.5km az=223.0*
TEH ***12*** *04:43:33.0, 9.°21N×94.°51E, h29km, ML4.6*
DJA ***12*** *04:43:41.1±1.4, 9.°N±6.°×9.°5E±1.°7, h15km, M4.7/8, mB5.5/3, mb4.7/8, MLv4.6/2, Mw(mB)5.0/3*
BKK ***12*** *04:43:49.2±1.7, 9.°N±6.°×9.°5E±1.°9, h10km, M4.5/14, mB4.4/3, mb4.5/14, MLv4.6/3, Mw(mB)3.6/3*
ISC 12 04:43:29.2±0.4, 8.71N±0.04×94.11E±0.05, h28km±2km, h28km:pP-P, n187, σ1s59/205, mb4.5/56, MS4.0/17, 1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	**CAMPBELL BAY**	**1.69**	**186**	*e*P	**Pn**	**04 43 54.3**	**-2.6**
CMBY				*e*S	**Sn**	**04 44 14.1**	**-3.6**
DGPR	**DIGLIPUR**	**4.59**	**345**	*e*P	**Pn**	**04 44 38.6**	**+1.8**
DGPR				*e*4		04 45 37.6	
SKLT	**Songkhla**	**6.62**	**103**	P	Pn	04 45 09.9	+5.1
57nm,0.7s,0.3nm							
SKLT	**Songkhla**	**6.62**	**103**	P	**Pb**	**04 45 22.0**	**-1.7**
57nm,0.7s,1μm0.3nm							
KULM	**Kulim**	**7.32**	**117**	*e*Pn	**Pn**	**04 45 16.4**	**+2.1**
50nm,0.8s							
KULM				*e*Sn	**Sn**	**04 46 36.2**	**-0.5**
PSI	**Prapat**	**7.57**	**141**	Pn	Pn	04 45 21.1	+3.2
PSI	**Prapat**	**7.57**	**141**	Pn	Pn	04 45 21.1	+3.2
1.5nm,0.3s,baz=327,slow=12,SNR=16							
PSI				LR	LR	04 48 29.7	
comp=Z,693nm,18.1s,baz=311,slow=39							
IPM	**Ipoh**	**8.05**	**121**	*e*Pn	**Pn**	**04 45 26.0**	**+1.6**
IPM				*e*Sn	Sn	04 46 47.1	-7.4
IPM	**Ipoh**	**8.05**	**121**	P	Pn	04 45 29.5	+5.1
28nm,0.8s,0.1nm							
SUKH	**Sukhothai**	**10.24**	**31**	P	Pn	04 46 01.8	+7.4
7.1nm,0.8s,66nm							
PBKT	**Sadao Pong**	**10.29**	**40**	P	Pn	04 46 01.9	+6.9
33nm,0.7s,1μm							
PBKT	**Sadao Pong**	**10.29**	**40**	P	Pn	04 46 02.0	+6.9
33nm,0.7s							
CHAI	**Chaiyaphum**	**10.50**	**46**	P	Pn	04 46 05.4	+7.4
9.1nm,0.7s							
CHTO	**Chiang Mai**	**11.09**	**25**	P	Pn	04 46 13.8	+7.8
32nm,0.8s							
CHTO	**Chiang Mai**	**11.09**	**25**	P	Pn	04 46 13.9	+7.9
32nm,0.8s							
LAMP	**Lampang**	**11.13**	**28**	P	Pn	04 46 15.1	+8.5
13nm,0.7s,137nm							
LOEI	**Loei**	**11.18**	**38**	P	Pn	04 46 17.8	+10
26nm,0.8s							
CRAI	**Chiangrai**	**12.96**	**27**	P	**P**	**04 46 38.8**	**-3.0**
7.6nm,0.9s							
PALK	**Pallekele**	**13.36**	**265**	*e*Pn	**P**	**04 46 46.8**	**+0.4**
VIS	**Vishakhapatnam**	**13.79**	**312**	*e*P	**Pn**	**04 46 41.0**	**-2.0**
VIS				AMB	AMB	04 46 43.4	
comp=Z,45nm,0.9s							
VIS				*i* 4		04 48 58.6	
KSI	**Kapahiang**	**14.91**	**145**	P	P	04 47 07.4	+3.8
comp=Z,230nm,0.3s,comp=Z,15μm							
SHL	**Shillong**	**16.90**	**353**	*e*P	**Pn**	**04 47 23.5**	**-0.5**
SHL				AMB	AMB	04 47 26.9	
comp=Z,14nm,1.8s							
BOK	**Bokaro**	**16.94**	**333**	*e*P	**Pn**	**04 47 24.5**	**+0.1**
BOK				AMB	AMB	04 47 33.8	
comp=Z,21nm,0.7s							
HYB	**Hyderabad**	**17.44**	**301**	*i* P	**Pn**	**04 47 30.0**	**-0.7**
HYB				*e*S	**S**	**04 50 50.0**	**-1.9**
KSM	**Kuching**	**17.65**	**113**	*e*P	**P**	**04 47 34.6**	**+0.6**
comp=Z,39nm,1.2s							
KSM	**Kuching**	**17.65**	**113**	P	P	04 47 40.4	+6.4
comp=Z,33nm,1.1s							
KMI	**Kunming**	**18.28**	**26**	P	**Pn**	**04 47 39.9**	**-1.2**
KMI				pP	**pP**	**04 47 46.1**	**-2.6**
KMI				pmax	pmax		
comp=Z,12nm,1.4s							
KMI				LR	LR		
comp=N,380nm,10.7s							
KMI				LR	LR		
comp=E,320nm,12.4s							
KMI				LR	LR		
comp=Z,270nm,12.4s							
QIZ	**Qiongzhong**	**18.38**	**54**	P	**P**	**04 47 40.4**	**-1.7**
QIZ				S	Sn	04 50 58.2	-8.7
QIZ				LR	LR		
comp=N,1μm,15.0s							
QIZ				LR	LR		
comp=Z,980nm,11.7s							
NGP	**Nagpur**	**19.08**	**312**	*e*P	**Pn**	**04 47 51.2**	**+0.6**
NGP				AMB	AMB	04 48 01.5	
comp=Z,17nm,1.7s							
ODAN	**Odare**	**19.15**	**341**	*e*P	**Pn**	**04 47 52.6**	**+1.0**
comp=Z,38nm,0.7s							
RAMN	**Ramite**	**19.49**	**340**	*e*P	**Pn**	**04 47 56.6**	**+0.8**
comp=Z,44nm,0.6s							
TAPN	**Taplejung**	**19.51**	**343**	*e*P	**Pn**	**04 47 56.7**	**+0.7**
comp=Z,96nm,0.8s							
JIRN	**Jiri**	**20.29**	**339**	*e*P	Pn	04 48 05.2	-0.2
AKL	**Akola**	**20.36**	**308**	*ex*	P	04 47 59.0	-4.7
PKI	**Pulchoki**	**20.49**	**337**	*e*P	Pn	04 48 07.1	-0.6
PKIN	**Phulchoki**	**20.50**	**337**	*e*P	Pn	04 48 07.8	0.0
GUN	**Gumba**	**20.62**	**339**	*e*P	**P**	**04 48 08.3**	**+1.4**
DMN	**Daman**	**20.64**	**337**	*e*P	**P**	**04 48 08.5**	**+1.6**
KKN	**Kakani**	**20.73**	**337**	*e*P	**P**	**04 48 08.9**	**+1.0**
comp=Z,50nm,0.8s							
LSA	**Lhasa**	**21.07**	**353**	P	**P**	**04 48 13.1**	**+1.3**
GYA	**Guiyang**	**21.30**	**32**	‖ *i*P	**P**	**04 48 12.5**	**-1.4**
GYA				pP	**pP**	**04 48 21.0**	**-0.5**
GYA				PP	**PnPn**	**04 48 34.7**	**+0.6**
GYA				S	S	04 51 57.6	-12
GYA				PcP	**PcP**	**04 52 21.8**	**+3.7**
GYA				ScP	**ScP**	**04 55 55.0**	**+1.7**
GYA				pmax	pmax		
comp=Z,10.0nm,1.0s							
GYA				pmax	pmax		
comp=Z,80nm,4.7s							
GYA				LR	LR		
comp=N,520nm,14.3s							
GYA				LR	LR		
comp=E,440nm,11.8s							
GYA				LR	LR		
comp=Z,630nm,12.1s							
KOLN	**Koldanda**	**21.41**	**334**	*e*P	**P**	**04 48 16.1**	**+1.0**
comp=Z,55nm,0.8s							
BHPL	**Bhopal**	**21.56**	**314**	*e*P	**P**	**04 48 15.9**	**-0.7**
DANN	**Dangsing**	**21.84**	**335**	*e*P	**P**	**04 48 20.7**	**+0.8**
comp=Z,115nm,0.9s							
PYUN	**Piuthan**	**21.96**	**333**	*e*P	**P**	**04 48 21.6**	**+0.5**
comp=Z,87nm,0.7s							
KKM	**Kota Kinabalu**	**22.08**	**95**	*e*P	**P**	**04 48 22.2**	**-0.2**
comp=Z,12nm,0.8s							
KKM	**Kota Kinabalu**	**22.08**	**95**	P	P	04 48 30.4	+8.0
CD2	**Chengdu**	**23.86**	**21**	P	**P**	**04 48 43.5**	**+3.2**
CD2				pP	**pP**	**04 48 51.5**	**+3.0**
CD2				sP	**sP**	**04 48 55.3**	**+3.4**
CD2				PP	**PnPn**	**04 49 15.1**	**+6.1**
CD2				S	**S**	**04 52 50.6**	**-4.2**
CD2				sS	**sS**	**04 53 03.7**	**-4.6**
CD2				SS	**SnSn**	**04 53 37.9**	**+2.7**
CD2				pmax	pmax		
comp=Z,10.0nm,0.8s							
CD2				pmax	pmax		
comp=Z,80nm,3.9s							
CD2				LR	LR		
comp=N,410nm,11.3s							
CD2				LR	LR		
comp=Z,350nm,11.3s							
LZH	**Lanzhou**	**28.66**	**17**	*e*P	**P**	**04 49 24.9**	**+1.0**
LZH				pP	**pP**	**04 49 30.5**	**-1.6**
LZH				sP	**sP**	**04 49 33.4**	**-2.1**
LZH				pmax	pmax		
comp=Z,28nm,1.3s							
DHRM	**DHARAMSHALA**	**28.67**	**327**	*e*P	**P**	**04 49 23.5**	**-0.5**
DHRM				AMB	AMB	04 49 30.0	
comp=Z,12nm,1.2s							
GTA	**Gaotai**	**31.00**	**9**	P	**P**	**04 49 47.3**	**+2.8**
GTA				pP	**pP**	**04 49 54.4**	**+1.7**
GTA				sP	**sP**	**04 49 58.0**	**+1.9**
GTA				S	**S**	**04 54 48.1**	**+0.4**
GTA				sS	**sS**	**04 55 00.3**	**-1.0**
GTA				SS	**SnSn**	**04 56 32.5**	**+3.1**
GTA				pmax	pmax		
comp=Z,5.0nm,1.0s							
GTA				pmax	pmax		
comp=Z,53nm,3.9s							
GTA				LR	LR		
comp=N,120nm,13.8s							
GTA				LR	LR		
comp=E,130nm,10.5s							
GTA				LR	LR		
comp=Z,120nm,9.3s							
NJ2	**Nanjing**	**32.66**	**41**	*e*P	**P**	**04 49 59.4**	**+0.4**
NJ2				pmax	pmax		
comp=Z,20nm,0.6s							
KBL	**Kabul**	**34.50**	**322**	*e*P	**P**	**04 50 16.7**	**+1.5**
comp=Z,9.6nm,0.8s							
KSH	**Kashi**	**34.71**	**335**	P	**P**	**04 50 15.6**	**-1.3**
KSH				sP	**sP**	**04 50 26.2**	**-2.5**
KSH				PP	**PnPn**	**04 51 28.8**	**-4.5**
KSH				S	S	04 55 36.5	-8.9
KSH				pmax	pmax		
comp=Z,7.0nm,1.1s							
KSH				pmax	pmax		
comp=Z,56nm,3.9s							
KSH				LR	LR		
comp=N,110nm,6.3s							
KSH				LR	LR		
comp=E,78nm,5.4s							
KSH				LR	LR		
comp=Z,170nm,6.6s							
WMQ	**Urumqi**	**35.43**	**352**	Pn	**P**	**04 50 20.1**	**-2.9**
WMQ				smax	smax		
comp=N,25nm,0.3s							
WMQ				smax	smax		
comp=E,45nm,0.9s							
WMQ	**Urumqi**	**35.43**	**352**	P	**P**	**04 50 24.5**	**+1.6**
WMQ				pP	**pP**	**04 50 33.5**	**+2.2**
WMQ				sP	**sP**	**04 50 35.5**	**+0.8**
WMQ				PP	**PnPn**	**04 51 43.0**	**+1.0**
WMQ				PcP	**PcP**	**04 52 56.6**	**+4.2**
WMQ				pmax	pmax		
comp=Z,18nm,0.8s							
WMQ				pmax	pmax		
comp=Z,110nm,4.1s							
WMQ				LR	LR		
comp=N,120nm,22.6s							
WMQ				LR	LR		
comp=Z,58nm,21.0s							
HHC	**Hu-ho-hao-te**	**35.57**	**23**	*e*P	**P**	**04 50 23.5**	**-0.8**
HHC				pP	**pP**	**04 50 30.8**	**-1.8**
HHC				sP	**sP**	**04 50 34.2**	**-1.8**
HHC				PP	**PnPn**	**04 51 42.0**	**-1.9**
HHC				S	**S**	**04 55 53.2**	**-5.3**
HHC				PcS	**PcS**	**04 56 41.2**	**+1.1**
HHC				ScS	**ScS**	**05 00 40.5**	**-1.4**
HHC				pmax	pmax		
comp=Z,38nm,1.1s							
HHC				pmax	pmax		
comp=Z,180nm,5.4s							
HHC				LR	LR		
comp=N,320nm,14.9s							
HHC				LR	LR		
comp=E,530nm,14.7s							
HHC				LR	LR		
comp=Z,280nm,14.5s							
TKM2	**Tokmak 2**	**37.75**	**338**	*e*P	**P**	**04 50 43.9**	**+0.9**
comp=Z,4.4nm,0.8s							
TKM2				*e*pP	**pP**	**04 50 52.5**	**+1.1**
AAK	**Ala-Archa**	**37.94**	**336**	*e*P	**P**	**04 50 46.0**	**+1.5**
comp=Z,12nm,0.9s							
AAK				*e*pP	**pP**	**04 50 54.2**	**+1.3**
AAK	**Ala-Archa**	**37.94**	**336**	LR	LR	05 07 49.2	
comp=Z,97nm,18.9s,baz=56,slow=39							
EKS2	**Erkin-Say**	**38.25**	**336**	*e*P	**P**	**04 50 48.6**	**+1.6**
comp=Z,9.4nm,0.8s							
MK31	**Makanchi Array**	**39.28**	**347**	*e*P	**P**	**04 50 56.0**	**+0.5**
MKAR	**Makanchi Array**	**39.28**	**347**	*e*P	**P**	**04 50 56.3**	**+0.8**
MKAR				ScP	**ScP**	**04 56 52.8**	**+2.0**
MKAR	**Makanchi Array**	**39.28**	**347**	P	**P**	**04 50 55.4**	**-0.1**
comp=Z,1.3nm,0.6s,baz=172,slow=8.0,SNR=16							
MKAR				ScP	**ScP**	**04 56 52.8**	**+2.0**
comp=Z,0.6nm,0.8s,baz=150,slow=5.3,SNR=4.5							
KKAR	**Karatay Array**	**40.01**	**333**	*e*P	**P**	**04 51 02.1**	**+0.4**
comp=Z,9.0nm,0.9s							
SONM	**Songino Array**	**40.36**	**13**	P	**P**	**04 51 06.3**	**+1.7**
SONM				PcP	**PcP**	**04 53 08.4**	**+0.8**
SONM	**Songino Array**	**40.36**	**13**	P	**P**	**04 51 06.3**	**+1.7**
comp=Z,1.6nm,0.9s,baz=191,slow=9.7,SNR=8.7							
SONM				PcP	**PcP**	**04 53 08.4**	**+0.8**
comp=Z,1.4nm,0.6s,baz=189,slow=4.3,SNR=5.0							
SONM				LR	LR	05 09 19.1	
comp=Z,144nm,20.8s,baz=186,slow=38							
ITEG	**Tejag**	**40.57**	**312**	*e*P	**P**	**04 51 07.9**	**+1.2**
FITZ	**Fitzroy Crossi**	**40.97**	**131**	P	**P**	**04 51 11.4**	**+1.5**
FITZ				PcP	**PcP**	**04 53 09.8**	**-0.1**
FITZ	**Fitzroy Crossi**	**40.97**	**131**	P	**P**	**04 51 11.4**	**+1.5**
comp=Z,1.3nm,1.0s,baz=339,slow=13,SNR=3.6							
FITZ				PcP	**PcP**	**04 53 09.8**	**-0.1**
comp=Z,2.3nm,1.1s,baz=252,slow=3.2,SNR=3.0							
KSRS	**Korea Array**	**41.86**	**42**	LR	LR	05 09 39.2	
comp=Z,77nm,18.1s,baz=230,slow=37							
IPAY	**Payeh**	**42.19**	**316**	*e*P	**P**	**04 51 19.7**	**-0.2**
IAKL	**Akhelmad**	**42.43**	**316**	*e*P	**P**	**04 51 22.1**	**+0.1**
IKRD	**Kardeh**	**42.69**	**316**	*e*P	P	04 51 18.5	-5.5
IEMG	**Emamgholi**	**42.93**	**317**	*e*P	**P**	**04 51 26.2**	**+0.1**
ISFR	**Sfrayin**	**43.18**	**316**	*e*P	**P**	**04 51 27.5**	**-0.6**
CN2	**Changchun**	**44.35**	**33**	*e*P	**P**	**04 51 35.6**	**-1.4**
CN2				*e*PP	**PP**	**04 53 19.6**	**-1.1**
CN2				*e*S	**S**	**04 58 04.4**	**-5.2**
CN2				LR	LR		
comp=N,270nm,17.0s							
CN2				LR	LR		
comp=E,160nm,17.0s							
CN2				LR	LR		
comp=Z,150nm,18.0s							
IANJ	**Anjilo**	**45.31**	**312**	*e*P	**P**	**04 51 45.4**	**+0.3**
ZAA0	**Zalesovo Array**	**45.73**	**352**	*e*P	**P**	**04 51 48.9**	**+1.0**
ZAA0				*e*pP	**pP**	**04 51 57.7**	**+1.4**
ZALV	**Zalesovo Beam**	**45.73**	**352**	P	**P**	**04 51 49.1**	**+1.3**
ZALV	**Zalesovo Beam**	**45.73**	**352**	P	**P**	**04 51 49.1**	**+1.3**
comp=Z,24nm,0.9s,baz=175,slow=8.6,SNR=63							
ISHM	**Shahmirzad**	**45.91**	**312**	*e*P	**P**	**04 51 49.6**	**-0.3**
NWAO	**Narrogin (SRO)**	**46.90**	**153**	P	**P**	**04 51 57.1**	**-0.1**
NWAO	**Narrogin (SRO)**	**46.90**	**153**	P	**P**	**04 51 57.1**	**-0.1**
comp=Z,30nm,1.1s,baz=315,slow=10.0,SNR=2.8							
VOSK	**Vostochnaya**	**47.75**	**341**	*e*P	**P**	**04 52 03.8**	**+0.1**
comp=Z,8.6nm,0.9s							
RDF	**Al-Radifah**	**48.07**	**301**	*e*P	**P**	**04 52 05.7**	**-0.8**
RDF				AMb	AMB	04 52 15.0	
comp=Z,48nm,0.7s							
BRVK	**Borovoye**	**48.26**	**341**	*e*P	**P**	**04 52 07.7**	**+0.1**
comp=Z,6.4nm,0.9s							
BRVK				*e*pP	**pP**	**04 52 16.6**	**+0.4**
USRK	**Ussuriysk Arra**	**48.26**	**36**	LR	LR	05 14 57.0	
comp=Z,173nm,20.6s,baz=282,slow=39							
NAY	**Al-Naaiem**	**48.41**	**301**	*e*P	**P**	**04 52 08.7**	**-0.5**
NAY				AMb	AMB	04 52 17.7	
comp=Z,1.6nm,0.7s							
MAT	**Matsushiro**	**48.63**	**48**	P	**P**	**04 52 10.4**	**-0.4**
MJAR	**Matsushiro Arr**	**48.63**	**48**	P	P	04 52 14.7	+3.9
MJAR				PcP	**PcP**	**04 53 37.8**	**+1.8**
MJAR	**Matsushiro Arr**	**48.63**	**48**	P	P	04 52 14.7	+3.9
comp=Z,1.4nm,0.8s,baz=225,slow=6.7,SNR=5.0							
MJAR				PcP	**PcP**	**04 53 37.8**	**+1.8**
comp=Z,3.2nm,0.8s,baz=243,slow=5.2,SNR=7.5							
RST	**Umm Al-Ruwaisa**	**48.69**	**302**	*e*P	**P**	**04 52 10.4**	**-0.9**
RST				AMb	AMB	04 52 19.9	
comp=Z,351nm,0.8s							
WRA	**Warramunga Arr**	**48.77**	**126**	P	**P**	**04 52 11.8**	**-0.2**
WRA				PcP	**PcP**	**04 53 37.4**	**+0.6**
WRA	**Warramunga Arr**	**48.77**	**126**	P	**P**	**04 52 11.8**	**-0.2**
comp=Z,1.1nm,0.7s,baz=307,slow=8.5,SNR=9.5							
WRA				PcP	**PcP**	**04 53 37.4**	**+0.6**
comp=Z,0.9nm,0.9s,baz=314,slow=2.7,SNR=2.8							
ABKAR	**Akbulak array**	**49.49**	**331**	*e*P	**P**	**04 52 17.3**	**+0.2**
comp=Z,9.9nm,0.9s							
ABKAR				*e*pP	**pP**	**04 52 26.2**	**+0.5**
ASAR	**Alice Springs**	**50.47**	**130**	P	**P**	**04 52 24.6**	**-0.3**
ASAR				PcP	**PcP**	**04 53 43.1**	**+0.2**
ASAR	**Alice Springs**	**50.47**	**130**	P	**P**	**04 52 24.6**	**-0.3**
comp=Z,1.0nm,0.7s,baz=300,slow=6.9,SNR=8.1							
ASAR				PcP	**PcP**	**04 53 43.1**	**+0.2**
comp=Z,0.9nm,0.6s,baz=311,slow=4.6,SNR=4.6							
FORT	**Forrest**	**51.00**	**142**	*e*P	P	04 52 33.7	+4.9
comp=Z,29nm,0.9s							
OPO	**Ambohidratompo**	**53.64**	**239**	P	**P**	**04 52 46.2**	**-2.6**
OPO	**Ambohidratompo**	**53.64**	**239**	P	**P**	**04 52 46.2**	**-2.6**
comp=Z,3.2nm,0.6s,baz=90,slow=6.1,SNR=5.3							
OPO				LR	LR	05 09 52.2	
comp=Z,140nm,21.4s,baz=38,slow=30							
KBZ	**Khabaz**	**56.46**	**317**	P	**P**	**04 53 08.6**	**0.0**
KBZ	**Khabaz**	**56.46**	**317**	P	**P**	**04 53 08.6**	**0.0**
comp=Z,0.9nm,0.6s,baz=113,slow=13,SNR=3.2							
KMBO	**Kilima Mbogo**	**57.49**	**263**	P	**P**	**04 53 15.7**	**-1.0**
KMBO	**Kilima Mbogo**	**57.49**	**263**	P	**P**	**04 53 15.7**	**-1.0**
comp=Z,1.4nm,0.7s,baz=31,slow=21,SNR=4.2							
ASF	**Jabal al Asfar**	**57.74**	**303**	LR	LR	05 21 06.8	
comp=Z,68nm,20.4s,baz=310,slow=39							
MMAI	**Mount Meron Ar**	**59.14**	**303**	LR	LR	05 18 50.2	
comp=Z,90nm,20.1s,baz=175,slow=36							
STKA	**Stephens Creek**	**60.70**	**134**	LR	LR	05 21 50.2	
comp=Z,291nm,21.5s,baz=24,slow=38							
BRTR	**Keskin Array B**	**61.87**	**310**	P	**P**	**04 53 44.3**	**-2.1**
BRTR	**Keskin Array B**	**61.87**	**310**	P	**P**	**04 53 44.3**	**-2.1**
comp=Z,1.7nm,0.7s,baz=116,slow=7.3,SNR=9.5							
AKASG	**Malin Array Be**	**67.49**	**321**	P	**P**	**04 54 21.3**	**-1.3**
AKASG	**Malin Array Be**	**67.49**	**321**	P	**P**	**04 54 21.3**	**-1.3**
comp=Z,0.5nm,0.3s,baz=88,slow=5.1,SNR=3.4							
BUR08	**Bucovina Ar. S**	**69.43**	**318**	*e*P	P	04 54 38.9	+3.9
KOLS	**Kolonicke sedl**	**71.56**	**319**	*e*P	P	04 54 51.4	+3.5
FINES	**FINESS Array B**	**71.97**	**332**	P	**P**	**04 54 49.4**	**-0.6**
FINES	**FINESS Array B**	**71.97**	**332**	P	**P**	**04 54 49.4**	**-0.6**
comp=Z,2.9nm,0.7s,baz=93,slow=4.5,SNR=15							
STHS	**Stebnicka Huta**	**72.30**	**319**	*e*P	P	04 54 55.8	+3.5
KECS	**Kecovo**	**72.68**	**318**	*e*P	P	04 54 58.7	+4.2
VYHS	**Vyhne**	**73.77**	**318**	*e*P	P	04 55 06.7	+5.7
ARCES	**ARCESS Array B**	**74.48**	**340**	P	**P**	**04 55 05.2**	**+0.4**
ARCES	**ARCESS Array B**	**74.48**	**340**	P	**P**	**04 55 05.2**	**+0.4**
comp=Z,4.5nm,0.9s,baz=97,slow=6.2,SNR=5.7							
LBTB	**Lobatse**	**74.61**	**241**	*e*P	P	04 55 14.8	+8.4
MORC	**Moravsky Berou**	**74.73**	**319**	*e*P	**P**	**04 55 07.1**	**+0.5**
comp=Z,1.5nm,0.6s							
DPC	**Dobruska-Polom**	**75.56**	**320**	*e*P	**P**	**04 55 13.5**	**+2.1**
DPC				*e*pP	**pP**	**04 55 20.0**	**-0.3**
BOSA	**Boshof**	**76.00**	**238**	P	**P**	**04 55 13.6**	**-0.8**
BOSA	**Boshof**	**76.00**	**238**	P	**P**	**04 55 13.6**	**-0.8**
comp=Z,1.5nm,0.5s,baz=153,slow=3.2,SNR=6.8							
BOSA				LR	LR	05 25 43.3	
comp=Z,121nm,18.6s,baz=346,slow=34							
GERES	**GERESS Array B**	**77.19**	**318**	P	**P**	**04 55 20.0**	**-0.7**
GERES	**GERESS Array B**	**77.19**	**318**	P	**P**	**04 55 20.0**	**-0.7**
comp=Z,1.3nm,0.7s,baz=84,slow=5.9,SNR=6.3							
KHC	**Kasperske Hory**	**77.28**	**318**	*e*P	P	04 55 26.8	+5.7
KHC				*e*pP	pP	04 55 29.5	-0.6
NB2	**NORSAR Subarra**	**79.00**	**331**	P	**P**	**04 55

SMF	**Signal de Mont**	83.93	316	*e*P	P	04 55 55.9	-0.9
	comp=Z,4.4nm,0.6s						
SMF	**Signal de Mont**	83.93	316	*e*P	P	04 55 55.9	-0.9
	comp=Z,4.4nm,0.6s						
AVF	**Avril sur Loir**	84.25	316	*e*P	P	04 55 58.7	+0.3
	comp=Z,12nm,1.2s						
AVF	**Avril sur Loir**	84.25	316	*e*P	P	04 55 58.7	+0.3
	comp=Z,12nm,1.2s						
BGF	**Bois d'Agland**	84.62	316	*e*P	P	04 56 00.0	-0.3
	comp=Z,13nm,0.8s						
BGF	**Bois d'Agland**	84.62	316	*e*P	P	04 56 00.0	-0.3
	comp=Z,13nm,0.8s						
CAF	**Calviac**	85.37	315	*e*P	P	04 56 04.1	0.0
CAF	**Calviac**	85.37	315	*e*P	P	04 56 04.1	0.0
FLN	**La Foliniere**	86.54	319	*e*P	P	04 56 10.3	+0.5
FLN	**La Foliniere**	86.54	319	*e*P	P	04 56 10.3	+0.5
MFF	**Saint Martin d**	86.66	316	*e*P	P	04 56 10.7	+0.3
MFF	**Saint Martin d**	86.66	316	*e*P	P	04 56 10.7	+0.3
SJPF	**Ste Jean**	87.99	313	*e*P	P	04 56 16.5	-0.5
SJPF	**Ste Jean**	87.99	313	*e*P	P	04 56 16.5	-0.5
ROSF	**Rostrenen**	88.44	319	*e*P	P	04 56 19.5	+0.6
	comp=Z,119nm,1.4s						
ROSF	**Rostrenen**	88.44	319	*e*P	P	04 56 19.5	+0.6
	comp=Z,119nm,1.4s						
TORD	**Torodi Ar. Bea**	90.38	283	P	P	04 56 28.1	-0.6
TORD	**Torodi Ar. Bea**	90.38	283	P	P	04 56 28.1	-0.6
	comp=Z,0.4nm,0.6s,baz=96,slow=3.3,SNR=5.1						
TORD				LR	LR	05 34 51.3	
	comp=Z,60nm,18.5s,baz=95,slow=34						
ESDC	**Sonseca Array**	90.66	310	P	P	04 56 28.7	-0.9
ESDC	**Sonseca Array**	90.66	310	P	P	04 56 28.7	-0.9
	comp=Z,0.5nm,0.6s,baz=57,slow=3.9,SNR=5.2						
IMA2	**Indian Mountai**	90.86	22	*e*P	P	04 56 32.0	+1.9
IMA2				*e*pP	pP	04 56 40.9	+1.7
MDT	**Midelt**	92.59	304	LR	LR	05 39 56.8	
	comp=Z,106nm,20.1s,baz=263,slow=37						
ILAR	**Eielson Array**	93.99	22	P	P	04 56 45.0	+0.6
ILAR	**Eielson Array**	93.99	22	P	P	04 56 45.0	+0.6
	comp=Z,0.5nm,0.6s,baz=294,slow=4.1,SNR=6.5						
INK	**Inuvik**	96.21	16	*e*P	P	04 56 55.6	+1.2
	comp=Z,14nm,1.3s						
INK				*e*pP	pP	04 57 04.8	+1.2
NVAR	**Mina Array Bea**	124.22	31	PKP	PKPdf	05 02 27.7	+1.6
NVAR	**Mina Array Bea**	124.22	31	PKP	PKPdf	05 02 27.7	+1.6
	comp=Z,0.8nm,0.7s,baz=298,slow=1.9,SNR=3.6						
PDAR	**Pinedale Array**	124.41	21	PKP	PKPdf	05 02 26.8	+0.4
PDAR	**Pinedale Array**	124.41	21	PKP	PKPdf	05 02 26.8	+0.4
	comp=Z,0.7nm,0.7s,baz=0.0,slow=0.7,SNR=7.6						
TXAR	**Lajitas Array**	138.48	24	PKP	PKPdf	05 02 55.2	+2.1
TXAR	**Lajitas Array**	138.48	24	PKP	PKPdf	05 02 55.2	+2.1
	comp=Z,0.4nm,0.6s,baz=304,slow=1.6,SNR=7.1						
PLCA	**Paso Flores**	145.31	201	PKPbc	PKPbc	05 03 05.0	+0.4
PLCA	**Paso Flores**	145.31	201	PKPbc	PKPbc	05 03 05.0	+0.4
	comp=Z,5.5nm,0.9s,baz=79,slow=1.0,SNR=5.0						
CPUP	**Villa Florida**	147.74	233	PKPbc	PKPbc	05 03 12.5	+0.4
CPUP	**Villa Florida**	147.74	233	PKPbc	PKPbc	05 03 12.5	+0.4
	comp=Z,1.6nm,0.7s,baz=67,slow=7.7,SNR=3.5						
LPAZ	**La Paz**	161.11	245	PKPab	PKPab	05 04 11.0	-1.0
LPAZ	**La Paz**	161.11	245	PKPab	PKPab	05 04 11.0	-1.0
	comp=Z,1.1nm,0.6s,baz=121,slow=2.6,SNR=7.4						

MOS 12 04:54:17.6±1.4, 52°.42N×99°.20E, h9km, mb4.2/1, Error ellipse: s-maj=41.5km s-min=22.7km az=7.9, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORL	**Orlik**	0.39	72	*e*PG	Pg	04 54 25.8	+0.3
ORL				pmax	pmax		
	comp=Z,106nm,0.2s						
MOY	**Mondy**	1.34	124	*e*PG	Pn	04 54 39.4	-3.2
MOY				*e*		04 55 04.6	
MOY				pmax	pmax		
	comp=Z,84nm,0.4s						
MOY				smax	smax		
	comp=N,283nm,0.6s						
ARS	**Arshan**	2.05	103	*e*PN	Pb	04 54 53.9	-1.1
ARS				pmax	pmax		
	comp=Z,25nm,0.2s						
TLY	**Talaya**	2.84	103	*e*PN	Pb	04 55 07.0	-1.5
TLY				*e*		04 55 51.9	
TLY				pmax	pmax		
	comp=Z,10.0nm,0.5s						
TLY				smax	smax		
	comp=E,46nm,0.7s						
IRK	**Irkutsk**	3.12	91	*e*PN	Pb	04 55 12.1	-1.1
IRK				*e*		04 56 01.0	
IRK				pmax	pmax		
	comp=Z,134nm,0.1s						
IRK				smax	smax		
	comp=E,219nm,0.2s						
OGRR	**Ongureny**	5.21	73	*e*PN	Pn	04 55 35.1	-0.6
OGRR				*e*		04 55 53.6	
OGRR				pmax	pmax		
	comp=Z,15nm,0.7s						

IDC 12 04:56:53.9±0.8, 8°.85N×93°.31E, h0km, mb3.7/16, mb1 3.9/18, mb1mx3.8/31, mbtmp3.7/18, ML3.1/1, Error ellipse: s-maj=34.2km s-min=18.1km az=53.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	8.20	137	Pn	Pn	04 58 55.0	+0.6
	0.2nm,0.3s,baz=326,slow=18,SNR=3.4						
CMAR	**Chiang Mai Arr**	11.01	29	Pn	Pn	04 59 34.1	+1.3
	baz=212,slow=15						
MKAR	**Makanchi Array**	38.97	348	P	P	05 04 21.9	0.0
	0.3nm,0.6s,baz=160,slow=7.5,SNR=4.6						
SONM	**Songino Array**	40.41	14	P	P	05 04 32.8	-1.1
	0.2nm,0.4s,baz=190,slow=7.3,SNR=4.1						
SONM				PcP	PcP	05 06 36.1	-1.0
	0.3nm,0.5s,baz=180,slow=3.4,SNR=2.4						
KURBB	**Kurchatov Arra**	43.41	346	P	P	05 04 59.3	+1.0
	0.3nm,0.4s,baz=173,slow=6.8,SNR=5.8						
ZALV	**Zalesovo Beam**	45.49	353	P	P	05 05 15.9	+1.0
	2.6nm,0.4s,baz=177,slow=9.1,SNR=9.7						
WRA	**Warramunga Arr**	49.49	126	P	P	05 05 46.9	+0.4
	0.5nm,0.8s,baz=304,slow=8.6,SNR=4.7						
ASAR	**Alice Springs**	51.17	130	P	P	05 06 00.2	+1.0
	0.4nm,0.8s,baz=301,slow=7.4,SNR=3.3						
BRTR	**Keskin Array B**	61.18	311	P	P	05 07 11.7	+0.9
	0.2nm,0.4s,baz=97,slow=6.3,SNR=2.4						
AKASG	**Malin Array Be**	66.89	322	P	P	05 07 47.1	-0.8
	0.4nm,0.3s,baz=316,slow=2.6,SNR=4.2						
FINES	**FINESS Array B**	71.47	332	P	P	05 08 15.7	-0.4
	1.1nm,0.7s,baz=96,slow=3.8,SNR=7.0						
ARCES	**ARCESS Array B**	74.08	340	P	P	05 08 31.9	+0.3
	2.0nm,1.0s,baz=101,slow=6.7,SNR=5.0						
HFS	**Hagfors**	77.21	330	P	P	05 08 49.9	+0.3
	0.5nm,0.4s,baz=116,slow=6.8,SNR=4.5						
NB2	**NORSAR Subarra**	78.49	331	P	P	05 08 56.3	-0.5
	comp=Z,8.4nm,1.4s,baz=92,slow=5.3						
NOA	**NORSAR Array B**	78.49	331	P	P	05 08 56.2	-0.6
	comp=Z,1.2nm,0.9s,baz=93,slow=5.6,SNR=2.9						
EKA	**Eskdalemuir Ar**	86.46	325	P	P	05 09 38.3	-0.2
	comp=Z,0.5nm,0.6s,baz=77,slow=7.2,SNR=3.6						
TORD	**Torodi Ar. Bea**	89.58	283	P	P	05 09 54.9	+0.8
	comp=Z,0.5nm,1.1s,baz=91,slow=5.6,SNR=2.6						
ESDC	**Sonseca Array**	89.97	310	P	P	05 09 55.3	-0.3
	comp=Z,0.1nm,0.3s,baz=54,slow=3.8,SNR=3.3						
ILAR	**Eielson Array**	94.16	22	P	P	05 10 13.0	-1.4
	comp=Z,0.2nm,0.7s,baz=302,slow=5.3,SNR=3.2						
PDAR	**Pinedale Array**	124.56	20	PKP	PKPdf	05 15 53.6	-2.4
	comp=Z,0.1nm,0.5s,baz=328,slow=3.2,SNR=2.4						
TXAR	**Lajitas Array**	138.67	23	PKP	PKPdf	05 16 22.6	-0.2
	comp=Z,0.1nm,0.6s,baz=128,slow=1.5,SNR=3.4						

*IDC **12** 04:59:29.0±0.9, 13°.62S×169°.44E, h0km, mb4.1/12, mb1 4.4/13, mb1mx4.2/22, mbtmp4.2/13, ML4.6/1, MS3.9/17, Ms1 3.9/17, ms1mx3.8/31, Error ellipse: s-maj=37.0km s-min=17.0km az=139.0*

*ISCJB **12** 04:59:32.8±0.4, 13°.70S±0°.06×169°.39E±0°.08, h33km, mb4.3/19, MS4.0/15, Error ellipse: s-maj=11.4km s-min=7.7km az=26.7*

*NEIC **12** 04:59:34.4±0.5, 13°.67S×169°.52E, h35km, mb4.5/11, Error ellipse: s-maj=14.8km s-min=9.7km az=129.0*

ISC 12 04:59:34.6±0.6, 13°.64S±0°.07×169°.41E±0°.10, h35km, n53, σ1 9.09/41, mb4.3/19, MS4.0/15, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	8.85	198	*e*Pn	Pn	05 01 39.3	-0.8
	14nm,0.3s						
DZM				*e*LR	LR	05 03 38.0	
	956nm,25.1s						
DZM	**Mont Dzumac**	8.85	198	*e*Pn	Pn	05 01 39.5	-0.6
DZM				Sn	Sn	05 03 18.7	0.0
DZM	**Mont Dzumac**	8.85	198	Pn	Pn	05 01 39.2	-1.0
	5.9nm,0.3s,baz=53,slow=20,SNR=50						
DZM				Sn	Sn	05 03 18.7	0.0
	baz=300,slow=20,SNR=1.6						
DZM				LR	LR	05 04 48.4	
	comp=Z,728nm,18.4s,baz=209,slow=36						
MSVF	**Nonsavu**	9.26	117	*e*Pn	Pn	05 01 47.3	+1.5
RAO	**Raoul Island**	19.47	145	LR	LR	05 09 33.2	
	comp=Z,940nm,21.9s,baz=345,slow=31						
EIDS	**Eidsvold**	20.82	233	*e*P	P	05 04 14.9	+1.7
	57nm,1.4s						
CTA	**Charters Tower**	23.06	251	P	P	05 04 38.1	+0.9
CTA	**Charters Tower**	23.06	251	P	P	05 04 38.1	+0.9
	5.5nm,0.8s,baz=74,slow=13,SNR=3.2						
CTAO	**Charters Tower**	23.06	251	*e*P	P	05 04 39.8	+2.6
	24nm,1.3s						
ARMA	**Armidale**	23.41	222	*e*P	P	05 04 41.7	+1.0
	29nm,1.5s						
URZ	**Urewera**	25.45	166	*e*P	P	05 05 00.8	+1.5
	5.3nm,0.6s						
URZ	**Urewera**	25.45	166	LR	LR	05 12 24.7	
	comp=Z,183nm,22.0s,baz=155,slow=30						
SNZO	**South Karori**	27.95	171	*e*P	P	05 05 18.1	-3.6
	31nm,0.9s						
RAR	**Rarotonga**	30.31	109	LR	LR	05 14 39.2	
	comp=Z,229nm,18.5s,baz=268,slow=30						
STKA	**Stephens Creek**	31.28	230	*e*P	P	05 05 53.0	+1.6
	1.8nm,0.8s						
STKA	**Stephens Creek**	31.28	230	P	P	05 05 51.5	+0.1
	10nm,0.8s,baz=39,slow=8.0,SNR=10						
WRA	**Warramunga Arr**	34.11	255	P	P	05 06 15.4	-1.0
WRA	**Warramunga Arr**	34.11	255	P	P	05 06 15.4	-1.0
	2.5nm,1.0s,baz=85,slow=8.6,SNR=8.5						
AS31	**Alice Springs**	35.00	248	*e*P	P	05 06 23.1	-0.9
ASAR	**Alice Springs**	35.00	248	P	P	05 06 23.4	-0.7
ASAR	**Alice Springs**	35.00	248	P	P	05 06 23.4	-0.7
	7.1nm,0.8s,baz=79,slow=8.7,SNR=46						
PPT2	**Papeete2**	39.64	101	*e*LQ	LQ	05 16 09.7	
	844nm,31.5s						
PPT2				*e*LR	LR	05 17 49.8	
	202nm,31.8s						
PPT	**Papeete**	39.64	101	LR	LR	05 20 17.7	
	comp=Z,67nm,20.4s,baz=275,slow=32						
TBI	**Tubuai**	40.06	110	*e*LQ	LQ	05 16 00.8	
	319nm,39.0s						
TBI				*e*LR	LR	05 18 04.7	
	238nm,31.5s						
FITZ	**Fitzroy Crossi**	42.27	258	*e*P	P	05 07 24.7	-0.3
	4.9nm,0.9s						
FITZ	**Fitzroy Crossi**	42.27	258	P	P	05 07 23.7	-1.3
	3.7nm,1.0s,baz=105,slow=17,SNR=7.2						
JNU	**Nakatsue**	59.29	323	LR	LR	05 30 20.4	
	comp=Z,75nm,20.1s,baz=84,slow=31						
ASAJ	**Asahikawa**	62.46	339	*e*P	P	05 09 54.8	+0.4
	18nm,1.4s						
ASAJ	**Asahikawa**	62.46	339	LR	LR	05 33 23.9	
	comp=Z,126nm,19.1s,baz=160,slow=33						
KSRS	**Korea Array**	64.05	324	LR	LR	05 37 33.4	
	comp=Z,47nm,18.7s,baz=225,slow=36						
USRK	**Ussuriysk Arra**	66.89	332	LR	LR	05 37 35.9	
	comp=Z,59nm,20.2s,baz=328,slow=34						
PETK	**Petropavlovsk-**	67.24	352	LR	LR	05 33 17.1	
	comp=Z,98nm,21.7s,baz=230,slow=30						
CMAR	**Chiang Mai Arr**	76.42	293	P	P	05 11 22.0	+0.8
CMAR	**Chiang Mai Arr**	76.42	293	P	P	05 11 22.0	+0.8
	0.8nm,0.3s,baz=121,slow=3.4,SNR=4.3						
ULN	**Ulaanbaatar**	82.51	323	*e*P	P	05 11 54.8	+0.9
	3.5nm,0.8s						
SONM	**Songino Array**	82.88	323	P	P	05 11 55.7	-0.1
SONM	**Songino Array**	82.88	323	P	P	05 11 55.7	-0.1
	0.6nm,0.7s,baz=122,slow=5.7,SNR=5.0						
CMB	**Columbia Colle**	83.33	48	*e*P	P	05 11 57.6	-0.6
	1.6nm,0.8s						
ILAR	**Eielson Array**	84.87	17	P	P	05 12 04.6	-0.8
ILAR	**Eielson Array**	84.87	17	P	P	05 12 04.6	-0.8
	0.9nm,0.8s,baz=245,slow=4.7,SNR=13						
ILAR				LR	LR	05 46 55.2	
	comp=Z,110nm,19.9s,baz=264,slow=34						
MOD	**Modoc**	84.90	45	*e*P	P	05 12 05.8	-0.5
	5.9nm,0.8s						
NVAR	**Mina Array Bea**	84.99	49	P	P	05 12 07.1	+0.2
NVAR	**Mina Array Bea**	84.99	49	P	P	05 12 07.1	+0.2
	1.5nm,0.9s,baz=249,slow=7.6,SNR=11						
NEW	**Newport**	89.40	40	LR	LR	05 44 20.1	
	comp=Z,70nm,19.4s,baz=85,slow=30						
INK	**Inuvik**	91.21	18	LR	LR	05 55 17.2	
	comp=Z,106nm,18.6s,baz=271,slow=37						
PDAR	**Pinedale Array**	92.69	47	P	P	05 12 43.2	-0.2
PDAR	**Pinedale Array**	92.69	47	P	P	05 12 43.2	-0.2
	0.2nm,0.7s,baz=289,slow=2.8,SNR=2.3						
PDAR				LR	LR	05 47 20.2	
	comp=Z,70nm,18.5s,baz=40,slow=31						
ANMO	**Albuquerque**	92.98	55	LR	LR	05 44 17.5	
	comp=Z,93nm,21.9s,baz=86,slow=29						
TXAR	**Lajitas Array**	93.93	61	P	P	05 12 48.7	-0.6
TXAR	**Lajitas Array**	93.93	61	P	P	05 12 48.7	-0.6
	0.5nm,1.0s,baz=209,slow=7.2,SNR=2.7						
TXAR				LR	LR	05 45 56.0	
	comp=Z,79nm,19.6s,baz=280,slow=30						
MK31	**Makanchi Array**	97.86	316	*e*P	P	05 13 06.7	0.0
MKAR	**Makanchi Array**	97.86	316	P	P	05 13 06.3	-0.4
MKAR	**Makanchi Array**	97.86	316	P	P	05 13 06.3	-0.4
	1.3nm,0.8s,baz=116,slow=5.6,SNR=7.3						
MKAR				LR	LR	05 53 25.1	
	comp=Z,51nm,19.5s,baz=265,slow=33						

IDC 12 05:07:02.8±1.2, 8°.61N×93°.15E, h0km, mb3.6/7, mb1 3.8/9, mb1mx3.6/30, mbtmp3.7/9, ML3.3/1, Error ellipse: s-maj=46.3km s-min=22.1km az=54.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	8.14	135	Pn	Pn	05 09 01.7	-0.8
	0.4nm,0.3s,baz=319,slow=9.3,SNR=4.0						
CMAR	**Chiang Mai Arr**	11.29	29	Pn	Pn	05 09 44.9	-0.7
	baz=212,slow=15						
MKAR	**Makanchi Array**	39.16	348	P	P	05 14 32.2	-0.2
	0.3nm,0.7s,baz=181,slow=7.2,SNR=2.2						
KURBB	**Kurchatov Arra**	43.60	347	P	P	05 15 09.1	+0.5
	0.2nm,0.3s,baz=170,slow=7.3,SNR=3.2						
ZALV	**Zalesovo Beam**	45.71	353	P	P	05 15 25.6	+0.1
	1.6nm,0.5s,baz=170,slow=9.0,SNR=7.5						
WRA	**Warramunga Arr**	49.48	125	P	P	05 15 56.1	+0.8
	0.3nm,0.7s,baz=304,slow=8.7,SNR=5.1						
BRTR	**Keskin Array B**	61.21	311	P	P	05 17 20.3	+0.4
	0.5nm,0.8s,baz=134,slow=7.7,SNR=2.6						
FINES	**FINESS Array B**	71.61	332	P	P	05 18 24.8	-1.0
	2nm,0.8s,baz=134,slow=5.5,SNR=3.5						
EKA	**Eskdalemuir Ar**	86.56	325	P	P	05 19 47.2	-0.6
	0.3nm,0.5s,baz=98,slow=5.4,SNR=2.9						

IDC 12 05:12:52.9±1.6, 8°.32N×93°.63E, h0km, mb3.7/8, mb1 3.8/9, mb1mx3.6/28, mbtmp3.7/9, ML4.3/1, MS3.8/1, Ms1 3.8/1, ms1mx3.0/27, Error ellipse: s-maj=45.4km s-min=30.0km az=56.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	11.32	27	Pn	Pn	05 15 36.1	-0.1
	0.5nm,0.3s,baz=213,slow=15,SNR=16						
AAK	**Ala-Archa**	38.10	337	LR	LR	05 37 47.2	
	comp=Z,130nm,20.9s,baz=351,slow=39						
MKAR	**Makanchi Array**	39.55	348	P	P	05 20 24.8	-0.9
	0.5nm,0.8s,baz=148,slow=7.5,SNR=3.8						
SONM	**Songino Array**	40.84	13	P	P	05 20 38.2	+1.6
	0.2nm,0.5s,baz=202,slow=6.2,SNR=2.2						
KURBB	**Kurchatov Arra**	43.99	346	P	P	05 21 00.8	-1.2
	0.3nm,0.2s,baz=146,slow=6.7,SNR=3.3						
ZALV	**Zalesovo Beam**	46.05	353	P	P	05 21 17.6	-0.7
	1.5nm,0.5s,baz=181,slow=9.5,SNR=8.5						
WRA	**Warramunga Arr**	48.93	126	P	P	05 21 40.9	-0.4
	0.2nm,0.6s,baz=307,slow=8.1,SNR=3.2						
BRTR	**Keskin Array B**	61.76	311	P	P	05 23 15.6	+1.9
	0.3nm,0.3s,baz=98,slow=6.0,SNR=2.3						
FINES	**FINESS Array B**	72.08	332	P	P	05 24 18.3	-0.6
	1.0nm,0.7s,baz=64,slow=3.2,SNR=5.0						
ARCES	**ARCESS Array B**	74.68	340	P	P	05 24 33.5	-0.6
	2.3nm,1.0s,baz=87,slow=6.4,SNR=2.8						

*NNC **12** 05:14:42.5±10.0, 37°.74N×70°.63E, h0km, mb4.0, mpv3.8, Error ellipse: s-maj=83.3km s-min=75.2km az=13.0*

ISC 12 05:14:42.9±3.6, 37°.4N±0°.2×70°.9E±0°.1, h88km, n10, σ2 6.61/12, 3C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	5.20	24	P	Pn	05 15 59.0	+0.4
	SNR=25						
EKS2	**Erkin-Say**	5.71	22	P	Pn	05 16 06.7	+1.5
	SNR=8.9						
KK31	**Karatay Array**	5.71	357	⇓Pn	Pn	05 16 07.5	+2.4
	7.1nm,0.5s,baz=182,slow=13,SNR=148						
KK31				⇑Sn	Sn	05 17 13.5	+4.2
	2.5nm,0.3s,baz=188,slow=25						
KZA	**Kyzart**	5.76	34	P	Pn	05 16 07.7	+1.6
	SNR=6.0						
AAK	**Ala-Archa**	5.92	27	P	Pn	05 16 09.0	+0.9
	SNR=7.4						
CHMS	**Chumysh**	6.33	27	P	Pn	05 16 14.0	+0.4
	SNR=5.5						
TKM2	**Tokmak 2**	6.59	32	⇓Pn	Pn	05 16 16.5	-0.8
	3.7nm,0.5s						
TKM2				⇑Sn	Sn	05 17 29.7	-1.3
	2.0nm,0.6s						
TKM2	**Tokmak 2**	6.59	32	P	Pn	05 16 17.1	-0.2
	SNR=9.6						
MK31	**Makanchi Array**	12.63	38	Pn	Pn	05 17 31.8	-7.4
	0.1nm,0.2s,baz=173,slow=14,SNR=24						
AB31	**Akbulak array**	14.27	330	Pn	Pn	05 18 00.6	+0.1
	0.6nm,0.5s,baz=136,slow=13,SNR=20						
AB31				⇑Sn	Sn	05 20 31.9	-5.4
	0.3nm,0.4s,baz=152,slow=22,SNR=2.6						

FUNV 12 05:59:31.4, 6°.81N×73°.16W, h162km, MW3.6, 1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	1.34	39	⇑*i*P	Pn	06 00 00.0	-0.7
CAPV				*e*S	Sn	06 00 20.8	-2.4
VIGV	**El Vigia**	2.69	41	*e*P	Pn	06 00 14.5	-1.0
VIGV				*e*S	Sn	06 00 46.5	-3.2
SOCV	**Socops**	2.71	57	*e*P	Pn	06 00 14.3	-1.5
SOCV				*e*S	Sn	06 00 46.1	-4.0
ELOV	**Elorza**	3.66	87	*e*P	Pn	06 00 26.7	-0.9
ELOV				*e*S	Sn	06 01 07.3	-3.9
VIRV	**Villa del Rosa**	3.74	11	*e*P	Pn	06 00 26.8	-1.9
VIRV				*e*S	Sn	06 01 08.5	-4.9
QARV	**Quebrada Arrib**	4.26	37	*e*P	Pn	06 00 34.0	-1.5
QARV				*e*S	Sn	06 01 20.8	-4.8
CURV	**Curarigua**	4.49	45	*e*P	Pn	06 00 36.8	-1.6
CURV				*e*S	Sn	06 01 25.2	-5.7
DABV	**Dabajuro**	4.79	31	*e*P	Pn	06 00 41.1	-1.1
DABV				*e*S	Sn	06 01 32.3	-5.4
TEPV	**Terepaima**	5.02	51	*e*P	Pn	06 00 43.9	-1.5
SIQV	**Siquisique**	5.05	41	*e*P	Pn	06 00 43.9	-1.9
BAUV	**El Baul**	5.50	67	*e*P	Pn	06 00 49.0	-2.6
BAUV				*e*S	Sn	06 01 47.0	-7.4

*ISCJB **12** 06:09:25.4±0.5, 20°.91S±0°.05×67°.27W±0°.06, h199km±6km, mb3.5/6, Error ellipse: s-maj=9.5km s-min=8.0km az=152.0*

*GUC **12** 06:09:27.5±0.4, 20°.89S×67°.82W, h229km±7km, ML4.4*

*IDC **12** 06:09:28.8±1.6, 20°.67S×67°.21W, h211km±14km, mb3.3/7, mb1 3.6/11, mb1mx3.4/20, mbtmp3.3/11, Error ellipse: s-maj=19.8km s-min=14.1km az=51.0*

ISC 12 06:09:28.0±0.7, 20°.85S±0°.06×67°.45W±0°.08, h209km±7km, n23, σ1 9.38/28, mb3.5/6, 6C-1D, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**Plate Boundary**	1.91	264	⇑*i*P	Pn	06 10 05.6	-0.9
PB01				*i* S	S	06 10 34.6	-1.4
PB01				AML	AML	06 10 36.7	
	comp=N,965nm,0.3s						
PB09	**Plate Boundary**	1.92	240	⇑*i*P	Pn	06 10 06.3	-0.3
PB09				*i* S	S	06 10 35.6	-0.6
PB09				AML	AML	06 10 39.5	
	comp=N,2μm,0.2s						
HMBC	**Humberstone**	2.35	284	⇑*i*P	Pn	06 10 10.0	-1.0
HMBC				*i* S	S	06 10 42.5	-1.6
HMBC				AML	AML	06 10 44.2	
	comp=E,1μm,0.4s						
PB04	**Plate Boundary**	2.36	233	⇑*i*P	Pn	06 10 16.4	+5.5
PB04				AML	AML	06 10 56.5	
	comp=N,545nm,0.3s						
PB07	**Plate Boundary**	2.43	248	⇑*i*P	Pn	06 10 11.1	-0.8
PB07				*i* S	S	06 10 44.1	-1.7
PB07				AML	AML	06 10 46.4	
	comp=N,780nm,0.2s						
MNMC	**Minimini**	2.64	310	⇑*i*P	Pn	06 10 14.4	0.0
MNMC				*i* S	S	06 10 50.3	+0.2
MNMC				AML	AML	06 10 51.9	
	comp=E,2μm,0.5s						
LPAZ	**La Paz**	4.58	352	P	Pn

NOA	**NORSAR Array B**	**143.50**	**352**	PKP	PKPbc	06 42 49.0	+0.6
	0.6nm,0.6s,baz=19,slow=2.4,SNR=3.4						
TORD	**Torodi Ar. Bea**	**167.98**	**184**	PKPab	PKPab	06 44 31.0	-1.0
	0.3nm,0.5s,baz=172,slow=4.3,SNR=4.4						

IDC 12 06:29:46.2±2.8, 47°.81N×154°.22E, h0km, mb3.5/3, mb1 3.9/5, mb1mx3.4/26, mbtmp3.8/5, ML3.4/2, Error ellipse: s-maj=69.1km s-min=26.7km az=175.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**5.75**	**21**	Pn	Pn	06 31 13.7	+1.0
	1.0nm,0.3s,baz=175,slow=12,SNR=39						
PETK				Sn	Sn	06 32 22.6	+3.3
	0.3nm,0.3s,baz=172,slow=21,SNR=2.5						
ASAJ	**Asahikawa**	**8.90**	**250**	Sn	Sn	06 33 40.6	+3.8
	0.9nm,0.3s,baz=32,slow=13,SNR=3.1						
FX1	**Attu Island--F**	**13.11**	**60**	Pn	Pn	06 32 51.5	-1.9
	0.6nm,0.3s,baz=270,slow=20,SNR=2.8						
FX1				Sn	Sn	06 35 03.4	-16
	1.5nm,0.3s,baz=107,slow=19,SNR=3.2						
KURBB	**Kurchatov Arra**	**47.50**	**303**	P	P	06 38 23.1	+0.5
	0.3nm,0.5s,baz=61,slow=8.9,SNR=4.3						
FINES	**FINESS Array B**	**63.40**	**335**	P	P	06 40 16.1	-0.8
	0.3nm,0.3s,baz=28,slow=6.3,SNR=5.2						
TXAR	**Lajitas Array**	**76.32**	**61**	P	P	06 41 37.4	+0.3
	0.2nm,0.7s,baz=300,slow=3.8,SNR=3.2						

IDC 12 06:33:23.3±0.9, 45°.64S×76°.63W, h0km, mb4.1/7, mb1 4.3/8, mb1mx4.1/16, mbtmp4.1/8, ML3.6/1, MS3.5/6, Ms1 3.5/6, ms1mx3.3/30, Error ellipse: s-maj=38.2km s-min=17.7km az=103.0
ISCJB 12 06:33:24.5±0.6, 45°.61S±0°.08×76°.6W±0°.2, h17km, mb4.4/13, MS3.9/3, Error ellipse: s-maj=16.7km s-min=10.9km az=18.6
NEIC 12 06:33:28.4±0.4, 45°.63S×76°.53W, h35km, mb4.6/11, Error ellipse: s-maj=13.7km s-min=8.9km az=117.0
ISC 12 06:33:25.8±0.7, 45°.6S±0°.1×76°.7W±0°.2, h17km, n37, σ0.9 73/32, mb4.5/13, MS3.6/3, Off coast of southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**6.60**	**45**	Pn	**Pn**	**06 35 01.4**	**-0.7**
PLCA	**Paso Flores**	**6.60**	**45**	Pn	**Pn**	**06 35 01.4**	**-0.7**
	0.3nm,0.3s,baz=218,slow=14,SNR=7.3						
PLCA				LR	LR	06 37 10.9	
	comp=Z,147nm,21.0s,baz=136,slow=34						
USHA	**Ushuaia**	**10.63**	**153**	LR	LR	06 40 15.7	
	comp=Z,388nm,20.4s,baz=132,slow=39						
TRQA	**Tornquist**	**13.28**	**61**	*e*Pn	**Pn**	**06 36 34.4**	**+0.9**
CFAA	**Coronel Fontan**	**15.43**	**28**	LR	LR	06 43 12.5	
	comp=Z,19nm,19.1s,baz=96,slow=38						
CPUP	**Villa Florida**	**24.68**	**45**	*e*P	**P**	**06 38 45.8**	**0.0**
	55nm,1.0s						
CPUP	**Villa Florida**	**24.68**	**45**	P	**P**	**06 38 46.1**	**+0.4**
	5.3nm,0.9s,baz=207,slow=9.1,SNR=7.7						
CPUP				LR	LR	06 49 23.7	
	comp=Z,142nm,18.6s,baz=36,slow=39						
LPAZ	**La Paz**	**30.09**	**17**	*e*P	**P**	**06 39 35.7**	**+0.8**
	1.3nm,0.5s						
LPAZ	**La Paz**	**30.09**	**17**	P	**P**	**06 39 35.8**	**+0.8**
	1.5nm,0.4s,baz=222,slow=12,SNR=22						
SAML	**Samuel**	**38.32**	**22**	*e*P	**P**	**06 40 44.7**	**-0.9**
	13nm,1.3s						
BDFB	**Brasilia**	**38.34**	**48**	P	**P**	**06 40 46.1**	**+0.2**
BDFB	**Brasilia**	**38.34**	**48**	P	**P**	**06 40 46.1**	**+0.2**
	5.9nm,1.1s,baz=231,slow=13,SNR=3.1						
VNA1	**Neumayer--Stat**	**40.76**	**152**	*e*I		06 41 11.6	
VNA2	**Neumayer--Watz**	**41.05**	**152**	*e*P	**P**	**06 41 08.1**	**+0.3**
VNA2	**Neumayer--Watz**	**41.05**	**152**	*e*I		06 41 13.2	
SNAA	**Sanae**	**42.49**	**153**	*e*P	**P**	**06 41 19.7**	**0.0**
SNAA	**Sanae**	**42.49**	**153**	*e*I		06 41 25.0	
SNAA	**Sanae**	**42.49**	**153**	*e*P	**P**	**06 41 18.8**	**-0.8**
	5.0nm,1.0s						
SNAA	**Sanae**	**42.49**	**153**	P	**P**	**06 41 19.3**	**-0.3**
	1.4nm,1.0s,baz=274,slow=8.4,SNR=9.7						
QSPA	**South Pole Qui**	**44.65**	**180**	*e*P	**P**	**06 41 36.8**	**-0.4**
	10nm,1.3s						
QSPA	**South Pole Qui**	**44.65**	**180**	P	**P**	**06 41 36.8**	**-0.4**
	4.1nm,1.0s,baz=89,slow=1.5,SNR=6.4						
VNDA	**Vanda**	**52.03**	**194**	*e*P	**P**	**06 42 34.4**	**+0.7**
	10nm,1.4s						
VNDA	**Vanda**	**52.03**	**194**	P	**P**	**06 42 34.4**	**+0.7**
	5.0nm,1.2s,baz=146,slow=8.2,SNR=5.0						
CMIG	**Matias Romero**	**64.54**	**341**	LR	LR	07 03 31.4	
	comp=Z,43nm,19.6s,baz=340,slow=28						
TEIG	**Tepich**	**66.35**	**348**	LR	LR	07 07 32.9	
	comp=Z,293nm,18.8s,baz=157,slow=31						
TXAR	**Lajitas Array**	**78.51**	**336**	P	**P**	**06 45 26.4**	**+0.5**
TXAR	**Lajitas Array**	**78.51**	**336**	P	**P**	**06 45 26.4**	**+0.5**
	1.3nm,1.0s,baz=164,slow=6.1,SNR=8.8						
JCT	**Junction City**	**78.58**	**340**	*e*P	**P**	**06 45 26.3**	**+0.1**
	12nm,1.2s						
WVT	**Waverly**	**81.97**	**351**	*e*P	**P**	**06 45 43.5**	**-0.8**
	7.7nm,1.4s						
WMOK	**Wichita Mounta**	**82.43**	**342**	*e*P	**P**	**06 45 47.4**	**+0.6**
	7.9nm,1.3s						
ANMO	**Albuquerque**	**84.58**	**336**	*e*P	**P**	**06 45 59.0**	**+1.0**
	8.7nm,1.8s						
SHPR	**Sheep Range**	**88.80**	**330**	*e*P	**P**	**06 46 19.2**	**+0.7**
	12nm,1.7s						
ABKAR	**Abkulak array**	**150.72**	**67**	*e*PKPbc	**PKPbc**	**06 53 16.6**	**+0.3**
KURBB	**Kurchatov Arra**	**162.73**	**64**	PKP	**PKPdf**	**06 53 25.7**	**-0.3**
	0.2nm,0.3s,baz=291,slow=2.1,SNR=4.8						
KURBB				PKPab	**PKPab**	**06 54 14.8**	**-0.2**
	0.3nm,0.8s,baz=286,slow=5.0,SNR=3.1						
KURK	**Kurchatov**	**162.77**	**64**	PKP	**PKPdf**	**06 53 25.7**	**-0.4**
KURK				PKPab	**PKPab**	**06 54 14.8**	**-0.4**
ZALV	**Zalesovo Beam**	**165.44**	**48**	PKP	**PKPdf**	**06 53 26.7**	**-1.7**
ZALV	**Zalesovo Beam**	**165.44**	**48**	PKP	**PKPdf**	**06 53 26.7**	**-1.7**
	1.0nm,0.8s,baz=262,slow=3.9,SNR=5.2						

ATH 12 06:39:14.4, 41°.36N×19°.60E, h14km±6km, MD3.3/5
TIR 12 06:39:14.9, 41°.07N×19°.80E, h24km
BEO 12 06:39:16.1±0.8, 41°.16N×19°.61E, h8km±2km, ML2.8/9
CSEM 12 06:39:16.6±0.1, 41°.24N×19°.62E, h5km, ML2.8/3, Error ellipse: s-maj=3.4km s-min=1.9km az=56.0
PDG 12 06:39:16.8±0.3, 41°.21N×19°.68E, h23km, ML3.0/11, Error ellipse: s-maj=0.5km s-min=0.7km az=0.0
SKO 12 06:39:17.3, 41°.14N×19°.70E, h0km, M2.3, ML2.8
THE 12 06:39:18.5, 41°.27N×19°.72E, h10km±1km, ML2.8/3, Error ellipse: s-maj=1.8km s-min=0.9km az=61.0
ISCJB 12 06:39:18.1±0.4, 41°.25N±0°.02×19°.67E±0°.03, h18km±4km, Error ellipse: s-maj=4.4km s-min=2.5km az=150.8
ISC 12 06:39:17.5±0.9, 41°.24N±0°.02×19°.66E±0°.02, h16km±6km, n106, σ0.9 97/180, 19C-15D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.19**	**56**	*i* PG	**Pg**	**06 39 21.9**	**-0.1**
TIR				*i* SG	**Sb**	**06 39 26.2**	**+0.2**
TIR	**Tirane**	**0.19**	**56**	P	**Pg**	**06 39 21.9**	**-0.1**
TIR				S	**Sg**	**06 39 24.8**	**-0.2**
TIR	**Tirane**	**0.19**	**56**	⇓*i*Pg	**Pg**	**06 39 21.8**	**-0.2**
TIR				*i* Sg	**Sb**	**06 39 25.6**	**-0.4**
TIR	**Tirane**	**0.19**	**56**	P	**Pg**	**06 39 21.9**	**-0.1**
TIR				S	**Sg**	**06 39 24.8**	**-0.2**
TIR				*i* Sg	**Sb**	**06 39 25.6**	**-0.4**
PHP	**Peshkopia**	**0.74**	**53**	*i* PG	**Pg**	**06 39 30.2**	**-1.6**
PHP				*i* SG	**Sg**	**06 39 41.5**	**-0.1**
PHP	**Peshkopia**	**0.74**	**53**	P	**Pg**	**06 39 30.3**	**-1.6**
PHP				S	**Sg**	**06 39 41.3**	**-0.3**
PHP	**Peshkopia**	**0.74**	**53**	P	**Pg**	**06 39 30.3**	**-1.6**
PHP				*i* Sg	**Sg**	**06 39 41.5**	**-0.1**
ULC	**Ulcinj**	**0.78**	**337**	⇓*i*Pg	**Pg**	**06 39 32.1**	**-0.6**
ULC				*e*Sg	**Sn**	**06 39 45.3**	**-0.1**
ULC	**Ulcinj**	**0.78**	**337**	⇓*i*Pg	**Pg**	**06 39 32.1**	**-0.6**
ULC				*e*Sg	**Sn**	**06 39 45.3**	**-0.1**
PUK	**Puka**	**0.82**	**12**	*i* PG	**Sn**	**06 39 47.7**	**+1.4**
PUK				*i* SG	Sb	06 39 51.5	+7.3
DRME	**Dracevica, Mon**	**1.01**	**340**	⇓*i*Pg	**Pb**	**06 39 36.7**	**+0.1**
DRME				*e*Sg	**Sn**	**06 39 53.2**	**+2.3**
DRME	**Dracevica, Mon**	**1.01**	**340**	⇓*i*Pg	**Pb**	**06 39 36.7**	**+0.1**
DRME				*e*Sg	**Sn**	**06 39 53.2**	**+2.3**
KBN	**Korca**	**1.06**	**125**	*i* PG	**Pn**	**06 39 38.0**	**+0.3**
KBN				*i* SG	**Sg**	**06 39 51.5**	**-0.2**
KBN				*i* SG	**Sn**	**06 39 57.5**	**+5.3**
KBN	**Korca**	**1.06**	**125**	*i* Pg	**Pn**	**06 39 38.0**	**+0.3**
KBN				*i* Sg	**Sg**	**06 39 51.5**	**-0.2**
BCI	**Bajram Curri**	**1.16**	**15**	*i* PG	**Pn**	**06 39 39.3**	**+0.1**
BCI	**Bajram Curri**	**1.16**	**15**	*i* Pg	**Pn**	**06 39 39.3**	**+0.1**
BUM	**Brajici-Budva**	**1.20**	**332**	⇓*i*Pg	**Pn**	**06 39 39.7**	**0.0**
BUM				*e*Sg	**Sg**	**06 39 57.6**	**+1.3**
BUM	**Brajici-Budva**	**1.20**	**332**	⇓*i*Pg	**Pn**	**06 39 39.7**	**0.0**
BUM				*e*Sg	**Sg**	**06 39 57.6**	**+1.3**
PDG	**Podgorica**	**1.22**	**346**	P	**Pb**	**06 39 40.5**	**+0.2**
PDG				S	**Sg**	**06 39 58.0**	**+0.9**
PDG	**Podgorica**	**1.22**	**346**	*e*Pg	**Pb**	**06 39 40.3**	**+0.1**
PDG				*i* Sg	**Sg**	**06 39 57.9**	**+0.9**
PDG	**Podgorica**	**1.22**	**346**	⇑*i*Pg	**Pb**	**06 39 40.4**	**+0.2**
PDG				*i* Sg	**Sg**	**06 39 57.9**	**+0.9**
TTG	**Podgorica**	**1.22**	**346**	⇑*i*Pg	**Pb**	**06 39 40.4**	**+0.2**
TTG				*e*Sg	**Sg**	**06 39 58.3**	**+1.3**
BIA	**Bitola**	**1.28**	**100**	P	**Pn**	**06 39 40.7**	**-0.1**
BIA				S	**Sn**	**06 39 57.7**	**+0.1**
BIA	**Bitola**	**1.28**	**100**	*e*Pn	**Pb**	**06 39 41.3**	**+0.1**
BIA				*e*Sn	**Sg**	**06 39 59.9**	**+1.1**
BIA				*e*Lg	Lg	06 39 60.0	
	comp=E,100nm,0.5s						
BIA				*e*Lg	Lg	06 40 00.1	
	comp=N,32nm,0.2s						
BIA	**Bitola**	**1.28**	**100**	P	**Pn**	**06 39 40.7**	**-0.1**
BIA				S	**Sn**	**06 39 57.7**	**+0.1**
BIA				*e*Sn	**Sg**	**06 39 59.3**	**+0.5**
BIA				*e*Lg	Lg	06 39 59.5	
	comp=N,32nm,0.2s						
NEST	**Nestorio**	**1.34**	**128**	P	**Pb**	**06 39 42.1**	**-0.2**
NEST	**Nestorio**	**1.34**	**128**	P	**Pb**	**06 39 42.1**	**-0.2**
PVY	**Plav**	**1.37**	**9**	⇑*i*Pg	**Pn**	**06 39 42.1**	**0.0**
PVY				*e*Sg	**Sg**	**06 40 02.1**	**+0.4**
PVY	**Plav**	**1.37**	**9**	⇑*i*Pg	**Pn**	**06 39 42.1**	**0.0**
PVY				*e*Sg	**Sg**	**06 40 02.1**	**+0.4**
FNA	**Florina**	**1.38**	**109**	*e*PB	**Pb**	**06 39 42.5**	**-0.4**
FNA				S	**Sg**	**06 40 01.5**	**-0.5**
FNA	**Florina**	**1.38**	**109**	*e*PB	**Pb**	**06 39 42.6**	**-0.4**
FNA				*e*SB	**Sg**	**06 40 01.8**	**-0.2**
FNA	**Florina**	**1.38**	**109**	P	**Pb**	**06 39 42.5**	**-0.4**
FNA				S	**Sg**	**06 40 01.5**	**-0.5**
SRN	**Sarande**	**1.39**	**169**	P	**Pb**	**06 39 42.4**	**-0.6**
SRN				S	**Sg**	**06 40 02.4**	**+0.2**
SRN	**Sarande**	**1.39**	**169**	P	**Pb**	**06 39 42.4**	**-0.6**
SRN				S	**Sg**	**06 40 02.4**	**+0.2**
HCY	**Herceg Novi**	**1.48**	**325**	⇑*i*Pg	**Pn**	**06 39 43.3**	**-0.2**
HCY				*e*Sg	**Sb**	**06 40 04.6**	**+1.3**
HCY	**Herceg Novi**	**1.48**	**325**	⇑*i*Pg	**Pn**	**06 39 43.3**	**-0.2**
HCY				*e*Sg	**Sb**	**06 40 04.6**	**+1.3**
SKO	**Skopje**	**1.52**	**61**	P	**Pb**	**06 39 44.8**	**-0.5**
SKO				S	**Sg**	**06 40 06.5**	**0.0**
SKO	**Skopje**	**1.52**	**61**	*e*Pg	**Pn**	**06 39 44.5**	**+0.4**
SKO				*e*Sg	**Sg**	**06 40 06.3**	**-0.2**
SKO	**Skopje**	**1.52**	**61**	*e*Pn	**Pg**	**06 39 46.8**	**0.0**
SKO				*e*Sn	**Sn**	**06 40 01.2**	**-2.4**
SKO				*e*Lg	Lg	06 40 01.4	
	comp=N,120nm,0.6s						
SKO				*e*Lg	Lg	06 40 01.5	
	comp=E,72nm,0.7s						
SKO	**Skopje**	**1.52**	**61**	*e*Pg	**Pn**	**06 39 44.5**	**+0.4**
SKO	**Skopje**	**1.52**	**61**	P	**Pb**	**06 39 44.8**	**-0.5**
SKO	**Skopje**	**1.52**	**61**	*e*Pn	**Pb**	**06 39 45.7**	**+0.4**
SKO				*e*Sg	**Sg**	**06 40 06.3**	**-0.2**
SKO				*e*Lg	Lg	06 40 06.4	
	comp=E,72nm,0.7s						
KEK	**Kerkira**	**1.53**	**176**	P	**Pn**	**06 39 44.4**	**+0.2**
KEK				S	**Sg**	**06 40 07.2**	**+0.4**
KEK	**Kerkira**	**1.53**	**176**	*e*PB	**Pn**	**06 39 44.6**	**+0.4**
KEK				*e*SB	**Sg**	**06 40 08.0**	**+1.2**
KEK	**Kerkira**	**1.53**	**176**	P	**Pn**	**06 39 44.4**	**+0.2**
KEK				*e*Sb	**Sg**	**06 40 08.0**	**+1.2**
NKME	**Niksic**	**1.61**	**341**	⇑*i*Pn	**Pn**	**06 39 45.8**	**+0.5**
NKME				*e*Sn	**Sb**	**06 40 07.8**	**+0.8**
NKME	**Niksic**	**1.61**	**341**	⇑*i*Pn	**Pn**	**06 39 45.8**	**+0.5**
NKME				*e*Sn	**Sb**	**06 40 07.8**	**+0.8**
BEY	**Berane**	**1.64**	**6**	*e*Pn	**Pn**	**06 39 46.3**	**+0.6**
BEY				*e*Sn	**Sb**	**06 40 08.0**	**+0.2**
IVA	**Berane**	**1.64**	**6**	*e*Pn	**Pn**	**06 39 46.3**	**+0.6**
IVA				*e*Sn	**Sb**	**06 40 08.0**	**+0.2**
NKY	**Niksic**	**1.64**	**343**	⇑*i*Pn	**Pn**	**06 39 46.2**	**+0.4**
NKY				*e*Sn	**Sb**	**06 40 08.7**	**+0.7**
NKY	**Niksic**	**1.64**	**343**	⇑*i*Pn	**Pn**	**06 39 46.2**	**+0.4**
NKY				*e*Sn	**Sb**	**06 40 08.7**	**+0.7**
TREB	**Trebinje**	**1.77**	**327**	⇑*i*Pn	**Pn**	**06 39 47.0**	**-0.4**
TREB				*e*Sn	**Sb**	**06 40 11.2**	**-0.2**
TREB				*i* Sg	**Sg**	**06 40 13.0**	**-1.3**
TREB	**Trebinje**	**1.77**	**327**	⇑*i*Pn	**Pn**	**06 39 47.0**	**-0.4**
TREB				*e*Sn	**Sb**	**06 40 11.2**	**-0.2**
TREB				*i* Sg	**Sg**	**06 40 13.0**	**-1.3**
IGT	**Igoumenitsa**	**1.79**	**163**	P	**Pb**	**06 39 49.3**	**-0.5**
IGT				S	**Sg**	**06 40 13.3**	**-1.6**
IGT	**Igoumenitsa**	**1.79**	**163**	P	**Pb**	**06 39 49.3**	**-0.5**
IGT				S	**Sg**	**06 40 13.3**	**-1.6**
JAN	**Janina**	**1.83**	**150**	*e*PG	**Pb**	**06 39 50.0**	**-0.6**
JAN	**Janina**	**1.83**	**150**	*e*Pg	**Pb**	**06 39 50.0**	**-0.6**
BRY	**Bratogost**	**1.85**	**334**	*e*Pn	**Pn**	**06 39 49.3**	**+0.5**
BRY				*e*Sn	**Sb**	**06 40 13.9**	**-0.2**
BRY	**Bratogost**	**1.85**	**334**	*e*Pn	**Pn**	**06 39 49.3**	**+0.5**
BRY				*e*Sn	**Sb**	**06 40 13.9**	**-0.2**
SJES	**Sjenica**	**2.03**	**7**	*e*Sn	**Sb**	**06 40 18.6**	**-0.5**
SJES	**Sjenica**	**2.03**	**7**	*e*Sn	**Sb**	**06 40 18.6**	**-0.5**
UPM	**Unac-Piva**	**2.04**	**344**	⇓*i*Pn	**Pn**	**06 39 51.6**	**+0.3**
UPM				*e*Sn	**Sn**	**06 40 17.7**	**+1.2**
UPM	**Unac-Piva**	**2.04**	**344**	⇓*i*Pn	**Pn**	**06 39 51.6**	**+0.3**
UPM				*e*Sn	**Sn**	**06 40 17.7**	**+1.2**
PLE	**Pljevlja**	**2.10**	**355**	⇑*i*Pn	**Pn**	**06 39 51.9**	**-0.1**
PLE				*e*Sn	**Sn**	**06 40 18.7**	**+0.8**
PLE	**Pljevlja**	**2.10**	**355**	⇑*i*Pn	**Pn**	**06 39 51.9**	**-0.1**
PLE				*e*Sn	**Sn**	**06 40 18.7**	**+0.8**
STON	**Ston**	**2.18**	**319**	*e*Pn	**Pn**	**06 39 52.4**	**-0.7**
STON				*e*Sn	**Sn**	**06 40 20.5**	**+0.7**
STON	**Ston**	**2.18**	**319**	*e*Pn	**Pn**	**06 39 52.0**	**-1.1**
STON				Sn	**Sn**	**06 40 20.1**	**+0.2**
STON	**Ston**	**2.18**	**319**	*e*Pn	**Pn**	**06 39 52.4**	**-0.7**
STON				*e*Sn	**Sn**	**06 40 20.5**	**+0.7**
BARS	**Barje**	**2.25**	**45**	*e*Pn	**Pn**	**06 39 54.9**	**+0.8**
BARS	**Barje**	**2.25**	**45**	*e*Pn	**Pn**	**06 39 54.9**	**+0.8**
SELS	**Selova**	**2.25**	**28**	⇑*i*Pn	**Pn**	**06 39 54.8**	**+0.7**
IVAS	**Ivanjica**	**2.36**	**9**	*e*Pn	**Pn**	**06 39 56.7**	**+1.1**
IVAS				*e*Sn	**Sn**	**06 40 25.9**	**+1.6**
IVAS	**Ivanjica**	**2.36**	**9**	*e*Pn	**Pn**	**06 39 56.7**	**+1.1**
IVAS				*e*Sn	**Sn**	**06 40 25.9**	**+1.6**
LKD2	**Lefkada island**	**2.57**	**162**	*e*PN	**Pn**	**06 39 58.7**	**+0.2**
LKD2	**Lefkada island**	**2.57**	**162**	*e*Pn	**Pn**	**06 39 58.7**	**+0.2**
BBLS	**Lazići**	**2.63**	**356**	*e*Pn	**Pn**	**06 39 58.8**	**-0.5**
BBLS	**Lazići**	**2.63**	**356**	*e*Pn	**Pn**	**06 39 58.8**	**-0.5**
GRUS	**Gruza**	**2.76**	**16**	*e*Pn	**Pn**	**06 40 02.0**	**+1.0**
GRUS	**Gruza**	**2.76**	**16**	*e*Pn	**Pn**	**06 40 02.0**	**+1.0**
SOH	**Sokhos**	**2.83**	**97**	*e*PN	**Pn**	**06 40 02.1**	**0.0**
SOH	**Sokhos**	**2.83**	**97**	*e*Pn	**Pn**	**06 40 02.1**	**0.0**
DIVS	**Divibare**	**2.86**	**5**	*e*Pn	**Pn**	**06 40 02.9**	**+0.3**
DIVS	**Divibare**	**2.86**	**5**	*e*Pn	**Pn**	**06 40 02.9**	**+0.3**
VTS	**Vitosha**	**2.97**	**62**	⇓*i*P	**Pn**	**06 40 05.4**	**+1.3**
VTS				S	**Sn**	**06 40 38.3**	**-1.3**
VTS	**Vitosha**	**2.97**	**62**	⇓*i*P	**Pn**	**06 40 05.4**	**+1.3**
ZAPS	**Zavoj**	**3.00**	**46**	⇑*i*Pn	**Pn**	**06 40 06.0**	**+1.6**
ZAPS				*e*Sn	**Sn**	**06 40 40.9**	**+0.8**
ZAPS	**Zavoj**	**3.00**	**46**	⇑*i*Pn	**Pn**	**06 40 06.0**	**+1.6**
ZAPS				*e*Sn	**Sn**	**06 40 40.9**	**+0.8**
AGG	**Agios Georgios**	**3.02**	**136**	P	**Pn**	**06 40 05.6**	**+0.9**
AGG				S	**Sn**	**06 40 41.9**	**+1.3**
AGG	**Agios Georgios**	**3.02**	**136**	*e*PN	**Pn**	**06 40 06.0**	**+1.3**
AGG	**Agios Georgios**	**3.02**	**136**	P	**Pn**	**06 40 05.6**	**+0.9**
AGG	**Agios Georgios**	**3.02**	**136**	*e*Pn	**Pn**	**06 40 06.0**	**+1.3**
AGG				S	**Sn**	**06 40 41.9**	**+1.3**
NVR	**Nevrokopi**	**3.17**	**87**	*e*PN	**Pn**	**06 40 07.4**	**+0.6**
NVR	**Nevrokopi**	**3.17**	**87**	*e*Pn	**Pn**	**06 40 07.4**	**+0.6**
BZS	**Buzias**	**4.60**	**17**	⇑*i*P	**Pn**	**06 40 26.3**	**0.0**
BZS				S	**Sn**	**06 41 17.0**	**-2.4**
BZS	**Buzias**	**4.60**	**17**	⇑*i*P	**Pn**	**06 40 26.3**	**0.0**
GZR	**Gura Zlata**	**4.73**	**28**	⇓*i*P	**Pn**	**06 40 29.3**	**+1.1**
GZR				S	**Sn**	**06 41 19.0**	**-3.8**
GZR	**Gura Zlata**	**4.73**	**28**	⇓*i*P	**Pn**	**06 40 29.3**	**+1.1**
NVLJ	**Novalja**	**4.83**	**315**	*e*Pn	**Pn**	**06 40 28.9**	**-0.7**
NVLJ				Sn	**Sn**	**06 41 22.9**	**-2.3**
BOJS	**Bojanci**	**5.33**	**324**	*i* Pn	**Pn**	**06 40 36.3**	**-0.1**
BOJS				*e*Sn	**Sn**	**06 41 36.4**	**-1.2**
BOJS	**Bojanci**	**5.33**	**324**	Pn	**Pn**	**06 40 36.3**	**-0.1**
BOJS				*e*Sn	**Sn**	**06 41 36.3**	**-1.2**
ARR	**Arges**	**5.49**	**40**	⇓*i*P	**Pn**	**06 40 39.9**	**+1.2**
ARR	**Arges**	**5.49**	**40**	⇓*i*P	**Pn**	**06 40 39.9**	**+1.2**
CRES	**Cresnjev**	**5.50**	**328**	*e*Pn	**Pn**	**06 40 38.6**	**-0.1**
CRES	**Cresnjev**	**5.50**	**328**	*e*Pn	**Pn**	**06 40 38.7**	**-0.1**
VISS	**Visnje**	**5.75**	**324**	*i* Pn	**Pn**	**06 40 42.8**	**+0.7**
VISS	**Visnje**	**5.75**	**324**	*i* Pn	**Pn**	**06 40 42.8**	**+0.7**

ISK 12 06:41:58.5, 39°.32N×36°.85E, h5km, MD3.7
DDA 12 06:41:59.5, 39°.32N×36°.82E, h11km, MD3.3
CSEM 12 06:42:00.2±0.1, 39°.34N×36°.86E, h2km, MD3.3, Error ellipse: s-maj=3.0km s-min=2.8km az=137.0
ISC 12 06:41:59.7±1.1, 39°.32N±0°.02×36°.82E±0°.02, h4km±11km, n91, σ1.9 05/121, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCER	**sogukcermik**	**0.59**	**23**	*i* P	**Pg**	**06 42 11.1**	**0.0**
SCER				*i* S	**Sb**	**06 42 20.3**	**-1.1**
SCER	**sogukcermik**	**0.59**	**23**	*i* P	**Pg**	**06 42 11.1**	**0.0**
SCER				*i* S	**Sb**	**06 42 20.3**	**-1.1**
SVSK	**Karacayir**	**0.61**	**13**	*e*PG	**Pg**	**06 42 11.1**	**-0.3**
SVSK				*e*SG	**Sb**	**06 42 20.9**	**-1.0**
SVSK	**Karacayir**	**0.61**	**13**	*e*Pg	**Pg**	**06 42 11.1**	**-0.3**
SVSK				*e*Sg	**Sb**	**06 42 20.9**	**-1.0**
PINB	**Pinarbasi**	**0.72**	**207**	*i* P	**Pg**	**06 42 13.2**	**-0.3**
PINB				*i* S	**Sg**	**06 42 23.6**	**+0.8**
PINB	**Pinarbasi**	**0.72**	**207**	*i* P	**Pg**	**06 42 13.2**	**-0.3**
PINB				*i* S	**Sg**	**06 42 23.6**	**+0.8**
BNN	**Bunyan**	**0.89**	**239**	*e*PG	**Pg**	**06 42 16.6**	**-0.2**
DARE	**Darende-Malaty**	**0.91**	**145**	*e*PG	**Pg**	**06 42 17.0**	**-0.1**
TOKA	**Tokat**	**1.04**	**345**	*i* P	**Pg**	**06 42 19.2**	**-0.4**
TOKA				*i* S	**Sg**	**06 42 32.3**	**-0.7**
TOKA	**Tokat**	**1.04**	**345**	*i* P	**Pg**	**06 42 19.2**	**-0.4**
TOKA				*i* S	**Sg**	**06 42 32.3**	**-0.7**
RSDY	**Resadiye-TOKAT**	**1.15**	**20**	*e*PN	**Pg**	**06 42 21.2**	**-0.4**
RSDY	**Resadiye-TOKAT**	**1.15**	**20**	*e*Pn	**Pg**	**06 42 21.2**	**-0.4**
YOZ	**Yozgat**	**1.21**	**286**	*e*PN	**Pb**	**06 42 22.2**	**-0.9**
YOZ	**Yozgat**	**1.21**	**286**	*e*Pn	**Pb**	**06 42 22.2**	**-0.9**
KEMA	**Kemaliye**	**1.30**	**92**	*i* P	**Pn**	**06 42 23.8**	**-0.8**
KEMA				*i* S	**Sg**	**06 42 41.7**	**+0.3**
KEMA	**Kemaliye**	**1.30**	**92**	*i* P	**Pn**	**06 42 23.8**	**-0.8**
KEMA				*i* S	**Sg**	**06 42 41.7**	**+0.3**
AKCD	**Akcadag**	**1.33**	**140**	*i* P	**Pn**	**06 42 24.2**	**-1.0**
AKCD				*i* S	**Sg**	**06 42 43.7**	**+1.1**
AKCD	**Akcadag**	**1.33**	**140**	*i* P	**Pn**	**06 42 24.2**	**-1.0**
AKCD				*i* S	**Sg**	**

eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.58**	**293**	⇓P	**Pn**	**06 51 12.3**	**-0.9**
JHO				*e*S	**Sn**	**06 51 20.1**	**-1.6**
CHOJ	**Chosi**	**0.74**	**204**	⇓P	**Pn**	**06 51 15.2**	**-0.1**
CHOJ				S	**Sn**	**06 51 24.8**	**-0.6**
ONAJ	**Iwakimizuishiy**	**0.80**	**334**	⇓P	**Pn**	**06 51 15.4**	**-0.8**
ONAJ				*e*S	**Sn**	**06 51 25.2**	**-1.8**
JYT	**Yasato**	**0.86**	**260**	⇓P	**Pn**	**06 51 16.0**	**-0.9**
JYT				S	**Sn**	**06 51 26.2**	**-2.0**
JFK	**Kawauchi**	**1.02**	**344**	⇓P	**Pn**	**06 51 18.5**	**-0.8**
JFK				*e*S	**Sn**	**06 51 31.8**	**-0.7**
JFT	**Otama**	**1.34**	**328**	⇓P	**Pn**	**06 51 24.2**	**+0.6**
JFT				*e*S	**Sn**	**06 51 40.3**	**0.0**
JAG	**Ashikaga**	**1.44**	**272**	⇓P	**Pn**	**06 51 24.4**	**-0.5**
JAG				*e*S	**Sn**	**06 51 41.0**	**-1.6**
JMM	**Marumori**	**1.52**	**347**	⇓P	**Pn**	**06 51 25.8**	**-0.2**
JMM				*e*S	**Sn**	**06 51 44.1**	**-0.5**
JKT	**Katashina**	**1.65**	**284**	⇓P	**Pn**	**06 51 28.0**	**+0.2**
JKT				*e*S	**Sn**	**06 51 47.2**	**-0.6**
MJAR	**Matsushiro Arr**	**2.45**	**275**	P	**Pn**	**06 51 38.6**	**-0.1**
	34nm,0.3s,baz=114,slow=8.3,SNR=295						
MJAR				S	**Sn**	**06 52 10.0**	**+2.6**
	24nm,0.3s,baz=82,slow=29,SNR=5.9						
MJAR				LR	LR	06 52 42.6	
	comp=Z,354nm,20.1s,baz=90,slow=43						
MAT	**Matsushiro**	**2.45**	**275**	P	**Pn**	**06 51 39.2**	**+0.4**
MAT				S	**Sn**	**06 52 09.3**	**+1.8**
ASAJ	**Asahikawa**	**7.80**	**7**	P	**Pn**	**06 52 51.7**	**-0.4**
	1.0nm,0.3s,baz=270,slow=17,SNR=4.8						
ASAJ				S	**Sn**	**06 54 17.3**	**-1.8**
	0.5nm,0.3s,baz=96,slow=11,SNR=3.1						
ASAJ				LR	LR	06 55 28.3	
	comp=Z,56nm,21.9s,baz=340,slow=34						
JNU	**Nakatsue**	**9.12**	**252**	P	**Pn**	**06 53 11.7**	**+1.3**
	0.2nm,0.3s,baz=37,slow=18,SNR=1.9						
JNU				LR	LR	06 57 06.4	
	comp=Z,130nm,18.0s,baz=172,slow=40						
CBIJ	**Chichi jima**	**9.29**	**175**	P	**Pn**	**06 53 11.5**	**-1.3**
	6.1nm,0.3s,baz=228,slow=17,SNR=7.7						
CBIJ				S	Sn	06 54 48.5	-7.5
	13nm,0.3s,baz=305,slow=22,SNR=7.2						
USRK	**Ussuriysk Arra**	**10.52**	**321**	P	Pn	06 53 34.2	+4.7
	0.1nm,0.3s,baz=150,slow=15,SNR=3.7						
USRK				LR	LR	06 57 05.1	
	comp=Z,90nm,20.5s,baz=158,slow=35						
KSRS	**Korea Array**	**10.71**	**280**	P	Pn	06 53 35.9	+3.8
	0.3nm,0.3s,baz=93,slow=15,SNR=4.6						
KSRS				LR	LR	06 57 25.5	
	comp=Z,66nm,19.4s,baz=85,slow=36						
SONM	**Songino Array**	**28.04**	**305**	P	**P**	**06 56 48.4**	**-0.3**
	1.2nm,0.7s,baz=108,slow=9.0,SNR=7.5						
SONM				LR	LR	07 08 01.0	
	comp=Z,79nm,19.0s,baz=87,slow=36						
ZALV	**Zalesovo Beam**	**42.25**	**313**	P	**P**	**06 58 50.9**	**+0.5**
	2.1nm,0.5s,baz=80,slow=8.4,SNR=2.5						
MKAR	**Makanchi Array**	**44.35**	**303**	P	**P**	**06 59 06.3**	**-1.1**
	1.1nm,0.8s,baz=89,slow=8.8,SNR=6.3						
KURBB	**Kurchatov Arra**	**46.29**	**308**	⇑Sn	**P**	**06 59 22.2**	**-0.5**
	5.8nm,0.8s						
KURBB	**Kurchatov Arra**	**46.29**	**308**	P	**P**	**06 59 22.7**	**-0.1**
	3.6nm,0.4s,baz=82,slow=7.7,SNR=36						
KURBB				pP	**pP**	**06 59 34.2**	**-0.1**
	1.2nm,0.5s,baz=82,slow=7.7,SNR=4.7						
ILAR	**Eielson Array**	**50.12**	**32**	P	**P**	**06 59 54.0**	**+1.9**
	0.7nm,0.8s,baz=263,slow=7.0,SNR=8.4						
ILAR				pP	**pP**	**07 00 06.2**	**+2.5**
	0.5nm,0.7s,baz=264,slow=6.5,SNR=4.1						
BVAR	**Borovoye Array**	**50.91**	**313**	P	**P**	**06 59 58.2**	**0.0**
	0.8nm,0.5s,baz=100,slow=7.4,SNR=3.1						
FITZ	**Fitzroy Crossi**	**56.16**	**198**	P	**P**	**07 00 37.0**	**0.0**
	0.5nm,0.5s,baz=34,slow=11,SNR=2.8						
WRA	**Warramunga Arr**	**56.40**	**188**	P	**P**	**07 00 38.8**	**+0.1**
	0.7nm,0.4s,baz=1.3,slow=7.5,SNR=9.2						
ASAR	**Alice Springs**	**60.12**	**188**	P	**P**	**07 01 04.3**	**-0.4**
	0.9nm,1.1s,baz=9.8,slow=6.0,SNR=3.9						
ARCES	**ARCESS Array B**	**64.56**	**339**	P	**P**	**07 01 33.7**	**-0.1**
	1.9nm,0.8s,baz=58,slow=8.6,SNR=3.4						
FINES	**FINESS Array B**	**69.32**	**332**	P	**P**	**07 02 04.0**	**-0.1**
	1.2nm,0.7s,baz=2.8,slow=5.7,SNR=3.7						
AKASG	**Malin Array Be**	**74.72**	**322**	P	**P**	**07 02 35.7**	**-0.9**
	0.5nm,0.4s,baz=52,slow=5.3,SNR=2.9						
NOA	**NORSAR Array B**	**74.73**	**337**	P	**P**	**07 02 35.5**	**-1.1**
	0.7nm,0.7s,baz=38,slow=5.9,SNR=2.7						
GERES	**GERESS Array B**	**83.19**	**328**	P	**P**	**07 03 24.2**	**+1.0**
	0.3nm,0.5s,baz=353,slow=4.1,SNR=3.1						

IDC 12 06:59:10.4±2.1, 4°.41N×127°.72E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/24, mbtmp3.4/4, Error ellipse: s-maj=178.6km s-min=23.3km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.06**	**165**	P	P	07 04 37.2	+0.4
	0.8nm,0.6s,baz=345,slow=11,SNR=12						
ASAR	**Alice Springs**	**28.55**	**168**	P	P	07 05 07.3	-0.9
	0.3nm,0.7s,baz=338,slow=12,SNR=2.6						
MKAR	**Makanchi Array**	**57.57**	**325**	P	P	07 09 02.4	+0.4
	0.3nm,0.5s,baz=110,slow=6.6,SNR=3.5						
KURBB	**Kurchatov Arra**	**61.70**	**327**	P	P	07 09 30.0	-0.4
	0.3nm,0.7s,baz=127,slow=6.0,SNR=4.6						

IDC 12 07:02:03.4±2.9, 19°.61S×175°.96W, h171km±30km, mb3.6/4, mb1 3.7/6, mb1mx3.4/20, mbtmp3.6/6, Error ellipse: s-maj=40.3km s-min=21.0km az=132.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.94**	**36**	P	Pn	07 03 43.0	+0.1
	1.0nm,0.3s,baz=212,slow=9.5,SNR=4.3						
AFI				S	Sn	07 04 55.8	-5.6
	1.6nm,0.3s,baz=270,slow=20,SNR=5.3						
URZ	**Urewera**	**19.53**	**197**	P	P	07 06 17.7	-0.1
	0.7nm,0.3s,baz=338,slow=5.4,SNR=5.8						
URZ				S	S	07 09 41.9	-7.2
	0.1nm,0.3s,baz=180,slow=16,SNR=2.2						
CTA	**Charters Tower**	**35.49**	**263**	P	P	07 08 45.0	+1.0
	3.0nm,0.4s,baz=72,slow=6.4,SNR=6.2						
ASAR	**Alice Springs**	**46.59**	**256**	P	P	07 10 14.4	-0.3
	2.0nm,0.7s,baz=85,slow=8.7,SNR=25						
WRA	**Warramunga Arr**	**46.63**	**261**	P	P	07 10 14.0	-0.9
	0.8nm,0.5s,baz=97,slow=7.7,SNR=24						
FITZ	**Fitzroy Crossi**	**55.05**	**261**	P	P	07 11 18.3	+0.4
	0.4nm,0.4s,baz=45,slow=10.0,SNR=3.7						
BRTR	**Keskin Array B**	**147.62**	**315**	PKPbc	PKPbc	07 21 27.4	-0.7
	0.5nm,0.4s,baz=40,slow=2.5,SNR=3.0						
GERES	**GERESS Array B**	**149.81**	**347**	PKPbc	PKPbc	07 21 32.8	-0.5
	0.2nm,0.3s,baz=351,slow=3.2,SNR=2.9						

*IDC **12** 07:02:08.0±3.5, 14°.76N×93°.85W, h0km, mb3.6/3, mb1 3.9/6, mb1mx3.7/24, mbtmp3.6/6, ML3.7/3, MS3.4/2, Ms1 3.4/2, ms1mx3.0/23, Error ellipse: s-maj=52.3km s-min=36.9km az=179.0*

*MEX **12** 07:02:09.0±0.6, 14°.40N×94°.20W, h18km±59km, MD3.9*

ISC 12 07:02:09.9±1.7, 14°.6N±0°.1×94°.09W±0°.05, h30km, n14, σ2°.95/20, mb3.8/3, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.38**	**37**	*e*P	**Pn**	**07 02 32.6**	**-0.5**
PCIG				*i* S	**Sb**	**07 02 52.1**	**-0.2**
HUIG	**Huatulco**	**2.27**	**301**	*e*P	**Pn**	**07 02 43.4**	**-2.0**
HUIG				*i* S	**Sn**	**07 03 09.6**	**-2.8**
TGIG		**2.35**	**23**	*e*P	**Pn**	**07 02 47.9**	**+1.3**
TGIG				*i* S	**Sb**	**07 03 17.7**	**-2.6**
CCIG	**Comitan**	**2.51**	**48**	*e*P	**Pn**	**07 02 49.9**	**+1.0**
CCIG				*i* S	**Sb**	**07 03 21.4**	**-3.6**
CMIG	**Matias Romero**	**2.59**	**343**	*e*P	**Pn**	**07 02 50.3**	**+0.5**
CMIG				*i* S	**Sn**	**07 03 21.1**	**+0.9**
CMIG	**Matias Romero**	**2.59**	**343**	**Pn**	**Pn**	**07 02 50.5**	**+0.7**
	12nm,0.3s,baz=157,slow=10,SNR=50						
CMIG				Sn	**Sn**	**07 03 21.7**	**+1.4**
	14nm,0.3s,baz=102,slow=8.4,SNR=9.5						
VHO	**Vista Hermosa**	**3.54**	**314**	*i* P	**Pn**	**07 03 01.6**	**-1.4**
VHO				*i* S	**Sn**	**07 03 43.2**	**-0.7**
TEIG	**Tepich**	**7.87**	**44**	Pn	**Pn**	**07 04 01.5**	**-0.9**
	6.6nm,0.3s,baz=225,slow=1.7,SNR=35						
TEIG				Sn	**Sn**	**07 05 26.9**	**-3.6**
	1.2nm,0.3s,baz=210,slow=20,SNR=2.3						
TXAR	**Lajitas Array**	**17.12**	**330**	P	**P**	**07 06 08.2**	**-0.5**
	0.0nm,0.3s,baz=151,slow=11,SNR=3.2						
ANMO	**Albuquerque**	**23.12**	**333**	P	**P**	**07 07 17.1**	**+3.3**
	0.6nm,0.7s,baz=149,slow=11,SNR=4.2						
PFO	**Pinyon Flat Ob**	**27.73**	**317**	LR	LR	07 21 23.9	
	comp=Z,103nm,18.8s,baz=16,slow=42						
SADO	**Sadowa**	**32.63**	**20**	LR	LR	07 23 51.2	
	comp=Z,51nm,18.1s,baz=288,slow=40						
YKA	**Yellowknife Ar**	**49.99**	**348**	P	**P**	**07 11 01.4**	**+0.3**
	1.3nm,0.6s,baz=149,slow=7.5,SNR=3.1						
ILAR	**Eielson Array**	**61.49**	**337**	P	**P**	**07 12 26.0**	**+2.4**
	0.5nm,0.7s,baz=166,slow=4.7,SNR=7.4						

*IDC **12** 07:02:37.9±3.5, 31°.07N×138°.14E, h345km±106km, mb2.8/3, mb1 2.9/5, mb1mx2.7/25, mbtmp2.8/5, Error ellipse: s-maj=242.8km s-min=16.5km az=66.0*

*ISCJB **12** 07:02:39.1±0.6, 31°.31N±0°.05×138°.9E±0°.1, h381km, mb2.7/3, Error ellipse: s-maj=13.8km s-min=6.0km az=172.6*

*JMA **12** 07:02:39.7±0.5, 31°.44N×138°.73E, h398km, M3.4*

ISC 12 07:02:38.9±1.1, 31°.33N±0°.07×138°.9E±0°.1, h381km, n22, σ1°.66/27, mb2.7/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.95**	**24**	P	Pn	07 03 36.0	+3.3
JIE	**Ise**	**3.56**	**330**	P	**Pn**	**07 03 46.9**	**+1.4**
JKN2	**Miekihoku**	**3.64**	**324**	P	**Pn**	**07 03 47.0**	**+0.8**
HMMJ	**Hamamatsu 2**	**3.65**	**345**	P	**Pn**	**07 03 48.4**	**+2.1**
BSO3	**Boso 3**	**3.73**	**21**	P	**Pn**	**07 03 48.1**	**+1.3**
BSO1	**Boso 1**	**3.76**	**27**	P	**Pn**	**07 03 49.3**	**+2.6**
BSO1				*e*S	**S**	**07 04 42.8**	**+1.0**
BSO4	**Boso 4**	**3.85**	**18**	P	**Pn**	**07 03 50.0**	**+1.9**
BSO4				*e*S	**S**	**07 04 45.2**	**+0.9**
JOD2	**Odawara 2**	**3.93**	**3**	P	**Pn**	**07 03 50.4**	**+1.4**
JNY	**Yasuok**	**4.11**	**348**	P	**Pn**	**07 03 52.9**	**+2.0**
JAO	**Obara**	**4.16**	**341**	P	**Pn**	**07 03 53.0**	**+1.7**
JRY	**Ryogami san**	**4.68**	**0**	P	**Pn**	**07 03 58.0**	**+1.5**
JRY				*e*S	**S**	**07 04 59.0**	**-0.6**
JYT	**Yasato**	**5.01**	**12**	P	**Pn**	**07 04 00.6**	**+0.7**
JAG	**Ashikaga**	**5.11**	**5**	P	**Pn**	**07 04 01.3**	**+0.3**
JAG				*e*S	**S**	**07 05 04.8**	**-2.9**
CBIJ	**Chichi jima**	**5.11**	**145**	P	**Pn**	**07 04 02.1**	**+0.8**
	2.1nm,0.3s,baz=260,slow=18,SNR=5.1						
CBIJ				S	**S**	**07 05 06.8**	**-1.3**
	9.9nm,0.3s,baz=285,slow=20,SNR=7.5						
MJAR	**Matsushiro Arr**	**5.23**	**354**	P	**Pn**	**07 04 03.4**	**+1.0**
	0.7nm,0.3s,baz=167,slow=11,SNR=6.6						
MAT	**Matsushiro**	**5.23**	**354**	P	**Pn**	**07 04 03.8**	**+1.4**
MAT				*e*S	**S**	**07 05 07.5**	**-2.7**
MAT	**Matsushiro**	**5.23**	**354**	P	**Pn**	**07 04 03.8**	**+1.4**
JHO	**Hitachi**	**5.46**	**14**	P	**Pn**	**07 04 05.0**	**+0.3**
JFK	**Kawauchi**	**6.25**	**15**	P	**Pn**	**07 04 14.4**	**+0.9**
JFK				*e*S	**S**	**07 05 27.5**	**-3.1**
MKAR	**Makanchi Array**	**45.60**	**307**	P	P	07 10 20.6	-2.0
	0.1nm,0.4s,baz=97,slow=9.7,SNR=3.6						
WRA	**Warramunga Arr**	**51.16**	**185**	P	**P**	**07 11 04.5**	**-0.3**
	0.4nm,0.3s,baz=1.8,slow=7.7,SNR=9.8						
ASAR	**Alice Springs**	**54.89**	**186**	P	**P**	**07 11 32.2**	**+0.6**
	0.2nm,0.5s,baz=22,slow=10,SNR=5.3						

IDC 12 07:09:15.6±6.3, 2°.79N×128°.49E, h147km±63km, mb3.4/8, mb1 3.6/9, mb1mx3.4/25, mbtmp3.5/9, Error ellipse: s-maj=40.6km s-min=14.7km az=69.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**11.67**	**228**	P	Pn	07 11 57.7	-0.1
	2.6nm,0.3s,baz=25,slow=12,SNR=8.2						
KAPI				S	Sn	07 13 57.8	-9.0
	0.6nm,0.3s,baz=270,slow=19,SNR=2.5						
WRA	**Warramunga Arr**	**23.31**	**166**	P	P	07 14 10.4	-0.2
	2.6nm,0.6s,baz=345,slow=10.0,SNR=30						
ASAR	**Alice Springs**	**26.82**	**169**	P	P	07 14 42.2	-0.2
	0.4nm,0.5s,baz=352,slow=8.0,SNR=10						
MJAR	**Matsushiro Arr**	**34.77**	**14**	P	P	07 15 51.5	-0.5
	1.3nm,0.6s,baz=192,slow=9.9,SNR=5.6						
STKA	**Stephens Creek**	**36.66**	**161**	P	P	07 16 08.4	+0.2
	1.4nm,0.3s,baz=337,slow=10,SNR=6.9						
SONM	**Songino Array**	**48.75**	**340**	P	P	07 17 46.4	+0.8
	0.8nm,0.7s,baz=151,slow=8.4,SNR=5.4						
MKAR	**Makanchi Array**	**59.33**	**325**	P	P	07 19 02.1	0.0
	0.7nm,0.5s,baz=123,slow=6.9,SNR=8.2						
KURBB	**Kurchatov Arra**	**63.47**	**327**	P	P	07 19 29.7	-0.1
	0.7nm,0.6s,baz=128,slow=6.1,SNR=11						
BVAR	**Borovoye Array**	**69.06**	**327**	P	P	07 20 04.7	-0.7
	0.5nm,0.7s,baz=140,slow=5.1,SNR=2.8						

TAP 12 07:56:53.4, 22°.02N×120°.42E, h54km±1km, ML3.5, 3D, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEN	**Hengchun**	**0.29**	**92**	⇓*i*P	Pn	07 57 03.2	+0.4
	baz=92						
HEN				*i* S	Sn	07 57 10.5	+0.9
	baz=92						
TWP	**Hsiaoliuchiu**	**0.33**	**350**	P	Pn	07 57 03.3	+0.2
	baz=351						
TWP				S	Sn	07 57 11.3	+1.1
	baz=351						
TWK1	**Hengchun**	**0.36**	**102**	⇓*i*P	Pn	07 57 04.0	+0.6
	baz=102						
TWK1				*i* S	Sn	07 57 11.8	+1.2
	baz=102						
SCZT	**Fangliau**	**0.40**	**27**	⇓*i*P	Pn	07 57 03.7	-0.1
	baz=28						
SCZT				*e*S	Sn	07 57 10.9	-0.3
	baz=28						
TAW	**Tawu**	**0.55**	**52**	*e*P	Pn	07 57 06.2	+0.7
	baz=52						
TAW				*e*S	Sn	07 57 15.4	+1.1
	baz=52						
KAU	**Kaohsiung**	**0.56**	**349**	*e*P	Pn	07 57 06.1	+0.5
	baz=349						
KAU				*e*S	Sn	07 57 15.7	+1.3
	baz=349						
SGLT	**Jiouru**	**0.71**	**5**	*e*P	Pn	07 57 08.3	+0.9
	baz=5.0						
SGLT				*e*S	Sn	07 57 19.5	+1.9
	baz=5.0						
TWM1	**Shoushan**	**0.80**	**360**	*e*P	Pn	07 57 10.1	+1.4
TWM1				*e*S	Sn	07 57 21.1	+1.3
TTN	**Taitung**	**0.99**	**42**	*e*P	Pn	07 57 11.2	+0.1
	baz=42						
TTN				*e*S	Sn	07 57 26.9	+2.8
	baz=42						
TWG	**Pinlang**	**1.00**	**37**	P	Pn	07 57 12.6	+1.4
	baz=37						
TWG				*e*S	Sn	07 57 25.5	+1.1
	baz=37						
SGST	**Jiashian**	**1.07**	**8**	*e*P	Pn	07 57 13.2	+1.0
	baz=8.0						
SGST				*e*S	Sn	07 57 27.0	+0.9
	baz=8.0						
CHN1	**Nanshi**	**1.17**	**5**	*e*P	Pn	07 57 14.4	+1.0
	baz=4.0						
CHN1				*e*S	Sn	07 57 29.4	+1.0
	baz=4.0						
SCLT	**Jiali**	**1.17**	**350**	*e*P	Pn	07 57 14.0	+0.5
	baz=349						
SCLT				*e*S	Sn	07 57 29.6	+1.2
	baz=349						
WTP	**Ta-pu**	**1.23**	**8**	*e*P	Pn	07 57 15.6	+1.2
	baz=8.0						
WTP				*e*S	Sn	07 57 31.3	+1.1
	baz=8.0						
ELDTW	**Lidau**	**1.29**	**25**	*e*P	Pn	07 57 16.5	+1.2
	baz=25						
ELDTW				*e*S	Sn	07 57 32.6	+1.1
	baz=25						
CHN4	**Tsaushan**	**1.34**	**7**	*e*P	Pn	07 57 16.4	+0.6
	baz=6.0						
CHN4				*e*S	Sn	07 57 33.3	+0.8
	baz=6.0						
WDGT	**Dungji**	**1.42**	**330**	*e*P	Pn	07 57 16.2	-0.8
	baz=330						
WDGT				*e*S	Sn	07 57 32.8	-1.8
	baz=330						
TWF1	**Yuli**	**1.55**	**31**	*e*P	Pn	07 57 20.3	+1.6
	baz=31						
TWF1				*e*S	Sn	07 57 39.4	+1.6
	baz=31						
CHN5	**Tsauling**	**1.59**	**8**	*e*P	Pn	07 57 20.1	+0.8
	baz=8.0						
CHN5				*e*S	Sn	07 57 40.0	+1.1
	baz=8.0						
WGK	**Gukeng**	**1.67**	**4**	*e*P	Pn	07 57 21.5	+1.3
	baz=4.0						
WGK				*e*S	Sn	07 57 41.9	+1.4
	baz=4.0						
EHY	**Hungye**	**1.70**	**29**	*e*P	Pn	07 57 22.0	+1.3
	baz=29						
EHY				*e*S	Sn	07 57 43.0	+1.7
	baz=29						
PNG	**Penghu**	**1.74**	**333**	*e*P	Pn	07 57 21.2	0.0
	baz=332						
SMLT	**Sun Moon Lake**	**1.91**	**13**	*e*P	Pn	07 57 25.0	+1.3
	baz=13						
SMLT				*e*S	Sn	07 57 47.6	+1.0
	baz=13						
TYC	**Yuchr**	**1.92**	**12**	*e*P	Pn	07 57 24.4	+0.8
	baz=12						
TYC				*e*S	Sn	07 57 48.2	+1.5
	baz=12						
TCU	**Taichung**	**2.13**	**6**	*e*P	Pn	07 57 27.6	+1.0
	baz=6.0						
TCU				*e*S	Sn	07 57 53.3	+1.4
	baz=6.0						
WHF	**Hehuan Shan**	**2.25**	**20**	*e*P	Pn	07 57 30.7	+1.9
	baz=20						
WHF				*e*S	Sn	07 57 57.5	+1.7
	baz=20						
TWT	**Tachien**	**2.33**	**17**	*e*P	Pn	07 57 31.6	+2.0
	baz=17						
TWT				*e*S	Sn	07 57 57.8	+0.7
	baz=17						
TWQ1	**Liyutan**	**2.34**	**8**	*e*P	Pn	07 57 30.7	+1.2
	baz=8.0						
TWQ1				*e*S	Sn	07 57 57.0	-0.1
	baz=8.0						
NNS	**Nan Shan**	**2.56**	**20**	*e*P	Pn	07 57 34.9	+2.2
	baz=20						
NNS				*e*S	Sn	07 58 04.0	+1.2
	baz=20						
NSTT	**Nanjuang**	**2.65**	**11**	*e*P	Pn	07 57 34.9	+1.1
	baz=11						
NSTT				*e*S	Sn	07 58 05.3	+0.6
	baz=11						
NSK	**Sanguang**	**2.78**	**18**	*e*P	Pn	07 57 37.6	+2.1
	baz=18						
NSK				*e*S	Sn	07 58 09.2	+1.2
	baz=18						

DJA 12 08:07:54.4±0.8, 9°.S±5°×111°.3E±°, h30km, M3.6/7, MLv3.6/7, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**0.96**	**23**	P	Pn	08 08 10.8	-1.0
GMJI				S	Sn	08 08 22.8	-1.7
KRKI	**Karangkates**	**1.16**	**329**	P	Pn	08 08 15.0	+0.4
KRKI				S	Sb	08 08 30.2	-0.4
JAGI	**Jajag, Banyuwa**	**1.28**	**58**	P	Pn	08 08 15.4	-0.9
JAGI				S	Sn	08 08 30.8	-1.6
BLJI	**Banyuglugur**	**1.50**	**21**	P	Pb	08 08 20.7	-1.0
BLJI				S	Sb	08 08 40.1	-0.3
PWJI	**Pagerwojo**	**1.68**	**312**	P	Pn	08 08 22.1	+0.3
PWJI				S	Sn	08 08 42.1	-0.2
ABJI	**Asem Bagus**	**1.79**	**41**	P	Pb	08 08 25.2	-1.3
ABJI				S	Sb	08 08 46.9	-1.6

CASC 12 08:26:36.7±2.8, 15°.28N×89°.81W, h0km±7km, MD3.7, 1D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NBG	**Las Nubes**	**0.86**	**217**	*e*P	Pg	08 26 52.7	-0.9
NBG				*e*S	Sn	08 27 08.9	-1.1
RBDL	**Robledal**	**1.17**	**174**	*i* P	Pg	08 26 58.5	-0.8
RBDL				*e*S	Sg	08 27 15.1	+0.4
FUG	**Fuego 3**	**1.30**	**230**	*e*P	Pg	08 27 00.6	-1.3
RTR	**El Retiro**	**1.39**	**173**	*i* P	Pg	08 27 02.0	-1.5
RTR				*e*S	Sn	08 27 23.7	+0.9
SNJE	**San Jose**	**1.42**	**172**	*i* P	Pn	08 27 02.7	-1.3
SNJE				*e*S	Sn	08 27 25.1	+1.5
SBLS	**San Blas**	**1.45**	**173**	*i* P	Pn	08 27 02.7	-1.8
BOQS	**Boqueron**	**1.62**	**161**	*e*P	Pn	08 27 05.5	-1.3
BOQS				*e*S	Sg	08 27 31.0	+1.6
SNET	**Serv Nac Est T**	**1.68**	**160**	⇓*i*P	Pn	08 27 05.8	-1.7
LBRS	**Las Brisas**	**1.70**	**154**	*i* P	Pn	08 27 06.7	-1.1
LBRS				*e*S	Sb	08 27 30.9	-0.3
LFRS	**El Faro**	**1.80**	**156**	*i* P	Pn	08 27 08.3	-0.9
LFRS				*e*S	Sb	08 27 34.0	0.0
SNVI	**San Vicente**	**1.91**	**150**	*e*P	Pn	08 27 10.6	-0.1
SNVI				*e*S	Sb	08 27 37.0	-0.1
JAT	**Jato**	**2.01**	**242**	*e*P	Pn	08 27 13.0	+1.1
JAT				*e*S	Sg	08 27 43.4	+2.1
CAHU	**Cacacuatique**	**2.16**	**134**	*e*P	Pn	08 27 13.8	-0.5
CAHU				*e*S	Sg	08 27 45.8	-0.8
VSM	**San Miguel**	**2.37**	**141**	*e*P	Pn	08 27 18.4	+1.2

*ISCJB **12** 08:33:03.5±0.6, 39°.91N±0°.06×29°.6W±0°.1, h11km, mb3.8/8, MS3.5/20, Error ellipse: s-maj=14.0km s-min=5.1km az=148.3*

*IDC **12** 08:33:03.1±1.2, 39°.81N×29°.71W, h0km, mb3.8/8, mb1 4.0/9, mb1mx3.7/29, mbtmp3.7/9, ML4.4/1, MS3.6/21, Ms1 3.6/21, ms1mx3.5/44, Error ellipse: s-maj=47.3km s-min=19.3km az=6.0*

*PDA **12** 08:33:06.6±0.6, 40°.13N×29°.53W, h10km, MD3.6, ML3.2, Error ellipse: s-maj=8.2km s-min=4.0km az=78.0*

*CSEM **12** 08:33:06.6, 40

TORD Torodi Ar. Bea 38.23 125 P P 08 40 25.7 +0.4
1.1nm,1.1s,baz=332,slow=6.8,SNR=2.9
TORD LR LR 08 55 42.8
comp=Z,75nm,18.1s,baz=340,slow=36
FINES FINESS Array B 39.76 38 LR LR 08 55 39.1
comp=Z,96nm,18.3s,baz=176,slow=34
DBIC Dimbokro 39.78 140 LR LR 08 56 13.1
comp=Z,46nm,18.2s,baz=338,slow=35
ARCES ARCESS Array B 41.17 26 LR LR 08 55 41.4
comp=Z,32nm,21.2s,baz=193,slow=33
AKASG Malin Array Be 41.70 55 P **P 08 40 56.5 +2.7**
0.8nm,0.5s,baz=281,slow=7.7,SNR=2.2
BRTR Keskin Array B 47.60 69 P **P 08 41 41.5 +0.3**
0.6nm,0.6s,baz=297,slow=7.9,SNR=3.0
KBZ Khabaz 52.54 61 LR LR 09 04 35.2
comp=Z,41nm,20.5s,baz=285,slow=36
PDAR Pinedale Array 57.99 301 P **P 08 42 56.2 -1.9**
1.0nm,0.9s,baz=74,slow=6.7,SNR=6.5
PDAR LR LR 09 09 09.0
comp=Z,78nm,20.3s,baz=78,slow=37
INK Inuvik 58.44 335 LR LR 09 04 22.8
comp=Z,93nm,19.2s,baz=29,slow=32
AKTO Aktyubinsk 59.21 48 LR LR 09 08 10.9
comp=Z,44nm,18.6s,baz=146,slow=36
NEW Newport 60.23 310 P **P 08 43 13.4 +0.1**
2.4nm,0.9s,baz=32,slow=9.5,SNR=4.8
NEW LR LR 09 08 33.9
comp=Z,157nm,21.8s,baz=64,slow=35
TXAR Lajitas Array 60.34 285 P **P 08 43 13.5 -0.9**
2.2nm,0.9s,baz=66,slow=7.0,SNR=18
ATAH Atahualpa 64.93 236 LR LR 09 08 25.1
comp=Z,58nm,20.7s,baz=184,slow=33
ZALV Zalesovo Beam 70.89 35 LR LR 09 18 59.2
comp=Z,50nm,18.2s,baz=71,slow=39
MKAR Makanchi Array 74.50 41 P **P 08 44 43.1 -0.6**
0.6nm,0.9s,baz=311,slow=4.0,SNR=4.6
MKAR LR LR 09 17 30.1
comp=Z,54nm,18.1s,baz=82,slow=36
SONM Songino Array 84.31 28 P **P 08 45 37.1 -0.1**
0.4nm,0.7s,baz=300,slow=3.2,SNR=2.9

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*CSEM **12** 08:38:34.5, 39°.97N×29°.48W, h10km, ML2.9, After PDA*
PDA 12 08:38:34.5±0.9, 39°.97N×29°.48W, h10km, MD3.7, ML2.9, Error ellipse: s-maj=12.3km s-min=7.3km az=74.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**1.47**	**156**	*e*S	Sn	08 39 13.1	-7.3
PCED				A	A	08 39 16.5	
44nm,0.5s							
PCED	**Cedros**	**1.47**	**156**	*e*S	Sn	08 39 13.1	-7.3
PGRA	**Graciosa**	**1.49**	**129**	*e*S	Sn	08 39 13.5	-7.4
PGRA				A	A	08 39 15.3	
22nm,0.3s							
PGRA	**Graciosa**	**1.49**	**129**	*e*S	Sn	08 39 13.5	-7.4
CALA	**Caldeira**	**1.51**	**156**	*e*S	Sn	08 39 13.9	-7.7
CALA	**Caldeira**	**1.51**	**156**	*e*S	Sn	08 39 13.9	-7.7
PICO	**Pico**	**1.68**	**151**	*e*P	Pn	08 38 59.7	-4.4
PICO				*e*S	Sn	08 39 17.7	-8.0
PICO	**Pico**	**1.68**	**151**	*e*P	Pn	08 38 59.7	-4.4
PICO				*e*S	Sn	08 39 17.7	-8.0
PCAN	**Candelaria**	**1.69**	**153**	*e*P	Pn	08 38 59.5	-4.6
PCAN				*e*S	Sn	08 39 18.5	-7.4
PCAN				A	A	08 39 19.1	
57nm,0.4s							
PCAN	**Candelaria**	**1.69**	**153**	*e*P	Pn	08 38 59.5	-4.6
PCAN				*e*S	Sn	08 39 18.5	-7.4
PMAN	**Manadas**	**1.72**	**141**	*e*P	Pn	08 38 59.5	-5.0
PMAN				*e*S	Sn	08 39 18.8	-7.7
PMAN				A	A	08 39 20.6	
16nm,0.1s							
PMAN	**Manadas**	**1.72**	**141**	*e*P	Pn	08 38 59.5	-5.0
PMAN				*e*S	Sn	08 39 18.8	-7.7

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*IDC **12** 08:38:32.3±1.5, 5°.03S×145°.89E, h0km, mb4.0/4, mb1 4.2/6, mb1mx3.9/17, mbtmp4.0/6, ML3.4/2, MS3.5/3, Ms1 3.5/3, ms1mx3.1/26, Error ellipse: s-maj=44.2km s-min=24.6km az=116.0*
*ISCJB **12** 08:38:35.8±0.9, 5°.45S±0°.10×146°.5E±0°.2, h33km, mb3.9/4, MS3.6/2, Error ellipse: s-maj=28.2km s-min=8.1km az=25.0*
*AUST **12** 08:38:39.5±0.9, 5°.32S×147°.11E, h146km, Error ellipse: s-maj=1.5km s-min=1.3km az=307.0*
ISC 12 08:38:38.2±1.1, 5°.37S±0°.07×146°.4E±0°.2, h35km, n18, σ1°90/13, mb4.0/4, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**3.46**	**17**	S	**Sn**	**08 40 10.1**	**+0.7**
baz=3.3,SNR=5.4							
PMG	**Port Moresby**	**4.08**	**169**	Pn	Pn	08 39 41.6	+3.4
4.1nm,0.3s,baz=292,slow=11,SNR=9.0							
PMG				Sn	**Sn**	**08 40 27.4**	**+2.5**
3.3nm,0.3s,baz=43,slow=18,SNR=3.0							
PMG				Lg	Lg	08 40 47.6	
4.7nm,0.3s,baz=136,slow=22,SNR=4.3							
COEN	**Coen**	**9.09**	**200**	P	Pn	08 40 50.6	+3.6
baz=9.5,SNR=7.7							
HNR	**Honiara**	**14.06**	**107**	LR	LR	08 46 51.8	
comp=Z,58nm,19.4s,baz=272,slow=34							
KDU	**Kakadu**	**15.52**	**241**	P	**P**	**08 42 16.5**	**-2.0**
baz=16,SNR=15							
MTN	**Manton Dam**	**16.76**	**243**	P	**P**	**08 42 32.4**	**0.0**
baz=18,SNR=8.8							
PALU	**Palau**	**17.33**	**317**	S	**S**	**08 46 01.1**	**+3.8**
baz=18,SNR=3.8							
WRA	**Warramunga Arr**	**18.61**	**218**	P	**P**	**08 42 51.9**	**-1.0**
0.2nm,0.3s,baz=36,slow=11,SNR=23							
KNRA	**Kununurra**	**20.08**	**238**	P	**P**	**08 43 07.9**	**-1.0**
baz=21,SNR=3.5							
ASAR	**Alice Springs**	**21.79**	**212**	P	**P**	**08 43 26.8**	**-0.5**
2.0nm,1.0s,baz=44,slow=7.8,SNR=12							
ASAR				LR	LR	08 51 22.0	
comp=Z,191nm,21.9s,baz=324,slow=35							
FITZ	**Fitzroy Crossi**	**23.87**	**236**	P	**P**	**08 43 46.2**	**-2.5**
12nm,0.8s,baz=66,slow=9.9,SNR=28							
FITZ	**Fitzroy Crossi**	**23.87**	**236**	P	**P**	**08 43 47.6**	**-1.1**
baz=25,SNR=13							
LUWI	**Luwuk**	**23.94**	**280**	S	Sn	08 48 25.7	-2.8
baz=25,SNR=4.8							
STKA	**Stephens Creek**	**26.74**	**189**	P	**P**	**08 44 14.9**	**+0.2**
3.3nm,0.9s,baz=354,slow=10,SNR=3.4							
STKA				LR	LR	08 56 49.4	
comp=Z,179nm,18.7s,baz=108,slow=41							
LHI	**Lord Howe Isla**	**28.61**	**157**	S	S	08 48 54.4	-23
baz=28,SNR=4.0							
MEEK	**Meekatharra**	**33.88**	**228**	P	**P**	**08 45 18.0**	**+0.1**
baz=34,SNR=3.3							
MNAI	**Manna**	**43.25**	**269**	P	P	08 46 30.1	-6.7
baz=44,SNR=7.7							
ILAR	**Eielson Array**	**85.16**	**23**	P	**P**	**08 51 09.7**	**-0.9**
0.9nm,0.8s,baz=249,slow=5.6,SNR=9.0							

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*IDC **12** 08:40:13.6±1.5, 55°.67N×154°.90W, h0km, mb3.8/8, mb1 3.9/11, mb1mx3.7/30, mbtmp3.8/11, ML3.5/3, MS3.3/3, Ms1 3.3/3, ms1mx2.8/46, Error ellipse: s-maj=37.6km s-min=21.0km az=132.0*
*ISCJB **12** 08:40:15.4±0.7, 55°.83N±0°.05×154°.50W±0°.08, h21km, mb3.9/8, MS3.3/1, Error ellipse: s-maj=8.9km s-min=4.8km az=144.1*
*NEIC **12** 08:40:17.2, 55°.94N×154°.63W, h0km, ML3.7(AEIC), After AEIC.*
ISC 12 08:40:18.6±0.8, 56°.01N±0°.07×154°.75W±0°.05, h21km, n52, σ1°26/59, mb4.0/8, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**1.46**	**33**	P	**Pn**	**08 40 43.1**	**-0.6**
OHAK				S	**Sb**	**08 41 05.2**	**+2.1**
PLK3	**Peulik 3**	**1.88**	**334**	P	**Pn**	**08 40 50.4**	**+0.9**
PLK3				S	**Sb**	**08 41 15.3**	**0.0**
PLBL	**Peulik Blue Cr**	**2.04**	**327**	P	**Pn**	**08 40 51.1**	**-0.7**
ANPK	**Aniakchak Peak**	**2.06**	**295**	P	**Pn**	**08 40 52.2**	**+0.3**
PLK1	**Peulik 1**	**2.07**	**331**	P	**Pn**	**08 40 52.9**	**+0.9**
CHGN	**Chignik**	**2.07**	**280**	P	**Pn**	**08 40 52.4**	**+0.3**
CAHL	**Cahill**	**2.08**	**352**	P	**Pn**	**08 40 52.5**	**+0.3**
KJL	**Kejulik**	**2.10**	**348**	P	**Pn**	**08 40 53.3**	**+0.8**
KJL				S	**Sb**	**08 41 22.4**	**+0.7**
ANPB	**Aniakchak Plen**	**2.12**	**294**	P	**Pn**	**08 40 53.4**	**+0.6**
KABR	**Katmai Barrier**	**2.13**	**357**	P	**Pn**	**08 40 53.1**	**+0.1**
KDAK	**Kodiak Island**	**2.14**	**33**	Pn	**Pn**	**08 40 52.6**	**-0.4**
KDAK				S	**Sn**	**08 41 17.6**	**-1.3**
KDAK				Sn	**Sb**	**08 41 26.3**	**+3.7**
KDAK	**Kodiak Island**	**2.14**	**33**	Pn	**Pn**	**08 40 52.6**	**-0.4**
2.2nm,0.3s,baz=225,slow=11,SNR=9.6							
KDAK				Sn	**Sb**	**08 41 26.3**	**+3.7**
10nm,0.3s,baz=0.0,slow=19,SNR=4.2							
KDAK				LR	LR	08 42 13.5	
comp=Z,409nm,18.0s,baz=335,slow=49							
ANNW	**Aniakchak Nort**	**2.15**	**298**	P	**Pn**	**08 40 53.0**	**-0.3**
ANCK	**Angle Creek**	**2.24**	**350**	P	**Pn**	**08 40 55.1**	**+0.7**
KAKN	**Katmai Knife C**	**2.30**	**356**	P	**Pn**	**08 40 56.3**	**+0.9**
VNHG	**Veniaminof 1**	**2.48**	**277**	P	**Pn**	**08 40 59.4**	**+1.6**
KELA	**Mount Kelaz**	**2.50**	**348**	P	**Pn**	**08 40 58.1**	**0.0**
KAHC	**Katmai Hardscr**	**2.66**	**357**	P	**Pn**	**08 41 00.2**	**0.0**
VNSW	**Veniaminof 7**	**2.70**	**273**	P	**Pn**	**08 41 02.1**	**+1.3**
SDPT	**Sand Point**	**3.31**	**261**	P	**Pn**	**08 41 09.7**	**+0.6**
CNPM	**China Poot**	**4.00**	**27**	P	**Pn**	**08 41 18.6**	**0.0**
PS4A	**Pavlof South-4**	**4.08**	**264**	P	**Pn**	**08 41 20.2**	**+0.5**
BRLK	**Bradley Lake**	**4.29**	**27**	P	**Pn**	**08 41 21.4**	**-1.2**
DTNA	**Dutton South F**	**4.35**	**262**	P	**Pn**	**08 41 23.7**	**+0.3**
DT1	**Dutton Round H**	**4.37**	**261**	P	**Pn**	**08 41 23.8**	**+0.1**
FALS	**False Pass**	**5.07**	**260**	P	**Pn**	**08 41 33.8**	**+0.6**
SSLW	**Shishaldin Wes**	**5.49**	**261**	P	**Pn**	**08 41 39.3**	**+0.2**
EYAK	**Cordova Ski Ar**	**6.58**	**42**	P	**Pn**	**08 41 52.8**	**-1.1**
IL1	**Eielson Array**	**9.61**	**21**	P	**Pn**	**08 42 36.2**	**+0.8**
ILAR	**Eielson Array**	**9.61**	**21**	Pn	**Pn**	**08 42 34.5**	**-0.9**
ILAR				Sn	**Sn**	**08 44 19.1**	**-3.4**
ILAR	**Eielson Array**	**9.61**	**21**	Pn	**Pn**	**08 42 34.5**	**-0.9**
0.3nm,0.3s,baz=200,slow=14,SNR=5.6							
ILAR				Sn	**Sn**	**08 44 19.1**	**-3.4**
0.1nm,0.3s,baz=209,slow=26,SNR=2.7							
INK	**Inuvik**	**15.70**	**30**	Pn	**Pn**	**08 43 59.2**	**+1.1**
INK	**Inuvik**	**15.70**	**30**	Pn	**Pn**	**08 43 59.2**	**+1.1**
0.3nm,0.3s,baz=238,slow=14,SNR=6.5							
INK				LR	LR	08 51 20.7	
comp=Z,109nm,18.8s,baz=306,slow=42							
YKA	**Yellowknife Ar**	**21.23**	**56**	P	**P**	**08 45 03.2**	**+0.5**
YKA	**Yellowknife Ar**	**21.23**	**56**	P	**P**	**08 45 03.2**	**+0.5**
1.1nm,0.7s,baz=267,slow=9.0,SNR=2.9							
YBH	**Yreka Blue Hor**	**25.17**	**111**	LR	LR	08 54 31.4	
comp=Z,92nm,19.5s,baz=53,slow=34							
SPITS	**Spitsbergen Ar**	**45.96**	**3**	P	**P**	**08 48 40.0**	**+0.6**
SPITS	**Spitsbergen Ar**	**45.96**	**3**	P	**P**	**08 48 40.0**	**+0.6**
4.6nm,0.8s,baz=1.1,slow=7.6,SNR=4.4							
ARCES	**ARCESS Array B**	**54.77**	**360**	P	**P**	**08 49 45.7**	**-0.3**
ARCES	**ARCESS Array B**	**54.77**	**360**	P	**P**	**08 49 45.7**	**-0.3**
0.7nm,0.5s,baz=11,slow=9.6,SNR=9.4							
SONM	**Songino Array**	**56.42**	**307**	P	**P**	**08 49 57.7**	**-0.6**
SONM	**Songino Array**	**56.42**	**307**	P	**P**	**08 49 57.7**	**-0.6**
1.1nm,0.6s,baz=52,slow=9.3,SNR=7.4							
ZALV	**Zalesovo Beam**	**60.06**	**324**	P	**P**	**08 50 23.6**	**+0.1**
ZALV	**Zalesovo Beam**	**60.06**	**324**	P	**P**	**08 50 23.6**	**+0.1**
0.5nm,0.4s,baz=27,slow=9.7,SNR=4.8							
FINES	**FINESS Array B**	**62.89**	**360**	P	**P**	**08 50 42.8**	**+0.3**
FINES	**FINESS Array B**	**62.89**	**360**	P	**P**	**08 50 42.7**	**+0.3**
0.8nm,0.6s,baz=353,slow=9.8,SNR=5.0							
EKA	**Eskdalemuir Ar**	**66.63**	**17**	P	**P**	**08 51 07.6**	**+0.7**
EKA	**Eskdalemuir Ar**	**66.63**	**17**	P	**P**	**08 51 07.6**	**+0.7**
0.5nm,0.5s,baz=329,slow=5.3,SNR=3.2							
MKAR	**Makanchi Array**	**66.97**	**321**	P	**P**	**08 51 08.7**	**-0.6**
MKAR	**Makanchi Array**	**66.97**	**321**	P	**P**	**08 51 08.7**	**-0.6**
0.4nm,0.6s,baz=44,slow=8.0,SNR=4.2							
QSPA	**South Pole Qui**	**145.79**	**180**	PKPbc	**PKPdf**	**08 59 51.8**	**-2.2**
QSPA	**South Pole Qui**	**145.79**	**180**	PKPbc	**PKPdf**	**08 59 51.7**	**-2.2**
1.8nm,0.8s,baz=67,slow=1.2,SNR=5.1							

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*ISCJB **12** 08:48:41.7±0.5, 5°.22N±0°.09×94°.71E±0°.06, h43km, mb4.2/23, Error ellipse: s-maj=14.4km s-min=5.2km az=30.7*
*NEIC **12** 08:48:42.6±0.5, 5°.18N×94°.62E, h35km, mb4.5/6, Error ellipse: s-maj=17.4km s-min=6.0km az=221.0*
*IDC **12** 08:48:44.1±1.1, 5°.23N×94°.80E, h47km±7km, mb4.0/18, mb1 4.0/18, mb1mx3.8/33, mbtmp4.0/18, Error ellipse: s-maj=33.5km s-min=12.5km az=50.0*
ISC 12 08:48:43.8±0.6, 5°.3N±0°.1×94°.71E±0°.08, h43km, n53, σ0°97/71, mb4.3/23, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.86**	**120**	P	**Pn**	**08 49 57.4**	**+2.8**
PSI				S	**Sn**	**08 50 50.1**	**+0.4**
PSI	**Prapat**	**4.86**	**120**	P	**Pn**	**08 49 57.4**	**+2.8**
5.0nm,0.3s,baz=331,slow=13,SNR=16							
PSI				S	**Sn**	**08 50 50.1**	**+0.4**
1.1nm,0.3s,baz=354,slow=19,SNR=2.4							
KULM	**Kulim**	**5.91**	**89**	*e*Pn	**Pn**	**08 50 09.6**	**+0.6**
11nm,0.4s							
KULM				*e*Sn	**Sn**	**08 51 17.7**	**+2.2**
IPM	**Ipoh**	**6.34**	**97**	*e*Pn	**Pn**	**08 50 15.3**	**+0.5**
13nm,0.5s							
IPM				*e*Sn	**Sn**	**08 51 24.6**	**-1.4**
CHTO	**Chiang Mai**	**14.09**	**17**	*e*P	**P**	**08 52 08.4**	**+0.7**
4.1nm,0.7s							
KAPI	**Kappang**	**27.01**	**112**	P	**P**	**08 54 20.9**	**-1.2**
KAPI	**Kappang**	**27.01**	**112**	P	**P**	**08 54 21.0**	**-1.2**
3.6nm,0.5s,baz=246,slow=19,SNR=3.3							
FITZ	**Fitzroy Crossi**	**38.34**	**128**	P	**P**	**08 55 59.3**	**-1.6**
FITZ	**Fitzroy Crossi**	**38.34**	**128**	P	**P**	**08 55 59.3**	**-1.6**
0.7nm,0.6s,baz=344,slow=11,SNR=3.9							
TKM2	**Tokmak 2**	**41.15**	**339**	*e*P	**P**	**08 56 24.7**	**+0.5**
3.8nm,0.5s							
AAK	**Ala-Archa**	**41.31**	**337**	*e*P	**P**	**08 56 27.5**	**+2.0**
3.4nm,0.4s							
AAK	**Ala-Archa**	**41.31**	**337**	P	**P**	**08 56 27.1**	**+1.5**
3.2nm,0.4s,baz=25,slow=5.3,SNR=9.3							
MK31	**Makanchi Array**	**42.74**	**347**	*e*P	**P**	**08 56 36.9**	**0.0**
MKAR	**Makanchi Array**	**42.74**	**347**	P	**P**	**08 56 37.0**	**0.0**
MKAR				pP	**pP**	**08 56 48.7**	**-0.2**
MKAR				PcP	**PcP**	**08 58 27.9**	**0.0**
MKAR	**Makanchi Array**	**42.74**	**347**	P	**P**	**08 56 37.0**	**0.0**
1.7nm,0.4s,baz=170,slow=7.5,SNR=33							
MKAR				pP	**pP**	**08 56 48.7**	**-0.2**
0.8nm,0.5s,baz=161,slow=8.1,SNR=4.0							
MKAR				PcP	**PcP**	**08 58 27.9**	**0.0**
0.3nm,0.4s,baz=207,slow=5.5,SNR=3.9							
KKAR	**Karatay Array**	**43.34**	**334**	*e*P	**P**	**08 56 42.1**	**+0.3**
1.3nm,0.4s							
SONM	**Songino Array**	**43.58**	**11**	P	**P**	**08 56 43.2**	**-0.7**
SONM				pP	**pP**	**08 56 56.8**	**+1.0**
SONM				PcP	**PcP**	**08 58 30.9**	**0.0**
SONM	**Songino Array**	**43.58**	**11**	P	**P**	**08 56 43.2**	**-0.7**
2.2nm,0.8s,baz=192,slow=7.5,SNR=13							
SONM				pP	**pP**	**08 56 56.8**	**+1.0**
0.3nm,0.4s,baz=303,slow=25,SNR=2.6							
SONM				PcP	**PcP**	**08 58 30.9**	**0.0**
0.6nm,0.4s,baz=191,slow=3.0,SNR=6.4							
KSAR	**Wonju Array Be**	**44.06**	**39**	P	**P**	**08 56 47.6**	**-0.1**
KSRS	**Korea Array**	**44.09**	**39**	P	**P**	**08 56 47.6**	**-0.3**
0.8nm,0.4s,baz=218,slow=8.9,SNR=3.0							
WRA	**Warramunga Arr**	**46.31**	**124**	P	**P**	**08 57 05.1**	**-0.8**
WRA				PcP	**PcP**	**08 58 39.0**	**-1.7**
WRA	**Warramunga Arr**	**46.31**	**124**	P	**P**	**08 57 05.1**	**-0.8**
3.1nm,0.8s,baz=303,slow=9.2,SNR=42							
WRA				PcP	**PcP**	**08 58 39.0**	**-1.7**
0.8nm,1.0s,baz=322,slow=4.2,SNR=2.9							
WRAB	**Tennant Creek**	**46.32**	**124**	*e*P	**P**	**08 57 05.5**	**-0.4**
15nm,1.1s							
KURBB	**Kurchatov Arra**	**47.20**	**346**	P	**P**	**08 57 13.0**	**+0.7**
5.0nm,0.6s,baz=168,slow=6.9,SNR=48							
KURK	**Kurchatov**	**47.27**	**346**	P	**P**	**08 57 13.0**	**+0.2**
AS31	**Alice Springs**	**47.83**	**129**	*e*P	**P**	**08 57 17.3**	**-0.4**
ASAR	**Alice Springs**	**47.83**	**129**	P	**P**	**08 57 17.1**	**-0.6**
ASAR	**Alice Springs**	**47.83**	**129**	P	**P**	**08 57 17.1**	**-0.6**
1.6nm,0.4s,baz=297,slow=8.0,SNR=35							
ZAA0	**Zalesovo Array**	**49.20**	**352**	*e*P	**P**	**08 57 27.4**	**-0.3**
ZALV	**Zalesovo Beam**	**49.20**	**352**	P	**P**	**08 57 27.6**	**0.0**
ZALV	**Zalesovo Beam**	**49.20**	**352**	P	**P**	**08 57 27.6**	**0.0**
6.7nm,0.4s,baz=182,slow=8.0,SNR=30							
BVAR	**Borovoye Array**	**51.63**	**341**	P	**P**	**08 57 46.0**	**0.0**
BVAR	**Borovoye Array**	**51.63**	**341**	P	**P**	**08 57 46.0**	**0.0**
1.7nm,0.5s,baz=133,slow=8.3,SNR=8.4							
BRVK	**Borovoye**	**51.69**	**341**	*e*P	**P**	**08 57 46.3**	**-0.2**
5.4nm,0.7s							
ABKAR	**Akbulak array**	**52.78**	**332**	*e*P	**P**	**08 57 54.8**	**+0.1**
2.4nm,0.4s							
AKTO	**Aktyubinsk**	**54.50**	**332**	P	**P**	**08 58 06.6**	**-0.6**
AKTO				pP	**pP**	**08 58 21.4**	**+1.9**
AKTO	**Aktyubinsk**	**54.50**	**332**	P	**P**	**08 58 06.6**	**-0.6**
1.7nm,0.4s,baz=124,slow=5.5,SNR=6.4							
AKTO				pP	**pP**	**08 58 21.4**	**+1.9**
1.4nm,0.5s,baz=90,slow=5.1,SNR=2.3							
BRTR	**Keskin Array B**	**64.57**	**312**	P	**P**	**08 59 16.4**	**-0.6**
BRTR	**Keskin Array B**	**64.57**	**312**	P	**P**	**08 59 16.4**	**-0.6**
0.6nm,0.6s,baz=128,slow=8.9,SNR=3.0							
FINES	**FINESS Array B**	**75.27**	**332**	P	**P**	**09 00 21.9**	**-0.3**
FINES				pP	**PcP**	**09 00 36.3**	**+1.0**
FINES	**FINESS Array B**	**75.27**	**332**	P	**P**	**09 00 21.9**	**-0.3**
1.0nm,0.6s,baz=118,slow=5.3,SNR=8.6							
FINES				pP	**PcP**	**09 00 36.3**	**+1.0**
0.7nm,0.4s,baz=101,slow=3.4,SNR=1.7							
ARCES	**ARCESS Array B**	**77.90**	**340**	P	**P**	**09 00 37.0**	**+0.1**
ARCES	**ARCESS Array B**	**77.90**	**340**	P	**P**	**09 00 37.0**	**+0.1**
1.5nm,0.6s,baz=88,slow=5.7,SNR=18							
GERES	**GERESS Array B**	**80.14**	**319**	P	**P**	**09 00 50.4**	**+0.7**
GERES	**GERESS Array B**	**80.14**	**319**	P	**P**	**09 00 50.4**	**+0.7**
0.8nm,0.6s,baz=116,slow=5.1,SNR=5.6							
DAVOX	**Davos/Dischmat**	**82.66**	**316**	P	**P**	**09 01 03.6**	**+0.5**
DAVOX	**Davos/Dischmat**	**82.66**	**316**	P	**P**	**09 01 03.6**	**+0.5**
2.6nm,0.4s,baz=145,slow=6.8,SNR=7.0							
ILAR	**Eielson Array**	**96.93**	**22**	P	**P**	**09 02 09.3**	**-1.2**
ILAR	**Eielson Array**	**96.93**	**22**	P	**P**	**09 02 09.3**	**-1.2**
0.1nm,0.6s,baz=289,slow=4.5,SNR=5.0							
PDAR	**Pinedale Array**	**127.36**	**22**	PKP	**PKPdf**	**09 07 44.1**	**-0.5**
PDAR	**Pinedale Array**	**127.36**	**22**	PKP	**PKPdf**	**09 07 44.2**	**-0.5**
0.2nm,0.5s,baz=123,slow=4.1,SNR=5.6							
TXAR	**Lajitas Array**	**141.33**	**26**	PKPpre	PKPpre	09 08 05.0	
TXAR				PKP	**PKPdf**	**09 08 10.9**	**0.0**
TXAR	**Lajitas Array**	**141.33**	**26**	PKhKP	PKPpre	09 08 05.0	
0.1nm,0.5s,baz=45,slow=0.1,SNR=3.6							
TXAR				PKP	**PKPdf**	**09 08 10.9**	**0.0**
0.2nm,0.5s,baz=36,slow=0.6,SNR=8.1							

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*IDC **12** 09:05:47.7±1.1, 15°.23N×94°.20W, h0km, mb3.4/5, mb1 3.8/6, mb1mx3.7/22, mbtmp3.4/6, ML4.2/2, MS3.2/2, Ms1 3.2/2, ms1mx2.9/20, Error ellipse: s-maj=35.3km s-min=17.9km az=63.0*
*CASC **12** 09:05:50.8±3.2, 14°.88N×94°.62W, h77km±236km, MD4.3*
*MEX **12** 09:05:52.6±0.7, 15°.18N×94°.43W, h16km±9km, MD4.2*
ISC 12 09:05:48.2±1.9, 15°.27N±0°.05×94°.41W±0°.03, h5km±12km, n28, σ1°73/45, mb3.4/5, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.23**	**69**	*e*P	**Pg**	**09 06 11.7**	**0.0**
PCIG				*i* S	**Sg**	**09 06 26.7**	**-1.0**
HUIG	**Huatulco**	**1.71**	**287**	*e*P	**Pn**	**09 06 18.9**	**+0.2**
HUIG				*i* S	**Sn**	**09 06 37.9**	**-3.1**
CMIG	**Matias Romero**	**1.86**	**346**	*e*P	**Pn**	**09 06 21.8**	**+1.0**
CMIG				*i* S	**Sn**	**09 06 44.4**	**-0.5**
CMIG	**Matias Romero**	**1.86**	**346**	Pn	**Pn**	**09 06 21.6**	**+0.8**
111nm,0.3s,baz=159,slow=11,SNR=1718							
CMIG				Sn	**Sn**	**09 06 43.7**	**-1.1**
257nm,0.3s,baz=50,slow=17,SNR=18							
TGIG		**1.94**	**39**	*e*P	**Pn**	**09 06 23.3**	**+1.3**
TGIG				*e*S	**Sn**	**09 06 47.3**	**+0.4**
CCIG	**Comitan**	**2.41**	**65**	*e*P	**Pn**	**09 06 30.0**	**+1.5**
CCIG				*e*S	**Sn**	**09 06 58.1**	**-0.5**
JAT	**Jato**	**2.85**	**109**	*e*P	**Pn**	**09 06 36.2**	**+1.8**
JAT				*e*S	**Sn**	**09 07 10.8**	**+1.6**
VHO	**Vista Hermosa**	**2.86**	**309**	*e*P	**Pn**	**09 06 37.9**	**+3.1**
VHO				*i* S	**Sn**	**09 07 11.5**	**+1.8**
FUG	**Fuego 3**	**3.55**	**103**	*e*P	**Pn**	**09 06 46.4**	**+2.2**
FUG				*e*S	**Sb**	**09 07 31.5**	**-3.7**
PNIG	**Pinotepa**	**3.75**	**288**	*e*P	**Pn**	**09 06 48.1**	**+1.4**
PNIG				*i* S	**Sn**	**09 07 30.0**	**-1.3**
NBG	**Las Nubes**	**3.99**	**99**	*e*P	Pn	09 06 55.0	+4.7
NBG				*e*S	**Sb**	**09 07 46.4**	**-1.5**
UTMO	**Huajuapan**	**4.13**	**308**	*e*P	**Pn**	**09 06 53.7**	**+1.5**
UTMO				*e*S	**Sn**	**09 07 40.3**	**-0.7**
MRL	**Marmol**	**4.56**	**92**	*e*P	**Pn**	**09 07 00.5**	**+2.4**
MRL				*e*S	**Sn**	**09 07 51.9**	**+0.2**
SCIG	**Sabancuy**	**4.80**	**40**	*e*P	**Pn**	**09 07 02.2**	**+1.0**
SCIG				*i* S	**Sn**	**09 07 58.1**	**+0.9**
RTR	**El Retiro**	**4.81**	**106**	*e*P	**Pn**	**09 07 03.1**	**+1.5**
SBLS	**San Blas**	**4.85**	**106**	*e*P	**Pn**	**09 07 04.9**	**+2.7**
SNJE	**San Jose**	**4.86**	**106**	*e*P	**Pn**	**09 07 04.8**	**+

MOS **12** *09:41:19.6±1.2, 42°.54N×43°.36E, h12km, mb4.6/18, Error ellipse: s-maj=4.8km s-min=3.8km az=89.8*
CSEM **12** *09:41:20.7±0.1, 42°.61N×43°.40E, h10km, mb4.6, mb4.6/15, Error ellipse: s-maj=2.8km s-min=2.4km az=155.0*
NEIC **12** *09:41:21.3±0.3, 42°.68N×43°.43E, h10km, mb4.6/17, Error ellipse: s-maj=7.9km s-min=4.8km az=180.0*
AZER **12** *09:41:21.1±0.7, 42°.42N×43°.47E, h19km±29km, Error ellipse: s-maj=13.6km s-min=11.2km az=42.0*
NNC **12** *09:41:21.7±1.6, 42°.62N×43°.93E, h0km, mb4.5, Error ellipse: s-maj=29.0km s-min=15.6km az=115.0*
TEH **12** *09:41:23.0, 42°.66N×43°.58E, h10km, ML4.5*
DDA **12** *09:41:23.8, 42°.35N×43°.12E, h22km, MD4.2*
ISC 12 09:41:21.5±0.3, 42°.59N±0°.01×43°.43E±0°.01, h14km±1km, h13km:pP-P, n436, σ1§51/518, mb4.5/47, MS3.8/23, 34C-37D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.02**	**75**	PG			Pg	09 41 21.4	-2.6
ONI	**Oni**	**0.02**	**75**	Pg			Pg	09 41 21.4	-2.6
ONI	**Oni**	**0.02**	**75**	P			Pg	09 41 21.4	-2.6
ONI				S			**Sg**	**09 41 22.9**	**-2.9**
DIGR	**Digorskoe uzhe**	**0.33**	**20**	⇓*i*PG			**Pg**	**09 41 26.6**	**-1.8**
DIGR				*i* S			**Sg**	**09 41 32.0**	**-1.1**
DIGR	**Digorskoe uzhe**	**0.33**	**20**	*i* Pg			**Pg**	**09 41 26.6**	**-1.8**
DIGR				*i* Sg			**Sg**	**09 41 32.0**	**-1.1**
ZEI	**Tsey**	**0.40**	**60**	⇓*i*PG			**Pg**	**09 41 27.6**	**-2.1**
ZEI				*i* S			**Sg**	**09 41 33.8**	**-1.4**
ZEI	**Tsey**	**0.40**	**60**	*i* Pg			**Pg**	**09 41 27.6**	**-2.1**
ZEI				*i* Sg			**Sg**	**09 41 33.8**	**-1.4**
LACR	**Lac**	**0.68**	**69**	⇓*i*PG			**Pg**	**09 41 32.5**	**-2.4**
LACR				*i* S			**Sg**	**09 41 42.3**	**-1.6**
LACR	**Lac**	**0.68**	**69**	*i* Pg			**Pg**	**09 41 32.5**	**-2.4**
LACR				*i* Sg			**Sg**	**09 41 42.3**	**-1.6**
KORR	**Kora**	**0.69**	**43**	⇑*i*PG			**Pg**	**09 41 33.5**	**-1.4**
KORR				*i* S			**Sg**	**09 41 43.4**	**-0.6**
KORR	**Kora**	**0.69**	**43**	*i* Pg			**Pg**	**09 41 33.5**	**-1.4**
KORR				*i* Sg			**Sg**	**09 41 43.4**	**-0.6**
LSNR	**Lesken**	**0.75**	**23**	⇓*i*PG			**Pg**	**09 41 34.8**	**-1.3**
LSNR				*i* S			**Sg**	**09 41 45.5**	**-0.5**
LSNR	**Lesken**	**0.75**	**23**	*i* Pg			**Pg**	**09 41 34.8**	**-1.3**
LSNR				*i* Sg			**Sg**	**09 41 45.5**	**-0.5**
STDR	**Stavd-Durt**	**0.91**	**31**	⇓*i*PG			**Pg**	**09 41 39.6**	**+0.5**
STDR				*e*S			**Sn**	**09 41 52.7**	**-0.2**
STDR	**Stavd-Durt**	**0.91**	**31**	*i* Pg			**Pg**	**09 41 39.6**	**+0.5**
NCK	**Nalchik**	**0.92**	**8**	⇑*i*PG			**Pb**	**09 41 38.5**	**-0.8**
NCK				*i* S			**Sn**	**09 41 53.0**	**-0.1**
NCK	**Nalchik**	**0.92**	**8**	*i* Pg			**Pb**	**09 41 38.5**	**-0.8**
CHVG	**Ch'k'valeri**	**1.00**	**278**	P			**Pb**	**09 41 38.9**	**-1.7**
CHVG				S			**Sb**	**09 41 51.2**	**-2.5**
VLKR	**Vladikavkaz**	**1.03**	**63**	⇓*i*PG			**Pb**	**09 41 40.6**	**-0.5**
VLKR				*i* S			**Sb**	**09 41 55.0**	**+0.5**
VLKR	**Vladikavkaz**	**1.03**	**63**	*i* Pg			**Pb**	**09 41 40.6**	**-0.5**
VLKR				*i* Sg			**Sb**	**09 41 55.0**	**+0.5**
DUS	**Dusheti**	**1.07**	**117**	P			**Pb**	**09 41 40.2**	**-1.6**
DUS				S			**Sb**	**09 41 55.8**	**+0.1**
SNJR	**Sundja**	**1.13**	**64**	⇑*i*PG			**Pn**	**09 41 41.8**	**-1.2**
SNJR				*e*S			**Sb**	**09 41 57.2**	**-0.2**
SNJR	**Sundja**	**1.13**	**64**	*i* Pg			**Pn**	**09 41 41.8**	**-1.2**
SNJR				*e*Sg			**Sb**	**09 41 57.2**	**-0.2**
BTKR	**Batakoyurt**	**1.13**	**46**	⇑*i*PG			**Pg**	**09 41 43.6**	**+0.2**
BTKR				*e*S			**Sg**	**09 41 59.4**	**+1.2**
BTKR	**Batakoyurt**	**1.13**	**46**	*i* Pg			**Pg**	**09 41 43.6**	**+0.2**
BTKR				*e*Sg			**Sg**	**09 41 59.4**	**+1.2**
AKH	**Akhalkalaki**	**1.18**	**178**	PG			**Pn**	**09 41 41.1**	**-2.7**
AKH	**Akhalkalaki**	**1.18**	**178**	Pg			**Pn**	**09 41 41.1**	**-2.7**
AKH	**Akhalkalaki**	**1.18**	**178**	P			**Pn**	**09 41 41.1**	**-2.7**
AKH				S			**Sb**	**09 41 57.4**	**-1.5**
KBZ	**Khabaz**	**1.21**	**341**	PG			**Pn**	**09 41 42.5**	**-1.5**
KBZ								09 41 58.2	
KBZ	**Khabaz**	**1.21**	**341**	Pg			**Pn**	**09 41 42.5**	**-1.5**
KBZ				Lg			Lg	09 41 58.2	
KBZ	**Khabaz**	**1.21**	**341**	Pg			**Pn**	**09 41 42.5**	**-1.5**
	177nm,0.3s,baz=170,slow=9.8,SNR=836								
KBZ				Lg			Lg	09 41 58.2	
	307nm,0.3s,baz=5.2,slow=11,SNR=19								
KBZ	**Khabaz**	**1.21**	**341**	Pg			**Pn**	**09 41 42.5**	**-1.5**
KBZ				Sg			**Sb**	**09 41 58.2**	**-1.4**
KUBR	**Kubataba**	**1.21**	**359**	⇓*i*PG			**Pn**	**09 41 44.1**	**-0.1**
KUBR				*i* S			**Sg**	**09 42 01.4**	**+0.7**
KUBR	**Kubataba**	**1.21**	**359**	*i* Pg			**Pn**	**09 41 44.1**	**-0.1**
SHAR	**Shatzhatmas**	**1.28**	**335**	⇑*i*PG			**Pn**	**09 41 44.5**	**-0.8**
SHAR				*i* S			**Sb**	**09 42 02.2**	**+0.1**
SHAR	**Shatzhatmas**	**1.28**	**335**	*i* Pg			**Pn**	**09 41 44.5**	**-0.8**
SHAR				*i* Sg			**Sb**	**09 42 02.2**	**+0.1**
TBLG	**Delisi**	**1.29**	**131**	PG			**Pn**	**09 41 43.7**	**-1.6**
TBLG	**Delisi**	**1.29**	**131**	Pg			**Pn**	**09 41 43.7**	**-1.6**
TBLG	**Delisi**	**1.29**	**131**	P			**Pn**	**09 41 43.7**	**-1.6**
TBLG				S			**Sb**	**09 42 01.3**	**-0.9**
PRTR	**Priterechnaya**	**1.32**	**28**	⇑*i*PG			**Pb**	**09 41 46.2**	**+0.1**
PRTR				*e*S			**Sg**	**09 42 04.4**	**+0.3**
PRTR	**Priterechnaya**	**1.32**	**28**	*i* Pg			**Pb**	**09 41 46.2**	**+0.1**
PRTR				*e*Sg			**Sg**	**09 42 04.4**	**+0.3**
KZR	**Kazreti**	**1.41**	**148**	P			**Pn**	**09 41 44.6**	**-2.2**
KZR				S			**Sn**	**09 42 03.4**	**-1.9**
PYA	**Pyatigorsk**	**1.47**	**350**	⇑*e*PG			**Pb**	**09 41 48.3**	**-0.4**
PYA				*i* S			**Sg**	**09 42 09.4**	**+0.5**
PYA	**Pyatigorsk**	**1.47**	**350**	*e*Pg			**Pb**	**09 41 48.3**	**-0.4**
PYA				*i* Sg			**Sg**	**09 42 09.4**	**+0.5**
KIV	**Kislovodsk**	**1.47**	**339**	*d*PG			**Pn**	**09 41 47.3**	**-0.5**
KIV				*i*				09 42 07.6	
KIV				pmax			pmax		
	comp=Z,1μm,1.6s								
KIV	**Kislovodsk**	**1.47**	**339**	*i* Pg			**Pn**	**09 41 47.3**	**-0.5**
	comp=Z,1μm,1.6s								
KIV				*i* Sg			**Sb**	**09 42 07.6**	**+0.2**
TRKR	**Terskaya**	**1.48**	**40**	⇑*i*PG			**Pb**	**09 41 48.6**	**-0.3**
TRKR				*e*S			**Sg**	**09 42 09.0**	**-0.3**
TRKR	**Terskaya**	**1.48**	**40**	*i* Pg			**Pb**	**09 41 48.6**	**-0.3**
TRKR				*e*Sg			**Sg**	**09 42 09.0**	**-0.3**
BCA	**Borcka**	**1.76**	**230**	*e*PN			**Pn**	**09 41 49.9**	**-1.8**
BCA				*e*SN			**Sn**	**09 42 14.1**	**+0.1**
BCA	**Borcka**	**1.76**	**230**	*e*Pn			**Pn**	**09 41 49.9**	**-1.8**
BCA				*e*Sn			**Sn**	**09 42 14.1**	**+0.1**
ARTV	**Artvin**	**1.79**	**219**	*i* P			**Pn**	**09 41 51.4**	**-0.9**
ARTV				*i* S			**Sn**	**09 42 14.6**	**-0.4**
ARTV	**Artvin**	**1.79**	**219**	*i* P			**Pn**	**09 41 51.4**	**-0.9**
ARTV				*i* S			**Sn**	**09 42 14.6**	**-0.4**
DBOC	**Borcka**	**1.81**	**227**	*i* P			**Pn**	**09 41 51.0**	**-1.3**
DBOC				*i* S			**Sn**	**09 42 15.1**	**+0.1**
DBOC	**Borcka**	**1.81**	**227**	*i* P			**Pn**	**09 41 51.0**	**-1.3**
DBOC				*i* S			**Sn**	**09 42 15.1**	**+0.1**
DGRG	**David-gareji**	**1.84**	**127**	PN			**Pn**	**09 41 53.6**	**+0.8**
DGRG	**David-gareji**	**1.84**	**127**	Pn			**Pn**	**09 41 53.6**	**+0.8**
DGRG	**David-gareji**	**1.84**	**127**	P			**Pn**	**09 41 53.5**	**+0.7**
DGRG				S			**Sb**	**09 42 18.5**	**+0.6**
GRO	**Groznyy**	**1.86**	**66**	⇓*i*PN			**Pb**	**09 41 54.4**	**-0.8**
GRO				*e*S			**Sb**	**09 42 19.1**	**+0.8**
GRO	**Groznyy**	**1.86**	**66**	*i* Pn			**Pb**	**09 41 54.4**	**-0.8**
GRO				*e*Sg			**Sb**	**09 42 19.1**	**+0.8**
DAGI	**Agillar**	**1.88**	**217**	*i* P			**Pn**	**09 41 53.1**	**-0.3**
DAGI				*i* S			**Sn**	**09 42 17.5**	**+0.5**
KARS	**Kars**	**1.97**	**188**	*e*PN			**Pb**	**09 41 55.7**	**-1.6**
KARS				*e*SN			**Sg**	**09 42 24.2**	**-0.8**
KARS	**Kars**	**1.97**	**188**	*e*Pn			**Pb**	**09 41 55.7**	**-1.6**
KARS				*e*Sn			**Sg**	**09 42 24.2**	**-0.8**
DBAD	**Bademkaya**	**2.03**	**220**	*i* P			**Pn**	**09 41 55.4**	**-0.1**
DBAD				*i* S			**Sb**	**09 42 22.3**	**-1.2**
DBAD	**Bademkaya**	**2.03**	**220**	*i* P			**Pn**	**09 41 55.4**	**-0.1**
DBAD				*i* S			**Sb**	**09 42 22.3**	**-1.2**
BTLR	**Botlikh**	**2.06**	**87**	*i* PN			**Pn**	**09 41 56.5**	**+0.6**
BTLR				*e*S			**Sg**	**09 42 28.0**	**+0.1**
BTLR	**Botlikh**	**2.06**	**87**	*i* Pn			**Pn**	**09 41 56.5**	**+0.6**
BTLR				*e*Sb			**Sg**	**09 42 28.0**	**+0.1**
DDEM	**Demirkent**	**2.11**	**217**	*i* P			**Pn**	**09 41 57.0**	**+0.5**
DDEM				*i* S			**Sb**	**09 42 26.2**	**+0.6**
DDEM	**Demirkent**	**2.11**	**217**	*i* P			**Pn**	**09 41 57.0**	**+0.5**
DDEM				*i* S			**Sb**	**09 42 26.2**	**+0.6**
DIGO	**Kars**	**2.17**	**181**	*i* P			**Pn**	**09 41 57.8**	**+0.3**
DIGO				*i* S			**Sb**	**09 42 26.9**	**-0.7**
DIGO	**Kars**	**2.17**	**181**	*i* P			**Pn**	**09 41 57.8**	**+0.3**
DIGO				*i* S			**Sb**	**09 42 26.9**	**-0.7**
DLMR	**Dylym**	**2.40**	**77**	*e*PN			**Pn**	**09 42 02.0**	**+1.5**
DLMR				*e*S			**Sg**	**09 42 38.5**	**-0.3**
DLMR	**Dylym**	**2.40**	**77**	*e*Pn			**Pn**	**09 42 02.0**	**+1.5**
DLMR				*e*Sb			**Sg**	**09 42 38.5**	**-0.3**
GOF	**Gofitskoye**	**2.49**	**354**	*e*PN			**Pb**	**09 42 06.7**	**+0.7**
GOF				*i* S			**Sg**	**09 42 41.5**	**+0.1**
GOF				pmax			pmax		
	comp=Z,350nm,1.3s								
GOF				smax			smax		
	comp=N,4μm,1.0s								
GOF	**Gofitskoye**	**2.49**	**354**	*i* Sb			**Sg**	**09 42 41.5**	**+0.1**
	comp=N,4μm,1.0s								
GNI	**Garni**	**2.63**	**157**	*e*PN			**Pb**	**09 42 06.5**	**-1.9**
GNI	**Garni**	**2.63**	**157**	*e*Pn			**Pn**	**09 42 04.6**	**+0.9**
GNI				*e*Sn			**Sb**	**09 42 41.1**	**+0.5**
GNI	**Garni**	**2.63**	**157**	*e*Pn			**Pn**	**09 42 04.4**	**+0.7**
	comp=N,373nm,0.8s								
HOMI	**Horasan**	**2.79**	**205**	*i* P			**Pn**	**09 42 05.9**	**-0.1**
HOMI				*i* S			**Sg**	**09 42 50.0**	**-1.0**
SOC	**Sochi**	**2.90**	**291**	*e*PN			**Pn**	**09 42 06.5**	**-0.7**
SOC				*e*				09 42 12.7	
SOC				*e*PPP			PPP	09 42 16.9	
SOC				*e*				09 42 42.6	
SOC				pmax			pmax		
	comp=Z,11nm,0.4s								
SOC				smax			smax		
	comp=N,167nm,0.8s								
SOC				smax			smax		
	comp=E,266nm,0.9s								
SOC				MLR			MLR		
	comp=Z,1μm,9.0s								
SOC	**Sochi**	**2.90**	**291**	*e*Pn			**Pn**	**09 42 06.5**	**-0.7**
	comp=Z,11nm,0.4s								
SOC	**Sochi**	**2.90**	**291**	*e*Pb			**Pb**	**09 42 12.7**	**-0.2**
SOC	**Sochi**	**2.90**	**291**	*e*Pg			**Pg**	**09 42 16.9**	**-0.1**
	comp=Z,167nm,0.8s								
SOC				*e*Sn			**Sn**	**09 42 42.6**	**+0.7**
	comp=Z,1μm,9.0s								
GANJ	**Ganja**	**2.91**	**131**	⇑Pn			**Pn**	**09 42 07.8**	**+0.4**
	SNR=67								
GANJ				⇑Sn			**Sn**	**09 42 43.4**	**+1.2**
GANJ	**Ganja**	**2.91**	**131**	⇑Pn			**Pn**	**09 42 07.8**	**+0.4**
	SNR=67								
GANJ				⇑Sn			**Sn**	**09 42 43.4**	**+1.2**
GANJ	**Ganja**	**2.91**	**131**	Pn			**Pn**	**09 42 07.8**	**+0.4**
	SNR=67								
GANJ				Sn			**Sn**	**09 42 43.4**	**+1.2**
AGRB	**Hanur-Agry**	**3.02**	**186**	*e*PN			**Pn**	**09 42 10.6**	**+1.4**
AGRB	**Hanur-Agry**	**3.02**	**186**	*e*Pn			**Pn**	**09 42 10.6**	**+1.4**
MAK	**Makhachkala**	**3.02**	**81**	*e*PN			**Pb**	**09 42 13.6**	**-1.5**
MAK				*e*				09 42 20.2	
MAK				*e*				09 42 56.6	
MAK				pmax			pmax		
	comp=Z,491nm,0.7s								
MAK				smax			smax		
	comp=E,2μm,0.8s								
MAK				smax			smax		
	comp=N,2μm,0.6s								
MAK				MLR			MLR		
	comp=Z,980nm,6.0s								
MAK	**Makhachkala**	**3.02**	**81**	*e*Pg			**Pg**	**09 42 20.2**	**+0.7**
MAK				*e*Sb			**Sg**	**09 42 56.6**	**-2.0**
	comp=Z,980nm,6.0s								
ERZM	**Erzurum**	**3.10**	**211**	*i* P			**Pn**	**09 42 11.5**	**+1.3**
ERZM				*i* S			**Sb**	**09 42 57.5**	**+3.2**
ERZM	**Erzurum**	**3.10**	**211**	*i* P			**Pn**	**09 42 11.5**	**+1.3**
EZM	**Erzurum**	**3.10**	**211**	*e*PN			**Pn**	**09 42 10.3**	**+0.1**
SEKA	**Sheki**	**3.13**	**115**	⇑Pn			**Pn**	**09 42 10.6**	**+0.1**
	SNR=59								
SEKA				⇓Sb			**Sb**	**09 42 56.5**	**+1.4**
SEKA	**Sheki**	**3.13**	**115**	⇑Pn			**Pn**	**09 42 10.6**	**+0.1**
	SNR=59								
SEKA				⇓Sg			**Sb**	**09 42 56.5**	**+1.4**
SEKA	**Sheki**	**3.13**	**115**	Pn			**Pn**	**09 42 10.6**	**+0.1**
	SNR=59								
MACK	**Trabzon**	**3.19**	**240**	*i* P			**Pn**	**09 42 09.8**	**-1.5**
MACK				*i* S			**Sn**	**09 42 46.0**	**-3.2**
MACK	**Trabzon**	**3.19**	**240**	*i* P			**Pn**	**09 42 09.8**	**-1.5**
MACK				*i* S			**Sn**	**09 42 46.0**	**-3.2**
TUTA	**Tutak**	**3.21**	**189**	*i* P			**Pn**	**09 42 11.6**	**-0.2**
TUTA	**Tutak**	**3.21**	**189**	*i* P			**Pn**	**09 42 11.6**	**-0.2**
CLDR	**Caldiran**	**3.46**	**174**	*e*PN			**Pn**	**09 42 17.9**	**+2.7**
CLDR	**Caldiran**	**3.46**	**174**	*e*Pn			**Pn**	**09 42 17.9**	**+2.7**
GUMT	**Gumushane**	**3.65**	**236**	*e*PN			**Pn**	**09 42 15.6**	**-2.1**
GUMT	**Gumushane**	**3.65**	**236**	*e*Pn			**Pn**	**09 42 15.6**	**-2.1**
BRDA	**Brd**	**3.65**	**128**	⇓Pn			**Pn**	**09 42 16.5**	**-1.1**
	SNR=3.9								
BRDA				⇑Sb			**Sb**	**09 43 13.2**	**+3.2**
BRDA	**Brd**	**3.65**	**128**	⇓Pn			**Pn**	**09 42 16.5**	**-1.1**
	SNR=3.9								
BRDA				⇑Sg			**Sb**	**09 43 13.2**	**+3.2**
BRDA	**Brd**	**3.65**	**128**	Pn			**Pn**	**09 42 16.5**	**-1.1**
	SNR=3.9								
VRTB	**Varto-Mus**	**3.73**	**204**	*e*PN			**Pn**	**09 42 19.8**	**+0.9**
VRTB	**Varto-Mus**	**3.73**	**204**	*e*Pn			**Pn**	**09 42 19.8**	**+0.9**
NAX	**Nakhchivan**	**3.75**	**155**	⇑Pb			**Pb**	**09 42 25.7**	**-1.9**
	SNR=57								
NAX				⇓Sb			**Sb**	**09 43 16.1**	**+3.2**
NAX	**Nakhchivan**	**3.75**	**155**	⇑Pg			**Pb**	**09 42 25.7**	**-1.9**
	SNR=57								
NAX				⇓Sg			**Sb**	**09 43 16.1**	**+3.2**
ESPY	**Espiye-Giresun**	**3.89**	**246**	*e*PN			**Pn**	**09 42 18.2**	**-2.8**
ESPY	**Espiye-Giresun**	**3.89**	**246**	*e*Pn			**Pn**	**09 42 18.2**	**-2.8**
QUBA	**Quba, Azerbaij**	**3.97**	**106**	⇑Pn			**Pn**	**09 42 24.5**	**+2.4**
	SNR=2.9								
QUBA	**Quba, Azerbaij**	**3.97**	**106**	⇑Pn			**Pn**	**09 42 24.5**	**+2.4**
	SNR=2.9								
QUBA	**Quba, Azerbaij**	**3.97**	**106**	Pn			**Pn**	**09 42 24.5**	**+2.4**
	SNR=2.9								
KELT	**Kelkit**	**3.97**	**234**	*i* P			**Pn**	**09 42 21.0**	**-1.2**
KELT				*i* S			**Sn**	**09 43 10.1**	**+1.4**
KELT	**Kelkit**	**3.97**	**234**	*i* P			**Pn**	**09 42 21.0**	**-1.2**
KELT				*i* S			**Sn**	**09 43 10.1**	**+1.4**
IML	**Ismayilli**	**3.98**	**115**	⇓Pn			**Pn**	**09 42 23.3**	**+1.0**
	SNR=4.9								
IML	**Ismayilli**	**3.98**	**115**	⇓Pn			**Pn**	**09 42 23.3**	**+1.0**
	SNR=4.9								
IML	**Ismayilli**	**3.98**	**115**	Pn			**Pn**	**09 42 23.3**	**+1.0**
	SNR=4.9								
ERZN	**Erzincan**	**4.10**	**224**	*e*PN			**Pn**	**09 42 23.4**	**-0.5**
BNGB	**Bing^¶l**	**4.15**	**211**	*e*PN			**Pn**	**09 42 25.2**	**+0.6**
EZC	**Erzincan**	**4.18**	**229**	*e*PN			**Pn**	**09 42 24.1**	**-1.0**
EZC	**Erzincan**	**4.18**	**229**	*e*Pn			**Pn**	**09 42 23.4**	**-1.6**
GRSN	**GIRESUNGRSN**	**4.20**	**248**	*i* P			Pn	09 42 21.5	-3.7
GRSN				*i* S			**Sn**	**09 43 08.5**	**-5.7**
GRSN	**GIRESUNGRSN**	**4.20**	**248**	*i* P			Pn	09 42 21.5	-3.7
PQL	**Pirkuli**	**4.26**	**113**	⇓Pn			**Pn**	**09 42 27.7**	**+1.5**
	SNR=8.4								
PQL	**Pirkuli**	**4.26**	**113**	⇓Pn			**Pn**	**09 42 27.7**	**+1.5**
	SNR=8.4								
PQL	**Pirkuli**	**4.26**	**113**	Pn			**Pn**	**09 42 27.7**	**+1.5**
	SNR=8.4								
BINT	**Bingol**	**4.33**	**212**	*e*Pn			**Pn**	**09 42 25.2**	**-1.8**
SIZA	**Siyzn**	**4.36**	**108**	Pn			**Pn**	**09 42 29.8**	**+2.4**
	SNR=7.7								
SIZA	**Siyzn**	**4.36**	**108**	Pn			**Pn**	**09 42 29.8**	**+2.4**
	SNR=7.7								
SIZA	**Siyzn**	**4.36**	**108**	Pn			**Pn**	**09 42 29.8**	**+2.4**
	SNR=7.7								
SUSE	**Susehri**	**4.59**	**241**	*i* P			**Pn**	**09 42 29.8**	**-0.9**
SUSE				*i* S			**Sn**	**09 43 25.0**	**+1.0**
SUSE	**Susehri**	**4.59**	**241**	*i* P			**Pn**	**09 42 29.8**	**-0.9**
SUSE				*i* S			**Sn**	**09 43 25.0**	**+1.0**
BTMT	**Batman**	**4.63**	**199**	*e*PN			**Pn**	**09 42 32.9**	**+1.8**
BTMT	**Batman**	**4.63**	**199**	*e*Pn			**Pn**	**09 42 32.9**	**+1.8**
PTK	**Pertek**	**4.80**	**221**	*e*PN			**Pn**	**09 42 33.4**	**-0.2**
PTK	**Pertek**	**4.80**	**221**	*e*Pn			**Pn**	**09 42 33.4**	**-0.2**
ANN	**Anapa**	**4.88**	**299**	*e*PN			**Pn**	**09 42 36.0**	**+1.6**
ANN				*e*S			**Sn**	**09 43 35.9**	**+5.2**
ANN	**Anapa**	**4.88**	**299**	*e*Pn			**Pn**	**09 42 36.0**	**+1.6**
ALIB	**Äli-Bayra**	**4.96**	**120**	Pn			**Pn**	**09 42 37.6**	**+2.1**
	SNR=3.4								
ALIB	**Äli-Bayra**	**4.96**	**120**	Pn			**Pn**	**09 42 37.6**	**+2.1**
	SNR=3.4								
ALIB	**Äli-Bayra**	**4.96**	**120**	Pn			**Pn**	**09 42 37.6**	**+2.1**
	SNR=3.4								
GLBA	**Cilabad**	**5.03**	**130**	Pn			**Pn**	**09 42 36.9**	**+0.3**
	SNR=10								
GLBA	**Cilabad**	**5.03**	**130**	Pn			**Pn**	**09 42 36.9**	**+0.3**
	SNR=10								
GLBA	**Cilabad**	**5.03**	**130**	Pn			**Pn**	**09 42 36.9**	**+0.3**
	SNR=10								
RSDY	**Resadiye-TOKAT**	**5.08**	**247**	*e*PN			**Pn**	**09 42 35.0**	**-2.2**
RSDY	**Resadiye-TOKAT**	**5.08**	**247**	*e*Pn			**Pn**	**09 42 35.0**	**-2.2**
SIRT	**Sirnak**	**5.13**	**189**	*e*PN			Pn	09 42 41.0	+2.9
SIRT	**Sirnak**	**5.13**	**189**	*e*Pn			Pn	09 42 41.0	+2.9
GOBA	**Gobu**	**5.21**	**113**	Pn			**Pn**	**09 42 39.0**	**-0.1**
GOBA	**Gobu**	**5.21**	**113**	Pn			**Pn**	**09 42 39.0**	**-0.1**
GOBA	**Gobu**	**5.21**	**113**	Pn			**Pn**	**09 42 39.0**	**-0.1**
CUKT	**Cukurca**	**5.33**	**178**	*e*PN			Pn	09 42 44.1	+3.2
CUKT	**Cukurca**	**5.33**	**178**	*e*Pn			Pn	09 42 44.1	+3.2
ERBA	**Erbaa**	**5.35**	**251**	*i* P			**Pn**	**09 42 40.1**	**-0.9**
ERBA				*e*S			**Sn**	**09 43 39.8**	**-2.6**
ERBA	**Erbaa**	**5.35**	**251**	*i* P			**Pn**	**09 42 40.1**	**-0.9**
ERBA				*e*S			**Sn**	**09 43 39.8**	**-2.6**
SVSK	**Karacayir**	**5.53**	**243**	*e*PN			**Pn**	**09 42 41.6**	**-1.8**
SVSK	**Karacayir**	**5.53**	**243**	*e*Pn			**Pn**	**09 42 41.6**	**-1.8**
MAZI	**Mazidag**	**5.61**	**205**	*e*PN			**Pn**	**09 42 46.3**	**+1.7**
MAZI	**Mazidag**	**5.61**	**205**	*e*Pn			**Pn**	**09 42 46.3**	**+1.7**
MALT	**Malatya**	**5.72**	**223**	*e*PN			**Pn**	**09 42 46.3**	**+0.1**
MALT	**Malatya**	**5.72**	**223**	*e*Pn			**Pn**	**09 42 46.3**	**+0.1**
DARE	**Darende-Malaty**	**6.05**	**230**	*e*PN			**Pn**	**09 42 50.5**	**-0.2**
SEV	**Sevastopol'**	**7.36**	**289**	*e*P			**Pn**	**09 43 06.1**	**-2.3**
SEV				*e*S			**Sn**	**09 44 30.3**	**-1.4**
SEV	**Sevastopol'**	**7.36**	**289**	*e*P			**Pn**	**09 43 06.1**	**-2.3**
SEV				*e*S			**Sn**	**09 44 30.3**	**-1.4**
BR131	**Keskin Array S**	**7.92**	**252**	*e*Pn			**Pn**	**09 43 17.9**	**+1.5**
	comp=Z,4.5nm,0.5s								
BR131	**Keskin Array S**	**7.92**	**252**	*e*Pn			**Pn**	**09 43 17.9**	**+1.5**
	comp=Z,4.4nm,0.5s								
BRTR	**Keskin Array B**	**7.92**	**252**	Pn			**Pn**	**09 43 15.8**	**-0.6**
BRTR	**Keskin Array B**	**7.92**	**252**	Pn			**Pn**	**09 43 15.8**	**-0.6**
	comp=Z,1.3nm,0.3s,baz=51,slow=11,SNR=21								
BRTR	**Keskin Array B**	**7.92**	**252**	Pn			**Pn**	**09 43 15.8**	**-0.6**
BRTR	**Keskin Array B**	**7.92**	**252**	*e*P			**Pn**	**09 43 17.7**	**+1.3**
	comp=Z,6.0nm,0.5s								
VORD	**Divnogorie**	**8.85**	**343**	*e*P			**Pn**	**09 43 29.0**	**+0.1**
VORD				pmax			pmax		
	comp=N,10.0nm,0.4s								
VORD				pmax			pmax		
	comp=Z,6.0nm,0.4s								
VORD				pmax			pmax		
	comp=E,10.0nm,0.6s			

STHS	Stebnicka Huta	16.82	302	eP		Pn	09 45 16.2 -0.4
	comp=Z,2.0nm,1.3s						
ARU	Arti	16.93	30	eP		Pn	09 45 15.1 -2.7
ARU				S		Sn	09 48 23.0 -2.6
ARU				MLR		MLR	
	comp=Z,267nm,17.0s						
KECS	Kecovo	17.09	298	eP		P	09 45 23.2 +1.6
KECS				pmax		pmax	
	comp=Z,4.0nm,1.4s						
KECS	Kecovo	17.09	298	eP		P	09 45 23.2 +1.6
KECS	Kecovo	17.09	298	eP		P	09 45 23.2 +1.6
	comp=Z,4.0nm,1.4s						
SVE	Sverdlovsk	18.00	32	eP		Pn	09 45 28.0 -3.2
SVE				pmax		pmax	
	comp=Z,48nm,1.1s						
SVE				MLR		MLR	
	comp=Z,350nm,11.0s						
VYHS	Vyhne	18.17	297	eP		P	09 45 33.9 +0.3
VYHS				pmax		pmax	
	comp=Z,18nm,2.6s						
VYHS	Vyhne	18.17	297	eP		P	09 45 33.9 +0.3
VYHS	Vyhne	18.17	297	eP		P	09 45 33.9 +0.3
	comp=Z,18nm,2.6s						
KLMR	Klimovskoe	18.45	354	eP		P	09 45 34.1 -2.4
KLMR				pmax		pmax	
	comp=Z,34nm,1.5s						
KLMR				MLR		MLR	
	comp=Z,496nm,11.0s						
KLMR	Klimovskoe	18.45	354	eP		P	09 45 34.1 -2.4
	comp=Z,496nm,11.0s						
OKC	Ostrava-Krasne	18.88	301	eP		Pn	09 45 43.5 +1.6
OKC	Ostrava-Krasne	18.88	301	eP		Pn	09 45 43.5 +1.6
SOKR	Solikamsk	18.92	21	eP		Pn	09 45 45.6 +3.3
SOKR				S		Sn	09 49 14.4 +0.8
SOKR				pmax		pmax	
	comp=Z,10.0nm,1.0s						
SOKR				MLR		MLR	
	comp=Z,190nm,16.0s						
RAYN	Ar Rayn	19.09	174	ePn		Pn	09 45 47.9 +3.2
	comp=Z,26nm,1.6s						
KK31	Karatay Array	19.84	79	⇑P		P	09 45 51.2 -0.7
	comp=Z,5.5nm,0.6s						
KK31	Karatay Array	19.84	79	ceP		P	09 45 52.1 +0.2
KK31				pmax		pmax	
	comp=Z,5.0nm,0.4s						
KK31	Karatay Array	19.84	79	eP		P	09 45 52.1 +0.2
	comp=Z,5.0nm,0.4s						
KKAR	Karatay Array	19.84	79	eP		P	09 45 51.7 -0.2
KKAR				pmax		pmax	
	comp=Z,4.0nm,0.4s						
KKAR	Karatay Array	19.84	79	eP		P	09 45 51.7 -0.2
	comp=Z,3.9nm,0.4s						
KKAR	Karatay Array	19.84	79	eP		P	09 45 51.7 -0.2
	comp=Z,3.9nm,0.4s						
DPC	Dobruska-Polom	20.14	302	eP		Pn	09 45 58.7 +1.7
DPC				e			09 46 03.7
DPC	Dobruska-Polom	20.14	302	eP		Pn	09 45 58.7 +1.7
DPC				epP		pP	09 46 03.7 +4.7
DPC	Dobruska-Polom	20.14	302	eP		Pn	09 45 58.9 +1.9
	comp=Z,533nm,2.9s						
UPC	Upice	20.37	302	eP		Pn	09 46 05.8 +6.2
UPC	Upice	20.37	302	epP		pP	09 46 05.8 +4.4
TREC	Trest	20.48	299	eP		Pn	09 46 02.8 +1.8
TREC				e			09 46 09.7
TREC	Trest	20.48	299	eP		Pn	09 46 02.8 +1.8
TREC				epP		pP	09 46 09.7 +7.0
BRVK	Borovoye	20.73	50	⇑P		P	09 46 00.6 -0.9
	comp=Z,41nm,1.0s						
BRVK	Borovoye	20.73	50	d iP		P	09 46 01.5 0.0
BRVK				pmax		pmax	
	comp=Z,21nm,1.0s						
BRVK	Borovoye	20.73	50	eP		P	09 46 01.4 0.0
	comp=Z,20nm,0.8s						
BRVK	Borovoye	20.73	50	eP		P	09 46 01.4 0.0
	comp=Z,20nm,0.8s						
BVA0	Borovoye Array	20.78	51	⇓P		P	09 46 00.9 -1.1
	comp=Z,19nm,0.8s,baz=232,slow=7.7,SNR=40						
BVA0	Borovoye Array	20.78	51	P		P	09 46 00.9 -1.1
	comp=Z,19nm,0.8s,SNR=40						
BVAR	Borovoye Array	20.78	51	P		P	09 46 01.6 -0.4
BVAR	Borovoye Array	20.78	51	P		P	09 46 01.6 -0.4
BVAR	Borovoye Array	20.78	51	P		P	09 46 01.6 -0.4
	comp=Z,8.5nm,0.7s,baz=243,slow=6.5,SNR=38						
BVAR				LR		LR	09 55 39.3
	comp=Z,236nm,19.7s,baz=291,slow=41						
BVAR	Borovoye Array	20.78	51	P		P	09 46 01.6 -0.4
CUC	Castrocucco	20.88	272	eP		Pn	09 46 06.8 +1.0
	comp=Z,22nm,1.1s						
VOSK	Vostochnaya	21.02	52	⇓P		P	09 46 03.6 -1.1
	comp=Z,26nm,1.0s						
VOSK	Vostochnaya	21.02	52	eP		P	09 46 04.3 -0.4
VOSK				pmax		pmax	
	comp=Z,21nm,0.9s						
VOSK	Vostochnaya	21.02	52	eP		P	09 46 04.3 -0.4
	comp=Z,21nm,0.9s						
VOSK	Vostochnaya	21.02	52	eP		P	09 46 04.3 -0.4
	comp=Z,21nm,0.9s						
PRU	Pruhonice	21.20	300	AMS		AMS	09 56 50.0
	comp=Z,200nm,12.7s						
KBL	Kabul	21.52	103	eP		P	09 46 13.0 +2.6
KBL				pmax		pmax	
	comp=Z,11nm,0.8s						
KBL	Kabul	21.52	103	eP		P	09 46 13.0 +2.6
	comp=Z,11nm,0.8s						
FINES	FINESS Array B	21.56	337	P		P	09 46 09.7 -0.7
FINES	FINESS Array B	21.56	337	P		P	09 46 09.7 -0.7
	comp=Z,1.3nm,0.6s,baz=147,slow=11,SNR=9.6						
FINES	FINESS Array B	21.56	337	P		P	09 46 09.6 -0.7
JOF	Joensuu	21.57	345	eP		P	09 46 11.0 +0.6
JOF				pmax		pmax	
	comp=Z,7.0nm,0.8s						
JOF	Joensuu	21.57	345	ep		P	09 46 11.0 +0.6
	comp=Z,7.0nm,0.8s						
JOF	Joensuu	21.57	345	eP		P	09 46 11.0 +0.6
	comp=Z,7.0nm,0.8s						
GEC2	GERESS Array S	21.59	297	eP		P	09 46 12.0 +1.1
GEC2	GERESS Array S	21.59	297	eP		P	09 46 12.0 +1.1
GEC2	GERESS Array S	21.59	297	eP		P	09 46 12.0 +1.1
GERES	GERESS Array B	21.59	297	P		P	09 46 11.4 +0.5
GERES	GERESS Array B	21.59	297	P		P	09 46 11.4 +0.5
	comp=Z,0.6nm,0.6s,baz=96,slow=6.8,SNR=8.4						
GERES	GERESS Array B	21.59	297	P		P	09 46 11.4 +0.5
KHC	Kasperske Hory	21.70	298	eP		P	09 46 11.6 -0.4
KHC				MLR		MLR	
	comp=Z,100nm,13.9s						
KHC	Kasperske Hory	21.70	298	eP		P	09 46 11.6 -0.4
KHC				ex		x	09 46 21.7
KHC				AMS		AMS	09 55 50.0
	comp=Z,100nm,13.9s						
KHC	Kasperske Hory	21.70	298	P		P	09 46 11.6 -0.4
BRG	Berggiesshubel	21.73	303	eP		P	09 46 13.2 +1.0
	comp=Z,13nm,1.7s						
BRG	Berggiesshubel	21.73	303	eP		P	09 46 13.2 +1.0
BRG				pmax		pmax	
	comp=Z,13nm,1.7s						
BRG				MLR		MLR	
	comp=N,112nm,12.7s						
BRG				MLR		MLR	
	comp=E,119nm,13.3s						
BRG				MLR		MLR	
	comp=Z,214nm,14.0s						
TMCR	Tamitsa	21.84	354	eP		P	09 46 15.8 +2.6
TMCR				e			09 46 38.3
TMCR				pmax		pmax	
	comp=Z,19nm,0.4s						
KAF	Kangasniemi	22.04	338	eP		P	09 46 18.5 +3.0
KAF				pmax		pmax	
	comp=Z,8.0nm,0.8s						
KAF	Kangasniemi	22.04	338	ep		P	09 46 18.5 +3.0
	comp=Z,7.5nm,0.8s						
EKS2	Erkin-Say	22.28	79	eP		P	09 46 18.5 +0.1
EKS2				pmax		pmax	
	comp=Z,13nm,1.0s						
EKS2	Erkin-Say	22.28	79	eP		P	09 46 18.5 +0.1
	comp=Z,13nm,1.0s						
EKS2	Erkin-Say	22.28	79	eP		P	09 46 18.5 +0.1
	comp=Z,13nm,1.0s						
CLL	Collm	22.39	303	i P		P	09 46 19.6 +0.3
CLL				i			09 46 23.4
CLL				e			09 46 29.0
CLL				eS		S	09 50 29.0 +4.1
CLL				pmax		pmax	
	comp=Z,13nm,1.4s						
CLL	Collm	22.39	303	i P		P	09 46 19.6 +0.3
	comp=Z,13nm,1.4s						
CLL				ePP		PnPn	09 46 42.0 -0.2
AAK	Ala-Archa	22.80	79	d iP		P	09 46 24.2 +0.2
AAK				pmax		pmax	
	comp=Z,59nm,1.7s						
AAK	Ala-Archa	22.80	79	eP		P	09 46 24.1 0.0
	comp=Z,40nm,1.4s						
AAK	Ala-Archa	22.80	79	P		P	09 46 25.4 +1.4
	comp=Z,6.2nm,0.8s,baz=241,slow=6.2,SNR=18						
AAK				LR		LR	09 56 52.3
	comp=Z,207nm,18.6s,baz=274,slow=41						
AAK	Ala-Archa	22.80	79	eP		P	09 46 24.0 0.0
	comp=Z,40nm,1.4s						
FRU	Bishkek	22.86	79	eP		P	09 46 23.0 -1.4
FRU				eS		S	09 50 32.0 -1.5
FRU				pmax		pmax	
	comp=Z,65nm,1.9s						
WTTA	Wattenberg	22.90	293	⇓i P		P	09 46 25.7 +0.8
WTTA	Wattenberg	22.90	293	P		P	09 46 25.7 +0.8
MOTA	Moosalm	23.26	293	⇓i P		P	09 46 28.2 -0.4
	comp=Z,21nm,1.2s						
MOTA	Moosalm	23.26	293	P		P	09 46 28.2 -0.4
	comp=Z,21nm,1.2s						
GRF	Grafenberg Arr	23.29	299	eP		P	09 46 29.3 +0.6
	comp=Z,8.0nm,1.4s						
GRF				epP		pP	09 46 35.8 +3.1
GRF	Grafenberg Arr	23.29	299	eP		P	09 46 29.3 +0.6
GRF				e*PP		pP	09 46 35.8 +3.1
GRF				pmax		pmax	
	comp=Z,8.0nm,1.4s						
RETA	Reutte	23.49	293	⇓i P		P	09 46 30.0 -0.9
RETA	Reutte	23.49	293	P		P	09 46 30.0 -0.9
FETA	Feichten	23.52	292	⇓eP		P	09 46 31.2 0.0
	comp=Z,20nm,1.4s						
FETA	Feichten	23.52	292	P		P	09 46 31.2 0.0
	comp=Z,20nm,1.4s						
TKM2	Tokmak 2	23.55	78	⇑P		P	09 46 29.7 -1.9
	comp=Z,20nm,1.6s						
TKM2	Tokmak 2	23.55	78	eP		P	09 46 31.3 -0.3
TKM2				pmax		pmax	
	comp=Z,9.0nm,0.8s						
TKM2	Tokmak 2	23.55	78	eP		P	09 46 31.3 -0.3
	comp=Z,8.6nm,0.8s						
TKM2	Tokmak 2	23.55	78	eP		P	09 46 31.3 -0.3
	comp=Z,8.6nm,0.8s						
FUORN	Ofenpass-Fuorn	23.85	291	eP		P	09 46 35.4 +0.8
	comp=Z,28nm,1.5s						
FUORN	Ofenpass-Fuorn	23.85	291	eP		P	09 46 35.3 +0.8
	comp=Z,28nm,1.5s						
DAVA	Damuels	24.09	293	⇓i P		P	09 46 36.3 -0.4
DAVA	Damuels	24.09	293	P		P	09 46 36.3 -0.4
DAVOX	Davos/Dischmat	24.11	292	P		P	09 46 36.9 0.0
DAVOX	Davos/Dischmat	24.11	292	P		P	09 46 36.9 0.0
	comp=Z,2.2nm,0.5s,baz=67,slow=6.1,SNR=5.5						
DAVOX				LR		LR	09 58 20.6
	comp=Z,87nm,18.6s,baz=74,slow=42						
DAVOX	Davos/Dischmat	24.11	292	P		P	09 46 36.9 0.0
TUE	Stuetta	24.49	291	eP		P	09 46 44.6 +4.2
	comp=Z,38nm,1.8s						
KSH	Kashi	24.65	86	P		P	09 46 41.4 -0.4
KSH				sP		sP	09 46 48.3 +0.6
KSH				S		S	09 50 58.2 -4.7
KSH				ScP		ScP	09 53 59.0 +1.7
KSH				PcS		PcS	09 54 00.0 +0.9
KSH				pmax		pmax	
	comp=Z,150nm,3.0s						
KSH				LR		LR	
	comp=N,170nm,6.4s						
KSH				LR		LR	
	comp=E,130nm,5.1s						
KSH				LR		LR	
	comp=Z,150nm,5.5s						
HFS	Hagfors	25.22	324	P		P	09 46 45.4 -1.2
HFS	Hagfors	25.22	324	P		P	09 46 45.4 -1.2
	comp=Z,5.1nm,0.8s,baz=123,slow=11,SNR=11						
HFS	Hagfors	25.22	324	P		P	09 46 45.4 -1.2
KURBB	Kurchatov Arra	25.23	59	⇓P		P	09 46 45.6 -1.2
	comp=Z,18nm,1.4s						
KURBB	Kurchatov Arra	25.23	59	P		P	09 46 46.8 0.0
	comp=Z,4.5nm,1.1s,baz=274,slow=10,SNR=27						
KURBB	Kurchatov Arra	25.23	59	P		P	09 46 45.6 -1.2
	comp=Z,18nm,1.4s						
KURK	Kurchatov	25.29	59	P		P	09 46 46.8 -0.6
KURK	Kurchatov	25.29	59	P		P	09 46 46.8 -0.6
KURK	Kurchatov	25.29	59	P		P	09 46 46.8 -0.6
APA	Apatity	25.62	351	⇓i P		P	09 46 49.4 -0.7
APA				MLR		MLR	
	comp=Z,500nm,17.0s						
SENIN	Lac Senin/Sane	25.91	291	eP		P	09 46 56.0 +2.7
SBF	Sospel	26.13	285	eP		P	09 46 55.2 0.0
	comp=Z,21nm,0.8s						
SBF	Sospel	26.13	285	eP		P	09 46 55.2 0.0
SBF				pmax		pmax	
	comp=Z,21nm,0.8s						
SBF	Sospel	26.13	285	eP		P	09 46 55.2 0.0
	comp=Z,21nm,0.8s						
SBF	Sospel	26.13	285	eP		P	09 46 55.2 0.0
	comp=Z,21nm,0.8s						
LPG	La Plagne	26.38	289	eP		P	09 46 56.8 -0.8
	comp=Z,16nm,1.1s						
LPG	La Plagne	26.38	289	eP		P	09 46 56.8 -0.8
LPG				pmax		pmax	
	comp=Z,16nm,1.0s						
LPG	La Plagne	26.38	289	eP		P	09 46 56.8 -0.8
	comp=Z,16nm,1.0s						
LPG	La Plagne	26.38	289	eP		P	09 46 56.8 -0.8
	comp=Z,16nm,1.0s						
LPL	La Plagne	26.39	289	eP		P	09 46 56.9 -0.8
	comp=Z,14nm,1.0s						
LPL	La Plagne	26.39	289	eP		P	09 46 56.9 -0.8
LPL				pmax		pmax	
	comp=Z,14nm,1.0s						
LPL	La Plagne	26.39	289	eP		P	09 46 56.9 -0.8
	comp=Z,14nm,1.0s						
LPL	La Plagne	26.39	289	eP		P	09 46 56.9 -0.8
	comp=Z,14nm,1.0s						
MBDF	Montbardon	26.47	287	eP		P	09 46 57.9 -0.4
	comp=Z,27nm,0.9s						
MBDF	Montbardon	26.47	287	eP		P	09 46 57.9 -0.4
MBDF				pmax		pmax	
	comp=Z,27nm,0.9s						
MBDF	Montbardon	26.47	287	eP		P	09 46 57.9 -0.4
	comp=Z,27nm,0.9s						
MBDF	Montbardon	26.47	287	eP		P	09 46 57.9 -0.4
	comp=Z,27nm,0.9s						
CABF	La Chapelle	26.72	292	eP		P	09 46 59.5 -1.0
CABF	La Chapelle	26.72	292	eP		P	09 46 59.5 -1.0
CABF	La Chapelle	26.72	292	eP		P	09 46 59.5 -1.0
CABF	La Chapelle	26.72	292	eP		P	09 46 59.5 -1.0
NB2	NORSAR Subarra	26.74	325	P		P	09 47 01.8 +1.4
	comp=Z,13nm,1.4s,baz=119,slow=9.3						
NB2	NORSAR Subarra	26.74	325	P		P	09 46 59.0 -1.4
	comp=Z,10.0nm,1.2s,baz=120,slow=9.3						
NB2	NORSAR Subarra	26.74	325	P		P	09 47 01.8 +1.4
	comp=Z,13nm,1.4s,baz=119,slow=9.0,SNR=4.2						
NOA	NORSAR Array B	26.74	325	P		P	09 47 01.5 +1.1
NOA	NORSAR Array B	26.74	325	P		P	09 47 01.5 +1.1
	comp=Z,1.0nm,0.9s,baz=123,slow=9.5,SNR=2.6						
NOA	NORSAR Array B	26.74	325	P		P	09 47 01.5 +1.1
MK31	Makanchi Array	27.75	68	⇑P		P	09 47 08.3 -1.3
	comp=Z,7.0nm,1.1s,baz=271,slow=7.7,SNR=24						
MK31	Makanchi Array	27.75	68	ceP		P	09 47 09.3 -0.3
MK31				pmax		pmax	
	comp=Z,7.0nm,0.8s						
MK31	Makanchi Array	27.75	68	eP		P	09 47 09.6 0.0
MK31	Makanchi Array	27.75	68	eP		P	09 47 09.6 0.0
MKAR	Makanchi Array	27.75	68	P		P	09 47 09.3 -0.3
MKAR	Makanchi Array	27.75	68	P		P	09 47 09.3 -0.3
MKAR	Makanchi Array	27.75	68	P		P	09 47 09.3 -0.3
	comp=Z,0.8nm,0.5s,baz=276,slow=8.0,SNR=14						
MKAR				LR		LR	10 00 22.9
	comp=Z,198nm,18.1s,baz=86,slow=41						
MKAR	Makanchi Array	27.75	68	P		P	09 47 09.3 -0.3
ARCES	ARCESS Array B	28.56	347	LR		LR	09 58 31.1
	comp=Z,44nm,20.5s,baz=116,slow=36						
AVF	Avril sur Loir	28.58	292	eP		P	09 47 16.0 -1.0
	comp=Z,40nm,1.3s						
AVF	Avril sur Loir	28.58	292	eP		P	09 47 16.0 -1.0
AVF				pmax		pmax	
	comp=Z,40nm,1.3s						
AVF	Avril sur Loir	28.58	292	eP		P	09 47 16.0 -1.0
	comp=Z,40nm,1.3s						
AVF	Avril sur Loir	28.58	292	eP		P	09 47 16.0 -1.0
	comp=Z,40nm,1.3s						
ZALV	Zalesovo Beam	29.39	53	P		P	09 47 23.9 -0.1
ZALV	Zalesovo Beam	29.39	53	P		P	09 47 23.9 -0.1
ZALV	Zalesovo Beam	29.39	53	P		P	09 47 23.9 -0.1
	comp=Z,0.5nm,0.4s,baz=266,slow=8.7,SNR=2.6						
ZALV				LR		LR	10 00 55.3
	comp=Z,118nm,19.1s,baz=78,slow=40						
ZALV	Zalesovo Beam	29.39	53	P		P	09 47 23.9 -0.1
WMQ	Urumqi	32.01	72	P		P	09 47 49.1 +1.7
WMQ				pP		pP	09 47 53.5 +1.9
WMQ				sP		sP	09 47 56.1 +2.8
WMQ				PP		PnPn	09 48 55.1 +2.6
WMQ				eS		S	09 52 58.4 -0.2
WMQ				SS		SnSn	09 54 50.1 +2.5
WMQ				ScS		ScS	09 58 18.6 +0.1
WMQ				pmax		pmax	
	comp=Z,15nm,0.8s						
WMQ				pmax		pmax	
	comp=Z,130nm,4.6s						
WMQ				LR		LR	
	comp=N,260nm,21.2s						
WMQ				LR		LR	
	comp=E,270nm,18.9s						
WMQ				LR		LR	
	comp=Z,290nm,16.3s						
ESDC	Sonseca Array	35.45	282	P		P	09 48 17.3 -0.1
ESDC	Sonseca Array	35.45	282	P		P	09 48 17.3 -0.1
	comp=Z,0.3nm,0.4s,baz=69,slow=7.0,SNR=2.7						
ESDC				LR		LR	10 04 30.0
	comp=Z,34nm,18.5s,baz=160,slow=39						
ESDC	Sonseca Array	35.45	282	P		P	09 48 17.3 -0.1
GTA	Gaotai	42.01	75	eP		P	09 49 13.1 +0.6
GTA				pP		pP	09 49 17.3 +0.6
GTA				sP		sP	09 49 20.4 +2.0
GTA				S		S	09 55 31.8 +0.8
GTA				sS		sS	09 55 38.7 +0.7
GTA				SS		SS	09 58 31.6 -6.2
GTA				pmax		pmax	
	comp=Z,4.0nm,0.5s						
GTA				pmax		pmax	
	comp=Z,110nm,5.5s						
GTA				LR		LR	
	comp=N,130nm,16.4s						
GTA				LR		LR	
	comp=E,150nm,16.9s						
GTA				LR		LR	
	comp=Z,190nm,15.0s						
SONM	Songino Array	43.58	61	P		P	09 49 27.3 +2.2
SONM	Songino Array	43.58	61	P		P	09 49 27.3 +2.2
	comp=Z,0.2nm,0.3s,baz=256,slow=5.8,SNR=2.2						
SONM				LR		LR	10 08 08.4
	comp=Z,105nm,18.6s,baz=15,slow=37						
SONM	Songino Array	43.58	61	P		P	09 49 27.3 +2.2
LZH	Lanzhou	46.31	77	eP		P	09 49 51.2 +4.1
LZH				pP		pP	09 49 56.6 +5.3
LZH				sP		sP	09 49 59.8 +6.8
LZH				pmax		pmax	
	comp=Z,15nm,1.0s						
LZH				pmax		pmax	
	comp=Z,49nm,5.3s						
LZH				LR		LR	
	comp=N,220nm,13.6s						
LZH				LR		LR	
	comp=E,250nm,14.6s						
LZH				LR		LR	
	comp=Z,280nm,17.8s						
TORD	Torodi Ar. Bea	46.43	244	P		P	09 49 47.0 -1.0
TORD	Torodi Ar. Bea	46.43	244	P		P	09 49 47.0 -1.0
	comp=Z,2.7nm,0.9s,baz=39,slow=7.8,SNR=12						
TORD				LR		LR	10 11 40.4
	comp=Z,52nm,18.4s,baz=130,slow=39						
TORD	Torodi Ar. Bea	46.43	244	P		P	09 49 47.0 -1.0
CD2	Chengdu	48.79	83	P		P	09 50 07.4 +1.2
CD2				pmax		pmax	
	comp=Z,10.0nm,0.5s						
HHC	Hu-ho-hao-te	49.61	68	eP		P	09 50 11.4 -1.1
HHC				pP		pP	09 50 15.9 -0.9
HHC				sP		sP	09 50 18.4 -0.1
HHC				PP		PP	09 52 05.8 -0.9
HHC				PcS		PcS	09 55 29.5 -1.1
HHC				S		S	09 57 16.1 -4.3
HHC				ScS		ScS	10 00 00.0 -3.9
HHC				pmax		pmax	
	comp=Z,40nm,1.0s						
HHC				pmax		pmax	
	comp=Z,310nm,5.5s						
HHC				LR		LR	
	comp=N,400nm,16.9s						
HHC				LR		LR	
	comp=E,200nm,17.1s						
HHC				LR		LR	
	comp=Z,250nm,17.1s						
CMAR	Chiang Mai Arr	52.48	99	P		P	09 50 33.9 -0.3
CMAR	Chiang Mai Arr	52.48	99	P		P	09 50 33.9 -0.3
	comp=Z,1.0nm,0.6s,baz=304,slow=6.4,SNR=3.5						
CMAR	Chiang Mai Arr	52.48	99	P		P	09 50 33.8 -0.3
GYA	Guiyang	53.35	86	eP		P	09 50 42.3 +1.7
GYA				pmax		pmax	
	comp=Z,10.0nm,1.0s						
DBIC	Dimbokro	55.53	244	P		P	09 50 57.3 +0.9
DBIC	Dimbokro	55.53	244	P		P	09 50 57.3 +0.9
	comp=Z,3.1nm,0.7s,baz=84,slow=3.9,SNR=3.0						
DBIC	Dimbokro	55.53	244	P		P	09 50 57.3 +0.9
CN2	Changchun	57.37	58	eP		P	09 51 07.0 -2.2
CN2				eS		S	09 58 59.1 -6.2
NJ2	Nanjing	59.08	73	eP		P	09 51 20.5 -0.8
NJ2				pmax		pmax	
	comp=Z,20nm,0.9s						
MDJ	Mudanjiang	59.52	56	P		P	09 51 24.0 -0.2
MDJ				S		S	09 59 33.4 +0.1
MDJ				pmax		pmax	
	comp=Z,4.0nm,0.6s						
MDJ				pmax		pmax	
	comp=Z,71nm,9.8s						
MDJ				LR		LR	
	comp=N,62nm,21.7s						
MDJ				LR		LR	
	comp=E,48nm,19.4s						
MDJ				LR		LR	
	comp=Z,42nm,19.4s						
QIZ	Qiongzhong	60.13	91	P		P	09 51 29.2 +0.5
QIZ				S		S	09 59 42.3 +0.5
QIZ				pmax		pmax	
	comp=Z,35nm,2.1s						
USRK	Ussuriysk Arra	61.20	55	LR		LR	10 20 49.0
	comp=Z,102nm,18.9s,baz=202,slow=39						
KSRS	Korea Array	62.31	63	LR		LR	10 22 19.8
	comp=Z,71nm,21.0s,baz=116,slow=40						
PETK	Petropavlovsk-	69.21	36	LR		LR	10 27 17.6
	comp=Z,54nm,19.4s,baz=111,slow=40						
INK	Inuvik	69.41	359	LR		LR	10 27 36.4
	comp=Z,102nm,19.1s,baz=355,slow=40						
ILAR	Eielson Array	72.68	5	P		P	09 52 49.4 +1.0
ILAR	Eielson Array	72.68	5	P		P	09 52 49.4 +1.0
	comp=Z,0.2nm,0.9s,baz=5.4,slow=1.9,SNR=3.4						
ILAR				LR		LR	10 29 05.9
	comp=Z,76nm,19.1s,baz=44,slow=40						
ILAR	Eielson Array	72.68	5	P		P	09 52 49.4 +1.0
BOSA	Boshof	72.80	197	P		P	09 52 48.4 -1.2
BOSA	Boshof	72.80	197	P		P	09 52 48.4 -1.2
	comp=Z,5.4nm,0.9s,baz=24,slow=4.8,SNR=6.9						
BOSA	Boshof	72.80	197	P		P	09 52 48.4 -1.2
PDAR	Pinedale Array	91.62	340	LR		LR	10 37 57.1
	comp=Z,73nm,20.1s,baz=248,slow=37						
STCH	Steam Cracks	116.01	20	ePKPdf		PKPdf	09 59 58.0 -6

GRAL 12 10:01:35.7±0.4, 34°.44N×36°.56E, h13km±96km, MD2.7
ISC 12 10:01:30.6±1.0, 34°.58N±0°.04×36°.69E±0°.07, h10km, n13, σ0°.96/24, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWQ	**Hawqa**	**0.68**	**244**	*e*P	**Pb**	**10 01 45.5**	**+0.9**
HWQ				*e*S	**Sg**	**10 01 52.8**	**+0.1**
HWQ	**Hawqa**	**0.68**	**244**	*e*P	**Pb**	**10 01 45.5**	**+0.9**
HWQ				*e*S	**Sg**	**10 01 52.8**	**+0.1**
WRDH	**Warideh**	**0.96**	**346**	*e*P	**Pg**	**10 01 47.9**	**-1.1**
WRDH				*e*S	**Sg**	**10 02 02.1**	**+0.6**
WRDH				AML	AML	10 02 06.8	
	comp=E,79nm,0.3s						
WRDH				AML	AML	10 02 08.2	
	comp=N,62nm,0.3s						
WRDH	**Warideh**	**0.96**	**346**	*e*P	**Pg**	**10 01 47.9**	**-1.1**
	SNR=66						
WRDH				*e*S	**Sg**	**10 02 02.1**	**+0.6**
	comp=N,62nm,0.3s,SNR=62						
BHL	**Bhannes**	**1.09**	**232**	*e*P	**Pb**	**10 01 51.7**	**+0.1**
BHL	**Bhannes**	**1.09**	**232**	*e*P	**Pb**	**10 01 51.7**	**+0.1**
RCY	**Rachaya**	**1.29**	**214**	*e*P	**Pn**	**10 01 54.9**	**+0.2**
RCY				*e*S	**Sb**	**10 02 09.3**	**-2.4**
BRBR	**Barbar**	**1.31**	**208**	*e*P	**Pn**	**10 01 56.2**	**+1.0**
BRBR				*e*S	**Sb**	**10 02 12.7**	**+0.2**
BRBR				AML	AML	10 02 19.8	
	comp=N,43nm,0.5s						
BRBR				AML	AML	10 02 24.8	
	comp=E,15nm,0.8s						
BRBR	**Barbar**	**1.31**	**208**	*e*P	**Pn**	**10 01 56.2**	**+1.0**
	SNR=66						
BRBR				*e*S	**Sb**	**10 02 12.7**	**+0.2**
	comp=E,15nm,0.8s,SNR=62						
ZALF	**Zalf**	**1.73**	**162**	*e*P	**Pn**	**10 02 01.4**	**+0.6**
ZALF				*e*S	**Sn**	**10 02 22.1**	**-0.9**
ZALF				AML	AML	10 02 25.6	
	comp=N,25nm,0.5s						
ZALF				AML	AML	10 02 31.0	
	comp=E,11nm,0.5s						
ZALF	**Zalf**	**1.73**	**162**	*e*P	**Pn**	**10 02 01.4**	**+0.6**
	SNR=51						
ZALF				*e*S	**Sn**	**10 02 22.1**	**-0.9**
	comp=E,11nm,0.5s,SNR=49						
SALA	**Sala**	**1.86**	**179**	*e*P	**Pn**	**10 02 04.1**	**+1.4**
SALA				*e*S	**Sn**	**10 02 26.3**	**0.0**
SALA				AML	AML	10 02 29.0	
	comp=E,6.3nm,0.6s						
SALA				AML	AML	10 02 32.4	
	comp=N,38nm,0.5s						
SALA	**Sala**	**1.86**	**179**	*e*P	**Pn**	**10 02 04.1**	**+1.4**
	SNR=51						
SALA				*e*S	**Sn**	**10 02 26.3**	**0.0**
	comp=N,38nm,0.5s,SNR=49						

DJA 12 10:15:01.0±0.8, 8°.5S±5°.×10°.7E±°, h23km±6km, M3.6/8, MLv3.6/8, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.69**	**41**	P	Pb	10 15 14.1	-0.4
CISI				S	Sb	10 15 24.1	+0.5
LEM	**Lembang**	**1.27**	**12**	P	Pn	10 15 24.0	+0.4
LEM				S	Sb	10 15 41.7	+1.1
SKJI	**Sukabumi**	**1.33**	**323**	P	Pn	10 15 22.3	-1.9
SKJI				S	Sn	10 15 40.3	-1.0
DBJI	**Dramaga**	**1.63**	**338**	P	Pn	10 15 28.2	-0.2
DBJI				S	Sn	10 15 48.5	-0.2
KPJI	**Karang Pucung**	**1.73**	**65**	P	Pn	10 15 30.5	+0.9
KPJI				S	Sn	10 15 51.4	+0.5
TGJI	**Tegal**	**2.12**	**56**	P	Pn	10 15 36.4	+1.3
TGJI				S	Sn	10 16 01.6	+0.9
BJII	**Banjamegara**	**2.44**	**72**	P	Pn	10 15 40.8	+1.2
BJII				S	Sn	10 16 08.0	-0.9

ATH 12 10:24:13.9, 38°.68N×20°.65E, h5km, MD3.1/13
CSEM 12 10:24:14.2±0.3, 38°.71N×20°.65E, h2km, ML2.5/4, Error ellipse: s-maj=5.5km s-min=3.9km az=64.0
THE 12 10:24:14.3, 38°.69N×20°.61E, h6km±1km, ML2.5/4, Error ellipse: s-maj=1.7km s-min=0.7km az=268.0
ISC 12 10:24:14.3±0.9, 38°.69N±0°.02×20°.64E±0°.03, h7km±6km, n52, σ0°.57/97, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKD2	**Lefkada island**	**0.10**	**6**	P	**Pg**	**10 24 16.4**	**-0.2**
LKD2				S	**Sg**	**10 24 18.3**	**+0.2**
LKD2	**Lefkada island**	**0.10**	**6**	*e*PG	**Pg**	**10 24 16.3**	**-0.3**
LKD2				*e*SG	**Sg**	**10 24 18.3**	**+0.2**
LKD2	**Lefkada island**	**0.10**	**6**	P	**Pg**	**10 24 16.4**	**-0.2**
LKD2				S	**Sg**	**10 24 18.3**	**+0.2**
VLS	**Valsamata**	**0.52**	**185**	P	**Pg**	**10 24 24.2**	**-0.1**
VLS				S	**Sg**	**10 24 31.7**	**+0.6**
VLS	**Valsamata**	**0.52**	**185**	*e*PB	**Pg**	**10 24 24.2**	**-0.1**
VLS				*e*SB	**Sg**	**10 24 32.0**	**+0.9**
VLS	**Valsamata**	**0.52**	**185**	P	**Pg**	**10 24 24.2**	**-0.1**
VLS				S	**Sg**	**10 24 31.7**	**+0.6**
VLS				*e*Sb	**Sg**	**10 24 32.0**	**+0.9**
KFL	**Anninata**	**0.59**	**169**	P	**Pg**	**10 24 26.0**	**+0.2**
KFL				S	**Sb**	**10 24 34.8**	**-0.9**
KFL	**Anninata**	**0.59**	**169**	P	**Pg**	**10 24 26.0**	**+0.2**
KFL				S	**Sb**	**10 24 34.8**	**-0.9**
IGT	**Igoumenitsa**	**0.87**	**344**	P	**Pg**	**10 24 29.9**	**-1.2**
IGT				S	**Sb**	**10 24 43.9**	**+0.2**
IGT	**Igoumenitsa**	**0.87**	**344**	P	**Pg**	**10 24 29.9**	**-1.2**
IGT				S	**Sb**	**10 24 43.9**	**+0.2**
RLS	**Riolos of Patr**	**0.91**	**134**	P	**Pg**	**10 24 31.6**	**-0.1**
RLS	**Riolos of Patr**	**0.91**	**134**	*e*PB	**Pg**	**10 24 31.2**	**-0.5**
RLS				*e*SB	**Sg**	**10 24 43.9**	**+0.4**
RLS	**Riolos of Patr**	**0.91**	**134**	*e*Pb	**Pg**	**10 24 31.2**	**-0.5**
RLS	**Riolos of Patr**	**0.91**	**134**	P	**Pg**	**10 24 31.6**	**-0.1**
RLS				*e*Sb	**Sg**	**10 24 43.9**	**+0.4**
EVR	**Evrytania**	**0.94**	**76**	*e*PN	**Pg**	**10 24 32.3**	**0.0**
EVR				*e*SB	**Sg**	**10 24 44.8**	**+0.3**
EVR	**Evrytania**	**0.94**	**76**	*e*Pn	**Pg**	**10 24 32.3**	**0.0**
EVR				*e*Sb	**Sg**	**10 24 44.8**	**+0.3**
JAN	**Janina**	**0.97**	**9**	*e*PB	**Pg**	**10 24 32.5**	**-0.6**
JAN				*e*SB	**Sg**	**10 24 46.0**	**+0.3**
JAN	**Janina**	**0.97**	**9**	*e*Pb	**Pg**	**10 24 32.5**	**-0.6**
JAN				*e*Sb	**Sg**	**10 24 46.0**	**+0.3**
EFP	**Efpalio**	**1.02**	**105**	P	**Pg**	**10 24 34.0**	**0.0**
EFP				S	**Sn**	**10 24 49.5**	**-0.3**
EFP	**Efpalio**	**1.02**	**105**	*e*PB	**Pg**	**10 24 33.6**	**-0.4**
EFP				*e*SB	**Sb**	**10 24 48.0**	**-0.1**
EFP	**Efpalio**	**1.02**	**105**	*e*Pb	**Pg**	**10 24 33.6**	**-0.4**
EFP	**Efpalio**	**1.02**	**105**	P	**Pg**	**10 24 34.0**	**0.0**
EFP				*e*Sb	**Sb**	**10 24 48.0**	**-0.1**
EFP				S	**Sn**	**10 24 49.5**	**-0.3**
LAKA	**Lakka**	**1.14**	**113**	P	**Pg**	**10 24 35.6**	**-0.7**
LAKA	**Lakka**	**1.14**	**113**	*e*PB	**Pg**	**10 24 35.5**	**-0.7**
LAKA				*e*SB	**Sb**	**10 24 51.5**	**0.0**
LAKA	**Lakka**	**1.14**	**113**	P	**Pg**	**10 24 35.6**	**-0.7**
LAKA				*e*Sb	**Sb**	**10 24 51.5**	**0.0**
TRIZ	**Trizonia**	**1.17**	**106**	P	**Pg**	**10 24 36.0**	**-0.7**
TRIZ				S	**Sn**	**10 24 53.0**	**-0.3**
TRIZ	**Trizonia**	**1.17**	**106**	*e*PB	**Pg**	**10 24 36.1**	**-0.7**
TRIZ				*e*SB	**Sb**	**10 24 52.5**	**+0.3**
TRIZ	**Trizonia**	**1.17**	**106**	*e*Pb	**Pg**	**10 24 36.1**	**-0.7**
TRIZ				*e*Sb	**Sb**	**10 24 52.5**	**+0.3**
TRIZ				S	**Sn**	**10 24 53.0**	**-0.3**
MAKR	**Makrakomi, Fth**	**1.20**	**74**	P	**Pg**	**10 24 36.9**	**-0.5**
MAKR				S	**Sn**	**10 24 55.7**	**+1.4**
MAKR	**Makrakomi, Fth**	**1.20**	**74**	P	**Pg**	**10 24 36.9**	**-0.5**
KALE	**Kalithea**	**1.21**	**104**	P	**Pg**	**10 24 36.9**	**-0.7**
KALE				S	**Sn**	**10 24 55.0**	**+0.5**
KALE	**Kalithea**	**1.21**	**104**	*e*PG	**Pg**	**10 24 36.7**	**-0.9**
KALE				*e*SB	**Sb**	**10 24 54.0**	**+0.5**
KALE	**Kalithea**	**1.21**	**104**	P	**Pg**	**10 24 36.9**	**-0.7**
KALE				*e*Sb	**Sb**	**10 24 54.0**	**+0.5**
KALE				S	**Sn**	**10 24 55.0**	**+0.5**
KEK	**Kerkira**	**1.21**	**327**	*e*PB	**Pg**	**10 24 37.2**	**-0.4**
KEK				*e*SB	**Sb**	**10 24 54.2**	**+0.7**
KEK	**Kerkira**	**1.21**	**327**	*e*Pb	**Pg**	**10 24 37.2**	**-0.4**
KEK				*e*Sb	**Sb**	**10 24 54.2**	**+0.7**
KLV	**Kalavryta, Ach**	**1.35**	**118**	P	**Pn**	**10 24 38.7**	**-1.0**
KLV	**Kalavryta, Ach**	**1.35**	**118**	*e*PG	**Pn**	**10 24 38.8**	**-1.0**
KLV				*e*SB	**Sn**	**10 24 58.4**	**+0.5**
KLV	**Kalavryta, Ach**	**1.35**	**118**	P	**Pn**	**10 24 38.7**	**-1.0**
KLV				*e*Sb	**Sn**	**10 24 58.4**	**+0.5**
AGG	**Agios Georgios**	**1.36**	**76**	P	**Pn**	**10 24 39.8**	**0.0**
AGG				S	**Sn**	**10 24 59.6**	**+1.5**
AGG	**Agios Georgios**	**1.36**	**76**	*e*PB	**Pn**	**10 24 39.8**	**0.0**
AGG				*e*SB	**Sn**	**10 24 58.7**	**+0.6**
AGG	**Agios Georgios**	**1.36**	**76**	P	**Pn**	**10 24 39.8**	**0.0**
AGG				*e*Sb	**Sn**	**10 24 58.7**	**+0.6**
AGG				S	**Sn**	**10 24 59.6**	**+1.5**
THL	**Klokotos Trika**	**1.38**	**50**	*e*PB	**Pn**	**10 24 39.9**	**-0.1**
THL				*e*SB	**Sn**	**10 24 59.5**	**+1.1**
AMT	**Artemida-Makis**	**1.43**	**144**	*e*PB	**Pb**	**10 24 41.2**	**-0.2**
AMT	**Artemida-Makis**	**1.43**	**144**	*e*Pb	**Pb**	**10 24 41.2**	**-0.2**
ITM	**Ithomi**	**1.82**	**146**	*e*PN	**Pb**	**10 24 48.1**	**+0.1**
ITM				*e*SN	**Sg**	**10 25 13.0**	**+0.2**
ITM	**Ithomi**	**1.82**	**146**	*e*Pn	**Pb**	**10 24 48.1**	**+0.1**
ITM				*e*Sn	**Sg**	**10 25 13.0**	**+0.2**
LKR	**Lokris**	**1.84**	**91**	*e*PN	**Pb**	**10 24 48.5**	**+0.1**
LKR	**Lokris**	**1.84**	**91**	*e*Pn	**Pb**	**10 24 48.5**	**+0.1**
VLX	**Vlachokerasia**	**1.90**	**133**	*e*PN	**Pb**	**10 24 49.5**	**0.0**
VLX				*e*SN	**Sg**	**10 25 15.6**	**+0.1**
VLX	**Vlachokerasia**	**1.90**	**133**	*e*Pn	**Pb**	**10 24 49.5**	**0.0**
VLX				*e*Sn	**Sg**	**10 25 15.6**	**+0.1**
FNA	**Florina**	**2.16**	**15**	*e*PN	**Pb**	**10 24 53.5**	**-0.4**
FNA	**Florina**	**2.16**	**15**	*e*Pn	**Pb**	**10 24 53.5**	**-0.4**

CSEM 12 10:25:35.1, 40°.83N×31°.48E, h9km, MD2.6, After ISK
ISK 12 10:25:35.1, 40°.83N×31°.48E, h9km, MD2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDUB	**Mudurnu**	**0.42**	**211**	*e*PG	Pg	10 25 43.8	+0.3
MDUB				*e*SG	Sg	10 25 50.2	+1.0
MDUB	**Mudurnu**	**0.42**	**211**	*e*Pg	Pg	10 25 43.8	+0.3
MDUB				*e*Sg	Sg	10 25 50.2	+1.0
KDZE	**Karadeniz Ereo**	**0.48**	**356**	*e*PG	Pg	10 25 45.0	+0.4
KDZE	**Karadeniz Ereo**	**0.48**	**356**	*e*Pg	Pg	10 25 45.0	+0.5
GULT	**Gulveren**	**0.84**	**242**	*e*PG	Pg	10 25 51.6	+0.2
GULT	**Gulveren**	**0.84**	**242**	*e*Pg	Pg	10 25 51.6	+0.2
SAFT	**Safranbolu**	**1.00**	**65**	*e*PG	Pb	10 25 54.5	0.0
SAFT	**Safranbolu**	**1.00**	**65**	*e*Pg	Pb	10 25 54.6	0.0
HRT	**Hereke**	**1.38**	**270**	*e*PN	Pb	10 26 01.1	0.0
HRT	**Hereke**	**1.38**	**270**	*e*Pn	Pb	10 26 01.1	0.0
SVRH	**Sivrihisar-ESK**	**1.38**	**179**	*e*PN	Pb	10 26 01.3	0.0
SVRH	**Sivrihisar-ESK**	**1.38**	**179**	*e*Pn	Pb	10 26 01.3	0.0
ADVT	**Abdulvahap**	**1.39**	**254**	*e*PN	Pb	10 26 01.3	+0.1
ADVT	**Abdulvahap**	**1.39**	**254**	*e*Pn	Pb	10 26 01.3	+0.1
CAVI	**Cavuskoy**	**1.40**	**244**	*e*PN	Pb	10 26 01.4	0.0
CAVI	**Cavuskoy**	**1.40**	**244**	*e*Pn	Pb	10 26 01.4	-0.1

WEL 12 10:32:37.4±1.1, 36°.65S×177°.49E, h33km, ML3.6/4, Error ellipse: s-maj=11.3km s-min=8.5km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.13**	**145**	P*	Pn	10 32 53.8	-3.1
MXZ				S*	Sn	10 33 08.7	-2.5
KUZ	**Kuaotunu**	**1.42**	**265**	PN	Pn	10 33 00.2	-0.7
KUZ				SN	Sn	10 33 17.8	-0.8
KUZ				AML	AML	10 33 35.3	
PUZ	**Puketiti**	**1.55**	**157**	PN	Pn	10 33 03.1	+0.3
PUZ				AML	AML	10 33 29.2	
PUZ				AML	AML	10 33 30.1	
URZ	**Urewera**	**1.64**	**190**	P*	Pn	10 33 04.2	+0.2
URZ				AML	AML	10 33 28.4	
URZ				AML	AML	10 33 36.1	
MWZ	**Matawai**	**1.69**	**179**	P*	Pn	10 33 04.4	-0.3
MWZ				AML	AML	10 33 30.0	
MWZ				AML	AML	10 33 38.7	
MKAZ	**Moumakai**	**1.92**	**255**	PN	Pn	10 33 08.1	+0.3
TOZ	**Tahuroa Road**	**1.92**	**235**	P*	Pn	10 33 08.6	+0.8
CNGZ	**Carnagh Statio**	**1.92**	**163**	PN	Pn	10 33 09.3	+1.4
TLZ	**Tolley Road**	**2.29**	**222**	P*	Pn	10 33 14.0	+1.1
RVAZ	**Riverhead Bore**	**2.34**	**266**	PN	Pn	10 33 14.4	+0.8
KNZ	**Kokohu**	**2.38**	**177**	PN	Pn	10 33 15.1	+1.1
BKZ	**Black Stump Fm**	**2.64**	**197**	P*	Pn	10 33 18.8	+1.1
HIZ	**Hauiti**	**2.80**	**227**	PN	Pn	10 33 21.6	+1.7
PXZ	**Pawanui**	**3.42**	**188**	PN	Pn	10 33 28.7	+0.4
MRZ	**Mangatainoka R**	**4.28**	**200**	PN	Pn	10 33 40.9	+0.6

AUST 12 10:35:19.6±9.9, 6°.13N×124°.46E, h108km, Error ellipse: s-maj=2.0km s-min=1.5km az=228.0
IDC 12 10:35:28.7±1.3, 3°.95N×124°.99E, h0km, mb4.1/6, mb1 4.3/6, mb1mx3.8/23, mbtmp4.1/6, Error ellipse: s-maj=107.9km s-min=17.7km az=67.0
ISC 12 10:35:29.9±1.2, 3°.9N±0°.1×125°.1E±0°.1, h10km, n16, σ1°.46/10, mb4.1/6, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**7.79**	**128**	S	Sb	10 39 25.2	+7.2
	baz=9.7,SNR=1000						
WSI	**Waingapu**	**14.35**	**199**	S	**Sn**	**10 41 31.8**	**-0.8**
	baz=16,SNR=3.7						
JAY	**Jayapura**	**16.86**	**112**	S	**S**	**10 42 45.8**	**+1.3**
	baz=18,SNR=3.6						
MTN	**Manton Dam**	**17.72**	**160**	P	P	10 39 45.6	+7.7
	baz=20,SNR=5.5						
KDU	**Kakadu**	**18.07**	**156**	P	P	10 39 49.8	+8.1
	baz=20,SNR=5.3						
MMPI	**Merauke**	**19.60**	**129**	P	**P**	**10 39 56.2**	**-2.4**
	baz=22,SNR=4.0						
KNRA	**Kununurra**	**19.83**	**170**	P	P	10 40 08.0	+7.0
	baz=22,SNR=8.4						
PMBI	**Palembang**	**21.44**	**252**	S	S	10 43 41.5	-35
	baz=22,SNR=4.8						
FITZ	**Fitzroy Crossi**	**21.91**	**179**	P	**P**	**10 40 25.6**	**+2.1**
	6.1nm,0.4s,baz=6.1,slow=6.3,SNR=80						
FITZ	**Fitzroy Crossi**	**21.91**	**179**	P	**P**	**10 40 24.6**	**+1.1**
	baz=24,SNR=37						
WRA	**Warramunga Arr**	**25.41**	**159**	P	**P**	**10 40 58.5**	**+0.6**
	2.8nm,0.4s,baz=333,slow=11,SNR=83						
ASAR	**Alice Springs**	**28.75**	**163**	P	**P**	**10 41 28.0**	**0.0**
	0.6nm,0.5s,baz=342,slow=7.3,SNR=13						
STKA	**Stephens Creek**	**38.92**	**157**	P	**P**	**10 42 56.1**	**0.0**
	1.5nm,0.3s,baz=342,slow=9.0,SNR=12						
LHI	**Lord Howe Isla**	**47.84**	**140**	P	P	10 44 03.1	-5.0
	baz=50,SNR=4.4						
MKAR	**Makanchi Array**	**56.46**	**326**	P	**P**	**10 45 12.8**	**+0.6**
	0.7nm,0.4s,baz=125,slow=7.4,SNR=11						
KURBB	**Kurchatov Arra**	**60.69**	**328**	P	**P**	**10 45 40.8**	**-0.7**
	0.5nm,0.4s,baz=128,slow=6.0,SNR=7.7						

MAN 12 10:40:01, 7°.46N×123°.47E, h19km, mb4.1, ML2.9, MS2.6, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAGZ	**Pagadian**	**0.40**	**348**	*e*P	Pb	10 40 09.9	+0.3
PAGZ				*e*S	Sb	10 40 15.6	+0.2
CTBH	**Cotabato--PC H**	**0.81**	**107**	*i*P	Pn	10 40 17.5	+0.1
CTBH				*i*S	Sn	10 40 29.5	+0.7
IPIL	**Ipil**	**0.95**	**290**	*e*P	Pb	10 40 18.9	0.0
DCPH	**Dipolog City**	**1.13**	**354**	*e*P	Pg	10 40 22.6	-0.3
DCPH				*e*S	Sg	10 40 37.6	0.0
BUKP	**Musuan**	**1.63**	**75**	*e*P	Pn	10 40 29.2	+0.3

JMA 12 10:43:25.8±0.3, 28°.10N×126°.84E, h177km, M3.6, Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIH	**Iheya**	**1.46**	**136**	P	Pn	10 43 57.6	+0.5
JIH				S	Sn	10 44 21.9	+0.6
JAGN	**Aguni-jima**	**1.55**	**167**	P	Pn	10 43 58.2	+0.2
JAGN				S	Sn	10 44 22.9	0.0
JKE	**Kume jima 2**	**1.77**	**182**	P	Pn	10 44 00.1	-0.1
JOW	**Kunigami**	**1.79**	**134**	P	Pn	10 44 00.5	0.0
JOW				S	Sn	10 44 27.1	-0.2
JTK	**Tokunoshima**	**1.89**	**99**	P	Pn	10 44 01.6	+0.1
JTK				S	Sn	10 44 28.5	-0.6
JJT2	**Tamagusuku 2**	**2.12**	**157**	P	Pn	10 44 04.3	+0.3
JAM	**Amami Oshima**	**2.46**	**82**	P	Pn	10 44 08.3	+0.5
JAM				S	Sn	10 44 39.5	-0.9

IDC 12 10:51:47.5±1.4, 2°.97N×124°.88E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.6/25, mbtmp3.6/5, Error ellipse: s-maj=77.9km s-min=22.8km az=64.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.95**	**178**	P	P	10 56 33.2	+1.1
	3.0nm,0.3s,baz=8.1,slow=12,SNR=41						
WRA	**Warramunga Arr**	**24.59**	**158**	P	P	10 57 09.4	-0.2
	0.3nm,0.3s,baz=334,slow=10,SNR=15						
ASAR	**Alice Springs**	**27.90**	**162**	P	P	10 57 38.9	-0.5
	0.2nm,0.5s,baz=347,slow=7.6,SNR=3.3						
CTA	**Charters Tower**	**31.08**	**138**	P	P	10 58 07.6	0.0
	2.0nm,0.6s,baz=285,slow=12,SNR=2.6						
MKAR	**Makanchi Array**	**57.14**	**326**	P	P	11 01 35.9	-0.1
	0.1nm,0.3s,baz=126,slow=6.8,SNR=3.6						

JMA 12 11:40:36.7±0.3, 27°.86N×127°.75E, h10km, M3.3
IDC 12 11:40:38.0±1.1, 27°.38N×127°.01E, h0km, mb3.4/5, mb1 3.6/7, mb1mx3.5/25, mbtmp3.5/7, ML3.3/2, Error ellipse: s-maj=37.0km s-min=20.1km az=72.0
ISCJB 12 11:40:39.4±0.7, 27°.81N±0°.05×127°.82E±0°.06, h33km, mb3.3/5, Error ellipse: s-maj=8.0km s-min=6.7km az=24.4
ISC 12 11:40:41.3±0.9, 27°.73N±0°.06×127°.87E±0°.07, h35km, n14, σ1°.45/17, mb3.3/5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIH	**Iheya**	**0.70**	**173**	P	**Pn**	**11 40 52.8**	**-1.9**
JIH				S	**Sn**	**11 41 03.9**	**-0.4**
JTK	**Tokunoshima**	**0.96**	**87**	P	**Pn**	**11 40 56.5**	**-1.8**
JTK				S	**Sn**	**11 41 10.3**	**-0.4**
JOW	**Kunigami**	**0.97**	**158**	P	**Pn**	**11 40 57.5**	**-0.9**
JOW				S	**Sn**	**11 41 13.0**	**+2.1**
JAGN	**Aguni-jima**	**1.27**	**206**	P	**Pn**	**11 41 01.0**	**-1.5**
JAGN				*e*S	**Sn**	**11 41 20.4**	**+2.0**
JJT2	**Tamagusuku 2**	**1.59**	**184**	P	**Pn**	**11 41 07.2**	**+0.2**
JAM	**Amami Oshima**	**1.68**	**66**	P	**Pn**	**11 41 08.1**	**0.0**
JKE	**Kume jima 2**	**1.70**	**215**	P	**Pn**	**11 41 07.2**	**-1.3**
JNU	**Nakatsue**	**5.97**	**25**	Pn	Pn	11 42 15.2	+8.0
	0.5nm,0.3s,baz=148,slow=2.0,SNR=5.0						
MJAR	**Matsushiro Arr**	**12.40**	**42**	Pn	**P**	**11 43 48.3**	**+1.4**
	0.2nm,0.3s,baz=202,slow=16,SNR=4.0						
SONM	**Songino Array**	**26.13**	**326**	P	**P**	**11 46 13.5**	**+1.4**
	0.7nm,0.8s,baz=145,slow=8.5,SNR=3.3						
MKAR	**Makanchi Array**	**40.31**	**311**	P	**P**	**11 48 14.8**	**-0.4**
	0.2nm,0.6s,baz=119,slow=8.4,SNR=2.9						
KURBB	**Kurchatov Arra**	**43.55**	**315**	P	**P**	**11 48 39.6**	**-2.0**
	0.2nm,0.6s,baz=104,slow=9.3,SNR=2.6						
WRA	**Warramunga Arr**	**47.81**	**172**	P	**P**	**11 49 15.2**	**-0.3**
	0.8nm,0.7s,baz=352,slow=8.3,SNR=6.8						
ASAR	**Alice Springs**	**51.43**	**173**	P	**P**	**11 49 43.3**	**+0.2**
	0.4nm,0.9s,baz=356,slow=14,SNR=5.1						

ISCJB 12 11:51:51.4±1.9, 47°.98N±0°.09×154°.7E±0°.1, h27km±15km, mb3.6/15, Error ellipse: s-maj=18.6km s-min=6.0km az=141.6
MOS 12 11:51:53.8±1.5, 48°.05N×154°.72E, h46km, mb3.9/10, Error ellipse: s-maj=17.7km s-min=9.6km az=55.3
IDC 12 11:51:55.2±0.7, 48°.13N×154°.47E, h35km±4km, mb3.4/14, mb1 3.7/17, mb1mx3.6/30, mbtmp3.5/17, ML3.9/3, MS3.0/1, Ms1 3.0/1, ms1mx2.7/38, Error ellipse: s-maj=17.9km s-min=11.8km az=151.0
ISC 12 11:51:54.7±0.8, 48°.0N±0°.1×154°.56E±0°.09, h39km±3km, h39km:pP-P, n40, σ1°.72/44, mb3.7/15, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.86**	**20**	*e*PN	Pn	11 52 28.0	-10
SKR				pmax	pmax		
	comp=N,80nm,0.5s						
SKR				pmax	pmax		
	comp=Z,220nm,0.5s						
KUR	**Kuril'sk**	**5.38**	**241**	*i* PN	Pn	11 53 17.5	+5.1
KUR				*i* S	**Sn**	**11 54 17.6**	**+4.5**
KUR				pmax	pmax		
	comp=N,8.0nm,0.3s						
KUR				pmax	pmax		
	comp=E,15nm,0.5s						
KUR				pmax	pmax		
	comp=Z,71nm,0.5s						
KUR				smax	smax		
	comp=N,67nm,0.3s						
KUR				smax	smax		
	comp=E,105nm,0.9s						
PETK	**Petropavlovsk-**	**5.47**	**20**	PN	**Pn**	**11 53 14.3**	**+0.6**
PETK				pmax	pmax		
	comp=Z,4.0nm,0.3s						
PETK	**Petropavlovsk-**	**5.47**	**20**	Pn	**Pn**	**11 53 14.3**	**+0.6**
	comp=Z,3.9nm,0.3s,baz=190,slow=14,SNR=124						
PET	**Petropavlovsk**	**5.65**	**26**	*e*PN	**Pn**	**11 53 15.3**	**-0.8**
PET				pmax	pmax		
	comp=Z,38nm,0.5s						
NEM2	**Nemuro 2**	**7.73**	**236**	P	**Pn**	**11 53 45.3**	**+0.7**
NEM2				*e*S	**Sn**	**11 55 08.1**	**-2.6**
YSS	**Yuzh-Sakhalins**	**8.07**	**267**	*i*PN	Pn	11 53 53.9	+4.7
YSS				pmax	pmax		
	comp=Z,30nm,0.9s						
JAK	**

comp=Z,0.8nm,0.7s,baz=4.8,slow=8.4,SNR=3.1
FINES pP **pP** **12 02 29.2 -1.4**
comp=Z,1.3nm,0.9s,baz=34,slow=10,SNR=1.4
WRA Warramunga Arr 70.04 200 P **P** **12 03 02.7 +0.3**
comp=Z,0.5nm,0.8s,baz=22,slow=6.3,SNR=4.0
ASAR Alice Springs 73.73 200 P **P** **12 03 26.3 +1.8**
comp=Z,0.4nm,0.9s,baz=14,slow=6.1,SNR=3.7
ASAR pP **PcP** **12 03 38.7 -1.3**
comp=Z,0.6nm,0.7s,baz=12,slow=5.6,SNR=4.1
EKA Eskdalemuir Ar 75.33 347 P **P** **12 03 32.9 -0.6**
comp=Z,0.1nm,0.3s,baz=20,slow=6.3,SNR=3.8
TXAR Lajitas Array 76.02 62 P **P** **12 03 38.7 +0.6**
comp=Z,0.6nm,0.7s,baz=288,slow=4.2,SNR=11
BRTR Keskin Array B 78.13 317 P **P** **12 03 51.3 +1.6**
comp=Z,0.6nm,0.7s,baz=46,slow=6.2,SNR=2.5

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*ISCJB **12** 11:56:60.0±0.7,21°.37S±0°.05×68°.6W±0°.1,h124km±9km, mb3.3/2,Error ellipse: s-maj=16.8km s-min=8.0km az=1.2*
*GUC **12** 11:57:01.1±0.5,21°.37S×68°.86W,h136km±3km,ML4.0*
*IDC **12** 11:57:02.1±2.9,21°.39S×68°.31W,h119km±26km,mb3.4/3, mb1 3.4/6,mb1mx3.3/17,mbtmp3.3/6,Error ellipse: s-maj=26.5km s-min=23.9km az=124.0*
ISC 12 11:57:00.5±0.9,21°.37S±0°.05×68°.45W±0°.09, h113km±10km,n14,σ1§55/19,5C-1D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**Plate Boundary**	**0.85**	**240**	⇑*i*P	**Pn**	**11 57 21.8**	**+1.1**
PB09				*i* S	**Sn**	**11 57 37.5**	**+1.5**
PB09				AML	AML	11 57 37.6	
	comp=N,6μm,0.2s						
PB01	**Plate Boundary**	**1.02**	**288**	⇑*i*P	**Pn**	**11 57 22.5**	**+0.2**
PB01				*i* S	**Sn**	**11 57 38.5**	**-0.2**
PB01				AML	AML	11 57 39.1	
	comp=N,7μm,0.5s						
PB04	**Plate Boundary**	**1.32**	**227**	⇑*i*P	Pn	11 57 31.2	+5.9
PB04				*i* S	Sn	11 57 53.5	+9.3
PB04				AML	AML	11 57 58.9	
	comp=E,769nm,0.6s						
HMBC	**Humberstone**	**1.73**	**309**	⇑*i*P	**Pn**	**11 57 29.9**	**-0.5**
HMBC				*i* S	**Sn**	**11 57 51.7**	**-1.4**
HMBC				AML	AML	11 57 53.5	
	comp=E,2μm,0.6s						
PSGC	**Pisagua**	**2.36**	**318**	⇑*i*P	**Pn**	**11 57 37.2**	**-1.1**
PSGC				*i* S	**Sn**	**11 58 05.3**	**-2.1**
PSGC				AML	AML	11 58 06.3	
	comp=N,465nm,0.2s						
MNMC	**Minimini**	**2.47**	**334**	*e*P	**Pn**	**11 57 40.6**	**+0.6**
MNMC				*i* S	**Sn**	**11 58 11.1**	**+0.9**
MNMC				AML	AML	11 58 12.8	
	comp=N,820nm,0.3s						
PB10	**Plate Boundary**	**2.89**	**222**	*e*P	**Pn**	**11 57 44.3**	**-0.9**
PB10				AML	AML	11 58 18.0	
	comp=N,503nm,0.5s						
ANCH	**Antofagasta**	**2.93**	**218**	⇓*i*P	**Pn**	**11 57 44.9**	**-0.8**
ANCH				*i* S	**Sn**	**11 58 17.3**	**-3.2**
LPAZ	**La Paz**	**5.06**	**3**	P	Pn	11 58 18.1	+3.3
	comp=N,0.7nm,0.3s,baz=178,slow=5.5,SNR=7.7						
SIV	**San Ignacio**	**8.80**	**54**	P	**Pn**	**11 59 04.8**	**-0.1**
	comp=N,0.8nm,0.3s,baz=250,slow=14,SNR=20						
SIV				S	**Sn**	**12 00 39.5**	**-2.9**
	comp=N,0.1nm,0.3s,baz=333,slow=18,SNR=3.2						
PLCA	**Paso Flores**	**19.39**	**185**	P	**P**	**12 01 18.2**	**+0.6**
	comp=N,0.1nm,0.3s,baz=29,slow=16,SNR=2.4						
BDFB	**Brasilia**	**20.19**	**77**	P	**P**	**12 01 27.6**	**+1.1**
	comp=N,4.5nm,0.5s,baz=280,slow=8.0,SNR=7.0						
PDAR	**Pinedale Array**	**74.21**	**330**	P	**P**	**12 08 26.3**	**+1.1**
	comp=N,0.2nm,0.5s,baz=122,slow=4.4,SNR=2.6						
TORD	**Torodi Ar. Bea**	**76.90**	**70**	P	**P**	**12 08 41.5**	**+0.6**
	comp=N,0.6nm,0.6s,baz=253,slow=5.6,SNR=8.9						

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*NIED **12** 12:05:00,24°.00N×122°.30E,h32km,Mw4.7 Best double couple: M0:1.19000×10^16 NP1:φ0=72.00000°,δ86.00000°, λ72.00000°. NP2:φ0=331.00000°,δ18.00000°,λ169.00000°.*
*BJI **12** 12:05:21.6,24°.03N×122°.34E,h4km,mB4.7/30,mb4.5/40, ML4.3/10,Ms4.4/49,Ms7 4.3/49*
*NEIC **12** 12:05:22.3±0.2,24°.00N×122°.50E,h10km,mb4.8/9, ML5.2(TAP),Error ellipse: s-maj=6.0km s-min=4.7km az=160.0*
NEIC Recorded [2 TAP] in Hua-lien and [1 TAP] in Chang-hua, I-lan, Nan-t'ou, T'ai-chung, T'ai-pei, T'ai-tung and Yun-lin.
*BKK **12** 12:05:23.3±0.5,24°N±5°×12°3E±°,h10km,M4.7/18, mB5.0/4,mb4.5/18,MLv4.8/1,Mw(mB)4.3/4*
*DJA **12** 12:05:23.0±2.2,24°N±7°×12°3E±1°2,h25km±17km,M4.8/7, mb4.4/7,MLv5.0/1*
*MOS **12** 12:05:24.0±1.0,24°.19N×122°.59E,h33km,mb5.2/30, MS4.4/5,Error ellipse: s-maj=10.5km s-min=5.7km az=116.9*
*JMA **12** 12:05:24.3±0.2,24°.04N×122°.35E,h34km,M4.8*
*IDC **12** 12:05:24.2±4.1,24°.14N×122°.59E,h22km±26km,mb4.4/28, mb1 4.5/29,mb1mx4.4/34,mbtmp4.4/29,ML3.8/1,MS4.1/22, Ms1 4.1/22,ms1mx3.9/34,Error ellipse: s-maj=15.5km s-min=13.3km az=64.0*
*ISCJB **12** 12:05:25.6±0.2,23°.93N±0°.02×122°.53E±0°.01,h48km±2km, mb4.6/78,MS4.2/28,Error ellipse: s-maj=2.9km s-min=2.1km az=153.0*
*TAP **12** 12:05:25.0,23°.97N×122°.49E,h25km,ML5.1,C*
*MAN **12** 12:06:39,18°.61N×121°.24E,h20km,mb4.4,ML3.3,MS3.1*
ISC 12 12:05:23.2±0.4,23°.96N±0°.02×122°.52E±0°.01,h18km±1km, h18km:pP-P,n353,σ1§48/436,mb4.7/77,MS4.2/28, 18C-15D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.67**	**42**	⇓*i*P	**Pn**	**12 05 38.4**	**+0.6**
	baz=52						
YOJ				*i* S	**Sn**	**12 05 47.9**	**+0.1**
	baz=52						
YOJ	**Yonaguni jima**	**0.67**	**42**	P	**Pn**	**12 05 38.2**	**+0.4**
YOJ				S	**Sn**	**12 05 48.0**	**+0.1**
EHP	**Heping Village**	**0.79**	**296**	*e*P	**Pn**	**12 05 40.4**	**+0.9**
	baz=297						
EHP				*e*S	**Sn**	**12 05 51.9**	**+1.0**
	baz=297						
HWA	**Hwalien**	**0.84**	**271**	⇓P	**Pn**	**12 05 40.1**	**0.0**
	baz=257						
HWA				*e*S	**Sn**	**12 05 51.9**	**-0.1**
	baz=257						
ENA	**Nanau**	**0.85**	**303**	⇑*e*P	**Pn**	**12 05 40.3**	**0.0**
	baz=304						
TWD	**Chiawan**	**0.85**	**278**	*e*P	**Pn**	**12 05 40.2**	**-0.1**
	baz=278						
TWD				*e*S	**Sg**	**12 05 51.6**	**+0.3**
	baz=278						
NACB	**Ninganchiao**	**0.87**	**284**	*e*Pg	**Pb**	**12 05 39.4**	**-0.5**
TWC	**Suao**	**0.89**	**317**	⇑*i*P	**Pn**	**12 05 41.0**	**+0.2**
	baz=318						
ESF	**Shoufeng Towns**	**0.93**	**265**	*e*P	**Pn**	**12 05 41.8**	**+0.4**
	baz=254						
ESF				*e*S	**Sg**	**12 05 53.8**	**+0.1**
	baz=254						
TEGC	**Jichi Village**	**0.93**	**255**	*e*P	**Pn**	**12 05 41.8**	**+0.4**
	baz=253						
TEGC				*e*S	**Sg**	**12 05 53.7**	**0.0**
	baz=253						
ESL	**Shilin**	**1.01**	**262**	*e*P	**Pb**	**12 05 41.8**	**-0.4**
	baz=261						
ESL				*e*S	**Sb**	**12 05 52.7**	**-2.4**
	baz=261						
ILA	**Ilan**	**1.07**	**319**	*e*P	**Pg**	**12 05 45.1**	**+1.2**
	baz=319						
TWE	**Neicheng**	**1.09**	**314**	⇑*e*P	**Pg**	**12 05 44.8**	**+0.5**
	baz=316						
TWE				*e*S	**Sg**	**12 06 00.6**	**+2.0**
	baz=316						
ENTT	**Nioudou**	**1.10**	**308**	*e*P	**Pg**	**12 05 45.1**	**+0.4**
	baz=309						
ENTT				S	**Sg**	**12 06 00.1**	**+0.9**
	baz=309						
TWB1	**Santiao Chiao**	**1.15**	**335**	*e*P	**Pg**	**12 05 45.2**	**-0.3**
	baz=354						
TWB1				*e*S	**Sg**	**12 06 03.0**	**+2.4**
	baz=354						
NNS	**Nan Shan**	**1.15**	**295**	⇓*e*P	**Pg**	**12 05 45.3**	**-0.3**
	baz=283						
WHF	**Hehuan Shan**	**1.16**	**279**	⇓*e*P	**Pn**	**12 05 45.0**	**+0.1**
	baz=265						
WHF				*e*S	**Sb**	**12 05 58.3**	**-1.7**
	baz=265						
IRIF	**Iriomote-Funau**	**1.17**	**71**	P	**Pg**	**12 05 46.6**	**+0.8**
IRIF				*e*S	**Sg**	**12 06 03.3**	**+2.3**
HATJ	**Hateruma jima**	**1.18**	**85**	P	**Pg**	**12 05 47.0**	**+1.0**
HATJ				S	**Sg**	**12 06 04.1**	**+2.7**
EHY	**Hungye**	**1.19**	**248**	P	**Pb**	**12 05 45.1**	**-0.1**
	baz=246						
EHY				S	**Sb**	**12 05 60.0**	**-0.3**
	baz=246						
YULB	**Yu-li**	**1.26**	**244**	*e*Pn	**Pn**	**12 05 45.1**	**-0.8**
YULB				*e*Sg	**Sb**	**12 06 00.8**	**-1.5**
YHNB	**Yeheng**	**1.26**	**304**	*e*Pg	**Pn**	**12 05 46.1**	**+0.1**
TWT	**Tachien**	**1.26**	**284**	*e*P	**Pb**	**12 05 47.1**	**+0.5**
	baz=270						
TWT				*e*S	**Sn**	**12 06 03.3**	**+0.5**
	baz=270						
TWF1	**Yuli**	**1.28**	**242**	⇑P	**Pb**	**12 05 46.5**	**-0.2**
	baz=240						
TWF1				S	**Sb**	**12 06 02.1**	**-0.7**
	baz=240						
NSK	**Sanguang**	**1.28**	**304**	⇓P	**Pg**	**12 05 47.5**	**-0.5**
	baz=291						
NSK				*e*S	**Sg**	**12 06 05.1**	**+0.4**
	baz=291						
NWF	**Wu-fen Shan**	**1.30**	**329**	*e*P	**Pg**	**12 05 48.0**	**-0.2**
	baz=330						
NWF				*e*S	**Sg**	**12 06 07.8**	**+2.5**
	baz=330						
TWA	**Mucha**	**1.33**	**320**	*e*P	**Pg**	**12 05 49.2**	**+0.3**
	baz=321						
TWA				*e*S	**Sg**	**12 06 08.2**	**+1.9**
	baz=321						
CHKT	**Chengkung**	**1.36**	**231**	*e*P	**Pn**	**12 05 47.1**	**-0.2**
	baz=229						
TATO	**Taipei**	**1.38**	**317**	*e*Pn	**Pb**	**12 05 48.9**	**+0.4**
JKRS	**Kuro-shima**	**1.39**	**78**	P	**Pg**	**12 05 50.4**	**+0.4**
JKRS				*e*S	**Sg**	**12 06 10.0**	**+1.9**
TAP1	**Taipei**	**1.41**	**320**	*e*P	**Pg**	**12 05 50.4**	**0.0**
	baz=320						
TAP1				S	**Sg**	**12 06 09.7**	**+1.0**
	baz=320						
TAP	**Taipei**	**1.42**	**319**	*e*P	**Pg**	**12 05 49.9**	**-0.7**
	baz=320						
TAP				*e*S	**Sg**	**12 06 11.1**	**+2.0**
	baz=320						
SSLB	**Suanglung**	**1.45**	**263**	*e*Pn	**Pn**	**12 05 47.5**	**-1.0**
SMLT	**Sun Moon Lake**	**1.49**	**267**	*e*P	**Pb**	**12 05 50.0**	**-0.4**
	baz=256						
TWS1	**Kuangyinshan**	**1.52**	**319**	*e*P	**Pg**	**12 05 51.9**	**-0.6**
	baz=337						
TYC	**Yuchr**	**1.52**	**268**	⇓*e*P	**Pb**	**12 05 50.6**	**-0.4**
	baz=267						
JIJ	**Ishigaki jima**	**1.53**	**75**	P	**Pb**	**12 05 51.6**	**+0.5**
JIJ				S	**Sg**	**12 06 11.7**	**-1.1**
NSTT	**Nanjuang**	**1.54**	**296**	⇓*i*P	**Pg**	**12 05 52.1**	**-0.8**
	baz=283						
NSTT				*e*S	**Sb**	**12 06 09.8**	**-0.6**
	baz=283						
TWY	**Chenhua**	**1.56**	**328**	*e*P	**Pg**	**12 05 53.2**	**0.0**
	baz=328						
ELDTW	**Lidau**	**1.58**	**241**	⇑*e*P	**Pn**	**12 05 50.6**	**+0.2**
	baz=239						
TWQ1	**Liyutan**	**1.64**	**284**	⇓P	**Pb**	**12 05 53.7**	**+0.7**
	baz=283						
TWQ1				S	**Sb**	**12 06 14.8**	**+1.4**
	baz=283						
HSN	**Hsinchu**	**1.65**	**301**	*e*P	**Pb**	**12 05 53.7**	**+0.7**
	baz=302						
NSY	**Sanyi**	**1.67**	**286**	⇓*e*P	**Pb**	**12 05 54.4**	**+0.9**
	baz=285						
NSY				*e*S	**Sb**	**12 06 15.3**	**+1.1**
	baz=285						
WNT	**Mingjian**	**1.68**	**268**	*e*P	**Pb**	**12 05 54.4**	**+0.7**
	baz=266						
WNT				S	**Sb**	**12 06 14.9**	**+0.3**
	baz=266						
TCU	**Taichung**	**1.70**	**277**	*e*P	**Pb**	**12 05 54.8**	**+0.9**
	baz=276						
TCU				*e*S	**Sb**	**12 06 15.6**	**+0.7**
	baz=276						
PCYT	**Pengchaiyu**	**1.71**	**346**	*e*P	**Pb**	**12 05 54.6**	**+0.4**
	baz=347						
CHN5	**Tsauling**	**1.73**	**258**	⇑P	**Pb**	**12 05 54.6**	**+0.2**
	baz=257						
TTN	**Taitung**	**1.74**	**227**	*e*P	**Pn**	**12 05 52.8**	**+0.2**
	baz=225						
TTN				*e*S	**Sn**	**12 06 13.8**	**-0.6**
	baz=225						
TWG	**Pinlang**	**1.75**	**230**	*e*P	**Pn**	**12 05 52.7**	**0.0**
	baz=220						
TWG				*e*S	**Sn**	**12 06 12.5**	**-2.1**
	baz=220						
TWG	**Pinlang**	**1.75**	**230**	*e*Pn	**Pn**	**12 05 51.9**	**-0.8**
WGK	**Gukeng**	**1.82**	**262**	*e*P	**Pb**	**12 05 56.1**	**+0.2**
	baz=260						
WGK				*e*S	**Sb**	**12 06 18.5**	**+0.2**
	baz=260						
TPUB	**Ta-pu**	**1.86**	**250**	*e*Pn	**Pn**	**12 05 55.0**	**+0.8**
CHN4	**Tsaushan**	**1.87**	**251**	*e*P	**Pb**	**12 05 56.8**	**0.0**
	baz=250						
CHN4				*e*S	**Sb**	**12 06 19.7**	**-0.2**
	baz=250						
WTP	**Ta-pu**	**1.89**	**248**	*e*P	**Pb**	**12 05 56.9**	**-0.3**
	baz=236						
WTP				*e*S	**Sb**	**12 06 20.6**	**+0.1**
	baz=236						
CHY	**Chiayi**	**1.98**	**257**	*e*P	**Pb**	**12 05 58.8**	**+0.2**
	baz=255						
CHY				*e*S	**Sb**	**12 06 22.4**	**-0.6**
	baz=255						
SGST	**Jiashian**	**1.98**	**244**	*e*P	**Pb**	**12 05 58.4**	**-0.4**
	baz=242						
SGST				*e*S	**Sb**	**12 06 23.2**	**0.0**
	baz=242						
CHN1	**Nanshi**	**1.99**	**248**	*e*P	**Pb**	**12 05 58.7**	**-0.2**
	baz=246						
CHN1				*e*S	**Sb**	**12 06 23.6**	**+0.3**
	baz=246						
WTCT	**Ta-ch'eng**	**2.05**	**268**	*e*P	**Pb**	**12 05 59.3**	**-0.7**
	baz=266						
WTCT				*e*S	**Sb**	**12 06 25.1**	**-0.1**
	baz=266						
JTJ	**Tarama**	**2.10**	**71**	P	**Pb**	**12 06 00.2**	**-0.6**
JTJ				*e*S	**Sb**	**12 06 27.8**	**+1.3**
LAY	**Lan-yu**	**2.11**	**205**	*e*P	**Pn**	**12 05 57.5**	**-0.2**
	baz=204						
LAY				*e*S	**Sn**	**12 06 21.2**	**-2.3**
	baz=204						
WSF	**Szhu**	**2.13**	**262**	⇓*e*P	**Pb**	**12 06 01.1**	**-0.2**
	baz=260						
WSF				*e*S	**Sb**	**12 06 26.7**	**-0.7**
	baz=260						
CHN3	**Shinhua**	**2.17**	**246**	*e*P	**Pb**	**12 06 01.7**	**-0.2**
	baz=245						
CHN3				*e*S	**Sb**	**12 06 29.6**	**+1.2**
	baz=245						
TAW	**Tawu**	**2.19**	**223**	⇑*e*P	**Pn**	**12 05 59.5**	**+0.8**
	baz=232						
SGLT	**Jiouru**	**2.23**	**237**	*e*P	**Pb**	**12 06 03.6**	**+0.5**
	baz=227						
TWM1	**Shoushan**	**2.24**	**240**	*e*P	**Pb**	**12 06 03.8**	**+0.7**
	baz=239						
SCLT	**Jiali**	**2.27**	**250**	*e*P	**Pb**	**12 06 02.2**	**-1.5**
	baz=249						
SCLT				S	**Sb**	**12 06 30.1**	**-1.4**
	baz=249						
TAI1	**Yung-k'ang**	**2.30**	**247**	*e*P	**Pb**	**12 06 03.8**	**-0.3**
	baz=245						
TAI1				*e*S	**Sb**	**12 06 31.0**	**-1.2**
	baz=245						
SCZT	**Fangliau**	**2.36**	**228**	*e*P	**Pn**	**12 06 02.6**	**+1.6**
	baz=218						
KAU	**Kaohsiung**	**2.46**	**236**	*e*P	**Pb**	**12 06 06.1**	**-0.8**
	baz=234						
HEN	**Hengchun**	**2.55**	**221**	*e*P	**Pn**	**12 06 04.6**	**+1.0**
	baz=219						
HEN				*e*S	**Sn**	**12 06 34.6**	**+0.5**
	baz=219						
TWK1	**Hengchun**	**2.56**	**219**	*e*P	**Pn**	**12 06 04.7**	**+0.9**
	baz=217						
TWK1				*e*S	**Sn**	**12 06 34.1**	**-0.3**
	baz=217						
TWP	**Hsiaoliuchiu**	**2.56**	**231**	*e*P	**Pb**	**12 06 08.7**	**+0.2**
	baz=245						
TWP				*e*S	**Sb**	**12 06 40.0**	**+0.3**
	baz=245						
JMJ	**Miyako jima 2**	**2.67**	**71**	*e*P	**Pb**	**12 06 08.0**	**-2.4**
	baz=72						
JMJ	**Miyako jima 2**	**2.67**	**71**	P	**Pb**	**12 06 08.5**	**-1.9**
JMJ				S	**Sb**	**12 06 40.8**	**-2.0**
WDGT	**Dungji**	**2.72**	**256**	*e*P	**Pn**	**12 06 08.0**	**+2.0**
	baz=254						
WDGT				*e*S	**Sn**	**12 06 38.2**	**-0.2**
	baz=254						
PNG	**Penghu**	**2.75**	**262**	*e*P	**Pn**	**12 06 07.9**	**+1.6**
	baz=261						
PNG				*e*S	**Sn**	**12 06 39.7**	**+0.6**
	baz=261						
JOGS	**Gusukube**	**2.75**	**73**	P	**Pb**	**12 06 09.9**	**-1.9**
QZH	**Quanzhou**	**3.71**	**286**	⇓*i*Pn	**Pn**	**12 06 17.1**	**-2.6**
QZH				Sn	**Sn**	**12 06 58.2**	**-4.7**
QZH				smax	smax		
	comp=N,1μm,0.3s						
QZH				smax	smax		
	comp=E,2μm,0.4s						
QZH				LR	LR		
	comp=N,9μm,17.6s						
QZH				LR	LR		
	comp=E,7μm,15.4s						
QZH				LR	LR		
	comp=Z,6μm,12.9s						
KNM	**Kinmen**	**3.76**	**278**	⇑*e*P	**Pn**	**12 06 23.1**	**+2.7**
	baz=276						
JKE	**Kume jima 2**	**4.53**	**58**	P	**Pn**	**12 06 32.3**	**+1.5**
JAGN	**Aguni-jima**	**5.01**	**58**	P	**Pn**	**12 06 39.0**	**+1.5**
JIH	**Iheya**	**5.79**	**57**	P	**Pn**	**12 06 49.6**	**+1.3**
JIH				*e*S	**Sn**	**12 07 54.7**	**+0.4**
JOW	**Kunigami**	**5.94**	**60**	*e*P	**Pn**	**12 06 50.9**	**+0.7**
	baz=62						
JOW	**Kunigami**	**5.94**	**60**	P	**Pn**	**12 06 50.7**	**+0.5**
JOW	**Kunigami**	**5.94**	**60**	*e*Pn	**Pn**	**12 06 49.4**	**-0.9**
APYP	**Conner**	**6.18**	**191**	*e*P	**Pn**	**12 06 54.1**	**+0.5**
APYP				*e*S	Pb	12 07 06.5	-3.9
SIPP	**Brgy, Tapao**	**6.31**	**198**	⇑*i*P	**Pn**	**12 06 57.2**	**+1.8**
ABRA	**Dolores**	**6.50**	**195**	*e*P	**Pn**	**12 06 59.5**	**+1.5**
JTK	**Tokunoshima**	**6.93**	**55**	P	**Pn**	**12 07 03.8**	**-0.1**
CAUP	**Cauayan**	**7.01**	**185**	*e*P	**Pn**	**12 07 08.2**	**+3.1**
SSE	**Sheshan**	**7.21**	**351**	P	**Pn**	**12 07 08.2**	**+0.6**
SSE				smax	smax		
	comp=N,90nm,0.8s						
SSE				smax	smax		
	comp=E,140nm,1.2s						
SSE				LR	LR		
	comp=N,2μm,12.2s						
SSE				LR	LR		
	comp=E,250nm,12.2s						
SSE				LR	LR		
	comp=Z,2μm,14.1s						
JAM	**Amami Oshima**	**7.75**	**54**	P	**Pn**	**12 07 14.7**	**-0.5**
BALP	**Baler**	**8.22**	**186**	*e*P	Pn	12 07 25.8	+4.1
GZH	**Guangzhou**	**8.47**	**266**	P	Pn	12 07 21.0	-4.0
GZH				smax	smax		
	comp=N,340nm,0.8s						
GZH				smax	smax		
	comp=E,290nm,0.9s						
NJ2	**Nanjing**	**8.69**	**339**	*e*P	**Pn**	**12 07 27.8**	**-0.2**
NJ2				pP		12 07 31.3	
NJ2				sP		12 07 33.3	
NJ2				S	**Sn**	**12 09 05.1**	**-0.4**
NJ2				sS		12 09 09.6	
NJ2				pmax	pmax		
	comp=Z,50nm,0.6s						
NJ2				smax	smax		
	comp=N,210nm,0.9s						
NJ2				smax	smax		
	comp=E,100nm,0.8s						
NJ2				LR	LR		
	comp=N,1μm,7.3s						
NJ2				LR	LR		
	comp=E,2μm,9.8s						
NJ2				LR	LR		
	comp=Z,9μm,12.8s						
WHN	**Wuhan**	**9.79**	**314**	P	Pn	12 07 49.1	+6.0
WHN				S	Sn	12 09 42.4	+10
WHN				LR	LR		
	comp=N,3μm,11.2s						
WHN				LR	LR		
	comp=E,2μm,8.4s						
WHN				LR	LR		
	comp=Z,4μm,13.2s						
JNU	**Nakatsue**	**11.71**	**37**	Pn	**Pn**	**12 08 11.2**	**+1.7**
JNU	**Nakatsue**	**11.71**	**37**	Pn	**Pn**	**12 08 11.2**	**+1.7**
	comp=Z,0.2nm,0.3s,baz=160,slow=15,SNR=2.6						
JNU				LR	LR	12 13 04.2	
	comp=Z,544nm,19.7s,baz=224,slow=40						
QIZ	**Qiongzhong**	**12.78**	**250**	P	**Pn**	**12 08 23.4**	**-0.7**
QIZ				S	**Sn**	**12 10 47.5**	**+1.5**
QIZ				pmax	pmax		
	comp=Z,21nm,1.9s						
QIZ				LR	LR		
	comp=N,560nm,18.4s						
QIZ				LR	LR		
	comp=Z,530nm,17.6s						
KSAR	**Wonju Array Be**	**14.20**	**18**	Pn	**Pn**	**12 08 46.0**	**+2.6**
KSRS	**Korea Array**	**14.22**	**18**	Pn	**Pn**	**12 08 46.0**	**+2.3**
	comp=Z,3.8nm,0.3s,baz=198,slow=12,SNR=56						
KSRS				LR	LR	12 14 56.0	
	comp=Z,634nm,18.9s,baz=194,slow=41						
KS01	**Wonju Array Si**	**14.24**	**18**	*e*P	**P**	**12 08 49.9**	**-1.3**
GYA	**Guiyang**	**14.57**	**283**	⇑*i*P	**Pn**	**12 08 49.5**	**+0.8**
GYA				PP	**PnPn**	**12 09 01.5**	**+4.9**
GYA				S	**Sn**	**12 11 31.7**	**+1.9**
GYA				SS	**S**	**12 11 49.0**	**0.0**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GYA				pmax	pmax		
	comp=Z,90nm,4.7s						
GYA				LR	LR		
	comp=N,470nm,10.6s						
GYA				LR	LR		
	comp=E,920nm,14.5s						
GYA				LR	LR		
	comp=Z,1μm,15.7s						
XAN	**Xi'an**	**15.55**	**313**	P	**P**	**12 09 04.9**	**-1.0**
XAN				S	**Sn**	**12 11 57.7**	**+4.1**
XAN				pmax	pmax		
	comp=Z,6.0nm,1.2s						
XAN				LR	LR		
	comp=N,360nm,14.5s						
XAN				LR	LR		
	comp=E,260nm,15.3s						
XAN				LR	LR		
	comp=Z,300nm,15.9s						
BJI	**Beijing**	**16.90**	**343**	P	**P**	**12 09 20.8**	**+0.1**
BJI				S	**Sn**	**12 12 28.7**	**+2.5**
BJI				pmax	pmax		
	comp=Z,9.0nm,0.8s						
BJI				LR	LR		
	comp=N,1μm,12.6s						
BJI				LR	LR		
	comp=E,320nm,8.0s						
BJI				LR	LR		
	comp=Z,370nm,19.9s						
SNY	**Shenyang**	**17.84**	**3**	⇓P	**P**	**12 09 32.6**	**+1.5**
SNY				S	**Sn**	**12 12 51.1**	**+2.2**
SNY				pmax	pmax		
	comp=Z,13nm,0.7s						
SNY				LR	LR		
	comp=N,680nm,11.7s						
SNY				LR	LR		
	comp=E,480nm,16.1s						
SNY				LR	LR		
	comp=Z,790nm,14.1s						
CBIJ	**Chichi jima**	**18.02**	**76**	LR	LR	12 15 20.4	
	comp=Z,281nm,20.5s,baz=133,slow=33						
CD2	**Chengdu**	**18.03**	**297**	P	**P**	**12 09 33.8**	**+0.5**
CD2				pP	**pP**	**12 09 37.4**	**-1.0**
CD2				sP	**sP**	**12 09 40.8**	**0.0**
CD2				PP	**PnPn**	**12 09 48.7**	**+4.7**
CD2				S	**Sn**	**12 12 52.0**	**-1.6**
CD2				sS	**S**	**12 12 57.4**	**-2.1**
CD2				SS	**SnSn**	**12 13 14.8**	**+7.5**
CD2				pmax	pmax		
	comp=Z,30nm,0.7s						
CD2				pmax	pmax		
	comp=Z,270nm,9.2s						

KMI pmax pmax
comp=Z,14nm,0.7s
KMI LR LR
comp=N,330nm,12.8s
KMI LR LR
comp=E,930nm,13.2s
KMI LR LR
comp=Z,890nm,13.2s
MJAR Matsushiro Arr 18.43 44 Pn **P 12 09 37.0 -0.7**
MJAR Matsushiro Arr 18.43 44 Pn **P 12 09 37.0 -0.7**
comp=Z,0.3nm,0.3s,baz=244,slow=12,SNR=7.8
KKM Kota Kinabalu 18.82 200 *e*Pn **Pn 12 09 46.6 +3.9**
comp=Z,34nm,1.3s
KKM Kota Kinabalu 18.82 200 P **Pn 12 09 46.0 +3.3**
comp=Z,22nm,1.2s
HHC Hu-ho-hao-te 19.19 334 *e*P **Pn 12 09 46.9 -0.1**
HHC pP **pP 12 09 50.6 -0.6**
HHC sP **sP 12 09 53.9 +0.4**
HHC PP **PnPn 12 10 04.0 +4.1**
HHC S **Sn 12 13 17.4 -4.2**
HHC sS **S 12 13 23.1 +0.2**
HHC SS **SnSn 12 13 43.3 +7.4**
HHC PcS **PcS 12 17 45.8 -0.6**
HHC pmax pmax
comp=Z,29nm,1.1s
HHC pmax pmax
comp=Z,350nm,5.1s
HHC LR LR
comp=N,2μm,14.9s
HHC LR LR
comp=E,1μm,14.0s
HHC LR LR
comp=Z,2μm,14.6s
CN2 Changchun 19.94 6 *e*P **P 12 09 54.0 -0.1**
CN2 *e*PP **PnPn 12 10 13.2 +3.1**
CN2 *e*S **S 12 13 33.3 -4.4**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 LR LR
comp=N,1μm,10.0s
CN2 LR LR
comp=E,280nm,10.0s
CN2 LR LR
comp=Z,1μm,11.0s
LZH Lanzhou 20.15 311 *e*P Pn 12 09 59.1 +0.5
LZH pP pP 12 10 02.9 +1.1
LZH sP sP 12 10 06.4 +2.2
LZH PP **PnPn 12 10 19.4 +6.2**
LZH *e*S **S 12 13 39.4 -2.9**
LZH sS Sn 12 13 45.2 +0.2
LZH SS **SnSn 12 14 08.0 +8.4**
LZH pmax pmax
comp=Z,24nm,1.0s
LZH pmax pmax
comp=Z,83nm,5.0s
LZH LR LR
comp=N,560nm,12.8s
LZH LR LR
comp=E,910nm,13.0s
LZH LR LR
comp=Z,1μm,17.1s
VLA Vladivostok 20.61 20⇓*i*P **P 12 10 01.3 -0.1**
VLA *e* 12 10 17.9
VLA *e*S **S 12 13 50.4 -0.7**
VLA pmax pmax
comp=Z,7.0nm,0.5s
CRAI Chiangrai 20.85 264 P Pn 12 10 07.2 +0.4
comp=Z,25nm,1.4s,comp=Z,2μm
LOEI Loei 20.88 256 P Pn 12 10 06.0 -1.1
comp=Z,10nm,0.8s,comp=Z,649nm
CHAI Chaiyaphum 20.89 251 P Pn 12 10 08.6 +1.4
comp=Z,5.5nm,0.7s
MDJ Mudanjiang 21.40 14 P **P 12 10 11.5 +1.6**
MDJ sP **sP 12 10 15.8 -1.6**
MDJ S Sn 12 14 11.1 -3.6
MDJ sS **sS 12 14 15.6 +0.7**
MDJ pmax pmax
comp=Z,8.0nm,1.2s
MDJ pmax pmax
comp=Z,69nm,8.7s
MDJ LR LR
comp=N,360nm,20.9s
MDJ LR LR
comp=E,550nm,17.5s
MDJ LR LR
comp=Z,840nm,14.8s
PBKT Sadao Pong 21.50 254 P **P 12 10 11.7 +0.5**
comp=Z,16nm,1.2s
PBKT Sadao Pong 21.50 254 P P 12 10 19.0 +7.8
comp=Z,16nm,1.2s
USRK Ussuriysk Arra 21.63 19 P **P 12 10 11.6 -0.7**
comp=Z,6.2nm,0.7s,baz=207,slow=11,SNR=11
USRK LR LR 12 19 19.7
comp=Z,438nm,19.0s,baz=184,slow=39
LAMP Lampang 22.00 260 P **P 12 10 19.6 +3.0**
comp=Z,8.2nm,0.9s,comp=Z,86nm
CMAI Chiengmai2 22.13 264 P P 12 10 33.2 +15
SUKH Sukhothai 22.34 258 P P 12 10 25.7 +5.4
comp=Z,3.7nm,1.0s
CHTO Chiang Mai 22.53 261 *e*P **P 12 10 23.4 +1.1**
CHTO pmax pmax
comp=Z,22nm,1.6s
CHTO Chiang Mai 22.53 261 *e*P **P 12 10 23.4 +1.1**
comp=Z,22nm,1.6s
CHTO Chiang Mai 22.53 261 P **P 12 10 23.5 +1.1**
comp=Z,9.7nm,1.2s
CHTO Chiang Mai 22.53 261 P **P 12 10 25.1 +2.8**
comp=Z,8.2nm,0.7s
CM01 Chiang Mai Arr 22.64 260 *e*P **P 12 10 24.5 +1.0**
CM01 *e*PcP **PcP 12 14 17.1 +1.0**
CMAR Chiang Mai Arr 22.64 261 P **P 12 10 24.9 +1.4**
CMAR Chiang Mai Arr 22.64 261 P **P 12 10 24.8 +1.4**
comp=Z,1.6nm,0.6s,baz=64,slow=10,SNR=14
GTOI Gorontalo 23.19 179 P P 12 10 23.3 -5.8
comp=Z,39nm,1.4s
SBUM Sibu 23.59 207 *e*P **P 12 10 33.2 0.0**
comp=Z,12nm,0.9s
SBUM Sibu 23.59 207 P **P 12 10 33.3 +0.2**
comp=Z,18nm,1.0s
GTA Gaotai 24.61 314 P **P 12 10 43.0 +0.3**
GTA pP **pP 12 10 46.6 -1.6**
GTA sP **sP 12 10 49.1 -1.4**
GTA PcP **PcP 12 14 21.1 +0.9**
GTA S **S 12 15 02.5 -0.6**
GTA sS **sS 12 15 09.6 -2.6**
GTA pmax pmax
comp=Z,8.0nm,0.9s
GTA pmax pmax
comp=Z,150nm,4.1s
GTA LR LR
comp=N,250nm,15.3s
GTA LR LR
comp=E,570nm,14.9s
GTA LR LR
comp=Z,660nm,15.9s
ASAJ Asahikawa 25.97 34 P **P 12 10 52.4 -2.4**
ASAJ Asahikawa 25.97 34 P **P 12 10 52.4 -2.4**
comp=Z,3.6nm,0.3s,baz=238,slow=8.7,SNR=16
ASAJ LR LR 12 21 22.5
comp=Z,260nm,20.4s,baz=88,slow=37
KLR Kul'dur 26.25 14 *e*P **P 12 10 54.4 -2.8**
KLR MLR MLR
comp=N,1μm,12.5s
KLR MLR MLR
comp=Z,2μm,12.5s
HABR Khabarovsk 26.40 19*ce*P **P 12 10 55.0 -3.5**
HABR *e**SP **sP 12 11 08.8 +2.5**
HABR *e*PPP PPP 12 11 42.8
HABR *e* 12 14 21.6
HABR *e*S **S 12 15 24.9 -6.1**
HABR *e**SS **sS 12 15 41.6 +1.5**
HABR *e*SSS SSS 12 16 40.4
HABR *e* 12 21 48.2
HABR pmax pmax
comp=Z,13nm,1.6s
HABR MLR MLR
comp=Z,460nm,19.0s
ULN Ulaanbaatar 26.84 337 *e*P **P 12 11 02.6 -0.2**
ULN Ulaanbaatar 26.84 337 P **P 12 11 02.6 -0.2**
SONM Songino Array 27.06 336 P **P 12 11 04.1 -0.6**
SONM PcP **PcP 12 14 26.1 +0.5**
SONM ScP **ScP 12 18 03.5 -1.6**
SONM Songino Array 27.06 336 P **P 12 11 04.1 -0.6**
comp=Z,21nm,0.9s,baz=150,slow=9.5,SNR=98
SONM PcP **PcP 12 14 26.0 +0.5**
comp=Z,1.9nm,1.0s,baz=145,slow=3.8,SNR=4.4
SONM ScP **ScP 12 18 03.5 -1.6**
comp=Z,0.5nm,1.0s,baz=154,slow=4.6,SNR=5.9
SONM LR LR 12 22 57.9
comp=Z,796nm,18.3s,baz=188,slow=39
SONA1 Songino Array 27.07 336 *e*P **P 12 11 04.3 -0.5**
YSS Yuzh-Sakhalins 28.09 30 *e*P **P 12 11 13.8 +0.1**
KAPI Kappang 28.93 186 LR LR 12 24 11.4
comp=Z,143nm,19.0s,baz=191,slow=39
ZAK Zakamensk 30.32 335 *e*P **P 12 11 31.9 -1.8**
ZAK *e* 12 18 13.8
ZAK pmax pmax
comp=Z,3.0nm,1.0s
TLY Talaya 31.25 337 *e*P **P 12 11 41.6 -0.1**
TLY pmax pmax
comp=Z,10.0nm,1.2s
TLY MLR MLR
comp=Z,573nm,14.0s
WMQ Urumqi 34.69 313 P **P 12 12 13.0 +1.0**
WMQ pP **pP 12 12 17.5 -0.1**
WMQ sP **sP 12 12 20.0 +0.2**
WMQ PP **PP 12 13 30.0 -0.7**
WMQ pmax pmax
comp=Z,21nm,0.7s
WMQ pmax pmax
comp=Z,140nm,4.3s
WMQ LR LR
comp=N,150nm,16.0s
WMQ LR LR
comp=E,130nm,15.0s
WMQ LR LR
comp=Z,140nm,15.4s
HVS Khovu-Aksy 35.06 328 *e*P **P 12 12 14.7 -0.4**
HVS pmax pmax
comp=Z,41nm,1.2s
YAK Yakutsk 38.37 5 *e*P **P 12 12 40.3 -2.6**
YAK pmax pmax
comp=Z,17nm,1.1s
MK01 Makanchi Array 39.34 316 *e*P **P 12 12 51.4 0.0**
MK31 Makanchi Array 39.35 316*ce*P **P 12 12 51.0 -0.5**
MK31 pmax pmax
comp=Z,8.0nm,0.4s
MK31 Makanchi Array 39.35 316 *e*P **P 12 12 51.3 -0.2**
MK31 *e*PcP **PcP 12 14 59.9 +0.2**
MKAR Makanchi Array 39.35 316 *e*P **P 12 12 51.3 -0.2**
MKAR 12 14 59.8
MKAR Makanchi Array 39.35 316 *e*P **P 12 12 51.3 -0.2**
MKAR PcP **PcP 12 14 59.8 0.0**
MKAR Makanchi Array 39.35 316 P **P 12 12 51.2 -0.2**
comp=Z,12nm,0.5s,baz=102,slow=10,SNR=107
MKAR PcP **PcP 12 14 59.8 0.0**
comp=Z,1.2nm,0.7s,baz=81,slow=3.6,SNR=4.0
MKAR LR LR 12 30 54.3
comp=Z,195nm,18.3s,baz=94,slow=39
PETK Petropavlovsk- 39.38 33 P **P 12 12 50.0 -1.6**
PETK Petropavlovsk- 39.38 33 P **P 12 12 50.0 -1.6**
PETK Petropavlovsk- 39.38 33 P **P 12 12 50.0 -1.6**
comp=Z,2.3nm,0.9s,baz=210,slow=7.4,SNR=2.8
PETK LR LR 12 28 03.1
comp=Z,130nm,21.8s,baz=227,slow=35
PMG Port Moresby 40.98 141 LR LR 12 29 28.1
comp=Z,256nm,18.7s,baz=251,slow=35
ZAA0 Zalesovo Array 41.10 327 *e*P **P 12 13 04.5 -1.3**
comp=Z,52nm,1.0s
ZAA0 *e*PcP **PcP 12 15 05.7 +0.5**
ZALV Zalesovo Beam 41.10 327 P **P 12 13 04.7 -1.2**
ZALV 12 15 05.9
ZALV Zalesovo Beam 41.10 327 P **P 12 13 04.7 -1.2**
ZALV PcP **PcP 12 15 05.8 +0.7**
ZALV Zalesovo Beam 41.10 327 P **P 12 13 04.7 -1.2**
comp=Z,24nm,0.5s,baz=113,slow=7.9,SNR=76
ZALV PcP **PcP 12 15 05.8 +0.7**
comp=Z,3.2nm,0.4s,baz=134,slow=4.3,SNR=4.0
ZALV LR LR 12 30 53.0
comp=Z,181nm,21.0s,baz=249,slow=37
KSH Kashi 42.05 303 P 12 13 17.9 +3.9
KSH sP sP 12 13 24.9 +3.0
KSH PP PcP 12 15 00.4 -8.4
KSH S S 12 19 39.4 +6.9
KSH sS sS 12 19 46.8 +5.0
KSH SS **SS 12 22 42.3 +2.5**
KSH pmax pmax
comp=Z,72nm,3.1s
KSH LR LR
comp=N,150nm,9.0s
KSH LR LR
comp=E,90nm,4.5s
KSH LR LR
comp=Z,120nm,7.9s
ULHL Ulahol 42.27 307 P **P 12 13 17.6 +1.7**
SNR=6.5
NVS Novosibirsk 42.35 327 *e*P **P 12 13 14.6 -1.5**
TKM2 Tokmak 2 42.87 308 *e*P **P 12 13 21.7 +1.0**
TKM2 pmax pmax
comp=Z,39nm,0.9s
TKM2 Tokmak 2 42.87 308 P **P 12 13 21.8 +1.0**
SNR=36
TKM2 Tokmak 2 42.87 308 *e*P **P 12 13 21.7 +1.0**
comp=Z,39nm,0.9s
KZA Kyzart 42.97 307 P **P 12 13 23.1 +1.3**
SNR=8.7
KURK Kurchatov 43.05 320 P **P 12 13 21.5 -0.3**
KURK Kurchatov 43.05 320 P **P 12 13 21.5 -0.3**
KURBB Kurchatov Arra 43.07 320 P **P 12 13 21.5 -0.4**
comp=Z,3.6nm,0.3s,baz=112,slow=8.3,SNR=39
KBK Karagaybulak 43.29 307 P **P 12 13 25.6 +1.5**
SNR=10.0
CHMS Chumysh 43.49 308 P **P 12 13 26.5 +1.0**
SNR=12
AAK Ala-Archa 43.61 307⇓*i*P **P 12 13 27.1 +0.4**
AAK pmax pmax
comp=Z,28nm,0.8s
AAK Ala-Archa 43.61 307 P **P 12 13 27.9 +1.2**
SNR=11
AAK Ala-Archa 43.61 307 *e*P **P 12 13 26.8 +0.1**
comp=Z,1.6nm,0.8s
USP Ospenovka 43.72 308 P **P 12 13 28.3 +0.9**
SNR=9.0
AML Almayashu 44.12 306 P **P 12 13 32.5 +1.5**
SNR=15
EKS2 Erkin-Say 44.14 307 *e*P **P 12 13 31.8 +0.9**
EKS2 pmax pmax
comp=Z,11nm,0.8s
EKS2 Erkin-Say 44.14 307 P **P 12 13 31.8 +0.9**
SNR=13
EKS2 Erkin-Say 44.14 307 *e*P **P 12 13 31.8 +0.9**
comp=Z,11nm,0.8s
WRAB Tennant Creek 45.12 164 *e*P **P 12 13 37.5 -1.2**
WRAB pmax pmax
comp=Z,20nm,1.2s
WRAB Tennant Creek 45.12 164 *e*P **P 12 13 37.5 -1.2**
comp=Z,20nm,1.2s
WRA Warramunga Arr 45.13 164 P **P 12 13 39.3 +0.5**
WRA Warramunga Arr 45.13 164 P **P 12 13 39.3 +0.5**
comp=Z,6.0nm,0.7s,baz=347,slow=8.9,SNR=42
KK31 Karatay Array 46.58 307*ce*P **P 12 13 50.4 +0.3**
KK31 pmax pmax
comp=Z,7.0nm,0.3s
KKAR Karatay Array 46.58 307 *e*P **P 12 13 50.3 +0.2**
KKAR Karatay Array 46.58 307 *e*P **P 12 13 50.3 +0.2**
KBL Kabul 47.36 296 *e*P **P 12 13 57.7 +1.1**
KBL pmax pmax
comp=Z,16nm,0.8s
KBL Kabul 47.36 296 *e*P **P 12 13 57.7 +1.1**
comp=Z,16nm,0.8s
TIXI Tiksi 47.85 3 *e*P **P 12 13 57.3 -2.2**
TIXI pmax pmax
comp=Z,5.0nm,0.8s
VOSK Vostochnaya 48.19 320 *e*P **P 12 14 01.7 -0.8**
VOSK pmax pmax
comp=Z,10.0nm,0.5s
VOSK Vostochnaya 48.19 320 *e*P **P 12 14 01.7 -0.8**
comp=Z,9.7nm,0.5s
AS31 Alice Springs 48.61 166 *e*P **P 12 14 07.6 +1.6**
ASAR Alice Springs 48.62 166 P **P 12 14 07.5 +1.5**
ASAR Alice Springs 48.62 166 P **P 12 14 07.5 +1.5**
comp=Z,3.0nm,0.5s,baz=342,slow=7.4,SNR=81
BVAR Borovoye Array 48.62 321 P **P 12 14 05.3 -0.5**
BVAR 12 15 30.5
BVAR Borovoye Array 48.62 321 P **P 12 14 05.3 -0.5**
BVAR **12 15 30.5 -0.7**
BVAR Borovoye Array 48.62 321 P **P 12 14 05.3 -0.5**
comp=Z,8.2nm,0.5s,baz=107,slow=9.8,SNR=30
BVAR PcP **PcP 12 15 30.5 -0.7**
comp=Z,1.5nm,0.5s,baz=134,slow=2.1,SNR=4.2
AS01 Alice Springs 48.62 166 *e*P **P 12 14 07.2 +1.1**
BRVK Borovoye 48.69 321*c i*P **P 12 14 06.0 -0.3**
BRVK pmax pmax
comp=Z,11nm,0.8s
BRVK Borovoye 48.69 321 *e*P **P 12 14 06.0 -0.3**
comp=Z,11nm,0.5s
HNR Honiara 49.38 128 LR LR 12 31 23.2
comp=Z,110nm,19.4s,baz=82,slow=32
AB31 Akbulak array 54.47 314*ce*P **P 12 14 49.3 -0.3**
AB31 pmax pmax
comp=Z,6.0nm,0.3s
ABKAR Akbulak array 54.47 314 *e*P **P 12 14 49.5 -0.1**
SVE Sverdlovsk 54.95 324⇑*i*P **P 12 14 52.7 -0.2**
SVE pmax pmax
comp=Z,10.0nm,0.6s
SVE MLR MLR
comp=Z,304nm,16.0s
AKTO Aktyubinsk 55.79 316 P **P 12 14 58.9 -0.2**
AKTO Aktyubinsk 55.79 316 P **P 12 14 58.9 -0.2**
AKTO Aktyubinsk 55.79 316 P **P 12 14 58.9 -0.2**
comp=Z,2.1nm,0.4s,baz=89,slow=10,SNR=9.7
ARU Arti 56.02 323*c i*P **P 12 14 59.3 -1.3**
ARU 12 17 01.0
ARU S **S 12 22 45.3 -2.8**
ARU pmax pmax
comp=Z,13nm,1.0s
STKA Stephens Creek 58.44 161 P **P 12 15 20.1 +2.1**
STKA Stephens Creek 58.44 161 P **P 12 15 20.1 +2.1**
comp=Z,4.9nm,0.9s,baz=329,slow=12,SNR=5.0
DZM Mont Dzumac 62.59 134 *e*LR LR 12 34 31.0
comp=Z,312nm,24.2s
DZM Mont Dzumac 62.59 134 LR LR 12 37 46.8
comp=Z,207nm,20.8s,baz=233,slow=31
KLMR Klimovskoe 66.00 328 *e*P **P 12 16 07.4 -0.9**
KLMR pmax pmax
comp=Z,13nm,1.2s
ZEI Tsey 66.03 308 *e*P **P 12 16 08.5 -0.7**
ZEI pmax pmax
comp=Z,20nm,1.0s
KBD Kabd 66.09 293 *e*P **P 12 16 09.5 0.0**
VRHR Novokhopersk 66.13 317 *e*P **P 12 16 07.1 -2.2**
VRHR pmax pmax
comp=Z,10.0nm,0.9s
VRHR pmax pmax
comp=N,20nm,0.5s
VRHR pmax pmax
comp=E,10.0nm,0.5s
RDF Al-Radifah 66.28 292 *e*P **P 12 16 11.4 +0.7**
NAY Al-Naaiem 66.46 293 *e*P **P 12 16 11.4 -0.4**
KBZ Khabaz 66.57 309 P **P 12 16 13.4 +1.1**
KBZ Khabaz 66.57 309 P **P 12 16 13.4 +1.1**
KBZ Khabaz 66.57 309 P **P 12 16 13.4 +1.1**
comp=E,11nm,0.8s,baz=126,slow=3.8,SNR=24
KBZ LR LR 12 48 56.2
comp=E,112nm,19.3s,baz=21,slow=39
RST Umm Al-Ruwaisa 66.60 293 *e*P **P 12 16 11.9 -0.9**
KIV Kislovodsk 66.68 309*c i*P **P 12 16 13.7 +0.6**
KIV pmax pmax
comp=Z,23nm,1.0s
CAST Castle Rocks 66.81 29 *e*P **P 12 16 14.5 +0.9**
KDAK Kodiak Island 67.38 35 P **P 12 16 16.7 -0.5**
KDAK Kodiak Island 67.38 35 P **P 12 16 16.7 -0.5**
comp=Z,4.6nm,0.8s,baz=216,slow=5.8,SNR=4.3
VORD Divnogorie 67.60 317 *e*P **P 12 16 16.3 -2.4**
VORD pmax pmax
comp=Z,5.0nm,0.9s
VORD pmax pmax
comp=N,10.0nm,0.6s
VORD pmax pmax
comp=E,10.0nm,0.9s
APA Apatity 67.77 336⇓*i*P **P 12 16 17.0 -2.5**
APA MLR MLR
comp=Z,600nm,19.0s
OBN Obninsk 68.43 322 *e*P **P 12 16 22.9 -0.9**
OBN pmax pmax
comp=Z,5.0nm,1.2s
ILAR Eielson Array 68.85 27 P **P 12 16 24.9 -1.4**
ILAR Eielson Array 68.85 27 P **P 12 16 24.9 -1.4**
comp=Z,0.6nm,0.4s,baz=262,slow=5.3,SNR=21
ILAR LR LR 12 47 42.7
comp=Z,69nm,18.3s,baz=264,slow=37
SOC Sochi 68.86 309 *e*PPP PPP 12 20 33.7
SOC *e*S S 12 25 22.9 -7.1
SOC pmax pmax
comp=Z,9.0nm,0.5s
JOF Joensuu 69.50 331 *e*P **P 12 16 30.3 -0.1**
JOF pmax pmax
comp=Z,4.0nm,0.5s
JOF Joensuu 69.50 331 *e*p **P 12 16 30.3 -0.1**
comp=Z,4.0nm,0.5s
RAYN Ar Rayn 69.58 287 *e*P **P 12 16 31.6 -0.1**
ANN Anapa 70.16 311 *e*P **P 12 16 34.2 -0.6**
ANN *e*PPP PPP 12 20 50.5
ANN *e*S **S 12 25 44.1 -1.2**
ANN pmax pmax
comp=Z,54nm,1.3s
ARCES ARCESS Array B 70.20 338 P **P 12 16 34.0 -0.5**
ARCES ARCESS Array B 70.20 338 P **P 12 16 34.0 -0.5**
comp=Z,2.4nm,0.6s,baz=65,slow=8.7,SNR=22
ARE0 ARCESS Array S 70.20 338 *e*P **P 12 16 34.6 0.0**
KAF Kangasniemi 71.95 331 *e*P **P 12 16 45.3 0.0**
KAF pmax pmax
comp=Z,3.0nm,0.6s
KAF Kangasniemi 71.95 331 *e*p **P 12 16 45.3 0.0**
comp=Z,2.5nm,0.6s
DAWY Dawson 72.17 27 *e*P **P 12 16 46.7 0.0**
FINES FINESS Array B 72.25 330 P **P 12 16 46.4 -0.7**
FINES FINESS Array B 72.25 330 P **P 12 16 46.4 -0.7**
comp=Z,4.1nm,0.5s,baz=62,slow=5.7,SNR=41
FINES LR LR 12 52 08.7
comp=Z,304nm,18.4s,baz=182,slow=39
INK Inuvik 72.97 22 P **P 12 16 50.6 -0.7**
INK Inuvik 72.97 22 P **P 12 16 50.6 -0.7**
comp=Z,2.2nm,0.6s,baz=334,slow=3.6,SNR=7.5
BR131 Keskin Array S 74.29 307 *e*P **P 12 17 00.2 +0.4**
comp=Z,6.0nm,0.6s
BRTR Keskin Array B 74.29 307 P **P 12 17 00.1 +0.3**
BRTR Keskin Array B 74.29 307 P **P 12 17 00.1 +0.3**
comp=Z,17nm,1.0s,baz=99,slow=7.6,SNR=18
BRTR LR LR 12 54 43.1
comp=Z,37nm,19.1s,baz=280,slow=40
ANTO Ankara 74.86 307 *e*P **P 12 17 03.3 +0.3**
ANTO Ankara 74.86 307 *e*P **P 12 17 03.3 +0.3**
BR231 Keskin MP Arra 74.88 307 *e*P **P 12 17 00.8 -2.4**
MLR Muntele Rosu 77.68 314 P **P 12 17 18.5 -0.5**
MLR Muntele Rosu 77.68 314 P **P 12 17 18.5 -0.5**
comp=Z,1.1nm,0.5s,baz=96,slow=10,SNR=5.5
HFS Hagfors 78.36 331 P **P 12 17 21.2 -1.0**
HFS Hagfors 78.36 331 P **P 12 17 21.2 -1.0**
comp=Z,2.3nm,0.5s,baz=98,slow=7.6,SNR=15
HFS LR LR 12 55 19.5
comp=Z,307nm,20.3s,baz=61,slow=38
KOLS Kolonicke sedl 78.68 319 *e*P P 12 17 20.2 -4.1
KOLS pmax pmax
comp=Z,4.0nm,0.9s
KOLS Kolonicke sedl 78.68 319 *e*P P 12 17 20.2 -4.1
NB2 NORSAR Subarra 78.99 332 P **P 12 17 24.8 -1.0**
comp=Z,2.5nm,0.6s,baz=52,slow=5.9
NOA NORSAR Array B 78.99 332 P **P 12 17 25.0 -0.8**
NOA NORSAR Array B 78.99 332 P **P 12 17 25.0 -0.8**
comp=Z,2.9nm,0.6s,baz=55,slow=5.5,SNR=11
NOA LR LR 12 56 19.4
comp=Z,194nm,18.4s,baz=65,slow=39
STHS Stebnicka Huta 79.11 319 *e*P **P 12 17 25.5 -1.2**
STHS pmax pmax
comp=Z,7.0nm,1.0s
STHS Stebnicka Huta 79.11 319 *e*P **P 12 17 25.5 -1.2**
KECS Kecovo 79.95 319 *e*P **P 12 17 29.2 -2.0**
KECS pmax pmax
comp=Z,2.0nm,1.0s
KECS Kecovo 79.95 319 *e*P **P 12 17 29.2 -2.0**
VYHS Vyhne 80.94 319 *e*P **P 12 17 35.9 -0.6**
VYHS pmax pmax
comp=Z,10.0nm,1.6s
VYHS Vyhne 80.94 319 *e*P **P 12 17 35.9 -0.6**
IDI Anoyia 82.37 305 P **P 12 17 43.5 -0.9**
IDI Anoyia 82.37 305 P **P 12 17 43.5 -0.9**
comp=Z,15nm,0.9s,baz=35,slow=12,SNR=2.0
YKA Yellowknife Ar 82.70 23 P **P 12 17 44.8 -0.7**
YKA Yellowknife Ar 82.70 23 P **P 12 17 44.8 -0.7**
comp=Z,1.6nm,0.6s,baz=313,slow=4.9,SNR=6.9
GERES GERESS Array B 83.79 321 P **P 12 17 51.9 +0.3**
GERES GERESS Array B 83.79 321 P **P 12 17 51.9 +0.3**
comp=Z,3.2nm,0.8s,baz=63,slow=6.1,SNR=5.3
GERES LR LR 12 59 39.2

comp=Z,103nm,18.4s,baz=211,slow=39
B06A Marblemount 87.99 37 *e*P **P 12 18 13.4 +1.2**
D05A Enumclaw 88.46 38 *e*P **P 12 18 16.5 +2.0**
EKA Eskdalemuir Ar 88.48 332 P **P 12 18 13.7 -0.7**
EKA Eskdalemuir Ar 88.48 332 P **P 12 18 13.7 -0.7**
comp=Z,0.9nm,0.6s,baz=35,slow=3.1,SNR=12
LON Longmire 88.81 38 *e*P **P 12 18 17.7 +1.4**
LON Longmire 88.81 38 *e*P **P 12 18 17.7 +1.4**
F04A Amboy 88.92 39 *e*P **P 12 18 18.3 +1.6**
LTY Liberty 89.16 37 *e*P **P 12 18 18.8 +0.9**
EDM Edmonton 89.19 30 *e*P **P 12 18 18.5 +0.6**
EDM Edmonton 89.19 30 *e*P **P 12 18 18.5 +0.6**
B08A Colville Reser 89.25 36 *e*P **P 12 18 19.4 +1.2**
LPG La Plagne 89.58 321 *e*P **P 12 18 19.9 -0.3**
comp=Z,12nm,0.9s
LPG La Plagne 89.58 321 *e*P **P 12 18 19.9 -0.3**
LPG pmax pmax
comp=Z,12nm,0.9s
LPG La Plagne 89.58 321 *e*P **P 12 18 19.9 -0.3**
comp=Z,12nm,0.9s
LPL La Plagne 89.58 321 *e*P **P 12 18 19.9 -0.2**
comp=Z,5.6nm,0.5s
LPL La Plagne 89.58 321 *e*P **P 12 18 19.9 -0.2**
LPL pmax pmax
comp=Z,6.0nm,0.5s
LPL La Plagne 89.58 321 *e*P **P 12 18 19.9 -0.2**
comp=Z,5.6nm,0.5s
MBDF Montbardon 90.00 320 *e*P **P 12 18 21.9 -0.1**
comp=Z,19nm,1.1s
MBDF Montbardon 90.00 320 *e*P **P 12 18 21.9 -0.1**
MBDF pmax pmax
comp=Z,19nm,1.1s
MBDF Montbardon 90.00 320 *e*P **P 12 18 21.9 -0.1**
comp=Z,19nm,1.1s
C09A Chrisman Ranch 90.15 36 *e*P **P 12 18 23.8 +1.4**
D08A Wollman Farm, 90.25 37 *e*P **P 12 18 24.3 +1.4**
HAWA Hanford 90.30 38 *e*P **P 12 18 24.7 +1.5**
ORIF Oris-en-Rattie 90.42 321 *e*P **P 12 18 23.5 -0.3**
comp=Z,13nm,1.0s
ORIF Oris-en-Rattie 90.42 321 *e*P **P 12 18 23.5 -0.3**
ORIF pmax pmax
comp=Z,13nm,1.0s
ORIF Oris-en-Rattie 90.42 321 *e*P **P 12 18 23.5 -0.3**
comp=Z,13nm,1.0s
NEW Newport 90.48 35 P **P 12 18 25.4 +1.4**
NEW Newport 90.48 35 P **P 12 18 25.4 +1.4**
comp=Z,10.0nm,0.9s,baz=305,slow=4.3,SNR=15
NEW Newport 90.48 35 P **P 12 18 25.0 +1.0**
baz=90
SMF Signal de Mont 90.56 323 *e*P **P 12 18 24.4 0.0**
comp=Z,25nm,1.0s
SMF Signal de Mont 90.56 323 *e*P **P 12 18 24.4 0.0**
SMF pmax pmax
comp=Z,25nm,1.0s
SMF Signal de Mont 90.56 323 *e*P **P 12 18 24.4 0.0**
comp=Z,25nm,1.0s
AVF Avril sur Loir 90.74 323 *e*P **P 12 18 25.3 +0.1**
comp=Z,16nm,1.0s
AVF Avril sur Loir 90.74 323 *e*P **P 12 18 25.3 +0.1**
AVF pmax pmax
comp=Z,16nm,1.0s
AVF Avril sur Loir 90.74 323 *e*P **P 12 18 25.3 +0.1**
comp=Z,16nm,1.0s
E09A Wood Farm, Sta 91.00 37 *e*P **P 12 18 28.0 +1.6**
FFC Flin Flon 92.84 24 *e*P **P 12 18 34.6 -0.1**
FFC pmax pmax
comp=Z,28nm,1.0s
FFC Flin Flon 92.84 24 *e*P **P 12 18 34.6 -0.1**
comp=Z,28nm,1.0s
SLMT Seeley Lake 93.03 34 *e*P **P 12 18 37.0 +1.1**
MSO Missoula 93.06 35 P **P 12 18 36.4 +0.3**
baz=93
MFID Camas Ranch 94.20 38 P **P 12 18 42.0 +0.6**
baz=94
A19A Klindworth Far 94.24 31 P **P 12 18 41.6 +0.2**
baz=94
B19A Brinkman Farms 94.48 31 P **P 12 18 42.5 0.0**
baz=94
A20A Cobblestone Ra 94.66 31 P **P 12 18 43.4 +0.1**
baz=94
HLID Hailey 94.91 38 P **P 12 18 44.3 -0.4**
baz=95
B20A Solberg Farm, 94.93 31 P **P 12 18 44.8 +0.3**
baz=95
C19A Slack Wire Ran 94.93 32 P **P 12 18 44.8 +0.2**
baz=95
A21A Bergtoll Ranch 95.04 30 P **P 12 18 45.5 +0.5**
baz=95
PPT Papeete 95.12 107 LR LR 12 55 43.4
comp=Z,150nm,18.2s,baz=342,slow=32
PPT2 Papeete2 95.13 107 *e*LR LR 12 49 32.8
comp=Z,111nm,24.8s
D19A Cripps Ranch, 95.41 32 P **P 12 18 46.3 -0.5**
baz=95
C20A Veseth Ranch, 95.45 32 P **P 12 18 46.8 -0.2**
baz=95
A22A Carney Farms, 95.50 30 P **P 12 18 46.8 -0.3**
baz=95
D20A Manuel Ranch, 95.82 32 P **P 12 18 49.2 +0.6**
baz=96
E19A Rath Farm, Rou 95.94 33 P **P 12 18 49.8 +0.5**
baz=96
B22A Reddig Ranch S 95.97 30 P **P 12 18 48.8 -0.5**
baz=96
E20A Meyer Farm, Mu 96.24 33 P **P 12 18 50.7 +0.1**
baz=96
D21A La Casta Ranch 96.39 32 P **P 12 18 51.2 0.0**
baz=96
C22A Vida 96.42 31 P **P 12 18 51.4 0.0**
baz=96
C23A Lambert 96.70 30 P **P 12 18 53.0 +0.4**
baz=96
R11A Troy Canyon, C 97.50 42 P **P 12 18 56.1 -0.5**
baz=97
PDAR Pinedale Array 98.09 36 P Pdif 12 19 01.7 +2.4
PDAR Pinedale Array 98.09 36 P Pdif 12 19 01.7 +2.4
comp=Z,0.4nm,0.7s,baz=322,slow=5.7,SNR=2.7
D26A Manning 98.53 29 P Pdif 12 19 00.9 0.0
baz=98
RRX Edison Barstow 98.72 46 P Pdif 12 19 02.1 +0.1
baz=98
B30A Myrvik Farm, E 99.17 26 P **Pdif 12 19 03.1 -0.5**
baz=99
ESDC Sonseca Array 99.38 321 LR LR 13 09 21.4
comp=Z,64nm,18.3s,baz=335,slow=39
TXAR Lajitas Array 110.87 42 PKiKP **PKiKP 12 23 55.9 -0.1**
TXAR Lajitas Array 110.87 42 PKiKP **PKiKP 12 23 55.9 -0.1**
comp=Z,0.3nm,0.7s,baz=275,slow=0.2,SNR=4.2
TORD Torodi Ar. Bea 111.43 296 PKiKP **PKiKP 12 23 55.9 -1.3**
TORD Torodi Ar. Bea 111.43 296 PKiKP **PKiKP 12 23 55.9 -1.3**
comp=Z,0.3nm,0.6s,baz=75,slow=2.5,SNR=3.2

DJA 12 12:10:51.1±0.8, 8°S±5°×10°7E±°, h10km, M3.6/8, MLv3.6/8, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.94**	**27**	P	Pg	12 11 09.3	0.0
CISI				S	Sg	12 11 20.5	-1.1
LEM	**Lembang**	**1.58**	**8**	P	Pn	12 11 19.4	0.0
LEM				S	Sg	12 11 42.6	+0.3
SKJI	**Sukabumi**	**1.61**	**329**	P	Pn	12 11 12.9	-6.8
KPJI	**Karang Pucung**	**1.86**	**55**	P	Pn	12 11 23.3	+0.3
DBJI	**Dramaga**	**1.94**	**341**	P	Pn	12 11 24.5	+0.3
TGJI	**Tegal**	**2.29**	**49**	P	Pn	12 11 29.9	+0.9
BJII	**Banjamegara**	**2.53**	**65**	P	Pn	12 11 33.8	+1.4
SBJI	**Serang**	**2.59**	**331**	P	Pn	12 11 33.8	+0.7

IDC ***12*** *12:12:48.5±0.5, 34°.06N×25°.52E, h0km, mb4.2/29, mb1 4.3/36, mb1mx4.3/42, mbtmp4.2/36, ML4.3/7, MS3.7/15, Ms1 3.7/15, ms1mx3.4/45, Error ellipse: s-maj=12.1km s-min=10.9km az=74.0*
MOS ***12*** *12:12:49.1±1.1, 33°.99N×25°.50E, h15km, mb4.7/29, Error ellipse: s-maj=5.9km s-min=3.3km az=109.5*
ATH ***12*** *12:12:49.2, 34°.00N×25°.41E, h8km±1km, MD3.8/16*
ISCJB ***12*** *12:12:49.3±0.6, 33°.94N±0°.02×25°.55E±0°.02, h18km±4km, mb4.3/73, MS3.8/13, Error ellipse: s-maj=3.6km s-min=2.5km az=16.4*
HLW ***12*** *12:12:49.6, 34°.21N×25°.45E, h33km±18km, Md3.4, Ml4.1*
CSEM ***12*** *12:12:50.3±0.1, 33°.99N×25°.50E, h10km, mb4.5/31, Ms2.9, Error ellipse: s-maj=3.3km s-min=2.6km az=10.0*
BJI ***12*** *12:12:51.7, 34°.10N×25°.50E, h20km, mB5.0/7, mb4.4/11, Ms4.4/3, Ms7 4.1/3*
THE ***12*** *12:12:52.7, 34°.16N×25°.53E, h0km±1km, ML3.9/1, Error ellipse: s-maj=9.0km s-min=1.8km az=167.0*
NEIC ***12*** *12:12:53.1±1.2, 34°.00N×25°.51E, h32km±9km, mb4.4/41, Error ellipse: s-maj=5.2km s-min=3.0km az=194.0*
NSSC ***12*** *12:12:53.0±1.6, 33°.31N×26°.17E, h0km±965km, MD2.5, ML3.5*
ISK ***12*** *12:12:54.0, 34°.19N×25°.82E, h24km, ML4.2*
DDA ***12*** *12:13:01.9, 34°.75N×26°.21E, h6km, MD3.6*
ISC 12 12:12:52.4±0.4, 34°.01N±0°.03×25°.54E±0°.03, h26km±2km, h26km:pP-P, n698, σ1s20/731, mb4.5/73, MS3.8/13, 18C-4D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.87**	**8**	*e*PG	**Pb**	**12 13 06.2**	**-2.8**
XRY	**Khrisi**	**0.87**	**8**	*e*Pg	**Pb**	**12 13 06.2**	**-2.8**
LAST	**Lasithi**	**1.15**	**358**	P	**Pn**	**12 13 11.3**	**-1.6**
LAST	**Lasithi**	**1.15**	**358**	*e*PG	**Pn**	**12 13 10.8**	**-2.1**
LAST	**Lasithi**	**1.15**	**358**	*e*Pg	**Pn**	**12 13 10.8**	**-2.1**
LAST	**Lasithi**	**1.15**	**358**	P	**Pn**	**12 13 11.3**	**-1.6**
SIVA	**Sivas**	**1.17**	**329**	P	**Pn**	**12 13 12.4**	**-0.7**
SIVA	**Sivas**	**1.17**	**329**	*e*PB	**Pn**	**12 13 11.0**	**-2.1**
SIVA				*e*SB	**Sn**	**12 13 26.8**	**-1.5**
SIVA	**Sivas**	**1.17**	**329**	*e*Pb	**Pn**	**12 13 11.0**	**-2.1**
SIVA	**Sivas**	**1.17**	**329**	P	**Pn**	**12 13 12.4**	**-0.7**
SIVA				*e*Sb	**Sn**	**12 13 26.8**	**-1.5**
ZKR	**Zakros**	**1.24**	**27**	P	**Pn**	**12 13 13.2**	**-0.8**
ZKR				S	**Sn**	**12 13 30.0**	**+0.1**
ZKR	**Zakros**	**1.24**	**27**	*e*PG	**Pn**	**12 13 13.2**	**-0.8**
ZKR	**Zakros**	**1.24**	**27**	P	**Pn**	**12 13 13.2**	**-0.8**
ZKR				S	**Sn**	**12 13 30.0**	**+0.1**
NPS	**Neapolis**	**1.25**	**3**	P	**Pn**	**12 13 13.1**	**-1.2**
NPS	**Neapolis**	**1.25**	**3**	*e*PB	**Pn**	**12 13 12.8**	**-1.5**
NPS	**Neapolis**	**1.25**	**3**	*e*Pb	**Pn**	**12 13 12.8**	**-1.5**
NPS	**Neapolis**	**1.25**	**3**	P	**Pn**	**12 13 13.1**	**-1.2**
IDI	**Anoyia**	**1.38**	**337**	P	**Pn**	**12 13 15.6**	**-0.5**
IDI	**Anoyia**	**1.38**	**337**	*e*PB	**Pn**	**12 13 14.8**	**-1.3**
IDI	**Anoyia**	**1.38**	**337**	*e*Pn	**Pn**	**12 13 15.8**	**-0.3**
IDI	**Anoyia**	**1.38**	**337**	Pg	**Pn**	**12 13 14.8**	**-1.3**
24nm,0.3s,baz=154,slow=17,SNR=52							
IDI	**Anoyia**	**1.38**	**337**	*e*Pb	**Pn**	**12 13 14.8**	**-1.3**
IDI	**Anoyia**	**1.38**	**337**	*e*Pn	**Pn**	**12 13 15.8**	**-0.3**
GVD	**Gavdhos**	**1.46**	**305**	P	**Pn**	**12 13 16.8**	**-0.3**
GVD				S	**Sb**	**12 13 38.7**	**+1.7**
GVD	**Gavdhos**	**1.46**	**305**	*e*Pn	**Pn**	**12 13 17.1**	**0.0**
GVD	**Gavdhos**	**1.46**	**305**	P	**Pn**	**12 13 16.8**	**-0.3**
GVD	**Gavdhos**	**1.46**	**305**	*e*Pn	**Pn**	**12 13 17.1**	**0.0**
GVD				S	**Sb**	**12 13 38.7**	**+1.7**
VAM	**Vamos**	**1.78**	**322**	P	**Pn**	**12 13 21.4**	**-0.1**
VAM	**Vamos**	**1.78**	**322**	*e*PG	**Pn**	**12 13 21.3**	**-0.2**
VAM				*e*SN	**Sb**	**12 13 46.0**	**-0.2**
VAM	**Vamos**	**1.78**	**322**	*e*Pg	**Pn**	**12 13 21.3**	**-0.2**
VAM				*e*Sn	**Sb**	**12 13 46.0**	**-0.2**
KARN	**Karanos**	**1.93**	**317**	P	**Pn**	**12 13 24.0**	**+0.5**
KARN	**Karanos**	**1.93**	**317**	*e*PG	**Pn**	**12 13 24.1**	**+0.5**
KARN	**Karanos**	**1.93**	**317**	P	**Pn**	**12 13 24.0**	**+0.5**
KARP	**Karpathos**	**2.04**	**41**	P	**Pn**	**12 13 26.7**	**+1.7**
KARP				S	**Sn**	**12 13 50.5**	**+0.9**
KARP	**Karpathos**	**2.04**	**41**	*e*PN	**Pb**	**12 13 27.2**	**-1.5**
KARP				*e*SN	**Sb**	**12 13 56.0**	**+2.4**
KARP	**Karpathos**	**2.04**	**41**	P	**Pn**	**12 13 26.7**	**+1.7**
KARP	**Karpathos**	**2.04**	**41**	*e*Pn	**Pb**	**12 13 27.2**	**-1.5**
KARP				S	**Sn**	**12 13 50.5**	**+0.9**
THR6	**Thira Island,**	**2.34**	**357**	P	**Pn**	**12 13 30.1**	**+0.9**
THR6	**Thira Island,**	**2.34**	**357**	P	**Pn**	**12 13 30.1**	**+0.9**
THR1	**Thera Island**	**2.36**	**358**	P	**Pn**	**12 13 30.1**	**+0.6**
THR1	**Thera Island**	**2.36**	**358**	P	**Pn**	**12 13 30.1**	**+0.6**
SANT	**Santorini**	**2.36**	**358**	*e*PN	**Pn**	**12 13 30.2**	**+0.7**
SANT				*e*SN	**Sn**	**12 13 55.3**	**-2.2**
SANT	**Santorini**	**2.36**	**358**	P	**Pn**	**12 13 29.8**	**+0.3**
SANT	**Santorini**	**2.36**	**358**	*e*PB	**Pn**	**12 13 29.8**	**+0.3**
SANT				*e*SN	**Sb**	**12 14 00.5**	**-2.4**
SANT	**Santorini**	**2.36**	**358**	*e*Pn	**Pn**	**12 13 29.9**	**+0.5**
SANT	**Santorini**	**2.36**	**358**	P	**Pn**	**12 13 29.8**	**+0.3**
SANT				*e*Sn	**Sb**	**12 14 00.5**	**-2.4**
LTBQ	**Tobruq**	**2.38**	**215**	*i* P	**Pn**	**12 13 30.7**	**+1.0**
178nm,1.6s,SNR=24							
LTBQ				*e*S	**Sn**	**12 14 00.2**	**+2.3**
SNR=24							
THR5	**Thira Island,**	**2.41**	**356**	P	**Pn**	**12 13 31.1**	**+1.0**
THR5	**Thira Island,**	**2.41**	**356**	P	**Pn**	**12 13 31.1**	**+1.0**
SLUM		**2.52**	**186**	P	**Pn**	**12 13 31.2**	**-0.5**
ANKY	**Antikythira Is**	**2.61**	**316**	P	**Pn**	**12 13 33.9**	**+1.0**
ANKY	**Antikythira Is**	**2.61**	**316**	*e*PN	**Pn**	**12 13 33.4**	**+0.5**
ANKY				*e*SN	**Sn**	**12 14 05.4**	**+1.6**
ANKY	**Antikythira Is**	**2.61**	**316**	*e*Pn	**Pn**	**12 13 33.4**	**+0.5**
ANKY	**Antikythira Is**	**2.61**	**316**	P	**Pn**	**12 13 33.9**	**+1.0**
ANKY				*e*Sn	**Sn**	**12 14 05.4**	**+1.6**
APE	**Apeiranthos**	**3.05**	**360**	*e*PN	**Pn**	**12 13 39.8**	**+0.8**
APE				*e*SN	**Sn**	**12 14 13.3**	**-1.4**
APE	**Apeiranthos**	**3.05**	**360**	*e*PN	**Pn**	**12 13 39.2**	**+0.2**
APE				*e*SN	**Sn**	**12 14 16.8**	**+2.0**
APE	**Apeiranthos**	**3.05**	**360**	*e*Pn	**Pn**	**12 13 39.2**	**+0.2**
APE				*e*Sn	**Sn**	**12 14 16.8**	**+2.0**
KYTH	**Kithira**	**3.06**	**319**	P	**Pn**	**12 13 39.8**	**+0.7**
KYTH	**Kithira**	**3.06**	**319**	*e*PB	**Pn**	**12 13 40.1**	**+1.0**
KYTH	**Kithira**	**3.06**	**319**	P	**Pn**	**12 13 39.8**	**+0.7**
KYTH	**Kithira**	**3.06**	**319**	*e*Pb	**Pn**	**12 13 40.1**	**+1.0**
ARG	**Arkhangelos**	**3.06**	**43**	*e*PB	**Pn**	**12 13 42.2**	**+3.2**
DAT	**Datca**	**3.19**	**31**	*e*PN	**Pn**	**12 13 40.4**	**-0.5**
DAT	**Datca**	**3.19**	**31**	*e*Pn	**Pn**	**12 13 40.4**	**-0.5**
BODT	**Bodrum**	**3.37**	**25**	*e*PN	**Pn**	**12 13 43.1**	**-0.3**
BODT	**Bodrum**	**3.37**	**25**	*e*Pn	**Pn**	**12 13 43.1**	**-0.3**
VLI	**Veliai**	**3.44**	**323**	*e*PN	**Pn**	**12 13 43.9**	**-0.4**
VLI				*e*SN	**Sn**	**12 14 24.8**	**+0.6**
VLI	**Veliai**	**3.44**	**323**	*e*Pn	**Pn**	**12 13 43.9**	**-0.4**
VLI				*e*Sn	**Sn**	**12 14 24.8**	**+0.6**
DALY	**Dalyan (Mu¨la**	**3.79**	**41**	*e*PN	**Pn**	**12 13 48.7**	**-0.3**
DALY	**Dalyan (Mu¨la**	**3.79**	**41**	*e*Pn	**Pn**	**12 13 48.7**	**-0.3**
DYR	**Agios Nikonas**	**3.79**	**317**	P	**Pn**	**12 13 49.9**	**+0.7**
DYR	**Agios Nikonas**	**3.79**	**317**	*e*PN	**Pn**	**12 13 49.9**	**+0.7**
DYR	**Agios Nikonas**	**3.79**	**317**	P	**Pn**	**12 13 49.9**	**+0.7**
TURN	**Turunc**	**3.80**	**40**	*i* P	**Pn**	**12 13 46.7**	**-2.5**
TURN				*i* S	Sn	12 14 25.8	-7.2
TURN	**Turunc**	**3.80**	**40**	*i* P	**Pn**	**12 13 46.7**	**-2.5**
YER	**Yerkesik**	**3.84**	**35**	*e*PN	**Pn**	**12 13 49.7**	**-0.1**
YER	**Yerkesik**	**3.84**	**35**	*e*Pn	**Pn**	**12 13 49.7**	**-0.1**
FETY	**Fethiye**	**3.91**	**47**	*e*PN	**Pn**	**12 13 50.4**	**-0.4**
FETY	**Fethiye**	**3.91**	**47**	*e*Pn	**Pn**	**12 13 50.4**	**-0.4**
DIDY	**Didyma**	**3.94**	**332**	P	**Pn**	**12 13 50.7**	**-0.6**
DIDY	**Didyma**	**3.94**	**332**	P	**Pn**	**12 13 50.7**	**-0.6**
DID	**Didima**	**3.96**	**332**	P	**Pn**	**12 13 50.7**	**-0.7**
DID	**Didima**	**3.96**	**332**	*e*PN	**Pn**	**12 13 50.8**	**-0.7**
DID	**Didima**	**3.96**	**332**	*e*Pn	**Pn**	**12 13 50.8**	**-0.7**
AKAS	**Kas**	**4.00**	**55**	*i* P	**Pn**	**12 13 54.3**	**+2.1**
AKAS				*i* S	**Sn**	**12 14 36.6**	**-1.7**
AKAS	**Kas**	**4.00**	**55**	*i* P	**Pn**	**12 13 54.3**	**+2.1**
AKAS				*i* S	**Sn**	**12 14 36.6**	**-1.7**
ITM	**Ithomi**	**4.32**	**318**	*e*PN	**Pn**	**12 13 56.2**	**-0.2**
ITM	**Ithomi**	**4.32**	**318**	*e*Pn	**Pn**	**12 13 56.2**	**-0.2**
ELL	**Elmali**	**4.50**	**51**	*e*PN	**Pn**	**12 13 58.9**	**0.0**
ELL	**Elmali**	**4.50**	**51**	*e*Pn	**Pn**	**12 13 58.9**	**0.0**
GOLH	**Golhisar**	**4.59**	**44**	*i* P	**Pn**	**12 14 01.8**	**+1.5**
GOLH				*i* S	**Sn**	**12 14 54.1**	**+1.2**
GOLH	**Golhisar**	**4.59**	**44**	*i* P	**Pn**	**12 14 01.8**	**+1.5**
GOLH				*i* S	**Sn**	**12 14 54.1**	**+1.2**
SWA2		**4.75**	**181**	P	**Pn**	**12 14 01.6**	**-0.7**
baz=179							
SWA2		**4.75**	**181**	P	**Pn**	**12 14 01.6**	**-0.7**
KLV	**Kalavryta, Ach**	**4.87**	**327**	P	**Pn**	**12 14 03.0**	**-1.1**
KLV	**Kalavryta, Ach**	**4.87**	**327**	P	**Pn**	**12 14 03.0**	**-1.1**
HBRG	**Burj al ʻArab**	**5.00**	**132**	P	**Pn**	**12 14 05.3**	**-0.4**
baz=133							
HBRG				S	**Sn**	**12 15 02.1**	**-0.6**
baz=133							
KULA	**Kula-Manisa**	**5.16**	**28**	*e*PN	**Pn**	**12 14 08.4**	**+0.4**
KULA	**Kula-Manisa**	**5.16**	**28**	*e*Pn	**Pn**	**12 14 08.4**	**+0.4**
BCK	**Bucak**	**5.36**	**49**	*e*PN	**Pn**	**12 14 11.1**	**+0.3**
BCK	**Bucak**	**5.36**	**49**	*e*Pn	**Pn**	**12 14 11.1**	**+0.3**
KHL	**Karahalli**	**5.38**	**36**	*e*PN	**Pn**	**12 14 11.4**	**+0.4**
KHL	**Karahalli**	**5.38**	**36**	*e*Pn	**Pn**	**12 14 11.4**	**+0.4**
LJBD	**Adjabya**	**5.47**	**237**	*i* P	**Pn**	**12 14 11.0**	**-1.2**
SNR=23							
ISP	**Isparta**	**5.55**	**45**	*e*P	**Pn**	**12 14 16.3**	**+2.9**
ISP	**Isparta**	**5.55**	**45**	*e*Pn	**Pn**	**12 14 16.3**	**+2.9**
ISP	**Isparta**	**5.55**	**45**	*e*P	**Pn**	**12 14 16.3**	**+2.9**
SUTC	**Sutluce-Ispart**	**5.63**	**51**	*e*PN	**Pn**	**12 14 14.9**	**+0.4**
SUTC	**Sutluce-Ispart**	**5.63**	**51**	*e*Pn	**Pn**	**12 14 14.9**	**+0.4**
BALB	**Balikesir**	**5.93**	**18**	*e*PN	**Pn**	**12 14 19.6**	**+1.2**
BALB	**Balikesir**	**5.93**	**18**	*e*Pn	**Pn**	**12 14 19.7**	**+1.2**
HNAT	**Natroun**	**6.14**	**134**	P	**Pn**	**12 14 21.2**	**-0.2**
baz=134							
HNAT	**Natroun**	**6.14**	**134**	P	**Pn**	**12 14 21.2**	**-0.2**
HDMB	**Hadim**	**6.39**	**61**	*e*PN	**Pn**	**12 14 25.7**	**+0.7**
HDMB	**Hadim**	**6.39**	**61**	*e*Pn	**Pn**	**12 14 25.7**	**+0.7**
AYT	**Al ʻAyyat**	**6.42**	**130**	P	**Pn**	**12 14 25.2**	**-0.1**
baz=131							
AYT	**Al ʻAyyat**	**6.42**	**130**	P	**Pn**	**12 14 25.2**	**-0.1**
CSS	**Prodhromos**	**6.50**	**79**	*e*PN	**Pn**	**12 14 28.3**	**+1.8**
CSS	**Prodhromos**	**6.50**	**79**	*e*Pn	**Pn**	**12 14 26.2**	**-0.2**
CSS				*e*Sn	Sn	12 15 32.5	-7.3
CSS	**Prodhromos**	**6.50**	**79**	*e*Pn	**Pn**	**12 14 26.2**	**-0.2**
CSS				*e*Sn	Sn	12 15 32.5	-7.3
KONT	**Konya--Tatoy**	**6.78**	**53**	*e*PN	**Pn**	**12 14 30.9**	**+0.6**
KONT	**Konya--Tatoy**	**6.78**	**53**	*e*Pn	**Pn**	**12 14 30.9**	**+0.6**
LADK	**Ladik-KONYA**	**6.93**	**51**	*e*PN	**Pn**	**12 14 32.9**	**+0.5**
LADK	**Ladik-KONYA**	**6.93**	**51**	*e*Pn	**Pn**	**12 14 32.9**	**+0.5**
IKL	**Isikli**	**7.04**	**69**	*e*PN	**Pn**	**12 14 34.0**	**+0.3**
IKL	**Isikli**	**7.04**	**69**	*e*Pn	**Pn**	**12 14 34.0**	**+0.3**
KIZT	**Kizilcal**	**7.05**	**45**	*e*PN	**Pn**	**12 14 34.3**	**+0.3**
KIZT	**Kizilcal**	**7.05**	**45**	*e*Pn	**Pn**	**12 14 34.3**	**+0.3**
EREN	**Erenkoy**	**7.26**	**76**	*e*PN	**Pn**	**12 14 37.9**	**+1.1**
EREN	**Erenkoy**	**7.26**	**76**	*e*Pn	**Pn**	**12 14 37.9**	**+1.1**
KDZ	**Kurdzhali**	**7.63**	**359**	P	**Pn**	**12 14 42.4**	**+0.5**
SULT	**Sultanhani-AKS**	**7.69**	**55**	*e*PN	**Pn**	**12 14 43.1**	**+0.3**
SULT	**Sultanhani-AKS**	**7.69**	**55**	*e*Pn	**Pn**	**12 14 43.1**	**+0.3**
RZN	**Rozhen**	**7.69**	**355**	P	**Pn**	**12 14 44.3**	**+1.4**
MMB	**Musomiste**	**7.70**	**350**	P	**Pn**	**12 14 44.8**	**+1.9**
KKB	**Krupnik**	**8.08**	**347**	P	Pn	12 14 43.9	-4.2
PLD	**Plovdiv**	**8.11**	**356**	P	**Pn**	**12 14 49.4**	**+1.0**
BR231	**Keskin MP Arra**	**8.21**	**43**	*e*Pn	Pn	12 14 57.2	+7.2
BR231	**Keskin MP Arra**	**8.21**	**43**	*e*Pn	Pn	12 14 57.2	+7.2
ANTO	**Ankara**	**8.24**	**43**	*e*P	**Pn**	**12 14 52.0**	**+1.7**
ANTO	**Ankara**	**8.24**	**43**	*e*Pn	**Pn**	**12 14 52.0**	**+1.7**
ANTO	**Ankara**	**8.24**	**43**	*e*P	**Pn**	**12 14 52.0**	**+1.7**
MMAI	**Mount Meron Ar**	**8.30**	**94**	Pn	**Pn**	**12 14 49.3**	**-1.8**
MMAI				Sn	**Sn**	**12 16 19.7**	**-4.3**
MMAI	**Mount Meron Ar**	**8.30**	**94**	Pn	**Pn**	**12 14 49.3**	**-1.8**
5.3nm,0.3s,baz=263,slow=12,SNR=27							
MMAI				Sn	**Sn**	**12 16 19.7**	**-4.3**
17nm,0.3s,baz=257,slow=25,SNR=11							
MMAI	**Mount Meron Ar**	**8.30**	**94**	Pn	**Pn**	**12 14 49.3**	**-1.8**
MMAI				Sn	**Sn**	**12 16 19.7**	**-4.3**
KARA	**Karaisali**	**8.40**	**65**	*e*PN	**Pn**	**12 14 52.8**	**+0.4**
KARA	**Karaisali**	**8.40**	**65**	*e*Pn	**Pn**	**12 14 52.8**	**+0.4**
NIG	**Nigde**	**8.41**	**58**	*e*PN	**Pn**	**12 14 52.8**	**0.0**
NIG	**Nigde**	**8.41**	**58**	*e*Pn	**Pn**	**12 14 52.8**	**0.0**
BR131	**Keskin Array S**	**8.64**	**46**	*e*Pn	**Pn**	**12 14 56.6**	**+0.7**
9.8nm,0.9s							
BR131	**Keskin Array S**	**8.64**	**46**	*e*Pn	**Pn**	**12 14 56.6**	**+0.7**
9.8nm,0.9s							
BRTR	**Keskin Array B**	**8.64**	**46**	Pn	**Pn**	**12 14 57.0**	**+1.2**
BRTR	**Keskin Array B**	**8.64**	**46**	Pn	**Pn**	**12 14 57.0**	**+1.2**
0.2nm,0.3s,baz=226,slow=14,SNR=13							
BRTR	**Keskin Array B**	**8.64**	**46**	Pn	**Pn**	**12 14 57.0**	**+1.2**
BRTR	**Keskin Array B**	**8.64**	**46**	*i* P	**Pn**	**12 14 58.2**	**+2.4**
5.0nm,0.9s							
BRBR	**Barbar**	**8.70**	**91**	*e*P	Pn	12 14 52.8	-4.0
BRBR				*e*S	Sn	12 16 24.2	-10
BRBR				AML	AML	12 16 33.3	
comp=E,50nm,0.6s							
BRBR				AML	AML	12 16 37.2	
comp=N,46nm,0.4s							
BRBR	**Barbar**	**8.70**	**91**	*e*P	Pn	12 14 53.3	-3.4
BRBR				*e*S	Sn	12 16 21.9	-12
BRBR				AML	AML	12 16 33.4	
comp=E,49nm,0.6s							
BRBR				AML	AML	12 16 38.5	
comp=N,46nm,0.5s							
VTS	**Vitosha**	**8.76**	**349**	⇑P	Pn	12 15 07.4	+10
VTS	**Vitosha**	**8.76**	**349**	⇑*i*P	Pn	12 15 07.4	+10
VTS	**Vitosha**	**8.76**	**349**	*e*P	Pn	12 15 06.9	+9.4
TCHB	**Talchebab**	**8.83**	**96**	*e*S	Sn	12 16 22.6	-14
TCHB				AML	AML	12 16 36.2	
comp=E,57nm,0.8s							
TCHB				AML	AML	12 16 38.6	
comp=N,179nm,0.7s							
CEYT	**Ceyhan**	**8.85**	**67**	*e*PN	**Pn**	**12 14 58.8**	**+0.3**
CEYT	**Ceyhan**	**8.85**	**67**	*e*Pn	**Pn**	**12 14 58.8**	**+0.3**
CEL	**Celeste**	**8.88**	**301**	*e*Pn	**Pn**	**12 14 57.9**	**-1.1**
CEL		

comp=Z,9.0nm,0.5s
UZH Uzhgorod 14.81 352 *e*P **P 12 16 23.5 -2.1**
UZH Uzhgorod 14.81 352 *e*P **P 12 16 23.5 -2.1**
KECS Kecovo 14.95 347 *e*P **P 12 16 29.3 +2.1**
KECS pmax pmax
comp=Z,2.0nm,0.8s
KECS Kecovo 14.95 347 *e*P **P 12 16 29.3 +2.1**
KECS Kecovo 14.95 347 *e*P **P 12 16 29.3 +2.1**
comp=Z,2.0nm,0.8s
SOKA Soboth 14.96 331⇑ *i*Pn **Pn 12 16 23.8 +1.7**
comp=Z,1.9nm,0.5s,SNR=5.7
SOKA Soboth 14.96 331 Pn **Pn 12 16 23.8 +1.7**
comp=Z,1.9nm,0.5s,SNR=5.7
KOLS Kolonicke sedl 15.11 352 *e*P **P 12 16 29.9 +0.9**
KOLS pmax pmax
comp=Z,4.0nm,0.8s
KOLS Kolonicke sedl 15.11 352 *e*P **P 12 16 29.9 +0.9**
KOLS Kolonicke sedl 15.11 352 *e*P **P 12 16 29.9 +0.9**
comp=Z,4.0nm,0.8s
VYHS Vyhne 15.31 343 *e*P **P 12 16 33.7 +2.4**
VYHS pmax pmax
comp=Z,2.0nm,1.4s
VYHS Vyhne 15.31 343 *e*P **P 12 16 33.7 +2.4**
VYHS Vyhne 15.31 343 *e*P **P 12 16 33.7 +2.4**
comp=Z,2.0nm,1.4s
PGF Pioggiola 15.52 308 *e*P **Pn 12 16 28.6 -0.9**
comp=Z,65nm,1.2s
PGF Pioggiola 15.52 308 *e*P **Pn 12 16 28.6 -0.9**
PGF pmax pmax
comp=Z,65nm,1.2s
PGF Pioggiola 15.52 308 *e*P **Pn 12 16 28.6 -0.9**
comp=Z,65nm,1.2s
STHS Stebnicka Huta 15.72 350 *e*P **P 12 16 39.0 +3.2**
STHS pmax pmax
comp=Z,2.0nm,0.5s
STHS Stebnicka Huta 15.72 350 *e*P **P 12 16 39.0 +3.2**
KBA Koelnbreinsper 15.98 328⇓ *i*Pn **P 12 16 37.3 -1.6**
comp=Z,21nm,0.8s
KBA Koelnbreinsper 15.98 328 Pn **P 12 16 37.3 -1.6**
comp=Z,21nm,0.8s
ABTA Abfaltersbach 16.11 326⇑ *i*P **P 12 16 40.0 -0.2**
comp=Z,30nm,0.7s,SNR=9.2
ABTA Abfaltersbach 16.11 326 P **P 12 16 40.0 -0.2**
comp=Z,30nm,0.7s,SNR=9.2
MOA Molln 16.21 332⇓ *e*P **P 12 16 41.3 0.0**
comp=Z,22nm,0.9s
MOA Molln 16.21 332 P **P 12 16 41.3 0.0**
comp=Z,22nm,0.9s
GNI Garni 16.49 63 *e*Pn **Pn 12 16 42.5 +0.4**
comp=Z,14nm,0.8s
GNI Garni 16.49 63 LR LR 12 24 37.3
comp=Z,162nm,20.4s,baz=76,slow=43
GNI Garni 16.49 63 *e*P **Pn 12 16 42.5 +0.4**
comp=Z,14nm,0.8s
KIV Kislovodsk 16.60 48 *e*P **P 12 16 46.6 +1.0**
KIV pmax pmax
comp=Z,19nm,1.0s
KIV MLR MLR
comp=Z,100nm,13.0s
KIV Kislovodsk 16.60 48 *e*P **P 12 16 46.6 +1.0**
comp=Z,100nm,13.0s
KBZ Khabaz 16.61 49 P **P 12 16 49.8 +4.2**
KBZ Khabaz 16.61 49 Pn **P 12 16 49.8 +4.2**
KBZ Khabaz 16.61 49 Pn **P 12 16 49.8 +4.2**
comp=Z,0.3nm,0.3s,baz=248,slow=5.4,SNR=11
KBZ Khabaz 16.61 49 Pn **P 12 16 49.8 +4.2**
VRAC Vranov 16.66 339 Pn **P 12 16 45.3 -0.9**
VRAC Vranov 16.66 339 Pn **P 12 16 45.3 -0.9**
comp=Z,0.7nm,0.3s,baz=148,slow=10.0,SNR=8.9
VRAC Vranov 16.66 339 P **P 12 16 45.3 -0.9**
OKC Ostrava-Krasne 16.73 343 *e*P **P 12 16 48.4 +1.5**
OKC Ostrava-Krasne 16.73 343 *e*P **P 12 16 48.4 +1.5**
OKC Ostrava-Krasne 16.73 343 *e*P **P 12 16 48.4 +1.5**
MORC Moravsky Berou 16.83 342 *e*P **Pn 12 16 44.5 -1.6**
MORC pmax pmax
comp=Z,13nm,1.1s
MORC Moravsky Berou 16.83 342 *e*Pn **Pn 12 16 44.5 -1.6**
comp=Z,13nm,1.1s
MORC Moravsky Berou 16.83 342 *e*Pn **Pn 12 16 44.5 -1.6**
comp=Z,13nm,1.1s
KIEV Kiev 16.89 8 *e*P **Pn 12 16 47.4 +0.6**
KIEV pmax pmax
comp=Z,51nm,0.9s
KIEV Kiev 16.89 8 *e*Pn **Pn 12 16 47.4 +0.6**
comp=Z,51nm,0.9s
KIEV Kiev 16.89 8 *e*P **Pn 12 16 47.4 +0.6**
comp=Z,51nm,0.9s
WTTA Wattenberg 16.89 326⇑ *e*Pn **Pn 12 16 46.4 -0.7**
comp=Z,1.9nm,0.5s,SNR=12
WTTA Wattenberg 16.89 326 Pn **Pn 12 16 46.4 -0.7**
comp=Z,1.9nm,0.5s,SNR=12
AKASG Malin Array Be 16.90 8 P **Pn 12 16 47.3 +0.4**
AKASG Malin Array Be 16.90 8 Pn **Pn 12 16 47.3 +0.4**
AKASG Malin Array Be 16.90 8 Pn **Pn 12 16 47.3 +0.4**
comp=Z,4.8nm,0.3s,baz=199,slow=11,SNR=15
AKASG Malin Array Be 16.90 8 P **Pn 12 16 47.3 +0.4**
TREC Trest 17.00 337 *e*P **P 12 16 49.3 -0.6**
TREC Trest 17.00 337 *e*P **P 12 16 49.3 -0.6**
TREC *e*pP **pP 12 16 55.5 -1.5**
TREC Trest 17.00 337 *e*P **P 12 16 49.3 -0.6**
FUORN Ofenpass-Fuorn 17.12 322 *e*P **P 12 16 53.2 +1.7**
comp=Z,26nm,0.9s
FUORN Ofenpass-Fuorn 17.12 322 *e*P **P 12 16 53.2 +1.7**
comp=Z,26nm,0.9s
SAOF Saorge 17.13 311 *e*P **P 12 16 52.2 +0.7**
SAOF Saorge 17.13 311 *e*P **P 12 16 52.2 +0.7**
SBF Sospel 17.15 310 *e*P **Pn 12 16 49.6 -0.6**
comp=Z,109nm,1.2s
SBF Sospel 17.15 310 *e*P **Pn 12 16 49.6 -0.6**
SBF pmax pmax
comp=Z,109nm,1.2s
SBF Sospel 17.15 310 *e*P **Pn 12 16 49.6 -0.6**
comp=Z,109nm,1.2s
SBF Sospel 17.15 310 *e*P **Pn 12 16 49.6 -0.6**
comp=Z,54nm,1.2s
FETA Feichten 17.16 324⇑ *e*Pn **P 12 16 53.4 +1.5**
comp=Z,29nm,1.1s,SNR=7.2
MOTA Moosalm 17.20 325⇑ *e*P **P 12 16 52.2 -0.2**
comp=Z,14nm,1.1s
MOTA Moosalm 17.20 325 P **P 12 16 52.2 -0.2**
comp=Z,14nm,1.1s
GEC2 GERESS Array S 17.25 333 *e*P **P 12 16 52.7 0.0**
comp=Z,25nm,1.7s
GEC2 GERESS Array S 17.25 333 *e*P **Pn 12 16 51.4 0.0**
GEC2 GERESS Array S 17.25 333 *e*P **Pn 12 16 51.4 0.0**
GEC2 GERESS Array S 17.25 333 *e*P **Pn 12 16 51.4 0.0**
GERES GERESS Array B 17.25 333 P **Pn 12 16 51.1 -0.3**
GERES GERESS Array B 17.25 333 P **Pn 12 16 51.1 -0.3**
comp=Z,0.9nm,0.3s,baz=147,slow=13,SNR=28
GERES GERESS Array B 17.25 333 P **Pn 12 16 51.1 -0.3**
TOUF Mont Tournerai 17.34 311 *e*P **P 12 16 55.0 +1.1**
TOUF Mont Tournerai 17.34 311 *e*P **P 12 16 55.0 +1.1**
DAVOX Davos/Dischmat 17.42 322 P **P 12 16 56.5 +1.7**
DAVOX Davos/Dischmat 17.42 322 P **P 12 16 56.5 +1.7**
comp=Z,0.4nm,0.3s,baz=140,slow=15,SNR=6.2
DAVOX LR LR 12 24 15.9
comp=Z,177nm,18.2s,baz=80,slow=40
DAVOX Davos/Dischmat 17.42 322 P **P 12 16 56.5 +1.7**
comp=Z,177nm,18.3s
CALN Calern 17.44 309 *e*P **P 12 16 56.1 +1.1**
CALN Calern 17.44 309 *e*P **P 12 16 56.1 +1.1**
TUE Stuetta 17.50 320 *e*P **P 12 16 55.6 -0.1**
comp=Z,14nm,1.0s
TUE Stuetta 17.50 320 *e*P **P 12 16 55.6 -0.1**
comp=Z,14nm,1.0s
LMR La Mourre 17.50 308 *e*P **Pn 12 16 54.8 +0.3**
LMR La Mourre 17.50 308 *e*P **Pn 12 16 54.8 +0.3**
LMR La Mourre 17.50 308 *e*P **Pn 12 16 54.8 +0.3**
LMR La Mourre 17.50 308 *e*P **Pn 12 16 54.8 +0.3**
FRF La Foret Royal 17.51 309 *e*P **Pn 12 16 54.4 -0.3**
FRF La Foret Royal 17.51 309 *e*P **Pn 12 16 54.4 -0.3**
FRF La Foret Royal 17.51 309 *e*P **Pn 12 16 54.4 -0.3**
FRF La Foret Royal 17.51 309 *e*P **Pn 12 16 54.4 -0.3**
KHC Kasperske Hory 17.53 333 *e*P **P 12 16 55.9 +0.1**
KHC MLR MLR
comp=Z,300nm,11.1s
KHC Kasperske Hory 17.53 333 *e*P **P 12 16 55.9 +0.1**
KHC *e*pP **pP 12 17 01.9 -1.0**
KHC AMS AMS 12 24 40.0
comp=Z,300nm,11.1s
KHC Kasperske Hory 17.53 333 *e*Pn **Pn 12 16 54.7 -0.1**
comp=Z,11nm,0.8s
KHC Kasperske Hory 17.53 333 *e*Pn **Pn 12 16 54.7 -0.1**
comp=Z,11nm,0.8s
KHC Kasperske Hory 17.53 333 *e*P **P 12 16 55.9 +0.1**
comp=Z,300nm,11.1s
DPC Dobruska-Polom 17.68 340 *e*P **Pn 12 16 56.7 0.0**
DPC *e*S **Sn 12 20 12.4 -0.4**
DPC Dobruska-Polom 17.68 340 *e*P **Pn 12 16 56.7 0.0**
DPC *ex* x 12 17 01.1
DPC *e*S **Sn 12 20 12.4 -0.4**
DPC AMS AMS 12 25 40.0
DPC Dobruska-Polom 17.68 340 *e*Pn **Pn 12 16 57.0 +0.3**
comp=Z,73nm,1.2s
DPC Dobruska-Polom 17.68 340 *e*P **Pn 12 16 56.7 0.0**
DPC Dobruska-Polom 17.68 340 *e*Pn **Pn 12 16 57.0 +0.3**
comp=Z,73nm,1.2s
DAVA Damuels 17.76 323⇓ *e*P **P 12 16 58.5 -0.1**
comp=Z,17nm,0.9s
DAVA Damuels 17.76 323 P **P 12 16 58.5 -0.1**
comp=Z,17nm,0.9s
WET Wettzell 17.80 332 *e*P **P 12 16 58.8 -0.1**
comp=Z,20nm,1.2s
WET Wettzell 17.80 332 *e*P **P 12 16 58.8 -0.1**
WET pmax pmax
comp=Z,20nm,1.2s
WET Wettzell 17.80 332 *e*P **P 12 16 58.8 -0.1**
comp=Z,20nm,1.2s
UPC Upice 17.91 340 *e*P **P 12 16 59.9 0.0**
UPC Upice 17.91 340 *e*P **P 12 16 59.9 0.0**
UPC *e*pP **pP 12 17 06.3 -0.7**
UPC Upice 17.91 340 *e*P **P 12 16 59.9 0.0**
MBDF Montbardon 17.99 312 *e*P **Pn 12 17 00.5 -0.2**
comp=Z,29nm,0.9s
MBDF Montbardon 17.99 312 *e*P **Pn 12 17 00.5 -0.2**
MBDF pmax pmax
comp=Z,29nm,0.9s
MBDF Montbardon 17.99 312 *e*P **Pn 12 17 00.5 -0.2**
comp=Z,29nm,0.9s
MBDF Montbardon 17.99 312 *e*P **Pn 12 17 00.5 -0.2**
comp=Z,15nm,0.9s
BNI Bardonecchia 18.21 313 P **Pn 12 17 01.8 -1.6**
BNI pmax pmax
comp=Z,9.0nm,1.1s
BNI Bardonecchia 18.21 313 Pn **Pn 12 17 01.8 -1.6**
comp=Z,9.4nm,1.1s
BNI Bardonecchia 18.21 313 P **Pn 12 17 01.8 -1.6**
comp=Z,9.0nm,1.1s
SMRF Simiane la Rot 18.39 309 *e*P **P 12 17 04.8 -0.6**
comp=Z,28nm,1.0s
SMRF Simiane la Rot 18.39 309 *e*P **P 12 17 04.8 -0.6**
comp=Z,28nm,1.0s
SMRF Simiane la Rot 18.39 309 *e*P **P 12 17 04.8 -0.6**
comp=Z,14nm,1.0s
LPG La Plagne 18.40 314 *e*P **P 12 17 05.3 -0.4**
comp=Z,13nm,0.8s
LPG La Plagne 18.40 314 *e*P **P 12 17 05.3 -0.4**
LPG pmax pmax
comp=Z,13nm,0.8s
LPG La Plagne 18.40 314 *e*P **P 12 17 05.3 -0.4**
comp=Z,13nm,0.8s
LPG La Plagne 18.40 314 *e*P **P 12 17 05.3 -0.4**
comp=Z,6.6nm,0.8s
LPL La Plagne 18.42 314 *e*P **P 12 17 04.9 -1.0**
comp=Z,12nm,0.7s
LPL La Plagne 18.42 314 *e*P **P 12 17 04.9 -1.0**
LPL pmax pmax
comp=Z,12nm,0.7s
LPL La Plagne 18.42 314 *e*P **P 12 17 04.9 -1.0**
comp=Z,12nm,0.7s
LPL La Plagne 18.42 314 *e*P **P 12 17 04.9 -1.0**
comp=Z,5.8nm,0.7s
SENIN Lac Senin/Sane 18.56 317 *e*P **Pn 12 17 07.7 0.0**
comp=Z,7.6nm,0.6s
SENIN *e*Pn **P 12 17 08.2 +0.8**
SENIN Lac Senin/Sane 18.56 317 *e*P **Pn 12 17 07.7 0.0**
comp=Z,7.6nm,0.6s
ROTZ Rotzenmuhle 18.57 332 *e*P **P 12 17 06.6 -0.6**
ORIF Oris-en-Rattie 18.64 312 *e*P **P 12 17 08.1 0.0**
ORIF *e*R
comp=Z,226nm,22.0s
ORIF Oris-en-Rattie 18.64 312 *e*P **P 12 17 08.1 0.0**
ORIF Oris-en-Rattie 18.64 312 *e*P **P 12 17 08.1 0.0**
ORIF Oris-en-Rattie 18.64 312 *e*P **P 12 17 08.1 0.0**
BRG Berggiesshubel 18.86 337 *e*P **Pn 12 17 10.7 -0.4**
comp=Z,3.4nm,0.9s
BRG Berggiesshubel 18.86 337 *e*P **Pn 12 17 10.7 -0.4**
BRG pmax pmax
comp=Z,3.0nm,0.9s
BRG Berggiesshubel 18.86 337 *e*P **Pn 12 17 10.7 -0.4**
comp=Z,3.0nm,0.9s
GRFO Grafenberg 18.90 330 *e*P **P 12 17 10.4 -0.5**
GRFO pmax pmax
comp=Z,43nm,1.2s
GRFO Grafenberg 18.90 330 *e*P **P 12 17 10.4 -0.5**
comp=Z,43nm,1.2s
GRFO *e*Pn **Pn 12 17 12.6 +1.0**
GRFO Grafenberg 18.90 330 *e*P **P 12 17 10.4 -0.5**
comp=Z,43nm,1.2s
TANN Tannenbergstha 18.99 334 *e*P **P 12 17 11.5 -0.5**
comp=Z,14nm,1.4s
GUNZ Gunzen 19.00 333 *e*P **P 12 17 11.7 -0.3**
WERD Werda 19.08 333 *e*P **P 12 17 12.5 -0.3**
BBS Basel-Blauen 19.10 320 *e*P **P 12 17 13.3 +0.1**
FELD Feldberg im Sc 19.11 322 *e*P **P 12 17 12.1 -1.2**
BFO Black Forest 19.24 323 *e*P **P 12 17 15.1 +0.5**
comp=Z,5.0nm,1.0s
BFO Black Forest 19.24 323 *e*P **P 12 17 15.1 +0.5**
BFO pmax pmax
comp=Z,5.0nm,1.0s
BFO Black Forest 19.24 323 *e*P **P 12 17 15.1 +0.5**
comp=Z,5.0nm,1.0s
CABF La Chapelle 19.39 316 *e*P **P 12 17 16.8 +0.4**
comp=Z,27nm,1.0s
CABF La Chapelle 19.39 316 *e*P **P 12 17 16.8 +0.4**
CABF pmax pmax
comp=Z,27nm,1.0s
CABF La Chapelle 19.39 316 *e*P **P 12 17 16.8 +0.4**
comp=Z,27nm,1.0s
CABF La Chapelle 19.39 316 *e*P **P 12 17 16.8 +0.4**
comp=Z,13nm,1.0s
LOMF Lomont 19.40 319 *e*P **P 12 17 16.7 +0.2**
LOMF Lomont 19.40 319 *e*P **P 12 17 16.7 +0.2**
MOF Molkenrain 19.54 321 *e*P **Pn 12 17 24.1 +4.7**
CLL Collm 19.54 336 *e*P **P 12 17 17.9 +0.1**
comp=Z,5.0nm,0.8s
CLL Collm 19.54 336 *e*P **P 12 17 18.0 +0.1**
CLL *e*S **S 12 20 57.0 0.0**
CLL Collm 19.54 336 *e*P **P 12 17 18.0 +0.1**
CLL *e*pP **pP 12 17 25.0 0.0**
CLL *e*sP **sP 12 17 31.0 +2.6**
CLL *e*S **S 12 20 57.0 0.0**
CLL Collm 19.54 336 *e*P **P 12 17 18.0 +0.1**
LASF Ste Croix 19.56 307 *e*P **P 12 17 17.9 -0.3**
LASF Ste Croix 19.56 307 *e*P **P 12 17 17.9 -0.3**
LASF Ste Croix 19.56 307 *e*P **P 12 17 17.9 -0.3**
HINF Hinteralfeld 19.67 320 *e*P **P 12 17 20.0 +0.6**
comp=Z,9.8nm,0.6s
HINF Hinteralfeld 19.67 320 *e*P **P 12 17 20.0 +0.6**
HINF pmax pmax
comp=Z,10.0nm,0.6s
HINF Hinteralfeld 19.67 320 *e*P **P 12 17 20.0 +0.6**
comp=Z,9.8nm,0.6s
HINF Hinteralfeld 19.67 320 *e*P **P 12 17 20.0 +0.6**
comp=Z,4.9nm,0.6s
VORD Divnogorie 19.69 26 *e*P **Pn 12 17 21.2 +0.2**
VORD pmax pmax
comp=Z,30nm,1.2s
VORD pmax pmax
comp=N,10.0nm,0.6s
VORD pmax pmax
comp=E,30nm,1.0s
VORD Divnogorie 19.69 26 *e*P **Pn 12 17 21.2 +0.2**
comp=E,10.0nm,0.6s
ECH Echery 19.76 321 *e*P **P 12 17 20.8 +0.5**
ECH pmax pmax
comp=Z,16nm,1.0s
ECH Echery 19.76 321 *e*P **Pn 12 17 23.2 +1.3**
ECH Echery 19.76 321 *e*P **P 12 17 20.8 +0.5**
comp=Z,16nm,1.0s
ECH Echery 19.76 321 *e*P **P 12 17 20.8 +0.5**
comp=Z,16nm,1.0s
CDF Champ du Feu 19.82 322 *e*P **P 12 17 21.2 +0.1**
comp=Z,20nm,0.9s
CDF Champ du Feu 19.82 322 *e*P **P 12 17 21.2 +0.1**
CDF pmax pmax
comp=Z,20nm,0.9s
CDF Champ du Feu 19.82 322 *e*P **P 12 17 21.2 +0.1**
comp=Z,20nm,0.9s
CDF Champ du Feu 19.82 322 *e*P **P 12 17 21.2 +0.1**
comp=Z,9.9nm,0.9s
TOD Tromm 19.89 327 *e*P **Pn 12 17 23.9 +0.4**
LANF Langenberg 19.93 324 *e*P **Pn 12 17 24.5 +0.6**
LANF Langenberg 19.93 324 *e*P **Pn 12 17 24.5 +0.6**
HAU Haudompre 20.05 320 *e*P **P 12 17 23.4 -0.1**
comp=Z,39nm,1.1s
HAU *e*R
comp=Z,161nm,18.8s
HAU Haudompre 20.05 320 *e*P **P 12 17 23.4 -0.1**
HAU pmax pmax
comp=Z,39nm,1.1s
HAU Haudompre 20.05 320 *e*P **P 12 17 23.4 -0.1**
comp=Z,39nm,1.1s
HAU Haudompre 20.05 320 *e*P **P 12 17 23.4 -0.1**
comp=Z,19nm,1.1s
IRAZ Razeghan 20.09 79 *e*P **P 12 17 23.5 -0.8**
UBBA Unterbreizbach 20.27 331 *e*P **P 12 17 25.8 +0.1**
comp=Z,26nm,1.7s
IGZV Ghazvin 20.30 76 *e*P **P 12 17 27.4 +0.9**
RAYN Ar Rayn 20.35 116 *e*Pn **Pn 12 17 30.6 +1.6**
comp=Z,6.7nm,0.8s
RAYN Ar Rayn 20.35 116 *e*Pn **Pn 12 17 30.6 +1.5**
comp=Z,6.7nm,0.8s
THEF They Montfort 20.38 320 *e*P **Pn 12 17 28.9 -0.3**
THEF They Montfort 20.38 320 *e*P **Pn 12 17 28.9 -0.3**
MTLF Montolieu 20.40 304 *e*P **P 12 17 26.7 -0.6**
MTLF Montolieu 20.40 304 *e*P **P 12 17 26.7 -0.6**
MTLF Montolieu 20.40 304 *e*P **P 12 17 26.7 -0.6**
MTLF Montolieu 20.40 304 *e*P **P 12 17 26.7 -0.6**
LBL Lubilhac 20.44 310 *e*P **Pn 12 17 30.9 +0.9**
TNS Taunus Mts 20.49 327 *e*P **P 12 17 28.1 -0.2**
comp=Z,30nm,1.9s
TNS Taunus Mts 20.49 327 *e*P **P 12 17 28.1 -0.2**
TNS pmax pmax
comp=Z,30nm,1.9s
TNS Taunus Mts 20.49 327 *e*P **P 12 17 28.1 -0.2**
comp=Z,30nm,1.9s
MNK Minsk 20.55 4 *e*P **P 12 17 29.0 +0.2**
MNK *e* 12 21 20.0
MNK Minsk 20.55 4 *e*P **P 12 17 29.0 +0.2**
MICGM Minsk 20.55 4 *e* **P 12 17 29.0 +0.2**
ABH Alteburg 20.67 326 *e*P **Pn 12 17 32.7 +0.1**
IMHD Mahdasht 20.68 78 *e*P **Pn 12 17 32.7 -0.3**
VRHR Novokhopersk 20.71 30 *e*P **Pn 12 17 33.5 +0.5**
VRHR pmax pmax
comp=Z,30nm,0.6s
VRHR pmax pmax
comp=N,70nm,1.4s
VRHR pmax pmax
comp=E,30nm,0.7s
PAGF Fort de Pagny 20.72 320 *e*P **Pn 12 17 33.5 +0.3**
comp=E,20nm,1.1s
PAGF Fort de Pagny 20.72 320 *e*P **Pn 12 17 33.5 +0.3**
comp=E,20nm,1.1s
SMF Signal de Mont 20.73 314 *e*P **P 12 17 30.0 -0.8**
comp=E,11nm,0.7s
SMF Signal de Mont 20.73 314 *e*P **P 12 17 30.0 -0.8**
SMF pmax pmax
comp=Z,11nm,0.7s
SMF Signal de Mont 20.73 314 *e*P **P 12 17 30.0 -0.8**
comp=Z,11nm,0.7s
SMF Signal de Mont 20.73 314 *e*P **P 12 17 30.0 -0.8**
comp=Z,5.3nm,0.7s
RUP Ruppelstein 20.78 325 *e*P **P 12 17 30.8 -0.6**
TAM Tamanrasset 20.81 243 *e*P **P 12 17 32.8 +0.7**
TAM pmax pmax
comp=Z,7.0nm,1.0s
TAM Tamanrasset 20.81 243 *e*P **P 12 17 32.8 +0.7**
comp=Z,7.5nm,1.0s
TAM Tamanrasset 20.81 243 *e*P **P 12 17 32.8 +0.7**
comp=Z,7.5nm,1.0s
PYM Petit Puy Mans 20.82 311 *e*P **P 12 17 31.5 -0.4**
PYM Petit Puy Mans 20.82 311 *e*P **P 12 17 31.5 -0.4**
AGO Saint Agoulin 20.88 312 *e*P **P 12 17 32.3 -0.1**
AGO Saint Agoulin 20.88 312 *e*P **P 12 17 32.3 -0.1**
CLZ Clausthal 20.93 333 *e*P **P 12 17 31.4 -1.5**
comp=Z,15nm,1.6s
CLZ Clausthal 20.93 333 *e*P **P 12 17 31.4 -1.5**
CLZ pmax pmax
comp=Z,15nm,1.6s
CLZ Clausthal 20.93 333 *e*P **P 12 17 31.4 -1.5**
comp=Z,15nm,1.6s
IR3 Iran Long-Peri 20.98 79 *e*P **P 12 17 31.0 -2.7**
LOR Lormes 21.03 315 *e*P **P 12 17 35.9 +1.8**
LOR *e*R
comp=Z,185nm,22.5s
LOR Lormes 21.03 315 *e*P **P 12 17 35.9 +1.8**
LOR Lormes 21.03 315 *e*P **P 12 17 35.9 +1.8**
MEZF Maizieres J'vi 21.05 320 *e*P **P 12 17 33.9 -0.3**
MEZF Maizieres J'vi 21.05 320 *e*P **P 12 17 33.9 -0.3**
MEZF Maizieres J'vi 21.05 320 *e*P **P 12 17 33.9 -0.3**
CAF Calviac 21.07 308 *e*P **P 12 17 34.1 -0.5**
comp=Z,26nm,1.1s
CAF Calviac 21.07 308 *e*P **P 12 17 34.1 -0.5**
CAF pmax pmax
comp=Z,26nm,1.1s
CAF Calviac 21.07 308 *e*P **P 12 17 34.1 -0.5**
comp=Z,26nm,1.1s
CAF Calviac 21.07 308 *e*P **P 12 17 34.1 -0.5**
comp=Z,13nm,1.1s
AVF Avril sur Loir 21.09 314 *e*P **P 12 17 35.0 +0.3**
comp=Z,15nm,0.9s
AVF Avril sur Loir 21.09 314 *e*P **P 12 17 35.0 +0.3**
AVF pmax pmax
comp=Z,15nm,0.9s
AVF Avril sur Loir 21.09 314 *e*P **P 12 17 35.0 +0.3**
comp=Z,15nm,0.9s
AVF Avril sur Loir 21.09 314 *e*P **P 12 17 35.0 +0.3**
comp=Z,7.6nm,0.9s
SSF Saint Saulge 21.13 315 *e*P **P 12 17 36.6 +1.4**
SSF Saint Saulge 21.13 315 *e*P **P 12 17 36.6 +1.4**
SSF Saint Saulge 21.13 315 *e*P **P 12 17 36.6 +1.4**
SSF Saint Saulge 21.13 315 *e*P **P 12 17 36.6 +1.4**
WLF Walferdange 21.20 323 AP pP 12 17 46.0 +3.0
comp=Z,20nm,1.5s
WLF Walferdange 21.20 323 *e*P **P 12 17 35.3 -0.5**
WLF pmax pmax
comp=Z,20nm,1.0s
WLF Walferdange 21.20 323 *e*P **P 12 17 35.3 -0.5**
comp=Z,20nm,1.0s
WLF Walferdange 21.20 323 *e*P **P 12 17 35.3 -0.5**
comp=Z,20nm,1.0s
IPIR Pirpir 21.21 86 *e*P **P 12 17 41.0 +4.5**
BGF Bois d'Agland 21.28 313 *e*P **P 12 17 36.6 -0.2**
comp=Z,56nm,0.9s
BGF Bois d'Agland 21.28 313 *e*P **P 12 17 36.6 -0.2**
BGF pmax pmax
comp=Z,56nm,0.9s
BGF Bois d'Agland 21.28 313 *e*P **P 12 17 36.6 -0.2**
comp=Z,56nm,0.9s
BGF Bois d'Agland 21.28 313 *e*P **P 12 17 36.6 -0.2**
comp=Z,28nm,0.9s
TCF Toulx Ste Croi 21.55 312 *e*P **P 12 17 39.0 -0.7**
comp=Z,38nm,1.0s
TCF Toulx Ste Croi 21.55 312 *e*P **P 12 17 39.0 -0.7**
TCF pmax pmax
comp=Z,38nm,1.0s
TCF Toulx Ste Croi 21.55 312 *e*P **P 12 17 39.0 -0.7**
comp=Z,38nm,1.0s
TCF Toulx Ste Croi 21.55 312 *e*P **P 12 17 39.0 -0.7**
comp=Z,19nm,1.0s
RJF Les Rejaudoux 21.58 309 *e*P **P 12 17 39.4 -0.6**
RJF *e*R
comp=Z,116nm,19.5s
RJF Les Rejaudoux 21.58 309 *e*P **P 12 17 39.4 -0.6**
RJF Les Rejaudoux 21.58 309 *e*P **P 12 17 39.4 -0.6**
RJF Les Rejaudoux 21.58 309 *e*P **P 12 17 39.4 -0.6**
EPF Esparros 21.61 302 *e*P **P 12 17 39.1 -1.3**
comp=Z,12nm,1.0s
EPF Esparros 21.61 302 *e*P **P 12 17 39.1 -1.3**
EPF pmax pmax
comp=Z,12nm,1.0s
EPF Esparros 21.61 302 *e*P **P 12 17 39.1 -1.3**
comp=Z,12nm,1.0s
EPF Esparros 21.61 302 *e*P **P 12 17 39.1 -1.3**
comp=Z,5.8nm,1.0s
MEM Membach 21.89 325 P **P 12 17 43.9 +0.6**
comp=Z,15nm,1.2s
MEM Membach 21.89 325 *e*P **P 12 17 43.8 +0.6**
MEM pmax pmax
comp=Z,22nm,0.9s
MEM Membach 21.89 325 *e*P **P 12 17 43.8 +0.6**
comp=Z,22nm,0.9s
MEM Membach 21.89 325 *e*P **P 12 17 43.8 +0.6**
comp=Z,22nm,0.9s
BCLA Clavier 22.10 324 AP pP 12 17 55.6 +2.9

comp=Z,17nm,2.3s
GIVF Givet 22.14 323 *e*P **P 12 17 47.4 +1.5**
comp=Z,44nm,1.0s
GIVF Givet 22.14 323 *e*P **P 12 17 47.4 +1.5**
GIVF pmax pmax
comp=Z,44nm,1.0s
GIVF Givet 22.14 323 *e*P **P 12 17 47.4 +1.5**
comp=Z,44nm,1.0s
GIVF Givet 22.14 323 *e*P **P 12 17 47.4 +1.5**
comp=Z,22nm,1.0s
ETSF Etsaut 22.21 301 *e*P **P 12 17 47.3 +0.4**
ETSF Etsaut 22.21 301 *e*P **P 12 17 47.3 +0.4**
ETSF Etsaut 22.21 301 *e*P **P 12 17 47.3 +0.4**
ETSF Etsaut 22.21 301 *e*P **P 12 17 47.3 +0.4**
DOU Dourbes 22.25 323 P **P 12 17 48.5 +1.3**
comp=Z,7.2nm,1.4s
DOU Dourbes 22.25 323 P **P 12 17 48.4 +1.3**
comp=Z,7.2nm,1.4s
IZEF Zefreh 22.36 85 *e*P **P 12 17 44.6 -4.2**
BAIF Baives 22.42 322 *e*P **P 12 17 48.4 -0.6**
comp=Z,19nm,0.7s
BAIF Baives 22.42 322 *e*P **P 12 17 48.4 -0.6**
BAIF pmax pmax
comp=Z,19nm,0.7s
BAIF Baives 22.42 322 *e*P **P 12 17 48.4 -0.6**
comp=Z,19nm,0.7s
BAIF Baives 22.42 322 *e*P **P 12 17 48.4 -0.6**
comp=Z,9.4nm,0.7s
OBN Obninsk 22.46 17 *e*P **P 12 17 52.6 +3.3**
OBN *i* 12 17 58.6
OBN *i*S **S 12 21 53.9 -0.3**
OBN pmax pmax
comp=Z,37nm,1.2s
IKAZ Kazeroun 22.70 93 *e*P **P 12 17 52.9 +0.4**
SJPF Ste Jean 22.74 301 *e*P **P 12 17 53.2 +0.8**
comp=Z,35nm,1.1s
SJPF Ste Jean 22.74 301 *e*P **P 12 17 53.2 +0.8**
SJPF pmax pmax
comp=Z,35nm,1.0s
SJPF Ste Jean 22.74 301 *e*P **P 12 17 53.2 +0.8**
comp=Z,35nm,1.0s
SJPF Ste Jean 22.74 301 *e*P **P 12 17 53.2 +0.8**
comp=Z,18nm,1.1s
MFF Saint Martin d 23.16 311 *e*P **P 12 17 56.1 -0.6**
comp=Z,24nm,0.8s
MFF Saint Martin d 23.16 311 *e*P **P 12 17 56.1 -0.6**
MFF pmax pmax
comp=Z,24nm,0.8s
MFF Saint Martin d 23.16 311 *e*P **P 12 17 56.1 -0.6**
comp=Z,24nm,0.8s
MFF Saint Martin d 23.16 311 *e*P **P 12 17 56.1 -0.6**
comp=Z,12nm,0.8s
MOS Moscow 23.29 17 *e*P **P 12 17 56.2 -1.7**
MOS *e* 12 18 36.3
IPAR Pars 23.68 93 *e*P **P 12 18 03.4 +1.0**
ISRV Sarvestan 23.88 94 *e*P **P 12 18 00.4 -3.8**
LDF La Druitiere 24.02 315 *e*P **P 12 18 04.1 -0.9**
comp=Z,19nm,0.8s
LDF La Druitiere 24.02 315 *e*P **P 12 18 04.1 -0.9**
LDF pmax pmax
comp=Z,19nm,0.8s
LDF La Druitiere 24.02 315 *e*P **P 12 18 04.1 -0.9**
comp=Z,19nm,0.8s
ES19 SONSECA Array 24.17 292 *e*P **P 12 18 05.5 -1.0**
ES19 SONSECA Array 24.17 292 *e*P **P 12 18 05.5 -1.0**
ESDC Sonseca Array 24.22 292 P **P 12 18 06.6 -0.4**
ESDC Sonseca Array 24.22 292 P **P 12 18 06.6 -0.4**
comp=Z,2.5nm,0.6s,baz=85,slow=9.4,SNR=23
ESDC Sonseca Array 24.22 292 P **P 12 18 06.6 -0.4**
ESLA Sonseca Array 24.22 292 *e*P **P 12 18 06.6 -0.4**
comp=Z,3.6nm,1.2s
ESLA Sonseca Array 24.22 292 *e*P **P 12 18 06.6 -0.4**
comp=Z,3.6nm,1.2s
FLN La Foliniere 24.30 315 *e*P **P 12 18 06.7 -0.9**
FLN *e*R
comp=Z,195nm,21.1s
FLN La Foliniere 24.30 315 *e*P **P 12 18 06.7 -0.9**
FLN La Foliniere 24.30 315 *e*P **P 12 18 06.7 -0.9**
VSU Vasula 24.47 2 *e*P **P 12 18 08.2 -0.8**
VSU pmax pmax
comp=Z,20nm,1.0s
PAB San Pablo 24.50 292 *e*P **P 12 18 09.7 0.0**
PAB pmax pmax
comp=Z,95nm,1.2s
PAB San Pablo 24.50 292 *e*P **P 12 18 09.7 0.0**
comp=Z,95nm,1.2s
PAB San Pablo 24.50 292 *e*P **P 12 18 09.7 0.0**
comp=Z,95nm,1.2s
MDT Midelt 25.16 276 P **P 12 18 15.7 0.0**
MDT Midelt 25.16 276 P **P 12 18 15.7 0.0**
comp=Z,3.6nm,0.8s,baz=88,slow=13,SNR=9.3
MDT Midelt 25.16 276 P **P 12 18 15.7 0.0**
SGMF Saint Gilles 25.33 313 *e*P **P 12 18 16.7 -0.2**
SGMF Saint Gilles 25.33 313 *e*P **P 12 18 16.7 -0.2**
SGMF Saint Gilles 25.33 313 *e*P **P 12 18 16.7 -0.2**
QUIF Quistinic 25.57 312 *e*P **P 12 18 18.9 -0.2**
QUIF Quistinic 25.57 312 *e*P **P 12 18 18.9 -0.2**
QUIF Quistinic 25.57 312 *e*P **P 12 18 18.9 -0.2**
ROSF Rostrenen 25.80 312 *e*P **P 12 18 21.0 -0.2**
ROSF Rostrenen 25.80 312 *e*P **P 12 18 21.0 -0.2**
ROSF Rostrenen 25.80 312 *e*P **P 12 18 21.0 -0.2**
PBRG Braganca 26.52 297 *e*P **P 12 18 27.1 -0.7**
comp=Z,24nm,1.5s
PBRG *e*pP **pP 12 18 35.1 -0.4**
PBRG Braganca 26.52 297 *e*P **P 12 18 27.1 -0.7**
comp=Z,24nm,1.5s
PBRG *e*pP **pP 12 18 35.1 -0.4**
PBAR Barrancos 26.57 288 *e*P **P 12 18 28.1 -0.2**
comp=Z,21nm,1.7s
PBAR Barrancos 26.57 288 *e*P **P 12 18 28.1 -0.2**
comp=Z,21nm,1.7s
MVO Moncorvo 26.67 295 *e*P **P 12 18 30.7 +1.5**
comp=Z,32nm,2.4s
MVO *e*pP **pP 12 18 37.3 +0.4**
MVO Moncorvo 26.67 295 *e*P **P 12 18 30.7 +1.5**
comp=Z,32nm,2.4s
MVO *e*pP **pP 12 18 37.3 +0.4**
PMRV Marv??o 26.85 291 *e*P **P 12 18 30.4 -0.4**
comp=Z,23nm,1.5s
PMRV Marv??o 26.85 291 *e*P **P 12 18 30.4 -0.4**
comp=Z,23nm,1.5s
PESTR Estremoz 27.00 290 *e*P **P 12 18 31.7 -0.5**
comp=Z,21nm,1.4s
PESTR Estremoz 27.00 290 *e*P **P 12 18 31.7 -0.5**
comp=Z,21nm,1.4s
MTE Manteigas 27.00 293 *e*P **P 12 18 34.0 +1.7**
comp=Z,25nm,2.0s
MTE Manteigas 27.00 293 *e*P **P 12 18 34.0 +1.7**
comp=Z,25nm,2.0s
PVAQ Vaqueiros 27.14 287 *e*P **P 12 18 33.5 +0.1**
comp=Z,38nm,1.8s
PVAQ Vaqueiros 27.14 287 *e*P **P 12 18 33.5 +0.1**
comp=Z,38nm,1.8s
PBEJ Beja 27.23 288 *e*P **P 12 18 33.4 -0.8**
comp=Z,19nm,2.0s
PBEJ Beja 27.23 288 *e*P **P 12 18 33.4 -0.8**
comp=Z,19nm,2.0s
HFS Hagfors 27.27 347 P **P 12 18 33.0 -1.3**
HFS Hagfors 27.27 347 P **P 12 18 33.0 -1.3**
comp=Z,2.8nm,0.7s,baz=155,slow=9.1,SNR=5.3
HFS LR LR 12 29 52.9
comp=Z,172nm,20.6s,baz=167,slow=38
HFS Hagfors 27.27 347 P **P 12 18 33.0 -1.3**
PBDV Barranco-do-Ve 27.32 286 *e*P **P 12 18 35.2 +0.2**
comp=Z,56nm,1.5s
PBDV *e*pP **pP 12 18 43.0 +0.3**
PBDV Barranco-do-Ve 27.32 286 *e*P **P 12 18 35.2 +0.2**
comp=Z,56nm,1.5s
PBDV *e*pP **pP 12 18 43.0 +0.3**
EVO Evora 27.33 289 *e*P **P 12 18 37.1 +2.0**
EVO *e*R
comp=Z,68nm,18.5s
EVO Evora 27.33 289 *e*P **P 12 18 35.4 +0.3**
comp=Z,24nm,1.8s
EVO Evora 27.33 289 *e*P **P 12 18 35.4 +0.3**
comp=Z,24nm,1.8s
EVOP Sao Brissos 27.42 289 *e*P **P 12 18 37.1 +1.2**
EVOP Sao Brissos 27.42 289 *e*P **P 12 18 37.1 +1.2**
FIA1 FINESS Array S 27.45 1 *e*P **P 12 18 34.8 -1.2**
FIA1 FINESS Array S 27.45 1 *e*P **P 12 18 34.8 -1.2**
FINES FINESS Array B 27.45 1 P **P 12 18 34.0 -1.9**
FINES PcP **PcP 12 21 53.9 +0.1**
FINES FINESS Array B 27.45 1 P **P 12 18 34.0 -1.9**
comp=Z,1.6nm,0.4s,baz=154,slow=12,SNR=9.3
FINES PcP **PcP 12 21 53.9 +0.1**
comp=Z,0.7nm,0.4s,baz=270,slow=1.1,SNR=4.3
FINES LR LR 12 31 19.2
comp=Z,108nm,18.6s,baz=20,slow=40
FINES FINESS Array B 27.45 1 PcP **PcP 12 21 53.9 +0.1**
PCAB Cabril 27.46 296 *e*P **P 12 18 36.4 +0.1**
PCAB Cabril 27.46 296 *e*P **P 12 18 36.4 +0.1**
PGAV Gavieira, Arco 27.67 297 *e*P **P 12 18 39.1 +0.9**
comp=Z,53nm,1.6s
PGAV Gavieira, Arco 27.67 297 *e*P **P 12 18 39.1 +0.9**
comp=Z,53nm,1.6s
KAF Kangasniemi 28.13 1 *e*P **P 12 18 40.6 -1.4**
KAF pmax pmax
comp=Z,7.0nm,0.6s
KAF Kangasniemi 28.13 1 *e*p **P 12 18 40.6 -1.4**
comp=Z,6.8nm,0.6s
KAF Kangasniemi 28.13 1 *e*P **P 12 18 40.6 -1.4**
comp=Z,6.8nm,0.6s
KLMR Klimovskoe 28.35 14 *e*P **P 12 18 41.6 -2.3**
KLMR pmax pmax
comp=Z,26nm,1.1s
NB2 NORSAR Subarra 28.59 345 P **P 12 18 45.0 -1.2**
comp=Z,1.4nm,0.6s,baz=158,slow=11
NOA NORSAR Array B 28.59 345 P **P 12 18 45.1 -1.0**
NOA NORSAR Array B 28.59 345 P **P 12 18 45.1 -1.0**
comp=Z,1.0nm,0.5s,baz=147,slow=9.0,SNR=7.6
NOA LR LR 12 31 42.4
comp=Z,44nm,21.6s,baz=155,slow=40
NOA NORSAR Array B 28.59 345 P **P 12 18 45.2 -1.0**
AKTO Aktyubinsk 28.82 45 P **P 12 18 48.6 +0.3**
AKTO Aktyubinsk 28.82 45 P **P 12 18 48.6 +0.3**
AKTO Aktyubinsk 28.82 45 P **P 12 18 48.6 +0.3**
comp=Z,1.1nm,0.4s,baz=253,slow=13,SNR=3.6
AKTO Aktyubinsk 28.82 45 P **P 12 18 48.6 +0.3**
JOF Joensuu 29.16 5 *e*P **P 12 18 50.1 -1.0**
JOF pmax pmax
comp=Z,2.0nm,0.5s
JOF Joensuu 29.16 5 *e*p **P 12 18 50.1 -1.0**
comp=Z,2.2nm,0.5s
JOF Joensuu 29.16 5 *e*P **P 12 18 50.1 -1.0**
comp=Z,2.2nm,0.5s
EKA Eskdalemuir Ar 29.16 326 P **P 12 18 51.0 -0.3**
EKA Eskdalemuir Ar 29.16 326 P **P 12 18 51.0 -0.3**
comp=Z,1.9nm,0.7s,baz=138,slow=9.0,SNR=7.1
EKA Eskdalemuir Ar 29.16 326 P **P 12 18 51.0 -0.3**
ABKAR Abkulak array 29.58 49 *e*P **P 12 18 55.6 +0.6**
ABKAR Abkulak array 29.58 49 *e*P **P 12 18 55.6 +0.6**
TOA0 Torodi Ar. Sit 30.01 232 *e*P **P 12 18 58.4 -0.7**
TOA0 *e*PcP **PcP 12 22 01.9 +0.9**
TOA0 Torodi Ar. Sit 30.01 232 *e*P **P 12 18 58.4 -0.7**
TORD Torodi Ar. Bea 30.01 232 P **P 12 18 59.1 0.0**
TORD Torodi Ar. Bea 30.01 232 P **P 12 18 59.1 0.0**
comp=Z,1.8nm,0.6s,baz=37,slow=8.5,SNR=12
TORD LR LR 12 33 10.9
comp=Z,331nm,18.0s,baz=30,slow=41
TORD Torodi Ar. Bea 30.01 232 P **P 12 18 59.1 0.0**
ARU Arti 31.80 35*d i*P **P 12 19 14.3 -0.3**
ARU 12 20 18.6
ARU S **S 12 24 26.5 +3.4**
ARU SS **SnSn 12 26 12.4 +1.0**
ARU pmax pmax
comp=Z,7.0nm,1.7s
SOKR Solikamsk 32.80 29 *e*P **P 12 19 23.9 +0.7**
SOKR pmax pmax
comp=Z,10.0nm,1.0s
SVE Sverdlovsk 33.00 35 *e*P **P 12 19 25.4 +0.4**
MBAR Mbarara 34.77 171 LR LR 12 34 50.3
comp=Z,177nm,18.3s,baz=219,slow=38
ARCES ARCESS Array B 35.58 360 P **P 12 19 45.3 -2.0**
ARCES ARCESS Array B 35.58 360 P **P 12 19 45.3 -2.0**
comp=Z,0.8nm,0.4s,baz=179,slow=8.7,SNR=11
ARCES LR LR 12 34 40.6
comp=Z,137nm,19.6s,baz=323,slow=37
KKAR Karatay Array 35.96 62 *e*P **P 12 19 51.0 +0.2**
KKAR pmax pmax
comp=Z,1.0nm,0.6s
KKAR Karatay Array 35.96 62 *e*P **P 12 19 51.0 +0.2**
comp=Z,1.1nm,0.6s
KKAR Karatay Array 35.96 62 *e*P **P 12 19 51.0 +0.2**
comp=Z,1.1nm,0.6s
KMBO Kilima Mbogo 36.64 160 LR LR 12 34 48.8
comp=Z,95nm,20.2s,baz=86,slow=36
BRVK Borovoye 36.87 45 *e*P **P 12 19 59.0 +0.5**
BRVK pmax pmax
comp=Z,8.0nm,1.2s
BRVK Borovoye 36.87 45 *e*P **P 12 19 59.0 +0.5**
comp=Z,7.5nm,1.2s
BRVK Borovoye 36.87 45 *e*P **P 12 19 59.0 +0.5**
comp=Z,7.5nm,1.2s
BVAR Borovoye Array 36.92 45 P **P 12 19 59.4 +0.5**
BVAR Borovoye Array 36.92 45 P **P 12 19 59.4 +0.5**
BVAR Borovoye Array 36.92 45 P **P 12 19 59.4 +0.5**
comp=Z,2.7nm,0.9s,baz=257,slow=4.0,SNR=7.6
BVAR Borovoye Array 36.92 45 P **P 12 19 59.4 +0.5**
VOSK Vostochnaya 37.21 46 *e*P **P 12 20 01.6 +0.2**
VOSK pmax pmax
comp=Z,6.0nm,0.8s
VOSK Vostochnaya 37.21 46 *e*P **P 12 20 01.6 +0.2**
comp=Z,5.7nm,0.8s
VOSK Vostochnaya 37.21 46 *e*P **P 12 20 01.6 +0.2**
comp=Z,5.7nm,0.8s
AAK Ala-Archa 38.90 62 *e*P **P 12 20 13.9 -2.1**
AAK pmax pmax
comp=Z,3.0nm,1.2s
DBIC Dimbokro 39.11 233 LR LR 12 38 35.2
comp=Z,238nm,18.4s,baz=252,slow=40
KSH Kashi 40.35 67 *e*P **P 12 20 26.7 -1.3**
KSH pP **pP 12 20 34.1 -1.8**
KSH PP **PnPn 12 22 04.0 -0.8**
KSH ScP **ScP 12 26 19.0 +0.4**
KSH PcS **PcS 12 26 22.1 +0.4**
KSH S **S 12 26 31.1 -3.3**
KSH pmax pmax
comp=Z,100nm,8.4s
KSH LR LR
comp=N,56nm,5.9s
KSH LR LR
comp=E,87nm,5.1s
KSH LR LR
comp=Z,120nm,9.3s
KURBB Kurchatov Arra 41.61 50 P **P 12 20 38.5 +0.5**
comp=Z,2.4nm,0.5s,baz=276,slow=8.6,SNR=23
KURK Kurchatov 41.67 50 P **P 12 20 38.5 -0.1**
KURK Kurchatov 41.67 50 P **P 12 20 38.5 -0.1**
KURK Kurchatov 41.67 50 P **P 12 20 38.5 -0.1**
MK31 Makanchi Array 44.16 56 *e*P **P 12 20 59.1 +0.3**
MK31 Makanchi Array 44.16 56 *e*P **P 12 20 59.1 +0.3**
MK31 Makanchi Array 44.16 56 *e*P **P 12 20 59.1 +0.3**
MKAR Makanchi Array 44.16 56 *e*P **P 12 20 59.4 +0.6**
MKAR Makanchi Array 44.16 56 *e*P **P 12 20 59.4 +0.6**
MKAR Makanchi Array 44.16 56 P **P 12 20 59.2 +0.5**
comp=Z,2.9nm,0.6s,baz=276,slow=6.4,SNR=23
MKAR Makanchi Array 44.16 56 *e*P **P 12 20 59.3 +0.5**
MK01 Makanchi Array 44.16 56 *e*P **P 12 20 58.9 0.0**
MK01 Makanchi Array 44.16 56 *e*P **P 12 20 58.9 0.0**
NVS Novosibirsk 44.69 44 *e*P **P 12 21 03.0 +0.1**
ZAA0 Zalesovo Array 45.58 45 *e*P **P 12 21 09.9 -0.1**
ZAA0 Zalesovo Array 45.58 45 *e*P **P 12 21 09.9 -0.1**
ZALV Zalesovo Beam 45.58 45 P **P 12 21 09.8 -0.2**
ZALV Zalesovo Beam 45.58 45 P **P 12 21 09.8 -0.2**
ZALV Zalesovo Beam 45.58 45 P **P 12 21 09.8 -0.2**
comp=Z,2.6nm,0.4s,baz=264,slow=12,SNR=7.0
ZALV Zalesovo Beam 45.58 45 P **P 12 21 09.8 -0.2**
WMQ Urumqi 48.32 59 *e*P **P 12 21 34.0 +2.4**
WMQ pP **pP 12 21 41.5 +1.9**
WMQ sP **sP 12 21 44.8 +2.0**
WMQ PP **PP 12 23 26.0 +1.9**
WMQ pmax pmax
comp=Z,11nm,0.8s
WMQ pmax pmax
comp=Z,99nm,4.1s
WMQ LR LR
comp=N,90nm,22.0s
WMQ LR LR
comp=E,98nm,23.5s
WMQ LR LR
comp=Z,44nm,16.2s
LSZ Lusaka 49.07 177 P **P 12 21 38.8 +1.2**
LSZ Lusaka 49.07 177 P **P 12 21 38.8 +1.2**
comp=Z,0.7nm,0.4s,baz=348,slow=8.6,SNR=3.0
LSZ Lusaka 49.07 177 P **P 12 21 38.8 +1.2**
SUMG Summit 50.16 339 *e*P **P 12 21 45.7 0.0**
SUMG pmax pmax
comp=Z,7.0nm,0.9s
SUMG Summit 50.16 339 *i* P **P 12 21 45.7 0.0**
comp=Z,6.9nm,0.9s
SUMG Summit 50.16 339 *e*P **P 12 21 45.7 0.0**
comp=Z,6.9nm,0.9s
TSUM Tsumeb 53.45 189 P **P 12 22 10.6 +0.2**
TSUM Tsumeb 53.45 189 P **P 12 22 10.6 +0.2**
comp=Z,2.7nm,0.8s,baz=336,slow=12,SNR=3.6
TSUM Tsumeb 53.45 189 P **P 12 22 10.6 +0.2**
OPO Ambohidratompo 56.21 155 P **P 12 22 31.8 +1.3**
OPO Ambohidratompo 56.21 155 P **P 12 22 31.8 +1.3**
comp=Z,3.1nm,0.9s,baz=323,slow=10,SNR=1.9
OPO Ambohidratompo 56.21 155 P **P 12 22 31.8 +1.3**
TLY Talaya 57.16 46 *e*P P 12 22 40.1 +3.3
TLY pmax pmax
comp=Z,4.0nm,0.9s
ZAK Zakamensk 57.28 48 *e*P **P 12 22 38.0 +0.3**
ZAK pmax pmax
comp=Z,4.0nm,1.3s
GTA Gaotai 58.23 61 *e*P P 12 22 52.7 +8.0
GTA pP pP 12 22 56.9 +4.1
GTA sP sP 12 22 59.7 +3.7
GTA pmax pmax
comp=Z,3.0nm,0.5s
SONM Songino Array 59.98 50 P **P 12 22 56.7 +0.1**
SONM Songino Array 59.98 50 P **P 12 22 56.7 +0.1**
comp=Z,1.0nm,0.8s,baz=274,slow=8.8,SNR=7.0
SONM LR LR 12 54 05.9
comp=Z,98nm,19.3s,baz=43,slow=41
SONM Songino Array 59.98 50 P **P 12 22 56.7 +0.1**
SONA1 Songino Array 59.98 50 *e*P **P 12 22 56.8 +0.1**
SONA1 Songino Array 59.98 50 *e*P **P 12 22 56.8 +0.1**
BOSA Boshof 62.28 180 P **P 12 23 13.1 +0.8**
BOSA Boshof 62.28 180 P **P 12 23 13.1 +0.8**
comp=Z,2.8nm,0.7s,baz=52,slow=8.6,SNR=4.3
BOSA LR LR 12 53 17.7
comp=Z,118nm,18.5s,baz=2.7,slow=39
BOSA Boshof 62.28 180 P **P 12 23 13.1 +0.8**
SCHQ Schefferville 64.27 320 P **P 12 23 24.9 -0.3**
SCHQ Schefferville 64.27 320 P **P 12 23 24.9 -0.3**
comp=Z,5.2nm,0.6s,baz=58,slow=4.6,SNR=11
SCHQ Schefferville 64.27 320 P **P 12 23 24.9 -0.3**
HHC Hu-ho-hao-te 66.02 56 *e*P **P 12 23 37.0 +0.1**
HHC pP **pP 12 23 45.0 -0.1**
HHC sP **sP 12 23 48.5 +0.3**
HHC PP **PP 12 26 04.9 +2.9**
HHC S **S 12 32 21.9 -1.3**
HHC sS **sS 12 32 33.5 -3.3**
HHC ScS **SKSac 12 33 28.1 -3.2**
HHC SS **SS 12 36 36.1 -2.1**
HHC pmax pmax
comp=Z,130nm,4.8s
HHC LR LR
comp=N,240nm,20.2s
HHC LR LR
comp=E,260nm,19.0s
HHC LR LR
comp=Z,350nm,19.0s
CMAR Chiang Mai Arr 66.40 83 P **P 12 23 39.2 -0.3**
CMAR Chiang Mai Arr 66.40 83 P **P 12 23 39.2 -0.3**
comp=Z,0.8nm,0.7s,baz=304,slow=9.7,SNR=3.2
CMAR Chiang Mai Arr 66.40 83 P **P 12 23 39.2 -0.3**
GYA Guiyang 68.80 72 *e*P **P 12 23 55.8 +1.1**
GYA pmax pmax
comp=Z,10.0nm,1.0s
KLR Kul'dur 74.43 41 *e*P **P 12 24 26.2 -1.9**
MDJ Mudanjiang 75.78 46 P **P 12 24 37.5 +1.6**
MDJ pmax pmax
comp=Z,5.0nm,1.9s
MDJ pmax pmax
comp=Z,120nm,10.2s
SADO Sadowa 76.07 315 P **P 12 24 38.0 +0.4**
SADO Sadowa 76.07 315 P **P 12 24 38.0 +0.4**
comp=Z,2.8nm,0.5s,baz=236,slow=15,SNR=5.3
SADO Sadowa 76.07 315 P **P 12 24 38.0 +0.4**
INK Inuvik 76.80 352 P **P 12 24 41.0 -0.2**
INK Inuvik 76.80 352 P **P 12 24 41.0 -0.2**
comp=Z,4.9nm,1.1s,baz=57,slow=8.4,SNR=4.4
INK Inuvik 76.80 352 P **P 12 24 41.0 -0.2**
YKA Yellowknife Ar 78.64 342 P **P 12 24 51.5 -0.1**
YKA Yellowknife Ar 78.64 342 P **P 12 24 51.4 -0.1**
comp=Z,1.2nm,0.6s,baz=35,slow=5.4,SNR=5.5
YKA Yellowknife Ar 78.64 342 P **P 12 24 51.5 -0.1**
KSAR Wonju Array Be 78.72 52 P **P 12 24 52.4 -0.2**
KSAR Wonju Array Be 78.72 52 P **P 12 24 52.3 -0.2**
KSRS Korea Array 78.73 52 P **P 12 24 52.4 -0.3**
comp=Z,1.0nm,0.7s,baz=301,slow=4.7,SNR=3.8
ILAR Eielson Array 81.37 357 P **P 12 25 06.3 0.0**
ILAR Eielson Array 81.37 357 P **P 12 25 06.3 0.0**
comp=Z,0.9nm,0.8s,baz=348,slow=3.2,SNR=9.6
ILAR Eielson Array 81.37 357 P **P 12 25 06.3 0.0**
BDFB Brasilia 85.56 248 P **P 12 25 29.0 +0.2**
BDFB Brasilia 85.56 248 P **P 12 25 29.0 +0.2**
comp=Z,1.4nm,0.3s,baz=153,slow=6.8,SNR=2.9
BDFB LR LR 13 01 16.1
comp=Z,78nm,20.7s,baz=183,slow=34
BDFB Brasilia 85.56 248 P **P 12 25 29.0 +0.2**
MJAR Matsushiro Arr 85.86 48 P **P 12 25 30.7 +0.7**
MJAR Matsushiro Arr 85.86 48 P **P 12 25 30.7 +0.7**
comp=Z,1.2nm,0.9s,baz=291,slow=7.2,SNR=4.2
MJAR Matsushiro Arr 85.86 48 P **P 12 25 30.7 +0.7**
NEW Newport 91.55 336 P **P 12 25 57.9 +1.0**
NEW Newport 91.55 336 P **P 12 25 57.9 +1.0**
comp=Z,2.1nm,0.8s,baz=84,slow=3.2,SNR=5.0
NEW Newport 91.55 336 P **P 12 25 57.8 +1.0**
PDAR Pinedale Array 93.25 329 P **P 12 26 04.5 -0.5**
PDAR Pinedale Array 93.25 329 P **P 12 26 04.5 -0.5**
comp=Z,0.3nm,0.6s,baz=20,slow=9.0,SNR=3.0
PDAR Pinedale Array 93.25 329 P **P 12 26 04.4 -0.5**
WRA Warramunga Arr 116.14 97 PKP **PKPdf 12 31 33.5 -0.2**
WRA Warramunga Arr 116.14 97 PKP **PKPdf 12 31 33.5 -0.2**
comp=Z,0.9nm,1.0s,baz=304,slow=1.8,SNR=4.2
WRA Warramunga Arr 116.14 97 PKIKP **PKPdf 12 31 33.5 -0.2**
ASAR Alice Springs 117.53 101 PKP **PKPdf 12 31 35.2 -1.0**
ASAR Alice Springs 117.53 101 PKP **PKPdf 12 31 35.2 -1.0**
comp=Z,1.2nm,1.1s,baz=296,slow=1.4,SNR=4.6
ASAR Alice Springs 117.53 101 PKIKP **PKPdf 12 31 35.2 -1.0**
QSPA South Pole Qui 123.87 180 PKP **PKPdf 12 31 47.5 +0.4**
QSPA South Pole Qui 123.87 180 PKP **PKPdf 12 31 47.5 +0.4**
comp=Z,4.7nm,1.2s,baz=256,slow=3.4,SNR=3.7
QSPA South Pole Qui 123.87 180 PKIKP **PKPdf 12 31 47.5 +0.4**
VNDA Vanda 132.38 168 PKP **PKPdf 12 32 03.5 +0.5**
VNDA Vanda 132.38 168 PKP **PKPdf 12 32 03.5 +0.5**
comp=Z,0.6nm,0.8s,baz=252,slow=3.2,SNR=2.7
VNDA Vanda 132.38 168 PKIKP **PKPdf 12 32 03.5 +0.5**

DJA **12** *12:19:44.9±1.1, 1'.N±4'×12'.8E±'.,h10km,M4.2/5,mb4.5/2, MLv4.0/5*
ISCJB **12** *12:19:46.6±0.6, 1'.41N±0'.05×127'.61E±0'.06,h10km, mb4.0/7,Error ellipse: s-maj=8.5km s-min=7.2km az=7.4*
IDC **12** *12:19:47.5±0.9, 1'.36N×127'.60E,h0km,mb4.0/7, mb1 4.1/7,mb1mx3.9/22,mbtmp4.0/7,Error ellipse: s-maj=56.5km s-min=18.1km az=73.0*
ISC 12 12:19:48.4±0.8,**1'.26N**±0'.06×**127'.62E**±0'.08,**h10**km,**n14, s0995/17,mb4.2/7,Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.55**	**208**	P	**Pg**	**12 19 58.8**	**-0.3**
TNTI				S	**Sn**	**12 20 11.1**	**-0.4**
LBMI	**Labuha**	**1.89**	**184**	P	**Pn**	**12 20 20.5**	**-0.3**
LBMI				S	**Sg**	**12 20 49.5**	**+0.3**
KMSI	**Cibinong**	**3.70**	**259**	P	**Pn**	**12 20 45.7**	**0.0**
KMSI				S	**Sn**	**12 21 29.3**	**-0.1**
SWI	**Sorong**	**4.21**	**120**	P	**Pn**	**12 20 51.4**	**-1.3**
GTOI	**Gorontalo**	**4.65**	**262**	P	**Pn**	**12 20 59.8**	**+1.0**
MRSI	**Marisa** 16nm,0.6s,0.1nm	**5.73**	**262**	P	**Pn**	**12 21 12.5**	**-1.1**
SKSI	**Soroako, Sulaw**	**7.33**	**239**	P	**Pn**	**12 21 35.0**	**-0.6**
WRA	**Warramunga Arr** 2.0nm,0.6s,baz=341,slow=10,SNR=18	**22.08**	**163**	P	**P**	**12 24 44.7**	**+0.9**
ASAR	**Alice Springs** 0.9nm,0.7s,baz=353,slow=15,SNR=16	**25.52**	**167**	P	**P**	**12 25 19.2**	**+1.9**
MJAR	**Matsushiro Arr** 3.3nm,0.9s,baz=191,slow=9.4,SNR=6.9	**36.45**	**14**	P	**P**	**12 26 53.6**	**0.0**
SONM	**Songino Array** 0.6nm,0.6s,baz=156,slow=9.1,SNR=4.1	**49.91**	**341**	P	**P**	**12 28 40.7**	**-1.6**
MKAR	**Makanchi Array** 2.4nm,0.7s,baz=121,slow=8.5,SNR=14	**60.08**	**326**	P	**P**	**12 29 56.3**	**+0.5**
KURBB	**Kurchatov Arra** 4.6nm,1.0s,baz=126,slow=6.2,SNR=21	**64.28**	**328**	P	**P**	**12 30 24.1**	**+0.1**
AKTO	**Aktyubinsk** 1.5nm,0.6s,baz=180,slow=3.0,SNR=4.0	**76.14**	**322**	P	**P**	**12 31 37.4**	**+0.8**

IDC 12 12:23:16.3±1.1, 1°33'N×127°47'E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.7/21, mbtmp3.7/5, Error ellipse: s-maj=67.4km s-min=19.9km az=75.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.19**	**163**	P	P	12 28 13.0	-1.3
	2.4nm,1.0s,baz=342,slow=11,SNR=7.9						
ASAR	**Alice Springs**	**25.62**	**166**	P	P	12 28 48.7	+1.0
	1.1nm,1.0s,baz=354,slow=16,SNR=7.8						
MJAR	**Matsushiro Arr**	**36.42**	**15**	P	P	12 30 22.7	-0.1
	1.6nm,0.9s,baz=190,slow=9.6,SNR=4.0						
SONM	**Songino Array**	**49.79**	**342**	P	P	12 32 11.0	0.0
	0.8nm,1.0s,baz=160,slow=4.6,SNR=3.4						
MKAR	**Makanchi Array**	**59.94**	**326**	P	P	12 33 24.2	-0.2
	1.2nm,0.6s,baz=120,slow=8.5,SNR=10						

IDC 12 12:31:15.4±2.0, 4°61'S×151°48'E, h0km, mb3.3/4, mb1 3.6/4, mb1mx3.4/18, mbtmp3.4/4, Error ellipse: s-maj=121.4km s-min=26.9km az=129.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.60**	**226**	P	P	12 36 17.9	0.0
	0.4nm,0.6s,baz=50,slow=9.9,SNR=7.0						
ASAR	**Alice Springs**	**25.42**	**220**	P	P	12 36 45.6	+0.5
	0.4nm,0.9s,baz=62,slow=8.6,SNR=4.4						
FITZ	**Fitzroy Crossi**	**28.60**	**240**	P	P	12 37 13.2	-0.5
	1.2nm,0.9s,baz=15,slow=16,SNR=4.9						
ILAR	**Eielson Array**	**82.49**	**22**	P	P	12 43 39.7	0.0
	0.3nm,0.9s,baz=217,slow=5.3,SNR=3.9						

*IDC **12** 12:37:47.0±1.3, 35°49'N×141°53'E, h0km, mb3.4/3, mb1 3.6/6, mb1mx3.4/27, mbtmp3.5/6, ML3.5/3, MS2.6/1, Ms1 2.6/1, ms1mx2.3/23, Error ellipse: s-maj=35.2km s-min=22.8km az=83.0*

*ISCJB **12** 12:37:50.1±1.1, 35°55'N±0°05'×141°39'E±0°10, h37km±13km, mb3.4/3, MS2.7/1, Error ellipse: s-maj=13.5km s-min=7.9km az=167.9*

*JMA **12** 12:37:51.2±0.1, 35°53'N×141°27'E, h43km±1km, M3.0*

ISC 12 12:37:49.9±1.9, 35°53'N±0°06'×141°34'E±0°08, h20km±9km, n16, σ0=97/20, mb3.5/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.43**	**294**	P	**Pn**	**12 38 00.4**	**-0.6**
CHOJ				S	**Sn**	**12 38 07.3**	**-1.0**
BSO1	**Boso 1**	**0.92**	**199**	P	**Pg**	**12 38 07.8**	**+0.1**
BSO1				S	**Sn**	**12 38 20.2**	**+0.6**
KTR	**Katsuura**	**0.92**	**246**	P	**Pb**	**12 38 07.4**	**+0.2**
BSO4	**Boso 4**	**0.98**	**237**	P	**Pn**	**12 38 08.5**	**+0.1**
BSO3	**Boso 3**	**0.99**	**224**	P	**Pn**	**12 38 08.5**	**0.0**
BSO3				S	**Sg**	**12 38 21.9**	**-0.3**
JIM2	**Oshima 3**	**1.76**	**243**	P	**Pn**	**12 38 17.9**	**-1.4**
JOD2	**Odawara 2**	**1.86**	**263**	P	**Pn**	**12 38 20.4**	**-0.3**
JOD2				S	**Sn**	**12 38 42.1**	**-1.5**
JRY	**Ryogami san**	**2.04**	**285**	P	**Pn**	**12 38 24.1**	**+0.9**
MJAR	**Matsushiro Arr**	**2.73**	**293**	Pn	**Pn**	**12 38 33.6**	**+0.9**
	1.4nm,0.3s,baz=100,slow=8.2,SNR=24						
MAT	**Matsushiro**	**2.73**	**293**	P	**Pn**	**12 38 34.4**	**+1.7**
MAT				*e*S	**Sn**	**12 39 04.9**	**-0.3**
CBIJ	**Chichi jima**	**8.43**	**175**	Pn	**Pn**	**12 39 50.0**	**-1.1**
	4.1nm,0.3s,baz=246,slow=20,SNR=4.9						
ASAJ	**Asahikawa**	**8.63**	**6**	Pn	**Pn**	**12 39 52.8**	**-0.9**
	0.5nm,0.3s,baz=238,slow=25,SNR=8.3						
KURBB	**Kurchatov Arra**	**46.89**	**309**	P	**P**	**12 46 20.2**	**+1.5**
	0.2nm,0.4s,baz=85,slow=7.4,SNR=3.2						
ILAR	**Eielson Array**	**50.80**	**32**	P	**P**	**12 46 48.4**	**-0.1**
	0.2nm,0.7s,baz=273,slow=6.9,SNR=4.2						
WRA	**Warramunga Arr**	**55.56**	**188**	P	**P**	**12 47 24.1**	**0.0**
	0.4nm,0.7s,baz=6.6,slow=7.8,SNR=8.1						
ASAR	**Alice Springs**	**59.29**	**188**	LR	LR	13 11 06.6	
	comp=Z,5.8nm,21.6s,baz=307,slow=34						

IDC 12 13:35:55.8±3.2, 25°34S×66°64W, h0km, mb4.2/1, mb1 4.1/3, mb1mx3.8/15, mbtmp4.1/3, ML3.9/1, Error ellipse: s-maj=79.1km s-min=50.5km az=46.0, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**9.11**	**351**	Pn	Pn	13 38 08.9	-0.6
	0.5nm,0.3s,baz=178,slow=8.5,SNR=13						
BDFB	**Brasilia**	**19.91**	**65**	P	Pn	13 40 30.4	-0.6
	0.4nm,0.3s,baz=258,slow=15,SNR=4.9						
TORD	**Torodi Ar. Bea**	**76.75**	**68**	P	P	13 47 48.9	-0.7
	1.0nm,0.4s,baz=254,slow=5.9,SNR=12						
MKAR	**Makanchi Array**	**147.33**	**41**	PKPbc	PKPbc	13 55 41.4	0.0
	0.5nm,0.6s,baz=318,slow=3.7,SNR=8.2						

*ISCJB **12** 13:37:57.3±0.5, 30°59N±0°05×137°76E±0°09, h477km, mb3.4/9, Error ellipse: s-maj=10.8km s-min=6.9km az=169.2*

*JMA **12** 13:37:57.1±0.2, 30°71N×137°96E, h501km, M3.5*

*IDC **12** 13:37:58.5±1.2, 30°74N×137°77E, h477km±14km, mb3.0/9, mb1 3.3/14, mb1mx3.1/28, mbtmp3.2/14, Error ellipse: s-maj=25.0km s-min=11.6km az=76.0*

ISC 12 13:37:57.9±0.7, 30°68N±0°07×137°89E±0°09, h477km, n24, σ0=68/31, mb3.5/9, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWZ	**Kozaga**	**3.39**	**328**	P	**P**	**13 39 11.0**	**+1.2**
JKN2	**Miekihoku**	**3.81**	**339**	P	**P**	**13 39 14.9**	**+1.8**
JKN2				S	**S**	**13 40 14.9**	**+0.5**
JIE	**Ise**	**3.84**	**345**	P	**P**	**13 39 15.6**	**+2.3**
JNY	**Yasuok**	**4.67**	**360**	P	**P**	**13 39 23.4**	**+2.8**
JNY				S	**S**	**13 40 29.4**	**+1.3**
JOD2	**Odawara 2**	**4.68**	**12**	P	**P**	**13 39 21.7**	**+1.0**
JOD2				S	**S**	**13 40 28.6**	**+0.4**
CBIJ	**Chichi jima**	**5.19**	**132**	P	**P**	**13 39 25.9**	**+0.4**
CBIJ				*e*S	**S**	**13 40 35.9**	**-1.0**
CBIJ	**Chichi jima**	**5.19**	**132**	P	**P**	**13 39 26.1**	**+0.6**
	1.8nm,0.3s,baz=135,slow=20,SNR=4.2						
JHU	**Hanno**	**5.29**	**12**	P	**P**	**13 39 26.8**	**+0.5**
JHU				S	**S**	**13 40 34.3**	**-4.2**
JRY	**Ryogami san**	**5.39**	**9**	P	**P**	**13 39 28.7**	**+1.4**
JRY				S	**S**	**13 40 40.4**	**+0.1**
MJAR	**Matsushiro Arr**	**5.86**	**3**	P	**P**	**13 39 31.4**	**-0.4**
	0.8nm,0.3s,baz=183,slow=10,SNR=13						
JAG	**Ashikaga**	**5.88**	**12**	P	**P**	**13 39 31.8**	**-0.2**
JAG				S	**S**	**13 40 44.5**	**-4.4**
JNU	**Nakatsue**	**6.44**	**294**	P	**P**	**13 39 38.2**	**+0.6**
	3.5nm,0.3s,baz=195,slow=18,SNR=40						
KSRS	**Korea Array**	**10.67**	**312**	P	**P**	**13 40 21.7**	**-0.4**
	1.1nm,0.3s,baz=125,slow=10,SNR=32						
ASAJ	**Asahikawa**	**13.92**	**14**	P	**P**	**13 40 59.8**	**+2.9**
	1.4nm,0.3s,baz=229,slow=11,SNR=30						
USRK	**Ussuriysk Arra**	**14.28**	**343**	P	**P**	**13 41 01.1**	**+0.5**
	3.6nm,0.3s,baz=150,slow=11,SNR=59						
CMAR	**Chiang Mai Arr**	**37.27**	**260**	P	**P**	**13 44 27.6**	**-0.7**
	1.8nm,0.8s,baz=57,slow=6.3,SNR=16						
MKAR	**Makanchi Array**	**45.31**	**307**	P	**P**	**13 45 30.5**	**-1.5**
	0.3nm,0.4s,baz=87,slow=10,SNR=3.8						
WRA	**Warramunga Arr**	**50.44**	**184**	P	**P**	**13 46 10.9**	**+0.1**
	0.6nm,0.3s,baz=360,slow=7.7,SNR=34						
ASAR	**Alice Springs**	**54.17**	**185**	P	**P**	**13 46 39.8**	**+2.2**
	0.2nm,0.5s,baz=22,slow=11,SNR=9.7						
ARCES	**ARCESS Array B**	**68.91**	**340**	P	**P**	**13 48 14.3**	**+0.6**
	0.7nm,0.4s,baz=59,slow=8.3,SNR=14						
KBZ	**Khabaz**	**72.82**	**311**	P	**P**	**13 48 37.3**	**0.0**
	0.5nm,0.3s,baz=55,slow=4.1,SNR=4.9						
FINES	**FINESS Array B**	**73.06**	**332**	P	**P**	**13 48 38.1**	**-0.2**
	0.8nm,0.4s,baz=66,slow=5.5,SNR=17						
AKASG	**Malin Array Be**	**77.50**	**322**	P	**P**	**13 49 02.8**	**-0.5**
	0.5nm,0.4s,baz=48,slow=5.1,SNR=3.2						
NOA	**NORSAR Array B**	**78.87**	**337**	P	**P**	**13 49 10.4**	**-0.2**
	1.0nm,0.8s,baz=53,slow=6.7,SNR=2.9						

IDC 12 13:48:28.4±2.1, 10°49S×161°46E, h102km±15km, mb3.9/13, mb1 4.0/14, mb1mx4.0/19, mbtmp3.9/14, MS3.5/3, Ms1 3.4/3, ms1mx3.1/28, Error ellipse: s-maj=22.1km s-min=13.7km az=88.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.82**	**305**	P	Pn	13 48 59.0	+0.2
	633nm,0.3s,baz=160,slow=5.7,SNR=224						
HNR				S	Sn	13 49 22.1	+0.2
	738nm,0.3s,baz=18,slow=22,SNR=9.4						
DZM	**Mont Dzumac**	**12.47**	**158**	P	Pn	13 51 23.1	+0.7
	1.0nm,0.3s,baz=0.7,slow=17,SNR=22						
DZM				S	Sn	13 53 33.9	-5.7
	0.5nm,0.3s,baz=129,slow=6.5,SNR=5.2						
CTA	**Charters Tower**	**17.48**	**235**	P	Pn	13 52 28.7	+2.9
	0.2nm,0.3s,baz=79,slow=14,SNR=5.1						
AFI	**Afiamalu**	**26.38**	**100**	LR	LR	14 02 07.7	
	comp=Z,62nm,18.6s,baz=226,slow=31						
WRA	**Warramunga Arr**	**27.76**	**247**	P	P	13 54 07.6	-0.2
	1.5nm,0.5s,baz=77,slow=8.9,SNR=38						
STKA	**Stephens Creek**	**28.11**	**218**	P	P	13 54 11.6	+0.8
	2.2nm,0.7s,baz=66,slow=16,SNR=4.4						
STKA				LR	LR	14 04 32.2	
	comp=Z,58nm,19.9s,baz=200,slow=34						
ASAR	**Alice Springs**	**29.34**	**240**	P	P	13 54 20.9	-1.0
	0.7nm,0.7s,baz=63,slow=9.9,SNR=13						
ASAR				LR	LR	14 05 14.8	
	comp=Z,182nm,19.4s,baz=310,slow=34						
MJAR	**Matsushiro Arr**	**51.65**	**336**	P	P	13 57 23.9	-0.9
	1.9nm,0.5s,baz=165,slow=8.3,SNR=14						
MAT	**Matsushiro**	**51.65**	**336**	P	P	13 57 23.8	-1.0
KSRS	**Korea Array**	**57.12**	**328**	P	P	13 58 04.8	+0.5
	2.6nm,0.8s,baz=144,slow=6.8,SNR=8.3						
USRK	**Ussuriysk Arra**	**60.65**	**336**	P	P	13 58 29.4	+0.8
	8.2nm,0.8s,baz=146,slow=6.9,SNR=13						
PETK	**Petropavlovsk-**	**63.43**	**357**	P	P	13 58 47.2	+0.1
	2.3nm,0.7s,baz=133,slow=6.5,SNR=6.7						
VNDA	**Vanda**	**67.01**	**180**	P	P	13 59 10.0	+0.1
	1.2nm,0.8s,baz=329,slow=5.4,SNR=5.5						
CMAR	**Chiang Mai Arr**	**68.04**	**295**	P	P	13 59 17.8	+0.3
	1.7nm,0.8s,baz=130,slow=4.7,SNR=14						
SONM	**Songino Array**	**75.77**	**325**	P	P	14 00 03.8	+0.6
	5.2nm,0.8s,baz=141,slow=5.6,SNR=32						
ILAR	**Eielson Array**	**84.38**	**20**	P	P	14 00 48.2	-0.7
	1.4nm,0.7s,baz=244,slow=5.1,SNR=23						
MKAR	**Makanchi Array**	**90.25**	**318**	P	P	14 01 16.8	-0.9
	1.1nm,0.5s,baz=95,slow=6.1,SNR=17						
PDAR	**Pinedale Array**	**96.29**	**48**	P	P	14 01 45.2	-0.7
	0.2nm,0.7s,baz=226,slow=2.4,SNR=2.4						

MEX 12 13:57:22.7±0.5, 17°40N×95°44W, h69km±7km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.61**	**120**	*e*P	Pn	13 57 35.3	-1.3
CMIG				*i* S	Sn	13 57 45.0	-1.8
VHO	**Vista Hermosa**	**1.28**	**255**	*e*P	Pn	13 57 43.8	-1.2
VHO				*i* S	Sn	13 57 59.7	-2.1
HUIG	**Huatulco**	**1.75**	**202**	*e*P	Pn	13 57 49.5	-1.4
HUIG				*i* S	Sn	13 58 11.1	-1.2
UTMO	**Huajuapan**	**2.30**	**281**	*e*P	Pn	13 57 58.0	-0.6
UTMO				*i* S	Sn	13 58 24.4	-1.7
TGIG		**2.30**	**105**	*e*P	Pn	13 57 57.3	-1.1
TGIG				*i* S	Sn	13 58 24.4	-1.4
PCIG		**2.71**	**128**	*e*P	Pn	13 58 03.0	-1.0
PCIG				*e*S	Sn	13 58 34.5	-1.3
PNIG	**Pinotepa**	**2.76**	**249**	*e*P	Pn	13 58 02.8	-2.0
PNIG				*i* S	Sn	13 58 35.4	-1.7
CCIG	**Comitan**	**3.35**	**109**	*i* P	Pn	13 58 11.8	-1.2
CCIG				*i* S	Sn	13 58 49.4	-2.3

*IDC **12** 14:04:39.7±2.0, 9°64N×125°86E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.5/23, mbtmp3.6/5, Error ellipse: s-maj=210.2km s-min=22.0km az=66.0*

*MAN **12** 14:04:46, 9°89N×126°06E, h23km, mb4.5, ML3.4, MS3.2*

ISC 12 14:04:46.3±1.0, 9°81N±0°05×126°0E±0°1, h54km, n11, σ0=96/13, mb3.3/5, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.53**	**267**	*i* P	**Pn**	**14 04 58.8**	**+0.6**
SCPH				*i* S	**Sn**	**14 05 09.2**	**+2.4**
CGP	**Cagayan de Oro**	**1.89**	**225**	⇑*i* P	**Pn**	**14 05 18.6**	**+2.5**
CGP				*i* S	**Sn**	**14 05 33.2**	**-5.6**
TBP	**Tagbilaran**	**2.14**	**267**	*e*P	Pn	14 05 22.8	+3.2
DCPH	**Dipolog City**	**2.91**	**245**	⇑*e*P	Pn	14 05 33.8	+3.7
CNP	**Cataman**	**3.00**	**334**	*e*P	**Pn**	**14 05 33.4**	**+2.0**
CNP				*e*S	**Sn**	**14 06 02.2**	**-3.9**
PVCP	**Virac**	**4.19**	**334**	*e*P	**Pn**	**14 05 49.2**	**+1.5**
PVCP				*e*S	**Sn**	**14 06 31.2**	**-4.2**
WRA	**Warramunga Arr**	**30.68**	**165**	P	**P**	**14 10 55.5**	**-0.5**
	0.1nm,0.5s,baz=344,slow=8.9,SNR=4.0						
ASAR	**Alice Springs**	**34.15**	**167**	P	**P**	**14 11 25.1**	**-1.4**
	0.3nm,0.8s,baz=353,slow=7.4,SNR=4.8						
STKA	**Stephens Creek**	**44.05**	**161**	P	**P**	**14 12 48.4**	**-0.5**
	4.7nm,1.1s,baz=339,slow=8.6,SNR=3.0						
MKAR	**Makanchi Array**	**52.25**	**323**	P	**P**	**14 13 53.0**	**+0.9**
	0.2nm,0.6s,baz=124,slow=8.2,SNR=3.3						
FINES	**FINESS Array B**	**86.18**	**332**	P	**P**	**14 17 23.1**	**+1.5**
	1.3nm,0.8s,baz=97,slow=7.1,SNR=5.7						

MEX 12 14:14:14.3±0.5, 15°52N×93°42W, h87km±4km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.27**	**46**	*e*P	Pn	14 14 25.6	-1.6
PCIG				*i* S	Sn	14 14 35.2	-1.5
TGIG		**1.28**	**13**	*e*P	Pn	14 14 36.0	-1.3
TGIG				*i* S	Sn	14 14 52.9	-1.7
CCIG	**Comitan**	**1.45**	**58**	*e*P	Pn	14 14 38.4	-1.1
CCIG				*i* S	Sn	14 14 56.9	-1.7
CMIG	**Matias Romero**	**2.10**	**318**	*e*P	Pn	14 14 47.0	-0.8
CMIG				*i* S	Sn	14 15 11.8	-1.5
HUIG	**Huatulco**	**2.60**	**276**	*e*P	Pn	14 14 54.2	-0.3
HUIG				*i* S	Sn	14 15 20.2	-5.1

MEX 12 14:17:23.1±0.6, 15°28N×96°71W, h16km±17km, MD3.6, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.76**	**50**	*i* P	Pg	14 17 34.7	-3.3
HUIG				*i* S	Sg	14 17 44.6	-3.3
PNIG	**Pinotepa**	**1.76**	**309**	*e*P	Pn	14 17 49.5	-3.5
PNIG				*i* S	Sn	14 18 10.2	-5.0
VHO	**Vista Hermosa**	**1.79**	**359**	*e*P	Pn	14 17 50.9	-2.7
VHO				*e*S	Sn	14 18 10.5	-5.6
CMIG	**Matias Romero**	**2.51**	**44**	*i* P	Pn	14 18 00.3	-3.1
CMIG				*i* S	Sn	14 18 29.5	-4.2

*ISCJB **12** 14:35:52.1±0.3, 59°04N±0°03×151°12W±0°05, h59km±5km, mb3.7/7, Error ellipse: s-maj=5.5km s-min=3.5km az=144.9*

*NEIC **12** 14:35:52.9, 58°98N×151°04W, h33km, ML3.5(AEIC), After AEIC.*

*IDC **12** 14:35:53.5±1.8, 59°09N×151°51W, h44km±22km, mb3.5/7, mb1 3.7/9, mb1mx3.4/27, mbtmp3.5/9, ML3.9/2, Error ellipse: s-maj=20.4km s-min=13.9km az=117.0*

ISC 12 14:35:53.6±1.0, 59°03N±0°04×151°16W±0°04, h42km±11km, n91, σ0=86/104, mb3.6/7, Kenai Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNPM	**China Poot**	**0.49**	**355**	P	**Pn**	**14 36 03.4**	**-1.0**
CNPM				S	**Sn**	**14 36 11.5**	**-0.5**
HOM	**Homer**	**0.67**	**339**	P	**Pn**	**14 36 06.3**	**-0.4**
HOM				S	**Sn**	**14 36 16.7**	**+0.6**
BRLK	**Bradley Lake**	**0.75**	**11**	P	**Pn**	**14 36 07.0**	**-0.7**
BRLK				S	**Sn**	**14 36 17.9**	**+0.1**
AUE	**Augustine Isla**	**1.19**	**287**	P	**Pn**	**14 36 13.6**	**0.0**
AUI	**Augustine Isla**	**1.21**	**285**	P	**Pn**	**14 36 13.9**	**-0.1**
AUL	**Augustine Lava**	**1.22**	**288**	P	**Pn**	**14 36 14.2**	**0.0**
AUL				S	**Sn**	**14 36 31.2**	**+1.8**
OPT	**Oil Point**	**1.23**	**301**	P	**Pn**	**14 36 14.2**	**-0.1**
ILIM	**Iliamna**	**1.39**	**320**	P	**Pn**	**14 36 16.2**	**-0.4**
ILIM				S	**Sn**	**14 36 33.5**	**-0.3**
KDAK	**Kodiak Island**	**1.46**	**211**	P	**Pn**	**14 36 17.1**	**-0.4**
KDAK				S	**Sn**	**14 36 34.4**	**-0.9**
KDAK	**Kodiak Island**	**1.46**	**211**	P	**Pn**	**14 36 17.0**	**-0.4**
	40nm,0.3s,baz=40,slow=11,SNR=353						
KDAK				S	**Sn**	**14 36 34.4**	**-0.9**
	86nm,0.3s,baz=36,slow=17,SNR=10.0						
SLKM	**Skilak Lake**	**1.55**	**17**	P	**Pn**	**14 36 18.9**	**+0.2**
RSO	**Redoubt South**	**1.65**	**331**	*e*Pn	**Pn**	**14 36 19.5**	**-0.6**
MCNL	**McNeil River**	**1.65**	**277**	P	**Pn**	**14 36 19.4**	**-0.6**
RDT	**Redoubt**	**1.67**	**338**	P	**Pn**	**14 36 19.9**	**-0.5**
RDWB	**Redoubt West**	**1.69**	**330**	P	**Pn**	**14 36 20.1**	**-0.5**
KAPH	**Katmai Pasha**	**1.72**	**257**	P	**Pn**	**14 36 20.9**	**-0.1**
DFR	**Drift River**	**1.74**	**334**	P	**Pn**	**14 36 21.1**	**-0.3**
NCT	**North Crescent**	**1.77**	**330**	P	**Pn**	**14 36 21.4**	**-0.5**
OHAK	**Old Harbor**	**2.14**	**213**	P	**Pn**	**14 36 25.9**	**-0.7**
KAKN	**Katmai Knife C**	**2.17**	**252**	P	**Pn**	**14 36 26.6**	**-0.6**
KABR	**Katmai Barrier**	**2.19**	**247**	P	**Pn**	**14 36 26.9**	**-0.6**
SPU	**Mount Spurr**	**2.20**	**349**	P	**Pn**	**14 36 27.5**	**-0.1**
CKL	**Chakachamna La**	**2.25**	**345**	P	**Pn**	**14 36 28.2**	**-0.1**
MGLS	**Mageik Landsli**	**2.28**	**248**	P	**Pn**	**14 36 28.2**	**-0.5**
SPBG	**Spurr Blockage**	**2.31**	**345**	P	**Pn**	**14 36 29.3**	**+0.1**
BGL	**Barrier Glacie**	**2.32**	**345**	P	**Pn**	**14 36 29.4**	**+0.1**
CAHL	**Cahill**	**2.38**	**247**	P	**Pn**	**14 36 29.8**	**-0.3**
SUA	**Susitna One**	**2.45**	**5**	P	**Pn**	**14 36 31.4**	**+0.3**
KELA	**Mount Kelaz**	**2.46**	**258**	P	**Pn**	**14 36 30.6**	**-0.7**
STLK	**Strandline Lak**	**2.50**	**353**	P	**Pn**	**14 36 32.4**	**+0.7**
KJL	**Kejulik**	**2.51**	**249**	P	**Pn**	**14 36 31.8**	**-0.1**
GLI	**Glacier Island**	**2.76**	**46**	P	**Pn**	**14 36 34.6**	**-0.6**
PMR	**Palmer**	**2.76**	**21**	P	**Pn**	**14 36 35.1**	**0.0**
SKT	**Skwentna**	**2.96**	**357**	P	**Pn**	**14 36 38.5**	**+0.4**
SVW2	**Sparrevohn**	**3.03**	**315**	P	**Pn**	**14 36 38.0**	**-1.0**
JPK	**Jack Peak**	**3.06**	**46**	P	**Pn**	**14 36 38.8**	**-0.5**
EYAK	**Cordova Ski Ar**	**3.13**	**59**	P	**Pn**	**14 36 40.0**	**-0.3**
VLZ	**Valdez**	**3.21**	**47**	P	**Pn**	**14 36 41.5**	**+0.2**
SCM	**Sheep Creek Mo**	**3.39**	**32**	P	**Pn**	**14 36 44.5**	**+0.6**
DIV	**Divide**	**3.42**	**50**	*e*Pn	**Pn**	**14 36 43.3**	**-1.1**
DIV				*e*Sn	**Sn**	**14 37 22.1**	**-1.5**
KLU	**Klutina**	**3.59**	**44**	P	**Pn**	**14 36 47.0**	**+0.3**
GOAT	**Goat Mountain**	**3.60**	**62**	P	**Pn**	**14 36 46.9**	**0.0**
BMRM	**Bremner River**	**3.82**	**57**	*e*Pn	**Pn**	**14 36 48.4**	**-1.5**
BMRM				P	**Pn**	**14 36 49.6**	**-0.2**
BMRM				*e*Sn	**Sn**	**14 37 33.1**	**-0.4**
PPLA	**Purkeypile**	**3.91**	**353**	*e*Pn	**Pn**	**14 36 50.8**	**-0.3**
PPLA				*e*Sn	**Sn**	**14 37 34.9**	**-0.9**
CAST	**Castle Rocks**	**4.42**	**355**	P	**Pn**	**14 36 58.0**	**0.0**
TRF	**Thorofare Moun**	**4.45**	**5**	P	**Pn**	**14 36 59.0**	**+0.4**
DHY	**Denali Highway**	**4.45**	**23**	P	**Pn**	**14 36 59.5**	**+0.8**
HARP	**HAARP**	**4.49**	**38**	P	**Pn**	**14 37 00.5**	**+1.5**
RND	**Reindeer**	**4.53**	**13**	P	**Pn**	**14 37 00.3**	**+0.8**
KTH	**Kantishna Hill**	**4.54**	**1**	P	**Pn**	**14 37 00.3**	**+0.7**
TT01	**Tatalina**	**4.55**	**331**	P	**Pn**	**14 36 59.1**	**-0.7**
CHGN	**Chignik**	**4.76**	**238**	*e*Pn	**Pn**	**14 37 02.2**	**-0.4**
KIAG	**Kiagna River**	**4.81**	**63**	P	**Pn**	**14 37 03.3**	**-0.2**
PAX	**Paxson**	**4.82**	**33**	P	**Pn**	**14 37 04.2**	**+0.6**
MCK	**McKinley**	**4.83**	**12**	P	**Pn**	**14 37 05.3**	**+1.6**
BALM	**Baldy**	**4.85**	**62**	P	**Pn**	**14 37 03.9**	**-0.2**
PTPK	**Patty Peak**	**4.86**	**60**	P	**Pn**	**14 37 04.1**	**-0.1**
GRNC	**Granite Creek**	**5.03**	**66**	P	**Pn**	**14 37 06.8**	**+0.1**
BPAW	**Bear Paw Mtn.**	**5.09**	**1**	P	**Pn**	**14 37 07.3**	**+0.1**
BARN	**Barnard Glacie**	**5.18**	**63**	P	**Pn**	**14 37 08.5**	**0.0**
MENT	**Mentasta**	**5.33**	**40**	*e*Pn	**Pn**	**14 37 09.8**	**-0.8**
WRH	**Wood River Hil**	**5.65**	**14**	P	**Pn**	**14 37 15.2**	**+0.4**
HDA	**Harding Lake**	**5.75**	**19**	P	**Pn**	**14 37 17.4**	**+1.2**
CCB	**Clear Creek Bu**	**5.85**	**14**	P	**Pn**	**14 37 17.4**	**-0.2**
MLY	**Manley**	**6.02**	**2**	P	**Pn**	**14 37 20.2**	**+0.2**
COLA	**College**	**6.07**	**13**	P	**Pn**	**14 37 20.4**	**-0.1**
IL1	**Eielson Array**	**6.10**	**17**	P	**Pn**	**14 37 21.4**	**+0.3**
ILAR	**Eielson Array**	**6.10**	**17**	P	**Pn**	**14 37 21.6**	**+0.6**
ILAR				S	**Sn**	**14 38 27.1**	**-2.4**
ILAR	**Eielson Array**	**6.10**	**17**	P	**Pn**	**14 37 21.6**	**+0.6**
	1.2nm,0.3s,baz=204,slow=14,SNR=66						
ILAR				S	**Sn**	**14 38 27.1**	**-2.4**
	1.1nm,0.3s,baz=230,slow=15,SNR=3.1						
MDM	**Murphy Dome**	**6.10**	**12**	P	**Pn**	**14 37 21.7**	**+0.6**
GCSA	**Galena City Sc**	**6.34**	**337**	P	**Pn**	**14 37 24.3**	**+0.1**
IM04	**Indian Mountai**	**7.07**	**351**	*e*Pn	**Pn**	**14 37 34.3**	**-0.1**
IMA2	**Indian Mountai**	**7.16**	**352**	*e*Pn	**Pn**	**14 37 34.7**	**-0.9**
EGAK	**Eagle**	**7.44**	**35**	*e*Pn	**Pn**	**14 37 39.6**	**+0.2**
COLD	**Coldfoot**	**8.24**	**3**	*e*Pn	**Pn**	**14 37 49.6**	**-0.7**
DLBC	**Dease

PKIN	Phulchoki	12.91	120	eP		Pn	15 07 41.1	-1.9
	comp=N,5.9nm,0.3s							
PKI	Pulchoki	12.92	120	eP		Pn	15 07 40.6	-2.6
	comp=N,8.5nm,0.5s							
JIRN	Jiri	13.43	118	eP		Pn	15 07 47.7	-2.5
	comp=N,20nm,0.4s							
MK31	Makanchi Array	14.03	28	⇑P		Pn	15 08 01.6	+3.5
	comp=N,1.3nm,0.9s,baz=205,slow=12,SNR=4.7							
MKAR	Makanchi Array	14.03	28	Pn		Pn	15 07 58.7	+0.7
	comp=N,0.0nm,0.3s,baz=213,slow=10,SNR=2.6							
RAMN	Ramite	14.14	119	eP		Pn	15 07 56.6	-3.2
	comp=N,7.2nm,0.3s							
AB08	Akbulak array	17.35	331	⇓P		Pn	15 08 40.3	-1.0
	comp=N,0.9nm,0.8s							
BVA0	Borovoye Array	18.39	355	⇓P		P	15 08 53.9	0.0
	comp=N,1.0nm,0.4s,baz=152,slow=9,SNR=6.9							
BVAR	Borovoye Array	18.39	355	P		Pn	15 08 54.6	+0.6
	comp=N,0.5nm,0.3s,baz=172,slow=13,SNR=6.9							
BRVK	Borovoye	18.43	355	⇓P		P	15 08 54.5	+0.1
	comp=N,3.6nm,0.8s							
AKTO	Aktyubinsk	19.06	330	⇓P		P	15 09 01.7	+0.3
	comp=N,5.0nm,0.6s							
AKTO	Aktyubinsk	19.06	330	P		Pn	15 09 02.2	0.0
	comp=N,1.2nm,0.3s,baz=128,slow=11,SNR=23							
FINES	FINESS Array B	39.79	327	P		P	15 12 12.2	+0.6
	comp=N,2.2nm,0.9s,baz=142,slow=6.5,SNR=4.2							
ARCES	ARCESS Array B	43.35	338	P		P	15 12 41.4	+0.6
	comp=N,1.2nm,0.4s,baz=115,slow=8.0,SNR=26							
TORD	Torodi Ar. Bea	67.18	270	P		P	15 15 33.6	+0.3
	comp=N,0.7nm,0.5s,baz=48,slow=6.0,SNR=12							
INK	Inuvik	75.42	10	P		P	15 16 22.0	-0.2
	comp=N,1.1nm,0.5s,baz=340,slow=2.8,SNR=5.1							
ILAR	Eielson Array	76.08	16	P		P	15 16 24.9	-1.3
	comp=N,0.7nm,0.9s,baz=318,slow=4.3,SNR=5.9							
WRA	Warramunga Arr	79.79	123	P		P	15 16 47.0	-0.4
	comp=N,0.4nm,0.8s,baz=311,slow=7.4,SNR=5.3							
ASAR	Alice Springs	82.02	126	P		P	15 16 58.4	-0.9
	comp=N,0.6nm,1.0s,baz=324,slow=4.6,SNR=3.7							

IDC 12 15:30:50.2±2.0, 0°.51N×126°.24E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.4/22, mbtmp3.4/3, Error ellipse: s-maj=178.0km s-min=25.2km az=65.0, Northern Moluccas Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.82	159	P	P	15 35 43.1	-1.1
	1.9nm,0.8s,baz=337,slow=12,SNR=11						
ASAR	Alice Springs	25.16	163	P	P	15 36 18.2	+0.9
	0.4nm,0.7s,baz=348,slow=8.5,SNR=5.9						
MKAR	Makanchi Array	59.93	327	P	P	15 40 58.1	-0.1
	0.2nm,0.5s,baz=126,slow=7.3,SNR=3.8						

IDC 12 15:56:22.8±1.8, 18°.85S×167°.69E, h0km, mb4.0/6, mb1 4.2/7, mb1mx3.9/18, mbtmp4.0/7, ML4.0/1, MS3.4/1, Ms1 3.4/1, ms1mx2.7/26, Error ellipse: s-maj=50.9km s-min=26.0km az=129.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.41	200	Pn	Pn	15 57 16.4	-1.0
	14nm,0.3s,baz=14,slow=14,SNR=202						
DZM				Sn	Sn	15 57 53.3	-5.3
	33nm,0.3s,baz=150,slow=23,SNR=5.0						
CTA	Charters Tower	20.25	263	P	Pn	16 01 01.0	-0.7
	8.3nm,1.1s,baz=70,slow=15,SNR=3.7						
PMG	Port Moresby	21.99	292	LR	LR	16 08 26.7	
	comp=Z,93nm,19.6s,baz=112,slow=33						
STKA	Stephens Creek	26.83	236	P	P	16 02 05.9	+1.0
	1.1nm,0.5s,baz=52,slow=12,SNR=6.1						
WRA	Warramunga Arr	31.45	262	P	P	16 02 44.8	-1.4
	0.7nm,0.4s,baz=81,slow=6.0,SNR=28						
ASAR	Alice Springs	31.80	255	P	P	16 02 49.1	-0.2
	5.0nm,0.7s,baz=82,slow=8.6,SNR=42						
SONM	Songino Array	86.03	324	P	P	16 09 06.3	+0.9
	1.1nm,0.7s,baz=142,slow=4.7,SNR=8.7						
ILAR	Eielson Array	90.30	18	P	P	16 09 24.6	-0.5
	0.3nm,0.7s,baz=237,slow=5.0,SNR=3.1						

*IDC **12** 16:08:40.2±1.4, 21°.58N×122°.34E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.5/23, mbtmp3.6/5, MS3.5/3, Ms1 3.5/3, ms1mx3.0/35, Error ellipse: s-maj=54.7km s-min=20.8km az=59.0*
*TAP **12** 16:08:45.5, 21°.62N×121°.80E, h39km, ML3.9, C*
*JMA **12** 16:08:47.3±0.4, 21°.76N×121°.96E, h108km, M3.2*
ISC 12 16:08:42.7±2.1, 21°.52N±0°.06×121°.91E±0°.04, h13km±12km, n56, σ1°84/75, mb3.5/5, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	Lan-yu	0.61	327	i P	Pb	16 08 55.9	+0.6
	baz=331						
LAY				S	Sg	16 09 03.3	+0.5
	baz=331						
TWK1	Hengchun	1.11	293	eP	Pb	16 09 03.1	-0.6
	baz=289						
TWK1				S	Sg	16 09 16.6	-1.9
	baz=289						
HEN	Hengchun	1.19	294	eP	Pn	16 09 04.7	-0.3
	baz=300						
HEN				eS	Sb	16 09 18.4	-2.0
	baz=300						
TAW	Tawu	1.26	312	eP	Pn	16 09 05.2	-0.7
	baz=323						
TAW				S	Sb	16 09 19.3	-3.0
	baz=323						
TTN	Taitung	1.42	330	eP	Pn	16 09 07.8	-0.3
	baz=339						
SCZT	Fangliau	1.47	306	eP	Pn	16 09 08.8	0.0
	baz=313						
SCZT				eS	Sn	16 09 25.3	-2.6
	baz=313						
TWG	Pinlang	1.51	329	P	Pn	16 09 09.3	-0.1
	baz=319						
TWG				eS	Sn	16 09 26.2	-2.7
	baz=319						
CHKT	Chengkung	1.65	342	P	Pn	16 09 10.6	-0.7
	baz=353						
CHKT				i S	Sn	16 09 29.3	-3.1
	baz=353						
TWP	Hsiaoliuchiu	1.66	300	eP	Pn	16 09 13.6	+2.2
	baz=311						
SGLT	Jiouru	1.78	313	eP	Pb	16 09 15.5	+0.3
	baz=322						
ELDTW	Lidau	1.86	334	eP	Pn	16 09 14.4	+0.1
	baz=327						
ELDTW				eS	Sn	16 09 35.0	-2.7
	baz=327						
TWM1	Shoushan	1.89	314	eP	Pb	16 09 17.2	+0.1
	baz=322						
TWF1	Yuli	1.91	343	P	Pn	16 09 14.8	-0.1
	baz=351						
TWF1				S	Sn	16 09 36.8	-2.1
	baz=351						
SGST	Jiashian	1.98	322	eP	Pn	16 09 18.1	+2.2
	baz=332						
EHY	Hungye	2.05	345	P	Pn	16 09 16.9	0.0
	baz=354						
EHY				S	Sn	16 09 40.3	-2.1
	baz=354						
CHN1	Nanshi	2.09	323	eP	Pn	16 09 19.9	+2.4
	baz=323						
CHN1				eS	Sn	16 09 44.5	+1.1
	baz=323						
WTP	Ta-pu	2.10	325	eP	Pn	16 09 19.6	+2.0
	baz=326						
CHN3	Shinhua	2.11	318	eP	Pn	16 09 19.8	+2.2
	baz=318						
CHN4	Tsaushan	2.19	327	eP	Pn	16 09 20.9	+2.1
	baz=327						
SCLT	Jiali	2.29	316	eP	Pn	16 09 22.4	+2.3
	baz=317						
ESL	Shilin	2.33	349	eP	Pn	16 09 20.3	-0.3
	baz=359						
ESL				eS	Sn	16 09 47.3	-1.8
	baz=359						
CHN5	Tsauling	2.36	331	eP	Pn	16 09 23.8	+2.6
	baz=333						
CHN5				eS	Sn	16 09 51.4	+1.3
	baz=333						
CHY	Chiayi	2.40	325	eP	Pn	16 09 23.2	+1.6
	baz=326						
WGK	Gukeng	2.49	330	eP	Pn	16 09 24.7	+1.8
	baz=331						
WGK				eS	Sn	16 09 53.9	+0.7
	baz=331						
SMLT	Sun Moon Lake	2.53	339	eP	Pn	16 09 25.8	+2.2
	baz=330						
SMLT				eS	Sn	16 09 54.1	-0.2
	baz=330						
TWD	Chiawan	2.56	354	eP	Pn	16 09 24.4	+0.5
	baz=4.0						
TYC	Yuchr	2.56	338	eP	Pn	16 09 26.2	+2.3
	baz=329						
TYC				eS	Sn	16 09 57.2	+2.2
	baz=329						
WNT	Mingjian	2.61	334	eP	Pn	16 09 27.2	+2.7
	baz=321						
WSF	Szhu	2.62	324	eP	Pn	16 09 26.3	+1.6
	baz=325						
WHF	Hehuan Shan	2.68	347	eP	Pn	16 09 27.4	+1.5
	baz=359						
WDGT	Dungji	2.71	310	eP	Pn	16 09 26.3	+0.4
	baz=310						
ENA	Nanau	2.90	357	eP	Pn	16 09 29.6	+1.0
	baz=7.0						
NNS	Nan Shan	2.95	350	eP	Pn	16 09 31.3	+1.9
	baz=1.0						
PNG	Penghu	2.98	314	eP	Pn	16 09 30.4	+0.7
	baz=314						
TWQ1	Liyutan	3.00	340	eP	Pn	16 09 32.9	+2.9
	baz=330						
TWQ1				eS	Sn	16 10 07.4	+1.6
	baz=330						
HATJ	Hateruma jima	3.07	34	eS	Sn	16 10 06.3	-1.2
NSY	Sanyi	3.07	340	eP	Pn	16 09 34.1	+3.2
	baz=329						
TWC	Suao	3.08	359	eP	Pn	16 09 31.9	+1.0
	baz=10.0						
YOJ	Yonaguni jima	3.10	19	P	Pn	16 09 32.0	+0.7
YOJ				eS	Sn	16 10 06.9	-1.3
ENTT	Nioudou	3.12	354	eP	Pn	16 09 33.7	+2.1
	baz=356						
NSK	Sanguang	3.18	351	eP	Pn	16 09 34.6	+2.1
	baz=2.0						
TWE	Neicheng	3.19	356	eP	Pn	16 09 35.3	+2.7
	baz=5.0						
NSTT	Nanjuang	3.21	345	eP	Pn	16 09 35.5	+2.7
	baz=332						
IRIF	Iriomote-Funau	3.27	31	P	Pn	16 09 34.3	+0.7
IRIF				eS	Sn	16 10 09.8	-2.5
JKRS	Kuro-shima	3.33	35	P	Pn	16 09 35.6	+1.2
JKRS				eS	Sn	16 10 12.3	-1.5
JIJ	Ishigaki jima	3.50	36	P	Pn	16 09 37.5	+0.7
JIJ				eS	Sn	16 10 14.9	-3.2
JTJ	Tarama	4.03	39	P	Pn	16 09 45.4	+1.3
JTJ				eS	Sn	16 10 29.6	-1.6
KNM	Kinmen	4.31	313	eP	Pn	16 09 46.2	-1.7
	baz=311						
KSRS	Korea Array	16.71	17	LR	LR	16 19 51.4	
	comp=Z,51nm,18.4s,baz=220,slow=41						
CMAR	Chiang Mai Arr	21.79	266	P	P	16 13 38.2	+3.6
	0.7nm,0.8s,baz=70,slow=8.1,SNR=7.3						
MKAR	Makanchi Array	40.73	318	P	P	16 16 24.9	+1.7
	1.3nm,0.7s,baz=111,slow=9.6,SNR=14						
ZALV	Zalesovo Beam	42.84	328	P	P	16 16 40.7	+0.4
	1.8nm,0.8s,baz=115,slow=6.7,SNR=8.8						
WRA	Warramunga Arr	42.96	163	P	P	16 16 41.4	-0.3
	0.5nm,0.6s,baz=344,slow=9.0,SNR=5.6						
AAK	Ala-Archa	44.68	309	LR	LR	16 37 33.8	
	comp=Z,56nm,20.2s,baz=286,slow=39						
ASAR	Alice Springs	46.41	165	P	P	16 17 07.7	-1.4
	0.4nm,0.8s,baz=345,slow=9.3,SNR=3.1						
URZ	Urewera	78.85	139	LR	LR	16 50 25.2	
	comp=Z,106nm,18.1s,baz=275,slow=32						

*ISCJB **12** 16:32:42.8±0.4, 4°.55S±0°.05×125°.57E±0°.07, h441km, mb3.5/12, Error ellipse: s-maj=9.6km s-min=6.8km az=171.6*
*IDC **12** 16:32:43.9±1.8, 4°.61S×125°.53E, h438km±24km, mb3.2/13, mb1 3.2/16, mb1mx3.1/27, mbtmp3.1/16, Error ellipse: s-maj=24.2km s-min=9.8km az=63.0*
*AUST **12** 16:32:45.5±1.2, 4°.70S×125°.68E, h421km, Error ellipse: s-maj=1.8km s-min=1.1km az=317.0*
ISC 12 16:32:44.1±0.6, 4°.56S±0°.07×125°.64E±0°.09, h441km, n27, σ1°30/29, mb3.5/12, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	Ambon	2.69	71	P	P	16 33 47.6	-0.5
	baz=2.7,SNR=11						
AAI				S	S	16 34 33.9	-6.1
	baz=2.7,SNR=7.3						
SOEI	Soe	5.34	195	P	P	16 34 11.2	-0.3
	baz=5.2,SNR=6.9						
SOEI				S	S	16 35 21.8	-1.0
	baz=5.2,SNR=4.9						
KAPI	Kappang	5.89	265	P	P	16 34 15.0	-2.0
	2.6nm,0.3s,baz=93,slow=9.4,SNR=6.2						
SWI	Sorong	6.70	57	P	P	16 34 27.2	+1.7
	baz=6.8,SNR=6.7						
SWI				S	S	16 35 55.1	+6.8
	baz=6.8,SNR=4.1						
FAKI	Fak Fak	6.79	76	P	P	16 34 27.4	+0.9
	baz=6.8,SNR=31						
FAKI				S	S	16 35 45.5	-4.6
	baz=6.8,SNR=10						
TLE	Tual	7.15	99	P	P	16 34 30.3	0.0
	baz=7.1,SNR=8.7						
MTN	Manton Dam	9.86	147	P	P	16 35 00.1	+0.4
	baz=9.8,SNR=102						
KDU	Kakadu	10.53	141	P	P	16 35 07.7	+0.8
	baz=10,SNR=6.0						
KNRA	Kununurra	11.47	165	P	P	16 35 17.8	+0.5
	baz=11,SNR=16						
FITZ	Fitzroy Crossi	13.46	180	P	P	16 35 38.4	-0.5
	0.1nm,0.3s,baz=34,slow=11,SNR=12						
PALU	Palau	14.74	37	S	S	16 38 47.6	+19
	baz=15,SNR=4.1						
WRA	Warramunga Arr	17.48	152	P	P	16 36 20.4	-1.5
	0.5nm,0.3s,baz=338,slow=10,SNR=28						
WRA				S	S	16 39 22.1	+0.6
	0.1nm,0.3s,baz=322,slow=23,SNR=3.3						
COEN	Coen	19.65	120	P	P	16 36 43.7	+0.8
	baz=20,SNR=7.3						
ASAR	Alice Springs	20.60	158	P	P	16 36 52.8	+1.2
	1.0nm,0.4s,baz=348,slow=15,SNR=33						
STKA	Stephens Creek	31.03	151	P	P	16 38 24.8	+0.8
	1.1nm,0.5s,baz=315,slow=11,SNR=3.2						
CMAR	Chiang Mai Arr	34.87	312	P	P	16 38 57.1	+0.2
	0.8nm,0.6s,baz=141,slow=7.0,SNR=9.6						
MJAR	Matsushiro Arr	42.54	15	P	P	16 39 59.2	-0.1
	1.2nm,0.8s,baz=206,slow=9.8,SNR=5.1						
USRK	Ussuriysk Arra	48.87	6	P	P	16 40 48.6	+0.8
	1.7nm,0.5s,baz=217,slow=8.9,SNR=4.3						
ASAJ	Asahikawa	50.80	16	P	P	16 41 03.0	+1.0
	4.3nm,0.9s,baz=181,slow=3.5,SNR=4.9						
SONM	Songino Array	54.84	344	P	P	16 41 31.5	+0.2
	0.2nm,0.3s,baz=160,slow=9.0,SNR=2.4						
RPZ	Rata Peaks	55.82	141	P	P	16 41 37.6	-0.5
	3.2nm,0.8s,baz=194,slow=4.2,SNR=4.1						
PETK	Petropavlovsk-	63.48	21	P	P	16 42 31.3	+1.9
	2.5nm,0.6s,baz=183,slow=8.3,SNR=10						
MKAR	Makanchi Array	63.85	328	P	P	16 42 31.9	0.0
	0.7nm,0.6s,baz=120,slow=8.1,SNR=8.6						
ZALV	Zalesovo Beam	67.53	335	P	P	16 42 53.9	-0.9
	0.3nm,0.4s,baz=142,slow=5.1,SNR=4.3						
KURBB	Kurchatov Arra	68.20	330	P	P	16 42 58.8	-0.3
	0.3nm,0.3s,baz=127,slow=5.9,SNR=4.8						
ILAR	Eielson Array	93.00	25	P	P	16 45 07.8	-1.1
	0.4nm,0.5s,baz=243,slow=5.6,SNR=4.6						
TORD	Torodi Ar. Bea	124.07	283	PKP	PKPdf	16 50 52.2	-0.2
	0.3nm,0.5s,baz=84,slow=1.6,SNR=2.6						

*NEIC **12** 16:58:53.6, 41°.31S×174°.55E, h33km, ML3.6(WEL), After WEL.*
NEIC Felt in Karori.
WEL 12 16:58:53.6±0.1, 41°.31S×174°.55E, h41km±1km, ML3.6/13, 6C-9D, Error ellipse: s-maj=0.9km s-min=0.8km az=0.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNZO	South Karori	0.12	90	⇑P*	Pn	16 59 00.1	-0.4
SNZO				S*	Sn	16 59 05.1	-0.1
SNZO				AML	AML	16 59 05.8	
SNZO				AML	AML	16 59 06.0	
SNZO				AML	AML	16 59 06.1	
SNZO				eS	Sn	16 59 05.0	-0.2
WEL	Wellington	0.17	82	⇑P*	Pn	16 59 00.5	-0.3
WEL				S*	Sn	16 59 05.5	-0.3
TCW	Tory Channel	0.23	295	⇓P*	Pn	16 59 00.3	-1.0
TCW				AML	AML	16 59 06.4	
TCW				AML	AML	16 59 06.4	
BHW	Baring Head	0.26	112	⇑P*	Pn	16 59 01.5	0.0
BHW				S*	Sn	16 59 07.5	+0.4
BHW				AML	AML	16 59 08.9	
CAW	Cannon Point	0.44	63	⇑P*	Pn	16 59 03.6	-0.1
CAW				S*	Sn	16 59 11.5	+0.7
CAW				AML	AML	16 59 13.0	
TUWZ	Tuamarina	0.47	255	⇓P*	Pn	16 59 03.0	-1.0
TUWZ				AML	AML	16 59 10.0	
TUWZ				AML	AML	16 59 10.6	
CMWZ	Cape Campbell	0.50	210	P*	Pn	16 59 05.0	+0.5
CMWZ				AML	AML	16 59 15.3	
CMWZ				AML	AML	16 59 15.3	
KIW	Kapiti Island	0.53	32	P*	Pn	16 59 04.5	-0.3
KIW				AML	AML	16 59 14.1	
KIW				AML	AML	16 59 14.3	
MSWZ	Moikau Station	0.54	101	⇓P*	Pn	16 59 05.0	0.0
MSWZ				AML	AML	16 59 15.2	
MSWZ				AML	AML	16 59 15.3	
PLWZ	Palliser	0.59	116	P*	Pn	16 59 05.6	-0.1
BSWZ	Blackbirch Sta	0.65	231	⇓P*	Pn	16 59 06.0	-0.4
BSWZ				AML	AML	16 59 17.6	
BSWZ				AML	AML	16 59 19.0	
PAWZ	Paruwai Farm	0.67	96	⇓P*	Pn	16 59 06.5	-0.2
PAWZ				AML	AML	16 59 17.6	
PAWZ				AML	AML	16 59 17.9	
OGWZ	Otaki Gorge	0.68	44	⇓P*	Pn	16 59 06.8	0.0
DUWZ	D'Urville Isla	0.69	317	P*	Pn	16 59 06.6	-0.4
MTW	Mount Morrison	0.74	78	⇓P*	Pn	16 59 07.4	-0.2
MTW				AML	AML	16 59 18.7	
MTW				AML	AML	16 59 19.1	
HOWZ	Holdsworth Sta	0.84	61	⇓P*	Pn	16 59 08.7	-0.3
TRWZ	Traveller	0.86	96	P*	Pn	16 59 09.0	-0.3
TRWZ				AML	AML	16 59 21.7	
TRWZ				AML	AML	16 59 32.1	
MRZ	Mangatainoka R	1.01	51	PN	Pn	16 59 11.1	-0.3
MRZ				AML	AML	16 59 26.0	
MRZ				AML	AML	16 59 26.2	
TMWZ	Te Maipa	1.03	79	PN	Pn	16 59 11.1	-0.6
TIWZ	Tintock	1.14	63	PN	Pn	16 59 12.6	-0.6
POWZ	Post Office Ro	1.30	46	PN	Pn	16 59 14.9	-0.4
THZ	Tophouse	1.31	249	PN	Pn	16 59 15.2	-0.4
PRWZ	Pori Road	1.32	56	⇓PN	Pn	16 59 15.0	-0.5
KHZ	Kahutara	1.34	214	PN	Pn	16 59 15.3	-0.5
KHZ	Kahutara	1.34	214	ePn	Pn	16 59 15.2	-0.6
KHZ				eSn	Sn	16 59 32.4	0.0
BFZ	Birch Farm	1.43	65	PN	Pn	16 59 16.0	-1.1
WAZ	Wanganui	1.59	12	PN	Pn	16 59 21.0	+1.7
DVHZ	Dannevirke	1.59	51	PN	Pn	16 59 18.1	-1.2
QRZ	Quartz Range	1.60	287	PN	Pn	16 59 19.7	+0.3
PNHZ	Pukenui	1.88	43	PN	Pn	16 59 22.2	-1.1
WPHZ	Waipukurau	1.90	50	PN	Pn	16 59 22.6	-1.0
DFE	Dawson Falls	2.01	350	PN	Pn	16 59 27.4	+2.3
MTVZ	Mangateitei	2.05	20	PN	Pn	16 59 28.1	+2.4
KHEZ	Kahui Hut	2.06	348	PN	Pn	16 59 27.9	+2.1
NEZ	North Egmont	2.06	350	PN	Pn	16 59 28.2	+2.3
NWEZ	Newall Road	2.10	345	PN	Pn	16 59 28.1	+1.9
DSZ	Denniston Nort	2.10	257	PN	Pn	16 59 26.6	+0.2
PKVZ	Pokaka	2.11	17	PN	Pn	16 59 28.3	+1.9
MOVZ	Moawhango	2.11	26	PN	Pn	16 59 26.3	-0.3
WNVZ	Wahianoa	2.14	22	PN	Pn	16 59 28.2	+1.2
TRVZ	Turoa	2.15	21	PN	Pn	16 59 28.3	+1.0
PKE	Pukeiti	2.16	348	PN	Pn	16 59 28.7	+1.6
BHHZ	Black Hill Sta	2.16	33	PN	Pn	16 59 26.7	-0.4
PXZ	Pawanui	2.17	55	⇑PN	Pn	16 59 25.6	-1.7
WHVZ	Whangaehu Hut	2.18	22	PN	Pn	16 59 28.2	+0.5
VRZ	Vera Road	2.19	4	⇑PN	Pn	16 59 29.1	+1.6
FWVZ	Far West T-bar	2.19	21	PN	Pn	16 59 29.4	+1.5
TUVZ	Tukino	2.21	23	PN	Pn	16 59 31.1	+3.1
WPVZ	Whakapapa	2.24	20	PN	Pn	16 59 31.7	+3.3
LTZ	Lake Taylor	2.25	228	PN	Pn	16 59 27.3	-1.1
NGZ	Ngauruhoe	2.28	21	PN	Pn	16 59 32.4	+3.4
OTVZ	Oturere	2.31	22	PN	Pn	16 59 32.3	+3.0
WTVZ	West Tongariro	2.33	20	PN	Pn	16 59 32.6	+3.0
KAHZ	Kahuranaki	2.33	50	PN	Pn	16 59 27.9	-1.7
KRVZ	Karewarewa	2.37	21	PN	Pn	16 59 33.7	+3.6
MCHZ	McNeill Hill	2.48	42	PN	Pn	16 59 39.2	+7.6
KATZ	Kakaramea	2.49	21	PN	Pn	16 59 36.2	+4.4
BKZ	Black Stump Fm	2.61	35	PN	Pn	16 59 31.8	-1.6
OXZ	Oxford	2.74	222	PN	Pn	16 59 33.8	-1.3
MQZ	McQueen's Vall	2.77	210	PN	Pn	16 59 33.1	-2.4
HIZ	Hauiti	2.80	5	PN	Pn	16 59 37.8	+1.8
TLZ	Tolley Road	3.07	15	PN	Pn	16 59 41.6	+1.8
WVZ	Waitaha Valley	3.34	237	PN	Pn	16 59 42.5	-0.7
RPZ	Rata Peaks	3.53	226	ePn	Pn	16 59 45.9	-0.1
URZ	Urewera	3.63	34	ePn	Pn	16 59 46.8	-0.5
ODZ	Otahua Downs	4.70	216	PN	Pn	16 59 59.4	-2.5

*DJA **12** 17:13:37.2±2.1, 2°.N±29°.×12°.6E±°., h4km±25km, M4.0/5, MLv4.0/5*
*ISCJB **12** 17:13:42.5±1.3, 1°.3N±0°.1×125°.50E±0°.09, h79km, mb3.1/3, Error ellipse: s-maj=21.7km s-min=11.4km az=19.3*
*IDC **12** 17:13:48.3±4.3, 0°.53N×124°.24E, h108km±41km, mb2.9/3, mb1 3.1/3, mb1mx2.9/22, mbtmp2.9/3, Error ellipse: s-maj=182.0km s-min=18.3km az=64.0*
ISC 12 17:13:44.4±1.4, 1°.2N±0°.2×125°.58E±0°.08, h79km, n8, σ2°10/9, mb3.1/3, Northern Moluccas Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	Gorontalo	2.63	257	P	Pn	17 14 20.6	-4.2
GTOI				S	Sn	17 14 59.2	+3.4
LBMI	Labuha	2.66	134	P	Pn	17 14 26.3	+1.2
LUWI	Luwuk	3.59	231	P	Pn	17 14 37.7	-0.1
MRSI	Marisa	3.71	259	P	Pn	17 14 38.8	-0.6
APSI	Ampana	4.46	242	P	Pn	17 14 48.9	-0.7
WRA	Warramunga Arr	22.71	158	P	P	17 18 39.1	-0.8
	0.3nm,0.3s,baz=332,slow=11,SNR=9.3						
ASAR	Alice Springs	26.02	162	P	P	17 19 11.0	+0.7
	0.3nm,0.5s,baz=334,slow=7.2,SNR=7.0						
ASAR				S	S	17 23 32.3	-3.3
	0.1nm,0.4s,baz=339,slow=12,SNR=4.7						
MKAR	Makanchi Array	58.98	327	P	P	17 23 35.4	-0.4
	0.1nm,

Error ellipse: s-maj=15.0km s-min=6.9km az=88.0
BJI 12 17:40:03.0,42°.69S×77°.43W,h10km,mB5.1/5,Ms5.1/4,
Ms7 4.7/4
ISC 12 17:39:50.6±0.4,45°.61S±0°.07×76°.2W±0°.1,h35km,n232,
σ19°15/217,mb4.8/37,MS4.1/10,57C-68D,Off coast of southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**6.39**	**42**	*e*Pn	**Pn**	**17 41 19.5**	**-2.8**
PLCA	**Paso Flores**	**6.39**	**42**	Pn	**Pn**	**17 41 22.4**	**+0.1**
	0.6nm,0.3s,baz=220,slow=15,SNR=13						
PLCA				LR	LR	17 43 56.2	
	comp=Z,1μm,18.9s,baz=139,slow=39						
USHA	**Ushuaia**	**10.48**	**155**	Pn	**Pn**	**17 42 18.0**	**-0.2**
USHA	**Ushuaia**	**10.48**	**155**	Pn	**Pn**	**17 42 18.0**	**-0.2**
	0.2nm,0.3s,baz=311,slow=9.3,SNR=3.5						
USHA				LR	LR	17 46 06.0	
	comp=Z,1μm,20.9s,baz=67,slow=36						
TRQA	**Tornquist**	**13.00**	**60**	*e*Pn	**Pn**	**17 42 54.9**	**+2.1**
CFAA	**Coronel Fontan**	**15.29**	**27**	Pn	**Pn**	**17 43 22.1**	**-1.7**
CFAA	**Coronel Fontan**	**15.29**	**27**	Pn	**Pn**	**17 43 22.1**	**-1.7**
	0.2nm,0.3s,baz=199,slow=13,SNR=8.8						
CFAA				LR	LR	17 49 31.8	
	comp=Z,44nm,18.7s,baz=65,slow=38						
PMSA	**Palmer Station**	**20.35**	**165**	LR	LR	17 50 59.1	
	comp=Z,331nm,19.2s,baz=132,slow=33						
CPUP	**Villa Florida**	**24.45**	**45**	*e*P	**P**	**17 45 06.9**	**+0.8**
	159nm,1.1s						
CPUP	**Villa Florida**	**24.45**	**45**	P	**P**	**17 45 07.4**	**+1.3**
	14nm,0.8s,baz=208,slow=12,SNR=21						
CPUP				LR	LR	17 55 26.6	
	comp=Z,402nm,21.1s,baz=204,slow=38						
LPAZ	**La Paz**	**30.01**	**16**	P	**P**	**17 45 56.3**	**-0.3**
	8.1nm,1.0s						
LPAZ	**La Paz**	**30.01**	**16**	P	**P**	**17 45 57.0**	**+0.3**
	2.8nm,1.0s,baz=193,slow=7.5,SNR=8.9						
BDFB	**Brasilia**	**38.10**	**48**	*e*P	**P**	**17 47 06.0**	**-0.2**
BDFB	**Brasilia**	**38.10**	**48**	P	**P**	**17 47 07.2**	**+0.9**
	6.9nm,1.0s,baz=160,slow=12,SNR=6.6						
BDFB				LR	LR	18 03 13.7	
	comp=Z,188nm,18.1s,baz=21,slow=37						
SAML	**Samuel**	**38.21**	**21**	*e*P	**P**	**17 47 06.7**	**-0.4**
	20nm,1.0s						
VNA1	**Neumayer--Stat**	**40.59**	**152**	*e*P	P	17 47 29.1	+2.9
VNA2	**Neumayer--Watz**	**40.88**	**152**	*e*P	**P**	**17 47 29.7**	**+1.0**
	baz=285,slow=11						
VNA2	**Neumayer--Watz**	**40.88**	**152**	*e*I		17 47 36.5	
	baz=285,slow=11						
SNAA	**Sanae**	**42.33**	**153**	*e*P	**P**	**17 47 41.5**	**+0.8**
SNAA	**Sanae**	**42.33**	**153**	*e*I		17 47 48.1	
SNAA	**Sanae**	**42.33**	**153**	*e*P	**P**	**17 47 40.5**	**-0.2**
	15nm,1.0s						
SNAA	**Sanae**	**42.33**	**153**	P	**P**	**17 47 40.8**	**+0.1**
	4.6nm,1.1s,baz=267,slow=8.6,SNR=17						
QSPA	**South Pole Qui**	**44.63**	**180**	P	**P**	**17 47 59.0**	**-0.3**
QSPA				*e*		17 48 04.8	
QSPA	**South Pole Qui**	**44.63**	**180**	P	**P**	**17 47 59.0**	**-0.3**
	1.8nm,0.7s,baz=124,slow=1.3,SNR=6.4						
OTAV	**Otavalo**	**45.70**	**357**	*e*P	**P**	**17 48 08.7**	**+0.1**
	28nm,1.5s						
OTAV				*e*		17 49 48.0	
OTAV				*e*		17 49 53.9	
SBA	**Scott Base**	**51.06**	**194**	*e*P	**P**	**17 48 48.5**	**-0.3**
	9.3nm,1.3s						
VNDA	**Vanda**	**52.09**	**194**	*e*P	**P**	**17 48 55.8**	**-0.6**
	12nm,1.1s						
VNDA				*e*		17 49 03.3	
VNDA	**Vanda**	**52.09**	**194**	P	**P**	**17 48 56.6**	**+0.2**
	1.6nm,0.8s,baz=140,slow=8.3,SNR=5.8						
VNDA				LR	LR	18 07 39.1	
	comp=Z,112nm,19.2s,baz=270,slow=32						
RKT	**Rikitea**	**52.19**	**275**	*e*LR	LR	18 03 45.7	
	164nm,29.2s						
TBI	**Tubuai**	**62.19**	**264**	*e*S	S	17 58 39.9	+8.1
	116nm,41.0s						
TBI				*e*LR	LR	18 08 06.8	
	164nm,30.2s						
MAW	**Mawson**	**62.96**	**164**	*e*P	**P**	**17 50 11.8**	**-1.2**
	4.9nm,1.4s						
MAW				*e*		17 50 19.4	
MAW	**Mawson**	**62.96**	**164**	P	**P**	**17 50 13.6**	**+0.7**
	4.3nm,1.0s,baz=215,slow=9.1,SNR=5.3						
MAW				LR	LR	18 16 37.8	
	comp=Z,148nm,21.3s,baz=48,slow=35						
PPT2	**Papeete2**	**66.08**	**269**	*e*LR	LR	18 10 20.2	
	271nm,31.0s						
TEIG	**Tepich**	**66.44**	**348**	P	P	17 50 40.3	+4.2
	37nm,1.2s						
CASY	**Casey**	**68.32**	**183**	*e*P	**P**	**17 50 46.8**	**-0.9**
	16nm,1.1s						
RAR	**Rarotonga**	**70.76**	**259**	LR	LR	18 14 28.4	
	comp=Z,213nm,18.1s,baz=90,slow=30						
RPZ	**Rata Peaks**	**72.92**	**224**	LR	LR	18 15 22.0	
	comp=Z,232nm,18.9s,baz=76,slow=29						
732A	**Laxson Ranch,**	**77.08**	**339**	⇓P	**P**	**17 51 40.6**	**+0.6**
	baz=77,SNR=8.9						
BOSA	**Boshof**	**77.48**	**118**	P	**P**	**17 51 42.6**	**-0.1**
BOSA	**Boshof**	**77.48**	**118**	P	**P**	**17 51 42.6**	**-0.1**
	4.5nm,1.0s,baz=270,slow=5.1,SNR=4.0						
BOSA				LR	LR	18 21 52.5	
	comp=Z,110nm,18.5s,baz=165,slow=33						
632A	**Uvalde**	**77.78**	**339**	⇑P	**P**	**17 51 44.8**	**+1.0**
	baz=78						
631A	**Perdido Creek**	**77.89**	**338**	⇑P	**P**	**17 51 45.1**	**+0.7**
	baz=78						
532A	**Rocksprings**	**78.40**	**339**	⇑P	**P**	**17 51 47.5**	**+0.1**
	baz=79,SNR=7.1						
628A	**Black Gap, Mar**	**78.58**	**336**	⇓P	**P**	**17 51 49.3**	**+1.0**
	baz=79						
531A	**Rocksprings**	**78.60**	**339**	⇓P	**P**	**17 51 49.6**	**+1.1**
	baz=79						
TXAR	**Lajitas Array**	**78.66**	**336**	P	**P**	**17 51 50.0**	**+1.2**
TXAR	**Lajitas Array**	**78.66**	**336**	P	**P**	**17 51 50.0**	**+1.2**
	2.8nm,1.1s,baz=180,slow=6.1,SNR=15						
TXAR				LR	LR	18 21 21.9	
	comp=Z,96nm,18.2s,baz=180,slow=32						
JCT	**Junction City**	**78.71**	**339**	*e*P	**P**	**17 51 48.8**	**-0.3**
	36nm,1.4s						
JCT				*e*		17 51 55.7	
JCT	**Junction City**	**78.71**	**339**	⇓P	**P**	**17 51 49.6**	**+0.6**
	baz=79,SNR=7.0						
530A	**J-C Ranch, Com**	**78.79**	**338**	⇓P	**P**	**17 51 50.5**	**+1.0**
	baz=79,SNR=6.4						
GOGA	**Godfrey**	**78.93**	**354**	*e*P	**P**	**17 51 50.5**	**+0.4**
	37nm,1.4s						
529A	**Stev Forest Ra**	**79.00**	**337**	⇑P	**P**	**17 51 51.7**	**+1.1**
	baz=79						
626A	**Big Bend Ranch**	**79.00**	**335**	⇓P	**P**	**17 51 52.2**	**+1.5**
	baz=79						
432A	**Menard**	**79.09**	**339**	⇑P	**P**	**17 51 51.6**	**+0.5**
	baz=80						
431A	**Sonora**	**79.11**	**339**	⇓P	**P**	**17 51 52.0**	**+0.8**
	baz=80,SNR=11						
528A	**Cox Ranch, San**	**79.19**	**337**	⇓P	**P**	**17 51 52.2**	**+0.4**
	baz=80						
430A	**Baggett Ranch,**	**79.37**	**338**	⇓P	**P**	**17 51 53.3**	**+0.6**
	baz=80,SNR=11						
429A	**Davenport Ranc**	**79.39**	**338**	⇑P	**P**	**17 51 54.0**	**+1.2**
	baz=80,SNR=10						
527A	**Woodward Ranch**	**79.41**	**336**	⇑P	**P**	**17 51 53.8**	**+0.8**
	baz=80						
526A	**Mary Lane Ranc**	**79.47**	**336**	⇑P	**P**	**17 51 54.2**	**+0.8**
	baz=80						
332A	**Millersview**	**79.56**	**340**	⇑P	**P**	**17 51 53.8**	**+0.2**
	baz=80,SNR=13						
331A	**San Angelo**	**79.66**	**339**	⇑P	**P**	**17 51 54.4**	**+0.2**
	baz=80						
330A	**Mertzon**	**79.94**	**338**	⇑P	**P**	**17 51 56.1**	**+0.3**
	baz=80						
427A	**Hayter Ranch,**	**80.01**	**336**	⇑P	**P**	**17 51 56.9**	**+0.7**
	baz=80						
232A	**Coleman**	**80.02**	**340**	⇑P	**P**	**17 51 56.3**	**+0.2**
	baz=80						
426A	**McDonald Obser**	**80.02**	**336**	⇓P	**P**	**17 51 57.2**	**+0.9**
	baz=80						
231A	**Bronte**	**80.23**	**339**	⇑P	**P**	**17 51 58.1**	**+0.9**
	baz=81						
329A	**Wagon Wheel Ra**	**80.23**	**338**	⇓P	**P**	**17 51 57.5**	**+0.2**
	baz=81,SNR=5.9						
LBTB	**Lobatse**	**80.25**	**116**	*e*P	**P**	**17 51 58.0**	**+0.1**
	14nm,1.1s						
LBTB				*e*		17 52 05.1	
328A	**Wristen Ranch,**	**80.35**	**337**	⇑P	**P**	**17 51 58.9**	**+1.0**
	baz=81						
KMSC	**Kings Mountain**	**80.51**	**356**	*e*P	**P**	**17 51 57.2**	**-1.5**
	14nm,0.4s						
229A	**Bryant Ranch,**	**80.64**	**338**	⇓P	**P**	**17 52 00.6**	**+1.1**
	baz=81						
SWET	**Sewanee**	**80.94**	**352**	*e*P	**P**	**17 52 00.7**	**-0.3**
	33nm,1.3s						
SWET				*e*		17 52 07.0	
PLAL	**Pickwick Lake**	**80.94**	**350**	*e*P	**P**	**17 52 00.9**	**-0.1**
	11nm,1.2s						
131A	**Roby**	**80.95**	**340**	⇓P	**P**	**17 52 01.8**	**+0.7**
	baz=81						
325A	**Bean Ranch, Si**	**80.95**	**335**	⇑P	**P**	**17 52 01.4**	**+0.1**
	baz=81						
228A	**UT Block 9, Go**	**80.99**	**338**	⇓P	**P**	**17 52 02.0**	**+0.7**
	baz=81						
CPCT	**Cooper Cave**	**81.04**	**353**	*e*P	**P**	**17 52 01.1**	**-0.3**
324A	**Moseley Ranch,**	**81.17**	**335**	⇑P	**P**	**17 52 02.8**	**+0.3**
	baz=82						
226B	**Tecolote Peak,**	**81.38**	**336**	⇓P	**P**	**17 52 04.7**	**+1.2**
	baz=82						
128A	**Castleberry Fa**	**81.43**	**338**	⇓P	**P**	**17 52 04.4**	**+0.7**
	baz=82						
Z31A	**Sharp Cattle R**	**81.50**	**340**	⇑P	**P**	**17 52 04.7**	**+0.7**
	baz=82						
225A	**Deer Hill, Car**	**81.60**	**336**	⇓P	**P**	**17 52 05.1**	**+0.3**
	baz=82						
Z30A	**Sanderson Ranc**	**81.72**	**339**	⇓P	**P**	**17 52 05.5**	**+0.3**
	baz=82						
224A	**Cornudas Mount**	**81.77**	**335**	⇓P	**P**	**17 52 06.1**	**+0.4**
	baz=82						
Z29A	**Hungry Hill Ra**	**81.84**	**339**	⇑P	**P**	**17 52 06.1**	**+0.2**
	baz=82,SNR=8.9						
Y32A	**R-V Farms, Ver**	**81.99**	**341**	⇓P	**P**	**17 52 06.9**	**+0.3**
	baz=82						
320A	**Kipp Ranch, An**	**82.02**	**332**	⇑P	**P**	**17 52 08.5**	**+1.6**
	baz=82						
WVT	**Waverly**	**82.04**	**351**	*e*P	**P**	**17 52 06.2**	**-0.5**
	17nm,1.4s						
Y31A	**Rekieta Farm,**	**82.15**	**340**	⇑P	**P**	**17 52 08.1**	**+0.7**
	baz=82						
Z27A	**Tatum**	**82.28**	**337**	⇓P	**P**	**17 52 08.7**	**+0.4**
	baz=83,SNR=5.9						
319A	**Douglas**	**82.30**	**332**	⇑P	**P**	**17 52 10.2**	**+1.9**
	baz=83						
124A	**Stringfield Ra**	**82.34**	**335**	⇑P	**P**	**17 52 09.2**	**+0.5**
	baz=83						
Y29A	**Porterfield Fa**	**82.40**	**339**	⇑P	**P**	**17 52 09.7**	**+0.9**
	baz=83						
Z26A	**Caprock**	**82.45**	**337**	⇑P	**P**	**17 52 09.8**	**+0.7**
	baz=83						
220A	**Playas Peak, P**	**82.54**	**333**	⇓P	**P**	**17 52 10.5**	**+0.9**
	baz=83						
WMOK	**Wichita Mounta**	**82.55**	**341**	*e*P	**P**	**17 52 08.8**	**-0.7**
	20nm,1.2s						
WMOK				*e*		17 52 15.4	
Y28A	**McKinney Farm,**	**82.59**	**338**	⇑P	**P**	**17 52 10.3**	**+0.5**
	baz=83						
Z25A	**Roswell**	**82.67**	**336**	⇑P	**P**	**17 52 11.0**	**+0.8**
	baz=83						
X31A	**McDonald Ranch**	**82.72**	**340**	⇓P	**P**	**17 52 10.8**	**+0.4**
	baz=83						
X30A	**Coker Ranch, T**	**82.76**	**340**	⇓P	**P**	**17 52 11.4**	**+0.8**
	baz=83						
MSTX	**Muleshoe**	**82.79**	**338**	*e*P	**P**	**17 52 11.6**	**+0.7**
	10.0nm,0.9s						
Z24A	**Sheeppen Canyo**	**82.90**	**336**	⇑P	**P**	**17 52 13.0**	**+1.5**
	baz=83						
JSRW	**J. Sargeant Re**	**82.94**	**359**	P	**P**	**17 52 12.0**	**+0.6**
TUL1	**Tulsa**	**83.06**	**344**	⇓P	**P**	**17 52 13.2**	**+1.2**
	baz=83						
Z23A	**Rita Site, Whi**	**83.09**	**335**	⇓P	**P**	**17 52 14.1**	**+1.6**
	baz=84						
120A	**U Bar Ranch, L**	**83.17**	**333**	⇑P	**P**	**17 52 14.5**	**+1.6**
	baz=84						
Z22A	**Elephant Butte**	**83.30**	**334**	⇓P	**P**	**17 52 15.5**	**+1.9**
	baz=84						
Y24A	**Capitan**	**83.48**	**336**	⇓P	**P**	**17 52 15.9**	**+1.4**
	baz=84,SNR=9.4						
X26A	**CR and CF Fran**	**83.61**	**337**	⇑P	**P**	**17 52 16.3**	**+1.2**
	baz=84,SNR=9.8						
Y23A	**Lovelace Mesa,**	**83.66**	**335**	⇑P	**P**	**17 52 17.0**	**+1.6**
	baz=84,SNR=7.0						
Z20A	**Nine Sixteen R**	**83.68**	**333**	⇓P	**P**	**17 52 17.3**	**+1.7**
	baz=84						
V31A	**Spring Creek L**	**83.78**	**341**	⇓P	**P**	**17 52 17.3**	**+1.5**
	baz=84						
W27A	**Bowe Ranch, En**	**83.90**	**338**	⇓P	**P**	**17 52 17.7**	**+1.1**
	baz=84						
BNM	**Barren Site**	**84.03**	**335**	*e*P	**P**	**17 52 18.6**	**+1.2**
	0.6nm,0.4s						
Y21A	**Point of Rocks**	**84.22**	**334**	⇑P	**P**	**17 52 20.0**	**+1.7**
	baz=85						
Y20A	**Horse Springs,**	**84.34**	**334**	⇑P	**P**	**17 52 20.4**	**+1.4**
	baz=85						
W25A	**X Bar L Ranch,**	**84.42**	**337**	⇓P	**P**	**17 52 19.9**	**+0.7**
	baz=85,SNR=9.1						
LAZ	**Ladron**	**84.42**	**335**	*e*P	**P**	**17 52 20.6**	**+1.2**
	8.4nm,1.7s						
X21A	**Alamocita Cree**	**84.66**	**334**	⇑P	**P**	**17 52 22.6**	**+2.1**
	baz=85						
W24A	**Lazy 6 Ranch,**	**84.67**	**336**	⇓P	**P**	**17 52 21.6**	**+1.1**
	baz=85,SNR=6.6						
U30A	**WK&E Inc. Balk**	**84.69**	**340**	⇑P	**P**	**17 52 21.6**	**+1.1**
	baz=85						
ANMO	**Albuquerque**	**84.73**	**335**	*e*P	**P**	**17 52 21.4**	**+0.6**
	6.7nm,1.0s						
ANMO				*e*		17 52 28.2	
V26A	**Tequesquite Ra**	**84.78**	**338**	⇓P	**P**	**17 52 22.4**	**+1.4**
	baz=85						
T31A	**Randall Ranch,**	**85.01**	**341**	⇓P	**P**	**17 52 23.3**	**+1.3**
	baz=85						
V24A	**Rampart Ranch,**	**85.12**	**337**	⇑P	**P**	**17 52 24.1**	**+1.2**
	baz=86						
U27A	**Thompson Grove**	**85.12**	**339**	⇓P	**P**	**17 52 23.2**	**+0.5**
	baz=86						
U26A	**Atchley Ranch,**	**85.33**	**338**	⇑P	**P**	**17 52 24.5**	**+0.6**
	baz=86						
X18A	**Snowflake**	**85.42**	**333**	⇓P	**P**	**17 52 25.7**	**+1.4**
	baz=86						
W20A	**Ramah**	**85.51**	**334**	⇓P	**P**	**17 52 26.5**	**+1.7**
	baz=86						
U25A	**Circle Dot Ran**	**85.51**	**338**	⇓P	**P**	**17 52 25.6**	**+0.8**
	baz=86,SNR=7.9						
T28A	**Walsh**	**85.61**	**339**	⇓P	**P**	**17 52 26.0**	**+0.9**
	baz=86						
S30A	**Montezuma**	**85.71**	**341**	⇑P	**P**	**17 52 27.1**	**+1.6**
	baz=86						
V22A	**San Miguel Ran**	**85.76**	**335**	⇑P	**P**	**17 52 27.7**	**+1.7**
	baz=86,SNR=5.1						
U23A	**El Rito**	**85.94**	**336**	⇓P	**P**	**17 52 28.4**	**+1.5**
	baz=86						
S28A	**Manter**	**86.00**	**340**	⇑P	**P**	**17 52 27.7**	**+0.7**
	baz=86						
T26A	**Comanche Natio**	**86.03**	**338**	⇓P	**P**	**17 52 27.7**	**+0.4**
	baz=86						
R31A	**Burdett**	**86.12**	**342**	⇑P	**P**	**17 52 28.7**	**+1.2**
	baz=86						
T25A	**Trinidad**	**86.21**	**338**	⇓P	**P**	**17 52 29.7**	**+1.5**
	baz=87,SNR=8.7						
MONP	**Monument Peak**	**86.22**	**327**	⇓P	**P**	**17 52 30.2**	**+1.8**
	baz=87						
S26A	**Kim**	**86.42**	**339**	⇓P	**P**	**17 52 30.2**	**+1.1**
	baz=87						
R29A	**Marienthal**	**86.61**	**341**	⇑P	**P**	**17 52 30.9**	**+0.9**
	baz=87						
R28A	**Tribune**	**86.69**	**340**	⇓P	**P**	**17 52 31.0**	**+0.6**
	baz=87						
S25A	**Robets Cordova**	**86.71**	**338**	⇑P	**P**	**17 52 31.8**	**+1.2**
	baz=87						
WUAZ	**Wupatki**	**86.78**	**332**	⇓P	**P**	**17 52 32.4**	**+1.4**
	baz=87						
PFO	**Pinyon Flat Ob**	**86.87**	**327**	⇑P	**P**	**17 52 33.2**	**+1.8**
	baz=87						
IRM	**Iron Mountain**	**86.87**	**329**	⇓P	**P**	**17 52 33.1**	**+1.7**
	baz=87						
R27A	**Eads**	**86.88**	**339**	⇑P	**P**	**17 52 32.3**	**+0.9**
	baz=87						
S24A	**Houchin Ranch,**	**86.90**	**337**	⇑P	**P**	**17 52 33.3**	**+1.6**
	baz=87,SNR=6.9						
Q30A	**Quinter**	**86.93**	**341**	⇓P	**P**	**17 52 32.8**	**+1.3**
	baz=87						
R26A	**Arlington**	**87.06**	**339**	⇓P	**P**	**17 52 33.1**	**+0.9**
	baz=87						
SDCO	**Great Sand Dun**	**87.07**	**337**	*e*P	**P**	**17 52 32.8**	**+0.3**
	6.1nm,1.2s						
SDCO				*e*		17 52 39.3	
W13A	**Hualapai Mount**	**87.26**	**330**	⇓P	**P**	**17 52 35.5**	**+2.1**
	baz=88						
R24A	**Sanders Place,**	**87.42**	**338**	⇓P	**P**	**17 52 35.8**	**+1.7**
	baz=88						
S22A	**4UR Ranch, Cre**	**87.44**	**336**	⇓P	**P**	**17 52 36.0**	**+1.7**
	baz=88,SNR=10						
R23A	**Moffat**	**87.58**	**337**	⇓P	**P**	**17 52 36.5**	**+1.5**
	baz=88						
GMRC	**Granite Mounta**	**87.61**	**328**	⇑P	**P**	**17 52 37.2**	**+2.2**
	baz=88						
S21A	**Coal Bank Pass**	**87.64**	**335**	⇓P	**P**	**17 52 36.6**	**+1.3**
	baz=88,SNR=7.6						
BFSC	**Mount Baldy Ra**	**87.89**	**327**	⇓P	**P**	**17 52 37.4**	**+1.1**
	baz=88						
U15A	**North Rim**	**87.92**	**332**	⇓P	**P**	**17 52 37.6**	**+1.0**
	baz=88						
Q24A	**Divide**	**88.12**	**338**	⇑P	**P**	**17 52 38.2**	**+0.6**
	baz=88						
R21A	**Cimarron**	**88.23**	**336**	⇓P	**P**	**17 52 40.0**	**+2.0**
	baz=89						
TUQ	**Turquoise Moun**	**88.30**	**329**	⇑P	**P**	**17 52 39.4**	**+1.2**
	baz=89						
Q22A	**Crested Butte,**	**88.51**	**336**	⇑P	**P**	**17 52 40.9**	**+1.6**
	baz=89						
P23A	**Jefferson**	**88.69**	**337**	⇑P	**P**	**17 52 42.1**	**+1.8**
	baz=89						
SHPR	**Sheep Range**	**88.98**	**330**	*e*P	**P**	**17 52 41.1**	**-0.3**
SHPR				*e*		17 52 48.9	
JFWS	**Jewell Farm**	**89.03**	**350**	*e*P	**P**	**17 52 41.4**	**+0.1**
	25nm,1.0s						
JFWS				*e*		17 52 47.4	
ISCO	**Idaho Springs**	**89.03**	**338**	*e*P	**P**	**17 52 43.7**	**+1.8**
	17nm,1.6s						
ISCO	**Idaho Springs**	**89.03**	**338**	⇓P	**P**	**17 52 43.6**	**+1.8**
	baz=89						
CCUT	**Cedar City**	**89.30**	**331**	*e*P	**P**	**17 52 45.6**	**+2.6**
	14nm,1.4s						
ISA	**Isabella**	**89.45**	**327**	*e*P	**P**	**17 52 46.7**	**+3.1**
	5.1nm,1.1s						
ISA	**Isabella**	**89.45**	**327**	⇓P	**P**	**17 52 45.8**	**+2.2**
	baz=90						
O23A	**Lake Granby, G**	**89.50**	**338**	⇓P	**P**	**17 52 46.0**	**+2.0**
	baz=90						
P20A	**De Beque**	**89.52**	**336**	⇑P	**P**	**17 52 45.9**	**+1.9**
	baz=90						
FURC	**Furnace Creek,**	**89.56**	**328**	⇓P	**P**	**17 52 46.1**	**+2.2**
	baz=90						
O22A	**Kremmling**	**89.62**	**337**	⇓P	**P**	**17 52 46.0**	**+1.5**
	baz=90						
MVU	**Marysvale**	**89.78**	**333**	*e*P	**P**	**17 52 47.4**	**+2.1**
	16nm,1.8s						
Q16A	**Castle Valley**	**89.82**	**333**	⇑P	**P**	**17 52 46.6**	**+1.1**
	baz=90						
N23A	**Red Feather La**	**90.14**	**338**	⇓P	**P**	**17 52 48.6**	**+1.6**
	baz=90						
PHWY	**Pilot Hill**	**90.40**	**338**	*e*P	P	17 52 55.4	+7.2
	7.5nm,1.0s						
M23A	**Laramie**	**90.62**	**338**	⇑P	**P**	**17 52 50.5**	**+1.4**
	baz=91						
R11A	**Troy Canyon, C**	**90.78**	**330**	*e*P	**P**	**17 52 52.6**	**+2.8**
	6.8nm,1.4s						
R11A	**Troy Canyon, C**	**90.78**	**330**	⇑P	**P**	**17 52 51.7**	**+1.9**
	baz=91						
ECSD	**EROS Data Cent**	**90.79**	**345**	*e*P	**P**	**17 52 48.5**	**-1.1**
	16nm,1.1s						
ECSD				*e*		17 52 54.9	
TOA0	**Torodi Ar. Sit**	**91.01**	**72**	P	**P**	**17 52 48.5**	**-2.7**
TORD	**Torodi Ar. Bea**	**91.01**	**72**	P	**P**	**17 52 52.0**	**+0.7**
TORD	**Torodi Ar. Bea**	**91.01**	**72**	P	**P**	**17 52 52.0**	**+0.7**
	0.9nm,1.1s,baz=224,slow=6.0,SNR=4.2						
TORD				LR	LR	18 27 59.3	
	comp=Z,72nm,19.5s,baz=330,slow=32						
DUG	**Dugway**	**91.51**	**333**	⇓P	**P**	**17 52 54.6**	**+1.4**
	baz=92						
K23A	**Bowen Ranch, D**	**91.80**	**339**	⇓P	**P**	**17 52 56.1**	**+1.6**
	baz=92						
PDAR	**Pinedale Array**	**92.88**	**336**	P	**P**	**17 52 58.9**	**-0.7**
PDAR	**Pinedale Array**	**92.88**	**336**	P	**P**	**17 52 58.9**	**-0.7**
	0.4nm,0.6s,baz=167,slow=4.4,SNR=3.1						
J20A	**Shoshoni**	**93.01**	**337**	⇑P	**P**	**17 53 01.5**	**+1.5**
	baz=93						
I22A	**9 Mile Ranch,**	**93.09**	**339**	⇓P	**P**	**17 53 01.6**	**+1.3**
	baz=94						
J19A	**Crowheart**	**93.19**	**337**	⇑P	**P**	**17 53 02.0**	**+1.1**
	baz=94						
I21A	**Big Trails, Te**	**93.22**	**338**	⇓P	**P**	**17 53 01.6**	**+0.6**
	baz=94						
GERES	**GERESS Array B**	**122.27**	**51**	PKP	**PKPdf**	**17 58 41.1**	**0.0**
GERES	**GERESS Array B**	**122.27**	**51**	PKP	**PKPdf**	**17 58 41.1**	**0.0**
	0.4nm,0.5s,baz=238,slow=3.1,SNR=4.2						
ILAR	**Eielson Array**	**122.96**	**331**	PKP	**PKPdf**	**17 58 41.1**	**-0.7**
ILAR	**Eielson Array**	**122.96**	**331**	PKP	**PKPdf**	**17 58 41.1**	**-0.7**
	0.7nm,0.9s,baz=163,slow=0.9,SNR=4.2						
BRTR	**Keskin Array B**	**129.58**	**70**	PKP	**PKPdf**	**17 58 56.2**	**+0.7**
BRTR	**Keskin Array B**	**129.58**	**70**	PKP	**PKPdf**	**17 58 56.2**	**+0.7**
	1.0nm,0.9s,baz=297,slow=8.1,SNR=4.1						
IDAH	**Dahanechah**	**144.04**	**95**	*e*P	PKPab	17 59 19.6	-0.4
PETK	**Petropavlovsk-**	**144.85**	**302**	PKP	PKPbc	17 59 21.2	-0.9
PETK	**Petropavlovsk-**	**144.85**	**302**	PKP	PKPbc	17 59 21.2	-0.9
	12nm,1.3s,baz=123,slow=5.3,SNR=3.6						
HYB	**Hyderabad**	**144.89**	**135**	*i* PKP	**PKPab**	**17 59 23.0**	**-0.2

comp=Z,81nm,5.6s
HHC LR LR
comp=N,250nm,21.8s
HHC LR LR
comp=E,260nm,21.6s
HHC LR LR
comp=Z,200nm,22.2s
GTA Gaotai 173.14 153 PKP PKPdf 18 00 11.2 +15
GTA pPKP pPKPdf 18 00 22.1 +15
SONM Songino Array 177.15 322 PKP **PKPdf 17 59 56.0 -0.6**
SONM Songino Array 177.15 322 PKP **PKPdf 17 59 56.0 -0.6**
comp=Z,0.2nm,0.6s,baz=5.7,slow=1.4,SNR=3.4

*IDC **12** 17:42:02.9±4.2,37°.14N×72°.19E,h124km±34km,mb3.4/7, mb1 3.5/12,mb1mx3.3/30,mbtmp3.4/12,Error ellipse: s-maj=29.4km s-min=22.5km az=18.0*
*ISCJB **12** 17:42:03.2±0.4,37°.17N±0°.03×72°.14E±0°.08,h142km, mb3.4/7,Error ellipse: s-maj=9.3km s-min=3.2km az=162.2*
*NNC **12** 17:42:10.2±12.0,37°.70N×71°.84E,h155km±130km,mb3.3, mpv4.3,Error ellipse: s-maj=103.3km s-min=68.5km az=14.0*
ISC 12 17:42:04.0±0.6,37°.17N±0°.05×72°.19E±0°.09,h142km,n45, σ1§88/55,mb3.5/7,2C-7D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.09**	**13**	P	**Pn**	**17 43 19.4**	**+0.6**
	SNR=91						
KZA	**Kyzart**	**5.44**	**25**	P	**Pn**	**17 43 23.8**	**+0.4**
	SNR=22						
DLH	**Dalhousie**	**5.56**	**145**	*e*P	**Pn**	**17 43 27.0**	**+2.0**
DLH				*e*S	**Sn**	**17 44 27.0**	**-1.2**
EKS2	**Erkin-Say**	**5.62**	**12**	P	**Pn**	**17 43 26.4**	**+0.9**
	SNR=93						
AAK	**Ala-Archa**	**5.74**	**17**	P	**Pn**	**17 43 28.4**	**+1.3**
	SNR=150						
AAK	**Ala-Archa**	**5.74**	**17**	P	**Pn**	**17 43 28.2**	**+1.0**
	27nm,0.3s,baz=179,slow=6.3,SNR=364						
AAK				S	**Sn**	**17 44 30.3**	**-1.8**
	3.6nm,0.3s,baz=318,slow=19,SNR=9.5						
KBK	**Karagaybulak**	**5.87**	**20**	P	**Pn**	**17 43 30.8**	**+1.7**
	SNR=29						
ULHL	**Ulahol**	**5.95**	**30**	P	**Pn**	**17 43 30.7**	**+0.5**
	SNR=25						
KK31	**Karatay Array**	**6.06**	**348**	⇑P	**Pn**	**17 43 31.5**	**+0.1**
	20nm,0.3s,baz=159,slow=10,SNR=641						
KK31				S	**Sn**	**17 44 33.8**	**-6.0**
	40nm,0.4s,baz=174,slow=24,SNR=28						
CHMS	**Chumysh**	**6.14**	**18**	P	**Pn**	**17 43 33.4**	**+0.9**
	SNR=78						
TKM2	**Tokmak 2**	**6.31**	**23**	⇓P	**Pn**	**17 43 35.1**	**+0.2**
	7.0nm,0.4s						
TKM2				⇓S	**Sn**	**17 44 43.7**	**-2.3**
	3.8nm,0.4s						
TKM2	**Tokmak 2**	**6.31**	**23**	P	**Pn**	**17 43 35.5**	**+0.6**
	SNR=21						
USP	**Ospenovka**	**6.34**	**15**	P	**Pn**	**17 43 35.3**	**+0.2**
	SNR=36						
SDNR	**Sundarnagar**	**6.90**	**144**	*e*P	**Pn**	**17 43 45.0**	**+2.3**
SDNR				*e*S	**Sn**	**17 45 01.0**	**+1.0**
SMLA	**Simla**	**7.30**	**144**	*i* P	**Pn**	**17 43 51.2**	**+3.1**
SMLA				*i* S	**Sn**	**17 45 08.7**	**-0.9**
KKR	**Kurukshetra**	**8.16**	**150**	*e*S	**Sn**	**17 45 28.9**	**-1.6**
KKR				AML	AML	17 46 10.0	
	comp=Z,820nm,0.3s						
KHET	**Khetri**	**9.57**	**160**	*e*P	**Pn**	**17 44 19.4**	**+1.0**
KHET				*e*S	**Sn**	**17 46 00.8**	**-3.6**
KHET				AML	AML	17 46 03.8	
	comp=N,36nm,0.2s						
KHET				AML	AML	17 46 04.4	
	comp=E,312nm,0.1s						
AYAN	**Aya Nagar**	**9.61**	**153**	*e*S	**Sn**	**17 46 02.5**	**-2.7**
KUDL	**Kundal**	**9.70**	**157**	*e*P	**Pn**	**17 44 20.5**	**+0.3**
KUDL				*e*S	**Sn**	**17 46 03.3**	**-4.3**
KUDL				AML	AML	17 46 08.7	
	comp=E,16nm,0.3s						
KUDL				AML	AML	17 46 09.4	
	comp=N,8.5nm,0.3s						
SONA	**Sohna**	**9.80**	**154**	*e*P	**Pn**	**17 44 21.3**	**-0.2**
SONA				*e*S	**Sn**	**17 46 06.2**	**-3.7**
SONA				AML	AML	17 46 11.3	
	comp=N,14nm,0.3s						
SONA				AML	AML	17 46 12.4	
	comp=E,27nm,0.6s						
AGRA	**Agra**	**11.04**	**152**	*e*S	**Sn**	**17 46 35.9**	**-4.0**
AGRA				AML	AML	17 46 39.3	
	comp=E,50nm,0.3s						
AGRA				AML	AML	17 46 42.6	
	comp=N,38nm,0.3s						
MKAR	**Makanchi Array**	**12.19**	**35**	P	**Pn**	**17 44 52.7**	**-0.2**
	comp=N,0.1nm,0.3s,baz=216,slow=14,SNR=4.6						
PYUN	**Piuthan**	**12.82**	**132**	*e*P	**Pn**	**17 45 01.9**	**+0.5**
	comp=N,27nm,0.4s						
KOLN	**Koldanda**	**13.43**	**131**	*e*P	**Pn**	**17 45 10.3**	**+1.1**
	comp=N,6.3nm,0.4s						
KURBB	**Kurchatov Arra**	**14.19**	**17**	P	**Pn**	**17 45 15.6**	**-2.8**
	comp=N,0.2nm,0.3s,baz=206,slow=12,SNR=8.6						
KURBB				S	**Sn**	**17 47 55.7**	**+0.2**
	comp=N,0.2nm,0.3s,baz=208,slow=19,SNR=5.2						
KKN	**Kakani**	**14.46**	**127**	*e*P	**Pn**	**17 45 23.2**	**+0.9**
	comp=N,8.4nm,0.5s						
DMN	**Daman**	**14.48**	**127**	*e*P	**Pn**	**17 45 23.6**	**+1.1**
	comp=N,4.5nm,0.3s						
PKIN	**Phulchoki**	**14.69**	**127**	*e*P	**P**	**17 45 27.2**	**-0.4**
	comp=N,6.1nm,0.3s						
AB31	**Akbulak array**	**14.99**	**328**	P	**P**	**17 45 28.9**	**-1.6**
	comp=N,1.6nm,0.4s,baz=161,slow=9,SNR=66						
AB31				S	Sn	17 48 02.0	-13
	comp=N,2.8nm,0.5s,baz=151,slow=23,SNR=12						
JIRN	**Jiri**	**15.14**	**125**	*e*P	**P**	**17 45 32.3**	**-0.4**
	comp=N,9.8nm,0.3s						
VOSK	**Vostochnaya**	**15.57**	**357**	⇓P	**Pn**	**17 45 35.1**	**-0.6**
	comp=N,1.1nm,0.6s						
VOSK				⇓S	Sn	17 48 19.5	-9.1
	comp=N,0.5nm,0.5s						
RAMN	**Ramite**	**15.89**	**126**	*e*P	**P**	**17 45 42.8**	**+1.9**
	comp=N,13nm,0.6s						
BVA0	**Borovoye Array**	**15.90**	**356**	⇓P	**Pn**	**17 45 38.1**	**-1.7**
	comp=N,3.0nm,0.9s,baz=221,slow=40,SNR=11						
BVAR	**Borovoye Array**	**15.90**	**356**	P	**Pn**	**17 45 38.1**	**-1.7**
	comp=N,0.3nm,0.3s,baz=159,slow=12,SNR=8.6						
BRVK	**Borovoye**	**15.94**	**356**	⇓P	**Pn**	**17 45 38.5**	**-1.7**
	comp=N,4.5nm,0.7s						
AKTO	**Aktyubinsk**	**16.71**	**327**	⇑P	**Pn**	**17 45 50.9**	**+1.4**
	comp=N,2.0nm,0.8s						
AKTO				⇓S	S	17 48 45.6	-10
	comp=N,2.0nm,0.6s						
AKTO	**Aktyubinsk**	**16.71**	**327**	P	**Pn**	**17 45 50.2**	**+0.7**
	comp=N,0.3nm,0.3s,baz=128,slow=12,SNR=6.9						
AKTO				S	S	17 48 43.8	-12
	comp=N,0.4nm,0.3s,baz=0.0,slow=20,SNR=7.8						
ZALV	**Zalesovo Beam**	**18.91**	**23**	P	**Pn**	**17 46 14.3**	**-1.4**
	comp=N,0.9nm,0.3s,baz=228,slow=10,SNR=22						
FINES	**FINESS Array B**	**37.47**	**325**	P	**P**	**17 49 04.3**	**+0.9**
	comp=N,0.4nm,0.3s,baz=107,slow=7.7,SNR=5.0						
ARCES	**ARCESS Array B**	**40.89**	**337**	P	**P**	**17 49 33.0**	**+1.3**
	comp=N,1.4nm,0.8s,baz=110,slow=7.8,SNR=6.2						
NOA	**NORSAR Array B**	**44.42**	**323**	P	**P**	**17 50 00.9**	**+0.6**
	comp=N,0.9nm,0.8s,baz=97,slow=8.0,SNR=2.8						
TORD	**Torodi Ar. Bea**	**66.68**	**269**	P	**P**	**17 52 40.3**	**+0.4**
	comp=N,0.3nm,0.5s,baz=47,slow=6.2,SNR=8.9						
ILAR	**Eielson Array**	**73.87**	**16**	P	**P**	**17 53 23.9**	**+1.1**
	comp=N,0.5nm,0.7s,baz=317,slow=5.0,SNR=4.5						
YKA	**Yellowknife Ar**	**80.53**	**3**	P	**P**	**17 54 01.2**	**+1.3**
	comp=N,0.9nm,0.5s,baz=348,slow=5.2,SNR=7.6						
WRA	**Warramunga Arr**	**81.54**	**123**	P	**P**	**17 54 06.6**	**+0.7**
	comp=N,0.3nm,0.7s,baz=320,slow=5.0,SNR=3.2						

MAN 12 18:05:34.6±0.07N×124°.78E,h3km,mb4.2,ML3.1,MS2.8, 2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**0.17**	**85**	⇓*i*P	Pg	18 05 43.0	+5.6
GSPH				*e*S	Sg	18 05 51.4	+12
CTBH	**Cotabato--PC H**	**1.26**	**335**	⇓*i*P	Pg	18 05 57.7	-0.5
CTBH				*i* S	Sn	18 06 16.1	+0.1
MATI	**Mati**	**1.71**	**59**	*e*P	Pn	18 06 04.4	-0.3
BUKP	**Musuan**	**1.82**	**9**	*e*P	Pn	18 06 06.8	+0.5
BUKP				*e*S	Sg	18 06 34.8	+2.2
PAGZ	**Pagadian**	**2.25**	**322**	*e*P	Pn	18 06 12.7	+0.6

*ATH **12** 18:06:24.2,41°.59N×20°.43E,h5km±3km,MD3.9/13*
*TIR **12** 18:06:25.6,41°.41N×20°.45E,h12km,ML4.1*
*PDG **12** 18:06:26.7±0.6,41°.42N×20°.40E,h6km,MD4.1/11, ML4.1/11,Error ellipse: s-maj=0.5km s-min=0.5km az=0.0*
*IDC **12** 18:06:26.1±0.7,41°.44N×20°.42E,h0km,mb4.1/18, mb1 4.2/26,mb1mx4.2/36,mbtmp4.1/26,ML3.7/10, MS3.4/18,Ms1 3.4/18,ms1mx3.3/43,Error ellipse: s-maj=11.4km s-min=9.6km az=26.0*
*SKO **12** 18:06:26.8,41°.38N×20°.42E,h17km,M3.8,ML4.2*
*ISCJB **12** 18:06:27.0±0.3,41°.47N±0°.01×20°.41E±0°.02,h13km±1km, mb4.1/25,MS3.5/9,Error ellipse: s-maj=2.1km s-min=1.5km az=141.4*
*CSEM **12** 18:06:27.4±0.1,41°.44N×20°.44E,h5km,mb4.2/10,Error ellipse: s-maj=2.6km s-min=1.8km az=51.0*
*LDG **12** 18:06:27.0±0.1,41°.44N×20°.36E,h10km,Ml4.1/6,Error ellipse: s-maj=3.0km s-min=1.9km az=23.0*
*PRU **12** 18:06:27.4,41°.10N×20°.43E,h10km,M4.4*
*BEO **12** 18:06:27.2±0.4,41°.44N×20°.46E,h8km±3km,ML4.1/1*
*THE **12** 18:06:27.4,41°.47N×20°.48E,h0km±2km,ML3.9/6,Error ellipse: s-maj=2.3km s-min=0.8km az=287.0*
*MOS **12** 18:06:28.0±1.5,41°.40N×20°.22E,h33km,mb4.4/9,Error ellipse: s-maj=5.2km s-min=3.3km az=87.6*
*NEIC **12** 18:06:28.1±1.3,41°.41N×20°.31E,h18km±9km,mb4.4/10, Error ellipse: s-maj=6.4km s-min=4.9km az=193.0*
ISC 12 18:06:26.6±0.9,41°.42N±0°.01×20°.42E±0°.01,h6km±6km, n591,σ1§46/692,mb4.1/26,MS3.5/9,57C-58D,Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHP	**Peshkopia**	**0.26**	**3**	*i* PG	**Pg**	**18 06 31.8**	**0.0**
PHP				*i* SG	**Sg**	**18 06 36.3**	**+1.0**
PHP	**Peshkopia**	**0.26**	**3**	P	**Pg**	**18 06 31.8**	**0.0**
PHP				S	**Sg**	**18 06 35.2**	**-0.1**
PHP	**Peshkopia**	**0.26**	**3**	*i* Pg	**Pg**	**18 06 31.8**	**0.0**
PHP				*i* Sg	**Sg**	**18 06 36.3**	**+1.0**
TIR	**Tirane**	**0.43**	**260**	*i* PG	**Pg**	**18 06 34.2**	**-0.7**
TIR				*i* SG	**Sb**	**18 06 42.3**	**-0.9**
TIR	**Tirane**	**0.43**	**260**	P	**Pg**	**18 06 34.5**	**-0.4**
TIR				S	**Sb**	**18 06 43.5**	**+0.3**
TIR	**Tirane**	**0.43**	**260**	*e*P	**Pg**	**18 06 34.4**	**-0.4**
TIR				*e*		18 06 42.0	
TIR	**Tirane**	**0.43**	**260**	*e*Pg	**Pg**	**18 06 34.4**	**-0.4**
TIR				*e*Sg	**Sb**	**18 06 42.0**	**-1.2**
TIR	**Tirane**	**0.43**	**260**	⇑*i*Pg	**Pg**	**18 06 34.4**	**-0.4**
TIR	**Tirane**	**0.43**	**260**	*i* Pg	**Pg**	**18 06 34.2**	**-0.7**
TIR				*e*Sg	**Sb**	**18 06 42.0**	**-1.2**
TIR				S	**Sb**	**18 06 43.5**	**+0.3**
PUK	**Puka**	**0.74**	**328**	*i* PG	**Pg**	**18 06 40.4**	**-0.4**
PUK				*i* SG	**Sb**	**18 06 52.3**	**0.0**
PUK	**Puka**	**0.74**	**328**	*i* Pg	**Pg**	**18 06 40.4**	**-0.4**
PUK				*i* Sg	**Sb**	**18 06 52.3**	**0.0**
BIA	**Bitola**	**0.79**	**120**	P	**Pg**	**18 06 40.8**	**-1.0**
BIA				S	**Sg**	**18 06 53.0**	**+0.9**
BIA	**Bitola**	**0.79**	**120**	*i* Pg	**Pb**	**18 06 42.5**	**-0.2**
BIA				*e*Lg	Lg	18 06 54.2	
	comp=N,2μm,0.4s						
BIA				*e*Sg	**Sb**	**18 06 54.7**	**+1.0**
BIA				*e*Lg	Lg	18 06 54.8	
	comp=E,2μm,0.3s						
BIA	**Bitola**	**0.79**	**120**	*i* Pg	**Pg**	**18 06 42.0**	**+0.2**
BIA				S	**Sg**	**18 06 53.0**	**+0.9**
BIA				*e*Sg	**Sb**	**18 06 54.2**	**+0.4**
KBN	**Korca**	**0.84**	**161**	*i* PG	**Pg**	**18 06 42.6**	**-0.2**
KBN				*i* SG	**Sn**	**18 06 57.2**	**-0.7**
KBN	**Korca**	**0.84**	**161**	P	**Pg**	**18 06 43.2**	**+0.4**
KBN				S	**Sn**	**18 06 57.8**	**-0.1**
KBN	**Korca**	**0.84**	**161**	*i* Pg	**Pg**	**18 06 42.6**	**-0.2**
KBN	**Korca**	**0.84**	**161**	P	**Pg**	**18 06 43.2**	**+0.4**
KBN				*i* Sg	**Sn**	**18 06 57.2**	**-0.7**
SKO	**Skopje**	**0.94**	**54**	P	**Pg**	**18 06 44.5**	**-0.2**
SKO				S	**Sb**	**18 06 58.1**	**+0.1**
SKO	**Skopje**	**0.94**	**54**	⇑*i*Pg	**Pg**	**18 06 44.1**	**-0.6**
SKO	**Skopje**	**0.94**	**54**	*e*Pg	**Pb**	**18 06 45.7**	**+0.4**
SKO				*e*Sg	**Sb**	**18 06 58.8**	**+0.7**
SKO				*e*Lg	Lg	18 06 59.0	
	comp=N,12μm,0.4s						
SKO				*e*Lg	Lg	18 07 00.2	
	comp=E,14μm,1.2s						
SKO	**Skopje**	**0.94**	**54**	*e*Pg	**Pg**	**18 06 44.7**	**0.0**
SKO				*e*Sg	**Sb**	**18 06 57.7**	**-0.3**
SKO				S	**Sb**	**18 06 58.1**	**+0.1**
SKO				*e*Lg	Lg	18 06 59.2	
	comp=E,14μm,1.2s						
FNA	**Florina**	**0.96**	**131**	P	**Pg**	**18 06 44.4**	**-0.7**
FNA				S	**Sb**	**18 06 59.1**	**+0.4**
FNA	**Florina**	**0.96**	**131**	*e*PG	**Pg**	**18 06 44.4**	**-0.7**
FNA				*e*SB	**Sb**	**18 06 59.4**	**+0.7**
FNA	**Florina**	**0.96**	**131**	*e*Pg	**Pg**	**18 06 44.4**	**-0.7**
FNA				S	**Sb**	**18 06 59.1**	**+0.4**
BCI	**Bajram Curri**	**0.98**	**344**	*i* PG	**Pg**	**18 06 44.6**	**-0.8**
BCI				*i* SG	**Sb**	**18 06 59.7**	**+0.5**
BCI	**Bajram Curri**	**0.98**	**344**	*i* Pg	**Pg**	**18 06 44.6**	**-0.8**
BCI				*i* Sg	**Sb**	**18 06 59.7**	**+0.5**
ULC	**Ulcinj**	**1.03**	**302**	⇑*i*Pg	**Pg**	**18 06 45.1**	**-1.4**
ULC				*e*Sg	**Sb**	**18 07 01.6**	**+0.8**
ULC	**Ulcinj**	**1.03**	**302**	⇑*i*Pg	**Pg**	**18 06 45.1**	**-1.4**
ULC				*e*Sg	**Sb**	**18 07 01.6**	**+0.8**
NEST	**Nestorio**	**1.11**	**155**	P	**Pg**	**18 06 47.9**	**-0.1**
NEST				S	**Sn**	**18 07 05.5**	**+1.0**
NEST	**Nestorio**	**1.11**	**155**	P	**Pg**	**18 06 47.9**	**-0.1**
NEST				S	**Sn**	**18 07 05.5**	**+1.0**
DRME	**Dracevica, Mon**	**1.20**	**310**	⇓*i*Pg	**Pg**	**18 06 48.6**	**-1.0**
DRME				*e*Sg	**Sn**	**18 07 07.2**	**+0.6**
DRME	**Dracevica, Mon**	**1.20**	**310**	⇓*i*Pg	**Pg**	**18 06 48.6**	**-1.0**
DRME				*e*Sg	**Sn**	**18 07 07.2**	**+0.6**
PVY	**Plav**	**1.22**	**344**	⇑*i*Pg	**Pg**	**18 06 49.0**	**-1.1**
PVY				*e*Sg	**Sn**	**18 07 07.9**	**+0.6**
PVY	**Plav**	**1.22**	**344**	⇑*i*Pg	**Pg**	**18 06 49.0**	**-1.1**
PVY				*e*Sg	**Sn**	**18 07 07.9**	**+0.6**
PDG	**Podgorica**	**1.33**	**320**	P	**Pn**	**18 06 51.3**	**-0.4**
PDG				S	**Sn**	**18 07 11.4**	**+1.6**
PDG	**Podgorica**	**1.33**	**320**	*e*Pg	**Pn**	**18 06 50.7**	**-1.0**
PDG				*e*Sg	**Sn**	**18 07 10.9**	**+1.1**
PDG	**Podgorica**	**1.33**	**320**	⇑*i*Pg	**Pn**	**18 06 50.5**	**-1.2**
PDG	**Podgorica**	**1.33**	**320**	P	**Pn**	**18 06 51.3**	**-0.4**
PDG				*e*Sg	**Sn**	**18 07 10.9**	**+1.1**
PDG				S	**Sn**	**18 07 11.4**	**+1.6**
TTG	**Podgorica**	**1.33**	**320**	⇑*i*Pg	**Pn**	**18 06 50.5**	**-1.2**
TTG				*e*Sg	**Sn**	**18 07 11.8**	**+2.0**
BUM	**Brajici-Budva**	**1.44**	**308**	⇑*i*Pg	**Pn**	**18 06 53.2**	**-0.1**
BUM				*e*Sg	**Sg**	**18 07 14.9**	**+2.0**
BUM	**Brajici-Budva**	**1.44**	**308**	⇑*i*Pg	**Pn**	**18 06 53.2**	**-0.1**
BUM				*e*Sg	**Sg**	**18 07 14.9**	**+2.0**
BEY	**Berane**	**1.50**	**345**	⇓*i*Pg	**Pb**	**18 06 54.7**	**-0.3**
BEY				*e*Sg	**Sg**	**18 07 17.4**	**+2.5**
IVA	**Berane**	**1.50**	**345**	⇓*i*Pg	**Pb**	**18 06 54.7**	**-0.3**
IVA				*e*Sg	**Sg**	**18 07 17.4**	**+2.5**
KZN	**Kozani**	**1.51**	**137**	P	**Pb**	**18 06 55.1**	**-0.1**
KZN				S	**Sg**	**18 07 17.3**	**+2.1**
KZN	**Kozani**	**1.51**	**137**	*e*PB	**Pb**	**18 06 55.0**	**-0.1**
KZN				*e*SB	**Sg**	**18 07 18.3**	**+3.1**
KZN	**Kozani**	**1.51**	**137**	P	**Pb**	**18 06 55.1**	**-0.1**
KZN				*e*Sb	**Sg**	**18 07 18.3**	**+3.1**
GRG	**Griva**	**1.56**	**107**	P	**Pn**	**18 06 55.3**	**+0.3**
GRG				S	**Sb**	**18 07 16.5**	**+0.5**
GRG	**Griva**	**1.56**	**107**	P	**Pn**	**18 06 55.3**	**+0.3**
GRG				S	**Sb**	**18 07 16.5**	**+0.5**
SRN	**Sarande**	**1.57**	**192**	P	**Pg**	**18 06 57.0**	**+0.2**
SRN	**Sarande**	**1.57**	**192**	P	**Pg**	**18 06 57.0**	**+0.2**
VAY	**Valandovo**	**1.62**	**93**	P	**Pn**	**18 06 54.8**	**-0.9**
VAY				S	**Sg**	**18 07 18.8**	**+0.1**
VAY	**Valandovo**	**1.62**	**93**	⇑*i*Pn	**Pn**	**18 06 54.8**	**-0.9**
VAY	**Valandovo**	**1.62**	**93**	*e*Pn	**Pn**	**18 06 56.3**	**+0.6**
VAY				*e*Sn	**Sg**	**18 07 19.4**	**+0.8**
VAY				*e*Lg	Lg	18 07 19.7	
	comp=N,3μm,0.8s						
VAY				*e*Lg	Lg	18 07 20.9	
	comp=E,2μm,0.7s						
VAY	**Valandovo**	**1.62**	**93**	P	**Pn**	**18 06 54.8**	**-0.9**
VAY	**Valandovo**	**1.62**	**93**	*e*Pn	**Pn**	**18 06 55.7**	**0.0**
VAY				S	**Sg**	**18 07 18.8**	**+0.1**
VAY				*e*Lg	Lg	18 07 20.4	
	comp=E,2μm,0.7s						
NKME	**Niksic**	**1.73**	**321**	⇓*i*Pn	**Pn**	**18 06 58.0**	**+0.7**
NKME				*e*Sn	**Sg**	**18 07 23.4**	**+1.1**
NKME	**Niksic**	**1.73**	**321**	⇓*i*Pn	**Pn**	**18 06 58.0**	**+0.7**
NKME				*e*Sn	**Sg**	**18 07 23.4**	**+1.1**
BARS	**Barje**	**1.74**	**36**	⇓*i*Pn	**Pn**	**18 06 57.8**	**+0.5**
BARS				*e*Sg	**Sg**	**18 07 22.0**	**-0.4**
NKY	**Niksic**	**1.75**	**323**	⇓*i*Pn	**Pb**	**18 06 58.5**	**-0.7**
NKY				*e*Sn	**Sg**	**18 07 23.8**	**+0.9**
NKY	**Niksic**	**1.75**	**323**	⇓*i*Pn	**Pb**	**18 06 58.5**	**-0.7**
NKY				*e*Sn	**Sg**	**18 07 23.8**	**+0.9**
HCY	**Herceg Novi**	**1.77**	**306**	⇑*i*Pn	**Pn**	**18 06 58.5**	**+0.8**
HCY				*e*Sn	**Sg**	**18 07 23.5**	**+0.1**
HCY	**Herceg Novi**	**1.77**	**306**	⇑*i*Pn	**Pn**	**18 06 58.5**	**+0.8**
HCY				*e*Sn	**Sg**	**18 07 23.5**	**+0.1**
KEK	**Kerkira**	**1.77**	**196**	P	**Pb**	**18 06 59.9**	**+0.4**
KEK				S	**Sg**	**18 07 23.8**	**+0.3**
KEK	**Kerkira**	**1.77**	**196**	*e*PG	**Pb**	**18 06 59.6**	**+0.1**
KEK				*e*SN	**Sg**	**18 07 25.8**	**+2.3**
KEK	**Kerkira**	**1.77**	**196**	*e*Pg	**Pb**	**18 06 59.6**	**+0.1**
KEK	**Kerkira**	**1.77**	**196**	P	**Pb**	**18 06 59.9**	**+0.4**
KEK				*e*Sn	**Sg**	**18 07 25.8**	**+2.3**
JAN	**Janina**	**1.79**	**169**	*e*PG	**Pg**	**18 07 01.2**	**+0.2**
JAN				*e*SN	**Sg**	**18 07 27.9**	**+3.7**
JAN	**Janina**	**1.79**	**169**	*e*Pg	**Pg**	**18 07 01.2**	**+0.2**
SJES	**Sjenica**	**1.87**	**350**	⇑*i*Pn	**Pn**	**18 06 59.6**	**+0.4**
SJES				*e*Sg	**Sb**	**18 07 25.7**	**+0.8**
SELS	**Selova**	**1.87**	**16**	⇑*i*Pn	**Pn**	**18 06 58.8**	**-0.4**
SELS				*e*Sg	**Sb**	**18 07 25.6**	**+0.8**
KNT	**Kendrikon**	**1.88**	**97**	P	**Pn**	**18 06 59.9**	**+0.5**
KNT				S	**Sb**	**18 07 25.1**	**-0.1**
KNT	**Kendrikon**	**1.88**	**97**	P	**Pn**	**18 06 59.9**	**+0.5**
KNT				S	**Sb**	**18 07 25.1**	**-0.1**
IGT	**Igoumenitsa**	**1.89**	**182**	P	**Pb**	**18 07 01.8**	**+0.3**
IGT	**Igoumenitsa**	**1.89**	**182**	P	**Pb**	**18 07 01.8**	**+0.3**
TREB	**Trebinje**	**2.01**	**311**	*e*Pn	**Pn**	**18 07 01.8**	**+0.7**
TREB	**Trebinje**	**2.01**	**311**	*e*Pn	**Pn**	**18 07 01.8**	**+0.7**
BRY	**Bratogost**	**2.04**	**317**	⇑*i*Pn	**Pb**	**18 07 03.1**	**-1.0**
BRY				*e*Sn	**Sb**	**18 07 30.6**	**+0.9**
BRY	**Bratogost**	**2.04**	**317**	⇑*i*Pn	**Pb**	**18 07 03.1**	**-1.0**
BRY				*e*Sn	**Sb**	**18 07 30.6**	**+0.9**
PLE	**Pljevlja**	**2.05**	**338**	⇑*i*Pn	**Pb**	**18 07 03.4**	**-1.0**
PLE				*e*Sn	**Sb**	**18 07 30.9**	**+0.7**
PLE	**Pljevlja**	**2.05**	**338**	⇑*i*Pn	**Pb**	**18 07 03.4**	**-1.0**
PLE				*e*Sn	**Sb**	**18 07 30.9**	**+0.7**
THE	**Thessaloniki**	**2.08**	**111**	P	**Pn**	**18 07 02.6**	**+0.6**
THE	**Thessaloniki**	**2.08**	**111**	P	**Pn**	**18 07 02.6**	**+0.6**
UPM	**Unac-Piva**	**2.10**	**328**	⇓*i*Pn	**Pn**	**18 07 04.0**	**+1.4**
UPM				*e*Sn	**Sb**	**18 07 32.7**	**+0.9**
UPM	**Unac-Piva**	**2.10**	**328**	⇓*i*Pn	**Pn**	**18 07 04.0**	**+1.4**
UPM				*e*Sn	**Sb**	**18 07 32.7**	**+0.9**
IVAS	**Ivanjica**	**2.16**	**355**	⇓*i*Pn	**Pn**	**18 07 03.7**	**+0.5**
IVAS	**Ivanjica**	**2.16**	**355**	⇓*i*Pn	**Pn**	**18 07 03.7**	**+0.5**
HORT	**Hortiatis**	**2.19**	**111**	P	**Pn**	**18 07 04.0**	**+0.4**
HORT	**Hortiatis**	**2.19**	**111**	P	**Pn**	**18 07 04.0**	**+0.4**
THL	**Klokotos Trika**	**2.22**	**146**	P	**Pn**	**18 07 05.2**	**+1.3**
THL	**Klokotos Trika**	**2.22**	**146**	*e*PN	**Pn**	**18 07 05.2**	**+1.3**
THL				*e*SN	**Sg**	**18 07 37.0**	**-0.8**
THL	**Klokotos Trika**	**2.22**	**146**	*e*Pn	**Pn**	**18 07 05.2**	**+1.3**
SOH	**Sokhos**	**2.29**	**104**	P	**Pn**	**18 07 06.2**	**+1.2**
SOH	**Sokhos**	**2.29**	**104**	*e*PN	**Pn**	**18 07 06.1**	**+1.1**
SOH				*e*SN	**Sb**	**18 07 35.7**	**-1.4**
SOH	**Sokhos**	**2.29**	**104**	*e*Pn	**Pn**	**18 07 06.1**	**+1.1**
SOH				*e*Sn	**Sb**	**18 07 35.7**	**-1.4**
PE1	**Pezze di Greco**	**2.35**	**256**	*e*Pn	**Pn**	**18 07 05.7**	**0.0**
PE1				*e*Sn	**Sn**	**18 07 32.7**	**-2.1**
VTS	**Vitosha**	**2.38**	**60**	P	**Pn**	**18 07 07.7**	**+1.4**
VTS	**Vitosha**	**2.38**	**60**	⇑P	**Pn**	**18 07 08.2**	**+1.9**
VTS				S	**Sn**	**18 07 37.0**	**+1.0**
VTS	**Vitosha**	**2.38**	**60**	⇑*i*P	**Pn**	**18 07 08.2**	**+1.9**
VTS				S	**Sn**	**18 07 37.0**	**+1.0**
VTS	**Vitosha**	**2.38**	**60**	⇑*i*Pn	**Pn**	**18 07 07.4**	**+1.1**
VTS	**Vitosha**	**2.38**	**60**	⇑*i*Pn	**

AMT	Artemida-Makis	4.01	165	P	Pn	18 07 31.5 +2.9
AMT	Artemida-Makis	4.01	165	P	Pn	18 07 31.5 +2.9
ALN	Alexandroupoli	4.28	95	ePN	Pn	18 07 33.7 +1.5
ALN	Alexandroupoli	4.28	95	ePn	Pn	18 07 33.7 +1.5
BZS	Buzias	4.28	11	⇑P	Pn	18 07 32.4 +0.1
BZS				S	Sn	18 08 21.6 -0.9
BZS	Buzias	4.28	11	⇑iP	Pn	18 07 32.4 +0.1
BZS				S	Sn	18 08 21.6 -0.9
BZS	Buzias	4.28	11	⇓iPn	Pn	18 07 32.0 -0.3
BZS	Buzias	4.28	11	⇓iPn	Pn	18 07 32.0 -0.3
BZS	Buzias	4.28	11	P	Pn	18 07 32.4 +0.1
BZS				S	Sn	18 08 21.6 -0.9
VLX	Vlachokerasia	4.32	159	ePN	Pn	18 07 36.4 +3.5
VLX	Vlachokerasia	4.32	159	ePn	Pn	18 07 36.4 +3.5
CEL	Celeste	4.70	229	ePn	Pn	18 07 37.9 -0.3
CEL				eSn	Sn	18 08 31.2 -1.8
CEL	Celeste	4.70	229	ePn	Pn	18 07 37.9 -0.3
CEL				eSn	Sn	18 08 31.2 -1.8
LOT	Lotru	4.70	30	⇑iP	Pn	18 07 38.9 +0.7
LOT				S	Sn	18 08 31.4 -1.7
LOT	Lotru	4.70	30	⇑iP	Pn	18 07 38.9 +0.7
DEV	Deva	4.81	21	⇓P	Pn	18 07 40.0 +0.5
DEV	Deva	4.81	21	⇓iP	Pn	18 07 40.0 +0.5
DEV	Deva	4.81	21	P	Pn	18 07 40.0 +0.5
SIRR	Siria	4.93	10	⇑iP	Pn	18 07 41.4 +0.2
SIRR				S	Sn	18 08 35.7 -2.8
SIRR	Siria	4.93	10	⇑iP	Pn	18 07 41.4 +0.2
PKSM	Moragy	4.96	346	⇑P	Pn	18 07 42.0 +0.4
PKSM				S	Sn	18 08 38.3 -0.9
PKSM	Moragy	4.96	346	⇑iP	Pn	18 07 42.0 +0.4
PKSM				S	Sn	18 08 38.3 -0.9
PKSM	Moragy	4.96	346	⇓ePn	Pn	18 07 43.3 +1.7
PKSM				e		18 08 40.7
PKSM	Moragy	4.96	346	P	Pn	18 07 42.0 +0.4
PKSM				S	Sn	18 08 38.3 -0.9
ARR	Arges	5.00	36	⇓iP	Pn	18 07 43.6 +1.4
ARR	Arges	5.00	36	⇓iP	Pn	18 07 43.6 +1.4
NVLJ	Novalja	5.14	309	ePn	Pn	18 07 45.1 +1.0
NVLJ				Sn	Sn	18 08 45.2 +1.6
PKS2	Kecel	5.14	351	⇓ePn	Pn	18 07 45.3 +1.2
PKS2				eSdiff	Sn	18 08 49.4 +5.7
PKS2	Kecel	5.14	351	⇓eP	Pn	18 07 45.3 +1.2
VOIR		5.24	38	⇑P	Pn	18 07 47.0 +1.5
VOIR		5.24	38	⇑iP	Pn	18 07 47.0 +1.5
VOIR		5.24	38	P	Pn	18 07 47.0 +1.5
SULR		5.37	51	⇑iP	Pn	18 07 49.2 +2.0
SULR		5.37	51	⇑iP	Pn	18 07 49.2 +2.0
PKS9	Tamasi	5.39	344	⇓ePn	Pn	18 07 50.5 +3.0
PKS9				e		18 08 53.1
PKS9	Tamasi	5.39	344	⇓eP	Pn	18 07 50.5 +3.0
PKSN	Nyarlorinc	5.49	356	⇓ePn	Pn	18 07 50.1 +1.3
PKSN				⇑e		18 08 51.9
PKSN	Nyarlorinc	5.49	356	⇓eP	Pn	18 07 50.1 +1.3
PKSN				eS	Sn	18 08 51.9 -0.3
BOJS	Bojanci	5.55	319	i Pn	Pn	18 07 51.5 +1.8
BOJS				i Sn	Sn	18 08 55.4 +1.6
BOJS	Bojanci	5.55	319	i Pn	Pn	18 07 51.5 +1.8
BOJS				i Sn	Sn	18 08 55.4 +1.6
DRGR		5.62	16	⇓P	Pn	18 07 50.8 +0.1
DRGR				S	Sn	18 08 53.1 -2.4
DRGR		5.62	16	⇓iP	Pn	18 07 50.8 +0.1
DRGR				S	Sn	18 08 53.1 -2.4
DRGR		5.62	16	P	Pn	18 07 50.8 +0.1
CRES	Cresnjev	5.69	322	eSn	Sg	18 09 34.7 +5.5
BEHE	Becsehely	5.69	334	⇓ePn	Pn	18 07 48.6 -3.1
PKS7	Kunszentmiklos	5.70	351	⇓ePn	Pn	18 07 54.6 +2.9
PKS7				eSn	Sn	18 08 59.4 +2.0
PKS7	Kunszentmiklos	5.70	351	⇓eP	Pn	18 07 54.6 +2.9
PKS7				eS	Sn	18 08 59.4 +2.0
MLR	Muntele Rosu	5.72	43	Pn	Pn	18 07 53.9 +1.8
MLR				Sn	Sn	18 08 58.6 +0.5
MLR	Muntele Rosu	5.72	43	⇑iP	Pn	18 07 54.2 +2.1
MLR	Muntele Rosu	5.72	43	Pn	Pn	18 07 53.9 +1.8
	comp=E,1.2nm,0.3s,baz=223,slow=13,SNR=42					
MLR				Sn	Sn	18 08 58.6 +0.5
	comp=E,0.6nm,0.3s,baz=54,slow=19,SNR=3.1					
MLR	Muntele Rosu	5.72	43	P	Pn	18 07 53.9 +1.8
MLR				S	Sn	18 08 58.6 +0.5
GBRS	Gornja Briga	5.79	317	ePn	Pn	18 07 55.6 +2.5
DOPR	Dopca	5.80	37	⇓iP	Pn	18 07 54.6 +1.5
DOPR	Dopca	5.80	37	⇓iP	Pn	18 07 54.6 +1.5
ISR	Istrita	5.80	48	⇓P	Pn	18 07 55.2 +2.0
ISR	Istrita	5.80	48	⇓iP	Pn	18 07 55.2 +2.0
ISR	Istrita	5.80	48	P	Pn	18 07 55.2 +2.0
VISS	Visnje	5.96	319	ePn	Pn	18 07 57.3 +1.9
VISS	Visnje	5.96	319	ePn	Pn	18 07 57.3 +1.9
KNDS	Knezji Dol	6.01	315	ePn	Pn	18 07 57.8 +1.6
KNDS	Knezji Dol	6.01	315	ePn	Pn	18 07 57.8 +1.6
PKST	T"'s	6.08	344	⇓ePn	Pn	18 08 00.1 +3.1
PKST				eSn	Sn	18 09 09.4 +2.5
PKST	T"'s	6.08	344	⇓eP	Pn	18 08 00.1 +3.1
PKST				eS	Sn	18 09 09.4 +2.5
BUD	Budapest	6.14	351	⇓ePn	Pn	18 08 01.5 +3.7
BUD				eSn	Sn	18 09 11.7 +3.3
BUD	Budapest	6.14	351	⇓eP	Pn	18 08 01.5 +3.7
PKSG		6.14	347	⇓e	Pn	18 08 02.3 +4.5
PKSG				e		18 09 13.9
GROS	Grobnik	6.16	326	i Pn	Pn	18 07 59.6 +1.4
GROS				i Sn	Sn	18 09 11.2 +2.2
GROS	Grobnik	6.16	326	i Pn	Pn	18 07 59.6 +1.4
GROS				i Sn	Sn	18 09 11.2 +2.2
LJU	Ljubljana	6.29	319	i Pn	Pn	18 08 01.6 +1.7
LJU	Ljubljana	6.29	319	i Pn	Pn	18 08 01.6 +1.7
LJU				i Sn	Sn	18 09 15.4 +3.4
PLOR	Plostina	6.33	43	⇑P	Pn	18 08 02.3 +1.9
PLOR	Plostina	6.33	43	⇑iP	Pn	18 08 02.3 +1.9
PLOR	Plostina	6.33	43	P	Pn	18 08 02.3 +1.9
VRI	Vrincioaia	6.38	44	⇑P	Pn	18 08 02.5 +1.4
VRI	Vrincioaia	6.38	44	⇑iP	Pn	18 08 02.5 +1.4
VRI	Vrincioaia	6.38	44	P	Pn	18 08 02.5 +1.4
TLB	Topalu	6.42	58	⇑P	Pn	18 08 03.1 +1.5
TLB	Topalu	6.42	58	⇑iP	Pn	18 08 03.1 +1.5
TLB	Topalu	6.42	58	P	Pn	18 08 03.1 +1.5
JAVS	Javornik	6.42	316	i Pn	Pn	18 08 03.3 +1.5
JAVS				i Sn	Sn	18 09 16.3 +0.9
JAVS	Javornik	6.42	316	i Pn	Pn	18 08 03.3 +1.5
JAVS				i Sn	Sn	18 09 16.3 +0.9
TRI	Trieste	6.46	314	eP	Pn	18 08 02.0 -0.2
TRI	Trieste	6.46	314	ePn	Pn	18 08 02.0 -0.2
TRI	Trieste	6.46	314	eP	Pn	18 08 02.0 -0.2
PSZ	Piszkesteto	6.51	357	⇑P	Pn	18 08 03.1 +0.2
PSZ				S	Sn	18 09 16.6 -0.9
PSZ	Piszkesteto	6.51	357	ePn	Pn	18 08 03.2 +0.2
PSZ				eSn	Sn	18 09 08.4 -9.1
PSZ	Piszkesteto	6.51	357	⇑iP	Pn	18 08 03.1 +0.2
PSZ				S	Pb	18 08 16.6 -3.6
PSZ	Piszkesteto	6.51	357	⇓ePn	Pn	18 08 03.7 +0.8
PSZ				e		18 09 17.9
PSZ	Piszkesteto	6.51	357	ePn	Pn	18 08 03.2 +0.3
PSZ				S	Sn	18 09 16.6 -0.9
SOKA	Soboth	6.53	325	⇓iPn	Pn	18 08 04.9 +1.6
	comp=E,20nm,0.7s,SNR=22					
SOKA	Soboth	6.53	325	Pn	Pn	18 08 04.9 +1.6
	comp=E,20nm,0.7s,SNR=22					
VOY	Vojsko	6.60	316	ePn	Pn	18 08 05.7 +1.5
VOY				eSn	Sn	18 09 19.7 -0.1
VOY	Vojsko	6.60	316	ePn	Pn	18 08 05.7 +1.5
VOY				eSn	Sn	18 09 19.7 -0.1
TIRR	Tirgusor	6.60	60	⇑P	Pn	18 08 05.0 +0.9
TIRR	Tirgusor	6.60	60	ePn	Pn	18 08 05.4 +1.2
TIRR	Tirgusor	6.60	60	⇑iP	Pn	18 08 05.0 +0.9
TIRR	Tirgusor	6.60	60	P	Pn	18 08 05.0 +0.9
TIRR	Tirgusor	6.60	60	ePn	Pn	18 08 05.4 +1.2
OBKA	Obir	6.62	322	⇑ePn	Pn	18 08 06.5 +2.0
	comp=E,3.4nm,0.2s					
OBKA	Obir	6.62	322	Pn	Pn	18 08 06.5 +2.0
	comp=E,3.4nm,0.2s					
CFR	Carcaliu	6.76	54	⇑P	Pn	18 08 07.7 +1.3
CFR				S	Sn	18 09 23.2 -0.5
CFR	Carcaliu	6.76	54	⇑iP	Pn	18 08 07.7 +1.3
CFR				S	Pb	18 08 23.2 -1.3
CFR	Carcaliu	6.76	54	P	Pn	18 08 07.7 +1.3
CFR				S	Sn	18 09 23.2 -0.5
TESR	Tescani	6.79	39	⇓iP	Pn	18 08 08.0 +1.3
TESR	Tescani	6.79	39	⇓iP	Pn	18 08 08.0 +1.3
ARSA	Arzberg	6.80	331	⇓iPn	Pn	18 08 09.8 +2.9
	comp=E,4.2nm,0.3s,SNR=17					
ARSA	Arzberg	6.80	331	Pn	Pn	18 08 09.8 +2.9
	comp=E,4.2nm,0.3s,SNR=17					
SOP	Sopron	6.84	338	⇓ePn	Pn	18 08 12.4 +5.0
TRPA	Tarpa	6.87	12	⇑iP	Pn	18 08 08.3 +0.4
TRPA	Tarpa	6.87	12	⇑iP	Pn	18 08 08.3 +0.4
IDI	Anoyia	7.06	149	Pn	Pn	18 08 11.1 +0.6
IDI				Sn	Sn	18 09 28.9 -2.2
IDI	Anoyia	7.06	149	Pn	Pn	18 08 11.1 +0.6
	comp=E,0.6nm,0.3s,baz=308,slow=12,SNR=4.4					
IDI				Sn	Sn	18 09 28.9 -2.2
	comp=E,0.8nm,0.3s,baz=321,slow=18,SNR=2.1					
IDI				LR	LR	18 11 05.8
	comp=E,188nm,20.0s,baz=318,slow=40					
IDI	Anoyia	7.06	149	Pn	Pn	18 08 11.1 +0.6
IDI				Sn	Sn	18 09 28.9 -2.2
KECS	Kecovo	7.06	0	eP	Pn	18 08 12.1 +1.6
KECS				e		18 09 31.1
KECS	Kecovo	7.06	0	ePN	Pn	18 08 12.1 +1.6
KECS				eSN	Sn	18 09 31.1 +0.1
KECS	Kecovo	7.06	0	eP	Pn	18 08 12.1 +1.6
KECS				eS	Sn	18 09 31.1 +0.1
BURAR	Bucovina Array	7.08	27	⇓P	Pn	18 08 12.6 +1.9
BURAR	Bucovina Array	7.08	27	⇓iP	Pn	18 08 12.6 +1.9
BURAR	Bucovina Array	7.08	27	⇓iP	Pn	18 08 12.6 +1.9
BUR08	Bucovina Ar. S	7.09	27	ePn	Pn	18 08 12.5 +1.5
BUR08	Bucovina Ar. S	7.09	27	ePn	Pn	18 08 12.5 +1.5
VYHS	Vyhne	7.16	352	eP	Pn	18 08 13.9 +2.1
VYHS				e		18 09 28.7
VYHS	Vyhne	7.16	352	ePN	Pn	18 08 13.8 +2.0
VYHS				eSN	Sn	18 09 28.7 -4.8
VYHS	Vyhne	7.16	352	eP	Pn	18 08 13.9 +2.1
TLCR		7.18	56	⇓P	Pn	18 08 14.1 +2.0
TLCR		7.18	56	⇓iP	Pn	18 08 14.1 +2.0
TLCR		7.18	56	P	Pn	18 08 14.1 +2.0
CONA	Conrad Observa	7.27	335	⇑iPn	Pn	18 08 16.9 +3.5
	comp=E,19nm,1.2s,SNR=12					
UZH	Uzhgorod	7.33	10	eP	Pn	18 08 14.6 +0.5
UZH				eS	Sn	18 09 37.9 +0.3
UZH				MLR	MLR	
	comp=N,500nm,8.0s					
UZH				MLR	MLR	
	comp=E,600nm,8.0s					
UZH				MLR	MLR	
	comp=Z,300nm,8.0s					
UZH	Uzhgorod	7.33	10	eP	Pn	18 08 14.6 +0.5
UZH				eS	Sn	18 09 37.9 +0.3
SMOL	Smolenice	7.40	344	eP	Pn	18 08 20.6 +5.5
SMOL				e		18 09 40.5
SMOL	Smolenice	7.40	344	ePN	Pn	18 08 20.6 +5.5
SMOL				eSN	Sn	18 09 40.5 +1.1
SMOL	Smolenice	7.40	344	eS	Sn	18 09 40.5 +1.1
KBA	Koelnbreinsper	7.60	320	⇓iPn	Pn	18 08 19.6 +1.6
	comp=Z,11nm,0.4s,SNR=14					
KBA	Koelnbreinsper	7.60	320	Pn	Pn	18 08 19.6 +1.6
	comp=Z,11nm,0.4s,SNR=14					
KOLS	Kolonicke sedl	7.62	9	eP	Pn	18 08 19.9 +1.7
KOLS				e		18 09 45.6
KOLS	Kolonicke sedl	7.62	9	ePN	Pn	18 08 19.9 +1.7
KOLS				eSN	Sn	18 09 45.5 +0.7
KOLS	Kolonicke sedl	7.62	9	eP	Pn	18 08 19.9 +1.7
KOLS				eS	Sn	18 09 45.6 +0.7
MOA	Molin	7.78	328	⇓iPn	Pn	18 08 22.8 +2.4
	comp=Z,12nm,0.6s,SNR=12					
MOA	Molin	7.78	328	Pn	Pn	18 08 22.8 +2.4
	comp=Z,12nm,0.6s,SNR=12					
ABTA	Abfaltersbach	7.79	316	⇑ePn	Pn	18 08 22.4 +1.8
	comp=Z,7.8nm,0.4s					
ABTA	Abfaltersbach	7.79	316	Pn	Pn	18 08 22.4 +1.8
	comp=Z,7.8nm,0.4s					
NIE	Niedzica	8.00	359	eP	Pn	18 08 27.8 +4.5
NIE	Niedzica	8.00	359	ePn	Pn	18 08 27.8 +4.5
STHS	Stebnicka Huta	8.02	4	eP	Pn	18 08 25.8 +2.2
STHS				e		18 09 55.6
STHS	Stebnicka Huta	8.02	4	ePN	Pn	18 08 25.8 +2.2
STHS				eSN	Sn	18 09 55.6 +1.1
STHS	Stebnicka Huta	8.02	4	eP	Pn	18 08 25.8 +2.2
STHS				eS	Sn	18 09 55.6 +1.1
KIS	Kishinev	8.21	44	e	Pn	18 08 28.0 +1.8
VRAC	Vranov	8.33	342	Pn	Pn	18 08 29.8 +1.8
VRAC				Sn	Sn	18 10 05.9 +3.6
VRAC	Vranov	8.33	342	Pn	Pn	18 08 29.8 +1.8
	comp=Z,0.3nm,0.3s,baz=165,slow=15,SNR=6.1					
VRAC				Sn	Sn	18 10 05.9 +3.6
	comp=Z,0.7nm,0.3s,baz=137,slow=19,SNR=3.6					
KWP	Kalwaria Pacla	8.37	10	eP	Pn	18 08 31.0 +2.7
KWP				pmax	pmax	
	comp=Z,20nm,0.9s					
KWP	Kalwaria Pacla	8.37	10	ePn	Pn	18 08 31.0 +2.7
	comp=Z,20nm,0.9s					
KWP	Kalwaria Pacla	8.37	10	eP	Pn	18 08 31.0 +2.7
	comp=Z,20nm,0.9s					
OKC	Ostrava-Krasne	8.56	350	eP	Pn	18 08 35.1 +4.0
OKC				e		18 10 09.5
OKC	Ostrava-Krasne	8.56	350	ePN	Pn	18 08 35.1 +4.0
OKC				eSN	Sn	18 10 09.5 +1.5
OKC	Ostrava-Krasne	8.56	350	Pn	Pn	18 08 35.1 +4.0
OKC				Sn	Sn	18 10 09.5 +1.5
PGF	Pioggiola	8.58	281	eP	Pn	18 08 32.7 +1.2
PGF	Pioggiola	8.58	281	eP	Pn	18 08 32.7 +1.2
PGF	Pioggiola	8.58	281	eP	Pn	18 08 32.7 +1.2
PGF	Pioggiola	8.58	281	eP	Pn	18 08 32.7 +1.2
WTTA	Wattenberg	8.58	316	⇑iPn	Pn	18 08 33.8 +2.3
	comp=Z,7.9nm,0.4s,SNR=8.0					
WTTA	Wattenberg	8.58	316	Pn	Pn	18 08 33.8 +2.3
	comp=Z,7.9nm,0.4s,SNR=8.0					
MORC	Moravsky Berou	8.60	347	eP	Pn	18 08 32.6 +1.0
MORC				e		18 10 08.6
MORC	Moravsky Berou	8.60	347	ePn	Pn	18 08 32.5 +1.0
MORC				eSn	Sn	18 10 08.6 -0.2
MORC	Moravsky Berou	8.60	347	eP	Pn	18 08 32.6 +1.0
MORC				eS	Sn	18 10 08.6 -0.2
TREC	Trest	8.60	338	eP	Pn	18 08 35.8 +4.2
TREC				MLR	MLR	
	comp=Z,700nm,9.0s					
TREC	Trest	8.60	338	ePN	Pn	18 08 35.8 +4.2
TREC				ex	x	18 08 43.0
TREC				AMS	AMS	18 12 10.0
	comp=Z,700nm,9.0s					
GEC2	GERESS Array S	8.81	330	eP	Pn	18 08 36.4 +1.9
GEC2	GERESS Array S	8.81	330	ePn	Pn	18 08 36.4 +1.9
GEC2	GERESS Array S	8.81	330	eP	Pn	18 08 36.4 +1.9
GERES	GERESS Array B	8.81	330	Pn	Pn	18 08 36.0 +1.5
GERES				Sn	Sn	18 10 13.9 -0.2
GERES	GERESS Array B	8.81	330	Pn	Pn	18 08 36.0 +1.5
	comp=Z,0.4nm,0.3s,baz=153,slow=14,SNR=25					
GERES				Sn	Sn	18 10 13.9 -0.2
	comp=Z,0.3nm,0.3s,baz=142,slow=21,SNR=3.0					
GERES				LR	LR	18 12 34.0
	comp=Z,276nm,19.0s,baz=139,slow=42					
GERES	GERESS Array B	8.81	330	P	Pn	18 08 36.0 +1.5
GERES				S	Sn	18 10 13.9 -0.2
OJC	Ojcow	8.81	357	eP	Pn	18 08 31.6 -2.8
OJC	Ojcow	8.81	357	ePn	Pn	18 08 31.6 -2.8
MOTA	Moosalm	8.92	315	⇓ePn	Pn	18 08 38.0 +2.0
	comp=Z,16nm,0.6s,SNR=18					
MOTA	Moosalm	8.92	315	Pn	Pn	18 08 38.0 +2.0
	comp=Z,16nm,0.6s,SNR=18					
FUORN	Ofenpass-Fuorn	8.97	309	ePn	Pn	18 08 40.7 +3.8
FUORN	Ofenpass-Fuorn	8.97	309	ePn	Pn	18 08 40.7 +3.8
KHC	Kasperske Hory	9.09	330	eP	Pn	18 08 40.1 +1.8
KHC				e		18 10 21.8
KHC				MLR	MLR	
	comp=Z,300nm,14.6s					
KHC	Kasperske Hory	9.09	330	ePN	Pn	18 08 40.1 +1.8
KHC				ex	x	18 08 47.0
KHC				eSN	Sn	18 10 21.8 +0.9
KHC				AMS	AMS	18 12 30.0
	comp=Z,300nm,14.6s					
KHC	Kasperske Hory	9.09	330	ePn	Pn	18 08 38.7 +0.4
KHC	Kasperske Hory	9.09	330	Pn	Pn	18 08 40.1 +1.8
KHC				Sn	Sn	18 10 21.8 +0.9
DAVOX	Davos/Dischmat	9.28	309	Pn	Pn	18 08 42.8 +1.7
DAVOX				Sn	Sn	18 10 26.5 +0.7
DAVOX	Davos/Dischmat	9.28	309	Pn	Pn	18 08 42.8 +1.7
	comp=Z,1.4nm,0.3s,baz=127,slow=17,SNR=20					
DAVOX				Sn	Sn	18 10 26.5 +0.7
	comp=Z,0.7nm,0.3s,baz=356,slow=13,SNR=3.7					
DAVOX				LR	LR	18 12 43.8
	comp=Z,198nm,21.8s,baz=91,slow=41					
DAVOX	Davos/Dischmat	9.28	309	P	Pn	18 08 42.8 +1.7
	comp=Z,1.0nm,0.3s					
DAVOX				S	Sn	18 10 26.5 +0.7
	comp=Z,198nm,21.8s					
DPC	Dobruska-Polom	9.37	344	eP	Pn	18 08 46.1 +3.9
DPC	Dobruska-Polom	9.37	344	ePN	Pn	18 08 46.1 +3.9
DPC				ex	x	18 08 53.2
DPC	Dobruska-Polom	9.37	344	ePn	Pn	18 08 46.4 +4.2
DPC	Dobruska-Polom	9.37	344	Pn	Pn	18 08 46.1 +3.9
TUE	Stuetta	9.45	306	ePn	Pn	18 08 44.3 +0.9
TUE	Stuetta	9.45	306	ePn	Pn	18 08 44.3 +0.9
PRU	Pruhonice	9.50	336	eP	Pn	18 08 47.8 +3.9
PRU				MLR	MLR	
	comp=Z,600nm,9.6s					
PRU	Pruhonice	9.50	336	ePN	Pn	18 08 47.8 +3.9
PRU				ex	x	18 08 54.5
PRU				AMS	AMS	18 12 40.0
	comp=Z,600nm,9.6s					
PRU	Pruhonice	9.50	336	Pn	Pn	18 08 47.8 +3.9
DAVA	Damuels	9.55	311	⇓iPn	Pn	18 08 46.5 +1.7
	comp=Z,4.6nm,0.4s					
DAVA	Damuels	9.55	311	Pn	Pn	18 08 46.5 +1.7
	comp=Z,4.6nm,0.4s					
UPC	Upice	9.59	343	eP	Pn	18 08 48.2 +3.1
UPC	Upice	9.59	343	ePN	Pn	18 08 48.2 +3.1
UPC	Upice	9.59	343	Pn	Pn	18 08 48.2 +3.1
SBF	Sospel	9.88	289	ePn	Pn	18 08 45.8 -3.3
SBF	Sospel	9.88	289	eP	Pn	18 08 51.2 +2.1
SBF	Sospel	9.88	289	eP	Pn	18 08 45.8 -3.3
SBF	Sospel	9.88	289	ePn	Pn	18 08 45.8 -3.3
SBF	Sospel	9.88	289	eP	Pn	18 08 51.2 +2.1
BR131	Keskin Array S	10.20	95	Pn	Pn	18 08 55.0 +1.3
BR131	Keskin Array S	10.20	95	Pn	Pn	18 08 55.0 +1.3
BRTR	Keskin Array B	10.20	95	Pn	Pn	18 08 54.7 +1.1
BRTR	Keskin Array B	10.20	95	Pn	Pn	18 08 54.7 +1.1
	comp=Z,0.0nm,0.3s,baz=277,slow=14,SNR=2.5					
BRTR	Keskin Array B	10.20	95	P	Pn	18 08 54.7 +1.1
KEST	Kesra	10.36	240	LR	LR	18 14 07.6
	comp=Z,84nm,18.0s,baz=18,slow=44					
FRF	La Foret Royal	10.40	286	eP	Pn	18 08 58.6 +2.4
FRF	La Foret Royal	10.40	286	eP	Pn	18 08 58.6 +2.4
FRF	La Foret Royal	10.40	286	eP	Pn	18 08 58.6 +2.4
FRF	La Foret Royal	10.40	286	eP	Pn	18 08 58.6 +2.4
BRG	Berggiesshubel	10.46	337	e(PG)	Pn	18 09 02.9 +5.8
BRG				e		18 10 19.4
BRG	Berggiesshubel	10.46	337	SG	Sn	18 11 21.8 +27
	comp=Z,6.4nm,0.9s					
BRG						
	comp=N,471nm,7.3s					
BRG						
	comp=E,353nm,11.6s					
BRG						
	comp=Z,610nm,7.7s					
BRG	Berggiesshubel	10.46	337	eP	Pn	18 09 02.9 +5.8
BRG				MLR	MLR	
	comp=N,471nm,7.3s					
BRG				MLR	MLR	
	comp=E,353nm,11.6s					
BRG				MLR	MLR	
	comp=Z,610nm,7.7s					
MBDF	Montbardon	10.52	293	ePn	Pn	18 08 56.3 -1.7
MBDF				eSn	Sn	18 10 44.8 -12
	comp=Z,6.2nm,0.6s					
MBDF	Montbardon	10.52	293	eP	Pn	18 08 56.3 -1.7
MBDF				e		18 10 44.8
MBDF	Montbardon	10.52	293	ePn	Pn	18 08 56.3 -1.7
MBDF				eSn	Sn	18 10 44.8 -12
BNI	Bardonecchia	10.66	294	P	Pn	18 08 55.7 -4.3
BNI	Bardonecchia	10.66	294	Pn	Pn	18 08 55.7 -4.3
SENIN	Lac Senin/Sane	10.68	302	ePn	Pn	18 09 00.9 +0.7
SENIN	Lac Senin/Sane	10.68	302	ePn	Pn	18 09 00.9 +0.7
LPG	La Plagne	10.74	297	ePn	Pn	18 09 00.0 -1.1
LPG				eSn	Sn	18 10 51.4 -11
	comp=Z,18nm,0.7s					
LPG	La Plagne	10.74	297	eP	Pn	18 09 00.0 -1.1
LPG				e		18 10 51.4
LPG	La Plagne	10.74	297	ePn	Pn	18 09 00.0 -1.1
LPG				eSn	Sn	18 10 51.4 -11
LPL	La Plagne	10.76	297	ePn	Pn	18 09 00.3 -1.0
LPL				eSn	Sn	18 10 50.4 -12
	comp=Z,9.8nm,0.5s					
LPL	La Plagne	10.76	297	eP	Pn	18 09 00.3 -1.0
LPL				e		18 10 50.4
LPL	La Plagne	10.76	297	ePn	Pn	18 09 00.3 -1.0
LPL				eSn	Sn	18 10 50.4 -12
STU	Stuttgart	10.81	317	eP	Pn	18 08 59.5 -2.3
STU	Stuttgart	10.81	317	ePn	Pn	18 08 59.5 -2.3
BFO	Black Forest	11.01	313	eP	Pn	18 09 02.2 -2.4
BFO	Black Forest	11.01	313	ePn	Pn	18 09 02.1 -2.4
AKASG	Malin Array Be	11.11	30	P	Pn	18 09 05.8 0.0
AKASG	Malin Array Be	11.11	30	Pn	Pn	18 09 05.8 0.0

KBZ Khabaz 16.71 75 Pn **P 18 10 24.3 +0.7**
comp=Z,0.1nm,0.3s,baz=259,slow=13,SNR=10
KBZ LR LR 18 18 14.9
comp=Z,65nm,20.0s,baz=106,slow=42
KBZ Khabaz 16.71 75 Pn **P 18 10 24.3 +0.7**
OBN Obninsk 17.35 32 *e*P **P 18 10 30.0 -0.6**
OBN pmax pmax
comp=Z,7.0nm,1.0s
OBN Obninsk 17.35 32 *e*P **P 18 10 30.0 -0.6**
comp=Z,7.0nm,1.0s
ZEI Tsey 17.47 78 *e*P **P 18 10 34.1 +1.9**
ZEI pmax pmax
comp=Z,24nm,1.7s
ZEI Tsey 17.47 78 *e*P **P 18 10 34.1 +1.9**
comp=Z,24nm,1.7s
VRHR Novokhopersk 17.51 49 *e*P **Pn 18 10 31.1 -0.1**
VRHR pmax pmax
comp=Z,10.0nm,0.7s
VRHR pmax pmax
comp=N,10.0nm,0.5s
VRHR pmax pmax
comp=E,9.0nm,1.4s
VRHR Novokhopersk 17.51 49 *e*P **Pn 18 10 31.1 -0.1**
comp=E,10.0nm,0.5s
VSU Vasula 17.52 11 *e*P **P 18 10 33.5 +1.1**
VSU Vasula 17.52 11 *e*P **P 18 10 33.5 +1.1**
GNI Garni 18.45 86 *e*Pn **Pn 18 10 44.4 +1.3**
comp=E,55nm,1.8s
GNI Garni 18.45 86 *e*Pn **Pn 18 10 44.4 +1.3**
comp=E,55nm,1.8s
GNI Garni 18.45 86 *e*P **Pn 18 10 45.5 +2.4**
comp=E,8.0nm,1.2s
ESDC Sonseca Array 18.60 273 P **P 18 10 43.3 -1.3**
ESDC Sonseca Array 18.60 273 P **P 18 10 43.3 -1.3**
comp=E,0.1nm,0.3s,baz=66,slow=9.1,SNR=3.0
ESDC LR LR 18 18 25.5
comp=E,81nm,19.4s,baz=50,slow=39
ESLA Sonseca Array 18.60 273 P **P 18 10 41.9 -2.7**
comp=E,2.8nm,1.2s
HFS Hagfors 19.19 350 P **P 18 10 50.8 -0.1**
HFS Hagfors 19.19 350 P **P 18 10 50.8 -0.1**
comp=E,1.0nm,0.3s,baz=163,slow=10,SNR=22
HFS Hagfors 19.19 350 P **P 18 10 50.8 -0.1**
NAO01 NORSAR Array S 20.31 346 *e*P **P 18 11 01.4 -1.6**
comp=E,11nm,0.8s
FINES FINESS Array B 20.34 8 P **P 18 11 02.7 -0.6**
FINES FINESS Array B 20.34 8 P **P 18 11 02.7 -0.6**
comp=E,3.5nm,0.8s,baz=183,slow=11,SNR=14
FINES FINESS Array B 20.34 8 P **P 18 11 02.7 -0.6**
NB2 NORSAR Subarra 20.43 347 P **P 18 11 04.4 0.0**
comp=Z,8.2nm,0.8s,baz=153,slow=11
NB2 NORSAR Subarra 20.43 347 P **P 18 11 04.4 0.0**
comp=Z,8.2nm,0.8s,SNR=1.9
NOA NORSAR Array B 20.43 347 P **P 18 11 04.3 0.0**
NOA NORSAR Array B 20.43 347 P **P 18 11 04.3 0.0**
comp=Z,3.7nm,0.8s,baz=156,slow=10,SNR=12
NOA NORSAR Array B 20.43 347 P **P 18 11 04.4 0.0**
EKA Eskdalemuir Ar 20.81 320 P **P 18 11 08.9 +0.4**
EKA Eskdalemuir Ar 20.81 320 P **P 18 11 08.9 +0.4**
comp=Z,8.3nm,0.9s,baz=113,slow=10,SNR=12
EKA Eskdalemuir Ar 20.81 320 P **P 18 11 08.9 +0.4**
ESK Eskdalemuir 20.83 320 *e*P **P 18 11 09.3 +0.6**
ESK pmax pmax
comp=Z,14nm,0.9s
ESK Eskdalemuir 20.83 320 *e*P **P 18 11 09.2 +0.6**
comp=Z,14nm,0.9s
ESK Eskdalemuir 20.83 320 *e*P **P 18 11 09.3 +0.6**
comp=Z,14nm,0.9s
KAF Kangasniemi 21.02 8 *e*P **P 18 11 10.8 +0.1**
KAF pmax pmax
comp=Z,2.0nm,0.7s
KAF Kangasniemi 21.02 8 *e*p **P 18 11 10.8 +0.1**
comp=Z,2.2nm,0.7s
KAF Kangasniemi 21.02 8 *e*P **P 18 11 10.8 +0.1**
comp=Z,2.0nm,0.7s
MDT Midelt 21.68 255 LR LR 18 19 19.6
comp=Z,99nm,20.8s,baz=244,slow=36
TAM Tamanrasset 22.40 219 P **P 18 11 25.7 -0.2**
TAM Tamanrasset 22.40 219 P **P 18 11 25.7 -0.2**
TAM Tamanrasset 22.40 219 P **P 18 11 25.7 -0.2**
JOF Joensuu 22.48 13 *e*P **P 18 11 27.5 +1.2**
JOF pmax pmax
comp=Z,2.0nm,0.6s
JOF Joensuu 22.48 13 *e*p **P 18 11 27.5 +1.2**
comp=Z,2.2nm,0.6s
JOF Joensuu 22.48 13 *e*P **P 18 11 27.5 +1.2**
comp=Z,2.0nm,0.6s
KLMR Klimovskoe 22.69 25 *e*P **P 18 11 26.2 -2.4**
KLMR pmax pmax
comp=Z,21nm,1.4s
AKTK Aktyubinsk 27.40 58 P **P 18 12 12.6 -0.1**
AKTO Aktyubinsk 27.40 58 P **P 18 12 12.6 -0.1**
AKTO Aktyubinsk 27.40 58 P **P 18 12 12.6 -0.1**
AKTO Aktyubinsk 27.40 58 P **P 18 12 12.6 -0.1**
comp=Z,0.5nm,0.3s,baz=270,slow=9.1,SNR=3.9
AKTO LR LR 18 24 23.9
comp=Z,98nm,20.7s,baz=55,slow=39
AKTO Aktyubinsk 27.40 58 P **P 18 12 12.6 -0.1**
ARCES ARCESS Array B 28.30 4 P **P 18 12 19.3 -1.3**
ARCES ARCESS Array B 28.30 4 P **P 18 12 19.3 -1.3**
comp=Z,1.2nm,0.7s,baz=185,slow=9.9,SNR=7.8
ARCES ARCESS Array B 28.30 4 P **P 18 12 19.3 -1.3**
ARE0 ARCESS Array S 28.30 4 P **P 18 12 20.5 -0.1**
ARE0 ARCESS Array S 28.30 4 P **P 18 12 20.5 -0.1**
ABKAR Akbulak array 28.59 61 *e*P **P 18 12 23.2 -0.2**
comp=Z,0.6nm,0.5s
ABKAR Akbulak array 28.59 61 *e*P **P 18 12 23.2 -0.2**
comp=Z,0.6nm,0.5s
ARU Arti 28.76 45*d i*P **P 18 12 26.9 +2.1**
ARU 18 13 16.4
ARU S **S 18 17 18.4 +4.0**
ARU pmax pmax
comp=Z,3.0nm,1.2s
TOA0 Torodi Ar. Sit 32.57 216 *e*P **P 18 12 58.8 +0.1**
TOA0 Torodi Ar. Sit 32.57 216 *e*P **P 18 12 58.8 +0.1**
TORD Torodi Ar. Bea 32.57 216 P **P 18 13 00.1 +1.4**
TORD Torodi Ar. Bea 32.57 216 P **P 18 13 00.1 +1.4**
comp=Z,2.6nm,1.1s,baz=28,slow=8.1,SNR=8.0
BRVK Borovoye 35.10 53 *e*P **P 18 13 20.8 +0.4**
BRVK pmax pmax
comp=Z,4.0nm,0.8s
BRVK Borovoye 35.10 53 *e*P **P 18 13 20.8 +0.4**
comp=Z,3.6nm,0.8s
BRVK Borovoye 35.10 53 *e*P **P 18 13 20.8 +0.4**
comp=Z,3.6nm,0.8s
BVAR Borovoye Array 35.17 53 P **P 18 13 21.8 +0.8**
BVAR Borovoye Array 35.17 53 P **P 18 13 21.8 +0.8**
BVAR Borovoye Array 35.17 53 P **P 18 13 21.8 +0.8**
comp=Z,1.4nm,0.8s,baz=258,slow=7.2,SNR=6.1
BVAR LR LR 18 27 15.8
comp=Z,41nm,19.4s,baz=294,slow=36
BVAR Borovoye Array 35.17 53 P **P 18 13 21.8 +0.8**
SPITS Spitsbergen Ar 36.91 359 P **P 18 13 36.7 +1.1**
SPITS Spitsbergen Ar 36.91 359 P **P 18 13 36.7 +1.1**
comp=Z,1.4nm,0.5s,baz=155,slow=11,SNR=4.4
SPITS Spitsbergen Ar 36.91 359 P **P 18 13 36.7 +1.1**
EKS2 Erkin-Say 39.09 70 *e*P **P 18 13 53.3 -1.3**
EKS2 pmax pmax
comp=Z,2.0nm,0.8s
EKS2 Erkin-Say 39.09 70 *e*P **P 18 13 53.3 -1.3**
comp=Z,1.7nm,0.8s
EKS2 Erkin-Say 39.09 70 *e*P **P 18 13 53.3 -1.3**
comp=Z,1.6nm,0.8s
AAK Ala-Archa 39.61 70 LR LR 18 30 45.0
comp=Z,50nm,21.1s,baz=89,slow=37
KURBB Kurchatov Arra 40.43 57 P **P 18 14 05.2 -0.3**
comp=Z,1.3nm,0.9s,baz=284,slow=10,SNR=8.9
KURK Kurchatov 40.47 56 P **P 18 14 05.2 -0.6**
KURK Kurchatov 40.47 56 P **P 18 14 05.2 -0.6**
KURK Kurchatov 40.47 56 P **P 18 14 05.2 -0.6**
SUMG Summit 41.79 337 P P 18 14 13.5 -3.4
SUMG Summit 41.79 337 P P 18 14 13.5 -3.4
NVS Novosibirsk 42.57 50 *e*P **P 18 14 23.1 +0.1**
NVS Novosibirsk 42.57 50 *e*P **P 18 14 23.1 +0.1**
ZAA0 Zalesovo Array 43.64 51 *e*P **P 18 14 30.8 -0.8**
ZAA0 Zalesovo Array 43.64 51 *e*P **P 18 14 30.8 -0.8**
ZALV Zalesovo Beam 43.64 51 P **P 18 14 31.5 -0.1**
ZALV Zalesovo Beam 43.64 51 P **P 18 14 31.4 -0.1**
ZALV Zalesovo Beam 43.64 51 P **P 18 14 31.4 -0.1**
comp=Z,2.6nm,0.6s,baz=281,slow=8.0,SNR=11
ZALV LR LR 18 33 31.2
comp=Z,65nm,19.6s,baz=250,slow=37
ZALV Zalesovo Beam 43.64 51 P **P 18 14 31.5 -0.1**
MK31 Makanchi Array 43.74 61 *e*P **P 18 14 31.6 -1.0**
MK31 Makanchi Array 43.74 61 *e*P **P 18 14 31.6 -1.0**
MK31 Makanchi Array 43.74 61 *e*P **P 18 14 31.6 -1.0**
MKAR Makanchi Array 43.74 61 P **P 18 14 32.8 +0.2**
MKAR Makanchi Array 43.74 61 P **P 18 14 32.8 +0.2**
MKAR Makanchi Array 43.74 61 P **P 18 14 32.8 +0.2**
comp=Z,1.5nm,0.6s,baz=280,slow=7.6,SNR=17
MKAR LR LR 18 35 43.8
comp=Z,64nm,18.8s,baz=78,slow=40
MKAR Makanchi Array 43.74 61 P **P 18 14 32.8 +0.2**
SONM Songino Array 58.49 52 P **P 18 16 23.6 0.0**
SONM Songino Array 58.49 52 P **P 18 16 23.5 0.0**
comp=Z,3.4nm,1.0s,baz=289,slow=8.7,SNR=19
SONM Songino Array 58.49 52 P **P 18 16 23.5 0.0**
comp=Z,4.0nm,1.0s
ULN Ulaanbaatar 58.87 52 *e*P **P 18 16 25.8 -0.4**
comp=Z,5.5nm,1.2s
ULN Ulaanbaatar 58.87 52 *e*P **P 18 16 25.8 -0.4**
comp=Z,5.5nm,1.2s
CHTO Chiang Mai 69.33 83 *e*P **P 18 17 33.2 -1.9**
CHTO Chiang Mai 69.33 83 *e*P **P 18 17 33.2 -1.9**
CHTO Chiang Mai 69.33 83 *e*P **P 18 17 33.2 -1.9**
CM31 Chiang Mai Arr 69.55 83 *e*P **P 18 17 34.8 -1.7**
comp=Z,9.7nm,1.2s
CM31 Chiang Mai Arr 69.55 83 *e*P **P 18 17 34.8 -1.7**
comp=Z,9.7nm,1.2s
BOSA Boshof 69.83 175 P **P 18 17 38.6 +0.6**
BOSA Boshof 69.83 175 P **P 18 17 38.6 +0.6**
comp=Z,2.5nm,0.8s,baz=17,slow=7.9,SNR=4.8
BOSA Boshof 69.83 175 P **P 18 17 38.6 +0.6**
YKA Yellowknife Ar 70.32 340 P **P 18 17 39.9 -0.6**
YKA Yellowknife Ar 70.32 340 P **P 18 17 39.9 -0.6**
comp=Z,4.3nm,1.1s,baz=27,slow=6.0,SNR=8.9
YKA Yellowknife Ar 70.32 340 P **P 18 17 39.9 -0.6**
COLD Coldfoot 71.44 356 *e*P **P 18 17 46.6 -0.7**
comp=Z,5.7nm,1.1s
COLD Coldfoot 71.44 356 *e*P **P 18 17 46.6 -0.7**
comp=Z,5.7nm,1.1s
ILAR Eielson Array 73.68 354 P **P 18 18 01.6 +0.9**
ILAR Eielson Array 73.68 354 P **P 18 18 01.6 +0.9**
comp=Z,0.6nm,0.8s,baz=2.6,slow=5.9,SNR=6.2
ILAR Eielson Array 73.68 354 P **P 18 18 01.6 +0.9**
MCK McKinley 74.85 355 *e*P **P 18 18 05.4 -2.1**
MCK pmax pmax
comp=Z,19nm,1.4s
MCK McKinley 74.85 355 *e*P **P 18 18 05.4 -2.1**
comp=Z,19nm,1.4s
KSAR Wonju Array Be 77.33 51 P **P 18 18 22.2 +0.1**
KSAR Wonju Array Be 77.33 51 P **P 18 18 22.2 +0.1**
KSRS Korea Array 77.34 51 P **P 18 18 22.2 +0.1**
comp=Z,3.0nm,0.9s,baz=315,slow=4.5,SNR=7.1
KSRS Korea Array 77.34 51 P **P 18 18 22.2 +0.1**
comp=Z,3.0nm,0.9s
PETK Petropavlovsk- 78.89 25 LR LR 18 58 33.3
comp=Z,39nm,18.5s,baz=282,slow=40
ASAJ Asahikawa 80.28 38 LR LR 19 01 18.9
comp=Z,51nm,18.0s,baz=160,slow=41
PDAR Pinedale Array 84.83 325 P **P 18 19 02.2 -0.1**
PDAR Pinedale Array 84.83 325 P **P 18 19 02.2 -0.1**
comp=Z,1.2nm,1.0s,baz=51,slow=5.0,SNR=6.9
PDAR Pinedale Array 84.83 325 P **P 18 19 02.2 -0.1**
TXAR Lajitas Array 92.68 314 P **P 18 19 40.5 +0.7**
TXAR Lajitas Array 92.68 314 P **P 18 19 40.5 +0.7**
comp=Z,3.0nm,1.1s,baz=66,slow=3.1,SNR=14
TXAR Lajitas Array 92.68 314 P **P 18 19 40.5 +0.7**
CPUP Villa Florida 98.49 242 LR LR 19 05 13.2
comp=Z,55nm,19.9s,baz=232,slow=36
STKA Stephens Creek 132.65 98 *e*PKPdf **PKPdf 18 25 42.3 +0.1**

PRU **12** *18:42:51.9, 40.°80N×20.°43E, h10km*
ATH **12** *18:42:53.5, 41.°49N×20.°44E, h15km, ML4.2*
TIR **12** *18:42:53.6, 41.°40N×20.°46E, h12km, ML4.0*
BJI **12** *18:42:53.4, 41.°72N×20.°42E, h4km, mb4.4/5*
IDC **12** *18:42:53.5±0.6, 41.°37N×20.°47E, h0km, mb4.1/18, mb1 4.2/26, mb1mx4.1/36, mbtmp4.1/26, ML3.7/7, MS3.2/8, Ms1 3.2/8, ms1mx2.9/39, Error ellipse: s-maj=11.9km s-min=10.8km az=127.0*
ISCJB **12** *18:42:54.9±0.3, 41.°456N±0.°008×20.°44E±0.°01, h12km±1km, mb4.1/23, MS3.2/3, Error ellipse: s-maj=2.0km s-min=1.2km az=152.3*
PDG **12** *18:42:54.4±0.5, 41.°42N×20.°41E, h11km, MD4.0/10, ML4.0/12, Error ellipse: s-maj=0.6km s-min=0.7km az=0.0*
SKO **12** *18:42:55.5, 41.°43N×20.°42E, h4km, M3.8, ML4.2*
CSEM **12** *18:42:55.1±0.1, 41.°44N×20.°45E, h2km, mb4.2/15, Error ellipse: s-maj=2.3km s-min=1.3km az=59.0*
THE **12** *18:42:55.5, 41.°44N×20.°48E, h0km±1km, ML4.1/8, Error ellipse: s-maj=1.9km s-min=0.9km az=290.0*
BEO **12** *18:42:55.0±0.4, 41.°40N×20.°46E, h6km±2km, ML4.0/1*
LDG **12** *18:42:55.6±0.1, 41.°35N×20.°31E, h10km, Ml4.0/6, Error ellipse: s-maj=2.7km s-min=2.2km az=14.0*
MOS **12** *18:42:57.1±1.1, 41.°44N×20.°42E, h33km, mb4.3/18, Error ellipse: s-maj=7.6km s-min=3.8km az=78.9*

ISC 12 18:42:55.6±0.6, 41.°42N±0.°01×20.°43E±0.°01, h10km±4km, n496, σ1§21/691, mb4.3/23, MS3.2/3, 67C-47D, Albania

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PHP	**Peshkopia**	**0.26**	**3**	*i* PG		**Pg**		**18 42 59.8**	**-1.2**
PHP				*i* SG		**Sg**		**18 43 04.5**	**0.0**
PHP	**Peshkopia**	**0.26**	**3**	P		**Pg**		**18 42 59.7**	**-1.2**
PHP				S		**Sg**		**18 43 04.3**	**-0.2**
PHP	**Peshkopia**	**0.26**	**3**	*i* Pg		**Pg**		**18 42 59.8**	**-1.2**
PHP				S		**Sg**		**18 43 04.3**	**-0.2**
TIR	**Tirane**	**0.43**	**260**	*i* PG		**Pg**		**18 43 02.3**	**-1.7**
TIR				*i* SG		**Sg**		**18 43 10.6**	**+0.9**
TIR	**Tirane**	**0.43**	**260**	P		**Pg**		**18 43 02.3**	**-1.7**
TIR				S		**Sb**		**18 43 12.4**	**+0.7**
TIR	**Tirane**	**0.43**	**260**	⇑*i*Pg		**Pg**		**18 43 02.4**	**-1.6**
TIR				*e*Sg		**Sb**		**18 43 11.3**	**-0.4**
TIR	**Tirane**	**0.43**	**260**	P		**Pg**		**18 43 02.3**	**-1.7**
TIR				*e*Sb		**Sg**		**18 43 09.0**	**-0.7**
TIR				*i* Sg		**Sg**		**18 43 10.6**	**+0.9**
TIR				S		**Sb**		**18 43 12.4**	**+0.7**
PUK	**Puka**	**0.73**	**327**	*i* PG		**Pg**		**18 43 08.4**	**-1.4**
PUK				*i* SG		**Sb**		**18 43 20.6**	**0.0**
PUK	**Puka**	**0.73**	**327**	*i* Pg		**Pg**		**18 43 08.4**	**-1.4**
PUK				*i* Sg		**Sb**		**18 43 20.6**	**0.0**
BIA	**Bitola**	**0.79**	**121**	P		**Pg**		**18 43 08.6**	**-2.2**
BIA				S		**Sg**		**18 43 20.5**	**-0.6**
BIA	**Bitola**	**0.79**	**121**	*i* Pg		Pg		18 43 01.5	-9.3
BIA				*e*Sg		**Sg**		**18 43 21.2**	**+0.1**
BIA				*e*Lg		Lg		18 43 21.3	
	comp=N,2μm,0.4s								
BIA				*e*Lg		Lg		18 43 23.6	
	comp=E,5μm,0.4s								
BIA	**Bitola**	**0.79**	**121**	P		**Pg**		**18 43 08.6**	**-2.2**
BIA	**Bitola**	**0.79**	**121**	*i* Pg		**Pg**		**18 43 08.9**	**-1.9**
BIA				S		**Sg**		**18 43 20.5**	**-0.6**
BIA				*e*Lg		Lg		18 43 23.0	
	comp=E,5μm,0.4s								
KBN	**Korca**	**0.85**	**161**	P		**Pg**		**18 43 10.6**	**-1.3**
KBN				S		**Sb**		**18 43 23.6**	**-0.2**
KBN	**Korca**	**0.85**	**161**	P		**Pg**		**18 43 10.6**	**-1.3**
KBN				S		**Sb**		**18 43 23.6**	**-0.2**
SKO	**Skopje**	**0.94**	**54**	P		**Pg**		**18 43 12.2**	**-1.4**
SKO				S		**Sn**		**18 43 27.3**	**-0.9**
SKO	**Skopje**	**0.94**	**54**	⇑*i*Pg		**Pg**		**18 43 12.3**	**-1.4**
SKO				*e*Sg		**Sg**		**18 43 25.8**	**0.0**
SKO	**Skopje**	**0.94**	**54**	*i* Pg		**Pb**		**18 43 13.8**	**-0.1**
SKO				*e*Sg		**Sb**		**18 43 26.9**	**+0.6**
SKO				*e*Lg		Lg		18 43 27.1	
	comp=E,9μm,0.7s								
SKO				*e*Lg		Lg		18 43 27.6	
	comp=N,9μm,0.6s								
SKO	**Skopje**	**0.94**	**54**	P		**Pg**		**18 43 12.2**	**-1.4**
SKO	**Skopje**	**0.94**	**54**	*i* Pg		**Pg**		**18 43 12.7**	**-0.9**
SKO				*e*Sg		**Sg**		**18 43 25.9**	**+0.1**
SKO				*e*Lg		Lg		18 43 26.6	
	comp=N,9μm,0.6s								
FNA	**Florina**	**0.96**	**131**	P		**Pg**		**18 43 12.4**	**-1.7**
FNA				S		**Sg**		**18 43 26.5**	**-0.1**
FNA	**Florina**	**0.96**	**131**	*e*PN		**Pg**		**18 43 12.4**	**-1.7**
FNA				*e*SN		**Sg**		**18 43 26.6**	**-0.1**
FNA	**Florina**	**0.96**	**131**	P		**Pg**		**18 43 12.4**	**-1.7**
FNA				S		**Sg**		**18 43 26.5**	**-0.1**
BCI	**Bajram Curri**	**0.98**	**344**	*i* PG		**Pg**		**18 43 12.8**	**-1.6**
BCI				*i* SG		**Sb**		**18 43 28.4**	**+0.8**
BCI	**Bajram Curri**	**0.98**	**344**	*i* Pg		**Pg**		**18 43 12.8**	**-1.6**
BCI				*i* Sg		**Sb**		**18 43 28.4**	**+0.8**
ULC	**Ulcinj**	**1.04**	**302**	⇑*i*Pg		**Pg**		**18 43 13.2**	**-2.3**
ULC				*e*Sg		**Sg**		**18 43 29.2**	**+0.2**
ULC	**Ulcinj**	**1.04**	**302**	⇑*i*Pg		**Pg**		**18 43 13.2**	**-2.3**
ULC				*e*Sg		**Sg**		**18 43 29.2**	**+0.2**
NEST	**Nestorio**	**1.11**	**155**	P		**Pb**		**18 43 15.9**	**-1.0**
NEST				S		**Sn**		**18 43 32.8**	**+0.1**
NEST	**Nestorio**	**1.11**	**155**	P		**Pb**		**18 43 15.9**	**-1.0**
NEST				S		**Sn**		**18 43 32.8**	**+0.1**
DRME	**Dracevica, Mon**	**1.20**	**310**	⇓*i*Pg		**Pn**		**18 43 16.6**	**-1.8**
DRME				*e*Sg		**Sn**		**18 43 35.4**	**+0.7**
DRME	**Dracevica, Mon**	**1.20**	**310**	⇓*i*Pg		**Pn**		**18 43 16.6**	**-1.8**
DRME				*e*Sg		**Sn**		**18 43 35.4**	**+0.7**
PVY	**Plav**	**1.22**	**344**	⇑*i*Pg		**Pn**		**18 43 17.0**	**-1.8**
PVY				*e*Sg		**Sn**		**18 43 35.8**	**+0.4**
PVY	**Plav**	**1.22**	**344**	⇑*i*Pg		**Pn**		**18 43 17.0**	**-1.8**
PVY				*e*Sg		**Sn**		**18 43 35.8**	**+0.4**
PDG	**Podgorica**	**1.33**	**319**	P		**Pn**		**18 43 19.0**	**-1.2**
PDG				S		**Sg**		**18 43 39.6**	**+1.2**
PDG	**Podgorica**	**1.33**	**319**	⇑*i*Pg		**Pn**		**18 43 18.5**	**-1.7**
PDG				*e*Sg		**Sg**		**18 43 39.6**	**+1.2**
PDG	**Podgorica**	**1.33**	**319**	⇓*i*Pg		**Pn**		**18 43 18.4**	**-1.7**
PDG	**Podgorica**	**1.33**	**319**	P		**Pn**		**18 43 19.0**	**-1.2**
PDG				S		**Sg**		**18 43 39.6**	**+1.2**
PDG				*e*Sg		**Sg**		**18 43 40.3**	**+1.9**
TTG	**Podgorica**	**1.33**	**319**	⇓*i*Pg		**Pn**		**18 43 18.4**	**-1.7**
TTG				*e*Sg		**Sg**		**18 43 40.3**	**+1.9**
BUM	**Brajici-Budva**	**1.44**	**308**	⇑*i*Pg		**Pn**		**18 43 20.9**	**-0.8**
BUM				*e*Sg		**Sg**		**18 43 42.4**	**+0.5**
BUM	**Brajici-Budva**	**1.44**	**308**	⇑*i*Pg		**Pn**		**18 43 20.9**	**-0.8**
BUM				*e*Sg		**Sg**		**18 43 42.4**	**+0.5**
BEY	**Berane**	**1.50**	**345**	⇑*i*Pg		**Pn**		**18 43 21.8**	**-0.8**
BEY				*e*Sg		**Sg**		**18 43 43.8**	**0.0**
IVA	**Berane**	**1.50**	**345**	⇑*i*Pg		**Pn**		**18 43 21.8**	**-0.8**
IVA				*e*Sg		**Sg**		**18 43 43.8**	**0.0**
KZN	**Kozani**	**1.51**	**137**	P		**Pn**		**18 43 22.9**	**+0.2**
KZN				S		**Sg**		**18 43 45.0**	**+0.8**
KZN	**Kozani**	**1.51**	**137**	*e*PN		**Pn**		**18 43 22.6**	**-0.1**
KZN				*e*SN		**Sg**		**18 43 44.0**	**-0.2**
KZN	**Kozani**	**1.51**	**137**	*e*Pb		**Pn**		**18 43 22.6**	**-0.1**
KZN	**Kozani**	**1.51**	**137**	P		**Pn**		**18 43 22.9**	**+0.2**
KZN				*e*Sb		**Sg**		**18 43 44.0**	**-0.2**
KZN				S		**Sg**		**18 43 45.0**	**+0.8**
GRG	**Griva**	**1.56**	**107**	P		**Pn**		**18 43 23.1**	**-0.3**
GRG				S		**Sg**		**18 43 45.3**	**-0.5**
GRG	**Griva**	**1.56**	**107**	P		**Pn**		**18 43 23.1**	**-0.3**
GRG				S		**Sg**		**18 43 45.3**	**-0.5**
SRN	**Sarande**	**1.58**	**192**	P		**Pb**		**18 43 25.0**	**+0.3**
SRN				S		**Sg**		**18 43 46.0**	**-0.2**
SRN	**Sarande**	**1.58**	**192**	P		**Pb**		**18 43 25.0**	**+0.3**
SRN				S		**Sg**		**18 43 46.0**	**-0.2**
VAY	**Valandovo**	**1.62**	**93**	P		**Pn**		**18 43 22.9**	**-1.2**
VAY				S		**Sn**		**18 43 45.2**	**+0.3**
VAY	**Valandovo**	**1.62**	**93**	⇑*i*Pn		**Pn**		**18 43 22.9**	**-1.2**
VAY				*e*Sg		**Sn**		**18 43 45.1**	**+0.2**
VAY	**Valandovo**	**1.62**	**93**	*e*Pn		**Pn**		**18 43 23.7**	**-0.4**
VAY				*e*Sn		**Sb**		**18 43 46.0**	**+0.1**
VAY				*e*Lg		Lg		18 43 46.1	
	comp=N,3μm,0.6s								
VAY				*e*Lg		Lg		18 43 47.9	
	comp=E,3μm,0.9s								
VAY	**Valandovo**	**1.62**	**93**	P		**Pn**		**18 43 22.9**	**-1.2**
VAY	**Valandovo**	**1.62**	**93**	*e*Pn		**Pn**		**18 43 23.2**	**-0.9**
VAY				S		**Sn**		**18 43 45.2**	**+0.3**
VAY				*e*Lg		Lg		18 43 47.4	
	comp=E,3μm,0.9s								
NKME	**Niksic**	**1.73**	**321**	⇑*i*Pn		**Pn**		**18 43 25.6**	**-0.1**
NKME				*e*Sn		**Sb**		**18 43 49.9**	**+0.6**
NKME	**Niksic**	**1.73**	**321**	⇑*i*Pn		**Pn**		**18 43 25.6**	**-0.1**
NKME				*e*Sn		**Sb**		**18 43 49.9**	**+0.6**
BARS	**Barje**	**1.73**	**36**	⇓*i*Pn		**Pn**		**18 43 25.5**	**-0.2**
BARS				*e*Sg		**Sg**		**18 43 50.8**	**-0.5**
NKY	**Niksic**	**1.75**	**323**	⇓*i*Pn		**Pn**		**18 43 26.5**	**+0.5**
NKY				*e*Sn		**Sb**		**18 43 50.3**	**+0.5**
NKY	**Niksic**	**1.75**	**323**	⇓*i*Pn		**Pn**		**18 43 26.5**	**+0.5**
NKY				*e*Sn		**Sb**		**18 43 50.3**	**+0.5**
HCY	**Herceg Novi**	**1.77**	**306**	⇓*i*Pn		**Pn**		**18 43 26.6**	**+0.4**
HCY				*e*Sn		**Sb**		**18 43 49.9**	**-0.3**
HCY	**Herceg Novi**	**1.77**	**306**	⇓*i*Pn		**Pn**		**18 43 26.6**	**+0.4**
HCY				*e*Sn		**Sb**		**18 43 49.9**	**-0.3**
KEK	**Kerkira**	**1.77**	**196**	P		**Pb**		**18 43 27.3**	**-0.9**
KEK				S		**Sb**		**18 43 51.0**	**+0.6**
KEK	**Kerkira**	**1.77**	**196**	*e*PN		**Pn**		**18 43 26.7**	**+0.4**
KEK				*e*SN		**Sb**		**18 43 51.2**	**+0.8**
KEK	**Kerkira**	**1.77**	**196**	*e*Pn		**Pn**		**18 43 26.7**	**+0.4**
KEK	**Kerkira**	**1.77**	**196**	P		**Pb**		**18 43 27.3**	**-0.9**
KEK				*e*Sn		**Sb**		**18 43 51.2**	**+0.8**
JAN	**Janina**	**1.79**	**169**	*e*PN		**Pn**		**18 43 26.8**	**+0.2**
JAN				*e*SN		**Sb**		**18 43 51.3**	**+0.2**
JAN	**Janina**	**1.79**	**169**	*e*Pn		**Pn**		**18 43 26.8**	**+0.2**
JAN				*e*Sn		**Sb**		**18 43 51.3**	**+0.2**
SELS	**Selova**	**1.87**	**16**	⇑*i*Pn		**Pn**		**18 43 26.9**	**-0.7**
SELS				*e*Sg		**Sb**		**18 43 54.0**	**+0.9**
SJES	**Sjenica**	**1.87**	**350**	⇑*i*Pn		**Pn**		**18 43 27.8**	**+0.2**
SJES				*e*Sg		**Sb**		**18 43 54.0**	**+0.8**
KNT	**Kendrikon**	**1.88**	**97**	P		**Pn**		**18 43 27.9**	**+0.2**
KNT				S		**Sb**		**18 43 53.2**	**-0.3**
KNT	**Kendrikon**	**1.88**	**97**	P		**Pn**		**18 43 27.9**	**+0.2**
KNT				S		**Sb**		**18 43 53.2**	**-0.3**
IGT	**Igoumenitsa**	**1.89**	**182**	P		**Pb**		**18 43 29.4**	**-0.7**
IGT				S		**Sb**		**18 43 54.9**	**+1.1**
IGT	**Igoumenitsa**	**1.89**	**182**	P		**Pb**		**18 43 29.4**	**-0.7**
IGT				S		**Sb**		**18 43 54.9**	**+1.1**
TREB	**Trebinje**	**2.01**	**311**	*e*Pn		**Pn**		**18 43 30.5**	**+0.9**
TREB				*e*Sg		**Sg**		**18 44 00.6**	**+0.3**
BRY	**Bratogost**	**2.04**	**317**	⇓*i*Pn		**Pn**		**18 43 30.5**	**+0.5**
BRY				*e*Sn		**Sb**		**18 43 57.6**	**-0.5**
BRY	**Bratogost**	**2.04**	**317**	⇓*i*Pn		**Pn**		**18 43 30.5**	**+0.5**
BRY				*e*Sn		**Sb

NVR	**Nevrokopi**	**2.59 91**	P	**Pn**	**18 43 38.4**	**+0.9**
NVR	**Nevrokopi**	**2.59 91**	*e*PB	**Pn**	**18 43 37.4**	**-0.1**
NVR			*e*SN	**Sn**	**18 44 09.3**	**+0.4**
NVR	**Nevrokopi**	**2.59 91**	*e*Pn	**Pn**	**18 43 37.4**	**-0.1**
NVR	**Nevrokopi**	**2.59 91**	P	**Pn**	**18 43 38.4**	**+0.9**
NVR			*e*Sn	**Sn**	**18 44 09.3**	**+0.4**
LKD2	**Lefkada island**	**2.64 176**	P	**Pn**	**18 43 39.5**	**+1.3**
LKD2	**Lefkada island**	**2.64 176**	*e*PN	**Pn**	**18 43 38.7**	**+0.5**
LKD2			*e*SN	**Sn**	**18 44 12.0**	**+1.8**
LKD2	**Lefkada island**	**2.64 176**	*e*Pn	**Pn**	**18 43 38.7**	**+0.5**
LKD2	**Lefkada island**	**2.64 176**	P	**Pn**	**18 43 39.5**	**+1.3**
LKD2			*e*Sn	**Sn**	**18 44 12.0**	**+1.8**
BOLS	**Boljevac**	**2.66 25**	*e*Pn	**Pn**	**18 43 37.1**	**-1.3**
DIVS	**Divibare**	**2.69 353**	P	**Pn**	**18 43 39.0**	**0.0**
DIVS	**Divibare**	**2.69 353**	*e*Pn	**Pn**	**18 43 38.9**	**0.0**
DIVS	**Divibare**	**2.69 353**	P	**Pn**	**18 43 39.0**	**0.0**
BAI	**Bari**	**2.69 264**	*e*Pn	**Pn**	**18 43 38.1**	**-0.7**
EVR	**Evrytania**	**2.72 157**	*e*PN	**Pn**	**18 43 39.8**	**+0.5**
EVR			*e*SN	**Sn**	**18 44 13.7**	**+1.4**
EVR	**Evrytania**	**2.72 157**	*e*Pn	**Pn**	**18 43 39.8**	**+0.5**
EVR			*e*Sn	**Sn**	**18 44 13.7**	**+1.4**
MAKR	**Makrakomi, Fth**	**2.74 151**	P	**Pn**	**18 43 40.0**	**+0.4**
MAKR	**Makrakomi, Fth**	**2.74 151**	P	**Pn**	**18 43 40.0**	**+0.4**
AGG	**Agios Georgios**	**2.81 148**	P	**Pn**	**18 43 40.7**	**+0.2**
AGG	**Agios Georgios**	**2.81 148**	*e*PN	**Pn**	**18 43 40.6**	**+0.1**
AGG			*e*SN	**Sn**	**18 44 15.7**	**+1.3**
AGG	**Agios Georgios**	**2.81 148**	P	**Pn**	**18 43 40.7**	**+0.2**
AGG			*e*Sn	**Sn**	**18 44 15.7**	**+1.3**
PAIG	**Paliouri**	**2.89 120**	P	**Pn**	**18 43 41.8**	**+0.2**
PAIG	**Paliouri**	**2.89 120**	*e*PN	**Pn**	**18 43 41.8**	**+0.2**
PAIG			*e*SN	**Sn**	**18 44 17.1**	**+0.7**
PAIG	**Paliouri**	**2.89 120**	P	**Pn**	**18 43 41.8**	**+0.2**
PAIG			*e*Sn	**Sn**	**18 44 17.1**	**+0.7**
OUR	**Ouranopolis**	**2.91 111**	P	**Pn**	**18 43 42.5**	**+0.7**
OUR	**Ouranopolis**	**2.91 111**	P	**Pn**	**18 43 42.5**	**+0.7**
XOR	**Xorichti**	**2.95 133**	P	**Pn**	**18 43 43.5**	**+1.1**
XOR	**Xorichti**	**2.95 133**	P	**Pn**	**18 43 43.5**	**+1.1**
NEO	**Neokhori**	**3.01 134**	P	**Pn**	**18 43 43.2**	**0.0**
NEO	**Neokhori**	**3.01 134**	*e*PN	**Pn**	**18 43 43.6**	**+0.4**
NEO			*e*SN	**Sn**	**18 44 20.4**	**+1.1**
NEO	**Neokhori**	**3.01 134**	P	**Pn**	**18 43 43.2**	**0.0**
NEO	**Neokhori**	**3.01 134**	*e*Pn	**Pn**	**18 43 43.6**	**+0.4**
NEO			*e*Sn	**Sn**	**18 44 20.4**	**+1.1**
KAVA	**Kavala**	**3.11 97**	P	**Pn**	**18 43 45.4**	**+0.7**
KAVA	**Kavala**	**3.11 97**	P	**Pn**	**18 43 45.4**	**+0.7**
CDT	**Castel del Mon**	**3.15 265**	*e*Pn	**Pn**	**18 43 44.7**	**-0.5**
CDT			*e*Sn	**Sb**	**18 44 29.5**	**-0.5**
AXAR	**Agios Charalam**	**3.16 146**	P	**Pn**	**18 43 45.6**	**+0.3**
AXAR	**Agios Charalam**	**3.16 146**	P	**Pn**	**18 43 45.6**	**+0.3**
TEKS	**Tekeris**	**3.19 348**	⇑*i*Pn	**Pn**	**18 43 48.4**	**+2.6**
EFP	**Efpalio**	**3.20 159**	*e*PN	**Pn**	**18 43 46.8**	**+0.9**
EFP			*e*SN	**Sn**	**18 44 25.3**	**+1.2**
EFP	**Efpalio**	**3.20 159**	*e*Pn	**Pn**	**18 43 46.8**	**+0.9**
EFP			*e*Sn	**Sn**	**18 44 25.3**	**+1.2**
VLS	**Valsamata**	**3.25 178**	P	**Pn**	**18 43 46.7**	**+0.2**
VLS	**Valsamata**	**3.25 178**	*e*PN	**Pn**	**18 43 46.9**	**+0.4**
VLS			*e*SN	**Sn**	**18 44 27.3**	**+2.1**
VLS	**Valsamata**	**3.25 178**	*e*Pn	**Pn**	**18 43 46.9**	**+0.4**
VLS			*e*Sn	**Sn**	**18 44 27.3**	**+2.1**
PLD	**Plovdiv**	**3.27 77**	P	**Pn**	**18 43 48.2**	**+1.4**
PLD	**Plovdiv**	**3.27 77**	P	**Pn**	**18 43 48.2**	**+1.4**
PSA1	**Psathopyrgos**	**3.29 160**	*e*PN	**Pn**	**18 43 47.9**	**+0.8**
PSA1			*e*SN	**Sn**	**18 44 27.6**	**+1.4**
KALE	**Kalithea**	**3.30 156**	P	**Pn**	**18 43 49.1**	**+1.8**
KALE	**Kalithea**	**3.30 156**	*e*PN	**Pn**	**18 43 48.4**	**+1.1**
KALE			*e*SN	**Sn**	**18 44 28.1**	**+1.4**
KALE	**Kalithea**	**3.30 156**	*e*Pn	**Pn**	**18 43 48.4**	**+1.1**
KALE	**Kalithea**	**3.30 156**	P	**Pn**	**18 43 49.1**	**+1.8**
KALE			*e*Sn	**Sn**	**18 44 28.1**	**+1.4**
TRIZ	**Trizonia**	**3.31 157**	P	**Pn**	**18 43 48.1**	**+0.8**
TRIZ	**Trizonia**	**3.31 157**	*e*PN	**Pn**	**18 43 48.2**	**+0.9**
TRIZ			*e*SN	**Sn**	**18 44 28.1**	**+1.5**
TRIZ	**Trizonia**	**3.31 157**	*e*Pn	**Pn**	**18 43 48.2**	**+0.9**
TRIZ			*e*Sn	**Sn**	**18 44 28.1**	**+1.5**
SMIA	**Simia**	**3.32 139**	P	**Pn**	**18 43 48.3**	**+0.8**
SMIA	**Simia**	**3.32 139**	P	**Pn**	**18 43 48.3**	**+0.8**
MS1	**Monte Sant'Ang**	**3.38 276**	*e*Pn	**Pn**	**18 43 46.4**	**-1.9**
MS1			*e*Sn	**Sn**	**18 44 29.9**	**+1.4**
BEO	**Beograd**	**3.38 1**	*e*Pn	**Pn**	**18 43 47.9**	**-0.5**
LAKA	**Lakka**	**3.40 159**	P	**Pn**	**18 43 50.6**	**+2.0**
LAKA	**Lakka**	**3.40 159**	*e*PN	**Pn**	**18 43 49.7**	**+1.1**
LAKA			*e*SN	**Sn**	**18 44 30.8**	**+1.9**
LAKA	**Lakka**	**3.40 159**	*e*Pn	**Pn**	**18 43 49.7**	**+1.1**
LAKA	**Lakka**	**3.40 159**	P	**Pn**	**18 43 50.6**	**+2.0**
LAKA			*e*Sn	**Sn**	**18 44 30.8**	**+1.9**
LKR	**Lokris**	**3.40 144**	*e*PN	**Pn**	**18 43 49.7**	**+0.6**
LKR			*e*SN	**Sn**	**18 44 30.3**	**+1.3**
LKR	**Lokris**	**3.40 144**	*e*Pn	**Pn**	**18 43 49.2**	**+0.6**
LKR			*e*Sn	**Sn**	**18 44 30.3**	**+1.3**
DSF	**Desfina**	**3.42 151**	P	**Pn**	**18 43 49.2**	**+0.3**
DSF	**Desfina**	**3.42 151**	P	**Pn**	**18 43 49.2**	**+0.3**
RLS	**Riolos of Patr**	**3.46 166**	*e*PN	**Pn**	**18 43 50.3**	**+0.9**
RLS			*e*SN	**Sn**	**18 44 32.0**	**+1.7**
RLS	**Riolos of Patr**	**3.46 166**	*e*Pn	**Pn**	**18 43 50.3**	**+0.9**
RLS			*e*Sn	**Sn**	**18 44 32.0**	**+1.7**
AOS	**Alonnisos**	**3.47 129**	*e*PN	**Pn**	**18 43 50.2**	**+0.6**
AOS	**Alonnisos**	**3.47 129**	*e*Pn	**Pn**	**18 43 50.2**	**+0.6**
DJES	**Djerdap**	**3.58 25**	*e*Pn	**Pn**	**18 43 51.0**	**-0.2**
KLV	**Kalavryta, Ach**	**3.63 158**	P	**Pn**	**18 43 53.1**	**+1.3**
KLV	**Kalavryta, Ach**	**3.63 158**	*e*PN	**Pn**	**18 43 52.8**	**+1.0**
KLV			*e*SN	**Sn**	**18 44 36.0**	**+1.3**
KLV	**Kalavryta, Ach**	**3.63 158**	*e*Pn	**Pn**	**18 43 52.8**	**+1.0**
KLV	**Kalavryta, Ach**	**3.63 158**	P	**Pn**	**18 43 53.1**	**+1.3**
KLV			*e*Sn	**Sn**	**18 44 36.0**	**+1.3**
FRGS	**Fruska Gora**	**3.76 353**	*e*Pn	**Pn**	**18 43 53.5**	**-0.1**
FRGS			*e*Sn	**Sn**	**18 44 39.3**	**+1.5**
GUR	**Goura**	**3.78 156**	P	**Pn**	**18 43 55.6**	**+1.6**
GUR	**Goura**	**3.78 156**	*e*PN	**Pn**	**18 43 55.0**	**+1.0**
GUR	**Goura**	**3.78 156**	*e*Pn	**Pn**	**18 43 55.0**	**+1.0**
GUR	**Goura**	**3.78 156**	P	**Pn**	**18 43 55.6**	**+1.6**
RDO	**Rodhopi**	**3.86 92**	P	**Pn**	**18 43 55.3**	**+0.4**
RDO	**Rodhopi**	**3.86 92**	*e*PN	**Pn**	**18 43 55.4**	**+0.5**
RDO			*e*SN	**Sn**	**18 44 39.8**	**-0.5**
RDO	**Rodhopi**	**3.86 92**	P	**Pn**	**18 43 55.3**	**+0.4**
RDO			*e*Sn	**Sn**	**18 44 39.8**	**-0.5**
LTK	**Loutraki**	**3.92 149**	P	**Pn**	**18 43 56.0**	**+0.2**
LTK	**Loutraki**	**3.92 149**	*e*PN	**Pn**	**18 43 56.3**	**+0.5**
LTK			*e*SN	**Sn**	**18 44 42.5**	**+0.7**
LTK	**Loutraki**	**3.92 149**	P	**Pn**	**18 43 56.0**	**+0.2**
LTK	**Loutraki**	**3.92 149**	*e*Pn	**Pn**	**18 43 56.3**	**+0.5**
LTK			*e*Sn	**Sn**	**18 44 42.5**	**+0.7**
LIA	**Limnos Island**	**3.93 111**	*e*PN	**Pn**	**18 43 56.2**	**+0.4**
LIA	**Limnos Island**	**3.93 111**	*e*Pn	**Pn**	**18 43 56.2**	**+0.4**
SMTH	**Samothraki Isl**	**3.98 102**	*e*PN	**Pn**	**18 43 57.1**	**+0.5**
SMTH	**Samothraki Isl**	**3.98 102**	*e*Pn	**Pn**	**18 43 57.1**	**+0.5**
ACOR	**Acrocorinthos**	**4.00 151**	P	**Pn**	**18 43 58.4**	**+1.5**
ACOR	**Acrocorinthos**	**4.00 151**	P	**Pn**	**18 43 58.4**	**+1.5**
AMT	**Artemida-Makis**	**4.01 165**	P	**Pn**	**18 43 59.1**	**+2.1**
AMT	**Artemida-Makis**	**4.01 165**	*e*PN	**Pn**	**18 43 58.2**	**+1.2**
AMT			*e*SN	**Sn**	**18 44 45.8**	**+1.7**
AMT	**Artemida-Makis**	**4.01 165**	*e*Pn	**Pn**	**18 43 58.2**	**+1.2**
AMT	**Artemida-Makis**	**4.01 165**	P	**Pn**	**18 43 59.1**	**+2.1**
AMT			*e*Sn	**Sn**	**18 44 45.8**	**+1.7**
ALN	**Alexandroupoli**	**4.28 95**	*e*PN	**Pn**	**18 44 01.2**	**+0.6**
ALN			*e*SN	**Sn**	**18 44 50.0**	**-0.5**
ALN	**Alexandroupoli**	**4.28 95**	*e*Pn	**Pn**	**18 44 01.2**	**+0.6**
ALN			*e*Sn	**Sn**	**18 44 50.0**	**-0.5**
BZS	**Buzias**	**4.28 11**	⇑P	**Pn**	**18 44 00.4**	**-0.3**
BZS			S	**Sn**	**18 44 49.7**	**-0.9**
BZS	**Buzias**	**4.28 11**	⇑*i*P	**Pn**	**18 44 00.4**	**-0.3**
BZS			S	**Sn**	**18 44 49.8**	**-0.9**
BZS	**Buzias**	**4.28 11**	⇓*i*Pn	**Pn**	**18 44 00.1**	**-0.6**
BZS			*e*Sn	**Sn**	**18 44 49.6**	**-1.0**
BZS	**Buzias**	**4.28 11**	P	**Pn**	**18 44 00.4**	**-0.3**
BZS			S	**Sn**	**18 44 49.7**	**-0.9**
ATH	**Athens Observa**	**4.28 143**	*e*PN	**Pn**	**18 44 01.7**	**+1.0**
ATH			*e*SN	**Sn**	**18 44 51.3**	**+0.6**
ATH	**Athens Observa**	**4.28 143**	*e*Pn	**Pn**	**18 44 01.7**	**+1.0**
ATH			*e*Sn	**Sn**	**18 44 51.3**	**+0.6**
PTL	**Penteli**	**4.29 141**	*e*PN	**Pn**	**18 44 01.5**	**+0.6**
PTL			*e*SN	**Sn**	**18 44 51.0**	**+0.1**
PTL	**Penteli**	**4.29 141**	*e*Pn	**Pn**	**18 44 01.5**	**+0.6**
PTL			*e*Sn	**Sn**	**18 44 51.0**	**+0.1**
GZR	**Gura Zlata**	**4.32 23**	⇓P	**Pn**	**18 44 01.3**	**0.0**
GZR			S	**Sn**	**18 44 51.9**	**+0.1**
GZR	**Gura Zlata**	**4.32 23**	⇓*i*P	**Pn**	**18 44 01.3**	**0.0**
GZR			S	**Sn**	**18 44 51.9**	**+0.1**
GZR	**Gura Zlata**	**4.32 23**	P	**Pn**	**18 44 01.3**	**0.0**
GZR			S	**Sn**	**18 44 51.9**	**+0.1**
VLX	**Vlachokerasia**	**4.32 159**	P	**Pn**	**18 44 02.8**	**+1.4**
VLX	**Vlachokerasia**	**4.32 159**	*e*PN	**Pn**	**18 44 02.6**	**+1.2**
VLX			*e*SN	**Sn**	**18 44 52.8**	**+1.0**
VLX	**Vlachokerasia**	**4.32 159**	*e*Pn	**Pn**	**18 44 02.6**	**+1.2**
VLX			*e*Sn	**Sn**	**18 44 52.8**	**+1.0**
ITM	**Ithomi**	**4.40 164**	*e*PN	**Pn**	**18 44 03.8**	**+1.5**
ITM			*e*SN	**Sn**	**18 44 54.7**	**+1.2**
ITM	**Ithomi**	**4.40 164**	*e*Pn	**Pn**	**18 44 03.8**	**+1.5**
ITM			*e*Sn	**Sn**	**18 44 54.7**	**+1.2**
DID	**Didima**	**4.48 150**	P	**Pn**	**18 44 03.8**	**+0.4**
DID	**Didima**	**4.48 150**	*e*PN	**Pn**	**18 44 04.1**	**+0.7**
DID			*e*SN	**Sn**	**18 44 56.3**	**+0.7**
DID	**Didima**	**4.48 150**	P	**Pn**	**18 44 03.8**	**+0.4**
DID	**Didima**	**4.48 150**	*e*Pn	**Pn**	**18 44 04.1**	**+0.7**
DID			*e*Sn	**Sn**	**18 44 56.3**	**+0.7**
PYL	**PYLOS**	**4.64 167**	*e*PN	**Pn**	**18 44 06.7**	**+1.1**
PYL			*e*SN	**Sn**	**18 45 01.0**	**+1.5**
PYL	**PYLOS**	**4.64 167**	*e*Pn	**Pn**	**18 44 06.7**	**+1.1**
PYL			*e*Sn	**Sn**	**18 45 01.0**	**+1.5**
LOT	**Lotru**	**4.70 30**	⇑*i*P	**Pn**	**18 44 06.8**	**+0.2**
LOT			S	**Sn**	**18 45 00.6**	**-0.6**
LOT	**Lotru**	**4.70 30**	⇑*i*P	**Pn**	**18 44 06.8**	**+0.2**
GOLR		**4.76 43**	⇑*i*P	**Pn**	**18 44 08.8**	**+1.5**
GOLR		**4.76 43**	⇑*i*P	**Pn**	**18 44 08.8**	**+1.5**
DEV	**Deva**	**4.81 21**	⇑*i*P	**Pn**	**18 44 05.8**	**-2.1**
DEV	**Deva**	**4.81 21**	⇑*i*P	**Pn**	**18 44 05.8**	**-2.1**
DYR	**Agios Nikonas**	**4.89 162**	*e*PN	**Pn**	**18 44 10.4**	**+1.3**
DYR			*e*SN	**Sn**	**18 45 06.3**	**+0.7**
DYR	**Agios Nikonas**	**4.89 162**	*e*Pn	**Pn**	**18 44 10.4**	**+1.3**
DYR			*e*Sn	**Sn**	**18 45 06.3**	**+0.7**
SIRR	**Siria**	**4.92 10**	⇑*i*P	**Pn**	**18 44 09.3**	**-0.2**
SIRR			S	**Sn**	**18 45 05.3**	**-1.2**
SIRR	**Siria**	**4.92 10**	⇑*i*P	**Pn**	**18 44 09.3**	**-0.2**
PKSM	**Moragy**	**4.96 346**	⇑P	**Pn**	**18 44 10.2**	**+0.2**
PKSM			S	**Sn**	**18 45 07.0**	**-0.3**
PKSM	**Moragy**	**4.96 346**	⇑*i*P	**Pn**	**18 44 10.2**	**+0.2**
PKSM			S	**Sn**	**18 45 07.0**	**-0.3**
PKSM	**Moragy**	**4.96 346**	⇑*e*	**Pn**	**18 44 12.0**	**+2.0**
PKSM	**Moragy**	**4.96 346**	P	**Pn**	**18 44 10.2**	**+0.2**
PKSM			S	**Sn**	**18 45 07.0**	**-0.3**
PRK	**Paraskevi**	**4.97 114**	*e*PN	**Pn**	**18 44 11.5**	**+1.3**
PRK			*e*SN	**Sn**	**18 45 07.7**	**+0.1**
PRK	**Paraskevi**	**4.97 114**	*e*Pn	**Pn**	**18 44 11.5**	**+1.3**
PRK			*e*Sn	**Sn**	**18 45 07.7**	**+0.1**
ARR	**Arges**	**4.99 36**	⇓*i*P	**Pn**	**18 44 11.2**	**+0.6**
ARR	**Arges**	**4.99 36**	⇓*i*P	**Pn**	**18 44 11.2**	**+0.6**
VLI	**Veliai**	**5.09 157**	*e*PN	**Pn**	**18 44 12.6**	**+0.8**
VLI			*e*SN	**Sn**	**18 45 11.9**	**+1.3**
VLI	**Veliai**	**5.09 157**	*e*Pn	**Pn**	**18 44 12.6**	**+0.8**
VLI			*e*Sn	**Sn**	**18 45 11.9**	**+1.3**
NVLJ	**Novalja**	**5.14 309**	*e*Pn	**Pn**	**18 44 12.8**	**+0.3**
NVLJ			*e*Sn	**Sn**	**18 45 12.5**	**+0.7**
PKS2	**Kecel**	**5.14 351**	⇓*e*	**Pn**	**18 44 14.7**	**+2.2**
PKS2			*e*		18 45 14.3	
PKS2	**Kecel**	**5.14 351**	⇓*e*P	**Pn**	**18 44 14.7**	**+2.2**
PKS2			*e*S	**Sn**	**18 45 14.3**	**+2.5**
VOIR		**5.24 38**	⇓P	**Pn**	**18 44 15.3**	**+1.4**
VOIR			S	**Sn**	**18 45 14.1**	**-0.2**
VOIR		**5.24 38**	⇓*i*P	**Pn**	**18 44 15.3**	**+1.4**
VOIR			S	**Sn**	**18 45 14.1**	**-0.2**
VOIR		**5.24 38**	P	**Pn**	**18 44 15.3**	**+1.4**
VOIR			S	**Sn**	**18 45 14.1**	**-0.2**
CHOS	**Chios island**	**5.29 123**	*e*PN	**Pn**	**18 44 15.9**	**+1.3**
CHOS	**Chios island**	**5.29 123**	*e*Pn	**Pn**	**18 44 15.9**	**+1.3**
SULR		**5.37 51**	⇓*i*P	**Pn**	**18 44 16.9**	**+1.3**
SULR		**5.37 51**	⇓*i*P	**Pn**	**18 44 16.9**	**+1.3**
PKS9	**Tamasi**	**5.39 344**	⇓*e*	**Pn**	**18 44 17.9**	**+2.0**
PKS9			*e*		18 45 23.4	
PKS9	**Tamasi**	**5.39 344**	⇓*e*P	**Pn**	**18 44 17.9**	**+2.0**
PKS9			*e*S	**Sn**	**18 45 23.4**	**+5.5**
PKSN	**Nyarlorinc**	**5.49 356**	⇑*e*	**Pn**	**18 44 19.0**	**+1.8**
PKSN			*e*		18 45 22.4	
PKSN	**Nyarlorinc**	**5.49 356**	⇑*e*P	**Pn**	**18 44 19.0**	**+1.8**
PKSN			*e*S	**Sn**	**18 45 22.4**	**+2.1**
KYTH	**Kithira**	**5.53 158**	P	**Pn**	**18 44 19.7**	**+1.9**
KYTH	**Kithira**	**5.53 158**	P	**Pn**	**18 44 19.7**	**+1.9**
BOJS	**Bojanci**	**5.55 319**	*i* Pn	**Sn**	**18 44 19.6**	**+1.5**
BOJS			*i* Sn	**Sn**	**18 45 22.6**	**+0.7**
DRGR		**5.61 16**	⇑P	**Pn**	**18 44 18.8**	**-0.3**
DRGR		**5.61 16**	⇑*i*P	**Pn**	**18 44 18.8**	**-0.3**
DRGR		**5.61 16**	P	**Pn**	**18 44 18.8**	**-0.3**
GCIS	**Gornji Cirnik**	**5.64 324**	*e*Pn	**Pn**	**18 44 20.9**	**+1.5**
CRES	**Cresnjev**	**5.69 322**	*e*Pn	**Pn**	**18 44 21.5**	**+1.4**
CRES			*e*Sn	**Sn**	**18 45 26.2**	**+0.8**
CRES	**Cresnjev**	**5.69 322**	*e*Pn	**Pn**	**18 44 21.5**	**+1.4**
CRES			*e*Sn	**Sn**	**18 45 26.2**	**+0.8**
PKS7	**Kunszentmiklos**	**5.70 351**	⇑*e*	**Pn**	**18 44 21.7**	**+1.6**
PKS7			*e*		18 45 30.5	
PKS7	**Kunszentmiklos**	**5.70 351**	⇑*e*P	**Pn**	**18 44 21.7**	**+1.6**
MLR	**Muntele Rosu**	**5.71 43**	⇑*i*P	**Pn**	**18 44 21.9**	**+1.4**
MLR	**Muntele Rosu**	**5.71 43**	Pn	**Pn**	**18 44 22.4**	**+1.9**
	comp=E,1.4nm,0.3s,baz=212,slow=15,SNR=54					
MLR			Sn	**Sn**	**18 45 27.0**	**+0.8**
	comp=E,0.5nm,0.3s,baz=287,slow=20,SNR=2.4					
MLR	**Muntele Rosu**	**5.71 43**	P	**Pn**	**18 44 22.4**	**+1.9**
	comp=E,1.0nm,0.3s					
MLR			S	**Sn**	**18 45 27.0**	**+0.8**
	comp=E,1.0nm,0.3s					
GBRS	**Gornja Briga**	**5.79 317**	*e*Pn	**Pn**	**18 44 23.5**	**+2.0**
GBRS			*e*Sn	**Sn**	**18 45 29.9**	**+2.0**
DOPR	**Dopca**	**5.79 37**	⇑*i*P	**Pn**	**18 44 22.4**	**+0.9**
ISR	**Istrita**	**5.79 48**	⇑P	**Pn**	**18 44 23.5**	**+2.0**
ISR	**Istrita**	**5.79 48**	⇑*i*P	**Pn**	**18 44 23.5**	**+2.0**
ISR	**Istrita**	**5.79 48**	P	**Pn**	**18 44 23.5**	**+2.0**
APE	**Apeiranthos**	**5.88 136**	⇑P	**Pn**	**18 44 25.3**	**+2.5**
APE	**Apeiranthos**	**5.88 136**	*e*PN	**Pn**	**18 44 24.2**	**+1.4**
APE	**Apeiranthos**	**5.88 136**	⇑*i*P	**Pn**	**18 44 25.3**	**+2.5**
APE	**Apeiranthos**	**5.88 136**	*e*Pn	**Pn**	**18 44 24.2**	**+1.4**
APE	**Apeiranthos**	**5.88 136**	P	**Pn**	**18 44 25.3**	**+2.5**
VISS	**Visnje**	**5.97 319**	*e*Pn	**Pn**	**18 44 25.1**	**+1.3**
VISS	**Visnje**	**5.97 319**	*e*Pn	**Pn**	**18 44 25.1**	**+1.3**
ANKY	**Antikythira Is**	**5.99 157**	*e*PN	**Pn**	**18 44 25.8**	**+1.6**
ANKY			*e*SN	**Sn**	**18 45 33.1**	**+0.4**
ANKY	**Antikythira Is**	**5.99 157**	*e*Pn	**Pn**	**18 44 25.8**	**+1.6**
ANKY			*e*Sn	**Sn**	**18 45 33.1**	**+0.4**
PKST	**T''s**	**6.08 344**	⇑*e*	Pn	18 44 28.9	+3.5
PKST			*e*		18 45 39.7	
BUD	**Budapest**	**6.14 351**	⇓*e*	**Pn**	**18 44 28.8**	**+2.6**
BUD			*e*		18 45 40.6	
BUD	**Budapest**	**6.14 351**	⇓*e*P	**Pn**	**18 44 28.8**	**+2.6**
PKSG		**6.14 347**	⇓*e*	**Pn**	**18 44 29.0**	**+2.8**
PKSG			*e*		18 45 37.2	
PKSG		**6.14 347**	⇓*e*P	**Pn**	**18 44 29.0**	**+2.8**
PKSG			*e*S	**Sn**	**18 45 37.2**	**+0.7**
SMG	**Samos**	**6.19 125**	*e*PN	**Pn**	**18 44 28.2**	**+1.3**
SMG	**Samos**	**6.19 125**	*e*Pn	**Pn**	**18 44 28.2**	**+1.3**
GRER		**6.20 48**	⇓*i*P	**Pn**	**18 44 29.8**	**+2.8**
SKDS	**Skadanscina**	**6.22 314**	*i* Pn	**Pn**	**18 44 27.6**	**+0.2**
SKDS			*i* Sn	**Sn**	**18 45 38.7**	**+0.2**
SKDS	**Skadanscina**	**6.22 314**	*i* Pn	**Pn**	**18 44 27.6**	**+0.2**
SKDS			*i* Sn	**Sn**	**18 45 38.7**	**+0.2**
LJU	**Ljubljana**	**6.29 319**	*i* Pn	**Pn**	**18 44 29.6**	**+1.3**
LJU	**Ljubljana**	**6.29 319**	*i* Pn	**Pn**	**18 44 29.6**	**+1.3**
PLOR	**Plostina**	**6.32 43**	⇑P	**Pn**	**18 44 30.4**	**+1.6**
PLOR	**Plostina**	**6.32 43**	⇑*i*P	**Pn**	**18 44 30.4**	**+1.6**
PLOR	**Plostina**	**6.32 43**	P	**Pn**	**18 44 30.4**	**+1.6**
ARCR	**ARCALIA**	**6.32 25**	⇓*i*P	**Pn**	**18 44 28.6**	**-0.2**
VRI	**Vrincioaia**	**6.37 44**	⇓P	**Pn**	**18 44 31.1**	**+1.7**
VRI			S	**Sn**	**18 45 42.6**	**+0.4**
VRI	**Vrincioaia**	**6.37 44**	⇓*i*P	**Pn**	**18 44 31.1**	**+1.7**
VRI			S	**Sn**	**18 45 42.6**	**+0.4**
VRI	**Vrincioaia**	**6.37 44**	P	**Pn**	**18 44 31.1**	**+1.7**
VRI			S	**Sn**	**18 45 42.6**	**+0.4**
TLB	**Topalu**	**6.42 58**	⇑P	**Pn**	**18 44 31.1**	**+1.1**
TLB	**Topalu**	**6.42 58**	⇑*i*P	**Pn**	**18 44 31.1**	**+1.1**
TLB	**Topalu**	**6.42 58**	P	**Pn**	**18 44 31.1**	**+1.1**
JAVS	**Javornik**	**6.42 316**	*i* Pn	**Pn**	**18 44 31.1**	**+0.9**
JAVS			*i* Sn	**Sn**	**18 45 44.1**	**+0.6**
JAVS	**Javornik**	**6.42 316**	*i* Pn	**Pn**	**18 44 31.1**	**+0.9**
JAVS			*i* Sn	**Sn**	**18 45 44.1**	**+0.6**
PSZ	**Piszkesteto**	**6.50 357**	⇓P	**Pn**	**18 44 31.6**	**+0.3**
PSZ	**Piszkesteto**	**6.50 357**	⇓*i*P	**Pn**	**18 44 31.6**	**+0.3**
PSZ	**Piszkesteto**	**6.50 357**	⇓*e*	**Pn**	**18 44 31.8**	**+0.5**
PSZ			*e*		18 45 47.1	
PSZ	**Piszkesteto**	**6.50 357**	P	**Pn**	**18 44 31.6**	**+0.3**
PSZ			*e*S	**Sn**	**18 45 47.1**	**+1.6**
SOKA	**Soboth**	**6.53 325**	⇓*i*Pn	**Pn**	**18 44 32.8**	**+1.1**
	comp=E,24nm,0.7s,SNR=20					
SOKA	**Soboth**	**6.53 325**	Pn	**Pn**	**18 44 32.8**	**+1.1**
	comp=E,24nm,0.7s,SNR=20					
TIRR	**Tirgusor**	**6.60 60**	⇑P	**Pn**	**18 44 33.3**	**+0.8**
TIRR	**Tirgusor**	**6.60 60**	⇑*i*P	**Pn**	**18 44 33.3**	**+0.8**
TIRR	**Tirgusor**	**6.60 60**	P	**Pn**	**18 44 33.3**	**+0.8**
VOY	**Vojsko**	**6.60 316**	*e*Pn	**Pn**	**18 44 33.7**	**+1.0**
VOY			*e*Sn	**Sn**	**18 45 47.2**	**-0.8**
VOY	**Vojsko**	**6.60 316**	*e*Pn	**Pn**	**18 44 33.7**	**+1.0**
VOY			*e*Sn	**Sn**	**18 45 47.2**	**-0.8**
KARN	**Karanos**	**6.61 154**	*e*PN	**Pn**	**18 44 34.0**	**+1.3**
KARN			*e*SN	**Sn**	**18 45 48.3**	**+0.2**
KARN	**Karanos**	**6.61 154**	*e*Pn	**Pn**	**18 44 34.0**	**+1.3**
KARN			*e*Sn	**Sn**	**18 45 48.3**	**+0.2**
OBKA	**Obir**	**6.62 322**	⇓*e*Pn	**Pn**	**18 44 34.5**	**+1.6**
	comp=E,7.0nm,0.3s					
OBKA	**Obir**	**6.62 322**	Pn	**Pn**	**18 44 34.5**	**+1.6**
	comp=E,7.0nm,0.3s					
VAM	**Vamos**	**6.70 153**	*e*PN	**Pn**	**18 44 36.1**	**+2.2**
VAM			*e*SN	**Sn**	**18 45 50.3**	**0.0**
VAM	**Vamos**	**6.70 153**	*e*Pn	**Pn**	**18 44 36.1**	**+2.2**
VAM			*e*Sn	**Sn**	**18 45 50.3**	**0.0**

MBDF	**Montbardon**	**10.52**	**293**	*e*Pn	**Pn**	**18 45 23.9**	**-2.5**
MBDF				*e*Sn	Sn	18 47 14.0	-10
comp=Z,6.8nm,0.5s							
LPG	**La Plagne**	**10.74**	**297**	*e*Pn	**Pn**	**18 45 27.1**	**-2.5**
LPG				*e*Sn	Sn	18 47 19.6	-11
comp=Z,8.7nm,0.4s							
LPL	**La Plagne**	**10.76**	**297**	*e*Pn	**Pn**	**18 45 27.2**	**-2.6**
LPL				*e*Sn	Sn	18 47 19.5	-11
comp=Z,8.1nm,0.4s							
AKASG	**Malin Array Be**	**11.10**	**30**	P	**Pn**	**18 45 34.6**	**+0.4**
AKASG	**Malin Array Be**	**11.10**	**30**	Pn	**Pn**	**18 45 34.6**	**+0.4**
comp=Z,0.4nm,0.3s,baz=223,slow=13,SNR=2.8							
AKASG	**Malin Array Be**	**11.10**	**30**	P	**Pn**	**18 45 34.6**	**+0.4**
CLL	**Collm**	**11.13**	**335**	*e*P	Pn	18 45 43.0	+8.4
CLL	**Collm**	**11.13**	**335**	*e*Pn	Pn	18 45 43.0	+8.4
CLL				*e*		18 47 02.0	
CLL				*e*Sn	Sn	18 47 28.0	-11
CLL				*e*Sb		18 48 10.0	
ORIF	**Oris-en-Rattie**	**11.18**	**293**	*e*Pn	Pn	18 45 32.0	-3.4
CABF	**La Chapelle**	**11.55**	**301**	*e*Pn	**Pn**	**18 45 39.5**	**-0.9**
CABF	**La Chapelle**	**11.55**	**301**	*e*Pn	**Pn**	**18 45 39.5**	**-0.9**
HINF	**Hinteralfeld**	**11.58**	**308**	*e*Pn	**Pn**	**18 45 38.9**	**-2.0**
HINF				*e*Sn	Sn	18 47 39.9	-10
comp=Z,6.9nm,0.6s							
CDF	**Champ du Feu**	**11.64**	**311**	*e*Pn	**Pn**	**18 45 39.6**	**-2.1**
CDF				*e*Sn	Sn	18 47 41.7	-10
comp=Z,3.4nm,0.6s							
HAU	**Haudompre**	**11.97**	**308**	*e*Pn	**Pn**	**18 45 43.9**	**-2.3**
HAU				*e*Sn	Sn	18 47 48.8	-11
comp=Z,6.6nm,0.4s							
SFTF	**Sexfontaines**	**12.85**	**307**	*e*Pn	Pn	18 45 54.5	-3.6
SMF	**Signal de Mont**	**13.02**	**299**	*e*Pn	Pn	18 45 56.9	-3.5
LOR	**Lormes**	**13.21**	**302**	*e*Pn	Pn	18 45 59.5	-3.6
MMAI	**Mount Meron Ar**	**14.57**	**120**	Pn	**Pn**	**18 46 21.6**	**-0.2**
comp=Z,0.4nm,0.3s,baz=316,slow=12,SNR=3.2							
MMAI				LR	LR	18 52 49.0	
comp=Z,110nm,21.1s,baz=275,slow=41							
VORD	**Divnogorie**	**16.14**	**47**	*e*P	**Pn**	**18 46 43.1**	**+0.9**
VORD				pmax	pmax		
comp=N,30nm,0.8s							
VORD				pmax	pmax		
comp=Z,4.0nm,0.8s							
VORD				pmax	pmax		
comp=E,10.0nm,0.9s							
VSR	**Storozhevoye**	**16.19**	**46**	*e*P	**P**	**18 46 44.7**	**-1.4**
VSR				pmax	pmax		
comp=N,8.0nm,0.5s							
VSR				pmax	pmax		
comp=Z,8.0nm,0.5s							
VSR				pmax	pmax		
comp=E,10.0nm,1.2s							
VSR	**Storozhevoye**	**16.19**	**46**	*e*P	**P**	**18 46 44.7**	**-1.4**
KIV	**Kislovodsk**	**16.55**	**74**	*e*P	**Pn**	**18 46 43.8**	**-4.0**
KIV				pmax	pmax		
comp=Z,5.0nm,1.0s							
OBN	**Obninsk**	**17.35**	**32**	*e*P	**Pn**	**18 46 57.5**	**0.0**
OBN				pmax	pmax		
comp=Z,5.0nm,1.1s							
OBN	**Obninsk**	**17.35**	**32**	*e*P	**Pn**	**18 46 57.5**	**0.0**
comp=Z,5.0nm,1.1s							
ZEI	**Tsey**	**17.47**	**78**	*e*P	**P**	**18 47 01.3**	**+0.8**
ZEI				pmax	pmax		
comp=Z,17nm,1.7s							
ZEI	**Tsey**	**17.47**	**78**	*e*P	**P**	**18 47 01.3**	**+0.8**
comp=Z,17nm,1.7s							
VRHR	**Novokhopersk**	**17.50**	**49**	*e*P	**Pn**	**18 46 59.7**	**+0.2**
VRHR				pmax	pmax		
comp=Z,10.0nm,1.0s							
VRHR				pmax	pmax		
comp=N,7.0nm,0.8s							
VRHR				pmax	pmax		
comp=E,9.0nm,1.3s							
VRHR	**Novokhopersk**	**17.50**	**49**	*e*P	**Pn**	**18 46 59.7**	**+0.2**
comp=E,7.0nm,0.8s							
VSU	**Vasula**	**17.52**	**11**	*e*P	**P**	**18 47 01.2**	**+0.5**
VSU				pmax	pmax		
comp=Z,11nm,0.8s							
VSU	**Vasula**	**17.52**	**11**	*e*P	**P**	**18 47 01.2**	**+0.5**
comp=Z,11nm,0.8s							
GNI	**Garni**	**18.45**	**86**	LR	LR	18 55 23.9	
comp=Z,34nm,19.8s,baz=86,slow=41							
GNI	**Garni**	**18.45**	**86**	*e*P	**Pn**	**18 47 13.1**	**+1.7**
comp=Z,7.0nm,0.8s							
ESDC	**Sonseca Array**	**18.61**	**273**	LR	LR	18 55 13.5	
comp=Z,71nm,18.6s,baz=125,slow=40							
HFS	**Hagfors**	**19.19**	**350**	P	**P**	**18 47 18.4**	**-0.8**
comp=Z,0.7nm,0.3s,baz=171,slow=10,SNR=17							
HFS	**Hagfors**	**19.19**	**350**	P	**P**	**18 47 18.4**	**-0.8**
comp=Z,1.0nm,0.3s							
FINES	**FINESS Array B**	**20.34**	**8**	P	**P**	**18 47 31.1**	**-0.6**
comp=Z,1.0nm,0.4s,baz=178,slow=9.7,SNR=13							
FINES	**FINESS Array B**	**20.34**	**8**	P	**P**	**18 47 31.1**	**-0.6**
comp=Z,1.0nm,0.4s							
NB2	**NORSAR Subarra**	**20.43**	**347**	P	**P**	**18 47 32.0**	**-0.8**
comp=Z,9.0nm,1.1s,baz=160,slow=11							
NB2	**NORSAR Subarra**	**20.43**	**347**	P	**P**	**18 47 32.0**	**-0.8**
comp=Z,9.0nm,1.1s,baz=160,slow=11,SNR=4.7							
NOA	**NORSAR Array B**	**20.43**	**347**	P	**P**	**18 47 31.9**	**-0.8**
comp=Z,3.3nm,0.8s,baz=153,slow=9.8,SNR=12							
NOA	**NORSAR Array B**	**20.43**	**347**	P	**P**	**18 47 31.9**	**-0.8**
comp=Z,5.0nm,0.7s							
EKA	**Eskdalemuir Ar**	**20.81**	**320**	P	**P**	**18 47 36.7**	**-0.1**
comp=Z,5.8nm,0.8s,baz=118,slow=12,SNR=11							
EKA	**Eskdalemuir Ar**	**20.81**	**320**	P	**P**	**18 47 36.7**	**-0.1**
comp=Z,6.0nm,0.8s							
MDT	**Midelt**	**21.68**	**255**	LR	LR	18 55 10.3	
comp=Z,45nm,21.4s,baz=156,slow=34							
JOF	**Joensuu**	**22.48**	**13**	*e*P	**P**	**18 47 55.1**	**+0.5**
JOF				pmax	pmax		
comp=Z,2.0nm,0.6s							
JOF	**Joensuu**	**22.48**	**13**	*e*p	**P**	**18 47 55.1**	**+0.5**
comp=Z,2.3nm,0.6s							
JOF	**Joensuu**	**22.48**	**13**	*e*P	**P**	**18 47 55.1**	**+0.5**
comp=Z,2.0nm,0.6s							
KLMR	**Klimovskoe**	**22.68**	**25**	*e*P	**P**	**18 47 55.8**	**-1.0**
KLMR				pmax	pmax		
comp=Z,22nm,1.6s							
KLMR	**Klimovskoe**	**22.68**	**25**	*e*P	**P**	**18 47 55.8**	**-1.0**
comp=Z,22nm,1.6s							
RST	**Umm Al-Ruwaisa**	**24.59**	**110**	*e*P	**P**	**18 48 14.9**	**-0.9**
RST				AMb	AMB	18 48 17.0	
comp=Z,141nm,0.8s							
NAY	**Al-Naaiem**	**24.92**	**111**	*e*P	**P**	**18 48 17.1**	**-1.6**
NAY				AMb	AMB	18 48 20.1	
comp=Z,0.8nm,1.0s							
AKTK	**Aktyubinsk**	**27.40**	**58**	P	**P**	**18 48 40.0**	**-1.0**
comp=Z,61nm,18.2s							
AKTO	**Aktyubinsk**	**27.40**	**58**	P	**P**	**18 48 40.0**	**-1.0**
AKTO				pmax	pmax		
comp=Z,1.0nm,0.6s							
AKTO				MLR	MLR		
comp=Z,61nm,18.2s							
AKTO	**Aktyubinsk**	**27.40**	**58**	P	**P**	**18 48 40.0**	**-1.0**
comp=Z,1.3nm,0.6s,baz=265,slow=12,SNR=3.6							
AKTO				LR	LR	19 00 31.0	
comp=Z,61nm,18.2s,baz=256,slow=39							
ARCES	**ARCESS Array B**	**28.30**	**4**	P	**P**	**18 48 47.0**	**-1.8**
comp=Z,1.6nm,0.7s,baz=190,slow=9.9,SNR=9.6							
TORD	**Torodi Ar. Bea**	**32.57**	**216**	P	**P**	**18 49 27.1**	**+0.2**
comp=Z,3.5nm,1.0s,baz=34,slow=9.6,SNR=11							
BRVK	**Borovoye**	**35.10**	**53**	*d i*P	**P**	**18 49 48.8**	**+0.1**
BRVK				pmax	pmax		
comp=Z,4.0nm,1.0s							
BRVK	**Borovoye**	**35.10**	**53**	*i* P	**P**	**18 49 48.8**	**+0.1**
comp=Z,4.0nm,1.0s							
BVAR	**Borovoye Array**	**35.16**	**53**	P	**P**	**18 49 48.7**	**-0.6**
BVAR				pmax	pmax		
comp=Z,1.0nm,0.8s							
BVAR	**Borovoye Array**	**35.16**	**53**	P	**P**	**18 49 48.7**	**-0.6**
comp=Z,1.1nm,0.7s,baz=273,slow=8.5,SNR=7.7							
BVAR	**Borovoye Array**	**35.16**	**53**	P	**P**	**18 49 48.7**	**-0.6**
comp=Z,1.0nm,0.8s							
SPITS	**Spitsbergen Ar**	**36.90**	**359**	P	**P**	**18 50 03.9**	**0.0**
comp=Z,4.1nm,0.8s,baz=153,slow=8.1,SNR=4.3							
SPITS	**Spitsbergen Ar**	**36.90**	**359**	P	**P**	**18 50 03.9**	**0.0**
comp=Z,4.0nm,0.8s							
AAK	**Ala-Archa**	**39.60**	**70**	*e*P	**P**	**18 50 29.2**	**+2.0**
AAK				pmax	pmax		
comp=Z,2.0nm,1.2s							
AAK	**Ala-Archa**	**39.60**	**70**	*e*P	**P**	**18 50 29.2**	**+2.0**
comp=Z,2.0nm,1.2s							
BBTS	**Babate**	**41.63**	**241**	LR	LR	19 09 52.1	
comp=Z,56nm,18.6s,baz=324,slow=39							
NVS	**Novosibirsk**	**42.57**	**50**	*e*P	**P**	**18 50 48.5**	**-2.7**
ZALV	**Zalesovo Beam**	**43.63**	**51**	P	**P**	**18 50 59.4**	**-0.5**
ZALV				pmax	pmax		
comp=Z,3.0nm,0.6s							
ZALV	**Zalesovo Beam**	**43.63**	**51**	P	**P**	**18 50 59.4**	**-0.5**
comp=Z,2.7nm,0.6s,baz=278,slow=8.6,SNR=12							
ZALV	**Zalesovo Beam**	**43.63**	**51**	P	**P**	**18 50 59.4**	**-0.5**
comp=Z,3.0nm,0.6s							
MKAR	**Makanchi Array**	**43.73**	**61**	P	**P**	**18 51 00.7**	**-0.1**
MKAR				pmax	pmax		
comp=Z,2.0nm,0.6s							
MKAR	**Makanchi Array**	**43.73**	**61**	P	**P**	**18 51 00.7**	**-0.1**
comp=Z,2.3nm,0.6s,baz=283,slow=6.6,SNR=30							
MKAR	**Makanchi Array**	**43.73**	**61**	P	**P**	**18 51 00.7**	**-0.1**
comp=Z,2.0nm,0.6s							
GTA	**Gaotai**	**58.40**	**63**	*e*P	**P**	**18 52 51.2**	**0.0**
GTA				pP	**pP**	**18 52 54.7**	**+0.1**
GTA				sP	**sP**	**18 52 57.2**	**+1.3**
GTA				pmax	pmax		
comp=Z,3.0nm,0.7s							
SONM	**Songino Array**	**58.49**	**52**	P	**P**	**18 52 51.7**	**-0.1**
comp=Z,3.8nm,1.0s,baz=289,slow=7.5,SNR=19							
SONM	**Songino Array**	**58.49**	**52**	P	**P**	**18 52 51.7**	**-0.1**
comp=Z,4.0nm,1.0s							
CMAR	**Chiang Mai Arr**	**69.54**	**83**	P	**P**	**18 54 02.6**	**-2.1**
comp=Z,2.5nm,0.7s,baz=302,slow=7.1,SNR=35							
BOSA	**Boshof**	**69.83**	**175**	P	**P**	**18 54 06.1**	**-0.1**
comp=Z,3.2nm,0.7s,baz=3.1,slow=5.9,SNR=6.8							
BOSA	**Boshof**	**69.83**	**175**	P	**P**	**18 54 06.1**	**-0.1**
comp=Z,3.0nm,0.7s							
YKA	**Yellowknife Ar**	**70.32**	**340**	P	**P**	**18 54 08.5**	**-0.3**
comp=Z,3.0nm,1.0s,baz=26,slow=5.7,SNR=6.7							
YKA	**Yellowknife Ar**	**70.32**	**340**	P	**P**	**18 54 08.5**	**-0.3**
comp=Z,3.0nm,1.0s							
CN2	**Changchun**	**71.73**	**47**	*e*P	**P**	**18 54 18.8**	**+1.1**
CN2				pmax	pmax		
comp=Z,10.0nm,0.9s							
ILAR	**Eielson Array**	**73.67**	**354**	P	**P**	**18 54 29.0**	**+0.1**
comp=Z,0.7nm,0.8s,baz=1.8,slow=5.2,SNR=7.2							
ILAR	**Eielson Array**	**73.67**	**354**	P	**P**	**18 54 29.0**	**+0.1**
comp=Z,1.0nm,0.8s							
KSRS	**Korea Array**	**77.34**	**51**	P	**P**	**18 54 49.6**	**-0.7**
comp=Z,2.8nm,0.9s,baz=320,slow=5.2,SNR=5.5							
KSRS	**Korea Array**	**77.34**	**51**	P	**P**	**18 54 49.6**	**-0.7**
comp=Z,3.0nm,0.9s							
PDAR	**Pinedale Array**	**84.83**	**325**	P	**P**	**18 55 30.4**	**-0.1**
comp=Z,0.8nm,0.7s,baz=40,slow=4.7,SNR=6.9							
TXAR	**Lajitas Array**	**92.68**	**314**	P	**P**	**18 56 08.4**	**+0.4**
comp=Z,1.1nm,0.8s,baz=63,slow=4.2,SNR=10.0							
TXAR	**Lajitas Array**	**92.68**	**314**	P	**P**	**18 56 08.4**	**+0.4**
comp=Z,1.0nm,0.8s							
ASAR	**Alice Springs**	**122.53**	**94**	PKP	**PKPdf**	**19 01 49.4**	**-2.0**
comp=Z,0.3nm,0.7s,baz=326,slow=0.5,SNR=6.0							

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*PDG **12** 18:50:33.9±0.2, 41°.41N×20°.44E, h2km, ML2.6/11, Error ellipse: s-maj=0.3km s-min=0.3km az=0.0*
*BEO **12** 18:50:33.8±0.5, 41°.34N×20°.46E, h9km±3km, ML2.2/9*
*SKO **12** 18:50:34.4, 41°.31N×20°.43E, h7km, M2.1, ML2.7*
*THE **12** 18:50:34.4, 41°.44N×20°.46E, h0km±2km, ML2.3/5, Error ellipse: s-maj=2.5km s-min=0.9km az=279.0*
*ATH **12** 18:50:34.9, 41°.44N×20°.48E, h13km±3km, MD3.1/7*
*CSEM **12** 18:50:34.4±0.1, 41°.45N×20°.43E, h2km, ML2.3/5, Error ellipse: s-maj=3.6km s-min=2.2km az=45.0*

ISC 12 18:50:34.4±1.0, 41°.44N±0°.02×20°.45E±0°.02, h4km±9km, n90, σ1°.03/150, 18C-4D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PHP	**Peshkopia**	**0.25**	**358**	P	**Pg**	**18 50 39.3**	**0.0**
PHP				S	**Sg**	**18 50 43.9**	**+1.0**
PHP	**Peshkopia**	**0.25**	**358**	P	**Pg**	**18 50 39.3**	**0.0**
PHP				S	**Sg**	**18 50 43.9**	**+1.3**
TIR	**Tirane**	**0.45**	**259**	P	**Pg**	**18 50 42.6**	**-0.5**
TIR				S	**Sg**	**18 50 49.4**	**+0.4**
TIR	**Tirane**	**0.45**	**259**	*e*Pg	**Pg**	**18 50 42.4**	**-0.7**
TIR	**Tirane**	**0.45**	**259**	P	**Pg**	**18 50 42.6**	**-0.5**
TIR				S	**Sg**	**18 50 49.4**	**+0.4**
BIA	**Bitola**	**0.78**	**122**	P	**Pg**	**18 50 48.3**	**-1.1**
BIA				S	**Sg**	**18 50 59.9**	**+0.5**
BIA	**Bitola**	**0.78**	**122**	*e*Pg	**Pg**	**18 50 48.6**	**-0.7**
BIA				*e*Sg	**Sb**	**18 51 00.8**	**-0.7**
BIA				*e*Lg	Lg	18 51 00.9	
comp=N,54nm,0.3s							
BIA				*e*Lg	Lg	18 51 01.3	
comp=E,73nm,0.2s							
BIA	**Bitola**	**0.78**	**122**	*e*Pg	**Pg**	**18 50 48.8**	**-0.6**
BIA				*e*Sg	**Sb**	**18 51 01.2**	**-0.3**
BIA				*e*Lg	Lg	18 51 01.3	
comp=N,56nm,0.2s							
BIA				*e*Lg	Lg	18 51 01.6	
comp=E,73nm,0.2s							
BIA	**Bitola**	**0.78**	**122**	*e*Pg	**Pg**	**18 50 48.2**	**-1.1**
BIA				S	**Sg**	**18 50 59.9**	**+0.5**
BIA				*e*Sg	**Sb**	**18 51 00.6**	**-0.9**
BIA				*e*Lg	Lg	18 51 02.1	
comp=E,73nm,0.2s							
SKO	**Skopje**	**0.91**	**54**	P	**Pg**	**18 50 51.6**	**-0.3**
SKO				S	**Sn**	**18 51 06.2**	**-1.5**
SKO	**Skopje**	**0.91**	**54**	*e*Pg	**Pg**	**18 50 51.6**	**-0.3**
SKO				*e*Sg	**Sb**	**18 51 05.1**	**-0.2**
SKO	**Skopje**	**0.91**	**54**	*e*Pg	**Pb**	**18 50 52.7**	**-0.2**
SKO				*e*Lg	Lg	18 51 01.2	
comp=N,251nm,0.5s							
SKO				*e*Sg	**Sg**	**18 51 01.8**	**-2.0**
SKO				*e*Lg	Lg	18 51 01.9	
comp=E,86nm,0.3s							
SKO	**Skopje**	**0.91**	**54**	*i* Pg	**Pn**	**18 50 53.9**	**-0.2**
SKO				*e*Sg	**Sg**	**18 51 01.5**	**-2.3**
SKO				*e*Lg	Lg	18 51 01.5	
comp=N,251nm,0.5s							
SKO				*e*Lg	Lg	18 51 01.6	
comp=E,118nm,0.7s							
SKO	**Skopje**	**0.91**	**54**	P	**Pg**	**18 50 51.6**	**-0.3**
SKO	**Skopje**	**0.91**	**54**	*i* Pg	**Pb**	**18 50 52.8**	**0.0**
SKO				*e*Sg	**Sn**	**18 51 06.5**	**-1.2**
SKO				*e*Lg	Lg	18 51 06.6	
comp=E,118nm,0.7s							
FNA	**Florina**	**0.95**	**133**	P	**Pg**	**18 50 51.9**	**-0.8**
FNA				S	**Sb**	**18 51 06.3**	**-0.2**
FNA	**Florina**	**0.95**	**133**	*e*PB	**Pg**	**18 50 51.9**	**-0.8**
FNA				*e*SB	**Sb**	**18 51 06.0**	**-0.5**
FNA	**Florina**	**0.95**	**133**	P	**Pg**	**18 50 51.9**	**-0.8**
FNA				*e*Sb	**Sb**	**18 51 06.0**	**-0.5**
ULC	**Ulcinj**	**1.05**	**301**	⇑*i*Pg	**Pg**	**18 50 52.6**	**-1.9**
ULC				*e*Sg	**Sb**	**18 51 09.1**	**-0.2**
ULC	**Ulcinj**	**1.05**	**301**	⇑*i*Pg	**Pg**	**18 50 52.6**	**-1.9**
ULC				*e*Sg	**Sb**	**18 51 09.1**	**-0.2**
NEST	**Nestorio**	**1.11**	**156**	P	**Pg**	**18 50 55.1**	**-0.7**
NEST				S	**Sn**	**18 51 12.0**	**-0.8**
NEST	**Nestorio**	**1.11**	**156**	P	**Pg**	**18 50 55.1**	**-0.7**
NEST				S	**Sn**	**18 51 12.0**	**-0.8**
DRME	**Dracevica, Mon**	**1.21**	**309**	⇑*i*Pg	**Pg**	**18 50 56.3**	**-1.3**
DRME				*e*Sg	**Sn**	**18 51 15.3**	**+0.3**
DRME	**Dracevica, Mon**	**1.21**	**309**	⇑*i*Pg	**Pg**	**18 50 56.3**	**-1.3**
PVY	**Plav**	**1.22**	**343**	⇓*i*Pg	**Pg**	**18 50 56.8**	**-0.9**
PVY				*e*Sg	**Sn**	**18 51 15.8**	**+0.5**
PVY	**Plav**	**1.22**	**343**	⇓*i*Pg	**Pg**	**18 50 56.8**	**-0.9**
PVY				*e*Sg	**Sn**	**18 51 15.8**	**+0.5**
PDG	**Podgorica**	**1.34**	**318**	*e*Pg	**Pn**	**18 50 58.5**	**-1.4**
PDG				*e*Sg	**Sn**	**18 51 19.4**	**+1.3**
PDG	**Podgorica**	**1.34**	**318**	⇑*i*Pg	**Pn**	**18 50 58.5**	**-1.4**
PDG				*e*Sg	**Sn**	**18 51 19.4**	**+1.3**
TTG	**Podgorica**	**1.34**	**318**	⇑*i*Pg	**Pn**	**18 50 58.5**	**-1.4**
TTG				*e*Sg	**Sn**	**18 51 20.0**	**+1.9**
BUM	**Brajici-Budva**	**1.45**	**307**	⇑*i*Pg	**Pn**	**18 51 00.6**	**-0.9**
BUM				*e*Sg	**Sg**	**18 51 23.1**	**+2.1**
BUM	**Brajici-Budva**	**1.45**	**307**	⇑*i*Pg	**Pn**	**18 51 00.6**	**-0.9**
BUM				*e*Sg	**Sg**	**18 51 23.1**	**+2.1**
BEY	**Berane**	**1.50**	**344**	⇑*i*Pg	**Pn**	**18 51 01.7**	**-0.4**
BEY				*e*Sg	**Sg**	**18 51 25.1**	**+2.6**
IVA	**Berane**	**1.50**	**344**	⇑*i*Pg	**Pn**	**18 51 01.7**	**-0.4**
IVA				*e*Sg	**Sg**	**18 51 25.1**	**+2.6**
KZN	**Kozani**	**1.51**	**138**	P	**Pb**	**18 51 02.6**	**-0.4**
KZN				S	**Sg**	**18 51 23.6**	**+0.8**
KZN	**Kozani**	**1.51**	**138**	*e*PB	**Pg**	**18 51 03.3**	**0.0**
KZN				*e*SB	**Sg**	**18 51 24.1**	**+1.3**
KZN	**Kozani**	**1.51**	**138**	P	**Pb**	**18 51 02.6**	**-0.4**
KZN	**Kozani**	**1.51**	**138**	*e*Pb	**Pg**	**18 51 03.3**	**0.0**
KZN				S	**Sg**	**18 51 23.6**	**+0.8**
KZN				*e*Sb	**Sg**	**18 51 24.1**	**+1.3**
GRG	**Griva**	**1.55**	**107**	P	**Pb**	**18 51 03.0**	**-0.6**
GRG				S	**Sg**	**18 51 24.6**	**+0.5**
GRG	**Griva**	**1.55**	**107**	P	**Pb**	**18 51 03.0**	**-0.6**
GRG				S	**Sg**	**18 51 24.6**	**+0.5**
SRN	**Sarande**	**1.59**	**193**	P	**Pb**	**18 51 04.0**	**-0.4**
SRN	**Sarande**	**1.59**	**193**	P	**Pb**	**18 51 04.0**	**-0.4**
VAY	**Valandovo**	**1.60**	**93**	*e*Pn	**Pn**	**18 51 01.0**	**-2.4**
VAY	**Valandovo**	**1.60**	**93**	*e*Pn	**Pn**	**18 51 01.4**	**-2.0**
VAY				*e*Lg	Lg	18 51 26.0	
comp=N,48nm,0.6s							
VAY				*e*Sn	**Sg**	**18 51 26.1**	**+0.4**
VAY				*e*Lg	Lg	18 51 26.2	
comp=E,28nm,0.7s							
VAY	**Valandovo**	**1.60**	**93**	*e*Sn	**Sg**	**18 51 28.2**	**+2.4**
VAY				*e*Lg	Lg	18 51 28.4	
comp=E,25nm,0.5s							
VAY				*e*Lg	Lg	18 51 28.4	
comp=N,48nm,0.6s							
VAY	**Valandovo**	**1.60**	**93**	*e*Sn	**Sg**	**18 51 27.6**	**+1.9**
VAY				*e*Lg	Lg	18 51 27.9	
comp=N,48nm,0.6s							
BARS	**Barje**	**1.71**	**36**	*e*Pn	**Pn**	**18 51 05.1**	**0.0**
BARS				*e*Sg	**Sg**	**18 51 30.0**	**+0.6**
BARS	**Barje**	**1.71**	**36**	*e*Pn	**Pn**	**18 51 05.1**	**0.0**
BARS				*e*Sg	**Sg**	**18 51 30.0**	**+0.6**
NKME	**Niksic**	**1.74**	**321**	⇑*i*Pn	**Pb**	**18 51 06.1**	**-0.8**
NKME				*e*Sn	**Sg**	**18 51 31.8**	**+1.6**
NKME	**Niksic**	**1.74**	**321**	⇑*i*Pn	**Pb**	**18 51 06.1**	**-0.8**
NKME				*e*Sn	**Sg**	**18 51 31.8**	**+1.6**
HCY	**Herceg Novi**	**1.78**	**305**	⇑*i*Pn	**Pn**	**18 51 06.0**	**+0.1**
HCY				*e*Sn	**Sg**	**18 51 32.4**	**+0.9**
HCY	**Herceg Novi**	**1.78**	**305**	⇑*i*Pn	**Pn**	**18 51 06.0**	**+0.1**
HCY				*e*Sn	**Sg**	**18 51 32.4**	**+0.9**
KEK	**Kerkira**	**1.79**	**196**	P	**Pb**	**18 51 07.2**	**-0.6**
KEK	**Kerkira**	**1.79**	**196**	*e*PN	**Pb**	**18 51 07.3**	**-0.6**
KEK				*e*SN	**Sg**	**18 51 31.6**	**-0.3**
KEK	**Kerkira**	**1.79**	**196**	P	**Pb**	**18 51 07.2**	**-0.6**
KEK				*e*Sn	**Sg**	**18 51 31.6**	**-0.3**
JAN	**Janina**	**1.80**	**170**	*e*PG	**Pg**	**18 51 08.7**	**-0.2**
JAN	**Janina**	**1.80**	**170**	*e*Pg	**Pg**	**18 51 08.7**	**-0.2**
SELS	**Selova**	**1.85**	**15**	*e*Pn	**Pn**	**18 51 07.2**	**+0.2**
SJES	**Sjenica**	**1.86**	**349**	*e*Pn	**Pn**	**18 51 06.8**	**-0.4**
KNT	**Kendrikon**	**1.86**	**98**	P	**Pn**	**18 51 07.5**	**+0.4**
KNT				S	**Sb**	**18 51 32.8**	**+0.1**
KNT	**Kendrikon**	**1.86**	**98**	P	**Pn**	**18 51 07.5**	**+0.4**
KNT				S	**Sb**	**18 51 32.8**	**+0.1**
TREB	**Trebinje**	**2.02**	**310**	*e*Pn	**Pn**	**18 51 09.7**	**+0.4**
TREB				*e*Sg	**Sg**	**18 51 39.8**	**+0.4**
TREB	**Trebinje**	**2.02**	**310**	*e*Pn	**Pn**	**18 51 09.7**	**+0.4**
TREB				*e*Sg	**Sg**	**18 51 39.8**	**+0.4**
BRY	**Bratogost**	**2.04**	**316**	⇓*i*Pn	**Pn**	**18 51 10.1**	**+0.4**
BRY				*e*Sn	**Sg**	**18 51 39.5**	**-0.5**
BRY	**Bratogost**	**2.04**	**316**	⇓*i*Pn	**Pn**	**18 51 10.1**	**+0.4**
BRY				*e*Sn	**Sg**	**18 51 39.5**	**-0.5**
PLE	**Pljevlja**	**2.05**	**338**	⇑*i*Pn	**Pb**	**18 51 10.9**	**-1.4**
PLE				*e*Sn	**Sb**	**18 51 39.1**	**+0.9**
PLE	**Pljevlja**	**2.05**	**338**	⇑*i*Pn	**Pb**	**18 51 10.9**	**-1.4**
PLE				*e*Sn	**Sb**	**18 51 39.1**	**+0.9**
UPM	**Unac-Piva**	**2.11**	**327**	⇑*i*Pn	**Pn**	**18 51 11.4**	**+0.7**
UPM				*e*Sn	**Sb**	**18 51 40.6**	**+0.7**
UPM	**Unac-Piva**	**2.11**	**327**	⇑*i*Pn	**Pn**	**18 51 11.4**	**+0.7**
UPM				*e*Sn	**Sb**	**18 51 40.6**	**+0.7**
HORT	**Hortiatis**	**2.17**	**112**	P	**Pn**	**18 51 11.6**	**+0.2**
HORT				S	**Sn**	**18 51 39.4**	**+0.6**
HORT	**Hortiatis**	**2.17**	**112**	P	**Pn**	**18 51 11.6**	**+0.2**
HORT				S	**Sn**	**18 51 39.4**	**+0.6**
THL	**Klokotos Trika**	**2.21**	**147**	*e*PN	**Pb**	**18 51 13.7**	**-1.3**
THL	**Klokotos Trika**	**2.21**	**147**	*e*Pn	**Pb**	**18 51 13.7**	**-1.

SIVA	Sivas	1.11	328	*e*Pn	Pb	19 40 36.7	-0.1
SIVA				*e*Sn	Sg	19 40 51.7	-0.3
ZKR	Zakros	1.18	28	*e*PN	Pg	19 40 38.8	+0.1
ZKR	Zakros	1.18	28	*e*Pn	Pg	19 40 38.8	+0.1
NPS	Neapolis	1.18	3	*e*PN	Pn	19 40 38.0	+0.2
NPS	Neapolis	1.18	3	*e*Pn	Pn	19 40 38.0	+0.2
IDI	Anoyia	1.32	336	*e*PN	Pb	19 40 40.2	-0.1
IDI				*e*SN	Sg	19 40 58.1	-0.5
IDI	Anoyia	1.32	336	Pn	Pg	19 40 40.9	-0.5
	3.5nm,0.3s,baz=162,slow=17,SNR=18						
IDI				Sn	Sg	19 41 01.7	+3.0
	11nm,0.3s,baz=319,slow=19,SNR=8.6						
IDI	Anoyia	1.32	336	*e*Pn	Pb	19 40 40.2	-0.1
IDI				*e*Sn	Sg	19 40 58.1	-0.5
GVD	Gavdhos	1.42	303	*e*PN	Pg	19 40 43.7	+0.4
GVD	Gavdhos	1.42	303	*e*Pn	Pg	19 40 43.7	+0.4
VAM	Vamos	1.72	321	*e*PN	Pb	19 40 47.2	0.0
VAM				*e*SN	Sb	19 41 08.5	0.0
VAM	Vamos	1.72	321	*e*Pn	Pb	19 40 47.2	0.0
VAM				*e*Sn	Sb	19 41 08.5	0.0
KARN	Karanos	1.87	315	*e*PN	Pb	19 40 49.7	-0.1
KARN	Karanos	1.87	315	*e*Pn	Pb	19 40 49.7	-0.1
KARP	Karpathos	1.98	42	*e*PB	Pb	19 40 50.8	-0.9
KARP	Karpathos	1.98	42	*e*Pb	Pb	19 40 50.8	-0.9
MMAI	Mount Meron Ar	8.31	95	Pn	Pn	19 42 15.7	0.0
	0.8nm,0.3s,baz=280,slow=12,SNR=6.5						
MMAI				Sn	Sn	19 43 51.4	+2.2
	0.9nm,0.3s,baz=258,slow=20,SNR=3.5						
AKASG	Malin Array Be	16.83	8	Pn	P	19 44 12.3	-0.4
	1.1nm,0.3s,baz=200,slow=11,SNR=4.6						
GERES	GERESS Array B	17.18	333	Pn	P	19 44 17.1	+0.3
	0.1nm,0.3s,baz=145,slow=12,SNR=14						
ESDC	Sonseca Array	24.19	292	P	P	19 45 30.5	-1.0
	0.1nm,0.3s,baz=89,slow=9.1,SNR=3.6						
FINES	FINESS Array B	27.38	1	P	P	19 45 59.4	-0.7
	0.9nm,0.7s,baz=172,slow=10,SNR=4.0						
EKA	Eskdalemuir Ar	29.10	326	P	P	19 46 15.5	0.0
	1.0nm,0.8s,baz=111,slow=11,SNR=3.7						
TORD	Torodi Ar. Bea	30.05	232	P	P	19 46 23.8	-0.5
	0.2nm,0.7s,baz=43,slow=8.4,SNR=3.5						
ARCES	ARCESS Array B	35.51	360	P	P	19 47 10.3	-1.2
	1.1nm,0.8s,baz=174,slow=10.0,SNR=5.1						
KURBB	Kurchatov Arra	41.57	50	P	P	19 48 03.2	+0.6
	0.2nm,0.3s,baz=275,slow=8.9,SNR=4.2						
MKAR	Makanchi Array	44.12	56	P	P	19 48 24.7	+1.3
	0.5nm,0.6s,baz=280,slow=6.2,SNR=5.6						

BGS ***12*** *20:06:08.3±1.6, 9°.36N×70°.50W, h10km, mb6.0, MS6.5*
IDC ***12*** *20:06:22.9±0.3, 10°.74N×67°.93W, h0km, mb5.3/40, mb1 5.4/41, mb1mx5.4/41, mbtmp5.3/41, ML4.7/1, MS6.2/32, Ms1 6.3/32, ms1mx6.2/41, Error ellipse: s-maj=9.3km s-min=7.2km az=78.0*
ISCJB ***12*** *20:06:24.0±0.1, 10°.82N±0°.01×67°.965W±0°.009, h10km, mb6.0/422, MS6.4/214, Error ellipse: s-maj=2.2km s-min=1.3km az=8.2*
LDG ***12*** *20:06:24.3±0.3, 10°.65N×67°.49W, h10km, Mb6.0/45, Ms6.3/12, Error ellipse: s-maj=20.8km s-min=9.7km az=119.0*
FUNV ***12*** *20:06:24.5, 10°.81N×67°.91W, h6km, MW6.4*
NEIC ***12*** *20:06:25.5±0.1, 10°.71N×67°.93W, h14km, mb6.3/241, ME7.1, MS6.4/101, MW6.2, MW6.3, MW6.2(CAR), MW6.3(USGS), Error ellipse: s-maj=3.6km s-min=2.9km az=212.0, Moment Tensor Solution. s62 Moment tensor: Scale 10^18^Nm; M_{rr}0.40; $M_{\theta\theta}$-0.71; $M_{\phi\phi}$0.31; $M_{r\theta}$0.73; $M_{\theta\phi}$-2.64; $M_{\phi r}$-0.27; Best double couple: $M_0$2.80000×10^18^ NP1:ϕ_s94.00000°, δ83.00000°, λ163.00000°. NP2: ϕ_s186.00000°, δ73.00000°, λ7.00000°. Principal axes: T 2.6900, Plg16.0000°, Azm49.0000°; N 0.2500, Plg72.0000°, Azm253.0000°; P -2.9300, Plg6.0000°, Azm141.0000°; Broadband fault plane solution: P waves. NP1:ϕ_s265.00000°, δ85.00000°, λ-175.00000°. NP2: ϕ_s175.00000°, δ85.00000°, λ-5.00000°. Principal axes: T Plg0.0000°, Azm40.0000°; N Plg0.0000°, Azm0.0000°; P Plg7.0000°, Azm130.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC At least 18 people injured and 17 buildings damaged north of Moron. Felt [VI] in parts of Carabobo; [V] at Baruta, Caracas, El Limon, Guarenas, La Victoria, Los Dos Caminos, Maiquetia, Maracay, Puerto Cabello, San Antonio de los Altos, Turmero and Valencia; [IV] at Barinas, Barquisimeto, Cagua, Chacao, El Cafetal, El Hatillo, Guatire, Los Teques and Petare. Felt in much of northern and central Venezuela. Felt [III] at Willemstad and [II] at Kralendijk, Netherlands Antilles. Also felt at Antriol, Groot Piscadera, Hato, Montana Abou, Ronde Klip and Tera Kora. Felt at Oranjestad, Aruba and at Bogota, Bucaramanga, Cartagena, Medellin and Santa Marta, Colombia.
MOS ***12*** *20:06:26.8±1.2, 10°.77N×67°.99W, h32km, mb6.4/112, MS6.3/54 Error ellipse: s-maj=5.3km s-min=3.8km az=65.9*
BJI ***12*** *20:06:28.1, 10°.70N×68°.00W, h30km, mB6.3/38, Ms6.8/67, Ms7 6.6/61*
GCMT ***12*** *20:06:30.6±0.1, 10°.76N×67°.97W, h12km, MW6.4, Moment Tensor Solution. s107, c244; s90, c174; Moment tensor: Scale 10^18^Nm; M_{rr}0.16±.02; $M_{\theta\theta}$-0.44±.02; $M_{\phi\phi}$0.28±.02; $M_{r\theta}$1.26±.05; $M_{\theta\phi}$-4.15±.02; $M_{\phi r}$-0.64±.06; Best double couple: $M_0$4.40000×10^18^ NP1:ϕ_s91.00000°, δ83.00000°, λ163.00000°. NP2: ϕ_s184.00000°, δ73.00000°, λ8.00000°. Principal axes: T 4.5000, Plg17.0000°, Azm46.0000°; N -0.1900, Plg72.0000°, Azm249.0000°; P -4.3000, Plg7.0000°, Azm139.0000°; Data Used: II IU CN IC G. Surface waves: sta=111, comp=269, per= 50.*
SZGRF ***12*** *20:06:32.8, 10°.65N×66°.60W, h33km, mb5.9, MS6.4, Near coast of Venezuela*
NEIC ***12*** *20:06:43.2±0.0, 11°.15N×67°.47W, h10km, Moment Tensor Solution. s157 Moment tensor: Scale 10^18^Nm; M_{rr}-0.12; $M_{\theta\theta}$-0.20; $M_{\phi\phi}$0.32; $M_{r\theta}$1.71; $M_{\theta\phi}$-3.24; $M_{\phi r}$0.44; Best double couple: $M_0$3.70000×10^18^ NP1:ϕ_s180.00000°, δ63.00000°, λ-6.00000°. NP2:ϕ_s273.00000°, δ84.00000°, λ-152.00000°. Principal axes: T 3.5300, Plg14.0000°, Azm43.0000°; N 0.3300, Plg62.0000°, Azm284.0000°; P -3.8500, Plg23.0000°, Azm140.0000°;*

ISC 12 20:06:26.3±0.5, 10°.72N±0°.02×67°.91W±0°.02, h20km±1km, n2027, σ1954/2161, mb6.1/423, MS6.4/215, 374C-311D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TURV	Turiamo	0.27	165	*e*P	Pg	20 06 31.1	-1.5
TURV				*e*S	Sb	20 06 35.7	-1.0
TURV	Turiamo	0.27	165	⇓*i*P	Pg	20 06 30.9	-1.7
TURV				*e*S	Sb	20 06 36.1	-0.5
FDCV	FORTIN DE LA C	0.96	100	⇓*e*P	Pb	20 06 43.1	-1.3
JACV	Jacura	0.97	292	*e*P	Pg	20 06 45.7	+0.4
JACV				*e*S	Sn	20 06 59.0	+0.8
JACV	Jacura	0.97	292	⇓*e*P	Pn	20 06 45.0	0.0
JACV				*e*S	Sb	20 06 54.3	-2.7
FUNV	FUNVISIS	1.11	103	⇓*i*P	Pn	20 06 45.2	-1.7
FUNV				*e*S	Sb	20 07 00.2	-0.9
LLAV	El Llanito	1.11	103	*e*P	Pn	20 06 45.7	-1.2
LLAV				*e*S	Sb	20 07 00.7	-0.4
LLAV	El Llanito	1.11	103	⇓*e*P	Pn	20 06 45.3	-1.6
TEPV	Terepaima	1.46	239	⇑*e*P	Pn	20 06 50.7	-1.0
TEPV				*e*S	Sb	20 07 11.3	+0.2
BAUV	El Baul	1.77	184	*e*P	Pn	20 06 56.2	+0.4
BAUV				*e*S	Sn	20 07 17.4	-0.4
BAUV	El Baul	1.77	184	⇓*e*P	Pn	20 06 56.0	+0.1
BAUV				*e*S	Sb	20 07 20.8	+1.0
SIQV	Siquisique	1.86	268	⇑*e*P	Pn	20 06 55.7	-1.5
SIQV				*e*S	Sn	20 07 19.6	-0.7
SANV	Sanarito	2.00	233	⇑*e*P	Pn	20 06 59.0	-0.2
SANV				*e*S	Sn	20 07 25.0	+1.2
ORCV	Isla La Orchil	2.01	57	⇑*e*P	Pn	20 06 56.3	-2.9
CURV	Curarigua	2.13	251	⇑*e*P	Pn	20 06 59.9	-1.0
CURV				*e*S	Sn	20 07 27.4	+0.5
MERV	Las Mercedes	2.16	132	⇓*e*P	Pn	20 07 01.6	+0.4
CUPV	Cœpira	2.19	107	⇓*e*P	Pn	20 07 01.8	+0.1
CUPV				*e*S	Sn	20 07 28.5	+0.1
MONV	Montecano	2.36	302	⇓*e*P	Pn	20 07 01.8	-2.3
MONV				*e*S	Sn	20 07 29.8	-2.8
QARV	Quebrada Arrib	2.62	259	⇑*e*P	Pn	20 07 08.1	+0.5
QARV				*e*S	Sn	20 07 38.5	-0.3
DABV	Dabajuro	2.68	275	⇑*e*P	Pn	20 07 06.8	-1.6
DABV				*e*S	Sn	20 07 39.7	-0.7
SDV	Santo Domingo	3.24	236	⇑*e*Pn	Pn	20 07 16.3	0.0
SDV				*e*Pb	Pb	20 07 16.4	-6.9
SDV				*e*Sn	Sn	20 07 53.5	-0.9
SOCV	Socops	3.78	230	⇑*e*P	Pn	20 07 23.0	-0.6
SOCV				*e*S	Sn	20 08 06.6	-0.8
VIGV	El Vigia	3.88	242	⇑*e*P	Pn	20 07 25.4	+0.4
VIGV				*e*S	Sn	20 08 07.3	-2.7
ELOV	Elorza	4.00	203	⇑*e*P	Pn	20 07 27.6	+1.0
ELOV				*e*S	Sn	20 08 11.2	-1.8
VIRV	Villa del Rosa	4.42	268	⇑*e*P	Pn	20 07 30.4	-1.9
ORIV	Oritupano	4.73	110	⇓*e*P	Pn	20 07 35.9	-0.7
GUNV	Guanoco	4.92	96	*e*P	Pn	20 07 38.4	-0.8
CAPV	Capacho	5.19	237	⇑*e*P	Pn	20 07 43.0	-0.1
CAPV				*e*S	Sn	20 08 39.1	-3.4
PAYV	Puerto Ayacuch	5.27	177	⇓*e*P	Pn	20 07 43.6	-0.4
GUIV	Guiria	5.59	90	*e*P	Pn	20 07 46.3	-2.1
GURV	El Guri	5.60	121	⇓*i*P	Pn	20 07 46.9	-1.7
TCE	Chacachacare	6.05	90	*e*P	Pn	20 07 57.2	+2.3
TCE				*e*S	Sn	20 08 59.6	-4.0
ALNG	Atlantic LNG	6.15	94	*e*P	Pn	20 08 00.2	+4.1
GRW	Mount Saint Ca	6.29	76	*e*P	Pn	20 07 56.5	-1.7
GRW				*e*S	Sn	20 09 04.2	-5.5
GRGR	Grenville	6.30	76	⇑*e*P	Pn	20 07 55.9	-2.2
GRGR	Grenville	6.30	76	*e*Pn	Pn	20 07 55.7	-2.5
	912nm,1.8s						
GRHS	Sauteurs	6.33	76	*e*P	Pn	20 07 57.9	-0.6
SIPA	Siparia	6.33	95	*e*P	Pn	20 08 03.4	+4.8
TPP	Pointe-a-Pierr	6.37	93	⇑*e*P	Pn	20 08 01.1	+2.0
GRSS	Sisters	6.37	75	*e*P	Pn	20 07 57.8	-1.4
GRSS				*e*S	Sn	20 08 57.8	-14
TRN	Trinidad (W)	6.40	90	*e*P	Pn	20 08 00.6	+1.0
TRN				*e*S	Sn	20 09 07.6	-4.5
RIOV	Rio Grande	6.57	113	⇓*e*P	Pn	20 08 00.1	-1.8
TBH	Brigand Hill	6.74	91	*e*P	Pn	20 08 05.4	+1.2
SVB	Belmont	7.00	68	*e*P	Pn	20 08 04.7	-3.1
SVB				*e*S	Sn	20 09 17.9	-9.0
TPR	Prospect	7.02	86	*e*P	Pn	20 08 09.0	+0.9
BOT	Bacolet	7.08	86	*e*P	Pn	20 08 10.1	+1.2
TOSP	Speyside	7.27	85	*e*P	Pn	20 08 12.6	+1.1
TOSP				*e*S	Sn	20 09 34.3	+0.8
CRPR	Cabo Rojo, PR	7.29	6	*e*Pn	Pn	20 08 09.2	-2.5
CRPR				*e*Sn	Sn	20 09 21.1	-13
OBIP	Obispado Ponce	7.39	10	⇑*e*Pn	Pn	20 08 10.4	-2.8
OBIP				*e*Sn	Sn	20 09 23.9	-1.9
CELP	Cerrillos	7.43	10	⇑*e*Pn	Pn	20 08 10.7	-3.0
MCLT	Moule a Chique	7.44	66	*e*P	Pn	20 08 10.4	-3.4
MCLT				*e*S	Sn	20 09 29.3	-8.4
LSP	Las Mesas	7.46	6	*e*Pn	Pn	20 08 11.9	-2.3
LSP				*e*Sn	Sn	20 09 29.7	-8.6
MPR	Mayaguez	7.49	6	*e*Pn	Pn	20 08 12.3	-2.2
MPR				*e*Sn	Sn	20 09 27.8	-11
CPD	Cerro la Pandu	7.53	15	*e*P	Pn	20 08 12.2	-2.9
CPD	Cerro la Pandu	7.53	15	*e*Pn	Pn	20 08 12.2	-2.9
SJG	San Juan	7.55	13	⇑*e*Pn	Pn	20 08 11.8	-3.5
SJG				*e*Sn	Sn	20 09 28.0	-12
SLW	Petit Monier	7.56	64	*e*P	Pn	20 08 11.8	-3.8
LRS	Lares	7.60	8	*e*Pn	Pn	20 08 13.4	-2.7
LRS				*e*Sn	Sn	20 09 24.7	-17
CDVI	St. Croix	7.63	23	*e*Pn	Pn	20 08 10.1	-6.3
CDVI				*e*Sn	Sn	20 09 29.3	-13
HUMP	Col San Antoni	7.65	15	*e*Pn	Pn	20 08 13.4	-3.3
HUMP				*e*Sn	Sn	20 09 31.9	-11
HUMP				*e*ScS	ScS	20 22 02.2	-0.5
AOPR	Arecibo Observ	7.67	8	*e*Pn	Pn	20 08 14.9	-2.1
AOPR				*e*Sn	Sn	20 09 31.2	-12
AGP	Aguadilla	7.68	5	*e*Pn	Pn	20 08 16.6	-0.6
MTP	Monte Pirata	7.69	17	⇑*e*Pn	Pn	20 08 12.4	-4.8
MTP				*e*Sn	Sn	20 09 35.3	-8.5
AGPR	Aguadilla, PR	7.75	6	⇑*e*Pn	Pn	20 08 16.0	-2.1
AGPR				*e*Sn	Sn	20 09 38.0	-7.2
SVN	Savane Anatole	7.75	57	*e*P	Pn	20 08 14.5	-3.7
CBYP	Canovanas	7.77	15	⇑*e*Pn	Pn	20 08 14.6	-3.9
CBYP				*e*Sn	Sn	20 09 35.2	-11
DSHT	Scott's Head	7.79	54	*e*P	Pn	20 08 16.7	-1.9
DPMT	Pointe Michel	7.81	54	*e*P	Pn	20 08 16.7	-2.2
MDN	Morne-Daniel	7.83	54	*e*P	Pn	20 08 16.1	-3.1
DBCT	Belle View Cho	7.84	54	*e*P	Pn	20 08 17.4	-1.9
TBG	Guadaloupe-3	7.95	49	*e*P	Pn	20 08 17.6	-3.3
DVCT	Vielle Casse P	7.99	52	⇑*i*P	Pn	20 08 19.4	-2.0
DVCT				*e*S	Sn	20 09 44.6	-6.7
HMG	Houelmont	8.00	48	*e*P	Pn	20 08 18.3	-3.2
LUEV	Luepa	8.01	127	⇓*e*P	Pn	20 08 19.1	-2.7
DWS	Wesley	8.04	52	*e*P	Pn	20 08 22.1	+0.1
SCG	Saint Claude	8.04	48	*e*P	Pn	20 08 18.7	-3.5
LZG	Guadaloupe-1	8.04	47	⇑*e*P	Pn	20 08 17.9	-4.3
FNG	Fond-Bernard	8.06	48	⇑*e*P	Pn	20 08 18.1	-4.3
PHG	Guadaloupe-2	8.06	49	⇑*e*P	Pn	20 08 19.2	-3.3
TAG	Tarade	8.06	48	*e*P	Pn	20 08 19.1	-3.4
LKG	Breislack	8.07	48	⇑*i*P	Pn	20 08 18.3	-4.3
ECG	Echelle	8.07	48	⇑*i*P	Pn	20 08 18.2	-4.4
CRG	Carmichael	8.07	48	*e*P	Pn	20 08 18.9	-3.8
SSG	Sans Toucher	8.08	48	⇑*e*P	Pn	20 08 18.4	-4.4
DOG	Dongo Capester	8.09	49	⇑*i*P	Pn	20 08 18.7	-4.1
STVI	Saint Thomas	8.11	20	⇑*e*Pn	Pn	20 08 17.8	-5.3
STVI				*e*Sn	Sn	20 09 41.3	-13
MGG	Marie-Galante	8.24	50	⇑*e*P	Pn	20 08 21.7	-3.2
SKI	Saint Kitts	8.27	37	*e*P	Pn	20 08 19.3	-6.1
SKI				*e*S	Sn	20 09 49.2	-9.1
SEG	Port Louis	8.41	47	⇑*i*P	Pn	20 08 22.7	-4.5
BBGH	Gun Hill	8.52	73	*e*P	Pn	20 08 25.4	-3.3
BBGH	Gun Hill	8.52	73	⇑*e*Pn	Pn	20 08 29.3	+0.6
BBSP	Saint Philip	8.61	73	*e*P	Pn	20 08 30.5	+0.6
BPA	Boggy Peak	8.61	42	*e*P	Pn	20 08 26.2	-3.8
BPA	Boggy Peak	8.61	42	*e*P	Pn	20 08 26.9	-3.1
BPA				*e*S	Sn	20 09 58.7	-7.9
BPA				*e*S	Sn	20 09 59.1	-7.6
ROSC	El Rosal	8.62	228	⇑*e*Pn	Pn	20 08 30.6	+0.1
ROSC				Sn	Sn	20 10 11.3	+3.9
ROSC				Lg	Lg	20 10 59.9	
ROSC	El Rosal	8.62	228	Pn	Pn	20 08 31.4	+1.0
	189nm,0.3s,baz=62,slow=4.4,SNR=344						
ROSC				Sn	Sn	20 10 11.3	+3.9
	baz=270,slow=20,SNR=1.8						
ROSC				Lg	Lg	20 10 59.9	
	113nm,0.3s,baz=252,slow=20,SNR=2.6						
SDDR	Presa de Saban	8.84	339	⇓*e*Pn	Pn	20 08 31.7	-1.5
SDDR				*e*Sn	Sn	20 10 05.5	-6.8
SDDR				*e*ScP	ScP	20 18 32.8	+2.6
ANWB	Willy Bob	9.11	40	*e*P	Pn	20 08 30.1	-6.7
ANWB	Willy Bob	9.11	40	*e*Pn	Pn	20 08 34.9	-1.9
GRTK	Grand Turk	11.17	344	*e*Pn	Pn	20 09 02.8	-2.2
GRTK				*e*Sn	Sn	20 11 00.6	-8.8
MASC	Masc	11.20	328	*e*	Pn	20 09 02.9	-2.5
HOJ	Hope	11.21	311	*i* P	Pn	20 09 06.1	+0.5
STH	Stony Hill	11.30	311	*i* P	Pn	20 09 05.9	-1.0
STH				*i* S	Sn	20 11 03.1	-10
PCJ	Portland Cotta	11.36	309	*i* P	Pn	20 09 05.0	-2.6
GTBY	Guantanamo Bay	11.49	324	⇓*e*Pn	Pn	20 09 06.2	-3.2
GTBY				*e*Sn	Sn	20 11 03.9	-13
BCIP	Isla Barro Col	11.85	264	⇑*e*Pn	Pn	20 09 09.3	-5.0
BCIP				*e*Sn	Sn	20 11 19.5	-6.6
RCC	Rio Carpintero	11.89	322	*e*	Pn	20 09 13.2	-1.6
MOAC	Moa	11.99	326	*e*	Pn	20 09 14.6	-1.6
CCCC	Cccc	14.08	319	*e*	Pn	20 09 42.5	-2.3
OTAV	Otavalo	14.77	226	⇑*e*Pn	Pn	20 09 50.8	-3.8
	4μm,1.4s						
JTS	JuntasAbangare	16.76	270	Pn	Pn	20 10 19.1	-1.1
	9μm,1.7s						
SOR	Soroa	18.77	312	*e*	P	20 10 43.5	-0.9
SAML	Samuel	20.09	166	⇓*e*P	P	20 10 59.1	+0.2
	207nm,1.0s						
SAML				*e*Sn	S	20 14 36.6	-7.5
ATAH	Atahualpa	20.58	211	P	P	20 11 05.5	+0.9
ATAH	Atahualpa	20.58	211	P	P	20 11 05.5	+0.9
	210nm,0.9s,baz=22,slow=6.3,SNR=94						
DWPF	Disney	21.46	326	⇓*e*P	P	20 11 12.6	-1.0
	5μm,1.7s						
DWPF				*e*S	S	20 15 05.5	-5.4
BBSR	BB Station	21.75	7	⇑*e*P	P	20 11 16.2	-0.5
	2μm,1.6s						
BBSR				*e*S	S	20 15 02.5	-14
BBSR				LR	LR		
	comp=Z,57μm,19.0s						
TEIG	Tepich	21.76	298	⇓*e*P	P	20 11 16.0	-0.9
	comp=Z,13μm,2.2s						
TEIG				*e*S	S	20 15 14.9	-2.1
TEIG				S	Sn	20 15 17.5	-9.2
TEIG	Tepich	21.76	298	P	P	20 11 17.6	+0.6
	comp=Z,778nm,1.2s,baz=108,slow=6.6,SNR=69						
TEIG				S	S	20 15 17.5	+0.5
	comp=Z,31nm,1.1s,baz=345,slow=20,SNR=1.7						
TEIG				LR	LR	20 20 37.9	
	comp=Z,94μm,18.6s,baz=115,slow=39						
NNA	Nana	24.24	202	P	P	20 11 42.3	+0.1
	comp=Z,2μm,0.8s,SNR=6.9						
NNA	Nana	24.24	202	⇑*e*P	P	20 11 41.4	-0.8
NNA				S	S	20 16 00.5	+0.5
NNA				*e*S	S	20 16 01.3	+1.3
NNA				Lg	Lg	20 19 13.0	
NNA	Nana	24.24	202	P	P	20 11 42.3	+0.1
	comp=Z,62nm,0.7s,baz=14,slow=6.8,SNR=14						
NNA				S	S	20 16 00.5	+0.5
	comp=Z,27nm,0.7s,baz=38,slow=18,SNR=2.8						
NNA				Lg	Lg	20 19 13.0	
	comp=Z,177nm,1.0s,baz=25,slow=22,SNR=2.7						
NNA				LR	LR	20 22 43.4	
	comp=Z,86μm,18.1s,baz=206,slow=40						
PAYG	Puerto Ayora	24.96	244	⇑*e*P	P	20 11 48.7	-0.1
	comp=Z,403nm,1.5s						
PAYG				*e*S	S	20 16 21.9	+10
TIGA	Tifton	25.22	327	*e*P	P	20 11 52.8	+1.9
TIGA	Tifton	25.22	327	⇓P	P	20 11 52.1	+1.2
	baz=25						
CNNC	Cliffs of the	26.05	341	*e*P	P	20 11 59.3	+0.9
	comp=Z,842nm,1.1s						
CNNC				LR	LR		
	comp=Z,75μm,19.0s						
GOGA	Godfrey	26.72	330	*e*P	P	20 12 05.1	+0.6
GOGA				pmax	pmax		
	comp=Z,1μm,1.7s						
GOGA	Godfrey	26.72	330	*e*P	P	20 12 05.1	+0.6
	comp=Z,1μm,1.7s						
LPAZ	La Paz	26.83	180	⇑*e*P	P	20 12 05.4	-0.9
	comp=Z,467nm,1.3s						
LPAZ				S	S	20 16 46.4	+4.1
LPAZ				Lg	Lg	20 20 33.0	
LPAZ	La Paz	26.83	180	P	P	20 12 06.0	-0.3
	comp=Z,38nm,1.1s,baz=10,slow=12,SNR=38						
LPAZ				S	S	20 16 46.4	+4.1
	comp=Z,34nm,1.0s,baz=349,slow=20,SNR=1.3						
LPAZ				Lg	Lg	20 20 33.0	
	comp=Z,1μm,1.3s,baz=151,slow=14,SNR=4.8						
BRAL	Brewton	26.89	322	*e*P	P	20 12 02.0	-4.1
	comp=Z,3μm,1.4s						
BRAL				LR	LR		
	comp=Z,165μm,19.0s						
CMIG	Matias Romero	26.92	287	P	P	20 12 04.5	-1.9
CMIG				S	S	20 16 42.8	+0.1
CMIG	Matias Romero	26.92	287	P	P	20 12 04.5	-1.9
	comp=Z,14nm,0.6s,baz=108,slow=6.6,SNR=11						
CMIG				S	S	20 16 42.8	+0.1
	comp=Z,12nm,1.0s,baz=13,slow=18,SNR=1.6						
CMIG				LR	LR	20 24 07.9	
	comp=Z,158μm,20.0s,baz=105,slow=40						
KMSC	Kings Mountain	27.21	335	*e*P	P	20 12 09.6	+0.6
	comp=Z,861nm,2.0s						
KMSC	Kings Mountain	27.21	335	⇓P	P	20 12 09.4	+0.4
	baz=27						
SIV	San Ignacio	27.39	166	P	P	20 12 10.3	-0.4
SIV				S	S	20 16 52.0	+2.0
SIV				Lg	Lg	20 20 55.4	
SIV	San Ignacio	27.39	166	P	P	20 12 10.3	-0.4
	comp=Z,20nm,0.9s,baz=357,slow=11,SNR=42						
SIV				S	S	20 16 52.0	+2.0
	comp=Z,30nm,0.8s,baz=311,slow=20,SNR=1.9						
SIV				Lg	Lg	20 20 55.4	
	comp=Z,349nm,0.8s,baz=278,slow=22,SNR=5.8						
SIV				LR	LR	20 23 38.7	
	comp=Z,144μm,20.9s,slow=38						
URVA	University of	28.11	344	*e*P	P	20 12 17.9	+1.1
LRAL	Lakeview Retre	28.31	325	⇓*e*P	P	20 12 18.0	-0.8
	comp=Z,4μm,2.5s						
LRAL				LR	LR		
	comp=Z,196μm,20.0s						
JSRW	J. Sargeant Re	28.32	343	*e*P	P	20 12 19.3	+0.5
CBN	Corbin	28.66	344	*e*P	P	20 12 22.1	+0.3
	comp=Z,379nm,1.1s						
CBN				LR	LR		
	comp=Z,55μm,20.0s						
BLA	Blacksburg	28.69	339	*e*P	P	20 12 15.8	-6.4
BLA				pmax	pmax		
	comp=Z,920nm,1.6s						
BLA				MLR	MLR		
	comp=Z,51μm,19.0s						
BLA	Blacksburg	28.69	339	*e*P	P	20 12 15.8	-6.4
	comp=Z,920n

comp=Z,2µm,1.2s
NATX Nacogdoches 32.40 314 *e*P **P 20 12 55.1 +0.1**
comp=Z,3µm,1.9s
NATX *e*ScP **ScP 20 19 23.1 -2.2**
NATX LR LR
comp=Z,56µm,19.0s
USIN University of 32.41 330 *e*P **P 20 12 55.5 +0.6**
comp=Z,1µm,1.8s
PARMO Parma 32.50 326 *e*P **P 20 12 56.7 +0.9**
ALLY Alegheny Colle 32.63 343 *e*P **P 20 12 57.8 +0.9**
comp=Z,3µm,2.0s
UALR University of 32.70 321⇓*e*P **P 20 12 57.4 -0.2**
comp=Z,638nm,1.2s
KVTX Kingsville 32.77 305 *e*P **P 20 13 01.2 +2.9**
comp=Z,2µm,1.6s
KVTX LR LR
comp=Z,57µm,19.0s
BDFB Brasilia 32.77 143 P **P 20 12 58.5 0.0**
BDFB Lg Lg 20 23 40.3
BDFB Brasilia 32.77 143 P **P 20 12 58.5 0.0**
comp=Z,34nm,1.0s,baz=303,slow=9.9,SNR=30
BDFB Lg Lg 20 23 40.3
comp=Z,1µm,1.3s,baz=11,slow=25,SNR=4.1
BDFB LR LR 20 26 49.3
comp=Z,203µm,19.2s,baz=123,slow=37
FFD Franklin Falls 32.79 355 P **P 20 13 00.5 +2.2**
comp=Z,171nm,1.2s
BLO Bloomington 32.84 333 *e*P **P 20 12 59.2 +0.5**
BLO pmax pmax
comp=Z,865nm,1.3s
BLO Bloomington 32.84 333 *e*P **P 20 12 59.2 +0.5**
comp=Z,776nm,1.3s
ACCN Adirondack Com 32.93 352 *e*P **P 20 12 59.2 -0.2**
comp=Z,172nm,1.1s
SIUC Southern Illin 33.00 328 *e*P **P 20 13 00.8 +0.6**
comp=Z,2µm,1.3s
ERPA Erie 33.02 343 *e*P **P 20 13 01.2 +0.9**
comp=Z,5µm,2.5s
ERPA LR LR
comp=Z,53µm,20.0s
MMNY Mt. Morris Dam 33.07 346 *e*P **P 20 13 01.7 +1.0**
comp=Z,2µm,1.6s
HNH Hanover 33.09 354 *e*P P 20 13 04.5 +3.7
LVC Limon Verde 33.14 182⇓*e*P **P 20 13 00.4 -1.3**
comp=Z,231nm,0.8s
LVC LR LR
comp=Z,120µm,19.0s
OLIL Olney 33.22 330 *e*P **P 20 13 02.6 +0.6**
comp=Z,1µm,1.1s
MIAR Mount Ida 33.33 319 *e*P **P 20 13 02.6 -0.5**
MIAR pmax pmax
comp=Z,522nm,1.4s
MIAR MLR MLR
comp=Z,47µm,20.0s
MIAR Mount Ida 33.33 319 *e*P **P 20 13 02.6 -0.5**
comp=Z,522nm,1.4s
MIAR LR LR
comp=Z,47µm,20.0s
MDV Middlebury 33.47 353 *e*P **P 20 13 05.3 +1.2**
NCB Newcomb 33.58 352 *e*P **P 20 13 06.3 +1.1**
comp=Z,431nm,1.3s
NCB LR LR
comp=Z,37µm,20.0s
LBNH Lisbon 33.58 355 *e*P **P 20 13 06.4 +1.3**
LBNH pmax pmax
comp=Z,2µm,2.9s
LBNH MLR MLR
comp=Z,40µm,19.0s
LBNH Lisbon 33.58 355 *e*P **P 20 13 06.4 +1.3**
comp=Z,2µm,2.9s
LBNH *e*ScP ScP 20 19 37.9 +8.7
LBNH LR LR
comp=Z,40µm,19.0s
WVL Waterville 33.76 358 *e*P **P 20 13 08.7 +2.0**
comp=Z,429nm,1.2s
EMMW East Machias 33.87 1 *e*P **P 20 13 07.0 -0.6**
comp=Z,395nm,1.4s
SFIN Scholer Farm 34.08 333 *e*P **P 20 13 09.8 +0.3**
comp=Z,695nm,1.4s
SFIN Scholer Farm 34.08 333 ⇓P **P 20 13 10.2 +0.7**
baz=34,SNR=31
SLM Saint Louis 34.22 328 *e*P **P 20 13 11.0 +0.2**
SLM pmax pmax
comp=Z,1µm,1.6s
SLM Saint Louis 34.22 328 *e*P **P 20 13 11.0 +0.2**
comp=Z,1µm,1.6s
LONY Lake Ozonia 34.27 352 *e*P **P 20 13 12.0 +0.9**
comp=Z,955nm,2.3s
LONY LR LR
comp=Z,33µm,20.0s
PTN Potsdam (NY) 34.28 351 *e*P **P 20 13 09.8 -1.4**
PTN pmax pmax
comp=Z,2µm,2.2s
PTN Potsdam (NY) 34.28 351 *e*P **P 20 13 09.8 -1.4**
comp=Z,2µm,2.2s
PKME Peaks-Kenny Pk 34.45 358⇑*e*P **P 20 13 12.7 +0.1**
comp=Z,374nm,1.4s
WHTX Lake Whitney 34.52 312⇓*e*P **P 20 13 12.5 -0.9**
comp=Z,380nm,1.2s
WHTX Lake Whitney 34.52 312 ⇓P **P 20 13 12.9 -0.6**
baz=35,SNR=21
732A Laxson Ranch, 34.93 305 ⇓P **P 20 13 16.0 -1.1**
baz=35,SNR=46
632A Uvalde 35.11 307 ⇓P **P 20 13 17.9 -0.7**
baz=35,SNR=74
HDIL Hopedale 35.22 331 *e*P **P 20 13 18.3 -1.1**
comp=Z,4µm,0.7s
HDIL LR LR
comp=Z,925µm,19.0s
SADO Sadowa 35.28 346 P **P 20 13 19.6 -0.3**
SADO Sadowa 35.28 346 P **P 20 13 19.6 -0.3**
comp=Z,72nm,1.0s,baz=182,slow=9.4,SNR=36
SADO LR LR 20 27 11.0
comp=Z,32µm,19.5s,baz=168,slow=35
532A Rocksprings 35.47 308 ⇑P **P 20 13 21.5 -0.3**
baz=36,SNR=93
JCT Junction City 35.55 308 *e*P **P 20 13 22.3 -0.2**
JCT pmax pmax
comp=Z,279nm,1.2s
JCT MLR MLR
comp=Z,35µm,21.0s
JCT Junction City 35.55 308 *e*P **P 20 13 22.3 -0.2**
comp=Z,279nm,1.2s
JCT LR LR
comp=Z,35µm,21.0s
JCT Junction City 35.55 308 ⇑P **P 20 13 21.4 -1.0**
baz=36,SNR=44
TUL1 Tulsa 35.60 319 *e*P **P 20 13 22.3 -0.5**
comp=Z,856nm,1.3s
TUL1 Tulsa 35.60 319 ⇑P **P 20 13 21.8 -0.9**
baz=36,SNR=38
631A Perdido Creek 35.69 306 ⇓P **P 20 13 22.8 -0.9**
baz=36,SNR=18
432A Menard 35.72 309 ⇓P **P 20 13 23.5 -0.4**
baz=36,SNR=53
PQI Presque Isle 35.83 360 *e*P **P 20 13 25.3 +0.7**
RCBR Riachuelo 35.86 116⇓*e*P **P 20 13 25.4 +0.2**
comp=Z,137nm,0.7s
332A Millersview 35.92 310 ⇑P **P 20 13 24.9 -0.7**
baz=36,SNR=74
531A Rocksprings 35.99 307 ⇓P **P 20 13 25.6 -0.6**
baz=36,SNR=31
232A Coleman 36.08 311 ⇓P **P 20 13 26.2 -0.8**
baz=36,SNR=140
431A Sonora 36.26 308 ⇑P **P 20 13 27.9 -0.7**
baz=36,SNR=138
331A San Angelo 36.40 309 ⇑P **P 20 13 29.1 -0.6**
baz=36,SNR=146
ABTX Abilene, Hawle 36.44 312 *e*P **P 20 13 29.4 -0.6**
ABTX Abilene, Hawle 36.44 312 ⇓P **P 20 13 29.3 -0.7**
baz=36,SNR=65
530A J-C Ranch, Com 36.60 307 ⇑P **P 20 13 30.7 -0.8**
baz=37,SNR=48
231A Bronte 36.61 310 ⇑P **P 20 13 30.5 -1.0**
baz=37,SNR=32
Z32A Haskell 36.66 313 ⇑P **P 20 13 31.5 -0.4**
baz=37,SNR=89
430A Baggett Ranch, 36.79 308 ⇓P **P 20 13 32.1 -1.0**
baz=37,SNR=26
BB16B Bebedouro 36.83 149⇑*i*P **P 20 13 32.8 -0.6**
BB16B *i* 20 13 34.8
BB16B *i* 20 13 46.2
BB16B *i* 20 13 52.7
BB16B *i* 20 13 55.1
BB16B *i* 20 13 57.9
BB16B *i* 20 14 06.4
BB16B *i* 20 14 15.8

WMOK Wichita Mounta 36.91 315⇓*e*P **P 20 13 32.8 -1.2**
WMOK *e* 20 14 58.1
WMOK pmax pmax
comp=Z,266nm,1.2s
WMOK Wichita Mounta 36.91 315⇓*e*P **P 20 13 32.8 -1.2**
comp=Z,266nm,1.2s
WMOK *e*PP **PP 20 14 58.1 -0.2**
Y32A R-V Farms, Ver 36.99 314 ⇑P **P 20 13 33.8 -0.8**
baz=37,SNR=39
131A Roby 37.01 311 ⇓P **P 20 13 34.1 -0.8**
baz=37,SNR=36
330A Mertzon 37.02 309 ⇓P **P 20 13 34.0 -1.0**
baz=37,SNR=72
Z31A Sharp Cattle R 37.15 312 ⇓P **P 20 13 35.5 -0.5**
baz=37,SNR=73
230A Sterling City 37.19 310 ⇓P **P 20 13 35.4 -1.0**
baz=37,SNR=34
429A Davenport Ranc 37.24 307 ⇓P **P 20 13 36.5 -0.4**
baz=37,SNR=33
529A Stev Forest Ra 37.29 306 ⇑P **P 20 13 36.5 -0.9**
baz=37,SNR=58
130A Snyder 37.40 311 ⇓P **P 20 13 37.6 -0.7**
baz=37,SNR=37
JFWS Jewell Farm 37.52 333 *e*P **P 20 13 38.8 -0.2**
JFWS pmax pmax
comp=Z,861nm,1.0s
JFWS MLR MLR
comp=Z,77µm,20.0s
JFWS Jewell Farm 37.52 333 *e*P **P 20 13 38.8 -0.2**
comp=Z,861nm,1.0s
JFWS LR LR
comp=Z,77µm,20.0s
Y31A Rekieta Farm, 37.55 313 ⇓P **P 20 13 38.7 -0.7**
baz=38,SNR=87
628A Black Gap, Mar 37.57 305 ⇑P **P 20 13 39.2 -0.5**
baz=38,SNR=79
329A Wagon Wheel Ra 37.67 308 ⇑P **P 20 13 40.0 -0.6**
baz=38,SNR=216
X31A McDonald Ranch 37.70 314 ⇑P **P 20 13 39.1 -1.5**
baz=38,SNR=39
229A Bryant Ranch, 37.75 309 ⇑P **P 20 13 41.1 -0.2**
baz=38,SNR=29
528A Cox Ranch, San 37.75 306 ⇑P **P 20 13 40.9 -0.5**
baz=38,SNR=115
Z30A Sanderson Ranc 37.85 312 ⇓P **P 20 13 41.4 -0.6**
baz=38,SNR=120
428A Kincaid Ranch, 37.90 307 ⇓P **P 20 13 42.5 0.0**
baz=38,SNR=147
W31A Holland Ranch, 37.96 315 ⇓P **P 20 13 41.3 -1.7**
baz=38,SNR=17
627A Terlingua Ranc 37.96 305 ⇓P **P 20 13 42.7 -0.4**
baz=38
Y30A Stafford Cattl 37.97 313 ⇑P **P 20 13 42.3 -0.7**
baz=38,SNR=46
129A Stewart Farms, 38.09 310 ⇓P **P 20 13 43.4 -0.7**
baz=38,SNR=39
KSU1 Kansas State U 38.11 323 *e*P **P 20 13 42.7 -1.4**
comp=Z,839nm,1.1s
KSU1 LR LR
comp=Z,126µm,19.0s
TXAR Lajitas Array 38.14 304 P **P 20 13 44.2 -0.4**
TXAR *e* 20 43 56.8
TXAR Lajitas Array 38.14 304 P **P 20 13 44.2 -0.4**
comp=Z,18nm,0.8s,baz=122,slow=8.6,SNR=87
TXAR P3KPbc 20 43 56.8
comp=Z,0.4nm,0.9s,baz=298,slow=1.9,SNR=3.4
TX31 Lajitas Ar. Si 38.15 304 *e*P **P 20 13 43.9 -0.7**
SCIA State Center 38.17 329⇑*e*P **P 20 13 43.9 -0.7**
comp=Z,2µm,1.4s
V31A Spring Creek L 38.21 316 ⇓P **P 20 13 44.2 -0.8**
baz=38,SNR=30
X30A Coker Ranch, T 38.23 313 ⇑P **P 20 13 44.4 -0.8**
baz=38,SNR=53
CPUP Villa Florida 38.23 165⇑*e*P **P 20 13 42.9 -2.2**
CPUP *e*S **S 20 19 38.1 0.0**
CPUP Villa Florida 38.23 165 P **P 20 13 43.6 -1.5**
comp=Z,58nm,0.8s,baz=326,slow=11,SNR=70
CPUP LR LR 20 30 47.0
comp=Z,114µm,19.4s,baz=328,slow=38
Z29A Hungry Hill Ra 38.26 311 ⇓P **P 20 13 44.8 -0.7**
baz=38,SNR=143
328A Wristen Ranch, 38.27 308 ⇓P **P 20 13 44.9 -0.7**
baz=38,SNR=219
W30A Crocket Farms 38.40 315 ⇑P **P 20 13 46.5 -0.1**
baz=38
527A Woodward Ranch 38.40 306 ⇓P **P 20 13 46.1 -0.7**
baz=38,SNR=92
228A UT Block 9, Go 38.41 309 ⇓P **P 20 13 45.9 -1.0**
baz=38,SNR=20
427A Hayter Ranch, 38.51 307 ⇑P **P 20 13 47.0 -0.7**
baz=38,SNR=72
Y29A Porterfield Fa 38.52 312 ⇓P **P 20 13 46.9 -0.9**
baz=39,SNR=59
U31A Nine Bar Ranch 38.54 317 ⇓P **P 20 13 47.8 0.0**
baz=39
128A Castleberry Fa 38.55 310 ⇓P **P 20 13 47.3 -0.7**
baz=39,SNR=53
626A Big Bend Ranch 38.60 304 ⇑P **P 20 13 48.2 -0.3**
baz=39,SNR=104
526A Mary Lane Ranc 38.76 305 ⇑P **P 20 13 49.5 -0.4**
baz=39,SNR=120
Z28A Tucker Farm, M 38.78 311 ⇓P **P 20 13 49.0 -0.9**
baz=39,SNR=39
V30A Spur Ranch, Mi 38.78 315 ⇑P **P 20 13 49.6 -0.2**
baz=39
327A Balmorhea Ranc 38.79 307 ⇑P **P 20 13 49.8 -0.3**
baz=39,SNR=13
T31A Randall Ranch, 38.83 318 ⇓P **P 20 13 49.8 -0.3**
baz=39,SNR=15
X29A Tulia 38.83 313 ⇑P **P 20 13 49.4 -0.9**
baz=39,SNR=51
227A Bennet, Jal 38.91 308 ⇓P **P 20 13 50.2 -0.8**
baz=39,SNR=27
426A McDonald Obser 38.94 306 ⇓P **P 20 13 51.0 -0.4**
baz=39,SNR=107
Y28A McKinney Farm, 38.97 312 ⇑P **P 20 13 50.6 -0.9**
baz=39,SNR=39
S31A Mullinville 39.00 319 ⇓P **P 20 13 50.8 -0.8**
baz=39,SNR=21
W29A Amraillo 39.12 314 ⇑P **P 20 13 51.8 -1.0**
baz=39,SNR=15
326A Caldwell Ranch 39.15 307 ⇑P **P 20 13 52.9 -0.2**
baz=39,SNR=29
U30A WK&E Inc. Balk 39.16 316 ⇑P **P 20 13 52.1 -0.9**
baz=39,SNR=12
X28A Dimmitt 39.22 313 ⇓P **P 20 13 52.7 -0.9**
baz=39,SNR=18
127A Arkansas Junct 39.24 309 ⇓P **P 20 13 52.5 -1.2**
baz=39
T30A Plains 39.37 317 ⇓P **P 20 13 54.1 -0.6**
baz=39,SNR=8.3
MSTX Muleshoe 39.38 312 *e*P **P 20 13 55.0 +0.1**
comp=Z,335nm,1.1s
MSTX Muleshoe 39.38 312 ⇓P **P 20 13 53.8 -1.1**
baz=39,SNR=23
DRLN Deer Lake 39.39 11 *e*P **P 20 13 55.4 +0.8**
comp=Z,2µm,2.6s
Z27A Tatum 39.41 310 ⇓P **P 20 13 54.0 -1.2**
baz=39,SNR=84
R31A Burdett 39.41 319 ⇑P **P 20 13 54.1 -1.0**
baz=40,SNR=50
V29A Stinnett 39.42 315 ⇓P **P 20 13 54.7 -0.5**
baz=40,SNR=12
U29A Oasis Ranch, S 39.55 316 ⇓P **P 20 13 55.3 -0.9**
baz=40
LCO Las Campanas 39.59 184 *e*P **P 20 13 54.5 -2.3**
comp=Z,153nm,0.9s
LCO *e*ScP **ScP 20 19 50.6 -1.3**
LCO LR LR
comp=Z,47µm,20.0s
W28A Vega 39.59 314 ⇓P **P 20 13 56.5 -0.2**
baz=40
226B Tecolote Peak, 39.61 308 ⇑P **P 20 13 56.6 -0.2**
baz=40,SNR=99
Y27A Causey 39.63 311 ⇑P **P 20 13 56.2 -0.8**
baz=40,SNR=28
COWI Conover 39.63 337 *e*P **P 20 13 56.6 -0.1**
comp=Z,512nm,1.5s
COWI *e*ScP **ScP 20 19 53.4 +1.9**
COWI LR LR
comp=Z,61µm,20.0s
S30A Montezuma 39.65 318 ⇓P **P 20 13 56.0 -1.0**
baz=40,SNR=12
126A Clayton Basin, 39.73 309 ⇑P **P 20 13 57.1 -0.8**
baz=40,SNR=24
425A Indio Mountain 39.74 306 ⇑P **P 20 13 57.3 -0.7**
baz=40,SNR=162
Q31A Ellis 39.75 320 ⇓P **P 20 13 57.8 -0.1**

baz=40,SNR=6.3
GDL2 Guadalupe Moun 39.81 308 *e*P **P 20 13 58.1 -0.4**
V28A Channing 39.85 314 ⇑P **P 20 13 58.2 -0.6**
baz=40
R30A Dighton 39.89 319 ⇑P **P 20 13 58.4 -0.6**
baz=40,SNR=38
X27A F and S Farms, 39.94 312 ⇓P **P 20 13 58.9 -0.7**
baz=40
T29A Hugoton 39.94 317 ⇑P **P 20 13 59.5 0.0**
baz=40,SNR=8.0
325A Bean Ranch, Si 39.95 307 ⇓P **P 20 13 59.7 -0.2**
baz=40,SNR=168
Z26A Caprock 39.97 310 ⇓P **P 20 13 58.8 -1.0**
baz=40,SNR=53
P31A Stockton 40.05 321 ⇓P **P 20 13 59.9 -0.4**
baz=40,SNR=27
S29A Ulysses 40.07 318 ⇑P **P 20 13 59.8 -0.8**
baz=40,SNR=27
W27A Bowe Ranch, En 40.11 313 ⇑P **P 20 14 00.2 -0.8**
baz=40,SNR=61
225A Deer Hill, Car 40.13 308 ⇑P **P 20 14 01.3 0.0**
baz=40,SNR=235
Y26A Elida 40.14 311 ⇑P **P 20 14 00.6 -0.7**
baz=40,SNR=11
U28A Mallet 40.16 315 ⇑P **P 20 14 00.8 -0.7**
baz=40
N32A Stulken Farm, 40.17 323 ⇓P **P 20 14 01.2 -0.2**
baz=40
125A Gardner Draw, 40.22 309 ⇓P **P 20 14 01.4 -0.7**
baz=40,SNR=90
Q30A Quinter 40.26 320 ⇓P **P 20 14 01.8 -0.2**
baz=40,SNR=12
V27A Dan Oppiter Fa 40.28 314 ⇓P **P 20 14 02.7 +0.3**
baz=40
324A Moseley Ranch, 40.39 306 ⇓P **P 20 14 03.1 -0.3**
baz=40,SNR=220
MNTX Cornudas Mount 40.41 307⇓*e*P **P 20 14 03.1 -0.2**
comp=Z,915nm,1.4s
MNTX LR LR
comp=Z,33µm,19.0s
X26A CR and CF Fran 40.41 312 ⇑P **P 20 14 03.3 -0.3**
baz=40,SNR=28
SPMN St. Paul 40.47 333 *e*P **P 20 14 03.8 +0.1**
comp=Z,1µm,1.6s
SPMN St. Paul 40.47 333 ⇑P **P 20 14 03.4 -0.3**
baz=41,SNR=17
T28A Walsh 40.47 316 ⇑P **P 20 14 03.2 -0.8**
baz=40,SNR=22
BGNE Belgrade 40.50 324 *e*P **P 20 14 03.2 -0.8**
comp=Z,2µm,1.4s
BGNE Belgrade 40.50 324 ⇓P **P 20 14 02.8 -1.3**
baz=41,SNR=22
R29A Marienthal 40.53 319 ⇑P **P 20 14 03.6 -0.8**
baz=41,SNR=8.6
Z25A Roswell 40.53 309 ⇓P **P 20 14 04.2 -0.3**
baz=41,SNR=95
S28A Manter 40.58 317 ⇑P **P 20 14 04.0 -0.8**
baz=41,SNR=28
N31A Bailey Ranch, 40.59 323 ⇓P **P 20 14 04.1 -0.8**
baz=41
P30A Selden 40.60 321 ⇓P **P 20 14 04.3 -0.6**
baz=41,SNR=23
U27A Thompson Grove 40.60 315 ⇓P **P 20 14 04.1 -1.0**
baz=41,SNR=31
W26A Owens Ranch, T 40.63 312 ⇓P **P 20 14 04.6 -0.7**
baz=41,SNR=16
224A Cornudas Mount 40.66 307 ⇓P **P 20 14 05.5 -0.2**
baz=41,SNR=262
Q29A Oakley 40.69 319 ⇑P **P 20 14 05.4 -0.3**
baz=41,SNR=8.6
Y25A Mesa, Roswell 40.79 310 ⇓P **P 20 14 06.5 -0.2**
baz=41,SNR=66
124A Stringfield Ra 40.85 308 ⇓P **P 20 14 07.7 +0.4**
baz=41,SNR=52
T27A Campo 40.86 316 ⇓P **P 20 14 06.5 -0.7**
baz=41,SNR=8.4
O30A MW Ranch, Wils 40.86 321 ⇑P **P 20 14 07.0 -0.1**
baz=41,SNR=18
R28A Tribune 40.92 318 ⇑P **P 20 14 06.6 -1.1**
baz=41,SNR=20
M31A Lambtecht Ranc 40.94 324 ⇓P **P 20 14 07.8 +0.1**
baz=41
V26A Tequesquite Ra 40.98 313 ⇓P **P 20 14 07.8 -0.4**
baz=41,SNR=61
X25A Clemmons Ranch 41.03 311 ⇑P **P 20 14 08.5 -0.2**
baz=41,SNR=14
Z24A Sheeppen Canyo 41.04 309 ⇓P **P 20 14 09.0 +0.2**
baz=41,SNR=172
P29A Atwood 41.07 320 ⇑P **P 20 14 09.1 +0.3**
baz=41,SNR=16
W25A X Bar L Ranch, 41.19 312 ⇓P **P 20 14 10.2 +0.2**
baz=41,SNR=42
ECSD EROS Data Cent 41.22 328 *e*P **P 20 14 07.9 -2.1**
comp=Z,568nm,1.6s
ECSD LR LR
comp=Z,189µm,19.0s
U26A Atchley Ranch, 41.23 314 ⇑P **P 20 14 10.2 -0.2**
baz=41,SNR=44
N30A Hueftle Ranch, 41.26 322 ⇑P **P 20 14 10.4 0.0**
baz=41,SNR=20
O29A 4D Ranch, Culb 41.29 321 ⇓P **P 20 14 09.9 -0.7**
baz=41,SNR=33
S27A Las Animas 41.30 316 ⇓P **P 20 14 10.9 +0.1**
baz=41
Q28A Sharon Springs 41.33 319 ⇑P **P 20 14 10.2 -0.8**
baz=41,SNR=11
223A Chaparral, Ant 41.34 307 ⇑P **P 20 14 12.0 +0.7**
baz=41,SNR=8.9
Y24A Capitan 41.34 310 ⇓P **P 20 14 11.3 0.0**
baz=41,SNR=75
L31A Butterfield Fa 41.39 325 ⇑P **P 20 14 11.2 -0.2**
baz=42
123A Bell Site, Whi 41.45 308 ⇑P **P 20 14 12.2 0.0**
baz=42
T26A Comanche Natio 41.51 315 ⇓P **P 20 14 11.5 -1.1**
baz=42,SNR=29
R27A Eads 41.55 317 ⇓P **P 20 14 12.6 -0.2**
baz=42,SNR=15
P28A Saint Francis 41.57 320 ⇑P **P 20 14 12.4 -0.6**
baz=42,SNR=11
M30A Dale-Ortello V 41.58 323 ⇓P **P 20 14 13.3 +0.3**
baz=42
N29A Votaw Ranch, W 41.59 322 ⇓P **P 20 14 12.6 -0.5**
baz=42,SNR=37
X24A Lazy VL Ranch, 41.62 311 ⇓P **P 20 14 13.7 +0.1**
baz=42,SNR=39
S26A Kim 41.66 316 ⇓P **P 20 14 14.0 +0.2**
baz=42,SNR=13
Z23A Rita Site, Whi 41.68 309 ⇑P **P 20 14 13.6 -0.4**
baz=42,SNR=71
U25A Circle Dot Ran 41.70 314 ⇑P **P 20 14 13.9 -0.3**
baz=42,SNR=26
L30A Spencer Herefo 41.75 324 ⇑P **P 20 14 14.2 -0.1**
baz=42
Y23A Lovelace Mesa, 41.81 310 ⇓P **P 20 14 15.0 -0.1**
baz=42,SNR=131
KSCO Kaye Shedlock' 41.82 318 *e*P **P 20 14 14.9 -0.1**
KSCO Kaye Shedlock' 41.82 318 ⇑P **P 20 14 14.4 -0.7**
baz=42,SNR=11
W24A Lazy 6 Ranch, 41.88 312 ⇑P **P 20 14 16.0 +0.3**
baz=42,SNR=61
O28A Krutsinger Ran 41.90 320 ⇓P **P 20 14 16.2 +0.5**
baz=42,SNR=19
222A Williams Famil 41.91 307 ⇓P **P 20 14 16.1 +0.1**
baz=42,SNR=105
R26A Arlington 41.99 317 ⇓P **P 20 14 16.8 +0.4**
baz=42,SNR=13
M29A Burnside Ranch 42.01 323 ⇓P **P 20 14 15.7 -0.8**
baz=42
V24A Rampart Ranch, 42.01 312 ⇑P **P 20 14 17.3 +0.5**
baz=42,SNR=49
122A Conniff Cattle 42.05 307 ⇓P **P 20 14 17.8 +0.7**
baz=42,SNR=42
T25A Trinidad 42.06 315 ⇓P **P 20 14 17.3 +0.1**
baz=42,SNR=38
EYMN Ely 42.07 336 *e*P **P 20 14 15.5 -1.3**
comp=Z,154nm,0.8s
EYMN LR LR
comp=Z,48µm,20.0s
N28A Pribbeno Ranch 42.08 321 ⇑P **P 20 14 16.5 -0.6**
baz=42,SNR=30
P27A Ficken Ranch, 42.09 319 ⇓P **P 20 14 16.5 -0.8**
baz=42,SNR=10
X23A Hourglass Bar 42.19 310 ⇓P **P 20 14 18.8 +0.6**
baz=42
Z22A Elephant Butte 42.24 308 ⇑P **P 20 14 18.5 -0.1**
baz=42,SNR=61
L29A Maesberg Ranch 42.26 323 ⇑P **P 20 14 18.4 -0.1**

baz=42,SNR=11
U24A **Moreno Valley** 42.33 313 ⇓P P 20 14 20.5 +1.0
baz=42,SNR=24
S25A **Robets Cordova** 42.34 315 ⇓P P 20 14 19.6 +0.2
baz=42,SNR=34
BNM **Barren Site** 42.34 310 eP P 20 14 18.8 -0.7
BNM ePP PP 20 16 03.3 +5.6
Q26A **Hugo** 42.36 318 ⇓P P 20 14 20.1 +0.6
baz=42,SNR=15
O27A **Beecher Island** 42.38 320 ⇑P P 20 14 18.9 -0.7
baz=42,SNR=16
M28A **Bar X Bar Ranc** 42.39 322 ⇑P P 20 14 18.8 -0.9
baz=42,SNR=17
W23A **Werner Place,** 42.41 311 ⇓P P 20 14 20.3 +0.3
baz=42,SNR=33
LPM **Los Pinos Moun** 42.41 310 eP P 20 14 21.1 +1.1
221A **Mesquite Ranch** 42.41 306 ⇑P P 20 14 20.9 +0.9
baz=42,SNR=51
R25A **Fountain Ranch** 42.48 316 ⇓P P 20 14 21.0 +0.6
baz=42,SNR=26
Y22A **Socorro** 42.51 309 ⇓P P 20 14 22.0 +1.2
baz=42,SNR=25
OGNE **Ogallala** 42.53 321 ⇓iP P 20 14 19.8 -1.0
comp=Z,2μm,1.5s
OGNE ePP PP 20 16 02.2 +2.7
OGNE eS S 20 20 43.0 +0.7
OGNE **Ogallala** 42.53 321 ⇑P P 20 14 20.0 -0.8
baz=43,SNR=46
Y22D **IRIS PASSCAL I** 42.53 309 ⇓P P 20 14 22.1 +1.2
baz=43
ANMO **Albuquerque** 42.54 311 P P 20 14 21.3 +0.2
ANMO **Albuquerque** 42.54 311 P P 20 14 21.3 +0.2
comp=Z,47nm,1.0s,baz=114,slow=9.6,SNR=78
ANMO LR LR 20 36 10.0
comp=Z,46μm,18.2s,baz=117,slow=42
P26A **Davis Ranch, A** 42.59 319 ⇑P P 20 14 20.6 -0.7
baz=43,SNR=14
K29A **Lazy Trails An** 42.60 324 ⇓P P 20 14 21.2 -0.1
baz=43
121A **Cookes Peak, D** 42.61 307 ⇑P P 20 14 22.3 +0.7
baz=43,SNR=119
LENM **Lemitar** 42.61 309 eP P 20 14 22.5 +0.9
V23A **Ortiz Mt. (NFS** 42.68 312 ⇑P P 20 14 23.4 +1.1
baz=43,SNR=36
T24B **San Luis** 42.71 314 ⇓P P 20 14 23.3 +0.8
baz=43,SNR=45
N27A **Anderson Farm,** 42.76 321 ⇑P P 20 14 21.9 -0.8
baz=43,SNR=30
X22A **Bernardo** 42.77 310 ⇑P P 20 14 24.9 +2.0
baz=43,SNR=40
320A **Kipp Ranch, An** 42.78 305 ⇓P P 20 14 24.1 +1.1
baz=43,SNR=59
Z21A **St. Cloud Mine** 42.81 308 ⇑P P 20 14 23.9 +0.6
baz=43
LAZ **Ladron** 42.83 310 eP P 20 14 22.2 -1.2
comp=Z,729nm,1.7s
LAZ ePP PP 20 16 07.3 +4.3
Q25A **Bedland, Calha** 42.84 317 ⇓P P 20 14 23.9 +0.4
baz=43,SNR=16
L28A **Connealy Angus** 42.84 323 ⇑P P 20 14 23.6 +0.3
baz=43
S24A **Houchin Ranch,** 42.87 315 ⇑P P 20 14 23.7 -0.1
baz=43,SNR=34
W22A **Albuquerque** 42.90 311 ⇓P P 20 14 24.5 +0.5
baz=43
O26A **Horse Wrangler** 42.94 319 ⇑P P 20 14 23.9 -0.3
baz=43,SNR=19
BRSD **Miller** 42.94 327 eP P 20 14 23.6 -0.4
comp=Z,1μm,1.4s
BRSD **Miller** 42.94 327 ⇓P P 20 14 23.3 -0.6
baz=43,SNR=16
U23A **El Rito** 42.95 313 ⇑P P 20 14 25.5 +1.1
baz=43,SNR=159
220A **Playas Peak, P** 42.97 306 ⇑P P 20 14 25.0 +0.5
baz=43,SNR=113
Y21A **Point of Rocks** 43.08 309 ⇑P P 20 14 24.5 -1.0
baz=43,SNR=90
R24A **Sanders Place,** 43.08 316 ⇓P P 20 14 25.6 +0.2
baz=43,SNR=29
M27A **Reverse DX Ran** 43.09 322 ⇑P P 20 14 24.6 -0.7
baz=43,SNR=24
P25A **Willow Gulch B** 43.10 318 ⇓P P 20 14 25.1 -0.4
baz=43,SNR=14
SDCO **Great Sand Dun** 43.12 315⇓eP P 20 14 25.4 -0.5
comp=Z,378nm,1.5s
SDCO ePP PP 20 16 07.4 +1.3
SDCO eScP ScP 20 20 05.6 -0.3
SDCO LR LR
comp=Z,52μm,20.0s
T23A **Casias Ranch,** 43.16 314 ⇓P P 20 14 26.6 +0.4
baz=43,SNR=43
K28A **Ten Mile Ranch** 43.18 324 ⇑P P 20 14 26.1 0.0
baz=43,SNR=12
N26A **Koester Ranch,** 43.21 320 ⇑P P 20 14 26.5 +0.2
baz=43,SNR=20
120A **U Bar Ranch, L** 43.28 307 ⇑P P 20 14 27.5 +0.4
baz=43,SNR=64
V22A **San Miguel Ran** 43.29 312 ⇓P P 20 14 27.8 +0.6
baz=43,SNR=62
X21A **Alamocita Cree** 43.34 309 ⇓P P 20 14 28.0 +0.4
baz=43,SNR=61
L27A **T5 Ranch, Ells** 43.37 322 ⇓P P 20 14 28.3 +0.8
baz=43
O25A **Wiggins** 43.39 319 ⇓P P 20 14 28.7 +0.9
baz=43,SNR=9.7
319A **Douglas** 43.40 305 ⇓P P 20 14 28.5 +0.5
baz=43,SNR=44
U22A **Llaves** 43.45 312 ⇑P P 20 14 30.3 +1.8
baz=44,SNR=49
Z20A **Nine Sixteen R** 43.45 307 ⇓P P 20 14 29.3 +0.8
baz=44,SNR=82
Q24A **Divide** 43.47 317 ⇑P P 20 14 28.0 -0.7
baz=44,SNR=18
W21A **San Fidel** 43.50 310 ⇓P P 20 14 30.1 +1.3
baz=44
G30A **Faulkton** 43.50 328 ⇓P P 20 14 28.5 +0.1
baz=44
M26A **McRoberts Ranc** 43.51 321 ⇓P P 20 14 28.4 -0.4
baz=44,SNR=14
J28A **Allard Ranch,** 43.54 324 ⇑P P 20 14 27.2 -1.7
baz=44,SNR=36
R23A **Moffat** 43.55 315 ⇓P P 20 14 29.4 0.0
baz=44,SNR=26
Y20A **Horse Springs,** 43.58 308 ⇓P P 20 14 30.2 +0.6
baz=44,SNR=85
P24A **Kohler Place,** 43.59 318 ⇓P P 20 14 29.5 0.0
baz=44
K27A **Flueckinger Fa** 43.69 323 ⇑P P 20 14 29.7 -0.4
baz=44
H29A **Onida** 43.74 327 ⇑P P 20 14 29.3 -1.1
baz=44
N25A **Grover** 43.74 320 ⇑P P 20 14 31.0 +0.3
baz=44
T22A **Edith** 43.77 313 ⇑P P 20 14 31.9 +0.8
baz=44,SNR=15
V21A **Milan** 43.78 311 ⇓P P 20 14 32.2 +1.1
baz=44,SNR=25
L26A **Underwood Farm** 43.80 322 ⇓P P 20 14 31.8 +0.7
baz=44
FCH **Farellones** 43.86 183 iP P 20 14 32.3 +0.6
I28A **Midland** 43.87 325 ⇓P P 20 14 30.1 -1.4
baz=44,SNR=28
J27A **Elkhorn Farm,** 43.88 324 ⇓P P 20 14 31.8 +0.1
baz=44
Q23A **Hartsel** 43.91 316 ⇓P P 20 14 31.9 -0.3
baz=44
X20A **Quemado** 43.91 309 ⇓P P 20 14 33.0 +0.8
baz=44,SNR=68
F30A **Leola** 43.92 329 ⇓P P 20 14 30.7 -1.1
baz=44
SCHQ **Schefferville** 44.01 1 P P 20 14 32.6 +0.2
SCHQ **Schefferville** 44.01 1 P P 20 14 32.6 +0.2
comp=Z,42nm,0.4s,baz=187,slow=9.4,SNR=98
O24A **Longmont** 44.02 318 ⇓P P 20 14 32.9 0.0
baz=44,SNR=11
S22A **4UR Ranch, Cre** 44.05 314 ⇑P P 20 14 33.8 +0.5
baz=44,SNR=16
U21A **Nageezi** 44.05 312 ⇑P P 20 14 34.1 +0.8
baz=44,SNR=106
M25A **Palm-Egli Farm** 44.06 320 ⇓P P 20 14 33.8 +0.6
baz=44,SNR=10
P23A **Jefferson** 44.14 317 ⇓P P 20 14 34.4 +0.3
baz=44,SNR=30
W20A **Ramah** 44.14 310 ⇑P P 20 14 34.4 +0.3
baz=44,SNR=58
AGMN **Agassiz Nation** 44.17 333 eP P 20 14 33.0 -0.8
comp=Z,2μm,1.9s
AGMN LR LR
comp=Z,43μm,19.0s
ISCO **Idaho Springs** 44.20 317 eP P 20 14 35.0 +0.4
ISCO pmax pmax
comp=Z,2μm,2.2s
ISCO MLR MLR
comp=Z,49μm,20.0s
ISCO **Idaho Springs** 44.20 317 eP P 20 14 35.0 +0.4
comp=Z,2μm,2.2s
ISCO LR LR
comp=Z,49μm,20.0s
ISCO **Idaho Springs** 44.20 317 ⇓P P 20 14 34.7 +0.1
baz=44,SNR=83
T21A **Navajo Lake** 44.21 313 ⇓P P 20 14 35.6 +1.1
baz=44,SNR=39
H28A **Mission Ridge** 44.21 326 ⇑P P 20 14 33.8 -0.4
baz=44
K26A **Motz Farm, Whi** 44.25 322 ⇓P P 20 14 34.8 +0.2
baz=44,SNR=8.7
N24A **Carr** 44.26 319 ⇑P P 20 14 34.8 -0.1
baz=44,SNR=25
E30A **Jud** 44.31 329 ⇑P P 20 14 34.3 -0.7
baz=44,SNR=47
F29A **Eureka** 44.33 328 ⇑P P 20 14 33.8 -1.4
baz=44,SNR=54
LMEL **Las Melosas** 44.37 183 iP P 20 14 35.1 -0.6
V20A **Brimhall** 44.39 311 ⇑P P 20 14 36.5 +0.5
baz=44,SNR=40
I27A **Quinn** 44.41 325 ⇓P P 20 14 34.4 -1.4
baz=44,SNR=24
G28A **Parade** 44.41 327 ⇓P P 20 14 34.8 -1.0
baz=44,SNR=56
L25A **Engebretsen Ra** 44.41 321 ⇓P P 20 14 35.6 -0.4
baz=44,SNR=26
J26A **Sides Ranch, S** 44.54 323 ⇑P P 20 14 36.3 -0.7
baz=45,SNR=22
M24A **Cheyenne** 44.57 320 ⇑P P 20 14 37.2 -0.1
baz=45,SNR=43
K25A **Mack Ranch, Ha** 44.61 322 ⇑P P 20 14 38.4 +0.8
baz=45,SNR=11
O23A **Lake Granby, G** 44.62 318 ⇓P P 20 14 37.9 +0.1
baz=45,SNR=32
Q22A **Crested Butte,** 44.62 316 ⇓P P 20 14 38.5 +0.5
baz=45,SNR=43
CALA **Caldeira** 44.64 45 eP P 20 14 34.8 -3.0
D30A **Buchanan** 44.66 330 ⇑P P 20 14 36.9 -0.8
baz=45,SNR=59
PCED **Cedros** 44.66 45 eP P 20 14 41.3 +3.4
comp=Z,240nm,1.1s
HOR **Horta** 44.66 45 eP P 20 14 41.0 +3.1
U20A **Newcomb** 44.66 312 ⇑P P 20 14 38.7 +0.5
baz=45,SNR=18
S21A **Coal Bank Pass** 44.69 314 ⇑P P 20 14 38.7 +0.2
baz=45,SNR=75
E29A **Napoleon** 44.73 329 ⇓P P 20 14 37.4 -0.9
baz=45,SNR=47
PCAN **Candelaria** 44.73 45 eP P 20 14 46.8 +8.3
comp=Z,69nm,0.7s
PCAN eS S 20 21 19.0 +4.5
H27A **Howes** 44.77 325 ⇑P P 20 14 37.6 -1.1
baz=45
PICO **Pico** 44.79 45 eP P 20 14 41.3 +2.3
PICO eS S 20 21 20.2 +4.8
SMCO **Snowmass** 44.82 316 eP P 20 14 40.1 +0.5
comp=Z,546nm,1.5s
R21A **Cimarron** 44.84 315 ⇓P P 20 14 40.2 +0.6
baz=45,SNR=42
I26A **New Underwood** 44.84 324 ⇑P P 20 14 39.4 0.0
baz=45,SNR=12
F28A **McLaughlin** 44.85 327 ⇓P P 20 14 38.9 -0.4
baz=45,SNR=21
P22A **Eagle** 44.87 317 ⇑P P 20 14 39.8 0.0
baz=45,SNR=30
PHWY **Pilot Hill** 44.88 319⇓eP P 20 14 38.3 -1.6
comp=Z,599nm,1.6s
PPNO **Prainha do Nor** 44.89 45 eP P 20 14 43.7 +3.9
comp=Z,243nm,1.1s
PPNO eS S 20 21 32.0 +15
TUC **Tucson** 44.91 305 eP P 20 14 40.2 +0.1
TUC pmax pmax
comp=Z,1μm,2.0s
TUC **Tucson** 44.91 305 eP P 20 14 40.1 +0.1
comp=Z,1μm,2.0s
C30A **Mose, Pekin** 44.94 331 ⇓P P 20 14 39.6 -0.4
baz=45,SNR=80
L24A **Wheatland** 44.95 321 ⇓P P 20 14 40.3 0.0
baz=45,SNR=12
N23A **Red Feather La** 44.98 319 ⇑P P 20 14 41.5 +0.8
baz=45,SNR=39
MVCO **Mesa Verde** 45.00 313 eP P 20 14 41.3 +0.4
comp=Z,3μm,2.3s
MVCO LR LR
comp=Z,59μm,19.0s
MVCO **Mesa Verde** 45.00 313 ⇓P P 20 14 41.4 +0.5
baz=45,SNR=50
O22A **Kremmling** 45.01 317 ⇓P P 20 14 40.7 -0.3
baz=45,SNR=78
J25A **Sunshine Ranch** 45.02 323 ⇑P P 20 14 39.9 -0.9
baz=45,SNR=31
X18A **Snowflake** 45.02 309 ⇑P P 20 14 41.8 +0.8
baz=45,SNR=58
ROSA **Rosais** 45.02 45 eP P 20 14 43.5 +2.7
comp=Z,125nm,1.1s
ROSA eS S 20 21 30.4 +12
ROSA eLR LR 20 27 38.0
comp=Z,16μm,15.8s
D29A **Pettibone, Tap** 45.04 330 ⇑P P 20 14 39.9 -0.9
baz=45,SNR=50
Q21A **Lamborn Mesa,** 45.07 315 ⇑P P 20 14 41.8 +0.4
baz=45,SNR=17
W18A **Petrified Fore** 45.07 309 eP P 20 14 42.4 +0.9
comp=Z,953nm,1.5s
W18A **Petrified Fore** 45.07 309 ⇓P P 20 14 42.0 +0.5
baz=45,SNR=17
PMAN **Manadas** 45.09 45 eP P 20 14 44.8 +3.5
comp=Z,216nm,1.2s
PMAN eS S 20 21 22.7 +3.2
M23A **Laramie** 45.14 319 ⇓P P 20 14 41.6 -0.4
baz=45,SNR=34
H26A **Fairpoint** 45.15 325 ⇓P P 20 14 41.6 -0.1
baz=45,SNR=21
S20A **Disappointment** 45.17 314 ⇓P P 20 14 43.1 +0.9
baz=45,SNR=137
K24A **Anderson Ranch** 45.25 321 ⇓P P 20 14 43.6 +0.9
baz=45
N22A **Wattenberg Ran** 45.27 318 ⇑P P 20 14 43.3 +0.3
baz=45,SNR=76
E28A **Huff** 45.27 328 ⇑P P 20 14 42.0 -0.6
baz=45,SNR=63
P21A **Newcastle** 45.30 316 ⇓P P 20 14 44.2 +1.0
baz=45,SNR=16
R20A **Redvale** 45.34 314 ⇓P P 20 14 44.3 +0.8
baz=45,SNR=79
I25A **Rotford** 45.34 324 ⇑P P 20 14 43.4 0.0
baz=45,SNR=32
PGRA **Graciosa** 45.34 45 eP P 20 14 39.9 -3.4
comp=Z,59nm,0.9s
PGRA eS S 20 21 33.9 +11
PGRA eLR LR 20 27 46.6
comp=Z,9μm,18.2s
B30A **Myrvik Farm, E** 45.40 332 ⇑P P 20 14 42.4 -1.3
baz=46,SNR=84
L23A **Garrett** 45.47 320 ⇑P P 20 14 43.9 -0.6
baz=46,SNR=70
G26A **Maurine** 45.47 326 ⇑P P 20 14 43.2 -1.1
baz=46,SNR=40
J24A **Dixon Ranch, L** 45.50 322 ⇑P P 20 14 44.3 -0.3
baz=46
F27A **Lemmon** 45.52 327 ⇓P P 20 14 44.1 -0.6
baz=46,SNR=85
RSSD **Black Hills** 45.58 324 eP P 20 14 46.2 +0.8
RSSD pmax pmax
comp=Z,4μm,2.3s
RSSD **Black Hills** 45.58 324 eP P 20 14 46.1 +0.8
comp=Z,937nm,2.3s
MDND **Maddock** 45.59 330 eP P 20 14 45.3 +0.1
comp=Z,1μm,1.5s
MDND **Maddock** 45.59 330 ⇑P P 20 14 45.2 +0.1
baz=46,SNR=39
D28A **Regan** 45.62 329 ⇑P P 20 14 45.7 +0.3
baz=46,SNR=40
Q20A **Ridgley Place,** 45.62 315 ⇓P P 20 14 46.2 +0.5
baz=46,SNR=134
H25A **Fruitdale** 45.62 324 ⇓P P 20 14 45.1 -0.4
baz=46,SNR=16
E27A **Carson** 45.63 328 ⇓P P 20 14 45.3 -0.2
baz=46,SNR=46
O21A **Pagoda** 45.65 317 ⇑P P 20 14 46.6 +0.6
baz=46,SNR=18
M22A **Cedar Creek Ra** 45.67 319 ⇑P P 20 14 46.1 0.0
baz=46,SNR=17
ADH **Angra Heroismo** 45.69 45 eP P 20 14 49.8 +3.7
comp=Z,251nm,0.9s
ADH eS S 20 21 37.6 +9.3
G27A **Dupree** 45.71 326 ⇑P P 20 14 41.0 -5.1
baz=45,SNR=64
A30A **Hoffart Farm,** 45.74 332 ⇓P P 20 14 45.2 -1.1
baz=46,SNR=77
K23A **Bowen Ranch, D** 45.77 321 ⇓P P 20 14 46.8 0.0
baz=46,SNR=23
I24A **Kuemmerle Ranc** 45.78 323 ⇓P P 20 14 45.8 -1.0
baz=46,SNR=14
F26A **Lodgepole** 45.86 326 ⇑P P 20 14 46.4 -0.9
baz=46,SNR=52
G25A **Newell** 45.87 325 ⇓P P 20 14 47.0 -0.4
baz=46,SNR=23
C28A **Hausauer Farms** 45.88 330 ⇑P P 20 14 47.2 -0.3
baz=46,SNR=35
L22A **Ellis Ranch, M** 45.89 320 ⇓P P 20 14 48.0 +0.1
baz=46,SNR=58
B29A **Wagenman Farm,** 45.90 331 ⇑P P 20 14 47.9 +0.4
baz=46,SNR=48
P20A **De Beque** 45.94 316 ⇓P P 20 14 48.9 +0.7
baz=46,SNR=23
N21A **Black Mountain** 45.95 318 ⇓P P 20 14 49.7 +1.3
baz=46,SNR=36
D27A **Center** 46.05 328 ⇑P P 20 14 49.4 +0.6
baz=46,SNR=17
J23A **Dilts Ranch, B** 46.08 322 ⇑P P 20 14 50.1 +0.9
baz=46,SNR=11
O20A **White River Ci** 46.13 317 eP P 20 14 50.8 +1.0
O20A **White River Ci** 46.13 317 ⇑P P 20 14 50.1 +0.3
baz=46,SNR=21
X16A **Lo Mia Camp, P** 46.13 308 ⇓P P 20 14 50.4 +0.6
baz=46,SNR=46
E26A **Carlson Angus** 46.13 327 ⇑P P 20 14 48.8 -0.7
baz=46
A29A **Manning Farm,** 46.16 332 ⇑P P 20 14 48.4 -1.2
baz=46,SNR=88
RWWY **Rawlins** 46.21 319 eP P 20 14 50.5 +0.1
comp=Z,2μm,1.8s
RWWY ePP PP 20 16 40.7 +1.8
H24A **Dirks Ranch, A** 46.25 324 ⇑P P 20 14 49.8 -0.7
baz=46,SNR=26
M21A **Separation Pea** 46.27 319 ⇑P P 20 14 50.9 0.0
baz=46,SNR=33
K22A **Casper** 46.27 320 ⇓P P 20 14 50.5 -0.3
baz=46,SNR=24
I23A **Meade Ranch, G** 46.33 323 ⇓P P 20 14 51.8 +0.6
baz=46
F25A **Bowman** 46.33 326 ⇑P P 20 14 51.5 +0.4
baz=46,SNR=18
LPA **La Plata** 46.35 169 P P 20 14 54.0 +2.8
LPA PP PP 20 16 41.0 +0.7
LPA PPP PPP 20 17 20.0
LPA S S 20 21 36.0 -1.6
LPA SS SS 20 25 17.0 +13
B28A **Dugan Ranch, T** 46.37 330 ⇑P P 20 14 51.7 +0.4
baz=46,SNR=16
P19A **Cripple Cowboy** 46.40 316 ⇓P P 20 14 53.0 +1.0
baz=46,SNR=15
PSET **Sete Cidades** 46.42 47 eP P 20 14 51.0 -0.8
comp=Z,242nm,1.5s
PSET eS S 20 21 43.1 +4.3
PSET eLR LR 20 28 06.3
comp=Z,20μm,18.5s
PDA **Ponta Delgada** 46.43 47 eP P 20 14 53.8 +2.0
comp=Z,61nm,0.5s
PDA eS S 20 21 44.3 +5.5
C27A **Sayler Ranch,** 46.44 329 ⇑P P 20 14 51.7 -0.1
baz=46,SNR=81
214A **Organ Pipe Nat** 46.44 304 ⇑P P 20 14 53.3 +1.1
baz=46,SNR=16
L21A **Rawlins** 46.45 319 ⇑P P 20 14 52.6 +0.4
baz=46,SNR=34
WUAZ **Wupatki** 46.47 309⇓eP P 20 14 53.0 +0.5
comp=Z,273nm,1.0s
WUAZ **Wupatki** 46.47 309 ⇑P P 20 14 52.9 +0.5
baz=46,SNR=70
D26A **Manning** 46.48 328 ⇑P P 20 14 51.9 -0.3
baz=46,SNR=86
N20A **Spence Gulch,** 46.48 317 ⇑P P 20 14 53.5 +1.0
baz=46,SNR=29
G24A **Alzada** 46.51 325 ⇑P P 20 14 52.9 +0.4
baz=47
CMLA **Cha da Macela** 46.53 47 eP P 20 14 53.7 +1.0
comp=Z,319nm,0.9s
CMLA eS S 20 21 46.1 +5.7
CMLA eLR LR 20 28 13.7
comp=Z,21μm,15.9s
CMLA **Cha da Macela** 46.53 47 P P 20 14 54.9 +2.2
comp=Z,2μm,1.0s,SNR=5.4
CMLA **Cha da Macela** 46.53 47 eP P 20 14 53.0 +0.3
CMLA pmax pmax
comp=Z,337nm,1.1s
CMLA MLR MLR
comp=Z,62μm,22.0s
CMLA **Cha da Macela** 46.53 47 eP P 20 14 53.0 +0.3
comp=Z,221nm,1.1s
CMLA LR LR
comp=Z,164μm,22.0s
PSMN **Pico do Norte,** 46.56 49 eP P 20 14 54.1 +1.1
comp=Z,33nm,0.9s
PSMN eS S 20 21 42.5 +1.6
PSMN eLR LR 20 28 11.3
comp=Z,17μm,19.2s
H23A **Clabaugh Cattl** 46.63 323 ⇓P P 20 14 53.9 +0.4
baz=47
J22A **Midwest** 46.65 321 ⇑P P 20 14 52.7 -1.0
baz=47,SNR=48
E25A **Miller Ranch,** 46.66 327 ⇓P P 20 14 52.8 -0.8
baz=47,SNR=13
K21A **Alcova** 46.72 320 ⇓P P 20 14 54.0 -0.4
baz=47,SNR=128
M20A **Sweetwater, Wa** 46.74 318 ⇑P P 20 14 54.8 +0.2
baz=47,SNR=69
B27A **Peters Farms,** 46.78 330 ⇓P P 20 14 54.2 -0.3
baz=47,SNR=27
O19A **Miners Draw (B** 46.80 316 ⇓P P 20 14 54.7 -0.3
baz=47,SNR=29
C26A **Wahner Farm, P** 46.81 329 ⇑P P 20 14 54.3 -0.5
baz=47,SNR=130
F24A **Ekalaka** 46.83 325 ⇑P P 20 14 54.2 -0.8
baz=47
I22A **9 Mile Ranch,** 46.91 322 ⇓P P 20 14 55.0 -0.8
baz=47,SNR=30
Z14A **Wintersburg** 46.97 306 ⇑P P 20 14 56.1 -0.1
baz=47,SNR=24
G23A **Biddle** 46.99 324 ⇑P P 20 14 55.7 -0.6
baz=47,SNR=18
D25A **Fairfield** 47.02 327 ⇑P P 20 14 56.0 -0.5
baz=47,SNR=28
L20A **Wamsutter** 47.10 319 ⇓P P 20 14 57.2 -0.2
baz=47,SNR=56
A27A **Ledoux Ranch,** 47.14 330 ⇑P P 20 14 57.8 +0.5
baz=47
E24A **Baker** 47.19 326 ⇓P P 20 14 58.4 +0.6
baz=47,SNR=11
Y14A **Wickenburg** 47.20 307 ⇑P P 20 14 58.3 +0.3
baz=47,SNR=42
J21A **Lysite** 47.21 321 ⇓P P 20 14 58.3 +0.1
baz=47,SNR=7.3
H22A **Clearmont** 47.22 323 ⇓P P 20 14 58.5 +0.4
baz=47,SNR=9.8
CCHI **Chillan** 47.23 185 iP P 20 14 57.6 -0.4
B26A **Jensen Ranch,** 47.25 329 ⇑P P 20 14 58.5 +0.4
baz=47,SNR=16
SRU **San Rafael** 47.25 314⇓eP P 20 14 58.9 +0.4
SRU pmax pmax
comp=Z,1μm,1.7s
SRU **San Rafael** 47.25 314⇓eP P 20 14 58.9 +0.4
comp=Z,1μm,1.7s
F23A **Volborg** 47.30 325 ⇓P P 20 14 58.7 0.0
baz=47,SNR=14
C25A **Freed Ranch, W** 47.34 328 ⇓P P 20 14 58.6 -0.3
baz=47,SNR=26
I21A **Big Trails, Te** 47.36 321 ⇑P P 20 14 58.1 -1.2
baz=47,SNR=54
M19A **Rock Springs** 47.39 318 ⇑P P 20 14 58.9 -0.7
baz=47,SNR=12
K20A **Yellowstone Ra** 47.42 319 ⇑P P 20 14 59.2 -0.6
baz=48,SNR=75
113A **Mohawk Valley,** 47.45 305 ⇑P P 20 14 59.8 -0.2
baz=48,SNR=13
U15A **North Rim** 47.49 310 ⇑P P 20 15 00.4 -0.2
baz=48,SNR=101
A26A **Wade Farm, Ken** 47.49 330 ⇑P P 20 15 00.7 +0.7

baz=48,SNR=22
G22A Birney 47.53 323 ⇑P P 20 15 00.4 -0.2
baz=48,SNR=19
D24A Glendive 47.54 327 ⇑P P 20 15 00.2 -0.3
baz=48
J20A Shoshoni 47.61 320 ⇓P P 20 15 01.7 +0.5
baz=48,SNR=72
Q16A Castle Valley 47.63 314⇓eP P 20 15 02.0 +0.5
Q16A Castle Valley 47.63 314 ⇓P P 20 15 01.6 +0.1
baz=48,SNR=26
H21A Big Horn, Sher 47.65 322 ⇓P P 20 15 01.2 -0.3
baz=48,SNR=27
B25A Knox Farm, Ray 47.65 329 ⇓P P 20 15 02.4 +1.1
baz=48,SNR=21
E23A Ismay 47.70 325 ⇓P P 20 15 01.2 -0.5
baz=48,SNR=23
L19A Farson 47.81 318 ⇑P P 20 15 02.6 -0.2
baz=48,SNR=84
TMUT Trail Mountain 47.81 314 eP P 20 15 04.2 +1.2
comp=Z,2μm,1.8s
F22A Rosebud 47.83 324 ⇓P P 20 15 01.8 -0.9
baz=48,SNR=62
K19A Absolon Red Bu 47.83 319 ⇑P P 20 15 02.1 -0.8
baz=48,SNR=46
C24A Savage 47.84 327 ⇑P P 20 15 03.7 +0.8
baz=48,SNR=26
I20A Worland 47.95 321 ⇓P P 20 15 03.6 -0.2
baz=48,SNR=34
E22A Miles City 48.03 325 ⇓P P 20 15 04.2 -0.1
baz=48,SNR=25
D23A Lindsay 48.05 326 ⇑P P 20 15 04.0 -0.5
baz=48
A25A Svangstu Ranch 48.05 329 ⇓P P 20 15 04.1 -0.3
baz=48,SNR=16
G21A Lodge Grass 48.07 323 ⇓P P 20 15 04.3 -0.4
baz=48,SNR=20
KNB Kanab 48.10 311 eP P 20 15 06.1 +1.0
KNB pmax pmax
comp=Z,1μm,1.7s
KNB Kanab 48.10 311 eP P 20 15 06.1 +1.0
comp=Z,1μm,1.7s
H20A Greybull 48.15 322 ⇑P P 20 15 04.2 -1.1
baz=48,SNR=90
L18A Fontenelle, Gr 48.17 318 ⇑P P 20 15 06.0 +0.3
baz=48,SNR=109
J19A Crowheart 48.18 320 ⇓P P 20 15 05.4 -0.2
baz=48,SNR=96
PDMCI Parker Dam,Lak 48.20 307 ⇓P P 20 15 06.3 +0.5
baz=48,SNR=9.9
MVU Marysvale 48.21 313 eP P 20 15 08.2 +2.1
comp=Z,1μm,1.9s
W13A Hualapai Mount 48.26 308 ⇓P P 20 15 07.0 +0.6
baz=48,SNR=40
BW06 Boulder Array 48.26 319 eP P 20 15 05.1 -1.3
BW06 LR LR
comp=Z,55μm,20.0s
PDAR Pinedale Array 48.26 319 P P 20 15 05.7 -0.7
PDAR Pinedale Array 48.26 319 P P 20 15 05.7 -0.7
comp=Z,40nm,0.6s,baz=121,slow=9.2,SNR=176
PDAR LR LR 20 37 10.8
comp=Z,47μm,20.6s,baz=117,slow=38
DGMT Dagmar 48.31 328⇓eP P 20 15 05.8 -0.6
comp=Z,1μm,1.3s
DGMT LR LR
comp=Z,132μm,20.0s
DGMT Dagmar 48.31 328 ⇓P P 20 15 06.3 -0.1
baz=48,SNR=40
DAU Daniels Canyon 48.31 315 eP P 20 15 08.1 +1.2
DAU Daniels Canyon 48.31 315 eP P 20 15 08.1 +1.2
LAO LASA Array 48.33 325⇓eP P 20 15 05.6 -1.0
comp=Z,3μm,2.1s
LAO LR LR
comp=Z,154μm,19.0s
Y12C Blythe 48.34 306 ⇓P P 20 15 07.1 +0.2
baz=48,SNR=15
F21A Absaloka Mine, 48.35 324 ⇑P P 20 15 07.3 +0.5
baz=48
M17A Scullys Gap (B 48.38 317 ⇑P P 20 15 07.4 +0.1
baz=48,SNR=23
GLA Glamis 48.39 305 eP P 20 15 07.8 +0.5
GLA pmax pmax
comp=Z,695nm,1.4s
GLA Glamis 48.39 305 eP P 20 15 07.8 +0.5
comp=Z,172nm,1.4s
GLA Glamis 48.39 305 ⇓P P 20 15 07.4 +0.1
baz=48,SNR=41
MPU Maple Canyon 48.41 315⇓eP P 20 15 07.6 0.0
comp=Z,1μm,1.6s
C23A Lambert 48.42 327 ⇓P P 20 15 07.2 -0.1
baz=48,SNR=52
A24A Westby 48.49 329 ⇓P P 20 15 07.8 0.0
baz=49,SNR=73
I19A Meeteetse 48.53 321 ⇑P P 20 15 07.9 -0.5
baz=49,SNR=102
JLU Jordanelle 48.53 316 eP P 20 15 09.5 +1.0
comp=Z,4μm,2.4s
D22A Cohagen 48.57 326 ⇑P P 20 15 08.4 0.0
baz=49,SNR=96
G20A Bridger 48.67 322 ⇑P P 20 15 08.7 -0.6
baz=49,SNR=46
CCUT Cedar City 48.69 311 eP P 20 15 10.6 +0.8
comp=Z,714nm,2.2s
NLU North Lily Min 48.69 315 eP P 20 15 11.7 +1.9
comp=Z,1μm,1.9s
B23A Brockton 48.72 328 ⇑P P 20 15 10.0 +0.4
baz=49,SNR=48
E21A Keefer Ranch, 48.73 325 ⇓P P 20 15 10.2 +0.6
baz=49
C22A Vida 48.76 326 ⇑P P 20 15 09.6 -0.3
baz=49,SNR=54
CTU Camp Tracy 48.77 316 eP P 20 15 12.1 +1.8
comp=Z,1μm,1.5s
TRQA Tornquist 48.83 174 eP P 20 15 07.3 -3.2
comp=Z,46nm,1.2s
H19A Powell 48.85 321 ⇓P P 20 15 10.4 -0.4
baz=49,SNR=16
I18A Diamond G Ranc 48.88 320 ⇑P P 20 15 10.9 -0.2
baz=49,SNR=84
F20A Billings 48.94 323 ⇓P P 20 15 11.5 +0.1
baz=49,SNR=56
IRM Iron Mountain 48.96 306 ⇓P P 20 15 12.0 +0.3
baz=49,SNR=78
A23A Redstone 48.97 328 ⇑P P 20 15 12.3 +0.8
baz=49,SNR=25
D21A La Casta Ranch 48.98 325 ⇓P P 20 15 11.9 +0.3
baz=49,SNR=92
HWUT Hardware Ranch 49.04 317⇓eP P 20 15 12.0 -0.4
comp=Z,475nm,0.9s
HWUT LR LR
comp=Z,70μm,20.0s
BC3 Big Chuckawall 49.06 305 ⇑P P 20 15 13.0 +0.4
baz=49,SNR=34
SWSC Sam W. Stewart 49.14 304 ⇓P P 20 15 13.3 +0.3
baz=49,SNR=23
B22A Reddig Ranch S 49.15 327 ⇑P P 20 15 13.8 +0.9
baz=49,SNR=12
RLMT Red Lodge 49.25 322⇓eP P 20 15 13.0 -0.9
comp=Z,263nm,0.5s
RLMT LR LR
comp=Z,100μm,19.0s
AHID Auburn Hatcher 49.26 318 eP P 20 15 13.6 -0.4
AHID LR LR
comp=Z,49μm,19.0s
H18A Shoshone NF, C 49.27 321 ⇑P P 20 15 12.9 -1.2
baz=49,SNR=154
DUG Dugway 49.31 315 eP P 20 15 14.9 +0.5
DUG pmax pmax
comp=Z,1μm,1.6s
DUG MLR MLR
comp=Z,30μm,19.0s
DUG Dugway 49.31 315 eP P 20 15 14.9 +0.5
comp=Z,1μm,1.6s
DUG LR LR
comp=Z,30μm,19.0s
DUG Dugway 49.31 315 ⇓P P 20 15 14.7 +0.3
baz=49,SNR=101
E20A Meyer Farm, Mu 49.31 324 ⇓P P 20 15 13.8 -0.4
baz=49,SNR=165
DVTC Desert V Tower 49.31 304 ⇑P P 20 15 15.1 +0.7
baz=49,SNR=11
LOHW Long Hollow 49.33 320 eP P 20 15 14.2 -0.4
comp=Z,843nm,1.4s
SNOW Snow King Moun 49.36 319 eP P 20 15 15.6 +0.7
comp=Z,795nm,1.1s
REDW Red Top Meadow 49.37 319⇓eP P 20 15 14.6 -0.3
comp=Z,1μm,1.3s
F19A Roth Farm, Mol 49.44 323 ⇑P P 20 15 14.5 -0.7
baz=50,SNR=52
I17A Pilgrim Ck. 49.46 320 ⇑P P 20 15 15.8 +0.2
baz=50,SNR=11
C21A Desert Coulee 49.47 326 ⇓P P 20 15 14.9 -0.5
baz=50,SNR=38
MOOW Moose Ponds 49.49 320 eP P 20 15 15.3 -0.5
comp=Z,437nm,1.4s
TPAW Teton Pass 49.50 319 eP P 20 15 15.7 -0.2
comp=Z,878nm,1.4s
SPUT South Promonto 49.52 316 eP P 20 15 15.7 -0.2
comp=Z,1μm,1.9s
A22A Carney Farms, 49.53 328 ⇑P P 20 15 15.8 0.0
baz=50,SNR=48
G18A Lazy EL Ranch, 49.53 322 ⇓P P 20 15 15.5 -0.4
baz=50,SNR=60
GMRC Granite Mounta 49.54 307 ⇓P P 20 15 16.7 +0.5
baz=50,SNR=20
BELC Belle Mtn. Jos 49.59 306 ⇓P P 20 15 17.0 +0.4
baz=50,SNR=23
MONP Monument Peak 49.63 304 ⇓P P 20 15 16.9 -0.2
baz=50,SNR=21
D20A Manuel Ranch, 49.64 325 ⇓P P 20 15 17.0 +0.3
baz=50,SNR=61
LKWY Lake 49.67 321 eP P 20 15 18.4 +1.2
LKWY pmax pmax
comp=Z,119nm,0.9s
LKWY MLR MLR
comp=Z,123μm,21.0s
LKWY Lake 49.67 321 eP P 20 15 18.4 +1.2
comp=Z,119nm,0.9s
LKWY LR LR
comp=Z,123μm,21.0s
E19A Rath Farm, Rou 49.67 324 ⇑P P 20 15 17.0 +0.1
baz=50,SNR=124
RRI2 Red Ridge 49.67 319 eP P 20 15 17.1 -0.1
comp=Z,1μm,1.7s
IMW Indian Meadow 49.68 320 eP P 20 15 17.3 0.0
comp=Z,454nm,1.5s
SHPR Sheep Range 49.69 309 eP P 20 15 18.1 +0.7
BGU Big Grassy Mou 49.76 315 eP P 20 15 18.2 +0.4
comp=Z,2μm,1.4s
B21A Ellsworth Farm 49.78 327 ⇑P P 20 15 18.7 +1.1
baz=50,SNR=18
BAR Barrett 49.78 304 eP P 20 15 17.8 -0.2
comp=Z,48nm,1.4s
GCMT Greycliff 49.84 322 eP P 20 15 18.0 -0.3
PFO Pinyon Flat Ob 49.85 305 P P 20 15 20.7 +2.1
comp=Z,523nm,1.8s,SNR=42
PFO Pinyon Flat Ob 49.85 305 eP P 20 15 17.1 -1.5
PFO Pinyon Flat Ob 49.85 305 P P 20 15 19.2 +0.6
comp=Z,31nm,1.0s,baz=109,slow=7.5,SNR=23
PFO LR LR 20 41 00.1
comp=Z,31μm,19.1s,baz=37,slow=42
PFO Pinyon Flat Ob 49.85 305 ⇑P P 20 15 19.6 +1.0
baz=50,SNR=25
YFT Old Faithful 49.88 320⇓eP P 20 15 20.7 +1.9
comp=Z,572nm,1.4s
YFT ePP PP 20 17 17.4 +3.8
C20A Veseth Ranch, 49.91 325 ⇓P P 20 15 18.6 -0.1
baz=50,SNR=65
YNR Norris Junctio 49.91 321 eP P 20 15 19.8 +0.8
comp=Z,91nm,0.8s
HVU Hansel Valley 49.94 316 eP P 20 15 19.4 +0.2
HVU pmax pmax
comp=Z,539nm,1.3s
HVU Hansel Valley 49.94 316 eP P 20 15 19.4 +0.2
comp=Z,446nm,1.3s
TUQ Turquoise Moun 49.95 308 ⇑P P 20 15 20.3 +1.0
baz=50,SNR=26
CRMT Chrome Mountai 49.95 322 eP P 20 15 22.0 +2.6
I16A Newdale 50.02 319 ⇓P P 20 15 19.7 -0.1
baz=50,SNR=64
A21A Bergtoll Ranch 50.06 327 ⇓P P 20 15 20.9 +1.1
baz=50,SNR=20
YMR Madison River 50.07 321 eP P 20 15 21.3 +1.1
comp=Z,544nm,1.4s
HEC Hector,Ludlow 50.09 307 ⇑P P 20 15 20.8 +0.5
baz=50,SNR=23
D19A Cripps Ranch, 50.10 324 ⇑P P 20 15 20.0 -0.2
baz=50,SNR=56
109C Camp Elliot, M 50.19 304 ⇑P P 20 15 21.7 +0.7
baz=50,SNR=8.2
B20A Solberg Farm, 50.33 326 ⇓P P 20 15 23.1 +1.2
baz=50,SNR=19
SHOC Shoshone 50.36 308 ⇑P P 20 15 23.1 +0.8
baz=50,SNR=16
QLMT Earthquake Lak 50.44 321 eP P 20 15 24.2 +1.3
MURC Murrieta 50.45 305 ⇓P P 20 15 23.5 +0.5
baz=50,SNR=13
C19A Slack Wire Ran 50.51 325 ⇑P P 20 15 23.6 +0.3
baz=51,SNR=45
A20A Cobblestone Ra 50.53 327 ⇓P P 20 15 23.6 +0.2
baz=51,SNR=17
GSC Goldstone 50.59 307 eP P 20 15 24.5 +0.4
GSC pmax pmax
comp=Z,318nm,1.3s
GSC Goldstone 50.59 307 eP P 20 15 24.5 +0.4
comp=Z,77nm,1.3s
GSC Goldstone 50.59 307 ⇓P P 20 15 24.6 +0.4
baz=51,SNR=33
R11A Troy Canyon, C 50.62 311 eP P 20 15 24.9 +0.5
comp=Z,1μm,2.3s
R11A Troy Canyon, C 50.62 311 ⇓P P 20 15 24.9 +0.5
baz=51,SNR=68
B19A Brinkman Farms 50.85 326 ⇑P P 20 15 26.6 +0.8
baz=51,SNR=46
BOZ Bozeman (W) 50.95 321⇓eP P 20 15 26.2 -0.6
BOZ MLR MLR
comp=Z,95μm,19.0s
BOZ Bozeman (W) 50.95 321⇓eP P 20 15 26.2 -0.6
BOZ LR LR
comp=Z,87μm,19.0s
FURC Furnace Creek, 50.98 309 ⇑P P 20 15 27.4 +0.5
baz=51,SNR=28
BFSC Mount Baldy Ra 50.98 306 ⇓P P 20 15 27.9 +0.8
baz=51,SNR=9.6
A19A Klindworth Far 51.00 326 ⇑P P 20 15 27.6 +0.6
baz=51,SNR=54
EGMT Eagleton 51.07 325⇓eP P 20 15 26.9 -0.6
comp=Z,634nm,1.2s
EGMT LR LR
comp=Z,152μm,19.0s
EGMT Eagleton 51.07 325 ⇑P P 20 15 28.4 +1.0
baz=51,SNR=12
LCCM Lewis and Clar 51.20 321 eP P 20 15 29.9 +1.3
ELK Elko 51.23 314⇓eP P 20 15 28.9 -0.1
comp=Z,225nm,1.5s
PLCA Paso Flores 51.25 183 eP P 20 15 27.6 -1.2
comp=Z,149nm,0.8s
PLCA Paso Flores 51.25 183 P P 20 15 28.0 -0.8
comp=Z,64nm,0.9s,baz=357,slow=10,SNR=117
PLCA LR LR 20 37 50.5
comp=Z,72μm,18.4s,baz=359,slow=37
MWC Mount Wilson 51.30 305 eP P 20 15 31.4 +1.8
MWC pmax pmax
comp=Z,2μm,2.3s
MWC Mount Wilson 51.30 305 eP P 20 15 31.4 +1.8
comp=Z,2μm,2.3s
MCMT McKenzie Canyo 51.33 320 eP P 20 15 30.0 +0.3
LRMC Laurel Mountai 51.34 307 ⇓P P 20 15 30.3 +0.5
baz=51,SNR=11
MPMC Manual Prospec 51.34 308 ⇑P P 20 15 31.0 +1.1
baz=51,SNR=49
FMP Fort Macarthur 51.36 305 ⇓P P 20 15 31.5 +1.7
baz=51
CIS Catalina Islan 51.37 304 ⇑P P 20 15 31.1 +1.1
baz=51,SNR=7.8
PASC Pasadena Art C 51.38 305 eP P 20 15 30.5 +0.5
comp=Z,2μm,2.3s
SCI San Clemente I 51.39 304 ⇓P P 20 15 31.4 +1.4
baz=51
EDW2 Edwards Air Fo 51.41 306 ⇑P P 20 15 31.1 +0.9
baz=51,SNR=24
DLMT Dillon 51.42 321 eP P 20 15 30.5 +0.3
comp=Z,568nm,1.3s
PMOZ Porto Moniz, M 51.42 56 eP P 20 15 31.3 +0.9
comp=Z,628nm,1.1s
PMOZ eS S 20 22 55.8 +6.3
PMOZ eLQ LQ 20 27 43.7
PMOZ eLR LR 20 30 11.0
comp=Z,15μm,24.0s
FFC Flin Flon 51.48 335 P P 20 15 30.3 -0.1
comp=Z,722nm,1.2s,SNR=21
FFC Flin Flon 51.48 335 eP P 20 15 29.1 -1.3
FFC pmax pmax
comp=Z,1μm,1.6s
FFC MLR MLR
comp=Z,32μm,20.0s
FFC Flin Flon 51.48 335 eP P 20 15 29.1 -1.3
comp=Z,454nm,1.6s
FFC LR LR
comp=Z,53μm,20.0s
GRAC Grapevine Rang 51.53 309 ⇓P P 20 15 32.5 +1.4
baz=52,SNR=9.9
LRM Limekiln Ridge 51.54 321 eP P 20 15 32.3 +1.0
HRY Holter Researc 51.60 322 eP P 20 15 31.5 0.0
PMAR Madeira 51.63 57 eP P 20 15 34.6 +2.5
comp=Z,287nm,1.3s
TPH Tonopah 51.75 310 PFAKE 20 15 40.0 +7.1
TPH LR LR
comp=Z,45μm,19.0s
HLID Hailey 51.78 318 eP P 20 15 33.2 +0.2
comp=Z,537nm,1.4s
HLID LR LR
comp=Z,32μm,20.0s
HLID Hailey 51.78 318 ⇓P P 20 15 33.5 +0.4
baz=52,SNR=109
ELMT Elliston 51.81 322 eP P 20 15 34.5 +1.3
FCC Fort Churchill 51.88 343 eP P 20 15 33.2 0.0
FCC pmax pmax
comp=Z,17nm,1.5s
FCC Fort Churchill 51.88 343 eP P 20 15 33.2 0.0
comp=Z,550nm,1.5s
CWC Cottonwood Cre 51.91 308 ⇓P P 20 15 35.5 +1.4
baz=52,SNR=5.8
OSI Osito Adit 51.93 306 eP P 20 15 34.0 -0.2
comp=Z,111nm,1.8s
OSI Osito Adit 51.93 306 ⇑P P 20 15 35.3 +1.1
baz=52
LYMT Lyon Mountain 52.00 323 eP P 20 15 35.2 +0.5
ISA Isabella 52.00 307 eP P 20 15 35.5 +0.8
ISA pmax pmax
comp=Z,542nm,1.8s
ISA Isabella 52.00 307 eP P 20 15 35.5 +0.8
comp=Z,132nm,1.8s
ISA Isabella 52.00 307 ⇑P P 20 15 36.1 +1.4
baz=52,SNR=16
BLG Laguna Peak 52.08 305 ⇓P P 20 15 36.2 +1.1
baz=52
ARVC Arvin 52.14 306 ⇑P P 20 15 37.3 +1.7
baz=52,SNR=8.0
PMPS Porto Santo 52.18 56 eP P 20 15 38.5 +2.6
comp=Z,283nm,1.5s
PMPST Porto Santo, M 52.19 56 eP P 20 15 38.0 +2.0
comp=Z,314nm,1.3s
PMPST eS S 20 23 10.2 +10
TIN Tinemaha 52.20 309 ⇑P P 20 15 38.0 +1.8
baz=52
BMN Battle Mountai 52.52 313 eP P 20 15 39.6 +1.0
BMN pmax pmax
comp=Z,1μm,2.2s
BMN Battle Mountai 52.52 313 eP P 20 15 39.6 +1.0
comp=Z,1μm,2.2s
VES Vestal, Richgr 52.53 307 ⇑P P 20 15 39.9 +1.4
baz=52,SNR=38
MTUM Tungsten Hills 52.54 309 eP P 20 15 40.4 +1.5
CHMT Chamberlain Mo 52.55 322 eP P 20 15 38.8 0.0
NV11 Mina Array Sit 52.56 310⇓eP P 20 15 38.5 -0.4
MFID Camas Ranch 52.66 317 eP P 20 15 40.8 +1.3
MFID Camas Ranch 52.66 317 ⇓P P 20 15 39.5 0.0
baz=53,SNR=102
SLMT Seeley Lake 52.85 322 eP P 20 15 41.0 +0.2
PKM Peak Mountain 52.87 306 ⇑P P 20 15 40.6 -0.7
baz=53,SNR=25
MSO Missoula 52.93 322 eP P 20 15 42.2 +0.8
comp=Z,440nm,1.6s
MSO Missoula 52.93 322 ⇑P P 20 15 42.0 +0.6
baz=53,SNR=21
FRB Frobisher Bay 52.95 360 P P 20 15 40.5 -0.6
FRB Frobisher Bay 52.95 360 P P 20 15 40.5 -0.6
comp=Z,63nm,0.7s,baz=180,slow=9.0,SNR=22
NRS Narsarsuaq 53.00 13 iP P 20 15 43.2 +1.7
NRS pmax pmax
comp=Z,130nm,0.8s
NRS MLR MLR
comp=Z,9μm,18.0s
SMMC Simmler 53.12 306 ⇓P P 20 15 43.3 +0.4
baz=53,SNR=17
SWMT Swartz Lake 53.28 322 eP P 20 15 44.5 +0.5
YBMT Yellow Bay 53.45 323 eP P 20 15 45.7 +0.4
WAKR Walker 53.54 310 eP P 20 15 47.3 +1.2
JTMT Jette 53.56 323 eP P 20 15 46.4 +0.3
BLMT Blacktail Moun 53.73 323 eP P 20 15 47.6 +0.2
PAHR Pah Rah Range 53.86 312 eP P 20 15 50.4 +2.0
comp=Z,222nm,1.7s
BSMT Bassoo Peak 53.91 323 eP P 20 15 48.2 -0.5
WALA Waterton Lakes 53.97 324 eP P 20 15 48.2 -0.8
comp=Z,274nm,1.3s
CMB Columbia Colle 54.12 309 eP P 20 15 50.3 +0.1
CMB pmax pmax
comp=Z,1μm,2.7s
CMB Columbia Colle 54.12 309 eP P 20 15 50.3 +0.1
comp=Z,1μm,2.7s
BMO Blue Mountains 54.21 318 eP P 20 15 49.7 -1.1
BMO pmax pmax
comp=Z,572nm,1.7s
BMO MLR MLR
comp=Z,44μm,19.0s
BMO Blue Mountains 54.21 318 eP P 20 15 49.7 -1.1
comp=Z,572nm,1.7s
BMO LR LR
comp=Z,44μm,19.0s
WVOR Wild Horse Val 54.21 315 eP P 20 15 51.0 0.0
WVOR pmax pmax
comp=Z,724nm,1.5s
WVOR Wild Horse Val 54.21 315 eP P 20 15 51.0 0.0
comp=Z,724nm,1.5s
J08A Circle Bar Ran 54.43 316 eP P 20 15 53.4 +0.9
comp=Z,860nm,1.8s
F10A Beach Ranch, E 54.60 320 eP P 20 15 52.7 -1.0
comp=Z,428nm,1.4s
SAO San Andreas Ge 54.61 308 eP P 20 15 55.7 +1.9
SAO pmax pmax
comp=Z,548nm,1.6s
SAO San Andreas Ge 54.61 308 eP P 20 15 55.7 +1.9
comp=Z,140nm,1.6s
BEKR Beckworth 54.62 312 eP P 20 15 53.4 -0.6
comp=Z,113nm,1.8s
MOD Modoc 55.20 314 eP P 20 15 57.9 -0.2
comp=Z,394nm,1.5s
OHCM Honcut 55.30 311 eP P 20 16 01.1 +2.4
I07A Izee 55.38 317 eP P 20 15 59.8 +0.4
comp=Z,525nm,1.3s
E09A Wood Farm, Sta 55.41 320 eP P 20 15 58.9 -0.4
comp=Z,502nm,1.4s
G08A Pilot Rock 55.46 318 eP P 20 15 59.4 -0.5
comp=Z,473nm,1.4s
NEW Newport 55.50 322 eP P 20 15 58.4 -1.6
comp=Z,280nm,1.1s
NEW LR LR
comp=Z,69μm,22.0s
NEW Newport 55.50 322 P P 20 15 59.3 -0.8
comp=Z,25nm,0.7s,baz=122,slow=8.1,SNR=43
NEW Newport 55.50 322 ⇓P P 20 15 59.6 -0.4
baz=56,SNR=50
SAC San Andreas 55.56 308 eP P 20 16 01.0 +0.4
SAC San Andreas 55.56 308 eP P 20 16 01.0 +0.4
LBCM Butte Creek Ri 55.63 312 P P 20 16 02.3 +1.0
EDM Edmonton 55.79 329 eP P 20 16 01.1 -0.9
EDM Edmonton 55.79 329 eP P 20 16 01.1 -0.9
MCCM Marconi Confer 56.05 309 eP P 20 16 06.3 +2.2
comp=Z,359nm,1.4s
D08A Wollman Farm, 56.11 320 eP P 20 16 04.5 +0.2
comp=Z,2μm,2.8s
OD2 Odessa Site #2 56.11 321 P P 20 16 05.4 +1.0
COYC Coyhaique 56.15 184 iP P 20 16 04.2 -0.3
HAWA Hanford 56.24 319 eP P 20 16 05.2 -0.2
comp=Z,270nm,1.1s
HAWA LR LR
comp=Z,42μm,22.0s
HOPS Hopland 56.41 310 eP P 20 16 05.0 -1.7
comp=Z,136nm,1.8s
WDC Whiskeytown Da 56.42 312 eP P 20 16 04.5 -2.3
WDC pmax pmax
comp=Z,318nm,1.9s
WDC Whiskeytown Da 56.42 312 eP P 20 16 04.5 -2.3
comp=Z,318nm,1.9s
ASCN Ascension 56.43 107 PFAKE 20 16 20.0 +13
ASCN LR LR
comp=Z,13μm,20.0s
MDW Midway 56.47 319 P P 20 16 07.7 +0.7
MDW Midway 56.47 319 P P 20 16 07.7 +0.7
VTHM Trough 56.47 318 P P 20 16 09.6 +2.5
CROR Criterion Ridg 56.69 317 P P 20 16 10.7 +2.0

YBH Yreka Blue Hor 56.87 313 *eP* **P 20 16 08.8 -1.2**
comp=Z,277nm,1.4s
YBH Yreka Blue Hor 56.87 313 P **P 20 16 09.6 -0.5**
comp=Z,54nm,0.8s,baz=92,slow=4.9,SNR=79
KIPM Iron Peak 56.92 311 *eP* **P 20 16 11.3 +0.9**
comp=Z,393nm,1.4s
KCPM Cahto Peak 56.96 311 *eP* **P 20 16 12.2 +1.4**
comp=Z,669nm,1.7s
EBG Ellensburg 57.10 320 P **P 20 16 12.7 +1.2**
BBOR Butler Butte 57.18 314 *eP* **P 20 16 12.7 +0.4**
LTY Liberty 57.29 320 *eP* **P 20 16 11.7 -1.2**
comp=Z,834nm,1.6s
VLL Laurance Lake 57.31 318 P **P 20 16 14.0 +0.9**
KHMM Horse Mountain 57.38 312 *eP* **P 20 16 14.4 +0.7**
SFJD Kangerlussuaq 57.41 8 *i P* **P 20 16 13.4 +0.2**
comp=Z,42nm,0.8s
SFJD Kangerlussuaq 57.41 8 P **P 20 16 12.9 -0.3**
SFJD Kangerlussuaq 57.41 8 P **P 20 16 12.9 -0.3**
comp=Z,26nm,0.8s,baz=200,slow=6.2,SNR=8.5
SFJD LR LR 20 37 50.1
comp=Z,22μm,21.7s,baz=202,slow=33
BROR Big Rock Looko 57.44 316 P **P 20 16 13.9 0.0**
WPW White Pass 57.65 319 P **P 20 16 16.4 +1.0**
F04A Amboy 57.96 318 *eP* **P 20 16 18.4 +1.0**
comp=Z,175nm,1.2s
FL2 Flat Top 2 58.00 318 P **P 20 16 18.5 +0.5**
KBO Bosley Butte 58.09 313 *eP* **P 20 16 19.8 +1.2**
comp=Z,2μm,1.5s
B06A Marblemount 58.26 321 *eP* **P 20 16 19.6 +0.1**
comp=Z,188nm,1.2s
VVHS Vashon High Sc 58.48 320 *e*PKiKP **PKiKP 20 23 35.4 +0.6**
PFVI Vila Bisbo 59.03 53 *eP* **P 20 16 28.1 +3.0**
comp=Z,352nm,1.8s
PFVI *eS* **S 20 24 33.2 +2.1**
PMAFR Mafra 59.03 51 *eP* **P 20 16 25.9 +0.8**
comp=Z,303nm,1.7s
PMAFR *eS* **S 20 24 32.5 +1.4**
PMST Lisbon--Monsan 59.06 51 *eP* **P 20 16 28.1 +2.8**
comp=Z,293nm,1.8s
LIS Lisbon 59.09 51 *eP* **P 20 16 24.9 -0.6**
LIS AMb AMB 20 16 33.4
comp=Z,317nm,1.8s
LIS *eS* **S 20 24 32.3 +0.6**
LIS Lisbon 59.09 51 *eP* **P 20 16 24.9 -0.6**
comp=Z,317nm,1.8s
LIS *eS* **S 20 24 32.3 +0.6**
LIS Lisbon 59.09 51 *eP* **P 20 16 24.9 -0.6**
LIS *eS* **S 20 24 32.3 +0.6**
PTEO Sao Teotonio 59.19 53 *eP* **P 20 16 29.2 +3.0**
comp=Z,335nm,1.8s
MORF Marmelete 59.20 53 *eP* **P 20 16 29.1 +2.7**
comp=Z,38nm,0.8s
MORF *eS* **S 20 24 37.1 +3.7**
MORF Marmelete 59.20 53 *eP* **P 20 16 25.6 -0.8**
MORF *eS* **S 20 24 33.9 +0.5**
PACT Alcochete 59.34 51 *eP* **P 20 16 30.1 +2.9**
comp=Z,802nm,1.7s
NLWA Neilton Lookou 59.38 319 PFAKE 20 16 40.0 +13
NLWA LR LR
comp=Z,43μm,19.0s
ILULI Ilulissat 59.44 7⇑*iP* **P 20 16 26.8 -0.6**
ILULI pmax pmax
comp=Z,59nm,0.8s
ILULI MLR MLR
comp=Z,19μm,19.0s
PNCL Nicolau / Gran 59.45 52 *eP* **P 20 16 30.5 +2.5**
comp=Z,339nm,1.5s
PNCL *eS* **S 20 24 38.6 +2.2**
PGC Sidney 59.53 321 *eP* **P 20 16 27.8 -0.6**
comp=Z,515nm,1.4s
ALMR Almeirim 59.61 51 *eP* **P 20 16 28.2 -0.8**
ALMR Almeirim 59.61 51 *eP* **P 20 16 28.3 -0.8**
ALMR Almeirim 59.61 51 *eP* **P 20 16 28.3 -0.8**
PBDV Barranco-do-Ve 59.76 53 *eP* **P 20 16 31.7 +1.5**
comp=Z,453nm,1.9s
PBDV *eS* **S 20 24 45.6 +5.1**
PTOM Tomar 59.83 50 *eP* **P 20 16 32.9 +2.3**
comp=Z,251nm,1.9s
EVOP Sao Brissos 59.84 52⇑*iP* **P 20 16 31.5 +0.8**
EVOP pmax pmax
comp=Z,456nm,1.3s
EVOP Sao Brissos 59.84 52⇑*iP* **P 20 16 31.5 +0.8**
comp=Z,456nm,1.3s
PCAS Casmilo, Conde 59.85 50 *eP* **P 20 16 31.7 +0.9**
comp=Z,365nm,1.7s
PCAS *eS* **S 20 24 40.8 -0.8**
PMTG Montargil 59.86 51 *eP* **P 20 16 31.6 +0.8**
comp=Z,388nm,1.7s
PMTG *eS* **S 20 24 43.3 +1.6**
EVO Evora 59.92 52⇑*iP* **P 20 16 31.5 +0.2**
comp=Z,456nm,1.3s
EVO *eR*
comp=Z,33μm,22.2s
EVO Evora 59.92 52 *eP* **P 20 16 33.8 +2.5**
comp=Z,243nm,1.5s
PBEJ Beja 59.94 52 *eP* **P 20 16 33.6 +2.2**
comp=Z,312nm,1.9s
PVAQ Vaqueiros 59.95 53 *eP* **P 20 16 33.0 +1.5**
comp=Z,415nm,1.8s
PVAQ *eS* S 20 24 49.4 +6.4
PVAQ *e*LR LR 20 34 11.3
comp=Z,20μm,18.0s
PTO Porto 60.01 49 *eP* **P 20 16 34.3 +2.5**
RTC Rabat Centre 60.13 57 PFAKE 20 16 40.0 +7.2
RTC LR LR
comp=Z,26μm,21.0s
PESTR Estremoz 60.31 51 *eP* **P 20 16 35.0 +1.0**
comp=Z,381nm,1.8s
PESTR *eS* **S 20 24 49.5 +1.9**
PGAV Gavieira, Arco 60.43 48 *eP* **P 20 16 35.4 +0.6**
comp=Z,246nm,2.1s
PGAV *eS* **S 20 24 50.5 +1.3**
PGAV *e*LQ LQ 20 31 49.3
PGAV *e*LR LR 20 34 16.1
comp=Z,17μm,20.0s
PVIS Viseu 60.44 49 *eP* **P 20 16 37.0 +2.1**
comp=Z,177nm,1.3s
PCAB Cabril 60.55 48 *eP* **P 20 16 38.4 +2.8**
comp=Z,155nm,1.3s
PMRV Marv??o 60.56 51 *eP* **P 20 16 36.3 +0.6**
comp=Z,214nm,1.6s
PMRV *eS* **S 20 24 51.5 +0.7**
PMRV *e*LQ LQ 20 31 43.2
PMRV *e*LR LR 20 34 20.3
comp=Z,22μm,22.0s
PCBR Castelo Branco 60.58 50 *eP* **P 20 16 37.8 +2.1**
comp=Z,243nm,1.7s
PBAR Barrancos 60.61 52 *eP* **P 20 16 38.0 +2.0**
comp=Z,260nm,1.8s
PBAR *eS* **S 20 24 53.3 +1.9**
MTE Manteigas 60.64 50 *eP* **P 20 16 36.5 +0.3**
comp=Z,237nm,1.6s
MTE *eS* **S 20 24 54.8 +3.0**
MTE *e*LQ LQ 20 32 50.5
MTE *e*LR LR 20 34 47.5
comp=Z,26μm,22.0s
MTE Manteigas 60.64 50 *eP* **P 20 16 36.4 +0.1**
comp=Z,160nm,1.3s
MTE LR LR
comp=Z,27μm,21.0s
POLO Lamas de Olo 60.65 48 *eP* **P 20 16 38.3 +2.0**
comp=Z,178nm,1.3s
POLO *eS* **S 20 24 53.8 +1.8**
PVRL Vila Real 60.69 49 *eP* **P 20 16 38.6 +2.1**
comp=Z,326nm,1.4s
MVO Moncorvo 61.17 49 *eP* **P 20 16 41.8 +1.9**
comp=Z,253nm,1.9s
MVO *eS* **S 20 24 59.1 +0.5**
MVO *e*LQ LQ 20 32 55.9
MVO *e*LR LR 20 34 49.9
comp=Z,21μm,20.0s
PBRG Braganca 61.51 48 *eP* **P 20 16 42.7 +0.6**
comp=Z,143nm,1.8s
PBRG *eS* **S 20 25 05.3 +2.4**
YKA Yellowknife Ar 61.54 337 P **P 20 16 40.0 -1.7**
YKA ⇑*e* 20 46 02.0
YKA Yellowknife Ar 61.54 337 P **P 20 16 40.0 -1.7**
comp=Z,35nm,0.8s,baz=116,slow=6.7,SNR=42
YKA PKP2bc 20 46 02.0
comp=Z,1.7nm,0.8s,baz=306,slow=2.4,SNR=5.1
YKB5 Yellowknife Ar 61.54 337 *eP* **P 20 16 40.1 -1.7**
YKB5 *eP'P'* 20 46 01.9
YKW3 Yellowknife Ar 61.58 337 *eP* **P 20 16 39.8 -2.3**
comp=Z,18nm,1.7s
MDT Midelt 61.87 59 PKPPKP 20 45 54.2
comp=Z,2.7nm,1.0s,baz=18,slow=3.2,SNR=4.7

VAL Valentia 61.94 36 *eP* **P 20 16 43.7 -1.0**
VAL Valentia 61.94 36⇓*iS* **S 20 25 09.0 +1.3**
TIC Toumodi 62.22 88 *eP* **P 20 16 46.0 -1.3**
comp=Z,443nm,1.4s
LIC Lamto 62.28 89 *eP* **P 20 16 46.9 -0.7**
comp=Z,116nm,0.8s,baz=274
LIC *eR*
comp=Z,18μm,22.8s
LIC Lamto 62.28 89 *eP* **P 20 16 46.4 -1.2**
comp=Z,289nm,1.1s
LIC Lamto 62.28 89 *eP* **P 20 16 46.9 -0.7**
comp=Z,116nm,0.8s
DBIC Dimbokro 62.38 88 *eP* **P 20 16 46.5 -1.8**
DBIC ⇑*e* 20 45 60.0
DBIC Dimbokro 62.38 88 P **P 20 16 47.8 -0.5**
comp=Z,52nm,0.8s,baz=267,slow=9.1,SNR=46
DBIC PKP2bc 20 45 60.0
comp=Z,7.3nm,1.1s,baz=81,slow=7.3,SNR=3.4
KIC Kosan Boka 62.54 88 *eP* **P 20 16 48.7 -0.7**
comp=Z,614nm,1.1s
EFI East Falkland 62.72 173 *eP* **P 20 16 50.1 +0.4**
EFI pmax pmax
comp=Z,466nm,1.7s
EFI East Falkland 62.72 173 P **P 20 16 49.3 -0.5**
comp=Z,317nm,1.6s
EFI LR LR
comp=Z,82μm,20.0s
BORG Borgarnes 62.83 21 *eP* **P 20 16 51.6 +1.2**
comp=Z,84nm,1.1s
BORG Borgarnes 62.83 21 P **P 20 16 51.6 +1.2**
comp=Z,22nm,0.9s,baz=270,slow=7.1,SNR=3.8
BORG LR LR 20 39 41.8
comp=Z,11μm,21.7s,baz=230,slow=32
ESDC Sonseca Array 63.22 51 P **P 20 16 54.1 +0.5**
ESDC P'P' 20 45 50.9
ESDC Sonseca Array 63.22 51 P **P 20 16 54.1 +0.5**
comp=Z,15nm,0.8s,baz=262,slow=6.5,SNR=62
ESDC LR LR 20 39 11.0
comp=Z,17μm,21.0s,baz=255,slow=31
ESDC PKPPKP **P'P'df 20 45 50.9 -4.4**
comp=Z,0.5nm,0.8s,baz=64,slow=3.4,SNR=4.2
ESLA Sonseca Array 63.22 51 *eP* **P 20 16 53.5 -0.1**
comp=Z,133nm,1.7s
ES19 SONSECA Array 63.27 51 *eP* **P 20 16 54.0 0.0**
BBB Bella Bella 63.49 323 P **P 20 16 53.3 -1.7**
BBB Bella Bella 63.49 323 P **P 20 16 53.3 -1.7**
comp=Z,162nm,1.2s,baz=68,slow=1.1,SNR=7.9
KULLO Kullorsuaq 64.13 3 *eP* **P 20 16 56.2 -2.6**
KULLO MLR MLR
comp=Z,19μm,19.0s
SUMG Summit 64.28 9 *i P* **P 20 17 00.4 0.0**
SUMG pmax pmax
comp=Z,200nm,0.9s
SUMG MLR MLR
comp=Z,16μm,19.0s
SUMG Summit 64.28 9 *i P* **P 20 17 00.4 0.0**
comp=Z,199nm,0.9s
SUMG
comp=Z,16μm,19.0s
SUMG Summit 64.28 9 *eP* **P 20 16 59.0 -1.4**
comp=Z,131nm,0.6s
BST Brest 64.74 42 *eP* **P 20 17 05.4 +2.0**
HTL Hartland 65.10 39⇑*eP* **P 20 17 06.7 +1.0**
HTL AMB AMB 20 17 08.9
comp=Z,261nm,1.4s
HTL AMS AMS 20 39 19.8
comp=Z,29μm,23.0s
GMM Mts of Mourne 65.12 35⇑*eP* **P 20 17 05.8 +0.1**
QUIF Quistinic 65.25 42 *eP* **P 20 17 06.9 +0.3**
comp=Z,633nm,1.7s
QUIF Quistinic 65.25 42 *eP* **P 20 17 06.9 +0.3**
QUIF pmax pmax
comp=Z,633nm,1.7s
QUIF Quistinic 65.25 42 *eP* **P 20 17 06.9 +0.3**
comp=Z,633nm,1.7s
ROSF Rostrenen 65.26 42 *eP* **P 20 17 06.9 +0.2**
comp=Z,87nm,0.8s
ROSF Rostrenen 65.26 42 *eP* **P 20 17 06.9 +0.2**
ROSF pmax pmax
comp=Z,87nm,0.8s
ROSF Rostrenen 65.26 42 *eP* **P 20 17 06.9 +0.2**
comp=Z,87nm,0.8s
DYA Yadsworthy 65.31 39⇑*eP* **P 20 17 08.8 +1.7**
DYA AMB AMB 20 17 09.9
comp=Z,187nm,1.5s
DYA AMS AMS 20 41 22.9
comp=Z,17μm,20.8s
DYA Yadsworthy 65.31 39 *eP* **P 20 17 09.6 +2.6**
comp=Z,230nm,1.2s
USTO Oran 65.47 56 P **P 20 17 10.0 +1.7**
YRC Rhoscolyn 65.63 36⇑*eP* **P 20 17 09.3 +0.3**
LPW Lampeter 65.63 37⇑*eP* **P 20 17 09.3 +0.3**
LPW AMB AMB 20 17 11.9
comp=Z,2μm,1.2s
LPW AMS AMS 20 38 44.4
comp=Z,460μm,25.3s
YRE Yr Eifl 65.64 36⇑*eP* **P 20 17 09.5 +0.4**
SGMF Saint Gilles 65.71 42 *eP* **P 20 17 09.9 +0.2**
comp=Z,792nm,1.7s
SGMF Saint Gilles 65.71 42 *eP* **P 20 17 09.9 +0.2**
SGMF pmax pmax
comp=Z,793nm,1.7s
SGMF Saint Gilles 65.71 42 *eP* **P 20 17 09.9 +0.2**
comp=Z,792nm,1.7s
WLF1 Llynfaes 65.74 36⇑*eP* **P 20 17 09.5 -0.2**
WLF1 AMB AMB 20 17 13.1
comp=Z,212nm,1.1s
WLF1 AMS AMS 20 42 58.4
comp=Z,33μm,19.9s
RES Resolute Bay 65.74 352 P **P 20 17 08.1 -1.3**
RES Resolute Bay 65.74 352 P **P 20 17 08.1 -1.3**
comp=Z,11nm,0.8s,baz=179,slow=13,SNR=5.4
OSSF Osses 65.75 47 *eP* **P 20 17 10.3 +0.3**
SJPF Ste Jean 65.76 48 *eP* **P 20 17 10.4 +0.3**
comp=Z,161nm,0.9s
SJPF Ste Jean 65.76 48 *eP* **P 20 17 10.4 +0.3**
SJPF pmax pmax
comp=Z,161nm,0.9s
SJPF Ste Jean 65.76 48 *eP* **P 20 17 10.4 +0.3**
comp=Z,161nm,0.9s
WME Myndd Eilian 65.82 36⇑*eP* **P 20 17 10.4 +0.2**
YLL Llanberis 65.83 36⇑*eP* **P 20 17 10.3 0.0**
LARF Larrau 65.92 48 *eP* **P 20 17 10.5 -0.7**
GAL1 Galloway 65.99 34⇑*eP* **P 20 17 11.4 +0.1**
GAL1 AMB AMB 20 17 14.1
comp=Z,348nm,1.3s
GAL1 AMS AMS 20 42 54.2
comp=Z,23μm,20.9s
WPM1 Penmaenmawr 66.02 36⇑*iP* **P 20 17 11.7 +0.2**
ATE Arette 66.13 48 *eP* **P 20 17 12.6 +0.1**
JSA Saint Aubin 66.15 41 AMS AMS 20 38 35.1
comp=Z,32μm,27.1s
SCO Scoresbysund 66.20 15 *eP* **P 20 17 13.0 +0.7**
SCO Scoresbysund 66.20 15 *i P* **P 20 17 13.0 +0.7**
ETSF Etsaut 66.21 48 *eP* **P 20 17 13.5 +0.4**
comp=Z,424nm,1.8s
ETSF Etsaut 66.21 48 *eP* **P 20 17 13.5 +0.4**
ETSF pmax pmax
comp=Z,424nm,1.8s
ETSF Etsaut 66.21 48 *eP* **P 20 17 13.5 +0.4**
comp=Z,424nm,1.8s
KPL Plockton 66.22 32⇑*eP* **P 20 17 12.8 +0.2**
KPL AMB AMB 20 17 14.9
comp=Z,137nm,1.2s
KPL AMS AMS 20 39 11.0
comp=Z,15μm,21.9s
MCH1 Michaelchurch 66.25 38 AMB AMB 20 17 13.9
comp=Z,220nm,1.4s
MCH1 AMS AMS 20 39 55.2
comp=Z,37μm,23.0s
KSB Sheil Bridge 66.30 32⇑*eP* **P 20 17 12.3 -0.9**
FOEL Foel Wylfa 66.34 37⇑*eP* **P 20 17 13.5 -0.2**
FOEL AMB AMB 20 17 16.2
comp=Z,180nm,1.3s
FOEL AMS AMS 20 44 00.6
comp=Z,32μm,19.0s
REYF Montagne du Re 66.36 48 *eP* **P 20 17 16.0 +2.0**
PGBU Glenifferbraes 66.38 33⇑*eP* **P 20 17 13.9 +0.1**
PGBU AMB AMB 20 17 16.5
comp=Z,314nm,1.4s
PGBU AMS AMS 20 42 44.6
comp=Z,22μm,20.3s
GCD Castle Douglas 66.42 35⇑*eP* **P 20 17 14.2 +0.1**
HLM1 Long Mynd 66.44 37⇑*eP* **P 20 17 13.8 -0.5**
HLM1 AMB AMB 20 17 16.9
comp=Z,310nm,1.4s

KAC Achnashellach 66.45 32⇑*iP* **P 20 17 14.0 -0.2**
DLBC Dease Lake 66.49 330 *eP* **P 20 17 14.7 +0.1**
comp=Z,248nm,1.2s
DLBC Dease Lake 66.49 330 P **P 20 17 15.1 +0.5**
comp=Z,23nm,0.9s,baz=114,slow=6.1,SNR=16
EAB Aberfoyle 66.57 33⇑*iP* **P 20 17 14.7 -0.3**
LABF Labassere 66.69 48 *eP* **P 20 17 16.4 +0.3**
KESW Keswick, Cumbr 66.81 35 AMS AMS 20 43 19.9
comp=Z,32μm,19.8s
EANR 'Ain N'Sour 66.82 55 P **P 20 17 18.2 +1.1**
GRR Gorron 66.85 42 *eP* **P 20 17 17.0 0.0**
comp=Z,246nm,0.9s
GRR Gorron 66.85 42 *eP* **P 20 17 17.0 0.0**
GRR pmax pmax
comp=Z,246nm,0.9s
GRR Gorron 66.85 42 *eP* **P 20 17 17.0 0.0**
comp=Z,246nm,0.9s
RESF Ens 66.86 48 *eP* **P 20 17 17.9 +0.6**
EPF Esparros 66.88 48 *eP* **P 20 17 17.8 +0.4**
comp=Z,346nm,1.3s
EPF Esparros 66.88 48 *eP* **P 20 17 17.8 +0.4**
EPF pmax pmax
comp=Z,346nm,1.3s
EPF Esparros 66.88 48 *eP* **P 20 17 17.8 +0.4**
comp=Z,346nm,1.3s
MDO Dochfour 66.91 32⇑*iP* **P 20 17 16.9 -0.3**
SSW Stow on the Wo 66.93 38⇑*eP* **P 20 17 17.4 0.0**
ESK Eskdalemuir 66.95 34⇑*eP* **P 20 17 17.1 -0.3**
ESK AMB AMB 20 17 19.9
comp=Z,185nm,1.6s
ESK AMS AMS 20 44 26.9
comp=Z,22μm,20.0s
ESK Eskdalemuir 66.95 34 P **P 20 17 17.1 -0.3**
comp=Z,675nm,1.5s,SNR=11
ESK Eskdalemuir 66.95 34 *eP* **P 20 17 17.2 -0.2**
ESK pmax pmax
comp=Z,350nm,1.6s
ESK MLR MLR
comp=Z,26μm,20.0s
ESK Eskdalemuir 66.95 34 *eP* **P 20 17 17.2 -0.2**
comp=Z,99nm,1.6s
ESK LR LR
comp=Z,30μm,20.0s
ETRT Tiaret 66.95 56 P **P 20 17 20.5 +2.5**
ECK Cauldkaine Hil 66.95 34⇑*iP* **P 20 17 17.1 -0.4**
STNC Stoke 66.97 37 *eP* **P 20 17 18.1 +0.5**
STNC AMB AMB 20 17 22.2
comp=Z,203nm,2.1s
STNC AMS AMS 20 39 19.5
comp=Z,32μm,24.4s
EKA Eskdalemuir Ar 66.98 34 LR LR 20 44 27.3
comp=Z,13μm,18.2s,baz=255,slow=34
EKA PKP2bc 20 45 43.7
comp=Z,4.4nm,1.0s,baz=73,slow=5.3,SNR=6.2
SHEL Horse Pasture 66.99 112 PFAKE 20 17 30.0 +12
SHEL LR LR
comp=Z,15μm,22.0s
MFF Saint Martin d 67.03 44 *eP* **P 20 17 18.4 +0.2**
comp=Z,323nm,1.1s
MFF Saint Martin d 67.03 44 *eP* **P 20 17 18.4 +0.2**
MFF pmax pmax
comp=Z,323nm,1.1s
MFF Saint Martin d 67.03 44 *eP* **P 20 17 18.4 +0.2**
comp=Z,323nm,1.1s
ECHA Ech Chlef 67.05 55 P **P 20 17 21.1 +2.7**
WRAK Wrangell Islan 67.09 327 *eP* **P 20 17 17.8 -0.5**
comp=Z,131nm,1.2s
EDI Edinburgh 67.12 34 AMB AMB 20 17 20.1
comp=Z,128nm,1.4s
EDI AMS AMS 20 43 14.8
comp=Z,18μm,21.6s
EDI Edinburgh 67.12 34 *eP* **P 20 17 17.4 -1.1**
EDI pmax pmax
comp=Z,72nm,1.3s
EDI Edinburgh 67.12 34 *eP* **P 20 17 17.4 -1.1**
comp=Z,72nm,1.3s
EDI *eP'P'* 20 45 50.5
EBL Broad Law 67.15 34⇑*iP* **P 20 17 18.6 -0.2**
FLN La Foliniere 67.16 42 *eP* **P 20 17 19.2 +0.3**
comp=Z,236nm,0.9s,baz=246
FLN *eR*
comp=Z,45μm,23.0s
FLN La Foliniere 67.16 42 *eP* **P 20 17 19.2 +0.3**
FLN pmax pmax
comp=Z,236nm,0.9s
FLN La Foliniere 67.16 42 *eP* **P 20 17 19.2 +0.3**
comp=Z,236nm,0.9s
MELF Melles 67.17 48 *eP* **P 20 17 20.8 +1.6**
WOL Wolverton 67.18 39 *eP* **P 20 17 19.4 +0.5**
WOL AMB AMB 20 17 22.4
comp=Z,248nm,1.7s
WOL AMS AMS 20 43 51.4
comp=Z,20μm,21.1s
EBNR Beni Rached 67.19 55 P **P** 20 17 22.7 +3.3
CRAG Craig 67.26 326 *eP* **P 20 17 19.6 +0.2**
comp=Z,327nm,1.3s
LDF La Druitiere 67.37 42 *eP* **P 20 17 20.4 +0.1**
comp=Z,585nm,1.5s
LDF La Druitiere 67.37 42 *eP* **P 20 17 20.4 +0.1**
LDF pmax pmax
comp=Z,585nm,1.5s
LDF La Druitiere 67.37 42 *eP* **P 20 17 20.4 +0.1**
comp=Z,585nm,1.5s
XAL Allendale 67.38 35 *eP* **P 20 17 19.4 -0.9**
KBI1 Birley Grange 67.41 37⇑*eP* **P 20 17 20.5 +0.1**
LFF La Frestale 67.41 46 *eP* **P 20 17 20.5 -0.1**
comp=Z,574nm,1.6s
LFF La Frestale 67.41 46 *eP* **P 20 17 20.5 -0.1**
LFF pmax pmax
comp=Z,574nm,1.6s
LFF La Frestale 67.41 46 *eP* **P 20 17 20.5 -0.1**
comp=Z,574nm,1.6s
MLS Moulis 67.42 48 *eP* **P 20 17 21.0 +0.3**
ESY Stoneypath 67.42 34⇑*iP* **P 20 17 20.3 -0.2**
SALF Salau 67.47 48 *eP* **P 20 17 21.7 +0.6**
HPK Haverah Park 67.51 36⇑*eP* **P 20 17 21.1 +0.1**
HPK AMB AMB 20 17 23.8
comp=Z,298nm,1.3s
HPK AMS AMS 20 43 50.5
comp=Z,43μm,19.9s
SKP1 Kophill 67.51 38⇑*eP* **P 20 17 20.5 -0.6**
MCD Coleburn Disti 67.53 32⇑*iP* **P 20 17 20.8 -0.3**
MME1 Meikle Cairn 67.61 32⇑*iP* **P 20 17 21.0 -0.6**
DRUM Mains of Drumt 67.75 33⇑*eP* **P 20 17 22.2 -0.3**
DRUM AMB AMB 20 17 24.9
comp=Z,164nm,1.8s
DRUM AMS AMS 20 45 29.4
comp=Z,14μm,18.5s
TOA0 Torodi Ar. Sit 67.95 80 *eP* **P 20 17 23.1 -1.5**
TOA0 *eP'P'df* P'P'df 20 45 42.0 -5.4
TORD Torodi Ar. Bea 67.95 80 P **P 20 17 23.4 -1.1**
TORD P'P' 20 45 40.0
TORD Torodi Ar. Bea 67.95 80 P **P 20 17 23.4 -1.1**
comp=Z,85nm,0.8s,baz=282,slow=5.7,SNR=332
TORD LR LR 20 45 20.3
comp=Z,5μm,18.7s,baz=265,slow=34
TORD PKPPKP P'P'df 20 45 40.0 -7.3
comp=Z,1.8nm,1.2s,baz=105,slow=1.7,SNR=4.1
RJF Les Rejaudoux 68.00 45 *eP* **P 20 17 24.1 -0.2**
comp=Z,628nm,1.8s
RJF *eR*
comp=Z,69μm,22.2s
RJF Les Rejaudoux 68.00 45 *eP* **P 20 17 24.1 -0.2**
RJF pmax pmax
comp=Z,628nm,1.8s
RJF Les Rejaudoux 68.00 45 *eP* **P 20 17 24.1 -0.2**
comp=Z,628nm,1.8s
HMNX Herstmonceux 68.06 39 AMS AMS 20 43 35.5
comp=Z,30μm,19.4s
CARF Carcanieres 68.14 48 *eP* **P 20 17 25.1 -0.3**
LMK Market Rasen 68.15 37⇑*eP* **P 20 17 24.9 -0.1**
LMK AMB AMB 20 17 27.9
comp=Z,386nm,1.3s
LMK AMS AMS 20 40 30.3
comp=Z,30μm,24.3s
MTLF Montolieu 68.28 48 *eP* **P 20 17 25.8 -0.3**
comp=Z,326nm,1.5s
MTLF Montolieu 68.28 48 *eP* **P 20 17 25.8 -0.3**
MTLF pmax pmax
comp=Z,326nm,1.5s
MTLF Montolieu 68.28 48 *eP* **P 20 17 25.8 -0.3**
comp=Z,326nm,1.5s
EMHD Djebel Mahouad 68.33 55 P **P 20 17 27.8 +1.0**
CAF Calviac 68.34 46 *eP* **P 20 17 26.3 -0.2**
comp=Z,458nm,1.6s
CAF Calviac 68.34 46 *eP* **P 20 17 26.3 -0.2**

CAF pmax pmax
comp=Z,458nm,1.6s
CAF Calviac 68.34 46 *e*P **P 20 17 26.3 -0.2**
comp=Z,458nm,1.6s
FILF Fillols 68.46 48 *e*P **P 20 17 26.7 -0.6**
ELSH Elham, Standar 68.60 39 AMS AMS 20 43 54.3
comp=Z,27µm,19.4s
TCF Toulx Ste Croi 68.60 44 *e*P **P 20 17 27.9 -0.2**
comp=Z,281nm,1.4s
TCF Toulx Ste Croi 68.60 44 *e*P **P 20 17 27.9 -0.2**
TCF pmax pmax
comp=Z,281nm,1.4s
TCF Toulx Ste Croi 68.60 44 *e*P **P 20 17 27.9 -0.2**
comp=Z,281nm,1.4s
VERF Verneugheol 68.73 45 *e*P **P 20 17 30.6 +1.7**
FRNF Fournols 68.74 45 *e*P **P 20 17 30.6 +1.6**
SIT Sitka 68.84 327 *e*P **P 20 17 27.3 -2.0**
SIT pmax pmax
comp=Z,128nm,1.1s
SIT Sitka 68.84 327 *e*P **P 20 17 27.3 -2.0**
comp=Z,128nm,1.1s
HYF Humbligny 69.02 43 *e*P **P 20 17 30.7 +0.1**
HYF Humbligny 69.02 43 *e*P **P 20 17 30.7 +0.1**
BGF Bois d'Agland 69.07 44 *e*P **P 20 17 30.8 -0.2**
comp=Z,633nm,1.6s
BGF Bois d'Agland 69.07 44 *e*P **P 20 17 30.8 -0.2**
BGF pmax pmax
comp=Z,633nm,1.6s
BGF Bois d'Agland 69.07 44 *e*P **P 20 17 30.8 -0.2**
comp=Z,633nm,1.6s
PYM Petit Puy Mans 69.09 45 *e*P **P 20 17 33.1 +1.9**
LBL Lubilhac 69.21 46 *e*P **P 20 17 34.6 +2.6**
AGO Saint Agoulin 69.21 45 *e*P **P 20 17 33.3 +1.4**
AVF Avril sur Loir 69.44 44 *e*P **P 20 17 32.8 -0.5**
comp=Z,485nm,1.7s
AVF Avril sur Loir 69.44 44 *e*P **P 20 17 32.8 -0.5**
AVF pmax pmax
comp=Z,485nm,1.7s
AVF Avril sur Loir 69.44 44 *e*P **P 20 17 32.8 -0.5**
comp=Z,485nm,1.7s
LASF Ste Croix 69.53 47 *e*P **P 20 17 34.3 +0.4**
comp=Z,464nm,1.7s
LASF Ste Croix 69.53 47 *e*P **P 20 17 34.3 +0.4**
comp=Z,464nm,1.7s
SSF Saint Saulge 69.58 44 *e*P **P 20 17 33.7 -0.4**
comp=Z,529nm,1.7s
SSF Saint Saulge 69.58 44 *e*P **P 20 17 33.7 -0.4**
SSF pmax pmax
comp=Z,529nm,1.7s
SSF Saint Saulge 69.58 44 *e*P **P 20 17 33.7 -0.4**
comp=Z,529nm,1.7s
SMF Signal de Mont 69.76 44 *e*P **P 20 17 35.0 -0.3**
comp=Z,972nm,1.9s
SMF Signal de Mont 69.76 44 *e*P **P 20 17 35.0 -0.3**
SMF pmax pmax
comp=Z,972nm,1.9s
SMF Signal de Mont 69.76 44 *e*P **P 20 17 35.0 -0.3**
comp=Z,972nm,1.9s
LOR Lormes 69.84 44 *e*P **P 20 17 35.2 -0.6**
comp=Z,279nm,1.2s,baz=256
LOR *e*R
comp=Z,15µm,22.8s
LOR Lormes 69.84 44 *e*P **P 20 17 35.2 -0.6**
comp=Z,279nm,1.2s
HOPE Hope Point 70.00 161 *e*P **P 20 17 37.8 +1.5**
comp=Z,293nm,1.4s
SSB Saint Sauveur 70.12 46 *e*P **P 20 17 37.0 -0.6**
SSB pmax pmax
comp=Z,267nm,1.8s
SSB MLR MLR
comp=Z,26µm,21.0s
SSB Saint Sauveur 70.12 46 *e*P **P 20 17 39.4 +1.8**
SSB Saint Sauveur 70.12 46 *e*P **P 20 17 37.0 -0.6**
comp=Z,267nm,1.8s
SSB LR LR
comp=Z,26µm,21.0s
VIVF Saint-Julien-l 70.18 46 *e*P **P 20 17 38.4 +0.5**
comp=Z,548nm,1.6s
VIVF Saint-Julien-l 70.18 46 *e*P **P 20 17 38.4 +0.5**
VIVF pmax pmax
comp=Z,548nm,1.6s
VIVF Saint-Julien-l 70.18 46 *e*P **P 20 17 38.4 +0.5**
comp=Z,548nm,1.6s
JMIC Jan Mayen 70.22 17 *e*P **P 20 17 39.8 +2.2**
JMIC *e*S **S 20 26 48.9 +1.0**
JMIC AMS AMS 20 41 01.8
comp=Z,15µm,26.4s
JMIC Jan Mayen 70.22 17 LR LR 20 43 22.4
comp=Z,12µm,20.3s,baz=246,slow=32
SET Setif 70.31 55 P **P 20 17 41.0 +2.0**
BAIF Baives 70.38 41 *e*P **P 20 17 38.7 -0.3**
comp=Z,91nm,1.0s
BAIF Baives 70.38 41 *e*P **P 20 17 38.7 -0.3**
BAIF pmax pmax
comp=Z,91nm,1.0s
BAIF Baives 70.38 41 *e*P **P 20 17 38.7 -0.3**
comp=Z,91nm,1.0s
CKHR Kef el Ahmar 70.40 56 P **P 20 17 41.1 +1.6**
SNF Seneffe 70.49 40 P **P 20 17 39.6 0.0**
TRIS Tristan da Cun 70.53 136 P **P 20 17 40.2 +0.1**
OG26 St.-Nazaire-De 70.61 46 *e*P **P 20 17 43.2 +2.6**
DOU Dourbes 70.64 41 P **P 20 17 40.7 +0.1**
comp=Z,63nm,2.0s
DFRA Djebel Bou Aff 70.70 55 P **P 20 17 44.2 +2.8**
SFTF Sexfontaines 70.73 43 *e*P **P 20 17 40.8 -0.3**
comp=Z,428nm,1.3s,baz=229
SFTF Sexfontaines 70.73 43 *e*P **P 20 17 40.8 -0.3**
comp=Z,428nm,1.3s
TAM Tamanrasset 70.75 70 *e*P **P 20 17 42.8 +0.9**
TAM pmax pmax
comp=Z,79nm,0.9s
TAM MLR MLR
comp=Z,17µm,19.0s
TAM Tamanrasset 70.75 70 *e*P **P 20 17 42.8 +0.9**
comp=Z,79nm,0.9s
TAM LR LR
comp=Z,17µm,19.0s
SMRF Simiane la Rot 70.76 47 *e*P **P 20 17 42.1 +0.6**
comp=Z,374nm,1.7s
SMRF Simiane la Rot 70.76 47 *e*P **P 20 17 42.1 +0.6**
comp=Z,374nm,1.7s
MEZF Maizieres J'vi 70.77 42 *e*P **P 20 17 41.3 0.0**
comp=Z,459nm,1.0s,baz=282
MEZF Maizieres J'vi 70.77 42 *e*P **P 20 17 41.3 0.0**
comp=Z,459nm,1.0s
GIVF Givet 70.78 41 *e*P **P 20 17 41.3 -0.1**
comp=Z,361nm,1.0s
GIVF Givet 70.78 41 *e*P **P 20 17 41.3 -0.1**
GIVF pmax pmax
comp=Z,361nm,1.0s
GIVF Givet 70.78 41 *e*P **P 20 17 41.3 -0.1**
comp=Z,361nm,1.0s
DAG Danmarks Havn 70.88 11 *i*P **P 20 17 42.2 +0.7**
DAG pmax pmax
comp=Z,20nm,0.8s
DAG MLR MLR
comp=Z,34µm,25.0s
DAG Danmarks Havn 70.88 11 *i*P **P 20 17 42.2 +0.7**
comp=Z,26nm,0.8s
DAG
comp=Z,28µm,24.0s
GRN Grenoble 70.97 46 *e*P **P 20 17 45.5 +2.7**
ORIF Oris-en-Rattie 71.04 46 *e*P **P 20 17 43.9 +0.7**
comp=Z,634nm,1.7s
ORIF *e*R
comp=Z,47µm,22.2s
ORIF Oris-en-Rattie 71.04 46 *e*P **P 20 17 43.9 +0.7**
ORIF pmax pmax
comp=Z,634nm,1.7s
ORIF Oris-en-Rattie 71.04 46 *e*P **P 20 17 43.9 +0.7**
comp=Z,634nm,1.7s
BCLA Clavier 71.12 40 P **P 20 17 44.4 +0.9**
comp=Z,102nm,2.1s
CTEI Djebel Teioual 71.13 56 P **P 20 17 45.0 +1.0**
INK Inuvik 71.19 339 *e*P **P 20 17 41.8 -1.8**
comp=Z,476nm,1.6s
INK Inuvik 71.19 339 P **P 20 17 41.9 -1.6**
comp=Z,12nm,0.8s,baz=104,slow=6.0,SNR=19
CASM Ain Smara 71.19 55 P **P 20 17 45.7 +1.4**
PAGF Fort de Pagny 71.22 42 *e*P **P 20 17 44.1 0.0**
comp=Z,133nm,1.2s,baz=264
PAGF Fort de Pagny 71.22 42 *e*P **P 20 17 44.1 0.0**
comp=Z,133nm,1.2s
GDM Grand'Maison 71.23 46 *e*P **P 20 17 46.8 +2.4**
CABF La Chapelle 71.30 44 *e*P **P 20 17 44.6 -0.2**
comp=Z,267nm,1.2s
CABF La Chapelle 71.30 44 *e*P **P 20 17 44.6 -0.2**
CABF pmax pmax
comp=Z,267nm,1.2s
CABF La Chapelle 71.30 44 *e*P **P 20 17 44.6 -0.2**
comp=Z,267nm,1.2s
THEF They Montfort 71.36 43 *e*P **P 20 17 46.7 +1.7**
CKFL Kef-Lekhel 71.38 55 P **P 20 17 45.4 -0.1**
BEBN Eben Emael 71.40 40 P **P 20 17 45.7 +0.6**
comp=Z,76nm,1.6s
LMR La Mourre 71.40 48 *e*P **P 20 17 45.0 -0.3**
comp=Z,216nm,1.5s
LMR La Mourre 71.40 48 *e*P **P 20 17 45.0 -0.3**
LMR pmax pmax
comp=Z,216nm,1.5s
LMR La Mourre 71.40 48 *e*P **P 20 17 45.0 -0.3**
comp=Z,216nm,1.5s
CAEH 'Ain El Ouahch 71.49 55 P **P 20 17 48.7 +2.7**
FRF La Foret Royal 71.52 48 *e*P **P 20 17 45.7 -0.3**
comp=Z,276nm,1.6s
FRF La Foret Royal 71.52 48 *e*P **P 20 17 45.7 -0.3**
FRF pmax pmax
comp=Z,276nm,1.6s
FRF La Foret Royal 71.52 48 *e*P **P 20 17 45.7 -0.3**
comp=Z,276nm,1.6s
HGN Heimansgroeve 71.56 40 *e*P **P 20 17 46.2 +0.1**
comp=Z,217nm,1.3s
HGN *e*S **S 20 27 00.8 -3.4**
HAU Haudompre 71.58 43 *e*P **P 20 17 45.9 -0.5**
comp=Z,480nm,1.7s
HAU *e*R
comp=Z,31µm,22.5s
HAU Haudompre 71.58 43 *e*P **P 20 17 45.9 -0.5**
HAU pmax pmax
comp=Z,480nm,1.7s
HAU Haudompre 71.58 43 *e*P **P 20 17 45.9 -0.5**
comp=Z,480nm,1.7s
MEM Membach 71.59 40 P **P 20 17 46.5 +0.2**
comp=Z,99nm,1.5s
MEM Membach 71.59 40 *e*P **P 20 17 47.0 +0.7**
MEM pmax pmax
comp=Z,175nm,1.1s
MEM Membach 71.59 40 *e*P **P 20 17 47.0 +0.7**
comp=Z,175nm,1.1s
WLF Walferdange 71.59 41 P **P 20 17 46.4 0.0**
comp=Z,177nm,1.7s
WLF Walferdange 71.59 41 *e*P **P 20 17 46.4 0.0**
comp=Z,780nm,2.4s
WLF Walferdange 71.59 41 *e*P **P 20 17 45.0 -1.3**
WLF pmax pmax
comp=Z,419nm,1.6s
WLF Walferdange 71.59 41 *e*P **P 20 17 45.0 -1.3**
comp=Z,418nm,1.6s
BNI Bardonecchia 71.61 46 PFAKE 20 18 00.0 +13
BNI LR LR
comp=Z,41µm,22.0s
RSL Roselend 71.61 45 *e*P **P 20 17 47.4 +0.6**
MBDF Montbardon 71.66 46 *e*P **P 20 17 47.5 +0.4**
comp=Z,612nm,1.8s
MBDF Montbardon 71.66 46 *e*P **P 20 17 47.5 +0.4**
MBDF pmax pmax
comp=Z,612nm,1.8s
MBDF Montbardon 71.66 46 *e*P **P 20 17 47.5 +0.4**
comp=Z,612nm,1.8s
LPL La Plagne 71.68 46 *e*P **P 20 17 47.8 +0.6**
comp=Z,172nm,1.0s
LPL La Plagne 71.68 46 *e*P **P 20 17 47.8 +0.6**
LPL pmax pmax
comp=Z,172nm,1.0s
LPL La Plagne 71.68 46 *e*P **P 20 17 47.8 +0.6**
comp=Z,172nm,1.0s
SURF Saint Ours 71.68 47 *e*P **P 20 17 49.4 +2.2**
LPG La Plagne 71.69 46 *e*P **P 20 17 48.0 +0.6**
comp=Z,358nm,1.3s
LPG La Plagne 71.69 46 *e*P **P 20 17 48.0 +0.6**
LPG pmax pmax
comp=Z,358nm,1.3s
LPG La Plagne 71.69 46 *e*P **P 20 17 48.0 +0.6**
comp=Z,358nm,1.3s
OG01 Vacheresse 71.69 45 *e*P **P 20 17 48.4 +1.3**
CALN Calern 71.70 47 *e*P **P 20 17 49.3 +2.0**
OG22 Abries 71.79 46 *e*P **P 20 17 49.5 +1.6**
ALE Alert 71.84 1 P **P 20 17 46.0 -1.3**
comp=Z,509nm,0.8s,SNR=32
LOMF Lomont 71.86 44 *e*P **P 20 17 49.8 +1.7**
MVIF Mont Vial 71.90 47 *e*P **P 20 17 50.0 +1.5**
HINF Hinteralfeld 71.91 43 *e*P **P 20 17 47.7 -0.7**
comp=Z,257nm,1.4s
HINF Hinteralfeld 71.91 43 *e*P **P 20 17 47.7 -0.7**
HINF pmax pmax
comp=Z,257nm,1.4s
HINF Hinteralfeld 71.91 43 *e*P **P 20 17 47.7 -0.7**
comp=Z,257nm,1.4s
CMAH Djebel Manchou 71.94 55 P P 20 17 59.0 +10
TOUF Mont Tournerai 71.97 47 *e*P **P 20 17 50.5 +1.5**
LUCF Luceram 72.04 47 *e*P **P 20 17 49.3 0.0**
REVF Revere 72.05 47 *e*P **P 20 17 50.8 +1.5**
AUTN L'Aution 72.10 47 *e*P **P 20 17 51.0 +1.2**
SBF Sospel 72.10 47 *e*P **P 20 17 49.4 -0.2**
comp=Z,130nm,0.8s
SBF Sospel 72.10 47 *e*P **P 20 17 49.4 -0.2**
SBF pmax pmax
comp=Z,130nm,0.8s
SBF Sospel 72.10 47 *e*P **P 20 17 49.4 -0.2**
comp=Z,130nm,0.8s
MOF Molkenrain 72.10 43 *e*P **P 20 17 50.8 +1.2**
ECH Echery 72.14 43 *e*P **P 20 17 48.9 -0.8**
ECH pmax pmax
comp=Z,268nm,1.5s
ECH MLR MLR
comp=Z,20µm,21.0s
ECH Echery 72.14 43 *e*P **P 20 17 51.3 +1.6**
ECH Echery 72.14 43 *e*P **P 20 17 48.9 -0.8**
comp=Z,268nm,1.5s
ECH LR LR
comp=Z,20µm,21.0s
SAOF Saorge 72.19 47 *e*P **P 20 17 49.8 -0.3**
WTSB Winterswijk 72.21 39 *e*P **P 20 17 50.3 +0.3**
comp=Z,422nm,1.4s
WTSB *e*S **S 20 27 14.6 +3.0**
CDF Champ du Feu 72.23 43 *e*P **P 20 17 50.0 -0.3**
comp=Z,761nm,1.7s
CDF Champ du Feu 72.23 43 *e*P **P 20 17 50.0 -0.3**
CDF pmax pmax
comp=Z,761nm,1.7s
CDF Champ du Feu 72.23 43 *e*P **P 20 17 50.0 -0.3**
comp=Z,761nm,1.7s
KMY Karmoy 72.25 31 *e*P **P 20 17 49.8 -0.3**
KMY AMB AMB 20 17 55.6
comp=Z,378nm,2.0s
KMY *e*S **S 20 27 12.2 +0.4**
KMY AMS AMS 20 44 60.0
comp=Z,10µm,22.6s
SUE Sulen 72.31 29 *e*P **P 20 17 53.5 +3.1**
SUE *e*S **S 20 27 14.0 +1.5**
SUE AMS AMS 20 45 43.2
comp=Z,16µm,23.7s
ASK Askoy 72.43 30 *e*P **P 20 17 50.9 -0.2**
ASK AMB AMB 20 17 55.0
comp=Z,527nm,1.7s
STAV Stavanger 72.44 31 *e*P P 20 18 51.5 +60
STAV AMB AMB 20 18 55.1
comp=Z,221nm,1.4s
BUG Bochum--Univer 72.46 39 *e*P **P 20 17 51.7 +0.2**
comp=Z,743nm,2.1s
BUG *e*S **S 20 27 10.3 -4.2**
BER Bergen 72.48 30 *e*P **P 20 17 52.5 +1.1**
BER AMB AMB 20 17 57.3
comp=Z,459nm,1.3s
BER *e*S **S 20 27 15.7 +1.3**
BER AMS AMS 20 47 26.2
comp=Z,17µm,17.7s
RUND Rundenannen 72.50 30 *e*P **P 20 17 51.5 -0.1**
LANF Langenberg 72.62 42 *e*P **P 20 17 54.4 +1.9**
IBBN Ibbenburen 72.83 39 *e*P **P 20 17 54.1 +0.4**
comp=Z,2µm,2.6s
BFO Black Forest 72.93 43 P **P 20 17 54.9 +0.5**
comp=Z,122nm,1.0s,SNR=9.5
BFO Black Forest 72.93 43 *e*P **P 20 17 54.2 -0.2**
comp=Z,222nm,2.3s
BFO *e*S **S 20 27 14.9 -5.2**
BFO Black Forest 72.93 43 *e*P **P 20 17 54.2 -0.2**
BFO *e*S **S 20 27 14.9 -5.2**
BFO pmax pmax
comp=Z,222nm,2.3s
BFO Black Forest 72.93 43 *e*P **P 20 17 53.8 -0.7**
comp=Z,68nm,1.2s
BFO LR LR
comp=Z,20µm,22.0s
HYA Hoyanger 73.02 29 *e*P **P 20 17 55.0 +0.4**
HYA AMB AMB 20 18 01.0
comp=Z,311nm,1.9s
HYA AMS AMS 20 46 26.6
comp=Z,11µm,20.3s
ODD1 Odda 73.05 31 *e*P **P 20 17 56.4 +1.5**
ODD1 AMS AMS 20 45 47.2
comp=Z,20µm,21.8s
TNS Taunus Mts 73.11 41 *e*P **P 20 17 56.0 +0.5**
comp=Z,142nm,1.3s
TNS Taunus Mts 73.11 41 *e*P **P 20 17 56.0 +0.5**
TNS pmax pmax
comp=Z,142nm,1.3s
SNART Snartemo 73.14 32 *e*P **P 20 17 55.7 +0.3**
SNART AMB AMB 20 17 59.7
comp=Z,182nm,1.9s
PGF Pioggiola 73.21 49 *e*P **P 20 17 55.9 -0.4**
comp=Z,110nm,0.9s
PGF Pioggiola 73.21 49 *e*P **P 20 17 55.9 -0.4**
PGF pmax pmax
comp=Z,110nm,0.9s
PGF Pioggiola 73.21 49 *e*P **P 20 17 55.9 -0.4**
comp=Z,110nm,0.9s
EGAK Eagle 73.24 335 PFAKE 20 18 10.0 +14
EGAK LR LR
comp=Z,80µm,19.0s
VSL Villasalto 73.48 52 *e*P **P 20 17 58.1 +0.3**
comp=Z,175nm,1.2s
KEST Kesra 73.52 56 *e*P **P 20 17 58.2 0.0**
KEST *e*S **SKiKP 20 27 29.6 +1.5**
KEST Kesra 73.52 56 P **P 20 17 58.1 0.0**
comp=Z,16nm,0.9s,baz=295,slow=1.9,SNR=35
KEST LR LR 20 45 45.6
comp=Z,3µm,20.4s,baz=228,slow=32
STU Stuttgart 73.53 42 *e*P **P 20 17 57.8 -0.1**
comp=Z,129nm,1.4s
STU *e*S **S 20 27 21.8 -5.0**
RKT Rikitea 73.71 242 *e*P **P 20 18 00.7 +1.4**
comp=Z,144nm,1.2s
RKT *e*S **SKiKP 20 27 28.5 0.0**
comp=Z,9µm,27.2s
RKT *e*LQ LQ 20 37 27.7
comp=Z,14µm,33.5s
RKT *e*LR LR 20 40 34.1
comp=Z,37µm,25.8s,baz=58
HOMB Homborsund 73.81 32 *e*P P 20 18 03.2 +3.9
HOMB *e*S **S 20 27 31.1 +1.5**
HOMB AMS AMS 20 42 29.9
comp=Z,9µm,28.5s
MOL Molde 73.86 28 *e*P **P 20 17 59.8 +0.3**
MOL AMB AMB 20 18 06.1
comp=Z,259nm,1.4s
MOL AMS AMS 20 45 48.5
comp=Z,20µm,21.6s
DAVOX Davos/Dischmat 73.92 44 LR LR 20 45 48.0
comp=Z,28µm,21.5s,baz=269,slow=32
DAVA Damuels 73.93 44⇑ *i*P **P 20 18 01.2 +0.7**
comp=Z,122nm,1.1s,SNR=47
MUD Monsted U'grnd 74.00 34⇑ *i*P **P 20 18 03.0 +2.5**
MUD pmax pmax
comp=Z,160nm,0.9s
MUD MLR MLR
comp=Z,26µm,22.0s
MUD Monsted U'grnd 74.00 34⇑ *i*P **P 20 18 03.0 +2.5**
comp=Z,158nm,0.9s
MUD
comp=Z,26µm,21.0s
MENT Mentasta 74.07 333 *e*P **P 20 18 00.5 -0.4**
UBBA Unterbreizbach 74.14 40 *e*P **P 20 18 01.6 +0.3**
comp=Z,219nm,1.9s
UBBA *e*S **SKiKP 20 27 29.1 +0.8**
NRDL Niedersach Rie 74.28 38 *e*P **P 20 18 02.9 +0.8**
comp=Z,806nm,2.3s
CLZ Clausthal 74.41 39 *e*P **P 20 18 03.6 +0.5**
comp=Z,593nm,2.3s
CLZ *e*S **SKiKP 20 27 32.5 +3.6**
CLZ Clausthal 74.41 39 *e*P **P 20 18 03.6 +0.5**
CLZ *e*S **SKiKP 20 27 32.5 +3.6**
CLZ pmax pmax
comp=Z,593nm,2.3s
TAOE Nuku Hiva Isla 74.45 258 *e*S **SKiKP 20 27 34.2 +4.1**
comp=Z,9µm,28.0s
TAOE Nuku Hiva Isla 74.45 258 *e*LQ LQ 20 37 50.5
comp=Z,40µm,32.1s
TAOE *e*LR LR 20 40 58.3
comp=Z,32µm,24.2s
BSEG Bad Segeberg 74.48 37 *e*P **P 20 18 03.9 +0.6**
comp=Z,193nm,1.3s
BSEG *e*S **S 20 27 33.7 -3.6**
BSEG Bad Segeberg 74.48 37 *e*P **P 20 18 03.9 +0.6**
BSEG pmax pmax
comp=Z,193nm,1.3s
FETA Feichten 74.50 44⇑ *i*P **P 20 18 04.3 +0.4**
comp=Z,115nm,1.1s,SNR=67
RETA Reutte 74.53 44⇑ *i*P **P 20 18 04.2 +0.3**
comp=Z,117nm,1.6s,SNR=51
MOTA Moosalm 74.77 44⇑ *i*P **P 20 18 05.2 -0.1**
comp=Z,60nm,0.8s,SNR=36
GRF Grafenberg Arr 74.88 41 *e*P **P 20 18 06.3 +0.5**
comp=Z,142nm,1.5s
GRF *e*S **S 20 27 37.3 -4.8**
GRF *e*L L 20 45 39.8
comp=Z,18µm,22.0s
GRF Grafenberg Arr 74.88 41 *e*P **P 20 18 06.3 +0.5**
GRF *e*S **S 20 27 37.3 -4.8**
GRF pmax pmax
comp=Z,142nm,1.5s
FUR Furstenfeldbru 74.89 43 *e*S **S 20 27 37.0 -5.2**
WTTA Wattenberg 75.13 44⇑ *i*P **P 20 18 07.6 +0.1**
comp=Z,140nm,1.7s,SNR=37
MOX Moxa 75.16 40 *e*P **P 20 18 07.4 0.0**
comp=Z,53nm,1.3s
MOX *e*S **S 20 27 40.5 -4.6**
MOX *e*L L 20 45 33.1
comp=Z,31µm,21.8s
MOX Moxa 75.16 40 *e*P **P 20 18 07.4 0.0**
MOX pmax pmax
comp=Z,53nm,1.3s
TBLU Trondheim 75.17 27 *e*P **P 20 18 09.6 +2.4**
TBLU AMB AMB 20 18 14.5
comp=Z,397nm,1.7s
NAO01 NORSAR Array S 75.25 30 *e*P **P 20 18 08.1 +0.4**
comp=Z,134nm,1.0s
NBO02 NORSAR Array S 75.25 30 *e*P **P 20 18 08.6 +0.9**
NEUB Neuenburg 75.27 40 *e*P **P 20 18 08.3 +0.3**
comp=Z,139nm,1.2s
NB2 NORSAR Subarra 75.43 30 P **P 20 18 09.4 +0.6**
comp=Z,5.4nm,0.7s,baz=267,slow=5.9
NB2 NORSAR Subarra 75.43 30 P **P 20 18 09.4 +0.6**
baz=267,slow=5.9
NOA NORSAR Array B 75.43 30 P **P 20 18 09.4 +0.6**
NOA NORSAR Array B 75.43 30 P **P 20 18 09.4 +0.6**
comp=Z,51nm,0.9s,baz=265,slow=5.8,SNR=43
NOA LR LR 20 49 34.0
comp=Z,16µm,19.3s,baz=275,slow=34
MANZ Manzenberg 75.46 41 *e*P **P 20 18 09.9 +0.7**
comp=Z,132nm,1.4s
ROTZ Rotzenmuhle 75.52 41 *e*P **P 20 18 10.2 +0.7**
comp=Z,66nm,1.3s
NC602 NORSAR Array S 75.56 30 *e*P **P 20 18 11.7 +2.3**
NC602 *e*S **S 20 27 50.4 +1.3**
WERD Werda 75.59 41 *e*P **P 20 18 10.4 +0.5**
comp=Z,80nm,1.5s
GUNZ Gunzen 75.61 41 *e*P **P 20 18 10.4 +0.4**
comp=Z,71nm,1.3s
LLD Lille Linde 75.65 36 *i*P **P 20 18 10.7 +0.7**
LLD pmax pmax
comp=Z,79nm,0.9s
LLD Lille Linde 75.65 36 *i*P **P 20 18 10.7 +0.7**
comp=Z,79nm,0.9s
IL1 Eielson Array 75.67 334 *e*P **P 20 18 08.3 -1.7**
ILAR Eielson Array 75.67 334 P **P 20 18 08.8 -1.2**
ILAR PP **PP 20 21 01.5 +1.9**
ILAR P'P' 20 45 32.5
ILAR Eielson Array 75.67 334 P **P 20 18 08.8 -1.2**
comp=Z,3.6nm,0.5s,baz=103,slow=4.0,SNR=34
ILAR PP **PP 20 21 01.5 +1.9**
comp=Z,10nm,1.0s,baz=86,slow=5.9,SNR=4.9
ILAR PKPPKP **P'P'df 20 45 32.5 -0.5**
comp=Z,0.3nm,0.7s,baz=231,slow=5.7,SNR=3.3
ILAR LR LR 20 53 50.7
comp=Z,49µm,18.7s,baz=98,slow=38
TANN Tannenbergstha 75.69 41 *e*P **P 20 18 11.0 +0.5**
comp=Z,121nm,1.4s

ABTA	**Abfaltersbach**	**75.73**	**44**	⇑ *i* P	**P**	**20 18 11.0 +0.1**
	comp=Z,134nm,1.4s,SNR=59					
COP	**Copenhagen**	**75.78**	**35**	*i* P	**P**	**20 18 12.6 +1.8**
COP				pmax	pmax	
	comp=Z,37nm,0.8s					
COP				MLR	MLR	
	comp=Z,10μm,19.0s					
COP	**Copenhagen**	**75.78**	**35**	*i* P	**P**	**20 18 12.6 +1.8**
	comp=Z,37nm,0.8s					
COP						
	comp=Z,10μm,19.0s					
RJOB	**Jochberg**	**75.91**	**43**	*e*P	**P**	**20 18 11.4 -0.4**
	comp=Z,151nm,1.9s					
WET	**Wettzell**	**75.96**	**42**	*e*P	**P**	**20 18 11.6 -0.4**
	comp=Z,68nm,1.2s					
WET				*e*S	**S**	**20 27 49.1 -5.0**
WET	**Wettzell**	**75.96**	**42**	*e*P	**P**	**20 18 11.6 -0.4**
WET				*e*S	**S**	**20 27 49.1 -5.0**
WET				pmax	pmax	
	comp=Z,68nm,1.2s					
NSS	**Namsos**	**76.04**	**26**	*e*P	**P**	**20 18 14.0 +1.9**
NSS				AMB	AMB	20 18 16.6
	comp=Z,286nm,1.8s					
NSS				*e*S	**S**	**20 27 55.5 +1.3**
NSS				AMS	AMS	20 50 30.5
	comp=Z,8μm,19.6s					
CLL	**Collm**	**76.04**	**40**	*e*P	**P**	**20 18 12.8 +0.4**
	comp=Z,103nm,1.1s					
CLL				*e*S	**S**	**20 27 50.5 -4.3**
CLL	**Collm**	**76.04**	**40**	*i* P	**P**	**20 18 12.7 +0.4**
CLL				*e**PP	**PcP**	**20 18 24.0 -0.6**
CLL				*e*S	**S**	**20 27 57.0 +2.2**
CLL				pmax	pmax	
	comp=Z,616nm,2.3s					
CLL				MLR	MLR	
	comp=Z,23μm,21.9s					
CLL	**Collm**	**76.04**	**40**	*i* P	**P**	**20 18 12.7 +0.4**
	comp=Z,616nm,2.3s					
CLL				*e*PcP	**PcP**	**20 18 24.0 -0.6**
CLL				*i*		20 18 29.6
CLL				*e*		20 18 59.0
CLL				*e*PP	PP	20 20 56.0 -7.0
CLL				*e*		20 22 00.0
CLL				*e*PPPP		20 24 06.0
CLL				*e*S	**S**	**20 27 57.0 +2.2**
CLL				*e*PS	**PnS**	**20 28 32.0 -0.8**
CLL				*e*SS	**SS**	**20 32 48.0 +0.4**
CLL				*e*PKPPKPd	**P'P'df**	**20 45 30.0 -2.7**
CLL				LV		20 46 00.0
	comp=Z,23μm,21.9s					
CLL				*e*SKPPKPbc		20 49 00.0
COLA	**College**	**76.09**	**334**	*e*P	**P**	**20 18 12.7 +0.3**
COLA				*e*		20 21 09.3
COLA				pmax	pmax	
	comp=Z,215nm,1.0s					
COLA				MLR	MLR	
	comp=Z,49μm,21.0s					
COLA	**College**	**76.09**	**334**	*e*P	**P**	**20 18 12.7 +0.3**
	comp=Z,57nm,1.0s					
COLA				*e*PP	PP	20 21 09.3 +6.3
COLA				LR	LR	
	comp=Z,49μm,21.0s					
FBE	**Freiberg**	**76.26**	**40**	*e*P	**P**	**20 18 14.1 +0.5**
	comp=Z,122nm,1.2s					
RGN	**Rugen**	**76.27**	**36**	*e*P	**P**	**20 18 16.1 +2.5**
	comp=Z,604nm,1.6s					
KBA	**Koelnbreinsper**	**76.29**	**44**	⇑ *i* P	**P**	**20 18 14.3 +0.1**
	comp=Z,180nm,0.9s,SNR=40					
KHC	**Kasperske Hory**	**76.42**	**42**	⇑ *i* P	**P**	**20 18 14.7 +0.1**
KHC				*e*		20 18 27.7
KHC				*e*S	**S**	**20 27 59.5 +0.4**
KHC				MLR	MLR	
	comp=Z,16μm,22.0s					
KHC	**Kasperske Hory**	**76.42**	**42**	⇑ *i* P	**P**	**20 18 14.7 +0.1**
KHC				*e*pP	**pP**	**20 18 17.0 -4.1**
KHC				*e*PCP	**PcP**	**20 18 27.7 +1.3**
KHC				*e*S	**S**	**20 27 59.5 +0.4**
KHC				*e*x	x	20 33 13.2
KHC				*e*PKPPKP	**P'P'df**	**20 45 31.9 -0.3**
KHC				AMS	AMS	20 45 40.0
	comp=Z,16μm,22.0s					
KHC				*e*x	x	20 49 00.7
GEC2	**GERESS Array S**	**76.50**	**42**	*e*P	**P**	**20 18 15.5 +0.3**
	comp=Z,80nm,1.0s					
GEC2				*e*S	**S**	**20 27 55.1 -5.1**
GEC2	**GERESS Array S**	**76.50**	**42**	*e*P	**P**	**20 18 15.5 +0.3**
GEC2				pmax	pmax	
	comp=Z,80nm,1.0s					
GERES	**GERESS Array B**	**76.50**	**42**	P	**P**	**20 18 14.7 -0.5**
GERES				PKKPbc	**PKKPbc**	**20 37 31.9 +3.3**
GERES				P'P'		20 45 30.1
GERES	**GERESS Array B**	**76.50**	**42**	P	**P**	**20 18 14.7 -0.5**
	comp=Z,45nm,0.8s,baz=266,slow=4.6,SNR=99					
GERES				PKKPbc	**PKKPbc**	**20 37 31.9 +3.3**
	comp=Z,0.7nm,0.9s,baz=101,slow=1.0,SNR=4.8					
GERES				PKPPKP	**P'P'df**	**20 45 30.1 -2.0**
	comp=Z,0.6nm,0.8s,baz=75,slow=1.5,SNR=5.0					
MYKA	**Terra Mystica**	**76.51**	**45**	⇑ *i* P	**P**	**20 18 15.3 0.0**
	comp=Z,83nm,1.0s,SNR=46					
RUE	**Ruedersdorf**	**76.53**	**38**	*e*P	**P**	**20 18 16.1 +1.0**
	comp=Z,113nm,1.0s					
RUE	**Ruedersdorf**	**76.53**	**38**	*e*P	**P**	**20 18 15.3 +0.2**
	comp=Z,121nm,1.1s					
STOK	**Stokkvaagen**	**76.61**	**24**	*e*S	**S**	**20 28 01.8 +1.4**
BRG	**Berggiesshubel**	**76.64**	**40**	*i* P	**P**	**20 18 16.2 +0.5**
	comp=Z,109nm,1.2s					
BRG				*i* PCP	**PcP**	**20 18 28.8 +1.6**
	comp=Z,138nm,1.2s					
BRG				S	**S**	**20 28 03.0 +1.7**
BRG				SS	**SS**	**20 32 54.0 -2.6**
BRG				*e*PKPPKP	**P'P'df**	**20 45 30.7 -1.0**
	comp=Z,66nm,2.0s					
BRG						
	comp=N,5μm,18.7s					
BRG						
	comp=E,31μm,28.0s					
BRG						
	comp=Z,44μm,26.8s					
BRG	**Berggiesshubel**	**76.64**	**40**	*e*P	**P**	**20 18 16.3 +0.5**
	comp=Z,108nm,1.2s					
BRG				*e*S	**S**	**20 27 56.5 -4.8**
BRG	**Berggiesshubel**	**76.64**	**40**	*i* P	**P**	**20 18 16.2 +0.5**
BRG				*i*		20 18 28.8
BRG				S	**S**	**20 28 03.0 +1.7**
BRG				SS	**SS**	**20 32 54.0 -2.6**
BRG				pmax	pmax	
	comp=Z,109nm,1.3s					
BRG				pmax	pmax	
	comp=Z,138nm,1.2s					
BRG				pmax	pmax	
	comp=Z,66nm,2.0s					
BRG				MLR	MLR	
	comp=N,5μm,18.7s					
BRG				MLR	MLR	
	comp=E,31μm,28.0s					
BRG				MLR	MLR	
	comp=Z,44μm,26.8s					
VOY	**Vojsko**	**76.70**	**45**	*e*P	**P**	**20 18 16.3 0.0**
VOY				*e*		20 18 18.3
VOY				*e*		20 18 27.5
VOY				*e*		20 18 32.7
FLOS	**Flostrand**	**76.75**	**24**	*e*P	**P**	**20 18 18.4 +2.4**
SKDS	**Skadanscina**	**76.80**	**46**	*i* P	**P**	**20 18 14.9 -2.0**
SKDS				*e*S	**S**	**20 28 02.5 -0.9**
JAVS	**Javornik**	**76.82**	**45**	*i* P	**P**	**20 18 17.3 +0.2**
JAVS				*e*S	**S**	**20 28 03.4 -0.3**
MOA	**Molln**	**76.90**	**43**	⇑ *i* P	**P**	**20 18 17.4 0.0**
	comp=Z,109nm,1.5s,SNR=61					
LOF	**Lofoten**	**76.94**	**22**	*e*P	**P**	**20 18 18.6 +1.5**
PRA	**Prague**	**76.96**	**41**	⇑ P	**P**	**20 18 18.0 +0.4**
PRA				S	**S**	**20 28 10.0 +5.1**
PRU	**Pruhonice**	**77.03**	**41**	*e*P	**P**	**20 18 18.2 +0.2**
PRU				*e*		20 18 30.9
PRU				*e*S	**S**	**20 28 07.8 +2.1**
PRU				MLR	MLR	
	comp=Z,16μm,22.5s					
PRU	**Pruhonice**	**77.03**	**41**	⇑ *e*P	**P**	**20 18 18.2 +0.2**
PRU				*e*PCP	**PcP**	**20 18 30.9 +2.0**
PRU				*e*S	**S**	**20 28 07.8 +2.1**
PRU				*e*x	x	20 33 27.3
PRU				AMS	AMS	20 45 10.0
	comp=Z,16μm,22.5s					
PRU				*e*PKPPKP	**P'P'df**	**20 45 30.9 -0.1**
PRU				*e*x	x	20 48 55.5
PVCC	**Panska Ves**	**77.04**	**40**	⇑ *i* P	**P**	**20 18 18.6 +0.5**
PVCC				*e*		20 18 31.2
PVCC				*e*S	**S**	**20 28 07.3 +1.6**
PVCC	**Panska Ves**	**77.04**	**40**	⇑ *i* P	**P**	**20 18 18.6 +0.5**
PVCC				*e*PCP	**PcP**	**20 18 31.2 +2.2**
PVCC				*e*S	**S**	**20 28 07.3 +1.6**
PVCC				*e*SS	SS	20 33 12.4 +10
PVCC				AMS	AMS	20 45 20.0
	comp=Z,31μm,23.2s					
PVCC				*e*PKPPKP	**P'P'df**	**20 45 29.3 -1.6**
OBKA	**Obir**	**77.14**	**45**	⇑ *i* pP	**P**	**20 18 20.1 +1.3**
	comp=Z,62nm,1.2s,SNR=13					
LJU	**Ljubljana**	**77.14**	**45**	*i* P	**P**	**20 18 19.2 +0.5**
LJU				*e*S	**S**	**20 28 02.0 -5.0**
MOR8	**Moi Rana**	**77.18**	**24**	*e*P	**P**	**20 18 20.4 +1.8**
MOR8				AMB	AMB	20 18 25.8
	comp=Z,212nm,1.5s					
BSD	**Bornholm Skovb**	**77.19**	**36**	⇑ *i* P	**P**	**20 18 21.0 +2.2**
BSD				pmax	pmax	
	comp=Z,45nm,1.0s					
BSD				MLR	MLR	
	comp=Z,19μm,25.0s					
BSD	**Bornholm Skovb**	**77.19**	**36**	⇑ *i* P	**P**	**20 18 21.0 +2.2**
	comp=Z,45nm,1.0s					
BSD						
	comp=Z,19μm,25.0s					
BPAW	**Bear Paw Mtn.**	**77.41**	**333**	*e*P	**P**	**20 18 19.0 -0.9**
	comp=Z,197nm,1.2s					
BPAW				*e*PP	**PP**	**20 21 13.7 -0.5**
NVLJ	**Novalja**	**77.44**	**47**	P	**P**	**20 18 21.2 +0.8**
SOKA	**Soboth**	**77.46**	**44**	⇓ *i* P	**P**	**20 18 20.8 +0.2**
	comp=Z,79nm,1.3s,SNR=17					
STEI	**Steigen**	**77.57**	**23**	*e*P	**P**	**20 18 20.4 -0.3**
STEI				AMB	AMB	20 18 27.3
	comp=Z,266nm,1.9s					
KBS	**Kingsbay**	**77.60**	**11**	*e*P	**P**	**20 18 23.0 +2.4**
KBS				IAmB		20 18 29.7
	comp=Z,2μm,4.5s					
KBS				*e*S	**S**	**20 28 12.8 +1.8**
KBS				AMS	AMS	20 55 56.7
	comp=Z,13μm,20.8s					
KBS	**Kingsbay**	**77.60**	**11**	PFAKE		20 18 30.0 +9.3
KBS				LR	LR	
	comp=Z,16μm,19.0s					
BOJS	**Bojanci**	**77.67**	**46**	*i* P	**P**	**20 18 22.7 +1.0**
BOJS				*e*S	**S**	**20 28 12.3 -0.4**
TREC	**Trest**	**77.67**	**42**	⇑ *i* P	**P**	**20 18 21.9 +0.3**
TREC				*e*S	**S**	**20 28 13.7 +1.0**
TREC	**Trest**	**77.67**	**42**	⇑ *i* P	**P**	**20 18 21.9 +0.3**
TREC				*e*S	**S**	**20 28 13.7 +1.0**
TREC				*e*PKPPKP	P'P'df	20 45 23.8 -6.1
TREC				AMS	AMS	20 47 30.0
	comp=Z,12μm,23.9s					
TREC				*e*x	x	20 49 01.5
ARSA	**Arzberg**	**77.77**	**44**	⇑ *i* P	**P**	**20 18 22.2 -0.1**
	comp=Z,68nm,1.1s,SNR=25					
PPLA	**Purkeypile**	**77.93**	**332**	*e*P	**P**	**20 18 23.3 +0.3**
	comp=Z,798nm,1.5s					
UPC	**Upice**	**77.96**	**40**	*e*P	**P**	**20 18 23.8 +0.6**
UPC				*e*		20 18 35.4
UPC	**Upice**	**77.96**	**40**	⇑ *e*P	**P**	**20 18 23.8 +0.6**
UPC				*e*PCP	**PcP**	**20 18 35.4 +2.4**
UPC				*e*PKPPKP	P'P'df	20 45 35.8 +6.5
UPC				*e*x	x	20 48 53.5
CONA	**Conrad Observa**	**77.97**	**43**	⇑ *i* P	**P**	**20 18 24.1 +0.7**
	comp=Z,112nm,1.6s,SNR=54					
KSP	**Ksiaz**	**78.13**	**40**	⇑ *e*P	**P**	**20 18 24.6 +0.5**
KSP				*e*S	**S**	**20 28 14.0 -3.5**
KSP				MLR	MLR	
	comp=Z,78μm,25.4s					
KSP	**Ksiaz**	**78.13**	**40**	*e*P	**P**	**20 18 26.5 +2.4**
KSP				*e*PcP	**PcP**	**20 18 32.3 -1.4**
KSP				*e*S	**S**	**20 28 18.0 +0.5**
KSP				*e*ScS	**ScS**	**20 28 44.5 +1.4**
KSP				LMZ	LR	20 45 29.5
DPC	**Dobruska-Polom**	**78.17**	**41**	⇑ *i* P	**P**	**20 18 24.9 +0.5**
DPC				*e*		20 18 36.9
DPC				*e*S	**S**	**20 28 19.5 +1.4**
DPC	**Dobruska-Polom**	**78.17**	**41**	⇑ *i* P	**P**	**20 18 24.9 +0.5**
DPC				*e*PCP	**PcP**	**20 18 36.9 +3.0**
DPC				*e*S	**S**	**20 28 19.5 +1.4**
DPC				*e*x	x	20 33 42.3
DPC				AMS	AMS	20 45 10.0
DPC				*e*PKPPKP	**P'P'df**	**20 45 24.4 -4.6**
DPC				*e*x	x	20 48 55.6
DPC	**Dobruska-Polom**	**78.17**	**41**	*e*P'P'df	P'P'df	20 45 30.9 +1.9
KDAK	**Kodiak Island**	**78.18**	**327**	P	**P**	**20 18 26.0 +1.8**
	comp=Z,549nm,1.1s,SNR=5.9					
KDAK	**Kodiak Island**	**78.18**	**327**	P	**P**	**20 18 25.2 +1.0**
KDAK				LR	LR	
	comp=Z,83μm,19.0s					
KDAK	**Kodiak Island**	**78.18**	**327**	P	**P**	**20 18 25.2 +1.0**
	comp=Z,77nm,1.1s,baz=98,slow=5.4,SNR=15					
VRAC	**Vranov**	**78.39**	**42**	LR	LR	20 47 09.7
	comp=Z,8μm,21.0s,baz=163,slow=31					
SPA0	**Spitsbergen Ar**	**78.41**	**12**	*e*P	**P**	**20 18 25.4 +0.2**
SPA0				*e*S	**S**	**20 28 19.4 -0.3**
SPITS	**Spitsbergen Ar**	**78.41**	**12**	LR	LR	20 47 54.6
	comp=Z,8μm,21.6s,baz=260,slow=32					
CUC	**Castrocucco**	**78.42**	**51**	PFAKE		20 18 40.0 +14
CUC				LR	LR	
	comp=Z,11μm,20.0s					
SOP	**Sopron**	**78.45**	**43**	⇑ *e*P	**P**	**20 18 27.9 +1.9**
SISC	**Sisak**	**78.46**	**46**	P	P	20 18 29.4 +3.4
IMA2	**Indian Mountai**	**78.57**	**335**	*e*P	**P**	**20 18 25.1 -1.3**
GKP	**Gorka Klasztor**	**78.60**	**38**	*e*P	**P**	**20 18 29.6 +2.9**
GKP				*e*PcP	**PcP**	**20 18 34.9 -0.7**
GKP				*e*S	**S**	**20 28 23.5 +1.0**
GKP				LMZ	LR	20 48 48.1
IM04	**Indian Mountai**	**78.61**	**335**	*e*P	**P**	**20 18 25.8 -0.8**
CEL	**Celeste**	**78.62**	**53**	PFAKE		20 18 40.0 +13
CEL				LR	LR	
	comp=Z,18μm,22.0s					
BEHE	**Becsehely**	**78.67**	**45**	⇑ *e*P	**P**	**20 18 29.2 +2.0**
TRO	**Tromso**	**78.93**	**21**	*e*P	**P**	**20 18 29.0 +0.9**
MORC	**Moravsky Berou**	**78.98**	**41**	*e*P	**P**	**20 18 29.1 +0.2**
MORC				pmax	pmax	
	comp=Z,132nm,1.3s					
MORC	**Moravsky Berou**	**78.98**	**41**	*e*P	**P**	**20 18 29.1 +0.2**
	comp=Z,132nm,1.3s					
OKC	**Ostrava-Krasne**	**79.37**	**41**	*e*P	**P**	**20 18 31.7 +0.7**
OKC				*e*S	**S**	**20 28 33.2 +2.4**
OKC				MLR	MLR	
	comp=Z,9μm,18.0s					
OKC	**Ostrava-Krasne**	**79.37**	**41**	⇑ *e*P	**P**	**20 18 31.7 +0.7**
OKC				*e*S	**S**	**20 28 33.2 +2.4**
OKC				*e*x	x	20 32 52.1
OKC				*e*x	x	20 49 01.3
OKC				AMS	AMS	20 52 00.0
	comp=Z,9μm,18.0s					
RAC	**Raciborz**	**79.38**	**41**	*e*P	**P**	**20 18 31.5 +0.5**
RAC				*e*S	**S**	**20 28 33.8 +2.9**
RAC				MLR	MLR	
	comp=Z,15μm,20.6s					
PKST	**T^s**	**79.48**	**44**	⇑ *e*P	**P**	**20 18 31.7 0.0**
STON	**Ston**	**79.60**	**48**	P	**P**	**20 18 29.9 -2.4**
PKS9	**Tamasi**	**79.70**	**44**	⇓ *e*P	**P**	**20 18 35.7 +2.9**
PKSG		**79.71**	**44**	⇓ *e*P	**P**	**20 18 33.2 +0.3**
VYHS	**Vyhne**	**79.92**	**42**	*e*P	**P**	**20 18 35.9 +1.9**
VYHS				pmax	pmax	
	comp=Z,238nm,2.4s					
VYHS	**Vyhne**	**79.92**	**42**	*e*P	**P**	**20 18 35.9 +1.9**
PKSM	**Moragy**	**79.98**	**45**	⇑ P	**P**	**20 18 35.0 +0.6**
PKSM	**Moragy**	**79.98**	**45**	⇑ *i* P	**P**	**20 18 35.0 +0.6**
PKSM	**Moragy**	**79.98**	**45**	⇑ *e*P	**P**	**20 18 35.0 +0.6**
BUD	**Budapest**	**80.13**	**43**	⇑ *e*P	**P**	**20 18 36.8 +1.6**
BRY	**Bratogost**	**80.21**	**48**	⇑ *i* P	**P**	**20 18 37.6 +1.7**
HCY	**Herceg Novi**	**80.22**	**49**	⇑ *i* P	**P**	**20 18 37.6 +1.8**
PKS7	**Kunszentmiklos**	**80.27**	**44**	⇓ *e*P	**P**	**20 18 37.0 +1.1**
PKS2	**Kecel**	**80.35**	**44**	⇓ *e*P	**P**	**20 18 39.1 +2.8**
OJC	**Ojcow**	**80.40**	**41**	⇑ *i* P	**P**	**20 18 37.2 +0.6**
OJC				*e*		20 18 44.3
OJC				*e*S	**S**	**20 28 46.2 +4.5**
OJC				MLR	MLR	
	comp=Z,21μm,21.7s					
OJC	**Ojcow**	**80.40**	**41**	*i* P	**P**	**20 18 37.2 +0.6**
OJC				*e*PcP	**PcP**	**20 18 44.3 +0.7**
OJC				*e*S	**S**	**20 28 46.2 +4.5**
OJC				L	L	20 48 29.0
	comp=Z,21μm,21.7s					
UPM	**Unac-Piva**	**80.45**	**48**	⇑ *i* P	**P**	**20 18 39.1 +1.9**
KTK1	**Kautokeino**	**80.49**	**21**	*e*P	**P**	**20 18 36.4 -0.3**
KTK1				AMB	AMB	20 18 42.8
	comp=Z,1μm,2.0s					
KTK1				*e*S	**S**	**20 28 42.2 +0.2**
NKME	**Niksic**	**80.53**	**48**	⇑ *i* P	**P**	**20 18 38.5 +1.0**
BUM	**Brajici-Budva**	**80.53**	**49**	⇑ *i* P	**P**	**20 18 39.3 +1.8**
NKY	**Niksic**	**80.55**	**48**	⇑ *i* P	**P**	**20 18 39.3 +1.6**
PSZ	**Piszkesteto**	**80.68**	**43**	⇑ P	**P**	**20 18 38.8 +0.6**
PSZ	**Piszkesteto**	**80.68**	**43**	PFAKE		20 18 50.0 +12
PSZ				LR	LR	
	comp=Z,12μm,19.0s					
PSZ	**Piszkesteto**	**80.68**	**43**	⇑ *i* P	**P**	**20 18 38.8 +0.6**
PSZ	**Piszkesteto**	**80.68**	**43**	⇑ *e*P	**P**	**20 18 39.4 +1.2**
DRME	**Dracevica, Mon**	**80.76**	**49**	*e*P	**P**	**20 18 41.2 +2.5**
PKSN	**Nyarlorinc**	**80.76**	**44**	⇓ *e*P	**P**	**20 18 41.5 +3.0**
PDG	**Podgorica**	**80.79**	**49**	P	**P**	**20 18 40.1 +1.3**
TTG	**Podgorica**	**80.79**	**49**	⇑ *i* P	**P**	**20 18 41.0 +2.2**
TTG	**Podgorica**	**80.79**	**49**	P	**P**	**20 18 40.1 +1.3**
TTG	**Podgorica**	**80.79**	**49**	P	**P**	**20 18 40.1 +1.3**
PLE	**Pljevlja**	**80.79**	**48**	⇑ *i* P	**P**	**20 18 40.9 +1.9**
NIE	**Niedzica**	**80.81**	**41**	⇑ *i* P	**P**	**20 18 40.4 +1.6**
NIE				*e*		20 18 47.1
NIE				*e*S	**S**	**20 28 48.7 +2.6**
NIE				MLR	MLR	
	comp=Z,1μm,19.9s					
NIE	**Niedzica**	**80.81**	**41**	*i* P	**P**	**20 18 40.4 +1.6**
NIE				*e*PcP	**PcP**	**20 18 47.1 +1.7**
NIE				*e*S	**S**	**20 28 48.7 +2.6**
NIE				L	L	20 54 41.0
	comp=Z,11μm,19.9s					
BEL	**Belsk**	**80.87**	**39**	*e*P	**P**	**20 18 41.9 +2.9**
BEL				*e*PcP	**PcP**	**20 18 47.7 +2.1**
BEL				*e*S	**S**	**20 28 50.0 +3.5**
BEL				*e*ScS	**ScS**	**20 29 06.7 +1.4**
BEL				LMZ	LR	20 46 24.8
KECS	**Kecovo**	**81.01**	**42**	*e*P	**P**	**20 18 41.1 +1.2**
KECS				pmax	pmax	
	comp=Z,21nm,1.1s					
KECS	**Kecovo**	**81.01**	**42**	*e*P	**P**	**20 18 41.0 +1.2**
DIVS	**Divibare**	**81.14**	**47**	P	**P**	**20 18 42.0 +1.2**
IVA	**Berane**	**81.21**	**48**	⇑ *i* P	**P**	**20 18 43.1 +2.0**
ARCES	**ARCESS Array B**	**81.24**	**21**	P	**P**	**20 18 40.5 -0.2**
ARCES				PKKPbc	**PKKPbc**	**20 37 15.6 -3.1**
ARCES	**ARCESS Array B**	**81.24**	**21**	P	**P**	**20 18 40.5 -0.2**
	comp=Z,16nm,0.6s,baz=294,slow=4.6,SNR=81					
ARCES				PKKPbc	**PKKPbc**	**20 37 15.6 -3.1**
	comp=Z,4.9nm,0.9s,baz=131,slow=2.7,SNR=7.8					
ARE0	**ARCESS Array S**	**81.24**	**21**	*e*P	**P**	**20 18 40.8 +0.1**
ARE0	**ARCESS Array S**	**81.24**	**21**	*e*P	**P**	**20 18 40.3 -0.3**
ARA0	**ARCESS Array S**	**81.24**	**21**	*e*P	**P**	**20 18 40.8 +0.1**
PVY	**Plav**	**81.28**	**48**	⇑ *i* P	**P**	**20 18 43.6 +2.0**
TIR	**Tirane**	**81.36**	**50**	P	P	20 18 36.7 -5.2
TIR	**Tirane**	**81.36**	**50**	P	P	20 18 36.7 -5.2
TIR				MLR	MLR	
	comp=Z,22μm,21.0s					
TIR	**Tirane**	**81.36**	**50**	*e*P	**P**	**20 18 44.2 +2.3**
TIR	**Tirane**	**81.36**	**50**	P	P	20 18 36.7 -5.2
TIR				LR	LR	
	comp=Z,22μm,21.0s					
STHS	**Stebnicka Huta**	**81.41**	**41**	*e*P	P	20 18 45.6 +3.6
STHS				pmax	pmax	
	comp=Z,34nm,1.0s					
STHS	**Stebnicka Huta**	**81.41**	**41**	*e*P	P	20 18 45.6 +3.6
CHGN	**Chignik**	**81.45**	**326**	*e*P	**P**	**20 18 42.0 0.0**
KEK	**Kerkira**	**81.50**	**51**	P	**P**	**20 18 44.4 +1.7**
KEK	**Kerkira**	**81.50**	**51**	*e*P	**P**	**20 18 44.7 +2.0**
KEK	**Kerkira**	**81.50**	**51**	P	**P**	**20 18 44.4 +1.7**
SRN	**Sarande**	**81.63**	**51**	P	**P**	**20 18 45.3 +2.0**
SRN	**Sarande**	**81.63**	**51**	P	**P**	**20 18 45.3 +2.0**
PHP	**Peshkopia**	**81.75**	**49**	P	**P**	**20 18 45.0 +1.0**
PHP	**Peshkopia**	**81.75**	**49**	P	**P**	**20 18 45.0 +1.0**
PHP	**Peshkopia**	**81.75**	**49**	P	**P**	**20 18 45.0 +1.0**
IGT	**Igoumenitsa**	**81.93**	**51**	P	**P**	**20 18 46.4 +1.5**
IGT	**Igoumenitsa**	**81.93**	**51**	P	**P**	**20 18 46.4 +1.5**
IGT	**Igoumenitsa**	**81.93**	**51**	P	**P**	**20 18 46.4 +1.5**
MSKU	**Masuku**	**81.98**	**93**	PFAKE		20 19 00.0 +14
MSKU				LR	LR	
	comp=Z,2.0nm,20.0s					
SIRR	**Siria**	**82.06**	**44**	⇑ *i* P	**P**	**20 18 46.0 +0.5**
SUW	**Suwalki**	**82.06**	**37**	*e*P	**P**	**20 18 45.5 +0.2**
SUW	**Suwalki**	**82.06**	**37**	*e*P	**P**	**20 18 45.5 +0.2**
SUW				*e*ScS	**ScS**	**20 29 20.6 +5.6**
SUW	**Suwalki**	**82.06**	**37**	*e*P	**P**	**20 18 47.4 +2.1**
SUW				*e*PcP	**pP**	**20 18 52.5 +0.7**
SUW				*e*S	**S**	**20 29 00.2 +1.4**
SUW				*e*ScS	**ScS**	**20 29 18.2 +3.2**
SUW				LMZ	LR	20 49 52.7
BZS	**Buzias**	**82.11**	**45**	⇓ P	**P**	**20 18 46.3 +0.6**
BZS	**Buzias**	**82.11**	**45**	⇓ *i* P	**P**	**20 18 46.3 +0.6**
KBN	**Korca**	**82.14**	**50**	P	**P**	**20 18 47.2 +1.1**
KBN	**Korca**	**82.14**	**50**	P	**P**	**20 18 47.2 +1.1**
KBN	**Korca**	**82.14**	**50**	P	**P**	**20 18 47.2 +1.1**
KOLS	**Kolonicke sedl**	**82.14**	**42**	*e*P	**P**	**20 18 48.5 +2.6**
KOLS				pmax	pmax	
	comp=Z,51nm,1.4s					
KOLS	**Kolonicke sedl**	**82.14**	**42**	*e*P	**P**	**20 18 48.5 +2.6**
UZH	**Uzhgorod**	**82.19**	**42**	*e*P	**P**	**20 18 43.6 -2.5**
UZH				*i*		20 18 54.4
UZH				*e*		20 21 53.8
UZH				*e*S	S	20 28 54.3 -6.0
UZH				*i*		20 29 06.0
UZH				*e*		20 29 57.3
LKD2	**Lefkada island**	**82.28**	**52**	P	**P**	**20 18 49.0 +2.2**
LKD2	**Lefkada island**	**82.28**	**52**	*e*P	**P**	**20 18 48.8 +2.0**
LKD2	**Lefkada island**	**82.28**	**52**	P	**P**	**20 18 49.0 +2.2**
VLS	**Valsamata**	**82.30**	**53**	P	**P**	**20 18 48.7 +1.8**
VLS	**Valsamata**	**82.30**	**53**	P	**P**	**20 18 48.7 +1.8**
VLS	**Valsamata**	**82.30**	**53**	*e*P	**P**	**20 18 48.7 +1.8**
VLS	**Valsamata**	**82.30**	**53**	P	**P**	**20 18 48.7 +1.8**
JAN	**Janina**	**82.31**	**51**	P	**P**	**20 18 48.1 +1.1**
JAN	**Janina**	**82.31**	**51**	P	**P**	**20 18 48.1 +1.1**
JAN	**

RLS	Riolos of Patr	83.00	53	P	P	20 18 53.3 +2.8
EVR	Evrytania	83.15	52	P	P	20 18 54.0 +2.6
EVR	Evrytania	83.15	52	eP	P	20 18 53.1 +1.7
EVR	Evrytania	83.15	52	P	P	20 18 54.0 +2.6
LVV	L'vov	83.16	41	eP	P	20 18 51.0 -0.1
LVV				eS	S	20 29 08.0 -2.2
LVV				ePS	PnS	20 30 09.2 +6.9
LVV				MLR	MLR	
	comp=N,8μm,19.0s					
LVV				MLR	MLR	
	comp=E,5μm,19.0s					
LVV				MLR	MLR	
	comp=Z,7μm,19.0s					
THL	Klokotos Trika	83.21	51	P	P	20 18 53.4 +1.8
THL	Klokotos Trika	83.21	51	eP	P	20 18 54.0 +2.4
PMOR	Pomariorio Ree	83.24	253	eP	P	20 18 53.4 +1.3
	comp=Z,1μm,1.4s					
AMT	Artemida-Makis	83.27	53	P	P	20 18 50.7 -1.3
AMT	Artemida-Makis	83.27	53	eP	P	20 18 54.4 +2.4
EFP	Efpalio	83.29	52	P	P	20 18 54.4 +2.4
EFP	Efpalio	83.29	52	eP	P	20 18 54.5 +2.4
GRG	Griva	83.31	50	P	P	20 18 54.0 +1.9
GRG	Griva	83.31	50	P	P	20 18 54.0 +1.9
GRG	Griva	83.31	50	P	P	20 18 54.0 +1.9
LAKA	Lakka	83.38	52	P	P	20 18 55.1 +2.6
LAKA	Lakka	83.38	52	eP	P	20 18 55.5 +3.0
LAKA	Lakka	83.38	52	P	P	20 18 55.1 +2.6
VSU	Vasula	83.38	32	eP	P	20 18 51.5 -0.5
VSU				pmax	pmax	
	comp=Z,552nm,1.7s					
VAY	Valandovo	83.38	49	P	P	20 18 52.8 +0.4
VAY	Valandovo	83.38	49	P	P	20 18 52.8 +0.4
VAY	Valandovo	83.38	49	P	P	20 18 52.8 +0.4
MAKR	Makrakomi, Fth	83.38	52	P	P	20 18 55.4 +2.8
MAKR	Makrakomi, Fth	83.38	52	P	P	20 18 55.4 +2.8
PYL	PYLOS	83.39	54	P	P	20 18 53.4 +0.8
PYL	PYLOS	83.39	54	eP	P	20 18 53.7 +1.1
PYL	PYLOS	83.39	54	P	P	20 18 53.4 +0.8
TRIZ	Trizonia	83.43	52	P	P	20 18 54.9 +2.2
TRIZ	Trizonia	83.43	52	eP	P	20 18 55.5 +2.8
KALE	Kalithea	83.48	52	P	P	20 18 51.3 -1.8
KALE	Kalithea	83.48	52	eP	P	20 18 53.9 +0.8
KALE	Kalithea	83.48	52	P	P	20 18 51.3 -1.8
ITM	Ithomi	83.49	54	P	P	20 18 55.5 +2.4
ITM	Ithomi	83.49	54	eP	P	20 18 55.2 +2.1
ITM	Ithomi	83.49	54	P	P	20 18 55.5 +2.4
AGG	Agios Georgios	83.53	52	P	P	20 18 54.0 +0.7
AGG	Agios Georgios	83.53	52	P	P	20 18 54.0 +0.7
AGG	Agios Georgios	83.53	52	eP	P	20 18 55.3 +2.0
AGG	Agios Georgios	83.53	52	P	P	20 18 54.0 +0.7
KLV	Kalavryta, Ach	83.54	53	P	P	20 18 56.0 +2.6
KLV	Kalavryta, Ach	83.54	53	eP	P	20 18 55.7 +2.3
KLV	Kalavryta, Ach	83.54	53	P	P	20 18 56.0 +2.6
IIGN	Ignalina	83.62	35	eP	P	20 18 53.4 +0.1
IIGN				AMB	AMB	20 19 17.7
	comp=Z,62nm,1.8s					
LOT	Lotru	83.63	45	⇓iP	P	20 18 54.2 +0.4
KNT	Kendrikon	83.65	49	P	P	20 18 56.1 +2.2
KNT	Kendrikon	83.65	49	P	P	20 18 56.1 +2.2
KNT	Kendrikon	83.65	49	P	P	20 18 56.1 +2.2
VTS	Vitosha	83.66	48	P	P	20 18 56.3 +2.2
VTS	Vitosha	83.66	48	⇑P	P	20 18 55.4 +1.3
VTS	Vitosha	83.66	48	P	P	20 18 56.3 +2.2
VTS	Vitosha	83.66	48	⇑iP	P	20 18 55.4 +1.3
VTS	Vitosha	83.66	48	iP	P	20 18 56.4 +2.3
KKB	Krupnik	83.68	49	iP	P	20 18 57.0 +3.0
GUR	Goura	83.71	53	P	P	20 18 55.8 +1.5
GUR	Goura	83.71	53	eP	P	20 18 56.9 +2.6
GUR	Goura	83.71	53	P	P	20 18 55.8 +1.5
DSF	Desfina	83.78	52	P	P	20 18 56.0 +1.4
DSF	Desfina	83.78	52	P	P	20 18 56.0 +1.4
THE	Thessaloniki	83.78	50	P	P	20 18 56.1 +1.6
THE	Thessaloniki	83.78	50	P	P	20 18 56.1 +1.6
THE	Thessaloniki	83.78	50	P	P	20 18 56.1 +1.6
ARCR	ARCALIA	83.78	43	⇓iP	P	20 18 57.4 +3.0
VLX	Vlachokerasia	83.82	53	P	P	20 18 57.7 +2.8
VLX	Vlachokerasia	83.82	53	eP	P	20 18 57.4 +2.5
VLX	Vlachokerasia	83.82	53	P	P	20 18 57.7 +2.8
AXAR	Agios Charalam	83.83	52	P	P	20 18 56.8 +2.0
AXAR	Agios Charalam	83.83	52	P	P	20 18 56.8 +2.0
DYR	Agios Nikonas	83.88	54	P	P	20 18 57.2 +2.1
DYR	Agios Nikonas	83.88	54	eP	P	20 18 57.2 +2.1
HORT	Hortiatis	83.89	50	P	P	20 18 56.9 +1.7
HORT	Hortiatis	83.89	50	P	P	20 18 56.9 +1.7
IDID	Didziasalis	83.92	35	eP	P	20 18 55.1 +0.3
IDID				AMB	AMB	20 19 19.7
	comp=Z,47nm,1.9s					
MPEP	Malo Peshtene	83.93	47	P	P	20 18 57.6 +2.4
PUH	Pauahi	84.00	289	eP	P	20 18 55.4 -0.7
	comp=Z,413nm,0.9s					
NACGM	Naroch	84.01	35	eP	P	20 18 53.0 -2.4
SOH	Sokhos	84.04	50	P	P	20 18 57.0 +1.1
SOH	Sokhos	84.04	50	P	P	20 18 57.0 +1.1
SOH	Sokhos	84.04	50	eP	P	20 18 58.4 +2.5
SOH	Sokhos	84.04	50	P	P	20 18 57.0 +1.1
MEH	Mehetia	84.05	251	eP	P	20 18 57.3 +1.0
	comp=Z,810nm,1.3s					
LKR	Lokris	84.11	52	P	P	20 18 58.2 +2.0
LKR	Lokris	84.11	52	eP	P	20 18 57.9 +1.7
LKR	Lokris	84.11	52	P	P	20 18 58.2 +2.0
ACOR	Acrocorinthos	84.12	53	P	P	20 18 57.0 +0.6
XOR	Xorichti	84.14	51	P	P	20 18 55.7 -0.7
XOR	Xorichti	84.14	51	P	P	20 18 55.7 -0.7
SRS	Serrai	84.17	49	P	P	20 18 58.3 +1.8
SRS	Serrai	84.17	49	P	P	20 18 58.3 +1.8
SRS	Serrai	84.17	49	P	P	20 18 58.3 +1.8
NEO	Neokhori	84.18	51	P	P	20 18 57.8 +1.2
NEO	Neokhori	84.18	51	eP	P	20 18 57.8 +1.2
NEO	Neokhori	84.18	51	P	P	20 18 57.8 +1.2
LTK	Loutraki	84.18	53	P	P	20 18 57.3 +0.7
LTK	Loutraki	84.18	53	eP	P	20 18 57.7 +1.1
LTK	Loutraki	84.18	53	P	P	20 18 57.3 +0.7
PLG	Polygyros	84.18	50	P	P	20 18 58.0 +1.4
PLG	Polygyros	84.18	50	P	P	20 18 58.0 +1.4
PLG	Polygyros	84.18	50	eP	P	20 18 58.7 +2.1
PLG	Polygyros	84.18	50	P	P	20 18 58.0 +1.4
MMB	Musomiste	84.20	49	iP	P	20 18 59.3 +2.6
ARR	Arges	84.25	45	⇓iP	P	20 18 58.8 +1.9
BUR08	Bucovina Ar. S	84.26	43	eP	P	20 18 57.0 +0.1
BUR04	Bucovina Ar. S	84.27	43	eP	P	20 18 57.7 +0.7
BUR04				eP'P'df	P'P'df	20 45 20.6 +2.6
BURAR	Bucovina Array	84.28	43	⇑P	P	20 18 56.7 -0.3
BURAR	Bucovina Array	84.28	43	⇑iP	P	20 18 56.7 -0.3
NVR	Nevrokopi	84.34	49	P	P	20 18 57.4 0.0
NVR	Nevrokopi	84.34	49	eP	P	20 18 57.2 -0.2
NVR	Nevrokopi	84.34	49	P	P	20 18 57.4 0.0
VLI	Veliai	84.36	54	P	P	20 19 00.0 +2.4
VLI	Veliai	84.36	54	eP	P	20 18 59.7 +2.1
VLI	Veliai	84.36	54	P	P	20 19 00.0 +2.4
PGB	Panagyurishte	84.37	48	P	P	20 19 00.0 +2.4
PAIG	Paliouri	84.43	51	P	P	20 18 59.2 +1.4
PAIG	Paliouri	84.43	51	P	P	20 18 59.2 +1.4
PAIG	Paliouri	84.43	51	eP	P	20 18 59.3 +1.4
PAIG	Paliouri	84.43	51	P	P	20 18 59.2 +1.4
TNA	Tin City	84.44	336	eP	P	20 18 56.9 -0.4
	comp=Z,286nm,1.4s					
APA	Apatity	84.46	22	⇓iP	P	20 18 58.0 +0.6
APA				i		20 22 12.0
APA				iS	S	20 29 22.0 -0.6
APA				pmax	pmax	
	comp=Z,392nm,1.8s					
DIDY	Didyma	84.46	53	P	P	20 18 58.7 +0.5
DID	Didima	84.47	53	P	P	20 18 59.5 +1.3
DID	Didima	84.47	53	eP	P	20 19 00.1 +1.9
DID	Didima	84.47	53	P	P	20 18 59.5 +1.3
VOIR		84.52	45	⇑P	P	20 18 59.7 +1.4
VOIR		84.52	45	⇑iP	P	20 18 59.7 +1.4
MRKA	Markates	84.55	52	P	P	20 18 55.7 -2.8
MTUR	Matau	84.57	45	⇑P	P	20 19 01.2 +2.6
MTUR	Matau	84.57	45	⇑iP	P	20 19 01.2 +2.6
OUR	Ouranopolis	84.59	50	P	P	20 18 58.7 +0.1
OUR	Ouranopolis	84.59	50	P	P	20 18 58.7 +0.1
OUR	Ouranopolis	84.59	50	P	P	20 18 58.7 +0.1
NAIG	Nisos Aigina	84.63	53	eP	P	20 19 00.2 +1.3
MNK	Minsk	84.68	36	⇑eP	P	20 18 58.0 -0.8
MNK				e		20 19 14.0
MNK				e		20 22 18.0
MNK				eS	S	20 29 20.0 -5.3
MNK				ePS	PnS	20 30 18.0 -2.7
MNK				pmax	pmax	
	comp=Z,540nm,1.5s					
MNK				pmax	pmax	
	comp=E,730nm,1.5s					
MNK				pmax	pmax	
	comp=N,250nm,1.5s					
MNK				pmax	pmax	
	comp=Z,4μm,4.0s					
MNK				smax	smax	
	comp=E,11μm,16.0s					
MNK				smax	smax	
	comp=E,13μm,10.0s					
MNK				MLR	MLR	
	comp=E,45μm,20.0s					
MNK				MLR	MLR	
	comp=E,18μm,18.0s					
MNK				MLR	MLR	
	comp=Z,59μm,20.0s					
MNK				MLR	MLR	
	comp=Z,71μm,20.0s					
MNK				MLR	MLR	
	comp=N,25μm,18.0s					
MICGM	Minsk	84.71	36	⇑eP	P	20 18 58.0 -0.9
JOF	Joensuu	84.71	27	eP	P	20 18 59.5 +0.7
JOF				pmax	pmax	
	comp=Z,32nm,0.6s					
JOF	Joensuu	84.71	27	ep	P	20 18 59.5 +0.7
	comp=Z,32nm,0.6s					
ATH	Athens Observa	84.77	52	P	P	20 19 00.7 +1.1
ATH	Athens Observa	84.77	52	P	P	20 19 00.7 +1.1
ATH	Athens Observa	84.77	52	eP	P	20 19 02.3 +2.7
ATH	Athens Observa	84.77	52	P	P	20 19 00.7 +1.1
ANKY	Antikythira Is	84.79	55	eP	P	20 18 52.5 -7.2
ATHU	Athens Univers	84.83	52	P	P	20 19 00.9 +1.0
ATHU	Athens Univers	84.83	52	P	P	20 19 00.9 +1.0
LVZ	Lovozero	84.83	22	eP	P	20 19 00.2 +0.9
LVZ				pmax	pmax	
	comp=Z,84nm,1.7s					
LVZ	Lovozero	84.83	22	P	P	20 18 59.0 -0.3
	comp=Z,846nm,0.8s,SNR=14					
PLD	Plovdiv	84.83	48	P	P	20 19 01.3 +1.5
PLD	Plovdiv	84.83	48	P	P	20 19 01.3 +1.5
PLD	Plovdiv	84.83	48	P	P	20 19 01.3 +1.5
PLD	Plovdiv	84.83	48	P	P	20 19 02.2 +2.4
PTL	Penteli	84.88	52	P	P	20 19 01.5 +1.3
PTL	Penteli	84.88	52	eP	P	20 19 02.2 +2.0
PTL	Penteli	84.88	52	P	P	20 19 01.5 +1.3
KAVA	Kavala	84.88	49	P	P	20 18 56.7 -3.4
KAVA	Kavala	84.88	49	P	P	20 18 56.7 -3.4
RZN	Rozhen	84.92	49	P	P	20 19 02.5 +2.0
PRAR	RASCA	85.00	43	⇓iP	P	20 19 01.3 +0.7
TVO	Taravao	85.13	251	eP	P	20 19 02.8 +1.0
	comp=Z,564nm,1.3s					
MLR	Muntele Rosu	85.14	45	⇓iP	P	20 19 01.7 +0.2
TIAR	Tiarei	85.17	251	eP	P	20 19 02.7 +0.8
	comp=Z,185nm,1.0s					
KARN	Karanos	85.36	55	P	P	20 19 02.1 -0.5
KARN	Karanos	85.36	55	eP	P	20 19 04.8 +2.2
KARN	Karanos	85.36	55	P	P	20 19 02.1 -0.5
PPT	Papeete	85.38	251	P	P	20 19 03.7 +0.7
PPT	Papeete	85.38	251	P	P	20 19 03.7 +0.7
	comp=Z,72nm,1.0s,baz=127,slow=10,SNR=4.2					
PPT				LR	LR	20 51 26.2
	comp=Z,8μm,18.3s,baz=75,slow=32					
PPT2	Papeete2	85.39	251	eP	P	20 19 04.3 +1.2
	comp=Z,319nm,1.4s					
PPT2	Papeete2	85.39	251	eS	S	20 29 34.0 +0.3
	comp=Z,4μm,24.2s					
PPT2	Papeete2	85.39	251	eLQ	LQ	20 42 22.6
	comp=Z,45μm,33.0s					
PPT2				eLR	LR	20 45 58.0
	comp=Z,28μm,28.0s,baz=76					
PAE	Paea	85.41	251	eP	P	20 19 04.0 +0.9
	comp=Z,173nm,1.3s					
TESR	Tescani	85.43	44	⇑iP	P	20 19 04.1 +1.3
KDZ	Kurdzhali	85.44	49	P	P	20 19 04.4 +1.5
SZH	Strazhica	85.53	47	P	P	20 19 05.3 +2.0
PLOR	Plostina	85.56	44	⇓P	P	20 19 06.2 +2.8
PLOR	Plostina	85.56	44	⇓iP	P	20 19 06.2 +2.8
LIA	Limnos Island	85.57	50	P	P	20 19 04.7 +1.1
LIA	Limnos Island	85.57	50	eP	P	20 19 04.1 +0.6
LIA	Limnos Island	85.57	50	P	P	20 19 04.7 +1.1
VAM	Vamos	85.59	55	P	P	20 19 05.5 +1.8
VAM	Vamos	85.59	55	P	P	20 19 05.5 +1.8
VAM	Vamos	85.59	55	eP	P	20 19 04.3 +0.6
VAM	Vamos	85.59	55	P	P	20 19 05.5 +1.8
GVD	Gavdhos	85.59	56	P	P	20 19 05.7 +1.9
GVD	Gavdhos	85.59	56	eP	P	20 19 05.4 +1.6
GVD	Gavdhos	85.59	56	P	P	20 19 05.7 +1.9
VRI	Vrincioaia	85.61	44	⇑P	P	20 19 06.5 +2.9
VRI	Vrincioaia	85.61	44	⇑iP	P	20 19 06.5 +2.9
RDO	Rodhopi	85.62	49	P	P	20 19 05.4 +1.7
RDO	Rodhopi	85.62	49	eP	P	20 19 05.5 +1.7
RDO	Rodhopi	85.62	49	P	P	20 19 05.4 +1.7
ISR	Istrita	85.62	45	⇓P	P	20 19 03.3 -0.5
ISR	Istrita	85.62	45	⇓iP	P	20 19 03.3 -0.5
SMTH	Samothraki Isl	85.73	50	eP	P	20 19 05.1 +0.7
AKUT	Akutan	85.97	324	eP	P	20 19 06.6 +1.4
	comp=Z,234nm,1.5s					
SIVA	Sivas	86.15	55	eP	P	20 19 10.3 +3.8
IDI	Anoyia	86.16	55	P	P	20 19 08.5 +1.8
IDI	Anoyia	86.16	55	eP	P	20 19 08.5 +1.8
IDI	Anoyia	86.16	55	P	P	20 19 08.5 +1.8
BOZC	Bozcaada	86.24	50	iP	P	20 19 08.1 +1.2
KIP	Kipapa	86.25	291	PFAKE		20 19 20.0 +13
KIP				LR	LR	
	comp=Z,11μm,20.0s					
KIEV	Kiev	86.27	39	eP	P	20 19 07.5 +0.8
KIEV				eS	S	20 29 43.0 +1.9
KIEV				MLR	MLR	
	comp=Z,22μm,20.0s					
KIEV	Kiev	86.27	39	eP	P	20 19 07.5 +0.8
KIEV				eS	S	20 29 43.0 +1.9
KIEV				LR	LR	
	comp=Z,22μm,20.0s					
AKASG	Malin Array Be	86.28	39	P	P	20 19 07.1 +0.3
AKASG	Malin Array Be	86.28	39	P	P	20 19 07.1 +0.3
AKASG				PKKPbc	PKKPbc	20 37 05.0 -1.3
AKASG	Malin Array Be	86.28	39	P	P	20 19 07.1 +0.3
	comp=Z,12nm,0.9s,baz=297,slow=4.1,SNR=24					
AKASG				PKKPbc	PKKPbc	20 37 05.0 -1.3
	comp=Z,1.9nm,0.6s,baz=83,slow=2.9,SNR=4.5					
AKASG				LR	LR	20 57 02.0
	comp=Z,18μm,19.1s,baz=295,slow=35					
APE	Apeiranthos	86.35	53	P	P	20 19 08.1 +0.5
APE	Apeiranthos	86.35	53	⇑P	P	20 19 06.6 -1.0
APE	Apeiranthos	86.35	53	P	P	20 19 08.1 +0.5
APE	Apeiranthos	86.35	53	⇑iP	P	20 19 06.6 -1.0
EDRB	Edirne	86.38	48	P	P	20 19 09.2 +1.7
EDRB	Edirne	86.38	48	P	P	20 19 09.2 +1.7
SANT	Santorini	86.42	54	PFAKE		20 19 20.0 +12
SANT				LR	LR	
	comp=Z,7μm,21.0s					
CHOS	Chios island	86.52	52	P	P	20 19 10.7 +2.3
CHOS	Chios island	86.52	52	eP	P	20 19 10.7 +2.3
CHOS	Chios island	86.52	52	P	P	20 19 10.7 +2.3
PRK	Paraskevi	86.52	51	P	P	20 19 09.6 +1.3
PRK	Paraskevi	86.52	51	P	P	20 19 09.6 +1.3
PRK	Paraskevi	86.52	51	eP	P	20 19 09.3 +1.0
PRK	Paraskevi	86.52	51	P	P	20 19 09.6 +1.3
TBI	Tubuai	86.56	246	eP	P	20 19 09.8 +1.1
	comp=Z,494nm,1.5s					
TBI	Tubuai	86.56	246	eS	S	20 29 42.9 -2.0
	comp=Z,5μm,31.2s					
TBI				eS	SKKSac	20 29 46.2 +3.3
	comp=Z,4μm,25.2s					
TBI	Tubuai	86.56	246	eLQ	LQ	20 42 50.0
	comp=Z,31μm,36.2s					
TBI				eLR	LR	20 46 25.5
	comp=Z,22μm,24.2s,baz=67					
PRD	Provadia	86.59	47	P	P	20 19 10.8 +2.3
LAST	Lasithi	86.66	55	P	P	20 19 11.2 +2.0
LAST	Lasithi	86.66	55	eP	P	20 19 10.8 +1.6
LAST	Lasithi	86.66	55	P	P	20 19 11.2 +2.0
CFR	Carcaliu	86.71	45	⇑P	P	20 19 08.7 -0.4
CFR	Carcaliu	86.71	45	⇑iP	P	20 19 08.7 -0.4
NPS	Neapolis	86.75	55	P	P	20 19 11.1 +1.6
NPS	Neapolis	86.75	55	P	P	20 19 11.1 +1.6
NPS	Neapolis	86.75	55	eP	P	20 19 12.2 +2.7
NPS	Neapolis	86.75	55	P	P	20 19 11.1 +1.6
TLB	Topalu	86.77	45	⇓P	P	20 19 10.0 +0.7
TLB	Topalu	86.77	45	⇓iP	P	20 19 10.0 +0.7
KIS	Kishinev	86.80	43	⇑iP	P	20 19 10.0 +0.5
	comp=Z,400nm,2.0s					
KIS	Kishinev	86.80	43	αiP	P	20 19 10.0 +0.5
KIS				e		20 22 34.0
KIS				e		20 29 30.0
KIS				iS	S	20 29 46.0 -0.4
KIS				iPS	PnS	20 30 42.0 -4.6
KIS				pmax	pmax	
	comp=Z,400nm,2.0s					
KIS				pmax	pmax	
	comp=Z,2μm,12.0s					
KIS				MLR	MLR	
	comp=N,7μm,18.0s					
KIS				MLR	MLR	
	comp=E,8μm,18.0s					
KIS				MLR	MLR	
	comp=Z,6μm,18.0s					
KIS				MLR	MLR	
	comp=Z,7μm,20.0s					
AYVA	Ayvalik	86.83	51	iP	P	20 19 11.6 +1.9
PSN	Preselentsi	87.05	46	P	P	20 19 13.5 +2.7
TIRR	Tirgusor	87.05	45	⇓P	P	20 19 12.6 +1.9
TIRR	Tirgusor	87.05	45	eP	P	20 19 12.7 +1.9
	comp=Z,314nm,1.7s					
TIRR	Tirgusor	87.05	45	⇓iP	P	20 19 12.6 +1.9
SMG	Samos	87.25	52	P	P	20 19 12.9 +1.0
SMG	Samos	87.25	52	P	P	20 19 12.9 +1.0
TMCR	Tamitsa	87.26	25	eP	P	20 19 12.9 +1.6
TMCR				pmax	pmax	
	comp=Z,146nm,1.4s					
BALY	Balya	87.44	50	iP	P	20 19 13.3 +0.4
GCAM	G?zelcaml?	87.56	52	iP	P	20 19 13.9 +0.6
AKHS	Akhisar	87.77	51	iP	P	20 19 15.7 +1.3
KARP	Karpathos	87.94	54	P	P	20 19 14.9 -0.4
KARP	Karpathos	87.94	54	eP	P	20 19 15.7 +0.4
KARP	Karpathos	87.94	54	P	P	20 19 14.9 -0.4
AYDN	Tasoluk	88.07	52	iP	P	20 19 17.3 +1.4
DURS	Dursunbey	88.12	50	iP	P	20 19 15.3 -0.8
ISK	Istanbul-Kandi	88.24	49	P	P	20 19 17.1 +0.6
ISK	Istanbul-Kandi	88.24	49	P	P	20 19 17.1 +0.6
ISK	Istanbul-Kandi	88.24	49	P	P	20 19 17.1 +0.6
BUY	Buyukada	88.33	49	iP	P	20 19 17.2 +0.2
DEMI	Demirci	88.42	51	iP	P	20 19 18.6 +1.1
KULA	Kula-Manisa	88.49	51	P	P	20 19 19.2 +1.3
KULA	Kula-Manisa	88.49	51	P	P	20 19 19.2 +1.3
ARG	Arkhangelos	88.56	54	P	P	20 19 18.9 +0.7
ARG	Arkhangelos	88.56	54	P	P	20 19 18.9 +0.7
ARG	Arkhangelos	88.56	54	eP	P	20 19 18.2 0.0
ARG	Arkhangelos	88.56	54	P	P	20 19 18.9 +0.7
DNZL	Cakiroluk	88.97	52	iP	P	20 19 21.5 +1.2
GDZ	Gediz	88.99	51	iP	P	20 19 21.4 +1.1
KLMR	Klimovskoe	89.03	28	diP	P	20 19 20.8 +1.0
KLMR				S	SKSac	20 29 49.8 +1.4
KLMR				pmax	pmax	
	comp=Z,328nm,1.7s					
KLMR				pmax	pmax	
	comp=Z,2μm,4.0s					
KLMR				MLR	MLR	
	comp=Z,20μm,20.0s					
KHAL	Karahalli	89.16	51	iP	P	20 19 21.3 +0.3
XMAS	Kiritimati	89.17	272	P	P	20 19 24.0 +2.6
	comp=Z,46nm,0.9s					
OBN	Obninsk	89.43	34	eP	P	20 19 20.2 -1.6
OBN				e		20 22 55.3
OBN				iS	SKSac	20 29 48.9 -2.0
OBN				iSS	SS	20 36 11.4 +5.7
OBN				pmax	pmax	
	comp=Z,26nm,1.2s					
OBN				MLR	MLR	
	comp=Z,16μm,18.0s					
OBN	Obninsk	89.43	34	P	P	20 19 23.6 +1.8
	comp=Z,459nm,1.8s,SNR=6.2					
GOLH	Golhisar	89.47	52	iP	P	20 19 24.5 +1.9
BORA	Eskisehir	89.55	50	iP	P	20 19 23.6 +0.8
AKAS	Kas	89.73	53	iP	P	20 19 22.4 -1.4
MOS	Moscow	89.80	33	eP	P	20 19 23.6 +0.1
MOS				e		20 23 00.6
MOS				eS	SKSac	20 29 50.6 -2.5
MOS				e		20 30 11.5
MOS				pmax	pmax	
	comp=Z,166nm,1.6s					
MOS				pmax	pmax	
	comp=Z,300nm,2.0s					
SEYT	Eskypehyr	89.93	50	iP	P	20 19 24.2 -0.4
ISP	Isparta	90.08	52	P	P	20 19 26.9 +1.5
ISP	Isparta	90.08	52	⇑eP	P	20 19 26.6 +1.2
ISP				MLR	MLR	
	comp=Z,8μm,22.0s					
ISP	Isparta	90.08	52	⇑eP	P	20 19 26.6 +1.2
ISP				LR	LR	
	comp=Z,8μm,22.0s					
KORT	Korkueli	90.14	52	iP	P	20 19 27.2 +1.4
BOLV	Bolvadin	90.19	51	iP	P	20 19 27.5 +1.6
VNA1	Neumayer--Stat	90.50	163	ePS	PS	20 31 38.5 +8.8
VNA1	Neumayer--Stat	90.50	163	eS	S	20 30 29.8 +10
VNA1	Neumayer--Stat	90.50	163	eP	P	20 19 27.8 +1.5
VNA1	Neumayer--Stat	90.50	163	epP	pP	20 19 31.6 -1.3
VNA1	Neumayer--Stat	90.50	163	esP	sP	20 19 34.0 -1.2
VNA1	Neumayer--Stat	90.50	163	ePKiKP	PKiKP	20 24 20.7 -0.2
SGKT	Sivrigoynuk	90.57	49	iP	P	20 19 28.5 +0.7
SIM	Simferopol'	90.88	44	ceP	P	20 19 31.2 +2.4
SIM				S	SKSac	20 29 57.3 -2.6
SIM				pmax	pmax	
	comp=Z,670nm,10.8s					
SIM				MLR	MLR	
	comp=Z,5μm,20.0s					
VNA2	Neumayer--Watz	90.89	163	ePS	PS	20 31 35.9 +1.8
VNA2	Neumayer--Watz	90.89	163	eS	S	20 30 23.0 -0.8
VNA2	Neumayer--Watz	90.89	163	eP	P	20 19 28.5 +0.3
VNA2	Neumayer--Watz	90.89	163	epP	P	20 19 31.5 +3.3
VNA2	Neumayer--Watz	90.89	163	esP	sP	20 19 34.1 -3.0
VNA2	Neumayer--Watz	90.89	163	ePKiKP	PKiKP	20 24 19.6 -2.0
KDHN	Kadinhani	91.13	51	iP	P	20 19 30.9 +0.7
BR231	Keskin MP Arra	91.29	49	eP	P	20 19 32.6 +1.6
ANTO	Ankara

VORD				smax	smax		
	comp=Z,720nm,6.1s						
VORD				smax	smax		
	comp=E,800nm,6.4s						
CDAG	**Cicekdag**	**92.53**	**49**	*i* P	**P**	**20 19 37.7**	**+0.9**
SNAA	**Sanae**	**92.53**	**163**	*e*S	**S**	**20 30 40.5**	**+1.7**
SNAA	**Sanae**	**92.53**	**163**	*e*P	**P**	**20 19 36.0**	**+0.1**
SNAA	**Sanae**	**92.53**	**163**	*e*pP	P	20 19 39.1	+3.2
SNAA	**Sanae**	**92.53**	**163**	*e*sP	sP	20 19 43.4	-1.4
SNAA	**Sanae**	**92.53**	**163**	*e*P	**P**	**20 19 34.3**	**-1.6**
	comp=E,59nm,1.1s						
CTKT	**Corum**	**92.56**	**48**	*i* P	**P**	**20 19 39.1**	**+2.1**
ADK	**Adak**	**92.93**	**324**	PFAKE		20 19 50.0	+12
ADK				LR	LR		
	comp=Z,20μm,20.0s						
CSS	**Prodhromos**	**92.98**	**54**	P	**P**	**20 19 39.8**	**+1.0**
CSS	**Prodhromos**	**92.98**	**54**	P	**P**	**20 19 39.8**	**+1.0**
CSS				LR	LR		
	comp=Z,2μm,22.0s						
ANN	**Anapa**	**93.18**	**43**	*e*P	**P**	**20 19 36.5**	**-2.9**
ANN				*e*PPP	PPP	20 25 19.5	
ANN				*i* S	**SKSac**	**20 30 10.1**	**-2.7**
ANN				pmax	pmax		
	comp=Z,96nm,1.7s						
VRHR	**Novokhopersk**	**93.66**	**37**	*e*P	**P**	**20 19 43.1**	**+1.6**
VRHR				*e**SP	sP	20 19 56.9	+6.5
VRHR				*e*		20 30 12.7	
VRHR				*e*S	**S**	**20 30 48.9**	**-0.7**
VRHR				pmax	pmax		
	comp=Z,100nm,1.6s						
VRHR				pmax	pmax		
	comp=N,20nm,1.0s						
VRHR				pmax	pmax		
	comp=E,30nm,0.8s						
VRHR				smax	smax		
	comp=E,910nm,5.8s						
VRHR				smax	smax		
	comp=Z,720nm,5.1s						
VRHR				smax	smax		
	comp=N,150nm,3.5s						
ERBA	**Erbaa**	**93.97**	**48**	*i* P	**P**	**20 19 44.7**	**+1.4**
SUR	**Sutherland**	**94.59**	**122**	*e*P	**P**	**20 19 46.0**	**-0.4**
	comp=N,5.6nm,0.9s						
SUR				LR	LR		
	comp=Z,17μm,21.0s						
ANDN	**Andirin**	**94.59**	**51**	*i* P	**P**	**20 19 47.6**	**+1.3**
AYKD	**Aykdinkavak**	**95.00**	**51**	*i* P	**P**	**20 19 49.0**	**+0.9**
SOC	**Sochi**	**95.13**	**44**	*e*P	**P**	**20 19 46.6**	**-1.8**
SOC				*e*		20 23 38.4	
SOC				*e*S	**SKSac**	**20 30 22.1**	**-1.3**
SOC				*e*		20 31 00.6	
SOC				pmax	pmax		
	comp=Z,13nm,0.5s						
SOC				MLR	MLR		
	comp=Z,6μm,21.0s						
MMAI	**Mount Meron Ar**	**95.16**	**55**	LR	LR	20 59 39.5	
	comp=Z,2μm,21.6s,baz=295,slow=34						
AKCD	**Akcadag**	**95.57**	**50**	*i* P	**P**	**20 19 52.5**	**+1.7**
KEMA	**Kemaliye**	**95.68**	**48**	*i* P	**P**	**20 19 52.5**	**+1.3**
EIL	**Elat**	**95.71**	**59**	LR	LR	21 06 41.6	
	comp=Z,19μm,19.4s,baz=278,slow=38						
MALT	**Malatya**	**95.94**	**49**	⇑P	**P**	**20 19 53.8**	**+1.4**
MALT	**Malatya**	**95.94**	**49**	⇑*i*P	**P**	**20 19 53.8**	**+1.4**
KELT	**Kelkit**	**95.95**	**47**	*i* P	**P**	**20 19 54.0**	**+1.5**
KIV	**Kislovodsk**	**97.00**	**43**	*e*P	**P**	**20 19 57.6**	**+0.5**
KIV				*i*		20 20 07.7	
KIV				*e*		20 23 53.6	
KIV				*i* S	**SKSac**	**20 30 33.4**	**-0.1**
KIV				pmax	pmax		
	comp=Z,16nm,1.6s						
TIXI	**Tiksi**	**97.06**	**355**	*e*P	**P**	**20 19 55.9**	**-0.7**
TIXI				pmax	pmax		
	comp=Z,14nm,1.4s						
TIXI				MLR	MLR		
	comp=Z,15μm,24.0s						
SOKR	**Solikamsk**	**97.21**	**25**	*e*P	Pdif	20 19 57.9	+0.3
SOKR						20 23 58.9	
SOKR				S	**SKSac**	**20 30 32.0**	**-1.6**
SOKR				pmax	pmax		
	comp=Z,30nm,2.1s						
SOKR				MLR	MLR		
	comp=Z,20μm,23.0s						
KBZ	**Khabaz**	**97.23**	**43**	P	**P**	**20 19 57.7**	**-0.3**
KBZ	**Khabaz**	**97.23**	**43**	P	**P**	**20 19 57.7**	**-0.3**
KBZ	**Khabaz**	**97.23**	**43**	P	**P**	**20 19 57.7**	**-0.3**
	comp=Z,7.5nm,1.1s,baz=264,slow=6.3,SNR=13						
KBZ				LR	LR	20 59 49.1	
	comp=Z,4μm,21.2s,baz=304,slow=33						
BOSA	**Boshof**	**97.80**	**118**	P	**P**	**20 19 59.5**	**-1.5**
BOSA	**Boshof**	**97.80**	**118**	P	**P**	**20 19 59.5**	**-1.5**
	comp=Z,5.9nm,0.9s,baz=283,slow=3.9,SNR=7.8						
BOSA				LR	LR	21 01 38.9	
	comp=Z,17μm,19.4s,baz=281,slow=34						
ZEI	**Tsey**	**98.27**	**44**	*e*P	Pdif	20 20 04.9	+1.9
ZEI				pmax	pmax		
	comp=Z,31nm,1.9s						
LSZ	**Lusaka**	**98.58**	**104**	*e*P	**P**	**20 20 04.0**	**-0.8**
	comp=Z,20nm,1.4s						
LSZ	**Lusaka**	**98.58**	**104**	LR	LR	20 58 50.8	
	comp=Z,5μm,20.6s,baz=290,slow=32						
MBAR	**Mbarara**	**98.61**	**89**	PFAKE		20 20 20.0	+15
MBAR				LR	LR		
	comp=Z,974nm,21.0s						
ARU	**Arti**	**99.84**	**27**	P	**Pdif**	**20 20 07.8**	**-1.6**
ARU						20 24 12.4	
ARU				S	**SKSac**	**20 30 46.5**	**-0.6**
ARU				SP	**SP**	**20 33 04.0**	**-5.3**
ARU				PS	**PS**	**20 33 16.7**	**+4.3**
ARU				SSS	SSS	20 42 23.6	
GNI	**Garni**	**99.88**	**46**	*e*Pdif	**Pdif**	**20 20 13.4**	**+3.3**
	comp=Z,29nm,1.3s						
GNI				LR	LR		
	comp=Z,8μm,20.0s						
SVE	**Sverdlovsk**	**100.51**	**26**	*e*P	**Pdif**	**20 20 14.5**	**+2.1**
SVE				*e*		20 24 16.0	
SVE				*e*S	**SKSac**	**20 30 48.1**	**-2.2**
SVE				pmax	pmax		
	comp=Z,18nm,1.2s						
SVE				MLR	MLR		
	comp=Z,14μm,21.0s						
MAK	**Makhachkala**	**100.62**	**42**	*e*P	**Pdif**	**20 20 09.9**	**-3.2**
MAK				*e*		20 24 20.0	
MAK				*e*S	**SKSac**	**20 30 48.9**	**-2.5**
MAK				*e*SSS	SSS	20 42 41.8	
MAK				pmax	pmax		
	comp=Z,92nm,1.9s						
MAK				MLR	MLR		
	comp=Z,14μm,17.0s						
QSPA	**South Pole Qui**	**100.71**	**180**	*e*Pdif	**Pdif**	**20 20 13.6**	**+0.6**
	comp=Z,26nm,1.1s						
QSPA				*e*PP	**PP**	**20 24 18.5**	**-1.9**
ISHB	**Shabestar**	**101.23**	**47**	*e*P	**SKSac**	**20 30 50.8**	**-4.4**
MIDW	**Midway**	**101.65**	**302**	PFAKE		20 20 30.0	+12
MIDW				LR	LR		
	comp=Z,8μm,20.0s						
AKTO	**Aktyubinsk**	**103.11**	**32**	PKKPbc	PKKPbc	20 36 18.8	-2.9
AKTO	**Aktyubinsk**	**103.11**	**32**	PKKPbc	PKKPbc	20 36 18.8	-2.9
	comp=Z,2.7nm,0.7s,baz=96,slow=1.2,SNR=4.4						
IDHR	**Dehrash**	**103.21**	**50**	*e*P	**SKSac**	**20 31 01.3**	**-3.3**
IGHG	**Ghaleghazi**	**103.49**	**51**	*e*P	**SKSac**	**20 31 01.6**	**-4.4**
IVIS	**Veis**	**103.63**	**50**	*e*P	**SKSac**	**20 31 05.0**	**-1.4**
IKOM	**Komasi**	**104.27**	**51**	*e*P	SKSac	20 31 00.3	-9.2
ABKAR	**Akbulak array**	**104.81**	**32**	*e*Pdif	**Pdif**	**20 20 32.1**	**+0.5**
KMBO	**Kilima Mbogo**	**105.11**	**88**	PFAKE		20 25 00.0	
KMBO				LR	LR		
	comp=Z,14μm,22.0s						
PET	**Petropavlovsk**	**105.12**	**333**	*c*e*P	**Pdif**	**20 20 41.0**	**+8.1**
PET				*e*		20 24 58.0	
PET				*e*		20 31 57.6	
PET				*e*S	**Sdif**	**20 32 19.1**	**-7.5**
PET				*e*PS	**PS**	**20 34 01.8**	**-6.4**
PET				*e*PPS	PPS	20 34 58.6	
PET				*e*SS	**SS**	**20 39 48.3**	**+1.8**
PET				pmax	pmax		
	comp=Z,400nm,15.4s						
PET				pmax	pmax		
	comp=Z,2μm,14.3s						
PET				pmax	pmax		
	comp=Z,2μm,9.0s						
PET				MLR	MLR		
	comp=Z,18μm,21.0s						
PETK	**Petropavlovsk-**	**105.49**	**333**	PP	PP	20 24 57.7	+1.8
PETK	**Petropavlovsk-**	**105.49**	**333**	PP	PP	20 24 57.7	+1.8
	comp=Z,2.7nm,0.8s,baz=123,slow=5.3,SNR=3.3						
AFI	**Afiamalu**	**105.83**	**259**	PFAKE		20 25 00.0	
AFI				LR	LR		
	comp=Z,5μm,20.0s						
YAK	**Yakutsk**	**106.19**	**351**	*i* P	**Pdif**	**20 20 39.5**	**+2.0**
YAK				*e*		20 25 03.7	
YAK				*e*		20 31 20.0	
YAK				*e*		20 32 01.3	
YAK				*e*SP	SP	20 34 16.3	+0.7
YAK				*e*PS	**PS**	**20 34 22.3**	**+3.5**
YAK				*e*SS	SS	20 40 10.0	+10
YAK				pmax	pmax		
	comp=Z,9.0nm,1.6s						
YAK				pmax	pmax		
	comp=Z,1μm,4.0s						
YAK				pmax	pmax		
	comp=E,194nm,3.0s						
YAK				pmax	pmax		
	comp=N,437nm,2.4s						
SYO	**Syowa Base**	**106.19**	**159**	||*e*PP	PP	20 25 01.0	-0.2
RAYN	**Ar Rayn**	**106.57**	**61**	*e*PP	PP	20 25 08.3	+3.1
BRVK	**Borovoye**	**107.15**	**25**	*e*PKKPbc	PKKPbc	20 36 08.3	-1.3
BRVK				LR	LR		
	comp=Z,14μm,19.0s						
BVAR	**Borovoye Array**	**107.22**	**25**	PKKPbc	PKKPbc	20 36 06.5	-2.9
BVAR	**Borovoye Array**	**107.22**	**25**	PKKPbc	PKKPbc	20 36 06.5	-2.9
	comp=Z,4.1nm,0.8s,baz=142,slow=4.4,SNR=10.0						
VNDA	**Vanda**	**108.57**	**190**	PKKP	**PKKPdf**	**20 36 19.5**	**-0.8**
	comp=Z,2.4nm,0.8s,baz=324,slow=5.1,SNR=5.8						
NVS	**Novosibirsk**	**110.32**	**17**	*e*P	**Pdif**	**20 20 56.9**	**+0.9**
NVS				*i*		20 25 36.0	
NVS				*e*		20 31 28.1	
NVS				pmax	pmax		
	comp=Z,9.0nm,1.8s						
ZAA0	**Zalesovo Array**	**111.55**	**17**	*e*PKPdf	**PKiKP**	**20 24 57.7**	**-1.6**
ZALV	**Zalesovo Beam**	**111.55**	**17**	PKIKP	**PKiKP**	**20 24 58.2**	**-1.2**
ZALV	**Zalesovo Beam**	**111.55**	**17**	PKiKP	**PKiKP**	**20 24 58.2**	**-1.2**
ZALV				PKKPbc	**PKKPbc**	**20 35 57.8**	**+2.3**
ZALV	**Zalesovo Beam**	**111.55**	**17**	PKiKP	**PKiKP**	**20 24 58.2**	**-1.2**
	comp=Z,2.5nm,0.7s,baz=325,slow=2.3,SNR=8.2						
ZALV				PKKPbc	**PKKPbc**	**20 35 57.8**	**+2.3**
	comp=Z,2.3nm,0.7s,baz=131,slow=4.4,SNR=3.6						
KURK	**Kurchatov**	**112.25**	**22**	PKKPbc	PKKPbc	20 35 50.7	-2.5
KURBB	**Kurchatov Arra**	**112.29**	**22**	PKKPbc	PKKPbc	20 35 50.7	-2.3
	comp=Z,3.5nm,0.8s,baz=149,slow=2.9,SNR=5.3						
FUNA	**Funafuti**	**113.91**	**265**	PFAKE		20 25 20.0	
FUNA				LR	LR		
	comp=Z,13μm,19.0s						
KKAR	**Karatay Array**	**114.37**	**32**	PKIKP	PKPdf	20 25 02.4	-2.7
KKAR	**Karatay Array**	**114.37**	**32**	P	PKPdf	20 25 02.4	-2.8
MSVF	**Nonsavu**	**115.94**	**255**	PFAKE		20 25 20.0	+11
MSVF				LR	LR		
	comp=Z,7μm,22.0s						
EKS2	**Erkin-Say**	**116.37**	**31**	PFAKE		20 25 20.0	+11
EKS2				LR	LR		
	comp=Z,17μm,21.0s						
YSS	**Yuzh-Sakhalins**	**116.39**	**337**	*i* PKIKP	**PKPdf**	**20 25 05.0**	**-3.8**
YSS				*e*		20 26 14.0	
YSS				*e*PPP	PPP	20 28 42.0	
YSS				*e*PS	**PKKPdf**	**20 36 02.0**	**-2.2**
BKZ	**Black Stump Fm**	**116.50**	**232**	*e*PKPdf	PKPdf	20 25 16.5	+7.2
AAK	**Ala-Archa**	**116.74**	**30**	*e*PKIKP	**PKPdf**	**20 25 10.8**	**+0.9**
AAK				MLR	MLR		
	comp=Z,13μm,20.0s						
AAK	**Ala-Archa**	**116.74**	**30**	*e*PKPdf	**PKPdf**	**20 25 10.8**	**+0.9**
AAK				PKKPbc	**PKKPbc**	**20 35 35.8**	**-1.9**
AAK				*e*PKKPbc	PKKPab	20 35 36.6	-5.6
AAK				LR	LR		
	comp=Z,13μm,20.0s						
AAK	**Ala-Archa**	**116.74**	**30**	PKKPbc	PKKPbc	20 35 35.8	-1.9
	comp=Z,4.5nm,0.8s,baz=75,slow=2.5,SNR=6.1						
MK31	**Makanchi Array**	**116.86**	**22**	*e*PKIKP	**PKPdf**	**20 25 08.0**	**-1.8**
MK31	**Makanchi Array**	**116.86**	**22**	*e*PKPdf	**PKPdf**	**20 25 08.0**	**-1.8**
MKAR	**Makanchi Array**	**116.86**	**22**	*e*PKIKP	**PKPdf**	**20 25 08.7**	**-1.1**
MKAR	**Makanchi Array**	**116.86**	**22**	*e*PKPdf	**PKPdf**	**20 25 08.7**	**-1.1**
MKAR				*e*PKKPbc	**PKKPbc**	**20 35 36.1**	**-1.3**
MKAR	**Makanchi Array**	**116.86**	**22**	PKP	**PKPdf**	**20 25 08.7**	**-1.1**
	comp=Z,0.8nm,0.5s,baz=296,slow=2.6,SNR=15						
MKAR				PKKPbc	**PKKPbc**	**20 35 36.0**	**-1.3**
	comp=Z,5.6nm,0.8s,baz=145,slow=4.4,SNR=14						
MK01	**Makanchi Array**	**116.88**	**23**	*e*PKPdf	**PKPdf**	**20 25 08.3**	**-1.5**
OPO	**Ambohidratompo**	**117.00**	**105**	PKKPbc	PKKPbc	20 35 47.4	+11
OPO	**Ambohidratompo**	**117.00**	**105**	PKKPbc	PKKPbc	20 35 47.4	+11
	comp=Z,6.4nm,0.9s,baz=86,slow=3.3,SNR=6.1						
ABPO	**Ambohimpanom**	**117.06**	**106**	PFAKE		20 25 20.0	+8.9
ABPO				LR	LR		
	comp=Z,14μm,20.0s						
TKM2	**Tokmak 2**	**117.07**	**29**	*e*PKKPab	PKKPab	20 35 38.5	-2.4
TKM2				LR	LR		
	comp=Z,16μm,21.0s						
TLY	**Talaya**	**117.43**	**6**	*e*P	**Pdif**	**20 21 33.0**	**+5.2**
TLY				*e*		20 26 22.3	
TLY				pmax	pmax		
	comp=Z,7.0nm,1.4s						
AAA	**Alma-Ata**	**117.44**	**28**	*i* PKIKP	PKPdf	20 25 27.4	+16
AAA				pmax	pmax		
	comp=Z,1μm,11.2s						
AAA				MLR	MLR		
	comp=Z,12μm,20.0s						
HABR	**Khabarovsk**	**117.66**	**343**	*i* PKIKP	**PKPdf**	**20 25 09.0**	**-2.2**
HABR				*e*		20 26 21.3	
HABR				*e*PPP	PPP	20 28 50.5	
HABR				*e*		20 35 58.4	
HABR				*e*SP	SP	20 36 05.9	+0.7
HABR				*e*SS	**SS**	**20 42 34.6**	**+1.4**
HABR				*e*SSS	SSS	20 46 55.7	
ZAK	**Zakamensk**	**118.68**	**6**	*e*PKIKP	PKPdf	20 25 19.4	+6.1
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.8s						
ZAK				pmax	pmax		
	comp=Z,14nm,1.7s						
KBL	**Kabul**	**119.25**	**40**	*e*PKIKP	**PKPdf**	**20 25 14.7**	**-0.4**
KBL	**Kabul**	**119.25**	**40**	*e*PKPdf	**PKPdf**	**20 25 14.7**	**-0.4**
RPZ	**Rata Peaks**	**119.64**	**226**	PKP	**PKPdf**	**20 25 14.8**	**-0.4**
RPZ				*e*PKPdf	PKiKP	20 25 21.8	+6.5
RPZ	**Rata Peaks**	**119.64**	**226**	PKP	**PKPdf**	**20 25 14.8**	**-0.4**
	comp=Z,8.0nm,1.0s,baz=190,slow=3.7,SNR=4.8						
KSH	**Kashi**	**119.81**	**32**	*e*PKP	**PKPdf**	**20 25 14.8**	**-1.0**
KSH				PP	**PP**	**20 26 41.4**	**+3.1**
KSH				PKS	**PKSdf**	**20 28 51.0**	**-1.7**
KSH				SKS	**SKSdf**	**20 32 26.5**	**-0.8**
KSH				SKKS	**SKKSac**	**20 33 33.8**	**-4.8**
KSH				SS	**SS**	**20 43 01.3**	**-0.8**
KSH				AMB	AMB		
	comp=Z,340nm,3.4s						
KSH				LR	LR		
	comp=N,9μm,20.6s						
KSH				LR	LR		
	comp=E,20μm,25.4s						
KSH				LR	LR		
	comp=Z,24μm,23.5s						
ERM	**Erimo**	**120.27**	**334**	PFAKE		20 25 30.0	+14
ERM				LR	LR		
	comp=Z,20μm,21.0s						
DRV	**Dumont d'Urvil**	**121.02**	**193**	PP	PP	20 26 31.0	-15
WMQ	**Urumqi**	**121.36**	**20**	PKP	**PKPdf**	**20 25 20.3**	**+1.7**
WMQ				PP	PP	20 26 55.1	+6.5
WMQ				PKS	**PKSdf**	**20 28 55.7**	**+0.4**
WMQ				SKS	**SKSdf**	**20 32 31.2**	**+1.3**
WMQ				SKKS	**SKKSac**	**20 33 47.1**	**-1.3**
WMQ				SS	**SS**	**20 43 26.5**	**+5.2**
WMQ				AMB	AMB		
	comp=Z,2μm,10.0s						
WMQ				LR	LR		
	comp=N,11μm,26.0s						
WMQ				LR	LR		
	comp=E,10μm,22.5s						
WMQ				LR	LR		
	comp=Z,12μm,20.0s						
SONA1	**Songino Array**	**121.48**	**4**	*e*PKPdf	**PKPdf**	**20 25 17.9**	**-1.0**
SONM	**Songino Array**	**121.49**	**4**	PKP	**PKPdf**	**20 25 17.3**	**-1.5**
SONM				PP	**PP**	**20 26 50.6**	**+1.4**
SONM				PKKPbc	**PKKPbc**	**20 35 17.8**	**-2.8**
SONM	**Songino Array**	**121.49**	**4**	PKP	**PKPdf**	**20 25 17.3**	**-1.5**
	comp=Z,1.8nm,0.6s,baz=281,slow=1.1,SNR=13						
SONM				PP	**PP**	**20 26 50.7**	**+1.4**
	comp=Z,2.7nm,0.9s,baz=353,slow=3.0,SNR=5.0						
SONM				PKKPbc	**PKKPbc**	**20 35 17.8**	**-2.8**
	comp=Z,0.7nm,1.0s,baz=166,slow=3.8,SNR=4.7						
ULN	**Ulaanbaatar**	**121.51**	**4**	*e*PKPdf	**PKPdf**	**20 25 17.5**	**-1.4**
ULN				*e*PP	**PP**	**20 26 45.3**	**-4.1**
ULN				*e*PP	PP	20 26 46.8	-2.7
ULN				*e*PKKP	**PKKPbc**	**20 35 18.9**	**-1.7**
USRK	**Ussuriysk Arra**	**122.43**	**343**	PKP	**PKPdf**	**20 25 19.9**	**-0.7**
	comp=Z,1.7nm,0.6s,baz=8.7,slow=1.9,SNR=5.3						
USRK				PP	**PP**	**20 26 58.3**	**+2.7**
	comp=Z,5.5nm,0.9s,baz=5.7,slow=4.3,SNR=6.2						
MDJ	**Mudanjiang**	**122.69**	**345**	PKP	**PKPdf**	**20 25 20.3**	**-0.7**
MDJ				SS	SS	20 43 36.5	-1.3
MDJ				AMB	AMB		
	comp=Z,990nm,13.0s						
MDJ				LR	LR		
	comp=N,7μm,28.9s						
MDJ				LR	LR		
	comp=E,13μm,26.6s						
MDJ				LR	LR		
	comp=Z,15μm,26.6s						
MIR	**Mirnyy**	**122.75**	**171**	*e*PKIKP	PKPdf	20 25 15.0	-5.4
MIR				pmax	pmax		
	comp=Z,50nm,2.0s						
MIR				MLR	MLR		
	comp=N,17μm,17.0s						
MIR				MLR	MLR		
	comp=E,17μm,17.0s						
MIR				MLR	MLR		
	comp=Z,32μm,17.0s						
MSEY	**Mahe Island**	**123.65**	**88**	PFAKE		20 25 30.0	+6.2
MSEY				LR	LR		
	comp=Z,9μm,19.0s						
CN2	**Changchun**	**124.40**	**348**	*e*PKP	**PKPdf**	**20 25 22.9**	**-1.4**
CN2				*e*PP	**PP**	**20 27 11.5**	**+2.7**
CN2				SKS	**SKSdf**	**20 32 33.6**	**-1.8**
CN2				SKKS	**SKKSac**	**20 34 03.6**	**-4.2**
CN2				SS	**SS**	**20 43 58.6**	**-0.7**
CN2				AMB	AMB		
	comp=Z,1μm,11.0s						
CN2				LR	LR		
	comp=N,10μm,19.0s						
CN2				LR	LR		
	comp=E,8μm,19.0s						
CN2				LR	LR		
	comp=Z,13μm,20.0s						
CASY	**Casey**	**124.50**	**179**	*e*PKPdf	**PKPdf**	**20 25 22.5**	**-1.2**
CASY				LR	LR		
	comp=Z,27μm,20.0s						
RER	**Riviere de l'E**	**125.08**	**108**	PFAKE		20 25 40.0	+14
RER				LR	LR		
	comp=Z,9μm,19.0s						
SNY	**Shenyang**	**126.66**	**349**	⇑PKP	**PKPdf**	**20 25 33.4**	**+4.7**
SNY				PP	**PP**	**20 27 24.1**	**+0.3**
SNY				AMB	AMB		
	comp=Z,2μm,11.7s						
SNY				LR	LR		
	comp=N,10μm,17.6s						
SNY				LR	LR		
	comp=E,9μm,19.6s						
SNY				LR	LR		
	comp=Z,14μm,20.1s						
DZM	**Mont Dzumac**	**126.89**	**250**	*e*SS	SS	20 44 31.9	-2.7
	comp=Z,7μm,29.2s						
DZM	**Mont Dzumac**	**126.89**	**250**	*e*LQ	LQ	20 59 52.3	
	comp=Z,19μm,35.4s						
DZM				*e*LR	LR	21 05 20.1	
	comp=Z,8μm,23.7s						
DZM	**Mont Dzumac**	**126.89**	**250**	PKP	**PKPdf**	**20 25 29.9**	**+0.1**
DZM	**Mont Dzumac**	**126.89**	**250**	PKP	**PKPdf**	**20 25 29.9**	**+0.1**
	comp=Z,9.8nm,0.8s,baz=124,slow=15,SNR=3.4						
MAJO	**Matsushiro**	**126.95**	**334**	*e*PKIKP	**PKPdf**	**20 25 28.7**	**-0.8**
MAJO				MLR	MLR		
	comp=Z,15μm,21.0s						
MAJO	**Matsushiro**	**126.95**	**334**	*e*PKPdf	**PKPdf**	**20 25 28.7**	**-0.8**
MAJO				LR	LR		
	comp=Z,10μm,21.0s						
MAT	**Matsushiro**	**126.95**	**334**	PKP	**PKPdf**	**20 25 29.7**	**+0.2**
PAF	**Port-aux-Franc**	**128.19**	**146**	PFAKE		20 25 40.0	+8.7
PAF				LR	LR		
	comp=Z,19μm,22.0s						
NDI	**New Delhi**	**128.34**	**40**	*e*P	**PKPdf**	**20 25 31.0**	**-1.3**
NDI				*ex*	x	20 25 53.8	
HHC	**Hu-ho-hao-te**	**128.69**	**1**	*e*PKP	**PKPdf**	**20 25 32.0**	**-0.8**
HHC				PP	**PP**	**20 27 40.8**	**+3.5**
HHC				PKS	**PKSdf**	**20 29 07.2**	**-2.3**
HHC				SKS	**SKSdf**	**20 32 42.3**	**-1.5**
HHC				SKKS	**SKKSac**	**20 34 32.4**	**-2.9**
HHC				SS	**SS**	**20 44 54.2**	**+1.1**
HHC				AMB	AMB		
	comp=Z,880nm,5.8s						
HHC				LR	LR		
	comp=N,12μm,23.5s						
HHC				LR	LR		
	comp=E,7μm,23.1s						
HHC				LR	LR		
	comp=Z,20μm,23.7s						
GTA	**Gaotai**	**128.84**	**12**	*e*PKP	**PKPdf**	**20 25 32.8**	**-0.4**
GTA				sPKP		20 25 47.4	
GTA				PP	PP	20 27 47.4	+9.0
GTA				SKS	**SKSdf**	**20 32 39.4**	**-4.8**
GTA				SKKS	**SKKSac**	**20 34 29.4**	**-6.9**
GTA				AMB	AMB		
	comp=Z,1μm,11.9s						
GTA				LR	LR		
	comp=N,9μm,25.0s						
GTA				LR	LR		
	comp=E,11μm,19.1s						
GTA				LR	LR		
	comp=Z,13μm,21.2s						
BTO	**Baotou**	**128.90**	**2**	*e*PKP	**PKPdf**	**20 25 37.5**	**+4.3**
BJI	**Beijing**	**129.36**	**356**	PKP	**PKPdf**	**20 25 34.5**	**+0.6**
BJI				PP	**PP**	**20 27 42.9**	**+1.4**
BJI				SS	SS	20 45 00.8	-0.2
BJI				AMB	AMB		
	comp=Z,2μm,11.5s						
BJI				LR	LR		
	comp=N,18μm,18.8s						
BJI				LR	LR		
	comp=E,4μm,19.2s						
BJI				LR	LR		
	comp=Z,14μm,19.6s						
KS01	**Wonju Array Si**	**129.82**	**344**	*e*PKPdf	**PKPdf**	**20 25 33.2**	**-1.7**
KSRS	**Korea Array**	**129.83**	**344**	PKP	**PKPdf**	**20 25 33.6**	**-1.3**
	comp=Z,4.3nm,0.8s,baz=1.3,slow=1.8,SNR=11						
DL2	**Dalian**	**129.84**	**350**	*e*PKP	**PKPdf**	**20 25 39.6**	**+4.7**
DL2				AMB	AMB		
	comp=Z,940nm,11.3s						
DL2				LR	LR		
	comp=N,5μm,20.6s						
DL2				LR	LR		
	comp=E,5μm,18.2s						
DL2				LR	LR		
	comp=Z,5μm,19.6s						
KSAR	**Wonju Array Be**	**129.85**	**344**	PKP	**PKPdf**	**20 25 33.6**	**-1.4**
INCN	**Inchon**	**130.15**	**345**	PFAKE		20 25 50.0	+14
INCN				LR	LR		
	comp=Z,10μm,20.0s						
PYUN	**Pi

comp=Z,20nm,0.8s
PKI Pulchoki 133.99 34 *e*P **PKPdf 20 25 43.0 -0.5**
JIRN Jiri 134.34 33 *e*P **PKPdf 20 25 44.3 +0.1**
LATR Latur 134.54 51 *e*P **PKPdf 20 25 41.0 -3.2**
NGP Nagpur 134.65 46 *e*P **PKPdf 20 25 43.3 -1.1**
NGP Nagpur 134.65 46 *e*P PKPdf 20 25 50.1 +5.6
NGP *e*S **SKiKP 20 29 21.9 +0.7**
LSA Lhasa 135.04 26 PKP **PKPdf 20 25 44.0 -1.6**
LSA PP **PP 20 28 21.8 +2.7**
LSA LR LR
comp=N,4μm,28.9s
LSA LR LR
comp=E,7μm,27.3s
LSA LR LR
comp=Z,8μm,27.3s
RAMN Ramite 135.12 33 *e*P **PKPdf 20 25 45.0 -0.5**
TAPN Taplejung 135.38 32 *e*P **PKPdf 20 25 45.5 -0.6**
XAN Xi'an 135.39 4 PKP **PKPdf 20 25 45.9 +0.3**
XAN PP **PP 20 28 24.5 +4.1**
XAN PKS **PKSdf 20 29 17.9 -4.1**
XAN SKS **SKSdf 20 32 54.6 -1.4**
XAN SKKS **SKKSac 20 35 14.2 -2.2**
XAN SS **SS 20 46 14.3 -0.3**
XAN AMB AMB
comp=Z,330nm,9.1s
XAN LR LR
comp=N,7μm,22.3s
XAN LR LR
comp=E,5μm,21.6s
XAN LR LR
comp=Z,4μm,19.1s
ODAN Odare 135.61 32 *e*P **PKPdf 20 25 45.8 -0.6**
TAU Tasmania Unive 135.65 217 *e*SKPbc **SKPbc 20 29 17.4 +1.2**
TAU LR LR
comp=Z,12μm,19.0s
MNGI Mangalore 136.17 58 *i* x **SP 20 38 42.2 -7.3**
HYB Hyderabad 136.65 50 *i* PKP **PKPdf 20 25 49.0 +0.7**
HYB *e*PKS **PKSdf 20 29 20.0 -4.8**
NJ2 Nanjing 136.99 352 *e*PKP **PKPdf 20 25 48.0 -0.5**
NJ2 PP **PP 20 28 32.0 +1.7**
NJ2 SKS **SKSdf 20 32 58.0 -0.7**
NJ2 SS **SS 20 46 35.0 +1.5**
NJ2 AMB AMB
comp=Z,740nm,6.2s
NJ2 LR LR
comp=N,8μm,22.3s
NJ2 LR LR
comp=E,11μm,21.8s
NJ2 LR LR
comp=Z,6μm,19.2s
SSE Sheshan 137.52 348 PKP **PKPdf 20 25 50.7 +1.2**
SSE PP **PP 20 28 38.6 +4.9**
SSE SS SS 20 46 44.3 +4.3
SSE AMB AMB
comp=Z,510nm,4.9s
SSE LR LR
comp=N,5μm,27.8s
SSE LR LR
comp=E,9μm,27.9s
SSE LR LR
comp=Z,11μm,19.7s
CD2 Chengdu 137.85 11 PKP **PKPdf 20 25 50.5 +0.3**
CD2 sPKP 20 26 04.9
CD2 PP **PP 20 28 40.8 +5.0**
CD2 PKS **PKSdf 20 29 25.2 -1.4**
CD2 SKS **SKSdf 20 32 58.4 -1.9**
CD2 SKKS **SKKSac 20 35 29.7 -1.5**
CD2 SS **SS 20 46 46.0 +2.0**
CD2 LR LR
comp=N,10μm,20.2s
CD2 LR LR
comp=Z,12μm,17.8s
ARMA Armidale 138.40 236 *e*PKPdf **PKPdf 20 25 50.4 -0.8**
ARMA *e*SKP 20 29 24.3
CAN Canberra 138.50 228 *e*PKIKP **PKPdf 20 25 50.0 -1.3**
CAN MLR MLR
comp=Z,9μm,21.0s
CAN Canberra 138.50 228 *e*PKPdf **PKPdf 20 25 50.0 -1.3**
CAN LR LR
comp=Z,9μm,21.0s
SHL Shillong 138.92 28 *e*P **PKPdf 20 25 50.0 -2.5**
SHL *e*x x 20 29 27.0
WHN Wuhan 138.92 357 PKP **PKPdf 20 25 50.8 -1.3**
WHN PP **PP 20 28 46.0 +3.7**
WHN LR LR
comp=N,19μm,18.6s
WHN LR LR
comp=E,11μm,17.8s
WHN LR LR
comp=Z,22μm,19.9s
GUMO Guam 139.49 306 PFAKE 20 26 00.0 +6.5
GUMO LR LR
comp=Z,784nm,20.0s
JOW Kunigami 139.50 337 *e*PKPdf PKPdf 20 26 00.9 +7.6
DGAR Diego Garcia 140.74 89 PFAKE 20 26 10.0 +14
DGAR LR LR
comp=Z,9μm,20.0s
GYA Guiyang 142.68 8 PKP **PKPdf 20 25 57.5 -1.7**
GYA PKS **PKSdf 20 29 32.2 -3.0**
GYA SKKS 20 35 55.8
GYA SS **SS 20 47 40.9 +0.2**
GYA AMB AMB
comp=Z,2μm,13.7s
GYA LR LR
comp=N,6μm,20.5s
GYA LR LR
comp=E,7μm,20.2s
GYA LR LR
comp=Z,10μm,21.4s
KMI Kunming 143.23 14 PKP **PKPdf 20 26 00.7 +0.4**
KMI PP **PP 20 29 08.9 -0.2**
KMI PKS **PKSdf 20 29 35.9 -0.5**
KMI SKKS 20 35 57.4
KMI SS **SS 20 47 43.5 -4.0**
KMI AMB AMB
comp=Z,1μm,13.0s
KMI LR LR
comp=N,9μm,20.6s
KMI LR LR
comp=E,6μm,19.8s
KMI LR LR
comp=Z,12μm,21.5s
YHNB Yeheng 143.68 346 *e*PKPdf PKPbc 20 25 59.2 +0.9
QZH Quanzhou 143.99 350 *i*/*e*PKP **PKPdf 20 26 01.7 +0.4**
QZH PP PP 20 29 19.4 +6.1
QZH LR LR
comp=N,10μm,18.0s
QZH LR LR
comp=E,10μm,16.2s
QZH LR LR
comp=Z,22μm,25.7s
PALK Pallekele 144.01 62 *e*PKPdf **PKPab 20 25 59.0 0.0**
NACB Ninganchiao 144.10 345 *e*PKPdf **PKPdf 20 26 01.7 +0.2**
SSLB Suanglung 144.63 346 *e*PKPdf **PKPab 20 26 00.4 -0.6**
YULB Yu-li 144.92 345 *e*PKPdf PKPbc 20 26 02.5 +0.4
TPUB Ta-pu 145.17 346 *e*PKPdf **PKPbc 20 26 03.0 +0.1**
PMG Port Moresby 145.45 269 *e*PKPdf **PKPbc 20 26 03.9 -0.2**
PMG PKPbc **PKPab 20 26 04.3 0.0**
PMG Port Moresby 145.45 269 PKPbc **PKPab 20 26 04.3 0.0**
comp=Z,42nm,1.1s,baz=117,slow=2.3,SNR=9.4
TWG Pinlang 145.53 345 *e*PKPdf **PKPbc 20 26 03.1 -0.9**
STKA Stephens Creek 145.56 228 *e*PKPdf **PKPdf 20 26 03.4 -0.5**
STKA PKPbc **PKPdf 20 26 03.6 -0.3**
STKA Stephens Creek 145.56 228 PKPbc **PKPdf 20 26 03.6 -0.3**
comp=Z,80nm,1.0s,baz=104,slow=3.0,SNR=33
CTA Charters Tower 145.83 250 PKPbc **PKPdf 20 26 04.9 +0.2**
CTA Charters Tower 145.83 250 PKPbc **PKPdf 20 26 04.9 +0.2**
comp=Z,146nm,1.1s,baz=98,slow=3.3,SNR=34
CTAO Charters Tower 145.83 250 *e*PKP2 **PKPdf 20 26 04.1 -0.5**
CTAO MLR MLR
comp=Z,8μm,20.0s
CTAO Charters Tower 145.83 250 *e*PKPdf **PKPdf 20 26 04.1 -0.5**
CTAO LR LR
comp=Z,8μm,20.0s
GZH Guangzhou 146.38 358 PKPbc **PKPdf 20 26 05.4 -0.1**
GZH LR LR
comp=N,6μm,21.9s
GZH LR LR
comp=E,18μm,19.9s
CMAI Chiengmai2 146.95 23 P **PKPbc 20 26 07.9 -0.7**
comp=E,164nm,1.5s,comp=E,6μm
HKC Hong Kong Obse 147.12 356 ‖ *i*P **PKPab 20 26 10.0 -0.3**
CHTO Chiang Mai 147.92 24 *e*PKIKP **PKPdf 20 26 08.2 0.0**
CHTO MLR MLR
comp=Z,7μm,22.0s
CHTO Chiang Mai 147.92 24 *e*PKPdf **PKPdf 20 26 08.2 0.0**
CHTO LR LR
comp=Z,7μm,22.0s
CHTO Chiang Mai 147.92 24 P **PKPdf 20 26 09.1 +0.9**
comp=Z,76nm,1.2s,comp=Z,3μm
CHTO Chiang Mai 147.92 24 P **PKPdf 20 26 09.1 +0.9**
comp=Z,76nm,1.2s,comp=Z,3μm
CM31 Chiang Mai Arr 148.24 24 *e*PKPdf **PKPdf 20 26 09.0 +0.3**
CM01 Chiang Mai Arr 148.28 24 *e*PKPdf **PKPdf 20 26 07.0 -1.8**
LAMP Lampang 148.46 23 P **PKPdf 20 26 10.3 +1.2**
comp=Z,21nm,1.5s,comp=Z,284nm
BBOO Buckleboo 148.86 221 *e*PKPbc **PKPbc 20 26 11.9 -1.3**
SUKH Sukhothai 149.40 24 P **PKPdf 20 26 11.8 +1.2**
comp=Z,40nm,0.9s,comp=Z,558nm
COEN Coen 149.47 261 *e*PKPdf **PKPdf 20 26 11.7 +0.9**
COEN *e*PKPbc **PKiKP 20 26 16.1 -0.2**
PIP Pasuquin 149.94 344 *e*S **SKPdf 20 29 39.9 -4.4**
LOEI Loei 149.99 21 P **PKPdf 20 26 12.2 +0.6**
comp=Z,142nm,1.4s,comp=Z,4μm
QIZ Qiongzhong 150.36 4 PKPbc **PKPdf 20 26 11.6 -0.5**
QIZ PP **PP 20 29 50.4 -0.3**
QIZ SS SS 20 49 09.1 +1.5
QIZ LR LR
comp=N,5μm,18.0s
QIZ LR LR
comp=E,2μm,20.5s
QIZ LR LR
comp=Z,10μm,20.3s
PBKT Sadao Pong 150.74 22 P **PKPdf 20 26 12.9 +0.2**
comp=Z,146nm,1.8s,comp=Z,4μm
PBKT Sadao Pong 150.74 22 P **PKPdf 20 26 14.1 +1.4**
comp=Z,146nm,1.8s,comp=Z,4μm
SKNT Sakolnakorn 151.34 16 P **PKPdf 20 26 15.4 +1.7**
CHAI Chaiyaphum 151.73 21 P **PKPdf 20 26 16.3 +2.0**
comp=Z,20nm,1.0s,comp=Z,294nm
CHBT CHBT 154.75 23 P PKPbc 20 26 32.7 +5.5
comp=Z,65nm,1.2s
CHBT CHBT 154.75 23 P PKPbc 20 26 32.7 +5.5
comp=Z,65nm,1.2s
FORT Forrest 155.13 214 *e*PKPbc PKPdf 20 26 29.5 +11
AS01 Alice Springs 155.51 235 *e*PKPdf **PKPdf 20 26 18.7 -0.8**
AS31 Alice Springs 155.55 235 *e*PKPdf **PKPdf 20 26 19.7 +0.1**
ASAR Alice Springs 155.55 235 PKP **PKPdf 20 26 19.2 -0.4**
ASAR Alice Springs 155.55 235 PKP **PKPdf 20 26 19.2 -0.4**
comp=Z,6.4nm,0.9s,baz=105,slow=1.3,SNR=28
WRAB Tennant Creek 156.68 244 *e*PKIKP **PKPdf 20 26 20.0 -1.1**
WRAB Tennant Creek 156.68 244 *e*PKPdf **PKPdf 20 26 20.0 -1.1**
WRA Warramunga Arr 156.69 244 PKP **PKPdf 20 26 20.5 -0.6**
WRA Warramunga Arr 156.69 244 PKP **PKPdf 20 26 20.5 -0.6**
comp=Z,6.9nm,0.8s,baz=91,slow=1.0,SNR=29
NWAO Narrogin (SRO) 157.39 191 PKP **PKPdf 20 26 23.1 +1.4**
NWAO PKPab **PKPab 20 26 54.4 +1.5**
NWAO Narrogin (SRO) 157.39 191 PKP **PKPdf 20 26 23.1 +1.4**
comp=Z,31nm,1.1s,baz=211,slow=5.9,SNR=3.5
NWAO PKPab **PKPab 20 26 54.4 +1.5**
comp=Z,42nm,0.9s,baz=166,slow=4.2,SNR=8.1
DAV Davao City (W) 157.81 322 PFAKE 20 26 30.0 +7.3
DAV LR LR
comp=Z,9μm,22.0s
KULM Kulim 160.44 36 PFAKE 20 26 40.0 +14
KULM LR LR
comp=Z,8μm,19.0s
KULM Kulim 160.44 36 P **PKPdf 20 26 28.5 +2.7**
PSI Prapat 161.24 45 PKP **PKPdf 20 26 27.4 +0.6**
PSI Prapat 161.24 45 PKP **PKPdf 20 26 27.4 +0.6**
comp=Z,3.7nm,0.4s,baz=152,slow=16,SNR=6.7
IPM Ipoh 161.31 37 *e*PKPab **PKPab 20 27 14.5 +4.0**
IPM Ipoh 161.31 37 P **PKPdf 20 26 27.7 +0.9**
IPM Ipoh 161.31 37 P **PKPdf 20 26 27.7 +0.9**
KDM Kudat 161.86 345 P **PKPdf 20 26 28.6 +1.3**
KKM Kota Kinabalu 162.85 346 *e*PKPdf **PKPdf 20 26 29.1 +0.7**
KKM LR LR
comp=Z,10μm,21.0s
KKM Kota Kinabalu 162.85 346 P **PKPdf 20 26 30.2 +1.8**
MYLDM Lahad Datu 162.97 338 P **PKPdf 20 26 30.9 +2.5**
MYLDM Lahad Datu 162.97 338 P **PKPdf 20 26 30.5 +2.1**
comp=Z,40nm,3.4s,comp=Z,6μm
SDKM Sandakan 162.97 342 P PKPdf 20 26 34.0 +5.5
TSM Tawau 164.01 339 P **PKPdf 20 26 30.4 +1.0**
FITZ Fitzroy Crossi 164.97 239 PKP **PKPdf 20 26 29.3 -0.8**
FITZ PKPab **PKPab 20 27 28.3 +1.9**
FITZ Fitzroy Crossi 164.97 239 PKP **PKPdf 20 26 29.3 -0.8**
comp=Z,7.5nm,1.1s,baz=356,slow=2.1,SNR=6.6
FITZ PKPab **PKPab 20 27 28.3 +1.9**
comp=Z,13nm,0.8s,baz=158,slow=4.1,SNR=7.0
COCO West Island 164.98 97 PFAKE 20 26 40.0 +10
COCO LR LR
comp=Z,10μm,21.0s
MYKOM Kota Tinggi 165.12 34 P **PKPdf 20 26 29.1 -1.3**
SBUM Sibu 166.92 359 *e*PKPdf **PKPdf 20 26 33.0 +1.2**
SBUM Sibu 166.92 359 P **PKPdf 20 26 33.1 +1.2**
KSM Kuching 167.76 8 PFAKE 20 26 40.0 +7.6
KSM LR LR
comp=Z,14μm,21.0s
KAPI Kappang 170.53 306 PKPab **PKPab 20 27 50.3 -0.9**
KAPI *e*PP **PP 20 31 43.0 +2.0**
KAPI LR LR
comp=Z,10μm,22.0s
KAPI Kappang 170.53 306 PKPab **PKPab 20 27 50.3 -0.9**
comp=Z,18nm,1.2s,baz=80,slow=3.5,SNR=2.6

FUNV 12 20:30:13.7, 10°.74N×67°.89W, h15km, MW3.8, 3C-3D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TURV	**Turiamo**	**0.29**	**171**	‖ *e*P	Pg	20 30 19.0	-1.0
TURV				*e*S	Sg	20 30 22.4	-1.8
FDCV	**FORTIN DE LA C**	**0.94**	**102**	*e*P	Pb	20 30 31.1	-0.8
FDCV				*e*S	Sg	20 30 44.6	-0.1
JACV	**Jacura**	**0.99**	**290**	*e*P	Pn	20 30 33.5	+0.5
JACV				*e*S	Sb	20 30 44.9	-0.4
FUNV	**FUNVISIS**	**1.09**	**104**	*e*P	Pb	20 30 33.5	-1.0
FUNV				*e*S	Sb	20 30 48.2	-0.5
LLAV	**El Llanito**	**1.09**	**104**	*e*P	Pb	20 30 33.8	-0.7
LLAV				*e*S	Sb	20 30 48.7	0.0
TEPV	**Terepaima**	**1.50**	**239**	*e*P	Pn	20 30 39.5	-0.6
TEPV				*e*S	Sn	20 30 59.0	-0.4
BIRV	**Birongo**	**1.61**	**99**	*e*P	Pn	20 30 40.8	-0.8
BIRV				*e*S	Sn	20 31 01.9	-0.4
BAUV	**El Baul**	**1.79**	**185**	*e*P	Pn	20 30 44.2	+0.1
BAUV				*e*S	Sn	20 31 05.5	-1.2
SIQV	**Siquisique**	**1.89**	**267**	*e*P	Pn	20 30 44.4	-1.0
SIQV				*e*S	Sn	20 31 08.7	-0.4
ORCV	**Isla La Orchil**	**1.97**	**57**	↑ *e*P	Pn	20 30 44.3	-2.2
ORCV				*e*S	Sn	20 31 08.8	-2.3
SANV	**Sanarito**	**2.04**	**233**	*e*P	Pn	20 30 48.2	+0.5
SANV				*e*S	Sn	20 31 11.7	-1.3
MERV	**Las Mercedes**	**2.16**	**133**	‖ *e*P	Pn	20 30 49.7	+0.5
MERV				*e*S	Sn	20 31 13.9	-1.7
CURV	**Curarigua**	**2.16**	**251**	*e*P	Pn	20 30 49.1	-0.2
CURV				*e*S	Sn	20 31 14.2	-1.7
CUPV	**Cœpira**	**2.18**	**108**	*e*P	Pn	20 30 50.0	+0.5
CUPV				*e*S	Sn	20 31 14.2	-2.1
MONV	**Montecano**	**2.37**	**301**	*e*P	Pn	20 30 50.6	-1.5
QARV	**Quebrada Arrib**	**2.65**	**259**	*e*P	Pn	20 30 53.9	-2.0
QARV				*e*S	Sn	20 31 25.1	-2.8
DABV	**Dabajuro**	**2.71**	**274**	↑ *e*P	Pn	20 30 55.8	-0.9
DABV				*e*S	Sn	20 31 25.9	-3.2
IMOV	**Isla Los Monje**	**3.36**	**299**	*e*P	Pn	20 31 04.5	-1.1
SOCV	**Socops**	**3.81**	**230**	‖ *e*P	Pn	20 31 11.7	-0.2
SOCV				*e*S	Sn	20 31 52.7	-3.9
ELOV	**Elorza**	**4.04**	**203**	*e*S	Sn	20 31 58.3	-3.8
VIRV	**Villa del Rosa**	**4.45**	**267**	↑ *e*P	Pn	20 31 19.1	-1.6
GUNV	**Guanoco**	**4.90**	**96**	*e*P	Pn	20 31 27.1	+0.2
CAPV	**Capacho**	**5.22**	**237**	*e*P	Pn	20 31 31.2	-0.4
CAPV				*e*S	Sn	20 32 26.1	-5.7
LUEV	**Luepa**	**8.01**	**127**	*e*P	Pn	20 32 08.1	-1.7

FUNV 12 20:38:07.3, 10°.77N×67°.91W, h18km, MW3.8, 1C-1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TURV	**Turiamo**	**0.33**	**168**	‖ *e*P	Pg	20 38 13.3	-1.0
TURV				*e*S	Sg	20 38 17.7	-1.4
JACV	**Jacura**	**0.96**	**289**	*e*P	Pg	20 38 26.0	-0.1
JACV				*e*S	Sb	20 38 38.2	+0.4
FDCV	**FORTIN DE LA C**	**0.96**	**104**	*e*P	Pb	20 38 25.0	-0.7
FDCV				*e*S	Sb	20 38 38.7	+0.4
FUNV	**FUNVISIS**	**1.12**	**105**	*e*P	Pn	20 38 27.8	-0.4
FUNV				*e*S	Sb	20 38 42.5	-0.1
LLAV	**El Llanito**	**1.12**	**105**	*e*P	Pn	20 38 28.1	-0.1
LLAV				*e*S	Sn	20 38 43.3	+0.1
TEPV	**Terepaima**	**1.50**	**238**	↑ *e*P	Pn	20 38 32.6	-0.7
TEPV				*e*S	Sn	20 38 51.7	-0.8
BIRV	**Birongo**	**1.64**	**100**	*e*P	Pn	20 38 34.9	-0.3
BIRV				*e*S	Sn	20 38 54.8	-1.0
BAUV	**El Baul**	**1.82**	**184**	*e*P	Pn	20 38 38.1	+0.3
BAUV				*e*S	Sn	20 38 59.3	-1.0
SIQV	**Siquisique**	**1.87**	**266**	*e*P	Pn	20 38 37.5	-1.0
SIQV				*e*S	Sn	20 39 00.8	-0.9
ORCV	**Isla La Orchil**	**1.97**	**58**	*e*P	Pn	20 38 38.3	-1.5
ORCV				*e*S	Sn	20 39 01.6	-2.5
SANV	**Sanarito**	**2.04**	**232**	*e*P	Pn	20 38 40.3	-0.6
SANV				*e*S	Sn	20 39 04.9	-1.1
CURV	**Curarigua**	**2.16**	**250**	*e*P	Pn	20 38 42.1	-0.4
CURV				*e*S	Sn	20 39 06.9	-1.9
MERV	**Las Mercedes**	**2.19**	**133**	*e*P	Pn	20 38 43.6	+0.8
MERV				*e*S	Sn	20 39 07.5	-2.0
CUPV	**Cœpira**	**2.20**	**109**	*e*P	Pn	20 38 44.1	+1.0
CUPV				*e*S	Sn	20 39 07.8	-2.1
MONV	**Montecano**	**2.34**	**300**	*e*P	Pn	20 38 43.6	-1.3
DABV	**Dabajuro**	**2.69**	**273**	*e*P	Pn	20 38 48.9	-0.8
DABV				*e*S	Sn	20 39 19.6	-2.1
IMOV	**Isla Los Monje**	**3.33**	**299**	*e*P	Pn	20 38 57.3	-1.2
SOCV	**Socops**	**3.82**	**230**	*e*P	Pn	20 39 03.5	-1.7
ELOV	**Elorza**	**4.06**	**203**	*e*P	Pn	20 39 08.4	0.0
VIRV	**Villa del Rosa**	**4.43**	**267**	*e*P	Pn	20 39 12.3	-1.3
VIRV				*e*S	Sn	20 40 00.4	-4.4
GUNV	**Guanoco**	**4.92**	**97**	*e*P	Pn	20 39 20.8	+0.4
LUEV	**Luepa**	**8.04**	**127**	*e*P	Pn	20 40 02.2	-1.3

FUNV 12 20:41:22.7, 10°.77N×67°.89W, h5km, MW3.7, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TURV	**Turiamo**	**0.32**	**172**	*e*P	Pg	20 41 27.7	-1.2
TURV				*e*S	Sg	20 41 33.4	+0.3
FDCV	**FORTIN DE LA C**	**0.94**	**104**	*e*P	Pg	20 41 40.5	-0.6
FDCV				*e*S	Sg	20 41 54.1	+0.5
JACV	**Jacura**	**0.98**	**289**	*e*P	Pb	20 41 42.5	+0.3
JACV				*e*S	Sg	20 41 54.5	+0.1
FUNV	**FUNVISIS**	**1.10**	**105**	*e*P	Pg	20 41 43.6	-0.4
FUNV				*e*S	Sg	20 41 57.8	-0.6
LLAV	**El Llanito**	**1.10**	**105**	*e*P	Pg	20 41 43.6	-0.4
LLAV				*e*S	Sb	20 41 58.9	-0.1
TEPV	**Terepaima**	**1.51**	**238**	*e*P	Pn	20 41 50.1	-0.4
TEPV				*e*S	Sn	20 42 09.4	-1.2
BIRV	**Birongo**	**1.62**	**100**	*e*P	Pn	20 41 51.3	-0.6
BIRV				*e*S	Sn	20 42 12.5	-0.6
BAUV	**El Baul**	**1.82**	**185**	*e*P	Pn	20 41 54.3	-0.3
BAUV				*e*S	Sn	20 42 17.0	-1.1
SIQV	**Siquisique**	**1.89**	**267**	*e*P	Pn	20 41 54.9	-0.8
SIQV				*e*S	Sn	20 42 19.4	-0.6
ORCV	**Isla La Orchil**	**1.96**	**58**	*e*P	Pn	20 41 55.3	-1.3
ORCV				*e*S	Sn	20 42 19.7	-1.9
SANV	**Sanarito**	**2.05**	**232**	*e*P	Pn	20 41 57.4	-0.7
SANV				*e*S	Sn	20 42 23.7	-0.5
MERV	**Las Mercedes**	**2.17**	**134**	*e*P	Pn	20 41 59.6	+0.1
MERV				*e*S	Sn	20 42 25.2	-1.6
CURV	**Curarigua**	**2.17**	**250**	*e*P	Pn	20 41 59.3	-0.3
CURV				*e*S	Sn	20 42 25.9	-1.2
CUPV	**Cœpira**	**2.18**	**109**	*e*P	Pn	20 41 59.2	-0.5
CUPV				*e*S	Sn	20 42 26.5	-0.7
MONV	**Montecano**	**2.36**	**300**	*e*P	Pn	20 42 00.1	-2.0
MONV				*e*S	Sn	20 42 30.0	-1.5

CASC 12 20:52:13.0±1.5, 13°.89N×91°.38W, h29km±5km, MD3.6, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.49**	**329**	*e*P	Pn	20 52 24.1	-0.1
FUG	**Fuego 3**	**0.76**	**43**	*e*P	Pb	20 52 27.4	-0.5
PCG	**Pacaya**	**0.90**	**56**	*e*P	Pn	20 52 29.9	-0.1
PCG				*e*S	Sn	20 52 43.0	+0.7
IXG	**Ixpaco**	**0.94**	**72**	*e*P	Pn	20 52 30.5	0.0
IXG				*e*S	Sb	20 52 44.4	+1.1
NBG	**Las Nubes**	**1.22**	**55**	*e*P	Pb	20 52 35.2	-0.6
NBG				*e*S	Sb	20 52 52.1	+0.7
RBDL	**Robledal**	**1.66**	**82**	*e*P	Pn	20 52 40.0	-0.3
RTR	**El Retiro**	**1.68**	**90**	*e*P	Pn	20 52 41.1	+0.3
SBLS	**San Blas**	**1.70**	**91**	*e*P	Pn	20 52 41.2	+0.1
SBLS				*e*S	Sn	20 53 03.0	+0.8
SNJE	**San Jose**	**1.72**	**91**	*e*P	Pn	20 52 41.5	+0.2
SNJE				*e*S	Sn	20 53 02.9	+0.4
MRL	**Marmol**	**2.01**	**54**	*e*P	Pn	20 52 44.8	-0.4
MRL				*e*S	Sn	20 53 10.3	+0.8
BOQS	**Boqueron**	**2.04**	**94**	*e*P	Pn	20 52 45.8	0.0
BOQS				*e*S	Sn	20 53 11.0	+0.4
LFRS	**El Faro**	**2.27**	**96**	*e*P	Pn	20 52 49.1	+0.5
LFRS				*e*S	Sn	20 53 17.4	+1.6
CNCH	**Conchagua**	**3.50**	**100**	*e*P	Pn	20 53 05.4	-0.3

AUST ***12*** *20:54:07.7, 4°.00N×125°.50E, h0km*
ISCJB ***12*** *20:54:17.0±0.4, 3°.49N±0°.04×126°.32E±0°.09, h10km, mb4.0/13, Error ellipse: s-maj=13.4km s-min=5.5km az=170.4*
IDC ***12*** *20:54:16.7±0.7, 3°.47N×126°.28E, h0km, mb4.0/13, mb1 4.1/13, mb1mx4.0/25, mbtmp4.0/13, Error ellipse: s-maj=64.0km s-min=13.4km az=71.0*
DJA ***12*** *20:55:12.5±4.5, 2°N±32°×12°4E±2°3, h10km, M3.2/3, MLv3.2/3*

ISC 12 20:54:18.6±0.5, 3°.49N±0°.04×126°.23E±0°.09, h10km, n31, σ1851/31, mb4.0/13, 2D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**2.87**	**334**	‖ *e*P	**Pb**	**20 55 09.7**	**-0.4**
MATI	**Mati**	**3.43**	**1**	*e*P	**Pn**	**20 55 15.0**	**+2.8**
MATI				*e*S	**Sn**	**20 55 54.0**	**+1.0**
CTBH	**Cotabato--PC H**	**4.19**	**332**	‖ *i*P	**Pb**	**20 55 31.2**	**-1.4**
GTOI	**Gorontalo**	**4.29**	**229**	P	**Pb**	**20 55 34.2**	**+0.1**
BUKP	**Musuan**	**4.51**	**345**	*e*P	Pn	20 55 32.1	+5.0
PAGZ	**Pagadian**	**5.17**	**327**	*e*P	Pb	20 55 43.7	-5.4
MRSI	**Marisa**	**5.22**	**235**	P	**Pb**	**20 55 48.1**	**-2.0**
LUWI	**Luwuk**	**5.67**	**218**	P	**Pb**	**20 55 58.1**	**+0.3**
APSI	**Ampana**	**6.33**	**226**	P	**Pb**	**20 56 06.2**	**-2.8**
SWI	**Sorong**	**6.64**	**131**	P	**Pn**	**20 55 57.1**	**+0.9**
	baz=7.5,SNR=6.3						
FAKI	**Fak Fak**	**8.77**	**137**	P	**Pn**	**20 56 26.5**	**+1.0**
	baz=9.7,SNR=3.3						
PALU	**Palau**	**9.06**	**65**	P	**Pn**	**20 56 29.1**	**-0.4**
	baz=9.5,SNR=4.5						
SOEI	**Soe**	**13.30**	**188**	S	**Sn**	**21 00 00.6**	**+4.5**
	baz=14,SNR=4.9						
JAY	**Jayapura**	**15.65**	**112**	P	**P**	**20 58 01.8**	**-1.9**
	baz=16,SNR=5.5						
MTN	**Manton Dam**	**16.95**	**163**	P	**Pn**	**20 58 14.9**	**-1.1**
	baz=18,SNR=7.7						
KDU	**Kakadu**	**17.23**	**159**	P	**Pn**	**20 58 17.5**	**-2.1**
	baz=18,SNR=4.0						
KNRA	**Kununurra**	**19.21**	**173**	P	**Pn**	**20 58 45.3**	**+1.4**
	baz=20,SNR=6.1						
FITZ	**Fitzroy Crossi**	**21.47**	**182**	P	**P**	**20 59 08.1**	**+0.7**
	1.8nm,0.7s,baz=7.1,slow=14,SNR=12						
WRA	**Warramunga Arr**	**24.62**	**161**	P	**P**	**20 59 37.9**	**-1.5**
	8.4nm,0.7s,baz=346,slow=9.5,SNR=68						
ASAR	**Alice Springs**	**28.01**	**165**	P	**P**	**21 00 09.2**	**-0.8**
	0.5nm,0.4s,baz=340,slow=8.3,SNR=26						
ASAR				PcP	**PcP**	**21 03 24.9**	**-0.3**
	0.2nm,0.4s,baz=350,slow=2.4,SNR=4.4						
KSRS	**Korea Array**	**33.83**	**2**	P	**P**	**21 01 01.7**	**+0.5**
	1.2nm,0.7s,baz=189,slow=9.3,SNR=4.4						
STKA	**Stephens Creek**	**38.09**	**159**	P	**P**	**21 01 37.0**	**-0.7**
	2.4nm,0.3s,baz=328,slow=10.0,SNR=30						
STKA	**Stephens Creek**	**38.09**	**159**	P	**P**	**21 01 37.3**	**-0.4**
	baz=39,SNR=12						
SONM	**Songino Array**	**47.36**	**342**	P	**P**	**21 02 52.6**	**-0.3**
	0.3nm,0.5s,baz=166,slow=7.4,SNR=3.2						
MKAR	**Makanchi Array**	**57.46**	**326**	P	**P**	**21 04 08.6**	**+0.7**
	0.6nm,0.4s,baz=119,slow=5.7,SNR=18						
KURBB	**Kurchatov Arra**	**61.67**	**328**	P	**P**	**21 04 36.8**	**+0.1**
	1.7nm,0.7s,baz=131,slow=6.3,SNR=25						
BVAR	**Borovoye Array**	**67.24**	**327**	P	**P**	**21 05 13.0**	**-0.2**
	0.9nm,0.6s,baz=126,slow=7.3,SNR=6.8						
AKTO	**Aktyubinsk**	**73.53**	**322**	P	**P**	**21 05 51.8**	**0.0**
	0.8nm,0

BRTR	Keskin Array B	89.78	310	P	P	21 07 16.9	-1.0
	0.8nm,0.8s,baz=14,slow=7.6,SNR=3.5						
ARCES	ARCESS Array B	90.49	340	P	P	21 07 19.5	-0.9
	0.6nm,0.7s,baz=64,slow=6.1,SNR=4.2						
FINES	FINESS Array B	91.80	332	P	P	21 07 26.6	0.0
	1.0nm,0.8s,baz=46,slow=6.0,SNR=4.0						

JMA 12 21:05:32.7±0.3, 27.°86N×127.°74E, h10km±4km, M4.3
ISCJB 12 21:05:33.4±2.2, 27.°81N±0.°04×127.°78E±0.°05, h10km±15km, mb3.9/10, Error ellipse: s-maj=7.8km s-min=5.9km az=5.9
IDC 12 21:05:34.2±1.0, 27.°57N×127.°48E, h0km, mb3.9/10, mb1 4.0/11, mb1mx3.8/27, mbtmp3.9/11, ML3.8/1, Error ellipse: s-maj=46.8km s-min=15.4km az=69.0
ISC 12 21:05:33.3±2.0, 27.°73N±0.°05×127.°85E±0.°06, h2km±14km, n21, σ0.°82/23, mb4.0/10, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIH	Iheya	0.70	171	P	Pn	21 05 48.8	-1.4
JIH				S	Sn	21 05 59.8	-1.7
JOW	Kunigami	0.97	157	P	Pn	21 05 53.7	-0.2
JOW				S	Sn	21 06 08.7	+0.4
JTK	Tokunoshima	0.98	86	P	Pg	21 05 52.7	+0.7
JTK				S	Sb	21 06 06.8	+0.5
JAGN	Aguni-jima	1.26	206	P	Pb	21 05 57.0	-0.7
JAGN				S	Sn	21 06 15.6	+0.3
JJT2	Tamagusuku 2	1.59	183	P	Pb	21 06 03.3	0.0
JJT2				S	Sb	21 06 24.1	+0.3
JKE	Kume jima 2	1.69	214	P	Pn	21 06 03.0	-0.8
JAM	Amami Oshima	1.69	66	P	Pn	21 06 03.1	-0.8
JZK	Kikaishima	1.96	72	P	Pb	21 06 08.7	-1.1
JNN	Nakanoshima	2.75	40	P	Pb	21 06 22.7	-0.6
JNU	Nakatsue	5.98	25	Pn	Pn	21 07 08.0	+5.2
	2.3nm,0.3s,baz=216,slow=8.0,SNR=24						
USRK	Ussuriysk Arra	16.77	10	Pn	P	21 09 37.3	+5.7
	0.1nm,0.3s,baz=187,slow=10,SNR=9.3						
SONM	Songino Array	26.12	326	P	P	21 11 08.6	-0.1
	2.6nm,0.8s,baz=135,slow=9.4,SNR=13						
MKAR	Makanchi Array	40.30	311	P	P	21 13 12.3	+0.4
	1.7nm,0.7s,baz=102,slow=9.9,SNR=19						
ZALV	Zalesovo Beam	40.86	322	P	P	21 13 17.2	+0.8
	1.8nm,0.6s,baz=112,slow=9.0,SNR=10						
FITZ	Fitzroy Crossi	45.61	183	P	P	21 13 54.6	-0.5
	2.0nm,0.9s,baz=319,slow=9.3,SNR=2.7						
WRA	Warramunga Arr	47.80	172	P	P	21 14 12.1	-0.2
	0.7nm,0.7s,baz=353,slow=8.3,SNR=5.9						
BVAR	Borovoye Array	48.94	318	P	P	21 14 21.5	+0.7
	1.0nm,0.5s,baz=81,slow=9.6,SNR=11						
ASAR	Alice Springs	51.43	173	P	P	21 14 40.5	+0.6
	0.4nm,0.9s,baz=358,slow=9.4,SNR=4.6						
AKTO	Aktyubinsk	56.55	314	P	P	21 15 16.6	-0.6
	0.6nm,0.6s,baz=58,slow=9.5,SNR=2.3						
STKA	Stephens Creek	60.70	167	P	P	21 15 47.2	+1.1
	2.4nm,0.7s,baz=56,slow=3.6,SNR=3.6						
FINES	FINESS Array B	71.40	330	P	P	21 16 56.0	+1.3
	0.6nm,0.5s,baz=84,slow=5.9,SNR=10						

WEL 12 21:09:56.3±0.6, 42.°71S×178.°06E, h33km, ML3.9/17, 10C-2D, Error ellipse: s-maj=4.8km s-min=3.8km az=90.0, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRWZ	Traveller	2.20	306	PN	Pn	21 10 29.5	-1.0
TRWZ				SN	Sn	21 10 53.8	-2.7
CPWZ	Castlepoint	2.27	322	PN	Pn	21 10 31.3	-0.1
TMWZ	Te Maipa	2.28	314	PN	Pn	21 10 31.1	-0.5
PAWZ	Paruwai Farm	2.37	303	PN	Pn	21 10 32.1	-0.7
PAWZ				SN	Sn	21 10 57.5	-3.2
PAWZ				AML	AML	21 10 57.9	
PLWZ	Palliser	2.38	298	PN	Pn	21 10 32.2	-0.8
PLWZ				SN	Sn	21 10 57.7	-3.3
BFZ	Birch Farm	2.44	325	PN	Pn	21 10 33.2	-0.6
MTW	Mount Morrison	2.46	308	PN	Pn	21 10 33.3	-0.8
MTW				AML	AML	21 10 59.5	
MTW				AML	AML	21 10 59.6	
MSWZ	Moikau Station	2.46	301	PN	Pn	21 10 33.2	-0.9
MSWZ				SN	Sn	21 10 59.2	-3.8
MSWZ				AML	AML	21 10 60.0	
TIWZ	Tintock	2.52	319	PN	Pn	21 10 33.8	-1.2
HOWZ	Holdsworth Sta	2.62	313	PN	Pn	21 10 35.6	-0.7
PRWZ	Pori Road	2.66	323	PN	Pn	21 10 36.5	-0.3
PRHZ	Porangahau	2.66	336	PN	Pn	21 10 35.8	-1.0
BHW	Baring Head	2.71	298	PN	Pn	21 10 36.7	-0.7
BHW				AML	AML	21 11 05.1	
CAW	Cannon Point	2.75	305	PN	Pn	21 10 37.3	-0.7
CAW				AML	AML	21 11 06.6	
CAW				AML	AML	21 11 07.0	
MRZ	Mangatainoka R	2.76	317	⇑PN	Pn	21 10 37.6	-0.7
MRZ				AML	AML	21 11 06.8	
MRZ				AML	AML	21 11 07.0	
DVHZ	Dannevirke	2.79	329	PN	Pn	21 10 37.9	-0.8
PXZ	Pawanui	2.82	341	⇑PN	Pn	21 10 37.7	-1.3
SNZO	South Karori	2.87	298	PN	Pn	21 10 39.0	-0.6
SNZO				AML	AML	21 11 09.3	
SNZO				AML	AML	21 11 12.4	
OGWZ	Otaki Gorge	2.87	310	PN	Pn	21 10 39.2	-0.5
POWZ	Post Office Ro	2.88	323	⇓PN	Pn	21 10 39.7	-0.2
WPHZ	Waipukurau	2.91	335	PN	Pn	21 10 39.5	-0.7
KIW	Kapiti Island	2.99	307	PN	Pn	21 10 41.1	-0.3
KIW				AML	AML	21 11 15.8	
KIW				AML	AML	21 11 16.6	
KAHZ	Kahuranaki	3.04	342	⇑PN	Pn	21 10 41.0	-1.2
PNHZ	Pukenui	3.12	333	PN	Pn	21 10 42.5	-0.8
CKHZ	Cape Kidnapper	3.13	346	⇓PN	Pn	21 10 41.9	-1.4
TCW	Tory Channel	3.19	297	PN	Pn	21 10 43.8	-0.4
TCW				AML	AML	21 11 21.0	
TCW				AML	AML	21 11 21.6	
BSWZ	Blackbirch Sta	3.27	286	PN	Pn	21 10 44.1	-1.0
TUWZ	Tuamarina	3.32	291	PN	Pn	21 10 45.3	-0.6
KHZ	Kahutara	3.35	273	PN	Pn	21 10 44.4	-1.9
MCHZ	McNeill Hill	3.42	342	⇑PN	Pn	21 10 46.3	-0.9
MHGZ	Mahia Peninsul	3.55	358	PN	Pn	21 10 46.5	-2.6
BHHZ	Black Hill Sta	3.55	334	PN	Pn	21 10 48.3	-0.9
DUWZ	D'Urville Isla	3.63	300	PN	Pn	21 10 50.7	+0.5
DUWZ				AML	AML	21 11 34.5	
DUWZ				AML	AML	21 11 36.3	
KNZ	Kokohu	3.69	355	⇑PN	Pn	21 10 48.5	-2.5
NMHZ	Naumai	3.73	345	PN	Pn	21 10 50.5	-1.1
MOVZ	Moawhango	3.73	331	PN	Pn	21 10 51.4	-0.2
BKZ	Black Stump Fm	3.73	341	⇑PN	Pn	21 10 50.5	-1.1
WAZ	Wanganui	3.75	321	PN	Pn	21 10 53.1	+1.2
WAZ				AML	AML	21 11 36.6	
WAZ				AML	AML	21 11 37.6	
NNZ	Nelson	3.80	291	⇑PN	Pn	21 10 52.1	-0.3
MTVZ	Mangateitei	3.85	329	PN	Pn	21 10 53.8	+0.5
MTVZ				AML	AML	21 11 39.0	
MTVZ				AML	AML	21 11 40.5	
WNVZ	Wahianoa	3.85	330	PN	Pn	21 10 53.6	+0.1
WNVZ				AML	AML	21 11 39.4	
TUVZ	Tukino	3.89	331	⇑PN	Pn	21 10 54.1	+0.2
WHVZ	Whangaehu Hut	3.90	330	⇑PN	Pn	21 10 54.3	+0.1
FWVZ	Far West T-bar	3.94	330	PN	Pn	21 10 54.6	-0.1
FWVZ				AML	AML	21 11 40.0	
THZ	Tophouse	3.94	282	PN	Pn	21 10 53.1	-1.5
THZ				AML	AML	21 11 41.3	
OTVZ	Oturere	3.98	332	PN	Pn	21 10 54.9	-0.2
OTVZ				AML	AML	21 11 42.5	
PKVZ	Pokaka	3.98	328	PN	Pn	21 10 55.3	+0.2
WPVZ	Whakapapa	3.98	331	PN	Pn	21 10 55.4	+0.2
WPVZ				AML	AML	21 11 40.5	
NGZ	Ngauruhoe	3.99	331	PN	Pn	21 10 55.2	-0.1
KRVZ	Karewarewa	4.05	332	PN	Pn	21 10 56.1	0.0
WTVZ	West Tongariro	4.05	332	PN	Pn	21 10 55.9	-0.1
MQZ	McQueen's Vall	4.08	254	PN	Pn	21 10 54.6	-1.7
KATZ	Kakaramea	4.14	333	PN	Pn	21 10 57.4	+0.1
TWVZ	Taurewa	4.14	330	PN	Pn	21 10 57.1	-0.2
LTZ	Lake Taylor	4.27	267	PN	Pn	21 10 57.9	-1.1
VRZ	Vera Road	4.37	324	PN	Pn	21 11 00.3	0.0
MWZ	Matawai	4.38	354	⇑PN	Pn	21 10 57.8	-2.8
PRRZ	Plateau Road	4.39	343	PN	Pn	21 10 59.2	-1.5
OXZ	Oxford	4.46	260	PN	Pn	21 11 00.4	-1.2
URZ	Urewera	4.50	350	PN	Pn	21 10 59.6	-2.5
DFE	Dawson Falls	4.51	317	PN	Pn	21 11 04.1	+1.7
QRZ	Quartz Range	4.54	293	PN	Pn	21 11 02.8	+0.1
NEZ	North Egmont	4.56	317	PN	Pn	21 11 04.6	+1.5
KHEZ	Kahui Hut	4.58	317	PN	Pn	21 11 05.3	+2.0
TARZ	Mount Tarawera	4.62	345	PN	Pn	21 11 02.7	-1.2
PKE	Pukeiti	4.67	317	PN	Pn	21 11 06.1	+1.6
NWEZ	Newall Road	4.67	316	PN	Pn	21 11 06.0	+1.5
DSZ	Denniston Nort	4.75	280	PN	Pn	21 11 04.2	-1.3
HIZ	Hauiti	4.85	329	PN	Pn	21 11 06.7	-0.2
WVZ	Waitaha Valley	5.40	264	PN	Pn	21 11 13.9	-0.5
ODZ	Otahua Downs	5.85	244	PN	Pn	21 11 19.1	-1.5
LBZ	Lake Benmore	5.97	251	PN	Pn	21 11 21.2	-1.1
FOZ	Fox Glacier	6.19	259	PN	Pn	21 11 24.7	-0.5
TUZ	Tuapeka	6.86	239	PN	Pn	21 11 33.6	-0.9

IDC 12 21:23:29.1±5.3, 22.°46S×179.°35W, h601km±55km, mb3.3/8, mb1 3.5/10, mb1mx3.2/20, mbtmp3.3/10, Error ellipse: s-maj=41.2km s-min=26.6km az=66.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	13.16	269	P	P	21 26 21.2	+1.4
	0.6nm,0.3s,baz=100,slow=16,SNR=5.8						
URZ	Urewera	16.04	190	P	P	21 26 47.3	+0.7
	1.0nm,0.3s,baz=282,slow=3.3,SNR=5.3						
CTA	Charters Tower	32.10	268	P	P	21 29 08.6	-0.3
	5.6nm,0.5s,baz=86,slow=12,SNR=7.8						
STKA	Stephens Creek	35.83	246	P	P	21 29 40.9	+1.0
	2.2nm,0.5s,baz=138,slow=19,SNR=7.1						
ASAR	Alice Springs	42.88	259	P	P	21 30 36.1	-0.3
	4.5nm,0.7s,baz=97,slow=8.1,SNR=62						
WRA	Warramunga Arr	43.12	264	P	P	21 30 37.1	-1.2
	2.0nm,0.3s,baz=92,slow=6.4,SNR=139						
FITZ	Fitzroy Crossi	51.55	264	P	P	21 31 40.9	-0.3
	1.1nm,0.3s,baz=71,slow=4.8,SNR=25						
PETK	Petropavlovsk-	77.85	346	P	P	21 34 24.4	-1.1
	2.1nm,0.7s,baz=147,slow=8.6,SNR=2.6						
MAW	Mawson	79.30	200	P	P	21 34 31.5	-1.5
	0.9nm,0.3s,baz=100,slow=12,SNR=5.4						
CMAR	Chiang Mai Arr	89.59	290	P	P	21 35 26.1	+1.9
	0.7nm,0.6s,baz=139,slow=3.7,SNR=8.7						
BRTR	Keskin Array B	147.16	309	PKPbc	PKPbc	21 42 06.3	+0.1
	0.7nm,0.7s,baz=120,slow=3.1,SNR=3.9						
GERES	GERESS Array B	151.70	342	PKPbc	PKPbc	21 42 16.5	-0.1
	0.2nm,0.3s,baz=85,slow=1.1,SNR=3.3						
TORD	Torodi Ar. Bea	170.69	186	PKPab	PKPab	21 43 52.5	+0.6
	0.4nm,0.7s,baz=163,slow=4.3,SNR=3.0						

ATH 12 21:30:58.9, 41.°50N×20.°36E, h5km±3km, MD3.6/18
TIR 12 21:30:59.7, 41.°44N×20.°28E, h1km, ML2.9
ISCJB 12 21:31:00.2±0.3, 41.°45N±0.°01×20.°44E±0.°02, h0km±2km, Error ellipse: s-maj=3.0km s-min=1.7km az=140.3
BEO 12 21:31:00.5±0.4, 41.°30N×20.°45E, h10km±2km, ML2.9/1
THE 12 21:31:00.8, 41.°45N×20.°44E, h0km±2km, ML3.0/5, Error ellipse: s-maj=2.7km s-min=0.9km az=285.0
PDG 12 21:31:00.3±0.3, 41.°36N×20.°41E, h13km, ML3.1/12, Error ellipse: s-maj=0.4km s-min=0.5km az=0.0
SKO 12 21:31:01.3, 41.°35N×20.°46E, h15km, M2.8, ML3.2
CSEM 12 21:31:01.1±0.1, 41.°44N×20.°45E, h2km, ML3.0/5, Error ellipse: s-maj=3.6km s-min=2.0km az=53.0
ISC 12 21:31:00.1±1.1, 41.°43N±0.°01×20.°45E±0.°01, h1km±9km, n174, σ1§41/255, 22C-22D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHP	Peshkopia	0.26	358	*i* PG	Pg	21 31 04.4	-0.6
PHP				*i* SG	Sg	21 31 10.2	+1.8
PHP	Peshkopia	0.26	358	P	Pg	21 31 04.5	-0.6
PHP				S	Sg	21 31 09.6	+1.2
PHP	Peshkopia	0.26	358	*i* Pg	Pg	21 31 04.4	-0.6
PHP				*i* Sg	Sg	21 31 10.2	+1.8
TIR	Tirane	0.45	260	*i* PG	Pg	21 31 07.5	-1.2
TIR				*i* SG	Sg	21 31 12.9	-1.6
TIR	Tirane	0.45	260	P	Pg	21 31 07.6	-1.2
TIR				S	Sb	21 31 16.5	-1.6
TIR	Tirane	0.45	260	*e*Pg	Pg	21 31 07.8	-0.9
TIR				*e*Sg	Sb	21 31 16.9	-1.2
PUK	Puka	0.75	326	*i* PG	Pg	21 31 13.1	-1.3
PUK				*i* SG	Sb	21 31 24.6	-2.1
PUK	Puka	0.75	326	*i* Pg	Pg	21 31 13.1	-1.3
PUK				*i* Sg	Sb	21 31 24.6	-2.1
BIA	Bitola	0.77	121	P	Pg	21 31 13.3	-1.6
BIA				S	Sb	21 31 27.1	-0.3
BIA	Bitola	0.77	121	*e*Pg	Pb	21 31 16.0	-0.3
BIA				*e*Sg	Sb	21 31 27.6	+0.3
BIA				*e*Lg	Lg	21 31 27.8	
	comp=N,242nm,0.2s						
BIA				*e*Lg	Lg	21 31 28.5	
	comp=E,276nm,0.3s						
BIA	Bitola	0.77	121	*e*Pg	Pg	21 31 15.5	+0.6
BIA				S	Sb	21 31 27.1	-0.3
BIA				*e*Lg	Lg	21 31 27.9	
	comp=E,276nm,0.3s						
KBN	Korca	0.84	162	*i* PG	Pb	21 31 17.3	-0.2
KBN				*i* SG	Sn	21 31 32.4	+0.2
KBN	Korca	0.84	162	P	Pg	21 31 16.5	+0.3
KBN				S	Sn	21 31 30.8	-1.4
KBN	Korca	0.84	162	*i* Pg	Pb	21 31 17.3	-0.2
KBN				S	Sn	21 31 30.8	-1.4
KBN				*i* Sg	Sn	21 31 32.4	+0.2
SKO	Skopje	0.92	53	P	Pn	21 31 19.3	-0.9
SKO				S	Sn	21 31 32.6	-1.5
SKO	Skopje	0.92	53	⇑*i*Pg	Pn	21 31 19.2	-0.9
SKO				*e*Sg	Sn	21 31 32.5	-1.5
SKO	Skopje	0.92	53	*e*Pg	Pn	21 31 20.4	+0.2
SKO				*e*Sg	Sn	21 31 34.1	+0.1
SKO				*e*Lg	Lg	21 31 34.3	
	comp=N,995nm,0.5s						
SKO				*e*Lg	Lg	21 31 34.4	
	comp=E,578nm,0.8s						
SKO	Skopje	0.92	53	P	Pn	21 31 19.3	-0.9
SKO				S	Sn	21 31 32.6	-1.5
SKO				*e*Sg	Sb	21 31 33.1	+1.6
SKO				*e*Lg	Lg	21 31 33.3	
	comp=E,578nm,0.8s						
FNA	Florina	0.95	132	P	Pg	21 31 17.0	-1.3
FNA				S	Sn	21 31 33.6	-1.2
FNA	Florina	0.95	132	*e*PB	Pg	21 31 16.9	-1.3
FNA				*e*SB	Sn	21 31 33.3	-1.5
FNA	Florina	0.95	132	*e*Pb	Pg	21 31 16.9	-1.3
FNA				*e*Sb	Sn	21 31 33.3	-1.5
BCI	Bajram Curri	0.98	343	*i* PG	Pg	21 31 18.7	-0.2
BCI				*i* SG	Sn	21 31 33.2	-2.5
BCI	Bajram Curri	0.98	343	*i* Pg	Pg	21 31 18.7	-0.2
BCI				*i* Sg	Sn	21 31 33.2	-2.5
ULC	Ulcinj	1.05	301	⇓*i*Pg	Pg	21 31 19.7	-0.6
ULC				*e*Sg	Sn	21 31 36.1	-1.3
ULC	Ulcinj	1.05	301	⇓*i*Pg	Pg	21 31 19.7	-0.6
ULC				*e*Sg	Sn	21 31 36.1	-1.3
NEST	Nestorio	1.11	156	P	Pb	21 31 20.0	-1.7
NEST				S	Sn	21 31 37.9	-0.9
DRME	Dracevica, Mon	1.22	309	⇓*i*Pg	Pb	21 31 22.5	-1.4
DRME				*e*Sg	Sn	21 31 42.7	+1.3
DRME	Dracevica, Mon	1.22	309	⇓*i*Pg	Pb	21 31 22.5	-1.4
DRME				*e*Sg	Sn	21 31 42.7	+1.3
PVY	Plav	1.22	343	⇓*i*Pg	Pg	21 31 23.4	-0.2
PVY				*e*Sg	Sn	21 31 43.8	+2.0
PVY	Plav	1.22	343	⇓*i*Pg	Pg	21 31 23.4	-0.2
PVY				*e*Sg	Sn	21 31 43.8	+2.0
PDG	Podgorica	1.34	319	P	Pn	21 31 23.8	-2.2
PDG				S	Sg	21 31 45.3	+2.0
PDG	Podgorica	1.34	319	*e*Pg	Pg	21 31 25.3	-0.5
PDG				*e*Sg	Sg	21 31 46.6	+3.3
PDG	Podgorica	1.34	319	⇓*i*Pg	Pg	21 31 25.5	-0.3
PDG				S	Sg	21 31 45.3	+2.0
PDG				*e*Sg	Sg	21 31 46.6	+3.3
TTG	Podgorica	1.34	319	⇓*i*Pg	Pg	21 31 25.5	-0.3
TTG				*e*Sg	Sg	21 31 46.7	+3.4
BUM	Brajici-Budva	1.46	307	⇑*i*Pg	Pg	21 31 27.8	-0.2
BUM				*e*Sg	Sg	21 31 49.1	+2.2
BUM	Brajici-Budva	1.46	307	⇑*i*Pg	Pg	21 31 27.8	-0.2
BUM				*e*Sg	Sg	21 31 49.1	+2.2
KZN	Kozani	1.50	138	P	Pg	21 31 28.9	+0.1
KZN				S	Sg	21 31 50.8	+2.6
KZN	Kozani	1.50	138	*e*PB	Pg	21 31 29.5	+0.7
KZN				*e*SG	Sg	21 31 51.3	+3.1
KZN	Kozani	1.50	138	P	Pg	21 31 28.9	+0.1
KZN	Kozani	1.50	138	*e*Pb	Pg	21 31 29.5	+0.7
KZN				*e*Sb	Sg	21 31 51.3	+3.1
BEY	Berane	1.50	344	⇓*i*Pg	Pg	21 31 28.4	-0.5
BEY				*e*Sg	Sg	21 31 51.3	+2.9
IVA	Berane	1.50	344	⇓*i*Pg	Pg	21 31 28.4	-0.5
IVA				*e*Sg	Sg	21 31 51.3	+2.9
GRG	Griva	1.54	107	P	Pn	21 31 28.3	-0.5
GRG				S	Sg	21 31 50.9	+1.3
GRG	Griva	1.54	107	P	Pn	21 31 28.3	-0.5
GRG				S	Sg	21 31 50.9	+1.3
SRN	Sarande	1.58	193	P	Pg	21 31 30.4	0.0
SRN	Sarande	1.58	193	P	Pg	21 31 30.4	0.0
VAY	Valandovo	1.60	93	P	Pn	21 31 28.9	-0.6
VAY				S	Sg	21 31 51.4	+0.1
VAY	Valandovo	1.60	93	*e*Pn	Pn	21 31 28.8	-0.7
VAY				*e*Sg	Sg	21 31 51.9	+0.6
VAY	Valandovo	1.60	93	*e*Pn	Pg	21 31 30.6	-0.1
VAY				*e*Sn	Sg	21 31 52.6	+1.2
VAY				*e*Lg	Lg	21 31 52.7	
	comp=N,205nm,0.6s						
VAY				*e*Lg	Lg	21 31 52.8	
	comp=E,106nm,0.5s						
VAY	Valandovo	1.60	93	P	Pn	21 31 28.9	-0.6
VAY	Valandovo	1.60	93	*e*Pn	Pb	21 31 30.0	-0.4
VAY				*e*Sg	Sg	21 31 51.9	+0.6
VAY				*e*Lg	Lg	21 31 52.2	
	comp=E,106nm,0.5s						
BARS	Barje	1.72	36	*e*Pn	Pb	21 31 31.6	-0.9
BARS				*e*Sg	Sg	21 31 58.0	+2.7
BARS	Barje	1.72	36	*e*Pn	Pb	21 31 31.6	-0.9
NKME	Niksic	1.75	321	⇑*i*Pn	Pb	21 31 31.4	-1.6
NKME				*e*Sn	Sg	21 31 56.5	+0.4
NKME	Niksic	1.75	321	⇑*i*Pn	Pb	21 31 31.4	-1.6
NKME				*e*Sn	Sg	21 31 56.5	+0.4
NKY	Niksic	1.76	322	⇓*i*Pn	Pb	21 31 31.8	-1.5
NKY				*e*Sn	Sg	21 31 56.4	-0.3
NKY	Niksic	1.76	322	⇓*i*Pn	Pb	21 31 31.8	-1.5
NKY				*e*Sn	Sg	21 31 56.4	-0.3
HCY	Herceg Novi	1.78	306	⇓*i*Pn	Pb	21 31 31.6	-2.0
HCY				*e*Sn	Sg	21 31 56.8	-0.6
HCY	Herceg Novi	1.78	306	⇓*i*Pn	Pb	21 31 31.6	-2.0
HCY				*e*Sn	Sg	21 31 56.8	-0.6
KEK	Kerkira	1.78	196	P	Pn	21 31 31.7	-0.3
KEK	Kerkira	1.78	196	*e*PG	Pb	21 31 32.8	-0.8
KEK	Kerkira	1.78	196	P	Pn	21 31 31.7	-0.3
KEK	Kerkira	1.78	196	*e*Pn	Pb	21 31 32.8	-0.8
JAN	Janina	1.79	170	*e*PG	Pg	21 31 34.7	+0.3
JAN				*e*SN	Sg	21 31 58.7	+1.0
JAN	Janina	1.79	170	*e*Pg	Pg	21 31 34.7	+0.3
JAN				*e*Sg	Sg	21 31 58.7	+1.0
SELS	Selova	1.86	15	*e*Pn	Pb	21 31 33.3	-1.6
KNT	Kendrikon	1.86	97	P	Pb	21 31 33.8	-1.1
KNT	Kendrikon	1.86	97	P	Pb	21 31 33.8	-1.1
SJES	Sjenica	1.87	349	*e*Pn	Pb	21 31 33.8	-1.3
SJES				*e*Sn	Sg	21 32 00.7	+0.6
SJES	Sjenica	1.87	349	*e*Pn	Pb	21 31 33.8	-1.3
SJES				*e*Sn	Sg	21 32 00.7	+0.6
IGT	Igoumenitsa	1.89	183	P	Pb	21 31 34.4	-1.1
IGT				S	Sb	21 31 59.3	-0.3
IGT	Igoumenitsa	1.89	183	P	Pb	21 31 34.4	-1.1
IGT				S	Sb	21 31 59.3	-0.3
TREB	Trebinje	2.03	310	*e*Pn	Pb	21 31 36.6	-1.2
TREB				*e*Sg	Sg	21 32 07.3	+2.0
TREB	Trebinje	2.03	310	*e*Pn	Pb	21 31 36.6	-1.2
TREB				*e*Sg	Sg	21 32 07.3	+2.0
LIT	Litokhoron	2.04	130	*e*PN	Pb	21 31 36.8	-1.1
LIT	Litokhoron	2.04	130	*e*Pn	Pb	21 31 36.8	-1.1
BRY	Bratogost	2.05	317	⇓*i*Pn	Pb	21 31 36.5	-1.7
BRY				*e*Sn	Sb	21 32 03.5	-0.8
BRY	Bratogost	2.05	317	⇓*i*Pn	Pb	21 31 36.5	-1.7
BRY				*e*Sn	Sb	21 32 03.5	-0.8
PLE	Pljevlja	2.06	338	⇓*i*Pn	Pb	21 31 36.3	-2.1
PLE				*e*Sn	Sg	21 32 04.5	-1.8
PLE	Pljevlja	2.06	338	⇓*i*Pn	Pb	21 31 36.3	-2.1
PLE				*e*Sn	Sg	21 32 04.5	-1.8
UPM	Unac-Piva	2.12	328	⇓*i*Pn	Pb	21 31 37.2	-2.2
UPM				*e*Sn	Sb	21 32 05.6	-0.6
UPM	Unac-Piva	2.12	328	⇓*i*Pn	Pb	21 31 37.2	-2.2
UPM				*e*Sn	Sb	21 32 05.6	-0.6
THL	Klokotos Trika	2.21	147	P	Pb	21 31 39.0	-1.8
THL	Klokotos Trika	2.21	147	*e*PN	Pb	21 31 39.9	-0.9
THL				*e*SN	Sg	21 32 10.1	-0.9
THL	Klokotos Trika	2.21	147	P	Pb	21 31 39.0	-1.8
THL	Klokotos Trika	2.21	147	*e*Pn	Pb	21 31 39.9	-0.9
THL				*e*Sn	Sg	21

LOT	**Lotru**	**4.69**	**30**⇑	*i*P	**Pn**	**21 32 13.3**	**+1.2**
SIRR	**Siria**	**4.92**	**10**⇑	*i*P	**Pn**	**21 32 15.3**	**+0.1**
SIRR				S	**Sn**	**21 33 11.9**	**-0.8**
SIRR	**Siria**	**4.92**	**10**⇑	*i*P	**Pn**	**21 32 15.3**	**+0.1**
PKSM	**Moragy**	**4.96**	**345**⇑	*i*P	**Pn**	**21 32 17.2**	**+1.5**
PKSM				S	**Sn**	**21 33 14.9**	**+1.2**
PKSM	**Moragy**	**4.96**	**345**⇑	*i*P	**Pn**	**21 32 17.2**	**+1.5**
NVLJ	**Novalja**	**5.16**	**309**	Sn	**Sn**	**21 33 18.5**	**0.0**
VOIR		**5.22**	**38**⇑	*i*P	**Pn**	**21 32 20.4**	**+1.0**
VOIR		**5.22**	**38**⇑	*i*P	**Pn**	**21 32 20.4**	**+1.0**
BOJS	**Bojanci**	**5.56**	**319**	*i* Pn	**Pn**	**21 32 25.3**	**+1.3**
BOJS				*i* Sn	**Sn**	**21 33 29.5**	**+1.0**
BOJS	**Bojanci**	**5.56**	**319**	Pn	**Pn**	**21 32 25.3**	**+1.3**
BOJS				*i* Sn	**Sn**	**21 33 29.5**	**+1.0**
MLR	**Muntele Rosu**	**5.70**	**43**⇑	*i*P	**Pn**	**21 32 26.7**	**+0.7**
MLR	**Muntele Rosu**	**5.70**	**43**⇑	*i*P	**Pn**	**21 32 26.7**	**+0.7**
CRES	**Cresnjev**	**5.70**	**322**	*e*Pn	**Pn**	**21 32 27.4**	**+1.5**
CRES	**Cresnjev**	**5.70**	**322**	*e*Pn	**Pn**	**21 32 27.4**	**+1.5**
VISS	**Visnje**	**5.98**	**319**	*i* Pn	Pn	21 32 32.2	+2.5
VISS				*i* Sn	**Sn**	**21 33 40.8**	**+2.0**
VISS	**Visnje**	**5.98**	**319**	*i* Pn	Pn	21 32 32.2	+2.5
VISS				*i* Sn	**Sn**	**21 33 40.8**	**+2.0**
SKDS	**Skadanscina**	**6.24**	**313**	*i* Pn	Pn	21 32 35.5	+2.2
SKDS				*i* Sn	**Sn**	**21 33 45.1**	**-0.1**
SKDS	**Skadanscina**	**6.24**	**313**	*i* Pn	Pn	21 32 35.5	+2.2
SKDS				*i* Sn	**Sn**	**21 33 45.1**	**-0.1**
JAVS	**Javornik**	**6.43**	**316**	*i* Pn	**Pn**	**21 32 36.8**	**+0.7**
JAVS				*i* Sn	**Sn**	**21 33 51.5**	**+1.3**
JAVS	**Javornik**	**6.43**	**316**	*i* Pn	**Pn**	**21 32 36.8**	**+0.7**
JAVS				*i* Sn	**Sn**	**21 33 51.5**	**+1.3**

IDC 12 21:47:44.0±0.9, 12°.71N×58°.22E, h0^{km}, mb3.7/9, mb1 3.8/9, mb1mx3.6/25, mbtmp3.7/9, Error ellipse: s-maj=27.5km s-min=21.4km az=160.0, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**24.94**	**238**	P	P	21 53 11.0	+1.4
	0.7nm,0.4s,baz=46,slow=16,SNR=3.6						
MKAR	**Makanchi Array**	**39.56**	**26**	P	P	21 55 17.5	+0.6
	0.8nm,0.9s,baz=216,slow=12,SNR=5.2						
CMAR	**Chiang Mai Arr**	**39.58**	**76**	P	P	21 55 17.2	-0.3
	0.3nm,0.6s,baz=278,slow=6.3,SNR=3.1						
ZALV	**Zalesovo Beam**	**46.21**	**22**	P	P	21 56 10.5	-0.1
	1.4nm,0.7s,baz=227,slow=7.9,SNR=7.7						
SONM	**Songino Array**	**53.13**	**39**	P	P	21 57 05.2	+1.4
	0.5nm,0.8s,baz=242,slow=8.8,SNR=4.6						
FINES	**FINESS Array B**	**53.93**	**342**	P	P	21 57 07.7	-1.5
	1.3nm,0.8s,baz=132,slow=5.7,SNR=5.6						
TORD	**Torodi Ar. Bea**	**54.99**	**277**	P	P	21 57 17.3	-0.4
	0.2nm,0.5s,baz=90,slow=6.4,SNR=3.6						
WRA	**Warramunga Arr**	**81.60**	**113**	P	P	22 00 03.5	-1.0
	0.8nm,1.0s,baz=294,slow=4.4,SNR=4.3						
ASAR	**Alice Springs**	**82.30**	**116**	P	P	22 00 08.2	+0.1
	0.7nm,0.8s,baz=308,slow=5.4,SNR=6.4						

IDC 12 21:47:53.4±1.6, 29°.80S×178°.34W, h116^{km}±27^{km}, mb3.3/3, mb1 3.5/3, mb1mx3.3/14, mbtmp3.3/3, Error ellipse: s-maj=79.3km s-min=34.7km az=11.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.66**	**34**	P	Pn	21 48 11.4	-0.6
	118nm,0.3s,baz=153,slow=20,SNR=1.8						
RAO				S	Sn	21 48 27.8	+1.8
	92nm,0.3s,baz=51,slow=23,SNR=1.8						
STKA	**Stephens Creek**	**34.33**	**256**	P	P	21 54 29.6	+0.6
	1.5nm,0.8s,baz=109,slow=7.2,SNR=2.8						
ASAR	**Alice Springs**	**42.84**	**266**	P	P	21 55 39.8	-0.5
	0.4nm,0.9s,baz=105,slow=7.2,SNR=3.9						
WRA	**Warramunga Arr**	**43.78**	**272**	P	P	21 55 47.5	-0.3
	0.5nm,0.4s,baz=111,slow=8.1,SNR=16						
FINES	**FINESS Array B**	**144.49**	**340**	PKP	PKPdf	22 07 14.8	-0.5
	0.5nm,0.7s,baz=38,slow=5.3,SNR=3.6						
TORD	**Torodi Ar. Bea**	**163.42**	**180**	PKPab	PKPab	22 08 34.1	-0.2
	0.4nm,0.9s,baz=156,slow=2.6,SNR=2.9						

*IDC **12** 21:59:23.9±1.6, 5°.10S×122°.37E, h0^{km}, mb3.5/3, mb1 3.8/4, mb1mx3.5/21, mbtmp3.6/4, ML3.7/1, Error ellipse: s-maj=158.3km s-min=22.2km az=61.0*
*ISCJB **12** 21:59:26.0±0.7, 5°.42S±0°.05×122°.30E±0°.05, h38^{km}±10^{km}, mb3.6/3, Error ellipse: s-maj=8.2km s-min=7.5km az=11.6*
*DJA **12** 21:59:26.3±0.5, 6°.5S±3°×12°.2E±°, h59^{km}±7^{km}, M4.3/8, mb4.4/1, MLv4.2/8*
ISC 12 21:59:27.4±1.3, 5°.46S±0°.06×122°.32E±0°.07, h29^{km}±11^{km}, n16, σ2°.37/22, mb3.6/3, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSI	**Bau Bau**	**0.26**	**96**	P	**Pb**	**21 59 34.0**	**-0.2**
BBSI				S	Sn	21 59 47.1	+6.9
KKSI	**Kolaka, Sulawe**	**1.44**	**333**	P	**Pn**	**21 59 48.9**	**-2.6**
BKSI	**Bulukumba**	**2.19**	**273**	P	Pn	21 59 57.8	-4.0
BKSI				S	**Sn**	**22 00 26.7**	**-1.2**
BNSI	**Bone**	**2.44**	**295**	P	**Pn**	**22 00 03.1**	**-2.2**
BNSI				S	**Sn**	**22 00 32.9**	**-1.2**
KAPI	**Kappang**	**2.59**	**280**	P	Pn	22 00 03.9	-3.5
SPSI	**Sidrap Palu**	**2.94**	**300**	P	**Pn**	**22 00 11.2**	**-1.0**
SPSI				S	**Sn**	**22 00 45.4**	**-1.1**
MJSI	**Majene**	**3.83**	**300**	P	**Pn**	**22 00 26.5**	**+2.1**
MJSI				S	**Sn**	**22 01 13.7**	**+5.2**
LBFI	**Labuhan Bajo,**	**3.85**	**219**	P	**Pn**	**22 00 24.4**	**-0.3**
LBFI				S	**Sn**	**22 01 05.2**	**-3.7**
MMSI	**Mamuju**	**4.37**	**309**	P	**Pn**	**22 00 33.9**	**+2.0**
MMSI				S	**Sn**	**22 01 23.0**	**+1.1**
LUWI	**Luwuk**	**4.41**	**6**	P	**Pn**	**22 00 32.9**	**+0.5**
LUWI				S	**Sn**	**22 01 22.4**	**-0.5**
APSI	**Ampana**	**4.57**	**352**	P	**Pn**	**22 00 32.9**	**-1.7**
APSI				S	**Sn**	**22 01 24.5**	**-2.2**
GTOI	**Gorontalo**	**6.09**	**7**	P	**Pn**	**22 00 56.3**	**+0.7**
WRA	**Warramunga Arr**	**18.55**	**142**	P	**Pn**	**22 03 43.6**	**+1.2**
	0.3nm,0.3s,baz=318,slow=12,SNR=18						
ASAR	**Alice Springs**	**21.27**	**149**	P	**P**	**22 04 15.9**	**+4.3**
	1.3nm,0.6s,baz=328,slow=12,SNR=19						
SONM	**Songino Array**	**54.89**	**347**	P	**P**	**22 08 53.4**	**-2.0**
	0.5nm,0.7s,baz=168,slow=8.3,SNR=3.5						
MKAR	**Makanchi Array**	**62.93**	**330**	P	**P**	**22 09 50.9**	**-0.3**
	0.4nm,0.7s,baz=134,slow=8.3,SNR=3.5						

IDC 12 22:00:13.7±5.8, 15°.82S×72°.21W, h177^{km}±44^{km}, mb3.3/2, mb1 3.3/3, mb1mx3.1/18, mbtmp3.1/3, Error ellipse: s-maj=62.6km s-min=31.1km az=123.0, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.95**	**97**	P	Pn	22 01 13.3	-1.6
	0.3nm,0.3s,baz=282,slow=12,SNR=7.7						
LPAZ				S	Sn	22 02 03.7	+1.1
	0.1nm,0.3s,baz=219,slow=24,SNR=1.4						
PLCA	**Paso Flores**	**24.87**	**177**	P	P	22 05 20.1	+0.1
	0.7nm,0.4s,baz=350,slow=11,SNR=3.4						
TORD	**Torodi Ar. Bea**	**78.53**	**73**	P	P	22 11 55.6	-0.4
	0.4nm,0.4s,baz=258,slow=4.7,SNR=13						
SONM	**Songino Array**	**148.05**	**2**	PKPbc	PKPbc	22 19 38.6	+0.1
	0.4nm,0.6s,baz=355,slow=3.3,SNR=3.2						

MEX 12 22:06:09.2±0.4, 14°.85N×93°.22W, h40^{km}±14^{km}, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.85**	**360**	*e*P	Pn	22 06 23.0	-1.7
PCIG				*i* S	Sn	22 06 33.8	-2.1
CCIG	**Comitan**	**1.76**	**36**	*e*P	Pn	22 06 36.0	-1.5
CCIG				*i* S	Sn	22 06 56.7	-2.2
TGIG		**1.92**	**3**	*e*P	Pn	22 06 37.6	-1.9
TGIG				*i* S	Sn	22 07 00.4	-2.1
CMIG	**Matias Romero**	**2.74**	**324**	*e*P	Pn	22 06 49.6	-1.1
CMIG				*i* S	Sn	22 07 21.0	-1.7
HUIG	**Huatulco**	**2.94**	**288**	*e*P	Pn	22 06 52.7	-0.7
HUIG				*i* S	Sn	22 07 25.7	-1.7

*LDG **12** 22:26:48.4±0.3, 36°.60N×7°.11W, h30^{km}, Ml2.7/4, Error ellipse: s-maj=7.3km s-min=3.5km az=19.0*
*CSEM **12** 22:26:48.7±0.2, 36°.51N×7°.23W, h40^{km}, ML2.3, Error ellipse: s-maj=5.0km s-min=2.2km az=25.0*
*MDD **12** 22:26:48.3±0.7, 36°.42N×7°.31W, h43^{km}±30^{km}, mb4.2/16, Error ellipse: s-maj=7.6km s-min=3.7km az=26.0, PRXIMO*
MDD EMS: I-II INTENSIDAD MAXIMA.
*INMG **12** 22:26:48.6±1.2, 36°.40N×7°.30W, h31^{km}±7^{km}, ML2.3, Error ellipse: s-maj=3.5km s-min=2.8km az=30.0*
ISC 12 22:26:46.8±1.2, 36°.45N±0°.04×7°.25W±0°.03, h32^{km}±11^{km}, n129, σ1°.19/219, 5C-5D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBDV	**Barranco-do-Ve**	**0.96**	**326**	*i* P	**Pb**	**22 27 04.9**	**-0.1**
PBDV				*e*S	**Sn**	**22 27 16.9**	**+0.3**
PBDV				A	A	22 27 19.1	
	13nm,0.2s						
PBDV	**Barranco-do-Ve**	**0.96**	**326**	⇓P	**Pb**	**22 27 04.9**	**-0.1**
PBDV				S	**Sn**	**22 27 16.9**	**+0.3**
	13nm,0.2s						
PBDV	**Barranco-do-Ve**	**0.96**	**326**	P	**Pb**	**22 27 04.9**	**-0.1**
PBDV				*e*S	**Sn**	**22 27 16.9**	**+0.3**
	13nm,0.2s						
PVAQ	**Vaqueiros**	**1.02**	**339**	*i* P	**Pb**	**22 27 05.9**	**-0.1**
PVAQ				*e*S	**Sn**	**22 27 18.6**	**+0.5**
PVAQ				A	A	22 27 20.9	
	37nm,0.2s						
PVAQ	**Vaqueiros**	**1.02**	**339**	⇓P	**Pb**	**22 27 05.9**	**-0.1**
PVAQ				S	**Sn**	**22 27 18.6**	**+0.5**
	37nm,0.2s						
PVAQ	**Vaqueiros**	**1.02**	**339**	P	**Pb**	**22 27 05.9**	**-0.1**
PVAQ				*e*S	**Sn**	**22 27 18.6**	**+0.5**
	37nm,0.2s						
EGRO	**El Granado**	**1.10**	**350**	⇓P	**Pb**	**22 27 07.2**	**-0.1**
	9.3nm,0.1s,SNR=18						
EGRO				S	**Sn**	**22 27 20.6**	**+0.7**
	112nm,0.2s,SNR=11						
EGRO	**El Granado**	**1.10**	**350**	P	**Pb**	**22 27 07.2**	**-0.1**
	9.3nm,0.1s,SNR=18						
EGRO				S	**Sn**	**22 27 20.6**	**+0.7**
	112nm,0.2s,SNR=11						
ESPR	**Espera**	**1.20**	**69**	⇑P	**Pb**	**22 27 08.6**	**-0.3**
	36nm,0.2s,SNR=18						
ESPR				S	**Sb**	**22 27 23.9**	**-0.2**
	68nm,0.3s						
ESPR	**Espera**	**1.20**	**69**	P	**Pb**	**22 27 08.6**	**-0.3**
	36nm,0.2s,SNR=18						
ESPR				S	**Sb**	**22 27 23.9**	**-0.2**
	68nm,0.3s						
EMIN	**Mina Concepcio**	**1.40**	**19**	P	**Pb**	**22 27 11.2**	**-1.1**
	1.7nm,0.1s,SNR=38						
EMIN				S	**Sn**	**22 27 27.7**	**+0.4**
	26nm,0.2s,SNR=19						
EMIN	**Mina Concepcio**	**1.40**	**19**	P	**Pb**	**22 27 11.2**	**-1.1**
	1.7nm,0.1s,SNR=38						
EMIN				S	**Sn**	**22 27 27.7**	**+0.4**
	26nm,0.2s,SNR=19						
MORF	**Marmelete**	**1.41**	**308**	*e*P	**Pn**	**22 27 10.3**	**+0.1**
MORF				*e*S	**Sn**	**22 27 27.2**	**-0.5**
MORF				A	A	22 27 29.4	
	17nm,0.1s						
MORF	**Marmelete**	**1.41**	**308**	P	**Pn**	**22 27 10.3**	**+0.1**
MORF				S	**Sn**	**22 27 26.8**	**-1.0**
MORF	**Marmelete**	**1.41**	**308**	P	**Pn**	**22 27 10.3**	**+0.1**
MORF				*e*S	**Sn**	**22 27 27.2**	**-0.5**
	17nm,0.1s						
PFVI	**Vila Bisbo**	**1.44**	**299**	*e*P	**Pn**	**22 27 10.6**	**+0.1**
PFVI				*e*S	**Sn**	**22 27 27.9**	**-0.4**
PFVI				A	A	22 27 37.2	
	19nm,0.5s						
PFVI	**Vila Bisbo**	**1.44**	**299**	P	**Pn**	**22 27 10.6**	**+0.1**
	3.2nm,0.1s,SNR=6.1						
PFVI				S	**Sn**	**22 27 26.8**	**-1.5**
	26nm,0.1s,SNR=6.5						
PFVI	**Vila Bisbo**	**1.44**	**299**	P	**Pn**	**22 27 10.6**	**+0.1**
	3.2nm,0.1s,SNR=6.1						
PFVI				*e*S	**Sn**	**22 27 27.9**	**-0.4**
	19nm,0.5s						
EJIF	**Jimena Fronter**	**1.44**	**89**	P	**Pb**	**22 27 12.4**	**-0.6**
	4.0nm,0.2s,SNR=7.9						
EJIF				S	**Sb**	**22 27 31.0**	**+0.1**
	13nm,0.4s,SNR=7.9						
EJIF	**Jimena Fronter**	**1.44**	**89**	P	**Pb**	**22 27 12.4**	**-0.6**
	4.0nm,0.2s,SNR=7.9						
EJIF				S	**Sb**	**22 27 31.0**	**+0.1**
	13nm,0.4s,SNR=7.9						
ECEU	**Ceuta**	**1.61**	**109**	P	**Pn**	**22 27 14.8**	**+1.8**
	2.7nm,0.1s,SNR=7.9						
ECEU				S	**Sn**	**22 27 32.5**	**-0.2**
	65nm,0.1s,SNR=28						
ECEU	**Ceuta**	**1.61**	**109**	P	**Pn**	**22 27 14.8**	**+1.8**
	2.7nm,0.1s,SNR=7.9						
ECEU				S	**Sn**	**22 27 32.5**	**-0.2**
	65nm,0.1s,SNR=28						
PBAR	**Barrancos**	**1.73**	**6**	*e*P	**Pn**	**22 27 16.0**	**+1.4**
PBAR				*e*S	**Sn**	**22 27 36.8**	**+1.2**
PBAR				A	A	22 27 42.7	
	12nm,0.1s						
PBAR	**Barrancos**	**1.73**	**6**	P	**Pn**	**22 27 16.0**	**+1.4**
PBAR				S	**Sn**	**22 27 36.8**	**+1.2**
	12nm,0.1s						
PBAR	**Barrancos**	**1.73**	**6**	P	**Pn**	**22 27 16.0**	**+1.4**
PBAR				*e*S	**Sn**	**22 27 36.8**	**+1.2**
	12nm,0.1s						
PNCL	**Nicolau / Gran**	**1.95**	**329**	*e*P	**Pn**	**22 27 18.4**	**+0.9**
PNCL	**Nicolau / Gran**	**1.95**	**329**	*e*P	**Pn**	**22 27 18.4**	**+0.9**
EMIJ	**Mijas**	**2.00**	**86**	P	**Pn**	**22 27 19.1**	**+0.8**
	1.4nm,0.3s,SNR=7.1						
EMIJ				S	**Sn**	**22 27 42.5**	**+0.2**
	3.4nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**2.00**	**86**	P	**Pn**	**22 27 19.1**	**+0.8**
	1.4nm,0.3s,SNR=7.1						
EMIJ				S	**Sn**	**22 27 42.5**	**+0.2**
	3.4nm,0.2s,SNR=7.9						
EVO	**Evora**	**2.17**	**344**	*e*Pn	**Pn**	**22 27 22.0**	**+1.4**
EVO				*e*Sn	**Sn**	**22 27 45.1**	**-1.2**
	13nm,0.3s						
EVO	**Evora**	**2.17**	**344**	*e*P	**Pn**	**22 27 21.8**	**+1.2**
EVO				*e*S	**Sn**	**22 27 46.8**	**+0.5**
EVO				A	A	22 27 47.2	
	25nm,0.1s						
EVO	**Evora**	**2.17**	**344**	P	**Pn**	**22 27 21.8**	**+1.2**
EVO				S	**Sn**	**22 27 46.8**	**+0.5**
	25nm,0.1s						
EVO	**Evora**	**2.17**	**344**	P	**Pn**	**22 27 21.8**	**+1.2**
EVO				*e*S	**Sn**	**22 27 46.8**	**+0.5**
	25nm,0.1s						
ECAB	**El Cabril**	**2.19**	**41**	⇑P	**Pn**	**22 27 21.8**	**+0.9**
	1.1nm,0.0s,SNR=18						
ECAB				S	**Sn**	**22 27 46.6**	**-0.2**
	3.0nm,0.2s,SNR=14						
ECAB	**El Cabril**	**2.19**	**41**	P	**Pn**	**22 27 21.8**	**+0.9**
	1.1nm,0.0s,SNR=18						
ECAB				S	**Sn**	**22 27 46.6**	**-0.2**
	3.0nm,0.2s,SNR=14						
EVOP	**Sao Brissos**	**2.19**	**342**	*e*Pn	**Pn**	**22 27 22.0**	**+1.1**
EVOP				*e*Sn	**Sn**	**22 27 45.1**	**-1.7**
	6.6nm,0.3s						
MOE	**Montemor**	**2.25**	**337**	*e*P	**Pn**	**22 27 23.1**	**+1.4**
MOE				*e*S	**Sn**	**22 27 49.0**	**+0.7**
MOE	**Montemor**	**2.25**	**337**	P	**Pn**	**22 27 23.1**	**+1.4**
MOE				S	**Sn**	**22 27 49.0**	**+0.7**
MOE	**Montemor**	**2.25**	**337**	P	**Pn**	**22 27 23.1**	**+1.4**
MOE				S	**Sn**	**22 27 49.0**	**+0.7**
EBAD	**Badajoz**	**2.31**	**5**	P	**Pn**	**22 27 23.7**	**+1.1**
	2.1nm,0.1s,SNR=16						
EBAD				S	**Sn**	**22 27 49.5**	**-0.3**
	5.2nm,0.2s,SNR=15						
EBAD	**Badajoz**	**2.31**	**5**	P	**Pn**	**22 27 23.7**	**+1.1**
	2.1nm,0.1s,SNR=16						
EBAD				S	**Sn**	**22 27 49.5**	**-0.3**
	5.2nm,0.2s,SNR=15						
PESTR	**Estremoz**	**2.43**	**354**	*e*P	**Pn**	**22 27 25.2**	**+1.0**
PESTR				*e*S	**Sn**	**22 27 52.3**	**-0.5**
PESTR				A	A	22 27 56.6	
	5.6nm,0.3s						
PESTR	**Estremoz**	**2.43**	**354**	P	**Pn**	**22 27 25.2**	**+1.0**
PESTR				S	**Sn**	**22 27 52.3**	**-0.5**
	2.8nm,0.3s						
PESTR	**Estremoz**	**2.43**	**354**	P	**Pn**	**22 27 25.2**	**+1.0**
PESTR				*e*S	**Sn**	**22 27 52.3**	**-0.5**
	5.6nm,0.3s						
ELOJ	**Sierra Loja**	**2.58**	**73**	P	**Pn**	**22 27 28.5**	**+2.1**
	1.7nm,0.2s,SNR=6.4						
ELOJ				S	**Sn**	**22 27 56.9**	**+0.1**
	2.5nm,0.2s						
ELOJ	**Sierra Loja**	**2.58**	**73**	P	**Pn**	**22 27 28.5**	**+2.1**
	1.7nm,0.2s,SNR=6.4						
ELOJ				S	**Sn**	**22 27 56.9**	**+0.1**
	2.5nm,0.2s						
PACT	**Alcochete**	**2.63**	**332**	*e*P	**Pn**	**22 27 28.6**	**+1.6**
PACT	**Alcochete**	**2.63**	**332**	*e*P	**Pn**	**22 27 28.6**	**+1.6**
ELUQ	**Luque**	**2.63**	**64**	P	**Pn**	**22 27 28.4**	**+1.3**
	2.3nm,0.1s,SNR=7.9						
ELUQ				S	**Sn**	**22 27 58.1**	**+0.1**
	3.3nm,0.2s,SNR=7.9						
ELUQ	**Luque**	**2.63**	**64**	P	**Pn**	**22 27 28.4**	**+1.3**
	2.3nm,0.1s,SNR=7.9						
ELUQ				S	**Sn**	**22 27 58.1**	**+0.1**
	3.3nm,0.2s,SNR=7.9						
PMTG	**Montargil**	**2.73**	**344**	*e*P	**Pn**	**22 27 29.4**	**+1.1**
PMTG				*e*S	**Sn**	**22 28 00.0**	**-0.1**
PMTG				A	A	22 28 12.1	
	4.5nm,0.2s						
PMTG	**Montargil**	**2.73**	**344**	*e*P	**Pn**	**22 27 29.4**	**+1.1**
PMTG				*e*S	**Sn**	**22 28 00.0**	**-0.1**
	4.5nm,0.2s						
EADA	**Adamuz**	**2.74**	**50**	⇓P	**Pn**	**22 27 29.8**	**+1.3**
	4.7nm,0.2s,SNR=18						
EADA				S	**Sn**	**22 28 00.0**	**-0.4**
	8.9nm,0.1s						
EADA	**Adamuz**	**2.74**	**50**	P	**Pn**	**22 27 29.8**	**+1.3**
	4.7nm,0.2s,SNR=18						
EADA				S	**Sn**	**22 28 00.0**	**-0.4**
	8.9nm,0.1s						
ERON	**Agron**	**2.83**	**77**	P	**Pn**	**22 27 30.9**	**+1.1**
	0.6nm,0.2s,SNR=7.9						
ERON				S	**Sn**	**22 28 02.0**	**-0.8**
	1.0nm,0.2s,SNR=7.9						
ERON	**Agron**	**2.83**	**77**	P	**Pn**	**22 27 30.9**	**+1.1**
	0.6nm,0.2s,SNR=7.9						
ERON				S	**Sn**	**22 28 02.0**	**-0.8**
	1.0nm,0.2s,SNR=7.9						
PMAFR	**Mafra**	**2.98**	**328**	*e*P	**Pn**	**22 27 33.0**	**+1.3**
PMAFR	**Mafra**	**2.98**	**328**	⇑P	**Pn**	**22 27 33.0**	**+1.3**
	7.2nm,0.1s,SNR=18						
PMAFR				S	**Sn**	**22 28 05.0**	**-1.3**
	11nm,0.3s						
PMAFR	**Mafra**	**2.98**	**328**	P	**Pn**	**22 27 33.0**	**+1.3**
	7.2nm,0.1s,SNR=18						
PMAFR				S	**Sn**	**22 28 05.0**	**-1.3**
	11nm,0.3s						
PMRV	**Marv??o**	**2.98**	**358**	*e*P	**Pn**	**22 27 32.8**	**+1.1**
PMRV				*e*S	**Sn**	**22 28 05.9**	**-0.4**
PMRV				A	A	22 28 07.5	
	6.4nm,0.4s						
PMRV	**Marv??o**	**2.98**	**358**	P	**Pn**	**22 27 32.8**	**+1.1**
PMRV				S	**Sn**	**22 28 05.9**	**-0.4**
	6.4nm,0.4s						
PMRV	**Marv??o**	**2.98**	**358**	P	**Pn**	**22 27 32.8**	**+1.1**
PMRV				*e*S	**Sn**	**22 28 05.9**	**-0.4**
	6.4nm,0.4s						
EGUA	**Guajares**	**2.99**	**82**	P	**Pn**	**22 27 33.5**	**+1.6**
	3.1nm,0.2s,SNR=7.9						
EGUA				S	**Sn**	**22 28 06.0**	**-0.7**
	8.2nm,0.2s,SNR=7.9						
EGUA	**Guajares**	**2.99**	**82**	P	**Pn**	**22 27 33.5**	**+1.6**
	3.1nm,0.2s,SNR=7.9						
EGUA				S	**Sn**	**22 28 06.0**	**-0.7**
	8.2nm,0.2s,SNR=7.9						
ECOG	**Cogollos-Vega**	**3.07**	**73**	P	**Pn**	**22 27 34.4**	**+1.3**
	3.5nm,0.1s,SNR=7.9						
ECOG				S	**Sn**	**22 28 09.3**	**+0.5**
	3.3nm,0.2s,SNR=7.9						
ECOG	**Cogollos-Vega**	**3.07**	**73**	P	**Pn**	**22 27 34.4**	**+1.3**
	3.5nm,0.1s,SNR=7.9						
ECOG				S	**Sn**	**22 28 09.3**	**+0.5**
	3.3nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**3.15**	**75**	P	**Pn**	**22 27 36.1**	**+1.9**
	0.6nm,0.1s,SNR=7.9						
EQUE				S	**Sn**	**22 28 11.0**	**+0.2**
	2.5nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**3.15**	**75**	P	**Pn**	**22 27 36.1**	**+1.9**
	0.6nm,0.1s,SNR=7.9						
EQUE				S	**Sn**	**22 28 11.0**	**+0.2**
	2.5nm,0.2s,SNR=7.9						
EBAN	**Banos Encina**	**3.25**	**57**	⇑P	**Pn**	**22 27 36.7**	**+1.2**
	12nm,0.1s,SNR=18						
EBAN				S	**Sn**	**22 28 11.2**	**-1.9**
	3.7nm,0.2s						
EBAN	**Banos Encina**	**3.25**	**57**	P	**Pn**	**22 27 36.7**	**+1.2**
	12nm,0.1s,SNR=18						
EBAN				S	**Sn**	**22 28 11.2**	**-1.9**
	3.7nm,0.2s						
EALB	**Alboran**	**3.45**	**97**	S	**Sn**	**22 28 16.1**	**-1.8**
	4.9nm,0.3s,SNR=7.9						
EBER	**Berja**	**3.54**	**81**	P	**Pn**	**22 27 41.0**	**+1.4**
	0.3nm,0.2s,SNR=7.9						
EBER				S	**Sn**	**22 28 20.3**	**-0.1**
	7.4nm,0.5s,SNR=7.9						
EBER	**Berja**	**3.54**	**81**	P	**Pn**	**22 27 41.0**	**+1.4**
	0.3nm,0.2s,SNR=7.9						
EBER				S	**Sn**	**22 28 20.3**	**-0.1**
	7.4nm,0.5s,SNR=7.

GUD				S	Sn	22 28 50.1	-2.4
	4.9nm,1.0s						
POLO	**Lamas de Olo**	**4.94**	**355**	*e*P	**Pn**	**22 27 59.7**	**+1.0**
POLO				*e*S	**Sn**	**22 28 53.0**	**-1.7**
POLO				A	A	22 28 55.2	
	2.2nm,0.3s						
POLO	**Lamas de Olo**	**4.94**	**355**	*e*P	**Pn**	**22 27 59.7**	**+1.0**
POLO				*e*S	**Sn**	**22 28 53.0**	**-1.7**
	2.2nm,0.3s						
EMUR	**La Murta**	**5.00**	**72**	P	**Pn**	**22 27 59.9**	**+0.3**
	0.6nm,0.2s,SNR=7.9						
EMUR				S	**Sn**	**22 28 54.5**	**-1.8**
	2.3nm,0.4s,SNR=7.9						
EMUR	**La Murta**	**5.00**	**72**	P	**Pn**	**22 27 59.9**	**+0.3**
	0.6nm,0.2s,SNR=7.9						
EMUR				S	**Sn**	**22 28 54.5**	**-1.8**
	2.3nm,0.4s,SNR=7.9						
ETOB	**Tobarra**	**5.04**	**62**	P	**Pn**	**22 28 00.5**	**+0.4**
	1.3nm,0.1s,SNR=44						
ETOB				S	Sn	22 28 54.4	-2.8
	2.0nm,0.3s						
ETOB	**Tobarra**	**5.04**	**62**	P	**Pn**	**22 28 00.5**	**+0.4**
	1.3nm,0.1s,SNR=44						
ELOB	**Lobios**	**5.45**	**354**	P	**Pn**	**22 28 06.7**	**+0.9**
	0.1nm,0.1s,SNR=4.9						
ELOB				S	**Sn**	**22 29 05.1**	**-2.2**
	4.7nm,0.3s,SNR=12						
ELOB	**Lobios**	**5.45**	**354**	P	**Pn**	**22 28 06.7**	**+0.9**
	0.1nm,0.1s,SNR=4.9						
ELOB				S	**Sn**	**22 29 05.1**	**-2.2**
	4.7nm,0.3s,SNR=12						
ECAL	**Calabor**	**5.50**	**4**	P	**Pn**	**22 28 07.8**	**+1.3**
	0.3nm,0.1s,SNR=5.6						
ECAL				S	Sn	22 29 05.2	-3.4
	5.0nm,0.2s,SNR=8.1						
ECAL	**Calabor**	**5.50**	**4**	P	**Pn**	**22 28 07.8**	**+1.3**
	0.3nm,0.1s,SNR=5.6						
PGAV	**Gavieira, Arco**	**5.56**	**352**	*e*P	**Pn**	**22 28 08.5**	**+1.1**
PGAV				*e*S	**Sn**	**22 29 09.0**	**-1.2**
PGAV				A	A	22 29 11.7	
	2.7nm,0.2s						
PGAV	**Gavieira, Arco**	**5.56**	**352**	*e*P	**Pn**	**22 28 08.5**	**+1.1**
PGAV				*e*S	**Sn**	**22 29 09.0**	**-1.2**
	2.7nm,0.2s						
EBEN	**Beniarda**	**6.02**	**66**	P	**Pn**	**22 28 13.7**	**+0.1**
	0.1nm,0.1s,SNR=7.9						
EBEN				S	Sn	22 29 18.1	-3.3
	0.4nm,0.3s,SNR=7.9						
EBEN	**Beniarda**	**6.02**	**66**	P	**Pn**	**22 28 13.7**	**+0.1**
	0.1nm,0.1s,SNR=7.9						
EMOS	**Mosqueruela**	**6.60**	**52**	P	**Pn**	**22 28 22.9**	**+1.2**
	0.4nm,0.2s,SNR=7.9						
EMOS				S	Sn	22 29 31.8	-4.2
	0.1nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**6.60**	**52**	P	**Pn**	**22 28 22.9**	**+1.2**
	0.4nm,0.2s,SNR=7.9						
EMAZ	**Mazaricos**	**6.63**	**349**	P	**Pn**	**22 28 21.5**	**-0.3**
	0.2nm,0.1s,SNR=7.9						
EMAZ				S	Sn	22 29 32.3	-3.9
	0.2nm,0.2s,SNR=7.9						
EMAZ	**Mazaricos**	**6.63**	**349**	P	**Pn**	**22 28 21.5**	**-0.3**
	0.2nm,0.1s,SNR=7.9						
IELO	**Elcoad**	**7.89**	**34**	P	**Pn**	**22 28 40.5**	**+1.2**
	1.3nm,0.3s,SNR=7.9						
IELO				S	Sn	22 30 01.9	-5.6
	0.2nm,0.2s,SNR=7.9						
IELO	**Elcoad**	**7.89**	**34**	P	**Pn**	**22 28 40.5**	**+1.2**
	1.3nm,0.3s,SNR=7.9						
ELIZ	**Elizondo**	**8.02**	**32**	P	**Pn**	**22 28 42.8**	**+1.8**
	0.8nm,0.2s,SNR=7.9						
ELIZ				S	Sn	22 30 04.3	-6.3
	0.5nm,0.2s,SNR=7.9						
ELIZ	**Elizondo**	**8.02**	**32**	P	**Pn**	**22 28 42.8**	**+1.8**
	0.8nm,0.2s,SNR=7.9						
EALK	**Alkurruntz**	**8.08**	**31**	P	**Pn**	**22 28 43.8**	**+2.1**
	0.7nm,0.2s,SNR=5.9						
EALK				S	Sn	22 30 06.3	-5.6
	0.3nm,0.2s,SNR=7.9						
EALK	**Alkurruntz**	**8.08**	**31**	P	**Pn**	**22 28 43.8**	**+2.1**
	0.7nm,0.2s,SNR=5.9						
SJPF	**Ste Jean**	**8.11**	**33**	*e*P	**Pn**	**22 28 44.2**	**+2.0**
SJPF				*e*Sn	Sn	22 30 02.9	-10
	1.0nm,0.3s						
SJPF	**Ste Jean**	**8.11**	**33**	P	**Pn**	**22 28 44.2**	**+2.0**
ETSF	**Etsaut**	**8.25**	**37**	*e*P	**Pn**	**22 28 45.9**	**+1.7**
ETSF				*e*Sn	Sn	22 30 05.8	-11
	0.3nm,0.3s						
ETSF	**Etsaut**	**8.25**	**37**	P	**Pn**	**22 28 45.9**	**+1.7**
EBIE	**Bielsa**	**8.45**	**40**	P	**Pn**	**22 28 48.3**	**+1.2**
	0.3nm,0.2s,SNR=7.9						
EBIE				S	Sn	22 30 18.1	-3.3
	0.2nm,0.2s,SNR=7.9						
EBIE	**Bielsa**	**8.45**	**40**	P	**Pn**	**22 28 48.3**	**+1.2**
	0.3nm,0.2s,SNR=7.9						
CSOR	**Sort**	**8.78**	**45**	P	**Pn**	**22 28 53.2**	**+1.7**
	0.2nm,0.1s,SNR=5.6						
CSOR	**Sort**	**8.78**	**45**	P	**Pn**	**22 28 53.2**	**+1.7**
	0.2nm,0.1s,SNR=5.6						
EPF	**Esparros**	**8.79**	**39**	*e*Pn	Pn	22 28 48.7	-3.0
EPF	**Esparros**	**8.79**	**39**	*e*P	**Pn**	**22 28 53.9**	**+2.2**
EPF				*e*Sn	Sn	22 30 19.1	-11
	0.4nm,0.3s						
EPF	**Esparros**	**8.79**	**39**	P	**Pn**	**22 28 53.9**	**+2.2**
MTLF	**Montolieu**	**10.01**	**44**	*e*Pn	Pn	22 29 05.5	-2.8

IDC 12 22:27:12.3±1.6, 3°.68N×126°.89E, h0km, mb4.1/5, mb1 4.3/5, mb1mx3.8/23, mbtmp4.1/5, 1D, Error ellipse: s-maj=105.4km s-min=21.7km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**4.39**	**323**	‖ *i*P	Pb	22 28 26.2	-4.2
FITZ	**Fitzroy Crossi**	**21.68**	**183**	P	P	22 32 04.8	0.0
	2.5nm,0.8s,baz=7.3,slow=10,SNR=7.1						
WRA	**Warramunga Arr**	**24.59**	**163**	P	P	22 32 33.7	-0.7
	5.9nm,0.5s,baz=343,slow=10.0,SNR=71						
ASAR	**Alice Springs**	**28.03**	**166**	P	P	22 33 05.5	+0.1
	0.8nm,0.3s,baz=339,slow=9.6,SNR=27						
STKA	**Stephens Creek**	**38.03**	**159**	P	P	22 34 32.9	+0.5
	3.1nm,0.4s,baz=336,slow=7.5,SNR=10						
MKAR	**Makanchi Array**	**57.69**	**325**	P	P	22 37 04.5	-0.2
	0.3nm,0.3s,baz=119,slow=7.4,SNR=12						

IDC 12 22:28:05.6±1.9, 3°.66N×126°.83E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.7/23, mbtmp4.0/5, Error ellipse: s-maj=112.2km s-min=26.8km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.65**	**183**	P	P	22 32 56.4	-1.4
	1.4nm,0.6s,baz=350,slow=12,SNR=2.0						
WRA	**Warramunga Arr**	**24.59**	**163**	P	P	22 33 27.2	-0.4
	3.7nm,0.5s,baz=345,slow=9.5,SNR=7.5						
ASAR	**Alice Springs**	**28.02**	**166**	P	P	22 33 58.8	+0.1
	0.6nm,0.3s,baz=342,slow=9.5,SNR=7.6						
STKA	**Stephens Creek**	**38.03**	**159**	P	P	22 35 26.5	+0.8
	2.0nm,0.4s,baz=331,slow=8.9,SNR=4.6						
MKAR	**Makanchi Array**	**57.67**	**325**	P	P	22 37 58.0	0.0
	0.5nm,0.6s,baz=118,slow=8.4,SNR=2.9						

IDC 12 22:41:42.3±58.0, 19°.14S×178°.98W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/16, mbtmp3.9/3, Error ellipse: s-maj=1052.0km s-min=159.9km az=80.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.58**	**242**	P	P	22 48 58.4	-0.3
	2.3nm,1.0s,baz=63,slow=6.8,SNR=3.1						
WRA	**Warramunga Arr**	**43.89**	**261**	P	P	22 49 51.0	0.0
	0.5nm,0.3s,baz=96,slow=7.6,SNR=15						
ASAR	**Alice Springs**	**43.95**	**255**	P	P	22 49 51.2	-0.2
	1.1nm,0.7s,baz=89,slow=8.5,SNR=16						

*IDC **12** 22:45:50.4±0.8, 8°.88S×109°.73E, h0km, mb4.2/12, mb1 4.3/13, mb1mx4.2/22, mbtmp4.2/13, ML3.6/1, MS3.6/1, Ms1 3.6/1, ms1mx2.7/26, Error ellipse: s-maj=35.0km s-min=14.3km az=62.0*
*DJA **12** 22:45:57.1±0.9, 9°.5±4°×11°.0E±°, h29km±9km, M4.4/12, MLv4.4/12*
ISC 12 22:45:53.3±1.3, 8°.96S±0°.05×109°.69E±0°.04, h18km±4km, n25, σ0°94/34, mb4.2/12, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOGI	**Yogyakarta**	**1.28**	**28**	P	**Pg**	**22 46 18.2**	**+0.1**
YOGI				S	**Sg**	**22 46 34.4**	**-0.5**
UGM	**Wanagama**	**1.32**	**39**	P	**Pb**	**22 46 17.9**	**+0.3**
UGM				S	**Sn**	**22 46 33.8**	**-0.3**
BJII	**Banjamegara**	**1.61**	**1**	P	**Pg**	**22 46 24.1**	**-0.3**
KPJI	**Karang Pucung**	**1.78**	**335**	P	**Pg**	**22 46 27.9**	**+0.3**
TGJI	**Tegal**	**2.15**	**345**	P	**Pb**	**22 46 31.7**	**0.0**
TGJI				S	**Sb**	**22 46 58.7**	**+0.7**
PWJI	**Pagerwojo**	**2.29**	**66**	P	**Pn**	**22 46 30.4**	**+0.3**
PWJI				S	**Sn**	**22 46 57.0**	**-0.8**
CISI	**Cisompet, Garu**	**2.32**	**307**	P	**Pb**	**22 46 33.8**	**-0.8**
CISI				S	**Sb**	**22 47 04.9**	**+1.9**
NGJI	**Ngawi**	**2.36**	**48**	P	**Pb**	**22 46 36.4**	**+1.1**
NGJI				S	**Sg**	**22 47 10.0**	**+0.7**
SJI	**Sawahan**	**2.39**	**60**	P	**Pn**	**22 46 33.1**	**+1.5**
SJI				S	**Sb**	**22 47 02.8**	**-2.1**
KRKI	**Karangkates**	**2.84**	**74**	P	**Pn**	**22 46 38.6**	**+0.8**
KRKI				S	**Sn**	**22 47 12.8**	**+1.2**
BLJI	**Banyuglugur**	**4.05**	**73**	P	**Pn**	**22 46 56.3**	**+2.0**
JAGI	**Jajag, Banyuwa**	**4.44**	**84**	P	**Pn**	**22 47 00.5**	**+0.8**
FITZ	**Fitzroy Crossi**	**17.96**	**122**	P	**Pn**	**22 50 01.7**	**-0.5**
	0.2nm,0.3s,baz=278,slow=8.4,SNR=7.3						
FITZ				LR	LR	22 55 48.1	
	comp=Z,193nm,20.4s,baz=44,slow=33						
NWAO	**Narrogin (SRO)**	**24.85**	**165**	P	**P**	**22 51 14.9**	**+0.1**
	16nm,0.9s,baz=358,slow=6.6,SNR=3.3						
WRA	**Warramunga Arr**	**26.21**	**117**	P	**P**	**22 51 27.0**	**-0.2**
	3.7nm,1.0s,baz=291,slow=11,SNR=13						
ASAR	**Alice Springs**	**27.39**	**125**	P	**P**	**22 51 37.9**	**-0.1**
	1.9nm,0.6s,baz=299,slow=9.2,SNR=25						
STKA	**Stephens Creek**	**37.36**	**132**	P	**P**	**22 53 05.4**	**+0.4**
	4.3nm,0.5s,baz=300,slow=6.6,SNR=26						
KSRS	**Korea Array**	**49.22**	**19**	P	**P**	**22 54 41.0**	**+0.4**
	1.2nm,0.7s,baz=232,slow=5.9,SNR=4.1						
SONM	**Songino Array**	**56.62**	**357**	P	**P**	**22 55 33.9**	**-1.3**
	0.6nm,0.5s,baz=178,slow=8.2,SNR=6.2						
SONM				PcP	**PcP**	**22 56 31.4**	**-0.1**
	0.4nm,0.5s,baz=196,slow=4.1,SNR=2.3						
USRK	**Ussuriysk Arra**	**56.63**	**19**	P	**P**	**22 55 34.2**	**-1.0**
	5.2nm,1.1s,baz=242,slow=4.1,SNR=4.7						
MKAR	**Makanchi Array**	**60.64**	**339**	P	**P**	**22 56 03.0**	**-0.1**
	0.9nm,0.6s,baz=147,slow=7.9,SNR=12						
ZALV	**Zalesovo Beam**	**66.10**	**344**	P	**P**	**22 56 38.4**	**-0.7**
	1.2nm,0.5s,baz=156,slow=6.2,SNR=6.7						
VNDA	**Vanda**	**73.57**	**170**	P	**P**	**22 57 25.2**	**+0.4**
	1.5nm,0.6s,baz=297,slow=5.2,SNR=6.1						
PETK	**Petropavlovsk-**	**74.03**	**28**	P	**P**	**22 57 27.1**	**-0.7**
	3.6nm,0.9s,baz=218,slow=5.1,SNR=5.2						
BRTR	**Keskin Array B**	**85.11**	**311**	P	**P**	**22 58 29.2**	**+0.6**
	0.9nm,0.7s,baz=127,slow=7.9,SNR=6.0						

*IDC **12** 22:48:03.7±2.4, 8°.68S×109°.97E, h0km, mb3.9/7, mb1 4.0/8, mb1mx3.8/21, mbtmp3.9/8, ML3.6/1, Error ellipse: s-maj=103.0km s-min=18.8km az=54.0*
*ISCJB **12** 22:48:08.1±0.8, 9°.09S±0°.05×109°.84E±0°.06, h33km, mb3.9/7, Error ellipse: s-maj=8.4km s-min=7.5km az=10.7*
*DJA **12** 22:48:10.4±1.1, 9°.5±6°×11°.0E±°, h23km±11km, M4.3/9, MLv4.3/9*
ISC 12 22:48:08.7±0.9, 9°.04S±0°.08×109°.79E±0°.06, h35km, n19, σ1°90/21, mb3.7/7, South of Java

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOGI	**Yogyakarta**	**1.31**	**22**	P	**Pn**	**22 48 30.9**	**+0.3**
YOGI				S	**Sn**	**22 48 46.7**	**-0.3**
UGM	**Wanagama**	**1.33**	**33**	P	**Pn**	**22 48 30.4**	**-0.5**
UGM				S	**Sn**	**22 48 46.6**	**-0.9**
BJII	**Banjamegara**	**1.70**	**357**	P	**Pn**	**22 48 36.3**	**+0.3**
KPJI	**Karang Pucung**	**1.90**	**333**	P	**Pn**	**22 48 40.8**	**+2.2**
PWJI	**Pagerwojo**	**2.23**	**63**	P	**Pn**	**22 48 43.7**	**+0.4**
PWJI				S	**Sn**	**22 49 09.4**	**-0.3**
NGJI	**Ngawi**	**2.34**	**45**	P	Pn	22 48 48.8	+4.0
SJI	**Sawahan**	**2.35**	**57**	P	**Pn**	**22 48 46.8**	**+1.9**
CISI	**Cisompet, Garu**	**2.45**	**307**	P	**Pn**	**22 48 47.7**	**+1.4**
GRJI	**Gresik**	**3.40**	**52**	S	**Sn**	**22 49 40.3**	**+1.9**
BLJI	**Banyuglugur**	**3.98**	**71**	P	**Pn**	**22 49 08.8**	**+1.5**
FITZ	**Fitzroy Crossi**	**17.83**	**122**	P	**Pn**	**22 52 14.3**	**0.0**
	0.1nm,0.3s,baz=294,slow=10.0,SNR=2.4						
WRA	**Warramunga Arr**	**26.08**	**117**	P	**P**	**22 53 39.6**	**+0.2**
	1.5nm,0.7s,baz=291,slow=11,SNR=4.7						
ASAR	**Alice Springs**	**27.26**	**125**	P	**P**	**22 53 50.5**	**+0.4**
	1.3nm,0.6s,baz=299,slow=9.0,SNR=6.0						
STKA	**Stephens Creek**	**37.23**	**132**	P	**P**	**22 55 18.1**	**+0.9**
	2.5nm,0.4s,baz=313,slow=7.4,SNR=12						
WHN	**Wuhan**	**39.60**	**6**	S	**S**	**23 01 43.3**	**+5.7**
SONM	**Songino Array**	**56.70**	**357**	P	**P**	**22 57 47.2**	**-1.7**
	0.2nm,0.6s,baz=174,slow=7.5,SNR=2.9						
MKAR	**Makanchi Array**	**60.76**	**339**	P	**P**	**22 58 15.5**	**-1.5**
	0.3nm,0.4s,baz=148,slow=8.0,SNR=4.4						
ZALV	**Zalesovo Beam**	**66.21**	**344**	P	**P**	**22 58 50.9**	**-1.9**
	0.7nm,0.5s,baz=147,slow=3.8,SNR=3.4						
PETK	**Petropavlovsk-**	**74.06**	**28**	P	**P**	**22 59 38.8**	**-2.2**
	7.2nm,1.2s,baz=220,slow=4.4,SNR=3.6						

TAP 12 22:49:52.6, 21°.18N×121°.16E, h38km±1km, ML3.7, 1D, C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWK1	**Hengchun**	**0.83**	**336**	‖ *i*P	Pn	22 50 08.2	+0.4
	baz=337						
TWK1				S	Sn	22 50 19.9	+0.9
	baz=337						
HEN	**Hengchun**	**0.92**	**334**	*i* P	Pn	22 50 09.9	+1.0
	baz=335						
HEN				*i* S	Sn	22 50 22.4	+1.5
	baz=335						
LAY	**Lan-yu**	**0.93**	**23**	P	Pn	22 50 09.8	+0.6
	baz=23						
TAW	**Tawu**	**1.20**	**348**	*e*P	Pn	22 50 12.3	-0.6
SCZT	**Fangliau**	**1.29**	**337**	*e*P	Pn	22 50 15.0	+0.9
	baz=326						
TWG	**Pinlang**	**1.64**	**357**	*e*P	Pn	22 50 18.5	-0.4
	baz=357						
TWM1	**Shoushan**	**1.78**	**337**	*e*P	Pn	22 50 24.2	+3.3
	baz=338						
CHKT	**Chengkung**	**1.92**	**6**	*e*P	Pn	22 50 22.2	-0.6
	baz=357						
SGST	**Jiashian**	**1.97**	**344**	*e*P	Pn	22 50 25.5	+2.0
	baz=332						
ELDTW	**Ludau**	**2.01**	**356**	*e*P	Pn	22 50 23.7	-0.5
	baz=5.0						
CHN1	**Nanshi**	**2.08**	**344**	*e*P	Pn	22 50 26.1	+1.1
	baz=332						
TWF1	**Yuli**	**2.17**	**3**	*e*P	Pn	22 50 25.4	-0.8
	baz=356						
CHN4	**Tsaushan**	**2.23**	**346**	*e*P	Pn	22 50 28.9	+1.9
	baz=347						
EHY	**Hungye**	**2.32**	**4**	*e*P	Pn	22 50 30.1	+1.8
	baz=358						
CHN5	**Tsauling**	**2.45**	**350**	*e*P	Pn	22 50 31.9	+1.7
	baz=350						
CHN5				*e*S	Sn	22 50 59.8	+0.8
	baz=350						
WDGT	**Dungji**	**2.50**	**326**	*e*P	Pn	22 50 31.4	+0.8
	baz=327						
ESL	**Shilin**	**2.64**	**5**	*e*P	Pn	22 50 33.2	+0.6
	baz=6.0						
SMLT	**Sun Moon Lake**	**2.71**	**355**	*e*P	Pn	22 50 35.5	+1.8
	baz=355						
TYC	**Yuchr**	**2.73**	**354**	*e*P	Pn	22 50 35.9	+2.0
	baz=355						
TYC				*e*S	Sn	22 51 08.1	+2.5
	baz=355						
TWQ1	**Liyutan**	**3.18**	**354**	*e*P	Pn	22 50 42.4	+2.4
	baz=354						
NNS	**Nan Shan**	**3.25**	**3**	*e*P	Pn	22 50 44.0	+2.7
	baz=13						
ENA	**Nanau**	**3.28**	**9**	*e*P	Pn	22 50 43.1	+1.6
	baz=359						
NSTT	**Nanjuang**	**3.44**	**358**	*e*P	Pn	22 50 46.9	+3.2
	baz=358						
ENTT	**Nioudou**	**3.47**	**6**	*e*P	Pn	22 50 46.7	+2.7
	baz=6.0						
NSK	**Sanguang**	**3.49**	**3**	*e*P	Pn	22 50 46.0	+1.5
	baz=352						
NSK				*e*S	Sn	22 51 24.9	+0.3
	baz=352						

*ISCJB **12** 23:01:05.7±0.6, 0°.16S±0°.08×123°.01E±0°.06, h157km, mb3.3/4, Error ellipse: s-maj=11.5km s-min=7.7km az=31.2*
*IDC **12** 23:01:05.3±8.3, 0°.04S±123°.26E, h121km±82km, mb3.2/4, mb1 3.3/5, mb1mx3.1/22, mbtmp3.2/5, ML3.3/1, Error ellipse: s-maj=99.3km s-min=21.6km az=58.0*
*DJA **12** 23:01:06.8±0.7, 0°.5±5°×12°.3E±°, h125km±9km, M4.2/7, mb4.4/1, mB4.8/1, MLv4.1/7, Mw(mB)4.1/1*
ISC 12 23:01:05.9±1.1, 0°.14S±0°.07×123°.08E±0°.06, h157km, n12, σ2°10/14, mb3.3/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**0.78**	**355**	P	**Pn**	**23 01 30.1**	**+0.4**
LUWI	**Luwuk**	**0.94**	**199**	P	**Pn**	**23 01 29.7**	**-1.2**
LUWI				S	**Sn**	**23 01 46.2**	**-3.9**
MRSI	**Marisa**	**1.29**	**298**	P	**Pn**	**23 01 33.0**	**-0.9**
MRSI				S	**Sn**	**23 01 52.0**	**-3.4**
APSI	**Ampana**	**1.62**	**242**	P	**Pn**	**23 01 37.3**	**+0.1**
APSI				S	**Sn**	**23 01 59.3**	**-2.0**
TOLI	**Toli-Toli**	**2.61**	**299**	P	**Pn**	**23 01 48.5**	**-0.2**
TOLI				S	**Sn**	**23 02 20.8**	**-0.9**
LBMI	**Labuha**	**4.45**	**96**	P	**Pn**	**23 02 11.6**	**-0.6**
NLAI	**Namlea**	**5.06**	**127**	P	**Pn**	**23 02 19.7**	**-0.5**
KAPI	**Kappang**	**5.87**	**214**	P	**Pn**	**23 02 32.5**	**+1.6**
	0.8nm,0.3s,baz=21,slow=14,SNR=4.1						
WRA	**Warramunga Arr**	**22.56**	**151**	P	**P**	**23 05 55.2**	**+2.1**
	0.6nm,0.6s,baz=331,slow=10,SNR=7.3						
STKA	**Stephens Creek**	**36.10**	**153**	P	P	23 07 56.3	+3.6
	1.7nm,0.8s,baz=301,slow=12,SNR=3.0						
SONM	**Songino Array**	**49.94**	**345**	P	P	23 09 47.1	+3.2
	0.7nm,0.8s,baz=147,slow=8.2,SNR=3.4						
MKAR	**Makanchi Array**	**58.78**	**328**	P	P	23 10 50.8	+3.3
	0.1nm,0.3s,baz=123,slow=7.9,SNR=5.2						
MKAR				PcP	**PcP**	**23 11 38.1**	**+2.6**
	0.4nm,0.8s,baz=146,slow=3.4,SNR=4.5						

IDC 12 23:21:35.6±1.9, 4°.59N×124°.65E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/23, mbtmp3.7/4, Error ellipse: s-maj=139.8km s-min=25.6km az=66.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.57**	**178**	P	P	23 26 37.9	+0.2
	0.7nm,0.4s,baz=356,slow=13,SNR=2.3						
WRA	**Warramunga Arr**	**26.18**	**159**	P	P	23 27 12.1	+0.1
	0.6nm,0.3s,baz=337,slow=9.5,SNR=17						
STKA	**Stephens Creek**	**39.70**	**157**	P	P	23 29 09.3	-0.4
	1.6nm,0.7s,baz=324,slow=11,SNR=4.0						
MKAR	**Makanchi Array**	**55.68**	**326**	P	P	23 31 13.7	0.0
	0.2nm,0.3s,baz=122,slow=7.7,SNR=5.0						

IDC 12 23:23:30.4±10.0, 10°.69S×162°.55E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/16, mbtmp3.7/3, Error ellipse: s-maj=287.9km s-min=43.5km az=118.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**28.68**	**248**	P	P	23 29 29.5	+0.1
	0.7nm,0.7s,baz=78,slow=9.1,SNR=4.7						
ASAR	**Alice Springs**	**30.18**	**241**	P	P	23 29 42.6	-0.1
	0.4nm,0.6s,baz=64,slow=10,SNR=5.1						
SONM	**Songino Array**	**76.55**	**325**	P	P	23 35 22.8	0.0
	0.7nm,0.7s,baz=124,slow=6.2,SNR=4.9						

*IDC **12** 23:40:16.4±1.9, 1°.01N×97°.94E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.5/24, mbtmp3.6/6, Error ellipse: s-maj=52.4km s-min=23.7km az=65.0*
*DJA **12** 23:40:22.7±0.3, 1°.N±3°×9°8E±°, h30km, M4.0/8, MLv4.0/8*
ISC 12 23:40:21.1±0.9, 1°.09N±0°.08×98°.06E±0°.06, h32km, n15, σ1°43/18, mb3.7/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**0.53**	**294**	P	**Pn**	**23 40 32.3**	**-0.1**
GSI				S	**Sn**	**23 40 39.6**	**-0.7**
MNSI	**Mandailing Nat**	**1.55**	**101**	P	**Pb**	**23 40 49.2**	**0.0**
MNSI				S	**Sb**	**23 41 10.7**	**+2.3**
PSI	**Prapat**	**1.91**	**27**	Pn	**Pn**	**23 40 50.7**	**-0.8**
	3.4nm,0.3s,baz=230,slow=7.9,SNR=29						
KCSI	**Kotacane, Aceh**	**2.43**	**353**	P	**Pn**	**23 40 58.7**	**0.0**
KCSI				S	**Sn**	**23 41 25.3**	**-2.0**
PPI	**Padang Panjang**	**2.80**	**123**	P	**Pb**	**23 41 10.0**	**-0.4**
BKNI	**Bangkinang**	**3.08**	**104**	P	**Pb**	**23 41 12.3**	**-2.9**
PDSI	**Padang**	**3.12**	**130**	P	**Pb**	**23 41 13.3**	**-2.6**
IPM	**Ipoh**	**4.48**	**41**	P	**Pn**	**23 41 25.5**	**-1.4**
KULM	**Kulim**	**4.91**	**32**	P	**Pn**	**23 41 33.8**	**+1.1**
WRA	**Warramunga Arr**	**41.25**	**122**	P	**P**	**23 48 03.9**	**+0.3**
	0.6nm,0.9s,baz=301,slow=9.2,SNR=3.5						
ASAR	**Alice Springs**	**42.65**	**128**	P	**P**	**23 48 15.4**	**+0.4**
	0.2nm,0.6s,baz=303,slow=8.3,SNR=3.0						
KSRS	**Korea Array**	**45.46**	**34**	P	**P**	**23 48 38.0**	**+0.7**
	0.7nm,0.6s,baz=243,slow=7.9,SNR=3.6						
SONM	**Songino Array**	**47.12**	**8**	P	**P**	**23 48 51.2**	**+0.9**
	0.4nm,0.5s,baz=191,slow=9.5,SNR=4.2						
MKAR	**Makanchi Array**	**47

mb1 4.5/29, mb1mx4.5/34, mbtmp4.4/29, ML3.9/1, MS3.9/8, Ms1 3.9/8, ms1mx3.5/37, Error ellipse: s-maj=16.2km s-min=15.0km az=30.0

BJI ***12*** *23:55:55.6, 28°.70N×130°.59E, h58km, mB4.7/21, mb4.7/27, Ms4.2/22, Ms7 4.0/22*

JMA ***12*** *23:55:59.2±0.1, 29°.14N×130°.11E, h64km±4km, M4.4*

JMA Felt I J1.

ISCJB ***12*** *23:55:59.2±0.4, 29°.13N±0°.03×130°.24E±0°.04, h54km±3km, mb4.5/49, MS4.1/10, Error ellipse: s-maj=6.3km s-min=4.0km az=23.7*

NEIC ***12*** *23:56:00.2±1.9, 29°.13N×130°.08E, h48km±7km, mb4.8/13, MW4.6(NIED), Error ellipse: s-maj=16.6km s-min=13.4km az=114.0*

NEIC Recorded [1 JMA] on Akuseki-jima, Amami-oshima and Nakano-shima.

NIED ***12*** *23:56:00, 29°.10N×130°.20E, h35km, Mw4.6 Best double couple: M0=9.18000×10^15 NP1:φs=40.00000°, δ=72.00000°, λ=88.00000°. NP2:φs=226.00000°, δ=18.00000°, λ=96.00000°.*

ISC 12 23:56:01.3±0.5, 29°.09N±0°.04×130°.26E±0°.05, h61km±3km, n128, σ1§57/169, mb4.6/52, 3C-2D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JZK	**Kikaishima**	**0.81**	**198**	P	**Pn**	**23 56 15.4**	**-1.6**
JZK				S	**Sn**	**23 56 27.7**	**-0.9**
JNN	**Nakanoshima**	**0.82**	**336**	P	**Pn**	**23 56 14.0**	**-3.1**
JNN				*e*S	**Sn**	**23 56 25.7**	**-3.0**
JAM	**Amami Oshima**	**0.89**	**220**	P	**Pn**	**23 56 15.5**	**-2.5**
JAM				*e*S	**Sn**	**23 56 27.1**	**-3.1**
JKC	**Kuchinoerabu**	**1.37**	**358**	P	**Pn**	**23 56 21.9**	**-2.4**
JKC				*e*S	**Sn**	**23 56 38.5**	**-2.9**
JTN	**Tanegashima 3**	**1.68**	**22**	P	**Pn**	**23 56 26.8**	**-1.7**
JTN				*e*S	**Sn**	**23 56 48.6**	**-0.4**
JTK	**Tokunoshima**	**1.74**	**222**	P	**Pn**	**23 56 27.7**	**-1.6**
JTK				*e*S	**Sn**	**23 56 49.7**	**-0.7**
JTSR	**Tashiro 2**	**2.15**	**15**	P	**Pn**	**23 56 33.3**	**-1.5**
JOW	**Kunigami**	**2.85**	**218**	*e*Pn	**Pn**	**23 56 43.3**	**-1.2**
JNU	**Nakatsue**	**4.05**	**7**	*e*Pn	**Pn**	**23 57 01.0**	**+0.1**
JNU				*e*Sn	**Sn**	**23 57 47.4**	**+0.4**
JNU	**Nakatsue**	**4.05**	**7**	Pn	**Pn**	**23 57 00.6**	**-0.3**
	20nm,0.3s,baz=212,slow=3.9,SNR=195						
JNU				Sn	**Sn**	**23 57 45.9**	**-1.2**
	7.9nm,0.3s,baz=299,slow=5.8,SNR=1.0						
JNU				LR	LR	23 57 51.8	
	comp=Z,110nm,18.8s,baz=183,slow=30						
KS15	**Wonju Array Si**	**8.56**	**347**	*e*Pn	**Pn**	**23 58 04.2**	**+1.6**
KSRS	**Korea Array**	**8.57**	**347**	Pn	**Pn**	**23 58 04.2**	**+1.6**
	0.7nm,0.3s,baz=171,slow=14,SNR=29						
KSRS				Lg	Lg	00 00 10.5	
	0.2nm,0.3s,baz=171,slow=33,SNR=3.2						
KSRS				LR	LR	00 01 40.7	
	comp=Z,587nm,18.1s,baz=161,slow=41						
KS01	**Wonju Array Si**	**8.59**	**347**	*e*Pn	**Pn**	**23 58 00.8**	**-2.2**
CBIJ	**Chichi jima**	**10.72**	**98**	Pn	**Pn**	**23 58 30.0**	**-2.0**
	26nm,0.3s,baz=277,slow=21,SNR=18						
CBI	**Chichi jima**	**10.72**	**98**	*e*Pn	**Pn**	**23 58 30.0**	**-2.1**
USRK	**Ussuriysk Arra**	**15.14**	**5**	Pn	Pn	23 59 25.9	-5.5
	0.2nm,0.3s,baz=189,slow=8.0,SNR=2.5						
USRK				LR	LR	00 05 08.8	
	comp=Z,152nm,20.0s,baz=203,slow=37						
ASAJ	**Asahikawa**	**17.94**	**30**	*e*Pn	**P**	**00 00 04.1**	**-2.2**
	17nm,0.9s						
ASAJ	**Asahikawa**	**17.94**	**30**	P	**P**	**00 00 04.3**	**-2.0**
	0.7nm,0.3s,baz=217,slow=12,SNR=6.9						
ASAJ				LR	LR	00 07 09.2	
	comp=Z,364nm,20.9s,baz=240,slow=38						
XAN	**Xi'an**	**18.83**	**291**	P	**P**	**00 00 16.0**	**-0.3**
XAN				pP	**pP**	**00 00 27.2**	**-2.1**
XAN				sP	**sP**	**00 00 35.4**	**-1.6**
XAN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
XAN				pmax	pmax		
	comp=Z,26nm,6.9s						
HHC	**Hu-ho-hao-te**	**19.25**	**312**	*e*P	**Pn**	**00 00 21.4**	**-1.0**
HHC				pP	**pP**	**00 00 33.3**	**-0.6**
HHC				PP	**PnPn**	**00 00 40.1**	**+3.1**
HHC				sP	**sP**	**00 00 41.6**	**0.0**
HHC				S	S	00 03 48.5	-7.3
HHC				pmax	pmax		
	comp=Z,58nm,1.2s						
HHC				pmax	pmax		
	comp=Z,310nm,5.3s						
HHC				LR	LR		
	comp=N,630nm,16.1s						
HHC				LR	LR		
	comp=E,650nm,16.5s						
HHC				LR	LR		
	comp=Z,620nm,17.9s						
GYA	**Guiyang**	**21.04**	**268**	P	**P**	**00 00 42.2**	**+1.8**
GYA				pP	**pP**	**00 00 55.9**	**+2.3**
GYA				PP	**PnPn**	**00 01 07.2**	**+5.6**
GYA				S	**S**	**00 04 28.2**	**-3.2**
GYA				SS	**SnSn**	**00 05 03.3**	**+6.9**
GYA				ScP	**ScP**	**00 08 16.8**	**-0.1**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GYA				pmax	pmax		
	comp=Z,80nm,4.3s						
GYA				LR	LR		
	comp=N,460nm,14.0s						
GYA				LR	LR		
	comp=E,330nm,15.2s						
GYA				LR	LR		
	comp=Z,450nm,15.2s						
CD2	**Chengdu**	**23.01**	**281**	P	**P**	**00 01 01.1**	**-0.1**
CD2				pP	**pP**	**00 01 14.8**	**+0.1**
CD2				sP	**sP**	**00 01 22.1**	**-0.1**
CD2				PP	**PnPn**	**00 01 32.0**	**+3.6**
CD2				S	**S**	**00 05 01.3**	**-5.9**
CD2				sS	Sn	00 05 24.3	-3.4
CD2				pmax	pmax		
	comp=Z,40nm,0.6s						
CD2				pmax	pmax		
	comp=Z,330nm,5.9s						
CD2				LR	LR		
	comp=N,850nm,17.2s						
CD2				LR	LR		
	comp=Z,480nm,17.8s						
LZH	**Lanzhou**	**23.28**	**294**	*e*P	**P**	**00 01 05.3**	**+1.3**
LZH				pP	**pP**	**00 01 18.2**	**+0.5**
LZH				sP	**sP**	**00 01 25.6**	**+0.4**
LZH				PP	**PnPn**	**00 01 38.0**	**+5.8**
LZH				PcP	**PcP**	**00 04 50.0**	**+0.3**
LZH				*e*S	**S**	**00 05 09.0**	**-2.8**
LZH				sS	Sn	00 05 30.3	-4.0
LZH				pmax	pmax		
	comp=Z,37nm,1.4s						
LZH				pmax	pmax		
	comp=Z,86nm,4.6s						
LZH				LR	LR		
	comp=N,1μm,11.4s						
LZH				LR	LR		
	comp=E,1μm,14.4s						
LZH				LR	LR		
	comp=Z,1μm,16.5s						
KMI	**Kunming**	**24.79**	**267**	P	**P**	**00 01 18.3**	**+0.4**
KMI				pmax	pmax		
	comp=Z,15nm,0.7s						
ULN	**Ulaanbaatar**	**25.94**	**323**	*e*P	**P**	**00 01 26.6**	**-1.4**
SONA0	**Songino Array**	**26.27**	**322**	*e*P	**P**	**00 01 29.9**	**-1.1**
SONM	**Songino Array**	**26.27**	**322**	P	**P**	**00 01 29.9**	**-1.1**
	comp=Z,6.0nm,0.7s,baz=141,slow=9.7,SNR=29						
SONM				LR	LR	00 13 03.5	
	comp=Z,339nm,20.4s,baz=306,slow=39						
SONA1	**Songino Array**	**26.27**	**322**	*e*P	**P**	**00 01 30.4**	**-0.7**
GTA	**Gaotai**	**27.07**	**300**	P	**P**	**00 01 38.1**	**-0.3**
GTA				pP	**pP**	**00 01 52.5**	**-0.7**
GTA				sP	**sP**	**00 01 59.5**	**-0.9**
GTA				S	**S**	**00 06 12.2**	**+0.1**
GTA				sS	**sS**	**00 06 39.5**	**+1.9**
GTA				SS	SnSn	00 07 33.6	+10
GTA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
GTA				pmax	pmax		
	comp=Z,57nm,4.9s						
GTA				LR	LR		
	comp=N,190nm,16.3s						
GTA				LR	LR		
	comp=E,250nm,18.2s						
GTA				LR	LR		
	comp=Z,410nm,18.8s						
CM31	**Chiang Mai Arr**	**30.46**	**257**	*e*P	**P**	**00 02 09.0**	**+0.5**
CMAR	**Chiang Mai Arr**	**30.46**	**257**	P	**P**	**00 02 09.0**	**+0.5**
	comp=Z,1.0nm,0.3s,baz=64,slow=6.3,SNR=4.2						
CM01	**Chiang Mai Arr**	**30.47**	**257**	*e*P	**P**	**00 02 05.7**	**-2.9**
KAPI	**Kappang**	**35.38**	**198**	LR	LR	00 17 34.6	
	comp=Z,104nm,19.9s,baz=76,slow=37						
WMQ	**Urumqi**	**36.84**	**305**	*e*P	**P**	**00 03 03.8**	**+0.1**
WMQ				pP	**pP**	**00 03 19.0**	**+0.1**
WMQ				sP	**sP**	**00 03 26.2**	**+0.2**
WMQ				PP	**PnPn**	**00 04 29.8**	**+0.7**
WMQ				pmax	pmax		
	comp=Z,8.0nm,0.6s						
WMQ				pmax	pmax		
	comp=Z,72nm,4.8s						
WMQ				LR	LR		
	comp=N,250nm,21.8s						
WMQ				LR	LR		
	comp=E,160nm,21.0s						
WMQ				LR	LR		
	comp=Z,150nm,20.1s						
ODAN	**Odare**	**37.78**	**277**	*e*P	**P**	**00 03 12.1**	**+0.1**
	comp=Z,20nm,0.4s						
RAMN	**Ramite**	**38.44**	**278**	*e*P	**P**	**00 03 17.5**	**-0.1**
	comp=Z,13nm,0.5s						
JIRN	**Jiri**	**38.63**	**279**	*e*P	**P**	**00 03 20.6**	**+1.2**
	comp=Z,17nm,0.5s						
GUN	**Gumba**	**38.85**	**279**	*e*P	**P**	**00 03 22.0**	**+0.9**
	comp=Z,54nm,0.4s						
PKI	**Pulchoki**	**39.33**	**279**	*e*P	**P**	**00 03 25.1**	**0.0**
	comp=Z,31nm,0.6s						
PKIN	**Phulchoki**	**39.34**	**279**	*e*P	**P**	**00 03 25.1**	**-0.1**
	comp=Z,16nm,0.6s						
FX1	**Attu Island--F**	**39.35**	**41**	*e*P	**P**	**00 03 25.0**	**+0.5**
KKN	**Kakani**	**39.39**	**279**	*e*P	**P**	**00 03 25.5**	**0.0**
	comp=Z,24nm,0.5s						
DMN	**Daman**	**39.58**	**279**	*e*P	**P**	**00 03 27.8**	**+0.6**
DANN	**Dangsing**	**40.58**	**281**	*e*P	**P**	**00 03 35.7**	**+0.2**
	comp=Z,46nm,0.7s						
KOLN	**Koldanda**	**40.85**	**280**	*e*P	**P**	**00 03 37.6**	**0.0**
	comp=Z,14nm,0.6s						
MK01	**Makanchi Array**	**41.05**	**309**	*e*P	**P**	**00 03 38.4**	**-0.3**
MK32	**Makanchi Array**	**41.06**	**309**	*e*P	**P**	**00 03 38.4**	**-0.4**
MK32				*e*PcP	**PcP**	**00 05 38.1**	**+0.5**
MKAR	**Makanchi Array**	**41.06**	**309**	*e*P	**P**	**00 03 36.2**	**-2.6**
MKAR	**Makanchi Array**	**41.06**	**309**	P	**P**	**00 03 38.4**	**-0.4**
	comp=Z,1.9nm,0.7s,baz=90,slow=11,SNR=9.5						
MKAR				PcP	**PcP**	**00 05 38.1**	**+0.5**
	comp=Z,1.2nm,0.7s,baz=39,slow=0.8,SNR=4.4						
ZAA0	**Zalesovo Array**	**41.14**	**320**	*e*P	**P**	**00 03 38.4**	**-0.9**
ZAA0				*e*PcP	**PcP**	**00 05 37.4**	**-0.3**
ZALV	**Zalesovo Beam**	**41.14**	**320**	P	**P**	**00 03 38.9**	**-0.4**
	comp=Z,2.3nm,0.4s,baz=106,slow=8.9,SNR=9.2						
ZALV				PcP	**PcP**	**00 05 37.6**	**0.0**
	comp=Z,1.2nm,0.5s,baz=100,slow=3.5,SNR=5.0						
PYUN	**Piuthan**	**41.30**	**280**	*e*P	**P**	**00 03 41.5**	**+0.2**
	comp=Z,99nm,0.6s						
KURK	**Kurchatov**	**44.05**	**314**	*e*P	**P**	**00 04 02.9**	**-0.1**
KURBB	**Kurchatov Arra**	**44.09**	**314**	P	**P**	**00 04 02.9**	**-0.4**
	comp=Z,4.7nm,0.5s,baz=97,slow=8.6,SNR=28						
KSH	**Kashi**	**45.43**	**298**	*e*P	**P**	**00 04 15.4**	**+1.1**
KSH				sP	**sP**	**00 04 38.0**	**+1.0**
KSH				PcP	**PcP**	**00 05 54.3**	**+1.7**
KSH				PcS	**PcS**	**00 09 46.9**	**+0.1**
KSH				S	**S**	**00 10 51.3**	**-0.2**
KSH				pmax	pmax		
	comp=Z,140nm,5.2s						
KSH				LR	LR		
	comp=N,120nm,6.0s						
KSH				LR	LR		
	comp=E,83nm,6.6s						
KSH				LR	LR		
	comp=Z,140nm,7.3s						
WRA	**Warramunga Arr**	**48.91**	**175**	*e*P	**P**	**00 04 41.9**	**+0.6**
WRA	**Warramunga Arr**	**48.91**	**175**	P	**P**	**00 04 41.9**	**+0.6**
	comp=Z,3.3nm,0.7s,baz=353,slow=8.3,SNR=17						
VOSK	**Vostochnaya**	**49.01**	**316**	*e*P	**P**	**00 04 41.0**	**-0.8**
	comp=Z,7.2nm,0.6s						
BVAR	**Borovoye Array**	**49.39**	**317**	P	**P**	**00 04 44.9**	**+0.2**
	comp=Z,17nm,0.6s,baz=91,slow=11,SNR=88						
BVAR				PcP	**PcP**	**00 06 06.7**	**+0.4**
	comp=Z,3.8nm,0.5s,baz=83,slow=2.9,SNR=7.7						
BVAR				LR	LR	00 25 40.8	
	comp=Z,112nm,19.0s,baz=215,slow=36						
BRVK	**Borovoye**	**49.46**	**317**	*e*P	**P**	**00 04 45.0**	**-0.3**
	comp=Z,28nm,0.6s						
KBL	**Kabul**	**51.62**	**293**	*e*P	**P**	**00 05 01.5**	**-0.6**
	comp=Z,9.2nm,0.6s						
AS12	**Alice Springs**	**52.57**	**176**	*e*P	**P**	**00 05 10.0**	**+1.1**
ASAR	**Alice Springs**	**52.57**	**176**	P	**P**	**00 05 10.0**	**+1.1**
	comp=Z,1.3nm,0.5s,baz=7.4,slow=14,SNR=26						
AS01	**Alice Springs**	**52.57**	**176**	*e*P	**P**	**00 05 09.5**	**+0.6**
ABKAR	**Abkulak array**	**56.04**	**312**	*e*P	**P**	**00 05 32.9**	**-1.0**
AKTO	**Aktyubinsk**	**57.14**	**314**	P	**P**	**00 05 40.4**	**-1.2**
	comp=Z,4.6nm,0.6s,baz=80,slow=9.8,SNR=8.3						
SVW2	**Sparrevohn**	**57.39**	**34**	*e*P	**P**	**00 05 44.0**	**+0.7**
	comp=Z,102nm,2.6s						
RSO	**Redoubt South**	**58.81**	**34**	*e*P	**P**	**00 05 53.6**	**+0.2**
OHAK	**Old Harbor**	**58.84**	**38**	*e*P	**P**	**00 05 54.0**	**+0.7**
	comp=Z,190nm,2.2s						
PPLA	**Purkeypile**	**58.91**	**31**	*e*P	**P**	**00 05 55.8**	**+1.9**
	comp=Z,52nm,1.9s						
KDAK	**Kodiak Island**	**59.16**	**37**	*e*P	**P**	**00 05 57.3**	**+1.8**
	comp=Z,317nm,2.2s						
KDAK	**Kodiak Island**	**59.16**	**37**	P	**P**	**00 05 56.4**	**+0.8**
	comp=Z,8.8nm,0.6s,baz=270,slow=7.2,SNR=13						
ILAR	**Eielson Array**	**61.07**	**29**	P	**P**	**00 06 08.8**	**+0.3**
	comp=Z,1.1nm,0.6s,baz=271,slow=5.7,SNR=14						
ILB	**Eielson Array**	**61.07**	**29**	*e*P	**P**	**00 06 08.8**	**+0.3**
IL1	**Eielson Array**	**61.07**	**29**	*e*P	**P**	**00 06 08.6**	**0.0**
INK	**Inuvik**	**65.56**	**24**	*e*P	**P**	**00 06 38.9**	**+0.8**
	comp=Z,24nm,1.8s						
INK	**Inuvik**	**65.56**	**24**	P	**P**	**00 06 38.9**	**+0.8**
	comp=Z,1.8nm,0.6s,baz=317,slow=5.7,SNR=7.6						
HYT	**Haines Junctio**	**66.11**	**32**	*e*P	**P**	**00 06 42.6**	**+0.6**
ARA0	**ARCESS Array S**	**68.01**	**338**	*e*P	**P**	**00 06 52.8**	**-1.0**
ARCES	**ARCESS Array B**	**68.01**	**338**	P	**P**	**00 06 52.1**	**-1.7**
	comp=Z,1.3nm,0.6s,baz=69,slow=6.6,SNR=10.0						
JOF	**Joensuu**	**68.42**	**331**	*e*p	**P**	**00 06 55.4**	**-1.0**
	comp=Z,2.5nm,0.5s						
KBZ	**Khabaz**	**68.75**	**309**	*e*P	**P**	**00 06 59.8**	**+1.0**
KBZ	**Khabaz**	**68.75**	**309**	P	**P**	**00 06 59.8**	**+1.0**
	comp=Z,7.4nm,0.8s,baz=107,slow=2.7,SNR=16						
KBD	**Kabd**	**70.51**	**293**	*e*P	**P**	**00 07 09.8**	**-0.2**
KBD				AMb	AMB	00 07 20.7	
	comp=Z,9.6nm,1.4s						
NAY	**Al-Naaiem**	**70.85**	**293**	*e*P	**P**	**00 07 11.5**	**-0.5**
NAY				AMb	AMB	00 07 12.2	
	comp=Z,0.4nm,0.8s						
KAF	**Kangasniemi**	**70.87**	**331**	*e*p	**P**	**00 07 10.6**	**-0.9**
	comp=Z,3.1nm,0.7s						
RST	**Umm Al-Ruwaisa**	**70.94**	**294**	*e*P	**P**	**00 07 11.6**	**-0.9**
RST				AMb	AMB	00 07 13.2	
	comp=Z,83nm,0.8s						
FIA0	**FINESS Array S**	**71.27**	**331**	*e*P	**P**	**00 07 12.7**	**-1.2**
FINES	**FINESS Array B**	**71.27**	**331**	P	**P**	**00 07 12.7**	**-1.2**
	comp=Z,4.8nm,0.5s,baz=67,slow=5.8,SNR=47						
FINES				LR	LR	00 41 48.9	
	comp=Z,182nm,18.8s,baz=220,slow=39						
RES	**Resolute Bay**	**72.40**	**11**	*e*P	**P**	**00 07 20.6**	**+0.1**
	comp=Z,67nm,1.7s						
RES	**Resolute Bay**	**72.40**	**11**	P	**P**	**00 07 20.8**	**+0.3**
	comp=Z,9.4nm,0.7s,baz=327,slow=3.9,SNR=6.7						
AKASG	**Malin Array Be**	**74.53**	**320**	P	**P**	**00 07 32.6**	**-0.8**
	comp=Z,3.6nm,0.5s,baz=55,slow=7.1,SNR=11						
AKASG				LR	LR	00 43 23.8	
	comp=Z,202nm,18.1s,baz=40,slow=38						
AKBB	**Malin Array Si**	**74.53**	**320**	*e*P	**P**	**00 07 32.6**	**-0.8**
KIEV	**Kiev**	**74.54**	**320**	*e*P	**P**	**00 07 32.5**	**-0.9**
	comp=Z,4.3nm,0.7s						
RAYN	**Ar Rayn**	**74.61**	**289**	*e*P	**P**	**00 07 32.7**	**-1.8**
	comp=Z,8.8nm,1.2s						
YKA	**Yellowknife Ar**	**75.18**	**26**	P	**P**	**00 07 38.1**	**+1.2**
	comp=Z,3.8nm,0.8s,baz=301,slow=5.7,SNR=10.0						
BR101	**Keskin Array S**	**76.70**	**308**	*e*P	**P**	**00 07 46.6**	**+0.4**
BRTR	**Keskin Array B**	**76.70**	**308**	P	**P**	**00 07 46.6**	**+0.4**
	comp=Z,3.9nm,0.7s,baz=96,slow=4.4,SNR=23						
BR231	**Keskin MP Arra**	**77.24**	**308**	*e*P	**P**	**00 07 47.2**	**-2.0**
NB2	**NORSAR Subarra**	**77.54**	**334**	P	**P**	**00 07 49.5**	**-0.9**
	comp=Z,1.2nm,0.5s,baz=52,slow=5.9						
NB200	**NORSAR Array S**	**77.54**	**334**	*e*P	**P**	**00 07 49.2**	**-1.2**
NOA	**NORSAR Array B**	**77.54**	**334**	P	**P**	**00 07 49.2**	**-1.2**
	comp=Z,1.1nm,0.5s,baz=50,slow=5.5,SNR=6.4						
SUMG	**Summit**	**78.31**	**357**	*i* P	**P**	**00 07 55.9**	**+1.0**
	comp=Z,4.4nm,0.7s						
SUMG	**Summit**	**78.31**	**357**	*e*P	**P**	**00 07 55.4**	**+0.5**
	comp=Z,34nm,1.7s						
BUR04	**Bucovina Ar. S**	**78.32**	**318**	*e*P	**P**	**00 07 54.8**	**-0.2**
YBH	**Yreka Blue Hor**	**82.59**	**46**	P	**P**	**00 08 20.0**	**+1.9**
	comp=Z,1.5nm,0.8s,baz=180,slow=2.0,SNR=4.8						
BRG	**Berggiesshubel**	**82.62**	**325**	*e*P	**P**	**00 08 19.4**	**+1.5**
	comp=Z,1.5nm,0.7s						
CLL	**Collm**	**82.82**	**326**	*e*P	**P**	**00 08 19.0**	**+0.1**
	comp=Z,7.0nm,1.0s						
CLL				*e*PcP	**PcP**	**00 08 24.0**	**+0.3**
CONA	**Conrad Observa**	**83.41**	**322**	⇑*i*PcP	**P**	**00 08 23.6**	**+1.4**
	comp=Z,7.9nm,1.0s						
GEC2	**GERESS Array S**	**83.99**	**324**	*e*P	**P**	**00 08 25.4**	**+0.2**
GERES	**GERESS Array B**	**83.99**	**324**	P	**P**	**00 08 25.5**	**+0.3**
	comp=Z,1.3nm,0.7s,baz=40,slow=5.1,SNR=16						
ARSA	**Arzberg**	**84.00**	**322**	⇓*i*PcP	**P**	**00 08 26.2**	**+1.1**
	comp=Z,3.8nm,1.1s						
MOA	**Molln**	**84.31**	**323**	⇓*i*PcP	**P**	**00 08 27.7**	**+1.0**
	comp=Z,12nm,2.1s						
SOKA	**Soboth**	**84.61**	**321**	⇑*i*PcP	**P**	**00 08 29.5**	**+1.2**
	comp=Z,6.4nm,1.1s						
ABTA	**Abfaltersbach**	**85.93**	**322**	⇑*i*P	**P**	**00 08 34.5**	**-0.4**
	comp=Z,2.5nm,0.5s						
FRB	**Frobisher Bay**	**86.29**	**8**	*e*P	**P**	**00 08 36.1**	**-0.1**
FRB	**Frobisher Bay**	**86.29**	**8**	P	**P**	**00 08 36.1**	**-0.1**
	comp=Z,7.3nm,0.8s,baz=347,slow=8.6,SNR=5.2						
NV01	**Mina Array Sit**	**87.24**	**47**	*e*P	**P**	**00 08 41.9**	**+0.2**
BZMT	**Bozeman Pass**	**87.27**	**38**	*e*P	**P**	**00 08 42.1**	**+0.5**
BW06	**Boulder Array**	**89.81**	**40**	*e*P	**P**	**00 08 54.6**	**+0.8**
PD31	**Pinedale Array**	**89.81**	**40**	*e*P	**P**	**00 08 55.1**	**+1.4**
PDAR	**Pinedale Array**	**89.81**	**40**	P	**P**	**00 08 55.2**	**+1.4**
	comp=Z,0.9nm,0.8s,baz=355,slow=0.4,SNR=8.3						
KEST	**Kesra**	**94.85**	**316**	P	**P**	**00 09 16.9**	**-0.1**
	comp=Z,1.2nm,1.1s,baz=60,slow=8.1,SNR=3.6						
ESDC	**Sonseca Array**	**99.41**	**326**	*e*P	**Pdif**	**00 09 36.8**	**-0.7**
ESDC	**Sonseca Array**	**99.41**	**326**	P	**Pdif**	**00 09 36.8**	**-0.7**
	comp=Z,0.5nm,0.8s,baz=18,slow=5.2,SNR=3.1						
LTX	**Lajitas**	**102.37**	**46**	*e*Pdif	**Pdif**	**00 09 53.2**	**+2.4**
TXAR	**Lajitas Array**	**102.37**	**46**	P	**Pdif**	**00 09 53.2**	**+2.4**
	comp=Z,0.2nm,0.9s,baz=309,slow=5.7,SNR=2.8						
TORD	**Torodi Ar. Bea**	**114.97**	**303**	PKP	PKPdf	00 14 36.2	+0.1
	comp=Z,0.4nm,0.7s,baz=35,slow=3.5,SNR=3.5						

IDC ***12*** *23:58:03.9±0.8, 38°.47N×70°.46E, h0km, mb3.7/13, mb1 3.9/17, mb1mx3.8/30, mbtmp3.8/17, ML3.8/4, MS3.1/1, Ms1 3.1/1, ms1mx2.7/46, Error ellipse: s-maj=20.8km s-min=10.8km az=142.0*

ISCJB ***12*** *23:58:05.8±0.5, 38°.49N±0°.07×70°.24E±0°.06, h23km, mb3.7/15, Error ellipse: s-maj=11.5km s-min=4.6km az=148.6*

ISC 12 23:58:07.6±0.8, 38°.49N±0°.09×70°.30E±0°.07, h23km, n39, σ1§30/38, mb3.6/15, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.46**	**34**	P	**Pn**	**23 59 16.1**	**+1.9**
	SNR=15						
EKS2	**Erkin-Say**	**4.93**	**31**	P	**Pn**	**23 59 22.4**	**+2.0**
	SNR=34						
KZA	**Kyzart**	**5.21**	**45**	P	**Pn**	**23 59 25.1**	**+0.6**
	SNR=19						
AAK	**Ala-Archa**	**5.22**	**36**	P	**Pn**	**23 59 25.9**	**+1.4**
	SNR=27						
AAK	**Ala-Archa**	**5.22**	**36**	Pn	**Pn**	**23 59 25.7**	**+1.3**
	3.2nm,0.3s,baz=194,slow=6.8,SNR=36						
AAK				Sn	**Sn**	**00 00 24.5**	**+0.5**
	baz=316,slow=4.4,SNR=3.9						
AAK				Lg	Lg	00 00 50.1	
	0.8nm,0.3s,baz=13,slow=21,SNR=1.8						
AAK				LR	LR	00 01 46.4	
	comp=Z,205nm,21.3s,baz=204,slow=43						
KBK	**Karagaybulak**	**5.46**	**39**	P	**Pn**	**23 59 29.5**	**+1.8**
	SNR=43						
CHMS	**Chumysh**	**5.62**	**35**	P	**Pn**	**23 59 30.7**	**+0.8**
	SNR=25						
USP	**Ospenovka**	**5.73**	**32**	P	Pn	23 59 34.5	+3.2
	SNR=11						
ULHL	**Ulahol**	**5.88**	**49**	P	**Pn**	**23 59 34.3**	**+0.8**
	SNR=11						
TKM2	**Tokmak 2**	**5.98**	**41**	P	**Pn**	**23 59 35.6**	**+0.8**
	SNR=33						
IMYA	**Miami**	**8.40**	**258**	*e*P	**Pn**	**00 00 07.3**	**-0.7**
ISRO	**Mashad**	**8.89**	**259**	*e*P	**Sn**	**00 01 51.9**	**-2.4**
IMOG	**Moghan**	**9.06**	**258**	*e*P	**Pn**	**00 00 16.6**	**-0.6**
IPAY	**Payeh**	**9.22**	**261**	*e*P	**Pn**	**00 00 18.9**	**-0.5**
IEMG	**Emamgholi**	**9.27**	**267**	*e*P	**Pn**	**00 00 20.5**	**+0.4**
IAKL	**Akhelmad**	**9.36**	**262**	*e*P	**Pn**	**00 00 20.6**	**-0.8**
IKRD	**Kardeh**	**9.51**	**263**	*e*P	Pn	00 00 12.6	-11
ISFR	**Sfrayin**	**9.85**	**265**	*e*P	**Pn**	**00 00 28.4**	**+0.4**
MKAR	**Makanchi Array**	**12.10**	**43**	Pn	**Pn**	**00 00 57.8**	**-0.8**
	0.3nm,0.3s,baz=232,slow=14,SNR=31						
KURBB	**Kurchatov Arra**	**13.46**	**23**	Pn	Pn	00 01 13.2	-3.8
	0.3nm,0.

CMAR	Chiang Mai Arr	20.12 359	P	P	00 14 39.0	+0.8
	0.4nm,0.3s,baz=184,slow=12,SNR=2.8					
WRA	Warramunga Arr	38.76 120	P	P	00 17 28.6	-0.4
	1.5nm,0.7s,baz=303,slow=9.1,SNR=27					
ASAR	Alice Springs	40.00 126	P	P	00 17 39.0	-0.4
	0.5nm,0.5s,baz=300,slow=8.1,SNR=9.3					
STKA	Stephens Creek	49.87 131	P	P	00 18 58.4	+0.5
	2.3nm,0.8s,baz=287,slow=11,SNR=3.2					
MKAR	Makanchi Array	50.62 345	P	P	00 19 03.6	+0.3
	0.3nm,0.3s,baz=154,slow=8.6,SNR=10					
KURBB	Kurchatov Arra	55.13 344	P	P	00 19 36.2	-0.3
	0.3nm,0.2s,baz=166,slow=7.1,SNR=3.3					
ZALV	Zalesovo Beam	56.82 350	P	P	00 19 47.6	-1.0
	0.7nm,0.4s,baz=140,slow=7.5,SNR=4.8					
FINES	FINESS Array B	83.57 332	P	P	00 22 32.3	0.0
	0.4nm,0.4s,baz=113,slow=6.8,SNR=7.8					
TXAR	Lajitas Array	144.99 36	PKP	PKPdf	00 29 42.5	-0.2
	1.2nm,0.4s,baz=207,slow=0.7,SNR=33					

NIED **13** *00:13:00, 47.°20N×142.°30E, h8km, Mw4.4 Best double couple: M0=5.14000×10^15 NP1:φ=209.00000°, δ=53.00000°, λ=111.00000°. NP2:φ=356.00000°, δ=42.00000°, λ=64.00000°.*
JMA **13** *00:13:14.6±0.3, 47.°15N×142.°31E, h25km, M4.7*
IDC **13** *00:13:16.5±0.4, 46.°83N×142.°17E, h0km, mb4.3/26, mb1 4.5/30, mb1mx4.5/32, mbtmp4.3/30, ML3.9/2, MS3.7/6, Ms1 3.7/6, ms1mx3.4/38, Error ellipse: s-maj=12.7km s-min=10.7km az=83.0*
MOS **13** *00:13:16.6±1.0, 46.°80N×142.°18E, h10km, mb4.8/47, Error ellipse: s-maj=8.7km s-min=4.9km az=107.4*
MOS Felt (VI) at Chaplanovo, (IV-V) at Pyatirech'ye, Pozharskoye, (III-IV) at Kholmsk, Nevel'sk, Aniva, (III) at Gornozavodsk, Yuzhno-Sakhalinsk, (II-III) at Sinegorsk.
ISCJB **13** *00:13:17.2±0.1, 46.°89N±0.°02×142.°24E±0.°02, h10km, mb4.7/149, MS4.1/15, Error ellipse: s-maj=2.3km s-min=2.2km az=23.7*
SKHL **13** *00:13:18.7±0.5, 46.°80N×142.°20E, h10km, mb4.6/10, mbh5.2/1, mbv5.3/2, ms4.4/3, msh4.7/1*
NEIC **13** *00:13:21.2±0.7, 46.°89N×142.°23E, h31km±5km, mb4.8/61, Error ellipse: s-maj=4.5km s-min=3.2km az=159.0*
NEIC Felt [VI] at Chaplanovo, [V] at Pozharskoye and Pyatirech'ye; [IV] at Aniva, Kholmsk and Nevel'sk; [III] at Gornozavodsk, Sinegorsk and Yuzhno-Sakhalinsk.
SZGRF **13** *00:13:21.8, 46.°92N×141.°76E, h10km, mb4.8, MS4.4, Sakhalin Island, Russia*
TEH **13** *00:13:25.0, 46.°79N×142.°36E, h56km, ML4.7*
BJI **13** *00:13:26.4, 47.°04N×141.°75E, h61km, mB4.9/21, mb4.5/25, Ms4.5/22, Ms7 4.3/22*
ISC 13 00:13:18.3±0.3, 46.°79N±0.°02×142.°22E±0.°03, h10km, n528, σ1§22/552, **mb4.8**/150, **MS4.1**/15, **85C-69D, Sakhalin Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**0.40**	**66**	⇓*i*PN	**Pb**	**00 13 27.7**	**+0.2**
YSS				*e*		00 13 33.7	
YSS				smax	smax		
	comp=E,48μm,1.0s						
YSS				smax	smax		
	comp=E,39μm,0.5s						
YSS	**Yuzh-Sakhalins**	**0.40**	**66**	⇓*i*Pg	**Pb**	**00 13 27.7**	**+0.2**
YSS				⇓*i*Pg	**Pb**	**00 13 27.7**	**+0.2**
YSS				A	A	00 13 35.0	
	comp=E,48μm,1.0s						
YSS				A	A	00 13 35.2	
	comp=E,39μm,0.5s						
YSS				AMS	AMS	00 13 50.0	
	comp=E,69μm,4.0s						
YSS				AMS	AMS	00 13 50.0	
	comp=E,48μm,4.0s						
YSS				AMS	AMS	00 13 50.0	
	comp=E,59μm,4.0s						
YSS	**Yuzh-Sakhalins**	**0.40**	**66**	⇓*i*Pn	**Pb**	**00 13 27.7**	**+0.2**
JWK2	**Keihoku**	**1.49**	**189**	P	**Pb**	**00 13 45.9**	**-0.2**
JWK2				*e*S	**Sg**	**00 14 08.2**	**+1.9**
JRR	**Rishiri**	**1.77**	**201**	P	**Pb**	**00 13 49.8**	**-1.1**
JRR				*e*S	**Sg**	**00 14 15.4**	**+0.1**
JSE	**Soyaes**	**1.85**	**172**	P	**Pn**	**00 13 50.5**	**+0.4**
JSE				*e*S	**Sg**	**00 14 17.8**	**0.0**
UGL	**Uglegorsk**	**2.29**	**357**	*e*PN	**Pn**	**00 13 56.1**	**0.0**
UGL				*e*		00 14 27.6	
UGL				pmax	pmax		
	comp=Z,140nm,0.5s						
UGL				pmax	pmax		
	comp=Z,800nm,4.0s						
UGL	**Uglegorsk**	**2.29**	**357**	*e*P	**Pn**	**00 13 56.4**	**+0.3**
UGL				AMB	AMB	00 13 59.0	
	comp=Z,800nm,4.0s						
UGL				AMB	AMB	00 13 59.0	
	comp=Z,140nm,0.5s						
UGL				*e*Pg	**Pg**	**00 14 03.0**	**+0.8**
UGL				AMB	AMB	00 14 06.5	
	comp=Z,530nm,0.4s						
UGL				*e*S	**Sn**	**00 14 22.8**	**-1.5**
UGL				A	A	00 14 24.0	
	comp=Z,2μm,2.5s						
UGL				A	A	00 14 24.0	
	comp=Z,2μm,2.5s						
UGL				A	A	00 14 26.0	
	comp=Z,600nm,0.6s						
UGL				A	A	00 14 26.0	
	comp=Z,510nm,0.6s						
UGL				*e*Sg	**Sg**	**00 14 33.8**	**+2.0**
UGL				A	A	00 14 34.0	
	comp=Z,2μm,0.5s						
UGL	**Uglegorsk**	**2.29**	**357**	*e*Pn	**Pn**	**00 13 56.1**	**0.0**
JSS	**Shosan**	**2.41**	**186**	P	**Pn**	**00 13 58.2**	**+0.5**
JYG	**Yagishiri**	**2.43**	**194**	P	**Pn**	**00 13 58.9**	**+0.9**
ASAJ	**Asahikawa**	**2.69**	**174**	P	**Pn**	**00 14 02.5**	**+0.9**
ASAJ	**Asahikawa**	**2.69**	**174**	*e*Pn	**Pn**	**00 14 02.5**	**+0.9**
ASAJ				*e*Sn	**Sb**	**00 14 41.1**	**+1.5**
ASAJ	**Asahikawa**	**2.69**	**174**	Pn	**Pn**	**00 14 02.6**	**+0.9**
	comp=Z,29nm,0.3s,baz=25,slow=14,SNR=157						
ASAJ				Sn	**Sn**	**00 14 36.2**	**+2.0**
	comp=Z,52nm,0.3s,baz=19,slow=17,SNR=5.0						
ASAJ				Lg	Lg	00 14 43.7	
	comp=Z,81nm,0.3s,baz=129,slow=33,SNR=8.4						
JMP	**Maruseppu**	**2.90**	**164**	P	**Pn**	**00 14 04.3**	**-0.2**
JKK2	**Kamakawa 2**	**2.94**	**173**	P	**Pn**	**00 14 06.1**	**+1.0**
JTKR	**Abashiri--Toko**	**3.06**	**157**	P	**Pn**	**00 14 06.6**	**-0.1**
JHR	**Hokuryu**	**3.07**	**187**	P	**Pn**	**00 14 09.6**	**+2.8**
JFR	**Furan**	**3.64**	**176**	P	**Pn**	**00 14 16.3**	**+1.6**
JAR	**Ashorobuto**	**3.66**	**162**	P	**Pn**	**00 14 15.9**	**+0.9**
YUK	**Yuzh-Kuril'sk**	**3.77**	**136**	⇑*i*PN	**Pn**	**00 14 18.6**	**+2.2**
YUK				*i*S	**Sn**	**00 15 03.0**	**+2.3**
YUK				pmax	pmax		
	comp=E,61nm,0.6s						
YUK				pmax	pmax		
	comp=Z,101nm,0.6s						
YUK				pmax	pmax		
	comp=N,63nm,0.6s						
YUK				smax	smax		
	comp=E,73nm,0.6s						
YUK				smax	smax		
	comp=N,186nm,0.6s						
YUK				MLR	MLR		
	comp=Z,2μm,11.0s						
YUK	**Yuzh-Kuril'sk**	**3.77**	**136**	⇑*i*P	**Pn**	**00 14 18.6**	**+2.2**
YUK				AMB	AMB	00 14 27.1	
	comp=Z,63nm,0.6s						
YUK				AMB	AMB	00 14 27.1	
	comp=Z,61nm,0.6s						
YUK				AMB	AMB	00 14 27.1	
	comp=Z,101nm,0.6s						
YUK				*i*S	**Sn**	**00 15 03.1**	**+2.3**
YUK				A	A	00 15 10.1	
	comp=Z,327nm,0.7s						
YUK				A	A	00 15 10.1	
	comp=Z,73nm,0.7s						
YUK				AMS	AMS	00 16 18.3	
	comp=Z,2μm,11.0s						
YUK	**Yuzh-Kuril'sk**	**3.77**	**136**	⇑*i*Pn	**Pn**	**00 14 18.6**	**+2.2**
TYV	**Tymovskoe**	**4.08**	**4**	*e*P	**Pn**	**00 14 22.2**	**+1.4**
TYV				*e*Pg	**Pg**	**00 14 39.1**	**+2.6**
TYV				AMB	AMB	00 14 42.0	
	comp=Z,110nm,0.8s						
TYV				AMB	AMB	00 14 42.0	
	comp=Z,500nm,2.0s						
TYV				AMB	AMB	00 14 42.0	
	comp=Z,500nm,2.0s						
TYV				*e*Sg	**Sg**	**00 15 34.6**	**+5.2**
TYV				A	A	00 15 45.0	
	comp=Z,110nm,0.8s						
KUR	**Kuril'sk**	**4.23**	**110**	*e*PN	**Pn**	**00 14 23.8**	**+1.0**
KUR				*e*S	**Sn**	**00 15 14.9**	**+2.7**
KUR				pmax	pmax		
	comp=N,21nm,0.7s						
KUR				pmax	pmax		
	comp=Z,35nm,0.7s						
KUR				pmax	pmax		
	comp=E,30nm,0.4s						
KUR				smax	smax		
	comp=N,57nm,0.6s						
KUR				smax	smax		
	comp=E,29nm,0.6s						
KUR	**Kuril'sk**	**4.23**	**110**	*e*P	**Pn**	**00 14 24.5**	**+1.7**
KUR				AMB	AMB	00 14 38.6	
	comp=E,35nm,0.7s						
KUR				AMB	AMB	00 14 38.7	
	comp=E,21nm,0.7s						
KUR				AMB	AMB	00 14 38.7	
	comp=E,30nm,0.3s						
KUR				AMB	AMB	00 14 43.0	
	comp=E,150nm,1.0s						
KUR				*e*S	**Sn**	**00 15 14.9**	**+2.7**
KUR				A	A	00 15 20.5	
	comp=E,280nm,0.7s						
KUR				A	A	00 15 20.5	
	comp=E,60nm,0.7s						
KUR	**Kuril'sk**	**4.23**	**110**	*e*Pn	**Pn**	**00 14 23.8**	**+1.0**
JCH	**Churui**	**4.26**	**169**	P	**Pn**	**00 14 24.7**	**+1.5**
TEY	**Ternei**	**4.30**	**248**	*e*P	**Pn**	**00 14 25.0**	**+1.3**
TEY				AMB	AMB	00 14 28.0	
	comp=E,31nm,0.8s						
TEY				AMB	AMB	00 14 28.0	
	comp=E,37nm,0.8s						
TEY				*e*Pg	Pg	00 14 43.3	+2.7
TEY				AMB	AMB	00 14 44.3	
	comp=E,63nm,0.7s						
TEY				*e*Sg	Sg	00 15 42.0	+5.8
TEY				A	A	00 15 50.0	
	comp=E,156nm,0.7s						
TEY				AMS	AMS	00 16 30.0	
	comp=E,3μm,11.0s						
TEY				AMS	AMS	00 16 30.0	
	comp=E,2μm,11.0s						
JNBK	**Urakawa-nobuka**	**4.53**	**175**	P	Pn	00 14 31.2	+4.3
ERM	**Erimo**	**4.82**	**172**	*d i*PN	Pn	00 14 35.8	+4.8
ERM	**Erimo**	**4.82**	**172**	*e*Pn	Pn	00 14 35.7	+4.8
HABR	**Khabarovsk**	**5.13**	**292**	*de*PN	**Pn**	**00 14 34.0**	**-1.1**
HABR				*e*		00 15 35.8	
HABR				pmax	pmax		
	comp=Z,172nm,1.2s						
HABR				pmax	pmax		
	comp=E,297nm,1.2s						
HABR				pmax	pmax		
	comp=N,129nm,1.2s						
HABR				pmax	pmax		
	comp=E,590nm,1.5s						
HABR				MLR	MLR		
	comp=Z,632nm,17.0s						
GRNR	**Gornyy**	**5.52**	**318**	*e*P	**Pn**	**00 14 39.0**	**-1.6**
GRNR				AMB	AMB	00 14 40.0	
	comp=Z,46nm,0.5s						
GRNR				*e*Pg	**Pg**	**00 15 04.5**	**+0.5**
GRNR				*e*Sg	Sg	00 16 21.0	+5.5
GRNR				A	A	00 16 27.0	
	comp=Z,120nm,0.5s						
NKL	**Nikolayevsk**	**6.44**	**352**	*e*P	Pn	00 14 47.5	-5.6
NKL				AMB	AMB	00 14 48.7	
	comp=Z,25nm,0.5s						
NKL				*e*Pg	**Pg**	**00 15 23.4**	**+1.8**
NKL				*e*Sg	**Sg**	**00 16 48.3**	**+3.4**
KLR	**Kul'dur**	**7.43**	**293**	*e*PN	Pn	00 15 02.0	-4.8
KLR				MLR	MLR		
	comp=N,1μm,10.5s						
KLR				MLR	MLR		
	comp=Z,2μm,10.5s						
KLR	**Kul'dur**	**7.43**	**293**	*e*P	Pn	00 15 02.0	-4.8
KLR				AMS	AMS	00 18 33.0	
	comp=Z,1μm,11.0s						
KLR				AMS	AMS	00 18 33.0	
	comp=Z,2μm,11.0s						
USRK	**Ussuriysk Arra**	**7.64**	**254**	Pn	**Pn**	**00 15 09.7**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=62,slow=16,SNR=3.8						
USRK				Pg	Pb	00 15 35.8	+4.9
	comp=Z,0.8nm,0.3s,baz=68,slow=16,SNR=4.4						
USRK				Lg	Lg	00 17 13.8	
	comp=Z,1.2nm,0.3s,baz=55,slow=23,SNR=7.2						
USRK				LR	LR	00 18 09.1	
	comp=Z,586nm,19.3s,baz=57,slow=38						
VLA	**Vladivostok**	**8.20**	**247**	*de*PN	Pn	00 15 24.8	+7.6
VLA				*e*S	Sn	00 17 00.8	+11
VLA				pmax	pmax		
	comp=Z,6.0nm,1.2s						
EKMR	**Ekimchan**	**8.67**	**320**	*e*P	Pn	00 15 19.3	-4.4
EKMR				*e*Pg	Pg	00 15 31.5	-33
EKMR				AMB	AMB	00 15 32.1	
	comp=Z,5.0nm,0.5s						
EKMR				*e*Sg	Sg	00 18 05.5	+9.2
EKMR				A	A	00 18 06.9	
	comp=Z,85nm,0.8s						
EKMR				A	A	00 18 06.9	
	comp=Z,49nm,0.8s						
EKMR				A	A	00 18 06.9	
	comp=Z,51nm,0.8s						
MDJ	**Mudanjiang**	**9.10**	**261**	P	Pn	00 15 34.5	+4.8
MDJ				pmax	pmax		
	comp=Z,3.0nm,0.4s						
MDJ				pmax	pmax		
	comp=Z,62nm,5.0s						
MAT	**Matsushiro**	**10.67**	**198**	P	Pn	00 15 55.5	+4.3
BMKR	**Bomnak**	**11.59**	**318**	*e*P	**Pn**	**00 16 02.9**	**-0.7**
PEA0	**Petropavlovsk-**	**11.79**	**52**	*e*Pn	**Pn**	**00 16 07.8**	**+1.4**
PETK	**Petropavlovsk-**	**11.79**	**52**	PN	**Pn**	**00 16 08.7**	**+2.3**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK				MLR	MLR		
	comp=Z,90nm,19.0s						
PETK	**Petropavlovsk-**	**11.79**	**52**	Pn	**Pn**	**00 16 08.7**	**+2.3**
	comp=Z,0.6nm,0.3s,baz=246,slow=12,SNR=5.0						
PETK				Sn	**Sn**	**00 18 14.2**	**-3.8**
	baz=250,slow=25,SNR=2.1						
PETK				LR	LR	00 20 48.5	
	comp=Z,90nm,19.0s,baz=252,slow=38						
ZEA	**Zeya**	**11.82**	**311**	*e*P	**Pn**	**00 16 09.2**	**+2.4**
ZEA				AMB	AMB	00 16 15.9	
	comp=Z,32nm,1.4s						
ZEA				AMS	AMS	00 21 10.0	
	comp=Z,800nm,12.0s						
CN2	**Changchun**	**12.19**	**262**	*e*P	Pn	00 16 17.9	+6.1
CN2				*e*S	**Sn**	**00 18 32.3**	**+4.6**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.4s						
CN2				pmax	pmax		
	comp=Z,70nm,4.0s						
CN2				LR	LR		
	comp=N,800nm,12.0s						
CN2				LR	LR		
	comp=E,1μm,12.0s						
CN2				LR	LR		
	comp=Z,1μm,13.0s						
PET	**Petropavlovsk**	**12.28**	**53**	*e*PN	Pn	00 16 19.9	+6.9
KROS	**Kirovskiy**	**12.32**	**314**	*e*P	Pn	00 16 08.5	-5.2
KROS				AMB	AMB	00 16 12.9	
	comp=Z,5.0nm,0.7s						
KROS				*e*Sg		00 19 51.3	
KROS				A	A	00 19 58.9	
	comp=Z,73nm,1.4s						
KS01	**Wonju Array Si**	**14.11**	**234**	*e*Pn	**Pn**	**00 16 40.9**	**+2.7**
KSRS	**Korea Array**	**14.11**	**234**	Pn	P	00 16 42.4	-3.5
	comp=Z,0.3nm,0.3s,baz=45,slow=11,SNR=7.3						
KSRS				LR	LR	00 21 54.4	
	comp=Z,159nm,18.6s,baz=13,slow=37						
KS15	**Wonju Array Si**	**14.14**	**234**	*e*Pn	P	00 16 42.4	-3.8
KS15				*e*PcP	**PcP**	**00 21 54.4**	**-3.1**
SNY	**Shenyang**	**14.23**	**256**	⇑P	P	00 16 51.4	+4.2
SNY				S	**Sn**	**00 19 20.2**	**+2.5**
SNY				pmax	pmax		
	comp=Z,22nm,1.2s						
SNY				pmax	pmax		
	comp=Z,180nm,3.2s						
SNY				LR	LR		
	comp=N,460nm,18.7s						
SNY				LR	LR		
	comp=E,840nm,10.9s						
SNY				LR	LR		
	comp=Z,760nm,13.3s						
JNU	**Nakatsue**	**16.16**	**216**	*e*Pn	**Pn**	**00 17 06.8**	**+1.2**
	comp=Z,135nm,2.3s						
JNU	**Nakatsue**	**16.16**	**216**	Pn	**Pn**	**00 17 06.2**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=51,slow=6.5,SNR=2.3						
YAK	**Yakutsk**	**16.87**	**339**	*e*P	**Pn**	**00 17 14.2**	**-0.1**
SEY	**Seymchan**	**17.16**	**16**	*e*P	**P**	**00 17 19.1**	**-0.4**
CBIJ	**Chichi jima**	**19.66**	**180**	P	**Pn**	**00 17 48.6**	**-0.1**
	comp=Z,2.6nm,0.3s,baz=72,slow=20,SNR=2.6						
CBI	**Chichi jima**	**19.67**	**180**	*e*P	**Pn**	**00 17 48.6**	**-0.1**
BJI	**Beijing**	**20.03**	**260**	P	Pn	00 17 52.1	-0.9
BJI				pmax	pmax		
	comp=Z,12nm,0.5s						
BJI				LR	LR		
	comp=N,500nm,11.8s						
BJI				LR	LR		
	comp=E,450nm,15.6s						
BJI				LR	LR		
	comp=Z,280nm,17.2s						
FX1	**Attu Island--F**	**20.76**	**62**	*e*P	Pn	00 18 00.8	-0.6
FX1	**Attu Island--F**	**20.76**	**62**	P	Pn	00 18 00.7	-0.7
	comp=Z,15nm,0.7s,baz=281,slow=5.2,SNR=4.7						
JOW	**Kunigami**	**22.77**	**214**	*e*P	**P**	**00 18 21.3**	**+0.5**
	comp=Z,247nm,2.5s						
HHC	**Hu-ho-hao-te**	**22.81**	**266**	*e*P	**P**	**00 18 21.3**	**0.0**
HHC				pP	pP	00 18 35.5	+11
HHC				sP	sP	00 18 42.9	+17
HHC				PP	PnPn	00 18 52.5	+7.2
HHC				S	S	00 22 21.7	-8.8
HHC				sS	Sn	00 22 45.5	+0.3
HHC				SS	**SnSn**	**00 23 08.7**	**+7.9**
HHC				PcS	**PcS**	**00 25 50.2**	**-1.2**
HHC				pmax	pmax		
	comp=Z,49nm,1.0s						
HHC				pmax	pmax		
	comp=Z,200nm,5.4s						
HHC				LR	LR		
	comp=N,700nm,11.2s						
HHC				LR	LR		
	comp=E,1μm,10.8s						
HHC				LR	LR		
	comp=Z,1μm,11.0s						
NJ2	**Nanjing**	**23.17**	**239**	*e*P	**P**	**00 18 26.7**	**+1.8**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
ULN	**Ulaanbaatar**	**23.74**	**286**	*e*P	**P**	**00 18 30.2**	**-0.5**
SONA1	**Songino Array**	**24.17**	**286**	*e*P	**P**	**00 18 34.6**	**-0.1**
SONA0	**Songino Array**	**24.18**	**286**	*e*P	**P**	**00 18 34.3**	**-0.6**
SONA0				*e*PcP	**PcP**	**00 22 15.0**	**-0.2**
SONM	**Songino Array**	**24.18**	**286**	P	**P**	**00 18 34.3**	**-0.6**
	comp=Z,5.2nm,1.0s,baz=79,slow=9.3,SNR=22						
SONM				PcP	**PcP**	**00 22 15.0**	**-0.2**
	comp=Z,1.8nm,0.8s,baz=130,slow=3.0,SNR=7.3						
SONM				LR	LR	00 28 37.1	
	comp=Z,257nm,19.0s,baz=32,slow=38						
TLY	**Talaya**	**25.44**	**295**	*e*P	**P**	**00 18 45.7**	**-0.4**
TLY				*e*		00 23 08.5	
TLY				pmax	pmax		
	comp=Z,10.0nm,1.1s						
TLY				MLR	MLR		
	comp=Z,233nm,14.0s						
TIXI	**Tiksi**	**25.72**	**350**	*c i*P	**P**	**00 18 51.0**	**+2.7**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.7s						
TIXI				MLR	MLR		
	comp=Z,118nm,16.0s						
ZAK	**Zakamensk**	**25.80**	**292**	*e*P	**P**	**00 18 49.7**	**+0.2**
ZAK				pmax	pmax		
	comp=Z,14nm,1.1s						
LZH	**Lanzhou**	**30.41**	**263**	*e*P	P	00 19 34.5	+3.6
LZH				pP	pP	00 19 48.3	+14
LZH				sP	sP	00 19 55.1	+20
LZH				PP	**PP**	**00 20 36.0**	**-3.4**
LZH				pmax	pmax		
	comp=Z,22nm,1.3s						
LZH				pmax	pmax		
	comp=Z,71nm,5.2s						
LZH				LR	LR		
	comp=N,380nm,13.2s						
LZH				LR	LR		
	comp=E,360nm,13.0s						
LZH				LR	LR		
	comp=Z,460nm,17.3s						
CD2	**Chengdu**	**33.51**	**256**	P	P	00 20 01.5	+3.5
CD2				pP	pP	00 20 15.6	+15
CD2				sP	sP	00 20 22.3	+20
CD2				PP	**PP**	**00 21 15.1**	**+1.4**
CD2				S	**S**	**00 25 18.6**	**-1.2**
CD2				sS	sS	00 25 42.6	+18
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,170nm,7.7s						
CD2				LR	LR		
	comp=N,440nm,12.5s						
CD2				LR	LR		
	comp=Z,310nm,12.5s						
GYA	**Guiyang**	**34.61**	**247**	*e*P	**P**	**00 20 09.5**	**+1.9**
GYA				pP	pP	00 20 24.8	+14
GYA				sP	sP	00 20 31.0	+19
GYA				PP	**PP**	**00 21 28.7**	**+2.8**
GYA				PcP	**PcP**	**00 22 43.2**	**+1.2**
GYA				S	**S**	**00 25 34.8**	**-2.1**
GYA				sS	sS	00 26 01.0	+19
GYA				ScP	**ScP**	**00 26 22.4**	**-4.7**
GYA				PcS	**PcS**	**00 26 30.0**	**+1.3**
GYA				ScS	**ScS**	**00 30 23.4**	**-6.9**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,90nm,4.8s						
GYA				LR	LR		
	comp=N,480nm,14.9s						
GYA				LR	LR		
	comp=E,350nm,15.6s						
GYA				LR	LR		
	comp=Z,490nm,15.8s						
ZALV	**Zalesovo Beam**	**36.40**	**303**	P	**P**	**00 20 22.9**	**+0.3**
ZALV						00 22 45.9	
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ZALV	**Zalesovo Beam**	**36.40**	**303**	P	**P**	**00 20 22.9**	**+0.3**
	comp=Z,0.6nm,0.4s,baz=85,slow=8.9,SNR=3.9						
ZALV				PcP	**PcP**	**00 22 45.9**	**-0.7**
	comp=Z,1.5nm,0.7s,baz=64,slow=3.4,SNR=6.2						
NVS	**Novosibirsk**	**37.11**	**305**	*e*P	**P**	**00 20 29.4**	**+0.8**
WMQ	**Urumqi**	**37.82**	**286**	*e*P	P	00 20 38.0	+3.1
WMQ				pP	pP	00 20 53.3	+15
WMQ				PP	PnPn	00 22 09.0	+6.8
WMQ				pmax	pmax		
	comp=Z,8.0nm,0.6s						
WMQ				pmax	pmax		
	comp=Z,110nm,4.7s						
WMQ				LR	LR		
	comp=N,220nm,20.3s						
WMQ				LR	LR		
	comp=E,98nm,20.3s						
WMQ				LR	LR		
	comp=Z,100nm,16.8s						
KMI	**Kunming**	**38.05**	**249**	P	**P**	**00 20 39.7**	**+2.6**
KMI				pP	pP	00 20 53.4	+13
KMI				sP	sP	00 21 00.1	+19
KMI				S	**S**	**00 26 28.4**	**-1.4**
KMI				sS	ScP	00 26 52.6	+13
KMI				SS	**SnSn**	**00 29 06.9**	**-5.1**
KMI				pmax	pmax		
	comp=Z,9.0nm,1.2s						
KMI				pmax	pmax		
	comp=Z,100nm,4.5s						
KMI				LR	LR		
	comp=N,400nm,12.2s						
KMI				LR	LR		
	comp=E,340nm,14.1s						
KMI				LR	LR		
	comp=Z,230nm,9.8s						
QIZ	**Qiongzhong**	**38.33**	**235**	P	**P**	**00 20 41.0**	**+1.7**
QIZ				S	**S**	**00 26 33.6**	**-0.1**
QIZ				pmax	pmax		
	comp=Z,9.0nm,1.9s						
CAST	**Castle Rocks**	**39.09**	**41**	*e*P	**P**	**00 20 43.7**	**-1.6**
	comp=Z,10nm,1.0s						
PPLA	**Purkeypile**	**39.11**	**41**	*e*P	**P**	**00 20 44.0**	**-1.5**
	comp=Z,83nm,1.9s						

RSO	Redoubt South	39.21	45	eP		P	00 20 45.0	-1.5
SPU	Mount Spurr	39.42	44	eP		P	00 20 48.5	+0.4
COLD	Coldfoot	39.53	34	eP		P	00 20 48.5	-0.3
	comp=Z,12nm,1.0s							
KDAK	Kodiak Island	39.83	49	P		P	00 20 51.2	-0.2
	comp=Z,4.1nm,0.7s,baz=274,slow=14,SNR=2.5							
MK32	Makanchi Array	40.14	293	eP		P	00 20 53.2	-1.0
MK32				ePcP		PcP	00 22 56.9	-1.5
MKAR	Makanchi Array	40.14	293	P		P	00 20 53.3	-0.9
MKAR							00 22 56.9	
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
MKAR				pmax	pmax			
	comp=Z,1.0nm,1.0s							
MKAR				MLR	MLR			
	comp=Z,208nm,20.6s							
MKAR	Makanchi Array	40.14	293	eP		P	00 20 53.5	-0.7
MKAR	Makanchi Array	40.14	293	P		P	00 20 53.2	-0.9
	comp=Z,0.9nm,0.7s,baz=71,slow=12,SNR=6.0							
MKAR				PcP		PcP	00 22 56.9	-1.5
	comp=Z,1.0nm,1.0s,baz=259,slow=1.5,SNR=4.2							
MKAR				LR	LR		00 38 41.9	
	comp=Z,208nm,20.6s,baz=48,slow=38							
MK01	Makanchi Array	40.14	293	eP		P	00 20 53.4	-0.9
MCK	McKinley	40.45	40	eP		P	00 20 56.5	0.0
MCK				pmax	pmax			
	comp=Z,11nm,1.0s							
MCK	McKinley	40.45	40	eP		P	00 20 56.5	0.0
	comp=Z,11nm,1.0s							
COLA	College	40.74	38	eP		P	00 20 57.8	-1.0
COLA				pmax	pmax			
	comp=Z,12nm,0.8s							
COLA	College	40.74	38	eP		P	00 20 57.8	-1.0
	comp=Z,3.3nm,0.8s							
KURK	Kurchatov	40.97	300	eP		P	00 21 00.8	-0.2
KURK				e			00 23 00.1	
KURK	Kurchatov	40.97	300	eP		P	00 21 00.8	-0.2
KURK				ePcP		PcP	00 23 00.1	-0.9
KURBB	Kurchatov Arra	41.05	300	P		P	00 21 00.8	-0.9
	comp=Z,2.3nm,0.6s,baz=70,slow=9.0,SNR=8.8							
KURBB				PcP		PcP	00 23 00.1	-1.1
	comp=Z,1.1nm,0.7s,baz=77,slow=3.4,SNR=6.5							
IL1	Eielson Array	41.16	38	eP		P	00 21 01.7	-0.7
ILAR	Eielson Array	41.16	38	P		P	00 21 02.0	-0.3
	comp=Z,5.2nm,0.7s,baz=281,slow=8.2,SNR=47							
ILB	Eielson Array	41.16	38	eP		P	00 21 02.0	-0.3
EGAK	Eagle	43.56	37	eP		P	00 21 21.7	-0.2
	comp=Z,19nm,0.8s							
VOSK	Vostochnaya	44.67	305	eP		P	00 21 30.7	-0.3
VOSK				pmax	pmax			
	comp=Z,6.0nm,1.0s							
VOSK	Vostochnaya	44.67	305	eP		P	00 21 30.7	-0.3
	comp=Z,6.0nm,1.0s							
BVAR	Borovoye Array	44.89	306	P		P	00 21 32.7	0.0
BVAR							00 23 13.3	
BVAR				pmax	pmax			
	comp=Z,1.0nm,0.4s							
BVAR				pmax	pmax			
	comp=Z,3.0nm,0.8s							
BVAR	Borovoye Array	44.89	306	P		P	00 21 32.7	0.0
	comp=Z,0.8nm,0.4s,baz=79,slow=7.9,SNR=7.8							
BVAR				PcP		PcP	00 23 13.3	-0.8
	comp=Z,2.7nm,0.8s,baz=70,slow=4.9,SNR=8.3							
BRVK	Borovoye	44.94	306	eP		P	00 21 33.6	+0.5
BRVK				pmax	pmax			
	comp=Z,6.0nm,1.4s							
BRVK	Borovoye	44.94	306	eP		P	00 21 31.9	-1.2
	comp=Z,9.3nm,1.3s							
CHTO	Chiang Mai	45.03	247	eP		P	00 21 32.4	-1.8
CHTO				pmax	pmax			
	comp=Z,19nm,1.9s							
CHTO	Chiang Mai	45.03	247	eP		P	00 21 32.4	-1.8
	comp=Z,19nm,1.9s							
INK	Inuvik	45.57	31	eP		P	00 21 37.4	-0.4
	comp=Z,5.4nm,0.6s							
HYT	Haines Junctio	46.35	42	eP		P	00 21 44.6	+0.3
AAK	Ala-Archa	46.96	291	eP		P	00 21 51.8	+2.4
AAK				pmax	pmax			
	comp=Z,3.0nm,1.2s							
KSH	Kashi	47.58	286	eP		P	00 21 59.1	+4.9
KSH				pP		pP	00 22 14.6	+17
KSH				PP		PP	00 23 51.8	+6.3
KSH				PcS		PcS	00 27 21.4	+2.0
KSH				S		S	00 28 52.0	+2.6
KSH				sS		sS	00 29 18.7	+24
KSH				pmax	pmax			
	comp=Z,68nm,5.2s							
KSH				LR	LR			
	comp=N,110nm,6.1s							
KSH				LR	LR			
	comp=E,150nm,6.9s							
KSH				LR	LR			
	comp=Z,190nm,12.3s							
SVE	Sverdlovsk	48.53	313	eP		P	00 22 02.3	+1.2
SVE				pmax	pmax			
	comp=Z,9.0nm,1.1s							
KKAR	Karatay Array	49.26	293	eP		P	00 22 05.2	-1.8
KKAR	Karatay Array	49.26	293	eP		P	00 22 05.2	-1.8
ARU	Arti	49.74	314	d iP		P	00 22 10.2	-0.2
ARU							00 24 04.9	
ARU				S		S	00 29 18.8	-0.3
ARU				SS		SS	00 32 48.7	-2.2
ARU				pmax	pmax			
	comp=Z,14nm,1.7s							
ABKAR	Akbulak array	52.45	305	eP		P	00 22 29.9	-0.9
AKTO	Aktyubinsk	52.92	307	P		P	00 22 33.9	-0.4
AKTO							00 23 42.5	
AKTO				pmax	pmax			
	comp=Z,4.0nm,0.7s							
AKTO				pmax	pmax			
	comp=Z,2.0nm,0.8s							
AKTO	Aktyubinsk	52.92	307	P		P	00 22 33.9	-0.4
	comp=Z,3.7nm,0.7s,baz=58,slow=7.6,SNR=10							
AKTO				PcP		PcP	00 23 42.5	-0.7
	comp=Z,2.4nm,0.8s,baz=68,slow=7.6,SNR=3.8							
ARA0	ARCESS Array S	55.14	337	eP		P	00 22 49.3	-1.0
ARCES	ARCESS Array B	55.14	337	P		P	00 22 50.6	+0.3
	comp=Z,5.6nm,1.0s,baz=19,slow=7.7,SNR=8.6							
YKA	Yellowknife Ar	55.19	33	P		P	00 22 50.4	-0.3
	comp=Z,4.2nm,0.7s,baz=305,slow=6.9,SNR=17							
YKB5	Yellowknife Ar	55.19	33	eP		P	00 22 49.5	-1.2
JOF	Joensuu	57.74	330	eP		P	00 23 08.8	0.0
JOF				pmax	pmax			
	comp=Z,6.0nm,0.6s							
JOF	Joensuu	57.74	330	ep		P	00 23 08.8	0.0
	comp=Z,5.6nm,0.6s							
KAF	Kangasniemi	59.99	331	eP		P	00 23 24.1	-0.4
KAF				pmax	pmax			
	comp=Z,3.0nm,0.5s							
KAF	Kangasniemi	59.99	331	ep		P	00 23 24.1	-0.4
	comp=Z,3.1nm,0.5s							
FIA0	FINESS Array S	60.55	330	eP		P	00 23 27.6	-0.7
FIA0	FINESS Array S	60.55	330	eP		P	00 23 27.6	-0.7
FINES	FINESS Array B	60.55	330	P		P	00 23 27.6	-0.7
	comp=Z,5.0nm,0.6s,baz=50,slow=7.7,SNR=32							
OBN	Obninsk	60.78	321	eP		P	00 23 31.4	+1.5
OBN				e			00 24 13.5	
OBN				eS		S	00 31 46.0	-0.7
OBN				eSS		SS	00 35 45.8	+1.1
OBN				pmax	pmax			
	comp=Z,15nm,1.2s							
OBN				MLR	MLR			
	comp=Z,100nm,15.0s							
SUMG	Summit	60.93	0	i P		P	00 23 31.8	+0.5
SUMG				pmax	pmax			
	comp=Z,14nm,1.0s							
SUMG	Summit	60.93	0	i P		P	00 23 31.8	+0.5
	comp=Z,14nm,1.0s							
SUMG	Summit	60.93	0	eP		P	00 23 30.3	-0.9
	comp=Z,20nm,1.1s							
VRHR	Novokhopersk	61.04	315	eP		P	00 23 32.5	+0.7
VRHR				pmax	pmax			
	comp=Z,10.0nm,1.1s							
VRHR				pmax	pmax			
	comp=N,10.0nm,1.6s							
VRHR				pmax	pmax			
	comp=E,6.0nm,0.7s							
B08A	Colville Reser	61.70	49	eP		P	00 23 35.5	-0.9
VSR	Storozhevoye	62.14	316	eP		P	00 23 41.1	+1.9
VSR				pmax	pmax			
	comp=N,10.0nm,1.1s							
VSR				pmax	pmax			
	comp=Z,10.0nm,1.1s							
VSR				pmax	pmax			
	comp=E,3.0nm,0.5s							
VORD	Divnogorie	62.24	316	eP		P	00 23 40.1	+0.2
VORD				pmax	pmax			
	comp=Z,6.0nm,0.9s							
VORD				pmax	pmax			
	comp=N,20nm,0.4s							
VORD				pmax	pmax			
	comp=E,30nm,0.7s							
NEW	Newport	62.89	48	eP		P	00 23 42.8	-1.6
	comp=E,4.7nm,0.8s							
NEW	Newport	62.89	48	⇑P		P	00 23 44.5	+0.1
	baz=63							
E09A	Wood Farm, Sta	63.51	50	eP		P	00 23 47.4	-1.1
	comp=E,8.9nm,1.0s							
PINOR	Pine Mountain	63.80	53	eP		P	00 23 49.7	-0.7
	comp=E,91nm,2.2s							
WALA	Waterton Lakes	63.96	45	eP		P	00 23 50.2	-1.4
YBH	Yreka Blue Hor	64.12	56	eP		P	00 23 51.6	-1.1
	comp=E,108nm,3.0s							
IANJ	Anjilo	64.13	295	eP		P	00 23 51.5	-1.5
BSMT	Bassoo Peak	64.34	47	eP		P	00 23 52.8	-1.4
I07A	Izee	64.38	52	eP		P	00 23 52.9	-1.5
	comp=E,12nm,1.5s							
K05A	Summer Lake	64.50	54	eP		P	00 23 54.4	-0.9
	comp=E,23nm,1.3s							
YBMT	Yellow Bay	64.72	46	eP		P	00 23 56.9	+0.3
SWMT	Swartz Lake	64.96	47	eP		P	00 23 56.6	-1.5
KIV	Kislovodsk	65.14	308	eP		P	00 23 59.8	+0.5
KIV				pmax	pmax			
	comp=Z,28nm,1.1s							
KIV				MLR	MLR			
	comp=Z,105nm,17.0s							
KBZ	Khabaz	65.18	308	eP		P	00 23 59.3	-0.1
KBZ	Khabaz	65.18	308	eP		P	00 23 59.3	-0.1
KBZ	Khabaz	65.18	308	P		P	00 23 59.3	-0.1
	comp=Z,5.8nm,1.1s,baz=48,slow=4.5,SNR=7.1							
KBZ				LR	LR		00 55 41.7	
	comp=Z,124nm,18.9s,baz=18,slow=39							
FFC	Flin Flon	65.27	35	eP		P	00 23 59.0	-0.9
FFC				pmax	pmax			
	comp=Z,27nm,0.9s							
FFC	Flin Flon	65.27	35	eP		P	00 23 59.0	-0.9
	comp=Z,12nm,0.9s							
MOD	Modoc	65.37	55	eP		P	00 24 00.1	-0.8
	comp=Z,80nm,1.7s							
SLMT	Seeley Lake	65.40	47	eP		P	00 24 00.4	-0.6
J08A	Circle Bar Ran	65.42	52	eP		P	00 24 00.2	-0.9
	comp=Z,29nm,1.7s							
MSO	Missoula	65.45	47	eP		P	00 23 59.9	-1.4
	comp=Z,14nm,1.3s							
MSO	Missoula	65.45	47	⇓P		P	00 24 01.5	+0.2
	baz=65							
NB2	NORSAR Subarra	65.46	336	P		P	00 24 00.4	-0.6
	comp=Z,3.2nm,0.7s,baz=35,slow=6.5							
NB200	NORSAR Array S	65.46	336	eP		P	00 24 00.3	-0.7
NOA	NORSAR Array B	65.46	336	P		P	00 24 00.3	-0.7
	comp=Z,7.9nm,0.9s,baz=34,slow=6.3,SNR=11							
NBO02	NORSAR Array S	65.55	336	eP		P	00 24 00.7	-0.9
IVRN	Varamin	65.80	296	eP		P	00 24 04.4	+0.7
WVOR	Wild Horse Val	65.94	53	eP		P	00 24 03.1	-1.5
WVOR				pmax	pmax			
	comp=Z,6.0nm,0.9s							
WVOR	Wild Horse Val	65.94	53	eP		P	00 24 03.1	-1.5
	comp=Z,6.0nm,0.9s							
IHRS	Heris	66.43	301	eP		P	00 24 05.1	-2.8
A19A	Klindworth Far	66.52	43	⇓P		P	00 24 08.5	+0.3
	baz=66,SNR=7.1							
HRY	Holter Researc	66.59	46	eP		P	00 24 09.3	+0.6
BEKR	Beckworth	66.70	56	eP		P	00 24 08.8	-0.7
	comp=Z,5.2nm,1.3s							
B19A	Brinkman Farms	66.76	43	⇓P		P	00 24 10.0	+0.4
	baz=66							
MFID	Camas Ranch	66.80	51	⇑P		P	00 24 10.5	+0.5
	baz=67							
WRA	Warramunga Arr	66.80	188	eP		P	00 24 08.9	-1.1
WRA	Warramunga Arr	66.80	188	P		P	00 24 08.9	-1.1
	comp=Z,2.3nm,0.9s,baz=7.5,slow=6.6,SNR=9.5							
IZEF	Zefreh	66.81	294	eP		P	00 24 09.2	-1.2
LRM	Limekiln Ridge	66.90	47	eP		P	00 24 10.2	-0.6
AKASG	Malin Array Be	67.04	321	P		P	00 24 10.4	-0.9
AKASG				pmax	pmax			
	comp=Z,5.0nm,0.8s							
AKASG	Malin Array Be	67.04	321	P		P	00 24 10.3	-0.9
	comp=Z,1.1nm,0.3s,baz=40,slow=7.0,SNR=14							
AKBB	Malin Array Si	67.04	321	eP		P	00 24 10.4	-0.9
AKBB	Malin Array Si	67.04	321	eP		P	00 24 10.3	-0.9
DLMT	Dillon	67.14	48	eP		P	00 24 11.0	-1.2
	comp=Z,11nm,0.9s							
C19A	Slack Wire Ran	67.22	44	⇑P		P	00 24 13.2	+0.6
	baz=67,SNR=5.6							
A21A	Bergtoll Ranch	67.32	42	⇑P		P	00 24 13.6	+0.5
	baz=67							
PAHR	Pah Rah Range	67.36	56	eP		P	00 24 12.6	-1.1
	comp=Z,9.8nm,1.1s							
MCMT	McKenzie Canyo	67.39	48	eP		P	00 24 12.6	-1.3
HLID	Hailey	67.45	50	eP		P	00 24 14.0	-0.2
	comp=Z,23nm,2.3s							
HLID	Hailey	67.45	50	⇑P		P	00 24 14.6	+0.4
	baz=67							
D19A	Cripps Ranch,	67.71	44	⇓P		P	00 24 16.1	+0.4
	baz=67							
C20A	Veseth Ranch,	67.73	43	⇑P		P	00 24 16.3	+0.5
	baz=68,SNR=7.6							
A22A	Carney Farms,	67.78	41	⇑P		P	00 24 16.0	0.0
	baz=68							
CMB	Columbia Colle	67.91	58	eP		P	00 24 16.5	-0.6
CMB				pmax	pmax			
	comp=Z,11nm,1.3s							
CMB	Columbia Colle	67.91	58	eP		P	00 24 16.4	-0.6
	comp=Z,11nm,1.3s							
D20A	Manuel Ranch,	68.12	44	⇑P		P	00 24 18.8	+0.6
	baz=68,SNR=6.1							
E19A	Rath Farm, Rou	68.26	45	⇑P		P	00 24 19.3	+0.1
	baz=68							
E20A	Meyer Farm, Mu	68.54	44	⇑P		P	00 24 21.4	+0.5
	baz=68							
F19A	Roth Farm, Mol	68.61	45	⇓P		P	00 24 21.9	+0.5
	baz=68,SNR=6.2							
NV01	Mina Array Sit	68.84	56	eP		P	00 24 22.6	-0.5
RRI2	Red Ridge	69.21	48	eP		P	00 24 25.3	0.0
	comp=Z,12nm,0.9s							
MOOW	Moose Ponds	69.22	48	eP		P	00 24 25.4	0.0
	comp=Z,6.1nm,1.0s							
IDHR	Dehrash	69.25	299	eP		P	00 24 25.8	+0.1
TPAW	Teton Pass	69.30	48	eP		P	00 24 26.2	+0.3
	comp=Z,10nm,1.0s							
LOHW	Long Hollow	69.39	48	eP		P	00 24 26.3	-0.1
	comp=Z,10nm,1.4s							
G20A	Bridger	69.43	45	⇑P		P	00 24 26.4	-0.1
	baz=69							
D23A	Lindsay	69.43	42	⇓P		P	00 24 26.7	+0.3
	baz=69							
REDW	Red Top Meadow	69.44	48	eP		P	00 24 26.9	+0.2
	comp=Z,14nm,1.4s							
F21A	Absaloka Mine,	69.52	44	⇑P		P	00 24 27.1	+0.1
	baz=69							
C24A	Savage	69.53	42	⇓P		P	00 24 27.3	+0.3
	baz=69							
B25A	Knox Farm, Ray	69.55	40	⇑P		P	00 24 27.4	+0.3
	baz=69							
A26A	Wade Farm, Ken	69.57	39	⇑P		P	00 24 27.0	-0.2
	baz=69							
E23A	Ismay	69.88	43	⇑P		P	00 24 29.6	+0.4
	baz=70							
BGU	Big Grassy Mou	70.03	51	eP		P	00 24 29.7	-0.6
	comp=Z,12nm,1.8s							
H20A	Greybull	70.06	46	⇑P		P	00 24 30.4	0.0
	baz=70							
E24A	Baker	70.30	42	⇓P		P	00 24 31.6	-0.1
	baz=70							
I20A	Wayland	70.39	46	⇑P		P	00 24 32.3	-0.2
	baz=70							
F23A	Volborg	70.41	43	⇓P		P	00 24 32.5	0.0
	baz=70							
R11A	Troy Canyon, C	70.44	55	eP		P	00 24 32.2	-0.7
	comp=Z,14nm,1.8s							
R11A	Troy Canyon, C	70.44	55	⇑P		P	00 24 33.4	+0.5
	baz=70,SNR=5.3							
AS01	Alice Springs	70.52	188	eP		P	00 24 32.2	-1.0
BW06	Boulder Array	70.53	48	eP		P	00 24 32.7	-0.7
PD31	Pinedale Array	70.53	48	eP		P	00 24 33.4	0.0
PDAR	Pinedale Array	70.53	48	P		P	00 24 33.4	0.0
	comp=Z,4.2nm,0.9s,baz=318,slow=1.5,SNR=27							
AS12	Alice Springs	70.53	188	eP		P	00 24 33.5	+0.3
ASAR	Alice Springs	70.53	188	P		P	00 24 33.5	+0.3
	comp=Z,4.5nm,1.0s,baz=4.6,slow=5.1,SNR=22							
KWP	Kalwaria Pacla	70.61	323	⇓iP		P	00 24 33.2	-0.4
ISA	Isabella	70.65	58	⇑P		P	00 24 34.6	+0.4
	baz=70							
DUG	Dugway	70.66	52	eP		P	00 24 34.4	+0.2
DUG				pmax	pmax			
	comp=Z,9.0nm,1.1s							
DUG	Dugway	70.66	52	eP		P	00 24 34.4	+0.2
	comp=Z,9.4nm,1.1s							
DUG	Dugway	70.66	52	⇓P		P	00 24 34.9	+0.8
	baz=70,SNR=8.9							
F24A	Ekalaka	70.77	43	⇑P		P	00 24 34.2	-0.5
	baz=70							
K19A	Absolon Red Bu	70.85	47	⇑P		P	00 24 35.0	-0.3
	baz=71							
M17A	Scullys Gap (B	70.89	49	⇓P		P	00 24 35.8	+0.1
	baz=71							
I21A	Big Trails, Te	70.90	46	⇑P		P	00 24 35.6	-0.1
	baz=71,SNR=13							
MPMC	Manual Prospec	70.95	58	⇑P		P	00 24 36.5	+0.4
	baz=71,SNR=6.0							
FURC	Furnace Creek,	71.03	57	⇑P		P	00 24 36.8	+0.5
	baz=71,SNR=6.5							
BUR04	Bucovina Ar. S	71.10	320	eP		P	00 24 35.7	-1.0
BURAR	Bucovina Array	71.10	320	⇑iP		P	00 24 36.8	+0.1
L19A	Farson	71.11	48	⇓P		P	00 24 37.0	0.0
	baz=71							
J21A	Lysite	71.17	46	⇓P		P	00 24 36.9	-0.4
	baz=71							
NLU	North Lily Min	71.23	51	eP		P	00 24 36.6	-1.1
	comp=Z,5.8nm,0.9s							
I22A	9 Mile Ranch,	71.24	45	⇑P		P	00 24 37.7	0.0
	baz=71							
GHRR		71.29	318	⇑iP		PcP	00 24 56.4	-1.1
TESR	Tescani	71.30	319	⇓iP		P	00 24 37.4	-0.4
OJC	Ojcow	71.33	325	eP		P	00 24 36.0	-1.8
OJC				pmax	pmax			
	comp=Z,16nm,1.1s							
OJC	Ojcow	71.33	325	eP		P	00 24 36.0	-1.8
	comp=Z,16nm,1.1s							
KOLS	Kolonicke sedl	71.33	323	eP		P	00 24 40.8	+2.8
KOLS				pmax	pmax			
	comp=Z,5.0nm,1.1s							
KOLS	Kolonicke sedl	71.33	323	eP		P	00 24 40.8	+2.8
STHS	Stebnicka Huta	71.38	324	eP		P	00 24 39.1	+0.9
STHS				pmax	pmax			
	comp=Z,4.0nm,0.8s							
STHS	Stebnicka Huta	71.38	324	eP		P	00 24 39.1	+0.9
H24A	Dirks Ranch, A	71.54	44	⇑P		P	00 24 38.7	-0.7
	baz=71							
J22A	Midwest	71.60	46	⇑P		P	00 24 38.7	-1.1
	baz=71							
E27A	Carson	71.65	41	⇑P		P	00 24 39.9	-0.1
	baz=71							
SHPR	Sheep Range	71.97	56	eP		P	00 24 41.0	-1.3
BFSC	Mount Baldy Ra	72.13	59	⇓P		P	00 24 43.0	-0.1
	baz=72							
RSSD	Black Hills	72.25	44	eP		P	00 24 42.9	-0.9
RSSD				pmax	pmax			
	comp=Z,27nm,1.0s							
RSSD	Black Hills	72.25	44	eP		P	00 24 42.9	-0.9
	comp=Z,6.8nm,1.0s							
OKC	Ostrava-Krasne	72.27	326	i P		P	00 24 41.7	-1.8
OKC				e			00 24 45.9	
OKC	Ostrava-Krasne	72.27	326	i P		P	00 24 41.7	-1.8
OKC				ex		x	00 24 45.9	
MLR	Muntele Rosu	72.39	319	⇓iP		P	00 24 43.8	-0.7
KECS	Kecovo	72.42	324	eP		P	00 24 44.4	-0.1
KECS				pmax	pmax			
	comp=Z,2.0nm,0.9s							
KECS	Kecovo	72.42	324	eP		P	00 24 44.4	-0.1
I25A	Rochford	72.47	44	⇓P		P	00 24 45.2	+0.1
	baz=72							
HEC	Hector,Ludlow	72.49	58	⇑P		P	00 24 45.7	+0.5
	baz=72							
M21A	Separation Pea	72.49	47	⇓P		P	00 24 45.3	0.0
	baz=72							
UPC	Upice	72.54	327	i P		P	00 24 44.7	-0.5
UPC				e			00 24 48.0	
UPC	Upice	72.54	327	i P		P	00 24 44.7	-0.5
UPC				ex		x	00 24 48.0	
DPC	Dobruska-Polom	72.55	327	i P		P	00 24 45.4	+0.1
DPC				e			00 24 48.7	
DPC	Dobruska-Polom	72.55	327	i P		P	00 24 45.4	+0.1
DPC				ex		x	00 24 48.7	
DPC	Dobruska-Polom	72.55	327	eP		P	00 24 44.4	-0.9
	comp=Z,88nm,1.3s							
MORC	Moravsky Berou	72.56	326	eP		P	00 24 44.5	-0.8
MORC				pmax	pmax			
	comp=Z,16nm,1.2s							
MORC	Moravsky Berou	72.56	326	eP		P	00 24 44.5	-0.8
	comp=Z,16nm,1.2s							
N20A	Spence Gulch,	72.60	49	⇓P		P	00 24 46.5	+0.5
	baz=72,SNR=6.8							
DRGR		72.82	321	⇑iP		P	00 24 47.6	+0.6
VOIR		72.84	319	⇑iP		P	00 24 42.9	-4.2
GMRC	Granite Mounta	72.91	57	⇑P		P	00 24 47.8	0.0
	baz=73,SNR=5.6							
BR101	Keskin Array S	72.92	310	eP		P	00 24 47.4	-0.4
BRTR	Keskin Array B	72.92	310	P		P	00 24 47.4	-0.4
	comp=Z,1.4nm,0.8s,baz=46,slow=5.3,SNR=5.9							
CLL	Collm	72.97	329	eP		P	00 24 49.8	+2.2
	comp=Z,9.0nm,0.9s							
CLL	Collm	72.97	329	i P		P	00 24 46.7	-0.9
CLL				i			00 24 49.8	
CLL				pmax	pmax			
	comp=Z,5.0nm,0.9s							
CLL	Collm	72.97	329	i P		P	00 24 46.7	-0.9
	comp=Z,5.0nm,0.9s							
CLL				i Pmax			00 24 49.8	
	comp=Z,15nm,1.3s							
CLL				epP		PcP	00 25 06.0	+1.4
CLL				ePP		PP	00 27 30.0	+0.7
CLL				eSSS		SSS	00 42 06.0	
BRG	Berggiesshubel	72.99	329	eP		P	00 24 49.1	+1.3
	comp=Z,4.8nm,1.0s							
BRG	Berggiesshubel	72.99	329	eP		P	00 24 49.1	+1.3
BRG				pmax	pmax			
	comp=Z,5.0nm,1.0s							
ARR	Arges	73.08	319	⇓iP		P	00 24 48.8	+0.3
VYHS	Vyhne	73.08	325	eP		P	00 24 49.1	+0.7
VYHS				pmax	pmax			
	comp=Z,2.0nm,0.9s							
VYHS	Vyhne	73.08	325	eP		P	00 24 49.1	+0.7
P19A	C

R20A	Redvale	74.48	50	⇓P		P	00 24 57.3 +0.2
	baz=74						
ROTZ	Rotzenmuhle	74.53	329	eP		P	00 24 59.4 +2.5
	comp=Z,7.0nm,1.1s						
KHC	Kasperske Hory	74.57	328	i P		P	00 24 57.3 +0.1
KHC				e			00 25 00.2
KHC	Kasperske Hory	74.57	328	i P		P	00 24 57.3 +0.1
KHC				ex		x	00 25 00.2
KHC	Kasperske Hory	74.57	328	eP		P	00 24 54.9 -2.3
	comp=Z,18nm,1.4s						
L27A	T5 Ranch, Ells	74.62	44	⇓P		P	00 24 57.7 0.0
	baz=74						
CONA	Conrad Observa	74.71	326	⇓iP		P	00 24 59.0 +1.0
	comp=Z,16nm,1.4s						
ISCO	Idaho Springs	74.72	48	eP		P	00 24 57.8 -0.8
ISCO				pmax		pmax	
	comp=Z,8.0nm,1.5s						
ISCO	Idaho Springs	74.72	48	eP		P	00 24 57.8 -0.8
	comp=Z,7.8nm,1.5s						
S20A	Disappointment	74.76	51	⇓P		P	00 24 59.4 +0.7
	baz=74						
GEC2	GERESS Array S	74.76	328	eP		P	00 25 00.4 +2.0
	comp=Z,5.0nm,1.1s						
GEC2	GERESS Array S	74.76	328	eP		P	00 24 58.3 -0.1
GEC2	GERESS Array S	74.76	328	eP		P	00 24 58.3 -0.1
GERES	GERESS Array B	74.76	328	P		P	00 24 57.9 -0.4
	comp=Z,1.2nm,0.7s,baz=38,slow=5.4,SNR=14						
R21A	Cimarron	74.79	50	⇓P		P	00 24 59.5 +0.6
	baz=74						
WET	Wettzell	74.81	328	eP		P	00 25 00.7 +2.1
	comp=Z,16nm,1.3s						
WET	Wettzell	74.81	328	eP		P	00 25 00.7 +2.1
WET				pmax		pmax	
	comp=Z,16nm,1.3s						
WUAZ	Wupatki	74.82	54	⇓P		P	00 24 59.9 +0.9
	baz=75						
GRF	Grafenberg Arr	74.94	329	eP		P	00 25 01.4 +2.1
	comp=Z,16nm,1.0s						
GRF				ePcP		PcP	00 25 14.0 +0.9
GRF				eL		L	00 50 48.7
	comp=Z,158nm,18.9s						
GRF	Grafenberg Arr	74.94	329	eP		P	00 25 01.4 +2.1
GRF				e			00 25 14.0
GRF				pmax		pmax	
	comp=Z,16nm,1.0s						
GRFO	Grafenberg	74.94	329	eP		P	00 24 58.1 -1.2
GRFO				pmax		pmax	
	comp=Z,15nm,1.0s						
GRFO	Grafenberg	74.94	329	eP		P	00 24 58.1 -1.2
	comp=Z,15nm,1.0s						
Y14A	Wickenburg	75.04	56	⇑P		P	00 25 00.5 +0.4
	baz=75						
MVCO	Mesa Verde	75.14	51	eP		P	00 24 59.5 -1.4
	comp=Z,7.0nm,0.9s						
MVCO	Mesa Verde	75.14	51	⇑P		P	00 25 01.2 +0.3
	baz=75						
S21A	Coal Bank Pass	75.19	50	⇑P		P	00 25 02.1 +0.8
	baz=75,SNR=16						
R22A	Saguache, Gunn	75.31	49	⇓P		P	00 25 02.2 +0.2
	baz=75						
ARSA	Arzberg	75.39	326	⇓iP		P	00 25 02.6 +0.6
	comp=Z,10.0nm,1.6s						
N27A	Anderson Farm,	75.49	45	⇓P		P	00 25 02.7 0.0
	baz=75						
X16A	Lo Mia Camp, P	75.58	55	⇓P		P	00 25 04.3 +0.9
	baz=75,SNR=6.3						
S22A	4UR Ranch, Cre	75.63	50	⇑P		P	00 25 04.7 +0.9
	baz=75,SNR=7.0						
SCHQ	Schefferville	75.81	17	eP		P	00 25 02.8 -1.4
	comp=Z,33nm,1.4s						
SCHQ	Schefferville	75.81	17	P		P	00 25 03.1 -1.0
	comp=Z,5.1nm,0.8s,baz=292,slow=4.6,SNR=5.8						
R23A	Moffat	75.82	49	⇓P		P	00 25 05.1 +0.2
	baz=76						
VTS	Vitosha	75.89	318	⇓iP		P	00 25 05.1 +0.1
ECSD	EROS Data Cent	75.95	40	eP		P	00 25 04.2 -0.9
	comp=Z,8.0nm,1.1s						
U21A	Nageezi	76.17	51	⇑P		P	00 25 07.2 +0.3
	baz=76,SNR=6.5						
V20A	Brimhall	76.21	52	⇑P		P	00 25 07.0 0.0
	baz=76						
SDCO	Great Sand Dun	76.32	49	eP		P	00 25 06.4 -1.4
	comp=Z,5.2nm,1.1s						
KBA	Koelnbreinsper	76.37	327	⇓iP		P	00 25 08.3 +0.6
	comp=Z,34nm,1.2s						
STU	Stuttgart	76.42	330	ePcP		PcP	00 25 22.5 +3.0
S24A	Houchin Ranch,	76.55	49	⇑P		P	00 25 09.5 +0.5
	baz=76						
214A	Organ Pipe Nat	76.59	58	⇑P		P	00 25 09.3 +0.3
	baz=76						
R25A	Fountain Ranch	76.65	48	⇑P		P	00 25 09.4 0.0
	baz=76						
WLF	Walferdange	76.66	332	eP		P	00 25 11.9 +2.9
	comp=Z,13nm,1.4s						
GIVF	Givet	76.69	333	eP		P	00 25 08.6 -0.6
GIVF	Givet	76.69	333	eP		P	00 25 08.6 -0.6
GIVF	Givet	76.69	333	eP		P	00 25 08.6 -0.6
WTTA	Wattenberg	76.85	328	⇓iP		P	00 25 11.2 +0.8
	comp=Z,17nm,1.0s						
MMAI	Mount Meron Ar	76.88	304	P		P	00 25 10.8 +0.1
	comp=Z,6.1nm,0.9s,baz=28,slow=6.5,SNR=3.6						
BAIF	Baives	76.92	334	eP		P	00 25 10.0 -0.5
	comp=Z,26nm,1.5s						
BAIF	Baives	76.92	334	eP		P	00 25 10.0 -0.5
BAIF	Baives	76.92	334	eP		P	00 25 10.0 -0.5
R26A	Arlington	76.95	47	⇓P		P	00 25 10.6 -0.5
	baz=77						
MOTA	Moosalm	76.97	328	⇓iP		P	00 25 11.5 +0.4
	comp=Z,16nm,1.0s						
BFO	Black Forest	77.10	330	eP		P	00 25 13.7 +2.1
	comp=Z,10.0nm,1.2s						
BFO				ePcP		PcP	00 25 26.2 +3.7
BFO	Black Forest	77.10	330	eP		P	00 25 13.7 +2.1
BFO				e			00 25 26.2
BFO				pmax		pmax	
	comp=Z,10.0nm,1.2s						
BFO	Black Forest	77.10	330	eP		P	00 25 09.7 -1.9
	comp=Z,9.9nm,1.2s						
T25A	Trinidad	77.35	49	⇑P		P	00 25 13.3 -0.2
	baz=77						
CDF	Champ du Feu	77.38	331	⇑iP		P	00 25 12.9 -0.4
	comp=Z,22nm,1.1s						
CDF	Champ du Feu	77.38	331	eP		P	00 25 12.9 -0.4
CDF	Champ du Feu	77.38	331	eP		P	00 25 12.9 -0.4
S26A	Kim	77.46	48	⇓P		P	00 25 13.6 -0.4
	baz=77						
X21A	Alamocita Cree	77.59	53	⇑P		P	00 25 14.7 -0.1
	baz=77,SNR=5.5						
RAYN	Ar Rayn	77.61	291	eP		P	00 25 13.1 -1.8
	comp=Z,11nm,1.3s						
Y20A	Horse Springs,	77.66	53	⇑P		P	00 25 15.4 +0.1
	baz=77						
T26A	Comanche Natio	77.74	48	⇑P		P	00 25 15.3 -0.3
	baz=78						
PAGF	Fort de Pagny	77.76	332	eP		P	00 25 15.2 -0.1
	comp=Z,21nm,1.4s						
FUORN	Ofenpass-Fuorn	77.89	328	eP		P	00 25 16.0 -0.4
	comp=Z,19nm,1.1s						
ANMO	Albuquerque	77.93	51	eP		P	00 25 16.8 +0.1
	comp=Z,6.6nm,1.3s						
V24A	Rampart Ranch,	77.97	50	⇑P		P	00 25 17.6 +0.6
	baz=78						
MEZF	Maizieres J'vi	78.03	332	eP		P	00 25 16.5 -0.2
	comp=Z,53nm,1.3s						
MEZF	Maizieres J'vi	78.03	332	eP		P	00 25 16.5 -0.2
HINF	Hinteralfeld	78.04	331	eP		P	00 25 16.2 -0.7
	comp=Z,14nm,1.2s						
HINF	Hinteralfeld	78.04	331	eP		P	00 25 16.2 -0.7
HINF	Hinteralfeld	78.04	331	eP		P	00 25 16.2 -0.7
HAU	Haudompre	78.04	331	eP		P	00 25 16.1 -0.8
	comp=Z,14nm,1.1s						
HAU	Haudompre	78.04	331	eP		P	00 25 16.1 -0.8
HAU	Haudompre	78.04	331	eP		P	00 25 16.1 -0.8
Z20A	Nine Sixteen R	78.14	54	⇓P		P	00 25 18.7 +0.9
	baz=78,SNR=5.2						
SFTF	Sexfontaines	78.29	332	eP		P	00 25 17.8 -0.4
	comp=Z,50nm,1.3s						
SFTF	Sexfontaines	78.29	332	eP		P	00 25 17.8 -0.4
W24A	Lazy 6 Ranch,	78.29	51	⇓P		P	00 25 19.1 +0.3
	baz=78						
Y22A	Socorro	78.42	52	⇑P		P	00 25 19.4 +0.1
	baz=78						
Z21A	St. Cloud Mine	78.50	53	⇓P		P	00 25 20.6 +0.6
	baz=78						
120A	U Bar Ranch, L	78.54	54	⇓P		P	00 25 20.9 +0.8
	baz=78,SNR=5.1						
Y23A	Lovelace Mesa,	78.92	52	⇓P		P	00 25 22.9 +0.7
	baz=79						
121A	Cookes Peak, D	79.02	54	⇑P		P	00 25 23.5 +0.7
	baz=79						
319A	Douglas	79.05	56	⇓P		P	00 25 23.5 +0.7
	baz=79						
SENIN	Lac Senin/Sane	79.15	330	eP		P	00 25 22.8 -0.5
	comp=Z,10nm,1.0s						
CABF	La Chapelle	79.35	331	eP		P	00 25 24.2 0.0
	comp=Z,11nm,0.9s						
CABF	La Chapelle	79.35	331	eP		P	00 25 24.2 0.0
CABF	La Chapelle	79.35	331	eP		P	00 25 24.2 0.0
FLN	La Foliniere	79.45	336	eP		P	00 25 25.0 +0.5
	comp=Z,124nm,1.7s						
FLN	La Foliniere	79.45	336	eP		P	00 25 25.0 +0.5
FLN	La Foliniere	79.45	336	eP		P	00 25 25.0 +0.5
LOR	Lormes	79.49	333	⇑iP		P	00 25 24.1 -0.8
	comp=Z,63nm,1.4s						
LOR	Lormes	79.49	333	eP		P	00 25 24.1 -0.8
LDF	La Druitiere	79.50	336	eP		P	00 25 24.3 -0.5
	comp=Z,73nm,1.6s						
LDF	La Druitiere	79.50	336	eP		P	00 25 24.3 -0.5
LDF	La Druitiere	79.50	336	eP		P	00 25 24.3 -0.5
EIL	Elat	79.61	302	eP		P	00 25 25.4 -0.3
EIL	Elat	79.61	302	P		P	00 25 25.4 -0.3
	comp=Z,5.5nm,0.8s,baz=347,slow=7.7,SNR=3.8						
X26A	CR and CF Fran	79.64	50	⇓P		P	00 25 26.2 +0.2
	baz=79						
Y25A	Mesa, Roswell	79.65	51	⇓P		P	00 25 26.3 +0.1
	baz=79						
Z24A	Sheeppen Canyo	79.75	52	⇓P		P	00 25 27.4 +0.7
	baz=80						
SSF	Saint Saulge	79.79	333	eP		P	00 25 25.8 -0.6
	comp=Z,10nm,0.9s						
SSF	Saint Saulge	79.79	333	eP		P	00 25 25.8 -0.6
SSF	Saint Saulge	79.79	333	eP		P	00 25 25.8 -0.6
GRR	Gorron	79.89	336	eP		P	00 25 26.4 -0.6
	comp=Z,55nm,1.4s						
GRR	Gorron	79.89	336	eP		P	00 25 26.4 -0.6
GRR	Gorron	79.89	336	eP		P	00 25 26.4 -0.6
SMF	Signal de Mont	80.05	332	⇑iP		P	00 25 27.4 -0.5
	comp=Z,70nm,1.3s						
SMF	Signal de Mont	80.05	332	eP		P	00 25 27.4 -0.5
SMF	Signal de Mont	80.05	332	eP		P	00 25 27.4 -0.5
AVF	Avril sur Loir	80.08	333	⇑iP		P	00 25 27.6 -0.4
	comp=Z,39nm,1.2s						
AVF	Avril sur Loir	80.08	333	eP		P	00 25 27.6 -0.4
AVF	Avril sur Loir	80.08	333	eP		P	00 25 27.6 -0.4
LPL	La Plagne	80.08	330	⇑iP		P	00 25 28.3 -0.1
	comp=Z,13nm,1.0s						
LPL	La Plagne	80.08	330	eP		P	00 25 28.3 -0.1
LPL	La Plagne	80.08	330	eP		P	00 25 28.3 -0.1
LPG	La Plagne	80.09	330	⇑iP		P	00 25 28.4 -0.1
	comp=Z,14nm,0.9s						
LPG	La Plagne	80.09	330	eP		P	00 25 28.4 -0.1
LPG	La Plagne	80.09	330	eP		P	00 25 28.4 -0.1
Z25A	Roswell	80.13	51	⇑P		P	00 25 28.9 +0.2
	baz=80						
V30A	Spur Ranch, Mi	80.31	47	⇓P		P	00 25 30.0 +0.4
	baz=80						
BNI	Bardonecchia	80.51	330	eP		P	00 25 27.7 -2.9
BNI				pmax		pmax	
	comp=Z,11nm,1.2s						
BNI	Bardonecchia	80.51	330	eP		P	00 25 27.6 -2.9
	comp=Z,11nm,1.2s						
Z26A	Caprock	80.53	51	⇑P		P	00 25 31.0 +0.2
	baz=80,SNR=8.5						
ROSF	Rostrenen	80.60	337	eP		P	00 25 30.4 -0.4
	comp=Z,81nm,1.3s						
ROSF	Rostrenen	80.60	337	eP		P	00 25 30.4 -0.4
ROSF	Rostrenen	80.60	337	eP		P	00 25 30.4 -0.4
224A	Cornudas Mount	80.61	53	⇑P		P	00 25 31.6 +0.2
	baz=80						
125A	Gardner Draw,	80.64	52	⇓P		P	00 25 31.7 +0.3
	baz=80						
TCF	Toulx Ste Croi	80.88	333	eP		P	00 25 32.1 -0.3
	comp=Z,18nm,1.2s						
TCF	Toulx Ste Croi	80.88	333	eP		P	00 25 32.1 -0.3
TCF	Toulx Ste Croi	80.88	333	eP		P	00 25 32.1 -0.3
ORIF	Oris-en-Rattie	80.90	330	eP		P	00 25 32.5 -0.1
	comp=Z,31nm,1.3s						
ORIF	Oris-en-Rattie	80.90	330	eP		P	00 25 32.5 -0.1
ORIF	Oris-en-Rattie	80.90	330	eP		P	00 25 32.5 -0.1
Z27A	Tatum	80.91	50	⇓P		P	00 25 32.5 -0.3
	baz=81						
225A	Deer Hill, Car	80.97	52	⇓P		P	00 25 33.3 0.0
	baz=81						
MNTX	Cornudas Mount	80.98	53	eP		P	00 25 31.6 -1.6
	comp=Z,2.9nm,1.1s						
126A	Clayton Basin,	80.99	51	⇑P		P	00 25 33.2 -0.1
	baz=81						
SBF	Sospel	81.28	329	eP		P	00 25 33.8 -0.8
	comp=Z,50nm,1.1s						
SBF	Sospel	81.28	329	eP		P	00 25 33.8 -0.8
SBF	Sospel	81.28	329	eP		P	00 25 33.8 -0.8
MFF	Saint Martin d	81.31	335	⇑iP		P	00 25 34.5 -0.1
	comp=Z,26nm,1.1s						
MFF	Saint Martin d	81.31	335	eP		P	00 25 34.5 -0.1
MFF	Saint Martin d	81.31	335	eP		P	00 25 34.5 -0.1
226B	Tecolote Peak,	81.35	52	⇓P		P	00 25 35.4 +0.2
	baz=81,SNR=5.5						
VIVF	Saint-Julien-l	81.36	331	⇑iP		P	00 25 34.8 -0.2
	comp=Z,21nm,1.1s						
VIVF	Saint-Julien-l	81.36	331	eP		P	00 25 34.8 -0.2
VIVF	Saint-Julien-l	81.36	331	eP		P	00 25 34.8 -0.2
FRF	La Foret Royal	81.82	329	eP		P	00 25 36.7 -0.7
FRF	La Foret Royal	81.82	329	eP		P	00 25 36.7 -0.7
FRF	La Foret Royal	81.82	329	eP		P	00 25 36.7 -0.7
PGF	Pioggiola	81.85	327	eP		P	00 25 36.8 -0.9
PGF	Pioggiola	81.85	327	eP		P	00 25 36.8 -0.9
PGF	Pioggiola	81.85	327	eP		P	00 25 36.8 -0.9
RJF	Les Rejaudoux	81.98	333	eP		P	00 25 38.0 -0.2
	comp=Z,12nm,1.0s						
RJF	Les Rejaudoux	81.98	333	eP		P	00 25 38.0 -0.2
RJF	Les Rejaudoux	81.98	333	eP		P	00 25 38.0 -0.2
LMR	La Mourre	82.07	329	eP		P	00 25 38.1 -0.6
	comp=Z,23nm,1.1s						
LMR	La Mourre	82.07	329	eP		P	00 25 38.1 -0.6
LMR	La Mourre	82.07	329	eP		P	00 25 38.1 -0.6
WMOK	Wichita Mounta	82.08	47	eP		P	00 25 36.1 -2.8
WMOK				pmax		pmax	
	comp=Z,7.0nm,1.3s						
WMOK	Wichita Mounta	82.08	47	eP		P	00 25 36.1 -2.8
	comp=Z,6.6nm,1.3s						
CAF	Calviac	82.15	333	⇑iP		P	00 25 39.4 +0.3
	comp=Z,13nm,1.1s						
CAF	Calviac	82.15	333	eP		P	00 25 39.4 +0.3
CAF	Calviac	82.15	333	eP		P	00 25 39.4 +0.3
Z31A	Sharp Cattle R	82.51	48	⇑P		P	00 25 40.8 -0.4
	baz=82						
328A	Wristen Ranch,	82.62	51	⇓P		P	00 25 41.9 0.0
	baz=82						
427A	Hayter Ranch,	82.71	52	⇑P		P	00 25 42.5 +0.1
	baz=82						
526A	Mary Lane Ranc	82.95	53	⇑P		P	00 25 44.0 +0.3
	baz=83,SNR=7.2						
527A	Woodward Ranch	83.14	53	⇑P		P	00 25 44.9 +0.2
	baz=83						
428A	Kincaid Ranch,	83.20	52	⇑P		P	00 25 45.4 +0.5
	baz=83						
626A	Big Bend Ranch	83.31	53	⇓P		P	00 25 45.7 +0.2
	baz=83,SNR=8.0						
231A	Bronte	83.51	49	⇓P		P	00 25 45.9 -0.5
	baz=83						
MTLF	Montolieu	83.52	332	eP		P	00 25 46.2 0.0
	comp=Z,16nm,1.2s						
MTLF	Montolieu	83.52	332	eP		P	00 25 46.2 0.0
MTLF	Montolieu	83.52	332	eP		P	00 25 46.2 0.0
528A	Cox Ranch, San	83.58	52	⇓P		P	00 25 47.4 +0.5
	baz=83,SNR=6.0						
LTX	Lajitas	83.74	53	eP		P	00 25 47.9 +0.2
LTX	Lajitas	83.74	53	eP		P	00 25 47.9 +0.2
TX31	Lajitas Ar. Si	83.74	53	eP		P	00 25 46.5 -1.2
TXAR	Lajitas Array	83.74	53	P		P	00 25 47.9 +0.2
	comp=Z,3.9nm,0.8s,baz=292,slow=4.1,SNR=49						
627A	Terlingua Ranc	83.80	53	⇑P		P	00 25 48.3 +0.3
	baz=84						
529A	Stev Forest Ra	83.92	52	⇑P		P	00 25 48.7 +0.2
	baz=84,SNR=5.6						
430A	Baggett Ranch,	83.92	51	⇓P		P	00 25 48.7 +0.1
	baz=84						
331A	San Angelo	83.94	50	⇑P		P	00 25 48.7 0.0
	baz=84						
628A	Black Gap, Mar	84.05	53	⇑P		P	00 25 49.4 +0.1
	baz=84						
EPF	Esparros	84.39	333	eP		P	00 25 50.3 -0.5
EPF	Esparros	84.39	333	eP		P	00 25 50.3 -0.5
EPF	Esparros	84.39	333	eP		P	00 25 50.3 -0.5
432A	Menard	84.62	50	⇑P		P	00 25 51.8 -0.3
	baz=84						
ETSF	Etsaut	84.79	333	eP		P	00 25 52.2 -0.6
	comp=Z,19nm,1.2s						
ETSF	Etsaut	84.79	333	eP		P	00 25 52.2 -0.6
ETSF	Etsaut	84.79	333	eP		P	00 25 52.2 -0.6
631A	Perdido Creek	85.36	51	⇓P		P	00 25 55.6 -0.2
	baz=85,SNR=5.6						
KEST	Kesra	87.59	323	P		P	00 26 07.0 +0.3
	comp=Z,1.1nm,1.1s,baz=336,slow=12,SNR=3.3						
SWET	Sewanee	87.60	38	eP		P	00 26 04.1 -2.7
	comp=Z,24nm,1.8s						
BLA	Blacksburg	88.05	33	eP		P	00 26 11.8 +2.9
BLA				pmax		pmax	
	comp=Z,86nm,2.3s						
BLA	Blacksburg	88.05	33	eP		P	00 26 11.8 +2.9
	comp=Z,86nm,2.3s						
ES19	SONSECA Array	88.73	335	eP		P	00 26 10.3 -1.7
ESDC	Sonseca Array	88.77	335	eP		P	00 26 11.8 -0.5
ESDC	Sonseca Array	88.77	335	P		P	00 26 11.8 -0.5
	comp=Z,2.0nm,0.7s,baz=20,slow=4.3,SNR=20						
TORD	Torodi Ar. Bea	110.64	319	PP		PP	00 32 25.3 -1.7
	comp=Z,1.1nm,1.1s,baz=35,slow=5.3,SNR=3.7						
BDFB	Brasilia	147.79	19	PKPbc		PKPdf	00 33 00.4 -0.5
	comp=Z,1.9nm,0.5s,baz=146,slow=9.3,SNR=4.5						
SNAA	Sanae	150.16	201	eP		PKPbc	00 33 06.5 -1.5
SNAA	Sanae	150.16	201	eI			00 33 10.4
SNAA	Sanae	150.16	201	PKPbc		PKPbc	00 33 06.6 -1.5
	comp=Z,1.2nm,1.0s,baz=358,slow=6.1,SNR=6.0						
VNA2	Neumayer--Watz	151.77	201	eP		PKPbc	00 33 11.1 -0.6
	baz=74,slow=1.1						
VNA2	Neumayer--Watz	151.77	201	eI		PKPbc	00 33 14.3 +2.6
	baz=74,slow=1.1						
VNA1	Neumayer--Stat	152.17	201	eP		PKPbc	00 33 12.3 -0.3
PLCA	Paso Flores	155.69	88	PKPab		PKPab	00 33 38.8 +0.4
	comp=Z,2.1nm,1.0s,baz=180,slow=2.0,SNR=2.7						

ISCJB ***13*** *00:17:12.5±0.5, 57°.65N±0°.05×156°.32W±0°.08, h117km±5km, mb3.2/2, Error ellipse: s-maj=9.7km s-min=5.1km az=142.0*

NEIC ***13*** *00:17:14.4, 57°.61N×156°.37W, h105km, MG2.7(AEIC), After AEIC.*

IDC ***13*** *00:17:15.8±5.3, 57°.93N×156°.11W, h104km±30km, mb2.9/2, mb1 3.3/3, mb1mx3.0/25, mbtmp2.9/3, Error ellipse: s-maj=50.8km s-min=24.2km az=64.0*

ISC 13 00:17:13.0±1.0, 57°.63N±0°.06×156°.42W±0°.05, h114km±6km, n37, σ1°.33/48, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLK4	Peulik 4	0.03	85	P	Pn	00 17 28.6	-0.1
PLK3	Peulik 3	0.10	53	P	Pn	00 17 28.9	+0.2
PLK3				S	Sn	00 17 40.5	0.0
PLK1	Peulik 1	0.20	329	P	Pn	00 17 28.6	-0.2
PLBL	Peulik Blue Cr	0.23	288	P	Pn	00 17 28.7	-0.3
PLK5	Peulik 5	0.45	326	P	Pn	00 17 29.9	0.0
KJL	Kejulik	0.62	46	P	Pn	00 17 31.0	-0.2
CAHL	Cahill	0.73	54	P	Pn	00 17 31.9	-0.2
MGLS	Mageik Landsli	0.84	52	P	Pn	00 17 33.0	0.0
KABU	Katmai Buttres	0.88	43	P	Pn	00 17 33.6	+0.2
KABU				S	Sn	00 17 49.3	+0.5
KELA	Mount Kelaz	0.89	24	P	Pn	00 17 33.2	-0.3
KABR	Katmai Barrier	0.92	56	P	Pn	00 17 33.6	-0.2
KAKN	Katmai Knife C	0.98	47	P	Pn	00 17 34.6	+0.2
ANNW	Aniakchak Nort	1.18	237	P	Pn	00 17 37.4	+1.0
ANNW				S	Sn	00 17 54.8	+0.6
CHGN	Chignik	1.72	220	P	Pn	00 17 42.6	-0.1
OHAK	Old Harbor	1.74	102	P	Pn	00 17 42.5	-0.4
OHAK				S	Sn	00 18 04.7	-0.9
MCNL	McNeil River	1.91	34	P	Pn	00 17 45.3	+0.4
KDAK	Kodiak Island	2.06	84	P	Pn	00 17 46.9	0.0
KDAK				S	Sn	00 18 11.6	-1.2
KDAK	Kodiak Island	2.06	84	P	Pn	00 17 46.9	0.0
	5.1nm,0.3s,baz=270,slow=8.0,SNR=46						
KDAK				S	Sn	00 18 11.3	-1.4
	7.4nm,0.3s,baz=343,slow=19,SNR=32						
VNHG	Veniaminof 1	2.06	228	P	Pn	00 17 47.7	+0.7
CNPM	China Poot	3.31	53	P	Pn	00 18 04.2	+1.0
CNPM				S	Sn	00 18 40.4	-1.5
BRLK	Bradley Lake	3.59	51	P	Pn	00 18 06.7	-0.3
BRLK				S	Sn	00 18 46.8	-1.8
DT1	Dutton Round H	4.13	235	P	Pn	00 18 14.9	+0.9
SPWE	Spurr West	4.15	27	P	Pn	00 18 16.2	+1.8
STLK	Strandline Lak	4.53	29	P	Pn	00 18 20.3	+0.9
SUA	Susitna One	4.81	34	P	Pn	00 18 23.9	+0.7
SUA				S	Sn	00 19 15.8	-2.1
SKT	Skwentna	5.01	27	P	Pn	00 18 26.3	+0.4
SKT				S	Sn	00 19 23.5	+0.8
PPLA	Purkeypile	5.69	20	P	Pn	00 18 36.7	+1.6
FID	Port Fidalgo	5.99	54	P	Pn	00 18 38.5	-0.6
CAST	Castle Rocks	6.19	18	P	Pn	00 18 42.7	+0.9
EYAK	Cordova Ski Ar	6.23	57	P	Pn	00 18 42.1	-0.2
KLU	Klutina	6.59	50	P	Pn	00 18 47.5	+0.2
DHY	Denali Highway	7.06	36	P	Pn	00 18 53.4	-0.4
WRH	Wood River Hil	7.96	27	P	Pn	00 19 04.3	-1.3
IL1	Eielson Array	8.51	29	P	Pn	00 19 11.4	-1.6
ILAR	Eielson Array	8.51	29	P	Pn	00 19 11.1

ellipse: s-maj=21.9km s-min=15.1km az=82.1
*JMA **13** 00:37:33.5, 42°.71N×143°.37E, h45km±1km, M3.6*
Broadband fault plane solution: P waves. NP1: φs=356.00000°, δ59.00000°, λ73.00000°. NP2: φs=206.00000°, δ35.00000°, λ116.00000°. Principal axes: T Plg71.0000°, Azm226.0000°; N Plg15.0000°, Azm5.0000°; P Plg12.0000°, Azm98.0000°;
JMA Felt II J1.
*IDC **13** 00:37:35.4±2.8, 42°.74N×143°.24E, h65km±21km, mb3.3/8, mb1 3.5/8, mb1mx3.3/22, mbtmp3.3/8 Error ellipse: s-maj=25.7km s-min=23.1km az=82.0*

ISC 13 00:37:33.1±0.8, 42°.68N±0°.05×143°.38E±0°.04, h45km±6km, n27, σ1s00/38, mb3.5/9, 5C-6D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCH	**Churui**	**0.06**	**194**	⇑P	**Pn**	**00 37 40.6**	**+0.3**
JCH				*e*S	**Sn**	**00 37 45.3**	**+0.1**
JOB	**Onbets**	**0.40**	**55**	P	**Pn**	**00 37 43.4**	**+0.5**
JOB				*e*S	**Sn**	**00 37 50.3**	**+0.4**
JNBK	**Urakawa-nobuka**	**0.61**	**230**	⇓P	**Pn**	**00 37 46.0**	**+0.5**
JNBK				*e*S	**Sn**	**00 37 55.0**	**+0.6**
JAR	**Ashorobuto**	**0.68**	**24**	⇑P	**Pn**	**00 37 46.1**	**-0.4**
JAR				*e*S	**Sn**	**00 37 54.9**	**-1.2**
JFR	**Furan**	**0.76**	**310**	P	**Pn**	**00 37 47.3**	**-0.2**
JFR				*e*S	**Sn**	**00 37 57.7**	**-0.2**
JBT2	**Biratori 2**	**0.76**	**278**	⇓P	**Pn**	**00 37 47.5**	**0.0**
JAK	**Akkeshi**	**1.02**	**71**	⇓P	**Pn**	**00 37 50.2**	**-0.8**
JAK				*e*S	**Sn**	**00 38 03.2**	**-0.9**
JAB	**Ashibetsu**	**1.19**	**315**	⇓P	**Pn**	**00 37 54.4**	**+1.1**
JKK2	**Kamakawa 2**	**1.28**	**339**	P	**Pn**	**00 37 55.3**	**+0.7**
JMP	**Maruseppu**	**1.33**	**359**	⇑P	**Pn**	**00 37 55.5**	**+0.2**
JNK	**Nakash**	**1.34**	**47**	⇓P	**Pn**	**00 37 54.7**	**-0.6**
JNK				*e*S	**Sn**	**00 38 10.2**	**-1.7**
JTKR	**Abashiri--Toko**	**1.35**	**16**	⇑P	**Pn**	**00 37 56.0**	**+0.5**
ASAJ	**Asahikawa**	**1.55**	**339**	P	**Pn**	**00 37 59.1**	**+0.9**
	7.4nm,0.3s,baz=197,slow=14,SNR=51						
ASAJ				S	**Sn**	**00 38 18.0**	**+0.8**
	17nm,0.3s,baz=53,slow=20,SNR=13						
YUK	**Yuzh-Kuril'sk**	**2.26**	**52**	*c i*PN	**Pn**	**00 38 08.7**	**+0.7**
YUK				*i* S	**Sn**	**00 38 35.6**	**+1.0**
YUK				pmax	pmax		
	comp=Z,132nm,0.5s						
YUK				pmax	pmax		
	comp=E,95nm,0.9s						
YUK				pmax	pmax		
	comp=N,210nm,0.7s						
YUK				smax	smax		
	comp=E,97nm,0.9s						
YUK				smax	smax		
	comp=N,198nm,0.5s						
KUR	**Kuril'sk**	**4.12**	**50**	⇓*i*PN	**Pn**	**00 38 35.7**	**+2.2**
KUR				*i* S	**Sn**	**00 39 23.7**	**+3.2**
KUR				pmax	pmax		
	comp=Z,28nm,0.5s						
KUR				pmax	pmax		
	comp=N,8.0nm,0.5s						
KUR				pmax	pmax		
	comp=E,14nm,0.4s						
KUR				smax	smax		
	comp=N,29nm,0.2s						
KUR				smax	smax		
	comp=E,36nm,0.4s						
SONM	**Songino Array**	**26.37**	**294**	P	**P**	**00 43 03.3**	**-1.8**
	comp=E,0.2nm,0.4s,baz=89,slow=12,SNR=3.0						
ZALV	**Zalesovo Beam**	**39.46**	**307**	P	**P**	**00 44 58.9**	**+0.2**
ZALV	**Zalesovo Beam**	**39.46**	**307**	P	**P**	**00 44 58.9**	**+0.2**
	comp=E,0.3nm,0.3s,baz=64,slow=6.7,SNR=3.7						
MKAR	**Makanchi Array**	**42.64**	**297**	P	**P**	**00 45 24.7**	**-0.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**42.64**	**297**	P	**P**	**00 45 24.6**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=84,slow=10,SNR=6.7						
ILAR	**Eielson Array**	**43.97**	**35**	P	**P**	**00 45 35.2**	**-0.2**
	comp=Z,0.6nm,0.8s,baz=262,slow=6.3,SNR=6.0						
ARCES	**ARCESS Array B**	**59.27**	**339**	P	**P**	**00 47 28.9**	**-0.7**
	comp=Z,1.2nm,0.8s,baz=40,slow=7.5,SNR=5.1						
JOF	**Joensuu**	**61.73**	**331**	*e*P	**P**	**00 47 45.6**	**-0.7**
JOF	**Joensuu**	**61.73**	**331**	*ep*	**P**	**00 47 45.6**	**-0.7**
	comp=Z,0.3nm,0.3s						
WRA	**Warramunga Arr**	**62.86**	**190**	P	**P**	**00 47 54.7**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=6.8,slow=7.1,SNR=2.7						
FINES	**FINESS Array B**	**64.55**	**332**	P	**P**	**00 48 04.1**	**-0.9**
	comp=Z,0.9nm,0.5s,baz=40,slow=7.2,SNR=19						
TXAR	**Lajitas Array**	**85.52**	**54**	P	**P**	**00 50 07.3**	**+0.8**
	comp=Z,0.2nm,0.6s,baz=276,slow=3.5,SNR=4.5						
TXAR				pP	**pP**	**00 50 19.9**	**-0.1**
	comp=Z,0.2nm,0.6s,baz=289,slow=2.8,SNR=2.6						

MAN 13 00:46:02, 13°.85N×120°.94E, h20km, mb3.8, ML2.5, MS2.1, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.34**	**178**	⇓*i*P	Pb	00 46 06.8	-2.6
LUBP	**Lubang**	**0.68**	**261**	*e*P	Pn	00 46 16.7	+0.2
LUBP				*e*S	Sn	00 46 26.4	-0.2
BOAC	**Boac**	**0.96**	**113**	*e*P	Pb	00 46 20.1	+0.2
BOAC				*e*S	Sb	00 46 31.1	-1.2
SJMP	**San Jose**	**1.39**	**173**	*e*P	Pb	00 46 28.0	+0.7

*CSEM **13** 01:08:38.7±0.2, 45°.55N×26°.39E, h146km±2km, MD3.7/3, Error ellipse: s-maj=3.8km s-min=3.2km az=37.0*

BUC 13 01:08:37.7±0.8, 45°.58N×26°.32E, h160km±7km, MD3.7/3, 51C-12D, Error ellipse: s-maj=5.3km s-min=5.0km az=90.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLR	**Muntele Rosu**	**0.28**	**252**	⇑*i*P	Pn	01 08 59.3	-0.3
MLR	**Muntele Rosu**	**0.28**	**252**	⇑*i*P	Pn	01 08 59.3	-0.3
MLR				*i* S	Sn	01 09 14.6	-1.6
MLR	**Muntele Rosu**	**0.28**	**252**	⇑*i*P	Pn	01 08 59.3	-0.3
MLR				*i* S	Sn	01 09 14.6	-1.6
PLOR	**Plostina**	**0.36**	**40**	⇑*i*P	Pn	01 08 59.2	-0.5
PLOR	**Plostina**	**0.36**	**40**	⇑*i*P	Pn	01 08 59.2	-0.5
PLOR				*i* S	Sn	01 09 15.0	-1.6
PLOR	**Plostina**	**0.36**	**40**	⇑*i*P	Pn	01 08 59.2	-0.5
PLOR				*i* S	Sn	01 09 15.0	-1.6
VRI	**Vrincioaia**	**0.41**	**44**	⇑*i*P	Pn	01 08 59.4	-0.4
VRI	**Vrincioaia**	**0.41**	**44**	⇑*i*P	Pn	01 08 59.4	-0.4
VRI				*i* S	Sn	01 09 15.2	-1.6
VRI	**Vrincioaia**	**0.41**	**44**	⇑*i*P	Pn	01 08 59.4	-0.4
VRI				*i* S	Sn	01 09 15.2	-1.6
ISR	**Istrita**	**0.48**	**161**	S	Sn	01 09 16.4	-1.0
ISR	**Istrita**	**0.48**	**161**	*i* S	Sn	01 09 16.4	-1.0
ISR	**Istrita**	**0.48**	**161**	*i* S	Sn	01 09 16.4	-1.0
GRER		**0.50**	**113**	S	Sn	01 09 15.1	-2.3
GRER		**0.50**	**113**	*i* S	Sn	01 09 15.1	-2.3
GRER		**0.50**	**113**	*i* S	Sn	01 09 15.1	-2.3
SECR		**0.57**	**198**	⇑*i*P	Pn	01 09 00.8	+0.2
SECR		**0.57**	**198**	⇑*i*P	Pn	01 09 00.8	+0.2
SECR				*i* S	Sn	01 09 17.7	-0.3
SECR		**0.57**	**198**	⇑*i*P	Pn	01 09 00.8	+0.2
SECR				*i* S	Sn	01 09 17.7	-0.3
PETR	**Petresti**	**0.65**	**77**	⇑*i*P	Pn	01 09 01.3	+0.3
PETR	**Petresti**	**0.65**	**77**	⇑*i*P	Pn	01 09 01.3	+0.3
PETR				*i* S	Sn	01 09 17.5	-1.3
PETR	**Petresti**	**0.65**	**77**	⇑*i*P	Pn	01 09 01.3	+0.3
PETR				*i* S	Sn	01 09 17.5	-1.3
PLAR	**PLOIESTI**	**0.69**	**198**	S	Sn	01 09 18.0	-1.2
PLAR	**PLOIESTI**	**0.69**	**198**	*i* S	Sn	01 09 18.0	-1.2
PLAR	**PLOIESTI**	**0.69**	**198**	*i* S	Sn	01 09 18.0	-1.2
DOPR	**Dopca**	**0.76**	**301**	⇑*i*P	Pn	01 09 01.5	-0.2
DOPR	**Dopca**	**0.76**	**301**	⇑*i*P	Pn	01 09 01.5	-0.2
DOPR				*i* S	Sn	01 09 18.9	-1.2
DOPR	**Dopca**	**0.76**	**301**	⇑*i*P	Pn	01 09 01.5	-0.2
DOPR				*i* S	Sn	01 09 18.9	-1.2
PGOR	**Pogoanele**	**0.82**	**145**	S	Sn	01 09 19.1	-1.5
PGOR	**Pogoanele**	**0.82**	**145**	*i* S	Sn	01 09 19.1	-1.5
PGOR	**Pogoanele**	**0.82**	**145**	*i* S	Sn	01 09 19.1	-1.5
SULR		**0.90**	**183**	⇓*i*P	Pn	01 09 02.8	+0.2
SULR		**0.90**	**183**	⇓*i*P	Pn	01 09 02.8	+0.2
SULR				*i* S	Sn	01 09 21.3	-0.4
SULR		**0.90**	**183**	⇓*i*P	Pn	01 09 02.8	+0.2
SULR				*i* S	Sn	01 09 21.3	-0.4
GHRR		**0.90**	**57**	⇑*i*P	Pn	01 09 02.8	+0.2
GHRR		**0.90**	**57**	⇑*i*P	Pn	01 09 02.8	+0.2
GHRR				*i* S	Sn	01 09 20.4	-1.4
GHRR		**0.90**	**57**	⇑*i*P	Pn	01 09 02.8	+0.2
GHRR				*i* S	Sn	01 09 20.4	-1.4
VOIR		**0.91**	**262**	⇑*i*P	Pn	01 09 02.7	-0.1
VOIR		**0.91**	**262**	⇑*i*P	Pn	01 09 02.7	-0.1
VOIR				*i* S	Sn	01 09 20.9	-1.1
VOIR		**0.91**	**262**	⇑*i*P	Pn	01 09 02.7	-0.1
VOIR				*i* S	Sn	01 09 20.9	-1.1
TESR	**Tescani**	**0.96**	**14**	⇑*i*P	Pn	01 09 02.9	-0.2
TESR	**Tescani**	**0.96**	**14**	⇑*i*P	Pn	01 09 02.9	-0.2
TESR				*i* S	Sn	01 09 20.5	-2.3
TESR	**Tescani**	**0.96**	**14**	⇑*i*P	Pn	01 09 02.9	-0.2
TESR				*i* S	Sn	01 09 20.5	-2.3
AMRR	**Amara**	**1.20**	**143**	⇑*i*P	Pn	01 09 04.0	-1.2
AMRR	**Amara**	**1.20**	**143**	⇑*i*P	Pn	01 09 04.0	-1.2
AMRR				*i* S	Sn	01 09 24.8	-1.4
AMRR	**Amara**	**1.20**	**143**	⇑*i*P	Pn	01 09 04.0	-1.2
AMRR				*i* S	Sn	01 09 24.8	-1.4
ARR	**Arges**	**1.21**	**261**	⇑*i*P	Pn	01 09 05.4	+0.1
ARR	**Arges**	**1.21**	**261**	⇑*i*P	Pn	01 09 05.4	+0.1
ARR	**Arges**	**1.21**	**261**	⇑*i*P	Pn	01 09 05.4	+0.1
BUC1	**Bucharest**	**1.25**	**190**	⇑*i*P	Pn	01 09 05.7	+0.1
BUC1	**Bucharest**	**1.25**	**190**	⇑*i*P	Pn	01 09 05.7	+0.1
BUC1				*i* S	Sn	01 09 25.1	-1.8
BUC1	**Bucharest**	**1.25**	**190**	⇑*i*P	Pn	01 09 05.7	+0.1
BUC1				*i* S	Sn	01 09 25.1	-1.8
CFR	**Carcaliu**	**1.34**	**107**	⇑*i*P	Pn	01 09 05.9	-0.5
CFR	**Carcaliu**	**1.34**	**107**	⇑*i*P	Pn	01 09 05.9	-0.5
CFR				*i* S	Sn	01 09 26.4	-2.0
CFR	**Carcaliu**	**1.34**	**107**	⇑*i*P	Pn	01 09 05.9	-0.5
CFR				*i* S	Sn	01 09 26.4	-2.0
HARR	**Harsova**	**1.44**	**127**	⇓*i*P	Pn	01 09 07.3	-0.1
HARR	**Harsova**	**1.44**	**127**	⇓*i*P	Pn	01 09 07.3	-0.1
HARR	**Harsova**	**1.44**	**127**	⇓*i*P	Pn	01 09 07.3	-0.1
TLB	**Topalu**	**1.57**	**128**	⇓*i*P	Pn	01 09 08.6	-0.1
TLB	**Topalu**	**1.57**	**128**	⇓*i*P	Pn	01 09 08.6	-0.1
TLB				*i* S	Sn	01 09 29.8	-2.8
TLB	**Topalu**	**1.57**	**128**	⇓*i*P	Pn	01 09 08.6	-0.1
TLB				*i* S	Sn	01 09 29.8	-2.8
LEOM	**Leova**	**1.61**	**56**	⇑*i*P	Pn	01 09 09.5	+0.4
LEOM	**Leova**	**1.61**	**56**	⇑*i*P	Pn	01 09 09.5	+0.4
LEOM				*i* S	Sn	01 09 31.7	-1.7
LEOM	**Leova**	**1.61**	**56**	⇑*i*P	Pn	01 09 09.5	+0.4
LEOM				*i* S	Sn	01 09 31.7	-1.7
CVD	**Cernavoda**	**1.75**	**135**	⇑*i*P	Pn	01 09 10.5	-0.2
CVD	**Cernavoda**	**1.75**	**135**	⇑*i*P	Pn	01 09 10.5	-0.2
CVD				*i* S	Sn	01 09 33.5	-2.5
CVD	**Cernavoda**	**1.75**	**135**	⇑*i*P	Pn	01 09 10.5	-0.2
CVD				*i* S	Sn	01 09 33.5	-2.5
TLCR		**1.80**	**102**	⇑*i*P	Pn	01 09 11.3	+0.1
TLCR		**1.80**	**102**	⇑*i*P	Pn	01 09 11.3	+0.1
TLCR				*i* S	Sn	01 09 35.3	-1.6
TLCR		**1.80**	**102**	⇑*i*P	Pn	01 09 11.3	+0.1
TLCR				*i* S	Sn	01 09 35.3	-1.6
TIRR	**Tirgusor**	**1.86**	**126**	⇓*i*P	Pn	01 09 11.7	-0.1
TIRR	**Tirgusor**	**1.86**	**126**	⇓*i*P	Pn	01 09 11.7	-0.1
TIRR				*i* S	Sn	01 09 35.8	-2.3
TIRR	**Tirgusor**	**1.86**	**126**	⇓*i*P	Pn	01 09 11.7	-0.1
TIRR				*i* S	Sn	01 09 35.8	-2.3
BURAR	**Bucovina Array**	**2.18**	**340**	⇑*i*P	Pn	01 09 16.9	+1.3
BURAR	**Bucovina Array**	**2.18**	**340**	⇑*i*P	Pn	01 09 16.9	+1.3
BURAR	**Bucovina Array**	**2.18**	**340**	⇑*i*P	Pn	01 09 16.9	+1.3

*NEIC **13** 01:36:31.1, 63°.35N×145°.49W, h5km, ML3.2(AEIC), After AEIC.*
*IDC **13** 01:36:31.2±1.3, 63°.41N×145°.41W, h0km, mb3.3/3, mb1 3.6/5, mb1mx3.4/25, mbtmp3.4/5, ML3.2/2, Error ellipse: s-maj=16.6km s-min=12.3km az=28.0*

ISC 13 01:36:30.5±1.2, 63°.38N±0°.03×145°.47W±0°.03, h1km±9km, n71, σ1s18/82, mb3.4/3, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAX	**Paxson**	**0.41**	**180**	P	**Pg**	**01 36 38.2**	**-0.3**
PAX				S	**Sg**	**01 36 43.2**	**-0.6**
SCRK	**Sand Creek**	**0.89**	**47**	P	**Pb**	**01 36 48.3**	**-0.6**
MENT	**Mentasta**	**0.91**	**119**	P	**Pg**	**01 36 47.7**	**-0.3**
DHY	**Denali Highway**	**0.92**	**251**	P	**Pg**	**01 36 47.3**	**-0.8**
DHY				S	**Sg**	**01 36 59.3**	**-0.6**
HARP	**HAARP**	**0.99**	**171**	P	**Pg**	**01 36 49.1**	**-0.4**
HARP				S	**Sg**	**01 37 02.6**	**+0.3**
HDA	**Harding Lake**	**1.22**	**328**	P	**Pn**	**01 36 54.4**	**-0.3**
HDA				S	**Sb**	**01 37 10.1**	**-0.5**
RND	**Reindeer**	**1.52**	**272**	P	**Pn**	**01 36 59.1**	**+0.2**
RND				S	**Sn**	**01 37 19.4**	**0.0**
IL1	**Eielson Array**	**1.53**	**337**	P	**Pn**	**01 36 58.2**	**-0.8**
ILAR	**Eielson Array**	**1.53**	**337**	Pg	**Pn**	**01 36 58.6**	**-0.4**
ILAR				Lg	Lg	01 37 20.8	
ILAR	**Eielson Array**	**1.53**	**337**	Pg	**Pn**	**01 36 58.6**	**-0.4**
	98nm,0.3s,baz=156,slow=15,SNR=644						
ILAR				Lg	Lg	01 37 20.8	
	190nm,0.3s,baz=152,slow=28,SNR=50						
WANC	**Wrangell North**	**1.53**	**154**	P	**Pn**	**01 36 58.4**	**-1.0**
WASW	**Wrangell South**	**1.58**	**157**	P	**Pn**	**01 36 58.5**	**-1.4**
MCK	**McKinley**	**1.59**	**284**	P	**Pn**	**01 37 00.6**	**+0.7**
WRH	**Wood River Hil**	**1.59**	**315**	P	**Pn**	**01 36 59.7**	**-0.2**
CCB	**Clear Creek Bu**	**1.63**	**322**	P	**Pn**	**01 36 59.9**	**-0.5**
BCA3	**Beaver Creek A**	**1.70**	**99**	P	**Pn**	**01 37 00.9**	**-0.4**
SCM	**Sheep Creek Mo**	**1.78**	**210**	P	**Pn**	**01 37 02.1**	**-0.4**
GLM	**Gilmore Dome**	**1.82**	**333**	P	**Pn**	**01 37 02.4**	**-0.6**
COLA	**College**	**1.82**	**326**	P	**Pn**	**01 37 03.9**	**+0.9**
KLU	**Klutina**	**1.91**	**186**	P	**Pn**	**01 37 04.3**	**+0.1**
MDM	**Murphy Dome**	**1.99**	**324**	P	**Pn**	**01 37 05.1**	**-0.3**
NEA	**Nenana**	**1.99**	**309**	P	**Pn**	**01 37 05.2**	**-0.1**
DIV	**Divide**	**2.27**	**184**	P	**Pn**	**01 37 09.3**	**+0.1**
VLZ	**Valdez**	**2.30**	**190**	P	**Pn**	**01 37 09.8**	**+0.3**
MCARA	**McCarthy VSAT**	**2.31**	**149**	P	**Pn**	**01 37 10.2**	**+0.5**
EGAK	**Eagle**	**2.35**	**52**	*e*Pn	**Pn**	**01 37 11.2**	**+0.8**
EGAK				*e*Pg	**Pg**	**01 37 15.0**	**-0.7**
EGAK				*e*Sg	**Sg**	**01 37 46.1**	**0.0**
JPK	**Jack Peak**	**2.40**	**193**	P	**Pn**	**01 37 11.5**	**+0.6**
KTH	**Kantishna Hill**	**2.45**	**276**	P	**Pn**	**01 37 12.2**	**+0.4**
BMRM	**Bremner River**	**2.46**	**170**	P	**Pn**	**01 37 11.6**	**-0.2**
PMR	**Palmer**	**2.47**	**225**	P	**Pn**	**01 37 11.8**	**-0.2**
BPAW	**Bear Paw Mtn.**	**2.56**	**289**	P	**Pn**	**01 37 13.5**	**+0.4**
PTPK	**Patty Peak**	**2.61**	**146**	P	**Pn**	**01 37 14.2**	**+0.1**
GLI	**Glacier Island**	**2.63**	**198**	P	**Pn**	**01 37 14.8**	**+0.7**
BALM	**Baldy**	**2.77**	**147**	P	**Pn**	**01 37 16.9**	**+0.6**
DAWY	**Dawson**	**2.79**	**73**	P	**Pn**	**01 37 16.9**	**+0.5**
GOAT	**Goat Mountain**	**2.83**	**173**	P	**Pn**	**01 37 17.5**	**+0.5**
MLY	**Manley**	**2.83**	**308**	P	**Pn**	**01 37 16.9**	**-0.1**
KIAG	**Kiagna River**	**2.87**	**148**	P	**Pn**	**01 37 16.7**	**-0.9**
BARN	**Barnard Glacie**	**2.94**	**141**	P	**Pn**	**01 37 17.6**	**-0.9**
CAST	**Castle Rocks**	**2.98**	**274**	P	**Pn**	**01 37 19.2**	**+0.3**
PPLA	**Purkeypile**	**3.09**	**264**	P	**Pn**	**01 37 21.8**	**+1.2**
SUA	**Susitna One**	**3.12**	**234**	P	**Pn**	**01 37 21.9**	**+1.0**
SKT	**Skwentna**	**3.13**	**246**	P	**Pn**	**01 37 23.2**	**+2.3**
KHIT	**Khitrov Hills**	**3.13**	**159**	P	**Pn**	**01 37 21.4**	**+0.3**
GRNC	**Granite Creek**	**3.19**	**145**	P	**Pn**	**01 37 22.4**	**+0.5**
STLK	**Strandline Lak**	**3.51**	**240**	P	**Pn**	**01 37 27.4**	**+1.1**
SPU	**Mount Spurr**	**3.79**	**237**	P	**Pn**	**01 37 31.2**	**+1.2**
BM3	**Burnt Mountain**	**4.07**	**5**	P	**Pn**	**01 37 34.8**	**+0.9**
COLD	**Coldfoot**	**4.34**	**335**	P	**Pn**	**01 37 38.5**	**+0.9**
IM3	**Indian Mountai**	**4.41**	**310**	P	**Pn**	**01 37 38.8**	**+0.2**
IM04	**Indian Mountai**	**4.42**	**310**	*e*Pn	**Pn**	**01 37 38.8**	**+0.1**
IM04				*e*Sn	**Sn**	**01 38 29.5**	**-1.1**
IMA2	**Indian Mountai**	**4.43**	**311**	P	**Pn**	**01 37 39.3**	**+0.4**
NCT	**North Crescent**	**4.52**	**235**	P	**Pn**	**01 37 41.7**	**+1.6**
RSO	**Redoubt South**	**4.52**	**233**	*e*Pn	**Pn**	**01 37 42.8**	**+2.5**
RSO				*e*Sn	**Sn**	**01 38 28.1**	**-5.4**
RDWB	**Redoubt West**	**4.53**	**233**	P	**Pn**	**01 37 42.0**	**+1.7**
HYT	**Haines Junctio**	**4.54**	**121**	*e*Pn	**Pn**	**01 37 41.3**	**+0.8**
HYT				*e*Pg	**Pb**	**01 37 53.2**	**+2.2**
HYT				*e*Sg	**Sg**	**01 38 55.3**	**-0.9**
TT01	**Tatalina**	**4.81**	**269**	P	**Pn**	**01 37 45.1**	**+1.1**
KDAK	**Kodiak Island**	**6.62**	**215**	Pn	**Pn**	**01 38 09.5**	**+0.7**
KDAK				Sn	**Sn**	**01 39 22.3**	**-2.5**
KDAK	**Kodiak Island**	**6.62**	**215**	Pn	**Pn**	**01 38 09.5**	**+0.7**
	0.3nm,0.3s,baz=6.7,slow=17,SNR=1.8						
KDAK				Sn	**Sn**	**01 39 22.3**	**-2.5**
	baz=332,slow=15,SNR=2.0						
INK	**Inuvik**	**6.95**	**40**	*e*Pn	**Pn**	**01 38 13.6**	**+0.3**
	2.7nm,0.6s						
INK				Sn	Sn	01 39 23.5	-9.4
INK				Lg	Lg	01 40 11.2	
INK	**Inuvik**	**6.95**	**40**	Pn	**Pn**	**01 38 15.0**	**+1.6**
	0.6nm,0.3s,baz=246,slow=16,SNR=15						
INK				Sn	Sn	01 39 23.5	-9.4
	0.3nm,0.3s,baz=248,slow=19,SNR=2.0						
INK				Lg	Lg	01 40 11.2	
	0.3nm,0.3s,baz=146,slow=11,SNR=2.9						
DLBC	**Dease Lake**	**9.00**	**116**	Sn	Sn	01 40 14.7	-8.7
DLBC				Lg	Lg	01 41 14.8	
DLBC	**Dease Lake**	**9.00**	**116**	Sn	Sn	01 40 14.7	-8.7
	0.3nm,0.3s,baz=0.0,slow=20,SNR=3.4						
DLBC				Lg	Lg	01 41 14.8	
	0.2nm,0.3s,baz=132,slow=15,SNR=3.1						
YKA	**Yellowknife Ar**	**14.01**	**80**	Pn	**Pn**	**01 39 48.9**	**-1.0**
YKA	**Yellowknife Ar**	**14.01**	**80**	Pn	**Pn**	**01 39 48.8**	**-1.0**
	0.1nm,0.3s,baz=285,slow=13,SNR=5.5						
TXAR	**Lajitas Array**	**43.25**	**122**	P	**P**	**01 44 34.0**	**+0.7**
TXAR	**Lajitas Array**	**43.25**	**122**	P	**P**	**01 44 34.0**	**+0.7**
	0.2nm,0.8s,baz=321,slow=7.0,SNR=2.9						
SONM	**Songino Array**	**55.58**	**309**	P	**P**	**01 46 09.7**	**+2.4**
SONM	**Songino Array**	**55.58**	**309**	P	**P**	**01 46 09.7**	**+2.4**
	0.3nm,0.5s,baz=15,slow=6.0,SNR=3.7						
MKAR	**Makanchi Array**	**63.85**	**325**	P	**P**	**01 47 03.2**	**-1.0**
MKAR	**Makanchi Array**	**63.85**	**325**	P	**P**	**01 47 03.2**	**-1.0**
	0.1nm,0.4s,baz=14,slow=5.7,SNR=4.2						

IDC 13 01:48:37.3±3.7, 20°.92S×178°.59W, h606km±43km, mb3.1/8, mb1 3.4/9, mb1mx3.2/18, mbtmp3.1/9, Error ellipse: s-maj=32.4km s-min=20.7km az=160.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.53**	**44**	S	S	01 52 35.3	-6.9
	3.2nm,0.3s,baz=282,slow=20,SNR=3.1						
URZ	**Urewera**	**17.67**	**191**	P	P	01 52 08.8	-0.7
	0.8nm,0.3s,baz=330,slow=14,SNR=5.3						
ASAR	**Alice Springs**	**43.89**	**257**	P	P	01 55 52.5	+0.4
	1.8nm,0.5s,baz=95,slow=7.5,SNR=35						
ASAR				PcP	PcP	01 57 24.7	+0.3
	0.5nm,0.9s,baz=103,slow=4.9,SNR=4.5						
WRA	**Warramunga Arr**	**44.00**	**263**	P	P	01 55 52.6	-0.3
	1.6nm,0.3s,baz=97,slow=7.8,SNR=55						
FITZ	**Fitzroy Crossi**	**52.43**	**263**	P	P	01 56 55.2	-0.1
	2.1nm,1.0s,baz=66,slow=10.0,SNR=7.3						
PETK	**Petropavlovsk-**	**76.54**	**346**	P	P	01 59 25.9	-0.2
	1.5nm,0.8s,baz=108,slow=9.3,SNR=4.3						
YBH	**Yreka Blue Hor**	**80.96**	**39**	P	P	01 59 51.1	+1.1
	1.3nm,0.8s,baz=173,slow=8.1,SNR=4.5						
TXAR	**Lajitas Array**	**87.75**	**58**	P	P	02 00 24.3	+0.9
	0.3nm,0.7s,baz=216,slow=4.0,SNR=4.5						
ILAR	**Eielson Array**	**88.85**	**13**	P	P	02 00 26.1	-1.4
	0.3nm,0.4s,baz=218,slow=5.1,SNR=8.6						
PDAR	**Pinedale Array**	**89.64**	**43**	P	P	02 00 32.1	+0.1
	0.4nm,0.6s,baz=245,slow=3.9,SNR=3.6						
ZALV	**Zalesovo Beam**	**110.48**	**321**	PKiKP	PKiKP	02 05 59.4	-2.1
	0.4nm,0.5s,baz=60,slow=3.5,SNR=2.9						
MKAR	**Makanchi Array**	**111.09**	**313**	PKiKP	PKiKP	02 06 03.0	+0.1
	0.1nm,0.4s,baz=111,slow=4.7,SNR=2.3						
BVAR	**Borovoye Array**	**119.05**	**320**	PKP	PKPdf	02 06 17.1	-0.9
	0.6nm,0.4s,baz=162,slow=0.8,SNR=3.8						
ARCES	**ARCESS Array B**

comp=E,785nm,0.6s
CFAA Coronel Fontan 7.54 188 P **Pn 02 21 22.0 -0.6**
comp=E,0.1nm,0.3s,baz=6.2,slow=14,SNR=9.5
CFAA S Sn 02 22 40.4 -6.7
comp=E,0.1nm,0.3s,baz=120,slow=20,SNR=4.3
LPAZ La Paz 7.86 352 P **Pn 02 21 29.0 +1.6**
comp=E,0.4nm,0.3s,baz=155,slow=5.7,SNR=21
LPAZ S **Sn 02 22 53.7 -2.1**
comp=E,0.1nm,0.3s,baz=180,slow=20,SNR=3.0
CPUP Villa Florida 9.06 106 P **Pn 02 21 43.1 +0.5**
comp=E,0.4nm,0.3s,baz=276,slow=12,SNR=3.7
SIV San Ignacio 9.83 36 P **Pn 02 21 52.8 -0.1**
comp=E,0.8nm,0.3s,baz=242,slow=11,SNR=15
SIV S **Sn 02 23 40.3 -2.1**
comp=E,0.1nm,0.3s,baz=191,slow=16,SNR=3.1
PLCA Paso Flores 16.83 189 P **P 02 23 20.4 0.0**
comp=E,0.2nm,0.3s,baz=15,slow=12,SNR=3.3
BDFB Brasilia 19.75 68 P **P 02 23 53.1 +0.7**
comp=E,0.8nm,0.3s,baz=233,slow=9.2,SNR=13
TXAR Lajitas Array 63.76 324 P **P 02 29 49.3 0.0**
comp=E,0.1nm,0.3s,baz=117,slow=5.6,SNR=4.9
TORD Torodi Ar. Bea 76.64 69 P **P 02 31 07.8 0.0**
comp=E,0.3nm,0.4s,baz=269,slow=6.1,SNR=12
PDAR Pinedale Array 77.23 329 P **P 02 31 10.8 0.0**
comp=E,0.2nm,0.4s,baz=156,slow=8.9,SNR=2.2
BOSA Boshof 80.17 117 P **P 02 31 29.8 -0.2**
comp=E,0.7nm,0.4s,baz=218,slow=12,SNR=3.7
MAW Mawson 81.33 163 P **P 02 31 33.2 +0.8**
comp=E,1.1nm,0.6s,baz=153,slow=9.0,SNR=4.5
YKA Yellowknife Ar 94.22 340 P **P 02 32 34.7 +0.3**
comp=E,0.5nm,0.7s,baz=139,slow=3.9,SNR=4.7
ASAR Alice Springs 128.34 205 PKP **PKPdf 02 38 22.0 -0.4**
comp=E,0.5nm,0.5s,baz=126,slow=1.8,SNR=9.3
WRA Warramunga Arr 131.51 207 PKP **PKPdf 02 38 28.2 -0.2**
comp=E,0.5nm,0.5s,baz=155,slow=1.8,SNR=12
ZALV Zalesovo Beam 143.51 28 PKP PKPbc 02 38 47.2 0.0
comp=E,1.0nm,0.5s,baz=272,slow=3.8,SNR=5.1
MKAR Makanchi Array 146.63 40 PKPbc **PKPbc 02 38 56.0 -0.9**
comp=E,1.2nm,0.6s,baz=300,slow=3.5,SNR=14

IDC 13 02:23:01.8±4.8, 56°.22S×148°.43E, h0km, mb3.6/2, mb1 3.8/2, mb1mx3.6/11, mbtmp3.6/2, Error ellipse: s-maj=307.6km s-min=61.2km az=79.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**34.22**	**336**	P	P	02 29 49.0	0.0
	0.3nm,0.5s,baz=162,slow=9.0,SNR=5.8						
WRA	**Warramunga Arr**	**37.72**	**338**	P	P	02 30 18.9	-0.2
	0.7nm,0.5s,baz=166,slow=7.7,SNR=13						
FINES	**FINESS Array B**	**150.58**	**304**	PKPbc	PKPbc	02 42 53.7	-0.3
	2.1nm,0.9s,baz=79,slow=3.0,SNR=3.2						

*ISK **13** 02:28:08.7, 37°.56N×27°.07E, h5km, MD3.2*
*ATH **13** 02:28:08.1, 37°.55N×27°.15E, h22km±1km, MD3.1/5*
*ISCJB **13** 02:28:09.4±0.6, 37°.55N±0°.02×27°.02E±0°.03, h5km±5km, Error ellipse: s-maj=4.4km s-min=3.7km az=165.7*
*CSEM **13** 02:28:09.7±0.1, 37°.54N×27°.02E, h5km, ML3.5, Error ellipse: s-maj=3.9km s-min=2.8km az=56.0*
*DDA **13** 02:28:09.5, 37°.56N×27°.07E, h18km, MD3.1, ML3.5*
ISC 13 02:28:09.6±0.9, 37°.56N±0°.02×27°.09E±0°.02, h16km±7km, n72, σ0°91/97, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCAM	**G?zelcaml?**	**0.18**	**39**	*i* P	**Pb**	02 28 14.9	+0.4
GCAM				*i* S	**Sb**	02 28 18.5	+0.7
GCAM	**G?zelcaml?**	**0.18**	**39**	*i* P	**Pb**	02 28 14.9	+0.4
GCAM				*i* S	**Sb**	02 28 18.5	+0.7
SMG	**Samos**	**0.25**	**306**	*e*PB	**Pg**	02 28 15.0	-0.2
SMG				*e*SB	**Sg**	02 28 18.8	-0.2
SMG	**Samos**	**0.25**	**306**	*e*Pb	**Pg**	02 28 15.0	-0.2
SMG				*e*Sb	**Sg**	02 28 18.8	-0.2
BODT	**Bodrum**	**0.53**	**161**	*e*PG	**Pg**	02 28 20.0	-0.1
BODT				*e*SG	**Sb**	02 28 28.7	+0.8
BODT	**Bodrum**	**0.53**	**161**	*e*Pg	**Pg**	02 28 20.0	-0.1
BODT				*e*Sg	**Sb**	02 28 28.7	+0.8
BDRM	**Kayabasi**	**0.57**	**150**	*i* P	**Pb**	02 28 21.2	0.0
BDRM				*i* S	**Sb**	02 28 29.0	-0.1
BDRM	**Kayabasi**	**0.57**	**150**	*i* P	**Pb**	02 28 21.2	0.0
BDRM				*i* S	**Sb**	02 28 29.0	-0.1
AYDN	**Tasoluk**	**0.63**	**81**	*i* P	**Pb**	02 28 22.8	+0.5
AYDN				*i* S	**Sb**	02 28 31.1	+0.1
AYDN	**Tasoluk**	**0.63**	**81**	*i* P	**Pb**	02 28 22.8	+0.5
AYDN				*i* S	**Sb**	02 28 31.1	+0.1
IZM	**Izmir**	**0.85**	**9**	*e*PG	**Pg**	02 28 26.2	+0.1
IZM	**Izmir**	**0.85**	**9**	*e*Pg	**Pg**	02 28 26.2	+0.1
URLA	**Izmir**	**0.89**	**334**	*i* P	**Pb**	02 28 26.7	0.0
URLA				*i* S	**Sg**	02 28 39.2	+0.6
URLA	**Izmir**	**0.89**	**334**	*i* P	**Pb**	02 28 26.7	0.0
URLA				*i* S	**Sg**	02 28 39.2	+0.6
DAT	**Datca**	**0.92**	**155**	*e*PG	**Pg**	02 28 27.7	+0.3
DAT	**Datca**	**0.92**	**155**	*e*Pg	**Pg**	02 28 27.7	+0.3
YER	**Yerkesik**	**1.04**	**114**	*e*PG	**Pg**	02 28 30.1	+0.4
YER	**Yerkesik**	**1.04**	**114**	*e*Pg	**Pg**	02 28 30.1	+0.4
CHOS	**Chios island**	**1.16**	**315**	*e*PN	**Pn**	02 28 31.1	-0.2
CHOS				*e*SN	**Sg**	02 28 47.8	+0.5
CHOS	**Chios island**	**1.16**	**315**	*e*Pn	**Pn**	02 28 31.1	-0.2
CHOS				*e*Sn	**Sg**	02 28 47.8	+0.5
APE	**Apeiranthos**	**1.34**	**249**	*e*PN	**Pb**	02 28 35.1	+0.7
APE	**Apeiranthos**	**1.34**	**249**	*e*PN	**Pn**	02 28 34.0	+0.3
APE				*e*SN	**Sg**	02 28 53.3	+0.4
APE	**Apeiranthos**	**1.34**	**249**	*e*Pn	**Pn**	02 28 34.0	+0.3
APE				*e*Sn	**Sg**	02 28 53.3	+0.4
TURN	**Turunc**	**1.39**	**119**	*i* P	**Pn**	02 28 32.5	-1.8
TURN				*i* S	**Sn**	02 28 49.9	-2.4
AKHS	**Akhisar**	**1.43**	**23**	*i* P	**Pn**	02 28 35.3	+0.3
AKHS				*i* S	**Sg**	02 28 55.6	-0.3
AKHS	**Akhisar**	**1.43**	**23**	*i* P	**Pn**	02 28 35.3	+0.3
AKHS				*i* S	**Sg**	02 28 55.6	-0.3
AKS	**Akhisar**	**1.43**	**23**	*e*PN	**Pg**	02 28 37.0	-0.2
AKS	**Akhisar**	**1.43**	**23**	*e*Pn	**Pg**	02 28 37.0	-0.2
DALY	**Dalyan (Mu¨la**	**1.45**	**120**	*e*PN	**Pg**	02 28 37.3	-0.2
DALY	**Dalyan (Mu¨la**	**1.45**	**120**	*e*Pn	**Pg**	02 28 37.3	-0.2
MANT	**Manisa**	**1.48**	**51**	*i* P	**Pb**	02 28 37.4	+0.5
MANT				*i* S	**Sn**	02 28 54.7	-0.3
MANT	**Manisa**	**1.48**	**51**	*i* P	**Pb**	02 28 37.4	+0.5
DENT	**Denizli**	**1.55**	**82**	*e*PN	**Pg**	02 28 38.9	-0.5
DENT	**Denizli**	**1.55**	**82**	*e*Pn	**Pg**	02 28 38.9	-0.5
DNZL	**Cakiroluk**	**1.56**	**85**	*i* P	**Pg**	02 28 40.3	+0.7
DNZL				*i* S	**Sb**	02 28 57.4	-0.3
DNZL	**Cakiroluk**	**1.56**	**85**	*i* P	**Pg**	02 28 40.3	+0.7
KULA	**Kula-Manisa**	**1.56**	**52**	*e*PN	**Pg**	02 28 39.0	-0.6
KULA	**Kula-Manisa**	**1.56**	**52**	*e*Pn	**Pg**	02 28 39.0	-0.6
SANT	**Santorini**	**1.77**	**228**	*e*PN	**Pb**	02 28 41.5	-0.2
SANT	**Santorini**	**1.77**	**228**	*e*PN	**Pn**	02 28 40.1	+0.5
SANT	**Santorini**	**1.77**	**228**	*e*Pn	**Pn**	02 28 40.1	+0.5
PRK	**Paraskevi**	**1.80**	**339**	*e*PN	**Pn**	02 28 40.1	+0.1
PRK				*e*SN	**Sb**	02 29 04.5	-0.1
PRK	**Paraskevi**	**1.80**	**339**	*e*Pn	**Pn**	02 28 40.1	+0.1
PRK				*e*Sn	**Sb**	02 29 04.5	-0.1
FETY	**Fethiye**	**1.84**	**120**	*e*PN	**Pb**	02 28 43.0	+0.1
FETY	**Fethiye**	**1.84**	**120**	*e*Pn	**Pb**	02 28 43.0	+0.1
DEMI	**Demirci**	**1.95**	**40**	*i* P	**Pg**	02 28 47.6	+0.4
DEMI				*e*S	**Sg**	02 29 13.1	+0.6
KHL	**Karahalli**	**2.07**	**68**	*e*PN	**Pb**	02 28 46.3	-0.5
KHL	**Karahalli**	**2.07**	**68**	*e*Pn	**Pb**	02 28 46.3	-0.5
BALB	**Balikesir**	**2.17**	**16**	*e*PN	**Pb**	02 28 47.4	-1.0
BALB	**Balikesir**	**2.17**	**16**	*e*Pn	**Pb**	02 28 47.4	-1.0
BALY	**Balya**	**2.21**	**11**	*e*P	**Pb**	02 28 49.3	0.0
BALY				*i* S	**Sg**	02 29 22.6	+1.7
BALY	**Balya**	**2.21**	**11**	*e*P	**Pb**	02 28 49.3	0.0
EZN	**Ezine**	**2.34**	**345**	*e*PN	**Pb**	02 28 49.9	-1.5
EZN	**Ezine**	**2.34**	**345**	*e*Pn	**Pb**	02 28 49.9	-1.5
DST	**Dursunbey**	**2.36**	**30**	*e*PN	**Pb**	02 28 50.3	-1.6
DST	**Dursunbey**	**2.36**	**30**	*e*Pn	**Pb**	02 28 50.3	-1.6
GONE	**Gonen-Balikesi**	**2.52**	**10**	*e*PN	**Pb**	02 28 52.5	-2.0
GONE	**Gonen-Balikesi**	**2.52**	**10**	*e*Pn	**Pb**	02 28 52.5	-2.0
PTL	**Penteli**	**2.60**	**282**	*e*PN	**Pn**	02 28 51.4	+0.3
PTL	**Penteli**	**2.60**	**282**	*e*Pn	**Pn**	02 28 51.4	+0.3
LAST	**Lasithi**	**2.73**	**209**	*e*PN	**Pn**	02 28 53.3	+0.5
LAST	**Lasithi**	**2.73**	**209**	*e*Pn	**Pn**	02 28 53.3	+0.5
LIA	**Limnos Island**	**2.77**	**328**	*e*PN	**Pn**	02 28 53.8	+0.5
LIA	**Limnos Island**	**2.77**	**328**	*e*Pn	**Pn**	02 28 53.8	+0.5
LPK	**Lapseki**	**2.82**	**355**	*e*PN	**Pn**	02 28 56.8	+2.7
LPK	**Lapseki**	**2.82**	**355**	*e*Pn	**Pn**	02 28 56.8	+2.7
KRBG	**Karabiga-Canak**	**2.83**	**3**	*e*PN	**Pn**	02 28 57.0	+2.8
KRBG	**Karabiga-Canak**	**2.83**	**3**	*e*Pn	**Pn**	02 28 57.0	+2.8
SMTH	**Samothraki Isl**	**3.15**	**338**	*e*Pn	**Pn**	02 28 59.3	+0.7
SMTH	**Samothraki Isl**	**3.15**	**338**	*e*Pn	**Pn**	02 28 59.3	+0.7
RDO	**Rodhopi**	**3.78**	**342**	*e*PN	**Pn**	02 29 07.8	+0.6
RDO	**Rodhopi**	**3.78**	**342**	*e*Pn	**Pn**	02 29 07.8	+0.6

MEX 13 02:48:27.3±0.5, 17°.11N×99°.71W, h26km±8km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.28**	**211**	*i* P	Pb	02 48 32.9	-1.2
ACX				*e*S	Sb	02 48 38.2	-0.6
CAIG	**El Cayaco**	**0.54**	**264**	*i* P	Pb	02 48 35.9	-2.3
CAIG				*i* S	Sb	02 48 43.8	-1.8
MEIG	**Mezcala**	**0.82**	**6**	*e*P	Pb	02 48 40.2	-2.9
MEIG				*i* S	Sb	02 48 50.9	-2.9
PLIG	**Platanillo**	**1.29**	**9**	*e*P	Pn	02 48 47.6	-2.2
PLIG				*i* S	Sn	02 49 03.2	-3.2
ARIG	**Puente Sto Nin**	**1.31**	**333**	*e*P	Pn	02 48 47.5	-2.5
ARIG				*i* S	Sn	02 49 03.5	-3.3
PNIG	**Pinotepa**	**1.68**	**115**	*e*P	Pn	02 48 53.0	-1.9
PNIG				*i* S	Sn	02 49 12.8	-2.8
ZIIG	**Zihuatanejo**	**1.75**	**287**	*e*P	Pn	02 48 54.0	-1.9
ZIIG				*e*S	Sn	02 49 13.8	-3.5
YAIG	**Yautepec**	**1.85**	**19**	*e*P	Pn	02 48 55.5	-2.0
YAIG				*i* S	Sn	02 49 17.4	-2.8
UTMO	**Huajuapan**	**1.96**	**68**	*e*P	Pn	02 48 57.3	-1.8
UTMO				*i* S	Sn	02 49 20.3	-2.7

MEX 13 03:02:07.1±0.5, 16°.28N×98°.13W, h7km±2km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.11**	**3**	*i* P	Pg	03 02 08.9	-0.7
PNIG				*i* S	Sg	03 02 11.4	0.0
VHO	**Vista Hermosa**	**1.56**	**59**	*e*P	Pn	03 02 31.8	-3.7
VHO				*i* S	Sn	03 02 51.4	-4.8
UTMO	**Huajuapan**	**1.57**	**12**	*e*P	Pn	03 02 32.2	-3.5
UTMO				*i* S	Sn	03 02 51.3	-5.4
HUIG	**Huatulco**	**2.01**	**104**	*e*P	Pn	03 02 38.2	-3.4
HUIG				*i* S	Sn	03 03 02.2	-4.8
MEIG	**Mezcala**	**2.17**	**319**	*e*P	Pn	03 02 41.5	-2.3
MEIG				*i* S	Sn	03 03 06.2	-4.8
CAIG	**El Cayaco**	**2.18**	**291**	*e*P	Pn	03 02 41.4	-2.5
CAIG				*i* S	Sn	03 03 07.5	-3.8
TPIG	**Tehuac#an**	**2.25**	**19**	*e*P	Pn	03 02 42.5	-2.6
TPIG				*i* S	Sn	03 03 08.5	-4.9
PLIG	**Platanillo**	**2.48**	**328**	*i* P	Pn	03 02 45.4	-2.6
PLIG				*i* S	Sn	03 03 13.8	-4.8
CMIG	**Matias Romero**	**3.22**	**75**	*e*P	Pn	03 02 55.4	-2.7
CMIG				*e*S	Sn	03 03 33.4	-3.4

IDC 13 03:40:15.9±1.9, 15°.48S×172°.72W, h0km, mb3.4/4, mb1 3.8/4, mb1mx3.6/17, mbtmp3.4/4, Error ellipse: s-maj=115.9km s-min=26.6km az=150.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.81**	**30**	Pn	Pn	03 40 41.9	-6.5
	25nm,0.3s,baz=195,slow=17,SNR=11						
AFI				Sn	Sn	03 41 00.2	-12
	119nm,0.3s,baz=41,slow=19,SNR=37						
DZM	**Mont Dzumac**	**20.78**	**248**	*e*LR	LR	03 49 54.6	
	186nm,23.9s						
PPT2	**Papeete2**	**22.28**	**99**	*e*LR	LR	03 50 02.9	
	98nm,27.8s						
WRA	**Warramunga Arr**	**50.47**	**257**	P	P	03 49 16.3	+0.3
	0.4nm,0.9s,baz=96,slow=7.3,SNR=4.2						
ASAR	**Alice Springs**	**50.71**	**252**	P	P	03 49 17.4	-0.4
	0.7nm,0.6s,baz=85,slow=8.1,SNR=12						
TXAR	**Lajitas Array**	**80.11**	**56**	P	P	03 52 28.4	+0.1
	0.1nm,0.3s,baz=201,slow=4.8,SNR=3.3						
ILAR	**Eielson Array**	**82.40**	**11**	P	P	03 52 39.4	-0.1
	0.2nm,0.8s,baz=223,slow=6.0,SNR=3.0						

IDC 13 03:42:48.6±6.5, 49°.50S×126°.42E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.8/12, mbtmp3.8/3, MS4.6/1, Ms1 4.6/1, ms1mx3.3/17, Error ellipse: s-maj=129.0km s-min=105.0km az=119.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**20.96**	**38**	P	P	03 47 33.1	0.0
	3.8nm,0.9s,baz=217,slow=13,SNR=4.2						
ASAR	**Alice Springs**	**26.45**	**16**	P	P	03 48 28.0	+0.8
	1.8nm,0.9s,baz=187,slow=9.7,SNR=9.5						
WRA	**Warramunga Arr**	**30.16**	**15**	P	P	03 48 59.5	-0.8
	0.7nm,1.0s,baz=193,slow=9.3,SNR=2.9						
RAO	**Raoul Island**	**46.37**	**85**	LR	LR	04 07 47.0	
	comp=Z,620nm,18.7s,baz=74,slow=32						
PDAR	**Pinedale Array**	**141.41**	**78**	PKP	PKPdf	04 02 20.6	-0.5
	0.1nm,0.3s,baz=172,slow=1.8,SNR=2.5						

IDC 13 03:50:39.5±0.9, 15°.26S×172°.83W, h0km, mb3.8/8, mb1 4.1/8, mb1mx3.9/18, mbtmp3.8/8, MS3.9/5, Ms1 3.9/5, ms1mx3.6/21, Error ellipse: s-maj=49.2km s-min=20.1km az=136.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.68**	**37**	Pn	Pn	03 51 04.5	-5.7
	18nm,0.3s,baz=46,slow=21,SNR=15						
AFI				Sn	Sn	03 51 23.6	-8.9
	143nm,0.3s,baz=45,slow=19,SNR=35						
DZM	**Mont Dzumac**	**20.77**	**248**	*e*LR	LR	04 00 18.6	
	379nm,25.9s						
PPT	**Papeete**	**22.42**	**99**	LR	LR	04 02 19.6	
	comp=Z,128nm,20.1s,baz=298,slow=31						
PPT2	**Papeete2**	**22.42**	**99**	*e*S	S	03 59 32.6	-15
	861nm,32.2s						
PPT2				*e*LR	LR	04 00 27.6	
	230nm,25.8s						
TBI	**Tubuai**	**23.45**	**114**	*e*S	S	03 59 49.4	-16
	504nm,29.0s						
TBI				*e*LR	LR	04 01 13.2	
	107nm,25.2s						
URZ	**Urewera**	**24.58**	**199**	P	P	03 56 00.7	-0.5
	4.6nm,0.8s,baz=37,slow=20,SNR=3.7						
STKA	**Stephens Creek**	**44.59**	**240**	P	P	03 58 54.4	+0.7
	3.5nm,0.9s,baz=74,slow=15,SNR=3.1						
WRA	**Warramunga Arr**	**50.42**	**257**	P	P	03 59 39.0	-0.2
	0.4nm,0.7s,baz=91,slow=8.0,SNR=3.9						
ASAR	**Alice Springs**	**50.68**	**252**	P	P	03 59 41.4	+0.2
	1.0nm,0.6s,baz=87,slow=8.4,SNR=12						
TXAR	**Lajitas Array**	**80.07**	**56**	P	P	04 02 52.0	+0.4
	0.3nm,0.8s,baz=212,slow=3.2,SNR=3.9						
TXAR				LR	LR	04 32 56.8	
	comp=Z,36nm,19.0s,baz=355,slow=32						
PDAR	**Pinedale Array**	**81.79**	**42**	P	P	04 03 01.1	+0.4
	0.4nm,0.8s,baz=212,slow=3.2,SNR=3.7						
PDAR				LR	LR	04 33 27.0	
	comp=Z,70nm,18.9s,baz=81,slow=31						
ILAR	**Eielson Array**	**82.20**	**11**	P	P	04 03 02.3	+0.3
	0.4nm,0.8s,baz=221,slow=5.7,SNR=5.3						
ILAR				LR	LR	04 35 31.9	
	comp=Z,60nm,20.2s,baz=268,slow=33						
PMSA	**Palmer Station**	**84.08**	**156**	LR	LR	04 38 02.3	
	comp=Z,274nm,18.7s,baz=219,slow=34						
YKA	**Yellowknife Ar**	**89.75**	**23**	P	P	04 03 39.0	-0.3
	0.6nm,0.8s,baz=238,slow=3.5,SNR=3.5						
GERES	**GERESS Array B**	**146.08**	**352**	PKPbc	PKPbc	04 10 21.3	-0.3
	0.3nm,0.9s,baz=14,slow=4.4,SNR=2.8						
BRTR	**Keskin Array B**	**146.39**	**322**	PKPbc	PKPdf	04 10 20.2	-1.4
	1.0nm,1.0s,baz=318,slow=1.9,SNR=2.6						

*IDC **13** 03:55:38.9±1.2, 34°.23N×26°.21E, h0km, mb3.4/4, mb1 3.6/8, mb1mx3.5/26, mbtmp3.5/8, ML3.3/3, Error ellipse: s-maj=24.7km s-min=17.4km az=17.0*
*ISCJB **13** 03:55:41.6±0.5, 34°.22N±0°.04×26°.34E±0°.06, h33km, mb3.2/4, Error ellipse: s-maj=7.5km s-min=5.7km az=161.2*
*HLW **13** 03:55:41.0, 34°.46N×26°.25E, h32km±21km, Md3.5, Ml3.1*
ISC 13 03:55:42.4±0.7, 34°.32N±0°.06×26°.32E±0°.06, h33km, n14, σ1°57/17, mb3.3/4, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDI	**Anoyia**	**1.52**	**310**	Pn	**Pb**	03 56 09.2	-0.9
	3.6nm,0.3s,baz=120,slow=12,SNR=33						
IDI				Sn	**Sb**	03 56 28.0	-1.2
	6.1nm,0.3s,baz=296,slow=20,SNR=7.1						
SLUM		**2.97**	**199**	S	**Sn**	03 57 00.6	-0.9
	baz=197						
HMAT	**Matruh**	**3.28**	**168**	P	**Pn**	03 56 32.5	+1.1
	baz=167						
SWA2		**5.11**	**189**	P	**Pn**	03 56 57.7	+1.0
	baz=188						
SWA2				S	**Sn**	03 57 52.4	-2.1
	baz=188						
SWA2				AMP		03 58 00.0	
	comp=N,20μm,0.5s,logA/T=4.6,baz=188						
GLL	**Jalalah**	**6.58**	**134**	P	**Pn**	03 57 18.0	+1.2
	baz=134						
RSH		**7.08**	**116**	P	**Pn**	03 57 24.7	+0.9
	baz=116						
BRTR	**Keskin Array B**	**7.96**	**45**	Pn	Pn	03 57 39.5	+3.6
	comp=N,0.1nm,0.3s,baz=224,slow=6.0,SNR=3.2						
EIL	**Elat**	**8.67**	**120**	Pn	**Pn**	03 57 47.1	+1.6
	baz=315,slow=19,SNR=2.5						
EIL				Sn	**Sn**	03 59 18.4	-3.8
	comp=N,1.3nm,0.3s,baz=314,slow=18,SNR=3.3						
ASF	**Jabal al Asfar**	**9.11**	**101**	Pn	**Pn**	03 57 52.1	+0.4
	comp=N,0.4nm,0.3s,baz=207,slow=6.8,SNR=3.1						
ASF				Sn	**Sn**	03 59 31.8	-1.3
	comp=N,0.3nm,0.3s,baz=209,slow=16,SNR=2.3						
AKASG	**Malin Array Be**	**16.51**	**7**	Pn	**P**	03 59 33.0	-0.6
	comp=N,0.4nm,0.3s,baz=192,slow=11,SNR=4.5						
ESDC	**Sonseca Array**	**24.70**	**291**	P	**P**	04 01 00.6	+0.1
	comp=N,0.1nm,0.4s,baz=80,slow=8.9,SNR=5.1						
EKA	**Eskdalemuir Ar**	**29.28**	**325**	P	**P**	04 01 41.7	+0.3
	comp=N,1.0nm,0.8s,baz=122,slow=9.4,SNR=3.1						
TORD	**Torodi Ar. Bea**	**30.71**	**233**	P	**P**	04 01 54.9	+0.6
	comp=N,0.1nm,0.4s,baz=45,slow=8.1,SNR=3.3						
MKAR	**Makanchi Array**	**43.45**	**56**	P	**P**	04 03 43.9	+1.7
	comp=N,0.7nm,0.6s,baz=283,slow=6.8,SNR=8.3						

*FUNV **13** 04:02:07.3, 6°.62N×73°.19W, h162km, MW3.2*
*ISCJB **13** 04:02:08.0±0.6, 6°.82N±0°.06×72°.95W±0°.06, h173km±6km, mb3.3/3, Error ellipse: s-maj=11.4km s-min=6.4km az=43.9*
*IDC **13** 04:02:10.6±4.3, 6°.71N×73°.20W, h178km±28km, mb3.0/3, mb1 3.5/4, mb1mx3.1/19, mbtmp3.1/4, Error ellipse: s-maj=79.9km s-min=26.5km az=82.0*
ISC 13 04:02:08.8±1.0, 6°.82N±0°.07×72°.96W±0°.07, h169km±8km, n22, σ0°92/29, mb3.2/3, 6C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.22**	**32**	↑*i* P	**Pn**	04 02 38.2	+0.7
CAPV				*e*S	**Sn**	04 02 59.1	-0.6
ROSC	**El Rosal**	**2.38**	**215**	P	**Pn**	04 02 50.0	+0.2
	31nm,0.3s,baz=268,slow=2.2,SNR=205						
ROSC				S	**Sn**	04 03 20.3	-1.3
	52nm,0.3s,baz=96,slow=16,SNR=12						
SOCV	**Socops**	**2.55**	**55**	↑*e*P	**Pn**	04 02 52.4	+0.9
SOCV				*e*S	**Sn**	04 03 24.5	-0.1
VIGV	**El Vigia**	**2.56**	**38**	↑*e*P	**Pn**	04 02 52.7	+1.1
VIGV				*e*S	**Sn**	04 03 25.5	+0.6
ELOV	**Elorza**	**3.46**	**87**	*e*S	**Sn**	04 03 43.6	-1.1
VIRV	**Villa del Rosa**	**3.70**	**9**	*e*P	**Pn**	04 03 05.0	-0.8
VIRV				*e*S	**Sn**	04 03 48.2	-2.1
QARV	**Quebrada Arrib**	**4.14**	**35**	*e*S	**Sn**	04 04 00.1	-0.4
CURV	**Curarigua**	**4.35**	**43**	↑*e*P	**Pn**	04 03 14.8	+0.7
CURV				*e*S	**Sn**	04 04 05.0	-0.2
DABV	**Dabajuro**	**4.68**	**29**	*e*P	**Pn**	04 03 18.9	+0.5
DABV				*e*S	**Sn**	04 04 12.2	-0.7
TEPV	**Terepaima**	**4.87**	**50**	↑*i*P	**Pn**	04 03 21.7	+0.8
SIQV	**Siquisique**	**4.92**	**39**	*e*P	**Pn**	04 03 21.9	+0.3
BAUV	**El Baul**	**5.31**	**66**	↑*e*P	**Pn**	04 03 26.2	-0.5
BAUV				*e*S	**Sn**	04 04 25.7	-2.0
MONV	**Montecano**	**5.89**	**30**	*e*P	**Pn**	04 03 33.9	-0.5
TURV	**Turiamo**	**6.22**	**54**	*e*P	**Pn**	04 03 39.0	+0.4
MERV	**Las Mercedes**	**7.03**	**69**	*e*P	**Pn**	04 03 48.7	-0.7
BIRV	**Birongo**	**7.55**	**61**	*e*P	**Pn**	04 03 55.9	-0.4
LPAZ	**La Paz**	**23.45**	**168**	pP	pP	04 07 37.3	+1.4
	0.8nm,0.8s,baz=342,slow=14,SNR=2.9						
TXAR	**Lajit

IDI eSb Sn 04 11 43.5 +2.3
GVD Gavdhos 1.48 306 P Pb 04 11 24.1 +0.1
GVD S Sg 04 11 45.2 +1.4
GVD Gavdhos 1.48 306 ePB Pn 04 11 23.1 -0.1
GVD eSB Sb 04 11 42.9 0.0
GVD Gavdhos 1.48 306 ePb Pn 04 11 23.1 -0.1
GVD Gavdhos 1.48 306 P Pb 04 11 24.1 +0.1
GVD eSb Sb 04 11 42.9 0.0
VAM Vamos 1.80 322 P Pn 04 11 28.1 +0.4
VAM Vamos 1.80 322 ePN Pn 04 11 28.0 +0.4
VAM eSB Sg 04 11 56.7 +2.5
VAM Vamos 1.80 322 P Pn 04 11 28.1 +0.4
VAM eSb Sg 04 11 56.7 +2.5
KARN Karanos 1.95 317 P Pn 04 11 30.4 +0.7
KARN Karanos 1.95 317 ePN Pn 04 11 30.4 +0.7
KARN eSN Sb 04 11 57.8 +1.2
KARN Karanos 1.95 317 P Pn 04 11 30.4 +0.7
KARN eSn Sb 04 11 57.8 +1.2
KARP Karpathos 2.05 40 P Pb 04 11 33.3 -0.5
KARP S Sb 04 11 59.2 -0.3
KARP Karpathos 2.05 40 ePG Pb 04 11 33.7 -0.1
KARP eSN Sb 04 12 00.5 +1.0
KARP Karpathos 2.05 40 P Pb 04 11 33.3 -0.5
KARP Karpathos 2.05 40 ePg Pb 04 11 33.7 -0.1
KARP S Sb 04 11 59.2 -0.3
KARP eSn Sb 04 12 00.5 +1.0
LTBQ Tobruq 2.35 216 *i* P Pb 04 11 37.8 -1.1
SNR=76
SANT Santorini 2.39 358 ePB Pn 04 11 36.4 +0.7
SANT Santorini 2.39 358 ePb Pn 04 11 36.4 +0.7
SLUM 2.50 187 P Pn 04 11 38.9 +1.7
ANKY Antikythira Is 2.63 316 ePB Pn 04 11 39.0 -0.1
ANKY Antikythira Is 2.63 316 ePb Pn 04 11 39.0 -0.1
ARG Arkhangelos 3.08 43 ePB Pn 04 11 47.2 +2.1
ARG Arkhangelos 3.08 43 ePb Pn 04 11 47.2 +2.1
KYTH Kithira 3.08 319 ePB Pn 04 11 46.5 +1.3
KYTH Kithira 3.08 319 ePb Pn 04 11 46.5 +1.3
APE Apeiranthos 3.08 360 eP Pn 04 11 45.9 +0.6
APE Apeiranthos 3.08 360 ePN Pn 04 11 46.8 +1.5
APE Apeiranthos 3.08 360 eP Pn 04 11 45.9 +0.6
APE Apeiranthos 3.08 360 ePn Pn 04 11 46.8 +1.5
HMAT Matruh 3.16 155 P Pn 04 11 47.7 +1.4
VLI Veliai 3.46 323 ePN Pn 04 11 50.9 +0.4
VLI Veliai 3.46 323 ePn Pn 04 11 50.9 +0.4
TURN Turunc 3.82 40 *i* P Pn 04 11 54.2 -1.1
TURN *i* S Sn 04 12 41.4 +1.0
TURN Turunc 3.82 40 *i* P Pn 04 11 54.2 -1.1
TURN *i* S Sn 04 12 41.4 +1.0
DYR Agios Nikonas 3.82 318 ePB Pn 04 11 57.8 +2.4
DYR Agios Nikonas 3.82 318 ePb Pn 04 11 57.8 +2.4
SMG Samos 3.87 15 ePN Pn 04 11 56.9 +0.9
SMG Samos 3.87 15 ePn Pn 04 11 56.9 +0.9
DID Didima 3.99 333 P Pn 04 11 57.7 0.0
DID Didima 3.99 333 ePN Pn 04 11 57.7 0.0
DID Didima 3.99 333 P Pn 04 11 57.7 0.0
AKAS Kas 4.02 55 *i* P Pn 04 11 59.6 +1.4
AKAS *i* S Sn 04 12 48.2 +2.7
AKAS Kas 4.02 55 *i* P Pn 04 11 59.6 +1.4
AKAS *i* S Sn 04 12 48.2 +2.7
AYDN Tasoluk 4.13 27 *i* P Pn 04 12 01.7 +2.0
AYDN Tasoluk 4.13 27 *i* P Pn 04 12 01.7 +2.0
PYL PYLOS 4.25 314 P Pn 04 12 02.3 +1.0
PYL PYLOS 4.25 314 P Pn 04 12 02.3 +1.0
PTL Penteli 4.28 342 ePN Pn 04 12 02.1 +0.4
PTL Penteli 4.28 342 ePn Pn 04 12 02.1 +0.4
ITM Ithomi 4.34 318 P Pn 04 12 03.0 +0.4
ITM Ithomi 4.34 318 ePN Pn 04 12 03.0 +0.4
ITM Ithomi 4.34 318 P Pn 04 12 03.0 +0.4
LTK Loutraki 4.54 333 ePN Pn 04 12 05.9 +0.6
LTK Loutraki 4.54 333 ePn Pn 04 12 05.9 +0.6
GOLH Golhisar 4.61 44 *i* P Pn 04 12 08.0 +1.7
GOLH *i* S Sn 04 13 00.9 +0.7
GOLH Golhisar 4.61 44 *i* P Pn 04 12 08.0 +1.7
GOLH *i* S Sn 04 13 00.9 +0.7
DNZL Cakiroluk 4.67 37 *i* P Pn 04 12 12.0 +4.8
DNZL Cakiroluk 4.67 37 *i* P Pn 04 12 12.0 +4.8
AMT Artemida-Makis 4.72 320 ePN Pn 04 12 09.9 +2.1
AMT Artemida-Makis 4.72 320 ePn Pn 04 12 09.9 +2.1
SWA2 4.72 181 S Sn 04 13 03.1 +0.3
SWA2 4.72 181 S Sn 04 13 03.1 +0.3
baz=182
GUR Goura 4.72 328 P Pn 04 12 08.1 +0.2
GUR Goura 4.72 328 ePN Pn 04 12 08.6 +0.7
GUR Goura 4.72 328 P Pn 04 12 08.1 +0.2
GUR Goura 4.72 328 ePn Pn 04 12 08.6 +0.7
KLV Kalavryta, Ach 4.90 327 ePN Pn 04 12 11.2 +0.9
KLV Kalavryta, Ach 4.90 327 ePn Pn 04 12 11.2 +0.9
LKR Lokris 5.09 337 ePN Pn 04 12 15.3 +2.4
LKR Lokris 5.09 337 ePn Pn 04 12 15.3 +2.4
LAKA Lakka 5.14 327 ePN Pn 04 12 14.6 +1.1
LAKA Lakka 5.14 327 ePn Pn 04 12 14.6 +1.1
KALE Kalithea 5.19 329 ePN Pn 04 12 16.4 +2.1
KALE Kalithea 5.19 329 ePn Pn 04 12 16.4 +2.1
TRIZ Trizonia 5.20 328 ePN Pn 04 12 16.2 +1.9
TRIZ Trizonia 5.20 328 ePn Pn 04 12 16.2 +1.9
EFP Efpalio 5.32 328 ePN Pn 04 12 17.2 +1.2
EFP Efpalio 5.32 328 ePn Pn 04 12 17.2 +1.2
KHAL Karahalli 5.42 35 *i* P Pn 04 12 17.1 -0.3
KHAL *i* S Sn 04 13 17.0 -3.1
KHAL Karahalli 5.42 35 *i* P Pn 04 12 17.1 -0.3
LJBD Adjabya 5.46 237 *i* P Pn 04 12 17.2 -0.6
SNR=70
AGG Agios Georgios 5.66 334 ePN Pn 04 12 21.6 +0.9
AGG Agios Georgios 5.66 334 ePn Pn 04 12 21.6 +0.9
EVR Evrytania 5.77 330 ePN Pn 04 12 24.8 +2.5
EVR Evrytania 5.77 330 ePn Pn 04 12 24.8 +2.5
VLS Valsamata 5.80 318 ePN Pn 04 12 25.1 +2.5
VLS Valsamata 5.80 318 ePn Pn 04 12 25.1 +2.5
GAZI Gazipasa 5.99 66 *i* P Pn 04 12 25.1 -0.1
GAZI *i* S Sn 04 13 31.3 -2.7
GAZI Gazipasa 5.99 66 *i* P Pn 04 12 25.1 -0.1
THL Klokotos Trika 6.25 334 ePN Pn 04 12 29.4 +0.7
THL Klokotos Trika 6.25 334 ePn Pn 04 12 29.4 +0.7
ERMK Ermenek 6.58 64 *i* P Pn 04 12 35.8 +2.3
ERMK *i* S Sn 04 13 49.6 +0.7
ERMK Ermenek 6.58 64 *i* P Pn 04 12 35.8 +2.3
ERMK *i* S Sn 04 13 49.6 +0.7
KOT Kottamia 6.70 125 P Pn 04 12 36.1 +1.2
JAN Janina 6.80 328 ePN Pn 04 12 38.5 +2.2
JAN Janina 6.80 328 ePn Pn 04 12 38.5 +2.2
KEK Kerkira 7.34 323 ePN Pn 04 12 44.3 +0.5
KEK Kerkira 7.34 323 ePn Pn 04 12 44.3 +0.5
NVR Nevrokopi 7.48 350 ePN Pn 04 12 50.5 +4.9
KZIT Kziot 8.09 110 Pn Pn 04 12 52.4 -1.6
KZIT Sn Sn 04 14 23.5 -2.1
GULE Gulek 8.21 64 *i* P Pn 04 12 57.3 +1.5
GULE Gulek 8.21 64 *i* P Pn 04 12 57.3 +1.5
MMAI Mount Meron Ar 8.29 94 Pn Pn 04 12 57.7 +0.8
2.2nm,0.3s,baz=290,slow=9.0,SNR=4.4
MMAI Sn Sn 04 14 27.0 -3.8
2.0nm,0.3s,baz=250,slow=26,SNR=3.2
BRTR Keskin Array B 8.66 46 Pn Pn 04 13 02.8 +0.9
0.1nm,0.3s,baz=231,slow=14,SNR=7.9
BRTR Sn Sn 04 14 38.0 -1.7
0.1nm,0.3s,baz=248,slow=15,SNR=3.1
BRTR Keskin Array B 8.66 46 P Pn 04 13 02.8 +0.9
BRTR S Sn 04 14 38.1 -1.7
KRMI Paran Flat 8.69 114 Pn Pn 04 13 01.2 -1.1
MZDA Masada 8.70 105 Sn Sn 04 14 37.2 -3.4
LZLA Zalla 8.71 234 *i* P Pn 04 12 59.6 -3.0
19nm,0.9s,SNR=70
PRNI Paran 8.80 112 Pn Pn 04 13 02.2 -1.6
PRNI Sn Sn 04 14 41.6 -1.5
ZFRI Zfri 8.84 110 Pn Pn 04 13 02.8 -1.5
MBRI Mt Berech 8.99 115 Pn Pn 04 13 04.9 -1.6
MBRI Sn Sn 04 14 47.3 -0.7
CDAG Cicekdag 9.04 49 *i* P Pn 04 13 08.9 +1.7
CDAG Cicekdag 9.04 49 *i* P Pn 04 13 08.9 +1.7
EIL Elat 9.08 116 Pn Pn 04 13 09.3 +1.6
0.8nm,0.3s,baz=345,slow=9.5,SNR=12
EIL Sn Sn 04 14 47.6 -2.6
1.1nm,0.3s,baz=343,slow=17,SNR=4.0
EIL Elat 9.08 116 Pn Pn 04 13 06.8 -0.9
EIL Sn Sn 04 14 48.8 -1.3
ASF Jabal al Asfar 9.70 98 Pn Pn 04 13 17.2 +1.0
0.5nm,0.3s,baz=343,slow=11,SNR=3.3
ASF Sn Sn 04 15 01.8 -3.6
0.3nm,0.3s,baz=218,slow=11,SNR=1.9
AYKD Aykdinkavak 9.78 66 *i* P Pn 04 13 16.9 -0.4
MLR Muntele Rosu 11.50 1 LR LR 04 18 21.6
comp=Z,31nm,19.6s,baz=360,slow=39

KEST Kesra 13.42 282 LR LR 04 20 21.1
comp=Z,53nm,20.2s,baz=194,slow=42
ANN Anapa 14.17 37 *e*P P 04 14 24.6 -0.2
ANN pmax pmax
comp=Z,65nm,1.4s
ANN Anapa 14.17 37 *e*P P 04 14 24.6 -0.2
comp=Z,65nm,1.4s
UZH Uzhgorod 14.84 352 *e*P Pn 04 14 26.4 +0.1
UZH *e*S Sn 04 17 05.4 -5.4
KECS Kecovo 14.97 347 *e*PN P 04 14 42.7 +9.0
KOLS Kolonicke sedl 15.14 352 *e*PN P 04 14 51.6 +16
PGF Pioggiola 15.54 308 *e*P Pn 04 14 31.7 -4.0
comp=Z,35nm,1.1s
GNI Garni 16.50 63 LR LR 04 21 28.6
comp=Z,41nm,19.4s,baz=80,slow=38
GNI Garni 16.50 63 *e*P P 04 14 53.0 +2.1
comp=Z,10.0nm,1.2s
KIV Kislovodsk 16.61 48 *e*P P 04 14 53.3 +1.3
KIV pmax pmax
comp=Z,14nm,1.0s
KIV MLR MLR
comp=Z,38nm,13.0s
KIV Kislovodsk 16.61 48 *e*P P 04 14 53.3 +1.3
comp=Z,38nm,13.0s
KBZ Khabaz 16.63 49 P P 04 14 52.5 +0.5
KBZ Khabaz 16.63 49 Pn P 04 14 52.5 +0.5
comp=Z,0.1nm,0.3s,baz=253,slow=9.8,SNR=8.7
KBZ Khabaz 16.63 49 P P 04 14 52.5 +0.5
VRAC Vranov 16.69 339 Pn P 04 14 52.6 -0.2
comp=Z,0.4nm,0.3s,baz=154,slow=12,SNR=5.5
VRAC Vranov 16.69 339 P P 04 14 52.6 -0.2
ZEI Tsey 16.84 53 *e*P Pn 04 14 53.9 +1.4
ZEI pmax pmax
comp=Z,19nm,1.3s
ZEI Tsey 16.84 53 *e*P Pn 04 14 53.9 +1.4
comp=Z,19nm,1.3s
KIEV Kiev 16.92 8 *e*P Pn 04 14 54.0 +0.8
KIEV Kiev 16.92 8 *e*P Pn 04 14 54.0 +0.8
AKASG Malin Array Be 16.93 8 P Pn 04 14 52.8 -0.5
AKASG pmax pmax
comp=Z,2.0nm,0.3s
AKASG Malin Array Be 16.93 8 Pn Pn 04 14 52.8 -0.5
comp=Z,1.8nm,0.3s,baz=200,slow=11,SNR=11
SBF Sospel 17.17 310 *e*P Pn 04 14 53.7 -2.8
comp=Z,37nm,1.1s
GERES GERESS Array B 17.27 333 Pn P 04 14 59.1 -0.2
comp=Z,0.1nm,0.3s,baz=156,slow=18,SNR=18
GERES GERESS Array B 17.27 333 P P 04 14 59.1 -0.2
DAVOX Davos/Dischmat 17.45 322 P P 04 15 02.1 +0.8
comp=Z,0.2nm,0.3s,baz=146,slow=16,SNR=2.7
DAVOX Davos/Dischmat 17.45 322 P P 04 15 02.1 +0.8
LMR La Mourre 17.52 308 *e*P Pn 04 14 57.7 -3.2
comp=Z,32nm,1.2s
KHC Kasperske Hory 17.55 333 *e*P P 04 15 03.3 +1.0
KHC Kasperske Hory 17.55 333 *e*P P 04 15 03.3 +1.0
KHC *e*pP pP 04 15 12.9 +8.3
KHC Kasperske Hory 17.55 333 *e*P P 04 15 03.3 +1.0
DPC Dobruska-Polom 17.70 340 *e*P P 04 15 04.2 +0.2
DPC Dobruska-Polom 17.70 340 *e*P P 04 15 04.2 +0.2
DPC *e*pP pP 04 15 16.5 +10
DPC Dobruska-Polom 17.70 340 *e*P P 04 15 04.2 +0.2
PRU Pruhonice 17.93 336 *e*P P 04 15 07.1 +0.6
PRU Pruhonice 17.93 336 *e*P P 04 15 07.1 +0.6
PRU *e*pP pP 04 15 16.6 +7.9
PRU Pruhonice 17.93 336 *e*P P 04 15 07.1 +0.6
MBDF Montbardon 18.01 312 *e*P Pn 04 15 04.8 -2.2
comp=Z,19nm,1.3s
MBDF Montbardon 18.01 312 *e*P Pn 04 15 04.8 -2.2
comp=Z,9.4nm,1.3s
LPG La Plagne 18.42 314 *e*P Pn 04 15 11.8 -0.4
comp=Z,8.5nm,1.0s
LPG La Plagne 18.42 314 *e*P Pn 04 15 11.8 -0.4
comp=Z,4.2nm,1.0s
LPL La Plagne 18.44 314 *e*P P 04 15 11.9 -0.5
comp=Z,7.3nm,1.0s
LPL La Plagne 18.44 314 *e*P P 04 15 11.9 -0.5
comp=Z,3.7nm,1.0s
CABF La Chapelle 19.41 316 *e*P P 04 15 22.5 -0.4
comp=Z,30nm,1.3s
CABF La Chapelle 19.41 316 *e*P P 04 15 22.5 -0.4
comp=Z,15nm,1.3s
CLL Collm 19.57 336 *e*P Pn 04 15 26.0 +0.3
CLL pmax pmax
comp=Z,17nm,1.7s
CLL Collm 19.57 336 *e*P Pn 04 15 26.0 +0.3
comp=Z,17nm,1.7s
LASF Ste Croix 19.58 307 *e*P P 04 15 25.1 +0.4
comp=Z,38nm,1.6s
LASF Ste Croix 19.58 307 *e*P P 04 15 25.1 +0.4
comp=Z,19nm,1.6s
HINF Hinteralfeld 19.69 320 *e*P P 04 15 26.8 +0.9
HINF Hinteralfeld 19.69 320 *e*P P 04 15 26.8 +0.9
VORD Divnogorie 19.72 26 *e*P P 04 15 26.1 +0.1
VORD pmax pmax
comp=N,10.0nm,0.7s
VORD pmax pmax
comp=Z,8.0nm,0.7s
VORD pmax pmax
comp=E,10.0nm,0.8s
VORD Divnogorie 19.72 26 *e*P P 04 15 26.1 +0.1
CDF Champ du Feu 19.85 322 *e*P P 04 15 27.4 -0.2
comp=E,9.5nm,0.9s
CDF Champ du Feu 19.85 322 *e*P P 04 15 27.4 -0.2
comp=E,4.8nm,0.9s
VSR Storozhevoye 19.87 26 *e*P Pn 04 15 29.7 +0.4
VSR pmax pmax
comp=Z,8.0nm,0.5s
VSR pmax pmax
comp=N,10.0nm,1.4s
VSR pmax pmax
comp=E,10.0nm,1.5s
VSR Storozhevoye 19.87 26 *e*P Pn 04 15 29.7 +0.4
comp=E,10.0nm,1.4s
HAU Haudompre 20.08 320 *e*P P 04 15 30.5 +0.4
HAU *e*R
comp=E,74nm,19.2s
HAU Haudompre 20.08 320 *e*P P 04 15 30.5 +0.4
MTLF Montolieu 20.42 304 *e*P P 04 15 34.3 +0.5
comp=E,21nm,1.4s
MTLF Montolieu 20.42 304 *e*P P 04 15 34.3 +0.5
comp=E,11nm,1.4s
VRHR Novokhopersk 20.73 30 *e*P Pn 04 15 41.3 +1.9
VRHR pmax pmax
comp=N,30nm,0.7s
VRHR pmax pmax
comp=Z,30nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.6s
PAGF Fort de Pagny 20.74 321 *e*P P 04 15 36.4 -0.8
comp=E,7.0nm,1.1s
PAGF Fort de Pagny 20.74 321 *e*P P 04 15 36.4 -0.8
comp=E,3.5nm,1.1s
SMF Signal de Mont 20.75 314 *e*P P 04 15 36.5 -0.8
comp=E,37nm,1.5s
SMF Signal de Mont 20.75 314 *e*P P 04 15 36.5 -0.8
comp=E,19nm,1.5s
LOR Lormes 21.05 316 *e*P P 04 15 40.6 0.0
LOR *e*R
comp=E,71nm,20.8s
LOR Lormes 21.05 316 *e*P P 04 15 40.6 0.0
MEZF Maizieres J'vi 21.07 320 *e*P P 04 15 41.4 +0.6
comp=E,77nm,1.6s
MEZF Maizieres J'vi 21.07 320 *e*P P 04 15 41.4 +0.6
comp=E,38nm,1.6s
CAF Calviac 21.09 308 *e*P P 04 15 41.2 +0.1
CAF Calviac 21.09 308 *e*P P 04 15 41.2 +0.1
AVF Avril sur Loir 21.11 314 *e*P P 04 15 40.0 -1.2
comp=E,18nm,1.3s
AVF Avril sur Loir 21.11 314 *e*P P 04 15 40.0 -1.2
comp=E,9.2nm,1.3s
BGF Bois d'Agland 21.31 313 *e*P P 04 15 42.6 -0.7
comp=E,25nm,1.1s
BGF Bois d'Agland 21.31 313 *e*P P 04 15 42.6 -0.7
comp=E,12nm,1.1s
TCF Toulx Ste Croi 21.57 312 *e*P P 04 15 45.0 -1.2
comp=E,24nm,1.2s
TCF Toulx Ste Croi 21.57 312 *e*P P 04 15 45.0 -1.2
comp=E,12nm,1.2s
RJF Les Rejaudoux 21.60 309 *e*P P 04 15 43.9 -2.6
comp=E,28nm,1.3s
RJF *e*R
comp=E,59nm,20.5s
RJF Les Rejaudoux 21.60 309 *e*P P 04 15 43.9 -2.6
comp=E,14nm,1.3s
LFF La Frestale 21.97 307 *e*P P 04 15 49.0 -1.5
comp=E,96nm,1.8s

LFF La Frestale 21.97 307 *e*P P 04 15 49.0 -1.5
comp=E,48nm,1.8s
BAIF Baives 22.45 322 *e*P P 04 15 54.7 -0.8
comp=E,25nm,1.1s
BAIF Baives 22.45 322 *e*P P 04 15 54.7 -0.8
comp=E,12nm,1.1s
OBN Obninsk 22.49 17 *e*P P 04 15 59.3 +3.4
OBN *e* 04 16 18.6
OBN *e*S S 04 20 01.3 -1.4
OBN pmax pmax
comp=Z,8.0nm,1.2s
OBN MLR MLR
comp=Z,100nm,15.0s
SJPF Ste Jean 22.76 302 *e*P P 04 15 58.4 -0.5
comp=Z,16nm,0.9s
SJPF Ste Jean 22.76 302 *e*P P 04 15 58.4 -0.5
comp=Z,7.9nm,0.9s
MFF Saint Martin d 23.18 311 *e*P P 04 16 01.6 -1.7
comp=Z,57nm,1.6s
MFF Saint Martin d 23.18 311 *e*P P 04 16 01.6 -1.7
comp=Z,29nm,1.6s
LDF La Druitiere 24.04 315 *e*P P 04 16 09.8 -1.8
LDF La Druitiere 24.04 315 *e*P P 04 16 09.8 -1.8
ESDC Sonseca Array 24.23 292 P P 04 16 13.5 -0.1
comp=Z,1.7nm,0.9s,baz=85,slow=9.3,SNR=12
ESDC LR LR 04 25 28.2
comp=Z,33nm,18.3s,baz=305,slow=36
FLN La Foliniere 24.33 315 *e*P P 04 16 12.7 -1.6
comp=Z,70nm,1.4s
FLN *e*R
comp=E,61nm,18.3s
FLN La Foliniere 24.33 315 *e*P P 04 16 12.7 -1.6
comp=Z,35nm,1.4s
VSU Vasula 24.50 2 *e*P P 04 16 19.6 +3.8
VSU pmax pmax
comp=Z,29nm,1.2s
MDT Midelt 25.16 276 P P 04 16 22.3 +0.1
comp=Z,1.7nm,0.8s,baz=95,slow=6.8,SNR=5.5
SGMF Saint Gilles 25.35 313 *e*P P 04 16 22.4 -1.1
SGMF Saint Gilles 25.35 313 *e*P P 04 16 22.4 -1.1
HFS Hagfors 27.29 347 P P 04 16 40.8 -0.2
comp=Z,1.7nm,0.8s,baz=134,slow=10,SNR=3.0
HFS Hagfors 27.29 347 P P 04 16 40.8 -0.2
comp=Z,2.0nm,0.8s
KLMR Klimovskoe 28.38 14 *e*P P 04 16 45.8 -4.8
KLMR pmax pmax
comp=Z,6.0nm,0.7s
AKTK Aktyubinsk 28.84 45 P P 04 16 54.7 -0.2
comp=Z,2.0nm,0.9s
AKTO Aktyubinsk 28.84 45 P P 04 16 54.7 -0.2
AKTO pmax pmax
comp=Z,2.0nm,0.9s
AKTO Aktyubinsk 28.84 45 P P 04 16 54.7 -0.2
comp=Z,0.6nm,0.3s,baz=251,slow=9.8,SNR=4.2
EKA Eskdalemuir Ar 29.19 326 P P 04 16 57.5 -0.4
comp=Z,1.2nm,0.7s,baz=118,slow=10,SNR=3.8
EKA Eskdalemuir Ar 29.19 326 P P 04 16 57.5 -0.4
comp=Z,2.0nm,0.8s
TORD Torodi Ar. Bea 29.99 232 P P 04 17 06.3 +0.8
comp=Z,0.6nm,0.7s,baz=33,slow=8.8,SNR=11
TORD LR LR 04 31 47.4
comp=Z,183nm,18.6s,baz=60,slow=42
ARCES ARCESS Array B 35.61 360 P P 04 17 52.1 -1.9
comp=Z,0.6nm,0.7s,baz=175,slow=6.1,SNR=6.6
ARCES ARCESS Array B 35.61 360 P P 04 17 52.1 -1.9
comp=Z,1.0nm,0.7s
BVAR Borovoye Array 36.94 45 P P 04 18 05.6 0.0
BVAR pmax pmax
comp=Z,1.0nm,0.5s
BVAR Borovoye Array 36.94 45 P P 04 18 05.6 0.0
comp=Z,0.5nm,0.5s,baz=250,slow=7.1,SNR=5.6
BVAR Borovoye Array 36.94 45 P P 04 18 05.6 0.0
comp=Z,1.0nm,0.5s
DBIC Dimbokro 39.09 233 LR LR 04 37 02.5
comp=Z,118nm,18.9s,baz=290,slow=40
MKAR Makanchi Array 44.17 56 P P 04 19 06.2 +0.7
MKAR pmax pmax
comp=Z,2.0nm,0.7s
MKAR Makanchi Array 44.17 56 P P 04 19 06.2 +0.7
comp=Z,1.8nm,0.6s,baz=279,slow=6.6,SNR=20
MKAR Makanchi Array 44.17 56 P P 04 19 06.2 +0.7
comp=Z,2.0nm,0.7s
ZALV Zalesovo Beam 45.60 45 P P 04 19 16.8 +0.1
ZALV pmax pmax
comp=Z,1.0nm,0.4s
ZALV Zalesovo Beam 45.60 45 P P 04 19 16.8 +0.1
comp=Z,1.5nm,0.5s,baz=272,slow=6.5,SNR=5.3
ZALV Zalesovo Beam 45.60 45 P P 04 19 16.8 +0.1
comp=Z,1.0nm,0.4s
ZAK Zakamensk 57.29 48 *e*P P 04 20 40.8 -3.7
ZAK pmax pmax
comp=Z,2.0nm,1.2s
SONM Songino Array 59.99 50 P P 04 21 03.9 +0.5
comp=Z,0.6nm,0.9s,baz=320,slow=10,SNR=3.6
SONM Songino Array 59.99 50 P P 04 21 03.9 +0.5
SCHQ Schefferville 64.29 320 P P 04 21 31.9 0.0
comp=Z,1.2nm,0.4s,baz=66,slow=10.0,SNR=4.5
YKA Yellowknife Ar 78.67 342 P P 04 22 58.4 -0.1
comp=Z,0.6nm,0.6s,baz=30,slow=5.5,SNR=7.0
YKA Yellowknife Ar 78.67 342 P P 04 22 58.4 -0.1
comp=Z,1.0nm,0.6s
KSRS Korea Array 78.75 52 P P 04 23 00.1 +0.7
comp=Z,0.4nm,0.4s,baz=303,slow=4.6,SNR=3.0
KSRS Korea Array 78.75 52 P P 04 23 00.1 +0.7
ILAR Eielson Array 81.39 357 P P 04 23 13.9 +0.7
comp=Z,0.4nm,0.8s,baz=358,slow=4.5,SNR=4.5
ILAR LR LR 05 01 26.8
comp=Z,61nm,18.0s,baz=272,slow=37
ILAR Eielson Array 81.39 357 P P 04 23 14.0 +0.7
comp=Z,61nm,18.0s

CSEM 13 05:01:55.1, 42°.85N×12°.70E, h8km, MD1.8/6, After ROM
ROM 13 05:01:55.1±0.1, 42°.85N×12°.70E, h8km, Md1.8/6, Ml1.3/4, Error ellipse: s-maj=1.1km s-min=0.8km az=122.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CESI	**CESI - Serrava**	**0.22**	**43**	Pg	Pg	05 02 00.3	+0.7
CESI				Sg	Sg	05 02 04.1	+1.4
CESI	**CESI - Serrava**	**0.22**	**43**	Pg	Pg	05 02 00.3	+0.7
CESI				Sg	Sg	05 02 04.1	+1.4
CESX	**Cesi**	**0.25**	**201**	Pg	Pg	05 02 01.0	+0.8
CESX				Sg	Sb	05 02 05.3	-1.2
38nm,0.2s							
CESX	**Cesi**	**0.25**	**201**	Pg	Pg	05 02 01.0	+0.8
CESX				Sg	Sb	05 02 05.3	-1.2
38nm,0.2s							
NRCA	**Norcia**	**0.30**	**92**	Pg	Pg	05 02 01.8	+0.6
NRCA				Sg	Sb	05 02 07.2	-0.9
35nm,0.1s							
NRCA	**Norcia**	**0.30**	**92**	Pg	Pg	05 02 01.8	+0.6
NRCA				Sg	Sb	05 02 07.2	-0.9
35nm,0.1s							
FDMO	**Fiordimonte**	**0.34**	**56**	Pg	Pg	05 02 02.5	+0.6
FDMO				Sg	Sb	05 02 07.9	-1.2
13nm,0.3s							
FDMO	**Fiordimonte**	**0.34**	**56**	Pg	Pg	05 02 02.5	+0.6
FDMO				Sg	Sb	05 02 07.9	-1.2
13nm,0.3s							
LNSS	**Leonessa**	**0.35**	**134**	Pg	Pg	05 02 02.8	+0.7
LNSS				Sg	Sb	05 02 09.0	-0.5
LNSS	**Leonessa**	**0.35**	**134**	Pg	Pg	05 02 02.8	+0.7
LNSS				Sg	Sb	05 02 09.0	-0.5
MURB	**Monte Urbino**	**0.44**	**343**	Pg	Pg	05 02 04.4	+0.7
MURB				Sg	Sb	05 02 11.3	-0.7
70nm,0.7s							
MURB	**Monte Urbino**	**0.44**	**343**	Pg	Pg	05 02 04.4	+0.7
MURB				Sg	Sb	05 02 11.3	-0.7
70nm,0.7s							

IDC 13 05:09:23.0±7.5, 18°.80N×69°.47W, h176km±74km, mb3.2/6, mb1 3.4/7, mb1mx3.1/22, mbtmp3.2/7, Error ellipse: s-maj=31.0km s-min=18.5km az=55.0, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROSC	**El Rosal**	**14.65**	**200**	P	Pn	05 12 42.6	0.0
1.2nm,0.3s,baz=108,slow=19,SNR=7.6							
ROSC				S	Sn	05 15 26.6	+0.4
0.2nm,0.3s,baz=287,slow=19,SNR=2.4							
TXAR	**Lajitas Array**	**32.83**	**295**	P	P	05 15 40.1	-0.1
0.2nm,0.3s,baz=120,slow=8.3,SNR=7.9							

LPAZ	**La Paz**	**34.89 178**	P	P	05 15 58.6	0.0
	0.4nm,0.3s,baz=29,slow=9.5,SNR=5.9					
PDAR	**Pinedale Array**	**41.38 314**	P	P	05 16 52.0	-0.2
	0.2nm,0.5s,baz=116,slow=8.2,SNR=2.6					
YKA	**Yellowknife Ar**	**53.56 336**	P	P	05 18 24.9	-0.5
	0.7nm,0.7s,baz=112,slow=7.1,SNR=5.2					
TORD	**Torodi Ar. Bea**	**68.26 83**	P	P	05 20 04.8	-0.6
	0.5nm,0.7s,baz=296,slow=6.8,SNR=4.7					
ARCES	**ARCESS Array B**	**74.28 21**	P	P	05 20 41.4	+0.9
	1.2nm,0.8s,baz=276,slow=3.4,SNR=5.5					
ASAR	**Alice Springs**	**157.69 253**	PKPab	PKPab	05 29 31.9	-0.6
	0.5nm,0.7s,baz=105,slow=4.4,SNR=4.1					

BKK ***13*** *05:14:19.1±0.7, 15°S±11°×16°8E±1°5, h10km, M5.6/26, mB6.0/8, mb5.5/26, Mw(mB)5.6/8*
IDC ***13*** *05:14:38.1±0.7, 14°57S×167°36E, h165km±5km, mb4.5/25, mb1 4.6/27, mb1mx4.6/27, mbtmp4.5/27, MS4.0/9, Ms1 4.0/9, ms1mx3.8/26, Error ellipse: s-maj=11.4km s-min=9.8km az=100.0*
MOS ***13*** *05:14:39.8±1.1, 14°52S×167°25E, h184km, mb5.2/24, Error ellipse: s-maj=9.5km s-min=8.1km az=31.3*
GCMT ***13*** *05:14:41.0±0.2, 14°61S×167°18E, h175km±1km, MW5.3 Best double couple: NP1:φs302.00000°, δ53.00000°, λ55.00000°. NP2:φs171.00000°, δ49.00000°, λ127.00000°. Principal axes: T 1.2700, Plg63.0000°, Azm150.0000°; N -0.0100, Plg27.0000°, Azm325.0000°; P -1.2600, Plg2.0000°, Azm56.0000°; Data Used: IU II IC G CN.*
AUST ***13*** *05:14:41.1±2.6, 14°58S×167°30E, h186km Error ellipse: s-maj=1.0km s-min=1.0km az=352.0*
NEIC ***13*** *05:14:41.7±0.8, 14°59S×167°30E, h199km±7km, mb5.1/45, Error ellipse: s-maj=5.4km s-min=4.8km az=162.0*
ISCJB ***13*** *05:14:41.2±0.8, 14°62S±0°03×167°27E±0°03, h205km±7km, mb4.9/102, Error ellipse: s-maj=5.4km s-min=4.1km az=171.1*
BJI ***13*** *05:14:45.7, 13°98S×167°18E, h222km, mB5.1/30, mb5.0/47*
DJA ***13*** *05:14:46.4±1.6, 15°S±5°×16°7E±1°0, h261km±22km, M5.0/31, mB5.5/6, mb5.1/31, Mw(mB)5.0/6*
ISC 13 05:14:40.5±0.4, 14°60S±0°04×167°22E±0°04, h188km±3km, h188km:pP-P, n574, σ1°48/656, mb5.1/101, 60C-42D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.47**	**186**	*e*Pn	**Pn**	**05 16 27.2**	**+0.3**
	81nm,0.3s						
DZM				*e*Sn	**Sn**	**05 17 45.6**	**-5.6**
	53nm,0.2s						
DZM	**Mont Dzumac**	**7.47**	**186**	*e*Pn	**Pn**	**05 16 26.3**	**-0.6**
DZM				S	**Sn**	**05 17 47.1**	**-4.1**
DZM				*e*Sn	Sn	05 17 52.8	+1.5
DZM	**Mont Dzumac**	**7.47**	**186**	P	**Pn**	**05 16 26.1**	**-0.8**
	6.5nm,0.3s,baz=29,slow=16,SNR=47						
DZM				S	**Sn**	**05 17 47.1**	**-4.1**
	baz=156,slow=20,SNR=2.8						
DZM				LR	LR	05 18 44.5	
	comp=Z,1μm,19.9s,baz=16,slow=33						
HNR	**Honiara**	**8.78**	**305**	P	**Pn**	**05 16 44.7**	**+0.6**
HNR				S	**Sn**	**05 18 23.9**	**+1.5**
HNR	**Honiara**	**8.78**	**305**	P	**Pn**	**05 16 44.7**	**+0.6**
	82nm,0.3s,baz=157,slow=7.7,SNR=9.2						
HNR				S	**Sn**	**05 18 23.9**	**+1.5**
	baz=73,slow=19,SNR=1.5						
MSVF	**Nonsavu**	**10.86**	**108**	Pn	**Pn**	**05 17 12.9**	**+1.7**
	340nm,1.1s,SNR=6.1						
MSVF	**Nonsavu**	**10.86**	**108**	*e*P	**Pn**	**05 17 12.2**	**+1.0**
MSVF	**Nonsavu**	**10.86**	**108**	*e*Pn	**Pn**	**05 17 12.2**	**+1.0**
FUNA	**Funafuti**	**13.19**	**64**	*e*Pn	**P**	**05 17 46.1**	**+1.9**
TARA	**Tarawa**	**16.83**	**20**	*e*P	**Pn**	**05 18 25.5**	**0.0**
	434nm,1.4s						
LHI	**Lord Howe Isla**	**18.42**	**203**	P	**Pn**	**05 18 43.2**	**-0.9**
	baz=18,SNR=3.1						
LHI				S	**S**	**05 22 02.6**	**+0.3**
	baz=18,SNR=3.8						
EIDS	**Eidsvold**	**18.55**	**232**	*e*P	**Pn**	**05 18 46.1**	**+0.4**
	66nm,0.8s						
EIDS	**Eidsvold**	**18.55**	**232**	P	**Pn**	**05 18 46.1**	**+0.4**
	baz=19,SNR=19						
EIDS				S	**Sn**	**05 22 11.0**	**-4.3**
	baz=19,SNR=6.7						
PMG	**Port Moresby**	**20.29**	**282**	*e*P	**P**	**05 19 03.8**	**+1.8**
	64nm,1.0s						
PMG	**Port Moresby**	**20.29**	**282**	P	**P**	**05 19 03.7**	**+1.8**
	67nm,1.0s						
PMG	**Port Moresby**	**20.29**	**282**	P	**P**	**05 19 03.9**	**+1.8**
	32nm,0.9s,baz=178,slow=1.6,SNR=7.9						
AFI	**Afiamalu**	**20.37**	**91**	P	**P**	**05 19 04.9**	**+2.0**
	217nm,1.1s						
AFI	**Afiamalu**	**20.37**	**91**	P	**P**	**05 19 04.9**	**+2.0**
	205nm,1.1s,baz=51,slow=6.3,SNR=7.0						
CTA	**Charters Tower**	**20.74**	**252**	P	**P**	**05 19 08.8**	**+1.9**
CTA	**Charters Tower**	**20.74**	**252**	P	**P**	**05 19 08.8**	**+1.9**
	20nm,0.8s,baz=82,slow=13,SNR=15						
CTAO	**Charters Tower**	**20.74**	**252**	*e*P	**P**	**05 19 08.7**	**+1.9**
CTAO				*e*S	S	05 22 38.0	-10
CTAO				pmax	pmax		
	comp=Z,16nm,0.7s						
CTAO	**Charters Tower**	**20.74**	**252**	*e*P	**P**	**05 19 08.7**	**+1.9**
	comp=Z,16nm,0.7s						
CTAO				*e*S	S	05 22 38.0	-10
RMQ	**Roma**	**20.91**	**233**	P	**P**	**05 19 10.9**	**+2.3**
	baz=21,SNR=97						
RMQ				S	S	05 22 58.8	+7.7
	baz=21,SNR=12						
ARMA	**Armidale**	**21.30**	**220**	*e*P	**P**	**05 19 14.6**	**+1.9**
	comp=Z,66nm,1.0s						
ARMA	**Armidale**	**21.30**	**220**	P	**P**	**05 19 14.6**	**+1.9**
	baz=21,SNR=16						
ARMA				S	S	05 23 05.4	+7.6
	baz=21,SNR=8.2						
MTSU	**Mount Surprise**	**22.25**	**258**	P	**P**	**05 19 23.4**	**+1.1**
	baz=22,SNR=13						
NIUE	**Niue**	**22.31**	**105**	P	**P**	**05 19 22.3**	**-0.5**
	baz=22,SNR=4.4						
PATS	**Pohnpei**	**23.06**	**337**	P	**P**	**05 19 31.9**	**+2.2**
	baz=23,SNR=4.5						
MANU	**Manus Island**	**23.24**	**301**	P	P	05 19 49.8	+18
	baz=23,SNR=3.9						
COEN	**Coen**	**23.31**	**269**	*e*P	**P**	**05 19 33.0**	**+1.0**
	comp=Z,210nm,1.1s						
COEN	**Coen**	**23.31**	**269**	P	**P**	**05 19 34.2**	**+2.2**
	baz=23,SNR=6.4						
MGCD	**Mangrove Creek**	**23.61**	**216**	P	**P**	**05 19 36.5**	**+2.0**
	baz=24,SNR=17						
URZ	**Urewera**	**25.14**	**161**	P	**P**	**05 19 48.8**	**+0.5**
URZ	**Urewera**	**25.14**	**161**	P	**P**	**05 19 48.8**	**+0.5**
	comp=Z,11nm,1.1s,baz=77,slow=1.8,SNR=3.0						
URZ				LR	LR	05 27 04.5	
	comp=Z,232nm,20.2s,baz=164,slow=30						
BKZ	**Black Stump Fm**	**25.80**	**163**	*e*P	**P**	**05 19 53.9**	**-0.4**
	comp=Z,90nm,1.9s						
CMSA	**Cobar Meteorol**	**25.93**	**226**	P	**P**	**05 19 56.9**	**+1.4**
	baz=26,SNR=10						
YNG	**Young**	**25.96**	**218**	P	**P**	**05 19 57.3**	**+1.5**
	baz=26,SNR=6.6						
CNB	**Canberra Magne**	**26.14**	**215**	P	**P**	**05 19 58.8**	**+1.4**
	baz=26,SNR=11						
STKA	**Stephens Creek**	**29.04**	**229**	*e*P	**P**	**05 20 24.0**	**+0.8**
	comp=Z,9.8nm,0.7s						
STKA				PcP	**PcP**	**05 23 27.3**	**+0.5**
STKA	**Stephens Creek**	**29.04**	**229**	P	**P**	**05 20 25.1**	**+1.8**
	comp=Z,32nm,0.5s,baz=46,slow=7.7,SNR=50						
STKA				PcP	**PcP**	**05 23 27.3**	**+0.5**
	comp=Z,21nm,0.9s,baz=24,slow=1.9,SNR=7.2						
STKA	**Stephens Creek**	**29.04**	**229**	P	**P**	**05 20 24.9**	**+1.6**
	baz=29,SNR=7.6						
RPZ	**Rata Peaks**	**29.20**	**174**	*e*P	**P**	**05 20 23.7**	**-0.8**
	comp=Z,130nm,1.7s						
RPZ	**Rata Peaks**	**29.20**	**174**	P	**P**	**05 20 23.7**	**-0.8**
	comp=Z,14nm,0.6s,baz=357,slow=5.1,SNR=9.8						
TOO	**Toolangi**	**29.93**	**216**	P	**P**	**05 20 32.5**	**+1.5**
	baz=30,SNR=8.6						
ODZ	**Otahua Downs**	**30.48**	**175**	*e*P	**P**	**05 20 35.7**	**-0.1**
	comp=Z,60nm,1.4s						
WRAB	**Tennant Creek**	**31.80**	**256**	P	**P**	**05 20 46.4**	**-1.3**
	comp=Z,118nm,0.7s,SNR=19						
WRA	**Warramunga Arr**	**31.81**	**256**	P	**P**	**05 20 47.3**	**-0.5**
WRA				PcP	**PcP**	**05 23 34.5**	**+0.1**
WRA				S	**S**	**05 25 42.7**	**-1.6**
WRA	**Warramunga Arr**	**31.81**	**256**	P	**P**	**05 20 47.3**	**-0.5**
	comp=Z,16nm,0.8s,baz=86,slow=9.3,SNR=83						
WRA				PcP	**PcP**	**05 23 34.5**	**+0.1**
	comp=Z,8.1nm,1.1s,baz=95,slow=2.2,SNR=5.0						
WRA				S	**S**	**05 25 42.7**	**-1.6**
	comp=Z,13nm,1.0s,baz=83,slow=15,SNR=12						
AS31	**Alice Springs**	**32.67**	**249**	*e*P	**P**	**05 20 55.0**	**-0.3**
AS31				*e*PcP	**PcP**	**05 23 37.5**	**+0.8**
ASAR	**Alice Springs**	**32.68**	**249**	P	**P**	**05 20 55.0**	**-0.2**
ASAR				PcP	**PcP**	**05 23 36.9**	**+0.2**
ASAR				S	**S**	**05 25 56.1**	**-1.6**
ASAR				ScP	**ScP**	**05 27 04.8**	**+1.8**
ASAR	**Alice Springs**	**32.68**	**249**	P	**P**	**05 20 55.0**	**-0.2**
	comp=Z,23nm,0.5s,baz=73,slow=9.8,SNR=193						
ASAR				PcP	**PcP**	**05 23 36.9**	**+0.2**
	comp=Z,5.8nm,1.0s,baz=81,slow=3.0,SNR=6.6						
ASAR				S	**S**	**05 25 56.1**	**-1.6**
	comp=Z,3.7nm,0.9s,baz=84,slow=16,SNR=7.3						
ASAR				ScP	**ScP**	**05 27 04.8**	**+1.8**
	comp=Z,5.4nm,1.1s,baz=89,slow=4.2,SNR=8.0						
MOO	**Moorlands**	**32.68**	**208**	P	**P**	**05 20 56.5**	**+1.5**
	baz=33,SNR=4.1						
BBOO	**Buckleboo**	**33.62**	**232**	*e*P	**P**	**05 21 04.5**	**+1.2**
	comp=Z,1μm,0.8s						
BBOO				*e*PcP	**PcP**	**05 23 39.2**	**0.0**
BBOO	**Buckleboo**	**33.62**	**232**	P	**P**	**05 21 04.6**	**+1.3**
	baz=34,SNR=29						
TLE	**Tual**	**35.05**	**281**	P	**P**	**05 21 16.5**	**+0.7**
	comp=Z,99nm,1.2s						
MTN	**Manton Dam**	**35.08**	**268**	P	**P**	**05 21 17.4**	**+1.4**
	baz=35,SNR=3.4						
FAKI	**Fak Fak**	**36.40**	**285**	P	**P**	**05 21 27.5**	**+0.2**
	comp=Z,98nm,1.1s,comp=Z,1μm						
KNRA	**Kununurra**	**37.11**	**263**	P	**P**	**05 21 33.4**	**+0.2**
	baz=37,SNR=21						
KNRA				S	**S**	**05 27 03.7**	**-1.9**
	baz=37,SNR=8.2						
SWI	**Sorong**	**38.07**	**288**	P	**P**	**05 21 42.3**	**+1.0**
	comp=Z,194nm,1.0s,comp=Z,2μm						
SWI	**Sorong**	**38.07**	**288**	P	**P**	**05 21 43.0**	**+1.6**
	baz=38,SNR=8.3						
BNDI	**Bandanaira**	**38.08**	**281**	P	**P**	**05 21 41.5**	**+0.1**
	comp=Z,318nm,1.4s						
FORT	**Forrest**	**39.32**	**239**	*e*P	**P**	**05 21 52.3**	**+0.7**
	comp=Z,120nm,0.9s						
FORT	**Forrest**	**39.32**	**239**	P	**P**	**05 21 52.4**	**+0.7**
	baz=39,SNR=15						
FITZ	**Fitzroy Crossi**	**39.99**	**259**	*e*P	**P**	**05 21 57.8**	**+0.5**
	comp=Z,32nm,0.8s						
FITZ				*e*PcP	**PcP**	**05 23 59.2**	**+0.5**
FITZ	**Fitzroy Crossi**	**39.99**	**259**	LR	LR	05 38 08.4	
	comp=Z,257nm,20.2s,baz=262,slow=35						
FITZ	**Fitzroy Crossi**	**39.99**	**259**	P	**P**	**05 21 57.7**	**+0.4**
	baz=40,SNR=47						
FITZ				S	**S**	**05 27 48.6**	**-0.3**
	baz=40,SNR=4.3						
NLAI	**Namlea**	**41.13**	**282**	P	**P**	**05 22 09.0**	**+2.4**
PPT2	**Papeete2**	**41.55**	**100**	*e*S	S	05 28 04.9	-7.1
	comp=Z,145nm,29.5s						
PPT2				*e*LQ	LQ	05 32 09.2	
	comp=Z,2μm,27.5s						
PPT2				*e*LR	LR	05 33 56.8	
	comp=Z,312nm,31.7s						
PPT	**Papeete**	**41.55**	**100**	P	**P**	**05 22 10.1**	**+0.1**
PPT	**Papeete**	**41.55**	**100**	P	**P**	**05 22 10.1**	**+0.1**
	comp=Z,13nm,0.5s,baz=57,slow=11,SNR=6.1						
TBI	**Tubuai**	**41.75**	**109**	*e*S	**S**	**05 28 12.5**	**-2.1**
	comp=Z,139nm,27.8s						
TBI				*e*LQ	LQ	05 32 14.5	
	comp=Z,1μm,27.5s						
TBI				*e*LR	LR	05 34 03.1	
	comp=Z,328nm,35.2s						
SOEI	**Soe**	**42.22**	**272**	P	**P**	**05 22 17.5**	**+1.9**
	comp=Z,94nm,1.2s						
SOEI	**Soe**	**42.22**	**272**	P	**P**	**05 22 17.7**	**+2.1**
	baz=42,SNR=4.8						
MMRI	**Maumere**	**44.40**	**273**	*e*P	**P**	**05 22 33.7**	**+0.7**
	comp=Z,183nm,1.1s						
MMRI	**Maumere**	**44.40**	**273**	P	**P**	**05 22 34.0**	**+1.1**
	comp=Z,160nm,1.0s,comp=Z,2μm						
KMSI	**Cibinong**	**45.36**	**286**	P	**P**	**05 22 41.3**	**+0.8**
	comp=Z,202nm,1.1s,comp=Z,5μm						
LBFI	**Labuhan Bajo,**	**46.71**	**272**	P	**P**	**05 22 51.6**	**+0.6**
	comp=Z,232nm,1.2s						
MEEK	**Meekatharra**	**46.79**	**247**	P	**P**	**05 22 52.2**	**+0.6**
	baz=47,SNR=17						
APSI	**Ampana**	**47.04**	**283**	P	**P**	**05 22 53.9**	**+0.3**
	comp=Z,94nm,1.3s,comp=Z,1μm						
BKSI	**Bulukumba**	**47.21**	**276**	P	**P**	**05 22 55.8**	**+0.9**
	comp=Z,37nm,0.9s						
BNSI	**Bone**	**47.47**	**278**	P	**P**	**05 22 58.5**	**+1.6**
	comp=Z,100nm,1.3s						
KAPI	**Kappang**	**47.65**	**277**	P	**P**	**05 22 58.2**	**-0.1**
	comp=Z,476nm,0.9s,SNR=5.6						
KAPI	**Kappang**	**47.65**	**277**	*e*P	**P**	**05 22 58.9**	**+0.6**
	comp=Z,88nm,1.0s						
KAPI	**Kappang**	**47.65**	**277**	P	**P**	**05 22 58.9**	**+0.6**
	comp=Z,95nm,1.1s						
SPSI	**Sidrap Palu**	**47.91**	**278**	P	**P**	**05 23 00.3**	**0.0**
	comp=Z,44nm,1.2s						
KLBR	**Kellerberrin**	**48.13**	**241**	P	**P**	**05 23 01.7**	**-0.1**
	baz=48,SNR=5.6						
BLDU	**Ballidu**	**48.88**	**242**	P	**P**	**05 23 07.3**	**-0.2**
	baz=49,SNR=7.0						
MORW	**Morawa**	**49.28**	**244**	P	**P**	**05 23 10.9**	**+0.3**
	baz=49,SNR=14						
MYLDM	**Lahad Datu**	**52.15**	**289**	P	P	05 23 35.8	+3.7
TSM	**Tawau**	**52.39**	**287**	P	**P**	**05 23 34.8**	**+0.8**
SDKM	**Sandakan**	**53.52**	**288**	P	**P**	**05 23 42.8**	**+0.4**
KDM	**Kudat**	**54.35**	**290**	P	**P**	**05 23 49.6**	**+1.4**
KKM	**Kota Kinabalu**	**54.58**	**288**	*e*P	**P**	**05 23 51.0**	**+1.0**
	comp=Z,179nm,1.4s						
KKM				*e*pP	**pP**	**05 24 34.4**	**+2.0**
KKM	**Kota Kinabalu**	**54.58**	**288**	P	**P**	**05 23 52.2**	**+2.2**
KKM	**Kota Kinabalu**	**54.58**	**288**	P	**P**	**05 23 51.4**	**+1.4**
	baz=55,SNR=28						
DRV	**Dumont d'Urvil**	**55.06**	**193**	P	P	05 23 47.0	-5.4
DRV				S	**S**	**05 31 23.0**	**+3.2**
JOW	**Kunigami**	**55.92**	**317**	*e*P	**P**	**05 23 59.8**	**+0.6**
	comp=Z,23nm,1.0s						
JOW				*e*pP	**pP**	**05 24 40.4**	**-1.5**
JOW				*e*PP	**PP**	**05 26 02.4**	**-3.9**
BTM	**Bintulu**	**56.47**	**284**	P	**P**	**05 24 05.4**	**+2.0**
SBUM	**Sibu**	**57.04**	**283**	P	**P**	**05 24 10.2**	**+2.8**
MAJO	**Matsushiro**	**57.77**	**332**	*e*P	**P**	**05 24 11.8**	**-0.3**
MAJO				pmax	pmax		
	comp=Z,27nm,1.0s						
MAJO	**Matsushiro**	**57.77**	**332**	*e*P	**P**	**05 24 11.8**	**-0.3**
	comp=Z,27nm,1.0s						
MAT	**Matsushiro**	**57.77**	**332**	P	**P**	**05 24 11.7**	**-0.4**
MAT				*e*S	**S**	**05 31 52.4**	**-4.0**
KSM	**Kuching**	**58.54**	**281**	*e*P	**P**	**05 24 18.7**	**+0.8**
	comp=Z,92nm,1.3s						
KSM	**Kuching**	**58.54**	**281**	P	**P**	**05 24 19.7**	**+1.8**
KSM	**Kuching**	**58.54**	**281**	P	**P**	**05 24 19.4**	**+1.5**
	baz=59,SNR=13						
JNU	**Nakatsue**	**58.79**	**324**	*e*P	**P**	**05 24 19.5**	**+0.2**
	comp=Z,36nm,1.4s						
YHNB	**Yeheng**	**59.37**	**311**	*e*P	**P**	**05 24 23.5**	**+0.1**
	comp=Z,115nm,1.2s						
YHNB				*e*PcP	**pP**	**05 25 06.7**	**+0.1**
ASAJ	**Asahikawa**	**62.61**	**340**	*e*P	**P**	**05 24 45.8**	**+1.1**
	comp=Z,29nm,1.0s						
ASAJ	**Asahikawa**	**62.61**	**340**	LR	LR	05 49 43.5	
	comp=Z,64nm,18.5s,baz=143,slow=34						
VNDA	**Vanda**	**62.99**	**181**	*e*P	**P**	**05 24 46.9**	**+0.1**
	comp=Z,61nm,1.3s						
VNDA	**Vanda**	**62.99**	**181**	P	**P**	**05 24 46.9**	**+0.1**
	comp=Z,12nm,0.7s,baz=357,slow=7.3,SNR=31						
SBA	**Scott Base**	**63.26**	**180**	*e*P	**P**	**05 24 49.6**	**+1.0**
SBA				pmax	pmax		
	comp=Z,107nm,1.3s						
SBA	**Scott Base**	**63.26**	**180**	*e*P	**P**	**05 24 49.6**	**+1.0**
	comp=Z,107nm,1.3s						
KSRS	**Korea Array**	**63.61**	**326**	P	**P**	**05 24 51.7**	**+0.3**
	comp=Z,6.1nm,0.9s,baz=139,slow=7.4,SNR=28						
KSAR	**Wonju Array Be**	**63.62**	**326**	P	**P**	**05 24 51.7**	**+0.2**
CASY	**Casey**	**63.63**	**202**	*e*P	**P**	**05 24 51.4**	**+0.2**
	comp=Z,64nm,1.2s						
CASY				*e*PcP	**PcP**	**05 25 25.6**	**-0.2**
MYKOM	**Kota Tinggi**	**64.79**	**279**	P	**P**	**05 25 02.0**	**+2.4**
YSS	**Yuzh-Sakhalins**	**65.09**	**342**	⇑*i*P	**P**	**05 25 02.8**	**+1.9**
YSS				*e*S	**S**	**05 33 28.0**	**-0.1**
YSS				pmax	pmax		
	comp=Z,90nm,1.0s						
KGM	**Kluang**	**65.36**	**279**	P	**P**	**05 25 05.7**	**+2.3**
NJ2	**Nanjing**	**65.55**	**316**	*e*P	**P**	**05 25 05.3**	**+1.1**
NJ2				pmax	pmax		
	comp=Z,30nm,0.9s						
QIZ	**Qiongzhong**	**65.64**	**299**	P	**P**	**05 25 06.4**	**+1.4**
QIZ				S	**S**	**05 33 33.8**	**-2.0**
QIZ				pmax	pmax		
	comp=Z,25nm,1.3s						
KTGM	**Kuala Trenggan**	**66.54**	**282**	P	**P**	**05 25 13.2**	**+2.4**
USRK	**Ussuriysk Arra**	**66.75**	**333**	P	**P**	**05 25 12.3**	**+0.8**
	comp=Z,33nm,1.1s,baz=134,slow=5.5,SNR=41						
USRK				pP	**pP**	**05 25 51.2**	**-4.5**
	comp=Z,4.5nm,0.9s,baz=147,slow=4.5,SNR=2.1						
FRIM	**Kepong**	**67.34**	**280**	P	**P**	**05 25 16.5**	**+0.6**
FX1	**Attu Island--F**	**67.40**	**4**	*e*P	**P**	**05 25 16.6**	**+1.2**
WHN	**Wuhan**	**67.82**	**312**	⇓P	**P**	**05 25 19.5**	**+0.9**
UBPT	**Khong Chiam**	**67.88**	**293**	P	**P**	**05 25 21.1**	**+1.9**
	comp=Z,37nm,1.1s						
PEA0B	**Petropavlovsk-**	**67.93**	**354**	*e*P	**P**	**05 25 19.0**	**+0.3**
PETK	**Petropavlovsk-**	**67.93**	**354**	P	**P**	**05 25 19.2**	**+0.5**
PETK	**Petropavlovsk-**	**67.93**	**354**	P	**P**	**05 25 19.2**	**+0.5**
PETK	**Petropavlovsk-**	**67.93**	**354**	P	**P**	**05 25 19.2**	**+0.5**
	comp=Z,30nm,0.9s,baz=154,slow=8.2,SNR=33						
MDJ	**Mudanjiang**	**68.15**	**332**	P	**P**	**05 25 21.3**	**+1.0**
MDJ				pP	pP	05 26 14.6	+10
MDJ				sP	sP	05 26 39.0	+14
MDJ				PP	**PP**	**05 27 53.5**	**+0.1**
MDJ				S	**S**	**05 34 01.9**	**-3.1**
MDJ				SS	**SS**	**05 38 29.3**	**-2.7**
MDJ				pmax	pmax		
	comp=Z,40nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,96nm,7.9s						
IPM	**Ipoh**	**68.28**	**281**	*e*P	**P**	**05 25 22.6**	**+0.8**
	comp=Z,73nm,1.1s						
IPM	**Ipoh**	**68.28**	**281**	P	**P**	**05 25 23.6**	**+1.8**
KULM	**Kulim**	**68.88**	**282**	*e*P	**P**	**05 25 26.2**	**+0.7**
	comp=Z,91nm,1.5s						
KULM	**Kulim**	**68.88**	**282**	P	**P**	**05 25 27.5**	**+2.0**
SKLT	**Songkhla**	**69.49**	**284**	P	**P**	**05 25 31.8**	**+2.6**
	comp=Z,27nm,1.3s						
CN2	**Changchun**	**69.51**	**329**	*e*P	**P**	**05 25 29.3**	**+0.6**
CN2				*e*pP	pP	05 26 21.9	+8.7
CN2				pmax	pmax		
	comp=Z,30nm,1.3s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
PSI	**Prapat**	**69.79**	**279**	P	**P**	**05 25 30.9**	**-0.4**
PSI	**Prapat**	**69.79**	**279**	P	**P**	**05 25 30.9**	**-0.4**
	comp=Z,39nm,0.9s,baz=121,slow=3.7,SNR=28						
PSI	**Prapat**	**69.79**	**279**	P	**P**	**05 25 31.2**	**-0.1**
	baz=70,SNR=19						
SKNT	**Sakolnakorn**	**69.85**	**294**	P	**P**	**05 25 32.3**	**+0.9**
	comp=Z,74nm,1.0s						
MIR	**Mirnyy**	**70.43**	**204**	⇑*i*P	**P**	**05 25 36.0**	**+2.0**
MIR				pmax	pmax		
	comp=Z,66nm,1.2s						
KLR	**Kul'dur**	**70.87**	**336**	*e*P	P	05 25 33.3	-3.6
KLR				*e*		05 26 13.2	
KLR				pmax	pmax		
	comp=E,40nm,1.6s						
KLR				pmax	pmax		
	comp=Z,90nm,1.6s						
GYA	**Guiyang**	**71.61**	**305**	⇑*i*P	**P**	**05 25 42.8**	**+0.9**
GYA				pP	pP	05 26 35.3	+8.6
GYA				sP	sP	05 27 03.9	+17
GYA				PP	**PP**	**05 28 26.4**	**+2.7**
GYA				S	**S**	**05 34 45.8**	**-0.4**
GYA				SKS	SKSac	05 35 16.0	-12
GYA				ScS	**SKKSac**	**05 35 22.5**	**-5.5**
GYA				sS	sS	05 36 12.9	+8.8
GYA				SS	**SS**	**05 39 23.3**	**-2.7**
GYA				pmax	pmax		
	comp=Z,40nm,0.9s						
GYA				pmax	pmax		
	comp=Z,160nm,5.7s						
BJI	**Beijing**	**72.14**	**321**	P	**P**	**05 25 45.5**	**+0.9**
BJI				PcP	**PcP**	**05 25 59.6**	**-2.2**
BJI				S	**S**	**05 34 51.9**	**+0.4**
BJI				pmax	pmax		
	comp=Z,28nm,1.0s						
BJI				pmax	pmax		
	comp=Z,190nm,4.6s						
PBKT	**Sadao Pong**	**72.37**	**293**	P	**P**	**05 25 48.1**	**+1.6**
	comp=Z,42nm,1.0s,comp=Z,2μm						
XAN	**Xi'an**	**73.57**	**313**	P	**P**	**05 25 54.1**	**+0.8**
XAN				pP	pP	05 26 46.0	+7.7
XAN				sP	sP	05 27 10.3	+12
XAN				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KMI	**Kunming**	**74.20**	**302**	P	**P**	**05 25 59.3**	**+1.9**
KMI				S	**S**	**05 35 14.3**	**-1.5**
KMI				SS	**SS**	**05 40 01.8**	**-4.0**
KMI				pmax	pmax		
	comp=Z,51nm,1.2s						
KMI				pmax	pmax		
	comp=Z,160nm,4.2s						
KMI				LR	LR		
	comp=N,130nm,17.5s						
KMI				LR	LR		
	comp=E,220nm,14.5s						
KMI				LR	LR		
	comp=Z,150nm,18.1s						
LAMP	**Lampang**	**74.27**	**294**	P	**P**	**05 25 59.3**	**+1.7**
	comp=Z,27nm,0.9s,comp=Z,218nm						
CM31	**Chiang Mai

comp=Z,119nm,21.2s,baz=43,slow=31
CLNS Chul'man 79.39 338 eP P 05 26 26.1 +0.6
CLNS pmax pmax
comp=E,5.0nm,1.1s
CLNS pmax pmax
comp=N,15nm,1.0s
CLNS pmax pmax
comp=Z,25nm,1.1s
RSO Redoubt South 81.39 19 eP P 05 26 35.1 -1.1
comp=Z,14nm,0.7s
YAK Yakutsk 81.90 343 eP P 05 26 38.7 +0.2
YAK e*PP pP 05 27 26.9 +2.5
YAK e 05 29 45.3
YAK eS S 05 36 34.1 -1.9
YAK e*SS ScS 05 37 20.4 +29
YAK pmax pmax
comp=Z,127nm,1.0s
YAK pmax pmax
comp=E,21nm,1.3s
YAK pmax pmax
comp=N,44nm,1.3s
YAK pmax pmax
comp=Z,5.0nm,0.5s
YAK pmax pmax
comp=N,4.0nm,0.9s
YAK pmax pmax
comp=E,3.0nm,0.6s
YAK smax smax
comp=E,41nm,2.0s
YAK smax smax
comp=N,139nm,3.0s
MAW Mawson 81.98 202 P P 05 26 39.6 +0.5
MAW Mawson 81.98 202 P P 05 26 39.6 +0.5
comp=N,31nm,0.9s,baz=107,slow=7.0,SNR=38
MAW LR LR 05 59 25.7
comp=N,183nm,20.9s,baz=203,slow=33
MAW Mawson 81.98 202 P P 05 26 39.8 +0.7
baz=82,SNR=25
ULN Ulaanbaatar 82.01 324 eP P 05 26 40.6 +0.9
comp=N,51nm,1.2s
ULN e 05 27 22.3
SONM Songino Array 82.37 324 P P 05 26 42.0 +0.5
SONM pP pP 05 27 23.1 -4.4
SONM Songino Array 82.37 324 P P 05 26 42.0 +0.5
comp=N,25nm,1.2s,baz=137,slow=5.4,SNR=69
SONM pP pP 05 27 23.1 -4.4
comp=N,3.1nm,0.8s,baz=141,slow=5.8,SNR=2.3
GTA Gaotai 82.55 314 eP P 05 26 43.3 +0.6
GTA pP pP 05 27 37.8 +9.2
GTA sP sP 05 28 00.8 +12
GTA S S 05 36 42.4 -1.6
GTA ScS SKKSac 05 36 48.3 -2.0
GTA sS sS 05 38 15.0 +11
GTA pmax pmax
comp=Z,42nm,1.3s
GTA pmax pmax
comp=Z,300nm,7.4s
GTA LR LR
comp=N,530nm,21.4s
GTA LR LR
comp=E,710nm,22.3s
GTA LR LR
comp=Z,150nm,19.0s
PMR Palmer 83.40 19 eP P 05 26 45.2 -1.1
PMR e 05 29 58.5
PMR pmax pmax
comp=Z,30nm,1.2s
PMR Palmer 83.40 19 eP P 05 26 45.2 -1.1
comp=Z,30nm,1.2s
PMR epP pP 05 27 39.3 +7.0
PMR ePP PP 05 29 58.5 -2.8
SHL Shillong 83.47 298 *i* P **P 05 26 48.8 +1.0**
BPAW Bear Paw Mtn. 84.72 17 eP P 05 26 51.5 -1.5
comp=Z,23nm,1.5s
BPAW epP pP 05 27 43.5 +4.3
PKM Peak Mountain 84.81 52 ⇑P P 05 26 54.4 0.0
baz=85
MCK McKinley 85.05 18 eP P 05 26 53.6 -1.0
MCK pmax pmax
comp=Z,35nm,1.2s
MCK McKinley 85.05 18 eP P 05 26 53.6 -1.0
comp=Z,35nm,1.2s
SCI San Clemente I 85.10 54 ⇓P P 05 26 55.2 -0.4
baz=85
YBH Yreka Blue Hor 85.36 45 P P 05 26 56.6 -0.2
YBH Yreka Blue Hor 85.36 45 P P 05 26 56.6 -0.2
comp=Z,7.3nm,1.1s,baz=183,slow=3.2,SNR=14
ZAK Zakamensk 85.42 325 *i*/P **P 05 26 56.5 -0.4**
ZAK pmax pmax
comp=Z,32nm,1.2s
IM04 Indian Mountai 85.44 15 eP P 05 26 55.7 -0.9
IM04 epP pP 05 27 48.9 +6.1
LSA Lhasa 85.45 302 P P 05 26 59.1 +1.1
IMA2 Indian Mountai 85.54 15 eP P 05 26 57.3 +0.1
CMB Columbia Colle 85.55 49 eP P 05 26 57.1 -0.7
CMB pmax pmax
comp=Z,8.0nm,1.0s
CMB Columbia Colle 85.55 49 eP P 05 26 57.1 -0.7
comp=Z,7.7nm,1.0s
ARVC Arvin 85.64 52 ⇑P P 05 26 58.0 -0.2
baz=86
VES Vestal, Richgr 85.71 51 ⇓P P 05 26 58.3 -0.2
baz=86
IRK Irkutsk 85.81 327 eP P 05 26 57.9 -0.7
IRK e 05 27 38.7
IRK e 05 28 07.8
IRK pmax pmax
comp=Z,45nm,1.8s
TLY Talaya 85.86 326 *c i*P **P 05 26 59.0 +0.1**
TLY e 05 27 40.5
TLY pmax pmax
comp=Z,35nm,1.0s
TLY Talaya 85.86 326 P P 05 26 59.7 +0.8
comp=Z,155nm,0.9s,SNR=6.3
ISA Isabella 86.11 52 ⇓P P 05 27 00.5 -0.1
baz=86,SNR=7.6
EDW2 Edwards Air Fo 86.20 53 ⇑P P 05 27 00.8 -0.3
baz=86,SNR=6.4
COLA College 86.21 18 eP P 05 26 58.8 -1.5
COLA pmax pmax
comp=Z,40nm,1.0s
COLA College 86.21 18 eP P 05 26 58.8 -1.5
comp=Z,40nm,1.0s
BFSC Mount Baldy Ra 86.23 53 ⇓P P 05 27 01.0 -0.3
baz=86
MURC Murrieta 86.37 54 ⇓P P 05 27 01.7 -0.2
baz=86
ILAR Eielson Array 86.42 18 P P 05 26 59.4 -2.0
ILAR PKKP **PKKPdf 05 44 56.6 +2.9**
ILAR Eielson Array 86.42 18 P P 05 26 59.4 -2.0
comp=Z,7.4nm,0.8s,baz=235,slow=5.5,SNR=80
ILAR PKKP **PKKPdf 05 44 56.6 +2.9**
comp=Z,0.5nm,0.8s,baz=349,slow=1.4,SNR=5.3
ILAR LR LR 06 01 06.7
comp=Z,85nm,19.2s,baz=211,slow=32
WAKR Walker 86.42 49 eP P 05 27 01.2 -1.0
comp=Z,13nm,1.2s
LRMC Laurel Mountai 86.64 52 ⇑P P 05 27 03.2 -0.1
baz=87
MONP Monument Peak 86.75 55 ⇑P P 05 27 03.3 -0.7
baz=87
PFO Pinyon Flat Ob 86.96 54 P P 05 27 04.0 -0.8
PFO Pinyon Flat Ob 86.96 54 P P 05 27 04.0 -0.8
comp=Z,4.8nm,1.0s,baz=240,slow=9.8,SNR=4.4
PFO Pinyon Flat Ob 86.96 54 ⇓P P 05 27 04.3 -0.6
baz=87
MPMC Manual Prospec 87.00 52 ⇑P P 05 27 04.6 -0.5
baz=87,SNR=6.6
GSC Goldstone 87.26 53 ⇓P P 05 27 05.3 -0.9
baz=87
SWSC Sam W. Stewart 87.26 55 ⇑P P 05 27 05.9 -0.2
baz=87
COLD Coldfoot 87.32 15 eP P 05 27 05.5 -0.1
comp=Z,3.6nm,0.9s
GRAC Grapevine Rang 87.41 51 ⇓P P 05 27 06.6 -0.2
baz=88
BELC Belle Mtn. Jos 87.45 54 ⇓P P 05 27 07.3 +0.1
baz=88,SNR=10
HEC Hector,Ludlow 87.47 53 ⇑P P 05 27 06.8 -0.4
baz=88
TAPN Taplejung 87.58 299 eP P 05 27 08.8 +0.6
FURC Furnace Creek, 87.61 51 ⇑P P 05 27 07.8 +0.1
baz=88,SNR=6.9
ODAN Odare 87.70 298 eP P 05 27 09.2 +0.5
comp=Z,156nm,1.1s
BC3 Big Chuckawall 87.76 55 ⇑P P 05 27 08.7 0.0
baz=88
SHOC Shoshone 87.86 52 ⇓P P 05 27 09.0 +0.1
baz=88
GMRC Granite Mounta 87.97 53 ⇓P P 05 27 09.4 -0.3
baz=88,SNR=6.3
TUQ Turquoise Moun 87.98 53 ⇑P P 05 27 09.3 -0.4
baz=88
GLA Glamis 88.07 55 ⇑P P 05 27 10.0 0.0
baz=88
IRM Iron Mountain 88.17 54 ⇓P P 05 27 10.5 +0.1
baz=88,SNR=14
EGAK Eagle 88.21 20 eP P 05 27 08.1 -1.8
comp=Z,4.5nm,1.0s
RAMN Ramite 88.40 298 eP P 05 27 12.4 +0.4
Y12C Blythe 88.53 55 ⇓P P 05 27 12.4 +0.3
baz=89,SNR=5.9
BMN Battle Mountai 88.71 48 eP P 05 27 12.6 -0.4
BMN pmax pmax
comp=Z,10.0nm,1.1s
BMN Battle Mountai 88.71 48 eP P 05 27 12.6 -0.4
comp=Z,10nm,1.1s
SYO Syowa Base 88.81 197 ⇓*e*P **P 05 27 11.0 -1.8**
SYO Syowa Base 88.81 197 ⇓*i*PcP **P 05 27 12.2 -0.6**
113A Mohawk Valley, 88.82 56 ⇑P P 05 27 13.4 -0.1
baz=89
SHPR Sheep Range 88.92 52 eP P 05 27 13.8 -0.3
comp=Z,17nm,1.2s
SHPR epP **pP 05 27 56.8 -3.9**
JIRN Jiri 88.96 299 eP P 05 27 15.2 +0.4
PDMCI Parker Dam,Lak 89.00 54 ⇓P P 05 27 14.4 +0.1
baz=89,SNR=5.0
R11A Troy Canyon, C 89.20 50 ⇓P P 05 27 15.2 -0.3
baz=89
GUN Gumba 89.30 299 eP P 05 27 16.8 +0.5
comp=Z,92nm,1.1s
214A Organ Pipe Nat 89.34 57 ⇓P P 05 27 16.1 0.0
baz=89
W13A Hualapai Mount 89.45 54 ⇑P P 05 27 17.0 +0.2
baz=90,SNR=8.6
PKI Pulchoki 89.60 299 eP P 05 27 17.9 +0.2
PKIN Phulchoki 89.61 299 eP P 05 27 18.7 +1.0
Z14A Wintersburg 89.66 55 ⇓P P 05 27 17.6 +0.1
baz=90
KKN Kakani 89.77 299 eP P 05 27 18.5 +0.2
comp=Z,72nm,1.1s
Y14A Wickenburg 89.79 55 ⇓P P 05 27 18.1 0.0
baz=90
TIXI Tiksi 89.84 349 ⇓*i*P **P 05 27 17.2 -0.1**
TIXI pmax pmax
comp=Z,25nm,1.2s
DMN Daman 89.87 298 eP P 05 27 19.3 +0.4
comp=Z,171nm,1.1s
BMO Blue Mountains 90.19 44 eP P 05 27 18.9 -0.9
BMO pmax pmax
comp=Z,10.0nm,1.1s
BMO Blue Mountains 90.19 44 eP P 05 27 18.9 -0.9
comp=Z,10nm,1.1s
MFID Camas Ranch 90.70 45 ⇑P P 05 27 22.2 0.0
baz=91
TUC Tucson 91.09 57 eP P 05 27 24.7 +0.5
TUC e*PP **pP 05 28 07.8 -3.1**
TUC pmax pmax
comp=Z,11nm,1.3s
TUC Tucson 91.09 57 eP P 05 27 24.6 +0.5
comp=Z,11nm,1.3s
TUC epP **pP 05 28 07.8 -3.1**
U15A North Rim 91.09 53 ⇓P P 05 27 24.5 +0.1
baz=91
X16A Lo Mia Camp, P 91.17 55 ⇑P P 05 27 25.0 +0.4
baz=91,SNR=8.1
KOLN Koldanda 91.19 298 eP P 05 27 24.4 -0.6
DANN Dangsing 91.22 299 eP P 05 27 24.7 -0.4
NEW Newport 91.50 40 ⇑P P 05 27 25.2 -0.5
baz=92
WUAZ Wupatki 91.54 54 ⇓P P 05 27 25.8 -0.5
baz=92
HLID Hailey 91.72 45 ⇑P P 05 27 27.1 +0.1
baz=92
PYUN Piuthan 91.80 298 eP P 05 27 28.3 +0.5
DUG Dugway 91.82 49 ⇑P P 05 27 27.4 -0.1
baz=92
319A Douglas 92.06 58 ⇑P P 05 27 28.7 -0.1
baz=92
X18A Snowflake 92.38 55 ⇑P P 05 27 30.1 -0.2
baz=92
WMQ Urumqi 92.61 315 P P 05 27 32.8 +1.9
WMQ pP pP 05 28 27.8 +10
WMQ sP sP 05 28 50.9 +14
WMQ pmax pmax
comp=Z,31nm,1.2s
WMQ pmax pmax
comp=Z,130nm,4.0s
Q16A Castle Valley 92.66 51 ⇑P P 05 27 31.2 -0.3
baz=93
320A Kipp Ranch, An 92.67 58 ⇓P P 05 27 31.7 +0.1
baz=93
W18A Petrified Fore 92.71 55 ⇓P P 05 27 31.5 -0.3
baz=93
120A U Bar Ranch, L 92.91 57 ⇓P P 05 27 32.3 -0.4
baz=93
HYB Hyderabad 93.04 287 *i* P **P 05 27 32.5 -1.0**
MAIT Maitri 93.18 188 eP P 05 27 30.1 -2.9
Y20A Horse Springs, 93.47 56 ⇑P P 05 27 35.4 0.0
baz=94
X20A Quemado 93.54 55 ⇑P P 05 27 35.8 +0.2
baz=94
121A Cookes Peak, D 93.59 57 ⇓P P 05 27 35.8 -0.1
baz=94
SNAA Sanae 93.67 183 eP P 05 27 34.2 -1.2
SNAA Sanae 93.67 183 eP P 05 27 34.1 -1.3
comp=Z,40nm,1.3s
W20A Ramah 93.69 55 ⇓P P 05 27 36.3 0.0
baz=94
Z21A St. Cloud Mine 93.89 57 ⇑P P 05 27 37.4 +0.1
baz=94
X21A Alamocita Cree 94.08 56 ⇓P P 05 27 38.3 +0.1
baz=94
P19A Cripple Cowboy 94.49 50 ⇓P P 05 27 39.3 -0.7
baz=94
VNA2 Neumayer--Watz 94.61 182 eP P 05 27 38.8 -0.8
Y22A Socorro 94.61 56 ⇓P P 05 27 40.1 -0.4
baz=95
U21A Nageezi 94.69 54 ⇓P P 05 27 40.8 -0.1
baz=95
S21A Coal Bank Pass 94.89 53 ⇑P P 05 27 40.6 -1.3
baz=95
PDAR Pinedale Array 94.89 47 P P 05 27 40.1 -1.6
PDAR PKKPbc **PKKPdf 05 44 37.1 -1.2**
PDAR Pinedale Array 94.89 47 P P 05 27 40.1 -1.6
comp=Z,0.3nm,0.7s,baz=237,slow=3.1,SNR=2.8
PDAR PKKPbc **PKKPdf 05 44 37.1 -1.2**
comp=Z,1.2nm,0.9s,baz=96,slow=6.6,SNR=8.6
PDAR LR LR 06 04 46.8
comp=Z,71nm,18.9s,baz=128,slow=32
VNA1 Neumayer--Stat 94.91 182 eP P 05 27 40.3 -0.6
324A Moseley Ranch, 95.22 59 ⇑P P 05 27 42.2 -1.1
baz=95
ANMO Albuquerque 95.27 55 P P 05 27 43.3 -0.2
ANMO Albuquerque 95.27 55 P P 05 27 43.3 -0.2
comp=Z,1.1nm,0.8s,baz=212,slow=4.3,SNR=4.0
S22A 4UR Ranch, Cre 95.65 53 ⇓P P 05 27 45.1 -0.3
baz=96
Q22A Crested Butte, 95.86 52 ⇓P P 05 27 45.3 -0.9
baz=96
TXAR Lajitas Array 96.26 61 P P 05 27 47.3 -0.7
TXAR PKKP **PKKPbc 05 44 34.5 +0.5**
TXAR Lajitas Array 96.26 61 P P 05 27 47.3 -0.7
comp=Z,1.1nm,1.1s,baz=202,slow=5.2,SNR=5.2
TXAR PKKP **PKKPbc 05 44 34.5 +0.5**
comp=Z,0.7nm,0.9s,baz=109,slow=5.2,SNR=6.9
O22A Kremmling 96.44 50 ⇓P P 05 27 48.3 -0.6
baz=96
MK31 Makanchi Array 97.08 316 *e*P Pdif 05 27 51.6 +0.3
MK31 Makanchi Array 97.08 316 *e*P Pdif 05 27 51.6 +0.3
MKAR Makanchi Array 97.08 316 P Pdif 05 27 51.5 +0.2
MKAR *PP pP 05 28 33.2 -4.9
MKAR S **SKSac 05 38 06.8 -3.6**
MKAR Makanchi Array 97.08 316 P Pdif 05 27 51.5 +0.2
MKAR pP pP 05 28 33.1 -4.9
MKAR S **SKSac 05 38 06.8 -3.6**
MKAR Makanchi Array 97.08 316 P Pdif 05 27 51.5 +0.2
comp=Z,16nm,0.8s,baz=98,slow=6.1,SNR=109
MKAR pP pP 05 28 33.1 -4.9
comp=Z,2.8nm,0.8s,baz=98,slow=4.8,SNR=3.0
MKAR S **SKSac 05 38 06.8 -3.6**
comp=Z,0.9nm,1.0s,baz=98,slow=10,SNR=4.8
ZAA0 Zalesovo Array 97.26 324 *e*P **P 05 27 51.2 -0.6**
ZALV Zalesovo Beam 97.26 324 P P 05 27 51.1 -0.7
ZALV *PP pP 05 28 33.4 -5.2
ZALV Zalesovo Beam 97.26 324 P P 05 27 51.1 -0.7
ZALV pP pP 05 28 33.4 -5.2
ZALV Zalesovo Beam 97.26 324 P P 05 27 51.1 -0.7
comp=Z,22nm,1.0s,baz=108,slow=4.8,SNR=46
ZALV pP pP 05 28 33.4 -5.2
comp=Z,3.6nm,0.9s,baz=111,slow=3.3,SNR=2.2
YKA Yellowknife Ar 97.45 27 P P 05 27 51.1 -1.4
YKA Yellowknife Ar 97.45 27 P P 05 27 51.1 -1.4
comp=Z,1.4nm,0.8s,baz=259,slow=5.0,SNR=8.7
Y27A Causey 97.68 57 ⇑P P 05 27 53.7 -0.7
baz=98
429A Davenport Ranc 98.04 61 ⇑P P 05 27 54.8 -1.2
baz=98
NVS Novosibirsk 98.38 324 *e*P **P 05 27 54.7 -2.1**
NVS *e*PP pP 05 28 37.7 -6.0
NVS *e* 05 29 05.1
NVS *e*S **SKSac 05 38 16.1 -0.3**
NVS pmax pmax
comp=N,5.0nm,1.4s
NVS pmax pmax
comp=Z,17nm,1.4s
NVS pmax pmax
comp=E,8.0nm,1.2s
NVS smax smax
comp=E,51nm,2.1s
KSH Kashi 100.08 308 *e*P **Pdif 05 28 07.1 +2.1**
KSH PP **PP 05 32 17.5 +4.4**
KSH SKS 05 38 22.8
KSH S **Sdif 05 39 18.6 -5.0**
KSH sS sS 05 40 55.8 +10
KSH SS **SS 05 46 21.9 -0.2**
KSH pmax pmax
comp=Z,140nm,8.1s
KSH LR LR
comp=N,150nm,6.0s
KSH LR LR
comp=E,130nm,6.5s
KSH LR LR
comp=Z,130nm,8.0s
KURK Kurchatov 100.28 320 P Pdif 05 28 05.1 -0.2
KURK 05 32 09.9
KURK Kurchatov 100.28 320 P Pdif 05 28 05.1 -0.2
KURK PP **PP 05 32 09.9 -4.1**
KURBB Kurchatov Arra 100.31 320 P Pdif 05 28 05.1 -0.4
comp=Z,1.9nm,1.1s,baz=98,slow=5.2,SNR=6.8
KURBB PP **PP 05 32 09.9 -4.4**
comp=Z,1.1nm,1.0s,baz=102,slow=7.1,SNR=5.8
BVAR Borovoye Array 105.62 321 P Pdif 05 28 29.1 0.0
BVAR Borovoye Array 105.62 321 Pdif **Pdif 05 28 29.1 0.0**
BVAR PP **PKiKP 05 32 41.5 +0.3**
BVAR Borovoye Array 105.62 321 Pdiff **Pdif 05 28 29.1 0.0**
comp=Z,1.8nm,0.9s,baz=131,slow=4.0,SNR=6.4
BVAR PP **PKiKP 05 32 41.5 +0.3**
comp=Z,1.9nm,0.9s,baz=100,slow=4.5,SNR=6.5
OPO Ambohidratompo112.36 243 PKKPbc PKKPbc 05 43 46.2 +0.7
OPO Ambohidratompo112.36 243 PKKPbc PKKPbc 05 43 46.2 +0.7
comp=Z,4.7nm,0.3s,baz=252,slow=1.1,SNR=9.8
ARU Arti 112.36 325 *i* PKIKP **PKiKP 05 32 54.1 +0.3**
ARU 05 33 45.2
ARU 05 39 15.5
ARU SS SS 05 49 03.3 -3.9
SOKR Solikamsk 112.81 329 *e*PKIKP **PKiKP 05 32 54.6 +0.1**
SOKR pmax pmax
comp=Z,10.0nm,0.9s
LPAZ La Paz 117.31 117 PKKPbc PKKPbc 05 43 28.5 -0.7
LPAZ La Paz 117.31 117 PKKPbc PKKPbc 05 43 28.5 -0.7
comp=Z,1.5nm,0.9s,baz=50,slow=2.5,SNR=5.7
LVZ Lovozero 118.67 341 *i* PKIKP **PKPdf 05 33 04.9 -0.8**
LVZ pmax pmax
comp=Z,30nm,2.5s
APA Apatity 119.25 341 ⇑*i*PKIKP **PKPdf 05 33 07.0 +0.3**
APA pmax pmax
comp=Z,36nm,12.0s
TMCR Tamitsa 119.55 337 *e*PKIKP **PKPdf 05 33 06.3 -1.1**
TMCR pmax pmax
comp=Z,30nm,1.4s
SUMG Summit 120.11 9 *i* PKIKP **PKPdf 05 33 09.3 +0.5**
SUMG pmax pmax
comp=Z,11nm,1.0s
SUMG Summit 120.11 9 *i* P **PKPdf 05 33 09.3 +0.5**
comp=Z,11nm,1.0s
SUMG Summit 120.11 9 *e*PKPdf **PKPdf 05 33 08.8 -0.1**
ARCES ARCESS Array B 120.12 345 PKP **PKPdf 05 33 08.3 -0.1**
ARCES ARCESS Array B 120.12 345 PKP **PKPdf 05 33 08.3 -0.1**
comp=Z,4.9nm,0.3s,baz=83,slow=2.1,SNR=100
KLMR Klimovskoe 120.55 333 *e*PKIKP **PKPdf 05 33 07.1 -2.3**
KLMR pmax pmax
comp=Z,58nm,1.4s
RDF Al-Radifah 122.73 295 *e*P **PKPdf 05 33 15.5 +0.9**
RDF AMb AMB 05 33 16.6
comp=Z,40nm,1.0s
RST Umm Al-Ruwaisa 123.20 296 *e*P **PKPdf 05 33 15.2 -0.3**
RST AMb AMB 05 33 16.8
comp=Z,287nm,0.9s
VRHR Novokhopersk 123.35 322 *e*PKIKP **PKPdf 05 33 14.8 -0.3**
VRHR pmax pmax
comp=Z,40nm,1.1s
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.7s
BOSA Boshof 123.44 220 PKP **PKPdf 05 33 16.1 -0.1**
BOSA Boshof 123.44 220 PKP **PKPdf 05 33 16.1 -0.1**
comp=E,11nm,1.0s,baz=116,slow=1.6,SNR=11
ZEI Tsey 124.13 312 *i* PKIKP **PKPdf 05 33 17.1 0.0**
ZEI pmax pmax
comp=Z,16nm,1.0s
OBN Obninsk 124.57 328 *i* PKIKP **PKPdf 05 33 17.6 +0.3**
OBN *e*PS **PS 05 45 08.9 +0.7**
OBN pmax pmax
comp=Z,66nm,1.7s
KBZ Khabaz 124.63 313 PKIKP **PKPdf 05 33 18.5 +0.8**
KBZ Khabaz 124.63 313 PKP **PKPdf 05 33 18.5 +0.8**
KBZ Khabaz 124.63 313 PKP **PKPdf 05 33 18.5 +0.8**
comp=Z,6.8nm,1.1s,baz=156,slow=0.7,SNR=5.6
KIV Kislovodsk 124.73 314 *i* PKIKP **PKPdf 05 33 18.4 +0.3**
KIV pmax pmax
comp=Z,14nm,1.0s
KIV MLR MLR
comp=Z,44nm,20.0s
VSR Storozhevoye 124.76 323 *e*PKIKP **PKPdf 05 33 17.3 -0.5**
VSR pmax pmax
comp=Z,20nm,0.7s
VSR pmax pmax
comp=N,10.0nm,0.4s
VSR pmax pmax
comp=E,30nm,1.2s
VORD Divnogorie 124.78 323 *e*PKIKP **PKPdf 05 33 17.6 -0.2**
VORD pmax pmax
comp=Z,30nm,1.4s
VORD pmax pmax
comp=N,10.0nm,0.6s
VORD pmax pmax
comp=E,10.0nm,0.9s
KMBO Kilima Mbogo 128.09 257 PKP **PKPdf 05 33 26.9 +1.3**
KMBO Kilima Mbogo 128.09 257 PKP **PKPdf 05 33 26.9 +1.3**
comp=E,2.7nm,0.8s,baz=316,slow=1.1,SNR=6.7
LSZ Lusaka 129.79 235 *e*PKPdf **PKPdf 05 33 28.0 -0.6**
NB2 NORSAR Subarra130.49 345 PKPdf **PKPdf 05 33 28.8 +0.3**
comp=Z,11nm,1.1s,baz=31,slow=1.9
NB2 NORSAR Subarra130.49 345 PKPdf **PKPdf 05 33 28.8 +0.3**
baz=31,slow=1.9
NOA NORSAR Array B 130.49 345 PKP **PKPdf 05 33 29.0 +0.5**
NOA SKPbc **SKPab 05 36 37.4 +2.8**
NOA NORSAR Array B 130.49 345 PKP **PKPdf 05 33 29.0 +0.5**
comp=Z,8.7nm,1.0s,baz=33,slow=2.0,SNR=11
NOA SKPbc **SKPab 05 36 37.4 +2.8**
comp=Z,10nm,0.8s,baz=31,slow=3.0,SNR=34
HFS Hagfors 130.59 343 PKP **PKPdf 05 33 28.6 -0.1**
HFS SKPbc **SKPab 05 36 37.4 +2.5**
HFS Hagfors 130.59 343 PKP **PKPdf 05 33 28.6 -0.1**
comp=Z,6.0nm,0.8s,baz=111,slow=8.1,SNR=9.7
HFS SKPbc **SKPab 05 36 37.4 +2.5**
comp=Z,9.7nm,0.9s,baz=107,slow=3.6,SNR=13
AKASG Malin Array Be 130.60 326 PKIKP **PKPdf 05 33 28.9 0.0**
AKASG Malin Array Be 130.60 326 PKP **PKPdf 05 33 28.9 0.0**
AKASG SKPbc **SKPab 05 36 38.1 +2.8**
AKASG Malin Array Be 130.60 326 PKP **PKPdf 05 33 28.9 0.0**
comp=Z,11nm,1.1s,baz=48,slow=2.1,SNR=34
AKASG SKPbc **SKPab 05 36 38.1 +2.8**
comp=Z,12nm,0.9s,baz=42,slow=4.7,SNR=27
KIEV Kiev 130.62 326 *e*PKIKP **PKPdf 05 33 28.9 -0.1**

KIEV Kiev 130.62 326 *e*PKPdf **PKPdf 05 33 28.9 -0.1**
ASF Jabal al Asfar 131.61 300 PKP **PKPdf 05 33 32.7 +1.1**
ASF Jabal al Asfar 131.61 300 PKP **PKPdf 05 33 32.7 +1.1**
comp=Z,4.1nm,0.8s,baz=71,slow=5.9,SNR=3.6
SUW Suwalki 131.66 332 *e*PKP **PKPdf 05 33 32.7 +1.9**
BR131 Keskin Array S 132.39 311 *e*PKPdf **PKPdf 05 33 33.2 +0.3**
BRTR Keskin Array B 132.39 311 PKP **PKPdf 05 33 33.2 +0.3**
BRTR SKPbc **SKPab 05 36 43.5 -0.1**
BRTR Keskin Array B 132.39 311 PKP **PKPdf 05 33 33.2 +0.3**
comp=Z,4.2nm,1.0s,baz=98,slow=2.7,SNR=10.0
BRTR SKPbc **SKPab 05 36 43.5 -0.1**
comp=Z,5.6nm,1.1s,baz=143,slow=3.1,SNR=11
ANTO Ankara 132.96 311 ⇑PKIKP **PKPdf 05 33 33.5 -0.4**
ANTO Ankara 132.96 311 ⇑*i*P **PKPdf 05 33 33.5 -0.4**
TLCR 133.56 320 ⇓PKIKP **PKPdf 05 33 35.9 +1.2**
TLCR 133.56 320 ⇓*i*P **PKPdf 05 33 35.9 +1.2**
EIL Elat 133.64 297 PKP **PKPdf 05 33 36.3 +1.0**
EIL SKPab **SKPab 05 36 50.3 +1.2**
EIL Elat 133.64 297 PKP **PKPdf 05 33 36.3 +1.0**
comp=Z,4.6nm,0.8s,baz=308,slow=3.9,SNR=3.6
EIL SKPab **SKPab 05 36 50.3 +1.2**
comp=Z,4.7nm,0.8s,baz=211,slow=5.9,SNR=4.2
LVV L'vov 133.86 327 *e*PKIKP **PKPdf 05 33 35.8 +0.7**
CFR Carcaliu 133.99 320 ⇑PKIKP **PKPdf 05 33 36.4 +0.9**
CFR Carcaliu 133.99 320 ⇑*i*P **PKPdf 05 33 36.4 +0.9**
BEL Belsk 134.18 331 *e*PKP **PKPdf 05 33 36.3 +0.6**
TLB Topalu 134.33 319 ⇑PKIKP **PKPdf 05 33 37.5 +1.4**
TLB Topalu 134.33 319 ⇑*i*P **PKPdf 05 33 37.5 +1.4**
BUR08 Bucovina Ar. S 134.47 324 *e*PKPdf **PKPdf 05 33 37.0 +0.5**
BURAR Bucovina Array 134.48 324 ⇑PKIKP **PKPdf 05 33 39.0 +2.5**
BURAR Bucovina Array 134.48 324 ⇑*i*P **PKPdf 05 33 39.0 +2.5**
KWP Kalwaria Pacla 134.66 328 *e*PKP **PKPdf 05 33 36.9 +0.2**
MLR Muntele Rosu 135.18 321 PKPpre PKPpre 05 33 35.1
MLR Muntele Rosu 135.18 321 ⇑*i*P **PKPdf 05 33 37.8 -0.1**
MLR Muntele Rosu 135.18 321 PKhKP PKPpre 05 33 35.1
comp=Z,1.3nm,0.9s,baz=299,slow=4.8,SNR=3.3
ARCR ARCALIA 135.26 324 ⇑*i*P **PKPdf 05 33 39.8 +1.9**
KOLS Kolonicke sedl 135.31 327 *e*PKIKP **PKPdf 05 33 39.1 +1.2**
KOLS Kolonicke sedl 135.31 327 *e*PKP **PKPdf 05 33 39.1 +1.2**
UZH Uzhgorod 135.49 327 *e*PKIKP **PKPdf 05 33 38.0 -0.2**
STHS Stebnicka Huta 135.54 329 *e*PKIKP **PKPdf 05 33 37.8 -0.5**
STHS Stebnicka Huta 135.54 329 *e*PKP **PKPdf 05 33 37.8 -0.5**
VOIR 135.75 322 ⇑PKIKP **PKPdf 05 33 40.2 +1.3**
VOIR 135.75 322 ⇑*i*P **PKPdf 05 33 40.2 +1.3**
NIE Niedzica 136.00 329 *e*PKIKP **PKPdf 05 33 38.5 -0.7**
NIE Niedzica 136.00 329 *e*PKP **PKPdf 05 33 38.5 -0.7**
ARR Arges 136.03 322 ⇓*i*P **PKPdf 05 33 40.9 +1.5**
DRGR 136.35 325 ⇑PKIKP **PKPdf 05 33 39.3 -0.7**
DRGR 136.35 325 ⇑*i*P **PKPdf 05 33 39.3 -0.7**
KECS Kecovo 136.52 328 *e*PKIKP **PKPdf 05 33 41.7 +1.6**
KECS Kecovo 136.52 328 *e*PKP **PKPdf 05 33 41.7 +1.6**
OKC Ostrava-Krasne 136.77 331 *e*PKIKP **PKPdf 05 33 41.1 +0.5**
OKC Ostrava-Krasne 136.77 331 *e*PKPdf **PKPdf 05 33 41.1 +0.5**
KSP Ksiaz 136.90 333 *e*PKIKP **PKPdf 05 33 42.0 +1.2**
KSP Ksiaz 136.90 333 *e*PKP **PKPdf 05 33 42.6 +1.8**
MORC Moravsky Berou 137.10 331 *e*PKIKP **PKPdf 05 33 42.0 +0.7**
MORC Moravsky Berou 137.10 331 *e*PKPdf **PKPdf 05 33 42.0 +0.7**
GZR Gura Zlata 137.12 323 ⇓PKIKP **PKPdf 05 33 41.7 +0.3**
GZR Gura Zlata 137.12 323 ⇓*i*P **PKPdf 05 33 41.7 +0.3**
PSZ Piszkesteto 137.19 328 ⇑PKIKP **PKPdf 05 33 41.6 +0.1**
PSZ Piszkesteto 137.19 328 *e*PKPdf **PKPdf 05 33 42.2 +0.7**
PSZ Piszkesteto 137.19 328 ⇑*i*P **PKPdf 05 33 41.6 +0.1**
DPC Dobruska-Polom 137.25 333 *e*PKHKP PKPpre 05 33 32.2
DPC *e* 05 33 41.6
DPC Dobruska-Polom 137.25 333 *e*PKPpre PKPpre 05 33 32.2
DPC *e*PKPdf **PKPdf 05 33 41.6 +0.1**
DPC *e*SKP 05 37 07.4
SIRR Siria 137.25 325 ⇑*i*P **PKPdf 05 33 42.3 +0.7**
UPC Upice 137.27 333 *e*PKIKP **PKPdf 05 33 42.5 +1.0**
UPC Upice 137.27 333 *e*PKPdf **PKPdf 05 33 42.5 +1.0**
VYHS Vyhne 137.35 329 *e*PKIKP **PKPdf 05 33 42.2 +0.5**
VYHS Vyhne 137.35 329 *e*PKP **PKPdf 05 33 42.2 +0.5**
BZS Buzias 137.66 324 ⇑PKIKP **PKPdf 05 33 41.5 -0.8**
BZS Buzias 137.66 324 ⇑*i*P **PKPdf 05 33 41.5 -0.8**
VRAC Vranov 137.87 331 PKP **PKPdf 05 33 42.4 -0.2**
VRAC SKP 05 37 01.8
VRAC Vranov 137.87 331 PKP **PKPdf 05 33 42.4 -0.2**
comp=Z,8.3nm,1.0s,baz=56,slow=4.5,SNR=8.4
VRAC SKP 05 37 01.8
comp=Z,0.9nm,0.4s,baz=47,slow=4.8,SNR=3.3
PVCC Panska Ves 137.88 334 *e*PKIKP **PKPdf 05 33 43.7 +1.1**
PVCC Panska Ves 137.88 334 *e*PKPdf **PKPdf 05 33 43.7 +1.1**
BRG Berggiesshubel 137.88 335 *e*PKP PKPpre 05 33 34.2
comp=Z,3.7nm,1.0s
BRG *e* 05 33 43.4
comp=Z,35nm,1.4s
BRG *e*pPKP pPKPdf 05 34 28.3 -3.2
comp=Z,11nm,1.5s
BRG Berggiesshubel 137.88 335 *e*PKHKP PKPpre 05 33 34.2
BRG *e* 05 33 43.4
BRG *e* 05 34 28.3
BRG pmax pmax
comp=Z,4.0nm,1.0s
BRG pmax pmax
comp=Z,35nm,1.4s
BRG pmax pmax
comp=Z,11nm,1.5s
CLL Collm 137.92 336 *i* PKIKP **PKPdf 05 33 43.3 +0.7**
CLL pmax pmax
comp=Z,24nm,1.2s
CLL Collm 137.92 336 *i* PKPdf **PKPdf 05 33 43.3 +0.7**
comp=Z,24nm,1.2s
CLL *e*PKSbc **PKSbc 05 37 17.0 -0.9**
CLL *e*pPKSbc 05 38 08.0
FBE Freiberg 138.08 335 *e*PKPdf **PKPdf 05 33 43.2 +0.3**
PRA Prague 138.28 334 PKPdf **PKPdf 05 33 44.0 +0.7**
PRU Pruhonice 138.29 334 *e*PKHKP PKPpre 05 33 37.0
PRU *e* 05 33 43.9
PRU Pruhonice 138.29 334 *e*PKPpre PKPpre 05 33 37.0
PRU *e*PKPdf **PKPdf 05 33 43.9 +0.5**
PRU *e*SKP 05 37 03.6
PRU *e*PKS **PKSdf 05 37 15.6 -3.7**
VTS Vitosha 138.37 319 ⇑PKIKP **PKPdf 05 33 45.2 +1.3**
VTS Vitosha 138.37 319 ⇑*i*P **PKPdf 05 33 45.2 +1.3**
TREC Trest 138.38 332 *e*PKIKP **PKPdf 05 33 44.3 +0.7**
TREC Trest 138.38 332 *e*PKPdf **PKPdf 05 33 44.3 +0.7**
TANN Tannenbergstha 138.83 336 *e*PKPdf **PKPdf 05 33 44.4 0.0**
WERD Werda 138.87 336 *e*PKPdf **PKPdf 05 33 44.7 +0.3**
PLN Plauen 138.90 336 *e*PKPdf **PKPdf 05 33 44.5 0.0**
GUNZ Gunzen 138.92 336 *e*PKPdf **PKPdf 05 33 44.8 +0.2**
PKSM Moragy 138.94 327 ⇑PKIKP **PKPdf 05 33 44.1 -0.5**
PKSM Moragy 138.94 327 ⇑*i*P **PKPdf 05 33 44.1 -0.5**
CONA Conrad Observa 139.19 330 *i* PKiKP **PKPdf 05 33 46.0 +0.8**
SNR=16
KHC Kasperske Hory 139.35 333 *e*PKHKP PKPpre 05 33 38.1
KHC *e* 05 33 45.2
KHC Kasperske Hory 139.35 333 *e*PKPpre PKPpre 05 33 38.1
KHC *e*PKPdf **PKPdf 05 33 45.2 -0.2**
KHC *e*SKP 05 37 07.3
KHC Kasperske Hory 139.35 333 *e*PKPdf **PKPdf 05 33 45.2 -0.2**
GERES GERESS Array B 139.51 333 PKPpre PKPpre 05 33 38.2
GERES PKP **PKPdf 05 33 45.4 -0.4**
GERES SKPbc **SKiKP 05 37 06.2 -0.3**
GERES SKPab **SKPab 05 37 16.2 +1.8**
GERES GERESS Array B 139.51 333 PKhKP PKPpre 05 33 38.2
comp=Z,0.2nm,0.6s,baz=21,slow=3.4,SNR=6.9
GERES PKP **PKPdf 05 33 45.4 -0.4**
comp=Z,7.5nm,1.0s,baz=70,slow=1.6,SNR=20
GERES SKPbc **SKiKP 05 37 06.2 -0.3**
comp=Z,1.5nm,0.8s,baz=48,slow=2.0,SNR=7.2
GERES SKPab **SKPab 05 37 16.2 +1.8**
comp=Z,1.2nm,0.8s,baz=35,slow=4.9,SNR=4.8
WET Wettzell 139.64 334 *e*PKPdf **PKPdf 05 33 45.3 -0.6**
WET Wettzell 139.64 334 *e*PKIKP **PKPdf 05 33 45.3 -0.6**
GRFO Grafenberg 139.90 336 *e*PKIKP **PKPdf 05 33 47.0 +0.7**
GRFO Grafenberg 139.90 336 *e*PKPdf **PKPdf 05 33 47.0 +0.7**
GROS Grobnik 140.39 329 *e*PKPdf **PKPdf 05 33 47.6 +0.2**
IDI Anoyia 140.44 308 PKPpre PKPpre 05 33 41.6
IDI Anoyia 140.44 308 PKhKP PKPpre 05 33 41.6
comp=Z,2.5nm,0.3s,baz=63,slow=2.3,SNR=8.9
SOKA Soboth 140.47 330 ⇑*i*PKPdf **PKPdf 05 33 47.5 -0.1**
comp=Z,1.5nm,1.3s,SNR=5.6
MEM Membach 140.99 341 PKhKP PKPpre 05 33 42.8
BOJS Bojanci 141.18 328 *e*PKPdf **PKPdf 05 33 44.6 -4.2**
BCLA Clavier 141.38 341 PKP **PKPdf 05 33 48.1 -0.8**
STU Stuttgart 141.43 337 *e*PKIKP **PKPdf 05 33 45.5 -3.6**
STU Stuttgart 141.43 337 *e*PKPdf **PKPdf 05 33 45.5 -3.6**
VOY Vojsko 141.48 330 *e*PKPdf **PKPdf 05 33 45.2 -4.2**
VOY *e* 05 33 52.2
SNF Seneffe 141.60 342 PKP **PKPdf 05 33 50.8 +1.5**
ABTA Abfaltersbach 141.61 332 ⇑*i*PKPdf **PKPdf 05 33 45.5 -4.1**
comp=Z,34nm,1.3s,SNR=6.8

WTTA Wattenberg 141.61 333 *i* PKPdf **PKPdf 05 33 45.8 -3.9**
SNR=11
WLF Walferdange 141.76 340 PKhKP PKPpre 05 33 44.7
WLF Walferdange 141.76 340 *e*PKIKP **PKPdf 05 33 48.3 -1.4**
WLF Walferdange 141.76 340 *e*PKPdf **PKPdf 05 33 48.2 -1.4**
MOTA Moosalm 141.78 334 *i* PKPdf **PKPdf 05 33 46.0 -4.0**
SNR=12
RETA Reutte 141.82 334 *i* PKPdf **PKPdf 05 33 46.3 -3.6**
SNR=7.8
DOU Dourbes 141.88 342 PKP **PKPdf 05 33 50.0 +0.2**
BFO Black Forest 142.12 337 *e*PKIKP **PKPdf 05 33 47.0 -3.4**
BFO Black Forest 142.12 337 *e*PKPdf **PKPdf 05 33 47.0 -3.4**
FETA Feichten 142.19 334 *i* PKPdf **PKPdf 05 33 47.7 -3.0**
SNR=14
DAVA Damuels 142.35 335 *i* PKPdf **PKPdf 05 33 47.9 -3.1**
SNR=9.4
ECH Echery 142.65 338 *e*PKHKP **PKPdf 05 33 47.6 -3.7**
ECH Echery 142.65 338 PKP **PKPdf 05 33 48.6 -2.7**
ECH Echery 142.65 338 *e*PKPdf **PKPdf 05 33 47.6 -3.7**
DAVOX Davos/Dischmat 142.75 334 PKPpre PKPpre 05 33 49.1
DAVOX Davos/Dischmat 142.75 334 PKhKP PKPpre 05 33 49.1
comp=Z,20nm,1.0s,baz=317,slow=1.0,SNR=25
MOF Molkenrain 142.96 338 PKP **PKPdf 05 33 49.8 -2.2**
TUE Stuetta 143.22 334 *e*PKPdf PKPbc 05 33 50.5 +0.4
LOMF Lomont 143.50 337 PKP **PKPdf 05 33 52.3 -0.6**
OG01 Vacheresse 144.40 337 PKP **PKPdf 05 33 54.4 -0.1**
CUC Castrocucco 144.43 321 *e*PKPdf **PKPab 05 33 53.0 -0.4**
RSL Roselend 144.96 336 PKP **PKPdf 05 33 56.1 +0.5**
OG35 Corcelles 145.06 337 PKP **PKPdf 05 33 56.4 +0.7**
CEL Celeste 145.40 318 *e*PKPbc **PKPab 05 33 57.1 -0.1**
BNI Bardonecchia 145.46 335 *e*PKP2 **PKPab 05 33 57.2 -0.1**
BNI Bardonecchia 145.46 335 *e*PKPdf **PKPab 05 33 57.2 -0.1**
BNI *e*PKPbc **PKPbc 05 33 57.9 +1.0**
OG22 Abries 145.54 335 PKP **PKPbc 05 33 57.4 +0.2**
GDM Grand'Maison 145.56 336 PKP **PKPab 05 33 58.3 +0.6**
BST Brest 145.63 350 PKP **PKPab 05 33 57.8 +0.2**
GRN Grenoble 145.67 337 PKP **PKPab 05 33 58.9 +0.9**
SURF Saint Ours 145.88 335 PKP **PKPab 05 33 59.1 +0.2**
AGO Saint Agoulin 145.91 340 PKP **PKPab 05 33 59.1 +0.3**
SAOF Saorge 145.96 333 PKP **PKPab 05 33 58.8 -0.3**
AUTN L'Aution 146.01 334 PKP **PKPbc 05 33 59.0 +0.3**
TOUF Mont Tournerai 146.07 334 PKP **PKPab 05 33 59.5 -0.2**
SSB Saint Sauveur 146.09 338 *e*PKIKP **PKPdf 05 33 57.6 +0.2**
SSB *e* 05 33 59.5
SSB Saint Sauveur 146.09 338 PKP **PKPab 05 33 59.5 -0.1**
SSB Saint Sauveur 146.09 338 *e*PKPdf **PKPdf 05 33 57.6 +0.2**
SSB *e*PKPbc **PKPab 05 33 59.5 -0.1**
LUCF Luceram 146.13 333 PKP **PKPbc 05 33 59.2 +0.3**
COLF Collangettes 146.19 339 PKP **PKPab 05 34 00.0 +0.1**
MVIF Mont Vial 146.21 334 PKP **PKPab 05 33 59.7 -0.5**
PYM Petit Puy Mans 146.22 340 PKP **PKPab 05 34 00.3 +0.2**
REVF Revere 146.24 333 PKP **PKPab 05 33 59.7 -0.5**
OG26 St.-Nazaire-De 146.40 336 PKP **PKPab 05 34 00.8 0.0**
CALN Calern 146.44 334 PKP **PKPab 05 34 00.5 -0.6**
LBL Lubilhac 146.59 339 PKP **PKPab 05 34 01.7 +0.2**
OSPF L'Ospedale 147.00 329 PKP **PKPbc 05 34 01.8 +0.4**
VSL Villasalto 148.48 326 *e*PKPbc **PKPbc 05 34 05.8 +0.5**
LRDF Laroque-de-Fa 148.84 338 PKP **PKPbc 05 34 07.0 +0.9**
SJAF Saint Jean de 149.11 337 PKP **PKPbc 05 34 06.9 +0.1**
FILF Fillols 149.16 338 PKP **PKPbc 05 34 07.7 +0.7**
CARF Carcanieres 149.19 338 PKP **PKPbc 05 34 07.5 +0.4**
MLS Moulis 149.33 340 PKP **PKPbc 05 34 07.9 +0.6**
SALF Salau 149.47 340 PKP **PKPbc 05 34 07.9 +0.1**
VALF Valcebollere 149.50 338 PKP **PKPbc 05 34 08.7 +0.7**
LABF Labassere 149.58 341 PKP **PKPbc 05 34 08.8 +0.8**
REYF Montagne du Re 149.70 342 PKP **PKPbc 05 34 09.0 +0.7**
RESF Ens 149.71 341 PKP **PKPbc 05 34 09.9 +1.5**
ORDF Ordiarp 149.73 343 PKP **PKPbc 05 34 08.7 +0.4**
VIEF Viey 149.74 341 PKP **PKPbc 05 34 09.9 +1.5**
ATE Arette 149.78 342 PKP **PKPbc 05 34 09.2 +0.8**
OSSF Osses 149.78 343 PKP **PKPbc 05 34 08.5 +0.1**
LARF Larrau 149.90 343 PKP **PKPbc 05 34 10.0 +1.2**
KEST Kesra 151.08 321 *e*PKPdf **PKPdf 05 34 04.8 -1.0**
KEST *e*PKPbc **PKPbc 05 34 12.8 +1.0**
KEST Kesra 151.08 321 PKPbc **PKPbc 05 34 12.8 +1.0**
comp=Z,35nm,1.0s,baz=293,slow=3.1,SNR=73
PBRG Braganca 152.39 350 *e*PKPbc **PKPbc 05 34 15.3 +0.7**
PBRG Braganca 152.39 350 *e*PKPab **PKPab 05 34 25.9 +0.6**
PGAV Gavieira, Arco 152.46 353 *e*PKPbc **PKPbc 05 34 15.7 +0.9**
PCAB Cabril 152.68 352 *e*PKPbc **PKPbc 05 34 15.6 +0.4**
PCAB Cabril 152.68 352 *e*PKPab **PKPab 05 34 27.6 +1.1**
POLO Lamas de Olo 152.98 352 *e*PKPbc **PKPbc 05 34 16.0 +0.1**
POLO Lamas de Olo 152.98 352 *e*PKPab **PKPab 05 34 28.4 +0.6**
PVRL Vila Real 153.06 352 *e*PKPbc **PKPbc 05 34 16.8 +0.7**
PVRL Vila Real 153.06 352 *e*PKPab **PKPab 05 34 29.2 +1.1**
MVO Moncorvo 153.07 350 *e*PKPdf **PKPdf 05 34 10.3 +1.7**
MVO Moncorvo 153.07 350 *e*PKPbc **PKPbc 05 34 16.4 +0.3**
PTO Porto 153.31 353 *e*PKPbc **PKPbc 05 34 17.3 +0.8**
PVIS Viseu 153.64 352 *e*PKPbc **PKPbc 05 34 17.5 +0.2**
PVIS Viseu 153.64 352 *e*PKPab **PKPab 05 34 31.4 +0.8**
ESDC Sonseca Array 153.85 344 PKP **PKPdf 05 34 10.2 +0.5**
ESDC PKPbc **PKiKP 05 34 17.9 0.0**
ESDC PKPab **PKPab 05 34 31.9 +0.3**
ESDC PP PP 05 38 00.3 -5.4
ESDC Sonseca Array 153.85 344 PKP **PKPdf 05 34 10.2 +0.5**
comp=Z,1.9nm,1.0s,baz=8.3,slow=2.6,SNR=12
ESDC PKPbc **PKiKP 05 34 17.9 0.0**
comp=Z,5.0nm,0.9s,baz=11,slow=2.1,SNR=27
ESDC PKPab **PKPab 05 34 31.9 +0.3**
comp=Z,11nm,1.0s,baz=18,slow=3.3,SNR=5.5
ESDC PP PP 05 38 00.3 -5.4
comp=Z,2.2nm,0.9s,baz=12,slow=7.0,SNR=5.6
ESLA Sonseca Array 153.85 344 *e*PKPdf **PKPdf 05 34 10.2 +0.4**
ESLA *e*PKPbc **PKiKP 05 34 18.4 +0.5**
ESLA *e*PKPab **PKPab 05 34 32.3 +0.8**
MTE Manteigas 153.89 351 *e*PKPdf **PKPdf 05 34 10.4 +0.6**
MTE Manteigas 153.89 351 *e*PKPdf **PKPdf 05 34 10.2 +0.3**
MTE *e*PKPbc **PKiKP 05 34 18.5 +0.6**
MTE *e*PKPab **PKPab 05 34 32.6 +0.9**
PAB San Pablo 154.07 345 *e*PKIKP **PKPdf 05 34 10.0 -0.1**
PAB *e* 05 34 33.5
PAB San Pablo 154.07 345 *e*PKPdf **PKPdf 05 34 10.0 -0.1**
PAB *e*PKPbc **PKiKP 05 34 19.1 +0.7**
PAB *e*PKPab **PKPab 05 34 33.5 +1.0**
PCAS Casmilo, Conde 154.37 352 *e*PKPbc **PKPbc 05 34 19.2 +0.3**
PCAS Casmilo, Conde 154.37 352 *e*PKPab **PKPab 05 34 34.2 +0.6**
PCBR Castelo Branco 154.43 351 *e*PKPdf **PKPdf 05 34 11.1 +0.6**
PCBR Castelo Branco 154.43 351 *e*PKPbc **PKPbc 05 34 19.7 +0.7**
PCBR Castelo Branco 154.43 351 *e*PKPab **PKPab 05 34 34.7 +0.8**
PTOM Tomar 154.78 352 *e*PKPbc **PKPbc 05 34 20.3 +0.6**
PTOM Tomar 154.78 352 *e*PKPab **PKPab 05 34 36.1 +0.7**
PMRV Marv??o 154.82 350 *e*PKPbc **PKPbc 05 34 19.9 +0.1**
PMTG Montargil 155.30 351 *e*PKPab **PKPab 05 34 38.4 +0.8**
PESTR Estremoz 155.40 350 *e*PKPdf **PKPdf 05 34 12.3 +0.4**
PESTR Estremoz 155.40 350 *e*PKPab **PKPab 05 34 38.8 +0.7**
PMAFR Mafra 155.55 353 *e*PKPab **PKPab 05 34 39.8 +1.1**
EVO Evora 155.79 351 *e*PKPab **PKPab 05 34 40.6 +0.8**
PBAR Barrancos 155.98 349 *e*PKPab **PKPab 05 34 40.8 +0.3**
PBEJ Beja 156.27 350 *e*PKPab **PKPab 05 34 42.9 +1.1**
PNCL Nicolau / Gran 156.28 352 *e*PKPab **PKPab 05 34 42.9 +1.1**
PVAQ Vaqueiros 156.85 350 *e*PKPab **PKPab 05 34 45.4 +1.1**
PTEO Sao Teotonio 156.87 352 *e*PKPab **PKPab 05 34 45.7 +1.3**
MORF Marmelete 157.09 352 *e*PKPab **PKPab 05 34 46.8 +1.4**
PFVI Vila Bisbo 157.29 352 *e*PKPab **PKPab 05 34 47.6 +1.4**
PMAR Madeira 161.57 11 *e*PKPdf **PKPdf 05 34 21.8 +2.2**
FUL Funchal 161.65 11 *e*PKPdf **PKPdf 05 34 16.0 -3.5**
TORD Torodi Ar. Bea 165.87 266 PKP **PKPdf 05 34 23.1 -0.7**
TORD PKPab **PKPab 05 35 25.0 +0.3**
TORD Torodi Ar. Bea 165.87 266 PKP **PKPdf 05 34 23.1 -0.7**
comp=Z,5.0nm,1.1s,baz=333,slow=0.6,SNR=14
TORD PKPab **PKPab 05 35 25.0 +0.3**
comp=Z,16nm,0.9s,baz=101,slow=3.4,SNR=38
DBIC Dimbokro 168.93 225 PKP **PKPdf 05 34 25.2 -0.9**
DBIC Dimbokro 168.93 225 PKP **PKPdf 05 34 25.2 -0.9**
comp=Z,10nm,1.1s,baz=149,slow=5.0,SNR=3.8

IDC ***13*** *05:33:25.2±1.0, 10°.16N×125°.64E, h0km, mb3.9/11, mb1 4.0/11, mb1mx3.8/24, mbtmp3.9/11, MS3.9/2, Ms1 3.9/2, ms1mx3.2/30, Error ellipse: s-maj=94.2km s-min=13.7km az=69.0*
ISCJB ***13*** *05:33:30.5±1.1, 10°.30N±0°.05×126°.21E±0°.08, h60km±10km, mb3.9/11, Error ellipse: s-maj=13.7km s-min=7.5km az=174.7*
MAN ***13*** *05:33:31, 10°.30N×126°.18E, h33km, mb4.9, ML3.8, MS3.8*
ISC 13 05:33:31.5±1.9, 10°.30N±0°.05×126°.2E±0°.1, h50km±17km, n26, σ1°21/31, mb3.8/11, 3C-3D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.85**	**233**⇑	*e*P	**Pn**	**05 33 45.7**	**-1.5**
SCPH				*e*S	**Sn**	**05 33 57.0**	**-1.7**
MSLP	**Maasin**	**1.30**	**263**	*e*P	**Pn**	**05 33 53.0**	**-0.4**
MSLP				*e*S	**Sn**	**05 34 09.3**	**-0.3**
PLP	**Palo**	**1.45**	**306**⇓	*e*P	**Pn**	**05 33 55.0**	**-0.4**
PLP				*i* S	**Sn**	**05 34 13.6**	**+0.2**
OCLP	**Ormoc**	**1.71**	**296**	*e*P	**Pn**	**05 34 00.3**	**+1.5**
LLP	**Lapu-Lapu**	**2.17**	**271**⇓	*e*P	**Pn**	**05 34 05.8**	**+0.6**
LLP				*e*S	**Sn**	**05 34 31.9**	**+1.0**
CGP	**Cagayan de Oro**	**2.34**	**219**	*e*P	**Pn**	**05 34 08.5**	**+0.8**
CGP				*e*S	**Sn**	**05 34 36.7**	**+1.5**
TBP	**Tagbilaran**	**2.35**	**255**	*e*P	**Pn**	**05 34 08.6**	**+0.8**
TBP				*e*S	**Sn**	**05 34 37.1**	**+1.6**
CNP	**Catarman**	**2.65**	**326**	*e*P	**Pn**	**05 34 11.8**	**+0.1**
RCP	**Roxas**	**3.59**	**291**⇓	*e*P	**Pn**	**05 34 26.2**	**+1.5**
CTBH	**Cotabato--PC H**	**3.60**	**212**⇑	*i*P	**Pn**	**05 34 27.4**	**+2.4**
PVCP	**Virac**	**3.82**	**329**⇑	*e*P	**Pn**	**05 34 30.1**	**+2.1**
PVCP				*e*S	Sn	05 35 25.9	+14
FITZ	**Fitzroy Crossi**	**28.23**	**181**	P	**P**	**05 39 20.1**	**+0.2**
	2.1nm,0.9s,baz=16,slow=4.9,SNR=3.9						
WRA	**Warramunga Arr**	**31.11**	**165**	P	**P**	**05 39 44.0**	**-1.5**
	0.7nm,0.5s,baz=345,slow=9.1,SNR=7.9						
ASAR	**Alice Springs**	**34.60**	**167**	P	**P**	**05 40 15.6**	**-0.4**
	0.5nm,0.3s,baz=353,slow=7.0,SNR=11						
SONM	**Songino Array**	**40.96**	**340**	P	**P**	**05 41 09.7**	**+0.2**
	0.5nm,0.5s,baz=140,slow=9.3,SNR=3.7						
STKA	**Stephens Creek**	**44.46**	**161**	P	**P**	**05 41 38.7**	**+0.8**
	1.1nm,0.4s,baz=344,slow=7.4,SNR=2.9						
MKAR	**Makanchi Array**	**51.94**	**323**	P	**P**	**05 42 35.3**	**-0.2**
	1.3nm,0.6s,baz=123,slow=7.8,SNR=15						
MKAR				PcP	**PcP**	**05 43 47.6**	**0.0**
	0.8nm,0.7s,baz=116,slow=5.5,SNR=2.5						
ZALV	**Zalesovo Beam**	**54.55**	**331**	P	**P**	**05 42 53.6**	**-0.9**
	0.5nm,0.3s,baz=127,slow=6.8,SNR=3.2						
KURBB	**Kurchatov Arra**	**55.99**	**325**	P	**P**	**05 43 04.4**	**-0.5**
	1.2nm,0.6s,baz=124,slow=7.0,SNR=16						
BVAR	**Borovoye Array**	**61.59**	**325**	P	**P**	**05 43 42.7**	**-1.1**
	0.4nm,0.6s,baz=81,slow=9.2,SNR=2.5						
KBZ	**Khabaz**	**78.12**	**313**	LR	LR	06 22 15.1	
	comp=Z,54nm,19.0s,baz=201,slow=38						
ARCES	**ARCESS Array B**	**84.13**	**340**	P	**P**	**05 45 57.3**	**+0.3**
	0.8nm,0.8s,baz=64,slow=6.2,SNR=4.9						
BRTR	**Keskin Array B**	**85.44**	**309**	P	**P**	**05 46 02.5**	**-1.9**
	0.5nm,0.7s,baz=73,slow=5.0,SNR=2.7						
NOA	**NORSAR Array B**	**92.69**	**334**	LR	LR	06 33 54.7	
	comp=Z,58nm,18.6s,baz=180,slow=39						
TORD	**Torodi Ar. Bea**	**120.17**	**292**	PKP	**PKPdf**	**05 52 16.9**	**-1.1**
	0.2nm,0.4s,baz=75,slow=1.1,SNR=4.6						
PLCA	**Paso Flores**	**146.27**	**157**	PKPbc	**PKPab**	**05 53 09.1**	**+1.2**
	1.2nm,1.0s,baz=269,slow=5.5,SNR=2.5						

IDC 13 05:40:00.9±0.8, 28°.33S×62°.54E, h0km, mb3.7/8, mb1 3.8/8, mb1mx3.6/26, mbtmp3.7/8, Error ellipse: s-maj=35.1km s-min=22.9km az=48.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QSPA	**South Pole Qui**	**61.82**	**180**	P	P	05 50 21.7	+0.1
	2.1nm,1.1s,baz=273,slow=3.8,SNR=3.8						
ASAR	**Alice Springs**	**63.47**	**104**	P	P	05 50 32.7	-0.4
	0.6nm,0.7s,baz=243,slow=6.6,SNR=7.4						
WRA	**Warramunga Arr**	**65.22**	**100**	P	P	05 50 44.8	+0.2
	1.1nm,0.9s,baz=246,slow=5.9,SNR=4.9						
TORD	**Torodi Ar. Bea**	**71.84**	**296**	P	P	05 51 25.5	-0.4
	0.8nm,1.0s,baz=107,slow=5.0,SNR=3.5						
BRTR	**Keskin Array B**	**72.86**	**337**	P	P	05 51 32.5	+0.9
	0.6nm,0.8s,baz=151,slow=9.5,SNR=3.0						
KURBB	**Kurchatov Arra**	**79.87**	**10**	P	P	05 52 11.2	+0.2
	0.1nm,0.5s,baz=205,slow=5.4,SNR=4.1						
AKASG	**Malin Array Be**	**84.03**	**339**	P	P	05 52 32.0	-0.9
	0.5nm,0.6s,baz=155,slow=4.1,SNR=2.7						
SONM	**Songino Array**	**85.44**	**28**	P	P	05 52 39.7	-0.6
	0.8nm,1.0s,baz=224,slow=4.0,SNR=3.6						
YKA	**Yellowknife Ar**	**145.78**	**358**	PKPbc	PKPbc	05 59 41.2	0.0
	0.6nm,0.7s,baz=345,slow=3.8,SNR=3.7						

IDC 13 06:00:36.8±1.4, 5°.47S×152°.07E, h0km, mb3.9/6, mb1 4.1/7, mb1mx3.9/18, mbtmp4.0/7, ML2.8/1, MS4.4/1, Ms1 4.4/1, ms1mx3.0/21, Error ellipse: s-maj=55.6km s-min=19.7km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.24**	**231**	Pn	Pn	06 02 11.4	+1.1
	1.5nm,0.3s,baz=18,slow=13,SNR=5.8						
PMG				Sn	Sn	06 03 24.9	+2.4
	1.7nm,0.3s,baz=212,slow=15,SNR=2.4						
WRA	**Warramunga Arr**	**22.46**	**229**	P	P	06 05 36.5	-1.2
	2.9nm,

SRDR			*i* S		**Sn**	**06 08 03.0**	**+1.5**
KRER	**Koryakskii**	**7.24 277**	*e*P		**Pn**	**06 06 43.3**	**+2.7**
AVH	**Avacha**	**7.25 277**	*e*P		**Pn**	**06 06 42.9**	**+2.3**
AVH			*i* S		**Sn**	**06 07 59.3**	**-2.8**
KRX	**Arik**	**7.30 278**	*e*P		**Pn**	**06 06 43.4**	**+2.1**
KRX			*i* S		**Sn**	**06 08 01.5**	**-1.9**
KOK	**Koryaka**	**7.31 277**	*e*P		**Pn**	**06 06 43.4**	**+2.0**
KOK			*i* S		**Sn**	**06 08 00.7**	**-2.9**
RUS	**Russkaya**	**7.47 271**	P		**Pn**	**06 06 45.3**	**+1.8**
RUS	**Russkaya**	**7.47 271**	*e*P		**Pn**	**06 06 45.3**	**+1.8**
RUS			*i* S		**Sn**	**06 08 03.3**	**-4.1**
MTVR	**Mutnovka**	**7.67 271**	*e*P		**Pn**	**06 06 48.9**	**+2.6**
MTVR			*i* S		**Sn**	**06 08 10.6**	**-1.7**
GNL	**Ganaly**	**7.72 280**	*e*P		Pn	06 06 50.5	+3.5
GNL			*i* S		**Sn**	**06 08 13.1**	**-0.5**
ASAK	**Asacha**	**7.85 271**	*e*P		**Pn**	**06 06 51.5**	**+2.7**
ASAK			*i* S		**Sn**	**06 08 14.8**	**-2.1**
PETK	**Petropavlovsk-**	**7.89 276**	P		**Pn**	**06 06 52.3**	**+3.1**
PETK						06 08 19.4	
PETK			pmax	pmax			
	comp=Z,2.0nm,0.3s						
PETK			smax	smax			
	comp=N,2.0nm,0.3s						
PETK	**Petropavlovsk-**	**7.89 276**	Pn		**Pn**	**06 06 52.2**	**+3.1**
	comp=N,1.6nm,0.3s,baz=32,slow=30,SNR=55						
PETK			Sn		**Sn**	**06 08 19.4**	**+1.8**
	comp=N,1.8nm,0.3s,baz=242,slow=22,SNR=9.0						
ILAR	**Eielson Array**	**24.33 44**	P		**P**	**06 10 08.3**	**-3.2**
	comp=N,0.3nm,0.5s,baz=249,slow=7.3,SNR=12						
YKA	**Yellowknife Ar**	**38.74 46**	P		**P**	**06 12 17.2**	**-0.7**
	comp=N,0.1nm,0.3s,baz=287,slow=7.8,SNR=3.0						
SONM	**Songino Array**	**40.12 289**	P		**P**	**06 12 30.6**	**+0.9**
	comp=N,0.3nm,0.5s,baz=82,slow=10,SNR=2.9						
PDAR	**Pinedale Array**	**51.77 67**	P		P	06 13 57.7	-4.1
	comp=N,0.2nm,0.5s,baz=287,slow=3.7,SNR=2.4						
MKAR	**Makanchi Array**	**53.86 302**	P		**P**	**06 14 16.6**	**-0.3**
MKAR	**Makanchi Array**	**53.86 302**	P		**P**	**06 14 16.6**	**-0.3**
	comp=N,0.2nm,0.4s,baz=47,slow=6.3,SNR=4.4						
ARCES	**ARCESS Array B**	**55.19 346**	P		**P**	**06 14 25.3**	**-0.9**
	comp=N,3.3nm,1.0s,baz=34,slow=8.8,SNR=6.8						
TXAR	**Lajitas Array**	**64.59 75**	P		P	06 15 29.0	-2.4
	comp=N,0.4nm,0.7s,baz=305,slow=5.5,SNR=9.9						
NOA	**NORSAR Array B**	**65.16 349**	P		**P**	**06 15 34.1**	**-0.5**
	comp=N,0.6nm,0.6s,baz=16,slow=6.6,SNR=3.4						
GERES	**GERESS Array B**	**76.69 345**	P		**P**	**06 16 44.6**	**-0.2**
	comp=N,0.3nm,0.6s,baz=37,slow=5.2,SNR=5.1						
BRTR	**Keskin Array B**	**80.49 328**	P		**P**	**06 17 06.3**	**+0.3**
	comp=N,0.5nm,0.7s,baz=26,slow=3.7,SNR=2.6						

NNC 13 06:10:21.1±7.8, 37°.43N×71°.22E, h224km±103km, mb2.4, mpv3.6, 3C-3D, Error ellipse: s-maj=79.5km s-min=45.6km az=21.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.69**	**355**	⇑P	Pn	06 11 43.7	-1.1
	1.3nm,0.2s,baz=170,slow=12,SNR=88						
KK31				⇓S	S	06 12 52.2	+1.1
	3.3nm,0.3s,baz=173,slow=15,SNR=30						
TKM2	**Tokmak 2**	**6.42**	**30**	⇓P	Pn	06 11 53.9	-0.4
	2.7nm,0.5s						
TKM2				⇑S	S	06 13 09.1	+0.6
	0.7nm,0.5s						
AB31	**Akbulak array**	**14.37**	**329**	⇓P	P	06 13 38.3	+3.0
	0.2nm,0.3s,baz=160,slow=9.6,SNR=8.8						
AB31				⇑S	S	06 16 10.8	-2.4
	0.5nm,0.5s,baz=158,slow=22,SNR=4.9						

IDC 13 06:22:13.6±1.3, 0°.41S×20°.06W, h0km, mb3.5/4, mb1 4.0/6, mb1mx3.7/25, mbtmp3.8/6, ML4.2/2, MS3.6/2, Ms1 3.6/2, ms1mx2.9/18, Error ellipse: s-maj=41.6km s-min=31.7km az=120.0, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBTS	**Babate**	**15.38**	**13**	Pn	Pn	06 25 52.1	0.0
	1.1nm,0.3s,baz=302,slow=19,SNR=4.3						
BBTS				Sn	Sn	06 28 28.9	-14
	0.9nm,0.3s,baz=284,slow=19,SNR=7.5						
DBIC	**Dimbokro**	**16.73**	**65**	Pn	Pn	06 26 10.5	+0.9
	0.7nm,0.3s,baz=227,slow=14,SNR=7.7						
DBIC				Sn	Sn	06 29 01.9	-14
	0.2nm,0.3s,baz=132,slow=6.1,SNR=3.0						
TORD	**Torodi Ar. Bea**	**25.43**	**57**	P	P	06 27 42.5	-0.9
	2.3nm,1.2s,baz=190,slow=7.4,SNR=4.3						
ESDC	**Sonseca Array**	**42.53**	**18**	P	P	06 30 11.8	+0.7
	0.2nm,0.5s,baz=198,slow=8.1,SNR=4.4						
CPUP	**Villa Florida**	**44.16**	**231**	LR	LR	06 49 17.8	
	comp=Z,75nm,18.3s,baz=271,slow=37						
ROSC	**El Rosal**	**54.45**	**276**	LR	LR	06 51 29.9	
	comp=Z,49nm,18.8s,baz=200,slow=32						
GERES	**GERESS Array B**	**57.06**	**26**	P	P	06 32 01.1	-0.6
	0.3nm,0.7s,baz=202,slow=6.6,SNR=4.4						
TXAR	**Lajitas Array**	**84.62**	**299**	P	P	06 34 49.4	-0.3
	0.2nm,0.6s,baz=114,slow=6.3,SNR=4.2						
ASAR	**Alice Springs**	**145.19**	**135**	PKPbc	PKPbc	06 41 53.6	-0.1
	6.7nm,0.7s,baz=228,slow=2.6,SNR=79						
WRA	**Warramunga Arr**	**147.78**	**130**	PKPbc	PKPbc	06 42 00.3	-1.2
	0.5nm,0.7s,baz=236,slow=2.9,SNR=5.7						

MEX ***13*** *07:06:20.2±2.3, 29°.52N×113°.59W, h9km±15km, MD4.9*
ISCJB ***13*** *07:06:21.5±0.4, 29°.54N±0°.03×113°.54W±0°.03, h10km, mb4.6/37, MS4.4/30, Error ellipse: s-maj=5.7km s-min=2.9km az=34.7*
IDC ***13*** *07:06:21.2±0.9, 29°.73N×113°.41W, h0km, mb4.1/8, mb1 4.4/14, mb1mx4.1/27, mbtmp4.1/14, ML3.9/6, MS4.3/29, Ms1 4.4/29, ms1mx4.3/43, Error ellipse: s-maj=21.6km s-min=9.9km az=51.0*
NEIC ***13*** *07:06:22.4±0.5, 29°.45N×113°.60W, h10km, mb4.9/62, MD4.9(MEX), Error ellipse: s-maj=7.3km s-min=3.6km az=37.0*
GCMT ***13*** *07:06:23.0±0.3, 29°.52N×113°.62W, h12km, MW5.0, Moment Tensor Solution. s19,c23; s66,c107; Moment tensor: Scale 10^16^Nm; Mrr0.29±.11; Mθθ-3.27±.09; Mφφ2.98±.09; Mrθ-1.21±.28; Mrφ0.27±.09; Mθφ0.97±.29; Best double couple: M0 3.50000×10^16^ NP1:φ317.00000°, δ90.00000°, λ154.00000°. NP2:φ47.00000°, δ64.00000°, λ0.00000°. Principal axes: T 3.2900, Plg18.0000°, Azm269.0000°; N 0.3900, Plg64.0000°, Azm137.0000°; P -3.6900, Plg18.0000°, Azm5.0000°; Data Used: II IU CN G IC.*
BJI ***13*** *07:06:25.4, 29°.50N×113°.60W, h10km, mB5.1/4, mb5.0/7, Ms5.2/5, Ms7 5.1/3*

ISC 13 07:06:22.0±1.2, 29°.50N±0°.04×113°.45W±0°.04, h3km±7km, n267, σ2°.01/237, mb4.9/36, MS4.4/30, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSIG		**2.24**	**102**	*e*P	Pn	07 06 56.5	-3.6
HSIG				*i* S	**Sn**	**07 07 24.1**	**-4.1**
HSIG		**2.24**	**102**	*e*P	Pn	07 06 56.5	-3.6
HSIG				*i* S	**Sn**	**07 07 24.1**	**-4.1**
SPIG	**San Pedro Mart**	**2.33**	**312**	*e*P	Pn	07 06 53.7	-7.9
SPIG				*i* S	Sn	07 07 21.3	-10
SPIG	**San Pedro Mart**	**2.33**	**312**	*e*P	Pn	07 06 53.7	-7.9
SPIG				*i* S	Sn	07 07 21.3	-10
SRIG	**Santa Rosalia**	**2.42**	**154**	*e*P	Pn	07 06 57.7	-4.8
SRIG				*i* S	**Sn**	**07 07 27.4**	**-5.3**
SRIG	**Santa Rosalia**	**2.42**	**154**	*e*P	Pn	07 06 57.7	-4.8
SRIG				*i* S	**Sn**	**07 07 27.4**	**-5.3**
MBIG	**Mexicali**	**3.26**	**333**	*i* P	Pn	07 07 07.5	-6.6
MBIG				*i* S	Sn	07 07 45.5	-8.0
TUC	**Tucson**	**3.62**	**39**	*e*Pn	**Pn**	**07 07 16.6**	**-2.5**
TUC				*e*Sg	**Sg**	**07 08 20.7**	**+2.3**
GLA	**Glamis**	**3.73**	**342**	*e*Pn	Pn	07 07 15.2	-5.5
ERPC	**Ernies Place**	**3.75**	**330**	*e*Pb	**Pg**	**07 07 32.9**	**-1.0**
YUH	**Yuha Desert**	**3.79**	**327**	*e*Pb	**Pb**	**07 07 30.9**	**+1.3**
CRR	**Carrizo Plain**	**4.01**	**328**	*e*Pb	**Pb**	**07 07 35.6**	**+2.3**
BAR	**Barrett**	**4.21**	**320**	*e*Pn	Pn	07 07 20.8	-6.4
BAR				*e*Sg	**Sb**	**07 08 30.7**	**+2.7**
CGIG		**4.83**	**78**	*i* P	**Pn**	**07 07 32.7**	**-3.1**
CGIG				*i* S	**Sn**	**07 08 28.7**	**-3.7**
CGIG		**4.83**	**78**	*i* P	**Pn**	**07 07 32.7**	**-3.1**
CGIG				*i* S	**Sn**	**07 08 28.7**	**-3.7**
PFO	**Pinyon Flat Ob**	**4.83**	**329**	*e*Pn	**Pn**	**07 07 35.0**	**-0.8**
PFO				Pg	**Pb**	**07 07 50.0**	**+2.5**
PFO				Lg	Lg	07 08 52.1	
PFO				*e*Sg	**Sg**	**07 08 56.4**	**-0.9**
PFO	**Pinyon Flat Ob**	**4.83**	**329**	Pn	**Pn**	**07 07 33.7**	**-2.2**
	0.2nm,0.3s,baz=144,slow=12,SNR=3.7						
PFO				Pg	**Pb**	**07 07 50.0**	**+2.5**
	2.5nm,0.3s,baz=178,slow=12,SNR=24						
PFO				Lg	Lg	07 08 52.1	
	2.3nm,0.3s,baz=270,slow=11,SNR=6.9						
LPIG	**La Paz**	**6.06**	**152**	*i* P	**Pn**	**07 07 49.8**	**-2.8**
LPIG				*i* S	**Sn**	**07 08 58.0**	**-4.6**
LPIG	**La Paz**	**6.06**	**152**	Pn	**Pn**	**07 07 52.6**	**0.0**
LPIG				*i* S	**Sn**	**07 08 58.0**	**-4.6**
LPIG				Lg	Lg	07 09 42.9	
LPIG	**La Paz**	**6.06**	**152**	Pn	**Pn**	**07 07 52.6**	**0.0**
	5.2nm,0.3s,baz=2.2,slow=1.3,SNR=18						
LPIG				Lg	Lg	07 09 42.9	
	6.3nm,0.3s,baz=48,slow=23,SNR=1.5						
MWC	**Mount Wilson**	**6.13**	**321**	*e*Pn	**Pn**	**07 07 52.7**	**-1.0**
MWC				*e*Sn	**Sn**	**07 09 04.0**	**-0.4**
PASC	**Pasadena Art C**	**6.16**	**320**	Pn	**Pn**	**07 07 53.0**	**-0.9**
PASC				*e*Sg	**Sg**	**07 09 35.2**	**-4.7**
WUAZ	**Wupatki**	**6.25**	**16**	*e*Pn	**Pn**	**07 07 54.4**	**-1.0**
W18A	**Petrified Fore**	**6.42**	**28**	*e*Pn	**Pn**	**07 07 57.2**	**-0.5**
GSC	**Goldstone**	**6.44**	**335**	*e*Pn	**Pn**	**07 07 56.6**	**-1.3**
SHPR	**Sheep Range**	**7.13**	**349**	Pn	**Pn**	**07 08 06.1**	**-1.4**
LENM	**Lemitar**	**7.21**	**48**	*e*Pn	**Pn**	**07 08 08.3**	**-0.3**
ARVC	**Arvin**	**7.22**	**322**	*e*Pn	**Pn**	**07 08 11.8**	**+3.2**
LAZ	**Ladron**	**7.26**	**46**	*e*Pn	**Pn**	**07 08 08.6**	**-0.6**
LAZ				*e*Sn	Sn	07 09 26.3	-6.0
MNTX	**Cornudas Mount**	**7.29**	**70**	*e*Pn	**Pn**	**07 08 10.2**	**+0.7**
MNTX				*e*Sg	**Sg**	**07 10 14.7**	**-1.6**
HPIG		**7.33**	**109**	*i* P	**Pn**	**07 08 07.6**	**-2.6**
HPIG				*i* S	**Sn**	**07 09 31.4**	**-2.7**
HPIG		**7.33**	**109**	*i* P	**Pn**	**07 08 07.6**	**-2.6**
HPIG				*i* S	**Sn**	**07 09 31.4**	**-2.7**
WWPM	**Walker Pass**	**7.34**	**329**	*e*Pn	**Pn**	**07 08 09.6**	**-0.7**
WWPM				*e*Pb	**Pb**	**07 08 31.3**	**+1.0**
WWPM				*e*Pg	**Pg**	**07 08 42.4**	**-0.4**
WWPM				*e*Sb	**Sb**	**07 09 52.4**	**-5.9**
BNM	**Barren Site**	**7.43**	**50**	*e*Pn	**Pn**	**07 08 12.1**	**+0.5**
WHFM	**Hanning Flat**	**7.43**	**328**	*e*Pb	Pg	07 08 39.0	-5.4
WHFM				*e*Sn	Sn	07 09 22.0	-14
ISA	**Isabella**	**7.46**	**327**	*e*Pn	**Pn**	**07 08 09.5**	**-2.4**
RVCM	**Rose Valley Ce**	**7.49**	**331**	*e*Pn	**Pn**	**07 08 11.9**	**-0.5**
RVCM				*e*Pb	**Pb**	**07 08 31.5**	**-1.2**
RVCM				*e*Pb	Pg	07 08 40.3	-5.2
RVCM				*e*Sb	**Sb**	**07 10 03.1**	**+0.6**
KNB	**Kanab**	**7.52**	**4**	*e*Pn	**Pn**	**07 08 11.9**	**-0.8**
LPM	**Los Pinos Moun**	**7.52**	**49**	*e*Pn	**Pn**	**07 08 13.2**	**+0.3**
LPM				*e*Sg	**Sg**	**07 10 21.9**	**-1.8**
EKU	**East Kanab**	**7.60**	**6**	*e*Pn	**Pn**	**07 08 12.8**	**-1.1**
ICU	**Indian Springs**	**7.64**	**357**	*e*Pn	**Pn**	**07 08 12.5**	**-2.0**
CCUT	**Cedar City**	**8.03**	**1**	*e*Pn	**Pn**	**07 08 19.2**	**-0.7**
ANMO	**Albuquerque**	**8.04**	**46**	*e*Pn	**Pn**	**07 08 19.3**	**-0.6**
ANMO				Lg	Lg	07 10 41.6	
ANMO				*e*Sg	**Sg**	**07 10 43.4**	**+3.3**
ANMO	**Albuquerque**	**8.04**	**46**	Pn	**Pn**	**07 08 17.6**	**-2.4**
	0.6nm,0.3s,baz=229,slow=12,SNR=42						
ANMO				Lg	Lg	07 10 41.6	
	1.8nm,0.3s,baz=336,slow=15,SNR=7.2						
GDL2	**Guadalupe Moun**	**8.26**	**69**	*e*Pn	**Pn**	**07 08 25.3**	**+2.4**
	21nm,1.1s						
ARUT	**Antelope Range**	**8.27**	**0**	*e*Pn	**Pn**	**07 08 22.8**	**-0.3**
TX31	**Lajitas Ar. Si**	**8.54**	**89**	*e*Pn	**Pn**	**07 08 26.3**	**-0.4**
TXAR	**Lajitas Array**	**8.54**	**89**	Pn	**Pn**	**07 08 26.7**	**0.0**
TXAR				Lg	Lg	07 10 59.3	
TXAR	**Lajitas Array**	**8.54**	**89**	Pn	**Pn**	**07 08 26.7**	**0.0**
	2.0nm,0.3s,baz=257,slow=13,SNR=75						
TXAR				Lg	Lg	07 10 59.3	
	1.6nm,0.3s,baz=248,slow=30,SNR=9.1						
CLNB	**Carlsbad**	**8.68**	**69**	*e*Pn	Pn	07 08 32.7	+4.1
	1.3nm,0.5s						
MVCO	**Mesa Verde**	**8.73**	**27**	*e*Pn	**Pn**	**07 08 29.0**	**-0.5**
MAIG	**Mazatlaan**	**8.90**	**133**	*i* P	**Pn**	**07 08 29.0**	**-2.6**
MAIG				*i* S	**Sn**	**07 10 10.2**	**-2.2**
MAIG	**Mazatlaan**	**8.90**	**133**	*i* P	**Pn**	**07 08 29.0**	**-2.6**
MAIG				*i* S	**Sn**	**07 10 10.2**	**-2.2**
R11A	**Troy Canyon, C**	**9.00**	**349**	*e*Pn	**Pn**	**07 08 31.1**	**-2.1**
MVU	**Marysvale**	**9.04**	**6**	*e*Pn	**Pn**	**07 08 32.6**	**-1.1**
Q16A	**Castle Valley**	**9.58**	**11**	*e*Pn	**Pn**	**07 08 42.4**	**+1.3**
NV11	**Mina Array Sit**	**9.73**	**338**	*e*Pn	**Pn**	**07 08 43.5**	**+0.5**
NV01	**Mina Array Sit**	**9.77**	**337**	*e*Pn	**Pn**	**07 08 44.7**	**+0.9**
SRU	**San Rafael**	**9.89**	**13**	*e*Pn	**Pn**	**07 08 44.8**	**-0.5**
	38nm,1.0s						
TMUT	**Trail Mountain**	**9.95**	**10**	Pn	**Pn**	**07 08 44.9**	**-1.3**
MSTX	**Muleshoe**	**10.12**	**61**	*e*Pn	Pn	07 08 52.6	+4.1
WAKR	**Walker**	**10.26**	**333**	*e*Pn	**Pn**	**07 08 50.6**	**+0.2**
CMB	**Columbia Colle**	**10.28**	**328**	*e*Pn	**Pn**	**07 08 49.9**	**-0.7**
NLU	**North Lily Min**	**10.49**	**6**	*e*Pn	**Pn**	**07 08 52.8**	**-0.8**
SDCO	**Great Sand Dun**	**10.56**	**37**	*e*Pn	**Pn**	**07 08 56.1**	**+1.5**
MPU	**Maple Canyon**	**10.60**	**8**	*e*Pn	**Pn**	**07 08 55.5**	**+0.4**
DUG	**Dugway**	**10.68**	**3**	*e*Pn	**Pn**	**07 08 56.7**	**+0.6**
SMCO	**Snowmass**	**11.04**	**27**	*e*Pn	**Pn**	**07 09 00.7**	**-0.5**
DAU	**Daniels Canyon**	**11.04**	**9**	*e*Pn	Pn	07 09 05.4	+4.3
JLU	**Jordanelle**	**11.20**	**8**	*e*Pn	**Pn**	**07 09 05.2**	**+1.9**
CTU	**Camp Tracy**	**11.25**	**7**	*e*Pn	**Pn**	**07 09 06.3**	**+2.3**
PAHR	**Pah Rah Range**	**11.29**	**336**	*e*Pn	**Pn**	**07 09 05.2**	**+0.7**
ELK	**Elko**	**11.31**	**353**	*e*Pn	**Pn**	**07 09 04.2**	**-0.6**
BMN	**Battle Mountai**	**11.34**	**345**	*e*Pn	**Pn**	**07 09 04.9**	**-0.2**
BGU	**Big Grassy Mou**	**11.41**	**2**	*e*Pn	**Pn**	**07 09 07.1**	**+1.0**
O20A	**White River Ci**	**11.44**	**21**	*e*Pn	**Pn**	**07 09 08.4**	**+1.8**
BEKR	**Beckworth**	**11.80**	**333**	*e*Pn	**Pn**	**07 09 12.0**	**+0.6**
SPUT	**South Promonto**	**11.81**	**4**	*e*Pn	**Pn**	**07 09 12.4**	**+0.8**
ZAIG	**Zacatecas**	**11.85**	**122**	*e*P	**Pn**	**07 09 11.5**	**-0.8**
JCT	**Junction City**	**11.88**	**82**	*e*Pn	**Pn**	**07 09 15.3**	**+2.9**
ISCO	**Idaho Springs**	**12.13**	**30**	*e*Pn	**Pn**	**07 09 18.9**	**+2.9**
HWUT	**Hardware Ranch**	**12.18**	**7**	*e*Pn	**Pn**	**07 09 19.7**	**+3.1**
	124nm,1.4s						
ABTX	**Abilene, Hawle**	**12.24**	**72**	*e*Pn	Pn	07 09 21.7	+4.3
HVU	**Hansel Valley**	**12.27**	**2**	Pn	**Pn**	**07 09 15.2**	**-2.6**
KSCO	**Kaye Shedlock'**	**13.04**	**40**	*e*Pn	Pn	07 09 33.5	+5.2
RWWY	**Rawlins**	**13.18**	**21**	*e*Pn	**P**	**07 09 38.0**	**-2.7**
WDC	**Whiskeytown Da**	**13.32**	**329**	*e*Pn	**Pn**	**07 09 31.9**	**-0.2**
AHID	**Auburn Hatcher**	**13.37**	**8**	*e*Pn	**Pn**	**07 09 34.9**	**+2.0**
	77nm,1.4s						
PHWY	**Pilot Hill**	**13.45**	**27**	*e*Pn	Pn	07 09 29.7	-4.4
WMOK	**Wichita Mounta**	**13.48**	**63**	*e*Pn	**Pn**	**07 09 35.7**	**+1.4**
MOD	**Modoc**	**13.56**	**338**	*e*Pn	**Pn**	**07 09 36.3**	**+0.8**
WVOR	**Wild Horse Val**	**13.57**	**343**	*e*Pn	**Pn**	**07 09 35.5**	**0.0**
BW06	**Boulder Array**	**13.61**	**12**	*e*Pn	**Pn**	**07 09 35.5**	**-0.6**
PDAR	**Pinedale Array**	**13.61**	**12**	Pn	**Pn**	**07 09 36.1**	**-0.1**
PDAR	**Pinedale Array**	**13.61**	**12**	Pn	**Pn**	**07 09 36.1**	**-0.1**
	0.1nm,0.3s,baz=192,slow=12,SNR=22						
PDAR				LR	LR	07 14 37.9	
	comp=Z,2μm,19.5s,baz=204,slow=37						
RRI2	**Red Ridge**	**13.93**	**6**	*e*Pn	**Pn**	**07 09 42.3**	**+1.7**
WHTX	**Lake Whitney**	**13.98**	**76**	*e*Pn	**Pn**	**07 09 42.0**	**+0.9**
REDW	**Red Top Meadow**	**13.99**	**8**	*e*Pn	**Pn**	**07 09 42.4**	**+0.9**
HLID	**Hailey**	**14.06**	**357**	*e*Pn	**Pn**	**07 09 43.9**	**+1.6**
SNOW	**Snow King Moun**	**14.10**	**8**	*e*Pn	**Pn**	**07 09 42.5**	**-0.5**
TPAW	**Teton Pass**	**14.11**	**7**	*e*Pn	**Pn**	**07 09 44.2**	**+1.2**
KHMM	**Horse Mountain**	**14.11**	**326**	*e*Pn	**Pn**	**07 09 43.3**	**+0.3**
LOHW	**Long Hollow**	**14.27**	**8**	*e*Pn	**Pn**	**07 09 44.0**	**-1.2**
YBH	**Yreka Blue Hor**	**14.33**	**331**	Pn	**Pn**	**07 09 44.7**	**-1.2**
YBH	**Yreka Blue Hor**	**14.33**	**331**	Pn	**Pn**	**07 09 44.7**	**-1.2**
	0.0nm,0.3s,baz=152,slow=15,SNR=8.7						
YBH				LR	LR	07 15 07.5	
	comp=Z,2μm,20.8s,baz=156,slow=37						
MOOW	**Moose Ponds**	**14.39**	**8**	*e*Pn	**Pn**	**07 09 46.9**	**0.0**
J08A	**Circle Bar Ran**	**14.40**	**345**	*e*Pn	**Pn**	**07 09 47.9**	**+0.9**
K05A	**Summer Lake**	**14.49**	**338**	*e*Pn	**Pn**	**07 09 49.5**	**+1.2**
IMW	**Indian Meadow**	**14.51**	**7**	*e*Pn	**Pn**	**07 09 49.8**	**+1.2**
FLWY	**Flagg Ranch**	**14.72**	**8**	*e*Pn	**Pn**	**07 09 52.1**	**+0.7**
OGNE	**Ogallala**	**14.73**	**36**	*e*Pn	**Pn**	**07 09 53.0**	**+1.5**
	75nm,1.4s						
YFT	**Old Faithful**	**15.07**	**7**	*e*Pn	**Pn**	**07 09 58.1**	**+2.0**
	86nm,1.4s						
YFT				*es*P	sP	07 10 17.2	+14
LKWY	**Lake**	**15.23**	**8**	*e*Pn	**Pn**	**07 10 00.1**	**+1.8**
	47nm,1.4s						
YMR	**Madison River**	**15.27**	**7**	*e*Pn	**Pn**	**07 10 01.0**	**+2.2**
	87nm,1.2s						
MCMT	**McKenzie Canyo**	**15.31**	**2**	*e*Pn	**Pn**	**07 10 00.8**	**+1.5**
HKT	**Hockley**	**15.32**	**84**	*e*Pn	**Pn**	**07 09 59.3**	**+0.1**
	203nm,1.6s						
YHB	**Horse Butte**	**15.33**	**6**	*e*Sn	**Sn**	**07 12 53.1**	**+3.2**
I07A	**Izee**	**15.33**	**343**	*e*Pn	**Pn**	**07 10 00.2**	**+0.7**
	193nm,2.0s						
YNR	**Norris Junctio**	**15.35**	**7**	*e*Pn	**Pn**	**07 10 02.0**	**+2.2**
	132nm,1.5s						
QLMT	**Earthquake Lak**	**15.39**	**5**	*e*Pn	**Pn**	**07 10 02.3**	**+2.0**
PINOR	**Pine Mountain**	**15.46**	**339**	*e*P	**P**	**07 10 04.7**	**-1.0**
	275nm,2.4s						
BMO	**Blue Mountains**	**15.63**	**350**	*e*Pn	**Pn**	**07 10 03.2**	**-0.2**
	52nm,1.5s						
DLMT	**Dillon**	**15.85**	**2**	*e*Pn	**Pn**	**07 10 08.2**	**+2.0**
	49nm,1.3s						
RLMT	**Red Lodge**	**15.94**	**11**	*e*Pn	**Pn**	**07 10 08.0**	**+0.4**
	143nm,1.6s						
TUL1	**Tulsa**	**16.17**	**62**	*e*Pn	**Pn**	**07 10 11.2**	**+0.8**
	211nm,1.5s						
BOZ	**Bozeman (W)**	**16.18**	**5**	*e*Pn	**Pn**	**07 10 11.0**	**+0.4**
	190nm,2.2s						
LRM	**Limekiln Ridge**	**16.32**	**2**	*e*Pn	**Pn**	**07 10 13.5**	**+1.1**
G08A	**Pilot Rock**	**16.35**	**346**	*e*Pn	**Pn**	**07 10 13.4**	**+0.7**
	46nm,1.4s						
RSSD	**Black Hills**	**16.41**	**25**	*e*Pn	**Pn**	**07 10 13.7**	**+0.1**
	136nm,1.1s						
RSSD				*e*PcP	PcP	07 15 13.0	+6.7
GCMT	**Greycliff**	**16.53**	**9**	*e*Pn	**Pn**	**07 10 16.0**	**+0.9**
H04A	**Detroit Lake**	**16.66**	**338**	*e*Pn	**Pn**	**07 10 15.9**	**-0.7**
	76nm,1.5s						
F10A	**Beach Ranch, E**	**16.71**	**351**	*e*Pn	**Pn**	**07 10 17.1**	**-0.2**
	252nm,2.7s						
YAIG	**Yautepec**	**16.85**	**126**	*i* P	P	07 10 30.8	+9.5
PLIG	**Platanillo**	**16.86**	**128**	*i* P	Pn	07 10 11.2	-8.0
KSU1	**Kansas State U**	**16.87**	**51**	*e*Pn	**P**	**07 10 20.8**	**-0.6**
	39nm,1.1s						
BGNE	**Belgrade**	**17.19**	**42**	*e*Pn	**Pn**	**07 10 23.1**	**-0.2**
	93nm,1.3s						
HRY	**Holter Researc**	**17.23**	**4**	*e*Pn	**P**	**07 10 25.0**	**-0.4**
MSO	**Missoula**	**17.31**	**359**	*e*Pn	**Pn**	**07 10 24.6**	**-0.2**
	38nm,1.4s						
E09A	**Wood Farm, Sta**	**17.38**	**349**	*e*Pn	**Pn**	**07 10 24.9**	**-0.6**
	269nm,2.4s						
CHMT	**Chamberlain Mo**	**17.39**	**0**	*e*Pn	**Pn**	**07 10 26.3**	**+0.4**
HAWA	**Hanford**	**17.52**	**346**	*e*Pn	**Pn**	**07 10 26.6**	**-0.7**
	490nm,2.8s						
MIAR	**Mount Ida**	**17.59**	**68**	*e*Pn	**P**	**07 10 29.8**	**+0.5**
	36nm,1.1s						
SLMT	**Seeley Lake**	**17.72**	**360**	*e*Pn	**Pn**	**07 10 30.1**	**+0.2**
F04A	**Amboy**	**17.85**	**339**	*e*Pn	**P**	**07 10 31.9**	**-0.3**
	60nm,1.7s						
SWMT	**Swartz Lake**	**17.99**	**359**	*e*Pn	**Pn**	**07 10 33.2**	**0.0**
D08A	**Wollman Farm,**	**18.04**	**348**	*e*Pn	**Pn**	**07 10 33.8**	**+0.1**
	63nm,1.5s						
LAO	**L

IM04	Indian Mountai	44.02	338	eP	P	07 14 27.7	-3.0
IMA2	Indian Mountai	44.05	338	eP	P	07 14 27.6	-3.3
OTAV	Otavalo	44.27	125	eP	P	07 14 34.8	+1.0
9.2nm,1.1s							
ROSC	El Rosal	44.34	116	LR	LR	07 35 21.2	
comp=Z,312nm,18.1s,baz=178,slow=39							
SDV	Santo Domingo	45.00	108	eP	P	07 14 39.5	+0.1
4.4nm,0.9s							
RKT	Rikitea	56.27	204	eLR	LR	07 32 32.3	
462nm,28.2s							
FX1	Attu Island--F	57.26	316	LR	LR	07 37 12.1	
comp=Z,89nm,20.5s,baz=88,slow=32							
PPT	Papeete	58.35	221	LR	LR	07 35 11.5	
comp=Z,124nm,19.3s,baz=355,slow=30							
PPT2	Papeete2	58.37	221	eS	S	07 24 37.2	+15
67nm,31.2s							
PPT2				eLR	LR	07 33 03.9	
257nm,26.5s							
TBI	Tubuai	62.93	217	eLQ	LQ	07 32 40.1	
391nm,33.5s							
TBI				eLR	LR	07 35 07.4	
199nm,29.5s							
LPAZ	La Paz	63.12	130	P	P	07 16 53.9	+1.8
LPAZ	La Paz	63.12	130	P	P	07 16 53.9	+1.8
0.6nm,1.0s,baz=304,slow=5.0,SNR=4.1							
LPAZ				LR	LR	07 42 51.3	
comp=Z,159nm,19.0s,baz=112,slow=35							
JMIC	Jan Mayen	67.10	20	LR	LR	07 47 39.0	
comp=Z,375nm,18.2s,baz=270,slow=37							
SPITS	Spitsbergen Ar	68.64	10	LR	LR	07 48 22.4	
comp=Z,837nm,18.0s,baz=315,slow=37							
ARCES	ARCESS Array B	76.86	14	LR	LR	07 56 21.4	
comp=Z,346nm,19.0s,baz=333,slow=39							
CPUP	Villa Florida	77.29	130	eP	P	07 18 17.9	-0.1
21nm,1.0s							
CPUP	Villa Florida	77.29	130	P	P	07 18 18.2	+0.2
4.5nm,0.9s,baz=37,slow=1.4,SNR=3.9							
CPUP				LR	LR	07 55 00.2	
comp=Z,90nm,19.8s,baz=221,slow=38							
BDFB	Brasilia	77.42	116	LR	LR	07 55 08.8	
comp=Z,138nm,18.6s,baz=142,slow=38							
ASAJ	Asahikawa	79.14	315	LR	LR	07 50 22.0	
comp=Z,64nm,21.3s,baz=279,slow=33							
NOA	NORSAR Array B	79.24	24	LR	LR	07 51 41.3	
comp=Z,213nm,18.2s,baz=320,slow=34							
PMOZ	Porto Moniz, M	79.38	58	eLR	LR	07 48 44.3	
202nm,18.0s							
PLCA	Paso Flores	80.39	148	P	P	07 18 35.3	+0.4
PLCA	Paso Flores	80.39	148	P	P	07 18 35.3	+0.4
4.8nm,0.9s,baz=331,slow=8.0,SNR=3.6							
HFS	Hagfors	80.75	24	LR	LR	07 56 16.5	
comp=Z,262nm,18.6s,baz=319,slow=37							
PGAV	Gavieira, Arco	81.02	47	eLR	LR	07 48 04.5	
241nm,20.0s							
MVO	Moncorvo	82.23	47	eLR	LR	07 48 24.6	
239nm,20.0s							
MTE	Manteigas	82.31	48	eLQ	LQ	07 44 45.0	
MTE				eLR	LR	07 49 05.3	
193nm,18.0s							
PMRV	Marv??o	82.93	49	eLR	LR	07 49 08.7	
170nm,18.0s							
PVAQ	Vaqueiros	83.80	50	eLR	LR	07 49 52.6	
276nm,22.0s							
ESDC	Sonseca Array	85.01	47	P	P	07 18 57.8	-1.4
ESDC	Sonseca Array	85.01	47	P	P	07 18 57.8	-1.4
0.2nm,0.5s,baz=325,slow=6.3,SNR=3.9							
CBIJ	Chichi jima	88.33	300	LR	LR	07 49 00.3	
comp=Z,142nm,21.2s,baz=12,slow=29							
MDT	Midelt	88.44	53	LR	LR	07 57 33.9	
comp=Z,137nm,18.2s,baz=91,slow=35							
GERES	GERESS Array B	88.86	32	LR	LR	07 58 50.6	
comp=Z,239nm,19.2s,baz=42,slow=36							
CN2	Changchun	89.32	322	eP	P	07 19 24.8	+4.9
VRAC	Vranov	89.81	30	LR	LR	07 58 40.8	
comp=Z,249nm,19.1s,baz=325,slow=35							
AKASG	Malin Array Be	93.60	23	LR	LR	08 03 17.8	
comp=Z,283nm,18.7s,baz=310,slow=37							
SONM	Songino Array	95.10	334	LR	LR	08 04 22.8	
comp=Z,149nm,21.6s,baz=195,slow=37							
ZALV	Zalesovo Beam	95.40	349	LR	LR	08 03 07.4	
comp=Z,142nm,19.9s,baz=250,slow=36							
KEST	Kesra	95.70	43	LR	LR	08 00 43.5	
comp=Z,79nm,19.9s,baz=269,slow=34							
BJI	Beijing	96.87	324	P	P	07 19 58.4	+3.6
BJI				pmax	pmax		
comp=Z,10.0nm,0.7s							
BVAR	Borovoye Array	97.76	358	LR	LR	08 09 34.3	
comp=Z,204nm,18.8s,baz=187,slow=39							
HHC	Hu-ho-hao-te	98.53	327	eP	Pdif	07 20 05.0	+2.6
HHC				pP	pP	07 20 09.8	+6.5
HHC				sP	sP	07 20 12.0	+8.3
HHC				PP	PP	07 24 06.1	+4.2
HHC				SKS	SKSac	07 30 40.8	-0.8
HHC				S	S	07 31 26.9	-5.4
HHC				LR	LR		
comp=N,240nm,19.0s							
HHC				LR	LR		
comp=E,350nm,17.1s							
HHC				LR	LR		
comp=Z,230nm,17.7s							
AKTO	Aktyubinsk	100.06	6	LR	LR	08 09 12.5	
comp=Z,540nm,18.1s,baz=0.8,slow=38							
NJ2	Nanjing	101.18	317	eP	Pdif	07 20 18.6	+4.4
NJ2				pmax	pmax		
comp=Z,10.0nm,1.0s							
CD2	Chengdu	110.26	326	Pdif	Pdif	07 21 00.0	+5.3
CD2				PP	PP	07 25 37.3	+8.1
CD2	Chengdu	110.26	326	SKS	SKSdf	07 32 11.8	+2.5
CD2	Chengdu	110.26	326	SKKS	Sdif	07 33 08.1	-2.5
CD2	Chengdu	110.26	326	SS	SS	07 40 56.1	-0.2
CD2				AMB	AMB		
comp=Z,230nm,8.9s							
CD2				LR	LR		
comp=N,500nm,4.8s							
CD2				LR	LR		
comp=Z,320nm,10.1s							
KSH	Kashi	110.78	352	ePKP	PKiKP	07 25 03.6	+6.8
KSH				PP	PP	07 25 41.9	+9.4
KSH				PKS	PKSdf	07 28 39.8	+6.2
KSH				SKKS		07 32 36.0	
KSH				LR	LR		
comp=N,84nm,8.1s							
KSH				LR	LR		
comp=E,74nm,5.8s							
KSH				LR	LR		
comp=Z,180nm,6.2s							
GYA	Guiyang	112.37	321	ePdif	Pdif	07 21 08.8	+4.5
GYA				PKP	PKiKP	07 25 05.4	+5.2
GYA				PP	PP	07 25 51.8	+7.2
GYA				PKS	PKSdf	07 28 41.0	+3.9
GYA	Guiyang	112.37	321	PKP	PKiKP	07 25 05.4	+5.2
GYA				PP	PP	07 25 51.8	+7.2
GYA				PKS	PKSdf	07 28 41.0	+3.9
GYA				SKKS		07 32 45.6	
GYA				SS	SS	07 41 25.8	+0.9
GYA				AMB	AMB		
comp=Z,120nm,7.6s							
GYA				LR	LR		
comp=N,130nm,20.4s							
GYA				LR	LR		
comp=E,110nm,21.0s							
KMI	Kunming	115.53	324	PKP	PKPdf	07 25 11.0	+4.6

*ISK **13** 07:27:57.6, 38°.92N×27°.05E, h5km, MD3.1*
*DDA **13** 07:27:58.6, 38°.90N×27°.04E, h7km, MD3.1*
*ISCJB **13** 07:27:59.0±0.5, 38°.90N±0°.02×27°.03E±0°.02, h5km±4km, Error ellipse: s-maj=3.1km s-min=2.7km az=42.4*
*CSEM **13** 07:27:59.1±0.1, 38°.89N×27°.04E, h5km, MD3.1, Error ellipse: s-maj=2.6km s-min=2.3km az=73.0*
*THE **13** 07:28:00.1, 38°.86N×27°.01E, h13km±2km, ML2.7/4, Error ellipse: s-maj=2.5km s-min=1.0km az=252.0*
ISC 13 07:27:59.2±1.0, 38°.90N±0°.02×27°.04E±0°.02, h9km±9km, n79, σ0°64/117, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AYVA	Ayvalik	0.49	326	i P	Pg	07 28 09.0	+0.2
AYVA				i S	Sb	07 28 16.5	-0.9
AYVA	Ayvalik	0.49	326	i P	Pg	07 28 09.0	+0.2
AYVA				i S	Sb	07 28 16.5	-0.9
IZM	Izmir	0.53	161	ePG	Pg	07 28 08.9	-0.5
IZM	Izmir	0.53	161	ePg	Pg	07 28 08.9	-0.5
AKS	Akhisar	0.60	91	ePG	Pg	07 28 10.7	-0.1
AKS				eSG	Sb	07 28 19.8	-0.7
AKS	Akhisar	0.60	91	ePg	Pg	07 28 10.7	-0.1
AKS				eSg	Sb	07 28 19.8	-0.7
AKHS	Akhisar	0.60	91	i P	Pg	07 28 11.1	+0.3
AKHS				i S	Sb	07 28 20.1	-0.4
AKHS	Akhisar	0.60	91	i P	Pg	07 28 11.1	+0.3
AKHS				i S	Sb	07 28 20.1	-0.4
URLA	Izmir	0.64	213	i P	Pg	07 28 11.1	-0.4
URLA				i S	Sb	07 28 21.0	-0.6
URLA	Izmir	0.64	213	i P	Pg	07 28 11.1	-0.4
URLA				i S	Sb	07 28 21.0	-0.6
PRK	Paraskevi	0.69	300	P	Pb	07 28 13.3	-0.2
PRK				S	Sb	07 28 22.9	-0.3
PRK	Paraskevi	0.69	300	P	Pb	07 28 13.3	-0.2
PRK				S	Sb	07 28 22.9	-0.3
CHOS	Chios island	0.93	237	P	Pg	07 28 16.3	-0.7
CHOS				S	Sg	07 28 29.4	+0.4
CHOS	Chios island	0.93	237	P	Pg	07 28 16.3	-0.7
CHOS				S	Sg	07 28 29.4	+0.4
BALY	Balya	0.95	28	i P	Pg	07 28 17.4	-0.1
BALY				i S	Sn	07 28 33.0	+0.4
BALY	Balya	0.95	28	i P	Pg	07 28 17.4	-0.1
BALY				i S	Sn	07 28 33.0	+0.4
SIGR	SIGRI	0.98	289	P	Pg	07 28 18.0	+0.1
SIGR				S	Sb	07 28 31.3	0.0
SIGR	SIGRI	0.98	289	P	Pg	07 28 18.0	+0.1
SIGR				S	Sb	07 28 31.3	0.0
BALB	Balikesir	0.99	41	ePG	Pg	07 28 17.1	-1.0
BALB	Balikesir	0.99	41	ePg	Pg	07 28 17.1	-1.0
SMG	Samos	1.20	188	P	Pg	07 28 20.7	-1.4
SMG				S	Sg	07 28 37.4	-0.3
SMG	Samos	1.20	188	P	Pg	07 28 20.7	-1.4
SMG				S	Sg	07 28 37.4	-0.3
GCAM	G?zelcaml?	1.20	173	i P	Pg	07 28 21.4	-0.9
GCAM				i S	Sg	07 28 37.9	0.0
GCAM	G?zelcaml?	1.20	173	i P	Pg	07 28 21.4	-0.9
GCAM				i S	Sg	07 28 37.9	0.0
BOZC	Bozcaada	1.22	321	i P	Pb	07 28 22.2	-0.2
BOZC				i S	Sg	07 28 38.2	-0.2
GONE	Gonen-Balikesi	1.25	23	ePN	Pn	07 28 21.9	-1.0
GONE	Gonen-Balikesi	1.25	23	ePn	Pn	07 28 21.9	-1.0
MANT	Manisa	1.25	108	i P	Pn	07 28 23.2	+0.1
MANT				i S	Sg	07 28 40.1	+0.6
MANT	Manisa	1.25	108	i P	Pn	07 28 23.2	+0.1
MANT				i S	Sg	07 28 40.1	+0.6
DEMI	Demirci	1.31	83	i P	Pn	07 28 23.7	-0.1
DEMI				i S	Sn	07 28 41.9	+0.4
DEMI	Demirci	1.31	83	i P	Pn	07 28 23.7	-0.1
DEMI				i S	Sn	07 28 41.9	+0.4
DURS	Dursunbey	1.31	57	i P	Pn	07 28 23.4	-0.5
DURS				i S	Sg	07 28 41.6	+0.1
DURS	Dursunbey	1.31	57	i P	Pn	07 28 23.4	-0.5
DURS				i S	Sg	07 28 41.6	+0.1
KULA	Kula-Manisa	1.32	106	ePN	Pn	07 28 23.9	+0.1
KULA	Kula-Manisa	1.32	106	P	Pn	07 28 23.6	-0.3
KULA				S	Sb	07 28 40.5	-0.8
KULA	Kula-Manisa	1.32	106	P	Pn	07 28 23.6	-0.3
KULA	Kula-Manisa	1.32	106	ePn	Pn	07 28 24.0	+0.1
KULA				S	Sb	07 28 40.5	-0.8
AYDN	Tasoluk	1.40	152	i P	Pn	07 28 24.0	-1.0
AYDN				i S	Sg	07 28 45.0	+0.9
AYDN	Tasoluk	1.40	152	i P	Pn	07 28 24.0	-1.0
AYDN				i S	Sg	07 28 45.0	+0.9
DST	Dursunbey	1.41	59	ePN	Pn	07 28 25.1	-0.1
DST	Dursunbey	1.41	59	ePn	Pn	07 28 25.1	-0.1
LPK	Lapseki	1.49	352	ePN	Pn	07 28 26.3	+0.1
LPK	Lapseki	1.49	352	ePn	Pn	07 28 26.3	+0.1
KRBG	Karabiga-Canak	1.51	7	ePN	Pn	07 28 26.9	+0.5
KRBG	Karabiga-Canak	1.51	7	ePn	Pn	07 28 26.9	+0.5
KCTX	Karacabey (Bur	1.70	36	ePN	Pn	07 28 28.8	-0.3
KCTX	Karacabey (Bur	1.70	36	ePn	Pn	07 28 28.8	-0.3
RKY	Sarkoy-Tekirda	1.79	3	ePN	Pn	07 28 30.6	+0.2
RKY	Sarkoy-Tekirda	1.79	3	ePn	Pn	07 28 30.6	+0.2
SART	Tekirdag	1.79	3	i P	Pb	07 28 32.3	0.0
SART				i S	Sn	07 28 54.2	+0.8
SART	Tekirdag	1.79	3	i P	Pb	07 28 32.3	0.0
SART				i S	Sn	07 28 54.2	+0.8
BODT	Bodrum	1.84	173	ePN	Pn	07 28 32.1	+1.1
BODT	Bodrum	1.84	173	ePn	Pn	07 28 32.1	+1.1
GDZ	Gediz	1.91	83	i P	Pb	07 28 34.5	+0.2
GDZ				i S	Sg	07 29 00.5	0.0
GDZ	Gediz	1.91	83	i P	Pb	07 28 34.5	+0.2
SMTH	Samothraki Isl	1.96	324	P	Pn	07 28 32.5	-0.1
SMTH				S	Sn	07 28 57.2	-0.1
SMTH	Samothraki Isl	1.96	324	P	Pn	07 28 32.5	-0.1
SMTH				S	Sn	07 28 57.2	-0.1
YER	Yerkesik	2.01	151	ePN	Pn	07 28 34.6	+1.3
YER	Yerkesik	2.01	151	ePn	Pn	07 28 34.7	+1.3
KHL	Karahalli	2.02	106	ePN	Pn	07 28 34.3	+0.7
KHL	Karahalli	2.02	106	ePn	Pn	07 28 34.3	+0.7
MDNY	Mudanya-Bursa	2.05	43	ePN	Pn	07 28 34.2	+0.5
MDNY	Mudanya-Bursa	2.05	43	ePn	Pn	07 28 34.3	+0.5
ALN	Alexandroupoli	2.14	339	P	Pn	07 28 35.8	+0.7
ALN				S	Sn	07 29 01.2	-0.6
ALN	Alexandroupoli	2.14	339	P	Pn	07 28 35.8	+0.7
ALN				S	Sn	07 29 01.2	-0.6
APE	Apeiranthos	2.18	214	ePN	Pn	07 28 37.0	+1.3
APE	Apeiranthos	2.18	214	ePn	Pn	07 28 37.0	+1.3
DAT	Datca	2.20	169	ePN	Pn	07 28 37.1	+1.0
DAT	Datca	2.20	169	ePn	Pn	07 28 37.1	+1.0
DALY	Dalyan (Mu¨la	2.44	148	ePN	Pn	07 28 40.4	+1.3
DALY	Dalyan (Mu¨la	2.44	148	ePn	Pn	07 28 40.4	+1.3
SLVT	Silivri	2.50	21	ePN	Pn	07 28 40.6	+0.6
SLVT	Silivri	2.50	21	ePn	Pn	07 28 40.6	+0.6
CTKS	Kestanelik-??a	2.59	25	ePN	Pn	07 28 42.1	+0.8
CTKS	Kestanelik-??a	2.59	25	ePn	Pn	07 28 42.1	+0.8
BGKT	Bogazkoy	2.64	30	ePN	Pn	07 28 42.7	+0.7
BGKT	Bogazkoy	2.64	30	ePn	Pn	07 28 42.7	+0.7
KAVA	Kavala	2.86	318	P	Pn	07 28 44.9	-0.1
KAVA	Kavala	2.86	318	P	Pn	07 28 44.9	-0.1

DDA 13 07:33:47.1, 38°.92N×27°.31E, h7km, MD2.8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALY	Balya	0.85	16	i P	Pb	07 34 04.6	+0.3
BALY				i S	Sn	07 34 19.5	+1.2
AYDN	Tasoluk	1.33	160	i P	Sg	07 34 31.2	+1.0
AYDN				i S	Sn	07 34 43.7	+13
BODT	Bodrum	1.86	180	ePG	Pg	07 34 26.6	+3.9
BODT				eSG	Sn	07 34 29.1	-14
YER	Yerkesik	1.94	156	ePG	Pg	07 34 35.8	+11
DAT	Datca	2.20	174	ePG	Pg	07 34 30.4	+1.1

*MOS **13** 07:43:45.9±1.3, 34°.08N×25°.41E, h12km, mb4.7/38, Error ellipse: s-maj=5.6km s-min=3.3km az=108.2*
*ISCJB **13** 07:43:45.2±0.8, 33°.92N±0°.02×25°.54E±0°.02, h12km±5km, mb4.5/97, MS3.9/7, Error ellipse: s-maj=3.1km s-min=2.3km az=15.6*
*IDC **13** 07:43:45.4±0.6, 34°.11N×25°.43E, h0km, mb4.3/22, mb1 4.3/32, mb1mx4.3/37, mbtmp4.2/32, ML4.0/8, MS3.3/4, Ms1 3.3/4, ms1mx3.0/41, Error ellipse: s-maj=13.5km s-min=11.8km az=176.0*
*BJI **13** 07:43:46.1, 34°.58N×25°.35E, h10km, mB5.0/10, mb4.8/16, Ms4.8/6, Ms7 4.5/6*
*NEIC **13** 07:43:47.2±0.3, 34°.03N×25°.46E, h10km, mb4.5/57, Error ellipse: s-maj=5.8km s-min=3.3km az=13.0*
*TEH **13** 07:43:48.0, 34°.01N×25°.47E, h10km, ML4.5*
*CSEM **13** 07:43:48.8±0.1, 33°.99N×25°.53E, h24km, mb4.6/44, Error ellipse: s-maj=3.5km s-min=2.5km az=17.0*
*HLW **13** 07:43:48.5, 34°.03N×25°.57E, h33km±17km, Md4.3, Ml3.6*
*THE **13** 07:43:51.0, 34°.27N×25°.46E, h0km±2km, Error ellipse: s-maj=5.6km s-min=1.5km az=178.0*
*ATH **13** 07:43:51.1, 34°.31N×25°.43E, h26km±1km, ML3.8*
*ISK **13** 07:43:53.6, 34°.38N×25°.80E, h38km, ML4.1*
ISC 13 07:43:47.6±0.5, 33°.98N±0°.03×25°.45E±0°.03, h16km±2km, h16km:pP-P, n738, σ1°39/750, mb4.6/96, MS4.0/7, 13C-4D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	Sivas	1.16	333	P	Pn	07 44 08.3	-0.8
SIVA				S	Sb	07 44 23.9	-0.2
SIVA	Sivas	1.16	333	ePN	Pn	07 44 07.8	-1.3
SIVA	Sivas	1.16	333	ePn	Pn	07 44 07.8	-1.3
SIVA	Sivas	1.16	333	P	Pn	07 44 08.3	-0.8
SIVA				S	Sb	07 44 23.9	-0.2
LAST	Lasithi	1.18	1	P	Pn	07 44 08.0	-1.5
LAST	Lasithi	1.18	1	ePN	Pn	07 44 07.7	-1.8
LAST	Lasithi	1.18	1	ePn	Pn	07 44 07.7	-1.8
LAST	Lasithi	1.18	1	P	Pn	07 44 08.0	-1.5
NPS	Neapolis	1.28	6	P	Pn	07 44 09.9	-1.0
NPS	Neapolis	1.28	6	ePN	Pn	07 44 09.6	-1.3
NPS	Neapolis	1.28	6	ePn	Pn	07 44 09.6	-1.3
NPS	Neapolis	1.28	6	P	Pn	07 44 09.9	-1.0
ZKR	Zakros	1.29	29	P	Pn	07 44 10.4	-0.6
ZKR				S	Sb	07 44 26.4	-1.5
ZKR	Zakros	1.29	29	P	Pn	07 44 10.4	-0.6
ZKR				S	Sb	07 44 26.4	-1.5
IDI	Anoyia	1.38	341	P	Pn	07 44 11.6	-0.7
IDI	Anoyia	1.38	341	ePN	Pn	07 44 11.5	-0.7
IDI	Anoyia	1.38	341	Pn	Pn	07 44 11.8	-0.4
IDI				Sn	Sg	07 44 31.4	-0.8
IDI	Anoyia	1.38	341	Pn	Pn	07 44 11.9	-0.4
21nm,0.3s,baz=163,slow=16,SNR=123							
IDI				Sn	Sg	07 44 31.5	-0.8
123nm,0.3s,baz=287,slow=17,SNR=11							
IDI	Anoyia	1.38	341	ePn	Pn	07 44 11.5	-0.7
IDI				Sn	Sg	07 44 31.5	-0.8
GVD	Gavdhos	1.42	308	P	Pb	07 44 13.9	+0.3
GVD	Gavdhos	1.42	308	ePn	Pb	07 44 14.0	+0.4
GVD	Gavdhos	1.42	308	P	Pb	07 44 13.9	+0.3
VAM	Vamos	1.76	324	P	Pb	07 44 18.4	-1.0
VAM	Vamos	1.76	324	ePN	Pb	07 44 18.3	-1.1
VAM	Vamos	1.76	324	P	Pb	07 44 18.4	-1.0
KARN	Karanos	1.90	319	P	Pb	07 44 20.9	-1.0
KARN	Karanos	1.90	319	ePN	Pb	07 44 20.6	-1.3
KARN	Karanos	1.90	319	ePn	Pb	07 44 20.6	-1.3
KARN	Karanos	1.90	319	P	Pb	07 44 20.9	-1.0
KARP	Karpathos	2.10	42	P	Pb	07 44 24.2	-1.2
KARP	Karpathos	2.10	42	ePN	Pb	07 44 23.9	-1.5
KARP	Karpathos	2.10	42	ePn	Pb	07 44 23.9	-1.5
KARP	Karpathos	2.10	42	P	Pb	07 44 24.2	-1.2
LTBQ	Tobruq	2.31	214	i P	Pn	07 44 26.4	+1.4
SNR=24							
LTBQ				eS	Sb	07 44 56.9	-0.3
146nm,0.5s,SNR=24							
THR6	Thira Island,	2.37	359	P	Pn	07 44 26.8	+1.0
THR6	Thira Island,	2.37	359	P	Pn	07 44 26.8	+1.0
SANT	Santorini	2.38	0	ePN	Pn	07 44 26.2	+0.2
SANT				eSN	Sn	07 44 49.9	-5.0
SANT	Santorini	2.38	0	P	Pn	07 44 26.5	+0.5
SANT	Santorini	2.38	0	ePB	Pn	07 44 26.5	+0.5
SANT	Santorini	2.38	0	ePn	Pn	07 44 26.8	+0.8
SANT	Santorini	2.38	0	ePb	Pn	07 44 26.5	+0.5
SANT	Santorini	2.38	0	ePn	Pn	07 44 26.8	+0.8
SLUM		2.49	185	P	Pn	07 44 27.7	+0.2
ANKY	Antikythira Is	2.58	317	P	Pn	07 44 30.7	+2.0
ANKY	Antikythira Is	2.58	317	ePB	Pb	07 44 31.0	-2.5
ANKY	Antikythira Is	2.58	317	P	Pn	07 44 30.7	+2.0
ANKY	Antikythira Is	2.58	317	ePb	Pb	07 44 31.0	-2.5
KYTH	Kithira	3.03	320	P	Pn	07 44 36.2	+1.4
KYTH	Kithira	3.03	320	ePN	Pn	07 44 36.3	+1.4
KYTH	Kithira	3.03	320	ePn	Pn	07 44 36.3	+1.4
APE	Apeiranthos	3.08	1	ePN	Pn	07 44 36.0	+0.5
APE	Apeiranthos	3.08	1	P	Pn	07 44 36.3	+0.7
APE	Apeiranthos	3.08	1	ePN	Pn	07 44 36.1	+0.5
APE	Apeiranthos	3.08	1	ePn	Pn	07 44 36.1	+0.5
ARG	Arkhangelos	3.13	44	P	Pn	07 44 38.0	+1.9
ARG	Arkhangelos	3.13	44	ePN	Pn	07 44 38.1	+1.9
ARG	Arkhangelos	3.13	44	ePn	Pn	07 44 38.1	+1.9
DAT	Datca	3.25	32	ePN	Pn	07 44 36.8	-1.1
DAT	Datca	3.25	32	ePn	Pn	07 44 36.8	-1.1
VLI	Veliai	3.42	324	P	Pn	07 44 41.9	+1.7
VLI	Veliai	3.42	324	ePN	Pn	07 44 41.2	+1.0
VLI	Veliai	3.42	324	ePn	Pn	07 44 41.2	+1.0
BODT	Bodrum	3.43	26	ePN	Pn	07 44 39.3	-1.0
BODT	Bodrum	3.43	26	ePn	Pn	07 44 39.3	-1.0
DYR	Agios Nikonas	3.77	318	ePN	Pn	07 44 47.5	+2.5
DYR	Agios Nikonas	3.77	318	ePn	Pn	07 44 47.5	+2.5
DALY	Dalyan (Mu¨la	3.85	42	ePN	Pn	07 44 45.5	-0.6
DALY	Dalyan (Mu¨la	3.85	42	ePn	Pn	07 44 45.5	-0.6
SMG	Samos	3.88	16	ePN	Pn	07 44 46.8	+0.2
SMG	Samos	3.88	16	ePn	Pn	07 44 46.8	+0.2
YER	Yerkesik	3.90	35	ePN	Pn	07 44 46.1	-0.8
YER	Yerkesik	3.90	35	ePn	Pn	07 44 46.1	-0.8
DIDY	Didyma	3.93	333	P	Pn	07 44 47.6	+0.2
DIDY	Didyma	3.93	333	P	Pn	07 44 47.6	+0.2
DID	Didima	3.95	334	P	Pn	07 44 47.7	+0.1
DID	Didima	3.95	334	ePN	Pn	07 44 47.7	+0.1
DID	Didima	3.95	334	ePn	Pn	07 44 47.7	+0.1
FETY	Fethiye	3.98	47	ePN	Pn	07 44 47.6	-0.3
FETY	Fethiye	3.98	47	ePn	Pn	07 44 47.6	-0.3
NAIG	Nisos Aigina	4.09	338	ePN	Pn	07 44 50.7	+1.3
NAIG	Nisos Aigina	4.09	338	ePn	Pn	07 44 50.7	+1.3
PYL	PYLOS	4.20	315	ePN	Pn	07 44 52.7	+1.8
PYL	PYLOS	4.20	315	ePn	Pn	07 44 52.7	+1.8
VLX	Vlachokerasia	4.21	324	P	Pn	07 44 52.7	+1.6
VLX	Vlachokerasia	4.21	324	ePN	Pn	07 44 52.2	+1.1
VLX	Vlachokerasia	4.21	324	ePn	Pn	07 44 52.2	+1.1
VLX	Vlachokerasia	4.21	324	P	Pn	07 44 52.7	+1.6
ATH	Athens Observa	4.22	341	ePN	Pn	07 44 52.2	+1.0
ATH	Athens Observa

HDMB Hadim 6.46 61 *e*Pn **Pn 07 45 23.3 +1.1**
CSS Prodhromos 6.58 79 *e*PN **Pn 07 45 25.6 +2.0**
CSS Prodhromos 6.58 79 *e*Pn **Pn 07 45 24.6 +0.9**
CSS Prodhromos 6.58 79 *e*Pn **Pn 07 45 24.6 +0.9**
CSS Sn **Sn 07 46 34.6 -3.8**
ERMK Ermenek 6.65 64 *i* P **Pn 07 45 26.2 +1.4**
ERMK *i* S **Sn 07 46 41.8 +1.4**
ERMK Ermenek 6.65 64 *i* P **Pn 07 45 26.2 +1.4**
KOT Kottamia 6.76 125 P **Pn 07 45 25.7 -0.5**
HSAF As Saff 6.77 128 P **Pn 07 45 25.5 -0.9**
KONT Konya--Tatoy 6.86 53 *e*PN **Pn 07 45 28.1 +0.6**
KONT Konya--Tatoy 6.86 53 *e*Pn **Pn 07 45 28.1 +0.6**
LADK Ladik-KONYA 7.00 51 *e*PN **Pn 07 45 29.9 +0.4**
LADK Ladik-KONYA 7.00 51 *e*Pn **Pn 07 45 29.9 +0.4**
IKL Isikli 7.11 69 *e*PN **Pn 07 45 30.9 0.0**
IKL Isikli 7.11 69 *e*Pn **Pn 07 45 31.0 0.0**
KIZT Kizilcal 7.12 45 *e*PN **Pn 07 45 31.3 +0.1**
KIZT Kizilcal 7.12 45 *e*Pn **Pn 07 45 31.3 +0.1**
SVRH Sivrihisar-ESK 7.31 40 *e*PN **Pn 07 45 33.9 +0.1**
FNA Florina 7.52 336 P **Pn 07 45 38.4 +1.8**
FNA Florina 7.52 336 P **Pn 07 45 38.4 +1.8**
KIZK Mersin 7.54 68 *i* P **Pn 07 45 36.3 -0.5**
KIZK *i* S Sn 07 46 55.0 -6.9
KIZK Mersin 7.54 68 *i* P **Pn 07 45 36.3 -0.5**
KDZ Kurdzhali 7.66 360 *e*P **Pn 07 45 39.9 +1.5**
MMB Musomiste 7.71 350 *e*P **Pn 07 45 40.1 +0.8**
RZN Rozhen 7.71 356 *e*P **Pn 07 45 40.7 +1.3**
SULT Sultanhani-AKS 7.76 55 *e*PN **Pn 07 45 40.4 +0.4**
SULT Sultanhani-AKS 7.76 55 *e*Pn **Pn 07 45 40.4 +0.4**
KKB Krupnik 8.09 347 *e*P Pn 07 45 52.4 +8.0
SLTI Sal'it 8.23 100 Pn **Pn 07 45 44.3 -2.0**
GULE Gulek 8.28 64 *i* P **Pn 07 45 48.8 +1.7**
GULE *i* S Sn 07 47 09.5 -11
GULE Gulek 8.28 64 *i* P **Pn 07 45 48.8 +1.7**
BR231 Keskin MP Arra 8.28 43 *e*Pn Pn 07 45 52.4 +5.3
BR231 Keskin MP Arra 8.28 43 *e*Pn Pn 07 45 52.4 +5.3
MMA0 Mount Meron ar 8.37 94 Pn **Pn 07 45 45.6 -2.7**
MMAI Mount Meron Ar 8.37 94 Pn **Pn 07 45 47.0 -1.3**
MMAI Sn **Sn 07 47 19.6 -2.9**
MMAI Mount Meron Ar 8.37 94 Pn **Pn 07 45 47.0 -1.3**
6.2nm,0.3s,baz=266,slow=12,SNR=7.2
MMAI Sn **Sn 07 47 19.6 -2.9**
8.4nm,0.3s,baz=260,slow=24,SNR=7.0
MMAI Mount Meron Ar 8.37 94 Pn **Pn 07 45 47.0 -1.3**
MMAI Sn **Sn 07 47 19.5 -2.9**
NIG Nigde 8.48 58 *e*PN **Pn 07 45 50.2 +0.2**
NIG Nigde 8.48 58 *e*Pn **Pn 07 45 50.2 +0.2**
MMLI Mount Malkishu 8.50 98 Pn **Pn 07 45 47.5 -2.5**
RMNI Mount Ramon 8.57 111 Pn **Pn 07 45 48.3 -2.8**
HMDT Nahal Hemdat 8.62 99 Pn **Pn 07 45 49.8 -1.9**
LZLA Zalla 8.65 233 *i* P **Pn 07 45 52.7 +0.6**
SNR=22
DSI Dead Sea 8.70 103 Pn **Pn 07 45 50.7 -2.0**
BR131 Keskin Array S 8.71 46 *e*Pn **Pn 07 45 53.2 +0.2**
2.1nm,0.5s
BR131 Keskin Array S 8.71 46 *e*Pn **Pn 07 45 53.2 +0.2**
2.0nm,0.5s
BRTR Keskin Array B 8.71 46 Pn **Pn 07 45 53.5 +0.5**
BRTR Keskin Array B 8.71 46 Pn **Pn 07 45 53.5 +0.5**
0.3nm,0.3s,baz=225,slow=12,SNR=13
BRTR Keskin Array B 8.71 46 P **Pn 07 45 53.5 +0.5**
KRMI Paran Flat 8.76 114 Pn **Pn 07 45 52.0 -1.6**
MZDA Masada 8.77 105 Pn **Pn 07 45 51.6 -2.1**
VTS Vitosha 8.77 349 *e*P Pn 07 46 03.5 +10
CEL Celeste 8.83 302 *e*Pn **Pn 07 45 54.4 -0.2**
CEL Celeste 8.83 302 *e*Pn **Pn 07 45 54.4 -0.2**
PRNI Paran 8.87 111 Pn **Pn 07 45 53.1 -2.0**
ZFRI Zfri 8.92 110 Pn **Pn 07 45 54.1 -1.6**
YAYL Yayladag 8.98 74 *i* P **Pn 07 45 55.3 -1.4**
YAYL *i* S Sn 07 47 25.7 -12
YAYL Yayladag 8.98 74 *i* P **Pn 07 45 55.3 -1.4**
HRFI Mount Harif 9.04 113 Pn **Pn 07 45 56.0 -1.4**
MBRI Mt Berech 9.06 115 Pn **Pn 07 45 55.2 -2.6**
EIL Elat 9.15 115 Pn **Pn 07 45 57.9 -1.1**
EIL Sn **Sn 07 47 37.1 -4.5**
EIL Elat 9.15 115 Pn **Pn 07 45 57.9 -1.1**
3.1nm,0.3s,baz=243,slow=4.9,SNR=18
EIL Sn **Sn 07 47 37.1 -4.5**
3.9nm,0.3s,baz=64,slow=18,SNR=4.1
EIL LR LR 07 50 51.1
comp=Z,186nm,20.5s,baz=80,slow=46
EIL Elat 9.15 115 Pn **Pn 07 45 57.8 -1.1**
EIL Sn **Sn 07 47 37.1 -4.5**
MPEP Malo Peshtene 9.45 352 *e*P Pn 07 46 06.5 +3.4
LJFR Jufra 9.55 242 *i* P **Pn 07 46 04.0 -0.5**
SNR=22
HHRG Al Ghardaqah 9.71 132 P **Pn 07 46 06.8 +0.2**
baz=132
HHRG Al Ghardaqah 9.71 132 P **Pn 07 46 06.9 +0.2**
CUC Castrocucco 9.76 311 *e*Pn **Pn 07 46 08.1 +0.8**
CUC Castrocucco 9.76 311 *e*Pn **Pn 07 46 08.1 +0.8**
ASF Jabal al Asfar 9.77 97 Pn **Pn 07 46 09.6 +2.1**
ASF Sn **Sn 07 47 53.0 -4.0**
ASF Jabal al Asfar 9.77 97 Pn **Pn 07 46 09.6 +2.1**
0.9nm,0.3s,baz=249,slow=7.8,SNR=4.1
ASF Sn **Sn 07 47 53.0 -4.0**
1.2nm,0.3s,baz=3.6,slow=16,SNR=3.4
LKFR Kufra 9.98 192 *i* P **Pn 07 46 12.8 +2.4**
SNR=22
STON Ston 10.75 328 *e*Pn Pn 07 46 17.2 -3.6
STON Sn Sn 07 48 09.2 -12
MLR Muntele Rosu 11.50 2 Pn **Pn 07 46 29.6 -1.6**
MLR Muntele Rosu 11.50 2 Pn **Pn 07 46 29.6 -1.6**
0.0nm,0.3s,baz=341,slow=1.5,SNR=6.5
MLR LR LR 07 51 23.1
comp=Z,73nm,20.7s,baz=51,slow=40
MLR Muntele Rosu 11.50 2 P **Pn 07 46 29.6 -1.6**
NVLJ Novalja 13.36 325 *e*Pn **Pn 07 46 56.0 -0.4**
NVLJ Sn Sn 07 49 14.7 -10
BUR04 Bucovina Ar. S 13.62 359 *e*Pn **P 07 47 11.0 +2.0**
BUR04 Bucovina Ar. S 13.62 359 *e*Pn **P 07 47 11.0 +2.0**
BUR08 Bucovina Ar. S 13.65 359 Pn Pn 07 47 04.8 +4.3
BUR08 Bucovina Ar. S 13.65 359 Pn Pn 07 47 04.8 +4.3
SOC Sochi 14.67 45 *e*P **P 07 47 22.6 +2.1**
SOC *e*SS **Sn 07 49 55.7 -0.7**
SOC pmax pmax
comp=Z,10.0nm,0.6s
SOC MLR MLR
comp=Z,62nm,7.0s
SOC pmax pmax
comp=N,67nm,0.9s
SOC pmax pmax
comp=N,75nm,0.9s
SOC Sochi 14.67 45 *e*P **P 07 47 22.6 +2.1**
comp=N,10.0nm,0.6s
UZH Uzhgorod 14.82 352 *e*P **P 07 47 21.2 -1.0**
UZH *e*S **Sn 07 50 05.6 +5.4**
UZH Uzhgorod 14.82 352 *e*P **P 07 47 21.2 -1.0**
KECS Kecovo 14.96 347 *e*P **P 07 47 24.1 +0.4**
KECS pmax pmax
comp=Z,1.0nm,0.6s
KECS Kecovo 14.96 347 *e*P **P 07 47 24.1 +0.4**
KECS Kecovo 14.96 347 *e*P **P 07 47 24.1 +0.4**
comp=Z,1.0nm,0.6s
KOLS Kolonicke sedl 15.12 352 *e*P **P 07 47 29.0 +3.4**
KOLS pmax pmax
comp=Z,7.0nm,1.0s
KOLS Kolonicke sedl 15.12 352 *e*P **P 07 47 29.0 +3.4**
ARSA Arzberg 15.23 333⇑ *e*P **P 07 47 25.1 -1.6**
comp=Z,4.8nm,0.6s
ARSA Arzberg 15.23 333 P **P 07 47 25.1 -1.6**
comp=Z,4.8nm,0.6s
VYHS Vyhne 15.32 343 *e*P **P 07 47 27.6 -0.1**
VYHS pmax pmax
comp=Z,1.0nm,0.7s
VYHS Vyhne 15.32 343 *e*P **P 07 47 27.6 -0.1**
VYHS Vyhne 15.32 343 *e*P **P 07 47 27.6 -0.1**
comp=Z,1.0nm,0.7s
PGF Pioggiola 15.48 308 *e*P **P 07 47 27.9 -1.7**
comp=Z,81nm,1.2s
PGF Pioggiola 15.48 308 *e*P **P 07 47 27.9 -1.7**
PGF pmax pmax
comp=Z,81nm,1.2s
PGF Pioggiola 15.48 308 *e*P **P 07 47 27.9 -1.7**
comp=Z,81nm,1.2s
STHS Stebnicka Huta 15.73 350 *e*P **P 07 47 34.7 +2.3**
STHS pmax pmax
comp=Z,4.0nm,1.0s
STHS Stebnicka Huta 15.73 350 *e*P **P 07 47 34.7 +2.3**
STHS Stebnicka Huta 15.73 350 *e*P **P 07 47 34.7 +2.3**
comp=Z,4.0nm,1.0s
KWP Kalwaria Pacla 15.77 353 *e*P **Pn 07 47 29.1 +0.2**
KBA Koelnbreinsper 15.97 329⇑ *e*P **P 07 47 36.9 +1.8**
comp=Z,20nm,0.9s,SNR=9.3
KBA Koelnbreinsper 15.97 329 P **P 07 47 36.9 +1.8**
comp=Z,20nm,0.9s,SNR=9.3
ABTA Abfaltersbach 16.09 326⇑ *i*P **P 07 47 37.3 +0.9**
comp=Z,25nm,0.7s
ABTA Abfaltersbach 16.09 326 P **P 07 47 37.3 +0.9**
comp=Z,25nm,0.7s
MOA Molln 16.20 332⇑ *e*P **P 07 47 37.8 +0.2**
comp=Z,14nm,1.0s
MOA Molln 16.20 332 P **P 07 47 37.8 +0.2**
comp=Z,14nm,1.0s
GNI Garni 16.57 63 *e*Pn **Pn 07 47 39.2 -0.2**
comp=Z,20nm,0.8s
GNI Garni 16.57 63 Pn **P 07 47 43.3 +1.4**
comp=Z,1.2nm,0.3s,baz=120,slow=13,SNR=3.8
GNI Garni 16.57 63 *e*Pn **Pn 07 47 39.2 -0.2**
comp=Z,20nm,0.8s
VRAC Vranov 16.66 339 Pn **Pn 07 47 39.2 -1.1**
VRAC Vranov 16.66 339 Pn **Pn 07 47 39.2 -1.1**
comp=Z,0.4nm,0.3s,baz=152,slow=10,SNR=12
VRAC Vranov 16.66 339 Pn **Pn 07 47 39.2 -1.1**
KIV Kislovodsk 16.67 48 *e*P **P 07 47 43.2 +0.4**
KIV pmax pmax
comp=Z,26nm,1.0s
KIV Kislovodsk 16.67 48 *e*P **P 07 47 43.2 +0.4**
comp=Z,26nm,1.0s
KBZ Khabaz 16.68 49 P **P 07 47 42.5 -0.4**
KBZ Khabaz 16.68 49 Pn **P 07 47 42.5 -0.4**
KBZ Khabaz 16.68 49 Pn **P 07 47 42.5 -0.4**
comp=Z,0.2nm,0.3s,baz=257,slow=8.4,SNR=11
KBZ Khabaz 16.68 49 P **P 07 47 42.5 -0.4**
OKC Ostrava-Krasne 16.73 343 *e*P **Pn 07 47 38.6 -2.6**
OKC Ostrava-Krasne 16.73 343 *e*P **Pn 07 47 38.6 -2.6**
MORC Moravsky Berou 16.83 342 *e*P **Pn 07 47 41.4 -1.0**
MORC pmax pmax
comp=Z,8.0nm,1.1s
MORC Moravsky Berou 16.83 342 *e*Pn **Pn 07 47 41.4 -1.0**
comp=Z,7.7nm,1.1s
MORC Moravsky Berou 16.83 342 *e*Pn **Pn 07 47 41.4 -1.0**
comp=Z,7.7nm,1.1s
KIEV Kiev 16.93 8 *e*P **Pn 07 47 43.2 -0.4**
KIEV pmax pmax
comp=Z,31nm,0.8s
KIEV Kiev 16.93 8 *e*Pn **Pn 07 47 43.2 -0.4**
comp=Z,31nm,0.8s
KIEV Kiev 16.93 8 *e*Pn **Pn 07 47 43.2 -0.4**
comp=Z,31nm,0.8s
AKASG Malin Array Be 16.93 8 P **Pn 07 47 43.3 -0.4**
AKASG Malin Array Be 16.93 8 Pn **Pn 07 47 43.3 -0.4**
AKASG Malin Array Be 16.93 8 Pn **Pn 07 47 43.3 -0.4**
comp=Z,5.4nm,0.3s,baz=200,slow=11,SNR=46
AKASG Malin Array Be 16.93 8 Pn **Pn 07 47 43.3 -0.4**
TREC Trest 16.99 337 *e*P **P 07 47 45.3 -1.0**
TREC Trest 16.99 337 *e*P **P 07 47 45.3 -1.0**
TREC Trest 16.99 337 *e*P **P 07 47 45.3 -1.0**
FUORN Ofenpass-Fuorn 17.09 322 *e*P **P 07 47 50.5 +2.8**
comp=Z,29nm,0.9s
FUORN Ofenpass-Fuorn 17.09 322 *e*P **P 07 47 50.5 +2.8**
comp=Z,29nm,0.9s
SAOF Saorge 17.09 311 *e*P **Pn 07 47 46.3 +0.5**
SAOF Saorge 17.09 311 *e*P **Pn 07 47 46.3 +0.5**
SBF Sospel 17.11 311 *e*P **Pn 07 47 43.3 -2.7**
comp=Z,64nm,1.0s
SBF Sospel 17.11 311 *e*P **Pn 07 47 43.3 -2.7**
SBF pmax pmax
comp=Z,64nm,1.0s
SBF Sospel 17.11 311 *e*P **Pn 07 47 43.3 -2.7**
comp=Z,64nm,1.0s
FETA Feichten 17.14 324⇑ *e*pP pP 07 47 50.7 -2.0
comp=Z,26nm,1.3s,SNR=5.6
FETA Feichten 17.14 324 P pP 07 47 50.7 -2.0
comp=Z,26nm,1.3s,SNR=5.6
AUTN L'Aution 17.18 311 *e*P **P 07 47 51.7 +3.1**
AUTN L'Aution 17.18 311 *e*P **P 07 47 51.7 +3.1**
LUCF Luceram 17.18 310 *e*P **P 07 47 49.2 +0.7**
LUCF Luceram 17.18 310 *e*P **P 07 47 49.2 +0.7**
GEC2 GERESS Array S 17.23 333 *e*P **P 07 47 49.1 0.0**
comp=Z,13nm,0.8s
GEC2 GERESS Array S 17.23 333 *e*P **P 07 47 49.1 0.0**
GEC2 pmax pmax
comp=Z,13nm,0.8s
GEC2 GERESS Array S 17.23 333 *e*Pn **P 07 47 49.4 +0.3**
GEC2 GERESS Array S 17.23 333 *e*Pn **P 07 47 49.3 +0.3**
GERES GERESS Array B 17.23 333 Pn **Pn 07 47 47.5 -0.1**
GERES GERESS Array B 17.23 333 Pn **Pn 07 47 47.5 -0.1**
comp=Z,0.9nm,0.3s,baz=148,slow=12,SNR=36
GERES GERESS Array B 17.23 333 Pn **Pn 07 47 47.5 -0.1**
TOUF Mont Tournerai 17.30 311 *e*P **P 07 47 49.8 -0.1**
TOUF Mont Tournerai 17.30 311 *e*P **P 07 47 49.8 -0.1**
MVIF Mont Vial 17.30 310 *e*P **P 07 47 50.6 +0.7**
MVIF Mont Vial 17.30 310 *e*P **P 07 47 50.6 +0.7**
DAVOX Davos/Dischmat 17.40 322 P **P 07 47 51.9 +0.9**
DAVOX Davos/Dischmat 17.40 322 P **P 07 47 51.9 +0.9**
comp=Z,0.1nm,0.3s,baz=165,slow=20,SNR=2.8
DAVOX Davos/Dischmat 17.40 322 P **P 07 47 51.9 +0.9**
CALN Calern 17.41 310 *e*P **P 07 47 52.1 +1.1**
CALN Calern 17.41 310 *e*P **P 07 47 52.1 +1.1**
LMR La Mourre 17.46 308 *e*P **Pn 07 47 47.0 -3.4**
comp=Z,45nm,1.2s
LMR La Mourre 17.46 308 *e*P **Pn 07 47 47.0 -3.4**
LMR pmax pmax
comp=Z,45nm,1.2s
LMR La Mourre 17.46 308 *e*P **Pn 07 47 47.0 -3.4**
comp=Z,45nm,1.2s
FRF La Foret Royal 17.47 309 *e*P **Pn 07 47 47.7 -2.8**
comp=Z,12nm,0.7s
FRF La Foret Royal 17.47 309 *e*P **Pn 07 47 47.7 -2.8**
FRF pmax pmax
comp=Z,12nm,0.7s
FRF La Foret Royal 17.47 309 *e*P **Pn 07 47 47.7 -2.8**
comp=Z,12nm,0.7s
TUE Stuetta 17.47 320 *e*P **P 07 47 53.2 +1.4**
comp=Z,16nm,1.2s
TUE Stuetta 17.47 320 *e*P **P 07 47 53.2 +1.4**
comp=Z,16nm,1.2s
KHC Kasperske Hory 17.52 333 *e*P **Pn 07 47 50.0 -1.0**
KHC MLR MLR
comp=Z,200nm,17.1s
KHC Kasperske Hory 17.52 333 *e*P **Pn 07 47 50.0 -1.0**
KHC *e*pP **P 07 47 53.3 +1.2**
KHC *e*x x 07 47 59.5
KHC AMS AMS 07 56 50.0
comp=Z,200nm,17.1s
KHC Kasperske Hory 17.52 333 *e*Pn **Pn 07 47 51.3 +0.3**
comp=Z,28nm,1.4s
KHC Kasperske Hory 17.52 333 *e*Pn **Pn 07 47 51.3 +0.3**
comp=Z,28nm,1.4s
DPC Dobruska-Polom 17.68 340 *e*P **Pn 07 47 52.4 -0.6**
DPC Dobruska-Polom 17.68 340 *e*P **Pn 07 47 52.4 -0.6**
DPC Dobruska-Polom 17.68 340 *e*Pn **P 07 47 54.1 +0.2**
comp=Z,56nm,1.2s
DPC Dobruska-Polom 17.68 340 *e*P **Pn 07 47 52.4 -0.6**
DPC Dobruska-Polom 17.68 340 *e*Pn **P 07 47 54.1 +0.2**
comp=Z,56nm,1.2s
FUR Furstenfeldbru 17.70 327 *e*P **P 07 47 55.3 +1.1**
comp=Z,65nm,1.2s
FUR Furstenfeldbru 17.70 327 *e*P **P 07 47 55.3 +1.1**
FUR pmax pmax
comp=Z,65nm,1.2s
FUR Furstenfeldbru 17.70 327 *e*P **P 07 47 55.3 +1.1**
comp=Z,65nm,1.2s
DAVA Damuels 17.74 323⇑ *i*P **P 07 47 56.4 +1.7**
comp=Z,12nm,0.7s
DAVA Damuels 17.74 323 P **P 07 47 56.4 +1.7**
comp=Z,12nm,0.7s
WET Wettzell 17.79 332 *e*P **P 07 47 55.2 0.0**
comp=Z,30nm,1.3s
WET Wettzell 17.79 332 *e*P **P 07 47 55.2 0.0**
WET pmax pmax
comp=Z,30nm,1.3s
WET Wettzell 17.79 332 *e*P **P 07 47 55.2 0.0**
comp=Z,30nm,1.3s
PRU Pruhonice 17.90 337 *e*P **Pn 07 47 55.3 -0.4**
PRU MLR MLR
comp=Z,400nm,18.4s
PRU Pruhonice 17.90 337 *e*P **Pn 07 47 55.3 -0.4**
PRU AMS AMS 07 58 20.0
comp=Z,400nm,18.4s
PRU Pruhonice 17.90 337 *e*P **Pn 07 47 55.3 -0.4**
comp=Z,400nm,18.4s
UPC Upice 17.91 340 *e*P **Pn 07 47 54.3 -1.5**
UPC Upice 17.91 340 *e*P **Pn 07 47 54.3 -1.5**
MBDF Montbardon 17.95 312 *e*P **Pn 07 47 53.4 -3.2**
comp=Z,14nm,0.7s
MBDF Montbardon 17.95 312 *e*P **Pn 07 47 53.4 -3.2**
MBDF pmax pmax
comp=Z,14nm,0.7s
MBDF Montbardon 17.95 312 *e*P **Pn 07 47 53.4 -3.2**
comp=Z,14nm,0.7s
SMRF Simiane la Rot 18.35 309 *e*P **P 07 48 02.5 +1.1**
comp=Z,28nm,1.0s
SMRF Simiane la Rot 18.35 309 *e*P **P 07 48 02.5 +1.1**
comp=Z,28nm,1.0s
SMRF Simiane la Rot 18.35 309 *e*P **P 07 48 02.5 +1.1**
comp=Z,14nm,1.0s
LPG La Plagne 18.36 314 *e*P **Pn 07 48 02.1 +0.3**
comp=Z,8.3nm,0.6s
LPG La Plagne 18.36 314 *e*P **Pn 07 48 02.1 +0.3**
LPG pmax pmax
comp=Z,8.0nm,0.6s
LPG La Plagne 18.36 314 *e*P **Pn 07 48 02.1 +0.3**
comp=Z,8.3nm,0.6s
LPG La Plagne 18.36 314 *e*P **Pn 07 48 02.1 +0.3**
comp=Z,4.2nm,0.6s
LPL La Plagne 18.39 314 *e*P **P 07 48 01.7 -0.2**
comp=Z,8.9nm,0.7s
LPL La Plagne 18.39 314 *e*P **P 07 48 01.7 -0.2**
LPL pmax pmax
comp=Z,9.0nm,0.7s
LPL La Plagne 18.39 314 *e*P **P 07 48 01.7 -0.2**
comp=Z,8.9nm,0.7s
LPL La Plagne 18.39 314 *e*P **P 07 48 01.7 -0.2**
comp=Z,4.4nm,0.7s
SENIN Lac Senin/Sane 18.53 317 *e*P **Pn 07 48 04.5 +0.7**
comp=Z,8.4nm,0.8s
SENIN Lac Senin/Sane 18.53 317 *e*P **Pn 07 48 04.4 +0.7**
comp=Z,8.4nm,0.8s
ORIF Oris-en-Rattie 18.60 312 *e*P **Pn 07 48 05.1 +0.7**
comp=Z,21nm,1.0s
ORIF Oris-en-Rattie 18.60 312 *e*P **Pn 07 48 05.1 +0.7**
ORIF pmax pmax
comp=Z,21nm,1.0s
ORIF Oris-en-Rattie 18.60 312 *e*P **Pn 07 48 05.1 +0.7**
comp=Z,21nm,1.0s
ORIF Oris-en-Rattie 18.60 312 *e*P **Pn 07 48 05.1 +0.7**
comp=Z,11nm,1.0s
SPAK Spaichingen-Ko 18.84 323 *e*P **Pn 07 48 08.6 +1.3**
BRG Berggiesshubel 18.86 337 *e*P **P 07 48 06.1 -0.7**
comp=Z,5.5nm,0.9s
BRG Berggiesshubel 18.86 337 *e*P **P 07 48 06.1 -0.7**
BRG pmax pmax
comp=Z,6.0nm,0.9s
BRG Berggiesshubel 18.86 337 *e*P **P 07 48 06.1 -0.7**
comp=Z,6.0nm,0.9s
GRA1 Grafenberg Arr 18.89 330 *e*P **Pn 07 48 09.7 +1.9**
comp=Z,34nm,1.3s
GRF Grafenberg Arr 18.89 330 *e*P **Pn 07 48 09.7 +1.9**
comp=Z,34nm,1.3s
GRF Grafenberg Arr 18.89 330 *e*P **Pn 07 48 09.7 +1.9**
GRF pmax pmax
comp=Z,34nm,1.3s
GRFO Grafenberg 18.89 330 *e*P **Pn 07 48 08.2 +0.4**
GRFO pmax pmax
comp=Z,26nm,1.0s
GRFO Grafenberg 18.89 330 *e*P **Pn 07 48 08.2 +0.4**
comp=Z,26nm,1.0s
GRFO Grafenberg 18.89 330 *e*P **Pn 07 48 08.2 +0.4**
comp=Z,26nm,1.0s
TANN Tannenbergstha 18.98 334 *e*P **Pn 07 48 08.6 -0.4**
comp=Z,21nm,0.9s
FELD Feldberg im Sc 19.08 322 *e*P **Pn 07 48 10.3 0.0**
STU Stuttgart 19.10 326 *e*P **Pn 07 48 10.3 -0.1**
STU pmax pmax
comp=Z,21nm,0.9s
STU Stuttgart 19.10 326 *e*P **Pn 07 48 10.3 -0.1**
comp=Z,21nm,0.9s
STU Stuttgart 19.10 326 *e*P **Pn 07 48 10.3 -0.1**
comp=Z,21nm,0.9s
BFO Black Forest 19.21 323 *e*P **Pn 07 48 11.7 -0.1**
BFO pmax pmax
comp=Z,9.0nm,0.8s
BFO Black Forest 19.21 323 *e*P **Pn 07 48 11.7 -0.1**
comp=Z,9.1nm,0.8s
BFO Black Forest 19.21 323 *e*P **Pn 07 48 11.7 -0.1**
comp=Z,9.1nm,0.8s
CABF La Chapelle 19.36 316 *e*P **P 07 48 12.8 +0.3**
comp=Z,29nm,0.8s
CABF La Chapelle 19.36 316 *e*P **P 07 48 12.8 +0.3**
CABF pmax pmax
comp=Z,29nm,0.8s
CABF La Chapelle 19.36 316 *e*P **P 07 48 12.8 +0.3**
comp=Z,29nm,0.8s
CABF La Chapelle 19.36 316 *e*P **P 07 48 12.8 +0.3**
comp=Z,14nm,0.8s
MOF Molkenrain 19.52 321 *e*P **Pn 07 48 18.8 +3.3**
LASF Ste Croix 19.52 307 *e*P **P 07 48 13.5 -0.7**
comp=Z,40nm,1.2s
LASF Ste Croix 19.52 307 *e*P **P 07 48 13.5 -0.7**
comp=Z,40nm,1.2s
LASF Ste Croix 19.52 307 *e*P **P 07 48 13.5 -0.7**
comp=Z,20nm,1.2s
CLL Collm 19.54 336 *e*P **Pn 07 48 15.0 -0.6**
CLL pmax pmax
comp=Z,6.0nm,0.7s
CLL Collm 19.54 336 *e*P **Pn 07 48 15.0 -0.6**
comp=Z,6.0nm,0.7s
CLL *e*(PP) 07 48 32.0
CLL Collm 19.54 336 *e*P **Pn 07 48 15.0 -0.6**
comp=Z,6.0nm,0.7s
ECH Echery 19.73 322 *e*P **P 07 48 17.0 +0.5**
ECH pmax pmax
comp=Z,11nm,1.1s
ECH Echery 19.73 322 *e*P **P 07 48 17.0 +0.5**
comp=Z,11nm,1.1s
ECH Echery 19.73 322 *e*P **P 07 48 17.0 +0.5**
comp=Z,11nm,1.1s
VORD Divnogorie 19.75 27 *e*P **Pn 07 48 20.4 +2.3**
VORD pmax pmax
comp=Z,10.0nm,0.4s
VORD pmax pmax
comp=N,10.0nm,0.5s
VORD pmax pmax
comp=E,10.0nm,0.4s
CDF Champ du Feu 19.80 322 *e*P **P 07 48 16.9 -0.3**
comp=E,19nm,0.9s
CDF Champ du Feu 19.80 322 *e*P **P 07 48 16.9 -0.3**
CDF pmax pmax
comp=Z,19nm,0.9s
CDF Champ du Feu 19.80 322 *e*P **P 07 48 16.9 -0.3**
comp=Z,19nm,0.9s
CDF Champ du Feu 19.80 322 *e*P **P 07 48 16.9 -0.3**
comp=Z,9.3nm,0.9s
TOD Tromm 19.87 327 *e*P **Pn 07 48 20.7 +1.1**
VSR Storozhevoye 19.91 26 *e*P **Pn 07 48 19.8 -0.1**
VSR pmax pmax
comp=Z,20nm,0.9s
VSR pmax pmax
comp=N,10.0nm,0.5s
VSR pmax pmax
comp=E,20nm,1.0s
VSR Storozhevoye 19.91 26 *e*P **Pn 07 48 19.8 -0.1**
comp=E,10.0nm,0.5s
LANF Langenberg 19.91 324 *e*P **Pn 07 48 21.7 +1.7**
LANF Langenberg 19.91 324 *e*P **Pn 07 48 21.7 +1.7**
KTD Kalmit 20.01 325 *e*P **Pn 07 48 22.4 +1.2**
HAU Haudompre 20.03 320 *e*P **P 07 48 20.2 +0.5**
HAU Haudompre 20.03 320 *e*P **P 07 48 20.2 +0.5**
HAU Haudompre 20.03 320 *e*P **P 07 48 20.2 +0.5**
HAU Haudompre 20.03 320 *e*P **P 07 48 20.2 +0.5**
SUW Suwalki 20.09 356 *e*P **P 07 48 19.1 -1.1**
SUW pmax pmax
comp=Z,81nm,0.9s
SUW Suwalki 20.09 356 *e*P **P 07 48 19.1 -1.1**
comp=Z,81nm,0.9s
SUW Suwalki 20.09 356 *e*P **P 07 48 19.4 -0.8**
SUW Suwalki 20.09 356 *e*P **P 07 48 19.1 -1.1**
comp=Z,81nm,0.9s
VALF Valcebollere 20.20 301 *e*P Pn 07 48 24.9 +1.2
VALF Valcebollere 20.20 301 *e*P Pn 07 48 24.9 +1.2
MTLF Montolieu 20.35 304 *e*P **P 07 48 22.3 -0.9**
MTLF Montolieu 20.35 304 *e*P **P 07 48 22.3 -0.9**
MTLF Montolieu 20.35 304 *e*P **P 07 48 22.3 -0.9**
MTLF Montolieu 20.35 304 *e*P **P 07 48 22.3 -0.9**
THEF They Montfort 20.36 320 *e*P Pn 07 48 25.1 -0.2
THEF They Montfort 20.36 320 *e*P Pn 07 48 25.1 -0.2
IGZV Ghazvin 20.37 76 *e*P **P 07 48 24.5 +0.7**
IGZV Ghazvin 20.37 76 *e*P **P 07 48 24.5 +0.7**
RAYN Ar Rayn 20.40 115 *e*P Pn 07 48 25.6 -0.5
comp=Z,6.0nm,1.1s
RAYN Ar Rayn 20.40 115 *e*P Pn 07 48 25.6 -0.5
comp=Z,6.0nm,1.1s

TNS	**Taunus Mts**	**20.48 328**	*e*P	Pn	07 48 27.4	+0.6
	comp=Z,27nm,1.4s					
TNS	**Taunus Mts**	**20.48 328**	*e*P	Pn	07 48 27.4	+0.6
TNS			pmax	pmax		
	comp=Z,27nm,1.4s					
TNS	**Taunus Mts**	**20.48 328**	*e*P	Pn	07 48 27.4	+0.6
	comp=Z,27nm,1.4s					
MNK	**Minsk**	**20.58 4**	*e*P	**P**	**07 48 24.0**	**-1.6**
MNK	**Minsk**	**20.58 4**	*e*P	**P**	**07 48 24.0**	**-1.6**
MICGM	**Minsk**	**20.59 4**	*e*	**P**	**07 48 24.0**	**-1.6**
SMF	**Signal de Mont**	**20.69 314**	*e*P	**P**	**07 48 27.0**	**+0.1**
	comp=Z,19nm,0.8s					
SMF	**Signal de Mont**	**20.69 314**	*e*P	**P**	**07 48 27.0**	**+0.1**
SMF			pmax	pmax		
	comp=Z,19nm,0.8s					
SMF	**Signal de Mont**	**20.69 314**	*e*P	**P**	**07 48 27.0**	**+0.1**
	comp=Z,19nm,0.8s					
SMF	**Signal de Mont**	**20.69 314**	*e*P	**P**	**07 48 27.0**	**+0.1**
	comp=Z,9.3nm,0.8s					
TAM	**Tamanrasset**	**20.74 243**	*e*P	Pn	07 48 29.2	-1.0
TAM			pmax	pmax		
	comp=Z,14nm,0.9s					
TAM	**Tamanrasset**	**20.74 243**	*e*P	Pn	07 48 29.2	-0.9
	comp=Z,14nm,0.9s					
TAM	**Tamanrasset**	**20.74 243**	*e*P	Pn	07 48 29.2	-1.0
	comp=Z,14nm,0.9s					
VRHR	**Novokhopersk**	**20.77 30**	*e*P	Pn	07 48 30.9	+0.9
VRHR			pmax	pmax		
	comp=Z,80nm,0.7s					
VRHR			pmax	pmax		
	comp=N,100nm,1.1s					
VRHR			pmax	pmax		
	comp=E,30nm,1.0s					
AGO	**Saint Agoulin**	**20.84 312**	*e*P	**P**	**07 48 28.8**	**+0.3**
AGO	**Saint Agoulin**	**20.84 312**	*e*P	**P**	**07 48 28.8**	**+0.3**
SALF	**Salau**	**20.89 302**	*e*P	Pn	07 48 31.3	-0.4
SALF	**Salau**	**20.89 302**	*e*P	Pn	07 48 31.3	-0.4
CLZ	**Clausthal**	**20.91 333**	*e*P	**P**	**07 48 29.0**	**-0.3**
	comp=Z,12nm,0.9s					
CLZ	**Clausthal**	**20.91 333**	*e*P	**P**	**07 48 29.0**	**-0.3**
CLZ			pmax	pmax		
	comp=Z,12nm,0.9s					
CLZ	**Clausthal**	**20.91 333**	*e*P	**P**	**07 48 29.0**	**-0.3**
	comp=Z,12nm,0.9s					
LOR	**Lormes**	**21.00 316**	*e*P	**P**	**07 48 29.8**	**-0.4**
	comp=Z,18nm,0.9s					
LOR	**Lormes**	**21.00 316**	*e*P	**P**	**07 48 29.8**	**-0.4**
	comp=Z,18nm,0.9s					
LOR	**Lormes**	**21.00 316**	*e*P	**P**	**07 48 29.8**	**-0.4**
	comp=Z,8.8nm,0.9s					
MEZF	**Maizieres J'vi**	**21.02 320**	*e*P	**P**	**07 48 30.8**	**+0.4**
	comp=Z,62nm,1.1s					
MEZF	**Maizieres J'vi**	**21.02 320**	*e*P	**P**	**07 48 30.8**	**+0.4**
	comp=Z,62nm,1.1s					
MEZF	**Maizieres J'vi**	**21.02 320**	*e*P	**P**	**07 48 30.8**	**+0.4**
	comp=Z,31nm,1.1s					
CAF	**Calviac**	**21.03 308**	*e*P	**P**	**07 48 29.3**	**-1.3**
	comp=Z,29nm,1.0s					
CAF	**Calviac**	**21.03 308**	*e*P	**P**	**07 48 29.3**	**-1.3**
CAF			pmax	pmax		
	comp=Z,29nm,1.0s					
CAF	**Calviac**	**21.03 308**	*e*P	**P**	**07 48 29.3**	**-1.3**
	comp=Z,29nm,1.0s					
CAF	**Calviac**	**21.03 308**	*e*P	**P**	**07 48 29.3**	**-1.3**
	comp=Z,15nm,1.0s					
AVF	**Avril sur Loir**	**21.06 314**	*e*P	**P**	**07 48 30.6**	**-0.2**
	comp=Z,19nm,1.0s					
AVF	**Avril sur Loir**	**21.06 314**	*e*P	**P**	**07 48 30.6**	**-0.2**
AVF			pmax	pmax		
	comp=Z,19nm,1.0s					
AVF	**Avril sur Loir**	**21.06 314**	*e*P	**P**	**07 48 30.6**	**-0.2**
	comp=Z,19nm,1.0s					
AVF	**Avril sur Loir**	**21.06 314**	*e*P	**P**	**07 48 30.6**	**-0.2**
	comp=Z,9.6nm,1.0s					
IR3	**Iran Long-Peri**	**21.06 79**	*e*P	**P**	**07 48 33.1**	**+2.1**
SSF	**Saint Saulge**	**21.10 315**	*e*P	**P**	**07 48 32.0**	**+0.7**
	comp=Z,14nm,0.8s					
SSF	**Saint Saulge**	**21.10 315**	*e*P	**P**	**07 48 32.0**	**+0.7**
SSF			pmax	pmax		
	comp=Z,14nm,0.8s					
SSF	**Saint Saulge**	**21.10 315**	*e*P	**P**	**07 48 32.0**	**+0.7**
	comp=Z,14nm,0.8s					
SSF	**Saint Saulge**	**21.10 315**	*e*P	**P**	**07 48 32.0**	**+0.7**
	comp=Z,7.0nm,0.8s					
WLF	**Walferdange**	**21.17 324**	P	**P**	**07 48 35.9**	**+3.9**
	comp=Z,17nm,1.3s					
WLF	**Walferdange**	**21.17 324**	*e*P	**P**	**07 48 36.0**	**+3.9**
	comp=Z,29nm,1.1s					
WLF	**Walferdange**	**21.17 324**	*e*P	**P**	**07 48 35.9**	**+3.9**
WLF			pmax	pmax		
	comp=Z,28nm,1.1s					
WLF	**Walferdange**	**21.17 324**	*e*P	**P**	**07 48 35.9**	**+3.9**
	comp=Z,28nm,1.1s					
WLF	**Walferdange**	**21.17 324**	*e*P	**P**	**07 48 35.9**	**+3.9**
	comp=Z,28nm,1.1s					
MELF	**Melles**	**21.22 302**	*e*P	**P**	**07 48 36.9**	**+4.2**
BGF	**Bois d'Agland**	**21.25 313**	*e*P	**P**	**07 48 32.9**	**0.0**
	comp=Z,41nm,0.8s					
BGF	**Bois d'Agland**	**21.25 313**	*e*P	**P**	**07 48 32.9**	**0.0**
BGF			pmax	pmax		
	comp=Z,41nm,0.8s					
BGF	**Bois d'Agland**	**21.25 313**	*e*P	**P**	**07 48 32.9**	**0.0**
	comp=Z,41nm,0.8s					
BGF	**Bois d'Agland**	**21.25 313**	*e*P	**P**	**07 48 32.9**	**0.0**
	comp=Z,21nm,0.8s					
IPIR	**Pirpir**	**21.28 86**	*e*P	**P**	**07 48 34.4**	**+0.7**
IPIR	**Pirpir**	**21.28 86**	*e*P	**P**	**07 48 34.4**	**+0.7**
IDID	**Didziasalis**	**21.35 2**	*e*P	**P**	**07 48 34.4**	**+0.5**
IDID			AMB	AMB	07 48 43.5	
	comp=Z,12nm,1.0s					
IDID	**Didziasalis**	**21.35 2**	*e*P	**P**	**07 48 34.3**	**+0.5**
IIGN	**Ignalina**	**21.37 1**	*e*P	**P**	**07 48 34.4**	**+0.3**
IIGN			AMB	AMB	07 48 37.7	
	comp=Z,10nm,0.9s					
IIGN	**Ignalina**	**21.37 1**	*e*P	**P**	**07 48 34.4**	**+0.3**
TCF	**Toulx Ste Croi**	**21.52 312**	*e*P	**P**	**07 48 35.5**	**-0.3**
	comp=Z,44nm,1.1s					
TCF	**Toulx Ste Croi**	**21.52 312**	*e*P	**P**	**07 48 35.5**	**-0.3**
TCF			pmax	pmax		
	comp=Z,44nm,1.1s					
TCF	**Toulx Ste Croi**	**21.52 312**	*e*P	**P**	**07 48 35.5**	**-0.3**
	comp=Z,44nm,1.1s					
TCF	**Toulx Ste Croi**	**21.52 312**	*e*P	**P**	**07 48 35.5**	**-0.3**
	comp=Z,22nm,1.1s					
RJF	**Les Rejaudoux**	**21.54 309**	*e*P	**P**	**07 48 36.3**	**+0.3**
	comp=Z,40nm,1.0s					
RJF	**Les Rejaudoux**	**21.54 309**	*e*P	**P**	**07 48 36.3**	**+0.3**
RJF			pmax	pmax		
	comp=Z,40nm,1.0s					
RJF	**Les Rejaudoux**	**21.54 309**	*e*P	**P**	**07 48 36.3**	**+0.3**
	comp=Z,40nm,1.0s					
RJF	**Les Rejaudoux**	**21.54 309**	*e*P	**P**	**07 48 36.3**	**+0.3**
	comp=Z,20nm,1.0s					
EPF	**Esparros**	**21.56 302**	*e*P	**P**	**07 48 37.7**	**+1.3**
	comp=Z,8.8nm,0.7s					
EPF	**Esparros**	**21.56 302**	*e*P	**P**	**07 48 37.7**	**+1.3**
EPF			pmax	pmax		
	comp=Z,9.0nm,0.7s					
EPF	**Esparros**	**21.56 302**	*e*P	**P**	**07 48 37.7**	**+1.3**
	comp=Z,8.8nm,0.7s					
IKLH	**Kolahrood**	**21.75 84**	*e*P	**P**	**07 48 38.5**	**-0.1**
MEM	**Membach**	**21.87 325**	P	**P**	**07 48 40.6**	**+1.1**
	comp=Z,13nm,1.0s					
MEM	**Membach**	**21.87 325**	*e*P	**P**	**07 48 40.2**	**+0.7**
MEM			pmax	pmax		
	comp=Z,22nm,0.9s					
MEM	**Membach**	**21.87 325**	*e*P	**P**	**07 48 40.2**	**+0.7**
	comp=Z,22nm,0.9s					
MEM	**Membach**	**21.87 325**	P	**P**	**07 48 40.5**	**+1.1**
	comp=Z,13nm,1.0s					
BUG	**Bochum-Univer**	**21.87 328**	*e*P	**P**	**07 48 42.3**	**+2.8**
	comp=Z,31nm,1.1s					
LFF	**La Frestale**	**21.91 307**	*e*P	**P**	**07 48 41.4**	**+1.4**
	comp=Z,50nm,1.1s					
LFF	**La Frestale**	**21.91 307**	*e*P	**P**	**07 48 41.4**	**+1.4**
LFF			pmax	pmax		
	comp=Z,50nm,1.1s					
LFF	**La Frestale**	**21.91 307**	*e*P	**P**	**07 48 41.4**	**+1.4**
	comp=Z,50nm,1.1s					
HGN	**Heimansgroeve**	**22.01 326**	*e*P	**P**	**07 48 43.6**	**+2.7**
	comp=Z,22nm,1.0s					
HGN			*e*S	**S**	**07 52 39.5**	**-3.6**
BCLA	**Clavier**	**22.08 324**	P	P	07 48 50.5	+8.8
	comp=Z,10.0nm,1.2s					
GIVF	**Givet**	**22.11 323**	*e*P	**P**	**07 48 41.9**	**-0.2**
	comp=Z,50nm,1.1s					
GIVF	**Givet**	**22.11 323**	*e*P	**P**	**07 48 41.9**	**-0.2**
GIVF			pmax	pmax		
	comp=Z,50nm,1.1s					
GIVF	**Givet**	**22.11 323**	*e*P	**P**	**07 48 41.9**	**-0.2**
	comp=Z,50nm,1.1s					
ISFB	**Sefidab**	**22.15 81**	*e*P	P	07 48 48.1	+5.3
ETSF	**Etsaut**	**22.16 301**	*e*P	**P**	**07 48 43.8**	**+1.0**
	comp=Z,13nm,0.7s					
ETSF	**Etsaut**	**22.16 301**	*e*P	**P**	**07 48 43.8**	**+1.0**
ETSF			pmax	pmax		
	comp=Z,13nm,0.7s					
ETSF	**Etsaut**	**22.16 301**	*e*P	**P**	**07 48 43.8**	**+1.0**
	comp=Z,13nm,0.7s					
DOU	**Dourbes**	**22.23 323**	P	**P**	**07 48 44.8**	**+1.4**
	comp=Z,9.0nm,11.0s					
DOU	**Dourbes**	**22.23 323**	P	**P**	**07 48 44.7**	**+1.4**
	comp=Z,9.0nm,11.0s					
BAIF	**Baives**	**22.40 322**	*e*P	**P**	**07 48 43.4**	**-1.8**
	comp=Z,20nm,0.8s					
BAIF	**Baives**	**22.40 322**	*e*P	**P**	**07 48 43.4**	**-1.8**
BAIF			pmax	pmax		
	comp=Z,20nm,0.8s					
BAIF	**Baives**	**22.40 322**	*e*P	**P**	**07 48 43.4**	**-1.8**
	comp=Z,20nm,0.8s					
IZEF	**Zefreh**	**22.44 85**	*e*P	P	07 49 07.1	+21
WTSB	**Winterswijk**	**22.45 329**	*e*P	**P**	**07 48 48.2**	**+2.5**
	comp=Z,98nm,1.7s					
OBN	**Obninsk**	**22.51 17⇑**	*i*P	**P**	**07 48 46.8**	**+0.5**
OBN			*e*		07 49 10.1	
OBN			*e*SS	SS	07 53 25.8	
OBN			pmax	pmax		
	comp=Z,16nm,0.7s					
OBN			MLR	MLR		
	comp=Z,200nm,20.0s					
SJPF	**Ste Jean**	**22.69 302**	*e*P	**P**	**07 48 49.0**	**+0.6**
	comp=Z,28nm,0.8s					
SJPF	**Ste Jean**	**22.69 302**	*e*P	**P**	**07 48 49.0**	**+0.6**
SJPF			pmax	pmax		
	comp=Z,28nm,0.8s					
SJPF	**Ste Jean**	**22.69 302**	*e*P	**P**	**07 48 49.0**	**+0.6**
	comp=Z,28nm,0.8s					
MFF	**Saint Martin d**	**23.12 311**	*e*P	**P**	**07 48 52.5**	**-0.3**
	comp=Z,36nm,1.0s					
MFF	**Saint Martin d**	**23.12 311**	*e*P	**P**	**07 48 52.5**	**-0.3**
MFF			pmax	pmax		
	comp=Z,36nm,1.0s					
MFF	**Saint Martin d**	**23.12 311**	*e*P	**P**	**07 48 52.5**	**-0.3**
	comp=Z,36nm,1.0s					
LDF	**La Druitiere**	**23.98 315**	*e*P	**P**	**07 49 00.0**	**-1.2**
LDF	**La Druitiere**	**23.98 315**	*e*P	**P**	**07 49 00.0**	**-1.2**
LDF	**La Druitiere**	**23.98 315**	*e*P	**P**	**07 49 00.0**	**-1.2**
ES19	**SONSECA Array**	**24.11 292**	*e*P	**P**	**07 49 03.4**	**+0.8**
ES19	**SONSECA Array**	**24.11 292**	*e*P	**P**	**07 49 03.4**	**+0.8**
ESDC	**Sonseca Array**	**24.16 292**	P	**P**	**07 49 03.6**	**+0.6**
ESDC			PcP	**PcP**	**07 52 41.9**	**-1.7**
ESDC	**Sonseca Array**	**24.16 292**	P	**P**	**07 49 03.6**	**+0.6**
	comp=Z,2.1nm,0.7s,baz=84,slow=9.4,SNR=21					
ESDC			PcP	**PcP**	**07 52 41.9**	**-1.7**
	comp=Z,0.6nm,0.4s,baz=72,slow=4.8,SNR=6.9					
ESDC	**Sonseca Array**	**24.16 292**	P	**P**	**07 49 03.6**	**+0.6**
ESDC	**Sonseca Array**	**24.16 292**	PcP	**PcP**	**07 52 41.9**	**-1.7**
ESLA	**Sonseca Array**	**24.16 292**	*e*P	**P**	**07 49 03.7**	**+0.7**
	comp=Z,4.1nm,1.1s					
ESLA	**Sonseca Array**	**24.16 292**	*e*P	**P**	**07 49 03.7**	**+0.7**
	comp=Z,4.1nm,1.1s					
FLN	**La Foliniere**	**24.27 315**	*e*P	**P**	**07 49 03.2**	**-0.7**
FLN	**La Foliniere**	**24.27 315**	*e*P	**P**	**07 49 03.2**	**-0.7**
FLN	**La Foliniere**	**24.27 315**	*e*P	**P**	**07 49 03.2**	**-0.7**
GRR	**Gorron**	**24.32 314**	*e*P	**P**	**07 49 02.1**	**-2.3**
GRR	**Gorron**	**24.32 314**	*e*P	**P**	**07 49 02.1**	**-2.3**
GRR	**Gorron**	**24.32 314**	*e*P	**P**	**07 49 02.1**	**-2.3**
PAB	**San Pablo**	**24.45 292**	*e*P	**P**	**07 49 06.5**	**+0.8**
PAB			pmax	pmax		
	comp=Z,105nm,1.1s					
PAB	**San Pablo**	**24.45 292**	*e*P	**P**	**07 49 06.5**	**+0.8**
	comp=Z,105nm,1.1s					
PAB	**San Pablo**	**24.45 292**	*e*P	**P**	**07 49 06.5**	**+0.8**
	comp=Z,105nm,1.1s					
VSU	**Vasula**	**24.50 2d**	*i*P	**P**	**07 49 07.1**	**+1.3**
VSU			pmax	pmax		
	comp=Z,83nm,1.7s					
MDT	**Midelt**	**25.09 276**	P	**P**	**07 49 12.5**	**+0.9**
MDT	**Midelt**	**25.09 276**	P	**P**	**07 49 12.5**	**+0.9**
	comp=Z,4.7nm,0.8s,baz=85,slow=12,SNR=14					
MDT	**Midelt**	**25.09 276**	P	**P**	**07 49 12.5**	**+0.9**
SGMF	**Saint Gilles**	**25.29 313**	*e*P	**P**	**07 49 13.8**	**+0.7**
	comp=Z,31nm,1.0s					
SGMF	**Saint Gilles**	**25.29 313**	*e*P	**P**	**07 49 13.8**	**+0.7**
SGMF			pmax	pmax		
	comp=Z,31nm,1.0s					
SGMF	**Saint Gilles**	**25.29 313**	*e*P	**P**	**07 49 13.8**	**+0.7**
	comp=Z,31nm,1.0s					
SGMF	**Saint Gilles**	**25.29 313**	*e*P	**P**	**07 49 13.8**	**+0.7**
	comp=Z,16nm,1.0s					
QUIF	**Quistinic**	**25.53 312**	*e*P	**P**	**07 49 16.6**	**+1.3**
	comp=Z,79nm,1.3s					
QUIF	**Quistinic**	**25.53 312**	*e*P	**P**	**07 49 16.6**	**+1.3**
QUIF			pmax	pmax		
	comp=Z,79nm,1.3s					
QUIF	**Quistinic**	**25.53 312**	*e*P	**P**	**07 49 16.6**	**+1.3**
	comp=Z,79nm,1.3s					
QUIF	**Quistinic**	**25.53 312**	*e*P	**P**	**07 49 16.6**	**+1.3**
	comp=Z,39nm,1.3s					
ROSF	**Rostrenen**	**25.76 312**	*e*P	**P**	**07 49 17.5**	**+0.1**
	comp=Z,16nm,0.8s					
ROSF	**Rostrenen**	**25.76 312**	*e*P	**P**	**07 49 17.5**	**+0.1**
ROSF			pmax	pmax		
	comp=Z,16nm,0.8s					
ROSF	**Rostrenen**	**25.76 312**	*e*P	**P**	**07 49 17.5**	**+0.1**
	comp=Z,16nm,0.8s					
ROSF	**Rostrenen**	**25.76 312**	*e*P	**P**	**07 49 17.5**	**+0.1**
	comp=Z,7.9nm,0.8s					
PBRG	**Braganca**	**26.46 297**	*e*P	**P**	**07 49 24.4**	**+0.5**
	comp=Z,27nm,1.7s					
PBRG	**Braganca**	**26.46 297**	*e*P	**P**	**07 49 24.4**	**+0.5**
	comp=Z,27nm,1.7s					
PBAR	**Barrancos**	**26.51 288**	*e*P	**P**	**07 49 24.9**	**+0.6**
	comp=Z,20nm,2.2s					
PBAR	**Barrancos**	**26.51 288**	*e*P	**P**	**07 49 24.9**	**+0.6**
	comp=Z,20nm,2.2s					
MVO	**Moncorvo**	**26.61 295**	*e*P	**P**	**07 49 27.4**	**+2.1**
	comp=Z,30nm,1.2s					
MVO	**Moncorvo**	**26.61 295**	*e*P	**P**	**07 49 27.4**	**+2.1**
	comp=Z,30nm,1.2s					
PMRV	**Marv??o**	**26.79 291**	*e*P	**P**	**07 49 26.6**	**-0.3**
	comp=Z,20nm,1.1s					
PMRV	**Marv??o**	**26.79 291**	*e*P	**P**	**07 49 26.6**	**-0.3**
	comp=Z,20nm,1.1s					
PCBR	**Castelo Branco**	**26.87 292**	*e*P	P	07 49 32.4	+4.9
	comp=Z,15nm,1.3s					
PESTR	**Estremoz**	**26.94 290**	*e*P	**P**	**07 49 28.6**	**+0.4**
	comp=Z,28nm,1.2s					
PESTR	**Estremoz**	**26.94 290**	*e*P	**P**	**07 49 28.6**	**+0.4**
	comp=Z,28nm,1.2s					
PVAQ	**Vaqueiros**	**27.07 287**	*e*P	**P**	**07 49 31.6**	**+2.2**
	comp=Z,35nm,1.2s					
PVAQ	**Vaqueiros**	**27.07 287**	*e*P	**P**	**07 49 31.6**	**+2.2**
	comp=Z,35nm,1.2s					
PBEJ	**Beja**	**27.17 288**	*e*P	**P**	**07 49 29.2**	**-1.0**
	comp=Z,17nm,1.7s					
PBEJ	**Beja**	**27.17 288**	*e*P	**P**	**07 49 29.2**	**-1.0**
	comp=Z,17nm,1.7s					
PVIS	**Viseu**	**27.23 294**	*e*P	**P**	**07 49 33.2**	**+2.3**
	comp=Z,21nm,1.1s					
PVIS	**Viseu**	**27.23 294**	*e*P	**P**	**07 49 33.2**	**+2.3**
	comp=Z,21nm,1.1s					
PBDV	**Barranco-do-Ve**	**27.25 286**	*e*P	**P**	**07 49 31.8**	**+0.8**
	comp=Z,61nm,1.3s					
PBDV	**Barranco-do-Ve**	**27.25 286**	*e*P	**P**	**07 49 31.8**	**+0.8**
	comp=Z,61nm,1.3s					
EVO	**Evora**	**27.27 289**	*e*P	**P**	**07 49 32.0**	**+0.8**
	comp=Z,16nm,1.6s					
EVO	**Evora**	**27.27 289**	*e*P	**P**	**07 49 32.0**	**+0.8**
	comp=Z,16nm,1.6s					
HFS	**Hagfors**	**27.27 347**	P	**P**	**07 49 29.7**	**-1.2**
HFS	**Hagfors**	**27.27 347**	P	**P**	**07 49 29.7**	**-1.2**
	comp=Z,4.9nm,0.7s,baz=150,slow=8.4,SNR=17					
HFS	**Hagfors**	**27.27 347**	P	**P**	**07 49 29.7**	**-1.2**
PCAB	**Cabril**	**27.41 296**	*e*P	**P**	**07 49 36.1**	**+3.7**
	comp=Z,39nm,1.5s					
ATD	**Arta Tunnel**	**27.42 140**	LR	LR	07 59 54.3	
	comp=Z,52nm,19.7s,baz=17,slow=35					
PMTG	**Montargil**	**27.44 290**	*e*P	**P**	**07 49 36.7**	**+4.1**
	comp=Z,17nm,1.4s					
PCAS	**Casmilo, Conde**	**27.66 293**	*e*P	**P**	**07 49 36.7**	**+2.0**
	comp=Z,21nm,1.5s					
PCAS	**Casmilo, Conde**	**27.66 293**	*e*P	**P**	**07 49 36.7**	**+2.0**
	comp=Z,21nm,1.5s					
KLMR	**Klimovskoe**	**28.39 14***c*	*i*P	**P**	**07 49 39.2**	**-1.7**
KLMR			pmax	pmax		
	comp=Z,28nm,1.0s					
KLMR	**Klimovskoe**	**28.39 14**	*i*P	**P**	**07 49 39.2**	**-1.7**
	comp=Z,28nm,1.0s					
NAO01	**NORSAR Array S**	**28.49 345**	*e*P	**P**	**07 49 40.8**	**-1.0**
	comp=Z,3.9nm,0.6s					
NAO01	**NORSAR Array S**	**28.49 345**	*e*P	**P**	**07 49 40.8**	**-1.0**
	comp=Z,3.9nm,0.6s					
NB2	**NORSAR Subarra**	**28.60 346**	P	**P**	**07 49 41.4**	**-1.4**
	comp=Z,4.6nm,1.0s,baz=155,slow=9.3					
NB2	**NORSAR Subarra**	**28.60 346**	P	**P**	**07 49 41.4**	**-1.4**
	comp=Z,4.6nm,1.0s,baz=155,slow=8.9,SNR=7.7					
NOA	**NORSAR Array B**	**28.60 346**	P	**P**	**07 49 41.9**	**-0.9**
NOA	**NORSAR Array B**	**28.60 346**	P	**P**	**07 49 41.9**	**-0.9**
	comp=Z,1.7nm,0.7s,baz=174,slow=10,SNR=9.4					
NOA	**NORSAR Array B**	**28.60 346**	P	**P**	**07 49 41.9**	**-0.9**
AKTK	**Aktyubinsk**	**28.89 45**	*i*P	**P**	**07 49 43.8**	**-1.6**
	comp=Z,1.0nm,0.6s					
AKTO	**Aktyubinsk**	**28.89 45**	*i*P	**P**	**07 49 43.8**	**-1.6**
AKTO			pmax	pmax		
	comp=Z,1.0nm,0.6s					
AKTO	**Aktyubinsk**	**28.89 45**	P	**P**	**07 49 45.0**	**-0.4**
AKTO	**Aktyubinsk**	**28.89 45**	P	**P**	**07 49 45.0**	**-0.4**
	comp=Z,2.4nm,0.8s,baz=246,slow=8.8,SNR=5.7					
AKTO	**Aktyubinsk**	**28.89 45**	P	**P**	**07 49 45.0**	**-0.4**
EKA	**Eskdalemuir Ar**	**29.14 326**	P	**P**	**07 49 46.4**	**-1.2**
EKA	**Eskdalemuir Ar**	**29.14 326**	P	**P**	**07 49 46.4**	**-1.2**
	comp=Z,2.9nm,0.7s,baz=131,slow=10,SNR=7.1					
EKA	**Eskdalemuir Ar**	**29.14 326**	P	**P**	**07 49 46.4**	**-1.2**
AB31	**Akbulak array**	**29.65 49***c*e	P	**P**	**07 49 52.0**	**-0.2**
AB31			pmax	pmax		
	comp=Z,2.0nm,0.4s					
AB31	**Akbulak array**	**29.65 49**	*e*P	**P**	**07 49 52.0**	**-0.2**
	comp=Z,2.0nm,0.4s					
ABKAR	**Akbulak array**	**29.65 49**	*e*P	**P**	**07 49 52.3**	**+0.1**
ABKAR	**Akbulak array**	**29.65 49**	*e*P	**P**	**07 49 52.3**	**+0.1**
TOA0	**Torodi Ar. Sit**	**29.93 232**	*e*P	**P**	**07 49 55.6**	**+0.6**
TOA0	**Torodi Ar. Sit**	**29.93 232**	*e*P	**P**	**07 49 55.6**	**+0.6**
TORD	**Torodi Ar. Bea**	**29.93 232**	P	**P**	**07 49 55.6**	**+0.6**
TORD	**Torodi Ar. Bea**	**29.93 232**	P	**P**	**07 49 55.6**	**+0.6**
	comp=Z,1.9nm,0.7s,baz=36,slow=9.5,SNR=12					
TORD	**Torodi Ar. Bea**	**29.93 232**	P	**P**	**07 49 55.6**	**+0.6**
ARU	**Arti**	**31.87 35***d*	*i*P	**P**	**07 50 12.6**	**+0.9**
ARU					07 51 13.5	
ARU			S	**S**	**07 55 25.5**	**+4.0**
ARU			SS	**SnSn**	**07 57 10.0**	**+0.4**
ARU			pmax	pmax		
	comp=Z,30nm,5.0s					
ARU	**Arti**	**31.87 35**	*i*P	**P**	**07 50 12.6**	**+0.9**
	comp=Z,30nm,5.0s					
SOKR	**Solikamsk**	**32.86 29**	*e*P	P	07 50 27.1	+6.8
SOKR			S	S	07 55 46.2	+9.4
SOKR			pmax	pmax		
	comp=Z,10.0nm,1.0s					
SOKR			MLR	MLR		
	comp=Z,360nm,19.0s					
SVE	**Sverdlovsk**	**33.06 35**	*e*P	**P**	**07 50 22.1**	**0.0**
SVE			pmax	pmax		
	comp=Z,11nm,0.9s					
SVE	**Sverdlovsk**	**33.06 35**	*e*P	**P**	**07 50 22.1**	**0.0**
	comp=Z,11nm,0.9s					
APA	**Apatity**	**33.95 5⇑**	*i*P	**P**	**07 50 28.6**	**-1.1**
APA			pmax	pmax		
	comp=Z,126nm,0.6s					
APA			MLR	MLR		
	comp=Z,900nm,18.0s					
APA	**Apatity**	**33.95 5**	*i*P	**P**	**07 50 28.6**	**-1.1**
	comp=Z,900nm,18.0s					
LVZ	**Lovozero**	**34.37 6⇑**	*i*P	**P**	**07 50 31.8**	**-1.7**
LVZ	**Lovozero**	**34.37 6**	*i*P	**P**	**07 50 31.8**	**-1.7**
ARCES	**ARCESS Array B**	**35.60 0**	P	**P**	**07 50 42.1**	**-1.9**
ARCES	**ARCESS Array B**	**35.60 0**	P	**P**	**07 50 42.1**	**-1.9**
	comp=Z,3.4nm,0.8s,baz=182,slow=8.8,SNR=22					
ARCES	**ARCESS Array B**	**35.60 0**	P	**P**	**07 50 42.2**	**-1.9**
KKAR	**Karatay Array**	**36.03 62**	*e*P	**P**	**07 50 49.0**	**+0.9**
KKAR	**Karatay Array**	**36.03 62**	*e*P	**P**	**07 50 49.0**	**+0.9**
KKAR	**Karatay Array**	**36.03 62**	*e*P	**P**	**07 50 49.0**	**+0.9**
BRVK	**Borovoye**	**36.94 45***c*	*i*P	**P**	**07 50 56.0**	**+0.4**
BRVK			pmax	pmax		
	comp=Z,3.0nm,0.8s					
BRVK	**Borovoye**	**36.94 45**	*e*P	**P**	**07 50 56.3**	**+0.7**
	comp=Z,7.6nm,1.2s					
BRVK	**Borovoye**	**36.94 45**	*e*P	**P**	**07 50 56.3**	**+0.7**
	comp=Z,7.6nm,1.2s					
BVA0	**Borovoye Array**	**36.99 45**	*i*P	**P**	**07 50 55.4**	**-0.7**
BVA0			pmax	pmax		
	comp=Z,4.0nm,1.1s					
BVA0	**Borovoye Array**	**36.99 45**	*i*P	**P**	**07 50 55.4**	**-0.7**
	comp=Z,4.0nm,1.1s					
BVAR	**Borovoye Array**	**36.99 45**	P	**P**	**07 50 55.8**	**-0.3**
BVAR	**Borovoye Array**	**36.99 45**	P	**P**	**07 50 55.8**	**-0.3**

WMQ				sP	**sP**	**07 52 37.5**	**+1.4**
WMQ				PcP	**PcP**	**07 53 57.3**	**+2.2**
WMQ				PP	**PP**	**07 54 22.8**	**+1.5**
WMQ				pmax	pmax		
	comp=Z,12nm,0.6s						
WMQ				pmax	pmax		
	comp=Z,130nm,6.0s						
WMQ				LR	LR		
	comp=N,110nm,26.0s						
WMQ				LR	LR		
	comp=E,150nm,23.3s						
HVS	**Khovu-Aksy**	**51.24**	**49**	⇓*iP*	**P**	**07 52 50.3**	**-0.1**
HVS				pmax	pmax		
	comp=Z,22nm,1.0s						
ZAK	**Zakamensk**	**57.35**	**48**	*eP*	**P**	**07 53 35.5**	**+0.6**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.1s						
SONM	**Songino Array**	**60.05**	**50**	P	**P**	**07 53 53.5**	**-0.3**
SONM	**Songino Array**	**60.05**	**50**	P	**P**	**07 53 53.5**	**-0.3**
	comp=Z,1.2nm,0.7s,baz=274,slow=9.0,SNR=8.7						
SONM	**Songino Array**	**60.05**	**50**	P	**P**	**07 53 53.5**	**-0.3**
SONA1	**Songino Array**	**60.05**	**50**	*eP*	**P**	**07 53 54.0**	**+0.2**
SONA1	**Songino Array**	**60.05**	**50**	*eP*	**P**	**07 53 54.0**	**+0.2**
ULN	**Ulaanbaatar**	**60.46**	**50**	*eP*	**P**	**07 53 56.9**	**+0.3**
	comp=Z,3.8nm,0.9s						
ULN	**Ulaanbaatar**	**60.46**	**50**	*eP*	**P**	**07 53 56.9**	**+0.3**
	comp=Z,3.8nm,0.9s						
BOSA	**Boshof**	**62.26**	**180**	P	**P**	**07 54 10.9**	**+2.2**
BOSA	**Boshof**	**62.26**	**180**	P	**P**	**07 54 10.9**	**+2.2**
	comp=Z,2.2nm,0.9s,baz=54,slow=15,SNR=5.5						
BOSA	**Boshof**	**62.26**	**180**	P	**P**	**07 54 10.9**	**+2.2**
SCHQ	**Schefferville**	**64.24**	**320**	P	**P**	**07 54 20.5**	**-1.1**
SCHQ	**Schefferville**	**64.24**	**320**	P	**P**	**07 54 20.5**	**-1.1**
	comp=Z,6.2nm,0.7s,baz=56,slow=6.1,SNR=13						
SCHQ	**Schefferville**	**64.24**	**320**	P	**P**	**07 54 20.5**	**-1.1**
CD2	**Chengdu**	**64.59**	**69**	P	**P**	**07 54 25.8**	**+1.5**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
HHC	**Hu-ho-hao-te**	**66.09**	**56**	*eP*	**P**	**07 54 33.4**	**-0.6**
HHC				pP	**pP**	**07 54 38.1**	**-1.3**
HHC				sP	**sP**	**07 54 40.4**	**-0.9**
HHC				PP	**PP**	**07 57 00.8**	**+1.6**
HHC				PcS		07 59 07.3	
HHC				S	**S**	**08 03 18.6**	**-3.2**
HHC				sS	**sS**	**08 03 26.3**	**-4.3**
HHC				ScS	**SKSac**	**08 04 25.3**	**-4.3**
HHC				pmax	pmax		
	comp=Z,36nm,1.1s						
HHC				pmax	pmax		
	comp=Z,120nm,5.0s						
HHC				LR	LR		
	comp=N,260nm,17.3s						
HHC				LR	LR		
	comp=E,310nm,16.3s						
HHC				LR	LR		
	comp=Z,160nm,17.1s						
KMI	**Kunming**	**66.38**	**75**	P	P	07 54 40.6	+4.4
KMI				pmax	pmax		
	comp=Z,10.0nm,0.6s						
GYA	**Guiyang**	**68.88**	**72**	*eP*	**P**	**07 54 53.4**	**+1.5**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CN2	**Changchun**	**73.78**	**48**	*eP*	**P**	**07 55 22.5**	**+1.4**
QIZ	**Qiongzhong**	**75.10**	**77**	P	**P**	**07 55 28.3**	**-0.8**
QIZ				S	**S**	**08 05 07.8**	**+0.7**
QIZ				pmax	pmax		
	comp=Z,8.0nm,2.3s						
NJ2	**Nanjing**	**75.41**	**61**	*eP*	**P**	**07 55 30.6**	**-0.1**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
USRK	**Ussuriysk Arra**	**77.50**	**45**	P	**P**	**07 55 42.1**	**-0.3**
	comp=Z,3.2nm,0.7s,baz=284,slow=5.5,SNR=5.4						
YKA	**Yellowknife Ar**	**78.64**	**342**	P	**P**	**07 55 48.3**	**0.0**
YKA	**Yellowknife Ar**	**78.64**	**342**	P	**P**	**07 55 48.3**	**0.0**
	comp=Z,1.9nm,0.6s,baz=30,slow=5.5,SNR=13						
YKA	**Yellowknife Ar**	**78.64**	**342**	P	**P**	**07 55 48.3**	**0.0**
KSAR	**Wonju Array Be**	**78.79**	**52**	P	**P**	**07 55 49.9**	**+0.2**
KSAR	**Wonju Array Be**	**78.79**	**52**	P	**P**	**07 55 49.8**	**+0.2**
KSRS	**Korea Array**	**78.81**	**52**	P	**P**	**07 55 49.9**	**+0.2**
	comp=Z,1.5nm,0.7s,baz=305,slow=5.1,SNR=7.0						
KSRS				LR	LR	08 32 40.4	
	comp=Z,44nm,19.3s,baz=230,slow=37						
COLD	**Coldfoot**	**79.05**	**358**	*eP*	**P**	**07 55 51.6**	**+1.1**
	comp=Z,2.9nm,0.8s						
COLD	**Coldfoot**	**79.05**	**358**	*eP*	**P**	**07 55 51.6**	**+1.1**
	comp=Z,2.9nm,0.8s						
IMA2	**Indian Mountai**	**80.27**	**360**	*eP*	**P**	**07 55 58.3**	**+1.0**
IMA2	**Indian Mountai**	**80.27**	**360**	*eP*	**P**	**07 55 58.3**	**+1.0**
COWI	**Conover**	**80.85**	**320**	*eP*	**P**	**07 56 01.0**	**+0.3**
	comp=Z,6.1nm,1.0s						
COWI	**Conover**	**80.85**	**320**	*eP*	**P**	**07 56 01.0**	**+0.3**
	comp=Z,6.1nm,1.0s						
EGAK	**Eagle**	**81.01**	**354**	*eP*	**P**	**07 56 01.9**	**+0.8**
	comp=Z,27nm,1.9s						
EGAK	**Eagle**	**81.01**	**354**	*eP*	**P**	**07 56 01.9**	**+0.8**
	comp=Z,27nm,1.9s						
ILAR	**Eielson Array**	**81.39**	**357**	P	**P**	**07 56 03.4**	**+0.2**
ILAR	**Eielson Array**	**81.39**	**357**	P	**P**	**07 56 03.4**	**+0.2**
	comp=Z,1.5nm,0.8s,baz=341,slow=3.4,SNR=20						
ILAR	**Eielson Array**	**81.39**	**357**	P	**P**	**07 56 03.4**	**+0.2**
DAWY	**Dawson**	**81.55**	**353**	*eP*	**P**	**07 56 05.0**	**+0.9**
DAWY	**Dawson**	**81.55**	**353**	*eP*	**P**	**07 56 04.9**	**+0.9**
CAST	**Castle Rocks**	**82.91**	**359**	*eP*	**P**	**07 56 11.7**	**+0.5**
	comp=Z,16nm,0.4s						
CAST	**Castle Rocks**	**82.91**	**359**	*eP*	**P**	**07 56 11.7**	**+0.5**
	comp=Z,16nm,0.4s						
PPLA	**Purkeypile**	**83.44**	**359**	*eP*	**P**	**07 56 14.7**	**+0.6**
	comp=Z,29nm,1.6s						
PPLA	**Purkeypile**	**83.44**	**359**	*eP*	**P**	**07 56 14.7**	**+0.6**
	comp=Z,29nm,1.6s						
BDFB	**Brasilia**	**85.48**	**248**	P	**P**	**07 56 26.6**	**+1.5**
BDFB	**Brasilia**	**85.48**	**248**	P	**P**	**07 56 26.6**	**+1.5**
	comp=Z,2.1nm,0.7s,baz=92,slow=4.4,SNR=3.6						
BDFB	**Brasilia**	**85.48**	**248**	P	**P**	**07 56 26.5**	**+1.5**
ECSD	**EROS Data Cent**	**86.36**	**322**	*eP*	**P**	**07 56 29.6**	**+0.6**
	comp=Z,26nm,2.1s						
ECSD	**EROS Data Cent**	**86.36**	**322**	*eP*	**P**	**07 56 29.6**	**+0.6**
	comp=Z,26nm,2.1s						
LRAL	**Lakeview Retre**	**87.98**	**309**	*eP*	**P**	**07 56 37.7**	**+0.7**
	comp=Z,42nm,2.1s						
LRAL	**Lakeview Retre**	**87.98**	**309**	*eP*	**P**	**07 56 37.7**	**+0.7**
	comp=Z,42nm,2.1s						
JTMT	**Jette**	**91.00**	**334**	*eP*	**P**	**07 56 52.3**	**+1.2**
JTMT	**Jette**	**91.00**	**334**	*eP*	**P**	**07 56 52.3**	**+1.2**
SWMT	**Swartz Lake**	**91.09**	**334**	*eP*	**P**	**07 56 52.5**	**+1.0**
SWMT	**Swartz Lake**	**91.09**	**334**	*eP*	**P**	**07 56 52.5**	**+1.0**
PDAR	**Pinedale Array**	**93.23**	**329**	P	**P**	**07 57 01.1**	**-0.5**
PDAR	**Pinedale Array**	**93.23**	**329**	P	**P**	**07 57 01.1**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=26,slow=7.0,SNR=3.6						
PDAR	**Pinedale Array**	**93.23**	**329**	P	**P**	**07 57 01.1**	**-0.5**
WRA	**Warramunga Arr**	**116.21**	**97**	PKP	**PKPdf**	**08 02 29.9**	**-0.6**
WRA	**Warramunga Arr**	**116.21**	**97**	PKP	**PKPdf**	**08 02 29.9**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=306,slow=1.9,SNR=4.3						
WRA	**Warramunga Arr**	**116.21**	**97**	PKIKP	**PKPdf**	**08 02 29.9**	**-0.6**
ASAR	**Alice Springs**	**117.59**	**101**	PKP	**PKPdf**	**08 02 32.7**	**-0.4**
ASAR	**Alice Springs**	**117.59**	**101**	PKP	**PKPdf**	**08 02 32.7**	**-0.4**
	comp=Z,0.7nm,0.9s,baz=329,slow=1.9,SNR=3.5						
ASAR	**Alice Springs**	**117.59**	**101**	PKIKP	**PKPdf**	**08 02 32.7**	**-0.4**
STKA	**Stephens Creek**	**127.15**	**107**	PKP	**PKPdf**	**08 02 52.6**	**+1.5**
STKA	**Stephens Creek**	**127.15**	**107**	PKP	**PKPdf**	**08 02 52.6**	**+1.5**
	comp=Z,1.8nm,0.5s,baz=319,slow=18,SNR=2.9						
STKA	**Stephens Creek**	**127.15**	**107**	PKIKP	**PKPdf**	**08 02 52.7**	**+1.5**

IDC 13 07:51:45.1±1.9, 1°.57N×126°.07E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.5/20, mbtmp3.7/4, ML3.6/1, MS3.8/1, Ms1 3.8/1, ms1mx3.0/34, Error ellipse: s-maj=117.4km s-min=24.8km az=68.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.55**	**181**	P	P	07 56 14.4	-0.1
	0.1nm,0.3s,baz=14,slow=12,SNR=3.4						
WRA	**Warramunga Arr**	**22.86**	**160**	P	P	07 56 49.9	-0.5
	1.2nm,0.3s,baz=338,slow=11,SNR=34						
ASAR	**Alice Springs**	**26.21**	**164**	P	P	07 57 22.3	+0.4
	0.6nm,0.4s,baz=336,slow=9.1,SNR=13						
SONM	**Songino Array**	**49.14**	**343**	LR	LR	08 24 13.4	
	comp=Z,104nm,19.2s,baz=183,slow=40						
MKAR	**Makanchi Array**	**58.96**	**326**	P	P	08 01 46.5	0.0
	0.4nm,0.5s,baz=123,slow=7.7,SNR=4.6						

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*ISCJB **13** 08:02:41.1±0.5, 40°.61N±0°.03×28°.92E±0°.04, h6km±4km, Error ellipse: s-maj=5.0km s-min=4.1km az=153.3*

*CSEM **13** 08:02:41.4±0.2, 40°.60N×28°.94E, h5km, MD2.7, Error ellipse: s-maj=3.7km s-min=3.1km az=80.0*
*DDA **13** 08:02:41.0, 40°.56N×28°.89E, h17km, MD2.7*
*ISK **13** 08:02:41.0, 40°.60N×28°.97E, h9km, MD2.7*

ISC 13 08:02:40.9±0.9, 40°.61N±0°.02×28°.94E±0°.02, h13km±6km, n51, σ0°.53/68, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARMT	**Armutlu**	**0.07**	**234**	*e*PG	**Pg**	**08 02 43.6**	**-0.1**
ARMT	**Armutlu**	**0.07**	**234**	*e*Pg	**Pg**	**08 02 43.6**	**-0.1**
MDNY	**Mudanya-Bursa**	**0.24**	**190**	*e*PG	**Pg**	**08 02 46.2**	**+0.1**
MDNY				*e*SG	**Sg**	**08 02 50.0**	**+0.4**
MDNY	**Mudanya-Bursa**	**0.24**	**190**	*e*Pg	**Pg**	**08 02 46.2**	**+0.1**
MDNY				*e*Sg	**Sg**	**08 02 50.0**	**+0.4**
ISK	**Istanbul-Kandi**	**0.47**	**11**	*e*PG	**Pb**	**08 02 51.0**	**0.0**
ISK	**Istanbul-Kandi**	**0.47**	**11**	*e*Pg	**Pb**	**08 02 51.0**	**0.0**
ULDT	**Uludag**	**0.49**	**162**	*i* P	**Pg**	**08 02 50.4**	**-0.3**
ULDT				*i* S	**Sg**	**08 02 56.8**	**-0.4**
ULDT	**Uludag**	**0.49**	**162**	*i* P	**Pg**	**08 02 50.4**	**-0.3**
ULDT				*i* S	**Sg**	**08 02 56.8**	**-0.4**
KCTX	**Karacabey (Bur**	**0.56**	**233**	*e*PG	**Pg**	**08 02 52.2**	**+0.3**
KCTX	**Karacabey (Bur**	**0.56**	**233**	*e*Pg	**Pg**	**08 02 52.2**	**+0.3**
BGKT	**Bogazkoy**	**0.58**	**348**	*e*PG	**Pg**	**08 02 52.8**	**+0.4**
BGKT	**Bogazkoy**	**0.58**	**348**	*e*Pg	**Pg**	**08 02 52.8**	**+0.4**
HRT	**Hereke**	**0.59**	**69**	*e*PG	**Pg**	**08 02 52.6**	**0.0**
HRT	**Hereke**	**0.59**	**69**	*e*Pg	**Pg**	**08 02 52.6**	**0.0**
ADVT	**Abdulvahap**	**0.63**	**106**	*e*PG	**Pg**	**08 02 53.2**	**-0.1**
ADVT	**Abdulvahap**	**0.63**	**106**	*e*Pg	**Pg**	**08 02 53.2**	**-0.1**
ELBA	**Catalca**	**0.66**	**324**	*i* P	**Pb**	**08 02 54.5**	**+0.2**
ELBA	**Catalca**	**0.66**	**324**	*i* P	**Pb**	**08 02 54.5**	**+0.2**
CTKS	**Kestanelik-??a**	**0.71**	**332**	*e*PG	**Pb**	**08 02 55.4**	**+0.3**
CTKS	**Kestanelik-??a**	**0.71**	**332**	*e*Pg	**Pb**	**08 02 55.4**	**+0.3**
BNT	**Bandirma**	**0.82**	**252**	*e*PG	**Pb**	**08 02 57.9**	**+0.9**
BNT	**Bandirma**	**0.82**	**252**	*e*Pg	**Pb**	**08 02 57.9**	**+0.9**
SLVT	**Silivri**	**0.83**	**318**	*e*PG	**Pb**	**08 02 57.8**	**+0.6**
SLVT	**Silivri**	**0.83**	**318**	*e*Pg	**Pb**	**08 02 57.8**	**+0.6**
DST	**Dursunbey**	**1.03**	**194**	*e*PG	**Pb**	**08 03 01.2**	**+0.5**
DST	**Dursunbey**	**1.03**	**194**	*e*Pg	**Pb**	**08 03 01.2**	**+0.5**
DURS	**Dursunbey**	**1.07**	**200**	*i* P	**Pg**	**08 03 01.5**	**0.0**
DURS				*i* S	**Sb**	**08 03 15.4**	**+0.2**
DURS	**Dursunbey**	**1.07**	**200**	*i* P	**Pn**	**08 03 02.2**	**+0.6**
DURS				*i* S	**Sg**	**08 03 15.0**	**-0.5**
DURS	**Dursunbey**	**1.07**	**200**	*i* P	**Pg**	**08 03 01.5**	**0.0**
DURS				*i* S	**Sb**	**08 03 15.4**	**+0.2**
GONE	**Gonen-Balikesi**	**1.11**	**240**	*e*PN	**Pn**	**08 03 02.9**	**+0.8**
GONE	**Gonen-Balikesi**	**1.11**	**240**	*e*Pn	**Pn**	**08 03 02.9**	**+0.8**
GULT	**Gulveren**	**1.21**	**98**	*e*PN	**Pb**	**08 03 04.2**	**+0.4**
GULT	**Gulveren**	**1.21**	**98**	*e*Pn	**Pb**	**08 03 04.2**	**+0.4**
BALB	**Balikesir**	**1.26**	**220**	*e*PN	**Pg**	**08 03 05.4**	**+0.2**
BALB	**Balikesir**	**1.26**	**220**	*e*Pn	**Pg**	**08 03 05.4**	**+0.2**
KRBG	**Karabiga-Canak**	**1.27**	**261**	*e*PN	**Pg**	**08 03 05.7**	**+0.3**
KRBG	**Karabiga-Canak**	**1.27**	**261**	*e*Pn	**Pg**	**08 03 05.7**	**+0.3**
BALY	**Balya**	**1.33**	**230**	*i* P	**Pn**	**08 03 04.2**	**-1.0**
BALY				*i* S	**Sb**	**08 03 21.7**	**-1.1**
BALY	**Balya**	**1.33**	**230**	*i* P	**Pn**	**08 03 04.2**	**-1.0**
BALY				*i* S	**Sb**	**08 03 21.7**	**-1.1**
SART	**Tekirdag**	**1.34**	**274**	*i* P	Pn	08 03 02.6	-2.8
SART				*i* S	**Sb**	**08 03 21.7**	**-1.4**
SART	**Tekirdag**	**1.34**	**274**	*i* P	Pn	08 03 02.6	-2.8
SART				*i* S	**Sb**	**08 03 21.7**	**-1.4**
RKY	**Sarkoy-Tekirda**	**1.34**	**274**	*e*PN	**Pg**	**08 03 06.8**	**0.0**
RKY	**Sarkoy-Tekirda**	**1.34**	**274**	*e*Pn	**Pg**	**08 03 06.8**	**0.0**
BORA	**Eskisehir**	**1.37**	**122**	*i* P	**Pg**	**08 03 07.4**	**+0.2**
BORA				*i* S	**Sb**	**08 03 23.9**	**+0.1**
BORA	**Eskisehir**	**1.37**	**122**	*i* P	**Pg**	**08 03 07.4**	**+0.2**
BORA				*i* S	**Sb**	**08 03 23.9**	**+0.1**
DEMI	**Demirci**	**1.57**	**186**	*i* P	**Pb**	**08 03 10.1**	**+0.2**
DEMI				*i* S	**Sg**	**08 03 30.8**	**-0.8**
DEMI	**Demirci**	**1.57**	**186**	*i* P	**Pb**	**08 03 10.1**	**+0.2**
DEMI				*i* S	**Sg**	**08 03 30.8**	**-0.8**
GDZ	**Gediz**	**1.57**	**165**	*i* P	**Pb**	**08 03 09.9**	**-0.1**
GDZ				*i* S	**Sg**	**08 03 31.4**	**-0.3**
GDZ	**Gediz**	**1.57**	**165**	*i* P	**Pb**	**08 03 09.9**	**-0.1**
GDZ				*i* S	**Sg**	**08 03 31.4**	**-0.3**
MANT	**Manisa**	**2.14**	**188**	*i* P	**Pb**	**08 03 19.9**	**+0.3**
MANT				*i* S	**Sb**	**08 03 46.8**	**+0.7**
MANT	**Manisa**	**2.14**	**188**	*i* P	**Pb**	**08 03 19.9**	**+0.3**
MANT				*i* S	**Sb**	**08 03 46.8**	**+0.7**

NNC 13 08:08:23.3±7.9, 54°.26N×86°.14E, h0km, mb3.6, mpv3.1, 6C-4D, Error ellipse: s-maj=65.7km s-min=38.4km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**5.91**	**235**	⇓Pn	Pn	08 09 54.6	+2.6
	2.8nm,0.4s						
KURBB				⇑Sn	Sn	08 11 07.6	+7.1
	9.5nm,0.7s						
KURBB				⇑Lg	Lg	08 11 38.6	
	21nm,0.9s						
MK31	**Makanchi Array**	**7.87**	**200**	⇑Pn	Pn	08 10 22.2	+3.2
	0.1nm,0.3s,baz=28,slow=13,SNR=23						
MK31				⇓Sn	Sn	08 11 53.3	+4.6
	3.6nm,1.1s,baz=34,slow=26,SNR=3.9						
MK31				⇑Lg	Lg	08 12 39.6	
	10nm,1.0s,baz=18,slow=34,SNR=4.6						
VOSK	**Vostochnaya**	**9.17**	**266**	⇑Pn	Pn	08 10 37.3	+0.5
	1.2nm,0.5s						
VOSK				⇓Sn	Sn	08 12 17.0	-3.6
	9.1nm,1.0s						
BVA0	**Borovoye Array**	**9.44**	**269**	⇓Pn	Pn	08 10 40.9	+0.4
	0.9nm,0.6s,baz=64,slow=17,SNR=4.8						
BVA0				⇑Sn	Sn	08 12 20.4	-6.8
	3.4nm,1.2s						

IDC 13 08:11:21.5±21.0, 25°.03S×179°.79W, h483km±200km, mb3.4/5, mb1 3.5/5, mb1mx3.2/15, mbtmp3.4/5, Error ellipse: s-maj=141.2km s-min=58.5km az=106.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**31.69**	**272**	P	P	08 17 05.2	+0.6
	3.8nm,0.3s,baz=93,slow=10.0,SNR=7.9						
STKA	**Stephens Creek**	**34.50**	**250**	P	P	08 17 28.6	+0.3
	0.9nm,0.4s,baz=90,slow=12,SNR=2.4						
ASAR	**Alice Springs**	**42.05**	**262**	P	P	08 18 29.8	-0.4
	0.5nm,0.3s,baz=92,slow=7.0,SNR=21						
WRA	**Warramunga Arr**	**42.53**	**267**	P	P	08 18 33.1	-0.9
	1.7nm,0.3s,baz=100,slow=6.8,SNR=85						
PETK	**Petropavlovsk-**	**80.23**	**346**	P	P	08 22 40.4	-0.4
	2.2nm,0.6s,baz=132,slow=6.6,SNR=3.5						
ARCES	**ARCESS Array B**	**133.02**	**348**	PKP	PKPdf	08 29 41.1	+0.4
	1.0nm,0.7s,baz=359,slow=3.8,SNR=4.2						
NOA	**NORSAR Array B**	**143.22**	**351**	PKP	PKPab	08 29 57.1	-0.2
	0.8nm,0.8s,baz=14,slow=3.9,SNR=3.4						
HFS	**Hagfors**	**143.68**	**349**	PKP	PKPbc	08 29 59.4	+0.4
	3.4nm,0.4s,baz=66,slow=5.0,SNR=20						
AKASG	**Malin Array Be**	**146.01**	**327**	PKPbc	PKPbc	08 30 06.7	+0.3
	1.2nm,0.5s,baz=42,slow=5.1,SNR=7.5						

FUNV 13 08:30:50.6, 10°.79N×67°.87W, h17km, MW3.5, 1C-1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TURV	**Turiamo**	**0.34**	**176**	*e*P	Pg	08 30 57.2	-0.5
TURV				*e*S	Sg	08 31 01.6	-1.0
JACV	**Jacura**	**0.99**	**288**	*e*P	Pn	08 31 09.8	0.0
JACV				*e*S	Sg	08 31 22.8	-0.3
FUNV	**FUNVISIS**	**1.08**	**107**	*e*P	Pb	08 31 11.1	0.0
FUNV				*e*S	Sb	08 31 25.4	+0.3
TEPV	**Terepaima**	**1.54**	**238**	⇓*e*P	Pn	08 31 16.7	-0.7
TEPV				*e*S	Sn	08 31 36.1	-0.9
BIRV	**Birongo**	**1.60**	**101**	⇓*e*P	Pn	08 31 18.3	+0.2
BIRV				*e*S	Sn	08 31 37.7	-0.7
BAUV	**El Baul**	**1.84**	**185**	*e*P	Pn	08 31 21.6	+0.1
BAUV				*e*S	Sn	08 31 43.8	-0.6
SIQV	**Siquisique**	**1.91**	**266**	*e*P	Pn	08 31 21.3	-1.1
SIQV				*e*S	Sn	08 31 44.9	-1.3
ORCV	**Isla La Orchil**	**1.93**	**58**	*e*P	Pn	08 31 21.4	-1.2
ORCV				*e*S	Sn	08 31 44.9	-1.6
MERV	**Las Mercedes**	**2.17**	**135**	*e*P	Pn	08 31 26.6	+0.6
CURV	**Curarigua**	**2.20**	**250**	*e*P	Pn	08 31 25.8	-0.7
CURV				*e*S	Sn	08 31 52.4	-1.0
MONV	**Montecano**	**2.37**	**300**	*e*P	Pn	08 31 27.7	-1.0
MONV				*e*S	Sn	08 31 55.8	-1.5
QARV	**Quebrada Arrib**	**2.68**	**258**	*e*P	Pn	08 31 31.9	-1.1
QARV				*e*S	Sn	08 32 03.2	-1.9
DABV	**Dabajuro**	**2.72**	**273**	*e*P	Pn	08 31 32.4	-1.2
SOCV	**Socops**	**3.86**	**230**	*e*P	Pn	08 31 48.4	-0.8
VIGV	**El Vigia**	**3.95**	**241**	*e*P	Pn	08 31 49.7	-0.9
ELOV	**Elorza**	**4.09**	**203**	*e*P	Pn	08 31 51.4	-0.9
VIRV	**Villa del Rosa**	**4.47**	**267**	*e*P	Pn	08 31 56.2	-1.4
GUNV	**Guanoco**	**4.88**	**97**	*e*P	Pn	08 32 01.9	-1.4
CAPV	**Capacho**	**5.26**	**237**	*e*P	Pn	08 32 06.3	-2.6

JMA 13 08:36:53.7±0.2, 40°.51N×140°.30E, h169km±2km, M2.0, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIW	**Iwasaki**	**0.24**	**290**	P	Pn	08 37 16.7	+0.4
JAH	**Hinai**	**0.41**	**141**	P	Pn	08 37 16.9	0.0
JAH				*e*S	Sn	08 37 34.7	+0.1
JTM	**Tenmabayashi**	**0.65**	**64**	P	Pn	08 37 18.1	+0.2
JANG	**Nango**	**0.94**	**98**	P	Pn	08 37 19.8	0.0
JOT	**Ohata**	**1.04**	**33**	P	Pn	08 37 20.7	+0.2
JOM	**Ohasama**	**1.29**	**143**	P	Pn	08 37 22.7	0.0
JMK	**Ichinoseki**	**1.71**	**155**	P	Pn	08 37 26.8	-0.1

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*NIED **13** 08:37:00, 41°.30N×142°.70E, h11km, Mw4.3 Best double couple: M0 3.56000×10^15 NP1:φ0=278.00000°, δ53.00000°, λ54.00000°. NP2:φ0=148.00000°, δ50.00000°, λ128.00000°.*
*BJI **13** 08:37:07.0, 41°.58N×143°.07E, h10km, mB4.9/21, mb4.6/24, Ms4.3/11, Ms7 4.3/8*
*IDC **13** 08:37:08.3±0.6, 41°.24N×142°.67E, h0km, mb4.1/23, mb1 4.2/28, mb1mx4.2/35, mbtmp4.1/28, ML3.9/4, MS3.5/8, Ms1 3.5/8, ms1mx3.3/30, Error ellipse: s-maj=14.9km s-min=11.8km az=146.0*
*ISCJB **13** 08:37:09.7±0.7, 41°.31N±0°.02×142°.67E±0°.03, h13km±4km, mb4.4/49, MS3.8/7, Error ellipse: s-maj=4.7km s-min=2.7km az=136.0*
*NEIC **13** 08:37:10.7±1.7, 41°.30N×142°.73E, h12km±10km, mb4.7/12, MW4.3(NIED), Error ellipse: s-maj=11.4km s-min=6.3km az=143.0*
NEIC Recorded [2 JMA] in southwestern Hokkaido. Also recorded [2 JMA] in Aomori and [1 JMA] in Iwate, Honshu.
*JMA **13** 08:37:10.3±0.1, 41°.28N×142°.71E, h27km±4km, M4.5*
JMA Felt II J1.
*MOS **13** 08:37:11.4±1.3, 41°.28N×142°.72E, h30km, mb4.7/12, Error ellipse: s-maj=9.0km s-min=6.4km az=77.7*

ISC 13 08:37:12.0±0.5, 41°.30N±0°.03×142°.69E±0°.04, h16km±2km, n164, σ1°.72/197, mb4.4/49, MS3.9/7, 6C-12D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERM	**Erimo**	**0.80**	**26**	*e*P	**Pb**	**08 37 25.4**	**-2.1**
ERM				*e*		08 37 36.5	
ERM	**Erimo**	**0.80**	**26**	*e*Pg	**Pb**	**08 37 25.4**	**-2.1**
ERM				*e*Sg	**Sb**	**08 37 36.5**	**-1.5**
JEM	**Erimo**	**0.80**	**26**	⇓P	**Pb**	**08 37 25.3**	**-2.2**
JEM				S	**Sb**	**08 37 36.2**	**-1.8**
JNBK	**Urakawa-nobuka**	**0.98**	**3**	⇓P	**Pb**	**08 37 28.5**	**-2.1**
JNBK				*e*S	**Sb**	**08 37 41.9**	**-1.4**
JOT	**Ohata**	**1.24**	**274**	⇓P	**Pn**	**08 37 32.2**	**-2.4**
JOT				S	**Sb**	**08 37 47.8**	**-3.0**
JANG	**Nango**	**1.28**	**224**	⇓P	**Pn**	**08 37 32.5**	**-2.8**
JANG				*e*S	**Sb**	**08 37 48.8**	**-3.2**
JTM	**Tenmabayashi**	**1.33**	**248**	⇓P	**Pn**	**08 37 34.0**	**-1.9**
JTM				S	**Sn**	**08 37 51.2**	**-2.0**
JKB	**Kayabe**	**1.38**	**296**	⇑P	**Pn**	**08 37 34.1**	**-2.4**
JKB				S	**Sn**	**08 37 50.8**	**-3.6**
JCH	**Churui**	**1.41**	**21**	⇓P	**Pn**	**08 37 35.1**	**-1.8**
JBT2	**Biratori 2**	**1.50**	**351**

n149, σ0.983/206, mb3.7/7, 8C-3D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CN2				pmax	pmax		
	comp=Z,10.0nm,0.3s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
PETK	**Petropavlovsk-**	**15.57**	**36**	P	**Pn**	**08 40 48.7**	**-1.9**
PETK	**Petropavlovsk-**	**15.57**	**36**	Pn	**Pn**	**08 40 48.7**	**-1.9**
PETK	**Petropavlovsk-**	**15.57**	**36**	Pn	**Pn**	**08 40 48.7**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=198,slow=8.1,SNR=5.2						
PETK				LR	LR	08 46 57.7	
	comp=Z,58nm,18.5s,baz=318,slow=38						
PET	**Petropavlovsk**	**15.94**	**37**	*e*P	**Pn**	**08 40 55.1**	**-0.2**
BJI	**Beijing**	**20.13**	**275**	P	**P**	**08 41 44.5**	**-0.7**
BJI				S	**S**	**08 45 27.0**	**-3.6**
BJI				pmax	pmax		
	comp=Z,15nm,0.6s						
YAK	**Yakutsk**	**22.19**	**344**	*e*P	**P**	**08 42 10.2**	**+3.0**
YAK				*e**PP	pP	08 42 19.2	+7.4
YAK				*e*		08 42 28.1	
YAK				*e*SS	SS	08 46 46.5	
YAK				pmax	pmax		
	comp=N,5.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,10.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,17nm,0.9s						
YAK				pmax	pmax		
	comp=N,7.0nm,0.8s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.1s						
YAK				MLR	MLR		
	comp=Z,116nm,17.0s						
YAK				MLR	MLR		
	comp=E,112nm,21.0s						
YAK				MLR	MLR		
	comp=N,134nm,17.0s						
HHC	**Hu-ho-hao-te**	**23.41**	**279**	*e*P	**P**	**08 42 20.3**	**0.0**
HHC				pP	**pP**	**08 42 24.4**	**-0.6**
HHC				sP	**sP**	**08 42 27.3**	**+0.2**
HHC				PP	**PnPn**	**08 42 51.4**	**+4.9**
HHC				S	**S**	**08 46 28.3**	**-4.6**
HHC				sS	sS	08 46 35.1	-5.9
HHC				SS	**SnSn**	**08 47 14.5**	**+6.3**
HHC				PcS	**PcS**	**08 49 46.9**	**+1.2**
HHC				ScS	**ScS**	**08 53 30.0**	**-0.1**
HHC				pmax	pmax		
	comp=Z,53nm,1.1s						
HHC				pmax	pmax		
	comp=Z,230nm,5.1s						
HHC				LR	LR		
	comp=N,400nm,16.3s						
HHC				LR	LR		
	comp=E,400nm,14.3s						
HHC				LR	LR		
	comp=Z,290nm,14.7s						
FX1	**Attu Island--F**	**23.57**	**50**	P	**P**	**08 42 20.7**	**-0.9**
FX1	**Attu Island--F**	**23.57**	**50**	P	**P**	**08 42 20.7**	**-0.9**
	comp=Z,5.5nm,0.8s,baz=297,slow=14,SNR=2.7						
ULN	**Ulaanbaatar**	**26.05**	**297**	*e*P	**P**	**08 42 44.3**	**-0.3**
	comp=Z,2.3nm,0.7s						
SONM	**Songino Array**	**26.49**	**297**	P	**P**	**08 42 46.3**	**-2.3**
SONM	**Songino Array**	**26.49**	**297**	P	**P**	**08 42 46.3**	**-2.3**
	comp=Z,1.5nm,0.7s,baz=94,slow=9.8,SNR=8.5						
SONM				LR	LR	08 53 44.7	
	comp=Z,128nm,18.7s,baz=75,slow=38						
ZAK	**Zakamensk**	**28.63**	**302**	*e*P	**P**	**08 43 05.7**	**-1.9**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.6s						
LZH	**Lanzhou**	**30.59**	**273**	*e*P	**P**	**08 43 24.5**	**-0.7**
LZH				pP	**pP**	**08 43 27.9**	**-2.2**
LZH				sP	**sP**	**08 43 29.5**	**-2.7**
LZH				PP	**PnPn**	**08 44 24.0**	**-0.3**
LZH				pmax	pmax		
	comp=Z,23nm,1.2s						
LZH				pmax	pmax		
	comp=Z,65nm,4.6s						
LZH				LR	LR		
	comp=N,380nm,12.9s						
LZH				LR	LR		
	comp=E,380nm,13.2s						
LZH				LR	LR		
	comp=Z,470nm,17.0s						
CD2	**Chengdu**	**32.88**	**264**	P	**P**	**08 43 47.5**	**+2.2**
CD2				pP	**pP**	**08 43 51.9**	**+1.7**
CD2				sP	**sP**	**08 43 54.5**	**+2.3**
CD2				PP	**PP**	**08 44 57.3**	**-2.3**
CD2				S	**S**	**08 49 03.4**	**+1.2**
CD2				sS	**sS**	**08 49 10.4**	**0.0**
CD2				SS	**SnSn**	**08 51 01.6**	**+2.4**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				pmax	pmax		
	comp=Z,180nm,6.1s						
CD2				LR	LR		
	comp=N,300nm,8.9s						
CD2				LR	LR		
	comp=Z,260nm,8.9s						
GYA	**Guiyang**	**33.11**	**255**	*e*P	**P**	**08 43 48.8**	**+1.4**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
HVS	**Khovu-Aksy**	**34.71**	**303**	||*i*P	**P**	**08 44 01.1**	**+0.1**
HVS				pmax	pmax		
	comp=Z,10.0nm,0.9s						
QIZ	**Qiongzhong**	**35.72**	**242**	P	**P**	**08 44 10.3**	**+0.4**
QIZ				S	**S**	**08 49 49.1**	**+3.0**
QIZ				pmax	pmax		
	comp=Z,7.0nm,1.3s						
QIZ				pmax	pmax		
	comp=Z,150nm,4.1s						
KMI	**Kunming**	**36.76**	**257**	P	**P**	**08 44 21.1**	**+2.1**
KMI				pmax	pmax		
	comp=Z,7.0nm,1.0s						
ZAA0	**Zalesovo Array**	**39.90**	**309**	*e*P	**P**	**08 44 46.1**	**+1.3**
ZALV	**Zalesovo Beam**	**39.90**	**309**	P	**P**	**08 44 43.6**	**-1.2**
ZALV	**Zalesovo Beam**	**39.90**	**309**	P	**P**	**08 44 43.6**	**-1.2**
ZALV	**Zalesovo Beam**	**39.90**	**309**	P	**P**	**08 44 43.6**	**-1.2**
	comp=Z,2.4nm,0.5s,baz=83,slow=8.9,SNR=11						
ZALV				LR	LR	09 02 09.6	
	comp=Z,94nm,18.1s,baz=339,slow=38						
WMQ	**Urumqi**	**39.96**	**293**	P	**P**	**08 44 47.0**	**+1.4**
WMQ				pP	**pP**	**08 44 51.5**	**+0.9**
WMQ				sP	**sP**	**08 44 54.0**	**+1.4**
WMQ				PP	**PnPn**	**08 46 23.3**	**+2.6**
WMQ				PcP	**PcP**	**08 46 52.6**	**+1.9**
WMQ				pmax	pmax		
	comp=Z,12nm,0.6s						
WMQ				pmax	pmax		
	comp=Z,120nm,3.6s						
NVS	**Novosibirsk**	**40.73**	**310**	*e*P	P	08 44 56.3	+4.6
IM04	**Indian Mountai**	**42.49**	**33**	*e*P	**P**	**08 45 05.3**	**-0.7**
IMA2	**Indian Mountai**	**42.54**	**33**	*e*P	**P**	**08 45 05.5**	**-1.0**
MK31	**Makanchi Array**	**42.83**	**298**	*e*P	**P**	**08 45 09.4**	**+0.4**
MK31	**Makanchi Array**	**42.83**	**298**	*e*P	**P**	**08 45 09.4**	**+0.4**
MKAR	**Makanchi Array**	**42.83**	**298**	*e*P	**P**	**08 45 08.5**	**-0.5**
MKAR	**Makanchi Array**	**42.83**	**298**	*e*P	**P**	**08 45 08.5**	**-0.5**
MKAR	**Makanchi Array**	**42.83**	**298**	P	**P**	**08 45 07.8**	**-1.3**
	comp=Z,2.8nm,0.8s,baz=88,slow=8.7,SNR=18						
CAST	**Castle Rocks**	**43.18**	**37**	*e*P	**P**	**08 45 12.2**	**+0.5**
	comp=Z,13nm,1.4s						
KDAK	**Kodiak Island**	**43.32**	**45**	P	**P**	**08 45 12.7**	**-0.1**
KDAK	**Kodiak Island**	**43.32**	**45**	P	**P**	**08 45 12.7**	**-0.1**
	comp=Z,5.1nm,0.8s,baz=249,slow=4.8,SNR=4.2						
CHTO	**Chiang Mai**	**43.42**	**252**	*e*P	**P**	**08 45 14.0**	**-0.1**
CHTO				pmax	pmax		
	comp=Z,5.0nm,0.6s						
CHTO	**Chiang Mai**	**43.42**	**252**	*e*P	**P**	**08 45 14.0**	**-0.1**
	comp=Z,4.8nm,0.6s						
CMAR	**Chiang Mai Arr**	**43.65**	**252**	P	**P**	**08 45 15.0**	**-0.9**
CMAR	**Chiang Mai Arr**	**43.65**	**252**	P	**P**	**08 45 15.0**	**-0.9**
	comp=Z,1.1nm,0.3s,baz=46,slow=7.7,SNR=5.1						
KURK	**Kurchatov**	**44.20**	**305**	P	**P**	**08 45 18.8**	**-1.2**
KURK	**Kurchatov**	**44.20**	**305**	P	**P**	**08 45 18.8**	**-1.2**
KURBB	**Kurchatov Arra**	**44.27**	**305**	P	**P**	**08 45 18.8**	**-1.8**
	comp=Z,2.1nm,0.5s,baz=77,slow=8.6,SNR=21						
COLA	**College**	**44.97**	**34**	*e*P	**P**	**08 45 25.8**	**-0.1**
COLA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
COLA	**College**	**44.97**	**34**	*e*P	**P**	**08 45 25.8**	**-0.1**
	comp=Z,8.4nm,0.8s						
ILAR	**Eielson Array**	**45.39**	**35**	P	**P**	**08 45 27.9**	**-1.4**
ILAR	**Eielson Array**	**45.39**	**35**	P	**P**	**08 45 27.9**	**-1.4**
	comp=Z,4.8nm,1.1s,baz=282,slow=10,SNR=20						
EGAK	**Eagle**	**47.83**	**34**	*e*P	**P**	**08 45 48.3**	**0.0**
	comp=Z,39nm,2.1s						
VOSK	**Vostochnaya**	**48.27**	**309**	*e*P	P	08 45 55.7	+3.7
VOSK				pmax	pmax		
	comp=Z,8.0nm,1.1s						
VOSK	**Vostochnaya**	**48.27**	**309**	*e*P	P	08 45 55.7	+3.7
	comp=Z,8.4nm,1.1s						
BVAR	**Borovoye Array**	**48.52**	**310**	P	**P**	**08 45 52.7**	**-1.2**
BVAR	**Borovoye Array**	**48.52**	**310**	P	**P**	**08 45 52.7**	**-1.2**
BVAR	**Borovoye Array**	**48.52**	**310**	P	**P**	**08 45 52.7**	**-1.2**
	comp=Z,2.8nm,0.5s,baz=76,slow=9.5,SNR=8.5						
BRVK	**Borovoye**	**48.58**	**310**	||*i*P	**P**	**08 45 54.9**	**+0.6**
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
BRVK	**Borovoye**	**48.58**	**310**	*e*P	**P**	**08 45 55.6**	**+1.2**
	comp=Z,4.2nm,1.0s						
TKM2	**Tokmak 2**	**48.58**	**296**	*e*P	**P**	**08 45 53.9**	**-0.9**
TKM2				pmax	pmax		
	comp=Z,8.0nm,0.7s						
TKM2	**Tokmak 2**	**48.58**	**296**	*e*P	**P**	**08 45 53.9**	**-0.9**
	comp=Z,8.3nm,0.7s						
AAK	**Ala-Archa**	**49.44**	**296**	P	**P**	**08 46 02.4**	**+1.1**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AAK	**Ala-Archa**	**49.44**	**296**	P	**P**	**08 46 02.4**	**+1.1**
	comp=Z,1.8nm,0.6s						
KSH	**Kashi**	**49.68**	**291**	*e*P	P	08 46 06.4	+3.3
KSH				sP	sP	08 46 13.1	+2.8
KSH				PcS	**PcS**	**08 51 22.5**	**+1.4**
KSH				S	**S**	**08 53 14.0**	**+2.7**
KSH				SS	**SS**	**08 56 42.9**	**-0.4**
KSH				pmax	pmax		
	comp=Z,140nm,6.1s						
KSH				LR	LR		
	comp=N,85nm,5.8s						
KSH				LR	LR		
	comp=E,120nm,5.8s						
KSH				LR	LR		
	comp=Z,160nm,7.2s						
INK	**Inuvik**	**50.16**	**29**	P	**P**	**08 46 04.7**	**-1.5**
INK	**Inuvik**	**50.16**	**29**	P	**P**	**08 46 04.7**	**-1.5**
	comp=Z,2.3nm,0.5s,baz=279,slow=5.7,SNR=14						
HYT	**Haines Junctio**	**50.32**	**39**	*e*P	**P**	**08 46 08.6**	**+1.0**
KKAR	**Karatay Array**	**51.94**	**299**	*e*P	**P**	**08 46 21.9**	**+2.0**
KKAR	**Karatay Array**	**51.94**	**298**	*e*P	**P**	**08 46 21.9**	**+2.0**
SVE	**Sverdlovsk**	**52.67**	**317**	*e*P	P	08 46 28.5	+3.4
ARU	**Arti**	**53.88**	**317**	*d*/*i*P	**P**	**08 46 36.6**	**+2.6**
ARU						08 48 34.6	
ARU				S	S	08 54 15.3	+7.0
ARU				SS	**SS**	**08 57 51.6**	**+2.8**
ARU				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ABKAR	**Akbulak array**	**56.01**	**308**	*e*P	**P**	**08 46 47.6**	**-2.0**
AKTO	**Aktyubinsk**	**56.62**	**310**	P	**P**	**08 46 53.6**	**-0.3**
AKTO	**Aktyubinsk**	**56.62**	**310**	P	**P**	**08 46 53.6**	**-0.3**
AKTO	**Aktyubinsk**	**56.62**	**310**	P	**P**	**08 46 53.6**	**-0.3**
	comp=Z,1.4nm,0.8s,baz=60,slow=16,SNR=2.5						
RES	**Resolute Bay**	**58.23**	**15**	P	**P**	**08 47 03.5**	**-1.3**
RES	**Resolute Bay**	**58.23**	**15**	P	**P**	**08 47 03.5**	**-1.3**
	comp=Z,4.1nm,0.8s,baz=325,slow=3.7,SNR=5.5						
TMCR	**Tamitsa**	**59.51**	**331**	*e*P	P	08 47 22.2	+8.3
TMCR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
YKA	**Yellowknife Ar**	**59.64**	**32**	P	**P**	**08 47 15.6**	**+0.7**
YKA	**Yellowknife Ar**	**59.64**	**32**	P	**P**	**08 47 15.6**	**+0.7**
	comp=Z,0.6nm,0.8s,baz=310,slow=6.8,SNR=3.1						
ARCES	**ARCESS Array B**	**60.37**	**339**	P	**P**	**08 47 20.4**	**+0.6**
ARCES	**ARCESS Array B**	**60.37**	**339**	P	**P**	**08 47 20.4**	**+0.6**
	comp=Z,0.8nm,0.7s,baz=55,slow=7.8,SNR=3.5						
ARCES				LR	LR	09 18 04.3	
	comp=Z,71nm,18.1s,baz=113,slow=41						
WRA	**Warramunga Arr**	**61.42**	**189**	P	**P**	**08 47 25.1**	**-2.3**
WRA	**Warramunga Arr**	**61.42**	**189**	P	**P**	**08 47 25.1**	**-2.3**
	comp=Z,1.7nm,0.6s,baz=5.2,slow=6.8,SNR=22						
ASAR	**Alice Springs**	**65.15**	**189**	P	**P**	**08 47 50.8**	**-1.3**
ASAR	**Alice Springs**	**65.15**	**189**	P	**P**	**08 47 50.8**	**-1.3**
	comp=Z,1.8nm,0.7s,baz=6.8,slow=5.1,SNR=18						
YBH	**Yreka Blue Hor**	**67.00**	**54**	P	**P**	**08 48 03.5**	**-0.5**
YBH	**Yreka Blue Hor**	**67.00**	**54**	P	**P**	**08 48 03.5**	**-0.5**
	comp=Z,1.3nm,0.9s,baz=343,slow=9.1,SNR=2.8						
KIV	**Kislovodsk**	**68.89**	**310**	*e*P	P	08 48 20.0	+4.1
KIV				pmax	pmax		
	comp=Z,17nm,1.0s						
KBZ	**Khabaz**	**68.90**	**310**	P	**P**	**08 48 15.8**	**-0.1**
KBZ	**Khabaz**	**68.90**	**310**	P	**P**	**08 48 15.8**	**-0.1**
KBZ	**Khabaz**	**68.90**	**310**	P	**P**	**08 48 15.8**	**-0.1**
	comp=Z,2.1nm,0.7s,baz=99,slow=19,SNR=3.4						
HFS	**Hagfors**	**70.62**	**336**	P	**P**	**08 48 24.1**	**-2.1**
HFS	**Hagfors**	**70.62**	**336**	P	**P**	**08 48 24.1**	**-2.1**
	comp=Z,2.1nm,0.6s,baz=40,slow=7.7,SNR=11						
NB2	**NORSAR Subarra**	**70.64**	**337**	P	**P**	**08 48 26.4**	**+0.1**
	comp=Z,4.8nm,1.1s,baz=40,slow=6.2						
NOA	**NORSAR Array B**	**70.64**	**337**	P	**P**	**08 48 24.5**	**-1.8**
NOA	**NORSAR Array B**	**70.64**	**337**	P	**P**	**08 48 24.5**	**-1.8**
	comp=Z,2.1nm,0.8s,baz=37,slow=6.1,SNR=6.1						
AKASG	**Malin Array Be**	**71.54**	**322**	P	**P**	**08 48 29.5**	**-2.4**
AKASG	**Malin Array Be**	**71.54**	**322**	P	**P**	**08 48 29.5**	**-2.4**
AKASG	**Malin Array Be**	**71.54**	**322**	P	**P**	**08 48 29.5**	**-2.4**
	comp=Z,0.4nm,0.4s,baz=44,slow=6.0,SNR=5.1						
IMW	**Indian Meadow**	**72.50**	**47**	*e*P	P	08 48 34.6	-3.5
RRI2	**Red Ridge**	**72.64**	**47**	*e*P	**P**	**08 48 40.3**	**+1.3**
TPAW	**Teton Pass**	**72.75**	**47**	*e*P	P	08 48 33.1	-6.6
	comp=Z,38nm,0.7s						
SNOW	**Snow King Moun**	**72.88**	**47**	*e*P	P	08 48 32.3	-8.1
	comp=Z,40nm,0.8s						
REDW	**Red Top Meadow**	**72.89**	**47**	*e*P	P	08 48 34.3	-6.1
PDAR	**Pinedale Array**	**74.00**	**47**	P	**P**	**08 48 46.0**	**-1.0**
PDAR	**Pinedale Array**	**74.00**	**47**	P	**P**	**08 48 46.0**	**-1.0**
	comp=Z,0.8nm,0.8s,baz=270,slow=3.0,SNR=7.7						
OKC	**Ostrava-Krasne**	**77.03**	**327**	*e*P	**PcP**	**08 49 14.5**	**-0.3**
OKC	**Ostrava-Krasne**	**77.03**	**327**	*e*PCP	**PcP**	**08 49 14.5**	**-0.3**
KECS	**Kecovo**	**77.08**	**325**	*e*P	**P**	**08 49 06.7**	**+2.5**
KECS				pmax	pmax		
	comp=Z,2.0nm,1.0s						
KECS	**Kecovo**	**77.08**	**325**	*e*P	**P**	**08 49 06.7**	**+2.5**
DPC	**Dobruska-Polom**	**77.37**	**328**	*e*P	**PcP**	**08 49 16.0**	**-0.4**
DPC	**Dobruska-Polom**	**77.37**	**328**	*e*PCP	**PcP**	**08 49 16.0**	**-0.4**
KHC	**Kasperske Hory**	**79.42**	**329**	*e*P	P	08 49 23.2	+6.0
KHC	**Kasperske Hory**	**79.42**	**329**	*e*pP	P	08 49 23.2	+6.0
GERES	**GERESS Array B**	**79.61**	**329**	LR	LR	09 29 51.4	
	comp=Z,64nm,18.0s,baz=7.7,slow=40						
PMOR	**Pomariorio Ree**	**85.02**	**115**	*e*T	T	10 23 10.9	
	comp=Z,5.8nm,0.2s						
LPL	**La Plagne**	**85.03**	**331**	*e*P	**P**	**08 49 47.5**	**+0.6**
LPL	**La Plagne**	**85.03**	**331**	*e*P	**P**	**08 49 47.5**	**+0.6**
LPL	**La Plagne**	**85.03**	**331**	*e*P	**P**	**08 49 47.5**	**+0.6**
LPG	**La Plagne**	**85.03**	**331**	*e*P	**P**	**08 49 47.0**	**0.0**
	comp=Z,8.5nm,1.0s						
LPG	**La Plagne**	**85.03**	**331**	*e*P	**P**	**08 49 47.0**	**0.0**
LPG				pmax	pmax		
	comp=Z,9.0nm,1.0s						
LPG	**La Plagne**	**85.03**	**331**	*e*P	**P**	**08 49 47.0**	**0.0**
	comp=Z,8.5nm,1.0s						
PPT2	**Papeete2**	**85.71**	**118**	*e*LR	LR	09 16 52.0	
	comp=Z,56nm,22.2s						
PPT2	**Papeete2**	**85.71**	**118**	*e*T	T	10 24 18.4	
	comp=Z,1.6nm,0.3s						
TXAR	**Lajitas Array**	**86.75**	**53**	P	**P**	**08 49 55.1**	**-0.5**
TXAR	**Lajitas Array**	**86.75**	**53**	P	**P**	**08 49 55.1**	**-0.5**
	comp=Z,0.8nm,0.8s,baz=293,slow=4.1,SNR=11						
TBI	**Tubuai**	**89.88**	**122**	*e*T	T	10 29 31.0	
	comp=Z,4.5nm,0.3s						
SNAA	**Sanae**	**145.11**	**198**	*e*PKPab	**PKPbc**	**08 56 45.4**	**-1.5**
SNAA	**Sanae**	**145.11**	**198**	*e*I	**PKPab**	**08 56 48.4**	**+1.4**
SNAA	**Sanae**	**145.11**	**198**	PKPbc	**PKPbc**	**08 56 45.0**	**-2.0**
SNAA	**Sanae**	**145.11**	**198**	PKPbc	**PKPbc**	**08 56 45.0**	**-2.0**
	comp=Z,0.8nm,0.8s,baz=208,slow=4.6,SNR=21						
VNA2	**Neumayer--Watz**	**146.68**	**197**	*e*PKPab	**PKPdf**	**08 56 50.2**	**+0.2**
VNA2	**Neumayer--Watz**	**146.68**	**197**	*e*I	**PKPbc**	**08 56 53.4**	**+1.7**

IDC ***13*** *08:54:54.0±1.0, 37°.49N×22°.50E, h0km, mb3.7/8, mb1 3.7/11, mb1mx3.6/28, mbtmp3.6/11, ML3.2/3, MS2.7/2, Ms1 2.7/2, ms1mx2.2/41, Error ellipse: s-maj=20.6km s-min=18.5km az=174.0*

ISCJB ***13*** *08:54:54.1±0.4, 37°.53N±0°.01×22°.36E±0°.02, h9km±3km, mb3.6/7, Error ellipse: s-maj=2.6km s-min=2.3km az=175.3*

CSEM ***13*** *08:54:54.1±0.1, 37°.54N×22°.36E, h2km, ML3.5, Error ellipse: s-maj=2.5km s-min=2.4km az=97.0*

THE ***13*** *08:54:54.5, 37°.56N×22°.36E, h0km±1km, ML3.6/19, Error ellipse: s-maj=1.5km s-min=0.5km az=201.0*

ATH ***13*** *08:54:54.1, 37°.56N×22°.34E, h16km±1km, ML3.7*

ISC 13 08:54:54.7±1.0,**37°.56N**±0°.01×**22°.36E**±0°.01,**h4**km±8km,

NEO	Neokhori	1.87	21	*e*Pn	Pn	08 55 27.4	-0.1
XOR	Xorichti	1.92	20	P	Pn	08 55 27.6	-0.6
XOR	Xorichti	1.92	20	P	Pn	08 55 27.6	-0.6
AOS	Alonnisos	2.00	36	P	Pn	08 55 28.9	-0.4
AOS	Alonnisos	2.00	36	*e*PB	Pn	08 55 28.6	-0.7
AOS	Alonnisos	2.00	36	*e*Pb	Pn	08 55 28.6	-0.7
AOS	Alonnisos	2.00	36	P	Pn	08 55 28.9	-0.4
THL	Klokotos Trika	2.02	352	P	Pn	08 55 30.1	+0.6
THL	Klokotos Trika	2.02	352	P	Pn	08 55 30.1	+0.6
PAIG	Paliouri	2.58	23	P	Pn	08 55 36.5	-0.7
PAIG	Paliouri	2.58	23	P	Pn	08 55 36.5	-0.7
APE	Apeiranthos	2.58	100	P	Pn	08 55 36.9	-0.4
APE	Apeiranthos	2.58	100	⇑*i*P	Pn	08 55 37.2	-0.1
APE	Apeiranthos	2.58	100	P	Pn	08 55 36.9	-0.4
PLG	Polygyros	2.93	16	P	Pn	08 55 42.0	-0.1
PLG	Polygyros	2.93	16	P	Pn	08 55 42.0	-0.1
OUR	Ouranopolis	3.04	24	P	Pn	08 55 43.2	-0.4
OUR	Ouranopolis	3.04	24	P	Pn	08 55 43.2	-0.4
IDI	Anoyia	3.05	137	P	Pn	08 55 43.5	-0.3
IDI	Anoyia	3.05	137	Pn	Pn	08 55 43.5	-0.3
	2.0nm,0.3s,baz=347,slow=8.2,SNR=16						
IDI				Sn	Sn	08 56 18.4	-2.5
	5.8nm,0.3s,baz=86,slow=23,SNR=5.8						
IDI	Anoyia	3.05	137	P	Pn	08 55 43.5	-0.3
SIGR	SIGRI	3.21	58	P	Pn	08 55 45.8	0.0
SIGR	SIGRI	3.21	58	P	Pn	08 55 45.8	0.0
LIA	Limnos Island	3.21	43	P	Pn	08 55 45.4	-0.5
LIA	Limnos Island	3.21	43	P	Pn	08 55 45.4	-0.5
FNA	Florina	3.31	347	P	Pn	08 55 47.2	-0.1
FNA	Florina	3.31	347	P	Pn	08 55 47.2	-0.1
KNT	Kendrikon	3.62	6	P	Pn	08 55 52.4	+0.9
KNT	Kendrikon	3.62	6	P	Pn	08 55 52.4	+0.9
SRS	Serrai	3.68	15	P	Pn	08 55 52.7	+0.4
SRS	Serrai	3.68	15	P	Pn	08 55 52.7	+0.4
VTS	Vitosha	5.07	7	⇑*i*P	Pn	08 56 13.5	+2.0
VTS	Vitosha	5.07	7	⇑*i*P	Pn	08 56 13.5	+2.0
ARR	Arges	7.98	12	⇑*i*P	Pn	08 57 01.6	+10
VOIR		8.12	14	⇓*i*P	Pn	08 56 53.9	+0.5
VOIR		8.12	14	⇓*i*P	Pn	08 56 53.9	+0.5
MLR	Muntele Rosu	8.37	18	⇓*i*P	Pn	08 57 02.3	+5.5
MLR	Muntele Rosu	8.37	18	Pn	Pn	08 56 59.1	+2.3
	0.1nm,0.3s,baz=132,slow=15,SNR=4.4						
MLR				LR	LR	09 00 37.5	
	comp=Z,30nm,18.1s,baz=324,slow=41						
PLOR	Plostina	8.88	20	⇑*i*P	Pn	08 57 06.5	+2.7
PLOR	Plostina	8.88	20	⇑*i*P	Pn	08 57 06.5	+2.7
VRI	Vrincioaia	8.92	20	⇑*i*P	Pn	08 57 03.7	-0.6
VRI	Vrincioaia	8.92	20	⇑*i*P	Pn	08 57 03.7	-0.6
BRTR	Keskin Array B	9.09	73	Pn	Pn	08 57 06.8	+0.1
	0.2nm,0.3s,baz=254,slow=14,SNR=5.6						
GERES	GERESS Array B	12.91	334	Pn	Pn	08 58 05.1	+6.1
	baz=150,slow=8.0,SNR=1.8						
DAVOX	Davos/Dischmat	13.04	319	LR	LR	09 03 56.2	
	comp=Z,49nm,18.6s,baz=86,slow=41						
ESDC	Sonseca Array	20.65	284	P	Pn	08 59 36.8	-0.9
	1.3nm,0.8s,baz=78,slow=10,SNR=7.1						
EKA	Eskdalemuir Ar	24.77	324	P	P	09 00 17.8	+0.4
	1.0nm,0.5s,baz=124,slow=8.8,SNR=13						
TORD	Torodi Ar. Bea	30.51	223	P	P	09 01 08.5	-0.5
	0.9nm,0.9s,baz=31,slow=9.5,SNR=4.7						
BVAR	Borovoye Array	36.41	49	P	P	09 01 59.8	-0.3
	0.3nm,0.4s,baz=251,slow=4.5,SNR=4.9						
KURBB	Kurchatov Arra	41.43	53	P	P	09 02 40.4	-1.8
	1.2nm,0.7s,baz=281,slow=8.2,SNR=6.5						
MKAR	Makanchi Array	44.39	58	P	P	09 03 05.0	-1.3
	0.4nm,0.6s,baz=278,slow=6.1,SNR=7.1						
MKAR				PcP	PP	09 04 49.0	-0.5
	0.6nm,0.9s,baz=254,slow=4.4,SNR=3.6						
ZALV	Zalesovo Beam	45.02	48	P	P	09 03 09.9	-1.3
	2.1nm,0.8s,baz=280,slow=8.7,SNR=8.5						
ILAR	Eielson Array	77.65	355	P	P	09 06 54.2	+2.3
	0.7nm,1.1s,baz=23,slow=2.9,SNR=3.8						

IDC 13 09:40:54.3±3.8, 4°.23S×100°.95E, h0km, mb3.4/5, mb1 3.5/5, mb1mx3.4/23, mbtmp3.4/5, Error ellipse: s-maj=167.3km s-min=22.3km az=53.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	36.08	118	P	P	09 47 57.6	-0.4
	0.4nm,0.9s,baz=307,slow=10,SNR=5.0						
ASAR	Alice Springs	37.20	124	P	P	09 48 07.7	+0.1
	0.2nm,0.7s,baz=302,slow=7.6,SNR=3.1						
SONM	Songino Array	52.07	5	P	P	09 50 06.5	+0.5
	0.4nm,0.5s,baz=188,slow=8.7,SNR=4.3						
MKAR	Makanchi Array	53.42	344	P	P	09 50 15.7	-0.2
	0.3nm,0.5s,baz=167,slow=8.1,SNR=3.6						
KURBB	Kurchatov Arra	57.94	343	P	P	09 50 47.9	-0.4
	0.2nm,0.7s,baz=153,slow=8.3,SNR=3.9						

IDC 13 09:50:40.2±18.0, 18°.22S×178°.21W, h624km±224km, mb3.0/5, mb1 3.2/5, mb1mx2.9/16, mbtmp3.0/5, Error ellipse: s-maj=112.9km s-min=74.2km az=115.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	33.59	261	P	P	09 56 31.2	+0.1
	5.9nm,1.1s,baz=91,slow=13,SNR=4.0						
STKA	Stephens Creek	38.65	242	P	P	09 57 12.2	-0.2
	4.3nm,0.9s,baz=92,slow=8.6,SNR=11						
WRA	Warramunga Arr	44.76	260	P	P	09 58 00.4	0.0
	0.8nm,0.4s,baz=96,slow=7.7,SNR=33						
ASAR	Alice Springs	44.89	255	P	P	09 58 01.6	+0.1
	1.8nm,0.4s,baz=87,slow=8.6,SNR=25						
ILAR	Eielson Array	86.15	13	P	P	10 02 16.1	-0.1
	0.4nm,1.0s,baz=221,slow=3.8,SNR=4.0						

MEX 13 10:30:26.8±0.3, 15°.60N×95°.65W, h25km±8km, MD3.6, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	0.47	291	*i*P	Pb	10 30 35.0	-1.5
HUIG				*i*S	Sb	10 30 41.2	-1.9
CMIG	Matias Romero	1.66	26	*e*P	Pn	10 30 51.6	-2.7
CMIG				*i*S	Sn	10 31 11.5	-3.3
VHO	Vista Hermosa	1.79	325	*e*P	Pn	10 30 54.2	-2.2
VHO				*e*S	Sn	10 31 14.9	-3.7
PCIG		2.35	87	*e*P	Pn	10 31 02.0	-1.8
PCIG				*i*S	Sn	10 31 28.9	-2.9
PNIG	Pinotepa	2.51	289	*e*P	Pn	10 31 03.9	-2.1
PNIG				*i*S	Sn	10 31 32.6	-3.2
UTMO	Huajuapan	3.03	317	*e*P	Pn	10 31 11.4	-2.0
UTMO				*i*S	Sn	10 31 46.5	-2.7

*IDC **13** 11:14:52.7±3.3, 31°.98S×69°.30W, h0km, mb3.9/1, mb1 3.9/2, mb1mx3.5/14, mbtmp3.8/2, ML4.1/1, Error ellipse: s-maj=368.4km s-min=61.1km az=162.0*
*GUC **13** 11:15:09.8±0.6, 31°.36S×69°.23W, h150km, MD3.9, ML3.9*
*ISCJB **13** 11:15:10.6±1.0, 31°.36S±0°.03×69°.2W±0°.2, h137km±17km, mb3.4/1, Error ellipse: s-maj=30.4km s-min=5.4km az=177.7*

ISC 13 11:15:11.7±1.4, 31°.36S±0°.04×69°.2W±0°.2, h133km±18km, n17, σ0°.63/26, 2C-1D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	Combarbala	1.56	276	⇓*i*P	Pn	11 15 40.2	-0.5
CMCH				*i*S	Sn	11 16 03.6	+0.9
CMCH				AML	AML	11 16 05.7	
	comp=E,6μm,0.8s						
JACH	Jahuel	1.78	222	*i*P	Pn	11 15 42.9	-0.3
JACH				*i*S	Sn	11 16 07.9	+0.6
TLL	Tololo Astrono	1.82	310	*e*P	Pn	11 15 43.9	-0.1
TLL				*i*S	Sn	11 16 09.4	+0.8
TLL				AML	AML	11 16 12.4	
	comp=N,539nm,0.5s						
PEL	Peldehue	2.18	215	⇑*i*P	Pn	11 15 47.5	-0.5
PEL				*i*S	Sn	11 16 15.9	-0.1
PEL				AML	AML	11 16 18.0	
	comp=N,489nm,0.3s						
ROCH	El Roble	2.23	223	*e*P	Pn	11 15 48.1	-0.7
ROCH				*i*S	Sn	11 16 17.7	+0.4
ROCH				AML	AML	11 16 19.6	
	comp=N,446nm,0.3s						
PACH	Papudo	2.24	238	*i*P	Pn	11 15 47.9	-0.9
PACH				*i*S	Sn	11 16 16.9	-0.3
LMEL	Las Melosas	2.62	199	*e*P	Pn	11 15 53.3	-0.4
LMEL				*i*S	Sn	11 16 26.1	0.0
LMEL				AML	AML	11 16 39.3	
	comp=N,132nm,0.1s						
LCO	Las Campanas	2.68	330	⇑*i*P	Pn	11 15 54.1	-0.4
LCO				*i*S	Sn	11 16 27.4	0.0
LCO				AML	AML	11 16 29.6	
	comp=N,495nm,0.5s						
CHCH	Chadas Angostu	2.85	205	*i*P	Pn	11 15 55.9	-0.6
CHCH				*i*S	Sn	11 16 30.4	-0.6
CACH	El Canelo	3.00	203	*i*P	Pn	11 15 58.2	-0.2
CACH				*i*S	Sn	11 16 35.2	+0.7
VACH	Vallenar	3.09	334	*i*S	Sn	11 16 35.9	-0.6
VACH				AML	AML	11 16 36.8	
	comp=N,464nm,0.1s						
CPUP	Villa Florida	11.54	67	Pn	Pn	11 17 43.1	-9.4
	comp=N,0.3nm,0.3s,baz=222,slow=15,SNR=2.2						
VNA2	Neumayer--Watz	51.54	158	*e*P	P	11 24 04.8	+1.3
	baz=288,slow=8.8						
SNAA	Sanae	53.15	159	*e*P	P	11 24 16.1	+0.7
TORD	Torodi Ar. Bea	81.04	69	P	P	11 27 11.8	-0.4
	comp=N,0.8nm,0.8s,baz=244,slow=5.4,SNR=3.6						
ZALV	Zalesovo Beam	150.72	32	PKPbc	PKPbc	11 34 47.7	0.0
	comp=N,0.7nm,0.5s,baz=298,slow=3.1,SNR=4.8						
MKAR	Makanchi Array	153.22	47	PKPbc	PKPbc	11 34 52.9	-0.7
	comp=N,0.3nm,0.6s,baz=295,slow=1.6,SNR=2.3						

GUC 13 11:37:30.9±0.6, 31°.03S×70°.60W, h111km±3km, MD3.5, ML3.7, 2C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	Combarbala	0.37	247	⇑*i*P	Pn	11 37 47.5	+0.2
CMCH				*i*S	Sn	11 38 00.1	+0.6
CMCH				AML	AML	11 38 01.0	
	comp=E,8μm,0.7s						
TLL	Tololo Astrono	0.88	349	⇓*i*P	Pn	11 37 51.8	+0.5
TLL				*i*S	Sn	11 38 07.5	+0.8
TLL				AML	AML	11 38 10.6	
	comp=N,524nm,0.9s						
JACH	Jahuel	1.65	180	*i*P	Pn	11 38 00.3	+0.6
JACH				*i*S	Sn	11 38 22.4	+0.7
PEL	Peldehue	2.11	182	⇑*i*P	Pn	11 38 05.7	+0.3
PEL				*i*S	Sn	11 38 32.3	+0.5
PEL				AML	AML	11 38 41.7	
	comp=E,378nm,0.3s						
VACH	Vallenar	2.45	357	*i*P	Pn	11 38 10.5	+0.7
VACH				*i*S	Sn	11 38 39.9	+0.3
VACH				AML	AML	11 38 44.7	
	comp=E,707nm,0.1s						
ANTU	Antumapu	2.53	181	AML	AML	11 38 50.2	
	comp=E,238nm,0.3s						
LCCH	Las Cruces	2.57	198	*i*P	Pn	11 38 11.5	+0.2
LCCH				*i*S	Sn	11 38 42.8	+0.5
PCH	Pirque	2.58	178	*i*S	Sn	11 38 43.3	+0.5
LMEL	Las Melosas	2.83	173	*e*P	Pn	11 38 15.8	+0.9
LMEL				*i*S	Sn	11 38 49.6	+0.8
LMEL				AML	AML	11 39 01.8	
	comp=E,224nm,0.2s						
CACH	El Canelo	3.08	180	*i*P	Pn	11 38 18.9	+0.8
CACH				*i*S	Sn	11 38 55.9	+1.3

MAN 13 11:37:45, 10°.45N×126°.43E, h32km, mb4.4, ML3.2, MS3.0, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	Surigao	1.14	235	⇑*e*P	Pn	11 38 04.0	-0.8
SCPH				*e*S	Sn	11 38 19.4	+0.2
MSLP	Maasin	1.58	259	*e*P	Pn	11 38 11.5	+0.8
MSLP				*e*S	Sb	11 38 32.0	-1.1
PLP	Palo	1.59	297	⇓*e*P	Pn	11 38 11.8	+0.8
PLP				*i*S	Sb	11 38 36.9	+3.2
BUTP	Butuan	1.67	209	*e*P	Pn	11 38 13.1	+1.0
BUKP	Musuan	2.89	208	*e*P	Pn	11 38 31.2	+2.3
PAGZ	Pagadian	3.97	230	*e*P	Pn	11 38 45.3	+1.6

*ISCJB **13** 12:36:04.0±0.5, 28°.15N±0°.05×139°.69E±0°.09, h400km, mb3.2/13, Error ellipse: s-maj=11.0km s-min=5.9km az=166.8*
*JMA **13** 12:36:05.2±0.1, 28°.26N×140°.37E, h429km, M3.3*
*IDC **13** 12:36:05.0±0.7, 28°.13N×139°.96E, h408km±10km, mb2.9/12, mb1 3.0/15, mb1mx2.9/25, mbtmp2.9/15, Error ellipse: s-maj=24.4km s-min=13.0km az=74.0*

ISC 13 12:36:05.0±0.7, 28°.20N±0°.07×139°.9E±0°.1, h400km, n24, σ1°.23/32, mb3.3/13, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	2.31	118	P	Pn	12 37 03.8	+0.8
CBIJ				*e*S	S	12 37 50.0	+0.2
CBIJ	Chichi jima	2.31	118	P	Pn	12 37 04.0	+1.0
	16nm,0.3s,baz=307,slow=13,SNR=19						
CBIJ				S	S	12 37 50.1	+0.2
	16nm,0.3s,baz=296,slow=22,SNR=9.6						
JHHJ	Haha-jima-NKT	2.56	127	P	Pn	12 37 05.9	+1.1
JHHJ				*e*S	S	12 37 53.6	+0.5
JHJ2	Mitsune	4.89	359	P	Pn	12 37 28.3	+2.6
BSO1	Boso 1	6.50	8	P	Pn	12 37 43.9	+1.6
BSO1				*e*S	S	12 39 02.5	+0.6
JHU	Hanno	7.64	356	P	Pn	12 37 55.6	-0.2
JHU				*e*S	S	12 39 25.0	-1.5
JRY	Ryogami san	7.83	354	P	P	12 37 59.3	+0.9
JAG	Ashikaga	8.21	357	P	P	12 38 02.2	-0.3
JAG				*e*S	S	12 39 34.9	-3.4
JHO	Hitachi	8.40	4	P	P	12 38 05.8	+1.1
JHO				*e*S	S	12 39 40.2	-2.2
KSRS	Korea Array	13.64	316	P	P	12 39 04.4	+1.9
	0.1nm,0.3s,baz=137,slow=11,SNR=4.0						
USRK	Ussuriysk Arra	17.18	340	P	P	12 39 42.1	+1.6
	0.3nm,0.3s,baz=148,slow=14,SNR=4.2						
SONM	Songino Array	32.51	316	P	P	12 42 01.1	+0.7
	0.5nm,0.6s,baz=123,slow=9.0,SNR=3.6						
ZALV	Zalesovo Beam	47.32	319	P	P	12 43 59.7	-0.4
	0.4nm,0.4s,baz=90,slow=5.8,SNR=2.6						
WRA	Warramunga Arr	48.16	187	P	P	12 44 05.9	-1.0
	0.2nm,0.3s,baz=6.9,slow=7.9,SNR=8.9						
MKAR	Makanchi Array	48.21	309	P	P	12 44 06.9	-0.1
	0.1nm,0.3s,baz=92,slow=8.7,SNR=2.4						
MKAR				PcP	PcP	12 45 26.2	-0.8
	0.5nm,0.7s,baz=92,slow=4.6,SNR=4.1						
KURBB	Kurchatov Arra	50.81	314	P	P	12 44 26.3	0.0
	0.6nm,0.4s,baz=93,slow=7.7,SNR=6.3						
ASAR	Alice Springs	51.89	187	P	P	12 44 33.5	-1.0
	0.2nm,0.5s,baz=0.1,slow=4.7,SNR=6.7						
BVAR	Borovoye Array	55.85	317	P	P	12 45 02.8	+0.3
	2.3nm,0.5s,baz=94,slow=9.6,SNR=9.4						
ILAR	Eielson Array	57.72	29	P	P	12 45 15.2	0.0
	0.1nm,0.8s,baz=270,slow=11,SNR=3.4						
ARCES	ARCESS Array B	71.83	340	P	P	12 46 45.4	+0.3
	0.8nm,0.5s,baz=68,slow=8.0,SNR=11						
KBZ	Khabaz	75.77	312	P	P	12 47 08.2	+0.1
	3.3nm,0.7s,baz=106,slow=7.4,SNR=7.9						
FINES	FINESS Array B	76.05	333	P	P	12 47 08.8	-0.5
	1.0nm,0.3s,baz=52,slow=5.0,SNR=14						
NOA	NORSAR Array B	81.82	337	P	P	12 47 39.4	-1.0
	0.7nm,0.7s,baz=47,slow=5.1,SNR=2.9						
BRTR	Keskin Array B	83.76	312	P	P	12 47 50.1	-0.7
	0.6nm,0.7s,baz=98,slow=3.1,SNR=3.2						

DJA 13 12:52:09.6±1.5, 2°.N±20°.×12°.3E±1°.1, h112km±20km, M3.5/4, MLv3.5/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	Gorontalo	1.26	175	P	Pn	12 52 32.1	-1.7
GTOI				S	Sn	12 52 50.5	-1.6
KMSI	Cibinong	1.70	141	P	Pn	12 52 39.1	+0.1
MRSI	Marisa	1.71	214	P	Pn	12 52 39.3	+0.2
LUWI	Luwuk	2.92	183	P	Pn	12 52 54.5	-0.2
APSI	Ampana	3.06	204	P	Pn	12 52 48.5	-8.0

IDC 13 12:52:19.1±5.6, 21°.14S×66°.36W, h232km±40km, mb3.0/3, mb1 3.3/4, mb1mx3.1/15, mbtmp3.0/4, Error ellipse: s-maj=69.6km s-min=30.2km az=24.0, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	5.12	341	P	Pn	12 53 37.2	+0.5
	0.7nm,0.3s,baz=173,slow=13,SNR=23						
LPAZ				S	S	12 54 37.8	-0.4
	0.1nm,0.3s,baz=163,slow=10,SNR=5.2						
TXAR	Lajitas Array	61.74	323	P	P	13 02 12.8	-0.5
	0.2nm,0.6s,baz=156,slow=9.7,SNR=3.5						
TORD	Torodi Ar. Bea	75.00	69	P	P	13 03 35.5	0.0
	0.8nm,0.5s,baz=258,slow=5.3,SNR=6.2						
PDAR	Pinedale Array	75.02	329	P	P	13 03 36.1	+0.7
	0.2nm,0.5s,baz=119,slow=8.4,SNR=3.1						
ASAR	Alice Springs	131.28	205	PKP	PKPdf	13 11 03.7	-0.7
	0.3nm,0.8s,baz=137,slow=2.3,SNR=2.7						
WRA	Warramunga Arr	134.42	208	PKP	PKPdf	13 11 09.3	-1.1
	0.3nm,0.9s,baz=155,slow=1.9,SNR=3.1						
MKAR	Makanchi Array	143.93	37	PKP	PKPdf	13 11 26.2	-0.6
	0.4nm,0.6s,baz=321,slow=3.3,SNR=5.2						

*AZER **13** 13:15:31.8±4.5, 41°.96N×45°.60E, h36km, Error ellipse: s-maj=4.8km s-min=2.3km az=359.0*
*IDC **13** 13:15:31.9±0.6, 41°.89N×45°.73E, h0km, mb3.8/12, mb1 3.9/17, mb1mx3.8/28, mbtmp3.8/17, ML3.9/5, MS3.3/9, Ms1 3.3/9, ms1mx2.9/43, Error ellipse: s-maj=9.0km s-min=8.2km az=114.0*
*CSEM **13** 13:15:34.0±0.2, 41°.92N×45°.87E, h10km, mb4.2, mb4.0/11, Error ellipse: s-maj=3.7km s-min=3.1km az=17.0*
*MOS **13** 13:15:34.3±1.6, 41°.88N×45°.87E, h15km, mb4.2/11, Error ellipse: s-maj=5.2km s-min=4.1km az=84.1*
*NNC **13** 13:15:36.9±2.0, 42°.03N×45°.95E, h26km±20km, mb4.2, Error ellipse: s-maj=19.1km s-min=12.1km az=27.0*
*ISCJB **13** 13:15:36.4±0.5, 41°.94N±0°.02×45°.84E±0°.02, h21km±4km, mb3.8/16, MS3.3/8, Error ellipse: s-maj=3.4km s-min=3.0km az=20.1*

ISC 13 13:15:35.5±1.0, 41°.91N±0°.02×45°.80E±0°.02, h26km±8km, n166, σ1°.71/213, mb3.9/16, MS3.2/8, 27C-20D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGRG	David-gareji	0.56	215	PG	Pn	13 15 47.1	-0.7
DGRG	David-gareji	0.56	215	Pg	Pn	13 15 47.1	-0.7
TBLG	Delisi	0.81	257	*e*PG	Pb	13 15 50.2	-0.8
TBLG	Delisi	0.81	257	*e*Pg	Pb	13 15 50.2	-0.8
BTLR	Botlikh	0.81	23	⇓*i*PG	Pb	13 15 49.0	-2.0
BTLR				*e*S	Sb	13 15 58.5	-3.2
BTLR	Botlikh	0.81	23	*i*Pg	Pb	13 15 49.0	-2.0
BTLR				*e*Sg	Sb	13 15 58.5	-3.2
XNZR	Khunzakh	0.92	47	*e*PG	Pb	13 15 50.0	-2.9
XNZR				pmax	pmax		
	comp=Z,1μm,0.2s						
XNZR	Khunzakh	0.92	47	*e*Pg	Pb	13 15 50.0	-2.9
	comp=Z,1μm,0.2s						
GNBR	Gunib	0.99	61	*i*PG	Pb	13 15 52.9	-1.1
GNBR				*e*S	Sb	13 16 06.0	-0.7
GNBR	Gunib	0.99	61	*i*Pg	Pb	13 15 52.9	-1.1
GNBR				*e*Sg	Sb	13 16 06.0	-0.7
KMKR	Kumukh	0.99	77	⇓*i*PG	Pb	13 15 53.0	-1.2
KMKR				*e*S	Sb	13 16 06.0	-1.0
KMKR				pmax	pmax		
	comp=Z,902nm,0.6s						
KMKR	Kumukh	0.99	77	*i*Pg	Pb	13 15 53.0	-1.2
	comp=Z,902nm,0.6s						
KMKR				*e*Sg	Sb	13 16 06.0	-1.0
UNCR	Uncukul	1.09	42	⇓*i*PG	Pn	13 15 55.0	-0.1
UNCR				*e*S	Sn	13 16 11.0	+1.6
UNCR				pmax	pmax		
	comp=Z,948nm,0.7s						
UNCR	Uncukul	1.09	42	*i*Pg	Pn	13 15 55.0	-0.1
	comp=Z,948nm,0.7s						
UNCR				*e*Sg	Sn	13 16 11.0	+1.6
ARKR	Arakani	1.12	52	*e*PG	Pn	13 15 55.5	-0.1
ARKR				*e*S	Sn	13 16 11.0	+0.7
ARKR				pmax	pmax		
	comp=Z,395nm,0.3s						
ARKR	Arakani	1.12	52	*e*Pg	Pn	13 15 55.5	-0.1
	comp=Z,395nm,0.3s						
ARKR				*e*Sg	Sn	13 16 11.0	+0.7
KRNR	Karanay	1.23	42	⇓*i*PG	Pn	13 15 56.5	-0.6
KRNR				*e*S	Sn	13 16 13.0	+0.1
KRNR				pmax	pmax		
	comp=Z,487nm,0.4s						
KRNR	Karanay	1.23	42	*i*Pg	Pn	13 15 56.5	-0.6
	comp=Z,487nm,0.4s						
KRNR				*e*Sg	Sn	13 16 13.0	+0.1
SEKA	Sheki	1.27	123	⇑P	Pb	13 15 57.9	-0.8
	SNR=120						
SEKA				⇓S	Sb	13 16 17.0	+2.4
SEKA	Sheki	1.27	123	P	Pb	13 15 57.9	-0.8
	SNR=120						
SEKA				S	Sb	13 16 17.0	+2.4
DLMR	Dylym	1.31	28	⇓*i*PG	Pn	13 15 58.0	-0.1
DLMR				*e*S	Sb	13 16 17.0	+1.2
DLMR				pmax	pmax		
	comp=Z,2μm,0.8s						
DLMR	Dylym	1.31	28	*i*Pg	Pn	13 15 58.0	-0.1
	comp=Z,2μm,0.8s						
DLMR				*e*Sg	Sb	13 16 17.0	+1.2
GANJ	Ganja	1.33	162	P	Pn	13 15 58.2	-0.2
	SNR=220						
GANJ				⇑S	Sb	13 16 16.6	+0.3
GANJ	Ganja	1.33	162	P	Pn	13 15 58.2	-0.2
	SNR=220						
GANJ				S	Sb	13 16 16.6	+0.3
BUJR	Buynaksk	1.33	46	*e*PG	Pb	13 15 59.2	-0.6
BUJR				S	Sb	13 16 21.0	+4.5
BUJR				pmax	pmax		
	comp=Z,461nm,0.4s						
BUJR	Buynaksk	1.33	46	*e*Pg	Pb	13 15 59.2	-0.6
	comp=Z,461nm,0.4s						
DBC	Dubki	1.34	34	⇑*i*PG	Pb	13 15 59.6	-0.4
DBC				*i*S	Sb	13 16 18.1	+1.2
DBC	Dubki	1.34	34	*i*Pg	Pb	13 15 59.6	-0.4
DBC				*i*Sg	S

ZEI				*i* Sg	**Sb**	**13 16 27.3**	**+1.6**
BTKR	**Batakoyurt**	**1.73**	**328**	⇑*i* PN	**Pb**	**13 16 07.7**	**+1.2**
BTKR				*e*S	**Sb**	**13 16 31.2**	**+3.4**
BTKR	**Batakoyurt**	**1.73**	**328**	*e*Sg	**Sb**	**13 16 31.2**	**+3.4**
KORR	**Kora**	**1.73**	**313**	⇑*i* PN	**Pb**	**13 16 06.5**	**-0.2**
KORR				*e*S	**Sb**	**13 16 30.2**	**+2.2**
KORR	**Kora**	**1.73**	**313**	*i* Pn	**Pb**	**13 16 06.5**	**-0.2**
KORR				*e*Sg	**Sb**	**13 16 30.2**	**+2.2**
KSMR	**Kasumkent**	**1.77**	**99**	*e*PN	**Pb**	**13 16 08.0**	**+0.7**
KSMR				*e*S	**Sb**	**13 16 34.0**	**+4.9**
KSMR				pmax	pmax		
comp=Z,800nm,0.3s							
AKH	**Akhalkalaki**	**1.80**	**255**	PN	**Pb**	**13 16 06.7**	**-1.1**
AKH	**Akhalkalaki**	**1.80**	**255**	Pn	**Pb**	**13 16 06.7**	**-1.1**
ONI	**Oni**	**1.87**	**292**	PN	**Pb**	**13 16 07.7**	**-1.2**
ONI	**Oni**	**1.87**	**292**	Pn	**Pb**	**13 16 07.7**	**-1.2**
DRN	**Derbent**	**1.89**	**86**	*e*PN	**Pb**	**13 16 09.0**	**-0.3**
DRN				*e*S	**Sb**	**13 16 35.5**	**+3.0**
DRN				pmax	pmax		
comp=Z,114nm,0.3s							
DRN	**Derbent**	**1.89**	**86**	*e*Sg	**Sb**	**13 16 35.5**	**+3.0**
DIGR	**Digorskoe uzhe**	**1.91**	**302**	⇑*i* PN	**Pb**	**13 16 08.8**	**-1.0**
DIGR	**Digorskoe uzhe**	**1.91**	**302**	*i* Pn	**Pb**	**13 16 08.8**	**-1.0**
GNI	**Garni**	**1.93**	**205**	Pn	**Pb**	**13 16 08.9**	**-1.3**
comp=Z,131nm,0.3s,baz=327,slow=3.0,SNR=242							
GNI				Pg	Pn	13 16 09.7	+2.9
baz=314,slow=5.9							
GNI				Lg	Lg	13 16 36.3	
comp=Z,120nm,0.3s,baz=321,slow=17,SNR=9.4							
GNI	**Garni**	**1.93**	**205**	*i* Pn	**Pb**	**13 16 08.8**	**-1.3**
STDR	**Stavd-Durt**	**1.94**	**319**	⇓*i* PN	**Pb**	**13 16 09.3**	**-0.8**
STDR	**Stavd-Durt**	**1.94**	**319**	*i* Pn	**Pb**	**13 16 09.3**	**-0.8**
BRDA	**Brd**	**1.95**	**147**	⇑Pg	**Pb**	**13 16 09.7**	**-0.6**
SNR=29							
BRDA				⇑Sg	**Sb**	**13 16 37.7**	**+3.5**
BRDA	**Brd**	**1.95**	**147**	Pg	**Pb**	**13 16 09.7**	**-0.6**
SNR=29							
BRDA				Sg	**Sb**	**13 16 37.7**	**+3.5**
TRKR	**Terskaya**	**1.97**	**337**	*e*PN	**Pb**	**13 16 11.3**	**+0.6**
TRKR				*e*S	**Sb**	**13 16 38.0**	**+3.2**
TRKR	**Terskaya**	**1.97**	**337**	*e*Sg	**Sb**	**13 16 38.0**	**+3.2**
LSNR	**Lesken**	**2.00**	**314**	*e*PN	**Pb**	**13 16 10.6**	**-0.5**
QUBA	**Quba, Azerbaij**	**2.10**	**105**	⇓Pg	**Pb**	**13 16 13.0**	**+0.2**
SNR=30							
QUBA	**Quba, Azerbaij**	**2.10**	**105**	Pg	**Pb**	**13 16 13.0**	**+0.2**
SNR=30							
IML	**Ismayilli**	**2.12**	**121**	⇑Pg	**Pb**	**13 16 11.9**	**-1.2**
SNR=10							
IML				⇓Sg	**Sb**	**13 16 43.3**	**+4.3**
IML	**Ismayilli**	**2.12**	**121**	Pg	**Pb**	**13 16 11.9**	**-1.2**
SNR=10							
IML				Sg	**Sb**	**13 16 43.3**	**+4.3**
PRTR	**Priterechnaya**	**2.15**	**329**	*e*PN	**Pb**	**13 16 12.2**	**-1.5**
PRTR				*e*S	**Sb**	**13 16 40.5**	**+0.6**
DIGO	**Kars**	**2.36**	**231**	*i* P	**Pb**	**13 16 15.7**	**-1.8**
DIGO	**Kars**	**2.36**	**231**	*i* P	**Pb**	**13 16 15.7**	**-1.8**
PQL	**Pirkuli**	**2.39**	**117**	⇑Pg	**Pb**	**13 16 16.5**	**-1.4**
SNR=30							
PQL				⇑Sg	**Sb**	13 16 53.2	+6.3
PQL	**Pirkuli**	**2.39**	**117**	Pg	**Pb**	**13 16 16.5**	**-1.4**
SNR=30							
PQL				Sg	Sb	13 16 53.2	+6.3
SIZA	**Siyzn**	**2.48**	**109**	⇓Pg	**Pb**	**13 16 18.6**	**-0.7**
SNR=4.1							
SIZA				⇑Sg	Sb	13 16 57.0	+7.6
SIZA	**Siyzn**	**2.48**	**109**	Pg	**Pb**	**13 16 18.6**	**-0.7**
SNR=4.1							
SIZA				Sg	Sb	13 16 57.0	+7.6
ATGJ	**Altiaghaj**	**2.59**	**113**	⇓Pg	**Pb**	**13 16 21.7**	**+0.5**
SNR=16							
ATGJ				⇓Sg	Sb	13 17 00.3	+7.7
ATGJ	**Altiaghaj**	**2.59**	**113**	Pg	**Pb**	**13 16 21.7**	**+0.5**
SNR=16							
ATGJ				Sg	Sb	13 17 00.3	+7.7
NAX	**Nakhchivan**	**2.75**	**185**	⇑Pg	**Pb**	**13 16 20.9**	**-3.0**
SNR=53							
NAX				⇑Sg	**Sb**	**13 17 01.8**	**+4.6**
KBZ	**Khabaz**	**2.80**	**311**	PN	**Pn**	**13 16 20.6**	**+2.1**
KBZ				pmax	pmax		
comp=Z,6.0nm,0.3s							
KBZ				pmax	pmax		
comp=Z,6.0nm,0.3s							
KBZ	**Khabaz**	**2.80**	**311**	Pn	**Pn**	**13 16 20.6**	**+2.1**
comp=Z,6.1nm,0.3s,baz=134,slow=9.9,SNR=90							
KBZ				Pg	**Pb**	**13 16 24.6**	**-0.1**
comp=Z,6.1nm,0.3s,baz=156,slow=12,SNR=92							
KBZ				Lg	Lg	13 17 00.9	
comp=Z,10.0nm,0.3s,baz=117,slow=17,SNR=8.0							
KBZ	**Khabaz**	**2.80**	**311**	Pn	**Pn**	**13 16 20.6**	**+2.1**
DAGI	**Agillar**	**3.03**	**255**	*i* P	**Pb**	**13 16 28.6**	**-0.2**
ALIB	**Äli-Bayra**	**3.12**	**128**	⇓Pg	**Pb**	**13 16 28.1**	**-2.1**
SNR=7.7							
ALIB	**Äli-Bayra**	**3.12**	**128**	Pg	**Pb**	**13 16 28.1**	**-2.1**
SNR=7.7							
DBOC	**Borcka**	**3.15**	**261**	*i* P	**Pb**	**13 16 28.1**	**-2.6**
DBOC	**Borcka**	**3.15**	**261**	*i* P	**Pb**	**13 16 28.1**	**-2.6**
GLBA	**Clilabad**	**3.32**	**143**	⇑Pg	**Pb**	**13 16 31.2**	**-2.4**
SNR=4.4							
HOMI	**Horasan**	**3.49**	**239**	*i* P	Pb	13 16 40.1	+3.4
GOF	**Gofitskoye**	**3.73**	**328**	*e*PN	Pb	13 16 36.3	-4.3
GOF				*i* S	Sb	13 17 40.5	+15
GOF				pmax	pmax		
comp=Z,80nm,0.8s							
GOF				smax	smax		
comp=N,560nm,1.3s							
VRHR	**Novokhopersk**	**9.62**	**344**	*e*P	Pn	13 17 59.8	+7.6
VRHR				pmax	pmax		
comp=N,10.0nm,0.6s							
VRHR				pmax	pmax		
comp=Z,10.0nm,0.6s							
VRHR				pmax	pmax		
comp=E,20nm,0.8s							
VORD	**Divnogorie**	**10.10**	**336**	*e*P	Pn	13 18 05.5	+6.8
VORD				pmax	pmax		
comp=Z,4.0nm,0.4s							
VORD				pmax	pmax		
comp=N,30nm,0.9s							
VORD				pmax	pmax		
comp=E,10.0nm,0.7s							
VSR	**Storozhevoye**	**10.36**	**336**	*e*P	Pn	13 18 06.3	+4.0
VSR				pmax	pmax		
comp=Z,6.0nm,0.4s							
VSR				pmax	pmax		
comp=N,10.0nm,0.5s							
VSR				pmax	pmax		
comp=E,10.0nm,0.7s							
AKTK	**Aktyubinsk**	**12.00**	**41**	*i* P	**Pn**	**13 18 25.8**	**+1.0**
comp=E,16nm,0.7s							
AKTO	**Aktyubinsk**	**12.00**	**41**	⇑Pn	**Pn**	**13 18 24.0**	**-0.8**
comp=E,16nm,0.8s							
AKTO				⇑Sn	**Sn**	**13 20 35.0**	**-2.7**
comp=E,11nm,0.8s							
AKTO	**Aktyubinsk**	**12.00**	**41**	*i* P	**Pn**	**13 18 25.8**	**+1.0**
AKTO				pmax	pmax		
comp=Z,16nm,0.7s							
AKTO	**Aktyubinsk**	**12.00**	**41**	Pn	**Pn**	**13 18 23.7**	**-1.1**
comp=Z,0.8nm,0.3s,baz=229,slow=12,SNR=5.5							
AKTO				Sn	**Sn**	**13 20 35.4**	**-2.3**
comp=Z,0.5nm,0.3s,baz=225,slow=17,SNR=3.7							
AKTO	**Aktyubinsk**	**12.00**	**41**	Pn	**Pn**	**13 18 24.0**	**-0.8**
comp=Z,16nm,0.8s							
ASF	**Jabal al Asfar**	**12.04**	**219**	LR	LR	13 23 41.4	
comp=Z,45nm,20.9s,baz=116,slow=41							
AB31	**Akbulak array**	**12.32**	**49**	⇑Pn	**Pn**	**13 18 27.8**	**-1.4**
comp=Z,2.5nm,0.5s,baz=231,slow=9.1,SNR=37							
AB31				Sn	**Sn**	**13 20 45.6**	**+0.1**
comp=Z,9.8nm,0.8s,baz=220,slow=19,SNR=5.1							
AB31	**Akbulak array**	**12.32**	**49**	*i* P	**Pn**	**13 18 27.7**	**-1.4**
AB31				*i*		13 20 45.6	
AB31				pmax	pmax		
comp=Z,3.0nm,0.4s							
AB31				smax	smax		
comp=Z,5.0nm,0.6s							
AB31	**Akbulak array**	**12.32**	**49**	Pn	**Pn**	**13 18 27.8**	**-1.4**
comp=Z,2.5nm,0.5s,SNR=37							
AB31				Sn	**Sn**	**13 20 45.6**	**+0.1**
comp=Z,9.8nm,0.8s,SNR=5.1							
AKASG	**Malin Array Be**	**14.41**	**313**	*i* P	**P**	**13 19 01.3**	**-2.9**
AKASG				pmax	pmax		
comp=Z,2.0nm,0.7s							
AKASG	**Malin Array Be**	**14.41**	**313**	Pn	Pn	13 18 53.2	-4.5
comp=Z,0.6nm,0.3s,baz=118,slow=13,SNR=3.3							
OBN	**Obninsk**	**14.54**	**338**	*e*P	**Pn**	**13 19 01.1**	**+1.8**
OBN				*e*S	**Sn**	**13 21 43.9**	**+4.5**
OBN				pmax	pmax		
comp=Z,7.0nm,0.9s							
OBN				MLR	MLR		
comp=Z,100nm,17.0s							
MLR	**Muntele Rosu**	**14.79**	**291**	Pn	**Pn**	**13 19 05.6**	**+2.6**
comp=Z,0.1nm,0.3s,baz=133,slow=10,SNR=3.0							
MOS	**Moscow**	**14.83**	**342**	*e*P	**Pn**	**13 19 01.3**	**-1.9**
ARU	**Arti**	**16.71**	**25***e*	*i* P	**Pn**	**13 19 23.7**	**-3.9**
ARU				S	**Sn**	**13 22 28.0**	**-4.3**
ARU				pmax	pmax		
comp=Z,6.0nm,0.8s							
SVE	**Sverdlovsk**	**17.72**	**28**⇑	*e*P	**Pn**	**13 19 37.4**	**-2.8**
SVE				*e*S	Sn	13 22 47.2	-9.5
SVE				pmax	pmax		
comp=Z,34nm,1.1s							
SVE				MLR	MLR		
comp=Z,233nm,13.0s							
KK31	**Karatay Array**	**18.25**	**78**	P	**Pn**	**13 19 45.2**	**-1.6**
comp=Z,4.5nm,1.1s,baz=285,slow=12,SNR=22							
KK31				⇑S	**Sn**	**13 23 08.6**	**-1.1**
comp=Z,5.5nm,1.1s,baz=268,slow=26,SNR=5.0							
KK31	**Karatay Array**	**18.25**	**78**	*i* P	**Pn**	**13 19 45.2**	**-1.6**
KK31				pmax	pmax		
comp=Z,1.0nm,0.4s							
KK31	**Karatay Array**	**18.25**	**78**	P	**Pn**	**13 19 45.2**	**-1.6**
comp=Z,4.5nm,1.1s,SNR=22							
SOKR	**Solikamsk**	**18.95**	**17**	*e*P	**Pn**	**13 19 55.3**	**+0.2**
SOKR				pmax	pmax		
comp=Z,7.0nm,0.6s							
SOKR	**Solikamsk**	**18.95**	**17**	*e*P	**Pn**	**13 19 55.3**	**+0.2**
comp=Z,7.0nm,0.6s							
KLMR	**Klimovskoe**	**19.35**	**351**	*e*P	**P**	**13 19 57.8**	**-0.9**
KLMR	**Klimovskoe**	**19.35**	**351**	*e*P	**P**	**13 19 57.8**	**-0.9**
BRVK	**Borovoye**	**19.85**	**47**	⇓P	**P**	**13 20 04.3**	**+0.1**
comp=Z,20nm,0.7s							
BRVK	**Borovoye**	**19.85**	**47**⇓	*e*P	**P**	**13 20 03.8**	**-0.4**
BRVK				pmax	pmax		
comp=Z,5.0nm,0.8s							
BRVK	**Borovoye**	**19.85**	**47**	P	**P**	**13 20 04.3**	**+0.1**
comp=Z,20nm,0.7s							
BVA0	**Borovoye Array**	**19.89**	**48**	⇑P	**P**	**13 20 04.7**	**0.0**
comp=Z,11nm,1.1s,baz=233,slow=14,SNR=37							
BVA0				⇓S	**S**	**13 23 45.4**	**-1.8**
comp=Z,5.3nm,1.1s,baz=238,slow=27,SNR=5.5							
BVA0	**Borovoye Array**	**19.89**	**48**	*i* P	**P**	**13 20 04.7**	**0.0**
BVA0				pmax	pmax		
comp=Z,17nm,1.1s							
BVA0	**Borovoye Array**	**19.89**	**48**	P	**P**	**13 20 04.7**	**0.0**
comp=Z,11nm,1.1s,SNR=37							
BVAR	**Borovoye Array**	**19.89**	**48**	P	**P**	**13 20 04.3**	**-0.4**
BVAR				S	**S**	**13 23 46.1**	**-1.1**
BVAR				pmax	pmax		
comp=Z,1.0nm,0.3s							
BVAR				MLR	MLR		
comp=Z,76nm,18.6s							
BVAR	**Borovoye Array**	**19.89**	**48**	P	**P**	**13 20 04.3**	**-0.4**
comp=Z,0.8nm,0.3s,baz=242,slow=9.4,SNR=18							
BVAR				S	**S**	**13 23 46.1**	**-1.1**
comp=Z,0.2nm,0.3s,baz=240,slow=26,SNR=4.9							
BVAR				LR	LR	13 28 33.1	
comp=Z,76nm,18.6s,baz=291,slow=39							
BVAR	**Borovoye Array**	**19.89**	**48**	P	**P**	**13 20 04.3**	**-0.4**
comp=Z,1.0nm,0.3s							
VOSK	**Vostochnaya**	**20.10**	**49**	⇑P	**P**	**13 20 06.2**	**-0.9**
comp=Z,11nm,0.9s							
VOSK				⇑S	**S**	**13 23 50.5**	**-0.9**
comp=Z,7.4nm,1.4s							
VOSK	**Vostochnaya**	**20.10**	**49**	P	**P**	**13 20 06.1**	**-0.9**
VOSK				pmax	pmax		
comp=Z,20nm,1.2s							
VOSK	**Vostochnaya**	**20.10**	**49**	P	**P**	**13 20 06.1**	**-0.9**
comp=Z,20nm,1.2s							
AAK	**Ala-Archa**	**21.21**	**78**⇓	*e*P	**P**	**13 20 20.3**	**+1.0**
AAK				pmax	pmax		
comp=Z,20nm,1.5s							
AAK	**Ala-Archa**	**21.21**	**78**	P	**P**	**13 20 19.8**	**+0.5**
comp=Z,1.6nm,0.5s,baz=249,slow=6.8,SNR=7.0							
AAK				LR	LR	13 29 16.8	
comp=Z,37nm,18.8s,baz=5.3,slow=39							
AAK	**Ala-Archa**	**21.21**	**78**	*e*P	**P**	**13 20 20.3**	**+1.0**
comp=Z,20nm,1.5s							
TMCR	**Tamitsa**	**22.74**	**351**	*e*P	P	13 20 40.1	+4.9
TMCR				*e*		13 21 07.5	
TMCR				pmax	pmax		
comp=Z,34nm,1.0s							
FINES	**FINESS Array B**	**22.89**	**335**	P	**P**	**13 20 36.5**	**-0.3**
comp=Z,3.5nm,0.7s,baz=141,slow=12,SNR=9.2							
FINES	**FINESS Array B**	**22.89**	**335**	P	**P**	**13 20 36.5**	**-0.3**
comp=Z,4.0nm,0.7s							
GERES	**GERESS Array B**	**23.46**	**298**	P	**P**	**13 20 43.6**	**+0.7**
comp=Z,0.9nm,0.8s,baz=116,slow=7.9,SNR=4.2							
GERES	**GERESS Array B**	**23.46**	**298**	P	**P**	**13 20 43.6**	**+0.7**
comp=Z,1.0nm,0.8s							
KURBB	**Kurchatov Arra**	**24.08**	**58**	P	**P**	**13 20 49.4**	**+0.8**
comp=Z,1.6nm,0.5s,baz=264,slow=9.4,SNR=25							
KURK	**Kurchatov**	**24.15**	**57**	P	**P**	**13 20 49.4**	**+0.1**
KURK				pmax	pmax		
comp=Z,2.0nm,0.5s							
KURK	**Kurchatov**	**24.15**	**57**	P	**P**	**13 20 49.4**	**+0.1**
comp=Z,2.0nm,0.5s							
CLL	**Collm**	**24.23**	**304**	*e*P	P	13 20 59.0	+9.0
MK31	**Makanchi Array**	**26.39**	**67**	⇓P	**P**	**13 21 09.7**	**+0.1**
comp=Z,2.7nm,0.9s,baz=269,slow=8.0,SNR=13							
MK31	**Makanchi Array**	**26.39**	**67**	*i* P	**P**	**13 21 09.7**	**+0.1**
MK31				pmax	pmax		
comp=Z,3.0nm,0.9s							
MK31	**Makanchi Array**	**26.39**	**67**	P	**P**	**13 21 09.7**	**+0.1**
comp=Z,2.7nm,0.9s,SNR=13							
MKAR	**Makanchi Array**	**26.39**	**67**	P	**P**	**13 21 10.5**	**+0.9**
MKAR				pmax	pmax		
comp=Z,1.0nm,0.6s							
MKAR	**Makanchi Array**	**26.39**	**67**	P	**P**	**13 21 10.5**	**+0.9**
comp=Z,1.2nm,0.6s,baz=268,slow=8.6,SNR=12							
MKAR	**Makanchi Array**	**26.39**	**67**	P	**P**	**13 21 10.5**	**+0.9**
comp=Z,1.0nm,0.6s							
HFS	**Hagfors**	**26.80**	**324**	P	**P**	**13 21 13.8**	**+0.7**
comp=Z,2.2nm,0.7s,baz=109,slow=17,SNR=3.8							
HFS				LR	LR	13 31 57.2	
comp=Z,45nm,18.6s,baz=133,slow=37							
HFS	**Hagfors**	**26.80**	**324**	P	**P**	**13 21 13.8**	**+0.7**
comp=Z,45nm,18.6s							
NOA	**NORSAR Array B**	**28.30**	**324**	LR	LR	13 32 10.1	
comp=Z,43nm,19.5s,baz=245,slow=35							
ZALV	**Zalesovo Beam**	**28.41**	**51**	P	**P**	**13 21 27.5**	**-0.1**
ZALV				pmax	pmax		
comp=Z,2.0nm,0.6s							
ZALV				MLR	MLR		
comp=Z,45nm,20.4s							
ZALV	**Zalesovo Beam**	**28.41**	**51**	P	**P**	**13 21 27.5**	**-0.1**
comp=Z,1.9nm,0.6s,baz=269,slow=9.4,SNR=10.0							
ZALV				LR	LR	13 34 06.1	
comp=Z,45nm,20.4s,baz=250,slow=39							
ZALV	**Zalesovo Beam**	**28.41**	**51**	P	**P**	**13 21 27.5**	**-0.1**
comp=Z,45nm,20.4s							
ARCES	**ARCESS Array B**	**29.63**	**346**	P	**P**	**13 21 38.2**	**-0.1**
comp=Z,1.0nm,0.8s,baz=165,slow=9.8,SNR=4.0							
ARCES				LR	LR	13 34 53.2	
comp=Z,86nm,18.1s,baz=266,slow=39							
ARCES	**ARCESS Array B**	**29.63**	**346**	P	**P**	**13 21 38.2**	**-0.1**
comp=Z,86nm,18.1s							
ESDC	**Sonseca Array**	**37.31**	**284**	P	**P**	**13 22 44.2**	**-1.3**
comp=Z,0.2nm,0.6s,baz=61,slow=10,SNR=4.1							
TLY	**Talaya**	**39.82**	**55**	*e*P	P	13 23 13.2	+6.9
TLY				pmax	pmax		
comp=Z,5.0nm,0.8s							
TLY				MLR	MLR		
comp=Z,94nm,16.0s							
SONM	**Songino Array**	**42.38**	**61**	P	**P**	**13 23 27.5**	**-0.1**
comp=Z,0.3nm,0.7s,baz=268,slow=7.2,SNR=3.2							
SONM				LR	LR	13 42 23.7	
comp=Z,84nm,18.3s,baz=102,slow=38							
SONM	**Songino Array**	**42.38**	**61**	P	**P**	**13 23 27.5**	**-0.1**
comp=Z,84nm,18.3s							
TORD	**Torodi Ar. Bea**	**47.74**	**246**	P	**P**	**13 24 10.4**	**+0.1**
comp=Z,1.0nm,0.7s,baz=35,slow=6.7,SNR=3.1							
KSRS	**Korea Array**	**61.03**	**64**	P	**P**	**13 25 47.1**	**+0.3**
comp=Z,0.6nm,0.6s,baz=308,slow=6.0,SNR=3.5							
KSRS	**Korea Array**	**61.03**	**64**	P	**P**	**13 25 47.1**	**+0.3**
comp=Z,1.0nm,0.6s							
FX1	**Attu Island--F**	**75.24**	**30**	LR	LR	14 02 57.1	
comp=Z,32nm,20.3s,baz=256,slow=38							

IDC 13 13:32:43.7±6.8, 13°.51N×93°.39E, h0km, mb3.5/4, mb1 3.5/4, mb1mx3.3/26, mbtmp3.5/4, Error ellipse: s-maj=403.6km s-min=25.6km az=62.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**34.47**	**346**	P	P	13 39 33.0	-0.4
0.4nm,0.6s,baz=153,slow=8.2,SNR=5.3							
KURBB	**Kurchatov Arra**	**38.95**	**345**	P	P	13 40 11.0	-0.4
0.4nm,0.8s,baz=157,slow=8.5,SNR=4.6							
ZALV	**Zalesovo Beam**	**40.91**	**352**	P	P	13 40 28.0	+0.3
0.3nm,0.4s,baz=178,slow=8.1,SNR=3.1							
ASAR	**Alice Springs**	**54.16**	**133**	P	P	13 42 11.1	-0.1
0.1nm,0.4s,baz=312,slow=7.2,SNR=7.8							

MEX 13 13:36:22.5±0.6, 15°.63N×92°.96W, h118km±6km, MD3.6, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.26**	**287**	*e*P	Pn	13 36 37.4	-1.6
PCIG				*i* S	Sn	13 36 49.9	-1.6
CCIG	**Comitan**	**1.02**	**51**	*i* P	Pn	13 36 43.8	-1.0
CCIG				*i* S	Sn	13 36 59.9	-1.9
TGIG		**1.15**	**352**	*e*P	Pn	13 36 44.8	-1.2
TGIG				*i* S	Sn	13 37 02.0	-1.8
CMIG	**Matias Romero**	**2.35**	**308**	*e*P	Pn	13 36 59.9	-0.4
CMIG				*i* S	Sn	13 37 27.2	-2.0
HUIG	**Huatulco**	**3.03**	**273**	*i* P	Pn	13 37 04.4	-4.8
HUIG				*i* S	Sn	13 37 39.3	-5.9

MAN 13 13:56:28, 15°.15N×122°.86E, h54km, mb4.7, ML3.6, MS3.5, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GQP	**Guinayangan**	**1.31**	**198**	⇓*i* P	Pn	13 56 51.1	+1.1
GQP				*i* S	Sn	13 57 08.0	+1.6
BALP	**Baler**	**1.37**	**295**	*e*P	Pn	13 56 51.3	+0.4
BALP				*e*S	Sn	13 57 02.6	-5.4
LQP	**Lukban**	**1.65**	**231**	*e*P	Pn	13 56 57.8	+2.9
LQP				*e*S	Sn	13 57 23.4	+8.3
PCPH	**Palayan**	**1.75**	**284**⇑	*e*P	Pn	13 56 56.5	+0.5
PCPH				*e*S	Sn	13 57 19.6	+2.4
AUQP	**San Andres**	**1.83**	**186**	*e*P	Pn	13 57 01.0	+4.0
PALP	**Palanan**	**1.94**	**348**	*e*P	Pn	13 57 00.6	+2.0
PALP				*e*S	Sn	13 57 21.1	-0.8
BOAC	**Boac**	**1.95**	**211**	*e*P	Pn	13 57 03.0	+4.2
PVCP	**Virac**	**1.99**	**141**	*e*P	Pn	13 57 00.5	+1.2
CAUP	**Cauayan**	**2.04**	**331**	*e*P	Pn	13 57 01.8	+1.8
OTRP	**Odiongan**	**2.89**	**197**	*e*P	Pn	13 57 14.1	+2.4
APYP	**Conner**	**3.11**	**330**	*e*P	Pn	13 57 16.7	+2.1
APYP				*e*S	Sn	13 57 41.4	-9.1
CNP	**Catarman**	**3.16**	**146**	*e*P	Pn	13 57 21.4	+6.2
BUSP	**Coron**	**4.07**	**220**	*e*P	Pn	13 57 29.5	+1.8

NIED ***13*** *13:56:00, 35°.80N×140°.20E, h68km, Mw3.9 Best double couple: M0.9.00000×10^14 NP1:φs357.00000°, δ61.00000°, λ83.00000°. NP2:φs191.00000°, δ29.00000°, λ102.00000°.*

IDC ***13*** *13:56:33.1±0.8, 35°.69N×140°.12E, h0km, mb3.9/13, mb1 4.0/15, mb1mx3.9/27, mbtmp3.9/15, ML4.0/2, MS3.2/2, Ms1 3.2/2, ms1mx2.6/30, Error ellipse: s-maj=27.6km s-min=14.7km az=79.0*

ISCJB ***13*** *13:56:41.0±0.4, 35°.71N±0°.04×140°.16E±0°.06, h76km±3km, mb3.8/13, Error ellipse: s-maj=8.9km s-min=6.3km az=161.9*

JMA ***13*** *13:56:41.7±0.1, 35°.80N×140°.14E, h65km±2km, M4.0 Broadband fault plane solution: P waves. NP1: φs5.00000°, δ61.00000°, λ86.00000°. NP2:φs193.00000°, δ29.00000°, λ98.00000°. Principal axes: T Plg74.0000°, Azm264.0000°; N Plg4.0000°, Azm7.0000°; P Plg16.0000°, Azm98.0000°;*

JMA Felt I J1.

ISC 13 13:56:41.9±0.7, 35°.79N±0°.05×140°.21E±0°.06, h70km±6km, n31, σ1.9°66/38, mb3.9/13, 3C-5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.37**	**181**	⇑P	**Pn**	**13 56 53.7**	**+0.1**
JCN				S	**Sn**	**13 57 03.2**	**+1.1**
TOK	**Tokyo**	**0.38**	**255**	⇓P	**Pn**	**13 56 53.5**	**-0.1**
TOK				*e*S	**Sn**	**13 57 02.1**	**-0.1**
JYT	**Yasato**	**0.44**	**358**	⇑P	**Pn**	**13 56 53.5**	**-0.7**
JYT				S	**Sn**	**13 57 02.3**	**-0.8**
JAG	**Ashikaga**	**0.88**	**316**	⇓P	**Pn**	**13 56 58.3**	**-0.7**
BSO3	**Boso 3**	**1.02**	**166**	⇑P	**Pn**	**13 56 59.7**	**-0.6**
BSO3				*e*S	**Sn**	**13 57 14.5**	**+0.4**
JOD2	**Odawara 2**	**1.06**	**241**	⇓P	**Pn**	**13 56 59.6**	**-1.5**
JOD2				S	**Sn**	**13 57 12.6**	**-2.9**
JRY	**Ryogami san**	**1.09**	**282**	⇓P	**Pn**	**13 57 01.1**	**-0.4**
JIM2	**Oshima 3**	**1.25**	**211**	P	**Pn**	**13 57 01.5**	**-2.1**
JIM2				S	**Sn**	**13 57 16.8**	**-3.0**
JKT	**Katashina**	**1.25**	**322**	P	**Pn**	**13 57 03.1**	**-0.6**
BSO1	**Boso 1**	**1.30**	**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.91**	**172**	P	**Pn**	**14 07 52.7**	**-0.1**
CEP				S	**Sn**	**14 08 29.0**	**+1.5**
CHCP	**Chirah Chowk**	**3.39**	**153**	P	**Pn**	**14 08 00.2**	**+1.1**
THW	**Thamme Wali**	**3.92**	**176**	P	**Pn**	**14 08 05.6**	**-0.5**
KSH	**Kashi**	**4.53**	**51**	Pn	Pn	14 08 10.9	-3.5
KSH				Sn	Sn	14 08 58.1	-8.1
KSH				smax	smax		
	comp=N,890nm,0.5s						
KSH				smax	smax		
	comp=E,730nm,0.4s						
THN	**Thein Dam**	**5.53**	**139**	*e*P	**Pn**	**14 08 25.5**	**-2.3**
THN				*e*S	**Sn**	**14 09 28.5**	**-1.7**
DLH	**Dalhousie**	**5.58**	**137**	*e*P	**Pn**	**14 08 29.0**	**+0.3**
DLH				*e*S	**Sn**	**14 09 28.0**	**-3.8**
AML	**Almayashu**	**5.68**	**17**	*i* PN	**Pn**	**14 08 29.4**	**-0.8**
AML	**Almayashu**	**5.68**	**17**	P	**Pn**	**14 08 29.4**	**-0.8**
	SNR=192						
DHRM	**DHARAMSHALA**	**5.99**	**137**	*e*P	**Pn**	**14 08 34.2**	**-0.1**
DHRM				*e*S	**Sn**	**14 09 38.7**	**-2.9**
DHRM				AML	AML	14 09 45.9	
	comp=E,557nm,0.5s						
DHRM				AML	AML	14 09 46.0	
	comp=N,333nm,0.2s						
KZA	**Kyzart**	**6.11**	**28**	*i* PN	**Pn**	**14 08 36.3**	**+0.3**
KZA	**Kyzart**	**6.11**	**28**	P	**Pn**	**14 08 36.3**	**+0.3**
	SNR=7.5						
EKS2	**Erkin-Say**	**6.21**	**16**	*i* PN	**Pn**	**14 08 36.9**	**-0.1**
EKS2	**Erkin-Say**	**6.21**	**16**	P	**Pn**	**14 08 36.9**	**-0.1**
	SNR=28						
AAK	**Ala-Archa**	**6.36**	**21**	PN	**Pn**	**14 08 39.6**	**+0.5**
AAK				pmax	pmax		
	comp=Z,20nm,0.3s						
AAK	**Ala-Archa**	**6.36**	**21**	P	**Pn**	**14 08 39.6**	**+0.5**
	SNR=74						
AAK	**Ala-Archa**	**6.36**	**21**	P	**Pn**	**14 08 39.6**	**+0.5**
	comp=Z,20nm,0.3s,baz=170,slow=6.1,SNR=107						
AAK				S	**Sn**	**14 09 49.8**	**-0.6**
	comp=Z,12nm,0.3s,baz=129,slow=22,SNR=12						
KK31	**Karatay Array**	**6.42**	**354**	P	**Pn**	**14 08 37.8**	**-2.0**
	comp=Z,26nm,0.4s,baz=184,slow=12,SNR=480						
KK31				⇓S	**Sn**	**14 09 46.3**	**-5.4**
	comp=Z,9.4nm,0.3s,baz=188,slow=29,SNR=5.6						
KK31	**Karatay Array**	**6.42**	**354**	*c i* PN	**Pn**	**14 08 37.8**	**-2.0**
KK31				pmax	pmax		
	comp=Z,27nm,0.2s						
KBK	**Karagaybulak**	**6.52**	**23**	*i* PN	**Pn**	**14 08 42.9**	**+1.6**
KBK	**Karagaybulak**	**6.52**	**23**	P	**Pn**	**14 08 42.9**	**+1.6**
	SNR=6.7						
FRU	**Bishkek**	**6.58**	**21**	*i* PN	**Pn**	**14 08 42.0**	**0.0**
FRU				pmax	pmax		
	comp=Z,20nm,1.4s						
FRU				pmax	pmax		
	comp=E,190nm,1.8s						
ULHL	**Ulahol**	**6.65**	**32**	*i* PN	**Pn**	**14 08 43.7**	**+0.6**
ULHL	**Ulahol**	**6.65**	**32**	P	**Pn**	**14 08 43.7**	**+0.6**
	SNR=12						
BHK	**Bhakra**	**6.70**	**141**	*e*S	**Sn**	**14 09 55.0**	**-3.6**
CHMS	**Chumysh**	**6.77**	**21**	*i* PN	**Pn**	**14 08 44.4**	**-0.2**
CHMS	**Chumysh**	**6.77**	**21**	P	**Pn**	**14 08 44.4**	**-0.2**
	SNR=40						
SDNR	**Sundarnagar**	**6.93**	**137**	*e*4	**Pn**	**14 08 48.0**	**+1.3**
USP	**Ospenovka**	**6.95**	**19**	*i* PN	**Pn**	**14 08 46.3**	**-0.7**
USP	**Ospenovka**	**6.95**	**19**	P	**Pn**	**14 08 46.3**	**-0.7**
	SNR=19						
TKM2	**Tokmak 2**	**6.97**	**26**	⇓P	**Pn**	**14 08 47.8**	**+0.3**
	comp=E,15nm,0.5s						
TKM2				⇓S	**Sn**	**14 10 08.1**	**+2.8**
	comp=E,37nm,1.1s						
TKM2	**Tokmak 2**	**6.97**	**26**	*i* PN	**Pn**	**14 08 47.7**	**+0.3**
TKM2	**Tokmak 2**	**6.97**	**26**	P	**Pn**	**14 08 47.8**	**+0.3**
	SNR=44						
SMLA	**Simla**	**7.32**	**138**	*i* P	**Pn**	**14 08 51.7**	**-0.3**
SMLA				*i* S	**Sn**	**14 10 09.5**	**-4.0**
SMLA				AML	AML	14 10 15.7	
	comp=N,190nm,0.7s						
SMLA				AML	AML	14 10 16.3	
	comp=E,173nm,0.7s						
DDI	**Dehra Dun**	**8.43**	**137**	*e*S	**Sn**	**14 10 35.4**	**-5.2**
DDI				AML	AML	14 10 46.1	
	comp=E,478nm,0.3s						
DDI				AML	AML	14 10 47.0	
	comp=N,336nm,0.1s						
MK31	**Makanchi Array**	**12.91**	**35**	⇑P	**Pn**	**14 10 06.5**	**-0.4**
	comp=N,4.1nm,0.7s,baz=226,slow=12,SNR=43						
MK31	**Makanchi Array**	**12.91**	**35**	*c e*P	**Pn**	**14 10 06.5**	**-0.4**
MK31				pmax	pmax		
	comp=Z,3.0nm,0.5s						
MKAR	**Makanchi Array**	**12.91**	**35**	*i* P	**Pn**	**14 10 07.0**	**+0.1**
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
MKAR	**Makanchi Array**	**12.91**	**35**	P	**Pn**	**14 10 06.5**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=226,slow=14,SNR=44						
PYUN	**Piuthan**	**12.98**	**128**	*e*P	**Pn**	**14 10 05.3**	**-2.9**
DANN	**Dangsing**	**13.31**	**125**	*e*P	**Pn**	**14 10 09.6**	**-2.9**
WMQ	**Urumqi**	**14.28**	**55**	*e*P	**P**	**14 10 29.6**	**+1.2**
WMQ				pmax	pmax		
	comp=Z,12nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,110nm,4.6s						
WMQ				LR	LR		
	comp=E,44nm,16.6s						
WMQ				LR	LR		
	comp=Z,36nm,22.3s						
BHPL	**Bhopal**	**14.38**	**157**	*e*P	Pn	14 10 20.9	-5.3
BHPL				*e*S	Sn	14 12 53.8	-11
KURBB	**Kurchatov Arra**	**14.81**	**18**	⇑P	Pn	14 10 27.9	-3.3
	comp=Z,13nm,0.8s						
KURBB	**Kurchatov Arra**	**14.81**	**18**	P	Pn	14 10 27.9	-3.3
	comp=Z,0.2nm,0.3s,baz=211,slow=12,SNR=11						
PKIN	**Phulchoki**	**14.90**	**124**	*e*P	**Pn**	**14 10 32.5**	**-0.4**
KURK	**Kurchatov**	**14.91**	**18**	P	Pn	14 10 28.0	-4.6
AB31	**Akbulak array**	**15.08**	**330**	⇓P	**Pn**	**14 10 30.0**	**-4.6**
	comp=Z,4.9nm,0.4s,baz=139,slow=12,SNR=239						
AB31				⇑S	Sn	14 13 03.7	-17
	comp=Z,2.6nm,0.5s,baz=271,slow=68,SNR=4.9						
AB31	**Akbulak array**	**15.08**	**330**	*i* P	**Pn**	**14 10 30.0**	**-4.6**
AB31				pmax	pmax		
	comp=Z,9.0nm,0.4s						
JIRN	**Jiri**	**15.39**	**122**	*e*P	**Pn**	**14 10 36.7**	**-2.4**
VOSK	**Vostochnaya**	**16.01**	**359**	⇓P	**Pn**	**14 10 43.3**	**-3.0**
	comp=Z,11nm,0.9s						
VOSK	**Vostochnaya**	**16.01**	**359**	P	**Pn**	**14 10 43.2**	**-3.0**
VOSK				pmax	pmax		
	comp=Z,12nm,0.7s						
RAMN	**Ramite**	**16.12**	**123**	*e*P	**Pn**	**14 10 46.5**	**-1.6**
BVA0	**Borovoye Array**	**16.33**	**358**	⇓P	**Pn**	**14 10 48.0**	**-2.1**
	comp=Z,6.1nm,0.9s,baz=177,slow=16,SNR=27						
BVA0				⇑S	**Sn**	**14 13 50.2**	**-1.0**
	comp=Z,4.1nm,0.8s,baz=180,slow=25,SNR=4.7						
BVA0	**Borovoye Array**	**16.33**	**358**	*i* P	**Pn**	**14 10 47.7**	**-2.4**
BVA0				pmax	pmax		
	comp=Z,5.0nm,0.3s						
BVAR	**Borovoye Array**	**16.33**	**358**	P	**Pn**	**14 10 47.5**	**-2.6**
BVAR				S	**Sn**	**14 13 52.2**	**+1.0**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
BVAR	**Borovoye Array**	**16.33**	**358**	P	**Pn**	**14 10 47.5**	**-2.6**
	comp=Z,1.7nm,0.3s,baz=157,slow=11,SNR=14						
BVAR				S	**Sn**	**14 13 52.2**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=179,slow=24,SNR=3.9						
BRVK	**Borovoye**	**16.36**	**358**	⇑P	**Pn**	**14 10 48.0**	**-2.6**
	comp=Z,19nm,0.7s						
BRVK	**Borovoye**	**16.36**	**358**	⇓*i* P	**Pn**	**14 10 49.4**	**-1.2**
BRVK				pmax	pmax		
	comp=Z,15nm,0.8s						
ODAN	**Odare**	**16.72**	**121**	*e*P	**P**	**14 10 56.2**	**+0.4**
	comp=Z,13nm,0.4s						
AKTO	**Aktyubinsk**	**16.78**	**329**	⇓P	**Pn**	**14 10 52.9**	**-2.8**
	comp=Z,18nm,0.8s						
AKTO				⇑S	Sn	14 13 49.7	-12
	comp=Z,7.3nm,1.0s						
AKTO	**Aktyubinsk**	**16.78**	**329**	P	**Pn**	**14 10 52.9**	**-2.8**
AKTO				S	Sn	14 13 47.4	-15
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.3s						
AKTO	**Aktyubinsk**	**16.78**	**329**	P	**Pn**	**14 10 52.9**	**-2.8**
	comp=Z,2.1nm,0.3s,baz=143,slow=12,SNR=24						
AKTO				S	Sn	14 13 47.4	-15
	comp=Z,0.2nm,0.3s,baz=81,slow=19,SNR=2.9						
ZALV	**Zalesovo Beam**	**19.57**	**24**	P	**P**	**14 11 27.0**	**+0.5**
ZALV				S	**S**	**14 15 00.5**	**-0.6**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ZALV	**Zalesovo Beam**	**19.57**	**24**	P	**P**	**14 11 27.0**	**+0.5**
	comp=Z,2.0nm,0.3s,baz=220,slow=10,SNR=61						
ZALV				S	**S**	**14 15 00.5**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=218,slow=18,SNR=3.1						
NVS	**Novosibirsk**	**19.86**	**20**	*e*P	**P**	**14 11 29.7**	**+0.2**
NVS				*e*S	**S**	**14 15 05.9**	**-0.8**
NVS				pmax	pmax		
	comp=Z,8.0nm,0.7s						
NVS				pmax	pmax		
	comp=N,4.0nm,0.5s						
NVS				smax	smax		
	comp=N,10.0nm,1.2s						
GNI	**Garni**	**21.17**	**287**	P	**P**	**14 11 45.0**	**+0.9**
	comp=N,2.1nm,0.3s,baz=78,slow=4.0,SNR=4.2						
SVE	**Sverdlovsk**	**21.39**	**344**	⇑*e*P	**P**	**14 11 45.7**	**-0.3**
SVE				pmax	pmax		
	comp=Z,16nm,0.6s						
HVS	**Khovu-Aksy**	**21.44**	**41**	⇓*e*P	**P**	**14 11 49.4**	**+2.7**
HVS				pmax	pmax		
	comp=Z,38nm,1.1s						
ARU	**Arti**	**21.55**	**340**	*c i*P	**P**	**14 11 47.7**	**0.0**
ARU				S	Sn	14 15 48.9	-7.2
ARU				SS	**SnSn**	**14 16 13.8**	**-0.7**
ARU				pmax	pmax		
	comp=Z,9.0nm,0.8s						
GTA	**Gaotai**	**22.46**	**74**	*e*P	**P**	**14 12 01.1**	**+3.6**
GTA				pP	pP	14 12 06.5	-13
GTA				sP	sP	14 12 09.9	-24
GTA				pmax	pmax		
	comp=Z,18nm,0.9s						
KBZ	**Khabaz**	**22.82**	**297**	P	**P**	**14 12 01.9**	**+1.0**
KBZ				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KBZ	**Khabaz**	**22.82**	**297**	P	**P**	**14 12 01.9**	**+1.0**
	comp=Z,2.6nm,0.9s,baz=129,slow=6.9,SNR=4.6						
ZAK	**Zakamensk**	**26.58**	**49**	*e*P	**P**	**14 12 37.8**	**+2.7**
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
SONM	**Songino Array**	**27.92**	**56**	P	**P**	**14 12 49.7**	**+2.6**
	comp=Z,1.8nm,0.7s,baz=265,slow=9.2,SNR=15						
BRTR	**Keskin Array B**	**29.71**	**287**	P	**P**	**14 13 04.2**	**+1.0**
	comp=Z,0.9nm,0.7s,baz=106,slow=9.1,SNR=5.4						
CMAR	**Chiang Mai Arr**	**30.24**	**120**	P	**P**	**14 13 10.3**	**+2.4**
	comp=Z,0.5nm,0.7s,baz=302,slow=9.8,SNR=5.0						
AKASG	**Malin Array Be**	**33.09**	**308**	*c e*P	**P**	**14 13 32.7**	**+0.2**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKASG	**Malin Array Be**	**33.09**	**308**	P	**P**	**14 13 32.8**	**+0.2**
	comp=Z,1.7nm,0.6s,baz=79,slow=7.1,SNR=8.1						
FINES	**FINESS Array B**	**37.51**	**326**	P	**P**	**14 14 10.9**	**+0.8**
	comp=Z,1.4nm,0.4s,baz=125,slow=7.2,SNR=16						
ARCES	**ARCESS Array B**	**41.09**	**337**	P	**P**	**14 14 41.0**	**+1.2**
	comp=Z,4.1nm,0.8s,baz=116,slow=8.9,SNR=20						
NB2	**NORSAR Subarra**	**44.43**	**323**	P	**P**	**14 15 07.0**	**+0.1**
	comp=Z,1.6nm,0.5s,baz=96,slow=7.9						
NOA	**NORSAR Array B**	**44.43**	**323**	P	**P**	**14 15 07.3**	**+0.4**
	comp=Z,2.8nm,0.7s,baz=96,slow=7.8,SNR=7.9						
ESDC	**Sonseca Array**	**57.68**	**298**	P	**P**	**14 16 47.1**	**+0.8**
	comp=Z,0.8nm,0.6s,baz=60,slow=7.4,SNR=8.9						
TORD	**Torodi Ar. Bea**	**66.08**	**269**	P	**P**	**14 17 41.8**	**-1.1**
	comp=Z,0.9nm,0.7s,baz=44,slow=6.4,SNR=6.4						
INK	**Inuvik**	**73.64**	**9**	P	**P**	**14 18 27.9**	**-0.3**
	comp=Z,1.9nm,0.9s,baz=71,slow=6.7,SNR=2.6						
ILAR	**Eielson Array**	**74.47**	**16**	P	**P**	**14 18 34.8**	**+1.6**
	comp=Z,0.3nm,0.9s,baz=327,slow=4.4,SNR=3.1						
WRA	**Warramunga Arr**	**81.80**	**122**	P	**P**	**14 19 14.4**	**+0.2**
	comp=Z,0.6nm,0.8s,baz=324,slow=4.5,SNR=6.7						
ASAR	**Alice Springs**	**84.08**	**125**	P	**P**	**14 19 26.6**	**+0.6**
	comp=Z,0.8nm,0.7s,baz=314,slow=5.3,SNR=14						

DJA 13 14:31:00.7±0.4, 2°S±4°×12°1E±°, h98km±18km, M3.6/10, MLv3.6/10, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APSI	**Ampana**	**1.63**	**24**	P	Pn	14 31 28.4	-0.1
APSI				S	Sn	14 31 50.8	+1.3
SPSI	**Sidrap Palu**	**1.97**	**218**	P	Pn	14 31 32.0	-0.8
SPSI				S	Sn	14 31 58.7	+1.4
MMSI	**Mamuju**	**2.10**	**262**	P	Pn	14 31 35.7	+1.2
MMSI				S	Sn	14 32 00.1	-0.2
BNSI	**Bone**	**2.17**	**204**	P	Pn	14 31 34.3	-1.1
BNSI				S	Sn	14 31 58.9	-3.0
LUWI	**Luwuk**	**2.24**	**53**	P	Pn	14 31 35.0	-1.3
MJSI	**Majene**	**2.31**	**241**	P	Pn	14 31 37.6	+0.4
KAPI	**Kappang**	**2.87**	**205**	P	Pn	14 31 43.8	-0.9
BKSI	**Bulukumba**	**3.02**	**197**	P	Pn	14 31 47.6	+0.9
MRSI	**Marisa**	**3.02**	**18**	P	Pn	14 31 46.4	-0.3
GTOI	**Gorontalo**	**3.64**	**34**	P	Pn	14 31 55.4	+0.4

*IDC **13** 14:42:37.5±1.8, 1°.45S×100°.30E, h0km, mb3.9/8, mb1 4.0/9, mb1mx3.8/24, mbtmp3.9/9, ML3.7/1, Error ellipse: s-maj=73.6km s-min=15.8km az=61.0*
*ISCJB **13** 14:42:39.0±0.9, 1°.85S±0°.07×99°.8E±0°.1, h33km, mb4.0/8, Error ellipse: s-maj=18.3km s-min=9.6km az=168.7*
*DJA **13** 14:42:48.2±1.0, 1°S±6°×10°0E±°, h29km±10km, M4.1/7, mb3.9/2, MLv4.2/7*

ISC 13 14:42:40.5±0.8, 1°.76S±0°.06×99°.82E±0°.08, h33km, n20, σ1§56/21, mb4.1/8, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.06**	**37**	P	**Pb**	**14 43 00.6**	**+0.3**
PDSI				S	**Sn**	**14 43 09.8**	**-2.9**
PPI	**Padang Panjang**	**1.42**	**24**	P	**Pb**	**14 43 06.1**	**-0.3**
BKNI	**Bangkinang**	**2.41**	**30**	P	**Pn**	**14 43 17.9**	**+0.4**
MASI	**Maura Aman, Be**	**2.78**	**120**	P	**Pb**	**14 43 30.0**	**+0.5**
GSI	**Gunungsitoli**	**3.78**	**324**	P	**Pb**	**14 43 45.0**	**-1.6**
MNAI	**Manna**	**4.06**	**130**	P	**Pb**	**14 43 48.6**	**-2.7**
EGSI	**Enggano, Bengk**	**4.33**	**146**	P	Pb	14 43 52.8	-3.1
PSI	**Prapat**	**4.62**	**349**	Pn	**Pn**	**14 43 49.9**	**+1.7**
	0.5nm,0.3s,baz=149,slow=16,SNR=3.1						
KCSI	**Kotacane, Aceh**	**5.63**	**339**	P	Pn	14 44 07.0	+5.0
	13nm,1.0s,0.1nm						
IPM	**Ipoh**	**6.32**	**11**	P	**Pn**	**14 44 14.3**	**+2.9**
CMAR	**Chiang Mai Arr**	**20.11**	**358**	P	**P**	**14 47 11.2**	**-0.5**
	0.1nm,0.3s,baz=188,slow=9.9,SNR=8.4						
FITZ	**Fitzroy Crossi**	**30.09**	**124**	P	**P**	**14 48 47.6**	**+0.5**
	0.8nm,0.8s,baz=328,slow=9.5,SNR=3.2						
WRA	**Warramunga Arr**	**38.27**	**121**	P	**P**	**14 49 56.5**	**-1.5**
	0.3nm,0.3s,baz=303,slow=8.8,SNR=7.7						
ASAR	**Alice Springs**	**39.54**	**126**	P	**P**	**14 50 08.8**	**+0.2**
	0.6nm,0.5s,baz=306,slow=8.4,SNR=15						
ASAR				PcP	**PcP**	**14 52 17.7**	**+1.8**
	0.3nm,0.5s,baz=310,slow=2.4,SNR=6.1						
STKA	**Stephens Creek**	**49.44**	**132**	P	**P**	**14 51 29.1**	**+1.5**
	4.0nm,1.0s,baz=310,slow=6.9,SNR=3.7						
SONM	**Songino Array**	**49.73**	**6**	P	**P**	**14 51 28.3**	**-1.3**
	2.1nm,0.7s,baz=187,slow=9.7,SNR=15						
SONM				PcP	**PcP**	**14 52 50.6**	**+0.2**
	0.2nm,0.4s,baz=202,slow=3.1,SNR=3.6						
MKAR	**Makanchi Array**	**50.75**	**344**	P	**P**	**14 51 38.1**	**+0.8**
	0.6nm,0.3s,baz=153,slow=8.9,SNR=17						
USRK	**Ussuriysk Arra**	**54.03**	**28**	P	**P**	**14 52 00.0**	**-1.6**
	2.0nm,0.6s,baz=232,slow=1.2,SNR=5.2						
ZALV	**Zalesovo Beam**	**56.90**	**349**	P	**P**	**14 52 22.3**	**+0.2**
	0.8nm,0.3s,baz=162,slow=6.2,SNR=8.9						
TXAR	**Lajitas Array**	**144.62**	**37**	PKP	**PKPdf**	**15 02 14.1**	**-0.5**
	0.8nm,0.6s,baz=283,slow=1.1,SNR=11						

IDC 13 14:47:10.8±8.3, 20°.62S×66°.92W, h222km±55km, mb2.9/2, mb1 3.1/3, mb1mx2.9/16, mbtmp2.8/3, Error ellipse: s-maj=102.6km s-min=32.2km az=21.0, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.46**	**345**	P	Pn	14 48 19.6	-0.3
	1.0nm,0.3s,baz=166,slow=8.3,SNR=28						
LPAZ				S	S	14 49 14.6	+0.4
	0.2nm,0.3s,baz=160,slow=19,SNR=6.9						
TXAR	**Lajitas Array**	**61.00**	**323**	P	P	14 57 01.0	-0.1
	0.1nm,0.5s,baz=141,slow=10,SNR=2.4						
TORD	**Torodi Ar. Bea**	**75.31**	**70**	P	P	14 58 30.1	0.0
	0.3nm,0.3s,baz=255,slow=4.5,SNR=3.8						
MKAR	**Makanchi Array**	**143.82**	**37**	PKP	PKPdf	15 06 19.1	-0.4
	0.5nm,0.6s,baz=318,slow=1.9,SNR=5.9						

*ISCJB **13** 14:57:33.6±0.6, 6°.21N±0°.06×73°.61W±0°.08, h126km±6km, mb3.3/5, Error ellipse: s-maj=15.1km s-min=6.5km az=32.8*
*IDC **13** 14:57:35.5±1.6, 6°.04N×73°.81W, h138km±13km, mb3.1/5, mb1 3.3/5, mb1mx3.2/20, mbtmp3.1/5, Error ellipse: s-maj=34.8km s-min=23.2km az=77.0*
*FUNV **13** 14:57:38.6, 6°.16N×73°.46W, h112km, MW4.0*

ISC 13 14:57:34.6±1.0, 6°.18N±0°.07×73°.51W±0°.09, h121km±9km, n23, σ2§06/32, mb3.1/5, 1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**1.55**	**212**	P	**Pn**	**14 58 01.1**	**-2.0**
	28nm,0.3s,baz=85,slow=9.3,SNR=54						
ROSC				S	**Sn**	**14 58 23.2**	**-1.5**
	76nm,0.3s,baz=109,slow=22,SNR=16						
CAPV	**Capacho**	**2.05**	**35**	⇑*i*P	Pn	14 58 12.2	+3.2
CAPV				*e*S	**Sn**	**14 58 36.5**	**+1.2**
SOCV	**Socops**	**3.36**	**51**	*e*P	**Pn**	**14 58 27.4**	**+1.7**
SOCV				*e*S	**Sn**	**14 59 04.5**	**-0.7**
VIGV	**El Vigia**	**3.39**	**39**	*e*P	**Pn**	**14 58 28.6**	**+2.5**
VIGV				*e*S	**Sn**	**14 59 04.8**	**-1.2**
ELOV	**Elorza**	**4.08**	**78**	*e*P	**Pn**	**14 58 37.3**	**+2.0**
VIRV	**Villa del Rosa**	**4.43**	**14**	*e*P	**Pn**	**14 58 41.6**	**+1.6**
VIRV				*e*S	**Sn**	**14 59 29.6**	**-1.2**
QARV	**Quebrada Arrib**	**4.97**	**36**	*e*S	**Sn**	**14 59 41.7**	**-2.1**
SANV	**Sanarito**	**5.14**	**50**	*e*P	**Pn**	**14 58 50.8**	**+1.2**
SANV				*e*S	**Sn**	**14 59 45.4**	**-2.5**
CURV	**Curarigua**	**5.18**	**42**	*e*P	**Pn**	**14 58 51.5**	**+1.3**
CURV				*e*S	**Sn**	**14 59 45.9**	**-3.1**
DABV	**Dabajuro**	**5.50**	**31**	*e*P	**Pn**	**14 58 56.7**	**+2.4**
DABV				*e*S	**Sn**	**14 59 53.5**	**-3.0**
TEPV	**Terepaima**	**5.69**	**48**	*e*P	**Pn**	**14 58 59.1**	**+2.2**
SIQV	**Siquisique**	**5.75**	**39**	*e*P	**Pn**	**14 59 00.0**	**+2.2**
SIQV				*e*S	**Sn**	**14 59 59.4**	**-3.3**
BAUV	**El Baul**	**6.08**	**63**	*e*P	**Pn**	**14 59 03.4**	**+1.3**
IMOV	**Isla Los Monje**	**6.66**	**23**	*e*P	**Pn**	**14 59 11.3**	**+1.4**
MONV	**Montecano**	**6.72**	**31**	*e*P	**Pn**	**14 59 12.4**	**+1.6**
MONV				*e*S	**Sn**	**15 00 21.9**	**-4.1**
BIRV	**Birongo**	**8.34**	**59**	*e*P	**Pn**	**14 59 32.9**	**+0.2**
LPAZ	**La Paz**	**22.95**	**167**	P	**P**	**15 02 27.6**	**-1.8**
	0.7nm,0.5s,baz=11,slow=6.4,SNR=4.2						
TXAR	**Lajitas Array**	**36.60**	**313**	P	P	15 04 26.7	-2.7
	0.2nm,0.7s,baz=137,slow=9.8,SNR=3.2						
TXAR				PcP	**PcP**	**15 06 49.7**	**-0.5**
	0.4nm,0.8s,baz=133,slow=6.4,SNR=4.0						
SCHQ	**Schefferville**	**48.81**	**5**	P	**P**	**15 06 08.4**	**+1.0**
	1.8nm,0.6s,baz=204,slow=10.0,SNR=2.0						
TORD	**Torodi Ar. Bea**	**74.25**	**78**	P	**P**	**15 08 59.9**	**+0.8**
	0.1nm,0.4s,baz=270,slow=6.9,SNR=2.5						
ILAR	**Eielson Array**	**77.38**	**335**	P	**P**	**15 09 14.7**	**-1.3**
	0.2nm,0.7s,baz=108,slow=5.8,SNR=2.7						
ASAR	**Alice Springs**	**148.42**	**234**	PKPbc	**PKPdf**	**15 17 05.4**	**+1.1**
	0.6nm,0.4s,baz=123,slow=3.7,SNR=27						
WRA	**Warramunga Arr**	**149.69**	**241**	PKPbc	**PKPdf**	**15 17 08.3**	**+2.0**
	1.1nm,0.5s,baz=107,slow=2.7,SNR=27						

*NEIC **13** 15:08:43.6, 18°.21N×67°.34W, h26km, MD3.5(RSPR), After RSPR.*
NEIC Felt [III] at Anasco. Also felt at Mayaguez.

RSPR 13 15:08:43.6, 18°.21N×67°.34W, h26km, MD3.5/17, 24C-15D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPR	**Mayaguez**	**0.19**	**90**	⇑*e*P	Pb	15 08 48.6	-0.6
MPR				*e*S	Sb	15 08 52.9	-0.1
MPR	**Mayaguez**	**0.19**	**90**	⇑*e*P	Pb	15 08 48.6	-0.6
MPR	**Mayaguez**	**0.19**	**90**	⇑*e*P	Pb	15 08 48.6	-0.6
MPR				*e*S	Sb	15 08 52.6	-0.4
MPR				*e*S	Sb	15 08 52.9	-0.1
IDE	**Isla Desecheo**	**0.22**	**323**	⇓*e*P	Pb	15 08 49.1	-0.5
IDE	**Isla Desecheo**	**0.22**	**323**	⇓*e*P	Pb	15 08 49.1	-0.5
IDE				*e*S	Sb	15 08 53.5	-0.1
LSP	**Las Mesas**	**0.24**	**98**	⇑*e*P	Pb	15 08 49.3	-0.6
LSP	**Las Mesas**	**0.24**	**98**	⇑*e*P	Pb	15 08 49.3	-0.6
CRPR	**Cabo Rojo, PR**	**0.30**	**133**	⇓*e*P	Pb	15 08 50.5	-0.1
CRPR	**Cabo Rojo, PR**	**0.30**	**133**	⇓*e*P	Pb	15 08 50.5	-0.1
CRPR				*e*S	Sb	15 08 55.2	-0.2
AGPR	**Aguadilla, PR**	**0.33**	**40**	⇑*e*P	Pb	15 08 50.5	-0.7
AGPR	**Aguadilla, PR**	**

CTA Charters Tower 13.97 189 P **Pn 15 18 28.4 +0.4**
0.3nm,0.3s,baz=11,slow=16,SNR=3.5
KDU Kakadu 17.07 247 P **P 15 19 10.8 +1.5**
baz=17,SNR=3.1
WRA Warramunga Arr 19.39 224 P **P 15 19 34.5 -0.3**
1.0nm,0.3s,baz=50,slow=11,SNR=47
WRA S **S 15 23 11.6 -0.2**
0.1nm,0.3s,baz=47,slow=20,SNR=5.2
RMQ Roma 20.17 179 P **P 15 19 43.4 +0.1**
baz=20,SNR=4.9
KNRA Kununurra 21.53 242 P **P 15 19 58.1 +0.2**
baz=22,SNR=6.4
ASAR Alice Springs 22.33 217 P **P 15 20 06.2 -0.4**
1.8nm,0.6s,baz=57,slow=8.9,SNR=54
ASAR S **S 15 24 07.2 -2.2**
1.1nm,0.7s,baz=27,slow=20,SNR=8.1
FITZ Fitzroy Crossi 25.25 240 P **P 15 20 34.5 0.0**
2.8nm,0.4s,baz=55,slow=10,SNR=18
FITZ LR LR 15 30 33.9
comp=Z,176nm,19.0s,baz=237,slow=36
FITZ Fitzroy Crossi 25.25 240 P **P 15 20 35.2 +0.7**
baz=25,SNR=11
STKA Stephens Creek 26.35 193 P **P 15 20 44.1 -0.2**
2.4nm,0.8s,baz=22,slow=13,SNR=2.9
WSI Waingapu 28.14 261 P P 15 21 18.2 +18
baz=28,SNR=3.4
MEEK Meekatharra 34.98 231 P **P 15 22 02.4 +1.8**
baz=35,SNR=4.8
KSRS Korea Array 47.49 338 LR LR 15 43 30.1
comp=Z,48nm,18.2s,baz=226,slow=36
PETK Petropavlovsk- 59.60 6 P **P 15 25 12.2 +0.6**
2.7nm,0.5s,baz=166,slow=7.8,SNR=26
SONM Songino Array 65.32 330 LR LR 15 52 08.1
comp=Z,61nm,19.4s,baz=65,slow=34
ILAR Eielson Array 85.08 23 P **P 15 27 41.0 -2.1**
0.9nm,0.8s,baz=250,slow=5.1,SNR=9.6
BBB Bella Bella 90.80 38 LR LR 16 00 00.2
comp=Z,53nm,20.9s,slow=30
TORD Torodi Ar. Bea 146.59 284 PKPbc **PKPdf 15 34 48.5 0.0**
0.8nm,0.5s,baz=56,slow=3.2,SNR=11

*IDC **13** 15:21:44.8±2.5, 36°.62N×71°.46E, h0km, mb3.7/7, mb1 3.8/13, mb1mx3.6/30, mbtmp3.7/13, ML3.8/6, MS4.1/1, Ms1 4.1/1, ms1mx2.6/34, Error ellipse: s-maj=49.5km s-min=18.5km az=138.0*
*ISCJB **13** 15:21:56.5±0.4, 37°.06N±0°.03×71°.63E±0°.05, h106km, mb3.9/10, Error ellipse: s-maj=6.6km s-min=3.3km az=156.3*
*NNC **13** 15:22:06.2±6.6, 37°.72N×71°.25E, h163km±70km, mb3.2, mpv4.0, Error ellipse: s-maj=58.2km s-min=28.8km az=17.0*

ISC 13 15:21:57.3±0.6, 37°.05N±0°.05×71°.63E±0°.07, h106km, n56, σ1§98/57, mb3.8/10, 7C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.32**	**17**	P	**Pn**	**15 23 16.2**	**+1.5**
	SNR=77						
THN	**Thein Dam**	**5.70**	**143**	*e*4		15 24 08.0	
THN				*e*S	**Sn**	**15 24 27.1**	**+3.4**
DLH	**Dalhousie**	**5.74**	**140**	*e*P	**Pn**	**15 23 23.0**	**+2.7**
DLH				*e*S	**Sn**	**15 24 26.0**	**+1.1**
KZA	**Kyzart**	**5.75**	**28**	P	**Pn**	**15 23 22.5**	**+1.9**
	SNR=9.0						
EKS2	**Erkin-Say**	**5.85**	**16**	P	**Pn**	**15 23 23.5**	**+1.9**
	SNR=22						
AAK	**Ala-Archa**	**6.00**	**21**	P	**Pn**	**15 23 25.9**	**+2.2**
	SNR=13						
AAK	**Ala-Archa**	**6.00**	**21**	Pn	**Pn**	**15 23 25.9**	**+2.2**
	6.3nm,0.3s,baz=178,slow=6.1,SNR=45						
AAK				Sn	**Sn**	**15 24 29.6**	**-1.5**
	4.9nm,0.3s,baz=270,slow=16,SNR=10						
KK31	**Karatay Array**	**6.11**	**352**	⇑P	**Pn**	**15 23 25.3**	**+0.2**
	15nm,0.4s,baz=183,slow=14,SNR=246						
KK31				⇑S	**Sn**	**15 24 28.5**	**-5.0**
	19nm,0.5s,baz=175,slow=23,SNR=8.1						
CHMS	**Chumysh**	**6.41**	**21**	P	**Pn**	**15 23 31.1**	**+2.0**
	SNR=8.8						
USP	**Ospenovka**	**6.59**	**19**	P	**Pn**	**15 23 33.8**	**+2.2**
	SNR=16						
TKM2	**Tokmak 2**	**6.61**	**26**	⇑P	**Pn**	**15 23 33.7**	**+1.7**
	3.0nm,0.5s						
TKM2				⇑S	**Sn**	**15 24 45.2**	**-0.8**
	11nm,0.9s						
TKM2	**Tokmak 2**	**6.61**	**26**	P	**Pn**	**15 23 34.0**	**+2.0**
	SNR=9.9						
SDNR	**Sundarnagar**	**7.08**	**140**	*e*P	Pn	15 23 42.0	+3.7
SDNR				*e*S	**Sn**	**15 24 59.0**	**+1.7**
SMLA	**Simla**	**7.48**	**141**	*i*P	Pn	15 23 47.1	+3.4
SMLA				*i*S	**Sn**	**15 25 07.7**	**+0.9**
SMLA				AML	AML	15 25 12.5	
	comp=E,1μm,0.4s						
SMLA				AML	AML	15 25 14.9	
	comp=N,1μm,0.3s						
KKR	**Kurukshetra**	**8.29**	**147**	*ex*	x	15 25 57.5	
BHGR	**Bahadurgarh**	**9.45**	**150**	*e*S	**Sn**	**15 25 52.3**	**-2.7**
NDI	**New Delhi**	**9.57**	**149**	*e*S	**Sn**	**15 25 55.0**	**-2.8**
AYAN	**Aya Nagar**	**9.71**	**150**	*e*S	**Sn**	**15 25 58.2**	**-3.0**
KUDL	**Kundal**	**9.78**	**154**	*e*P	**Pn**	**15 24 14.7**	**-0.2**
KUDL				*e*S	**Sn**	**15 25 58.1**	**-4.6**
KUDL				AML	AML	15 26 01.1	
	comp=E,18nm,0.4s						
KUDL				AML	AML	15 26 02.9	
	comp=N,12nm,0.5s						
SONA	**Sohna**	**9.90**	**151**	*e*P	Pn	15 24 19.5	+2.9
SONA				*e*S	**Sn**	**15 26 01.0**	**-4.8**
SONA				AML	AML	15 26 05.7	
	comp=E,22nm,0.4s						
SONA				AML	AML	15 26 11.4	
	comp=N,18nm,0.5s						
AGRA	**Agra**	**11.15**	**150**	*e*S	**Sn**	**15 26 33.0**	**-3.2**
AGRA				AML	AML	15 26 40.7	
	comp=N,46nm,0.2s						
AGRA				AML	AML	15 26 40.7	
	comp=E,55nm,0.2s						
MK31	**Makanchi Array**	**12.55**	**36**	⇑P	**Pn**	**15 24 53.0**	**+1.0**
	comp=E,0.9nm,0.7s,baz=224,slow=16,SNR=8.7						
MKAR	**Makanchi Array**	**12.55**	**36**	Pn	**Pn**	**15 24 52.4**	**+0.4**
	comp=E,0.1nm,0.3s,baz=226,slow=14,SNR=12						
PYUN	**Piuthan**	**13.08**	**130**	*e*P	**Pn**	**15 24 58.6**	**-0.7**
	comp=E,194nm,0.5s						
DANN	**Dangsing**	**13.39**	**127**	*e*P	**Pn**	**15 25 03.5**	**+0.1**
	comp=E,38nm,0.6s						
KOLN	**Koldanda**	**13.69**	**129**	*e*P	**Pn**	**15 25 07.0**	**-0.2**
	comp=E,30nm,0.4s						
KURBB	**Kurchatov Arra**	**14.45**	**18**	⇓P	**P**	**15 25 20.5**	**+0.3**
	comp=E,1.7nm,0.6s						
KURBB	**Kurchatov Arra**	**14.45**	**18**	Pn	**Pn**	**15 25 15.1**	**-1.4**
	comp=E,0.1nm,0.3s,baz=209,slow=11,SNR=4.0						
KKN	**Kakani**	**14.76**	**125**	*e*P	**Pn**	**15 25 19.9**	**-1.0**
	comp=E,27nm,0.5s						
DMN	**Daman**	**14.76**	**126**	*e*P	**Pn**	**15 25 20.8**	**-0.2**
	comp=E,45nm,0.7s						
AB31	**Akbulak array**	**14.86**	**329**	⇓P	**Pn**	**15 25 19.6**	**-2.2**
	comp=E,2.3nm,0.3s,baz=138,slow=13,SNR=56						
AB31				⇓S	Sn	15 27 50.4	-15
	comp=E,6.5nm,0.7s,baz=155,slow=23,SNR=16						
PKIN	**Phulchoki**	**14.97**	**125**	*e*P	**Pn**	**15 25 23.3**	**-0.4**
	comp=E,30nm,0.5s						
PKI	**Pulchoki**	**14.99**	**125**	*e*P	**Pn**	**15 25 23.0**	**-0.9**
	comp=E,15nm,0.4s						
GUN	**Gumba**	**15.07**	**123**	*e*P	**Pn**	**15 25 24.5**	**-0.5**
	comp=E,87nm,1.0s						
JIRN	**Jiri**	**15.45**	**123**	*e*P	**Pn**	**15 25 29.1**	**-0.6**
	comp=E,47nm,0.5s						
VOSK	**Vostochnaya**	**15.68**	**359**	⇓P	**Pn**	**15 25 30.5**	**-1.6**
	comp=E,3.0nm,1.1s						
BVAR	**Borovoye Array**	**16.00**	**357**	Pn	**Pn**	**15 25 33.5**	**-2.6**
	comp=E,0.3nm,0.3s,baz=158,slow=8.7,SNR=3.2						
RAMN	**Ramite**	**16.19**	**124**	*e*P	**Pn**	**15 25 37.8**	**-1.0**
	comp=E,44nm,0.6s						
AKTO	**Aktyubinsk**	**16.57**	**328**	⇑P	**Pn**	**15 25 42.1**	**-1.0**
	comp=E,3.8nm,0.8s						
AKTO				⇑S	Sn	15 28 33.8	-13
	comp=E,6.5nm,0.8s						
AKTO	**Aktyubinsk**	**16.57**	**328**	Pn	**Pn**	**15 25 39.9**	**-3.2**
	comp=E,0.6nm,0.3s,baz=142,slow=13,SNR=10.0						
AKTO				Sn	Sn	15 28 31.9	-15
	comp=E,0.2nm,0.3s,baz=18,slow=20,SNR=3.6						
TAPN	**Taplejung**	**16.68**	**121**	*e*P	**Pn**	**15 25 44.1**	**-0.8**
	comp=E,14nm,0.4s						
ODAN	**Odare**	**16.77**	**123**	*e*P	**P**	**15 25 46.2**	**-0.3**
	comp=E,16nm,0.5s						
ZALV	**Zalesovo Beam**	**19.21**	**24**	P	**Pn**	**15 26 13.7**	**-1.0**
	comp=E,0.4nm,0.3s,baz=219,slow=11,SNR=9.3						
KBD	**Kabd**	**21.49**	**256**	*e*P	P	15 26 41.6	+4.1
RDF	**Al-Radifah**	**21.72**	**255**	*e*P	**P**	**15 26 42.0**	**+2.1**
RDF				AMb	AMB	15 26 43.1	
	comp=Z,16nm,1.3s						
RST	**Umm Al-Ruwaisa**	**21.89**	**257**	*e*P	**P**	**15 26 42.3**	**+0.7**
RST				AMb	AMB	15 26 45.9	
	comp=Z,98nm,0.8s						
GTA	**Gaotai**	**22.23**	**75**	*e*P	P	15 26 50.3	+4.9
GTA				pP	pP	15 26 53.8	-12
GTA				sP	sP	15 26 56.9	-22
GTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BRTR	**Keskin Array B**	**29.75**	**287**	P	**P**	**15 27 54.8**	**+1.0**
	comp=Z,0.8nm,0.7s,baz=102,slow=9.3,SNR=3.3						
FINES	**FINESS Array B**	**37.31**	**326**	P	**P**	**15 29 00.2**	**+1.3**
	comp=Z,1.2nm,0.9s,baz=123,slow=7.3,SNR=3.8						
ARCES	**ARCESS Array B**	**40.84**	**337**	P	**P**	**15 29 29.1**	**+1.1**
	comp=Z,2.5nm,0.8s,baz=115,slow=9.0,SNR=11						
GERES	**GERESS Array B**	**43.03**	**305**	P	**P**	**15 29 45.5**	**-0.8**
	comp=Z,0.1nm,0.5s,baz=69,slow=5.4,SNR=2.4						
NB2	**NORSAR Subarra**	**44.25**	**323**	P	**P**	**15 29 56.6**	**+0.8**
	comp=Z,0.6nm,0.4s,baz=99,slow=7.4						
NOA	**NORSAR Array B**	**44.25**	**323**	P	**P**	**15 29 56.9**	**+1.1**
	comp=Z,0.8nm,0.4s,baz=94,slow=7.9,SNR=5.5						
ESDC	**Sonseca Array**	**57.65**	**298**	P	**P**	**15 31 38.0**	**+1.5**
	comp=Z,0.3nm,0.4s,baz=59,slow=7.9,SNR=5.8						
CBIJ	**Chichi jima**	**59.39**	**78**	LR	LR	15 59 21.3	
	comp=Z,142nm,20.0s,baz=352,slow=38						
TORD	**Torodi Ar. Bea**	**66.23**	**269**	P	**P**	**15 32 34.2**	**0.0**
	comp=Z,0.8nm,0.5s,baz=50,slow=6.2,SNR=11						

MEX 13 16:01:17.8±0.8, 17°.13N×95°.17W, h120km±7km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.28**	**98**	*i*P	Pn	16 01 33.3	-1.3
CMIG				*i*S	Sn	16 01 45.3	-2.0
VHO	**Vista Hermosa**	**1.49**	**268**	*e*P	Pn	16 01 44.3	-1.1
VHO				*i*S	Sn	16 02 04.9	-1.6
HUIG	**Huatulco**	**1.63**	**214**	*e*P	Pn	16 01 44.7	-2.1
HUIG				*i*S	Sn	16 02 07.6	-1.2
TGIG		**1.99**	**100**	*e*P	Pn	16 01 50.2	-1.0
TGIG				*i*S	Sn	16 02 15.1	-1.8
PCIG		**2.35**	**127**	*e*P	Pn	16 01 55.2	-0.4
PCIG				*e*S	Sn	16 02 23.2	-1.6
UTMO	**Huajuapan**	**2.61**	**286**	*e*P	Pn	16 01 57.5	-1.7
UTMO				*i*S	Sn	16 02 28.9	-2.2
LVIG	**Laguna Verde**	**2.84**	**336**	*i*P	Pn	16 01 57.1	-4.9
LVIG				*i*S	Sn	16 02 27.7	-8.3
PNIG	**Pinotepa**	**2.92**	**256**	*e*P	Pn	16 01 59.8	-3.4
PNIG				*i*S	Sn	16 02 33.7	-4.4
CCIG	**Comitan**	**3.03**	**106**	*e*P	Pn	16 02 04.2	-0.5
CCIG				*i*S	Sn	16 02 39.2	-1.7
YAIG	**Yautepec**	**4.09**	**295**	*e*P	Pn	16 02 17.8	-0.9
YAIG				*i*S	Sn	16 03 03.9	-2.1
PLIG	**Platanillo**	**4.31**	**288**	*e*P	Pn	16 02 20.4	-1.2
PLIG				*e*S	Sn	16 03 08.6	-2.7

*ISCJB **13** 16:20:33.9±1.3, 13°.85±0°.1×76°.7W±0°.1, h30km, mb3.5/2, Error ellipse: s-maj=26.6km s-min=8.9km az=44.9*
*NEIC **13** 16:20:37.8±1.4, 13°.59S×76°.20W, h39km±13km, MG4.3(ARE), Error ellipse: s-maj=25.3km s-min=10.9km az=53.0*
NEIC Felt [IV] at Pisco and [III] at Ica.
*IDC **13** 16:20:45.7±6.3, 13°.15S×75°.92W, h92km±57km, mb3.2/2, mb1 3.6/3, mb1mx3.3/18, mbtmp3.3/3, ML4.3/1, Error ellipse: s-maj=292.2km s-min=34.8km az=29.0*

ISC 13 16:20:35.6±1.3, 13°.85±0°.1×76°.7W±0°.1, h30km, n12, σ1§80/13, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.83**	**355**	*e*P	**Pn**	**16 21 04.8**	**-0.2**
LPAZ	**La Paz**	**8.63**	**108**	P	**Pn**	**16 22 40.5**	**+1.5**
LPAZ				S	**Sn**	**16 24 16.0**	**+0.3**
LPAZ	**La Paz**	**8.63**	**108**	P	**Pn**	**16 22 40.5**	**+1.5**
	1.7nm,0.3s,baz=290,slow=10,SNR=24						
LPAZ				S	**Sn**	**16 24 16.0**	**+0.3**
	baz=360,slow=19,SNR=1.3						
LVC	**Limon Verde**	**11.45**	**141**	*e*P	**Pn**	**16 23 17.4**	**+0.1**
	10nm,0.7s						
OTAV	**Otavalo**	**14.07**	**353**	P	**Pn**	**16 23 52.8**	**-0.7**
SAML	**Samuel**	**14.10**	**71**	P	Pn	16 23 48.4	-5.0
	2.8nm,0.8s						
TXAR	**Lajitas Array**	**50.19**	**329**	P	**P**	**16 29 31.3**	**+2.4**
TXAR	**Lajitas Array**	**50.19**	**329**	P	**P**	**16 29 31.3**	**+2.4**
	0.4nm,1.0s,baz=145,slow=9.9,SNR=2.7						
TORD	**Torodi Ar. Bea**	**82.14**	**74**	P	**P**	**16 32 51.4**	**-2.8**
TORD	**Torodi Ar. Bea**	**82.14**	**74**	P	**P**	**16 32 51.4**	**-2.8**
	0.5nm,0.7s,baz=252,slow=4.3,SNR=4.1						
SONM	**Songino Array**	**145.99**	**356**	PKPbc	**PKPab**	**16 40 13.0**	**-0.2**
SONM	**Songino Array**	**145.99**	**356**	PKPbc	**PKPab**	**16 40 13.0**	**-0.2**
	0.4nm,0.8s,baz=2.8,slow=3.1,SNR=3.2						

IDC 13 16:26:39.5±61.0, 14°.29S×166°.83E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/17, mbtmp3.6/3, Error ellipse: s-maj=1035.0km s-min=114.4km az=65.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**28.96**	**229**	P	P	16 32 41.3	+0.5
	2.3nm,0.9s,baz=49,slow=9.3,SNR=4.2						
WRA	**Warramunga Arr**	**31.52**	**255**	P	P	16 33 03.5	-0.2
	0.4nm,0.9s,baz=87,slow=8.7,SNR=4.4						
ASAR	**Alice Springs**	**32.43**	**248**	P	P	16 33 11.4	-0.3
	0.2nm,0.4s,baz=78,slow=9.1,SNR=20						

*IGIL **13** 16:37:40.9, 36°.81N×12°.30W, h0km, ML2.5*
*MDD **13** 16:37:40.8±1.7, 36°.81N×12°.25W, h0km, mb3.9/7, Error ellipse: s-maj=14.6km s-min=10.4km az=69.0, PRXIMO*
*INMG **13** 16:37:41.9±2.0, 36°.58N×12°.62W, h10km±16km, ML2.6, Error ellipse: s-maj=6.4km s-min=3.4km az=127.0*
*CSEM **13** 16:37:43.4±0.4, 36°.92N×12°.04W, h10km, ML3.2/8, Error ellipse: s-maj=6.5km s-min=5.4km az=80.0*

ISC 13 16:37:39.9±3.3, 36°.82N±0°.10×12°.2W±0°.1, h10km, n103, σ1§39/161, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**2.75**	**82**	*e*Pn	**Pn**	**16 38 24.5**	**+0.5**
PFVI				*e*Sn	**Sn**	**16 38 57.4**	**+0.1**
PFVI				A	A	16 38 59.9	
	6.7nm,0.5s						
PFVI	**Vila Bisbo**	**2.75**	**82**	P	**Pn**	**16 38 24.5**	**+0.5**
	5.2nm,0.1s,SNR=13						
PFVI				S	**Sn**	**16 38 56.8**	**-0.5**
	9.5nm,0.2s,SNR=7.9						
PFVI	**Vila Bisbo**	**2.75**	**82**	P	**Pn**	**16 38 24.5**	**+0.5**
	5.2nm,0.1s,SNR=13						
PFVI				S	**Sn**	**16 38 56.8**	**-0.5**
	9.5nm,0.2s,SNR=7.9						
PFVI				*e*Sn	**Sn**	**16 38 57.4**	**+0.1**
	6.7nm,0.5s						
PTEO	**Sao Teotonio**	**2.90**	**74**	*e*Pn	**Pn**	**16 38 26.8**	**+0.8**
PTEO				*e*Sn	**Sn**	**16 39 00.6**	**-0.3**
PTEO				A	A	16 39 05.8	
	6.4nm,0.3s						
PTEO	**Sao Teotonio**	**2.90**	**74**	P	**Pn**	**16 38 26.8**	**+0.8**
PTEO				S	**Sn**	**16 39 00.6**	**-0.3**
	3.2nm,0.3s						
PTEO	**Sao Teotonio**	**2.90**	**74**	P	**Pn**	**16 38 26.8**	**+0.8**
PTEO				S	**Sn**	**16 39 00.6**	**-0.3**
	3.2nm,0.3s						
MORF	**Marmelete**	**2.91**	**79**	*e*Pn	**Pn**	**16 38 27.0**	**+0.7**
MORF				*e*Sn	**Sn**	**16 39 01.7**	**+0.4**
MORF				A	A	16 39 04.5	
	4.4nm,0.2s						
MORF	**Marmelete**	**2.91**	**79**	P	**Pn**	**16 38 27.0**	**+0.7**
MORF				S	**Sn**	**16 39 01.7**	**+0.4**
	4.4nm,0.2s						
MORF	**Marmelete**	**2.91**	**79**	P	**Pn**	**16 38 27.0**	**+0.7**
MORF				S	**Sn**	**16 39 01.7**	**+0.4**
	4.4nm,0.2s						
PMST	**Lisbon--Monsan**	**3.08**	**51**	*e*Sn	**Sn**	**16 39 06.7**	**+1.1**
PMST				A	A	16 39 07.4	
	32nm,0.4s						
PMST	**Lisbon--Monsan**	**3.08**	**51**	*e*Sn	**Sn**	**16 39 06.7**	**+1.1**
	32nm,0.4s						
PMAFR	**Mafra**	**3.16**	**47**	*e*Sn	**Sn**	**16 39 08.7**	**+1.2**
PMAFR				A	A	16 39 10.3	
	138nm,0.2s						
PMAFR	**Mafra**	**3.16**	**47**	S	**Sn**	**16 39 08.0**	**+0.5**
	106nm,0.2s,SNR=7.9						
PMAFR	**Mafra**	**3.16**	**47**	S	**Sn**	**16 39 08.0**	**+0.5**
	106nm,0.2s,SNR=7.9						
PMAFR				*e*Sn	**Sn**	**16 39 08.7**	**+1.2**
	138nm,0.2s						
PNCL	**Nicolau / Gran**	**3.22**	**65**	*e*Pn	**Pn**	**16 38 31.8**	**+1.3**
PNCL				*e*Sn	**Sn**	**16 39 09.4**	**+0.5**
PNCL				A	A	16 39 12.5	
	7.4nm,0.3s						
PNCL	**Nicolau / Gran**	**3.22**	**65**	*e*Pn	**Pn**	**16 38 31.8**	**+1.3**
PNCL				*e*Sn	**Sn**	**16 39 09.4**	**+0.5**
	7.4nm,0.3s						
PACT	**Alcochete**	**3.32**	**53**	*e*Pn	**Pn**	**16 38 33.8**	**+1.9**
PACT				*e*Sn	**Sn**	**16 39 13.5**	**+2.1**
PACT				A	A	16 39 16.9	
	20nm,0.2s						
PACT	**Alcochete**	**3.32**	**53**	*e*Pn	**Pn**	**16 38 33.8**	**+1.9**
PACT				*e*Sn	**Sn**	**16 39 13.5**	**+2.1**
	20nm,0.2s						
PCVE	**Castro Verde**	**3.45**	**75**	*e*Pn	**Pn**	**16 38 35.0**	**+1.4**
PCVE				*e*Sn	**Sn**	**16 39 13.7**	**-0.8**
PCVE				A	A	16 39 27.5	
	4.8nm,0.6s						
PCVE	**Castro Verde**	**3.45**	**75**	P	**Pn**	**16 38 35.0**	**+1.4**
PCVE				S	**Sn**	**16 39 13.7**	**-0.8**
	4.8nm,0.6s						
PCVE	**Castro Verde**	**3.45**	**75**	P	**Pn**	**16 38 35.0**	**+1.4**
PCVE				S	**Sn**	**16 39 13.7**	**-0.8**
	4.8nm,0.6s						
PBDV	**Barranco-do-Ve**	**3.47**	**82**	*e*Pn	**Pn**	**16 38 34.9**	**+0.9**
PBDV	**Barranco-do-Ve**	**3.47**	**82**	P	**Pn**	**16 38 34.9**	**+0.9**
PBDV	**Barranco-do-Ve**	**3.47**	**82**	P	**Pn**	**16 38 34.9**	**+0.9**
PVAQ	**Vaqueiros**	**3.66**	**79**	*e*Pn	**Pn**	**16 38 37.5**	**+1.0**
PVAQ				*e*Sn	**Sn**	**16 39 19.8**	**+0.1**
PVAQ				A	A	16 39 23.0	
	3.7nm,0.7s						
PVAQ	**Vaqueiros**	**3.66**	**79**	P	**Pn**	**16 38 37.5**	**+1.0**
PVAQ				S	**Sn**	**16 39 19.8**	**+0.1**
	3.7nm,0.7s						
PVAQ	**Vaqueiros**	**3.66**	**79**	P	**Pn**	**16 38 37.5**	**+1.0**
PVAQ				S	**Sn**	**16 39 19.8**	**+0.1**
	3.7nm,0.7s						
PBEJ	**Beja**	**3.68**	**70**	*e*Pn	**Pn**	**16 38 38.1**	**+1.3**
PBEJ				*e*Sn	**Sn**	**16 39 20.0**	**-0.3**
PBEJ				A	A	16 39 22.0	
	4.6nm,0.3s						
PBEJ	**Beja**	**3.68**	**70**	P	**Pn**	**16 38 38.1**	**+1.3**
PBEJ				S	**Sn**	**16 39 20.0**	**-0.3**
	2.3nm,0.3s						
PBEJ	**Beja**	**3.68**	**70**	P	**Pn**	**16 38 38.1**	**+1.3**
PBEJ				S	**Sn**	**16 39 20.0**	**-0.3**
	2.3nm,0.3s						
ALMR	**Almeirim**	**3.71**	**50**	*e*P	**Pn**	**16 38 38.1**	**+0.8**
ALMR				*e*S	**Sn**	**16 39 20.9**	**-0.2**
ALMR				AML	AML	16 39 22.7	
	comp=E,36nm,0.2s						
ALMR	**Almeirim**	**3.71**	**50**	*e*P	**Pn**	**16 38 38.1**	**+0.8**
ALMR				*e*S	**Sn**	**16 39 20.9**	**-0.2**
ALMR	**Almeirim**	**3.71**	**50**	P	**Pn**	**16 38 38.1**	**+0.8**
ALMR				S	**Sn**	**16 39 20.9**	**-0.2**
ALMR	**Almeirim**	**3.71**	**50**	P	**Pn**	**16 38 38.1**	**+0.8**
ALMR				S	**Sn**	**16 39 20.9**	**-0.2**
EGRO	**El Granado**	**3.86**	**78**	P	**Pn**	**16 38 40.4**	**+1.1**
	comp=E,2.6nm,0.4s,SNR=9.0						
EGRO				S	**Sn**	**16 39 24.5**	**-0.2**
	comp=E,3.4nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**3.86**	**78**	P	**Pn**	**16 38 40.4**	**+1.1**
	comp=E,2.6nm,0.4s,SNR=9.0						
EGRO				S	**Sn**	**16 39 24.5**	**-0.2**
	comp=E,3.4nm,0.2s,SNR=7.9						
PMTG	**Montargil**	**3.88**	**53**	*e*Pn	**Pn**	**16 38 41.1**	**+1.5**
PMTG				*e*Sn	**Sn**	**16 39 25.2**	**-0.1**
PMTG				A	A	16 39 30.2	
	comp=E,6.4nm,0.3s						
PMTG	**Montargil**	**3.88**	**53**	*e*Pn	**Pn**	**16 38 41.1**	**+1.5**
PMTG				*e*Sn	**Sn**	**16 39 25.2**	**-0.1**
	comp=E,6.4nm,0.3s						
PTOM	**Tomar**	**4.11**	**46**	*e*Sn	**Sn**	**16 39 31.3**	**+0.5**
PTOM				A	A	16 39 34.7	
	comp=E,9.2nm,0.4s						
PTOM	**Tomar**	**4.11**	**46**	S	**Sn**	**16 39 31.3**	**+0.5**
	comp=E,4.6nm,0.4s						
PTOM	**Tomar**	**4.11**	**46**	S	**Sn**	**16 39 31.3**	**+0.5**
	comp=E,4.6nm,0.4s						
PESTR	**Estremoz**	**4.21**	**60**	*e*Pn	**Pn**	**16 38 45.7**	**+1.6**
PESTR				*e*Sn	**Sn**	**16 39 32.6**	**-0.7**
PESTR				A	A	16 39 37.2	
	comp=E,3.9nm,0.4s						
PESTR	**Estremoz**	**4.21**	**60**	P	**Pn**	**16 38 45.7**	**+1.6**
PESTR				S	**Sn**	**16 39 32.6**	**-0.7**
	comp=E,1.9nm,0.4s						
PESTR	**Estremoz**	**4.21**	**60**	P	**Pn**	**16 38 45.7**	**+1.6**
PESTR				S	**Sn**	**16 39 32.6**	**-0.7**
	comp=E,1.9nm,0.4s						
PBAR	**Barrancos**	**4.35**	**70**	*e*Pn	**Pn**	**16 38 47.4**	**+1.4**
PBAR				*e*Sn	**Sn**	**16 39 35.5**	**-1.2**
PBAR				A	A	16 39 37.2	
	comp=E,2.8nm,0.3s						
PBAR	**Barrancos**	**4.35**	**70**	P	**Pn**	**16 38 47.4**	**+1.4**
PBAR				S	**Sn**	**16 39 35.5**	**-1.2**
	comp=E,2.8nm,0.3s						
PBAR	**Barrancos**	**4.35**	**70**	P	**Pn**	**16 38 47.4**	**+1.4**
PBAR				S	**Sn**	**16 39 35.5**	**-1.2**
	comp=E,2.8nm,0.3s						
PCAS	**Casmilo, Conde**

ESPR				S	Sn	16 39 54.6	-1.1
	comp=E,2.3nm,0.3s,SNR=6.1						
ESPR	**Espera**	**5.12**	**88**	P	**Pn**	**16 38 57.1**	**+0.5**
	comp=E,5.2nm,0.3s,SNR=7.9						
ESPR				S	Sn	16 39 54.6	-1.1
	comp=E,2.3nm,0.3s,SNR=6.1						
MTE	**Manteigas**	**5.13**	**44**	*e*Sn	**Sn**	**16 39 55.6**	**-0.4**
MTE				A	A	16 39 57.8	
	comp=E,11nm,0.6s						
MTE	**Manteigas**	**5.13**	**44**	S	**Sn**	**16 39 55.6**	**-0.4**
	comp=E,5.4nm,0.6s						
MTE	**Manteigas**	**5.13**	**44**	S	**Sn**	**16 39 55.6**	**-0.4**
	comp=E,5.4nm,0.6s						
PVIS	**Viseu**	**5.16**	**40**	*e*Sn	**Sn**	**16 39 55.8**	**-1.1**
PVIS				A	A	16 39 57.7	
	comp=E,6.9nm,0.3s						
PVIS	**Viseu**	**5.16**	**40**	S	**Sn**	**16 39 55.8**	**-1.1**
	comp=E,3.5nm,0.3s						
PVIS	**Viseu**	**5.16**	**40**	S	**Sn**	**16 39 55.8**	**-1.1**
	comp=E,3.5nm,0.3s						
ECAB	**El Cabril**	**5.57**	**75**	P	**Pn**	**16 39 03.5**	**+0.7**
	comp=E,1.9nm,0.4s,SNR=17						
ECAB				S	Sn	16 40 04.6	-2.3
	comp=E,3.0nm,0.6s,SNR=7.9						
ECAB	**El Cabril**	**5.57**	**75**	P	**Pn**	**16 39 03.5**	**+0.7**
	comp=E,1.9nm,0.4s,SNR=17						
ECAB				S	Sn	16 40 04.6	-2.3
	comp=E,3.0nm,0.6s,SNR=7.9						
PVRL	**Vila Real**	**5.67**	**37**	*e*Sn	**Sn**	**16 40 07.7**	**-1.7**
PVRL				A	A	16 40 11.3	
	comp=E,6.0nm,0.1s						
PVRL	**Vila Real**	**5.67**	**37**	S	**Sn**	**16 40 07.7**	**-1.7**
	comp=E,3.0nm,0.1s						
PVRL	**Vila Real**	**5.67**	**37**	S	**Sn**	**16 40 07.7**	**-1.7**
	comp=E,3.0nm,0.1s						
PMOZ	**Porto Moniz, M**	**5.70**	**227**	*e*Pn	Pn	16 38 55.2	-10
PMOZ				*e*Sn	Sn	16 39 50.7	-20
PMOZ				A	A	16 39 56.9	
	comp=E,14nm,0.5s						
POLO	**Lamas de Olo**	**5.71**	**36**	*e*Sn	**Sn**	**16 40 08.1**	**-2.3**
POLO				A	A	16 40 11.1	
	comp=E,1.8nm,0.3s						
POLO	**Lamas de Olo**	**5.71**	**36**	*e*Sn	**Sn**	**16 40 08.1**	**-2.3**
	comp=E,1.8nm,0.3s						
PCAB	**Cabril**	**5.88**	**32**	*e*Sn	**Sn**	**16 40 12.6**	**-1.8**
PCAB				A	A	16 40 17.8	
	comp=E,5.8nm,0.5s						
PCAB	**Cabril**	**5.88**	**32**	S	**Sn**	**16 40 12.6**	**-1.8**
	comp=E,2.9nm,0.5s						
PCAB	**Cabril**	**5.88**	**32**	S	**Sn**	**16 40 12.6**	**-1.8**
	comp=E,2.9nm,0.5s						
MVO	**Moncorvo**	**5.94**	**41**	*e*Sn	**Sn**	**16 40 14.0**	**-2.0**
MVO				A	A	16 40 17.1	
	comp=E,4.9nm,0.5s						
MVO	**Moncorvo**	**5.94**	**41**	P	**Pn**	**16 39 08.4**	**+0.5**
	comp=E,0.8nm,0.2s,SNR=7.9						
MVO				S	**Sn**	**16 40 13.8**	**-2.2**
	comp=E,4.7nm,0.2s,SNR=7.9						
MVO	**Moncorvo**	**5.94**	**41**	P	**Pn**	**16 39 08.4**	**+0.5**
	comp=E,0.8nm,0.2s,SNR=7.9						
MVO				S	**Sn**	**16 40 13.8**	**-2.2**
	comp=E,4.7nm,0.2s,SNR=7.9						
EZAM	**Zamans**	**5.99**	**26**	S	**Sn**	**16 40 14.2**	**-2.9**
	comp=E,5.8nm,0.4s,SNR=7.9						
EZAM	**Zamans**	**5.99**	**26**	S	**Sn**	**16 40 14.2**	**-2.9**
	comp=E,5.8nm,0.4s,SNR=7.9						
PGAV	**Gavieira, Arco**	**5.99**	**30**	*e*Sn	**Sn**	**16 40 15.2**	**-2.0**
PGAV				A	A	16 40 21.2	
	comp=E,4.3nm,0.7s						
PGAV	**Gavieira, Arco**	**5.99**	**30**	*e*Sn	**Sn**	**16 40 15.2**	**-2.0**
	comp=E,4.3nm,0.7s						
ELOB	**Lobios**	**5.99**	**31**	P	**Pn**	**16 39 10.0**	**+1.4**
	comp=E,0.4nm,0.1s,SNR=7.9						
ELOB				S	**Sn**	**16 40 14.9**	**-2.4**
	comp=E,1.3nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**5.99**	**31**	P	**Pn**	**16 39 10.0**	**+1.4**
	comp=E,0.4nm,0.1s,SNR=7.9						
ELOB				S	**Sn**	**16 40 14.9**	**-2.4**
	comp=E,1.3nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**6.24**	**75**	P	**Pn**	**16 39 12.8**	**+0.8**
	comp=E,1.0nm,0.2s,SNR=7.9						
EADA				S	**Sn**	**16 40 20.1**	**-3.3**
	comp=E,1.2nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**6.24**	**75**	P	**Pn**	**16 39 12.8**	**+0.8**
	comp=E,1.0nm,0.2s,SNR=7.9						
EADA				S	**Sn**	**16 40 20.1**	**-3.3**
	comp=E,1.2nm,0.2s,SNR=7.9						
PBRG	**Braganca**	**6.55**	**39**	*e*Sn	**Sn**	**16 40 28.0**	**-3.1**
PBRG				A	A	16 40 29.9	
	comp=E,2.1nm,0.2s						
PBRG	**Braganca**	**6.55**	**39**	S	**Sn**	**16 40 28.0**	**-3.1**
	comp=E,1.1nm,0.2s						
PBRG	**Braganca**	**6.55**	**39**	S	**Sn**	**16 40 28.0**	**-3.1**
	comp=E,1.1nm,0.2s						
EMAZ	**Mazaricos**	**6.61**	**21**	P	**Pn**	**16 39 18.4**	**+1.3**
	comp=E,0.9nm,0.1s,SNR=7.9						
EMAZ				S	Sn	16 40 27.3	-5.3
	comp=E,4.4nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**6.61**	**21**	P	**Pn**	**16 39 18.4**	**+1.3**
	comp=E,0.9nm,0.1s,SNR=7.9						
EMAZ				S	Sn	16 40 27.3	-5.3
	comp=E,4.4nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**6.66**	**38**	P	**Pn**	**16 39 20.0**	**+2.3**
	comp=E,1.0nm,0.3s,SNR=4.0						
ECAL				S	**Sn**	**16 40 30.9**	**-2.8**
	comp=E,3.4nm,0.3s,SNR=7.9						
ECAL	**Calabor**	**6.66**	**38**	P	**Pn**	**16 39 20.0**	**+2.3**
	comp=E,1.0nm,0.3s,SNR=4.0						
ECAL				S	**Sn**	**16 40 30.9**	**-2.8**
	comp=E,3.4nm,0.3s,SNR=7.9						
ESDC	**Sonseca Array**	**7.11**	**64**	P	**Pn**	**16 39 25.1**	**+1.2**
	comp=E,0.5nm,0.3s,baz=248,slow=13,SNR=6.1						
ESDC				S	**Sn**	**16 40 42.5**	**-2.3**
	comp=E,0.3nm,0.3s,baz=251,slow=23,SNR=4.8						
ESDC	**Sonseca Array**	**7.11**	**64**	P	**Pn**	**16 39 25.1**	**+1.2**
	comp=E,0.5nm,0.3s,baz=248,slow=13,SNR=6.1						
ESDC				S	**Sn**	**16 40 42.5**	**-2.3**
	comp=E,0.3nm,0.3s,baz=251,slow=23,SNR=4.8						
GUD	**Guadarrama**	**7.38**	**56**	S	Sn	16 40 47.8	-3.8
	comp=E,1.7nm,0.4s,SNR=7.9						
GUD	**Guadarrama**	**7.38**	**56**	S	Sn	16 40 47.8	-3.8
	comp=E,1.7nm,0.4s,SNR=7.9						

FUNV 13 16:38:26.0, 10°.75N×67°.85W, h17km, MW3.7, 1C-1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TURV	**Turiamo**	**0.30**	**178**	⇓*i*P	Pg	16 38 31.4	-1.0
TURV				*e*S	Sg	16 38 35.7	-1.1
FDCV	**FORTIN DE LA C**	**0.91**	**103**	*e*P	Pb	16 38 43.0	-0.6
JACV	**Jacura**	**1.02**	**289**	*e*P	Pb	16 38 45.3	0.0
JACV				*e*S	Sb	16 38 58.8	+0.4
FUNV	**FUNVISIS**	**1.06**	**105**	*e*P	Pb	16 38 45.5	-0.7
FUNV				*e*S	Sb	16 39 00.1	+0.2
LLAV	**El Llanito**	**1.06**	**105**	*e*P	Pb	16 38 46.0	-0.1
TEPV	**Terepaima**	**1.53**	**239**	*e*P	Pn	16 38 52.1	-0.6
TEPV				*e*S	Sn	16 39 11.9	-0.5
BIRV	**Birongo**	**1.58**	**100**	*e*P	Pn	16 38 52.8	-0.6
BIRV				*e*S	Sn	16 39 12.5	-1.0
BAUV	**El Baul**	**1.81**	**186**	*e*P	Pn	16 38 56.8	+0.3
BAUV				*e*S	Sn	16 39 18.4	-0.6
SIQV	**Siquisique**	**1.92**	**267**	*e*P	Pn	16 38 57.4	-0.7
SIQV				*e*S	Sn	16 39 21.2	-0.8
ORCV	**Isla La Orchil**	**1.94**	**57**	*e*P	Pn	16 38 56.5	-1.7
SANV	**Sanarito**	**2.07**	**233**	*e*P	Pn	16 39 00.5	+0.2
SANV				*e*S	Sn	16 39 24.2	-1.6
MERV	**Las Mercedes**	**2.14**	**134**	*e*P	Pn	16 39 01.3	+0.3
MERV				*e*S	Sn	16 39 25.9	-1.3
CUPV	**Cœpira**	**2.15**	**109**	⇑*e*P	Pn	16 39 02.1	+0.9
CUPV				*e*S	Sn	16 39 25.5	-2.0
CURV	**Curarigua**	**2.20**	**251**	*e*P	Pn	16 39 01.5	-0.5
CURV				*e*S	Sn	16 39 26.6	-2.3
MONV	**Montecano**	**2.40**	**300**	*e*P	Pn	16 39 03.3	-1.3
MONV				*e*S	Sn	16 39 31.3	-2.3
DABV	**Dabajuro**	**2.74**	**274**	*e*P	Pn	16 39 08.2	-1.1
DABV				*e*S	Sn	16 39 40.3	-1.7
PCRV	**Puerto La Cruz**	**3.21**	**100**	*e*P	Pn	16 39 16.2	+0.3
IMOV	**Isla Los Monje**	**3.39**	**298**	*e*P	Pn	16 39 17.2	-1.0
SOCV	**Socops**	**3.84**	**231**	*e*P	Pn	16 39 23.2	-1.3
VIGV	**El Vigia**	**3.95**	**242**	*e*P	Pn	16 39 26.1	+0.2
VIGV				*e*S	Sn	16 40 07.7	-4.2
ELOV	**Elorza**	**4.06**	**204**	*e*P	Pn	16 39 26.9	-0.5
ELOV				*e*S	Sn	16 40 10.7	-4.0
VIRV	**Villa del Rosa**	**4.48**	**267**	*e*P	Pn	16 39 31.6	-1.7
VIRV				*e*S	Sn	16 40 20.8	-4.3
CAPV	**Capacho**	**5.25**	**237**	*e*P	Pn	16 39 43.6	-0.6

MEX 13 16:42:50.3±0.4, 15°.13N×93°.28W, h72km±6km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.57**	**6**	*i*P	Pn	16 43 02.5	-1.4
PCIG				*i*S	Sn	16 43 12.4	-1.7
CCIG	**Comitan**	**1.59**	**44**	*e*P	Pn	16 43 15.9	-0.8
CCIG				*i*S	Sn	16 43 34.1	-2.6
TGIG		**1.64**	**5**	*e*P	Pn	16 43 16.2	-1.1
TGIG				*i*S	Sn	16 43 35.9	-1.9
CMIG	**Matias Romero**	**2.48**	**322**	*e*P	Pn	16 43 27.6	-0.9
CMIG				*e*S	Sn	16 43 55.5	-2.4

MAN 13 16:46:12, 10°.36N×126°.24E, h3km, mb4.0, ML2.8, MS2.4, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.94**	**232**	⇑*e*P	Pb	16 46 30.7	-0.2
MSLP	**Maasin**	**1.38**	**261**	*e*P	Pn	16 46 38.0	-0.2
MSLP				*e*S	Sn	16 46 58.0	+1.1
BUTP	**Butuan**	**1.51**	**204**	*e*P	Pn	16 46 39.4	-0.6
CNP	**Cataman**	**2.64**	**324**	*e*P	Pn	16 46 56.3	+0.8
BUKP	**Musuan**	**2.73**	**205**	*e*P	Pn	16 46 58.7	+2.0
PVCP	**Virac**	**3.81**	**328**	*e*P	Pn	16 47 13.9	+2.3

NNC 13 16:52:44.5±2.7, 42°.12N×81°.76E, h0km, mb3.5, mpv3.2, 4C-5D, Error ellipse: s-maj=28.1km s-min=11.4km az=131.0, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKM2	**Tokmak 2**	**4.63**	**282**	⇓Pn	Pn	16 53 55.2	-0.7
	2.5nm,0.6s						
TKM2				⇓Pg	Pg	16 54 10.7	-2.8
	4.9nm,0.6s						
TKM2				⇓Lg	Lg	16 55 09.8	
	17nm,0.7s						
MK31	**Makanchi Array**	**4.69**	**4**	⇓Pn	Pn	16 53 59.4	+2.9
	0.4nm,0.2s,baz=184,slow=14,SNR=55						
MK31				⇑Sn	Sn	16 54 57.8	+6.1
	1.0nm,0.3s,baz=142,slow=60,SNR=3.7						
MK31				⇓Lg	Lg	16 55 17.3	
	4.1nm,0.6s,baz=187,slow=28,SNR=9.7						
KURBB	**Kurchatov Arra**	**8.79**	**346**	⇑Pn	Pn	16 54 52.2	-0.5
	0.3nm,0.3s						
KURBB				⇑Sn	Sn	16 56 34.6	+2.1
	2.6nm,0.7s						
KURBB				⇑Lg	Lg	16 57 20.0	
	9.3nm,1.0s						

*INMG **13** 16:55:36.9±1.0, 36°.91N×13°.56W, h2km±8km, ML2.3, Error ellipse: s-maj=4.7km s-min=4.1km az=133.0*
*MDD **13** 16:55:36.2±2.0, 37°.11N×13°.18W, h0km, mb3.8/4, Error ellipse: s-maj=19.5km s-min=15.8km az=20.0, PRXIMO*
*CSEM **13** 16:55:39.0±0.4, 37°.25N×12°.95W, h10km, mb3.8/4, Error ellipse: s-maj=6.7km s-min=5.7km az=42.0*

ISC 13 16:55:35.3±3.4, 37°.13N±0°.09×13°.2W±0°.2, h10km, n98, σ1§27/154, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**3.46**	**89**	*e*Pn	**Pn**	**16 56 30.1**	**+0.8**
PFVI				*e*Sn	**Sn**	**16 57 09.4**	**-1.0**
PFVI				A	A	16 57 10.5	
	5.6nm,0.5s						
PFVI	**Vila Bisbo**	**3.46**	**89**	*e*Pn	**Pn**	**16 56 30.1**	**+0.8**
PFVI				*e*Sn	**Sn**	**16 57 09.3**	**-1.0**
PFVI				A	A	16 57 10.5	
	5.6nm,0.5s						
PFVI	**Vila Bisbo**	**3.46**	**89**	P	**Pn**	**16 56 30.1**	**+0.8**
	2.2nm,0.1s,SNR=6.2						
PFVI				S	**Sn**	**16 57 09.3**	**-1.0**
	10nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**3.46**	**89**	P	**Pn**	**16 56 30.1**	**+0.8**
	2.2nm,0.1s,SNR=6.2						
PFVI				S	**Sn**	**16 57 09.3**	**-1.0**
	10nm,0.1s,SNR=7.9						
PTEO	**Sao Teotonio**	**3.56**	**82**	*e*Pn	**Pn**	**16 56 31.6**	**+1.0**
PTEO				*e*Sn	**Sn**	**16 57 11.6**	**-1.1**
PTEO				A	A	16 57 19.3	
	4.0nm,0.5s						
PTEO	**Sao Teotonio**	**3.56**	**82**	*e*Pn	**Pn**	**16 56 31.6**	**+1.0**
PTEO				*e*Sn	**Sn**	**16 57 11.6**	**-1.1**
PTEO				A	A	16 57 19.3	
	4.0nm,0.5s						
PTEO	**Sao Teotonio**	**3.56**	**82**	P	**Pn**	**16 56 31.6**	**+1.0**
PTEO				S	**Sn**	**16 57 11.6**	**-1.1**
	2.0nm,0.5s						
PTEO	**Sao Teotonio**	**3.56**	**82**	P	**Pn**	**16 56 31.6**	**+1.0**
PTEO				S	**Sn**	**16 57 11.6**	**-1.1**
	2.0nm,0.5s						
PMAFR	**Mafra**	**3.56**	**58**	*e*Pn	**Pn**	**16 56 32.2**	**+1.5**
PMAFR				*e*Sn	**Sn**	**16 57 13.6**	**+0.8**
PMAFR				A	A	16 57 27.7	
	7.2nm,0.6s						
PMAFR	**Mafra**	**3.56**	**58**	*e*Pn	**Pn**	**16 56 32.2**	**+1.5**
PMAFR				*e*Sn	**Sn**	**16 57 13.6**	**+0.8**
PMAFR				A	A	16 57 27.7	
	7.2nm,0.6s						
PMAFR	**Mafra**	**3.56**	**58**	P	**Pn**	**16 56 32.1**	**+1.5**
	1.9nm,0.1s,SNR=7.9						
PMAFR				S	**Sn**	**16 57 12.8**	**0.0**
	4.0nm,0.1s,SNR=7.9						
PMAFR	**Mafra**	**3.56**	**58**	P	**Pn**	**16 56 32.1**	**+1.4**
	1.9nm,0.1s,SNR=7.9						
PMAFR				S	**Sn**	**16 57 12.8**	**0.0**
	4.0nm,0.1s,SNR=7.9						
MORF	**Marmelete**	**3.60**	**86**	*e*Pn	**Pn**	**16 56 32.1**	**+0.8**
MORF				*e*Sn	**Sn**	**16 57 13.2**	**-0.7**
MORF				A	A	16 57 18.9	
	5.5nm,0.2s						
MORF	**Marmelete**	**3.60**	**86**	*e*Pn	**Pn**	**16 56 32.1**	**+0.8**
MORF				*e*Sn	**Sn**	**16 57 12.8**	**-1.1**
MORF				A	A	16 57 18.9	
	5.5nm,0.2s						
MORF	**Marmelete**	**3.60**	**86**	P	**Pn**	**16 56 32.1**	**+0.8**
MORF				S	**Sn**	**16 57 13.2**	**-0.7**
	5.5nm,0.2s						
MORF	**Marmelete**	**3.60**	**86**	P	**Pn**	**16 56 32.1**	**+0.8**
MORF				S	**Sn**	**16 57 13.2**	**-0.7**
	5.5nm,0.2s						
PACT	**Alcochete**	**3.79**	**63**	*e*Sn	**Sn**	**16 57 19.2**	**+0.8**
PACT				A	A	16 57 24.8	
	16nm,0.7s						
PACT	**Alcochete**	**3.79**	**63**	*e*Sn	**Sn**	**16 57 19.2**	**+0.8**
PACT				A	A	16 57 24.8	
	16nm,0.7s						
PACT	**Alcochete**	**3.79**	**63**	*e*Sn	**Sn**	**16 57 19.2**	**+0.8**
	16nm,0.7s						
PNCL	**Nicolau / Gran**	**3.81**	**74**	*e*Pn	**Pn**	**16 56 34.8**	**+0.8**
PNCL				*e*Sn	**Sn**	**16 57 19.3**	**+0.5**
PNCL				A	A	16 57 21.7	
	2.5nm,0.3s						
PNCL	**Nicolau / Gran**	**3.81**	**74**	*e*Pn	**Pn**	**16 56 35.0**	**+1.0**
PNCL				*e*Sn	**Sn**	**16 57 18.3**	**-0.5**
PNCL				A	A	16 57 21.7	
	2.5nm,0.3s						
PNCL	**Nicolau / Gran**	**3.81**	**74**	*e*Pn	**Pn**	**16 56 35.0**	**+1.0**
PNCL				*e*Sn	**Sn**	**16 57 18.3**	**-0.5**
	2.5nm,0.3s						
PCVE	**Castro Verde**	**4.11**	**81**	*e*Pn	**Pn**	**16 56 39.3**	**+1.1**
PCVE				*e*Sn	**Sn**	**16 57 25.6**	**-0.7**
PCVE	**Castro Verde**	**4.11**	**81**	*e*Pn	**Pn**	**16 56 39.3**	**+1.1**
PCVE				*e*Sn	**Sn**	**16 57 25.6**	**-0.7**
PCVE	**Castro Verde**	**4.11**	**81**	P	**Pn**	**16 56 39.3**	**+1.1**
PCVE				S	**Sn**	**16 57 25.6**	**-0.7**
PCVE	**Castro Verde**	**4.11**	**81**	P	**Pn**	**16 56 39.3**	**+1.1**
PCVE				S	**Sn**	**16 57 25.6**	**-0.7**
PBDV	**Barranco-do-Ve**	**4.18**	**87**	*e*Pn	**Pn**	**16 56 40.8**	**+1.7**
PBDV				*e*Sn	**Sn**	**16 57 27.4**	**-0.6**
PBDV				A	A	16 57 31.6	
	2.4nm,0.6s						
PBDV	**Barranco-do-Ve**	**4.18**	**87**	*e*Pn	**Pn**	**16 56 40.8**	**+1.7**
PBDV				*e*Sn	**Sn**	**16 57 27.4**	**-0.6**
PBDV				A	A	16 57 31.6	
	2.4nm,0.6s						
PBDV	**Barranco-do-Ve**	**4.18**	**87**	P	**Pn**	**16 56 40.8**	**+1.7**
PBDV				S	**Sn**	**16 57 27.4**	**-0.6**
	2.4nm,0.6s						
PBDV	**Barranco-do-Ve**	**4.18**	**87**	P	**Pn**	**16 56 40.8**	**+1.7**
PBDV				S	**Sn**	**16 57 27.4**	**-0.6**
	2.4nm,0.6s						
PBEJ	**Beja**	**4.30**	**76**	*e*Sn	**Sn**	**16 57 30.4**	**-0.6**
PBEJ				A	A	16 57 33.1	
	2.1nm,0.5s						
PBEJ	**Beja**	**4.30**	**76**	*e*Sn	**Sn**	**16 57 30.4**	**-0.6**
PBEJ				A	A	16 57 33.1	
	2.1nm,0.5s						
PBEJ	**Beja**	**4.30**	**76**	S	**Sn**	**16 57 30.4**	**-0.6**
	1.1nm,0.5s						
PBEJ	**Beja**	**4.30**	**76**	S	**Sn**	**16 57 30.4**	**-0.6**
	1.1nm,0.5s						
EVO	**Evora**	**4.31**	**69**	*e*Sn	**Sn**	**16 57 29.7**	**-1.5**
EVO				A	A	16 57 34.0	
	4.2nm,0.4s						
EVO	**Evora**	**4.31**	**69**	*e*Sn	**Sn**	**16 57 29.7**	**-1.5**
EVO				A	A	16 57 34.0	
	4.2nm,0.4s						
EVO	**Evora**	**4.31**	**69**	S	**Sn**	**16 57 29.7**	**-1.5**
	4.2nm,0.4s						
EVO	**Evora**	**4.31**	**69**	S	**Sn**	**16 57 29.7**	**-1.5**
	4.2nm,0.4s						
PMTG	**Montargil**	**4.35**	**62**	*e*Pn	**Pn**	**16 56 42.5**	**+1.1**
PMTG				*e*Sn	**Sn**	**16 57 33.0**	**+0.8**
PMTG				A	A	16 57 37.7	
	1.3nm,0.3s						
PMTG	**Montargil**	**4.35**	**62**	*e*Pn	**Pn**	**16 56 42.5**	**+1.1**
PMTG				*e*Sn	**Sn**	**16 57 32.7**	**+0.5**
PMTG				A	A	16 57 37.7	
	1.3nm,0.3s						
PMTG	**Montargil**	**4.35**	**62**	*e*Pn	**Pn**	**16 56 42.5**	**+1.1**
PMTG				*e*Sn	**Sn**	**16 57 32.7**	**+0.5**
	1.3nm,0.3s						
PVAQ	**Vaqueiros**	**4.35**	**85**	*e*Pn	**Pn**	**16 56 42.7**	**+1.2**
PVAQ				*e*Sn	**Sn**	**16 57 31.4**	**-0.8**
PVAQ				A	A	16 57 35.1	
	4.5nm,0.3s						
PVAQ	**Vaqueiros**	**4.35**	**85**	*e*Pn	**Pn**	**16 56 42.7**	**+1.2**
PVAQ				*e*Sn	**Sn**	**16 57 31.4**	**-0.8**
PVAQ				A	A	16 57 35.1	
	4.5nm,0.3s						
PVAQ	**Vaqueiros**	**4.35**	**85**	P	**Pn**	**16 56 42.7**	**+1.2**
PVAQ				S	**Sn**	**16 57 31.4**	**-0.8**
	4.5nm,0.3s						
PVAQ	**Vaqueiros**	**4.35**	**85**	P	**Pn**	**16 56 42.7**	**+1.2**
PVAQ				S	**Sn**	**16 57 31.4**	**-0.8**
	4.5nm,0.3s						
EGRO	**El Granado**	**4.54**	**83**	P	**Pn**	**16 56 45.5**	**+1.4**
	0.7nm,0.2s,SNR=7.9						
EGRO				S	**Sn**	**16 57 36.2**	**-0.8**
	1.0nm,0.1s,SNR=6.2						
EGRO	**El Granado**	**4.54**	**83**	P	**Pn**	**16 56 45.5**	**+1.4**
	0.7nm,0.2s,SNR=7.9						
EGRO				S	**Sn**	**16 57 36.2**	**-0.8**
	1.0nm,0.1s,SNR=6.2						
PCAS	**Casmilo, Conde**	**4.68**	**50**	*e*Pn	**Pn**	**16 56 47.6**	**+1.6**
PCAS				*e*Sn	**Sn**	**16 57 40.3**	**0.0**

```
      0.3nm,0.1s,SNR=7.9
ECAB                          S     Sn   16 58 15.8 -2.5
      0.1nm,0.0s,SNR=7.9
ECAB  El Cabril       6.22  79  P     Pn   16 57 08.6 +1.4
      0.3nm,0.1s,SNR=7.9
ECAB                          S     Sn   16 58 15.8 -2.5
      0.1nm,0.0s,SNR=7.9
EMAZ  Mazaricos       6.64  28  P     Pn   16 57 13.8 +0.9
      0.8nm,0.1s,SNR=7.9
EMAZ                          S     Sn   16 58 21.3 -7.3
      1.1nm,0.1s,SNR=7.9
EMAZ  Mazaricos       6.64  28  P     Pn   16 57 13.8 +0.9
      0.8nm,0.1s,SNR=7.9
EMAZ                          S     Sn   16 58 21.3 -7.3
      1.1nm,0.1s,SNR=7.9
EADA  Adamuz          6.89  79  P     Pn   16 57 17.7 +1.3
      0.3nm,0.1s,SNR=7.9
EADA                          S     Sn   16 58 32.9 -2.0
      0.4nm,0.1s,SNR=7.9
EADA  Adamuz          6.89  79  P     Pn   16 57 17.7 +1.3
      0.3nm,0.1s,SNR=7.9
EADA                          S     Sn   16 58 32.9 -2.0
      0.4nm,0.1s,SNR=7.9
ECAL  Calabor         6.91  44  P     Pn   16 57 17.7 +1.0
      0.5nm,0.1s,SNR=7.9
ECAL                          S     Sn   16 58 31.9 -3.5
      0.3nm,0.1s,SNR=7.9
ECAL  Calabor         6.91  44  P     Pn   16 57 17.7 +1.0
      0.5nm,0.1s,SNR=7.9
ECAL                          S     Sn   16 58 31.9 -3.5
      0.3nm,0.1s,SNR=7.9
```

ISCJB ***13*** *16:57:31.6±0.5,21.°35S±0.°05×68.°27W±0.°08, h119km±7km, mb4.1/7, Error ellipse: s-maj=11.9km s-min=7.7km az=178.0*

GUC ***13*** *16:57:33.7±0.6,21.°31S×68.°75W, h144km±4km, ML4.5*

IDC ***13*** *16:57:33.1±2.1,21.°45S×68.°14W, h113km±18km, mb4.0/7, mb1 3.9/12, mb1mx3.8/19, mbtmp3.8/12, MS2.7/1, Ms1 2.8/1, ms1mx2.3/18, Error ellipse: s-maj=22.1km s-min=15.3km az=92.0*

ISC 13 16:57:32.0±0.7,21.°33S±0.°05×68.°22W±0.°07, h108km±7km, n30,σ1§39/34, mb4.0/7, 5C-2D, Chile-Bolivia border region

```
Code  Station Name        Δ°   AZ°  Phase ID          Time      Res
                                    Op    ISC         h m s     ISC
PB09  Plate Boundary      1.06 244 ⇑iP               Pn        16 57 55.8 +1.9
PB09                               i S               Sn        16 58 13.0 +2.6
PB09                               AML   AML         16 58 13.8
      comp=N,35µm,0.5s
PB01  Plate Boundary      1.22 283 ⇑eP               Pn        16 57 56.5 +0.9
PB01                               i S               Sn        16 58 13.4 +1.0
PB01                               AML   AML         16 58 15.6
      comp=E,6µm,0.3s
PB04  Plate Boundary      1.50 232 ⇑iP               Pn        16 58 05.3 +6.6
PB04                               i S               Sn        16 58 29.6 +11
PB04                               AML   AML         16 58 35.1
      comp=N,3µm,0.3s
PB07  Plate Boundary      1.60 256 ⇑iP               Pn        16 58 00.4 +0.2
PB07                               i S               Sn        16 58 19.9 -1.6
PB07                               AML   AML         16 58 21.1
      comp=N,8µm,0.2s
MACH  Maria Elena         1.67 239 ⇓iP               Pn        16 58 01.6 +0.5
MACH                               i S               Sn        16 58 22.7 -0.4
HMBC  Humberstone         1.88 304 ⇑iP               Pn        16 58 03.6 0.0
HMBC                               i S               Sn        16 58 25.9 -1.7
HMBC                               AML   AML         16 58 28.4
      comp=E,6µm,0.7s
PSGC  Pisagua             2.48 314 eP                Pn        16 58 10.8 -0.5
PSGC                               i S               Sn        16 58 39.6 -1.8
PSGC                               AML   AML         16 58 41.2
      comp=E,2µm,0.3s
MNMC  Minimini            2.54 329 eP                Pn        16 58 13.6 +1.3
MNMC                               i S               Sn        16 58 43.8 +0.7
MNMC                               AML   AML         16 58 46.1
      comp=E,2µm,0.6s
PB10  Plate Boundary      3.06 224 AML   AML         16 59 15.0
      comp=E,1µm,0.6s
ANCH  Antofagasta         3.10 221 AML   AML         16 58 55.1
      comp=N,853nm,0.3s
LPAZ  La Paz              5.02   1 P                 Pn        16 58 48.8 +3.1
      comp=N,1.4nm,0.3s,baz=186,slow=7.4,SNR=57
LPAZ                               LR    LR          17 01 13.1
      comp=N,69nm,19.6s,baz=80,slow=43
SIV   San Ignacio         8.61  53 P                 Pn        16 59 34.4 +0.6
      comp=N,3.6nm,0.3s,baz=254,slow=13,SNR=109
SIV                                S     Sn          17 01 06.3 -3.0
      comp=N,0.2nm,0.3s,baz=202,slow=19,SNR=3.2
CFAA  Coronel Fontan     10.23 180 P                 Pn        16 59 53.4 -2.5
      comp=N,0.1nm,0.3s,baz=353,slow=14,SNR=7.0
CFAA                               S     Sn          17 01 41.0 -7.6
      comp=N,0.1nm,0.3s,baz=288,slow=13,SNR=3.6
CPUP  Villa Florida      11.14 119 P                 Pn        17 00 08.0 -0.1
      comp=N,0.2nm,0.3s,baz=276,slow=19,SNR=2.1
BB16B Bebedouro          18.31  93 (P)               Pn        17 01 39.4 +0.2
BB16B                              i                           17 01 41.0
BB16B                              i                           17 01 48.8
PLCA  Paso Flores        19.44 185 P                 P         17 01 50.0 0.0
      comp=N,0.2nm,0.3s,baz=359,slow=13,SNR=7.8
BDFB  Brasilia           19.97  77 P                 P         17 01 56.9 +0.8
      comp=N,1.5nm,0.3s,baz=258,slow=12,SNR=15
SNAA  Sanae              62.23 161 P                 P         17 07 42.3 +0.3
      comp=N,0.9nm,0.6s,baz=285,slow=6.5,SNR=28
DBIC  Dimbokro           68.07  73 P                 P         17 08 21.2 +0.7
      comp=N,5.1nm,1.0s,baz=233,slow=10,SNR=2.4
PDAR  Pinedale Array     74.29 330 P                 P         17 09 00.2 +2.5
      comp=N,0.5nm,0.5s,baz=189,slow=5.3,SNR=3.8
SYO   Syowa Base         76.43 159 ⇓eP               P         17 09 01.4 -7.9
TORD  Torodi Ar. Bea     76.69  70 P                 P         17 09 11.6 -0.2
      comp=N,6.2nm,0.6s,baz=253,slow=5.4,SNR=87
BOSA  Boshof             82.96 118 P                 P         17 09 44.9 -0.7
      comp=N,1.6nm,0.7s,baz=266,slow=8.3,SNR=3.8
MAW   Mawson             84.30 163 P                 P         17 09 51.9 +0.4
      comp=N,1.2nm,0.5s,baz=222,slow=7.7,SNR=4.2
YKA   Yellowknife Ar     91.25 340 P                 P         17 10 23.9 -0.7
      comp=N,2.2nm,0.6s,baz=130,slow=4.6,SNR=6.7
ASAR  Alice Springs     130.36 207 PKP               PKPdf     17 16 29.6 -1.0
      comp=N,0.4nm,0.5s,baz=130,slow=1.8,SNR=15
WRA   Warramunga Arr    133.42 210 PKP               PKPdf     17 16 35.9 -0.5
      comp=N,0.5nm,0.5s,baz=158,slow=1.9,SNR=11
KURBB Kurchatov Arra    140.84  34 PKP               PKPdf     17 16 49.0 0.0
      comp=N,0.2nm,0.7s,baz=302,slow=2.7,SNR=3.4
ZALV  Zalesovo Beam     141.53  26 PKP               PKPdf     17 16 50.2 0.0
      comp=N,0.4nm,0.3s,baz=279,slow=2.8,SNR=3.1
MKAR  Makanchi Array    145.12  36 PKPbc             PKPab     17 16 56.5 -0.2
      comp=N,3.2nm,0.7s,baz=326,slow=3.5,SNR=37
```

AZER ***13*** *17:00:52.5±99.0, 41.°98N×43.°43E, h240km±32km, Error ellipse: s-maj=36.0km s-min=13.2km az=316.0*

DDA ***13*** *17:00:53.6, 42.°24N×43.°66E, h4km, MD3.7*

TIF ***13*** *17:00:53.5, 42.°53N×43.°50E, h13km*

IDC ***13*** *17:00:53.8±1.1, 42.°56N×43.°29E, h0km, mb3.3/4, mb1 3.4/7, mb1mx3.2/26, mbtmp3.4/7, ML2.7/1, MS2.3/1, Ms1 2.3/1, ms1mx1.9/26, Error ellipse: s-maj=21.7km s-min=8.5km az=70.0*

ISCJB ***13*** *17:00:54.1±0.4, 42.°51N±0.°02×43.°50E±0.°02, h3km±3km, mb3.2/4, Error ellipse: s-maj=2.8km s-min=2.8km az=10.3*

CSEM ***13*** *17:00:54.7±0.1, 42.°51N×43.°47E, h2km, mb4.3, Error ellipse: s-maj=3.7km s-min=2.7km az=120.0*

MOS ***13*** *17:00:55.1±1.2, 42.°51N×43.°42E, h15km, mb4.3/1, Error ellipse: s-maj=9.2km s-min=4.8km az=79.4*

NNC ***13*** *17:01:00.3±1.9, 42.°98N×44.°05E, h0km, mb3.6, Error ellipse: s-maj=39.2km s-min=18.9km az=128.0*

ISK ***13*** *17:01:04.3, 42.°02N×42.°71E, h5km, MD3.7*

ISC 13 17:00:54.5±0.9, 42.°50N±0.°01×43.°49E±0.°02, h6km±6km, n136,σ1§08/184, mb3.4/4, 16C-16D, Western Caucasus

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Code  Station Name        Δ°   AZ°  Phase ID          Time      Res
                                    Op    ISC         h m s     ISC
ONI   Oni                 0.10 343 PG                Pg        17 00 56.5 -0.2
ONI   Oni                 0.10 343 Pg                Pg        17 00 56.5 -0.2
ONI   Oni                 0.10 343 P                 Pg        17 00 56.5 -0.2
ONI                                S                 Sg        17 00 58.6 +0.4
DIGR  Digorskoe uzhe      0.41   9 ⇓iPG              Pg        17 01 01.9 -0.6
DIGR                               i S               Sg        17 01 07.6 -0.3
DIGR  Digorskoe uzhe      0.41   9 i Pg              Pg        17 01 01.9 -0.6
DIGR                               i Sg              Sg        17 01 07.6 -0.3
ZEI   Tsey                0.42  46 ⇓iPG              Pg        17 01 02.4 -0.3
ZEI   Tsey                0.42  46 i Pg              Pg        17 01 02.4 -0.3
KORR  Kora                0.73  36 ⇑iPG              Pg        17 01 08.5 +0.1
KORR                               i S               Sg        17 01 18.6 +0.7
KORR  Kora                0.73  36 i Pg              Pg        17 01 08.5 +0.1
KORR                               i Sg              Sg        17 01 18.6 +0.7
LSNR  Lesken              0.82  17 ⇓iPG              Pg        17 01 10.4 +0.2
LSNR                               eS                Sg        17 01 21.3 +0.4
LSNR  Lesken              0.82  17 i Pg              Pg        17 01 10.4 +0.2
LSNR                               eSg               Sg        17 01 21.3 +0.4
STDR  Stavd-Durt          0.97  26 ⇑iPG              Pb        17 01 14.1 +0.4
STDR                               eS                Sb        17 01 27.4 +0.6
STDR  Stavd-Durt          0.97  26 i Pg              Pb        17 01 14.1 +0.4
STDR                               eSg               Sb        17 01 27.4 +0.6
DUS   Dusheti             0.98 114 P                 Pg        17 01 13.6 +0.2
NCK   Nalchik             1.00   4 ⇑iPG              Pb        17 01 14.1 -0.2
NCK                                i S               Sn        17 01 29.1 -0.5
NCK   Nalchik             1.00   4 i Pg              Pb        17 01 14.1 -0.2
VLKR  Vladikavkaz         1.03  57 ePG               Pb        17 01 15.1 +0.3
VLKR                               eS                Sb        17 01 29.3 +0.7
VLKR  Vladikavkaz         1.03  57 ePg               Pb        17 01 15.1 +0.3
VLKR                               eSg               Sb        17 01 29.3 +0.7
CHVG  Ch'k'valeri         1.06 283 P                 Pg        17 01 14.0 -0.9
CHVG                               S                 Sb        17 01 29.9 +0.4
AKH   Akhalkalaki         1.08 180 PG                Pg        17 01 14.5 -0.8
AKH   Akhalkalaki         1.08 180 Pg                Pg        17 01 14.5 -0.8
AKH   Akhalkalaki         1.08 180 P                 Pg        17 01 14.9 -0.3
AKH                                S                 Sb        17 01 30.3 +0.1
SNJR  Sundja              1.13  59 ⇓iPG              Pb        17 01 16.5 +0.1
SNJR                               eS                Sb        17 01 31.9 +0.5
SNJR  Sundja              1.13  59 i Pg              Pb        17 01 16.5 +0.1
SNJR                               eSg               Sb        17 01 31.9 +0.5
BTKR  Batakoyurt          1.17  41 ⇓iPG              Pn        17 01 18.6 +1.2
BTKR                               i S               Sn        17 01 34.3 +0.6
BTKR  Batakoyurt          1.17  41 i Pg              Pn        17 01 18.6 +1.2
BTKR                               i Sg              Sn        17 01 34.3 +0.6
TBLG  Delisi              1.20 129 PG                Pg        17 01 16.8 -0.7
TBLG  Delisi              1.20 129 Pg                Pg        17 01 16.8 -0.7
TBLG  Delisi              1.20 129 P                 Pg        17 01 17.1 -0.5
TBLG                               S                 Sb        17 01 33.8 +0.3
KUBR  Kubataba            1.30 357 ⇑ePG              Pg        17 01 19.6 +0.1
KUBR                               i S               Sn        17 01 38.6 +1.5
KUBR  Kubataba            1.30 357 ePg               Pg        17 01 19.6 +0.1
KBZ   Khabaz              1.31 341 PG                Pn        17 01 18.3 -1.0
KBZ                                pmax              pmax
      comp=Z,9.0nm,0.3s
KBZ   Khabaz              1.31 341 Pg                Pn        17 01 18.2 -1.0
      comp=Z,9.2nm,0.3s,baz=163,slow=13,SNR=169
KBZ                                Lg                Lg        17 01 33.6
      comp=Z,45nm,0.3s,baz=231,slow=23,SNR=21
KBZ   Khabaz              1.31 341 Pg                Pn        17 01 18.3 -1.0
KZR   Kazreti             1.31 148 P                 Pn        17 01 17.9 -1.5
KZR                                S                 Sg        17 01 35.7 -0.8
PRTR  Priterechnaya       1.38  24 ePG               Pg        17 01 21.2 +0.2
PRTR                               eS                Sn        17 01 39.8 +0.9
PRTR  Priterechnaya       1.38  24 ePg               Pg        17 01 21.2 +0.2
PRTR                               eSg               Sn        17 01 39.8 +0.9
SHAR  Shatzhatmas         1.39 334 ⇑iPG              Pn        17 01 20.2 -0.4
SHAR                               i S               Sb        17 01 38.5 -0.5
SHAR  Shatzhatmas         1.39 334 i Pg              Pn        17 01 20.2 -0.4
SHAR                               i Sg              Sb        17 01 38.5 -0.5
TRKR  Terskaya            1.53  36 ⇓iPG              Pg        17 01 23.8 +0.1
TRKR                               eS                Sg        17 01 44.4 +0.9
TRKR  Terskaya            1.53  36 i Pg              Pg        17 01 23.8 +0.1
TRKR                               eSg               Sg        17 01 44.4 +0.9
PYA   Pyatigorsk          1.57 349 ⇑iPG              Pb        17 01 24.1 +0.2
PYA                                i S               Sg        17 01 45.0 +0.1
PYA   Pyatigorsk          1.57 349 i Pg              Pb        17 01 24.1 +0.2
PYA                                i Sg              Sg        17 01 45.0 +0.1
KIV   Kislovodsk          1.57 338 ⇓iPG              Pn        17 01 23.4 +0.3
KIV                                i S               Sn        17 01 43.9 +0.1
KIV   Kislovodsk          1.57 338 i Pg              Pn        17 01 23.4 +0.3
KIV                                i Sg              Sn        17 01 43.9 +0.1
BCA   Borcka              1.75 234 ePG               Pn        17 01 24.3 -1.0
BCA   Borcka              1.75 234 ePg               Pn        17 01 24.3 -1.0
DGRG  David-gareji        1.75 126 PN                Pb        17 01 27.1 +0.1
DGRG  David-gareji        1.75 126 Pn                Pb        17 01 27.1 +0.1
DGRG  David-gareji        1.75 126 P                 Pb        17 01 27.1 +0.1
DGRG                               S                 Sg        17 01 51.7 +1.0
ARTV  Artvin              1.75 222 i P               Pn        17 01 25.4 -0.3
ARTV                               i S               Sn        17 01 48.6 +0.2
ARTV  Artvin              1.75 222 i P               Pn        17 01 25.4 -0.3
ARTV                               i S               Sn        17 01 48.6 +0.2
DBOC  Borcka              1.78 230 eP                Pn        17 01 25.5 -0.3
DBOC                               eS                Sn        17 01 48.7 -0.1
DBOC  Borcka              1.78 230 eP                Pn        17 01 25.5 -0.3
DBOC                               eS                Sn        17 01 48.7 -0.1
DAGI  Agillar             1.84 220 i P               Pn        17 01 27.0 +0.2
DAGI                               i S               Sb        17 01 51.9 -0.1
GRO   Groznyy             1.85  63 ePN               Pb        17 01 29.0 +0.3
GRO                                eS                Sg        17 01 53.5 -0.5
GRO   Groznyy             1.85  63 ePn               Pb        17 01 29.0 +0.3
GRO                                eSg               Sg        17 01 53.5 -0.5
KARS  Kars                1.89 190 ePN               Pg        17 01 32.4 +1.7
KARS                               eSN               Sb        17 01 53.0 -0.4
KARS  Kars                1.89 190 ePn               Pg        17 01 32.4 +1.7
KARS                               eSn               Sb        17 01 53.0 -0.4
DBAD  Bademkaya           2.00 223 i P               Pn        17 01 29.2 +0.3
DBAD                               i S               Sn        17 01 54.7 +0.5
DBAD  Bademkaya           2.00 223 i P               Pn        17 01 29.2 +0.3
DBAD                               i S               Sn        17 01 54.7 +0.5
DDEM  Demirkent           2.06 220 i P               Pn        17 01 31.1 +1.3
DDEM                               i S               Sb        17 01 58.2 -0.2
DDEM  Demirkent           2.06 220 i P               Pn        17 01 31.1 +1.3
DDEM                               i S               Sb        17 01 58.2 -0.2
GNI   Garni               2.53 158 Pn                Pb        17 01 40.7 +0.4
      comp=Z,8.7nm,0.3s,baz=334,slow=14,SNR=9.2
GNI                                Lg                Lg        17 02 16.2
      comp=Z,13nm,0.3s,baz=342,slow=3.2,SNR=4.4
GOF   Gofitskoye          2.58 353 ePN               Pg        17 01 43.6 -0.3
GOF                                i S               Sg        17 02 16.4 -1.0
GOF                                pmax              pmax
      comp=Z,40nm,1.0s
GOF                                smax              smax
      comp=N,640nm,1.0s
GOF   Gofitskoye          2.58 353 i Sb              Sg        17 02 16.4 -1.0
      comp=N,640nm,1.0s
GANJ  Ganja               2.81 130 ⇓Pn               Pn        17 01 41.8 +1.7
      SNR=3.7
GANJ                               ⇓S                Sb        17 02 19.0 -0.9
GANJ  Ganja               2.81 130 Pn                Pn        17 01 41.8 +1.7
      SNR=3.7
GANJ                               S                 Sb        17 02 19.0 -0.9
AGRB  Hanur-Agry          2.94 188 ePN               Pb        17 01 47.0 -0.5
AGRB  Hanur-Agry          2.94 188 ePn               Pb        17 01 47.0 -0.5
SOC   Sochi               2.97 293 ePN               Pn        17 01 42.1 -0.1
SOC                                e                           17 01 47.8
SOC                                e                           17 02 18.6
SOC                                                            17 02 27.1
SOC                                pmax              pmax
      comp=Z,30nm,0.9s
SOC                                MLR               MLR
      comp=Z,75nm,8.0s
SOC   Sochi               2.97 293 ePn               Pn        17 01 42.1 -0.1
      comp=Z,30nm,0.9s
SOC                                eSn               Sn        17 02 18.6 +0.4
SOC                                Sb                Sb        17 02 27.1 +2.7
      comp=Z,75nm,8.0s
EZM   Erzurum             3.05 213 ePN               Pn        17 01 45.5 +2.0
SEKA  Sheki               3.05 114 ⇓Pn               Pn        17 01 44.8 +1.4
SEKA                               ⇓S                Sb        17 02 26.5 -0.3
SEKA  Sheki               3.05 114 Pn                Pn        17 01 44.8 +1.4
SEKA                               S                 Sb        17 02 26.5 -0.3
GUMT  Gumushane           3.63 237 ePN               Pn        17 01 53.1 +1.7
GUMT  Gumushane           3.63 237 ePn               Pn        17 01 53.1 +1.7
NAX   Nakhchivan          3.65 155 ⇑Pn               Pn        17 01 49.7 -1.9
      SNR=4.1
NAX   Nakhchivan          3.65 155 Pn                Pn        17 01 49.7 -1.9
      SNR=4.1
VRTB  Varto-Mus           3.67 206 ePN               Pn        17 01 55.0 +3.0
VRTB  Varto-Mus           3.67 206 ePn               Pn        17 01 55.0 +3.0
ESPY  Espiye-Giresun      3.90 248 ePN               Pn        17 01 57.3 +2.4
ESPY  Espiye-Giresun      3.90 248 ePn               Pn        17 01 57.3 +2.4
QUBA  Quba, Azerbaij      3.90 105 ⇑Pn               Pn        17 01 57.4 +2.4
QUBA  Quba, Azerbaij      3.90 105 Pn                Pn        17 01 57.4 +2.4
IML   Ismayilli           3.91 114 ⇑Pn               Pn        17 01 56.3 +1.2
      SNR=3.5
IML   Ismayilli           3.91 114 Pn                Pn        17 01 56.3 +1.2
      SNR=3.5
ERZN  Erzincan            4.07 226 ePN               Pn        17 01 59.3 +1.9
BNGB  Bing¨l¦l            4.10 212 ePN               Pn        17 02 00.4 +2.6
EZC   Erzincan            4.16 230 ePN               Pn        17 02 00.6 +2.0
EZC   Erzincan            4.16 230 ePn               Pn        17 01 59.3 +0.7
PQL   Pirkuli             4.19 112 ⇑Pn               Pn        17 01 59.7 +0.7
      SNR=4.6
PQL   Pirkuli             4.19 112 Pn                Pn        17 01 59.7 +0.7
      SNR=4.6
BINT  Bingol              4.28 213 ePn               Pn        17 02 00.4 +0.2
SIZA  Siyzn               4.29 108 ⇑Pn               Pn        17 01 59.9 -0.4
SIZA  Siyzn               4.29 108 Pn                Pn        17 01 59.9 -0.4
ATGJ  Altiaghaj           4.39 110 ⇑Pn               Pn        17 02 01.7 -0.1
ATGJ  Altiaghaj           4.39 110 Pn                Pn        17 02 01.7 -0.1
PTK   Pertek              4.76 222 ePN               Pn        17 02 09.2 +2.3
PTK   Pertek              4.76 222 ePn               Pn        17 02 09.2 +2.3
ILIC  ilic-Erzincan       4.81 232 ePN               Pn        17 02 09.9 +2.3
ILIC  ilic-Erzincan       4.81 232 ePn               Pn        17 02 09.9 +2.3
SVSK  Karacayir           5.53 244 ePN               Pn        17 02 20.5 +3.2
BRTR  Keskin Array B      7.94 253 Pn                Pn        17 02 50.2 -0.3
      comp=Z,0.1nm,0.3s,baz=59,slow=11,SNR=3.7
BRTR  Keskin Array B      7.94 253 P                 Pn        17 02 50.2 -0.3
VRHR  Novokhopersk        8.70 352 eP                Pn        17 03 10.3 +10
VRHR                               pmax              pmax
      comp=Z,7.0nm,0.8s
VRHR                               pmax              pmax
      comp=N,20nm,0.6s
VRHR                               pmax              pmax
      comp=E,20nm,0.7s
VORD  Divnogorie          8.95 343 eP                Pn        17 03 11.9 +7.7
VORD                               pmax              pmax
      comp=Z,2.0nm,0.9s
VORD                               pmax              pmax
      comp=N,8.0nm,0.8s
VORD                               pmax              pmax
      comp=E,9.0nm,1.0s
VSR   Storozhevoye        9.21 343 eP                Pn        17 03 11.1 +3.3
VSR                                pmax              pmax
      comp=Z,2.0nm,0.9s
VSR                                pmax              pmax
      comp=N,10.0nm,0.8s
VSR                                pmax              pmax
      comp=E,9.0nm,1.6s
AKTK  Aktyubinsk         12.76  47 P                 Pn        17 03 55.4 -1.0
AKTO  Aktyubinsk         12.76  47 ⇓Pn                Pn        17 03 55.2 -1.2
      comp=E,2.3nm,0.6s
AKTO                               ⇓Sn               Sn        17 06 11.7 -7.0
      comp=E,2.4nm,0.8s
AKTO  Aktyubinsk         12.76  47 P                 Pn        17 03 55.4 -1.0
AKTO  Aktyubinsk         12.76  47 Pn                Pn        17 03 55.4 -1.0
      comp=E,0.3nm,0.3s,baz=235,slow=13,SNR=5.0
AKTO  Aktyubinsk         12.76  47 Pn                Pn        17 03 55.2 -1.2
      comp=E,2.3nm,0.6s
AB31  Akbulak array      13.29  54 ⇑Pn                Pn        17 04 02.0 -1.6
      comp=E,0.8nm,0.5s,baz=243,slow=12,SNR=4.1
AB31                               ⇓Sn               Sn        17 06 24.1 -7.6
      comp=E,2.4nm,0.8s,baz=254,slow=20,SNR=4.8
IDI   Anoyia             16.15 250 LR                LR        17 11 25.5
      comp=E,12nm,20.3s,baz=102,slow=39
ARU   Arti               16.98  30c iP               Pn        17 04 50.2 -2.3
ARU                                S                 Sn        17 07 58.6 -2.8
ARU                                pmax              pmax
      comp=Z,1.0nm,0.7s
SVE   Sverdlovsk         18.06  32 eP                Pn        17 05 03.8 -2.0
KK31  Karatay Array      19.81  79 ⇑P                Pn        17 05 27.1 -0.1
      comp=Z,0.4nm,0.6s
KK31  Karatay Array      19.81  79 P                 Pn        17 05 27.1 -0.1
      comp=Z,0.4nm,0.6s
BRVK  Borovoye           20.75  50 ⇑eP               P         17 05 36.2 +0.4
BRVK  Borovoye           20.75  50 eP                P         17 05 36.2 +0.4
BVA0  Borovoye Array     20.80  50 ⇓P                P         17 05 36.3 -0.1
      comp=Z,4.3nm,1.2s,baz=234,slow=9.8,SNR=4.1
BVA0  Borovoye Array     20.80  50 P                 P         17 05 36.3 -0.1
      comp=Z,4.3nm,1.2s,SNR=4.1
BVAR  Borovoye Array     20.80  50 P                 P         17 05 35.4 -0.9
BVAR  Borovoye Array     20.80  50 P                 P         17 05 35.4 -0.9
      comp=Z,0.9nm,0.6s,baz=235,slow=9.6,SNR=6.3
BVAR  Borovoye Array     20.80  50 P                 P         17 05 35.4 -0.9
VOSK  Vostochnaya        21.04  51 ⇓P                P         17 05 38.3 -0.6
      comp=Z,2.6nm,0.9s
AAK   Ala-Archa          22.78  79 eP                P         17 05 59.8 +2.0
AAK   Ala-Archa          22.78  79 P                 P         17 05 59.3 +1.5
      comp=Z,0.6nm,0.3s,baz=233,slow=10,SNR=1.9
AAK   Ala-Archa          22.78  79 eP                P         17 05 59.8 +2.0
KURBB Kurchatov Arra     25.23  59 P                 P         17 06 22.6 +1.6
      comp=Z,0.2nm,0.7s,baz=275,slow=11,SNR=5.5
KURK  Kurchatov          25.30  59 P                 P         17 06 22.6 +1.0
KURK  Kurchatov          25.30  59 P                 P         17 06 22.6 +1.0
MKAR  Makanchi Array     27.74  68 P                 P         17 06 45.0 +1.3
MKAR  Makanchi Array     27.74  68 P                 P         17 06 45.0 +1.3
      comp=Z,0.3nm,0.5s,baz=268,slow=9.6,SNR=2.7
MKAR  Makanchi Array     27.74  68 P                 P         17 06 45.0 +1.3
```

MEX 13 17:45:17.1±0.3, 14.°40N×93.°07W, h16km±334km, MD3.5, Near coast of Chiapas

```
Code  Station Name        Δ°   AZ°  Phase ID          Time      Res
                                    Op    ISC         h m s     ISC
PCIG                      1.30 354 eP                Pn        17 45 37.1 -3.6
PCIG                               i S               Sb        17 45 52.6 -5.2
CCIG  Comitan             2.08  26 eP                Pn        17 45 48.3 -3.3
CCIG                               i S               Sn        17 46 12.6 -4.7
TGIG                      2.36 359 eP                Pn        17 45 52.5 -2.8
TGIG                               i S               Sn        17 46 20.4 -3.7
```

IDC 13 17:57:18.0±2.1, 4.°21N×127.°38E, h0km, mb3.1/4, mb1 3.4/4, mb1mx3.2/22, mbtmp3.2/4, Error ellipse: s-maj=121.3km s-min=24.1km az=70.0, Talaud Islands

```
Code  Station Name        Δ°   AZ°  Phase ID          Time      Res
                                    Op    ISC         h m s     ISC
FITZ  Fitzroy Crossi     22.24 184 P                 P         18 02 16.8 +0.3
      1.5nm,1.0s,baz=0.0,slow=18,SNR=2.7
WRA   Warramunga Arr     24.96 164 P                 P         18 02 42.8 -0.6
      0.2nm,0.5s,baz=343,slow=9.9,SNR=5.6
ASAR  Alice Springs      28.43 167 P                 P         18 03 14.9 +0.3
      0.1nm,0.8s,baz=338,slow=8.2,SNR=3.2
MKAR  Makanchi Array     57.53 325 P                 P         18 07 09.4 0.0
      0.1nm,0.5s,baz=122,slow=7.6,SNR=3.9
```

IDC ***13*** *18:11:21.6±0.6, 4.°68N×95.°11E, h0km, mb4.2/20, mb1 4.3/20, mb1mx4.3/26, mbtmp4.2/20, MS3.6/1, Ms1 3.6/1, ms1mx2.9/32, Error ellipse: s-maj=22.6km s-min=13.3km az=49.0*

NEIC ***13*** *18:11:23.3±0.4, 4.°65N×95.°01E, h10km, mb4.8/5, Error ellipse: s-maj=12.7km s-min=6.6km az=223.0*

NEIC Felt [III] at Banda Aceh and Mataie.

ISCJB ***13*** *18:11:26.5±0.3, 4.°65N±0.°04×95.°10E±0.°04, h48km, mb4.4/39, MS3.9/3, Error ellipse: s-maj=7.1km s-min=3.3km az=141.1*

BKK ***13*** *18:11:31.3±2.6, 4.°N±16.°×9.°5E±1.°7, h10km, M4.4/9, mB4.8/1, mb4.4/9, MLv4.4/3, Mw(mB)4.0/1*

DJA ***13*** *18:11:32.7±1.2, 4.°N±3.°×9.°5E±1.°0, h41km±27km, M4.4/6, mB4.7/1, mb4.6/6, MLv4.2/4, Mw(mB)4.0/1*

AUST ***13*** *18:11:34.1±4.6, 4.°80N×95.°44E, h93km, Error ellipse: s-maj=4.4km s-min=1.4km az=234.0*

TEH ***13*** *18:11:36.0, 4.°47N×95.°73E, h150km, ML4.7*

BJI ***13*** *18:11:40.0, 4.°66N×95.°46E, h186km, mB4.7/22, mb4.5/38*

ISC 13 18:11:28.2±0.4, 4.°56N±0.°05×95.°11E±0.°06, h48km, n131, σ1§62/131, mb4.5/39, MS3.8/3, Northern Sumatera

```
Code  Station Name        Δ°   AZ°  Phase ID          Time      Res
                                    Op    ISC         h m s     ISC
LHMI  Lhok Sumawe         1.95  70 P                 Pn        18 12 00.7 +1.9
      baz=1.6,SNR=42
SNSI  Sinabang, Aceh      2.46 150 P                 Pn        18 12 07.0 +1.2
SNSI                               S                 Sn        18 12 35.7 +1.0
CMBY  CAMPBELL BAY        2.70 334 eP                Pn        18 12 05.9 -3.3
CMBY                               eS                Sn        18 12 40.5 -0.1
KCSI  Kotacane, Aceh      2.85 111 P                 Pn        18 12 13.0 +1.8
GSI   Gunungsitoli        4.07 143 P                 Pn        18 12 28.8 +0.9
GSI                                S                 Sn        18 13 15.0 +0.7
PSI   Prapat              4.19 115 Pn                Pn        18 12 31.8 +2.1
PSI   Prapat              4.19 115 Pn                Pn        18 12 31.8 +2.1
      8.3nm,0.3s,baz=303,slow=8.9,SNR=18
PSI   Prapat              4.19 115 P                 Pn        18 12 33.5 +3.8
      baz=4.1,SNR=8.8
PKDT  Phuket              4.61  44 P                 Pn        18 12 36.2 +0.9
KULM  Kulim               5.57  82 ePn               Pn        18 12 46.9 -1.6
KULM  Kulim               5.57  82 P                 Pn        18 12 50.2 +1.7
KULM  Kulim               5.57  82 P                 Pn        18 12 49.7 +1.2
      33nm,0.8s,787nm0.2nm
IPM   Ipoh                5.90  91 ePn               Pn        18 12 52.5 -0.5
IPM   Ipoh                5.90  91 P                 Pn        18 12 54.8 +1.7
IPM   Ipoh                5.90  91 P                 Pn        18 12 54.5 +1.5
      38nm,0.7s,0.1nm
```

FRIM	Kepong	6.63	101	P	Pn	18 13 04.2	+1.1
PBA	Port Blair	7.43	342	eP	Pn	18 13 10.8	-3.2
PBA				eS	Sn	18 14 34.1	-2.9
KTGM	Kuala Trenggan	8.03	84	P	Pn	18 13 24.4	+2.1
KGM	Kluang	8.58	107	P	Pn	18 13 30.7	+0.9
DGPR	DIGLIPUR	8.83	346	eP	Pn	18 13 30.6	-2.5
CHBT	CHBT	10.82	41	P	Pn	18 14 02.8	+2.3
	27nm,0.9s						
CHBT	CHBT	10.82	41	P	Pn	18 14 04.6	+4.1
	27nm,0.9s						
MNAI	Manna	11.83	138	ePn	Pn	18 14 15.2	+0.8
PBKT	Sadao Pong	13.24	25	P	Pn	18 14 37.2	+3.6
	14nm,0.6s						
PBKT	Sadao Pong	13.24	25	P	Pn	18 14 38.2	+4.6
	15nm,0.9s						
LOEI	Loei	14.21	25	P	P	18 14 53.0	0.0
	13nm,1.1s						
CM31	Chiang Mai Arr	14.31	15	ePn	Pn	18 14 50.1	+2.0
	11nm,0.7s						
CMAR	Chiang Mai Arr	14.31	15	Pn	Pn	18 14 47.3	-0.8
CMAR	Chiang Mai Arr	14.31	15	Pn	Pn	18 14 47.3	-0.8
	0.0nm,0.3s,baz=206,slow=11,SNR=4.6						
CHTO	Chiang Mai	14.65	14	ePn	Pn	18 14 53.8	+1.2
CHTO	Chiang Mai	14.65	14	P	P	18 14 57.2	-0.7
	16nm,0.8s						
CHTO	Chiang Mai	14.65	14	P	P	18 14 57.5	-0.4
	16nm,0.8s						
KSM	Kuching	15.48	101	P	Pn	18 15 04.9	+1.4
QIZ	Qiongzhong	20.34	44	P	P	18 15 57.8	-2.8
QIZ				S	S	18 19 36.4	-10
QIZ				pmax	pmax		
	comp=Z,8.0nm,2.4s						
KKM	Kota Kinabalu	21.07	85	P	P	18 16 23.6	+15
BOK	Bokaro	21.09	336	eP	P	18 16 07.3	-1.4
SHL	Shillong	21.11	352	eP	P	18 16 03.9	-5.2
KMI	Kunming	21.72	19	P	P	18 16 16.3	+0.7
KMI				pP	pP	18 16 46.8	+20
KMI				S	S	18 20 05.1	-8.5
KMI				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KMI				pmax	pmax		
	comp=Z,170nm,6.4s						
KMI				LR	LR		
	comp=N,450nm,15.1s						
KMI				LR	LR		
	comp=E,160nm,15.1s						
KMI				LR	LR		
	comp=Z,190nm,16.2s						
NGP	Nagpur	22.70	318	eP	P	18 16 23.4	-2.5
ODAN	Odare	23.37	342	eP	P	18 16 31.0	-1.9
RAMN	Ramite	23.70	341	eP	P	18 16 34.2	-1.8
	comp=Z,17nm,0.6s						
TAPN	Taplejung	23.73	343	eP	P	18 16 34.4	-2.0
	comp=Z,7.6nm,0.4s						
AKL	Akola	23.81	314	eP	P	18 16 36.0	-0.8
GYA	Guiyang	24.42	26	eP	P	18 16 40.3	-2.2
GYA				PcP	PcP	18 20 16.5	-4.3
GYA				S	S	18 20 45.6	-14
GYA				PcS	PcS	18 23 55.0	-5.9
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
JIRN	Jiri	24.49	341	eP	P	18 16 41.3	-2.1
	comp=Z,29nm,0.6s						
PKI	Pulchoki	24.68	339	eP	P	18 16 44.2	-0.9
	comp=Z,9.2nm,0.5s						
PKIN	Phulchoki	24.69	339	eP	P	18 16 43.9	-1.2
DMN	Daman	24.82	338	eP	P	18 16 44.5	-1.8
	comp=Z,9.9nm,0.6s						
GUN	Gumba	24.83	340	eP	P	18 16 44.4	-2.0
	comp=Z,29nm,0.5s						
KKN	Kakani	24.92	339	eP	P	18 16 45.8	-1.4
	comp=Z,7.9nm,0.6s						
BHPL	Bhopal	25.23	319	eP	P	18 16 49.0	-0.8
KOLN	Koldanda	25.55	336	eP	P	18 16 52.6	-0.3
	comp=Z,36nm,0.6s						
PYUN	Piuthan	26.09	335	eP	P	18 16 57.2	-0.6
	comp=Z,104nm,0.5s						
CD2	Chengdu	27.44	16	P	P	18 17 10.3	+0.6
CD2				pP	pP	18 17 41.6	+19
CD2				PP	PnPn	18 18 04.9	+8.7
CD2				S	S	18 21 38.4	-8.6
CD2				SS	SnSn	18 23 09.8	+9.3
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				pmax	pmax		
	comp=Z,310nm,4.7s						
DDI	Dehra Dun	30.26	330	eP	P	18 17 30.8	-4.0
SMLA	Simla	31.36	329	eP	P	18 17 42.5	-1.8
XAN	Xi'an	32.02	22	P	P	18 17 48.8	-1.4
XAN				S	S	18 22 50.5	-8.2
XAN				pmax	pmax		
	comp=Z,7.0nm,0.7s						
XAN				pmax	pmax		
	comp=Z,45nm,5.6s						
LZH	Lanzhou	32.39	13	eP	P	18 17 55.9	+2.4
LZH				pP	pP	18 18 28.0	+22
LZH				PP	PnPn	18 19 09.8	+2.4
LZH				PcP	PcP	18 20 39.3	-1.1
LZH				S	S	18 23 00.1	-4.6
LZH				pmax	pmax		
	comp=Z,25nm,1.3s						
LZH				pmax	pmax		
	comp=Z,93nm,5.0s						
DHRM	DHARAMSHALA	32.70	330	eP	P	18 17 55.7	-0.7
DHRM				AMB	AMB	18 18 22.0	
	comp=Z,4.8nm,0.5s						
GTA	Gaotai	34.95	6	eP	P	18 18 14.6	-1.2
GTA				pmax	pmax		
	comp=Z,8.0nm,0.7s						
NJ2	Nanjing	35.25	36	eP	P	18 18 16.1	-2.2
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
FITZ	Fitzroy Crossi	37.60	128	P	P	18 18 38.4	-0.1
FITZ	Fitzroy Crossi	37.60	128	P	P	18 18 38.4	-0.1
	comp=Z,2.5nm,0.7s,baz=318,slow=3.8,SNR=9.2						
FITZ	Fitzroy Crossi	37.60	128	P	P	18 18 38.7	+0.2
	baz=38,SNR=5.4						
FAKI	Fak Fak	37.84	101	P	P	18 18 40.4	-0.3
	baz=38,SNR=3.2						
KSH	Kashi	38.87	336	P	P	18 18 48.1	-1.0
KSH				PP	PnPn	18 20 24.4	+2.9
KSH				S	S	18 24 35.3	-8.6
KSH				PcS	PcS	18 24 45.8	-3.2
KSH				pmax	pmax		
	comp=Z,16nm,0.6s						
KSH				pmax	pmax		
	comp=Z,64nm,4.0s						
KSH				LR	LR		
	comp=N,89nm,4.7s						
KSH				LR	LR		
	comp=E,160nm,5.0s						
KSH				LR	LR		
	comp=Z,140nm,6.9s						
KNRA	Kununurra	38.91	122	P	P	18 18 49.2	-0.3
	baz=39,SNR=8.3						
HHC	Hu-ho-hao-te	39.04	20	eP	P	18 18 49.0	-1.4
HHC				PP	PnPn	18 20 25.9	+2.5
HHC				PcS	PcS	18 24 45.1	-4.4
HHC				ScS	ScS	18 28 40.8	-15
HHC				pmax	pmax		
	comp=Z,47nm,1.1s						
HHC				pmax	pmax		
	comp=Z,220nm,5.1s						
HHC				LR	LR		
	comp=N,280nm,14.7s						
HHC				LR	LR		
	comp=E,500nm,13.3s						
HHC				LR	LR		
	comp=Z,200nm,15.1s						
WMQ	Urumqi	39.64	352	P	P	18 18 56.8	+1.4
WMQ				PP	PnPn	18 20 34.6	+4.1
WMQ				pmax	pmax		
	comp=Z,9.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,84nm,4.6s						
MTN	Manton Dam	39.75	116	P	P	18 18 56.1	-0.5
	baz=40,SNR=8.1						
MTN				S	S	18 24 54.6	-2.8
	baz=40,SNR=5.3						
BJI	Beijing	40.11	25	P	P	18 18 58.0	-1.2
BJI				pmax	pmax		
	comp=Z,18nm,0.7s						
ULHL	Ulahol	41.12	339	P	P	18 19 08.2	+0.4
	SNR=12						
TKM2	Tokmak 2	41.94	338	P	P	18 19 15.0	+0.5
	SNR=11						
TKM2	Tokmak 2	41.94	338	eP	P	18 19 13.3	-1.2
	comp=Z,5.8nm,0.6s						
KBK	Karagaybulak	41.95	338	P	P	18 19 15.8	+1.3
	SNR=36						
AML	Almayashu	42.00	336	P	P	18 19 16.4	+1.1
	SNR=14						
AAK	Ala-Archa	42.11	337	P	P	18 19 18.0	+2.2
	SNR=15						
AAK	Ala-Archa	42.11	337	eP	P	18 19 16.3	+0.4
	comp=Z,12nm,0.7s						
CHMS	Chumysh	42.32	338	P	P	18 19 18.3	+0.9
	SNR=5.2						
EKS2	Erkin-Say	42.41	337	P	P	18 19 19.5	+1.3
	SNR=30						
EKS2	Erkin-Say	42.41	337	eP	P	18 19 18.3	0.0
	comp=Z,14nm,0.6s						
USP	Ospenovka	42.65	338	P	P	18 19 20.9	+0.8
	SNR=5.1						
MK31	Makanchi Array	43.51	347	eP	P	18 19 24.1	-2.8
MKAR	Makanchi Array	43.51	347	P	P	18 19 26.1	-0.8
MKAR	Makanchi Array	43.51	347	P	P	18 19 26.1	-0.8
	comp=Z,7.8nm,0.6s,baz=169,slow=7.7,SNR=119						
KKAR	Karatay Array	44.14	334	eP	P	18 19 31.4	-0.6
SONM	Songino Array	44.19	11	P	P	18 19 31.0	-1.5
SONM				PcP	PP	18 21 16.8	+0.5
SONM	Songino Array	44.19	11	P	P	18 19 31.0	-1.5
	comp=Z,0.5nm,0.6s,baz=199,slow=7.1,SNR=6.8						
SONM				PcP	PP	18 21 16.8	+0.5
	comp=Z,0.9nm,0.6s,baz=195,slow=4.0,SNR=5.9						
SONM				LR	LR	18 39 51.7	
	comp=Z,76nm,18.8s,baz=142,slow=39						
KSAR	Wonju Array Be	44.36	38	P	P	18 19 34.0	+0.1
KSRS	Korea Array	44.39	38	P	P	18 19 34.0	-0.1
	comp=Z,1.8nm,0.8s,baz=221,slow=8.7,SNR=10						
WRA	Warramunga Arr	45.60	124	P	P	18 19 44.8	+0.8
WRA	Warramunga Arr	45.60	124	P	P	18 19 44.8	+0.8
	comp=Z,4.8nm,0.7s,baz=301,slow=9.2,SNR=128						
IAKL	Akhelmad	46.13	319	eP	P	18 19 48.4	+0.1
IEMG	Emamgholi	46.67	319	eP	P	18 19 53.2	+0.7
ASAR	Alice Springs	47.09	128	P	P	18 19 56.6	+0.9
ASAR	Alice Springs	47.09	128	P	P	18 19 56.6	+0.9
	comp=Z,1.9nm,0.4s,baz=295,slow=7.4,SNR=134						
CN2	Changchun	47.35	30	eP	P	18 19 56.4	-1.0
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ISHV	Shirvan	47.36	319	eP	P	18 19 58.2	+0.4
ZAA0	Zalesovo Array	49.95	352	eP	P	18 20 15.0	-2.1
ZALV	Zalesovo Beam	49.95	352	P	P	18 20 16.2	-0.8
ZALV	Zalesovo Beam	49.95	352	P	P	18 20 16.2	-0.8
	comp=Z,9.0nm,0.6s,baz=185,slow=7.6,SNR=50						
MDJ	Mudanjiang	50.05	32	P	P	18 20 15.3	-2.7
MDJ				pmax	pmax		
	comp=Z,3.0nm,0.5s						
MDJ				pmax	pmax		
	comp=Z,52nm,4.1s						
USRK	Ussuriysk Arra	51.06	34	P	P	18 20 24.9	-0.8
	comp=Z,0.9nm,0.5s,baz=236,slow=8.4,SNR=4.3						
VOSK	Vostochnaya	51.97	342	eP	P	18 20 31.8	-0.6
	comp=Z,12nm,0.8s						
BRVK	Borovoye	52.48	341	eP	P	18 20 34.3	-1.8
	comp=Z,9.2nm,0.7s						
ABKAR	Akbulak array	53.58	332	eP	P	18 20 43.9	-0.5
STKA	Stephens Creek	57.15	133	P	P	18 21 10.0	-0.3
STKA	Stephens Creek	57.15	133	P	P	18 21 10.0	-0.3
	comp=Z,2.1nm,0.8s,baz=315,slow=4.1,SNR=2.4						
KBZ	Khabaz	60.18	319	P	P	18 21 31.1	-0.1
KBZ	Khabaz	60.18	319	P	P	18 21 31.1	-0.1
	comp=Z,2.1nm,0.7s,baz=126,slow=6.6,SNR=5.2						
BRTR	Keskin Array B	65.32	312	P	P	18 22 04.5	-1.2
BRTR	Keskin Array B	65.32	312	P	P	18 22 04.5	-1.2
	comp=Z,1.4nm,0.6s,baz=133,slow=7.8,SNR=12						
AKASG	Malin Array Be	71.34	322	P	P	18 22 41.8	-1.1
AKASG	Malin Array Be	71.34	322	P	P	18 22 41.8	-1.1
	comp=Z,1.6nm,0.4s,baz=84,slow=5.9,SNR=16						
BOSA	Boshof	74.68	239	P	P	18 23 04.2	+0.9
BOSA	Boshof	74.68	239	P	P	18 23 04.2	+0.9
	comp=Z,8.3nm,1.2s,baz=125,slow=12,SNR=3.9						
FINES	FINESS Array B	76.07	332	P	P	18 23 10.1	-0.3
FINES	FINESS Array B	76.07	332	P	P	18 23 10.1	-0.3
	comp=Z,3.3nm,0.6s,baz=86,slow=5.7,SNR=14						
ARCES	ARCESS Array B	78.69	340	P	P	18 23 25.0	0.0
ARCES	ARCESS Array B	78.69	340	P	P	18 23 25.0	0.0
	comp=Z,2.0nm,0.5s,baz=100,slow=6.7,SNR=24						
GERES	GERESS Array B	80.93	319	P	P	18 23 38.4	+0.7
GERES	GERESS Array B	80.93	319	P	P	18 23 38.4	+0.7
	comp=Z,0.8nm,0.6s,baz=103,slow=5.9,SNR=10						
NOA	NORSAR Array B	83.07	331	P	P	18 23 48.6	0.0
NOA	NORSAR Array B	83.07	331	P	P	18 23 48.6	0.0
	comp=Z,1.3nm,0.8s,baz=92,slow=5.7,SNR=3.2						
KEST	Kesra	83.92	305	P	P	18 23 54.8	+1.2
KEST	Kesra	83.92	305	P	P	18 23 54.8	+1.2
	comp=Z,0.6nm,0.8s,baz=101,slow=16,SNR=2.9						
TORD	Torodi Ar. Bea	92.29	283	P	P	18 24 34.4	+0.3
TORD	Torodi Ar. Bea	92.29	283	P	P	18 24 34.3	+0.3
	comp=Z,0.6nm,1.0s,baz=90,slow=1.4,SNR=3.0						
ILAR	Eielson Array	97.42	22	P	P	18 24 54.6	-1.9
ILAR	Eielson Array	97.42	22	P	P	18 24 54.6	-1.9
	comp=Z,0.3nm,0.8s,baz=285,slow=4.6,SNR=3.2						
CPUP	Villa Florida	145.89	228	PKPbc	PKPbc	18 31 04.3	+1.2
	comp=Z,1.4nm,0.6s,baz=73,slow=6.5,SNR=4.3						

MAN 13 18:16:40, 16°.25N×122°.16E, h65km, mb4.6, ML3.5, MS3.4, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALP	Baler	0.75	228	eP	Pn	18 16 57.0	+1.8
CAUP	Cauayan	0.77	335	eP	Pn	18 16 56.7	+1.3
CAUP				eS	Sn	18 17 08.9	+2.3
PALP	Palanan	0.85	17	eP	Pn	18 16 57.8	+1.4
PALP				/ S	Sn	18 17 11.4	+2.9
APYP	Conner	1.83	331	eP	Pn	18 17 10.4	+1.1

KRSC 13 19:09:12.0±1.4, 50°.24N×156°.81E, h90km±90km, ML4.1, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	0.63	315	eP	Pn	19 09 29.8	+2.0
SKR				eS	Sn	19 09 42.6	+3.1
PAU	Pauzhetka	1.23	0	eP	Pn	19 09 36.7	+2.4
PAU				eS	Sn	19 09 55.1	+3.9
MTVR	Mutnovka	2.41	20	eS	Sn	19 10 21.7	+3.1
RUS	Russkaya	2.44	25	eS	Sn	19 10 21.6	+2.5
APC	Apacha	2.70	4	eP	Pn	19 09 53.2	-0.2
KRER	Koryakskii	3.30	21	eP	Pn	19 10 03.8	+2.1
SDLR	Sedlovina	3.30	22	eP	Pn	19 10 03.8	+2.1

AUST ***13*** *19:13:00.6, 9°.00S×124°.01E, h30km*
IDC 13 19:12:38.3±1.8, 7°.82S×123°.79E, h0km, mb3.4/1, mb1 3.7/3, mb1mx3.4/18, mbtmp3.5/3, ML3.7/2, Error ellipse: s-maj=274.2km s-min=29.7km az=58.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	Soe	1.98	166	S	Sn	19 13 28.0	-11
	baz=0.8,SNR=58						
WSI	Waingapu	3.91	242	P	Pg	19 13 53.5	+0.2
	baz=3.7,SNR=4.5						
LUWI	Luwuk	6.81	351	P	Pg	19 14 59.5	+10
	baz=8.1,SNR=19						
MTN	Manton Dam	8.78	125	P	Pn	19 14 53.9	+7.2
	baz=8.0,SNR=32						
KNRA	Kununurra	9.20	149	P	Pn	19 14 57.6	+5.2
	baz=8.1,SNR=15						
KDU	Kakadu	9.82	120	P	Pn	19 15 05.5	+4.7
	baz=9.1,SNR=5.4						
FITZ	Fitzroy Crossi	10.38	170	P	Pn	19 15 13.1	+4.6
	baz=9.2,SNR=4.1						
WRA	Warramunga Arr	15.80	141	Pn	Pn	19 16 22.6	+0.3
	0.4nm,0.3s,baz=319,slow=14,SNR=26						
WRA				Sn	Sn	19 19 03.6	-15
	0.1nm,0.3s,baz=324,slow=27,SNR=3.3						
ASAR	Alice Springs	18.50	150	P	P	19 16 56.0	-0.3
	0.1nm,0.3s,baz=325,slow=12,SNR=27						
ASAR				S	Sn	19 20 09.0	-15
	0.0nm,0.3s,baz=320,slow=22,SNR=2.4						
MKAR	Makanchi Array	65.69	330	P	P	19 23 24.8	0.0
	0.2nm,0.5s,baz=137,slow=7.4,SNR=6.6						

ISCJB ***13*** *19:13:31.7±1.1, 34°.89N±0°.05×26°.90E±0°.04, h1km±6km, mb3.3/4, MS3.1/1, Error ellipse: s-maj=8.7km s-min=4.6km az=167.8*
CSEM ***13*** *19:13:32.9±0.7, 34°.92N×26°.86E, h2km, MD3.3, Error ellipse: s-maj=17.4km s-min=5.5km az=160.0*
IDC ***13*** *19:13:33.8±1.2, 35°.15N×26°.79E, h0km, mb3.3/4, mb1 3.3/7, mb1mx3.2/24, mbtmp3.2/7, ML3.0/3, MS3.3/1, Ms1 3.3/1, ms1mx2.2/22, Error ellipse: s-maj=32.3km s-min=16.3km az=171.0*
ATH ***13*** *19:13:33.7, 34°.94N×26°.84E, h5km, MD3.3/7*
THE ***13*** *19:13:34.2, 35°.00N×26°.87E, h0km±2km, ML3.1/1, Error ellipse: s-maj=7.5km s-min=1.7km az=147.0*
ISC 13 19:13:35.1±1.3, 35°.05N±0°.06×26°.80E±0°.03, h8km±9km, n45, σ0°.90/61, mb3.3/4, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	Zakros	0.48	278	P	Pg	19 13 43.6	-0.8
ZKR				S	Sg	19 13 51.8	+1.1
ZKR	Zakros	0.48	278	ePB	Pg	19 13 43.7	-0.7
ZKR				eSB	Sg	19 13 51.8	+1.1
ZKR	Zakros	0.48	278	ePb	Pg	19 13 43.7	-0.7
ZKR				S	Sg	19 13 51.8	+1.1
KARP	Karpathos	0.58	31	P	Pg	19 13 45.7	-0.6
KARP				S	Sb	19 13 56.1	+0.1
KARP	Karpathos	0.58	31	ePB	Pg	19 13 45.7	-0.6
KARP				eSB	Sb	19 13 56.2	+0.2
KARP	Karpathos	0.58	31	P	Pg	19 13 45.7	-0.6
KARP				S	Sb	19 13 56.1	+0.1
NPS	Neapolis	1.00	283	P	Pg	19 13 53.5	-0.7
NPS				S	Sb	19 14 08.4	+0.6
NPS	Neapolis	1.00	283	ePB	Pg	19 13 53.5	-0.7
NPS				eSB	Sb	19 14 08.5	+0.6
NPS	Neapolis	1.00	283	P	Pg	19 13 53.5	-0.7
NPS				S	Sb	19 14 08.4	+0.6
LAST	Lasithi	1.09	276	P	Pg	19 13 54.9	-1.1
LAST				S	Sn	19 14 12.2	+0.2
LAST	Lasithi	1.09	276	ePN	Pg	19 13 55.1	-0.9
LAST	Lasithi	1.09	276	P	Pg	19 13 54.9	-1.1
LAST				S	Sn	19 14 12.2	+0.2
IDI	Anoyia	1.58	279	P	Pb	19 14 04.5	-0.1
IDI				S	Sg	19 14 26.6	+0.7
IDI	Anoyia	1.58	279	ePB	Pg	19 14 05.4	0.0
IDI	Anoyia	1.58	279	Pn	Pb	19 14 04.3	-0.3
	3.4nm,0.3s,baz=82,slow=15,SNR=21						
IDI				Sn	Sg	19 14 28.0	+2.1
	15nm,0.3s,baz=109,slow=5.0,SNR=10.0						
IDI	Anoyia	1.58	279	P	Pb	19 14 04.5	-0.1
IDI	Anoyia	1.58	279	ePb	Pg	19 14 05.4	0.0
IDI				S	Sg	19 14 26.6	+0.7
ARG	Arkhangelos	1.59	42	P	Pn	19 14 02.2	-1.3
ARG	Arkhangelos	1.59	42	ePB	Pg	19 14 05.9	+0.3
ARG	Arkhangelos	1.59	42	P	Pn	19 14 02.2	-1.3
ARG	Arkhangelos	1.59	42	ePb	Pg	19 14 05.9	+0.3
THR1	Thera Island	1.71	321	P	Pn	19 14 05.7	+0.4
THR1	Thera Island	1.71	321	P	Pn	19 14 05.7	+0.4
SANT	Santorini	1.71	321	P	Pn	19 14 04.6	-0.7
SANT				S	Sn	19 14 28.5	+1.1
SANT	Santorini	1.71	321	P	Pn	19 14 04.6	-0.7
SANT				S	Sn	19 14 28.5	+1.1
THR6	Thira Island,	1.73	319	P	Pn	19 14 05.5	0.0
THR6	Thira Island,	1.73	319	P	Pn	19 14 05.5	0.0
THR3	Thira Island,	1.77	321	P	Pn	19 14 06.5	+0.5
THR3	Thira Island,	1.77	321	P	Pn	19 14 06.5	+0.5
THR2	Thira island,	1.78	322	P	Pn	19 14 06.1	-0.1
THR2	Thira island,	1.78	322	P	Pn	19 14 06.1	-0.1
VAM	Vamos	2.16	280	ePG	Pb	19 14 14.6	+0.2
VAM	Vamos	2.16	280	ePg	Pb	19 14 14.6	+0.2
KARN	Karanos	2.38	279	P	Pn	19 14 13.5	-1.0
KARN	Karanos	2.38	279	P	Pn	19 14 13.5	-1.0
DID	Didima	3.78	312	P	Pn	19 14 32.9	-0.8
DID	Didima	3.78	312	P	Pn	19 14 32.9	-0.8
BRTR	Keskin Array B	7.17	47	Pn	Pn	19 15 19.9	-0.4
	0.0nm,0.3s,baz=250,slow=16,SNR=2.6						
MMAI	Mount Meron Ar	7.42	103	Pn	Pn	19 15 22.8	-1.0
	0.4nm,0.3s,baz=289,slow=13,SNR=2.6						
MMAI				Sn	Sn	19 16 51.5	+3.3
	0.5nm,0.3s,baz=293,slow=28,SNR=2.7						
GERES	GERESS Array B	16.85	329	Pn	Pn	19 17 31.2	-0.1
	0.1nm,0.3s,baz=137,slow=13,SNR=2.5						
ESDC	Sonseca Array	24.82	290	P	P	19 18 55.7	-2.0
	0.1nm,0.3s,baz=88,slow=10,SNR=2.8						
HFS	Hagfors	26.51	345	LR	LR	19 29 42.8	
	comp=Z,57nm,19.2s,baz=219,slow=37						
TORD	Torodi Ar. Bea	31.46	232	P	P	19 19 58.0	+0.7
	0.3nm,0.9s,baz=28,slow=9.4,SNR=2.8						
MKAR	Makanchi Array	42.72	57	P	P	19 21 32.5	0.0
	0.5nm,0.8s,baz=268,slow=8.7,SNR=3.8						
ZALV	Zalesovo Beam	44.12	46	P	P	19 21 42.6	-1.1
	0.4nm,0.3s,baz=255,slow=8.8,SNR=2.9						

IDC ***13*** *19:15:34.4±1.7, 1°.58S×99°.58E, h0km, mb3.7/8, mb1 3.8/9, mb1mx3.7/23, mbtmp3.7/9, Error ellipse: s-maj=56.0km s-min=20.4km az=58.0*
ISCJB ***13*** *19:15:37.1±0.9, 1°.55S±0°.1×99°.59E±0°.09, h30km, mb3.8/8, Error ellipse: s-maj=15.8km s-min=12.8km az=149.0*
DJA ***13*** *19:15:47.8±1.5, 1°.5±12°×10°.0E±°, h10km, MJ3.9/5, MLv3.9/5*
ISC 13 19:15:39.5±1.2, 1°.5S±0°.1×99°.73E±0°.09, h30km, n16, σ0°.85/15, mb3.8/8, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	Padang	0.94	51	P	Pb	19 15 58.0	+0.7
PDSI				S	Sn	19 16 08.7	-0.4
PPI	Padang Panjang	1.24	32	P	Pb	19 16 02.3	0.0
BKNI	Bangkinang	2.24	36	P	Pb	19 16 19.5	+0.1
MNSI	Mandailing Nat	2.29	356	P	Pb	19 16 22.0	+1.8
RGRI	Rengat	2.84	66	P	Pb	19 16 31.2	+1.6
PSI	Prapat	4.36	349	Pn	Pn	19 16 48.2	+4.4
	0.5nm,0.3s,baz=153,slow=9.0,SNR=2.2						
CMAR	Chiang Mai Arr	19.86	358	P	P	19 20 07.9	-0.4
	baz=185,slow=10						
WRA	Warramunga Arr	38.47	121	P	P	19 22 58.8	-0.3
	0.5nm,0.6s,baz=302,slow=9.2,SNR=5.4						
ASAR	Alice Springs	39.76	126	P	P	19 23 10.2	+0.3
	0.4nm,0.6s,baz=299,slow=8.0,SNR=7.5						
KSRS	Korea Array	46.74	31	P	P	19 24 05.8	-0.2
	0.2nm,0.3s,baz=224,slow=7.8,SNR=2.6						
SONM	Songino Array	49.49	6	P	P	19 24 26.5	-0.8

PUZ			SN	Sn	19 36 18.3	-2.3
MWZ	**Matawai**	**3.23 193**	P*	Pn	19 35 52.5	+0.8
MWZ			S*	Sn	19 36 29.0	0.0
URZ	**Urewera**	**3.25 199**	P*	Pn	19 35 52.2	+0.2
URZ			S*	Sn	19 36 29.8	+0.4
CNGZ	**Carnagh Statio**	**3.30 183**	*e*PN	Pn	19 35 52.2	-0.4
KNZ	**Kokohu**	**3.88 189**	PN	Pn	19 35 58.6	-1.9

*TRN **13** 20:21:25.8, 18°.09N×64°.38W, h19km*
*NEIC **13** 20:21:27.9, 18°.14N×64°.24W, h15km, MD3.5(RSPR), After RSPR.*
*RSPR **13** 20:21:27.9, 18°.14N×64°.24W, h15km±31km, MD3.5/6*
ISC 13 20:21:26.9±2.5, 18°.10N±0°.08×64°.2W±0°.1, h35km, n38, σ1.06/50, 20C-12D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**0.48**	**311**	*i*P	**Pn**	**20 21 36.2**	**-1.1**
TBVI				*e*S	**Sn**	**20 21 43.7**	**-0.9**
TBVI	**Tortola**	**0.48**	**311**	*i*P	**Pn**	**20 21 36.2**	**-1.1**
TBVI				*e*S	**Sn**	**20 21 43.7**	**-0.9**
TBVI	**Tortola**	**0.48**	**311**	*i* Pu	**Pn**	**20 21 36.2**	**-1.1**
TBVI				*e*S	**Sn**	**20 21 43.7**	**-0.9**
CDVI	**St. Croix**	**0.61**	**236**	*e*Pg	Pn	20 21 34.9	-4.2
CDVI				*e*Sg	**Sn**	**20 21 44.4**	**-3.4**
ABV	**Anegada**	**0.64**	**351**	*e*P	**Pn**	**20 21 39.8**	**+0.4**
ABV	**Anegada**	**0.64**	**351**	*e*P	**Pn**	**20 21 39.8**	**+0.4**
ABVI	**Anegada Island**	**0.64**	**351**	*e*P	**Pn**	**20 21 39.8**	**+0.4**
STVI	**Saint Thomas**	**0.73**	**290**	*e*P	**Pn**	**20 21 39.4**	**-1.4**
STVI	**Saint Thomas**	**0.73**	**290**	*e*P	**Pn**	**20 21 39.9**	**-0.8**
STVI				*e*S	**Sn**	**20 21 49.8**	**-0.9**
STVI	**Saint Thomas**	**0.73**	**290**	*e*P	**Pn**	**20 21 39.4**	**-1.4**
STVI	**Saint Thomas**	**0.73**	**290**	*e*P	**Pn**	**20 21 39.9**	**-0.8**
STVI				*e*S	**Sn**	**20 21 49.8**	**-0.9**
STVI	**Saint Thomas**	**0.73**	**290**	*e*P	**Pn**	**20 21 39.9**	**-0.8**
STVI				*e*S	**Sn**	**20 21 49.8**	**-0.9**
MTP	**Monte Pirata**	**1.26**	**270**	*e*P	**Pn**	**20 21 47.4**	**-0.5**
MTP	**Monte Pirata**	**1.26**	**270**	*e*S	**Sn**	**20 22 03.7**	**0.0**
MTP	**Monte Pirata**	**1.26**	**270**	*e*P	**Pn**	**20 21 47.4**	**-0.5**
MTP				*e*S	**Sn**	**20 22 03.7**	**0.0**
MTP	**Monte Pirata**	**1.26**	**270**	*e*P	**Pn**	**20 21 47.4**	**-0.5**
MTP				*e*S	**Sn**	**20 22 03.7**	**0.0**
HUMP	**Col San Antoni**	**1.54**	**272**	*e*P	**Pn**	**20 21 52.4**	**+0.5**
HUMP	**Col San Antoni**	**1.54**	**272**	*e*S	**Sn**	**20 22 11.9**	**+1.2**
HUMP	**Col San Antoni**	**1.54**	**272**	*e*P	**Pn**	**20 21 52.4**	**+0.5**
HUMP				*e*S	**Sn**	**20 22 11.9**	**+1.2**
HUMP	**Col San Antoni**	**1.54**	**272**	*e*P	**Pn**	**20 21 52.4**	**+0.5**
HUMP				*e*S	**Sn**	**20 22 11.9**	**+1.2**
CBYP	**Canovanas**	**1.56**	**277**	*e*P	**Pn**	**20 21 52.6**	**+0.4**
CBYP	**Canovanas**	**1.56**	**277**	*e*P	**Pn**	**20 21 52.6**	**+0.4**
CBYP	**Canovanas**	**1.56**	**277**	*e*P	**Pn**	**20 21 52.6**	**+0.4**
CPD	**Cerro la Pandu**	**1.60**	**268**	*e*P	**Pn**	**20 21 52.7**	**-0.1**
CPD	**Cerro la Pandu**	**1.60**	**268**	*e*P	**Pn**	**20 21 52.7**	**-0.1**
CPD	**Cerro la Pandu**	**1.60**	**268**	*e*P	**Pn**	**20 21 52.7**	**-0.1**
SJG	**San Juan**	**1.83**	**271**	*e*P	**Pn**	**20 21 56.5**	**+0.7**
SJG	**San Juan**	**1.83**	**271**	*e*P	**Pn**	**20 21 56.4**	**+0.7**
SJG	**San Juan**	**1.83**	**271**	*e*P	**Pn**	**20 21 56.4**	**+0.7**
SJG	**San Juan**	**1.83**	**271**	*e*P	**Pn**	**20 21 56.5**	**+0.7**
SJG	**San Juan**	**1.83**	**271**	*e*P	**Pn**	**20 21 56.4**	**+0.7**
AOPR	**Arecibo Observ**	**2.41**	**276**	*e*P	**Pn**	**20 22 05.5**	**+1.6**
AOPR	**Arecibo Observ**	**2.41**	**276**	*e*P	**Pn**	**20 22 05.5**	**+1.6**
AOPR	**Arecibo Observ**	**2.41**	**276**	*e*P	**Pn**	**20 22 05.5**	**+1.6**
LRS	**Lares**	**2.49**	**275**	*e*Pn	**Pn**	**20 22 06.2**	**+1.2**
LRS				*e*Sn	**Sn**	**20 22 37.0**	**+2.8**
CRPR	**Cabo Rojo, PR**	**2.74**	**269**	*e*P	**Pn**	**20 22 08.6**	**+0.2**
CRPR	**Cabo Rojo, PR**	**2.74**	**269**	*e*P	**Pn**	**20 22 08.6**	**+0.2**
CRPR	**Cabo Rojo, PR**	**2.74**	**269**	*e*P	**Pn**	**20 22 08.6**	**+0.2**

*TIR **13** 20:38:17.7, 41°.53N×20°.57E, h15km, ML2.9*
*CSEM **13** 20:38:19.5±0.2, 41°.54N×20°.50E, h10km, ML2.3/1, Error ellipse: s-maj=6.6km s-min=4.4km az=47.0*
*SKO **13** 20:38:19.6, 41°.48N×20°.50E, h15km, M1.9, ML2.2*
*THE **13** 20:38:19.0, 41°.66N×20°.45E, h23km±3km, ML2.3/1, Error ellipse: s-maj=6.8km s-min=0.9km az=343.0*
ISC 13 20:38:19.4±0.9, 41°.54N±0°.03×20°.48E±0°.03, h11km±6km, n19, σ0.53/37, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHP	**Peshkopia**	**0.15**	**350**	*i* PG	**Pg**	**20 38 22.7**	**-0.2**
PHP				*i* SG	**Sg**	**20 38 25.5**	**0.0**
PHP	**Peshkopia**	**0.15**	**350**	P	**Pg**	**20 38 22.8**	**-0.2**
PHP				S	**Sg**	**20 38 25.8**	**+0.3**
PHP	**Peshkopia**	**0.15**	**350**	*i* Pg	**Pg**	**20 38 22.7**	**-0.2**
PHP				S	**Sg**	**20 38 25.8**	**+0.3**
TIR	**Tirane**	**0.50**	**248**	*i* PG	**Pg**	**20 38 29.1**	**0.0**
TIR				*i* SG	**Sb**	**20 38 38.2**	**+0.8**
TIR	**Tirane**	**0.50**	**248**	P	**Pg**	**20 38 29.2**	**+0.1**
TIR				S	**Sb**	**20 38 37.7**	**+0.3**
TIR	**Tirane**	**0.50**	**248**	P	**Pg**	**20 38 29.2**	**+0.1**
TIR				S	**Sb**	**20 38 37.7**	**+0.3**
TIR				*i* Sg	**Sb**	**20 38 38.2**	**+0.8**
PUK	**Puka**	**0.67**	**319**	*i* PG	**Pg**	**20 38 31.8**	**-0.6**
PUK				*i* SG	**Sb**	**20 38 43.1**	**+0.6**
PUK	**Puka**	**0.67**	**319**	*i* Pg	**Pg**	**20 38 31.8**	**-0.6**
PUK				*i* Sg	**Sb**	**20 38 43.1**	**+0.6**
BIA	**Bitola**	**0.82**	**129**	*e*Pg	**Pg**	**20 38 35.3**	**0.0**
BIA				*i* Sg	**Sn**	**20 38 48.6**	**-0.5**
BIA	**Bitola**	**0.82**	**129**	*e*Pg	**Pg**	**20 38 34.7**	**-0.6**
BIA				*i* Sg	**Sb**	**20 38 48.1**	**+1.3**
SKO	**Skopje**	**0.84**	**58**	*e*Pg	**Pn**	**20 38 37.0**	**-0.3**
SKO				*i* Sg	**Sn**	**20 38 51.0**	**+1.3**
SKO				*e*Lg	Lg	20 38 51.3	
	comp=N,86nm,0.4s						
SKO				*e*Lg	Lg	20 38 51.8	
	comp=E,34nm,0.3s						
SKO	**Skopje**	**0.84**	**58**	*e*Pg	**Pb**	**20 38 35.9**	**-0.2**
SKO				*i* Sg	**Sn**	**20 38 49.9**	**+0.3**
SKO				*e*Lg	Lg	20 38 50.7	
	comp=E,34nm,0.3s						
BCI	**Bajram Curri**	**0.89**	**340**	*i* PG	**Pg**	**20 38 36.4**	**-0.1**
BCI				*i* SG	**Sn**	**20 38 50.4**	**-0.3**
BCI	**Bajram Curri**	**0.89**	**340**	*i* Pg	**Pg**	**20 38 36.4**	**-0.1**
BCI				*i* Sg	**Sn**	**20 38 50.4**	**-0.3**
FNA	**Florina**	**1.01**	**138**	P	**Pg**	**20 38 38.2**	**-0.7**
FNA				S	**Sn**	**20 38 53.6**	**-0.3**
FNA	**Florina**	**1.01**	**138**	P	**Pg**	**20 38 38.2**	**-0.7**
FNA				S	**Sn**	**20 38 53.6**	**-0.3**
NEST	**Nestorio**	**1.20**	**159**	P	**Pb**	**20 38 42.2**	**0.0**
NEST	**Nestorio**	**1.20**	**159**	P	**Pb**	**20 38 42.2**	**0.0**
STON	**Ston**	**2.46**	**304**	*e*Pn	**Pb**	**20 39 03.1**	**-0.5**
STON				Sn	**Sb**	**20 39 34.2**	**+0.3**

IDC 13 20:57:53.2±2.8, 20°.82S×178°.48W, h626km±36km, mb3.0/8, mb1 3.2/9, mb1mx3.1/18, mbtmp3.1/9, Error ellipse: s-maj=30.1km s-min=15.8km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.39**	**44**	P	P	20 59 59.6	-7.3
	4.4nm,0.3s,baz=17,slow=15,SNR=4.8						
AFI				S	S	21 01 43.8	-13
	2.0nm,0.3s,baz=246,slow=12,SNR=2.7						
URZ	**Urewera**	**17.79**	**191**	P	P	21 01 24.7	-0.9
	2.4nm,0.3s,baz=53,slow=0.7,SNR=8.6						
STKA	**Stephens Creek**	**37.24**	**244**	P	P	21 04 14.7	+0.7
	0.9nm,0.6s,baz=146,slow=20,SNR=6.7						
ASAR	**Alice Springs**	**44.01**	**257**	P	P	21 05 07.8	+0.3
	0.5nm,0.5s,baz=96,slow=7.4,SNR=14						
ASAR				S	S	21 10 56.2	+0.2
	0.9nm,0.7s,baz=95,slow=16,SNR=8.1						
WRA	**Warramunga Arr**	**44.11**	**262**	P	P	21 05 08.3	-0.1
	0.2nm,0.3s,baz=97,slow=6.6,SNR=18						
MJAR	**Matsushiro Arr**	**70.20**	**324**	P	P	21 08 04.5	-0.4
	0.9nm,0.6s,baz=149,slow=7.0,SNR=4.5						
ASAJ	**Asahikawa**	**73.80**	**332**	P	P	21 08 25.4	0.0
	6.9nm,0.9s,baz=135,slow=20,SNR=3.5						
PETK	**Petropavlovsk-**	**76.47**	**345**	P	P	21 08 40.1	+0.1
	1.8nm,0.6s,baz=134,slow=8.4,SNR=2.9						
TXAR	**Lajitas Array**	**87.61**	**58**	P	P	21 09 38.0	+1.1
	0.6nm,0.8s,baz=219,slow=6.6,SNR=6.6						
ILAR	**Eielson Array**	**88.73**	**13**	P	P	21 09 40.2	-0.9
	0.5nm,0.5s,baz=216,slow=5.2,SNR=14						
MKAR	**Makanchi Array**	**111.09**	**313**	PKiKP	PKiKP	21 15 17.2	+0.3
	0.2nm,0.4s,baz=180,slow=1.1,SNR=6.6						
ARCES	**ARCESS Array B**	**129.15**	**349**	PKP	PKPdf	21 15 50.4	-0.5
	1.9nm,0.9s,baz=48,slow=1.8,SNR=5.7						
AKASG	**Malin Array Be**	**143.07**	**331**	PKP	PKPab	21 16 14.7	-0.3
	1.5nm,0.5s,baz=41,slow=4.3,SNR=19						
BRTR	**Keskin Array B**	**146.72**	**312**	PKPbc	PKPbc	21 16 26.8	+0.1
	0.5nm,0.4s,baz=127,slow=3.6,SNR=3.8						
GERES	**GERESS Array B**	**150.38**	**344**	PKPbc	PKPbc	21 16 35.7	+0.4
	0.5nm,0.5s,baz=31,slow=3.1,SNR=8.7						

*AUST **13** 21:08:04.3±0.8, 7°.85S×117°.69E, h262km, Error ellipse: s-maj=2.0km s-min=0.9km az=5.0*
*IDC **13** 21:08:08.8±4.9, 7°.87S×117°.68E, h325km±55km, mb3.5/11, mb1 3.5/12, mb1mx3.4/24, mbtmp3.5/12, Error ellipse: s-maj=25.5km s-min=13.1km az=72.0*
ISC 13 21:08:07.4±0.7, 7°.63S±0°.08×117°.95E±0°.10, h300km, n27, σ1.78/26, mb3.9/10, Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**3.08**	**131**	P	Pn	21 08 59.0	-5.0
	baz=3.2,SNR=6.4						
WSI				S	S	21 09 40.9	-8.3
	baz=3.2,SNR=4.9						
JAGI	**Jajag, Banyuwa**	**3.85**	**257**	S	S	21 09 47.5	-16
	baz=16,SNR=7.2						
JAGI	**Jajag, Banyuwa**	**3.85**	**257**	P	Pn	21 09 04.3	-7.8
	baz=3.6,SNR=6.2						
SOEI	**Soe**	**6.59**	**109**	P	**Pn**	**21 09 42.2**	**-1.8**
	baz=6.8,SNR=4.5						
SOEI				S	**S**	**21 11 01.8**	**-0.2**
	baz=6.8,SNR=4.5						
UGM	**Wanagama**	**7.37**	**267**	P	Pn	21 09 46.8	-6.5
	baz=7.1,SNR=4.0						
UGM				S	S	21 11 06.8	-12
	baz=7.1,SNR=5.1						
CISI	**Cisompet, Garu**	**10.05**	**270**	S	S	21 11 54.0	-26
	baz=22,SNR=3.3						
FITZ	**Fitzroy Crossi**	**12.82**	**145**	P	**Pn**	**21 11 00.3**	**+0.4**
	1.0nm,0.3s,baz=343,slow=6.8,SNR=16						
FITZ				S	**S**	**21 13 24.6**	**+2.5**
	0.2nm,0.3s,baz=177,slow=19,SNR=4.3						
FITZ	**Fitzroy Crossi**	**12.82**	**145**	P	**Pn**	**21 10 59.6**	**-0.3**
	baz=13,SNR=6.7						
FITZ				S	**S**	**21 13 25.6**	**+3.5**
	baz=13,SNR=3.7						
KNRA	**Kununurra**	**13.26**	**128**	P	**Pn**	**21 11 03.6**	**-1.7**
	baz=13,SNR=20						
KNRA				S	S	21 13 39.5	+7.5
	baz=13,SNR=4.6						
MTN	**Manton Dam**	**13.96**	**113**	P	**P**	**21 11 13.5**	**+0.3**
	baz=14,SNR=15						
MTN				S	**S**	**21 13 43.5**	**-3.9**
	baz=14,SNR=3.9						
FAKI	**Fak Fak**	**14.98**	**73**	P	**P**	**21 11 26.4**	**+1.9**
	baz=15,SNR=4.5						
MEEK	**Meekatharra**	**18.92**	**178**	P	**P**	**21 12 04.4**	**-2.6**
	baz=19,SNR=13						
WRA	**Warramunga Arr**	**20.05**	**129**	P	**P**	**21 12 18.0**	**-1.0**
	2.7nm,0.5s,baz=298,slow=13,SNR=25						
ASAR	**Alice Springs**	**22.10**	**138**	P	**P**	**21 12 38.5**	**0.0**
	4.2nm,0.5s,baz=315,slow=9.4,SNR=74						
NWAO	**Narrogin (SRO)**	**25.18**	**181**	P	**P**	**21 13 03.9**	**-2.3**
	14nm,1.1s,baz=349,slow=10,SNR=3.6						
MTSU	**Mount Surprise**	**27.70**	**115**	S	**S**	**21 17 49.6**	**+0.9**
	baz=28,SNR=6.8						
CMAR	**Chiang Mai Arr**	**32.00**	**324**	P	**P**	**21 14 06.6**	**+0.1**
	0.4nm,0.6s,baz=154,slow=7.2,SNR=7.5						
STKA	**Stephens Creek**	**32.66**	**141**	P	**P**	**21 14 12.1**	**0.0**
	2.7nm,0.6s,baz=296,slow=10.0,SNR=9.0						
STKA	**Stephens Creek**	**32.66**	**141**	P	**P**	**21 14 12.4**	**+0.3**
	baz=33,SNR=7.2						
LHI	**Lord Howe Isla**	**45.05**	**127**	P	**P**	**21 15 55.1**	**+0.8**
	baz=45,SNR=4.0						
KSRS	**Korea Array**	**45.81**	**11**	P	**P**	**21 16 01.9**	**+2.0**
	2.7nm,1.0s,baz=194,slow=9.0,SNR=9.0						
USRK	**Ussuriysk Arra**	**53.13**	**13**	P	**P**	**21 16 56.1**	**+1.3**
	3.8nm,0.5s,baz=189,slow=7.4,SNR=17						
ASAJ	**Asahikawa**	**56.12**	**21**	P	**P**	**21 17 17.5**	**+1.3**
	3.5nm,0.7s,baz=215,slow=18,SNR=3.3						
SONM	**Songino Array**	**56.16**	**351**	P	**P**	**21 17 16.9**	**+0.4**
	3.2nm,0.5s,baz=168,slow=8.3,SNR=38						
MKAR	**Makanchi Array**	**62.77**	**333**	P	**P**	**21 18 00.5**	**-0.9**
	0.5nm,0.4s,baz=152,slow=6.5,SNR=15						
ZALV	**Zalesovo Beam**	**67.40**	**340**	P	**P**	**21 18 29.4**	**-1.4**
	0.4nm,0.3s,baz=145,slow=5.4,SNR=3.6						
TORD	**Torodi Ar. Bea**	**117.19**	**281**	PKP	**PKPdf**	**21 26 16.1**	**-2.0**
	0.4nm,0.7s,baz=49,slow=2.5,SNR=9.4						

IDC 13 21:37:35.3±3.4, 7°.91S×115°.05E, h214km±27km, mb3.1/7, mb1 3.1/9, mb1mx3.1/21, mbtmp3.1/9, Error ellipse: s-maj=50.2km s-min=12.9km az=60.0, Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**5.49**	**59**	P	Pn	21 38 56.3	+0.1
	0.6nm,0.3s,baz=253,slow=17,SNR=4.2						
FITZ	**Fitzroy Crossi**	**14.45**	**136**	P	Pn	21 40 50.1	-0.1
	0.1nm,0.3s,baz=315,slow=11,SNR=3.8						
FITZ				S	S	21 43 23.5	-6.7
	0.1nm,0.3s,baz=186,slow=18,SNR=4.7						
WRA	**Warramunga Arr**	**22.18**	**125**	P	P	21 42 13.4	-0.8
	0.3nm,0.5s,baz=300,slow=12,SNR=7.6						
ASAR	**Alice Springs**	**23.91**	**133**	P	P	21 42 30.2	+0.3
	0.6nm,0.5s,baz=307,slow=9.0,SNR=11						
ASAR				ScP	ScP	21 49 24.3	-0.4
	0.4nm,0.7s,baz=336,slow=2.2,SNR=5.2						
STKA	**Stephens Creek**	**34.33**	**138**	P	P	21 44 02.3	+0.6
	1.7nm,0.9s,baz=288,slow=9.6,SNR=3.5						
USRK	**Ussuriysk Arra**	**54.09**	**15**	P	P	21 46 38.0	+0.1
	1.5nm,0.5s,baz=188,slow=6.1,SNR=6.4						
SONM	**Songino Array**	**56.03**	**353**	P	P	21 46 52.1	+0.2
	0.4nm,0.7s,baz=152,slow=9.6,SNR=2.8						
MKAR	**Makanchi Array**	**61.77**	**335**	P	P	21 47 31.7	+0.4
	0.4nm,0.4s,baz=148,slow=6.9,SNR=11						
ZALV	**Zalesovo Beam**	**66.70**	**341**	P	P	21 48 02.1	-1.0
	0.5nm,0.5s,baz=134,slow=8.4,SNR=2.4						

MEX 13 21:41:38.7±0.3, 18°.37N×104°.56W, h16km±27km, MD3.5, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**1.15**	**94**	*i* P	Pn	21 41 56.5	-3.6
MMIG				*i* S	Sb	21 42 10.3	-4.6
CJM	**Chamela**	**1.22**	**338**	*i* P	Pn	21 41 57.4	-3.6
CJM				*i* S	Sb	21 42 11.8	-4.9
ANIG	**Ahuacatlan**	**2.67**	**1**	*e*P	Pn	21 42 19.0	-2.2
ANIG				*i* S	Sn	21 42 49.9	-3.4
ZIIG	**Zihuatanejo**	**3.04**	**104**	*e*P	Pn	21 42 23.6	-2.4
ZIIG				*i* S	Sn	21 42 58.0	-4.1

*BKK **13** 21:42:55.9±0.4, 23°.S±7°×18°.0E±°, h484km, M5.2/16, mB5.8/6, mb5.1/16, Mw(mB)5.3/6*
*DJA **13** 21:42:57.6±2.7, 23°.S±8°×18°.0E±°, h515km±32km, M5.0/15, mB5.6/3, mb5.0/15, Mw(mB)5.1/3*
*SZGRF **13** 21:42:58.9, 23°.99S×179°.49E, h547km, South of Fiji Islands*
*BJI **13** 21:42:58.8, 23°.30S×179°.70E, h539km, mB4.9/16, mb4.5/25*
*ISCJB **13** 21:43:00.5±0.5, 23°.29S±0°.04×179°.51E±0°.03, h549km±6km, mb4.6/102, Error ellipse: s-maj=5.9km s-min=3.9km az=148.5*
*TEH **13** 21:43:00.0, 23°.30S×179°.71E, h539km, ML4.8*
*NEIC **13** 21:43:01.1±0.5, 23°.25S×179°.61E, h552km±5km, mb4.7/65, Error ellipse: s-maj=6.2km s-min=4.7km az=138.0*
*IDC **13** 21:43:01.6±0.6, 23°.19S×179°.54E, h548km±5km, mb4.1/26, mb1 4.1/27, mb1mx4.1/29, mbtmp4.1/27, Error ellipse: s-maj=9.3km s-min=9.3km az=54.0*
*AUST **13** 21:43:03.4, 23°.17S×179°.79E, h600km*
*BGS **13** 21:43:04.7±5.0, 23°.25S×179°.61E, h552km, mb4.7(NEIC)*
*GCMT **13** 21:43:06.7±0.3, 23°.34S×179°.44E, h570km±2km, MW5.3*
Best double couple: NP1:φ=194.00000°, δ73.00000°, λ42.00000°. NP2:φ=89.00000°, δ50.00000°, λ158.00000°. Principal axes: T 1.3200, Plg41.0000°, Azm60.0000°; N -0.0400, Plg45.0000°, Azm212.0000°; P -1.2800, Plg14.0000°, Azm317.0000°; Data Used: II IU IC G.
ISC 13 21:43:00.4±0.3, 23°.30S±0°.04×179°.61E±0°.04, h543km±2km, h543km:pP-P, n570, σ1.20/673, mb4.7/102, 126C-107D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.73**	**345**	*e*P	**P**	**21 44 36.8**	**+0.4**
MSVF				*e*S	**S**	**21 45 53.8**	**-1.0**
RAO	**Raoul Island**	**6.33**	**160**	P	**P**	**21 44 44.1**	**+2.5**
RAO	**Raoul Island**	**6.33**	**160**	P	**P**	**21 44 44.1**	**+2.5**
	295nm,0.3s,baz=73,slow=20,SNR=5.3						
NIUE	**Niue**	**10.62**	**69**	P	**P**	**21 45 24.6**	**-0.2**
	baz=10,SNR=6.7						
NIUE				S	**S**	**21 47 27.4**	**+4.0**
	baz=10,SNR=9.5						
DZM	**Mont Dzumac**	**12.22**	**273**	*e*P	**P**	**21 45 42.4**	**+1.0**
	140nm,1.2s						
DZM	**Mont Dzumac**	**12.22**	**273**	*e*P	**P**	**21 45 42.4**	**+1.0**
	32nm,0.6s						
DZM				S	S	21 48 01.3	+7.5
DZM	**Mont Dzumac**	**12.22**	**273**	P	**P**	**21 45 42.8**	**+1.4**
	1.5nm,0.3s,baz=96,slow=17,SNR=12						
DZM				S	S	21 48 01.3	+7.5
	0.3nm,0.3s,baz=163,slow=19,SNR=2.6						
AFI	**Afiamalu**	**12.40**	**43**	*e*P	P	21 45 40.0	-3.3
AFI				S	S	21 47 47.8	-10
AFI	**Afiamalu**	**12.40**	**43**	P	P	21 45 39.8	-3.5
	13nm,0.3s,baz=36,slow=12,SNR=13						
AFI				S	S	21 47 47.8	-10
	14nm,0.3s,baz=188,slow=21,SNR=5.0						
URZ	**Urewera**	**15.07**	**188**	*e*P	**P**	**21 46 09.3**	**-1.3**
URZ				*e*S	**S**	**21 48 41.9**	**-5.2**
URZ	**Urewera**	**15.07**	**188**	P	**P**	**21 46 09.1**	**-1.4**
	7.7nm,0.3s,baz=357,slow=2.4,SNR=28						
URZ				S	**S**	**21 48 42.3**	**-4.8**
	2.0nm,0.3s,baz=197,slow=20,SNR=4.3						
BKZ	**Black Stump Fm**	**16.04**	**189**	*e*P	**P**	**21 46 17.8**	**-2.6**
	22nm,0.7s						
BFZ	**Birch Farm**	**17.57**	**189**	*e*P	**P**	**21 46 32.9**	**-1.6**
	50nm,1.0s						
SNZO	**South Karori**	**18.43**	**192**	*e*P	**P**	**21 46 43.0**	**+0.7**
	366nm,1.8s						
KHZ	**Kahutara**	**19.73**	**193**	*e*P	**P**	**21 46 53.9**	**-0.3**
	71nm,1.4s						
KHZ				*e*S	**S**	**21 50 03.2**	**-0.6**
RPZ	**Rata Peaks**	**21.56**	**197**	*e*P	**P**	**21 47 11.4**	**+0.6**
	22nm,0.7s						
RPZ	**Rata Peaks**	**21.56**	**197**	P	**P**	**21 47 11.3**	**+0.6**
	19nm,0.5s,baz=301,slow=2.4,SNR=9.4						
HNR	**Honiara**	**23.32**	**303**	P	**P**	**21 47 26.2**	**-0.7**
HNR	**Honiara**	**23.32**	**303**	P	**P**	**21 47 26.2**	**-0.7**
	152nm,0.7s,baz=184,slow=6.4,SNR=5.7						
WHZ	**Wether Hill Ro**	**24.45**	**200**	*e*P	**P**	**21 47 37.6**	**+1.1**
	903nm,2.8s						
TARA	**Tarawa**	**25.35**	**344**	*e*P	**P**	**21 47 44.6**	**-0.2**
	170nm,1.0s						
ARMA	**Armidale**	**25.91**	**248**	*e*P	**P**	**21 47 51.8**	**+2.1**
	23nm,0.6s						
ARMA	**Armidale**	**25.91**	**248**	P	**P**	**21 47 51.9**	**+2.1**
	baz=26,SNR=30						
EIDS	**Eidsvold**	**26.06**	**260**	*e*P	**P**	**21 47 52.1**	**+1.1**
	58nm,1.1s						
EIDS	**Eidsvold**	**26.06**	**260**	P	**P**	**21 47 52.0**	**+1.1**
	baz=26,SNR=18						
EIDS				S	**S**	**21 51 44.5**	**+0.3**
	baz=26,SNR=4.7						
MGCD	**Mangrove Creek**	**26.91**	**242**	P	**P**	**21 48 00.7**	**+2.4**
	baz=27,SNR=10						
RMQ	**Roma**	**28.13**	**257**	P	**P**	**21 48 11.3**	**+2.1**
	baz=28,SNR=38						
CMSA	**Cobar Meteorol**	**31.11**	**247**	P	**P**	**21 48 36.1**	**+1.2**
	baz=31,SNR=11						
CTA	**Charters Tower**	**31.12**	**269**	P	**P**	**21 48 36.1**	**+1.0**
CTA	**Charters Tower**	**31.12**	**269**	P	**P**	**21 48 36.1**	**+1.0**
	168nm,0.5s,baz=95,slow=11,SNR=193						
CTAO	**Charters Tower**	**31.12**	**269**	*e*P	**P**	**21 48 35.9**	**+0.8**
	160nm,0.5s						
PMOR	**Pomariorio Ree**	**31.73**	**81**	*e*P	**P**	**21 48 39.7**	**-0.6**
	131nm,1.2s						
TOO	**Toolangi**	**32.48**	**236**	P	**P**	**21 48 48.1**	**+1.6**
	baz=33,SNR=7.7						
MTSU	**Mount Surprise**	**33.36**	**272**	P	**P**	**21 48 54.9**	**+0.7**
	baz=34,SNR=87						
XMAS	**Kiritimati**	**33.67**	**45**	*e*P	**P**	**21 48 57.1**	**+0.3**
	121nm,0.8s						
PMG	**Port Moresby**	**33.96**	**289**	*e*P	**P**	**21 48 59.4**	**+0.2**
	227nm,0.9s						
PMG	**Port Moresby**	**33.96**	**289**	P	**P**	**21 48 58.7**	**-0.5**
	288nm,1.0s,2μm						
PMG	**Port Moresby**	**33.96**	**289**	P	**P**	**21 48 59.5**	**+0.2**
	202nm,0.8s,baz=100,slow=5.0,SNR=32						
STKA	**Stephens Creek**	**34.62**	**247**	*e*P	**P**	**21 49 05.9**	**+

SBA	Scott Base	54.96	183	eP	P	21 51 40.1	+0.2
	22nm,1.3s						
SBA				eP	cP	21 52 34.0	+0.6
NWAO	Narrogin (SRO)	55.16	245	P	P	21 51 42.2	+0.1
NWAO	Narrogin (SRO)	55.16	245	P	P	21 51 42.2	+0.1
	6.9nm,0.4s,baz=99,slow=2.5,SNR=6.7						
BLDU	Ballidu	55.92	248	P	P	21 51 47.2	-0.2
	baz=56,SNR=25						
TNTI	Ternate	56.11	288	eP	P	21 51 48.5	-0.5
	104nm,0.9s						
MMRI	Maumere	56.71	275	eP	P	21 51 52.3	-0.8
MORW	Morawa	56.75	250	P	P	21 51 53.2	0.0
	baz=57,SNR=21						
LUWI	Luwuk	59.34	283	P	P	21 52 10.8	-0.1
	baz=60,SNR=4.9						
KAPI	Kappang	60.39	278	P	P	21 52 16.8	-1.1
KAPI	Kappang	60.39	278	P	P	21 52 16.8	-1.1
	6.8nm,0.7s,baz=139,slow=7.7,SNR=4.0						
CASY	Casey	60.50	206	eP	P	21 52 18.0	+0.3
	6.0nm,0.9s						
JAGI	Jajag, Banyuwa	64.20	272	P	P	21 52 41.4	-1.2
	baz=64,SNR=3.1						
QSPA	South Pole Qui	66.78	180	eP	P	21 52 58.7	+0.7
	35nm,0.9s						
QSPA	South Pole Qui	66.78	180	P	P	21 52 59.6	+1.7
	21nm,0.7s,baz=28,slow=1.9,SNR=69						
KKM	Kota Kinabalu	68.39	287	P	P	21 53 02.7	-5.9
	baz=69,SNR=4.2						
JNU	Nakatsue	72.84	319	P	P	21 53 33.7	-0.7
JNU	Nakatsue	72.84	319	P	P	21 53 33.7	-0.7
	5.3nm,0.8s,baz=146,slow=3.6						
FX1	Attu Island--F	76.06	356	P	P	21 53 50.7	-1.3
FX1	Attu Island--F	76.06	356	P	P	21 53 50.7	-1.3
	6.5nm,0.6s,baz=185,slow=4.0,SNR=5.3						
KSRS	Korea Array	77.56	320	P	P	21 54 01.4	+0.8
	2.5nm,0.8s,baz=136,slow=5.5,SNR=15						
KSAR	Wonju Array Be	77.57	320	P	P	21 54 01.4	+0.7
MAW	Mawson	78.19	200	eP	P	21 54 03.6	+0.2
MAW				ePcP	PcP	21 54 09.3	-1.2
MAW	Mawson	78.19	200	P	P	21 54 04.5	+1.1
	5.9nm,0.7s,baz=119,slow=7.8,SNR=15						
MAW	Mawson	78.19	200	P	P	21 54 04.6	+1.1
	baz=78,SNR=9.1						
PETK	Petropavlovsk-	78.43	347	P	P	21 54 05.2	+0.3
PETK	Petropavlovsk-	78.43	347	P	P	21 54 05.2	+0.3
	12nm,0.6s,baz=144,slow=7.7,SNR=17						
PMSA	Palmer Station	79.60	157	P	P	21 54 12.7	+1.7
PMSA	Palmer Station	79.60	157	P	P	21 54 12.7	+1.7
	12nm,0.6s,baz=262,slow=4.6,SNR=6.0						
NJ2	Nanjing	80.00	311	eP	P	21 54 15.1	+1.5
NJ2				pmax	pmax		
	comp=Z,20nm,0.6s						
QIZ	Qiongzhong	80.02	296	P	P	21 54 14.1	+0.1
QIZ				S	S	22 03 37.1	+3.0
QIZ				pmax	pmax		
	comp=Z,10.0nm,1.3s						
USRK	Ussuriysk Arra	80.07	327	P	P	21 54 14.8	+1.0
	comp=Z,1.7nm,0.6s,baz=159,slow=5.7,SNR=6.8						
CHGN	Chignik	81.44	12	eP	P	21 54 19.0	-1.5
PKM	Peak Mountain	81.52	46	⇑P	P	21 54 22.9	+1.2
	baz=82,SNR=5.3						
MDJ	Mudanjiang	81.57	326	P	P	21 54 23.8	+2.3
MDJ				pP	pP	21 56 17.5	-0.6
MDJ				sP	sP	21 57 10.0	-3.3
MDJ				PP	PP	21 57 39.1	+0.8
MDJ				S	SKSac	22 03 49.6	+0.3
MDJ				sS	sS	22 07 15.4	-1.2
MDJ				SS	SS	22 09 23.8	+1.5
MDJ				pmax	pmax		
	comp=Z,8.0nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,59nm,4.6s						
SAO	San Andreas Ge	81.57	44	eP	P	21 54 20.3	-1.4
	comp=Z,12nm,0.9s						
PASC	Pasadena Art C	82.20	48	eP	P	21 54 24.0	-1.0
	comp=Z,13nm,0.8s						
109C	Camp Elliot, M	82.23	49	⇑P	P	21 54 26.0	+0.9
	baz=82						
ARVC	Arvin	82.32	47	⇓P	P	21 54 26.4	+0.9
	baz=82,SNR=5.5						
MURC	Murrieta	82.56	49	⇑P	P	21 54 27.5	+0.7
	baz=83						
VES	Vestal, Richgr	82.56	46	⇑P	P	21 54 27.1	+0.4
	baz=83,SNR=6.6						
BFSC	Mount Baldy Ra	82.60	48	⇓P	P	21 54 27.8	+0.6
	baz=83,SNR=5.1						
MONP	Monument Peak	82.70	50	⇓P	P	21 54 28.9	+1.1
	baz=83,SNR=15						
EDW2	Edwards Air Fo	82.74	47	⇑P	P	21 54 28.5	+0.7
	baz=83,SNR=9.0						
DVTC	Desert V Tower	82.80	50	⇑P	P	21 54 29.4	+1.2
	baz=83,SNR=7.7						
ISA	Isabella	82.86	46	eP	P	21 54 28.2	-0.2
	comp=Z,32nm,0.9s						
ISA	Isabella	82.86	46	⇑P	P	21 54 29.4	+1.0
	baz=83,SNR=25						
USHA	Ushuaia	83.00	147	P	P	21 54 31.1	+2.5
USHA	Ushuaia	83.00	147	P	P	21 54 31.1	+2.5
	comp=Z,5.8nm,0.9s,baz=270,slow=8.1,SNR=3.6						
CMB	Columbia Colle	83.01	44	eP	P	21 54 28.8	-0.2
	comp=Z,27nm,0.9s						
PFO	Pinyon Flat Ob	83.08	49	⇓P	P	21 54 30.6	+1.1
	baz=83						
SWSC	Sam W. Stewart	83.17	50	⇓P	P	21 54 31.0	+1.2
	baz=83,SNR=11						
CN2	Changchun	83.19	324	eP	P	21 54 34.3	+4.6
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
WDC	Whiskeytown Da	83.23	40	eP	P	21 54 29.6	-0.3
	comp=Z,14nm,0.9s						
SYO	Syowa Base	83.51	193	⇓eP	P	21 54 29.4	-1.5
PANO	Nakornpanom	83.55	292	P	P	21 54 33.1	+1.0
	comp=Z,172nm,2.5s,comp=Z,19μm						
BELC	Belle Mtn. Jos	83.61	49	⇓P	P	21 54 33.1	+0.9
	baz=84,SNR=15						
MPMC	Manual Prospec	83.75	47	⇓P	P	21 54 33.6	+0.7
	baz=84,SNR=13						
GSC	Goldstone	83.78	47	eP	P	21 54 33.3	+0.4
	comp=Z,17nm,0.9s						
GSC	Goldstone	83.78	47	⇑P	P	21 54 33.6	+0.7
	baz=84,SNR=16						
BC3	Big Chuckawall	83.80	49	⇓P	P	21 54 34.3	+1.1
	baz=84,SNR=6.4						
HEC	Hector,Ludlow	83.84	48	⇓P	P	21 54 33.9	+0.6
	baz=84,SNR=30						
YBH	Yreka Blue Hor	83.85	40	eP	P	21 54 33.1	-0.1
	comp=Z,12nm,0.8s						
YBH	Yreka Blue Hor	83.85	40	P	P	21 54 34.5	+1.3
	comp=Z,14nm,0.9s,baz=224,slow=1.5,SNR=34						
WAKR	Walker	83.89	44	eP	P	21 54 33.9	+0.3
	comp=Z,24nm,1.2s						
GLA	Glamis	83.92	50	eP	P	21 54 32.7	-0.9
	comp=Z,41nm,1.0s						
GLA	Glamis	83.92	50	⇓P	P	21 54 35.1	+1.4
	baz=84,SNR=16						
KDAK	Kodiak Island	84.05	15	P	P	21 54 33.6	0.0
KDAK	Kodiak Island	84.05	15	P	P	21 54 33.6	0.0
	comp=Z,8.5nm,0.8s,baz=63,slow=6.8,SNR=3.6						
BEKR	Beckworth	84.12	42	eP	P	21 54 35.4	+0.7
	comp=Z,3.6nm,0.8s						
HUMO	Hull Mountain	84.25	39	eP	P	21 54 34.8	-0.2
	comp=Z,27nm,1.1s						
GMRC	Granite Mounta	84.27	48	⇑P	P	21 54 36.3	+0.8
	baz=84,SNR=13						
IRM	Iron Mountain	84.29	49	⇑P	P	21 54 36.5	+1.1
	baz=84,SNR=10						
GRAC	Grapevine Rang	84.36	46	⇑P	P	21 54 37.1	+1.3
	baz=84						
TUQ	Turquoise Moun	84.45	48	⇑P	P	21 54 36.9	+0.6
	baz=85						
SHOC	Shoshone	84.47	47	⇑P	P	21 54 36.9	+0.6
	baz=85						
Y12C	Blythe	84.50	50	⇑P	P	21 54 37.5	+1.1
	baz=85,SNR=7.9						
113A	Mohawk Valley,	84.52	51	⇓P	P	21 54 37.5	+1.0
	baz=85,SNR=12						
214A	Organ Pipe Nat	84.78	52	⇓P	P	21 54 39.2	+1.3
	baz=85,SNR=7.3						
PDMCI	Parker Dam,Lak	85.07	50	⇑P	P	21 54 40.4	+1.2
	baz=85,SNR=5.8						
SNAA	Sanae	85.27	179	eP	P	21 54 39.2	-0.5
SNAA	Sanae	85.27	179	eSKSac	SKSac	22 04 10.5	-2.0
SNAA	Sanae	85.27	179	eP	pP	21 56 40.0	+2.5
SNAA	Sanae	85.27	179	eP	P	21 54 39.5	-0.2
	comp=Z,3.7nm,0.4s						
SNAA				epP	pP	21 56 38.4	+0.9
MOD	Modoc	85.38	40	eP	P	21 54 41.3	+0.6
	comp=Z,53nm,0.8s						
Z14A	Wintersburg	85.42	51	⇑P	P	21 54 42.0	+1.1
	baz=86,SNR=5.6						
SHPR	Sheep Range	85.56	47	eP	P	21 54 40.6	-1.1
	comp=Z,4.4nm,0.9s						
W13A	Hualapai Mount	85.67	49	⇑P	P	21 54 43.4	+1.0
	baz=86						
Y14A	Wickenburg	85.67	50	⇓P	P	21 54 43.1	+0.9
	baz=86,SNR=8.6						
VNA2	Neumayer--Watz	85.91	178	eP	P	21 54 42.7	+0.1
VNA2	Neumayer--Watz	85.91	178	ePKiKP	PKiKP	21 59 46.4	-0.6
VNA2	Neumayer--Watz	85.91	178	eP	pP	21 56 44.5	+3.8
GYA	Guiyang	86.14	301	eP	P	21 54 45.0	+0.4
GYA				pP	pP	21 56 44.8	+2.0
GYA				sP	sP	21 57 37.0	-0.8
GYA				PP	PP	21 58 17.3	+1.8
GYA				SKS	SKSac	22 04 19.5	+0.2
GYA				S	S	22 04 34.8	+0.4
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GYA				pmax	pmax		
	comp=Z,90nm,5.4s						
VNA1	Neumayer--Stat	86.15	177	eP	P	21 54 44.1	+0.4
VNA1	Neumayer--Stat	86.15	177	eP	pP	21 56 47.3	+5.4
R11A	Troy Canyon, C	86.28	45	⇓P	P	21 54 45.6	+0.4
	baz=86						
BJI	Beijing	86.35	317	P	P	21 54 47.1	+2.0
BJI				pmax	pmax		
	comp=Z,12nm,0.9s						
BMN	Battle Mountai	86.40	43	eP	P	21 54 45.8	+0.2
	comp=Z,12nm,0.9s						
TUC	Tucson	86.44	53	eP	P	21 54 45.7	-0.2
	comp=Z,18nm,1.0s						
RSO	Redoubt South	86.44	13	eP	P	21 54 44.2	-1.2
	comp=Z,13nm,0.8s						
WVOR	Wild Horse Val	86.69	41	eP	P	21 54 47.1	+0.2
	comp=Z,16nm,1.0s						
NLWA	Neilton Lookou	86.78	35	eP	P	21 54 46.4	-0.7
	comp=Z,39nm,1.5s						
X16A	Lo Mia Camp, P	87.03	51	⇓P	P	21 54 50.1	+1.4
	baz=87,SNR=12						
319A	Douglas	87.08	54	⇓P	P	21 54 50.7	+1.7
	baz=87,SNR=16						
CCUT	Cedar City	87.33	47	eP	P	21 54 49.5	-0.7
	comp=Z,12nm,0.9s						
U15A	North Rim	87.47	49	⇓P	P	21 54 52.1	+1.2
	baz=88,SNR=40						
LON	Longmire	87.47	36	eP	P	21 54 49.9	-0.5
	comp=Z,8.9nm,1.0s						
WPW	White Pass	87.58	36	P	P	21 54 51.7	+0.8
320A	Kipp Ranch, An	87.62	54	⇓P	P	21 54 53.5	+2.0
	baz=88,SNR=26						
WUAZ	Wupatki	87.64	50	⇑P	P	21 54 52.4	+0.8
	baz=88,SNR=5.1						
GSM	Grass Mountain	87.76	36	P	P	21 54 52.8	+1.0
PGC	Sidney	87.81	34	eP	P	21 54 51.0	-0.8
	comp=Z,1.8nm,0.9s						
ELK	Elko	87.83	44	eP	P	21 54 51.9	-0.5
220A	Playas Peak, P	87.90	54	⇓P	P	21 54 54.4	+1.5
	baz=88,SNR=12						
120A	U Bar Ranch, L	88.13	53	⇓P	P	21 54 55.4	+1.4
	baz=88,SNR=12						
X18A	Snowflake	88.15	51	⇓P	P	21 54 55.0	+1.0
	baz=88,SNR=8.2						
TWW	Teanaway	88.22	36	P	P	21 54 55.4	+1.5
PMR	Palmer	88.25	14	eP	P	21 54 54.2	+0.7
	comp=Z,22nm,1.1s						
CMW	Cultus Mountai	88.35	35	P	P	21 54 55.8	+1.3
LAMP	Lampang	88.42	291	P	P	21 54 58.3	+3.0
	comp=Z,2.8nm,0.9s						
Z20A	Nine Sixteen R	88.44	53	⇓P	P	21 54 56.8	+1.5
	baz=89,SNR=8.2						
REDWA	Red Mountain	88.50	37	P	P	21 54 56.3	+1.2
HAWA	Hanford	88.50	37	eP	P	21 54 54.4	-0.7
	comp=Z,21nm,1.0s						
221A	Mesquite Ranch	88.51	54	⇓P	P	21 54 57.2	+1.5
	baz=89,SNR=7.2						
MVU	Marysvale	88.60	47	eP	P	21 54 55.9	-0.2
	comp=Z,16nm,1.3s						
KMI	Kunming	88.67	298	P	P	21 54 59.5	+2.8
KMI				pmax	pmax		
	comp=Z,6.0nm,1.0s						
121A	Cookes Peak, D	88.75	54	⇑P	P	21 54 58.2	+1.4
	baz=89,SNR=12						
BMO	Blue Mountains	88.87	39	eP	P	21 54 55.8	-1.2
	comp=Z,2.1nm,0.8s						
PLCA	Paso Flores	88.94	134	P	P	21 54 59.3	+1.7
PLCA	Paso Flores	88.94	134	P	P	21 54 59.3	+1.7
	comp=Z,6.8nm,1.0s,baz=254,slow=6.7,SNR=2.0						
MFID	Camas Ranch	88.94	41	⇑P	P	21 54 58.1	+0.7
	baz=89,SNR=17						
Y20A	Horse Springs,	88.98	52	⇓P	P	21 54 59.3	+1.3
	baz=89,SNR=18						
CMAR	Chiang Mai Arr	88.98	290	P	P	21 54 59.6	+1.7
CMAR				pP	pP	21 56 58.0	+0.8
CMAR				PKKPbc	PKKPbc	22 12 33.8	+1.0
CMAR	Chiang Mai Arr	88.98	290	P	P	21 54 59.6	+1.7
	comp=Z,3.0nm,1.0s,baz=138,slow=3.0,SNR=14						
CMAR				pP	pP	21 56 58.0	+0.8
	comp=Z,0.5nm,0.3s,baz=110,slow=4.9,SNR=2.5						
CMAR				PKKPbc	PKKPbc	22 12 33.8	+1.0
	comp=Z,1.5nm,0.7s,baz=284,slow=3.9,SNR=8.8						
222A	Williams Famil	89.06	54	⇑P	P	21 54 59.6	+1.4
	baz=89,SNR=7.0						
DUG	Dugway	89.09	45	eP	P	21 54 57.5	-0.7
	comp=Z,4.8nm,1.0s						
DUG	Dugway	89.09	45	⇓P	P	21 54 58.9	+0.7
	baz=89						
CHTO	Chiang Mai	89.13	291	eP	P	21 54 58.3	-0.3
	comp=Z,3.9nm,1.0s						
CHTO	Chiang Mai	89.13	291	P	P	21 54 59.2	+0.5
CHTO	Chiang Mai	89.13	291	P	P	21 55 00.7	+2.0
	comp=Z,5.2nm,0.9s						
WRAK	Wrangell Islan	89.16	24	eP	P	21 54 57.9	0.0
	comp=Z,12nm,0.8s						
X20A	Quemado	89.20	52	⇑P	P	21 54 60.0	+1.1
	baz=89,SNR=7.2						
Z21A	St. Cloud Mine	89.21	53	⇑P	P	21 55 00.5	+1.5
	baz=89,SNR=26						
W20A	Ramah	89.48	51	⇓P	P	21 55 01.4	+1.1
	baz=90,SNR=22						
CMAI	Chiengmai2	89.51	292	P	P	21 55 02.2	+1.6
	comp=Z,93nm,1.8s,comp=Z,4μm						
Q16A	Castle Valley	89.51	47	⇑P	P	21 55 01.7	+1.4
	baz=90						
223A	Chaparral, Ant	89.52	55	⇑P	P	21 55 01.6	+1.2
	baz=90						
Y21A	Point of Rocks	89.54	52	⇓P	P	21 55 02.0	+1.5
	baz=90,SNR=26						
OD2	Odessa Site #2	89.55	37	P	P	21 55 00.9	+0.9
X21A	Alamocita Cree	89.67	52	⇓P	P	21 55 02.2	+1.1
	baz=90,SNR=13						
TMUT	Trail Mountain	89.68	46	eP	P	21 55 01.6	+0.5
	comp=Z,44nm,0.8s						
Z22A	Elephant Butte	89.70	53	⇓P	P	21 55 02.4	+1.2
	baz=90,SNR=25						
HHC	Hu-ho-hao-te	89.74	315	eP	P	21 55 00.8	-0.3
HHC				pP	pP	21 57 00.4	-0.1
HHC				sP	sP	21 57 53.6	-1.4
HHC				PP	PP	21 58 46.0	+2.4
HHC				SKS	SKSac	22 04 39.5	-0.4
HHC				S	S	22 05 06.3	-0.8
HHC				sS	sS	22 08 38.0	-2.1
HHC				SS	SS	22 11 25.0	+3.8
HHC				pmax	pmax		
	comp=Z,27nm,1.0s						
HHC				pmax	pmax		
	comp=Z,320nm,5.3s						
MPU	Maple Canyon	89.77	46	eP	P	21 55 00.4	-1.0
	comp=Z,19nm,0.9s						
V20A	Brimhall	89.83	51	⇑P	P	21 55 02.3	+0.5
	baz=90						
HLID	Hailey	89.88	42	⇑P	P	21 55 02.7	+0.9
	baz=90,SNR=17						
123A	Bell Site, Whi	89.94	54	⇑P	P	21 55 03.2	+0.9
	baz=90						
HVU	Hansel Valley	89.95	44	eP	P	21 55 02.9	+0.7
	comp=Z,28nm,1.1s						
324A	Moseley Ranch,	89.97	56	⇑P	P	21 55 03.4	+0.9
	baz=90,SNR=21						
Y22A	Socorro	90.03	53	⇑P	P	21 55 03.7	+0.9
	baz=90,SNR=11						
SRU	San Rafael	90.05	47	eP	P	21 55 02.5	-0.2
	comp=Z,37nm,0.9s						
425A	Indio Mountain	90.05	56	⇑P	P	21 55 04.0	+1.1
	baz=90,SNR=19						
U20A	Newcomb	90.07	50	⇓P	P	21 55 03.5	+0.6
	baz=90						
LAZ	Ladron	90.12	52	eP	P	21 55 03.2	+0.1
	comp=Z,5.8nm,1.0s						
626A	Big Bend Ranch	90.15	58	⇓P	P	21 55 04.3	+1.0
	baz=90,SNR=19						
MNTX	Cornudas Mount	90.16	55	eP	P	21 55 03.3	+0.1
	comp=Z,11nm,0.8s						
MCK	McKinley	90.18	13	eP	P	21 55 01.7	-0.8
	comp=Z,11nm,0.9s						
DAU	Daniels Canyon	90.22	46	eP	P	21 55 03.9	+0.3
	comp=Z,24nm,1.1s						
224A	Cornudas Mount	90.23	55	⇑P	P	21 55 04.8	+1.1
	baz=90,SNR=9.5						
Z23A	Rita Site, Whi	90.25	54	⇑P	P	21 55 04.7	+1.0
	baz=90,SNR=11						
X22A	Bernardo	90.26	52	⇑P	P	21 55 04.9	+1.1
	baz=90						
325A	Bean Ranch, Si	90.33	56	⇓P	P	21 55 04.8	+0.6
	baz=90,SNR=21						
BNM	Barren Site	90.37	53	eP	P	21 55 03.9	-0.5
	comp=Z,6.0nm,0.9s						
526A	Mary Lane Ranc	90.41	57	⇓P	P	21 55 05.5	+0.9
	baz=90,SNR=9.0						
TXAR	Lajitas Array	90.42	58	P	P	21 55 05.7	+1.2
TXAR	Lajitas Array	90.42	58	P	P	21 55 05.7	+1.2
	comp=Z,10.0nm,0.9s,baz=213,slow=6.3,SNR=88						
V21A	Milan	90.42	51	⇓P	P	21 55 05.1	+0.6
	baz=91						
CD2	Chengdu	90.45	304	P	P	21 55 05.8	+1.2
CD2				pP	pP	21 57 05.8	+1.8
CD2				sP	sP	21 57 59.0	+0.5
CD2				PP	PP	21 58 53.4	+4.1
CD2				SKS	SKSac	22 04 45.3	+1.0
CD2				S	S	22 05 14.1	+0.4
CD2				sS	sS	22 08 46.5	-0.6
CD2				SS	SS	22 11 36.5	+5.0
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,450nm,4.3s						
124A	Stringfield Ra	90.57	55	⇓P	P	21 55 06.2	+0.9
	baz=91,SNR=9.7						
HWUT	Hardware Ranch	90.63	44	eP	P	21 55 04.3	-1.0
	comp=Z,9.2nm,0.9s						
627A	Terlingua Ranc	90.69	58	⇑P	P	21 55 06.8	+1.0
	baz=91,SNR=18						
Y23A	Lovelace Mesa,	90.69	53	⇓P	P	21 55 06.4	+0.6
	baz=91,SNR=7.6						
U21A	Nageezi	90.71	50	⇓P	P	21 55 06.6	+0.7
	baz=91,SNR=38						
426A	McDonald Obser	90.73	57	⇑P	P	21 55 06.9	+0.8
	baz=91,SNR=14						
225A	Deer Hill, Car	90.78	55	⇑P	P	21 55 07.3	+1.0
	baz=91,SNR=18						
527A	Woodward Ranch	90.82	57	⇓P	P	21 55 07.1	+0.7
	baz=91,SNR=12						
ANMO	Albuquerque	90.87	52	eP	P	21 55 06.2	-0.4
	comp=Z,11nm,1.0s						
S20A	Disappointment	90.89	49	⇓P	P	21 55 07.2	+0.5
	baz=91,SNR=5.8						
X23A	Hourglass Bar	90.89	53	⇑P	P	21 55 07.4	+0.6
	baz=91						
Z24A	Sheeppen Canyo	90.92	54	⇑P	P	21 55 07.7	+0.7
	baz=91,SNR=7.3						
V22A	San Miguel Ran	91.00	51	⇓P	P	21 55 07.5	+0.2
	baz=91						
R20A	Redvale	91.05	49	⇑P	P	21 55 07.7	+0.3
	baz=91						
326A	Caldwell Ranch	91.06	56	⇓P	P	21 55 07.3	-0.1
	baz=91						
T21A	Navajo Lake	91.06	50	⇓P	P	21 55 08.0	+0.5
	baz=91						
628A	Black Gap, Mar	91.09	58	⇑P	P	21 55 08.6	+1.0
	baz=91,SNR=14						
M17A	Scullys Gap (B	91.14	45	⇑P	P	21 55 08.3	+0.5
	baz=91						
Y24A	Capitan	91.14	53	⇓P	P	21 55 08.5	+0.6
	baz=91,SNR=14						
125A	Gardner Draw,	91.15	55	⇓P	P	21 55 08.6	+0.7
	baz=91,SNR=9.3						
S21A	Coal Bank Pass	91.20	49	⇑P	P	21 55 08.7	+0.5
	baz=91,SNR=11						
226B	Tecolote Peak,	91.26	56	⇓P	P	21 55 08.9	+0.6
	baz=91,SNR=13						
427A	Hayter Ranch,	91.30	57	⇓P	P	21 55 09.6	+1.1
	baz=91,SNR=25						
P19A	Cripple Cowboy	91.34	47	⇓P	P	21 55 09.2	+0.5
	baz=92,SNR=7.1						
Z25A	Roswell	91.38	54	⇑P	P	21 55 09.8	+0.9
	baz=92,SNR=5.8						
V23A	Ortiz Mt. (NFS	91.44	52	⇑P	P	21 55 10.4	+1.1
	baz=92,SNR=8.4						
Q20A	Ridgley Place,	91.48	48	⇑P	P	21 55 09.8	+0.5
	baz=92,SNR=7.1						
MCMT	McKenzie Canyo	91.51	41	eP	P	21 55 08.0	-1.4
	comp=Z,2.5nm,1.0s						
T22A	Edith	91.52	50	⇓P	P	21 55 09.7	0.0
	baz=92						
ILAR	Eielson Array	91.53	14	P	P	21 55 07.5	-1.2
ILAR	Eielson Array	91.53	14	P	P	21 55 07.5	-1.2
	comp=Z,1.5nm,0.8s,baz=224,slow=5.7,SNR=13						
O19A	Miners Draw (B	91.57	46	⇓P	P	21 55 10.0	+0.3
	baz=92,SNR=9.5						
P20A	De Beque	91.68	47	⇓P	P	21 55 10.9	+0.7
	baz=92						
RRI2	Red Ridge	91.68	43	eP	P	21 55 09.2	-1.0
	comp=Z,5.8nm,0.8s						
Y25A	Mesa, Roswell	91.69	54	⇑P	P	21 55 10.7	+0.3
	baz=92,SNR=8.3						
U23A	El Rito	91.70	51	⇓P	P	21 55 11.0	+0.5
	baz=92,SNR=5.2						
R21A	Cimarron	91.71	49	⇓P	P	21 55 11.2	+0.7
	baz=92,SNR=11						
W24A	Lazy 6 Ranch,	91.75	52	⇓P	P	21 55 10.8	+0.1
	baz=92,SNR=7.6						
428A	Kincaid Ranch,	91.79	57	⇓P	P	21 55 11.6	+0.7
	baz=92						
I16A	Newdale

baz=93
530A **J-C Ranch, Com** 92.59 58 ⇓P P 21 55 15.0 +0.5
baz=93
T24B **San Luis** 92.62 51 ⇑P P 21 55 15.6 +0.9
baz=93,SNR=6.1
329A **Wagon Wheel Ra** 92.67 57 ⇓P P 21 55 15.3 +0.4
baz=93
BOZ **Bozeman (W)** 92.67 41 eP P 21 55 13.2 -1.4
comp=Z,2.9nm,0.9s
LZH **Lanzhou** 92.72 308 ⇓P P 21 55 14.3 -0.8
LZH pP pP 21 57 14.5 -0.2
LZH sP sP 21 58 07.3 -1.8
LZH PP PP 21 59 10.6 +3.6
LZH SKS SKSac 22 04 56.5 -0.4
LZH S S 22 05 32.5 -1.2
LZH sS sS 22 09 05.3 -3.2
LZH pmax pmax
comp=Z,23nm,1.5s
LZH pmax pmax
comp=Z,110nm,8.7s
128A **Castleberry Fa** 92.77 56 ⇓P P 21 55 15.6 +0.3
baz=93
M20A **Sweetwater, Wa** 92.78 46 ⇑P P 21 55 15.8 +0.5
baz=93
Y27A **Causey** 92.81 54 ⇓P P 21 55 15.5 0.0
baz=93,SNR=6.6
R23A **Moffat** 92.82 50 ⇑P P 21 55 16.3 +0.6
baz=93
SDCO **Great Sand Dun** 92.85 50 eP P 21 55 14.2 -1.5
comp=Z,6.0nm,0.9s
EGAK **Eagle** 92.88 16 eP P 21 55 14.3 -0.5
comp=Z,6.8nm,0.8s
631A **Perdido Creek** 92.88 59 ⇑P P 21 55 16.1 +0.4
baz=93,SNR=16
L20A **Wamsutter** 92.92 45 ⇑P P 21 55 16.1 +0.2
baz=93
430A **Baggett Ranch,** 92.94 58 ⇓P P 21 55 16.4 +0.4
baz=93
S24A **Houchin Ranch,** 93.00 50 ⇑P P 21 55 17.0 +0.5
baz=93,SNR=6.7
229A **Bryant Ranch,** 93.00 57 ⇓P P 21 55 16.5 +0.2
baz=93
U25A **Circle Dot Ran** 93.02 52 ⇓P P 21 55 16.7 +0.3
baz=93,SNR=7.9
J19A **Crowheart** 93.07 44 ⇑P P 21 55 16.9 +0.4
baz=93,SNR=6.9
732A **Laxson Ranch,** 93.07 60 ⇓P P 21 55 16.9 +0.2
baz=93,SNR=6.2
MSTX **Muleshoe** 93.14 54 ⇓P P 21 55 17.2 +0.2
baz=93
Q23A **Hartsel** 93.15 49 ⇓P P 21 55 17.7 +0.5
baz=93
V26A **Tequesquite Ra** 93.20 52 ⇓P P 21 55 17.3 +0.1
baz=93
531A **Rocksprings** 93.22 59 ⇓P P 21 55 17.9 +0.6
baz=93,SNR=10.0
O22A **Kremmling** 93.24 47 ⇓P P 21 55 17.7 +0.2
baz=93
R24A **Sanders Place,** 93.35 50 ⇓P P 21 55 18.6 +0.7
baz=94,SNR=7.7
T25A **Trinidad** 93.35 51 ⇑P P 21 55 18.1 +0.1
baz=94,SNR=5.4
P23A **Jefferson** 93.36 48 ⇑P P 21 55 18.6 +0.4
baz=94
M21A **Separation Pea** 93.37 46 ⇓P P 21 55 18.2 +0.1
baz=94
W27A **Bowe Ranch, En** 93.41 53 ⇑P P 21 55 18.0 -0.1
baz=94
I19A **Meeteetse** 93.49 43 ⇓P P 21 55 19.1 +0.6
baz=94
U26A **Atchley Ranch,** 93.49 52 ⇑P P 21 55 18.8 +0.1
baz=94
230A **Sterling City** 93.51 57 ⇑P P 21 55 18.7 +0.1
baz=94
632A **Uvalde** 93.54 60 ⇓P P 21 55 19.5 +0.7
baz=94,SNR=9.3
S25A **Robets Cordova** 93.56 50 ⇑P P 21 55 19.1 +0.2
baz=94
N22A **Wattenberg Ran** 93.60 47 ⇑P P 21 55 19.5 +0.4
baz=94
Z29A **Hungry Hill Ra** 93.64 55 ⇓P P 21 55 19.2 0.0
baz=94
Q24A **Divide** 93.65 49 ⇑P P 21 55 19.9 +0.5
baz=94,SNR=5.6
532A **Rocksprings** 93.71 59 ⇓P P 21 55 20.0 +0.4
baz=94,SNR=7.7
ISCO **Idaho Springs** 93.71 48 ⇑P P 21 55 20.0 +0.3
baz=94
J20A **Shoshoni** 93.73 44 ⇑P P 21 55 19.9 +0.4
baz=94
G18A **Lazy EL Ranch,** 93.76 42 ⇑P P 21 55 19.9 +0.3
baz=94
R25A **Fountain Ranch** 93.89 50 ⇓P P 21 55 20.0 -0.3
baz=94
432A **Menard** 94.11 58 ⇓P P 21 55 21.2 -0.2
baz=94
J21A **Lysite** 94.14 44 ⇓P P 21 55 21.8 +0.3
baz=94
231A **Bronte** 94.14 57 ⇓P P 21 55 21.2 -0.3
baz=94,SNR=6.5
L22A **Ellis Ranch, M** 94.19 46 ⇑P P 21 55 21.9 +0.3
baz=94
S26A **Kim** 94.23 51 ⇑P P 21 55 21.9 0.0
baz=94,SNR=8.7
H20A **Greybull** 94.33 43 ⇑P P 21 55 21.7 -0.5
baz=94
332A **Millersview** 94.36 58 ⇓P P 21 55 22.4 0.0
baz=94,SNR=6.0
131A **Roby** 94.39 56 ⇓P P 21 55 22.3 -0.4
baz=94
F19A **Roth Farm, Mol** 94.40 42 ⇑P P 21 55 22.5 0.0
baz=95
I21A **Big Trails, Te** 94.46 44 ⇑P P 21 55 22.6 -0.2
baz=95
R26A **Arlington** 94.55 50 ⇓P P 21 55 23.1 -0.2
baz=95,SNR=8.2
232A **Coleman** 94.64 57 ⇑P P 21 55 23.7 -0.1
baz=95
L23A **Garrett** 94.71 46 ⇑P P 21 55 24.2 +0.1
baz=95
E19A **Rath Farm, Rou** 94.79 41 ⇑P P 21 55 24.7 +0.5
baz=95
Z31A **Sharp Cattle R** 94.85 56 ⇑P P 21 55 24.5 -0.2
baz=95
ABTX **Abilene, Hawle** 94.95 57 ⇓P P 21 55 25.0 -0.1
baz=95
R27A **Eads** 95.00 50 ⇑P P 21 55 25.0 -0.3
baz=95
D19A **Cripps Ranch,** 95.08 41 ⇓P P 21 55 25.3 -0.1
baz=95
C19A **Slack Wire Ran** 95.25 40 ⇓P P 21 55 26.7 +0.5
baz=95
S28A **Manter** 95.34 51 ⇓P P 21 55 27.1 +0.2
baz=96
Z32A **Haskell** 95.35 56 ⇓P P 21 55 26.9 0.0
baz=96
R28A **Tribune** 95.73 51 ⇓P P 21 55 28.9 +0.3
baz=96
SONM **Songino Array** 96.42 320 P P 21 55 31.8 +0.3
SONM PP PP 21 59 28.1 -6.8
SONM PKKPbc **PKKPbc** 22 12 14.7 -0.3
SONM **Songino Array** 96.42 320 P P 21 55 31.8 +0.3
comp=Z,0.2nm,0.6s,baz=147,slow=8.3,SNR=2.9
SONM PP PP 21 59 28.1 -6.8
comp=Z,0.9nm,0.9s,baz=114,slow=6.2,SNR=4.6
SONM PKKPbc **PKKPbc** 22 12 14.7 -0.3
comp=Z,0.8nm,0.5s,baz=286,slow=3.7,SNR=4.8
Q29A **Oakley** 96.55 51 ⇑P P 21 55 32.5 +0.3
baz=97
H24A **Dirks Ranch, A** 96.64 44 ⇓P P 21 55 32.5 0.0
baz=97
I25A **Rochford** 96.85 45 ⇑P P 21 55 33.6 -0.1
baz=97
P29A **Atwood** 96.88 50 ⇓P P 21 55 34.3 +0.6
baz=97
Q30A **Quinter** 97.12 51 ⇑P Pdif 21 55 35.2 +0.4
baz=97
P30A **Selden** 97.33 50 ⇑P P 21 55 36.4 +0.7
baz=98
F25A **Bowman** 97.84 43 ⇓P P 21 55 38.7 +0.8
baz=98
ZALV **Zalesovo Beam** 111.26 321 PKiKP **PKiKP** 22 00 31.1 -1.2
ZALV SKP 22 03 15.7
ZALV **Zalesovo Beam** 111.26 321 PKiKP **PKiKP** 22 00 31.1 -1.2
comp=Z,1.5nm,0.6s,baz=118,slow=0.7,SNR=8.1
ZALV SKP 22 03 15.7
comp=Z,1.2nm,0.8s,baz=90,slow=1.5,SNR=3.7
MKAR **Makanchi Array** 111.48 313 PKiKP **PKiKP** 22 00 30.5 -2.6

MKAR PP **PP** 22 01 25.1 +0.1
MKAR SKP 22 03 16.8
MKAR PKKPbc **PKKPbc** 22 11 29.6 -0.5
MKAR PKKPab **PKKPab** 22 11 40.2 +0.6
MKAR Makanchi Array 111.48 313 PKiKP PKiKP 22 00 30.5 -2.6
comp=Z,0.9nm,0.5s,baz=173,slow=1.9,SNR=6.4
MKAR PP **PP** 22 01 25.1 +0.1
comp=Z,0.9nm,0.8s,baz=87,slow=6.3,SNR=2.8
MKAR SKP 22 03 16.8
comp=Z,1.6nm,0.7s,baz=69,slow=1.3,SNR=9.1
MKAR PKKPbc **PKKPbc** 22 11 29.6 -0.5
comp=Z,0.6nm,0.7s,baz=298,slow=3.3,SNR=4.8
MKAR PKKPab **PKKPab** 22 11 40.2 +0.6
comp=Z,1.3nm,0.6s,baz=287,slow=3.5,SNR=4.1
KSH Kashi 114.64 304 *e*PKP PKPdf 22 00 38.9 -0.6
KSH PP **PP** 22 01 52.3 +4.8
KSH sPKP 22 03 37.8
KSH PKS **PKSdf** 22 04 14.3 -1.9
KSH SKS **SKSdf** 22 06 59.8 -0.5
KSH SS **SS** 22 17 03.5 +2.8
KSH AMB AMB
comp=Z,53nm,7.7s
AAK Ala-Archa 116.25 307 PKP **PKPdf** 22 00 41.4 -1.1
AAK PKKPbc **PKKPbc** 22 11 14.4 +0.2
AAK Ala-Archa 116.25 307 PKP **PKPdf** 22 00 41.4 -1.1
comp=Z,0.8nm,0.4s,baz=202,slow=5.4,SNR=4.5
AAK PKKPbc **PKKPbc** 22 11 14.4 +0.2
comp=Z,2.8nm,0.7s,baz=252,slow=2.6,SNR=11
KKAR Karatay Array 119.22 308 *e*PKPdf **PKPdf** 22 00 47.5 -0.5
KBL Kabul 119.25 298 *e*P **PKPdf** 22 00 47.4 -1.2
BDFB Brasilia 119.45 125 PKP **PKPdf** 22 00 48.6 -0.8
BDFB Brasilia 119.45 125 PKP **PKPdf** 22 00 48.6 -0.8
comp=Z,3.0nm,0.6s,baz=258,slow=3.3,SNR=6.0
SCHQ Schefferville 122.23 39 PKP **PKPdf** 22 00 51.4 -2.0
SCHQ Schefferville 122.23 39 PKP **PKPdf** 22 00 51.4 -2.0
comp=Z,1.8nm,0.5s,baz=225,slow=7.1,SNR=5.0
BOSA Boshof 122.78 207 PKP **PKPdf** 22 00 55.8 +0.2
BOSA PKKPbc **PKKPbc** 22 10 49.5 -1.8
BOSA Boshof 122.78 207 PKP **PKPdf** 22 00 55.8 +0.2
comp=Z,4.6nm,0.8s,baz=173,slow=4.4,SNR=8.6
BOSA PKKPbc **PKKPbc** 22 10 49.5 -1.8
comp=Z,5.7nm,1.1s,baz=190,slow=4.3,SNR=3.7
SPITS Spitsbergen Ar 124.50 356 PKP **PKPdf** 22 00 54.9 -2.2
SPITS Spitsbergen Ar 124.50 356 PKP **PKPdf** 22 00 54.9 -2.2
comp=Z,10.0nm,0.7s,baz=349,slow=4.4,SNR=5.7
SUMG Summit 126.38 13 *i* P **PKPdf** 22 01 00.4 -1.0
comp=Z,8.0nm,1.1s
SUMG Summit 126.38 13 *e*PKPdf **PKPdf** 22 01 00.2 -1.2
ABKAR Akbulak array 126.53 315 *e*PKPdf **PKPdf** 22 01 01.3 -0.5
ARCES ARCESS Array B 131.23 348 PKPpre PKPpre 22 01 00.2
ARCES PKP **PKPdf** 22 01 09.6 -0.6
ARCES SKPbc **SKPbc** 22 03 44.7 +0.1
ARCES ARCESS Array B 131.23 348 PKhKP PKPpre 22 01 00.2
comp=Z,3.3nm,0.9s,baz=26,slow=4.4,SNR=3.8
ARCES PKP **PKPdf** 22 01 09.6 -0.6
comp=Z,7.2nm,0.7s,baz=34,slow=1.5,SNR=19
ARCES SKPbc **SKPbc** 22 03 44.7 +0.1
comp=Z,5.6nm,0.8s,baz=31,slow=3.4,SNR=9.1
ISRV Sarvestan 132.01 289 *e*P **SKPab** 22 03 49.8 -0.8
IPAR Pars 132.11 290 *e*P **SKPab** 22 03 50.0 -1.1
ISHM Shahmirzad 132.20 298 *e*P **SKPab** 22 03 50.5 -0.7
IZEF Zefreh 132.93 294 *e*P **SKPab** 22 03 52.0 -2.5
IKAZ Kazeroun 133.15 290 *e*P **SKPab** 22 03 53.7 -1.9
KMBO Kilima Mbogo 136.07 242 *e*PKPdf **PKPdf** 22 01 21.3 0.0
KMBO SKP 22 04 04.0
KMBO Kilima Mbogo 136.07 242 SKP **SKPdf** 22 04 04.0 -0.9
comp=Z,4.1nm,0.9s,baz=224,slow=23,SNR=9.1
FINES FINESS Array B 137.76 341 PKPpre PKPpre 22 01 12.4
FINES PKP **PKPdf** 22 01 20.0 -2.6
FINES SKPbc **SKPbc** 22 04 04.9 -0.6
FINES FINESS Array B 137.76 341 PKhKP PKPpre 22 01 12.4
comp=Z,2.1nm,0.8s,baz=44,slow=4.0,SNR=6.9
FINES PKP **PKPdf** 22 01 20.0 -2.6
comp=Z,3.4nm,0.6s,baz=39,slow=3.7,SNR=8.6
FINES SKPbc **SKPbc** 22 04 04.9 -0.6
comp=Z,6.5nm,0.7s,baz=64,slow=4.4,SNR=12
KBZ Khabaz 139.12 311 SKPbc **SKPbc** 22 04 09.9 +0.2
KBZ Khabaz 139.12 311 SKPbc **SKPbc** 22 04 09.9 +0.2
comp=Z,1.5nm,0.6s,baz=11,slow=5.2,SNR=5.3
NB2 NORSAR Subarra141.43 351 PKP PKPpre 22 01 24.0
comp=Z,1.8nm,0.6s,baz=16,slow=3.2
NB2 NORSAR Subarra141.43 351 PKP PKPpre 22 01 24.0
baz=16,slow=3.2
NOA NORSAR Array B141.43 351 PKPpre PKPpre 22 01 24.1
NOA SKPbc **SKPbc** 22 04 14.6 -0.8
NOA NORSAR Array B141.43 351 PKhKP PKPpre 22 01 24.1
comp=Z,5.3nm,0.7s,baz=16,slow=4.6,SNR=21
NOA SKPbc **SKPbc** 22 04 14.6 -0.8
comp=Z,1.5nm,0.6s,baz=16,slow=4.2,SNR=6.7
NC602 NORSAR Array S141.68 351 *e*P **PKPdf** 22 01 24.7 -5.0
ASK Askoy 142.63 355 *e*P **PKPdf** 22 01 27.4 -3.9
ASK AMB AMB 22 01 28.7
comp=Z,128nm,1.7s
RUND Rundenannen 142.69 355 *e*P **PKPdf** 22 01 27.5 -4.0
BER Bergen 142.72 355 *e*P **PKPdf** 22 01 28.5 -3.0
EGD Espegrend 142.84 355 *e*P **PKPdf** 22 01 28.3 -3.4
ODD1 Odda 143.08 354 *e*P PKPab 22 01 29.4 -0.5
LRW Lerwick 143.18 1 *e*P PKPab 22 01 29.2 -1.0
BLS5 Blasjo 143.58 354 *e*P PKPab 22 01 31.4 -0.4
BLS5 AMB AMB 22 01 32.1
comp=Z,26nm,0.9s
MALT Malatya 143.74 304 ⇓*i*P PKPab 22 01 33.5 +0.3
KMY Karmoy 143.89 355 *e*P PKPbc 22 01 32.4 -0.4
KMY AMB AMB 22 01 33.1
comp=Z,66nm,0.9s
AKASG Malin Array Be 144.27 327 PKP PKPbc 22 01 33.4 -0.8
AKASG SKPbc **SKPbc** 22 04 22.1 -0.4
AKASG Malin Array Be 144.27 327 PKP PKPbc 22 01 33.4 -0.8
comp=Z,11nm,0.5s,baz=43,slow=4.4,SNR=96
AKASG SKPbc **SKPbc** 22 04 22.1 -0.4
comp=Z,9.0nm,0.8s,baz=46,slow=3.0,SNR=16
KIEV Kiev 144.29 327 *e*PKPdf PKPbc 22 01 33.1 -1.2
HOMB Homborsund 144.48 352 *e*P PKPbc 22 01 34.6 0.0
SNART Snartemo 144.57 353 *e*P **PKPdf** 22 01 34.5 -0.3
SNART AMB AMB 22 01 38.4
comp=Z,46nm,2.3s
SUW Suwalki 144.57 336 *e*PKP **PKPdf** 22 01 34.7 -0.2
MVH1 Achvaich 145.30 4 *e*P **PKPdf** 22 01 36.2 +0.2
ZALF Zalf 145.53 295 *e*P **PKPdf** 22 01 36.9 -0.4
KAC Achnashellach 145.65 5 *e*P **PKPbc** 22 01 37.8 -0.4
MCD Coleburn Disti 145.69 3 *e*P **PKPdf** 22 01 37.4 +0.7
MDO Dochfour 145.77 4 *e*P **PKPdf** 22 01 37.3 +0.4
KPL Plockton 145.78 5 *e*P **PKPbc** 22 01 38.0 -0.6
KSB Sheil Bridge 145.93 5 *e*P **PKPbc** 22 01 38.4 -0.5
MME1 Meikle Cairn 145.97 2 *e*P **PKPdf** 22 01 37.4 +0.1
SALA Sala 146.05 294 *e*P **PKPdf** 22 01 36.8 -1.6
MARH Ras Al Marh 146.09 297 *e*P **PKPdf** 22 01 37.6 -1.0
TOTH TOTAH 146.23 296 *e*P **PKPdf** 22 01 38.6 +0.1
BSD Bornholm Skovb 146.24 344 *i* P **PKPbc** 22 01 39.2 -0.7
comp=Z,34nm,0.8s
DRUM Mains of Drumt 146.39 2 *e*P **PKPdf** 22 01 38.9 +1.0
BRBR Barbar 146.62 296 *e*P **PKPdf** 22 01 37.3 -2.0
TCHB Talchebab 146.70 294 *e*P **PKPdf** 22 01 38.8 -0.4
BR131 Keskin Array S 146.93 308 *e*PKPdf **PKPdf** 22 01 38.5 -1.1
BRTR Keskin Array B 146.93 308 PKP **PKPdf** 22 01 39.8 +0.2
BRTR PKPbc **PKPbc** 22 01 42.1 -0.4
BRTR pPKPbc pPKPbc 22 03 48.6 +0.8
BRTR SKPbc **SKiKP** 22 04 29.4 +0.2
BRTR Keskin Array B 146.93 308 PKP **PKPdf** 22 01 39.8 +0.2
comp=Z,4.2nm,0.7s,baz=58,slow=3.1,SNR=20
BRTR PKPbc **PKPbc** 22 01 42.1 -0.4
comp=Z,4.8nm,0.6s,baz=137,slow=3.8,SNR=20
BRTR pPKPbc pPKPbc 22 03 48.6 +0.8
comp=Z,1.2nm,0.9s,baz=267,slow=2.2,SNR=3.0
BRTR SKPbc **SKiKP** 22 04 29.4 +0.2
comp=Z,2.1nm,1.0s,baz=130,slow=4.7,SNR=3.6
EAB Aberfoyle 147.02 4 *e*P **PKPbc** 22 01 41.4 -0.6
BEL Belsk 147.18 336 *i* PKPc **PKPbc** 22 01 42.8 +0.3
LEOM Leova 147.35 322 ⇓*i*P **PKPbc** 22 01 42.4 -0.7
ESY Stoneypath 147.38 2 *e*P **PKPbc** 22 01 41.9 -1.0
PGBU Glenifferbraes 147.38 4 *e*P **PKPbc** 22 01 42.3 -0.6
ANTO Ankara 147.49 308 ⇑*i*P **PKPdf** 22 01 40.6 +0.2
EBL Broad Law 147.50 3 *e*P **PKPbc** 22 01 42.4 -0.9
TLCR 147.74 320 ⇑*i*P **PKPbc** 22 01 44.3 +0.1
ESK Eskdalemuir 147.95 3 *e*P **PKPbc** 22 01 43.5 -1.0
KWP Kalwaria Pacla 148.07 331 *e*PKPdf **PKPdf** 22 01 41.1 +0.1
KWP *e*PKPbc **PKPbc** 22 01 44.9 0.0
KWP Kalwaria Pacla 148.07 331 ⇑*i*P **PKPbc** 22 01 45.1 +0.2
KWP Kalwaria Pacla 148.07 331 ⇑*i* PKPc **PKPbc** 22 01 45.0 0.0
ECK Cauldkaine Hil 148.09 3 *e*P **PKPbc** 22 01 43.9 -0.9
CFR Carcaliu 148.14 320 ⇓*i*P **PKPbc** 22 01 45.3 +0.1
TESR Tescani 148.21 323 ⇑*i*P **PKPbc** 22 01 45.2 -0.2
BUR08 Bucovina Ar. S 148.26 326 *e*PKPdf **PKPdf** 22 01 42.2 +0.8

BURAR Bucovina Array 148.27 326 ⇑*i*P **PKPbc** 22 01 46.0 +0.4
BSEG Bad Segeberg 148.36 348 *e*PKPbc **PKPbc** 22 01 45.7 +0.3
comp=Z,53nm,0.9s
TIRR Tirgusor 148.37 319 ⇑*i*P **PKPbc** 22 01 45.7 -0.1
XAL Allendale 148.45 2 *e*P **PKPbc** 22 01 45.6 -0.1
TLB Topalu 148.53 319 ⇑*i*P **PKPbc** 22 01 46.5 +0.3
VRI Vrincioaia 148.56 322 ⇓*i*P **PKPbc** 22 01 46.0 -0.3
KOLS Kolonicke sedl 148.78 331 *e*PKP **PKPbc** 22 01 47.3 +0.6
KOLS *e* 22 03 59.5
OJC Ojcow 148.84 335 *e*PKP **PKPbc** 22 01 46.8 0.0
STHS Stebnicka Huta 148.87 332 *e*PKP **PKPbc** 22 01 47.6 +0.7
STHS *e* 22 03 59.2
RUE Ruedersdorf 148.91 343 *e*PKPbc **PKPbc** 22 01 47.0 +0.1
comp=Z,78nm,1.3s
CRVS Cervenica-Dubn 149.16 331 *e*PKP **PKPbc** 22 01 48.1 +0.4
CRVS *e* 22 03 59.1
MLR Muntele Rosu 149.22 322 ⇓*i*P **PKPbc** 22 01 47.2 -0.9
TRPA Tarpa 149.23 329 ⇑*i*P **PKPbc** 22 01 47.8 0.0
NIE Niedzica 149.26 333 *e*PKP **PKPbc** 22 01 48.6 +0.7
HPK Haverah Park 149.37 1 *e*P **PKPbc** 22 01 47.4 -0.6
KSP Ksiaz 149.60 339 *i* PKPc **PKPbc** 22 01 49.0 +0.4
VOIR 149.75 323 ⇑*i*P **PKPbc** 22 01 49.0 -0.3
NRDL Niedersach Rie 149.76 347 *e*PKPbc **PKPbc** 22 01 49.0 +0.2
OKC Ostrava-Krasne 149.78 336 ⇑*i*PKP **PKPbc** 22 01 49.3 +0.2
OKC *e*PKPAB **PKPab** 22 01 55.6 -1.2
OKC *ep*PKP pPKPdf 22 04 01.0 +10
WME Myndd Eilian 149.80 5 *e*P **PKPbc** 22 01 47.6 -1.3
WLF1 Llynfaes 149.90 5 *e*P **PKPbc** 22 01 48.0 -1.2
KECS Kecovo 149.90 332 *e*PKP **PKPbc** 22 01 49.0 -0.4
KECS *e* 22 04 01.5
WPM1 Penmaenmawr 149.97 4 *e*P **PKPbc** 22 01 48.7 -0.7
UPC Upice 149.98 339 ⇑*i*PKP **PKPbc** 22 01 49.8 +0.3
UPC *e*PKPAB **PKPab** 22 01 55.6 -2.0
UPC *ep*PKP pPKPdf 22 04 02.0 +10
DPC Dobruska-Polom 150.01 338 ⇑*i*PKP **PKPbc** 22 01 50.0 +0.3
DPC *ep*PKP pPKPdf 22 04 01.8 +10
MORC Moravsky Berou 150.06 336 *e*PKPdf **PKPdf** 22 01 43.8 -0.4
MORC *e*PKPdf **PKPbc** 22 01 49.9 +0.1
YLL Llanberis 150.06 5 *e*P **PKPdf** 22 01 45.2 +1.3
KBI1 Birley Grange 150.07 1 *e*P **PKPbc** 22 01 49.0 -0.6
DRGR 150.09 327 ⇑*i*P **PKPbc** 22 01 49.7 -0.3
CLL Collm 150.18 343 *e*PKPbc **PKPbc** 22 01 50.0 0.0
CLL Collm 150.18 343 *e*PKPdf **PKPdf** 22 01 44.0 -0.2
CLL ⇑*i*PKPbc **PKPbc** 22 01 49.9 0.0
comp=Z,72nm,0.8s
CLL *e*PKPab **PKPab** 22 01 58.0 -0.4
CLL *ep*PKPab **pPKPab** 22 04 02.0 +2.0
CLL *es*PKPbc **sPKPbc** 22 04 51.0 +1.9
CLL *e* 22 05 06.0
BRG Berggiesshubel 150.30 342 *i* PKP **PKPbc** 22 01 50.5 +0.2
comp=Z,46nm,0.8s
BRG *ep*PKP pPKPdf 22 04 02.3 +10
comp=Z,37nm,1.6s
BRG Berggiesshubel 150.30 342 *e*PKPbc **PKPbc** 22 01 50.4 +0.2
CLZ Clausthal 150.32 346 *e*PKPbc **PKPbc** 22 01 50.6 +0.3
FOEL Foel Wylfa 150.38 3 *e*P **PKPbc** 22 01 49.9 -0.5
VAL Valentia 150.41 12 *e*P **PKPdf** 22 01 42.8 -1.7
PVCC Panska Ves 150.42 341 ⇑*i*PKP **PKPbc** 22 01 51.0 +0.5
PVCC *ep*PKP pPKPdf 22 04 01.8 +9.5
FBE Freiberg 150.43 342 *e*PKPbc **PKPbc** 22 01 51.1 +0.6
NEUB Neuenburg 150.59 344 *e*PKPbc **PKPbc** 22 01 51.0 +0.1
PSZ Piszkesteto 150.59 332 *e*PKPdf **PKPdf** 22 01 44.7 -0.3
PSZ *e*PKPbc **PKPbc** 22 01 50.7 -0.4
PSZ Piszkesteto 150.59 332 ⇓*i*P **PKPbc** 22 01 50.8 -0.3
PSZ Piszkesteto 150.59 332 ⇑*e* **PKPbc** 22 01 50.9 -0.2
VYHS Vyhne 150.59 334 *e*PKP **PKPbc** 22 01 51.1 +0.1
VYHS *e* 22 04 04.0
HLM1 Long Mynd 150.76 3 *e*P **PKPbc** 22 01 50.3 -1.0
PRA Prague 150.87 340 ⇑PKP **PKPbc** 22 01 52.0 +0.4
PRU Pruhonice 150.90 340 ⇑*i*PKP **PKPbc** 22 01 51.2 -0.5
PRU *ep*PKP pPKPdf 22 04 04.2 +11
GZR Gura Zlata 151.01 325 ⇑*i*P **PKPbc** 22 01 51.5 -0.7
TANN Tannenbergstha 151.13 343 *e*PKPbc **PKPbc** 22 01 52.4 +0.1
SMOL Smolenice 151.14 335 *e*PKP **PKPbc** 22 01 52.8 +0.5
SMOL *e* 22 04 05.6
MOX Moxa 151.14 344 *e*PKPbc **PKPbc** 22 01 52.2 0.0
WERD Werda 151.14 343 *e*PKPbc **PKPbc** 22 01 52.3 +0.1
PLN Plauen 151.15 343 *e*PKPbc **PKPbc** 22 01 52.3 +0.1
PLN *e*PKPab **PKPab** 22 02 02.7 +0.2
PLN *ep*PKPab **pPKPab** 22 04 04.3 +0.3
TREC Trest 151.19 338 ⇑*i*PKP **PKPbc** 22 01 52.1 -0.3
TREC *ex* x 22 01 57.4
TREC *ep*PKP pPKPdf 22 04 04.4 +11
GUNZ Gunzen 151.21 343 *e*PKPbc **PKPbc** 22 01 52.6 +0.2
GUNZ *e*PKPab **PKPab** 22 02 02.9 +0.1
MCH1 Michaelchurch 151.28 3 *e*P **PKPbc** 22 01 49.4 -3.0
ROHR Rohrbach 151.34 343 *e*PKPbc **PKPbc** 22 01 52.3 -0.4
ROHR *e*PKPab **PKPab** 22 02 03.7 +0.3
SSW Stow on the Wo 151.35 2 *e*P **PKPbc** 22 01 52.1 -0.5
PKSN Nyarlorinc 151.37 330 ⇓*e* **PKPbc** 22 01 53.3 +0.5
BZS Buzias 151.45 327 ⇑*i*P **PKPbc** 22 01 52.8 -0.3
MANZ Manzenberg 151.62 343 *e*PKPbc **PKPbc** 22 01 53.4 +0.1
SKP1 Kophill 151.62 1 *e*P **PKPbc** 22 01 52.0 -1.2
PKSG 151.64 333 *e* **PKPbc** 22 01 53.0 -0.4
ROTZ Rotzenmuhle 151.79 343 *e*PKPbc **PKPbc** 22 01 53.8 +0.1
PKST T"s 151.90 333 ⇑*e* **PKPbc** 22 01 53.3 -0.7
KHC Kasperske Hory 151.96 340 ⇑*i*PKP **PKPbc** 22 01 54.0 -0.1
KHC *e*PKPAB **PKPab** 22 02 06.3 +0.3
KHC *ep*PKP pPKPdf 22 04 06.9 +12
KHC Kasperske Hory 151.96 340 *e*PKPdf **PKPdf** 22 01 46.8 -0.2
KHC *e*PKPbc **PKPbc** 22 01 53.6 -0.5
KHC *e*PKPab **PKPab** 22 02 06.5 +0.4
WOL Wolverton 152.03 1 *e*P **PKPbc** 22 01 53.4 -0.7
GRF Grafenberg Arr 152.12 344 *e*PKPbc **PKPbc** 22 01 54.4 0.0
GEC2 GERESS Array S 152.17 340 *e*PKPbc **PKPbc** 22 01 54.5 -0.2
GERES GERESS Array B 152.17 340 PKP **PKPdf** 22 01 46.9 -0.6
GERES PKPbc **PKPbc** 22 01 54.1 -0.6
GERES pPKPbc **pPKPbc** 22 04 03.6 +2.3
GERES GERESS Array B 152.17 340 PKP **PKPdf** 22 01 46.9 -0.6
comp=Z,0.9nm,0.8s,baz=11,slow=1.4,SNR=7.7
GERES PKPbc **PKPbc** 22 01 54.1 -0.6
comp=Z,5.0nm,0.7s,baz=38,slow=1.7,SNR=44
GERES pPKPbc **pPKPbc** 22 04 03.6 +2.3
comp=Z,2.6nm,1.0s,baz=100,slow=4.4,SNR=4.5
CONA Conrad Observa 152.21 336 ⇑*i*PKiKP **PKPbc** 22 01 54.8 0.0
comp=Z,10.0nm,0.7s,SNR=9.8
CONA ⇓*i*PKPab **PKPab** 22 02 08.0 +0.8
comp=Z,8.7nm,0.8s
TNS Taunus Mts 152.25 348 *e*PKPbc **PKPbc** 22 01 54.8 0.0
BCLA Clavier 152.56 352 PKPab **PKPab** 22 02 08.1 -0.4
SNF Seneffe 152.59 354 PKPab **PKPab** 22 02 08.4 -0.1
MOA Molln 152.85 338 ⇑*e*PKPbc **PKPbc** 22 01 55.6 -0.5
comp=Z,2.9nm,0.6s
STU Stuttgart 153.47 346 *e*PKPbc **PKPbc** 22 01 57.2 -0.2
STU *e*PKPab **PKPab** 22 02 12.5 +0.1
FUR Furstenfeldbru 153.50 342 *e*PKPbc **PKPbc** 22 01 57.2 -0.3
FUR *e*PKPab **PKPab** 22 02 13.3 +0.7
GROS Grobnik 153.57 335 *i* PKPdf **PKPdf** 22 01 48.3 -1.2
GROS *i* PKPbc **PKPbc** 22 01 56.8 -1.0
SOKA Soboth 153.57 336 ⇑*i*PKPbc **PKPbc** 22 01 56.9 -0.9
comp=Z,4.8nm,0.8s
KBA Koelnbreinsper 153.83 338 ⇑*e*PKiKP **PKPbc** 22 01 57.9 -0.5
comp=Z,5.7nm,1.1s
GCIS Gornji Cirnik 154.00 334 *i* PKPdf **PKPdf** 22 01 49.5 -0.5
GCIS *i* PKPbc **PKPbc** 22 01 58.4 -0.2
BFO Black Forest 154.07 347 *e*PKPab **PKPab** 22 02 14.7 -0.3
WTTA Wattenberg 154.21 341 ⇑*e*PKPdf **PKPdf** 22 01 50.5 -0.1
comp=Z,3.7nm,0.9s
WTTA ⇓*i*PKiKP **PKPbc** 22 01 58.8 -0.5
comp=Z,5.1nm,0.7s
WTTA ⇑*i*PKPab **PKPab** 22 02 16.0 +0.2
comp=Z,5.0nm,0.6s
RETA Reutte 154.26 342 ⇑*i*PKPab **PKPab** 22 02 16.1 +0.1
comp=Z,7.9nm,0.9s
LJU Ljubljana 154.29 336 *e*PKPdf **PKPdf** 22 01 50.1 -0.4
LJU *i* PKPbc **PKiKP** 22 01 58.8 -0.4
MOTA Moosalm 154.30 342 ⇑*i*PKPdf **PKPdf** 22 01 49.5 -1.1
comp=Z,2.7nm,0.6s
MOTA ⇑*i*PKPbc **PKiKP** 22 01 58.4 -1.0
comp=Z,4.7nm,0.7s
ABTA Abfaltersbach 154.40 339 ⇑*i*PKPdf **PKPdf** 22 01 49.3 -1.3
comp=Z,7.3nm,1.3s
ABTA ⇑*i*PKPbc **PKiKP** 22 01 58.4 -1.1
comp=Z,6.4nm,0.7s
DAVA Damuels 154.68 344 ⇑*i*PKPab **PKPab** 22 02 17.8 0.0
comp=Z,9.2nm,0.8s,SNR=6.9
FETA Feichten 154.70 342 ⇑*i*PKPdf **PKPdf** 22 01 50.5 -0.7
comp=Z,6.4nm,1.0s
LIC Lamto 162.45 165 *e*PKP1 **PKPab** 22 02 52.6 +0.4
comp=Z,25nm,0.7s
KIC Kosan Boka 162.65 165 *e*PKP1 **PKPab** 22 02 53.5 +0.4
comp=Z,27nm,0.9s

TIC	**Toumodi**	**162.85**	**164**	*e*PKP1	**PKPab**	**22 02 53.7**	**-0.3**
	comp=Z,139nm,1.7s						
DBIC	**Dimbokro**	**162.92**	**165**	PKP	**PKPdf**	**22 02 00.4**	**-1.1**
DBIC				PKPab	**PKPab**	**22 02 54.3**	**0.0**
DBIC	**Dimbokro**	**162.92**	**165**	PKP	**PKPdf**	**22 02 00.4**	**-1.1**
	comp=Z,5.7nm,0.7s,baz=237,slow=2.2,SNR=7.7						
DBIC				PKPab	**PKPab**	**22 02 54.3**	**0.0**
	comp=Z,6.6nm,0.8s,baz=179,slow=3.9,SNR=4.4						
ESDC	**Sonseca Array**	**163.39**	**10**	PKPab	**PKPab**	**22 02 55.6**	**-0.3**
ESDC	**Sonseca Array**	**163.39**	**10**	PKPab	**PKPab**	**22 02 55.6**	**-0.3**
	comp=Z,4.0nm,0.8s,baz=341,slow=4.0,SNR=22						
TORD	**Torodi Ar. Bea**	**169.71**	**191**	PKP	**PKPdf**	**22 02 05.8**	**-0.9**
TORD				PKPab	**PKPab**	**22 03 24.6**	**+0.4**
TORD	**Torodi Ar. Bea**	**169.71**	**191**	PKP	**PKPdf**	**22 02 05.8**	**-0.9**
	comp=Z,6.0nm,1.1s,baz=356,slow=1.0,SNR=21						
TORD				PKPab	**PKPab**	**22 03 24.6**	**+0.4**
	comp=Z,6.1nm,0.8s,baz=168,slow=3.9,SNR=22						
TAM	**Tamanrasset**	**174.53**	**266**	*e*PKPdf	**PKPdf**	**22 02 07.8**	**-0.9**

IDC 13 21:51:09.1±1.4, 1°.85S×99°.05E, h0km, mb3.8/7, mb1 3.9/8, mb1mx3.7/24, mbtmp3.8/8, ML3.2/1, Error ellipse: s-maj=59.5km s-min=18.9km az=56.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.62**	**358**	Pn	Pn	21 52 19.1	-1.4
	1.2nm,0.3s,baz=124,slow=8.8,SNR=8.1						
CMAR	**Chiang Mai Arr**	**20.18**	**360**	P	P	21 55 45.2	-0.3
	0.7nm,0.4s,baz=190,slow=11,SNR=4.2						
WRA	**Warramunga Arr**	**38.89**	**120**	P	P	21 58 36.4	-0.3
	0.9nm,0.8s,baz=301,slow=9.1,SNR=6.3						
ASAR	**Alice Springs**	**40.11**	**126**	P	P	21 58 46.7	-0.3
	0.4nm,0.8s,baz=295,slow=8.8,SNR=3.5						
SONM	**Songino Array**	**49.90**	**6**	P	P	22 00 06.1	+1.5
	0.8nm,0.8s,baz=190,slow=11,SNR=4.2						
SONM				PcP	PcP	22 01 24.5	-0.5
	0.4nm,0.6s,baz=164,slow=4.4,SNR=2.9						
MKAR	**Makanchi Array**	**50.64**	**345**	P	P	22 00 09.2	-0.9
	1.4nm,0.6s,baz=146,slow=8.1,SNR=16						
ZALV	**Zalesovo Beam**	**56.85**	**350**	P	P	22 00 54.2	-1.1
	1.7nm,0.6s,baz=147,slow=6.1,SNR=9.6						
KBZ	**Khabaz**	**67.57**	**319**	P	P	22 02 08.3	+0.8
	1.4nm,0.8s,baz=108,slow=6.3,SNR=2.5						
TXAR	**Lajitas Array**	**145.15**	**36**	PKPbc	PKPbc	22 10 48.9	-0.2
	1.1nm,0.6s,baz=279,slow=1.2,SNR=16						

IDC 13 21:56:56.1±11.0, 17°.69S×177°.80W, h286km±103km, mb3.3/4, mb1 3.6/4, mb1mx3.2/17, mbtmp3.3/4, Error ellipse: s-maj=93.8km s-min=30.0km az=147.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.24**	**259**	P	P	22 04 45.7	-0.1
	0.5nm,0.6s,baz=97,slow=7.0,SNR=11						
WRA				PcP	PcP	22 06 19.6	-1.0
	0.2nm,0.5s,baz=84,slow=3.6,SNR=3.6						
ASAR	**Alice Springs**	**45.41**	**254**	P	P	22 04 47.2	+0.1
	4.2nm,0.6s,baz=89,slow=8.3,SNR=65						
ASAR				PcP	PcP	22 06 20.0	-1.1
	0.5nm,0.8s,baz=97,slow=4.0,SNR=4.0						
TXAR	**Lajitas Array**	**85.39**	**57**	P	P	22 09 02.5	+0.6
	0.6nm,0.8s,baz=226,slow=3.3,SNR=7.3						
ILAR	**Eielson Array**	**85.55**	**13**	P	P	22 08 59.8	-2.0
	0.3nm,0.8s,baz=210,slow=5.2,SNR=3.4						
GERES	**GERESS Array B**	**147.55**	**346**	PKPbc	PKPbc	22 16 08.1	+1.4
	0.5nm,0.5s,baz=28,slow=3.2,SNR=6.6						

GUC 13 22:10:08.6±0.4, 21°.56S×68°.54W, h147km±3km, ML3.7, 6C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**Plate Boundary**	**0.69**	**250**	⇑*i*P	Pn	22 10 31.6	+0.6
PB09				*i* S	Sn	22 10 48.9	+0.8
PB09				AML	AML	22 10 52.6	
	comp=N,1μm,0.3s						
PB01	**Plate Boundary**	**1.02**	**300**	⇑*i*P	Pn	22 10 33.7	+0.3
PB01				*i* S	Sn	22 10 53.2	+0.9
PB01				AML	AML	22 10 55.0	
	comp=N,442nm,0.4s						
PB04	**Plate Boundary**	**1.13**	**231**	⇑*i*P	Pn	22 10 41.0	+6.8
PB04				*i* S	Sn	22 11 05.5	+12
PB04				AML	AML	22 11 08.5	
	comp=N,2μm,0.2s						
MACH	**Maria Elena**	**1.30**	**240**	⇑*i*P	Pn	22 10 37.0	+0.8
MACH				*i* S	Sn	22 10 58.5	+1.2
HMBC	**Humberstone**	**1.79**	**315**	⇑*i*P	Pn	22 10 41.4	0.0
HMBC				*i* S	Sn	22 11 06.8	+0.4
HMBC				AML	AML	22 11 10.4	
	comp=N,397nm,0.6s						
PSGC	**Pisagua**	**2.45**	**322**	⇑*i*P	Pn	22 10 48.4	-0.7
PSGC				*i* S	Sn	22 11 19.9	-0.5
MNMC	**Minimini**	**2.61**	**338**	⇓*i*P	Pn	22 10 51.3	-0.1
MNMC				*i* S	Sn	22 11 24.5	+0.2
MNMC				AML	AML	22 11 29.1	
	comp=E,356nm,0.5s						
ANCH	**Antofagasta**	**2.73**	**219**	*e*P	Pn	22 10 53.5	+1.0

*ISCJB **13** 22:49:31.8±1.3, 10°.42N±0°.05×126°.45E±0°.09, h45km±12km, mb3.6/7, MS4.0/1, Error ellipse: s-maj=14.6km s-min=8.3km az=175.3*
*MAN **13** 22:49:31, 10°.43N×126°.38E, h15km, mb4.4, ML3.3, MS3.2*
*IDC **13** 22:49:40.1±8.4, 10°.43N×126°.25E, h104km±79km, mb3.4/7, mb1 3.5/7, mb1mx3.3/23, mbtmp3.4/7, MS4.2/1, Ms1 4.2/1, ms1mx2.9/19, Error ellipse: s-maj=43.8km s-min=22.7km az=73.0*
ISC 13 22:49:33.9±2.1, 10°.40N±0°.05×126°.3E±0°.1, h47km±19km, n20, σ1°.40/25, mb3.6/7, 5D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**1.04**	**234**	⇓*e*P	**Pn**	**22 49 49.7**	**-2.4**
SCPH				*e*S	**Sn**	**22 50 05.7**	**+0.2**
MSLP	**Maasin**	**1.48**	**260**	*e*P	**Pn**	**22 49 57.5**	**-0.6**
MSLP				*e*S	**Sn**	**22 50 13.4**	**-2.9**
PLP	**Palo**	**1.54**	**300**	⇓*e*P	**Pn**	**22 49 57.6**	**-1.3**
PLP				*e*S	**Sn**	**22 50 18.6**	**+0.9**
BUTP	**Butuan**	**1.59**	**207**	*e*P	**Pn**	**22 49 58.9**	**-0.6**
LLP	**Lapu-Lapu**	**2.34**	**268**	*e*P	**Pn**	**22 50 10.2**	**+0.4**
LLP				*e*S	**Sn**	**22 50 40.1**	**+2.7**
CGP	**Cagayan de Oro**	**2.52**	**220**	⇓*i*P	**Pn**	**22 50 12.3**	**-0.1**
CGP				*i* S	**Sn**	**22 50 43.8**	**+1.9**
CNP	**Catarman**	**2.67**	**322**	*e*P	**Pn**	**22 50 14.0**	**-0.4**
BUKP	**Musuan**	**2.80**	**207**	*e*P	**Pn**	**22 50 17.3**	**+1.0**
GUIM	**Jordan**	**3.70**	**274**	*e*P	**Pn**	**22 50 30.0**	**+1.5**
RCP	**Roxas**	**3.72**	**288**	⇓*e*P	**Pn**	**22 50 29.8**	**+1.0**
PVCP	**Virac**	**3.83**	**326**	⇓*e*P	**Pn**	**22 50 31.4**	**+1.1**
PAGZ	**Pagadian**	**3.87**	**229**	*e*P	**Pn**	**22 50 31.3**	**+0.5**
CBIJ	**Chichi jima**	**22.34**	**40**	LR	LR	23 01 05.3	
	comp=Z,620nm,21.6s,baz=200,slow=31						
KSRS	**Korea Array**	**26.98**	**3**	P	**P**	**22 55 11.0**	**-0.2**
	0.3nm,0.3s,baz=171,slow=8.5,SNR=4.1						
CMAR	**Chiang Mai Arr**	**27.61**	**290**	P	**P**	**22 55 18.1**	**+0.3**
	0.6nm,0.4s,baz=98,slow=8.2,SNR=4.9						
ASAR	**Alice Springs**	**34.65**	**168**	P	**P**	**22 56 20.2**	**+1.2**
	0.2nm,0.4s,baz=353,slow=6.7,SNR=5.1						
SONM	**Songino Array**	**40.93**	**339**	P	**P**	**22 57 12.3**	**+0.5**
	0.4nm,0.7s,baz=152,slow=9.3,SNR=4.2						
SONM				PcP	**PcP**	**22 59 11.0**	**-0.6**
	0.3nm,0.7s,baz=160,slow=4.6,SNR=3.4						
MKAR	**Makanchi Array**	**51.97**	**323**	P	**P**	**22 58 38.0**	**-0.3**
	0.8nm,0.7s,baz=119,slow=8.0,SNR=8.6						
ARCES	**ARCESS Array B**	**84.10**	**340**	P	**P**	**23 01 59.8**	**+0.3**
	2.2nm,0.9s,baz=70,slow=7.8,SNR=3.8						
BRTR	**Keskin Array B**	**85.51**	**309**	P	**P**	**23 02 05.1**	**-2.2**
	0.6nm,0.8s,baz=112,slow=7.3,SNR=2.8						

IDC 13 22:56:25.9±9.0, 19°.47S×177°.89W, h540km±99km, mb3.1/4, mb1 3.4/4, mb1mx3.0/18, mbtmp3.1/4, Error ellipse: s-maj=128.9km s-min=40.4km az=161.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.85**	**261**	P	P	23 03 52.2	-0.2
	1.5nm,0.6s,baz=96,slow=8.4,SNR=40						
ASAR	**Alice Springs**	**44.87**	**256**	P	P	23 03 52.5	0.0
	3.9nm,0.8s,baz=86,slow=8.7,SNR=36						
ASAR				PcP	PcP	23 05 21.9	-0.9
	0.6nm,0.6s,baz=104,slow=3.9,SNR=4.8						
FITZ	**Fitzroy Crossi**	**53.27**	**262**	P	P	23 04 54.6	-0.1
	1.0nm,0.8s,baz=132,slow=10,SNR=4.2						
TXAR	**Lajitas Array**	**86.41**	**57**	P	P	23 08 11.6	0.0
	0.6nm,0.9s,baz=232,slow=5.7,SNR=5.0						
BRTR	**Keskin Array B**	**146.22**	**314**	PKPbc	PKPbc	23 15 05.8	-0.5
	0.7nm,0.4s,baz=126,slow=3.1,SNR=5.4						
GERES	**GERESS Array B**	**149.24**	**345**	PKPbc	PKPbc	23 15 13.2	-0.5
	0.7nm,0.8s,baz=356,slow=1.7,SNR=8.5						

*ISK **13** 23:32:38.8, 38°.92N×27°.05E, h10km, MD3.0*
*DDA **13** 23:32:38.5, 38°.91N×27°.04E, h21km, MD3.0*
*CSEM **13** 23:32:39.6±0.1, 38°.90N×27°.04E, h12km, MD3.0, Error ellipse: s-maj=2.0km s-min=1.8km az=82.0*
*ISCJB **13** 23:32:40.2±0.3, 38°.91N±0°.02×27°.04E±0°.03, h19km±5km, Error ellipse: s-maj=3.8km s-min=3.2km az=140.9*
*THE **13** 23:32:40.2, 38°.89N×27°.02E, h10km±1km, ML2.1/4, Error ellipse: s-maj=1.9km s-min=0.7km az=252.0*
ISC 13 23:32:39.6±1.0, 38°.90N±0°.02×27°.04E±0°.02, h13km±9km, n58, σ0°.41/85, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AYVA	**Ayvalik**	**0.49**	**326**	*i* P	**Pg**	**23 32 49.4**	**+0.2**
AYVA				*i* S	**Sg**	**23 32 56.0**	**+0.2**
AYVA	**Ayvalik**	**0.49**	**326**	*i* P	**Pg**	**23 32 49.4**	**+0.2**
AYVA				*i* S	**Sg**	**23 32 56.0**	**+0.2**
IZM	**Izmir**	**0.53**	**161**	PG	**Pg**	**23 32 49.8**	**-0.2**
IZM				*e*SG	**Sg**	**23 32 58.0**	**+0.9**
IZM	**Izmir**	**0.53**	**161**	*i* Pg	**Pg**	**23 32 49.8**	**-0.2**
IZM				*e*Sg	**Sg**	**23 32 58.0**	**+0.9**
AKS	**Akhisar**	**0.60**	**92**	*e*PG	**Pg**	**23 32 51.1**	**-0.3**
AKS	**Akhisar**	**0.60**	**92**	*e*Pg	**Pg**	**23 32 51.1**	**-0.3**
AKHS	**Akhisar**	**0.60**	**92**	*e*P	**Pg**	**23 32 51.5**	**+0.1**
AKHS				*e*S	**Sb**	**23 33 00.2**	**-0.3**
AKHS	**Akhisar**	**0.60**	**92**	*e*P	**Pg**	**23 32 51.5**	**+0.1**
AKHS				*e*S	**Sb**	**23 33 00.2**	**-0.3**
URLA	**Izmir**	**0.64**	**213**	*e*P	**Pg**	**23 32 51.3**	**-0.8**
URLA				*e*S	**Sb**	**23 33 01.6**	**0.0**
URLA	**Izmir**	**0.64**	**213**	*e*P	**Pg**	**23 32 51.3**	**-0.8**
URLA				*e*S	**Sb**	**23 33 01.6**	**0.0**
PRK	**Paraskevi**	**0.69**	**300**	P	**Pb**	**23 32 53.4**	**-0.1**
PRK				S	**Sb**	**23 33 03.4**	**+0.4**
PRK	**Paraskevi**	**0.69**	**300**	P	**Pb**	**23 32 53.4**	**-0.1**
PRK				S	**Sb**	**23 33 03.4**	**+0.4**
CHOS	**Chios island**	**0.93**	**237**	P	**Pg**	**23 32 56.9**	**-0.6**
CHOS				S	**Sb**	**23 33 10.0**	**+0.1**
CHOS	**Chios island**	**0.93**	**237**	P	**Pg**	**23 32 56.9**	**-0.6**
CHOS				S	**Sb**	**23 33 10.0**	**+0.1**
BALY	**Balya**	**0.95**	**28**	*e*P	**Pg**	**23 32 58.0**	**0.0**
BALY				*e*S	**Sn**	**23 33 12.6**	**+0.3**
BALY	**Balya**	**0.95**	**28**	*e*P	**Pg**	**23 32 58.0**	**0.0**
BALY				*e*S	**Sn**	**23 33 12.6**	**+0.3**
BALB	**Balikesir**	**0.98**	**41**	*e*PG	**Pb**	**23 32 57.7**	**-0.8**
BALB	**Balikesir**	**0.98**	**41**	*e*Pg	**Pb**	**23 32 57.7**	**-0.8**
EZN	**Ezine**	**1.08**	**329**	*e*PG	**Pb**	**23 32 59.6**	**-0.5**
EZN	**Ezine**	**1.08**	**329**	*e*Pg	**Pb**	**23 32 59.6**	**-0.5**
SMG	**Samos**	**1.20**	**188**	P	**Pn**	**23 33 02.1**	**-0.1**
SMG				S	**Sg**	**23 33 18.5**	**+0.2**
SMG	**Samos**	**1.20**	**188**	P	**Pn**	**23 33 02.1**	**-0.1**
SMG				S	**Sg**	**23 33 18.5**	**+0.2**
GCAM	**G?zelcaml?**	**1.21**	**173**	*e*P	**Pn**	**23 33 02.0**	**-0.2**
GCAM				*e*S	**Sb**	**23 33 17.3**	**-0.6**
GCAM	**G?zelcaml?**	**1.21**	**173**	*e*P	**Pn**	**23 33 02.0**	**-0.2**
GCAM				*e*S	**Sb**	**23 33 17.3**	**-0.6**
BOZC	**Bozcaada**	**1.21**	**321**	*e*P	**Pb**	**23 33 02.4**	**-0.1**
BOZC				*e*S	**Sb**	**23 33 17.3**	**-0.7**
GONE	**Gonen-Balikesi**	**1.25**	**23**	*e*PN	**Pn**	**23 33 02.4**	**-0.4**
GONE	**Gonen-Balikesi**	**1.25**	**23**	*e*Pn	**Pn**	**23 33 02.4**	**-0.4**
DEMI	**Demirci**	**1.31**	**83**	*e*P	**Pn**	**23 33 03.8**	**0.0**
DEMI				*e*S	**Sb**	**23 33 21.0**	**0.0**
DEMI	**Demirci**	**1.31**	**83**	*e*P	**Pn**	**23 33 03.8**	**0.0**
DEMI				*e*S	**Sb**	**23 33 21.0**	**0.0**
KULA	**Kula-Manisa**	**1.32**	**106**	*e*PN	**Pn**	**23 33 03.9**	**-0.1**
KULA	**Kula-Manisa**	**1.32**	**106**	P	**Pn**	**23 33 04.1**	**+0.2**
KULA				S	**Sb**	**23 33 21.2**	**-0.1**
KULA	**Kula-Manisa**	**1.32**	**106**	P	**Pn**	**23 33 04.1**	**+0.2**
KULA				S	**Sb**	**23 33 21.2**	**-0.1**
DST	**Dursunbey**	**1.41**	**60**	*e*PN	**Pn**	**23 33 05.0**	**-0.1**
DST	**Dursunbey**	**1.41**	**60**	*e*Pn	**Pn**	**23 33 05.0**	**-0.1**
LPK	**Lapseki**	**1.49**	**352**	*e*PN	**Pn**	**23 33 06.1**	**0.0**
LPK	**Lapseki**	**1.49**	**352**	*e*Pn	**Pn**	**23 33 06.1**	**0.0**
KRBG	**Karabiga-Canak**	**1.50**	**7**	*e*PN	**Pn**	**23 33 06.2**	**-0.1**
KRBG	**Karabiga-Canak**	**1.50**	**7**	*e*Pn	**Pn**	**23 33 06.2**	**-0.1**
KCTX	**Karacabey (Bur**	**1.70**	**36**	*e*PN	**Pn**	**23 33 08.8**	**-0.2**
KCTX	**Karacabey (Bur**	**1.70**	**36**	*e*Pn	**Pn**	**23 33 08.8**	**-0.2**
LIA	**Limnos Island**	**1.75**	**305**	P	**Pn**	**23 33 09.5**	**-0.2**
LIA				S	**Sn**	**23 33 31.9**	**0.0**
LIA	**Limnos Island**	**1.75**	**305**	P	**Pn**	**23 33 09.5**	**-0.2**
LIA				S	**Sn**	**23 33 31.9**	**0.0**
RKY	**Sarkoy-Tekirda**	**1.79**	**3**	*e*PN	**Pn**	**23 33 10.4**	**+0.1**
RKY	**Sarkoy-Tekirda**	**1.79**	**3**	*e*Pn	**Pn**	**23 33 10.4**	**+0.1**
BODT	**Bodrum**	**1.85**	**173**	*e*PN	**Pn**	**23 33 11.6**	**+0.6**
BODT	**Bodrum**	**1.85**	**173**	*e*Pn	**Pn**	**23 33 11.6**	**+0.6**
SMTH	**Samothraki Isl**	**1.95**	**324**	P	**Pn**	**23 33 12.5**	**0.0**
SMTH				S	**Sn**	**23 33 37.4**	**+0.5**
SMTH	**Samothraki Isl**	**1.95**	**324**	P	**Pn**	**23 33 12.5**	**0.0**
SMTH				S	**Sn**	**23 33 37.4**	**+0.5**
YER	**Yerkesik**	**2.02**	**151**	*e*PN	**Pn**	**23 33 14.2**	**+0.7**
YER	**Yerkesik**	**2.02**	**151**	*e*Pn	**Pn**	**23 33 14.2**	**+0.7**
KHL	**Karahalli**	**2.03**	**106**	*e*PN	**Pn**	**23 33 14.1**	**+0.5**
KHL	**Karahalli**	**2.03**	**106**	*e*Pn	**Pn**	**23 33 14.1**	**+0.5**
MDNY	**Mudanya-Bursa**	**2.04**	**44**	*e*PN	**Pn**	**23 33 14.1**	**+0.4**
MDNY	**Mudanya-Bursa**	**2.04**	**44**	*e*Pn	**Pn**	**23 33 14.1**	**+0.4**
ARMT	**Armutlu**	**2.18**	**40**	*e*PN	**Pn**	**23 33 15.8**	**+0.2**
ARMT	**Armutlu**	**2.18**	**40**	*e*Pn	**Pn**	**23 33 15.8**	**+0.2**
APE	**Apeiranthos**	**2.18**	**214**	*e*PN	**Pn**	**23 33 16.6**	**+0.9**
APE	**Apeiranthos**	**2.18**	**214**	*e*Pn	**Pn**	**23 33 16.6**	**+0.9**

WEL 13 23:36:36.3±0.5, 35°.56S×178°.84E, h265km±7km, ML3.5/4, Error ellipse: s-maj=10.9km s-min=8.7km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**2.56**	**190**	PN	Pn	23 37 25.2	+0.1
PUZ				SN	S	23 38 02.6	-1.3
MWZ	**Matawai**	**2.97**	**200**	PN	Pn	23 37 30.3	+1.0
MWZ				SN	S	23 38 11.2	-0.4
URZ	**Urewera**	**3.04**	**207**	PN	Pn	23 37 30.2	+0.3
PXZ	**Pawanui**	**4.74**	**199**	PN	Pn	23 37 49.6	+0.3
BFZ	**Birch Farm**	**5.51**	**201**	PN	Pn	23 37 59.3	+0.6

IDC 14 00:27:57.5±21.0, 6°.50N×123°.15E, h520km±303km, mb3.0/5, mb1 3.2/5, mb1mx2.8/25, mbtmp3.0/5, Error ellipse: s-maj=136.4km s-min=36.7km az=54.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**24.57**	**174**	P	P	00 32 37.0	+1.0
	2.0nm,1.0s,baz=1.1,slow=13,SNR=5.0						
WRA	**Warramunga Arr**	**26.49**	**157**	P	P	00 33 09.8	-0.8
	0.9nm,0.4s,baz=331,slow=10,SNR=34						
ASAR	**Alice Springs**	**31.77**	**161**	P	P	00 33 39.1	+0.2
	1.2nm,0.3s,baz=338,slow=7.8,SNR=20						
STKA	**Stephens Creek**	**42.02**	**156**	P	P	00 35 02.6	-0.5
	3.2nm,1.0s,baz=309,slow=14,SNR=2.9						
MKAR	**Makanchi Array**	**53.27**	**326**	P	P	00 36 27.2	-0.1
	0.5nm,0.5s,baz=119,slow=8.1,SNR=10						

IDC 14 00:43:49.0±1.9, 8°.81S×127°.35E, h0km, mb3.3/1, mb1 3.6/4, mb1mx3.4/20, mbtmp3.4/4, ML3.4/3, Error ellipse: s-maj=89.7km s-min=27.3km az=71.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**9.39**	**190**	Pn	Pn	00 46 06.2	+0.5
	0.3nm,0.3s,baz=10,slow=11,SNR=4.6						
FITZ				Sn	Sn	00 47 45.1	-7.0
	0.2nm,0.3s,baz=108,slow=20,SNR=3.2						
WRA	**Warramunga Arr**	**12.97**	**149**	Pn	Pn	00 46 54.5	-0.3
	0.3nm,0.3s,baz=320,slow=14,SNR=20						
WRA				Sn	Sn	00 49 11.8	-8.2
	0.3nm,0.3s,baz=330,slow=19,SNR=7.4						
ASAR	**Alice Springs**	**16.05**	**158**	Pn	Pn	00 47 35.9	-0.4
	0.1nm,0.3s,baz=336,slow=12,SNR=8.2						
ASAR				Sn	Sn	00 50 27.1	-8.1
	0.0nm,0.3s,baz=323,slow=23,SNR=4.9						
MKAR	**Makanchi Array**	**68.34**	**328**	P	P	00 54 52.2	0.0
	0.2nm,0.6s,baz=124,slow=7.7,SNR=2.8						

IDC 14 01:25:20.4±7.3, 18°.14S×175°.37W, h0km, mb4.1/2, mb1 4.4/2, mb1mx3.7/16, mbtmp4.1/2, Error ellipse: s-maj=331.5km s-min=63.8km az=144.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**47.43**	**259**	P	P	01 33 56.8	-0.4
	0.8nm,0.4s,baz=97,slow=7.8,SNR=39						
ASAR	**Alice Springs**	**47.51**	**254**	P	P	01 33 58.0	+0.2
	1.6nm,0.4s,baz=89,slow=8.1,SNR=21						
BRTR	**Keskin Array B**	**146.97**	**317**	PKPbc	PKPbc	01 45 04.6	-0.9
	0.3nm,0.4s,baz=73,slow=1.7,SNR=4.7						

IDC 14 01:37:31.3±2.1, 55°.04S×29°.99W, h0km, mb3.6/1, mb1 3.6/1, mb1mx3.4/15, mbtmp3.6/1, Error ellipse: s-maj=110.2km s-min=75.0km az=138.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**73.01**	**32**	P	P	01 49 02.7	0.0
	0.3nm,0.5s,baz=199,slow=6.2,SNR=7.8						
ILAR	**Eielson Array**	**148.26**	**313**	PKPbc	PKPbc	01 57 17.1	-0.7
	0.3nm,0.7s,baz=87,slow=1.9,SNR=5.7						
SONM	**Songino Array**	**152.26**	**87**	PKPbc	PKPbc	01 57 28.0	-0.1
	1.0nm,0.8s,baz=222,slow=3.2,SNR=5.9						

DJA 14 01:42:03.0±5.3, 9°.S±21°.×10°.7E±1°.1, h9km±33km, M4.1/7, MLv4.1/7, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**1.32**	**32**	P	Pn	01 42 26.1	-1.6
SKJI	**Sukabumi**	**1.75**	**342**	P	Pn	01 42 32.5	-1.1
LEM	**Lembang**	**1.91**	**15**	P	Pn	01 42 35.2	-0.8
DBJI	**Dramaga**	**2.14**	**350**	P	Pn	01 42 39.2	+0.2
KPJI	**Karang Pucung**	**2.25**	**54**	P	Pn	01 42 40.1	-0.3
TGJI	**Tegal**	**2.69**	**48**	P	Pn	01 42 46.4	0.0

GUC 14 01:56:29.9±0.4, 21°.50S×68°.57W, h139km±4km, ML3.5, 4C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**Plate Boundary**	**0.70**	**244**	⇑*i*P	Pn	01 56 52.0	+0.5
PB09				*i* S	Sn	01 57 08.6	+0.9
PB09				AML	AML	01 57 11.4	
	comp=N,1μm,0.3s						
PB01	**Plate Boundary**	**0.97**	**298**	⇑*i*P	Pn	01 56 53.8	+0.3
PB01				*i* S	Sn	01 57 12.2	+0.9
PB01				AML	AML	01 57 13.4	
	comp=N,518nm,0.3s						
PB07	**Plate Boundary**	**1.25**	**259**	⇑*i*P	Pn	01 56 57.0	+0.8
PB07				*i* S	Sn	01 57 17.4	+1.2
PB07				AML	AML	01 57 18.4	
	comp=N,932nm,0.3s						
MACH	**Maria Elena**	**1.31**	**238**	*i* P	Pn	01 56 57.6	+0.7
MACH				*i* S	Sn	01 57 18.6	+1.1
PSGC	**Pisagua**	**2.39**	**322**	⇑*i*P	Pn	01 57 08.5	-0.8
PSGC				*i* S	Sn	01 57 39.2	-0.3
MNMC	**Minimini**	**2.54**	**338**	*i* P	Pn	01 57 11.4	0.0
MNMC				*i* S	Sn	01 57 43.6	+0.3
MNMC				AML	AML	01 57 50.8	
	comp=N,248nm,0.1s						
PB10	**Plate Boundary**	**2.72**	**222**	AML	AML	01 57 57.9	
	comp=N,133nm,0.5s						

MAN 14 02:09:50, 17°.93N×122°.29E, h25km, mb4.2, ML3.0, MS2.8, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**0.39**	**324**	*e*P	Pn	02 09 59.7	-0.4
SGCP				*e*S	Sb	02 10 03.8	-0.4
CVP	**Callao Caves**	**0.50**	**243**	⇓*i*P	Pn	02 10 02.2	+0.7
CVP				*i* S	Sn	02 10 12.5	+3.1
PALP	**Palanan**	**0.87**	**171**	*e*P	Pb	02 10 01.9	-4.6
APYP	**Conner**	**1.00**	**266**	*e*P	Pb	02 10 10.2	+1.6
CAUP	**Cauayan**	**1.07

Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**46.14**	**256**	P	P	02 45 15.8	+0.3
	2.1nm,0.7s,baz=96,slow=8.4,SNR=23						
WRA	**Warramunga Arr**	**46.17**	**261**	P	P	02 45 15.3	-0.5
	0.9nm,0.4s,baz=95,slow=5.2,SNR=37						
NVAR	**Mina Array Bea**	**79.43**	**43**	P	P	02 48 54.7	0.0
	0.9nm,0.6s,baz=213,slow=6.5,SNR=5.7						
TXAR	**Lajitas Array**	**85.38**	**57**	P	P	02 49 25.5	0.0
	0.5nm,0.7s,baz=220,slow=8.3,SNR=6.5						
AKASG	**Malin Array Be**	**143.00**	**333**	PKhKP	PKPpre	02 56 15.3	
	0.5nm,0.5s,baz=41,slow=3.7,SNR=4.5						
GERES	**GERESS Array B**	**149.79**	**347**	PKPbc	PKPbc	02 56 35.9	-0.4
	0.3nm,0.5s,baz=46,slow=2.8,SNR=5.5						

NIED ***14*** *02:38:00, 32.°80N×140.°80E, h53km, Mw4.4 Best double couple: M₀=5.05000×10¹⁵ NP1:φ=99.00000°, δ=69.00000°, λ=68.00000°. NP2:φ=326.00000°, δ=30.00000°, λ=134.00000°.*
ISCJB ***14*** *02:38:37.2±0.8, 32.°79N±0.°05×140.°74E±0.°07, h78km±6km, mb3.8/9, Error ellipse: s-maj=9.6km s-min=8.1km az=21.0*
JMA ***14*** *02:38:38.0±0.2, 32.°80N×140.°75E, h62km, M4.0*
IDC ***14*** *02:38:39.2±3.5, 32.°75N×140.°66E, h83km±27km, mb3.6/9, mb1 3.7/11, mb1mx3.5/25, mbtmp3.6/11, Error ellipse: s-maj=28.4km s-min=22.9km az=90.0*

ISC 14 02:38:37.2±1.6, 32.°76N±0.°08×140.°80E±0.°08, h65km±12km, n29, σ1°20/40, mb3.9/9, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	**0.90**	**291**	P	**Pn**	**02 38 54.3**	**+0.1**
JHCJ				S	**Sn**	**02 39 05.5**	**-1.4**
JHJ2	**Mitsune**	**0.90**	**293**	P	**Pn**	**02 38 54.5**	**+0.3**
JHJ2				*e*S	**Sn**	**02 39 06.7**	**-0.1**
JMY	**Miyakejima3**	**1.70**	**321**	P	**Pn**	**02 39 05.4**	**+0.7**
BSO1	**Boso 1**	**1.90**	**4**	P	**Pn**	**02 39 07.7**	**+0.8**
BSO1				S	**Sn**	**02 39 31.2**	**+1.7**
JKO	**Kozu shima**	**2.00**	**316**	P	**Pn**	**02 39 09.4**	**+0.7**
JKO				S	**Sn**	**02 39 32.6**	**0.0**
BSO3	**Boso 3**	**2.06**	**353**	P	**Pn**	**02 39 10.1**	**+0.9**
JIM2	**Oshima 3**	**2.27**	**330**	P	**Pn**	**02 39 12.7**	**+0.3**
JIM2				S	**Sn**	**02 39 37.2**	**-2.1**
JIZS	**Izushimoda**	**2.53**	**321**	P	**Pn**	**02 39 17.0**	**+1.1**
JOD2	**Odawara 2**	**2.88**	**331**	P	**Pn**	**02 39 21.3**	**+0.6**
JOD2				*e*S	**Sn**	**02 39 52.2**	**-2.0**
TK04	**Tokai 4**	**2.94**	**304**	P	**Pn**	**02 39 23.0**	**+1.7**
TK04				S	**Sn**	**02 39 56.4**	**+1.0**
TTO2	**TONANKAI O.B.S**	**3.31**	**288**	P	**Pn**	**02 39 27.7**	**+1.4**
TTO2				*e*S	**Sn**	**02 40 05.6**	**+1.3**
JYN	**Shimob**	**3.32**	**326**	P	**Pn**	**02 39 28.6**	**+1.9**
JYN				*e*S	**Sn**	**02 40 07.4**	**+2.4**
TTO1	**TONANKAI O.B.S**	**3.48**	**285**	P	**Pn**	**02 39 30.3**	**+1.7**
JRY	**Ryogami san**	**3.61**	**335**	S	**Sn**	**02 40 12.0**	**-0.2**
JIE	**Ise**	**3.79**	**297**	P	**Pn**	**02 39 34.2**	**+1.1**
JIE				*e*S	**Sn**	**02 40 14.6**	**-1.9**
JAG	**Ashikaga**	**3.83**	**343**	P	**Pn**	**02 39 33.3**	**-0.3**
MJAR	**Matsushiro Arr**	**4.34**	**331**	P	**Pn**	**02 39 41.2**	**+0.5**
	3.0nm,0.3s,baz=155,slow=12,SNR=11						
MJAR				S	**Sn**	**02 40 30.5**	**+0.5**
	4.0nm,0.3s,baz=181,slow=28,SNR=9.0						
MAT	**Matsushiro**	**4.34**	**331**	P	**Pn**	**02 39 41.2**	**+0.5**
MAT				S	**Sn**	**02 40 30.5**	**+0.5**
JNU	**Nakatsue**	**8.35**	**275**	P	**Pn**	**02 40 37.5**	**+1.9**
	0.5nm,0.3s,baz=65,slow=7.0,SNR=5.6						
KSRS	**Korea Array**	**11.54**	**298**	P	Pn	02 41 22.4	+3.4
	0.3nm,0.3s,baz=106,slow=14,SNR=2.6						
SONM	**Songino Array**	**29.97**	**310**	P	**P**	**02 44 39.4**	**0.0**
	1.2nm,0.5s,baz=109,slow=8.7,SNR=8.6						
MKAR	**Makanchi Array**	**46.08**	**306**	P	**P**	**02 46 53.9**	**-0.7**
	3.5nm,0.6s,baz=90,slow=9.8,SNR=42						
WRA	**Warramunga Arr**	**52.76**	**188**	P	**P**	**02 47 44.6**	**-1.0**
	0.2nm,0.3s,baz=4.9,slow=7.4,SNR=2.8						
BVAR	**Borovoye Array**	**53.15**	**315**	P	**P**	**02 47 47.3**	**-0.8**
	0.7nm,0.4s,baz=98,slow=6.0,SNR=4.0						
ILAR	**Eielson Array**	**53.40**	**31**	P	**P**	**02 47 50.5**	**+0.6**
	0.4nm,0.6s,baz=271,slow=7.6,SNR=7.3						
FINES	**FINESS Array B**	**72.37**	**333**	P	**P**	**02 49 54.9**	**-0.9**
	2.6nm,0.9s,baz=57,slow=6.8,SNR=4.5						
AKASG	**Malin Array Be**	**77.38**	**323**	P	**P**	**02 50 24.4**	**-0.5**
	0.2nm,0.3s,baz=50,slow=4.8,SNR=3.6						
BRTR	**Keskin Array B**	**81.32**	**312**	P	**P**	**02 50 46.7**	**-0.1**
	1.1nm,1.0s,baz=134,slow=5.5,SNR=5.9						
TXAR	**Lajitas Array**	**93.13**	**52**	P	**P**	**02 51 45.9**	**+1.5**
	0.3nm,0.6s,baz=309,slow=3.0,SNR=4.8						

IDC 14 03:09:31.5±1.0, 14.°05N×93.°19E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.6/26, mbtmp3.7/7, Error ellipse: s-maj=65.9km s-min=21.5km az=49.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**33.89**	**347**	P	P	03 16 16.6	+0.5
	0.5nm,0.7s,baz=170,slow=8.8,SNR=4.5						
WRA	**Warramunga Arr**	**52.73**	**129**	P	P	03 18 47.7	-0.7
	0.5nm,0.9s,baz=310,slow=7.8,SNR=3.4						
WRA				PcP	PcP	03 19 58.0	-0.3
	0.3nm,0.6s,baz=318,slow=3.6,SNR=3.1						
ASAR	**Alice Springs**	**54.68**	**133**	P	P	03 19 03.3	+0.5
	0.3nm,0.6s,baz=310,slow=7.0,SNR=4.0						
BRTR	**Keskin Array B**	**57.80**	**308**	P	P	03 19 24.8	-0.2
	0.6nm,0.8s,baz=111,slow=7.9,SNR=3.0						
ARCES	**ARCESS Array B**	**69.18**	**340**	P	P	03 20 39.0	-0.6
	2.3nm,0.9s,baz=111,slow=6.8,SNR=3.0						
GERES	**GERESS Array B**	**72.65**	**317**	P	P	03 21 01.5	+0.3
	0.5nm,0.7s,baz=81,slow=6.1,SNR=6.8						
TORD	**Torodi Ar. Bea**	**88.28**	**283**	P	P	03 22 25.6	-0.1
	0.4nm,0.7s,baz=89,slow=4.7,SNR=4.7						

IDC ***14*** *03:35:50.2±1.4, 1.°84S×99.°07E, h0km, mb3.7/9, mb1 3.8/10, mb1mx3.7/26, mbtmp3.7/10, ML3.2/1, MS3.5/2, Ms1 3.5/2, ms1mx2.8/30, Error ellipse: s-maj=61.6km s-min=17.3km az=57.0*
ISCJB ***14*** *03:35:54.0±0.7, 1.°54S±0.°07×99.°28E±0.°07, h30km, mb3.8/8, MS3.7/1, Error ellipse: s-maj=11.0km s-min=8.2km az=139.5*
DJA ***14*** *03:35:57.3±0.6, 2.°S±3.°×10.°0E±.°, h10km, M4.4/9, MLv4.4/9*

ISC 14 03:35:56.0±0.8, 1.°45S±0.°06×99.°40E±0.°07, h30km, n21, σ1°35/20, mb3.7/8, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.19**	**63**	P	**Pn**	**03 36 15.8**	**-0.9**
PDSI				S	**Sn**	**03 36 33.0**	**+1.1**
PPI	**Padang Panjang**	**1.41**	**45**	P	**Pn**	**03 36 19.4**	**-0.2**
BKNI	**Bangkinang**	**2.41**	**43**	P	**Pb**	**03 36 37.1**	**-1.7**
BKNI				S	**Sb**	**03 37 10.0**	**+1.9**
RGRI	**Rengat**	**3.13**	**70**	P	Pb	03 36 48.5	-2.6
GSI	**Gunungsitoli**	**3.29**	**326**	P	**Pb**	**03 36 52.5**	**-1.2**
MASI	**Maura Aman, Be**	**3.30**	**129**	P	Pn	03 36 49.6	+3.9
KSI	**Kapahiang**	**3.87**	**124**	P	**Pn**	**03 36 54.6**	**+1.1**
PSI	**Prapat**	**4.25**	**354**	Pn	**Pn**	**03 37 00.2**	**+1.4**
	1.1nm,0.3s,baz=170,slow=12,SNR=7.2						
PSI				LR	LR	03 39 04.8	
	comp=Z,343nm,19.2s,baz=177,slow=43						
MNAI	**Manna**	**4.58**	**129**	P	**Pn**	**03 37 04.9**	**+1.6**
LHSI	**Lahat**	**4.75**	**120**	P	**Pn**	**03 37 07.1**	**+1.5**
CMAR	**Chiang Mai Arr**	**19.79**	**359**	P	**Pn**	**03 40 25.2**	**-0.5**
	1.0nm,0.3s,baz=184,slow=9.7,SNR=3.3						
WRA	**Warramunga Arr**	**38.79**	**121**	P	**P**	**03 43 17.4**	**-1.0**
	0.6nm,0.5s,baz=303,slow=9.0,SNR=8.3						
ASAR	**Alice Springs**	**40.06**	**126**	P	**P**	**03 43 28.2**	**-0.7**
	0.4nm,0.7s,baz=303,slow=7.8,SNR=4.7						
SONM	**Songino Array**	**49.47**	**6**	P	**P**	**03 44 45.9**	**+2.4**
	0.3nm,0.4s,baz=180,slow=8.6,SNR=2.4						
STKA	**Stephens Creek**	**49.96**	**132**	P	**P**	**03 44 45.6**	**-1.9**
	1.8nm,0.8s,baz=308,slow=12,SNR=3.4						
MKAR	**Makanchi Array**	**50.34**	**345**	P	**P**	**03 44 50.9**	**+0.7**
	1.7nm,0.6s,baz=161,slow=7.7,SNR=13						
KURBB	**Kurchatov Arra**	**54.86**	**344**	P	**P**	**03 45 24.2**	**+0.7**
	0.4nm,0.6s,baz=164,slow=6.7,SNR=4.0						
ZALV	**Zalesovo Beam**	**56.52**	**350**	P	**P**	**03 45 36.1**	**+0.7**
	0.9nm,0.4s,baz=181,slow=5.8,SNR=4.7						
KMBO	**Kilima Mbogo**	**62.13**	**269**	LR	LR	04 08 56.6	
	comp=Z,53nm,18.8s,baz=13,slow=32						
BRTR	**Keskin Array B**	**72.51**	**312**	P	**P**	**03 47 19.5**	**-0.9**
	0.5nm,1.0s,baz=104,slow=6.1,SNR=3.1						
TXAR	**Lajitas Array**	**144.63**	**36**	PKPbc	**PKPdf**	**03 55 30.2**	**-0.4**
	0.7nm,0.5s,baz=240,slow=0.6,SNR=20						

WEL 14 03:38:48.0±0.3, 45.°48S×166.°73E, h21km±1km, ML3.5/12, 2D, Error ellipse: s-maj=2.9km s-min=1.6km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.30**	**90**	⇓P*	Pb	03 38 54.5	-0.1
DCZ				S*	Sb	03 38 58.1	-1.0
DCZ				AML	AML	03 38 58.7	
DCZ				AML	AML	03 38 58.8	
DCZ				AML	AML	03 38 58.9	
WHZ	**Wether Hill Ro**	**0.95**	**116**	P*	Pb	03 39 05.3	-0.4
WHZ				AML	AML	03 39 26.5	
WHZ				AML	AML	03 39 26.8	
MLZ	**Mavora Lakes**	**1.02**	**83**	⇓P*	Pb	03 39 05.7	-1.3
MLZ				S*	Sb	03 39 19.0	-1.1
MLZ				AML	AML	03 39 19.9	
MSZ	**Milford Sound**	**1.17**	**47**	PN	Pb	03 39 10.4	+0.9
MSZ				AML	AML	03 39 28.6	
MSZ				AML	AML	03 39 28.6	
MSZ				AML	AML	03 39 30.4	
MSZ				AML	AML	03 39 30.4	
APZ	**The Paps**	**1.61**	**148**	PN	Pb	03 39 17.2	+0.1
APZ				*e*SN	Sb	03 39 37.8	+0.8
WKZ	**Wanaka**	**1.74**	**69**	PN	Pb	03 39 18.3	-1.0
WKZ				AML	AML	03 39 45.8	
WKZ				AML	AML	03 39 45.8	
WKZ				AML	AML	03 39 46.2	
WKZ				AML	AML	03 39 49.5	
EAZ	**Earnscleugh**	**1.83**	**83**	PN	Pn	03 39 19.1	+0.9
EAZ				AML	AML	03 39 47.4	
EAZ				AML	AML	03 39 47.4	
EAZ				AML	AML	03 39 47.8	
EAZ				AML	AML	03 39 47.8	
SYZ	**Scrubby Hill**	**1.98**	**123**	PN	Pn	03 39 21.1	+0.9
JCZ	**Jackson Bay**	**2.01**	**46**	PN	Pb	03 39 23.2	-0.8
JCZ				AML	AML	03 39 56.3	
JCZ				AML	AML	03 39 59.8	
TUZ	**Tuapeka**	**2.09**	**104**	PN	Pn	03 39 23.3	+1.6
TUZ				AML	AML	03 39 54.4	
TUZ				AML	AML	03 39 57.8	
LBZ	**Lake Benmore**	**2.68**	**67**	*e*PN	Pn	03 39 30.7	+0.7
ODZ	**Otahua Downs**	**2.80**	**82**	PN	Pn	03 39 31.3	-0.2

ISCJB ***14*** *03:42:14.8±0.4, 2.°03N±0.°06×98.°95E±0.°06, h150km, mb3.8/12, Error ellipse: s-maj=9.7km s-min=6.2km az=135.2*
IDC ***14*** *03:42:15.1±0.8, 2.°05N×98.°92E, h125km±4km, mb3.6/12, mb1 3.7/12, mb1mx3.5/29, mbtmp3.6/12, Error ellipse: s-maj=28.8km s-min=12.5km az=55.0*
DJA ***14*** *03:42:17.3±2.6, 2.°N±3.°×9.°9E±.°, h29km±31km, M3.6/6, MLv3.6/6*

ISC 14 03:42:16.9±0.6, 2.°05N±0.°06×98.°97E±0.°06, h150km, n21, σ1°93/24, mb3.8/12, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**0.74**	**357**	P	Pn	03 42 35.8	-4.1
	66nm,0.3s,baz=133,slow=20,SNR=259						
PSI				S	Sn	03 42 50.6	-6.8
	36nm,0.3s,baz=319,slow=19,SNR=75						
GSI	**Gunungsitoli**	**1.58**	**242**	P	**Pn**	**03 42 45.4**	**-1.9**
GSI				S	**Sn**	**03 43 07.0**	**-3.5**
KCSI	**Kotacane, Aceh**	**1.88**	**321**	P	**Pn**	**03 42 47.9**	**-2.8**
KCSI				S	**Sn**	**03 43 13.0**	**-3.7**
SNSI	**Sinabang, Aceh**	**2.66**	**278**	P	**Pn**	**03 42 58.7**	**-1.3**
BKNI	**Bangkinang**	**2.69**	**130**	P	**Pn**	**03 42 58.4**	**-2.0**
BKNI				S	**Sn**	**03 43 30.7**	**-3.3**
PPI	**Padang Panjang**	**2.88**	**150**	P	**Pn**	**03 43 00.9**	**-1.8**
IPM	**Ipoh**	**3.17**	**40**	P	**Pn**	**03 43 04.0**	**-2.4**
PDSI	**Padang**	**3.30**	**153**	P	**Pn**	**03 43 06.6**	**-1.6**
FITZ	**Fitzroy Crossi**	**33.03**	**128**	P	**P**	**03 48 38.3**	**+0.1**
	1.4nm,0.7s,baz=336,slow=10.0,SNR=5.3						
WRA	**Warramunga Arr**	**41.02**	**124**	P	**P**	**03 49 46.5**	**+0.9**
	2.0nm,0.5s,baz=300,slow=9.1,SNR=10						
ASAR	**Alice Springs**	**42.53**	**129**	P	**P**	**03 49 58.9**	**+1.0**
	0.7nm,0.5s,baz=302,slow=8.0,SNR=12						
AAK	**Ala-Archa**	**45.95**	**335**	P	**P**	**03 50 27.5**	**+2.4**
	0.9nm,0.5s,baz=190,slow=12,SNR=3.9						
SONM	**Songino Array**	**46.05**	**7**	P	**P**	**03 50 26.4**	**+0.7**
	0.5nm,0.5s,baz=192,slow=10,SNR=3.5						
MKAR	**Makanchi Array**	**46.87**	**344**	P	**P**	**03 50 32.5**	**+0.5**
	2.7nm,0.5s,baz=153,slow=8.3,SNR=29						
KURBB	**Kurchatov Arra**	**51.40**	**343**	P	**P**	**03 51 06.8**	**+0.6**
	1.6nm,0.7s,baz=164,slow=7.3,SNR=21						
KURBB				PcP	**PcP**	**03 52 19.4**	**+0.8**
	0.1nm,0.3s,baz=164,slow=3.7,SNR=4.0						
ZALV	**Zalesovo Beam**	**53.02**	**350**	P	**P**	**03 51 18.7**	**+0.6**
	2.9nm,0.5s,baz=163,slow=5.9,SNR=11						
BVAR	**Borovoye Array**	**56.05**	**340**	P	**P**	**03 51 40.4**	**+0.4**
	1.2nm,0.6s,baz=159,slow=8.6,SNR=6.3						
BRTR	**Keskin Array B**	**69.86**	**312**	P	**P**	**03 53 12.0**	**+0.3**
	0.8nm,0.6s,baz=128,slow=7.1,SNR=5.7						
AKASG	**Malin Array Be**	**75.67**	**322**	P	**P**	**03 53 45.6**	**0.0**
	0.4nm,0.4s,baz=82,slow=5.6,SNR=3.4						
BOSA	**Boshof**	**76.73**	**240**	P	**P**	**03 53 53.3**	**+1.0**
	3.3nm,1.0s,baz=79,slow=3.0,SNR=3.8						
BDFB	**Brasilia**	**144.77**	**246**	PKP	**PKPdf**	**04 01 38.0**	**+0.9**
	1.5nm,0.5s,baz=72,slow=6.4,SNR=4.7						

NIED ***14*** *03:42:00, 24.°10N×122.°40E, h35km, Mw3.9 Best double couple: M₀=8.47000×10¹⁴ NP1:φ=72.00000°, δ=82.00000°, λ=69.00000°. NP2:φ=321.00000°, δ=22.00000°, λ=158.00000°.*
IDC ***14*** *03:42:42.1±1.2, 23.°82N×121.°94E, h0km, mb3.8/8, mb1 3.9/9, mb1mx3.7/25, mbtmp3.8/9, ML3.6/1, MS3.1/1, Ms1 3.1/1, ms1mx2.2/27, Error ellipse: s-maj=65.4km s-min=18.4km az=66.0*
ISCJB ***14*** *03:42:43.8±0.8, 23.°90N±0.°02×122.°46E±0.°02, h7km±5km, mb3.7/8, MS2.9/1, Error ellipse: s-maj=3.1km s-min=2.4km az=162.5*
TAP ***14*** *03:42:44.8, 23.°98N×122.°46E, h23km, ML4.2, C*
JMA ***14*** *03:42:46.1±0.4, 24.°09N×122.°40E, h34km, M3.5*

ISC 14 03:42:44.8±1.1, 23.°92N±0.°02×122.°44E±0.°02, h25km±9km, n68, σ0°91/117, mb3.8/8, 2C-3D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.75**	**44**	P	**Pb**	**03 42 58.9**	**-0.4**
YOJ				*e*S	**Sb**	**03 43 08.0**	**-1.1**
HWA	**Hwalien**	**0.77**	**275**	P	**Pb**	**03 42 59.8**	**+0.2**
	baz=255						
HWA				S	**Sn**	**03 43 11.6**	**+0.8**
	baz=255						
TWD	**Chiawan**	**0.79**	**282**	*i* P	**Pb**	**03 42 59.7**	**-0.2**
	baz=277						
TWD				*i* S	**Sb**	**03 43 10.6**	**+0.4**
	baz=277						
ENA	**Nanau**	**0.82**	**309**	⇑*i* P	**Pb**	**03 42 60.0**	**-0.4**
	baz=304						
TWC	**Suao**	**0.88**	**322**	⇑*i* P	**Pb**	**03 43 00.6**	**-0.7**
	baz=319						
TWC				*e*S	**Sb**	**03 43 11.8**	**-0.9**
	baz=319						
ESL	**Shilin**	**0.93**	**264**	P	**Pb**	**03 43 01.5**	**-0.8**
	baz=246						
ESL				*e*S	**Sb**	**03 43 13.5**	**-0.7**
	baz=246						
ILA	**Ilan**	**1.06**	**323**	P	**Pb**	**03 43 04.5**	**0.0**
	baz=321						
ILA				*e*S	**Sn**	**03 43 19.1**	**+1.1**
	baz=321						
TWE	**Neicheng**	**1.07**	**319**	*i* P	**Pn**	**03 43 04.3**	**+0.1**
	baz=316						
TWE				*e*S	**Sn**	**03 43 19.2**	**+0.9**
	baz=316						
ENTT	**Nioudou**	**1.08**	**312**	⇓*i* P	**Pb**	**03 43 04.6**	**-0.2**
	baz=309						
ENTT				*e*S	**Sn**	**03 43 19.3**	**+0.8**
	baz=309						
WHF	**Hehuan Shan**	**1.10**	**282**	⇓*i* P	**Pn**	**03 43 04.7**	**-0.3**
	baz=265						
WHF				*e*S	**Sb**	**03 43 19.0**	**-0.5**
	baz=265						
EHY	**Hungye**	**1.10**	**249**	⇓*i* P	**Pn**	**03 43 04.5**	**-0.2**
	baz=245						
EHY				*e*S	**Sb**	**03 43 19.2**	**0.0**
	baz=245						
NNS	**Nan Shan**	**1.11**	**298**	*i* P	**Pn**	**03 43 04.9**	**0.0**
	baz=282						
NNS				*e*S	**Sn**	**03 43 20.2**	**+0.8**
	baz=282						
TWB1	**Santiao Chiao**	**1.16**	**339**	P	**Pn**	**03 43 05.5**	**-0.1**
	baz=338						
TWB1				*e*S	**Sb**	**03 43 22.3**	**+1.4**
	baz=338						
TWF1	**Yuli**	**1.19**	**242**	*i* P	**Pn**	**03 43 06.1**	**+0.1**
	baz=239						
TWF1				*e*S	**Sb**	**03 43 22.1**	**+0.4**
	baz=239						
TWT	**Tachien**	**1.20**	**286**	P	**Pb**	**03 43 06.9**	**-0.2**
	baz=271						
TWT				S	**Sb**	**03 43 23.2**	**+0.9**
	baz=271						
NSK	**Sanguang**	**1.24**	**308**	*i* P	**Pn**	**03 43 07.0**	**+0.2**
	baz=288						
NSK				*e*S	**Sb**	**03 43 23.1**	**-0.2**
	baz=288						
IRIF	**Iriomote-Funau**	**1.25**	**70**	P	**Pb**	**03 43 07.9**	**+0.2**
IRIF				*e*S	**Sb**	**03 43 23.0**	**-0.4**
HATJ	**Hateruma jima**	**1.26**	**83**	P	**Pb**	**03 43 08.0**	**+0.2**
HATJ				*e*S	**Sb**	**03 43 24.6**	**+1.0**
CHKT	**Chengkung**	**1.28**	**231**	*e*P	**Pb**	**03 43 08.3**	**+0.1**
	baz=228						
CHKT				S	**Sn**	**03 43 21.9**	**-1.5**
	baz=228						
NWF	**Wu-fen Shan**	**1.30**	**333**	P	**Pn**	**03 43 07.6**	**+0.1**
	baz=331						
NWF				S	**Sb**	**03 43 25.6**	**+0.8**
	baz=331						
TWA	**Mucha**	**1.32**	**324**	*e*P	**Pb**	**03 43 08.9**	**0.0**
	baz=322						
TWA				S	**Sb**	**03 43 26.7**	**+1.3**
	baz=322						
TAP1	**Taipei**	**1.40**	**323**	*e*P	**Pb**	**03 43 10.7**	**+0.5**
	baz=321						
TAP1				*e*S	**Sb**	**03 43 28.0**	**+0.4**
	baz=321						
SMLT	**Sun Moon Lake**	**1.41**	**269**	P	**Pn**	**03 43 09.7**	**+0.7**
	baz=255						
SMLT				S	**Sb**	**03 43 27.9**	**-0.3**
	baz=255						
TYC	**Yuchr**	**1.45**	**270**	P	**Pn**	**03 43 10.2**	**+0.7**
	baz=266						
TYC				*e*S	**Sn**	**03 43 28.1**	**+0.4**
	baz=266						
JKRS	**Kuro-shima**	**1.47**	**77**	P	**Pb**	**03 43 11.6**	**+0.1**
JKRS				*e*S	**Sb**	**03 43 30.9**	**+1.2**
ELDTW	**Lidau**	**1.49**	**241**	*i* P	**Pn**	**03 43 10.3**	**+0.1**
	baz=238						
ELDTW				*e*S	**Sn**	**03 43 28.8**	**-0.2**
	baz=238						
NSTT	**Nanjuang**	**1.49**	**299**	P	**Pb**	**03 43 11.6**	**-0.3**
	baz=295						
NSTT				*e*S	**Sb**	**03 43 30.6**	**+0.2**
	baz=295						
TWS1	**Kuangyinshan**	**1.50**	**322**	P	**Pb**	**03 43 11.3**	**-0.7**
	baz=320						
TWS1				*e*S	**Sb**	**03 43 33.1**	**+2.4**
	baz=320						
NCU	**National Centr**	**1.55**	**313**	*e*P	**Pb**	**03 43 13.3**	**+0.4**
	baz=310						
NCU				*e*S	**Sb**	**03 43 33.2**	**+1.1**
	baz=310						
TWY	**Chenhua**	**1.56**	**331**	*e*P	**Pb**	**03 43 12.4**	**-0.5**
	baz=328						
TWQ1	**Liyutan**	**1.58**	**286**	P	**Pb**	**03 43 13.2**	**-0.2**
	baz=282						
TWQ1				S	**Sb**	**03 43 34.1**	**+1.1**
	baz=282						
WNT	**Mingjian**	**1.61**	**269**	P	**Pb**	**03 43 13.7**	**-0.1**
	baz=265						
WNT				S	**Sb**	**03 43 34.3**	**+0.6**
	baz=265						
NSY	**Sanyi**	**1.61**	**288**	*e*P	**Pb**	**03 43 13.9**	**-0.1**
	baz=285						
NSY				*e*S	**Sb**	**03 43 35.1**	**+1.2**
	baz=285						
JIJ	**Ishigaki jima**	**1.62**	**74**	P	**Pn**	**03 43 12.3**	**+0.5**
JIJ				*e*S	**Sn**	**03 43 32.4**	**+0.5**
TCU	**Taichung**	**1.63**	**278**	P	**Pb**	**03 43 14.1**	**-0.1**
	baz=275						
TCU				*e*S	**Sb**	**03 43 35.4**	**+1.1**
	baz=275						
CHN5	**Tsauling**	**1.65**	**259**	P	**Pb**	**03 43 14.0**	**-0.6**
	baz=245						
CHN5				*e*S	**Sb**	**03 43 35.9**	**+1.0**
	baz=245						
TTN	**Taitung**	**1.66**	**226**	*e*S	**Sn**	**03 43 33.0**	**+0.2**
	baz=224						
TWG	**Pinlang**	**1.67**	**229**	P	**Pn**	**03 43 12.7**	**+0.3**
	baz=239						
TWG				*e*S	**Sn**	**03 43 32.7**	**-0.3**
	baz=239						
WGK	**Gukeng**	**1.74**	**263**	*i* P	**Pb**	**03 43 15.6**	**-0.4**
	baz=259						
WGK				S	**Sb**	**03 43 38.5**	**+1.1**
	baz=259						
PCYT	**Pengchaiyu**	**1.74**	**349**	P	**Pn**	**03 43 13.7**	**+0.2**
	baz=348						
CHN4	**Tsaushan**	**1.79**	**252**	*i* P	**Pb**	**03 43 16.2**	**-0.7**
	baz=249						
CHN4				*i* S	**Sb**	**03 43 39.9**	**+1.0**
	baz=249						
WTP	**Ta-pu**	**1.80**	**249**	P	**Pb**	**03 43 16.4**	**-0.8**
	baz=236						
WTP				*e*S	**Sb**	**03 43 39.6**	**+0.2**
	baz=236						
CHY	**Chiayi**	**1.90**	**258**	*e*P	**Pn**	**03 43 17.2**	**+1.6**
	baz=254						
CHY				S	**Sb**	**03 43 42.5**	**+0.5**
	baz=254						
**SG

0.9nm,0.4s,baz=102,slow=9.5,SNR=17
ZALV Zalesovo Beam 41.09 327 P **P 03 50 24.9 -1.5**
1.8nm,0.5s,baz=119,slow=7.4,SNR=4.7
KURBB Kurchatov Arra 43.05 320 P **P 03 50 41.4 -1.1**
0.5nm,0.5s,baz=108,slow=10.0,SNR=7.5
WRA Warramunga Arr 45.11 164 P **P 03 51 00.2 +0.9**
0.5nm,0.5s,baz=346,slow=8.7,SNR=3.4
ASAR Alice Springs 48.59 166 P **P 03 51 28.2 +1.7**
0.3nm,0.5s,baz=344,slow=7.7,SNR=4.4
BVAR Borovoye Array 48.61 321 P **P 03 51 25.7 -0.7**
0.6nm,0.4s,baz=126,slow=7.3,SNR=4.2
BRTR Keskin Array B 74.25 307 P **P 03 54 19.8 -0.4**
1.4nm,1.1s,baz=90,slow=5.4,SNR=4.3

IDC 14 03:55:28.5±1.2, 58°.62S×25°.67W, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/16, mbtmp3.6/3, Error ellipse: s-maj=48.6km s-min=33.7km az=90.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**44.04**	**182**	P	P	04 03 37.0	-0.2
	1.1nm,0.8s,baz=184,slow=3.6,SNR=4.2						
LPAZ	**La Paz**	**52.53**	**305**	P	P	04 04 43.9	-0.2
	0.4nm,0.7s,baz=168,slow=11,SNR=3.0						
TORD	**Torodi Ar. Bea**	**74.92**	**28**	P	P	04 07 11.0	0.0
	0.4nm,0.6s,baz=201,slow=6.0,SNR=11						
ILAR	**Eielson Array**	**152.39**	**308**	PKPbc	PKPbc	04 15 24.8	0.0
	0.7nm,0.8s,baz=134,slow=2.6,SNR=7.4						

IDC 14 04:19:55.0±3.7, 6°.75S×153°.86E, h0km, mb3.0/2, mb1 3.3/2, mb1mx3.2/15, mbtmp3.1/2, Error ellipse: s-maj=182.1km s-min=49.8km az=128.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.04**	**233**	P	P	04 25 03.4	+1.3
	0.2nm,0.3s,baz=58,slow=10,SNR=10						
ASAR	**Alice Springs**	**25.50**	**227**	P	P	04 25 23.4	-1.9
	0.4nm,0.8s,baz=45,slow=9.4,SNR=3.3						
TORD	**Torodi Ar. Bea**	**151.87**	**285**	PKPbc	PKPbc	04 39 53.1	+0.1
	0.8nm,1.1s,baz=62,slow=2.0,SNR=5.2						

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*IDC **14** 05:07:25.6±1.1, 34°.33N×86°.32E, h0km, mb3.8/10, mb1 3.9/14, mb1mx3.8/29, mbtmp3.8/14, ML3.6/4, Error ellipse: s-maj=30.9km s-min=20.7km az=49.0*
*ISCJB **14** 05:07:28.2±0.5, 34°.34N±0°.04×86°.2E±0°.1, h33km, mb3.8/9, Error ellipse: s-maj=15.8km s-min=5.3km az=175.9*
ISC 14 05:07:30.7±0.7, 34°.36N±0°.08×86°.2E±0°.1, h35km, n26, σ1§31/26, mb3.8/9, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DANN	**Dangsing**	**6.35**	**200**	*e*P	**Pn**	**05 09 00.4**	**-1.6**
	27nm,0.5s						
GUN	**Gumba**	**6.43**	**183**	*e*P	**Pn**	**05 09 03.0**	**-0.2**
	37nm,0.5s						
KKN	**Kakani**	**6.60**	**187**	*e*P	**Pn**	**05 09 06.1**	**+0.7**
	17nm,0.4s						
JIRN	**Jiri**	**6.67**	**180**	*e*P	**Pn**	**05 09 06.7**	**+0.1**
	25nm,0.4s						
DMN	**Daman**	**6.79**	**189**	*e*P	**Pn**	**05 09 07.5**	**-0.6**
	14nm,0.4s						
PKIN	**Phulchoki**	**6.79**	**186**	*e*P	**Pn**	**05 09 09.2**	**+1.1**
PKI	**Pulchoki**	**6.80**	**186**	*e*P	**Pn**	**05 09 09.0**	**+0.7**
	22nm,0.4s						
PYUN	**Piuthan**	**6.83**	**205**	*e*P	**Pn**	**05 09 06.4**	**-2.1**
KOLN	**Koldanda**	**6.94**	**200**	*e*P	**Pn**	**05 09 07.6**	**-2.5**
	21nm,0.5s						
TAPN	**Taplejung**	**7.10**	**169**	*e*P	**Pn**	**05 09 12.2**	**-0.1**
	13nm,0.5s						
RAMN	**Ramite**	**7.39**	**177**	*e*P	**Pn**	**05 09 14.5**	**-1.8**
	29nm,0.5s						
AAK	**Ala-Archa**	**12.36**	**315**	Pn	**Pn**	**05 10 24.9**	**+0.8**
	0.3nm,0.3s,baz=204,slow=19,SNR=4.0						
MKAR	**Makanchi Array**	**12.78**	**348**	Pn	**Pn**	**05 10 28.2**	**-1.6**
	0.1nm,0.3s,baz=162,slow=13,SNR=7.3						
LZH	**Lanzhou**	**14.50**	**78**	*e*P	**P**	**05 10 59.5**	**-0.2**
LZH				pP	Pn	05 11 01.8	+8.3
LZH				sP		05 11 04.0	
LZH				PP	PnPn	05 11 11.6	+10
LZH				pmax	pmax		
	comp=Z,18nm,1.0s						
LZH				pmax	pmax		
	comp=Z,46nm,4.0s						
LZH				LR	LR		
	comp=N,230nm,10.3s						
LZH				LR	LR		
	comp=E,240nm,10.1s						
LZH				LR	LR		
	comp=Z,280nm,12.7s						
KURBB	**Kurchatov Arra**	**17.20**	**343**	P	**Pn**	**05 11 26.8**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=150,slow=12,SNR=9.2						
ZALV	**Zalesovo Beam**	**19.61**	**358**	P	**P**	**05 11 55.9**	**0.0**
	comp=Z,0.2nm,0.3s,baz=192,slow=11,SNR=3.1						
SONM	**Songino Array**	**20.22**	**42**	P	**P**	**05 12 03.1**	**+0.4**
	comp=Z,0.9nm,0.8s,baz=224,slow=12,SNR=4.5						
BVAR	**Borovoye Array**	**21.81**	**334**	P	**P**	**05 12 17.9**	**-1.6**
	comp=Z,0.9nm,0.5s,baz=142,slow=13,SNR=3.9						
AKTO	**Aktyubinsk**	**26.10**	**317**	P	**P**	**05 13 00.7**	**-0.3**
	comp=Z,0.7nm,0.3s,baz=96,slow=10,SNR=2.5						
FINES	**FINESS Array B**	**46.33**	**325**	P	**P**	**05 15 54.7**	**+1.8**
	comp=Z,1.7nm,0.7s,baz=104,slow=16,SNR=3.9						
ARCES	**ARCESS Array B**	**48.08**	**336**	P	**P**	**05 16 05.0**	**-1.3**
	comp=Z,9.0nm,1.1s,baz=82,slow=6.5,SNR=3.6						
NOA	**NORSAR Array B**	**53.50**	**324**	P	**P**	**05 16 48.9**	**+1.6**
	comp=Z,1.1nm,0.9s,baz=84,slow=7.0,SNR=3.0						
GERES	**GERESS Array B**	**54.14**	**309**	P	**P**	**05 16 54.4**	**+2.0**
	comp=Z,0.6nm,0.6s,baz=60,slow=7.9,SNR=5.1						
ILAR	**Eielson Array**	**72.86**	**21**	P	**P**	**05 18 55.9**	**+0.3**
	comp=Z,0.5nm,0.8s,baz=283,slow=3.7,SNR=4.6						
ASAR	**Alice Springs**	**73.34**	**135**	P	**P**	**05 18 58.6**	**-0.3**
	comp=Z,0.7nm,0.8s,baz=319,slow=5.9,SNR=8.2						
TORD	**Torodi Ar. Bea**	**78.25**	**278**	P	**P**	**05 19 27.9**	**+0.6**
	comp=Z,0.7nm,0.8s,baz=45,slow=5.8,SNR=4.1						

GUC 14 05:26:23.3±0.4, 32°.01S×71°.61W, h25km±2km, MD3.7, ML2.9,3C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.54**	**165**	*i* P	Pb	05 26 34.6	+0.2
PACH				*i* S	Sb	05 26 42.7	+0.9
CMCH	**Combarbala**	**0.98**	**32⇑**	*i*P	Pn	05 26 40.7	-0.9
CMCH				*i* S	Sb	05 26 54.4	-0.1
CMCH				AML	AML	05 26 57.9	
	comp=E,1μm,0.8s						
ROCH	**El Roble**	**1.08**	**152**	*i* P	Pn	05 26 42.7	-0.5
ROCH				*i* S	Sb	05 26 57.7	+0.1
ROCH				AML	AML	05 27 00.2	
	comp=E,338nm,0.4s						
JACH	**Jahuel**	**1.09**	**128**	*i* P	Pn	05 26 42.8	-0.3
JACH				*i* S	Sn	05 26 57.5	0.0
PEL	**Peldehue**	**1.37**	**146**	*e*P	Pn	05 26 47.1	+0.2
PEL				*i* S	Sb	05 27 05.0	-0.6
PEL				AML	AML	05 27 06.5	
	comp=E,428nm,0.4s						
FCH	**Farellones**	**1.72**	**140**	AML	AML	05 27 28.4	
	comp=E,165nm,0.1s						
TACH	**Talagante**	**1.73**	**161**	*i* P	Pn	05 26 52.7	+0.9
TACH				*i* S	Sb	05 27 15.0	-0.8
ANTU	**Antumapu**	**1.75**	**152**	AML	AML	05 27 25.2	
	comp=E,121nm,0.4s						
PCH	**Pirque**	**1.85**	**150**	*i* P	Pn	05 26 54.6	+1.0
PCH				*i* S	Sb	05 27 18.6	-0.9
TLL	**Tololo Astrono**	**1.96**	**21⇑**	*i*P	Pn	05 26 56.9	+1.5
TLL				*i* S	Sb	05 27 22.2	-0.8
TLL				AML	AML	05 27 26.2	
	comp=E,153nm,0.6s						
LMEL	**Las Melosas**	**2.18**	**148⇑**	*i*P	Pn	05 26 59.7	+1.5
LMEL				*i* S	Sb	05 27 26.9	-2.1
LMEL				AML	AML	05 27 36.9	
	comp=N,122nm,0.1s						

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*IDC **14** 05:37:09.1±1.0, 34°.77N×28°.46E, h0km, mb3.9/10, mb1 3.9/15, mb1mx3.8/30, mbtmp3.8/15, ML3.5/5, MS2.6/1, Ms1 2.7/1, ms1mx2.0/36, Error ellipse: s-maj=21.2km s-min=15.2km az=180.0*
*HLW **14** 05:37:10.2, 34°.94N×28°.63E, h30km±27km, Md3.3, Ml3.2*
*CSEM **14** 05:37:13.4±0.1, 34°.65N×28°.45E, h80km, ML3.3/2, Error ellipse: s-maj=3.7km s-min=2.4km az=57.0*
*ISK **14** 05:37:13.7, 34°.79N×28°.42E, h54km, MD4.1*
*DDA **14** 05:37:14.1, 35°.01N×28°.41E, h13km, MD3.3*
*ATH **14** 05:37:16.5, 35°.72N×27°.72E, h154km±2km*
*THE **14** 05:37:17.0, 34°.78N×28°.43E, h72km±6km, ML3.3/2, Error ellipse: s-maj=7.0km s-min=3.5km az=355.0*
ISC 14 05:37:12.0±1.4, 34°.67N±0°.03×28°.49E±0°.03, h23km±11km, n158, σ1§43/198, mb3.7/10, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**1.40**	**309**	P	**Pb**	**05 37 38.1**	**+0.7**
KARP				S	**Sb**	**05 37 55.7**	**+0.9**
KARP	**Karpathos**	**1.40**	**309**	*e*P	**Pb**	**05 37 38.3**	**+0.9**
KARP				*e*S	**Sb**	**05 37 55.4**	**+0.6**
KARP	**Karpathos**	**1.40**	**309**	P	**Pb**	**05 37 38.1**	**+0.7**
KARP				*e*S	**Sb**	**05 37 55.4**	**+0.6**
ARG	**Arkhangelos**	**1.57**	**349**	P	**Pn**	**05 37 39.9**	**+1.4**
ARG	**Arkhangelos**	**1.57**	**349**	*e*P	**Pn**	**05 37 39.6**	**+1.1**
ARG				*e*S	**Sn**	**05 37 56.0**	**-2.1**
ARG	**Arkhangelos**	**1.57**	**349**	*e*P	**Pn**	**05 37 39.6**	**+1.1**
ARG				*e*S	**Sn**	**05 37 56.0**	**-2.1**
AKAS	**Kas**	**1.80**	**30**	*i* P	**Pn**	**05 37 43.1**	**+1.3**
AKAS				*i* S	**Sn**	**05 38 05.8**	**+1.7**
AKAS	**Kas**	**1.80**	**30**	*i* P	**Pn**	**05 37 43.1**	**+1.3**
AKAS				*i* S	**Sn**	**05 38 05.8**	**+1.7**
ZKR	**Zakros**	**1.92**	**284**	P	**Pn**	**05 37 44.7**	**+1.4**
ZKR				S	**Sn**	**05 38 08.3**	**+1.6**
ZKR	**Zakros**	**1.92**	**284**	*e*P	**Pb**	**05 37 45.8**	**-0.5**
ZKR	**Zakros**	**1.92**	**284**	P	**Pn**	**05 37 44.7**	**+1.4**
ZKR				S	**Sn**	**05 38 08.3**	**+1.6**
FETY	**Fethiye**	**2.02**	**14**	*e*PN	**Pn**	**05 37 45.1**	**+0.4**
FETY				*e*SN	**Sn**	**05 38 09.8**	**+0.6**
FETY	**Fethiye**	**2.02**	**14**	*e*Pn	**Pn**	**05 37 45.1**	**+0.4**
FETY				*e*Sn	**Sn**	**05 38 09.8**	**+0.6**
DALY	**Dalyan (Mu¨la**	**2.14**	**4**	*e*PN	**Pn**	**05 37 46.9**	**+0.5**
DALY	**Dalyan (Mu¨la**	**2.14**	**4**	*e*Pn	**Pn**	**05 37 46.9**	**+0.5**
DAT	**Datca**	**2.18**	**340**	*e*PN	**Pn**	**05 37 47.2**	**+0.2**
DAT	**Datca**	**2.18**	**340**	*e*Pn	**Pn**	**05 37 47.2**	**+0.2**
TURN	**Turunc**	**2.20**	**2**	*i* P	**Pn**	**05 37 47.5**	**+0.4**
TURN				*i* S	**Sn**	**05 38 13.1**	**-0.5**
TURN	**Turunc**	**2.20**	**2**	*i* P	**Pn**	**05 37 47.5**	**+0.4**
TURN				*i* S	**Sn**	**05 38 13.1**	**-0.5**
ELL	**Elmali**	**2.37**	**29**	*e*PN	**Pn**	**05 37 50.7**	**+1.0**
ELL	**Elmali**	**2.37**	**29**	*e*Pn	**Pn**	**05 37 50.7**	**+1.0**
NPS	**Neapolis**	**2.43**	**285**	P	**Pb**	**05 37 53.4**	**-1.7**
NPS	**Neapolis**	**2.43**	**285**	*e*P	**Pn**	**05 37 50.1**	**-0.3**
NPS	**Neapolis**	**2.43**	**285**	*e*P	**Pn**	**05 37 50.1**	**-0.3**
YER	**Yerkesik**	**2.46**	**356**	*e*PN	**Pn**	**05 37 51.4**	**+0.6**
YER	**Yerkesik**	**2.46**	**356**	*e*Pn	**Pn**	**05 37 51.4**	**+0.6**
LAST	**Lasithi**	**2.52**	**282**	P	**Pn**	**05 37 53.5**	**+1.8**
LAST	**Lasithi**	**2.52**	**282**	*e*P	**Pn**	**05 37 51.3**	**-0.4**
LAST	**Lasithi**	**2.52**	**282**	*e*P	**Pn**	**05 37 51.3**	**-0.4**
BDRM	**Kayabasi**	**2.53**	**341**	*i* P	**Pn**	**05 37 52.6**	**+0.8**
BDRM				*i* S	**Sn**	**05 38 20.4**	**-1.6**
BDRM	**Kayabasi**	**2.53**	**341**	*i* P	**Pn**	**05 37 52.6**	**+0.8**
BDRM				*i* S	**Sn**	**05 38 20.4**	**-1.6**
BODT	**Bodrum**	**2.57**	**338**	*e*PN	**Pn**	**05 37 52.5**	**+0.2**
BODT	**Bodrum**	**2.57**	**338**	*e*Pn	**Pn**	**05 37 52.5**	**+0.2**
GOLH	**Golhisar**	**2.70**	**18**	*i* P	**Pn**	**05 37 56.9**	**+2.7**
GOLH				*i* S	**Sn**	**05 38 29.4**	**+3.2**
GOLH	**Golhisar**	**2.70**	**18**	*i* P	**Pn**	**05 37 56.9**	**+2.7**
GOLH				*i* S	**Sn**	**05 38 29.4**	**+3.2**
KORT	**Korkueli**	**2.77**	**33**	*i* P	**Pn**	**05 37 57.6**	**+2.4**
KORT				*i* S	**Sb**	**05 38 32.4**	**-2.1**
KORT	**Korkueli**	**2.77**	**33**	*i* P	**Pn**	**05 37 57.6**	**+2.4**
KORT				*i* S	**Sb**	**05 38 32.4**	**-2.1**
IDI	**Anoyia**	**3.02**	**283**	*e*PN	**Pn**	**05 37 59.9**	**+1.4**
IDI	**Anoyia**	**3.02**	**283**	P	**Pn**	**05 38 00.9**	**+2.4**
IDI	**Anoyia**	**3.02**	**283**	*e*P	**Pn**	**05 37 57.1**	**-1.4**
IDI	**Anoyia**	**3.02**	**283**	Pn	**Pn**	**05 37 59.1**	**+0.6**
	1.9nm,0.3s,baz=93,slow=16,SNR=12						
IDI				Sn	**Sn**	**05 38 31.6**	**-2.4**
	2.7nm,0.3s,baz=302,slow=21,SNR=5.4						
IDI	**Anoyia**	**3.02**	**283**	*e*P	**Pn**	**05 37 57.1**	**-1.4**
AYDN	**Tasoluk**	**3.02**	**351**	*i* P	**Pn**	**05 38 00.7**	**+2.2**
AYDN				*i* S	**Sn**	**05 38 33.2**	**-0.8**
AYDN	**Tasoluk**	**3.02**	**351**	*i* P	**Pn**	**05 38 00.7**	**+2.2**
AYDN				*i* S	**Sn**	**05 38 33.3**	**-0.8**
DNZL	**Cakiroluk**	**3.04**	**8**	*i* P	**Pn**	**05 38 00.6**	**+1.7**
DNZL				*i* S	**Sn**	**05 38 34.4**	**-0.4**
DNZL	**Cakiroluk**	**3.04**	**8**	*i* P	**Pn**	**05 38 00.6**	**+1.7**
DNZL				*i* S	**Sn**	**05 38 34.4**	**-0.4**
SIVA	**Sivas**	**3.04**	**278**	*e*P	**Pn**	**05 37 58.0**	**-0.8**
SIVA	**Sivas**	**3.04**	**278**	*e*P	**Pn**	**05 37 58.0**	**-0.8**
DENT	**Denizli**	**3.11**	**8**	*e*PN	**Pn**	**05 38 00.5**	**+0.8**
DENT	**Denizli**	**3.11**	**8**	*e*Pn	**Pn**	**05 38 00.5**	**+0.8**
GCAM	**G?zelcaml?**	**3.19**	**342**	*i* P	**Pn**	**05 38 01.9**	**+1.2**
GCAM	**G?zelcaml?**	**3.19**	**342**	*i* P	**Pn**	**05 38 01.9**	**+1.2**
BCK	**Bucak**	**3.26**	**31**	*e*PN	**Pn**	**05 38 03.2**	**+1.4**
BCK	**Bucak**	**3.26**	**31**	*e*Pn	**Pn**	**05 38 03.2**	**+1.4**
SMG	**Samos**	**3.31**	**337**	*e*P	Pn	05 37 54.1	-8.4
SMG	**Samos**	**3.31**	**337**	*e*P	Pn	05 37 54.1	-8.4
APE	**Apeiranthos**	**3.39**	**316**	*e*PN	**Pn**	**05 38 04.4**	**+0.8**
APE	**Apeiranthos**	**3.39**	**316**	P	**Pn**	**05 38 04.7**	**+1.1**
APE	**Apeiranthos**	**3.39**	**316**	*e*Pn	**Pn**	**05 38 04.4**	**+0.8**
APE	**Apeiranthos**	**3.39**	**316**	P	**Pn**	**05 38 04.7**	**+1.1**
SUTC	**Sutluce-Ispart**	**3.46**	**35**	*e*PN	**Pn**	**05 38 06.2**	**+1.6**
SUTC	**Sutluce-Ispart**	**3.46**	**35**	*e*Pn	**Pn**	**05 38 06.2**	**+1.6**
MATC	**Matruh**	**3.48**	**198**	P	**Pn**	**05 38 06.3**	**+1.5**
GAZI	**Gazipasa**	**3.49**	**62**	*i* P	**Pn**	**05 38 05.6**	**+0.7**
GAZI				*i* S	**Sn**	**05 38 43.0**	**-2.6**
GAZI	**Gazipasa**	**3.49**	**62**	*i* P	**Pn**	**05 38 05.6**	**+0.7**
GAZI				*i* S	**Sn**	**05 38 43.0**	**-2.6**
ISP	**Isparta**	**3.55**	**27**	*e*PN	**Pn**	**05 38 07.1**	**+1.3**
ISP	**Isparta**	**3.55**	**27**	*e*Pn	**Pn**	**05 38 07.1**	**+1.3**
VAM	**Vamos**	**3.59**	**283**	*e*P	**Pn**	**05 38 04.2**	**-2.1**
VAM	**Vamos**	**3.59**	**283**	*e*P	**Pn**	**05 38 04.2**	**-2.1**
LEF	**Lefka**	**3.65**	**82**	*e*PN	**Pn**	**05 38 09.5**	**+2.5**
LEF	**Lefka**	**3.65**	**82**	*e*Pn	**Pn**	**05 38 09.5**	**+2.5**
HMAT	**Matruh**	**3.76**	**199**	P	**Pn**	**05 38 10.4**	**+1.8**
	baz=200						
HMAT	**Matruh**	**3.76**	**199**	P	**Pn**	**05 38 10.4**	**+1.8**
HMAT				S	**Sn**	**05 38 54.7**	**+2.6**
KHAL	**Karahalli**	**3.78**	**12**	*i* P	**Pn**	**05 38 10.0**	**+1.0**
KHAL				*i* S	**Sn**	**05 38 52.3**	**-0.5**
KHAL	**Karahalli**	**3.78**	**12**	*i* P	**Pn**	**05 38 10.0**	**+1.0**
KHAL				*i* S	**Sn**	**05 38 52.3**	**-0.5**
MANT	**Manisa**	**3.81**	**1**	*i* P	**Pn**	**05 38 10.2**	**+0.7**
MANT				*i* S	**Sn**	**05 38 52.3**	**-1.5**
KARN	**Karanos**	**3.82**	**282**	*e*P	**Pn**	**05 38 07.4**	**-2.1**
KARN	**Karanos**	**3.82**	**282**	*e*P	**Pn**	**05 38 07.4**	**-2.1**
KULA	**Kula-Manisa**	**3.84**	**2**	*e*PN	**Pn**	**05 38 10.4**	**+0.6**
KULA	**Kula-Manisa**	**3.84**	**2**	P	**Pn**	**05 38 10.6**	**+0.8**
IZM	**Izmir**	**3.85**	**345**	*e*PN	**Pn**	**05 38 10.4**	**+0.5**
IZM	**Izmir**	**3.85**	**345**	*e*Pn	**Pn**	**05 38 10.4**	**+0.5**
HDMB	**Hadim**	**3.97**	**54**	*e*PN	**Pn**	**05 38 14.2**	**+2.5**
HDMB	**Hadim**	**3.97**	**54**	*e*Pn	**Pn**	**05 38 14.2**	**+2.5**
URLA	**Izmir**	**3.98**	**338**	*i* P	**Pn**	**05 38 12.5**	**+0.8**
URLA	**Izmir**	**3.98**	**338**	*i* P	**Pn**	**05 38 12.5**	**+0.8**
SLUM		**4.20**	**222**	P	**Pn**	**05 38 16.0**	**+1.4**
AKHS	**Akhisar**	**4.23**	**353**	*i* P	**Pn**	**05 38 15.7**	**+0.6**
AKHS				*i* S	**Sn**	**05 39 02.8**	**-1.1**
AKHS	**Akhisar**	**4.23**	**353**	*i* P	**Pn**	**05 38 15.7**	**+0.6**
AKHS				*i* S	**Sn**	**05 39 02.8**	**-1.1**
AKS	**Akhisar**	**4.23**	**353**	*e*PN	**Pn**	**05 38 15.7**	**+0.6**
AKS	**Akhisar**	**4.23**	**353**	*e*Pn	**Pn**	**05 38 15.7**	**+0.6**
HBRG	**Burj al 'Arab**	**4.24**	**164**	S	**Sn**	**05 39 05.3**	**+1.3**
	baz=166						
IKL	**Isikli**	**4.52**	**68**	*e*PN	**Pn**	**05 38 20.4**	**+1.4**
IKL	**Isikli**	**4.52**	**68**	*e*Pn	**Pn**	**05 38 20.4**	**+1.4**
KONT	**Konya--Tatoy**	**4.52**	**43**	*e*PN	**Pn**	**05 38 21.3**	**+2.2**
KONT	**Konya--Tatoy**	**4.52**	**43**	*e*Pn	**Pn**	**05 38 21.3**	**+2.2**
KYTH	**Kithira**	**4.73**	**291**	P	**Pn**	**05 38 22.1**	**+0.1**
KYTH	**Kithira**	**4.73**	**291**	P	**Pn**	**05 38 22.1**	**+0.1**
VLI	**Veliai**	**4.96**	**296**	P	**Pn**	**05 38 25.7**	**+0.6**
VLI				S	**Sn**	**05 39 18.2**	**-3.5**
VLI	**Veliai**	**4.96**	**296**	P	**Pn**	**05 38 25.7**	**+0.6**
VLI				S	**Sn**	**05 39 18.2**	**-3.5**
KIZT	**Kizilcal**	**5.00**	**32**	*e*PN	**Pn**	**05 38 28.1**	**+2.4**
KIZT	**Kizilcal**	**5.00**	**32**	*e*Pn	**Pn**	**05 38 28.2**	**+2.4**
BALY	**Balya**	**5.11**	**352**	*i* P	**Pn**	**05 38 27.9**	**+0.8**
BALY				*i* S	**Sn**	**05 39 23.0**	**-2.4**
BALY	**Balya**	**5.11**	**352**	*i* P	**Pn**	**05 38 27.9**	**+0.8**
BALY				*i* S	**Sn**	**05 39 23.0**	**-2.4**
DID	**Didima**	**5.11**	**305**	P	**Pn**	**05 38 28.9**	**+1.7**
DID	**Didima**	**5.11**	**305**	P	**Pn**	**05 38 28.9**	**+1.7**
DIDY	**Didyma**	**5.11**	**305**	P	**Pn**	**05 38 28.9**	**+1.7**
DIDY	**Didyma**	**5.11**	**305**	P	**Pn**	**05 38 28.9**	**+1.7**
HMYD	**Mayadein**	**5.24**	**157**	P	**Pn**	**05 38 29.9**	**+0.9**
	baz=159						
HMYD	**Mayadein**	**5.24**	**157**	P	**Pn**	**05 38 29.9**	**+0.9**
HNAT	**Natroun**	**5.34**	**160**	P	**Pn**	**05 38 31.3**	**+1.0**
	baz=161						
HNAT	**Natroun**	**5.34**	**160**	P	**Pn**	**05 38 31.3**	**+0.9**
SVRH	**Sivrihisar-ESK**	**5.35**	**26**	*e*PN	**Pn**	**05 38 32.2**	**+1.7**
SVRH	**Sivrihisar-ESK**	**5.35**	**26**	*e*Pn	**Pn**	**05 38 32.2**	**+1.7**
KOT	**Kottamia**	**5.51**	**148**	P	**Pn**	**05 38 32.5**	**-0.2**
KOT	**Kottamia**	**5.51**	**148**	P	**Pn**	**05 38 32.5**	**-0.2**
	baz=150						
KOT				AMP		05 39 00.0	
	comp=E,20μm,0.3s,logA/T=4.8,baz=150						
HHAG	**Hagoal**	**5.61**	**146**	P	**Pn**	**05 38 33.9**	**-0.2**
	baz=148						
HHAG				S	**Sn**	**05 39 37.0**	**-0.9**
	baz=148						
HHAG	**Hagoal**	**5.61**	**146**	P	**Pn**	**05 38 33.9**	**-0.2**
HHAG				S	**Sn**	**05 39 37.0**	**-0.9**
AMAG	**Maghara**	**5.66**	**134**	P	**Pn**	**05 38 33.5**	**-1.3**
	baz=136						
AMAG	**Maghara**	**5.66**	**134**	P	**Pn**	**05 38 33.5**	**-1.2**
HSAF	**As Saff**	**5.67**	**152**	P	**Pn**	**05 38 35.0**	**+0.1**
	baz=154						
HSAF	**As Saff**	**5.67**	**152**	P	**Pn**	**05 38 35.0**	**+0.1**
RSH		**5.75**	**129**	P	**Pn**	**05 38 35.3**	**-0.7**
	baz=131						
RSH		**5.75**	**129**	P	**Pn**	**05 38 35.3**	**-0.7**
GLL	**Jalalah**	**5.77**	**151**	P	**Pn**	**05 38 36.5**	**+0.2**
	baz=153						
GLL	**Jalalah**	**5.77**	**151**	P	**Pn**	**05 38 36.4**	**+0.1**
LPK	**Lapseki**	**5.85**	**347**	*e*PN	**Pn**	**05 38 38.9**	**+1.5**
LPK	**Lapseki**	**5.85**	**347**	*e*Pn	**Pn**	**05 38 38.9**	**+1.5**
MMAI	**Mount Meron Ar**	**5.99**	**104**	Pn	**Pn**	**05 38 39.1**	**-0.2**
	comp=E,2.5nm,0.3s,baz=317,slow=12,SNR=3.9						
MMAI				Sn	**Sn**	**05 39 44.2**	**-3.0**
	comp=E,3.9nm,0.3s,baz=274,slow=25,SNR=4.2						
SUZ		**6.06**	**141**	P	**Pn**	**05 38 40.5**	**+0.3**
	baz=143						
SUZ		**6.06**	**141**	P	**Pn**	**05 38 40.5**	**+0.2**
KZIT	**Kziot**	**6.23**	**125**	Pn	**Pn**	**05 38 42.2**	**-0.4**
HMDT	**Nahal Hemdat**	**6.36**	**110**	Pn	**Pn**	**05 38 44.7**	**+0.4**
HMDT				Sn	**Sn**	**05 39 53.4**	**-2.8**
BRTR	**Keskin Array B**	**6.50**	**38**	Pn	**Pn**	**05 38 47.1**	**+0.7**
	comp=E,0.9nm,0.3s,baz=223,slow=16,SNR=18						
BRTR				Sn	**Sn**	**05 39 58.4**	**-1.6**
	comp=E,1.7nm,0.3s,baz=204,slow=25,SNR=21						
DSI	**Dead Sea**	**6.56**	**116**	Pn	**Pn**	**05 38 47.5**	**+0.4**
DSI				Sn	**Sn**	**05 39 58.5**	**-2.6**
RMNI	**Mount Ramon**	**6.67**	**126**	Pn	**Pn**	**05 38 48.9**	**+0.2**
MZDA	**Masada**	**6.68**	**118**	Pn	**Pn**	**05 38 48.9**	**+0.2**
KRMI	**Paran Flat**	**6.96**	**129**	Pn	**Pn**	**05 38 52.6**	**0.0**
PRNI	**Paran**	**6.99**	**126**	Pn	**Pn**	**05 38 52.6**	**-0.4**
HRFI	**Mount Harif**	**7.21**	**128**	Pn	**Pn**	**05 38 56.2**	**+0.1**
MBRI	**Mt Berech**	**7.30**	**130**	Pn	**Pn**	**05 38 57.2**	**-0.1**
EIL	**Elat**	**7.41**	**131**	Pn	**Pn**	**05 38 59.0**	**+0.2**
	comp=E,2.3nm,0.3s,baz=334,slow=9.3,SNR=20						
EIL				Sn	Sn	05 40 15.2	-6.9
	comp=E,2.3nm,0.3s,baz=183,slow=22,

NCK				*i* S	**Sn**	**05 51 11.5**	**-0.9**
NCK	**Nalchik**	**0.96**	**5**	*i* Pg	**Pb**	**05 50 57.2**	**-0.3**
DUS	**Dusheti**	**1.01**	**116**	P	**Pb**	**05 50 58.4**	**+0.1**
DUS				S	**Sn**	**05 51 12.9**	**-0.8**
VLKR	**Vladikavkaz**	**1.02**	**60**	*e*PG	**Pg**	**05 50 58.1**	**0.0**
VLKR				*e*S	**Sb**	**05 51 12.1**	**0.0**
VLKR	**Vladikavkaz**	**1.02**	**60**	*e*Pg	**Pg**	**05 50 58.1**	**0.0**
VLKR				*e*Sg	**Sb**	**05 51 12.1**	**0.0**
SNJR	**Sundja**	**1.12**	**61**	*e*PG	**Pb**	**05 51 00.1**	**-0.1**
SNJR				*e*S	**Sb**	**05 51 15.3**	**+0.4**
SNJR	**Sundja**	**1.12**	**61**	*e*Pg	**Pb**	**05 51 00.1**	**-0.1**
SNJR				*e*Sg	**Sb**	**05 51 15.3**	**+0.4**
AKH	**Akhalkalaki**	**1.13**	**179**	PG	**Pg**	**05 50 59.6**	**-0.5**
AKH	**Akhalkalaki**	**1.13**	**179**	Pg	**Pg**	**05 50 59.6**	**-0.5**
AKH	**Akhalkalaki**	**1.13**	**179**	P	**Pg**	**05 50 59.6**	**-0.4**
AKH				S	**Sb**	**05 51 15.8**	**+0.6**
BTKR	**Batakoyurt**	**1.15**	**43**	⇓*i*PG	**Pn**	**05 51 02.1**	**+1.2**
BTKR				*e*S	**Sn**	**05 51 17.8**	**+0.9**
BTKR	**Batakoyurt**	**1.15**	**43**	*i* Pg	**Pn**	**05 51 02.1**	**+1.2**
TBLG	**Delisi**	**1.24**	**130**	*e*PG	**Pn**	**05 51 01.6**	**-0.6**
TBLG	**Delisi**	**1.24**	**130**	*e*Pg	**Pn**	**05 51 01.6**	**-0.6**
TBLG	**Delisi**	**1.24**	**130**	P	**Pn**	**05 51 01.6**	**-0.5**
TBLG				S	**Sn**	**05 51 18.8**	**-0.3**
KUBR	**Kubataba**	**1.26**	**358**	⇑*i*PG	**Pg**	**05 51 02.8**	**+0.1**
KUBR				*i* S	**Sn**	**05 51 21.0**	**+1.2**
KUBR	**Kubataba**	**1.26**	**358**	*i* Pg	**Pg**	**05 51 02.8**	**+0.1**
SHAR	**Shatzhatmas**	**1.34**	**334**	⇓*i*PG	**Pn**	**05 51 03.5**	**-0.3**
SHAR				*i* S	**Sb**	**05 51 20.8**	**-0.7**
SHAR	**Shatzhatmas**	**1.34**	**334**	*i* Pg	**Pn**	**05 51 03.5**	**-0.3**
SHAR				*i* Sg	**Sb**	**05 51 20.8**	**-0.7**
KZR	**Kazreti**	**1.35**	**148**	P	**Pn**	**05 51 03.0**	**-0.8**
KZR				S	**Sg**	**05 51 22.2**	**+0.4**
PRTR	**Priterechnaya**	**1.35**	**26**	*e*PG	**Pg**	**05 51 05.1**	**+0.7**
PRTR				*e*S	**Sg**	**05 51 23.2**	**+1.3**
PRTR	**Priterechnaya**	**1.35**	**26**	*e*Pg	**Pg**	**05 51 05.1**	**+0.7**
PRTR				*e*Sg	**Sg**	**05 51 23.2**	**+1.3**
TRKR	**Terskaya**	**1.50**	**37**	*e*PG	**Pb**	**05 51 06.3**	**-0.3**
TRKR				*e*S	**Sg**	**05 51 26.5**	**-0.2**
TRKR	**Terskaya**	**1.50**	**37**	*e*Pg	**Pb**	**05 51 06.3**	**-0.3**
TRKR				*e*Sg	**Sg**	**05 51 26.5**	**-0.2**
PYA	**Pyatigorsk**	**1.53**	**349**	⇓*i*PG	**Pb**	**05 51 07.2**	**+0.1**
PYA				*i* S	**Sg**	**05 51 27.3**	**-0.2**
PYA	**Pyatigorsk**	**1.53**	**349**	*i* Pg	**Pb**	**05 51 07.2**	**+0.1**
PYA				*i* Sg	**Sg**	**05 51 27.3**	**-0.2**
KIV	**Kislovodsk**	**1.53**	**338**	⇑*i*PG	**Pb**	**05 51 07.1**	**-0.1**
KIV				*i* S	**Sn**	**05 51 26.5**	**0.0**
KIV	**Kislovodsk**	**1.53**	**338**	*i* Pg	**Pb**	**05 51 07.1**	**-0.1**
KIV				*i* Sg	**Sn**	**05 51 26.5**	**0.0**
BCA	**Borcka**	**1.76**	**232**	*e*PN	**Pn**	**05 51 08.2**	**-1.1**
BCA				*e*SN	**Sn**	**05 51 32.2**	**+0.2**
BCA	**Borcka**	**1.76**	**232**	*e*Pn	**Pn**	**05 51 08.2**	**-1.1**
BCA				*e*Sn	**Sn**	**05 51 32.2**	**+0.2**
ARTV	**Artvin**	**1.78**	**221**	*i* P	**Pn**	**05 51 10.4**	**+0.6**
ARTV				*i* S	**Sb**	**05 51 35.1**	**+1.1**
ARTV	**Artvin**	**1.78**	**221**	*i* P	**Pn**	**05 51 10.4**	**+0.6**
ARTV				*i* S	**Sb**	**05 51 35.1**	**+1.1**
DGRG	**David-gareji**	**1.78**	**127**	PN	**Pb**	**05 51 11.8**	**+0.3**
DGRG	**David-gareji**	**1.78**	**127**	Pn	**Pb**	**05 51 11.8**	**+0.3**
DGRG	**David-gareji**	**1.78**	**127**	P	**Pb**	**05 51 11.8**	**+0.3**
DGRG				S	**Sg**	**05 51 38.9**	**+3.1**
DBOC	**Borcka**	**1.80**	**229**	*i* P	**Pn**	**05 51 10.1**	**+0.2**
DBOC				*i* S	**Sb**	**05 51 34.4**	**-0.1**
DBOC	**Borcka**	**1.80**	**229**	*i* P	**Pn**	**05 51 10.1**	**+0.2**
DBOC				*i* S	**Sb**	**05 51 34.4**	**-0.1**
GRO	**Groznyy**	**1.85**	**64**	*e*PN	**Pb**	**05 51 12.7**	**+0.2**
GRO				*e*S	**Sg**	**05 51 37.8**	**0.0**
GRO	**Groznyy**	**1.85**	**64**	*e*Pn	**Pb**	**05 51 12.7**	**+0.2**
GRO				*e*Sg	**Sg**	**05 51 37.8**	**0.0**
KARS	**Kars**	**1.93**	**189**	*e*PN	**Pb**	**05 51 14.9**	**+0.9**
DBAD	**Bademkaya**	**2.02**	**222**	*i* P	**Pb**	**05 51 14.5**	**-1.0**
DBAD				*i* S	**Sb**	**05 51 41.0**	**+0.2**
DBAD	**Bademkaya**	**2.02**	**222**	*i* P	**Pb**	**05 51 14.5**	**-1.0**
DBAD				*i* S	**Sb**	**05 51 41.0**	**+0.2**
BTLR	**Botlikh**	**2.03**	**85**	*e*PN	**Pg**	**05 51 17.6**	**+0.2**
BTLR				*e*S	**Sg**	**05 51 44.6**	**+0.8**
BTLR				pmax	pmax		
	comp=Z,67nm,0.5s						
BTLR	**Botlikh**	**2.03**	**85**	*e*Sg	**Sg**	**05 51 44.6**	**+0.8**
DDEM	**Demirkent**	**2.09**	**219**	*i* P	**Pb**	**05 51 15.5**	**-1.2**
DDEM				*i* S	**Sb**	**05 51 43.1**	**+0.2**
DDEM	**Demirkent**	**2.09**	**219**	*i* P	**Pb**	**05 51 15.5**	**-1.2**
DDEM				*i* S	**Sb**	**05 51 43.1**	**+0.2**
DIGO	**Kars**	**2.12**	**182**	*i* P	**Pb**	**05 51 17.5**	**+0.2**
DIGO				*i* S	**Sg**	**05 51 46.6**	**0.0**
GNI	**Garni**	**2.57**	**158**	*e*PN	**Pb**	**05 51 25.1**	**+0.1**
GNI	**Garni**	**2.57**	**158**	*e*Pn	**Pb**	**05 51 24.8**	**-0.1**
ANN	**Anapa**	**4.93**	**299**	*e*PN	**Pn**	**05 51 54.2**	**+1.3**
ANN				*e*S	**Sn**	**05 52 53.1**	**+3.0**
ANN				pmax	pmax		
	comp=Z,9.0nm,0.6s						
ANN	**Anapa**	**4.93**	**299**	*e*Pn	**Pn**	**05 51 54.2**	**+1.3**
	comp=Z,9.0nm,0.6s						
ANN				*e*Sn	**Sn**	**05 52 53.1**	**+3.0**
AB31	**Akbulak array**	**13.28**	**54**	⇑P	**Pn**	**05 53 45.5**	**-1.7**
	comp=Z,0.5nm,0.5s,baz=243,slow=14,SNR=12						
AB31				⇑S	Sn	05 56 07.9	-7.2
	comp=Z,0.3nm,0.5s,baz=244,slow=24,SNR=3.8						
AB31	**Akbulak array**	**13.28**	**54**	P	**Pn**	**05 53 45.5**	**-1.7**
	comp=Z,0.5nm,0.5s,SNR=12						
AB31				S	Sn	05 56 07.9	-7.2
	comp=Z,0.3nm,0.5s,SNR=3.8						
BRVK	**Borovoye**	**20.74**	**50**	⇓*e*P	**P**	**05 55 19.6**	**+0.2**
BRVK	**Borovoye**	**20.74**	**50**	*e*P	**P**	**05 55 19.6**	**+0.2**

KRSC 14 06:43:05.0±0.8, 56°.12N×164°.39E, h26km±26km, ML3.9, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.88**	**276**	P	Pb	06 43 20.4	-1.3
KBTR				S	Sb	06 43 31.5	-1.6
BKI	**Bering**	**1.28**	**135**	P	Pb	06 43 28.9	+0.5
BKI				S	Sb	06 43 46.1	+1.6
SMKR	**Semkarok**	**1.69**	**287**	P	Pn	06 43 33.8	+0.9
SMKR				S	Sn	06 43 54.5	+0.7
BDR	**Baidarnaya**	**1.83**	**286**	P	Pn	06 43 35.9	+1.1
BDR				S	Sn	06 43 58.6	+1.4
SRKR	**Sorokina**	**1.87**	**288**	P	Pn	06 43 36.4	+1.0
ZLN	**Zelenaya**	**2.01**	**269**	P	Pb	06 43 39.5	-1.5
ZLN				S	Sb	06 44 04.9	-0.9
CIRR	**Tsirk**	**2.04**	**271**	S	Sb	06 44 05.3	-1.3
LGNR	**Loginova**	**2.07**	**271**	P	Pb	06 43 40.4	-1.9
LGNR				S	Sb	06 44 06.0	-1.9
BZGR	**Bezymyannyi-Gr**	**2.08**	**267**	P	Pn	06 43 40.1	+1.8
BZGR				S	Sb	06 44 05.9	-1.8
KLY	**Klyuchi**	**2.10**	**277**	P	Pn	06 43 38.1	-0.3
KLY				S	Sn	06 44 02.6	-1.0
KRSR	**Krestovskiy**	**2.14**	**274**	P	Pn	06 43 40.1	+0.9
MKZ	**Mys Kozlova**	**2.18**	**225**	P	Pn	06 43 39.9	+0.4
MKZ				S	Sn	06 44 05.3	-0.4
BZWR	**Bezymyannyi-We**	**2.19**	**268**	P	Pn	06 43 42.0	+2.1
BZWR				S	Sb	06 44 09.1	-1.9
BZMR	**Bezymyannaya**	**2.20**	**267**	P	Pn	06 43 41.9	+1.9
BZMR				S	Sb	06 44 09.3	-1.8
KIRR	**Kirishev**	**2.28**	**267**	P	Pn	06 43 43.2	+2.1
KIRR				S	Sb	06 44 11.0	-2.5
KPT	**Kopyto**	**2.34**	**268**	P	Pn	06 43 43.9	+2.0
KPT				S	Sn	06 44 12.0	+2.1
KMNR	**Kamenistaya**	**2.37**	**263**	P	Pn	06 43 44.3	+2.1
KMNR				S	Sn	06 44 12.6	+2.1
KOZ	**Kozyrevsk**	**2.53**	**270**	P	Pb	06 43 47.2	-2.6
KOZ				S	Sb	06 44 18.6	-1.9
TUMR	**Tumrok**	**2.54**	**253**	P	Pn	06 43 46.4	+1.7
SRDR	**Sredinnyy**	**2.62**	**276**	P	Pn	06 43 47.7	+2.0
SRDR				S	Sn	06 44 19.2	+2.6
SDLR	**Sedlovina**	**4.28**	**231**	P	Pn	06 44 10.7	+2.1
SDLR				S	Sn	06 44 58.5	+0.8
KRER	**Koryakskii**	**4.32**	**232**	P	Pn	06 44 12.1	+2.9
KRER				S	Sn	06 45 01.1	+2.2
SMAR	**Somma**	**4.33**	**231**	P	Pn	06 44 11.2	+1.9
SMAR				S	Sn	06 44 59.4	+0.3
KRX	**Arik**	**4.33**	**233**	P	Pn	06 44 11.8	+2.6
KRX				S	Sn	06 45 00.5	+1.6
AVH	**Avacha**	**4.35**	**231**	P	Pn	06 44 12.3	+2.8
AVH				S	Sn	06 45 01.3	+1.9
GNL	**Ganaly**	**4.44**	**240**	P	Pn	06 44 13.0	+2.2
PET	**Petropavlovsk**	**4.56**	**229**	P	Pn	06 44 15.0	+2.8
PET				S	Sn	06 45 05.5	+1.3
RUS	**Russkaya**	**5.05**	**225**	P	Pn	06 44 21.2	+2.3
RUS				S	Sn	06 45 16.9	+0.5
MTVR	**Mutnovka**	**5.15**	**227**	P	Pn	06 44 23.3	+2.8
MTVR				S	Sn	06 45 20.9	+1.8

CASC 14 06:51:07.0±2.0, 13°.47N×90°.86W, h25km±7km, mb5.6, MD3.3, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCG	**Pacaya**	**0.95**	**15**	*e*P	Pn	06 51 24.9	-0.3
PCG				*e*S	Sb	06 51 37.3	-0.4
FUG	**Fuego 3**	**0.97**	**1**	*e*P	Pn	06 51 25.0	-0.3
JAT	**Jato**	**1.13**	**318**	*e*P	Pn	06 51 27.6	+0.3
JAT				*e*S	Sn	06 51 39.4	-2.7
NBG	**Las Nubes**	**1.22**	**24**	*e*P	Pb	06 51 29.8	0.0
NBG				*e*S	Sb	06 51 46.3	+0.9
RTR	**El Retiro**	**1.25**	**70**	*e*P	Pn	06 51 28.9	-0.3
SBLS	**San Blas**	**1.26**	**73**	*e*P	Pn	06 51 28.7	-0.6
SNJE	**San Jose**	**1.28**	**72**	*e*P	Pn	06 51 29.0	-0.6
RBDL	**Robledal**	**1.31**	**61**	*e*P	Pn	06 51 29.6	-0.4
RBDL				*e*S	Sn	06 51 46.6	-0.2
BOQS	**Boqueron**	**1.56**	**80**	*e*P	Pn	06 51 33.3	-0.1
BOQS				*e*S	Sb	06 51 54.1	-0.9
SNET	**Serv Nac Est T**	**1.60**	**82**	*e*P	Pn	06 51 33.6	-0.3
	comp=Z,271nm,0.3s						
LFU	**La Fuente**	**1.72**	**80**	*e*P	Pn	06 51 36.2	+0.7
LFRS	**El Faro**	**1.76**	**85**	*e*P	Pn	06 51 36.3	+0.2
LFRS				*e*S	Sn	06 51 58.4	+0.7
LBRS	**Las Brisas**	**1.79**	**81**	*e*P	Pn	06 51 36.9	+0.5
MRL	**Marmol**	**1.95**	**35**	*e*P	Pn	06 51 40.3	+1.5
MRL				*e*S	Sb	06 52 05.8	-0.4

KRSC 14 07:09:56.9±1.1, 56°.16N×164°.44E, h26km±25km, ML3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.91**	**274**	P	Pn	07 10 12.5	-1.5
KBTR				S	Sb	07 10 23.8	-1.9
BKI	**Bering**	**1.29**	**137**	P	Pb	07 10 21.1	+0.6
BKI				S	Sb	07 10 38.5	+1.9
SMKR	**Semkarok**	**1.71**	**286**	P	Pb	07 10 26.5	-1.2
SMKR				S	Sb	07 10 48.1	-0.7
BDR	**Baidarnaya**	**1.84**	**284**	P	Pb	07 10 28.5	-1.5
BDR				S	Sb	07 10 51.8	-1.0
SRKR	**Sorokina**	**1.89**	**287**	P	Pn	07 10 28.8	+1.3
ZLN	**Zelenaya**	**2.04**	**267**	P	Pn	07 10 31.3	+1.6
ZLN				S	Sn	07 10 56.3	+1.8
BZGR	**Bezymyannyi-Gr**	**2.11**	**266**	P	Pn	07 10 32.2	+1.5
BZGR				S	Sn	07 10 58.1	+1.9
KLY	**Klyuchi**	**2.12**	**276**	S	Sn	07 10 55.8	-0.3
KRSR	**Krestovskiy**	**2.17**	**273**	P	Pn	07 10 32.9	+1.5
KRSR				S	Sn	07 10 59.0	+1.5
BZWR	**Bezymyannyi-We**	**2.22**	**267**	P	Pn	07 10 34.1	+1.9
BZWR				S	Sn	07 11 01.2	+2.2
BZMR	**Bezymyannaya**	**2.23**	**266**	P	Pn	07 10 33.9	+1.6
BZMR				S	Sn	07 11 00.9	+1.8
MKZ	**Mys Kozlova**	**2.23**	**225**	P	Pn	07 10 32.0	-0.1
MKZ				S	Sn	07 10 57.4	-1.4
KIRR	**Kirishev**	**2.31**	**267**	P	Pn	07 10 35.0	+1.6
KIRR				S	Sn	07 11 03.1	+2.0
KPT	**Kopyto**	**2.37**	**267**	P	Pn	07 10 36.2	+2.0
KPT				S	Sn	07 11 05.1	+2.5
KMNR	**Kamenistaya**	**2.40**	**262**	P	Pn	07 10 37.0	+2.4
KOZ	**Kozyrevsk**	**2.56**	**270**	S	Sn	07 11 09.6	+2.6
TUMR	**Tumrok**	**2.58**	**252**	P	Pn	07 10 39.2	+2.0
SRDR	**Sredinnyy**	**2.64**	**275**	P	Pn	07 10 40.1	+2.2
SRDR				S	Sn	07 11 11.9	+2.8
SDLR	**Sedlovina**	**4.33**	**230**	P	Pn	07 11 03.9	+2.8
SDLR				S	Sn	07 11 52.6	+1.8
KRER	**Koryakskii**	**4.37**	**231**	P	Pn	07 11 04.6	+2.8
KRX	**Arik**	**4.37**	**232**	P	Pn	07 11 04.5	+2.7
AVH	**Avacha**	**4.40**	**231**	P	Pn	07 11 05.0	+3.0
AVH				S	Sn	07 11 54.7	+2.3
KOK	**Koryaka**	**4.42**	**232**	P	Pn	07 11 05.3	+2.9
GNL	**Ganaly**	**4.49**	**239**	P	Pn	07 11 05.8	+2.5

*SKO **14** 07:26:45.8, 41°.60N×20°.51E, h0km, M2.5, ML2.8*
*ATH **14** 07:26:47.1, 41°.55N×20°.43E, h10km±10km, MD3.0/3*
*THE **14** 07:26:48.5, 41°.44N×20°.48E, h1km±3km, ML2.8/2, Error ellipse: s-maj=3.3km s-min=0.8km az=282.0*
*BEO **14** 07:26:48.9±0.5, 41°.39N×20°.55E, h0km, ML2.7/1*
*CSEM **14** 07:26:49.1±0.1, 41°.41N×20°.49E, h2km, ML2.8/2, Error ellipse: s-maj=3.5km s-min=2.8km az=44.0*

ISC 14 07:26:48.6±0.9, 41°.47N±0°.02×20°.47E±0°.02, h14km±7km, n48, σ1°.26/83, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHP	**Peshkopia**	**0.22**	**355**	P	**Pg**	**07 26 53.1**	**-0.4**
PHP				S	**Sg**	**07 26 57.6**	**+0.8**
PHP	**Peshkopia**	**0.22**	**355**	P	**Pg**	**07 26 53.1**	**-0.4**
PHP				S	**Sg**	**07 26 57.6**	**+0.8**
TIR	**Tirane**	**0.47**	**255**	P	**Pg**	**07 26 57.0**	**-0.8**
TIR				S	**Sb**	**07 27 03.9**	**-1.4**
TIR	**Tirane**	**0.47**	**255**	*e*Pg	**Pg**	**07 26 57.3**	**-0.5**
TIR				*i* Sg	**Sb**	**07 27 05.5**	**+0.2**
TIR	**Tirane**	**0.47**	**255**	P	**Pg**	**07 26 57.0**	**-0.8**
TIR	**Tirane**	**0.47**	**255**	*e*Pg	**Pg**	**07 26 57.3**	**-0.5**
TIR				S	**Sb**	**07 27 03.9**	**-1.4**
TIR				*e*Sb	**Sg**	**07 27 04.3**	**+0.2**
TIR				*i* Sg	Sg	07 27 05.5	+1.3
BIA	**Bitola**	**0.79**	**124**	P	**Pg**	**07 27 03.4**	**-0.4**
BIA				S	**Sg**	**07 27 13.7**	**-0.5**
BIA	**Bitola**	**0.79**	**124**	*i* Pg	**Pg**	**07 27 01.9**	**-1.9**
BIA				*i* Sg	**Sb**	**07 27 15.3**	**+0.8**
BIA	**Bitola**	**0.79**	**124**	P	**Pg**	**07 27 03.4**	**-0.4**
BIA				S	**Sg**	**07 27 13.7**	**-0.5**
BIA				*i* Sg	**Sb**	**07 27 14.8**	**+0.3**
SKO	**Skopje**	**0.89**	**55**	P	**Pb**	**07 27 06.0**	**+0.3**
SKO				S	**Sn**	**07 27 19.3**	**+0.1**
SKO	**Skopje**	**0.89**	**55**	*i* Pg	Pb	07 27 01.0	-4.7
SKO				*i* Sg	**Sn**	**07 27 20.8**	**+1.6**
SKO				*e*Lg	Lg	07 27 22.0	
	comp=N,304nm,0.4s						
SKO				*e*Lg	Lg	07 27 22.1	
	comp=E,118nm,0.3s						
SKO	**Skopje**	**0.89**	**55**	P	**Pb**	**07 27 06.0**	**+0.3**
SKO				S	**Sn**	**07 27 19.3**	**+0.1**
SKO				*e*Lg	Lg	07 27 21.1	
	comp=E,118nm,0.3s						
FNA	**Florina**	**0.97**	**135**	P	**Pb**	**07 27 06.5**	**-0.6**
FNA				S	**Sb**	**07 27 19.6**	**-0.2**
FNA	**Florina**	**0.97**	**135**	*e*PG	**Pb**	**07 27 06.7**	**-0.4**
FNA				*e*SB	**Sg**	**07 27 20.5**	**+0.6**
FNA	**Florina**	**0.97**	**135**	*e*Pg	**Pb**	**07 27 06.7**	**-0.4**
FNA				S	**Sb**	**07 27 19.6**	**-0.2**
FNA				*e*Sb	**Sg**	**07 27 20.5**	**+0.6**
NEST	**Nestorio**	**1.14**	**157**	P	**Pn**	**07 27 09.6**	**-0.6**
NEST				S	**Sn**	**07 27 25.3**	**-0.3**
NEST	**Nestorio**	**1.14**	**157**	P	**Pn**	**07 27 09.6**	**-0.6**
NEST				S	**Sn**	**07 27 25.3**	**-0.3**
PDG	**Podgorica**	**1.32**	**317**	*e*Pg	**Pb**	**07 27 12.6**	**-0.5**
PDG				*i* Sg	**Sg**	**07 27 35.0**	**+3.8**
PDG	**Podgorica**	**1.32**	**317**	*e*Pg	**Pb**	**07 27 12.6**	**-0.5**
PDG				*i* Sg	**Sg**	**07 27 35.0**	**+3.8**
KZN	**Kozani**	**1.52**	**139**	*e*PB	**Pg**	**07 27 18.0**	**+0.2**
KZN				*e*SB	**Sg**	**07 27 40.4**	**+2.8**
KZN	**Kozani**	**1.52**	**139**	*e*Pb	**Pg**	**07 27 18.0**	**+0.2**
KZN				*e*Sb	**Sg**	**07 27 40.4**	**+2.8**
VAY	**Valandovo**	**1.59**	**95**	P	**Pn**	**07 27 16.7**	**+0.5**
VAY	**Valandovo**	**1.59**	**95**	*i* Pn	**Pb**	**07 27 18.3**	**+0.6**
VAY	**Valandovo**	**1.59**	**95**	P	**Pn**	**07 27 16.7**	**+0.5**
VAY	**Valandovo**	**1.59**	**95**	*i* Pn	**Pb**	**07 27 17.7**	**0.0**
BARS	**Barje**	**1.68**	**36**	*e*Pn	**Pb**	**07 27 18.8**	**-0.5**
BARS				*e*Sg	**Sg**	**07 27 43.8**	**+1.1**
BARS	**Barje**	**1.68**	**36**	*e*Pn	**Pb**	**07 27 18.8**	**-0.5**
BARS				*e*Sg	**Sg**	**07 27 43.8**	**+1.1**
SELS	**Selova**	**1.82**	**15**	*e*Pn	**Pb**	**07 27 22.5**	**+0.9**
SELS				*e*Sn	**Sg**	**07 27 46.6**	**-0.4**
KEK	**Kerkira**	**1.82**	**196**	*e*PN	**Pb**	**07 27 21.6**	**-0.1**
KEK	**Kerkira**	**1.82**	**196**	*e*Pn	**Pb**	**07 27 21.6**	**-0.1**
SJES	**Sjenica**	**1.83**	**349**	*e*Pn	**Pb**	**07 27 22.3**	**+0.4**
SJES	**Sjenica**	**1.83**	**349**	*e*Pn	**Pb**	**07 27 22.3**	**+0.4**
TREB	**Trebinje**	**2.01**	**309**	*i* Sg	**Sg**	**07 27 56.2**	**+3.0**
TREB	**Trebinje**	**2.01**	**309**	*i* Sg	**Sg**	**07 27 56.2**	**+3.0**
IVAS	**Ivanjica**	**2.12**	**354**	*e*Pn	**Pb**	**07 27 26.9**	**+0.1**
IVAS				*e*Sn	**Sg**	**07 27 55.1**	**-1.7**
IVAS	**Ivanjica**	**2.12**	**354**	*e*Pn	**Pb**	**07 27 26.9**	**+0.1**
IVAS				*e*Sn	**Sg**	**07 27 55.1**	**-1.7**
ZAPS	**Zavoj**	**2.42**	**41**	*e*Pn	**Pb**	**07 27 30.6**	**-1.2**
ZAPS	**Zavoj**	**2.42**	**41**	*e*Pn	**Pb**	**07 27 30.6**	**-1.2**
GRUS	**Gruza**	**2.43**	**4**	*e*Pn	**Pb**	**07 27 30.0**	**-2.0**
GRUS				*e*Sn	**Sb**	**07 28 01.9**	**+0.2**
GRUS	**Gruza**	**2.43**	**4**	*e*Pn	**Pb**	**07 27 30.0**	**-2.0**
GRUS				*e*Sn	**Sb**	**07 28 01.9**	**+0.2**
STON	**Ston**	**2.49**	**305**	*e*Pn	**Pb**	**07 27 32.4**	**-0.6**
STON				*e*Sn	**Sb**	**07 28 04.5**	**+1.0**
STON	**Ston**	**2.49**	**305**	*e*Pn	**Pb**	**07 27 32.4**	**-0.6**
STON				*e*Sn	**Sb**	**07 28 04.5**	**+1.0**
BBLS	**Lazići**	**2.52**	**342**	*e*Pn	**Pb**	**07 27 32.7**	**-0.9**
BBLS				*e*Sn	**Sb**	**07 28 04.0**	**-0.6**
BBLS	**Lazići**	**2.52**	**342**	*e*Pn	**Pb**	**07 27 32.7**	**-0.9**
BBLS				*e*Sn	**Sb**	**07 28 04.0**	**-0.6**
DIVS	**Divibare**	**2.65**	**353**	*e*Pn	**Pb**	**07 27 34.3**	**-1.6**
DIVS				*e*Sn	**Sb**	**07 28 08.6**	**+0.3**
DIVS	**Divibare**	**2.65**	**353**	*e*Pn	**Pb**	**07 27 34.3**	**-1.6**
DIVS				*e*Sn	**Sb**	**07 28 08.6**	**+0.3**
TEKS	**Tekeris**	**3.16**	**348**	*e*Pn	**Pb**	**07 27 41.8**	**-2.6**
TEKS	**Tekeris**	**3.16**	**348**	*e*Pn	**Pb**	**07 27 41.8**	**-2.6**

IDC 14 07:29:31.8±56.0, 16°.32S×177°.79W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/16, mbtmp3.7/3, Error ellipse: s-maj=1038.0km s-min=175.7km az=77.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.93**	**240**	P	P	07 37 08.0	0.0
	0.9nm,0.7s,baz=76,slow=12,SNR=3.0						
WRA	**Warramunga Arr**	**45.52**	**258**	P	P	07 37 53.4	-0.2
	0.2nm,0.4s,baz=91,slow=8.5,SNR=7.2						
ASAR	**Alice Springs**	**45.81**	**253**	P	P	07 37 55.6	-0.2
	1.4nm,0.5s,baz=88,slow=8.3,SNR=29						

*ISCJB **14** 08:23:55.1±0.4, 9°.24S±0°.05×123°.80E±0°.04, h75km, mb4.1/3, Error ellipse: s-maj=8.0km s-min=3.7km az=30.7*
*AUST **14** 08:23:58.7, 9°.50S×123°.51E, h60km*
*IDC **14** 08:23:58.0±3.1, 9°.39S×123°.67E, h98km±36km, mb3.9/3, mb1 4.1/7, mb1mx3.7/19, mbtmp3.9/7, Error ellipse: s-maj=95.7km s-min=21.5km az=57.0*
*DJA **14** 08:24:02.1±0.6, 9°.S±7°.×12°.4E±°, h51km±11km, M4.4/8, mb4.5/4, MLv4.3/8*

ISC 14 08:23:57.2±0.6, 9°.37S±0°.06×123°.71E±0°.05, h75km, n35, σ2°.29/38, mb4.3/3, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.67**	**124**	P	Pn	08 24 18.9	+6.5
SOEI				S	Sn	08 24 31.2	+7.7
MMRI	**Maumere**	**1.62**	**297**	P	**Pn**	**08 24 25.5**	**+1.5**
MMRI				S	**Sn**	**08 24 43.6**	**-0.7**
WSI	**Waingapu**	**3.37**	**265**	P	**Pn**	**08 24 50.7**	**+3.1**
WSI	**Waingapu**	**3.37**	**265**	S	**Sn**	**08 25 27.8**	**+1.2**
	baz=3.2,SNR=3.2						
LBFI	**Labuhan Bajo,**	**3.87**	**283**	P	**Pn**	**08 24 56.5**	**+2.1**
LBFI				S	**Sn**	**08 25 39.1**	**+0.4**
BKSI	**Bulukumba**	**5.37**	**318**	P	**Pn**	**08 25 16.3**	**+1.5**
	38nm,0.7s,0.1nm			

0.7nm,0.4s,baz=164,slow=7.2,SNR=4.3
TXAR Lajitas Array 144.62 36 PKP **PKPdf 08 51 46.3 +0.2**
0.5nm,0.6s,baz=200,slow=1.1,SNR=15

MEX 14 08:34:37.8±0.9, 16°57N×94°47W, h106km±11km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.65**	**322**	*eP*	Pn	08 34 54.1	-1.2
CMIG				*i* S	Sn	08 35 06.7	-1.7
TGIG		**1.31**	**81**	*i P*	Pn	08 35 00.8	-1.3
TGIG				*i* S	Sn	08 35 18.6	-2.0
PCIG		**1.48**	**126**	*eP*	Pn	08 35 03.1	-1.0
PCIG				*eS*	Sn	08 35 22.8	-1.3
HUIG	**Huatulco**	**1.77**	**243**	*eP*	Pn	08 35 05.6	-2.0
HUIG				*i* S	Sn	08 35 29.6	-0.8
VHO	**Vista Hermosa**	**2.22**	**283**	*eP*	Pn	08 35 13.4	-0.4
VHO				*i* S	Sn	08 35 39.9	-1.3
CCIG	**Comitan**	**2.26**	**97**	*eP*	Pn	08 35 13.8	-0.4
CCIG				*i* S	Sn	08 35 40.4	-1.6

MEX 14 08:40:19.0±0.4, 15°92N×96°25W, h56km±4km, MD3.5, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.21**	**137**	*i P*	Pn	08 40 26.8	-1.2
HUIG				*i* S	Sn	08 40 32.5	-2.0
VHO	**Vista Hermosa**	**1.23**	**338**	*eP*	Pn	08 40 38.8	-1.5
VHO				*i* S	Sn	08 40 54.2	-2.0
CMIG	**Matias Romero**	**1.75**	**48**	*eP*	Pn	08 40 45.6	-1.5
CMIG				*i* S	Sn	08 41 06.3	-2.1
PNIG	**Pinotepa**	**1.86**	**285**	*eP*	Pn	08 40 47.2	-1.3
PNIG				*i* S	Sn	08 41 08.5	-2.5
PCIG		**2.93**	**94**	*eP*	Pn	08 41 01.7	-1.4
PCIG				*eS*	Sn	08 41 35.5	-1.5

*ISK **14** 08:52:50.4, 38°82N×25°99E, h14km, ML3.7*
*ATH **14** 08:52:54.9, 39°04N×26°64E, h25km±2km, MD3.3/5*
*IDC **14** 08:52:54.9±1.2, 39°13N×26°34E, h0km, mb3.4/2, mb1 3.3/5, mb1mx3.2/24, mbtmp3.2/5, ML2.7/3, Error ellipse: s-maj=24.4km s-min=15.2km az=118.0*
*ISCJB **14** 08:52:55.9±0.7, 39°00N±0°02×26°48E±0°03, h11km±4km, mb3.3/2, Error ellipse: s-maj=3.7km s-min=3.1km az=34.8*
*CSEM **14** 08:52:56.6±0.2, 38°98N×26°51E, h10km, ML3.7/3, Error ellipse: s-maj=4.0km s-min=3.3km az=16.0*
*DDA **14** 08:52:56.2, 39°03N×26°50E, h7km, MD3.7*
*SOF **14** 08:52:57.4, 39°39N×26°89E, h10km, MD3.2*
*THE **14** 08:52:57.8, 39°03N×26°43E, h6km±1km, ML3.7/3, Error ellipse: s-maj=2.3km s-min=0.8km az=272.0*
ISC 14 08:52:56.9±1.0, 39°03N±0°02×26°52E±0°02, h11km±7km, n149, σ0°95/170, 11C-13D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.29**	**320**	P	**Pg**	**08 53 02.9**	**+0.1**
PRK				S	**Sg**	**08 53 07.1**	**+0.3**
PRK	**Paraskevi**	**0.29**	**320**	*e*PB	**Pg**	**08 53 02.9**	**+0.1**
PRK				*e*SB	**Sb**	**08 53 07.7**	**-1.2**
PRK	**Paraskevi**	**0.29**	**320**	P	**Pg**	**08 53 02.9**	**+0.1**
PRK				S	**Sg**	**08 53 07.1**	**+0.3**
AYVA	**Ayvalik**	**0.31**	**26**	*i P*	**Pg**	**08 53 03.3**	**0.0**
AYVA				*i* S	**Sb**	**08 53 08.6**	**-1.0**
AYVA	**Ayvalik**	**0.31**	**26**	*i P*	**Pg**	**08 53 03.3**	**0.0**
AYVA				*i* S	**Sb**	**08 53 08.6**	**-1.0**
URLA	**Izmir**	**0.67**	**175**	*i P*	**Pg**	**08 53 09.1**	**-0.7**
URLA				*i* S	**Sb**	**08 53 20.2**	**+0.4**
URLA	**Izmir**	**0.67**	**175**	*i P*	**Pg**	**08 53 09.1**	**-0.7**
URLA				*i* S	**Sb**	**08 53 20.2**	**+0.4**
CHOS	**Chios island**	**0.73**	**210**	P	**Pg**	**08 53 10.5**	**-0.5**
CHOS				S	**Sb**	**08 53 22.4**	**+0.7**
CHOS	**Chios island**	**0.73**	**210**	*e*PN	**Pg**	**08 53 10.7**	**-0.3**
CHOS				*e*SN	**Sb**	**08 53 22.0**	**+0.3**
CHOS	**Chios island**	**0.73**	**210**	P	**Pg**	**08 53 10.5**	**-0.5**
CHOS				*e*Sn	**Sb**	**08 53 22.0**	**+0.3**
IZM	**Izmir**	**0.86**	**137**	*e*PN	**Pg**	**08 53 12.1**	**-1.3**
IZM				*e*SN	**Sn**	**08 53 27.3**	**-0.1**
IZM	**Izmir**	**0.86**	**137**	*e*Pn	**Pg**	**08 53 12.1**	**-1.3**
IZM				*e*Sn	**Sn**	**08 53 27.3**	**-0.1**
BOZC	**Bozcaada**	**0.89**	**336**	*i P*	**Pg**	**08 53 13.8**	**-0.3**
BOZC				*i* S	**Sb**	**08 53 26.9**	**+0.7**
AKHS	**Akhisar**	**1.02**	**98**	*i P*	**Pg**	**08 53 16.6**	**0.0**
AKHS				*i* S	**Sn**	**08 53 32.1**	**+0.6**
AKHS	**Akhisar**	**1.02**	**98**	*i P*	**Pg**	**08 53 16.6**	**0.0**
AKHS				*i* S	**Sn**	**08 53 32.1**	**+0.6**
AKS	**Akhisar**	**1.02**	**98**	*e*PN	**Pb**	**08 53 16.8**	**+0.2**
AKS	**Akhisar**	**1.02**	**98**	*e*Pn	**Pb**	**08 53 16.8**	**+0.2**
BALY	**Balya**	**1.11**	**50**	*i P*	**Pb**	**08 53 17.3**	**-0.9**
BALY				*i* S	**Sn**	**08 53 34.7**	**+0.9**
BALY	**Balya**	**1.11**	**50**	*i P*	**Pb**	**08 53 17.3**	**-0.9**
BALY				*i* S	**Sn**	**08 53 34.7**	**+0.9**
BALB	**Balikesir**	**1.22**	**59**	*e*PN	**Pn**	**08 53 19.6**	**-0.3**
BALB	**Balikesir**	**1.22**	**59**	*e*Pn	**Pn**	**08 53 19.6**	**-0.3**
LIA	**Limnos Island**	**1.35**	**311**	P	**Pn**	**08 53 21.4**	**-0.2**
LIA				S	**Sg**	**08 53 39.8**	**-0.6**
LIA	**Limnos Island**	**1.35**	**311**	*e*PN	**Pn**	**08 53 21.5**	**-0.2**
LIA				*e*SN	**Sg**	**08 53 40.4**	**0.0**
LIA	**Limnos Island**	**1.35**	**311**	*e*Pn	**Pn**	**08 53 21.5**	**-0.2**
LIA				S	**Sg**	**08 53 39.8**	**-0.6**
LIA				*e*Sn	**Sg**	**08 53 40.4**	**0.0**
LPK	**Lapseki**	**1.36**	**8**	*e*PN	**Pn**	**08 53 20.5**	**-1.3**
LPK	**Lapseki**	**1.36**	**8**	*e*Pn	**Pn**	**08 53 20.5**	**-1.3**
GONE	**Gonen-Balikesi**	**1.36**	**41**	*e*PN	**Pn**	**08 53 21.6**	**-0.2**
GONE	**Gonen-Balikesi**	**1.36**	**41**	*e*Pn	**Pn**	**08 53 21.6**	**-0.2**
KRBG	**Karabiga-Canak**	**1.49**	**24**	*e*PN	**Pn**	**08 53 23.0**	**-0.6**
KRBG	**Karabiga-Canak**	**1.49**	**24**	*e*Pn	**Pn**	**08 53 23.0**	**-0.6**
DURS	**Dursunbey**	**1.62**	**69**	*i P*	**Pn**	**08 53 25.5**	**0.0**
DURS				*i* S	**Sn**	**08 53 46.2**	**-0.3**
DURS	**Dursunbey**	**1.62**	**69**	*i P*	**Pn**	**08 53 25.5**	**0.0**
DURS				*i* S	**Sn**	**08 53 46.2**	**-0.3**
SMTH	**Samothraki Isl**	**1.63**	**333**	P	**Pn**	**08 53 25.3**	**-0.2**
SMTH	**Samothraki Isl**	**1.63**	**333**	*e*PN	**Pn**	**08 53 25.4**	**-0.1**
SMTH				*e*SN	**Sn**	**08 53 45.8**	**-0.7**
SMTH	**Samothraki Isl**	**1.63**	**333**	*e*Pn	**Pn**	**08 53 25.4**	**-0.1**
SMTH				*e*Sn	**Sn**	**08 53 45.8**	**-0.7**
DEMI	**Demirci**	**1.71**	**89**	*i P*	**Pn**	**08 53 27.3**	**+0.6**
DEMI	**Demirci**	**1.71**	**89**	*i P*	**Pn**	**08 53 27.3**	**+0.6**
DST	**Dursunbey**	**1.73**	**70**	*e*PN	**Pn**	**08 53 27.1**	**+0.2**
DST	**Dursunbey**	**1.73**	**70**	*e*Pn	**Pn**	**08 53 27.2**	**+0.2**
RKY	**Sarkoy-Tekirda**	**1.74**	**17**	*e*PN	**Pn**	**08 53 26.0**	**-1.0**
RKY	**Sarkoy-Tekirda**	**1.74**	**17**	*e*Pn	**Pn**	**08 53 26.0**	**-1.0**
SART	**Tekirdag**	**1.74**	**17**	*i P*	**Pn**	**08 53 27.4**	**+0.3**
SART				*i* S	**Sn**	**08 53 49.8**	**+0.5**
SART	**Tekirdag**	**1.74**	**17**	*i P*	**Pn**	**08 53 27.4**	**+0.3**
SART				*i* S	**Sn**	**08 53 49.8**	**+0.5**
KULA	**Kula-Manisa**	**1.75**	**106**	*e*PN	**Pn**	**08 53 26.3**	**-1.0**
KULA	**Kula-Manisa**	**1.75**	**106**	*e*Pn	**Pn**	**08 53 26.3**	**-1.0**
KCTX	**Karacabey (Bur**	**1.89**	**48**	*e*PN	**Pn**	**08 53 28.8**	**-0.3**
KCTX	**Karacabey (Bur**	**1.89**	**48**	*e*Pn	**Pn**	**08 53 28.8**	**-0.3**
ALN	**Alexandroupoli**	**1.90**	**349**	P	**Pn**	**08 53 30.0**	**+0.7**
ALN	**Alexandroupoli**	**1.90**	**349**	P	**Pn**	**08 53 30.0**	**+0.7**
AOS	**Alonnisos**	**2.06**	**275**	P	**Pn**	**08 53 31.1**	**-0.2**
AOS	**Alonnisos**	**2.06**	**275**	*e*PN	**Pn**	**08 53 31.3**	**0.0**
AOS	**Alonnisos**	**2.06**	**275**	*e*Pn	**Pn**	**08 53 31.3**	**0.0**
BODT	**Bodrum**	**2.06**	**162**	*e*PN	Pn	08 53 23.4	-8.0
APE	**Apeiranthos**	**2.10**	**202**	*e*PN	**Pn**	**08 53 30.8**	**-1.2**
APE	**Apeiranthos**	**2.10**	**202**	⇑*i*P	**Pn**	**08 53 30.6**	**-1.4**
APE	**Apeiranthos**	**2.10**	**202**	*e*Pn	**Pn**	**08 53 30.8**	**-1.2**
TKR	**Tekirdag**	**2.11**	**21**	*e*PN	**Pn**	**08 53 31.5**	**-0.6**
TKR	**Tekirdag**	**2.11**	**21**	*e*Pn	**Pn**	**08 53 31.5**	**-0.6**
RDO	**Rodhopi**	**2.25**	**341**	P	**Pn**	**08 53 34.3**	**+0.3**
RDO	**Rodhopi**	**2.25**	**341**	P	**Pn**	**08 53 34.3**	**+0.3**
MDNY	**Mudanya-Bursa**	**2.27**	**53**	*e*PN	**Pn**	**08 53 35.0**	**+0.8**
MDNY	**Mudanya-Bursa**	**2.27**	**53**	*e*Pn	**Pn**	**08 53 35.0**	**+0.8**
YER	**Yerkesik**	**2.35**	**143**	*e*PN	Pn	08 53 31.4	-4.0
YER	**Yerkesik**	**2.35**	**143**	*e*Pn	Pn	08 53 31.4	-4.0
OUR	**Ouranopolis**	**2.35**	**305**	P	**Pn**	**08 53 35.3**	**-0.1**
OUR	**Ouranopolis**	**2.35**	**305**	P	**Pn**	**08 53 35.3**	**-0.1**
PAIG	**Paliouri**	**2.37**	**293**	P	**Pn**	**08 53 35.2**	**-0.5**
PAIG	**Paliouri**	**2.37**	**293**	P	**Pn**	**08 53 35.2**	**-0.5**
ARMT	**Armutlu**	**2.37**	**49**	*e*PN	**Pn**	**08 53 35.5**	**-0.2**
ARMT	**Armutlu**	**2.37**	**49**	*e*Pn	**Pn**	**08 53 35.5**	**-0.2**
SKIA	**Skiathos**	**2.38**	**274**	P	**Pn**	**08 53 35.3**	**-0.5**
SKIA	**Skiathos**	**2.38**	**274**	P	**Pn**	**08 53 35.3**	**-0.5**
DAT	**Datca**	**2.44**	**160**	*e*PN	Pn	08 53 30.8	-6.0
KAVA	**Kavala**	**2.50**	**323**	P	**Pn**	**08 53 37.2**	**-0.2**
KAVA	**Kavala**	**2.50**	**323**	P	**Pn**	**08 53 37.2**	**-0.2**
SLVT	**Silivri**	**2.56**	**30**	*e*PN	**Pn**	**08 53 38.3**	**+0.1**
SLVT	**Silivri**	**2.56**	**30**	*e*Pn	**Pn**	**08 53 38.3**	**+0.1**
CTKS	**Kestanelik-??a**	**2.69**	**34**	*e*PN	**Pn**	**08 53 40.1**	**+0.2**
CTKS	**Kestanelik-??a**	**2.69**	**34**	*e*Pn	**Pn**	**08 53 40.2**	**+0.2**
BUY	**Buyukada**	**2.71**	**47**	*e*PN	**Pn**	**08 53 41.1**	**+0.9**
BUY	**Buyukada**	**2.71**	**47**	*e*Pn	**Pn**	**08 53 41.2**	**+0.9**
KDZ	**Kurdzhali**	**2.75**	**343**	*i P*	**Pn**	**08 53 38.4**	**-2.6**
KDZ	**Kurdzhali**	**2.75**	**343**	*i P*	**Pn**	**08 53 38.4**	**-2.6**
BGKT	**Bogazkoy**	**2.76**	**38**	*e*PN	**Pn**	**08 53 41.3**	**+0.2**
BGKT	**Bogazkoy**	**2.76**	**38**	*e*Pn	**Pn**	**08 53 41.3**	**+0.2**
DALY	**Dalyan (Mu¨la**	**2.78**	**142**	*e*PN	Pn	08 53 37.5	-3.8
DALY	**Dalyan (Mu¨la**	**2.78**	**142**	*e*Pn	Pn	08 53 37.5	-3.8
CTYL	**Yal??k??y-??at**	**2.80**	**28**	*e*PN	**Pn**	**08 53 41.5**	**-0.1**
CTYL	**Yal??k??y-??at**	**2.80**	**28**	*e*Pn	**Pn**	**08 53 41.5**	**-0.1**
EDRB	**Edirne**	**2.82**	**3**	*e*PN	**Pn**	**08 53 40.2**	**-1.7**
EDRB	**Edirne**	**2.82**	**3**	*e*Pn	**Pn**	**08 53 40.2**	**-1.7**
CAVI	**Cavuskoy**	**2.83**	**64**	*e*PN	**Pn**	**08 53 43.0**	**+1.0**
CAVI	**Cavuskoy**	**2.83**	**64**	*e*Pn	**Pn**	**08 53 43.0**	**+1.0**
ADVT	**Abdulvahap**	**2.86**	**59**	*e*PN	**Pn**	**08 53 43.4**	**+1.0**
ADVT	**Abdulvahap**	**2.86**	**59**	*e*Pn	**Pn**	**08 53 43.4**	**+1.0**
RZN	**Rozhen**	**2.99**	**333**	P	**Pn**	**08 53 45.2**	**+0.8**
RZN	**Rozhen**	**2.99**	**333**	P	**Pn**	**08 53 45.2**	**+0.8**
SRS	**Serrai**	**3.06**	**314**	P	**Pn**	**08 53 45.3**	**+0.1**
SRS	**Serrai**	**3.06**	**314**	P	**Pn**	**08 53 45.3**	**+0.1**
NVR	**Nevrokopi**	**3.09**	**320**	P	**Pn**	**08 53 45.7**	**+0.1**
NVR	**Nevrokopi**	**3.09**	**320**	P	**Pn**	**08 53 45.7**	**+0.1**
SILT	**Sile**	**3.21**	**47**	*e*PN	**Pn**	**08 53 48.2**	**+1.1**
SILT	**Sile**	**3.21**	**47**	*e*Pn	**Pn**	**08 53 48.2**	**+1.1**
MMB	**Musomiste**	**3.33**	**321**	*i P*	**Pn**	**08 53 49.0**	**+0.1**
MMB	**Musomiste**	**3.33**	**321**	*i P*	**Pn**	**08 53 49.0**	**+0.1**
GULT	**Gulveren**	**3.39**	**64**	*e*PN	**Pn**	**08 53 51.1**	**+1.3**
GULT	**Gulveren**	**3.39**	**64**	*e*Pn	**Pn**	**08 53 51.1**	**+1.3**
KKB	**Krupnik**	**3.86**	**318**	P	**Pn**	**08 53 57.7**	**+1.5**
KKB	**Krupnik**	**3.86**	**318**	P	**Pn**	**08 53 57.7**	**+1.5**
MDUB	**Mudurnu**	**3.89**	**67**	*e*PN	**Pn**	**08 53 58.3**	**+1.6**
MDUB	**Mudurnu**	**3.89**	**67**	*e*Pn	**Pn**	**08 53 58.3**	**+1.6**
PGB	**Panagyurishte**	**3.95**	**334**	P	**Pn**	**08 53 57.8**	**+0.4**
PGB	**Panagyurishte**	**3.95**	**334**	P	**Pn**	**08 53 57.8**	**+0.4**
IDI	**Anoyia**	**3.95**	**200**	*e*PN	Pn	08 53 47.9	-10
IDI	**Anoyia**	**3.95**	**200**	Pn	**Pn**	**08 53 56.0**	**-1.4**
IDI	0.8nm,0.3s,baz=25,slow=14,SNR=5.4			Lg	Lg	08 55 04.0	
VTS	**Vitosha**	**4.36**	**326**	⇓*i*P	**Pn**	**08 54 04.4**	**+1.3**
VTS	**Vitosha**	**4.36**	**326**	P	**Pn**	**08 54 04.3**	**+1.2**
VTS	**Vitosha**	**4.36**	**326**	P	**Pn**	**08 54 04.3**	**+1.2**
MPEP	**Maloo Peshtene**	**4.81**	**335**	P	**Pn**	**08 54 10.4**	**+1.2**
BARS	**Barje**	**5.20**	**318**	*e*Pn	**Pn**	**08 54 15.0**	**+0.5**
BRTR	**Keskin Array B**	**5.56**	**81**	Pn	**Pn**	**08 54 19.3**	**-0.4**
BRTR	0.4nm,0.3s,baz=251,slow=13,SNR=8.2			Pg	**Pg**	**08 54 41.4**	**-2.0**
BRTR	0.3nm,0.3s,baz=258,slow=16,SNR=6.0			Lg	Lg	08 55 56.8	
TIRR	**Tirgusor**	**5.61**	**14**	⇓*i*P	**Pn**	**08 54 20.8**	**+0.6**
TIRR	**Tirgusor**	**5.61**	**14**	⇓*i*P	**Pn**	**08 54 20.8**	**+0.6**
TLB	**Topalu**	**5.67**	**11**	⇓*i*P	**Pn**	**08 54 21.2**	**+0.2**
TLB	**Topalu**	**5.67**	**11**	⇓*i*P	**Pn**	**08 54 21.2**	**+0.2**
CFR	**Carcaliu**	**6.27**	**11**	⇓*i*P	**Pn**	**08 54 29.3**	**+0.1**
CFR	**Carcaliu**	**6.27**	**11**	⇓*i*P	**Pn**	**08 54 29.3**	**+0.1**
MLR	**Muntele Rosu**	**6.47**	**356**	⇑*i*P	**Pn**	**08 54 34.2**	**+2.0**
MLR	**Muntele Rosu**	**6.47**	**356**	Pn	**Pn**	**08 54 30.9**	**-1.3**
MLR	**Muntele Rosu**	**6.47**	**356**	⇑*i*P	**Pn**	**08 54 34.2**	**+2.0**
VOIR		**6.50**	**351**	⇓*i*P	**Pn**	**08 54 33.5**	**+1.0**
VOIR		**6.50**	**351**	⇓*i*P	**Pn**	**08 54 33.5**	**+1.0**
GRUS	**Gruza**	**6.53**	**320**	*e*Pn	**Pn**	**08 54 33.2**	**+0.5**
IVAS	**Ivanjica**	**6.60**	**316**	*e*Pn	**Pn**	**08 54 33.3**	**-0.6**
PLOR	**Plostina**	**6.82**	**1**	⇓*i*P	**Pn**	**08 54 38.7**	**+1.8**
PLOR	**Plostina**	**6.82**	**1**	⇓*i*P	**Pn**	**08 54 38.7**	**+1.8**
VRI	**Vrincioaia**	**6.84**	**1**	⇑*i*P	**Pn**	**08 54 38.9**	**+1.8**
VRI	**Vrincioaia**	**6.84**	**1**	⇑*i*P	**Pn**	**08 54 38.9**	**+1.8**
DIVS	**Divibare**	**7.04**	**318**	*e*Pn	**Pn**	**08 54 41.3**	**+1.4**
TESR	**Tescani**	**7.48**	**1**	⇑*i*P	**Pn**	**08 54 47.3**	**+1.4**
TESR	**Tescani**	**7.48**	**1**	⇑*i*P	**Pn**	**08 54 47.3**	**+1.4**
BZS	**Buzias**	**7.52**	**333**	⇓*i*P	**Pn**	**08 54 47.0**	**+0.6**
BZS	**Buzias**	**7.52**	**333**	⇓*i*P	**Pn**	**08 54 47.0**	**+0.6**
DRGR		**8.25**	**341**	⇑*i*P	**Pn**	**08 54 59.1**	**+2.6**
DRGR		**8.25**	**341**	⇑*i*P	**Pn**	**08 54 59.1**	**+2.6**
BURAR	**Bucovina Array**	**8.64**	**354**	⇑*i*P	**Pn**	**08 55 04.4**	**+2.6**
BURAR	**Bucovina Array**	**8.64**	**354**	⇑*i*P	**Pn**	**08 55 04.4**	**+2.6**
TORD	**Torodi Ar. Bea**	**33.86**	**227**	P	**P**	**08 59 39.2**	**-0.3**
MKAR	**Makanchi Array**	**40.83**	**60**	P	**P**	**09 00 38.9**	**+0.5**
	0.5nm,0.8s,baz=41,slow=8.0,SNR=3.8						
	0.3nm,0.5s,baz=275,slow=6.5,SNR=5.1						

*AUST **14** 09:00:45.5, 5°99S×128°52E, h300km*
*ISCJB **14** 09:00:47.8±0.3, 6°29S±0°04×128°57E±0°06, h334km, mb3.6/8, Error ellipse: s-maj=8.3km s-min=5.3km az=153.7*
*IDC **14** 09:00:49.8±1.9, 6°37S×128°55E, h337km±18km, mb3.4/8, mb1 3.7/11, mb1mx3.5/21, mbtmp3.5/11, Error ellipse: s-maj=27.8km s-min=9.1km az=69.0*
ISC 14 09:00:49.1±0.6, 6°36S±0°06×128°55E±0°07, h334km, n39, σ1°05/41, mb3.9/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLE	**Tual**	**4.23**	**80**	P	**Pn**	**09 01 58.4**	**-1.3**
TLE	baz=4.2,SNR=24			S	S	09 02 47.2	-9.2
FAKI	**Fak Fak**	**5.03**	**47**	P	**Pn**	**09 02 05.9**	**-2.5**
FAKI	baz=4.8,SNR=3.0			S	S	09 03 04.0	-8.3
SOEI	**Soe**	**5.42**	**231**	P	**Pn**	**09 02 12.0**	**-0.9**
SOEI	baz=5.7,SNR=24			S	**S**	**09 03 17.7**	**-2.9**
SWI	**Sorong**	**6.09**	**26**	S	S	09 03 19.2	-15
MTN	**Manton Dam**	**6.93**	**159**	P	**Pn**	**09 02 28.9**	**-1.4**
KDU	**Kakadu**	**7.38**	**149**	P	**Pn**	**09 02 34.3**	**-1.4**
KNRA	**Kununurra**	**9.26**	**179**	P	**Pn**	**09 02 57.9**	**-0.3**
FITZ	**Fitzroy Crossi**	**12.01**	**193**	P	**P**	**09 03 32.6**	**+1.0**
FITZ	0.8nm,0.3s,baz=24,slow=9.2,SNR=38			S	**S**	**09 05 45.5**	**+0.4**
FITZ	**Fitzroy Crossi**	**12.01**	**193**	P	**P**	**09 03 32.7**	**+1.1**
JAY	**Jayapura**	**12.70**	**73**	S	**S**	**09 06 01.1**	**+1.1**
WRA	**Warramunga Arr**	**14.63**	**158**	P	**P**	**09 04 00.8**	**+0.3**
WRA	0.9nm,0.3s,baz=340,slow=22,SNR=8.3			S	**S**	**09 06 39.3**	**0.0**
COEN	**Coen**	**16.25**	**119**	P	**Pn**	**09 04 18.6**	**-2.5**
ASAR	**Alice Springs**	**17.96**	**164**	P	**P**	**09 04 37.4**	**+0.7**
ASAR	0.1nm,0.3s,baz=336,slow=1.8,SNR=4.0			S	**S**	**09 07 45.1**	**-0.2**
BBOO	**Buckleboo**	**27.23**	**166**	P	**P**	**09 06 03.9**	**+0.4**
STKA	**Stephens Creek**	**28.16**	**156**	P	**P**	**09 06 12.4**	**+0.7**
STKA	**Stephens Creek**	**28.16**	**156**	P	**P**	**09 06 12.5**	**+0.8**
CMSA	**Cobar Meteorol**	**29.75**	**150**	P	**P**	**09 06 26.7**	**+1.0**
PSI	**Prapat**	**30.95**	**286**	P	**P**	**09 06 37.5**	**+1.0**
PATS	**Pohnpei**	**32.46**	**67**	S	S	09 11 45.2	+5.8
ARPS	**Mount Arapiles**	**32.62**	**160**	P	**P**	**09 06 51.9**	**+1.3**
YNG	**Young**	**33.31**	**149**	P	**P**	**09 06 58.1**	**+1.5**
LHI	**Lord Howe Isla**	**37.95**	**135**	S	S	09 13 27.0	+25
KSRS	**Korea Array**	**43.59**	**359**	P	**P**	**09 08 21.5**	**+0.3**
ODAN	**Odare**	**51.75**	**312**	*e*P	**P**	**09 09 24.0**	**0.0**
TAPN	**Taplejung**	**51.79**	**312**	*e*P	**P**	**09 09 24.4**	**+0.1**
RAMN	**Ramite**	**52.39**	**311**	*e*P	**P**	**09 09 29.2**	**+0.5**
JIRN	**Jiri**	**53.08**	**312**	*e*P	**P**	**09 09 34.1**	**+0.3**
GUN	**Gumba**	**53.45**	**312**	*e*P	**P**	**09 09 36.6**	**+0.2**
PKI	**Pulchoki**	**53.62**	**311**	*e*P	**P**	**09 09 37.5**	**-0.1**
DMN	**Daman**	**53.87**	**311**	*e*P	**P**	**09 09 39.5**	**+0.2**
KOLN	**Koldanda**	**55.09**	**310**	*e*P	**P**	**09 09 48.2**	**+0.2**
PYUN	**Piuthan**	**55.72**	**310**	*e*P	**P**	**09 09 52.8**	**+0.3**
SONM	**Songino Array**	**57.39**	**342**	P	**P**	**09 10 04.1**	**+0.4**
NIUE	**Niue**	**61.06**	**108**	P	P	09 10 22.5	-6.5
MKAR	**Makanchi Array**	**66.91**	**327**	P	**P**	**09 11 06.8**	**+0.5**
ZALV	**Zalesovo Beam**	**70.38**	**334**	P	**P**	**09 11 26.6**	**-0.7**
VNDA	**Vanda**	**73.26**	**173**	P	**P**	**09 11 44.0**	**0.0**

IDC 14 09:11:18.9±28.0, 21°28S×173°62W, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.7/17, mbtmp3.8/4, Error ellipse: s-maj=516.1km s-min=164.9km az=75.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.49**	**264**	P	P	09 18 35.3	+0.7
STKA	**Stephens Creek**	**41.16**	**246**	P	P	09 19 04.2	-1.0
ASAR	**Alice Springs**	**48.33**	**257**	P	P	09 20 02.2	-0.3
WRA	**Warramunga Arr**	**48.54**	**262**	P	P	09 20 04.0	-0.1

*ISCJB **14** 09:15:18.9±0.5, 23°56S±0°04×66°71W±0°05, h190km±3km, mb4.4/41, Error ellipse: s-maj=7.4km s-min=5.6km az=150.0*
*IDC **14** 09:15:19.9±1.6, 23°54S×66°67W, h192km±14km, mb3.8/7, mb1 3.9/14, mb1mx3.8/20, mbtmp3.8/14, Error ellipse: s-maj=17.0km s-min=13.0km az=60.0*
*NEIC **14** 09:15:19.9±0.6, 23°60S×66°65W, h185km±5km, mb4.4/34, Error ellipse: s-maj=8.2km s-min=5.8km az=78.0*
*GUC **14** 09:15:22.3±0.3, 23°48S×67°30W, h230km, ML5.1*
ISC 14 09:15:19.0±0.7, 23°62S±0°05×66°68W±0°06, h180km±7km, n374, σ0°83/380, mb4.4/41, 143C-148D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.28**	**296**	*e*Pn	**Pn**	**09 16 01.8**	**+2.3**
PB04	**Plate Boundary**	**2.91**	**297**	⇑*e*P	Pn	09 16 14.2	+7.6
PB04				*e*S	Sn	09 16 53.8	+10
PB04	comp=N,2μm,0.4s			AML	AML	09 17 01.3	
PB09	**Plate Boundary**	**2.98**	**307**	*e*P	**Pn**	**09 16 09.6**	**+2.0**
PB09				⇑*e*P	**Pn**	**09 16 09.6**	**+2.0**
PB09				*e*S	**Sn**	**09 16 45.8**	**+0.4**
PB09	comp=E,3μm,2.5s			AML	AML	09 16 59.4	
ANCH	**Antofagasta**	**3.42**	**268**	⇑*e*P	**Pn**	**09 16 14.3**	**+1.5**
ANCH				*e*S	**Sn**	**09 16 53.5**	**-1.2**
PB10	**Plate Boundary**	**3.55**	**271**	⇑*e*P	**Pn**	**09 16 15.7**	**+1.2**
PB10				*e*S	**Sn**	**09 16 55.6**	**-2.2**
PB10	comp=E,3μm,0.5s			AML	AML	09 16 58.7	
PB01	**Plate Boundary**	**3.65**	**314**	⇑*e*P	**Pn**	**09 16 16.4**	**+0.6**
PB01				*e*S	**Sn**	**09 16 58.5**	**-1.6**
PB01	comp=E,2μm,0.4s			AML	AML	09 17 04.2	
HMBC	**Humberstone**	**4.46**	**318**	*e*P	**Pn**	**09 16 25.5**	**-0.6**
PSGC	**Pisagua**	**5.12**	**321**	*e*P	**Pn**	**09 16 33.3**	**-1.4**
MNMC	**Minimini**	**5.22**	**328**	*e*P	**Pn**	**09 16 36.2**	**0.0**
LCO	**Las Campanas**	**6.47**	**213**	*e*Pn	**Pn**	**09 16 51.4**	**-1.0**
LPAZ	**La Paz**	**7.42**	**349**	P	**Pn**	**09 17 06.1**	**+0.8**
LPAZ				S	**Sn**	**09 18 27.1**	**-2.1**
LPAZ	**La Paz**	**7.42**	**349**	P	**Pn**	**09 17 06.1**	**+0.8**
LPAZ

531A	Rocksprings baz=63,SNR=5.9	62.58 327	⇑P	P	09 25 23.7 -0.4
432A	Menard baz=63	62.80 328	⇓P	P	09 25 24.7 -0.8
530A	J-C Ranch, Com baz=63	62.97 326	⇑P	P	09 25 26.3 -0.3
431A	Sonora baz=63	63.04 327	⇓P	P	09 25 26.2 -0.8
332A	Millersview baz=64,SNR=5.6	63.19 328	⇓P	P	09 25 27.1 -0.9
628A	Black Gap, Mar baz=64,SNR=5.6	63.24 325	⇓P	P	09 25 28.4 0.0
529A	Stev Forest Ra baz=64	63.40 326	⇓P	P	09 25 29.5 0.0
430A	Baggett Ranch, baz=64,SNR=5.2	63.43 327	⇓P	P	09 25 28.9 -0.8
331A	San Angelo baz=64,SNR=5.5	63.46 328	⇓P	P	09 25 28.8 -1.0
627A	Terlingua Ranc baz=64,SNR=5.6	63.48 324	⇑P	P	09 25 29.7 -0.4
TXAR	Lajitas Array	63.54 324 P		P	09 25 29.9 -0.6
TXAR	Lajitas Array comp=E,0.5nm,0.4s,baz=147,slow=6.7,SNR=11	63.54 324 P		P	09 25 29.9 -0.6
232A	Coleman baz=64	63.56 329	⇓P	P	09 25 30.0 -0.4
429A	Davenport Ranc baz=64,SNR=5.4	63.64 326	⇑P	P	09 25 30.6 -0.4
330A	Mertzon baz=64	63.91 327	⇑P	P	09 25 31.9 -0.9
231A	Bronte baz=64	63.92 328	⇓P	P	09 25 32.1 -0.7
626A	Big Bend Ranch baz=64,SNR=12	63.96 324	⇑P	P	09 25 33.3 +0.1
428A	Kincaid Ranch, baz=64	64.12 326	⇓P	P	09 25 34.2 0.0
527A	Woodward Ranch baz=64	64.15 325	⇑P	P	09 25 33.7 -0.8
ABTX	Abilene, Hawle baz=64	64.17 329	⇑P	P	09 25 33.8 -0.6
230A	Sterling City baz=64	64.27 328	⇓P	P	09 25 34.7 -0.4
526A	Mary Lane Ranc baz=65,SNR=9.6	64.33 324	⇑P	P	09 25 35.6 0.0
329A	Wagon Wheel Ra baz=65	64.37 327	⇓P	P	09 25 35.5 -0.3
131A	Roby baz=65	64.56 329	⇑P	P	09 25 36.6 -0.4
427A	Hayter Ranch, baz=65	64.59 325	⇑P	P	09 25 37.1 -0.1
Z32A	Haskell baz=65	64.66 330	⇓P	P	09 25 37.0 -0.6
229A	Bryant Ranch, baz=65	64.68 327	⇑P	P	09 25 37.0 -0.7
328A	Wristen Ranch, baz=65	64.71 326	⇑P	P	09 25 37.6 -0.3
130A	Snyder baz=65	64.78 328	⇑P	P	09 25 37.8 -0.6
426A	McDonald Obser baz=65,SNR=6.2	64.78 325	⇓P	P	09 25 38.6 -0.1
Z31A	Sharp Cattle R baz=65	64.98 329	⇓P	P	09 25 39.2 -0.4
228A	UT Block 9, Go baz=66	65.19 327	⇓P	P	09 25 41.2 +0.1
Y32A	R-V Farms, Ver baz=66	65.23 330	⇓P	P	09 25 41.0 -0.2
129A	Stewart Farms, baz=66	65.24 328	⇑P	P	09 25 40.7 -0.7
TUL1	Tulsa baz=66	65.30 334	⇑P	P	09 25 41.1 -0.5
425A	Indio Mountain baz=66,SNR=13	65.38 324	⇑P	P	09 25 42.2 -0.3
Z30A	Sanderson Ranc baz=66	65.42 329	⇑P	P	09 25 41.6 -0.9
227A	Bennet, Jal baz=66	65.46 326	⇑P	P	09 25 42.7 -0.1
128A	Castleberry Fa baz=66	65.54 327	⇑P	P	09 25 42.5 -0.8
Y31A	Rekieta Farm, baz=66	65.57 330	⇑P	P	09 25 43.0 -0.4
Z29A	Hungry Hill Ra baz=66	65.67 328	⇓P	P	09 25 43.3 -0.9
Y30A	Stafford Cattl baz=66	65.79 329	⇓P	P	09 25 44.4 -0.5
325A	Bean Ranch, Si baz=66,SNR=17	65.83 324	⇑P	P	09 25 44.8 -0.5
226B	Tecolote Peak, baz=66	65.96 326	⇓P	P	09 25 46.4 +0.4
X31A	McDonald Ranch baz=66,SNR=6.9	65.99 330	⇓P	P	09 25 45.4 -0.7
127A	Arkansas Junct baz=66	66.02 327	⇑P	P	09 25 46.2 -0.2
Z28A	Tucker Farm, M baz=66	66.03 328	⇓P	P	09 25 45.6 -0.8
Y29A	Porterfield Fa baz=66	66.15 329	⇓P	P	09 25 46.5 -0.7
324A	Moseley Ranch, baz=66,SNR=12	66.16 324	⇓P	P	09 25 46.3 -1.1
X30A	Coker Ranch, T baz=66	66.25 330	⇓P	P	09 25 47.2 -0.6
MNTX	Cornudas Mount comp=E,6.0nm,1.2s	66.30 324	eP	P	09 25 46.9 -1.3
225A	Deer Hill, Car baz=67,SNR=5.7	66.33 325	⇑P	P	09 25 48.1 -0.4
126A	Clayton Basin, baz=67	66.34 326	⇑P	P	09 25 48.1 -0.3
Z27A	Tatum baz=67	66.46 327	⇑P	P	09 25 48.6 -0.7
Y28A	McKinney Farm, baz=67	66.47 328	⇓P	P	09 25 48.5 -0.8
QSPA	South Pole Qui comp=E,5.8nm,0.6s	66.58 180	eP	P	09 25 51.3 +1.6
X29A	Tulia baz=67	66.64 329	⇓P	P	09 25 49.6 -0.7
224A	Cornudas Mount baz=67,SNR=19	66.67 325	⇑P	P	09 25 49.7 -1.0
125A	Gardner Draw, baz=67	66.67 326	⇓P	P	09 25 50.1 -0.5
MSTX	Muleshoe	66.77 328	eP	P	09 25 50.1 -1.1
MSTX	Muleshoe baz=67,SNR=7.1	66.77 328	⇓P	P	09 25 50.4 -0.8
Z26A	Caprock baz=67,SNR=6.5	66.81 326	⇑P	P	09 25 50.9 -0.5
V31A	Spring Creek L baz=67	66.89 331	⇓P	P	09 25 51.7 -0.1
Y27A	Causey baz=67	66.89 327	⇓P	P	09 25 51.1 -0.8
X28A	Dimmitt baz=67	66.94 329	⇑P	P	09 25 51.8 -0.4
223A	Chaparral, Ant baz=67	67.10 324	⇑P	P	09 25 53.3 0.0
124A	Stringfield Ra baz=67,SNR=7.0	67.12 325	⇓P	P	09 25 53.3 -0.2
Z25A	Roswell baz=68,SNR=5.3	67.19 326	⇓P	P	09 25 53.0 -0.9
DBIC	Dimbokro	67.41 72 P		P	09 25 54.0 -1.4
DBIC	Dimbokro comp=E,2.6nm,0.5s,baz=237,slow=11,SNR=6.8	67.41 72 P		P	09 25 54.0 -1.4
Z24A	Sheeppen Canyo baz=68,SNR=7.8	67.57 326	⇑P	P	09 25 56.0 -0.4
Y25A	Mesa, Roswell baz=68,SNR=5.9	67.69 326	⇑P	P	09 25 56.0 -1.0
X26A	CR and CF Fran baz=68	67.75 327	⇑P	P	09 25 57.3 0.0
320A	Kipp Ranch, An baz=68	67.76 322	⇓P	P	09 25 58.2 +0.7
W27A	Bowe Ranch, En baz=68	67.79 328	⇑P	P	09 25 57.0 -0.6
T31A	Randall Ranch, baz=68	67.92 332	⇓P	P	09 25 57.7 -0.6
122A	Conniff Cattle baz=68	67.95 324	⇓P	P	09 25 59.4 +0.8
Z23A	Rita Site, Whi baz=68,SNR=6.5	67.97 325	⇓P	P	09 25 59.0 +0.3
U29A	Oasis Ranch, S baz=68	68.09 330	⇑P	P	09 25 59.4 0.0
X25A	Clemmons Ranch baz=68	68.15 327	⇑P	P	09 25 59.7 -0.2
W26A	Owens Ranch, T baz=68	68.16 328	⇓P	P	09 25 59.7 -0.2
220A	Playas Peak, P baz=68	68.18 322	⇓P	P	09 26 00.7 +0.6
319A	Douglas baz=68	68.22 321	⇓P	P	09 26 01.0 +0.7
121A	Cookes Peak, D baz=68,SNR=7.0	68.25 323	⇓P	P	09 26 01.2 +0.7
V27A	Dan Oppiter Fa baz=68	68.25 329	⇓P	P	09 26 00.5 +0.1
S31A	Mullinville baz=69	68.28 332	⇓P	P	09 26 00.1 -0.3
Z22A	Elephant Butte baz=69,SNR=20	68.35 324	⇓P	P	09 26 01.9 +0.8
Y23A	Lovelace Mesa, baz=69	68.40 325	⇓P	P	09 26 01.9 +0.4
U28A	Mallet baz=69	68.47 330	⇑P	P	09 26 01.5 -0.2
W25A	X Bar L Ranch, baz=69	68.60 327	⇓P	P	09 26 02.5 -0.1
120A	U Bar Ranch, L baz=69	68.72 323	⇑P	P	09 26 04.2 +0.7
V26A	Tequesquite Ra baz=69	68.73 328	⇑P	P	09 26 03.4 0.0
Z21A	St. Cloud Mine baz=69,SNR=6.8	68.77 324	⇓P	P	09 26 04.6 +0.8
U27A	Thompson Grove baz=69	68.78 329	⇑P	P	09 26 03.7 0.0
R31A	Burdett baz=69	68.86 333	⇓P	P	09 26 03.7 -0.3
Y22A	Socorro baz=69	68.88 325	⇓P	P	09 26 05.6 +1.2
S29A	Ulysses baz=69	68.99 331	⇑P	P	09 26 05.0 +0.1
T28A	Walsh baz=69	69.02 330	⇑P	P	09 26 05.1 -0.1
W24A	Lazy 6 Ranch, baz=69	69.06 327	⇑P	P	09 26 05.7 +0.2
Z20A	Nine Sixteen R baz=69,SNR=5.4	69.13 323	⇓P	P	09 26 06.7 +0.7
V25A	Rancho No Teng baz=69	69.17 328	⇑P	P	09 26 06.4 +0.2
R30A	Dighton baz=70	69.18 332	⇓P	P	09 26 06.1 +0.1
U26A	Atchley Ranch, baz=70	69.19 329	⇑P	P	09 26 06.4 +0.1
T27A	Campo baz=70	69.25 330	⇓P	P	09 26 06.6 0.0
Y21A	Point of Rocks baz=70	69.31 324	⇑P	P	09 26 08.1 +0.9
S28A	Manter baz=70	69.31 331	⇓P	P	09 26 07.0 +0.1
ANMO	Albuquerque comp=E,4.1nm,0.9s	69.39 326	eP	P	09 26 07.8 +0.2
W23A	Werner Place, baz=70	69.40 326	⇓P	P	09 26 08.2 +0.5
V24A	Rampart Ranch, baz=70	69.40 327	⇓P	P	09 26 07.8 +0.1
Q31A	Ellis baz=70	69.41 333	⇑P	P	09 26 07.4 -0.1
U25A	Circle Dot Ran baz=70	69.52 328	⇑P	P	09 26 08.4 +0.1
Y20A	Horse Springs, baz=70	69.61 324	⇓P	P	09 26 09.8 +0.8
W22A	Albuquerque baz=70	69.70 326	⇓P	P	09 26 10.6 +1.1
X21A	Alamocita Cree baz=70	69.70 325	⇑P	P	09 26 10.6 +1.0
Q30A	Quinter baz=70	69.73 333	⇑P	P	09 26 09.3 -0.1
T26A	Comanche Natio baz=70	69.75 329	⇑P	P	09 26 09.9 +0.2
P31A	Stockton baz=70	69.84 334	⇓P	P	09 26 09.7 -0.3
V23A	Ortiz Mt. (NFS baz=70	69.88 327	⇑P	P	09 26 11.4 +0.8
U24A	Moreno Valley baz=70	69.95 328	⇑P	P	09 26 12.0 +0.9
S26A	Kim baz=70,SNR=6.0	70.06 330	⇑P	P	09 26 11.7 +0.2
T25A	Trinidad baz=70	70.11 329	⇓P	P	09 26 12.3 +0.4
W21A	San Fidel baz=70	70.14 325	⇑P	P	09 26 12.9 +0.7
X20A	Quemado baz=70	70.16 324	⇓P	P	09 26 12.9 +0.6
P30A	Selden baz=70	70.22 333	⇓P	P	09 26 12.7 +0.4
R27A	Eads baz=71	70.29 330	⇓P	P	09 26 13.1 +0.2
U23A	El Rito baz=71	70.34 327	⇓P	P	09 26 14.2 +0.8
V22A	San Miguel Ran baz=71,SNR=5.2	70.38 326	⇑P	P	09 26 14.2 +0.6
T24B	San Luis baz=71,SNR=5.1	70.52 328	⇓P	P	09 26 15.1 +0.6
R26A	Arlington baz=71	70.59 330	⇓P	P	09 26 14.8 0.0
W20A	Ramah baz=71	70.60 325	⇓P	P	09 26 15.8 +0.9
O30A	MW Ranch, Wils baz=71	70.68 333	⇑P	P	09 26 15.1 0.0
214A	Organ Pipe Nat baz=71	70.70 320	⇑P	P	09 26 16.4 +1.0
U22A	Llaves baz=71	70.71 327	⇑P	P	09 26 16.4 +0.8
KSCO	Kaye Shedlock' baz=71	70.81 331	⇓P	P	09 26 16.5 +0.5
T23A	Casias Ranch, baz=71	70.81 328	⇑P	P	09 26 17.0 +0.7
R25A	Fountain Ranch baz=71	70.86 329	⇑P	P	09 26 16.5 +0.1
S24A	Houchin Ranch, baz=71	70.89 328	⇓P	P	09 26 17.4 +0.6
BGNE	Belgrade	70.97 335	eP	P	09 26 16.3 -0.5
BGNE	Belgrade baz=71	70.97 335	⇓P	P	09 26 16.5 -0.3
V20A	Brimhall baz=71	71.09 325	⇓P	P	09 26 18.5 +0.6
U21A	Nageezi baz=71	71.16 326	⇓P	P	09 26 18.8 +0.5
N30A	Hueftle Ranch, baz=72	71.22 334	⇑P	P	09 26 18.7 +0.4
T22A	Edith baz=72	71.23 327	⇓P	P	09 26 19.4 +0.6
M31A	Lambtecht Ranc baz=72	71.24 335	⇓P	P	09 26 18.3 -0.2
W18A	Petrified Fore baz=72	71.26 324	⇓P	P	09 26 19.7 +0.8
R24A	Sanders Place, baz=72	71.31 329	⇑P	P	09 26 19.6 +0.5
O28A	Krutsinger Ran baz=72	71.35 332	⇓P	P	09 26 19.4 +0.2
N29A	Votaw Ranch, W baz=72	71.45 333	⇑P	P	09 26 19.9 +0.2
T21A	Navajo Lake baz=72	71.53 326	⇑P	P	09 26 21.0 +0.5
U20A	Newcomb baz=72	71.56 325	⇑P	P	09 26 21.2 +0.5
R23A	Moffat baz=72	71.62 328	⇓P	P	09 26 21.3 +0.2
X16A	Lo Mia Camp, P baz=72	71.68 322	⇓P	P	09 26 22.4 +0.9
O27A	Beecher Island baz=72	71.71 332	⇑P	P	09 26 21.6 +0.2
M30A	Dale-Ortello V baz=72	71.75 334	⇓P	P	09 26 21.6 0.0
S22A	4UR Ranch, Cre baz=72	71.76 327	⇓P	P	09 26 22.3 +0.3
113A	Mohawk Valley, baz=72	71.84 320	⇓P	P	09 26 23.2 +1.0
L31A	Butterfield Fa baz=72	71.90 335	⇓P	P	09 26 22.2 -0.1
P25A	Willow Gulch B baz=72	71.91 330	⇑P	P	09 26 23.1 +0.4
Q24A	Divide baz=72	71.92 329	⇓P	P	09 26 23.5 +0.6
L30A	Spencer Herefo baz=72	72.04 335	⇓P	P	09 26 23.2 -0.1
S21A	Coal Bank Pass baz=72	72.18 327	⇓P	P	09 26 25.0 +0.5
MVCO	Mesa Verde comp=E,45nm,2.6s	72.19 326	eP	P	09 26 24.4 -0.1
MVCO	Mesa Verde baz=72	72.19 326	⇓P	P	09 26 25.1 +0.7
Q23A	Hartsel baz=72	72.19 329	⇓P	P	09 26 25.1 +0.5
Y14A	Wickenburg baz=72	72.23 321	⇓P	P	09 26 25.4 +0.8
ECSD	EROS Data Cent comp=E,58nm,2.5s	72.44 338	eP	P	09 26 24.7 -0.8
WUAZ	Wupatki baz=73	72.45 323	⇓P	P	09 26 27.0 +1.0
P23A	Jefferson baz=73	72.57 329	⇑P	P	09 26 26.5 -0.3
S20A	Disappointment baz=73	72.59 327	⇑P	P	09 26 27.9 +1.0
R21A	Cimarron baz=73	72.60 327	⇑P	P	09 26 27.7 +0.8
Q22A	Crested Butte, baz=73	72.67 328	⇑P	P	09 26 28.2 +0.8
GLA	Glamis baz=73	72.68 319	⇓P	P	09 26 28.5 +1.3
ISCO	Idaho Springs comp=E,21nm,2.3s	72.80 330	eP	P	09 26 28.9 +0.8
ISCO	Idaho Springs baz=73	72.80 330	⇑P	P	09 26 28.5 +0.4
O24A	Longmont baz=73	72.81 330	⇑P	P	09 26 28.4 +0.4
R20A	Redvale baz=73,SNR=5.3	72.88 327	⇑P	P	09 26 29.3 +0.8
SMCO	Snowmass comp=E,4.8nm,1.1s	72.95 328	eP	P	09 26 30.1 +1.0
K29A	Lazy Trails An baz=73,SNR=5.4	72.97 335	⇓P	P	09 26 28.7 0.0
O23A	Lake Granby, G baz=74	73.27 330	⇓P	P	09 26 31.4 +0.6
P21A	Newcastle baz=74	73.45 328	⇑P	P	09 26 32.6 +0.8
BC3	Big Chuckawall baz=74	73.47 319	⇓P	P	09 26 32.6 +0.7
O22A	Kremmling baz=74	73.52 329	⇑P	P	09 26 32.4 +0.1
MONP	Monument Peak baz=74	73.53 318	⇑P	P	09 26 32.8 +0.4
W13A	Hualapai Mount baz=74	73.56 321	⇓P	P	09 26 32.6 0.0
U15A	North Rim baz=74	73.62 323	⇑P	P	09 26 34.2 +1.2
IRM	Iron Mountain baz=74	73.64 320	⇓P	P	09 26 33.5 +0.7
K27A	Flueckinger Fa baz=74	73.69 333	⇑P	P	09 26 32.8 -0.2
M24A	Cheyenne baz=74	73.78 331	⇓P	P	09 26 34.5 +0.9
N23A	Red Feather La baz=74	73.82 330	⇑P	P	09 26 33.6 -0.4
J28A	Allard Ranch, baz=74	73.89 335	⇓P	P	09 26 34.1 +0.1
P20A	De Beque baz=74	73.89 328	⇑P	P	09 26 34.5 +0.2
N22A	Wattenberg Ran baz=74	73.99 330	⇓P	P	09 26 35.4 +0.4
BELC	Belle Mtn. Jos baz=74	74.04 319	⇓P	P	09 26 36.0 +0.7
J27A	Elkhorn Farm, baz=74	74.05 334	⇑P	P	09 26 35.4 +0.3
M23A	Laramie baz=74	74.18 331	⇑P	P	09 26 35.7 -0.4
P19A	Cripple Cowboy baz=75	74.29 327	⇓P	P	09 26 36.9 +0.2
O20A	White River Ci baz=75	74.31 328	⇑P	P	09 26 37.7 +0.9
I28A	Midland baz=75	74.34 335	⇑P	P	09 26 36.4 -0.3
GMRC	Granite Mounta baz=75	74.37 320	⇓P	P	09 26 38.5 +1.3
MURC	Murrieta baz=75	74.49 318	⇑P	P	09 26 39.2 +1.4
M22A	Cedar Creek Ra baz=75	74.53 330	⇑P	P	09 26 39.0 +0.9
J26A	Sides Ranch, S baz=75	74.54 333	⇓P	P	09 26 38.8 +0.9
SRU	San Rafael comp=E,4.5nm,0.7s	74.67 326	eP	P	09 26 39.3 +0.4
K24A	Anderson Ranch baz=75	74.79 332	⇑P	P	09 26 40.2 +0.8
N20A	Spence Gulch, baz=75	74.86 329	⇑P	P	09 26 40.7 +0.7
O19A	Miners Draw (B baz=75	74.87 328	⇓P	P	09 26 40.5 +0.5
CCUT	Cedar City comp=E,4.5nm,0.9s	75.03 323	eP	P	09 26 42.7 +1.7
M21A	Separation Pea baz=75	75.04 330	⇑P	P	09 26 41.4 +0.4
MVU	Marysvale comp=E,2.9nm,0.9s	75.10 325	eP	P	09 26 42.6 +1.2
G28A	Parade baz=75	75.16 336	⇑P	P	09 26 41.6 +0.3
J24A	Dixon Ranch, L baz=76	75.22 332	⇑P	P	09 26 42.6 +0.9
H27A	Howes baz=76	75.23 335	⇑P	P	09 26 41.7 -0.1
I25A	Rochford baz=76,SNR=6.2	75.39 333	⇓P	P	09 26 43.1 +0.3
GSC	Goldstone baz=76	75.41 320	⇑P	P	09 26 44.1 +1.0
K22A	Casper baz=76	75.48 331	⇑P	P	09 26 43.8 +0.4
K21A	Alcova baz=76,SNR=6.2	75.80 330	⇓P	P	09 26 45.7 +0.5
L20A	Wamsutter baz=76	75.81 329	⇑P	P	09 26 45.9 +0.5
EDW2	Edwards Air Fo baz=76	75.84 319	⇓P	P	09 26 45.6 +0.2
G26A	Maurine baz=76	75.99 335	⇑P	P	09 26 45.7 -0.4
J22A	Midwest baz=76	76.07 331	⇓P	P	09 26 46.9 +0.2
D30A	Buchanan baz=76	76.12 338	⇓P	P	09 26 46.5 -0.2
TORD	Torodi Ar. Bea	76.16 69 P		P	09 26 46.6 -1.0
TORD	Torodi Ar. Bea comp=E,2.7nm,0.3s,baz=267,slow=6.5,SNR=71	76.16 69 P		P	09 26 46.6 -1.0
G27A	Dupree baz=76	76.19 335	⇓P	P	09 26 44.8 -2.4
G25A	Newell baz=76	76.23 334	⇓P	P	09 26 47.4 0.0
F27A	Lemmon baz=76	76.25 335	⇓P	P	09 26 47.6 +0.1
FURC	Furnace Creek, baz=76	76.25 320	⇑P	P	09 26 48.9 +1.3
K20A	Yellowstone Ra baz=77	76.32 330	⇓P	P	09 26 48.5 +0.3
H24A	Dirks Ranch, A baz=77,SNR=7.1	76.32 333	⇓P	P	09 26 47.8 -0.2
MPMC	Manual Prospec baz=77	76.34 320	⇓P	P	09 26 49.1 +0.7
E28A	Huff baz=77	76.34 337	⇓P	P	09 26 48.1 +0.1
L19A	Farson baz=77	76.36 329	⇑P	P	09 26 48.9 +0.5
J21A	Lysite baz=77	76.45 331	⇑P	P	09 26 49.2 +0.4
I22A	9 Mile Ranch, baz=77,SNR=5.4	76.45 332	⇓P	P	09 26 48.8 0.0
F26A	Lodgepole baz=77	76.48 335	⇑P	P	09 26 48.8 0.0
ARVC	Arvin baz=77	76.52 318	⇓P	P	09 26 50.4 +1.2
L18A	Fontenelle, Gr baz=77,SNR=7.0	76.55 328	⇓P	P	09 26 49.7 +0.2
SBC	Santa Barbara baz=77	76.61 317	⇓P	P	09 26 51.4 +1.7
ISA	Isabella baz=77	76.66 319	⇓P	P	09 26 51.6 +1.5
I21A	Big Trails, Te baz=77,SNR=10	76.75 331	⇑P	P	09 26 50.4 -0.1
R11A	Troy Canyon, C baz=77	76.83 323	⇓P	P	09 26 52.0 +0.9
PDAR	Pinedale Array	76.97 329 P		P	09 26 51.6 -0.3
PDAR	Pinedale Array comp=E,0.8nm,0.6s,baz=125,slow=7.4,SNR=8.6	76.97 329 P		P	09 26 51.6 -0.3
PKM	Peak Mountain baz=77	76.97 318	⇑P	P	09 26 52.9 +0.9
G23A	Biddle baz=77,SNR=5.9	77.04 333	⇓P	P	09 26 51.9 -0.1
B30A	Myrvik Farm, E baz=77	77.14 339	⇑P	P	09 26 52.1 -0.3
F24A	Ekalaka baz=78	77.17 334	⇑P	P	09 26 53.1 +0.3
I20A	Worland baz=78	77.23 331	⇓P	P	09 26 53.7 +0.5
H21A	Big Horn, Sher baz=78,SNR=5.4	77.28 332	⇑P	P	09 26 53.0 -0.4
E25A	Miller Ranch, baz=78	77.30 335	⇓P	P	09 26 53.7 +0.3
BGU	Big Grassy Mou comp=E,6.7nm,1.2s	77.30 326	eP	P	09 26 54.1 +0.4
SMMC	Simmler baz=78	77.36 318	⇑P	P	09 26 55.3 +1.4
D26A	Manning baz=78	77.37 336	⇑P	P	09 26 54.5 +0.7
G22A	Birney baz=78	77.43 333	⇑P	P	09 26 54.1 -0.1
F23A	Volborg baz=78,SNR=5.5	77.47 333	⇓P	P	09 26 54.2 -0.1

B29A	Wagenman Farm,	77.49	338	⇑P	P	09 26 54.1	-0.2
	baz=78						
I19A	Meeteetse	77.69	330	⇓P	P	09 26 56.2	+0.4
	baz=78						
E24A	Baker	77.70	334	⇑P	P	09 26 56.0	+0.4
	baz=78						
D25A	Fairfield	77.81	335	⇓P	P	09 26 56.3	+0.1
	baz=78						
I18A	Diamond G Ranc	77.81	330	⇑P	P	09 26 56.9	+0.4
	baz=78,SNR=5.4						
B28A	Dugan Ranch, T	77.82	338	⇓P	P	09 26 56.4	+0.2
	baz=78						
G21A	Lodge Grass	77.83	332	⇑P	P	09 26 56.6	+0.3
	baz=78						
A29A	Manning Farm,	77.85	339	⇑P	P	09 26 55.9	-0.4
	baz=78						
F22A	Rosebud	77.86	333	⇑P	P	09 26 56.3	-0.2
	baz=78,SNR=6.3						
SNOW	Snow King Moun	78.07	329	*e*P	P	09 26 58.7	+0.7
	comp=E,3.3nm,0.8s						
LOHW	Long Hollow	78.11	329	*e*P	P	09 26 58.8	+0.6
	comp=E,3.0nm,0.8s						
SCHQ	Schefferville	78.13	360	P	P	09 26 56.8	-0.9
SCHQ	Schefferville	78.13	360	P	P	09 26 56.8	-0.9
	comp=E,3.1nm,0.9s,baz=194,slow=8.3,SNR=3.0						
D24A	Glendive	78.17	335	⇑P	P	09 26 58.5	+0.3
	baz=78						
H19A	Powell	78.17	331	⇑P	P	09 26 58.6	+0.2
	baz=78						
C25A	Freed Ranch, W	78.25	336	⇑P	P	09 26 58.9	+0.3
	baz=78						
G20A	Bridger	78.26	331	⇑P	P	09 26 58.5	-0.3
	baz=78,SNR=9.8						
IMW	Indian Meadow	78.48	329	*e*P	P	09 27 01.1	+0.8
	comp=E,4.2nm,0.8s						
H18A	Shoshone NF, C	78.49	330	⇓P	P	09 27 00.2	0.0
	baz=79,SNR=8.0						
C24A	Savage	78.55	335	⇑P	P	09 27 00.5	+0.3
	baz=79,SNR=6.0						
A27A	Ledoux Ranch,	78.56	338	⇑P	P	09 27 00.6	+0.4
	baz=79						
D23A	Lindsay	78.56	334	⇑P	P	09 27 00.7	+0.4
	baz=79						
RLMT	Red Lodge	78.65	331	*e*P	P	09 27 01.1	0.0
	comp=E,3.6nm,0.5s						
I16A	Newdale	78.73	329	⇓P	P	09 27 02.0	+0.5
	baz=79						
E21A	Keefer Ranch,	78.82	333	⇓P	P	09 27 01.7	0.0
	baz=79						
D22A	Cohagen	78.93	334	⇓P	P	09 27 02.9	+0.6
	baz=79						
G18A	Lazy EL Ranch,	78.94	331	⇓P	P	09 27 03.2	+0.6
	baz=79						
C23A	Lambert	79.06	335	⇓P	P	09 27 03.2	+0.2
	baz=79						
F19A	Roth Farm, Mol	79.08	331	⇑P	P	09 27 03.2	0.0
	baz=79,SNR=7.3						
D21A	La Casta Ranch	79.20	333	⇓P	P	09 27 04.0	+0.1
	baz=80,SNR=7.9						
A25A	Svangstu Ranch	79.22	337	⇑P	P	09 27 04.1	+0.3
	baz=80						
DGMT	Dagmar	79.23	336	⇑P	P	09 27 04.2	+0.3
	baz=80						
E20A	Meyer Farm, Mu	79.23	332	⇓P	P	09 27 04.1	+0.1
	baz=80,SNR=7.8						
C22A	Vida	79.30	334	⇑P	P	09 27 04.2	0.0
	baz=80						
E19A	Rath Farm, Rou	79.48	332	⇓P	P	09 27 05.4	0.0
	baz=80,SNR=8.5						
B23A	Brockton	79.53	335	⇓P	P	09 27 05.8	+0.3
	baz=80						
D20A	Manuel Ranch,	79.70	333	⇑P	P	09 27 06.4	-0.1
	baz=80,SNR=6.9						
B22A	Reddig Ranch S	79.79	335	⇓P	P	09 27 06.9	0.0
	baz=80						
C21A	Desert Coulee	79.85	334	⇑P	P	09 27 07.3	0.0
	baz=80						
PAHR	Pah Rah Range	79.91	321	*e*P	P	09 27 09.4	+1.5
	comp=E,7.4nm,1.0s						
HLID	Hailey	79.93	327	*e*P	P	09 27 08.8	+0.9
	comp=E,4.9nm,0.8s						
HLID	Hailey	79.93	327	⇓P	P	09 27 08.8	+0.9
	baz=80						
D19A	Cripps Ranch,	80.07	332	⇑P	P	09 27 08.6	+0.1
	baz=80						
C20A	Veseth Ranch,	80.13	333	⇓P	P	09 27 08.3	-0.5
	baz=80,SNR=5.1						
A22A	Carney Farms,	80.32	335	⇑P	P	09 27 09.8	0.0
	baz=81						
DLMT	Dillon	80.36	329	*e*P	P	09 27 11.0	+0.8
	comp=E,7.1nm,1.3s						
MFID	Camas Ranch	80.54	326	⇑P	P	09 27 11.9	+0.7
	baz=81						
C19A	Slack Wire Ran	80.59	333	⇓P	P	09 27 11.5	+0.3
	baz=81						
BOSA	Boshof	80.65	117	P	P	09 27 11.9	-0.3
BOSA	Boshof	80.65	117	P	P	09 27 11.9	-0.3
	comp=E,1.5nm,0.7s,baz=252,slow=2.7,SNR=4.1						
HRY	Holter Researc	81.02	330	*e*P	P	09 27 14.3	+0.7
A20A	Cobblestone Ra	81.02	334	⇑P	P	09 27 13.6	+0.1
	baz=81						
B19A	Brinkman Farms	81.11	333	⇓P	P	09 27 13.8	-0.2
	baz=81,SNR=5.2						
EGMT	Eagleton	81.11	332	⇑P	P	09 27 14.3	+0.3
	baz=81						
A19A	Klindworth Far	81.39	333	⇑P	P	09 27 15.8	+0.3
	baz=82						
J08A	Circle Bar Ran	81.88	325	*e*P	P	09 27 19.1	+0.8
	comp=E,11nm,1.4s						
MSO	Missoula	82.08	329	⇓P	P	09 27 19.7	+0.6
	baz=82						
K05A	Summer Lake	82.76	323	*e*P	P	09 27 23.8	+0.8
	comp=E,134nm,2.6s						
F10A	Beach Ranch, E	83.05	327	*e*P	P	09 27 25.1	+0.9
	comp=E,26nm,2.0s						
NEW	Newport	84.61	329	⇑P	P	09 27 33.8	+1.8
	baz=85						
C09A	Chrisman Ranch	84.84	328	*e*P	P	09 27 33.4	+0.3
	comp=E,7.5nm,0.7s						
CASY	Casey	90.36	179	*e*P	P	09 28 00.8	+1.5
	comp=E,4.0nm,0.8s						
YKA	Yellowknife Ar	93.87	340	P	P	09 28 13.8	-1.5
YKA	Yellowknife Ar	93.87	340	P	P	09 28 13.8	-1.5
	comp=E,0.7nm,0.6s,baz=136,slow=4.9,SNR=8.6						
ASAR	Alice Springs	128.92	204	PKP	PKPdf	09 34 05.3	-0.6
ASAR	Alice Springs	128.92	204	PKP	PKPdf	09 34 05.3	-0.6
	comp=E,0.8nm,0.7s,baz=154,slow=1.5,SNR=9.4						
WRA	Warramunga Arr	132.10	207	PKP	PKPdf	09 34 11.7	-0.3
WRA	Warramunga Arr	132.10	207	PKP	PKPdf	09 34 11.7	-0.3
	comp=E,0.5nm,0.5s,baz=155,slow=1.9,SNR=13						
MKAR	Makanchi Array	146.05	39	PKPbc	PKPbc	09 34 37.3	-0.3
MKAR	Makanchi Array	146.05	39	PKPbc	PKPbc	09 34 37.3	-0.3
	comp=E,2.0nm,0.8s,baz=320,slow=4.5,SNR=10						

IDC 14 09:32:07.4±2.4,5°.00S×127°.97E,h0km,mb3.7/1, mb1 3.5/3,mb1mx3.3/19,mbtmp3.3/3,ML3.2/2,MS4.1/1, Ms1 4.1/1,ms1mx3.1/26,Error ellipse: s-maj=229.2km s-min=29.6km az=66.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	16.10	158	Pn	Pn	09 35 55.4	+0.1
	0.1nm,0.3s,baz=331,slow=14,SNR=7.9						
WRA				Sn	Sn	09 38 42.7	-12
	0.2nm,0.3s,baz=337,slow=21,SNR=7.8						
ASAR	Alice Springs	19.42	163	P	P	09 36 35.5	-0.1
	0.1nm,0.3s,baz=347,slow=10,SNR=11						
MKAR	Makanchi Array	65.46	327	P	P	09 42 52.4	0.0
	0.4nm,0.4s,baz=123,slow=7.2,SNR=5.3						
AKASG	Malin Array Be	99.39	320	LR	LR	10 36 04.8	
	comp=Z,83nm,20.2s,baz=75,slow=39						

CSEM 14 09:41:18.8±0.8,51°.59N×15°.93E,h1km,ML2.9/4,Error ellipse: s-maj=13.3km s-min=7.4km az=171.0

PRU 14 09:41:20.9,51°.50N×16°.04E,h0km

WAR 14 09:41:22.1,51°.49N×16°.10E,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.66	169	*e*Pg	Pg	09 41 34.6	-0.1
KSP				*e*Sg	Sg	09 41 44.4	+1.1
KSP				*e*		09 41 48.2	
KSP	Ksiaz	0.66	169	*e*Pg	Pg	09 41 34.4	-0.3
KSP				*e*Sg	Sg	09 41 44.3	+1.0
UPC	Upice	0.98	183	*e*PG	Pg	09 41 40.2	-0.8
UPC	Upice	0.98	183	Pg	Pg	09 41 40.2	-0.8
DPC	Dobruska-Polom	1.15	173	*e*PG	Pg	09 41 43.1	-1.1
DPC				*e*SG	Sg	09 41 58.2	-0.9
DPC	Dobruska-Polom	1.15	173	Pg	Pg	09 41 43.1	-1.1
DPC				Sg	Sg	09 41 58.2	-0.9
PVCC	Panska Ves	1.36	226	*e*PG	Pg	09 41 46.6	-1.6
PVCC				*e*SG	Sg	09 42 04.6	-1.3
	50nm,0.4s						
PVCC	Panska Ves	1.36	226	Pg	Pg	09 41 46.6	-1.6
PVCC				Sg	Sg	09 42 04.6	-1.3
	50nm,0.4s						
BRG	Berggiesshubel	1.49	246	PN	Pn	09 41 47.7	-2.4
BRG				PG	Pb	09 41 48.5	-2.1
BRG				SG	Sg	09 42 08.0	-2.0
	36nm,0.5s						
PRU	Pruhonice	1.80	214	*e*PG	Pn	09 41 53.8	-0.6
PRU				*e*SG	Sn	09 42 17.5	-0.4
	16nm,0.8s						
PRU	Pruhonice	1.80	214	Pg	Pn	09 41 53.8	-0.6
PRU				Sg	Sn	09 42 17.5	-0.4
	16nm,0.8s						
MORC	Moravsky Berou	1.94	151	*e*Pn	Pn	09 41 54.9	-1.6
MORC				*e*Sg	Sn	09 42 21.9	+0.3
CLL	Collm	1.95	266	*e*(Pg)	Pn	09 41 57.0	+0.6
CLL				*e*Sg	Sn	09 42 21.0	-0.6
	comp=Z,16nm,0.4s						
OKC	Ostrava-Krasne	2.10	141	*e*SG	Sg	09 42 29.8	0.0
	comp=Z,6.9nm,0.4s						
OKC	Ostrava-Krasne	2.10	141	Sg	Sg	09 42 29.8	0.0
	comp=Z,6.9nm,0.4s						
KHC	Kasperske Hory	2.86	215	*e*PN	Pn	09 42 04.4	-4.6
KHC				*e*PG	Pb	09 42 13.2	-0.9
KHC				*e*SN	Sn	09 42 40.9	-3.3
KHC				*e*SG	Sb	09 42 50.7	+1.1
	comp=Z,4.2nm,0.4s						
KHC	Kasperske Hory	2.86	215	Pn	Pn	09 42 04.4	-4.6

BUC 14 09:42:51.4±0.8,45°.86N×22°.33E,h10km,MD2.7/2,7C-5D, Error ellipse: s-maj=9.1km s-min=5.1km az=330.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BZS	Buzias	0.56	244	⇑*i*P	Pb	09 43 03.0	-0.3
BZS	Buzias	0.56	244	⇑*i*P	Pb	09 43 03.0	-0.3
BZS				*i* S	Sb	09 43 11.0	-0.3
BZS	Buzias	0.56	244	⇑*i*P	Pb	09 43 03.0	-0.3
SIRR	Siria	0.62	311	⇓*i*P	Pg	09 43 03.8	+0.3
SIRR	Siria	0.62	311	⇓*i*P	Pg	09 43 03.8	+0.3
SIRR				*i* S	Sb	09 43 14.4	+1.2
DRGR		0.97	16	⇑*i*P	Pb	09 43 10.3	-0.1
DRGR		0.97	16	⇑*i*P	Pb	09 43 10.3	-0.1
DRGR				*i* S	Sn	09 43 25.6	+0.6
VOIR		1.95	102	⇓*i*P	Pn	09 43 25.6	+0.9
VOIR		1.95	102	⇓*i*P	Pn	09 43 25.6	+0.9
VOIR				*i* S	Sb	09 43 51.0	-0.7
VOIR		1.95	102	⇓*i*P	Pn	09 43 25.6	+0.9
BURAR	Bucovina Array	2.65	47	⇑*i*P	Pn	09 43 35.4	+1.1
BURAR	Bucovina Array	2.65	47	⇑*i*P	Pn	09 43 35.4	+1.1

NIED 14 09:49:00,29°.50N×130°.60E,h26km,Mw4.5 Best double couple: M0=7.22000×10^15 NP1:φ=24.00000°,δ=86.00000°, λ=62.00000°. NP2:φ=286.00000°,δ=28.00000°,λ=171.00000°.

MOS 14 09:49:40.3±0.9,29°.42N×130°.67E,h33km,mb5.0/10,Error ellipse: s-maj=13.9km s-min=7.6km az=109.5

ISCJB 14 09:49:42.3±0.5,29°.47N±0°.03×130°.69E±0°.05,h51km±4km, mb4.3/23,MS3.8/16,Error ellipse: s-maj=8.1km s-min=3.9km az=18.0

JMA 14 09:49:42.3±0.1,29°.48N×130°.63E,h63km±4km,M4.3

NEIC 14 09:49:44.3±0.8,29°.48N×130°.63E,h49km±8km,mb4.6/5, MW4.5(NIED),Error ellipse: s-maj=9.4km s-min=7.2km az=89.0

IDC 14 09:49:44.9±2.5,29°.55N×130°.62E,h54km±23km,mb3.8/13, mb1 3.9/16,mb1mx3.8/27,mbtmp3.8/16,ML3.3/3,MS3.7/16, Ms1 3.7/16,ms1mx3.6/31,Error ellipse: s-maj=25.1km s-min=12.4km az=72.0

ISC 14 09:49:43.6±1.2,29°.48N±0°.04×130°.63E±0°.07,h45km±11km, n96,σ0=67/98,mb4.2/23,MS3.7/16,2C-3D,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	Nakanoshima	0.76	299	P	Pn	09 49 57.2	-0.7
JNN				*e*S	Sn	09 50 08.9	+0.6
JKC	Kuchinoerabu	1.05	339	P	Pn	09 50 01.6	-0.4
JKC				*e*S	Sn	09 50 15.9	+0.4
JTN	Tanegashima 3	1.21	14	P	Pn	09 50 03.1	-1.1
JZK	Kikaishima	1.29	207	P	Pn	09 50 04.9	-0.4
JZK				S	Sn	09 50 22.2	+0.8
JAM	Amami Oshima	1.39	221	P	Pn	09 50 05.9	-0.7
JAM				*e*S	Sn	09 50 23.2	-0.6
JTSR	Tashiro 2	1.70	8	P	Pn	09 50 10.7	-0.2
JTSR				*e*S	Sn	09 50 31.5	-0.1
JAMN	Amaminishikomi	1.77	227	P	Pn	09 50 11.5	-0.3
JSU	Suzuyama	2.03	356	P	Pn	09 50 14.5	-0.9
JNAR	Kushima--Naru	2.12	15	P	Pn	09 50 16.2	-0.4
JTK	Tokunoshima	2.24	222	P	Pn	09 50 18.0	-0.3
JTK				S	Sn	09 50 45.4	+0.7
JSJ	Shimokoshiki	2.33	340	P	Pn	09 50 19.2	-0.4
JSJ				*e*S	Sn	09 50 47.2	+0.2
JOW	Kunigami	3.36	219	*e*Pn	Pn	09 50 32.8	-0.8
JNU	Nakatsue	3.64	3	P	Pn	09 50 37.8	+0.2
JNU				S	Sn	09 51 19.0	-0.3
JNU	Nakatsue	3.64	3	P	Pn	09 50 37.8	+0.2
	3.9nm,0.3s,baz=190,slow=7.5,SNR=92						
JNU				S	Sn	09 51 19.0	-0.3
	3.5nm,0.3s,baz=47,slow=18,SNR=3.8						
JNU				LR	LR	09 51 53.2	
	comp=Z,315nm,20.2s,baz=186,slow=36						
KSAR	Wonju Array Be	8.27	345	P	Pn	09 51 43.0	+2.0
KSRS	Korea Array	8.27	345	P	Pn	09 51 43.0	+1.9
	0.2nm,0.3s,baz=154,slow=15,SNR=10						
MAJO	Matsushiro	9.49	40	*e*P	Pn	09 51 58.2	+0.5
MAJO				pmax	pmax		
	comp=Z,9.0nm,0.8s						
MAJO	Matsushiro	9.49	40	*e*Pn	Pn	09 51 58.1	+0.5
	comp=Z,8.8nm,0.8s						
MJAR	Matsushiro Arr	9.49	40	P	Pn	09 51 58.0	+0.3
MJAR	Matsushiro Arr	9.49	40	P	Pn	09 51 58.0	+0.3
	comp=Z,0.5nm,0.3s,baz=256,slow=13,SNR=5.3						
CBIJ	Chichi jima	10.45	100	LR	LR	09 55 15.0	
	comp=Z,199nm,21.7s,baz=290,slow=32						
BJT	Baijiatuau	15.85	315	P	P	09 53 25.7	-1.1
ENH	Enshi	18.36	278	*e*P	Pn	09 53 56.0	+1.1
	comp=Z,14nm,0.8s						
KLR	Kul'dur	19.75	2	*e*P	P	09 54 04.2	-5.4
YSS	Yuzh-Sakhalins	19.84	25	*e*P	P	09 54 10.0	-0.6
YSS				MLR	MLR		
	comp=Z,400nm,18.0s						
SONM	Songino Array	26.17	321	P	P	09 55 14.1	+0.1
SONM	Songino Array	26.17	321	P	P	09 55 14.1	+0.1
	comp=Z,3.3nm,0.7s,baz=138,slow=10.0,SNR=21						
ZAK	Zakamensk	29.32	323	*e*P	P	09 55 38.7	-3.3
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.2s						
PETK	Petropavlovsk-	30.83	32	LR	LR	10 09 03.5	
	comp=Z,77nm,18.3s,baz=227,slow=38						
CMAR	Chiang Mai Arr	30.87	256	LR	LR	10 08 55.9	
	comp=Z,150nm,18.0s,baz=138,slow=37						
SHL	Shillong	34.48	273	*ex*	P	09 56 28.0	+0.3
HVS	Khovu-Aksy	34.98	319	⇓*i*P	P	09 56 31.2	-0.4
HVS				pmax	pmax		
	comp=Z,28nm,1.1s						
SEY	Seymchan	36.31	17	*ce*P	P	09 56 43.1	+0.4
TAPN	Taplejung	37.66	277	*e*P	P	09 56 55.2	+0.2
ODAN	Odare	38.05	277	*e*P	P	09 56 58.1	-0.2
RAMN	Ramite	38.72	277	*e*P	P	09 57 03.4	-0.4
FX1	Attu Island--F	38.85	41	LR	LR	10 11 30.4	
	comp=Z,43nm,21.0s,baz=198,slow=34						
JIRN	Jiri	38.90	278	*e*P	P	09 57 05.4	-0.1
	comp=Z,29nm,0.8s						
GUN	Gumba	39.11	279	*e*P	P	09 57 07.2	0.0
	comp=Z,90nm,0.8s						
PKI	Pulchoki	39.59	279	*e*P	P	09 57 11.0	-0.3
	comp=Z,52nm,0.8s						
PKIN	Phulchoki	39.60	279	*e*P	P	09 57 10.9	-0.4
KKN	Kakani	39.65	279	*e*P	P	09 57 11.5	-0.1
	comp=Z,55nm,0.9s						
DMN	Daman	39.85	279	*e*P	P	09 57 13.0	-0.3
	comp=Z,22nm,0.7s						
DANN	Dangsing	40.83	280	*e*P	P	09 57 21.7	+0.2
	comp=Z,113nm,0.7s						
ZALV	Zalesovo Beam	41.05	320	P	P	09 57 22.1	-0.5
ZALV						09 59 21.7	
ZALV	Zalesovo Beam	41.05	320	P	P	09 57 22.1	-0.5
ZALV				PcP	PcP	09 59 21.6	0.0
ZALV	Zalesovo Beam	41.05	320	P	P	09 57 22.1	-0.5
	comp=Z,2.7nm,0.7s,baz=108,slow=8.1,SNR=8.5						
ZALV				PcP	PcP	09 59 21.6	0.0
	comp=Z,0.6nm,0.3s,baz=119,slow=5.6,SNR=3.9						
ZALV				LR	LR	10 16 16.8	
	comp=Z,266nm,18.1s,baz=77,slow=39						
MK31	Makanchi Array	41.07	309	*e*P	P	09 57 22.6	-0.3
MK31	Makanchi Array	41.07	309	*e*P	P	09 57 22.6	-0.3
MKAR	Makanchi Array	41.07	309	P	P	09 57 22.8	-0.1
MKAR						09 59 20.9	
MKAR	Makanchi Array	41.07	309	P	P	09 57 22.8	-0.1
MKAR				PcP	PcP	09 59 20.9	-1.1
MKAR	Makanchi Array	41.07	309	P	P	09 57 22.8	-0.1
	comp=Z,4.4nm,0.8s,baz=96,slow=9.9,SNR=40						
MKAR				PcP	PcP	09 59 20.9	-1.1
	comp=Z,1.0nm,0.8s,baz=107,slow=4.1,SNR=4.4						
MKAR				LR	LR	10 14 46.9	
	comp=Z,50nm,18.5s,baz=278,slow=37						
KOLN	Koldanda	41.10	279	*e*P	P	09 57 23.4	-0.2
	comp=Z,34nm,0.8s						
PYUN	Piuthan	41.55	280	*e*P	P	09 57 27.3	0.0
	comp=Z,124nm,0.6s						
KURK	Kurchatov	44.02	314	P	P	09 57 46.9	+0.2
KURK						09 59 31.4	
KURK	Kurchatov	44.02	314	P	P	09 57 46.9	+0.2
KURK				PcP	PcP	09 59 31.4	-0.2
KURBB	Kurchatov Arra	44.06	314	P	P	09 57 46.9	-0.2
	comp=Z,5.4nm,0.9s,baz=100,slow=8.5,SNR=8.6						
KURBB				PcP	PcP	09 59 31.4	-0.4
	comp=Z,0.5nm,0.2s,baz=74,slow=4.9,SNR=4.5						
AAK	Ala-Archa	46.46	302	*i* P	P	09 58 05.9	-0.5
AAK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
FITZ	Fitzroy Crossi	47.54	186	P	P	09 58 15.9	+1.1
FITZ	Fitzroy Crossi	47.54	186	P	P	09 58 15.9	+1.1
	comp=Z,1.2nm,0.7s,baz=26,slow=13,SNR=4.2						
WRA	Warramunga Arr	49.26	175	P	P	09 58 27.8	-0.2
WRA	Warramunga Arr	49.26	175	P	P	09 58 27.8	-0.2
	comp=Z,1.3nm,0.7s,baz=352,slow=8.3,SNR=15						
BVAR	Borovoye Array	49.34	316	LR	LR	10 20 13.9	
	comp=Z,66nm,19.4s,baz=108,slow=37						
KKAR	Karatay Array	49.35	303	*e*P	P	09 58 28.9	+0.3
KKAR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KKAR	Karatay Array	49.35	303	*e*P	P	09 58 28.9	+0.3
	comp=Z,6.6nm,0.8s						
BRVK	Borovoye	49.41	316	⇑*i*P	P	09 58 28.2	-0.6
BRVK				pmax	pmax		
	comp=Z,17nm,1.0s						
BRVK	Borovoye	49.41	316	*e*P	P	09 58 28.1	-0.8
	comp=Z,12nm,0.8s						
AS31	Alice Springs	52.93	176	P	P	09 58 56.6	+1.1
ASAR	Alice Springs	52.93	176	P	P	09 58 57.2	+1.7
ASAR	Alice Springs	52.93	176	P	P	09 58 57.2	+1.7
	comp=Z,0.5nm,0.7s,baz=8.6,slow=13,SNR=10						
SVE	Sverdlovsk	55.05	321	⇓*i*P	P	09 59 11.2	+0.6
SVE				pmax	pmax		
	comp=Z,16nm,0.8s						
ABKAR	Akbulak array	56.03	312	*e*P	P	09 59 17.4	-0.5
	comp=Z,4.8nm,0.6s						
ARU	Arti	56.21	321	*d i*P	P	09 59 18.6	-0.3
ARU				pmax	pmax		
	comp=Z,18nm,0.9s						
AKTO	Aktyubinsk	57.12	313	LR	LR	10 26 02.3	
	comp=Z,353nm,18.5s,baz=262,slow=38						
ILAR	Eielson Array	60.58	29	P	P	09 59 49.0	-0.3
ILAR	Eielson Array	60.58	29	P	P	09 59 49.0	-0.3
	comp=Z,0.6nm,0.9s,baz=282,slow=8.8,SNR=6.6						
STKA	Stephens Creek	61.90	169	P	P	09 59 58.5	0.0
STKA	Stephens Creek	61.90	169	P	P	09 59 58.5	0.0
	comp=Z,1.7nm,0.9s,baz=353,slow=8.1,SNR=2.6						
OBN	Obninsk	68.58	322	*e*P	P	10 00 41.1	-0.5
OBN				*e*		10 01 02.7	
OBN				pmax	pmax		
	comp=Z,6.0nm,1.1s						
OBN				MLR	MLR		
	comp=Z,200nm,18.0s						
GNI	Garni	68.76	305	LR	LR	10 34 49.2	
	comp=Z,44nm,18.8s,baz=232,slow=39						
KBZ	Khabaz	68.77	309	P	P	10 00 42.3	-0.7
KBZ	Khabaz	68.77	309	P	P	10 00 42.2	-0.7
KBZ	Khabaz	68.77	309	P	P	10 00 42.2	-0.7
	comp=Z,2.0nm,0.7s,baz=0.0,slow=6.1,SNR=3.1						
KBZ				LR	LR	10 37 48.2	
	comp=Z,68nm,18.6s,baz=227,slow=42						
KIV	Kislovodsk	68.83	309	*e*P	P	10 00 43.8	+0.3
KIV				pmax	pmax		
	comp=Z,12nm,1.0s						
KIV				MLR	MLR		
	comp=Z,40nm,17.0s						
AKASG	Malin Array Be	74.45	320	P	P	10 01 16.2	-0.9
AKASG	Malin Array Be	74.45	320	P	P	10 01 16.2	-0.9
AKASG	Malin Array Be	74.45	320	P	P	10 01 16.2	-0.9
	comp=Z,1.1nm,0.5s,baz=55,slow=7.2,SNR=2.1						
BR131	Keskin Array S	76.72	308	*e*P	P	10 01 30.6	+0.1
	comp=Z,2.9nm,0.8s						
BRTR	Keskin Array B	76.72	308	P	P	10 01 31.3	+0.8
BRTR	Keskin Array B	76.72	308	P	P	10 01 31.3	+0.8
	comp=Z,3.3nm,0.7s,baz=92,slow=5.5,SNR=15						
BRTR				LR	LR	10 43 14.0	
	comp=Z,34nm,18.4s,baz=283,slow=42						
NOA	NORSAR Array B	77.34	334	LR	LR	10 41 13.9	
	comp=Z,54nm,18.4s,baz=70,slow=40						
GERES	GERESS Array B	83.88	324	LR	LR	10 43 23.4	
	comp=Z,120nm,19.4s,baz=308,slow=38						
PDAR	Pinedale Array	89.31	40	P	P	10 02 36.6	+1.0
PDAR	Pinedale Array

0.2nm,0.6s,baz=327,slow=10,SNR=5.4
CPUP Villa Florida 25.16 138 *e*P **P 10 03 46.3 +0.5**
9.8nm,0.8s
CPUP Villa Florida 25.16 138 P **P 10 03 46.8 +0.9**
5.4nm,1.0s,baz=339,slow=8.6,SNR=4.4
BDFB Brasilia 28.23 108 LR LR 10 16 18.4
comp=Z,54nm,19.6s,baz=37,slow=38
TXAR Lajitas Array 45.99 326 P **P 10 06 43.4 -0.5**
TXAR Lajitas Array 45.99 326 P **P 10 06 43.4 -0.5**
0.5nm,0.8s,baz=152,slow=8.7,SNR=6.8
DBIC Dimbokro 72.39 80 P **P 10 09 48.7 +1.7**
DBIC Dimbokro 72.39 80 P **P 10 09 48.7 +1.7**
4.6nm,0.8s,baz=213,slow=8.1,SNR=4.0
YKA Yellowknife Ar 76.62 343 P **P 10 10 09.7 -0.8**
YKA Yellowknife Ar 76.62 343 P **P 10 10 09.6 -0.8**
0.4nm,0.6s,baz=139,slow=6.1,SNR=5.5
TORD Torodi Ar. Bea 79.96 75 P **P 10 10 31.2 +1.2**
TORD Torodi Ar. Bea 79.96 75 P **P 10 10 31.2 +1.2**
0.8nm,0.8s,baz=281,slow=5.0,SNR=5.6
ILAR Eielson Array 89.51 336 P **P 10 11 17.3 +0.2**
ILAR Eielson Array 89.51 336 P **P 10 11 17.3 +0.2**
0.4nm,0.8s,baz=87,slow=2.2,SNR=3.8
ASAR Alice Springs 136.88 222 PKP **PKPdf 10 17 42.9 -0.8**
ASAR Alice Springs 136.88 222 PKP **PKPdf 10 17 42.9 -0.8**
0.3nm,0.7s,baz=117,slow=1.3,SNR=4.6
WRA Warramunga Arr 139.07 226 PKP **PKPdf 10 17 46.1 -1.7**
WRA Warramunga Arr 139.07 226 PKP **PKPdf 10 17 46.1 -1.7**
0.3nm,0.5s,baz=123,slow=2.0,SNR=9.6

GUC 14 10:04:56.5±0.7, 22°.61S×70°.29W, h37km±2km, ML3.6, 2C-3D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PB04	**Plate Boundary**	**0.82**	**65**	⇓*i*P		Pn	10 05 04.8	-6.6
PB04				*i*S		Sn	10 05 10.6	-12
PB04				AML		AML	10 05 11.1	
	comp=E,10μm,0.2s							
PB10	**Plate Boundary**	**0.93**	**195**	⇑*i*P		Pn	10 05 12.9	-0.2
PB10				*i*S		Sn	10 05 26.2	+0.9
PB10				AML		AML	10 05 28.9	
	comp=E,5μm,0.3s							
PB07	**Plate Boundary**	**0.95**	**23**	⇓*i*P		Pn	10 05 14.1	+0.5
PB07				*i*S		Sn	10 05 27.0	+0.9
PB07				AML		AML	10 05 30.1	
	comp=E,3μm,0.4s							
ANCH	**Antofagasta**	**1.07**	**186**	⇓*i*P		Pn	10 05 15.9	+0.8
ANCH				*i*S		Sn	10 05 30.4	+1.7
ANCH				AML		AML	10 05 38.3	
	comp=E,1μm,0.4s							
PB09	**Plate Boundary**	**1.26**	**50**	*e*P		Pn	10 05 19.7	+1.9
PB09				*i*S		Sn	10 05 36.7	+3.0
PB09				AML		AML	10 05 40.1	
	comp=N,3μm,0.3s							
PB01	**Plate Boundary**	**1.73**	**26**	⇑*i*P		Pn	10 05 25.9	+1.8
PB01				*i*S		Sn	10 05 48.2	+3.2
PB01				AML		AML	10 05 51.0	
	comp=E,659nm,0.4s							
HMBC	**Humberstone**	**2.35**	**9**	*e*P		Pn	10 05 34.0	+1.3
HMBC				*i*S		Sn	10 06 03.0	+2.5
HMBC				AML		AML	10 06 13.6	
	comp=N,473nm,0.4s							

*IDC **14** 10:08:49.8±1.9, 44°.28N×81°.47E, h0km, mb3.6/1, mb1 3.6/6, mb1mx3.4/30, mbtmp3.6/6, ML3.5/5, Error ellipse: s-maj=30.9km s-min=11.8km az=129.0*
*NNC **14** 10:08:50.0±2.7, 44°.02N×81°.70E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=32.3km s-min=9.7km az=126.0*

ISC 14 10:08:52.0±2.2, 44°.1N±0°.1×81°.8E±0°.2, h26km, n11, σ1§45/12, 8C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**2.74**	**7**	⇑Pn		**Pn**	**10 09 34.9**	**+0.6**
	3.7nm,0.3s,baz=188,slow=13,SNR=220							
MK31				⇓Sn		**Sb**	**10 10 12.7**	**-0.8**
	35nm,0.5s,baz=182,slow=23,SNR=24							
MKAR	**Makanchi Array**	**2.74**	**7**	Pn		**Pn**	**10 09 34.8**	**+0.5**
	5.5nm,0.3s,baz=187,slow=12,SNR=97							
MKAR				Lg		Lg	10 10 12.9	
	14nm,0.3s,baz=186,slow=30,SNR=24							
TKM2	**Tokmak 2**	**4.68**	**258**	⇑Pn		**Pn**	**10 10 02.2**	**+1.1**
	1.2nm,0.4s							
TKM2				⇑Pg		**Pb**	**10 10 12.1**	**-1.3**
	6.0nm,0.5s							
TKM2				⇑Lg		Lg	10 11 17.1	
	16nm,0.8s							
AAK	**Ala-Archa**	**5.54**	**257**	Pn		**Pn**	**10 10 14.2**	**+1.3**
	1.2nm,0.3s,baz=88,slow=11,SNR=6.4							
AAK				Lg		Lg	10 11 40.4	
	0.3nm,0.3s,baz=291,slow=18,SNR=3.1							
KURBB	**Kurchatov Arra**	**6.93**	**342**	⇑Pn		**Pn**	**10 10 31.3**	**-0.4**
	5.1nm,0.5s							
KURBB				⇑Sn		**Sn**	**10 11 52.0**	**+2.4**
KURBB				⇓Lg		Lg	10 12 29.3	
KURBB	**Kurchatov Arra**	**6.93**	**342**	Pn		**Pn**	**10 10 29.5**	**-2.2**
	1.3nm,0.3s,baz=164,slow=12,SNR=16							
KURBB				Lg		Lg	10 12 26.9	
	1.1nm,0.3s,baz=48,slow=24,SNR=5.8							
KK31	**Karatay Array**	**8.28**	**267**	⇑Pn		**Pn**	**10 10 51.1**	**+0.8**
	0.2nm,0.3s,baz=79,slow=14,SNR=3.8							
KK31				⇑Lg		Lg	10 13 08.4	
	2.2nm,0.5s,baz=70,slow=28,SNR=4.5							
ZALV	**Zalesovo Beam**	**10.08**	**10**	Pn		**Pn**	**10 11 13.8**	**-1.0**
	0.5nm,0.3s,baz=195,slow=13,SNR=6.7							
VOSK	**Vostochnaya**	**11.26**	**324**	⇓Lg		Lg	10 14 46.4	
	2.2nm,0.7s							
SONM	**Songino Array**	**17.47**	**69**	P		P	10 12 57.8	+3.0
	0.1nm,0.3s,baz=265,slow=12,SNR=7.6							
TORD	**Torodi Ar. Bea**	**73.92**	**273**	P		**P**	**10 20 25.4**	**+0.3**
	0.3nm,0.4s,baz=42,slow=5.4,SNR=10							

*NIED **14** 10:35:00, 25°.40N×124°.20E, h135km, Mw4.0 Best double couple: M0 1.20000×10^15 NP1:φ0=37.00000°, δ85.00000°, λ-95.00000°. NP2:φ0=260.00000°, δ7.00000°, λ-47.00000°.*
*ISCJB **14** 10:35:20.8±0.4, 25°.53N±0°.07×124°.23E±0°.06, h137km±6km, mb3.5/9, Error ellipse: s-maj=13.4km s-min=4.3km az=145.2*
*JMA **14** 10:35:23.1±0.2, 25°.43N×124°.17E, h130km, M3.9*
*IDC **14** 10:35:29.9±4.8, 25°.46N×124°.04E, h210km±48km, mb3.3/9, mb1 3.4/10, mb1mx3.3/24, mbtmp3.3/10, Error ellipse: s-maj=39.4km s-min=12.9km az=65.0*

ISC 14 10:35:22.1±0.8, 25°.50N±0°.08×124°.22E±0°.06, h138km±9km, n28, σ1§29/44, mb3.6/9, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JTJ	**Tarama**	**0.96**	**153**	P		**Pn**	**10 35 45.3**	**-0.1**
JTJ				S		**Sn**	**10 36 02.2**	**-0.9**
JIJ	**Ishigaki jima**	**1.14**	**184**	P		**Pn**	**10 35 46.4**	**-0.6**
JIJ				S		**Sn**	**10 36 04.0**	**-2.0**
JMJ	**Miyako jima 2**	**1.19**	**125**	P		**Pn**	**10 35 48.0**	**+0.5**
JMJ				S		**Sn**	**10 36 06.6**	**-0.2**
IRIF	**Iriomote-Funau**	**1.25**	**201**	P		**Pn**	**10 35 47.6**	**-0.5**
IRIF				S		**Sn**	**10 36 06.5**	**-1.4**
JKRS	**Kuro-shima**	**1.27**	**189**	P		**Pn**	**10 35 48.2**	**-0.2**
JKRS				S		**Sn**	**10 36 07.1**	**-1.3**
JOGS	**Gusukube**	**1.30**	**124**	P		**Pn**	**10 35 49.4**	**+0.8**
JOGS				S		**Sn**	**10 36 09.4**	**+0.5**
HATJ	**Hateruma jima**	**1.49**	**195**	P		**Pn**	**10 35 50.3**	**-0.3**
HATJ				*e*S		**Sn**	**10 36 11.1**	**-1.3**
YOJ	**Yonaguni jima**	**1.51**	**227**	P		**Pn**	**10 35 50.9**	**0.0**
YOJ				S		**Sn**	**10 36 12.1**	**-0.8**
JKE	**Kume jima 2**	**2.45**	**70**	P		**Pn**	**10 36 02.8**	**+0.8**
JKE				S		**Sn**	**10 36 34.2**	**+1.5**
JAGN	**Aguni-jima**	**2.92**	**68**	P		**Pn**	**10 36 08.5**	**+0.6**
JAGN				*e*S		**Sn**	**10 36 42.8**	**-0.6**
JJT2	**Tamagusuku 2**	**3.24**	**78**	P		**Pn**	**10 36 13.0**	**+1.0**
JJT2				S		**Sn**	**10 36 50.7**	**0.0**
JIH	**Iheya**	**3.69**	**65**	P		**Pn**	**10 36 18.2**	**+0.3**
JIH				*e*S		**Sn**	**10 36 59.2**	**-2.0**
JOW	**Kunigami**	**3.87**	**69**	P		**Pn**	**10 36 20.1**	**-0.2**
JOW				*e*S		**Sn**	**10 37 02.7**	**-2.8**
JTK	**Tokunoshima**	**4.80**	**61**	P		**Pn**	**10 36 31.7**	**-0.9**
JTK				*e*S		**Sn**	**10 37 25.1**	**-2.5**
JAMN	**Amaminishikomi**	**5.20**	**57**	P		**Pn**	**10 36 36.8**	**-1.1**
JAM	**Amami Oshima**	**5.61**	**58**	P		**Pn**	**10 36 42.2**	**-1.2**
JAM				*e*S		**Sn**	**10 37 44.0**	**-2.8**
JZK	**Kikaishima**	**5.85**	**60**	P		**Pn**	**10 36 46.2**	**-0.4**
JMZ	**Minamidaito 2**	**6.32**	**86**	P		**Pn**	**10 36 50.9**	**-2.0**
JMZ				*e*S		Sn	10 37 56.4	-7.6
KSRS	**Korea Array**	**12.32**	**14**	P		**P**	**10 38 20.9**	**+1.7**
	0.1nm,0.3s,baz=196,slow=12,SNR=7.8							
SONM	**Songino Array**	**26.36**	**332**	P		**P**	**10 40 45.1**	**-0.2**
	0.3nm,0.5s,baz=153,slow=7.4,SNR=3.0							
MKAR	**Makanchi Array**	**39.38**	**314**	P		**P**	**10 42 38.4**	**+0.3**
	0.9nm,0.5s,baz=98,slow=11,SNR=14							
MKAR				PcP		**PcP**	**10 44 40.5**	**-3.0**
	0.5nm,0.7s,baz=92,slow=3.5,SNR=4.0							
ZALV	**Zalesovo Beam**	**40.70**	**325**	P		**P**	**10 42 48.7**	**-0.1**
	5.2nm,0.6s,baz=113,slow=8.9,SNR=16							
WRA	**Warramunga Arr**	**46.23**	**167**	P		**P**	**10 43 34.2**	**+0.8**
	0.8nm,0.6s,baz=348,slow=8.5,SNR=9.1							
ASAR	**Alice Springs**	**49.77**	**168**	P		**P**	**10 44 01.1**	**+0.4**
	0.2nm,0.4s,baz=356,slow=7.1,SNR=8.8							
KBZ	**Khabaz**	**66.81**	**309**	P		**P**	**10 45 59.4**	**+0.5**
	1.3nm,0.7s,baz=152,slow=2.6,SNR=4.2							
BRTR	**Keskin Array B**	**74.61**	**307**	P		**P**	**10 46 46.9**	**+0.6**
	1.1nm,0.7s,baz=90,slow=8.6,SNR=5.5							
YKA	**Yellowknife Ar**	**80.67**	**24**	P		**P**	**10 47 20.1**	**+0.8**
	0.4nm,0.7s,baz=314,slow=4.9,SNR=4.3							
GERES	**GERESS Array B**	**83.56**	**321**	P		**P**	**10 47 35.2**	**+0.4**
	0.2nm,0.4s,baz=54,slow=3.4,SNR=3.5							

*IDC **14** 10:41:30.7±6.0, 8°.92S×79°.67W, h33km±44km, mb4.0/10, mb1 4.2/13, mb1mx4.1/22, mbtmp4.0/13, ML4.0/3, MS3.8/17, Ms1 3.8/17, ms1mx3.8/24, Error ellipse: s-maj=28.4km s-min=16.1km az=64.0*
*ISCJB **14** 10:41:31.8±1.3, 8°.96S±0°.06×79°.49W±0°.09, h56km±12km, mb4.6/41, MS4.0/18, Error ellipse: s-maj=16.0km s-min=5.7km az=150.1*
*NEIC **14** 10:41:32.6±0.5, 8°.97S×79°.51W, h48km±4km, mb4.7/33, Error ellipse: s-maj=9.8km s-min=3.8km az=58.0*
NEIC Felt [II] at Chimbote.
*BJI **14** 10:41:32.1, 9°.10S×79°.60W, h43km, mB4.8/3, Ms5.3/4, Ms7 4.9/4*

ISC 14 10:41:31.8±0.6, 9°.05S±0°.07×79°.67W±0°.09, h43km±5km, h42km:pP-P, n344, σ1§02/365, mb4.6/41, MS4.0/18, 116C-121D, Off coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**4.03**	**137**	*e*Pn		**Pn**	**10 42 30.4**	**-0.7**
NNA				*e*Sn		**Sn**	**10 43 15.5**	**-1.6**
NNA				Sn		Sn	10 43 16.7	-0.5
NNA	**Nana**	**4.03**	**137**	Pn		**Pn**	**10 42 30.2**	**-0.9**
	52nm,0.3s,baz=323,slow=9.3,SNR=149							
NNA				Sn		**Sn**	**10 43 16.7**	**-0.4**
	293nm,0.3s,baz=83,slow=22,SNR=19							
NNA				LR		LR	10 44 11.4	
	comp=Z,1μm,18.9s,baz=328,slow=39							
OTAV	**Otavalo**	**9.31**	**8**	*e*Pn		**Pn**	**10 43 44.5**	**+0.6**
LPAZ	**La Paz**	**13.36**	**124**	*e*Pn		**Pn**	**10 44 39.0**	**-0.4**
	0.7nm,0.4s							
LPAZ	**La Paz**	**13.36**	**124**	Pn		**Pn**	**10 44 39.6**	**+0.2**
	0.1nm,0.3s,baz=314,slow=12,SNR=6.3							
LPAZ				LR		LR	10 50 16.2	
	comp=Z,773nm,20.5s,baz=116,slow=39							
SAML	**Samuel**	**16.29**	**91**	*e*Pn		**Pn**	**10 45 14.6**	**-3.1**
	31nm,1.0s							
SAML				*e*Sn		Sn	10 48 03.7	-14
LVC	**Limon Verde**	**16.98**	**144**	*e*P		**P**	**10 45 28.5**	**+0.4**
	26nm,1.1s							
SIV	**San Ignacio**	**19.41**	**113**	Pn		**P**	**10 45 55.5**	**+0.8**
SIV				Sn		**Sn**	**10 49 34.2**	**+1.0**
SIV	**San Ignacio**	**19.41**	**113**	Pn		**P**	**10 45 55.5**	**+0.8**
	0.3nm,0.3s,baz=291,slow=11,SNR=8.4							
SIV				Sn		**Sn**	**10 49 34.2**	**+1.0**
	0.2nm,0.3s,baz=233,slow=20,SNR=2.2							
SIV				LR		LR	10 53 57.4	
	comp=Z,484nm,20.6s,slow=38							
SDV	**Santo Domingo**	**19.96**	**27**	*e*P		Pn	10 46 07.3	+4.5
	23nm,1.2s							
LCO	**Las Campanas**	**21.57**	**158**	*e*P		**P**	**10 46 19.2**	**+1.1**
	35nm,0.9s							
CFAA	**Coronel Fontan**	**24.83**	**156**	P		**P**	**10 46 51.7**	**+1.4**
CFAA	**Coronel Fontan**	**24.83**	**156**	P		**P**	**10 46 51.7**	**+1.4**
	0.7nm,0.8s,baz=336,slow=8.8,SNR=12							
CFAA				LR		LR	10 54 50.1	
	comp=Z,24nm,19.6s,baz=50,slow=32							
CPUP	**Villa Florida**	**27.28**	**132**	P		**P**	**10 47 15.5**	**+3.1**
CPUP	**Villa Florida**	**27.28**	**132**	P		**P**	**10 47 15.5**	**+3.1**
	1.1nm,0.5s,baz=314,slow=14,SNR=3.7							
CPUP				LR		LR	11 00 10.0	
	comp=Z,293nm,18.4s,baz=311,slow=41							
CMIG	**Matias Romero**	**30.02**	**330**	LR		LR	10 56 35.6	
	comp=Z,89nm,21.7s,baz=179,slow=30							
BDFB	**Brasilia**	**31.59**	**105**	LR		LR	11 01 26.0	
	comp=Z,446nm,18.9s,baz=230,slow=38							
PLCA	**Paso Flores**	**32.58**	**167**	P		**P**	**10 48 00.5**	**+1.3**
PLCA				PcP		**PcP**	**10 50 45.5**	**+0.6**
PLCA	**Paso Flores**	**32.58**	**167**	P		**P**	**10 48 00.5**	**+1.3**
	8.5nm,0.9s,baz=356,slow=11,SNR=4.6							
PLCA				PcP		**PcP**	**10 50 45.5**	**+0.6**
	2.4nm,0.7s,baz=359,slow=3.2,SNR=6.1							
632A	**Uvalde**	**42.95**	**334**	⇑P		**P**	**10 49 28.1**	**+1.2**
	baz=43							
631A	**Perdido Creek**	**43.22**	**333**	⇓P		**P**	**10 49 30.0**	**+1.0**
	baz=44							
532A	**Rocksprings**	**43.54**	**334**	⇑P		**P**	**10 49 33.1**	**+1.5**
	baz=44							
531A	**Rocksprings**	**43.85**	**334**	⇓P		**P**	**10 49 35.7**	**+1.6**
	baz=44							
530A	**J-C Ranch, Com**	**44.19**	**333**	⇑P		**P**	**10 49 38.5**	**+1.7**
	baz=44							
628A	**Black Gap, Mar**	**44.37**	**331**	⇑P		**P**	**10 49 39.6**	**+1.4**
	baz=45							
332A	**Millersview**	**44.56**	**335**	⇓P		**P**	**10 49 41.5**	**+1.8**
	baz=45							
627A	**Terlingua Ranc**	**44.58**	**330**	⇓P		**P**	**10 49 41.5**	**+1.4**
	baz=45							
TXAR	**Lajitas Array**	**44.62**	**330**	P		**P**	**10 49 40.1**	**-0.2**
TXAR				PcP		**PcP**	**10 51 22.4**	**-0.2**
TXAR	**Lajitas Array**	**44.62**	**330**	P		**P**	**10 49 40.1**	**-0.2**
	0.3nm,0.8s,baz=151,slow=11,SNR=3.7							
TXAR				PcP		**PcP**	**10 51 22.5**	**-0.2**
	0.5nm,0.9s,baz=146,slow=6.6,SNR=3.1							
430A	**Baggett Ranch,**	**44.69**	**333**	⇓P		**P**	**10 49 42.5**	**+1.7**
	baz=45							
429A	**Davenport Ranc**	**44.85**	**332**	⇓P		**P**	**10 49 43.2**	**+1.2**
	baz=45							
528A	**Cox Ranch, San**	**44.88**	**331**	⇓P		**P**	**10 49 44.0**	**+1.6**
	baz=45							
232A	**Coleman**	**44.97**	**336**	⇓P		**P**	**10 49 44.7**	**+1.7**
	baz=45							
626A	**Big Bend Ranch**	**45.04**	**329**	⇑P		**P**	**10 49 44.7**	**+1.1**
	baz=45,SNR=5.6							
330A	**Mertzon**	**45.19**	**334**	⇓P		**P**	**10 49 45.5**	**+0.7**
	baz=46							
527A	**Woodward Ranch**	**45.26**	**330**	⇑P		**P**	**10 49 46.1**	**+0.7**
	baz=46,SNR=6.0							
428A	**Kincaid Ranch,**	**45.30**	**332**	⇓P		**P**	**10 49 46.3**	**+0.6**
	baz=46							
MIAR	**Mount Ida**	**45.31**	**344**	*e*P		**P**	**10 49 45.9**	**+0.3**
	6.9nm,1.0s							
526A	**Mary Lane Ranc**	**45.43**	**330**	⇑P		**P**	**10 49 47.7**	**+0.9**
	baz=46							
230A	**Sterling City**	**45.58**	**334**	⇑P		**P**	**10 49 48.9**	**+1.1**
	baz=46							
ABTX	**Abilene, Hawle**	**45.61**	**336**	⇑P		**P**	**10 49 49.2**	**+1.2**
	baz=46							
329A	**Wagon Wheel Ra**	**45.62**	**333**	⇑P		**P**	**10 49 49.4**	**+1.2**
	baz=46							
427A	**Hayter Ranch,**	**45.74**	**331**	⇓P		**P**	**10 49 50.5**	**+1.4**
	baz=46							
426A	**McDonald Obser**	**45.90**	**330**	⇓P		**P**	**10 49 51.4**	**+0.8**
	baz=46							
328A	**Wristen Ranch,**	**45.91**	**332**	⇓P		**P**	**10 49 51.2**	**+0.8**
	baz=46,SNR=5.8							
130A	**Snyder**	**46.13**	**335**	⇓P		**P**	**10 49 54.0**	**+1.9**
	baz=46							
Z32A	**Haskell**	**46.15**	**337**	⇑P		**P**	**10 49 53.8**	**+1.6**
	baz=46							
Z31A	**Sharp Cattle R**	**46.42**	**336**	⇓P		**P**	**10 49 55.8**	**+1.4**
	baz=47							
228A	**UT Block 9, Go**	**46.43**	**333**	⇓P		**P**	**10 49 55.5**	**+0.9**
	baz=47							
425A	**Indio Mountain**	**46.47**	**329**	⇓P		**P**	**10 49 55.2**	**+0.3**
	baz=47,SNR=6.3							
USHA	**Ushuaia**	**46.53**	**171**	P		**P**	**10 49 55.9**	**+1.0**
USHA	**Ushuaia**	**46.53**	**171**	P		**P**	**10 49 55.9**	**+1.0**
	10nm,0.9s,baz=352,slow=6.3,SNR=5.3							
Y32A	**R-V Farms, Ver**	**46.75**	**337**	⇑P		**P**	**10 49 58.2**	**+1.2**
	baz=47							
Z30A	**Sanderson Ranc**	**46.79**	**335**	⇑P		**P**	**10 49 58.5**	**+1.1**
	baz=47							
325A	**Bean Ranch, Si**	**46.93**	**330**	⇑P		**P**	**10 49 59.1**	**+0.5**
	baz=47							
Z29A	**Hungry Hill Ra**	**47.01**	**335**	⇑P		**P**	**10 49 59.7**	**+0.6**
	baz=47							
Y31A	**Rekieta Farm,**	**47.03**	**336**	⇓P		**P**	**10 49 60.0**	**+0.8**
	baz=47							
226B	**Tecolote Peak,**	**47.12**	**331**	⇑P		**P**	**10 50 00.9**	**+0.9**
	baz=47,SNR=6.6							
Y30A	**Stafford Cattl**	**47.21**	**336**	⇑P		**P**	**10 50 01.5**	**+0.9**
	baz=48							
TUL1	**Tulsa**	**47.23**	**342**	*e*P		**P**	**10 50 00.7**	**0.0**
TUL1	**Tulsa**	**47.23**	**342**	⇓P		**P**	**10 50 01.3**	**+0.6**
	baz=48							
127A	**Arkansas Junct**	**47.24**	**333**	⇓P		**P**	**10 50 01.7**	**+0.8**
	baz=48							
324A	**Moseley Ranch,**	**47.24**	**330**	⇓P		**P**	**10 50 00.9**	**-0.1**
	baz=48,SNR=6.6							
225A	**Deer Hill, Car**	**47.46**	**331**	⇓P		**P**	**10 50 02.9**	**+0.1**
	baz=48							
X31A	**McDonald Ranch**	**47.51**	**337**	⇓P		**P**	**10 50 03.3**	**+0.4**
	baz=48							
Y29A	**Porterfield Fa**	**47.52**	**335**	⇑P		**P**	**10 50 03.8**	**+0.8**
	baz=48							
Z27A	**Tatum**	**47.72**	**333**	⇓P		**P**	**10 50 05.1**	**+0.5**
	baz=48							
224A	**Cornudas Mount**	**47.78**	**330**	⇓P		**P**	**10 50 05.7**	**+0.5**
	baz=48							
Y28A	**McKinney Farm,**	**47.80**	**334**	⇓P		**P**	**10 50 05.9**	**+0.7**
	baz=48							
125A	**Gardner Draw,**	**47.84**	**331**	⇑P		**P**	**10 50 05.9**	**+0.3**
	baz=48,SNR=5.0							
W31A	**Holland Ranch,**	**47.99**	**338**	⇓P		**P**	**10 50 07.5**	**+0.9**
	baz=48							
Z26A	**Caprock**	**48.03**	**332**	⇓P		**P**	**10 50 07.7**	**+0.6**
	baz=48,SNR=5.2							
X29A	**Tulia**	**48.03**	**335**	⇓P		**P**	**10 50 08.0**	**+0.9**
	baz=48							
MSTX	**Muleshoe**	**48.08**	**334**	*e*P		**P**	**10 50 08.3**	**+0.9**
MSTX	**Muleshoe**	**48.08**	**334**	⇑P		**P**	**10 50 08.6**	**+1.2**
	baz=48							
Y27A	**Causey**	**48.18**	**334**	⇓P		**P**	**10 50 09.4**	**+1.3**
	baz=48							
124A	**Stringfield Ra**	**48.25**	**331**	⇓P		**P**	**10 50 09.2**	**+0.3**
	baz=48,SNR=5.8							
X28A	**Dimmitt**	**48.30**	**335**	⇑P		**P**	**10 50 10.2**	**+1.0**
	baz=49							
Z25A	**Roswell**	**48.38**	**332**	⇑P		**P**	**10 50 10.2**	**+0.5**
	baz=49							
V31A	**Spring Creek L**	**48.47**	**338**	⇑P		**P**	**10 50 11.9**	**+1.5**
	baz=49							
Y26A	**Elida**	**48.50**	**333**	⇓P		**P**	**10 50 12.1**	**+1.4**
	baz=49							
123A	**Bell Site, Whi**	**48.60**	**330**	⇑P		**P**	**10 50 12.1**	**+0.7**
	baz=49							
222A	**Williams Famil**	**48.60**	**329**	⇑P		**P**	**10 50 12.7**	**+1.3**
	baz=49							
Z24A	**Sheeppen Canyo**	**48.72**	**331**	⇓P		**P**	**10 50 12.6**	**+0.1**
	baz=49,SNR=7.5							
320A	**Kipp Ranch, An**	**48.75**	**327**	⇑P		**P**	**10 50 13.4**	**+0.7**
	baz=49							
Y25A	**Mesa, Roswell**	**48.90**	**332**	⇑P		**P**	**10 50 14.1**	**+0.3**
	baz=49							
Z23A	**Rita Site, Whi**	**49.09**	**330**	⇓P		**P**	**10 50 16.0**	**+0.8**
	baz=49							
W27A	**Bowe Ranch, En**	**49.13**	**334**	⇑P		**P**	**10 50 16.4**	**+0.9**
	baz=49							
220A	**Playas Peak, P**	**49.19**	**327**	⇓P		**P**	**10 50 17.0**	**+1.0**
	baz=49							
319A	**Douglas**	**49.19**	**326**	⇑P		**P**	**10 50 16.8**	**+0.7**
	baz=49							
121A	**Cookes Peak, D**	**49.29**	**328**	⇑P		**P**	**10 50 17.8**	**+1.0**
	baz=50							
U30A	**WK&E Inc. Balk**	**49.44**	**338**	⇓P		**P**	**10 50 19.4**	**+1.6**
	baz=50							
Z22A	**Elephant Butte**	**49.44**	**330**	⇓P		**P**	**10 50 19.0**	**+1.0**
	baz=50,SNR=5.7							
W26A	**Owens Ranch, T**	**49.46**	**334**	⇓P		**P**	**10 50 19.6**	**+1.6**
	baz=50							
Y23A	**Lovelace Mesa,**	**49.55**	**331**	⇑P		**P**	**10 50 19.5**	**+0.8**
	baz=50,SNR=6.2							
SFIN	**Scholer Farm**	**49.66**	**353**	⇑P		**P**	**10 50 20.9**	**+1.7**
	baz=50							
120A	**U Bar Ranch, L**	**49.74**	**328**	⇓P		**P**	**10 50 21.5**	**+1.2**
	baz=50							
Z21A	**St. Cloud Mine**	**49.84**	**329**	⇑P		**P**	**10 50 22.8**	**+1.7**
	baz=50							
W25A	**X Bar L Ranch,**	**49.87**	**333**	⇓P		**P**	**10 50 22.7**	**+1.5**
	baz=50							
U28A	**Mallet**	**49.92**	**336**	⇓P		**P**	**10 50 22.6**	**+1.1**
	baz=50							
Y22A	**Socorro**	**49.99**	**330**	⇑P		**P**	**10 50 22.9**	**+0.

	3.1nm,1.0s					
T22A	Edith	52.46	332	⇑P	P	10 50 41.7 +1.0
	baz=53					
Q26A	Hugo	52.63	337	⇓P	P	10 50 42.7 +0.9
	baz=53					
X16A	Lo Mia Camp, P	52.68	327	⇓P	P	10 50 42.7 +0.4
	baz=53					
O29A	4D Ranch, Culb	52.69	340	⇑P	P	10 50 42.8 +0.7
	baz=53					
113A	Mohawk Valley,	52.78	324	⇓P	P	10 50 42.9 +0.1
	baz=53					
P27A	Ficken Ranch,	52.83	338	⇓P	P	10 50 44.1 +1.0
	baz=53					
Q25A	Bedland, Calha	52.92	336	⇑P	P	10 50 45.1 +1.1
	baz=53					
R23A	Moffat	52.96	334	⇓P	P	10 50 45.4 +0.9
	baz=53					
S22A	4UR Ranch, Cre	53.03	333	⇑P	P	10 50 45.4 +0.4
	baz=53					
P26A	Davis Ranch, A	53.12	337	⇓P	P	10 50 46.2 +0.8
	baz=53					
Y14A	Wickenburg	53.19	325	⇓P	P	10 50 46.8 +0.9
	baz=53					
O27A	Beecher Island	53.34	338	⇓P	P	10 50 48.2 +1.2
	baz=54					
MVCO	Mesa Verde	53.36	331	⇑P	P	10 50 48.3 +0.9
	baz=54					
R22A	Saguache, Gunn	53.40	333	⇑P	P	10 50 48.8 +1.1
	baz=54					
P25A	Willow Gulch B	53.40	336	⇓P	P	10 50 48.6 +1.1
	baz=54					
S21A	Coal Bank Pass	53.40	332	⇑P	P	10 50 48.8 +1.1
	baz=54					
WUAZ	Wupatki	53.48	328	*e*P	P	10 50 48.8 +0.7
	1.9nm,0.7s					
WUAZ	Wupatki	53.48	328	⇓P	P	10 50 49.1 +1.0
	baz=54					
Q23A	Hartsel	53.56	335	⇓P	P	10 50 50.3 +1.4
	baz=54					
GLA	Glamis	53.60	323	⇓P	P	10 50 50.8 +1.9
	baz=54					
S20A	Disappointment	53.80	332	⇑P	P	10 50 51.6 +1.1
	baz=54					
Y12C	Blythe	53.92	324	⇑P	P	10 50 52.5 +1.3
	baz=54					
P23A	Jefferson	53.96	335	⇓P	P	10 50 52.7 +0.9
	baz=54					
R20A	Redvale	54.10	332	⇓P	P	10 50 53.7 +1.0
	baz=54					
W13A	Hualapai Mount	54.53	326	⇑P	P	10 50 56.5 +0.6
	baz=55					
P22A	Eagle	54.53	334	⇑P	P	10 50 56.6 +0.8
	baz=55					
IRM	Iron Mountain	54.58	324	⇑P	P	10 50 57.1 +1.1
	baz=55					
U15A	North Rim	54.65	328	⇓P	P	10 50 57.6 +0.8
	baz=55					
O23A	Lake Granby, G	54.70	335	⇑P	P	10 50 58.0 +0.9
	baz=55					
P21A	Newcastle	54.77	334	⇓P	P	10 50 59.1 +1.5
	baz=55					
K29A	Lazy Trails An	54.90	341	⇑P	P	10 50 58.7 +0.4
	baz=55					
O22A	Kremmling	54.91	335	⇓P	P	10 50 58.7 +0.1
	baz=55					
BELC	Belle Mtn. Jos	54.96	323	⇓P	P	10 50 59.2 +0.2
	baz=55					
PFO	Pinyon Flat Ob	54.97	322	⇓P	P	10 50 59.5 +0.5
	baz=55					
P20A	De Beque	55.17	333	⇑P	P	10 51 00.8 +0.4
	baz=55					
L26A	Underwood Farm	55.18	339	⇑P	P	10 51 01.2 +0.8
	baz=56					
SPMN	St. Paul	55.31	349	⇑P	P	10 51 01.1 +0.1
	baz=56					
GMRC	Granite Mounta	55.31	324	⇓P	P	10 51 01.6 +0.2
	baz=56					
M24A	Cheyenne	55.33	337	⇓P	P	10 51 01.9 +0.4
	baz=56					
O21A	Pagoda	55.35	334	⇑P	P	10 51 01.9 +0.1
	baz=56					
P19A	Cripple Cowboy	55.54	333	⇓P	P	10 51 03.5 +0.4
	baz=56					
O20A	White River Ci	55.62	334	⇓P	P	10 51 04.0 +0.4
	baz=56					
J28A	Allard Ranch,	55.79	341	⇑P	P	10 51 06.6 +1.9
	baz=56					
K26A	Motz Farm, Whi	55.80	339	⇑P	P	10 51 07.2 +2.5
	baz=56					
N21A	Black Mountain	55.82	335	⇓P	P	10 51 05.6 +0.5
	baz=56					
SRU	San Rafael	55.84	331	*e*P	P	10 51 06.1 +0.9
	6.5nm,1.1s					
CCUT	Cedar City	56.06	328	*e*P	P	10 51 08.3 +1.4
	4.8nm,1.1s					
O19A	Miners Draw (B	56.14	333	⇓P	P	10 51 08.3 +0.9
	baz=56					
MVU	Marysvale	56.19	329	*e*P	P	10 51 08.7 +0.8
	5.3nm,1.0s					
MVU				*e*pP	pP	10 51 20.1 0.0
N20A	Spence Gulch,	56.20	334	⇑P	P	10 51 08.5 +0.6
	baz=56					
SHPR	Sheep Range	56.26	326	*e*P	P	10 51 08.6 +0.3
J26A	Sides Ranch, S	56.30	340	⇑P	P	10 51 08.8 +0.5
	baz=57					
GSC	Goldstone	56.35	324	*e*P	P	10 51 09.8 +1.0
	3.6nm,0.9s					
GSC				*e*pP	pP	10 51 21.7 +0.7
GSC	Goldstone	56.35	324	⇑P	P	10 51 09.4 +0.6
	baz=57					
M21A	Separation Pea	56.46	335	⇑P	P	10 51 10.4 +0.8
	baz=57					
J25A	Sunshine Ranch	56.62	339	⇓P	P	10 51 11.0 +0.4
	baz=57					
I27A	Quinn	56.63	341	⇑P	P	10 51 11.2 +0.6
	baz=57					
M20A	Sweetwater, Wa	56.71	335	⇓P	P	10 51 11.9 +0.5
	baz=57					
EDW2	Edwards Air Fo	56.76	322	⇑P	P	10 51 12.1 +0.3
	baz=57					
K22A	Casper	57.00	337	⇑P	P	10 51 13.6 +0.2
	baz=57					
I25A	Rochford	57.15	340	⇓P	P	10 51 15.0 +0.5
	baz=57					
FURC	Furnace Creek,	57.20	325	⇑P	P	10 51 15.9 +1.2
	baz=57					
MPMC	Manual Prospec	57.27	324	⇓P	P	10 51 16.0 +0.5
	baz=58					
ARVC	Arvin	57.43	322	⇓P	P	10 51 17.5 +1.1
	baz=58					
ISA	Isabella	57.58	323	⇓P	P	10 51 18.1 +0.6
	baz=58					
J22A	Midwest	57.63	337	⇑P	P	10 51 18.4 +0.6
	baz=58					
H25A	Fruitdale	57.63	340	⇓P	P	10 51 18.6 +0.9
	baz=58					
L19A	Farson	57.71	334	⇑P	P	10 51 19.1 +0.6
	baz=58					
K20A	Yellowstone Ra	57.74	335	⇑P	P	10 51 17.8 -0.8
	baz=58					
M17A	Scullys Gap (B	57.78	333	⇑P	P	10 51 19.4 +0.4
	baz=58					
DUG	Dugway	57.79	330	*e*pP	pP	10 51 32.0 +0.8
DUG	Dugway	57.79	330	⇑P	P	10 51 19.9 +0.9
	baz=58					
R11A	Troy Canyon, C	57.83	327	*e*P	P	10 51 20.1 +0.8
	4.0nm,1.0s					
R11A				*e*pP	pP	10 51 32.0 +0.4
R11A	Troy Canyon, C	57.83	327	⇑P	P	10 51 20.1 +0.8
	baz=58					
G26A	Maurine	57.90	341	⇑P	P	10 51 20.0 +0.4
	baz=58					
J21A	Lysite	57.95	336	⇑P	P	10 51 20.4 +0.3
	baz=58					
I22A	9 Mile Ranch,	58.04	337	⇓P	P	10 51 21.2 +0.5
	baz=58					
VES	Vestal, Richgr	58.07	323	⇑P	P	10 51 21.6 +0.8
	baz=58					
G25A	Newell	58.08	340	⇓P	P	10 51 21.1 +0.3
	baz=58					
G27A	Dupree	58.08	341	⇓P	P	10 51 19.2 -1.6
	baz=58					
J20A	Shoshoni	58.21	336	⇑P	P	10 51 22.6 +0.8
	baz=58					
F27A	Lemmon	58.24	342	⇓P	P	10 51 22.1 +0.2
	baz=58					
SMMC	Simmler	58.27	322	⇓P	P	10 51 22.5 +0.2
	baz=58					
I21A	Big Trails, Te	58.28	337	⇑P	P	10 51 22.3 -0.1
	baz=58					
HWUT	Hardware Ranch	58.30	332	*e*P	P	10 51 22.1 -0.5
	13nm,1.2s					
PDAR	Pinedale Array	58.34	334	P	P	10 51 22.5 -0.4
PDAR				PcP	PcP	10 52 11.8 -1.7
PDAR	Pinedale Array	58.34	334	P	P	10 51 22.5 -0.4
	1.3nm,0.9s,baz=134,slow=8.5,SNR=11					
PDAR				PcP	PcP	10 52 11.8 -1.7
	0.9nm,0.9s,baz=103,slow=4.7,SNR=4.0					
PDAR				LR	LR	11 17 13.8
	comp=Z,57nm,19.1s,baz=339,slow=37					
D30A	Buchanan	58.44	345	⇓P	P	10 51 23.5 +0.3
	baz=59					
E28A	Huff	58.48	343	⇑P	P	10 51 24.1 +0.6
	baz=59					
G24A	Alzada	58.53	340	⇓P	P	10 51 24.8 +0.7
	baz=59					
E27A	Carson	58.60	342	⇑P	P	10 51 25.1 +0.7
	baz=59					
I20A	Worland	58.73	336	⇓P	P	10 51 27.6 +2.2
	baz=59					
I19A	Meeteetse	59.15	336	⇓P	P	10 51 28.4 -0.1
	baz=59					
I18A	Diamond G Ranc	59.21	335	⇑P	P	10 51 28.2 -0.8
	baz=60,SNR=5.5					
F23A	Volborg	59.22	339	⇑P	P	10 51 28.7 0.0
	baz=60					
MDND	Maddock	59.34	345	⇓P	P	10 51 30.4 +0.9
	baz=60					
ELK	Elko	59.41	329	*e*P	P	10 51 31.0 +0.6
	5.9nm,1.0s					
ELK				*e*pP	pP	10 51 42.4 -0.3
RRI2	Red Ridge	59.57	334	*e*P	P	10 51 31.8 +0.3
	6.8nm,0.9s					
B30A	Myrvik Farm, E	59.58	346	⇑P	P	10 51 31.3 +0.3
	baz=60					
D25A	Fairfield	59.78	342	⇑P	P	10 51 32.9 +0.3
	baz=60					
G20A	Bridger	59.82	337	⇑P	P	10 51 33.3 +0.3
	baz=60					
B29A	Wagenman Farm,	59.84	345	⇓P	P	10 51 33.2 +0.3
	baz=60					
H18A	Shoshone NF, C	59.95	336	⇓P	P	10 51 34.1 +0.1
	baz=60					
A30A	Hoffart Farm,	60.02	346	⇑P	P	10 51 34.3 +0.2
	baz=60					
I16A	Newdale	60.06	334	⇓P	P	10 51 34.3 -0.4
	baz=60,SNR=5.8					
D24A	Glendive	60.07	341	⇑P	P	10 51 35.0 +0.4
	baz=60					
WAKR	Walker	60.08	325	*e*P	P	10 51 34.7 -0.3
A29A	Manning Farm,	60.24	345	⇓P	P	10 51 35.6 0.0
	baz=60					
C25A	Freed Ranch, W	60.26	342	⇓P	P	10 51 36.3 +0.5
	baz=60					
G18A	Lazy EL Ranch,	60.43	336	⇑P	P	10 51 37.1 -0.1
	baz=61					
F19A	Roth Farm, Mol	60.63	337	⇓P	P	10 51 38.2 -0.3
	baz=61,SNR=6.7					
D22A	Cohagen	60.72	340	⇓P	P	10 51 38.8 -0.2
	baz=61,SNR=6.2					
A27A	Ledoux Ranch,	60.79	344	⇑P	P	10 51 40.0 +0.6
	baz=61					
GCMT	Greycliff	60.87	336	*e*P	P	10 51 39.7 -0.4
	5.9nm,1.0s					
E20A	Meyer Farm, Mu	60.87	338	⇑P	P	10 51 40.4 +0.4
	baz=61					
PAHR	Pah Rah Range	60.88	326	*e*P	P	10 51 41.5 +1.1
	10.0nm,1.0s					
PAHR				*e*pP	pP	10 51 53.3 +0.6
D21A	La Casta Ranch	60.93	339	⇓P	P	10 51 40.2 -0.2
	baz=61,SNR=5.8					
C23A	Lambert	60.95	341	⇓P	P	10 51 41.2 +0.7
	baz=61					
E19A	Rath Farm, Rou	61.08	337	⇓P	P	10 51 41.2 -0.3
	baz=61,SNR=6.3					
C22A	Vida	61.14	340	⇓P	P	10 51 41.9 +0.1
	baz=61					
HLID	Hailey	61.14	332	*e*P	P	10 51 42.3 +0.2
	28nm,2.4s					
HLID	Hailey	61.14	332	⇓P	P	10 51 42.4 +0.4
	baz=61					
DGMT	Dagmar	61.23	342	⇓P	P	10 51 42.6 +0.2
	baz=62					
A25A	Svangstu Ranch	61.31	343	⇓P	P	10 51 43.4 +0.5
	baz=62					
D20A	Manuel Ranch,	61.37	338	⇓P	P	10 51 43.8 +0.4
	baz=62					
B23A	Brockton	61.47	341	⇓P	P	10 51 44.6 +0.6
	baz=62					
A24A	Westby	61.57	342	⇑P	P	10 51 45.3 +0.6
	baz=62					
C21A	Desert Coulee	61.62	339	⇑P	P	10 51 44.7 -0.3
	baz=62,SNR=5.3					
MFID	Camas Ranch	61.70	331	⇓P	P	10 51 46.2 +0.4
	baz=62					
D19A	Cripps Ranch,	61.70	338	⇑P	P	10 51 45.3 -0.4
	baz=62,SNR=6.4					
DLMT	Dillon	61.73	334	*e*P	P	10 51 46.3 +0.3
	8.4nm,1.4s					
C20A	Veseth Ranch,	61.85	339	⇑P	P	10 51 46.7 +0.2
	baz=62					
A23A	Redstone	61.87	341	⇑P	P	10 51 47.4 +0.7
	baz=62					
B21A	Ellsworth Farm	62.11	340	⇓P	P	10 51 48.4 +0.1
	baz=62					
A22A	Carney Farms,	62.23	341	⇑P	P	10 51 49.2 0.0
	baz=62					
C19A	Slack Wire Ran	62.24	338	⇑P	P	10 51 49.0 -0.3
	baz=62,SNR=5.3					
B20A	Solberg Farm,	62.47	339	⇓P	P	10 51 50.2 -0.6
	baz=63					
A21A	Bergtoll Ranch	62.56	340	⇑P	P	10 51 51.4 0.0
	baz=63					
EGMT	Eagleton	62.75	338	⇑P	P	10 51 52.4 -0.3
	baz=63					
A20A	Cobblestone Ra	62.81	339	⇓P	P	10 51 53.7 +0.6
	baz=63					
B19A	Brinkman Farms	62.81	339	⇑P	P	10 51 53.5 +0.5
	baz=63					
MOD	Modoc	62.90	327	*e*P	P	10 51 54.5 +0.6
	37nm,0.8s					
A19A	Klindworth Far	63.14	339	⇓P	P	10 51 55.0 -0.3
	baz=63,SNR=6.2					
MSO	Missoula	63.46	334	*e*P	P	10 51 57.9 +0.5
	8.5nm,1.1s					
MSO	Missoula	63.46	334	⇓P	P	10 51 57.8 +0.4
	baz=64					
K05A	Summer Lake	63.78	327	*e*P	P	10 52 01.2 +1.5
	30nm,1.4s					
K05A				*e*pP	pP	10 52 13.2 +1.0
I07A	Izee	64.01	329	*e*P	P	10 52 01.5 +0.4
	79nm,2.7s					
I07A				*e*pP	pP	10 52 14.1 +0.6
F10A	Beach Ranch, E	64.27	332	*e*P	P	10 52 03.3 +0.5
	96nm,2.8s					
PINOR	Pine Mountain	64.52	328	*e*P	P	10 52 05.6 +1.3
	63nm,2.4s					
BSMT	Bassoo Peak	64.62	335	*e*P	P	10 52 05.8 +0.6
NEW	Newport	65.94	334	*e*P	P	10 52 13.6 +0.1
	4.4nm,0.9s					
NEW	Newport	65.94	334	⇑P	P	10 52 13.5 +0.1
	baz=66					
VNA2	Neumayer--Watz	75.73	161	*e*P	P	10 53 13.0 +0.4
DBIC	Dimbokro	76.18	81	P	P	10 53 16.6 +0.4
DBIC	Dimbokro	76.18	81	P	P	10 53 16.6 +0.4
	4.5nm,0.8s,baz=255,slow=3.9,SNR=5.8					
DBIC				LR	LR	11 24 02.2
	comp=Z,76nm,18.2s,baz=287,slow=34					
YKA	Yellowknife Ar	76.26	344	P	P	10 53 14.4 -1.2
YKA	Yellowknife Ar	76.26	344	P	P	10 53 14.4 -1.2
	1.5nm,0.6s,baz=144,slow=6.0,SNR=21					
SNAA	Sanae	77.32	162	*e*P	P	10 53 21.3 -0.4
SNAA	Sanae	77.32	162	*e*P	P	10 53 21.3 -0.4
	8.6nm,0.9s					
QSPA	South Pole Qui	81.06	180	P	P	10 53 42.9 +0.7
	20nm,1.0s					
TORD	Torodi Ar. Bea	83.74	76	P	P	10 53 57.0 0.0
TORD	Torodi Ar. Bea	83.74	76	P	P	10 53 57.0 0.0
	5.0nm,0.8s,baz=267,slow=5.1,SNR=24					
TORD				LR	LR	11 28 23.1
	comp=Z,75nm,21.3s,baz=270,slow=34					
ESDC	Sonseca Array	84.91	49	P	P	10 54 02.7 +0.1
ESDC	Sonseca Array	84.91	49	P	P	10 54 02.7 +0.1
	0.2nm,0.3s,baz=257,slow=3.9,SNR=6.9					
SUMG	Summit	85.71	11	*i* P	P	10 54 06.0 -0.3
	9.7nm,0.7s					
SUMG	Summit	85.71	11	*e*P	P	10 54 05.9 -0.4
	5.2nm,0.6s					
EGAK	Eagle	86.51	338	*e*P	P	10 54 09.0 -0.8
	12nm,0.8s					
VNDA	Vanda	87.13	191	*e*P	P	10 54 13.4 +0.7
	1.2nm,1.0s					
VNDA	Vanda	87.13	191	LR	LR	11 25 49.8
	comp=Z,96nm,21.5s,baz=269,slow=30					
ILAR	Eielson Array	88.70	337	P	P	10 54 19.4 -1.0
ILAR	Eielson Array	88.70	337	P	P	10 54 19.4 -1.0
	2.2nm,0.8s,baz=150,slow=3.7,SNR=22					
ILAR				LR	LR	11 34 06.2
	comp=Z,41nm,21.1s,baz=132,slow=36					
SYO	Syowa Base	91.61	162	*e*PcP	P	10 54 33.0 -1.0
TSUM	Tsumeb	93.83	110	*e*P	P	10 54 45.1 -0.4
	6.2nm,1.2s					
KEST	Kesra	94.42	55	LR	LR	11 33 51.4
	comp=Z,22nm,20.5s,baz=259,slow=33					
NOA	NORSAR Array B	98.28	29	LR	LR	11 33 28.8
	comp=Z,20nm,18.7s,baz=350,slow=32					
BOSA	Boshof	98.58	121	LR	LR	11 37 26.2
	comp=Z,114nm,18.5s,baz=75,slow=34					
GERES	GERESS Array B	98.96	42	LR	LR	11 41 04.6
	comp=Z,27nm,18.4s,baz=123,slow=36					
MAW	Mawson	98.98	166	LR	LR	11 42 22.3
	comp=Z,53nm,20.5s,baz=185,slow=37					
KBZ	Khabaz	119.55	45	PKP	PKPdf	11 00 17.0 -0.1
KBZ	Khabaz	119.55	45	PKP	PKPdf	11 00 17.0 -0.1
	2.1nm,0.9s,baz=321,slow=4.0,SNR=4.9					
STKA	Stephens Creek	123.33	222	PKP	PKPdf	11 00 24.6 -0.3
STKA	Stephens Creek	123.33	222	PKP	PKPdf	11 00 24.6 -0.3
	1.7nm,0.9s,baz=254,slow=2.6,SNR=5.6					
ABKAR	Akbulak array	127.66	32	*e*PKPdf	PKPdf	11 00 32.3 -0.3
ZALV	Zalesovo Beam	133.52	13	PKP	PKPdf	11 00 43.1 -0.4
ZALV	Zalesovo Beam	133.52	13	PKP	PKPdf	11 00 43.1 -0.4
	1.1nm,0.5s,baz=247,slow=3.1,SNR=7.7					
ASAR	Alice Springs	133.80	225	PKP	PKPdf	11 00 44.5 -0.5
ASAR	Alice Springs	133.80	225	PKhKP	PKPpre	11 00 33.4
	0.4nm,0.7s,baz=142,slow=2.0,SNR=5.2					
ASAR				PKP	PKPdf	11 00 44.5 -0.5
	1.9nm,0.8s,baz=115,slow=2.2,SNR=31					
WRA	Warramunga Arr	135.83	229	PKPpre	PKPpre	11 00 42.1
WRA				PKP	PKPdf	11 00 48.2 -0.6
WRA	Warramunga Arr	135.83	229	PKhKP	PKPpre	11 00 42.1
	4.3nm,0.8s,baz=121,slow=2.0,SNR=15					
WRA				PKP	PKPdf	11 00 48.2 -0.6
	4.0nm,0.7s,baz=127,slow=1.8,SNR=29					
CN2	Changchun	139.05	332	*e*PKP	PKPdf	11 00 50.4 -3.7
MKAR	Makanchi Array	139.36	19	PKP	PKPdf	11 00 54.0 -0.6
MKAR	Makanchi Array	139.36	19	PKhKP	PKPpre	11 00 45.6
	0.2nm,0.6s,baz=316,slow=4.0,SNR=2.4					
MKAR				PKP	PKPdf	11 00 54.0 -0.6
	1.0nm,0.9s,baz=300,slow=2.4,SNR=5.8					
SONM	Songino Array	141.01	354	PKPpre	PKPpre	11 00 50.5
SONM				PKP	PKPdf	11 00 56.9 -0.8
SONM	Songino Array	141.01	354	PKhKP	PKPpre	11 00 50.5
	0.4nm,0.5s,baz=2.9,slow=2.9,SNR=3.4					
SONM				PKP	PKPdf	11 00 56.9 -0.8
	0.9nm,0.7s,baz=340,slow=2.4,SNR=5.8					
KSRS	Korea Array	142.30	323	PKP	PKPdf	11 00 59.2 -0.9
	1.9nm,0.9s,baz=46,slow=1.8,SNR=8.0					
KSAR	Wonju Array Be	142.33	323	PKP	PKPdf	11 00 59.2 -0.9
KSH	Kashi	142.66	32	*e*PKP	PKPdf	11 01 01.3 +0.4
KSH				pPKP	pPKPdf	11 01 11.9 -2.4
KSH				PP	PP	11 04 12.4 +3.9
KSH				PKS	PKSdf	11 04 35.6 -1.2
KSH				SKS	SKSdf	11 08 05.8 -1.8
KSH				SKKS	SKKSac	11 10 58.3 -0.8
KSH				AMB	AMB	
	comp=Z,31nm,5.6s					
KSH				LR	LR	
	comp=N,68nm,4.8s					
KSH				LR	LR	
	comp=E,54nm,5.7s					
KSH				LR	LR	
	comp=Z,98nm,10.5s					
WMQ	Urumqi	143.66	15	*e*PKP	PKPdf	11 01 03.3 +0.8
WMQ				LR	LR	
	comp=N,400nm,21.0s					
WMQ				LR	LR	
	comp=Z,28nm,18.6s					
BJI	Beijing	146.06	338	PKPbc	PKPdf	11 01 04.9 -1.7
HHC	Hu-ho-hao-te	146.80	344	*e*PKPbc	PKPbc	11 01 09.0 -0.8
HHC				pPKP	pPKPdf	11 01 21.4 0.0
HHC				sPKP		11 01 25.0
HHC				PP	PP	11 04 39.1 +6.4
HHC				SKS	SKSdf	11 08 12.9 -0.8
HHC				SKKS	SKKSac	11 11 24.4 +2.0
HHC				SS	SS	11 23 32.8 +4.3
HHC				AMB	AMB	
	comp=Z,130nm,7.7s					
HHC				LR	LR	
	comp=N,210nm,19.0s					
HHC				LR	LR	
	comp=E,210nm,19.0s					
HHC				LR	LR	
	comp=Z,210nm,20.2s					
LZH	Lanzhou	152.90	354	*e*PKPbc	PKPdf	11 01 16.5 -1.4
LZH				pPKP	pPKPdf	11 01 30.4 -0.8
LZH				sPKP		11 01 35.3
LZH				LR	LR	
	comp=N,140nm,18.0s					
LZH				LR	LR	
	comp=E,130nm,18.3s					
LZH				LR	LR	
	comp=Z,170nm,20.1s					
CD2	Chengdu	158.02	352	PKP	PKPdf	11 01 23.6 -1.1
GYA	Guiyang	161.67	342	*e*PKP	PKPdf	11 01 26.8 -2.3
GYA				sPKP		11 01 46.0
GYA				PKS	PKSdf	11 04 58.9 -3.7
GYA				PP	PP	11 05 58.8 +2.5
GYA				AMB	AMB	
	comp=Z,70nm,8.0s					
KMI	Kunming	163.85	352	PKP	PKPdf	11 01 28.5 -2.9
CMAR	Chiang Mai Arr	170.55	8	PKP	PKPdf	11 01 35.6 -0.5
CMAR				PKPab	PKPab	11 02 52.0 -1.2
CMAR	Chiang Mai Arr	170.55	8	PKP	PKPdf	11 01 35.6 -0.5
	comp=Z,0.9nm,0.3s,baz=231,slow=0.6,SNR=5.5					
CMAR				PKPab	PKPab	11 02 51.9 -1.2
	comp=Z,3.6nm,0.8s,baz=332,slow=5.6,SNR=16					

MEX 14 10:46:27.4±0.7, 17°18N×95°12W, h125km±6km, MD3.5, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.24	111	*i* P	Pn	10 46 43.5	-1.3
CMIG				*i* S	Sn	10 46 55.6	-2.2
VHO	Vista Hermosa	1.55	266	*e*P	Pn	10 46 54.8	-1.2
VHO				*i* S	Sn	10 47 16.0	-1.7
HUIG	Huatulco	1.69	214	*e*P	Pn	10 46 55.5	-1.9
HUIG				*i* S	Sn	10 47 18.9	-1.4
TGIG		1.95	101	*i* P	Pn	10 46 59.3	-1.3
TGIG				*i* S	Sn	10 47 24.6	-1.4
PCIG		2.34	128	*e*P	Pn	10 47 04.5	-0.8
PCIG				*e*S	Sn	10 47 33.6	-0.8

JMA 14 11:07:49.0±0.4, 44°47N×149°02E, h30km, M3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	2.61	246	P	Pn	11 08 27.9	-1.2
NEM2				*e*S	Sn	11 08 56.7	-3.1
JRA	Rausu	2.85	261	P	Pn	11 08 33.8	+1.4
JNK	Nakash	3.23	256	P	Pn	11 08 37.9	+0.3
JAK	Akkeshi	3.46	246	P	Pn	11 08 40.1	-0.7
JAK				*e*S	Sn	11 09 18.2	-2.6
JTKR	Abashiri--Toko	3.71	264	P	Pn	11 08 45.9	+1.7
JAR	Ashorobuto	3.97	255	P	Pn	11 08 48.9	+1.1
JAR				*e*S	Sn	11 09 33.9	+0.5
JCH	Churui	4.51	248	P	Pn	11 08 55.3	+0.1

JRG	Rokugo	8.05	234	*e*S	Sn	11 11 06.9	-6.8

MEX 14 11:15:40.8±0.6, 16°.85N×95°.29W, h98km±7km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.46**	**58**	*i* P	Pn	11 15 54.9	-1.2
CMIG				*i* S	Sn	11 16 05.7	-1.8
HUIG	**Huatulco**	**1.33**	**216**	*i* P	Pn	11 16 03.2	-1.7
HUIG				*i* S	Sn	11 16 22.0	-1.1
VHO	**Vista Hermosa**	**1.40**	**279**	*e*P	Pn	11 16 05.0	-1.0
VHO				*i* S	Sn	11 16 23.2	-1.8
TGIG		**2.08**	**92**	*e*P	Pn	11 16 13.7	-0.7
TGIG				*i* S	Sn	11 16 39.2	-0.8
PCIG		**2.29**	**119**	*e*P	Pn	11 16 16.5	-0.6
PCIG				*e*S	Sn	11 16 43.7	-1.1

MEX 14 11:32:07.9±0.5, 17°.35N×101°.39W, h16km±32km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**1.11**	**105**	*e*P	Pb	11 32 25.1	-3.7
CAIG				*i* S	Sb	11 32 38.3	-4.7
ARIG	**Puente Sto Nin**	**1.36**	**47**	*i* P	Pn	11 32 28.7	-3.5
ARIG				*i* S	Sn	11 32 44.5	-5.5
MEIG	**Mezcala**	**1.78**	**71**	*e*P	Pn	11 32 34.9	-3.2
MEIG				*e*S	Sn	11 32 56.1	-4.4
PLIG	**Platanillo**	**2.08**	**60**	*e*P	Pn	11 32 39.9	-2.3
PLIG				*e*S	Sn	11 33 03.7	-4.1
YAIG	**Yautepec**	**2.67**	**55**	*i* P	Pn	11 32 47.8	-2.7
YAIG				*i* S	Sn	11 33 19.4	-3.3

*IDC **14** 11:33:05.3±1.8, 2°.94S×129°.50E, h0km, mb3.5/2, mb1 3.7/4, mb1mx3.5/21, mbtmp3.5/4, ML3.3/2, Error ellipse: s-maj=105.7km s-min=26.9km az=73.0*
*ISCJB **14** 11:33:07.9±1.0, 2°.95S±0°.09×129°.7E±0°.2, h33km, mb3.6/2, Error ellipse: s-maj=25.5km s-min=11.9km az=10.9*
*AUST **14** 11:33:09.3, 2°.49S×129°.51E, h100km*
ISC 14 11:33:09.2±1.0, 2°.9S±0°.1×129°.5E±0°.1, h35km, n11, σ2°.18/9, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**1.54**	**240**	P	Pn	11 33 39.7	+5.5
	baz=1.8,SNR=7.5						
SWI	**Sorong**	**2.67**	**40**	P	**Pn**	**11 33 49.5**	**-0.2**
	baz=2.4,SNR=26						
MTN	**Manton Dam**	**9.99**	**171**	S	Sn	11 37 36.7	+16
	baz=10,SNR=6.3						
KDU	**Kakadu**	**10.13**	**163**	P	**Pn**	**11 35 34.3**	**+2.1**
	baz=11,SNR=4.3						
JAY	**Jayapura**	**11.16**	**88**	P	**Pn**	**11 35 44.1**	**-2.3**
	baz=11,SNR=3.0						
WSI	**Waingapu**	**11.37**	**233**	S	**Sn**	**11 37 51.9**	**-3.2**
	baz=12,SNR=6.7						
KNRA	**Kununurra**	**12.70**	**183**	P	Pn	11 36 13.3	+5.9
	baz=13,SNR=3.4						
FITZ	**Fitzroy Crossi**	**15.56**	**194**	Pn	**Pn**	**11 36 47.0**	**+0.9**
	0.1nm,0.3s,baz=36,slow=14,SNR=3.1						
WRA	**Warramunga Arr**	**17.56**	**165**	P	**Pn**	**11 37 09.9**	**-1.4**
	0.2nm,0.3s,baz=347,slow=13,SNR=16						
ASAR	**Alice Springs**	**21.05**	**169**	P	**P**	**11 37 51.4**	**+1.0**
	1.1nm,0.5s,baz=348,slow=10,SNR=28						
ASAR				PcP	**PcP**	**11 41 58.2**	**+1.8**
	0.2nm,0.7s,baz=4.8,slow=1.1,SNR=4.2						
MKAR	**Makanchi Array**	**64.59**	**326**	P	**P**	**11 43 44.3**	**+1.2**
	0.3nm,0.4s,baz=115,slow=7.4,SNR=4.4						

IDC 14 11:36:12.7±7.1, 20°.87N×144°.54E, h103km±64km, mb3.5/12, mb1 3.7/13, mb1mx3.6/25, mbtmp3.5/13, ML3.6/1, Error ellipse: s-maj=33.0km s-min=14.2km az=89.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNU	**Nakatsue**	**17.21**	**318**	P	Pn	11 40 07.4	+0.6
	0.2nm,0.3s,baz=130,slow=9.0,SNR=5.9						
KSRS	**Korea Array**	**21.93**	**322**	P	P	11 40 59.0	+1.2
	2.2nm,0.8s,baz=146,slow=8.9,SNR=10						
SONM	**Songino Array**	**40.78**	**320**	P	P	11 43 43.5	-0.4
	0.3nm,0.6s,baz=126,slow=7.3,SNR=3.4						
WRA	**Warramunga Arr**	**41.77**	**194**	P	P	11 43 51.8	-0.4
	0.9nm,0.7s,baz=17,slow=8.7,SNR=11						
FITZ	**Fitzroy Crossi**	**42.94**	**207**	P	P	11 44 01.2	-0.4
	1.8nm,0.8s,baz=50,slow=3.7,SNR=4.7						
ASAR	**Alice Springs**	**45.47**	**194**	P	P	11 44 21.6	-0.2
	0.7nm,0.7s,baz=14,slow=8.9,SNR=13						
MKAR	**Makanchi Array**	**56.19**	**313**	P	P	11 45 42.1	+0.2
	0.8nm,0.7s,baz=91,slow=10.0,SNR=6.2						
ILAR	**Eielson Array**	**62.20**	**27**	P	P	11 46 21.6	-1.4
	0.5nm,0.7s,baz=262,slow=5.3,SNR=6.9						
YKA	**Yellowknife Ar**	**76.59**	**28**	P	P	11 47 52.0	+0.4
	1.1nm,0.8s,baz=294,slow=5.3,SNR=4.2						
ARCES	**ARCESS Array B**	**80.10**	**342**	P	P	11 48 10.3	-0.5
	2.3nm,0.8s,baz=81,slow=9.0,SNR=7.6						
FINES	**FINESS Array B**	**84.47**	**335**	P	P	11 48 33.2	-0.4
	2.4nm,0.7s,baz=143,slow=6.7,SNR=3.7						
PDAR	**Pinedale Array**	**87.08**	**45**	P	P	11 48 48.4	+1.0
	0.4nm,0.7s,baz=264,slow=2.8,SNR=4.4						
BRTR	**Keskin Array B**	**91.83**	**314**	P	P	11 49 09.3	-0.3
	1.0nm,1.0s,baz=64,slow=6.6,SNR=2.8						
LPAZ	**La Paz**	**148.73**	**87**	PKPbc	PKPbc	11 55 50.8	+1.1
	0.8nm,0.6s,baz=256,slow=4.1,SNR=4.6						

*IDC **14** 11:47:27.8±1.1, 0°.18N×119°.95E, h0km, mb3.8/8, mb1 3.9/9, mb1mx3.7/24, mbtmp3.8/9, ML3.9/1, Error ellipse: s-maj=47.2km s-min=15.5km az=79.0*
*DJA **14** 11:47:31.4±0.9, 0°.N±3°.×11°.9E±°, h13km±7km, M4.3/14, mb4.4/2, MLv4.3/14*
ISC 14 11:47:28.8±1.9, 0°.09N±0°.04×119°.57E±0°.05, h10km±12km, n24, σ1°.97/30, mb3.7/8, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOLI	**Toli-Toli**	**1.59**	**50**	P	**Pb**	**11 47 57.6**	**-0.8**
TOLI				S	**Sg**	**11 48 23.9**	**+3.8**
SGKI	**Sangatta, Kali**	**2.06**	**253**	P	**Pn**	**11 48 03.7**	**+0.2**
APSI	**Ampana**	**2.31**	**116**	P	**Pg**	**11 48 12.0**	**-1.0**
APSI				S	**Sg**	**11 48 43.6**	**+0.6**
MRSI	**Marisa**	**2.40**	**81**	P	**Pb**	**11 48 11.0**	**-1.2**
MRSI				S	**Sb**	**11 48 42.4**	**+0.5**
MMSI	**Mamuju**	**2.84**	**193**	P	**Pn**	**11 48 14.4**	**+0.1**
MMSI				S	**Sn**	**11 48 48.5**	**-0.2**
BKB	**Balikpapan**	**2.99**	**243**	P	**Pn**	**11 48 16.9**	**+0.6**
LUWI	**Luwuk**	**3.40**	**109**	P	**Pb**	**11 48 26.8**	**-2.3**
LUWI				S	**Sb**	**11 49 08.9**	**-1.6**
GTOI	**Gorontalo**	**3.48**	**81**	P	**Pn**	**11 48 24.8**	**+1.7**
GTOI				S	**Sb**	**11 49 11.1**	**-1.9**
MJSI	**Majene**	**3.67**	**189**	P	**Pn**	**11 48 28.8**	**+3.2**
SPSI	**Sidrap Palu**	**4.04**	**177**	P	**Pn**	**11 48 33.4**	**+2.7**
KMSI	**Cibinong**	**4.44**	**84**	P	Pn	11 48 39.8	+3.6
BNSI	**Bone**	**4.50**	**173**	P	**Pn**	**11 48 39.8**	**+2.8**
BNSI				S	**Sn**	**11 49 33.3**	**+3.8**
KKSI	**Kolaka, Sulawe**	**4.72**	**154**	P	Pn	11 48 43.4	+3.3
KAPI	**Kappang**	**5.08**	**178**	Pn	**Pn**	**11 48 46.3**	**+1.3**
	4.3nm,0.3s,baz=211,slow=2.7,SNR=4.2						
KAPI				Sn	**Sn**	**11 49 45.8**	**+2.0**
	1.9nm,0.3s,baz=173,slow=20,SNR=6.4						
MYLDM	**Lahad Datu**	**5.16**	**348**	P	**Pn**	**11 48 48.5**	**+2.3**
	51nm,0.8s,0.2nm						
BKSI	**Bulukumba**	**5.41**	**174**	P	**Pn**	**11 48 51.7**	**+2.1**
WRA	**Warramunga Arr**	**24.61**	**145**	P	**P**	**11 52 48.5**	**-1.1**
	0.5nm,0.4s,baz=324,slow=9.6,SNR=17						
ASAR	**Alice Springs**	**27.42**	**150**	P	**P**	**11 53 14.9**	**0.0**
	0.2nm,0.4s,baz=347,slow=14,SNR=12						
STKA	**Stephens Creek**	**38.02**	**149**	P	**P**	**11 54 46.5**	**-0.8**
	1.6nm,0.8s,baz=334,slow=8.2,SNR=3.2						
MJAR	**Matsushiro Arr**	**40.18**	**24**	P	**P**	**11 55 03.1**	**-2.3**
	0.8nm,0.8s,baz=213,slow=11,SNR=5.4						
ASAJ	**Asahikawa**	**48.40**	**22**	P	**P**	**11 56 09.8**	**-1.2**
	3.3nm,0.7s,baz=248,slow=12,SNR=4.2						
SONM	**Songino Array**	**48.91**	**348**	P	**P**	**11 56 14.7**	**-0.4**
	0.3nm,0.5s,baz=155,slow=8.9,SNR=3.0						
MKAR	**Makanchi Array**	**56.78**	**330**	P	**P**	**11 57 15.1**	**+1.9**
	0.6nm,0.6s,baz=129,slow=11,SNR=5.0						
PETK	**Petropavlovsk-**	**61.61**	**25**	P	**P**	**11 57 46.1**	**-0.4**
	3.2nm,0.7s,baz=224,slow=4.1,SNR=4.4						

*CSEM **14** 11:50:07.5±0.1, 48°.27N×15°.13E, h1km, ML1.2/3, Error ellipse: s-maj=4.2km s-min=2.6km az=146.0, Mining explosion.*
VIE 14 11:50:07.7±0.3, 48°.26N×15°.11E, h0km, mb1.3/2, ML1.2/3, 3C-1D, Error ellipse: s-maj=2.5km s-min=1.9km az=5.0 4 km SE of Altenmarkt im Ysper tal Mining explosion., Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CONA	**Conrad Observa**	**0.60**	**123**	⇑*e*Pg	Pg	11 50 18.9	-0.4
	1.6nm,0.2s						
CONA				⇑*e*Sg	Sg	11 50 27.5	+0.2
	0.4nm,0.1s						
CONA	**Conrad Observa**	**0.60**	**123**	Pg	Pg	11 50 18.9	-0.5
	1.6nm,0.2s						
CONA				Sg	Sg	11 50 27.5	+0.2
	0.4nm,0.1s						
MOA	**Molln**	**0.70**	**234**	⇓*i*Pg	Pg	11 50 21.2	+0.1
	0.8nm,0.1s						
MOA				⇑Sg	Sg	11 50 30.8	+0.5
	0.8nm,0.1s						
MOA	**Molln**	**0.70**	**234**	Pg	Pg	11 50 21.2	+0.1
	0.8nm,0.1s						
MOA				Sg	Sg	11 50 30.8	+0.6
	0.8nm,0.1s						
VRAC	**Vranov**	**1.44**	**42**	*e*Pg	Pn	11 50 34.9	-0.1
VRAC				*e*Sg	Sg	11 50 52.9	-1.1

BUC 14 11:52:26.1±0.7, 45°.23N×25°.39E, h5km, MD2.2/2, 4C-2D, Error ellipse: s-maj=7.9km s-min=2.8km az=352.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTUR	**Matau**	**0.23**	**268**	⇓*i*P	Pg	11 52 32.0	+1.3
MTUR	**Matau**	**0.23**	**268**	⇓*i*P	Pg	11 52 32.0	+1.3
VOIR		**0.31**	**311**	⇑*i*P	Pg	11 52 33.0	+0.6
VOIR				S	Sg	11 52 35.4	-1.2
VOIR		**0.31**	**311**	⇑*i*P	Pg	11 52 33.0	+0.6
VOIR				*i* S	Sg	11 52 35.4	-1.2
MLR	**Muntele Rosu**	**0.47**	**57**	⇑*i*P	Pg	11 52 36.0	+0.6
MLR				S	Sb	11 52 44.1	-0.4
MLR	**Muntele Rosu**	**0.47**	**57**	⇑*i*P	Pg	11 52 36.0	+0.6
MLR				*i* S	Sb	11 52 44.1	-0.4

IDC 14 11:54:10.7±16.0, 4°.96S×152°.40E, h100km±146km, mb3.1/3, mb1 3.3/4, mb1mx3.0/18, mbtmp3.1/4, ML3.6/1, MS2.8/1, Ms1 2.8/1, ms1mx2.6/11, Error ellipse: s-maj=114.8km s-min=66.1km az=152.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**8.71**	**121**	LR	LR	11 59 04.9	
	comp=Z,52nm,18.6s,baz=24,slow=34						
CTA	**Charters Tower**	**16.19**	**201**	P	P	11 57 53.1	-0.6
	0.2nm,0.3s,baz=354,slow=9.2,SNR=1.9						
WRA	**Warramunga Arr**	**23.04**	**228**	P	P	11 59 08.3	+0.7
	0.8nm,0.5s,baz=54,slow=10.0,SNR=13						
ASAR	**Alice Springs**	**25.77**	**222**	P	P	11 59 31.6	-0.8
	0.2nm,0.5s,baz=56,slow=9.2,SNR=3.6						
FITZ	**Fitzroy Crossi**	**29.24**	**241**	P	P	12 00 03.5	+0.2
	0.8nm,0.7s,baz=54,slow=9.6,SNR=4.0						
TORD	**Torodi Ar. Bea**	**149.98**	**288**	PKPbc	PKPbc	12 13 50.0	-0.6
	0.2nm,0.5s,baz=96,slow=3.2,SNR=3.7						

*ISCJB **14** 12:07:36.5±0.6, 63°.95N±0°.03×28°.17E±0°.09, h0km, Error ellipse: s-maj=5.4km s-min=4.0km az=2.6*
*CSEM **14** 12:07:39.5, 63°.97N×28°.12E, h0km, ML1.4, Mining explosion. After HEL*
*HEL **14** 12:07:39.5±0.2, 63°.97N×28°.12E, h0km, ML1.4, Explosion*
*IDC **14** 12:07:39.1±1.9, 63°.97N×28°.53E, h0km, mb1 3.0/4, mb1mx2.9/26, mbtmp2.9/4, Error ellipse: s-maj=29.9km s-min=9.9km az=101.0*
ISC 14 12:07:39.0±1.0, 63°.98N±0°.02×28°.02E±0°.04, h0km, n30, σ1°.25/52, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUL	**Oulu**	**1.44**	**321**	PG	**Pn**	**12 08 05.4**	**-0.9**
	baz=137						
OUL				SG	**Sn**	**12 08 26.9**	**+1.0**
OUL				MSG		12 08 26.9	
	comp=Z,1.1nm,0.4s						
OUL	**Oulu**	**1.44**	**321**	Pg	**Pn**	**12 08 05.4**	**-0.9**
OUL				Sg	**Sn**	**12 08 26.9**	**+1.0**
SUF	**Sumiainen**	**1.52**	**215**	PG	**Pn**	**12 08 06.6**	**-0.8**
SUF				SG	**Sn**	**12 08 27.6**	**-0.4**
SUF				MSG		12 08 27.6	
	comp=Z,1.8nm,0.2s						
SUF	**Sumiainen**	**1.52**	**215**	Pg	**Pn**	**12 08 06.6**	**-0.8**
SUF				Sg	**Sn**	**12 08 27.5**	**-0.4**
JOF	**Joensuu**	**1.82**	**124**	PG	**Pn**	**12 08 11.0**	**-0.6**
JOF				SG	**Sn**	**12 08 34.5**	**-0.9**
JOF				MSG		12 08 34.5	
	comp=Z,3.4nm,0.1s						
JOF	**Joensuu**	**1.82**	**124**	Pg	**Pn**	**12 08 10.9**	**-0.6**
JOF				Sg	**Sn**	**12 08 34.4**	**-0.9**
MSF	**Maaselka**	**1.98**	**12**	PN	**Pn**	**12 08 14.0**	**+0.2**
MSF				SG	**Sb**	**12 08 41.1**	**-0.1**
MSF				MSG		12 08 41.1	
	comp=Z,0.5nm,0.2s						
MSF	**Maaselka**	**1.98**	**12**	Pn	**Pn**	**12 08 14.0**	**+0.2**
MSF				Sg	**Sb**	**12 08 41.1**	**-0.1**
KAF	**Kangasniemi**	**2.03**	**203**	PN	**Pn**	**12 08 15.3**	**+0.9**
KAF				SG	**Sb**	**12 08 43.0**	**+0.4**
KAF				MSG		12 08 43.0	
	comp=Z,4.5nm,0.2s						
KAF	**Kangasniemi**	**2.03**	**203**	Pn	**Pn**	**12 08 15.3**	**+0.9**
KAF				Sg	**Sb**	**12 08 43.0**	**+0.4**
KU6	**Riekki**	**2.20**	**20**	PN	**Pn**	**12 08 17.6**	**+0.9**
	baz=196						
KU6				SG	**Sn**	**12 08 45.8**	**+1.1**
KU6				MSG		12 08 45.8	
	comp=Z,0.8nm,0.2s						
KU6	**Riekki**	**2.20**	**20**	Pn	**Pn**	**12 08 17.6**	**+0.9**
KU6				Sg	**Sn**	**12 08 45.7**	**+1.1**
KEF	**Keuruu**	**2.32**	**220**	PN	**Pn**	**12 08 20.4**	**+2.0**
KEF				SG	**Sb**	**12 08 50.2**	**-0.7**
KEF				MSG		12 08 50.2	
	comp=Z,1.6nm,0.2s						
KEF	**Keuruu**	**2.32**	**220**	Pn	**Pn**	**12 08 20.3**	**+2.0**
KEF				Sg	**Sb**	**12 08 50.1**	**-0.7**
VAF	**Ylistaro**	**2.58**	**251**	PN	**Pn**	**12 08 23.6**	**+1.6**
VAF				SG	**Sb**	**12 08 57.6**	**-0.6**
VAF				MSG		12 08 57.6	
	comp=Z,1.3nm,0.2s						
VAF	**Ylistaro**	**2.58**	**251**	Pn	**Pn**	**12 08 23.5**	**+1.6**
VAF				Sg	**Sb**	**12 08 57.6**	**-0.6**
FIA0	**FINESS Array S**	**2.70**	**200**	PN	**Pn**	**12 08 25.6**	**+2.0**
	baz=24						
FIA0				SG	**Sb**	**12 09 01.2**	**-0.6**
FIA0				MSG	**Sb**	**12 09 01.2**	**-0.6**
	comp=Z,1.8nm,0.4s						
FIA0				SG	**Sb**	**12 09 01.2**	**-0.6**
FIA0				MSG	**Sb**	**12 09 01.2**	**-0.6**
	comp=Z,1.8nm,0.4s						
FIA0				SG	**Sb**	**12 09 01.2**	**-0.6**
FIA0				MSG		12 09 01.2	
	comp=Z,1.8nm,0.4s						
FIA0	**FINESS Array S**	**2.70**	**200**	Pn	**Pn**	**12 08 25.6**	**+2.0**
FIA0				Sg	**Sb**	**12 09 01.2**	**-0.6**
FINES	**FINESS Array B**	**2.70**	**200**	Pn	**Pn**	**12 08 26.1**	**+2.5**
	comp=Z,0.3nm,0.3s,baz=23,slow=15,SNR=6.0						
FINES				Sn	**Sb**	**12 09 00.6**	**-1.2**
	comp=Z,0.7nm,0.3s,baz=19,slow=26,SNR=8.8						
RNF	**Rovaniemi**	**2.77**	**343**	SG	**Sb**	**12 09 02.9**	**-0.8**
RNF				MSG		12 09 02.9	
	comp=Z,1.0nm,0.2s						
RNF	**Rovaniemi**	**2.77**	**343**	Sg	**Sb**	**12 09 02.9**	**-0.8**
VJF	**Virojoki**	**3.46**	**184**	SG	**Sb**	**12 09 22.9**	**-0.8**
VJF				MSG		12 09 22.9	
	comp=Z,0.5nm,0.2s						
VJF	**Virojoki**	**3.46**	**184**	Sg	**Sb**	**12 09 22.8**	**-0.8**
VRF	**Varrio**	**3.84**	**9**	PN	**Pn**	**12 08 41.5**	**+2.2**
	baz=181						
VRF	**Varrio**	**3.84**	**9**	Pn	**Pn**	**12 08 41.4**	**+2.2**
RAF	**Rauma**	**4.15**	**227**	PN	Pn	12 08 47.2	+3.7
RAF	**Rauma**	**4.15**	**227**	Pn	Pn	12 08 47.2	+3.7
ARCES	**ARCESS Array B**	**5.67**	**351**	Pn	**Pn**	**12 09 04.8**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=167,slow=13,SNR=6.6						
ARCES				Sn	**Sn**	**12 10 05.8**	**-4.2**
	comp=Z,0.1nm,0.3s,baz=168,slow=22,SNR=2.8						
HFS	**Hagfors**	**7.75**	**247**	Pn	**Pn**	**12 09 33.5**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=58,slow=14,SNR=2.7						
NOA	**NORSAR Array B**	**8.31**	**257**	Pn	**Pn**	**12 09 41.1**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=24,slow=17,SNR=2.7						

*CSEM **14** 12:10:42.7, 39°.11N×27°.57E, h7km, MD2.6, After DDA*
DDA 14 12:10:42.7, 39°.11N×27°.57E, h7km, MD2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKHS	**Akhisar**	**0.30**	**140**	*i* P	Pg	12 10 49.4	+0.7
AKHS				*i* S	Sb	12 10 54.8	-0.9
AKHS	**Akhisar**	**0.30**	**140**	*i* P	Pg	12 10 49.4	+0.7
AKHS				*i* S	Sb	12 10 54.8	-0.9
BALY	**Balya**	**0.63**	**4**	*i* P	Pb	12 10 56.3	+0.2
BALY				*i* S	Sb	12 11 06.1	+0.9
BALY	**Balya**	**0.63**	**4**	*i* P	Pb	12 10 56.3	+0.2
BALY				*i* S	Sb	12 11 06.1	+0.9
AYVA	**Ayvalik**	**0.71**	**286**	*i* P	Pb	12 10 57.0	-0.3
AYVA	**Ayvalik**	**0.71**	**286**	*i* P	Pb	12 10 57.0	-0.3
DURS	**Dursunbey**	**0.86**	**55**	*i* P	Pb	12 10 59.9	-0.1
DURS				*i* S	Sn	12 11 13.6	-0.6
DURS	**Dursunbey**	**0.86**	**55**	*i* P	Pb	12 10 59.9	-0.1
DURS				*i* S	Sn	12 11 13.6	-0.6
DEMI	**Demirci**	**0.90**	**94**	*i* P	Pb	12 11 00.5	-0.2
DEMI				*i* S	Sb	12 11 12.7	-0.2
DEMI	**Demirci**	**0.90**	**94**	*i* P	Pb	12 11 00.5	-0.2
DEMI				*i* S	Sb	12 11 12.7	-0.3
MANT	**Manisa**	**0.99**	**128**	*i* P	Pg	12 11 01.7	-0.4
MANT				*i* S	Sb	12 11 15.8	-0.2
MANT	**Manisa**	**0.99**	**128**	*i* P	Pg	12 11 01.7	-0.4
MANT				*i* S	Sb	12 11 15.8	-0.2
URLA	**Izmir**	**1.07**	**226**	*i* P	Pg	12 11 03.3	+0.1
URLA				*i* S	Sn	12 11 19.5	+0.3
URLA	**Izmir**	**1.07**	**226**	*i* P	Pg	12 11 03.3	+0.1
URLA				*i* S	Sn	12 11 19.5	+0.3
BOZC	**Bozcaada**	**1.38**	**302**	*i* P	Pb	12 11 08.6	-0.2
BOZC				*i* S	Sg	12 11 28.5	+1.4
AYDN	**Tasoluk**	**1.47**	**170**	*i* P	Pn	12 11 09.2	-0.5
AYDN				*i* S	Sn	12 11 27.1	-2.1
AYDN	**Tasoluk**	**1.47**	**170**	*i* P	Pn	12 11 09.2	-0.5
AYDN				*i* S	Sn	12 11 27.1	-2.1
GDZ	**Gediz**	**1.49**	**90**	*i* P	Pg	12 11 12.3	+0.8
GDZ				*i* S	Sn	12 11 29.3	-0.7
GDZ	**Gediz**	**1.49**	**90**	*i* P	Pg	12 11 12.3	+0.8
GDZ				*i* S	Sn	12 11 29.3	-0.6
SART	**Tekirdag**	**1.60**	**349**	*i* P	Pn	12 11 11.6	+0.1
SART				*i* S	Sn	12 11 32.6	0.0
SART	**Tekirdag**	**1.60**	**349**	*i* P	Pn	12 11 11.6	+0.1
SART				*i* S	Sn	12 11 32.6	0.0
KHAL	**Karahalli**	**1.68**	**116**	*i* P	Pn	12 11 05.8	-6.8
KHAL				*i* S	Sn	12 11 33.6	-0.9
KHAL	**Karahalli**	**1.68**	**116**	*i* P	Pn	12 11 05.8	-6.8
KHAL				*i* S	Sn	12 11 33.6	-0.9

BUC 14 12:27:15.1±0.5, 45°.13N×28°.22E, h5km, MD2.3/2, 8C-2D, Error ellipse: s-maj=5.3km s-min=4.0km az=67.0, Ukraine - Moldova - Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFR	**Carcaliu**	**0.07**	**306**	⇑*i*P	Pg	12 27 16.7	-0.1
CFR				S	Sg	12 27 18.4	+0.4
CFR	**Carcaliu**	**0.07**	**306**	⇑*i*P	Pg	12 27 16.7	-0.1
CFR				*i* S	Sg	12 27 18.4	+0.4
TLCR		**0.42**	**83**	⇓*i*P	Pg	12 27 24.1	+0.8
TLCR		**0.42**	**83**	⇓*i*P	Pg	12 27 24.1	+0.8
TLCR				*i* S	Sb	12 27 30.6	-1.1
HARR	**Harsova**	**0.49**	**205**	⇑*i*P	Pg	12 27 24.8	+0.3
HARR	**Harsova**	**0.49**	**205**	⇑*i*P	Pg	12 27 24.8	+0.3
TLB	**Topalu**	**0.56**	**193**	⇑*i*P	Pg	12 27 26.0	+0.1
TLB	**Topalu**	**0.56**	**193**	⇑*i*P	Pg	12 27 26.0	+0.1
TLB				*i* S	Sg	12 27 33.3	+0.1
TIRR	**Tirgusor**	**0.69**	**169**	⇑*i*P	Pg	12 27 28.6	+0.3
TIRR	**Tirgusor**	**0.69**	**169**	⇑*i*P	Pg	12 27 28.6	+0.3
TIRR				*i* S	Sg	12 27 37.1	-0.2

WEL 14 12:39:16.8±0.3, 46°.11S×166°.03E, h32km±1km, ML3.5/12, 1C, Error ellipse: s-maj=3.3km s-min=1.6km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**1.01**	**52**	⇑PN	Pn	12 39 34.3	-0.3
DCZ				*e*SN	Sn	12 39 46.5	-1.1
DCZ				AML	AML	12 39 47.6	
DCZ				AML	AML	12 39 49.6	
DCZ				AML	AML	12 39 52.4	
WHZ	**Wether Hill Ro**	**1.35**	**82**	PN	Pn	12 39 39.6	+0.2
WHZ				SN	Sn	12 39 55.7	-0.5
WHZ				AML	AML	12 39 59.3	
APZ	**The Paps**	**1.54**	**119**	PN	Pn	12 39 41.2	-0.8
APZ				SN	Sn	12 39 59.6	-1.3
MLZ	**Mavora Lakes**	**1.68**	**64**	PN	Pn	12 39 45.1	+1.1
MLZ				AML	AML	12 40 11.3	
MLZ				AML	AML	12 40 23.9	
MSZ	**Milford Sound**	**1.96**	**44**	AML	AML	12 40 23.6	
MSZ				AML	AML	12 40 26.0	
SYZ	**

0.1nm,0.3s,baz=142,slow=12,SNR=2.6
WRA Warramunga Arr 12.78 157 Pn Pn 12 46 17.4 0.0
0.1nm,0.3s,baz=336,slow=12,SNR=13
WRA Sn Sn 12 48 37.4 -3.0
0.1nm,0.3s,baz=332,slow=22,SNR=2.9
ASAR Alice Springs 16.11 164 Pn Pn 12 47 01.4 -0.8
0.0nm,0.3s,baz=337,slow=8.8,SNR=4.9
MKAR Makanchi Array 68.71 327 P P 12 54 19.7 0.0
0.2nm,0.4s,baz=120,slow=8.1,SNR=3.5

KRSC 14 13:09:10.1±0.6, 53°.69N×160°.72E, h33km±23km, ML3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KII	**Karymskiy**	**0.83**	**295**	*eP*	Pn	13 09 25.4	-0.2
KII				*i* S	Sn	13 09 36.9	+0.2
NLC	**Nalytchevo**	**0.97**	**238**	*eP*	Pn	13 09 27.3	-0.1
NLC				*i* S	Sn	13 09 40.3	+0.3
MKZ	**Mys Kozlova**	**1.05**	**34**	*eP*	Pn	13 09 27.6	-0.9
MKZ				*i* S	Sn	13 09 40.8	-1.2
SDLR	**Sedlovina**	**1.17**	**250**	*eP*	Pn	13 09 30.5	+0.2
SDLR				*i* S	Sn	13 09 45.1	-0.2
SMAR	**Somma**	**1.22**	**250**	*eP*	Pn	13 09 31.3	+0.1
SMAR				*i* S	Sn	13 09 46.7	-0.1
UGLR	**Uglovaya**	**1.23**	**248**	*eP*	Pn	13 09 31.5	+0.4
UGLR				*i* S	Sn	13 09 47.5	+0.8
KRER	**Koryakskii**	**1.24**	**253**	*eP*	Pn	13 09 31.9	+0.5
KRER				*i* S	Sn	13 09 48.0	+0.9
AVH	**Avacha**	**1.26**	**251**	*eP*	Pn	13 09 32.0	+0.5
AVH				*i* S	Sb	13 09 48.4	-1.0
KRX	**Arik**	**1.28**	**256**	*eP*	Pn	13 09 32.1	+0.2
KRX				*i* S	Sn	13 09 47.9	-0.1
KOK	**Koryaka**	**1.31**	**253**	*eP*	Pn	13 09 32.6	+0.4
KOK				*i* S	Sn	13 09 48.6	0.0
PET	**Petropavlovsk**	**1.41**	**243**	*eP*	Pn	13 09 33.6	+0.2
PET				*i* S	Sn	13 09 51.7	+1.0
TUMR	**Tumrok**	**1.63**	**348**	*eP*	Pn	13 09 37.0	+0.4
GNL	**Ganaly**	**1.65**	**271**	*eP*	Pn	13 09 37.6	+0.7
GNL				*i* S	Sn	13 09 57.9	+0.8
RUS	**Russkaya**	**1.83**	**227**	*eP*	Pn	13 09 38.9	-0.3
RUS				*i* S	Sn	13 09 59.9	-1.3
MTVR	**Mutnovka**	**1.95**	**233**	*eP*	Pn	13 09 42.1	+1.0
MTVR				*i* S	Sn	13 10 05.0	+0.5
GRL	**Gorelyy**	**1.96**	**236**	*eP*	Pn	13 09 41.9	+0.7
GRL				*i* S	Sn	13 10 04.6	-0.1
KMNR	**Kamenistaya**	**2.09**	**352**	*eP*	Pn	13 09 43.9	+1.0
KMNR				*i* S	Sn	13 10 08.6	+0.7
ASAK	**Asacha**	**2.15**	**234**	*eP*	Pn	13 09 45.2	+1.5
ASAK				*i* S	Sn	13 10 10.4	+1.1
BZMR	**Bezymyannaya**	**2.25**	**357**	*eP*	Pn	13 09 46.5	+1.3
BZMR				*i* S	Sn	13 10 13.5	+1.5
BZGR	**Bezymyannyi-Gr**	**2.25**	**360**	*eP*	Pn	13 09 46.4	+1.2
APC	**Apacha**	**2.27**	**252**	*eP*	Pn	13 09 46.6	+1.4
APC				*i* S	Sn	13 10 13.7	+1.7
KIRR	**Kirishev**	**2.28**	**355**	*eP*	Pn	13 09 46.1	+0.5
BZWR	**Bezymyannyi-We**	**2.28**	**357**	*eP*	Pn	13 09 46.8	+1.1
KPT	**Kopyto**	**2.30**	**353**	*eP*	Pn	13 09 47.0	+1.2
ZLN	**Zelenaya**	**2.33**	**1**	*eP*	Pn	13 09 47.6	+1.3
ZLN				*i* S	Sn	13 10 15.7	+1.8
LGNR	**Loginova**	**2.40**	**360**	*eP*	Pn	13 09 48.4	+1.0
KOZ	**Kozyrevsk**	**2.42**	**349**	*eP*	Pn	13 09 48.1	+0.7
KRSR	**Krestovskiy**	**2.53**	**358**	*eP*	Pn	13 09 49.2	+0.2
KLY	**Klyuchi**	**2.63**	**359**	*eP*	Pn	13 09 51.2	+1.0
KLY				*i* S	Sn	13 10 21.4	+0.5
SRDR	**Sredinnyy**	**2.70**	**348**	*eP*	Pn	13 09 51.3	+0.1
KBTR	**Krutoberegovo**	**2.80**	**25**	*eP*	Pn	13 09 52.8	+0.3
KBTR				*i* S	Sn	13 10 24.2	-0.9
BDR	**Baidarnaya**	**2.90**	**5**	*eP*	Pn	13 09 54.7	+0.7
SMKR	**Semkarok**	**2.93**	**8**	*eP*	Pn	13 09 56.7	+2.3
SRKR	**Sorokina**	**2.98**	**5**	*eP*	Pn	13 09 56.4	+1.3
SRKR				*i* S	Sn	13 10 29.9	+0.1
PAU	**Pauzhetka**	**3.26**	**229**	*eP*	Pn	13 10 01.3	+2.4
BKI	**Bering**	**3.42**	**62**	*eP*	Pn	13 10 00.9	-0.1
BKI				*i* S	Sn	13 10 37.0	-3.4
SKR	**Severo-Kuril's**	**4.13**	**225**	*eP*	Pn	13 10 12.8	+2.0
SKR				*i* S	Sn	13 10 57.9	-0.1

*ISCJB **14** 13:19:00.5±0.6, 6°.90N±0°.08×72°.99W±0°.08, h158km±7km, mb3.6/4, Error ellipse: s-maj=16.9km s-min=7.5km az=43.3*
*IDC **14** 13:19:01.4±2.5, 6°.62N×72°.95W, h174km±20km, mb3.4/5, mb1 3.6/6, mb1mx3.3/22, mbtmp3.4/6, Error ellipse: s-maj=44.5km s-min=21.0km az=89.0*
*FUNV **14** 13:19:04.8, 7°.03N×72°.94W, h153km, MW3.6*
ISC 14 13:19:01.4±0.9, 6°.96N±0°.07×73°.02W±0°.08, h152km±8km, n21, σ1°50/26, mb3.7/4, 12C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.14**	**38**	⇑*iP*	Pn	13 19 30.1	+2.2
CAPV				*eS*	Sn	13 19 48.0	-0.2
ROSC	**El Rosal**	**2.46**	**212**	P	Pn	13 19 42.2	-0.4
ROSC	23nm,0.3s,baz=93,slow=18,SNR=30			S	Sn	13 20 11.7	-2.7
	39nm,0.3s,baz=103,slow=13,SNR=12						
VIGV	**El Vigia**	**2.48**	**41**	⇑*iP*	Pn	13 19 44.5	+2.0
VIGV				*eS*	Sn	13 20 12.6	-1.7
SOCV	**Socops**	**2.51**	**58**	⇑*iP*	Pn	13 19 44.1	+1.3
SOCV				*eS*	Sn	13 20 13.3	-1.5
ELOV	**Elorza**	**3.51**	**89**	*eP*	Pn	13 19 56.2	+0.6
VIRV	**Villa del Rosa**	**3.57**	**10**	⇑*iP*	Pn	13 19 56.7	+0.5
VIRV				*eS*	Sn	13 20 35.5	-3.4
SANV	**Sanarito**	**4.27**	**54**	⇑*eP*	Pn	13 20 06.1	+0.7
CURV	**Curarigua**	**4.28**	**45**	⇑*iP*	Pn	13 20 06.6	+1.1
DABV	**Dabajuro**	**4.59**	**31**	⇑*eP*	Pn	13 20 10.7	+1.3
TEPV	**Terepaima**	**4.82**	**51**	⇑*eP*	Pn	13 20 13.4	+0.8
SIQV	**Siquisique**	**4.85**	**41**	⇑*iP*	Pn	13 20 13.6	+0.7
BAUV	**El Baul**	**5.31**	**68**	⇑*iP*	Pn	13 20 18.3	-0.7
MONV	**Montecano**	**5.80**	**31**	⇓*iP*	Pn	13 20 25.7	+0.2
CUPV	**Cœpira**	**7.78**	**66**	⇑*eP*	Pn	13 20 51.1	-1.0
TEIG	**Tepich**	**19.82**	**313**	P	Pn	13 23 23.6	0.0
	6.1nm,0.5s,baz=79,slow=10,SNR=4.7						
TXAR	**Lajitas Array**	**36.45**	**311**	P	**P**	13 25 51.6	-0.3
	0.4nm,0.4s,baz=122,slow=9.3,SNR=4.5						
SCHQ	**Schefferville**	**47.99**	**5**	P	**P**	13 27 25.2	+0.4
	2.4nm,0.8s,baz=301,slow=5.9,SNR=3.1						
PDAR	**Pinedale Array**	**48.03**	**324**	P	**P**	13 27 25.4	-0.1
	0.4nm,0.4s,baz=102,slow=8.4,SNR=3.2						
YKA	**Yellowknife Ar**	**63.17**	**340**	P	**P**	13 29 12.3	-0.6
	1.0nm,0.6s,baz=134,slow=6.7,SNR=12						
ASAR	**Alice Springs**	**149.27**	**234**	PKPbc	**PKPdf**	13 38 29.8	+1.2
	0.2nm,0.5s,baz=120,slow=3.3,SNR=6.6						
WRA	**Warramunga Arr**	**150.49**	**241**	PKPbc	**PKPdf**	13 38 33.3	+2.7
	0.2nm,0.4s,baz=104,slow=3.5,SNR=15						

IDC 14 13:40:17.7±1.6, 29°.93S×178°.35W, h182km±14km, mb3.0/2, mb1 3.3/3, mb1mx3.1/17, mbtmp3.2/3, Error ellipse: s-maj=56.8km s-min=22.5km az=106.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.78**	**29**	P	Pn	13 40 45.7	+1.5
	314nm,0.3s,baz=47,slow=19,SNR=6.1						
RAO				S	Sn	13 41 04.9	+0.4
	222nm,0.3s,baz=90,slow=20,SNR=9.2						
URZ	**Urewera**	**9.12**	**203**	P	Pn	13 42 25.2	-0.3
	0.2nm,0.3s,baz=45,slow=17,SNR=5.6						
URZ				S	Sn	13 44 06.9	-0.4
	0.7nm,0.3s,baz=188,slow=14,SNR=3.7						
ASAR	**Alice Springs**	**42.83**	**267**	P	P	13 47 57.8	-0.2
	0.2nm,0.6s,baz=106,slow=7.0,SNR=7.5						
WRA	**Warramunga Arr**	**43.77**	**272**	P	P	13 48 05.6	0.0
	0.7nm,0.4s,baz=110,slow=8.0,SNR=33						
FINES	**FINESS Array B**	**144.60**	**340**	PKP	PKPab	13 59 30.0	-0.9
	2.2nm,0.8s,baz=46,slow=6.0,SNR=3.5						

*CSEM **14** 13:44:16.8±0.6, 42°.20N×19°.41E, h10km, ML1.4, Error ellipse: s-maj=17.2km s-min=10.9km az=57.0*
BEO 14 13:44:13.6±1.3, 41°.94N×19°.43E, h14km±6km, ML1.4/3, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDG	**Podgorica**	**0.51**	**345**	*ePg*	Pg	13 44 22.5	-1.1
PDG	**Podgorica**	**0.51**	**345**	*ePg*	Pg	13 44 22.5	-1.1
TREB	**Trebinje**	**1.11**	**314**	*ePg*	Pb	13 44 34.1	-0.6
TREB				*eSg*	Sb	13 44 48.6	-0.5
TREB	**Trebinje**	**1.11**	**314**	*ePg*	Pb	13 44 34.1	-0.6
TREB				*eSg*	Sb	13 44 48.6	-0.5
SJES	**Sjenica**	**1.38**	**17**	*ePg*	Pn	13 44 37.6	-1.0
SJES				*eSg*	Sg	13 44 58.3	-0.1
SJES	**Sjenica**	**1.38**	**17**	*ePg*	Pn	13 44 37.6	-1.0
SJES				*eSg*	Sg	13 44 58.3	-0.1
BBLS	**Lazići**	**1.93**	**359**	*ePn*	Pn	13 44 46.5	+0.4
BBLS				*eSg*	Sg	13 45 15.3	-0.5
BBLS	**Lazići**	**1.93**	**359**	*ePn*	Pn	13 44 46.5	+0.4
BBLS				*eSg*	Sg	13 45 15.3	-0.5
DIVS	**Divibare**	**2.20**	**11**	*eSg*	Sb	13 45 21.7	+1.3
DIVS	**Divibare**	**2.20**	**11**	*eSg*	Sb	13 45 21.7	+1.3

*TIR **14** 13:44:49.3, 40°.79N×20°.86E, h6km, ML3.1*
*ISCJB **14** 13:44:50.2±0.8, 40°.76N±0°.04×20°.94E±0°.06, h3km±12km, Error ellipse: s-maj=9.1km s-min=5.4km az=40.1*
*CSEM **14** 13:44:50.2±0.7, 40°.75N×20°.90E, h10km, ML1.9, Error ellipse: s-maj=12.8km s-min=11.2km az=164.0*
*SKO **14** 13:44:52.4, 40°.86N×21°.07E, h15km, M1.6, ML2.0*
ISC 14 13:44:49.8±1.3, 40°.80N±0°.06×20°.87E±0°.06, h4km±14km, n9, σ1°28/18, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBN	**Korca**	**0.18**	**200**	*i* PG	**Pg**	**13 44 53.3**	**-0.1**
KBN				*i* SG	**Sg**	**13 44 56.8**	**+1.0**
BIA	**Bitola**	**0.41**	**57**	*ePg*	**Pg**	**13 44 57.9**	**+0.2**
BIA				*eSg*	**Sg**	**13 45 01.1**	**-1.9**
BIA	**Bitola**	**0.41**	**57**	*ePg*	**Pg**	**13 44 57.4**	**-0.3**
BIA				*eSg*	**Sb**	**13 45 04.6**	**-1.7**
PHP	**Peshkopia**	**0.94**	**340**	*i* PG	**Pn**	**13 45 08.8**	**-1.1**
PHP				*i* SG	**Sn**	**13 45 24.9**	**+1.0**
PHP	**Peshkopia**	**0.94**	**340**	*i* Pg	**Pn**	**13 45 08.8**	**-1.1**
PHP				*i* Sg	**Sn**	**13 45 24.9**	**+1.0**
SKO	**Skopje**	**1.25**	**20**	*ePn*	**Pg**	**13 45 14.8**	**+1.1**
SKO				*eSg*	**Sn**	**13 45 33.2**	**+1.8**
SKO				*eLg*	Lg	13 45 35.2	
	comp=N,28nm,0.4s						
SKO				*eLg*	Lg	13 45 37.5	
	comp=E,19nm,0.4s						
SKO	**Skopje**	**1.25**	**20**	*ePn*	**Pg**	**13 45 13.8**	**0.0**
SKO				*eSg*	**Sn**	**13 45 32.2**	**+0.8**
SKO				*eLg*	Lg	13 45 36.5	
	comp=E,19nm,0.4s						
VAY	**Valandovo**	**1.39**	**67**	*ePn*	**Pg**	**13 45 17.1**	**+0.8**
VAY				*eSg*	**Sg**	**13 45 36.2**	**+1.8**
VAY				*eLg*	Lg	13 45 40.1	
	comp=E,13nm,0.5s						
VAY				*eLg*	Lg	13 45 40.5	
	comp=N,25nm,1.1s						
VAY	**Valandovo**	**1.39**	**67**	*ePn*	**Pg**	**13 45 16.6**	**+0.2**
VAY				*eSg*	**Sg**	**13 45 35.7**	**+1.3**
VAY				*eLg*	Lg	13 45 39.9	
	comp=N,25nm,1.1s						

MAN 14 13:57:02.11±0°.21N×124°.66E, h3km, mb4.5, ML3.4, MS3.3, 2C-1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.17**	**199**	*eP*	Pg	13 57 06.0	+0.8
OCLP				*eS*	Sg	13 57 09.6	+2.1
PLP	**Palo**	**0.31**	**98**	⇓*iP*	Pb	13 57 09.3	-1.0
PLP				*i* S	Sb	13 57 14.1	-1.7
BESP	**Borongan**	**0.85**	**63**	*eP*	Pg	13 57 18.8	+0.4
MSLP	**Maasin**	**1.09**	**170**	*eP*	Pg	13 57 22.7	-0.1
LLP	**Lapu-Lapu**	**1.12**	**218**	*eP*	Pg	13 57 21.4	-2.1
LLP				*eS*	Sg	13 57 37.6	-0.5
SCPH	**Surigao**	**1.63**	**150**	⇑*eP*	Pg	13 57 33.5	+0.1
TBP	**Tagbilaran**	**1.70**	**208**	*eP*	Pn	13 57 32.8	+0.2
RCP	**Roxas**	**1.91**	**281**	⇑*eP*	Pn	13 57 36.0	+0.4
RCP				*eS*	Sn	13 58 00.6	+0.5
GUIM	**Jordan**	**2.12**	**254**	*eP*	Pn	13 57 39.6	+1.2

BKK 14 14:02:57.8±1.2, 20°N±7°×99°5E±°, h10km, M5.0/4, MLv5.0/4, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHTO	**Chiang Mai**	**3.78**	**101**	P	Pn	14 03 55.9	-0.3
CMAI	**Chiengmai2**	**3.79**	**84**	P	Pn	14 04 00.6	+4.0
LAMP	**Lampang**	**4.49**	**103**	P	Pb	14 04 13.6	-3.1
PAYA	**Payao**	**4.57**	**92**	S	Sn	14 05 01.7	+1.3
SUKH	**Sukhothai**	**4.85**	**115**	P	Pn	14 04 10.2	-0.7
SUKH				S	Sn	14 05 04.3	-2.9
UTHA	**Uthaitani**	**5.83**	**133**	P	Pn	14 04 24.1	-0.2
UTHA				S	Sn	14 05 37.7	+6.4
CHAI	**Chaiyaphum**	**7.58**	**118**	P	Pb	14 05 11.5	+2.0

*IDC **14** 14:02:59.3±2.0, 4°.85S×102°.79E, h0km, mb4.0/9, mb1 4.1/9, mb1mx3.9/25, mbtmp4.0/9, Error ellipse: s-maj=90.8km s-min=15.0km az=56.0*
*AUST **14** 14:03:01.0, 4°.85S×102°.44E, h30km*
*ISCJB **14** 14:03:05.0±0.7, 4°.89S±0°.05×102°.82E±0°.06, h58km±6km, mb4.0/9, Error ellipse: s-maj=11.0km s-min=6.4km az=139.9*
*DJA **14** 14:03:05.3±0.4, 5°S±3°×10°3E±°, h29km±8km, M4.0/6, MLv4.0/6*
ISC 14 14:03:05.5±1.1, 4°.89S±0°.05×102°.81E±0°.06, h44km±11km, n25, σ0°78/30, mb4.1/9, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**0.54**	**15**	P	**Pn**	**14 03 16.1**	**-0.9**
MNAI	**Manna**	**0.54**	**15**	P	**Pn**	**14 03 16.6**	**-0.4**
	baz=0.7,SNR=63						
MNAI				S	**Sn**	**14 03 25.3**	**+0.2**
	baz=0.7,SNR=7.0						
EGSI	**Enggano, Bengk**	**0.71**	**229**	P	**Pn**	**14 03 19.8**	**+0.6**
KSI	**Kapahiang**	**1.25**	**350**	P	**Pn**	**14 03 26.9**	**+0.3**
KSI				S	**Sn**	**14 03 42.3**	**+0.1**
LWLI	**Liwa**	**1.25**	**96**	P	**Pn**	**14 03 27.4**	**+0.8**
LWLI				S	**Sn**	**14 03 42.3**	**0.0**
LHSI	**Lahat**	**1.27**	**34**	P	**Pn**	**14 03 28.2**	**+1.4**
LHSI				S	**Sn**	**14 03 44.4**	**+1.7**
KASI	**Kota Agung**	**1.79**	**111**	P	**Pn**	**14 03 33.7**	**-0.3**
KASI				S	**Sn**	**14 03 54.3**	**-1.3**
MASI	**Maura Aman, Be**	**1.82**	**342**	P	**Pn**	**14 03 35.5**	**+1.0**
PMBI	**Palembang**	**2.76**	**45**	P	Pn	14 03 42.7	-4.6
	baz=3.0,SNR=4.7						
CISI	**Cisompet, Garu**	**5.64**	**118**	P	**Pn**	**14 04 28.0**	**+1.1**
	baz=6.0,SNR=4.6						
XMIS	**Christmas Isla**	**6.23**	**153**	S	Sn	14 05 35.6	-9.4
	baz=6.5,SNR=3.3						
CMAR	**Chiang Mai Arr**	**23.51**	**351**	P	**P**	**14 08 11.0**	**-0.7**
	1.4nm,0.9s,baz=178,slow=12,SNR=1.9						
FITZ	**Fitzroy Crossi**	**25.89**	**122**	P	**P**	**14 08 33.4**	**-0.1**
	2.8nm,0.5s,baz=318,slow=5.8,SNR=31						
FITZ	**Fitzroy Crossi**	**25.89**	**122**	P	**P**	**14 08 33.6**	**0.0**
	baz=26,SNR=15						
KNRA	**Kununurra**	**27.65**	**115**	P	**P**	**14 08 48.5**	**-0.9**
	baz=28,SNR=4.1						
WRA	**Warramunga Arr**	**34.13**	**119**	P	**P**	**14 09 46.5**	**-0.1**
	1.6nm,0.4s,baz=302,slow=8.9,SNR=65						
WRA				PcP	**PcP**	**14 12 22.9**	**-0.4**
	0.2nm,0.6s,baz=307,slow=2.8,SNR=2.9						
ASAR	**Alice Springs**	**35.30**	**125**	P	**P**	**14 09 56.6**	**-0.1**
	0.9nm,0.4s,baz=300,slow=8.3,SNR=78						
ASAR				PcP	**PcP**	**14 12 26.8**	**+0.2**
	0.3nm,0.6s,baz=306,slow=2.7,SNR=5.3						
MTSU	**Mount Surprise**	**42.63**	**111**	P	**P**	**14 10 58.3**	**+0.3**
	baz=43,SNR=14						
CTA	**Charters Tower**	**44.85**	**114**	P	**P**	**14 11 15.6**	**-0.3**
	4.3nm,0.8s,baz=297,slow=9.0,SNR=4.2						
STKA	**Stephens Creek**	**45.15**	**131**	P	**P**	**14 11 18.7**	**+0.7**
	4.6nm,0.8s,baz=307,slow=8.9,SNR=11						
STKA	**Stephens Creek**	**45.15**	**131**	P	**P**	**14 11 19.3**	**+1.3**
	baz=46,SNR=10						
SONM	**Songino Array**	**52.59**	**3**	P	**P**	**14 12 14.3**	**-0.7**
	0.5nm,0.6s,baz=182,slow=8.1,SNR=3.1						
MKAR	**Makanchi Array**	**54.57**	**343**	P	**P**	**14 12 28.9**	**-0.5**
	0.6nm,0.5s,baz=149,slow=8.5,SNR=11						
ZALV	**Zalesovo Beam**	**60.53**	**348**	P	**P**	**14 13 11.2**	**+0.1**
	0.7nm,0.5s,baz=147,slow=3.4,SNR=3.4						
TXAR	**Lajitas Array**	**145.09**	**43**	PKPbc	**PKPdf**	**14 22 38.5**	**-0.5**
	0.7nm,0.6s,baz=260,slow=0.9,SNR=6.4						

*ISCJB **14** 14:23:39.5±0.5, 29°.15N±0°.04×130°.15E±0°.10, h59km±6km, mb3.3/6, MS3.0/1, Error ellipse: s-maj=14.7km s-min=4.2km az=18.7*
*JMA **14** 14:23:39.3±0.1, 29°.16N×130°.13E, h61km±2km, M3.1*
*IDC **14** 14:23:44.0±4.2, 29°.26N×130°.29E, h89km±49km, mb3.1/6, mb1 3.2/8, mb1mx3.1/25, mbtmp3.1/8, ML3.0/2, MS3.2/1, Ms1 3.2/1, ms1mx2.2/11, Error ellipse: s-maj=67.4km s-min=19.8km az=69.0*
ISC 14 14:23:40.3±1.1, 29°.15N±0°.04×130°.12E±0°.10, h49km±11km, n16, σ0°74/24, mb3.3/6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.72**	**343**	P	**Pn**	**14 23 53.7**	**-0.6**
JNN				S	**Sn**	**14 24 05.3**	**+0.9**
JZK	**Kikaishima**	**0.85**	**189**	P	**Pn**	**14 23 55.9**	**0.0**
JZK				*eS*	**Sn**	**14 24 07.6**	**+0.2**
JAM	**Amami Oshima**	**0.87**	**212**	P	**Pn**	**14 23 55.8**	**-0.4**
JAM				*eS*	**Sn**	**14 24 07.4**	**-0.4**
JAMN	**Amaminishikomi**	**1.23**	**223**	P	**Pn**	**14 24 01.1**	**0.0**
JAMN				*eS*	**Sn**	**14 24 16.9**	**+0.3**
JKC	**Kuchinoerabu**	**1.31**	**3**	P	**Pn**	**14 24 01.7**	**-0.5**
JKC				*eS*	**Sn**	**14 24 17.9**	**-0.6**
JTN	**Tanegashima 3**	**1.67**	**26**	P	**Pn**	**14 24 06.9**	**-0.3**
JTN				*eS*	**Sn**	**14 24 27.6**	**+0.2**
JTK	**Tokunoshima**	**1.71**	**217**	P	**Pn**	**14 24 08.2**	**+0.5**
JTK				*eS*	**Sn**	**14 24 29.7**	**+1.4**
JTSR	**Tashiro 2**	**2.12**	**19**	P	**Pn**	**14 24 13.4**	**0.0**
JTSR				*eS*	**Sn**	**14 24 38.6**	**+0.1**
JNU	**Nakatsue**	**4.01**	**9**	P	**Pn**	**14 24 40.5**	**+1.3**
	1.6nm,0.3s,baz=236,slow=3.0,SNR=26						
JNU				S	**Sn**	**14 25 26.6**	**+1.6**
	0.3nm,0.3s,baz=63,slow=14,SNR=2.4						
KSRS	**Korea Array**	**8.48**	**348**	P	Pn	14 25 44.0	+3.5
	0.1nm,0.3s,baz=174,slow=14,SNR=4.8						
SONM	**Songino Array**	**26.15**	**322**	P	**P**	**14 29 10.3**	**+0.4**
	0.4nm,0.4s,baz=137,slow=12,SNR=4.2						
SONM				LR	LR	14 40 33.1	
	comp=Z,44nm,18.4s,baz=27,slow=39						
MKAR	**Makanchi Array**	**40.92**	**309**	P	**P**	**14 31 17.0**	**-0.8**
	0.4nm,0.8s,baz=97,slow=9.9,SNR=4.2						
ZALV	**Zalesovo Beam**	**41.01**	**320**	P	**P**	**14 31 18.5**	**+0.2**
	0.5nm,0.4s,baz=102,slow=6.1,SNR=2.4						
WRA	**Warramunga Arr**	**48.98**	**175**	P	**P**	**14 32 21.6**	**-0.3**
	0.2nm,0.7s,baz=353,slow=8.2,SNR=2.7						
ASAR	**Alice Springs**	**52.64**	**176**	P	**P**	**14 32 50.2**	**+0.7**
	0.1nm,0.7s,baz=10,slow=12,SNR=6.1						
FINES	**FINESS Array B**	**71.15**	**330**	P	**P**	**14 34 52.5**	**-0.9**
	1.3nm,0.8s,baz=59,slow=9.3,SNR=2.8						

*ISK **14** 14:40:33.7, 38°.27N×38°.29E, h28km, MD2.8*
*ISCJB **14** 14:40:34.0±1.0, 38°.3N±0°.1×38°.28E±0°.08, h28km±5km, Error ellipse: s-maj=21.6km s-min=8.5km az=164.2*
*CSEM **14** 14:40:34.0±0.2, 38°.30N×38°.23E, h24km±1km, MD2.8, Error ellipse: s-maj=6.5km s-min=4.1km az=155.0*
*DDA **14** 14:40:34.3, 38°.17N×38°.28E, h7km, MD2.8*
ISC 14 14:40:34.1±1.3, 38°.27N±0°.09×38°.28E±0°.05, h26km±8km, n13, σ0°30/17, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MALT	**Malatya**	**0.13**	**70**	*ePG*	**Pb**	**14 40 39.2**	**0.0**
MALT				*eSG*	**Sb**	**14 40 43.1**	**+0.4**
MALT	**Malatya**	**0.13**	**70**	*ePg*	**Pb**	**14 40 39.2**	**0.0**
MALT				*eSg*	**Sb**	**14 40 43.1**	**+0.4**
AKCD	**Akcadag**	**0.28**	**275**	*i* P	**Pb**	**14 40 40.9**	**-0.2**
AKCD				*i* S	**Sb**	**14 40 45.6**	**-0.2**
AKCD	**Akcadag**	**0.28**	**275**	*i* P	**Pb**	**14 40 40.9**	**-0.2**
AKCD				*i* S	**Sb**	**14 40 45.6**	**-0.2**
DARE	**Darende-Malaty**	**0.69**	**296**	*ePG*	**Pb**	**14 40 48.0**	**+0.4**
PTK	**Pertek**	**1.07**	**54**	*ePG*	**Pn**	**14 40 53.3**	**-0.4**
PTK	**Pertek**	**1.07**	**54**	*ePg*	**Pn**	**14 40 53.3**	**-0.4**
ILIC	**ilic-Erzincan**	**1.20**	**11**	*ePN*	**Pn**	**14 40 55.1**	**-0.3**
ILIC	**ilic-Erzincan**	**1.20**	**11**	*ePn*	**Pn**	**14 40 55.1**	**-0.3**
KMRS	**Kahramanmaras**	**1.33**	**235**	*ePN*	**Pn**	**14 40 57.1**	**+0.1**
KMRS	**Kahramanmaras**	**1.33**	**235**	*ePn*	**Pn**	**14 40 57.1**	**+0.1**
EZC	**Erzincan**	**1.70**	**29**	*ePn*	**Pn**	**14 41 02.7**	**+0.4**
ERZN	**Erzincan**	**1.73**	**40**	*ePN*	**Pn**	**14 41 02.7**	**0.0**

*ISCJB **14** 14:48:49.2±0.6, 27°.28N±0°.07×140°.6E±0°.1, h400km, mb3.3/9, Error ellipse: s-maj=17.0km s-min=7.8km az=159.3*
*IDC **14** 14:48:49.2±0.8, 27°.24N×140°.17E, h373km±10km, mb3.1/9, mb1 3.2/10, mb1mx3.0/24, mbtmp3.0/10, Error ellipse: s-maj=27.5km s-min=15.1km az=81.0*
*JMA **14** 14:48:50.2±0.1, 27°.44N×140°.

mb3.7/11, Error ellipse: s-maj=5.1km s-min=3.7km az=140.7
*HLW **14** 15:42:26.9, 34.°02N×25.°56E, h30km±16km, Md3.3, Ml3.8*
*THE **14** 15:42:30.7, 34.°39N×25.°48E, h2km±2km, ML3.1/1, Error ellipse: s-maj=3.1km s-min=1.2km az=201.0*
*ATH **14** 15:42:30.5, 34.°37N×25.°47E, h34km±2km, MD3.6/8*
ISC 14 15:42:26.3±1.4, 33.°98N±0.°03×25.°51E±0.°04, h26km±11km, n115, σ1§59/139, mb3.8/11, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAST	**Lasithi**	**1.18**	**359**	P	**Pn**	**15 42 45.9**	**-1.3**
LAST	**Lasithi**	**1.18**	**359**	*e*PN	**Pn**	**15 42 46.0**	**-1.3**
LAST				*e*SN	**Sn**	**15 42 57.8**	**-4.8**
LAST	**Lasithi**	**1.18**	**359**	*e*Pn	**Pn**	**15 42 46.0**	**-1.3**
SIVA	**Sivas**	**1.19**	**331**	P	**Pn**	**15 42 46.3**	**-1.0**
SIVA				S	**Sn**	**15 42 59.9**	**-2.7**
SIVA	**Sivas**	**1.19**	**331**	*e*PB	**Pn**	**15 42 46.4**	**-0.9**
SIVA				*e*SN	**Sn**	**15 42 59.2**	**-3.4**
SIVA	**Sivas**	**1.19**	**331**	*e*Pb	**Pn**	**15 42 46.4**	**-0.9**
SIVA				S	**Sn**	**15 42 59.9**	**-2.7**
ZKR	**Zakros**	**1.28**	**27**	P	**Pn**	**15 42 48.4**	**-0.1**
ZKR				S	**Sn**	**15 43 02.7**	**-2.2**
ZKR	**Zakros**	**1.28**	**27**	*e*PN	**Pn**	**15 42 48.7**	**+0.2**
ZKR				*e*SN	**Sn**	**15 43 02.2**	**-2.7**
NPS	**Neapolis**	**1.29**	**4**	P	**Pn**	**15 42 47.8**	**-0.9**
NPS				S	**Sn**	**15 41 06.1**	**-3.5**
NPS	**Neapolis**	**1.29**	**4**	*e*PN	**Pn**	**15 42 47.8**	**-0.9**
NPS				*e*SN	**Sn**	**15 42 59.6**	**-5.5**
NPS	**Neapolis**	**1.29**	**4**	P	**Pn**	**15 42 47.8**	**-0.9**
NPS				S	**Sn**	**15 43 01.6**	**-3.5**
IDI	**Anoyia**	**1.40**	**339**	*e*PN	**Pn**	**15 42 50.4**	**+0.1**
IDI				*e*SN	**Sb**	**15 43 13.2**	**+3.8**
IDI	**Anoyia**	**1.40**	**339**	P	**Pn**	**15 42 49.8**	**-0.5**
IDI				S	**Sn**	**15 43 04.5**	**-3.5**
IDI	**Anoyia**	**1.40**	**339**	*e*PN	**Pn**	**15 42 50.3**	**0.0**
IDI				*e*SN	**Sn**	**15 43 04.5**	**-3.5**
IDI	**Anoyia**	**1.40**	**339**	Pn	**Pn**	**15 42 50.5**	**+0.1**
	3.6nm,0.3s,baz=159,slow=16,SNR=24						
IDI				Sn	**Sb**	**15 43 10.6**	**+1.2**
	24nm,0.3s,baz=141,slow=14,SNR=11						
IDI	**Anoyia**	**1.40**	**339**	P	**Pn**	**15 42 49.8**	**-0.5**
IDI	**Anoyia**	**1.40**	**339**	*e*Pn	**Pn**	**15 42 50.3**	**0.0**
IDI				*e*Sn	**Sn**	**15 43 04.5**	**-3.5**
VAM	**Vamos**	**1.79**	**323**	P	**Pn**	**15 42 56.4**	**+0.9**
VAM	**Vamos**	**1.79**	**323**	*e*PB	**Pn**	**15 42 56.3**	**+0.8**
VAM				*e*SN	**Sn**	**15 43 15.7**	**-1.7**
VAM	**Vamos**	**1.79**	**323**	P	**Pn**	**15 42 56.4**	**+0.9**
VAM				*e*Sn	**Sn**	**15 43 15.7**	**-1.7**
KARN	**Karanos**	**1.93**	**318**	P	**Pb**	**15 42 59.7**	**-1.2**
KARN	**Karanos**	**1.93**	**318**	P	**Pb**	**15 42 59.7**	**-1.2**
KARP	**Karpathos**	**2.08**	**41**	P	**Pb**	**15 43 02.2**	**-1.1**
KARP				S	**Sn**	**15 43 25.0**	**+0.4**
KARP	**Karpathos**	**2.08**	**41**	*e*PB	**Pb**	**15 43 01.9**	**-1.4**
KARP	**Karpathos**	**2.08**	**41**	*e*Pb	**Pb**	**15 43 01.9**	**-1.4**
KARP	**Karpathos**	**2.08**	**41**	P	**Pb**	**15 43 02.2**	**-1.1**
KARP				S	**Sn**	**15 43 25.0**	**+0.4**
SANT	**Santorini**	**2.39**	**359**	*e*PB	**Pn**	**15 43 04.8**	**+1.0**
SANT	**Santorini**	**2.39**	**359**	*e*Pb	**Pn**	**15 43 04.8**	**+1.0**
SLUM		**2.49**	**186**	P	**Pn**	**15 43 05.8**	**+0.7**
	baz=187						
SLUM		**2.49**	**186**	P	**Pn**	**15 43 05.8**	**+0.7**
SLUM				S	**Sn**	**15 43 34.7**	**0.0**
KYTH	**Kithira**	**3.06**	**319**	*e*PN	**Pn**	**15 43 15.1**	**+2.0**
KYTH	**Kithira**	**3.06**	**319**	*e*Pn	**Pn**	**15 43 15.1**	**+2.0**
APE	**Apeiranthos**	**3.09**	**0**	*e*PN	**Pn**	**15 43 14.6**	**+1.1**
APE	**Apeiranthos**	**3.09**	**0**	*e*PN	**Pn**	**15 43 14.1**	**+0.7**
APE	**Apeiranthos**	**3.09**	**0**	*e*Pn	**Pn**	**15 43 14.1**	**+0.7**
ARG	**Arkhangelos**	**3.10**	**43**	*e*PN	**Pn**	**15 43 15.8**	**+2.2**
ARG	**Arkhangelos**	**3.10**	**43**	*e*Pn	**Pn**	**15 43 15.8**	**+2.2**
HMAT	**Matruh**	**3.17**	**155**	S	**Sn**	**15 43 50.9**	**-0.6**
	baz=155						
DAT	**Datca**	**3.23**	**31**	*e*PN	**Pn**	**15 43 16.1**	**+0.7**
DAT	**Datca**	**3.23**	**31**	*e*Pn	**Pn**	**15 43 16.1**	**+0.7**
VLI	**Veliai**	**3.45**	**323**	*e*PN	**Pn**	**15 43 19.6**	**+1.2**
VLI	**Veliai**	**3.45**	**323**	*e*Pn	**Pn**	**15 43 19.6**	**+1.2**
DALY	**Dalyan (Mu¨la**	**3.83**	**41**	*e*PN	**Pn**	**15 43 24.4**	**+0.9**
DALY	**Dalyan (Mu¨la**	**3.83**	**41**	*e*Pn	**Pn**	**15 43 24.4**	**+0.9**
SMG	**Samos**	**3.88**	**16**	*e*PN	**Pn**	**15 43 25.0**	**+0.7**
SMG	**Samos**	**3.88**	**16**	*e*Pn	**Pn**	**15 43 25.0**	**+0.7**
YER	**Yerkesik**	**3.88**	**35**	*e*PN	**Pn**	**15 43 25.2**	**+0.8**
YER	**Yerkesik**	**3.88**	**35**	*e*Pn	**Pn**	**15 43 25.2**	**+0.8**
FETY	**Fethiye**	**3.95**	**47**	*e*PN	**Pn**	**15 43 25.9**	**+0.6**
FETY	**Fethiye**	**3.95**	**47**	*e*Pn	**Pn**	**15 43 25.9**	**+0.6**
DID	**Didima**	**3.98**	**333**	*e*PN	**Pn**	**15 43 26.3**	**+0.6**
DID	**Didima**	**3.98**	**333**	*e*Pn	**Pn**	**15 43 26.3**	**+0.6**
ITM	**Ithomi**	**4.33**	**319**	*e*PN	**Pn**	**15 43 32.2**	**+1.7**
ITM	**Ithomi**	**4.33**	**319**	*e*Pn	**Pn**	**15 43 32.2**	**+1.7**
ELL	**Elmali**	**4.54**	**51**	*e*PN	**Pn**	**15 43 34.3**	**+0.8**
ELL	**Elmali**	**4.54**	**51**	*e*Pn	**Pn**	**15 43 34.3**	**+0.8**
GUR	**Goura**	**4.71**	**328**	*e*PN	**Pn**	**15 43 37.5**	**+1.7**
GUR	**Goura**	**4.71**	**328**	*e*Pn	**Pn**	**15 43 37.5**	**+1.7**
SWA2		**4.72**	**181**	P	**Pn**	**15 43 36.5**	**+0.8**
	baz=182						
SWA2				AMP		15 44 00.0	
	comp=N,120μm,0.5s,logA/T=5.3,baz=182						
SWA2		**4.72**	**181**	P	**Pn**	**15 43 36.6**	**+0.8**
KLV	**Kalavryta, Ach**	**4.89**	**327**	*e*PN	**Pn**	**15 43 39.5**	**+1.3**
KLV	**Kalavryta, Ach**	**4.89**	**327**	*e*Pn	**Pn**	**15 43 39.5**	**+1.3**
HBRG	**Burj al 'Arab**	**5.00**	**132**	P	**Pn**	**15 43 39.7**	**+0.1**
	baz=132						
KULA	**Kula-Manisa**	**5.20**	**28**	*e*PN	**Pn**	**15 43 43.6**	**+1.1**
KULA	**Kula-Manisa**	**5.20**	**28**	*e*Pn	**Pn**	**15 43 43.6**	**+1.1**
AKS	**Akhisar**	**5.24**	**20**	*e*PN	**Pn**	**15 43 44.5**	**+1.6**
AKS	**Akhisar**	**5.24**	**20**	*e*Pn	**Pn**	**15 43 44.5**	**+1.6**
BCK	**Bucak**	**5.40**	**48**	*e*PN	**Pn**	**15 43 46.7**	**+1.4**
BCK	**Bucak**	**5.40**	**48**	*e*Pn	**Pn**	**15 43 46.7**	**+1.4**
SUTC	**Sutluce-Ispart**	**5.67**	**50**	*e*PN	**Pn**	**15 43 50.2**	**+1.2**
SUTC	**Sutluce-Ispart**	**5.67**	**50**	*e*Pn	**Pn**	**15 43 50.2**	**+1.2**
LEF	**Lefka**	**6.20**	**77**	*e*PN	**Pn**	**15 43 56.4**	**+0.3**
LEF	**Lefka**	**6.20**	**77**	*e*Pn	**Pn**	**15 43 56.4**	**+0.3**
HDMB	**Hadim**	**6.43**	**60**	*e*PN	**Pn**	**15 44 00.8**	**+1.3**
HDMB	**Hadim**	**6.43**	**60**	*e*Pn	**Pn**	**15 44 00.8**	**+1.3**
KOT	**Kottamia**	**6.72**	**125**	S	**Sn**	**15 45 16.5**	**-2.6**
	baz=125						
KOT	**Kottamia**	**6.72**	**125**	S	**Sn**	**15 45 16.5**	**-2.6**
LFK	**Lefkose**	**6.74**	**77**	*e*PN	**Pn**	**15 44 04.6**	**+0.9**
LFK	**Lefkose**	**6.74**	**77**	*e*Pn	**Pn**	**15 44 04.6**	**+0.9**
KONT	**Konya--Tatoy**	**6.83**	**53**	*e*PN	**Pn**	**15 44 06.1**	**+1.3**
KONT	**Konya--Tatoy**	**6.83**	**53**	*e*Pn	**Pn**	**15 44 06.1**	**+1.3**
IKL	**Isikli**	**7.07**	**69**	*e*PN	**Pn**	**15 44 08.4**	**+0.3**
IKL	**Isikli**	**7.07**	**69**	*e*Pn	**Pn**	**15 44 08.4**	**+0.3**
KZIT	**Kziot**	**8.11**	**110**	Pn	**Pn**	**15 44 21.7**	**-0.8**
SLTI	**Sal'it**	**8.18**	**100**	Pn	**Pn**	**15 44 23.1**	**-0.3**
MMAI	**Mount Meron Ar**	**8.32**	**94**	Pn	**Pn**	**15 44 24.0**	**-1.4**
	comp=N,4.2nm,0.3s,baz=274,slow=12,SNR=14						
MMAI				Sn	**Sn**	**15 45 59.5**	**+0.9**
	comp=N,3.6nm,0.3s,baz=275,slow=20,SNR=5.1						
MMA0	**Mount Meron ar**	**8.32**	**94**	Pn	**Pn**	**15 44 24.8**	**-0.6**
MMA0				Sn	**Sn**	**15 45 55.8**	**-2.8**
MMLI	**Mount Malkishu**	**8.45**	**98**	Pn	**Pn**	**15 44 27.7**	**+0.6**
HMDT	**Nahal Hemdat**	**8.58**	**99**	Pn	**Pn**	**15 44 28.1**	**-0.7**
DSI	**Dead Sea**	**8.65**	**103**	Pn	**Pn**	**15 44 29.4**	**-0.5**
BRTR	**Keskin Array B**	**8.68**	**46**	Pn	**Pn**	**15 44 30.7**	**+0.3**
	comp=N,0.2nm,0.3s,baz=226,slow=14,SNR=5.5						
MZDA	**Masada**	**8.73**	**105**	Pn	**Pn**	**15 44 30.0**	**-0.8**
PRNI	**Paran**	**8.82**	**112**	Pn	**Pn**	**15 44 32.3**	**+0.1**
HRFI	**Mount Harif**	**8.99**	**113**	Pn	**Pn**	**15 44 34.3**	**-0.3**
MBRI	**Mt Berech**	**9.02**	**115**	Pn	**Pn**	**15 44 34.9**	**0.0**
EIL	**Elat**	**9.11**	**116**	Pn	**Pn**	**15 44 35.0**	**-1.1**
	comp=N,1.4nm,0.3s,baz=314,slow=2.9,SNR=10.0						
EIL				Sn	**Sn**	**15 46 14.6**	**-3.2**
	comp=N,1.8nm,0.3s,baz=342,slow=19,SNR=4.3						
EIL	**Elat**	**9.11**	**116**	Pn	**Pn**	**15 44 35.8**	**-0.3**
ASF	**Jabal al Asfar**	**9.73**	**98**	Pn	**Pn**	**15 44 43.2**	**-1.4**
	comp=N,0.6nm,0.3s,baz=241,slow=19,SNR=3.4						
ASF				Sn	**Sn**	**15 46 29.9**	**-3.2**
	comp=N,0.5nm,0.3s,baz=150,slow=20,SNR=2.5						
KBZ	**Khabaz**	**16.66**	**49**	Pn	**Pn**	**15 46 18.0**	**+0.1**
	comp=N,0.1nm,0.3s,baz=240,slow=16,SNR=1.8						
AKASG	**Malin Array Be**	**16.93**	**8**	Pn	**P**	**15 46 22.2**	**-0.9**
	comp=N,2.4nm,0.3s,baz=199,slow=10,SNR=7.8						
GERES	**GERESS Array B**	**17.26**	**333**	P	**P**	**15 46 27.6**	**+0.8**
	comp=N,0.2nm,0.3s,baz=145,slow=10,SNR=6.2						
HFS	**Hagfors**	**27.29**	**347**	P	**P**	**15 48 08.6**	**+0.2**
	comp=N,1.3nm,0.7s,baz=182,slow=7.2,SNR=2.9						
FINES	**FINESS Array B**	**27.49**	**1**	P	**P**	**15 48 09.5**	**-0.7**
	comp=N,1.5nm,0.8s,baz=179,slow=9.7,SNR=2.9						
NOA	**NORSAR Array B**	**28.61**	**345**	P	**P**	**15 48 22.3**	**+1.9**
	comp=N,0.4nm,0.7s,baz=147,slow=9.1,SNR=3.1						
TORD	**Torodi Ar. Bea**	**29.96**	**232**	P	**P**	**15 48 32.2**	**-0.5**
	comp=N,0.2nm,0.3s,baz=38,slow=8.8,SNR=4.2						
ARCES	**ARCESS Array B**	**35.61**	**0**	P	**P**	**15 49 20.5**	**-1.0**
	comp=N,1.3nm,0.8s,baz=191,slow=8.3,SNR=5.3						
MKAR	**Makanchi Array**	**44.20**	**56**	P	**P**	**15 50 34.2**	**+1.1**
	comp=N,1.3nm,0.5s,baz=276,slow=7.0,SNR=21						
ZALV	**Zalesovo Beam**	**45.62**	**45**	P	**P**	**15 50 44.6**	**+0.4**
	comp=N,1.8nm,0.4s,baz=271,slow=9.1,SNR=8.6						
SONM	**Songino Array**	**60.02**	**50**	P	**P**	**15 52 32.2**	**+1.4**
	comp=N,0.4nm,0.5s,baz=270,slow=9.4,SNR=4.3						
CMAR	**Chiang Mai Arr**	**66.43**	**83**	P	**P**	**15 53 14.2**	**+0.6**
	comp=N,0.5nm,0.6s,baz=300,slow=8.4,SNR=4.9						
YKA	**Yellowknife Ar**	**78.66**	**342**	P	**P**	**15 54 26.3**	**+0.6**
	comp=N,1.3nm,1.1s,baz=39,slow=5.4,SNR=2.8						
ILAR	**Eielson Array**	**81.40**	**357**	P	**P**	**15 54 41.6**	**+1.1**
	comp=N,0.3nm,0.7s,baz=2.9,slow=3.6,SNR=3.0						
ASAR	**Alice Springs**	**117.55**	**101**	PKP	**PKPdf**	**16 01 10.6**	**+0.3**
	comp=N,0.6nm,1.2s,baz=312,slow=1.7,SNR=3.0						

*NIED **14** 16:07:00, 35.°30N×138.°90E, h20km, Mw3.6 Best double couple: M0=2.95000×10^14 NP1:φs=156.00000°, δ79.00000°, λ16.00000°. NP2:φs=63.00000°, δ74.00000°, λ169.00000°.*
*IDC **14** 16:07:09.4±1.9, 35.°32N×139.°03E, h0km, mb3.2/3, mb1 3.3/4, mb1mx3.2/24, mbtmp3.2/4, ML3.2/1, Error ellipse: s-maj=59.5km s-min=13.9km az=70.0*
*ISCJB **14** 16:07:11.7±0.6, 35.°31N±0.°05×138.°96E±0.°08, h23km±5km, mb3.2/3, Error ellipse: s-maj=11.6km s-min=6.7km az=148.1*
*JMA **14** 16:07:12.3, 35.°35N×138.°94E, h15km±1km, M3.7 Broadband fault plane solution: P waves. NP1: φs=242.00000°, δ70.00000°, λ157.00000°. NP2: φs=341.00000°, δ68.00000°, λ21.00000°. Principal axes: T Plg30.0000°, Azm201.0000°; N Plg60.0000°, Azm24.0000°; P Plg1.0000°, Azm292.0000°;*
JMA Felt II J1.
ISC 14 16:07:12.0±0.9, 35.°35N±0.°04×138.°98E±0.°05, h17km±6km, n13, σ0§81/16, mb3.4/3, 3C-3D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOD2	**Odawara 2**	**0.12**	**133**	⇓P	**Pg**	**16 07 16.0**	**+0.1**
JOD2				S	**Sg**	**16 07 18.7**	**+0.3**
JYN	**Shimob**	**0.38**	**293**	⇓P	**Pg**	**16 07 19.6**	**-0.4**
JYN				S	**Sg**	**16 07 25.0**	**-0.3**
KTJJ	**Kamata 2**	**0.43**	**170**	⇑P	**Pb**	**16 07 20.6**	**-0.5**
JIZS	**Izushimoda**	**0.63**	**187**	⇑P	**Pb**	**16 07 23.9**	**-0.7**
JRY	**Ryogami san**	**0.67**	**355**	⇑P	**Pb**	**16 07 25.0**	**-0.3**
SHZ3	**Shizuoka 3**	**0.69**	**246**	P	**Pb**	**16 07 25.1**	**-0.5**
JIM2	**Oshima 3**	**0.73**	**149**	⇓P	**Pb**	**16 07 25.8**	**-0.5**
MJAR	**Matsushiro Arr**	**1.34**	**333**	Pg	**Pn**	**16 07 35.7**	**-0.4**
	73nm,0.3s,baz=188,slow=25,SNR=501						
MJAR				Lg	Lg	16 07 52.1	
	318nm,0.3s,baz=132,slow=18,SNR=64						
MAT	**Matsushiro**	**1.34**	**333**	P	**Pb**	**16 07 36.5**	**-0.3**
MAT				S	**Sb**	**16 07 54.1**	**+0.4**
JNU	**Nakatsue**	**7.06**	**254**	Pn	**Pn**	**16 08 56.1**	**+1.4**
	0.4nm,0.3s,baz=153,slow=2.3,SNR=4.6						
MKAR	**Makanchi Array**	**43.37**	**303**	P	**P**	**16 15 13.9**	**+0.6**
	0.1nm,0.5s,baz=94,slow=9.3,SNR=2.2						
WRA	**Warramunga Arr**	**55.16**	**185**	P	**P**	**16 16 42.0**	**-1.7**
	0.3nm,0.7s,baz=0.8,slow=7.6,SNR=5.2						
ASAR	**Alice Springs**	**58.89**	**185**	P	**P**	**16 17 10.8**	**+0.8**
	0.3nm,1.0s,baz=7.8,slow=15,SNR=2.6						

RSPR 14 16:50:10.8, 18.°25N×68.°45W, h146km±2km, MD3.6/14, 13C-2D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMO	**Isla Mona**	**0.54**	**105**	⇓*e*P	Pn	16 50 31.0	-0.8
IMO				*e*S	Sn	16 50 47.4	-0.4
IDE	**Isla Desecheo**	**0.94**	**82**	⇑*e*P	Pn	16 50 34.4	-0.3
IDE	**Isla Desecheo**	**0.94**	**82**	*e*S	Sn	16 50 52.9	+0.1
DR12	**Loma Pena Alta**	**1.03**	**301**	⇑*e*P	Pn	16 50 33.4	-2.1
DR12				*e*S	Sn	16 50 53.2	-1.1
AGPR	**Aguadilla, PR**	**1.29**	**80**	⇑*e*P	Pn	16 50 38.5	+0.5
AGPR	**Aguadilla, PR**	**1.29**	**80**	*e*S	Sn	16 50 59.3	+0.7
CRPR	**Cabo Rojo, PR**	**1.30**	**101**	⇑*e*P	Pn	16 50 37.8	-0.2
CRPR	**Cabo Rojo, PR**	**1.30**	**101**	*e*S	Sn	16 50 58.5	-0.1
LSP	**Las Mesas**	**1.30**	**93**	⇑*e*P	Pn	16 50 38.1	+0.1
LSP	**Las Mesas**	**1.30**	**93**	*e*S	Sn	16 50 58.6	-0.2
LRS	**Lares**	**1.53**	**88**	⇓*e*P	Pn	16 50 41.0	+0.5
LRS				*e*S	Sn	16 51 03.3	+0.3
AOPR	**Arecibo Observ**	**1.62**	**86**	⇑*e*P	Pn	16 50 41.2	-0.1
AOPR	**Arecibo Observ**	**1.62**	**86**	*e*S	Sn	16 51 05.5	+0.8
OBIP	**Obispado Ponce**	**1.77**	**96**	⇑*e*P	Pn	16 50 42.7	-0.3
OBIP	**Obispado Ponce**	**1.77**	**96**	*e*S	Sn	16 51 08.1	+0.5
CELP	**Cerrillos**	**1.79**	**95**	⇑*e*P	Pn	16 50 43.8	+0.5
CELP				*e*S	Sn	16 51 08.2	0.0
SJG	**San Juan**	**2.19**	**93**	*e*S	Sn	16 51 17.6	+1.1
CPD	**Cerro la Pandu**	**2.42**	**95**	*e*S	Sn	16 51 22.8	+1.2
CBYP	**Canovanas**	**2.47**	**89**	⇑*e*P	Pn	16 50 50.4	-1.1
CBYP	**Canovanas**	**2.47**	**89**	*e*S	Sn	16 51 22.4	-0.3
HUMP	**Col San Antoni**	**2.48**	**92**	⇑*e*P	Pn	16 50 50.7	-0.7
HUMP	**Col San Antoni**	**2.48**	**92**	*e*S	Sn	16 51 23.2	+0.5
MTP	**Monte Pirata**	**2.76**	**93**	⇑*e*P	Pn	16 50 55.1	+0.1
MTP	**Monte Pirata**	**2.76**	**93**	*e*S	Sn	16 51 30.1	+1.1
SDDR	**Presa de Saban**	**2.78**	**286**	⇑*e*P	Pn	16 50 55.9	+0.5
SDDR	**Presa de Saban**	**2.78**	**286**	*e*S	Sn	16 51 30.9	+1.1
STVI	**Saint Thomas**	**3.33**	**88**	⇑*e*P	Pn	16 51 01.9	-0.3
STVI	**Saint Thomas**	**3.33**	**88**	*e*S	Sn	16 51 41.8	-0.1

*ISCJB **14** 17:07:31.2±0.8, 40.°63N±0.°04×39.°10E±0.°06, h4km±10km, Error ellipse: s-maj=8.8km s-min=6.3km az=151.3*
*CSEM **14** 17:07:31.3±0.3, 40.°62N×39.°10E, h2km, MD2.8, Error ellipse: s-maj=6.2km s-min=4.7km az=53.0*
*DDA **14** 17:07:34.1, 40.°48N×39.°50E, h8km, MD2.8*
ISC 14 17:07:30.7±1.1, 40.°61N±0.°04×39.°11E±0.°04, h11km±14km, n10, σ0§21/18, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMT	**Gumushane**	**0.32**	**117**	*e*PG	**Pg**	**17 07 37.0**	**-0.1**
GUMT	**Gumushane**	**0.32**	**117**	*e*Pg	**Pg**	**17 07 37.0**	**-0.1**
ESPY	**Espiye-Giresun**	**0.43**	**317**	*e*PG	**Pg**	**17 07 39.0**	**-0.1**
ESPY				*e*SG	**Sg**	**17 07 44.9**	**+0.1**
ESPY	**Espiye-Giresun**	**0.43**	**317**	*e*Pg	**Pg**	**17 07 39.0**	**-0.1**
ESPY				*e*Sg	**Sg**	**17 07 44.9**	**+0.1**
KELT	**Kelkit**	**0.47**	**167**	*i* P	**Pb**	**17 07 41.3**	**+0.2**
KELT				*i* S	**Sb**	**17 07 48.0**	**-0.1**
KELT	**Kelkit**	**0.47**	**167**	*i* P	**Pb**	**17 07 41.3**	**+0.2**
KELT				*i* S	**Sb**	**17 07 48.0**	**-0.1**
MACK	**Trabzon**	**0.60**	**56**	*i* P	**Pg**	**17 07 42.6**	**+0.2**
MACK				*i* S	**Sb**	**17 07 52.0**	**+0.2**
MACK	**Trabzon**	**0.60**	**56**	*i* P	**Pg**	**17 07 42.6**	**+0.2**
MACK				*i* S	**Sb**	**17 07 52.0**	**+0.2**
DBAD	**Bademkaya**	**2.00**	**77**	*i* P	**Pb**	**17 08 06.8**	**-0.3**
DBAD				*i* S	**Sb**	**17 08 32.0**	**-0.1**
DBAD	**Bademkaya**	**2.00**	**77**	*i* P	**Pb**	**17 08 06.8**	**-0.3**
DBAD				*i* S	**Sb**	**17 08 32.0**	**-0.1**

MEX 14 17:27:25.8±0.6, 15.°50N×98.°01W, h18km±48km, MD3.7, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.90**	**353**	*e*P	Pb	17 27 40.0	-3.0
PNIG				*e*S	Sb	17 27 50.4	-4.3
HUIG	**Huatulco**	**1.85**	**81**	*e*P	Pn	17 27 54.4	-2.3
HUIG				*i* S	Sn	17 28 14.9	-4.7
HUIG				*e*S	Sb	17 28 15.4	-6.5
VHO	**Vista Hermosa**	**1.99**	**38**	*e*P	Pn	17 27 56.2	-2.6
VHO				*e*S	Sn	17 28 19.9	-3.6
MEIG	**Mezcala**	**2.87**	**328**	*e*P	Pn	17 28 08.3	-2.5
MEIG				*e*S	Sn	17 28 41.5	-3.5
CMIG	**Matias Romero**	**3.39**	**62**	*e*P	Pn	17 28 16.1	-1.8

MEX 14 17:34:41.3±0.6, 15.°40N×98.°05W, h18km±26km, MD3.9, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.99**	**356**	*e*P	Pb	17 34 56.7	-3.3
PNIG				*i* S	Sb	17 35 08.8	-3.9
HUIG	**Huatulco**	**1.91**	**79**	*e*P	Pn	17 35 10.4	-2.5
HUIG				*e*S	Sn	17 35 31.4	-5.1
VHO	**Vista Hermosa**	**2.09**	**37**	*e*P	Pn	17 35 13.3	-2.4
VHO				*e*S	Sn	17 35 37.7	-3.8
MEIG	**Mezcala**	**2.93**	**329**	*i* P	Pn	17 35 25.3	-1.8
MEIG				*i* S	Sn	17 35 57.8	-4.1
CMIG	**Matias Romero**	**3.48**	**61**	*e*P	Pn	17 35 31.8	-2.7
CMIG				*e*S	Sn	17 36 11.8	-3.4

GUC 14 17:36:20.9±0.4, 33.°44S×72.°31W, h38km±1km, MD3.6, ML3.5, 2C-5D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.69**	**54**	⇓*i*P	Pn	17 36 34.3	0.0
IHA				*i* S	Sn	17 36 44.5	+0.7
LNV	**Longovilo**	**0.91**	**125**	⇑*i*P	Pn	17 36 36.9	-0.2
LNV				*i* S	Sn	17 36 49.4	+0.3
TACH	**Talagante**	**1.16**	**101**	*i* P	Pn	17 36 41.0	+0.3
TACH				*i* S	Sn	17 36 56.7	+1.3
ROCH	**El Roble**	**1.18**	**67**	⇑*i*P	Pn	17 36 42.1	+0.9
ROCH				*i* S	Sn	17 36 58.6	+2.3
RCDM	**Rinconada Maip**	**1.26**	**93**	AML	AML	17 37 01.2	
	comp=N,816nm,0.4s						
SAN	**Santiago**	**1.38**	**91**	*i* P	Pn	17 36 44.9	+1.3
SAN				*i* S	Sn	17 37 03.1	+2.5
SAN				AML	AML	17 37 17.2	
	comp=E,2μm,0.4s						
PEL	**Peldehue**	**1.39**	**78**	⇓*i*P	Pn	17 36 45.7	+1.9
PEL				*i* S	Sn	17 37 04.0	+3.0
PEL				AML	AML	17 37 12.2	
	comp=N,1μm,0.4s						
ANTU	**Antumapu**	**1.41**	**96**	*i* P	Pn	17 36 45.4	+1.4
ANTU				*i* S	Sn	17 37 03.9	+2.5
ANTU				AML	AML	17 37 05.2	
	comp=E,930nm,0.4s						
CLCH	**Cerro Calan**	**1.48**	**89**	*i* P	Pn	17 36 46.6	+1.5
CLCH				*i* S	Sn	17 37 05.9	+2.6
CLCH				AML	AML	17 37 19.4	
	comp=E,802nm,0.8s						
PCH	**Pirque**	**1.51**	**97**	⇓*i*P	Pn	17 36 46.6	+1.1
PCH				*i* S	Sn	17 37 06.5	+2.5
CACH	**El Canelo**	**1.57**	**116**	⇓*i*P	Pn	17 36 48.3	+1.8
CACH				*i* S	Sn	17 37 09.3	+3.6
NICH	**Los Niches**	**1.80**	**150**	*i* P	Pn	17 36 50.6	+1.2
NICH				*i* S	Sn	17 37 13.2	+2.3
NICH				AML	AML	17 37 24.1	
	comp=N,1μm,0.7s						
LMEL	**Las Melosas**	**1.80**	**104**	⇓*i*P	Pn	17 36 51.0	+1.3
LMEL				*i* S	Sn	17 37 14.1	+2.7
LMEL				AML	AML	17 37 22.0	
	comp=N,481nm,0.3s						

PETK	Petropavlovsk-	67.62 354	P	P	18 11 08.0	+1.1
	15nm,0.8s,baz=147,slow=8.3,SNR=23					
CN2	Changchun	69.25 329	*e*P	P	18 11 16.8	-0.4
CN2			pmax	pmax		
	comp=Z,10.0nm,0.6s					
ENH	Enshi	71.05 309	*e*P	P	18 11 28.2	-0.4
	comp=Z,5.1nm,0.8s					
GYA	Guiyang	71.42 305	*e*P	P	18 11 31.0	0.0
GYA			pP	pP	18 12 06.3	+10
GYA			sP	sP	18 12 23.0	+16
GYA			PP	PP	18 14 13.8	+2.9
GYA			S	S	18 20 35.3	-6.5
GYA			SKS	SKSac	18 21 16.0	-9.5
GYA			pmax	pmax		
	comp=Z,10.0nm,1.0s					
BJI	Beijing	71.89 321	P	P	18 11 34.0	+0.7
BJI			pmax	pmax		
	comp=Z,13nm,0.5s					
XAN	Xi'an	73.35 312	P	P	18 11 42.6	+0.4
XAN			pmax	pmax		
	comp=Z,2.0nm,1.0s					
KMI	Kunming	74.03 302	P	P	18 11 46.6	0.0
KMI			pmax	pmax		
	comp=Z,11nm,1.2s					
CMAR	Chiang Mai Arr	74.72 294	P	P	18 11 51.5	+1.1
CMAR	Chiang Mai Arr	74.72 294	P	P	18 11 51.5	+1.1
	comp=Z,1.8nm,0.8s,baz=126,slow=4.5,SNR=20					
CHTO	Chiang Mai	74.85 294	*e*P	P	18 11 48.9	-2.3
	comp=Z,18nm,2.0s					
HHC	Hu-ho-hao-te	75.22 320	*e*P	P	18 11 53.8	+0.8
HHC			pP	pP	18 12 28.3	+10
HHC			PP	PP	18 14 46.4	+3.5
HHC			S	S	18 21 20.3	-3.8
HHC			SKS	SKSac	18 21 44.9	-8.5
HHC			SS	SS	18 26 14.3	-1.8
HHC			pmax	pmax		
	comp=Z,37nm,0.9s					
HHC			pmax	pmax		
	comp=Z,450nm,6.9s					
HHC			LR	LR		
	comp=N,420nm,17.8s					
HHC			LR	LR		
	comp=E,380nm,16.7s					
HHC			LR	LR		
	comp=Z,470nm,17.5s					
CD2	Chengdu	75.70 307	P	P	18 11 55.8	-0.1
CD2			pmax	pmax		
	comp=Z,10.0nm,0.5s					
QSPA	South Pole Qui	75.73 180	*e*P	P	18 11 55.2	-0.4
	comp=Z,4.3nm,0.8s					
LZH	Lanzhou	77.99 312	*e*P	P	18 12 09.4	+0.6
LZH			pP	pP	18 12 44.5	+10
LZH			sP	sP	18 12 59.8	+15
LZH			PP	PP	18 15 09.6	+3.2
LZH			pmax	pmax		
	comp=Z,17nm,1.1s					
LZH			pmax	pmax		
	comp=Z,72nm,8.5s					
LZH			LR	LR		
	comp=N,170nm,16.3s					
LZH			LR	LR		
	comp=E,170nm,17.1s					
LZH			LR	LR		
	comp=Z,200nm,18.6s					
ULN	Ulaanbaatar	81.75 324	*e*P	P	18 12 28.9	+0.1
	comp=Z,6.3nm,1.4s					
SONM	Songino Array	82.11 324	P	P	18 12 31.2	+0.6
SONM	Songino Array	82.11 324	P	P	18 12 31.2	+0.6
	comp=Z,1.1nm,0.6s,baz=144,slow=6.7,SNR=7.7					
MAW	Mawson	82.27 202	P	P	18 12 31.7	+0.8
MAW	Mawson	82.27 202	P	P	18 12 31.7	+0.8
	comp=Z,3.0nm,0.8s,baz=68,slow=9.0,SNR=5.4					
CAST	Castle Rocks	83.60 17	*e*P	P	18 12 37.0	-0.8
	comp=Z,4.5nm,0.9s					
ILAR	Eielson Array	86.13 18	P	P	18 12 49.8	-0.7
ILAR	Eielson Array	86.13 18	P	P	18 12 49.8	-0.7
	comp=Z,1.8nm,0.8s,baz=230,slow=5.6,SNR=13					
DUG	Dugway	91.63 49	*e*P	P	18 13 21.4	+4.1
	comp=Z,7.7nm,0.4s					
WMQ	Urumqi	92.38 315	*e*P	P	18 13 19.9	-0.6
WMQ			pP	pP	18 13 55.9	+9.0
WMQ			sP	sP	18 14 10.9	+13
WMQ			pmax	pmax		
	comp=Z,6.0nm,0.8s					
WMQ			pmax	pmax		
	comp=Z,55nm,1.0s					
SNAA	Sanae	93.98 183	*e*P	P	18 13 27.1	-0.3
VNA2	Neumayer--Watz	94.91 182	*e*P	P	18 13 31.7	+0.1
	baz=190,slow=4.2					
TXAR	Lajitas Array	96.12 61	P	P	18 13 38.4	+0.4
TXAR	Lajitas Array	96.12 61	P	P	18 13 38.4	+0.4
	comp=Z,0.2nm,0.4s,baz=190,slow=4.6,SNR=2.3					
MK31	Makanchi Array	96.85 316	*e*P	P	18 13 40.6	-0.2
MKAR	Makanchi Array	96.85 316	P	P	18 13 41.0	+0.1
MKAR			PKiKP	PKiKP	18 18 16.7	-0.1
MKAR	Makanchi Array	96.85 316	P	P	18 13 41.0	+0.1
	comp=Z,1.2nm,0.7s,baz=94,slow=6.6,SNR=13					
MKAR			PKiKP	PKiKP	18 18 16.7	-0.1
	comp=Z,0.3nm,0.5s,baz=124,slow=0.5,SNR=7.0					
ZALV	Zalesovo Beam	97.01 324	P	P	18 13 40.0	-1.3
ZALV	Zalesovo Beam	97.01 324	P	P	18 13 40.0	-1.3
	comp=Z,0.9nm,0.5s,baz=110,slow=5.0,SNR=5.2					
YKA	Yellowknife Ar	97.19 27	P	Pdif	18 13 41.1	-0.8
YKA	Yellowknife Ar	97.19 27	P	Pdif	18 13 41.1	-0.8
	comp=Z,0.6nm,0.7s,baz=261,slow=4.6,SNR=4.7					
KSH	Kashi	99.89 308	*e*P	Pdif	18 13 55.0	+0.2
KSH			pP	pP	18 14 31.0	+10
KSH			PP	PP	18 18 04.4	+3.4
KSH			SKS		18 24 19.3	
KSH			S	ScS	18 25 13.1	-7.6
KSH			sS	sS	18 26 16.6	+10
KSH			pmax	pmax		
	comp=Z,82nm,6.8s					
KSH			LR	LR		
	comp=N,56nm,7.7s					
KSH			LR	LR		
	comp=E,66nm,7.1s					
KSH			LR	LR		
	comp=Z,100nm,6.9s					
ARCES	ARCESS Array B	119.82 345	PKP	PKPdf	18 18 58.5	-0.4
ARCES	ARCESS Array B	119.82 345	PKP	PKPdf	18 18 58.5	-0.4
	comp=Z,4.0nm,0.6s,baz=67,slow=1.2,SNR=30					
JOF	Joensuu	122.46 338	*e*p	PKPdf	18 19 03.2	-1.0
BOSA	Boshof	123.67 221	PKP	PKPdf	18 19 08.0	+0.2
BOSA	Boshof	123.67 221	PKP	PKPdf	18 19 08.0	+0.2
	comp=Z,2.8nm,0.9s,baz=174,slow=3.1,SNR=4.3					
KAF	Kangasniemi	124.77 339	*e*p	PKPdf	18 19 07.6	-1.0
FINES	FINESS Array B	125.30 338	PKP	PKPdf	18 19 09.7	0.0
FINES	FINESS Array B	125.30 338	PKP	PKPdf	18 19 09.7	0.0
	comp=Z,4.6nm,0.8s,baz=85,slow=4.2,SNR=7.4					
NB2	NORSAR Subarra	130.19 345	PKPdf	PKPdf	18 19 19.2	+0.1
	comp=Z,1.8nm,0.7s,baz=31,slow=1.9					
NOA	NORSAR Array B	130.19 345	PKP	PKPdf	18 19 19.1	0.0
NOA			SKPbc	SKPbc	18 22 34.1	+1.0
NOA	NORSAR Array B	130.19 345	PKP	PKPdf	18 19 19.1	0.0
	comp=Z,2.3nm,0.8s,baz=33,slow=2.0,SNR=10.0					
NOA			SKPbc	SKPbc	18 22 34.1	+1.0
	comp=Z,1.6nm,0.9s,baz=30,slow=2.9,SNR=4.1					
AKASG	Malin Array Be	130.34 326	PKP	PKPdf	18 19 19.5	-0.1
AKASG	Malin Array Be	130.34 326	PKP	PKPdf	18 19 19.5	-0.1
	comp=Z,0.7nm,0.5s,baz=52,slow=3.0,SNR=7.0					
BRTR	Keskin Array B	132.18 311	PKP	PKPdf	18 19 22.9	-0.8
BRTR	Keskin Array B	132.18 311	PKP	PKPdf	18 19 22.9	-0.8
	comp=Z,0.9nm,0.7s,baz=117,slow=5.0,SNR=4.8					
DPC	Dobruska-Polom	136.97 333	*e*PKPdf	PKPdf	18 19 32.5	+0.3
BRG	Berggiesshubel	137.59 335	*e*PKP	PKPdf	18 19 39.7	+6.5
	comp=Z,14nm,1.6s					
CLL	Collm	137.63 336	*e*PKiKP	PKiKP	18 19 36.0	+0.8
	comp=Z,5.0nm,0.9s					
PRU	Pruhonice	138.01 334	*e*PKPdf	PKPdf	18 19 35.5	+1.5
KHC	Kasperske Hory	139.07 334	*e*PKPdf	PKPdf	18 19 38.7	+2.6
GERES	GERESS Array B	139.23 333	PKP	PKPdf	18 19 36.9	+0.5
GERES			SKPbc	SKiKP	18 23 03.3	-2.6
GERES	GERESS Array B	139.23 333	PKP	PKPdf	18 19 36.9	+0.5
	comp=Z,1.4nm,0.8s,baz=338,slow=1.4,SNR=7.4					
GERES			SKPbc	SKiKP	18 23 03.3	-2.6
	comp=Z,1.6nm,0.8s,baz=44,slow=4.6,SNR=7.8					
BNI	Bardonecchia	145.18 336	*e*PKPdf	PKPdf	18 19 47.8	+0.6
KEST	Kesra	150.84 321	*e*PKPbc	PKPbc	18 20 02.7	+0.3
KEST	Kesra	150.84 321	PKPbc	PKPbc	18 20 03.0	+0.6
	comp=Z,3.8nm,0.6s,baz=12,slow=0.8,SNR=20					
ESDC	Sonseca Array	153.55 345	PKPbc	PKPbc	18 20 08.4	+0.1
ESDC			PKPab	PKPab	18 20 21.5	+0.5
ESDC	Sonseca Array	153.55 345	PKPbc	PKPbc	18 20 08.4	+0.1
	comp=Z,1.4nm,0.7s,baz=15,slow=2.7,SNR=7.7					
ESDC			PKPab	PKPab	18 20 21.5	+0.5
	comp=Z,1.5nm,0.6s,baz=5.5,slow=4.0,SNR=7.4					
TORD	Torodi Ar. Bea	165.88 267	PKP	PKPdf	18 20 13.2	-1.9
TORD			PKPab	PKPab	18 21 13.8	-1.6
TORD	Torodi Ar. Bea	165.88 267	PKP	PKPdf	18 20 13.2	-1.9
	comp=Z,0.7nm,0.7s,baz=20,slow=0.7,SNR=5.9					
TORD			PKPab	PKPab	18 21 13.8	-1.6
	comp=Z,0.7nm,0.8s,baz=93,slow=3.3,SNR=4.3					

*NEIC **14** 18:27:24.0±0.2, 36.°55N×106.°46W, h5km, ML3.2, MW3.5(USGS), Error ellipse: s-maj=2.8km s-min=2.4km az=79.0*
NEIC Felt at Canjilon and Tierra Amarilla.
ISC 14 18:27:24.0±0.9, 36.°55N±0.°01×106.°48W±0.°01, h9km±8km, n132, σ1§28/161, 46C-58D, New Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U23A	El Rito	0.32	133	*e*P	Pg	18 27 30.5	-0.1
U23A				*i* S	Sg	18 27 34.5	-0.3
U23A	El Rito	0.32	133	⇓P	Pg	18 27 30.5	-0.1
	baz=0.3,SNR=1000						
U23A				⇓S	Sg	18 27 34.7	-0.2
	baz=0.3						
U22A	Llaves	0.35	240	⇑*i*P	Pg	18 27 31.1	+0.1
U22A	Llaves	0.35	240	⇓P	Pg	18 27 30.9	-0.1
	baz=0.4,SNR=463						
U22A				⇓S	Sg	18 27 35.4	-0.2
	baz=0.4						
T22A	Edith	0.57	324	⇑*i*P	Pg	18 27 34.8	-0.4
T22A				*e*S	Sg	18 27 42.6	-0.2
T22A	Edith	0.57	324	⇓P	Pg	18 27 34.8	-0.4
	baz=0.6,SNR=1000						
T22A				⇓S	Sg	18 27 42.5	-0.4
	baz=0.6						
T23A	Casias Ranch,	0.60	36	⇓*i*P	Pg	18 27 35.5	-0.4
T23A				*e*S	Sg	18 27 43.3	-0.4
T23A	Casias Ranch,	0.60	36	⇑P	Pg	18 27 35.3	-0.6
	baz=0.6,SNR=1000						
T23A				⇑S	Sg	18 27 43.4	-0.4
	baz=0.6						
V22A	San Miguel Ran	0.72	209	⇓*i*P	Pg	18 27 37.4	-0.6
V22A	San Miguel Ran	0.72	209	P	Pg	18 27 37.4	-0.6
	baz=0.7,SNR=866						
V22A				⇓S	Sg	18 27 47.7	+0.2
	baz=0.7						
V23A	Ortiz Mt. (NFS	0.84	163	⇓*i*P	Pg	18 27 40.4	+0.2
V23A	Ortiz Mt. (NFS	0.84	163	⇓P	Pg	18 27 40.4	+0.2
	baz=0.8,SNR=497						
V23A				⇑S	Sb	18 27 51.8	-0.5
	baz=0.8						
T21A	Navajo Lake	0.95	298	⇑*i*P	Pg	18 27 42.1	-0.3
T21A	Navajo Lake	0.95	298	⇑P	Pg	18 27 42.1	-0.3
	baz=1.0,SNR=55						
T21A				⇑Sb	Sb	18 27 56.5	+0.9
	baz=1.0						
U21A	Nageezi	0.95	263	⇑*i*P	Pg	18 27 42.0	-0.4
U21A				*e*S	Sg	18 27 54.4	-0.5
U21A	Nageezi	0.95	263	⇓P	Pg	18 27 42.0	-0.4
	baz=1.0,SNR=1000						
U21A				⇑S	Sg	18 27 54.5	-0.4
	baz=1.0						
U24A	Moreno Valley	0.98	98	⇑*i*P	Pg	18 27 42.4	-0.5
U24A	Moreno Valley	0.98	98	P	Pg	18 27 42.4	-0.5
	baz=1.0,SNR=345						
U24A				⇓S	Sg	18 27 55.0	-0.7
	baz=1.0						
T24B	San Luis	1.02	60	⇓*i*P	Pg	18 27 43.2	-0.5
T24B	San Luis	1.02	60	⇑P	Pg	18 27 43.2	-0.5
	baz=1.0,SNR=403						
T24B				⇓S	Sg	18 27 56.5	-0.5
	baz=1.0						
V21A	Milan	1.19	232	⇓*i*P	Pn	18 27 46.0	-1.1
V21A	Milan	1.19	232	⇓P	Pn	18 27 46.0	-1.1
	baz=1.2						
S23A	Nye Farm, Mont	1.22	18	⇓*i*P	Pn	18 27 46.6	-0.9
S23A	Nye Farm, Mont	1.22	18	⇓P	Pn	18 27 46.6	-0.9
	baz=1.2,SNR=56						
S23A				⇑S	Sb	18 28 02.7	-0.6
	baz=1.2						
S22A	4UR Ranch, Cre	1.23	347	⇓*i*P	Pn	18 27 46.6	-1.0
S22A	4UR Ranch, Cre	1.23	347	⇓P	Pn	18 27 46.6	-1.0
	baz=1.2,SNR=181						
V24A	Rampart Ranch,	1.28	130	⇑*i*P	Pn	18 27 47.8	-0.5
V24A	Rampart Ranch,	1.28	130	⇓P	Pn	18 27 47.8	-0.5
	baz=1.3						
W23A	Werner Place,	1.41	169	⇓*i*P	Pn	18 27 50.1	+0.1
W23A	Werner Place,	1.41	169	P	Pn	18 27 50.1	+0.1
	baz=1.4,SNR=776						
W23A				⇑S	Sn	18 28 08.2	-0.7
	baz=1.4						
SDCO	Great Sand Dun	1.43	33	*e*P	Pn	18 27 49.5	-0.9
SDCO				*e*S	Sn	18 28 06.3	-3.2
S24A	Houchin Ranch,	1.49	43	⇓*i*P	Pn	18 27 51.6	+0.3
S24A	Houchin Ranch,	1.49	43	⇓P	Pn	18 27 51.2	-0.1
	baz=1.5,SNR=53						
S24A				⇓S	Sn	18 28 10.2	-0.7
	baz=1.5						
W22A	Albuquerque	1.51	192	⇓*i*P	Pb	18 27 52.2	0.0
W22A	Albuquerque	1.51	192	⇓P	Pb	18 27 52.1	-0.2
	baz=1.5,SNR=83						
W22A				⇓S	Sb	18 28 12.3	+0.8
	baz=1.5						
S21A	Coal Bank Pass	1.53	317	⇑*i*P	Pn	18 27 51.9	+0.2
S21A	Coal Bank Pass	1.53	317	P	Pn	18 27 52.0	+0.2
	baz=1.5,SNR=945						
W24A	Lazy 6 Ranch,	1.60	147	⇑*i*P	Pb	18 27 53.4	-0.4
W24A	Lazy 6 Ranch,	1.60	147	⇓P	Pb	18 27 53.4	-0.4
	baz=1.6,SNR=1000						
W24A				⇓S	Sn	18 28 12.9	-0.5
	baz=1.6						
ANMO	Albuquerque	1.60	179	*e*P	Pn	18 27 52.6	0.0
ANMO				*e*S	Sn	18 28 13.3	-0.2
U20A	Newcomb	1.65	265	⇑*i*P	Pb	18 27 54.4	-0.3
U20A	Newcomb	1.65	265	⇑Pb	Pb	18 27 54.6	-0.2
	baz=1.7,SNR=253						
V25A	Rancho No Teng	1.67	115	⇑*i*P	Pb	18 27 54.2	-0.8
V25A	Rancho No Teng	1.67	115	P	Pb	18 27 54.2	-0.8
	baz=1.7,SNR=1000						
U25A	Circle Dot Ran	1.68	94	⇑*i*P	Pb	18 27 54.5	-0.7
U25A	Circle Dot Ran	1.68	94	P	Pb	18 27 54.5	-0.7
	baz=1.7,SNR=1000						
R22A	Saguache, Gunn	1.69	353	*e*P	Pb	18 27 55.2	-0.3
R22A	Saguache, Gunn	1.69	353	⇓Pb	Pb	18 27 55.3	-0.2
	baz=1.7						
W21A	San Fidel	1.71	214	*e*P	Pb	18 27 55.2	-0.6
W21A	San Fidel	1.71	214	⇓P	Pb	18 27 55.4	-0.4
	baz=1.7,SNR=53						
W21A				⇓S	Sb	18 28 17.5	0.0
	baz=1.7						
R23A	Moffat	1.72	17	*e*P	Pn	18 27 55.0	+0.6
R23A	Moffat	1.72	17	P	Pn	18 27 55.1	+0.6
	baz=1.7,SNR=165						
MVCO	Mesa Verde	1.75	293	*e*Pn	Pb	18 27 56.0	-0.4
MVCO	Mesa Verde	1.75	293	⇓Pb	Pb	18 27 56.1	-0.2
	baz=1.7						
MVCO				⇑S	Sb	18 28 18.8	+0.3
	baz=1.7						
T25A	Trinidad	1.76	70	⇑*i*P	Pb	18 27 56.0	-0.7
T25A	Trinidad	1.76	70	⇓P	Pb	18 27 56.0	-0.7
	baz=1.8,SNR=599						
T25A				⇑S	Sb	18 28 19.0	0.0
	baz=1.8						
V20A	Brimhall	1.77	246	⇓*i*P	Pb	18 27 56.5	-0.3
V20A	Brimhall	1.77	246	⇓Pb	Pb	18 27 56.5	-0.3
	baz=1.8						
V20A				⇑S	Sb	18 28 19.1	-0.1
	baz=1.8						
S20A	Disappointment	1.97	311	⇓Pb	Pb	18 28 00.3	+0.1
	baz=2.0						
S25A	Robets Cordova	1.98	55	⇑Pb	Pb	18 28 00.1	-0.2
	baz=2.0						
X23A	Hourglass Bar	1.98	173	⇑Pb	Pb	18 28 00.3	0.0
	baz=2.0,SNR=893						
X23A				⇓S	Sb	18 28 24.6	-0.6
	baz=2.0						
R21A	Cimarron	2.00	335	⇑*i*P	Pb	18 28 00.2	-0.6
R21A	Cimarron	2.00	335	⇑Pb	Pb	18 28 00.3	-0.6
	baz=2.0						
R24A	Sanders Place,	2.00	33	⇓Pb	Pb	18 28 00.3	-0.5
	baz=2.0						
R24A				⇓Sb	Sb	18 28 26.6	+0.7
	baz=2.0						
X22A	Bernardo	2.08	192	⇑P	Pn	18 28 00.1	+0.8
	baz=2.1,SNR=21						
W25A	X Bar L Ranch,	2.11	128	⇑Pb	Pb	18 28 02.2	-0.3
	baz=2.1,SNR=1000						
X24A	Lazy VL Ranch,	2.16	156	⇓Pb	Pb	18 28 03.5	+0.2
	baz=2.2						
X24A				⇑S	Sb	18 28 29.6	-0.6
	baz=2.2						
W20A	Ramah	2.17	230	⇓P	Pn	18 28 01.5	+1.0
	baz=2.2,SNR=156						
W20A				⇑S	Sb	18 28 30.0	-0.7
	baz=2.2						
LAZ	Ladron	2.21	194	*e*Pn	Pn	18 28 01.1	+0.1
U26A	Atchley Ranch,	2.21	93	⇑P	Pn	18 28 01.9	+0.8
	baz=2.2,SNR=356						
R20A	Redvale	2.23	318	⇓P	Pn	18 28 03.0	+1.7
	baz=2.2						
R20A				⇓Sb	Sb	18 28 34.7	+2.4
	baz=2.2						
LPM	Los Pinos Moun	2.24	183	*e*Pn	Pn	18 28 01.1	-0.2
V26A	Tequesquite Ra	2.31	108	⇑P	Pn	18 28 03.0	+0.7
	baz=2.3,SNR=145						
Q22A	Crested Butte,	2.33	352	⇓P	Pn	18 28 04.6	+1.7
	baz=2.3						
X21A	Alamocita Cree	2.35	207	⇑P	Pn	18 28 03.7	+0.7
	baz=2.4,SNR=120						
R25A	Fountain Ranch	2.37	47	⇑P	Pn	18 28 04.8	+1.7
	baz=2.4						
R25A				⇓Sb	Sb	18 28 37.9	+1.5
	baz=2.4						
BNM	Barren Site	2.40	183	*e*Pn	Pn	18 28 03.9	+0.3
T26A	Comanche Natio	2.40	74	P	Pn	18 28 04.5	+0.9
	baz=2.4,SNR=116						
T26A				⇑Sb	Sb	18 28 39.0	+1.8
	baz=2.4						
LENM	Lemitar	2.41	190	*e*Pn	Pn	18 28 04.1	+0.3
X25A	Clemmons Ranch	2.50	143	⇓Pb	Pb	18 28 09.0	-0.3
	baz=2.5						
X20A	Quemado	2.59	220	⇑P	Pn	18 28 07.6	+1.3
	baz=2.6,SNR=42						
Q24A	Divide	2.63	23	⇓Pb	Pb	18 28 11.3	-0.2
	baz=2.6						
S26A	Kim	2.63	65	⇑P	Pn	18 28 07.7	+0.9
	baz=2.6,SNR=17						
Y23A	Lovelace Mesa,	2.63	172	⇓Pb	Pb	18 28 12.2	+0.7
	baz=2.6						
Y23A				⇑Sb	Sb	18 28 45.6	+1.5
	baz=2.6						
Y22A	Socorro	2.64	189	⇓P	Pn	18 28 07.3	+0.4
	baz=2.6,SNR=10						
W26A	Owens Ranch, T	2.65	123	⇑P	Pn	18 28 08.2	+1.2
	baz=2.6,SNR=159						
SMCO	Snowmass	2.65	352	*e*Pn	Pn	18 28 09.0	+1.7
Y21A	Point of Rocks	2.72	201	⇓P	Pn	18 28 08.5	+0.5
	baz=2.7,SNR=18						
Y24A	Capitan	2.75	162	⇑P	Pn	18 28 09.2	+0.7
	baz=2.8						
Y24A				⇑Sb	Sb	18 28 48.5	+1.0
	baz=2.8						
U27A	Thompson Grove	2.95	91	⇓P	Pn	18 28 12.3	+1.1
	baz=2.9,SNR=18						
W18A	Petrified Fore	3.00	243	*e*Pn	Pn	18 28 13.4	+1.4
W18A	Petrified Fore	3.00	243	⇓P	Pn	18 28 13.2	+1.3
	baz=3.0,SNR=15						
Y20A	Horse Springs,	3.06	211	P	Pn	18 28 13.6	+0.8
	baz=3.1,SNR=8.5						
T27A	Campo	3.06	79	⇑P	Pn	18 28 13.9	+1.2
	baz=3.0,SNR=5.6						
Z22A	Elephant Butte	3.31	187	⇓P	Pn	18 28 16.6	+0.5
	baz=3.3,SNR=7.8						
ISCO	Idaho Springs	3.32	12	*e*Pn	Pn	18 28 18.0	+1.6
X18A	Snowflake	3.47	236	⇑P	Pn	18 28 19.6	+1.2
	baz=3.5,SNR=10						
V28A	Channing	3.54	102	⇓P	Pn	18 28 20.5	+1.2
	baz=3.5,SNR=12						
S28A	Manter	3.81	73	⇓P	Pn	18 28 24.1	+1.1
	baz=3.8,SNR=7.8						
O20A	White River Ci	3.84	339	*e*Pn	Pn	18 28 26.3	+2.9
MSTX	Muleshoe	3.98	129	*e*Pn	Pn	18 28 29.1	+3.8
SRU	San Rafael	4.10	310	*e*Pn	Pn	18 28 28.3	+1.4
SRU				*e*Pg	Pb	18 28 37.9	+1.5
SRU				*e*Sg	Sg	18 29 31.8	-3.8
121A	Cookes Peak, D	4.15	195	P	Pn	18 28 28.2	+0.6
	baz=4.2,SNR=7.5						
Q16A	Castle Valley	4.41	304	*e*Pn	Pn	18 28 32.1	+0.9
Q16A				*e*Pg	Pb	18 28 43.3	+1.6
Q16A				*e*Sg	Sb	18 29 40.4	+5.4
TMUT	Trail Mountain	4.63	308	*e*Pn	Pn	18 28 36.5	+2.1
TMUT				*e*Pg	Pb	18 28 48.3	+2.6
TMUT				*e*Sg	Sg	18 29 48.3	-4.6
GDL2	Guadalupe Moun	4.68	157	*e*Pg	Pb	18 28 48.6	+2.3
PHWY	Pilot Hill	4.81	9	*e*Sg	Sb	18 29 51.3	+4.6
MNTX	Cornudas Mount	4.92	169	*e*Pn	Pn	18 28 38.0	-0.2
MNTX				*e*Sn	Sb	18 29 53.8	+4.0
MVU	Marysvale	4.96	295	*e*Pn	Pn	18 28 42.1	+3.3
MVU				*e*Sg	Pg	18 28 54.4	-4.6
RWWY	Rawlins	5.16	354	*e*Pn	Pn	18 28 45.7	+4.0
RWWY				*e*Sg	Pg	18 28 59.6	-3.3
MPU	Maple Canyon	5.33	312	*e*Pn	Pn	18 28 47.2	+3.3
MPU				*e*Pg	Pb	18 29 00.9	+3.5
DAU	Daniels Canyon	5.38	317	*e*Pn	Pn	18 28 47.3	+2.6
TUC	Tucson	5.52	221	Pn	Pn	18 28 47.3	+0.8
TUC				*e*Pg	Pb	18 29 04.5	+3.8
NLU	North Lily Min	5.56	309	*e*Pn	Pn	18 28 48.4	+1.3
NLU				*e*Pg	Pb	18 29 05.9	+4.5
CCUT	Cedar City	5.59	282	*e*Pn	Pn	18 28 45.7	-1.9
CCUT				*e*Pg	Pg	18 29 07.6	-3.5
JLU	Jordanelle	5.61	318	*e*Pg	Pg	18 29 08.7	-2.8
CTU	Camp Tracy	5.84	317	*e*Pg	Pb	18 29 10.5	+4.4
DUG	Dugway	6.16	308	*e*Pg	Pb	18 29 16.1	+4.5
HWUT	Hardware Ranch	6.41	323	*e*Pn	Pn	18 29

0.3nm,0.9s,baz=80,slow=3.0,SNR=4.2

*ISCJB **14** 19:03:30.3±0.4,51°.57N±0°.02×16°.13E±0°.03, h0km, Error ellipse: s-maj=3.0km s-min=2.6km az=16.8*
*WAR **14** 19:03:33.8,51°.54N×16°.13E*
*IPEC **14** 19:03:33.1±0.4,51°.54N×16°.16E, h0km±2km, ML2.8/3, Error ellipse: s-maj=4.0km s-min=1.8km az=59.0*
*CSEM **14** 19:03:33.9±0.3,51°.47N×16°.12E, h2km, ML3.7/11, Error ellipse: s-maj=5.2km s-min=3.1km az=170.0*
*IDC **14** 19:03:34.3±0.6,51°.52N×16°.00E, h0km, mb1 3.3/8, mb1mx3.2/28, mbtmp3.2/8, ML3.0/8, Error ellipse: s-maj=10.0km s-min=5.8km az=104.0*
*PRU **14** 19:03:34.7,51°.47N×16°.09E, h0km*
*VIE **14** 19:03:36.5±0.8,51°.29N×16°.00E, h0km, mb2.7/6, ML3.2/6, Error ellipse: s-maj=6.9km s-min=4.6km az=21.0 73 km WNW of Wroclaw Suspected Mining induced.*

ISC 14 19:03:31.5±0.7, 51°.60N±0°.03×16°.08E±0°.02, h0km, n57, σ1§41/107, 4C-5D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.77**	**170**	*e*Pg	**Pg**	**19 03 47.0**	**+0.9**
KSP				*e*Sg	**Sg**	**19 03 56.8**	**+0.8**
KSP	**Ksiaz**	**0.77**	**170**		**Sn**	**19 04 01.8**	**0.0**
KSP	**Ksiaz**	**0.77**	**170**	⇓*i*Pg	**Pg**	**19 03 47.0**	**+0.9**
KSP				*e*Sg	**Sg**	**19 03 56.4**	**+0.4**
UPC	**Upice**	**1.09**	**182**	*e*PG	**Pg**	**19 03 53.0**	**+0.6**
UPC	**Upice**	**1.09**	**182**	Pg	**Pg**	**19 03 53.0**	**+0.6**
DPC	**Dobruska-Polom**	**1.26**	**173**	*e*PG	**Pg**	**19 03 55.7**	**+0.1**
DPC				*e*SG	**Sg**	**19 04 11.2**	**-0.6**
DPC	**Dobruska-Polom**	**1.26**	**173**	Pg	**Pg**	**19 03 55.7**	**+0.1**
DPC				Sg	**Sg**	**19 04 11.2**	**-0.6**
PVCC	**Panska Ves**	**1.43**	**222**	*e*PG	**Pb**	**19 03 59.7**	**+0.6**
PVCC				*e*SG	**Sn**	**19 04 18.6**	**+0.3**
	412nm,0.3s						
PVCC	**Panska Ves**	**1.43**	**222**	Pg	**Pb**	**19 03 59.7**	**+0.6**
PVCC				Sg	**Sn**	**19 04 18.6**	**+0.3**
	412nm,0.3s						
BRG	**Berggiesshubel**	**1.53**	**243**	PN	**Pn**	**19 04 00.5**	**+0.5**
BRG				PG	**Pg**	**19 04 01.9**	**+1.2**
BRG				SG	**Sg**	**19 04 22.1**	**+1.6**
	205nm,0.4s						
KRLC	**Kraliky**	**1.58**	**163**	*e*PG	**Pn**	**19 04 01.3**	**+0.4**
KRLC				*e*SG	**Sn**	**19 04 21.6**	**-0.5**
KRLC	**Kraliky**	**1.58**	**163**	Pg	**Pn**	**19 04 01.3**	**+0.4**
KRLC				Sg	**Sn**	**19 04 21.6**	**-0.5**
PRA	**Prague**	**1.85**	**215**	PG	**Pb**	**19 04 06.0**	**-0.2**
PRA				SG	**Sb**	**19 04 30.0**	**+0.1**
PRU	**Pruhonice**	**1.88**	**212**	*e*PN	**Pn**	**19 04 05.3**	**+0.4**
PRU				*e*PG	**Pb**	**19 04 07.1**	**+0.4**
PRU				*e*SG	**Sb**	**19 04 31.7**	**+0.9**
	79nm,0.4s						
PRU	**Pruhonice**	**1.88**	**212**	Pn	**Pn**	**19 04 05.3**	**+0.4**
CLL	**Collm**	**1.95**	**263**	*e*Pn	**Pn**	**19 04 07.0**	**+1.2**
CLL				*e*Pg	**Pg**	**19 04 10.0**	**+1.2**
CLL				*e*		19 04 13.0	
CLL				*e*Sg	**Sg**	**19 04 35.0**	**+0.9**
	comp=Z,102nm,0.8s						
RAC	**Raciborz**	**2.02**	**138**	*e*Pg	**Pg**	**19 04 10.4**	**+0.2**
RAC				*e*Sg	**Sg**	**19 04 36.7**	**+0.3**
MORC	**Moravsky Berou**	**2.04**	**152**	*e*Pn	**Pn**	**19 04 07.5**	**+0.3**
MORC				*e*Sg	**Sb**	**19 04 35.1**	**-0.4**
	comp=Z,63nm,0.4s,baz=334						
OKC	**Ostrava-Krasne**	**2.20**	**142**	*e*PG	**Pg**	**19 04 13.6**	**0.0**
OKC				*e*SG	**Sb**	**19 04 40.4**	**+0.6**
	comp=Z,81nm,0.5s						
OKC	**Ostrava-Krasne**	**2.20**	**142**	Pg	**Pg**	**19 04 13.6**	**0.0**
OKC				Sg	**Sb**	**19 04 40.4**	**+0.6**
	comp=Z,81nm,0.5s						
VRAC	**Vranov**	**2.31**	**172**	Pn	**Pn**	**19 04 11.6**	**+0.7**
	comp=Z,1.7nm,0.3s,baz=343,slow=14,SNR=43						
VRAC				Pg	**Pg**	**19 04 16.1**	**+0.3**
	comp=Z,5.4nm,0.3s,baz=345,slow=16,SNR=20						
VRAC				Sn	**Sb**	**19 04 42.7**	**-0.5**
	comp=Z,6.0nm,0.3s,baz=261,slow=22,SNR=5.3						
VRAC	**Vranov**	**2.31**	**172**	*e*Pn	**Pn**	**19 04 11.5**	**+0.7**
	baz=353						
VRAC				*e*Sg	**Sb**	**19 04 43.6**	**+0.4**
	comp=Z,40nm,0.3s,baz=353						
TREC	**Trest**	**2.33**	**190**	*e*PN	**Pn**	**19 04 12.6**	**+1.4**
TREC				*e*PG	**Pg**	**19 04 15.9**	**-0.3**
TREC				*e*SG	**Sb**	**19 04 45.1**	**+1.3**
	comp=Z,49nm,0.4s						
TREC	**Trest**	**2.33**	**190**	Pn	**Pn**	**19 04 12.6**	**+1.4**
KRUC	**Moravsky**	**2.54**	**175**	*e*Pn	**Pn**	**19 04 14.9**	**+0.9**
	baz=357						
KRUC				*e*Sg	**Sb**	**19 04 50.8**	**+1.0**
	comp=Z,48nm,0.5s,baz=357						
OJC	**Ojcow**	**2.73**	**119**	*e*Pg	**Pg**	**19 04 23.8**	**+0.1**
OJC				*e*Sg	**Sg**	**19 04 59.3**	**+0.3**
OJC				*e*		19 05 00.2	
OJC	**Ojcow**	**2.73**	**119**	*e*Pg	**Pg**	**19 04 23.8**	**+0.1**
OJC				*e*Sg	**Sg**	**19 04 59.3**	**+0.3**
KHC	**Kasperske Hory**	**2.94**	**214**	*e*PN	**Pn**	**19 04 20.1**	**+0.6**
KHC				*e*PG	**Pb**	**19 04 26.4**	**+1.6**
KHC				*e*SN	**Sn**	**19 04 56.8**	**+1.2**
KHC				*e*SG	**Sg**	**19 05 05.9**	**-0.1**
	comp=Z,28nm,0.4s						
KHC	**Kasperske Hory**	**2.94**	**214**	Pn	**Pn**	**19 04 20.1**	**+0.6**
GERES	**GERESS Array B**	**3.15**	**210**	Pn	**Pn**	**19 04 23.8**	**+1.4**
	comp=Z,3.7nm,0.3s,baz=29,slow=13,SNR=90						
GERES				Pg	**Pg**	**19 04 30.8**	**-1.1**
	comp=Z,5.6nm,0.3s,baz=28,slow=16,SNR=40						
GERES				Sn	**Sn**	**19 04 60.0**	**-0.8**
	comp=Z,4.7nm,0.3s,baz=30,slow=27,SNR=9.2						
GERES				Lg	Lg	19 05 11.6	
	comp=Z,8.4nm,0.3s,baz=31,slow=32,SNR=6.9						
SMOL	**Smolenice**	**3.21**	**164**	*e*PG	**Pg**	**19 04 33.0**	**+0.1**
SMOL				*e*SG	**Sb**	**19 05 11.5**	**+2.7**
SMOL	**Smolenice**	**3.21**	**164**	*e*Pg	**Pg**	**19 04 33.0**	**+0.1**
SMOL				*e*Sg	**Sb**	**19 05 11.5**	**+2.7**
ZST	**Bratislava**	**3.47**	**169**	*e*SG	**Sb**	**19 05 19.8**	**+3.5**
ZST	**Bratislava**	**3.47**	**169**	*e*Sg	**Sb**	**19 05 19.8**	**+3.5**
NIE	**Niedzica**	**3.47**	**127**	*e*Pn	**Pn**	**19 04 27.8**	**+1.0**
NIE				*e*Pg	**Pg**	**19 04 37.4**	**-0.6**
NIE				*e*Sg	**Sg**	**19 05 22.5**	**-0.4**
NIE				*e*		19 05 23.9	
NIE	**Niedzica**	**3.47**	**127**	*e*Pn	**Pn**	**19 04 27.8**	**+1.0**
VYHS	**Vyhne**	**3.58**	**149**	*e*PN	**Pn**	**19 04 28.5**	**+0.3**
VYHS	**Vyhne**	**3.58**	**149**	*e*Pn	**Pn**	**19 04 28.5**	**+0.3**
BSD	**Bornholm Skovb**	**3.59**	**349**	*i* P	**Pn**	**19 04 29.4**	**+1.0**
BSD				*i* S	**Sn**	**19 05 10.0**	**-1.5**
BSD	**Bornholm Skovb**	**3.59**	**349**	*i* P	**Pn**	**19 04 29.4**	**+1.0**
CONA	**Conrad Observa**	**3.67**	**182**	⇓*i*Pn	**Pn**	**19 04 31.1**	**+1.5**
	comp=Z,3.6nm,0.3s						
CONA				⇓Sg	**Sg**	**19 05 28.2**	**-1.3**
	comp=Z,41nm,0.4s						
CONA	**Conrad Observa**	**3.67**	**182**	Pn	**Pn**	**19 04 31.1**	**+1.5**
	comp=Z,3.6nm,0.3s						
CONA				Sg	**Sg**	**19 05 28.2**	**-1.3**
	comp=Z,41nm,0.4s						
MOA	**Molln**	**3.93**	**198**	⇑*i*Pn	**Pn**	**19 04 34.3**	**+1.2**
	comp=Z,9.5nm,0.2s,SNR=24						
MOA				⇓Sg	**Sg**	**19 05 36.2**	**-1.5**
	comp=Z,22nm,0.4s						
MOA	**Molln**	**3.93**	**198**	Pn	**Pn**	**19 04 34.3**	**+1.2**
	comp=Z,9.5nm,0.2s,SNR=24						
MOA				Sg	**Sg**	**19 05 36.2**	**-1.5**
	comp=Z,22nm,0.4s						
STHS	**Stebnicka Huta**	**3.95**	**121**	*e*PN	**Pn**	**19 04 35.0**	**+1.6**
STHS				*e*PG	**Pg**	**19 04 48.5**	**+1.3**
STHS				*e*SG	**Sg**	**19 05 41.4**	**+3.0**
STHS	**Stebnicka Huta**	**3.95**	**121**	*e*Pn	**Pn**	**19 04 35.0**	**+1.6**
ARSA	**Arzberg**	**4.37**	**185**	⇑*i*Pn	**Pn**	**19 04 40.5**	**+1.4**
	comp=Z,2.5nm,0.2s						
ARSA				⇑Sg	**Sg**	**19 05 49.8**	**-1.8**
	comp=Z,25nm,0.5s						
ARSA	**Arzberg**	**4.37**	**185**	Pn	**Pn**	**19 04 40.5**	**+1.4**
	comp=Z,2.5nm,0.2s						
ARSA				Sg	**Sg**	**19 05 49.8**	**-1.8**
	comp=Z,25nm,0.5s						
KBA	**Koelnbreinsper**	**4.86**	**203**	⇑*e*Pn	**Pn**	**19 04 47.3**	**+1.3**
	comp=Z,4.1nm,0.3s,SNR=6.9						
KBA				⇓Sg	**Sg**	**19 06 04.6**	**-3.0**
	comp=Z,19nm,0.6s						
KBA	**Koelnbreinsper**	**4.86**	**203**	Pn	**Pn**	**19 04 47.3**	**+1.3**
	comp=Z,4.1nm,0.3s,SNR=6.9						
KBA				Sg	**Sg**	**19 06 04.6**	**-3.0**
	comp=Z,19nm,0.6s						
DAVOX	**Davos/Dischmat**	**6.30**	**223**	Pn	**Pn**	**19 05 07.3**	**+1.5**
	comp=Z,0.4nm,0.3s,baz=21,slow=8.6,SNR=3.7						
DAVOX				Sn	**Sn**	**19 06 17.2**	**-1.4**
	baz=180,slow=20						
DAVOX				Lg	Lg	19 06 50.1	
	comp=Z,0.6nm,0.3s,baz=198,slow=20,SNR=2.6						
AKASG	**Malin Array Be**	**8.31**	**91**	Pn	**Pn**	**19 05 34.2**	**+1.0**
	comp=Z,0.9nm,0.3s,baz=278,slow=12,SNR=5.4						
AKASG				Sn	**Sn**	**19 07 02.9**	**-4.9**
	comp=Z,1.2nm,0.3s,baz=280,slow=22,SNR=4.2						
AKASG				Lg	Lg	19 08 03.5	
	comp=Z,0.2nm,0.3s,baz=270,slow=26,SNR=2.8						
HFS	**Hagfors**	**8.66**	**352**	Pn	**Pn**	**19 05 39.0**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=148,slow=14,SNR=2.6						
HFS				Sn	Sn	19 07 10.1	-6.1
	comp=Z,0.2nm,0.3s,baz=173,slow=25,SNR=2.4						
HFS				Lg	Lg	19 08 13.2	
	comp=Z,0.3nm,0.3s,baz=168,slow=29,SNR=2.5						
NOA	**NORSAR Array B**	**9.84**	**346**	Pn	**Pn**	**19 05 55.5**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=166,slow=14,SNR=3.0						
NOA				Sn	**Sn**	**19 07 39.8**	**-5.5**
	comp=Z,0.1nm,0.3s,baz=187,slow=13,SNR=2.6						
NOA				Lg	Lg	19 08 45.6	
	comp=Z,0.1nm,0.3s,baz=242,slow=21,SNR=2.6						
FINES	**FINESS Array B**	**11.29**	**25**	Pn	**Pn**	**19 06 14.6**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=218,slow=11,SNR=8.0						
FINES				Sn	Sn	19 08 13.8	-6.9
	comp=Z,0.2nm,0.3s,baz=214,slow=22,SNR=3.9						
EKA	**Eskdalemuir Ar**	**12.05**	**296**	Pn	**Pn**	**19 06 24.0**	**-0.3**
	baz=103,slow=14,SNR=3.3						
ARCES	**ARCESS Array B**	**18.54**	**10**	Pn	**P**	**19 07 47.8**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=200,slow=13,SNR=3.7						

*NEIC **14** 19:30:13.1±1.5, 18°.61S×174°.70W, h80km±14km, mb4.7/4, Error ellipse: s-maj=17.1km s-min=10.2km az=129.0*
*AUST **14** 19:30:13.8, 18°.65S×174°.19W, h100km*
*IDC **14** 19:30:13.4±3.0, 18°.58S×174°.73W, h80km±27km, mb4.0/10, mb1 4.2/11, mb1mx4.0/21, mbtmp4.1/11, Error ellipse: s-maj=24.1km s-min=15.6km az=128.0*
*ISCJB **14** 19:30:15.8±0.6, 18°.4S±0°.1×174°.6W±0°.1, h130km, mb4.1/12, Error ellipse: s-maj=16.3km s-min=13.2km az=144.9*

ISC 14 19:30:17.6±0.6, 18°.4S±0°.1×174°.6W±0°.1, h130km, n48, σ1§23/47, mb4.3/12, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.42**	**99**	P	Pn	19 31 16.1	-6.9
	baz=4.1,SNR=112						
NIUE				S	Sn	19 31 59.6	-14
	baz=4.1,SNR=7.6						
AFI	**Afiamalu**	**5.21**	**31**	P	**Pn**	**19 31 31.7**	**-1.9**
AFI				S	Sn	19 32 25.0	-7.9
AFI	**Afiamalu**	**5.21**	**31**	P	**Pn**	**19 31 31.7**	**-1.9**
	24nm,0.3s,baz=211,slow=4.5,SNR=14						
AFI				S	Sn	19 32 25.0	-7.9
	70nm,0.3s,baz=110,slow=18,SNR=9.0						
MSVF	**Nonsavu**	**7.08**	**274**	*e*P	Pn	19 32 03.7	+5.0
DZM	**Mont Dzumac**	**18.20**	**255**	P	**Pn**	**19 34 23.2**	**+1.1**
DZM	**Mont Dzumac**	**18.20**	**255**	P	**Pn**	**19 34 23.2**	**+1.1**
	0.4nm,0.3s,baz=66,slow=19,SNR=6.2						
URZ	**Urewera**	**21.07**	**199**	*e*P	P	19 34 46.6	-4.7
	38nm,0.5s						
URZ				S	S	19 38 23.3	-15
URZ	**Urewera**	**21.07**	**199**	P	**P**	**19 34 47.6**	**-3.7**
	32nm,0.4s,baz=348,slow=3.6,SNR=33						
URZ				S	S	19 38 23.3	-15
	2.8nm,0.4s,baz=220,slow=19,SNR=2.8						
RPZ	**Rata Peaks**	**27.99**	**203**	P	**P**	**19 35 56.1**	**+0.1**
RPZ	**Rata Peaks**	**27.99**	**203**	P	**P**	**19 35 56.1**	**+0.1**
	17nm,0.7s,baz=76,slow=2.2,SNR=8.7						
CTA	**Charters Tower**	**36.99**	**261**	P	**P**	**19 37 14.8**	**0.0**
CTA	**Charters Tower**	**36.99**	**261**	P	**P**	**19 37 14.8**	**0.0**
	5.6nm,0.5s,baz=91,slow=13,SNR=11						
CTAO	**Charters Tower**	**36.99**	**261**	*e*P	**P**	**19 37 14.5**	**-0.2**
	7.7nm,0.6s						
STKA	**Stephens Creek**	**41.63**	**243**	P	**P**	**19 37 51.7**	**-1.4**
STKA	**Stephens Creek**	**41.63**	**243**	P	**P**	**19 37 51.7**	**-1.4**
	0.9nm,0.6s,baz=81,slow=12,SNR=4.5						
WRAB	**Tennant Creek**	**48.14**	**259**	*e*P	**P**	**19 38 43.8**	**-1.1**
	2.6nm,0.4s						
WRA	**Warramunga Arr**	**48.15**	**259**	P	**P**	**19 38 43.7**	**-1.2**
WRA	**Warramunga Arr**	**48.15**	**259**	P	**P**	**19 38 43.7**	**-1.2**
	1.9nm,0.3s,baz=97,slow=7.6,SNR=182						
AS31	**Alice Springs**	**48.19**	**254**	*e*P	**P**	**19 38 44.4**	**-0.8**
ASAR	**Alice Springs**	**48.19**	**254**	P	**P**	**19 38 44.2**	**-1.0**
ASAR				PcP	**PcP**	**19 40 11.6**	**+1.0**
ASAR	**Alice Springs**	**48.19**	**254**	P	**P**	**19 38 44.2**	**-1.0**
	2.8nm,0.5s,baz=96,slow=7.6,SNR=91						
ASAR				PcP	**PcP**	**19 40 11.6**	**+1.0**
	0.5nm,0.4s,baz=106,slow=4.1,SNR=4.1						
KDU	**Kakadu**	**51.22**	**268**	P	**P**	**19 39 08.3**	**+0.1**
	baz=52,SNR=3.8						
MTN	**Manton Dam**	**52.45**	**268**	P	**P**	**19 39 17.2**	**-0.1**
	baz=53,SNR=4.2						
KNRA	**Kununurra**	**54.09**	**264**	P	**P**	**19 39 29.2**	**-0.1**
	baz=54,SNR=7.5						
VNDA	**Vanda**	**60.28**	**186**	P	**P**	**19 40 12.2**	**+0.4**
VNDA	**Vanda**	**60.28**	**186**	P	**P**	**19 40 12.2**	**+0.4**
	1.5nm,0.8s,baz=9.3,slow=6.4,SNR=9.4						
QSPA	**South Pole Qui**	**71.64**	**180**	*e*P	**P**	**19 41 24.8**	**0.0**
	10nm,1.1s						
TXAR	**Lajitas Array**	**83.20**	**56**	P	P	19 42 33.8	+4.1
TXAR	**Lajitas Array**	**83.20**	**56**	P	P	19 42 33.8	+4.1
	0.4nm,0.7s,baz=209,slow=7.2,SNR=4.4						
MAW	**Mawson**	**84.60**	**199**	P	**P**	**19 42 36.0**	**0.0**
MAW	**Mawson**	**84.60**	**199**	P	**P**	**19 42 36.0**	**0.0**
	0.9nm,0.3s,baz=129,slow=13,SNR=4.6						
ILAR	**Eielson Array**	**85.61**	**12**	P	**P**	**19 42 42.9**	**+1.9**
ILAR	**Eielson Array**	**85.61**	**12**	P	**P**	**19 42 42.9**	**+1.9**
	0.5nm,0.6s,baz=236,slow=4.4,SNR=4.8						
SNAA	**Saae**	**89.96**	**177**	*e*P	**P**	**19 43 01.7**	**-0.2**
VNA2	**Neumayer--Watz**	**90.44**	**176**	*e*P	**P**	**19 43 04.6**	**+0.5**
	baz=177,slow=2.9						
VNA1	**Neumayer--Stat**	**90.65**	**175**	*e*P	**P**	**19 43 05.3**	**+0.3**
MKAR	**Makanchi Array**	**112.13**	**314**	PKiKP	**PKiKP**	**19 48 39.0**	**+1.3**
MKAR	**Makanchi Array**	**112.13**	**314**	PKiKP	**PKiKP**	**19 48 39.0**	**+1.3**
	0.2nm,0.5s,baz=82,slow=1.0,SNR=4.1						
BVAR	**Borovoye Array**	**119.56**	**321**	PKP	**PKPdf**	**19 48 53.1**	**+1.4**
BVAR	**Borovoye Array**	**119.56**	**321**	PKP	**PKPdf**	**19 48 53.1**	**+1.4**
	0.9nm,0.4s,baz=158,slow=2.0,SNR=7.9						
ARCES	**ARCESS Array B**	**127.42**	**351**	PKP	**PKPdf**	**19 49 08.2**	**+1.8**
ARCES	**ARCESS Array B**	**127.42**	**351**	PKP	**PKPdf**	**19 49 08.2**	**+1.8**
	1.9nm,0.9s,baz=354,slow=1.2,SNR=5.1						
BRTR	**Keskin Array B**	**147.71**	**317**	PKPbc	**PKPab**	**19 49 49.1**	**-0.9**
BRTR	**Keskin Array B**	**147.71**	**317**	PKPbc	**PKPab**	**19 49 49.1**	**-0.9**
	1.0nm,0.7s,baz=108,slow=3.2,SNR=4.1						
GERES	**GERESS Array B**	**148.92**	**349**	PKPbc	**PKPab**	**19 49 52.8**	**-1.7**
GERES	**GERESS Array B**	**148.92**	**349**	PKPbc	**PKPab**	**19 49 52.8**	**-1.7**
	0.6nm,0.5s,baz=29,slow=3.0,SNR=4.9						
TORD	**Torodi Ar. Bea**	**173.63**	**145**	PKP	**PKPdf**	**19 50 12.4**	**0.0**
TORD				PKPab	**PKPab**	**19 51 42.5**	**+0.2**
TORD	**Torodi Ar. Bea**	**173.63**	**145**	PKP	**PKPdf**	**19 50 12.4**	**0.0**
	0.3nm,0.7s,baz=313,slow=1.5,SNR=2.4						
TORD				PKPab	**PKPab**	**19 51 42.5**	**+0.2**
	0.6nm,0.7s,baz=229,slow=5.0,SNR=3.6						

*ISCJB **14** 19:31:04.0±0.5, 26°.12N±0°.04×103°.1E±0°.1, h6km, mb3.9/16, MS3.4/4, Error ellipse: s-maj=13.8km s-min=5.3km az=6.3*
*BJI **14** 19:31:04.8, 26°.14N×103°.04E, h12km, ML3.9/9*
*IDC **14** 19:31:05.0±0.7, 26°.12N×103°.07E, h0km, mb3.9/16, mb1 4.1/16, mb1mx3.9/30, mbtmp3.9/16, MS3.5/4, Ms1 3.5/4, ms1mx2.9/44, Error ellipse: s-maj=34.1km s-min=13.1km az=55.0*

ISC 14 19:31:05.7±0.6, 26°.08N±0°.05×103°.0E±0°.1, h6km, n26, σ1§60/23, mb4.1/16, MS3.4/4, 1C, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**0.99**	**195**	⇑Pg	**Pg**	**19 31 24.3**	**-0.4**
KMI				Sg	**Sb**	**19 31 38.3**	**-0.4**
KMI				smax	smax		
	comp=N,2μm,0.9s						
KMI				smax	smax		
	comp=E,3μm,0.8s						
CD2	**Chengdu**	**4.86**	**7**	Pn	**Pn**	**19 32 21.6**	**+2.2**
CD2				Sg	**Sg**	**19 33 41.4**	**-0.3**
CD2				smax	smax		
	comp=N,190nm,0.9s						
CD2				smax	smax		
	comp=E,270nm,1.0s						
CMAR	**Chiang Mai Arr**	**8.48**	**207**	Pn	Pn	19 33 15.1	+6.0
	comp=E,0.3nm,0.3s,baz=19,slow=11,SNR=21						
CMAR				Pg	Pg	19 33 43.5	-4.5
	comp=E,0.1nm,0.3s,baz=14,slow=16,SNR=2.9						
CMAR				Lg	Lg	19 35 47.1	
	baz=11,slow=30,SNR=3.3						
LZH	**Lanzhou**	**10.00**	**4**	*e*P	Pn	19 33 23.8	-6.3
LZH				pP		19 33 25.8	
LZH				sP		19 33 27.9	
LZH				PP	**PnPn**	**19 33 32.3**	**-5.7**
LZH				pmax	pmax		
	comp=Z,21nm,1.0s						
LZH				pmax	pmax		
	comp=Z,52nm,4.1s						
LZH				LR	LR		
	comp=N,160nm,10.0s						
LZH				LR	LR		
	comp=E,160nm,10.3s						
LZH				LR	LR		
	comp=Z,180nm,12.6s						
SONM	**Songino Array**	**21.88**	**6**	P	**P**	**19 35 59.8**	**+0.4**
	comp=Z,1.8nm,0.6s,baz=182,slow=10,SNR=13						
KSRS	**Korea Array**	**23.94**	**56**	P	**P**	**19 36 19.8**	**-0.8**
	comp=Z,1.0nm,0.7s,baz=244,slow=10,SNR=4.4						
MKAR	**Makanchi Array**	**26.42**	**327**	P	**P**	**19 36 44.4**	**+1.2**
	comp=Z,0.6nm,0.7s,baz=124,slow=11,SNR=4.8						
AAK	**Ala-Archa**	**28.58**	**313**	LR	LR	19 49 58.9	
	comp=Z,92nm,20.9s,baz=207,slow=40						
KURBB	**Kurchatov Arra**	**30.87**	**329**	P	**P**	**19 37 23.3**	**+0.6**
	comp=Z,1.1nm,0.7s,baz=142,slow=9.3,SNR=8.4						
ZALV	**Zalesovo Beam**	**30.95**	**339**	P	**P**	**19 37 23.4**	**+0.1**
	comp=Z,1.9nm,0.7s,baz=146,slow=9.8,SNR=7.4						
MJAR	**Matsushiro Arr**	**31.66**	**62**	LR	LR	19 50 18.0	
	comp=Z,85nm,21.2s,baz=245,slow=36						
CBIJ	**Chichi jima**	**34.94**	**79**	LR	LR	19 51 33.9	
	comp=Z,44nm,20.7s,baz=342,slow=35						
BVAR	**Borovoye Array**	**36.30**	**327**	P	**P**	**19 38 10.5**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=130,slow=18,SNR=2.6						
AKTO	**Aktyubinsk**	**42.03**	**318**	P	**P**	**19 38 57.6**	**-0.4**
	comp=Z,1.2nm,0.7s,baz=86,slow=13,SNR=5.2						
WRA	**Warramunga Arr**	**54.93**	**143**	P	**P**	**19 40 37.7**	**+0.1**
	comp=Z,3.4nm,0.6s,baz=331,slow=8.4,SNR=18						
ASAR	**Alice Springs**	**57.78**	**146**	P	**P**	**19 40 58.5**	**+0.6**
	comp=Z,1.5nm,0.5s,baz=326,slow=6.9,SNR=26						
BRTR	**Keskin Array B**	**58.50**	**302**	P	**P**	**19 41 04.5**	**+1.4**
	comp=Z,0.4nm,0.7s,baz=122,slow=5.4,SNR=2.7						
AKASG	**Malin Array Be**	**60.20**	**315**	P	**P**	**19 41 14.0**	**-0.5**
	comp=Z,1.1nm,0.7s,baz=70,slow=7.3,SNR=8.2						
FINES	**FINESS Array B**	**61.25**	**328**	P	**P**	**19 41 21.6**	**+0.2**
	comp=Z,2.0nm,0.8s,baz=93,slow=9.9,SNR=3.9						
ARCES	**ARCESS Array B**	**61.47**	**337**	P	**P**	**19 41 23.1**	**+0.4**
	comp=Z,2.4nm,0.9s,baz=68,slow=9.6,SNR=4.6						
CTA	**Charters Tower**	**62.18**	**133**	P	**P**	**19 41 29.2**	**+1.0**
	comp=Z,1.0nm,0.3s,baz=327,slow=12,SNR=4.2						
IDI	**Anoyia**	**66.25**	**299**	LR	LR	20 15 35.2	
	comp=Z,58nm,18.2s,baz=252,slow=40						
STKA	**Stephens Creek**	**68.38**	**145**	P	**P**	**19 42 08.5**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=312,slow=14,SNR=3.4						
NB2	**NORSAR Subarra**	**68.40**	**328**	P	**P**	**19 42 06.8**	**-1.3**
	comp=Z,1.8nm,0.8s,baz=77,slow=6.5						
NOA	**NORSAR Array B**	**68.40**	**328**	P	**P**	**19 42 06.8**	**-1.3**
	comp=Z,1.3nm,0.9s,baz=77,slow=6.3,SNR=4.0						
TXAR	**Lajitas Array**	**119.24**	**27**	PKP	**PKPdf**	**19 49 54.6**	**-1.8**
	comp=Z,0.3nm,0.7s,baz=345,slow=3.1,SNR=2.8						

*ISCJB **14** 19:34:57.1±0.7, 26°.07N±0°.05×103°.2E±0°.2, h6km, mb3.6/8, Error ellipse: s-maj=20.3km s-min=6.4km az=13.6*
*BJI **14** 19:34:57.5, 26°.14N×103°.04E, h5km, ML3.3/6*
*IDC **14** 19:34:58.6±0.9, 26°.15N×103°.34E, h0km, mb3.7/8, mb1 3.8/9, mb1mx3.6/28, mbtmp3.7/9, ML2.8/1, Error ellipse: s-maj=43.0km s-min=16.4km az=65.0*

ISC 14 19:34:59.0±0.9, 26°.04N±0°.07×103°.2E±0°.2, h6km, n11, σ0§77/12, mb3.6/8, Yunnan

| Code | Station Name | Δ° | AZ

MKZ eS Sn 19 41 05.7 +0.7
LGNR Loginova 0.97 8 eP Pn 19 40 51.7 -0.3
LGNR i S Sn 19 41 07.7 +1.1
KOZ Kozyrevsk 0.99 341 eP Pn 19 40 50.2 -1.9
KOZ i S Sn 19 41 04.5 -2.3
KOZR Kozyr 1.00 341 PN Pn 19 40 50.2 -1.9
KOZR S Sn 19 41 04.5 -2.4
CIRR Tsirk 1.01 9 eP Pn 19 40 51.8 -0.6
CIRR i S Sn 19 41 08.4 +1.1
KRSR Krestovskiy 1.10 3 eP Pn 19 40 52.8 -0.8
KRSR i S Sn 19 41 09.5 0.0
KLY Klyuchi 1.20 5 PN Pn 19 40 55.2 +0.4
KLY S Sn 19 41 13.3 +1.6
KLY Klyuchi 1.20 5 eP Pn 19 40 55.2 +0.4
KLY i S Sn 19 41 13.3 +1.6
KII Karymskiy 1.24 209 eP Pn 19 40 55.0 -0.5
KII i S Sn 19 41 12.9 0.0
SRDR Sredinnyy 1.27 341 P Pn 19 40 55.4 -0.5
SRDR i S Sn 19 41 14.0 +0.4
BDR Baidarnaya 1.51 16 eP Pg 19 41 01.3 +1.5
SMKR Semkarok 1.57 21 eP Pg 19 41 02.4 +1.5
SMKR i S Sg 19 41 26.0 +4.7
SRKR Sorokina 1.59 14 eP Pg 19 41 01.7 +0.4
SRKR i S Sg 19 41 25.2 +3.4
KBTR Krutoberegovo 1.72 50 PN Pg 19 41 02.9 -1.0
KBTR S Sg 19 41 26.2 0.0
KBTR Krutoberegovo 1.72 50 eP Pg 19 41 02.9 -1.0
KBTR i S Sg 19 41 26.2 0.0
GNL Ganaly 2.05 227 eP Pb 19 41 07.3 -1.7
GNL i S Sb 19 41 34.0 -1.1
KRX Arik 2.06 212 eP Pb 19 41 08.0 -1.2
KRX i S Sb 19 41 35.2 -0.2
NLC Nalytchevo 2.06 199 PN Pb 19 41 07.4 -1.7
NLC S Sb 19 41 34.6 -0.7
NLC Nalytchevo 2.06 199 eP Pb 19 41 07.4 -1.7
NLC i S Sb 19 41 34.6 -0.7
SDLR Sedlovina 2.07 207 eP Pb 19 41 08.2 -1.1
SDLR i S Sb 19 41 35.9 +0.4
KRER Koryakskii 2.08 210 eP Pb 19 41 09.3 -0.3
KRER i S Sg 19 41 38.0 +0.3
SMAR Somma 2.10 208 eP Pb 19 41 08.8 -1.2
SMAR i S Sb 19 41 37.3 +0.6
AVH Avacha 2.12 209 eP Pb 19 41 09.0 -1.1
AVH i S Sb 19 41 37.6 +0.6
KOK Koryaka 2.12 211 eP Pb 19 41 09.8 -0.5
KOK i S Sg 19 41 38.9 -0.2
UGLR Uglovaya 2.15 207 eP Pb 19 41 10.2 -0.4
UGLR i S Sg 19 41 39.8 0.0
INSR Institute 2.33 209 P Pb 19 41 13.8 +0.1
INSR i S Sg 19 41 45.8 0.0
PET Petropavlovsk 2.36 208 ePN Pb 19 41 12.5 -1.6
PET eS Sg 19 41 46.5 -0.1
PET smax smax
comp=E,526nm,0.7s
PET MLR MLR
comp=Z,700nm,10.0s
PET MLR MLR
comp=Z,1μm,10.0s
PET Petropavlovsk 2.36 208 eP Pb 19 41 12.6 -1.6
PET i S Sb 19 41 43.4 -0.3
PETK Petropavlovsk- 2.59 220 PN Pn 19 41 14.4 +0.4
PETK pmax pmax
comp=Z,1.0nm,0.3s
PETK Petropavlovsk- 2.59 220 Pn Pn 19 41 14.4 +0.4
comp=Z,0.5nm,0.3s,baz=61,slow=16,SNR=5.6
PETK Lg Lg 19 41 54.7
comp=Z,4.9nm,0.3s,baz=39,slow=21,SNR=5.5
RUS Russkaya 2.93 204 PN Pn 19 41 20.1 +1.5
RUS S Sb 19 41 57.3 -3.0
RUS Russkaya 2.93 204 eP Pn 19 41 20.1 +1.5
RUS i S Sb 19 41 57.3 -3.0
APC Apacha 2.94 223 eP Pn 19 41 20.1 +1.4
APC i S Sb 19 41 57.2 -3.3
MTVR Mutnovka 2.97 208 eP Pb 19 41 22.6 -2.1
MTVR i S Sb 19 42 01.4 -0.1
ASAK Asacha 3.14 210 eP Pb 19 41 24.9 -2.6
ASAK i S Sb 19 42 05.3 -1.0
FX1 Attu Island--F 7.81 101 Pn Pn 19 42 27.6 +1.9
comp=Z,3.8nm,0.3s,baz=36,slow=19,SNR=9.0
FX1 Sn Sn 19 43 51.8 -2.9
comp=Z,0.6nm,0.3s,baz=96,slow=19,SNR=2.0
YAK Yakutsk 17.34 306 eP P 19 44 36.9 +1.5
YAK pmax pmax
comp=Z,15nm,0.9s
USRK Ussuriysk Arra 21.27 251 P P 19 45 22.7 +4.2
comp=Z,2.3nm,0.8s,baz=27,slow=9.7,SNR=4.1
TIXI Tiksi 21.35 333 ceP P 19 45 22.4 +3.3
TIXI pmax pmax
comp=Z,6.0nm,0.7s
MJAR Matsushiro Arr 24.02 229 P P 19 45 46.5 -0.7
comp=Z,1.8nm,0.8s,baz=12,slow=10,SNR=5.3
ILAR Eielson Array 27.26 48 LR LR 19 57 44.5
comp=Z,26nm,18.3s,baz=282,slow=38
SONM Songino Array 33.70 280 P P 19 47 13.8 +0.3
comp=Z,0.4nm,0.6s,baz=60,slow=8.3,SNR=3.4
SONM LR LR 20 01 39.7
comp=Z,69nm,18.8s,baz=244,slow=38
WHN Wuhan 40.76 252 P P 19 48 24.9 +12
ZALV Zalesovo Beam 41.89 301 P P 19 48 23.9 +1.5
ZALV MLR MLR
comp=Z,100nm,18.6s
ZALV Zalesovo Beam 41.89 301 P P 19 48 23.9 +1.5
comp=Z,0.2nm,0.3s,baz=66,slow=3.6,SNR=2.6
ZALV LR LR 20 07 16.4
comp=Z,100nm,18.6s,baz=160,slow=38
KURK Kurchatov 46.87 300 P P 19 49 02.3 0.0
KURK pmax pmax
comp=Z,1.0nm,0.2s
KURBB Kurchatov Arra 46.97 300 P P 19 49 02.3 -0.8
comp=Z,3.7nm,0.2s,baz=55,slow=8.1,SNR=5.9
MKAR Makanchi Array 47.49 294 P P 19 49 06.8 -0.5
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR MLR MLR
comp=Z,53nm,18.9s
MKAR Makanchi Array 47.49 294 P P 19 49 06.8 -0.5
comp=Z,1.0nm,0.6s,baz=59,slow=6.8,SNR=9.8
MKAR LR LR 20 09 40.7
comp=Z,53nm,18.9s,baz=255,slow=37
BVAR Borovoye Array 49.31 307 P P 19 49 21.1 -0.1
BVAR pmax pmax
comp=Z,1.0nm,0.6s
BVAR Borovoye Array 49.31 307 P P 19 49 21.1 -0.1
comp=Z,0.9nm,0.6s,baz=54,slow=7.3,SNR=5.6
BRVK Borovoye 49.34 307 ceP P 19 49 24.4 +3.0
BRVK pmax pmax
comp=Z,7.0nm,2.5s
AAK Ala-Archa 54.39 295 cePn P 19 50 01.7 +2.3
AAK pmax pmax
comp=Z,9.0nm,1.7s
AAK Ala-Archa 54.39 295 P P 19 50 00.8 +1.4
comp=Z,1.3nm,0.6s,baz=78,slow=9.6,SNR=4.3
PDAR Pinedale Array 56.36 62 P P 19 50 15.8 +2.2
comp=Z,0.4nm,0.5s,baz=347,slow=3.7,SNR=3.9
FINES FINESS Array B 58.34 336 P P 19 50 28.1 +1.1
comp=Z,2.0nm,0.8s,baz=67,slow=11,SNR=3.3
NOA NORSAR Array B 61.65 344 P P 19 50 51.1 +1.2
comp=Z,0.7nm,0.8s,baz=23,slow=6.1,SNR=3.6
AKASG Malin Array Be 66.98 329 cePn P 19 51 25.8 +0.9
AKASG Malin Array Be 66.98 329 P P 19 51 25.7 +0.9
comp=Z,0.4nm,0.5s,baz=29,slow=5.6,SNR=4.5
BRTR Keskin Array B 75.19 320 P P 19 52 16.9 +1.9
comp=Z,0.7nm,0.8s,baz=42,slow=6.2,SNR=3.2
WRA Warramunga Arr 78.02 205 P P 19 52 30.3 -0.6
comp=Z,0.9nm,1.0s,baz=16,slow=6.1,SNR=4.0
ASAR Alice Springs 81.70 204 P P 19 52 51.0 +0.2
comp=Z,0.4nm,0.8s,baz=15,slow=5.0,SNR=4.0

*STR **14** 20:04:29.7±0.5, 43°.92N×11°.48E, h5km, Ml4.3, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*LDG **14** 20:04:30.4±0.1, 44°.12N×11°.37E, h5km, Ml4.3/24, Error ellipse: s-maj=2.7km s-min=2.0km az=16.0*
*IDC **14** 20:04:30.8±0.6, 44°.09N×11°.26E, h0km, mb4.2/20, mb1 4.3/30, mb1mx4.3/37, mbtmp4.2/30, MS3.6/21, Ms1 3.6/21, ms1mx3.4/44, Error ellipse: s-maj=12.6km s-min=10.7km az=131.0*
*ISCJB **14** 20:04:30.8±0.2, 44°.06N±0°.01×11°.29E±0°.01, h14km±1km, mb4.5/53, MS3.7/18, Error ellipse: s-maj=1.9km s-min=1.3km az=5.9*
*ROM **14** 20:04:31.0±0.1, 44°.03N×11°.28E, h7km±1km, Ml4.3/41, Error ellipse: s-maj=1.8km s-min=1.5km az=37.0*
*MOS **14** 20:04:31.0±1.1, 44°.14N×11°.26E, h15km, mb4.8/26, Error ellipse: s-maj=3.9km s-min=2.9km az=70.3*
*GEN **14** 20:04:31.9, 44°.01N×11°.28E, h4km, ML4.1*
*CSEM **14** 20:04:31.4±0.1, 44°.05N×11°.28E, h5km, mb4.6/13, ML4.6/13, Error ellipse: s-maj=2.3km s-min=1.6km az=8.0*
*PRU **14** 20:04:31.6, 44°.06N×11°.51E, h0km, M4.6*
*BJI **14** 20:04:31.2, 44°.54N×11°.11E, h7km, mB5.0/5, mb4.7/11*
*PDG **14** 20:04:31.2±0.9, 44°.07N×11°.28E, h14km±1km, ML4.2/11, Error ellipse: s-maj=0.8km s-min=0.9km az=0.0*
*NEIC **14** 20:04:32.7±0.2, 44°.11N×11°.21E, h10km, mb4.6/18, Error ellipse: s-maj=4.9km s-min=3.2km az=185.0*
*BEO **14** 20:04:32.4±0.8, 44°.36N×11°.26E, h0km, ML4.8/7*
*SFS **14** 20:04:34.0, 44°.23N×11°.26E, h10km, ML4.5*
*BGR **14** 20:04:40.5±0.6, 44°.59N×11°.37E, h10km, ML4.6/13, Error ellipse: s-maj=12.2km s-min=10.0km az=54.0*
*SZGRF **14** 20:04:40.5, 44°.59N×11°.37E, h10km, mb4.6, Northern Italy*
ISC 14 20:04:32.7±0.5, 44°.04N±0°.02×11°.22E±0°.01, h14km±3km, n853, σ1°62/990, mb4.5/53, MS3.8/20, 80C-38D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEI	**Scarperia** 948nm,0.3s	**0.10**	**81**	Pg	**Pg**	**20 04 33.4**	**-2.5**
SEI	**Scarperia** 948nm,0.3s	**0.10**	**81**	Pg	**Pg**	**20 04 33.4**	**-2.5**
FNVD	**Fontana Vidola** 190μm,0.6s	**0.15**	**331**	Pg	**Pg**	**20 04 35.0**	**-1.6**
FNVD				Sg	**Sg**	**20 04 37.9**	**-1.3**
FNVD	**Fontana Vidola** 190μm,0.6s	**0.15**	**331**	Pg	**Pg**	**20 04 35.0**	**-1.6**
FNVD				Sg	**Sg**	**20 04 37.9**	**-1.3**
VMG	**Vicchio** 101nm,0.2s	**0.24**	**108**	Pg	**Pg**	**20 04 35.6**	**-2.4**
VMG	**Vicchio** 101nm,0.2s	**0.24**	**108**	Pg	**Pg**	**20 04 35.6**	**-2.4**
CRMI	**Carmignano**	**0.31**	**216**	Pg	**Pg**	**20 04 38.2**	**-1.0**
CRMI				Sg	**Sb**	**20 04 44.3**	**-0.7**
CRMI	**Carmignano**	**0.31**	**216**	Pg	**Pg**	**20 04 38.2**	**-1.0**
CRMI				Sg	**Sb**	**20 04 44.3**	**-0.7**
MTRZ	**Monterenzio** 180μm,0.6s	**0.38**	**27**	Pg	**Pg**	**20 04 37.8**	**-2.6**
MTRZ	**Monterenzio** 180μm,0.6s	**0.38**	**27**	Pg	**Pg**	**20 04 37.8**	**-2.6**
SFI	**Santa Sofia** 28μm,0.5s	**0.47**	**106**	Pg	**Pg**	**20 04 39.7**	**-2.4**
SFI				Sg	**Sg**	**20 04 47.3**	**-1.1**
SFI	**Santa Sofia**	**0.47**	**106**	Pg	**Pg**	**20 04 39.7**	**-2.4**
ASQU	**Asqua** 13μm,0.6s	**0.48**	**120**	Pg	**Pg**	**20 04 40.0**	**-2.2**
ASQU				Sg	**Sg**	**20 04 47.4**	**-1.2**
ASQU	**Asqua** 13μm,0.6s	**0.48**	**120**	Pg	**Pg**	**20 04 40.0**	**-2.2**
ASQU				Sg	**Sg**	**20 04 47.4**	**-1.2**
FAEN	**Faenza**	**0.53**	**62**	Pg	**Pg**	**20 04 41.8**	**-1.4**
FAEN	**Faenza**	**0.53**	**62**	Pg	**Pg**	**20 04 41.8**	**-1.4**
PII	**Pisa**	**0.60**	**238**	Pg	**Pg**	**20 04 43.4**	**-1.0**
PII	**Pisa**	**0.60**	**238**	Pg	**Pg**	**20 04 43.4**	**-1.0**
VLC	**Villacollemand**	**0.61**	**282**	Pg	**Pg**	**20 04 43.5**	**-1.3**
VLC				Sg	**Sb**	**20 04 53.9**	**+0.1**
VLC	**Villacollemand** 17μm,0.9s	**0.61**	**282**	ePn	**Pg**	**20 04 43.4**	**-1.4**
VLC	**Villacollemand**	**0.61**	**282**	Pg	**Pg**	**20 04 43.5**	**-1.3**
VLC				Sg	**Sb**	**20 04 53.9**	**+0.1**
FIU	**Minerbio Fiu** 46μm,0.7s	**0.63**	**18**	Pg	**Pb**	**20 04 45.0**	**-0.5**
CRE	**Caprese Michel** 5μm,0.8s	**0.67**	**128**	Pg	**Pg**	**20 04 43.5**	**-2.4**
CRE	**Caprese Michel** 5μm,0.8s	**0.67**	**128**	Pg	**Pg**	**20 04 43.5**	**-2.4**
CMPO	**Campotto Po**	**0.68**	**37**	Pg	**Pb**	**20 04 45.8**	**-0.6**
CMPO				Sg	**Sg**	**20 04 53.4**	**-1.7**
ERBM	**Eremo** 16μm,1.0s	**0.69**	**303**	Pg	**Pg**	**20 04 45.6**	**-0.7**
ERBM	**Eremo** 16μm,1.0s	**0.69**	**303**	Pg	**Pg**	**20 04 45.6**	**-0.7**
RAVA	**Ravarino** 43μm,0.8s	**0.72**	**354**	Pg	**Pn**	**20 04 47.8**	**-0.7**
PARC	**Parchiule** 6μm,0.8s	**0.83**	**118**	Pg	**Pg**	**20 04 46.3**	**-2.6**
PARC	**Parchiule** 6μm,0.8s	**0.83**	**118**	Pg	**Pg**	**20 04 46.3**	**-2.6**
NOVE	**Novellara** 24μm,0.7s	**0.84**	**335**	Pg	**Pn**	**20 04 50.0**	**-0.1**
BACM	**Baccana**	**0.86**	**286**	P	**Pg**	**20 04 48.5**	**-1.0**
CAFI	**Castiglion Fio**	**0.89**	**143**	Pg	**Pg**	**20 04 47.6**	**-2.4**
CAFI				Sg	**Sg**	**20 05 00.6**	**-1.1**
CAFI	**Castiglion Fio** 11μm,1.2s	**0.89**	**143**	Pg	**Pg**	**20 04 47.6**	**-2.4**
CAFI				Sg	**Sg**	**20 05 00.6**	**-1.1**
BLLA	**Bellaria** 28μm,1.2s	**0.91**	**83**	Pg	**Pg**	**20 04 48.8**	**-1.4**
BLLA	**Bellaria** 28μm,1.2s	**0.91**	**83**	Pg	**Pg**	**20 04 48.8**	**-1.4**
BADI	**Badiali** 754μm,15.0s	**0.91**	**125**	Pg	**Pg**	**20 04 48.0**	**-2.3**
BADI	**Badiali** 754μm,15.0s	**0.91**	**125**	Pg	**Pg**	**20 04 48.0**	**-2.3**
GRFL	**Gerfalco**	**0.91**	**191**	Pg	**Pg**	**20 04 48.9**	**-1.5**
GRFL	**Gerfalco**	**0.91**	**191**	Pg	**Pg**	**20 04 48.9**	**-1.5**
CDCA	**Citt' di Caste** 16μm,1.4s	**0.94**	**128**	Pg	**Pg**	**20 04 48.8**	**-2.0**
CDCA	**Citt' di Caste** 16μm,1.4s	**0.94**	**128**	Pg	**Pg**	**20 04 48.8**	**-2.0**
GRAM	**Graiana**	**0.95**	**299**	P	**Pg**	**20 04 50.1**	**-1.0**
PRMA	**PARMA** 10μm,0.8s	**0.97**	**318**	Pg	**Pn**	**20 04 52.3**	**+0.3**
PRMA	**PARMA** 10μm,0.8s	**0.97**	**318**	Pg	**Pn**	**20 04 52.3**	**+0.3**
SBPO	**S.Benedetto Po**	**1.03**	**348**	Pg	**Pn**	**20 04 53.8**	**+1.0**
CODM	**Codolo**	**1.05**	**290**	P	**Pg**	**20 04 51.9**	**-1.1**
PIEI	**Pieia** 5μm,1.0s	**1.07**	**117**	Pg	**Pg**	**20 04 50.3**	**-3.2**
PIEI	**Pieia** 5μm,1.0s	**1.07**	**117**	Pg	**Pg**	**20 04 50.3**	**-3.2**
PESA	**Pesaro** 7μm,0.6s	**1.17**	**94**	Pg	**Pb**	**20 04 53.1**	**-1.6**
PESA	**Pesaro** 7μm,0.6s	**1.17**	**94**	Pg	**Pb**	**20 04 53.1**	**-1.6**
ARCI	**Arcidosso** 3μm,0.9s	**1.20**	**171**	Pg	**Pb**	**20 04 53.4**	**-1.9**
ARCI	**Arcidosso** 3μm,0.9s	**1.20**	**171**	Pg	**Pb**	**20 04 53.4**	**-1.9**
MURB	**Monte Urbino** 7μm,0.5s	**1.22**	**129**	Pg	**Pn**	**20 04 52.7**	**-2.8**
MURB	**Monte Urbino** 7μm,0.5s	**1.22**	**129**	Pg	**Pn**	**20 04 52.7**	**-2.8**
MSSA	**Maissana** 5μm,0.9s	**1.26**	**283**	Pg	**Pn**	**20 04 54.9**	**-1.1**
MSSA	**Maissana** 5μm,0.9s	**1.26**	**283**	Pg	**Pn**	**20 04 54.9**	**-1.1**
SC2M	**Scurtabo** 12μm,0.8s	**1.27**	**287**	Pg	**Pn**	**20 04 55.6**	**-0.5**
SC2M	**Scurtabo** 12μm,0.8s	**1.27**	**287**	Pg	**Pn**	**20 04 55.6**	**-0.5**
SC2M	**Scurtabo**	**1.27**	**287**	P	**Pn**	**20 04 56.0**	**-0.1**
CASP	**Castiglione de** 3μm,1.1s	**1.27**	**192**	Pg	**Pn**	**20 04 54.3**	**-1.8**
CASP	**Castiglione de** 3μm,1.1s	**1.27**	**192**	Pg	**Pn**	**20 04 54.3**	**-1.8**
SACS	**San Casciano d** 4μm,1.0s	**1.29**	**157**	Pg	**Pn**	**20 04 54.5**	**-1.9**
MGAB	**Montegabbione** 8μm,1.1s	**1.30**	**150**	Pg	**Pn**	**20 04 54.2**	**-2.3**
MGAB	**Montegabbione** 8μm,1.1s	**1.30**	**150**	Pg	**Pn**	**20 04 54.2**	**-2.3**
TEOL	**Teolo** 18μm,0.8s	**1.36**	**13**	Pg	**Pn**	**20 04 56.0**	**-1.3**
TEOL	**Teolo** 18μm,0.8s	**1.36**	**13**	Pg	**Pn**	**20 04 56.0**	**-1.3**
BOB	**Bobbio (Coli)** 25μm,1.2s	**1.47**	**300**	Pg	**Pb**	**20 05 00.0**	**+0.2**
BOB	**Bobbio (Coli)** 25μm,1.2s	**1.47**	**300**	Pg	**Pb**	**20 05 00.0**	**+0.2**
CING	**Cingoli** 2μm,0.6s	**1.58**	**114**	Pg	**Pb**	**20 05 00.9**	**-0.8**
CING	**Cingoli** 2μm,0.6s	**1.58**	**114**	Pg	**Pb**	**20 05 00.9**	**-0.8**
ROVR	**Rover¨¤ Verone** 4μm,0.7s	**1.61**	**356**	Pg	**Pn**	**20 04 59.7**	**-1.2**
ROVR	**Rover¨¤ Verone** 4μm,0.7s	**1.61**	**356**	Pg	**Pn**	**20 04 59.7**	**-1.2**
GENL	**Genova Univers**	**1.66**	**284**	P	**Pn**	**20 05 00.7**	**-0.7**
GENL				S	**Sn**	**20 05 19.8**	**-2.7**
FDMO	**Fiordimonte** 2μm,0.9s	**1.69**	**126**	Pg	**Pn**	**20 05 00.3**	**-1.5**
CESX	**Cesi** 3μm,0.8s	**1.74**	**145**	Pg	**Pn**	**20 05 01.2**	**-1.3**
MAGA	**Magasa** 9μm,0.6s	**1.79**	**347**	Pg	**Pn**	**20 05 02.5**	**-0.8**
AOI	**Ancona** 4μm,1.5s	**1.79**	**105**	Pg	**Pb**	**20 05 04.0**	**-1.3**
AOI	**Ancona** 4μm,1.5s	**1.79**	**105**	Pg	**Pb**	**20 05 04.0**	**-1.3**
CGRP	**Cima Grappa** 6μm,1.2s	**1.89**	**12**	Pg	**Pn**	**20 05 03.3**	**-1.4**
LNSS	**Leonessa** 3μm,0.9s	**1.96**	**137**	Pg	**Pn**	**20 05 03.7**	**-1.9**
MNS	**Montasola** 1μm,0.8s	**1.97**	**147**	Pg	**Pn**	**20 05 04.3**	**-1.4**
PCP	**Piancastagn**	**1.99**	**286**	P	**Pn**	**20 05 05.2**	**-0.8**
PCP				S	**Sn**	**20 05 28.8**	**-1.9**
CTI	**Castel Tesino** 4μm,0.8s	**2.03**	**8**	Pg	**Pn**	**20 05 05.3**	**-1.3**
MDI	**Monti di Nese** 2μm,0.8s	**2.04**	**329**	Pg	**Pn**	**20 05 06.6**	**-0.2**
MABI	**Malga Bissina** 887nm,0.7s	**2.08**	**346**	Pg	**Pn**	**20 05 06.5**	**-0.8**
FINB	**Finale Ligure** 2μm,0.6s	**2.09**	**275**	Pg	**Pn**	**20 05 06.2**	**-1.1**
PGF	**Pioggiola** SNR=1.0	**2.20**	**228**	ePn	**Pn**	**20 05 07.7**	**-1.3**
PGF	**Pioggiola** 224nm,0.4s	**2.20**	**228**	eP	**Pn**	**20 05 10.4**	**+1.4**
PGF				eSn	**Sn**	**20 05 35.3**	**-0.8**
PGF	**Pioggiola** 112nm,0.4s	**2.20**	**228**	eP	**Pn**	**20 05 07.7**	**-1.3**
PGF				e		20 05 35.3	
PGF	**Pioggiola**	**2.20**	**228**	ePn	**Pn**	**20 05 07.7**	**-1.3**
PGF				eSn	**Sn**	**20 05 35.3**	**-0.8**
PGF	**Pioggiola** SNR=1.0	**2.20**	**228**	ePn	**Pn**	**20 05 07.7**	**-1.3**
PGF	**Pioggiola**	**2.20**	**228**	eP	**Pn**	**20 05 10.4**	**+1.4**
PGF				eSn	**Sn**	**20 05 35.3**	**-0.8**
ROTM	**Rocchetta Tana**	**2.21**	**292**	P	**Pb**	**20 05 11.8**	**-0.6**
ROTM				S	**Sn**	**20 05 37.7**	**+1.6**
RORO	**Rocca Rossa**	**2.28**	**273**	P	**Pn**	**20 05 08.5**	**-1.4**
RORO				S	**Sn**	**20 05 33.7**	**-4.0**
TRI	**Trieste**	**2.46**	**46**	eP	**Pn**	**20 05 10.1**	**-2.3**
TRI	**Trieste**	**2.46**	**46**	eP	**Pn**	**20 05 10.1**	**-2.3**
TRI	**Trieste**	**2.46**	**46**	eP	**Pn**	**20 05 10.1**	**-2.3**
SKDS	**Skadanscina**	**2.49**	**52**	i Pn	**Pn**	**20 05 10.8**	**-2.1**
SKDS				i Sg	**Sg**	**20 05 51.9**	**-1.0**
SKDS	comp=Z,2μm,0.8s						
SKDS	**Skadanscina**	**2.49**	**52**	i Pn	**Pn**	**20 05 10.8**	**-2.1**
NEGI	**Seborga**	**2.55**	**267**	P	**Pn**	**20 05 12.4**	**-1.3**
NEGI				S	**Sn**	**20 05 40.5**	**-4.0**
SAOF	**Saorge**	**2.65**	**270**	P	**Pn**	**20 05 14.1**	**-0.9**
SAOF				S	**Sb**	**20 05 51.7**	**-0.6**
SAOF	**Saorge**	**2.65**	**270**	P	**Pn**	**20 05 14.1**	**-0.9**
SAOF				S	**Sb**	**20 05 51.7**	**-0.6**
NVLJ	**Novalja**	**2.67**	**77**	i Pn	**Pn**	**20 05 14.8**	**-0.5**
NVLJ				Sn	**Sn**	**20 05 46.4**	**-1.0**
KNDS	**Knezji Dol**	**2.70**	**55**	ePn	**Pn**	**20 05 14.0**	**-1.8**
KNDS	**Knezji Dol**	**2.70**	**55**	ePn	**Pn**	**20 05 14.0**	**-1.8**
AUTN	**L'Aution**	**2.74**	**270**	P	**Pn**	**20 05 17.6**	**+1.1**
JAVS	**Javornik**	**2.74**	**46**	i Pn	**Pn**	**20 05 14.2**	**-2.1**
JAVS				i Sn	**Sn**	**20 05 49.3**	**0.0**
JAVS	**Javornik**	**2.74**	**46**	i Pn	**Pn**	**20 05 14.2**	**-2.1**
JAVS				i Sn	**Sn**	**20 05 49.3**	**0.0**
SBF	**Sospel** SNR=1.0	**2.74**	**268**	ePn	**Pn**	**20 05 15.1**	**-1.2**
SBF				eSn	**Sn**	**20 05 47.6**	**-1.7**
SBF	comp=Z,860nm,0.6s						
SBF	**Sospel**	**2.74**	**268**	eP	**Pn**	**20 05 15.1**	**-1.2**
SBF				e		20 05 47.6	
SBF	**Sospel**	**2.74**	**268**	ePn	**Pn**	**20 05 15.1**	**-1.2**
SBF				eSn	**Sn**	**20 05 47.6**	**-1.7**
SBF	**Sospel** SNR=1.0	**2.74**	**268**	ePn	**Pn**	**20 05 15.1**	**-1.2**
SBF				eSn	**Sn**	**20 05 47.6**	**-1.7**
SBF	comp=Z,430nm,0.6s						
ENR	**Entracque**	**2.74**	**275**	P	**Pn**	**20 05 16.1**	**-0.3**
ENR				S	**Sn**	**20 05 46.4**	**-3.0**
VOY	**Vojsko**	**2.75**	**43⇑**	i Pn	**Pn**	**20 05 14.4**	**-2.1**
VOY				e		20 05 52.7	
VOY	**Vojsko**	**2.75**	**43⇑**	i Pn	**Pn**	**20 05 14.4**	**-2.1**
TUE	**Stuetta**	**2.77**	**332**	eP	**Pn**	**20 05 17.4**	**+0.5**
LUCF	**Luceram**	**2.80**	**268**	P	**Pn**	**20 05 18.8**	**+1.6**
REVF	**Revere**	**2.80**	**265**	P	**Pn**	**20 05 16.4**	**-0.8**
REVF	**Revere**	**2.80**	**265**	P	**Pn**	**20 05 16.4**	**-0.8**
OSPF	**L'Ospedale**	**2.81**	**213**	P	**Pn**	**20 05 16.1**	**-1.1**
OSPF	**L'Ospedale**	**2.81**	**213**	P	**Pn**	**20 05 16.1**	**-1.1**
STV	**Sant Anna di V**	**2.81**	**276**	P	**Pn**	**20 05 17.4**	**+0.1**
STV				S	**Sn**	**20 05 47.8**	**-3.3**
CEY	**Cerknica**	**2.84**	**52**	ePn	**Pn**	**20 05 15.7**	**-2.0**
CEY	**Cerknica**	**2.84**	**52**	ePn	**Pn**	**20 05 15.7**	**-2.0**
ABTA	**Abfaltersbach** comp=Z,140nm,0.5s,SNR=39	**2.86**	**18⇑**	ePn	**Pn**	**20 05 17.6**	**-0.4**
ABTA				⇑eSn	**Sn**	**20 05 52.6**	**+0.4**
ABTA	comp=Z,464nm,0.6s						
ABTA	**Abfaltersbach** comp=Z,140nm,0.5s,SNR=39	**2.86**	**18**	Pn	**Pn**	**20 05 17.6**	**-0.4**
ABTA				Sn	**Sn**	**20 05 52.6**	**+0.4**
ABTA	comp=Z,464nm,0.6s						
TOUF	**Mont Tournerai**	**2.87**	**271**	P	**Pn**	**20 05 18.0**	**-0.2**
TOUF	**Mont Tournerai**	**2.87**	**271**	P	**Pn**	**20 05 18.0**	**-0.2**
TRAV	**Traversella**	**2.88**	**302**	P	**Pn**	**20 05 18.9**	**+0.6**
TRAV				S	**Sn**	**20 05 50.1**	**-2.7**
DAVOX	**Davos/Dischmat**	**2.90**	**341**	Pn	**Pn**	**20 05 19.8**	**+1.2**
DAVOX				Sn	**Sn**	**20 05 51.3**	**-2.1**
DAVOX	**Davos/Dischmat** comp=Z,21nm,0.3s,baz=164,slow=17,SNR=84	**2.90**	**341**	Pn	**Pn**	**20 05 19.8**	**+1.2**
DAVOX				Sn	**Sn**	**20 05 51.3**	**-2.1**
DAVOX	comp=Z,18nm,0.3s,baz=164,slow=18,SNR=5.3						
DAVOX	**Davos/Dischmat** comp=Z,21nm,0.3s	**2.90**	**341**	P	**Pn**	**20 05 19.8**	**+1.2**
MVIF	**Mont Vial**	**2.94**	**269**	P	**Pn**	**20 05 20.8**	**+1.6**
FETA	**Feichten** comp=Z,432nm,0.7s,SNR=132	**3.00**	**354⇑**	ePn	**Pn**	**20 05 21.4**	**+1.4**
FETA				⇑eSg	**Sg**	**20 06 07.8**	**-1.4**
FETA	comp=Z,231nm,0.6s						
FETA	**Feichten** comp=Z,432nm,0.7s,SNR=132	**3.00**	**354**	Pn	**Pn**	**20 05 21.4**	**+1.4**
FETA				Sg	**Sg**	**20 06 07.8**	**-1.4**
FETA	comp=Z,231nm,0.6s						
GORS	**Gorjuse**	**3.00**	**40**	i Pn	**Pn**	**20 05 18.7**	**-1.3**
GORS	**Gorjuse**	**3.00**	**40**	i Pn	**Pn**	**20 05 18.7**	**-1.3**
LJU	**Ljubljana**	**3.08**	**48**	i Pn	**Pn**	**20 05 19.6**	**-1.4**
LJU				ePg	**Pg**	**20 05 31.5**	**-0.3**
LJU				i Sn	**Sn**	**20 05 57.0**	**-0.6**
LJU	**Ljubljana**	**3.08**	**48**	i Pn	**Pn**	**20 05 19.6**	**-1.4**
LJU				i Sn	**Sn**	**20 05 57.0**	**-0.6**
MYKA	**Terra Mystica** comp=Z,56nm,0.4s,SNR=20	**3.10**	**33⇓**	i Pn	**Pn**	**20 05 20.6**	**-0.7**
MYKA	**Terra Mystica** comp=Z,56nm,0.4s,SNR=20	**3.10**	**33**	Pn	**Pn**	**20 05 20.6**	**-0.7**
VISS	**Visnje**	**3.12**	**54**	ePn	**Pn**	**20 05 20.1**	**-1.3**
VISS				eSn	**Sn**	**20 05 57.8**	**-0.6**
VISS	**Visnje**	**3.12**	**54**	ePn	**Pn**	**20 05 20.1**	**-1.3**
VISS				eSn	**Sn**	**20 05 57.8**	**-0.6**
CALN	**Calern**	**3.15**	**266**	P	**Pn**	**20 05 21.7**	**-0.3**
SURF	**Saint Ours**	**3.20**	**279**	P	**Pn**	**20 05 22.3**	**-0.5**

MBDF Montbardon 3.27 284 *e*Pn **Pn 20 05 23.1 -0.5**
SNR=1.0
MBDF Montbardon 3.27 284 *e*P **Pn 20 05 26.8 +3.2**
MBDF *e*Sn **Sn 20 05 59.9 -2.4**
comp=Z,940nm,0.8s
MBDF Montbardon 3.27 284 *e*P **Pn 20 05 23.1 -0.5**
MBDF *e* 20 05 59.9
MBDF Montbardon 3.27 284 *e*Pn **Pn 20 05 23.1 -0.5**
MBDF *e*Sn **Sn 20 05 59.9 -2.4**
MBDF Montbardon 3.27 284 *e*Pn **Pn 20 05 23.1 -0.5**
SNR=1.0
MBDF Montbardon 3.27 284 *e*P **Pn 20 05 26.8 +3.2**
MBDF *e*Sn **Sn 20 05 59.9 -2.4**
comp=Z,470nm,0.8s
UDBI Udbina 3.30 80 *e*Pn **Pn 20 05 24.5 +0.5**
UDBI Sn **Sn 20 06 03.0 0.0**
MOTA Moosalm 3.31 359⇓*e*Pn **Pn 20 05 25.3 +1.1**
comp=Z,216nm,0.6s,SNR=171
MOTA Moosalm 3.31 359 Pn **Pn 20 05 25.3 +1.1**
comp=Z,216nm,0.6s,SNR=171
FRF La Foret Royal 3.35 263 *e*Pn **Pn 20 05 24.0 -0.6**
SNR=1.0
FRF La Foret Royal 3.35 263 *e*P **Pn 20 05 26.6 +2.0**
FRF *e*Sn **Sn 20 06 01.3 -2.8**
comp=Z,269nm,0.6s,SNR=1.0
FRF La Foret Royal 3.35 263 *e*P **Pn 20 05 24.0 -0.6**
FRF *e* 20 06 01.3
FRF La Foret Royal 3.35 263 *e*Pn **Pn 20 05 24.0 -0.6**
FRF *e*Sn **Sn 20 06 01.3 -2.8**
FRF La Foret Royal 3.35 263 *e*Pn **Pn 20 05 24.0 -0.6**
SNR=1.0
FRF La Foret Royal 3.35 263 *e*P **Pn 20 05 26.6 +2.0**
FRF *e*Sn **Sn 20 06 01.3 -2.8**
comp=Z,135nm,0.6s,SNR=1.0
DAVA Damuels 3.38 344 *e*Pn **Pn 20 05 27.1 +1.9**
DAVA *e*Sg **Sb 20 06 10.5 -3.0**
DAVA Damuels 3.38 344 *e*Pn **Pn 20 05 27.1 +1.9**
DAVA *e*Sg **Sb 20 06 10.5 -3.0**
DAVA Damuels 3.38 344 *i* Pn **Pn 20 05 26.8 +1.5**
SNR=81
DAVA Damuels 3.38 344 Pn **Pn 20 05 27.1 +1.9**
KBA Koelnbreinsper 3.38 25 *e*Pn **Pn 20 05 25.1 -0.2**
KBA Koelnbreinsper 3.38 25 *e*Pn **Pn 20 05 25.1 -0.2**
KBA Koelnbreinsper 3.38 25⇑*i*Pn **Pn 20 05 24.9 -0.4**
comp=Z,91nm,0.6s,SNR=38
KBA ⇑*e*Sn **Sn 20 06 06.1 +0.8**
comp=Z,324nm,0.7s
KBA Koelnbreinsper 3.38 25 Pn **Pn 20 05 25.1 -0.2**
KBA Sn **Sn 20 06 06.1 +0.8**
comp=Z,324nm,0.7s
BNI Bardonecchia 3.40 289 *e*P **Pn 20 05 27.3 +1.8**
BNI Bardonecchia 3.40 289 *e*P **Pn 20 05 27.2 +1.8**
BNI Bardonecchia 3.40 289 *e*P **Pn 20 05 27.3 +1.8**
OBKA Obir 3.41 42 *e*Pn **Pn 20 05 24.1 -1.4**
OBKA Obir 3.41 42 *e*Pn **Pn 20 05 24.1 -1.4**
OBKA Obir 3.41 42⇓*e*Pn **Pn 20 05 24.4 -1.2**
comp=Z,209nm,0.6s
OBKA ⇑Sg **Sg 20 06 23.3 +1.1**
comp=Z,1µm,0.7s
OBKA Obir 3.41 42 Pn **Pn 20 05 24.1 -1.4**
RETA Reutte 3.46 355 *i* Pn **Pn 20 05 27.5 +1.2**
SNR=139
RETA Reutte 3.46 355 Pn **Pn 20 05 27.5 +1.2**
SNR=139
LMR La Mourre 3.49 260 *e*Pn **Pn 20 05 24.6 -2.0**
SNR=1.0
LMR La Mourre 3.49 260 *e*P **Pn 20 05 29.1 +2.5**
LMR *e*Sn **Sn 20 06 05.5 -2.2**
comp=Z,145nm,0.5s
LMR La Mourre 3.49 260 *e*P **Pn 20 05 24.6 -2.0**
LMR *e* 20 06 05.5
LMR La Mourre 3.49 260 *e*Pn **Pn 20 05 24.6 -2.0**
LMR *e*Sn **Sn 20 06 05.5 -2.2**
LMR La Mourre 3.49 260 *e*Pn **Pn 20 05 24.6 -2.0**
SNR=1.0
LMR La Mourre 3.49 260 *e*P **Pn 20 05 29.1 +2.5**
LMR *e*Sn **Sn 20 06 05.5 -2.2**
comp=Z,72nm,0.5s
CRES Cresnjev 3.50 58 *e*Pn **Pn 20 05 25.6 -1.2**
CRES Cresnjev 3.50 58 *e*Pn **Pn 20 05 25.5 -1.2**
LPG La Plagne 3.50 296 *e*Pn **Pn 20 05 27.2 +0.2**
SNR=1.0
LPG La Plagne 3.50 296 *e*P Pn 20 05 30.8 +3.8
LPG *e*Sn **Sn 20 06 05.4 -3.0**
comp=Z,722nm,0.9s
LPG La Plagne 3.50 296 *e*P **Pn 20 05 27.2 +0.2**
LPG *e* 20 06 05.4
LPG La Plagne 3.50 296 *e*Pn **Pn 20 05 27.2 +0.2**
LPG *e*Sn **Sn 20 06 05.4 -3.0**
LPG La Plagne 3.50 296 *e*Pn **Pn 20 05 27.2 +0.2**
SNR=1.0
LPG La Plagne 3.50 296 *e*P Pn 20 05 30.8 +3.8
LPG *e*Sn **Sn 20 06 05.4 -3.0**
comp=Z,361nm,0.9s
LPL La Plagne 3.52 296 *e*Pn **Pn 20 05 28.0 +0.8**
LPL La Plagne 3.52 296 *e*P Pn 20 05 30.9 +3.7
LPL *e*Sn **Sn 20 06 05.6 -3.2**
comp=Z,414nm,0.8s
LPL La Plagne 3.52 296 *e*P **Pn 20 05 28.0 +0.8**
LPL *e* 20 06 05.6
LPL La Plagne 3.52 296 *e*Pn **Pn 20 05 28.0 +0.8**
LPL *e*Sn **Sn 20 06 05.6 -3.2**
LPL La Plagne 3.52 296 *e*Pn **Pn 20 05 28.0 +0.8**
LPL La Plagne 3.52 296 *e*P Pn 20 05 30.9 +3.7
LPL *e*Sn **Sn 20 06 05.6 -3.2**
comp=Z,207nm,0.8s
GCIS Gornji Cirnik 3.62 58 *e*Pn **Pn 20 05 27.4 -1.0**
GCIS Gornji Cirnik 3.62 58 *e*Pn **Pn 20 05 27.4 -1.0**
RSL Roselend 3.66 298 P **Pn 20 05 31.5 +2.4**
RSL S **Sb 20 06 20.0 -1.6**
DOBS Dobrina 3.67 53 *e*Pn **Pn 20 05 27.9 -1.2**
DOBS Dobrina 3.67 53 *e*Pn **Pn 20 05 27.9 -1.2**
SOKA Soboth 3.76 44⇑*e*Pn **Pn 20 05 29.2 -1.2**
comp=Z,68nm,0.8s,SNR=16
SOKA ⇓Sg **Sg 20 06 34.3 +0.7**
comp=Z,290nm,0.6s
SOKA Soboth 3.76 44 Pn **Pn 20 05 29.2 -1.2**
comp=Z,68nm,0.8s,SNR=16
GDM Grand'Maison 3.83 289 P **Pn 20 05 33.6 +2.2**
RJOB Jochberg 3.86 16 *e*Pn **Pn 20 05 32.7 +1.0**
RJOB Jochberg 3.86 16 *e*Pn **Pn 20 05 32.7 +1.0**
RJOB Jochberg 3.86 16 Pn **Pn 20 05 32.7 +1.0**
ORIF Oris-en-Rattie 3.92 285 *e*P **Pn 20 05 34.2 +1.6**
ORIF *e*Sn **Sn 20 06 14.5 -4.0**
comp=Z,452nm,0.7s
ORIF Oris-en-Rattie 3.92 285 *e*P **Pn 20 05 34.2 +1.6**
ORIF *e* 20 06 14.5
ORIF Oris-en-Rattie 3.92 285 *e*P **Pn 20 05 34.2 +1.6**
ORIF *e*Sn **Sn 20 06 14.5 -4.0**
ORIF Oris-en-Rattie 3.92 285 *e*P **Pn 20 05 34.2 +1.6**
ORIF *e*Sn **Sn 20 06 14.5 -4.0**
comp=Z,226nm,0.7s
OG01 Vacheresse 3.94 307 P **Pn 20 05 35.4 +2.5**
SMRF Simiane la Rot 4.08 271 *e*P **Pn 20 05 35.2 +0.5**
SMRF *e*Sn **Sn 20 06 19.6 -2.6**
comp=Z,485nm,0.9s
SMRF Simiane la Rot 4.08 271 *e*P **Pn 20 05 35.2 +0.5**
SMRF *e*Sn **Sn 20 06 19.6 -2.6**
SMRF Simiane la Rot 4.08 271 *e*P **Pn 20 05 35.2 +0.5**
SMRF *e*Sn **Sn 20 06 19.6 -2.6**
comp=Z,243nm,0.9s
GRN Grenoble 4.09 289 P **Pn 20 05 37.3 +2.4**
FUR Furstenfeldbru 4.13 0 *e*Pn **Pn 20 05 35.7 +0.3**
FUR Furstenfeldbru 4.13 0 *e*Pn **Pn 20 05 35.7 +0.3**
FUR Furstenfeldbru 4.13 0 *e*P **Pn 20 05 35.7 +0.3**
FUR Furstenfeldbru 4.13 0 Pn **Pn 20 05 35.7 +0.3**
OG26 St.-Nazaire-De 4.28 279 P **Pn 20 05 37.7 +0.2**
BBS Basel-Blauen 4.30 324 P **Pn 20 05 37.6 -0.1**
MOA Molln 4.36 28 *e*Pn **Pn 20 05 38.5 -0.1**
MOA Molln 4.36 28 *e*Pn **Pn 20 05 38.5 -0.1**
MOA Molln 4.36 28⇓*e*Pn **Pn 20 05 38.5 -0.1**
comp=Z,56nm,0.5s,SNR=31
MOA ⇑*e*Sn **Sn 20 06 30.1 +0.9**
comp=Z,143nm,0.5s
MOA Molln 4.36 28 Pn **Pn 20 05 38.5 -0.1**
MOA Sn **Sn 20 06 30.1 +0.9**
comp=Z,143nm,0.5s
SPAK Spaichingen-Ko 4.40 338 P **Pn 20 05 39.5 +0.3**
ARSA Arzberg 4.41 42⇑*e*Pn **Pn 20 05 37.7 -1.5**
comp=Z,61nm,0.5s,SNR=28
ARSA Arzberg 4.41 42 *e*Pn **Pn 20 05 38.0 -1.2**
ARSA Arzberg 4.41 42 *e*Pn **Pn 20 05 38.0 -1.2**
CABF La Chapelle 4.44 307 *e*P **Pn 20 05 41.2 +1.5**
CABF *e*Sn **Sn 20 06 26.6 -4.6**
comp=Z,419nm,0.9s
CABF La Chapelle 4.44 307 *e*P **Pn 20 05 41.2 +1.5**
CABF *e* 20 06 26.6
CABF La Chapelle 4.44 307 *e*P **Pn 20 05 41.2 +1.5**
CABF *e*Sn **Sn 20 06 26.6 -4.6**
CABF La Chapelle 4.44 307 *e*P **Pn 20 05 41.2 +1.5**
CABF *e*Sn **Sn 20 06 26.6 -4.6**
comp=Z,210nm,0.9s
FELD Feldberg im Sc 4.45 331 P **Pn 20 05 40.0 +0.2**
OG35 Corcelles 4.48 299 P **Pn 20 05 41.7 +1.5**
LOMF Lomont 4.52 319 P **Pn 20 05 41.5 +0.7**
LOMF Lomont 4.52 319 P **Pn 20 05 41.5 +0.7**
BEHE Becsehely 4.61 56⇑*e*Pn **Pn 20 05 40.9 -1.1**
BEHE Becsehely 4.61 56⇑*e*P **Pn 20 05 40.9 -1.1**
BFO Black Forest 4.74 336 *e*Pn **Pn 20 05 43.9 +0.2**
BFO Black Forest 4.74 336 *e*Pn **Pn 20 05 43.9 +0.2**
BFO Black Forest 4.74 336 *e*P **Pn 20 05 43.9 +0.2**
BFO Black Forest 4.74 336 *e*P **Pn 20 05 43.2 -0.5**
BFO Black Forest 4.74 336 *e*P **Pn 20 05 43.2 -0.5**
BFO Black Forest 4.74 336 Pn **Pn 20 05 43.9 +0.2**
VSL Villasalto 4.75 198 *e*P **Pn 20 05 46.4 +2.6**
VSL Villasalto 4.75 198 *e*P **Pn 20 05 46.4 +2.6**
MOF Molkenrain 4.76 325 P **Pn 20 05 44.5 +0.4**
MOF Molkenrain 4.76 325 P **Pn 20 05 44.5 +0.4**
VIVF Saint-Julien-I 4.76 282 *e*Pn **Pn 20 05 43.5 -0.6**
SNR=1.0
VIVF *e*Sn **Sn 20 06 37.2 -1.8**
comp=Z,138nm,0.9s
VIVF Saint-Julien-I 4.76 282 *e*P **Pn 20 05 43.5 -0.6**
VIVF *e* 20 06 37.2
VIVF Saint-Julien-I 4.76 282 *e*Pn **Pn 20 05 43.5 -0.6**
VIVF *e*Sn **Sn 20 06 37.2 -1.8**
VIVF Saint-Julien-I 4.76 282 *e*Pn **Pn 20 05 43.5 -0.6**
SNR=1.0
VIVF *e*Sn **Sn 20 06 37.2 -1.8**
comp=Z,69nm,0.9s
LIBD Limburg 4.82 330 P **Pn 20 05 45.6 +0.8**
HINF Hinteralfeld 4.85 323 *e*P **Pn 20 05 45.2 -0.1**
HINF *e*Sn **Sn 20 06 36.3 -5.0**
comp=Z,429nm,0.8s
HINF Hinteralfeld 4.85 323 *e*P **Pn 20 05 45.2 -0.1**
HINF *e* 20 06 36.3
HINF Hinteralfeld 4.85 323 *e*P **Pn 20 05 45.2 -0.1**
HINF *e*Sn **Sn 20 06 36.3 -5.0**
HINF Hinteralfeld 4.85 323 *e*P **Pn 20 05 45.2 -0.1**
HINF *e*Sn **Sn 20 06 36.3 -5.0**
comp=Z,214nm,0.8s
STON Ston 4.86 102 *e*Pn **Pn 20 05 45.6 +0.3**
STON Sn **Sn 20 06 40.6 -0.7**
SSB Saint Sauveur 4.92 287 *e*P **Pn 20 05 46.6 +0.3**
SSB Saint Sauveur 4.92 287 P **Pn 20 05 46.4 +0.1**
SSB Saint Sauveur 4.92 287 *e*P **Pn 20 05 46.6 +0.3**
SSB Saint Sauveur 4.92 287 *e*P **Pn 20 05 46.6 +0.3**
STU Stuttgart 4.94 344 *e*Pn **Pn 20 05 46.6 +0.2**
STU Stuttgart 4.94 344 *e*Pn **Pn 20 05 46.6 +0.2**
STU Stuttgart 4.94 344 *e*P **Pn 20 05 46.6 +0.2**
STU Stuttgart 4.94 344 *e*P **Pn 20 05 46.0 -0.4**
STU Stuttgart 4.94 344 *e*P **Pn 20 05 46.0 -0.4**
STU Stuttgart 4.94 344 Pn **Pn 20 05 46.6 +0.2**
ECH Echery 5.04 327 *e*P **Pn 20 05 47.4 -0.5**
ECH Echery 5.04 327 P **Pn 20 05 48.2 +0.3**
ECH Echery 5.04 327 *e*P **Pn 20 05 47.4 -0.5**
ECH Echery 5.04 327 P **Pn 20 05 48.2 +0.3**
CONA Conrad Observa 5.06 38⇑*e*Pn **Pn 20 05 46.9 -1.3**
comp=Z,32nm,0.5s,SNR=21
CONA ⇑*e*Sn **Sn 20 06 45.4 -1.0**
comp=Z,89nm,0.8s
CONA Conrad Observa 5.06 38 Pn **Pn 20 05 46.9 -1.3**
comp=Z,32nm,0.5s,SNR=21
CONA Sn **Sn 20 06 45.4 -1.0**
comp=Z,89nm,0.8s
BAI Bari 5.10 123 *e*Sn **Sn 20 06 45.8 -1.5**
GEC2 GERESS Array S 5.10 19 *e*Pn **Pn 20 05 47.9 -0.9**
GEC2 GERESS Array S 5.10 19 *e*Pn **Pn 20 05 47.9 -0.9**
GEC2 GERESS Array S 5.10 19 *e*P **Pn 20 05 47.9 -0.9**
GEC2 GERESS Array S 5.10 19 Pn **Pn 20 05 47.9 -0.9**
GERES GERESS Array B 5.10 19 Pn **Pn 20 05 47.4 -1.4**
GERES Sn **Sn 20 06 45.9 -1.7**
GERES Lg Lg 20 07 06.1
GERES GERESS Array B 5.10 19 Pn **Pn 20 05 47.4 -1.4**
comp=Z,6.5nm,0.3s,baz=195,slow=13,SNR=89
GERES Sn **Sn 20 06 45.9 -1.7**
comp=Z,9.7nm,0.3s,baz=197,slow=21,SNR=17
GERES Lg Lg 20 07 06.1
comp=Z,5.0nm,0.3s,baz=187,slow=29,SNR=3.7
GERES LR LR 20 08 10.3
comp=Z,705nm,19.4s,baz=343,slow=44
GERES GERESS Array B 5.10 19 P **Pn 20 05 47.4 -1.4**
GERES S **Sn 20 06 45.9 -1.7**
CDF Champ du Feu 5.16 329 *e*P **Pn 20 05 49.2 -0.4**
SNR=1.0
CDF *e*Sn Sn 20 06 43.2 -5.7
comp=Z,207nm,0.7s,SNR=1.0
CDF Champ du Feu 5.16 329 *e*P **Pn 20 05 49.2 -0.4**
CDF *e* 20 06 43.2
CDF Champ du Feu 5.16 329 *e*P **Pn 20 05 49.2 -0.4**
CDF *e*Sn Sn 20 06 43.2 -5.7
CDF Champ du Feu 5.16 329 *e*P **Pn 20 05 49.2 -0.4**
SNR=1.0
CDF *e*Sn Sn 20 06 43.2 -5.7
comp=Z,103nm,0.7s,SNR=1.0
SOP Sopron 5.21 44⇓*e*Pn **Pn 20 05 49.2 -1.0**
SOP Sopron 5.21 44⇓*e*P **Pn 20 05 49.2 -1.0**
HAU Haudompre 5.22 321 *e*P **Pn 20 05 50.5 +0.1**
HAU *e*Sn **Sn 20 06 45.3 -5.0**
comp=Z,286nm,0.6s
HAU Haudompre 5.22 321 *e*P **Pn 20 05 50.5 +0.1**
HAU *e* 20 06 45.3
HAU Haudompre 5.22 321 *e*P **Pn 20 05 50.5 +0.1**
HAU *e*Sn **Sn 20 06 45.3 -5.0**
HAU Haudompre 5.22 321 *e*P **Pn 20 05 50.5 +0.1**
HAU *e*Sn **Sn 20 06 45.3 -5.0**
comp=Z,143nm,0.6s
WET Wettzell 5.23 12 *e*Pn **Pn 20 05 49.2 -1.3**
WET Wettzell 5.23 12 *e*Pn **Pn 20 05 49.2 -1.3**
WET Wettzell 5.23 12 *e*P **Pn 20 05 49.2 -1.3**
WET Wettzell 5.23 12 Pn **Pn 20 05 49.2 -1.3**
CUC Castrocucco 5.29 138 *e*P **Pn 20 05 53.9 +2.5**
comp=Z,31nm,0.9s
LASF Ste Croix 5.31 273 *e*Pn **Pn 20 05 50.2 -1.4**
SNR=1.0
LASF Ste Croix 5.31 273 *e*P Pn 20 05 55.3 +3.7
LASF *e*Sn **Sn 20 06 48.9 -3.6**
comp=Z,38nm,0.7s,SNR=1.0
LASF Ste Croix 5.31 273 *e*Pn **Pn 20 05 50.2 -1.4**
LASF *e*Sn **Sn 20 06 48.9 -3.6**
LASF Ste Croix 5.31 273 *e*Pn **Pn 20 05 50.2 -1.4**
SNR=1.0
LASF Ste Croix 5.31 273 *e*P Pn 20 05 55.3 +3.7
LASF *e*Sn **Sn 20 06 48.9 -3.6**
comp=Z,19nm,0.7s,SNR=1.0
KHC Kasperske Hory 5.34 17 *e*P **Pn 20 05 51.0 -1.1**
KHC *e* 20 06 50.7
KHC Kasperske Hory 5.34 17 *e*PN **Pn 20 05 51.0 -1.1**
KHC *e*SN **Sn 20 06 50.7 -2.7**
KHC Kasperske Hory 5.34 17 *e*P **Pn 20 05 50.4 -1.7**
comp=Z,56nm,0.8s
KHC Kasperske Hory 5.34 17 *e*P **Pn 20 05 50.4 -1.7**
comp=Z,56nm,0.8s
KHC Kasperske Hory 5.34 17 Pn **Pn 20 05 51.0 -1.1**
KHC Sn **Sn 20 06 50.7 -2.7**
TREB Trebinje 5.36 102 *e*Pn **Pn 20 05 52.0 -0.3**
TREB *e*Sn **Sn 20 06 55.7 +1.9**
TREB Trebinje 5.36 102 *e*Pn **Pn 20 05 52.0 -0.3**
BRY Bratogost 5.44 100⇑*i*Pn **Pn 20 05 53.3 -0.3**
BRY *e*Sn **Sn 20 06 54.5 -1.5**
BRY Bratogost 5.44 100⇑*i*Pn **Pn 20 05 53.3 -0.3**
BRY *e*Sn **Sn 20 06 54.5 -1.5**
LANF Langenberg 5.48 336 P **Pn 20 05 54.0 +0.1**
LANF Langenberg 5.48 336 P **Pn 20 05 54.0 +0.1**
HCY Herceg Novi 5.54 104⇓*i*Pn **Pn 20 05 54.5 -0.3**
HCY *e*Sn **Sn 20 06 57.4 -0.9**
HCY Herceg Novi 5.54 104⇓*i*Pn **Pn 20 05 54.5 -0.3**
HCY *e*Sn **Sn 20 06 57.4 -0.9**
THEF They Montfort 5.55 321 P **Pn 20 05 55.3 +0.5**
THEF They Montfort 5.55 321 P **Pn 20 05 55.3 +0.5**
COLF Collangettes 5.56 288 P **Pn 20 05 55.7 +0.7**
COLF Collangettes 5.56 288 P **Pn 20 05 55.7 +0.7**
PKS9 Tamasi 5.59 60⇓*e*Pn **Pn 20 05 54.3 -1.1**
PKS9 Tamasi 5.59 60⇓*e*P **Pn 20 05 54.3 -1.1**
PE1 Pezze di Greco 5.61 123 *e*Pn **Pn 20 05 56.4 +0.7**
UPM Unac-Piva 5.64 96⇓*i*Pn **Pn 20 05 56.6 +0.3**
UPM *e*Sn **Sn 20 06 59.2 -1.7**
UPM Unac-Piva 5.64 96⇓*i*Pn **Pn 20 05 56.6 +0.3**
UPM *e*Sn **Sn 20 06 59.2 -1.7**
GRFO Grafenberg 5.65 360 *e*P **Pn 20 05 53.8 -2.5**
GRFO pmax pmax
comp=Z,125nm,0.8s
GRFO Grafenberg 5.65 360 *e*P **Pn 20 05 53.8 -2.5**
comp=Z,125nm,0.8s
GRFO Grafenberg 5.65 360 *e*P **Pn 20 05 53.8 -2.5**
comp=Z,125nm,0.8s
GRA1 Grafenberg Arr 5.66 360 Pn **Pn 20 05 54.6 -1.7**
GRF Grafenberg Arr 5.66 360 *e*Pn **Pn 20 05 54.6 -1.7**
GRF Grafenberg Arr 5.66 360 *e*Pn **Pn 20 05 54.6 -1.7**
GRF Grafenberg Arr 5.66 360 *e*P **Pn 20 05 54.6 -1.7**
PKSM Moragy 5.68 65⇑*i*P **Pn 20 05 54.2 -2.4**
PKSM Moragy 5.68 65⇑*i*P **Pn 20 05 54.2 -2.4**
PKSM Moragy 5.68 65 *e*Pn **Pn 20 05 54.6 -2.0**
PKSM Moragy 5.68 65⇑*e*Pn **Pn 20 05 54.1 -2.5**
PKSM Moragy 5.68 65 P **Pn 20 05 54.2 -2.4**
PKSM Moragy 5.68 65 *e*Pn **Pn 20 05 54.6 -2.0**
KTD Kalmit 5.71 339 P **Pn 20 05 57.0 0.0**
PLDF La Plantade 5.72 292 P **Pn 20 05 58.0 +0.7**
PLDF La Plantade 5.72 292 P **Pn 20 05 58.0 +0.7**
PKST T^s 5.76 54⇓*e*Pn **Pn 20 05 55.6 -2.1**
PKST T^s 5.76 54⇓*e*P **Pn 20 05 55.6 -2.1**
ROTZ Rotzenmuhle 5.77 6 *e*Pn **Pn 20 05 56.7 -1.2**
ROTZ *e*Sn Sn 20 06 54.7 -9.1
ROTZ Rotzenmuhle 5.77 6 *e*Pn **Pn 20 05 56.7 -1.2**
ROTZ *e*Sn Sn 20 06 54.7 -9.1
ROTZ Rotzenmuhle 5.77 6 Pn **Pn 20 05 56.7 -1.2**
NKME Niksic 5.77 100⇑*i*Pn **Pn 20 05 58.0 0.0**
NKME *e*Sn **Sn 20 07 02.4 -1.6**
NKME Niksic 5.77 100⇑*i*Pn **Pn 20 05 58.0 0.0**
NKME *e*Sn **Sn 20 07 02.4 -1.6**
NKY Niksic 5.79 100⇓*i*Pn **Pn 20 05 57.8 -0.5**
NKY *e*Sn **Sn 20 07 03.3 -1.2**
NKY Niksic 5.79 100⇓*i*Pn **Pn 20 05 57.8 -0.5**
NKY *e*Sn **Sn 20 07 03.3 -1.2**
TOD Tromm 5.81 344 P **Pn 20 05 57.9 -0.6**
SMF Signal de Mont 5.82 299 *e*P **Pn 20 05 59.4 +0.8**
SMF *e*Sn Sn 20 06 59.3 -5.8
comp=Z,195nm,0.6s
SMF Signal de Mont 5.82 299 *e*P **Pn 20 05 59.4 +0.8**
SMF *e* 20 06 59.3
SMF Signal de Mont 5.82 299 *e*P **Pn 20 05 59.4 +0.8**
SMF *e*Sn Sn 20 06 59.3 -5.8
SMF Signal de Mont 5.82 299 *e*P **Pn 20 05 59.4 +0.8**
SMF *e*Sn Sn 20 06 59.3 -5.8
comp=Z,97nm,0.6s
ZST Bratislava 5.83 42 *e*P **Pn 20 05 56.2 -2.5**
ZST *e* 20 06 59.8
ZST pmax pmax
comp=N,91nm,1.1s
ZST Bratislava 5.83 42 *e*PN **Pn 20 05 56.2 -2.5**
ZST *e*SN **Sn 20 06 59.8 -5.5**
ZST Bratislava 5.83 42 *e*P **Pn 20 05 56.2 -2.5**
comp=N,91nm,1.1s
BUM Brajici-Budva 5.87 105⇑*i*Pn **Pn 20 05 59.5 +0.1**
BUM *e*Sn **Sn 20 07 05.2 -1.3**
BUM Brajici-Budva 5.87 105⇑*i*Pn **Pn 20 05 59.5 +0.1**
BUM *e*Sn **Sn 20 07 05.2 -1.3**
PAGF Fort de Pagny 5.91 322 *e*P **Pn 20 06 00.5 +0.7**
baz=140
PAGF *e*Sn **Sn 20 07 01.7 -5.5**
comp=N,83nm,0.9s
PAGF Fort de Pagny 5.91 322 *e*P **Pn 20 06 00.5 +0.7**
PAGF *e*Sn **Sn 20 07 01.7 -5.5**
PAGF Fort de Pagny 5.91 322 *e*P **Pn 20 06 00.5 +0.7**
baz=140
PAGF *e*Sn **Sn 20 07 01.7 -5.5**
comp=N,42nm,0.9s
BBLS Lazići 5.91 89⇑*i*Pn **Pn 20 06 00.6 +0.7**
BBLS Lazići 5.91 89⇑*i*Pn **Pn 20 06 00.6 +0.7**
PLE Pljevlja 5.96 94⇓*i*Pn **Pn 20 06 01.2 +0.5**
PLE *e*Sn **Sn 20 07 07.7 -1.1**
PLE Pljevlja 5.96 94⇓*i*Pn **Pn 20 06 01.2 +0.5**
PLE *e*Sn **Sn 20 07 07.7 -1.1**
SFTF Sexfontaines 5.99 316 *e*P **Pn 20 06 01.2 +0.4**
baz=133
SFTF *e*Sn Sn 20 07 02.7 -6.4
comp=N,400nm,1.1s
SFTF Sexfontaines 5.99 316 *e*P **Pn 20 06 01.2 +0.4**
SFTF *e*Sn Sn 20 07 02.7 -6.4
SFTF Sexfontaines 5.99 316 *e*P **Pn 20 06 01.2 +0.4**
baz=133
SFTF *e*Sn Sn 20 07 02.7 -6.4
comp=N,200nm,1.1s
TREC Trest 6.02 28 *e*P **Pn 20 05 59.1 -2.2**
TREC *e* 20 07 05.2
TREC Trest 6.02 28 *e*PN **Pn 20 05 59.1 -2.2**
TREC *e*SN **Sn 20 07 05.2 -4.8**
TREC Trest 6.02 28 Pn **Pn 20 05 59.1 -2.2**
AGO Saint Agoulin 6.08 292 P **Pn 20 06 03.8 +1.7**
AGO Saint Agoulin 6.08 292 P **Pn 20 06 03.8 +1.7**
PYM Petit Puy Mans 6.08 289 P **Pn 20 06 03.1 +0.9**
PYM Petit Puy Mans 6.08 289 P **Pn 20 06 03.1 +0.9**
PDG Podgorica 6.08 103 *e*Pn **Pn 20 06 03.8 +1.6**
PDG *e*Sn **Sn 20 07 11.9 +0.3**
PDG Podgorica 6.08 103⇓*i*Pn **Pn 20 06 02.8 +0.6**
PDG *e*Sn **Sn 20 07 09.9 -1.7**
TTG Podgorica 6.08 103⇓*i*Pn **Pn 20 06 02.8 +0.6**
TTG *e*Sn **Sn 20 07 09.9 -1.7**
LOR Lormes 6.09 305 *e*Pn **Pn 20 06 02.8 +0.5**
baz=126,SNR=1.0
LOR *e*Sn **Sn 20 07 06.9 -4.8**
comp=N,91nm,0.5s,SNR=1.0
LOR Lormes 6.09 305 *e*Pn **Pn 20 06 02.8 +0.5**
LOR *e*Sn **Sn 20 07 06.9 -4.8**
LOR Lormes 6.09 305 *e*Pn **Pn 20 06 02.8 +0.5**
baz=126,SNR=1.0
LOR *e*Sn **Sn 20 07 06.9 -4.8**
comp=N,46nm,0.5s,SNR=1.0
DRME Dracevica, Mon 6.11 105⇑*i*Pn **Pn 20 06 03.0 +0.4**
DRME *e*Sn **Sn 20 07 11.4 -0.9**
DRME Dracevica, Mon 6.11 105⇑*i*Pn **Pn 20 06 03.0 +0.4**
DRME *e*Sn **Sn 20 07 11.4 -0.9**
MEZF Maizieres J'vi 6.18 318 *e*P **Pn 20 06 04.5 +1.0**
baz=136
MEZF Maizieres J'vi 6.18 318 *e*P **Pn 20 06 04.5 +1.0**
MEZF Maizieres J'vi 6.18 318 *e*P **Pn 20 06 04.5 +1.0**
baz=136
AVF Avril sur Loir 6.18 299 *e*Pn **Pn 20 06 02.9 -0.7**
SNR=1.0
AVF Avril sur Loir 6.18 299 *e*P **Pn 20 06 02.9 -0.7**
AVF Avril sur Loir 6.18 299 *e*Pn **Pn 20 06 02.9 -0.7**
AVF Avril sur Loir 6.18 299 *e*Pn **Pn 20 06 02.9 -0.7**
SNR=1.0
SSF Saint Saulge 6.20 302 *e*Pn **Pn 20 06 04.1 +0.3**
SNR=1.0
SSF Saint Saulge 6.20 302 *e*P **Pn 20 06 04.1 +0.3**
SSF Saint Saulge 6.20 302 *e*Pn **Pn 20 06 04.1 +0.3**
SSF Saint Saulge 6.20 302 *e*Pn **Pn 20 06 04.1 +0.3**
SNR=1.0
SMOL Smolenice 6.21 42 *e*P **Pn 20 06 02.6 -1.3**
SMOL *e* 20 07 11.1
SMOL Smolenice 6.21 42 *e*PN **Pn 20 06 02.6 -1.3**
SMOL *e*SN **Sn 20 07 11.0 -3.5**
SMOL Smolenice 6.21 42 *e*P **Pn 20 06 02.6 -1.3**
SMOL *e*S **Sn 20 07 11.1 -3.5**
FRGS Fruska Gora 6.23 77⇑*i*Pn Pn 20 06 00.9 -3.4
FRGS *e*Sn **Sn 20 07 11.3 -4.0**
FGSL Fruska Gora 6.23 77⇑*i*Pn Pn 20 06 00.9 -3.4
ULC Ulcinj 6.24 107⇑*i*Pn **Pn 20 06 03.8 -0.5**
ULC *e*Sn **Sn 20 07 14.1 -1.3**
ULC Ulcinj 6.24 107⇑*i*Pn **Pn 20 06 03.8 -0.5**
ULC *e*Sn **Sn 20 07 14.1 -1.3**
DIVS Divibare 6.32 86⇑*i*Pn **Pn 20 06 05.1 -0.4**
DIVS Divibare 6.32 86⇑*i*Pn **Pn 20 06 05.1 -0.4**
RUP Ruppelstein 6.34 335 P **Pn 20 06 06.3 +0.5**
ABH Alteburg 6.36 338 P **Pn 20 06 06.1 +0.1**
PRU Pruhonice 6.37 20 *e*P **Pn 20 06 04.5 -1.6**
PRU MLR MLR
comp=Z,500nm,16.6s
PRU Pruhonice 6.37 20 *e*PN **Pn 20 06 04.5 -1.6**
PRU AMS AMS 20 08 40.0
comp=Z,500nm,16.6s
PRU Pruhonice 6.37 20 Pn **Pn 20 06 04.5 -1.6**
SJES Sjenica 6.40 94⇑*i*Pn **Pn 20 06 06.4 -0.2**
LRDF Laroque-de-Fa 6.41 263 P **Pn 20 06 06.1 -0.6**
LRDF Laroque-de-Fa 6.41 263 P **Pn 20 06 06.1 -0.6**
BEY Berane 6.42 97⇑*i*Pn **Pn 20 06 06.2 -0.7**

BEY *e*Sn **Sn** **20 07 18.3 -1.6**
IVA Berane 6.42 97⇑*i*Pn **Pn** **20 06 06.2 -0.7**
IVA *e*Sn **Sn** **20 07 18.3 -1.6**
BGF Bois d'Agland 6.42 296 *e*Pn **Pn** **20 06 06.6 -0.2**
SNR=1.0
BGF *e*Sn Sn 20 07 13.3 -6.6
comp=Z,130nm,0.6s
BGF Bois d'Agland 6.42 296 *e*P **Pn** **20 06 06.6 -0.2**
BGF *e* 20 07 13.3
BGF Bois d'Agland 6.42 296 *e*Pn **Pn** **20 06 06.6 -0.2**
BGF *e*Sn Sn 20 07 13.3 -6.6
BGF Bois d'Agland 6.42 296 *e*Pn **Pn** **20 06 06.6 -0.2**
SNR=1.0
BGF *e*Sn Sn 20 07 13.3 -6.6
comp=Z,65nm,0.6s
TANN Tannenbergstha 6.43 7 *e*Pn **Pn** **20 06 05.6 -1.4**
TANN Tannenbergstha 6.43 7 *e*Pn **Pn** **20 06 05.6 -1.4**
TANN Tannenbergstha 6.43 7 Pn **Pn** **20 06 05.6 -1.4**
VRAC Vranov 6.43 33 Pn **Pn** **20 06 05.3 -1.7**
VRAC Sn Sn 20 07 13.0 -7.3
VRAC Lg Lg 20 08 00.8
VRAC Vranov 6.43 33 Pn **Pn** **20 06 05.3 -1.7**
comp=Z,1.1nm,0.3s,baz=227,slow=13,SNR=11
VRAC Sn Sn 20 07 13.0 -7.3
comp=Z,1.1nm,0.3s,baz=184,slow=20,SNR=3.6
VRAC Lg Lg 20 08 00.8
comp=Z,1.1nm,0.3s,baz=125,slow=19,SNR=2.9
VRAC LR LR 20 09 01.6
comp=Z,459nm,20.1s,baz=191,slow=42
VRAC Vranov 6.43 33 P **Pn** **20 06 05.3 -1.7**
TNS Taunus Mts 6.47 344 *e*Pn **Pn** **20 06 07.3 -0.2**
TNS Taunus Mts 6.47 344 *e*Pn **Pn** **20 06 07.3 -0.2**
TNS Taunus Mts 6.47 344 *e*P **Pn** **20 06 07.3 -0.2**
TNS Taunus Mts 6.47 344 Pn **Pn** **20 06 07.3 -0.2**
FILF Fillols 6.49 260 P **Pn** **20 06 08.5 +0.6**
FILF Fillols 6.49 260 P **Pn** **20 06 08.5 +0.6**
PVY Plav 6.53 100⇓*i*Pn **Pn** **20 06 08.3 -0.2**
PVY *e*Sn **Sn** **20 07 21.7 -1.2**
MTLF Montolieu 6.57 267 *e*Pn **Pn** **20 06 08.3 -0.5**
SNR=1.0
MTLF Montolieu 6.57 267 *e*P **Pn** **20 06 08.3 -0.5**
MTLF Montolieu 6.57 267 *e*Pn **Pn** **20 06 08.3 -0.5**
MTLF Montolieu 6.57 267 *e*Pn **Pn** **20 06 08.3 -0.5**
SNR=1.0
CAF Calviac 6.61 281 *e*Pn **Pn** **20 06 08.8 -0.7**
SNR=1.0
CAF Calviac 6.61 281 *e*P **Pn** **20 06 08.8 -0.7**
CAF Calviac 6.61 281 *e*Pn **Pn** **20 06 08.8 -0.7**
CAF Calviac 6.61 281 *e*Pn **Pn** **20 06 08.8 -0.7**
SNR=1.0
WLF Walferdange 6.61 330 PN **Pn** **20 06 11.2 +1.8**
WLF SN **Sn** **20 07 24.2 -0.3**
comp=E,53nm,0.0s
WLF Walferdange 6.61 330 *e*Pn **Pn** **20 06 11.4 +2.0**
WLF Walferdange 6.61 330 *e*Pn **Pn** **20 06 11.4 +2.0**
WLF Walferdange 6.61 330 *e*P **Pn** **20 06 10.6 +1.2**
WLF pmax pmax
comp=Z,27nm,0.6s
WLF Walferdange 6.61 330 *e*P **Pn** **20 06 10.6 +1.2**
comp=Z,27nm,0.6s
WLF Walferdange 6.61 330 *e*P **Pn** **20 06 10.6 +1.2**
comp=Z,27nm,0.6s
WLF Walferdange 6.61 330 Pn **Pn** **20 06 11.4 +2.0**
WLF Sn **Sn** **20 07 24.2 -0.3**
MOX Moxa 6.61 2 *e*Pn **Pn** **20 06 09.3 -0.2**
MOX Moxa 6.61 2 *e*Pn **Pn** **20 06 09.3 -0.2**
MOX Moxa 6.61 2 *e*P **Pn** **20 06 09.3 -0.2**
MOX Moxa 6.61 2 Pn **Pn** **20 06 09.3 -0.2**
MAHO Mahon 6.63 234 *e*S **Sn** **20 07 29.0 +3.9**
TCF Toulx Ste Croi 6.76 293 *e*Pn **Pn** **20 06 11.3 -0.2**
SNR=1.0
TCF Toulx Ste Croi 6.76 293 *e*P **Pn** **20 06 11.3 -0.2**
TCF Toulx Ste Croi 6.76 293 *e*Pn **Pn** **20 06 11.3 -0.2**
TCF Toulx Ste Croi 6.76 293 *e*Pn **Pn** **20 06 11.3 -0.2**
SNR=1.0
CEL Celeste 6.76 147 *e*P **Pn** **20 06 14.1 +2.5**
comp=Z,18nm,0.8s
GRUS Gruza 6.85 88⇑*i*Pn **Pn** **20 06 13.1 +0.4**
GRUS Gruza 6.85 88⇑*i*Pn **Pn** **20 06 13.1 +0.4**
PVCC Panska Ves 6.88 18 *e*P **Pn** **20 06 10.6 -2.5**
PVCC Panska Ves 6.88 18 *e*PN **Pn** **20 06 10.6 -2.5**
PVCC Panska Ves 6.88 18 Pn **Pn** **20 06 10.6 -2.5**
VYHS Vyhne 6.90 47 *e*P **Pn** **20 06 12.2 -1.3**
VYHS MLR MLR
comp=Z,100nm,2.5s
VYHS Vyhne 6.90 47 *e*PN **Pn** **20 06 12.2 -1.3**
VYHS Vyhne 6.90 47 *e*P **Pn** **20 06 12.2 -1.3**
comp=Z,100nm,2.5s
TIR Tirane 6.91 110 *e*P **Pn** **20 06 12.5 -1.1**
TIR pmax pmax
comp=Z,49nm,0.5s
TIR Tirane 6.91 110 *e*P **Pn** **20 06 12.5 -1.1**
comp=Z,49nm,0.5s
TIR Tirane 6.91 110 *e*P **Pn** **20 06 12.5 -1.1**
comp=Z,49nm,0.5s
VALF Valcebollere 6.92 260 P **Pn** **20 06 13.8 -0.1**
VALF Valcebollere 6.92 260 P **Pn** **20 06 13.8 -0.1**
RJF Les Rejaudoux 7.04 284 *e*Pn **Pn** **20 06 14.8 -0.5**
SNR=1.0
RJF Les Rejaudoux 7.04 284 *e*P **Pn** **20 06 14.8 -0.5**
RJF Les Rejaudoux 7.04 284 *e*Pn **Pn** **20 06 14.8 -0.5**
RJF Les Rejaudoux 7.04 284 *e*Pn **Pn** **20 06 14.8 -0.5**
SNR=1.0
BRG Berggiesshubel 7.08 14 PN **Pn** **20 06 15.0 -0.9**
BRG SN **Sn** **20 07 31.4 -4.7**
BRG SG **Sg** **20 08 21.2 +1.4**
comp=Z,62nm,0.9s
BRG
comp=N,391nm,10.4s
BRG
comp=E,464nm,8.3s
BRG
comp=Z,640nm,10.0s
BRG Berggiesshubel 7.08 14 P **Pn** **20 06 15.0 -0.9**
BRG 20 07 31.4
BRG smax smax
comp=N,62nm,0.9s
BRG MLR MLR
comp=N,391nm,10.4s
BRG MLR MLR
comp=E,464nm,8.3s
BRG MLR MLR
comp=Z,640nm,10.0s
BRG Berggiesshubel 7.08 14 P **Pn** **20 06 15.0 -0.9**
KRLC Kraliky 7.13 30 *e*P **Pn** **20 06 14.2 -2.4**
KRLC Kraliky 7.13 30 *e*PN **Pn** **20 06 14.2 -2.4**
KRLC Kraliky 7.13 30 Pn **Pn** **20 06 14.2 -2.4**
PSZ Piszkesteto 7.18 54⇑P **Pn** **20 06 17.8 +0.5**
PSZ Piszkesteto 7.18 54 *e*P Pn 20 06 13.9 -3.4
comp=Z,30nm,0.8s
PSZ Piszkesteto 7.18 54⇑*i*P **Pn** **20 06 17.8 +0.5**
PSZ Piszkesteto 7.18 54⇑*e*Pn **Pn** **20 06 18.1 +0.8**
PSZ Piszkesteto 7.18 54 P **Pn** **20 06 17.8 +0.5**
MORC Moravsky Berou 7.19 35 *e*P **Pn** **20 06 16.6 -0.8**
MORC pmax pmax
comp=Z,12nm,0.6s
MORC Moravsky Berou 7.19 35 *e*P **Pn** **20 06 16.6 -0.8**
comp=Z,12nm,0.6s
MORC Moravsky Berou 7.19 35 *e*Pn **Pn** **20 06 16.3 -1.1**
MORC Moravsky Berou 7.19 35 *e*P **Pn** **20 06 16.6 -0.8**
comp=Z,12nm,0.6s
DPC Dobruska-Polom 7.20 27 *e*P **Pn** **20 06 14.8 -2.8**
DPC Dobruska-Polom 7.20 27 *e*PN **Pn** **20 06 14.8 -2.8**
DPC Dobruska-Polom 7.20 27 Pn **Pn** **20 06 14.8 -2.8**
SELS Selova 7.23 93⇑*i*Pn **Pn** **20 06 17.7 -0.2**
SELS Selova 7.23 93⇑*i*Pn **Pn** **20 06 17.7 -0.2**
UPC Upice 7.24 25 *e*P **Pn** **20 06 16.0 -2.1**
UPC Upice 7.24 25 *e*PN **Pn** **20 06 16.0 -2.1**
UPC Upice 7.24 25 Pn **Pn** **20 06 16.0 -2.1**
CLL Collm 7.37 9 *e*Pn **Pn** **20 06 18.6 -1.2**
CLL *e*Sg Sb 20 08 14.7 +6.7
CLL Collm 7.37 9 *e*Pn **Pn** **20 06 18.6 -1.2**
CLL *e*Sg Sb 20 08 14.7 +6.7
CLL Collm 7.37 9⇓*i*P **Pn** **20 06 18.2 -1.6**
CLL *e* 20 07 33.0
CLL Collm 7.37 9⇓*i*Pn **Pn** **20 06 18.2 -1.6**
CLL *i* 20 06 22.1
CLL *e*Pg Pg 20 06 59.0 +5.3
CLL *e*Sn Sn 20 07 33.0 -10
CLL *e* 20 07 42.0
CLL *e*Sb **Sb** **20 08 06.0 -2.0**
CLL *e*Sg **Sg** **20 08 26.0 -3.1**
comp=Z,126nm,0.9s

CLL *e*Sglp 20 08 31.0
comp=N,400nm,30.7s
CLL *e*Sglp 20 08 31.0
comp=E,400nm,18.9s
CLL *e*Sglp 20 08 31.0
comp=Z,300nm,22.5s
CLL Collm 7.37 9 *i*P **Pn** **20 06 18.2 -1.6**
CLL Collm 7.37 9 Pn **Pn** **20 06 18.6 -1.2**
CLF Chambon-Foret 7.39 306 *e*P **Pn** **20 06 22.2 +2.1**
CLF Chambon-Foret 7.39 306 *e*P **Pn** **20 06 22.2 +2.1**
MLS Moulis 7.44 265 P **Pn** **20 06 21.5 +0.6**
MLS Moulis 7.44 265 P **Pn** **20 06 21.5 +0.6**
MEM Membach 7.46 334 PN **Pn** **20 06 22.2 +1.0**
MEM SN **Sn** **20 07 42.3 -3.2**
comp=N,29nm,0.0s
MEM Membach 7.46 334 Pn **Pn** **20 06 22.1 +1.0**
GIVF Givet 7.47 326 *e*P **Pn** **20 06 22.6 +1.4**
GIVF Givet 7.47 326 *e*P **Pn** **20 06 22.6 +1.4**
GIVF Givet 7.47 326 *e*P **Pn** **20 06 22.6 +1.4**
GIVF Givet 7.47 326 *e*P **Pn** **20 06 22.6 +1.4**
OKC Ostrava-Krasne 7.49 37 *e*P **Pn** **20 06 18.7 -2.7**
OKC MLR MLR
comp=Z,700nm,11.3s
OKC Ostrava-Krasne 7.49 37 *e*PN **Pn** **20 06 18.7 -2.7**
OKC AMS AMS 20 10 00.0
comp=Z,700nm,11.3s
OKC Ostrava-Krasne 7.49 37 Pn **Pn** **20 06 18.7 -2.7**
BCLA Clavier 7.55 330 PN **Pn** **20 06 24.7 +2.5**
BCLA SN **Sn** **20 07 45.3 -2.2**
comp=N,23nm,0.0s
BCLA Clavier 7.55 330 Pn **Pn** **20 06 24.7 +2.5**
BZS Buzias 7.56 74⇓P **Pn** **20 06 22.9 +0.5**
BZS Buzias 7.56 74⇓*i*P **Pn** **20 06 22.9 +0.5**
BZS Buzias 7.56 74 *e*Pn **Pn** **20 06 22.0 -0.4**
BZS Buzias 7.56 74 *e*Pn **Pn** **20 06 22.2 -0.2**
BZS *e*Sn **Sn** **20 07 42.8 -5.0**
BZS Buzias 7.56 74 *e*Pn **Pn** **20 06 22.0 -0.4**
BZS Buzias 7.56 74 P **Pn** **20 06 22.9 +0.5**
DOU Dourbes 7.56 326 PN Pn 20 06 26.2 +3.8
DOU SN **Sn** **20 07 44.3 -3.5**
comp=E,22nm,0.0s
HGN Heimansgroeve 7.62 334 *e*Pn **Pn** **20 06 25.9 +2.7**
comp=E,7.0nm,0.5s
HGN *e*Sn **Sn** **20 07 47.3 -2.1**
KSP Ksiaz 7.62 25 *e*P **Pn** **20 06 23.2 -0.1**
KSP *e* 20 07 48.9
KSP Ksiaz 7.62 25 *e*P **Pn** **20 06 23.2 -0.1**
KSP *e*S **Sn** **20 07 48.9 -0.5**
KSP *e*Sg **Sg** **20 08 34.6 -2.6**
BAIF Baives 7.69 324 *e*P **Pn** **20 06 25.4 +1.2**
SNR=1.0
BAIF Baives 7.69 324 *e*P **Pn** **20 06 25.4 +1.2**
BAIF Baives 7.69 324 *e*P **Pn** **20 06 25.4 +1.2**
BAIF Baives 7.69 324 *e*P **Pn** **20 06 25.4 +1.2**
SNR=1.0
SIRR Siria 7.71 70⇓*i*P **Pn** **20 06 24.1 -0.4**
SIRR Siria 7.71 70⇓*i*P **Pn** **20 06 24.1 -0.4**
BOLS Boljevac 7.75 88⇑*i*Pn **Pn** **20 06 24.9 -0.2**
BOLS Boljevac 7.75 88⇑*i*Pn **Pn** **20 06 24.9 -0.2**
SKO Skopje 7.77 102 *e*Pn **Pn** **20 06 26.2 +0.9**
SKO Skopje 7.77 102 *e*Pn **Pn** **20 06 26.9 +1.6**
SKO Skopje 7.77 102 *e*Pn **Pn** **20 06 26.2 +0.9**
KECS Kecovo 7.80 52 *e*P **Pn** **20 06 26.5 +0.7**
KECS Kecovo 7.80 52 *e*PN **Pn** **20 06 26.5 +0.7**
KECS Kecovo 7.80 52 *e*P **Pn** **20 06 26.5 +0.7**
BARS Barje 7.81 95⇑*i*Pn **Pn** **20 06 26.1 +0.2**
BARS Barje 7.81 95⇑*i*Pn **Pn** **20 06 26.1 +0.2**
CLZ Clausthal 7.83 356 *e*Pn **Pn** **20 06 25.0 -1.1**
CLZ Clausthal 7.83 356 *e*Pn **Pn** **20 06 25.0 -1.1**
CLZ Clausthal 7.83 356 *e*P **Pn** **20 06 25.0 -1.1**
CLZ Clausthal 7.83 356 Pn **Pn** **20 06 25.0 -1.1**
EPF Esparros 7.97 267 *e*Pn **Pn** **20 06 26.8 -1.4**
EPF *e*Sn Sn 20 07 52.0 -6.2
comp=E,22nm,0.8s
EPF Esparros 7.97 267 *e*P **Pn** **20 06 26.8 -1.4**
EPF *e* 20 07 52.0
EPF Esparros 7.97 267 *e*Pn **Pn** **20 06 26.8 -1.4**
EPF *e*Sn Sn 20 07 52.0 -6.2
EPF Esparros 7.97 267 *e*Pn **Pn** **20 06 26.8 -1.4**
EPF *e*Sn Sn 20 07 52.0 -6.2
comp=E,11nm,0.8s
SNF Seneffe 8.01 326 PN Pn 20 06 33.0 +4.5
NIE Niedzica 8.24 46 *e*P **Pn** **20 06 31.1 -0.7**
NIE *e* 20 08 04.3
NIE Niedzica 8.24 46 *e*Pn **Pn** **20 06 31.1 -0.7**
NIE *e*Sn **Sn** **20 08 04.3 -0.3**
NIE Niedzica 8.24 46 *e*P **Pn** **20 06 31.1 -0.7**
NIE *e*S **Sn** **20 08 04.3 -0.3**
ZAPS Zavoj 8.31 91⇑*i*Pn **Pn** **20 06 33.7 +0.9**
ZAPS *e*Sn **Sn** **20 08 04.3 -2.1**
GZR Gura Zlata 8.34 77⇑*i*P **Pn** **20 06 33.6 +0.4**
GZR Gura Zlata 8.34 77⇑*i*P **Pn** **20 06 33.6 +0.4**
MFF Saint Martin d 8.41 292 *e*Pn **Pn** **20 06 32.9 -1.2**
SNR=1.0
MFF Saint Martin d 8.41 292 *e*P **Pn** **20 06 32.9 -1.2**
MFF Saint Martin d 8.41 292 *e*Pn **Pn** **20 06 32.9 -1.2**
MFF Saint Martin d 8.41 292 *e*Pn **Pn** **20 06 32.9 -1.2**
SNR=1.0
KEST Kesra 8.42 190 *e*P Pn 20 06 39.6 +5.2
KEST Sn **Sn** **20 08 14.3 +5.1**
KEST Kesra 8.42 190 Pn Pn 20 06 38.6 +4.2
comp=E,0.8nm,0.3s,baz=314,slow=2.6,SNR=24
KEST Sn **Sn** **20 08 14.3 +5.1**
baz=167,slow=18,SNR=1.7
KEST LR LR 20 10 01.1
comp=E,139nm,21.1s,baz=209,slow=39
DEV Deva 8.49 73⇑P **Pn** **20 06 36.0 +0.8**
DEV Deva 8.49 73⇑*i*P **Pn** **20 06 36.0 +0.8**
DEV Deva 8.49 73 P **Pn** **20 06 36.0 +0.8**
DRGR 8.54 67⇑P **Pn** **20 06 36.2 +0.3**
DRGR 8.54 67⇑*i*P **Pn** **20 06 36.2 +0.3**
DRGR 8.54 67 P **Pn** **20 06 36.2 +0.3**
CRVS Cervenica-Dubn 8.57 52 *e*P **Pn** **20 06 37.5 +1.1**
CRVS Cervenica-Dubn 8.57 52 *e*PN **Pn** **20 06 37.5 +1.1**
CRVS Cervenica-Dubn 8.57 52 *e*P **Pn** **20 06 37.5 +1.1**
ETSF Etsaut 8.65 266 *e*P Pn 20 06 41.2 +3.8
ETSF Etsaut 8.65 266 *e*P Pn 20 06 41.2 +3.8
ETSF Etsaut 8.65 266 *e*P Pn 20 06 41.2 +3.8
ETSF Etsaut 8.65 266 *e*P Pn 20 06 41.2 +3.8
STHS Stebnicka Huta 8.73 48 *e*P **Pn** **20 06 38.0 -0.5**
STHS Stebnicka Huta 8.73 48 *e*PN **Pn** **20 06 38.0 -0.5**
STHS Stebnicka Huta 8.73 48 *e*P **Pn** **20 06 38.0 -0.5**
VTS Vitosha 8.86 95⇑P **Pn** **20 06 41.2 +0.8**
VTS Vitosha 8.86 95⇑*i*P **Pn** **20 06 41.2 +0.8**
VTS Vitosha 8.86 95 *e*Pn **Pn** **20 06 40.9 +0.5**
VTS Vitosha 8.86 95 *e*Pn **Pn** **20 06 40.9 +0.5**
VTS Vitosha 8.86 95 P **Pn** **20 06 41.2 +0.8**
UZH Uzhgorod 8.93 55 *e*P **Pn** **20 06 41.6 +0.4**
UZH *e*S **Sn** **20 08 20.0 -1.4**
UZH MLR MLR
comp=N,800nm,12.0s
UZH MLR MLR
comp=E,900nm,12.0s
UZH MLR MLR
comp=Z,600nm,12.0s
UZH Uzhgorod 8.93 55 *e*P **Pn** **20 06 41.6 +0.4**
UZH *e*S **Sn** **20 08 20.0 -1.4**
KOLS Kolonicke sedl 9.06 53 *e*P **Pn** **20 06 43.8 +0.8**
KOLS Kolonicke sedl 9.06 53 *e*PN **Pn** **20 06 43.8 +0.8**
KOLS Kolonicke sedl 9.06 53 *e*P **Pn** **20 06 43.8 +0.8**
LDF La Druitiere 9.07 304 *e*P **Pn** **20 06 45.6 +2.4**
LDF La Druitiere 9.07 304 *e*P **Pn** **20 06 45.6 +2.4**
LDF La Druitiere 9.07 304 *e*P **Pn** **20 06 45.6 +2.4**
LDF La Druitiere 9.07 304 *e*P **Pn** **20 06 45.6 +2.4**
FLN La Foliniere 9.36 304 *e*Pn **Pn** **20 06 45.4 -1.7**
SNR=1.0
FLN La Foliniere 9.36 304 *e*P **Pn** **20 06 50.1 +3.0**
baz=123
FLN *e*Sn Sn 20 08 24.2 -7.9
comp=Z,42nm,0.8s
FLN La Foliniere 9.36 304 *e*P **Pn** **20 06 45.4 -1.7**
FLN *e* 20 08 24.2
FLN La Foliniere 9.36 304 *e*Pn **Pn** **20 06 45.4 -1.7**
FLN *e*Sn Sn 20 08 24.2 -7.9
FLN La Foliniere 9.36 304 *e*Pn **Pn** **20 06 45.4 -1.7**
SNR=1.0
FLN La Foliniere 9.36 304 *e*P **Pn** **20 06 50.1 +3.0**
baz=123
FLN *e*Sn Sn 20 08 24.2 -7.9
comp=Z,21nm,0.8s
GRR Gorron 9.44 302 *e*Pn **Pn** **20 06 45.3 -2.8**
SNR=1.0

GRR Gorron 9.44 302 *e*P **Pn** **20 06 50.7 +2.6**
GRR *e*Sn Sn 20 08 26.0 -7.9
comp=Z,17nm,0.6s,SNR=1.0
GRR Gorron 9.44 302 *e*P **Pn** **20 06 45.3 -2.8**
GRR *e* 20 08 26.0
GRR Gorron 9.44 302 *e*Pn **Pn** **20 06 45.3 -2.8**
GRR *e*Sn Sn 20 08 26.0 -7.9
GRR Gorron 9.44 302 *e*Pn **Pn** **20 06 45.3 -2.8**
SNR=1.0
GRR Gorron 9.44 302 *e*P **Pn** **20 06 50.7 +2.6**
GRR *e*Sn Sn 20 08 26.0 -7.9
comp=Z,8.4nm,0.6s,SNR=1.0
KWP Kalwaria Pacla 9.65 51⇑P Pn 20 06 54.3 +3.2
KWP Kalwaria Pacla 9.65 51 *e*P **Pn** **20 06 51.9 +0.8**
comp=Z,65nm,1.1s
KWP Kalwaria Pacla 9.65 51⇑*i*P Pn 20 06 54.3 +3.2
KWP Kalwaria Pacla 9.65 51 *e*P Pn 20 06 54.3 +3.2
KWP Kalwaria Pacla 9.65 51 *e*P **Pn** **20 06 51.9 +0.8**
comp=Z,65nm,1.1s
DOPR Dopca 10.22 74⇓*i*P **Pn** **20 07 00.3 +1.4**
DOPR Dopca 10.22 74⇓*i*P **Pn** **20 07 00.3 +1.4**
BUR08 Bucovina Ar. S 10.40 65 *e*P **Pn** **20 07 02.6 +1.2**
BUR08 Bucovina Ar. S 10.40 65 *e*P **Pn** **20 07 02.6 +1.2**
BURAR Bucovina Array 10.40 65⇑P **Pn** **20 07 02.4 +0.9**
BURAR Bucovina Array 10.40 65⇑*i*P **Pn** **20 07 02.4 +0.9**
BURAR Bucovina Array 10.40 65⇑*i*P **Pn** **20 07 02.4 +0.9**
SGMF Saint Gilles 10.45 299 *e*Pn **Pn** **20 07 01.9 -0.1**
SNR=1.0
SGMF Saint Gilles 10.45 299 *e*P **Pn** **20 07 01.9 -0.1**
SGMF Saint Gilles 10.45 299 *e*Pn **Pn** **20 07 01.9 -0.1**
SGMF Saint Gilles 10.45 299 *e*Pn **Pn** **20 07 01.9 -0.1**
SNR=1.0
MLR Muntele Rosu 10.57 77 Pn **Pn** **20 07 05.0 +1.2**
MLR Sn **Sn** **20 09 00.7 -1.4**
MLR Muntele Rosu 10.57 77 Pn **Pn** **20 07 05.0 +1.2**
comp=Z,0.1nm,0.3s,baz=170,slow=2.7,SNR=38
MLR Sn **Sn** **20 09 00.7 -1.4**
comp=Z,0.0nm,0.3s,baz=299,slow=19,SNR=1.4
MLR Muntele Rosu 10.57 77 P **Pn** **20 07 05.0 +1.2**
MLR S **Sn** **20 09 00.7 -1.4**
QUIF Quistinic 10.74 296 *e*Pn **Pn** **20 07 04.9 -1.1**
SNR=1.0
QUIF Quistinic 10.74 296 *e*P **Pn** **20 07 04.9 -1.1**
QUIF Quistinic 10.74 296 *e*Pn **Pn** **20 07 04.9 -1.1**
QUIF Quistinic 10.74 296 *e*Pn **Pn** **20 07 04.9 -1.1**
SNR=1.0
ROSF Rostrenen 10.93 298 *e*Pn Pn 20 07 05.5 -3.1
ROSF Rostrenen 10.93 298 *e*P Pn 20 07 05.5 -3.1
ROSF Rostrenen 10.93 298 *e*Pn Pn 20 07 05.5 -3.1
ROSF Rostrenen 10.93 298 *e*Pn Pn 20 07 05.5 -3.1
PLOR Plostina 11.09 75⇑P **Pn** **20 07 12.0 +1.2**
PLOR Plostina 11.09 75⇑*i*P **Pn** **20 07 12.0 +1.2**
PLOR Plostina 11.09 75 P **Pn** **20 07 12.0 +1.2**
VRI Vrincioaia 11.14 75⇑P **Pn** **20 07 12.3 +0.8**
VRI Vrincioaia 11.14 75⇑*i*P **Pn** **20 07 12.3 +0.8**
VRI Vrincioaia 11.14 75 P **Pn** **20 07 12.3 +0.8**
TESR Tescani 11.15 72⇓*i*P **Pn** **20 07 12.3 +0.7**
TESR Tescani 11.15 72⇓*i*P **Pn** **20 07 12.3 +0.7**
TLB Topalu 12.06 82⇑P **Pn** **20 07 22.6 -1.5**
TLB Topalu 12.06 82⇑*i*P **Pn** **20 07 22.6 -1.5**
TLB Topalu 12.06 82 P **Pn** **20 07 22.6 -1.5**
CFR Carcaliu 12.11 79⇑P **Pn** **20 07 23.1 -1.7**
CFR Carcaliu 12.11 79⇑*i*P **Pn** **20 07 23.1 -1.7**
CFR Carcaliu 12.11 79 P **Pn** **20 07 23.1 -1.7**
ESDC Sonseca Array 12.13 254 Pn **Pn** **20 07 26.6 +1.5**
ESDC Sn **Sn** **20 09 36.0 -4.2**
ESDC Sonseca Array 12.13 254 Pn **Pn** **20 07 26.6 +1.5**
comp=Z,0.2nm,0.3s,baz=64,slow=13,SNR=16
ESDC Sn **Sn** **20 09 36.0 -4.2**
comp=Z,0.2nm,0.3s,baz=52,slow=17,SNR=2.9
ESDC Sonseca Array 12.13 254 Pn **Pn** **20 07 26.6 +1.5**
TIRR Tirgusor 12.34 82⇑P **Pn** **20 07 26.8 -1.1**
TIRR Tirgusor 12.34 82⇑*i*P **Pn** **20 07 26.8 -1.1**
TIRR Tirgusor 12.34 82 P **Pn** **20 07 26.8 -1.1**
PAB San Pablo 12.46 254 *e*P **Pn** **20 07 30.3 +0.7**
PAB pmax pmax
comp=Z,149nm,1.3s
PAB San Pablo 12.46 254 *e*P **Pn** **20 07 30.3 +0.7**
comp=Z,150nm,1.3s
PAB San Pablo 12.46 254 *e*P **Pn** **20 07 30.3 +0.7**
comp=Z,150nm,1.3s
TLCR 12.59 79⇑P **Pn** **20 07 31.3 0.0**
TLCR 12.59 79⇑*i*P **Pn** **20 07 31.3 0.0**
TLCR 12.59 79 P **Pn** **20 07 31.3 0.0**
KIS Kishinev 12.69 70 *e*P **Pn** **20 07 32.0 -0.7**
comp=Z,100nm,1.0s
KIS Kishinev 12.69 70 *e*PP P 20 07 50.0 +6.1
KIS *e*S Sn 20 09 38.0 -16
KIS *e*LQ LQ 20 10 50.0
comp=Z,400nm,15.0s
KIS LRM MLR 20 13 51.0
comp=Z,300nm,13.0s
KIS Kishinev 12.69 70 *e*P **Pn** **20 07 32.0 -0.7**
KIS pmax pmax
comp=Z,110nm,1.0s
KIS MLR MLR
comp=Z,500nm,13.0s
KIS Kishinev 12.69 70 *e*P **Pn** **20 07 32.0 -0.7**
comp=Z,500nm,13.0s
IDI Anoyia 13.67 125 Sn Sn 20 10 09.7 -8.0
comp=Z,0.2nm,0.3s,baz=250,slow=18,SNR=2.2
KIEV Kiev 13.87 55 *e*P **Pn** **20 07 46.4 -2.3**
KIEV pmax pmax
comp=Z,19nm,1.1s
KIEV Kiev 13.87 55 *e*P **Pn** **20 07 46.4 -2.3**
comp=Z,19nm,1.1s
KIEV Kiev 13.87 55 *e*P **Pn** **20 07 46.4 -2.3**
comp=Z,19nm,1.1s
AKASG Malin Array Be 13.88 55 *i*P **Pn** **20 07 47.5 -1.4**
AKASG pmax pmax
comp=Z,5.0nm,0.7s
AKASG Malin Array Be 13.88 55 Pn **Pn** **20 07 47.2 -1.7**
AKASG Malin Array Be 13.88 55 Pn **Pn** **20 07 47.2 -1.7**
comp=Z,0.3nm,0.3s,baz=246,slow=12,SNR=7.8
AKASG Malin Array Be 13.88 55 Pn **Pn** **20 07 47.2 -1.7**
AKASG Malin Array Be 13.88 55 *i*P **Pn** **20 07 47.5 -1.4**
comp=Z,5.0nm,0.7s
EKA Eskdalemuir Ar 14.61 326 Pn **Pn** **20 07 59.1 +0.4**
EKA Eskdalemuir Ar 14.61 326 Pn **Pn** **20 07 59.1 +0.4**
baz=131,slow=14,SNR=6.4
EKA Eskdalemuir Ar 14.61 326 Pn **Pn** **20 07 59.2 +0.4**
HFS Hagfors 16.19 4 Pn **Pn** **20 08 18.5 -1.0**
HFS Hagfors 16.19 4 Pn **Pn** **20 08 18.5 -1.0**
comp=Z,0.1nm,0.3s,baz=173,slow=13,SNR=4.8
HFS Hagfors 16.19 4 Pn **Pn** **20 08 18.5 -1.0**
SIM Simferopol' 16.36 79 P P 20 08 33.0 +8.4
SIM MLR MLR
comp=Z,100nm,13.5s
MDT Midelt 16.69 233 Pn **P** **20 08 31.0 +2.5**
MDT Midelt 16.69 233 Pn **P** **20 08 31.0 +2.5**
comp=Z,0.0nm,0.3s,baz=34,slow=16,SNR=4.5
MDT LR LR 20 14 10.4
comp=Z,81nm,20.2s,baz=13,slow=35
NAO01 NORSAR Array S 16.83 359 *e*P **P** **20 08 30.3 +0.4**
comp=Z,7.3nm,0.8s
NB2 NORSAR Subarra 17.03 360 P **P** **20 08 32.6 +0.6**
comp=Z,17nm,0.8s,baz=180,slow=11
NB2 NORSAR Subarra 17.03 360 P **P** **20 08 32.6 +0.6**
comp=Z,17nm,0.8s,baz=180,slow=11,SNR=3.2
NOA NORSAR Array B 17.03 360 Pn **P** **20 08 31.6 -0.5**
NOA NORSAR Array B 17.03 360 Pn **P** **20 08 31.6 -0.5**
comp=Z,0.6nm,0.3s,baz=181,slow=11,SNR=19
NOA LR LR 20 15 28.5
comp=Z,64nm,20.2s,baz=180,slow=39
NOA NORSAR Array B 17.03 360 P **P** **20 08 31.6 -0.5**
BR131 Keskin Array S 17.23 97 *e*P **P** **20 08 36.9 +2.4**
comp=Z,5.2nm,1.0s
BRTR Keskin Array B 17.23 97 P **P** **20 08 34.0 -0.5**
BRTR Keskin Array B 17.23 97 P **P** **20 08 34.0 -0.5**
comp=Z,0.1nm,0.3s,baz=289,slow=7.7,SNR=17
BRTR Keskin Array B 17.23 97 P **P** **20 08 34.0 -0.5**
VSU Vasula 17.33 28⇓*i*P **Pn** **20 08 32.7 -1.3**
VSU pmax pmax
comp=Z,156nm,1.2s
VSU MLR MLR
comp=Z,388nm,19.0s
VSU Vasula 17.33 28 *i*P **Pn** **20 08 32.7 -1.3**
comp=Z,388nm,19.0s
ANN Anapa 18.72 78 *e*P **Pn** **20 08 53.3 +2.2**
ANN pmax pmax
comp=Z,42nm,1.2s
FINES FINESS Array B 19.53 22 P **P** **20 08 59.0 -0.4**
FINES FINESS Array B 19.53 22 P **P** **20 08 59.0 -0.4**
comp=Z,0.4nm,0.3s,baz=186,slow=15,SNR=13

FINES LR LR 20 17 24.0
comp=Z,271nm,18.5s,baz=270,slow=40
FINES FINESS Array B 19.53 22 P **P 20 08 59.1 -0.4**
OBN Obninsk 19.70 47 ⇓ *i*P **P 20 09 00.4 -1.0**
OBN pmax pmax
comp=Z,29nm,1.7s
OBN MLR MLR
comp=Z,100nm,18.0s
OBN Obninsk 19.70 47 *i* P **P 20 09 00.4 -1.0**
comp=Z,100nm,18.0s
VSR Storozhevoye 20.07 59 *e*P **P 20 09 04.5 -0.9**
VSR pmax pmax
comp=Z,40nm,1.2s
VSR pmax pmax
comp=N,20nm,1.1s
VSR pmax pmax
comp=E,40nm,1.1s
VSR MLR MLR
comp=Z,120nm,7.0s
VSR MLR MLR
comp=N,200nm,10.0s
VSR MLR MLR
comp=E,80nm,9.0s
VSR Storozhevoye 20.07 59 *e*P **P 20 09 04.5 -0.9**
comp=E,200nm,10.0s
VORD Divnogorie 20.11 60 *e*P **P 20 09 04.8 -1.0**
VORD pmax pmax
comp=Z,7.0nm,0.8s
VORD pmax pmax
comp=N,9.0nm,0.5s
VORD pmax pmax
comp=E,10.0nm,1.2s
VORD MLR MLR
comp=Z,120nm,8.0s
VORD MLR MLR
comp=N,250nm,12.0s
VORD MLR MLR
comp=E,140nm,9.0s
VORD Divnogorie 20.11 60 *e*P **P 20 09 04.8 -1.0**
comp=E,250nm,12.0s
KAF Kangasniemi 20.15 21 *e*P **P 20 09 04.9 -1.3**
KAF pmax pmax
comp=Z,8.0nm,0.8s
KAF Kangasniemi 20.15 21 *e*p **P 20 09 04.9 -1.3**
comp=Z,7.5nm,0.8s
KAF Kangasniemi 20.15 21 *e*P **P 20 09 04.9 -1.3**
comp=Z,8.0nm,0.8s
MOS Moscow 20.50 46 *e*P **P 20 09 08.6 -1.5**
MOS *e* 20 09 26.9
MOS pmax pmax
comp=Z,37nm,0.8s
MOS Moscow 20.50 46 *e*P **P 20 09 08.6 -1.5**
comp=Z,37nm,0.8s
SOC Sochi 20.53 81 *e*P **P 20 09 11.0 +0.5**
SOC *e*PPP PPP 20 09 41.3
SOC *e*S **S 20 13 01.6 +1.9**
SOC *e*SSS SSS 20 13 34.1
SOC pmax pmax
comp=Z,53nm,0.8s
SOC Sochi 20.53 81 *e*P **P 20 09 11.0 +0.5**
comp=Z,53nm,0.8s
SOC *e*S **S 20 13 01.6 +1.9**
VRHR Novokhopersk 21.58 60 *e*P **P 20 09 24.6 +2.8**
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,30nm,0.8s
VRHR pmax pmax
comp=Z,30nm,0.8s
VRHR MLR MLR
comp=Z,150nm,8.0s
VRHR MLR MLR
comp=N,100nm,14.0s
VRHR MLR MLR
comp=E,150nm,11.0s
TAM Tamanrasset 21.71 194 *e*P **P 20 09 25.7 +2.2**
TAM pmax pmax
comp=Z,25nm,1.3s
TAM Tamanrasset 21.71 194 *e*P **P 20 09 25.7 +2.2**
comp=Z,25nm,1.3s
TAM Tamanrasset 21.71 194 *e*P **P 20 09 25.7 +2.2**
comp=Z,25nm,1.3s
MMAI Mount Meron Ar 21.81 112 P **P 20 09 25.8 +1.4**
MMAI Mount Meron Ar 21.81 112 P **P 20 09 25.8 +1.4**
comp=Z,5.0nm,0.7s,baz=332,slow=10,SNR=6.0
MMAI Mount Meron Ar 21.81 112 P **P 20 09 25.8 +1.4**
JOF Joensuu 22.19 25 *e*P **P 20 09 26.0 -2.2**
JOF pmax pmax
comp=Z,8.0nm,0.8s
JOF Joensuu 22.19 25 *e*p **P 20 09 26.0 -2.2**
comp=Z,8.1nm,0.8s
JOF Joensuu 22.19 25 *e*P **P 20 09 26.0 -2.2**
comp=Z,8.0nm,0.8s
KIV Kislovodsk 22.57 79 *e*P **P 20 09 33.5 +1.0**
KIV *e*S **S 20 13 42.2 +2.7**
KIV pmax pmax
comp=Z,73nm,1.1s
KIV MLR MLR
comp=Z,63nm,14.0s
KIV Kislovodsk 22.57 79 *e*P **P 20 09 33.5 +1.0**
comp=Z,73nm,1.1s
KBZ Khabaz 22.76 80 P **P 20 09 35.5 +1.0**
KBZ Khabaz 22.76 80 P **P 20 09 35.5 +1.0**
KBZ Khabaz 22.76 80 P **P 20 09 35.5 +1.0**
comp=Z,10nm,0.9s,baz=295,slow=9.5,SNR=14
KBZ LR LR 20 19 49.4
comp=Z,92nm,20.3s,baz=185,slow=40
KBZ Khabaz 22.76 80 P **P 20 09 35.5 +1.0**
ASF Jabal al Asfar 23.32 112 P **P 20 09 43.4 +3.0**
ASF Jabal al Asfar 23.32 112 P **P 20 09 43.4 +3.0**
comp=Z,4.8nm,0.9s,baz=205,slow=5.5,SNR=5.4
EIL Elat 23.68 119 P **P 20 09 47.5 +3.6**
EIL Elat 23.68 119 P **P 20 09 47.5 +3.6**
comp=Z,3.9nm,0.6s,baz=327,slow=5.2,SNR=3.6
ZEI Tsey 23.69 82 *e*P **P 20 09 45.7 +1.6**
ZEI pmax pmax
comp=Z,27nm,1.7s
ZEI Tsey 23.69 82 *e*P **P 20 09 45.7 +1.6**
comp=Z,27nm,1.7s
KLMR Klimovskoe 23.81 35 *e*P **P 20 09 43.4 -1.4**
KLMR pmax pmax
comp=Z,33nm,1.1s
KLMR Klimovskoe 23.81 35 *e*P **P 20 09 43.4 -1.4**
comp=Z,33nm,1.1s
GNI Garni 25.07 87 *e*P **P 20 09 59.1 +2.3**
comp=Z,41nm,1.0s
GNI Garni 25.07 87 P **P 20 09 57.6 +0.7**
comp=Z,40nm,1.0s,baz=335,slow=6.6,SNR=6.7
TMCR Tamitsa 25.21 28 *e*P P 20 10 06.3 +8.7
TMCR pmax pmax
comp=Z,18nm,0.8s
ARCES ARCESS Array B 26.58 11 P **P 20 10 10.8 +0.7**
ARCES ARCESS Array B 26.58 11 P **P 20 10 10.8 +0.7**
comp=Z,1.3nm,0.8s,baz=195,slow=9.1,SNR=5.9
ARCES LR LR 20 20 30.2
comp=Z,86nm,19.9s,baz=219,slow=36
ARCES ARCESS Array B 26.58 11 P **P 20 10 10.8 +0.7**
JMIC Jan Mayen 28.72 347 LR LR 20 21 23.2
comp=Z,43nm,18.1s,baz=71,slow=35
TOA0 Torodi Ar. Sit 31.85 198 *e*P **P 20 10 56.3 -1.0**
TORD Torodi Ar. Bea 31.85 198 P **P 20 10 56.4 -0.9**
TORD PcP **PcP 20 13 46.4 -1.6**
TORD Torodi Ar. Bea 31.85 198 P **P 20 10 56.4 -0.9**
comp=Z,10nm,1.0s,baz=7.9,slow=9.4,SNR=23
TORD PcP **PcP 20 13 46.4 -1.6**
comp=Z,1.1nm,0.8s,baz=355,slow=2.7,SNR=4.7
TORD LR LR 20 24 13.6
comp=Z,150nm,21.2s,baz=350,slow=37
AKTK Aktyubinsk 31.97 62 P **P 20 10 57.8 -0.3**
AKTO Aktyubinsk 31.97 62 P **P 20 10 57.8 -0.3**
AKTO Aktyubinsk 31.97 62 P **P 20 10 57.8 -0.3**
AKTO Aktyubinsk 31.97 62 P **P 20 10 57.8 -0.3**
comp=Z,4.4nm,0.8s,baz=279,slow=8.6,SNR=16
AKTO Aktyubinsk 31.97 62 P **P 20 10 57.8 -0.3**
ARU Arti 32.06 50 *d i*P **P 20 10 57.8 -0.9**
ARU 20 12 01.2
ARU S **S 20 16 09.8 -0.2**
ARU SS **SnSn 20 17 55.5 -4.1**
ARU pmax pmax
comp=Z,9.0nm,1.0s
ARU Arti 32.06 50 *i* P **P 20 10 57.8 -0.9**
comp=Z,9.0nm,1.0s
SVE Sverdlovsk 33.22 50 ⇓ *e*P **P 20 11 08.7 -0.2**
SVE *e*S **S 20 16 29.5 +1.4**
SVE pmax pmax
comp=Z,14nm,1.2s
SVE Sverdlovsk 33.22 50 *e*P **P 20 11 08.7 -0.2**
comp=Z,14nm,1.2s
ABKAR Akbulak array 33.38 64 *e*P **P 20 11 09.9 -0.5**
comp=Z,4.3nm,0.7s
ABKAR Akbulak array 33.38 64 *e*P **P 20 11 09.9 -0.5**
comp=Z,4.3nm,0.7s
BRVK Borovoye 39.09 55 ⇓ *i*P **P 20 11 59.6 +0.4**
BRVK pmax pmax
comp=Z,11nm,1.2s
BRVK Borovoye 39.09 55 *e*P **P 20 11 59.7 +0.5**
comp=Z,12nm,1.1s
BRVK Borovoye 39.09 55 *i* P **P 20 11 59.6 +0.4**
comp=Z,11nm,1.2s
BVAR Borovoye Array 39.16 55 LR LR 20 27 17.0
comp=Z,66nm,20.1s,baz=287,slow=35
DBIC Dimbokro 39.80 205 P **P 20 12 07.3 +1.9**
DBIC Dimbokro 39.80 205 P **P 20 12 07.3 +1.9**
comp=Z,7.4nm,1.0s,baz=36,slow=4.2,SNR=3.8
DBIC LR LR 20 29 34.0
comp=Z,129nm,18.9s,baz=18,slow=38
DBIC Dimbokro 39.80 205 P **P 20 12 07.3 +1.9**
KKAR Karatay Array 42.15 70 *e*P **P 20 12 26.0 +1.4**
KKAR pmax pmax
comp=Z,5.0nm,0.6s
KKAR Karatay Array 42.15 70 *e*P **P 20 12 26.0 +1.4**
comp=Z,5.0nm,0.6s
KKAR Karatay Array 42.15 70 *e*P **P 20 12 26.0 +1.4**
comp=Z,5.0nm,0.6s
EKS2 Erkin-Say 44.53 69 *e*P **P 20 12 44.0 +0.1**
EKS2 pmax pmax
comp=Z,27nm,1.1s
EKS2 Erkin-Say 44.53 69 *e*P **P 20 12 44.0 +0.1**
comp=Z,27nm,1.1s
EKS2 Erkin-Say 44.53 69 *e*P **P 20 12 44.0 +0.1**
comp=Z,27nm,1.1s
AAK Ala-Archa 45.02 69 ⇑ *i*P **P 20 12 49.2 +1.3**
AAK pmax pmax
comp=Z,21nm,1.3s
AAK Ala-Archa 45.02 69 *e*P **P 20 12 49.4 +1.5**
comp=Z,18nm,1.3s
AAK Ala-Archa 45.02 69 *i* P **P 20 12 49.2 +1.3**
comp=Z,21nm,1.3s
NVS Novosibirsk 46.06 50 *i* P **P 20 12 55.9 +0.2**
NVS *e* 20 14 33.3
NVS pmax pmax
comp=Z,11nm,1.0s
NVS pmax pmax
comp=N,3.0nm,1.3s
NVS pmax pmax
comp=E,6.0nm,1.1s
NVS Novosibirsk 46.06 50 *i* P **P 20 12 55.9 +0.2**
comp=E,3.0nm,1.3s
ZAA0 Zalesovo Array 47.22 51 *e*P **P 20 13 04.8 0.0**
ZAA0 Zalesovo Array 47.22 51 *e*P **P 20 13 04.8 0.0**
ZALV Zalesovo Beam 47.22 51 *i* P **P 20 13 04.9 +0.1**
ZALV pmax pmax
comp=Z,4.0nm,0.9s
ZALV Zalesovo Beam 47.22 51 P **P 20 13 04.8 0.0**
ZALV Zalesovo Beam 47.22 51 P **P 20 13 04.8 0.0**
comp=Z,3.5nm,0.9s,baz=292,slow=7.8,SNR=10
ZALV LR LR 20 33 50.5
comp=Z,91nm,18.5s,baz=250,slow=37
ZALV Zalesovo Beam 47.22 51 P **P 20 13 04.8 0.0**
MK31 Makanchi Array 48.39 60 *e*P **P 20 13 14.4 +0.4**
MK31 Makanchi Array 48.39 60 *e*P **P 20 13 14.4 +0.4**
MK31 Makanchi Array 48.39 60 *e*P **P 20 13 14.4 +0.4**
MKAR Makanchi Array 48.39 60 P **P 20 13 14.2 +0.2**
MKAR 20 14 41.0
MKAR Makanchi Array 48.39 60 P **P 20 13 14.2 +0.2**
MKAR PcP **PcP 20 14 41.0 +0.7**
MKAR Makanchi Array 48.39 60 P **P 20 13 14.2 +0.2**
comp=Z,3.2nm,0.7s,baz=285,slow=6.0,SNR=25
MKAR PcP **PcP 20 14 41.0 +0.7**
comp=Z,0.6nm,0.7s,baz=289,slow=4.4,SNR=2.1
MKAR LR LR 20 34 35.5
comp=Z,44nm,18.4s,baz=87,slow=37
MKAR Makanchi Array 48.39 60 P **P 20 13 14.2 +0.2**
TIXI Tiksi 56.56 20 ⇑ *i*P **P 20 14 14.1 -0.1**
TIXI pmax pmax
comp=Z,3.0nm,0.9s
TLY Talaya 58.46 47 *e*P **P 20 14 29.4 +1.5**
TLY pmax pmax
comp=Z,12nm,1.3s
TLY MLR MLR
comp=Z,62nm,17.0s
SONM Songino Array 62.09 49 P **P 20 14 53.6 +0.7**
SONM Songino Array 62.09 49 P **P 20 14 53.6 +0.7**
comp=Z,5.6nm,1.1s,baz=294,slow=8.1,SNR=20
SONM LR LR 20 41 53.6
comp=Z,62nm,20.6s,baz=285,slow=36
GTA Gaotai 63.14 60 *e*P **P 20 15 02.4 +2.3**
GTA pP **pP 20 15 06.3 +1.6**
GTA sP **sP 20 15 09.1 +2.7**
GTA pmax pmax
comp=Z,3.0nm,0.5s
LSA Lhasa 63.18 74 *e*P **P 20 15 00.8 -0.1**
LSA pmax pmax
comp=Z,6.0nm,0.7s
LSA Lhasa 63.18 74 *e*P **P 20 15 00.8 -0.1**
comp=Z,5.7nm,0.7s
YAK Yakutsk 63.33 28 *e*P **P 20 15 00.1 -0.7**
YAK pmax pmax
comp=Z,17nm,0.9s
YAK pmax pmax
comp=N,8.0nm,1.3s
YAK pmax pmax
comp=E,8.0nm,1.2s
YKA Yellowknife Ar 65.32 336 P **P 20 15 14.3 +0.5**
YKA Yellowknife Ar 65.32 336 P **P 20 15 14.3 +0.5**
comp=E,2.8nm,0.7s,baz=42,slow=6.1,SNR=23
COLD Coldfoot 68.16 352 *e*P **P 20 15 32.6 +0.7**
comp=E,8.8nm,1.3s
SEY Seymchan 68.96 18 *c e*P **P 20 15 38.2 +1.3**
IM04 Indian Mountai 69.71 354 *e*P **P 20 15 42.9 +1.3**
DAWY Dawson 69.77 347 *e*P **P 20 15 43.1 +1.1**
ILAR Eielson Array 70.18 350 P **P 20 15 45.0 +0.5**
ILAR Eielson Array 70.18 350 P **P 20 15 45.0 +0.5**
comp=E,2.6nm,1.0s,baz=13,slow=5.6,SNR=14
BPAW Bear Paw Mtn. 71.29 352 *e*P **P 20 15 50.4 -0.8**
comp=E,10nm,1.2s
BOSA Boshof 73.43 167 P **P 20 16 04.6 +0.2**
BOSA Boshof 73.43 167 P **P 20 16 04.6 +0.2**
comp=E,1.0nm,0.7s,baz=31,slow=5.9,SNR=2.9
BOSA LR LR 20 54 55.8
comp=E,97nm,19.2s,baz=172,slow=41
EGMT Eagleton 74.68 323 *e*P **P 20 16 11.8 +0.1**
comp=E,22nm,1.2s
KSU1 Kansas State U 74.73 310 *e*P **P 20 16 11.8 -0.3**
comp=E,14nm,0.8s
RSSD Black Hills 74.99 318 *e*P P 20 16 17.3 +3.6
RSSD Black Hills 74.99 318 *e*P P 20 16 17.3 +3.6
CHTO Chiang Mai 75.57 78 *e*P **P 20 16 16.0 -1.1**
CHTO pmax pmax
comp=Z,8.0nm,1.4s
CHTO Chiang Mai 75.57 78 *e*P **P 20 16 16.0 -1.1**
comp=Z,7.7nm,1.4s
CMAR Chiang Mai Arr 75.80 78 P **P 20 16 18.4 -0.1**
CMAR Chiang Mai Arr 75.80 78 P **P 20 16 18.4 -0.1**
comp=Z,1.8nm,0.8s,baz=304,slow=7.2
USRK Ussuriysk Arra 77.53 39 P **P 20 16 27.9 +0.1**
comp=Z,1.8nm,0.8s,baz=273,slow=3.4,SNR=4.4
MOOW Moose Ponds 78.43 321 *e*P **P 20 16 35.0 +1.9**
comp=Z,3.1nm,1.1s
PDAR Pinedale Array 78.64 320 P **P 20 16 34.1 -0.3**
PDAR Pinedale Array 78.64 320 P **P 20 16 34.1 -0.3**
comp=Z,1.2nm,0.8s,baz=69,slow=8.1,SNR=7.3
PDAR LR LR 20 49 32.6
comp=Z,55nm,20.4s,baz=253,slow=34
ISCO Idaho Springs 79.00 316 *e*P P 20 16 40.7 +4.2
ISCO pmax pmax
comp=Z,5.0nm,1.1s
ISCO Idaho Springs 79.00 316 *e*P P 20 16 40.7 +4.2
comp=Z,5.3nm,1.1s
RRI2 Red Ridge 79.00 321 *e*P **P 20 16 39.3 +2.9**
comp=Z,3.3nm,0.8s
YSS Yuzh-Sakhalins 79.80 31 ⇑ *i*P **P 20 16 41.4 +1.1**
YSS *e* 20 16 45.8
YSS pmax pmax
comp=Z,20nm,1.0s
HLID Hailey 80.20 323 *e*P P 20 16 46.2 +3.4
BMO Blue Mountains 80.36 326 *e*P **P 20 16 43.6 +0.1**
BMO pmax pmax
comp=Z,181nm,0.3s
BMO Blue Mountains 80.36 326 *e*P **P 20 16 43.6 +0.1**
comp=Z,181nm,0.3s
SDCO Great Sand Dun 80.49 314 *e*P **P 20 16 44.9 +0.3**
comp=Z,1.6nm,0.8s
KSAR Wonju Array Be 80.69 46 P **P 20 16 45.6 +0.4**
KSRS Korea Array 80.70 46 P **P 20 16 45.6 +0.3**
comp=Z,1.4nm,0.8s,baz=307,slow=4.6,SNR=4.7
KSRS LR LR 20 55 58.1
comp=Z,56nm,20.5s,baz=319,slow=38
ASAJ Asahikawa 82.11 33 P **P 20 16 52.5 -0.1**
ASAJ Asahikawa 82.11 33 P **P 20 16 52.5 -0.1**
comp=Z,4.2nm,0.9s,baz=350,slow=6.1
R11A Troy Canyon, C 84.94 321 *e*P **P 20 17 07.9 +0.4**
JNU Nakatsue 85.57 47 LR LR 20 59 14.1
comp=Z,54nm,19.1s,baz=75,slow=38
TXAR Lajitas Array 85.84 307 P **P 20 17 12.4 +0.4**
TXAR Lajitas Array 85.84 307 P **P 20 17 12.4 +0.4**
comp=Z,1.2nm,0.6s,baz=60,slow=5.0,SNR=13
MJAR Matsushiro Arr 86.49 40 P **P 20 17 14.5 -0.6**
MJAR Matsushiro Arr 86.49 40 P **P 20 17 14.5 -0.6**
comp=Z,0.7nm,0.5s,baz=312,slow=4.4,SNR=3.7
LPAZ La Paz 93.73 251 LR LR 20 57 35.4
comp=Z,33nm,19.3s,baz=316,slow=34
CPUP Villa Florida 93.95 237 LR LR 21 00 35.0
comp=Z,56nm,20.4s,baz=358,slow=36
VNDA Vanda 144.38 169 PKP **PKPdf 20 24 06.7 -0.2**
VNDA Vanda 144.38 169 PKP **PKPdf 20 24 06.7 -0.2**
comp=Z,0.9nm,0.9s,baz=254,slow=5.2,SNR=2.9

MAN 14 20:16:56, 9.90N×122.39E, h44km, mb3.9, ML2.7, MS2.3, 1C-1D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**0.75**	**15**	*e*P	Pn	20 17 12.1	+1.9
GUIM				*e*S	Sn	20 17 19.5	-1.0
SNPH	**Sibulan**	**1.00**	**123**	⇓ *i*P	Pn	20 17 12.1	-1.6
SNPH				*i* S	Sn	20 17 14.1	-12
RCP	**Roxas**	**1.69**	**12** ⇑	*e*P	Pn	20 17 24.5	+1.4
RCP				*e*S	Sn	20 17 41.6	-1.9
PAGZ	**Pagadian**	**2.26**	**154**	*e*P	Pn	20 17 32.5	+1.6
MSLP	**Maasin**	**2.44**	**84**	*e*P	Pn	20 17 35.5	+2.1

ISCJB ***14*** *20:17:41.4±0.4, 6.83S±0.03×130.76E±0.04, h98km±5km, mb3.9/14, Error ellipse: s-maj=7.0km s-min=4.2km az=163.1*
AUST ***14*** *20:17:42.5±0.0, 6.87S×130.76E, h71km, Error ellipse: s-maj=0.8km s-min=0.7km az=245.0*
DJA ***14*** *20:17:43.2±0.4, 7.5±2.2×13.1±., h111km±6km, M4.7/10, mb4.8/7, mB5.2/5, MLv4.6/10, Mw(mB)4.6/5*
IDC ***14*** *20:17:45.3±0.7, 6.64S×130.54E, h96km±5km, mb3.6/15, mb1 3.7/16, mb1mx3.7/21, mbtmp3.7/16, Error ellipse: s-maj=24.4km s-min=13.3km az=65.0*
ISC 14 20:17:43.8±0.6, 6.75S±0.04×130.77E±0.05, h92km±5km, n59, σ1.9 74/73, mb3.8/14, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.34**	**157**	P	**Pn**	**20 18 08.0**	**+0.4**
SAUI				S	**Sn**	**20 18 28.2**	**+2.6**
TLE	**Tual**	**2.24**	**61**	P	**Pn**	**20 18 17.9**	**-1.4**
TLE				S	**Sn**	**20 18 49.9**	**+3.4**
TLE	**Tual**	**2.24**	**61**	P	**Pn**	**20 18 21.9**	**+2.5**
baz=2.3,SNR=44
BNDI Bandanaira 2.37 339 P **Pn 20 18 21.5 +0.5**
BNDI S **Sn 20 18 50.5 +1.0**
BNDI Bandanaira 2.37 339 P **Pn 20 18 19.6 -1.4**
baz=2.5,SNR=8.6
AAI Ambon 3.98 320 P **Pn 20 18 39.9 -2.7**
AAI S **Sn 20 19 29.1 +0.9**
AAI Ambon 3.98 320 P **Pn 20 18 40.2 -2.4**
baz=4.1,SNR=19
FAKI Fak Fak 4.08 21 P **Pn 20 18 43.1 -0.9**
FAKI S **Sn 20 19 31.1 +0.5**
FAKI Fak Fak 4.08 21 P **Pn 20 18 42.9 -1.1**
baz=4.2,SNR=21
FAKI S **Sn 20 19 28.7 -1.9**
baz=4.2,SNR=15
NLAI Namlea 5.05 313 P **Pn 20 18 57.3 +0.1**
143nm,0.6s,5μm0.9nm
NLAI S **Sn 20 19 57.0 +2.7**
143nm,0.6s,5μm0.9nm
SWI Sorong 5.87 5 P **Pn 20 19 06.4 -1.9**
36nm,0.5s,2μm0.4nm
SWI S **Sn 20 20 12.0 -2.1**
36nm,0.5s,2μm0.4nm
SWI Sorong 5.87 5 P **Pn 20 19 06.5 -1.8**
baz=6.0,SNR=19
SWI S **Sn 20 20 10.3 -3.9**
baz=6.0,SNR=9.5
MTN Manton Dam 6.07 177 P **Pn 20 19 08.7 -2.4**
baz=6.0,SNR=150
MTN S **Sn 20 20 14.0 -5.1**
baz=6.0,SNR=5.6
KDU Kakadu 6.14 164 P **Pn 20 19 09.9 -2.1**
baz=6.1,SNR=360
KDU S **Sn 20 20 18.9 -1.8**
baz=6.1,SNR=5.3
RKPI Ransiki, Papua 6.21 33 P **Pn 20 19 14.2 +1.2**
97nm,0.6s,4μm1.5nm
RKPI S **Sn 20 20 23.4 +0.8**
97nm,0.6s,4μm1.5nm
LBMI Labuha 6.89 332 P **Pn 20 19 23.0 +0.8**
37nm,0.5s,743nm
LBMI S **Sn 20 20 38.7 -0.5**
37nm,0.5s,743nm
SOEI Soe 7.10 245 P **Pn 20 19 24.4 -0.8**
38nm,0.7s
SOEI Soe 7.10 245 P **Pn 20 19 23.4 -1.7**
baz=7.0,SNR=7.8
BBSI Bau Bau 8.25 278 P **Pn 20 19 40.2 -0.6**
KNRA Kununurra 9.09 192 P Pn 20 19 48.3 -3.9
baz=9.0,SNR=49
KNRA S Sn 20 21 22.9 -10
baz=9.0,SNR=12
LUWI Luwuk 9.79 305 P **Pn 20 20 03.1 +1.4**
baz=9.9,SNR=4.4
KAPI Kappang 11.10 278 P **Pn 20 20 19.6 +0.1**
0.8nm,0.3s,baz=91,slow=10.0,SNR=5.5
WRA Warramunga Arr 13.57 166 P Pn 20 20 47.0 -5.6
2.4nm,0.3s,baz=353,slow=13,SNR=161
WRA S Sn 20 23 08.6 -13
3.9nm,0.3s,baz=346,slow=21,SNR=8.3
COEN Coen 14.14 121 P **Pn 20 20 58.1 -1.9**
baz=14,SNR=41
ASAR Alice Springs 17.09 170 P **Pn 20 21 34.0 -3.1**
2.0nm,0.3s,baz=352,slow=9.3,SNR=137
ASAR S Sn 20 24 36.1 -11
0.6nm,0.3s,baz=357,slow=25,SNR=9.6
MTSU Mount Surprise 17.39 132 P **Pn 20 21 41.0 +0.2**
baz=17,SNR=32
CTA Charters Tower 20.04 133 P Pn 20 22 13.2 +0.9
3.1nm,0.6s,baz=304,slow=16,SNR=5.6
MEEK Meekatharra 22.92 209 P **P 20 22 40.6 +0.4**
baz=23,SNR=5.5
MORW Morawa 26.20 210 P **P 20 23 10.1 +0.1**
baz=26,SNR=5.1
STKA Stephens Creek 26.97 159 P **P 20 23 18.6 +1.7**
1.8nm,0.7s,baz=261,slow=12,SNR=5.1
STKA Stephens Creek 26.97 159 P **P 20 23 18.8 +1.9**
baz=27,SNR=5.8
YNG Young 31.89 152 S sS 20 29 38.9 -2.2
baz=32,SNR=6.6
LHI Lord Howe Isla 36.14 137 P P 20 24 29.9 -7.4
baz=36,SNR=3.9
JNU Nakatsue 39.65 0 P **P 20 25 06.2 -0.5**
4.0nm,1.0s,baz=139,slow=20,SNR=3.1
CMAR Chiang Mai Arr 40.16 309 P **P 20 25 09.8 -1.4**
0.7nm,0.5s,baz=136,slow=7.2,SNR=10
CMAR pP **pP 20 25 32.8 0.0**
0.5nm,0.6s,baz=136,slow=6.7,SNR=2.7
MJAR Matsushiro Arr 43.62 9 P **P 20 25 38.7 -0.4**
1.6nm,0.9s,baz=194,slow=9.9,SNR=4.4
KSRS Korea Array 44.05 357 P **P 20 25 43.4 +0.9**
0.5nm,0.4s,baz=176,slow=11,SNR=3.8
USRK Ussuriysk Arra 50.72 1 P **P 20 26 34.3 +0.2**
1.8nm,0.5s,baz=194,slow=8.2,SNR=5.4
ODAN Odare 53.67 310 *e*P **P 20 26 55.1 -1.5**
7.3nm,0.5s
TAPN Taplejung 53.69 311 *e*P **P 20 26 54.5 -2.4**
12nm,0.4s
RAMN Ramite 54.32 310 *e*P **P 20 27 00.1 -1.3**
22nm,0.5s
JIRN Jiri 55.00 311 *e*P **P 20 27 05.0 -1.4**
7.1nm,0.4s
GUN Gumba 55.37 311 *e*P **P 20 27 07.6 -1.4**
15nm,0.4s

PKI	Pulchoki	55.55	310	eP	P	20 27 08.6	-1.7
PKIN	Phulchoki	55.56	310	eP	P	20 27 08.7	-1.6
	3.0nm,0.4s						
KKN	Kakani	55.76	310	eP	P	20 27 09.9	-1.8
	6.9nm,0.4s						
DMN	Daman	55.80	310	eP	P	20 27 10.4	-1.6
	5.6nm,0.4s						
KOLN	Koldanda	57.03	309	eP	P	20 27 19.6	-1.1
	7.1nm,0.4s						
DANN	Dangsing	57.20	310	eP	P	20 27 20.6	-1.4
SONM	Songino Array	58.45	341	P	P	20 27 30.4	+0.2
	0.4nm,0.4s,baz=156,slow=8.4,SNR=3.8						
SONM				pP	pP	20 27 54.0	+0.9
	0.5nm,0.7s,baz=160,slow=5.2,SNR=3.0						
PETK	Petropavlovsk-	63.85	18	P	P	20 28 08.5	+2.1
	1.5nm,0.7s,baz=203,slow=11,SNR=2.9						
MKAR	Makanchi Array	68.44	326	P	P	20 28 36.0	+0.1
	1.5nm,0.5s,baz=114,slow=7.8,SNR=29						
MKAR				pP	pP	20 28 59.4	0.0
	2.3nm,0.7s,baz=125,slow=7.3,SNR=7.1						
ZALV	Zalesovo Beam	71.70	333	P	P	20 28 54.7	-1.0
	1.0nm,0.6s,baz=119,slow=5.2,SNR=5.3						
ZALV				pP	pP	20 29 19.4	+0.1
	1.0nm,0.5s,baz=123,slow=5.5,SNR=3.5						
VNDA	Vanda	72.61	173	P	P	20 29 02.1	+1.3
	0.8nm,0.9s,baz=309,slow=6.9,SNR=3.8						
KURBB	Kurchatov Arra	72.70	328	P	P	20 29 01.2	-0.5
	0.9nm,0.6s,baz=128,slow=4.8,SNR=17						
KURBB				pP	pP	20 29 25.3	-0.1
	1.0nm,0.7s,baz=126,slow=4.8,SNR=4.9						
BVAR	Borovoye Array	78.26	328	P	P	20 29 33.3	-0.1
	0.4nm,0.4s,baz=113,slow=9.6,SNR=3.8						
ILAR	Eielson Array	92.79	25	P	P	20 30 45.3	-0.4
	0.6nm,0.8s,baz=270,slow=3.6,SNR=3.7						
TORD	Torodi Ar. Bea	129.51	281	PKP	PKPdf	20 36 43.4	+0.4
	0.4nm,0.6s,baz=86,slow=1.9,SNR=6.8						
LPAZ	La Paz	150.44	141	PKPbc	PKPbc	20 37 29.3	+2.8
	1.4nm,0.4s,baz=33,slow=2.5,SNR=9.6						
LPAZ				pPKPbc	pPKPbc	20 37 55.1	+3.1
	0.8nm,0.4s,baz=123,slow=4.1,SNR=3.4						

DJA 14 20:27:00.4±1.3, 10°S±5°×11°3E±°, h18km±16km, M3.8/12, MLv3.8/12, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMJI	Gumukmas	1.43	28	P	Pn	20 27 25.2	-0.3
JAGI	Jajag, Banyuwa	1.74	52	P	Pn	20 27 28.3	-1.4
JAGI				S	Sn	20 27 48.8	-2.6
PWJI	Pagerwojo	1.79	328	S	Sn	20 27 53.4	+0.6
BLJI	Banyuglugur	1.97	25	P	Pn	20 27 34.1	+1.2
BLJI				S	Sn	20 27 57.4	+0.2
BYJI	Banyuwangi	2.05	50	P	Pn	20 27 34.5	+0.5
BYJI				S	Sn	20 28 00.5	+1.3
SJI	Sawahan	2.06	331	P	Pn	20 27 34.3	+0.1
SJI				S	Sb	20 28 01.7	-1.0
ABJI	Asem Bagus	2.27	40	P	Pn	20 27 37.0	0.0
ABJI				S	Sn	20 28 04.9	+0.4
IGBI	Denpasar	2.46	73	P	Pn	20 27 40.8	+1.2
NGJI	Ngawi	2.53	329	P	Pn	20 27 39.7	-0.8
DNP	Denpasar	2.56	70	P	Pn	20 27 41.2	+0.2
GRJI	Gresik	2.63	354	P	Pn	20 27 39.3	-2.7
KMMI	Kalianget	2.75	26	P	Pn	20 27 44.9	+1.2
UGM	Wanagama	2.75	306	P	Pn	20 27 42.9	-0.8
SRBI	Singaraja	2.82	59	P	Pn	20 27 44.0	-0.6

IDC 14 20:27:58.4±2.4, 2°61N×86°07E, h0km, mb3.4/7, mb1 3.6/7, mb1mx3.4/27, mbtmp3.5/7, MS3.7/1, Ms1 3.7/1, ms1mx2.7/29, Error ellipse: s-maj=75.8km s-min=21.9km az=62.0, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	20.18	38	P	P	20 32 34.5	-0.2
	0.3nm,0.6s,baz=231,slow=11,SNR=4.9						
MKAR	Makanchi Array	44.13	356	P	P	20 36 08.6	-0.1
	0.2nm,0.5s,baz=169,slow=8.9,SNR=3.5						
KURBB	Kurchatov Arra	48.26	354	P	P	20 36 41.1	0.0
	0.7nm,0.7s,baz=178,slow=7.3,SNR=12						
SONM	Songino Array	48.35	18	P	P	20 36 42.0	-0.1
	0.6nm,0.5s,baz=204,slow=8.6,SNR=4.3						
ZALV	Zalesovo Beam	51.18	359	P	P	20 37 03.0	-0.3
	1.1nm,0.4s,baz=181,slow=6.8,SNR=7.6						
WRA	Warramunga Arr	52.40	118	P	P	20 37 13.7	+0.6
	0.2nm,0.5s,baz=296,slow=7.6,SNR=4.1						
ASAR	Alice Springs	53.36	122	P	P	20 37 19.3	-0.8
	0.2nm,0.8s,baz=294,slow=7.8,SNR=3.3						
USRK	Ussuriysk Arra	57.91	38	LR	LR	21 06 24.7	
	comp=Z,62nm,18.7s,baz=356,slow=40						

CSEM 14 20:48:39.3, 44°01N×11°25E, h7km, MD1.7/4, After ROM
ROM 14 20:48:39.3±0.2, 44°01N×11°25E, h7km±1km, Md1.7/4, Ml1.6/2, Error ellipse: s-maj=3.5km s-min=0.9km az=30.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEI	Scarperia	0.09	58	Pg	Pg	20 48 42.0	+0.4
SEI				Sg	Sg	20 48 43.7	+0.5
	637nm,0.2s						
SEI	Scarperia	0.09	58	Pg	Pg	20 48 42.0	+0.4
SEI				Sg	Sg	20 48 43.7	+0.5
	637nm,0.2s						
FNVD	Fontana Vidola	0.19	331	Pg	Pg	20 48 43.8	+0.6
FNVD				Sg	Sg	20 48 46.7	+0.8
	140nm,0.1s						
FNVD	Fontana Vidola	0.19	331	Pg	Pg	20 48 43.8	+0.6
FNVD				Sg	Sg	20 48 46.7	+0.8
	140nm,0.1s						
VMG	Vicchio	0.22	101	Pg	Pg	20 48 44.4	+0.7
VMG				Sg	Sg	20 48 47.9	+1.2
	77nm,0.2s						
VMG	Vicchio	0.22	101	Pg	Pg	20 48 44.4	+0.7
VMG				Sg	Sg	20 48 47.9	+1.2
	77nm,0.2s						
SFI	Santa Sofia	0.45	103	Pg	Pg	20 48 48.5	+0.5
SFI				Sg	Sb	20 48 55.8	-0.6
	35nm,0.1s						
SFI	Santa Sofia	0.45	103	Pg	Pg	20 48 48.5	+0.5
SFI				Sg	Sb	20 48 55.8	-0.6
	35nm,0.1s						

IDC 14 20:51:00.8±2.0, 10°56N×123°87E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.3/25, mbtmp3.3/4, Error ellipse: s-maj=90.8km s-min=23.0km az=55.0
MAN 14 20:51:02, 10°40N×123°06E, h3km, mb4.7, ML3.6, MS3.6
MAN INTENSITY IV - AARAL LA CARLOTA CITY; INTENSITY III - CUBAY LA CARLOTA CITY; BAGO CITY; POBLACION LA CASTELLANA NEGROS OCCIDENTAL; BINALBAGAN NEGROS OCCIDENTAL; INTENSITY I - HINIGARAN N. OCC; CANLAON CITY.
ISCJB 14 20:51:03.3±1.5, 10°33N±0°05×122°97E±0°05, h13km±12km, mb3.2/4, Error ellipse: s-maj=11.2km s-min=5.7km az=135.1
ISC 14 20:51:01.9±1.9, 10°39N±0°04×123°09E±0°05, h0km±14km, n19, σ1§68/21, mb3.3/4, 2C-3D, Cebu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	Jordan	0.55	296	eP	Pb	20 51 13.3	-1.0
LLP	Lapu-Lapu	0.87	94	⇓eP	Pb	20 51 20.2	+0.4
LLP				eS	Sn	20 51 34.2	-0.5
TBP	Tagbilaran	1.03	132	eP	Pn	20 51 23.9	+0.4
TBP				eS	Sn	20 51 39.0	+0.3
SNPH	Sibulan	1.04	172	⇓iP	Pn	20 51 28.8	+5.0
SNPH				i S	Sn	20 51 44.4	+5.3
RCP	Roxas	1.22	344	⇑eP	Pn	20 51 25.8	-0.3
RCP				eS	Sn	20 51 42.9	-0.4
OCLP	Ormoc	1.64	66	eP	Pg	20 51 33.5	+0.3
MSLP	Maasin	1.76	98	eP	Pg	20 51 36.7	+1.0
PLP	Palo	2.01	67	⇓iP	Pb	20 51 38.5	-0.9
PLP				i S	Sn	20 51 54.6	-8.4
CGP	Cagayan de Oro	2.49	140	eP	Pb	20 51 45.9	-1.6
CNP	Catarman	2.62	36	eP	Pb	20 51 49.0	-0.6
SJMP	San Jose	2.83	317	eP	Pn	20 51 49.3	+1.0
AUQP	San Andres	2.95	352	eP	Pb	20 51 55.3	0.0
BUSP	Coron	3.26	300	eP	Pn	20 51 54.4	+0.2
CTBH	Cotabato--PC H	3.34	160	⇑iP	Pn	20 51 54.1	-1.3
PVCP	Virac	3.36	18	eP	Pn	20 51 56.7	+1.1
CMAR	Chiang Mai Arr	24.70	292	P	P	20 56 29.7	+4.8
	0.6nm,0.8s,baz=98,slow=7.4						
WRA	Warramunga Arr	32.11	160	P	P	20 57 28.2	-2.9
	0.2nm,0.6s,baz=342,slow=9.1,SNR=4.2						
ASAR	Alice Springs	35.46	163	P	P	20 57 59.6	-0.6
	0.3nm,0.6s,baz=340,slow=7.0,SNR=5.9						
KURBB	Kurchatov Arra	54.23	327	P	P	21 00 30.4	+1.0
	0.2nm,0.6s,baz=127,slow=7.7,SNR=4.0						

NEIC 14 20:53:28.8±0.4, 48°19N×154°28E, h35km, mb4.9/21, Error ellipse: s-maj=10.3km s-min=6.2km az=138.0
ISCJB 14 20:53:29.1±0.7, 48°24N±0°05×154°33E±0°08, h50km±6km, mb4.4/44, MS3.3/5, Error ellipse: s-maj=11.8km s-min=4.4km az=44.4
SKHL 14 20:53:29.1±9.7, 47°95N×154°99E, h77km±6km, mb4.9/3
MOS 14 20:53:30.7±0.9, 48°25N×154°36E, h63km, mb5.1/18, Error ellipse: s-maj=11.5km s-min=6.7km az=86.8
IDC 14 20:53:33.1±2.6, 48°27N×154°32E, h74km±22km, mb3.8/19, mb1 4.0/22, mb1mx3.9/28, mbtmp3.8/22, MS3.3/7, Ms1 3.3/7, ms1mx3.0/38, Error ellipse: s-maj=17.0km s-min=12.2km az=141.0
ISC 14 20:53:32.5±0.7, 48°24N±0°07×154°41E±0°07, h71km±4km, n193, σ1§11/213, mb4.6/44, 3C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	2.68	24	ePN	Pn	20 54 01.2	-12
SKR				pmax	pmax		
	comp=Z,160nm,0.6s						
SKR	Severo-Kuril's	2.68	24	eP	Pn	20 54 01.2	-12
SKR				AMB	AMB	20 54 03.6	
	comp=Z,160nm,0.6s						
SKR				eS	Sn	20 54 33.5	-11
SKR				A	A	20 54 40.9	
	comp=Z,720nm,0.5s						
SKR				A	A	20 54 40.9	
	comp=Z,390nm,0.5s						
PEA0B	Petropavlovsk-	5.30	22	eP	Pn	20 54 48.5	-0.5
PETK	Petropavlovsk-	5.30	22	PN	Pn	20 54 48.9	-0.2
PETK				S	Sn	20 55 48.5	-0.2
PETK	Petropavlovsk-	5.30	22	P	Pn	20 54 48.9	-0.2
PETK				S	Sn	20 55 48.5	-0.2
PETK	Petropavlovsk-	5.30	22	P	Pn	20 54 48.9	-0.2
	comp=Z,4.6nm,0.3s,baz=185,slow=14,SNR=38						
PETK				S	Sn	20 55 48.5	-0.2
	baz=207,slow=25,SNR=1.8						
PETK				LR	LR	20 57 03.3	
	comp=Z,171nm,21.3s,baz=199,slow=40						
KUR	Kuril'sk	5.41	239	ePN	Pn	20 54 52.3	+1.7
KUR				i S	Sn	20 55 54.7	+3.2
KUR				pmax	pmax		
	comp=Z,45nm,0.1s						
KUR				pmax	pmax		
	comp=E,53nm,0.5s						
KUR				pmax	pmax		
	comp=N,61nm,0.1s						
KUR				smax	smax		
	comp=E,19nm,0.8s						
KUR				smax	smax		
	comp=N,67nm,0.8s						
KUR	Kuril'sk	5.41	239	eP	Pn	20 54 52.3	+1.7
KUR				AMB	AMB	20 55 04.3	
	comp=N,45nm,0.1s						
KUR				AMB	AMB	20 55 04.3	
	comp=N,53nm,0.1s						
KUR				AMB	AMB	20 55 04.3	
	comp=N,61nm,0.1s						
KUR				i S	Sn	20 55 54.7	+3.2
KUR				A	A	20 56 01.0	
	comp=N,67nm,0.8s						
KUR				A	A	20 56 01.0	
	comp=N,19nm,0.8s						
PET	Petropavlovsk	5.50	28	ePN	Pn	20 54 52.0	+0.3
PET				eS	Sn	20 55 52.1	-1.3
PET				smax	smax		
	comp=N,145nm,0.5s						
PET				smax	smax		
	comp=E,125nm,0.5s						
PET	Petropavlovsk	5.50	28	eP	Pn	20 54 51.4	-0.3
NEM2	Nemuro 2	7.78	234	P	Pn	20 55 19.4	-3.5
NEM2				eS	Sn	20 56 43.6	-5.7
YSS	Yuzh-Sakhalins	7.99	265	⇑ePN	Pn	20 55 27.0	+1.2
YSS				pmax	pmax		
	comp=Z,20nm,0.7s						
YSS	Yuzh-Sakhalins	7.99	265	eP	Pn	20 55 27.0	+1.2
YSS				AMB	AMB	20 55 29.0	
	comp=Z,20nm,0.7s						
YSS				eS	Sn	20 56 52.8	-1.7
JNK	Nakash	8.21	239	P	Pn	20 55 28.0	-0.8
JMP	Maruseppu	8.77	245	P	Pn	20 55 39.2	+2.7
JSE	Soyaes	8.78	252	P	Pn	20 55 40.3	+3.7
JAR	Ashorobuto	8.93	240	P	Pn	20 55 37.9	-0.8
JAR				eS	Sn	20 57 16.5	-1.1
JWK2	Keihoku	9.07	256	P	Pn	20 55 44.5	+3.9
ASAJ	Asahikawa	9.18	248	P	Pn	20 55 44.0	+2.0
ASAJ	Asahikawa	9.18	248	eP	Pn	20 55 43.9	+1.9
	comp=Z,6.5nm,0.8s						
ASAJ				S	Sn	20 57 27.9	+4.3
ASAJ	Asahikawa	9.18	248	P	Pn	20 55 43.6	+1.6
	comp=Z,1.6nm,0.3s,baz=78,slow=12,SNR=17						
ASAJ				S	Sn	20 57 27.9	+4.3
	comp=Z,0.0nm,0.3s,baz=238,slow=19,SNR=1.5						
ASAJ				LR	LR	20 58 54.1	
	comp=Z,118nm,20.7s,baz=152,slow=35						
JKK2	Kamakawa 2	9.21	246	P	Pn	20 55 43.3	+0.8
JCH	Churui	9.59	238	P	Pn	20 55 44.9	-2.8
JCH				eS	Sn	20 57 27.3	-6.4
ERM	Erimo	10.10	236	ePN	Pn	20 55 53.6	-1.0
ERM	Erimo	10.10	236	eP	Pn	20 55 53.6	-1.0
JEM	Erimo	10.10	236	P	Pn	20 55 52.0	-2.5
JSR	Shiriuchi	11.97	241	P	Pn	20 56 17.4	-2.8
JTM	Tenmabayashi	12.08	237	P	Pn	20 56 16.1	-5.6
JANG	Nango	12.12	234	P	Pn	20 56 15.9	-6.3
JANG				eS	Sn	20 58 23.1	-12
FX1	Attu Island--F	12.78	62	P	Pn	20 56 27.2	-4.0
FX1				S	Sn	20 58 36.6	-15
FX1	Attu Island--F	12.78	62	P	Pn	20 56 27.2	-4.0
	comp=Z,2.8nm,0.3s,baz=224,slow=11,SNR=7.7						
FX1				S	Sn	20 58 36.6	-15
	comp=Z,5.6nm,0.3s,baz=78,slow=16,SNR=9.9						
SEY	Seymchan	14.77	356	eP	Pn	20 56 56.7	-0.5
SEY	Seymchan	14.77	356	eP	Pn	20 56 56.7	-0.5
USRK	Ussuriysk Arra	16.02	264	P	Pn	20 57 13.7	+0.4
	comp=Z,0.2nm,0.3s,baz=63,slow=13,SNR=6.3						
MJA0	Matsu Arr-Jizo	16.67	231	eP	Pn	20 57 20.1	-1.4
MJAR	Matsushiro Arr	16.69	231	eP	Pn	20 57 20.1	-1.7
MJAR	Matsushiro Arr	16.69	231	P	Pn	20 57 18.4	-3.3
MJAR	Matsushiro Arr	16.69	231	P	Pn	20 57 18.4	-3.3
	comp=Z,0.1nm,0.3s,baz=30,slow=14,SNR=5.5						
YAK	Yakutsk	19.59	324	eP	P	20 57 53.1	-1.4
KSRS	Korea Array	22.11	251	P	P	20 58 21.9	+0.1
	comp=Z,7.1nm,0.8s,baz=52,slow=9.9,SNR=17						
KSAR	Wonju Array Be	22.14	251	P	P	20 58 21.9	-0.2
SONM	Songino Array	31.70	288	PcP	PcP	21 02 39.7	+0.4
SONM	Songino Array	31.70	288	PcP	PcP	21 02 39.7	+0.4
	comp=Z,0.7nm,0.7s,baz=129,slow=1.3,SNR=4.5						
SONM				LR	LR	21 13 06.0	
	comp=Z,59nm,19.0s,baz=80,slow=37						
IM04	Indian Mountai	32.03	37	eP	P	20 59 51.7	-0.1
COLA	College	34.42	40	eP	P	21 00 13.6	+1.0
ILAR	Eielson Array	34.83	40	eP	P	21 00 16.4	+0.2
ILAR	Eielson Array	34.83	40	P	P	21 00 16.4	+0.2
ILAR	Eielson Array	34.83	40	P	P	21 00 16.4	+0.2
	comp=Z,1.4nm,0.9s,baz=263,slow=9.7,SNR=11						
ILAR				LR	LR	21 15 04.5	
	comp=Z,44nm,18.2s,baz=238,slow=37						
WHN	Wuhan	35.17	255	P	P	21 00 18.1	-1.3
HYT	Haines Junctio	39.59	45	eP	P	21 00 57.8	+1.1
INK	Inuvik	39.92	33	P	P	21 00 59.8	+0.7
INK	Inuvik	39.92	33	P	P	21 00 59.8	+0.7
	comp=Z,3.5nm,0.7s,baz=272,slow=5.1,SNR=4.9						
ZALV	Zalesovo Beam	42.47	305	P	P	21 01 19.4	-0.7
ZALV						21 03 12.4	
ZALV	Zalesovo Beam	42.47	305	P	P	21 01 19.4	-0.7
ZALV				PcP	PcP	21 03 12.4	+0.7
ZALV	Zalesovo Beam	42.47	305	P	P	21 01 19.4	-0.7
	comp=Z,1.3nm,0.4s,baz=66,slow=6.0,SNR=8.0						
ZALV				PcP	PcP	21 03 12.4	+0.7
	comp=Z,0.8nm,0.4s,baz=64,slow=3.4,SNR=9.0						
ZALV				LR	LR	21 19 36.8	
	comp=Z,51nm,19.1s,baz=70,slow=37						
MKAR	Makanchi Array	47.05	297	P	P	21 01 56.5	-0.2
MKAR				*SP	sP	21 02 21.9	-0.7
MKAR						21 03 27.8	
MKAR	Makanchi Array	47.05	297	eP	P	21 01 56.5	-0.2
MKAR	Makanchi Array	47.05	297	P	P	21 01 56.5	-0.2
MKAR				sP	sP	21 02 21.9	-0.7
MKAR				PcP	PcP	21 03 27.8	+0.1
MKAR	Makanchi Array	47.05	297	P	P	21 01 56.5	-0.2
	comp=Z,0.6nm,0.8s,baz=67,slow=8.3,SNR=5.5						
MKAR				sP	sP	21 02 21.9	-0.7
	comp=Z,0.7nm,0.8s,baz=68,slow=9.6,SNR=2.6						
MKAR				PcP	PcP	21 03 27.8	+0.1
	comp=Z,0.5nm,0.7s,baz=73,slow=3.2,SNR=4.2						
KURK	Kurchatov	47.28	303	P	P	21 01 58.4	0.0
KURK				*SP	sP	21 02 24.6	+0.3
KURK						21 03 29.2	
KURK	Kurchatov	47.28	303	P	P	21 01 58.4	0.0
KURK				sP	sP	21 02 24.6	+0.3
KURK				PcP	PcP	21 03 29.2	+0.9
KURBB	Kurchatov Arra	47.38	303	P	P	21 01 58.4	-0.8
	comp=Z,3.0nm,0.6s,baz=66,slow=8.3,SNR=40						
KURBB				sP	sP	21 02 24.6	-0.5
	comp=Z,0.9nm,0.7s,baz=68,slow=8.5,SNR=3.3						
KURBB				PcP	PcP	21 03 29.2	+0.5
	comp=Z,1.4nm,0.8s,baz=63,slow=3.7,SNR=10						
YKA	Yellowknife Ar	49.20	38	eP	P	21 02 13.2	+0.2
YKA	Yellowknife Ar	49.20	38	P	P	21 02 13.7	+0.7
YKA	Yellowknife Ar	49.20	38	P	P	21 02 13.7	+0.7
	comp=Z,2.2nm,0.9s,baz=298,slow=7.5,SNR=9.1						
BVAR	Borovoye Array	50.60	309	P	P	21 02 23.7	-0.1
BVAR						21 03 40.2	
BVAR	Borovoye Array	50.60	309	P	P	21 02 23.7	-0.1
BVAR				PcP	PcP	21 03 40.2	-0.2
BVAR	Borovoye Array	50.60	309	P	P	21 02 23.7	-0.1
	comp=Z,3.8nm,0.4s,baz=56,slow=7.0,SNR=24						
BVAR				PcP	PcP	21 03 40.2	-0.2
	comp=Z,1.3nm,0.6s,baz=80,slow=3.1,SNR=4.6						
BRVK	Borovoye	50.64	309	⇑iP	P	21 02 24.1	+0.1
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.7s						
BRVK	Borovoye	50.64	309	eP	P	21 02 24.1	+0.1
CHTO	Chiang Mai	53.32	257	eP	P	21 02 44.9	+0.5
CHTO				pmax	pmax		
	comp=Z,2.0nm,0.7s						
CHTO	Chiang Mai	53.32	257	eP	P	21 02 44.9	+0.5
	comp=Z,1.6nm,0.7s						
ARU	Arti	54.51	317	c iP	P	21 02 51.6	-1.0
ARU						21 03 53.2	
ARU						21 04 55.0	
ARU				S	S	21 10 25.9	0.0
ARU				SS	SS	21 14 07.6	-0.9
ARU				pmax	pmax		
	comp=Z,7.0nm,1.2s						
ARU	Arti	54.51	317	eP	P	21 02 51.4	-1.2
ARCES	ARCESS Array B	56.73	341	P	P	21 03 08.2	-0.1
ARCES	ARCESS Array B	56.73	341	P	P	21 03 08.2	-0.1
	comp=Z,2.4nm,0.9s,baz=18,slow=8.9,SNR=2.8						
ABKAR	Akbulak array	58.15	310	eP	P	21 03 18.2	-0.4
	comp=Z,2.3nm,0.5s						
SUMG	Summit	59.15	4	i P	P	21 03 26.3	+0.7
SUMG				pmax	pmax		
	comp=Z,5.0nm,0.9s						
SUMG	Summit	59.15	4	i P	P	21 03 26.3	+0.7
	comp=Z,4.9nm,0.9s						
JOF	Joensuu	60.38	334	eP	P	21 03 32.6	-1.1
JOF	Joensuu	60.38	334	ep	P	21 03 32.6	-1.1
FINES	FINESS Array B	63.06	335	P	P	21 03 51.0	-0.7
FINES	FINESS Array B	63.06	335	P	P	21 03 51.0	-0.7
	comp=Z,2.1nm,0.5s,baz=53,slow=8.5,SNR=12						
PDAR	Pinedale Array	63.16	55	P	P	21 03 53.6	+0.6
PDAR	Pinedale Array	63.16	55	P	P	21 03 53.6	+0.6
	comp=Z,1.3nm,0.8s,baz=333,slow=1.0,SNR=8.9						
OBN	Obninsk	64.57	326	eP	P	21 04 01.9	+0.2
OBN				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NB2	NORSAR Subarra	67.09	342	P	P	21 04 17.9	0.0
	comp=Z,0.4nm,0.5s,baz=25,slow=6.2						
NOA	NORSAR Array B	67.09	342	eP	P	21 04 17.9	0.0
NOA	NORSAR Array B	67.09	342	P	P	21 04 17.0	-0.9
NOA	NORSAR Array B	67.09	342	P	P	21 04 17.0	-0.9
	comp=Z,0.7nm,0.7s,baz=25,slow=6.2,SNR=5.0						
NOA				LR	LR	21 37 53.2	
	comp=Z,14nm,20.6s,baz=30,slow=40						
WRA	Warramunga Arr	70.22	200	P	P	21 04 37.2	-0.5
WRA	Warramunga Arr	70.22	200	P	P	21 04 37.2	-0.5
	comp=Z,0.9nm,0.7s,baz=14,slow=5.9,SNR=5.9						
AKASG	Malin Array Be	70.79	327	eP	P	21 04 40.0	-0.9
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AKASG	Malin Array Be	70.79	327	P	P	21 04 40.0	-0.9
AKASG	Malin Array Be	70.79	327	P	P	21 04 40.0	-0.9
	comp=Z,1.6nm,0.5s,baz=32,slow=6.2,SNR=6.7						
FITZ	Fitzroy Crossi	70.88	209	P	P	21 04 41.6	-0.2
FITZ	Fitzroy Crossi	70.88	209	P	P	21 04 41.6	-0.2
	comp=Z,1.0nm,0.7s						
ASAR	Alice Springs	73.91	200	P	P	21 05 00.3	+0.6
ASAR	Alice Springs	73.91	200	P	P	21 05 00.3	+0.6
	comp=Z,0.4nm,0.6s,baz=8.8,slow=6.3,SNR=7.2						
BUR08	Bucovina Ar. S	74.80	327	eP	P	21 05 04.8	-0.1
DPC	Dobruska-Polom	75.38	334	eP	P	21 05 09.1	+1.0
DPC	Dobruska-Polom	75.38	334	eP	P	21 05 09.1	+1.0
CLL	Collm	75.46	336	⇓iP	P	21 05 08.8	+0.3
CLL				pmax	pmax		
	comp=Z,7.0nm,0.8s						
CLL	Collm	75.46	336	⇓iP	P	21 05 08.8	+0.3
	comp=Z,7.0nm,0.8s						
KRLC	Kraliky	75.49	333	eP	P	21 05 09.5	+0.8
KRLC	Kraliky	75.49	333	eP	P	21 05 09.5	+0.8
TXAR	Lajitas Array	76.00	62	P	P	21 05 12.7	+0.6
TXAR	Lajitas Array	76.00	62	P	P	21 05 12.7	+0.6
	comp=Z,1.7nm,0.7s,baz=297,slow=4.2,SNR=16

GRR	Gorron	81.39	344	eP	P	21 05 41.6 +0.4
LOR	Lormes	81.48	340	eP	P	21 05 42.1 +0.4
	comp=Z,17nm,1.0s					
LOR				eR		
	comp=Z,43nm,20.5s					
LOR	Lormes	81.48	340	eP	P	21 05 42.1 +0.4
	comp=Z,17nm,1.0s					
SSF	Saint Saulge	81.75	340	eP	P	21 05 43.5 +0.4
	comp=Z,9.2nm,0.9s					
SSF	Saint Saulge	81.75	340	eP	P	21 05 43.5 +0.4
SSF				pmax	pmax	
	comp=Z,9.0nm,0.9s					
SSF	Saint Saulge	81.75	340	eP	P	21 05 43.5 +0.4
	comp=Z,9.2nm,0.9s					
SGMF	Saint Gilles	81.83	345	eP	P	21 05 44.0 +0.5
SGMF	Saint Gilles	81.83	345	eP	P	21 05 44.0 +0.5
SGMF	Saint Gilles	81.83	345	eP	P	21 05 44.0 +0.5
ROSF	Rostrenen	81.88	345	eP	P	21 05 44.4 +0.7
ROSF	Rostrenen	81.88	345	eP	P	21 05 44.4 +0.7
ROSF	Rostrenen	81.88	345	eP	P	21 05 44.4 +0.7
AVF	Avril sur Loir	82.04	340	eP	P	21 05 45.2 +0.6
	comp=Z,5.9nm,0.7s					
AVF	Avril sur Loir	82.04	340	eP	P	21 05 45.2 +0.6
AVF				pmax	pmax	
	comp=Z,6.0nm,0.7s					
AVF	Avril sur Loir	82.04	340	eP	P	21 05 45.2 +0.6
	comp=Z,5.9nm,0.7s					
SMF	Signal de Mont	82.07	340	eP	P	21 05 45.4 +0.6
	comp=Z,16nm,1.0s					
SMF	Signal de Mont	82.07	340	eP	P	21 05 45.4 +0.6
SMF				pmax	pmax	
	comp=Z,16nm,1.0s					
SMF	Signal de Mont	82.07	340	eP	P	21 05 45.4 +0.6
	comp=Z,16nm,1.0s					
QUIF	Quistinic	82.26	345	eP	P	21 05 46.5 +0.8
	comp=Z,60nm,1.2s					
QUIF	Quistinic	82.26	345	eP	P	21 05 46.5 +0.8
QUIF				pmax	pmax	
	comp=Z,60nm,1.2s					
QUIF	Quistinic	82.26	345	eP	P	21 05 46.5 +0.8
	comp=Z,60nm,1.2s					
BGF	Bois d'Agland	82.38	341	eP	P	21 05 46.7 +0.3
	comp=Z,13nm,0.9s					
BGF	Bois d'Agland	82.38	341	eP	P	21 05 46.7 +0.3
BGF				pmax	pmax	
	comp=Z,13nm,0.9s					
BGF	Bois d'Agland	82.38	341	eP	P	21 05 46.7 +0.3
	comp=Z,13nm,0.9s					
LPL	La Plagne	82.43	338	eP	P	21 05 48.2 +1.2
	comp=Z,23nm,1.1s					
LPL	La Plagne	82.43	338	eP	P	21 05 48.2 +1.2
LPL				pmax	pmax	
	comp=Z,23nm,1.1s					
LPL	La Plagne	82.43	338	eP	P	21 05 48.2 +1.2
	comp=Z,23nm,1.1s					
LPG	La Plagne	82.45	338	eP	P	21 05 48.4 +1.2
	comp=Z,13nm,0.8s					
LPG	La Plagne	82.45	338	eP	P	21 05 48.4 +1.2
LPG				pmax	pmax	
	comp=Z,13nm,0.8s					
LPG	La Plagne	82.45	338	eP	P	21 05 48.4 +1.2
	comp=Z,13nm,0.8s					
TCF	Toulx Ste Croi	82.77	341	eP	P	21 05 49.2 +0.7
	comp=Z,5.4nm,0.7s					
TCF	Toulx Ste Croi	82.77	341	eP	P	21 05 49.2 +0.7
TCF				pmax	pmax	
	comp=Z,5.0nm,0.7s					
TCF	Toulx Ste Croi	82.77	341	eP	P	21 05 49.2 +0.7
	comp=Z,5.4nm,0.7s					
MBDF	Montbardon	83.16	337	eP	P	21 05 51.3 +0.6
MBDF	Montbardon	83.16	337	eP	P	21 05 51.3 +0.6
MBDF	Montbardon	83.16	337	eP	P	21 05 51.3 +0.6
ORIF	Oris-en-Rattie	83.21	338	eP	P	21 05 50.9 0.0
	comp=Z,13nm,0.9s					
ORIF				eR		
	comp=Z,34nm,19.0s					
ORIF	Oris-en-Rattie	83.21	338	eP	P	21 05 50.9 0.0
ORIF				pmax	pmax	
	comp=Z,13nm,0.9s					
ORIF	Oris-en-Rattie	83.21	338	eP	P	21 05 50.9 0.0
	comp=Z,13nm,0.9s					
VIVF	Saint-Julien-l	83.56	339	eP	P	21 05 53.6 +1.0
VIVF	Saint-Julien-l	83.56	339	eP	P	21 05 53.6 +1.0
VIVF	Saint-Julien-l	83.56	339	eP	P	21 05 53.6 +1.0
RJF	Les Rejaudoux	83.86	341	eP	P	21 05 54.6 +0.5
	comp=Z,21nm,1.2s					
RJF				eR		
	comp=Z,46nm,17.0s					
RJF	Les Rejaudoux	83.86	341	eP	P	21 05 54.6 +0.5
RJF				pmax	pmax	
	comp=Z,21nm,1.2s					
RJF	Les Rejaudoux	83.86	341	eP	P	21 05 54.6 +0.5
	comp=Z,21nm,1.2s					
LFF	La Frestale	84.37	342	eP	P	21 05 57.5 +0.8
	comp=Z,6.0nm,0.5s					
LFF	La Frestale	84.37	342	eP	P	21 05 57.5 +0.8
LFF				pmax	pmax	
	comp=Z,6.0nm,0.5s					
LFF	La Frestale	84.37	342	eP	P	21 05 57.5 +0.8
	comp=Z,6.0nm,0.5s					
LASF	Ste Croix	84.49	339	eP	P	21 05 56.4 -0.9
	comp=Z,77nm,1.6s					
LASF	Ste Croix	84.49	339	eP	P	21 05 56.4 -0.9
	comp=Z,77nm,1.6s					
MTLF	Montolieu	85.57	340	eP	P	21 06 01.9 -0.8
MTLF	Montolieu	85.57	340	eP	P	21 06 01.9 -0.8
MTLF	Montolieu	85.57	340	eP	P	21 06 01.9 -0.8
ETSF	Etsaut	86.60	342	eP	P	21 06 09.3 +1.4
ETSF	Etsaut	86.60	342	eP	P	21 06 09.3 +1.4
ETSF	Etsaut	86.60	342	eP	P	21 06 09.3 +1.4

IDC 14 21:00:08.9±17.0, 22°74'S×174°94'W, h0km, mb4.1/5, mb1 4.3/5, mb1mx3.9/19, mbtmp4.1/5, Error ellipse: s-maj=330.9km s-min=150.6km az=82.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	36.16	267	P	P	21 07 13.7	+0.4
	1.1nm,0.2s,baz=93,slow=12,SNR=8.3						
STKA	Stephens Creek	39.47	247	P	P	21 07 41.2	+0.1
	1.1nm,0.6s,baz=101,slow=10,SNR=4.4						
ASAR	Alice Springs	46.82	258	P	P	21 08 40.5	-0.4
	0.7nm,0.4s,baz=100,slow=7.5,SNR=24						
WRA	Warramunga Arr	47.15	263	P	P	21 08 42.4	-1.0
	0.5nm,0.3s,baz=102,slow=8.1,SNR=72						
FITZ	Fitzroy Crossi	55.58	263	P	P	21 09 47.1	+0.5
	1.3nm,0.4s						

MAN 14 21:04:12, 13°64N×120°95E, h1km, mb4.2, ML3.0, MS2.7, 1C-2D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	Puerto Galera	0.14	180	⇓iP	Pg	21 04 15.4	+0.6
PGP				i S	Sg	21 04 17.6	+0.9
TGY	Tagaytay City	0.46	358	⇑eP	Pg	21 04 21.8	+0.9
LUBP	Lubang	0.69	278	eP	Pg	21 04 25.0	-0.3
LQP	Lukban	0.73	51	eP	Pg	21 04 26.0	-0.4
BOAC	Boac	0.89	102	eP	Pg	21 04 28.8	-0.2
SJMP	San Jose	1.19	172	eP	Pn	21 04 36.4	+0.7
GQP	Guinayangan	1.47	80	⇓eP	Pn	21 04 39.7	0.0
GQP				i S	Sn	21 05 00.0	+0.4
AUQP	San Andres	1.70	101	eP	Pb	21 04 43.5	-0.6
BUSP	Coron	1.79	204	eP	Pn	21 04 43.7	-0.4

ATH 14 21:59:12.9, 41°53N×20°44E, h5km, MD3.3/9
TIR 14 21:59:13.6, 41°42N×20°43E, h0km, ML2.3
SKO 14 21:59:14.3, 41°38N×20°41E, h15km, M3.1, ML3.5
ISCJB 14 21:59:14.7±0.3, 41°45N±0°01×20°47E±0°02, h2km±2km, mb3.6/3, Error ellipse: s-maj=2.9km s-min=1.8km az=146.1
IDC 14 21:59:14.6±1.1, 41°34N×20°57E, h0km, mb3.5/5, mb1 3.7/10, mb1mx3.6/29, mbtmp3.6/10, ML3.1/5, Error ellipse: s-maj=14.3km s-min=13.5km az=41.0
PDG 14 21:59:14.7±0.5, 41°39N×20°40E, h10km, MD3.5/3, ML3.4/12, Error ellipse: s-maj=0.7km s-min=0.8km az=0.0
THE 14 21:59:15.2, 41°46N×20°50E, h0km±3km, ML3.3/6, Error ellipse: s-maj=3.1km s-min=1.1km az=18.0
CSEM 14 21:59:15.4±0.1, 41°43N×20°43E, h2km, ML3.3/6, Error ellipse: s-maj=2.9km s-min=2.0km az=56.0
BEO 14 21:59:16.3±0.5, 41°42N×20°43E, h6km, 3km, ML3.1/9

ISC 14 21:59:15.1±1.1, 41°43N±0°01×20°42E±0°02, h1km±8km, n178, σ0°94/261, mb3.5/3, 42C-8D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHP	Peshkopia	0.26	3	i PG	Pg	21 59 20.2	+0.2
PHP				i SG	Sg	21 59 24.6	+1.2
PHP	Peshkopia	0.26	3	P	Pg	21 59 20.1	+0.1
PHP				S	Sg	21 59 23.2	-0.2
PHP	Peshkopia	0.26	3	i Pg	Pg	21 59 20.2	+0.2
PHP				S	Sg	21 59 23.2	-0.2
PHP				i Sg	Sg	21 59 24.6	+1.2
TIR	Tirane	0.43	259	i PG	Pg	21 59 22.8	-0.4
TIR				i SG	Sb	21 59 30.9	-1.5
TIR	Tirane	0.43	259	P	Pg	21 59 22.9	-0.4
TIR				S	Sb	21 59 31.7	-0.7
TIR	Tirane	0.43	259	ePg	Pg	21 59 23.5	+0.3
TIR				eSg	Sb	21 59 31.7	-0.7
TIR	Tirane	0.43	259	P	Pg	21 59 22.9	-0.4
TIR	Tirane	0.43	259	ePg	Pg	21 59 23.5	+0.3
TIR				S	Sb	21 59 31.7	-0.7
PUK	Puka	0.73	327	i PG	Pg	21 59 28.6	-0.5
PUK				i SG	Sb	21 59 40.3	-1.0
PUK	Puka	0.73	327	i Pg	Pg	21 59 28.6	-0.5
PUK				i Sg	Sb	21 59 40.3	-1.0
BIA	Bitola	0.79	121	P	Pg	21 59 28.8	-1.5
BIA				S	Sg	21 59 40.7	+0.1
BIA	Bitola	0.79	121	i Pg	Pg	21 59 29.3	-1.0
BIA				i Sg	Sg	21 59 41.2	+0.6
BIA	Bitola	0.79	121	P	Pg	21 59 28.8	-1.5
BIA				S	Sg	21 59 40.7	+0.1
KBN	Korca	0.85	161	i PG	Pg	21 59 31.1	-0.2
KBN				i SG	Sb	21 59 44.4	-0.2
KBN	Korca	0.85	161	P	Pg	21 59 30.9	-0.5
KBN				S	Sb	21 59 44.8	+0.2
KBN	Korca	0.85	161	i Pg	Pg	21 59 31.1	-0.2
KBN				i Sg	Sb	21 59 44.4	-0.2
SKO	Skopje	0.94	54	P	Pg	21 59 32.5	-0.6
SKO				S	Sg	21 59 46.1	+0.9
SKO	Skopje	0.94	54	ePg	Pg	21 59 33.1	0.0
SKO				eSg	Sb	21 59 46.4	-0.7
SKO	Skopje	0.94	54	i Pg	Pb	21 59 34.0	-0.2
SKO				i Sg	Sb	21 59 47.5	+0.4
SKO				i Lg	Lg	21 59 49.7	
	comp=E,1μm,0.8s						
SKO				i Lg	Lg	21 59 51.9	
	comp=N,2μm,0.5s						
SKO	Skopje	0.94	54	P	Pg	21 59 32.5	-0.6
SKO	Skopje	0.94	54	i Pg	Pg	21 59 32.9	-0.2
SKO				S	Sg	21 59 46.1	+0.9
SKO				i Lg	Lg	21 59 50.8	
	comp=N,2μm,0.5s						
FNA	Florina	0.97	131	P	Pg	21 59 32.5	-1.1
FNA				S	Sg	21 59 46.6	+0.5
FNA	Florina	0.97	131	ePB	Pg	21 59 32.7	-0.9
FNA				eSB	Sg	21 59 46.8	+0.7
FNA	Florina	0.97	131	ePg	Pg	21 59 32.7	-0.9
FNA				S	Sg	21 59 46.6	+0.5
BCI	Bajram Curri	0.97	344	i PG	Pg	21 59 33.1	-0.7
BCI				i SG	Sb	21 59 48.2	-0.1
BCI	Bajram Curri	0.97	344	i Pg	Pg	21 59 33.1	-0.7
BCI				i Sg	Sb	21 59 48.2	-0.1
ULC	Ulcinj	1.03	302	⇑iPg	Pg	21 59 33.5	-1.3
ULC				eSg	Sb	21 59 50.2	+0.3
ULC	Ulcinj	1.03	302	⇑iPg	Pg	21 59 33.5	-1.3
ULC				eSg	Sb	21 59 50.2	+0.3
NEST	Nestorio	1.12	155	P	Pg	21 59 35.8	-0.7
NEST				S	Sb	21 59 52.6	+0.2
NEST	Nestorio	1.12	155	P	Pg	21 59 35.8	-0.7
NEST				S	Sb	21 59 52.6	+0.2
DRME	Dracevica, Mon	1.20	310	⇓iPg	Pg	21 59 36.9	-1.1
DRME				eSg	Sn	21 59 55.8	-0.1
DRME	Dracevica, Mon	1.20	310	⇓iPg	Pg	21 59 36.9	-1.1
DRME				eSg	Sn	21 59 55.8	-0.1
PVY	Plav	1.22	344	⇑iPg	Pg	21 59 37.1	-1.3
PVY				eSg	Sn	21 59 56.8	+0.2
PVY	Plav	1.22	344	⇑iPg	Pg	21 59 37.1	-1.3
PVY				eSg	Sn	21 59 56.8	+0.2
PDG	Podgorica	1.33	319	P	Pg	21 59 39.0	-1.5
PDG	Podgorica	1.33	319	ePg	Pg	21 59 39.7	-0.8
PDG				eSg	Sn	22 00 00.1	+1.0
PDG	Podgorica	1.33	319	P	Pg	21 59 39.0	-1.5
PDG	Podgorica	1.33	319	ePg	Pg	21 59 39.7	-0.8
PDG				eSg	Sn	22 00 00.1	+1.0
TTG	Podgorica	1.33	319	⇑iPg	Pg	21 59 39.5	-1.0
TTG				eSg	Sn	22 00 01.0	+1.9
BUM	Brajici-Budva	1.44	308	⇑iPg	Pn	21 59 41.0	-1.4
BUM				eSg	Sn	22 00 03.0	+1.1
BUM	Brajici-Budva	1.44	308	⇑iPg	Pn	21 59 41.0	-1.4
BUM				eSg	Sn	22 00 03.0	+1.1
BEY	Berane	1.50	345	ePg	Pn	21 59 43.4	+0.2
BEY				eSg	Sn	22 00 05.4	+1.9
IVA	Berane	1.50	345	ePg	Pn	21 59 43.4	+0.2
IVA				eSg	Sn	22 00 05.4	+1.9
KZN	Kozani	1.52	137	P	Pn	21 59 43.1	-0.4
KZN				S	Sg	22 00 04.6	+0.8
KZN	Kozani	1.52	137	ePB	Pn	21 59 43.3	-0.2
KZN				eSB	Sg	22 00 05.2	+1.4
KZN	Kozani	1.52	137	P	Pn	21 59 43.1	-0.4
KZN				S	Sg	22 00 04.6	+0.8
SRN	Sarande	1.58	192	ePG	Pg	21 59 46.6	+1.3
SRN	Sarande	1.58	192	P	Pg	21 59 45.4	+0.1
SRN				S	Sg	22 00 07.0	+1.2
SRN	Sarande	1.58	192	P	Pg	21 59 45.4	+0.1
SRN	Sarande	1.58	192	ePg	Pg	21 59 46.6	+1.3
SRN				S	Sg	22 00 07.0	+1.2
VAY	Valandovo	1.62	93	P	Pn	21 59 43.0	-1.8
VAY	Valandovo	1.62	93	i Pn	Pn	21 59 43.9	-0.9
VAY				i Lg	Lg	22 00 01.6	
	comp=E,349nm,0.8s						
VAY				eSn	Sn	22 00 02.0	-4.4
VAY				i Lg	Lg	22 00 10.4	
	comp=N,400nm,0.6s						
VAY	Valandovo	1.62	93	P	Pn	21 59 43.0	-1.8
VAY	Valandovo	1.62	93	i Pn	Pn	21 59 43.3	-1.5
VAY				eSn	Sn	22 00 05.4	-1.0
VAY				i Lg	Lg	22 00 09.8	
	comp=N,400nm,0.6s						
NKME	Niksic	1.73	321	⇑iPn	Pn	21 59 45.8	-0.6
NKME				eSn	Sg	22 00 10.5	-0.1
NKME	Niksic	1.73	321	⇑iPn	Pn	21 59 45.8	-0.6
NKME				eSn	Sg	22 00 10.5	-0.1
BARS	Barje	1.73	36	ePn	Pb	21 59 47.7	0.0
BARS				eSg	Sg	22 00 12.0	+1.2
BARS	Barje	1.73	36	ePn	Pb	21 59 47.7	0.0
BARS				eSg	Sg	22 00 12.0	+1.2
NKY	Niksic	1.75	323	⇑iPn	Pn	21 59 46.6	-0.1
NKY				eSn	Sg	22 00 11.5	+0.3
NKY	Niksic	1.75	323	⇑iPn	Pn	21 59 46.6	-0.1
NKY				eSn	Sg	22 00 11.5	+0.3
HCY	Herceg Novi	1.76	306	⇑iPn	Pn	21 59 46.7	-0.1
HCY				eSn	Sb	22 00 11.3	+0.4
HCY	Herceg Novi	1.76	306	⇑iPn	Pn	21 59 46.7	-0.1
KEK	Kerkira	1.78	196	P	Pn	21 59 47.4	+0.4
KEK				S	Sg	22 00 11.8	-0.3
KEK	Kerkira	1.78	196	ePG	Pn	21 59 47.6	+0.6
KEK				eSN	Sg	22 00 14.9	+2.8
KEK	Kerkira	1.78	196	ePn	Pn	21 59 47.6	+0.6
KEK				S	Sg	22 00 11.8	-0.3
JAN	Janina	1.80	169	P	Pb	21 59 49.1	+0.2
JAN				S	Sb	22 00 11.7	-0.2
JAN	Janina	1.80	169	ePN	Pg	21 59 49.7	+0.1
JAN	Janina	1.80	169	P	Pb	21 59 49.1	+0.2
JAN	Janina	1.80	169	ePg	Pg	21 59 49.7	+0.1
JAN				S	Sb	22 00 11.7	-0.2
SJES	Sjenica	1.86	350	eSg	Sg	22 00 15.0	+0.1
SELS	Selova	1.86	16	ePn	Pn	21 59 47.6	-0.6
KNT	Kendrikon	1.89	97	P	Pn	21 59 48.3	-0.2
KNT	Kendrikon	1.89	97	P	Pn	21 59 48.3	-0.2
IGT	Igoumenitsa	1.89	182	P	Pb	21 59 49.8	-0.7
IGT				S	Sb	22 00 14.4	-0.2
IGT	Igoumenitsa	1.89	182	P	Pb	21 59 49.8	-0.7
IGT				S	Sb	22 00 14.4	-0.2
BRY	Bratogost	2.03	317	ePn	Pn	21 59 50.9	+0.3
BRY				eSn	Sb	22 00 18.7	-0.1
BRY	Bratogost	2.03	317	ePn	Pn	21 59 50.9	+0.3
BRY				eSn	Sb	22 00 18.7	-0.1
PLE	Pljevlja	2.05	338	⇑iPn	Pn	21 59 51.2	+0.3
PLE				eSn	Sn	22 00 18.2	+1.0
PLE	Pljevlja	2.05	338	⇑iPn	Pn	21 59 51.2	+0.3
PLE				eSn	Sn	22 00 18.2	+1.0
UPM	Unac-Piva	2.10	328	⇑iPn	Pn	21 59 52.8	+1.2
UPM				eSn	Sb	22 00 20.5	-0.3
UPM	Unac-Piva	2.10	328	⇑iPn	Pn	21 59 52.8	+1.2
UPM				eSn	Sb	22 00 20.5	-0.3
IVAS	Ivanjica	2.16	355	ePn	Pn	21 59 53.4	+1.1
IVAS	Ivanjica	2.16	355	ePn	Pn	21 59 53.4	+1.1
HORT	Hortiatis	2.19	111	P	Pn	21 59 52.4	-0.3
HORT	Hortiatis	2.19	111	P	Pn	21 59 52.4	-0.3
THL	Klokotos Trika	2.22	146	P	Pn	21 59 53.5	+0.4
THL	Klokotos Trika	2.22	146	ePN	Pn	21 59 53.6	+0.4
THL	Klokotos Trika	2.22	146	P	Pn	21 59 53.5	+0.4
SOH	Sokhos	2.30	104	P	Pn	21 59 54.3	+0.1
SOH	Sokhos	2.30	104	ePN	Pn	21 59 54.9	+0.7
SOH	Sokhos	2.30	104	P	Pn	21 59 54.3	+0.1
SOH	Sokhos	2.30	104	ePn	Pn	21 59 54.9	+0.7
VTS	Vitosha	2.38	60	⇑iP	Pn	21 59 56.2	+0.8
VTS	Vitosha	2.38	60	⇑iP	Pn	21 59 56.2	+0.8
SRS	Serrai	2.41	96	P	Pn	21 59 55.6	-0.1
SRS	Serrai	2.41	96	P	Pn	21 59 55.6	-0.1
GRUS	Gruza	2.47	5	ePn	Pn	21 59 57.2	+0.7
GRUS	Gruza	2.47	5	ePn	Pn	21 59 57.2	+0.7
ZAPS	Zavoj	2.47	41	ePn	Pn	21 59 57.2	+0.7
ZAPS	Zavoj	2.47	41	ePn	Pn	21 59 57.2	+0.7
STON	Ston	2.48	306	ePn	Pn	21 59 57.4	+0.7
STON				Sn	Sb	22 00 30.5	-1.2
PLG	Polygyros	2.52	114	P	Pn	21 59 57.2	-0.1
PLG	Polygyros	2.52	114	ePN	Pn	21 59 57.2	-0.1
PLG	Polygyros	2.52	114	P	Pn	21 59 57.2	-0.1
BBLS	Lazići	2.55	343	ePn	Pn	21 59 59.3	+1.6
BBLS	Lazići	2.55	343	ePn	Pn	21 59 59.3	+1.6
NVR	Nevrokopi	2.59	91	P	Pn	21 59 58.3	+0.1
NVR	Nevrokopi	2.59	91	ePN	Pn	21 59 59.0	+0.8
NVR	Nevrokopi	2.59	91	P	Pn	21 59 58.3	+0.1
NVR	Nevrokopi	2.59	91	ePn	Pn	21 59 59.0	+0.8
DIVS	Divibare	2.69	353	ePn	Pn	21 59 59.4	-0.2
DIVS	Divibare	2.69	353	ePn	Pn	21 59 59.4	-0.2
EVR	Evrytania	2.72	157	ePG	Pb	22 00 03.4	-1.3
EVR	Evrytania	2.72	157	ePb	Pb	22 00 03.4	-1.3
AGG	Agios Georgios	2.81	148	ePB	Pn	22 00 01.6	+0.3
AGG	Agios Georgios	2.81	148	ePn	Pn	22 00 01.6	+0.3
PAIG	Paliouri	2.90	120	P	Pn	22 00 02.0	-0.4
PAIG	Paliouri	2.90	120	ePB	Pn	22 00 02.2	-0.2
PAIG	Paliouri	2.90	120	ePn	Pn	22 00 02.2	-0.2
TEKS	Tekeris	3.19	348	ePn	Pn	22 00 07.9	+1.5
TEKS	Tekeris	3.19	348	ePn	Pn	22 00 07.9	+1.5
VLS	Valsamata	3.25	178	ePN	Pn	22 00 06.8	-0.4
VLS	Valsamata	3.25	178	ePn	Pn	22 00 06.8	-0.4
FGSL	Fruska Gora	3.75	353	ePn	Pn	22 00 14.7	+0.5
FRGS	Fruska Gora	3.75	353	ePn	Pn	22 00 14.7	+0.5
BZS	Buzias	4.28	11	⇑iP	Pn	22 00 20.6	-0.7
BZS	Buzias	4.28	11	⇑iP	Pn	22 00 20.6	-0.7
GZR	Gura Zlata	4.32	23	⇑iP	Pn	22 00 22.3	+0.3
GZR	Gura Zlata	4.32	23	⇑iP	Pn	22 00 22.3	+0.3
UDBI	Udbina	4.61	314	ePn	Pn	22 00 27.5	+1.5
UDBI				Sn	Sn	22 01 21.9	+1.6
LOT	Lotru	4.70	30	⇑iP	Pn	22 00 27.1	-0.2
LOT	Lotru	4.70	30	⇑iP	Pn	22 00 27.1	-0.2
PKSM	Moragy	4.95	346	⇑iP	Pn	22 00 31.4	+0.8
PKSM	Moragy	4.95	346	⇓e	Pn	22 00 31.5	+0.8
PKSM				e		22 01 29.1	
PKSM	Moragy	4.95	346	⇓eP	Pn	22 00 31.5	+0.8
PKSM				eS	Sn	22 01 29.1	+0.6
ARR	Arges	4.99	37	⇑iP	Pn	22 00 31.6	+0.3
ARR	Arges	4.99	37	⇑iP	Pn	22 00 31.6	+0.3
NVLJ	Novalja	5.14	309	ePn	Pn	22 00 32.8	-0.3
NVLJ				Sn	Sn	22 01 32.6	-0.4
BOJS	Bojanci	5.54	319	i Pn	Pn	22 00 40.1	+1.3
BOJS				i Sn	Sn	22 01 42.7	-0.4
BOJS	Bojanci	5.54	319	i Pn	Pn	22 00 40.1	+1.3
BOJS				i Sn	Sn	22 01 42.7	-0.4
MLR	Muntele Rosu	5.71	43	⇑iP	Pn	22 00 41.8	+0.6
MLR	Muntele Rosu	5.71	43	Pn	Pn	22 00 42.2	+1.0
	comp=N,0.2nm,0.3s,baz=221,slow=14,SNR=18						
MLR				Sn	Sn	22 01 47.2	-0.3
	baz=315,slow=20,SNR=2.2						
MLR	Muntele Rosu	5.71	43	⇑iP	Pn	22 00 41.8	+0.6
VISS	Visnje	5.96	319	i Pn	Pn	22 00 45.9	+1.4
VISS				i Sn	Sn	22 01 54.1	+0.8
VISS	Visnje	5.96	319	i Pn	Pn	22 00 45.9	+1.4
VISS				i Sn	Sn	22 01 54.2	+0.8
PDKS	Podkum	6.07	322	i Pn	Pn	22 00 47.1	+1.0
PDKS				i Sn	Sn	22 01 55.5	-0.7
PDKS	Podkum	6.07	322	i Pn	Pn	22 00 47.1	+1.0
PDKS				i Sn	Sn	22 01 55.5	-0.7
PLOR	Plostina	6.32	44	⇓iP	Pn	22 00 49.9	+0.4
PLOR	Plostina	6.32	44	⇓iP	Pn	22 00 49.9	+0.4
VRI	Vrincioaia	6.37	44	⇑iP	Pn	22 00 51.2	+1.1
VRI	Vrincioaia	6.37	44	⇑iP	Pn	22 00 51.2	+1.1
JAVS	Javornik	6.42	316	i Pn	Pn	22 00 51.5	+0.7
JAVS				i Sn	Sn	22 02 04.2	-0.5
JAVS	Javornik	6.42	316	i Pn	Pn	22 00 51.5	+0.7
JAVS				i Sn	Sn	22 02 04.2	-0.5
TLB	Topalu	6.42	58	⇑iP	Pn	22 00 51.5	+0.8
TLB	Topalu	6.42	58	⇑iP	Pn	22 00 51.5	+0.8
PSZ	Piszkesteto	6.50	357	⇑iP	Pn	22 00 51.0	-1.0
PSZ	Piszkesteto	6.50	357	⇑iP	Pn	22 00 51.0	-1.

BESP eS **Sb** **22 10 15.0 +0.3**
PLP Palo 1.93 283‖ eP **Pn** **22 09 54.9 -0.7**
PLP i S **Sn** **22 10 18.1 -1.2**
MSLP Maasin 2.08 254 eP **Pn** **22 09 58.8 +1.1**
OCLP Ormoc 2.27 279 eP **Pb** **22 10 04.4 +0.3**
CGP Cagayan de Oro 3.12 224 i P **Pn** **22 10 13.7 +1.7**
CGP eS **Sn** **22 10 48.8 +0.1**
TBP Tagbilaran 3.15 251 eP **Pn** **22 10 15.3 +2.9**
DAV Davao City (W) 3.85 200 ePn Pn 22 10 17.0 -5.1
RCP Roxas 4.15 282‖ eP Pn 22 10 30.5 +4.3
GUIM Jordan 4.23 269 eP **Pn** **22 10 29.1 +1.9**
PALU Palau 8.21 113 P Sn 22 12 46.7 -7.4
baz=7.6,SNR=5.8
MTN Manton Dam 23.78 170 P **P** **22 14 35.5 +0.1**
baz=19,SNR=6.0
KDU Kakadu 23.90 166 P **P** **22 14 36.3 -0.2**
baz=19,SNR=11
KSAR Wonju Array Be 26.62 2 P **P** **22 15 03.4 +2.3**
KSRS Korea Array 26.64 2 P **P** **22 15 03.4 +2.2**
0.8nm,0.7s,baz=181,slow=11,SNR=3.7
KSRS LR LR 22 24 49.3
comp=Z,38nm,18.9s,baz=350,slow=35
CMAR Chiang Mai Arr 28.09 289 P **P** **22 15 13.0 -1.5**
CMAR Chiang Mai Arr 28.09 289 P **P** **22 15 13.0 -1.5**
1.8nm,0.3s,baz=92,slow=8.3,SNR=4.2
FITZ Fitzroy Crossi 28.66 182 eP **P** **22 15 18.1 -1.4**
2.8nm,0.8s
FITZ PcP **PcP** **22 18 30.4 +0.2**
FITZ Fitzroy Crossi 28.66 182 P **P** **22 15 19.1 -0.4**
1.4nm,0.5s,baz=351,slow=8.3,SNR=11
FITZ PcP **PcP** **22 18 30.4 +0.2**
1.1nm,0.5s,baz=23,slow=5.5,SNR=3.8
FITZ Fitzroy Crossi 28.66 182 P **P** **22 15 19.5 0.0**
baz=24,SNR=6.5
WRAB Tennant Creek 31.33 166 eP **P** **22 15 42.4 -0.8**
1.7nm,0.7s
WRA Warramunga Arr 31.34 166 P **P** **22 15 42.1 -1.1**
WRA PcP **PcP** **22 18 37.2 +0.1**
WRA Warramunga Arr 31.34 166 P **P** **22 15 42.1 -1.1**
1.3nm,0.9s,baz=348,slow=9.1,SNR=6.0
WRA PcP **PcP** **22 18 37.2 +0.1**
0.8nm,0.6s,baz=340,slow=2.9,SNR=5.2
USRK Ussuriysk Arra 33.65 7 P P 22 16 06.7 +3.5
1.5nm,0.6s,baz=198,slow=8.8,SNR=3.4
ASAR Alice Springs 34.85 169 P **P** **22 16 13.4 -0.5**
ASAR PcP **PcP** **22 18 47.0 +0.1**
ASAR Alice Springs 34.85 169 P **P** **22 16 13.4 -0.5**
0.6nm,0.4s,baz=351,slow=6.5,SNR=15
ASAR PcP **PcP** **22 18 47.0 +0.1**
0.8nm,0.5s,baz=347,slow=3.0,SNR=7.9
ASAJ Asahikawa 35.94 19 LR LR 22 28 58.3
comp=Z,44nm,20.0s,baz=161,slow=32
MEEK Meekatharra 37.99 192 P **P** **22 16 40.4 -0.3**
baz=33,SNR=4.1
ULN Ulaanbaatar 40.62 339 eP **P** **22 17 03.3 +0.8**
1.5nm,0.9s
SONM Songino Array 40.82 339 P **P** **22 17 05.2 +1.0**
SONM Songino Array 40.82 339 P **P** **22 17 05.2 +1.0**
0.2nm,0.4s,baz=153,slow=11,SNR=3.0
MORW Morawa 40.92 195 P **P** **22 17 05.8 +0.8**
baz=36,SNR=5.4
FORT Forrest 41.27 178 P **P** **22 17 08.5 +0.6**
baz=37,SNR=10
BBOO Buckleboo 44.16 169 P **P** **22 17 32.0 +0.6**
baz=40,SNR=12
NWAO Narrogin (SRO) 44.37 192 eP **P** **22 17 31.6 -1.4**
48nm,1.4s
STKA Stephens Creek 44.63 162 eP **P** **22 17 35.0 -0.2**
0.6nm,0.4s
STKA Stephens Creek 44.63 162 P **P** **22 17 35.2 0.0**
3.3nm,0.5s,baz=339,slow=10,SNR=9.2
STKA Stephens Creek 44.63 162 P **P** **22 17 35.5 +0.3**
baz=40,SNR=7.7
ARPS Mount Arapiles 49.28 164 P **P** **22 18 12.5 +1.1**
baz=45,SNR=5.6
MK31 Makanchi Array 52.05 322 eP **P** **22 18 32.3 0.0**
MKAR Makanchi Array 52.05 322 P **P** **22 18 33.3 +1.0**
MKAR Makanchi Array 52.05 322 P **P** **22 18 33.3 +1.0**
2.5nm,0.6s,baz=117,slow=8.4,SNR=33
ZALV Zalesovo Beam 54.53 331 P **P** **22 18 50.5 +0.1**
ZALV Zalesovo Beam 54.53 331 P **P** **22 18 50.5 +0.1**
0.9nm,0.5s,baz=110,slow=8.1,SNR=5.6
AAK Ala-Archa 55.44 315 eP **P** **22 18 56.6 -0.8**
KKAR Karatay Array 58.38 314 eP **P** **22 19 17.7 -0.3**
0.9nm,0.6s
ABKAR Abkulak array 66.94 319 eP **P** **22 20 14.0 -1.0**
1.0nm,0.6s
AKTO Aktyubinsk 68.37 320 P **P** **22 20 24.2 +0.2**
AKTO Aktyubinsk 68.37 320 P **P** **22 20 24.2 +0.2**
1.1nm,0.7s,baz=97,slow=12,SNR=4.8
CASY Casey 77.73 187 eP **P** **22 21 18.4 -0.5**
5.8nm,0.9s
CASY ePP **PP** **22 24 11.7 -2.9**
ARCES ARCESS Array B 83.99 340 P **P** **22 21 52.9 +0.4**
ARCES ARCESS Array B 83.99 340 P **P** **22 21 52.9 +0.4**
2.5nm,0.9s,baz=88,slow=6.4,SNR=4.1
BRTR Keskin Array B 85.72 309 P **P** **22 22 01.5 -0.5**
BRTR Keskin Array B 85.72 309 P **P** **22 22 01.5 -0.5**
1.2nm,0.8s,baz=98,slow=4.5,SNR=7.6
FINES FINESS Array B 85.79 332 P **P** **22 22 01.7 +0.1**
FINES FINESS Array B 85.79 332 P **P** **22 22 01.7 +0.1**
1.5nm,0.7s,baz=84,slow=5.9,SNR=5.3
AKASG Malin Array Be 86.61 321 P **P** **22 22 05.4 -0.5**
AKASG Malin Array Be 86.61 321 P **P** **22 22 05.4 -0.5**
0.5nm,0.4s,baz=74,slow=2.7,SNR=6.2
BUR08 Bucovina Ar. S 89.92 319 eP **P** **22 22 22.1 +0.2**
VNDA Vanda 90.30 173 eP **P** **22 22 22.8 0.0**
0.8nm,0.8s
VNDA Vanda 90.30 173 P **P** **22 22 23.2 +0.5**
0.7nm,0.5s,baz=325,slow=5.1,SNR=12
IDI Anoyia 93.49 307 LR LR 23 07 46.9
comp=Z,711nm,19.1s,baz=261,slow=38
TORD Torodi Ar. Bea 120.67 292 PKP **PKPdf** **22 28 14.8 -0.6**
TORD Torodi Ar. Bea 120.67 292 PKP **PKPdf** **22 28 14.8 -0.6**
0.3nm,0.7s,baz=63,slow=2.2,SNR=5.3

*IDC **14** 22:16:24.3±1.1,9°.78S×155°.11E,h0km,mb4.0/10, mb1 4.2/11,mb1mx4.0/18,mbtmp4.0/11,ML3.6/1,MS3.3/7, Ms1 3.4/7,ms1mx3.2/18,Error ellipse: s-maj=34.3km s-min=19.5km az=111.0*
*ISCJB **14** 22:16:27.2±0.6,9°.83S±0°.07×155°.1E±0°.1,h33km, mb4.0/14,MS3.5/4,Error ellipse: s-maj=16.1km s-min=10.5km az=6.0*
*NEIC **14** 22:16:29.1±0.4,9°.86S×155°.14E,h35km,mb4.2/6,Error ellipse: s-maj=11.4km s-min=7.5km az=96.0*
ISC 14 22:16:29.1±0.7,9°.9S±0°.1×155°.2E±0°.1,h35km,n35, σ0°75/32,mb4.1/14,MS3.5/4,D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.75**	**85**	LR	LR	22 19 12.3	
	comp=Z,113nm,21.8s,baz=118,slow=35						
PMG	**Port Moresby**	**7.89**	**273**	LR	LR	22 20 03.3	
	comp=Z,38nm,21.8s,baz=85,slow=28						
CTA	**Charters Tower**	**13.32**	**219**	LR	LR	22 23 46.9	
	comp=Z,250nm,19.4s,baz=115,slow=33						
EIDS	**Eidsvold**	**15.91**	**194**	ePn	**Pn**	**22 20 10.0**	**-0.5**
	17nm,1.0s						
DZM	**Mont Dzumac**	**16.28**	**140**	ePn	**Pn**	**22 20 14.9**	**-0.4**
DZM	**Mont Dzumac**	**16.28**	**140**	Pn	**Pn**	**22 20 14.6**	**-0.7**
	0.2nm,0.3s,baz=299,slow=18,SNR=2.8						
WRAB	**Tennant Creek**	**22.44**	**241**	eP	**P**	**22 21 25.1**	**0.0**
	6.3nm,0.9s						
WRA	**Warramunga Arr**	**22.45**	**241**	P	**P**	**22 21 24.6**	**-0.8**
WRA	**Warramunga Arr**	**22.45**	**241**	P	**P**	**22 21 24.6**	**-0.8**
	3.5nm,0.9s,baz=65,slow=10,SNR=13						
AS31	**Alice Springs**	**24.50**	**233**	eP	**P**	**22 21 44.9**	**-0.5**
ASAR	**Alice Springs**	**24.50**	**233**	P	**P**	**22 21 45.4**	**0.0**
ASAR	**Alice Springs**	**24.50**	**233**	P	**P**	**22 21 45.4**	**0.0**
	2.9nm,0.8s,baz=64,slow=8.8,SNR=21						
ASAR				LR	LR	22 31 18.7	
	comp=Z,99nm,21.0s,baz=63,slow=36						
STKA	**Stephens Creek**	**25.27**	**208**	eP	**P**	**22 21 53.0**	**+0.9**
	1.3nm,0.6s						
STKA	**Stephens Creek**	**25.27**	**208**	P	**P**	**22 21 53.6**	**+1.5**
	7.6nm,0.6s,baz=42,slow=14,SNR=21						
STKA				LR	LR	22 32 13.1	
	comp=Z,198nm,19.3s,baz=281,slow=38						
FITZ	**Fitzroy Crossi**	**29.76**	**251**	P	**P**	**22 22 32.0**	**-0.6**
FITZ	**Fitzroy Crossi**	**29.76**	**251**	P	**P**	**22 22 32.0**	**-0.6**
	1.3nm,0.7s,baz=103,slow=8.7,SNR=5.8						
FITZ				LR	LR	22 34 07.6	
	comp=Z,82nm,21.3s,baz=60,slow=36						

MJAR	**Matsushiro Arr**	**48.82**	**342**	P	**P**	**22 25 09.6 -1.4**
MJAR	**Matsushiro Arr**	**48.82**	**342**	P	**P**	**22 25 09.6 -1.4**
	1.1nm,0.7s,baz=186,slow=7.3,SNR=4.8					
ASAJ	**Asahikawa**	**54.90**	**349**	eP	**P**	**22 25 56.2 0.0**
CMAR	**Chiang Mai Arr**	**62.17**	**297**	P	**P**	**22 26 47.9 +0.5**
CMAR	**Chiang Mai Arr**	**62.17**	**297**	P	**P**	**22 26 47.9 +0.5**
	0.5nm,0.3s,baz=126,slow=5.8,SNR=5.9					
CHTO	**Chiang Mai**	**62.31**	**297**	eP	**P**	**22 26 47.7 -0.7**
	2.7nm,1.1s					
ULN	**Ulaanbaatar**	**71.49**	**328**	eP	**P**	**22 27 45.7 -0.7**
	6.9nm,1.5s					
SONM	**Songino Array**	**71.81**	**328**	P	**P**	**22 27 49.4 +1.1**
SONM	**Songino Array**	**71.81**	**328**	P	**P**	**22 27 49.4 +1.1**
	1.5nm,0.8s,baz=132,slow=4.5,SNR=8.2					
MK31	**Makanchi Array**	**85.64**	**319**	eP	**P**	**22 29 04.3 +0.2**
MKAR	**Makanchi Array**	**85.64**	**319**	P	**P**	**22 29 05.0 +0.8**
MKAR	**Makanchi Array**	**85.64**	**319**	P	**P**	**22 29 05.0 +0.8**
	0.8nm,0.7s,baz=94,slow=7.1,SNR=8.9					
ILAR	**Eielson Array**	**85.95**	**21**	P	**P**	**22 29 05.9 +0.6**
ILAR	**Eielson Array**	**85.95**	**21**	P	**P**	**22 29 05.9 +0.6**
	0.3nm,0.7s,baz=232,slow=5.6,SNR=3.0					
ILAR				LR	LR	23 00 56.9
	comp=Z,54nm,21.2s,baz=157,slow=31					
ZALV	**Zalesovo Beam**	**86.62**	**326**	P	**P**	**22 29 08.6 -0.2**
ZALV	**Zalesovo Beam**	**86.62**	**326**	P	**P**	**22 29 08.6 -0.2**
	0.6nm,0.5s,baz=116,slow=6.6,SNR=3.8					
AAK	**Ala-Archa**	**89.81**	**313**	eP	**P**	**22 29 24.8 +0.3**
	0.7nm,0.4s					
TORD	**Torodi Ar. Bea**	**153.79**	**280**	PKPbc	**PKPbc**	**22 36 26.0 +0.4**
TORD	**Torodi Ar. Bea**	**153.79**	**280**	PKPbc	**PKPbc**	**22 36 26.0 +0.4**
	0.4nm,0.7s,baz=97,slow=1.8,SNR=3.2					

*ISCJB **14** 22:17:27.6±0.7,21°.78S±0°.04×68°.2W±0°.1,h115km±9km, mb3.9/6,Error ellipse: s-maj=15.8km s-min=6.0km az=11.8*
*IDC **14** 22:17:28.6±2.4,21°.78S×68°.16W,h107km±20km,mb3.7/6, mb1 3.8/9,mb1mx3.6/18,mbtmp3.7/9,Error ellipse: s-maj=27.1km s-min=18.5km az=85.0*
*GUC **14** 22:17:29.7±0.4,21°.72S×68°.60W,h136km±3km,ML4.0*
ISC 14 22:17:29.8±1.2,21°.74S±0°.05×68°.4W±0°.1,h121km±11km, n25,σ0°76/30,mb4.0/6,7C,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**Plate Boundary**	**0.80**	**266**⇑	iP	**Pn**	**22 17 50.8**	**+0.5**
PB09				i S	**Sn**	**22 18 06.4**	**+0.7**
PB09				AML	AML	22 18 08.0	
	comp=N,7μm,0.4s						
PB04	**Plate Boundary**	**1.15**	**243**⇑	iP	Pn	22 17 60.0	+6.6
PB04				i S	Sn	22 18 22.7	+11
PB04				AML	AML	22 18 25.6	
	comp=N,1μm,0.2s						
PB01	**Plate Boundary**	**1.24**	**304**⇑	iP	**Pn**	**22 17 54.4**	**-0.1**
PB01				i S	**Sn**	**22 18 13.0**	**-0.2**
PB01				AML	AML	22 18 16.9	
	comp=N,1μm,0.1s						
MACH	**Maria Elena**	**1.35**	**250**⇑	iP	**Pn**	**22 17 55.7**	**-0.1**
MACH				i S	**Sn**	**22 18 15.6**	**-0.1**
PB07	**Plate Boundary**	**1.40**	**270**⇑	iP	**Pn**	**22 17 56.0**	**-0.2**
PB07				i S	**Sn**	**22 18 15.7**	**-0.7**
PB07				AML	AML	22 18 17.4	
	comp=N,3μm,0.1s						
HMBC	**Humberstone**	**2.02**	**316**	eP	**Pn**	**22 18 03.2**	**-0.5**
HMBC				i S	**Sn**	**22 18 28.9**	**-0.7**
HMBC				AML	AML	22 18 31.4	
	comp=N,935nm,0.5s						
PB10	**Plate Boundary**	**2.67**	**228**	eP	**Pn**	**22 18 11.7**	**-0.1**
PB10				i S	**Sn**	**22 18 43.6**	**-0.6**
PB10				AML	AML	22 18 55.9	
	comp=N,1μm,0.7s						
ANCH	**Antofagasta**	**2.69**	**224**⇑	iP	**Pn**	**22 18 11.9**	**-0.1**
ANCH				i S	**Sn**	**22 18 44.0**	**-0.5**
ANCH				AML	AML	22 18 54.2	
	comp=N,557nm,0.5s						
MNMC	**Minimini**	**2.83**	**336**⇑	iP	**Pn**	**22 18 14.5**	**+0.2**
MNMC				i S	**Sn**	**22 18 48.9**	**+0.5**
MNMC				AML	AML	22 18 52.2	
	comp=N,964nm,0.5s						
LPAZ	**La Paz**	**5.43**	**3**	P	**Pn**	**22 18 50.3**	**+1.2**
LPAZ				S	**Sn**	**22 19 48.8**	**-2.1**
	comp=N,3.2nm,0.3s,baz=163,slow=7.1,SNR=71						
	baz=77,slow=16,SNR=1.2						
SIV	**San Ignacio**	**8.98**	**52**	P	Pn	22 19 33.0	-3.5
	comp=N,6.0nm,0.3s,baz=242,slow=12,SNR=67						
SIV				S	Sn	22 21 06.4	-10
	comp=N,0.3nm,0.3s,baz=246,slow=20,SNR=2.4						
CFAA	**Coronel Fontan**	**9.82**	**179**	P	Pn	22 19 44.5	-3.4
	comp=N,0.1nm,0.3s,baz=352,slow=14,SNR=9.6						
CFAA				S	Sn	22 21 25.5	-11
	comp=N,0.1nm,0.3s,baz=6.8,slow=13,SNR=2.7						
VNA1	**Neumayer--Stat**	**59.90**	**160**	eP	P	22 27 34.7	+12
VNA2	**Neumayer--Watz**	**60.26**	**161**	eP	**P**	**22 27 26.2**	**+1.2**
	baz=290,slow=8.1						
SNAA	**Sanae**	**61.89**	**161**	eP	**P**	**22 27 36.9**	**+0.8**
SNAA	**Sanae**	**61.89**	**161**	P	**P**	**22 27 36.7**	**+0.6**
	comp=N,0.4nm,0.6s,baz=254,slow=9.0,SNR=11						
DBIC	**Dimbokro**	**68.34**	**73**	P	**P**	**22 28 17.7**	**-0.8**
	comp=N,2.8nm,0.8s,baz=224,slow=12,SNR=3.3						
PDAR	**Pinedale Array**	**74.56**	**330**	P	**P**	**22 28 56.4**	**+0.8**
	comp=N,0.3nm,0.6s,baz=132,slow=7.4,SNR=2.8						
TORD	**Torodi Ar. Bea**	**76.98**	**70**	P	**P**	**22 29 08.7**	**-1.0**
	comp=N,1.2nm,0.5s,baz=252,slow=5.2,SNR=34						
BOSA	**Boshof**	**82.90**	**118**	P	**P**	**22 29 40.7**	**-0.9**
	comp=N,2.8nm,0.9s,baz=180,slow=4.0,SNR=3.6						
YKA	**Yellowknife Ar**	**91.58**	**340**	P	**P**	**22 30 22.7**	**+0.3**
	comp=N,1.0nm,0.7s,baz=128,slow=4.3,SNR=8.5						
ASAR	**Alice Springs**	**129.92**	**207**	PKP	**PKPdf**	**22 36 26.1**	**+0.2**
	comp=N,0.3nm,0.5s,baz=156,slow=2.9,SNR=3.3						
WRA	**Warramunga Arr**	**132.99**	**210**	PKP	**PKPdf**	**22 36 32.3**	**+0.6**
	comp=N,0.3nm,0.9s,baz=153,slow=1.9,SNR=5.1						
ZALV	**Zalesovo Beam**	**141.96**	**26**	PKP	**PKPdf**	**22 36 47.3**	**+0.2**
	comp=N,0.6nm,0.4s,baz=345,slow=5.1,SNR=2.9						
MKAR	**Makanchi Array**	**145.54**	**36**	PKPbc	**PKPbc**	**22 36 54.4**	**+0.4**
	comp=N,0.5nm,0.6s,baz=327,slow=3.3,SNR=7.6						
MKAR				pPKPbc	pPKPbc	22 37 26.6	+0.3
	comp=N,0.4nm,0.7s,baz=298,slow=5.4,SNR=3.4						

KRSC 14 22:37:56.7±0.4,50°.58N×157°.10E,h42km±42km,ML3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.63**	**280**	eP	Pn	22 38 09.8	+0.5
SKR				i S	Sn	22 38 19.6	+1.4
PAU	**Pauzhetka**	**0.91**	**349**	eP	Pn	22 38 14.8	+1.8
PAU				i S	Sn	22 38 27.8	+2.9
ASAK	**Asacha**	**1.87**	**15**	P	Pn	22 38 27.0	+0.6
MTVR	**Mutnovka**	**2.02**	**19**	eP	Pn	22 38 30.0	+1.5
MTVR				i S	Sn	22 38 55.0	+2.3
RUS	**Russkaya**	**2.06**	**25**	eP	Pn	22 38 29.6	+0.9
RUS				i S	Sn	22 38 54.0	+0.9
AVH	**Avacha**	**2.87**	**20**	P	Pn	22 38 42.5	+2.4
KOK	**Koryaka**	**2.88**	**19**	eP	Pn	22 38 41.7	+1.5
KRER	**Koryakskii**	**2.91**	**20**	eP	Pn	22 38 42.4	+1.6
KRER				eS	Sn	22 39 16.1	+1.4
SDLR	**Sedlovina**	**2.92**	**22**	P	Pn	22 38 44.1	+3.3
SDLR				i S	Sn	22 39 17.5	+2.8
KRX	**Arik**	**2.94**	**18**	eP	Pn	22 38 42.8	+1.7
KRX				eS	Sn	22 39 16.9	+1.6
GNL	**Ganaly**	**3.16**	**9**	P	Pn	22 38 46.9	+2.8

*ATH **14** 23:06:20.9,33°.89N×25°.46E,h8km±2km,MD3.8/10,ML3.7*
*IDC **14** 23:06:21.7±0.6,34°.03N×25°.55E,h0km,mb4.1/17, mb1 4.1/27,mb1mx4.1/35,mbtmp4.0/27,MS3.3/2, Ms1 3.3/2,ms1mx2.6/43,Error ellipse: s-maj=14.1km s-min=13.0km az=8.0*
*CSEM **14** 23:06:22.4±0.1,33°.94N×25°.58E,h2km,mb4.1/13,Error ellipse: s-maj=4.6km s-min=2.8km az=27.0*
*MOS **14** 23:06:24.0±1.6,33°.97N×25°.64E,h23km,mb4.6/28,Error ellipse: s-maj=6.3km s-min=3.8km az=108.9*
*NEIC **14** 23:06:26.8±2.0,33°.99N×25°.66E,h30km±15km,mb4.4/38, Error ellipse: s-maj=9.4km s-min=5.1km az=191.0*
*BJI **14** 23:06:26.3,34°.10N×26°.19E,h11km,mb4.3/5*
*TEH **14** 23:06:27.5,34°.02N×25°.68E,h30km,ML4.3*
*ISK **14** 23:06:28.7,34°.46N×25°.77E,h23km,ML4.0*
*THE **14** 23:06:28.9,34°.41N×25°.46E,h0km±1km,ML3.7/1,Error ellipse: s-maj=3.2km s-min=1.3km az=174.0*
ISC 14 23:06:22.4±1.2,33°.99N±0°.03×25°.53E±0°.02,h7km±7km, n526,σ1°76/516,mb4.2/46,7C-2D,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAST	**Lasithi**	**1.17**	**358**	P	**Pg**	**23 06 44.3**	**-0.6**
LAST				S	**Sg**	**23 06 55.8**	**-4.3**
LAST	**Lasithi**	**1.17**	**358**	ePN	**Pg**	**23 06 44.3**	**-0.6**
LAST	**Lasithi**	**1.17**	**358**	P	**Pg**	**23 06 44.3**	**-0.6**
LAST				S	**Sg**	**23 06 55.8**	**-4.3**
SIVA	**Sivas**	**1.18**	**330**	P	**Pg**	**23 06 44.3**	**-0.8**
SIVA				S	**Sg**	**23 06 57.6**	**-2.9**
SIVA	**Sivas**	**1.18**	**330**	ePN	**Pg**	**23 06 43.7**	**-1.4**
SIVA	**Sivas**	**1.18**	**330**	ePn	**Pg**	**23 06 43.7**	**-1.4**
SIVA	**Sivas**	**1.18**	**330**	P	**Pg**	**23 06 44.3**	**-0.8**
SIVA				S	**Sg**	**23 06 57.6**	**-2.9**
ZKR	**Zakros**	**1.26**	**27**	P	**Pb**	**23 06 46.6**	**+0.1**
ZKR				S	**Sb**	**23 07 00.9**	**-2.1**
ZKR	**Zakros**	**1.26**	**27**	ePB	**Pg**	**23 06 47.2**	**+0.6**
ZKR	**Zakros**	**1.26**	**27**	P	**Pb**	**23 06 46.6**	**+0.1**
ZKR	**Zakros**	**1.26**	**27**	ePb	**Pg**	**23 06 47.2**	**+0.6**
ZKR				S	**Sb**	**23 07 00.9**	**-2.1**
NPS	**Neapolis**	**1.27**	**3**	P	**Pn**	**23 06 46.5**	**-0.2**
NPS				S	**Sb**	**23 06 58.3**	**-5.1**
NPS	**Neapolis**	**1.27**	**3**	ePB	**Pn**	**23 06 46.1**	**-0.6**
NPS				eSB	**Sn**	**23 07 04.9**	**+0.8**
NPS	**Neapolis**	**1.27**	**3**	ePb	**Pn**	**23 06 46.1**	**-0.6**
NPS	**Neapolis**	**1.27**	**3**	P	**Pn**	**23 06 46.5**	**-0.2**
NPS				S	**Sb**	**23 06 58.3**	**-5.1**
NPS				eSb	**Sn**	**23 07 04.9**	**+0.8**
IDI	**Anoyia**	**1.40**	**338**	ePN	**Pg**	**23 06 49.1**	**-0.1**
IDI				eSN	**Sb**	**23 07 04.0**	**-3.0**
IDI	**Anoyia**	**1.40**	**338**	P	**Pn**	**23 06 47.7**	**-0.7**
IDI				S	**Sb**	**23 07 03.7**	**-3.3**
IDI	**Anoyia**	**1.40**	**338**	ePG	**Pn**	**23 06 48.2**	**-0.3**
IDI	**Anoyia**	**1.40**	**338**	ePn	**Pn**	**23 06 48.2**	**-0.3**
IDI				eSn	**Sb**	**23 07 06.1**	**-1.0**
IDI	**Anoyia**	**1.40**	**338**	Pn	**Pb**	**23 06 48.5**	**-0.5**
	13nm,0.3s,baz=156,slow=16,SNR=74						
IDI				Sn	**Sg**	**23 07 08.1**	**+0.7**
	118nm,0.3s,baz=0.0,slow=17,SNR=14						
IDI	**Anoyia**	**1.40**	**338**	P	**Pn**	**23 06 47.7**	**-0.7**
IDI	**Anoyia**	**1.40**	**338**	ePg	**Pn**	**23 06 48.2**	**-0.3**
IDI	**Anoyia**	**1.40**	**338**	ePn	**Pg**	**23 06 49.1**	**-0.1**
IDI				eSn	**Sb**	**23 07 04.0**	**-3.0**
GVD	**Gavdhos**	**1.46**	**306**	P	**Pg**	**23 06 50.3**	**-0.1**
GVD				S	**Sg**	**23 07 09.5**	**+0.1**
GVD	**Gavdhos**	**1.46**	**306**	ePB	**Pb**	**23 06 49.2**	**-0.7**
GVD				eSB	**Sg**	**23 07 09.5**	**+0.1**
GVD	**Gavdhos**	**1.46**	**306**	ePn	**Pg**	**23 06 50.4**	**-0.1**
GVD				eSn	**Sn**	**23 07 07.8**	**-0.9**
GVD	**Gavdhos**	**1.46**	**306**	ePb	**Pb**	**23 06 49.2**	**-0.7**
GVD	**Gavdhos**	**1.46**	**306**	ePn	**Pg**	**23 06 50.4**	**0.0**
GVD				eSn	**Sn**	**23 07 07.8**	**-0.9**
GVD				S	**Sg**	**23 07 09.5**	**+0.1**
VAM	**Vamos**	**1.79**	**323**	P	**Pb**	**23 06 54.6**	**-0.9**
VAM	**Vamos**	**1.79**	**323**	ePG	**Pb**	**23 06 54.4**	**-1.1**
VAM				eSN	**Sg**	**23 07 20.5**	**+0.6**
VAM	**Vamos**	**1.79**	**323**	P	**Pb**	**23 06 54.6**	**-0.9**
VAM				eSn	**Sg**	**23 07 20.5**	**+0.6**
KARN	**Karanos**	**1.94**	**317**	P	**Pb**	**23 06 57.6**	**-0.4**
KARN	**Karanos**	**1.94**	**317**	P	**Pb**	**23 06 57.6**	**-0.4**
KARP	**Karpathos**	**2.06**	**40**	P	**Pb**	**23 07 00.7**	**+0.6**
KARP				S	**Sn**	**23 07 24.7**	**+1.3**
KARP	**Karpathos**	**2.06**	**40**	ePG	**Pb**	**23 07 00.4**	**+0.3**
KARP				eSN	**Sb**	**23 07 27.9**	**+2.0**
KARP	**Karpathos**	**2.06**	**40**	ePg	**Pb**	**23 07 00.4**	**+0.3**
KARP	**Karpathos**	**2.06**	**40**	P	**Pb**	**23 07 00.7**	**+0.6**
KARP				S	**Sn**	**23 07 24.7**	**+1.3**
KARP				eSn	**Sb**	**23 07 27.9**	**+2.0**
LTBQ	**Tobruq**	**2.35**	**215**	i P	**Pb**	**23 07 03.3**	**-1.8**
	207nm,1.8s,SNR=22						
SANT	**Santorini**	**2.38**	**359**	ePB	**Pn**	**23 07 03.1**	**+1.2**
SANT	**Santorini**	**2.38**	**359**	ePn	**Pb**	**23 07 04.2**	**-1.4**
SANT				eSn	**Sn**	**23 07 32.3**	**+1.0**
SANT	**Santorini**	**2.38**	**359**	ePb	**Pn**	**23 07 03.1**	**+1.2**
SANT	**Santorini**	**2.38**	**359**	ePn	**Pb**	**23 07 04.2**	**-1.4**
SANT				eSn	**Sn**	**23 07 32.3**	**+1.0**
NIS1	**Nisyros Isl.**	**2.94**	**27**	ePN	**Pn**	**23 07 10.9**	**+1.3**
NIS1	**Nisyros Isl.**	**2.94**	**27**	ePn	**Pn**	**23 07 10.9**	**+1.3**
KYTH	**Kithira**	**3.06**	**319**	ePB	**Pn**	**23 07 13.4**	**+2.1**
KYTH	**Kithira**	**3.06**	**319**	ePb	**Pn**	**23 07 13.4**	**+2.1**
APE	**Apeiranthos**	**3.07**	**0**	ePN	**Pn**	**23 07 10.7**	**-0.7**
APE	**Apeiranthos**	**3.07**	**0**	i P	**Pn**	**23 07 12.6**	**+1.1**
APE	**Apeiranthos**	**3.07**	**0**	ePN	**Pn**	**23 07 13.1**	**+1.6**
APE	**Apeiranthos**	**3.07**	**0**	ePn	**Pn**	**23 07 10.7**	**-0.7**
APE	**Apeiranthos**	**3.07**	**0**	i P	**Pn**	**23 07 12.6**	**+1.1**
ARG	**Arkhangelos**	**3.08**	**43**	P	**Pb**	**23 07 14.7**	**-2.8**
ARG	**Arkhangelos**	**3.08**	**43**	ePN	**Pn**	**23 07 13.9**	**+2.4**
ARG	**Arkhangelos**	**3.08**	**43**	ePn	**Pn**	**23 07 13.9**	**+2.4**
ARG	**Arkhangelos**	**3.08**	**43**	P	**Pb**	**23 07 14.7**	**-2.8**
DAT	**Datca**	**3.21**	**31**	ePN	**Pn**	**23 07 12.1**	**-1.2**
DAT	**Datca**	**3.21**	**31**	ePn	**Pn**	**23 07 12.1**	**-1.2**
BODT	**Bodrum**	**3.39**	**25**	ePN	**Pn**	**23 07 14.6**	**-1.3**
BODT	**Bodrum**	**3

KHAL Karahalli 5.42 35 *i* P **Pn 23 07 44.9 +1.1**
ISP Isparta 5.57 45 *e*PN **Pn 23 07 46.3 +0.4**
ISP Isparta 5.57 45 *i* P Pn 23 07 49.5 +3.6
ISP Isparta 5.57 45 *e*Pn **Pn 23 07 46.3 +0.4**
SUTC Sutluce-Ispart 5.65 50 *e*PN **Pn 23 07 47.7 +0.8**
SUTC Sutluce-Ispart 5.65 50 *e*Pn **Pn 23 07 47.7 +0.8**
EVR Evrytania 5.76 330 *e*PN Pn 23 07 53.1 +4.7
VLS Valsamata 5.78 318 *e*PN **Pn 23 07 50.6 +1.9**
VLS Valsamata 5.78 318 *e*Pn **Pn 23 07 50.6 +1.9**
BALB Balikesir 5.95 18 *e*PN **Pn 23 07 51.0 +0.1**
BALB Balikesir 5.95 18 *e*Pn **Pn 23 07 51.0 +0.1**
BALY Balya 5.98 16 *i* P **Pn 23 07 52.9 +1.5**
BALY Balya 5.98 16 *i* P **Pn 23 07 52.9 +1.5**
GDZ Gediz 6.00 31 *i* P **Pn 23 07 54.4 +2.6**
GDZ Gediz 6.00 31 *i* P **Pn 23 07 54.4 +2.6**
DURS Dursunbey 6.08 22 *i* P **Pn 23 07 54.6 +1.8**
DURS Dursunbey 6.08 22 *i* P **Pn 23 07 54.6 +1.8**
GONE Gonen-Balikesi 6.29 15 *e*PN **Pn 23 07 55.8 +0.2**
GONE Gonen-Balikesi 6.29 15 *e*Pn **Pn 23 07 55.8 +0.2**
HDMB Hadim 6.41 60 *e*PN **Pn 23 07 59.2 +1.8**
HDMB Hadim 6.41 60 *e*Pn **Pn 23 07 59.2 +1.8**
GELI Tayfur-Gelibol 6.44 6 *e*PN **Pn 23 07 58.1 +0.4**
GELI Tayfur-Gelibol 6.44 6 *e*Pn **Pn 23 07 58.1 +0.4**
CSS Prodhromos 6.52 79 *e*Pn **Pn 23 08 00.5 +1.7**
CSS *e*Sn **Sn 23 09 16.9 +3.4**
CSS Prodhromos 6.52 79 Pn **Pn 23 07 59.2 +0.4**
KCTX Karacabey (Bur 6.66 19 *e*PN **Pn 23 08 00.7 0.0**
KCTX Karacabey (Bur 6.66 19 *e*Pn **Pn 23 08 00.7 0.0**
LFK Lefkose 6.72 77 *e*PN Pn 23 08 05.1 +3.5
KONT Konya--Tatoy 6.80 53 *e*PN **Pn 23 08 03.9 +1.2**
KONT Konya--Tatoy 6.80 53 *e*Pn **Pn 23 08 03.9 +1.2**
IKL Isikli 7.05 69 *e*PN **Pn 23 08 07.9 +1.8**
IKL Isikli 7.05 69 *e*Pn **Pn 23 08 07.9 +1.8**
SVRH Sivrihisar-ESK 7.27 40 *e*PN **Pn 23 08 09.4 +0.3**
SVRH Sivrihisar-ESK 7.27 40 *e*Pn **Pn 23 08 09.4 +0.3**
SLVT Silivri 7.54 16 *e*PN **Pn 23 08 12.7 0.0**
SLVT Silivri 7.54 16 *e*Pn **Pn 23 08 12.7 0.0**
GULT Gulveren 7.56 30 *e*PN **Pn 23 08 13.0 -0.1**
GULT Gulveren 7.56 30 *e*Pn **Pn 23 08 13.0 -0.1**
SULT Sultanhani-AKS 7.71 55 *e*PN **Pn 23 08 16.4 +1.2**
SULT Sultanhani-AKS 7.71 55 *e*Pn **Pn 23 08 16.4 +1.2**
MDUB Mudurnu 7.89 33 *e*PN **Pn 23 08 17.6 -0.1**
MDUB Mudurnu 7.89 33 *e*Pn **Pn 23 08 17.6 -0.1**
KZIT Kziot 8.10 110 Pn **Pn 23 08 19.8 -0.7**
SLTI Sal'it 8.17 100 Pn **Pn 23 08 21.2 -0.2**
MMC7 Mount Meron ar 8.30 94 Pn **Pn 23 08 22.7 -0.6**
MMAI Mount Meron Ar 8.31 94 Pn **Pn 23 08 22.6 -0.8**
MMAI Sn **Sn 23 09 52.5 -5.1**
MMAI Mount Meron Ar 8.31 94 Pn **Pn 23 08 22.6 -0.8**
3.8nm,0.3s,baz=267,slow=12,SNR=27
MMAI Sn **Sn 23 09 52.5 -5.1**
1.1nm,0.3s,baz=254,slow=23,SNR=2.8
MMAI Mount Meron Ar 8.31 94 Pn **Pn 23 08 22.6 -0.8**
KARA Karaisali 8.42 64 *e*PN **Pn 23 08 26.5 +1.7**
KARA Karaisali 8.42 64 *e*Pn **Pn 23 08 26.5 +1.7**
MMLI Mount Malkishu 8.44 98 Pn **Pn 23 08 23.6 -1.5**
HMDT Nahal Hemdat 8.56 99 Pn **Pn 23 08 26.0 -0.9**
DSI Dead Sea 8.64 104 Pn **Pn 23 08 26.7 -1.2**
BR131 Keskin Array S 8.66 46 *e*Pn **Pn 23 08 30.4 +2.1**
3.7nm,0.7s
BR131 *e*Sn **Sn 23 10 08.3 +2.0**
BR131 Keskin Array S 8.66 46 *e*Pn **Pn 23 08 30.4 +2.1**
3.7nm,0.7s
BR131 *e*Sn **Sn 23 10 08.3 +2.0**
BRTR Keskin Array B 8.66 46 Pn **Pn 23 08 29.7 +1.4**
BRTR Sn **Sn 23 10 06.2 -0.1**
BRTR Keskin Array B 8.66 46 Pn **Pn 23 08 29.7 +1.4**
0.2nm,0.3s,baz=224,slow=14,SNR=18
BRTR Sn **Sn 23 10 06.2 -0.1**
0.0nm,0.3s,baz=262,slow=30,SNR=2.4
BRTR Keskin Array B 8.66 46 P **Pn 23 08 29.7 +1.4**
BRTR S **Sn 23 10 06.2 -0.1**
MZDA Masada 8.71 105 Pn **Pn 23 08 28.4 -0.4**
PRNI Paran 8.81 112 Pn **Pn 23 08 30.0 -0.3**
ZFRI Zfri 8.86 110 Pn **Pn 23 08 29.9 -1.0**
CEL Celeste 8.88 301 *e*Pn **Pn 23 08 32.3 +1.1**
CEL *e*Sn Sn 23 10 05.0 -6.6
CEL Celeste 8.88 301 *e*Pn **Pn 23 08 32.3 +1.1**
HRFI Mount Harif 8.98 113 Pn **Pn 23 08 32.4 -0.2**
MBRI Mt Berech 9.01 115 Pn **Pn 23 08 32.5 -0.5**
EIL Elat 9.10 116 Pn **Pn 23 08 33.6 -0.6**
EIL Sn **Sn 23 10 11.9 -5.0**
EIL Elat 9.10 116 Pn **Pn 23 08 33.6 -0.6**
1.4nm,0.3s,baz=296,slow=7.4,SNR=14
EIL Sn **Sn 23 10 11.9 -5.0**
1.4nm,0.3s,baz=319,slow=15,SNR=3.4
EIL Elat 9.10 116 Pn **Pn 23 08 33.6 -0.6**
BNN Bunyan 9.63 57 *e*PN **Pn 23 08 42.0 +0.5**
BNN Bunyan 9.63 57 *e*Pn **Pn 23 08 42.0 +0.5**
ASF Jabal al Asfar 9.71 98 Pn **Pn 23 08 41.8 -0.9**
ASF Sn **Sn 23 10 26.9 -5.2**
ASF Jabal al Asfar 9.71 98 Pn **Pn 23 08 41.8 -0.9**
0.3nm,0.3s,baz=248,slow=5.4,SNR=4.2
ASF Sn **Sn 23 10 26.9 -5.2**
0.2nm,0.3s,baz=158,slow=19,SNR=2.8
CUC Castrocucco 9.81 310 *e*Pn **Pn 23 08 45.4 +1.5**
CUC *e*Sn **Sn 23 10 32.7 -1.6**
CUC Castrocucco 9.81 310 *e*Pn **Pn 23 08 45.4 +1.5**
KMRS Kahramanmaras 9.89 66 *e*PN **Pn 23 08 46.4 +1.4**
KMRS Kahramanmaras 9.89 66 *e*Pn **Pn 23 08 46.4 +1.4**
MLR Muntele Rosu 11.49 1 Pn **Pn 23 09 09.3 +2.3**
MLR Muntele Rosu 11.49 1 Pn **Pn 23 09 09.3 +2.3**
baz=165,slow=20
MLR Muntele Rosu 11.49 1 P **Pn 23 09 09.3 +2.3**
KEST Kesra 13.40 282 Pn P 23 09 38.8 -3.9
KEST Kesra 13.40 282 Pn P 23 09 38.8 -3.9
0.0nm,0.3s,baz=107,slow=17,SNR=2.4
ANN Anapa 14.17 37 *e*P Pn 23 09 39.6 -3.9
ANN pmax pmax
comp=Z,49nm,1.7s
UZH Uzhgorod 14.83 352 *e*P **Pn 23 09 51.4 -1.0**
PGF Pioggiola 15.52 308 *e*P **P 23 10 04.8 -1.5**
comp=Z,200nm,1.5s
PGF Pioggiola 15.52 308 *e*P **P 23 10 04.8 -1.5**
PGF pmax pmax
comp=Z,200nm,1.5s
PGF Pioggiola 15.52 308 *e*P **P 23 10 04.8 -1.5**
comp=Z,200nm,1.5s
PGF Pioggiola 15.52 308 *e*P **P 23 10 04.8 -1.5**
comp=Z,100nm,1.5s
KBA Koelnbreinsper 15.99 328⇑ *e*P **P 23 10 14.5 +2.9**
comp=Z,10nm,0.7s
KBA Koelnbreinsper 15.99 328 P **P 23 10 14.5 +2.9**
comp=Z,10nm,0.7s
ABTA Abfaltersbach 16.12 326⇑ *i*P **P 23 10 15.5 +2.7**
comp=Z,6.1nm,0.5s,SNR=7.3
ABTA Abfaltersbach 16.12 326 P **P 23 10 15.5 +2.7**
comp=Z,6.1nm,0.5s,SNR=7.3
MOA Molln 16.23 332⇑ *i*P **P 23 10 15.2 +1.2**
comp=Z,7.9nm,0.9s,SNR=4.7
MOA Molln 16.23 332 P **P 23 10 15.2 +1.2**
comp=Z,7.9nm,0.9s,SNR=4.7
GNI Garni 16.51 63 *e*Pn **P 23 10 16.9 -0.5**
GNI Garni 16.51 63 Pn **P 23 10 16.7 -0.6**
comp=Z,0.3nm,0.3s,baz=12,slow=12,SNR=5.5
GNI LR LR 23 17 30.0
comp=Z,69nm,19.6s,baz=77,slow=41
GNI Garni 16.51 63 P **P 23 10 16.7 -0.6**
comp=Z,69nm,19.6s
KIV Kislovodsk 16.62 48 *e*P **P 23 10 19.6 +1.2**
KIV *e*S **S 23 13 28.4 -3.9**
KIV pmax pmax
comp=Z,17nm,1.0s
KIV MLR MLR
comp=Z,30nm,12.0s
KIV Kislovodsk 16.62 48 *e*P **P 23 10 19.6 +1.2**
comp=Z,17nm,1.0s
KBZ Khabaz 16.63 49 P **P 23 10 17.6 -0.8**
KBZ Khabaz 16.63 49 Pn **P 23 10 17.6 -0.8**
KBZ Khabaz 16.63 49 Pn **P 23 10 17.6 -0.8**
comp=Z,0.2nm,0.3s,baz=284,slow=7.0,SNR=10
KBZ Khabaz 16.63 49 P **P 23 10 17.6 -0.8**
VRAC Vranov 16.68 339 Pn **P 23 10 19.2 +0.2**
VRAC Vranov 16.68 339 Pn **P 23 10 19.2 +0.2**
comp=Z,0.3nm,0.3s,baz=177,slow=7.7,SNR=5.2
VRAC Vranov 16.68 339 P **P 23 10 19.2 +0.2**
OKC Ostrava-Krasne 16.75 343 *e*P P 23 10 25.8 +6.1
OKC Ostrava-Krasne 16.75 343 *e*P P 23 10 25.8 +6.1
ZEI Tsey 16.85 53 *e*P **P 23 10 22.2 +1.1**
ZEI pmax pmax
comp=Z,20nm,1.0s
ZEI Tsey 16.85 53 *e*P **P 23 10 22.2 +1.1**
comp=Z,20nm,1.0s

KIEV Kiev 16.91 8 *e*P **P 23 10 21.0 -0.5**
KIEV pmax pmax
comp=Z,13nm,0.8s
KIEV Kiev 16.91 8 *e*Pn **P 23 10 21.0 -0.5**
comp=Z,13nm,0.8s
KIEV Kiev 16.91 8 *e*P **P 23 10 21.0 -0.5**
comp=Z,13nm,0.8s
AKASG Malin Array Be 16.92 8 P **Pn 23 10 19.5 -0.1**
AKASG Malin Array Be 16.92 8 Pn **Pn 23 10 19.5 -0.1**
AKASG Malin Array Be 16.92 8 Pn **Pn 23 10 19.5 -0.1**
comp=Z,2.0nm,0.3s,baz=200,slow=10,SNR=17
AKASG Malin Array Be 16.92 8 Pn **Pn 23 10 19.5 -0.1**
FUORN Ofenpass-Fuorn 17.13 322 *e*P **P 23 10 27.4 +3.2**
comp=Z,14nm,0.8s
FUORN Ofenpass-Fuorn 17.13 322 *e*P **P 23 10 27.4 +3.2**
comp=Z,14nm,0.8s
FETA Feichten 17.17 324⇑ *i*Pn **P 23 10 27.6 +3.0**
comp=Z,7.6nm,0.8s,SNR=4.6
FETA Feichten 17.17 324 P **P 23 10 27.6 +3.0**
comp=Z,7.6nm,0.8s,SNR=4.6
GERES GERESS Array B 17.26 333 Pn **P 23 10 26.3 +0.8**
GERES GERESS Array B 17.26 333 Pn **P 23 10 26.3 +0.8**
comp=Z,0.4nm,0.3s,baz=152,slow=12,SNR=13
GERES GERESS Array B 17.26 333 P **P 23 10 26.3 +0.8**
KRLC Kraliky 17.32 341 *e*P **P 23 10 26.9 +0.8**
KRLC Kraliky 17.32 341 *e*P **P 23 10 26.9 +0.8**
KRLC Kraliky 17.32 341 *e*P **P 23 10 26.9 +0.8**
DAVOX Davos/Dischmat 17.43 322 P **P 23 10 30.5 +3.0**
DAVOX Davos/Dischmat 17.43 322 P **P 23 10 30.5 +3.0**
comp=Z,0.2nm,0.3s,baz=127,slow=18,SNR=4.7
DAVOX LR LR 23 17 51.5
comp=Z,135nm,20.0s,baz=99,slow=40
DAVOX Davos/Dischmat 17.43 322 P **P 23 10 30.5 +3.0**
comp=Z,135nm,20.0s
FRF La Foret Royal 17.52 309 *e*P **P 23 10 28.2 -0.1**
FRF La Foret Royal 17.52 309 *e*P **P 23 10 28.2 -0.1**
FRF La Foret Royal 17.52 309 *e*P **P 23 10 28.2 -0.1**
FRF La Foret Royal 17.52 309 *e*P **P 23 10 28.2 -0.1**
KHC Kasperske Hory 17.54 333 *e*P **Pn 23 10 26.7 -0.7**
KHC pmax pmax
comp=Z,11nm,1.2s
KHC Kasperske Hory 17.54 333 *e*P **P 23 10 30.6 +2.1**
KHC *e*pP pP 23 10 38.9 +8.5
KHC AMS AMS 23 17 30.0
comp=Z,100nm,14.4s
KHC Kasperske Hory 17.54 333 *e*Pn **Pn 23 10 26.7 -0.7**
comp=Z,10nm,1.2s
KHC Kasperske Hory 17.54 333 *e*Pn **Pn 23 10 26.7 -0.7**
comp=Z,10nm,1.2s
KHC Kasperske Hory 17.54 333 P **P 23 10 30.6 +2.1**
DPC Dobruska-Polom 17.69 340 *e*P **P 23 10 30.6 +0.4**
DPC Dobruska-Polom 17.69 340 *e*P **P 23 10 30.6 +0.4**
DPC *e*pP pP 23 10 38.3 +6.2
DPC Dobruska-Polom 17.69 340 *e*P **P 23 10 30.6 +0.4**
DAVA Damuels 17.77 323 *i* P **P 23 10 34.4 +3.2**
SNR=4.2
DAVA Damuels 17.77 323 P **P 23 10 34.4 +3.2**
SNR=4.2
PRU Pruhonice 17.92 336 *e*P **P 23 10 35.3 +2.6**
PRU MLR MLR
comp=Z,100nm,14.1s
PRU Pruhonice 17.92 336 *e*P **P 23 10 35.3 +2.6**
PRU *e*pP pP 23 10 44.0 +9.5
PRU AMS AMS 23 17 50.0
comp=Z,100nm,14.1s
PRU Pruhonice 17.92 336 *e*P **P 23 10 35.3 +2.6**
comp=Z,100nm,14.1s
MBDF Montbardon 17.99 312 *e*P **P 23 10 33.4 -0.3**
comp=Z,31nm,1.2s
MBDF Montbardon 17.99 312 *e*P **P 23 10 33.4 -0.3**
MBDF pmax pmax
comp=Z,31nm,1.2s
MBDF Montbardon 17.99 312 *e*P **P 23 10 33.4 -0.3**
comp=Z,31nm,1.2s
MBDF Montbardon 17.99 312 *e*P **P 23 10 33.4 -0.3**
comp=Z,15nm,1.2s
IKOM Komasi 18.21 83 *e*P **P 23 10 37.0 +0.8**
IKOM Komasi 18.21 83 *e*P **P 23 10 37.0 +0.8**
ISRB Sarab 18.33 72 *e*P **P 23 10 40.6 +3.1**
SMRF Simiane la Rot 18.40 309 *e*P **P 23 10 38.8 +0.8**
SMRF Simiane la Rot 18.40 309 *e*P **P 23 10 38.8 +0.8**
SMRF Simiane la Rot 18.40 309 *e*P **P 23 10 38.8 +0.8**
LPG La Plagne 18.41 314 *e*P **P 23 10 42.0 +3.6**
comp=Z,16nm,0.9s
LPG La Plagne 18.41 314 *e*P **P 23 10 42.0 +3.6**
LPG pmax pmax
comp=Z,16nm,0.9s
LPG La Plagne 18.41 314 *e*P **P 23 10 42.0 +3.6**
comp=Z,16nm,0.9s
LPL La Plagne 18.43 314 *e*P **Pn 23 10 41.6 +3.1**
comp=Z,7.4nm,0.7s
LPL La Plagne 18.43 314 *e*P **Pn 23 10 41.6 +3.1**
LPL pmax pmax
comp=Z,7.0nm,0.7s
LPL La Plagne 18.43 314 *e*P **Pn 23 10 41.6 +3.1**
comp=Z,7.4nm,0.7s
LPL La Plagne 18.43 314 *e*P **Pn 23 10 41.6 +3.1**
comp=Z,3.7nm,0.7s
SENIN Lac Senin/Sane 18.57 317 *e*Pn **Pn 23 10 41.2 +1.0**
comp=Z,7.0nm,0.9s
SENIN Lac Senin/Sane 18.57 317 *e*Pn **Pn 23 10 41.2 +1.0**
comp=Z,7.0nm,0.9s
ORIF Oris-en-Rattie 18.64 312 *e*P Pn 23 10 45.1 +4.1
ORIF *e*R
comp=Z,139nm,19.8s
ORIF Oris-en-Rattie 18.64 312 *e*P Pn 23 10 45.1 +4.1
ORIF Oris-en-Rattie 18.64 312 *e*P Pn 23 10 45.1 +4.1
RST Umm Al-Ruwaisa 18.79 98 *e*P **Pn 23 10 43.2 +0.3**
RST AMb AMB 23 10 50.6
comp=Z,124nm,0.9s
RST Umm Al-Ruwaisa 18.79 98 *e*P **Pn 23 10 43.2 +0.3**
comp=Z,124nm,0.9s
BRG Berggiesshubel 18.88 337 *e*(P) Pn 23 10 50.4 +6.7
comp=Z,11nm,1.5s
BRG Berggiesshubel 18.88 337 *e*P Pn 23 10 50.4 +6.7
BRG pmax pmax
comp=Z,11nm,1.5s
GRFO Grafenberg 18.91 330 *e*P **Pn 23 10 44.7 +0.5**
GRFO pmax pmax
comp=Z,25nm,1.2s
GRFO Grafenberg 18.91 330 *e*Pn **Pn 23 10 44.7 +0.5**
comp=Z,25nm,1.2s
GRFO Grafenberg 18.91 330 *e*P **Pn 23 10 44.7 +0.5**
comp=Z,25nm,1.2s
MIB Mutribah 18.98 97 *e*P **Pn 23 10 45.9 +0.8**
MIB AMb AMB 23 11 00.1
comp=Z,21nm,0.8s
MIB Mutribah 18.98 97 *e*P **Pn 23 10 45.9 +0.8**
comp=Z,21nm,0.8s
NAY Al-Naaiem 19.08 98 *e*P **Pn 23 10 46.8 +0.5**
NAY AMb AMB 23 10 52.8
comp=Z,17nm,1.5s
NAY Al-Naaiem 19.08 98 *e*P **Pn 23 10 46.8 +0.5**
comp=Z,17nm,1.5s
BFO Black Forest 19.25 323 *e*P **Pn 23 10 48.3 0.0**
BFO pmax pmax
comp=Z,10.0nm,1.0s
BFO Black Forest 19.25 323 *e*P **Pn 23 10 48.2 0.0**
comp=Z,10.0nm,1.0s
BFO Black Forest 19.25 323 *e*P **Pn 23 10 48.3 0.0**
comp=Z,10.0nm,1.0s
MAK Makhachkala 19.36 56 *e*P Pn 23 11 01.0 +11
MAK MLR MLR
comp=Z,52nm,7.0s
VIVF Saint-Julien-l 19.37 310 *e*P **Pn 23 10 52.8 +3.0**
VIVF Saint-Julien-l 19.37 310 *e*P **Pn 23 10 52.8 +3.0**
VIVF Saint-Julien-l 19.37 310 *e*P **Pn 23 10 52.8 +3.0**
CABF La Chapelle 19.40 316 *e*P Pn 23 10 54.3 +4.2
comp=Z,24nm,0.9s
CABF La Chapelle 19.40 316 *e*P Pn 23 10 54.3 +4.2
CABF pmax pmax
comp=Z,24nm,0.9s
CABF La Chapelle 19.40 316 *e*P Pn 23 10 54.3 +4.2
comp=Z,24nm,0.9s
CLL Collm 19.56 336 *i* P **Pn 23 10 52.7 +0.8**
CLL pmax pmax
comp=Z,4.0nm,0.7s
CLL Collm 19.56 336 *i* P **Pn 23 10 52.7 +0.8**
comp=Z,4.0nm,0.7s
CLL *e*pP pP 23 11 01.0 +8.5
CLL *e*PP **PnPn 23 11 10.0 +4.8**
CLL Collm 19.56 336 *i* P **Pn 23 10 52.7 +0.8**
comp=Z,4.0nm,0.7s
LASF Ste Croix 19.56 307 *e*P **Pn 23 10 54.9 +2.8**
comp=Z,66nm,1.4s

LASF Ste Croix 19.56 307 *e*P **Pn 23 10 54.9 +2.8**
comp=Z,66nm,1.4s
HINF Hinteralfeld 19.68 320 *e*P **Pn 23 10 55.4 +2.0**
HINF Hinteralfeld 19.68 320 *e*P **Pn 23 10 55.4 +2.0**
HINF Hinteralfeld 19.68 320 *e*P **Pn 23 10 55.4 +2.0**
HINF Hinteralfeld 19.68 320 *e*P **Pn 23 10 55.4 +2.0**
VORD Divnogorie 19.72 26 *e*P **Pn 23 10 56.2 +2.4**
VORD pmax pmax
comp=Z,10.0nm,0.9s
VORD pmax pmax
comp=N,10.0nm,0.7s
VORD pmax pmax
comp=E,20nm,0.8s
CDF Champ du Feu 19.83 322 *e*P **Pn 23 10 56.1 +0.8**
comp=E,15nm,0.9s
CDF Champ du Feu 19.83 322 *e*P **Pn 23 10 56.1 +0.8**
CDF pmax pmax
comp=Z,15nm,0.9s
CDF Champ du Feu 19.83 322 *e*P **Pn 23 10 56.1 +0.8**
comp=Z,15nm,0.9s
CDF Champ du Feu 19.83 322 *e*P **Pn 23 10 56.1 +0.8**
comp=Z,7.6nm,0.9s
VSR Storozhevoye 19.87 26 *e*P **Pn 23 10 56.0 +0.3**
VSR pmax pmax
comp=Z,10.0nm,0.6s
VSR pmax pmax
comp=N,10.0nm,1.0s
VSR pmax pmax
comp=E,10.0nm,1.2s
VSR Storozhevoye 19.87 26 *e*P **Pn 23 10 56.0 +0.3**
comp=E,10.0nm,1.0s
HAU Haudompre 20.06 320 *e*P Pn 23 10 58.9 +0.9
comp=E,19nm,0.8s
HAU *e*R
comp=E,127nm,20.2s
HAU Haudompre 20.06 320 *e*P Pn 23 10 58.9 +0.9
HAU pmax pmax
comp=Z,19nm,0.8s
HAU Haudompre 20.06 320 *e*P Pn 23 10 58.9 +0.9
comp=Z,19nm,0.8s
HAU Haudompre 20.06 320 *e*P Pn 23 10 58.9 +0.9
comp=Z,9.6nm,0.8s
SUW Suwalki 20.09 356 *e*P **P 23 10 56.3 -0.1**
SUW pmax pmax
comp=Z,31nm,0.7s
SUW Suwalki 20.09 356 *e*P **P 23 10 56.3 -0.1**
comp=Z,31nm,0.7s
SUW Suwalki 20.09 356 *e*P **P 23 10 56.3 -0.1**
comp=Z,31nm,0.7s
RAYN Ar Rayn 20.35 116 *e*P Pn 23 11 03.3 +1.7
comp=Z,72nm,3.0s
MTLF Montolieu 20.40 304 *e*P Pn 23 11 04.9 +2.9
comp=Z,20nm,1.1s
MTLF Montolieu 20.40 304 *e*P Pn 23 11 04.9 +2.9
MTLF pmax pmax
comp=Z,20nm,1.1s
MTLF Montolieu 20.40 304 *e*P Pn 23 11 04.9 +2.9
comp=Z,20nm,1.1s
PAGF Fort de Pagny 20.73 321 *e*P Pn 23 11 07.0 +1.2
comp=Z,8.1nm,0.9s
PAGF Fort de Pagny 20.73 321 *e*P Pn 23 11 07.0 +1.2
comp=Z,8.1nm,0.9s
VRHR Novokhopersk 20.73 30 *e*P Pn 23 11 05.1 -0.6
VRHR *e**SP sP 23 11 11.3 +5.2
VRHR pmax pmax
comp=Z,30nm,0.7s
VRHR pmax pmax
comp=N,20nm,0.8s
VRHR pmax pmax
comp=E,4.0nm,0.5s
VRHR Novokhopersk 20.73 30 *e*P Pn 23 11 05.1 -0.6
comp=E,20nm,0.8s
SMF Signal de Mont 20.73 314 *e*P Pn 23 11 04.1 -1.8
SMF Signal de Mont 20.73 314 *e*P Pn 23 11 04.1 -1.8
SMF Signal de Mont 20.73 314 *e*P Pn 23 11 04.1 -1.8
SMF Signal de Mont 20.73 314 *e*P Pn 23 11 04.1 -1.8
TAM Tamanrasset 20.80 243 *e*P Pn 23 11 05.9 -1.1
TAM pmax pmax
comp=Z,12nm,0.9s
TAM Tamanrasset 20.80 243 *e*P Pn 23 11 05.9 -1.1
comp=Z,12nm,0.9s
TAM Tamanrasset 20.80 243 *e*P Pn 23 11 05.9 -1.1
comp=Z,12nm,0.9s
SFTF Sexfontaines 20.89 319 *e*P Pn 23 11 08.3 +0.6
comp=Z,14nm,0.7s
SFTF Sexfontaines 20.89 319 *e*P Pn 23 11 08.3 +0.6
comp=Z,14nm,0.7s
SFTF Sexfontaines 20.89 319 *e*P Pn 23 11 08.3 +0.6
comp=Z,7.2nm,0.7s
IR3 Iran Long-Peri 21.00 79 *e*P **P 23 11 07.8 +1.3**
IR3 Iran Long-Peri 21.00 79 *e*P **P 23 11 07.8 +1.3**
LOR Lormes 21.04 316 *e*P **P 23 11 09.4 +2.6**
comp=Z,10nm,0.8s
LOR *e*R
comp=Z,109nm,21.5s
LOR Lormes 21.04 316 *e*P **P 23 11 09.4 +2.6**
comp=Z,10nm,0.8s
LOR Lormes 21.04 316 *e*P **P 23 11 09.4 +2.6**
comp=Z,5.2nm,0.8s
MEZF Maizieres J'vi 21.05 320 *e*P **P 23 11 10.2 +3.3**
MEZF Maizieres J'vi 21.05 320 *e*P **P 23 11 10.2 +3.3**
MEZF Maizieres J'vi 21.05 320 *e*P **P 23 11 10.2 +3.3**
CAF Calviac 21.08 308 *e*P **P 23 11 10.9 +3.6**
comp=Z,9.5nm,0.8s
CAF Calviac 21.08 308 *e*P **P 23 11 10.9 +3.6**
CAF pmax pmax
comp=Z,10.0nm,0.8s
CAF Calviac 21.08 308 *e*P **P 23 11 10.9 +3.6**
comp=Z,9.5nm,0.8s
AVF Avril sur Loir 21.10 314 *e*P **P 23 11 08.9 +1.5**
comp=Z,16nm,0.9s
AVF Avril sur Loir 21.10 314 *e*P **P 23 11 08.9 +1.5**
AVF pmax pmax
comp=Z,16nm,0.9s
AVF Avril sur Loir 21.10 314 *e*P **P 23 11 08.9 +1.5**
comp=Z,16nm,0.9s
AVF Avril sur Loir 21.10 314 *e*P **P 23 11 08.9 +1.5**
comp=Z,8.1nm,0.9s
SSF Saint Saulge 21.14 315 *e*P **P 23 11 10.7 +2.8**
comp=Z,7.0nm,0.7s
SSF Saint Saulge 21.14 315 *e*P **P 23 11 10.7 +2.8**
SSF pmax pmax
comp=Z,7.0nm,0.7s
SSF Saint Saulge 21.14 315 *e*P **P 23 11 10.7 +2.8**
comp=Z,7.0nm,0.7s
SSF Saint Saulge 21.14 315 *e*P **P 23 11 10.7 +2.8**
comp=Z,3.5nm,0.7s
BGF Bois d'Agland 21.29 313 *e*P **P 23 11 10.8 +1.3**
comp=Z,30nm,0.9s
BGF Bois d'Agland 21.29 313 *e*P **P 23 11 10.8 +1.3**
BGF pmax pmax
comp=Z,30nm,0.9s
BGF Bois d'Agland 21.29 313 *e*P **P 23 11 10.8 +1.3**
comp=Z,30nm,0.9s
BGF Bois d'Agland 21.29 313 *e*P **P 23 11 10.8 +1.3**
comp=Z,15nm,0.9s
TCF Toulx Ste Croi 21.56 312 *e*P **P 23 11 14.4 +2.0**
comp=Z,37nm,1.2s
TCF Toulx Ste Croi 21.56 312 *e*P **P 23 11 14.4 +2.0**
TCF pmax pmax
comp=Z,37nm,1.2s
TCF Toulx Ste Croi 21.56 312 *e*P **P 23 11 14.4 +2.0**
comp=Z,37nm,1.2s
RJF Les Rejaudoux 21.59 309 *e*P **P 23 11 16.6 +3.9**
comp=Z,44nm,1.2s
RJF *e*R
comp=Z,84nm,18.5s
RJF Les Rejaudoux 21.59 309 *e*P **P 23 11 16.6 +3.9**
RJF pmax pmax
comp=Z,44nm,1.2s
RJF Les Rejaudoux 21.59 309 *e*P **P 23 11 16.6 +3.9**
comp=Z,44nm,1.2s
EPF Esparros 21.61 302 *e*P **P 23 11 16.5 +3.4**
comp=Z,13nm,1.0s
EPF Esparros 21.61 302 *e*P **P 23 11 16.5 +3.4**
EPF pmax pmax
comp=Z,13nm,1.0s
EPF Esparros 21.61 302 *e*P **P 23 11 16.5 +3.4**
comp=Z,13nm,1.0s
MEM Membach 21.90 325 P **P 23 11 18.2 +2.3**
LFF La Frestale 21.95 307 *e*P **P 23 11 20.3 +3.7**
comp=Z,13nm,0.7s
LFF La Frestale 21.95 307 *e*P **P 23 11 20.3 +3.7**
LFF pmax pmax
comp=Z,13nm,0.6s
LFF La Frestale 21.95 307 *e*P **P 23 11 20.3 +3.7**
comp=Z,13nm,0.6s

GIVF	**Givet**	**22.15 323**	*e*P	**P**		**23 11 21.6 +2.9**
GIVF	**Givet**	**22.15 323**	*e*P	**P**		**23 11 21.6 +2.9**
GIVF	**Givet**	**22.15 323**	*e*P	**P**		**23 11 21.6 +2.9**
ETSF	**Etsaut**	**22.21 301**	*e*P	P		23 11 23.5 +4.0
ETSF	**Etsaut**	**22.21 301**	*e*P	P		23 11 23.5 +4.0
ETSF	**Etsaut**	**22.21 301**	*e*P	P		23 11 23.5 +4.0
DOU	**Dourbes**	**22.26 323**	P	**P**		**23 11 21.3 +1.5**
IALA	**Alasht**	**22.41 77**	*e*P	**P**		**23 11 23.0 +1.0**
BAIF	**Baives**	**22.43 322**	*e*P	**P**		**23 11 24.7 +3.0**
	comp=Z,14nm,0.8s					
BAIF	**Baives**	**22.43 322**	*e*P	**P**		**23 11 24.7 +3.0**
BAIF			pmax	pmax		
	comp=Z,14nm,0.8s					
BAIF	**Baives**	**22.43 322**	*e*P	**P**		**23 11 24.7 +3.0**
	comp=Z,14nm,0.8s					
OBN	**Obninsk**	**22.49 17**	*e*P	**P**		**23 11 22.7 +0.5**
OBN			*e*			23 11 46.7
OBN			*e*			23 15 14.4
OBN			pmax	pmax		
	comp=Z,8.0nm,0.7s					
OBN			MLR	MLR		
	comp=Z,100nm,15.0s					
OBN	**Obninsk**	**22.49 17**	*e*PcP	**PcP**		**23 15 14.4 -1.7**
IKAZ	**Kazeroun**	**22.71 93**	*e*P	**P**		**23 11 26.3 +1.1**
SJPF	**Ste Jean**	**22.74 301**	*e*P	**P**		**23 11 27.7 +2.6**
	comp=Z,46nm,1.3s					
SJPF	**Ste Jean**	**22.74 301**	*e*P	**P**		**23 11 27.7 +2.6**
SJPF			pmax	pmax		
	comp=Z,46nm,1.3s					
SJPF	**Ste Jean**	**22.74 301**	*e*P	**P**		**23 11 27.7 +2.6**
	comp=Z,46nm,1.3s					
MFF	**Saint Martin d**	**23.17 311**	*e*P	**P**		**23 11 31.8 +2.4**
	comp=Z,20nm,0.9s					
MFF	**Saint Martin d**	**23.17 311**	*e*P	**P**		**23 11 31.8 +2.4**
MFF			pmax	pmax		
	comp=Z,20nm,0.9s					
MFF	**Saint Martin d**	**23.17 311**	*e*P	**P**		**23 11 31.8 +2.4**
	comp=Z,20nm,0.9s					
ISAD	**Sadrabad**	**23.69 87**	*e*P	**P**		**23 11 35.1 -0.1**
IPAR	**Pars**	**23.70 92**	*e*P	**P**		**23 11 36.3 +1.1**
ISRV	**Sarvestan**	**23.89 94**	*e*P	**P**		**23 11 38.9 +1.8**
LDF	**La Druitiere**	**24.02 315**	*e*P	**P**		**23 11 39.0 +1.2**
LDF	**La Druitiere**	**24.02 315**	*e*P	**P**		**23 11 39.0 +1.2**
LDF	**La Druitiere**	**24.02 315**	*e*P	**P**		**23 11 39.0 +1.2**
ESDC	**Sonseca Array**	**24.21 292**	P	**P**		**23 11 40.0 +0.2**
ESDC	**Sonseca Array**	**24.21 292**	P	**P**		**23 11 40.0 +0.2**
	comp=Z,2.2nm,0.6s,baz=83,slow=9.2,SNR=12					
ESLA	**Sonseca Array**	**24.21 292**	*e*P	**P**		**23 11 40.2 +0.4**
	comp=Z,2.8nm,1.0s					
FLN	**La Foliniere**	**24.31 315**	*e*P	**P**		**23 11 41.6 +1.1**
	comp=Z,102nm,1.5s					
FLN			*e*R			
	comp=Z,113nm,20.8s					
FLN	**La Foliniere**	**24.31 315**	*e*P	**P**		**23 11 41.6 +1.1**
FLN			pmax	pmax		
	comp=Z,103nm,1.5s					
FLN	**La Foliniere**	**24.31 315**	*e*P	**P**		**23 11 41.6 +1.1**
	comp=Z,102nm,1.5s					
GRR	**Gorron**	**24.36 314**	*e*P	**P**		**23 11 43.1 +2.1**
GRR	**Gorron**	**24.36 314**	*e*P	**P**		**23 11 43.1 +2.1**
GRR	**Gorron**	**24.36 314**	*e*P	**P**		**23 11 43.1 +2.1**
IMEH	**Mehriz**	**24.58 88**	*e*P	**P**		**23 11 41.7 -1.8**
MDT	**Midelt**	**25.15 276**	P	**P**		**23 11 48.8 +0.4**
MDT	**Midelt**	**25.15 276**	P	**P**		**23 11 48.8 +0.4**
	comp=Z,3.5nm,0.8s,baz=85,slow=12,SNR=5.5					
IBAF	**Bafgh**	**25.33 87**	*e*P	**P**		**23 11 51.5 +1.4**
SGMF	**Saint Gilles**	**25.33 313**	*e*P	**P**		**23 11 52.5 +2.7**
SGMF	**Saint Gilles**	**25.33 313**	*e*P	**P**		**23 11 52.5 +2.7**
SGMF	**Saint Gilles**	**25.33 313**	*e*P	**P**		**23 11 52.5 +2.7**
QUIF	**Quistinic**	**25.57 312**	*e*P	**P**		**23 11 54.8 +2.9**
QUIF	**Quistinic**	**25.57 312**	*e*P	**P**		**23 11 54.8 +2.9**
QUIF	**Quistinic**	**25.57 312**	*e*P	**P**		**23 11 54.8 +2.9**
HFS	**Hagfors**	**27.28 347**	P	**P**		**23 12 06.9 -0.3**
HFS	**Hagfors**	**27.28 347**	P	**P**		**23 12 06.9 -0.3**
	comp=Z,2.1nm,0.7s,baz=123,slow=10,SNR=4.3					
EVO	**Evora**	**27.33 289**	*e*P	P		23 12 15.4 +7.5
	comp=Z,15nm,0.9s					
EVO			*e*R			
	comp=Z,64nm,18.8s					
EVOP	**Sao Brissos**	**27.42 289**	*e*P	P		23 12 15.4 +6.7
EVOP			pmax	pmax		
	comp=Z,15nm,0.9s					
EVOP	**Sao Brissos**	**27.42 289**	*e*P	P		23 12 15.4 +6.7
	comp=Z,15nm,0.9s					
FINES	**FINESS Array B**	**27.47 1**	P	**P**		**23 12 06.6 -2.3**
FINES			PcP	**PcP**		**23 15 27.8 +0.7**
FINES	**FINESS Array B**	**27.47 1**	P	**P**		**23 12 06.6 -2.3**
	comp=Z,2.2nm,0.7s,baz=178,slow=13,SNR=6.7					
FINES			PcP	**PcP**		**23 15 27.8 +0.7**
	comp=Z,2.0nm,0.9s,baz=94,slow=6.3,SNR=2.8					
KAF	**Kangasniemi**	**28.15 1**	*e*P	**P**		**23 12 12.7 -2.3**
KAF			pmax	pmax		
	comp=Z,4.0nm,0.7s					
KAF	**Kangasniemi**	**28.15 1**	*e*p	**P**		**23 12 12.7 -2.3**
	comp=Z,3.9nm,0.7s					
KLMR	**Klimovskoe**	**28.37 14**	*e*P	**P**		**23 12 15.2 -1.8**
KLMR			pmax	pmax		
	comp=Z,15nm,1.0s					
NB2	**NORSAR Subarra**	**28.61 345**	P	**P**		**23 12 19.5 +0.4**
	comp=Z,1.0nm,0.6s,baz=159,slow=11					
NB2	**NORSAR Subarra**	**28.61 345**	P	**P**		**23 12 19.5 +0.4**
	comp=Z,1.0nm,0.6s,SNR=5.1					
NOA	**NORSAR Array B**	**28.61 345**	P	**P**		**23 12 19.1 0.0**
NOA	**NORSAR Array B**	**28.61 345**	P	**P**		**23 12 19.1 0.0**
	comp=Z,0.7nm,0.8s,baz=138,slow=8.5,SNR=5.8					
NOA	**NORSAR Array B**	**28.61 345**	P	**P**		**23 12 19.1 0.0**
AKTK	**Aktyubinsk**	**28.84 45**	P	**P**		**23 12 20.8 -0.5**
AKTO	**Aktyubinsk**	**28.84 45**	P	**P**		**23 12 20.8 -0.5**
AKTO	**Aktyubinsk**	**28.84 45**	P	**P**		**23 12 20.8 -0.5**
AKTO	**Aktyubinsk**	**28.84 45**	P	**P**		**23 12 20.8 -0.5**
	comp=Z,2.0nm,0.8s,baz=271,slow=5.7,SNR=8.1					
AKTO	**Aktyubinsk**	**28.84 45**	P	**P**		**23 12 20.8 -0.5**
EKA	**Eskdalemuir Ar**	**29.17 326**	P	**P**		**23 12 24.3 +0.1**
EKA	**Eskdalemuir Ar**	**29.17 326**	P	**P**		**23 12 24.3 +0.1**
	comp=Z,1.5nm,0.7s,baz=129,slow=7.9,SNR=4.9					
EKA	**Eskdalemuir Ar**	**29.17 326**	P	**P**		**23 12 24.3 +0.1**
JOF	**Joensuu**	**29.18 5**	*e*P	**P**		**23 12 21.3 -2.8**
JOF			pmax	pmax		
	comp=Z,3.0nm,0.5s					
JOF	**Joensuu**	**29.18 5**	*e*p	**P**		**23 12 21.3 -2.8**
	comp=Z,3.4nm,0.5s					
ABKAR	**Akbulak array**	**29.60 49**	*e*P	**P**		**23 12 28.8 +0.7**
	comp=Z,2.1nm,0.7s					
ABKAR			*e*PcP	**PcP**		**23 15 33.0 +0.3**
ABKAR	**Akbulak array**	**29.60 49**	*e*P	**P**		**23 12 28.8 +0.7**
	comp=Z,2.1nm,0.7s					
ABKAR	**Akbulak array**	**29.60 49**	*e*PcP	**PcP**		**23 15 33.0 +0.3**
TORD	**Torodi Ar. Bea**	**29.99 232**	P	**P**		**23 12 31.6 -0.2**
TORD			PcP	**PcP**		**23 15 35.4 +1.2**
TORD	**Torodi Ar. Bea**	**29.99 232**	P	**P**		**23 12 31.6 -0.2**
	comp=Z,0.6nm,0.6s,baz=37,slow=8.1,SNR=11					
TORD			PcP	**PcP**		**23 15 35.4 +1.2**
	comp=Z,0.2nm,0.7s,baz=16,slow=3.1,SNR=2.5					
TORD	**Torodi Ar. Bea**	**29.99 232**	P	**P**		**23 12 31.6 -0.2**
SVE	**Sverdlovsk**	**33.02 35**	*e*P	**P**		**23 12 58.7 +0.6**
SVE	**Sverdlovsk**	**33.02 35**	*e*P	**P**		**23 12 58.7 +0.6**
ARCES	**ARCESS Array B**	**35.60 360**	P	**P**		**23 13 18.7 -1.5**
ARCES	**ARCESS Array B**	**35.60 360**	P	**P**		**23 13 18.7 -1.5**
	comp=Z,2.0nm,0.7s,baz=187,slow=9.3,SNR=5.8					
KKAR	**Karatay Array**	**35.97 62**	*e*P	**P**		**23 13 24.7 +0.8**
KKAR			pmax	pmax		
	comp=Z,1.0nm,0.7s					
KKAR	**Karatay Array**	**35.97 62**	*e*P	**P**		**23 13 24.6 +0.8**
	comp=Z,1.5nm,0.7s					
KKAR	**Karatay Array**	**35.97 62**	*e*P	**P**		**23 13 24.6 +0.7**
	comp=Z,1.5nm,0.7s					
KMBO	**Kilima Mbogo**	**36.63 160**	*e*P	**P**		**23 13 27.7 -2.2**
BRVK	**Borovoye**	**36.89 45**	*ce*P	**P**		**23 13 32.8 +1.3**
BRVK			pmax	pmax		
	comp=Z,2.0nm,0.8s					
BRVK	**Borovoye**	**36.89 45**	*e*P	**P**		**23 13 32.8 +1.3**
	comp=Z,2.0nm,0.8s					
AAK	**Ala-Archa**	**38.92 62**	*ce*P	**P**		**23 13 50.4 +1.4**
AAK			pmax	pmax		
	comp=Z,5.0nm,1.7s					
AAK	**Ala-Archa**	**38.92 62**	*e*P	**P**		**23 13 50.4 +1.4**
	comp=Z,5.0nm,1.7s					
LIC	**Lamto**	**39.53 233**	*e*P	P		23 13 58.4 +4.3
LIC			*e*R			
	comp=Z,222nm,18.2s					
LIC	**Lamto**	**39.53 233**	*e*P	**P**		23 13 58.4 +4.3
MK31	**Makanchi Array**	**44.18 56**	*e*P	**P**		**23 14 32.6 +0.7**
MK31	**Makanchi Array**	**44.18 56**	*e*P	**P**		**23 14 32.6 +0.7**
MK31	**Makanchi Array**	**44.18 56**	*e*P	**P**		**23 14 32.6 +0.7**
MKAR	**Makanchi Array**	**44.18 56**	P	**P**		**23 14 32.7 +0.8**
MKAR						23 16 16.3
MKAR	**Makanchi Array**	**44.18 56**	P	**P**		**23 14 32.6 +0.8**
MKAR			PcP	**PcP**		**23 16 16.3 -0.4**
MKAR	**Makanchi Array**	**44.18 56**	P	**P**		**23 14 32.6 +0.8**
	comp=Z,3.2nm,0.6s,baz=280,slow=6.6,SNR=39					
MKAR			PcP	**PcP**		**23 16 16.3 -0.4**
	comp=Z,0.4nm,0.7s,baz=327,slow=2.1,SNR=2.8					
MKAR	**Makanchi Array**	**44.18 56**	P	**P**		**23 14 32.7 +0.8**
NVS	**Novosibirsk**	**44.71 44**	*i*P	**P**		**23 14 35.5 -0.5**
NVS			pmax	pmax		
	comp=Z,7.0nm,1.3s					
NVS			pmax	pmax		
	comp=N,2.0nm,1.7s					
NVS			pmax	pmax		
	comp=E,4.0nm,1.0s					
NVS	**Novosibirsk**	**44.71 44**	*i*P	**P**		**23 14 35.5 -0.5**
	comp=E,2.0nm,1.7s					
ZAA0	**Zalesovo Array**	**45.60 45**	*e*P	**P**		**23 14 42.2 -0.9**
ZAA0	**Zalesovo Array**	**45.60 45**	*e*P	**P**		**23 14 42.2 -0.9**
ZALV	**Zalesovo Beam**	**45.60 45**	P	**P**		**23 14 43.0 -0.1**
ZALV	**Zalesovo Beam**	**45.60 45**	P	**P**		**23 14 43.0 -0.1**
ZALV	**Zalesovo Beam**	**45.60 45**	P	**P**		**23 14 43.0 -0.1**
	comp=E,3.3nm,0.5s,baz=270,slow=8.3,SNR=18					
ZALV	**Zalesovo Beam**	**45.60 45**	P	**P**		**23 14 43.0 -0.1**
HVS	**Khovu-Aksy**	**51.19 49**	*i*P	**P**		**23 15 27.3 +0.9**
HVS			pmax	pmax		
	comp=Z,25nm,0.9s					
HVS	**Khovu-Aksy**	**51.19 49**	*i*P	**P**		**23 15 27.3 +0.9**
	comp=Z,25nm,0.9s					
ZAK	**Zakamensk**	**57.30 48**	*e*P	**P**		**23 16 08.7 -2.2**
ZAK			pmax	pmax		
	comp=Z,2.0nm,1.0s					
SONM	**Songino Array**	**60.00 50**	P	**P**		**23 16 30.7 +0.9**
SONM	**Songino Array**	**60.00 50**	P	**P**		**23 16 30.7 +0.9**
	comp=Z,0.7nm,0.6s,baz=273,slow=8.3,SNR=6.1					
SONM	**Songino Array**	**60.00 50**	P	**P**		**23 16 30.7 +0.9**
ULN	**Ulaanbaatar**	**60.41 50**	*e*P	**P**		**23 16 33.2 +0.6**
BOSA	**Boshof**	**62.26 180**	P	**P**		**23 16 46.2 +1.1**
BOSA	**Boshof**	**62.26 180**	P	**P**		**23 16 46.2 +1.1**
	comp=Z,2.3nm,1.0s,baz=22,slow=6.2,SNR=2.5					
BOSA	**Boshof**	**62.26 180**	P	**P**		**23 16 46.2 +1.1**
SCHQ	**Schefferville**	**64.27 320**	P	**P**		**23 16 58.3 +0.1**
SCHQ	**Schefferville**	**64.27 320**	P	**P**		**23 16 58.3 +0.1**
	comp=Z,3.9nm,0.5s,baz=108,slow=3.0,SNR=4.5					
SCHQ	**Schefferville**	**64.27 320**	P	**P**		**23 16 58.3 +0.1**
USRK	**Ussuriysk Arra**	**77.45 45**	P	**P**		**23 18 18.4 -0.1**
	comp=Z,1.6nm,0.6s,baz=241,slow=5.9,SNR=3.6					
YKA	**Yellowknife Ar**	**78.65 342**	P	**P**		**23 18 25.1 +0.3**
YKA	**Yellowknife Ar**	**78.65 342**	P	**P**		**23 18 25.1 +0.3**
	comp=Z,0.7nm,0.6s,baz=31,slow=5.3,SNR=7.2					
YKA	**Yellowknife Ar**	**78.65 342**	P	**P**		**23 18 25.1 +0.3**
	comp=Z,2.0nm,0.6s					
IMA2	**Indian Mountai**	**80.26 360**	*e*P	**P**		**23 18 34.5 +0.8**
IMA2	**Indian Mountai**	**80.26 360**	*e*P	**P**		**23 18 34.5 +0.8**
ILAR	**Eielson Array**	**81.39 357**	P	**P**		**23 18 39.4 -0.1**
ILAR	**Eielson Array**	**81.39 357**	P	**P**		**23 18 39.4 -0.1**
	comp=Z,0.6nm,0.7s,baz=342,slow=5.7,SNR=4.3					
ILAR	**Eielson Array**	**81.39 357**	P	**P**		**23 18 39.4 -0.1**
BPAW	**Bear Paw Mtn.**	**82.20 358**	*e*P	**P**		**23 18 43.8 -0.1**
	comp=Z,2.3nm,0.7s					
BPAW	**Bear Paw Mtn.**	**82.20 358**	*e*P	**P**		**23 18 43.8 -0.1**
	comp=Z,2.3nm,0.7s					
PDAR	**Pinedale Array**	**93.26 329**	P	**P**		**23 19 39.1 +1.0**
PDAR	**Pinedale Array**	**93.26 329**	P	**P**		**23 19 39.1 +1.0**
	comp=Z,0.4nm,0.8s,baz=25,slow=3.0,SNR=2.6					
PDAR	**Pinedale Array**	**93.26 329**	P	**P**		**23 19 39.1 +1.0**
WRA	**Warramunga Arr**	**116.15 97**	PKP	**PKPdf**		**23 25 08.1 +1.2**
WRA	**Warramunga Arr**	**116.15 97**	PKP	**PKPdf**		**23 25 08.1 +1.2**
	comp=Z,0.5nm,1.0s,baz=306,slow=1.9,SNR=2.4					
ASAR	**Alice Springs**	**117.54 101**	PKP	**PKPdf**		**23 25 09.3 -0.2**
ASAR	**Alice Springs**	**117.54 101**	PKP	**PKPdf**		**23 25 09.3 -0.2**
	comp=Z,0.2nm,0.4s,baz=307,slow=1.3,SNR=3.0					

*IDC **14** 23:26:49.6±1.3, 33°.96N×25°.49E, h0km, mb3.6/4, mb1 3.5/10, mb1mx3.4/30, mbtmp3.5/10, ML3.6/6, Error ellipse: s-maj=23.7km s-min=19.4km az=31.0*
*HLW **14** 23:26:51.0, 34°.18N×25°.51E, h33km±19km, Md3.1, Ml3.2*
*ISCJB **14** 23:26:51.3±0.4, 34°.04N±0°.04×25°.81E±0°.04, h17km, mb3.4/4, Error ellipse: s-maj=6.4km s-min=3.4km az=42.0*
*CSEM **14** 23:26:53.0±0.3, 34°.11N×25°.74E, h19km, MD3.0, Error ellipse: s-maj=15.6km s-min=5.3km az=50.0*
*ATH **14** 23:26:54.1, 34°.18N×25°.63E, h10km±4km, MD3.0/5*

ISC 14 23:26:51.8±0.7, 34°.06N±0°.05×25°.69E±0°.04, h17km, n30, σ1§04/41, mb3.6/4, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NPS	**Neapolis**	**1.20**	**357**	*e*PB	**Pb**	**23 27 14.1**	**-0.1**
NPS	**Neapolis**	**1.20**	**357**	*e*Pb	**Pb**	**23 27 14.1**	**-0.1**
IDI	**Anoyia**	**1.39**	**332**	*e*PN	**Pn**	**23 27 16.8**	**+0.2**
IDI				*e*SB	**Sb**	**23 27 35.5**	**+0.5**
IDI	**Anoyia**	**1.39**	**332**	Pn	**Pn**	**23 27 16.3**	**-0.2**
	4.9nm,0.3s,baz=155,slow=22,SNR=21						
IDI				Sn	**Sg**	**23 27 36.0**	**-0.9**
	26nm,0.3s,baz=53,slow=20,SNR=13						
IDI	**Anoyia**	**1.39**	**332**	*e*Pn	**Pn**	**23 27 16.8**	**+0.2**
IDI				*e*Sb	**Sb**	**23 27 35.5**	**+0.5**
GVD	**Gavdhos**	**1.54**	**301**	*e*PB	**Pg**	**23 27 21.5**	**+0.1**
GVD				*e*SB	**Sg**	**23 27 40.9**	**-0.5**
GVD	**Gavdhos**	**1.54**	**301**	*e*Pb	**Pg**	**23 27 21.5**	**+0.1**
GVD				*e*Sb	**Sg**	**23 27 40.9**	**-0.5**
VAM	**Vamos**	**1.82**	**318**	*e*PN	**Pn**	**23 27 22.4**	**0.0**
VAM				*e*SB	**Sg**	**23 27 49.3**	**-1.2**
VAM	**Vamos**	**1.82**	**318**	*e*Pn	**Pn**	**23 27 22.4**	**0.0**
VAM				*e*Sb	**Sg**	**23 27 49.3**	**-1.2**
KARP	**Karpathos**	**1.92**	**39**	*e*PG	**Pg**	**23 27 28.5**	**-0.2**
KARP	**Karpathos**	**1.92**	**39**	*e*Pg	**Pg**	**23 27 28.5**	**-0.2**
ARG	**Arkhangelos**	**2.94**	**42**	*e*PB	**Pb**	**23 27 42.5**	**-1.2**
HMAT	**Matruh**	**3.19**	**158**	S	**Sn**	**23 28 18.7**	**-0.1**
	baz=156						
HMAT	**Matruh**	**3.19**	**158**	P	**Pn**	**23 27 41.5**	**+0.3**
HMAT				S	**Sn**	**23 28 18.7**	**-0.1**
SWA2		**4.80**	**182**	P	**Pn**	**23 28 02.8**	**-0.6**
	baz=181						
HNAT	**Natroun**	**6.09**	**135**	P	**Pn**	**23 28 22.0**	**+1.0**
	baz=134						
GLL	**Jalalah**	**6.80**	**129**	P	**Pn**	**23 28 31.6**	**+0.8**
	baz=129						
GLL	**Jalalah**	**6.80**	**129**	P	**Pn**	**23 28 31.6**	**+0.8**
RSH		**7.46**	**112**	P	**Pn**	**23 28 40.8**	**+0.9**
	baz=112						
RSH		**7.46**	**112**	P	**Pn**	**23 28 40.8**	**+0.9**
MMAI	**Mount Meron Ar**	**8.18**	**95**	Pn	**Pn**	**23 28 51.2**	**+1.4**
	1.5nm,0.3s,baz=266,slow=11,SNR=15						
MMAI				Sn	**Sn**	**23 30 21.9**	**0.0**
	1.5nm,0.3s,baz=263,slow=23,SNR=6.2						
BRTR	**Keskin Array B**	**8.52**	**46**	Pn	Pn	23 28 59.0	+4.5
	0.1nm,0.3s,baz=195,slow=13,SNR=4.5						
BRTR				Sn	**Sn**	**23 30 30.4**	**+0.1**
	0.1nm,0.3s,baz=212,slow=32,SNR=2.3						
EIL	**Elat**	**9.01**	**117**	Pn	**Pn**	**23 29 02.2**	**+1.1**
	0.7nm,0.3s,baz=207,slow=9.5,SNR=12						
EIL				Sn	**Sn**	**23 30 38.2**	**-4.0**
	0.3nm,0.3s,baz=332,slow=18,SNR=2.3						
ASF	**Jabal al Asfar**	**9.59**	**98**	Pn	**Pn**	**23 29 09.9**	**+0.7**
	0.1nm,0.3s,baz=254,slow=7.4,SNR=2.3						
ASF				Sn	**Sn**	**23 30 56.8**	**+0.2**
	0.1nm,0.3s,baz=0.0,slow=20,SNR=2.1						
AKASG	**Malin Array Be**	**16.83**	**8**	Pn	**P**	**23 30 47.9**	**-0.7**
	0.8nm,0.3s,baz=198,slow=8.8,SNR=5.8						
GERES	**GERESS Array B**	**17.26**	**332**	Pn	**P**	**23 30 52.7**	**-0.8**
	0.1nm,0.3s,baz=144,slow=12,SNR=2.3						
HFS	**Hagfors**	**27.25**	**347**	P	**P**	**23 32 36.3**	**+1.5**
	1.5nm,0.8s,baz=160,slow=14,SNR=3.0						
TORD	**Torodi Ar. Bea**	**30.14**	**232**	P	**P**	**23 32 59.9**	**-1.0**
	0.2nm,0.5s,baz=33,slow=7.9,SNR=6.3						
MKAR	**Makanchi Array**	**44.03**	**56**	P	**P**	**23 35 00.5**	**+2.0**
	0.5nm,0.6s,baz=275,slow=6.5,SNR=6.8						
ZALV	**Zalesovo Beam**	**45.46**	**45**	P	**P**	**23 35 11.3**	**+1.5**
	0.4nm,0.4s,baz=289,slow=9.0,SNR=3.3						

NEIC 14 23:28:58.2, 53°.61N×164°.25W, h29km, ML3.5(AEIC), After AEIC., Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**0.89**	**347**	P	Pn	23 29 13.6	-1.4
AKA	**Akutan**	**1.05**	**301**	P	Pn	23 29 16.0	-0.9
AKA				S	Sn	23 29 29.9	-0.7
AKUT	**Akutan**	**1.05**	**301**	P	Pn	23 29 15.6	-1.3
AKUT				S	Sn	23 29 29.4	-1.2
BRPK	**Brown Peak**	**1.08**	**16**	P	Pn	23 29 15.9	-1.6
BRPK				S	Sn	23 29 30.0	-1.6
ZRO	**Akutan Zero**	**1.14**	**296**	P	Pn	23 29 21.9	-1.2
ZRO				S	Sn	23 29 30.9	-2.0
SSLW	**Shishaldin Wes**	**1.17**	**4**	P	Pn	23 29 17.4	-1.3
SSBA	**Shishaldin**	**1.17**	**3**	P	Pn	23 29 17.3	-1.5
SSBA				S	Sn	23 29 32.7	-1.2
AKGG	**Akutan Green G**	**1.19**	**301**	P	Pn	23 29 17.8	-1.2
AKGG				S	Sn	23 29 33.2	-1.0
LVA	**Lava Point**	**1.20**	**298**	P	Pn	23 29 17.7	-1.3
LVA				S	Sn	23 29 32.9	-1.4
AKRB	**Akutan Reef Bi**	**1.20**	**297**	P	Pn	23 29 17.8	-1.3
AKRB				S	Sn	23 29 33.3	-1.2
FALS	**False Pass**	**1.35**	**21**	P	Pn	23 29 19.9	-1.1
FALS				S	Sn	23 29 36.9	-1.1
MTBL	**Makushin Table**	**1.49**	**285**	P	Pn	23 29 21.9	-1.2
MREP	**Makushin Rep't**	**1.50**	**279**	P	Pn	23 29 22.5	-0.7
MCIR	**Makushin Cirqu**	**1.61**	**284**	P	Pn	23 29 23.8	-1.0
DRIA	**Deer Island**	**1.79**	**40**	P	Pn	23 29 25.9	-1.3
DT1	**Dutton Round H**	**1.89**	**37**	P	Pn	23 29 27.6	-1.0
DTNA	**Dutton South F**	**1.94**	**36**	P	Pn	23 29 28.3	-0.9
DOL	**Dolgoi Island**	**2.08**	**41**	P	Pn	23 29 30.3	-0.9
PS4A	**Pavlof South-4**	**2.23**	**38**	P	Pn	23 29 33.1	-0.2
SDPT	**Sand Point**	**2.81**	**50**	P	Pn	23 29 40.6	-0.5
SDPT				S	Sn	23 30 12.2	-1.8
NIKH	**Nikolski High**	**2.84**	**259**	P	Pn	23 29 40.6	-0.9
CHGN	**Chignik**	**4.31**	**49**	*e*Pn	Pn	23 30 00.9	-0.8
CHGN				*e*Sn	Sn	23 30 47.5	-3.5

IDC 14 23:59:04.3±4.8, 15°.63S×172°.87W, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.9/21, mbtmp3.9/6, ML1.6/1, MS3.4/4, Ms1 3.4/4, ms1mx3.0/33, Error ellipse: s-maj=208.4km s-min=22.8km az=136.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.01**	**32**	Pn	Pn	23 59 38.1	-1.5
	12nm,0.3s,baz=46,slow=7.4,SNR=10						
AFI				Sn	Sn	23 59 58.3	-7.3
	48nm,0.3s,baz=61,slow=19,SNR=11						
RAR	**Rarotonga**	**13.61**	**116**	LR	LR	00 05 44.4	
	comp=Z,184nm,18.5s,baz=270,slow=29						
PPT	**Papeete**	**22.41**	**98**	LR	LR	00 10 35.2	
	comp=Z,24nm,19.1s,baz=180,slow=31						
HNR	**Honiara**	**27.22**	**280**	LR	LR	00 13 56.9	
	comp=Z,100nm,19.1s,baz=153,slow=33						
STKA	**Stephens Creek**	**44.36**	**240**	P	P	00 07 16.8	+0.2
	2.1nm,0.8s,baz=84,slow=11,SNR=6.0						
WRA	**Warramunga Arr**	**50.29**	**257**	P	P	00 08 02.8	-0.2
	0.8nm,0.6s,baz=97,slow=6.3,SNR=12						
ASAR	**Alice Springs**	**50.52**	**252**	P	P	00 08 04.3	-0.4
	2.2nm,0.6s,baz=88,slow=7.9,SNR=24						
FITZ	**Fitzroy Crossi**	**58.66**	**258**	P	P	00 09 03.4	-0.6
	0.7nm,0.6s,baz=90,slow=9.1,SNR=4.0						
ILAR	**Eielson Array**	**82.57**	**11**	P	P	00 11 30.2	+1.5
	0.4nm,0.8s,baz=216,slow=4.5,SNR=3.4						
LPAZ	**La Paz**	**99.26**	**110**	LR	LR	00 47 14.5	
	comp=Z,33nm,19.7s,baz=96,slow=29						
BRTR	**Keskin Array B**	**146.65**	**321**	PKPbc	PKPab	00 18 51.0	+1.5
	0.8nm,0.7s,baz=42,slow=2.3,SNR=5.4						

IDC 15 00:03:59.1±0.9, 6°.09S×151°.01E, h45km±6km, mb3.8/8, mb1 4.0/9, mb1mx3.7/18, mbtmp3.8/9, ML3.0/1, MS4.0/1, Ms1 4.0/1, ms1mx2.3/27, Error ellipse: s-maj=40.4km s-min=13.1km az=127.0, New Britain region

| Code | Station Name

comp=E,0.1nm,0.3s,baz=186,slow=13,SNR=2.4
KSRS Korea Array 20.07 68 P **P 00 26 05.2 +1.4**
comp=E,0.9nm,0.5s,baz=269,slow=8.4,SNR=3.3
MKAR Makanchi Array 22.45 317 P **P 00 26 30.2 +0.8**
comp=E,0.4nm,0.6s,baz=116,slow=12,SNR=4.9
ZALV Zalesovo Beam 26.00 333 P **P 00 27 03.5 +0.4**
comp=E,0.5nm,0.4s,baz=138,slow=12,SNR=4.5
KURBB Kurchatov Arra 26.65 322 P **P 00 27 09.9 +0.9**
comp=E,0.2nm,0.3s,baz=126,slow=9.0,SNR=5.1
BRTR Keskin Array B 56.49 299 P **P 00 31 12.4 -0.3**
comp=E,0.3nm,0.6s,baz=102,slow=7.6,SNR=2.7
FINES FINESS Array B 56.93 326 P **P 00 31 15.2 0.0**
comp=E,1.4nm,0.8s,baz=64,slow=6.3,SNR=3.6
WRA Warramunga Arr 59.12 147 P **P 00 31 30.3 -0.8**
comp=E,1.3nm,0.6s,baz=338,slow=7.3,SNR=10.0
ASAR Alice Springs 62.16 149 P **P 00 31 51.2 -0.6**
comp=E,0.5nm,0.8s,baz=335,slow=6.3,SNR=5.8
HFS Hagfors 63.13 326 P **P 00 31 57.9 0.0**
comp=E,0.9nm,0.5s,baz=96,slow=12,SNR=4.5
YKA Yellowknife Ar 80.74 17 P **P 00 33 42.5 -0.9**
comp=E,0.3nm,0.6s,baz=323,slow=4.8,SNR=4.0

IDC 15 00:25:14.0±7.0, 17°.79S×177°.91W, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/18, mbtmp3.6/3, Error ellipse: s-maj=341.4km s-min=41.8km az=146.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.12**	**259**	P	P	00 33 32.1	-0.5
	0.7nm,1.1s,baz=92,slow=6.2,SNR=14						
ASAR	**Alice Springs**	**45.28**	**254**	P	P	00 33 31.9	-1.9
	0.5nm,0.5s,baz=93,slow=8.8,SNR=5.7						
FITZ	**Fitzroy Crossi**	**53.52**	**260**	P	P	00 34 38.7	+1.9
	0.9nm,0.8s,baz=144,slow=8.7,SNR=2.3						
BRTR	**Keskin Array B**	**145.04**	**315**	PKPbc	PKPbc	00 44 51.8	-1.3
	0.5nm,0.6s,baz=122,slow=4.0,SNR=3.4						
GERES	**GERESS Array B**	**147.62**	**346**	PKPbc	PKPbc	00 45 00.1	-0.4
	0.3nm,0.4s,baz=29,slow=2.2,SNR=2.9						

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*ISCJB **15** 00:27:56.1±2.1, 12°.27N±0°.05×46°.19E±0°.05, h6km±14km, mb3.7/11, MS3.4/9, Error ellipse: s-maj=8.5km s-min=7.8km az=26.5*
*IDC **15** 00:27:56.9±1.0, 12°.23N×46°.18E, h0km, mb3.7/11, mb1 3.8/13, mb1mx3.7/28, mbtmp3.7/13, ML3.4/2, MS3.4/10, Ms1 3.4/10, ms1mx3.1/35, Error ellipse: s-maj=24.7km s-min=18.5km az=132.0*
*CSEM **15** 00:27:59.4, 12°.48N×46°.05E, h5km, ML4.1, After DHMR*
*DHMR **15** 00:27:59.4±2.1, 12°.48N×46°.05E, h5km±14km, ML4.1*
ISC 15 00:27:57.9±2.8, 12°.41N±0°.07×46°.06E±0°.07, h1km±16km, n25, σ1s75/29, mb3.8/11, MS3.3/9, 6C, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADEN	**Aden**	**1.11**	**289**	⇑*i*P	**Pb**	**00 28 20.1**	**+0.2**
ADEN				*i* S	**Sn**	**00 28 35.5**	**-1.0**
ADEN				AML	AML	00 28 38.0	
	comp=N,8μm,0.5s						
ADEN	**Aden**	**1.11**	**289**	⇑*i*P	**Pb**	**00 28 20.1**	**+0.2**
ADEN				*i* S	**Sn**	**00 28 35.5**	**-1.0**
	comp=N,4μm,0.5s						
BDHA	**Al Bayda'**	**1.62**	**343**	⇑*i*P	**Pn**	**00 28 27.8**	**-0.1**
BDHA				AML	AML	00 28 42.1	
	comp=N,4μm,0.6s						
BDHA				*i* S	**Sg**	**00 28 50.2**	**+0.1**
BDHA	**Al Bayda'**	**1.62**	**343**	⇑*i*P	**Pn**	**00 28 27.8**	**-0.1**
	comp=N,2μm,0.6s						
BDHA				*i* S	**Sg**	**00 28 50.2**	**+0.1**
LBOS		**1.65**	**332**	⇑*i*P	**Pn**	**00 28 28.6**	**+0.3**
LBOS				*i* S	**Sg**	**00 28 51.1**	**+0.2**
TRBA	**At Turbah**	**2.06**	**293**	⇑*i*P	**Pn**	**00 28 34.9**	**+1.0**
TRBA				*i* S	**Sb**	**00 29 02.8**	**+0.3**
TRBA				AML	AML	00 29 02.9	
	comp=E,882nm,0.3s						
ATD	**Arta Tunnel**	**3.26**	**255**	Pn	**Pn**	**00 28 49.9**	**-0.4**
	comp=E,8.0nm,0.3s,baz=56,slow=15,SNR=16						
ATD				Sn	**Sn**	**00 29 31.3**	**+1.5**
	comp=E,2.3nm,0.3s,baz=270,slow=20,SNR=2.4						
HAJJ	**Hajjah**	**4.04**	**324**	*i* P	**Pn**	**00 29 04.1**	**+3.0**
HAJJ				*i* S	**Sb**	**00 29 55.5**	**-4.1**
HAJJ	**Hajjah**	**4.04**	**324**	*i* P	**Pn**	**00 29 04.1**	**+3.0**
HAJJ				*i* S	**Sb**	**00 29 55.5**	**-4.1**
KMBO	**Kilima Mbogo**	**16.04**	**214**	Pn	**Pn**	**00 31 42.4**	**-2.8**
	comp=E,0.1nm,0.3s,baz=34,slow=15,SNR=6.0						
KMBO				LR	LR	00 37 11.5	
	comp=E,80nm,21.0s,baz=85,slow=35						
ASF	**Jabal al Asfar**	**21.39**	**338**	P	**P**	**00 32 48.8**	**+1.6**
	comp=E,1.4nm,0.5s,baz=153,slow=9.0,SNR=2.2						
ASF				LR	LR	00 40 33.7	
	comp=E,64nm,21.4s,baz=110,slow=35						
MMAI	**Mount Meron Ar**	**22.71**	**336**	LR	LR	00 42 01.8	
	comp=E,203nm,18.4s,baz=160,slow=37						
GNI	**Garni**	**27.65**	**358**	LR	LR	00 46 23.2	
	comp=E,156nm,18.4s,baz=230,slow=40						
BRTR	**Keskin Array B**	**29.34**	**340**	P	**P**	**00 34 04.0**	**+1.6**
	comp=E,1.2nm,0.9s,baz=153,slow=10.0,SNR=5.3						
KBZ	**Khabaz**	**31.32**	**356**	LR	LR	00 48 26.6	
	comp=E,47nm,19.3s,baz=188,slow=39						
AKASG	**Malin Array Be**	**40.58**	**344**	P	**P**	**00 35 39.4**	**+0.4**
	comp=E,0.3nm,0.4s,baz=170,slow=8.3,SNR=5.7						
TORD	**Torodi Ar. Bea**	**43.23**	**276**	P	**P**	**00 36 02.4**	**+1.2**
	comp=E,0.9nm,1.1s,baz=69,slow=7.9,SNR=2.3						
GERES	**GERESS Array B**	**45.13**	**330**	P	**P**	**00 36 17.1**	**+1.1**
	comp=E,1.0nm,0.7s,baz=139,slow=6.3,SNR=5.0						
GERES				LR	LR	00 54 00.0	
	comp=E,25nm,20.2s,baz=140,slow=34						
BOSA	**Boshof**	**45.48**	**206**	P	P	00 36 16.6	-2.5
	comp=E,3.3nm,1.0s,baz=31,slow=5.9,SNR=3.5						
BOSA				LR	LR	00 55 47.2	
	comp=E,94nm,18.7s,baz=217,slow=37						
MKAR	**Makanchi Array**	**45.84**	**34**	P	**P**	**00 36 21.8**	**+0.2**
	comp=E,1.1nm,0.7s,baz=230,slow=6.8,SNR=7.7						
MKAR				LR	LR	00 57 50.3	
	comp=E,20nm,18.7s,baz=108,slow=39						
KURBB	**Kurchatov Arra**	**46.40**	**28**	P	**P**	**00 36 25.8**	**-0.1**
	comp=E,0.9nm,0.8s,baz=226,slow=8.0,SNR=5.0						
ZALV	**Zalesovo Beam**	**51.50**	**28**	P	**P**	**00 37 03.5**	**-1.4**
	comp=E,0.6nm,0.5s,baz=232,slow=7.0,SNR=4.7						
NOA	**NORSAR Array B**	**54.77**	**340**	P	**P**	**00 37 28.8**	**-0.3**
	comp=E,0.4nm,0.7s,baz=143,slow=6.1,SNR=2.9						
NOA				LR	LR	01 03 21.7	
	comp=E,27nm,18.9s,baz=145,slow=39						
MAW	**Mawson**	**80.73**	**174**	LR	LR	01 10 43.1	
	comp=E,47nm,19.8s,baz=186,slow=32						
WRA	**Warramunga Arr**	**92.57**	**110**	P	**P**	**00 41 10.8**	**-1.0**
	comp=E,0.4nm,0.7s,baz=293,slow=3.3,SNR=11						

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*LDG **15** 00:30:20.3±0.1, 53°.77N×1°.17E, h6km, Ml3.4/16, Error ellipse: s-maj=3.0km s-min=1.4km az=52.0*
*IDC **15** 00:30:20.6±1.2, 53°.63N×0°.79E, h0km, mb3.5/3, mb1 3.5/9, mb1mx3.4/28, mbtmp3.3/9, MS3.1/1, Ms1 3.1/1, ms1mx2.1/35, Error ellipse: s-maj=21.8km s-min=18.8km az=65.0*
*CSEM **15** 00:30:20.7±0.1, 53°.66N×1°.26E, h12km, ML3.4/9, Error ellipse: s-maj=4.4km s-min=2.6km az=54.0*
*BGS **15** 00:30:22.2±1.5, 53°.75N×1°.12E, h6km±9km, ML3.3*
ISC 15 00:30:21.2±0.8, 53°.64N±0°.02×1°.23E±0°.02, h20km±3km, n223, σ1s34/266, mb3.4/3, North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMK	**Market Rasen**	**0.94**	**260**	*e*P	**Pb**	**00 30 39.4**	**+0.6**
LMK				*e*S	**Sb**	**00 30 50.7**	**-0.2**
LMK				AML	AML	00 30 55.6	
	comp=E,2μm,0.3s						
LMK				AML	AML	00 30 56.4	
	comp=N,2μm,0.3s						
LMK	**Market Rasen**	**0.94**	**260**	*e*P	**Pb**	**00 30 39.4**	**+0.6**
LMK				*e*S	**Sb**	**00 30 50.7**	**-0.2**
LMK				AML	AML	00 30 55.6	
	comp=E,2μm,0.3s						
LMK				AML	AML	00 30 56.4	
	comp=N,2μm,0.3s						
LMK	**Market Rasen**	**0.94**	**260**	*e*P	**Pb**	**00 30 39.4**	**+0.6**
LMK				*e*S	**Sb**	**00 30 50.7**	**-0.2**
	comp=N,2μm,0.3s,SNR=70						
AEU	**East Anglia Un**	**1.02**	**180**	*e*P	**Pn**	**00 30 42.7**	**+2.4**
AEU				*e*S	**Sn**	**00 30 57.5**	**+3.5**
AEU				AML	AML	00 30 60.0	
	comp=N,209nm,0.5s						
AEU				AML	AML	00 31 00.4	
	comp=E,149nm,0.2s

BAIF Baives 4.03 152 *e*Pn **Pn 00 31 22.2 +0.5**
SNR=1.0
BAIF Baives 4.03 152 *e*P Pn 00 31 26.2 +4.5
BAIF *e*Sn **Sn 00 32 07.8 -0.5**
BAIF *e*Sg **Sg 00 32 30.7 +0.2**
comp=E,11nm,0.6s,SNR=1.0
BCLA Clavier 4.09 140 P Pn 00 31 26.0 +3.4
BCLA Clavier 4.09 140 P Pn 00 31 25.9 +3.4
EAB Aberfoyle 4.11 311 *e*P **Pn 00 31 23.5 +0.7**
EAB Aberfoyle 4.11 311 *e*P **Pn 00 31 23.5 +0.7**
EAB Aberfoyle 4.11 311 *e*P **Pn 00 31 23.5 +0.7**
EAB Aberfoyle 4.11 311 *e*P **Pn 00 31 23.5 +0.7**
DOU Dourbes 4.11 148 P **Pn 00 31 24.6 +1.7**
DOU Dourbes 4.11 148 P **Pn 00 31 24.5 +1.7**
GIVF Givet 4.18 146 *e*Pn **Pn 00 31 24.0 +0.2**
SNR=1.0
GIVF Givet 4.18 146 *e*P Pn 00 31 27.7 +3.9
GIVF *e*Sg **Sg 00 32 35.5 +0.1**
comp=E,48nm,0.6s
GIVF Givet 4.18 146 *e*Pn **Pn 00 31 24.0 +0.2**
SNR=1.0
GIVF Givet 4.18 146 *e*P Pn 00 31 27.7 +3.9
GIVF *e*Sg **Sg 00 32 35.5 +0.1**
comp=E,24nm,0.6s
MEM Membach 4.23 134 P **Pn 00 31 26.3 +1.9**
MEM Membach 4.23 134 P **Pn 00 31 26.3 +1.9**
MME1 Meikle Cairn 4.39 329 *e*P **Pn 00 31 26.8 +0.1**
MME1 Meikle Cairn 4.39 329 *e*P **Pn 00 31 26.8 +0.1**
MME1 Meikle Cairn 4.39 329 *e*P **Pn 00 31 26.8 +0.1**
MME1 Meikle Cairn 4.39 329 *e*P **Pn 00 31 26.8 +0.1**
MCD Coleburn Disti 4.70 329 *e*P **Pn 00 31 31.0 +0.1**
MCD AML AML 00 32 24.5
comp=E,21nm,0.4s
MCD AML AML 00 32 25.3
comp=N,36nm,0.5s

HEC	Hector,Ludlow	80.06	47	⇓P	P	01 08 41.3 +0.8
	baz=80,SNR=5.3					
YBH	Yreka Blue Hor	80.13	38	eP	P	01 08 41.8 +1.0
	19nm,1.2s					
YBH	Yreka Blue Hor	80.13	38	P	P	01 08 41.7 +1.0
	9.7nm,0.6s,baz=188,slow=1.8,SNR=31					
WAKR	Walker	80.13	42	eP	P	01 08 42.0 +1.0
GLA	Glamis	80.14	49	eP	P	01 08 42.0 +1.1
GLA	Glamis	80.14	49	⇑P	P	01 08 42.3 +1.5
	baz=80					
BEKR	Beckworth	80.38	41	eP	P	01 08 42.6 +0.4
	3.6nm,0.9s					
GMRC	Granite Mounta	80.50	47	⇑P	P	01 08 43.9 +1.0
	baz=81,SNR=6.0					
IRM	Iron Mountain	80.51	48	⇓P	P	01 08 44.0 +1.2
	baz=81,SNR=9.8					
HUMO	Hull Mountain	80.55	37	eP	P	01 08 43.1 +0.3
GRAC	Grapevine Rang	80.59	45	⇑P	P	01 08 44.2 +1.0
	baz=81,SNR=5.8					
NJ2	Nanjing	80.59	309	eP	P	01 08 44.0 +0.8
NJ2				pmax	pmax	
	comp=Z,15nm,1.0s					
FURC	Furnace Creek,	80.62	45	⇑P	P	01 08 44.8 +1.5
	baz=81					
TUQ	Turquoise Moun	80.68	47	⇓P	P	01 08 45.1 +1.3
	baz=81					
SHOC	Shoshone	80.69	46	⇑P	P	01 08 45.3 +1.5
	baz=81					
Y12C	Blythe	80.72	49	⇑P	P	01 08 45.4 +1.5
	baz=81,SNR=5.7					
113A	Mohawk Valley,	80.74	50	⇓P	P	01 08 45.4 +1.4
	baz=81,SNR=5.2					
PAHR	Pah Rah Range	80.88	41	eP	P	01 08 46.0 +1.2
	comp=Z,18nm,1.3s					
NV11	Mina Array Sit	80.91	43	eP	P	01 08 45.3 +0.3
214A	Organ Pipe Nat	81.00	51	⇓P	P	01 08 46.9 +1.4
	baz=81					
MDJ	Mudanjiang	81.16	325	P	P	01 08 47.3 +1.4
MDJ				pP	pP	01 10 08.4 -0.9
MDJ				sP	sP	01 10 44.0 -3.6
MDJ				pmax	pmax	
	comp=Z,14nm,0.7s					
MDJ				pmax	pmax	
	comp=Z,66nm,5.3s					
MDJ				LR	LR	
	comp=N,46nm,21.3s					
MDJ				LR	LR	
	comp=E,20nm,27.7s					
MDJ				LR	LR	
	comp=Z,26nm,16.7s					
MDJ	Mudanjiang	81.16	325	eP	P	01 08 46.5 +0.6
	comp=Z,6.3nm,0.5s					
PDMCI	Parker Dam,Lak	81.29	48	⇓P	P	01 08 48.3 +1.5
	baz=82,SNR=7.5					
MAW	Mawson	81.48	200	eP	P	01 08 47.9 +0.6
	comp=Z,1.5nm,1.1s					
MAW	Mawson	81.48	200	P	P	01 08 47.9 +0.6
	comp=Z,1.2nm,0.3s,baz=153,slow=8.1,SNR=10					
QIZ	Qiongzhong	81.59	294	P	P	01 08 49.3 +0.6
QIZ				S	S	01 18 31.4 +1.4
QIZ				pmax	pmax	
	comp=Z,27nm,2.4s					
Z14A	Wintersburg	81.64	50	⇓P	P	01 08 50.2 +1.6
	baz=82,SNR=9.7					
MOD	Modoc	81.65	39	eP	P	01 08 49.6 +0.9
	comp=Z,40nm,0.8s					
SHPR	Sheep Range	81.78	46	eP	P	01 08 50.6 +1.0
K05A	Summer Lake	81.81	38	eP	P	01 08 49.4 -0.2
	comp=Z,30nm,1.0s					
Y14A	Wickenburg	81.90	49	⇓P	P	01 08 51.2 +1.1
	baz=82,SNR=11					
H04A	Detroit Lake	82.30	36	eP	P	01 08 52.8 +0.9
	comp=Z,60nm,1.6s					
R11A	Troy Canyon, C	82.52	44	eP	P	01 08 54.2 +0.9
R11A	Troy Canyon, C	82.52	44	⇓P	P	01 08 54.5 +1.2
	baz=83					
BMN	Battle Mountai	82.65	42	eP	P	01 08 55.2 +1.2
TUC	Tucson	82.66	52	eP	P	01 08 55.7 +1.6
E03A	Lebam	82.75	34	eP	P	01 08 55.6 +1.5
	comp=Z,29nm,1.0s					
WVOR	Wild Horse Val	82.96	40	eP	P	01 08 55.4 0.0
	comp=Z,16nm,1.0s					
CN2	Changchun	82.96	322	⇓P	P	01 08 57.8 +2.6
CN2				epP	pP	01 10 18.8 -0.2
CN2				eS	S	01 18 46.0 +3.2
CN2				pmax	pmax	
	comp=Z,10.0nm,0.7s					
CN2				pmax	pmax	
	comp=Z,200nm,3.0s					
LVP	Lakeview Peak	83.06	35	P	P	01 08 56.9 +1.1
NLWA	Neilton Lookou	83.14	33	eP	P	01 08 56.9 +0.8
FL2	Flat Top 2	83.17	35	P	P	01 08 57.9 +1.6
OOW	Octopus West	83.20	33	P	P	01 08 58.2 +1.8
X16A	Lo Mia Camp, P	83.25	49	⇓P	P	01 08 58.9 +1.7
	baz=83,SNR=26					
319A	Douglas	83.31	53	⇑P	P	01 08 59.1 +1.7
	baz=84,SNR=9.7					
I07A	Izee	83.44	38	eP	P	01 08 59.0 +1.2
	comp=Z,16nm,0.9s					
VTHM	Trough	83.51	37	P	P	01 08 59.0 +1.0
CCUT	Cedar City	83.56	46	eP	P	01 09 00.5 +1.8
J08A	Circle Bar Ran	83.60	39	eP	P	01 08 59.9 +1.3
	comp=Z,29nm,1.3s					
U15A	North Rim	83.69	47	⇓P	P	01 09 01.1 +1.6
	baz=84,SNR=21					
LON	Longmire	83.81	35	eP	P	01 09 00.2 +0.7
	comp=Z,29nm,2.0s					
320A	Kipp Ranch, An	83.86	53	⇓P	P	01 09 02.2 +2.0
	baz=84,SNR=14					
WUAZ	Wupatki	83.86	49	eP	P	01 09 01.0 +0.8
	comp=Z,5.5nm,0.8s					
WUAZ	Wupatki	83.86	49	⇓P	P	01 09 02.2 +2.0
	baz=84					
WPW	White Pass	83.92	35	P	P	01 09 00.8 +0.7
D05A	Enumclaw	83.99	34	eP	P	01 09 02.1 +1.8
	comp=Z,48nm,1.4s					
ELK	Elko	84.07	42	eP	P	01 09 01.9 +0.7
220A	Playas Peak, P	84.13	53	⇓P	P	01 09 03.3 +1.7
	baz=84,SNR=11					
120A	U Bar Ranch, L	84.36	52	⇓P	P	01 09 04.6 +1.8
	baz=84,SNR=6.5					
X18A	Snowflake	84.37	50	⇑P	P	01 09 04.2 +1.4
	baz=84,SNR=5.5					
G08A	Pilot Rock	84.47	37	eP	P	01 09 03.8 +0.8
	comp=Z,22nm,1.0s					
Z20A	Nine Sixteen R	84.67	52	⇑P	P	01 09 06.0 +1.8
	baz=85,SNR=7.5					
LTY	Liberty	84.73	35	eP	P	01 09 04.7 +0.6
	comp=Z,7.3nm,1.0s					
HAWA	Hanford	84.82	36	eP	P	01 09 05.6 +1.1
	comp=Z,13nm,0.9s					
121A	Cookes Peak, D	84.98	53	⇑P	P	01 09 07.6 +1.8
	baz=85,SNR=8.5					
ETW	Entiat	85.13	35	P	P	01 09 06.9 +0.7
BMO	Blue Mountains	85.16	38	eP	P	01 09 06.6 +0.3
	comp=Z,5.0nm,1.1s					
Y20A	Horse Springs,	85.20	51	⇓P	P	01 09 08.6 +1.6
	baz=85,SNR=8.7					
MFID	Camas Ranch	85.21	40	⇓P	P	01 09 07.7 +1.1
	baz=85					
222A	Williams Famil	85.29	53	⇑P	P	01 09 09.2 +1.9
	baz=86					
DUG	Dugway	85.33	44	⇑P	P	01 09 09.3 +2.0
	baz=86					
X20A	Quemado	85.42	51	⇓P	P	01 09 09.8 +1.7
	baz=86					
Z21A	St. Cloud Mine	85.44	52	⇑P	P	01 09 09.7 +1.6
	baz=86,SNR=8.0					
122A	Conniff Cattle	85.65	53	⇓P	P	01 09 10.9 +1.9
	baz=86					
E09A	Wood Farm, Sta	85.66	36	eP	P	01 09 09.4 +0.8
	comp=Z,22nm,1.3s					
W20A	Ramah	85.70	50	⇑P	P	01 09 10.8 +1.4
	baz=86,SNR=6.5					
Q16A	Castle Valley	85.74	46	eP	P	01 09 10.2 +0.8
Q16A	Castle Valley	85.74	46	⇓P	P	01 09 11.7 +2.2
	baz=86					
WRAK	Wrangell Islan	85.75	23	eP	P	01 09 09.2 +0.4
	comp=Z,6.1nm,0.8s					
Y21A	Point of Rocks	85.77	51	⇑P	P	01 09 11.5 +1.8
	baz=86					
F10A	Beach Ranch, E	85.86	37	eP	P	01 09 09.9 +0.3
X21A	Alamocita Cree	85.89	51	⇑P	P	01 09 11.7 +1.4
	baz=86					
TMUT	Trail Mountain	85.91	45	eP	P	01 09 12.1 +1.7
Z22A	Elephant Butte	85.93	52	⇓P	P	01 09 11.7 +1.2
	baz=86,SNR=9.9					
V20A	Brimhall	86.05	49	⇑P	P	01 09 12.2 +1.2
	baz=86					
B08A	Colville Reser	86.12	35	eP	P	01 09 11.0 +0.2
	comp=Z,11nm,0.9s					
HLID	Hailey	86.14	40	eP	P	01 09 12.2 +1.0
HLID	Hailey	86.14	40	⇓P	P	01 09 12.2 +1.0
	baz=86					
HVU	Hansel Valley	86.19	43	eP	P	01 09 12.1 +0.6
	comp=Z,3.1nm,0.5s					
324A	Moseley Ranch,	86.21	54	⇓P	P	01 09 12.9 +1.1
	baz=86,SNR=20					
Y22A	Socorro	86.25	52	⇑P	P	01 09 13.0 +1.1
	baz=86,SNR=5.1					
SRU	San Rafael	86.27	46	eP	P	01 09 13.1 +1.1
425A	Indio Mountain	86.29	55	⇓P	P	01 09 13.7 +1.5
	baz=86,SNR=15					
U20A	Newcomb	86.30	49	⇑P	P	01 09 13.5 +1.4
	baz=86					
LAZ	Ladron	86.34	51	eP	P	01 09 13.6 +1.2
	comp=Z,1.6nm,0.8s					
C09A	Chrisman Ranch	86.35	35	eP	P	01 09 12.7 +0.8
	comp=Z,12nm,0.9s					
MNTX	Cornudas Mount	86.40	54	eP	P	01 09 13.4 +0.8
	comp=Z,9.8nm,0.9s					
626A	Big Bend Ranch	86.41	57	⇑P	P	01 09 14.2 +1.5
	baz=87,SNR=14					
224A	Cornudas Mount	86.47	54	⇑P	P	01 09 14.5 +1.5
	baz=87,SNR=9.6					
X22A	Bernardo	86.48	51	⇓P	P	01 09 14.7 +1.6
	baz=87					
SYO	Syowa Base	86.56	193	⇑eP	P	01 09 11.0 -1.6
325A	Bean Ranch, Si	86.57	55	⇓P	P	01 09 14.6 +1.0
	baz=87,SNR=11					
BJI	Beijing	86.58	315	P	P	01 09 14.0 +0.8
BJI				pmax	pmax	
	comp=Z,14nm,0.8s					
BNM	Barren Site	86.60	52	eP	P	01 09 14.2 +0.5
	comp=Z,4.9nm,1.2s					
526A	Mary Lane Ranc	86.67	56	⇓P	P	01 09 15.3 +1.3
	baz=87,SNR=7.3					
TXAR	Lajitas Array	86.68	57	P	P	01 09 15.0 +1.0
TXAR				PKKPbc	PKKPbc	01 27 08.1 +0.5
TXAR	Lajitas Array	86.68	57	P	P	01 09 15.0 +1.0
	comp=Z,6.5nm,0.7s,baz=218,slow=5.7,SNR=92					
TXAR				PKKPbc	PKKPbc	01 27 08.1 +0.5
	comp=Z,0.1nm,0.4s,baz=79,slow=4.7,SNR=4.3					
MVCO	Mesa Verde	86.72	48	⇓P	P	01 09 15.7 +1.5
	baz=87					
ENH	Enshi	86.77	304	eP	P	01 09 15.1 +0.7
	comp=Z,4.5nm,0.4s					
124A	Stringfield Ra	86.80	53	⇓P	P	01 09 15.9 +1.2
	baz=87,SNR=5.2					
Y23A	Lovelace Mesa,	86.92	52	⇓P	P	01 09 16.3 +1.1
	baz=87					
U21A	Nageezi	86.93	49	⇓P	P	01 09 16.5 +1.3
	baz=87,SNR=20					
627A	Terlingua Ranc	86.95	57	⇑P	P	01 09 16.6 +1.3
	baz=87,SNR=10					
426A	McDonald Obser	86.98	56	⇓P	P	01 09 16.8 +1.2
	baz=87,SNR=14					
225A	Deer Hill, Car	87.01	54	⇓P	P	01 09 16.9 +1.2
	baz=87,SNR=11					
527A	Woodward Ranch	87.07	56	⇓P	P	01 09 17.1 +1.1
	baz=87,SNR=12					
ANMO	Albuquerque	87.09	51	eP	P	01 09 16.8 +0.8
S20A	Disappointment	87.11	48	⇓P	P	01 09 17.4 +1.3
	baz=87					
MCK	McKinley	87.15	12	eP	P	01 09 13.7 -1.7
	comp=Z,4.9nm,0.7s					
Z24A	Sheeppen Canyo	87.16	53	⇓P	P	01 09 17.7 +1.3
	baz=87					
V22A	San Miguel Ran	87.22	50	⇓P	P	01 09 18.2 +1.5
	baz=87					
NEW	Newport	87.25	35	eP	P	01 09 16.5 +0.3
NEW	Newport	87.25	35	⇑P	P	01 09 16.7 +0.5
	baz=87					
T21A	Navajo Lake	87.28	49	⇓P	P	01 09 18.0 +1.1
	baz=88					
628A	Black Gap, Mar	87.35	57	⇓P	P	01 09 18.4 +1.2
	baz=88,SNR=6.9					
Y24A	Capitan	87.37	52	⇓P	P	01 09 18.4 +1.0
	baz=88,SNR=7.0					
GYA	Guiyang	87.38	299	eP	P	01 09 18.0 +0.5
GYA				pP	pP	01 10 41.3 -0.9
GYA				sP	sP	01 11 18.5 -1.7
GYA				PP	PP	01 12 51.3 +3.1
GYA				SKS	SKSac	01 19 10.0 +0.1
GYA				S	S	01 19 27.4 +0.6
GYA				pmax	pmax	
	comp=Z,10.0nm,1.0s					
GYA				pmax	pmax	
	comp=Z,90nm,5.0s					
M17A	Scullys Gap (B	87.38	44	⇓P	P	01 09 18.2 +0.9
	baz=88					
125A	Gardner Draw,	87.38	54	⇑P	P	01 09 18.2 +0.9
	baz=88					
GDL2	Guadalupe Moun	87.40	54	eP	P	01 09 19.1 +1.7
W23A	Werner Place,	87.42	51	⇓P	P	01 09 18.4 +0.9
	baz=88					
S21A	Coal Bank Pass	87.43	48	⇓P	P	01 09 18.5 +0.9
	baz=88,SNR=8.7					
HYT	Haines Junctio	87.47	18	eP	P	01 09 17.2 +0.2
U22A	Llaves	87.48	50	⇓P	P	01 09 18.9 +1.1
	baz=88					
226B	Tecolote Peak,	87.50	54	⇑P	P	01 09 19.0 +1.2
	baz=88,SNR=13					
427A	Hayter Ranch,	87.54	56	⇑P	P	01 09 19.6 +1.6
	baz=88,SNR=29					
P19A	Cripple Cowboy	87.57	46	⇓P	P	01 09 19.3 +1.1
	baz=88					
Z25A	Roswell	87.62	53	⇑P	P	01 09 20.0 +1.6
	baz=88					
V23A	Ortiz Mt. (NFS	87.66	50	⇓P	P	01 09 20.2 +1.5
	baz=88,SNR=7.8					
SNAA	Sanae	87.67	178	eP	P	01 09 17.9 -0.1
SNAA	Sanae	87.67	178	eP	P	01 09 18.1 +0.1
Q20A	Ridgley Place,	87.70	47	⇓P	P	01 09 19.7 +1.0
	baz=88					
528A	Cox Ranch, San	87.72	57	⇓P	P	01 09 20.1 +1.1
	baz=88,SNR=6.3					
O19A	Miners Draw (B	87.80	45	⇓P	P	01 09 20.4 +1.2
	baz=88					
126A	Clayton Basin,	87.86	54	⇑P	P	01 09 20.7 +1.2
	baz=88					
P20A	De Beque	87.90	46	⇑P	P	01 09 20.2 +0.6
	baz=88,SNR=6.5					
Y25A	Mesa, Roswell	87.92	53	⇓P	P	01 09 20.6 +0.7
	baz=88,SNR=5.6					
U23A	El Rito	87.93	50	⇑P	P	01 09 21.2 +1.3
	baz=88					
R21A	Cimarron	87.93	48	⇑P	P	01 09 21.0 +1.0
	baz=88,SNR=5.4					
RRI2	Red Ridge	87.93	42	eP	P	01 09 19.6 -0.3
	comp=Z,4.3nm,0.7s					
W24A	Lazy 6 Ranch,	87.98	51	⇓P	P	01 09 21.0 +0.8
	baz=88,SNR=5.2					
L18A	Fontenelle, Gr	88.02	44	⇑P	P	01 09 21.8 +1.6
	baz=88					
428A	Kincaid Ranch,	88.05	56	⇓P	P	01 09 21.7 +1.3
	baz=88,SNR=5.4					
I16A	Newdale	88.10	41	⇑P	P	01 09 21.9 +1.4
	baz=88,SNR=9.0					
S22A	4UR Ranch, Cre	88.14	48	⇑P	P	01 09 22.1 +1.1
	baz=88,SNR=8.7					
529A	Stev Forest Ra	88.15	57	⇑P	P	01 09 21.8 +0.8
	baz=88,SNR=5.1					
Z26A	Caprock	88.17	53	⇑P	P	01 09 21.8 +0.8
	baz=88,SNR=11					
DLMT	Dillon	88.21	40	eP	P	01 09 22.2 +1.2
	comp=Z,2.7nm,0.6s					
MSO	Missoula	88.22	38	eP	P	01 09 20.4 -0.5
MSO	Missoula	88.22	38	⇑P	P	01 09 21.2 +0.3
	baz=88,SNR=6.1					
VNA2	Neumayer--Watz	88.22	177	eP	P	01 09 21.4 +0.9
REDW	Red Top Meadow	88.23	42	eP	P	01 09 21.6 +0.5
328A	Wristen Ranch,	88.23	56	⇓P	P	01 09 22.2 +0.9
	baz=88,SNR=6.1					
TPAW	Teton Pass	88.23	42	eP	P	01 09 22.4 +1.1
BSMT	Bassoo Peak	88.30	37	eP	P	01 09 21.9 +0.5
O20A	White River Ci	88.31	46	⇓P	P	01 09 22.5 +0.9
	baz=88					
V24A	Rampart Ranch,	88.31	51	⇓P	P	01 09 22.9 +1.1
	baz=88					
SNOW	Snow King Moun	88.34	42	eP	P	01 09 23.1 +1.4
127A	Arkansas Junct	88.37	54	⇓P	P	01 09 22.4 +0.4
	baz=88,SNR=5.3					
M19A	Rock Springs	88.38	44	⇓P	P	01 09 23.1 +1.2
	baz=88					
COLA	College	88.38	12	eP	P	01 09 20.4 -0.6
	comp=Z,17nm,0.4s					
R22A	Saguache, Gunn	88.42	48	⇓P	P	01 09 23.6 +1.3
	baz=89					
VNA1	Neumayer--Stat	88.45	176	eP	P	01 09 22.4 +0.9
IMW	Indian Meadow	88.45	41	eP	P	01 09 23.4 +1.1
IMA2	Indian Mountai	88.45	9	eP	P	01 09 21.0 -0.6
ILAR	Eielson Array	88.48	13	P	P	01 09 20.4 -1.1
ILAR				PP	PP	01 12 50.9 -5.1
ILAR	Eielson Array	88.48	13	P	P	01 09 20.4 -1.1
	comp=Z,1.8nm,0.6s,baz=228,slow=5.2,SNR=33					
ILAR				PP	PP	01 12 50.9 -5.1
	comp=Z,1.0nm,0.8s,baz=222,slow=7.2,SNR=5.1					
LOHW	Long Hollow	88.51	42	eP	P	01 09 23.5 +1.0
L19A	Farson	88.54	44	⇓P	P	01 09 24.0 +1.3
	baz=89					
LRM	Limekiln Ridge	88.54	39	eP	P	01 09 23.5 +0.9
P21A	Newcastle	88.55	47	⇑P	P	01 09 24.0 +1.2
	baz=89					
Y26A	Elida	88.57	53	⇓P	P	01 09 23.9 +1.1
	baz=89					
PLCA	Paso Flores	88.57	133	P	P	01 09 25.1 +2.2
PLCA	Paso Flores	88.57	133	P	P	01 09 25.1 +2.2
	comp=Z,2.1nm,0.9s,baz=253,slow=7.9,SNR=3.2					
Q22A	Crested Butte,	88.61	47	⇓P	P	01 09 24.1 +0.9
	baz=89,SNR=7.5					
429A	Davenport Ranc	88.62	57	⇑P	P	01 09 23.9 +0.8
	baz=89,SNR=19					
QLMT	Earthquake Lak	88.63	41	eP	P	01 09 25.0 +1.9
N20A	Spence Gulch,	88.64	45	⇑P	P	01 09 24.0 +0.9
	baz=89					
CHMT	Chamberlain Mo	88.66	38	eP	P	01 09 23.3 +0.2
W25A	X Bar L Ranch,	88.67	51	⇓P	P	01 09 24.0 +0.7
	baz=89,SNR=9.0					
FLWY	Flagg Ranch	88.70	41	eP	P	01 09 25.1 +1.8
SMCO	Snowmass	88.71	47	eP	P	01 09 24.2 +0.4
	comp=Z,4.7nm,0.8s					
228A	UT Block 9, Go	88.72	55	⇑P	P	01 09 24.2 +0.7
	baz=89					
PDAR	Pinedale Array	88.75	43	P	P	01 09 23.7 +0.1
PDAR				PKKP	PKKPdf	01 26 55.4 -3.0
PDAR	Pinedale Array	88.75	43	P	P	01 09 23.7 +0.1
	comp=Z,2.8nm,0.8s,baz=213,slow=2.7,SNR=22					
PDAR				PKKP	PKKPdf	01 26 55.4 -3.0
	comp=Z,0.5nm,0.8s,baz=84,slow=2.8,SNR=3.6					
Z27A	Tatum	88.76	54	⇑P	P	01 09 24.6 +0.8
	baz=89					
V25A	Rancho No Teng	88.84	51	⇑P	P	01 09 24.8 +0.6
	baz=89,SNR=5.2					
XAN	Xi'an	88.85	307	P	P	01 09 25.4 +1.3
XAN				pmax	pmax	
	comp=Z,6.0nm,0.8s					
530A	J-C Ranch, Com	88.85	57	⇑P	P	01 09 25.9 +1.8
	baz=89					
LCCM	Lewis and Clar	88.89	39	P	P	01 09 25.1 +1.0
329A	Wagon Wheel Ra	88.92	56	⇑P	P	01 09 25.5 +1.0
	baz=89,SNR=6.3					
M20A	Sweetwater, Wa	89.01	45	⇑P	P	01 09 26.4 +1.5
	baz=89					
128A	Castleberry Fa	89.01	55	⇓P	P	01 09 25.7 +0.8
	baz=89,SNR=5.5					
Y27A	Causey	89.05	53	⇓P	P	01 09 26.2 +1.1
	baz=89					
N21A	Black Mountain	89.09	45	⇓P	P	01 09 27.1 +1.8
	baz=89					
W26A	Owens Ranch, T	89.13	52	⇓P	P	01 09 26.7 +1.2
	baz=89					
631A	Perdido Creek	89.15	58	⇑P	P	01 09 26.3 +0.8
	baz=89,SNR=9.4					
L20A	Wamsutter	89.16	44	⇓P	P	01 09 26.6 +1.0
	baz=89,SNR=5.9					
430A	Baggett Ranch,	89.20	57	⇓P	P	01 09 26.5 +0.6
	baz=89					
S24A	Houchin Ranch,	89.22	49	⇓P	P	01 09 27.2 +1.1
	baz=89					
U25A	Circle Dot Ran	89.24	50	⇑P	P	01 09 27.1 +1.1
	baz=89					
229A	Bryant Ranch,	89.25	55	⇓P	P	01 09 27.2 +1.2
	baz=89					
J19A	Crowheart	89.32	43	⇓P	P	01 09 27.2 +1.0
	baz=90,SNR=7.4					
732A	Laxson Ranch,	89.35	59	⇑P	P	01 09 27.3 +0.8
	baz=90					
Z28A	Tucker Farm, M	89.37	54	⇓P	P	01 09 27.3 +0.7
	baz=90					
MSTX	Muleshoe	89.38	53	⇓P	P	01 09 27.3 +0.7
	baz=90,SNR=5.3					
HRY	Holter Researc	89.38	39	eP	P	01 09 27.1 +0.8
V26A	Tequesquite Ra	89.42	51	⇓P	P	01 09 27.7 +0.9
	baz=90					
X27A	F and S Farms,	89.43	52	⇑P	P	01 09 27.6 +0.7
	baz=90					
O22A	Kremmling	89.47	46	⇑P	P	01 09 28.0 +0.8
	baz=90					
K20A	Yellowstone Ra	89.47	44	⇓P	P	01 09 27.7 +0.8
	baz=90					
531A	Rocksprings	89.48	57	⇓P	P	01 09 28.3 +1.2
	baz=90,SNR=8.6					
129A	Stewart Farms,	89.49	55	⇑P	P	01 09 27.9 +0.8
	baz=90,SNR=5.3					
330A	Mertzon	89.51	56	⇑P	P	01 09 28.0 +0.8
	baz=90					
R24A	Sanders Place,	89.57	49	⇓P	P	01 09 28.5 +1.0
	baz=90					
T25A	Trinidad	89.57	50	⇓P	P	01 09 28.4 +0.8
	baz=90					
DAWY	Dawson	89.59	16	eP	P	01 09 26.6 -0.2
M21A	Separation Pea	89.60	45	⇑P	P	01 09 28.5 +0.8
	baz=90,SNR=5.9					
W27A	Bowe Ranch, En	89.63	52	⇑P	P	01 09 28.2 +0.4
	baz=90					
H18A	Shoshone NF, C	89.64	41	⇑P	P	01 09 29.1 +1.4
	baz=90					
U26A	Atchley Ranch,	89.72	51	⇑P	P	01 09 29.2 +0.9
	baz=90					
I19A	Meeteetse	89.73	42	⇑P	P	01 09 29.4 +1.2
	baz=90,SNR=6.1					
RWWY	Rawlins	89.74	45	eP	P	01 09 29.0 +0.7
Y28A	McKinney Farm,	89.74	53	⇓P	P	01 09 29.2 +0.8
	baz=90					
EGAK	Eagle	89.75	15	eP	P	01 09 27.7 +0.2
230A	Sterling City	89.76	56	⇓P	P	01 09 29.2 +0.8
	baz=90,SNR=6.1					
L21A	Rawlins	89.77	44	⇓P	P	01 09 29.2 +0.8
	baz=90					
S25A	Robets Cordova	89.78	49	⇓P	P	01 09 29.5 +1.0
	baz=90					
632A	Uvalde	89.82	58	⇑P	P	01 09 29.6 +0.9
	baz=90,SNR=5.9					
N22A	Wattenberg Ran	89.83	46	⇑P	P	01 09 30.0 +1.3
	baz=90					
Q24A	Divide	89.87	48	⇑P	P	01 09 30.6 +1.5
	baz=90					
Z29A	Hungry Hill Ra	89.88	54	⇑P	P	01 09 29.9 +1.0
	baz=90					
O23A	Lake Granby, G	89.92	47	⇓P	P	01 09 30.8 +1

JCT	Junction City	90.20	57	eP	P	01 09 30.7	+0.2
JCT	Junction City	90.20	57	⇑P	P	01 09 31.3	+0.9
	baz=90						
N23A	Red Feather La	90.21	46	⇓P	P	01 09 31.6	+1.0
	baz=90						
I20A	Worland	90.24	42	⇑P	P	01 09 31.3	+1.0
	baz=90,SNR=7.6						
Z30A	Sanderson Ranc	90.33	54	⇑P	P	01 09 31.8	+0.9
	baz=90						
432A	Menard	90.37	57	⇑P	P	01 09 31.8	+0.6
	baz=90,SNR=5.0						
J21A	Lysite	90.38	43	⇓P	P	01 09 32.0	+0.8
	baz=90,SNR=7.5						
X29A	Tulia	90.38	53	⇑P	P	01 09 31.9	+0.6
	baz=90						
231A	Bronte	90.39	56	⇑P	P	01 09 31.7	+0.4
	baz=91,SNR=11						
U27A	Thompson Grove	90.40	51	⇑P	P	01 09 31.7	+0.4
	baz=91						
L22A	Ellis Ranch, M	90.42	45	⇑P	P	01 09 32.7	+1.3
	baz=91						
S26A	Kim	90.45	50	⇑P	P	01 09 32.5	+0.9
	baz=91						
H20A	Greybull	90.58	42	⇓P	P	01 09 32.8	+0.9
	baz=91						
332A	Millersview	90.61	57	⇑P	P	01 09 32.8	+0.5
	baz=91,SNR=12						
M23A	Laramie	90.63	45	⇑P	P	01 09 33.5	+1.1
	baz=91						
131A	Roby	90.64	55	⇑P	P	01 09 32.7	+0.3
	baz=91,SNR=5.9						
K22A	Casper	90.65	44	⇑P	P	01 09 33.6	+1.2
	baz=91						
F19A	Roth Farm, Mol	90.66	41	⇑P	P	01 09 33.2	+0.9
	baz=91,SNR=6.8						
I21A	Big Trails, Te	90.70	43	⇓P	P	01 09 33.1	+0.5
	baz=91,SNR=11						
W29A	Amraillo	90.71	53	⇑P	P	01 09 33.6	+0.9
	baz=91						
Y30A	Stafford Cattl	90.75	54	⇑P	P	01 09 33.5	+0.6
	baz=91						
R26A	Arlington	90.77	49	⇓P	P	01 09 34.2	+1.2
	baz=91						
P25A	Willow Gulch B	90.80	48	⇑P	P	01 09 34.7	+1.6
	baz=91						
G20A	Bridger	90.80	41	⇓P	P	01 09 34.6	+1.6
	baz=91						
CMAR	Chiang Mai Arr	90.84	289	P	P	01 09 35.4	+1.7
CMAR	Chiang Mai Arr	90.84	289	P	P	01 09 35.4	+1.7
	baz=122,slow=2.7						
232A	Coleman	90.89	56	⇓P	P	01 09 34.0	+0.4
	baz=91,SNR=7.8						
L23A	Garrett	90.94	45	⇑P	P	01 09 34.4	+0.5
	baz=91,SNR=6.9						
J22A	Midwest	91.03	44	⇑P	P	01 09 34.6	+0.5
	baz=91,SNR=8.6						
E19A	Rath Farm, Rou	91.06	40	⇑P	P	01 09 35.2	+1.1
	baz=91,SNR=6.2						
Z31A	Sharp Cattle R	91.09	55	⇓P	P	01 09 35.2	+0.7
	baz=91						
O25A	Wiggins	91.10	47	⇑P	P	01 09 35.5	+1.0
	baz=91						
F20A	Billings	91.12	41	⇑P	P	01 09 35.9	+1.4
	baz=91						
ABTX	Abilene, Hawle	91.19	56	eP	P	01 09 35.0	0.0
ABTX	Abilene, Hawle	91.19	56	⇑P	P	01 09 35.5	+0.6
	baz=91,SNR=7.3						
T28A	Walsh	91.21	51	⇓P	P	01 09 35.5	+0.4
	baz=91						
R27A	Eads	91.22	49	⇑P	P	01 09 35.8	+0.7
	baz=91						
M24A	Cheyenne	91.23	46	⇑P	P	01 09 35.9	+0.8
	baz=91						
H21A	Big Horn, Sher	91.25	42	⇑P	P	01 09 35.8	+0.7
	baz=91						
I22A	9 Mile Ranch,	91.25	43	⇓P	P	01 09 35.8	+0.7
	baz=91,SNR=8.7						
EGMT	Eagleton	91.26	38	⇑P	P	01 09 36.4	+1.4
	baz=91						
Y31A	Rekieta Farm,	91.27	54	⇓P	P	01 09 35.7	+0.4
	baz=91						
K23A	Bowen Ranch, D	91.28	44	⇑P	P	01 09 36.2	+0.9
	baz=91						
D19A	Cripps Ranch,	91.35	39	⇓P	P	01 09 37.4	+2.0
	baz=92						
L24A	Wheatland	91.41	45	⇑P	P	01 09 37.7	+1.8
	baz=92						
E20A	Meyer Farm, Mu	91.47	40	⇑P	P	01 09 37.6	+1.6
	baz=92						
CD2	Chengdu	91.52	302	P	P	01 09 37.3	+0.8
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
C19A	Slack Wire Ran	91.53	39	⇓P	P	01 09 37.4	+1.2
	baz=92,SNR=8.3						
U29A	Oasis Ranch, S	91.54	52	⇓P	P	01 09 37.9	+1.3
	baz=92						
S28A	Manter	91.57	50	⇓P	P	01 09 37.9	+1.2
	baz=92						
Z32A	Haskell	91.59	55	⇓P	P	01 09 37.5	+0.7
	baz=92,SNR=8.9						
X31A	McDonald Ranch	91.75	54	⇑P	P	01 09 38.2	+0.7
	baz=92						
D20A	Manuel Ranch,	91.76	40	⇓P	P	01 09 38.9	+1.6
	baz=92						
K24A	Anderson Ranch	91.80	45	⇑P	P	01 09 38.8	+1.1
	baz=92						
Y32A	R-V Farms, Ver	91.90	54	⇓P	P	01 09 39.2	+1.0
	baz=92						
B19A	Brinkman Farms	91.95	38	⇓P	P	01 09 39.8	+1.7
	baz=92						
G22A	Birney	91.99	42	⇑P	P	01 09 39.5	+1.0
	baz=92						
W31A	Holland Ranch,	92.00	53	⇑P	P	01 09 39.6	+0.9
	baz=92						
C20A	Veseth Ranch,	92.14	39	⇑P	P	01 09 40.2	+1.2
	baz=92,SNR=6.8						
J24A	Dixon Ranch, L	92.17	44	⇑P	P	01 09 40.4	+1.0
	baz=92						
O27A	Beecher Island	92.26	48	⇑P	P	01 09 41.2	+1.4
	baz=92						
F22A	Rosebud	92.28	41	⇑P	P	01 09 41.3	+1.6
	baz=92						
A19A	Klindworth Far	92.30	38	⇑P	P	01 09 41.0	+1.3
	baz=92						
V31A	Spring Creek L	92.32	53	⇑P	P	01 09 41.5	+1.4
	baz=92						
K25A	Mack Ranch, Ha	92.37	45	⇑P	P	01 09 41.7	+1.3
	baz=92						
D21A	La Casta Ranch	92.43	40	⇑P	P	01 09 41.6	+1.2
	baz=93						
R29A	Marienthal	92.46	50	⇑P	P	01 09 41.6	+0.9
	baz=93						
G23A	Biddle	92.55	42	⇑P	P	01 09 42.1	+1.1
	baz=93						
S30A	Montezuma	92.62	51	⇑P	P	01 09 42.6	+1.1
	baz=93						
C21A	Desert Coulee	92.73	39	⇑P	P	01 09 43.0	+1.3
	baz=93						
A20A	Cobblestone Ra	92.75	38	⇓P	P	01 09 43.1	+1.3
	baz=93						
J25A	Sunshine Ranch	92.76	44	⇓P	P	01 09 42.4	+0.4
	baz=93						
Q29A	Oakley	92.77	49	⇑P	P	01 09 42.9	+0.8
	baz=93						
E22A	Miles City	92.77	41	⇓P	P	01 09 43.3	+1.3
	baz=93						
F23A	Volborg	92.78	42	⇓P	P	01 09 43.2	+1.2
	baz=93						
K26A	Motz Farm, Whi	92.87	45	⇓P	P	01 09 43.8	+1.2
	baz=93,SNR=5.2						
H24A	Dirks Ranch, A	92.88	43	⇑P	P	01 09 43.4	+0.8
	baz=93						
T31A	Randall Ranch,	92.97	51	⇑P	P	01 09 43.7	+0.6
	baz=93						
R30A	Dighton	93.02	50	⇑P	P	01 09 44.2	+0.9
	baz=93						
B21A	Ellsworth Farm	93.06	39	⇑P	P	01 09 44.8	+1.6
	baz=93						
I25A	Rochford	93.08	44	⇑P	P	01 09 44.5	+0.9
	baz=93						
P29A	Atwood	93.10	49	⇑P	P	01 09 45.0	+1.4
	baz=93						
E23A	Ismay	93.19	41	⇑P	P	01 09 45.6	+1.7
	baz=93						
S31A	Mullinville	93.32	51	⇓P	P	01 09 45.9	+1.2
	baz=94						
Q30A	Quinter	93.34	50	⇑P	P	01 09 46.1	+1.4
	baz=94						
A21A	Bergtoll Ranch	93.38	38	⇓P	P	01 09 46.0	+1.3
	baz=94						
LZH	Lanzhou	93.49	307	P	P	01 09 41.0	-4.6
LZH				pP	pP	01 11 03.6	-7.4
LZH				sP	sP	01 11 39.3	-9.5
LZH				PP	PP	01 13 33.3	-2.8
LZH				pmax	pmax		
	comp=Z,19nm,1.2s						
LZH				pmax	pmax		
	comp=Z,75nm,8.9s						
P30A	Selden	93.56	49	⇓P	P	01 09 47.0	+1.3
	baz=94						
D23A	Lindsay	93.56	41	⇓P	P	01 09 47.4	+1.8
	baz=94						
R31A	Burdett	93.56	50	⇑P	P	01 09 46.9	+1.1
	baz=94						
B22A	Reddig Ranch S	93.60	39	⇓P	P	01 09 47.3	+1.6
	baz=94						
I26A	New Underwood	93.66	44	⇑P	P	01 09 47.1	+1.1
	baz=94						
G25A	Newell	93.80	43	⇓P	P	01 09 47.8	+1.1
	baz=94						
C23A	Lambert	93.86	40	⇑P	P	01 09 48.5	+1.6
	baz=94						
J27A	Elkhorn Farm,	93.88	45	⇑P	P	01 09 48.5	+1.4
	baz=94						
A22A	Carney Farms,	93.97	39	⇑P	P	01 09 48.9	+1.5
	baz=94						
D24A	Glendive	94.07	41	⇑P	P	01 09 49.3	+1.5
	baz=94						
C24A	Savage	94.20	40	⇓P	P	01 09 50.2	+1.7
	baz=94						
H27A	Howes	94.42	44	⇓P	P	01 09 52.1	+2.6
	baz=95						
J28A	Allard Ranch,	94.47	45	⇑P	P	01 09 51.8	+2.0
	baz=95						
DGMT	Dagmar	94.75	40	⇑P	P	01 09 52.3	+1.4
	baz=95						
G28A	Parade	95.35	44	⇑P	P	01 09 56.3	+2.6
	baz=96						
SONM	Songino Array	96.43	319	P	P	01 09 58.4	-0.3
SONM	Songino Array	96.43	319	P	P	01 09 58.4	-0.3
	comp=Z,0.3nm,0.4s,baz=116,slow=3.4,SNR=2.2						
YKA	Yellowknife Ar	96.53	25	P	P	01 09 57.0	-1.5
YKA	Yellowknife Ar	96.53	25	P	P	01 09 57.0	-1.5
	comp=Z,0.6nm,0.6s,baz=222,slow=5.1,SNR=6.5						
LPAZ	La Paz	101.33	112	P	Pdif	01 10 24.3	+2.4
LPAZ	La Paz	101.33	112	P	Pdif	01 10 24.3	+2.4
	comp=Z,3.2nm,0.3s,baz=184,slow=6.7,SNR=37						
ZALV	Zalesovo Beam	111.16	321	PKiKP	PKiKP	01 14 59.4	-1.3
ZALV	Zalesovo Beam	111.16	321	PKiKP	PKiKP	01 14 59.4	-1.3
	comp=Z,1.2nm,0.6s,baz=72,slow=1.8,SNR=8.4						
MKAR	Makanchi Array	111.90	313	Pdif	Pdif	01 11 11.1	+3.7
MKAR				PKiKP	PKiKP	01 15 01.2	-1.1
MKAR	Makanchi Array	111.90	313	Pdiff	Pdif	01 11 11.1	+3.7
	comp=Z,0.3nm,0.7s,baz=72,slow=4.7,SNR=3.3						
MKAR				PKiKP	PKiKP	01 15 01.2	-1.1
	comp=Z,1.1nm,0.6s,baz=94,slow=0.1,SNR=18						
KSH	Kashi	115.61	305	ePKP	PKPdf	01 15 10.8	+0.9
KSH				PP	PP	01 16 23.6	+4.9
KSH				sPKP		01 17 12.3	
KSH				PKS	PKSdf	01 18 46.3	-0.3
KSH				SKKS		01 22 39.1	
KSH				SS	SS	01 31 52.3	+2.5
KSH				AMB	AMB		
	comp=Z,45nm,7.7s						
KSH				LR	LR		
	comp=N,85nm,6.7s						
KSH				LR	LR		
	comp=E,81nm,5.8s						
KSH				LR	LR		
	comp=Z,120nm,6.7s						
KKAR	Karatay Array	119.96	308	ePKPdf	PKPdf	01 15 17.2	-0.7
BOSA	Boshof	126.24	205	PKP	PKPdf	01 15 31.8	+1.1
BOSA	Boshof	126.24	205	PKP	PKPdf	01 15 31.8	+1.1
	comp=Z,2.1nm,0.7s,baz=128,slow=8.6,SNR=3.9						
AKTO	Aktyubinsk	127.75	318	PKP	PKPdf	01 15 32.5	-0.1
AKTO	Aktyubinsk	127.75	318	PKP	PKPdf	01 15 32.5	-0.1
	comp=Z,1.7nm,0.6s,baz=90,slow=5.1,SNR=8.8						
ARCES	ARCESS Array B	129.35	350	PKP	PKPdf	01 15 35.0	-0.1
ARCES	ARCESS Array B	129.35	350	PKP	PKPdf	01 15 35.0	-0.1
	comp=Z,2.7nm,0.6s,baz=2,9,slow=1.8,SNR=16						
FINES	FINESS Array B	136.27	344	PKPpre	PKPpre	01 15 40.5	
FINES				PKP	PKPdf	01 15 46.2	-2.1
FINES	FINESS Array B	136.27	344	PKhKP	PKPpre	01 15 40.5	
	comp=Z,1.0nm,0.6s,baz=20,slow=4.6,SNR=3.2						
FINES				PKP	PKPdf	01 15 46.2	-2.1
	comp=Z,1.2nm,0.6s,baz=48,slow=2.1,SNR=8.4						
NB2	NORSAR Subarra	139.38	354	PKP	PKPpre	01 15 45.5	
	comp=Z,0.6nm,0.6s,baz=17,slow=2.6						
NOA	NORSAR Array B	139.38	354	PKPpre	PKPpre	01 15 45.7	
NOA				PKP	PKiKP	01 15 54.6	-1.9
NOA	NORSAR Array B	139.38	354	PKhKP	PKPpre	01 15 45.7	
	comp=Z,0.5nm,0.8s,baz=16,slow=4.5,SNR=4.1						
NOA				PKP	PKiKP	01 15 54.6	-1.9
	comp=Z,0.4nm,0.6s,baz=12,slow=3.2,SNR=4.8						
HFS	Hagfors	139.96	351	PKPpre	PKPpre	01 15 45.9	
HFS	Hagfors	139.96	351	PKhKP	PKPpre	01 15 45.9	
	comp=Z,1.4nm,0.4s,baz=11,slow=1.5,SNR=11						
KAC	Achnashellach	142.90	7	eP	PKPdf	01 15 56.9	-3.6
AKASG	Malin Array Be	143.61	331	PKPpre	PKPpre	01 15 58.5	
AKASG	Malin Array Be	143.61	331	PKhKP	PKPpre	01 15 58.5	
	comp=Z,2.9nm,0.4s,baz=44,slow=4.2,SNR=35						
KIEV	Kiev	143.62	331	PKP	PKPab	01 15 58.4	-1.3
DRUM	Mans of Drumt	143.75	5	eP	PKPab	01 15 58.4	-1.6
EAB	Aberfoyle	144.30	7	eP	PKPab	01 16 01.1	-1.1
ESY	Stoneypath	144.73	5	eP	PKPdf	01 16 02.7	-1.0
EBL	Broad Law	144.84	6	eP	PKPdf	01 16 01.7	-2.2
EKA	Eskdalemuir Ar	145.26	6	PKPbc	PKPab	01 16 04.6	-1.2
EKA	Eskdalemuir Ar	145.26	6	PKPbc	PKPab	01 16 04.6	-1.2
	comp=Z,2.9nm,0.5s,baz=334,slow=2.6,SNR=25						
GAL1	Galloway	145.55	8	eP	PKPbc	01 16 05.4	-0.7
HPK	Haverah Park	146.76	5	eP	PKPbc	01 16 09.0	-0.5
KWP	Kalwaria Pacla	147.15	336	ePKPdf	PKPbc	01 16 10.0	-0.8
KWP	Kalwaria Pacla	147.15	336	⇑P	PKPbc	01 16 11.0	+0.2
KWP	Kalwaria Pacla	147.15	336	ePKP	PKPbc	01 16 10.8	0.0
TLCR		147.56	325	⇑P	PKPbc	01 16 12.1	+0.1
BUR08	Bucovina Ar. S	147.65	331	ePKPdf	PKPbc	01 16 11.5	-0.8
BURAR	Bucovina Array	147.66	331	⇑P	PKPbc	01 16 13.0	+0.6
FOEL	Foel Wylfa	147.67	7	eP	PKPbc	01 16 11.8	-0.3
OJC	Ojcow	147.70	339	ePKP	PKPbc	01 16 12.1	-0.1
KOLS	Kolonicke sedl	147.88	335	ePKP	PKPbc	01 16 13.0	+0.2
CFR	Carcaliu	147.93	325	⇑P	PKPbc	01 16 12.9	0.0
HLM1	Long Mynd	148.07	6	eP	PKPbc	01 16 12.6	-0.6
KSP	Ksiaz	148.19	344	ePKP	PKPbc	01 16 13.9	+0.4
VRI	Vrincioaia	148.19	327	⇑P	PKPbc	01 16 13.7	0.0
NIE	Niedzica	148.20	338	ePKP	PKPbc	01 16 14.2	+0.6
TIRR	Tirgusor	148.24	324	⇑P	PKPab	01 16 18.9	+0.9
TLB	Topalu	148.36	324	⇑P	PKPdf	01 16 09.9	-0.2
TRPA	Tarpa	148.42	334	⇑P	PKPbc	01 16 14.2	+0.1
CLL	Collm	148.52	348	ePKPbc	PKPbc	01 16 14.5	+0.2
CLL	Collm	148.52	348	⇓PKPbc	PKPbc	01 16 14.3	0.0
	comp=Z,21nm,0.6s						
CLL				i PKPab	PKPab	01 16 18.3	-0.6
	comp=Z,9.0nm,1.0s						
MMAI	Mount Meron Ar	148.55	300	PKPbc	PKPbc	01 16 15.5	+0.4
MMAI	Mount Meron Ar	148.55	300	PKPbc	PKPbc	01 16 15.5	+0.4
	comp=Z,14nm,0.6s,baz=98,slow=2.9,SNR=7.5						
OKC	Ostrava-Krasne	148.56	341	⇑PKP	PKPbc	01 16 14.6	+0.2
OKC				ePKPAB	PKPab	01 16 19.8	+0.7
UPC	Upice	148.57	344	i PKPAB	PKPab	01 16 19.7	+0.5
MCH1	Michaelchurch	148.57	7	eP	PKPbc	01 16 11.6	-2.7
DPC	Dobruska-Polom	148.63	343	⇑PKP	PKPbc	01 16 15.2	+0.5
DPC				ePKPAB	PKPab	01 16 19.5	0.0
SSW	Stow on the Wo	148.71	5	eP	PKPbc	01 16 14.5	-0.3
BRG	Berggiesshubel	148.73	346	ePKP	PKPbc	01 16 14.8	0.0
	comp=Z,9.4nm,0.6s						
BRG				e		01 16 19.3	
	comp=Z,6.1nm,0.9s						
BRG				esPKP		01 18 14.0	
	comp=Z,7.7nm,1.1s						
BRG	Berggiesshubel	148.73	346	ePKPbc	PKPbc	01 16 15.2	+0.4
KRLC	Kraliky	148.75	342	⇑PKP	PKPbc	01 16 15.1	+0.1
KRLC				ePKPAB	PKPab	01 16 20.1	+0.1
FBE	Freiberg	148.82	347	ePKPbc	PKPbc	01 16 15.7	+0.7
MLR	Muntele Rosu	148.85	328	PKPbc	PKPbc	01 16 15.1	-0.4
MLR	Muntele Rosu	148.85	328	⇑P	PKPbc	01 16 14.9	-0.6
MLR	Muntele Rosu	148.85	328	PKPbc	PKPbc	01 16 15.1	-0.4
	comp=Z,0.8nm,0.7s,baz=53,slow=5.1,SNR=11						
PVCC	Panska Ves	148.91	345	⇑PKP	PKPbc	01 16 15.6	+0.3
KECS	Kecovo	148.93	337	ePKP	PKPbc	01 16 16.1	+0.7
PRU	Pruhonice	149.42	345	⇑PKP	PKPbc	01 16 16.7	+0.2
PLN	Plauen	149.47	348	ePKPbc	PKPbc	01 16 17.1	+0.4
TANN	Tannenbergstha	149.48	348	ePKPbc	PKPbc	01 16 17.1	+0.3
WERD	Werda	149.48	348	ePKPbc	PKPbc	01 16 17.0	+0.3
VRAC	Vranov	149.49	342	PKPbc	PKPbc	01 16 16.6	-0.1
VRAC	Vranov	149.49	342	PKPbc	PKPbc	01 16 16.6	-0.1
	comp=Z,3.5nm,0.8s,baz=63,slow=3.0,SNR=5.3						
VYHS	Vyhne	149.50	339	ePKP	PKPbc	01 16 16.8	0.0
GUNZ	Gunzen	149.55	348	ePKPbc	PKPbc	01 16 17.4	+0.5
PSZ	Piszkesteto	149.62	337	⇓iP	PKPbc	01 16 16.1	-1.1
TREC	Trest	149.81	343	⇑iPKP	PKPbc	01 16 17.6	0.0
ROTZ	Rotzenmuhle	150.15	348	ePKPbc	PKPbc	01 16 18.7	+0.4
MEM	Membach	150.16	356	PKPbc	PKPbc	01 16 18.3	0.0
SIRR	Siria	150.26	333	⇑iP	PKPbc	01 16 18.9	+0.2
GZR	Gura Zlata	150.45	331	⇑iP	PKPbc	01 16 19.1	-0.1
KHC	Kasperske Hory	150.45	345	⇑iPKP	PKPbc	01 16 19.4	+0.3
KHC	Kasperske Hory	150.45	345	ePKPbc	PKPbc	01 16 19.3	+0.2
GERES	GERESS Array B	150.69	345	PKPbc	PKPbc	01 16 19.2	-0.5
GERES	GERESS Array B	150.69	345	PKPbc	PKPbc	01 16 19.3	-0.5
	comp=Z,4.1nm,0.8s,baz=29,slow=2.2,SNR=29						
DOU	Dourbes	150.75	358	PKPbc	PKPbc	01 16 20.0	+0.3
BZS	Buzias	150.79	332	⇑iP	PKPbc	01 16 19.9	0.0
CONA	Conrad Observa	150.95	342	⇑iPKPbc	PKPbc	01 16 20.6	+0.2
	comp=Z,6.3nm,0.7s						
WLF	Walferdange	151.09	355	PKPbc	PKPbc	01 16 21.0	+0.5
WLF	Walferdange	151.09	355	ePKPbc	PKPbc	01 16 20.6	+0.1
PKSM	Moragy	151.51	336	⇑iP	PKPbc	01 16 21.5	0.0
WTTA	Wattenberg	152.65	347	⇓ePKPbc	PKPbc	01 16 23.9	-0.4
	comp=Z,9.4nm,0.9s						
MOTA	Moosalm	152.68	348	⇓iPKPbc	PKPbc	01 16 24.1	-0.2
	comp=Z,1.6nm,0.5s						
ABTA	Abfaltersbach	152.93	345	⇑iPKPbc	PKPbc	01 16 24.3	-0.6
	comp=Z,5.2nm,0.6s						
DAVOX	Davos/Dischmat	153.46	349	PKPbc	PKPbc	01 16 26.1	0.0
DAVOX	Davos/Dischmat	153.46	349	PKPbc	PKPbc	01 16 26.0	0.0
	comp=Z,3.8nm,0.5s,baz=56,slow=3.6,SNR=17						
ESDC	Sonseca Array	160.36	15	PKPab	PKPab	01 17 09.5	-0.3
ESDC	Sonseca Array	160.36	15	PKPab	PKPab	01 17 09.5	-0.3
	comp=Z,0.2nm,0.6s,baz=344,slow=3.7,SNR=4.4						
DBIC	Dimbokro	164.14	151	PKP	PKPdf	01 16 31.1	-0.2
DBIC				PKPab	PKPab	01 17 27.9	+1.0
DBIC	Dimbokro	164.14	151	PKP	PKPdf	01 16 31.1	-0.2
	comp=Z,5.9nm,0.9s,baz=277,slow=2.5,SNR=3.7						
DBIC				PKPab	PKPab	01 17 27.9	+1.0
	comp=Z,3.9nm,0.8s,baz=135,slow=5.7,SNR=3.9						
TORD	Torodi Ar. Bea	172.31	173	PKP	PKPdf	01 16 36.0	-0.6
TORD				PKPab	PKPab	01 18 03.5	+0.6
TORD	Torodi Ar. Bea	172.31	173	PKP	PKPdf	01 16 36.0	-0.6
	comp=Z,2.7nm,0.8s,baz=183,slow=2.5,SNR=15						
TORD				PKPab	PKPab	01 18 03.5	+0.6
	comp=Z,0.9nm,0.8s,baz=164,slow=3.3,SNR=8.0						
TAM	Tamanrasset	176.73	307	ePKPdf	PKPdf	01 16 38.5	+0.4

*NSSC **15** 01:13:24.3±1.2, 33°.10N×25°.34E, h0km±250km, MD3.0, ML3.6*
*ISCJB **15** 01:13:31.8±0.5, 33°.93N±0°.01×25°.59E±0°.01, h3km±3km, mb4.5/84, MS4.1/21, Error ellipse: s-maj=2.7km s-min=1.8km az=31.2*
*ATH **15** 01:13:31.6, 33°.88N×25°.42E, h6km±2km, MD4.1/9, ML4.1*
*IDC **15** 01:13:32.9±0.6, 34°.04N×25°.51E, h0km, mb4.3/20, mb1 4.4/30, mb1mx4.3/36, mbtmp4.3/30, MS4.0/19, Ms1 4.0/19, ms1mx3.6/43, Error ellipse: s-maj=12.9km s-min=12.1km az=7.0*
*BJI **15** 01:13:33.1, 34°.66N×25°.24E, h8km, mB5.1/12, mb4.7/22, Ms4.6/7, Ms7 4.3/7*
*HLW **15** 01:13:33.5, 34°.21N×25°.59E, h33km±25km, Md3.5, Ml4.2*
*MOS **15** 01:13:33.9±1.4, 34°.02N×25°.54E, h13km, mb4.8/38, Error ellipse: s-maj=5.5km s-min=3.1km az=105.6*
*NEIC **15** 01:13:34.9±0.3, 33°.97N×25°.57E, h10km, mb4.5/21, ML4.1(ATH), Error ellipse: s-maj=6.8km s-min=3.9km az=189.0*
*CSEM **15** 01:13:35.2±0.1, 33°.99N×25°.60E, h14km, mb4.5/20, Error ellipse: s-maj=3.5km s-min=1.9km az=34.0*
*TEH **15** 01:13:37.1, 33°.83N×25°.48E, h30km, ML4.0*
*PDG **15** 01:13:38.9±0.5, 34°.23N×25°.05E, h10km±11km, ML4.3/10, Error ellipse: s-maj=20.9km s-min=14.0km az=90.0*
*THE **15** 01:13:39.7, 34°.36N×25°.40E, h1km, ML3.9/5, Error ellipse: s-maj=1.1km s-min=0.4km az=169.0*
*NIC **15** 01:13:40.1±0.1, 34°.40N×25°.73E, h50km, mb4.7, ML4.2, MW3.8*

ISC 15 01:13:35.9±0.5, 33°.99N±0°.03×25°.51E±0°.03, h19km±1km, h19km:pP-P, n825, σ1°53/894, mb4.6/84, MS4.0/21, 19C-13D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAST	Lasithi	1.17	359	P	Pn	01 13 55.4	-1.9
LAST				S	Sb	01 14 07.7	-4.5
LAST	Lasithi	1.17	359	ePG	Pn	01 13 55.3	-2.0
LAST	Lasithi	1.17	359	P	Pn	01 13 55.4	-1.9
SIVA	Sivas	1.17	331	P	Pn	01 13 55.6	-1.7
SIVA				S	Sb	01 14 08.2	-4.2
SIVA	Sivas	1.17	331	ePB	Pn	01 13 55.3	-2.0
SIVA				eSB	Sb	01 14

ANKY			S	Sn	01 14 46.6	-1.5
ANKY	**Antikythira Is**	**2.60 316**	*e*PN	Pn	01 14 17.4	+0.4
ANKY	**Antikythira Is**	**2.60 316**	*e*Pn	Pn	01 14 17.4	+0.4
NIS1	**Nisyros Isl.**	**2.94 27**	P	Pn	01 14 22.6	+0.9
NIS1			S	Sn	01 14 55.9	-0.5
NIS1	**Nisyros Isl.**	**2.94 27**	*e*PN	Pn	01 14 22.5	+0.9
NIS1	**Nisyros Isl.**	**2.94 27**	*e*Pn	Pn	01 14 22.5	+0.9
NIS1			S	Sn	01 14 55.9	-0.5
KYTH	**Kithira**	**3.05 319**	*e*PB	Pn	01 14 23.5	+0.3
KYTH	**Kithira**	**3.05 319**	*e*Pb	Pn	01 14 23.5	+0.3
APE	**Apeiranthos**	**3.07 0**	*e*P	Pn	01 14 24.0	+0.6
APE	**Apeiranthos**	**3.07 0**	P	Pn	01 14 23.3	-0.1
APE			S	Sn	01 14 57.0	-2.6
APE	**Apeiranthos**	**3.07 0**	*e*P	Pn	01 14 23.8	+0.4
APE	**Apeiranthos**	**3.07 0**	*e*PN	Pn	01 14 24.8	+1.4
APE	**Apeiranthos**	**3.07 0**	P	Pn	01 14 23.3	-0.1
APE	**Apeiranthos**	**3.07 0**	*e*Pn	Pn	01 14 24.8	+1.4
APE			S	Sn	01 14 57.0	-2.6
ARG	**Arkhangelos**	**3.08 43**	P	Pn	01 14 25.8	+2.2
ARG	**Arkhangelos**	**3.08 43**	*e*PN	Pn	01 14 25.6	+2.0
ARG	**Arkhangelos**	**3.08 43**	*e*Pn	Pn	01 14 25.6	+2.0
HMAT	**Matruh**	**3.19 155**	S	Sn	01 15 01.3	-1.2
	baz=157					
HMAT	**Matruh**	**3.19 155**	S	Sn	01 15 01.3	-1.2
DAT	**Datca**	**3.21 31**	*e*P	Pn	01 14 25.6	+0.2
DAT	**Datca**	**3.21 31**	*e*P	Pn	01 14 25.6	+0.2
BODT	**Bodrum**	**3.40 25**	*e*P	Pn	01 14 26.4	-1.5
BODT	**Bodrum**	**3.40 25**	*e*P	Pn	01 14 26.4	-1.5
VLI	**Veliai**	**3.44 323**	P	Pn	01 14 28.5	+0.1
VLI	**Veliai**	**3.44 323**	P	Pn	01 14 28.5	+0.1
BDRM	**Kayabasi**	**3.45 27**	*e*Pn	Pn	01 14 29.6	+1.0
DALY	**Dalyan (Mu¨la**	**3.81 41**	*e*P	Pn	01 14 33.4	-0.1
DALY	**Dalyan (Mu¨la**	**3.81 41**	*e*P	Pn	01 14 33.4	-0.1
TURN	**Turunc**	**3.83 40**	*e*Pn	Pn	01 14 31.0	-2.8
SMG	**Samos**	**3.86 16**	P	Pn	01 14 35.0	+0.7
SMG	**Samos**	**3.86 16**	P	Pn	01 14 35.0	+0.7
YER	**Yerkesik**	**3.86 35**	*e*P	Pn	01 14 35.3	+0.9
YER	**Yerkesik**	**3.86 35**	*e*P	Pn	01 14 35.3	+0.9
FETY	**Fethiye**	**3.94 47**	*e*P	Pn	01 14 34.8	-0.5
FETY	**Fethiye**	**3.94 47**	*e*P	Pn	01 14 34.8	-0.5
DIDY	**Didyma**	**3.95 332**	P	Pn	01 14 35.3	-0.2
DIDY	**Didyma**	**3.95 332**	P	Pn	01 14 35.3	-0.2
GCAM	**G?zelcaml?**	**3.95 20**	*e*Pn	Pn	01 14 37.0	+1.5
DID	**Didima**	**3.96 333**	P	Pn	01 14 35.4	-0.3
DID			S	Sn	01 15 18.9	-2.8
DID	**Didima**	**3.96 333**	*e*PN	Pn	01 14 35.9	+0.2
DID	**Didima**	**3.96 333**	P	Pn	01 14 35.4	-0.3
DID	**Didima**	**3.96 333**	*e*Pn	Pn	01 14 35.9	+0.2
KSL	**Kastellorizon**	**3.97 58**	*e*PN	Pn	01 14 36.7	+0.9
AKAS	**Kas**	**4.03 55**	*i* Pn	Pn	01 14 37.6	+0.9
NAIG	**Nisos Aigina**	**4.10 337**	*e*PN	Pn	01 14 39.2	+1.7
NAIG	**Nisos Aigina**	**4.10 337**	*e*Pn	Pn	01 14 39.2	+1.7
AYDN	**Tasoluk**	**4.13 27**	*i* Pn	Pn	01 14 39.7	+1.6
PYL	**PYLOS**	**4.22 314**	P	Pn	01 14 39.2	-0.1
PYL	**PYLOS**	**4.22 314**	*e*PN	Pn	01 14 40.0	+0.7
PYL	**PYLOS**	**4.22 314**	P	Pn	01 14 39.2	-0.1
PYL	**PYLOS**	**4.22 314**	*e*Pn	Pn	01 14 40.0	+0.7
VLX	**Vlachokerasia**	**4.22 324**	P	Pn	01 14 39.7	+0.4
VLX	**Vlachokerasia**	**4.22 324**	*e*PN	Pn	01 14 40.8	+1.5
VLX	**Vlachokerasia**	**4.22 324**	P	Pn	01 14 39.7	+0.4
VLX	**Vlachokerasia**	**4.22 324**	*e*Pn	Pn	01 14 40.8	+1.5
ATH	**Athens Observa**	**4.23 340**	*e*PN	Pn	01 14 40.4	+1.1
ATH	**Athens Observa**	**4.23 340**	*e*Pn	Pn	01 14 40.4	+1.1
PTL	**Penteli**	**4.26 342**	P	Pn	01 14 39.7	-0.1
PTL	**Penteli**	**4.26 342**	*e*PN	Pn	01 14 40.7	+0.9
PTL	**Penteli**	**4.26 342**	P	Pn	01 14 39.7	-0.1
PTL	**Penteli**	**4.26 342**	*e*Pn	Pn	01 14 40.7	+0.9
ITM	**Ithomi**	**4.32 318**	P	Pn	01 14 40.9	+0.4
ITM	**Ithomi**	**4.32 318**	P	Pn	01 14 40.9	+0.4
CHOS	**Chios island**	**4.41 6**	P	Pn	01 14 41.9	+0.1
CHOS			S	Sn	01 15 30.6	-2.0
CHOS	**Chios island**	**4.41 6**	*e*PN	Pn	01 14 43.0	+1.2
CHOS	**Chios island**	**4.41 6**	P	Pn	01 14 41.9	+0.1
CHOS	**Chios island**	**4.41 6**	*e*Pn	Pn	01 14 43.0	+1.2
CHOS			S	Sn	01 15 30.6	-2.0
ACOR	**Acrocorinthos**	**4.44 332**	P	Pn	01 14 42.4	+0.2
ACOR	**Acrocorinthos**	**4.44 332**	P	Pn	01 14 42.4	+0.2
URLA	**Izmir**	**4.45 11**	*e*Pn	Pn	01 14 42.5	+0.1
LTK	**Loutraki**	**4.52 334**	P	Pn	01 14 43.4	+0.1
LTK	**Loutraki**	**4.52 334**	*e*PN	Pn	01 14 43.9	+0.6
LTK	**Loutraki**	**4.52 334**	P	Pn	01 14 43.4	+0.1
LTK	**Loutraki**	**4.52 334**	*e*Pn	Pn	01 14 43.9	+0.6
ELL	**Elmali**	**4.52 51**	*e*P	Pn	01 14 42.6	-0.9
ELL	**Elmali**	**4.52 51**	*e*P	Pn	01 14 42.6	-0.9
IZM	**Izmir**	**4.62 17**	*e*P	Pn	01 14 41.4	-3.3
IZM	**Izmir**	**4.62 17**	*e*P	Pn	01 14 41.4	-3.3
GOLH	**Golhisar**	**4.62 44**	*i* Pn	Pn	01 14 46.4	+1.6
DNZL	**Cakiroluk**	**4.67 37**	*e*Pn	Pn	01 14 46.4	+0.8
AMT	**Artemida-Makis**	**4.69 320**	P	Pn	01 14 46.3	+0.6
AMT	**Artemida-Makis**	**4.69 320**	*e*PN	Pn	01 14 47.2	+1.5
AMT	**Artemida-Makis**	**4.69 320**	P	Pn	01 14 46.3	+0.6
AMT	**Artemida-Makis**	**4.69 320**	*e*Pn	Pn	01 14 47.2	+1.5
GUR	**Goura**	**4.70 328**	P	Pn	01 14 45.7	-0.1
GUR	**Goura**	**4.70 328**	*e*PN	Pn	01 14 45.8	-0.1
GUR	**Goura**	**4.70 328**	*e*Pn	Pn	01 14 45.8	-0.1
DENT	**Denizli**	**4.72 36**	*e*P	Pn	01 14 48.6	+2.5
DENT	**Denizli**	**4.72 36**	*e*P	Pn	01 14 48.6	+2.5
SWA2		**4.74 181**	P	Pn	01 14 46.1	-0.2
	baz=182					
SWA2			AMP		01 15 00.0	
	comp=N,360µm,0.5s,logA/T=5.9,baz=182					
SWA2		**4.74 181**	P	Pn	01 14 46.1	-0.2
KLV	**Kalavryta, Ach**	**4.87 327**	P	Pn	01 14 48.0	-0.2
KLV	**Kalavryta, Ach**	**4.87 327**	*e*PN	Pn	01 14 47.6	-0.6
KLV	**Kalavryta, Ach**	**4.87 327**	*e*Pn	Pn	01 14 47.6	-0.6
KLV	**Kalavryta, Ach**	**4.87 327**	P	Pn	01 14 48.0	-0.2
KORT	**Korkueli**	**4.96 51**	*e*Pn	Pn	01 14 51.2	+1.7
HBRG	**Burj al 'Arab**	**5.01 132**	P	Pn	01 14 47.9	-2.1
	baz=134					
LAKA	**Lakka**	**5.11 327**	P	Pn	01 14 51.7	+0.2
LAKA	**Lakka**	**5.11 327**	P	Pn	01 14 51.7	+0.2
KALE	**Kalithea**	**5.17 329**	P	Pn	01 14 52.6	+0.4
KALE	**Kalithea**	**5.17 329**	P	Pn	01 14 52.6	+0.4
KULA	**Kula-Manisa**	**5.18 29**	*e*P	Pn	01 14 53.3	-0.1
KULA	**Kula-Manisa**	**5.18 29**	P	Pn	01 14 53.7	+1.2
KULA	**Kula-Manisa**	**5.18 29**	P	Pn	01 14 53.7	+1.2
RLS	**Riolos of Patr**	**5.21 322**	P	Pn	01 14 53.4	+0.6
RLS	**Riolos of Patr**	**5.21 322**	P	Pn	01 14 53.4	+0.6
AKHS	**Akhisar**	**5.22 20**	*i* Pn	Pn	01 14 54.4	+1.5
AKS	**Akhisar**	**5.22 20**	*e*P	Pn	01 14 53.7	+0.8
AKS	**Akhisar**	**5.22 20**	*e*P	Pn	01 14 53.7	+0.8
PRK	**Paraskevi**	**5.28 6**	P	Pn	01 14 54.1	+0.4
PRK	**Paraskevi**	**5.28 6**	P	Pn	01 14 54.1	+0.4
EFP	**Efpalio**	**5.30 328**	P	Pn	01 14 54.2	+0.2
EFP	**Efpalio**	**5.30 328**	*e*PN	Pn	01 14 54.6	+0.6
EFP	**Efpalio**	**5.30 328**	P	Pn	01 14 54.2	+0.2
EFP	**Efpalio**	**5.30 328**	*e*Pn	Pn	01 14 54.6	+0.6
AXS	**Araxos**	**5.37 323**	P	Pn	01 14 55.5	+0.6
AXS	**Araxos**	**5.37 323**	P	Pn	01 14 55.5	+0.6
BCK	**Bucak**	**5.39 49**	*e*P	Pn	01 14 58.2	+2.9
BCK	**Bucak**	**5.39 49**	*e*P	Pn	01 14 58.2	+2.9
LJBD	**Adjabya**	**5.44 237**	*i* P	Pn	01 14 56.5	+0.5
	SNR=70					
ISP	**Isparta**	**5.58 45**	*e*P	Pn	01 14 53.6	-4.4
ISP	**Isparta**	**5.58 45**	*e*P	Pn	01 14 59.7	+1.7
ISP	**Isparta**	**5.58 45**	*e*Pn	Pn	01 14 59.7	+1.7
KFL	**Anninata**	**5.61 318**	P	Pn	01 14 58.8	+0.5
KFL	**Anninata**	**5.61 318**	P	Pn	01 14 58.8	+0.5
AGG	**Agios Georgios**	**5.63 334**	P	Pn	01 14 59.0	+0.3
AGG	**Agios Georgios**	**5.63 334**	P	Pn	01 14 59.0	+0.3
SUTC	**Sutluce-Ispart**	**5.66 51**	*e*P	Pn	01 15 02.1	+3.1
PPCY	**Paphos**	**5.72 79**	P	Pn	01 15 00.3	+0.5
PPCY	**Paphos**	**5.72 79**	P	Pn	01 15 00.3	+0.5
AKMC	**Akamas**	**5.72 78**	P	Pn	01 15 00.3	+0.4
AKMC	**Akamas**	**5.72 78**	P	Pn	01 15 00.3	+0.4
EVR	**Evrytania**	**5.75 330**	*e*PN	Pn	01 15 02.2	+1.9
EVR	**Evrytania**	**5.75 330**	*e*Pn	Pn	01 15 02.2	+1.9
VLS	**Valsamata**	**5.77 318**	P	Pn	01 15 01.5	+1.0
VLS	**Valsamata**	**5.77 318**	P	Pn	01 15 01.5	+1.0
EZN	**Ezine**	**5.86 6**	*e*P	Pn	01 15 00.9	-0.8
ALFC	**Alevga**	**5.96 77**	P	Pn	01 15 03.4	+0.2
	comp=N,4.2nm,0.4s					
ALFC			S	Sn	01 16 09.1	-1.9
ALFC	**Alevga**	**5.96 77**	P	Pn	01 15 03.4	+0.2
	comp=N,4.2nm,0.4s					
ALFC			S	Sn	01 16 09.1	-1.9
LUJL	**Ujela**	**6.04 218**	*i* P	Pn	01 15 03.8	-0.4
	SNR=70					
DST	**Dursunbey**	**6.13 23**	*e*P	Pn	01 15 05.4	-0.1
HMYD	**Mayadein**	**6.14 132**	P	Pn	01 15 04.2	-1.5
	baz=133					
HMYD	**Mayadein**	**6.14 132**	P	Pn	01 15 04.2	-1.5
SZAC	**Souni-Zanaja**	**6.14 81**	P	Pn	01 15 06.5	+0.8
SZAC	**Souni-Zanaja**	**6.14 81**	P	Pn	01 15 06.5	+0.8
HNAT	**Natroun**	**6.15 134**	P	Pn	01 15 03.8	-1.9
	baz=135					
HNAT	**Natroun**	**6.15 134**	P	Pn	01 15 03.8	-1.9
LKD2	**Lefkada island**	**6.18 322**	P	Pn	01 15 06.7	+0.5
LKD2	**Lefkada island**	**6.18 322**	P	Pn	01 15 06.7	+0.5
LEF	**Lefka**	**6.19 77**	*e*P	Pn	01 15 06.0	-0.3
GONE	**Gonen-Balikesi**	**6.29 15**	*e*P	Pn	01 15 08.0	+0.4
AWBH		**6.36 152**	P	Pn	01 15 07.7	-0.9
	baz=153					
AWBH		**6.36 152**	P	Pn	01 15 07.7	-0.9
HDMB	**Hadim**	**6.42 61**	*e*P	Pn	01 15 10.1	+0.5
GELI	**Tayfur-Gelibol**	**6.44 7**	*e*P	Pn	01 15 12.4	+2.7
LPK	**Lapseki**	**6.45 9**	*e*P	Pn	01 15 10.6	+0.9
MAMC	**Mammari**	**6.46 77**	P	Pn	01 15 10.7	+0.6
MAMC	**Mammari**	**6.46 77**	P	Pn	01 15 10.7	+0.6
CSS	**Prodhromos**	**6.53 79**	P	Pn	01 15 11.8	+0.8
	comp=N,5.7nm,1.0s					
CSS			S	Sn	01 16 23.4	-1.5
CSS	**Prodhromos**	**6.53 79**	*e*Pn	Pn	01 15 11.2	+0.2
CSS			*e*S	Sn	01 16 25.4	+0.5
CSS	**Prodhromos**	**6.53 79**	Pn	Pn	01 15 10.2	-0.8
CSS	**Prodhromos**	**6.53 79**	P	Pn	01 15 11.8	+0.8
	comp=N,5.7nm,1.0s					
CSS			S	Sn	01 16 23.4	-1.5
KRBG	**Karabiga-Canak**	**6.54 12**	*e*P	Pn	01 15 12.6	+1.5
KCTX	**Karacabey (Bur**	**6.66 19**	*e*P	Pn	01 15 15.1	+2.3
KOT	**Kottamia**	**6.73 125**	P	Pn	01 15 11.9	-1.8
	baz=127					
KOT	**Kottamia**	**6.73 125**	P	Pn	01 15 11.9	-1.8
LFK	**Lefkose**	**6.74 77**	*e*P	Pn	01 15 14.2	+0.3
HSAF	**As Saff**	**6.74 129**	P	Pn	01 15 12.1	-1.8
	baz=130					
HSAF	**As Saff**	**6.74 129**	P	Pn	01 15 12.1	-1.8
KONT	**Konya--Tatoy**	**6.81 53**	*e*P	Pn	01 15 15.9	+1.1
RKY	**Sarkoy-Tekirda**	**6.81 11**	*e*P	Pn	01 15 15.9	+1.1
GLL	**Jalalah**	**6.87 128**	P	Pn	01 15 14.4	-1.3
	baz=129					
GLL	**Jalalah**	**6.87 128**	P	Pn	01 15 14.4	-1.3
MDNY	**Mudanya-Bursa**	**6.91 22**	*e*P	Pn	01 15 16.8	+0.7
IKL	**Isikli**	**7.06 69**	*e*P	Pn	01 15 14.3	-4.0
ARMT	**Armutlu**	**7.08 21**	*e*P	Pn	01 15 19.5	+1.0
PHNC	**Paralimni**	**7.11 79**	P	Pn	01 15 20.4	+1.5
	comp=N,3.6nm,0.8s					
PHNC			S	Sn	01 16 37.3	-1.8
ADVT	**Abdulvahap**	**7.26 26**	*e*P	Pn	01 15 22.1	+1.2
SVRH	**Sivrihisar-ESK**	**7.27 40**	*e*P	Pn	01 15 23.0	+1.8
EREN	**Erenkoy**	**7.29 75**	*e*P	Pn	01 15 20.4	-1.0
BUY	**Buyukada**	**7.42 22**	*e*P	Pn	01 15 08.9	-14
SUZ		**7.47 122**	P	Pn	01 15 22.0	-1.9
	baz=123					
SUZ		**7.47 122**	P	Pn	01 15 22.0	-1.9
SLVT	**Silivri**	**7.53 16**	*e*P	Pn	01 15 24.8	+0.1
GULT	**Gulveren**	**7.56 30**	*e*P	Pn	01 15 26.6	+1.4
RSH		**7.57 111**	P	Pn	01 15 22.6	-2.6
	baz=113					
RSH		**7.57 111**	P	Pn	01 15 22.6	-2.6
HRT	**Hereke**	**7.58 25**	*e*P	Pn	01 15 23.9	-1.4
ISK	**Istanbul-Kandi**	**7.60 21**	*e*P	Pn	01 15 20.4	-5.2
CTKS	**Kestanelik-??a**	**7.61 17**	*e*P	Pn	01 15 23.9	-1.8
ZAF		**7.62 126**	P	Pn	01 15 24.0	-1.9
	baz=127					
ZAF		**7.62 126**	P	Pn	01 15 24.0	-1.9
KDZ	**Kurdzhali**	**7.64 359**	*i* P	Pn	01 15 27.5	+1.3
RZN	**Rozhen**	**7.71 356**	*i* P	Pn	01 15 29.2	+2.0
MMB	**Musomiste**	**7.71 350**	*i* P	Pn	01 15 27.9	+0.7
SULT	**Sultanhani-AKS**	**7.72 55**	*e*P	Pn	01 15 28.9	+1.6
BIA	**Bitola**	**7.76 336**	*i* Pn	Pn	01 15 28.8	+0.9
ZNM		**7.78 124**	P	Pn	01 15 26.8	-1.4
	baz=125					
ZNM		**7.78 124**	P	Pn	01 15 26.8	-1.4
CTYL	**Yal??k??y-??at**	**7.79 16**	*e*P	Pn	01 15 23.0	-5.1
MDUB	**Mudurnu**	**7.90 33**	*e*P	Pn	01 15 34.5	+4.8
EDRB	**Edirne**	**7.90 7**	*e*P	Pn	01 15 29.2	-0.5
OFRI	**'Ofer**	**8.05 97**	Pn	Pn	01 15 30.3	-1.5
KKB	**Krupnik**	**8.09 347**	P	Pn	01 15 39.0	+6.7
KZIT	**Kziot**	**8.12 110**	Pn	Pn	01 15 30.9	-1.8
KZIT			Sn	Sn	01 16 59.5	-4.5
AFSR	**Af'ar-Bala (A**	**8.15 46**	*e*P	Pn	01 15 41.6	+8.4
SLTI	**Sal'it**	**8.18 100**	Pn	Pn	01 15 31.1	-2.6
SLTI			Sn	Sn	01 17 01.0	-4.6
BLGI	**Bet Lehem HaGe**	**8.20 96**	Pn	Pn	01 15 32.0	-1.8
HNKL	**Nakhl**	**8.26 117**	P	Pn	01 15 32.8	-1.9
	baz=118					
HNKL			S	Sn	01 17 02.4	-5.1
	baz=118					
HNKL	**Nakhl**	**8.26 117**	P	Pn	01 15 32.8	-1.9
ANTO	**Ankara**	**8.27 43**	*e*P	Pn	01 15 36.0	+1.1
ANTO	**Ankara**	**8.27 43**	*e*P	Pn	01 15 35.7	+0.9
ANTO	**Ankara**	**8.27 43**	*e*Pn	Pn	01 15 35.7	+0.9
ANTO	**Ankara**	**8.27 43⇑**	*i* P	Pn	01 15 35.9	+1.1
ANTO	**Ankara**	**8.27 43**	*e*P	Pn	01 15 35.7	+0.9
MMC7	**Mount Meron ar**	**8.31 94**	Pn	Pn	01 15 33.4	-2.1
MMAI	**Mount Meron Ar**	**8.32 94**	Pn	Pn	01 15 33.7	-1.9
MMAI			Sn	Sn	01 17 07.6	-1.5
MMAI	**Mount Meron Ar**	**8.32 94**	Pn	Pn	01 15 33.7	-1.9
	comp=N,6.2nm,0.3s,baz=284,slow=12,SNR=25					
MMAI			Sn	Sn	01 17 07.6	-1.5
	comp=N,13nm,0.3s,baz=240,slow=22,SNR=5.3					
MMAI	**Mount Meron Ar**	**8.32 94**	Pn	Pn	01 15 33.7	-1.9
MMAI			Sn	Sn	01 17 07.6	-1.5
KARA	**Karaisali**	**8.43 65**	*e*P	Pn	01 15 37.4	+0.4
NIG	**Nigde**	**8.44 58**	*e*P	Pn	01 15 38.1	+0.8
MMLI	**Mount Malkishu**	**8.45 98**	Pn	Pn	01 15 34.9	-2.4
GRB	**Gharib**	**8.45 131**	P	Pn	01 15 36.2	-1.2
	baz=132					
GRB	**Gharib**	**8.45 131**	P	Pn	01 15 36.2	-1.2
KSDI	**Kefar Szold**	**8.51 93**	Pn	Pn	01 15 36.7	-1.4
HMDT	**Nahal Hemdat**	**8.58 99**	Pn	Pn	01 15 37.2	-1.9
TIR	**Tirane**	**8.60 330**	*e*P	Pn	01 15 38.7	-0.6
TIR			*e*S	Sn	01 17 13.8	-1.9
TIR	**Tirane**	**8.60 330**	*e*Pn	Pn	01 15 38.7	-0.6
TIR			*e*S	Sn	01 17 13.8	-1.9
TIR	**Tirane**	**8.60 330**	*e*P	Pn	01 15 38.7	-0.6
DSI	**Dead Sea**	**8.65 104**	Pn	Pn	01 15 38.4	-1.7
BRTR	**Keskin Array B**	**8.67 46**	Pn	Pn	01 15 41.2	+0.8
BRTR			Sn	Sn	01 17 16.1	-1.5
BRTR	**Keskin Array B**	**8.67 46**	Pn	Pn	01 15 41.2	+0.8
	comp=N,0.9nm,0.3s,baz=220,slow=16,SNR=39					
BRTR			Sn	Sn	01 17 16.1	-1.5
	comp=N,0.4nm,0.3s,baz=218,slow=26,SNR=4.3					
BRTR	**Keskin Array B**	**8.67 46**	Pn	Pn	01 15 41.2	+0.8
BRTR			S	Sn	01 17 16.1	-1.5
BR131	**Keskin Array S**	**8.67 46**	*e*Pn	Pn	01 15 42.2	+1.8
	comp=N,2.3nm,0.4s					
BR131			*e*S	Sn	01 17 18.7	+1.0
LZLA	**Zalla**	**8.70 234**	*i* P	Pn	01 15 39.3	-1.4
	SNR=70					
KRMI	**Paran Flat**	**8.72 114**	Pn	Pn	01 15 39.5	-1.6
MZDA	**Masada**	**8.73 105**	Pn	Pn	01 15 39.6	-1.5
VTS	**Vitosha**	**8.77 349**	*e*P	Pn	01 15 47.1	+5.3
VTS	**Vitosha**	**8.77 349⇑**	*i* P	Pn	01 15 48.7	+6.9
VTS	**Vitosha**	**8.77 349**	P	Pn	01 15 54.4	+12
ARNB	**Al Arnab**	**8.79 75**	*e*P	Pn	01 15 40.3	-1.7
ARNB			*e*S	Sn	01 17 17.1	-3.5
ARNB			AML	AML	01 17 30.8	
	comp=E,50nm,0.6s					
ARNB			AML	AML	01 17 32.4	
	comp=N,30nm,0.6s					
ARNB	**Al Arnab**	**8.79 75**	*e*P	Pn	01 15 40.3	-1.7
	SNR=45					
ARNB			*e*S	Sn	01 17 17.1	-3.5
	comp=N,30nm,0.6s,SNR=40					
PRNI	**Paran**	**8.83 112**	Pn	Pn	01 15 41.0	-1.5
TCHB	**Talchebab**	**8.85 96**	*e*P	Pn	01 15 35.7	-7.1
TCHB			*e*S	Sn	01 17 11.8	-10
TCHB			AML	AML	01 17 28.1	
	comp=E,122nm,0.6s					
TCHB			AML	AML	01 17 35.2	
	comp=N,53nm,0.7s					
CEL	**Celeste**	**8.87 301**	*e*Pn	Pn	01 15 42.3	-0.8
CEL			*e*S	Sn	01 17 14.0	-8.4
CEL	**Celeste**	**8.87 301**	*e*Pn	Pn	01 15 42.3	-0.8
CEYT	**Ceyhan**	**8.87 67**	*e*P	Pn	01 15 39.9	-3.2
ZFRI	**Zfri**	**8.87 110**	Pn	Pn	01 15 41.3	-1.8
HTY	**Hatay**	**8.97 73**	*e*P	Pn	01 15 39.9	-4.5
TR2		**8.98 126**	P	Pn	01 15 42.9	-1.7
	baz=127					
TR2		**8.98 126**	P	Pn	01 15 42.9	-1.7
HRFI	**Mount Harif**	**9.00 113**	Pn	Pn	01 15 44.2	-0.7
MBRI	**Mt Berech**	**9.02 115**	Pn	Pn	01 15 43.9	-1.4
HKAT	**Jabal Katrina**	**9.08 125**	P	Pn	01 15 45.0	-1.1
	baz=126					
HKAT	**Jabal Katrina**	**9.08 125**	P	Pn	01 15 45.0	-1.1
KOZT	**Kozan**	**9.08 65**	*e*P	Pn	01 15 46.1	+0.2
MARH	**Ras Al Marh**	**9.11 87**	*e*P	Pn	01 15 41.7	-4.9
MARH			*e*S	Sn	01 17 21.0	-7.8
MARH			AML	AML	01 17 37.0	
	comp=N,28nm,0.5s					
MARH			AML	AML	01 17 39.7	
	comp=E,46nm,0.6s					
EIL	**Elat**	**9.11 116**	Pn	Pn	01 15 45.2	-1.2
EIL			Sn	Sn	01 17 22.6	-5.9
EIL	**Elat**	**9.11 116**	Pn	Pn	01 15 45.2	-1.2
	comp=E,6.3nm,0.3s,baz=242,slow=5.6,SNR=46					
EIL			Sn	Sn	01 17 22.6	-5.9
	comp=E,2.9nm,0.3s,baz=351,slow=19,SNR=4.7					
EIL			LR	LR	01 20 27.3	
	comp=E,210nm,18.2s,baz=91,slow=45					
EIL	**Elat**	**9.11 116**	Pn	Pn	01 15 44.9	-1.5
TOTH	**TOTAH**	**9.12 91**	*e*P	Pn	01 15 41.2	-5.4
TOTH			*e*S	Sn	01 17 20.0	-8.7
BTCH	**Batrach**	**9.21 74**	*e*P	Pn	01 15 37.3	-11
BTCH			*e*S	Sn	01 17 16.3	-15
ULC	**Ulcinj**	**9.37 330⇓**	*i* Pn	Pn	01 15 50.9	+1.1
ULC			*e*Sn	Sn	01 17 29.5	-5.1
ULC	**Ulcinj**	**9.37 330⇓**	*i* Pn	Pn	01 15 50.9	+1.1
SALA	**Sala**	**9.47 95**	*e*P	Pn	01 15 49.1	-2.4
SALA			*e*S	Sn	01 17 32.9	-4.7
SALA	**Sala**	**9.47 95**	*e*P	Pn	01 15 49.1	-2.4
	SNR=45					
SALA			*e*S	Sn	01 17 32.9	-4.7
	SNR=40					
DRWC	**Darouich**	**9.49 71**	*e*S	Sn	01 17 38.5	+0.7
CORM	**Corum**	**9.55 47**	*e*P	Pn	01 15 51.4	-1.0
DRME	**Dracevica, Mon**	**9.57 331⇓**	*i* Pn	Pn	01 15 52.9	+0.2
DRME			*e*Sn	Sn	01 17 33.4	-6.3
DRME	**Dracevica, Mon**	**9.57 331⇓**	*i* Pn	Pn	01 15 52.9	+0.2
PVY	**Plav**	**9.63 335⇓**	*i* Pn	Pn	01 15 54.9	+1.4
PVY			*e*Sn	Sn	01 17 35.9	-5.3
PVY	**Plav**	**9.63 335⇓**	*i* Pn	Pn	01 15 54.9	+1.4
BNN	**Bunyan**	**9.63 57**	*e*P	Pn	01 15 50.5	-3.1
HHRG	**Al Ghardaqah**	**9.68 132**	P	Pn	01 15 53.9	-0.3
	baz=133					
HHRG	**Al Ghardaqah**	**9.68 132**	P	Pn	01 15 53.9	-0.3
ASF	**Jabal al Asfar**	**9.73 98**	Pn	Pn	01 15

NIE	Niedzica	15.89	348	eP		Pn	01 17 19.5 +1.1
NIE	Niedzica	15.89	348	eP		Pn	01 17 19.5 +1.1
ABTA	Abfaltersbach	16.11	326	⇑iPn		P	01 17 25.1 +0.6
	comp=Z,24nm,0.6s,SNR=13						
MOA	Molln	16.22	332	⇑iPn		P	01 17 26.1 +0.4
	comp=Z,4.9nm,0.6s,SNR=6.6						
GNI	Garni	16.52	63	ePn		P	01 17 28.6 -0.6
	comp=Z,30nm,1.0s						
GNI	Garni	16.52	63	Pn		P	01 17 29.1 -0.1
	comp=Z,1.5nm,0.3s,baz=311,slow=3.2,SNR=13						
GNI				LR		LR	01 24 41.3
	comp=Z,236nm,19.5s,baz=270,slow=40						
GNI	Garni	16.52	63	P		P	01 17 29.1 -0.1
	comp=Z,236nm,19.5s						
KIV	Kislovodsk	16.62	48	eP		P	01 17 31.3 +1.0
KIV				eS		S	01 20 39.1 -4.1
KIV				pmax		pmax	
	comp=Z,34nm,1.0s						
KIV				MLR		MLR	
	comp=Z,82nm,12.0s						
KIV	Kislovodsk	16.62	48	eP		P	01 17 31.3 +1.0
	comp=Z,34nm,1.0s						
KBZ	Khabaz	16.64	49	P		P	01 17 29.5 -0.8
KBZ	Khabaz	16.64	49	Pn		P	01 17 29.5 -0.8
KBZ	Khabaz	16.64	49	Pn		P	01 17 29.5 -0.8
	comp=Z,0.3nm,0.3s,baz=251,slow=11,SNR=12						
KBZ	Khabaz	16.64	49	P		P	01 17 29.5 -0.8
VRAC	Vranov	16.67	339	Pn		P	01 17 29.6 -1.0
VRAC	Vranov	16.67	339	Pn		P	01 17 29.6 -1.0
	comp=Z,0.8nm,0.3s,baz=141,slow=13,SNR=7.2						
VRAC	Vranov	16.67	339	P		P	01 17 29.6 -1.0
RJOB	Jochberg	16.73	329	eP		P	01 17 34.4 +3.0
	comp=Z,11nm,0.9s						
OKC	Ostrava-Krasne	16.74	343	AMS		AMS	01 24 30.0
	comp=Z,300nm,12.7s						
MORC	Moravsky Berou	16.83	342	eP		Pn	01 17 30.1 -0.3
MORC				pmax		pmax	
	comp=Z,14nm,1.2s						
MORC	Moravsky Berou	16.83	342	ePn		Pn	01 17 30.1 -0.3
	comp=Z,14nm,1.2s						
MORC	Moravsky Berou	16.83	342	eP		Pn	01 17 30.1 -0.3
	comp=Z,14nm,1.2s						
ZEI	Tsey	16.86	53	eP		Pn	01 17 31.1 +0.2
ZEI				pmax		pmax	
	comp=Z,79nm,1.9s						
ZEI	Tsey	16.86	53	eP		Pn	01 17 31.1 +0.2
	comp=Z,79nm,1.9s						
WTTA	Wattenberg	16.89	326	⇑iPn		P	01 17 34.6 +1.3
	SNR=9.6						
KIEV	Kiev	16.91	8	eP		Pn	01 17 31.1 -0.2
KIEV				pmax		pmax	
	comp=Z,29nm,0.8s						
KIEV	Kiev	16.91	8	eP		Pn	01 17 31.1 -0.2
	comp=Z,29nm,0.8s						
KIEV	Kiev	16.91	8	eP		Pn	01 17 31.1 -0.2
	comp=Z,29nm,0.8s						
AKASG	Malin Array Be	16.92	8	P		Pn	01 17 31.3 -0.1
AKASG							01 20 42.3
AKASG	Malin Array Be	16.92	8	Pn		Pn	01 17 31.3 -0.1
AKASG				Sn		Sn	01 20 42.3 +3.5
AKASG				ScP		ScP	01 25 53.2 +1.9
AKASG	Malin Array Be	16.92	8	Pn		Pn	01 17 31.3 -0.1
	comp=Z,7.6nm,0.3s,baz=200,slow=11,SNR=51						
AKASG				Sn		Sn	01 20 42.3 +3.5
	baz=189,slow=21,SNR=6.9						
AKASG				ScP		ScP	01 25 53.2 +1.9
	comp=Z,0.3nm,0.3s,baz=203,slow=2.0,SNR=3.9						
AKASG	Malin Array Be	16.92	8	P		Pn	01 17 31.3 -0.1
TREC	Trest	17.00	337	eP		Pn	01 17 31.8 -0.7
TREC				MLR		MLR	
	comp=Z,300nm,12.2s						
TREC	Trest	17.00	337	eP		Pn	01 17 31.8 -0.7
TREC				AMS		AMS	01 24 10.0
	comp=Z,300nm,12.2s						
FUORN	Ofenpass-Fuorn	17.12	322	eP		P	01 17 39.2 +3.3
SBF	Sospel	17.14	310	eP		P	01 17 37.1 +1.2
	comp=Z,86nm,1.1s						
SBF	Sospel	17.14	310	eP		P	01 17 37.1 +1.2
SBF				pmax		pmax	
	comp=Z,86nm,1.1s						
SBF	Sospel	17.14	310	eP		P	01 17 37.1 +1.2
	comp=Z,86nm,1.1s						
SBF	Sospel	17.14	310	eP		P	01 17 37.1 +1.2
	comp=Z,43nm,1.1s						
MOTA	Moosalm	17.20	325	⇑ePn		Pn	01 17 35.0 -0.2
	comp=Z,22nm,1.1s						
MOTA	Moosalm	17.20	325	Pn		Pn	01 17 35.0 -0.2
	comp=Z,22nm,1.1s						
GEC2	GERESS Array S	17.25	333	eP		P	01 17 37.2 +0.1
	comp=Z,12nm,0.9s						
GEC2	GERESS Array S	17.25	333	eP		P	01 17 37.2 +0.1
GEC2				pmax		pmax	
	comp=Z,12nm,0.9s						
GEC2	GERESS Array S	17.25	333	ePn		P	01 17 37.4 +0.2
GEC2	GERESS Array S	17.25	333	eP		P	01 17 37.2 +0.1
	comp=Z,12nm,0.9s						
GERES	GERESS Array B	17.25	333	Pn		P	01 17 36.4 -0.7
GERES	GERESS Array B	17.25	333	Pn		P	01 17 36.4 -0.7
	comp=Z,0.9nm,0.3s,baz=151,slow=11,SNR=30						
GERES	GERESS Array B	17.25	333	P		P	01 17 36.4 -0.7
IDHR	Dehrash	17.26	82	eP		P	01 17 37.8 +0.3
IDHR	Dehrash	17.26	82	eP		P	01 17 37.8 +0.3
KRLC	Kraliky	17.31	341	eP		P	01 17 37.5 -0.2
KRLC	Kraliky	17.31	341	eP		P	01 17 37.5 -0.2
KRLC	Kraliky	17.31	341	eP		P	01 17 37.5 -0.2
DAVOX	Davos/Dischmat	17.42	322	Pn		Pn	01 17 38.5 +0.6
DAVOX	Davos/Dischmat	17.42	322	Pn		Pn	01 17 38.5 +0.6
	comp=Z,0.1nm,0.3s,baz=146,slow=11,SNR=2.1						
DAVOX				LR		LR	01 25 02.4
	comp=Z,573nm,19.1s,baz=116,slow=40						
DAVOX	Davos/Dischmat	17.42	322	P		Pn	01 17 38.5 +0.6
	comp=Z,573nm,19.1s						
GOF	Gofitskoye	17.43	45	eP		P	01 17 39.5 +0.5
GOF	Gofitskoye	17.43	45	eP		P	01 17 39.5 +0.5
LMR	La Mourre	17.49	308	eP		P	01 17 43.3 +3.5
	comp=Z,198nm,1.5s						
LMR	La Mourre	17.49	308	eP		P	01 17 43.3 +3.5
LMR				pmax		pmax	
	comp=Z,198nm,1.5s						
LMR	La Mourre	17.49	308	eP		P	01 17 43.3 +3.5
	comp=Z,198nm,1.5s						
TUE	Stuetta	17.50	320	ePn		P	01 17 41.7 +1.7
TUE	Stuetta	17.50	320	ePn		P	01 17 41.7 +1.7
FRF	La Foret Royal	17.50	309	eP		P	01 17 41.5 +1.6
	comp=Z,85nm,1.2s						
FRF	La Foret Royal	17.50	309	eP		P	01 17 41.5 +1.6
FRF				pmax		pmax	
	comp=Z,85nm,1.3s						
FRF	La Foret Royal	17.50	309	eP		P	01 17 41.5 +1.6
	comp=Z,85nm,1.3s						
FRF	La Foret Royal	17.50	309	eP		P	01 17 41.5 +1.6
	comp=Z,43nm,1.2s						
KHC	Kasperske Hory	17.53	333	eP		P	01 17 41.1 +0.9
KHC				MLR		MLR	
	comp=Z,500nm,13.7s						
KHC	Kasperske Hory	17.53	333	eP		P	01 17 41.1 +0.9
KHC				ex		x	01 17 51.0
KHC				eS		S	01 21 04.1 +2.6
KHC				AMS		AMS	01 24 40.0
	comp=Z,500nm,13.7s						
KHC	Kasperske Hory	17.53	333	ePn		P	01 17 40.2 0.0
	comp=Z,38nm,1.4s						
KHC	Kasperske Hory	17.53	333	ePn		P	01 17 40.2 0.0
	comp=Z,38nm,1.4s						
KHC	Kasperske Hory	17.53	333	eP		P	01 17 41.1 +0.9
	comp=Z,500nm,13.7s						
KHC				S		S	01 21 04.1 +2.6
DPC	Dobruska-Polom	17.68	340	eP		Pn	01 17 41.2 +0.2
DPC	Dobruska-Polom	17.68	340	eP		Pn	01 17 41.2 +0.2
DPC				AMS		AMS	01 27 20.0
DPC	Dobruska-Polom	17.68	340	ePn		P	01 17 41.9 0.0
	comp=Z,103nm,1.4s						
DPC	Dobruska-Polom	17.68	340	eP		Pn	01 17 41.2 +0.2
DPC	Dobruska-Polom	17.68	340	ePn		P	01 17 41.9 0.0
	comp=Z,103nm,1.4s						
ILIN	Lien	17.72	81	eP		Pn	01 17 41.7 -0.1
ILIN	Lien	17.72	81	eP		Pn	01 17 41.7 -0.1
FUR	Furstenfeldbru	17.72	327	eP		P	01 17 42.9 +0.6
	comp=Z,56nm,1.0s						
FUR	Furstenfeldbru	17.72	327	eP		P	01 17 42.9 +0.6
FUR				pmax		pmax	
	comp=Z,56nm,1.0s						
FUR	Furstenfeldbru	17.72	327	eP		P	01 17 42.9 +0.6
	comp=Z,56nm,1.0s						
DAVA	Damuels	17.76	323	⇓iPn		P	01 17 45.1 +2.2
	SNR=7.0						
WET	Wettzell	17.81	332	eP		P	01 17 44.3 +1.1
	comp=Z,43nm,1.4s						
WET	Wettzell	17.81	332	eP		P	01 17 44.3 +1.1
WET				pmax		pmax	
	comp=Z,43nm,1.4s						
WET	Wettzell	17.81	332	eP		P	01 17 44.3 +1.1
	comp=Z,43nm,1.4s						
IHRS	Heris	17.91	70	eP		P	01 17 45.0 +0.4
IHRS	Heris	17.91	70	eP		P	01 17 45.0 +0.4
PRU	Pruhonice	17.91	336	eP		Pn	01 17 43.8 0.0
PRU				eS		S	01 21 08.9 -0.2
PRU				MLR		MLR	
	comp=Z,400nm,17.2s						
PRU	Pruhonice	17.91	336	eP		Pn	01 17 43.8 0.0
PRU				epP		pP	01 17 55.2 +5.5
PRU				eS		S	01 21 08.9 -0.2
PRU				AMS		AMS	01 24 50.0
	comp=Z,400nm,17.2s						
PRU	Pruhonice	17.91	336	eP		Pn	01 17 43.8 0.0
PRU				S		S	01 21 08.9 -0.2
UPC	Upice	17.91	340	eP		P	01 17 45.1 +0.8
UPC	Upice	17.91	340	eP		P	01 17 45.1 +0.8
UPC	Upice	17.91	340	eP		P	01 17 45.1 +0.8
MBDF	Montbardon	17.98	312	eP		P	01 17 45.7 +0.4
	comp=Z,62nm,1.3s						
MBDF	Montbardon	17.98	312	eP		P	01 17 45.7 +0.4
MBDF				pmax		pmax	
	comp=Z,62nm,1.3s						
MBDF	Montbardon	17.98	312	eP		P	01 17 45.7 +0.4
	comp=Z,62nm,1.3s						
MBDF	Montbardon	17.98	312	eP		P	01 17 45.7 +0.4
	comp=Z,31nm,1.3s						
BNI	Bardonecchia	18.20	313	eP		P	01 17 50.2 +2.4
BNI	Bardonecchia	18.20	313	ePn		P	01 17 50.2 +2.4
BNI	Bardonecchia	18.20	313	eP		P	01 17 50.2 +2.4
IKOM	Komasi	18.23	83	eP		P	01 17 48.8 +0.7
IKOM	Komasi	18.23	83	eP		P	01 17 48.8 +0.7
ISRB	Sarab	18.34	72	eP		Pn	01 17 49.8 +0.4
ISRB	Sarab	18.34	72	eP		Pn	01 17 49.8 +0.4
PVCC	Panska Ves	18.37	337	eP		P	01 17 48.2 -1.1
PVCC				MLR		MLR	
	comp=Z,300nm,20.0s						
PVCC	Panska Ves	18.37	337	eP		P	01 17 48.2 -1.1
PVCC				epP		pP	01 17 55.9 +1.2
PVCC				AMS		AMS	01 24 40.0
	comp=Z,300nm,20.0s						
PVCC	Panska Ves	18.37	337	eP		P	01 17 48.2 -1.1
	comp=Z,300nm,20.0s						
SMRF	Simiane la Rot	18.38	309	eP		Pn	01 17 49.9 +0.2
SMRF	Simiane la Rot	18.38	309	eP		Pn	01 17 49.9 +0.2
SMRF	Simiane la Rot	18.38	309	eP		Pn	01 17 49.9 +0.2
LPG	La Plagne	18.39	314	eP		Pn	01 17 50.9 +0.9
	comp=Z,14nm,0.8s						
LPG	La Plagne	18.39	314	eP		Pn	01 17 50.9 +0.9
LPG				pmax		pmax	
	comp=Z,14nm,0.8s						
LPG	La Plagne	18.39	314	eP		Pn	01 17 50.9 +0.9
	comp=Z,14nm,0.8s						
LPG	La Plagne	18.39	314	eP		Pn	01 17 50.9 +0.9
	comp=Z,6.8nm,0.8s						
LPL	La Plagne	18.41	314	eP		Pn	01 17 52.3 +2.1
	comp=Z,16nm,0.8s						
LPL	La Plagne	18.41	314	eP		Pn	01 17 52.3 +2.1
LPL				pmax		pmax	
	comp=Z,17nm,0.8s						
LPL	La Plagne	18.41	314	eP		Pn	01 17 52.3 +2.1
	comp=Z,16nm,0.8s						
LPL	La Plagne	18.41	314	eP		Pn	01 17 52.3 +2.1
	comp=Z,8.2nm,0.8s						
SENIN	Lac Senin/Sane	18.55	317	eP		Pn	01 17 53.0 +1.0
SENIN	Lac Senin/Sane	18.55	317	eP		Pn	01 17 53.0 +1.0
ROTZ	Rotzenmuhle	18.57	332	eP		Pn	01 17 52.9 +1.0
ORIF	Oris-en-Rattie	18.63	312	eP		Pn	01 17 52.6 -0.1
	comp=Z,31nm,1.2s						
ORIF				eR			
	comp=Z,571nm,20.0s						
ORIF	Oris-en-Rattie	18.63	312	eP		Pn	01 17 52.6 -0.1
ORIF				pmax		pmax	
	comp=Z,31nm,1.2s						
ORIF	Oris-en-Rattie	18.63	312	eP		Pn	01 17 52.6 -0.1
	comp=Z,31nm,1.2s						
ORIF	Oris-en-Rattie	18.63	312	eP		Pn	01 17 52.6 -0.1
	comp=Z,16nm,1.2s						
MANZ	Manzenberg	18.78	332	eP		Pn	01 17 54.2 -0.3
	comp=Z,10.0nm,1.0s						
RST	Umm Al-Ruwaisa	18.81	98	eP		P	01 17 53.3 -1.0
RST				AMb		AMB	01 17 58.7
	comp=Z,225nm,0.6s						
RST	Umm Al-Ruwaisa	18.81	98	eP		P	01 17 53.3 -1.0
	comp=Z,225nm,0.6s						
BRG	Berggiesshubel	18.87	337	eP		P	01 17 54.7 -0.1
	comp=Z,5.0nm,1.0s						
BRG				S		Sn	01 21 26.0 0.0
BRG							
	comp=N,213nm,26.7s						
BRG							
	comp=E,636nm,12.5s						
BRG							
	comp=Z,298nm,14.4s						
BRG	Berggiesshubel	18.87	337	eP		P	01 17 54.7 -0.1
BRG				S		Sn	01 21 26.0 0.0
BRG				pmax		pmax	
	comp=Z,5.0nm,1.0s						
BRG				MLR		MLR	
	comp=N,213nm,26.7s						
BRG				MLR		MLR	
	comp=E,636nm,12.5s						
BRG				MLR		MLR	
	comp=Z,298nm,14.4s						
BRG	Berggiesshubel	18.87	337	eP		P	01 17 54.7 -0.1
	comp=Z,5.0nm,1.0s						
GRFO	Grafenberg	18.90	330	eP		Pn	01 17 57.4 +1.5
GRFO				pmax		pmax	
	comp=Z,59nm,1.2s						
GRFO	Grafenberg	18.90	330	ePn		Pn	01 17 57.4 +1.5
	comp=Z,59nm,1.2s						
GRFO	Grafenberg	18.90	330	eP		Pn	01 17 57.4 +1.5
	comp=Z,59nm,1.2s						
GRA1	Grafenberg Arr	18.90	330	eP		Pn	01 17 57.9 +2.0
GRF	Grafenberg Arr	18.90	330	eP		Pn	01 17 57.9 +2.0
GRF	Grafenberg Arr	18.90	330	eP		Pn	01 17 57.9 +2.0
TANN	Tannenbergstha	19.00	334	eP		Pn	01 17 57.2 +0.1
	comp=Z,16nm,0.9s						
GUNZ	Gunzen	19.00	333	eP		Pn	01 17 57.9 +0.8
WERD	Werda	19.08	333	eP		P	01 17 57.6 +0.4
	comp=Z,13nm,1.0s						
NAY	Al-Naaiem	19.09	98	eP		P	01 17 57.7 +0.2
NAY				AMb		AMB	01 18 01.8
	comp=Z,23nm,0.5s						
NAY	Al-Naaiem	19.09	98	eP		P	01 17 57.7 +0.2
STU	Stuttgart	19.12	325	eP		Pn	01 18 01.2 +2.7
STU				pmax		pmax	
	comp=Z,25nm,0.8s						
STU	Stuttgart	19.12	325	eP		Pn	01 18 01.1 +2.7
	comp=Z,25nm,0.8s						
BFO	Black Forest	19.23	323	eP		Pn	01 18 00.9 +0.9
BFO	Black Forest	19.23	323	eP		Pn	01 17 59.6 -0.4
BFO				pmax		pmax	
	comp=Z,18nm,1.0s						
BFO	Black Forest	19.23	323	eP		Pn	01 17 59.6 -0.4
	comp=Z,18nm,1.0s						
BFO	Black Forest	19.23	323	eP		Pn	01 17 59.6 -0.4
	comp=Z,18nm,1.0s						
VIVF	Saint-Julien-l	19.36	310	eP		P	01 18 00.6 +0.3
	comp=Z,40nm,1.3s						
VIVF	Saint-Julien-l	19.36	310	eP		P	01 18 00.6 +0.3
VIVF				pmax		pmax	
	comp=Z,40nm,1.3s						
VIVF	Saint-Julien-l	19.36	310	eP		P	01 18 00.6 +0.3
	comp=Z,40nm,1.3s						
VIVF	Saint-Julien-l	19.36	310	eP		P	01 18 00.6 +0.3
	comp=Z,20nm,1.3s						
MAK	Makhachkala	19.36	56	eP		P	01 17 59.0 -1.3
MAK				eS		Sn	01 21 33.4 -4.7
MAK				pmax		pmax	
	comp=Z,97nm,7.8s						
MAK				MLR		MLR	
	comp=Z,192nm,14.0s						
MAK	Makhachkala	19.36	56	eP		P	01 17 59.0 -1.3
	comp=Z,97nm,7.8s						
CABF	La Chapelle	19.39	316	eP		P	01 18 00.8 +0.1
	comp=Z,36nm,0.9s						
CABF	La Chapelle	19.39	316	eP		P	01 18 00.8 +0.1
CABF				pmax		pmax	
	comp=Z,36nm,0.9s						
CABF	La Chapelle	19.39	316	eP		P	01 18 00.8 +0.1
	comp=Z,36nm,0.9s						
CABF	La Chapelle	19.39	316	eP		P	01 18 00.8 +0.1
	comp=Z,18nm,0.9s						
CLL	Collm	19.55	336	eP		P	01 18 00.0 -2.3
CLL				eS		S	01 21 42.0 -0.1
CLL	Collm	19.55	336	eP		Pn	01 18 04.0 +0.4
CLL				e			01 18 11.0
CLL				e			01 18 32.0
CLL				eS		S	01 21 42.0 -0.1
CLL				e			01 22 24.0
CLL				Lmax			01 29 00.0
CLL	Collm	19.55	336	eP		P	01 18 00.0 -2.3
LASF	Ste Croix	19.55	307	eP		P	01 18 02.8 +0.4
	comp=Z,100nm,1.5s						
LASF	Ste Croix	19.55	307	eP		P	01 18 02.8 +0.4
	comp=Z,100nm,1.5s						
LASF	Ste Croix	19.55	307	eP		P	01 18 02.8 +0.4
	comp=Z,50nm,1.5s						
HINF	Hinteralfeld	19.67	320	eP		Pn	01 18 04.7 -0.4
	comp=Z,43nm,1.2s						
HINF	Hinteralfeld	19.67	320	eP		Pn	01 18 04.7 -0.4
HINF				pmax		pmax	
	comp=Z,43nm,1.2s						
HINF	Hinteralfeld	19.67	320	eP		Pn	01 18 04.7 -0.4
	comp=Z,43nm,1.2s						
HINF	Hinteralfeld	19.67	320	eP		Pn	01 18 04.7 -0.4
	comp=Z,22nm,1.2s						
VORD	Divnogorie	19.72	27	eP		Pn	01 18 06.3 +0.7
VORD				pmax		pmax	
	comp=N,70nm,0.6s						
VORD				pmax		pmax	
	comp=Z,30nm,0.6s						
VORD				pmax		pmax	
	comp=E,70nm,1.3s						
ECH	Echery	19.75	321	eP		Pn	01 18 06.3 +0.1
ECH				pmax		pmax	
	comp=Z,13nm,1.0s						
ECH	Echery	19.75	321	eP		Pn	01 18 06.3 +0.1
	comp=Z,13nm,1.0s						
ECH	Echery	19.75	321	eP		Pn	01 18 06.3 +0.1
	comp=Z,13nm,1.0s						
CDF	Champ du Feu	19.82	322	eP		P	01 18 05.7 +0.3
	comp=Z,31nm,1.0s						
CDF	Champ du Feu	19.82	322	eP		P	01 18 05.7 +0.3
CDF				pmax		pmax	
	comp=Z,31nm,1.0s						
CDF	Champ du Feu	19.82	322	eP		P	01 18 05.7 +0.3
	comp=Z,31nm,1.0s						
CDF	Champ du Feu	19.82	322	eP		P	01 18 05.7 +0.3
	comp=Z,16nm,1.0s						
VSR	Storozhevoye	19.87	26	eP		Pn	01 18 07.1 -0.4
VSR				eS		S	01 21 48.5 -0.2
VSR				pmax		pmax	
	comp=Z,10.0nm,0.5s						
VSR				pmax		pmax	
	comp=N,40nm,1.4s						
VSR				pmax		pmax	
	comp=E,20nm,1.5s						
VSR				smax		smax	
	comp=N,30nm,1.1s						
VSR				smax		smax	
	comp=Z,20nm,2.0s						
VSR				smax		smax	
	comp=E,20nm,1.2s						
VSR	Storozhevoye	19.87	26	eP		Pn	01 18 07.1 -0.4
	comp=E,40nm,1.4s						
HAU	Haudompre	20.05	320	eP		P	01 18 08.4 +0.6
	comp=E,44nm,0.8s						
HAU				eR			
	comp=E,485nm,21.2s						
HAU	Haudompre	20.05	320	eP		P	01 18 08.4 +0.6
HAU				pmax		pmax	
	comp=Z,44nm,0.8s						
HAU	Haudompre	20.05	320	eP		P	01 18 08.4 +0.6
	comp=Z,44nm,0.8s						
HAU	Haudompre	20.05	320	eP		P	01 18 08.4 +0.6
	comp=Z,22nm,0.8s						
SUW	Suwalki	20.08	356	eP		P	01 18 07.5 -0.6
SUW				pmax		pmax	
	comp=Z,53nm,0.7s						
SUW	Suwalki	20.08	356	eP		P	01 18 07.5 -0.6
	comp=Z,53nm,0.7s						
SUW	Suwalki	20.08	356	eP		P	01 18 07.2 -0.9
SUW	Suwalki	20.08	356	eP		P	01 18 07.5 -0.6
	comp=Z,53nm,0.7s						
IRAZ	Razeghan	20.12	79	eP		P	01 18 09.7 +0.8
IRAZ	Razeghan	20.12	79	eP		P	01 18 09.7 +0.8
UBBA	Unterbreizbach	20.27	331	eP		Pn	01 18 12.7 +0.6
	comp=Z,26nm,1.6s						
MTLF	Montolieu	20.39	304	eP		P	01 18 12.2 +0.7
	comp=Z,39nm,1.3s						
MTLF	Montolieu	20.39	304	eP		P	01 18 12.2 +0.7
MTLF				pmax		pmax	
	comp=Z,39nm,1.3s						
MTLF	Montolieu	20.39	304	eP		P	01 18 12.2 +0.7
	comp=Z,39nm,1.3s						
MTLF	Montolieu	20.39	304	eP		P	01 18 12.2 +0.7
	comp=Z,19nm,1.3s						
TNS	Taunus Mts	20.49	327	eP		Pn	01 18 15.5 +0.6
TNS	Taunus Mts	20.49	327	eP		Pn	01 18 15.5 +0.6
MNK	Minsk	20.57	4	eP		P	01 18 12.0 -1.3
MNK	Minsk	20.57	4	eP		P	01 18 12.0 -1.3
MICGM	Minsk	20.57	4	e		P	01 18 12.0 -1.4
PAGF	Fort de Pagny	20.71	321	eP		Pn	01 18 17.2 -0.2
	comp=Z,18nm,1.0s,baz=136						
PAGF	Fort de Pagny	20.71	321	eP		Pn	01 18 17.2 -0.2
	comp=Z,18nm,1.0s						
PAGF	Fort de Pagny	20.71	321	eP		Pn	01 18 17.2 -0.2
	comp=Z,9.2nm,1.0s,baz=136						
SMF	Signal de Mont	20.72	314	eP		P	01 18 13.9 -1.2
	comp=Z,21nm,0.9s						
SMF	Signal de Mont	20.72	314	eP		P	01 18 13.9 -1.2
SMF				pmax		pmax	
	comp=Z,21nm,0.9s						
SMF	Signal de Mont	20.72	314	eP		P	01 18 13.9 -1.2
	comp=Z,21nm,0.9s						
SMF	Signal de Mont	20.72	314	eP		P	01 18 13.9 -1.2
	comp=Z,11nm,0.9s						
VRHR	Novokhopersk	20.73	30	eP		P	01 18 16.1 +1.0
VRHR				eS		S	01 22 06.2 +0.5
VRHR				pmax		pmax	
	comp=Z,10.0nm,0.4s						
VRHR				pmax		pmax	
	comp=N,20nm,1.2s						
VRHR				pmax		pmax	
	comp=E,5.0nm,0.6s						
VRHR				smax		smax	
	comp=N,50nm,1.8s						
VRHR				smax		smax	
	comp=Z,10.0nm,2.1s						
VRHR				smax		smax	
	comp=E,20nm,1.7s						
VRHR	Novokhopersk	20.73	30	eP		P	01 18 16.1 +1.0
	comp=E,20nm,1.2s						
TAM	Tamanrasset	20.79	243	eP		Pn	01 18 18.3 -0.4
TAM				pmax		pmax	
	comp=Z,31nm,1.0s						
TAM	Tamanrasset	20.79	243	eP		Pn	01 18 18.3 -0.4
	comp=Z,31nm,1.0s						
TAM	Tamanrasset	20.79	243	eP		Pn	01 18 18.3 -0.4
	comp=Z,31nm,1.0s			

CAF	**Calviac**	**21.07**	**308**	*e*P	**P**	**01 18 20.2 +1.3**
CAF				pmax	pmax	
comp=Z,39nm,1.3s						
CAF	**Calviac**	**21.07**	**308**	*e*P	**P**	**01 18 20.2 +1.3**
comp=Z,39nm,1.3s						
CAF	**Calviac**	**21.07**	**308**	*e*P	**P**	**01 18 20.2 +1.3**
comp=Z,20nm,1.3s						
AVF	**Avril sur Loir**	**21.08**	**314**	*e*P	**P**	**01 18 19.9 +0.9**
comp=Z,18nm,0.9s						
AVF	**Avril sur Loir**	**21.08**	**314**	*e*P	**P**	**01 18 19.9 +0.9**
AVF				pmax	pmax	
comp=Z,18nm,0.9s						
AVF	**Avril sur Loir**	**21.08**	**314**	*e*P	**P**	**01 18 19.9 +0.9**
comp=Z,18nm,0.9s						
AVF	**Avril sur Loir**	**21.08**	**314**	*e*P	**P**	**01 18 19.9 +0.9**
comp=Z,9.2nm,0.9s						
SSF	**Saint Saulge**	**21.13**	**315**	*e*P	**P**	**01 18 20.0 +0.5**
comp=Z,10nm,0.6s						
SSF	**Saint Saulge**	**21.13**	**315**	*e*P	**P**	**01 18 20.0 +0.5**
SSF				pmax	pmax	
comp=Z,10.0nm,0.6s						
SSF	**Saint Saulge**	**21.13**	**315**	*e*P	**P**	**01 18 20.0 +0.5**
comp=Z,10nm,0.6s						
SSF	**Saint Saulge**	**21.13**	**315**	*e*P	**P**	**01 18 20.0 +0.5**
comp=Z,5.1nm,0.6s						
WLF	**Walferdange**	**21.19**	**323**	P	P	01 18 25.0 +4.9
comp=Z,29nm,1.7s						
BGF	**Bois d'Agland**	**21.28**	**313**	*e*P	**P**	**01 18 20.8 -0.3**
comp=Z,51nm,0.9s						
BGF	**Bois d'Agland**	**21.28**	**313**	*e*P	**P**	**01 18 20.8 -0.3**
BGF				pmax	pmax	
comp=Z,51nm,0.9s						
BGF	**Bois d'Agland**	**21.28**	**313**	*e*P	**P**	**01 18 20.8 -0.3**
comp=Z,51nm,0.9s						
BGF	**Bois d'Agland**	**21.28**	**313**	*e*P	**P**	**01 18 20.8 -0.3**
comp=Z,26nm,0.9s						
IDID	**Didziasalis**	**21.34**	**2**	*e*P	**P**	**01 18 21.0 -0.6**
IDID				AMB	AMB	01 18 29.5
comp=Z,12nm,1.0s						
IDID	**Didziasalis**	**21.34**	**2**	*e*P	**P**	**01 18 21.0 -0.6**
IIGN	**Ignalina**	**21.36**	**1**	*e*P	**P**	**01 18 21.0 -0.9**
IIGN				AMB	AMB	01 18 29.4
comp=Z,14nm,1.3s						
IIGN	**Ignalina**	**21.36**	**1**	*e*P	**P**	**01 18 21.0 -0.9**
TCF	**Toulx Ste Croi**	**21.55**	**312**	*e*P	**P**	**01 18 24.3 +0.3**
comp=Z,49nm,1.1s						
TCF	**Toulx Ste Croi**	**21.55**	**312**	*e*P	**P**	**01 18 24.3 +0.3**
TCF				pmax	pmax	
comp=Z,49nm,1.1s						
TCF	**Toulx Ste Croi**	**21.55**	**312**	*e*P	**P**	**01 18 24.3 +0.3**
comp=Z,49nm,1.1s						
TCF	**Toulx Ste Croi**	**21.55**	**312**	*e*P	**P**	**01 18 24.3 +0.3**
comp=Z,24nm,1.1s						
RJF	**Les Rejaudoux**	**21.57**	**309**	*e*P	**P**	**01 18 24.8 +0.5**
comp=Z,44nm,1.1s						
RJF				*e*R		
comp=Z,354nm,20.2s						
RJF	**Les Rejaudoux**	**21.57**	**309**	*e*P	**P**	**01 18 24.8 +0.5**
RJF				pmax	pmax	
comp=Z,44nm,1.1s						
RJF	**Les Rejaudoux**	**21.57**	**309**	*e*P	**P**	**01 18 24.8 +0.5**
comp=Z,44nm,1.1s						
RJF	**Les Rejaudoux**	**21.57**	**309**	*e*P	**P**	**01 18 24.8 +0.5**
comp=Z,22nm,1.1s						
EPF	**Esparros**	**21.60**	**302**	*e*P	**P**	**01 18 27.9 +3.2**
comp=Z,13nm,0.9s						
EPF	**Esparros**	**21.60**	**302**	*e*P	**P**	**01 18 27.9 +3.2**
EPF				pmax	pmax	
comp=Z,13nm,0.9s						
EPF	**Esparros**	**21.60**	**302**	*e*P	**P**	**01 18 27.9 +3.2**
comp=Z,13nm,0.9s						
IDMV	**Damavand**	**21.82**	**78**	*e*P	**P**	**01 18 28.4 +1.0**
IDMV	**Damavand**	**21.82**	**78**	*e*P	**P**	**01 18 28.4 +1.0**
MEM	**Membach**	**21.89**	**325**	P	**P**	**01 18 29.5 +1.9**
comp=Z,19nm,1.0s						
MEM	**Membach**	**21.89**	**325**	P	**P**	**01 18 29.5 +1.9**
comp=Z,19nm,1.0s						
LFF	**La Frestale**	**21.94**	**307**	*e*P	**P**	**01 18 29.1 +0.9**
comp=Z,52nm,1.0s						
LFF	**La Frestale**	**21.94**	**307**	*e*P	**P**	**01 18 29.1 +0.9**
LFF				pmax	pmax	
comp=Z,52nm,1.0s						
LFF	**La Frestale**	**21.94**	**307**	*e*P	**P**	**01 18 29.1 +0.9**
comp=Z,52nm,1.0s						
LFF	**La Frestale**	**21.94**	**307**	*e*P	**P**	**01 18 29.1 +0.9**
comp=Z,26nm,1.0s						
HGN	**Heimansgroeve**	**22.03**	**325**	*e*P	**P**	**01 18 33.1 +4.0**
comp=Z,100nm,1.9s						
HGN				*e*S	Sn	01 22 44.0 +2.0
HGN				*e*L	L	01 28 40.1
comp=Z,280nm,18.6s						
ISFB	**Sefidab**	**22.10**	**82**	*e*P	**P**	**01 18 30.6 +0.4**
GIVF	**Givet**	**22.14**	**323**	*e*P	**P**	**01 18 32.6 +2.3**
comp=Z,42nm,0.9s						
GIVF	**Givet**	**22.14**	**323**	*e*P	**P**	**01 18 32.6 +2.3**
GIVF				pmax	pmax	
comp=Z,42nm,0.9s						
GIVF	**Givet**	**22.14**	**323**	*e*P	**P**	**01 18 32.6 +2.3**
comp=Z,42nm,0.9s						
ETSF	**Etsaut**	**22.20**	**301**	*e*P	**P**	**01 18 33.0 +1.9**
comp=Z,16nm,0.8s						
ETSF	**Etsaut**	**22.20**	**301**	*e*P	**P**	**01 18 33.0 +1.9**
ETSF				pmax	pmax	
comp=Z,16nm,0.8s						
ETSF	**Etsaut**	**22.20**	**301**	*e*P	**P**	**01 18 33.0 +1.9**
comp=Z,16nm,0.8s						
DOU	**Dourbes**	**22.25**	**323**	P	**P**	**01 18 32.4 +0.9**
comp=Z,12nm,1.3s						
DOU	**Dourbes**	**22.25**	**323**	P	**P**	**01 18 32.3 +0.9**
comp=Z,12nm,1.3s						
BAIF	**Baives**	**22.42**	**322**	*e*P	**P**	**01 18 33.8 +0.5**
comp=Z,39nm,0.8s						
BAIF	**Baives**	**22.42**	**322**	*e*P	**P**	**01 18 33.8 +0.5**
BAIF				pmax	pmax	
comp=Z,39nm,0.8s						
BAIF	**Baives**	**22.42**	**322**	*e*P	**P**	**01 18 33.8 +0.5**
comp=Z,39nm,0.8s						
IALA	**Alasht**	**22.43**	**77**	*e*P	**P**	**01 18 34.0 +0.1**
OBN	**Obninsk**	**22.48**	**17**	*e*P	**P**	**01 18 34.5 +0.6**
OBN				*e*		01 18 37.0
OBN				*e*		01 18 41.8
OBN				*e*		01 18 58.6
OBN				pmax	pmax	
comp=Z,11nm,1.4s						
OBN				MLR	MLR	
comp=Z,300nm,18.0s						
SNF	**Seneffe**	**22.66**	**323**	P	**P**	**01 18 38.2 +2.4**
SNF	**Seneffe**	**22.66**	**323**	P	**P**	**01 18 38.2 +2.4**
IKAZ	**Kazeroun**	**22.72**	**93**	*e*P	**P**	**01 18 38.1 +1.0**
SJPF	**Ste Jean**	**22.73**	**301**	*e*P	**P**	**01 18 37.9 +1.2**
comp=Z,29nm,0.8s						
SJPF	**Ste Jean**	**22.73**	**301**	*e*P	**P**	**01 18 37.9 +1.2**
SJPF				pmax	pmax	
comp=Z,29nm,0.8s						
SJPF	**Ste Jean**	**22.73**	**301**	*e*P	**P**	**01 18 37.9 +1.2**
comp=Z,29nm,0.8s						
ISHM	**Shahmirzad**	**22.83**	**78**	*e*P	**P**	**01 18 38.5 +0.4**
MFF	**Saint Martin d**	**23.15**	**311**	*e*P	**P**	**01 18 41.6 +0.6**
comp=Z,27nm,0.7s						
MFF	**Saint Martin d**	**23.15**	**311**	*e*P	**P**	**01 18 41.6 +0.6**
MFF				pmax	pmax	
comp=Z,27nm,0.7s						
MFF	**Saint Martin d**	**23.15**	**311**	*e*P	**P**	**01 18 41.6 +0.6**
comp=Z,27nm,0.7s						
MOS	**Moscow**	**23.31**	**17**	*e*P	**P**	**01 18 42.8 +0.3**
MOS				*e*		01 22 51.6
MOS				*e*		01 22 57.4
ISAD	**Sadrabad**	**23.71**	**87**	*e*P	**P**	**01 18 47.7 +0.7**
IPAR	**Pars**	**23.71**	**92**	*e*P	**P**	**01 18 48.3 +1.3**
ISRV	**Sarvestan**	**23.90**	**94**	*e*P	**P**	**01 18 51.3 +2.4**
LDF	**La Druitiere**	**24.01**	**315**	*e*P	**P**	**01 18 48.7 -0.6**
comp=Z,38nm,0.8s						
LDF	**La Druitiere**	**24.01**	**315**	*e*P	**P**	**01 18 48.7 -0.6**
LDF				pmax	pmax	
comp=Z,38nm,0.8s						
LDF	**La Druitiere**	**24.01**	**315**	*e*P	**P**	**01 18 48.7 -0.6**
comp=Z,38nm,0.8s						
ESDC	**Sonseca Array**	**24.20**	**292**	P	**P**	**01 18 51.6 +0.3**
ESDC	**Sonseca Array**	**24.20**	**292**	P	**P**	**01 18 51.6 +0.3**
comp=Z,3.0nm,0.6s,baz=82,slow=9.5,SNR=21						
ESLA	**Sonseca Array**	**24.20**	**292**	*e*P	**P**	**01 18 52.0 +0.7**
comp=Z,4.9nm,1.0s						
ICHK	**Chekchek**	**24.23**	**86**	*e*P	**P**	**01 18 51.0 -0.9**
FLN	**La Foliniere**	**24.30**	**315**	*e*P	**P**	**01 18 51.3 -0.7**
comp=Z,34nm,0.8s,baz=118						
FLN				*e*R		
comp=Z,493nm,20.8s						
FLN	**La Foliniere**	**24.30**	**315**	*e*P	**P**	**01 18 51.3 -0.7**
FLN				pmax	pmax	
comp=Z,34nm,0.8s						
FLN	**La Foliniere**	**24.30**	**315**	*e*P	**P**	**01 18 51.3 -0.7**
comp=Z,34nm,0.8s						
GRR	**Gorron**	**24.35**	**314**	*e*P	**P**	**01 18 53.0 +0.5**
comp=Z,39nm,1.0s						
GRR	**Gorron**	**24.35**	**314**	*e*P	**P**	**01 18 53.0 +0.5**
GRR				pmax	pmax	
comp=Z,39nm,1.0s						
GRR	**Gorron**	**24.35**	**314**	*e*P	**P**	**01 18 53.0 +0.5**
comp=Z,39nm,1.0s						
PAB	**San Pablo**	**24.49**	**292**	*e*P	**P**	**01 18 56.3 +2.3**
PAB	**San Pablo**	**24.49**	**292**	*e*P	**P**	**01 18 56.2 +2.3**
IMEH	**Mehriz**	**24.60**	**88**	*e*P	**P**	**01 18 56.0 +0.8**
MDT	**Midelt**	**25.14**	**276**	P	**P**	**01 19 00.7 +0.8**
MDT	**Midelt**	**25.14**	**276**	P	**P**	**01 19 00.7 +0.8**
comp=Z,6.8nm,0.8s,baz=92,slow=13,SNR=14						
MDT				LR	LR	01 31 50.1
comp=Z,233nm,20.2s,baz=354,slow=44						
SGMF	**Saint Gilles**	**25.32**	**313**	*e*P	**P**	**01 19 01.8 +0.5**
comp=Z,145nm,1.4s						
SGMF	**Saint Gilles**	**25.32**	**313**	*e*P	**P**	**01 19 01.8 +0.5**
SGMF				pmax	pmax	
comp=Z,145nm,1.4s						
SGMF	**Saint Gilles**	**25.32**	**313**	*e*P	**P**	**01 19 01.8 +0.5**
comp=Z,145nm,1.4s						
IBAF	**Bafgh**	**25.34**	**87**	*e*P	**P**	**01 19 03.0 +1.2**
QUIF	**Quistinic**	**25.56**	**312**	*e*P	**P**	**01 19 04.5 +1.1**
comp=Z,32nm,0.7s						
QUIF	**Quistinic**	**25.56**	**312**	*e*P	**P**	**01 19 04.5 +1.1**
QUIF				pmax	pmax	
comp=Z,32nm,0.7s						
QUIF	**Quistinic**	**25.56**	**312**	*e*P	**P**	**01 19 04.5 +1.1**
comp=Z,32nm,0.7s						
ROSF	**Rostrenen**	**25.79**	**312**	*e*P	**P**	**01 19 06.2 +0.7**
comp=Z,10nm,0.5s						
ROSF	**Rostrenen**	**25.79**	**312**	*e*P	**P**	**01 19 06.2 +0.7**
ROSF				pmax	pmax	
comp=Z,10.0nm,0.5s						
ROSF	**Rostrenen**	**25.79**	**312**	*e*P	**P**	**01 19 06.2 +0.7**
comp=Z,10nm,0.5s						
PBRG	**Braganca**	**26.50**	**297**	*e*P	**P**	**01 19 16.5 +4.4**
comp=Z,27nm,2.2s						
PBRG				*e*pP	**pP**	**01 19 19.4 +1.5**
PBRG	**Braganca**	**26.50**	**297**	*e*P	**P**	**01 19 16.5 +4.4**
comp=Z,27nm,2.2s						
PBRG				*e*pP	**pP**	**01 19 19.4 +1.5**
PBAR	**Barrancos**	**26.56**	**288**	*e*P	**P**	**01 19 16.1 +3.5**
comp=Z,33nm,1.5s						
PBAR				pP	**pP**	**01 19 18.7 +0.3**
PBAR	**Barrancos**	**26.56**	**288**	*e*P	**P**	**01 19 16.1 +3.5**
comp=Z,33nm,1.5s						
PBAR				pP	**pP**	**01 19 18.7 +0.3**
MVO	**Moncorvo**	**26.65**	**295**	*e*P	**P**	**01 19 16.3 +2.8**
comp=Z,34nm,2.5s						
MVO				pP	**pP**	**01 19 20.8 +1.5**
MVO				*e*LR	LR	01 27 11.3
comp=Z,120nm,16.0s						
MVO	**Moncorvo**	**26.65**	**295**	*e*P	**P**	**01 19 16.3 +2.8**
comp=Z,34nm,2.5s						
MVO				pP	**pP**	**01 19 20.8 +1.5**
PMRV	**Marv??o**	**26.84**	**291**	*e*P	**P**	**01 19 17.2 +2.1**
comp=Z,30nm,1.4s						
PMRV				pP	**pP**	**01 19 21.2 +0.3**
PMRV	**Marv??o**	**26.84**	**291**	*e*LR	LR	01 31 45.0
comp=Z,100nm,16.0s						
PMRV	**Marv??o**	**26.84**	**291**	*e*P	**P**	**01 19 17.2 +2.1**
comp=Z,30nm,1.4s						
PMRV				pP	**pP**	**01 19 21.2 +0.3**
PESTR	**Estremoz**	**26.98**	**290**	*e*P	**P**	**01 19 18.6 +2.1**
comp=Z,29nm,1.7s						
PESTR				pP	**pP**	**01 19 22.6 +0.4**
PESTR	**Estremoz**	**26.98**	**290**	*e*P	**P**	**01 19 18.6 +2.1**
comp=Z,29nm,1.7s						
PESTR				pP	**pP**	**01 19 22.6 +0.4**
MTE	**Manteigas**	**26.99**	**293**	*e*S	**S**	**01 23 57.0 +3.9**
MTE				*e*LR	LR	01 28 05.6
comp=Z,158nm,20.0s						
MTE	**Manteigas**	**26.99**	**293**	*e*S	**S**	**01 23 57.0 +3.9**
IEMG	**Emamgholi**	**27.05**	**73**	*e*P	**P**	**01 19 22.1 +4.7**
PVAQ	**Vaqueiros**	**27.12**	**287**	*e*P	**P**	**01 19 19.6 +1.9**
comp=Z,42nm,1.6s						
PVAQ				pP	**pP**	**01 19 23.8 +0.4**
PVAQ				*e*LR	LR	01 27 26.3
comp=Z,83nm,20.0s						
PVAQ	**Vaqueiros**	**27.12**	**287**	*e*P	**P**	**01 19 19.6 +1.9**
comp=Z,42nm,1.6s						
PVAQ				pP	**pP**	**01 19 23.8 +0.4**
HFS	**Hagfors**	**27.27**	**347**	P	**P**	**01 19 17.4 -1.4**
HFS	**Hagfors**	**27.27**	**347**	P	**P**	**01 19 17.4 -1.4**
comp=Z,2.3nm,0.5s,baz=153,slow=9.7,SNR=11						
PBDV	**Barranco-do-Ve**	**27.30**	**286**	*e*P	**P**	**01 19 22.1 +2.8**
comp=Z,49nm,1.1s						
PBDV				pP	**pP**	**01 19 25.9 +0.8**
PBDV	**Barranco-do-Ve**	**27.30**	**286**	*e*P	**P**	**01 19 22.1 +2.8**
comp=Z,49nm,1.1s						
PBDV				pP	**pP**	**01 19 25.9 +0.8**
EVO	**Evora**	**27.32**	**289**	*e*P	**P**	**01 19 21.8 +2.4**
EVO				*e*R		
comp=Z,218nm,18.0s						
EVO	**Evora**	**27.32**	**289**	*e*P	**P**	**01 19 20.5 +1.1**
comp=Z,20nm,1.2s						
EVO				pP	**pP**	**01 19 25.6 +0.4**
EVO	**Evora**	**27.32**	**289**	*e*P	**P**	**01 19 20.5 +1.1**
comp=Z,20nm,1.2s						
EVO				pP	**pP**	**01 19 25.6 +0.4**
EVOP	**Sao Brissos**	**27.40**	**289**	*e*P	**P**	**01 19 21.8 +1.6**
EVOP	**Sao Brissos**	**27.40**	**289**	*e*P	**P**	**01 19 21.8 +1.6**
FINES	**FINESS Array B**	**27.47**	**1**	P	**P**	**01 19 18.4 -2.1**
FINES				PcP	**PcP**	**01 22 38.3 -0.2**
FINES	**FINESS Array B**	**27.47**	**1**	P	**P**	**01 19 18.4 -2.1**
comp=Z,2.7nm,0.5s,baz=161,slow=8.8,SNR=17						
FINES				PcP	**PcP**	**01 22 38.3 -0.2**
comp=Z,0.7nm,0.4s,baz=298,slow=3.0,SNR=3.8						
FINES				LR	LR	01 31 47.9
comp=Z,278nm,19.0s,baz=270,slow=40						
PGAV	**Gavieira, Arco**	**27.65**	**297**	*e*S	**S**	**01 24 02.8 -0.8**
PGAV				*e*LR	LR	01 26 46.5
comp=Z,128nm,20.0s						
PGAV	**Gavieira, Arco**	**27.65**	**297**	*e*S	**S**	**01 24 02.8 -0.8**
KAF	**Kangasniemi**	**28.14**	**1**	*e*P	**P**	**01 19 25.3 -1.2**
KAF				pmax	pmax	
comp=Z,3.0nm,0.5s						
KAF	**Kangasniemi**	**28.14**	**1**	*e*p	**P**	**01 19 25.3 -1.2**
comp=Z,2.8nm,0.5s						
KLMR	**Klimovskoe**	**28.37**	**14**	*e*P	**P**	**01 19 27.0 -1.6**
KLMR				pmax	pmax	
comp=Z,31nm,1.0s						
KLMR				MLR	MLR	
comp=Z,376nm,19.0s						
NAO01	**NORSAR Array S**	**28.49**	**345**	*e*P	**P**	**01 19 29.5 -0.1**
comp=Z,3.6nm,0.4s						
NB2	**NORSAR Subarra**	**28.60**	**345**	P	**P**	**01 19 30.2 -0.5**
comp=Z,1.4nm,0.5s,baz=159,slow=11						
NB2	**NORSAR Subarra**	**28.60**	**345**	P	**P**	**01 19 30.2 -0.5**
comp=Z,1.4nm,0.5s,SNR=0.5						
NOA	**NORSAR Array B**	**28.60**	**345**	P	**P**	**01 19 29.6 -1.0**
NOA	**NORSAR Array B**	**28.60**	**345**	P	**P**	**01 19 29.6 -1.0**
comp=Z,1.4nm,0.5s,baz=146,slow=9.0,SNR=13						
AKTO	**Aktyubinsk**	**28.84**	**45**	P	**P**	**01 19 32.2 -0.8**
AKTO	**Aktyubinsk**	**28.84**	**45**	P	**P**	**01 19 32.1 -0.8**
AKTO	**Aktyubinsk**	**28.84**	**45**	P	**P**	**01 19 32.1 -0.8**
comp=Z,1.6nm,0.7s,baz=240,slow=10,SNR=4.4						
EKA	**Eskdalemuir Ar**	**29.16**	**326**	P	**P**	**01 19 35.2 -0.5**
EKA	**Eskdalemuir Ar**	**29.16**	**326**	P	**P**	**01 19 35.2 -0.5**
comp=Z,1.0nm,0.4s,baz=138,slow=9.1,SNR=7.2						
JOF	**Joensuu**	**29.18**	**5**	*e*P	**P**	**01 19 34.9 -0.8**
JOF				pmax	pmax	
comp=Z,4.0nm,0.6s						
JOF	**Joensuu**	**29.18**	**5**	*e*p	**P**	**01 19 34.9 -0.8**
comp=Z,4.3nm,0.6s						
JOF	**Joensuu**	**29.18**	**5**	*e*P	**P**	**01 19 34.9 -0.8**
comp=Z,4.3nm,0.6s						
ABKAR	**Akbulak array**	**29.61**	**49**	*e*P	**P**	**01 19 39.8 +0.1**
TORD	**Torodi Ar. Bea**	**29.98**	**232**	P	**P**	**01 19 43.2 -0.1**
TORD	**Torodi Ar. Bea**	**29.98**	**232**	P	**P**	**01 19 43.2 -0.1**
comp=Z,1.7nm,0.5s,baz=42,slow=8.3,SNR=36						
TORD				LR	LR	01 34 34.8
comp=Z,369nm,18.6s,baz=35,slow=42						
ARU	**Arti**	**31.83**	**35**	*d iP*	P	01 20 03.1 +3.9
ARU						01 21 07.7
ARU				S	S	01 25 16.7 +8.1
ARU				SS	**SnSn**	**01 26 59.7 +3.2**
ARU				pmax	pmax	
comp=Z,15nm,1.7s						
SOKR	**Solikamsk**	**32.83**	**29**	*e*P	**P**	**01 20 07.6 -0.3**
SOKR				pmax	pmax	
comp=Z,10.0nm,1.4s						
SVE	**Sverdlovsk**	**33.02**	**35**	*e*P	P	01 20 13.2 +3.5
SVE				pmax	pmax	
comp=Z,16nm,0.7s						
ARCES	**ARCESS Array B**	**35.59**	**360**	P	**P**	**01 20 29.9 -2.0**
ARCES	**ARCESS Array B**	**35.59**	**360**	P	**P**	**01 20 29.9 -2.0**
comp=Z,1.4nm,0.4s,baz=173,slow=8.2,SNR=26						
ARCES				LR	LR	01 35 23.7
comp=Z,246nm,18.2s,baz=177,slow=37						
KKAR	**Karatay Array**	**35.98**	**62**	*e*P	**P**	**01 20 36.3 +0.8**
KKAR				pmax	pmax	
comp=Z,2.0nm,0.6s						
KKAR	**Karatay Array**	**35.98**	**62**	*e*P	**P**	**01 20 36.3 +0.8**
comp=Z,2.4nm,0.6s						
BRVK	**Borovoye**	**36.90**	**45**	*i* P	**P**	**01 20 43.7 +0.5**
BRVK				pmax	pmax	
comp=Z,9.0nm,2.2s						
AAK	**Ala-Archa**	**38.93**	**62**	*ce*P	P	01 21 03.9 +3.2
AAK				pmax	pmax	
comp=Z,22nm,2.5s						
AAK	**Ala-Archa**	**38.93**	**62**	*e*P	**P**	**01 21 02.0 +1.3**
comp=Z,2.3nm,0.8s						
DBIC	**Dimbokro**	**39.08**	**233**	P	**P**	**01 21 01.1 -0.8**
DBIC	**Dimbokro**	**39.08**	**233**	P	**P**	**01 21 01.1 -0.8**
comp=Z,6.0nm,0.9s,baz=40,slow=8.1,SNR=4.4						
DBIC				LR	LR	01 40 36.2
comp=Z,410nm,19.1s,baz=19,slow=42						
KSH	**Kashi**	**40.38**	**67**	*e*P	**P**	**01 21 11.0 -1.7**
KSH				pP	**pP**	**01 21 15.4 -3.2**
KSH				PP	**PnPn**	**01 22 49.3 -0.1**
KSH				ScP	**ScP**	**01 27 05.0 +1.0**
KSH				S	**S**	**01 27 17.4 -2.5**
KSH				SS	SS	01 30 07.4 -12
KSH				pmax	pmax	
comp=Z,120nm,4.8s						
KSH				LR	LR	
comp=N,61nm,4.9s						
KSH				LR	LR	
comp=E,92nm,5.2s						
KSH				LR	LR	
comp=Z,120nm,7.2s						
JMIC	**Jan Mayen**	**41.28**	**344**	LR	LR	01 40 15.4
comp=Z,103nm,18.8s,baz=244,slow=39						
MK31	**Makanchi Array**	**44.18**	**56**	*e*P	**P**	**01 21 44.0 +0.5**
MK31	**Makanchi Array**	**44.18**	**56**	*e*P	**P**	**01 21 44.0 +0.5**
MKAR	**Makanchi Array**	**44.18**	**56**	*ce*P	**P**	**01 21 44.0 +0.5**
MKAR				pmax	pmax	
comp=Z,6.0nm,0.6s						
MKAR	**Makanchi Array**	**44.18**	**56**	P	**P**	**01 21 43.8 +0.3**
MKAR	**Makanchi Array**	**44.18**	**56**	P	**P**	**01 21 43.8 +0.3**
comp=Z,5.5nm,0.6s,baz=274,slow=6.7,SNR=57						
NVS	**Novosibirsk**	**44.72**	**44**	⇓ *i* P	**P**	**01 21 47.4 -0.2**
NVS				pmax	pmax	
comp=Z,12nm,0.8s						
NVS				pmax	pmax	
comp=N,3.0nm,0.8s						
NVS				pmax	pmax	
comp=E,4.0nm,0.9s						
ZAA0	**Zalesovo Array**	**45.61**	**45**	*e*P	**P**	**01 21 54.4 -0.3**
ZALV	**Zalesovo Beam**	**45.61**	**45**	P	**P**	**01 21 54.3 -0.4**
ZALV	**Zalesovo Beam**	**45.61**	**45**	P	**P**	**01 21 54.3 -0.4**
ZALV	**Zalesovo Beam**	**45.61**	**45**	P	**P**	**01 21 54.3 -0.4**
comp=E,4.4nm,0.5s,baz=266,slow=8.6,SNR=25						
WMQ	**Urumqi**	**48.35**	**59**	P	**P**	**01 22 18.6 +2.3**
WMQ				pP	**pP**	**01 22 23.1 +0.7**
WMQ				sP	**sP**	**01 22 25.6 +0.9**
WMQ				PP	**PP**	**01 24 10.6 +1.8**
WMQ				pmax	pmax	
comp=Z,9.0nm,0.8s						
WMQ				pmax	pmax	
comp=Z,140nm,4.2s						
WMQ				LR	LR	
comp=E,85nm,21.0s						
WMQ				LR	LR	
comp=Z,51nm,20.0s						
PYUN	**Piuthan**	**49.05**	**80**	*e*P	**P**	**01 22 22.9 +0.7**
comp=Z,67nm,0.5s						
DANN	**Dangsing**	**49.59**	**80**	*e*P	**P**	**01 22 27.3 +0.9**
comp=Z,53nm,0.7s						
KOLN	**Koldanda**	**49.68**	**81**	*e*P	**P**	**01 22 27.0 +0.1**
comp=Z,14nm,0.7s						
DMN	**Daman**	**50.97**	**80**	*e*P	**P**	**01 22 37.1 +0.3**
KKN	**Kakani**	**51.05**	**80**	*e*P	**P**	**01 22 37.6 +0.3**
comp=Z,19nm,0.6s						
HVS	**Khovu-Aksy**	**51.20**	**49**	⇑ *i* P	**P**	**01 22 38.7 +0.8**
HVS				pmax	pmax	
comp=Z,29nm,1.0s						
PKIN	**Phulchoki**	**51.22**	**80**	*e*P	**P**	**01 22 38.4 -0.3**
PKI	**Pulchoki**	**51.23**	**80**	*e*P	**P**	**01 22 38.7 -0.1**
comp=Z,16nm,0.6s						
GUN	**Gumba**	**51.49**	**79**	*e*P	**P**	**01 22 40.6 -0.2**
comp=Z,22nm,0.5s						
JIRN	**Jiri**	**51.84**	**80**	*e*P	**P**	**01 22 43.5 +0.1**
comp=Z,15nm,0.5s						
RAMN	**Ramite**	**52.45**	**80**	*e*P	**P**	**01 22 47.3 -0.5**
comp=Z,6.3nm,0.5s						
TLY	**Talaya**	**57.19**	**46**	*e*P	P	01 23 33.5 +12
TLY				*e*S	S	01 31 43.0 +27
TLY				pmax	pmax	
comp=Z,24nm,1.4s						
TLY				MLR	MLR	
comp=Z,102nm,20.0s						
ZAK	**Zakamensk**	**57.30**	**48**	*e*P	**P**	**01 23 22.1 -0.3**
ZAK				pmax	pmax	
comp=Z,4.0nm,1.1s						
SONM	**Songino Array**	**60.01**	**50**	P	**P**	**01 23 41.8 +0.5**
SONM	**Songino Array**	**60.01**	**50**	P	**P**	**01 23 41.8 +0.5**
comp=Z,2.4nm,0.7s,baz=288,slow=8.8,SNR=8.2						
BOSA	**Boshof**	**62.27**	**180**	P	**P**	**01 23 57.4 +0.7**
BOSA	**Boshof**	**62.27**	**180**	P	**P**

NJ2 pmax pmax
comp=Z,17nm,1.0s
MDJ Mudanjiang 75.81 46 P **P 01 25 20.4 -0.2**
MDJ pmax pmax
comp=Z,6.0nm,0.7s
MDJ pmax pmax
comp=Z,82nm,5.6s
USRK Ussuriysk Arra 77.46 45 P **P 01 25 30.0 +0.1**
comp=Z,4.0nm,0.8s,baz=281,slow=5.3,SNR=5.1
YKA Yellowknife Ar 78.64 342 P **P 01 25 36.0 -0.2**
YKA Yellowknife Ar 78.64 342 P **P 01 25 35.9 -0.2**
comp=Z,0.8nm,0.6s,baz=31,slow=5.1,SNR=10
KSAR Wonju Array Be 78.74 52 P **P 01 25 37.4 +0.1**
KSRS Korea Array 78.76 52 P **P 01 25 37.4 0.0**
comp=Z,1.4nm,0.4s,baz=298,slow=4.8,SNR=3.4
IMA2 Indian Mountai 80.26 360 *eP* **P 01 25 46.1 +1.0**
EGAK Eagle 81.00 354 *eP* **P 01 25 50.5 +1.5**
comp=Z,8.5nm,1.3s
ILAR Eielson Array 81.38 357 P **P 01 25 50.9 -0.1**
ILAR Eielson Array 81.38 357 P **P 01 25 50.9 -0.1**
comp=Z,0.8nm,0.8s,baz=340,slow=3.9,SNR=9.4
ILAR LR LR 02 03 47.9
comp=Z,69nm,20.0s,baz=21,slow=37
BPAW Bear Paw Mtn. 82.20 358 *eP* **P 01 25 55.6 +0.3**
comp=Z,4.7nm,0.8s
PPLA Purkeypile 83.43 359 *eP* **P 01 26 02.5 +0.6**
comp=Z,9.5nm,0.6s
PETK Petropavlovsk- 83.82 27 LR LR 02 09 45.4
comp=Z,61nm,18.4s,baz=114,slow=40
HYT Haines Junctio 84.50 352 *eP* **P 01 26 10.2 +2.8**
BDFB Brasilia 85.53 248 LR LR 02 07 19.6
comp=Z,164nm,18.4s,baz=92,slow=38
MJAR Matsushiro Arr 85.89 48 P **P 01 26 16.7 +2.0**
MJAR Matsushiro Arr 85.89 48 P **P 01 26 16.7 +2.0**
comp=Z,0.9nm,0.5s,baz=318,slow=5.2,SNR=4.8
MJAR LR LR 02 07 54.2
comp=Z,106nm,21.0s,baz=290,slow=38
LAO LASA Array 88.69 329 *eP* **P 01 26 30.1 +2.1**
comp=Z,6.8nm,0.8s
PDAR Pinedale Array 93.25 329 LR LR 02 08 33.5
comp=Z,71nm,19.9s,baz=252,slow=35
CBIJ Chichi jima 94.61 53 LR LR 02 10 50.3
comp=Z,78nm,18.8s,baz=113,slow=36
ROSC El Rosal 95.43 280 LR LR 02 12 53.3
comp=Z,41nm,18.6s,baz=192,slow=37
CPUP Villa Florida 98.78 244 LR LR 02 14 27.1
comp=Z,148nm,21.3s,baz=265,slow=37
WRA Warramunga Arr 116.17 97 PKP **PKPdf 01 32 17.6 -0.8**
WRA Warramunga Arr 116.17 97 PKP **PKPdf 01 32 17.6 -0.8**
comp=Z,0.2nm,0.5s,baz=310,slow=2.0,SNR=4.0
WRA Warramunga Arr 116.17 97 PKIKP **PKPdf 01 32 17.5 -0.8**
ASAR Alice Springs 117.55 101 PKP **PKPdf 01 32 20.6 -0.3**
ASAR Alice Springs 117.55 101 PKP **PKPdf 01 32 20.6 -0.3**
comp=Z,0.3nm,0.7s,baz=325,slow=1.6,SNR=3.8

ROM 15 01:14:37.7±0.1, 42°.47N×13°.42E, h9km, Md1.5/4, Ml1.6/2, Error ellipse: s-maj=2.7km s-min=0.6km az=97.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAMP	**Campotosto**	**0.07**	**353**	Pg	Pg	01 14 40.4	+0.3
CAMP				Sg	Sg	01 14 42.0	+0.3
	456nm,2.9s						
NRCA	**Norcia**	**0.43**	**328**	Pg	Pg	01 14 46.7	+0.4
NRCA				Sg	Sb	01 14 53.5	-0.8

IDC 15 01:15:29.7±1.9, 55°.08S×29°.09W, h0km, mb4.0/2, mb1 4.2/2, mb1mx3.7/15, mbtmp4.0/2, MS3.1/2, Ms1 3.2/2, ms1mx3.0/15, Error ellipse: s-maj=78.5km s-min=41.0km az=8.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**30.76**	**280**	LR	LR	01 33 05.4	
	comp=Z,151nm,20.1s,baz=355,slow=34						
CFAA	**Coronel Fontan**	**36.18**	**294**	LR	LR	01 35 47.8	
	comp=Z,7.1nm,19.1s,baz=186,slow=34						
LPAZ	**La Paz**	**48.93**	**307**	P	P	01 24 18.4	+0.2
	2.8nm,0.6s,baz=183,slow=5.8,SNR=14						
TORD	**Torodi Ar. Bea**	**72.76**	**31**	P	P	01 26 59.5	0.0
	0.7nm,0.7s,baz=203,slow=6.2,SNR=9.6						
ILAR	**Eielson Array**	**148.66**	**313**	PKPbc	PKPbc	01 35 15.7	-1.5
	1.4nm,0.8s,baz=85,slow=1.5,SNR=11						
SONM	**Songino Array**	**151.74**	**86**	PKPbc	PKPbc	01 35 25.6	+0.3
	0.6nm,0.6s,baz=224,slow=4.8,SNR=3.1						

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*ISCJB **15** 01:24:10.3±0.6, 25°.86S±0°.04×70°.2W±0°.1, h42km, mb4.0/1, Error ellipse: s-maj=16.3km s-min=5.4km az=7.2*
*GUC **15** 01:24:10.9±0.5, 25°.93S×70°.36W, h75km, ML4.0*
*IDC **15** 01:24:12.1±1.6, 25°.80S×70°.19W, h51km±6km, mb3.9/1, mb1 3.4/4, mb1mx3.3/17, mbtmp3.4/4, Error ellipse: s-maj=57.3km s-min=17.6km az=85.0*
ISC 15 01:24:11.4±0.9, 25°.87S±0°.06×70°.4W±0°.1, h42km, n11, σ1§22/17, 1C, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCH	**Caldera**	**1.26**	**198**	*eP*	**Pn**	**01 24 32.7**	**+0.2**
CDCH				*i* S	**Sn**	**01 24 48.7**	**+0.5**
CDCH				AML	AML	01 24 52.5	
	comp=E,1μm,0.3s						
CPCH	**Copiapo**	**1.48**	**179**	*eP*	**Pn**	**01 24 35.4**	**-0.2**
CPCH				*i* S	**Sn**	**01 24 53.5**	**-0.3**
CPCH				AML	AML	01 24 55.0	
	comp=N,13μm,0.1s						
ANCH	**Antofagasta**	**2.18**	**359**	⇑*iP*	**Pn**	**01 24 46.3**	**+1.1**
PB10	**Plate Boundary**	**2.35**	**356**	*eP*	**Pn**	**01 24 48.3**	**+0.8**
LCO	**Las Campanas**	**3.14**	**185**	*eP*	**Pn**	**01 24 58.8**	**+0.1**
CFAA	**Coronel Fontan**	**6.01**	**162**	P	**Pn**	**01 25 38.9**	**+0.9**
	comp=N,0.1nm,0.3s,baz=345,slow=13,SNR=19						
CFAA				S	**Sn**	**01 26 47.9**	**+2.4**
	comp=N,0.2nm,0.3s,baz=185,slow=17,SNR=3.7						
LPAZ	**La Paz**	**9.76**	**13**	P	**Pn**	**01 26 30.4**	**+0.5**
	comp=N,0.2nm,0.3s,baz=204,slow=9.8,SNR=5.3						
SIV	**San Ignacio**	**13.12**	**43**	P	**Pn**	**01 27 13.6**	**-1.7**
	comp=N,0.2nm,0.3s,baz=225,slow=16,SNR=3.4						
TORD	**Torodi Ar. Bea**	**80.09**	**70**	P	**P**	**01 36 15.8**	**-1.5**
	comp=N,1.2nm,0.6s,baz=244,slow=4.5,SNR=30						
TORD				pP	**pP**	**01 36 30.8**	**+0.8**
	comp=N,0.4nm,0.4s,baz=259,slow=5.1,SNR=4.3						
TORD				sP	**sP**	**01 36 36.7**	**+2.0**
	comp=N,0.5nm,0.8s,baz=258,slow=4.8,SNR=2.1						
ZALV	**Zalesovo Beam**	**146.46**	**27**	PKPbc	**PKPdf**	**01 43 45.9**	**-0.3**
	comp=N,1.1nm,0.6s,baz=343,slow=3.0,SNR=4.4						
ZALV				pPKPbc	pPKPbc	01 44 01.2	+0.6
	comp=N,0.8nm,0.5s,baz=318,slow=3.9,SNR=3.3						
MKAR	**Makanchi Array**	**149.91**	**39**	PKPbc	**PKPbc**	**01 43 55.8**	**-1.2**
	comp=N,0.4nm,0.4s,baz=303,slow=3.3,SNR=6.2						
MKAR				pPKPbc	**pPKPbc**	**01 44 11.1**	**+0.9**
	comp=N,0.7nm,0.7s,baz=308,slow=2.8,SNR=5.9						

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*IDC **15** 01:26:34.7±1.1, 31°.16N×103°.62E, h0km, mb3.6/6, mb1 3.7/7, mb1mx3.5/26, mbtmp3.6/7, Error ellipse: s-maj=40.5km s-min=18.5km az=55.0*
*BJI **15** 01:26:36.7, 31°.30N×103°.46E, h10km, ML3.4/12*
ISC 15 01:26:36.6±0.9, 31°.23N±0°.05×103°.67E±0°.08, h16km, n10, σ1§73/14, mb3.6/5, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**0.32**	**166**	Pg	**Pb**	**01 26 44.5**	**+0.4**
CD2				Sg	**Sn**	**01 26 52.1**	**-1.1**
CD2				smax	smax		
	comp=N,11μm,0.6s						
CD2				smax	smax		
	comp=E,3μm,0.5s						
LZH	**Lanzhou**	**4.85**	**2**	*e*Pg	**Pg**	**01 28 08.3**	**-1.3**
LZH				Sg	**Sg**	**01 29 10.3**	**-2.1**
LZH				smax	smax		
	comp=N,120nm,1.1s						
LZH				smax	smax		
	comp=E,95nm,1.1s						
LZH				LR	LR		
	comp=N,250nm,5.2s						
LZH				LR	LR		
	comp=E,210nm,5.5s						
LZH				LR	LR		
	comp=Z,250nm,6.1s						
XAN	**Xi'an**	**5.24**	**56**	Pg	**Pb**	**01 28 09.9**	**+1.9**
XAN				Sn	**Sn**	**01 28 56.8**	**+2.2**
XAN				Sg	**Sg**	**01 29 21.1**	**-3.9**
XAN				smax	smax		
	comp=N,6.0nm,0.9s						
XAN				smax	smax		
	comp=E,20nm,0.9s						
SONM	**Songino Array**	**16.72**	**6**	Pn	**P**	**01 30 32.6**	**+0.1**
	baz=194,slow=12,SNR=3.6						
KSRS	**Korea Array**	**20.94**	**66**	P	**P**	**01 31 19.1**	**+0.4**
	comp=E,3.3nm,0.7s,baz=263,slow=11,SNR=11						
MKAR	**Makanchi Array**	**22.64**	**319**	P	**P**	**01 31 37.6**	**+0.6**
	comp=E,1.9nm,1.0s,baz=134,slow=10,SNR=11						
ZALV	**Zalesovo Beam**	**26.45**	**335**	P	**P**	**01 32 13.4**	**+0.8**
	comp=E,0.5nm,0.3s,baz=151,slow=9.2,SNR=3.7						
KURBB	**Kurchatov Arra**	**26.92**	**323**	P	**P**	**01 32 17.6**	**+0.7**
	comp=E,1.1nm,0.7s,baz=130,slow=9.6,SNR=8.7						
WRA	**Warramunga Arr**	**58.78**	**146**	P	**P**	**01 36 34.8**	**+0.6**
	comp=E,0.6nm,0.8s,baz=338,slow=7.3,SNR=4.3						
ASAR	**Alice Springs**	**61.79**	**148**	P	**P**	**01 36 55.1**	**+0.3**
	comp=E,0.3nm,0.8s,baz=336,slow=6.5,SNR=3.3						

WEL 15 01:27:06.7±0.5, 38°.48S×175°.81E, h172km±4km, ML3.7/10, 5C-2D, Error ellipse: s-maj=3.6km s-min=3.3km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWVZ	**Taurewa**	**0.67**	**206**	PN	Pn	01 27 31.4	-0.1
OTVZ	**Oturere**	**0.70**	**189**	PN	Pn	01 27 32.1	+0.3
OTVZ				SN	Sn	01 27 51.4	+0.2
NGZ	**Ngauruhoe**	**0.72**	**193**	PN	Pn	01 27 31.9	+0.1
WPVZ	**Whakapapa**	**0.76**	**196**	PN	Pn	01 27 32.1	+0.1
WHVZ	**Whangaehu Hut**	**0.82**	**192**	PN	Pn	01 27 32.8	+0.2
WHVZ				SN	Sn	01 27 52.6	-0.2
WNVZ	**Wahianoa**	**0.87**	**191**	PN	Pn	01 27 32.9	+0.1
BKZ	**Black Stump Fm**	**0.87**	**143**	⇓PN	Pn	01 27 32.7	0.0
BKZ				SN	Sn	01 27 52.0	-0.8
BKZ				AML	AML	01 27 54.5	
PKVZ	**Pokaka**	**0.89**	**204**	PN	Pn	01 27 32.7	-0.2
PKVZ				SN	Sn	01 27 53.2	0.0
MOVZ	**Moawhango**	**0.93**	**183**	PN	Pn	01 27 32.8	-0.3
MTVZ	**Mangateitei**	**0.95**	**196**	PN	Pn	01 27 33.2	-0.1
NMHZ	**Naumai**	**0.99**	**129**	PN	Pn	01 27 34.5	+0.9
BHHZ	**Black Hill Sta**	**1.03**	**169**	PN	Pn	01 27 33.6	-0.3
BHHZ				SN	Sn	01 27 53.4	-1.6
URZ	**Urewera**	**1.04**	**79**	PN	Pn	01 27 33.4	-0.5
RAHZ	**Arahi**	**1.09**	**114**	PN	Pn	01 27 34.8	+0.5
MCHZ	**McNeill Hill**	**1.19**	**145**	⇑PN	Pn	01 27 35.9	+0.8
MWZ	**Matawai**	**1.35**	**85**	⇓PN	Pn	01 27 36.2	-0.4
MWZ				SN	Sn	01 27 58.6	-1.1
WAZ	**Wanganui**	**1.43**	**206**	⇑PN	Pn	01 27 36.7	-0.6
WAZ				SN	Sn	01 28 01.0	-0.2
PNHZ	**Pukenui**	**1.47**	**168**	PN	Pn	01 27 37.2	-0.5
CKHZ	**Cape Kidnapper**	**1.54**	**141**	PN	Pn	01 27 38.5	+0.2
KNZ	**Kokohu**	**1.55**	**111**	PN	Pn	01 27 38.4	-0.1
KAHZ	**Kahuranaki**	**1.56**	**148**	PN	Pn	01 27 38.7	+0.1
TSZ	**Takapari Road**	**1.59**	**176**	⇑PN	Pn	01 27 38.1	-0.7
TSZ				AML	AML	01 28 03.8	
TSZ				AML	AML	01 28 08.1	
KHEZ	**Kahui Hut**	**1.62**	**239**	PN	Pn	01 27 38.8	-0.5
WPHZ	**Waipukurau**	**1.66**	**163**	PN	Pn	01 27 38.4	-1.2
PRGZ	**Paritu Road**	**1.68**	**106**	PN	Pn	01 27 39.7	-0.1
PXZ	**Pawanui**	**1.76**	**153**	PN	Pn	01 27 40.3	-0.2
PXZ				AML	AML	01 28 09.4	
PXZ				AML	AML	01 28 23.3	
MHGZ	**Mahia Peninsul**	**1.77**	**113**	PN	Pn	01 27 40.9	+0.2
DVHZ	**Dannevirke**	**1.84**	**172**	⇑PN	Pn	01 27 40.3	-1.2
CNGZ	**Carnagh Statio**	**1.88**	**91**	PN	Pn	01 27 42.1	+0.2
PUZ	**Puketiti**	**1.96**	**79**	PN	Pn	01 27 41.9	-0.9
ANWZ	**Angora Road**	**2.05**	**166**	PN	Pn	01 27 42.6	-1.1
PRWZ	**Pori Road**	**2.08**	**177**	PN	Pn	01 27 42.8	-1.3
MRZ	**Mangatainoka R**	**2.19**	**185**	PN	Pn	01 27 43.5	-1.9
MRZ				AML	AML	01 28 13.7	
MRZ				AML	AML	01 28 14.3	
BFZ	**Birch Farm**	**2.23**	**172**	PN	Pn	01 27 44.1	-1.7
TIWZ	**Tintock**	**2.30**	**179**	PN	Pn	01 27 44.8	-1.8
OGWZ	**Otaki Gorge**	**2.39**	**192**	PN	Pn	01 27 45.7	-1.9
HOWZ	**Holdsworth Sta**	**2.43**	**185**	PN	Pn	01 27 45.8	-2.3
KIW	**Kapiti Island**	**2.48**	**196**	PN	Pn	01 27 46.3	-2.4
KIW				AML	AML	01 28 18.4	
TMWZ	**Te Maipa**	**2.63**	**179**	PN	Pn	01 27 48.2	-2.3
MTW	**Mount Morrison**	**2.69**	**185**	PN	Pn	01 27 48.4	-2.7
MTW				SN	Sn	01 28 21.2	-4.7
MTW				AML	AML	01 28 22.4	
DUWZ	**D'Urville Isla**	**2.75**	**212**	PN	Pn	01 27 49.1	-2.8
PAWZ	**Paruwai Farm**	**2.92**	**186**	PN	Pn	01 27 51.0	-3.0
TRWZ	**Traveller**	**2.92**	**182**	PN	Pn	01 27 51.2	-2.8
TRWZ				AML	AML	01 28 27.0	
SNZO	**South Karori**	**2.96**	**196**	PN	Pn	01 27 51.4	-3.0
MSWZ	**Moikau Station**	**2.97**	**188**	PN	Pn	01 27 51.5	-3.1
MSWZ				AML	AML	01 28 28.9	
MSWZ				AML	AML	01 28 29.0	
TCW	**Tory Channel**	**2.98**	**203**	PN	Pn	01 27 51.9	-2.8
BHW	**Baring Head**	**3.02**	**194**	PN	Pn	01 27 52.1	-3.0
BHW				AML	AML	01 27 52.6	
PLWZ	**Palliser**	**3.12**	**188**	PN	Pn	01 27 53.1	-3.4
TUWZ	**Tuamarina**	**3.28**	**205**	PN	Pn	01 27 55.3	-3.1
TUWZ				AML	AML	01 27 56.0	
TUWZ				AML	AML	01 27 56.1	
NNZ	**Nelson**	**3.32**	**214**	PN	Pn	01 27 55.4	-3.5
QRZ	**Quartz Range**	**3.46**	**226**	PN	Pn	01 27 56.3	-4.3
BSWZ	**Blackbirch Sta**	**3.56**	**204**	PN	Pn	01 27 58.7	-3.2
THZ	**Tophouse**	**3.97**	**213**	PN	Pn	01 28 03.2	-4.0
KHZ	**Kahutara**	**4.30**	**203**	⇑PN	Pn	01 28 07.8	-3.6
LTZ	**Lake Taylor**	**5.08**	**211**	PN	Pn	01 28 16.8	-4.7
OXZ	**Oxford**	**5.63**	**209**	PN	Pn	01 28 23.0	-5.6
MQZ	**McQueen's Vall**	**5.75**	**204**	PN	Pn	01 28 24.5	-5.7
WVZ	**Waitaha Valley**	**6.00**	**218**	PN	Pn	01 28 28.6	-4.8
LBZ	**Lake Benmore**	**7.26**	**214**	PN	Pn	01 28 43.7	-6.5
ODZ	**Otahua Downs**	**7.62**	**209**	PN	Pn	01 28 49.7	-5.1

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*ISCJB **15** 02:15:52.8±0.6, 0°.35N±0°.06×98°.50E±0°.06, h43km, mb4.0/12, Error ellipse: s-maj=10.4km s-min=7.4km az=39.4*
*IDC **15** 02:15:54.2±1.0, 0°.36N×98°.80E, h46km±7km, mb3.8/11, mb1 3.9/12, mb1mx3.7/24, mbtmp3.8/12, ML3.7/1, Error ellipse: s-maj=25.6km s-min=18.6km az=63.0*
*DJA **15** 02:15:55.4±2.0, 0°.N±7°.×9°.9E±°., h33km±26km, M4.5/4, mb4.8/2, mB5.2/1, MLv4.4/4, Mw(mB)4.6/1*
ISC 15 02:15:54.8±0.6, 0°.44N±0°.07×98°.63E±0°.07, h43km, n22, σ1§28/26, mb4.0/12, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNSI	**Mandailing Nat**	**1.02**	**70**	P	**Pn**	**02 16 13.4**	**+0.8**
MNSI				S	**Sn**	**02 16 27.7**	**+1.9**
GSI	**Gunungsitoli**	**1.35**	**309**	P	**Pn**	**02 16 18.9**	**+1.6**
PPI	**Padang Panjang**	**1.98**	**117**	P	**Pn**	**02 16 27.2**	**+1.3**
PDSI	**Padang**	**2.28**	**126**	P	**Pn**	**02 16 31.4**	**+1.4**
PSI	**Prapat**	**2.36**	**7**	P	**Pn**	**02 16 31.4**	**+0.1**
	19nm,0.3s,baz=348,slow=8.9,SNR=38						
PSI				S	Sn	02 16 47.4	-12
	22nm,0.3s,baz=165,slow=16,SNR=12						
KCSI	**Kotacane, Aceh**	**3.18**	**344**	P	**Pn**	**02 16 43.8**	**+1.5**
MNAI	**Manna**	**6.44**	**138**	P	**Pn**	**02 17 26.4**	**-0.8**
	416nm,1.2s						
MDSI	**Maura Dua**	**7.40**	**131**	P	**Pn**	**02 17 40.8**	**+0.5**
WRA	**Warramunga Arr**	**40.43**	**122**	P	P	02 23 26.2	-3.2
	0.4nm,0.5s,baz=304,slow=9.0,SNR=3.7						
ASAR	**Alice Springs**	**41.80**	**127**	P	**P**	**02 23 38.2**	**-2.4**
	0.3nm,0.3s,baz=295,slow=7.6,SNR=4.1						
SONM	**Songino Array**	**47.69**	**7**	P	**P**	**02 24 28.0**	**+0.8**
	1.0nm,0.4s,baz=188,slow=8.7,SNR=6.0						
SONM				pP	**pP**	**02 24 39.8**	**+0.6**
	1.9nm,0.6s,baz=186,slow=6.9,SNR=7.3						
SONM				PcP	**PcP**	**02 25 56.0**	**-0.1**
	0.3nm,0.4s,baz=188,slow=4.5,SNR=4.1						
MKAR	**Makanchi Array**	**48.33**	**345**	P	**P**	**02 24 32.3**	**+0.2**
	1.9nm,0.6s,baz=151,slow=8.2,SNR=23						
MKAR				pP	**pP**	**02 24 45.6**	**+1.4**
	0.7nm,0.4s,baz=157,slow=8.2,SNR=5.5						
MJAR	**Matsushiro Arr**	**51.30**	**41**	P	**P**	**02 24 52.4**	**-2.5**
	1.6nm,0.9s,baz=223,slow=9.6,SNR=4.0						
STKA	**Stephens Creek**	**51.80**	**132**	P	**P**	**02 25 01.0**	**+2.4**
	0.6nm,0.4s,baz=303,slow=13,SNR=3.2						
ZALV	**Zalesovo Beam**	**54.54**	**350**	P	**P**	**02 25 17.2**	**-1.1**
	1.5nm,0.5s,baz=175,slow=6.0,SNR=6.8						
KBZ	**Khabaz**	**65.58**	**319**	P	**P**	**02 26 34.3**	**+0.1**
	0.9nm,0.7s,baz=130,slow=7.9,SNR=3.9						
BRTR	**Keskin Array B**	**70.67**	**312**	P	**P**	**02 27 05.3**	**-1.2**
	0.7nm,0.6s,baz=117,slow=5.4,SNR=6.4						
BOSA	**Boshof**	**75.64**	**240**	P	**P**	**02 27 36.2**	**+0.1**
	2.5nm,1.1s,baz=76,slow=4.2,SNR=3.4						
FINES	**FINESS Array B**	**81.33**	**332**	P	**P**	**02 28 06.3**	**-0.2**
	1.8nm,0.9s,baz=59,slow=5.4,SNR=3.3						
FINES				pP	**pP**	**02 28 18.8**	**-0.6**
	0.4nm,0.4s,baz=148,slow=8.2,SNR=1.2						
ARCES	**ARCESS Array B**	**83.72**	**340**	P	**P**	**02 28 18.5**	**-0.4**
	1.7nm,0.8s,baz=99,slow=4.7,SNR=5.8						
ARCES				pP	**pP**	**02 28 31.7**	**-0.1**
	3.9nm,1.0s,baz=91,slow=4.5,SNR=2.1						
TXAR	**Lajitas Array**	**143.53**	**34**	PKP	PKPbc	02 35 24.1	+1.1
	0.3nm,0.8s,baz=270,slow=1.7,SNR=3.3						
CPUP	**Villa Florida**	**145.38**	**220**	PKPbc	**PKPbc**	**02 35 28.7**	**-0.1**
	1.3nm,0.5s,baz=85,slow=3.0,SNR=7.1						

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*IDC **15** 02:17:31.9±8.1, 8°.43S×124°.23E, h58km±82km, mb3.4/2, mb1 3.6/5, mb1mx3.4/19, mbtmp3.4/5, ML3.6/3, Error ellipse: s-maj=133.0km s-min=34.7km az=53.0*
*ISCJB **15** 02:17:34.1±1.1, 8°.43S±0°.08×124°.26E±0°.07, h96km, mb3.4/2, Error ellipse: s-maj=12.8km s-min=9.1km az=29.7*
*DJA **15** 02:17:40.8±1.2, 9°.S±10°.×12°.4E±°., h97km±20km, M3.4/3, MLv3.4/3*
ISC 15 02:17:36.1±1.3, 8°.5S±0°.1×124°.2E±0°.1, h96km, n9, σ1§36/12, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**1.23**	**175**	P	**Pn**	**02 18 01.7**	**+2.6**
SOEI				S	**Sn**	**02 18 18.0**	**+1.6**
BATI	**Baumata**	**1.75**	**196**	P	**Pn**	**02 18 05.7**	**+0.3**
BATI				S	**Sn**	**02 18 27.1**	**-0.5**
BATI	**Baumata**	**1.75**	**196**	P	**Pn**	**02 18 05.7**	**+0.3**
	179nm,0.3s,baz=53,slow=5.1,SNR=96						
BATI				S	**Sn**	**02 18 26.9**	**-0.7**
	67nm,0.3s,baz=127,slow=20,SNR=10						
MMRI	**Maumere**	**1.91**	**266**	P	**Pn**	**02 18 09.1**	**+1.8**
MMRI				S	**Sn**	**02 18 30.4**	**-0.7**
FITZ	**Fitzroy Crossi**	**9.63**	**172**	P	Pn	02 19 47.8	-4.1
	0.3nm,0.3s,baz=357,slow=11,SNR=23						
FITZ				S	Sn	02 21 26.3	-12
	2.6nm,0.3s,baz=198,slow=19,SNR=18						
WRA	**Warramunga Arr**	**15.04**	**140**	P	**Pn**	**02 21 02.2**	**-1.4**
	0.3nm,0.3s,baz=318,slow=12,SNR=12						
WRA				S	Sn	02 23 36.2	-13
	0.7nm,0.3s,baz=313,slow=11,SNR=12						
ASAR	**Alice Springs**	**17.72**	**149**	P	**Pn**	**02 21 37.0**	**+0.2**
	0.2nm,0.3s,baz=325,slow=12,SNR=11						
ASAR				S	Sn	02 24 41.0	-13
	0.2nm,0.3s,baz=320,slow=23,SNR=7.7						
STKA	**Stephens Creek**	**28.34**	**148**	P	**P**	**02 23 20.2**	**-0.8**
	0.6nm,0.5s,baz=322,slow=11,SNR=3.3						
MKAR	**Makanchi Array**	**66.47**	**330**	P	**P**	**02 28 15.2**	**-0.2**
	0.3nm,0.4s,baz=143,slow=6.5,SNR=5.3						

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*ISCJB **15** 02:39:31.4±1.2, 55°.2S±0°.2×29°.0W±0°.6, h10km, mb4.1/2, Error ellipse: s-maj=50.6km s-min=18.3km az=155.2*
*IDC **15** 02:39:31.7±1.9, 55°.21S×29°.09W, h0km, mb4.1/2, mb1 4.3/2, mb1mx3.7/15, mbtmp4.1/2, Error ellipse: s-maj=75.8km s-min=40.0km az=7.0*
ISC 15 02:39:33.1±1.1, 55°.2S±0°.2×29°.1W±0°.3, h10km, n6, σ0§28/6, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA2	**Neumayer--Watz**	**18.37**	**157**	*eP*	**P**	**02 43 47.6**	**+0.1**
	baz=314,slow=12						
SNAA	**Sanae**	**19.94**	**156**	*eP*	**P**	**02 44 04.8**	**0.0**
LPAZ	**La Paz**	**49.00**	**307**	P	**P**	**02 48 20.7**	**+0.1**
	2.4nm,0.4s,baz=171,slow=3.2,SNR=22						
TORD	**Torodi Ar. Bea**	**72.92**	**31**	P	**P**	**02 51 02.3**	**0.0**
	0.4nm,0.5s,baz=200,slow=6.5,SNR=16						
ILAR	**Eielson Array**	**148.75**	**313**	PKPbc	**PKPbc**	**02 59 18.7**	**-0.4**
	1.0nm,0.5s,baz=123,slow=1.6,SNR=13						
SONM	**Songino Array**	**151.78**	**86**	PKPbc	**PKPbc**	**02 59 27.2**	**+0.1**
	0.5nm,0.6s,baz=210,slow=4.1,SNR=2.8						

MAN 15 02:39:39, 18°.60N×120°.79E, h33km, mb4.2, ML3.0, MS2.7, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.32**	**210**	⇓*iP*	Pn	02 39 49.0	+1.7
PIP				*eS*	Sn	02 39 55.5	+3.0
APYP	**Conner**	**0.85**	**149**	*eP*	Pn	02 39 55.0	+0.3
APYP				*eS*	Sn	02 40 04.0	-2.1
ABRA	**Dolores**	**0.95**	**184**	*eP*	Pb	02 39 57.6	+0.6
ABRA				*eS*	Sb	02 40 09.0	-0.3
CVP	**Callao Caves**	**1.33**	**132**	⇑*iP*	Pn	02 40 01.9	+0.7
CVP				*i* S	Sn	02 40 18.8	+1.0
CAUP	**Cauayan**	**1.92**	**149**	*eP*	Pb	02 40 14.6	+1.1
PALP	**Palanan**	**2.19**	**134**	*eP*	Pb	02 40 18.3	+0.4

IDC 15 02:50:49.3±2.7, 21°.02S×178°.70W, h636km±34km, mb3.2/8, mb1 3.5/9, mb1mx3.2/18, mbtmp3.3/9, Error ellipse: s-maj=34.9km s-min=16.3km az=159.0, Fiji Islands region

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

ASAR	**Alice Springs**	**45.07 254**	P		**P**	**03 01 33.4**	**-0.2**
	24nm,0.6s,baz=89,slow=8.0,SNR=269						
ASAR			PcP		**PcP**	**03 03 03.8**	**-0.3**
	1.3nm,0.5s,baz=104,slow=4.0,SNR=4.3						
VNDA	**Vanda**	**60.26 185**	P		**P**	**03 03 22.2**	**+0.8**
	1.5nm,0.9s,baz=2.2,slow=6.3,SNR=9.2						
MJAR	**Matsushiro Arr**	**68.29 323**	P		**P**	**03 04 12.3**	**-0.9**
	1.8nm,0.7s,baz=141,slow=5.5,SNR=5.2						
PETK	**Petropavlovsk-**	**73.98 345**	P		**P**	**03 04 46.8**	**+0.6**
	5.7nm,0.7s,baz=143,slow=9.9,SNR=7.5						
MAW	**Mawson**	**83.78 200**	P		**P**	**03 05 38.4**	**+0.1**
	1.1nm,0.6s,baz=90,slow=4.0,SNR=4.0						
TXAR	**Lajitas Array**	**85.81 57**	P		**P**	**03 05 51.4**	**+2.3**
	0.6nm,0.7s,baz=219,slow=4.9,SNR=11						
ILAR	**Eielson Array**	**86.02 13**	P		**P**	**03 05 50.6**	**+1.5**
	0.5nm,0.7s,baz=221,slow=5.8,SNR=4.7						
PDAR	**Pinedale Array**	**87.27 43**	P		**P**	**03 05 56.5**	**+0.6**
	0.4nm,0.7s,baz=247,slow=1.9,SNR=4.0						
SNAA	**Sanae**	**90.37 178**	*e*P		**P**	**03 06 08.9**	**-0.7**
PLCA	**Paso Flores**	**90.92 134**	P		**P**	**03 06 14.2**	**+1.3**
	1.7nm,0.6s,baz=243,slow=3.7,SNR=6.4						
VNA2	**Neumayer--Watz**	**90.94 177**	*e*P		**P**	**03 06 12.9**	**+0.7**
	baz=186,slow=4.6						
VNA1	**Neumayer--Stat**	**91.17 177**	*e*P		**P**	**03 06 13.6**	**+0.4**
MKAR	**Makanchi Array**	**109.54 314**	PKiKP		**PKiKP**	**03 11 35.4**	**-0.6**
	0.3nm,0.5s,baz=109,slow=1.4,SNR=5.8						
MKAR			PKKPbc		**PKKPbc**	**03 22 42.2**	**-0.8**
	0.4nm,0.8s,baz=325,slow=2.3,SNR=4.3						
ARCES	**ARCESS Array B**	**126.59 350**	PKP		**PKPdf**	**03 12 07.9**	**0.0**
	0.8nm,0.4s,baz=356,slow=1.3,SNR=15						
FINES	**FINESS Array B**	**133.49 344**	PKP		**PKPdf**	**03 12 21.8**	**+0.6**
	0.5nm,0.5s,baz=104,slow=5.9,SNR=3.7						
NOA	**NORSAR Array B**	**136.63 353**	PKP		**PKPdf**	**03 12 28.7**	**+1.5**
	0.3nm,0.6s,baz=13,slow=3.8,SNR=2.7						
BURAR	**Bucovina Array**	**144.97 332** ⇑	*i*P		**PKPab**	**03 12 46.0**	**+2.2**
TESR	**Tescani**	**145.12 330** ⇑	*i*P		**PKPab**	**03 12 44.4**	**+0.1**
BRTR	**Keskin Array B**	**145.19 315**	PKPbc		**PKPab**	**03 12 44.6**	**-0.4**
	2.6nm,0.7s,baz=100,slow=3.2,SNR=14						
NIE	**Niedzica**	**145.45 339**	*e*PX		**PKPab**	**03 12 45.9**	**+0.3**
TRPA	**Tarpa**	**145.69 335** ⇑	*i*P		**PKPab**	**03 12 46.2**	**-0.3**
CLL	**Collm**	**145.75 348**	*i* PKP		**PKPab**	**03 12 46.0**	**-0.6**
	comp=Z,5.0nm,0.7s						
CLL			*i*			03 12 47.8	
	comp=Z,6.0nm,0.7s						
UPC	**Upice**	**145.80 344**	*e*PKP		**PKPab**	**03 12 46.6**	**-0.2**
UPC			*ex*		x	03 12 48.9	
DPC	**Dobruska-Polom**	**145.86 344**	*e*PKP		**PKPab**	**03 12 46.8**	**-0.3**
DPC			*ex*		x	03 12 48.8	
BRG	**Berggiesshubel**	**145.96 346**	*e*PKP		**PKPab**	**03 12 46.4**	**-1.0**
	comp=Z,4.4nm,0.8s						
KRLC	**Kraliky**	**145.98 343**	*e*PKP		**PKPab**	**03 12 48.4**	**+0.8**
PVCC	**Panska Ves**	**146.14 346**	*e*PKP		**PKPab**	**03 12 48.7**	**+0.5**
MLR	**Muntele Rosu**	**146.20 329**	PKPbc		**PKPbc**	**03 12 47.3**	**+0.5**
	baz=90,slow=2.0						
PRU	**Pruhonice**	**146.65 345**	*e*PKP		**PKPbc**	**03 12 48.5**	**+0.8**
PRU			*ex*		x	03 12 50.6	
DRGR		**146.69 334** ⇑	*i*P		**PKPab**	**03 12 49.1**	**-1.5**
ARR	**Arges**	**146.92 330** ⇑	*i*P		**PKPab**	**03 12 50.8**	**-0.8**
KHC	**Kasperske Hory**	**147.68 346**	*e*PKP		**PKPbc**	**03 12 51.4**	**+0.9**
KHC			*ex*		x	03 12 53.5	
GERES	**GERESS Array B**	**147.91 345**	PKPbc		**PKPbc**	**03 12 51.6**	**+0.5**
	comp=Z,1.9nm,0.5s,baz=20,slow=3.1,SNR=20						
BZS	**Buzias**	**148.09 333**	*i*P		**PKPdf**	**03 12 48.9**	**+1.2**
CONA	**Conrad Observa**	**148.18 342** ⇑	*e*PKPdf		**PKPbc**	**03 12 53.0**	**+1.2**
	comp=Z,5.5nm,0.7s						
VTS	**Vitosha**	**149.66 328** ⇑	*i*P		**PKPbc**	**03 12 54.8**	**-0.9**
WTTA	**Wattenberg**	**149.87 347** ⇑	*i*PKPdf		**PKPbc**	**03 12 57.0**	**+0.9**
	comp=Z,7.6nm,0.6s						
MOTA	**Moosalm**	**149.91 348** ⇓	*i*PKPdf		**PKPbc**	**03 12 56.7**	**+0.6**
	comp=Z,1.2nm,0.3s						
MYKA	**Terra Mystica**	**149.98 344** ⇑	*i*PKPdf		**PKPbc**	**03 12 56.4**	**+0.1**
	comp=Z,4.2nm,0.5s						
ABTA	**Abfaltersbach**	**150.16 345** ⇑	*i*PKPdf		**PKPbc**	**03 12 57.0**	**+0.3**
	comp=Z,5.7nm,0.6s						
DAVA	**Damuels**	**150.20 349** ⇑	*i*PKPdf		**PKPbc**	**03 12 58.1**	**+1.2**
	comp=Z,3.2nm,0.6s						
DAVOX	**Davos/Dischmat**	**150.69 349**	PKPbc		**PKPbc**	**03 12 58.8**	**+0.8**
	comp=Z,7.4nm,0.4s,baz=202,slow=2.5,SNR=8.6						
TORD	**Torodi Ar. Bea**	**175.04 177**	PKP		**PKPdf**	**03 13 13.9**	**-1.6**
	comp=Z,0.6nm,1.0s,baz=188,slow=2.0,SNR=2.5						
TORD			PKPab		**PKPab**	**03 14 53.1**	**-1.0**
	comp=Z,0.4nm,0.9s,baz=184,slow=4.5,SNR=2.8						

IDC 15 03:09:42.6±9.9, 31°92S×178°51W, h60km±93km, mb3.2/2, mb1 3.5/3, mb1mx3.3/17, mbtmp3.3/3, ML3.7/1, Error ellipse: s-maj=75.9km s-min=57.5km az=161.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.27**	**208**	P	Pn	03 11 26.6	+0.4
	1.1nm,0.3s,baz=139,slow=5.6,SNR=6.4						
URZ				S	Sn	03 12 47.4	+0.1
	0.5nm,0.3s,baz=165,slow=19,SNR=2.8						
ASAR	**Alice Springs**	**42.62**	**269**	P	P	03 17 33.1	0.0
	0.2nm,0.5s,baz=106,slow=7.9,SNR=3.9						
WRA	**Warramunga Arr**	**43.74**	**274**	P	P	03 17 42.2	-0.1
	0.2nm,0.4s,baz=114,slow=8.0,SNR=8.5						
FINES	**FINESS Array B**	**146.41**	**339**	PKPbc	PKPdf	03 29 15.0	+0.4
	1.3nm,0.8s,baz=356,slow=7.4,SNR=4.2						

BGS ***15*** *03:15:56.6±2.1, 37°16N×14°91E, h265km, mb4.1*
BJI ***15*** *03:16:09.4, 39°18N×14°33E, h260km, mB4.7/5, mb4.5/9*
ROM ***15*** *03:16:09.6±0.3, 38°56N×14°89E, h265km±3km, Ml3.9/11, Error ellipse: s-maj=4.2km s-min=2.9km az=127.0*
LDG ***15*** *03:16:09.6±0.2, 38°71N×15°06E, h250km, Mb4.3/45, Ms2.2/4, Error ellipse: s-maj=11.5km s-min=5.3km az=27.0*
MOS ***15*** *03:16:10.5±1.4, 38°60N×14°81E, h263km, mb4.2/26, Error ellipse: s-maj=6.0km s-min=3.4km az=99.7*
CSEM ***15*** *03:16:10.5±0.2, 38°58N×14°78E, h263km±2km, ML4.2/7, Error ellipse: s-maj=6.4km s-min=4.4km az=156.0*
ISCJB ***15*** *03:16:10.2±0.2, 38°56N±0°02×14°80E±0°02, h266km±1km, mb4.1/39, Error ellipse: s-maj=3.5km s-min=3.0km az=22.8*
NEIC ***15*** *03:16:11.8±0.6, 38°67N×14°87E, h265km±6km, mb4.3/14, Error ellipse: s-maj=9.4km s-min=6.9km az=183.0*
IDC ***15*** *03:16:12.0±1.2, 38°79N×14°63E, h273km±12km, mb3.6/19, mb1 3.7/28, mb1mx3.6/36, mbtmp3.6/28, Error ellipse: s-maj=9.5km s-min=9.2km az=96.0*
PRU ***15*** *03:16:20.4, 39°73N×14°36E, h0km, M4.0*

ISC 15 03:16:10.8±0.4, 38°63N±0°04×14°82E±0°03, h260km±3km, n501, σ1§23/555, mb4.2/39, 21C-50D, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLI	**Lipari**	**0.21**	**151**	Pn	**Pn**	**03 16 44.5**	**+0.2**
LLI	**Lipari**	**0.21**	**151**	Pn	**Pn**	**03 16 44.5**	**+0.2**
VPL	**Vulcano Piano**	**0.29**	**153**	Pn	**Pn**	**03 16 44.0**	**-0.5**
VPL				Sn	**S**	**03 17 10.6**	**-0.3**
VPL	**Vulcano Piano**	**0.29**	**153**	Pn	**Pn**	**03 16 44.0**	**-0.5**
VPL				Sn	**S**	**03 17 10.6**	**-0.3**
IACL	**Alicudi**	**0.37**	**255**	Pn	**Pn**	**03 16 44.7**	**+0.2**
IACL	**Alicudi**	**0.37**	**255**	Pn	**Pn**	**03 16 44.7**	**+0.2**
MILZ	**Milazzo**	**0.49**	**138**	Pn	**Pn**	**03 16 44.1**	**-0.7**
MILZ				Sn	**S**	**03 17 10.0**	**-1.6**
MILZ	**Milazzo**	**0.49**	**138**	Pn	**Pn**	**03 16 44.1**	**-0.7**
MILZ				Sn	**S**	**03 17 10.0**	**-1.6**
MSRU	**Castanea**	**0.66**	**124**	⇓*i*Pn	**Pn**	**03 16 44.6**	**-0.8**
MSRU				Sn	**S**	**03 17 11.2**	**-1.4**
	465nm,0.6s						
MSRU	**Castanea**	**0.66**	**124**	⇓*i*Pn	**Pn**	**03 16 44.6**	**-0.8**
MSRU				Sn	**S**	**03 17 11.2**	**-1.4**
	465nm,0.6s						
MNO	**Monte Soro**	**0.71**	**188**	Pn	**Pn**	**03 16 46.7**	**+0.8**
	1μm,0.6s						
MNO	**Monte Soro**	**0.71**	**188**	Pn	**Pn**	**03 16 46.7**	**+0.8**
	1μm,0.6s						
MMME	**Mongiuffi-Meli**	**0.78**	**154**	Pn	**Pn**	**03 16 45.9**	**-0.1**
MMME				Sn	**S**	**03 17 13.8**	**+0.1**
	1μm,0.5s						
MMME	**Mongiuffi-Meli**	**0.78**	**154**	Pn	**Pn**	**03 16 45.9**	**-0.1**
MMME				Sn	**S**	**03 17 13.8**	**+0.1**
	1μm,0.5s						
PLLN	**Pollina**	**0.83**	**220**	⇓*i*Pn	**Pn**	**03 16 45.3**	**-0.9**
	74nm,0.3s						
PLLN	**Pollina**	**0.83**	**220**	⇓*i*Pn	**Pn**	**03 16 45.3**	**-0.9**
	74nm,0.3s						
JOPP	**Joppolo**	**0.84**	**91**	⇓*i*Pn	**Pn**	**03 16 45.8**	**-0.3**
JOPP				Sn	**S**	**03 17 11.8**	**-2.1**
	364nm,0.6s						
JOPP	**Joppolo**	**0.84**	**91**	⇓*i*Pn	**Pn**	**03 16 45.8**	**-0.3**
GIB	**Gibilmanna**	**0.89**	**224**	Pn	**Pn**	**03 16 45.9**	**-0.6**
GIB	**Gibilmanna**	**0.89**	**224**	Pn	**Pn**	**03 16 45.9**	**-0.6**
CSLB	**Castelbuono**	**0.92**	**221**	Pn	**Pn**	**03 16 45.6**	**-1.0**
CSLB	**Castelbuono**	**0.92**	**221**	Pn	**Pn**	**03 16 45.6**	**-1.0**
CEL	**Celeste**	**0.92**	**113**	Pn	**Pn**	**03 16 46.0**	**-0.6**
CEL				Sn	**S**	**03 17 12.9**	**-1.9**
	360nm,0.4s						
CEL	**Celeste**	**0.92**	**113**	*e*Pn	**Pn**	**03 16 45.9**	**-0.6**
CEL				*e*S	**S**	**03 17 13.5**	**-1.2**
CEL	**Celeste**	**0.92**	**113**	Pn	**Pn**	**03 16 46.0**	**-0.6**
CEL				Sn	**S**	**03 17 12.9**	**-1.9**
	360nm,0.4s						
CEL				*e*S	S	03 17 13.5	-1.3
MTTG	**Motta San Giov**	**0.93**	**132**	⇓*i*Pn	**Pn**	**03 16 46.6**	**0.0**
MTTG				Sn	**S**	**03 17 14.5**	**-0.3**
	814nm,0.6s						
MTTG	**Motta San Giov**	**0.93**	**132**	⇓*i*Pn	**Pn**	**03 16 46.6**	**0.0**
MTTG				Sn	**S**	**03 17 14.5**	**-0.3**
	814nm,0.6s						
GALF	**Gagliano Caste**	**0.94**	**192**	Pn	**Pn**	**03 16 46.7**	**0.0**
GALF	**Gagliano Caste**	**0.94**	**192**	Pn	**Pn**	**03 16 46.7**	**0.0**
ESLN	**Serra La Nave**	**0.95**	**172**	Pn	**Pn**	**03 16 46.9**	**0.0**
	760nm,0.6s						
ESLN	**Serra La Nave**	**0.95**	**172**	Pn	**Pn**	**03 16 46.9**	**0.0**
	760nm,0.6s						
ECNV	**Catenanuova**	**1.04**	**185**	⇓*i*Pn	**Pn**	**03 16 47.7**	**+0.5**
ECNV	**Catenanuova**	**1.04**	**185**	⇓*i*Pn	**Pn**	**03 16 47.7**	**+0.5**
SOI	**Samo**	**1.12**	**120**	Pn	**Pn**	**03 16 47.5**	**-0.1**
SOI				Sn	**S**	**03 17 14.5**	**-2.1**
	843nm,0.8s						
SOI	**Samo**	**1.12**	**120**	Pn	**Pn**	**03 16 47.5**	**-0.1**
SOI				Sn	**S**	**03 17 14.5**	**-2.1**
	843nm,0.8s						
RESU	**Resuttano**	**1.15**	**212**	Pn	**Pn**	**03 16 48.5**	**+0.6**
RESU	**Resuttano**	**1.15**	**212**	Pn	**Pn**	**03 16 48.5**	**+0.6**
MPAZ	**Palizzi**	**1.16**	**126**	Pn	**Pn**	**03 16 47.5**	**-0.3**
MPAZ				Sn	**S**	**03 17 14.9**	**-2.1**
	559nm,0.3s						
MPAZ	**Palizzi**	**1.16**	**126**	Pn	**Pn**	**03 16 47.5**	**-0.3**
MPAZ				Sn	**S**	**03 17 14.9**	**-2.1**
	559nm,0.3s						
ALJA	**Alia**	**1.22**	**224**	⇓*i*Pn	**Pn**	**03 16 48.5**	**+0.2**
ALJA				Sn	**S**	**03 17 18.2**	**+0.4**
ALJA	**Alia**	**1.22**	**224**	⇓*i*Pn	**Pn**	**03 16 48.5**	**+0.2**
ALJA				Sn	**S**	**03 17 18.2**	**+0.4**
GRI	**Girifalco**	**1.27**	**81**	Pn	**Pn**	**03 16 48.8**	**+0.3**
GRI				Sn	**S**	**03 17 17.1**	**-1.1**
	56μm,12.0s						
GRI	**Girifalco**	**1.27**	**81**	Pn	**Pn**	**03 16 48.8**	**+0.3**
GRI				Sn	**S**	**03 17 17.1**	**-1.1**
	56μm,12.0s						
PLAC	**Placanica**	**1.28**	**98**	⇓*i*Pn	**Pn**	**03 16 48.5**	**-0.1**
PLAC				Sn	**S**	**03 17 16.3**	**-2.1**
	435nm,0.6s						
PLAC	**Placanica**	**1.28**	**98**	⇓*i*Pn	**Pn**	**03 16 48.5**	**-0.1**
USI	**Ustica**	**1.28**	**274**	Pn	**Pn**	**03 16 49.2**	**+0.7**
USI				Sn	**S**	**03 17 18.4**	**+0.1**
USI	**Ustica**	**1.28**	**274**	Pn	**Pn**	**03 16 49.2**	**+0.7**
USI				Sn	**S**	**03 17 18.4**	**+0.1**
HCRL	**Carlentini**	**1.36**	**173**	⇓*i*Pn	**Pn**	**03 16 48.9**	**-0.2**
	279nm,0.6s						
HCRL	**Carlentini**	**1.36**	**173**	⇓*i*Pn	**Pn**	**03 16 48.9**	**-0.2**
	279nm,0.6s						
HVZN	**Vizzini**	**1.46**	**183**	⇓*i*Pn	**Pn**	**03 16 49.8**	**-0.1**
HVZN	**Vizzini**	**1.46**	**183**	⇓*i*Pn	**Pn**	**03 16 49.8**	**-0.1**
SSY	**Sortino**	**1.49**	**172**	⇓*i*Pn	**Pn**	**03 16 49.8**	**-0.3**
SSY	**Sortino**	**1.49**	**172**	⇓*i*Pn	**Pn**	**03 16 49.8**	**-0.3**
BULG	**Bulgheria - Ca**	**1.51**	**17**	Pn	**Pn**	**03 16 51.5**	**+1.4**
BULG	**Bulgheria - Ca**	**1.51**	**17**	Pn	**Pn**	**03 16 51.5**	**+1.4**
CUC	**Castrocucco**	**1.56**	**29**	Pn	**Pn**	**03 16 51.3**	**+0.8**
CUC				Sn	**S**	**03 17 22.1**	**+0.1**
CUC	**Castrocucco**	**1.56**	**29**	*e*Pn	**Pn**	**03 16 51.0**	**+0.5**
CUC	**Castrocucco**	**1.56**	**29**	Pn	**Pn**	**03 16 51.3**	**+0.8**
CUC				Sn	**S**	**03 17 22.1**	**+0.1**
TDS	**Terranova Siba**	**1.56**	**49**	⇑*i*Pn	**Pn**	**03 16 51.3**	**+0.8**
TDS	**Terranova Siba**	**1.56**	**49**	⇑*i*Pn	**Pn**	**03 16 51.3**	**+0.8**
FAVR	**Favara**	**1.64**	**214**	Pn	**Pn**	**03 16 52.0**	**+0.8**
FAVR	**Favara**	**1.64**	**214**	Pn	**Pn**	**03 16 52.0**	**+0.8**
CRJA	**Costa Raja**	**1.65**	**240**	⇓*i*Pn	**Pn**	**03 16 51.3**	**0.0**
CRJA	**Costa Raja**	**1.65**	**240**	⇓*i*Pn	**Pn**	**03 16 51.3**	**0.0**
HMDC	**Modica**	**1.67**	**181**	⇓*i*Pn	**Pn**	**03 16 51.7**	**+0.2**
HMDC	**Modica**	**1.67**	**181**	⇓*i*Pn	**Pn**	**03 16 51.7**	**+0.2**
HAVL	**Avola**	**1.69**	**172**	Pn	**Pn**	**03 16 51.5**	**-0.1**
HAVL	**Avola**	**1.69**	**172**	Pn	**Pn**	**03 16 51.5**	**-0.1**
SALB	**San Lorenzo Be**	**1.72**	**43**	Pn	**Pn**	**03 16 52.9**	**+1.1**
SALB	**San Lorenzo Be**	**1.72**	**43**	Pn	**Pn**	**03 16 52.9**	**+1.1**
MMGO	**Monte Magaggia**	**1.75**	**237**	Pn	**Pn**	**03 16 51.6**	**-0.4**
MMGO	**Monte Magaggia**	**1.75**	**237**	Pn	**Pn**	**03 16 51.6**	**-0.4**
SIRI	**Monte Sirino -**	**1.75**	**27**	Pn	**Pn**	**03 16 52.7**	**+0.7**
SIRI	**Monte Sirino -**	**1.75**	**27**	Pn	**Pn**	**03 16 52.7**	**+0.7**
MTGR	**Montagna Grand**	**1.78**	**246**	Pn	**Pn**	**03 16 51.9**	**-0.4**
MTGR	**Montagna Grand**	**1.78**	**246**	Pn	**Pn**	**03 16 51.9**	**-0.4**
MTSN	**Montesano sull**	**1.78**	**24**	Pn	**Pn**	**03 16 53.0**	**+0.7**
MTSN	**Montesano sull**	**1.78**	**24**	Pn	**Pn**	**03 16 53.0**	**+0.7**
ORI	**Oriolo Calabro**	**1.91**	**41**	Pn	**Pn**	**03 16 54.5**	**+1.3**
ORI	**Oriolo Calabro**	**1.91**	**41**	Pn	**Pn**	**03 16 54.5**	**+1.3**
SGO	**Sicignano**	**1.96**	**11**	Pn	**Pn**	**03 16 55.2**	**+1.5**
SGO	**Sicignano**	**1.96**	**11**	Pn	**Pn**	**03 16 55.2**	**+1.5**
CRAC	**Craco**	**2.13**	**35**	Pn	**Pn**	**03 16 56.7**	**+1.5**
CRAC	**Craco**	**2.13**	**35**	Pn	**Pn**	**03 16 56.7**	**+1.5**
MCRV	**Calabrutti - M**	**2.16**	**7**	Pn	**Pn**	**03 16 57.1**	**+1.5**
MCRV	**Calabrutti - M**	**2.16**	**7**	Pn	**Pn**	**03 16 57.1**	**+1.5**
ACER	**Acerenza**	**2.32**	**22**	Pn	**Pn**	**03 16 58.0**	**+1.0**
ACER	**Acerenza**	**2.32**	**22**	Pn	**Pn**	**03 16 58.0**	**+1.0**
MATE	**Matera**	**2.48**	**35**	Pn	**Pn**	**03 16 58.6**	**+0.1**
MATE	**Matera**	**2.48**	**35**	Pn	**Pn**	**03 16 58.6**	**+0.1**
IPES	**Pescosannita**	**2.60**	**0**	Pn	**Pn**	**03 17 01.4**	**+1.8**
CDT	**Castel del Mon**	**2.69**	**24**	*e*Pn	**Pn**	**03 17 01.2**	**+0.6**
SGG	**Gregorio Mates**	**2.77**	**353**	Pn	**Pn**	**03 17 03.3**	**+1.8**
SGG	**Gregorio Mates**	**2.77**	**353**	Pn	**Pn**	**03 17 03.3**	**+1.8**
VAGA	**Valle Agricola**	**2.81**	**351**	Pn	**Pn**	**03 17 03.7**	**+1.8**
VAGA	**Valle Agricola**	**2.81**	**351**	Pn	**Pn**	**03 17 03.7**	**+1.8**
BAI	**Bari**	**2.94**	**32**	*e*Pn	**Pn**	**03 17 03.4**	**+0.3**
BAI				*e*Sn	**S**	**03 17 44.7**	**0.0**
PE1	**Pezze di Greco**	**2.96**	**42**	*e*Pn	**Pn**	**03 17 03.0**	**-0.3**
PE1				*e*Sn	**S**	**03 17 42.6**	**-2.5**
POFI	**Posta Fibreno**	**3.19**	**345**	Pn	**Pn**	**03 17 07.9**	**+1.9**
POFI	**Posta Fibreno**	**3.19**	**345**	Pn	**Pn**	**03 17 07.9**	**+1.9**
VSL	**Villasalto**	**4.32**	**283**	*e*Pn	**Pn**	**03 17 19.7**	**+1.0**
VSL				*e*S	**S**	**03 18 12.5**	**-0.4**
VSL	**Villasalto**	**4.32**	**283**	*e*Pn	**Pn**	**03 17 19.7**	**+1.0**
VSL				*e*S	**S**	**03 18 12.5**	**-0.4**
KEST	**Kesra**	**5.24**	**238**	*e*Pn	**Pn**	**03 17 31.6**	**+1.7**
KEST	**Kesra**	**5.24**	**238**	P	**Pn**	**03 17 31.8**	**+1.9**
	1.0nm,0.3s,baz=41,slow=11,SNR=55						
KEST	**Kesra**	**5.24**	**238**	*e*Pn	**Pn**	**03 17 31.6**	**+1.7**
PGF	**Pioggiola**	**5.91**	**313**	*e*P	**Pn**	**03 17 38.8**	**+0.8**
	26nm,0.6s						
PGF	**Pioggiola**	**5.91**	**313**	*e*P	**Pn**	**03 17 38.8**	**+0.8**
PGF				pmax	pmax		
	comp=Z,26nm,0.6s						
PGF	**Pioggiola**	**5.91**	**313**	*e*P	**Pn**	**03 17 38.8**	**+0.8**
	comp=Z,26nm,0.6s						
PGF	**Pioggiola**	**5.91**	**313**	*e*P	**Pn**	**03 17 38.8**	**+0.8**
	comp=Z,13nm,0.6s						
VLC	**Villacollemand**	**6.45**	**330**	*e*Pn	**Pn**	**03 17 46.9**	**+2.3**
VLC				*e*S	S	03 19 10.2	+10
VLC	**Villacollemand**	**6.45**	**330**	*e*Pn	**Pn**	**03 17 46.9**	**+2.3**
BOJS	**Bojanci**	**6.87**	**3**	*i* P	**Pn**	**03 17 52.2**	**+2.4**
BOJS				*i*		03 17 58.5	
BOJS				*i* S	**S**	**03 19 08.1**	**-1.3**
BOJS	**Bojanci**	**6.87**	**3**	*i* P	**Pn**	**03 17 52.2**	**+2.4**
SKDS	**Skadanscina**	**6.93**	**355**	*i* P	**Pn**	**03 17 51.1**	**+0.5**
SKDS				*i*		03 17 57.1	
SKDS				*i* S	**S**	**03 19 11.8**	**+0.9**
SKDS	**Skadanscina**	**6.93**	**355**	*i* P	**Pn**	**03 17 51.1**	**+0.5**
LJU	**Ljubljana**	**7.41**	**358**	*i* P	**Pn**	**03 17 58.2**	**+1.7**
LJU				*i*		03 18 03.7	
LJU				*i*		03 18 04.0	
LJU				*e*S	**S**	**03 19 22.1**	**+0.4**
LJU	**Ljubljana**	**7.41**	**358**	*i* P	**Pn**	**03 17 58.2**	**+1.7**
VOY	**Vojsko**	**7.42**	**355**	*e*P	**Pn**	**03 17 57.7**	**+0.9**
VOY				*e*		03 18 01.4	
VOY				*e*		03 18 03.1	
VOY	**Vojsko**	**7.42**	**355**	*e*P	**Pn**	**03 17 57.7**	**+0.9**
VTS	**Vitosha**	**7.51**	**56**	⇑P	**Pn**	**03 17 59.9**	**+1.9**
VTS	**Vitosha**	**7.51**	**56**	⇑*i*P	**Pn**	**03 17 59.8**	**+1.8**
VTS	**Vitosha**	**7.51**	**56**	P	**Pn**	**03 17 59.9**	**+1.9**
SBF	**Sospel**	**7.63**	**316**	*e*P	**Pn**	**03 17 59.7**	**+0.3**
	comp=Z,63nm,0.7s						
SBF	**Sospel**	**7.63**	**316**	*e*P	**Pn**	**03 17 59.7**	**+0.3**
SBF				pmax	pmax		
	comp=Z,63nm,0.7s						
SBF	**Sospel**	**7.63**	**316**	*e*P	**Pn**	**03 17 59.7**	**+0.3**
	comp=Z,63nm,0.7s						
SBF	**Sospel**	**7.63**	**316**	*e*P	**Pn**	**03 17 59.7**	**+0.3**
	comp=Z,31nm,0.7s						
GROS	**Grobnik**	**7.84**	**3**	*i* P	**Pn**	**03 18 03.2**	**+1.2**
GROS				*i*		03 18 09.7	
GROS	**Grobnik**	**7.84**	**3**	*i* P	**Pn**	**03 18 03.2**	**+1.2**
LMR	**La Mourre**	**7.84**	**309**	*e*P	**Pn**	**03 18 02.5**	**+0.5**
	comp=Z,25nm,0.4s						
LMR	**La Mourre**	**7.84**	**309**	*e*P	**Pn**	**03 18 02.5**	**+0.5**
LMR				pmax	pmax		
	comp=Z,25nm,0.4s						
LMR	**La Mourre**	**7.84**	**309**	*e*P	**Pn**	**03 18 02.5**	**+0.5**
	comp=Z,25nm,0.4s						
LMR	**La Mourre**	**7.84**	**309**	*e*P	**Pn**	**03 18 02.5**	**+0.5**
	comp=Z,13nm,0.4s						
OBKA	**Obir**	**7.87**	**359**	⇓*i*Pn	Pn	03 18 07.4	+5.0
	comp=Z,2.4nm,0.3s						
FRF	**La Foret Royal**	**7.89**	**311**	*e*P	**Pn**	**03 18 04.0**	**+1.4**
	comp=Z,33nm,0.6s						
FRF	**La Foret Royal**	**7.89**	**311**	*e*P	**Pn**	**03 18 04.0**	**+1.4**
FRF				pmax	pmax		
	comp=Z,33nm,0.6s						
FRF	**La Foret Royal**	**7.89**	**311**	*e*P	**Pn**	**03 18 04.0**	**+1.4**
	comp=Z,33nm,0.6s						
FRF	**La Foret Royal**	**7.89**	**311**	*e*P	**Pn**	**03 18 04.0**	**+1.4**
	comp=Z,16nm,0.6s						
SOKA	**Soboth**	**8.04**	**1**	⇓*i*Pn	**Pn**	**03 18 05.7**	**+1.2**
	comp=Z,12nm,0.6s,SNR=6.0						
SOKA	**Soboth**	**8.04**	**1**	Pn	**Pn**	**03 18 05.7**	**+1.2**
	comp=Z,12nm,0.6s,SNR=6.0						
PKSM	**Moragy**	**8.08**	**19**	⇓P	**Pn**	**03 18 05.6**	**+0.6**
PKSM	**Moragy**	**8.08**	**19**	⇓*i*P	**Pn**	**03 18 05.6**	**+0.6**
PKSM	**Moragy**	**8.08**	**19**	P	**Pn**	**03 18 05.6**	**+0.6**
ABTA	**Abfaltersbach**	**8.29**	**349**	⇓*i*Pn	**Pn**	**03 18 10.2**	**+2.6**
	comp=Z,19nm,0.4s,SNR=12						
ABTA	**Abfaltersbach**	**8.29**	**349**	Pn	**Pn**	**03 18 10.2**	**+2.6**
	comp=Z,19nm,0.4s,SNR=12						
MBDF	**Montbardon**	**8.56**	**318**	*e*P	Pn	03 18 14.4	+3.2
	comp=Z,94nm,0.6s						
MBDF	**Montbardon**	**8.56**	**318**	*e*P	Pn	03 18 14.4	+3.2
MBDF				pmax	pmax		
	comp=Z,94nm,0.6s						
MBDF	**Montbardon**	**8.56**	**318**	*e*P	Pn	03 18 14.4	+3.2
	comp=Z,94nm,0.6s						
BZS	**Buzias**	**8.61**	**34**	⇓P	**Pn**	**03 18 12.9**	**+1.2**
BZS	**Buzias**	**8.61**	**34**	⇓*i*P	**Pn**	**03 18 12.9**	**+1.2**
BZS	**Buzias**	**8.61**	**34**	P	**Pn**	**03 18 12.9**	**+1

KHC **Kasperske Hory** 10.53 356 *e*P Pn 03 18 36.8 +1.1
KHC *ex* x 03 18 48.5
KHC **Kasperske Hory** 10.53 356 *e*Pn Pn 03 18 36.4 +0.6
comp=Z,12nm,0.6s
KHC **Kasperske Hory** 10.53 356 *e*Pn Pn 03 18 36.4 +0.6
comp=Z,12nm,0.6s
KHC **Kasperske Hory** 10.53 356 P Pn 03 18 36.8 +1.1
MTLF **Montolieu** 10.62 300 *e*P Pn 03 18 38.2 +1.3
MTLF **Montolieu** 10.62 300 *e*P Pn 03 18 38.2 +1.3
MTLF **Montolieu** 10.62 300 *e*P Pn 03 18 38.2 +1.3
MTLF **Montolieu** 10.62 300 *e*P Pn 03 18 38.2 +1.3
KECS **Kecovo** 10.67 21 *e*P P 03 18 42.9 +1.1
KECS **Kecovo** 10.67 21 *e*P P 03 18 42.9 +1.1
TREC **Trest** 10.67 2 *e*P P 03 18 43.2 +1.4
TREC **Trest** 10.67 2 *e*P P 03 18 43.2 +1.4
MLR **Muntele Rosu** 10.73 47 P P 03 18 40.7 -2.0
baz=190,slow=12
MLR **Muntele Rosu** 10.73 47 P P 03 18 40.7 -2.0
VRAC **Vranov** 10.75 6 P Pn 03 18 39.1 +0.7
comp=Z,0.6nm,0.3s,baz=198,slow=13,SNR=14
VRAC **Vranov** 10.75 6 P Pn 03 18 39.1 +0.7
comp=Z,1.0nm,0.3s
BFO **Black Forest** 10.77 336 *e*P Pn 03 18 38.0 -0.7
BFO pmax pmax
comp=Z,7.0nm,0.6s
BFO **Black Forest** 10.77 336 *e*Pn Pn 03 18 38.0 -0.7
comp=Z,6.9nm,0.6s
BFO **Black Forest** 10.77 336 *e*Pn Pn 03 18 38.0 -0.7
comp=Z,6.9nm,0.6s
HINF **Hinteralfeld** 10.86 330 *e*P Pn 03 18 40.2 +0.4
comp=Z,9.0nm,0.5s
HINF **Hinteralfeld** 10.86 330 *e*P Pn 03 18 40.2 +0.4
HINF pmax pmax
comp=Z,9.0nm,0.5s
HINF **Hinteralfeld** 10.86 330 *e*P Pn 03 18 40.2 +0.4
comp=Z,9.0nm,0.5s
HINF **Hinteralfeld** 10.86 330 *e*P Pn 03 18 40.2 +0.4
comp=Z,4.5nm,0.5s
TRPA **Tarpa** 11.02 28⇑ *i*P P 03 18 44.6 -1.1
TRPA **Tarpa** 11.02 28⇑ *i*P P 03 18 44.6 -1.1
ECH **Echery** 11.07 332 *e*P Pn 03 18 42.3 -0.2
ECH pmax pmax
comp=Z,5.0nm,0.5s
ECH **Echery** 11.07 332 *e*Pn Pn 03 18 42.3 -0.2
comp=Z,4.8nm,0.5s
ECH **Echery** 11.07 332 *e*P Pn 03 18 42.3 -0.2
comp=Z,5.0nm,0.5s
DALY **Dalyan (Mu¨la** 11.11 95 *e*P Pn 03 18 45.0 +2.0
CDF **Champ du Feu** 11.20 333 *e*P Pn 03 18 44.1 0.0
comp=Z,8.8nm,0.4s
CDF **Champ du Feu** 11.20 333 *e*P Pn 03 18 44.1 0.0
CDF pmax pmax
comp=Z,9.0nm,0.4s
CDF **Champ du Feu** 11.20 333 *e*P Pn 03 18 44.1 0.0
comp=Z,8.8nm,0.4s
CDF **Champ du Feu** 11.20 333 *e*P Pn 03 18 44.1 0.0
comp=Z,4.4nm,0.4s
HAU **Haudompre** 11.21 329 *e*P Pn 03 18 44.0 -0.2
comp=Z,16nm,0.5s
HAU *e*R
comp=Z,30nm,17.5s
HAU **Haudompre** 11.21 329 *e*P Pn 03 18 44.0 -0.2
HAU pmax pmax
comp=Z,16nm,0.5s
HAU **Haudompre** 11.21 329 *e*P Pn 03 18 44.0 -0.2
comp=Z,16nm,0.5s
HAU **Haudompre** 11.21 329 *e*P Pn 03 18 44.0 -0.2
comp=Z,8.1nm,0.5s
MORC **Moravsky Berou** 11.31 9 *e*P Pn 03 18 46.1 +0.7
MORC pmax pmax
comp=Z,11nm,0.6s
MORC **Moravsky Berou** 11.31 9 *e*Pn Pn 03 18 46.1 +0.7
comp=Z,11nm,0.6s
MORC **Moravsky Berou** 11.31 9 *e*P Pn 03 18 46.1 +0.7
comp=Z,11nm,0.6s
CRVS **Cervenica-Dubn** 11.33 23 *e*P P 03 18 51.4 +2.3
CRVS **Cervenica-Dubn** 11.33 23 *e*P P 03 18 51.4 +2.3
GRFO **Grafenberg** 11.35 348 *e*P Pn 03 18 44.6 -1.3
GRFO pmax pmax
comp=Z,10.0nm,0.6s
GRFO **Grafenberg** 11.35 348 *e*Pn Pn 03 18 44.5 -1.3
comp=Z,9.8nm,0.6s
GRFO **Grafenberg** 11.35 348 *e*Pn Pn 03 18 44.5 -1.3
comp=Z,9.8nm,0.6s
PRU **Pruhonice** 11.36 359 *e*P P 03 18 47.9 -1.5
PRU **Pruhonice** 11.36 359 *e*P P 03 18 47.9 -1.5
PRU **Pruhonice** 11.36 359 P P 03 18 47.9 -1.5
UZH **Uzhgorod** 11.36 26 *e*P P 03 18 48.4 -1.1
UZH **Uzhgorod** 11.36 26 *e*P P 03 18 48.4 -1.1
SMF **Signal de Mont** 11.37 318 *e*P Pn 03 18 45.7 -0.5
comp=Z,29nm,0.6s
SMF **Signal de Mont** 11.37 318 *e*P Pn 03 18 45.7 -0.5
SMF pmax pmax
comp=Z,29nm,0.6s
SMF **Signal de Mont** 11.37 318 *e*P Pn 03 18 45.7 -0.5
comp=Z,29nm,0.6s
SMF **Signal de Mont** 11.37 318 *e*P Pn 03 18 45.7 -0.5
comp=Z,14nm,0.6s
CAF **Calviac** 11.40 308 *e*P P 03 18 49.6 -0.5
comp=Z,8.9nm,0.6s
CAF **Calviac** 11.40 308 *e*P P 03 18 49.6 -0.5
CAF pmax pmax
comp=Z,9.0nm,0.6s
CAF **Calviac** 11.40 308 *e*P P 03 18 49.6 -0.5
comp=Z,8.9nm,0.6s
CAF **Calviac** 11.40 308 *e*P P 03 18 49.6 -0.5
comp=Z,4.4nm,0.6s
OKC **Ostrava-Krasne** 11.45 11 *e*P P 03 18 51.4 +0.9
OKC **Ostrava-Krasne** 11.45 11 *e*P P 03 18 51.4 +0.9
OKC **Ostrava-Krasne** 11.45 11 P P 03 18 51.4 +0.9
NIE **Niedzica** 11.48 18 *e*P P 03 18 49.5 -1.4
NIE **Niedzica** 11.48 18 *e*Pn P 03 18 49.5 -1.4
NIE **Niedzica** 11.48 18 *e*P P 03 18 49.5 -1.4
FETY **Fethiye** 11.49 96 *e*P Pn 03 18 48.8 +1.0
KRLC **Kraliky** 11.53 6 *e*P P 03 18 52.6 +1.2
KRLC **Kraliky** 11.53 6 *e*P P 03 18 52.6 +1.2
TLB **Topalu** 11.54 55⇑ *i*P P 03 18 53.1 +1.6
TLB **Topalu** 11.54 55⇑ *i*P P 03 18 53.1 +1.6
AVF **Avril sur Loir** 11.72 318 *e*P Pn 03 18 50.3 -0.2
comp=Z,16nm,0.5s
AVF **Avril sur Loir** 11.72 318 *e*P Pn 03 18 50.3 -0.2
AVF pmax pmax
comp=Z,16nm,0.5s
AVF **Avril sur Loir** 11.72 318 *e*P Pn 03 18 50.3 -0.2
comp=Z,16nm,0.5s
AVF **Avril sur Loir** 11.72 318 *e*P Pn 03 18 50.3 -0.2
comp=Z,7.8nm,0.5s
STHS **Stebnicka Huta** 11.72 21 *e*P P 03 18 53.1 -0.5
STHS **Stebnicka Huta** 11.72 21 *e*P P 03 18 53.1 -0.5
STHS **Stebnicka Huta** 11.72 21 *e*P P 03 18 53.1 -0.5
TIRR **Tirgusor** 11.73 56⇑ P P 03 18 55.7 +2.1
TIRR **Tirgusor** 11.73 56⇑ *i*P P 03 18 55.7 +2.1
BUR08 **Bucovina Ar. S** 11.76 37 *e*Pn P 03 18 54.1 0.0
BUR08 **Bucovina Ar. S** 11.76 37 *e*Pn P 03 18 54.1 0.0
DPC **Dobruska-Polom** 11.76 5 *e*P P 03 18 54.7 +0.7
DPC **Dobruska-Polom** 11.76 5 *e*P P 03 18 54.7 +0.7
DPC **Dobruska-Polom** 11.76 5 P P 03 18 54.7 +0.7
LOR **Lormes** 11.78 321 *e*P Pn 03 18 52.3 +1.1
comp=Z,16nm,0.5s
LOR *e*R
comp=Z,38nm,21.0s
LOR **Lormes** 11.78 321 *e*P Pn 03 18 52.3 +1.1
comp=Z,16nm,0.5s
LOR **Lormes** 11.78 321 *e*P Pn 03 18 52.3 +1.1
comp=Z,7.8nm,0.5s
EPF **Esparros** 11.81 296 *e*P P 03 18 53.9 -0.8
comp=Z,6.1nm,0.8s
EPF **Esparros** 11.81 296 *e*P P 03 18 53.9 -0.8
EPF pmax pmax
comp=Z,6.0nm,0.8s
EPF **Esparros** 11.81 296 *e*P P 03 18 53.9 -0.8
comp=Z,6.1nm,0.8s
EPF **Esparros** 11.81 296 *e*P P 03 18 53.9 -0.8
comp=Z,3.0nm,0.8s
SSF **Saint Saulge** 11.82 319 *e*P Pn 03 18 52.7 +1.0
comp=Z,31nm,0.7s
SSF **Saint Saulge** 11.82 319 *e*P Pn 03 18 52.7 +1.0
SSF pmax pmax
comp=Z,31nm,0.7s
SSF **Saint Saulge** 11.82 319 *e*P Pn 03 18 52.7 +1.0
comp=Z,31nm,0.7s
SSF **Saint Saulge** 11.82 319 *e*P Pn 03 18 52.7 +1.0
comp=Z,15nm,0.7s
BGF **Bois d'Agland** 11.84 316 *e*P P 03 18 54.6 -0.3
comp=Z,63nm,0.6s
BGF **Bois d'Agland** 11.84 316 *e*P P 03 18 54.6 -0.3
BGF pmax pmax
comp=Z,63nm,0.6s
BGF **Bois d'Agland** 11.84 316 *e*P P 03 18 54.6 -0.3
comp=Z,63nm,0.6s
BGF **Bois d'Agland** 11.84 316 *e*P P 03 18 54.6 -0.3
comp=Z,31nm,0.6s
CFR **Carcaliu** 11.88 52 ⇓P P 03 18 57.0 +1.8
CFR **Carcaliu** 11.88 52 ⇓*i*P P 03 18 57.0 +1.8
CFR **Carcaliu** 11.88 52 P P 03 18 57.0 +1.8
PVCC **Panska Ves** 11.89 359 *e*P P 03 18 54.4 -1.0
PVCC **Panska Ves** 11.89 359 *e*P P 03 18 54.4 -1.0
PVCC **Panska Ves** 11.89 359 P P 03 18 54.4 -1.0
PAGF **Fort de Pagny** 11.90 329 *e*P Pn 03 18 53.3 +0.6
comp=Z,2.2nm,0.4s
PAGF **Fort de Pagny** 11.90 329 *e*P Pn 03 18 53.3 +0.6
comp=Z,2.2nm,0.4s
PAGF **Fort de Pagny** 11.90 329 *e*P Pn 03 18 53.3 +0.6
comp=Z,1.1nm,0.4s
UPC **Upice** 11.90 4 *e*P P 03 18 56.5 +1.0
UPC **Upice** 11.90 4 *e*P P 03 18 56.5 +1.0
UPC **Upice** 11.90 4 P P 03 18 56.5 +1.0
SFTF **Sexfontaines** 11.91 327 *e*P P 03 18 54.0 -1.6
comp=Z,17nm,0.5s
SFTF **Sexfontaines** 11.91 327 *e*P P 03 18 54.0 -1.6
comp=Z,17nm,0.5s
SFTF **Sexfontaines** 11.91 327 *e*P P 03 18 54.0 -1.6
comp=Z,8.6nm,0.5s
RJF **Les Rejaudoux** 11.93 308 *e*P P 03 18 55.1 -0.8
comp=Z,23nm,0.9s
RJF *e*R
comp=Z,38nm,17.8s
RJF **Les Rejaudoux** 11.93 308 *e*P P 03 18 55.1 -0.8
RJF pmax pmax
comp=Z,23nm,0.9s
RJF **Les Rejaudoux** 11.93 308 *e*P P 03 18 55.1 -0.8
comp=Z,23nm,0.9s
RJF **Les Rejaudoux** 11.93 308 *e*P P 03 18 55.1 -0.8
comp=Z,11nm,0.9s
TCF **Toulx Ste Croi** 12.04 313 *e*P P 03 18 56.0 -1.1
comp=Z,33nm,0.8s
TCF **Toulx Ste Croi** 12.04 313 *e*P P 03 18 56.0 -1.1
TCF pmax pmax
comp=Z,33nm,0.8s
TCF **Toulx Ste Croi** 12.04 313 *e*P P 03 18 56.0 -1.1
comp=Z,33nm,0.8s
TCF **Toulx Ste Croi** 12.04 313 *e*P P 03 18 56.0 -1.1
comp=Z,16nm,0.8s
ELL **Elmali** 12.11 94 *e*P Pn 03 18 56.8 +1.3
OJC **Ojcow** 12.12 15 *e*P P 03 18 59.2 +1.3
OJC **Ojcow** 12.12 15 *e*Pn P 03 18 59.2 +1.3
OJC **Ojcow** 12.12 15 *e*P P 03 18 59.2 +1.3
MEZF **Maizieres J'vi** 12.13 328 *e*P P 03 18 56.9 -1.2
comp=Z,25nm,0.7s
MEZF **Maizieres J'vi** 12.13 328 *e*P P 03 18 56.9 -1.2
comp=Z,25nm,0.7s
MEZF **Maizieres J'vi** 12.13 328 *e*P P 03 18 56.9 -1.2
comp=Z,12nm,0.7s
LFF **La Frestale** 12.24 305 *e*P P 03 18 58.2 -1.1
comp=Z,17nm,0.6s
LFF **La Frestale** 12.24 305 *e*P P 03 18 58.2 -1.1
LFF pmax pmax
comp=Z,17nm,0.6s
LFF **La Frestale** 12.24 305 *e*P P 03 18 58.2 -1.1
comp=Z,17nm,0.6s
LFF **La Frestale** 12.24 305 *e*P P 03 18 58.2 -1.1
comp=Z,8.3nm,0.6s
KSP **Ksiaz** 12.25 4 *e*P P 03 19 00.2 +0.8
KSP **Ksiaz** 12.25 4 *e*P P 03 19 00.6 +1.2
KSP **Ksiaz** 12.25 4 *e*P P 03 19 00.2 +0.8
TLCR 12.30 53 ⇓P P 03 19 02.4 +2.4
TLCR 12.30 53 ⇓*i*P P 03 19 02.4 +2.4
TLCR 12.30 53 ⇓*i*P P 03 19 02.4 +2.4
KWP **Kalwaria Pacla** 12.36 25 ⇓P P 03 19 01.2 +0.6
KWP **Kalwaria Pacla** 12.36 25 *e*Pn P 03 19 01.1 +0.6
comp=Z,26nm,1.1s
KWP **Kalwaria Pacla** 12.36 25 ⇓*i*P P 03 19 01.2 +0.6
KWP **Kalwaria Pacla** 12.36 25 *e*P P 03 19 01.2 +0.6
KWP **Kalwaria Pacla** 12.36 25 *e*P P 03 19 01.2 +0.6
HYF **Humbligny** 12.40 318 *e*P P 03 19 00.3 -0.8
HYF **Humbligny** 12.40 318 *e*P P 03 19 00.3 -0.8
HYF **Humbligny** 12.40 318 *e*P P 03 19 00.3 -0.8
ETSF **Etsaut** 12.41 295 *e*P P 03 19 02.1 +0.8
comp=Z,7.8nm,0.4s
ETSF **Etsaut** 12.41 295 *e*P P 03 19 02.1 +0.8
ETSF pmax pmax
comp=Z,8.0nm,0.4s
ETSF **Etsaut** 12.41 295 *e*P P 03 19 02.1 +0.8
comp=Z,7.8nm,0.4s
ETSF **Etsaut** 12.41 295 *e*P P 03 19 02.1 +0.8
comp=Z,3.9nm,0.4s
CLL **Collm** 12.74 355⇑ *i*P P 03 19 04.4 -0.4
CLL pmax pmax
comp=Z,20nm,0.9s
CLL **Collm** 12.74 355⇑ *i*P P 03 19 04.4 -0.4
comp=Z,20nm,0.9s
CLL **Collm** 12.74 355 *i*P P 03 19 04.4 -0.4
comp=Z,20nm,0.9s
SJPF **Ste Jean** 12.94 295 *e*P P 03 19 07.6 +0.5
comp=Z,16nm,0.7s
SJPF **Ste Jean** 12.94 295 *e*P P 03 19 07.6 +0.5
SJPF pmax pmax
comp=Z,16nm,0.7s
SJPF **Ste Jean** 12.94 295 *e*P P 03 19 07.6 +0.5
comp=Z,16nm,0.7s
SJPF **Ste Jean** 12.94 295 *e*P P 03 19 07.6 +0.5
comp=Z,8.0nm,0.7s
KIS **Kishinev** 13.23 46 ⇓*i*P P 03 19 11.5 +1.2
comp=Z,100nm,0.6s
KIS **Kishinev** 13.23 46 ⇓*i*P P 03 19 11.5 +1.2
comp=Z,100nm,0.6s
GIVF **Givet** 13.50 331 *e*P P 03 19 13.0 -0.2
comp=Z,5.7nm,0.3s
GIVF **Givet** 13.50 331 *e*P P 03 19 13.0 -0.2
GIVF pmax pmax
comp=Z,6.0nm,0.3s
GIVF **Givet** 13.50 331 *e*P P 03 19 13.0 -0.2
comp=Z,5.7nm,0.3s
GIVF **Givet** 13.50 331 *e*P P 03 19 13.0 -0.2
comp=Z,2.8nm,0.3s
MEM **Membach** 13.51 335 P P 03 19 16.1 +2.9
MEM **Membach** 13.51 335 P P 03 19 16.1 +2.9
DOU **Dourbes** 13.58 331 P P 03 19 15.2 +1.1
DOU **Dourbes** 13.58 331 P P 03 19 15.2 +1.1
MFF **Saint Martin d** 13.58 311 *e*P P 03 19 15.0 +0.8
comp=Z,13nm,0.5s
MFF **Saint Martin d** 13.58 311 *e*P P 03 19 15.0 +0.8
MFF pmax pmax
comp=Z,13nm,0.5s
MFF **Saint Martin d** 13.58 311 *e*P P 03 19 15.0 +0.8
comp=Z,13nm,0.5s
MFF **Saint Martin d** 13.58 311 *e*P P 03 19 15.0 +0.8
comp=Z,6.4nm,0.5s
BCLA **Clavier** 13.58 333 P P 03 19 14.2 0.0
BCLA **Clavier** 13.58 333 P P 03 19 14.1 0.0
BAIF **Baives** 13.70 330 *e*P P 03 19 15.8 +0.4
comp=Z,11nm,0.6s
BAIF **Baives** 13.70 330 *e*P P 03 19 15.8 +0.4
BAIF pmax pmax
comp=Z,11nm,0.6s
BAIF **Baives** 13.70 330 *e*P P 03 19 15.8 +0.4
comp=Z,11nm,0.6s
BAIF **Baives** 13.70 330 *e*P P 03 19 15.8 +0.4
comp=Z,5.3nm,0.6s
HDMB **Hadim** 14.07 91 *e*P Pn 03 19 19.9 +0.2
ESDC **Sonseca Array** 14.61 280 P Pn 03 19 25.9 0.0
comp=Z,0.2nm,0.3s,baz=80,slow=12,SNR=9.1
BRTR **Keskin Array B** 14.64 80 P Pn 03 19 28.9 +2.5
comp=Z,0.1nm,0.3s,baz=261,slow=12,SNR=4.2
LDF **La Druitiere** 14.68 318 *e*P P 03 19 26.0 -0.3
comp=Z,39nm,0.5s
LDF **La Druitiere** 14.68 318 *e*P P 03 19 26.0 -0.3
LDF pmax pmax
comp=Z,39nm,0.5s
LDF **La Druitiere** 14.68 318 *e*P P 03 19 26.0 -0.3
comp=Z,39nm,0.5s
LDF **La Druitiere** 14.68 318 *e*P P 03 19 26.0 -0.3
comp=Z,20nm,0.5s
GRR **Gorron** 14.95 316 *e*P Pn 03 19 29.5 -0.3
comp=Z,22nm,0.7s
GRR **Gorron** 14.95 316 *e*P Pn 03 19 29.5 -0.3
GRR pmax pmax
comp=Z,22nm,0.7s
GRR **Gorron** 14.95 316 *e*P Pn 03 19 29.5 -0.3
comp=Z,22nm,0.7s
GRR **Gorron** 14.95 316 *e*P Pn 03 19 29.5 -0.3
comp=Z,11nm,0.7s
FLN **La Foliniere** 14.97 317 *e*P P 03 19 28.7 -0.8
comp=Z,20nm,0.6s
FLN **La Foliniere** 14.97 317 *e*P P 03 19 28.7 -0.8
FLN pmax pmax
comp=Z,20nm,0.6s
FLN **La Foliniere** 14.97 317 *e*P P 03 19 28.7 -0.8
comp=Z,20nm,0.6s
FLN **La Foliniere** 14.97 317 *e*P P 03 19 28.7 -0.8
comp=Z,9.9nm,0.6s
IKL **Isikli** 15.18 93 *e*P Pn 03 19 32.8 +0.1
KIEV **Kiev** 15.78 36 *e*P P 03 19 38.5 +0.1
KIEV *e*S S 03 22 28.5 -2.4
KIEV pmax pmax
comp=Z,16nm,0.3s
KIEV **Kiev** 15.78 36 *e*P P 03 19 38.5 +0.1
comp=Z,16nm,0.3s
KIEV *e*S S 03 22 28.5 -2.4
KIEV **Kiev** 15.78 36 *e*P P 03 19 38.5 +0.1
comp=Z,16nm,0.3s
AKASG **Malin Array Be** 15.79 36 P P 03 19 38.1 -0.4
AKASG S S 03 22 30.8 -0.4
AKASG pmax pmax
comp=Z,16nm,0.3s
AKASG **Malin Array Be** 15.79 36 P P 03 19 38.1 -0.4
comp=Z,16nm,0.3s,baz=226,slow=9.8,SNR=65
AKASG S S 03 22 30.8 -0.4
baz=226,slow=19,SNR=5.1
AKASG **Malin Array Be** 15.79 36 P P 03 19 38.1 -0.4
comp=Z,16nm,0.3s
SGMF **Saint Gilles** 15.83 313 *e*P P 03 19 38.0 -1.0
comp=Z,41nm,0.7s
SGMF **Saint Gilles** 15.83 313 *e*P P 03 19 38.0 -1.0
SGMF pmax pmax
comp=Z,41nm,0.7s
SGMF **Saint Gilles** 15.83 313 *e*P P 03 19 38.0 -1.0
comp=Z,41nm,0.7s
SGMF **Saint Gilles** 15.83 313 *e*P P 03 19 38.0 -1.0
comp=Z,20nm,0.7s
QUIF **Quistinic** 16.02 311 *e*P P 03 19 40.8 -0.2
comp=Z,38nm,0.7s
QUIF **Quistinic** 16.02 311 *e*P P 03 19 40.8 -0.2
QUIF pmax pmax
comp=Z,39nm,0.6s
QUIF **Quistinic** 16.02 311 *e*P P 03 19 40.8 -0.2
comp=Z,38nm,0.6s
QUIF **Quistinic** 16.02 311 *e*P P 03 19 40.8 -0.2
comp=Z,19nm,0.7s
ROSF **Rostrenen** 16.29 312 *e*P P 03 19 42.8 -1.1
comp=Z,17nm,0.6s
ROSF **Rostrenen** 16.29 312 *e*P P 03 19 42.8 -1.1
ROSF pmax pmax
comp=Z,17nm,0.6s
ROSF **Rostrenen** 16.29 312 *e*P P 03 19 42.8 -1.1
comp=Z,17nm,0.6s
ROSF **Rostrenen** 16.29 312 *e*P P 03 19 42.8 -1.1
comp=Z,8.6nm,0.6s
BSD **Bornholm Skovb** 16.49 0 *e*P P 03 19 45.3 -0.7
BSD **Bornholm Skovb** 16.49 0 *i*P P 03 19 45.3 -0.7
BSD **Bornholm Skovb** 16.49 0 *e*P P 03 19 45.3 -0.7
MDT **Midelt** 16.80 256 P P 03 19 49.5 -0.4
comp=Z,0.1nm,0.3s,baz=51,slow=12,SNR=2.5
MMAI **Mount Meron Ar** 17.60 102 P Pn 03 20 01.2 -0.1
comp=Z,1.6nm,0.3s,baz=309,slow=9.1,SNR=5.0
TAM **Tamanrasset** 17.68 209 *e*P Pn 03 20 01.9 -0.5
TAM pmax pmax
comp=Z,4.0nm,1.3s
TAM **Tamanrasset** 17.68 209 *e*P Pn 03 20 01.9 -0.5
comp=Z,4.2nm,1.3s
NACGM **Naroch** 18.17 23 *e* P 03 20 01.0 -3.3
IIGN **Ignalina** 18.40 21 *e*P P 03 20 06.2 -0.6
IIGN AMB AMB 03 20 07.0
comp=Z,30nm,0.8s
IIGN *e*S S 03 23 20.1 -2.7
IIGN **Ignalina** 18.40 21 *e*P P 03 20 06.2 -0.6
comp=Z,30nm,0.8s
IDID **Didziasalis** 18.52 22 *e*P P 03 20 07.7 -0.4
IDID AMB AMB 03 20 08.5
comp=Z,19nm,0.8s
HLM1 **Long Mynd** 18.54 324 *e*P P 03 20 06.4 -1.9
HLM1 AMB AMB 03 20 13.6
comp=Z,62nm,2.6s
HLM1 **Long Mynd** 18.54 324 *e*P P 03 20 06.4 -1.9
STNC **Stoke** 18.63 326 *e*P P 03 20 08.4 -0.9
STNC AMB AMB 03 20 12.4
comp=Z,53nm,2.0s
EIL **Elat** 18.88 112 P P 03 20 14.1 +1.9
comp=Z,1.0nm,0.3s,baz=331,slow=13,SNR=6.9
FOEL **Foel Wylfa** 18.93 325 *e*P P 03 20 11.9 -0.6
FOEL AMB AMB 03 20 12.7
comp=Z,52nm,2.2s
WPM1 **Penmaenmawr** 19.49 325 *e*P P 03 20 17.7 -0.8
YLL **Llanberis** 19.54 324 *e*P P 03 20 16.7 -2.2
WLF1 **Llynfaes** 19.74 324 *e*P P 03 20 19.7 -1.3
WLF1 AMB AMB 03 20 26.8
comp=Z,53nm,2.1s
YRC **Rhoscolyn** 19.79 324⇑ *e*P P 03 20 20.9 -0.7
ECK **Cauldkaine Hil** 20.50 330⇑ *e*P P 03 20 26.9 -2.2
EKA **Eskdalemuir Ar** 20.62 330 P P 03 20 28.2 -2.3
comp=Z,1.9nm,0.4s,baz=139,slow=12,SNR=39
ESK **Eskdalemuir** 20.62 330 *e*P P 03 20 28.4 -2.0
ESK AMB AMB 03 20 31.6
comp=Z,46nm,2.5s
ESY **Stoneypath** 20.84 332 *e*P P 03 20 31.0 -1.7
EBL **Broad Law** 20.90 331 *e*P P 03 20 31.4 -1.9
VORD **Divnogorie** 21.18 46 *e*P P 03 20 36.5 +0.4
VORD pmax pmax
comp=Z,10.0nm,1.0s
VORD pmax pmax
comp=N,2.0nm,0.4s
VORD pmax pmax
comp=E,30nm,1.0s
VSR **Storozhevoye** 21.23 46 *e*P P 03 20 37.0 +0.5
VSR pmax pmax
comp=Z,10.0nm,0.4s
VSR pmax pmax
comp=N,10.0nm,0.8s
VSR pmax pmax
comp=E,20nm,1.0s
HFS **Hagfors** 21.53 358 P P 03 20 36.8 -2.5
comp=E,5.2nm,0.5s,baz=181,slow=12,SNR=37
DRUM **Mains of Drumt** 21.56 334⇑ *e*P P 03 20 37.2 -2.4
DRUM AMB AMB 03 20 37.7
comp=Z,61nm,2.9s
KBZ **Khabaz** 21.69 67 P P 03 20 42.6 +1.7
KBZ pmax pmax
comp=Z,2.0nm,0.5s
KBZ **Khabaz** 21.69 67 P P 03 20 42.6 +1.7
comp=Z,2.4nm,0.6s,baz=270,slow=8.4,SNR=6.2
OBN **Obninsk** 22.05 35 ⇓*i*P P 03 20 44.1 0.0
OBN *e* 03 24 31.5
OBN pmax pmax
comp=Z,14nm,0.6s
NB2 **NORSAR Subarra** 22.54 355 P P 03 20 46.7 -1.8
comp=Z,0.3nm,0.7s,baz=177,slow=12
NOA **NORSAR Array B** 22.54 355 P P 03 20 46.8 -1.8
comp=Z,3.4nm,0.8s,baz=168,slow=8.9,SNR=16
VRHR **Novokhopersk** 22.58 48 *e*P P 03 20 50.7 +1.8
VRHR pmax pmax
comp=Z,20nm,0.5s
VRHR pmax pmax
comp=N,10.0nm,1.2s
VRHR pmax pmax
comp=E,10.0nm,1.5s
FINES **FINESS Array B** 23.88 13 P P 03 20 59.5 -1.2
comp=E,4.8nm,0.4s,baz=187,slow=8.4,SNR=46
FIA1 **FINESS Array S** 23.88 13 *e*P P 03 20 59.6 -1.0
KAF **Kangasniemi** 24.55 13 *e*P P 03 21 05.3 -1.4
KAF pmax pmax
comp=Z,2.0nm,0.4s
KAF **Kangasniemi** 24.55 13 *e*p P 03 21 05.3 -1.4
comp=Z,1.5nm,0.4s
JOF **Joensuu** 26.29 17 *e*P P 03 21 21.4 -0.9
JOF **Joensuu** 26.29 17 *e*p P 03 21 21.4 -0.9
JOF **Joensuu** 26.29 17 *e*P P 03 21 21.4 -0.9
TORD **Torodi Ar. Bea** 27.93 208 P P 03 21 37.8 +0.5
comp=Z,0.7nm,0.5s,baz=12,slow=9.1,SNR=22
ARCES **ARCESS Array B** 31.49 7 P P 03 22 06.2 -1.9
comp=Z,4.4nm,0.8s,baz=192,slow=8.6,SNR=60
ARCES PcP PcP 03 24 53.2 -0.9
comp=Z,10nm,1.2s,baz=210,slow=2.2,SNR=6.3
ARE0 **ARCESS Array S** 31.49 7 *e*P P 03 22 06.5 -1.6
AKTO **Aktyubinsk** 32.53 54 P P 03 22 17.8 +0.4
AKTO pmax pmax
comp=Z,3.0nm,0.4s
AB31 **Akbulak array** 33.72 57 *e*P P 03 22 28.3 +0.7

AB31 pmax pmax
comp=Z,2.0nm,0.3s
ABKAR Akbulak array 33.72 57 *e*P **P 03 22 28.5 +0.8**
comp=Z,3.3nm,0.4s
ARU Arti 33.77 44*c i*P **P 03 22 27.9 0.0**
ARU 03 23 48.3
ARU S **S 03 27 30.8 -0.8**
ARU SS SS 03 29 57.5 -11
ARU pmax pmax
comp=Z,11nm,1.0s
DBIC Dimbokro 36.46 214 P **P 03 22 51.8 +0.5**
comp=Z,0.9nm,0.4s,baz=24,slow=10.0,SNR=3.7
BRVK Borovoye 40.21 50*ce*P **P 03 23 23.0 +1.0**
BRVK pmax pmax
comp=Z,16nm,0.9s
BVA0 Borovoye Array 40.27 50 *i* P **P 03 23 23.4 +0.9**
BVA0 pmax pmax
comp=Z,13nm,0.9s
VOSK Vostochnaya 40.64 51 P **P 03 23 25.9 +0.4**
VOSK pmax pmax
comp=Z,6.0nm,1.1s
KK31 Karatay Array 41.70 65 *i* P **P 03 23 35.0 +0.7**
KK31 pmax pmax
comp=Z,2.0nm,0.5s
KKAR Karatay Array 41.70 65 *e*P **P 03 23 34.8 +0.5**
KKAR pmax pmax
comp=Z,2.0nm,0.4s
KKAR Karatay Array 41.70 65 *e*P **P 03 23 34.8 +0.5**
comp=Z,2.0nm,0.4s
KSH Kashi 46.66 69 *e*P **P 03 24 14.5 +0.9**
KSH sP **sP 03 25 37.0 -0.6**
KSH PP **PP 03 26 07.3 +1.1**
KSH ScP **ScP 03 29 13.3 +2.3**
KSH S **S 03 30 42.1 -0.7**
KSH ScS **ScS 03 33 39.8 -0.3**
KSH pmax pmax
comp=Z,120nm,5.7s
KSH LR LR
comp=N,71nm,6.2s
KSH LR LR
comp=E,29nm,4.7s
KSH LR LR
comp=Z,120nm,7.2s
NVS Novosibirsk 47.64 47 *e*P **P 03 24 20.8 +0.1**
NVS pmax pmax
comp=E,4.0nm,0.8s
NVS pmax pmax
comp=Z,8.0nm,0.8s
ZALV Zalesovo Beam 48.71 48 *i* P **P 03 24 29.0 +0.1**
ZALV pmax pmax
comp=Z,8.0nm,0.3s
ZALV Zalesovo Beam 48.71 48 P **P 03 24 28.9 -0.1**
comp=Z,7.6nm,0.3s,baz=282,slow=6.8,SNR=26
MK31 Makanchi Array 48.86 57 *e*P **P 03 24 30.7 +0.5**
MK31 Makanchi Array 48.86 57 *e*P **P 03 24 30.7 +0.5**
MKAR Makanchi Array 48.86 57 P **P 03 24 30.4 +0.2**
MKAR 03 25 50.5
MKAR pmax pmax
comp=Z,5.0nm,0.5s
MKAR pmax pmax
comp=Z,1.0nm,0.5s
MKAR Makanchi Array 48.86 57 P **P 03 24 30.4 +0.2**
comp=Z,5.3nm,0.5s,baz=287,slow=7.2,SNR=71
MKAR PcP **PcP 03 25 50.5 +0.1**
comp=Z,0.6nm,0.5s,baz=286,slow=3.4,SNR=4.5
WMQ Urumqi 53.42 59 *e*P **P 03 25 06.5 +2.4**
WMQ pP **pP 03 26 02.5 +2.0**
WMQ PcP **PcP 03 26 10.5 +2.9**
WMQ sP **sP 03 26 30.3 +1.0**
WMQ pmax pmax
comp=Z,12nm,0.7s
WMQ pmax pmax
comp=Z,130nm,4.1s
SCHQ Schefferville 55.05 316 P **P 03 25 13.9 -1.6**
comp=Z,2.3nm,0.5s,baz=67,slow=7.7,SNR=8.0
SONM Songino Array 63.58 49 P **P 03 26 14.4 +0.4**
comp=Z,4.5nm,0.8s,baz=290,slow=7.3,SNR=18
BOSA Boshof 67.61 170 P **P 03 26 40.6 +0.9**
comp=Z,4.6nm,1.1s,baz=350,slow=6.1,SNR=3.9
LZH Lanzhou 67.95 61 *e*P **P 03 26 42.5 +0.5**
LZH pP **pP 03 27 41.8 +0.5**
LZH sP **sP 03 28 08.9 -0.4**
LZH pmax pmax
comp=Z,18nm,1.3s
LZH pmax pmax
comp=Z,49nm,7.6s
HHC Hu-ho-hao-te 70.41 53 *e*P **P 03 26 57.6 +0.7**
HHC pP **pP 03 27 59.3 +2.7**
HHC sP **sP 03 28 24.9 +0.4**
HHC PP **PP 03 29 37.6 +1.5**
HHC S **S 03 35 47.5 -0.5**
HHC SKS **SKSac 03 36 30.3 -2.9**
HHC sS **sS 03 37 29.8 -3.2**
HHC SS **SS 03 40 24.6 +0.9**
HHC pmax pmax
comp=Z,26nm,0.9s
HHC pmax pmax
comp=Z,120nm,5.0s
HHC LR LR
comp=N,290nm,16.7s
HHC LR LR
comp=E,230nm,16.7s
HHC LR LR
comp=Z,170nm,17.8s
CD2 Chengdu 70.72 66 P **P 03 26 59.3 +0.5**
CD2 pmax pmax
comp=Z,9.0nm,0.5s
YKA Yellowknife Ar 71.35 338 P **P 03 27 01.4 -0.5**
comp=Z,0.6nm,0.4s,baz=37,slow=5.8,SNR=9.3
IMA2 Indian Mountai 75.25 355 *e*P **P 03 27 25.5 +0.7**
ILAR Eielson Array 75.93 352 P **P 03 27 28.9 +0.4**
comp=Z,0.7nm,0.7s,baz=352,slow=5.7,SNR=8.3
CN2 Changchun 76.76 44 *e*P **P 03 27 32.0 -1.5**
MDJ Mudanjiang 78.42 41 P **P 03 27 42.1 -0.5**
MDJ pmax pmax
comp=Z,4.0nm,0.7s
MDJ pmax pmax
comp=Z,62nm,4.3s
KSRS Korea Array 82.42 48 P **P 03 28 04.0 0.0**
comp=Z,1.2nm,0.5s,baz=322,slow=4.8,SNR=5.6
PDAR Pinedale Array 84.55 322 P **P 03 28 13.4 -1.6**
comp=Z,0.7nm,0.8s,baz=74,slow=6.7,SNR=4.8
TXAR Lajitas Array 91.32 310 P **P 03 28 47.7 +0.4**
comp=Z,0.1nm,0.4s,baz=62,slow=4.3,SNR=3.8
LPAZ La Paz 94.64 253 P **P 03 29 01.6 -1.7**
comp=Z,1.0nm,0.4s,baz=94,slow=7.3,SNR=5.8
WRA Warramunga Arr 125.02 88 PKP **PKPdf 03 34 39.7 -0.6**
comp=Z,0.2nm,0.5s,baz=321,slow=1.7,SNR=4.6
ASAR Alice Springs 126.67 93 PKP **PKPdf 03 34 43.1 -0.4**
comp=Z,0.4nm,0.6s,baz=300,slow=1.4,SNR=4.8

*IDC **15** 03:17:55.0±1.1, 25°.80N×109°.80W, h0km, mb3.4/2, mb1 3.7/6, mb1mx3.6/27, mbtmp3.4/6, ML3.4/4, MS3.1/2, Ms1 3.1/2, ms1mx2.7/19, Error ellipse: s-maj=26.6km s-min=17.4km az=123.0*
*NEIC **15** 03:17:57.5±0.8, 25°.75N×110°.31W, h10km, mb4.1/6, Error ellipse: s-maj=16.1km s-min=10.7km az=98.0*
*MEX **15** 03:17:58.1±0.3, 25°.77N×110°.31W, h9km±9km, MD4.1*
ISC 15 03:17:56.5±2.1, 25°.68N±0°.04×110°.17W±0°.06, h7km±14km, n80, σ1°82/73, mb4.0/7, 18C-21D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**1.58**	**185**	*i* P	**Pn**	**03 18 23.8**	**-1.0**
LPIG				*i* S	**Sn**	**03 18 44.0**	**-1.5**
LPIG	**La Paz**	**1.58**	**185**	Pn	**Pn**	**03 18 25.3**	**+0.4**
LPIG				Sn	**Sn**	**03 18 45.1**	**-0.3**
LPIG	**La Paz**	**1.58**	**185**	Pn	**Pn**	**03 18 25.3**	**+0.4**
	5.9nm,0.3s,baz=193,slow=3.3,SNR=5.6						
LPIG				Sn	**Sn**	**03 18 45.1**	**-0.3**
	31nm,0.3s,baz=135,slow=19,SNR=11						
SRIG	**Santa Rosalia**	**2.47**	**312**	*i* P	Pn	03 18 33.5	-3.7
SRIG				*i* S	Sn	03 19 00.5	-7.1
HSIG		**3.40**	**348**	*e*P	Pn	03 18 46.5	-3.5
HSIG				*i* S	**Sn**	**03 19 25.5**	**-5.0**
MAIG	**Mazatlaan**	**4.22**	**125**	*i* P	**Pn**	**03 19 01.6**	**+0.4**
MAIG				*i* S	**Sn**	**03 19 51.6**	**+0.9**
HPIG		**4.23**	**72**	*i* P	**Pn**	**03 19 02.2**	**+0.6**
HPIG				*i* S	**Sn**	**03 19 52.0**	**+0.6**
319A	**Douglas**	**5.73**	**8**	P	**Pn**	**03 19 21.6**	**-0.4**
	baz=5.7,SNR=6.8						
319A				⇑S	**Sb**	**03 20 45.8**	**0.0**
	baz=5.7						
320A	**Kipp Ranch, An**	**5.82**	**14**	⇓P	**Pn**	**03 19 23.9**	**+0.5**
	baz=5.8						
320A				⇑S	**Sb**	**03 20 47.8**	**-0.6**
	baz=5.8						
220A	**Playas Peak, P**	**6.37**	**13**	⇑P	**Pn**	**03 19 31.0**	**+0.1**
	baz=6.3						
626A	**Big Bend Ranch**	**6.60**	**53**	⇓P	Pn	03 19 29.4	-4.7
	baz=6.7,SNR=5.8						
TUC	**Tucson**	**6.63**	**355**	*e*Pn	**Pn**	**03 19 31.7**	**-2.7**
TUC				*e*Pg	**Pg**	**03 20 04.3**	**+0.8**
TUC				*e*S	**Sb**	**03 21 16.7**	**+5.1**
221A	**Mesquite Ranch**	**6.65**	**18**	⇑P	**Pn**	**03 19 35.2**	**+0.5**
	baz=6.6						
TXAR	**Lajitas Array**	**6.83**	**56**	Pn	Pn	03 19 32.5	-4.7
TXAR				Lg	Lg	03 21 19.2	
TXAR	**Lajitas Array**	**6.83**	**56**	Pn	Pn	03 19 32.5	-4.7
	0.2nm,0.3s,baz=233,slow=13,SNR=19						
TXAR				Lg	Lg	03 21 19.2	
	0.7nm,0.3s,baz=242,slow=29,SNR=3.3						
425A	**Indio Mountain**	**6.84**	**41**	⇑P	**Pn**	**03 19 35.0**	**-2.4**
	baz=6.9,SNR=6.3						
526A	**Mary Lane Ranc**	**6.93**	**50**	⇑P	Pn	03 19 34.5	-4.1
	baz=7.0						
222A	**Williams Famil**	**6.94**	**22**	⇓P	**Pn**	**03 19 36.9**	**-1.9**
	baz=6.9						
120A	**U Bar Ranch, L**	**6.97**	**11**	⇓P	**Pn**	**03 19 38.7**	**-0.5**
	baz=6.9						
324A	**Moseley Ranch,**	**7.07**	**35**	⇑P	**Pn**	**03 19 39.9**	**-0.6**
	baz=7.1						
627A	**Tierlingua Ranc**	**7.10**	**56**	⇓P	Pn	03 19 35.1	-5.8
	baz=7.2						
121A	**Cookes Peak, D**	**7.14**	**16**	⇓P	**Pn**	**03 19 41.8**	**+0.3**
	baz=7.1,SNR=7.7						
325A	**Bean Ranch, Si**	**7.28**	**38**	⇑P	**Pn**	**03 19 40.6**	**-2.9**
	baz=7.3						
527A	**Woodward Ranch**	**7.31**	**51**	⇓P	Pn	03 19 37.7	-6.1
	baz=7.4						
MNTX	**Cornudas Mount**	**7.32**	**34**	*e*Pn	**Pn**	**03 19 43.8**	**-0.1**
	10nm,0.8s						
MNTX				*e*Pg	**Pg**	**03 20 16.3**	**-0.5**
MNTX				*e*S	Sb	03 21 38.1	+6.5
426A	**McDonald Obser**	**7.35**	**46**	⇓P	Pn	03 19 40.8	-3.7
	baz=7.4,SNR=6.6						
Z20A	**Nine Sixteen R**	**7.53**	**10**	⇓P	**Pn**	**03 19 46.8**	**-0.2**
	baz=7.5						
224A	**Cornudas Mount**	**7.56**	**32**	⇑P	**Pn**	**03 19 45.3**	**-2.0**
	baz=7.6						
326A	**Caldwell Ranch**	**7.82**	**43**	⇑P	Pn	03 19 46.4	-4.4
	baz=7.9						
Z21A	**St. Cloud Mine**	**7.91**	**15**	⇑P	**Pn**	**03 19 52.0**	**-0.1**
	baz=7.9						
528A	**Cox Ranch, San**	**7.91**	**54**	⇓P	Pn	03 19 47.1	-5.0
	baz=8.0						
225A	**Deer Hill, Car**	**7.94**	**35**	⇑P	**Pn**	**03 19 50.2**	**-2.3**
	baz=8.0						
Z22A	**Elephant Butte**	**8.05**	**20**	⇓P	**Pn**	**03 19 53.1**	**-0.9**
	baz=8.0,SNR=7.5						
124A	**Stringfield Ra**	**8.12**	**29**	⇓P	**Pn**	**03 19 53.4**	**-1.6**
	baz=8.1						
226B	**Tecolote Peak,**	**8.27**	**38**	⇓P	**Pn**	**03 19 54.3**	**-2.6**
	baz=8.3						
Z23A	**Rita Site, Whi**	**8.30**	**24**	⇑P	**Pn**	**03 19 56.6**	**-0.7**
	baz=8.3,SNR=8.2						
428A	**Kincaid Ranch,**	**8.30**	**51**	⇓P	Pn	03 19 50.1	-7.3
	baz=8.4						
Y20A	**Horse Springs,**	**8.35**	**10**	⇑P	**Pn**	**03 19 57.7**	**-0.4**
	baz=8.3,SNR=5.1						
125A	**Gardner Draw,**	**8.46**	**33**	⇓P	**Pn**	**03 19 57.3**	**-2.3**
	baz=8.5						
328A	**Wristen Ranch,**	**8.61**	**47**	⇓P	Pn	03 19 57.8	-3.8
	baz=8.7						
X16A	**Lo Mia Camp, P**	**8.78**	**353**	⇑P	**Pn**	**03 20 03.5**	**-0.5**
	baz=8.7						
X18A	**Snowflake**	**8.82**	**1**	⇑P	**Pn**	**03 20 03.0**	**-1.7**
	baz=8.8						
X20A	**Quemado**	**8.95**	**9**	⇓P	**Pn**	**03 20 05.7**	**-0.8**
	baz=8.9						
Y23A	**Lovelace Mesa,**	**8.97**	**23**	⇓P	**Pn**	**03 20 04.7**	**-1.9**
	baz=9.0						
X21A	**Alamocita Cree**	**8.98**	**13**	⇑P	**Pn**	**03 20 05.9**	**-0.9**
	baz=9.0						
BNM	**Barren Site**	**8.98**	**19**	Pn	**Pn**	**03 20 08.3**	**+1.5**
LAZ	**Ladron**	**9.08**	**16**	*e*Pn	**Pn**	**03 20 09.1**	**+0.9**
	0.8nm,0.7s						
Y24A	**Capitan**	**9.19**	**25**	⇓P	**Pn**	**03 20 07.1**	**-2.5**
	baz=9.2						
Z26A	**Caprock**	**9.29**	**34**	⇓P	**Pn**	**03 20 08.0**	**-3.0**
	baz=9.3						
ANMO	**Albuquerque**	**9.78**	**18**	*e*Pn	**Pn**	**03 20 17.4**	**-0.3**
	3.0nm,1.1s						
ANMO				Lg	Lg	03 22 51.1	
ANMO	**Albuquerque**	**9.78**	**18**	Pn	Pn	03 20 14.3	-3.4
	0.1nm,0.3s,baz=193,slow=14,SNR=2.6						
ANMO				Lg	Lg	03 22 51.1	
	0.1nm,0.3s,baz=209,slow=19,SNR=2.6						
ANMO				LR	LR	03 24 29.2	
	comp=Z,77nm,19.2s,baz=41,slow=41						
W23A	**Werner Place,**	**10.06**	**19**	⇑P	**Pn**	**03 20 21.4**	**-0.3**
	baz=10						
MSTX	**Muleshoe**	**10.46**	**36**	*e*Pn	**Pn**	**03 20 26.4**	**-0.6**
U21A	**Nageezi**	**10.93**	**11**	⇓P	**Pn**	**03 20 33.4**	**-0.1**
	baz=11,SNR=5.6						
MVCO	**Mesa Verde**	**11.58**	**7**	*e*Pn	**Pn**	**03 20 40.9**	**-1.6**
CCUT	**Cedar City**	**12.14**	**348**	*e*Pn	**Pn**	**03 20 50.8**	**+0.7**
WMOK	**Wichita Mounta**	**13.35**	**45**	*e*Pn	**Pn**	**03 21 08.2**	**+1.7**
R11A	**Troy Canyon, C**	**13.44**	**341**	*e*Pn	P	03 21 12.8	-4.5
HWUT	**Hardware Ranch**	**15.93**	**356**	Pn	**Pn**	**03 21 41.9**	**+0.6**
	2.7nm,1.0s						
CMIG	**Matias Romero**	**16.59**	**118**	Pn	**Pn**	**03 21 45.5**	**-4.2**
CMIG	**Matias Romero**	**16.59**	**118**	Pn	**Pn**	**03 21 45.5**	**-4.2**
	0.1nm,0.3s,baz=298,slow=15,SNR=2.2						
PDAR	**Pinedale Array**	**17.05**	**2**	Pn	**Pn**	**03 21 55.0**	**-0.6**
PDAR	**Pinedale Array**	**17.05**	**2**	Pn	**Pn**	**03 21 55.0**	**-0.6**
	0.0nm,0.3s,baz=168,slow=10,SNR=5.5						
GNAR	**Gosnell**	**20.08**	**54**	*e*Pn	Pn	03 22 37.2	+4.9
	849nm,0.7s						
TEIG	**Tepich**	**20.87**	**101**	LR	LR	03 30 24.1	
	comp=Z,63nm,20.5s,baz=348,slow=36						
HRY	**Holter Researc**	**21.03**	**357**	*e*Pn	**P**	**03 22 43.8**	**+2.9**
ECSD	**EROS Data Cent**	**21.13**	**28**	Pn	**P**	**03 22 43.9**	**+2.0**
	72nm,2.6s						
PLAL	**Pickwick Lake**	**21.17**	**59**	*e*P	**P**	**03 22 44.9**	**+2.5**
	6.1nm,0.8s						
CHMT	**Chamberlain Mo**	**21.33**	**354**	*e*P	**P**	**03 22 46.5**	**+2.2**
	9.2nm,1.4s						
SLMT	**Seeley Lake**	**21.68**	**354**	*e*P	**P**	**03 22 46.1**	**-1.8**
WVT	**Waverly**	**21.77**	**56**	*e*P	**P**	**03 22 51.0**	**+2.2**
	4.3nm,0.7s						
SWET	**Sewanee**	**22.91**	**60**	*e*P	P	03 23 06.5	+5.5
	13nm,1.2s						
NEW	**Newport**	**23.20**	**348**	P	**P**	**03 23 01.4**	**-2.5**
NEW	**Newport**	**23.20**	**348**	P	**P**	**03 23 01.4**	**-2.5**
	0.9nm,0.7s,baz=181,slow=8.2,SNR=3.4						
ILAR	**Eielson Array**	**45.62**	**339**	P	**P**	**03 26 17.6**	**+0.5**
ILAR	**Eielson Array**	**45.62**	**339**	P	**P**	**03 26 17.6**	**+0.5**
	0.6nm,0.9s,baz=145,slow=7.1,SNR=5.7						
WRA	**Warramunga Arr**	**120.76**	**261**	PKP	**PKPdf**	**03 36 51.7**	**+1.7**
WRA	**Warramunga Arr**	**120.76**	**261**	PKP	**PKPdf**	**03 36 51.7**	**+1.7**
	0.4nm,0.9s,baz=74,slow=2.4,SNR=2.7						
ASAR	**Alice Springs**	**122.26**	**257**	PKP	**PKPdf**	**03 36 53.0**	**+0.1**
ASAR	**Alice Springs**	**122.26**	**257**	PKP	**PKPdf**	**03 36 53.0**	**+0.1**
	0.4nm,0.8s,baz=85,slow=1.0,SNR=4.3						

*MAN **15** 03:47:32.6±83N×123°.69E, h4km, mb4.8, ML3.7, MS3.8*
*ISCJB **15** 03:47:34.6±0.8, 6°.80N±0°.06×123°.61E±0°.09, h43km, mb3.4/3, Error ellipse: s-maj=12.2km s-min=8.6km az=179.5*
*IDC **15** 03:47:44.6±39.0, 4°.36N×122°.05E, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.4/23, mbtmp3.6/3, Error ellipse: s-maj=654.5km s-min=233.4km az=152.0*
ISC 15 03:47:35.6±1.1, 6°.93N±0°.07×123°.66E±0°.06, h43km, n10, σ2°27/13, mb3.2/3, 2C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**0.64**	**64**	⇓*i*P	**Pn**	**03 47 45.8**	**-2.6**
CTBH				*i* S	**Sn**	**03 47 55.2**	**-2.3**
PAGZ	**Pagadian**	**0.95**	**343**	*e*P	**Pn**	**03 47 52.8**	**+0.3**
PAGZ				*e*S	**Sn**	**03 48 00.9**	**-4.0**
IPIL	**Ipil**	**1.38**	**308**	*e*P	**Pn**	**03 47 58.8**	**+0.5**
GSPH	**General Santos**	**1.53**	**123**	⇑*i*P	**Pn**	**03 48 01.9**	**+1.4**
GSPH				*i* S	Sn	03 48 28.0	+8.7
DCPH	**Dipolog City**	**1.67**	**349**	⇑*e*P	**Pn**	**03 48 04.2**	**+1.9**
BUKP	**Musuan**	**1.68**	**56**	*e*P	**Pn**	**03 48 03.6**	**+1.1**
CGP	**Cagayan de Oro**	**1.82**	**34**	⇓*e*P	**Pn**	**03 48 05.8**	**+1.3**
CGP				*i* S	**Sn**	**03 48 30.1**	**+3.7**
WRA	**Warramunga Arr**	**28.70**	**159**	P	**P**	**03 53 28.7**	**-0.1**
	0.5nm,0.9s,baz=331,slow=10,SNR=4.5						
ASAR	**Alice Springs**	**32.02**	**162**	P	**P**	**03 53 57.5**	**-0.6**
	0.1nm,0.4s,baz=344,slow=6.3,SNR=3.0						
STKA	**Stephens Creek**	**42.22**	**157**	P	**P**	**03 55 24.9**	**+0.3**
	2.2nm,0.8s,baz=324,slow=11,SNR=4.5						

IDC 15 04:00:44.9±1.0, 36°.20S×52°.60E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.5/24, mbtmp3.7/5, Error ellipse: s-maj=34.5km s-min=31.5km az=26.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**45.34**	**201**	P	P	04 09 04.8	+0.4
	0.4nm,0.9s,baz=101,slow=10,SNR=5.1						
QSPA	**South Pole Qui**	**53.99**	**180**	P	P	04 10 09.8	-0.7
	2.0nm,1.1s,baz=256,slow=4.2,SNR=3.0						
TORD	**Torodi Ar. Bea**	**68.66**	**306**	P	P	04 11 50.1	-0.2
	0.9nm,1.1s,baz=134,slow=5.5,SNR=4.4						
ASAR	**Alice Springs**	**69.70**	**105**	P	P	04 11 56.8	-0.1
	0.5nm,0.7s,baz=232,slow=6.0,SNR=6.3						
WRA	**Warramunga Arr**	**72.02**	**102**	P	P	04 12 11.1	+0.1
	0.7nm,0.8s,baz=231,slow=5.1,SNR=6.9						
ILAR	**Eielson Array**	**149.10**	**16**	PKPbc	PKPbc	04 20 33.8	-0.4
	0.9nm,0.9s,baz=319,slow=3.0,SNR=7.2						

IDC 15 04:20:13.0±0.8, 27°.07N×140°.01E, h467km±11km, mb2.7/6, mb1 3.0/6, mb1mx2.8/20, mbtmp2.7/6, Error ellipse: s-maj=30.9km s-min=15.5km az=96.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.94**	**89**	P	P	04 21 16.3	+1.6
	2.4nm,0.3s,baz=65,slow=5.1,SNR=2.9						
CBIJ				S	S	04 22 04.8	0.0
	17nm,0.3s,baz=281,slow=22,SNR=8.8						
WRA	**Warramunga Arr**	**47.06**	**187**	P	P	04 28 01.4	0.0
	0.5nm,0.3s,baz=7.2,slow=7.8,SNR=23						
MKAR	**Makanchi Array**	**49.00**	**310**	P	P	04 28 15.4	-0.4
	0.1nm,0.4s,baz=78,slow=9.6,SNR=3.2						
ASAR	**Alice Springs**	**50.78**	**187**	P	P	04 28 28.7	-0.4
	0.2nm,0.4s,baz=0.8,slow=5.3,SNR=5.1						
ILAR	**Eielson Array**	**58.66**	**29**	P	P	04 29 23.9	-0.2
	0.2nm,0.8s,baz=245,slow=5.4,SNR=4.1						
YKA	**Yellowknife Ar**	**73.08**	**28**	P	P	04 30 54.4	+0.1
	0.6nm,0.7s,baz=294,slow=6.0,SNR=3.2						
FINES	**FINESS Array B**	**77.10**	**333**	P	P	04 31 17.2	+0.2
	0.9nm,0.3s,baz=76,slow=5.9,SNR=6.5						

IDC 15 04:36:42.3±12.0, 6°.25S×129°.49E, h276km±127km, mb3.0/1, mb1 3.2/3, mb1mx2.9/18, mbtmp3.0/3, Error ellipse: s-maj=116.1km s-min=86.3km az=72.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.40**	**161**	P	P	04 39 52.2	-1.9
	0.3nm,0.3s,baz=341,slow=12,SNR=16						
WRA				S	S	04 42 33.9	+0.8
	0.1nm,0.3s,baz=337,slow=21,SNR=5.3						
ASAR	**Alice Springs**	**17.83**	**167**	P	P	04 40 32.2	+0.6
	0.5nm,0.3s,baz=349,slow=9.9,SNR=53						
STKA	**Stephens Creek**	**27.89**	**158**	P	P	04 42 07.1	-0.1
	0.9nm,1.0s,baz=333,slow=11,SNR=3.3						

IDC 15 04:53:43.4±5.7, 4°.86S×150°.80E, h140km±42km, mb3.7/3, mb1 3.9/4, mb1mx3.3/17, mbtmp3.8/4, MS3.6/1, Ms1 3.6/1, ms1mx2.6/23, Error ellipse: s-maj=102.6km s-min=42.1km az=127.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.78**	**218**	P	Pn	04 55 07.2	+0.2
	9.4nm,0.3s,baz=40,slow=7.9,SNR=16						
PMG				S	Sn	04 56 13.6	+1.1
	9.2nm,0.3s,baz=125,slow=19,SNR=8.0						
WRA	**Warramunga Arr**	**21.94**	**226**	P	P	04 58 25.8	-0.1
	2.5nm,0.7s,baz=50,slow=10,SNR=20						
ASAR	**Alice Springs**	**24.80**	**219**	P	P	04 58 52.2	-0.3
	2.3nm,0.4s,baz=56,slow=8.8,SNR=32						
FITZ	**Fitzroy Crossi**	**27.89**	**240**	P	P	04 59 21.1	+0.7
	3.4nm,0.8s,baz=50,slow=7.9,SNR=3.9						
RAO	**Raoul Island**	**38.27**	**133**	LR	LR	05 13 17.6	
	comp=Z,81nm,19.9s,baz=62,slow=31						
TORD	**Torodi Ar. Bea**	**148.42**	**287**	PKPbc	PKPbc	05 13 13.6	-0.9
	0.6nm,1.1s,baz=85,slow=1.2,SNR=3.4						

*IDC **15** 04:55:55.3±0.9, 42°.90N×47°.13E, h0km, mb3.3/4, mb1 3.4/9, mb1mx3.3/26, mbtmp3.4/9, Error ellipse: s-maj=17.4km s-min=10.6km az=158.0*
*MOS **15** 04:55:59.5±1.6, 42°.98N×47°.27E, h16km, mb4.5/1, Error ellipse: s-maj=5.7km s-min=5.6km az=145.4*
MOS Felt (IV) at Korkmaskala, (II-III) at Makhachkala.
*CSEM **15** 04:55:59.1±0.3, 43°.07N×47°.31E, h2km, mb4.5, Error ellipse: s-maj=6.0km s-min=5.0km az=21.0*
ISC 15 04:55:59.1±0.9, 43°.05N±0°.02×47°.21E±0°.02, h11km±6km, n95, σ1°38/144, mb3.4/4, 10C-9D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAK	**Makhachkala**	**0.23**	**112**	*e*PG	**Pg**	**04 56 03.5**	**-0.4**
MAK				*e*		04 56 07.6	
MAK				pmax	pmax		
	comp=Z,270nm,0.2s						
MAK				smax	smax		
	comp=E,9μm,0.6s						
MAK	**Makhachkala**	**0.23**	**112**	*e*Pg	**Pg**	**04 56 03.5**	**-0.4**
	comp=E,270nm,0.2s						
MAK				*e*Sg	**Sg**	**04 56 07.6**	**+0.4**
BUJR	**Buynaksk**	**0.23**	**199**	⇑*i*PG	**Pg**	**04 56 03.5**	**-0.5**
BUJR	**Buynaksk**	**0.23**	**199**	*i* Pg	**Pg**	**04 56 03.5**	**-0.5**
DBC	**Dubki**	**0.28**	**265**	⇑*i*PG	**Pg**	**04 56 04.4**	**-0.5**
DBC	**Dubki**	**0.28**	**265**	*i* Pg	**Pg**	**04 56 04.4**	**-0.5**
KRNR	**Karanay**	**0.31**	**226**	⇑*i*PG	**Pg**	**04 56 04.8**	**-0.7**
KRNR				*i* S	**Sg**	**04 56 09.8**	**+0.1**
KRNR				pmax	pmax		
	comp=Z,686nm,0.2s						
KRNR	**Karanay**	**0.31**	**226**	*i* Pg	**Pg**	**04 56 04.8**	**-0.7**
	comp=Z,686nm,0.2s						
KRNR				*i* Sg	**Sg**	**04 56 09.8**	**+0.1**
DLMR	**Dylym**	**0.43**	**273**	*e*PG	**Pg**	**04 56 07.7**	**+0.2**
DLMR				*e*S	**Sb**	**04 56 16.0**	**+1.0**
DLMR				pmax	pmax		
	comp=Z,823nm,0.5s						
DLMR	**Dylym**	**0.43**	**273**	*e*Pg	**Pg**	**04 56 07.7**	**+0.2**
	comp=Z,823nm,0.5s						
DLMR				*e*Sg	**Sb**	**04 56 16.0**	**+1.0**
UNCR	**Uncukul**	**0.45**	**223**	⇓*i*PG	**Pg**	**04 56 07.0**	**-1.0**
UNCR				*e*S	**Sg**	**04 56 14.0**	**0.0**
UNCR				pmax	pmax		
	comp=Z,539nm,0.4s						
UNCR	**Uncukul**	**0.45**	**223**	*i* Pg	**Pg**	**04 56 07.0**	**-1.0**
	comp=Z,539nm,0

GNBR	**Gunib**	**0.68 196**	*i* PG	**Pg**	**04 56 12.0**	**-0.3**
GNBR			*e*S	**Sg**	**04 56 22.4**	**+1.1**
GNBR	**Gunib**	**0.68 196**	*i* Pg	**Pg**	**04 56 12.0**	**-0.3**
GNBR			*e*Sg	**Sg**	**04 56 22.4**	**+1.1**
BTLR	**Botlikh**	**0.82 243** ⇑	*i*PG	**Pg**	**04 56 14.5**	**-0.4**
BTLR			*e*S	**Sb**	**04 56 26.9**	**+0.4**
BTLR			pmax	pmax		
	comp=Z,185nm,0.2s					
BTLR	**Botlikh**	**0.82 243**	*i* Pg	**Pg**	**04 56 14.5**	**-0.4**
	comp=Z,185nm,0.2s					
BTLR			*e*Sg	**Sb**	**04 56 26.9**	**+0.4**
KMKR	**Kumukh**	**0.92 185** ⇑	*i*PG	**Pg**	**04 56 16.9**	**+0.1**
KMKR			*e*S	**Sn**	**04 56 31.3**	**0.0**
KMKR			pmax	pmax		
	comp=Z,548nm,0.3s					
KMKR	**Kumukh**	**0.92 185**	*i* Pg	**Pg**	**04 56 16.9**	**+0.1**
	comp=Z,548nm,0.3s					
KMKR			*e*Sg	**Sn**	**04 56 31.3**	**0.0**
URKR	**Urkarakh**	**0.93 160** ⇑	*i*PG	**Pg**	**04 56 17.0**	**-0.1**
URKR			*e*S	**Sn**	**04 56 34.2**	**+2.6**
URKR			pmax	pmax		
	comp=Z,468nm,0.2s					
URKR	**Urkarakh**	**0.93 160**	*i* Pg	**Pg**	**04 56 17.0**	**-0.1**
	comp=Z,468nm,0.2s					
URKR			*e*Sg	**Sn**	**04 56 34.2**	**+2.6**
GRO	**Groznyy**	**1.10 285** ⇓	*i*PG	**Pg**	**04 56 20.6**	**+0.3**
GRO			*i* S	**Sn**	**04 56 36.9**	**+1.3**
GRO	**Groznyy**	**1.10 285**	*i* Pg	**Pg**	**04 56 20.6**	**+0.3**
GRO			*i* Sg	**Sn**	**04 56 36.9**	**+1.3**
DRN	**Derbent**	**1.31 141** ⇓	*i*PG	**Pb**	**04 56 23.8**	**+0.2**
DRN			*e*S	**Sg**	**04 56 43.5**	**+2.3**
DRN			pmax	pmax		
	comp=Z,137nm,0.3s					
DRN	**Derbent**	**1.31 141**	*i* Pg	**Pb**	**04 56 23.8**	**+0.2**
	comp=Z,137nm,0.3s					
DRN			*e*Sg	**Sg**	**04 56 43.5**	**+2.3**
KSMR	**Kasumkent**	**1.59 154**	*e*PG	**Pg**	**04 56 30.0**	**+0.3**
KSMR			S	**Sg**	**04 56 55.5**	**+5.1**
KSMR			pmax	pmax		
	comp=Z,1μm,0.2s					
KSMR	**Kasumkent**	**1.59 154**	*e*Pg	**Pg**	**04 56 30.0**	**+0.3**
	comp=Z,1μm,0.2s					
KSMR			Sg	**Sg**	**04 56 55.5**	**+5.1**
AKT	**Akhty**	**1.61 166**	*e*PG	**Pn**	**04 56 27.0**	**-0.5**
AKT			*i* S	**Sg**	**04 56 51.5**	**+0.6**
AKT			pmax	pmax		
	comp=Z,180nm,0.3s					
AKT	**Akhty**	**1.61 166**	*e*Pg	**Pn**	**04 56 27.0**	**-0.5**
	comp=Z,180nm,0.3s					
AKT			*i* Sg	**Sg**	**04 56 51.5**	**+0.6**
SNJR	**Sundja**	**1.76 272**	*e*PN	**Pg**	**04 56 33.4**	**+0.6**
SNJR			*e*S	**Sg**	**04 56 58.6**	**+3.0**
SNJR	**Sundja**	**1.76 272**	*e*Pn	**Pg**	**04 56 33.4**	**+0.6**
SNJR			*e*Sg	**Sg**	**04 56 58.6**	**+3.0**
VLKR	**Vladikavkaz**	**1.86 271**	*e*PN	**Pg**	**04 56 35.0**	**+0.3**
VLKR			*i* S	**Sg**	**04 57 01.6**	**+2.8**
VLKR	**Vladikavkaz**	**1.86 271**	*e*Pn	**Pg**	**04 56 35.0**	**+0.3**
VLKR			*i* Sg	**Sg**	**04 57 01.6**	**+2.8**
TRKR	**Terskaya**	**1.93 291** ⇓	*i*PN	**Pb**	**04 56 35.0**	**+0.8**
TRKR			*i* S	**Sg**	**04 57 01.5**	**+0.4**
TRKR	**Terskaya**	**1.93 291**	*i* Pn	**Pb**	**04 56 35.0**	**+0.8**
TRKR			*i* Sg	**Sg**	**04 57 01.5**	**+0.4**
BTKR	**Batakoyurt**	**1.98 280** ⇑	*i*PN	**Pg**	**04 56 36.8**	**-0.2**
BTKR			*e*S	**Sg**	**04 57 04.1**	**+1.4**
BTKR	**Batakoyurt**	**1.98 280**	*i* Pn	**Pg**	**04 56 36.8**	**-0.2**
BTKR			*e*Sg	**Sg**	**04 57 04.1**	**+1.4**
DGRG	**David-gareji**	**2.10 221**	PN	**Pb**	**04 56 37.0**	**-0.1**
DGRG	**David-gareji**	**2.10 221**	Pn	**Pb**	**04 56 37.0**	**-0.1**
PRTR	**Priterechnaya**	**2.25 289**	*e*PN	**Pb**	**04 56 40.1**	**+0.5**
PRTR			*e*S	**Sg**	**04 57 10.1**	**-1.2**
PRTR	**Priterechnaya**	**2.25 289**	*e*Pn	**Pb**	**04 56 40.1**	**+0.5**
PRTR			*e*Sn	**Sg**	**04 57 10.1**	**-1.2**
TBLG	**Delisi**	**2.26 235**	PN	**Pb**	**04 56 39.7**	**-0.1**
TBLG	**Delisi**	**2.26 235**	Pn	**Pb**	**04 56 39.7**	**-0.1**
KORR	**Kora**	**2.30 272**	*e*PN	**Pb**	**04 56 41.8**	**+1.2**
KORR			*i* S	**Sg**	**04 57 13.4**	**+0.3**
KORR	**Kora**	**2.30 272**	*e*Pn	**Pb**	**04 56 41.8**	**+1.2**
KORR			*i* Sb	**Sg**	**04 57 13.4**	**+0.3**
STDR	**Stavd-Durt**	**2.33 279**	*e*PN	**Pb**	**04 56 41.7**	**+0.8**
STDR			*e*S	**Sg**	**04 57 12.9**	**-0.8**
STDR	**Stavd-Durt**	**2.33 279**	*e*Pn	**Pb**	**04 56 41.7**	**+0.8**
STDR			*e*Sn	**Sg**	**04 57 12.9**	**-0.8**
ZEI	**Tsey**	**2.45 265**	*e*PN	**Pb**	**04 56 43.4**	**+0.3**
ZEI			*e*S	**Sg**	**04 57 16.6**	**-1.0**
ZEI	**Tsey**	**2.45 265**	*e*Pn	**Pb**	**04 56 43.4**	**+0.3**
ZEI			*e*Sn	**Sg**	**04 57 16.6**	**-1.0**
LSNR	**Lesken**	**2.49 276** ⇑	*i*PN	**Pb**	**04 56 43.8**	**0.0**
LSNR			*e*S	**Sb**	**04 57 17.2**	**+2.8**
LSNR	**Lesken**	**2.49 276**	*i* Pn	**Pb**	**04 56 43.8**	**0.0**
LSNR			*e*Sn	**Sb**	**04 57 17.2**	**+2.8**
DIGR	**Digorskoe uzhe**	**2.67 268** ⇑	*i*PN	**Pb**	**04 56 45.8**	**-1.1**
DIGR			*e*S	**Sb**	**04 57 21.3**	**+1.6**
DIGR	**Digorskoe uzhe**	**2.67 268**	*i* Pn	**Pb**	**04 56 45.8**	**-1.1**
DIGR			*e*Sn	**Sb**	**04 57 21.3**	**+1.6**
ONI	**Oni**	**2.80 262**	PN	**Pn**	**04 56 45.5**	**+1.7**
ONI	**Oni**	**2.80 262**	Pn	**Pn**	**04 56 45.5**	**+1.7**
AKH	**Akhalkalaki**	**3.21 241**	PN	**Pb**	**04 56 57.5**	**+1.4**
AKH	**Akhalkalaki**	**3.21 241**	Pn	**Pb**	**04 56 57.5**	**+1.4**
KBZ	**Khabaz**	**3.22 284**	PN	**Pn**	**04 56 49.3**	**-0.1**
KBZ			pmax	pmax		
	comp=Z,2.0nm,0.3s					
KBZ	**Khabaz**	**3.22 284**	Pn	**Pn**	**04 56 49.3**	**-0.1**
	comp=Z,1.6nm,0.3s,baz=169,slow=5.9,SNR=24					
KBZ			Sn	**Sn**	**04 57 27.2**	**-0.5**
	comp=Z,5.1nm,0.3s,baz=306,slow=22,SNR=4.6					
KBZ	**Khabaz**	**3.22 284**	Pn	**Pn**	**04 56 49.3**	**-0.1**
	comp=Z,2.0nm,0.3s					
GNI	**Garni**	**3.44 213**	Pn	**Pn**	**04 56 50.1**	**-2.6**
	comp=Z,0.9nm,0.3s,baz=7.0,slow=19,SNR=1.8					
GNI	**Garni**	**3.44 213**	*e*Pn	**Pn**	**04 56 49.9**	**-2.7**
ANN	**Anapa**	**7.28 287**	*e*P	**Pn**	**04 57 48.3**	**+3.1**
ANN			pmax	pmax		
	comp=Z,43nm,1.9s					
ANN	**Anapa**	**7.28 287**	*e*P	**Pn**	**04 57 48.3**	**+3.1**
	comp=Z,43nm,1.9s					
AKTO	**Aktyubinsk**	**10.46 41**	⇓Pn	**Pn**	**04 58 27.1**	**-1.7**
	comp=Z,1.9nm,0.5s					
AKTO			⇓Sn	Sn	05 00 17.3	-8.6
	comp=Z,2.0nm,0.5s					
AKTO	**Aktyubinsk**	**10.46 41**	P	Pn	04 58 25.3	-3.5
AKTO	**Aktyubinsk**	**10.46 41**	Pn	Pn	04 58 25.3	-3.5
	comp=Z,0.3nm,0.3s,baz=190,slow=6.1,SNR=2.6					
AKTO			Sn	Sn	05 00 16.0	-10
	comp=Z,0.3nm,0.3s,baz=252,slow=20,SNR=2.6					
AKTO	**Aktyubinsk**	**10.46 41**	Pn	**Pn**	**04 58 27.1**	**-1.7**
	comp=Z,1.9nm,0.5s					
BRTR	**Keskin Array B**	**10.72 257**	Pn	**Pn**	**04 58 30.5**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=16,slow=6.6,SNR=2.4					
BRTR	**Keskin Array B**	**10.72 257**	P	**Pn**	**04 58 30.5**	**-2.1**
AB31	**Akbulak array**	**10.79 50**	⇓Pn	**Pn**	**04 58 32.6**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=241,slow=13,SNR=6.1					
AB31			⇓Sn	**Sn**	**05 00 29.9**	**-4.0**
	comp=Z,0.9nm,0.3s,baz=243,slow=20,SNR=4.2					
AB31	**Akbulak array**	**10.79 50**	Pn	**Pn**	**04 58 32.6**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=241,SNR=6.1					
OBN	**Obninsk**	**13.92 334**	*e*P	**Pn**	**04 59 15.0**	**-1.1**
OBN			pmax	pmax		
	comp=Z,3.0nm,0.7s					
OBN	**Obninsk**	**13.92 334**	*e*P	**Pn**	**04 59 15.0**	**-1.1**
	comp=Z,3.0nm,0.7s					
BRVK	**Borovoye**	**18.31 49**	*i* P	**P**	**05 00 13.8**	**+0.9**
BRVK			pmax	pmax		
	comp=Z,2.0nm,0.6s					
BRVK	**Borovoye**	**18.31 49**	*i* P	**P**	**05 00 13.8**	**+0.9**
	comp=Z,2.0nm,0.6s					
BVAR	**Borovoye Array**	**18.36 49**	P	**Pn**	**05 00 13.3**	**-0.1**
BVAR	**Borovoye Array**	**18.36 49**	P	**Pn**	**05 00 13.3**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=237,slow=10,SNR=4.1					
BVAR	**Borovoye Array**	**18.36 49**	P	**Pn**	**05 00 13.3**	**-0.1**
FINES	**FINESS Array B**	**22.33 333**	P	**P**	**05 00 57.2**	**+0.8**
	comp=Z,0.7nm,0.4s,baz=143,slow=12,SNR=4.4					
FINES	**FINESS Array B**	**22.33 333**	P	**P**	**05 00 57.2**	**+0.8**
KURBB	**Kurchatov Arra**	**22.60 60**	P	**P**	**05 00 59.8**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=268,slow=12,SNR=15					
KURK	**Kurchatov**	**22.67 59**	P	**P**	**05 00 59.8**	**-0.3**
KURK	**Kurchatov**	**22.67 59**	P	**P**	**05 00 59.8**	**-0.3**
MKAR	**Makanchi Array**	**24.99 69**	P	**P**	**05 01 23.0**	**+0.4**
MKAR	**Makanchi Array**	**24.99 69**	P	**P**	**05 01 23.0**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=286,slow=8.9,SNR=4.6					
MKAR	**Makanchi Array**	**24.99 69**	P	**P**	**05 01 23.0**	**+0.4**
TORD	**Torodi Ar. Bea**	**49.15 247**	P	**P**	**05 04 45.4**	**-1.6**
	comp=Z,0.2nm,0.4s,baz=33,slow=8.3,SNR=7.7					

*IDC **15** 05:08:14.5±4.6, 33°.76N×25°.18E, h0km, mb3.7/4, mb1 3.7/7, mb1mx3.5/26, mbtmp3.6/7, ML3.2/3, MS3.7/1, Ms1 3.8/1, ms1mx2.8/39, Error ellipse: s-maj=81.9km s-min=24.1km az=53.0*

*ISCJB **15** 05:08:15.2±2.4, 33°.8N±0°.2×25°.4E±0°.3, h10km, mb3.7/4, MS3.8/1, Error ellipse: s-maj=39.8km s-min=10.2km az=143.1*

ISC 15 05:08:15.6±2.6, 33°.8N±0°.2×25°.2E±0°.3, h10km, n11, σ0 45/10, mb3.8/4, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDI	**Anoyia**	**1.52**	**352**	*e*PN	**Pg**	**05 08 45.0**	**+0.3**
IDI	**Anoyia**	**1.52**	**352**	Pn	**Pb**	**05 08 43.7**	**-0.2**
	3.2nm,0.3s,baz=156,slow=15,SNR=17						
IDI				Sn	**Sg**	**05 09 04.1**	**-0.3**
	20nm,0.3s,baz=5.6,slow=21,SNR=11						
LFK	**Lefkose**	**7.07**	**75**	*e*P	Pg	05 10 36.8	+5.8
BRTR	**Keskin Array B**	**9.02**	**46**	Pn	**Pn**	**05 10 26.3**	**+0.2**
	0.1nm,0.3s,baz=218,slow=7.2,SNR=4.2						
EIL	**Elat**	**9.29**	**114**	Pn	**Pn**	**05 10 29.4**	**-0.3**
	0.2nm,0.3s,baz=315,slow=20,SNR=2.8						
AKASG	**Malin Array Be**	**17.16**	**9**	P	**P**	**05 12 16.2**	**-0.9**
	0.4nm,0.3s,baz=198,slow=11,SNR=2.5						
ARCES	**ARCESS Array B**	**35.80**	**0**	P	**P**	**05 15 15.1**	**+0.4**
	2.0nm,0.8s,baz=185,slow=9.1,SNR=3.1						
KURBB	**Kurchatov Arra**	**41.99**	**50**	P	**P**	**05 16 07.0**	**+0.2**
	0.6nm,0.6s,baz=276,slow=8.4,SNR=7.8						
MKAR	**Makanchi Array**	**44.54**	**55**	P	**P**	**05 16 27.8**	**+0.3**
	0.5nm,0.5s,baz=265,slow=5.4,SNR=5.7						
ZALV	**Zalesovo Beam**	**45.96**	**45**	P	**P**	**05 16 38.7**	**+0.1**
	0.7nm,0.5s,baz=264,slow=8.5,SNR=3.4						
ILAR	**Eielson Array**	**81.57**	**357**	LR	LR	05 57 20.4	
	comp=Z,43nm,19.0s,baz=305,slow=36						

*ATH **15** 05:09:07.4, 33°.84N×25°.50E, h5km±2km, MD3.8/16*

*ISCJB **15** 05:09:07.5±0.7, 33°.91N±0°.02×25°.55E±0°.02, h2km±5km, mb4.2/38, MS3.8/9, Error ellipse: s-maj=3.0km s-min=2.3km az=37.9*

*MOS **15** 05:09:08.8±1.6, 33°.90N×25°.45E, h10km, mb4.4/20, Error ellipse: s-maj=10.0km s-min=5.3km az=78.9*

*IDC **15** 05:09:09.5±0.7, 34°.06N×25°.51E, h0km, mb4.1/21, mb1 4.2/32, mb1mx4.1/39, mbtmp4.1/32, ML3.9/8, MS3.7/11, Ms1 3.7/11, ms1mx3.4/39, Error ellipse: s-maj=14.0km s-min=11.7km az=5.0*

*CSEM **15** 05:09:11.9±0.1, 33°.94N×25°.55E, h20km, mb4.3/29, Error ellipse: s-maj=3.3km s-min=2.2km az=36.0*

*HLW **15** 05:09:12.6, 34°.00N×25°.65E, h33km±28km, Md4.2, Ml4.0*

*PDG **15** 05:09:15.2±0.2, 34°.25N×24°.86E, h13km±1km, ML4.3/7, Error ellipse: s-maj=9.5km s-min=5.6km az=90.0*

*THE **15** 05:09:15.4, 34°.39N×25°.43E, h0km, ML3.7/3, Error ellipse: s-maj=1.2km s-min=0.4km az=174.0*

ISC 15 05:09:10.9±1.3, 33°.95N±0°.03×25°.54E±0°.03, h13km±8km, n382, σ1 36/403, mb4.2/38, MS3.9/9, 13C-8D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAST	**Lasithi**	**1.21**	**358**	P	Pn	05 09 30.6	-3.0
LAST				S	Sb	05 09 42.5	-6.8
LAST	**Lasithi**	**1.21**	**358**	*e*PN	**Pn**	**05 09 31.6**	**-2.0**
LAST	**Lasithi**	**1.21**	**358**	*e*Pn	**Pn**	**05 09 31.6**	**-2.0**
LAST				S	Sb	05 09 42.5	-6.8
SIVA	**Sivas**	**1.22**	**331**	P	**Pn**	**05 09 31.7**	**-2.0**
SIVA				S	**Sb**	**05 09 44.1**	**-5.5**
SIVA	**Sivas**	**1.22**	**331**	*e*PB	**Pn**	**05 09 32.0**	**-1.7**
SIVA				*e*SB	**Sb**	**05 09 49.2**	**-0.4**
SIVA	**Sivas**	**1.22**	**331**	*e*Pb	**Pn**	**05 09 32.0**	**-1.7**
SIVA				*e*Sb	**Sb**	**05 09 49.2**	**-0.4**
ZKR	**Zakros**	**1.29**	**26**	P	**Pn**	**05 09 34.1**	**-0.6**
ZKR				S	**Sb**	**05 09 49.0**	**-2.6**
ZKR	**Zakros**	**1.29**	**26**	*e*PB	**Pn**	**05 09 33.9**	**-0.8**
ZKR				*e*SB	**Sg**	**05 09 53.8**	**+1.3**
ZKR	**Zakros**	**1.29**	**26**	P	**Pn**	**05 09 34.1**	**-0.6**
ZKR				*e*Sb	**Sg**	**05 09 53.8**	**+1.3**
NPS	**Neapolis**	**1.31**	**3**	P	**Pn**	**05 09 32.6**	**-2.3**
NPS	**Neapolis**	**1.31**	**3**	P	**Pn**	**05 09 32.6**	**-2.3**
IDI	**Anoyia**	**1.44**	**338**	P	**Pn**	**05 09 34.5**	**-2.2**
IDI				S	**Sn**	**05 09 49.9**	**-5.6**
IDI	**Anoyia**	**1.44**	**338**	*e*PG	**Pn**	**05 09 35.8**	**-0.9**
IDI	**Anoyia**	**1.44**	**338**	Pn	**Pn**	**05 09 35.9**	**-0.8**
	24nm,0.3s,baz=332,slow=22,SNR=12						
IDI				Sn	**Sn**	**05 09 55.3**	**-0.2**
	132nm,0.3s,baz=311,slow=19,SNR=9.0						
IDI	**Anoyia**	**1.44**	**338**	*e*Pg	**Pn**	**05 09 35.8**	**-0.9**
GVD	**Gavdhos**	**1.49**	**307**	P	**Pn**	**05 09 37.7**	**+0.3**
GVD				S	**Sn**	**05 09 55.3**	**-1.4**
GVD	**Gavdhos**	**1.49**	**307**	*e*PB	**Pn**	**05 09 37.1**	**-0.3**
GVD				*e*SB	**Sb**	**05 09 58.3**	**+1.0**
GVD	**Gavdhos**	**1.49**	**307**	*e*Pb	**Pn**	**05 09 37.1**	**-0.3**
GVD	**Gavdhos**	**1.49**	**307**	P	**Pn**	**05 09 37.7**	**+0.3**
GVD				S	**Sn**	**05 09 55.3**	**-1.4**
GVD				*e*Sb	**Sb**	**05 09 58.3**	**+1.0**
VAM	**Vamos**	**1.82**	**323**	P	**Pn**	**05 09 41.5**	**-0.5**
VAM				S	**Sn**	**05 10 01.7**	**-3.3**
VAM	**Vamos**	**1.82**	**323**	*e*PN	**Pn**	**05 09 42.2**	**+0.2**
VAM				*e*SN	**Sg**	**05 10 08.6**	**-0.9**
VAM	**Vamos**	**1.82**	**323**	P	**Pn**	**05 09 41.5**	**-0.5**
VAM	**Vamos**	**1.82**	**323**	*e*Pn	**Pn**	**05 09 42.2**	**+0.2**
VAM				*e*Sn	**Sg**	**05 10 08.6**	**-0.9**
KARN	**Karanos**	**1.97**	**318**	P	**Pn**	**05 09 43.3**	**-0.7**
KARN				S	**Sn**	**05 10 05.7**	**-2.9**
KARN	**Karanos**	**1.97**	**318**	*e*PG	**Pn**	**05 09 45.2**	**+1.2**
KARN	**Karanos**	**1.97**	**318**	P	**Pn**	**05 09 43.3**	**-0.7**
KARN	**Karanos**	**1.97**	**318**	*e*Pg	**Pn**	**05 09 45.2**	**+1.2**
KARP	**Karpathos**	**2.08**	**40**	P	**Pn**	**05 09 47.1**	**+1.6**
KARP				S	**Sn**	**05 10 11.5**	**+0.1**
KARP	**Karpathos**	**2.08**	**40**	P	**Pn**	**05 09 47.1**	**+1.6**
KARP				S	**Sn**	**05 10 11.5**	**+0.1**
LTBQ	**Tobruq**	**2.33**	**216**	*i* P	**Pn**	**05 09 50.1**	**+1.2**
	SNR=91						
LTBQ				*e*S	**Sb**	**05 10 21.0**	**-0.3**
	53nm,0.6s,SNR=91						
SLUM		**2.47**	**186**	S	**Sn**	**05 10 20.5**	**-0.3**
	baz=189						
SLUM		**2.47**	**186**	P	**Pn**	**05 09 51.1**	**+0.3**
SLUM				S	**Sn**	**05 10 20.5**	**-0.3**
ANKY	**Antikythira Is**	**2.65**	**317**	*e*PN	**Pn**	**05 09 54.6**	**+1.3**
ANKY	**Antikythira Is**	**2.65**	**317**	*e*Pn	**Pn**	**05 09 54.6**	**+1.3**
MATC	**Matruh**	**2.96**	**151**	P	**Pn**	**05 09 57.6**	**0.0**
	baz=152						
MATC	**Matruh**	**2.96**	**151**	P	**Pn**	**05 09 57.6**	**0.0**
NIS1	**Nisyros Isl.**	**2.97**	**26**	*e*PN	**Pn**	**05 09 58.8**	**+1.1**
NIS1	**Nisyros Isl.**	**2.97**	**26**	*e*Pn	**Pn**	**05 09 58.8**	**+1.1**
KYTH	**Kithira**	**3.10**	**319**	*e*PB	**Pn**	**05 10 00.8**	**+1.3**
KYTH	**Kithira**	**3.10**	**319**	*e*Pb	**Pn**	**05 10 00.8**	**+1.3**
ARG	**Arkhangelos**	**3.10**	**42**	*e*PB	**Pn**	**05 10 01.6**	**+2.1**
ARG				*e*SN	**Sb**	**05 10 40.4**	**-3.3**
ARG	**Arkhangelos**	**3.10**	**42**	*e*Pb	**Pn**	**05 10 01.6**	**+2.1**
ARG				*e*Sn	**Sb**	**05 10 40.4**	**-3.3**
APE	**Apeiranthos**	**3.11**	**360**	*e*P	Pn	05 09 55.8	-3.9
APE	**Apeiranthos**	**3.11**	**360**	*e*P	**Pn**	**05 10 01.4**	**+1.7**
APE	**Apeiranthos**	**3.11**	**360**	*e*PN	**Pn**	**05 10 01.0**	**+1.3**
APE	**Apeiranthos**	**3.11**	**360**	*e*Pn	**Pn**	**05 10 01.0**	**+1.3**
APE	**Apeiranthos**	**3.11**	**360**	*e*P	**Pn**	**05 10 01.4**	**+1.7**
HMAT	**Matruh**	**3.14**	**155**	S	**Sn**	**05 10 35.1**	**-2.3**
	baz=156						
HMAT				AMP		05 10 00.0	
	comp=E,360μm,0.6s,logA/T=5.8,baz=156						
HMAT	**Matruh**	**3.14**	**155**	S	**Sn**	**05 10 35.1**	**-2.3**
DAT	**Datca**	**3.24**	**30**	*e*P	**Pn**	**05 09 58.9**	**-2.6**
DAT	**Datca**	**3.24**	**30**	*e*P	**Pn**	**05 09 58.9**	**-2.6**
BODT	**Bodrum**	**3.43**	**24**	*e*P	Pn	05 10 01.1	-2.9
BODT	**Bodrum**	**3.43**	**24**	*e*P	Pn	05 10 01.1	-2.9
BDRM	**Kayabasi**	**3.48**	**26**	*i* P	**Pn**	**05 10 05.6**	**+0.9**
BDRM				*i* S	**Sn**	**05 10 48.0**	**+2.3**
BDRM	**Kayabasi**	**3.48**	**26**	*i* P	**Pn**	**05 10 05.6**	**+0.9**
BDRM				*i* S	**Sn**	**05 10 48.0**	**+2.3**
VLI	**Veliai**	**3.48**	**323**	P	**Pn**	**05 10 04.2**	**-0.6**
VLI				S	**Sn**	**05 10 42.5**	**-3.4**
VLI	**Veliai**	**3.48**	**323**	*e*PN	**Pn**	**05 10 05.4**	**+0.6**
VLI	**Veliai**	**3.48**	**323**	P	**Pn**	**05 10 04.2**	**-0.6**
VLI	**Veliai**	**3.48**	**323**	*e*Pn	**Pn**	**05 10 05.4**	**+0.6**
DALY	**Dalyan (Mu¨la**	**3.83**	**41**	*e*P	**Pn**	**05 10 10.4**	**+0.9**
DALY	**Dalyan (Mu¨la**	**3.83**	**41**	*e*P	**Pn**	**05 10 10.4**	**+0.9**
YER	**Yerkesik**	**3.89**	**34**	*e*P	**Pn**	**05 10 09.6**	**-0.8**
YER	**Yerkesik**	**3.89**	**34**	*e*P	**Pn**	**05 10 09.6**	**-0.8**
FETY	**Fethiye**	**3.95**	**46**	*e*P	**Pn**	**05 10 10.0**	**-1.2**
FETY	**Fethiye**	**3.95**	**46**	*e*P	**Pn**	**05 10 10.0**	**-1.2**
DID	**Didima**	**4.01**	**333**	*e*PN	**Pn**	**05 10 13.0**	**+0.9**
DID	**Didima**	**4.01**	**333**	*e*Pn	**Pn**	**05 10 13.0**	**+0.9**
AKAS	**Kas**	**4.04**	**55**	*i* P	**Pn**	**05 10 13.6**	**+1.1**
AKAS				*i* S	**Sn**	**05 10 59.4**	**-0.4**
AKAS	**Kas**	**4.04**	**55**	*i* P	**Pn**	**05 10 13.6**	**+1.1**
AKAS				*i* S	**Sn**	**05 10 59.4**	**-0.4**
AYDN	**Tasoluk**	**4.16**	**27**	*i* P	**Pn**	**05 10 15.9**	**+1.7**
AYDN				*i* S	**Sn**	**05 11 00.9**	**-1.9**
AYDN	**Tasoluk**	**4.16**	**27**	*i* P	**Pn**	**05 10 15.9**	**+1.7**
AYDN				*i* S	**Sn**	**05 11 00.9**	**-1.9**
PYL	**PYLOS**	**4.27**	**315**	*e*PN	**Pn**	**05 10 16.5**	**+0.9**
PYL	**PYLOS**	**4.27**	**315**	*e*Pn	**Pn**	**05 10 16.5**	**+0.9**
VLX	**Vlachokerasia**	**4.27**	**324**	P	**Pn**	**05 10 15.2**	**-0.5**
VLX				S	**Sn**	**05 11 02.0**	**-3.5**
VLX	**Vlachokerasia**	**4.27**	**324**	*e*PN	**Pn**	**05 10 17.1**	**+1.4**
VLX	**Vlachokerasia**	**4.27**	**324**	P	**Pn**	**05 10 15.2**	**-0.5**
VLX	**Vlachokerasia**	**4.27**	**324**	*e*Pn	**Pn**	**05 10 17.1**	**+1.4**
CHOS	**Chios island**	**4.45**	**5**	*e*PN	**Pn**	**05 10 19.1**	**+1.0**
CHOS	**Chios island**	**4.45**	**5**	*e*Pn	**Pn**	**05 10 19.1**	**+1.0**
ELL	**Elmali**	**4.54**	**51**	*e*P	**Pn**	**05 10 20.6**	**+1.3**
ELL	**Elmali**	**4.54**	**51**	*e*P	**Pn**	**05 10 20.6**	**+1.3**
GOLH	**Golhisar**	**4.64**	**44**	*i* P	**Pn**	**05 10 22.2**	**+1.5**
GOLH				*i* S	**Sn**	**05 11 17.4**	**+2.8**
GOLH	**Golhisar**	**4.64**	**44**	*i* P	**Pn**	**05 10 22.2**	**+1.5**
GOLH				*i* S	**Sn**	**05 11 17.4**	**+2.8**
IZM	**Izmir**	**4.65**	**17**	*e*P	**Pn**	**05 10 20.5**	**-0.4**
IZM	**Izmir**	**4.65**	**17**	*e*P	**Pn**	**05 10 20.5**	**-0.4**
SWA2		**4.69**	**181**	P	**Pn**	**05 10 22.1**	**+0.7**
	baz=183						
SWA2				S	**Sn**	**05 11 14.5**	**-1.2**
	baz=183						
SWA2		**4.69**	**181**	P	**Pn**	**05 10 22.1**	**+0.7**
SWA2				S	**Sn**	**05 11 14.5**	**-1.2**
DNZL	**Cakiroluk**	**4.70**	**36**	*i* P	Pn	05 10 23.9	+2.3
DNZL				*i* S	Sn	05 11 22.6	+6.5
DNZL	**Cakiroluk**	**4.70**	**36**	*i* P	Pn	05 10 23.9	+2.3
KORT	**Korkueli**	**4.97**	**51**	*i* P	Pn	05 10 29.6	+4.3
KORT				*i* S	**Sn**	**05 11 26.3**	**+3.6**
KORT	**Korkueli**	**4.97**	**51**	*i* P	Pn	05 10 29.6	+4.3
KORT				*i* S	**Sn**	**05 11 26.3**	**+3.6**
MANT	**Manisa**	**5.15**	**27**	*i* P	**Pn**	**05 10 28.8**	**+0.9**
MANT	**Manisa**	**5.15**	**27**	*i* P	**Pn**	**05 10 28.8**	**+0.9**
KULA	**Kula-Manisa**	**5.21**	**28**	*e*P	**Pn**	**05 10 26.7**	**-1.9**
KULA	**Kula-Manisa**	**5.21**	**28**	*e*P	**Pn**	**05 10 26.7**	**-1.9**
BCK	**Bucak**	**5.40**	**48**	*e*P	**Pn**	**05 10 29.8**	**-1.4**
LJBD	**Adjabya**	**5.43**	**238**	*i* P	**Pn**	**05

PRD Provadia 9.35 8 *eP* **Pn 05 11 26.5 +1.2**
ULC Ulcinj 9.41 330⇑*i*Pn **Pn 05 11 26.4 +0.2**
ULC Ulcinj 9.41 330⇑*i*Pn **Pn 05 11 26.4 +0.2**
MPEP Malo Peshtene 9.50 352 *eP* **Pn 05 11 28.0 +0.7**
DRME Dracevica, Mon 9.62 331⇓*i*Pn **Pn 05 11 29.4 +0.3**
DRME *eSn* Sn 05 13 10.8 -6.3
DRME Dracevica, Mon 9.62 331⇓*i*Pn **Pn 05 11 29.4 +0.3**
PVY Plav 9.68 335⇑*i*Pn **Pn 05 11 31.2 +1.3**
PVY Plav 9.68 335⇑*i*Pn **Pn 05 11 31.2 +1.3**
ASF Jabal al Asfar 9.70 97 Pn **Pn 05 11 29.9 -0.3**
comp=E,0.6nm,0.3s,baz=231,slow=9,2,SNR=4.8
ASF Sn **Sn 05 13 15.6 -3.5**
comp=E,0.5nm,0.3s,baz=282,slow=21,SNR=2.6
PDG Podgorica 9.80 332⇑*i*Pn **Pn 05 11 32.0 +0.5**
TTG Podgorica 9.80 332⇑*i*Pn **Pn 05 11 32.0 +0.5**
BUM Brajici-Budva 9.84 330⇓*i*Pn **Pn 05 11 32.5 +0.4**
BUM *eSn* Sn 05 13 15.0 -7.4
BUM Brajici-Budva 9.84 330⇓*i*Pn **Pn 05 11 32.5 +0.4**
HCY Herceg Novi 10.13 329⇓*i*Pn **Pn 05 11 36.7 +0.7**
HCY *eSn* Sn 05 13 22.8 -6.7
HCY Herceg Novi 10.13 329⇓*i*Pn **Pn 05 11 36.7 +0.7**
NKME Niksic 10.20 332⇑*i*Pn **Pn 05 11 38.1 +1.0**
NKME *eSn* Sn 05 13 24.5 -6.9
NKME Niksic 10.20 332⇑*i*Pn **Pn 05 11 38.1 +1.0**
NKY Niksic 10.23 332⇓*i*Pn **Pn 05 11 38.4 +1.0**
NKY *eSn* Sn 05 13 25.8 -6.2
NKY Niksic 10.23 332⇓*i*Pn **Pn 05 11 38.4 +1.0**
BRY Bratogost 10.48 331 *ePn* **Pn 05 11 41.6 +0.6**
BRY *eSn* Sn 05 13 31.4 -7.0
BRY Bratogost 10.48 331 *ePn* **Pn 05 11 41.6 +0.6**
UPM Unac-Piva 10.59 333⇑*i*Pn **Pn 05 11 43.0 +0.5**
UPM *eSn* Sn 05 13 34.7 -6.4
UPM Unac-Piva 10.59 333⇑*i*Pn **Pn 05 11 43.0 +0.5**
STON Ston 10.82 328 *ePn* **Pn 05 11 43.2 -2.1**
STON Sn Sn 05 13 34.8 -11
MLR Muntele Rosu 11.53 1 Pn **Pn 05 11 55.4 +0.1**
comp=E,0.0nm,0.3s,baz=117,slow=6.1,SNR=6.1
MLR LR LR 05 16 46.9
comp=E,77nm,20.3s,baz=359,slow=40
MLR Muntele Rosu 11.53 1 P **Pn 05 11 55.4 +0.1**
comp=E,77nm,20.3s
KIS Kishinev 13.27 10 *e* **Sn 05 14 48.0 +1.7**
KIS LRM MLR 05 17 52.0
comp=E,400nm,10.0s
KEST Kesra 13.42 282 Pn **Pn 05 12 21.7 +0.6**
comp=E,0.0nm,0.3s,baz=71,slow=18,SNR=2.4
KEST LR LR 05 18 52.2
comp=E,65nm,19.6s,baz=0.1,slow=44
NVLJ Novalja 13.43 325 *ePn* **Pn 05 12 18.5 -2.6**
NVLJ Sn Sn 05 14 39.0 -11
SOC Sochi 14.64 45 *eP* Pn 05 12 28.6 -9.1
SOC MLR MLR
comp=Z,63nm,7.0s
UZH Uzhgorod 14.87 352 *eP* **P 05 12 44.6 -1.8**
UZH *eS* Sn 05 15 31.2 +6.0
UZH MLR MLR
comp=N,380nm,12.0s
UZH MLR MLR
comp=E,270nm,12.0s
UZH Uzhgorod 14.87 352 *eP* **P 05 12 44.6 -1.8**
PGF Pioggiola 15.55 308 *eP* **Pn 05 12 47.7 -2.2**
comp=E,58nm,1.1s
GNI Garni 16.52 62 Pn **Pn 05 13 03.7 +1.2**
comp=E,0.9nm,0.3s,baz=86,slow=18,SNR=6.2
GNI LR LR 05 20 17.6
comp=E,172nm,19.5s,baz=75,slow=40
GNI Garni 16.52 62 *eP* **P 05 13 05.6 +0.5**
comp=E,26nm,1.2s
KIV Kislovodsk 16.64 48 *eP* **P 05 13 06.2 0.0**
KIV *eS* **S 05 16 16.6 -3.2**
KIV pmax pmax
comp=Z,19nm,1.0s
KIV MLR MLR
comp=Z,58nm,14.0s
KIV Kislovodsk 16.64 48 *eP* **P 05 13 06.2 0.0**
comp=Z,19nm,1.0s
KIV *eS* **S 05 16 16.6 -3.2**
comp=Z,58nm,14.0s
KBZ Khabaz 16.65 49 P **P 05 13 06.4 +0.1**
KBZ Khabaz 16.65 49 Pn **P 05 13 06.4 +0.1**
comp=Z,0.1nm,0.3s,baz=274,slow=5.3,SNR=8.5
KBZ Khabaz 16.65 49 P **P 05 13 06.4 +0.1**
VRAC Vranov 16.72 339 Pn **Pn 05 13 05.4 +0.6**
comp=Z,0.3nm,0.3s,baz=200,slow=13,SNR=2.4
VRAC Vranov 16.72 339 P **Pn 05 13 05.4 +0.6**
OKC Ostrava-Krasne 16.79 343 AMS AMS 05 20 10.0
comp=Z,200nm,16.1s
AKASG Malin Array Be 16.96 8 P **Pn 05 13 06.9 -0.8**
AKASG pmax pmax
comp=Z,4.0nm,0.3s
AKASG Malin Array Be 16.96 8 Pn **Pn 05 13 06.9 -0.8**
comp=Z,3.9nm,0.3s,baz=201,slow=11,SNR=30
TREC Trest 17.05 337 AMS AMS 05 24 50.0
comp=Z,300nm,23.9s
SBF Sospel 17.18 310 *eP* **Pn 05 13 07.7 -3.0**
GERES GERESS Array B 17.30 333 P **Pn 05 13 12.3 +0.2**
comp=Z,0.4nm,0.3s,baz=143,slow=11,SNR=18
GERES GERESS Array B 17.30 333 P **Pn 05 13 12.3 +0.2**
DAVOX Davos/Dischmat 17.47 322 P **P 05 13 16.4 +0.9**
comp=Z,0.1nm,0.3s,baz=137,slow=19,SNR=2.0
DAVOX Davos/Dischmat 17.47 322 P **P 05 13 16.4 +0.9**
LMR La Mourre 17.54 308 *eP* **Pn 05 13 12.8 -2.2**
FRF La Foret Royal 17.55 309 *eP* **Pn 05 13 12.9 -2.3**
KHC Kasperske Hory 17.58 333 *eP* **Pn 05 13 16.0 +0.5**
KHC MLR MLR
comp=Z,400nm,13.7s
KHC Kasperske Hory 17.58 333 *eP* **Pn 05 13 16.0 +0.5**
KHC *ex* x 05 13 31.5
KHC AMS AMS 05 20 20.0
comp=Z,400nm,13.7s
KHC Kasperske Hory 17.58 333 *eP* **Pn 05 13 16.0 +0.5**
comp=Z,400nm,13.7s
ILIN Lien 17.70 81 *eP* **P 05 13 19.0 +0.7**
DPC Dobruska-Polom 17.73 340 *eP* **Pn 05 13 18.0 +0.6**
DPC MLR MLR
comp=Z,900nm,13.7s
DPC Dobruska-Polom 17.73 340 *eP* **Pn 05 13 18.0 +0.6**
DPC *ex* x 05 13 30.3
DPC AMS AMS 05 24 20.0
comp=Z,900nm,13.7s
DPC Dobruska-Polom 17.73 340 *eP* **Pn 05 13 18.0 +0.6**
comp=Z,900nm,13.7s
PRU Pruhonice 17.96 336 *eP* **Pn 05 13 19.9 -0.3**
PRU MLR MLR
comp=Z,300nm,17.1s
PRU Pruhonice 17.96 336 *eP* **Pn 05 13 19.9 -0.3**
PRU *ex* x 05 13 34.2
PRU AMS AMS 05 20 20.0
comp=Z,300nm,17.1s
PRU Pruhonice 17.96 336 *eP* **Pn 05 13 19.9 -0.3**
comp=Z,300nm,17.1s
MBDF Montbardon 18.03 312 *eP* **Pn 05 13 19.4 -1.8**
comp=Z,44nm,1.3s
IKOM Komasi 18.21 83 *eP* **P 05 13 25.4 +1.6**
SMRF Simiane la Rot 18.43 309 *eP* **P 05 13 26.3 +0.3**
SMRF Simiane la Rot 18.43 309 *eP* **P 05 13 26.3 +0.3**
LPG La Plagne 18.44 314 *eP* **Pn 05 13 27.0 +0.6**
comp=Z,12nm,1.0s
LPG La Plagne 18.44 314 *eP* **Pn 05 13 27.0 +0.6**
comp=Z,6.2nm,1.0s
LPL La Plagne 18.46 314 *eP* **P 05 13 26.3 -0.2**
LPL La Plagne 18.46 314 *eP* **P 05 13 26.3 -0.2**
ORIF Oris-en-Rattie 18.67 312 *eP* **P 05 13 29.2 +0.5**
ORIF *eR*
comp=Z,377nm,20.0s
ORIF Oris-en-Rattie 18.67 312 *eP* **P 05 13 29.2 +0.5**
BRG Berggiesshubel 18.91 337 *eP* Pn 05 13 41.3 +9.5
comp=Z,2.7nm,0.7s
BRG
comp=N,191nm,10.8s
BRG
comp=E,343nm,16.0s
BRG
comp=Z,220nm,11.4s
BRG Berggiesshubel 18.91 337 *eP* Pn 05 13 41.3 +9.5
BRG pmax pmax
comp=Z,3.0nm,0.7s
BRG MLR MLR
comp=N,3μm,10.8s
BRG MLR MLR
comp=E,191nm,16.0s
BRG MLR MLR
comp=Z,343nm,11.4s
VIVF Saint-Julien-I 19.40 310 *eP* **P 05 13 37.2 +0.6**

VIVF Saint-Julien-I 19.40 310 *eP* **P 05 13 37.2 +0.6**
CABF La Chapelle 19.43 316 *eP* **P 05 13 37.8 +0.8**
CABF La Chapelle 19.43 316 *eP* **P 05 13 37.8 +0.8**
LASF Ste Croix 19.59 307 *eP* **P 05 13 39.5 +0.7**
LASF Ste Croix 19.59 307 *eP* **P 05 13 39.5 +0.7**
CLL Collm 19.60 336 *eP* Pn 05 13 45.0 +5.0
CLL *eS* **S 05 17 19.0 -0.5**
CLL Collm 19.60 336 *e*(P) Pn 05 13 45.0 +5.0
CLL *ep*P pP 05 13 49.0 +6.8
CLL *eS* **S 05 17 19.0 -0.5**
HINF Hinteralfeld 19.71 320 *eP* **Pn 05 13 41.4 -0.1**
HINF Hinteralfeld 19.71 320 *eP* **Pn 05 13 41.4 -0.1**
VORD Divnogorie 19.75 26 *eP* **Pn 05 13 42.9 +1.1**
VORD pmax pmax
comp=Z,10.0nm,0.8s
VORD pmax pmax
comp=N,8.0nm,0.6s
VORD pmax pmax
comp=E,30nm,1.1s
VORD Divnogorie 19.75 26 *eP* **Pn 05 13 42.9 +1.1**
comp=E,8.0nm,0.6s
CDF Champ du Feu 19.87 322 *eP* **P 05 13 42.4 +0.6**
comp=E,32nm,1.2s
CDF Champ du Feu 19.87 322 *eP* **P 05 13 42.4 +0.6**
comp=E,16nm,1.2s
VSR Storozhevoye 19.90 26 *eP* **Pn 05 13 44.0 +0.3**
VSR pmax pmax
comp=Z,10.0nm,0.7s
VSR pmax pmax
comp=N,20nm,0.6s
VSR pmax pmax
comp=E,10.0nm,0.6s
VSR Storozhevoye 19.90 26 *eP* **Pn 05 13 44.0 +0.3**
comp=E,10.0nm,0.7s
HAU Haudompre 20.10 320 *eP* **P 05 13 45.0 +0.8**
HAU *eR*
comp=E,316nm,21.8s
HAU Haudompre 20.10 320 *eP* **P 05 13 45.0 +0.8**
MTLF Montolieu 20.43 304 *eP* **P 05 13 48.8 +1.0**
MTLF Montolieu 20.43 304 *eP* **P 05 13 48.8 +1.0**
VRHR Novokhopersk 20.76 30 *eP* **P 05 13 51.7 +0.4**
VRHR pmax pmax
comp=Z,30nm,0.7s
VRHR pmax pmax
comp=N,20nm,0.8s
VRHR pmax pmax
comp=E,20nm,0.8s
VRHR Novokhopersk 20.76 30 *eP* **P 05 13 51.7 +0.4**
comp=E,30nm,0.7s
PAGF Fort de Pagny 20.76 321 *eP* Pn 05 13 54.6 +0.8
comp=E,12nm,1.0s
PAGF Fort de Pagny 20.76 321 *eP* Pn 05 13 54.6 +0.8
comp=E,5.8nm,1.0s
SMF Signal de Mont 20.77 314 *eP* **P 05 13 50.4 -1.1**
SMF Signal de Mont 20.77 314 *eP* **P 05 13 50.4 -1.1**
CAF Calviac 21.11 308 *eP* **P 05 13 56.8 +1.6**
CAF Calviac 21.11 308 *eP* **P 05 13 56.8 +1.6**
AVF Avril sur Loir 21.13 314 *eP* **P 05 13 56.5 +1.2**
AVF Avril sur Loir 21.13 314 *eP* **P 05 13 56.5 +1.2**
SSF Saint Saulge 21.17 315 *eP* **P 05 13 56.6 +0.8**
comp=E,50nm,1.6s
SSF Saint Saulge 21.17 315 *eP* **P 05 13 56.6 +0.8**
comp=E,25nm,1.6s
BGF Bois d'Agland 21.32 313 *eP* **P 05 13 57.4 -0.1**
comp=E,21nm,0.9s
BGF Bois d'Agland 21.32 313 *eP* **P 05 13 57.4 -0.1**
comp=E,11nm,0.9s
TCF Toulx Ste Croi 21.59 312 *eP* **P 05 14 01.1 +0.8**
comp=E,36nm,1.2s
TCF Toulx Ste Croi 21.59 312 *eP* **P 05 14 01.1 +0.8**
comp=E,18nm,1.2s
RJF Les Rejaudoux 21.62 309 *eP* **P 05 14 01.1 +0.5**
comp=E,22nm,0.8s
RJF *eR*
comp=E,228nm,19.5s
RJF Les Rejaudoux 21.62 309 *eP* **P 05 14 01.1 +0.5**
comp=E,11nm,0.8s
EPF Esparros 21.64 302 *eP* **P 05 14 04.6 +3.6**
comp=E,6.4nm,0.7s
IKLH Kolahrood 21.68 84 *eP* **P 05 14 02.6 +0.9**
LFF La Frestale 21.98 307 *eP* **P 05 14 05.4 +0.8**
LFF La Frestale 21.98 307 *eP* **P 05 14 05.4 +0.8**
ISFB Sefidab 22.09 81 *eP* **P 05 14 06.1 +0.2**
GIVF Givet 22.18 323 *eP* **P 05 14 06.8 +0.2**
GIVF Givet 22.18 323 *eP* **P 05 14 06.8 +0.2**
ETSF Etsaut 22.24 301 *eP* **P 05 14 08.0 +0.6**
ETSF Etsaut 22.24 301 *eP* **P 05 14 08.0 +0.6**
IZEF Zefreh 22.37 85 *eP* **P 05 14 09.8 +0.7**
BAIF Baives 22.47 322 *eP* **P 05 14 08.0 -1.7**
BAIF Baives 22.47 322 *eP* **P 05 14 08.0 -1.7**
OBN Obninsk 22.52 17⇑*i*P **P 05 14 12.4 +2.2**
OBN *e* 05 14 35.0
OBN *eS* **S 05 18 22.3 +5.6**
OBN pmax pmax
comp=Z,10.0nm,1.0s
OBN MLR MLR
comp=Z,100nm,14.0s
OBN Obninsk 22.52 17 *eP* **P 05 14 12.4 +2.2**
comp=Z,10.0nm,1.0s
SJPF Ste Jean 22.77 302 *eP* **P 05 14 14.9 +1.9**
SJPF Ste Jean 22.77 302 *eP* **P 05 14 14.9 +1.9**
MFF Saint Martin d 23.20 311 *eP* **P 05 14 18.2 +0.8**
comp=Z,20nm,0.9s
MFF Saint Martin d 23.20 311 *eP* **P 05 14 18.2 +0.8**
comp=Z,9.9nm,0.9s
ISAD Sadrabad 23.69 87 *eP* **P 05 14 23.7 +1.0**
LDF La Druitiere 24.05 315 *eP* **P 05 14 24.3 -1.4**
LDF La Druitiere 24.05 315 *eP* **P 05 14 24.3 -1.4**
ESDC Sonseca Array 24.24 292 P **P 05 14 27.9 +0.4**
comp=Z,1.9nm,0.6s,baz=84,slow=10,SNR=11
FLN La Foliniere 24.34 315 *eP* **P 05 14 27.3 -1.1**
FLN *eR*
comp=Z,303nm,21.0s
FLN La Foliniere 24.34 315 *eP* **P 05 14 27.3 -1.1**
GRR Gorron 24.40 314 *eP* **P 05 14 28.9 +0.1**
comp=Z,47nm,1.2s
GRR Gorron 24.40 314 *eP* **P 05 14 28.9 +0.1**
comp=Z,24nm,1.2s
IMEH Mehriz 24.58 88 *eP* **P 05 14 30.5 -0.4**
MDT Midelt 25.16 276 P **P 05 14 36.5 +0.4**
comp=Z,1.4nm,0.4s,baz=91,slow=16,SNR=9.4
MDT LR LR 05 27 17.0
comp=Z,148nm,20.9s,baz=343,slow=43
IBAF Bafgh 25.32 87 *eP* **P 05 14 36.9 -0.7**
SGMF Saint Gilles 25.36 313 *eP* **P 05 14 37.9 +0.3**
SGMF Saint Gilles 25.36 313 *eP* **P 05 14 37.9 +0.3**
QUIF Quistinic 25.61 312 *eP* **P 05 14 40.9 +1.1**
comp=Z,56nm,1.2s
QUIF Quistinic 25.61 312 *eP* **P 05 14 40.9 +1.1**
comp=Z,28nm,1.2s
ROSF Rostrenen 25.84 312 *eP* **P 05 14 43.3 +1.4**
comp=Z,8.9nm,0.6s
ROSF Rostrenen 25.84 312 *eP* **P 05 14 43.3 +1.4**
comp=Z,4.4nm,0.6s
HFS Hagfors 27.32 347 P **P 05 14 54.1 -1.0**
comp=Z,1.9nm,0.6s,baz=134,slow=8.5,SNR=5.6
HFS Hagfors 27.32 347 P **P 05 14 54.1 -1.0**
comp=Z,2.0nm,0.6s
FINES FINESS Array B 27.51 1 P **P 05 14 55.5 -1.3**
comp=Z,2.3nm,0.7s,baz=152,slow=13,SNR=6.8
FINES FINESS Array B 27.51 1 P **P 05 14 55.5 -1.3**
comp=Z,2.0nm,0.7s
KLMR Klimovskoe 28.41 14 *eP* **P 05 15 02.7 -2.1**
KLMR pmax pmax
comp=Z,16nm,0.8s
KLMR Klimovskoe 28.41 14 *eP* **P 05 15 02.7 -2.1**
comp=Z,16nm,0.8s
NOA NORSAR Array B 28.65 345 P **P 05 15 06.0 -1.0**
comp=Z,0.7nm,0.5s,baz=160,slow=9.8,SNR=4.2
NOA NORSAR Array B 28.65 345 P **P 05 15 06.0 -1.0**
comp=Z,1.0nm,0.5s
AKTK Aktyubinsk 28.86 45 P **P 05 15 08.8 -0.2**
comp=Z,2.0nm,0.6s
AKTO Aktyubinsk 28.86 45 P **P 05 15 08.8 -0.2**
AKTO pmax pmax
comp=Z,2.0nm,0.6s
AKTO Aktyubinsk 28.86 45 P **P 05 15 08.8 -0.2**
comp=Z,2.1nm,0.6s,baz=267,slow=7.0,SNR=6.3
EKA Eskdalemuir Ar 29.21 326 P **P 05 15 12.2 +0.2**
comp=Z,0.5nm,0.4s,baz=122,slow=9.3,SNR=4.3
EKA Eskdalemuir Ar 29.21 326 P **P 05 15 12.2 +0.2**
comp=Z,1.0nm,0.5s
TORD Torodi Ar. Bea 29.97 232 P **P 05 15 19.1 0.0**
comp=Z,0.5nm,0.3s,baz=34,slow=8.2,SNR=15
TORD LR LR 05 29 51.5

comp=Z,273nm,18.6s,baz=35,slow=41
ARCES ARCESS Array B 35.64 360 P **P 05 16 06.5 -1.6**
comp=Z,1.9nm,0.7s,baz=170,slow=8.1,SNR=6.4
ARCES ARCESS Array B 35.64 360 P **P 05 16 06.5 -1.6**
comp=Z,2.0nm,0.7s
BRVK Borovoye 36.91 45 *ceP* **P 05 16 19.9 +0.7**
BRVK pmax pmax
comp=Z,4.0nm,1.0s
BRVK Borovoye 36.91 45 *eP* **P 05 16 19.9 +0.7**
comp=Z,4.0nm,1.0s
BVAR Borovoye Array 36.97 45 P **P 05 16 20.6 +0.9**
BVAR pmax pmax
comp=Z,2.0nm,0.9s
BVAR MLR MLR
comp=Z,61nm,20.2s
BVAR Borovoye Array 36.97 45 P **P 05 16 20.6 +0.9**
comp=Z,2.3nm,0.9s,baz=234,slow=5.1,SNR=7.5
BVAR LR LR 05 34 03.2
comp=Z,61nm,20.2s,baz=272,slow=40
BVAR Borovoye Array 36.97 45 P **P 05 16 20.6 +0.9**
comp=Z,61nm,20.2s
AAK Ala-Archa 38.93 62 *ceP* **P 05 16 37.9 +1.3**
AAK pmax pmax
comp=Z,10.0nm,1.7s
AAK Ala-Archa 38.93 62 P **P 05 16 38.2 +1.6**
comp=Z,0.7nm,0.3s,baz=210,slow=11,SNR=4.4
AAK LR LR 05 36 04.1
comp=Z,98nm,19.1s,baz=95,slow=42
AAK Ala-Archa 38.93 62 *eP* **P 05 16 37.9 +1.3**
comp=Z,10.0nm,1.7s
DBIC Dimbokro 39.07 233 LR LR 05 36 21.1
comp=Z,378nm,18.6s,baz=20,slow=42
KURBB Kurchatov Arra 41.65 50 P **P 05 16 59.4 +0.6**
comp=Z,4.5nm,0.7s,baz=277,slow=8.7,SNR=29
KURK Kurchatov 41.71 50 P **P 05 16 59.4 +0.1**
KURK pmax pmax
comp=Z,5.0nm,0.7s
KURK Kurchatov 41.71 50 P **P 05 16 59.4 +0.1**
comp=Z,5.0nm,0.7s
MKAR Makanchi Array 44.19 56 P **P 05 17 19.9 +0.4**
MKAR pmax pmax
comp=Z,5.0nm,0.6s
MKAR Makanchi Array 44.19 56 P **P 05 17 19.9 +0.4**
comp=Z,4.4nm,0.6s,baz=279,slow=6.3,SNR=24
MKAR Makanchi Array 44.19 56 P **P 05 17 19.9 +0.4**
comp=Z,5.0nm,0.6s
NVS Novosibirsk 44.73 44 *i* P **P 05 17 24.6 +0.9**
NVS pmax pmax
comp=Z,11nm,1.5s
NVS pmax pmax
comp=N,7.0nm,1.8s
NVS pmax pmax
comp=E,4.0nm,1.2s
NVS Novosibirsk 44.73 44 *i* P **P 05 17 24.6 +0.9**
comp=E,7.0nm,1.8s
ZALV Zalesovo Beam 45.62 45 P **P 05 17 30.6 -0.2**
ZALV pmax pmax
comp=Z,4.0nm,0.5s
ZALV Zalesovo Beam 45.62 45 P **P 05 17 30.6 -0.2**
comp=Z,3.5nm,0.5s,baz=268,slow=9.2,SNR=13
ZALV Zalesovo Beam 45.62 45 P **P 05 17 30.6 -0.2**
comp=Z,4.0nm,0.5s
HVS Khovu-Aksy 51.21 49 *i* P **P 05 18 14.8 +0.8**
HVS pmax pmax
comp=Z,18nm,0.8s
HVS Khovu-Aksy 51.21 49 *i* P **P 05 18 14.8 +0.8**
comp=Z,18nm,0.8s
ZAK Zakamensk 57.32 48 *eP* **P 05 18 59.1 +0.6**
ZAK pmax pmax
comp=Z,3.0nm,1.0s
ZAK Zakamensk 57.32 48 *eP* **P 05 18 59.1 +0.6**
comp=Z,3.0nm,1.0s
SONM Songino Array 60.02 50 P **P 05 19 18.0 +0.6**
comp=Z,1.2nm,0.7s,baz=277,slow=8.2,SNR=7.2
SONM Songino Array 60.02 50 P **P 05 19 18.0 +0.6**
comp=Z,1.0nm,0.7s
BOSA Boshof 62.22 180 P **P 05 19 34.0 +1.6**
comp=Z,2.2nm,0.5s,baz=0.0,slow=4.0,SNR=3.7
BOSA LR LR 05 47 57.1
comp=Z,113nm,19.1s,baz=345,slow=37
BOSA Boshof 62.22 180 P **P 05 19 34.0 +1.6**
comp=Z,113nm,19.1s
SCHQ Schefferville 64.31 320 P **P 05 19 45.9 0.0**
comp=Z,1.2nm,0.3s,baz=71,slow=6.2,SNR=4.7
USRK Ussuriysk Arra 77.47 45 P **P 05 21 06.3 +0.3**
comp=Z,1.4nm,0.5s,baz=271,slow=7.4,SNR=4.6
YKA Yellowknife Ar 78.69 342 P **P 05 21 12.2 -0.2**
comp=Z,0.7nm,0.6s,baz=28,slow=5.6,SNR=3.9
YKA Yellowknife Ar 78.69 342 P **P 05 21 12.2 -0.2**
comp=Z,1.0nm,0.6s
KSRS Korea Array 78.77 52 P **P 05 21 13.3 -0.1**
comp=Z,1.2nm,0.6s,baz=306,slow=4.3,SNR=4.2
KSRS Korea Array 78.77 52 P **P 05 21 13.3 -0.1**
comp=Z,1.0nm,0.6s
ILAR Eielson Array 81.42 357 P **P 05 21 26.6 -0.6**
comp=Z,0.3nm,0.6s,baz=356,slow=3.1,SNR=8.0
ILAR Eielson Array 81.42 357 P **P 05 21 26.6 -0.6**
BDFB Brasilia 85.53 248 LR LR 06 02 20.5
comp=Z,126nm,18.3s,baz=211,slow=37
PDAR Pinedale Array 93.30 329 LR LR 06 05 26.6
comp=Z,52nm,19.4s,baz=245,slow=36
WRA Warramunga Arr 116.14 97 PKP **PKPdf 05 27 56.9 +2.7**
comp=Z,0.5nm,0.8s,baz=307,slow=2.0,SNR=3.4
ASAR Alice Springs 117.52 101 PKP **PKPdf 05 27 58.0 +1.2**
comp=Z,0.3nm,0.6s,baz=313,slow=2.0,SNR=3.2

IDC 15 05:37:07.8±1.7, 18°.94S×178°.34W, h0km, mb4.0/6, mb1 4.2/6, mb1mx3.9/17, mbtmp4.0/6, Error ellipse: s-maj=136.4km s-min=24.4km az=155.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.20**	**242**	P	P	05 44 28.7	-0.7
	1.3nm,0.5s,baz=92,slow=7.1,SNR=8.6						
WRA	**Warramunga Arr**	**44.52**	**261**	P	P	05 45 22.3	+0.7
	1.3nm,0.2s,baz=94,slow=6.7,SNR=96						
ASAR	**Alice Springs**	**44.59**	**255**	P	P	05 45 21.8	-0.2
	2.7nm,0.8s,baz=87,slow=8.3,SNR=24						
FITZ	**Fitzroy Crossi**	**52.93**	**261**	P	P	05 46 25.8	-0.5
	0.7nm,0.4s,baz=69,slow=8.6,SNR=9.9						
TXAR	**Lajitas Array**	**86.49**	**58**	P	P	05 49 52.9	-0.1
	0.3nm,0.8s,baz=232,slow=6.2,SNR=4.0						
PDAR	**Pinedale Array**	**88.05**	**43**	P	P	05 50 00.6	+0.2
	0.4nm,0.6s,baz=217,slow=3.7,SNR=4.5						

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*CSEM **15** 06:25:34.8, 34°.30N×25°.91E, h10km, MD3.3, After ATH*
*ATH **15** 06:25:34.8, 34°.30N×25°.91E, h10km±6km, MD3.3/8*
*IDC **15** 06:25:37.5±4.4, 34°.51N×25°.31E, h0km, mb3.8/3, mb1 3.6/6, mb1mx3.4/25, mbtmp3.5/6, ML3.9/1, MS2.7/1, Ms1 2.7/1, ms1mx1.9/36, Error ellipse: s-maj=77.2km s-min=22.0km az=37.0*
*ISCJB **15** 06:25:42.2±1.3, 34°.7N±0°.1×25°.74E±0°.06, h30km, mb4.0/4, Error ellipse: s-maj=18.0km s-min=7.1km az=0.6*
ISC 15 06:25:43.2±1.4, 34°.7N±0°.1×25°.69E±0°.05, h30km, n27, σ1§46/24, mb3.9/4, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAST	**Lasithi**	**0.45**	**338**	*e*PB	**Pb**	**06 25 51.8**	**-1.1**
LAST	**Lasithi**	**0.45**	**338**	*e*Pb	**Pb**	**06 25 51.8**	**-1.1**
NPS	**Neapolis**	**0.52**	**353**	*e*PN	**Pn**	**06 25 54.0**	**-0.7**
NPS	**Neapolis**	**0.52**	**353**	*e*Pn	**Pn**	**06 25 54.0**	**-0.7**
ZKR	**Zakros**	**0.57**	**49**	*e*PG	Pb	06 25 50.7	-4.1
ZKR	**Zakros**	**0.57**	**49**	*e*Pg	Pb	06 25 50.7	-4.1
SIVA	**Sivas**	**0.77**	**291**	*e*PG	**Pn**	**06 25 56.3**	**-1.7**
SIVA	**Sivas**	**0.77**	**291**	*e*Pg	**Pn**	**06 25 56.3**	**-1.7**
IDI	**Anoyia**	**0.85**	**310**	*e*PB	**Pb**	**06 25 59.2**	**-0.3**
IDI	**Anoyia**	**0.85**	**310**	Pn	Pn	06 25 55.2	-4.0
	1.6nm,0.3s,baz=175,slow=18,SNR=6.7						
IDI	Sn				**Sn**	**06 26 10.8**	**+0.1**
	8.7nm,0.3s,baz=317,slow=18,SNR=13						
IDI	**Anoyia**	**0.85**	**310**	*e*Pb	**Pb**	**06 25 59.2**	**-0.3**
GVD	**Gavdhos**	**1.32**	**275**	*e*PB	**Pn**	**06 26 05.1**	**-0.4**
GVD	**Gavdhos**	**1.32**	**275**	*e*Pb	**Pn**	**06 26 05.1**	**-0.4**
VAM	**Vamos**	**1.39**	**299**	*e*PN	**Pb**	**06 26 07.7**	**-0.8**
VAM	**Vamos**	**1.39**	**299**	*e*Pn	**Pb**	**06 26 07.7**	**-0.8**
KARP	**Karpathos**	**1.45**	**56**	*e*PB	**Pn**	**06 26 05.2**	**-2.2**
KARP	**Karpathos**	**1.45**	**56**	*e*Pb	**Pn**	**06 26 05.2**	**-2.2**
KARN	**Karanos**	**1.59**	**295**	*e*PN	**Pb**	**06 26 10.9**	**-1.1**
KARN	**Karanos**	**1.59**	**295**	*e*Pn	**Pb**	**06 26 10.9**	**-1.1**
BRTR	**Keskin Array B**	**8.06**	**50**	Pn	**Pn**	**06 27 39.2**	**+0.9**
	0.1nm,0.3s,baz=242,slow=11,SNR=2.6						

EIL Elat 9.34 120 LR LR 06 32 54.4
comp=Z,41nm,20.3s,baz=58,slow=46
AKASG Malin Array Be 16.16 8 Pn **P 06 29 30.1 -0.8**
baz=198,slow=10,SNR=2.4
GERES GERESS Array B 16.66 331 Pn **P 06 29 34.4 -2.2**
0.2nm,0.3s,baz=158,slow=11,SNR=2.8
FINES FINESS Array B 26.72 0 P **P 06 31 22.3 +2.7**
2.9nm,1.0s,baz=182,slow=15,SNR=2.2
ARCES ARCESS Array B 34.85 360 P **P 06 32 33.1 +2.0**
1.4nm,0.8s,baz=185,slow=8.5,SNR=7.0
KURBB Kurchatov Arra 41.05 51 P **P 06 33 25.0 +1.3**
5.9nm,0.2s,baz=280,slow=8.3,SNR=4.8
MKAR Makanchi Array 43.65 56 P **P 06 33 46.5 +1.6**
0.3nm,0.6s,baz=275,slow=6.4,SNR=5.8

IDC ***15*** *06:46:31.7±1.0,22°.39S×169°.59E,h0km,mb4.1/9, mb1 4.2/10,mb1mx4.1/17,mbtmp4.0/10,ML3.7/1,MS3.6/5, Ms1 3.6/5,ms1mx3.2/27,Error ellipse: s-maj=33.5km s-min=21.7km az=154.0*
ISCJB ***15*** *06:46:33.8±0.5,22°.5S±0°.1×169°.55E±0°.06,h23km, mb4.2/12,MS3.6/3,Error ellipse: s-maj=15.1km s-min=8.1km az=176.7*
NEIC ***15*** *06:46:38.4±1.2,22°.42S×169°.47E,h46km±11km,mb4.7/3, Error ellipse: s-maj=16.6km s-min=8.6km az=158.0*
ISC 15 06:46:35.0±0.7,22°.4S±0°.1×169°.61E±0°.09,h23km,n44, σ0.80/39,mb4.2/11,MS3.5/3,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**2.95**	**275**	Pn	**Pn**	**06 47 20.5**	**-0.1**
DZM				Sn	**Sn**	**06 47 55.3**	**0.0**
DZM	**Mont Dzumac**	**2.95**	**275**	Pn	**Pn**	**06 47 20.5**	**-0.1**
	11nm,0.3s,baz=124,slow=14,SNR=370						
DZM				Sn	**Sn**	**06 47 55.3**	**0.0**
	43nm,0.3s,baz=100,slow=23,SNR=6.3						
MSVF	**Nonsavu**	**9.18**	**61**	*e*Pn	Pn	06 48 50.8	+4.7
	18nm,1.0s						
URZ	**Urewera**	**17.09**	**160**	LR	LR	06 56 09.1	
	comp=Z,151nm,18.3s,baz=358,slow=34						
EIDS	**Eidsvold**	**17.21**	**256**	*e*Pn	**Pn**	**06 50 33.6**	**-0.3**
AFI	**Afiamalu**	**19.57**	**68**	LR	LR	06 56 09.5	
	comp=Z,76nm,18.2s,baz=113,slow=30						
CAN	**Canberra**	**22.13**	**230**	*e*P	**P**	**06 51 28.4**	**-0.6**
STKA	**Stephens Creek**	**26.61**	**243**	P	**P**	**06 52 11.7**	**-0.1**
STKA	**Stephens Creek**	**26.61**	**243**	P	**P**	**06 52 11.7**	**-0.1**
	1.6nm,0.6s,baz=72,slow=8.7,SNR=4.5						
STKA				LR	LR	07 02 10.2	
	comp=Z,116nm,19.9s,baz=26,slow=35						
AS31	**Alice Springs**	**32.84**	**261**	*e*P	**P**	**06 53 07.1**	**0.0**
ASAR	**Alice Springs**	**32.84**	**261**	P	**P**	**06 53 07.2**	**+0.1**
ASAR	**Alice Springs**	**32.84**	**261**	P	**P**	**06 53 07.2**	**+0.1**
	3.3nm,0.7s,baz=86,slow=9.0,SNR=42						
WRAB	**Tennant Creek**	**32.93**	**268**	*e*P	**P**	**06 53 07.1**	**-0.9**
WRA	**Warramunga Arr**	**32.94**	**268**	P	**P**	**06 53 06.8**	**-1.2**
WRA	**Warramunga Arr**	**32.94**	**268**	P	**P**	**06 53 06.9**	**-1.2**
	0.6nm,0.4s,baz=97,slow=8.6,SNR=28						
WRA				LR	LR	07 07 08.3	
	comp=Z,93nm,18.2s,baz=310,slow=38						
FITZ	**Fitzroy Crossi**	**41.37**	**268**	*e*P	**P**	**06 54 20.0**	**+0.4**
	14nm,1.1s						
QSPA	**South Pole Qui**	**67.69**	**180**	*e*P	**P**	**06 57 30.2**	**0.0**
	4.9nm,0.9s						
MAW	**Mawson**	**75.67**	**202**	P	**P**	**06 58 18.5**	**+0.5**
MAW	**Mawson**	**75.67**	**202**	P	**P**	**06 58 18.5**	**+0.5**
	1.9nm,0.7s,baz=124,slow=7.8,SNR=5.6						
PETK	**Petropavlovsk-**	**75.88**	**353**	P	**P**	**06 58 20.1**	**+0.9**
PETK	**Petropavlovsk-**	**75.88**	**353**	P	**P**	**06 58 20.1**	**+0.9**
	2.3nm,0.9s,baz=116,slow=10,SNR=3.2						
CMAR	**Chiang Mai Arr**	**80.11**	**295**	P	**P**	**06 58 45.4**	**+1.8**
CMAR	**Chiang Mai Arr**	**80.11**	**295**	P	**P**	**06 58 45.4**	**+1.8**
	1.6nm,0.6s,baz=126,slow=4.6,SNR=6.3						
SNAA	**Sanae**	**86.06**	**182**	*e*P	**P**	**06 59 12.8**	**-0.7**
SNAA	**Sanae**	**86.06**	**182**	*e*I	**P**	**06 59 15.0**	**+1.5**
SNAA	**Sanae**	**86.06**	**182**	*e*I		06 59 21.6	
SNAA	**Sanae**	**86.06**	**182**	*e*P	**P**	**06 59 12.8**	**-0.7**
	8.1nm,1.0s						
VNA2	**Neumayer--Watz**	**86.93**	**181**	*e*P	**P**	**06 59 17.4**	**-0.3**
	baz=183,slow=4.2						
VNA2	**Neumayer--Watz**	**86.93**	**181**	*e*I	**PcP**	**06 59 20.8**	**+0.9**
	baz=183,slow=4.2						
VNA2	**Neumayer--Watz**	**86.93**	**181**	*e*I		06 59 27.3	
	baz=183,slow=4.2						
VNA1	**Neumayer--Stat**	**87.21**	**181**	*e*P	**P**	**06 59 18.8**	**-0.2**
VNA1	**Neumayer--Stat**	**87.21**	**181**	*e*I		06 59 29.0	
SONM	**Songino Array**	**89.93**	**323**	P	**P**	**06 59 31.7**	**-0.6**
SONM	**Songino Array**	**89.93**	**323**	P	**P**	**06 59 31.7**	**-0.6**
	1.1nm,0.9s,baz=133,slow=4.7,SNR=3.8						
ILAR	**Eielson Array**	**93.11**	**17**	P	**P**	**06 59 45.0**	**-1.5**
ILAR	**Eielson Array**	**93.11**	**17**	P	**P**	**06 59 45.0**	**-1.5**
	0.3nm,0.7s,baz=238,slow=6.6,SNR=3.7						
TXAR	**Lajitas Array**	**97.95**	**62**	P	Pdif	07 00 10.9	+1.3
TXAR	**Lajitas Array**	**97.95**	**62**	P	Pdif	07 00 10.9	+1.3
	0.1nm,0.5s,baz=224,slow=7.3,SNR=2.6						
TXAR				LR	LR	07 38 37.0	
	comp=Z,45nm,18.5s,baz=340,slow=32						
BRG	**Berggiesshubel**	**145.81**	**332**	*e*P	PKPab	07 06 18.7	+6.3
	4.6nm,0.6s						
CLL	**Collm**	**145.89**	**334**	*e*PKPbc	**PKPbc**	**07 06 12.0**	**-0.3**
	comp=Z,4.0nm,0.8s						
GERES	**GERESS Array B**	**147.39**	**330**	PKPbc	**PKPbc**	**07 06 17.3**	**+0.4**
GERES	**GERESS Array B**	**147.39**	**330**	PKPbc	**PKPbc**	**07 06 17.3**	**+0.4**
	comp=Z,1.4nm,0.6s,baz=35,slow=3.2,SNR=11						
TORD	**Torodi Ar. Bea**	**165.29**	**233**	PKP	**PKPdf**	**07 06 37.8**	**-0.5**
TORD				PKPab	**PKPab**	**07 07 35.7**	**-0.1**
TORD	**Torodi Ar. Bea**	**165.29**	**233**	PKP	**PKPdf**	**07 06 37.8**	**-0.5**
	comp=Z,0.6nm,0.9s,baz=119,slow=1.8,SNR=3.5						
TORD				PKPab	**PKPab**	**07 07 35.7**	**-0.1**
	comp=Z,0.9nm,0.9s,baz=99,slow=3.6,SNR=4.1						

ISCJB ***15*** *07:24:23.2±0.5,24°.11S±0°.03×66°.91W±0°.04,h168km±3km, mb4.5/106,Error ellipse: s-maj=6.8km s-min=4.5km az=154.3*
NEIC ***15*** *07:24:24.5±0.5,24°.13S×66°.85W,h170km±4km,mb4.6/97, Error ellipse: s-maj=6.5km s-min=4.1km az=69.0*
BJI ***15*** *07:24:24.5,24°.10S×66°.80W,h169km,mB5.1/5*
IDC ***15*** *07:24:25.1±1.4,24°.13S×66°.87W,h175km±12km,mb4.2/16, mb1 4.3/22,mb1mx4.2/24,mbtmp4.1/22,Error ellipse: s-maj=13.7km s-min=9.2km az=76.0*
GUC ***15*** *07:24:27.1±0.3,23°.87S×67°.39W,h215km,ML5.5*
ISC 15 07:24:23.6±0.5,24°.17S±0°.04×66°.90W±0°.05,h164km±4km, n607,σ0.95/637,mb4.6/106,186C-203D,Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.41**	**310**	*e*Pn	Pn	07 25 07.7	+3.0
LVC				*e*Sn	**Sn**	**07 25 39.4**	**+3.1**
PB04	**Plate Boundary**	**3.04**	**308**	⇑*i*P	Pn	07 25 19.4	+7.3
PB04				*e*S	Sn	07 25 59.3	+10
PB04				AML	AML	07 26 02.7	
	comp=E,5μm,0.7s						
PB09	**Plate Boundary**	**3.20**	**317**	AML	AML	07 25 57.7	
	comp=N,10μm,0.6s						
ANCH	**Antofagasta**	**3.25**	**278**	⇑*i*P	**Pn**	**07 25 16.6**	**+2.0**
ANCH				*i* S	**Sn**	**07 25 54.0**	**-0.1**
ANCH				AML	AML	07 25 59.8	
	comp=E,7μm,0.4s						
PB10	**Plate Boundary**	**3.41**	**280**	⇑*i*P	**Pn**	**07 25 18.4**	**+1.7**
PB10				*e*S	**Sn**	**07 25 57.1**	**-0.8**
PB10				AML	AML	07 26 04.0	
	comp=E,14μm,0.4s						
PB07	**Plate Boundary**	**3.67**	**311**	⇑*i*P	**Pn**	**07 25 21.5**	**+1.3**
PB07				*i* S	**Sn**	**07 26 02.7**	**-1.5**
PB07				AML	AML	07 26 05.1	
	comp=N,3μm,0.4s						
PB01	**Plate Boundary**	**3.92**	**322**	⇑*i*P	**Pn**	**07 25 24.4**	**+1.0**
PB01				*i* S	**Sn**	**07 26 08.3**	**-1.6**
PB01				AML	AML	07 26 13.8	
	comp=N,2μm,0.4s						
HMBC	**Humberstone**	**4.76**	**324**	⇑*i*P	**Pn**	**07 25 33.8**	**-0.5**
HMBC				*i* S	**Sn**	**07 26 26.1**	**-3.4**
PSGC	**Pisagua**	**5.45**	**326**	⇑*i*P	**Pn**	**07 25 41.8**	**-1.5**
PSGC				*i* S	**Sn**	**07 26 41.2**	**-4.4**
MNMC	**Minimini**	**5.61**	**333**	⇑*i*P	**Pn**	**07 25 45.6**	**0.0**
MNMC				*i* S	**Sn**	**07 26 46.5**	**-3.2**
LCO	**Las Campanas**	**5.90**	**214**	*e*Pn	**Pn**	**07 25 49.6**	**+0.3**
LCO				*e*Sn	**Sn**	**07 26 54.9**	**-1.7**
CFAA	**Coronel Fontan**	**7.50**	**189**	P	**Pn**	**07 26 10.4**	**+0.1**
CFAA				S	**Sn**	**07 27 31.4**	**-3.0**
CFAA	**Coronel Fontan**	**7.50**	**189**	P	**Pn**	**07 26 10.4**	**+0.1**
	comp=N,1.4nm,0.3s,baz=2.5,slow=12,SNR=257						
CFAA				S	**Sn**	**07 27 31.4**	**-3.0**
	comp=N,2.2nm,0.3s,baz=72,slow=24,SNR=15						
LPAZ	**La Paz**	**7.93**	**351**	*e*Pn	**Pn**	**07 26 17.6**	**+0.9**
LPAZ				*e*Sn	**Sn**	**07 27 46.4**	**+0.8**
LPAZ	**La Paz**	**7.93**	**351**	P	**Pn**	**07 26 17.9**	**+1.3**
	comp=N,17nm,0.3s,baz=163,slow=7.3,SNR=404						
LPAZ				S	**Sn**	**07 27 44.3**	**-1.3**
	comp=N,3.0nm,0.3s,baz=30,slow=20,SNR=3.2						
CPUP	**Villa Florida**	**8.93**	**106**	*e*Pn	**Pn**	**07 26 30.1**	**+0.9**
	comp=N,81nm,0.5s						
CPUP	**Villa Florida**	**8.93**	**106**	P	**Pn**	**07 26 30.2**	**+0.9**
	comp=N,4.0nm,0.3s,baz=263,slow=10,SNR=29						
SIV	**San Ignacio**	**9.81**	**35**	P	**Pn**	**07 26 41.4**	**+0.4**
SIV				S	Sn	07 28 21.9	-8.1
SIV	**San Ignacio**	**9.81**	**35**	P	**Pn**	**07 26 41.4**	**+0.4**
	comp=N,5.8nm,0.3s,baz=225,slow=13,SNR=36						
SIV				S	Sn	07 28 21.9	-8.1
	baz=207,slow=15,SNR=6.0						
TRQA	**Tornquist**	**14.47**	**164**	*e*Pn	**Pn**	**07 27 39.7**	**-1.0**
TRQA				*e*Sn	**S**	**07 30 26.9**	**-0.4**
SAML	**Samuel**	**15.55**	**14**	*e*P	**Pn**	**07 27 53.5**	**-0.7**
	comp=N,6.8nm,0.8s						
PLCA	**Paso Flores**	**16.80**	**190**	*e*P	**Pn**	**07 28 10.3**	**+1.0**
	comp=N,14nm,0.8s						
PLCA	**Paso Flores**	**16.80**	**190**	P	**Pn**	**07 28 09.8**	**+0.5**
	comp=N,0.6nm,0.3s,baz=5.0,slow=11,SNR=16						
BB16B	**Bebedouro**	**17.20**	**83**	⇑*i*P	**Pn**	**07 28 14.6**	**+0.3**
BB16B				*i*		07 28 16.8	
BB16B				*i*		07 28 19.8	
BB16B				*i*		07 28 22.4	
BDFB	**Brasilia**	**19.67**	**68**	*e*P	**Pn**	**07 28 41.2**	**-2.2**
BDFB	**Brasilia**	**19.67**	**68**	P	**P**	**07 28 40.6**	**+0.3**
	comp=N,2.8nm,0.3s,baz=233,slow=9.3,SNR=29						
ATAH	**Atahualpa**	**20.21**	**325**	P	**P**	**07 28 47.3**	**+0.9**
ATAH	**Atahualpa**	**20.21**	**325**	P	**P**	**07 28 47.3**	**+0.9**
	comp=N,3.6nm,0.7s,baz=128,slow=12,SNR=3.4						
ROSC	**El Rosal**	**29.75**	**345**	P	**P**	**07 30 16.6**	**+1.4**
ROSC	**El Rosal**	**29.75**	**345**	P	**P**	**07 30 16.6**	**+1.4**
	comp=N,2.7nm,0.5s,baz=102,slow=22,SNR=6.1						
USHA	**Ushuaia**	**30.64**	**182**	P	**P**	**07 30 23.2**	**+0.9**
USHA	**Ushuaia**	**30.64**	**182**	P	**P**	**07 30 23.2**	**+0.9**
	comp=N,6.9nm,0.9s,baz=328,slow=15,SNR=5.1						
SDV	**Santo Domingo**	**33.06**	**353**	*e*P	**P**	**07 30 44.4**	**+0.4**
	comp=N,4.2nm,0.6s						
TGUH	**Tegucigalpa,Un**	**42.89**	**330**	*e*P	**P**	**07 32 06.8**	**+0.7**
	comp=N,15nm,0.8s						
SDDR	**Presa de Saban**	**43.10**	**354**	*e*P	**P**	**07 32 08.3**	**+0.5**
	comp=N,6.8nm,0.7s						
TEIG	**Tepich**	**48.79**	**333**	*e*P	**P**	**07 32 51.4**	**-0.9**
	comp=N,7.8nm,0.6s						
VNA1	**Neumayer--Stat**	**57.16**	**160**	*e*P	**P**	**07 33 54.6**	**+1.8**
VNA2	**Neumayer--Watz**	**57.53**	**160**	*e*P	**P**	**07 33 56.7**	**+1.3**
TIGA	**Tifton**	**57.56**	**343**	⇑⇑P	**P**	**07 33 54.5**	**-1.5**
	baz=58						
SNAA	**Sanae**	**59.16**	**161**	*e*P	**P**	**07 34 07.6**	**+0.8**
SNAA	**Sanae**	**59.16**	**161**	*e*I		07 34 53.9	
SNAA	**Sanae**	**59.16**	**161**	*e*P	**P**	**07 34 07.8**	**+1.0**
	comp=N,5.2nm,0.7s						
SNAA				*e*PcP	**PcP**	**07 34 53.8**	**+0.2**
LRAL	**Lakeview Retre**	**60.03**	**341**	*e*P	**P**	**07 34 11.6**	**-1.5**
	comp=N,6.0nm,0.8s						
KMSC	**Kings Mountain**	**60.55**	**346**	*e*P	**P**	**07 34 16.4**	**-0.2**
KMSC	**Kings Mountain**	**60.55**	**346**	⇓P	**P**	**07 34 16.8**	**+0.1**
	baz=61						
732A	**Laxson Ranch,**	**61.48**	**327**	⇓P	**P**	**07 34 23.2**	**+0.3**
	baz=62						
CPCT	**Cooper Cave**	**61.60**	**344**	*e*P	**P**	**07 34 22.6**	**-1.1**
SWET	**Sewanee**	**61.76**	**342**	*e*P	**P**	**07 34 24.0**	**-0.8**
	comp=N,22nm,0.8s						
632A	**Uvalde**	**62.02**	**328**	⇑P	**P**	**07 34 26.5**	**-0.1**
	baz=62,SNR=7.3						
OXF	**Oxford**	**62.15**	**339**	*e*P	**P**	**07 34 25.9**	**-1.5**
	comp=N,24nm,1.0s						
PLAL	**Pickwick Lake**	**62.16**	**340**	*e*P	**P**	**07 34 25.8**	**-1.7**
	comp=N,11nm,0.8s						
631A	**Perdido Creek**	**62.34**	**327**	⇑P	**P**	**07 34 28.3**	**-0.4**
	baz=63,SNR=11						
532A	**Rocksprings**	**62.59**	**328**	⇓P	**P**	**07 34 30.4**	**-0.1**
	baz=63,SNR=12						
JCT	**Junction City**	**62.84**	**328**	*e*P	**P**	**07 34 31.8**	**-0.2**
	comp=N,18nm,0.8s						
JCT	**Junction City**	**62.84**	**328**	⇓P	**P**	**07 34 31.7**	**-0.3**
	baz=63,SNR=21						
531A	**Rocksprings**	**62.94**	**327**	⇓P	**P**	**07 34 33.0**	**+0.2**
	baz=63,SNR=16						
WHTX	**Lake Whitney**	**63.02**	**331**	⇓P	**P**	**07 34 33.2**	**0.0**
	baz=63						
WVT	**Waverly**	**63.15**	**341**	*e*P	**P**	**07 34 32.4**	**-1.6**
	comp=N,27nm,0.8s						
432A	**Menard**	**63.16**	**328**	⇓P	**P**	**07 34 33.7**	**-0.5**
	baz=63,SNR=14						
530A	**J-C Ranch, Com**	**63.32**	**327**	⇓P	**P**	**07 34 35.2**	**-0.1**
	baz=64,SNR=9.9						
431A	**Sonora**	**63.39**	**328**	⇑P	**P**	**07 34 35.1**	**-0.7**
	baz=64,SNR=9.1						
332A	**Millersview**	**63.56**	**329**	⇓P	**P**	**07 34 36.4**	**-0.4**
	baz=64,SNR=23						
628A	**Black Gap, Mar**	**63.58**	**325**	⇑P	**P**	**07 34 37.4**	**+0.5**
	baz=64,SNR=13						
MIAR	**Mount Ida**	**63.65**	**336**	*e*P	**P**	**07 34 36.8**	**-0.5**
	comp=N,16nm,1.2s						
529A	**Stev Forest Ra**	**63.74**	**326**	⇑P	**P**	**07 34 38.4**	**+0.3**
	baz=64,SNR=12						
430A	**Baggett Ranch,**	**63.79**	**327**	⇓P	**P**	**07 34 37.9**	**-0.5**
	baz=64,SNR=12						
627A	**Terlingua Ranc**	**63.81**	**325**	⇑P	**P**	**07 34 38.8**	**+0.2**
	baz=64,SNR=11						
331A	**San Angelo**	**63.82**	**328**	⇓P	**P**	**07 34 37.9**	**-0.6**
	baz=64,SNR=19						
TXAR	**Lajitas Array**	**63.87**	**324**	P	**P**	**07 34 38.9**	**-0.1**
TXAR				PcP	**PcP**	**07 35 14.0**	**+0.8**
TXAR	**Lajitas Array**	**63.87**	**324**	P	**P**	**07 34 38.9**	**-0.1**
	comp=N,2.8nm,0.8s,baz=152,slow=8.5,SNR=41						
TXAR				PcP	**PcP**	**07 35 14.0**	**+0.8**
	comp=N,0.6nm,0.6s,baz=139,slow=6.0,SNR=4.8						
232A	**Coleman**	**63.93**	**329**	⇑⇑P	**P**	**07 34 38.7**	**-0.5**
	baz=64,SNR=15						
429A	**Davenport Ranc**	**63.98**	**327**	⇓P	**P**	**07 34 39.6**	**0.0**
	baz=64,SNR=13						
528A	**Cox Ranch, San**	**64.07**	**326**	⇑P	**P**	**07 34 39.7**	**-0.6**
	baz=64,SNR=8.9						
PARMO	**Parma**	**64.23**	**340**	*e*P	**P**	**07 34 41.0**	**0.0**
330A	**Mertzon**	**64.26**	**328**	⇑⇑P	**P**	**07 34 40.7**	**-0.8**
	baz=64,SNR=5.2						
231A	**Bronte**	**64.29**	**329**	⇓P	**P**	**07 34 41.1**	**-0.4**
	baz=64,SNR=6.0						
626A	**Big Bend Ranch**	**64.29**	**324**	⇓P	**P**	**07 34 42.2**	**+0.5**
	baz=64,SNR=40						
428A	**Kincaid Ranch,**	**64.47**	**326**	⇑P	**P**	**07 34 42.8**	**-0.1**
	baz=65,SNR=7.1						
527A	**Woodward Ranch**	**64.48**	**325**	⇓P	**P**	**07 34 42.8**	**-0.2**
	baz=65,SNR=13						
ABTX	**Abilene, Hawle**	**64.54**	**330**	*e*P	**P**	**07 34 42.8**	**-0.4**
ABTX	**Abilene, Hawle**	**64.54**	**330**	⇓P	**P**	**07 34 42.8**	**-0.4**
	baz=65,SNR=8.2						
230A	**Sterling City**	**64.63**	**328**	⇑P	**P**	**07 34 43.7**	**-0.1**
	baz=65						
526A	**Mary Lane Ranc**	**64.67**	**325**	⇑P	**P**	**07 34 44.4**	**+0.2**
	baz=65,SNR=25						
329A	**Wagon Wheel Ra**	**64.73**	**327**	⇑P	**P**	**07 34 44.6**	**+0.1**
	baz=65						
131A	**Roby**	**64.93**	**329**	⇑P	**P**	**07 34 45.5**	**-0.2**
	baz=65,SNR=18						
427A	**Hayter Ranch,**	**64.93**	**326**	⇓P	**P**	**07 34 45.9**	**0.0**
	baz=65						
229A	**Bryant Ranch,**	**65.03**	**328**	⇑P	**P**	**07 34 46.4**	**-0.1**
	baz=65						
SIUC	**Southern Illin**	**65.04**	**341**	*e*P	**P**	**07 34 45.0**	**-1.2**
	comp=N,7.3nm,0.6s						
Z32A	**Haskell**	**65.04**	**330**	⇑P	**P**	**07 34 45.9**	**-0.4**
	baz=65,SNR=6.4						
328A	**Wristen Ranch,**	**65.06**	**326**	⇑P	**P**	**07 34 46.4**	**-0.2**
	baz=65,SNR=14						
426A	**McDonald Obser**	**65.11**	**325**	⇓P	**P**	**07 34 47.3**	**+0.2**
	baz=65,SNR=21						
130A	**Snyder**	**65.14**	**329**	⇑P	**P**	**07 34 46.8**	**-0.3**
	baz=65,SNR=18						
Z31A	**Sharp Cattle R**	**65.35**	**330**	⇓P	**P**	**07 34 48.2**	**-0.3**
	baz=66,SNR=16						
327A	**Balmorhea Ranc**	**65.39**	**326**	⇑P	**P**	**07 34 49.3**	**+0.6**
	baz=66						
228A	**UT Block 9, Go**	**65.54**	**327**	⇓P	**P**	**07 34 49.0**	**-0.7**
	baz=66,SNR=6.2						
129A	**Stewart Farms,**	**65.60**	**328**	⇓P	**P**	**07 34 49.7**	**-0.4**
	baz=66,SNR=14						
326A	**Caldwell Ranch**	**65.60**	**325**	⇓P	**P**	**07 34 50.3**	**+0.1**
	baz=66,SNR=15						
Y32A	**R-V Farms, Ver**	**65.61**	**331**	⇑P	**P**	**07 34 49.7**	**-0.3**
	baz=66,SNR=7.1						
BLO	**Bloomington**	**65.63**	**343**	*e*P	**P**	**07 34 48.5**	**-1.5**
	comp=N,21nm,0.6s						
TUL1	**Tulsa**	**65.71**	**335**	*e*P	**P**	**07 34 50.0**	**-0.6**
TUL1	**Tulsa**	**65.71**	**335**	⇑P	**P**	**07 34 50.7**	**+0.1**
	baz=66						
425A	**Indio Mountain**	**65.71**	**324**	⇓P	**P**	**07 34 50.8**	**-0.2**
	baz=66,SNR=18						
Z30A	**Sanderson Ranc**	**65.79**	**329**	⇑P	**P**	**07 34 50.7**	**-0.5**
	baz=66,SNR=8.4						
ACSO	**Alum Creek Sta**	**65.80**	**347**	*e*P	**P**	**07 34 50.0**	**-1.1**
	comp=N,4.7nm,0.5s						
227A	**Bennet, Jal**	**65.81**	**326**	⇓P	**P**	**07 34 51.7**	**+0.3**
	baz=66,SNR=5.8						
128A	**Castleberry Fa**	**65.90**	**327**	⇓P	**P**	**07 34 51.6**	**-0.4**
	baz=66						
WMOK	**Wichita Mounta**	**65.93**	**332**	*e*P	**P**	**07 34 51.2**	**-0.9**
	comp=N,2.0nm,0.7s						
Y31A	**Rekieta Farm,**	**65.94**	**330**	⇓P	**P**	**07 34 52.3**	**+0.1**
	baz=66,SNR=14						
QSPA	**South Pole Qui**	**66.03**	**180**	*e*P	**P**	**07 34 53.8**	**+1.2**
	comp=N,12nm,0.6s						
QSPA	**South Pole Qui**	**66.03**	**180**	P	**P**	**07 34 53.7**	**+1.2**
	comp=N,13nm,0.5s,baz=174,slow=1.0,SNR=189						
Z29A	**Hungry Hill Ra**	**66.04**	**328**	⇓P	**P**	**07 34 52.2**	**-0.7**
	baz=66,SNR=8.4						
325A	**Bean Ranch, Si**	**66.16**	**325**	⇑P	**P**	**07 34 53.7**	**-0.1**
	baz=66,SNR=36						
Y30A	**Stafford Cattl**	**66.17**	**329**	⇑P	**P**	**07 34 53.2**	**-0.4**
	baz=66,SNR=5.2						
226B	**Tecolote Peak,**	**66.30**	**326**	⇓P	**P**	**07 34 54.8**	**+0.3**
	baz=67,SNR=14						
127A	**Arkansas Junct**	**66.37**	**327**	⇓P	**P**	**07 34 54.9**	**-0.1**
	baz=67,SNR=5.6						
X31A	**McDonald Ranch**	**66.37**	**331**	⇑P	**P**	**07 34 54.8**	**-0.1**
	baz=67,SNR=24						
Z28A	**Tucker Farm, M**	**66.39**	**328**	⇑P	**P**	**07 34 54.5**	**-0.6**
	baz=67,SNR=7.9						
324A	**Moseley Ranch,**	**66.49**	**324**	⇑P	**P**	**07 34 55.3**	**-0.6**
	baz=67,SNR=24						
GDL2	**Guadalupe Moun**	**66.50**	**326**	*e*P	**P**	**07 34 55.9**	**0.0**
	comp=N,37nm,0.8s						
Y29A	**Porterfield Fa**	**66.51**	**329**	⇓P	**P**	**07 34 55.5**	**-0.3**
	baz=67,SNR=21						
X30A	**Coker Ranch, T**	**66.63**	**330**	⇑P	**P**	**07 34 56.1**	**-0.5**
	baz=67,SNR=14						
MNTX	**Cornudas Mount**	**66.64**	**325**	*e*P	**P**	**07 34 55.7**	**-1.0**
	comp=N,5.9nm,0.8s						
225A	**Deer Hill, Car**	**66.67**	**325**	⇓P	**P**	**07 34 57.1**	**0.0**
	baz=67,SNR=18						
126A	**Clayton Basin,**	**66.68**	**326**	⇑P	**P**	**07 34 57.2**	**+0.2**
	baz=67,SNR=9.7						
Z27A	**Tatum**	**66.81**	**327**	⇑P	**P**	**07 34 57.5**	**-0.3**
	baz=67						
W31A	**Holland Ranch,**	**66.82**	**331**	⇑P	**P**	**07 34 57.2**	**-0.5**
	baz=67						
Y28A	**McKinney Farm,**	**66.83**	**328**	⇓P	**P**	**07 34 57.2**	**-0.7**
	baz=67,SNR=9.7						
SFIN	**Scholer Farm**	**66.92**	**343**	*e*P	**P**	**07 34 56.0**	**-2.1**
SFIN	**Scholer Farm**	**66.92**	**343**	⇑P	**P**	**07 34 56.1**	**-2.1**
	baz=67,SNR=6.0						
224A	**Cornudas Mount**	**67.01**	**325**	⇓P	**P**	**07 34 58.7**	**-0.4**
	baz=67,SNR=31						
X29A	**Tulia**	**67.01**	**329**	⇑P	**P**	**07 34 58.7**	**-0.3**
	baz=67,SNR=11						
125A	**Gardner Draw,**	**67.02**	**326**	⇓P	**P**	**07 34 58.6**	**-0.6**
	baz=67,SNR=13						
MSTX	**Muleshoe**	**67.13**	**328**	*e*P	**P**	**07 34 59.5**	**-0.3**
MSTX	**Muleshoe**	**67.13**	**328**	⇑P	**P**	**07 34 59.6**	**-0.2**
	baz=67,SNR=19

X23A	Hourglass Bar baz=70	69.31 326	⇓P	P	07 35 14.6 +1.1
LPM	Los Pinos Moun comp=N,11nm,1.1s	69.33 326	eP	P	07 35 14.3 +0.7
S29A	Ulysses baz=70,SNR=6.5	69.38 332	⇑P	P	07 35 14.2 +0.5
T28A	Walsh baz=70,SNR=5.1	69.40 331	⇓P	P	07 35 13.7 -0.2
W24A	Lazy 6 Ranch, baz=70,SNR=8.2	69.42 327	⇓P	P	07 35 14.6 +0.4
Z20A	Nine Sixteen R baz=70,SNR=8.3	69.45 323	⇓P	P	07 35 15.5 +1.2
V25A	Rancho No Teng baz=70,SNR=13	69.53 328	⇑P	P	07 35 15.0 +0.2
U26A	Atchley Ranch, baz=70,SNR=14	69.56 329	⇓P	P	07 35 15.3 +0.3
R30A	Dighton baz=70	69.57 332	⇑P	P	07 35 15.2 +0.4
T27A	Campo baz=70,SNR=8.1	69.63 330	⇓P	P	07 35 15.4 +0.1
Y21A	Point of Rocks baz=70,SNR=11	69.64 325	⇓P	P	07 35 16.8 +1.2
LAZ	Ladron comp=N,1.7nm,0.7s	69.66 325	eP	P	07 35 16.5 +0.8
X22A	Bernardo baz=70	69.68 325	⇑P	P	07 35 17.0 +1.3
S28A	Manter baz=70,SNR=10	69.69 331	⇑P	P	07 35 15.9 +0.3
ANMO	Albuquerque comp=N,11nm,0.9s	69.74 326	eP	P	07 35 16.7 +0.6
W23A	Werner Place, baz=70,SNR=13	69.75 326	⇓P	P	07 35 16.9 +0.7
V24A	Rampart Ranch, baz=70,SNR=13	69.76 327	⇓P	P	07 35 16.7 +0.4
Q31A	Ellis baz=70	69.82 334	⇑P	P	07 35 17.2 +0.9
U25A	Circle Dot Ran baz=70,SNR=10	69.88 328	⇓P	P	07 35 17.3 +0.4
Y20A	Horse Springs, baz=70,SNR=11	69.94 324	⇑P	P	07 35 18.4 +1.0
X21A	Alamocita Cree baz=70,SNR=12	70.04 325	⇓P	P	07 35 19.3 +1.3
W22A	Albuquerque baz=70,SNR=6.6	70.05 326	⇑P	P	07 35 19.2 +1.2
R29A	Marienthal baz=70,SNR=5.7	70.06 332	⇓P	P	07 35 17.8 -0.1
TUC	Tucson comp=N,8.9nm,1.2s	70.07 321	eP	P	07 35 18.9 +0.8
T26A	Comanche Natio baz=70,SNR=12	70.12 330	⇑P	P	07 35 18.9 +0.5
Q30A	Quinter baz=70,SNR=9.9	70.13 333	⇓P	P	07 35 18.6 +0.4
V23A	Ortiz Mt. (NFS baz=70,SNR=8.6	70.23 327	⇓P	P	07 35 20.3 +1.2
R28A	Tribune baz=71,SNR=6.0	70.28 331	⇓P	P	07 35 19.2 0.0
Q29A	Oakley baz=71,SNR=7.0	70.38 332	⇑P	P	07 35 19.9 +0.2
S26A	Kim baz=71,SNR=15	70.43 330	⇓P	P	07 35 20.8 +0.6
T25A	Trinidad baz=71,SNR=12	70.47 329	⇓P	P	07 35 21.4 +0.9
W21A	San Fidel baz=71	70.48 325	⇓P	P	07 35 22.0 +1.4
X20A	Quemado baz=71	70.49 324	⇓P	P	07 35 22.0 +1.3
P30A	Selden baz=71	70.62 333	⇓P	P	07 35 21.5 +0.3
R27A	Eads baz=71	70.67 331	⇓P	P	07 35 22.1 +0.5
U23A	El Rito baz=71,SNR=9.1	70.69 327	⇑P	P	07 35 22.8 +0.9
V22A	San Miguel Ran baz=71,SNR=15	70.72 326	⇑P	P	07 35 23.3 +1.2
O31A	Woolen Ranch, baz=71	70.77 334	⇓P	P	07 35 22.5 +0.5
T24B	San Luis baz=71,SNR=24	70.88 328	⇑P	P	07 35 24.3 +1.2
Q28A	Sharon Springs baz=71	70.89 332	⇓P	P	07 35 23.5 +0.6
S25A	Robets Cordova baz=71,SNR=22	70.91 329	⇑P	P	07 35 24.1 +0.9
W20A	Ramah baz=71,SNR=14	70.93 325	⇑P	P	07 35 24.5 +1.1
P29A	Atwood baz=71	70.96 333	⇓P	P	07 35 24.5 +1.2
R26A	Arlington baz=71,SNR=8.5	70.97 330	⇓P	P	07 35 23.9 +0.4
214A	Organ Pipe Nat baz=71	70.99 320	⇑P	P	07 35 24.8 +1.2
U22A	Llaves baz=71,SNR=5.2	71.06 327	⇓P	P	07 35 25.5 +1.4
O30A	MW Ranch, Wils baz=71	71.08 334	⇑P	P	07 35 24.6 +0.6
T23A	Casias Ranch, baz=71,SNR=6.2	71.17 328	⇓P	P	07 35 25.7 +0.9
KSCO	Kaye Shedlock'	71.19 331	eP	P	07 35 25.3 +0.6
KSCO	Kaye Shedlock' baz=72	71.19 331	⇓P	P	07 35 25.7 +0.9
R25A	Fountain Ranch baz=72,SNR=8.6	71.23 330	⇓P	P	07 35 25.5 +0.5
X18A	Snowflake baz=72,SNR=6.8	71.26 323	⇑P	P	07 35 26.6 +1.2
S24A	Houchin Ranch, baz=72,SNR=9.8	71.26 329	⇓P	P	07 35 26.7 +1.3
P28A	Saint Francis baz=72	71.28 332	⇑P	P	07 35 25.9 +0.7
BGNE	Belgrade	71.39 336	eP	P	07 35 25.8 0.0
BGNE	Belgrade baz=72,SNR=9.9	71.39 336	⇑P	P	07 35 25.8 0.0
V20A	Brimhall baz=72,SNR=7.9	71.43 325	⇓P	P	07 35 27.0 +0.7
SDCO	Great Sand Dun comp=N,3.0nm,0.6s	71.48 329	eP	P	07 35 27.3 +0.6
U21A	Nageezi baz=72,SNR=5.2	71.50 326	⇓P	P	07 35 27.7 +0.9
Q26A	Hugo baz=72	71.51 331	⇓P	P	07 35 27.7 +1.0
T22A	Edith baz=72,SNR=8.0	71.58 327	⇑P	P	07 35 28.6 +1.3
W18A	Petrified Fore baz=72	71.58 324	⇑P	P	07 35 28.6 +1.4
P27A	Ficken Ranch, baz=72	71.62 332	⇑P	P	07 35 28.1 +0.9
N30A	Hueftle Ranch, baz=72	71.62 334	⇑P	P	07 35 28.2 +1.0
M31A	Lambtecht Ranc baz=72	71.65 335	⇑P	P	07 35 28.4 +1.0
R24A	Sanders Place, baz=72,SNR=8.7	71.68 329	⇑P	P	07 35 28.8 +1.0
S23A	Nye Farm, Mont baz=72	71.69 328	⇓P	P	07 35 28.9 +1.0
Q25A	Bedland, Calha baz=72	71.83 330	⇓P	P	07 35 29.2 +0.5
N29A	Votaw Ranch, W baz=72	71.86 334	⇓P	P	07 35 29.4 +0.8
T21A	Navajo Lake baz=72	71.88 327	⇑P	P	07 35 30.1 +1.1
U20A	Newcomb baz=72	71.90 326	⇓P	P	07 35 30.2 +1.0
P26A	Davis Ranch, A baz=72	71.96 331	⇑P	P	07 35 30.3 +0.9
R23A	Moffat baz=72,SNR=9.5	71.99 329	⇓P	P	07 35 30.6 +0.9
X16A	Lo Mia Camp, P baz=72,SNR=12	71.99 322	⇓P	P	07 35 30.7 +1.0
O27A	Beecher Island baz=72,SNR=5.6	72.10 332	⇑P	P	07 35 31.0 +0.9
S22A	4UR Ranch, Cre baz=72,SNR=7.8	72.12 328	⇑P	P	07 35 31.3 +0.7
113A	Mohawk Valley, baz=72	72.13 320	⇑P	P	07 35 31.5 +1.2
P25A	Willow Gulch B baz=73,SNR=7.8	72.28 331	⇑P	P	07 35 32.3 +1.0
Q24A	Divide baz=73,SNR=8.5	72.29 330	⇓P	P	07 35 32.2 +0.7
L31A	Butterfield Fa baz=73,SNR=5.8	72.31 336	⇓P	P	07 35 31.6 +0.4
M29A	Burnside Ranch baz=73	72.41 334	⇓P	P	07 35 32.8 +0.9
L30A	Spencer Herefo baz=73	72.46 335	⇓P	P	07 35 33.1 +0.9
R22A	Saguache, Gunn baz=73,SNR=5.3	72.46 328	⇑P	P	07 35 33.7 +1.1
O26A	Horse Wrangler baz=73	72.50 332	⇓P	P	07 35 33.9 +1.3
S21A	Coal Bank Pass baz=73,SNR=8.6	72.53 327	⇓P	P	07 35 33.8 +0.8
Y14A	Wickenburg baz=73,SNR=6.3	72.53 321	⇓P	P	07 35 33.7 +0.9
MVCO	Mesa Verde comp=N,8.9nm,0.8s	72.53 326	eP	P	07 35 33.7 +0.8
MVCO	Mesa Verde baz=73,SNR=10	72.53 326	⇑P	P	07 35 33.7 +0.8
Q23A	Hartsel baz=73	72.56 329	⇑P	P	07 35 34.4 +1.2
P24A	Kohler Place, baz=73	72.62 330	⇓P	P	07 35 34.8 +1.4
N27A	Anderson Farm, baz=73	72.64 332	⇑P	P	07 35 34.3 +1.0
M28A	Bar X Bar Ranc baz=73	72.64 334	⇑P	P	07 35 34.5 +1.2
WUAZ	Wupatki comp=N,13nm,0.9s	72.77 323	eP	P	07 35 35.3 +1.0
WUAZ	Wupatki baz=73,SNR=13	72.77 323	⇑P	P	07 35 35.4 +1.2
COWI	Conover comp=N,5.9nm,0.6s	72.79 344	eP	P	07 35 32.8 -1.1
ECSD	EROS Data Cent comp=N,13nm,0.9s	72.87 338	eP	P	07 35 33.8 -0.7
P23A	Jefferson baz=73	72.94 329	⇓P	P	07 35 36.9 +1.5
S20A	Disappointment baz=73,SNR=8.1	72.94 327	⇓P	P	07 35 36.6 +1.2
R21A	Cimarron baz=73,SNR=6.6	72.96 328	⇑P	P	07 35 36.2 +0.8
GLA	Glamis baz=73	72.96 319	⇓P	P	07 35 36.5 +1.2
SPMN	St. Paul	72.99 341	eP	P	07 35 33.9 -1.3
SPMN	St. Paul baz=73,SNR=8.2	72.99 341	⇑P	P	07 35 34.1 -1.0
Q22A	Crested Butte, baz=73	73.04 328	⇑P	P	07 35 37.5 +1.5
ISCO	Idaho Springs comp=N,5.2nm,0.8s	73.17 330	eP	P	07 35 37.4 +0.6
ISCO	Idaho Springs baz=73,SNR=9.1	73.17 330	⇑P	P	07 35 37.6 +0.9
O24A	Longmont baz=74	73.19 330	⇑P	P	07 35 37.8 +1.2
R20A	Redvale baz=74,SNR=16	73.23 327	⇓P	P	07 35 38.3 +1.3
Y12C	Blythe baz=74,SNR=5.5	73.28 320	⇑P	P	07 35 38.1 +1.0
SMCO	Snowmass comp=N,9.0nm,0.7s	73.32 329	eP	P	07 35 38.8 +1.1
SYO	Syowa Base	73.36 159	eP	P	07 35 36.6 -0.4
K29A	Lazy Trails An baz=74,SNR=8.0	73.38 335	⇓P	P	07 35 37.9 +0.3
P22A	Eagle baz=74,SNR=5.0	73.54 329	⇑P	P	07 35 39.7 +0.8
SBA	Scott Base comp=N,6.9nm,1.1s	73.54 190	eP	P	07 35 39.8 +1.7
O23A	Lake Granby, G baz=74,SNR=7.3	73.64 330	⇓P	P	07 35 40.4 +1.0
N24A	Carr baz=74	73.67 331	⇓P	P	07 35 40.7 +1.3
K28A	Ten Mile Ranch baz=74	73.75 334	⇑P	P	07 35 41.1 +1.4
BC3	Big Chuckawall baz=74,SNR=6.9	73.76 319	⇓P	P	07 35 41.0 +1.0
Q20A	Ridgley Place, baz=74	73.78 328	⇑P	P	07 35 40.9 +0.8
MONP	Monument Peak baz=74	73.81 318	⇑P	P	07 35 41.9 +1.5
P21A	Newcastle baz=74	73.82 328	⇑P	P	07 35 42.1 +1.7
W13A	Hualapai Mount baz=74	73.87 321	⇑P	P	07 35 42.0 +1.2
O22A	Kremmling baz=74,SNR=8.2	73.89 329	⇓P	P	07 35 41.4 +0.5
U15A	North Rim baz=74,SNR=14	73.94 323	⇑P	P	07 35 42.8 +1.5
K27A	Flueckinger Fa baz=74,SNR=6.0	74.09 334	⇑P	P	07 35 42.6 +0.8
M24A	Cheyenne baz=74,SNR=8.9	74.17 331	⇓P	P	07 35 43.6 +1.3
N23A	Red Feather La baz=74,SNR=6.5	74.20 330	⇑P	P	07 35 43.7 +1.0
P20A	De Beque baz=74	74.25 328	⇓P	P	07 35 44.2 +1.4
J28A	Allard Ranch, baz=75,SNR=8.0	74.30 335	⇑P	P	07 35 43.5 +0.6
PHWY	Pilot Hill comp=N,5.0nm,0.7s	74.31 331	eP	P	07 35 43.8 +0.5
BRSD	Miller	74.31 337	eP	P	07 35 42.4 -0.5
BELC	Belle Mtn. Jos baz=75	74.32 319	⇓P	P	07 35 44.5 +1.2
PFO	Pinyon Flat Ob comp=N,4.1nm,0.6s	74.33 319	eP	P	07 35 44.0 +0.7
PFO	Pinyon Flat Ob baz=75	74.33 319	⇓P	P	07 35 44.7 +1.4
N22A	Wattenberg Ran baz=75,SNR=7.5	74.36 330	⇓P	P	07 35 44.7 +1.1
O21A	Pagoda baz=75	74.37 329	⇑P	P	07 35 45.1 +1.5
I29A	Vivian Onida baz=75,SNR=6.1	74.45 336	⇑P	P	07 35 43.5 -0.2
J27A	Elkhorn Farm, baz=75,SNR=5.7	74.46 334	⇓P	P	07 35 45.1 +1.3
VNDA	Vanda comp=N,4.9nm,1.1s	74.55 190	eP	P	07 35 45.8 +1.9
VNDA	Vanda comp=N,3.1nm,0.9s,baz=132,slow=3.9,SNR=8.1	74.55 190 P		P	07 35 44.7 +0.8
GMRC	Granite Mounta baz=75,SNR=16	74.67 320	⇑P	P	07 35 46.4 +1.1
O20A	White River Ci	74.67 328	eP	P	07 35 45.8 +0.5
O20A	White River Ci baz=75,SNR=11	74.67 328	⇓P	P	07 35 46.4 +1.1
MURC	Murrieta baz=75	74.77 318	⇓P	P	07 35 47.4 +1.6
N21A	Black Mountain baz=75	74.82 329	⇑P	P	07 35 48.2 +2.0
M22A	Cedar Creek Ra baz=75	74.90 330	⇓P	P	07 35 48.1 +1.4
H29A	Onida baz=75	74.93 336	⇓P	P	07 35 46.7 +0.3
J26A	Sides Ranch, S baz=75,SNR=5.5	74.94 334	⇑P	P	07 35 47.7 +1.2
SRU	San Rafael comp=N,11nm,0.6s	75.01 326	eP	P	07 35 47.8 +0.6
BBRC	Big Bear Solar baz=75	75.06 319	⇓P	P	07 35 48.9 +1.2
L23A	Garrett baz=75	75.07 331	⇑P	P	07 35 48.4 +0.8
HEC	Hector,Ludlow baz=75,SNR=9.9	75.10 320	⇓P	P	07 35 49.1 +1.4
EYMN	Ely comp=N,8.6nm,0.6s	75.11 343	eP	P	07 35 46.3 -1.1
I27A	Quinn baz=75	75.16 335	⇑P	P	07 35 48.5 +0.7
K24A	Anderson Ranch baz=76	75.18 332	⇑P	P	07 35 49.4 +1.3
Q16A	Castle Valley	75.20 326	eP	P	07 35 48.9 +0.6
Q16A	Castle Valley baz=76,SNR=5.1	75.20 326	⇓P	P	07 35 49.0 +0.7
O19A	Miners Draw (B baz=76,SNR=9.2	75.23 328	⇑P	P	07 35 49.2 +0.8
N20A	Spence Gulch, baz=76,SNR=6.2	75.23 329	⇓P	P	07 35 49.0 +0.4
TUQ	Turquoise Moun baz=76,SNR=5.1	75.28 320	⇓P	P	07 35 49.6 +0.8
J25A	Sunshine Ranch baz=76	75.30 333	⇑P	P	07 35 49.8 +1.1
L22A	Ellis Ranch, M baz=76	75.33 331	⇓P	P	07 35 50.4 +1.4
CCUT	Cedar City comp=N,16nm,0.8s	75.35 323	eP	P	07 35 50.9 +1.7
M21A	Separation Pea baz=76	75.42 330	⇑P	P	07 35 50.8 +1.2
MVU	Marysvale comp=N,10nm,0.8s	75.43 325	eP	P	07 35 50.8 +1.1
I26A	New Underwood baz=76	75.45 334	⇓P	P	07 35 50.2 +0.7
BFSC	Mount Baldy Ra baz=76	75.48 318	⇓P	P	07 35 50.7 +0.8
RRX	Edison Barstow baz=76	75.53 319	⇓P	P	07 35 51.4 +1.3
K23A	Bowen Ranch, D baz=76	75.56 332	⇓P	P	07 35 51.5 +1.3
G28A	Parade baz=76	75.58 336	⇓P	P	07 35 50.9 +0.8
SHPR	Sheep Range	75.59 322	eP	P	07 35 51.7 +1.1
J24A	Dixon Ranch, L baz=76	75.61 333	⇑P	P	07 35 52.0 +1.6
H27A	Howes baz=76,SNR=11	75.64 335	⇓P	P	07 35 50.8 +0.2
L21A	Rawlins baz=76,SNR=12	75.70 330	⇑P	P	07 35 51.7 +0.6
GSC	Goldstone comp=N,6.3nm,0.8s	75.70 320	eP	P	07 35 52.2 +1.1
GSC	Goldstone baz=76,SNR=5.4	75.70 320	⇑P	P	07 35 52.3 +1.1
M20A	Sweetwater, Wa baz=76,SNR=5.2	75.71 329	⇑P	P	07 35 52.0 +0.8
I25A	Rochford baz=76,SNR=8.9	75.79 334	⇓P	P	07 35 52.5 +0.9
SHOC	Shoshone baz=76	75.81 321	⇓P	P	07 35 52.7 +1.1
F29A	Eureka baz=76	75.83 337	⇓P	P	07 35 51.9 +0.4
K22A	Casper baz=76	75.87 331	⇑P	P	07 35 53.1 +1.1
H26A	Fairpoint baz=76,SNR=5.9	75.90 334	⇓P	P	07 35 52.7 +0.7
RSSD	Black Hills comp=N,11nm,0.6s	76.00 333	eP	P	07 35 53.2 +0.4
I24A	Kuemmerle Ranc baz=76	76.03 333	⇓P	P	07 35 53.8 +1.0
EDW2	Edwards Air Fo baz=76	76.12 319	⇑P	P	07 35 54.2 +0.7
M19A	Rock Springs baz=76	76.17 329	⇑P	P	07 35 54.7 +0.8
K21A	Alcova baz=76,SNR=20	76.18 331	⇑P	P	07 35 54.7 +0.9
L20A	Wamsutter baz=76,SNR=5.5	76.18 329	⇑P	P	07 35 54.6 +0.8
F28A	McLaughlin baz=76	76.19 336	⇑P	P	07 35 53.9 +0.3
MPU	Maple Canyon comp=N,9.1nm,1.1s	76.26 326	eP	P	07 35 55.0 +0.7
LRMC	Laurel Mountai baz=77	76.35 319	⇓P	P	07 35 56.0 +1.2
G26A	Maurine baz=77,SNR=11	76.40 335	⇓P	P	07 35 54.6 -0.2
J22A	Midwest baz=77,SNR=9.6	76.46 331	⇑P	P	07 35 55.7 +0.4
FURC	Furnace Creek, baz=77,SNR=8.4	76.54 321	⇓P	P	07 35 57.0 +1.2
TOA0	Torodi Ar. Sit	76.55 69	eP	P	07 35 55.9 -0.4
TORD	Torodi Ar. Bea	76.55 69	P	P	07 35 55.6 -0.6
TORD	Torodi Ar. Bea comp=N,7.2nm,0.5s,baz=258,slow=5.5,SNR=118	76.55 69	P	P	07 35 55.6 -0.6
D30A	Buchanan baz=77,SNR=5.3	76.55 338	⇓P	P	07 35 55.7 +0.2
G27A	Dupree baz=76,SNR=7.7	76.60 335	⇑P	P	07 35 53.9 -2.0
JLU	Jordanelle comp=N,6.8nm,0.6s	76.61 327	eP	P	07 35 57.5 +1.2
MPMC	Manual Prospec baz=77,SNR=6.3	76.63 320	⇓P	P	07 35 57.1 +0.6
G25A	Newell baz=77,SNR=8.7	76.64 334	⇑P	P	07 35 56.5 +0.3
F27A	Lemmon baz=77	76.66 336	⇑P	P	07 35 56.9 +0.6
AGMN	Agassiz Nation comp=N,16nm,0.9s	76.67 341	eP	P	07 35 55.0 -1.2
K20A	Yellowstone Ra baz=77,SNR=11	76.69 330	⇓P	P	07 35 57.0 +0.3
H24A	Dirks Ranch, A baz=77,SNR=16	76.72 333	⇓P	P	07 35 56.9 +0.2
L19A	Farson baz=77,SNR=6.2	76.73 329	⇓P	P	07 35 57.7 +0.8
E28A	Huff baz=77,SNR=5.3	76.77 337	⇑P	P	07 35 57.1 +0.3
J21A	Lysite baz=77,SNR=7.1	76.83 331	⇑P	P	07 35 57.9 +0.4
I22A	9 Mile Ranch, baz=77,SNR=10	76.84 332	⇓P	P	07 35 57.9 +0.4
M17A	Scullys Gap (B baz=77	76.88 328	⇑P	P	07 35 58.2 +0.4
F26A	Lodgepole baz=77	76.89 335	⇓P	P	07 35 58.3 +0.7
L18A	Fontenelle, Gr baz=77,SNR=20	76.92 328	⇑P	P	07 35 58.7 +0.7
ISA	Isabella comp=N,9.6nm,0.9s	76.94 319	eP	P	07 35 59.4 +1.3
ISA	Isabella baz=77,SNR=8.3	76.94 319	⇓P	P	07 35 59.4 +1.3
E27A	Carson baz=77	76.96 336	⇓P	P	07 35 58.5 +0.6
C30A	Mose, Pekin baz=77	76.98 339	⇑P	P	07 35 58.5 +0.5
DUG	Dugway comp=N,13nm,1.3s	77.00 326	eP	P	07 35 59.3 +0.9
DUG	Dugway baz=77,SNR=8.1	77.00 326	⇑P	P	07 35 59.4 +1.0
K19A	Absolon Red Bu baz=77,SNR=9.6	77.05 330	⇓P	P	07 35 58.9 +0.2
J20A	Shoshoni baz=77,SNR=5.9	77.12 330	⇑P	P	07 35 59.8 +0.8
I21A	Big Trails, Te baz=77,SNR=18	77.13 331	⇑P	P	07 35 59.3 +0.2
R11A	Troy Canyon, C	77.14 323	eP	P	07 36 00.5 +1.2
R11A	Troy Canyon, C baz=77,SNR=13	77.14 323	⇓P	P	07 36 00.5 +1.2
G24A	Alzada baz=77,SNR=11	77.14 334	⇑P	P	07 35 59.4 +0.3
GRAC	Grapevine Rang baz=77	77.21 321	⇓P	P	07 36 00.3 +0.8
CWC	Cottonwood Cre baz=78	77.24 320	⇓P	P	07 36 01.1 +1.2
PKM	Peak Mountain baz=78	77.24 318	⇓P	P	07 36 01.1 +1.1
D28A	Regan baz=78	77.25 337	⇑P	P	07 36 00.4 +0.9
F25A	Bowman baz=78	77.26 335	⇓P	P	07 36 00.3 +0.7
E26A	Carlson Angus baz=78	77.33 336	⇓P	P	07 36 00.4 +0.4
BW06	Boulder Array comp=N,2.8nm,0.6s	77.34 329	eP	P	07 36 00.1 -0.2
PDAR	Pinedale Array	77.34 329	P	P	07 36 00.4 0.0
PDAR	Pinedale Array comp=N,2.7nm,0.6s,baz=133,slow=8.1,SNR=29	77.34 329	P	P	07 36 00.4 0.0
HWUT	Hardware Ranch comp=N,7.4nm,0.6s	77.42 327	eP	P	07 36 01.1 +0.3
VES	Vestal, Richgr baz=78	77.43 319	⇓P	P	07 36 01.8 +1.1
G23A	Biddle baz=78,SNR=13	77.44 333	⇓P	P	07 36 01.0 +0.3
MDND	Maddock	77.48 338	eP	P	07 36 01.0 +0.2
MDND	Maddock baz=78,SNR=11	77.48 338	⇓P	P	07 36 01.1 +0.3
J19A	Crowheart baz=78,SNR=8.8	77.49 330	⇓P	P	07 36 01.8 +0.6
TSUM	Tsumeb comp=N,3.5nm,0.7s	77.52 106	eP	P	07 36 01.9 +0.1
B30A	Myrvik Farm, E baz=78,SNR=7.2	77.58 339	⇑P	P	07 36 01.3 +0.1
F24A	Ekalaka baz=78,SNR=9.3	77.58 334	⇑P	P	07 36 01.6 +0.1
I20A	Worland baz=78,SNR=7.5	77.61 331	⇓P	P	07 36 02.3 +0.6
SMMC	Simmler baz=78,SNR=6.8	77.63 318	⇓P	P	07 36 03.1 +1.2
C28A	Hausauer Farms baz=78	77.64 338	⇑P	P	07 36 01.8 +0.2
BGU	Big Grassy Mou comp=N,9.4nm,1.2s	77.65 326	eP	P	07 36 02.4 +0.3
H21A	Big Horn, Sher baz=78,SNR=15	77.67 332	⇑P	P	07 36 02.2 +0.1
E25A	Miller Ranch, baz=78	77.72 335	⇓P	P	07 36 02.9 +0.8
D26A	Manning baz=78	77.79 336	⇓P	P	07 36 03.5 +0.9
G22A	Birney baz=78,SNR=5.1	77.83 333	⇑P	P	07 36 02.6 -0.2
RCTC	Rector, Farmer baz=78	77.84 319	⇑P	P	07 36 03.4 +0.5
F23A	Volborg baz=78,SNR=12	77.87 334	⇓P	P	07 36 03.3 +0.3
B29A	Wagenman Farm, baz=78,SNR=12	77.93 339	⇑P	P	07 36 03.5 +0.3
H20A	Greybull baz=78	77.98 331	⇑P	P	07 36 03.9 +0.2
A30A	Hoffart Farm, baz=78	78.00 339	⇑P	P	07 36 04.0 +0.4
I19A	Meeteetse baz=78,SNR=7.2	78.07 330	⇓P	P	07 36 05.0 +0.7
E24A	Baker baz=78,SNR=6.2	78.12 335	⇑P	P	07 36 05.0 +0.7
HVU	Hansel Valley comp=N,3.0nm,0.7s	78.15 327	eP	P	07 36 05.0 +0.3
I18A	Diamond G Ranc	78.18 330	⇓P	P	07 36 06.0 +1.0

baz=78,SNR=9.1
G21A **Lodge Grass** 78.22 332 ⇓P P 07 36 05.5 +0.5
baz=78,SNR=10
D25A **Fairfield** 78.22 336 ⇑P P 07 36 05.7 +0.8
baz=78,SNR=6.0
B28A **Dugan Ranch, T** 78.26 338 ⇓P P 07 36 05.3 +0.3
baz=78,SNR=9.4
F22A **Rosebud** 78.26 333 ⇑P P 07 36 05.3 +0.1
baz=78,SNR=10
A29A **Manning Farm,** 78.29 339 ⇑P P 07 36 05.0 -0.2
baz=79,SNR=12
C26A **Wahner Farm, P** 78.34 337 ⇓P P 07 36 06.3 +0.8
baz=79
REDW **Red Top Meadow** 78.40 329 *e*P P 07 36 06.8 +0.5
comp=N,7.8nm,0.8s
SNOW **Snow King Moun** 78.43 329 *e*P P 07 36 07.0 +0.6
comp=N,7.1nm,0.8s
LOHW **Long Hollow** 78.48 329 *e*P P 07 36 07.2 +0.5
comp=N,7.0nm,0.6s
MLAC **Mammoth Lakes** 78.49 320 ⇑P P 07 36 07.7 +0.9
baz=79
B27A **Peters Farms,** 78.53 337 ⇓P P 07 36 07.2 +0.7
baz=79
TPAW **Teton Pass** 78.55 329 *e*P P 07 36 08.0 +0.9
comp=N,6.2nm,0.8s
H19A **Powell** 78.56 331 ⇓P P 07 36 07.5 +0.6
baz=79
D24A **Glendive** 78.58 335 ⇑P P 07 36 07.7 +0.8
baz=79
RRI2 **Red Ridge** 78.61 329 *e*P P 07 36 08.1 +0.6
comp=N,18nm,1.3s
A28A **Rude Farm, Bot** 78.62 338 ⇓P P 07 36 07.0 0.0
baz=79
MOOW **Moose Ponds** 78.65 329 *e*P P 07 36 07.9 +0.4
comp=N,3.3nm,0.6s
G20A **Bridger** 78.65 332 ⇓P P 07 36 07.5 +0.1
baz=79,SNR=18
ELK **Elko** 78.66 325 *e*P P 07 36 08.2 +0.5
comp=N,6.6nm,1.0s
C25A **Freed Ranch, W** 78.67 336 ⇓P P 07 36 08.0 +0.6
baz=79
E22A **Miles City** 78.67 334 ⇓P P 07 36 07.7 +0.3
baz=79
SCHQ **Schefferville** 78.68 0 P P 07 36 06.8 -0.4
SCHQ **Schefferville** 78.68 0 P P 07 36 06.8 -0.4
comp=N,5.3nm,0.6s,baz=177,slow=2.9,SNR=11
I17A **Pilgrim Ck.** 78.70 329 ⇓P P 07 36 09.2 +1.4
baz=79
B26A **Jensen Ranch,** 78.85 337 ⇑P P 07 36 09.2 +0.9
baz=79
IMW **Indian Meadow** 78.85 329 *e*P P 07 36 09.5 +0.7
comp=N,10nm,0.8s
H18A **Shoshone NF, C** 78.87 330 ⇓P P 07 36 09.2 +0.4
baz=79,SNR=17
C24A **Savage** 78.96 335 ⇓P P 07 36 09.6 +0.7
baz=79,SNR=12
D23A **Lindsay** 78.97 334 ⇑P P 07 36 09.8 +0.8
baz=79,SNR=7.5
LAO **LASA Array** 78.98 334 *e*P P 07 36 09.2 +0.1
comp=N,13nm,1.1s
A27A **Ledoux Ranch,** 78.99 338 ⇓P P 07 36 10.0 +1.0
baz=79
RLMT **Red Lodge** 79.03 331 *e*P P 07 36 10.2 +0.5
comp=N,8.8nm,0.6s
F20A **Billings** 79.08 332 ⇑P P 07 36 09.8 +0.2
baz=79,SNR=6.7
I16A **Newdale** 79.09 329 ⇓P P 07 36 10.9 +1.0
baz=79,SNR=10
B25A **Knox Farm, Ray** 79.10 336 ⇓P P 07 36 10.9 +1.2
baz=79
E21A **Keefer Ranch,** 79.22 333 ⇓P P 07 36 11.2 +0.8
baz=80
A26A **Wade Farm, Ken** 79.22 337 ⇓P P 07 36 10.8 +0.5
baz=80
G18A **Lazy EL Ranch,** 79.32 331 ⇓P P 07 36 11.4 +0.3
baz=80,SNR=7.2
D22A **Cohagen** 79.34 334 ⇓P P 07 36 11.9 +0.9
baz=80,SNR=10
WAKR **Walker** 79.43 321 *e*P P 07 36 13.4 +1.5
YMR **Madison River** 79.45 330 *e*P P 07 36 13.1 +1.2
comp=N,11nm,0.7s
F19A **Roth Farm, Mol** 79.46 332 ⇑P P 07 36 12.1 +0.3
baz=80,SNR=14
C23A **Lambert** 79.48 335 ⇓P P 07 36 12.2 +0.5
baz=80
D21A **La Casta Ranch** 79.60 333 ⇓P P 07 36 13.0 +0.5
baz=80,SNR=18
E20A **Meyer Farm, Mu** 79.63 332 ⇓P P 07 36 13.0 +0.4
baz=80,SNR=23
A25A **Svangstu Ranch** 79.64 337 ⇑P P 07 36 13.2 +0.6
baz=80,SNR=5.7
DGMT **Dagmar** 79.65 336 *e*P P 07 36 13.5 +0.8
comp=N,30nm,0.6s
DGMT **Dagmar** 79.65 336 ⇓P P 07 36 13.1 +0.5
baz=80,SNR=9.6
CMB **Columbia Colle** 79.67 320 *e*P P 07 36 13.4 +0.4
comp=N,2.5nm,0.7s
C22A **Vida** 79.70 334 ⇑P P 07 36 13.4 +0.5
baz=80
GCMT **Greycliff** 79.73 331 *e*P P 07 36 13.3 0.0
comp=N,11nm,1.0s
E19A **Rath Farm, Rou** 79.87 332 ⇑P P 07 36 14.3 +0.4
baz=80,SNR=17
A24A **Westby** 79.95 336 ⇓P P 07 36 14.9 +0.6
baz=80,SNR=6.1
D20A **Manuel Ranch,** 80.09 333 ⇑P P 07 36 15.2 +0.1
baz=80,SNR=11
B22A **Reddig Ranch S** 80.20 335 ⇑P P 07 36 15.9 +0.3
baz=80,SNR=5.3
PAHR **Pah Rah Range** 80.21 322 *e*P P 07 36 17.3 +1.3
comp=N,20nm,0.9s
C21A **Desert Coulee** 80.25 334 ⇓P P 07 36 16.0 0.0
baz=80,SNR=19
HLID **Hailey** 80.28 327 *e*P P 07 36 17.3 +1.0
comp=N,15nm,0.8s
HLID **Hailey** 80.28 327 ⇓P P 07 36 17.6 +1.3
baz=80,SNR=34
MCMT **McKenzie Canyo** 80.45 329 *e*P P 07 36 18.4 +1.1
comp=N,6.0nm,1.0s
D19A **Cripps Ranch,** 80.46 332 ⇑P P 07 36 17.1 0.0
baz=81,SNR=11
BOZ **Bozeman (W)** 80.50 330 *e*P P 07 36 17.2 -0.2
comp=N,1.5nm,0.7s
C20A **Veseth Ranch,** 80.53 333 ⇑P P 07 36 17.3 -0.1
baz=81,SNR=10
BOSA **Boshof** 80.58 117 P P 07 36 18.5 +0.1
BOSA **Boshof** 80.58 117 P P 07 36 18.5 +0.1
comp=N,7.2nm,0.4s,baz=260,slow=4.1,SNR=28
B21A **Ellsworth Farm** 80.70 334 ⇓P P 07 36 18.9 +0.7
baz=81,SNR=19
A22A **Carney Farms,** 80.73 335 ⇑P P 07 36 18.9 +0.4
baz=81,SNR=8.8
DLMT **Dillon** 80.73 329 *e*P P 07 36 19.5 +0.8
comp=N,6.5nm,0.7s
DLMT *e* 07 37 21.1
BEKR **Beckworth** 80.87 321 *e*P P 07 36 20.0 +0.4
comp=N,6.3nm,1.2s
MFID **Camas Ranch** 80.88 326 ⇓P P 07 36 20.0 +0.5
baz=81,SNR=5.9
C19A **Slack Wire Ran** 80.98 333 ⇑P P 07 36 20.0 +0.2
baz=81,SNR=9.3
LRM **Limekiln Ridge** 81.01 330 *e*P P 07 36 20.9 +0.7
B20A **Solberg Farm,** 81.12 334 ⇓P P 07 36 20.7 +0.2
baz=81,SNR=11
A21A **Bergtoll Ranch** 81.12 335 ⇑P P 07 36 20.8 +0.3
baz=81
MAW **Mawson** 81.25 163 *e*P P 07 36 21.9 +0.9
comp=N,2.7nm,0.7s
MAW **Mawson** 81.25 163 P P 07 36 21.7 +0.8
comp=N,8.5nm,0.6s,baz=209,slow=5.9,SNR=32
HRY **Holter Researc** 81.40 331 *e*P P 07 36 23.1 +0.9
A20A **Cobblestone Ra** 81.43 334 ⇓P P 07 36 22.1 0.0
baz=82,SNR=15
B19A **Brinkman Farms** 81.51 333 ⇑P P 07 36 22.7 +0.2
baz=82,SNR=5.1
EGMT **Eagleton** 81.51 333 *e*P P 07 36 22.5 -0.1
A19A **Klindworth Far** 81.80 334 ⇓P P 07 36 23.9 -0.2
baz=82,SNR=8.6
MDT **Midelt** 82.07 49 P P 07 36 27.4 +1.5
MDT **Midelt** 82.07 49 P P 07 36 27.4 +1.5
comp=N,4.7nm,1.0s,baz=232,slow=5.2,SNR=5.1
MOD **Modoc** 82.21 323 *e*P P 07 36 27.0 +0.5
comp=N,41nm,1.1s
J08A **Circle Bar Ran** 82.21 325 *e*P P 07 36 27.2 +0.8
comp=N,36nm,1.4s
LBTB **Lobatse** 82.24 114 *e*P P 07 36 27.6 +0.5
comp=N,35nm,1.4s
LBTB **Lobatse** 82.24 114 P P 07 36 27.4 +0.3
comp=N,6.1nm,0.4s,baz=260,slow=6.5,SNR=23
MSO **Missoula** 82.45 330 *e*P P 07 36 28.1 +0.5
comp=N,16nm,1.5s
MSO **Missoula** 82.45 330 ⇓P P 07 36 28.1 +0.5
baz=83,SNR=6.2
SLMT **Seeley Lake** 82.55 330 *e*P P 07 36 28.4 +0.3
SWMT **Swartz Lake** 82.98 330 *e*P P 07 36 30.9 +0.6
K05A **Summer Lake** 83.08 323 *e*P P 07 36 31.9 +0.8
comp=N,22nm,0.8s
I07A **Izee** 83.25 325 *e*P P 07 36 31.8 0.0
comp=N,77nm,2.8s
JTMT **Jette** 83.28 330 *e*P P 07 36 32.3 +0.4
F10A **Beach Ranch, E** 83.41 327 *e*P P 07 36 33.0 +0.5
comp=N,8.7nm,0.6s
BLMT **Blacktail Moun** 83.52 330 *e*P P 07 36 33.7 +0.5
BSMT **Bassoo Peak** 83.59 330 *e*P P 07 36 34.1 +0.6
PINOR **Pine Mountain** 83.80 324 *e*P P 07 36 35.5 +1.2
comp=N,11nm,0.8s
G08A **Pilot Rock** 83.80 326 *e*P P 07 36 34.7 +0.1
comp=N,3.0nm,0.6s
WALA **Waterton Lakes** 84.09 331 *e*P P 07 36 35.8 -0.1
comp=N,0.2nm,0.6s
HUMO **Hull Mountain** 84.15 322 *e*P P 07 36 36.0 -0.3
comp=N,19nm,1.8s
TAM **Tamanrasset** 84.40 62 *e*P P 07 36 38.8 +0.7
comp=N,2.3nm,0.6s
HAWA **Hanford** 84.85 326 *e*P P 07 36 40.0 +0.4
comp=N,9.4nm,0.9s
NEW **Newport** 84.98 329 *e*P P 07 36 40.2 -0.1
comp=N,3.6nm,0.8s
NEW **Newport** 84.98 329 ⇓P P 07 36 40.6 +0.3
baz=85
C09A **Chrisman Ranch** 85.20 328 *e*P P 07 36 41.6 +0.2
comp=N,20nm,0.6s
FCC **Fort Churchill** 85.65 346 *e*P P 07 36 43.3 0.0
LTY **Liberty** 86.01 327 *e*P P 07 36 45.6 +0.1
comp=N,6.4nm,0.7s
B08A **Colville Reser** 86.10 328 *e*P P 07 36 45.2 -0.6
comp=N,15nm,1.5s
ESDC **Sonseca Array** 86.46 44 P P 07 36 48.4 +0.5
ESDC **Sonseca Array** 86.46 44 P P 07 36 48.4 +0.5
comp=N,1.4nm,0.7s,baz=228,slow=5.3,SNR=5.2
D05A **Enumclaw** 86.63 326 *e*P P 07 36 48.0 -0.4
comp=N,16nm,0.8s
EDM **Edmonton** 86.96 334 *e*P P 07 36 48.7 -1.2
A05A **Maple Falls** 87.88 327 *e*P P 07 36 54.2 -0.1
comp=N,14nm,0.6s
PGC **Sidney** 88.33 326 *e*P P 07 36 56.4 0.0
comp=N,0.7nm,0.8s
LSZ **Lusaka** 88.37 106 *e*P P 07 37 00.2 +2.5
comp=N,12nm,1.2s
CASY **Casey** 89.81 179 *e*P P 07 37 04.5 +1.2
comp=N,9.4nm,0.8s
YKA **Yellowknife Ar** 94.31 340 P P 07 37 23.4 -0.4
YKA **Yellowknife Ar** 94.31 340 P P 07 37 23.4 -0.4
comp=N,4.8nm,0.5s,baz=132,slow=4.6,SNR=24
DLBC **Dease Lake** 97.42 332 *e*P P 07 37 38.4 +0.2
ARCES **ARCESS Array B** 113.25 22 PKKPbc PKKPbc 07 53 26.2 -2.9
ARCES **ARCESS Array B** 113.25 22 PKKPbc PKKPbc 07 53 26.2 -2.9
comp=N,2.9nm,0.9s,baz=91,slow=4.9,SNR=4.4
AS31 **Alice Springs** 128.34 205 *e*PKPdf **PKPdf** 07 43 11.0 -0.4
ASAR **Alice Springs** 128.34 205 PKP **PKPdf** 07 43 10.5 -0.9
ASAR **Alice Springs** 128.34 205 PKP **PKPdf** 07 43 10.5 -0.9
comp=N,5.4nm,0.7s,baz=142,slow=2.2,SNR=30
WRA **Warramunga Arr** 131.51 207 PKP **PKPdf** 07 43 17.0 -0.5
WRA SKPbc **SKPbc** 07 46 24.4 -3.2
WRA **Warramunga Arr** 131.51 207 PKP **PKPdf** 07 43 17.0 -0.5
comp=N,4.1nm,0.4s,baz=153,slow=2.0,SNR=44
WRA SKPbc **SKPbc** 07 46 24.4 -3.2
comp=N,2.8nm,0.9s,baz=150,slow=3.4,SNR=13
PETK **Petropavlovsk-** 135.80 323 PKP **PKPdf** 07 43 24.9 +0.5
PETK **Petropavlovsk-** 135.80 323 PKP **PKPdf** 07 43 24.9 +0.5
comp=N,3.2nm,0.7s,baz=111,slow=3.2,SNR=6.0
FITZ **Fitzroy Crossi** 136.24 197 PKP **PKPdf** 07 43 26.5 +0.2
FITZ **Fitzroy Crossi** 136.24 197 PKP **PKPdf** 07 43 26.5 +0.2
comp=N,2.0nm,0.5s,baz=192,slow=4.1,SNR=8.4
BVAR **Borovoye Array** 136.88 37 PKP **PKPdf** 07 43 26.5 +0.1
BVAR **Borovoye Array** 136.88 37 PKP **PKPdf** 07 43 26.5 +0.1
comp=N,1.9nm,0.6s,baz=194,slow=0.6,SNR=6.9
AAK **Ala-Archa** 143.28 50 PKP PKPbc 07 43 36.0 -0.1
AAK *e*PKPdf PKPab 07 43 36.6 +1.7
AAK **Ala-Archa** 143.28 50 PKP PKPbc 07 43 36.0 -0.1
comp=N,3.2nm,0.6s,baz=213,slow=6.4,SNR=6.4
ZAA0 **Zalesovo Array** 143.50 28 *e*PKPdf PKPbc 07 43 36.1 0.0
ZALV **Zalesovo Beam** 143.50 28 PKP PKPbc 07 43 36.1 0.0
ZALV **Zalesovo Beam** 143.50 28 PKP PKPbc 07 43 36.1 0.0
comp=N,11nm,0.5s,baz=303,slow=4.1,SNR=26
KSH **Kashi** 145.22 55 PKP **PKPbc** 07 43 41.9 -0.1
KSH pPKP **pPKPdf** 07 44 24.0 -1.2
KSH PP **PP** 07 47 06.6 +3.6
KSH PKS **PKSdf** 07 47 16.3 -1.3
KSH SKS **SKSdf** 07 50 33.5 -2.5
KSH SKKS **SKKSac** 07 53 38.5 -0.7
KSH AMB AMB
comp=Z,87nm,4.0s
KSH LR LR
comp=N,93nm,5.1s
KSH LR LR
comp=E,88nm,6.9s
KSH LR LR
comp=Z,120nm,6.6s
MK31 **Makanchi Array** 146.60 40 *e*PKPdf **PKPdf** 07 43 44.5 +0.5
MK31 *e*PKPbc **PKPbc** 07 43 46.1 +0.3
MKAR **Makanchi Array** 146.60 40 PKPbc **PKPdf** 07 43 44.3 +0.3
MKAR **Makanchi Array** 146.60 40 PKPbc **PKPdf** 07 43 44.3 +0.3
comp=Z,23nm,0.7s,baz=323,slow=1.6,SNR=102
HYB **Hyderabad** 147.08 95 *i* PKP **PKPdf** 07 43 47.0 +1.4
ASAJ **Asahikawa** 148.76 317 PKPbc **PKPbc** 07 43 51.5 -0.2
ASAJ **Asahikawa** 148.76 317 PKPbc **PKPbc** 07 43 51.5 -0.2
comp=Z,8.0nm,0.7s,baz=306,slow=13,SNR=5.3
KAPI **Kappang** 150.28 193 PKPbc **PKPbc** 07 43 55.7 -0.5
KAPI **Kappang** 150.28 193 PKPbc **PKPbc** 07 43 55.7 -0.5
comp=Z,10nm,0.4s,baz=174,slow=2.6,SNR=16
WMQ **Urumqi** 151.42 40 *e*PKPbc **PKPdf** 07 43 50.8 -1.1
USRK **Ussuriysk Arra** 154.75 327 PKPbc **PKPbc** 07 44 04.7 -0.6
comp=Z,2.0nm,0.7s,baz=74,slow=6.9,SNR=4.4
MJAR **Matsushiro Arr** 155.15 306 PKPab **PKPab** 07 44 23.1 +0.1
MJAR **Matsushiro Arr** 155.15 306 PKPab **PKPab** 07 44 23.1 +0.1
comp=Z,6.5nm,0.9s,baz=82,slow=1.9,SNR=11
MAJO **Matsushiro** 155.15 306 *e*PKPab **PKPab** 07 44 23.3 +0.3
SONM **Songino Array** 155.79 11 PKP **PKPdf** 07 43 57.1 -0.9
SONM PKPab **PKPab** 07 44 25.2 -0.1
SONM **Songino Array** 155.79 11 PKP **PKPdf** 07 43 57.1 -0.9
comp=Z,1.4nm,0.8s,baz=207,slow=1.5,SNR=6.2
SONM PKPab **PKPab** 07 44 25.2 -0.1
comp=Z,2.0nm,0.7s,baz=327,slow=3.9,SNR=7.8
CN2 **Changchun** 157.95 336 *e*PKP **PKPdf** 07 44 01.0 +0.3
GTA **Gaotai** 161.10 33 *e*PKP **PKPdf** 07 44 05.0 +0.3
KSRS **Korea Array** 161.66 320 PKP **PKPdf** 07 44 05.6 +0.5
comp=Z,1.0nm,0.7s,baz=336,slow=2.7,SNR=6.3
KSRS PKPab **PKPab** 07 44 51.1 +0.1
comp=Z,1.3nm,0.7s,baz=52,slow=4.9,SNR=5.7
KSAR **Wonju Array Be** 161.69 320 PKP **PKPdf** 07 44 05.6 +0.4
KSAR PKPab **PKPab** 07 44 51.1 0.0
HHC **Hu-ho-hao-te** 163.32 4 *e*PKP **PKPdf** 07 44 04.3 -2.5
HHC pPKP **pPKPdf** 07 44 47.6 -2.6
HHC sPKP 07 45 04.9
HHC PP **PP** 07 48 43.8 +1.0
HHC SKS **SKSdf** 07 50 52.3 -3.9
HHC SKKS **SKKSac** 07 55 13.8 -2.0
HHC SS **SS** 08 08 54.5 0.0
HHC AMB AMB
comp=Z,260nm,10.7s
HHC LR LR
comp=N,210nm,20.2s
HHC LR LR
comp=E,200nm,17.3s
HHC LR LR
comp=Z,170nm,19.0s
CMAR **Chiang Mai Arr** 165.64 111 PKP **PKPdf** 07 44 10.6 +1.2
CMAR PKPab **PKPab** 07 45 09.6 +0.4
CMAR **Chiang Mai Arr** 165.64 111 PKP **PKPdf** 07 44 10.6 +1.2
comp=Z,0.8nm,0.3s,baz=202,slow=1.9,SNR=4.4
CMAR PKPab **PKPab** 07 45 09.6 +0.4
comp=Z,1.5nm,0.8s,baz=252,slow=5.1,SNR=5.3
LZH **Lanzhou** 165.69 32 *e*PKP **PKPdf** 07 44 09.4 +0.3
LZH pPKP **pPKPdf** 07 44 52.1 -0.5
LZH sPKP 07 45 08.8
LZH LR LR
comp=N,130nm,18.0s
LZH LR LR
comp=E,130nm,18.0s
LZH LR LR
comp=Z,160nm,20.3s
CD2 **Chengdu** 169.34 49 PKP **PKPdf** 07 44 10.1 -1.6
KMI **Kunming** 170.53 82 PKP **PKPdf** 07 44 12.3 -0.5
GYA **Guiyang** 173.75 67 *e*PKP **PKPdf** 07 44 12.8 -1.3
GYA pPKP **pPKPdf** 07 44 56.3 -1.3
GYA sPKP 07 45 13.8
GYA PKPab **PKPab** 07 45 44.0 -1.1
GYA PKS **PKSdf** 07 47 43.5 -3.1
GYA PP **PP** 07 49 37.9 +0.4
GYA AMB AMB
comp=Z,80nm,7.8s

IDC ***15*** *07:28:13.1±0.4, 14°.45S×98°.45E, h0km, mb4.6/33, mb1 4.7/34, mb1mx4.6/36, mbtmp4.6/34, ML4.4/1, MS4.4/29, Ms1 4.4/29, ms1mx4.3/36, Error ellipse: s-maj=12.8km s-min=9.7km az=59.0*
BJI ***15*** *07:28:13.3, 14°.40S×98°.40E, h10km, mB5.2/25, mb4.8/40, Ms4.9/29, Ms7 4.7/30*
MOS ***15*** *07:28:13.0±1.0, 14°.39S×98°.47E, h10km, mb5.1/34, MS4.3/4, Error ellipse: s-maj=11.1km s-min=6.6km az=106.5*
DJA ***15*** *07:28:13.4±0.6, 14°S±5°×9°8E±°, h10km, M5.5/28, mB5.9/17, mb5.5/28, MLv5.5/1, Mw(mB)5.4/17, Mwp5.9/1*
ISCJB ***15*** *07:28:13.2±0.2, 14°.40S±0°.03×98°.48E±0°.03, h10km, mb4.8/92, MS4.5/46, Error ellipse: s-maj=4.6km s-min=4.4km az=148.9*
TEH ***15*** *07:28:15.0, 14°.37S×98°.45E, h10km, ML4.9*
NEIC ***15*** *07:28:15.1±0.2, 14°.45S×98°.45E, h10km, mb4.9/29, Error ellipse: s-maj=6.9km s-min=5.9km az=61.0*
GCMT ***15*** *07:28:16.5±0.1, 14°.46S×98°.41E, h15km, MW5.3, Moment Tensor Solution. s73,c107; s98,c167; Moment tensor: Scale 10^16^Nm; Mrr0.98±.15; Mθθ2.31±.14; Mφφ-3.29±.17; Mrθ-0.79±.39; Mrφ-8.71±.14; Mθr-3.41±.50; Best double couple: Mo9.70000×10^16^ NP1:φs351.00000°, δ86.00000°, λ-19.00000°. NP2:φs82.00000°, δ71.00000°, λ-176.00000°. Principal axes: T 8.9000, Plg11.0000°, Azm38.0000°; N 1.6000, Plg71.0000°, Azm160.0000°; P -10.5000, Plg16.0000°, Azm305.0000°; Data Used: II IU IC G CN.*
BKK ***15*** *07:28:17.4±0.3, 15°S±4°×9°9E±°, h10km, M5.3/27, mB5.5/11, mb4.8/27, MLv6.2/1, Mw(mB)4.9/11*
ISC 15 07:28:15.9±0.4, 14°.48S±0°.04×98°.49E±0°.05, h15km±1km, n279,σ1§48/307, mb4.9/92, MS4.5/46, 12C-8D, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
COCO	**West Island**	**2.79**	**325**	*e*P	Pn	07 28 54.6	-5.5
COCO				*e*		07 29 22.9	
COCO	**West Island**	**2.79**	**325**	*e*Pn	Pn	07 28 54.6	-5.5
COCO				*e*Sn	Sn	07 29 22.9	-11
COCO	**West Island**	**2.79**	**325**	P	Pn	07 28 54.5	-5.5
XMIS	**Christmas Isla**	**8.05**	**61**	*e*Pn	Pn	07 30 07.7	-4.7
XMIS				*e*Sn	**Sn**	**07 31 37.9**	**-5.3**
EGSI	**Enggano, Bengk**	**9.81**	**23**	P	Pn	07 30 32.5	-4.0
	420nm,0.7s,7μm						
KASI	**Kota Agung**	**10.69**	**34**	P	Pn	07 30 45.2	-3.4
	732nm,0.8s,8μm						
LWLI	**Liwa**	**10.89**	**31**	P	**Pn**	**07 30 49.2**	**-2.2**
	716nm,0.6s,15μm						
MNAI	**Manna**	**10.98**	**24**	*e*Pn	**Pn**	**07 30 50.5**	**-2.1**
SBJI	**Serang**	**11.20**	**43**	P	Pn	07 30 58.9	+3.2
BLSI	**Bandar Lampung**	**11.23**	**37**	P	**Pn**	**07 30 54.0**	**-2.1**
	444nm,0.5s,8μm						
DBJI	**Dramaga**	**11.31**	**47**	P	**Pn**	**07 30 54.3**	**-2.9**
	479nm,0.6s,7μm						
MDSI	**Maura Dua**	**11.40**	**30**	P	Pn	07 30 54.9	-3.5
	238nm,0.8s,3μm						
KLI	**Kotabumi**	**11.43**	**34**	P	**Pn**	**07 31 01.2**	**+2.4**
CISI	**Cisompet, Garu**	**11.45**	**54**	P	Pn	07 30 55.7	-3.4
	229nm,1.0s,4μm						
CBJI	**Citeko**	**11.48**	**47**	P	Pn	07 30 55.4	-4.0
	1μm,0.8s						
LHSI	**Lahat**	**11.69**	**26**	P	**Pn**	**07 31 01.1**	**-1.3**
	220nm,0.9s,4μm32μm						
LEM	**Lembang**	**11.76**	**51**	P	**Pn**	**07 31 03.1**	**-0.3**
	452nm,0.7s,5μm						
KPJI	**Karang Pucung**	**12.47**	**56**	P	**Pn**	**07 31 12.0**	**-1.0**
	137nm,0.8s						
TGJI	**Tegal**	**12.89**	**55**	P	**Pn**	**07 31 17.1**	**-1.7**
	80nm,1.0s						
UGM	**Wanagama**	**13.49**	**62**	*e*Pn	**Pn**	**07 31 25.0**	**-2.0**
UGM	**Wanagama**	**13.49**	**62**	P	**Pn**	**07 31 24.9**	**-2.0**
	243nm,1.4s						
PPBI	**Pangkal Pinang**	**14.38**	**32**	P	**Pn**	**07 31 37.2**	**-2.0**
	95nm,1.2s,8μm						
PWJI	**Pagerwojo**	**14.55**	**65**	P	**Pn**	**07 31 38.3**	**-3.1**
	186nm,1.2s						
NGJI	**Ngawi**	**14.56**	**62**	P	**Pn**	**07 31 42.4**	**+0.8**
	178nm,0.8s						
SJI	**Sawahan**	**14.65**	**64**	P	**Pn**	**07 31 41.9**	**-1.0**
	159nm,0.8s						
GMJI	**Gumukmas**	**15.90**	**69**	P	**Pn**	**07 31 59.2**	**-0.2**
	148nm,0.8s						
BLJI	**Banyuglugur**	**16.26**	**67**	P	**Pn**	**07 32 04.1**	**+0.1**
	80nm,0.9s						
ABJI	**Asem Bagus**	**16.81**	**68**	P	**P**	**07 32 12.4**	**-0.7**
	120nm,0.9s						
MYKOM	**Kota Tinggi**	**17.02**	**19**	P	**Pn**	**07 32 11.2**	**-2.4**
	57nm,2.0s,1μm						
PSI	**Prapat**	**17.18**	**1**	Pn	**Pn**	**07 32 14.7**	**-1.0**
PSI				Sn	**Sn**	**07 35 23.2**	**-3.4**
PSI	**Prapat**	**17.18**	**1**	Pn	**Pn**	**07 32 14.7**	**-1.0**
	1.3nm,0.3s,baz=192,slow=9.1,SNR=4.0						
PSI				Sn	**Sn**	**07 35 23.2**	**-3.4**
	0.4nm,0.3s,baz=270,slow=17,SNR=1.5						
PSI				LR	LR	07 38 08.5	
	comp=Z,1μm,20.5s,baz=176,slow=35						
IPM	**Ipoh**	**19.00**	**8**	*e*P	**P**	**07 32 37.4**	**+0.1**
	259nm,2.2s						
KSM	**Kuching**	**19.70**	**37**	*e*P	**Pn**	**07 32 46.0**	**-0.5**
	376nm,2.6s						
KULM	**Kulim**	**19.76**	**6**	*e*P	**Pn**	**07 32 47.0**	**0.0**
	47nm,1.1s						
MBWA	**Marble Bar**	**21.27**	**111**	*e*P	**P**	**07 33 03.1**	**+1.1**
	280nm,2.1s						
MBWA				*e*S	S	07 36 48.0	-10
SBUM	**Sibu**	**21.64**	**40**	*e*P	**P**	**07 33 06.3**	**+0.4**
	32nm,0.9s						
PKDT	**Phuket**	**22.23**	**360**	P	P	07 33 25.2	+13
KRAB	**Krabi**	**22.57**	**2**	P	P	07 33 22.4	+6.5
	40nm,0.9s,2μm						
KAPI	**Kappang**	**22.95**	**68**	*e*P	**P**	**07 33 19.3**	**-0.7**
	157nm,1.4s						
KAPI				S	**S**	**07 37 28.7**	**-1.2**
KAPI	**Kappang**	**22.95**	**68**	P	**P**	**07 33 19.2**	**-0.7**
	82nm,1.5s,1μm						
KAPI	**Kappang**	**22.95**	**68**	P	**P**	**07 33 19.4**	**-0.7**
	58nm,1.1s,baz=242,slow=11,SNR=10						
KAPI				S	**S**	**07 37 28.7**	**-1.2**
	1.9nm,0.3s,baz=258,slow=20,SNR=1.5						
KAPI				LR	LR	07 41 06.2	
	comp=Z,1μm,19.9s,baz=79,slow=34						
BKSI	**Bulukumba**	**23.15**	**69**	P	**P**	**07 33 21.6**	**-0.4**
	60nm,1.0s,1μm						
MMSI	**Mamuju**	**23.31**	**62**	P	**P**	**07 33 24.1**	**+0.4**
	117nm,1.7s,3μm						
BNSI	**Bone**	**23.53**	**67**	P	**P**	**07 33 26.9**	**+1.0**
NWAO	**Narrogin (SRO)**	**25.06**	**140**	P	**P**	**07 33 40.3**	**+0.4**
NWAO				S	**S**	**07 38 07.2**	**+3.3**
NWAO	**Narrogin (SRO)**	**25.06**	**140**	P	**P**	**07 33 40.3**	**+0.4**
	12nm,0.9s,baz=308,slow=7.3,SNR=3.5						
NWAO				S	**S**	**07 38 07.2**	**+3.3**
	19nm,1.1s,baz=225,slow=4.3,SNR=2.4						
NWAO				LR	LR	07 41 45.5	
	comp=Z,760nm,20.9s,baz=103,slow=32						
FITZ	**Fitzroy Crossi**	**26.30**	**102**	P	**P**	**07 33 50.6**	**-0.6**
FITZ	**Fitzroy Crossi**	**26.30**	**102**	P	**P**	**07 33 50.6**	**-0.6**
	2.7nm,0.8s,baz=285,slow=7.3,SNR=6.1						
FITZ				LR	LR	07 42 31.9	
	comp=Z,983nm,18.8s,baz=281,slow=33						
KKM	**Kota Kinabalu**	**26.93**	**42**	*e*P	**P**	**07 33 57.0**	**0.0**
	6.6nm,0.5s						
UTHA	**Uthaitani**	**29.86**	**2**	P	P	07 34 26.4	+3.4
	3.9nm,0.8s						
CHAI	**Chaiyaphum**	**30.39**	**7**	P	**P**	**07 34 29.0**	**+1.4**
	6.3nm,0.9s						
FORT	**Forrest**	**31.61**	**126**	*e*P	**P**	**07 34 39.7**	**+1.3**
	47nm,0.8s						
SUKH	**Sukhothai**	**31.78**	**2**	P	P	07 34 53.0	+13
CMAR	**Chiang Mai Arr**	**32.73**	**1**	P	**P**	**07 34 48.4**	**+0.1**
CMAR	**Chiang Mai Arr**	**32.73**	**1**	P	**P**	**07 34 48.4**	**+0.1**
	1.5nm,0.3s,baz=195,slow=7.7,SNR=12						

CHTO	**Chiang Mai**	**33.09**	**1**	*e*P	**P**	**07 34 51.8**	**+0.4**
CHTO				pmax	pmax		
comp=Z,4.0nm,0.8s							
CHTO	**Chiang Mai**	**33.09**	**1**	*e*P	**P**	**07 34 51.8**	**+0.4**
comp=Z,3.9nm,0.8s							
CHTO	**Chiang Mai**	**33.09**	**1**	P	P	07 34 55.7	+4.3
comp=Z,7.8nm,1.1s							
ASAR	**Alice Springs**	**34.62**	**111**	P	**P**	**07 35 04.8**	**0.0**
ASAR				PcP	**PcP**	**07 37 38.8**	**-0.5**
ASAR	**Alice Springs**	**34.62**	**111**	P	**P**	**07 35 04.8**	**0.0**
comp=Z,7.0nm,0.6s,baz=286,slow=8.0,SNR=121							
ASAR				PcP	**PcP**	**07 37 38.8**	**-0.5**
comp=Z,0.9nm,0.6s,baz=275,slow=2.5,SNR=3.6							
ASAR				LR	LR	07 47 37.4	
comp=Z,1μm,21.3s,baz=290,slow=34							
AS31	**Alice Springs**	**34.62**	**111**	*e*P	**P**	**07 35 04.7**	**-0.2**
WRA	**Warramunga Arr**	**34.63**	**104**	P	**P**	**07 35 04.3**	**-0.7**
WRA	**Warramunga Arr**	**34.63**	**104**	P	**P**	**07 35 04.3**	**-0.7**
comp=Z,3.3nm,0.7s,baz=274,slow=9.6,SNR=31							
WRA				LR	LR	07 48 23.0	
comp=Z,1μm,18.8s,baz=275,slow=35							
WRAB	**Tennant Creek**	**34.64**	**104**	*e*P	**P**	**07 35 05.1**	**+0.1**
WRAB				pmax	pmax		
comp=Z,8.0nm,0.9s							
WRAB	**Tennant Creek**	**34.64**	**104**	*e*P	**P**	**07 35 05.1**	**+0.1**
comp=Z,7.9nm,0.9s							
QIZ	**Qiongzhong**	**35.13**	**19**	P	**P**	**07 35 07.8**	**-1.3**
QIZ				S	**S**	**07 40 43.9**	**+2.2**
QIZ				sS	**sS**	**07 40 48.8**	**-0.3**
QIZ				pmax	pmax		
comp=Z,29nm,1.8s							
QIZ				LR	LR		
comp=N,1μm,16.1s							
QIZ				LR	LR		
comp=E,680nm,16.3s							
QIZ				LR	LR		
comp=Z,1μm,17.6s							
HYB	**Hyderabad**	**37.30**	**328**	*i* P	**P**	**07 35 26.5**	**-1.3**
BBOO	**Buckleboo**	**38.69**	**125**	*e*P	**P**	**07 35 40.0**	**+0.6**
comp=Z,309nm,0.8s							
KMI	**Kunming**	**39.58**	**6**	P	**P**	**07 35 49.6**	**+2.5**
KMI				pP	**pP**	**07 35 52.4**	**+0.8**
KMI				sP	**sP**	**07 35 53.4**	**0.0**
KMI				PP	**PnPn**	**07 37 25.5**	**+4.3**
KMI				ScP	**ScP**	**07 41 44.3**	**+1.4**
KMI				PcS	**PcS**	**07 41 45.4**	**+0.7**
KMI				S	**S**	**07 41 53.3**	**+3.6**
KMI				sS	**sS**	**07 41 58.8**	**+1.6**
KMI				pmax	pmax		
comp=Z,14nm,0.9s							
KMI				pmax	pmax		
comp=Z,72nm,3.3s							
KMI				LR	LR		
comp=N,690nm,10.7s							
KMI				LR	LR		
comp=E,1μm,15.5s							
KMI				LR	LR		
comp=Z,710nm,11.0s							
KAD	**Karad**	**39.66**	**322**	*e*P	**P**	**07 35 48.0**	**+0.3**
POO	**Poona**	**40.81**	**323**	*e*P	**P**	**07 35 56.0**	**-1.2**
GYA	**Guiyang**	**41.46**	**11**	P	**P**	**07 36 04.3**	**+1.8**
GYA				PP	**PnPn**	**07 37 43.3**	**+0.1**
GYA				PcP	**PcP**	**07 38 02.0**	**+1.7**
GYA				ScP	**ScP**	**07 41 50.4**	**+0.3**
GYA				S	**S**	**07 42 19.6**	**+2.0**
GYA				SS	**SS**	**07 45 18.8**	**-3.5**
GYA				pmax	pmax		
comp=Z,10.0nm,0.8s							
GYA				pmax	pmax		
comp=Z,90nm,4.9s							
GYA				LR	LR		
comp=N,480nm,18.4s							
GYA				LR	LR		
comp=E,310nm,19.0s							
GYA				LR	LR		
comp=Z,450nm,18.2s							
STKA	**Stephens Creek**	**42.93**	**121**	*e*P	**P**	**07 36 15.3**	**+0.9**
comp=Z,3.0nm,0.8s							
STKA	**Stephens Creek**	**42.93**	**121**	P	**P**	**07 36 14.6**	**+0.2**
comp=Z,11nm,0.7s,baz=291,slow=7.4,SNR=36							
STKA				LR	LR	07 53 29.5	
comp=Z,2μm,19.2s,baz=254,slow=35							
LSA	**Lhasa**	**44.49**	**351**	P	**P**	**07 36 27.5**	**+0.1**
LSA				pmax	pmax		
comp=Z,20nm,0.7s							
LSA	**Lhasa**	**44.49**	**351**	*e*P	**P**	**07 36 27.5**	**+0.1**
LSA				pmax	pmax		
comp=Z,23nm,0.6s							
LSA	**Lhasa**	**44.49**	**351**	*e*P	**P**	**07 36 27.5**	**+0.1**
comp=Z,23nm,0.6s							
CD2	**Chengdu**	**45.41**	**6**	P	**P**	**07 36 35.9**	**+1.6**
CD2				pP	**pP**	**07 36 40.4**	**+1.6**
CD2				sP	**sP**	**07 36 42.9**	**+2.3**
CD2				PP	**PP**	**07 38 23.3**	**+2.5**
CD2				S	**S**	**07 43 17.5**	**+2.3**
CD2				sS	**sS**	**07 43 24.5**	**+1.8**
CD2				SS	**ScS**	**07 46 32.8**	**+2.0**
CD2				pmax	pmax		
comp=Z,20nm,0.5s							
CD2				pmax	pmax		
comp=Z,250nm,4.1s							
CD2				LR	LR		
comp=N,1μm,14.3s							
CD2				LR	LR		
comp=Z,960nm,13.1s							
CTA	**Charters Tower**	**45.83**	**104**	P	**P**	**07 36 36.8**	**-1.0**
CTA	**Charters Tower**	**45.83**	**104**	P	**P**	**07 36 36.8**	**-1.0**
comp=Z,3.3nm,0.7s,baz=264,slow=13,SNR=3.2							
WHN	**Wuhan**	**47.30**	**19**	⇑P	P	07 36 52.8	+3.8
WHN				S	**S**	**07 43 45.1**	**+3.0**
WHN				LR	LR		
comp=Z,1μm,16.8s							
ABPO	**Ambohimpanom**	**49.16**	**257**	*e*P	**P**	**07 37 03.1**	**-0.8**
ABPO				pmax	pmax		
comp=Z,12nm,1.0s							
ABPO	**Ambohimpanom**	**49.16**	**257**	*e*P	**P**	**07 37 03.1**	**-0.8**
comp=Z,12nm,1.0s							
OPO	**Ambohidratompo**	**49.22**	**258**	P	**P**	**07 37 04.3**	**-0.1**
OPO	**Ambohidratompo**	**49.22**	**258**	P	**P**	**07 37 04.3**	**-0.1**
comp=Z,8.3nm,0.8s,baz=91,slow=8.5,SNR=11							
XAN	**Xi'an**	**49.26**	**11**	P	**P**	**07 37 04.3**	**+0.1**
XAN				pmax	pmax		
comp=Z,3.0nm,0.8s							
CAN	**Canberra**	**49.70**	**124**	*e*P	**P**	**07 37 08.9**	**+1.2**
CAN				pmax	pmax		
comp=Z,14nm,0.8s							
CAN	**Canberra**	**49.70**	**124**	*e*P	**P**	**07 37 08.9**	**+1.2**
comp=Z,14nm,0.8s							
NJ2	**Nanjing**	**50.22**	**23**	*e*P	**P**	**07 37 12.4**	**+1.0**
NJ2				pmax	pmax		
comp=Z,22nm,1.0s							
SSE	**Sheshan**	**50.29**	**25**	P	**P**	**07 37 12.4**	**+0.4**
SSE				S	**S**	**07 44 26.3**	**+2.0**
SSE				pmax	pmax		
comp=Z,31nm,0.7s							
SSE				pmax	pmax		
comp=Z,160nm,3.8s							
SSE				LR	LR		
comp=N,250nm,16.8s							
SSE				LR	LR		
comp=E,290nm,16.4s							
SSE				LR	LR		
comp=Z,200nm,24.0s							
LZH	**Lanzhou**	**50.55**	**6**	*e*P	**P**	**07 37 14.5**	**+0.4**
LZH				pP	**pP**	**07 37 17.8**	**-0.9**
LZH				sP	**sP**	**07 37 19.3**	**-1.2**
LZH				PP	**PP**	**07 39 11.3**	**+1.2**
LZH				*e*S	**S**	**07 44 27.5**	**-0.5**
LZH				sS	**sS**	**07 44 35.0**	**-0.6**
LZH				*e*SS	**SS**	**07 47 58.6**	**-4.0**
LZH				pmax	pmax		
comp=Z,35nm,1.5s							
LZH				pmax	pmax		
comp=Z,130nm,6.0s							
LZH				LR	LR		
comp=N,450nm,14.5s							
LZH				LR	LR		
comp=E,470nm,15.0s							
LZH				LR	LR		
comp=Z,690nm,18.0s							
MIR	**Mirnyy**	**52.15**	**183**	*e*P	**P**	**07 37 27.0**	**+1.5**
MIR				pmax	pmax		
comp=Z,38nm,1.5s							
CASY	**Casey**	**52.38**	**174**	*e*P	**P**	**07 37 27.1**	**-0.1**
comp=Z,14nm,1.1s							
GTA	**Gaotai**	**53.62**	**1**	*e*P	**P**	**07 37 36.8**	**-0.1**
GTA				pP	**pP**	**07 37 41.3**	**-0.2**
GTA				sP	**sP**	**07 37 44.8**	**+1.5**
GTA				S	**S**	**07 45 10.9**	**+0.8**
GTA				sS	**sS**	**07 45 17.8**	**0.0**
GTA				SS	**SKiKP**	**07 48 51.8**	**-0.3**
GTA				pmax	pmax		
comp=Z,9.0nm,1.1s							
GTA				pmax	pmax		
comp=Z,93nm,5.5s							
GTA				LR	LR		
comp=N,240nm,17.3s							
GTA				LR	LR		
comp=E,550nm,15.9s							
GTA				LR	LR		
comp=Z,290nm,21.9s							
HHC	**Hu-ho-hao-te**	**56.37**	**12**	*e*P	P	07 38 00.3	+3.6
HHC				sP	sP	07 38 06.6	+3.5
HHC				PP	**PP**	**07 40 07.6**	**+5.1**
HHC				PcS	**PcS**	**07 42 55.3**	**+0.9**
HHC				S	**S**	**07 45 50.3**	**+3.4**
HHC				ScS	**ScS**	**07 47 45.5**	**-0.2**
HHC	**Hu-ho-hao-te**	**56.37**	**12**	SS	**SS**	**07 49 37.3**	**+3.0**
HHC				pmax	pmax		
comp=Z,36nm,1.1s							
HHC				pmax	pmax		
comp=Z,230nm,5.0s							
HHC				LR	LR		
comp=N,1μm,16.7s							
HHC				LR	LR		
comp=E,850nm,13.1s							
HHC				LR	LR		
comp=Z,990nm,15.5s							
JNU	**Nakatsue**	**56.55**	**33**	*e*P	**P**	**07 37 57.0**	**-1.1**
comp=Z,24nm,1.5s							
JNU	**Nakatsue**	**56.55**	**33**	P	**P**	**07 37 56.8**	**-1.2**
comp=Z,9.1nm,0.8s,baz=217,slow=5.1,SNR=3.7							
BJI	**Beijing**	**56.68**	**16**	P	**P**	**07 38 00.4**	**+1.6**
BJI				S	**S**	**07 45 48.5**	**-2.3**
BJI				pmax	pmax		
comp=Z,9.0nm,1.0s							
BJI				LR	LR		
comp=N,320nm,22.1s							
BJI				LR	LR		
comp=E,510nm,22.9s							
BJI				LR	LR		
comp=Z,300nm,26.9s							
TJN	**Taejon**	**57.47**	**28**	*i* P	**P**	**07 38 03.8**	**-0.6**
KSH	**Kashi**	**57.68**	**339**	*e*P	**P**	**07 38 03.5**	**-2.5**
KSH				sP	**sP**	**07 38 10.5**	**-2.0**
KSH				PP	**PP**	**07 40 12.3**	**-1.9**
KSH				PcS	**PcS**	**07 42 57.4**	**-2.9**
KSH				S	S	07 45 57.4	-6.8
KSH				pmax	pmax		
comp=Z,10.0nm,0.8s							
KSH				pmax	pmax		
comp=Z,140nm,4.4s							
KSH				LR	LR		
comp=N,250nm,12.1s							
KSH				LR	LR		
comp=E,170nm,10.2s							
KSH				LR	LR		
comp=Z,370nm,15.7s							
MAW	**Mawson**	**57.91**	**195**	*e*P	**P**	**07 38 07.1**	**0.0**
comp=Z,2.3nm,0.8s							
MAW	**Mawson**	**57.91**	**195**	P	**P**	**07 38 06.9**	**-0.2**
comp=Z,9.6nm,0.8s,baz=45,slow=8.5,SNR=10							
MAW				LR	LR	07 57 18.3	
comp=Z,611nm,19.6s,baz=38,slow=30							
KSAR	**Wonju Array Be**	**58.58**	**27**	P	**P**	**07 38 12.6**	**+0.4**
KSRS	**Korea Array**	**58.61**	**27**	P	**P**	**07 38 12.6**	**+0.2**
comp=Z,9.0nm,0.9s,baz=211,slow=7.2,SNR=22							
KSRS				LR	LR	08 03 08.6	
comp=Z,248nm,19.2s,baz=193,slow=36							
WMQ	**Urumqi**	**58.85**	**351**	P	**P**	**07 38 13.4**	**-0.7**
WMQ				pP	**pP**	**07 38 18.0**	**-0.8**
WMQ				sP	**sP**	**07 38 20.4**	**-0.1**
WMQ				PcP	**PcP**	**07 39 02.4**	**-1.0**
WMQ				PP	**PP**	**07 40 25.3**	**+0.8**
WMQ				pmax	pmax		
comp=Z,14nm,1.0s							
WMQ				pmax	pmax		
comp=Z,150nm,4.5s							
WMQ				LR	LR		
comp=E,600nm,24.3s							
WMQ				LR	LR		
comp=Z,150nm,28.0s							
IDAH	**Dahanechah**	**59.73**	**322**	*e*P	**P**	**07 38 19.3**	**-1.3**
TKM2	**Tokmak 2**	**60.86**	**341**	*e*P	**P**	**07 38 26.8**	**-1.3**
TKM2				pmax	pmax		
comp=Z,11nm,0.8s							
TKM2	**Tokmak 2**	**60.86**	**341**	*e*P	**P**	**07 38 26.8**	**-1.3**
comp=Z,12nm,0.8s							
AAK	**Ala-Archa**	**60.96**	**340**	*e*P	**P**	**07 38 27.9**	**-0.8**
AAK				pmax	pmax		
comp=Z,9.0nm,0.9s							
AAK	**Ala-Archa**	**60.96**	**340**	*e*P	**P**	**07 38 27.9**	**-0.8**
comp=Z,9.3nm,0.9s							
AAK	**Ala-Archa**	**60.96**	**340**	P	**P**	**07 38 27.9**	**-0.8**
comp=Z,6.2nm,0.7s,baz=144,slow=7.7,SNR=10							
FRU	**Bishkek**	**61.10**	**340**	*e*P	**P**	**07 38 28.0**	**-1.5**
EKS2	**Erkin-Say**	**61.23**	**339**	*e*P	**P**	**07 38 30.3**	**-0.2**
EKS2				pmax	pmax		
comp=Z,23nm,1.1s							
EKS2	**Erkin-Say**	**61.23**	**339**	*i* P	**P**	**07 38 30.3**	**-0.2**
EKS2	**Erkin-Say**	**61.23**	**339**	*e*P	**P**	**07 38 30.3**	**-0.2**
comp=Z,23nm,1.1s							
IBAF	**Bafgh**	**61.59**	**319**	*e*P	P	07 38 29.5	-3.7
ISRV	**Sarvestan**	**61.80**	**315**	*e*P	**P**	**07 38 33.7**	**-1.2**
KMBO	**Kilima Mbogo**	**61.91**	**277**	*e*P	**P**	**07 38 36.6**	**+0.8**
comp=Z,8.0nm,1.2s							
KMBO	**Kilima Mbogo**	**61.91**	**277**	P	**P**	**07 38 36.6**	**+0.8**
comp=Z,2.6nm,0.6s,baz=49,slow=22,SNR=9.2							
IPAR	**Pars**	**62.13**	**316**	*e*P	**P**	**07 38 35.9**	**-1.2**
SONM	**Songino Array**	**62.43**	**6**	P	**P**	**07 38 38.1**	**-0.4**
SONM	**Songino Array**	**62.43**	**6**	P	**P**	**07 38 38.1**	**-0.4**
comp=Z,1.7nm,0.5s,baz=188,slow=7.0,SNR=9.8							
SONM				LR	LR	08 08 08.3	
comp=Z,320nm,18.4s,baz=299,slow=38							
MK31	**Makanchi Array**	**62.71**	**348**	*c*e*P*	**P**	**07 38 38.2**	**-2.0**
MK31				pmax	pmax		
comp=Z,5.0nm,0.9s							
MK31	**Makanchi Array**	**62.71**	**348**	*e*P	**P**	**07 38 38.4**	**-1.8**
MKAR	**Makanchi Array**	**62.71**	**348**	P	**P**	**07 38 38.3**	**-1.9**
MKAR	**Makanchi Array**	**62.71**	**348**	P	**P**	**07 38 38.3**	**-1.9**
MKAR	**Makanchi Array**	**62.71**	**348**	P	**P**	**07 38 38.3**	**-1.9**
comp=Z,1.9nm,0.8s,baz=144,slow=8.4,SNR=13							
KK31	**Karatay Array**	**62.78**	**337**	*c*e*P*	**P**	**07 38 39.4**	**-1.4**
KK31				pmax	pmax		
comp=Z,7.0nm,0.8s							
KKAR	**Karatay Array**	**62.78**	**337**	*e*P	**P**	**07 38 39.5**	**-1.3**
KKAR				pmax	pmax		
comp=Z,4.0nm,0.7s							
KKAR	**Karatay Array**	**62.78**	**337**	*e*P	**P**	**07 38 39.5**	**-1.3**
comp=Z,3.9nm,0.7s							
IKAZ	**Kazeroun**	**62.92**	**315**	*e*P	**P**	**07 38 41.2**	**-1.2**
CN2	**Changchun**	**63.02**	**22**	*e*P	**P**	**07 38 45.0**	**+2.7**
CN2				*es*P	**sP**	**07 38 52.0**	**+3.2**
CN2				pmax	pmax		
comp=Z,10.0nm,0.6s							
CN2				pmax	pmax		
comp=Z,100nm,3.0s							
CN2				LR	LR		
comp=N,200nm,15.0s							
CN2				LR	LR		
comp=E,200nm,15.0s							
CN2				LR	LR		
comp=Z,300nm,17.0s							
MJAR	**Matsushiro Arr**	**63.08**	**35**	P	**P**	**07 38 41.3**	**-1.7**
MJAR	**Matsushiro Arr**	**63.08**	**35**	P	**P**	**07 38 41.3**	**-1.7**
comp=Z,1.2nm,0.5s,baz=140,slow=6.5,SNR=5.5							
MJAR				LR	LR	08 07 11.2	
comp=Z,176nm,19.0s,baz=245,slow=37							
RAYN	**Ar Rayn**	**64.11**	**305**	*e*P	**P**	**07 38 49.6**	**-0.5**
VLA	**Vladivostok**	**64.98**	**26**	*e*P	**P**	**07 38 54.9**	**-0.3**
VLA				pmax	pmax		
comp=Z,24nm,1.1s							
IANJ	**Anjilo**	**65.18**	**321**	*e*P	**P**	**07 38 56.0**	**-1.1**
MDJ	**Mudanjiang**	**65.27**	**24**	P	**P**	**07 38 57.9**	**+0.8**
MDJ				pP	**pP**	**07 39 01.3**	**-0.5**
MDJ				sP	**sP**	**07 39 02.4**	**-1.1**
MDJ				PcP	**PcP**	**07 39 25.3**	**-4.0**
MDJ				PP	**PP**	**07 41 25.5**	**+4.5**
MDJ				S	**S**	**07 47 43.1**	**+3.0**
MDJ				ScS	**SKSac**	**07 48 50.8**	**-0.9**
MDJ				pmax	pmax		
comp=Z,7.0nm,0.7s							
MDJ				pmax	pmax		
comp=Z,64nm,7.7s							
MDJ				LR	LR		
comp=N,270nm,22.0s							
MDJ				LR	LR		
comp=E,400nm,23.4s							
MDJ				LR	LR		
comp=Z,380nm,17.6s							
HVS	**Khovu-Aksy**	**65.47**	**357**	*c i* P	**P**	**07 38 57.6**	**-0.8**
HVS				pmax	pmax		
comp=Z,26nm,0.9s							
ISFB	**Sefidab**	**65.50**	**319**	*e*P	P	07 38 55.6	-3.4
SYO	**Syowa Base**	**65.66**	**200‖**	*e*P	**P**	**07 38 58.0**	**-1.3**
ISHM	**Shahmirzad**	**65.79**	**321**	*e*P	**PcP**	**07 39 35.5**	**+3.4**
USRK	**Ussuriysk Arra**	**65.90**	**26**	P	**P**	**07 39 01.5**	**+0.3**
comp=Z,9.5nm,0.8s,baz=227,slow=4.8,SNR=16							
USRK				LR	LR	08 06 19.2	
comp=Z,251nm,20.8s,baz=206,slow=35							
TLY	**Talaya**	**66.03**	**4**	*e*P	P	07 39 10.3	+8.4
TLY				*e*S	S	07 48 11.5	+22
TLY				pmax	pmax		
comp=Z,17nm,1.1s							
TLY				MLR	MLR		
comp=Z,223nm,15.0s							
IR3	**Iran Long-Peri**	**66.99**	**319**	*e*P	P	07 39 01.9	-6.6
KURBB	**Kurchatov Arra**	**67.15**	**346**	P	**P**	**07 39 07.8**	**-1.2**
comp=Z,5.5nm,0.7s,baz=170,slow=5.8,SNR=48							
KURK	**Kurchatov**	**67.21**	**346**	P	**P**	**07 39 07.8**	**-1.6**
KURK	**Kurchatov**	**67.21**	**346**	P	**P**	**07 39 07.8**	**-1.6**
BOSA	**Boshof**	**68.65**	**245**	P	**P**	**07 39 18.8**	**-0.5**
BOSA	**Boshof**	**68.65**	**245**	P	**P**	**07 39 18.8**	**-0.5**
comp=Z,6.5nm,0.8s,baz=113,slow=6.0,SNR=6.0							
BOSA				LR	LR	08 03 42.8	
comp=Z,353nm,18.1s,baz=106,slow=31							
LBTB	**Lobatse**	**68.71**	**249**	P	**P**	**07 39 19.1**	**-0.6**
LBTB	**Lobatse**	**68.71**	**249**	P	**P**	**07 39 19.1**	**-0.6**
comp=Z,5.0nm,0.9s,baz=101,slow=8.0,SNR=3.4							
ZAA0	**Zalesovo Array**	**69.15**	**351**	*e*P	**P**	**07 39 20.2**	**-1.3**
ZALV	**Zalesovo Beam**	**69.15**	**351**	P	**P**	**07 39 20.6**	**-0.9**
ZALV	**Zalesovo Beam**	**69.15**	**351**	P	**P**	**07 39 20.6**	**-0.9**
ZALV	**Zalesovo Beam**	**69.15**	**351**	P	**P**	**07 39 20.6**	**-0.9**
comp=Z,17nm,0.6s,baz=163,slow=4.5,SNR=30							
ZALV				LR	LR	08 08 19.3	
comp=Z,147nm,21.6s,baz=253,slow=35							
ERM	**Erimo**	**69.66**	**34**	*e*P	**P**	**07 39 23.2**	**-1.7**
ERM				pmax	pmax		
comp=Z,33nm,1.4s							
KLR	**Kul'dur**	**69.92**	**23**	*e*P	P	07 39 21.7	-4.7
KLR				*e*		07 39 25.4	
KLR				pmax	pmax		
comp=Z,56nm,1.8s							
NVS	**Novosibirsk**	**70.25**	**351⇑**	*i* P	**P**	**07 39 27.0**	**-1.3**
NVS				*e*S	S	07 48 32.5	-7.0
NVS				pmax	pmax		
comp=Z,17nm,1.6s							
NVS				pmax	pmax		
comp=N,10.0nm,1.5s							
NVS				pmax	pmax		
comp=E,8.0nm,1.5s							
NVS				smax	smax		
comp=N,16nm,2.5s							
NVS				smax	smax		
comp=E,12nm,2.1s							
VNDA	**Vanda**	**70.31**	**168**	*e*P	**P**	**07 39 27.5**	**-0.9**
comp=E,8.4nm,0.8s							
VNDA	**Vanda**	**70.31**	**168**	P	**P**	**07 39 27.7**	**-0.7**
comp=E,2.7nm,0.8s,baz=308,slow=5.5,SNR=12							
VNDA				LR	LR	08 05 47.3	
comp=E,409nm,18.9s,baz=299,slow=32							
VOSK	**Vostochnaya**	**71.02**	**343**	P	**P**	**07 39 30.9**	**-2.1**
VOSK				pmax	pmax		
comp=Z,22nm,1.0s							
BVA0	**Borovoye Array**	**71.45**	**343**	*i* P	**P**	**07 39 34.3**	**-1.3**
BVA0				pmax	pmax		
comp=Z,16nm,1.2s							
BVAR	**Borovoye Array**	**71.45**	**343**	P	**P**	**07 39 34.5**	**-1.1**
BVAR	**Borovoye Array**	**71.45**	**343**	P	**P**	**07 39 34.5**	**-1.1**
BVAR	**Borovoye Array**	**71.45**	**343**	P	**P**	**07 39 34.5**	**-1.1**
comp=Z,5.7nm,0.7s,baz=147,slow=8.9,SNR=15							
BRVK	**Borovoye**	**71.51**	**342**	*c*e*P*	**P**	**07 39 34.9**	**-1.1**
BRVK				pmax	pmax		
comp=Z,13nm,1.0s							
BRVK	**Borovoye**	**71.51**	**342**	*e*P	**P**	**07 39 34.7**	**-1.3**
comp=Z,11nm,0.8s							
AB31	**Akbulak array**	**72.02**	**335**	*c*e*P*	**P**	**07 39 37.9**	**-1.2**
AB31				pmax	pmax		
comp=Z,9.0nm,0.5s							
ABKAR	**Akbulak array**	**72.02**	**335**	*e*P	**P**	**07 39 38.0**	**-1.1**
comp=Z,9.4nm,0.6s							
URZ	**Urewera**	**72.32**	**126**	P	**P**	**07 39 40.4**	**-0.9**
URZ	**Urewera**	**72.32**	**126**	P	**P**	**07 39 40.4**	**-0.9**
comp=Z,6.8nm,0.6s,baz=259,slow=5.2,SNR=3.4							
IMRD	**Marand**	**72.33**	**319**	*e*P	**P**	**07 39 39.1**	**-2.4**
YSS	**Yuzh-Sakhalins**	**72.89**	**30**	*e*P	P	07 39 48.1	+3.7
AKTO	**Aktyubinsk**	**73.73**	**334**	LR	LR	08 11 21.1	
comp=Z,188nm,21.5s,baz=350,slow=35							
GNI	**Garni**	**73.77**	**320**	LR	LR	08 13 20.7	
comp=Z,128nm,19.1s,baz=103,slow=37							
MAK	**Makhachkala**	**73.80**	**324**	*e*P	P	07 39 42.1	-7.7
MAK				MLR	MLR		
comp=Z,312nm,20.0s							
ASF	**Jabal al Asfar**	**74.98**	**309**	LR	LR	08 09 36.0	
comp=Z,367nm,21.0s,baz=252,slow=33							
EIL	**Elat**	**75.33**	**306**	LR	LR	08 07 53.7	
comp=Z,349nm,21.7s,baz=89,slow=32							
QSPA	**South Pole Qui**	**75.56**	**180**	*e*P	**P**	**07 39 59.4**	**-0.5**
comp=Z,16nm,0.7s							
QSPA	**South Pole Qui**	**75.56**	**180**	P	**P**	**07 39 59.1**	**-0.9**
comp=Z,6.2nm,0.5s,baz=308,slow=0.8,SNR=39							
ZEI	**Tsey**	**75.82**	**322**	*e*P	P	07 40 06.9	+5.1
ZEI				pmax	pmax		
comp=Z,15nm,1.2s							
MMAI	**Mount Meron Ar**	**76.49**	**310**	LR	LR	08 10 35.8	
comp=Z,408nm,21.2s,baz=135,slow=33							
TSUM	**Tsumeb**	**76.94**	**253**	*e*P	**P**	**07 40 10.4**	**+1.7**
comp=Z,19nm,1.8s							
KBZ	**Khabaz**	**76.96**	**322**	P	**P**	**07 40 07.2**	**-0.8**
KBZ	**Khabaz**	**76.96**	**322**	P	**P**	**07 40 07.2**	**-0.8**
KBZ	**Khabaz**	**76.96**	**322**	P	**P**	**07 40 07.2**	**-0.8**
comp=Z,14nm,1.0s,baz=171,slow=4.8,SNR=15							
KBZ				LR	LR	08 13 55.3	
comp=Z,152nm,21.4s,baz=326,slow=36							
KIV	**Kislovodsk**	**77.21**	**322**	*e*P	**P**	**07 40 09.5**	**-0.1**
KIV				*e*S	**S**	**07 49 57.8**	**-1.0**
KIV				*e*SS	**SS**	**07 54 58.1**	**+0.9**
KIV				pmax	pmax		
comp=Z,15nm,1.0s							
KIV				MLR	MLR		
comp=Z,96nm,18.0s							
ARU	**Arti**	**78.11**	**339**	*d i* P	**P**	**07 40 13.1**	**-1.0**
ARU						07 43 04.4	
ARU				S	**S**	**07 50 06.8**	**-0.9**
ARU				SS	**SS**	**07 55 12.5**	**+2.6**
ARU				pmax	pmax		
comp=Z,14nm,1.7s							
SNAA	**Sanae**	**79.89**	**198**	*e*P	**P**	**07 40 23.9**	**0.0**
SNAA	**

VSR pmax pmax
comp=Z,20nm,1.1s
VSR pmax pmax
comp=N,10.0nm,1.3s
VSR pmax pmax
comp=E,10.0nm,0.8s
PETK Petropavlovsk- 84.22 31 P **P 07 40 47.1 +0.4**
PETK Petropavlovsk- 84.22 31 P **P 07 40 47.1 +0.4**
PETK Petropavlovsk- 84.22 31 P **P 07 40 47.1 +0.4**
comp=E,2.2nm,0.8s,baz=261,slow=5.7,SNR=3.9
PETK LR LR 08 17 07.2
comp=E,66nm,19.6s,baz=234,slow=35
PET Petropavlovsk 84.66 32 *eP* P 07 40 40.1 -8.8
PET *eS* S 07 51 01.6 -14
PET *eSS* **SS 07 56 51.0 +3.3**
PET MLR MLR
comp=Z,100nm,17.0s
TIRR Tirgusor 86.39 318 ⇓*iP* **P 07 40 57.5 -0.3**
MOS Moscow 86.46 330 *eP* **P 07 40 56.9 -0.9**
OBN Obninsk 86.64 329 *eP* **P 07 40 57.9 -0.8**
OBN *e* 07 41 01.7
OBN pmax pmax
comp=Z,27nm,1.5s
TLB Topalu 86.69 318 ⇓*iP* **P 07 40 58.1 -1.1**
SEY Seymchan 87.70 22 *eP* **P 07 41 03.6 -0.1**
VRI Vrincioaia 88.05 318 ⇓*iP* **P 07 41 06.0 +0.2**
TIXI Tiksi 88.34 9 *ceP* **P 07 41 06.4 -0.1**
TIXI pmax pmax
comp=Z,7.0nm,0.8s
TESR Tescani 88.35 319 ⇓*iP* **P 07 41 07.4 +0.2**
KLMR Klimovskoe 88.41 335 *eP* **P 07 41 06.0 -1.1**
KLMR pmax pmax
comp=Z,30nm,1.7s
AKASG Malin Array Be 88.49 323 P **P 07 41 06.6 -1.2**
AKASG Malin Array Be 88.49 323 P **P 07 41 06.6 -1.2**
AKASG Malin Array Be 88.49 323 P **P 07 41 06.6 -1.2**
comp=Z,5.3nm,0.6s,baz=92,slow=4.5,SNR=17
AKASG LR LR 08 22 38.7
comp=Z,160nm,20.9s,baz=90,slow=37
KIEV Kiev 88.50 323 *eP* **P 07 41 06.2 -1.6**
KIEV pmax pmax
comp=Z,8.0nm,0.8s
KIEV Kiev 88.50 323 *eP* **P 07 41 06.2 -1.6**
comp=Z,8.4nm,0.8s
BURAR Bucovina Array 89.68 320 ⇑*iP* **P 07 41 15.1 +1.6**
BUR08 Bucovina Ar. S 89.70 320 *eP* **P 07 41 14.3 +0.6**
GZR Gura Zlata 90.45 317 ⇓*iP* **P 07 41 17.7 +0.5**
DEV Deva 90.54 317 ⇑*iP* **P 07 41 18.2 +0.7**
DRGR 90.97 318 ⇑*iP* **P 07 41 20.6 +1.0**
BZS Buzias 91.29 317 ⇑*iP* **P 07 41 20.8 -0.2**
KOLS Kolonicke sedl 91.98 320 *eP* **P 07 41 24.5 +0.4**
CRVS Cervenica-Dubn 92.48 320 *eP* **P 07 41 27.4 +1.0**
STHS Stebnicka Huta 92.78 320 *eP* **P 07 41 27.9 +0.1**
KECS Kecovo 92.95 319 *eP* **P 07 41 28.7 +0.1**
VYHS Vyhne 94.00 319 *eP* **P 07 41 35.6 +2.1**
APA Apatity 94.18 340 ⇓*eP* P 07 41 27.6 -6.2
FINES FINESS Array B 94.43 333 P **P 07 41 35.7 +0.7**
FINES FINESS Array B 94.43 333 P **P 07 41 35.7 +0.7**
comp=Z,0.8nm,0.5s,baz=116,slow=13,SNR=3.2
FINES LR LR 08 25 40.3
comp=Z,304nm,21.2s,baz=90,slow=36
GERES GERESS Array B 97.38 318 P **P 07 41 47.8 -1.1**
GERES GERESS Array B 97.38 318 P **P 07 41 47.8 -1.1**
comp=Z,0.9nm,0.7s,baz=228,slow=1.6,SNR=4.7
KEST Kesra 97.62 305 LR LR 08 24 07.5
comp=Z,52nm,18.7s,baz=337,slow=34
ARCES ARCESS Array B 97.64 340 P **P 07 41 48.9 -0.7**
ARCES ARCESS Array B 97.64 340 P **P 07 41 48.9 -0.7**
comp=Z,3.0nm,0.9s,baz=5.7,slow=1.2,SNR=8.0
ARCES LR LR 08 26 15.1
comp=Z,176nm,18.8s,baz=112,slow=36
TORD Torodi Ar. Bea 99.66 281 LR LR 08 19 03.1
comp=Z,140nm,21.7s,baz=100,slow=31
HFS Hagfors 99.85 330 LR LR 08 26 11.9
comp=Z,124nm,19.8s,baz=100,slow=35
DLMT Dillon 139.56 34 *e*PKPdf **PKPdf 07 47 46.1 +2.7**
PDAR Pinedale Array 142.91 35 PKP **PKPdf 07 47 48.8 -0.8**
PDAR Pinedale Array 142.91 35 PKP **PKPdf 07 47 48.8 -0.8**
comp=Z,0.4nm,0.7s,baz=163,slow=1.1,SNR=4.9
TMUT Trail Mountain 144.06 41 *e*PKPdf **PKPdf 07 47 53.1 +1.3**
Q16A Castle Valley 142.40 41 *e*PKPdf PKPbc 07 47 50.9 +0.5
SRU San Rafael 144.60 41 *e*PKIKP PKPbc 07 47 51.5 +0.2
SRU San Rafael 144.60 41 *e*PKPdf PKPbc 07 47 51.5 +0.2
RSSD Black Hills 144.76 29 *e*PKIKP **PKPab 07 47 51.2 -0.4**
RSSD Black Hills 144.76 29 *e*PKPdf **PKPab 07 47 51.2 -0.4**
RWWY Rawlins 144.92 34 *e*PKPdf **PKPdf 07 47 54.2 +1.0**
O20A White River Ci 145.37 37 *e*PKPdf **PKPab 07 47 54.0 +0.1**
EYMN Ely 145.62 12 *e*PKPdf **PKPdf 07 47 53.1 -0.7**
WUAZ Wupatki 146.00 47 *e*PKPdf **PKPab 07 47 57.5 +1.1**
PHWY Pilot Hill 146.14 33 *e*PKPdf **PKPdf 07 47 55.7 +0.4**
BRSD Miller 146.65 23 *e*PKPdf **PKPbc 07 47 56.6 -0.7**
LPAZ La Paz 146.69 204 PKPbc **PKPdf 07 47 57.0 -0.3**
LPAZ *e*PKPdf **PKPbc 07 47 57.8 -1.1**
LPAZ La Paz 146.69 204 PKPbc **PKPdf 07 47 57.0 -0.3**
comp=Z,6.0nm,0.7s,baz=129,slow=3.9,SNR=17
SMCO Snowmass 146.73 38 *e*PKPdf **PKPbc 07 47 58.0 -0.2**
MVCO Mesa Verde 147.01 42 *e*PKPdf **PKPbc 07 47 58.7 -0.1**
SPMN St. Paul 147.90 15 *e*PKPbc **PKPab 07 48 02.1 -1.1**
TUC Tucson 147.96 51 *e*PKP2 **PKPbc 07 48 02.1 +0.7**
TUC Tucson 147.96 51 *e*PKPbc **PKPbc 07 48 02.1 +0.7**
ECSD EROS Data Cent 148.11 21 *e*PKPdf **PKPdf 07 47 59.7 +1.5**
SDCO Great Sand Dun 148.54 38 *e*PKPbc **PKPbc 07 48 02.2 -0.9**
BGNE Belgrade 149.52 25 *e*PKPbc **PKPbc 07 48 04.3 -0.8**
LAZ Ladron 149.53 45 *e*PKPbc **PKPbc 07 48 06.5 +1.0**
ANMO Albuquerque 149.68 43 *e*PKPbc **PKPbc 07 48 06.1 +0.2**
LPM Los Pinos Moun 149.93 45 *e*PKPbc **PKPbc 07 48 06.7 +0.2**
BNM Barren Site 150.02 45 *e*PKPbc **PKPbc 07 48 07.3 +0.5**
SAML Samuel 150.47 219 *e*PKPbc **PKPbc 07 48 07.2 -0.9**
JFWS Jewell Farm 150.68 13 *e*PKIKP **PKPbc 07 48 06.5 -1.3**
JFWS Jewell Farm 150.68 13 *e*PKPbc **PKPbc 07 48 06.5 -1.3**
KSU1 Kansas State U 152.10 26 *e*PKPbc **PKPbc 07 48 13.3 +2.1**
TXAR Lajitas Array 154.75 51 PKP **PKPdf 07 48 07.9 -0.9**
TXAR PKPab **PKPab 07 48 33.0 +0.7**
TXAR Lajitas Array 154.75 51 PKP **PKPdf 07 48 07.9 -0.9**
comp=Z,0.2nm,0.9s,baz=224,slow=2.5,SNR=3.2
TXAR PKPab **PKPab 07 48 33.0 +0.7**
comp=Z,2.3nm,0.9s,baz=272,slow=1.7,SNR=10.0
WCI Wyandotte Cave 155.97 9 *e*PKPab **PKPab 07 48 39.4 +2.4**
MIAR Mount Ida 157.25 26 *e*PKPab **PKPab 07 48 44.1 +1.5**

IDC 15 07:28:53.0±13.0, 23°.94S×179°.90W, h544km±149km, mb3.4/3, mb1 3.5/4, mb1mx3.1/17, mbtmp3.3/4, Error ellipse: s-maj=157.3km s-min=39.7km az=20.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.50**	**189**	P	P	07 31 57.5	+0.3
	1.2nm,0.3s,baz=344,slow=19,SNR=8.6						
CTA	**Charters Tower**	**31.56**	**270**	P	P	07 34 31.8	+0.4
	3.9nm,0.4s,baz=98,slow=10,SNR=8.6						
ASAR	**Alice Springs**	**42.12**	**261**	P	P	07 35 57.8	-0.2
	1.0nm,0.4s,baz=97,slow=7.9,SNR=7.1						
WRA	**Warramunga Arr**	**42.49**	**266**	P	P	07 36 00.2	-0.7
	1.5nm,0.3s,baz=103,slow=7.7,SNR=30						
MKAR	**Makanchi Array**	**112.24**	**313**	PKiKP	PKiKP	07 46 26.8	-0.1
	0.2nm,0.4s,baz=246,slow=1.4,SNR=2.5						
AKASG	**Malin Array Be**	**145.05**	**327**	PKP	PKPdf	07 47 26.8	-1.5
	0.3nm,0.3s,baz=47,slow=4.4,SNR=4.0						
BRTR	**Keskin Array B**	**147.67**	**307**	PKPbc	PKPbc	07 47 38.7	+1.9
	0.6nm,0.6s,baz=98,slow=4.1,SNR=2.9						
GERES	**GERESS Array B**	**152.92**	**340**	PKPbc	PKPbc	07 47 46.9	-1.8
	0.3nm,0.2s,baz=22,slow=3.2,SNR=2.7						

IGQ 15 07:53:39.9, 0°.87S×81°.33W, h10km±23km, Mb4.2, Ms4.0, 1C-1D, Error ellipse: s-maj=10.2km s-min=5.2km az=8.8, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAMA	**Jama**	**1.28**	**62**	P	Pg	07 54 05.1	+0.5
PECV	**Mancha de Ca P**	**1.28**	**86**	⇓P	Pn	07 53 58.5	-5.4
MAG1	**Magdalena**	**1.75**	**63**	S	Sb	07 54 34.6	+0.4
MAG1	**Magdalena**	**1.75**	**63**	P	Pg	07 54 12.9	-0.6
IGUA	**Igualata**	**2.76**	**103**	P	Pn	07 54 27.5	+2.5
JUA2	**San Juan 2**	**2.80**	**77**	P	Pn	07 54 26.4	+1.0
TERV	**Terraza Guagua**	**2.81**	**76**	P	Pn	07 54 27.2	+1.6
PINO	**Pino**	**2.81**	**75**	P	Pn	07 54 26.1	+0.3
GGP	**Refugio Guagua**	**2.82**	**76**	P	Pn	07 54 26.5	+0.7
CAMI	**Rancho Maria**	**2.83**	**86**	P	Pn	07 54 27.2	+1.4
RIOE	**Riobamba**	**2.83**	**108**	P	Pn	07 54 27.7	+2.0
BNAS	**Cotopaxi Volca**	**2.85**	**86**	⇑P	Pn	07 54 27.8	+1.5
BMOR	**Cotopaxi Volca**	**2.87**	**87**	P	Pn	07 54 27.3	+0.8
MOV1	**Cotopaxi Vol s**	**2.89**	**87**	P	Pn	07 54 28.7	+1.8
BREF	**Cotopaxi Volca**	**2.90**	**86**	P	Pn	07 54 28.4	+1.4
JUI6	**Juive**	**2.91**	**101**	P	Pb	07 54 30.4	-1.9
PITA	**Cotopaxi Volc**	**2.91**	**84**	P	Pn	07 54 28.1	+1.2
BMAS	**Trigal station**	**2.92**	**102**	P	Pn	07 54 28.5	+1.6
VC1	**Cotopaxi 1**	**2.93**	**86**	P	Pn	07 54 29.4	+2.1
BTAM	**Cotopaxi Volca**	**2.94**	**86**	P	Pn	07 54 29.0	+1.6
ARRY	**Arrayan**	**2.94**	**102**	P	Pn	07 54 28.7	+1.4
PISA	**Pisayambo**	**2.95**	**94**	P	Pb	07 54 31.0	-2.3
RUN5	**Runtun**	**2.95**	**101**	S	Sn	07 54 58.8	-4.4
RUN5	**Runtun**	**2.95**	**101**	P	Pn	07 54 30.0	+2.7
PAT1	**Patacocha**	**2.96**	**102**	P	Pn	07 54 29.4	+1.8
BPAT	**Tungurahua Vol**	**2.96**	**102**	P	Pn	07 54 29.3	+1.6
TAMB	**Tambo**	**2.97**	**87**	P	Pn	07 54 30.3	+2.5
BRUN	**Tungurahua Vol**	**2.97**	**101**	P	Pn	07 54 29.7	+2.1
BULB	**Ulba Tungurahu**	**2.97**	**101**	P	Pn	07 54 30.2	+2.5
ULBA	**Ulba**	**2.98**	**101**	P	Pn	07 54 30.3	+2.5
COV1	**Cotopaxi Volc**	**2.99**	**86**	P	Pn	07 54 29.1	+0.8
OTAV	**Otavalo**	**3.08**	**69**	P	Pn	07 54 30.6	+1.3
ANTI	**Antisana**	**3.19**	**82**	S	Sn	07 55 07.5	-2.2
ANTI	**Antisana**	**3.19**	**82**	P	Pn	07 54 33.0	+2.0
COTA	**Cotacachi**	**3.22**	**68**	S	Sn	07 55 07.6	-2.6
COTA	**Cotacachi**	**3.22**	**68**	P	Pn	07 54 34.4	+3.1
CAYR	**Refugio Cayamb**	**3.44**	**75**	P	Pn	07 54 37.6	+3.2
CAYA	**Cayambe**	**3.47**	**74**	P	Pn	07 54 37.7	+3.1

MAN 15 08:06:05, 6°.86N×123°.68E, h2km, mb4.5, ML3.4, MS3.3, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**0.67**	**58**	⇓*iP*	Pg	08 06 18.6	+0.7
CTBH				*i* S	Sb	08 06 28.0	-1.2
PAGZ	**Pagadian**	**1.02**	**344**	*eP*	Pb	08 06 25.6	+0.1
PAGZ				*eS*	Sg	08 06 33.4	-4.6
IPIL	**Ipil**	**1.43**	**310**	*eP*	Pn	08 06 31.6	-0.5
BUKP	**Musuan**	**1.71**	**54**	*eP*	Pn	08 06 36.4	+0.5
DCPH	**Dipolog City**	**1.74**	**349**	⇑*eP*	Pn	08 06 37.0	+0.7
DCPH				*eS*	Sb	08 07 00.2	+0.1
CGP	**Cagayan de Oro**	**1.88**	**32**	⇓*iP*	Pn	08 06 38.6	+0.4
CGP				*i* S	Sn	08 07 03.1	+0.6

IDC 15 08:14:24.6±2.9, 17°.03S×169°.89E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.8/18, mbtmp3.9/5, Error ellipse: s-maj=123.3km s-min=30.2km az=142.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**29.58**	**235**	P	P	08 20 31.7	+0.3
	0.9nm,0.6s,baz=90,slow=5.1,SNR=3.6						
WRA	**Warramunga Arr**	**33.80**	**259**	P	P	08 21 08.1	-0.6
	0.4nm,0.9s,baz=91,slow=9.3,SNR=4.4						
ASAR	**Alice Springs**	**34.31**	**253**	P	P	08 21 12.1	-1.1
	7.0nm,0.7s,baz=79,slow=8.7,SNR=74						
FITZ	**Fitzroy Crossi**	**42.12**	**262**	P	P	08 22 19.7	+0.8
	1.9nm,0.7s,baz=76,slow=8.6,SNR=7.7						
ILAR	**Eielson Array**	**87.95**	**17**	P	P	08 27 14.8	-1.2
	0.3nm,0.8s,baz=238,slow=5.1,SNR=4.1						
DAVOX	**Davos/Dischmat**	**146.03**	**335**	PKPbc	PKPab	08 34 07.2	-0.1
	baz=0.0,slow=1.0						

*IDC **15** 08:19:56.5±2.5, 13°.86N×93°.14W, h0km, mb3.8/5, mb1 4.2/9, mb1mx4.0/24, mbtmp3.9/9, ML4.0/4, MS3.8/2, Ms1 3.8/2, ms1mx2.9/44, Error ellipse: s-maj=54.5km s-min=25.8km az=21.0*
*CASC **15** 08:20:03.7±2.1, 13°.98N×92°.98W, h87km±75km, MD4.2, mb4.3(NEIC)*
*BJI **15** 08:20:05.5, 14°.40N×92°.90W, h35km, mB5.2/2, Ms5.0/4, Ms7 4.7/4*
*NEIC **15** 08:20:07.0, 14°.46N×93°.38W, h12km, mb4.3/13, MD4.4(MEX), After MEX.*
*MEX **15** 08:20:07.0±0.5, 14°.46N×93°.38W, h12km±15km, MD4.3*
ISC 15 08:20:07.4±1.6, 14°.33N±0°.09×93°.27W±0°.05, h55km±11km, n252, σ1$40/229, mb4.2/15, MS4.5/4, 107C-76D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.36**	**2**	*eP*	Pn	08 20 26.2	-4.0
PCIG				*i* S	Sn	08 20 41.8	-5.5
PCIG		**1.36**	**2**	*eP*	Pn	08 20 26.2	-4.0
PCIG				*i* S	Sn	08 20 41.8	-5.5
JAT	**Jato**	**1.58**	**90**	*eP*	Pn	08 20 27.8	-5.4
CCIG	**Comitan**	**2.23**	**29**	*eP*	Pn	08 20 40.3	-1.8
CCIG				*i* S	**Sn**	**08 21 05.4**	**-3.1**
CCIG	**Comitan**	**2.23**	**29**	*eP*	Pn	08 20 40.3	-1.8
CCIG				*i* S	**Sn**	**08 21 05.4**	**-3.1**
FUG	**Fuego 3**	**2.35**	**87**	*eP*	Pn	08 20 37.6	-6.2
TGIG		**2.44**	**3**	*eP*	Pn	08 20 42.1	-2.7
TGIG				*i* S	Sn	08 21 09.5	-4.0
TGIG		**2.44**	**3**	*eP*	Pn	08 20 42.1	-2.7
TGIG				*i* S	Sn	08 21 09.5	-4.0
APG	**El Apazote**	**2.80**	**76**	Pn	Pn	08 20 44.7	-5.2
APG				Sn	**Sn**	**08 21 23.1**	**+0.5**
APG	**El Apazote**	**2.80**	**76**	Pn	Pn	08 20 44.7	-5.2
	12nm,0.3s,baz=266,slow=5.3,SNR=141						
APG				Sn	**Sn**	**08 21 23.1**	**+0.5**
	25nm,0.3s,baz=154,slow=6.4,SNR=6.9						
NBG	**Las Nubes**	**2.84**	**85**	*eP*	Pn	08 20 46.3	-4.3
HUIG	**Huatulco**	**3.09**	**298**	*eP*	Pn	08 20 50.4	-3.4
HUIG				*eS*	Sn	08 21 25.4	-4.1
HUIG	**Huatulco**	**3.09**	**298**	*eP*	Pn	08 20 50.4	-3.4
HUIG				*eS*	Sn	08 21 25.4	-4.1
CMIG	**Matias Romero**	**3.15**	**331**	*eP*	Pn	08 20 52.2	-2.5
CMIG				*i* S	Sn	08 21 26.9	-4.2
CMIG	**Matias Romero**	**3.15**	**331**	*eP*	Pn	08 20 52.2	-2.5
CMIG				*i* S	Sn	08 21 26.9	-4.2
CMIG	**Matias Romero**	**3.15**	**331**	Pn	Pn	08 20 52.4	-2.2
	18nm,0.3s,baz=158,slow=11,SNR=326						
CMIG				Sn	**Sn**	**08 21 31.3**	**+0.2**
	20nm,0.3s,baz=39,slow=17,SNR=6.8						
RBDL	**Robledal**	**3.48**	**93**	*eP*	Pn	08 20 52.8	-6.5
RBDL				*eS*	Sn	08 21 29.3	-10
MRL	**Marmol**	**3.54**	**78**	*eP*	Pn	08 20 55.7	-4.4
RTR	**El Retiro**	**3.54**	**97**	*eP*	Pn	08 20 53.4	-6.7
RTR				*eS*	Sn	08 21 32.7	-8.2
BOQS	**Boqueron**	**3.92**	**98**	*eP*	Pn	08 20 58.5	-6.8
LFU	**La Fuente**	**4.08**	**98**	*eP*	Pn	08 21 00.3	-7.0
LBRS	**Las Brisas**	**4.14**	**98**	*eP*	Pn	08 21 00.7	-7.6
LFRS	**El Faro**	**4.14**	**99**	*eP*	Pn	08 21 01.9	-6.4
VHO	**Vista Hermosa**	**4.31**	**310**	*i* P	Pn	08 21 07.4	-3.2
VHO				*i* S	Sn	08 21 55.5	-4.2
VHO	**Vista Hermosa**	**4.31**	**310**	*i* P	Pn	08 21 07.4	-3.2
VHO				*i* S	Sn	08 21 55.5	-4.2
CAHU	**Cacacuatique**	**4.94**	**96**	*eP*	Pn	08 21 10.3	-9.0
SCIG	**Sabancuy**	**5.02**	**23**	*eP*	Pn	08 21 18.2	-2.1
SCIG				*i* S	**Sn**	**08 22 15.6**	**-1.4**
SCIG	**Sabancuy**	**5.02**	**23**	*eP*	Pn	08 21 18.2	-2.1
SCIG				*i* S	**Sn**	**08 22 15.6**	**-1.4**
PNIG	**Pinotepa**	**5.11**	**294**	*eP*	Pn	08 21 19.2	-2.3
PNIG				*i* S	**Sn**	**08 22 16.0**	**-3.3**
PNIG	**Pinotepa**	**5.11**	**294**	*eP*	Pn	08 21 19.2	-2.3
PNIG				*i* S	**Sn**	**08 22 16.0**	**-3.3**
CNCH	**Conchagua**	**5.38**	**101**	*eP*	Pn	08 21 18.3	-7.0
TGUH	**Tegucigalpa,Un**	**5.82**	**92**	*ePn*	Pn	08 21 25.3	-5.9
TEIG	**Tepich**	**7.55**	**38**	*ePn*	Pn	08 21 50.5	-4.5
TEIG				Sn	Sn	08 23 15.3	-4.0
TEIG	**Tepich**	**7.55**	**38**	Pn	Pn	08 21 50.4	-4.5
	8.2nm,0.3s,baz=243,slow=2.9,SNR=63						
TEIG				Sn	Sn	08 23 15.3	-4.0
	1.6nm,0.3s,baz=342,slow=20,SNR=3.2						
TEIG				LR	LR	08 25 09.7	
	comp=Z,276nm,21.1s,baz=353,slow=40						
732A	**Laxson Ranch,**	**15.62**	**338**	⇑P	**Pn**	**08 23 45.2**	**+1.1**
	baz=16						
632A	**Uvalde**	**16.26**	**339**	⇓P	**Pn**	**08 23 52.3**	**0.0**
	baz=16						
532A	**Rocksprings**	**16.87**	**340**	⇑P	**Pn**	**08 23 59.3**	**-0.6**
	baz=17						
531A	**Rocksprings**	**17.13**	**338**	⇑P	**Pn**	**08 24 04.0**	**+0.9**
	baz=17						
JCT	**Junction City**	**17.16**	**341**	*eP*	**Pn**	**08 24 05.4**	**+1.9**
	5.8nm,1.2s						
JCT	**Junction City**	**17.16**	**341**	⇑P	**Pn**	**08 24 04.3**	**+0.8**
	baz=17						
530A	**J-C Ranch, Com**	**17.41**	**336**	⇓P	**Pn**	**08 24 07.9**	**+1.3**
	baz=18						
628A	**Black Gap, Mar**	**17.51**	**331**	⇑P	**Pn**	**08 24 09.2**	**+1.4**
	baz=18						
432A	**Menard**	**17.52**	**341**	⇓P	**Pn**	**08 24 09.0**	**+1.0**
	baz=18						
431A	**Sonora**	**17.62**	**339**	⇑P	**Pn**	**08 24 10.2**	**+1.1**
	baz=18						
627A	**Terlingua Ranc**	**17.72**	**330**	⇑P	**Pn**	**08 24 12.0**	**+1.5**
	baz=18,SNR=12						
529A	**Stev Forest Ra**	**17.75**	**334**	⇑P	**Pn**	**08 24 12.3**	**+1.5**
	baz=18						
TXAR	**Lajitas Array**	**17.76**	**329**	P	**Pn**	**08 24 12.5**	**+1.5**
TXAR	**Lajitas Array**	**17.76**	**329**	P	**Pn**	**08 24 12.5**	**+1.5**
	0.1nm,0.3s,baz=158,slow=12,SNR=20						
430A	**Baggett Ranch,**	**17.94**	**337**	⇓P	**P**	**08 24 14.5**	**+1.4**
	baz=18						
332A	**Millersview**	**17.98**	**342**	⇑P	**P**	**08 24 14.6**	**+1.1**
	baz=18						
528A	**Cox Ranch, San**	**18.03**	**332**	⇓P	**P**	**08 24 15.7**	**+1.5**
	baz=18						
429A	**Davenport Ranc**	**18.05**	**335**	⇑P	**P**	**08 24 15.4**	**+1.1**
	baz=18,SNR=8.3						
331A	**San Angelo**	**18.13**	**340**	⇑P	**P**	**08 24 16.4**	**+1.3**
	baz=18						
626A	**Big Bend Ranch**	**18.17**	**328**	⇓P	**P**	**08 24 17.9**	**+2.2**
	baz=18						
527A	**Woodward Ranch**	**18.40**	**330**	⇑P	**P**	**08 24 19.6**	**+1.4**
	baz=19,SNR=6.7						
232A	**Coleman**	**18.42**	**343**	⇑P	**P**	**08 24 19.6**	**+1.3**
	baz=19						
428A	**Kincaid Ranch,**	**18.47**	**334**	⇑P	**P**	**08 24 20.3**	**+1.3**
	baz=19						
330A	**Mertzon**	**18.48**	**338**	⇓P	**P**	**08 24 20.1**	**+1.1**
	baz=19						
526A	**Mary Lane Ranc**	**18.56**	**329**	⇑P	**P**	**08 24 21.7**	**+1.7**
	baz=19						
231A	**Bronte**	**18.67**	**341**	⇑P	**P**	**08 24 21.9**	**+0.9**
	baz=19						
329A	**Wagon Wheel Ra**	**18.85**	**336**	⇑P	**P**	**08 24 24.7**	**+1.6**
	baz=19						
230A	**Sterling City**	**18.89**	**339**	⇓P	**P**	**08 24 24.8**	**+1.3**
	baz=19						
427A	**Hayter Ranch,**	**18.89**	**332**	⇑P	**P**	**08 24 26.0**	**+2.4**
	baz=19						
426A	**McDonald Obser**	**19.04**	**330**	⇑P	**P**	**08 24 27.2**	**+2.0**
	baz=19						
328A	**Wristen Ranch,**	**19.09**	**334**	⇓P	**P**	**08 24 27.5**	**+1.8**
	baz=19						
ABTX	**Abilene, Hawle**	**19.11**	**343**	⇓P	**P**	**08 24 27.4**	**+1.5**
	baz=19						
TIGA	**Tifton**	**19.20**	**26**	⇓P	**P**	**08 24 25.7**	**-1.1**
	baz=19						
229A	**Bryant Ranch,**	**19.21**	**337**	⇑P	**P**	**08 24 28.8**	**+1.8**
	baz=19						
326A	**Caldwell Ranch**	**19.55**	**332**	⇓P	**P**	**08 24 32.7**	**+1.9**
	baz=20						
425A	**Indio Mountain**	**19.60**	**329**	⇓P	**P**	**08 24 32.9**	**+1.5**
	baz=20,SNR=6.1						
228A	**UT Block 9, Go**	**19.65**	**336**	⇑P	**P**	**08 24 33.7**	**+1.9**
	baz=20						
Z32A	**Haskell**	**19.71**	**344**	⇑P	**P**	**08 24 32.8**	**+0.4**
	baz=20						
129A	**Stewart Farms,**	**19.83**	**338**	⇓P	**P**	**08 24 34.6**	**+0.8**
	baz=20,SNR=7.8						
227A	**Bennet, Jal**	**19.84**	**334**	⇑P	**P**	**08 24 35.5**	**+1.6**
	baz=20						
Z31A	**Sharp Cattle R**	**19.91**	**343**	⇓P	**P**	**08 24 35.5**	**+0.9**
	baz=20						
128A	**Castleberry Fa**	**20.05**	**337**	⇓P	**P**	**08 24 37.3**	**+1.1**
	baz=20						
325A	**Bean Ranch, Si**	**20.07**	**330**	⇑P	**P**	**08 24 38.8**	**+2.3**
	baz=20						
MIAR	**Mount Ida**	**20.13**	**359**	*eP*	**P**	**08 24 36.9**	**-0.1**
	17nm,1.2s						
Z30A	**Sanderson Ranc**	**20.18**	**341**	⇑P	**P**	**08 24 37.7**	**+0.2**
	baz=20,SNR=7.1						
226B	**Tecolote Peak,**	**20.28**	**332**	⇑P	**P**	**08 24 40.7**	**+2.0**
	baz=20,SNR=5.5						
Z29A	**Hungry Hill Ra**	**20.34**	**339**	⇑P	**P**	**08 24 39.6**	**+0.2**
	baz=20,SNR=9.9						
Y32A	**R-V Farms, Ver**	**20.37**	**345**	⇓P	**P**	**08 24 40.4**	**+0.9**
	baz=20						
324A	**Moseley Ranch,**	**20.38**	**329**	⇓P	**P**	**08 24 41.3**	**+1.4**
	baz=21,SNR=8.7						
127A	**Arkansas Junct**	**20.45**	**335**	⇑P	**P**	**08 24 41.7**	**+1.1**
	baz=21						
Y31A	**Rekieta Farm,**	**20.55**	**343**	⇑P	**P**	**08 24 42.1**	**+0.6**
	baz=21,SNR=9.7						
225A	**Deer Hill, Car**	**20.61**	**331**	⇑P	**P**	**08 24 44.0**	**+1.6**
	baz=21						
Z28A	**Tucker Farm, M**	**20.61**	**338**	⇑P	**P**	**08 24 43.2**	**+0.9**
	baz=21						
Y30A	**Stafford Cattl**	**20.65**	**342**	⇑P	**P**	**08 24 43.3**	**+0.6**
	baz=21,SNR=7.1						
126A	**Clayton Basin,**	**20.70**	**334**	⇓P	**P**	**08 24 44.5**	**+1.2**
	baz=21						
Y29A	**Porterfield Fa**	**20.88**	**340**	⇓P	**P**	**08 24 45.9**	**+0.7**
	baz=21						
ROSC	**El Rosal**	**20.89**	**115**	*eP*	**P**	**08 24 44.8**	**-1.0**
ROSC	**El Rosal**	**20.89**	**115**	P	**P**	**08 24 44.4**

W27A	Bowe Ranch, En baz=23	22.45 339 ⇑P		P	08 25 03.5 +1.4
Z22A	Elephant Butte baz=23	22.58 329 ⇑P		P	08 25 05.4 +2.0
X25A	Clemmons Ranch baz=23	22.59 335 ⇑P		P	08 25 04.8 +1.2
Y23A	Lovelace Mesa, baz=23	22.69 332 ⇓P		P	08 25 06.4 +1.7
V28A	Channing baz=23	22.79 341 ⇑P		P	08 25 07.1 +1.5
120A	U Bar Ranch, L baz=23	22.91 325 ⇑P		P	08 25 08.6 +1.7
X24A	Lazy VL Ranch, baz=23	22.95 334 ⇑P		P	08 25 08.4 +1.0
Z21A	St. Cloud Mine baz=23	22.98 328 ⇑P		P	08 25 09.7 +2.0
U30A	WK&E Inc. Balk baz=23	23.07 345 ⇓P		P	08 25 09.4 +1.0
W25A	X Bar L Ranch, baz=23	23.11 336 ⇑P		P	08 25 09.9 +1.1
Y22A	Socorro baz=23	23.13 330 ⇑P		P	08 25 11.1 +1.9
BNM	Barren Site 3.4nm,0.9s	23.14 331 *e*P		P	08 25 11.1 +1.7
U29A	Oasis Ranch, S baz=23	23.16 343 ⇓P		P	08 25 10.8 +1.4
X23A	Hourglass Bar baz=24	23.29 332 ⇓P		P	08 25 12.6 +1.9
Z20A	Nine Sixteen R baz=24	23.32 326 ⇑P		P	08 25 13.2 +2.3
KMSC	Kings Mountain baz=23	23.34 25 ⇑P		P	08 25 09.7 -1.2
V26A	Tequesquite Ra baz=24	23.37 338 ⇑P		P	08 25 12.8 +1.5
W24A	Lazy 6 Ranch, baz=24	23.49 334 ⇓P		P	08 25 14.1 +1.5
T30A	Plains baz=24	23.54 345 ⇑P		P	08 25 13.5 +0.7
Y21A	Point of Rocks baz=24	23.54 329 ⇓P		P	08 25 14.9 +1.8
U27A	Thompson Grove baz=24,SNR=5.7	23.60 340 ⇑P		P	08 25 14.5 +1.0
V25A	Rancho No Teng baz=24,SNR=6.2	23.71 337 ⇑P		P	08 25 16.2 +1.5
ANMO	Albuquerque 1.4nm,0.8s	23.72 332 *e*P		P	08 25 15.5 +0.7
ANMO	Albuquerque 1.3nm,0.8s,baz=144,slow=7.3,SNR=8.8	23.72 332 P		P	08 25 15.4 +0.7
Y20A	Horse Springs, baz=24	23.82 328 ⇓P		P	08 25 17.7 +2.0
V24A	Rampart Ranch, baz=24	23.88 335 ⇓P		P	08 25 17.5 +1.3
U26A	Atchley Ranch, baz=24,SNR=8.0	23.89 339 ⇓P		P	08 25 17.7 +1.4
X21A	Alamocita Cree baz=24	23.94 329 ⇓P		P	08 25 18.7 +1.9
S30A	Montezuma baz=24	24.08 346 ⇑P		P	08 25 18.7 +0.9
U25A	Circle Dot Ran baz=24,SNR=6.2	24.13 338 ⇑P		P	08 25 19.6 +1.1
S29A	Ulysses baz=24	24.22 345 ⇓P		P	08 25 19.5 +0.3
V23A	Ortiz Mt. (NFS baz=24	24.27 334 ⇑P		P	08 25 21.0 +1.2
X20A	Quemado baz=25	24.37 328 ⇓P		P	08 25 22.9 +2.2
S28A	Manter baz=24	24.40 343 ⇓P		P	08 25 21.2 +0.4
R31A	Burdett baz=25	24.50 348 ⇓P		P	08 25 21.8 +0.2
T26A	Comanche Natio baz=25	24.54 340 ⇓P		P	08 25 23.6 +1.4
R30A	Dighton baz=25,SNR=5.5	24.65 347 ⇑P		P	08 25 22.9 -0.1
V22A	San Miguel Ran baz=25	24.73 333 ⇑P		P	08 25 25.1 +1.1
U23A	El Rito baz=25	24.77 334 ⇑P		P	08 25 26.1 +1.7
T25A	Trinidad baz=25	24.79 338 ⇓P		P	08 25 25.9 +1.4
W20A	Ramah baz=25	24.84 329 ⇑P		P	08 25 26.7 +1.8
KSU1	Kansas State U 9.7nm,0.7s	24.85 354 *e*P		P	08 25 23.1 -1.7
S26A	Kim baz=25	24.91 340 ⇑P		P	08 25 26.6 +1.2
R29A	Marienthal baz=25,SNR=6.7	24.99 345 ⇑P		P	08 25 26.6 +0.4
R28A	Tribune baz=25,SNR=7.1	25.08 344 ⇑P		P	08 25 27.1 +0.1
T24B	San Luis baz=25	25.08 337 ⇓P		P	08 25 29.3 +2.0
X18A	Snowflake baz=25	25.13 326 ⇑P		P	08 25 29.0 +1.4
S25A	Robets Cordova baz=25	25.27 339 ⇑P		P	08 25 30.0 +1.2
R27A	Eads baz=26	25.31 342 ⇑P		P	08 25 30.1 +1.0
T23A	Casias Ranch, baz=26	25.32 336 ⇓P		P	08 25 30.3 +1.0
Q29A	Oakley baz=26	25.39 346 ⇓P		P	08 25 30.1 +0.3
U21A	Nageezi baz=26	25.49 332 ⇑P		P	08 25 32.8 +1.9
R26A	Arlington baz=26	25.52 341 ⇑P		P	08 25 32.7 +1.7
S24A	Houchin Ranch, baz=26	25.53 338 ⇑P		P	08 25 32.8 +1.5
R25A	Fountain Ranch baz=26	25.65 340 ⇑P		P	08 25 33.6 +1.4
T22A	Edith baz=26	25.65 334 ⇓P		P	08 25 33.8 +1.5
SDCO	Great Sand Dun 4.3nm,1.4s	25.73 337 *e*P		P	08 25 33.9 +0.8
X16A	Lo Mia Camp, P baz=26	25.88 324 ⇑P		P	08 25 36.0 +1.6
S23A	Nye Farm, Mont baz=26	25.88 336 ⇓P		P	08 25 36.1 +1.6
P29A	Atwood baz=26	26.06 346 ⇑P		P	08 25 36.5 +0.7
Q26A	Hugo baz=26	26.11 342 ⇓P		P	08 25 37.2 +0.8
P28A	Saint Francis baz=26	26.23 345 ⇑P		P	08 25 38.6 +1.2
S22A	4UR Ranch, Cre baz=26	26.25 335 ⇑P		P	08 25 39.8 +2.0
WUAZ	Wupatki baz=27	26.64 326 ⇓P		P	08 25 42.8 +1.6
Q23A	Hartsel baz=27	26.87 338 ⇑P		P	08 25 44.5 +1.1
Q22A	Crested Butte, baz=27	27.24 336 ⇑P		P	08 25 48.4 +1.7
P23A	Jefferson baz=27	27.29 338 ⇑P		P	08 25 49.3 +2.1
N21A	Black Mountain baz=29	29.12 337 ⇓P		P	08 26 05.3 +1.9
L23A	Garrett baz=30	29.70 341 ⇓P		P	08 26 09.5 +1.0
J21A	Lysite baz=32	31.37 340 ⇑P		P	08 26 24.9 +1.7
PDAR	Pinedale Array	31.62 337 P		P	08 26 25.8 +0.3
PDAR	Pinedale Array 0.4nm,0.7s,baz=133,slow=6.3,SNR=3.8	31.62 337 P		P	08 26 25.8 +0.3
H24A	Dirks Ranch, A baz=32	31.80 345 ⇓P		P	08 26 27.4 +0.6
I20A	Worland baz=32	32.13 340 ⇑P		P	08 26 31.5 +1.7
H22A	Clearmont baz=32	32.15 342 ⇓P		P	08 26 30.8 +0.8
H21A	Big Horn, Sher baz=32	32.39 341 ⇓P		P	08 26 32.8 +0.7
H20A	Greybull baz=33	32.57 340 ⇑P		P	08 26 34.0 +0.4
REDW	Red Top Meadow 30nm,2.1s	32.63 336 *e*P		P	08 26 36.0 +1.7
SNOW	Snow King Moun 6.7nm,0.9s	32.67 336 *e*P		P	08 26 36.5 +1.8
G22A	Birney baz=33	32.70 343 ⇑P		P	08 26 35.0 +0.2
LOHW	Long Hollow 14nm,1.7s	32.74 336 *e*P		P	08 26 36.1 +0.8
TPAW	Teton Pass 4.1nm,1.0s	32.77 336 *e*P		P	08 26 37.7 +2.1
RRI2	Red Ridge 3.6nm,1.1s	32.80 335 *e*P		P	08 26 37.9 +2.1
MOOW	Moose Ponds 9.6nm,1.7s	32.91 336 *e*P		P	08 26 37.0 +0.3
E26A	Carlson Angus baz=33	32.96 348 ⇑P		P	08 26 37.2 +0.3
H19A	Powell baz=33	33.06 339 ⇑P		P	08 26 39.4 +1.5
G20A	Bridger baz=33	33.29 341 ⇓P		P	08 26 40.4 +0.5
H18A	Shoshone NF, C baz=34,SNR=7.3	33.30 338 ⇑P		P	08 26 40.7 +0.6
D26A	Manning baz=34	33.49 349 ⇑P		P	08 26 40.4 -1.1
C30A	Mose, Pekin baz=34	33.55 354 ⇓P		P	08 26 41.1 -0.9
E22A	Miles City baz=34	33.73 344 ⇓P		P	08 26 45.1 +1.4
G18A	Lazy EL Ranch, baz=34	33.83 339 ⇑P		P	08 26 45.6 +1.0
MDND	Maddock baz=34	33.83 352 ⇑P		P	08 26 44.9 +0.5
D24A	Glendive baz=34	33.96 346 ⇓P		P	08 26 46.9 +1.2
F19A	Roth Farm, Mol baz=34	34.09 340 ⇓P		P	08 26 47.6 +0.8
E21A	Keefer Ranch, baz=34	34.13 343 ⇓P		P	08 26 47.9 +0.7
HLID	Hailey baz=34	34.30 332 ⇓P		P	08 26 50.3 +1.6
C24A	Savage baz=34	34.38 347 ⇑P		P	08 26 50.1 +0.9
E20A	Meyer Farm, Mu baz=35	34.41 342 ⇓P		P	08 26 50.2 +0.6
D22A	Cohagen baz=35	34.45 344 ⇑P		P	08 26 50.4 +0.6
B28A	Dugan Ranch, T baz=35	34.52 352 ⇑P		P	08 26 50.8 +0.4
E19A	Rath Farm, Rou baz=35	34.58 341 ⇑P		P	08 26 52.1 +1.1
A30A	Hoffart Farm, baz=35	34.76 354 ⇑P		P	08 26 52.2 -0.2
A29A	Manning Farm, baz=35	34.84 353 ⇓P		P	08 26 52.9 -0.3
C22A	Vida baz=35	34.93 345 ⇓P		P	08 26 55.3 +1.4
D20A	Manuel Ranch, baz=35	34.94 342 ⇑P		P	08 26 55.6 +1.5
A26A	Wade Farm, Ken baz=35	35.22 350 ⇑P		P	08 26 57.1 +0.7
D19A	Cripps Ranch, baz=35	35.23 341 ⇑P		P	08 26 57.9 +1.2
C21A	Desert Coulee baz=36	35.32 344 ⇑P		P	08 26 58.2 +0.9
J08A	Circle Bar Ran 2.9nm,0.8s	36.10 328 *e*P		P	08 27 06.2 +2.0
B19A	Brinkman Farms baz=36	36.41 342 ⇑P		P	08 27 07.8 +1.1
MSO	Missoula baz=37	36.73 336 ⇑P		P	08 27 10.6 +1.1
F10A	Beach Ranch, E	37.44 332 *e*P		P	08 27 16.5 +1.0
EDM	Edmonton	41.93 342 *e*P		P	08 27 52.6 0.0
YKA	Yellowknife Ar	50.43 347 P		P	08 28 59.0 -0.2
YKA	Yellowknife Ar 3.0nm,0.6s,baz=151,slow=7.5,SNR=6.7	50.43 347 P		P	08 28 58.9 -0.2
ILAR	Eielson Array	62.05 337 P		P	08 30 22.0 0.0
ILAR	Eielson Array 0.9nm,0.8s,baz=174,slow=4.4,SNR=11	62.05 337 P		P	08 30 22.0 0.0
TORD	Torodi Ar. Bea	91.50 76 P		P	08 33 05.0 -3.7
TORD	Torodi Ar. Bea 0.3nm,0.6s,baz=295,slow=5.6,SNR=2.6	91.50 76 P		P	08 33 05.1 -3.7
URZ	Urewera comp=Z,99nm,18.9s,baz=105,slow=32	98.43 233 LR		LR	09 11 58.9
HHC	Hu-ho-hao-te	120.47 338 *e*PKP		PKPdf	08 38 53.9 +0.6
HHC		sPKP			08 39 08.3
HHC		PP		PP	08 40 24.9 +5.6
HHC		SKS		SKSdf	08 46 00.9 -0.1
HHC		SKKS		SKKSac	08 47 12.8 -2.9
HHC		SS		SS	08 56 46.9 +3.3
HHC		AMB		AMB	
HHC	comp=Z,98nm,10.7s	LR		LR	
HHC	comp=N,120nm,16.7s	LR		LR	
HHC	comp=E,100nm,16.7s	LR		LR	
HHC	comp=Z,170nm,17.8s	LR		LR	
WMQ	Urumqi	122.12 359 *e*PKP		PKPdf	08 38 57.3 +0.9
WMQ	comp=N,41nm,20.0s	LR		LR	
WMQ	comp=Z,22nm,18.1s	LR		LR	
KSH	Kashi	125.50 10 *e*PKP		PKPdf	08 39 02.3 -0.7
KSH		sPKP			08 39 16.5
KSH		PKS		PKSdf	08 42 37.5 -2.3
KSH		SKS		SKSdf	08 46 08.9 -1.7
KSH		AMB		AMB	
KSH	comp=Z,140nm,8.1s	LR		LR	
KSH	comp=N,48nm,5.5s	LR		LR	
KSH	comp=E,65nm,5.0s	LR		LR	
KSH	comp=Z,140nm,5.8s	LR		LR	
LZH	Lanzhou	127.31 343 *e*PKP		PKPdf	08 39 06.8 +0.2
LZH		sPKP			08 39 21.8
LZH	comp=N,100nm,18.2s	LR		LR	
LZH	comp=E,110nm,18.0s	LR		LR	
LZH	comp=Z,150nm,20.0s	LR		LR	
CD2	Chengdu	132.13 340 PKP		PKPdf	08 39 15.9 +0.1

IDC ***15*** *08:20:40.3±2.5, 0.′15S×123.′29E, h100km±22km, mb3.8/9, mb1 4.1/11, mb1mx3.8/25, mbtmp3.9/11, MS3.5/2, Ms1 3.5/2, ms1mx2.7/47, Error ellipse: s-maj=24.5km s-min=13.1km az=76.0*

ISCJB ***15*** *08:20:41.4±0.3, 0.′28S±0.′03×123.′25E±0.′03, h119km±4km, mb4.3/15, Error ellipse: s-maj=5.7km s-min=5.2km az=43.2*

NEIC ***15*** *08:20:41.7±1.3, 0.′17S×123.′37E, h113km±13km, mb4.7/8, Error ellipse: s-maj=16.7km s-min=7.1km az=69.0*

DJA ***15*** *08:20:42.9±0.2, 0.°S±2.°×12.°3E±.°, h92km±6km, M4.7/15, mb5.0/9, mB5.1/9, MLv5.0/15, Mw(mB)4.4/9*

ISC 15 08:20:42.2±0.7, 0.′27S±0.′04×123.′27E±0.′05, h115km±6km, n59, σ1§16/70, mb4.4/15, 1D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	Luwuk	0.92	213	P	Pn	08 21 02.5	-0.5
LUWI				S	Sn	08 21 17.6	-1.0
GTOI	Gorontalo	0.93	344	P	Pn	08 21 03.7	+0.6
GTOI				S	Sn	08 21 20.0	+1.1
KMSI	Cibinong	1.09	40	P	Pn	08 21 05.0	+0.3
KMSI				S	Sn	08 21 22.7	+0.9
MRSI	Marisa	1.52	299	P	Pn	08 21 07.9	-1.6
MRSI				S	Sn	08 21 27.7	-2.6
APSI	Ampana	1.74	248	P	Pn	08 21 11.4	-0.8
TOLI	Tolí-Tolí	2.83	299	P	Pn	08 21 26.4	+0.2
TOLI				S	Sn	08 22 00.1	+0.1
KKSI	Kolaka, Sulawe	4.20	203	P	Pn	08 21 51.2	+6.8
TNTI	Ternate	4.22	76	P	Pn	08 21 44.6	0.0
LBMI	Labuha	4.25	95	P	Pn	08 21 46.9	+2.0
LBMI				S	Sn	08 22 30.9	-2.8
SGSI	Sangihe	4.53	30	P	Pn	08 21 55.2	+6.5
NLAI	Namlea	4.83	128	P	Pn	08 21 53.9	+1.0
MMSI	Mamuju	4.98	241	P	Pn	08 21 54.6	-0.3
SPSI	Sidrap Palu 289nm,0.7s,4μm1.2nm	5.07	224	P	Pn	08 21 56.7	+0.6
SPSI	289nm,0.7s,4μm1.2nm			S	Sn	08 22 53.7	+0.1
BNSI	Bone 294nm,0.7s,5μm1.4nm	5.18	218	P	Pn	08 21 58.2	+0.6
MJSI	Majene 208nm,0.7s,2μm0.8nm	5.39	233	P	Pn	08 22 01.7	+1.3
KAPI	Kappang	5.88	217	P	Pn	08 22 07.1	0.0
KAPI				S	Sn	08 23 12.2	-1.0
KAPI	Kappang 126nm,0.5s,2μm0.6nm	5.88	217	P	Pn	08 22 06.7	-0.3
KAPI	Kappang 40nm,0.3s,baz=15,slow=4.7,SNR=98	5.88	217	P	Pn	08 22 07.1	0.0
KAPI	12nm,0.3s,baz=67,slow=23,SNR=9.8			S	Sn	08 23 12.2	-1.0
KAPI	comp=Z,144nm,18.2s,baz=332,slow=48			LR	LR	08 25 25.4	
BKSI	Bulukumba	5.93	212	P	Pn	08 22 09.0	+1.4
AAI	Ambon 64nm,0.8s,1μm0.5nm	5.98	125	P	Pn	08 22 13.8	+5.5
TSM	Tawau	7.04	310	P	Pn	08 22 22.0	-0.7
MYLDM	Lahad Datu	7.21	319	P	Pn	08 22 28.2	+3.2
MYLDM	Lahad Datu 184nm,0.7s,2μm	7.21	319	P	Pn	08 22 27.2	+2.2
CTBH	Cotabato--PC H	7.50	7	⇓*i*P	Pn	08 22 29.1	+0.2
SWI	Sorong 88nm,0.8s,1μm	8.01	94	P	Pn	08 22 36.3	+0.4
SDKM	Sandakan	8.44	314	P	Pn	08 22 44.2	+2.4
FAKI	Fak Fak 72nm,1.1s,774nm	9.35	106	P	Pn	08 22 52.8	-1.3
KKM	Kota Kinabalu 22nm,0.5s	9.43	312	*e*Pn	Pn	08 22 56.1	+0.9
KKM	Kota Kinabalu	9.43	312	P	Pn	08 22 55.7	+0.6
KKM	Kota Kinabalu	9.43	312	P	Pn	08 22 56.3	+1.1
SBUM	Sibu	11.37	284	P	Pn	08 23 22.8	+1.4
FITZ	Fitzroy Crossi	17.88	173	P	Pn	08 24 44.1	+0.5
FITZ	Fitzroy Crossi 2.1nm,0.3s,baz=4.6,slow=8.2,SNR=40	17.88	173	P	Pn	08 24 44.1	+0.5
MBWA	Marble Bar 19nm,0.8s	21.05	189	*e*P	P	08 25 17.8	+0.6
WRAB	Tennant Creek 11nm,0.5s	22.36	152	*e*P	P	08 25 30.6	-0.3
WRA	Warramunga Arr	22.36	152	P	P	08 25 30.8	-0.2
WRA	Warramunga Arr 10nm,0.5s,baz=333,slow=10,SNR=61	22.36	152	P	P	08 25 30.8	-0.2
COEN	Coen 59nm,0.8s	23.94	125	*e*P	P	08 25 45.9	-0.1
AS31	Alice Springs	25.45	157	*e*P	P	08 26 00.1	+0.5
ASAR	Alice Springs	25.45	157	P	P	08 26 00.1	+0.5
ASAR				PcP	PcP	08 29 28.8	-0.1
ASAR				ScP	ScP	08 32 58.1	+0.2
ASAR	Alice Springs 3.4nm,0.6s,baz=344,slow=16,SNR=40	25.45	157	P	P	08 26 00.1	+0.5
ASAR	1.0nm,0.5s,baz=350,slow=2.0,SNR=8.4			PcP	PcP	08 29 28.8	-0.1
ASAR	0.5nm,0.4s,baz=348,slow=2.8,SNR=6.4			ScP	ScP	08 32 58.1	+0.2
CMAR	Chiang Mai Arr	30.29	309	P	P	08 26 43.5	+0.7
CMAR	Chiang Mai Arr 1.5nm,0.4s,baz=110,slow=7.8,SNR=4.0	30.29	309	P	P	08 26 43.5	+0.7
FORT	Forrest 36nm,0.6s	30.68	172	*e*P	P	08 26 46.7	+0.6
NWAO	Narrogin (SRO)	32.98	189	P	P	08 27 06.7	+0.4
NWAO	Narrogin (SRO) 7.0nm,0.7s,baz=309,slow=12,SNR=9.7	32.98	189	P	P	08 27 06.7	+0.4
STKA	Stephens Creek 0.9nm,0.6s	35.90	153	*e*P	P	08 27 32.4	+1.0
STKA				PcP	PcP	08 29 56.0	-0.2
STKA	Stephens Creek 5.0nm,0.6s,baz=327,slow=8.8,SNR=33	35.90	153	P	P	08 27 32.4	+1.0
STKA	1.1nm,0.4s,baz=271,slow=10,SNR=2.8			PcP	PcP	08 29 56.0	-0.2
MJAR	Matsushiro Arr	39.16	19	P	P	08 27 56.0	-2.9
MJAR	Matsushiro Arr 2.1nm,0.8s,baz=185,slow=7.7,SNR=6.0	39.16	19	P	P	08 27 56.0	-2.9
SONM	Songino Array	50.11	345	P	P	08 29 25.4	-0.4
SONM	Songino Array 0.6nm,0.7s,baz=168,slow=9.2,SNR=4.2	50.11	345	P	P	08 29 25.4	-0.4
MKAR	Makanchi Array	58.98	328	P	P	08 30 28.1	-1.7
MKAR	Makanchi Array 0.3nm,0.4s,baz=118,slow=7.9,SNR=6.4	58.98	328	P	P	08 30 28.1	-1.7
CASY	Casey 7.2nm,1.0s	66.50	186	*e*P	P	08 31 19.6	+0.4
MAW	Mawson	78.84	200	P	P	08 32 32.5	+0.3
MAW	Mawson 1.3nm,0.5s,baz=250,slow=20,SNR=3.8	78.84	200	P	P	08 32 32.5	+0.3
QSPA	South Pole Qui 10nm,1.4s	89.67	180	*e*P	P	08 33 26.8	-0.3
MBAR	Mbarara comp=Z,66nm,21.8s,baz=52,slow=32	92.53	269	LR	LR	09 10 39.0	

KRSC ***15*** *08:25:24.4±2.6, 48.′34N×156.′78E, h48km±52km, ML4.4*

MOS ***15*** *08:25:27.5±1.6, 49.′00N×155.′19E, h78km, mb3.9/2, Error ellipse: s-maj=31.2km s-min=10.8km az=65.1*

IDC ***15*** *08:25:28.3±3.2, 49.′07N×155.′05E, h62km±31km, mb3.3/5, mb1 3.7/7, mb1mx3.4/25, mbtmp3.6/7, ML4.0/2, MS2.5/1, Ms1 2.5/1, ms1mx2.2/27, Error ellipse: s-maj=37.7km s-min=20.4km az=156.0*

ISC 15 08:25:27.7±1.8, 48.′7N±0.′1×155.′7E±0.′1, h77km±20km, n30, σ1§30/37, mb3.6/5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	2.00	8	*e*PN	Pn	08 25 47.5	-12
SKR	comp=Z,80nm,0.5s			pmax	pmax		
ASAK	Asacha	3.95	20	P	Pn	08 26 26.9	+0.9
ASAK				*i* S	Sn	08 27 12.5	+1.4
MTVR	Mutnovka	4.11	22	P	Pn	08 26 28.8	+0.6
MTVR				*i* S	Sn	08 27 15.7	+0.6
GRL	Gorelyy	4.15	21	P	Pn	08 26 29.8	+1.1
RUS	Russkaya	4.15	25	PN	Pn	08 26 28.3	-0.3
RUS				S	Sn	08 27 14.8	-1.1
RUS	Russkaya	4.15	25	P	Pn	08 26 28.3	-0.3
RUS				*i* S	Sn	08 27 14.8	-1.1
PETK	Petropavlovsk-	4.60	15	PN	Pn	08 26 35.9	+1.2
PETK	comp=Z,2.0nm,0.3s			pmax	pmax		
PETK	Petropavlovsk- comp=Z,2.4nm,0.3s,baz=184,slow=14,SNR=38	4.60	15	P	Pn	08 26 35.9	+1.2
PETK				S	Sn	08 27 35.9	+9.2
PET	Petropavlovsk comp=Z,0.9nm,0.3s,baz=148,slow=17,SNR=2.6	4.72	22	PN	Pn	08 26 36.8	+0.4
PET				S	Sn	08 27 29.5	-0.3
PET	Petropavlovsk	4.72	22	P	Pn	08 26 36.8	+0.4
PET				*i* S	Sn	08 27 29.5	-0.3
AVH	Avacha	4.96	22	P	Pn	08 26 40.5	+0.8
AVH				*i* S	Sn	08 27 36.2	+0.4
KOK	Koryaka	4.96	21	P	Pn	08 26 41.5	+1.7
KOK				*i* S	Sn	08 27 37.6	+1.8
KRER	Koryakskii	5.00	22	P	Pn	08 26 41.7	+1.3
KRER				*i* S	Sn	08 27 37.9	+1.0
SDLR	Sedlovina	5.01	23	P	Pn	08 26 41.3	+0.9
SDLR				*i* S	Sn	08 27 37.6	+0.5
KRX	Arik	5.03	21	P	Pn	08 26 41.9	+1.2
GNL	Ganaly	5.20	15	P	Pn	08 26 45.0	+2.0
MKZ	Mys Kozlova	6.97	30	PN	Pn	08 27 07.0	0.0
MKZ	Mys Kozlova	6.97	30	P	Pn	08 27 07.0	0.0
MKZ				*i* S	Sn	08 28 21.0	-3.7
KBTR	Krutoberegovo	8.69	27	PN	Pn	08 27 30.0	-0.5
KBTR	Krutoberegovo	8.69	27	P	Pn	08 27 30.0	-0.5
ASAJ	Asahikawa comp=Z,2.1nm,0.3s,baz=77,slow=15,SNR=11	10.12	248	P	Pn	08 27 49.1	-0.9
ERM	Erimo	11.04	237	*i* PN	Pn	08 28 07.8	+5.2
FX1	Attu Island--F comp=Z,2.8nm,0.3s,baz=324,slow=13,SNR=7.5	11.83	63	P	Pn	08 28 15.0	+1.7
FX1				S	Sn	08 30 18.2	-5.1
USRK	Ussuriysk Arra comp=Z,0.2nm,0.3s,baz=82,slow=11,SNR=3.7	16.90	263	P	Pn	08 29 19.5	+0.4
KSRS	Korea Array comp=Z,1.2nm,0.5s,baz=50,slow=9.4,SNR=5.7	23.04	251	P	P	08 30 26.5	+0.2
KSRS				LR	LR	08 39 00.9	
MKAR	Makanchi Array comp=Z,156nm,21.8s,baz=215,slow=36	47.59	297	P	P	08 33 53.6	-1.8
MKAR	Makanchi Array comp=Z,0.2nm,0.4s,baz=59,slow=8.4,SNR=3.2	47.59	297	P	P	08 33 53.6	-1.8
FINES	FINESS Array B comp=Z,0.4nm,0.3s,baz=28,slow=6.3,SNR=3.3	62.99	335	P	P	08 35 43.5	-2.3
ASAR	Alice Springs comp=Z,0.2nm,0.6s,baz=21,slow=5.4,SNR=3.5	74.62	201	P	P	08 37 00.5	+2.1
TXAR	Lajitas Array comp=Z,0.5nm,0.6s,baz=298,slow=5.2,SNR=16	75.05	63	P	P	08 37 05.8	+4.6

ISN ***15*** *08:25:09.8±1.8, 34.′66N×46.′13E, h0km±999km, ML3.7*

TEH ***15*** *08:25:25.7, 33.′07N×46.′21E, h9km, ML3.7*

CSEM ***15*** *08:25:28.1±0.2, 33.′20N×46.′44E, h15km, ML3.7, Error ellipse: s-maj=5.4km s-min=4.4km az=88.0*

ISC 15 08:25:29.3±1.2, 33.′18N±0.′04×46.′41E±0.′04, h26km±15km, n43, σ1§32/46, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	Badra	0.41	260	*e*PG	Sb	08 25 43.5	-0.4
IBDR				*e*Sg	Sn	08 26 08.7	+22
IGHG	Ghaleghazi	1.15	7	*e*Pg	Pn	08 25 48.7	-1.3
IGHG				*e*Sg	Sb	08 26 06.5	+1.1
IGHG	comp=Z,19μm,0.4s			*e*		08 26 11.2	
IGHG	Ghaleghazi	1.15	7	*e*Pg	Pn	08 25 48.7	-1.3

IGHG				*e*Sg	**Sb**	**08 26 06.5**	**+1.1**
IKOM	**Komasi**	**1.35**	**43**	*e*Pn	**Pb**	**08 25 53.2**	**-0.9**
IKOM				*e*		08 26 16.1	
	comp=Z,27μm,0.3s						
IKOM	**Komasi**	**1.35**	**43**	*e*Pn	**Pb**	**08 25 53.2**	**-0.9**
IVIS	**Veis**	**1.39**	**15**	*e*Pn	**Pb**	**08 25 53.5**	**-1.2**
IVIS				*e*Sg	**Sb**	**08 26 13.6**	**+1.5**
IVIS				*e*		08 26 15.9	
	comp=Z,21μm,0.4s						
IVIS	**Veis**	**1.39**	**15**	*e*Pn	**Pb**	**08 25 53.5**	**-1.2**
IVIS				*e*Sg	**Sb**	**08 26 13.6**	**+1.5**
IDHR	**Dehrash**	**1.51**	**359**	*e*Pn	**Pn**	**08 25 54.8**	**-0.1**
IDHR				*e*Sg	**Sb**	**08 26 17.3**	**+1.6**
IDHR				*e*		08 26 19.5	
	comp=Z,34μm,0.1s						
IDHR	**Dehrash**	**1.51**	**359**	*e*Pn	**Pn**	**08 25 54.8**	**-0.1**
IDHR				*e*Sg	**Sb**	**08 26 17.3**	**+1.6**
BHD	**Baghdad**	**1.70**	**273**	*e*PG	**Pn**	**08 25 55.6**	**-1.7**
BHD				*e*SG	**Sb**	**08 26 25.0**	**+4.2**
BHD	**Baghdad**	**1.70**	**273**	*e*Pg	**Pn**	**08 25 55.6**	**-1.7**
	SNR=90						
BHD				*e*Sg	**Sb**	**08 26 25.0**	**+4.2**
	SNR=90						
ILIN	**Lien**	**1.79**	**15**	*e*Pn	**Pn**	**08 25 59.1**	**+0.3**
ILIN				*e*		08 26 26.4	
	comp=Z,6μm,0.2s						
ILIN	**Lien**	**1.79**	**15**	*e*Pn	**Pn**	**08 25 59.1**	**+0.3**
SNGE	**Sanandaj**	**2.06**	**22**	*e*Pg	**Pn**	**08 26 03.3**	**+0.8**
SNGE				*e*Sg	**Sb**	**08 26 32.3**	**+0.9**
NSR	**Nassriya**	**2.18**	**186**	*e*PG	**Sn**	**08 26 29.9**	**0.0**
NSR				*e*SG	Sb	08 27 27.4	+53
NSR	**Nassriya**	**2.18**	**186**	*e*Pg	**Sn**	**08 26 30.0**	**0.0**
	SNR=90						
NSR				*e*Sg	Sb	08 27 27.4	+53
	SNR=90						
KHMZ	**Khomeyn**	**3.02**	**78**	*e*Pn	**Pn**	**08 26 15.5**	**-0.2**
ASAO	**Ashtian**	**3.31**	**65**	*e*Pn	**Pn**	**08 26 19.4**	**-0.2**
MIB	**Mutribah**	**3.46**	**166**	*e*P	**Pn**	**08 26 21.2**	**-0.3**
MIB				AML	AML	08 27 13.8	
	comp=Z,42nm,0.5s						
MIB	**Mutribah**	**3.46**	**166**	*e*P	**Pn**	**08 26 21.2**	**-0.3**
RST	**Umm Al-Ruwaisa**	**3.71**	**172**	*e*P	**Pn**	**08 26 24.6**	**-0.3**
RST				AML	AML	08 27 11.5	
	comp=Z,220nm,0.5s						
RST	**Umm Al-Ruwaisa**	**3.71**	**172**	*e*P	**Pn**	**08 26 24.6**	**-0.3**
IPIR	**Pirpir**	**3.81**	**96**	*e*Pn	**Pn**	**08 26 26.8**	**+0.3**
IPIR				*e*		08 27 19.5	
	comp=N,699nm,0.3s						
IPIR	**Pirpir**	**3.81**	**96**	*e*Pn	**Pn**	**08 26 26.8**	**+0.3**
NAY	**Al-Naaiem**	**3.99**	**169**	*e*P	**Pn**	**08 26 27.9**	**-0.9**
NAY				AML	AML	08 27 19.3	
	comp=Z,16nm,0.6s						
NAY	**Al-Naaiem**	**3.99**	**169**	*e*P	**Pn**	**08 26 27.9**	**-0.9**
IR5	**Iran Long-Peri**	**4.01**	**59**	*e*Sg	Pn	08 26 25.2	-4.0
IR5	**Iran Long-Peri**	**4.01**	**59**	*e*Sg	Pn	08 26 25.2	-4.0
GHVR	**GHOM**	**4.27**	**71**	*e*Pn	**Pn**	**08 26 31.9**	**-0.8**
IKLH	**Kolahrood**	**4.34**	**87**	*e*Pn	**Pn**	**08 26 34.2**	**+0.4**
IKLH				*e*		08 27 38.1	
	comp=N,344nm,0.2s						
IKLH	**Kolahrood**	**4.34**	**87**	*e*Pn	**Pn**	**08 26 34.2**	**+0.4**
IGZV	**Ghazvin**	**4.48**	**43**	*e*	Pn	08 26 28.2	-7.6
	comp=Z,371nm,0.1s						
IAZR	**Azarshahr**	**4.50**	**356**	*e*Sg	Sb	08 27 49.0	+7.4
IAZR	**Azarshahr**	**4.50**	**356**	*e*Sg	Sb	08 27 49.0	+7.4
ISRB	**Sarab**	**4.75**	**12**	*e*		08 28 22.6	
	comp=N,714nm,0.4s						
IZEF	**Zefreh**	**4.98**	**92**	*e*Pn	**Pn**	**08 26 41.9**	**-0.8**
IZEF	**Zefreh**	**4.98**	**92**	*e*Pn	**Pn**	**08 26 41.9**	**-0.8**
ISHB	**Shabestar**	**5.13**	**353**	*e*Pn	**Pn**	**08 26 43.6**	**-1.1**
ISHB				*e*		08 27 08.3	
	comp=Z,279nm,0.3s						
ISHB	**Shabestar**	**5.13**	**353**	*e*Pn	**Pn**	**08 26 43.6**	**-1.1**
DAMV	**Damavand**	**5.21**	**61**	*e*Pn	**Pn**	**08 26 45.7**	**-0.1**
NASN	**Na'in**	**5.39**	**92**	*e*Pn	**Pn**	**08 26 48.1**	**-0.3**
IMRD	**Marand**	**5.55**	**354**	*e*Pn	**Pn**	**08 26 49.0**	**-1.4**
IMRD				*e*		08 28 45.8	
	comp=Z,316nm,0.3s						
IMRD	**Marand**	**5.55**	**354**	*e*Pn	**Pn**	**08 26 49.0**	**-1.4**

IDC 15 08:30:24.4±1.7,7°96S×156°14E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.9/17, mbtmp3.8/8, MS3.0/1, Ms1 3.0/1, ms1mx2.7/25, Error ellipse: s-maj=56.5km s-min=22.2km az=113.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**9.00**	**260**	LR	LR	08 35 45.2	
	comp=Z,91nm,18.8s,baz=51,slow=36						
WRA	**Warramunga Arr**	**24.25**	**238**	P	P	08 35 43.3	-0.1
	6.6nm,1.0s,baz=57,slow=8.8,SNR=20						
WRA				PcP	PcP	08 39 24.3	+0.4
	1.1nm,0.8s,baz=65,slow=2.4,SNR=8.2						
ASAR	**Alice Springs**	**26.43**	**231**	P	P	08 36 02.5	-0.7
	0.6nm,0.8s,baz=59,slow=9.0,SNR=6.0						
STKA	**Stephens Creek**	**27.39**	**208**	P	P	08 36 12.8	+1.1
	3.0nm,1.0s,baz=28,slow=8.5,SNR=3.6						
FITZ	**Fitzroy Crossi**	**31.33**	**248**	P	P	08 36 46.2	-0.7
	1.5nm,0.8s,baz=59,slow=5.9,SNR=4.0						
KSRS	**Korea Array**	**52.32**	**332**	P	P	08 39 38.7	+0.8
	0.6nm,0.3s,baz=146,slow=8.8,SNR=3.7						
SONM	**Songino Array**	**70.75**	**327**	P	P	08 41 43.8	+1.1
	0.5nm,0.7s,baz=134,slow=6.2,SNR=3.3						
ILAR	**Eielson Array**	**83.85**	**21**	P	P	08 42 54.4	-1.2
	0.4nm,0.9s,baz=224,slow=3.8,SNR=3.3						
MKAR	**Makanchi Array**	**84.87**	**319**	P	P	08 43 00.4	-0.9
	0.6nm,0.6s,baz=94,slow=6.2,SNR=6.2						
TORD	**Torodi Ar. Bea**	**154.37**	**284**	PKPab	PKPab	08 50 41.2	-0.8
	0.3nm,0.8s,baz=93,slow=6.1,SNR=2.8						

*IDC **15** 08:36:17.2±0.9, 14°.31N×92°.69W, h0km, mb4.2/17, mb1 4.4/19, mb1mx4.3/28, mbtmp4.2/19, ML4.2/2, MS4.1/22, Ms1 4.1/22, ms1mx4.0/35, Error ellipse: s-maj=37.9km s-min=15.1km az=47.0*

*ISCJB **15** 08:36:21.5±0.5, 14°.25N±0°.04×92°.93W±0°.03, h35km±4km, mb4.5/71, MS4.2/22, Error ellipse: s-maj=7.3km s-min=3.3km az=32.1*

*MEX **15** 08:36:22.7±2.6, 14°.10N×93°.20W, h44km±374km, MD4.6*

*NEIC **15** 08:36:23.1, 14°.11N×93°.20W, h37km, mb4.6/63, MD4.5(MEX), After MEX.*

*BJI **15** 08:36:25.2, 14°.40N×92°.80W, h61km, mB5.1/3, Ms5.1/5, Ms7 4.8/5*

*CASC **15** 08:36:26.1±1.6, 13°.92N×92°.71W, h56km±93km, MD4.1, mb4.7(NEIC)*

ISC 15 08:36:22.9±1.1, 14°.14N±0°.05×93°.13W±0°.04, h46km±9km, n518, σ1§45/507, mb4.5/71, MS4.2/23, 165C-152D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**1.46**	**83**	*e*P	**Pn**	**08 36 46.4**	**-0.5**
PCIG		**1.55**	**357**	*e*P	Pn	08 36 44.5	-3.6
PCIG				*i* S	**Sn**	**08 37 03.3**	**-3.8**
PCIG		**1.55**	**357**	*e*P	Pn	08 36 44.5	-3.6
PCIG				*i* S	**Sn**	**08 37 03.3**	**-3.8**
FUG	**Fuego 3**	**2.24**	**82**	*e*P	**Pn**	**08 36 56.1**	**-1.6**
CCIG	**Comitan**	**2.33**	**24**	*e*P	**Pn**	**08 36 58.9**	**-0.1**
CCIG				*i* S	**Sn**	**08 37 25.6**	**-0.9**
CCIG	**Comitan**	**2.33**	**24**	*e*P	**Pn**	**08 36 58.9**	**-0.1**
CCIG				*i* S	**Sn**	**08 37 25.6**	**-0.9**
PCG	**Pacaya**	**2.46**	**84**	*e*P	**Pn**	**08 36 59.6**	**-1.2**
TGIG		**2.62**	**0**	*e*P	**Pn**	**08 37 01.6**	**-1.1**
TGIG				*i* S	**Sn**	**08 37 32.9**	**-0.5**
TGIG		**2.62**	**0**	*e*P	**Pn**	**08 37 01.6**	**-1.1**
TGIG				*i* S	**Sn**	**08 37 32.9**	**-0.5**
APG	**El Apazote**	**2.72**	**71**	Pn	**Pn**	**08 37 03.4**	**-0.9**
APG				Sn	Sn	08 37 26.7	-10
APG	**El Apazote**	**2.72**	**71**	Pn	**Pn**	**08 37 03.4**	**-0.9**
	36nm,0.3s,baz=248,slow=5.0,SNR=370						
APG				Sn	Sn	08 37 26.7	-10
	93nm,0.3s,baz=217,slow=22,SNR=6.7						
NBG	**Las Nubes**	**2.74**	**80**	*e*P	**Pn**	**08 37 04.7**	**+0.1**
HUIG	**Huatulco**	**3.30**	**300**	*e*P	**Pn**	**08 37 10.2**	**-1.8**
HUIG				*i* S	**Sn**	**08 37 47.7**	**-2.3**
HUIG	**Huatulco**	**3.30**	**300**	*e*P	**Pn**	**08 37 10.2**	**-1.8**
HUIG				*i* S	**Sn**	**08 37 47.7**	**-2.3**
RBDL	**Robledal**	**3.34**	**90**	*e*P	**Pn**	**08 37 11.0**	**-1.9**
RBDL				*e*S	Sn	08 37 46.8	-4.6
CMIG	**Matias Romero**	**3.38**	**330**	*e*P	**Pn**	**08 37 11.9**	**-1.3**
CMIG				*i* S	**Sn**	**08 37 49.9**	**-2.2**
CMIG	**Matias Romero**	**3.38**	**330**	*e*P	**Pn**	**08 37 11.9**	**-1.3**
CMIG				*i* S	**Sn**	**08 37 49.9**	**-2.2**
CMIG	**Matias Romero**	**3.38**	**330**	Pn	**Pn**	**08 37 11.1**	**-2.2**
	27nm,0.3s,baz=150,slow=11,SNR=425						
CMIG				Sn	**Sn**	**08 37 51.7**	**-0.4**
	72nm,0.3s,baz=107,slow=13,SNR=8.2						
CMIG				LR	LR	08 38 06.9	
	comp=Z,487nm,21.7s,baz=143,slow=32						
RTR	**El Retiro**	**3.40**	**94**	*e*P	**Pn**	**08 37 11.8**	**-1.7**
SBLS	**San Blas**	**3.42**	**95**	*e*P	**Pn**	**08 37 12.0**	**-2.0**
SBLS				*e*S	Sn	08 37 47.3	-6.1
MRL	**Marmol**	**3.46**	**74**	*e*P	**Pn**	**08 37 14.2**	**-0.2**
BOQS	**Boqueron**	**3.76**	**96**	*e*P	**Pn**	**08 37 16.9**	**-1.8**
LFU	**La Fuente**	**3.92**	**95**	*e*P	Pn	08 37 18.2	-2.5
LFRS	**El Faro**	**3.99**	**97**	*e*P	Pn	08 37 19.2	-2.4
LFRS				*e*S	Sn	08 38 00.8	-6.4
LBRS	**Las Brisas**	**3.99**	**95**	*e*P	Pn	08 37 19.3	-2.3
VHO	**Vista Hermosa**	**4.53**	**310**	*e*P	**Pn**	**08 37 28.3**	**-0.9**
VHO				*i* S	**Sn**	**08 38 19.4**	**-1.2**
VHO	**Vista Hermosa**	**4.53**	**310**	*e*P	**Pn**	**08 37 28.3**	**-0.9**
VHO				*i* S	**Sn**	**08 38 19.4**	**-1.2**
SCIG	**Sabancuy**	**5.15**	**21**	*e*P	**Pn**	**08 37 36.3**	**-1.2**
SCIG				*i* S	**Sn**	**08 38 35.6**	**0.0**
CNCH	**Conchagua**	**5.22**	**99**	*e*P	Pn	08 37 35.2	-3.4
PNIG	**Pinotepa**	**5.31**	**296**	*e*P	**Pn**	**08 37 38.0**	**-1.7**
PNIG				*i* S	**Sn**	**08 38 37.1**	**-2.6**
PNIG	**Pinotepa**	**5.31**	**296**	*e*P	**Pn**	**08 37 38.0**	**-1.7**
PNIG				*i* S	**Sn**	**08 38 37.1**	**-2.6**
TGUH	**Tegucigalpa,Un**	**5.69**	**90**	*e*Pn	**Pn**	**08 37 43.6**	**-1.3**
TPIG	**Tehuac#an**	**5.88**	**317**	*i* P	**Pn**	**08 37 48.3**	**+0.7**
LVIG	**Laguna Verde**	**6.38**	**331**	*i* P	Pn	08 37 51.0	-3.3
PPM	**Popocatepetl**	**7.19**	**314**	*i* P	**Pn**	**08 38 06.8**	**+0.9**
MEIG	**Mezcala**	**7.28**	**302**	*e*P	**Pn**	**08 38 07.7**	**+0.8**
YAIG	**Yautepec**	**7.37**	**310**	*i* P	**Pn**	**08 38 09.6**	**+1.4**
PLIG	**Platanillo**	**7.43**	**305**	*i* P	**Pn**	**08 38 10.1**	**+1.2**
CAIG	**El Cayaco**	**7.46**	**294**	*i* P	Pn	08 38 06.0	-3.1
TEIG	**Tepich**	**7.62**	**37**	*e*Pn	Pn	08 38 09.2	-2.2
TEIG				Sn	Sn	08 39 27.7	-8.8
TEIG	**Tepich**	**7.62**	**37**	Pn	Pn	08 38 08.9	-2.5
	18nm,0.3s,baz=238,slow=2.8,SNR=79						
TEIG				Sn	Sn	08 39 27.7	-8.8
	8.7nm,0.3s,baz=48,slow=21,SNR=3.0						
ARIG	**Puente Sto Nin**	**8.06**	**302**	*e*P	**Pn**	**08 38 18.0**	**+0.6**
LNIG	**Linares**	**12.25**	**332**	*e*P	**Pn**	**08 39 14.0**	**-0.7**
ZAIG	**Zacatecas**	**12.39**	**315**	*e*P	**Pn**	**08 39 16.6**	**-0.3**
732A	**Laxson Ranch,**	**15.84**	**337**	⇑P	**Pn**	**08 40 03.5**	**+0.7**
	baz=16,SNR=16						
HKT	**Hockley**	**15.93**	**351**	*e*P	**Pn**	**08 40 03.3**	**-0.5**
	106nm,1.9s						
632A	**Uvalde**	**16.48**	**339**	⇓P	**Pn**	**08 40 11.7**	**+0.7**
	baz=17						
631A	**Perdido Creek**	**16.68**	**337**	⇓P	**Pn**	**08 40 14.0**	**+0.5**
	baz=17,SNR=6.6						
532A	**Rocksprings**	**17.09**	**340**	⇓P	**Pn**	**08 40 19.1**	**+0.5**
	baz=17						
HPIG		**17.29**	**319**	*e*P	**P**	**08 40 24.3**	**+2.0**
531A	**Rocksprings**	**17.35**	**338**	⇑P	**Pn**	**08 40 21.9**	**+0.1**
	baz=17,SNR=13						
JCT	**Junction City**	**17.38**	**340**	*e*P	**P**	**08 40 23.2**	**+0.2**
	19nm,1.1s						
JCT				*e*S	**Sn**	**08 43 34.9**	**+0.1**
JCT	**Junction City**	**17.38**	**340**	⇓P	**Pn**	**08 40 22.4**	**+0.2**
	baz=18						
530A	**J-C Ranch, Com**	**17.64**	**336**	⇑P	**P**	**08 40 26.1**	**+0.3**
	baz=18						
628A	**Black Gap, Mar**	**17.73**	**331**	⇓P	**P**	**08 40 28.0**	**+1.1**
	baz=18,SNR=18						
432A	**Menard**	**17.74**	**341**	⇑P	**Pn**	**08 40 26.5**	**-0.1**
	baz=18						
431A	**Sonora**	**17.84**	**339**	⇑P	**P**	**08 40 28.7**	**+0.5**
	baz=18,SNR=9.9						
627A	**Terlingua Ranc**	**17.95**	**330**	⇓P	**P**	**08 40 31.1**	**+1.7**
	baz=18,SNR=54						
529A	**Stev Forest Ra**	**17.98**	**334**	⇓P	**P**	**08 40 31.0**	**+1.3**
	baz=18,SNR=36						
TXAR	**Lajitas Array**	**17.99**	**329**	P	**Pn**	**08 40 31.0**	**+1.3**
TXAR	**Lajitas Array**	**17.99**	**329**	P	**Pn**	**08 40 31.0**	**+1.3**
	0.2nm,0.3s,baz=153,slow=8.4,SNR=45						
TXAR				LR	LR	08 47 55.3	
	comp=Z,200nm,18.5s,baz=180,slow=39						
VBMS	**Vicksburg**	**18.15**	**7**	*e*P	**Pn**	**08 40 33.6**	**+2.1**
	41nm,0.8s						
GTBY	**Guantanamo Bay**	**18.16**	**69**	*e*P	**P**	**08 40 28.9**	**-2.8**
	27nm,1.1s						
430A	**Baggett Ranch,**	**18.16**	**337**	⇑P	**Pn**	**08 40 32.8**	**+0.9**
	baz=18,SNR=15						
332A	**Millersview**	**18.20**	**342**	⇓P	**Pn**	**08 40 32.8**	**+0.6**
	baz=18,SNR=13						
WHTX	**Lake Whitney**	**18.20**	**348**	⇑P	**P**	**08 40 31.9**	**-0.1**
	baz=18						
528A	**Cox Ranch, San**	**18.26**	**332**	⇑P	**Pn**	**08 40 34.2**	**+1.1**
	baz=18,SNR=11						
429A	**Davenport Ranc**	**18.28**	**335**	⇓P	**Pn**	**08 40 33.7**	**+0.4**
	baz=18,SNR=28						
331A	**San Angelo**	**18.35**	**340**	⇑P	**Pn**	**08 40 34.6**	**+0.5**
	baz=18,SNR=13						
626A	**Big Bend Ranch**	**18.40**	**328**	⇑P	**Pn**	**08 40 36.1**	**+1.3**
	baz=18,SNR=23						
527A	**Woodward Ranch**	**18.63**	**330**	⇑P	**Pn**	**08 40 38.5**	**+0.9**
	baz=19,SNR=20						
232A	**Coleman**	**18.64**	**342**	⇓P	**Pn**	**08 40 37.5**	**-0.1**
	baz=19,SNR=6.3						
428A	**Kincaid Ranch,**	**18.70**	**334**	⇑P	**Pn**	**08 40 39.5**	**+1.2**
	baz=19,SNR=15						
330A	**Mertzon**	**18.70**	**338**	⇑P	**Pn**	**08 40 38.6**	**+0.3**
	baz=19,SNR=9.7						
526A	**Mary Lane Ranc**	**18.79**	**329**	⇓P	**Pn**	**08 40 41.0**	**+1.5**
	baz=19,SNR=31						
231A	**Bronte**	**18.89**	**341**	⇑P	**Pn**	**08 40 41.0**	**+0.4**
	baz=19,SNR=8.8						
329A	**Wagon Wheel Ra**	**19.07**	**336**	⇑P	**Pn**	**08 40 43.0**	**+0.1**
	baz=19,SNR=13						
230A	**Sterling City**	**19.11**	**339**	⇓P	**Pn**	**08 40 42.9**	**-0.4**
	baz=19,SNR=16						
427A	**Hayter Ranch,**	**19.12**	**332**	⇑P	**Pn**	**08 40 43.8**	**+0.4**
	baz=19						
426A	**McDonald Obser**	**19.26**	**330**	⇑P	**Pn**	**08 40 45.7**	**+0.5**
	baz=19,SNR=19						
TIGA	**Tifton**	**19.31**	**25**	⇓P	**P**	**08 40 42.5**	**-1.7**
	baz=19						
328A	**Wristen Ranch,**	**19.32**	**334**	⇓P	**Pn**	**08 40 46.3**	**+0.5**
	baz=19,SNR=28						
ABTX	**Abilene, Hawle**	**19.33**	**343**	*e*P	**P**	**08 40 44.8**	**+0.4**
ABTX	**Abilene, Hawle**	**19.33**	**343**	⇑P	**P**	**08 40 44.9**	**+0.4**
	baz=19						
229A	**Bryant Ranch,**	**19.44**	**337**	⇓P	**Pn**	**08 40 46.9**	**-0.3**
	baz=20						
LRAL	**Lakeview Retre**	**19.62**	**16**	*e*P	**P**	**08 40 48.3**	**+0.7**
	14nm,1.0s						
130A	**Snyder**	**19.71**	**340**	⇓P	**Pn**	**08 40 49.5**	**-0.9**
	baz=20,SNR=7.5						
326A	**Caldwell Ranch**	**19.78**	**332**	⇑P	**Pn**	**08 40 50.9**	**-0.4**
	baz=20,SNR=19						
425A	**Indio Mountain**	**19.83**	**329**	⇓P	**Pn**	**08 40 51.3**	**-0.6**
	baz=20,SNR=16						
228A	**UT Block 9, Go**	**19.87**	**336**	⇓P	**P**	**08 40 51.2**	**+0.8**
	baz=20,SNR=11						
Z32A	**Haskell**	**19.93**	**344**	⇑P	**P**	**08 40 51.5**	**+0.5**
	baz=20,SNR=11						
OTAV	**Otavalo**	**20.05**	**132**	*e*P	Pn	08 40 54.9	-0.2
	7.5nm,1.1s						
129A	**Stewart Farms,**	**20.05**	**338**	⇓P	Pn	08 40 53.4	-1.1
	baz=20,SNR=11						
227A	**Bennet, Jal**	**20.07**	**334**	⇑P	Pn	08 40 54.5	-0.2
	baz=20,SNR=7.1						
Z31A	**Sharp Cattle R**	**20.12**	**343**	⇑P	**P**	**08 40 53.8**	**+0.7**
	baz=20,SNR=8.8						
128A	**Castleberry Fa**	**20.28**	**337**	⇓P	Pn	08 40 55.9	-1.2
	baz=20						
325A	**Bean Ranch, Si**	**20.30**	**330**	⇑P	Pn	08 40 57.0	-0.5
	baz=20,SNR=12						
MIAR	**Mount Ida**	**20.32**	**359**	*e*P	**P**	**08 40 53.7**	**-1.5**
	44nm,1.1s						
Z30A	**Sanderson Ranc**	**20.40**	**340**	⇓P	**P**	**08 40 56.3**	**+0.2**
	baz=20,SNR=20						
226B	**Tecolote Peak,**	**20.51**	**332**	⇑P	Pn	08 40 59.2	-0.7
	baz=21,SNR=22						
UALR	**University of**	**20.55**	**2**	*e*P	**P**	**08 40 57.8**	**+0.1**
	104nm,1.9s						
OXF	**Oxford**	**20.56**	**9**	*e*P	**P**	**08 40 57.4**	**-0.3**
	48nm,1.1s						
Z29A	**Hungry Hill Ra**	**20.57**	**339**	⇓P	**P**	**08 40 58.1**	**+0.2**
	baz=21,SNR=35						
Y32A	**R-V Farms, Ver**	**20.58**	**345**	⇓P	**P**	**08 40 58.4**	**+0.3**
	baz=21,SNR=8.7						
324A	**Moseley Ranch,**	**20.61**	**329**	⇓P	**P**	**08 40 59.6**	**+1.1**
	baz=21,SNR=22						
127A	**Arkansas Junct**	**20.67**	**335**	⇓P	**P**	**08 40 59.7**	**+0.6**
	baz=21,SNR=8.6						
ROSC	**El Rosal**	**20.70**	**115**	*e*P	Pn	08 41 03.4	+0.7
ROSC	**El Rosal**	**20.70**	**115**	P	Pn	08 41 03.0	+0.3
	22nm,1.1s,baz=256,slow=20,SNR=18						
GDL2	**Guadalupe Moun**	**20.70**	**332**	*e*P	Pn	08 41 01.7	-0.6
Y31A	**Rekieta Farm,**	**20.76**	**343**	⇓P	**P**	**08 41 00.6**	**+0.6**
	baz=21,SNR=10						
MNTX	**Cornudas Mount**	**20.77**	**329**	*e*P	**P**	**08 41 00.9**	**+0.9**
	19nm,1.3s						
225A	**Deer Hill, Car**	**20.84**	**331**	⇑P	**P**	**08 41 02.1**	**+1.1**
	baz=21,SNR=17						
Z28A	**Tucker Farm, M**	**20.84**	**338**	⇑P	**P**	**08 41 01.4**	**+0.5**
	baz=21,SNR=23						
Y30A	**Stafford Cattl**	**20.87**	**342**	⇓P	**P**	**08 41 01.6**	**+0.4**
	baz=21,SNR=8.5						
126A	**Clayton Basin,**	**20.93**	**334**	⇑P	**P**	**08 41 02.5**	**+0.7**
	baz=21,SNR=11						
Y29A	**Porterfield Fa**	**21.10**	**340**	⇓P	**P**	**08 41 04.2**	**+0.5**
	baz=21,SNR=21						
WMOK	**Wichita Mounta**	**21.13**	**347**	*e*P	**P**	**08 41 02.9**	**-1.0**
	9.1nm,1.0s						
WMOK				*e*S	**S**	**08 44 52.3**	**-4.3**
224A	**Cornudas Mount**	**21.14**	**330**	⇓P	**P**	**08 41 05.3**	**+1.0**
	baz=21,SNR=17						
CGIG		**21.16**	**322**	*e*P	**P**	**08 41 02.7**	**-1.8**
Z27A	**Tatum**	**21.17**	**336**	⇓P	**P**	**08 41 04.8**	**+0.2**
	baz=21,SNR=26						
125A	**Gardner Draw,**	**21.22**	**332**	⇑P	**P**	**08 41 06.2**	**+1.1**
	baz=21,SNR=30						
PLAL	**Pickwick Lake**	**21.25**	**12**	*e*P	**P**	**08 41 05.3**	**+0.2**
	19nm,1.1s						
X31A	**McDonald Ranch**	**21.32**	**344**	⇓P	**P**	**08 41 06.3**	**+0.4**
	baz=21,SNR=18						
Y28A	**McKinney Farm,**	**21.34**	**339**	⇑P	**P**	**08 41 06.4**	**+0.1**
	baz=21,SNR=33						
X30A	**Coker Ranch, T**	**21.39**	**342**	⇑P	**P**	**08 41 07.0**	**+0.2**
	baz=22						
Z26A	**Caprock**	**21.45**	**334**	⇓P	**P**	**08 41 08.1**	**+0.6**
	baz=22,SNR=36						
MSTX	**Muleshoe**	**21.59**	**338**	*e*P	**P**	**08 41 09.2**	**+0.2**
MSTX	**Muleshoe**	**21.59**	**338**	⇑P	**P**	**08 41 09.0**	**0.0**
	baz=22,SNR=7.4						
124A	**Stringfield Ra**	**21.62**	**331**	⇓P	**P**	**08 41 10.7**	**+1.2**
	baz=22,SNR=32						
X29A	**Tulia**	**21.65**	**341**	⇑P	**P**	**08 41 09.4**	**-0.2**
	baz=22,SNR=12						
Y27A	**Causey**	**21.66**	**337**	⇓P	**P**	**08 41 09.9**	**+0.2**
	baz=22,SNR=14						
Z25A	**Roswell**	**21.77**	**333**	⇑P	**P**	**08 41 11.5**	**+0.6**
	baz=22,SNR=16						
TUL1	**Tulsa**	**21.81**	**354**	*e*P	**P**	**08 41 11.9**	**+0.8**
TUL1	**Tulsa**	**21.81**	**354**	⇑P	**P**	**08 41 10.8**	**-0.3**
	baz=22						
W31A	**Holland Ranch,**	**21.83**	**345**	⇓P	**P**	**08 41 11.9**	**+0.4**
	baz=22,SNR=9.7						
X28A	**Dimmitt**	**21.88**	**340**	⇓P	**P**	**08 41 12.5**	**+0.4**
	baz=22						
Y26A	**Elida**	**21.95**	**336**	⇓P	**P**	**08 41 13.5**	**+0.6**
	baz=22,SNR=7.6						
123A	**Bell Site, Whi**	**21.96**	**329**	⇓P	**P**	**08 41 14.1**	**+1.1**
	baz=22,SNR=9.5						
SWET	**Sewanee**	**21.96**	**16**	*e*P	**P**	**08 41 15.9**	**+3.0**
	74nm,1.8s						
222A	**Williams Famil**	**21.97**	**327**	⇓P	**P**	**08 41 14.5**	**+1.4**
	baz=22,SNR=13						
W30A	**Crocket Farms**	**22.00**	**344**	⇓P	**P**	**08 41 13.7**	**+0.4**
	baz=22						
Z24A	**Sheeppen Canyo**	**22.10**	**332**	⇓P	**P**	**08

2.1nm,0.7s,baz=140,slow=13,SNR=12
W23A **Werner Place,** 23.99 333 ⇑P P 08 41 35.2 +1.6
baz=24
Y20A **Horse Springs,** 24.05 328 ⇑P P 08 41 36.5 +2.4
baz=24,SNR=18
T29A **Hugoton** 24.05 344 ⇑P P 08 41 34.5 +0.6
baz=24,SNR=8.9
S31A **Mullinville** 24.05 348 ⇑P P 08 41 34.1 +0.2
baz=24
V24A **Rampart Ranch,** 24.10 335 ⇑P P 08 41 36.2 +1.6
baz=24,SNR=18
U26A **Atchley Ranch,** 24.11 339 ⇑P P 08 41 36.1 +1.4
baz=24,SNR=27
X21A **Alamocita Cree** 24.17 329 ⇑P P 08 41 37.5 +2.3
baz=24,SNR=29
TUC **Tucson** 24.23 321 eP P 08 41 38.5 +2.9
19nm,1.3s
W22A **Albuquerque** 24.24 332 ⇑P P 08 41 37.0 +1.2
baz=24
T28A **Walsh** 24.24 342 ⇑P P 08 41 35.9 +0.2
baz=24,SNR=7.3
S30A **Montezuma** 24.29 346 ⇓P P 08 41 36.7 +0.5
baz=24,SNR=11
U25A **Circle Dot Ran** 24.36 338 ⇑P P 08 41 38.9 +2.0
baz=24,SNR=22
T27A **Campo** 24.38 341 ⇑P P 08 41 37.5 +0.5
baz=24,SNR=7.8
S29A **Ulysses** 24.44 345 ⇓P P 08 41 37.8 +0.4
baz=24,SNR=9.6
V23A **Ortiz Mt. (NFS** 24.50 334 ⇓P P 08 41 40.4 +2.2
baz=25,SNR=20
X20A **Quemado** 24.60 328 ⇑P P 08 41 41.4 +2.3
baz=25,SNR=18
S28A **Manter** 24.62 343 ⇓P P 08 41 38.8 -0.3
baz=25
U24A **Moreno Valley** 24.70 336 ⇓P P 08 41 41.7 +1.6
baz=25,SNR=5.5
R31A **Burdett** 24.71 348 ⇓P P 08 41 39.8 -0.1
baz=25,SNR=7.5
WCI **Wyandotte Cave** 24.74 13 eP P 08 41 38.6 -1.5
5.3nm,0.8s
T26A **Comanche Natio** 24.76 340 ⇑P P 08 41 41.6 +1.0
baz=25,SNR=13
R30A **Dighton** 24.86 347 ⇑P P 08 41 41.3 0.0
baz=25,SNR=27
V22A **San Miguel Ran** 24.96 333 ⇑P P 08 41 43.8 +1.4
baz=25
U23A **El Rito** 25.00 334 ⇓P P 08 41 44.5 +1.8
baz=25,SNR=15
T25A **Trinidad** 25.01 338 ⇓P P 08 41 44.8 +1.9
baz=25,SNR=16
KSU1 **Kansas State U** 25.05 354 eP P 08 41 41.9 -1.0
21nm,0.7s
W20A **Ramah** 25.07 329 ⇓P P 08 41 45.3 +2.0
baz=25,SNR=6.9
S26A **Kim** 25.13 340 ⇓P P 08 41 45.0 +1.2
baz=25,SNR=8.2
R29A **Marienthal** 25.20 345 ⇓P P 08 41 44.5 +0.1
baz=25,SNR=14
214A **Organ Pipe Nat** 25.27 318 ⇑P P 08 41 47.6 +2.6
baz=25
R28A **Tribune** 25.30 344 ⇑P P 08 41 45.3 0.0
baz=25,SNR=9.3
T24B **San Luis** 25.31 337 ⇓P P 08 41 47.8 +2.2
baz=25,SNR=12
U22A **Llaves** 25.32 333 ⇓P P 08 41 47.5 +1.8
baz=25
X18A **Snowflake** 25.36 326 ⇑P P 08 41 48.7 +2.7
baz=25,SNR=9.5
Q31A **Ellis** 25.37 349 ⇑P P 08 41 46.2 +0.3
baz=26
S25A **Robets Cordova** 25.49 339 ⇑P P 08 41 49.2 +2.1
baz=26,SNR=17
Q30A **Quinter** 25.52 347 ⇓P P 08 41 47.5 +0.3
baz=26,SNR=7.4
R27A **Eads** 25.53 342 ⇑P P 08 41 48.5 +1.1
baz=26,SNR=9.9
T23A **Casias Ranch,** 25.54 336 ⇑P P 08 41 49.3 +1.6
baz=26,SNR=12
V20A **Brimhall** 25.59 330 ⇓P P 08 41 49.6 +1.6
baz=26
Q29A **Oakley** 25.61 346 ⇓P P 08 41 48.5 +0.4
baz=26,SNR=16
ATAH **Atahualpa** 25.71 144 LR LR 08 49 58.6
comp=Z,245nm,19.0s,baz=214,slow=32
U21A **Nageezi** 25.72 332 ⇑P P 08 41 50.8 +1.5
baz=26
R26A **Arlington** 25.74 341 ⇓P P 08 41 51.0 +1.7
baz=26,SNR=8.7
S24A **Houchin Ranch,** 25.75 338 ⇑P P 08 41 51.4 +1.8
baz=26,SNR=7.2
R25A **Fountain Ranch** 25.87 340 ⇑P P 08 41 52.0 +1.5
baz=26,SNR=11
T22A **Edith** 25.88 334 ⇑P P 08 41 52.7 +1.9
baz=26,SNR=9.3
SDCO **Great Sand Dun** 25.95 337 eP P 08 41 53.1 +1.6
24nm,1.4s
Q28A **Sharon Springs** 25.98 344 ⇑P P 08 41 52.2 +0.7
baz=26
P30A **Selden** 26.07 347 ⇑P P 08 41 52.7 +0.5
baz=26,SNR=6.7
U20A **Newcomb** 26.08 331 ⇑P P 08 41 54.4 +1.9
baz=26
X16A **Lo Mia Camp, P** 26.11 324 ⇓P P 08 41 54.9 +2.2
baz=26
S23A **Nye Farm, Mont** 26.11 336 ⇑P P 08 41 54.9 +2.0
baz=26,SNR=6.6
T21A **Navajo Lake** 26.13 333 ⇑P P 08 41 54.8 +1.8
baz=26
KSCO **Kaye Shedlock'** 26.15 343 eP P 08 41 53.4 +0.3
KSCO **Kaye Shedlock'** 26.15 343 ⇑P P 08 41 53.8 +0.8
baz=26
R24A **Sanders Place,** 26.23 338 ⇑P P 08 41 55.5 +1.6
baz=26,SNR=8.2
P29A **Atwood** 26.27 346 ⇓P P 08 41 54.6 +0.5
baz=26,SNR=9.3
Q26A **Hugo** 26.33 342 ⇑P P 08 41 55.8 +1.1
baz=26,SNR=10
P28A **Saint Francis** 26.44 345 ⇓P P 08 41 56.0 +0.3
baz=27,SNR=15
R23A **Moffat** 26.46 337 ⇓P P 08 41 57.6 +1.6
baz=27,SNR=16
S22A **4UR Ranch, Cre** 26.47 335 ⇓P P 08 41 58.2 +2.0
baz=27,SNR=16
O31A **Woolen Ranch,** 26.47 349 ⇑P P 08 41 55.9 0.0
baz=27
Q25A **Bedland, Calha** 26.55 340 ⇓P P 08 41 58.0 +1.2
baz=27,SNR=5.9
O30A **MW Ranch, Wils** 26.64 348 ⇑P P 08 41 58.3 +1.0
baz=27
P27A **Ficken Ranch,** 26.64 344 ⇓P P 08 41 58.1 +0.6
baz=27,SNR=6.9
Y14A **Wickenburg** 26.70 321 ⇑P P 08 42 00.9 +3.0
baz=27
MVCO **Mesa Verde** 26.75 332 eP P 08 42 00.8 +2.2
42nm,1.5s
MVCO **Mesa Verde** 26.75 332 ⇓P P 08 42 00.4 +1.8
baz=27,SNR=10
S21A **Coal Bank Pass** 26.81 334 ⇑P P 08 42 00.7 +1.5
baz=27
R22A **Saguache, Gunn** 26.86 336 ⇓P P 08 42 01.5 +1.9
baz=27,SNR=11
P26A **Davis Ranch, A** 26.87 342 ⇑P P 08 42 01.2 +1.7
baz=27
WUAZ **Wupatki** 26.87 326 ⇓P P 08 42 02.2 +2.6
baz=27
Q24A **Divide** 26.90 339 ⇓P P 08 42 01.7 +1.7
baz=27
P25A **Willow Gulch B** 27.07 341 ⇑P P 08 42 03.1 +1.7
baz=27
Q23A **Hartsel** 27.09 338 ⇓P P 08 42 03.5 +1.7
baz=27
S20A **Disappointment** 27.19 333 ⇑P P 08 42 04.7 +2.1
baz=27
R21A **Cimarron** 27.30 335 ⇓P P 08 42 05.4 +1.9
baz=27
P24A **Kohler Place,** 27.32 340 ⇓P P 08 42 05.5 +1.9
baz=27
N29A **Votaw Ranch, W** 27.37 348 ⇓P P 08 42 05.5 +1.6
baz=28
Q22A **Crested Butte,** 27.46 336 ⇓P P 08 42 06.8 +1.7
baz=28
R20A **Redvale** 27.50 333 ⇑P P 08 42 07.8 +2.5
baz=28
P23A **Jefferson** 27.51 338 ⇓P P 08 42 07.4 +1.8
baz=28,SNR=11
PDMCI **Parker Dam,Lak** 27.64 320 ⇑P P 08 42 09.3 +3.0
baz=28

SMCO **Snowmass** 27.76 336 eP P 08 42 09.3 +1.5
17nm,1.4s
N27A **Anderson Farm,** 27.80 345 ⇑P P 08 42 09.1 +1.2
baz=28,SNR=5.9
ISCO **Idaho Springs** 27.81 339 eP P 08 42 09.3 +1.2
16nm,1.6s
ISCO **Idaho Springs** 27.81 339 ⇑P P 08 42 09.6 +1.4
baz=28,SNR=6.1
W13A **Hualapai Mount** 28.02 322 ⇑P P 08 42 12.3 +2.4
baz=28
U15A **North Rim** 28.04 326 ⇓P P 08 42 12.2 +1.9
baz=28
P22A **Eagle** 28.04 337 ⇑P P 08 42 12.0 +1.9
baz=28
IRM **Iron Mountain** 28.18 319 ⇑P P 08 42 13.9 +2.7
baz=28
MONP **Monument Peak** 28.24 315 ⇓P P 08 42 15.7 +3.7
baz=28
O22A **Kremmling** 28.46 338 ⇑P P 08 42 15.7 +1.7
baz=29
P20A **De Beque** 28.61 335 ⇑P P 08 42 17.6 +2.4
baz=29
PFO **Pinyon Flat Ob** 28.69 317 LR LR 08 55 53.4
comp=Z,293nm,19.2s,baz=137,slow=41
O21A **Pagoda** 28.85 337 ⇑P P 08 42 20.0 +2.6
baz=29
GMRC **Granite Mounta** 28.90 319 ⇑P P 08 42 21.0 +3.2
baz=29
N22A **Wattenberg Ran** 29.00 339 ⇑P P 08 42 20.5 +1.9
baz=29
M24A **Cheyenne** 29.06 342 ⇓P P 08 42 21.3 +2.2
baz=29
O20A **White River Ci** 29.08 336 ⇓P P 08 42 22.0 +2.6
baz=29
PHWY **Pilot Hill** 29.11 341 eP P 08 42 20.5 +0.8
5.2nm,1.1s
SRU **San Rafael** 29.22 332 eP P 08 42 22.9 +2.3
10nm,1.5s
M23A **Laramie** 29.34 340 ⇑P P 08 42 23.8 +2.1
baz=29
N21A **Black Mountain** 29.34 337 ⇓P P 08 42 24.0 +2.2
baz=29,SNR=8.2
Q16A **Castle Valley** 29.37 330 ⇓P P 08 42 24.5 +2.5
baz=29
L25A **Engebretsen Ra** 29.45 343 ⇑P P 08 42 24.1 +1.7
baz=30
CCUT **Cedar City** 29.45 326 eP P 08 42 24.9 +2.2
8.9nm,1.3s
MVU **Marysvale** 29.56 329 eP P 08 42 25.1 +1.4
13nm,1.8s
M22A **Cedar Creek Ra** 29.58 339 ⇑P P 08 42 26.2 +2.4
baz=30
ECSD **EROS Data Cent** 29.64 355 eP P 08 42 23.4 -0.7
54nm,2.2s
N20A **Spence Gulch,** 29.69 336 ⇑P P 08 42 26.5 +1.7
baz=30,SNR=8.6
SHPR **Sheep Range** 29.73 322 eP P 08 42 27.3 +2.2
14nm,1.7s
L23A **Garrett** 29.92 341 ⇓P P 08 42 27.7 +0.9
baz=30,SNR=8.5
GSC **Goldstone** 29.96 319 ⇓P P 08 42 29.2 +2.1
baz=30
J28A **Allard Ranch,** 30.00 348 ⇓P P 08 42 28.5 +1.2
baz=30
M21A **Separation Pea** 30.03 338 ⇑P P 08 42 29.8 +2.0
baz=30
K24A **Anderson Ranch** 30.21 343 ⇑P P 08 42 30.7 +1.4
baz=30
M20A **Sweetwater, Wa** 30.23 337 ⇓P P 08 42 30.9 +1.4
baz=30
J26A **Sides Ranch, S** 30.30 346 ⇑P P 08 42 31.2 +1.2
baz=30
L21A **Rawlins** 30.34 339 ⇓P P 08 42 31.3 +0.8
baz=30,SNR=5.9
K23A **Bowen Ranch, D** 30.48 342 ⇓P P 08 42 33.2 +1.6
baz=31
DAU **Daniels Canyon** 30.60 332 eP P 08 42 35.6 +2.7
K22A **Casper** 30.67 340 ⇓P P 08 42 34.4 +1.0
baz=31
J24A **Dixon Ranch, L** 30.73 343 ⇑P P 08 42 34.7 +0.9
baz=31
L20A **Wamsutter** 30.73 338 ⇓P P 08 42 35.1 +1.1
baz=31
FURC **Furnace Creek,** 30.73 321 ⇓P P 08 42 36.2 +2.4
baz=31
I27A **Quinn** 30.78 347 ⇓P P 08 42 35.0 +0.8
baz=31
MPMC **Manual Prospec** 30.86 319 ⇓P P 08 42 37.2 +2.0
baz=31
K21A **Alcova** 30.89 339 ⇑P P 08 42 36.8 +1.4
baz=31
H29A **Onida** 30.97 350 ⇓P P 08 42 36.5 +0.7
baz=31
SPMN **St. Paul** 30.98 0 eP P 08 42 34.6 -1.2
I25A **Rochford** 31.12 345 ⇓P P 08 42 38.5 +1.1
baz=31
M17A **Scullys Gap (B** 31.20 334 ⇓P P 08 42 40.2 +2.0
baz=31
R11A **Troy Canyon, C** 31.25 325 eP P 08 42 40.6 +2.1
R11A **Troy Canyon, C** 31.25 325 ⇓P P 08 42 41.0 +2.5
baz=31,SNR=6.0
RSSD **Black Hills** 31.30 345 eP P 08 42 39.3 +0.4
9.8nm,0.8s
L18A **Fontenelle, Gr** 31.32 335 ⇑P P 08 42 41.1 +2.0
baz=31
H27A **Howes** 31.33 348 ⇓P P 08 42 39.7 +0.8
baz=31
J22A **Midwest** 31.34 341 ⇓P P 08 42 41.1 +1.9
baz=31
GRAC **Grapevine Rang** 31.39 321 ⇑P P 08 42 42.7 +3.1
baz=31
H26A **Fairpoint** 31.46 347 ⇓P P 08 42 40.7 +0.5
baz=32
J21A **Lysite** 31.59 340 ⇓P P 08 42 43.4 +1.9
baz=32,SNR=10
K19A **Absolon Red Bu** 31.63 338 ⇓P P 08 42 43.2 +1.4
baz=32
HWUT **Hardware Ranch** 31.70 333 eP P 08 42 44.8 +2.3
15nm,1.6s
I22A **9 Mile Ranch,** 31.77 342 ⇓P P 08 42 44.6 +1.6
baz=32
J20A **Shoshoni** 31.82 339 ⇑P P 08 42 44.9 +1.5
baz=32
PDAR **Pinedale Array** 31.84 337 P P 08 42 44.9 +1.1
PDAR PcP PcP 08 45 34.4 +0.5
PDAR **Pinedale Array** 31.84 337 P P 08 42 44.9 +1.1
1.0nm,0.6s,baz=142,slow=7.5,SNR=8.0
PDAR PcP PcP 08 45 34.4 +0.5
0.4nm,0.8s,baz=134,slow=5.2,SNR=2.7
PDAR LR LR 08 58 46.7
comp=Z,140nm,18.3s,baz=50,slow=42
I21A **Big Trails, Te** 31.96 340 ⇑P P 08 42 46.4 +1.8
baz=32
H24A **Dirks Ranch, A** 32.01 345 ⇓P P 08 42 45.9 +0.9
baz=32
G26A **Maurine** 32.07 347 ⇓P P 08 42 47.1 +1.6
baz=32
J19A **Crowheart** 32.08 338 ⇑P P 08 42 47.2 +1.4
baz=32
G25A **Newell** 32.15 346 ⇓P P 08 42 46.8 +0.6
baz=32
I20A **Worland** 32.36 340 ⇓P P 08 42 49.6 +1.5
baz=32,SNR=9.8
H22A **Clearmont** 32.37 342 ⇓P P 08 42 49.3 +1.1
baz=32
HVU **Hansel Valley** 32.38 332 eP P 08 42 50.8 +2.4
8.0nm,1.0s
AHID **Auburn Hatcher** 32.45 335 eP P 08 42 51.0 +1.9
43nm,1.6s
G24A **Alzada** 32.52 345 ⇑P P 08 42 50.5 +1.0
baz=33
H21A **Big Horn, Sher** 32.61 341 ⇑P P 08 42 51.3 +1.0
baz=33
F26A **Lodgepole** 32.62 348 ⇑P P 08 42 51.0 +0.7
baz=33
G23A **Biddle** 32.66 344 ⇑P P 08 42 51.3 +0.7
baz=33
I19A **Meeteetse** 32.73 339 ⇑P P 08 42 53.8 +2.3
baz=33,SNR=8.4
I18A **Diamond G Ranc** 32.74 337 ⇑P P 08 42 53.3 +1.7
baz=33
SADO **Sadowa** 32.76 19 LR LR 08 57 34.9
comp=Z,539nm,18.4s,baz=279,slow=39
ELK **Elko** 32.78 328 eP P 08 42 54.0 +2.0
3.8nm,1.1s
NV11 **Mina Array Sit** 32.79 322 eP P 08 42 54.9 +2.9
H20A **Greybull** 32.79 340 ⇓P P 08 42 53.0 +1.1
baz=33,SNR=8.5

REDW **Red Top Meadow** 32.85 336 eP P 08 42 54.3 +1.7
41nm,1.3s
F25A **Bowman** 32.86 347 ⇑P P 08 42 53.1 +0.7
baz=33
NVAR **Mina Array Bea** 32.88 322 P P 08 42 55.8 +2.9
NVAR **Mina Array Bea** 32.88 322 P P 08 42 55.8 +2.9
baz=129,slow=8.3
SNOW **Snow King Moun** 32.90 336 eP P 08 42 54.8 +1.7
32nm,0.9s
G22A **Birney** 32.92 343 ⇓P P 08 42 53.7 +0.7
baz=33,SNR=5.1
E28A **Huff** 32.95 350 ⇓P P 08 42 53.5 +0.4
baz=33
E27A **Carson** 32.96 349 ⇑P P 08 42 54.0 +0.8
baz=33
LOHW **Long Hollow** 32.97 336 eP P 08 42 55.1 +1.6
22nm,1.4s
TPAW **Teton Pass** 33.00 336 eP P 08 42 56.0 +2.0
27nm,1.3s
RRI2 **Red Ridge** 33.03 335 eP P 08 42 56.6 +2.4
MOOW **Moose Ponds** 33.14 336 eP P 08 42 56.4 +1.3
80nm,2.6s
F23A **Volborg** 33.14 344 ⇓P P 08 42 55.8 +0.9
baz=33
E26A **Carlson Angus** 33.17 348 ⇑P P 08 42 55.5 +0.5
baz=33,SNR=6.6
D30A **Buchanan** 33.20 353 ⇑P P 08 42 55.2 -0.1
baz=33
G21A **Lodge Grass** 33.20 342 ⇓P P 08 42 56.1 +0.6
baz=33
H19A **Powell** 33.28 339 ⇓P P 08 42 57.6 +1.3
baz=33,SNR=7.2
IMW **Indian Meadow** 33.34 336 eP P 08 42 58.5 +1.6
20nm,1.4s
E25A **Miller Ranch,** 33.39 347 ⇓P P 08 42 57.4 +0.4
baz=34
F22A **Rosebud** 33.43 343 ⇑P P 08 42 58.2 +0.8
baz=34
G20A **Bridger** 33.51 341 ⇑P P 08 42 58.7 +0.5
baz=34,SNR=7.0
H18A **Shoshone NF, C** 33.53 338 ⇓P P 08 42 59.3 +0.9
baz=34,SNR=19
I16A **Newdale** 33.53 336 ⇓P P 08 43 00.8 +2.3
baz=34
E24A **Baker** 33.65 346 ⇓P P 08 42 59.7 +0.4
baz=34
D26A **Manning** 33.70 349 ⇓P P 08 42 59.7 +0.1
baz=34
C30A **Mose, Pekin** 33.75 353 ⇓P P 08 42 59.6 -0.6
baz=34,SNR=5.9
E22A **Miles City** 33.95 344 ⇓P P 08 43 03.0 +1.2
baz=34
D25A **Fairfield** 33.99 348 ⇑P P 08 43 03.3 +1.1
baz=34
F20A **Billings** 34.01 341 ⇑P P 08 43 03.7 +1.3
baz=34
C28A **Hausauer Farms** 34.01 351 ⇓P P 08 43 03.2 +0.8
baz=34
MDND **Maddock** 34.03 352 ⇓P P 08 43 03.1 +0.5
baz=34
G18A **Lazy EL Ranch,** 34.05 339 ⇓P P 08 43 03.6 +0.7
baz=34
D24A **Glendive** 34.18 346 ⇓P P 08 43 04.7 +0.8
baz=34
F19A **Roth Farm, Mol** 34.31 340 ⇑P P 08 43 05.5 +0.4
baz=34,SNR=7.5
E21A **Keefer Ranch,** 34.35 343 ⇑P P 08 43 05.7 +0.3
baz=34
C26A **Wahner Farm, P** 34.40 349 ⇑P P 08 43 05.7 -0.1
baz=34
D23A **Lindsay** 34.44 345 ⇑P P 08 43 06.2 +0.1
baz=34
B30A **Myrvik Farm, E** 34.48 354 ⇑P P 08 43 05.9 -0.5
baz=35
GCMT **Greycliff** 34.50 339 eP P 08 43 07.1 +0.3
3.4nm,0.9s
C25A **Freed Ranch, W** 34.51 348 ⇑P P 08 43 06.7 0.0
baz=35
HLID **Hailey** 34.53 332 eP P 08 43 09.2 +2.1
14nm,1.6s
HLID **Hailey** 34.53 332 ⇑P P 08 43 08.7 +1.6
baz=35,SNR=6.4
C24A **Savage** 34.59 346 ⇑P P 08 43 07.8 +0.4
baz=35
B29A **Wagenman Farm,** 34.61 353 ⇑P P 08 43 07.0 -0.5
baz=35,SNR=5.8
E20A **Meyer Farm, Mu** 34.63 342 ⇓P P 08 43 08.7 +0.9
baz=35,SNR=6.0
D22A **Cohagen** 34.67 344 ⇓P P 08 43 09.0 +0.9
baz=35,SNR=12
B28A **Dugan Ranch, T** 34.73 352 ⇑P P 08 43 08.7 +0.2
baz=35,SNR=7.7
E19A **Rath Farm, Rou** 34.80 341 ⇓P P 08 43 10.2 +0.9
baz=35,SNR=9.2
D21A **La Casta Ranch** 34.81 343 ⇑P P 08 43 10.3 +0.9
baz=35,SNR=6.2
B27A **Peters Farms,** 34.82 351 ⇑P P 08 43 09.9 +0.6
baz=35
MCMT **McKenzie Canyo** 34.87 335 eP P 08 43 12.7 +2.6
A30A **Hoffart Farm,** 34.96 354 ⇑P P 08 43 10.4 -0.1
baz=35
C23A **Lambert** 35.02 346 ⇓P P 08 43 11.8 +0.7
baz=35
A29A **Manning Farm,** 35.04 353 ⇓P P 08 43 10.8 -0.4
baz=35,SNR=6.8
MFID **Camas Ranch** 35.07 331 ⇑P P 08 43 13.7 +2.0
baz=35
C22A **Vida** 35.14 345 ⇑P P 08 43 13.5 +1.4
baz=35
D20A **Manuel Ranch,** 35.16 342 ⇑P P 08 43 13.1 +0.7
baz=35,SNR=6.7
A28A **Rude Farm, Bot** 35.16 352 ⇑P P 08 43 12.4 +0.1
baz=35
DLMT **Dillon** 35.21 336 eP P 08 43 14.9 +2.0
15nm,1.2s
A26A **Wade Farm, Ken** 35.42 350 ⇓P P 08 43 14.5 0.0
baz=36,SNR=6.5
DGMT **Dagmar** 35.43 347 ⇓P P 08 43 15.1 +0.5
baz=36
D19A **Cripps Ranch,** 35.45 341 ⇓P P 08 43 16.3 +1.4
baz=36
C21A **Desert Coulee** 35.53 344 ⇓P P 08 43 16.3 +0.8
baz=36,SNR=7.2
LRM **Limekiln Ridge** 35.54 337 eP P 08 43 17.8 +2.0
B23A **Brockton** 35.60 346 ⇓P P 08 43 17.1 +1.0
baz=36
A25A **Svangstu Ranch** 35.66 349 ⇑P P 08 43 17.5 +0.9
baz=36
C20A **Veseth Ranch,** 35.68 343 ⇑P P 08 43 17.8 +1.0
baz=36
WVOR **Wild Horse Val** 35.77 327 eP P 08 43 19.8 +2.0
13nm,1.4s
A24A **Westby** 35.82 348 ⇓P P 08 43 18.6 +0.6
baz=36
C19A **Slack Wire Ran** 36.01 342 ⇓P P 08 43 20.6 +0.9
baz=36,SNR=5.0
A23A **Redstone** 36.04 347 ⇑P P 08 43 21.0 +1.1
baz=36
HRY **Holter Researc** 36.05 338 eP P 08 43 21.7 +1.6
MOD **Modoc** 36.31 325 eP P 08 43 23.8 +1.3
38nm,1.4s
J08A **Circle Bar Ran** 36.33 328 eP P 08 43 24.5 +1.9
39nm,1.6s
EGMT **Eagleton** 36.49 341 eP P 08 43 24.6 +0.8
36nm,1.3s
EGMT **Eagleton** 36.49 341 ⇑P P 08 43 24.9 +1.1
baz=37,SNR=6.4
A21A **Bergtoll Ranch** 36.56 345 ⇑P P 08 43 25.4 +1.1
baz=37
B19A **Brinkman Farms** 36.63 342 ⇓P P 08 43 25.9 +1.0
baz=37,SNR=9.2
A20A **Cobblestone Ra** 36.72 344 ⇑P P 08 43 26.8 +1.1
baz=37
CHMT **Chamberlain Mo** 36.75 337 eP P 08 43 27.5 +1.3
MSO **Missoula** 36.95 336 eP P 08 43 29.3 +1.6
13nm,1.4s
MSO **Missoula** 36.95 336 ⇑P P 08 43 28.9 +1.2
baz=37
A19A **Klindworth Far** 36.99 343 ⇓P P 08 43 29.1 +1.0
baz=37
SLMT **Seeley Lake** 37.12 337 eP P 08 43 30.1 +0.8
SWMT **Swartz Lake** 37.53 337 eP P 08 43 33.9 +1.3
SAML **Samuel** 37.54 126 eP P 08 43 32.1 -0.9
4.3nm,0.8s
YBH **Yreka Blue Hor** 37.58 323 P P 08 43 33.3 +0.2
YBH **Yreka Blue Hor** 37.58 323 P P 08 43 33.3 +0.2
1.3nm,0.7s,baz=149,slow=3.1,SNR=10
YBH LR LR 09 00 42.2

comp=Z,264nm,18.3s,baz=146,slow=39
F10A Beach Ranch, E 37.66 332 *eP* **P 08 43 35.1 +1.4**
10nm,0.9s
JTMT Jette 37.84 337 *eP* **P 08 43 36.6 +1.4**
G08A Pilot Rock 37.97 330 *eP* **P 08 43 37.5 +1.1**
3.6nm,1.0s
BLMT Blacktail Moun 38.08 337 *eP* **P 08 43 39.0 +1.5**
WALA Waterton Lakes 38.78 338 *eP* **P 08 43 42.8 -0.4**
1.2nm,1.9s
LPAZ La Paz 39.05 140 P P 08 43 52.2 +5.9
LPAZ La Paz 39.05 140 P P 08 43 52.2 +5.9
0.9nm,0.7s,baz=319,slow=10,SNR=5.1
H04A Detroit Lake 39.19 327 *eP* **P 08 43 47.7 +1.2**
73nm,2.0s
NEW Newport 39.39 335 P **P 08 43 47.6 -0.6**
NEW Newport 39.39 335 P **P 08 43 47.6 -0.6**
1.5nm,0.6s,baz=169,slow=9.8,SNR=1.9
NEW LR LR 09 03 12.4
comp=Z,301nm,20.2s,baz=245,slow=41
NEW Newport 39.39 335 ⇑P **P 08 43 49.0 +0.8**
baz=40
C09A Chrisman Ranch 39.52 333 *eP* **P 08 43 51.4 +2.1**
29nm,1.6s
EDM Edmonton 42.15 342 *eP* **P 08 44 11.3 +0.4**
PGC Sidney 42.52 330 *eP* **P 08 44 15.4 +1.6**
1.4nm,1.6s
SIV San Ignacio 43.60 132 P **P 08 44 22.9 -0.1**
SIV San Ignacio 43.60 132 P **P 08 44 22.9 -0.1**
1.8nm,0.6s,baz=324,slow=9.9,SNR=7.3
SCHQ Schefferville 45.48 21 LR LR 09 05 53.2
comp=Z,609nm,19.3s,baz=310,slow=39
YKA Yellowknife Ar 50.64 347 P **P 08 45 17.6 +0.4**
YKA Yellowknife Ar 50.64 347 P **P 08 45 17.6 +0.4**
6.7nm,0.6s,baz=152,slow=7.1,SNR=16
DLBC Dease Lake 52.08 336 *eP* **P 08 45 30.5 +2.4**
DLBC Dease Lake 52.08 336 P **P 08 45 30.4 +2.2**
5.8nm,1.0s,baz=128,slow=2.7,SNR=7.5
BDFB Brasilia 53.53 122 P **P 08 45 38.6 -0.9**
BDFB Brasilia 53.53 122 P **P 08 45 38.6 -0.9**
1.3nm,0.4s,baz=326,slow=4.8,SNR=3.3
BDFB LR LR 09 11 08.1
comp=Z,170nm,18.2s,baz=209,slow=39
INK Inuvik 59.99 344 *eP* **P 08 46 24.9 +0.5**
30nm,1.3s
INK Inuvik 59.99 344 P **P 08 46 25.2 +0.8**
9.0nm,0.7s,baz=146,slow=5.7,SNR=21
EGAK Eagle 60.17 338 *eP* **P 08 46 25.9 +0.2**
15nm,1.5s
PAX Paxson 60.87 336 *eP* **P 08 46 31.1 +0.4**
2.5nm,0.7s
ILAR Eielson Array 62.28 337 P **P 08 46 40.9 +0.9**
ILAR Eielson Array 62.28 337 P **P 08 46 40.9 +0.9**
4.8nm,1.1s,baz=133,slow=4.8,SNR=26
MCK McKinley 62.61 336 *eP* **P 08 46 43.2 +0.9**
10nm,1.1s
COLA College 62.69 337 *eP* **P 08 46 43.0 +0.2**
14nm,0.8s
BPAW Bear Paw Mtn. 63.59 335 *eP* **P 08 46 48.9 +0.1**
6.8nm,1.2s
PPT Papeete 63.98 242 LR LR 09 06 06.3
comp=Z,67nm,21.7s,baz=130,slow=28
BORG Borgarnes 69.56 26 LR LR 09 16 28.5
comp=Z,250nm,21.1s,baz=234,slow=35
BBTS Babate 73.82 79 LR LR 09 15 29.4
comp=Z,138nm,19.1s,baz=323,slow=32
EKA Eskdalemuir Ar 78.49 36 P **P 08 48 16.3 -2.9**
EKA Eskdalemuir Ar 78.49 36 P **P 08 48 16.3 -2.9**
1.7nm,0.7s,baz=264,slow=6.6,SNR=4.2
ESDC Sonseca Array 80.49 51 P **P 08 48 28.8 -1.7**
ESDC Sonseca Array 80.49 51 P **P 08 48 28.8 -1.7**
0.6nm,0.4s,baz=280,slow=6.9,SNR=3.8
MDT Midelt 81.25 58 LR LR 09 17 28.0
comp=Z,94nm,21.9s,baz=336,slow=31
NOA NORSAR Array B 84.54 28 P **P 08 48 51.1 0.0**
NOA NORSAR Array B 84.54 28 P **P 08 48 51.1 0.0**
0.6nm,0.4s,baz=290,slow=5.2,SNR=2.4
NOA LR LR 09 24 14.3
comp=Z,117nm,21.5s,baz=295,slow=34
HFS Hagfors 86.01 29 P **P 08 48 57.8 -0.6**
HFS Hagfors 86.01 29 P **P 08 48 57.8 -0.6**
0.8nm,0.6s,baz=294,slow=14,SNR=2.7
HFS LR LR 09 24 46.0
comp=Z,137nm,21.4s,baz=282,slow=34
ARCES ARCESS Array B 86.34 18 P **P 08 48 59.6 -0.2**
ARCES ARCESS Array B 86.34 18 P **P 08 48 59.6 -0.2**
2.1nm,0.8s,baz=298,slow=9.7,SNR=4.2
ARCES LR LR 09 28 42.5
comp=Z,137nm,19.8s,baz=140,slow=37
DBIC Dimbokro 86.73 84 LR LR 09 21 51.6
comp=Z,111nm,20.5s,baz=240,slow=32
GERES GERESS Array B 90.19 39 LR LR 09 29 35.6
comp=Z,84nm,19.4s,baz=298,slow=36
FINES FINESS Array B 90.83 25 P **P 08 49 20.4 -0.9**
FINES FINESS Array B 90.83 25 P **P 08 49 20.4 -0.9**
0.8nm,0.4s,baz=12,slow=2.8,SNR=6.0
FINES LR LR 09 27 26.3
comp=Z,131nm,21.3s,baz=270,slow=34
TORD Torodi Ar. Bea 91.41 76 P **P 08 49 23.6 -1.3**
TORD Torodi Ar. Bea 91.41 76 P **P 08 49 23.6 -1.3**
0.5nm,0.7s,baz=295,slow=6.8,SNR=4.5
TORD LR LR 09 28 19.7
comp=Z,102nm,18.5s,baz=255,slow=34
AKASG Malin Array Be 98.21 33 LR LR 09 37 20.3
comp=Z,87nm,20.2s,baz=305,slow=37
MDJ Mudanjiang 109.81 329 Pdif **Pdif 08 50 48.1 +1.0**
MDJ PP **PP 08 55 21.8 +0.9**
MDJ LR LR
comp=N,44nm,5.9s
MDJ LR LR
comp=E,58nm,6.4s
MDJ LR LR
comp=Z,130nm,9.3s
HHC Hu-ho-hao-te 120.69 338 *e*PKP **PKPdf 08 55 09.3 -1.1**
HHC sPKP 08 55 34.8
HHC PP **PP 08 56 39.4 +2.1**
HHC SKS **SKSdf 09 02 12.4 -6.6**
HHC SKKS SKKSac 09 03 26.1 -8.5
HHC SS **SS 09 13 00.8 -2.9**
HHC AMB AMB
comp=Z,140nm,9.5s
HHC LR LR
comp=N,210nm,19.0s
HHC LR LR
comp=E,210nm,20.2s
HHC LR LR
comp=Z,210nm,19.0s
WMQ Urumqi 122.31 359 *e*PKP **PKPdf 08 55 13.9 +0.6**
WMQ LR LR
comp=E,140nm,26.7s
WMQ LR LR
comp=Z,98nm,20.6s
NJ2 Nanjing 124.78 327 *e*PKP **PKPdf 08 55 19.3 +1.0**
KSH Kashi 125.66 10 PKP **PKPdf 08 55 23.3 +3.3**
KSH PP **PP 08 57 14.6 +4.0**
KSH PKS **PKSdf 08 58 58.5 +1.8**
KSH SKKS 09 04 02.6
KSH LR LR
comp=N,55nm,5.8s
KSH LR LR
comp=E,34nm,6.7s
KSH LR LR
comp=Z,110nm,9.4s
STKA Stephens Creek 127.17 241 PKP **PKPdf 08 55 23.9 +1.1**
STKA Stephens Creek 127.17 241 PKP **PKPdf 08 55 23.9 +1.1**
comp=Z,1.0nm,0.7s,baz=11,slow=5.2,SNR=5.6
LZH Lanzhou 127.53 343 *e*PKP **PKPdf 08 55 26.0 +2.3**
LZH sPKP 08 55 50.3
LZH LR LR
comp=N,130nm,17.9s
LZH LR LR
comp=E,130nm,18.3s
LZH LR LR
comp=Z,170nm,20.1s
CD2 Chengdu 132.35 340 PKP **PKPdf 08 55 32.8 0.0**
WRA Warramunga Arr 134.36 256 PKP **PKPdf 08 55 37.3 +0.5**
WRA Warramunga Arr 134.36 256 PKP **PKPdf 08 55 37.3 +0.5**
comp=Z,0.4nm,0.7s,baz=89,slow=2.6,SNR=8.0
ASAR Alice Springs 134.68 251 PKP **PKPdf 08 55 39.1 +1.8**
ASAR Alice Springs 134.68 251 PKP **PKPdf 08 55 39.1 +1.8**
comp=Z,0.2nm,0.6s,baz=94,slow=2.9,SNR=4.8
GYA Guiyang 135.28 334 *e*Pdif **Pdif 08 52 39.8 -1.1**
GYA PKP **PKPdf 08 55 38.6 +0.1**
GYA PP **PP 08 58 17.4 +4.0**
GYA AMB AMB
comp=Z,90nm,7.8s
KMI Kunming 138.01 338 PKP **PKPdf 08 55 43.3 -0.5**

HYB Hyderabad 147.58 15 *i* PKP PKPdf 08 55 54.0 -6.6

VIE 15 08:37:15.6±0.5, 47°.14N×11°.17E, h0km, ML0.8/3, 3C-2D, Error ellipse: s-maj=4.3km s-min=2.3km az=155.0 7 km S of Gries im Sellrain Suspected Mining explosion., Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOTA	**Moosalm** 5.4nm,0.2s	**0.21**	**348**⇑	*e*Pg	Pg	08 37 20.4	+0.4
MOTA	5.4nm,0.2s			⇓*e*Sg	Sg	08 37 22.6	-0.3
FETA	**Feichten** 0.2nm,0.1s	**0.32**	**249**⇑	*i*Sg	Sg	08 37 26.4	0.0
WTTA	**Wattenberg** 0.7nm,0.1s	**0.34**	**68**⇑	*e*Pg	Pg	08 37 22.9	+0.4
WTTA	1.5nm,0.2s			⇓*e*Sg	Sg	08 37 26.4	-0.7

TIR ***15*** *08:37:25.6, 41°.17N×19°.58E, h25km, ML4.3*
ATH ***15*** *08:37:36.8, 41°.42N×19°.16E, h33km±18km, MD4.0/16*
SZGRF ***15*** *08:37:36.8, 40°.93N×20°.00E, h10km, mb4.2, Albania*
IDC ***15*** *08:37:38.2±0.9, 41°.18N×19°.43E, h0km, mb3.9/12, mb1 4.0/19, mb1mx3.9/32, mbtmp3.9/19, ML3.7/7, MS3.1/6, Ms1 3.1/6, ms1mx2.7/45, Error ellipse: s-maj=16.3km s-min=11.5km az=39.0*
PRU ***15*** *08:37:39.7, 40°.87N×19°.40E, h21km, M4.2*
MOS ***15*** *08:37:39.2±1.2, 41°.01N×19°.24E, h33km, mb4.6/3, Error ellipse: s-maj=6.6km s-min=4.3km az=89.6*
NEIC ***15*** *08:37:41.0±1.3, 41°.24N×19°.47E, h17km±9km, mb4.2/1, ML4.3(TIR), Error ellipse: s-maj=8.9km s-min=6.1km az=193.0*
CSEM ***15*** *08:37:40.6±0.1, 41°.18N×19°.43E, h10km, ML4.3, Ms3.7, Error ellipse: s-maj=2.8km s-min=1.9km az=53.0*
LDG ***15*** *08:37:40.0±0.1, 41°.13N×19°.47E, h5km, Ml4.2/6, Error ellipse: s-maj=2.1km s-min=1.6km az=24.0*
PDG ***15*** *08:37:40.8±0.6, 41°.17N×19°.50E, h16km±1km, MD4.1/11, ML4.1/12, Error ellipse: s-maj=0.5km s-min=0.7km az=0.0*
BEO ***15*** *08:37:41.1±0.9, 41°.09N×19°.45E, h19km±4km, ML4.0/9*
THE ***15*** *08:37:41.2, 41°.18N×19°.53E, h6km, ML3.8/6, Error ellipse: s-maj=0.9km s-min=0.4km az=53.0*
VIE ***15*** *08:37:44.7±1.2, 41°.46N×19°.36E, h10km, mb3.5/9, Ms3.7/9, Error ellipse: s-maj=26.9km s-min=8.8km az=55.0*
ISC 15 08:37:41.0±0.8, 41°.17N±0°.01×19°.50E±0°.02, h19km±2km, **n424,** σ1§**42**/510, **mb4.1**/12, **33C-36D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.33**	**56**	*i* PG	**Pg**	**08 37 47.5**	**-0.5**
TIR	**Tirane**	**0.33**	**56**	P	**Pg**	**08 37 47.2**	**-0.9**
TIR				S	**Sg**	**08 37 52.0**	**-0.9**
TIR	**Tirane**	**0.33**	**56**	*e*P	**Pg**	**08 37 47.2**	**-0.9**
TIR	**Tirane**	**0.33**	**56**	*e*Pg	**Pg**	**08 37 47.1**	**-0.9**
TIR	**Tirane**	**0.33**	**56**	*e*Pg	**Pg**	**08 37 47.6**	**-0.5**
TIR				*e*Sg	**Sn**	**08 37 58.3**	**+1.4**
TIR	**Tirane**	**0.33**	**56**	P	**Pg**	**08 37 47.2**	**-0.9**
TIR	**Tirane**	**0.33**	**56**	*e*Pg	**Pg**	**08 37 47.6**	**-0.5**
TIR				S	**Sg**	**08 37 52.0**	**-0.9**
ULC	**Ulcinj**	**0.82**	**346**	⇓*i*Pg	**Pg**	**08 37 56.7**	**-0.3**
ULC				*e*Sg	**Sn**	**08 38 09.5**	**+0.3**
ULC	**Ulcinj**	**0.82**	**346**	⇓*i*Pg	**Pg**	**08 37 56.7**	**-0.3**
ULC				*e*Sg	**Sn**	**08 38 09.5**	**+0.3**
PHP	**Peshkopia**	**0.87**	**53**	*i* PG	**Pb**	**08 37 55.7**	**-1.8**
PHP				*i* SG	**Sb**	**08 38 09.3**	**+0.4**
PHP	**Peshkopia**	**0.87**	**53**	P	**Pb**	**08 37 56.4**	**-1.1**
PHP				S	**Sg**	**08 38 09.7**	**+0.1**
PHP	**Peshkopia**	**0.87**	**53**	*i* Pg	**Pb**	**08 37 55.7**	**-1.8**
PHP	**Peshkopia**	**0.87**	**53**	P	**Pb**	**08 37 56.4**	**-1.1**
PHP				*i* Sg	**Sb**	**08 38 09.3**	**+0.4**
PUK	**Puka**	**0.92**	**18**	*e*PG	**Pb**	**08 37 58.5**	**+0.1**
PUK				*e*SG	**Sn**	**08 38 13.4**	**+1.6**
PUK	**Puka**	**0.92**	**18**	*e*Pg	**Pb**	**08 37 58.5**	**+0.1**
DRME	**Dracevica, Mon**	**1.05**	**347**	⇓*i*Pg	**Pg**	**08 38 01.0**	**-0.3**
DRME				*e*Sg	**Sg**	**08 38 17.1**	**+2.0**
DRME	**Dracevica, Mon**	**1.05**	**347**	⇓*i*Pg	**Pg**	**08 38 01.0**	**-0.3**
DRME				*e*Sg	**Sg**	**08 38 17.1**	**+2.0**
KBN	**Korca**	**1.11**	**119**	*e*PG	**Pg**	**08 38 02.3**	**-0.3**
KBN				*e*SG	**Sn**	**08 38 16.8**	**+0.4**
KBN	**Korca**	**1.11**	**119**	P	**Pb**	**08 38 01.8**	**+0.2**
KBN				S	**Sg**	**08 38 18.1**	**+0.9**
KBN	**Korca**	**1.11**	**119**	P	**Pb**	**08 38 01.8**	**+0.2**
KBN	**Korca**	**1.11**	**119**	*e*Pg	**Pg**	**08 38 02.3**	**-0.3**
KBN				*e*Sg	**Sn**	**08 38 16.8**	**+0.4**
KBN				S	**Sg**	**08 38 18.1**	**+0.9**
BUM	**Brajici-Budva**	**1.22**	**338**	*e*Pg	**Pg**	**08 38 03.9**	**-0.7**
BUM				*e*Sg	**Sg**	**08 38 22.8**	**+2.1**
BUM	**Brajici-Budva**	**1.22**	**338**	*e*Pg	**Pg**	**08 38 03.9**	**-0.7**
BUM				*e*Sg	**Sg**	**08 38 22.8**	**+2.1**
BCI	**Bajram Curri**	**1.27**	**19**	*e*PG	**Pb**	**08 38 04.4**	**+0.1**
BCI				*e*SG	**Sg**	**08 38 21.5**	**-0.7**
BCI	**Bajram Curri**	**1.27**	**19**	*e*Pg	**Pb**	**08 38 04.4**	**+0.1**
BCI				*e*Sg	**Sg**	**08 38 21.5**	**-0.7**
PDG	**Podgorica**	**1.28**	**352**	P	**Pb**	**08 38 04.6**	**+0.2**
PDG				S	**Sg**	**08 38 22.9**	**+0.5**
PDG	**Podgorica**	**1.28**	**352**	*e*Pg	**Pg**	**08 38 05.3**	**-0.3**
PDG				*e*Sg	**Sg**	**08 38 24.6**	**+2.2**
PDG	**Podgorica**	**1.28**	**352**	⇓*i*Pg	**Pb**	**08 38 04.4**	**0.0**
PDG				S	**Sg**	**08 38 22.9**	**+0.5**
PDG				*e*Sg	**Sg**	**08 38 24.6**	**+2.2**
TTG	**Podgorica**	**1.28**	**352**	⇓*i*Pg	**Pb**	**08 38 04.4**	**0.0**
TTG				*e*Sg	**Sg**	**08 38 24.6**	**+2.2**
SRN	**Sarande**	**1.34**	**163**	*e*PG	**Pb**	**08 38 05.4**	**0.0**
SRN				*e*SG	**Sg**	**08 38 24.2**	**-0.1**
SRN	**Sarande**	**1.34**	**163**	P	**Pb**	**08 38 05.7**	**+0.3**
SRN				S	**Sg**	**08 38 24.8**	**+0.5**
SRN	**Sarande**	**1.34**	**163**	*e*Pg	**Pb**	**08 38 05.4**	**0.0**
SRN	**Sarande**	**1.34**	**163**	P	**Pb**	**08 38 05.7**	**+0.3**
SRN				*e*Sg	**Sg**	**08 38 24.2**	**-0.1**
BIA	**Bitola**	**1.38**	**95**	P	**Pn**	**08 38 05.9**	**+0.6**
BIA				S	**Sg**	**08 38 25.1**	**-0.6**
BIA	**Bitola**	**1.38**	**95**	*i* Pn	Pn	08 38 01.3	-4.0
BIA	**Bitola**	**1.38**	**95**	P	**Pn**	**08 38 05.9**	**+0.6**
BIA				S	**Sg**	**08 38 25.1**	**-0.6**
NEST	**Nestorio**	**1.39**	**122**	P	**Pb**	**08 38 06.2**	**-0.2**
NEST				S	**Sg**	**08 38 25.7**	**-0.3**
NEST	**Nestorio**	**1.39**	**122**	P	**Pb**	**08 38 06.2**	**-0.2**
NEST				S	**Sg**	**08 38 25.7**	**-0.3**
PVY	**Plav**	**1.47**	**13**	⇓*i*Pg	**Pn**	**08 38 07.0**	**+0.5**
PVY				*e*Sg	**Sg**	**08 38 29.0**	**+0.6**
PVY	**Plav**	**1.47**	**13**	⇓*i*Pg	**Pn**	**08 38 07.0**	**+0.5**
PVY				*e*Sg	**Sg**	**08 38 29.0**	**+0.6**
FNA	**Florina**	**1.47**	**104**	P	**Pn**	**08 38 07.2**	**+0.8**
FNA				S	**Sg**	**08 38 27.6**	**-0.8**
FNA	**Florina**	**1.47**	**104**	*e*PN	**Pn**	**08 38 07.2**	**+0.8**
FNA				*e*SN	**Sg**	**08 38 30.1**	**+1.7**
FNA	**Florina**	**1.47**	**104**	P	**Pn**	**08 38 07.2**	**+0.8**
FNA				S	**Sg**	**08 38 27.6**	**-0.8**
FNA				*e*Sn	**Sg**	**08 38 30.1**	**+1.7**
KEK	**Kerkira**	**1.47**	**171**	P	**Pb**	**08 38 07.3**	**-0.4**
KEK				S	**Sg**	**08 38 28.3**	**-0.1**
KEK	**Kerkira**	**1.47**	**171**	*e*PN	**Pb**	**08 38 07.2**	**-0.4**
KEK				*e*SN	**Sg**	**08 38 29.5**	**+1.1**
KEK	**Kerkira**	**1.47**	**171**	P	**Pb**	**08 38 07.3**	**-0.4**
KEK				S	**Sg**	**08 38 28.3**	**-0.1**
KEK				*e*Sn	**Sg**	**08 38 29.5**	**+1.1**
HCY	**Herceg Novi**	**1.49**	**330**	⇑*i*Pg	**Pb**	**08 38 07.5**	**-0.5**
HCY				*e*Sg	**Sg**	**08 38 28.7**	**-0.3**
HCY	**Herceg Novi**	**1.49**	**330**	⇑*i*Pg	**Pb**	**08 38 07.5**	**-0.5**
HCY				*e*Sg	**Sg**	**08 38 28.7**	**-0.3**
PE1	**Pezze di Greco**	**1.62**	**258**	*e*Pn	**Pn**	**08 38 09.0**	**+0.6**
PE1				*e*Sn	**Sb**	**08 38 29.3**	**-0.8**
NKME	**Niksic**	**1.65**	**346**	⇓*i*Pn	**Pb**	**08 38 10.2**	**-0.6**
NKME				*e*Sn	**Sg**	**08 38 33.5**	**-0.8**
NKME	**Niksic**	**1.65**	**346**	⇓*i*Pn	**Pb**	**08 38 10.2**	**-0.6**
NKME				*e*Sn	**Sg**	**08 38 33.5**	**-0.8**
SKO	**Skopje**	**1.66**	**60**	P	**Pb**	**08 38 11.0**	**+0.1**
SKO				S	**Sg**	**08 38 33.9**	**-0.7**
SKO	**Skopje**	**1.66**	**60**	*e*Pn	**Pb**	**08 38 11.4**	**+0.5**
SKO	**Skopje**	**1.66**	**60**	P	**Pb**	**08 38 11.0**	**+0.1**
SKO	**Skopje**	**1.66**	**60**	*e*Pn	**Pb**	**08 38 11.4**	**+0.5**
SKO				S	**Sg**	**08 38 33.9**	**-0.7**
NKY	**Niksic**	**1.69**	**347**	⇑*i*Pn	**Pb**	**08 38 10.8**	**-0.7**
NKY				*e*Sn	**Sg**	**08 38 34.8**	**-0.7**
NKY	**Niksic**	**1.69**	**347**	⇑*i*Pn	**Pb**	**08 38 10.8**	**-0.7**
NKY				*e*Sn	**Sg**	**08 38 34.8**	**-0.7**

BEY Berane 1.73 10 ⇓*i*Pn **Pb 08 38 11.5 -0.6**
BEY *e*Sn **Sg 08 38 35.6 -1.2**
IVA Berane 1.73 10 ⇓*i*Pn **Pb 08 38 11.5 -0.6**
IVA *e*Sn **Sg 08 38 35.6 -1.2**
IGT Igoumenitsa 1.75 159 P **Pb 08 38 11.8 -0.6**
IGT S **Sb 08 38 35.1 +1.1**
IGT Igoumenitsa 1.75 159 P **Pb 08 38 11.8 -0.6**
IGT S **Sb 08 38 35.1 +1.1**
TREB Trebinje 1.77 331 *e*Pn **Pn 08 38 11.3 +0.7**
TREB *e*Sg **Sg 08 38 39.3 +1.2**
TREB Trebinje 1.77 331 *e*Pn **Pn 08 38 11.3 +0.7**
TREB *e*Sg **Sg 08 38 39.3 +1.2**
JAN Janina 1.82 145 P **Pb 08 38 14.1 +0.4**
JAN S **Sb 08 38 36.7 +0.5**
JAN Janina 1.82 145 *e*PB **Pb 08 38 14.5 +0.8**
JAN *e*SN **Sg 08 38 38.7 -1.1**
JAN Janina 1.82 145 P **Pb 08 38 14.1 +0.4**
JAN Janina 1.82 145 *e*Pb **Pb 08 38 14.5 +0.8**
JAN S **Sb 08 38 36.7 +0.5**
JAN *e*Sn **Sg 08 38 38.7 -1.1**
BRY Bratogost 1.88 338 *e*Pn **Pn 08 38 12.8 +0.6**
BRY *e*Sn **Sb 08 38 38.9 +1.1**
BRY Bratogost 1.88 338 *e*Pn **Pn 08 38 12.8 +0.6**
BRY *e*Sn **Sb 08 38 38.9 +1.1**
KZN Kozani 1.92 116 P **Pn 08 38 14.1 +1.4**
KZN S **Sb 08 38 39.4 +0.3**
KZN Kozani 1.92 116 *e*PN **Pb 08 38 14.8 -0.7**
KZN Kozani 1.92 116 P **Pn 08 38 14.1 +1.4**
KZN Kozani 1.92 116 *e*Pn **Pb 08 38 14.8 -0.7**
KZN S **Sb 08 38 39.4 +0.3**
BAI Bari 1.98 269 *e*Pn **Pn 08 38 14.2 +0.7**
BAI *e*Sn **Sn 08 38 37.7 -0.1**
UPM Unac-Piva 2.08 348 ⇓*i*Pn **Pb 08 38 16.4 +1.4**
UPM *e*Sn **Sb 08 38 44.1 +0.3**
UPM Unac-Piva 2.08 348 ⇓*i*Pn **Pb 08 38 16.4 +1.4**
UPM *e*Sn **Sb 08 38 44.1 +0.3**
SJES Sjenica 2.12 9 *e*Pn **Pb 08 38 17.5 -1.4**
SJES *e*Sg **Sg 08 38 49.5 +0.2**
SJES Sjenica 2.12 9 *e*Pn **Pb 08 38 17.5 -1.4**
SJES *e*Sg **Sg 08 38 49.5 +0.2**
PLE Pljevlja 2.16 358 ⇓*i*Pn **Pb 08 38 17.9 -1.7**
PLE *e*Sn **Sb 08 38 46.0 -0.1**
PLE Pljevlja 2.16 358 ⇓*i*Pn **Pb 08 38 17.9 -1.7**
PLE *e*Sn **Sb 08 38 46.0 -0.1**
STON Ston 2.17 322 *i* Pn **Pn 08 38 16.4 +0.4**
STON Sn **Sn 08 38 42.7 +0.3**
SELS Selova 2.38 30 *e*Pn **Pn 08 38 20.4 +1.5**
BARS Barje 2.38 45 *e*Pn **Pn 08 38 20.8 +1.8**
BARS Barje 2.38 45 *e*Pn **Pn 08 38 20.8 +1.8**
CDT Castel del Mon 2.44 269 *e*Pn **Pn 08 38 21.2 +1.4**
CDT *e*Sn **Sn 08 38 50.8 +1.7**
THL Klokotos Trika 2.50 129 P **Pn 08 38 22.3 +1.8**
THL Klokotos Trika 2.50 129 *e*PN **Pn 08 38 22.5 +2.0**
THL Klokotos Trika 2.50 129 P **Pn 08 38 22.3 +1.8**
LKD2 Lefkada island 2.53 159 P **Pn 08 38 21.7 +0.6**
LKD2 Lefkada island 2.53 159 P **Pn 08 38 21.7 +0.6**
KNT Kendrikon 2.56 89 P **Pn 08 38 22.5 +1.1**
KNT S **Sn 08 38 54.7 +2.6**
KNT Kendrikon 2.56 89 P **Pn 08 38 22.5 +1.1**
KNT S **Sn 08 38 54.7 +2.6**
BBLS Lazići 2.70 358 *e*Pn **Pn 08 38 25.8 +2.4**
BBLS *e*Sg **Sg 08 39 10.3 +2.6**
BBLS Lazići 2.70 358 *e*Pn **Pn 08 38 25.8 +2.4**
BBLS *e*Sg **Sg 08 39 10.3 +2.6**
HORT Hortiatis 2.78 101 P **Pn 08 38 25.8 +1.2**
HORT Hortiatis 2.78 101 P **Pn 08 38 25.8 +1.2**
EVR Evrytania 2.86 141 P **Pn 08 38 27.7 +2.1**
EVR Evrytania 2.86 141 *e*PN **Pn 08 38 28.2 +2.6**
EVR Evrytania 2.86 141 P **Pn 08 38 27.7 +2.1**
EVR Evrytania 2.86 141 *e*Pn **Pn 08 38 28.2 +2.6**
GRUS Gruza 2.86 18 *e*Pn **Pn 08 38 27.6 +2.0**
GRUS Gruza 2.86 18 *e*Pn **Pn 08 38 27.6 +2.0**
SOH Sokhos 2.93 95 P **Pn 08 38 28.1 +1.5**
SOH Sokhos 2.93 95 P **Pn 08 38 28.1 +1.5**
MAKR Makrakomi, Fth 2.95 136 P **Pn 08 38 28.9 +2.1**
MAKR Makrakomi, Fth 2.95 136 P **Pn 08 38 28.9 +2.1**
DIVS Divibare 2.95 7 P **Pn 08 38 28.0 +1.1**
DIVS Divibare 2.95 7 *e*Pn **Pn 08 38 28.3 +1.4**
DIVS Divibare 2.95 7 P **Pn 08 38 28.0 +1.1**
DIVS Divibare 2.95 7 *e*Pn **Pn 08 38 28.3 +1.4**
CUC Castrocucco 3.04 249 *e*Pn **Pn 08 38 29.9 +1.8**
CUC Castrocucco 3.04 249 *e*Pn **Pn 08 38 29.9 +1.8**
AGG Agios Georgios 3.05 134 P **Pn 08 38 29.6 +1.5**
AGG Agios Georgios 3.05 134 *e*PN **Pn 08 38 29.8 +1.7**
AGG Agios Georgios 3.05 134 P **Pn 08 38 29.6 +1.5**
SRS Serrai 3.09 90 P **Pn 08 38 29.9 +1.2**
SRS Serrai 3.09 90 P **Pn 08 38 29.9 +1.2**
PLG Polygyros 3.10 104 P **Pn 08 38 30.1 +1.3**
PLG Polygyros 3.10 104 *e*PN **Pn 08 38 29.9 +1.1**
PLG Polygyros 3.10 104 P **Pn 08 38 30.1 +1.3**
VLS Valsamata 3.10 164 P **Pn 08 38 28.8 -0.1**
VLS Valsamata 3.10 164 P **Pn 08 38 28.8 -0.1**
VTS Vitosha 3.11 62 P **Pn 08 38 30.3 +1.2**
VTS Vitosha 3.11 62 ⇑P **Pn 08 38 31.4 +2.3**
VTS Vitosha 3.11 62 ⇑*i*P **Pn 08 38 31.4 +2.3**
VTS Vitosha 3.11 62 *e*Pn **Pn 08 38 31.5 +2.3**
VTS Vitosha 3.11 62 P **Pn 08 38 30.3 +1.2**
VTS Vitosha 3.11 62 *e*Pn **Pn 08 38 31.5 +2.3**
ZAPS Zavoj 3.14 47 *e*Pn **Pn 08 38 32.3 +2.9**
ZAPS Zavoj 3.14 47 *e*Pn **Pn 08 38 32.3 +2.9**
BOLS Boljevac 3.22 33 *e*Pn **Pn 08 38 30.7 +0.2**
BOLS Boljevac 3.22 33 *e*Pn **Pn 08 38 30.7 +0.2**
NVR Nevrokopi 3.29 85 P **Pn 08 38 32.9 +1.4**
NVR Nevrokopi 3.29 85 *e*PN **Pn 08 38 32.8 +1.3**
NVR *e*SN **Sn 08 39 11.6 +1.5**
NVR Nevrokopi 3.29 85 *e*Pn **Pn 08 38 32.8 +1.3**
NVR *e*Sn **Sn 08 39 11.6 +1.5**
AXS Araxos 3.30 153 P **Pn 08 38 32.7 +1.1**
AXS Araxos 3.30 153 P **Pn 08 38 32.7 +1.1**
EFP Efpalio 3.30 145 P **Pn 08 38 33.5 +1.9**
EFP Efpalio 3.30 145 *e*PN **Pn 08 38 33.6 +1.9**
EFP Efpalio 3.30 145 P **Pn 08 38 33.5 +1.9**
XOR Xorichti 3.34 121 P **Pn 08 38 33.4 +1.2**
XOR Xorichti 3.34 121 P **Pn 08 38 33.4 +1.2**
PAIG Paliouri 3.41 110 P **Pn 08 38 34.2 +1.1**
PAIG Paliouri 3.41 110 *e*PN **Pn 08 38 33.9 +0.8**
PAIG Paliouri 3.41 110 *e*Pn **Pn 08 38 33.9 +0.8**
PAIG Paliouri 3.41 110 P **Pn 08 38 34.2 +1.1**
TRIZ Trizonia 3.43 144 P **Pn 08 38 35.0 +1.7**
TRIZ Trizonia 3.43 144 *e*PN **Pn 08 38 35.2 +1.9**
TRIZ Trizonia 3.43 144 P **Pn 08 38 35.0 +1.7**
KALE Kalithea 3.44 143 P **Pn 08 38 35.4 +1.9**
KALE Kalithea 3.44 143 *e*PN **Pn 08 38 35.3 +1.8**
KALE Kalithea 3.44 143 *e*Pn **Pn 08 38 35.3 +1.8**
RLS Riolos of Patr 3.46 153 P **Pn 08 38 35.1 +1.4**
RLS Riolos of Patr 3.46 153 *e*PN **Pn 08 38 34.7 +1.0**
RLS Riolos of Patr 3.46 153 *e*Pn **Pn 08 38 34.7 +1.0**
RLS Riolos of Patr 3.46 153 P **Pn 08 38 35.1 +1.4**
LAKA Lakka 3.49 146 *e*PN **Pn 08 38 35.9 +1.7**
LAKA Lakka 3.49 146 *e*Pn **Pn 08 38 35.9 +1.7**
OUR Ouranopolis 3.50 102 P **Pn 08 38 35.7 +1.4**
OUR Ouranopolis 3.50 102 P **Pn 08 38 35.7 +1.4**
KLV Kalavryta, Ach 3.73 146 P **Pn 08 38 39.3 +1.8**
KLV Kalavryta, Ach 3.73 146 *e*PN **Pn 08 38 39.3 +1.8**
KLV Kalavryta, Ach 3.73 146 P **Pn 08 38 39.3

GZR Gura Zlata 4.85 28 *e*Pn **Pn 08 38 53.9 +1.0**
GZR Gura Zlata 4.85 28 *e*Pn **Pn 08 38 53.9 +1.0**
PKSM Moragy 5.08 353 ⇓*i*P **Pn 08 38 57.2 +1.2**
PKSM Moragy 5.08 353 ⇓*i*P **Pn 08 38 57.2 +1.2**
PKSM Moragy 5.08 353 *e*Pn **Pn 08 38 57.1 +1.1**
PKSM Moragy 5.08 353 *e*Pn **Pn 08 38 57.1 +1.1**
LOT Lotru 5.29 35 ⇓*i*P **Pn 08 39 01.4 +2.4**
LOT Lotru 5.29 35 ⇓*i*P **Pn 08 39 01.4 +2.4**
DEV Deva 5.32 27 ⇑*i*P Pg 08 39 19.4 -3.4
BOJS Bojanci 5.33 326 *i* Pn **Pn 08 39 00.4 +1.0**
BOJS *i* Sn **Sn 08 40 00.3 0.0**
BOJS Bojanci 5.33 326 Pn **Pn 08 39 00.4 +1.0**
BOJS *i* Sn **Sn 08 40 00.3 0.0**
SIRR Siria 5.33 16 ⇓*i*P **Pn 08 39 01.3 +1.8**
SIRR Siria 5.33 16 ⇓*i*P **Pn 08 39 01.3 +1.8**
KYTH Kithira 5.61 149 P **Pn 08 39 04.9 +1.6**
KYTH Kithira 5.61 149 P **Pn 08 39 04.9 +1.6**
MTUR Matau 5.74 43 ⇑*i*P Pn 08 39 09.0 +3.8
MTUR Matau 5.74 43 ⇑*i*P Pn 08 39 09.0 +3.8
GROS Grobnik 6.03 333 *i* Pn **Pn 08 39 09.5 +0.3**
GROS *i* Sn **Sn 08 40 16.1 -1.6**
GROS Grobnik 6.03 333 *i* Pn **Pn 08 39 09.5 +0.3**
GROS *i* Sn **Sn 08 40 16.1 -1.6**
LJU Ljubljana 6.07 325 *i* Sn **Sn 08 40 18.0 -0.5**
LJU Ljubljana 6.07 325 *i* Sn **Sn 08 40 18.0 -0.5**
DRGR 6.08 21 ⇑P **Pn 08 39 11.4 +1.6**
DRGR 6.08 21 ⇑*i*P **Pn 08 39 11.4 +1.6**
DRGR 6.08 21 P **Pn 08 39 11.4 +1.6**
JAVS Javornik 6.16 322 *i* Pn **Pn 08 39 11.2 +0.2**
JAVS *i* Sn **Sn 08 40 19.1 -1.8**
JAVS Javornik 6.16 322 *i* Pn **Pn 08 39 11.2 +0.2**
JAVS *i* Sn **Sn 08 40 19.1 -1.8**
APE Apeiranthos 6.22 129 *i* P **Pn 08 39 13.0 +1.3**
APE Apeiranthos 6.22 129 *i* P **Pn 08 39 13.0 +1.3**
VOY Vojsko 6.34 322 *e*Pn **Pn 08 39 13.9 +0.4**
VOY *e*Sn **Sn 08 40 23.7 -1.7**
VOY Vojsko 6.34 322 *e*Pn **Pn 08 39 13.9 +0.4**
VOY *e*Sn **Sn 08 40 23.7 -1.7**
MLR Muntele Rosu 6.38 45 Pn **Pn 08 39 17.1 +3.0**
MLR Muntele Rosu 6.38 45 Pn **Pn 08 39 17.1 +3.0**
0.5nm,0.3s,baz=154,slow=13,SNR=14
MLR Muntele Rosu 6.38 45 Pn **Pn 08 39 17.0 +3.0**
SOKA Soboth 6.38 331 ⇓*e*Pn **Pn 08 39 14.6 +0.6**
18nm,0.4s,SNR=11
SOKA ⇑*i*Sn **Sn 08 40 22.8 -3.6**
9.0nm,0.4s
SOKA Soboth 6.38 331 Pn **Pn 08 39 14.6 +0.6**
18nm,0.4s,SNR=11
DOPR Dopca 6.42 40 ⇑*i*P Pn 08 39 17.9 +3.4
DOPR Dopca 6.42 40 ⇑*i*P Pn 08 39 17.9 +3.4
OBKA Obir 6.43 328 *e*Pn **Pn 08 39 16.0 +1.3**
OBKA Obir 6.43 328 ⇓*i*Pn **Pn 08 39 15.7 +1.1**
7.7nm,0.2s
OBKA Obir 6.43 328 Pn **Pn 08 39 15.7 +1.1**
7.7nm,0.2s
ISR Istrita 6.49 50 ⇓P Pn 08 39 19.0 +3.6
ISR Istrita 6.49 50 ⇓*i*P Pn 08 39 19.0 +3.6
ISR Istrita 6.49 50 P Pn 08 39 19.0 +3.6
ARSA Arzberg 6.72 336 *e*Pn **Pn 08 39 19.4 +0.8**
ARSA Arzberg 6.72 336 ⇑*e*Pn **Pn 08 39 19.2 +0.6**
8.4nm,0.4s,SNR=5.4
ARSA Arzberg 6.72 336 *e*Pn **Pn 08 39 19.1 +0.5**
ARSA Arzberg 6.72 336 *e*Pn **Pn 08 39 19.1 +0.5**
PSZ Piszkesteto 6.76 2 *e*P **Pn 08 39 19.5 +0.4**
PSZ pmax pmax
comp=Z,23nm,0.8s
PSZ Piszkesteto 6.76 2 *e*Pn **Pn 08 39 19.5 +0.4**
comp=Z,23nm,0.8s
PSZ Piszkesteto 6.76 2 *e*P **Pn 08 39 19.5 +0.4**
comp=Z,23nm,0.8s
VRI Vrincioaia 7.04 46 ⇑P Pn 08 39 26.8 +3.8
VRI Vrincioaia 7.04 46 ⇑*i*P Pn 08 39 26.8 +3.8
TLB Topalu 7.14 59 ⇓P **Pn 08 39 27.4 +3.1**
TLB Topalu 7.14 59 ⇓*i*P **Pn 08 39 27.4 +3.1**
TLB Topalu 7.14 59 P **Pn 08 39 27.4 +3.1**
IDI Anoyia 7.24 142 Pn **Pn 08 39 27.4 +1.6**
IDI Sn **Sn 08 40 43.7 -3.7**
IDI Anoyia 7.24 142 Pn **Pn 08 39 27.4 +1.6**
comp=Z,1.3nm,0.3s,baz=322,slow=14,SNR=3.9
IDI Sn **Sn 08 40 43.7 -3.7**
comp=Z,1.5nm,0.3s,baz=331,slow=19,SNR=3.6
IDI Anoyia 7.24 142 Pn **Pn 08 39 27.4 +1.6**
TRPA Tarpa 7.29 16 ⇑*i*P **Pn 08 39 28.0 +1.7**
TRPA Tarpa 7.29 16 ⇑*i*P **Pn 08 39 28.0 +1.7**
TIRR Tirgusor 7.33 60 ⇑P **Pn 08 39 29.9 +3.0**
TIRR Tirgusor 7.33 60 ⇑*i*P **Pn 08 39 29.9 +3.0**
TIRR Tirgusor 7.33 60 P **Pn 08 39 29.9 +3.0**
VYHS Vyhne 7.34 357 *e*P Pn 08 39 31.0 +3.9
VYHS *e* 08 40 45.9
VYHS Vyhne 7.34 357 *e*PN Pn 08 39 31.0 +3.9
VYHS *e*SN **Sn 08 40 45.9 -4.0**
KECS Kecovo 7.35 5 *e*P Pn 08 39 31.0 +3.8
KECS *e* 08 40 48.0
KECS Kecovo 7.35 5 *e*PN Pn 08 39 31.0 +3.8
KECS *e*SN **Sn 08 40 48.0 -2.0**
KBA Koelnbreinsper 7.38 325 *e*Pn **Pn 08 39 28.4 +0.6**
KBA *e*Sn **Sn 08 40 49.2 -1.9**
KBA Koelnbreinsper 7.38 325 ⇑*i*Pn **Pn 08 39 28.8 +0.9**
comp=Z,9.4nm,0.3s
KBA ⇑*i*Sn **Sn 08 40 49.3 -1.9**
comp=Z,10nm,0.4s
KBA Koelnbreinsper 7.38 325 Pn **Pn 08 39 28.8 +0.9**
comp=Z,9.4nm,0.3s
KBA Sn **Sn 08 40 49.3 -1.9**
comp=Z,10nm,0.4s
TESR Tescani 7.43 42 ⇓*i*P Pn 08 39 33.1 +4.8
SMOL Smolenice 7.49 349 *e*P Pn 08 39 36.2 +7.0
SMOL *e* 08 40 52.3
SMOL Smolenice 7.49 349 *e*PN Pn 08 39 36.2 +7.0
SMOL *e*SN **Sn 08 40 52.3 -1.3**
SMOL Smolenice 7.49 349 *e*S **Sn 08 40 52.3 -1.3**
ABTA Abfaltersbach 7.52 320 ⇓*i*Pn **Pn 08 39 29.9 +0.3**
comp=Z,12nm,0.4s,SNR=6.7
ABTA Abfaltersbach 7.52 320 Pn **Pn 08 39 29.9 +0.3**
comp=Z,12nm,0.4s,SNR=6.7
BURAR Bucovina Array 7.63 30 ⇑P **Pn 08 39 33.8 +2.6**
BURAR Bucovina Array 7.63 30 ⇑*i*P **Pn 08 39 33.8 +2.6**
BURAR Bucovina Array 7.63 30 ⇑*i*P **Pn 08 39 33.8 +2.6**
MOA Molln 7.66 333 *e*Pn **Pn 08 39 33.1 +1.7**
MOA *e*Sn **Sn 08 40 56.5 -1.1**
MOA Molln 7.66 333 ⇓*i*Pn **Pn 08 39 33.4 +2.0**
comp=Z,7.3nm,0.2s
MOA ⇑*i*Sn **Sn 08 40 57.5 -0.1**
comp=Z,13nm,0.3s
MOA Molln 7.66 333 Pn **Pn 08 39 33.4 +2.0**
comp=Z,7.3nm,0.2s
MOA Sn **Sn 08 40 57.5 -0.1**
comp=Z,13nm,0.3s
UZH Uzhgorod 7.72 14 *e*P **Pn 08 39 32.4 +0.1**
UZH *e*S **Sn 08 41 00.2 +1.1**
UZH Uzhgorod 7.72 14 *e*P **Pn 08 39 32.4 +0.1**
UZH *e*S **Sn 08 41 00.2 +1.1**
CRVS Cervenica-Dubn 7.86 9 *e*P Pn 08 39 38.9 +4.7
CRVS *e* 08 41 03.1
CRVS Cervenica-Dubn 7.86 9 *e*PN Pn 08 39 38.9 +4.7
CRVS *e*SN **Sn 08 41 03.1 +0.6**
CRVS Cervenica-Dubn 7.86 9 *e*S **Sn 08 41 03.1 +0.6**
TLCR 7.90 56 ⇑P **Pn 08 39 37.2 +2.5**
TLCR 7.90 56 ⇑*i*P **Pn 08 39 37.2 +2.5**
TLCR 7.90 56 P **Pn 08 39 37.2 +2.5**
PGF Pioggiola 7.96 283 *e*P **Pn 08 39 37.7 +2.0**
PGF Pioggiola 7.96 283 *e*P **Pn 08 39 37.7 +2.0**
PGF Pioggiola 7.96 283 *e*P **Pn 08 39 37.7 +2.0**
PGF Pioggiola 7.96 283 *e*P **Pn 08 39 37.7 +2.0**
KOLS Kolonicke sedl 8.01 13 *e*P Pn 08 39 41.4 +5.2
KOLS *e* 08 41 07.4
KOLS Kolonicke sedl 8.01 13 *e*PN Pn 08 39 41.4 +5.2
KOLS *e*SN **Sn 08 41 07.4 +1.1**
KOLS Kolonicke sedl 8.01 13 *e*S **Sn 08 41 07.4 +1.1**
RJOB Jochberg 8.13 326 *e*Pn **Pn 08 39 39.0 +1.0**
RJOB *e*Sn **Sn 08 41 09.4 0.0**
WTTA Wattenberg 8.31 320 *e*Pn **Pn 08 39 42.0 +1.4**
WTTA Wattenberg 8.31 320 ⇑*i*Pn **Pn 08 39 41.9 +1.4**
comp=Z,20nm,0.3s,SNR=9.5
WTTA ⇓*e*Sn **Sn 08 41 12.0 -1.9**
comp=Z,28nm,0.6s
WTTA Wattenberg 8.31 320 Pn **Pn 08 39 41.9 +1.4**
comp=Z,20nm,0.3s,SNR=9.5
WTTA Sn **Sn 08 41 12.0 -1.9**
comp=Z,28nm,0.6s
STHS Stebnicka Huta 8.34 8 *e*P Pn 08 39 44.4 +3.6
STHS *e* 08 41 15.1
STHS Stebnicka Huta 8.34 8 *e*PN Pn 08 39 44.4 +3.6
STHS *e*SN **Sn 08 41 15.1 +0.7**
STHS Stebnicka Huta 8.34 8 *e*S **Sn 08 41 15.1 +0.7**
VRAC Vranov 8.40 347 Pn **Pn 08 39 42.8 +1.3**
VRAC Vranov 8.40 347 Pn **Pn 08 39 42.8 +1.3**
comp=Z,0.5nm,0.3s,baz=172,slow=7.1,SNR=2.9
VRAC Vranov 8.40 347 P **Pn 08 39 42.8 +1.3**
MOTA Moosalm 8.63 319 ⇓*i*Pn **Pn 08 39 45.6 +0.7**
comp=Z,14nm,0.4s,SNR=12
MOTA Moosalm 8.63 319 Pn **Pn 08 39 45.6 +0.7**
comp=Z,14nm,0.4s,SNR=12
GEC2 GERESS Array S 8.71 334 *e*Sn **Sn 08 41 23.4 -0.1**
GERES GERESS Array B 8.71 334 Pn **Pn 08 39 46.1 +0.2**
GERES Sn **Sn 08 41 21.9 -1.5**
GERES GERESS Array B 8.71 334 Pn **Pn 08 39 46.1 +0.2**
comp=Z,1.4nm,0.3s,baz=162,slow=13,SNR=16
GERES Sn **Sn 08 41 21.9 -1.5**
comp=Z,1.7nm,0.3s,baz=152,slow=23,SNR=4.6
GERES GERESS Array B 8.71 334 P **Pn 08 39 46.1 +0.2**
GERES S **Sn 08 41 22.0 -1.5**
OKC Ostrava-Krasne 8.72 354 AMS AMS 08 43 50.0
comp=Z,200nm,15.5s
DAVOX Davos/Dischmat 8.92 312 Pn **Pn 08 39 49.6 +0.7**
DAVOX Sn **Sn 08 41 28.7 -0.2**
DAVOX Davos/Dischmat 8.92 312 Pn **Pn 08 39 49.6 +0.7**
comp=Z,1.1nm,0.3s,baz=140,slow=14,SNR=8.8
DAVOX Sn **Sn 08 41 28.7 -0.2**
comp=Z,1.3nm,0.3s,baz=319,slow=20,SNR=3.2
DAVOX Davos/Dischmat 8.92 312 P **Pn 08 39 49.6 +0.7**
comp=Z,1.0nm,0.3s
DAVOX S **Sn 08 41 28.7 -0.2**
comp=Z,1.0nm,0.3s
KHC Kasperske Hory 8.99 334 *e*P **Pn 08 39 49.7 -0.1**
KHC *e* 08 41 29.2
KHC MLR MLR
comp=Z,300nm,17.3s
KHC Kasperske Hory 8.99 334 *e*PN **Pn 08 39 49.7 -0.1**
KHC *e*x x 08 39 59.7
KHC *e*SN **Sn 08 41 29.2 -1.3**
KHC *e*x x 08 41 53.5
KHC AMS AMS 08 43 40.0
comp=Z,300nm,17.3s
KHC Kasperske Hory 8.99 334 *e*Pn **Pn 08 39 49.4 -0.4**
comp=Z,5.4nm,0.7s
KHC Kasperske Hory 8.99 334 Pn **Pn 08 39 49.7 -0.1**
KHC Sn **Sn 08 41 29.2 -1.3**
TUE Stuetta 9.05 309 *e*Pn **Pn 08 39 51.2 +0.5**
comp=Z,14nm,0.5s
TUE *e*Sn **Sn 08 41 28.7 -3.6**
TUE Stuetta 9.05 309 *e*Pn **Pn 08 39 51.2 +0.5**
comp=Z,14nm,0.5s
ISP Isparta 9.15 108 *e*P **Pn 08 39 52.3 +0.3**
ISP Isparta 9.15 108 *e*P **Pn 08 39 52.3 +0.3**
DAVA Damuels 9.22 315 *e*Pn **Pn 08 39 54.8 +1.7**
DAVA *e*Sn **Sn 08 41 36.5 +0.2**
DAVA Damuels 9.22 315 ⇑*i*Pn **Pn 08 39 54.7 +1.7**
comp=Z,9.3nm,0.4s
DAVA ⇓*i*Sn **Sn 08 41 35.0 -1.3**
comp=Z,4.5nm,0.3s
DAVA Damuels 9.22 315 Pn **Pn 08 39 54.7 +1.7**
comp=Z,9.3nm,0.4s
DAVA Sn **Sn 08 41 35.0 -1.3**
comp=Z,4.5nm,0.3s
SBF Sospel 9.31 291 *e*Pn **Pn 08 39 52.6 -1.6**
SBF Sospel 9.31 291 *e*P **Pn 08 39 52.6 -1.6**
SBF Sospel 9.31 291 *e*Pn **Pn 08 39 52.6 -1.6**
SBF Sospel 9.31 291 *e*Pn **Pn 08 39 52.6 -1.6**
DPC Dobruska-Polom 9.45 347 AMS AMS 08 44 20.0
PRU Pruhonice 9.48 340 AMS AMS 08 44 00.0
comp=Z,200nm,13.9s
KEST Kesra 9.64 239 Pn Pn 08 40 04.2 +5.5
KEST Kesra 9.64 239 Pn Pn 08 40 04.2 +5.5
comp=Z,0.1nm,0.3s,baz=270,slow=10,SNR=2.7
FRF La Foret Royal 9.81 288 *e*P Pn 08 40 04.5 +3.5
FRF La Foret Royal 9.81 288 *e*P Pn 08 40 04.5 +3.5
FRF La Foret Royal 9.81 288 *e*P Pn 08 40 04.5 +3.5
MBDF Montbardon 9.99 295 *e*Pn **Pn 08 40 01.9 -1.6**
MBDF *e*Sn Sn 08 41 47.7 -7.4
comp=Z,11nm,0.6s
MBDF Montbardon 9.99 295 *e*P **Pn 08 40 01.9 -1.6**
MBDF *e* 08 41 47.7
MBDF Montbardon 9.99 295 *e*Pn **Pn 08 40 01.9 -1.6**
MBDF *e*Sn Sn 08 41 47.7 -7.4
MBDF Montbardon 9.99 295 *e*Pn **Pn 08 40 01.9 -1.6**
LPG La Plagne 10.25 299 *e*Sn Sn 08 41 53.7 -7.9
comp=Z,24nm,0.4s
LPG La Plagne 10.25 299 *e*Sn Sn 08 41 53.7 -7.9
LPL La Plagne 10.27 299 *e*Pn **Pn 08 40 05.7 -1.7**
LPL La Plagne 10.27 299 *e*P **Pn 08 40 05.7 -1.7**
LPL La Plagne 10.27 299 *e*Pn **Pn 08 40 05.7 -1.7**
LPL La Plagne 10.27 299 *e*Pn **Pn 08 40 05.7 -1.7**
BRG Berggiesshubel 10.45 340 SG Sn 08 42 42.6 +37
comp=Z,5.1nm,1.1s
ORIF Oris-en-Rattie 10.65 295 *e*Pn **Pn 08 40 10.6 -2.0**
ORIF Oris-en-Rattie 10.65 295 *e*P **Pn 08 40 10.6 -2.0**
ORIF Oris-en-Rattie 10.65 295 *e*Pn **Pn 08 40 10.6 -2.0**
ORIF Oris-en-Rattie 10.65 295 *e*Pn **Pn 08 40 10.6 -2.0**
BFO Black Forest 10.69 316 *e*P **Pn 08 40 11.5 -1.5**
BFO pmax pmax
comp=Z,8.0nm,0.6s
BFO Black Forest 10.69 316 *e*Pn **Pn 08 40 11.5 -1.5**
comp=Z,7.9nm,0.6s
BFO Black Forest 10.69 316 *e*P **Pn 08 40 11.5 -1.5**
comp=Z,8.0nm,0.6s
BRTR Keskin Array B 10.87 93 Pn **Pn 08 40 17.9 +2.3**
BRTR Keskin Array B 10.87 93 Pn **Pn 08 40 17.9 +2.3**
comp=Z,0.1nm,0.3s,baz=286,slow=13,SNR=3.1
BRTR Keskin Array B 10.87 93 P **Pn 08 40 17.9 +2.3**
CABF La Chapelle 11.10 304 *e*Pn **Pn 08 40 18.0 -0.7**
CABF La Chapelle 11.10 304 *e*P **Pn 08 40 18.0 -0.7**
CABF La Chapelle 11.10 304 *e*Pn **Pn 08 40 18.0 -0.7**
CABF La Chapelle 11.10 304 *e*Pn **Pn 08 40 18.0 -0.7**
HINF Hinteralfeld 11.21 311 *e*Pn **Pn 08 40 18.0 -2.1**
HINF *e*Sn Sn 08 42 17.0 -7.9
comp=Z,7.4nm,0.3s
HINF Hinteralfeld 11.21 311 *e*P **Pn 08 40 18.0 -2.1**
HINF *e* 08 42 17.0
HINF Hinteralfeld 11.21 311 *e*Pn **Pn 08 40 18.0 -2.1**
HINF *e*Sn Sn 08 42 17.0 -7.9
CDF Champ du Feu 11.30 314 *e*Pn **Pn 08 40 19.7 -1.7**
CDF *e*Sn Sn 08 42 19.3 -7.9
comp=Z,2.9nm,0.4s
CDF Champ du Feu 11.30 314 *e*P **Pn 08 40 19.7 -1.7**
CDF *e* 08 42 19.3
CDF Champ du Feu 11.30 314 *e*Pn **Pn 08 40 19.7 -1.7**
CDF *e*Sn Sn 08 42 19.3 -7.9
CDF Champ du Feu 11.30 314 *e*Pn **Pn 08 40 19.7 -1.7**
HAU Haudompre 11.60 311 *e*Pn **Pn 08 40 23.3 -2.1**
HAU *e*Sn Sn 08 42 26.4 -7.9
comp=Z,9.6nm,0.4s
HAU Haudompre 11.60 311 *e*P **Pn 08 40 23.3 -2.1**
HAU *e* 08 42 26.4
HAU Haudompre 11.60 311 *e*Pn **Pn 08 40 23.3 -2.1**
HAU *e*Sn Sn 08 42 26.4 -7.9
SMF Signal de Mont 12.55 301 *e*Pn **Pn 08 40 36.1 -2.3**
SMF *e*Sn Sn 08 42 48.5 -9.0
comp=Z,6.7nm,0.4s
SMF Signal de Mont 12.55 301 *e*P **Pn 08 40 36.1 -2.3**
SMF *e* 08 42 48.5
SMF Signal de Mont 12.55 301 *e*Pn **Pn 08 40 36.1 -2.3**
SMF *e*Sn Sn 08 42 48.5 -9.0
LOR Lormes 12.77 304 *e*Pn **Pn 08 40 40.0 -1.3**
LOR Lormes 12.77 304 *e*Pn **Pn 08 40 40.0 -1.3**
LOR Lormes 12.77 304 *e*Pn **Pn 08 40 40.0 -1.3**
MMAI Mount Meron Ar 15.06 118 LR LR 08 48 11.4
comp=Z,39nm,20.3s,baz=60,slow=42
ASF Jabal al Asfar 16.57 117 LR LR 08 49 10.1
comp=Z,56nm,19.7s,baz=251,slow=42
KIV Kislovodsk 17.29 73 *e*P **Pn 08 41 38.9 -2.4**
KIV *e*S **Sn 08 44 49.6 -3.6**
KIV pmax pmax
comp=Z,8.0nm,1.0s
KIV MLR MLR
comp=Z,23nm,13.0s
KBZ Khabaz 17.44 74 P **P 08 41 48.7 +4.5**
KBZ Khabaz 17.44 74 P **P 08 41 48.7 +4.5**
KBZ Khabaz 17.44 74 P **P 08 41 48.7 +4.5**
comp=Z,0.2nm,0.3s,baz=243,slow=11,SNR=2.9
ESDC Sonseca Array 17.92 273 LR LR 08 49 26.3
comp=Z,54nm,18.6s,baz=20,slow=40
OBN Obninsk 17.94 33 *e*P **Pn 08 41 49.2 +0.1**
OBN pmax pmax
comp=Z,9.0nm,0.9s
OBN Obninsk 17.94 33 *e*P **Pn 08 41 49.2 +0.1**
comp=Z,9.0nm,0.9s
HFS Hagfors 19.33 351 P **P 08 42 03.8 -1.1**
HFS Hagfors 19.33 351 P **P 08 42 03.7 -1.1**
comp=Z,0.2nm,0.3s,baz=156,slow=11,SNR=5.4
HFS LR LR 08 49 13.3
comp=Z,69nm,18.2s,baz=273,slow=36
HFS Hagfors 19.33 351 P **P 08 42 03.8 -1.1**
NB2 NORSAR Subarra 20.54 348 P **P 08 42 17.8 -0.2**
comp=Z,0.8nm,0.7s,baz=162,slow=11
NB2 NORSAR Subarra 20.54 348 P **P 08 42 17.8 -0.2**
comp=Z,0.8nm,0.7s,baz=162,slow=11,SNR=3.5
NOA NORSAR Array B 20.54 348 P **P 08 42 19.1 +1.1**
NOA NORSAR Array B 20.54 348 P **P 08 42 19.1 +1.1**
comp=Z,1.0nm,0.8s,baz=164,slow=10,SNR=3.6
NOA NORSAR Array B 20.54 348 P **P 08 42 19.1 +1.1**
EKA Eskdalemuir Ar 20.57 321 P **P 08 42 18.3 -0.1**
EKA Eskdalemuir Ar 20.57 321 P **P 08 42 18.3 -0.1**
comp=Z,2.2nm,0.6s,baz=116,slow=10,SNR=9.7
EKA Eskdalemuir Ar 20.57 321 P **P 08 42 18.3 -0.1**
FINES FINESS Array B 20.70 9 P **P 08 42 18.4 -1.3**
FINES FINESS Array B 20.70 9 P **P 08 42 18.4 -1.3**
comp=Z,0.9nm,0.3s,baz=206,slow=9.3,SNR=8.0
FINES FINESS Array B 20.70 9 P **P 08 42 18.4 -1.3**
KLMR Klimovskoe 23.21 25 *e*P **P 08 42 44.1 -2.3**
KLMR pmax pmax
comp=Z,20nm,1.5s
AKTK Aktyubinsk 28.12 58 P **P 08 43 32.1 +0.6**
AKTO Aktyubinsk 28.12 58 P **P 08 43 32.1 +0.5**
AKTO Aktyubinsk 28.12 58 P **P 08 43 32.1 +0.5**
AKTO Aktyubinsk 28.12 58 P **P 08 43 32.1 +0.5**
comp=Z,0.7nm,0.4s,baz=248,slow=5.4,SNR=3.8
AKTO LR LR 08 56 12.4
comp=Z,31nm,20.1s,baz=272,slow=40
AKTO Aktyubinsk 28.12 58 P **P 08 43 32.1 +0.5**
ABKAR Akbulak array 29.32 60 *e*P **P 08 43 41.6 -0.6**
comp=Z,2.2nm,0.4s
ABKAR Akbulak array 29.32 60 *e*P **P 08 43 41.6 -0.6**
comp=Z,2.2nm,0.4s
TORD Torodi Ar. Bea 31.96 214 P **P 08 44 06.5 +0.8**
TORD Torodi Ar. Bea 31.96 214 P **P 08 44 06.6 +0.8**
comp=Z,0.5nm,0.7s,baz=9.1,slow=10,SNR=3.8
TORD Torodi Ar. Bea 31.96 214 P **P 08 44 06.6 +0.8**
BRVK Borovoye 35.81 53 *e*P **P 08 44 39.5 +0.7**
BRVK pmax pmax
comp=Z,3.0nm,0.9s
BRVK Borovoye 35.81 53 *e*P **P 08 44 39.5 +0.7**
comp=Z,3.0nm,0.9s
ZALV Zalesovo Beam 44.33 50 *e*P **P 08 45 48.9 -0.5**
ZALV pmax pmax
comp=Z,5.0nm,0.5s
ZALV Zalesovo Beam 44.33 50 P **P 08 45 49.0 -0.5**
ZALV Zalesovo Beam 44.33 50 P **P 08 45 49.0 -0.5**
comp=Z,4.8nm,0.5s,baz=279,slow=9.1,SNR=13
ZALV LR LR 09 06 41.3
comp=Z,66nm,18.3s,baz=159,slow=39
ZALV Zalesovo Beam 44.33 50 P **P 08 45 49.0 -0.5**
MKAR Makanchi Array 44.47 61 P **P 08 45 50.2 -0.5**
MKAR Makanchi Array 44.47 61 P **P 08 45 50.2 -0.5**
MKAR Makanchi Array 44.47 61 P **P 08 45 50.2 -0.5**
comp=Z,0.7nm,0.4s,baz=281,slow=7.7,SNR=15
MKAR Makanchi Array 44.47 61 P **P 08 45 50.2 -0.5**
SCHQ Schefferville 55.75 316 P **P 08 47 15.9 -0.3**
SCHQ Schefferville 55.75 316 P **P 08 47 15.9 -0.3**
comp=Z,5.3nm,0.9s,baz=54,slow=19,SNR=2.9
SCHQ Schefferville 55.75 316 P **P 08 47 15.9 -0.3**
SONM Songino Array 59.19 52 P **P 08 47 40.2 -0.4**
SONM Songino Array 59.19 52 P **P 08 47 40.2 -0.4**
comp=Z,1.3nm,0.8s,baz=292,slow=7.1,SNR=10
SONM Songino Array 59.19 52 P **P 08 47 40.2 -0.4**
ILAR Eielson Array 73.86 354 P **P 08 49 14.5 +0.6**
ILAR Eielson Array 73.86 354 P **P 08 49 14.5 +0.6**
comp=Z,0.5nm,0.6s,baz=360,slow=4.2,SNR=11
ILAR Eielson Array 73.86 354 P **P 08 49 14.5 +0.6**
PDAR Pinedale Array 84.65 325 P **P 08 50 13.6 +0.1**
PDAR Pinedale Array 84.65 325 P **P 08 50 13.6 +0.1**
comp=Z,0.6nm,0.8s,baz=20,slow=4.7,SNR=3.9
PDAR Pinedale Array 84.65 325 P **P 08 50 13.6 +0.1**
TXAR Lajitas Array 92.36 313 P **P 08 50 51.2 +0.8**
TXAR Lajitas Array 92.36 313 P **P 08 50 51.2 +0.8**
comp=Z,0.7nm,0.8s,baz=71,slow=4.4,SNR=9.9
TXAR Lajitas Array 92.36 313 P **P 08 50 51.2 +0.8**
ASAR Alice Springs 123.21 94 PKP **PKPdf 08 56 35.6 -0.9**
ASAR Alice Springs 123.21 94 PKP **PKPdf 08 56 35.7 -0.9**
comp=Z,0.5nm,0.8s,baz=308,slow=1.4,SNR=4.1

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*ISCJB **15** 08:59:34.1±0.6,26°.24S±0°.03×28°.23E±0°.03,h3km±4km, mb3.6/2, Error ellipse: s-maj=5.0km s-min=4.6km az=164.9*
*PRE **15** 08:59:34.7±2.4,26°.21S×28°.21E,h2km,ML3.3*
*IDC **15** 08:59:34.7±2.4,26°.25S×28°.07E,h0km,mb3.5/2, mb1 3.4/3,mb1mx3.3/24,mbtmp3.4/3,ML2.7/1, Error ellipse: s-maj=65.2km s-min=18.9km az=126.0*
ISC 15 08:59:34.3±1.2,26°.23S±0°.03×28°.20E±0°.04,h1km±9km, n18,σ1°75/34,2C-2D,South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERPM	**east rand prop**	**0.12**	**161**	⇓*i*P	**Pg**	**08 59 36.0**	**-0.7**
ERPM				*e*S	**Sg**	**08 59 36.5**	**-1.9**
ERPM				AML	AML	08 59 36.7	
comp=Z,40μm,0.3s							
SLR	**Silverton**	**0.49**	**9**	⇓*i*P	**Pb**	**08 59 44.3**	**-1.5**
SLR				*e*S	**Sg**	**08 59 50.6**	**+0.4**
SLR				AML	AML	08 59 56.0	
comp=Z,4μm,0.6s							
KLOF	**Kloof**	**0.54**	**257**	⇓*i*P	**Pb**	**08 59 46.3**	**-0.4**
KLOF				*e*S	**Sg**	**08 59 53.2**	**+1.5**
KLOF				AML	AML	08 59 55.5	
comp=Z,902nm,0.2s							
PRYS	**Parys**	**1.02**	**227**	⇑*i*P	**Pg**	**08 59 54.6**	**+0.7**
PRYS				*e*S	**Sn**	**09 00 10.8**	**-0.2**
PRYS				AML	AML	09 00 18.8	
comp=Z,196nm,0.7s							
KSR	**Koster**	**1.23**	**287**	*e*P	**Pn**	**08 59 59.2**	**+0.5**
KSR				*e*S	**Sn**	**09 00 15.4**	**-0.6**
KSR				AML	AML	09 00 19.3	
comp=Z,979nm,0.4s							
SEK	**Senekal**	**2.15**	**194**	*e*P	**Pb**	**09 00 13.7**	**-0.4**
SEK				*e*S	**Sb**	**09 00 41.5**	**+0.1**
SEK				AML	AML	09 00 43.0	
comp=Z,60nm,0.2s							
LBTB	**Lobatse**	**2.64**	**297**	*e*P	**Pn**	**09 00 19.9**	**+1.8**
LBTB				*e*S	**Sn**	**09 00 50.8**	**0.0**
LBTB				AML	AML	09 00 58.6	
comp=Z,82nm,0.3s							
SWZ	**Schweizer**	**2.73**	**249**	*e*P	**Pn**	**09 00 20.3**	**+0.8**
SWZ				*e*S	**Sn**	**09 00 53.4**	**+0.2**
SWZ				AML	AML	09 01 07.7	
comp=Z,68nm,1.5s							
POGA	**Pongola**	**3.26**	**111**	*e*P	**Pn**	**09 00 27.9**	**+1.4**
POGA				*e*S	**Sn**	**09 01 06.4**	**+0.5**
POGA				AML	AML	09 01 24.2	
comp=Z,63nm,0.4s							
BOSA	**Boshof**	**3.53**	**227**	*e*P	**Pn**	**09 00 30.4**	**0.0**
BOSA				*e*S	**Sn**	**09 01 14.3**	**+1.4**
BOSA				AML	AML	09 01 28.0	
comp=Z,36nm,0.7s							
BOSA	**Boshof**	**3.53**	**227**	Pn	**Pn**	**09 00 30.2**	**-0.2**
comp=Z,0.5nm,0.3s,baz=46,slow=13,SNR=9.6							
BOSA				Pg	**Pb**	**09 00 38.2**	**+0.5**
comp=Z,4.3nm,0.3s,baz=52,slow=18,SNR=22							
BOSA				Lg	Lg	09 01 23.0	
comp=Z,5.9nm,0.3s,baz=328,slow=17,SNR=24							
MSNA	**Messina**	**4.21**	**24**	*e*P	**Pn**	**09 00 40.1**	**+0.5**
MSNA				*e*S	**Sn**	**09 01 25.2**	**-4.2**
MSNA				AML	AML	09 01 50.8	
comp=Z,28nm,0.6s							
KSD	**Kokstad**	**4.43**	**166**	*e*P	**Pn**	**09 00 45.0**	**+2.2**
KSD				*e*S	**Sn**	**09 01 34.8**	**-0.2**
KSD				AML	AML	09 01 55.0	
comp=Z,38nm,0.5s							
HVD	**Gariep Dam**	**4.97**	**208**	*e*P	**Pn**	**09 00 49.8**	**-0.4**
HVD				*e*S	**Sn**	**09 01 45.0**	**-3.3**
HVD				AML	AML	09 02 12.3	
comp=Z,15nm,0.6s							
SUR	**S

comp=Z,8.9nm,0.7s
TORD Torodi Ar. Bea 46.87 323 P **P 09 08 06.3 +0.1**
comp=Z,0.6nm,0.7s,baz=145,slow=7.6,SNR=7.9
MKAR Makanchi Array 87.56 34 P **P 09 12 24.6 +0.8**
comp=Z,0.2nm,0.5s,baz=212,slow=5.1,SNR=1.8

*HLW **15** 09:02:47.7, 34.37N×25.43E, h31km±14km, Md3.2, Ml3.7*
*ISCJB **15** 09:02:48.0±1.0, 33.98N±0.04×25.68E±0.04, h5km±6km, mb3.7/8, Error ellipse: s-maj=7.8km s-min=4.6km az=37.1*
*IDC **15** 09:02:48.6±1.2, 34.05N×25.50E, h0km, mb3.8/8, mb1 3.9/14, mb1mx3.7/30, mbtmp3.8/14, ML3.9/6, Error ellipse: s-maj=20.4km s-min=17.3km az=28.0*
*CSEM **15** 09:02:49.8±0.3, 34.04N×25.58E, h2km, MD3.6, Error ellipse: s-maj=10.4km s-min=6.1km az=51.0*
*ATH **15** 09:02:49.8, 34.01N×25.51E, h8km±3km, MD3.6/9*
ISC 15 09:02:50.0±1.4,**34.01N**±0.05×**25.51E**±0.04,**h10**km±9km,
n45,σ0§96/55,**mb3.7**/8,**Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAST	**Lasithi**	**1.15**	**359**	*e*PG	**Pg**	**09 03 11.0**	**-1.1**
LAST	**Lasithi**	**1.15**	**359**	*e*Pg	**Pg**	**09 03 11.0**	**-1.1**
SIVA	**Sivas**	**1.16**	**330**	*e*PG	**Pb**	**09 03 11.5**	**-0.7**
SIVA				*e*SB	**Sb**	**09 03 27.9**	**+0.5**
SIVA	**Sivas**	**1.16**	**330**	*e*Pg	**Pb**	**09 03 11.5**	**-0.7**
SIVA				*e*Sb	**Sb**	**09 03 27.9**	**+0.5**
ZKR	**Zakros**	**1.25**	**28**	*e*PB	**Pg**	**09 03 13.4**	**-0.6**
ZKR				*e*SB	**Sn**	**09 03 30.5**	**+0.1**
ZKR	**Zakros**	**1.25**	**28**	*e*Pb	**Pg**	**09 03 13.4**	**-0.6**
ZKR				*e*Sb	**Sn**	**09 03 30.5**	**+0.1**
IDI	**Anoyia**	**1.38**	**338**	*e*Pn	**Pn**	**09 03 14.9**	**-0.5**
IDI	**Anoyia**	**1.38**	**338**	Pn	**Pn**	**09 03 15.3**	**-0.1**
	12nm,0.3s,baz=159,slow=16,SNR=36						
IDI				Sn	**Sn**	**09 03 34.0**	**+0.3**
	40nm,0.3s,baz=186,slow=19,SNR=9.9						
IDI	**Anoyia**	**1.38**	**338**	*e*Pn	**Pn**	**09 03 14.9**	**-0.5**
GVD	**Gavdhos**	**1.44**	**306**	*e*PB	**Pg**	**09 03 17.5**	**-0.2**
GVD				*e*SB	**Sg**	**09 03 37.2**	**+0.8**
GVD	**Gavdhos**	**1.44**	**306**	*e*Pb	**Pg**	**09 03 17.5**	**-0.2**
GVD				*e*Sb	**Sg**	**09 03 37.2**	**+0.8**
VAM	**Vamos**	**1.77**	**323**	*e*PG	**Pb**	**09 03 21.8**	**-0.7**
VAM				*e*SN	**Sg**	**09 03 47.4**	**+0.6**
VAM	**Vamos**	**1.77**	**323**	*e*Pg	**Pb**	**09 03 21.8**	**-0.7**
KARN	**Karanos**	**1.91**	**317**	*e*PN	**Pb**	**09 03 25.0**	**0.0**
KARN	**Karanos**	**1.91**	**317**	*e*Pn	**Pb**	**09 03 25.0**	**0.0**
KARP	**Karpathos**	**2.05**	**41**	*e*PG	**Pb**	**09 03 27.8**	**+0.5**
KARP	**Karpathos**	**2.05**	**41**	*e*Pg	**Pb**	**09 03 27.8**	**+0.5**
ANKY	**Antikythira Is**	**2.60**	**316**	*e*PN	**Pb**	**09 03 34.9**	**-1.8**
ANKY	**Antikythira Is**	**2.60**	**316**	*e*Pn	**Pb**	**09 03 34.9**	**-1.8**
KYTH	**Kithira**	**3.04**	**319**	*e*PN	**Pn**	**09 03 40.1**	**+1.8**
KYTH	**Kithira**	**3.04**	**319**	*e*Pn	**Pn**	**09 03 40.1**	**+1.8**
APE	**Apeiranthos**	**3.05**	**0**	*e*PN	**Pn**	**09 03 40.0**	**+1.6**
APE	**Apeiranthos**	**3.05**	**0**	*e*Pn	**Pn**	**09 03 40.0**	**+1.6**
SWA2		**4.75**	**181**	P	**Pn**	**09 04 02.2**	**+0.5**
	baz=179						
SWA2		**4.75**	**181**	P	**Pn**	**09 04 02.2**	**+0.5**
KOT	**Kottamia**	**6.73**	**125**	P	**Pn**	**09 04 28.7**	**-0.3**
	baz=127						
KOT	**Kottamia**	**6.73**	**125**	P	**Pn**	**09 04 28.7**	**-0.3**
GLL	**Jalalah**	**6.88**	**128**	P	**Pn**	**09 04 31.0**	**0.0**
	baz=130						
GLL	**Jalalah**	**6.88**	**128**	P	**Pn**	**09 04 31.0**	**0.0**
RSH		**7.57**	**111**	P	**Pn**	**09 04 39.5**	**-0.9**
	baz=113						
RSH		**7.57**	**111**	P	**Pn**	**09 04 39.6**	**-0.9**
MMAI	**Mount Meron Ar**	**8.32**	**94**	Pn	**Pn**	**09 04 50.7**	**-0.1**
	3.2nm,0.3s,baz=274,slow=12,SNR=5.6						
MMAI				Sn	**Sn**	**09 06 22.1**	**-2.8**
	2.9nm,0.3s,baz=261,slow=22,SNR=5.2						
BRTR	**Keskin Array B**	**8.65**	**46**	Pn	**Pn**	**09 04 55.5**	**+0.1**
	0.3nm,0.3s,baz=228,slow=13,SNR=10						
BRTR				Sn	**Sn**	**09 06 32.7**	**-0.4**
	0.1nm,0.3s,baz=204,slow=22,SNR=2.5						
EIL	**Elat**	**9.12**	**116**	Pn	**Pn**	**09 05 01.9**	**+0.3**
	1.9nm,0.3s,baz=280,slow=5.4,SNR=6.4						
KBZ	**Khabaz**	**16.63**	**49**	Pn	**P**	**09 06 45.7**	**+0.1**
	0.0nm,0.3s,baz=241,slow=19,SNR=2.2						
AKASG	**Malin Array Be**	**16.90**	**8**	Pn	**Pn**	**09 06 46.0**	**-0.6**
	1.4nm,0.3s,baz=198,slow=11,SNR=11						
GERES	**GERESS Array B**	**17.24**	**333**	P	**P**	**09 06 51.9**	**-0.5**
	0.2nm,0.3s,baz=128,slow=10,SNR=5.5						
FINES	**FINESS Array B**	**27.45**	**1**	P	**P**	**09 08 34.5**	**-1.3**
	0.9nm,0.6s,baz=154,slow=10,SNR=3.5						
AKTO	**Aktyubinsk**	**28.83**	**45**	P	**P**	**09 08 50.0**	**+1.6**
	0.5nm,0.3s,baz=247,slow=6.2,SNR=3.6						
EKA	**Eskdalemuir Ar**	**29.15**	**326**	P	**P**	**09 08 51.6**	**+0.6**
	0.4nm,0.3s,baz=118,slow=11,SNR=4.1						
TORD	**Torodi Ar. Bea**	**29.99**	**232**	P	**P**	**09 08 59.1**	**+0.2**
	0.4nm,0.6s,baz=35,slow=9.1,SNR=3.8						
ARCES	**ARCESS Array B**	**35.58**	**360**	P	**P**	**09 09 45.4**	**-1.8**
	1.8nm,1.0s,baz=178,slow=8.5,SNR=5.7						
MKAR	**Makanchi Array**	**44.17**	**56**	P	**P**	**09 10 59.9**	**+0.9**
	1.2nm,0.5s,baz=274,slow=7.3,SNR=16						
ZALV	**Zalesovo Beam**	**45.60**	**45**	P	**P**	**09 11 10.4**	**+0.3**
	1.3nm,0.6s,baz=260,slow=9.2,SNR=5.0						
SONM	**Songino Array**	**59.99**	**50**	P	**P**	**09 12 55.8**	**-1.0**
	0.3nm,0.5s,baz=286,slow=5.2,SNR=2.7						

*ATH **15** 09:09:12.4, 41.40N×19.35E, h46km, MD3.2/5*
*CSEM **15** 09:09:13.3±0.2, 41.15N×19.57E, h2km, ML2.7, Error ellipse: s-maj=4.5km s-min=2.3km az=68.0*
*THE **15** 09:09:13.1, 41.15N×19.51E, h3km±1km, ML2.6/3, Error ellipse: s-maj=1.5km s-min=0.5km az=53.0*
*PDG **15** 09:09:14.6±0.3, 41.23N×19.64E, h13km, ML3.0/12, Error ellipse: s-maj=0.5km s-min=0.8km az=0.0*
*BEO **15** 09:09:16.1±0.7, 41.28N×19.64E, h12km±2km, ML2.7/6*
*TIR **15** 09:09:29.6, 41.12N×19.60E, h10km, ML3.5*
ISC 15 09:09:13.8±1.0,**41.18N**±0.02×**19.53E**±0.02,**h12**km±8km,
n74,σ1§04/137,**15C-8D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.30**	**57**	*i* PG	**Pg**	**09 09 19.6**	**-0.4**
TIR				*i* SG	**Sg**	**09 09 24.6**	**+0.4**
TIR	**Tirane**	**0.30**	**57**	P	**Pg**	**09 09 19.5**	**-0.4**
TIR				S	**Sg**	**09 09 24.4**	**+0.2**
TIR	**Tirane**	**0.30**	**57**	*e*Pg	**Pg**	**09 09 19.6**	**-0.4**
TIR				*e*Sg	**Sb**	**09 09 25.4**	**-0.7**
TIR	**Tirane**	**0.30**	**57**	*e*Pg	**Pg**	**09 09 19.6**	**-0.4**
TIR				S	**Sg**	**09 09 24.4**	**+0.2**
TIR				*e*Sb	**Sb**	**09 09 25.0**	**-1.1**
ULC	**Ulcinj**	**0.81**	**345**	⇑*i*Pg	**Pg**	**09 09 29.4**	**-0.1**
ULC				*e*Sg	**Sn**	**09 09 41.8**	**-1.2**
ULC	**Ulcinj**	**0.81**	**345**	⇑*i*Pg	**Pg**	**09 09 29.4**	**-0.1**
ULC				*e*Sg	**Sn**	**09 09 41.8**	**-1.2**
PHP	**Peshkopia**	**0.85**	**54**	*i* PG	**Pg**	**09 09 28.4**	**-1.9**
PHP				*i* SG	**Sn**	**09 09 45.2**	**+1.1**
PHP	**Peshkopia**	**0.85**	**54**	P	**Pg**	**09 09 29.1**	**-1.2**
PHP				S	**Sn**	**09 09 42.6**	**-1.5**
PHP	**Peshkopia**	**0.85**	**54**	*i* Pg	**Pg**	**09 09 28.4**	**-1.9**
PHP	**Peshkopia**	**0.85**	**54**	P	**Pg**	**09 09 29.1**	**-1.2**
PHP				S	**Sn**	**09 09 42.6**	**-1.5**
PHP				*i* Sg	**Sn**	**09 09 45.2**	**+1.1**
PUK	**Puka**	**0.90**	**18**	*i* PG	**Pb**	**09 09 30.6**	**-0.8**
PUK				*i* PG	**Sn**	**09 09 47.6**	**+2.2**
PUK	**Puka**	**0.90**	**18**	*i* Pg	**Pb**	**09 09 30.6**	**-0.8**
DRME	**Dracevica, Mon**	**1.04**	**346**	⇑*i*Pg	**Pg**	**09 09 33.9**	**+0.1**
DRME				*e*Sg	**Sn**	**09 09 49.9**	**+1.3**
DRME	**Dracevica, Mon**	**1.04**	**346**	⇑*i*Pg	**Pg**	**09 09 33.9**	**+0.1**
DRME				*e*Sg	**Sn**	**09 09 49.9**	**+1.3**
BUM	**Brajici-Budva**	**1.22**	**337**	⇓*i*Pg	**Pn**	**09 09 36.6**	**0.0**
BUM				*e*Sg	**Sg**	**09 09 55.8**	**+2.8**
BUM	**Brajici-Budva**	**1.22**	**337**	⇓*i*Pg	**Pn**	**09 09 36.6**	**0.0**
BUM				*e*Sg	**Sg**	**09 09 55.8**	**+2.8**
BCI	**Bajram Curri**	**1.25**	**19**	*e*PG	**Pb**	**09 09 37.2**	**-0.1**
BCI				*e*SG	**Sg**	**09 09 56.9**	**+2.7**
BCI	**Bajram Curri**	**1.25**	**19**	*e*Pg	**Pb**	**09 09 37.2**	**-0.1**
BCI				*e*Sg	**Sg**	**09 09 56.9**	**+2.7**
PDG	**Podgorica**	**1.27**	**351**	P	**Pn**	**09 09 37.1**	**-0.1**
PDG				S	**Sg**	**09 09 55.9**	**+1.4**
PDG	**Podgorica**	**1.27**	**351**	*e*Pg	**Pb**	**09 09 37.3**	**-0.2**
PDG				*e*Sg	**Sn**	**09 09 53.9**	**-0.2**
PDG	**Podgorica**	**1.27**	**351**	P	**Pn**	**09 09 37.1**	**-0.1**
PDG				S	**Sg**	**09 09 55.9**	**+1.4**
PDG				*e*Sg	**Sg**	**09 09 56.4**	**+1.9**
TTG	**Podgorica**	**1.27**	**351**	⇑*i*Pg	**Pb**	**09 09 37.3**	**-0.2**
TTG				*e*Sg	**Sg**	**09 09 56.4**	**+1.9**
SRN	**Sarande**	**1.35**	**164**	P	**Pn**	**09 09 37.6**	**-0.8**
SRN				S	**Sb**	**09 09 56.5**	**+0.4**
SRN	**Sarande**	**1.35**	**164**	P	**Pn**	**09 09 37.6**	**-0.8**
SRN				S	**Sb**	**09 09 56.5**	**+0.4**
BIA	**Bitola**	**1.37**	**96**	*e*Pn	**Pn**	**09 09 38.6**	**-0.2**
BIA	**Bitola**	**1.37**	**96**	*e*Pn	**Pn**	**09 09 38.0**	**-0.7**
NEST	**Nestorio**	**1.39**	**123**	P	**Pn**	**09 09 39.1**	**+0.1**
NEST				S	**Sb**	**09 09 58.0**	**+0.7**
NEST	**Nestorio**	**1.39**	**123**	P	**Pn**	**09 09 39.1**	**+0.1**
NEST				S	**Sb**	**09 09 58.0**	**+0.7**
PVY	**Plav**	**1.45**	**13**	⇑*i*Pg	**Pb**	**09 09 40.5**	**-0.3**
PVY				*e*Sg	**Sg**	**09 10 01.1**	**+0.6**
PVY	**Plav**	**1.45**	**13**	⇑*i*Pg	**Pb**	**09 09 40.5**	**-0.3**
PVY				*e*Sg	**Sg**	**09 10 01.1**	**+0.6**
FNA	**Florina**	**1.46**	**105**	P	**Pn**	**09 09 39.7**	**-0.2**
FNA				S	**Sg**	**09 10 00.1**	**-0.5**
FNA	**Florina**	**1.46**	**105**	*e*P	**Pn**	**09 09 39.9**	**0.0**
FNA				*e*S	**Sg**	**09 10 00.1**	**-0.5**
FNA	**Florina**	**1.46**	**105**	*e*Pn	**Pn**	**09 09 39.9**	**0.0**
FNA				S	**Sg**	**09 10 00.1**	**-0.5**
KEK	**Kerkira**	**1.48**	**172**	P	**Pn**	**09 09 39.3**	**-0.9**
KEK				S	**Sn**	**09 09 59.9**	**+0.4**
KEK	**Kerkira**	**1.48**	**172**	*e*P	**Pn**	**09 09 40.8**	**+0.6**
KEK				*e*S	**Sg**	**09 10 01.7**	**+0.3**
KEK	**Kerkira**	**1.48**	**172**	P	**Pn**	**09 09 39.3**	**-0.9**
KEK	**Kerkira**	**1.48**	**172**	*e*Pb	**Pn**	**09 09 40.8**	**+0.6**
KEK				S	**Sn**	**09 09 59.9**	**+0.4**
KEK				*e*Sn	**Sg**	**09 10 01.7**	**+0.3**
HCY	**Herceg Novi**	**1.48**	**329**	⇑*i*Pg	**Pb**	**09 09 41.5**	**+0.3**
HCY				*e*Sg	**Sg**	**09 10 03.2**	**+1.7**
HCY	**Herceg Novi**	**1.48**	**329**	⇑*i*Pg	**Pb**	**09 09 41.5**	**+0.3**
HCY				*e*Sg	**Sg**	**09 10 03.2**	**+1.7**
NKME	**Niksic**	**1.64**	**345**	⇓*i*Pn	**Pb**	**09 09 43.4**	**-0.6**
NKME				*e*Sn	**Sg**	**09 10 06.7**	**+0.1**
NKME	**Niksic**	**1.64**	**345**	⇓*i*Pn	**Pb**	**09 09 43.4**	**-0.6**
NKME				*e*Sn	**Sg**	**09 10 06.7**	**+0.1**
NKY	**Niksic**	**1.68**	**346**	⇑*i*Pn	**Pb**	**09 09 44.1**	**-0.6**
NKY				*e*Sn	**Sg**	**09 10 07.4**	**-0.4**
NKY	**Niksic**	**1.68**	**346**	⇑*i*Pn	**Pb**	**09 09 44.1**	**-0.6**
NKY				*e*Sn	**Sg**	**09 10 07.4**	**-0.4**
BEY	**Berane**	**1.71**	**9**	⇓⇓*i*Pn	**Pb**	**09 09 45.0**	**-0.2**
BEY				*e*Sn	**Sb**	**09 10 07.4**	**+0.7**
IVA	**Berane**	**1.71**	**9**	⇓⇓*i*Pn	**Pb**	**09 09 45.0**	**-0.2**
IVA				*e*Sn	**Sb**	**09 10 07.4**	**+0.7**
TREB	**Trebinje**	**1.77**	**331**	*e*Pn	**Pb**	**09 09 46.1**	**0.0**
TREB				*e*Sg	**Sg**	**09 10 10.7**	**+0.1**
TREB	**Trebinje**	**1.77**	**331**	*e*Pn	**Pb**	**09 09 46.1**	**0.0**
TREB				*e*Sg	**Sg**	**09 10 10.7**	**+0.1**
JAN	**Janina**	**1.83**	**146**	*e*P	**Pb**	**09 09 46.6**	**-0.5**
JAN				*e*S	**Sb**	**09 10 10.9**	**+0.9**
JAN	**Janina**	**1.83**	**146**	*e*Pb	**Pb**	**09 09 46.6**	**-0.5**
JAN				*e*Sn	**Sb**	**09 10 10.9**	**+0.9**
BRY	**Bratogost**	**1.87**	**337**	⇑*i*Pn	**Pb**	**09 09 47.6**	**-0.3**
BRY				*e*Sn	**Sg**	**09 10 13.3**	**-0.6**
BRY	**Bratogost**	**1.87**	**337**	⇑*i*Pn	**Pb**	**09 09 47.6**	**-0.3**
BRY				*e*Sn	**Sg**	**09 10 13.3**	**-0.6**
UPM	**Unac-Piva**	**2.07**	**347**	⇑*i*Pn	**Pb**	**09 09 50.7**	**-0.7**
UPM				*e*Sn	**Sb**	**09 10 17.1**	**-0.1**
UPM	**Unac-Piva**	**2.07**	**347**	⇑*i*Pn	**Pb**	**09 09 50.7**	**-0.7**
UPM				*e*Sn	**Sb**	**09 10 17.1**	**-0.1**
SJES	**Sjenica**	**2.10**	**9**	*e*Pn	**Pn**	**09 09 50.2**	**+1.3**
SJES				*e*Sg	**Sg**	**09 10 19.7**	**-1.8**
SJES	**Sjenica**	**2.10**	**9**	*e*Pn	**Pn**	**09 09 50.2**	**+1.3**
PLE	**Pljevlja**	**2.15**	**357**	⇓⇓*i*Pn	**Pn**	**09 09 50.6**	**+1.1**
PLE				*e*Sn	**Sb**	**09 10 19.1**	**-0.3**
PLE	**Pljevlja**	**2.15**	**357**	⇓⇓*i*Pn	**Pn**	**09 09 50.6**	**+1.1**
PLE				*e*Sn	**Sb**	**09 10 19.1**	**-0.3**
STON	**Ston**	**2.17**	**322**	*e*Pn	**Pb**	**09 09 52.3**	**-0.6**
STON	**Ston**	**2.17**	**322**	*e*Pn	**Pb**	**09 09 48.5**	**-1.2**
STON				Sn	**Sn**	**09 10 16.5**	**+0.1**
STON	**Ston**	**2.17**	**322**	*e*Pn	**Pb**	**09 09 52.3**	**-0.6**
SELS	**Selova**	**2.36**	**30**	*e*Pn	**Pn**	**09 09 52.9**	**+0.6**
BARS	**Barje**	**2.36**	**45**	*e*Pn	**Pn**	**09 09 53.0**	**+0.6**
BARS	**Barje**	**2.36**	**45**	*e*Pn	**Pn**	**09 09 53.0**	**+0.6**
IVAS	**Ivanjica**	**2.44**	**11**	*e*Pn	**Pn**	**09 09 53.8**	**+0.4**
IVAS				*e*Sn	**Sn**	**09 10 23.3**	**+0.1**
IVAS	**Ivanjica**	**2.44**	**11**	*e*Pn	**Pn**	**09 09 53.8**	**+0.4**
IVAS				*e*Sn	**Sn**	**09 10 23.3**	**+0.1**
THL	**Klokotos Trika**	**2.49**	**130**	*e*P	**Pn**	**09 09 56.0**	**+1.9**
THL	**Klokotos Trika**	**2.49**	**130**	*e*Pb	**Pn**	**09 09 56.0**	**+1.9**
BBLS	**Lazići**	**2.69**	**358**	*e*Pn	**Pn**	**09 09 58.3**	**+1.5**
BBLS				*e*Sn	**Sn**	**09 10 29.1**	**-0.2**
BBLS	**Lazići**	**2.69**	**358**	*e*Pn	**Pn**	**09 09 58.3**	**+1.5**
BBLS				*e*Sn	**Sn**	**09 10 29.1**	**-0.2**
GRUS	**Gruza**	**2.84**	**18**	*e*Pn	**Pn**	**09 09 59.0**	**0.0**
GRUS	**Gruza**	**2.84**	**18**	*e*Pn	**Pn**	**09 09 59.0**	**0.0**
AGG	**Agios Georgios**	**3.04**	**134**	*e*P	**Pn**	**09 10 02.8**	**+1.0**
AGG				*e*S	**Sn**	**09 10 40.2**	**+2.1**
AGG	**Agios Georgios**	**3.04**	**134**	*e*Pn	**Pn**	**09 10 02.8**	**+1.0**
AGG				*e*Sn	**Sn**	**09 10 40.2**	**+2.1**
NVLJ	**Novalja**	**4.81**	**316**	*e*Pn	**Pn**	**09 10 23.1**	**-2.8**
NVLJ				Sn	**Sn**	**09 11 19.1**	**-2.4**

*ATH **15** 09:23:43.9, 39.14N×29.15E, h5km, MD3.7/5*
*IDC **15** 09:23:43.8±3.2, 38.83N×28.75E, h0km, mb3.7/4, mb1 3.6/6, mb1mx3.4/26, mbtmp3.6/6, ML3.6/2, MS2.9/1, Ms1 3.0/1, ms1mx2.5/34, Error ellipse: s-maj=47.5km s-min=21.9km az=24.0*
*THE **15** 09:23:47.9, 39.08N×29.09E, h0km, ML4.0/6, Error ellipse: s-maj=0.6km s-min=0.4km az=79.0*
*ISK **15** 09:23:47.5, 39.09N×29.05E, h11km, ML4.0*
*CSEM **15** 09:23:47.9±0.1, 39.10N×29.06E, h5km, mb3.8/7, Error ellipse: s-maj=2.0km s-min=1.9km az=5.0*
*ISCJB **15** 09:23:47.5±0.4, 39.12N±0.02×29.08E±0.02, h8km±3km, mb3.8/9, MS2.7/1, Error ellipse: s-maj=2.6km s-min=2.2km az=171.0*
*DDA **15** 09:23:48.0, 39.12N×29.02E, h11km, MD3.7, ML3.9*
*MOS **15** 09:23:48.3±1.1, 39.20N×29.02E, h17km, mb4.0/7, Error ellipse: s-maj=10.2km s-min=5.6km az=77.8*
ISC 15 09:23:47.6±1.0,**39.11N**±0.02×**29.03E**±0.01,**h2**km±7km,
n235,σ1§14/297,**mb3.7**/9,**14C-11D,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.25**	**255**	*i* P	**Pg**	**09 23 53.4**	**+0.9**
DEMI				*i* S	**Sg**	**09 23 57.2**	**+1.4**
DEMI	**Demirci**	**0.25**	**255**	*i* P	**Pg**	**09 23 53.4**	**+0.9**
DEMI				*i* S	**Sg**	**09 23 57.2**	**+1.4**
GDZ	**Gediz**	**0.35**	**93**	*i* P	**Pg**	**09 23 55.1**	**+0.7**
GDZ				*i* S	**Sg**	**09 24 00.3**	**+1.3**
GDZ	**Gediz**	**0.35**	**93**	*i* P	**Pg**	**09 23 55.1**	**+0.7**
GDZ				*i* S	**Sg**	**09 24 00.3**	**+1.3**
DST	**Dursunbey**	**0.59**	**327**	*e*PG	**Pg**	**09 23 59.4**	**+0.4**
DST	**Dursunbey**	**0.59**	**327**	*e*Pg	**Pg**	**09 23 59.4**	**+0.4**
DURS	**Dursunbey**	**0.66**	**319**	*i* P	**Pg**	**09 24 00.8**	**+0.6**
DURS				*i* S	**Sg**	**09 24 09.6**	**+0.9**
DURS	**Dursunbey**	**0.66**	**319**	*i* P	**Pg**	**09 24 00.8**	**+0.6**
DURS				*i* S	**Sg**	**09 24 09.6**	**+0.9**
KULA	**Kula-Manisa**	**0.66**	**206**	*e*PG	**Pg**	**09 24 00.7**	**+0.4**
KULA				*e*SG	**Sg**	**09 24 09.3**	**+0.5**
KULA	**Kula-Manisa**	**0.66**	**206**	P	**Pg**	**09 24 00.7**	**+0.4**
KULA				S	**Sb**	**09 24 11.2**	**-0.3**
KULA	**Kula-Manisa**	**0.66**	**206**	P	**Pg**	**09 24 00.7**	**+0.4**
KULA				*e*Sg	**Sg**	**09 24 09.3**	**+0.5**
KULA				S	**Sb**	**09 24 11.2**	**-0.3**
KHL	**Karahalli**	**0.87**	**154**	*e*PG	**Pg**	**09 24 04.9**	**+0.6**
KHL	**Karahalli**	**0.87**	**154**	*e*Pg	**Pg**	**09 24 04.9**	**+0.6**
AKHS	**Akhisar**	**0.98**	**257**	*i* P	**Pn**	**09 24 07.5**	**-0.8**
AKHS				*i* S	**Sn**	**09 24 20.6**	**-2.1**
AKHS	**Akhisar**	**0.98**	**257**	*i* P	**Pn**	**09 24 07.5**	**-0.8**
AKHS				*i* S	**Sn**	**09 24 20.6**	**-2.1**
AKS	**Akhisar**	**0.98**	**257**	*e*PG	**Pb**	**09 24 07.1**	**-0.2**
ULDT	**Uludag**	**1.04**	**4**	*i* P	**Pb**	**09 24 07.5**	**-0.9**
ULDT				*i* S	**Sg**	**09 24 20.7**	**-0.3**
ULDT	**Uludag**	**1.04**	**4**	*i* P	**Pb**	**09 24 07.5**	**-0.9**
ULDT				*i* S	**Sg**	**09 24 20.7**	**-0.3**
BALB	**Balikesir**	**1.04**	**301**	*e*PG	**Pn**	**09 24 08.5**	**-0.7**
BALB	**Balikesir**	**1.04**	**301**	*e*Pg	**Pn**	**09 24 08.5**	**-0.7**
CAVI	**Cavuskoy**	**1.26**	**30**	*e*PN	**Pn**	**09 24 11.3**	**-1.0**
CAVI	**Cavuskoy**	**1.26**	**30**	*e*Pn	**Pn**	**09 24 11.3**	**-1.0**
BALY	**Balya**	**1.26**	**300**	*i* P	**Pg**	**09 24 12.6**	**+0.7**
BALY				*i* S	**Sg**	**09 24 28.9**	**+0.7**
BALY	**Balya**	**1.26**	**300**	*i* P	**Pg**	**09 24 12.6**	**+0.7**
BALY				*i* S	**Sg**	**09 24 28.9**	**+0.7**
MDNY	**Mudanya-Bursa**	**1.27**	**355**	*e*PN	**Pb**	**09 24 11.6**	**-0.5**
MDNY	**Mudanya-Bursa**	**1.27**	**355**	*e*Pn	**Pb**	**09 24 11.6**	**-0.5**
KCTX	**Karacabey (Bur**	**1.27**	**336**	*e*PN	**Pg**	**09 24 12.1**	**+0.1**
KCTX	**Karacabey (Bur**	**1.27**	**336**	*e*Pn	**Pg**	**09 24 12.1**	**+0.1**
BORA	**Eskisehir**	**1.34**	**55**	*i* P	**Pb**	**09 24 13.3**	**-0.2**
BORA				*i* S	**Sg**	**09 24 32.7**	**+1.9**
BORA	**Eskisehir**	**1.34**	**55**	*i* P	**Pb**	**09 24 13.3**	**-0.2**
BORA				*i* S	**Sg**	**09 24 32.7**	**+1.9**
DENT	**Denizli**	**1.35**	**180**	*e*PN	**Pn**	**09 24 12.8**	**-0.7**
DENT	**Denizli**	**1.35**	**180**	*e*Pn	**Pn**	**09 24 12.8**	**-0.7**
GONE	**Gonen-Balikesi**	**1.40**	**312**	*e*PN	**Pb**	**09 24 14.3**	**-0.2**
GONE	**Gonen-Balikesi**	**1.40**	**312**	*e*Pn	**Pb**	**09 24 14.3**	**-0.2**
DNZL	**Cakiroluk**	**1.42**	**180**	*i* P	**Pn**	**09 24 14.0**	**-0.5**
DNZL				*i* S	**Sg**	**09 24 36.6**	**+3.5**
DNZL	**Cakiroluk**	**1.42**	**180**	*i* P	**Pn**	**09 24 14.0**	**-0.5**
ADVT	**Abdulvahap**	**1.43**	**22**	*e*PN	**Pb**	**09 24 14.4**	**-0.6**
ADVT	**Abdulvahap**	**1.43**	**22**	*e*Pn	**Pb**	**09 24 14.4**	**-0.6**
ARMT	**Armutlu**	**1.46**	**355**	*e*PN	**Pb**	**09 24 15.1**	**-0.4**
ARMT	**Armutlu**	**1.46**	**355**	*e*Pn	**Pb**	**09 24 15.1**	**-0.4**
ESKT	**Eskisehir**	**1.47**	**73**	*e*PN	**Pb**	**09 24 15.1**	**-0.1**
ESKT	**Eskisehir**	**1.47**	**73**	*e*Pn	**Pb**	**09 24 15.1**	**-0.1**
BNT	**Bandirma**	**1.51**	**326**	*e*PN	**Pb**	**09 24 15.8**	**-0.6**
BNT	**Bandirma**	**1.51**	**326**	*e*Pn	**Pb**	**09 24 15.8**	**-0.6**
GPA	**Golpazari**	**1.54**	**39**	*e*PN	**Pn**	**09 24 15.8**	**-0.3**
GPA	**Golpazari**	**1.54**	**39**	*e*Pn	**Pn**	**09 24 15.8**	**-0.3**
BOLV	**Bolvadin**	**1.55**	**104**	*i* P	**Pb**	**09 24 16.5**	**-0.6**
BOLV				*i* S	**Sn**	**09 24 34.1**	**-2.9**
BOLV	**Bolvadin**	**1.55**	**104**	*i* P	**Pb**	**09 24 16.5**	**-0.6**
BOLV				*i* S	**Sn**	**09 24 34.1**	**-2.9**
IZM	**Izmir**	**1.56**	**243**	*e*PN	**Pn**	**09 24 15.7**	**-0.6**
IZM	**Izmir**	**1.56**	**243**	*e*Pn	**Pn**	**09 24 15.7**	**-0.6**
AYDN	**Tasoluk**	**1.71**	**212**	*i* P	**Pn**	**09 24 17.9**	**-0.5**
AYDN				*i* S	**Sg**	**09 24 42.7**	**+0.3**
AYDN	**Tasoluk**	**1.71**	**212**	*i* P	**Pn**	**09 24 17.9**	**-0.5**
AYDN				*i* S	**Sg**	**09 24 42.7**	**+0.3**
ISP	**Isparta**	**1.74**	**137**	*e*PN	**Pn**	**09 24 17.6**	**-1.3**
ISP	**Isparta**	**1.74**	**137**	P	**Pn**	**09 24 16.9**	**-2.0**
ISP				S	**Sn**	**09 24 39.7**	**-1.9**
ISP	**Isparta**	**1.74**	**137**	⇑

HDMB	**Hadim**	**3.47**	**127**	*e*PN	**Pn**	**09 24 42.2**	**-0.6**
HDMB	**Hadim**	**3.47**	**127**	*e*Pn	**Pn**	**09 24 42.2**	**-0.6**
SAFT	**Safranbolu**	**3.52**	**52**	*e*PN	**Pn**	**09 24 43.5**	**+0.2**
BRTR	**Keskin Array B**	**3.62**	**79**	Pn	**Pn**	**09 24 45.4**	**+0.6**
	3.2nm,0.3s,baz=255,slow=14,SNR=84						
BRTR				Pg	**Pg**	**09 24 57.0**	**-0.1**
	3.6nm,0.3s,baz=260,slow=17,SNR=30						
BRTR				Lg	Lg	09 25 47.5	
	2.8nm,0.3s,baz=262,slow=25,SNR=14						
BRTR	**Keskin Array B**	**3.62**	**79**	P	**Pn**	**09 24 45.4**	**+0.6**
SULT	**Sultanhani-AKS**	**3.63**	**103**	*e*PN	**Pn**	**09 24 44.8**	**0.0**
SULT	**Sultanhani-AKS**	**3.63**	**103**	*e*Pn	**Pn**	**09 24 44.8**	**0.0**
JMB	**Yambol**	**3.84**	**332**	P	**Pn**	**09 24 48.0**	**+0.4**
JMB	**Yambol**	**3.84**	**332**	P	**Pn**	**09 24 48.0**	**+0.4**
KARP	**Karpathos**	**3.85**	**203**	P	**Pn**	**09 24 47.5**	**-0.4**
KARP				S	**Sn**	**09 25 33.6**	**-0.2**
KAVA	**Kavala**	**3.95**	**300**	P	**Pn**	**09 24 49.4**	**+0.3**
KAVA				S	**Sn**	**09 25 37.9**	**+1.9**
KAVA	**Kavala**	**3.95**	**300**	P	**Pn**	**09 24 49.4**	**+0.3**
KAVA				S	**Sn**	**09 25 37.9**	**+1.9**
AOS	**Alonnisos**	**4.01**	**273**	P	**Pn**	**09 24 50.5**	**+0.5**
AOS	**Alonnisos**	**4.01**	**273**	*e*PN	**Pn**	**09 24 50.4**	**+0.5**
AOS	**Alonnisos**	**4.01**	**273**	*e*Pn	**Pn**	**09 24 50.4**	**+0.5**
TOS	**Tosya**	**4.29**	**62**	*e*PN	**Pn**	**09 24 54.8**	**+0.9**
CORM	**Corum**	**4.45**	**74**	*e*PN	**Pn**	**09 24 57.2**	**+1.0**
CORM	**Corum**	**4.45**	**74**	*e*Pn	**Pn**	**09 24 57.2**	**+1.0**
IKL	**Isikli**	**4.67**	**126**	*e*PN	**Pn**	**09 24 59.4**	**+0.3**
IKL	**Isikli**	**4.67**	**126**	*e*Pn	**Pn**	**09 24 59.4**	**+0.3**
TIRR	**Tirgusor**	**5.37**	**355**	⇑P	**Pn**	**09 25 09.1**	**+0.5**
TIRR	**Tirgusor**	**5.37**	**355**	⇑*i*P	**Pn**	**09 25 09.1**	**+0.5**
TIRR	**Tirgusor**	**5.37**	**355**	P	**Pn**	**09 25 09.1**	**+0.5**
TLB	**Topalu**	**5.52**	**353**	⇓P	**Pn**	**09 25 10.9**	**+0.1**
TLB	**Topalu**	**5.52**	**353**	⇓*i*P	**Pn**	**09 25 10.9**	**+0.1**
TLB	**Topalu**	**5.52**	**353**	P	**Pn**	**09 25 10.9**	**+0.1**
VTS	**Vitosha**	**5.62**	**310**	⇓P	**Pn**	**09 25 11.8**	**-0.5**
VTS	**Vitosha**	**5.62**	**310**	⇓*i*P	**Pn**	**09 25 11.8**	**-0.5**
VTS	**Vitosha**	**5.62**	**310**	P	**Pn**	**09 25 11.8**	**-0.5**
TLCR		**6.08**	**359**	⇑P	**Pn**	**09 25 18.3**	**-0.1**
TLCR		**6.08**	**359**	⇑*i*P	**Pn**	**09 25 18.3**	**-0.1**
TLCR		**6.08**	**359**	P	**Pn**	**09 25 18.3**	**-0.1**
CFR	**Carcaliu**	**6.10**	**354**	⇑P	**Pn**	**09 25 18.6**	**-0.2**
CFR	**Carcaliu**	**6.10**	**354**	⇑*i*P	**Pn**	**09 25 18.5**	**-0.2**
CFR	**Carcaliu**	**6.10**	**354**	P	**Pn**	**09 25 18.6**	**-0.2**
SEV	**Sevastopol'**	**6.44**	**31**	*e*P	**Pn**	**09 25 22.0**	**-1.4**
SEV				*e*S	**Sn**	**09 26 31.5**	**-5.9**
YAL	**Yalta**	**6.60**	**34**	*e*P	**Pn**	**09 25 26.3**	**+0.8**
YAL				*e*S	**Sn**	**09 26 37.7**	**-3.5**
YAL	**Yalta**	**6.60**	**34**	*e*P	**Pn**	**09 25 26.3**	**+0.8**
SIM	**Simferopol'**	**6.96**	**31**	*e*P	Pn	09 25 34.3	+3.8
SIM				*e*S	**Sn**	**09 26 49.0**	**-1.1**
SIM				pmax	pmax		
	comp=Z,83nm,0.4s						
SIM				MLR	MLR		
	comp=Z,30nm,14.0s						
PLOR	**Plostina**	**6.96**	**346**	⇓P	**Pn**	**09 25 30.9**	**+0.3**
PLOR	**Plostina**	**6.96**	**346**	⇓*i*P	**Pn**	**09 25 30.9**	**+0.3**
PLOR	**Plostina**	**6.96**	**346**	P	**Pn**	**09 25 30.9**	**+0.3**
VRI	**Vrincioaia**	**6.96**	**347**	⇓P	**Pn**	**09 25 31.7**	**+1.1**
VRI	**Vrincioaia**	**6.96**	**347**	⇓*i*P	**Pn**	**09 25 31.7**	**+1.1**
VRI	**Vrincioaia**	**6.96**	**347**	P	**Pn**	**09 25 31.7**	**+1.1**
SUDU	**Sudak**	**7.29**	**36**	*e*P	**Pn**	**09 25 35.8**	**+0.8**
SUDU				*e*S	**Sn**	**09 26 55.9**	**-2.3**
SUDU	**Sudak**	**7.29**	**36**	*e*P	**Pn**	**09 25 35.8**	**+0.8**
SUDU				*e*S	**Sn**	**09 26 55.9**	**-2.3**
DOPR	**Dopca**	**7.36**	**340**	⇓*i*P	**Pn**	**09 25 37.2**	**+1.1**
ANN	**Anapa**	**8.46**	**45**	*e*P	Pb	09 26 05.5	-9.1
ANN				pmax	pmax		
	comp=Z,25nm,1.0s						
BURAR	**Bucovina Array**	**8.94**	**343**	⇑P	**Pn**	**09 25 59.6**	**+1.8**
BURAR	**Bucovina Array**	**8.94**	**343**	⇑*i*P	**Pn**	**09 25 59.6**	**+1.8**
BURAR	**Bucovina Array**	**8.94**	**343**	⇑*i*P	**Pn**	**09 25 59.6**	**+1.8**
KIV	**Kislovodsk**	**11.32**	**60**	*e*P	**Pn**	**09 26 31.5**	**+1.1**
KIV				*e*S	**Sn**	**09 28 38.7**	**+1.3**
KIV				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KIV				MLR	MLR		
	comp=Z,34nm,10.0s						
KIV	**Kislovodsk**	**11.32**	**60**	*e*P	**Pn**	**09 26 31.5**	**+1.1**
	comp=Z,6.0nm,0.9s						
KIV				*e*S	**Sn**	**09 28 38.7**	**+1.3**
	comp=Z,34nm,10.0s						
AKASG	**Malin Array Be**	**11.59**	**1**	P	**Pn**	**09 26 34.0**	**0.0**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKASG	**Malin Array Be**	**11.59**	**1**	Pn	**Pn**	**09 26 34.0**	**0.0**
	comp=Z,0.5nm,0.3s,baz=180,slow=12,SNR=4.6						
AKASG	**Malin Array Be**	**11.59**	**1**	P	**Pn**	**09 26 34.0**	**0.0**
	comp=Z,1.0nm,0.3s						
NCK	**Nalchik**	**11.80**	**64**	*i* P	**Pn**	**09 26 37.1**	**+0.3**
NCK	**Nalchik**	**11.80**	**64**	*i* P	**Pn**	**09 26 37.1**	**+0.3**
ZEI	**Tsey**	**11.83**	**67**	*i* P	**Pn**	**09 26 36.7**	**-0.8**
ZEI	**Tsey**	**11.83**	**67**	*i* P	**Pn**	**09 26 36.7**	**-0.8**
CLL	**Collm**	**16.58**	**323**	LmV		09 28 00.0	
	comp=Z,100nm,21.0s						
OBN	**Obninsk**	**16.80**	**15**	*e*P	**Pn**	**09 27 43.7**	**0.0**
OBN				pmax	pmax		
	comp=Z,4.0nm,0.5s						
OBN				MLR	MLR		
	comp=Z,100nm,20.0s						
OBN	**Obninsk**	**16.80**	**15**	*e*P	**Pn**	**09 27 43.7**	**0.0**
	comp=Z,100nm,20.0s						
MOS	**Moscow**	**17.60**	**16**	*e*P	**P**	**09 27 56.3**	**+1.4**
MOS	**Moscow**	**17.60**	**16**	*e*P	**P**	**09 27 56.3**	**+1.4**
FINES	**FINESS Array B**	**22.44**	**356**	P	**P**	**09 28 47.0**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=167,slow=13,SNR=2.7						
FINES	**FINESS Array B**	**22.44**	**356**	P	**P**	**09 28 47.0**	**-0.4**
	comp=Z,1.0nm,0.6s						
KLMR	**Klimovskoe**	**22.73**	**13**	*e*P	**P**	**09 28 50.4**	**-0.2**
KLMR				pmax	pmax		
	comp=Z,12nm,1.4s						
KLMR	**Klimovskoe**	**22.73**	**13**	*e*P	**P**	**09 28 50.4**	**-0.2**
	comp=Z,12nm,1.4s						
AKTK	**Aktyubinsk**	**23.33**	**51**	P	**P**	**09 28 55.6**	**-1.4**
	comp=Z,2.0nm,0.8s						
AKTO	**Aktyubinsk**	**23.33**	**51**	P	**P**	**09 28 55.6**	**-1.4**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.8s						
AKTO	**Aktyubinsk**	**23.33**	**51**	P	**P**	**09 28 55.6**	**-1.4**
	comp=Z,2.3nm,0.8s,baz=247,slow=13,SNR=3.9						
NOA	**NORSAR Array B**	**24.59**	**339**	LR	LR	09 38 56.5	
	comp=Z,28nm,21.0s,baz=180,slow=37						
ARU	**Arti**	**26.05**	**39***c*	*i* P	**P**	**09 29 22.7**	**+0.7**
ARU						09 30 00.5	
ARU				S	**S**	**09 33 58.0**	**+4.5**
ARU				SS	**SnSn**	**09 34 56.5**	**+6.2**
ARU				pmax	pmax		
	comp=Z,8.0nm,1.2s						
ARU	**Arti**	**26.05**	**39**	*i* P	**P**	**09 29 22.7**	**+0.7**
	comp=Z,8.0nm,1.2s						
BRVK	**Borovoye**	**31.36**	**50**	*i* P	**P**	**09 30 10.4**	**+1.1**
BRVK				pmax	pmax		
	comp=Z,3.0nm,2.0s						
BRVK	**Borovoye**	**31.36**	**50**	*i* P	**P**	**09 30 10.4**	**+1.1**
	comp=Z,3.0nm,2.0s						
KURBB	**Kurchatov Arra**	**36.28**	**55**	P	**P**	**09 30 50.2**	**-1.9**
	comp=Z,0.8nm,0.7s,baz=279,slow=8.8,SNR=8.4						
KURK	**Kurchatov**	**36.33**	**55**	P	**P**	**09 30 50.2**	**-2.4**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KURK	**Kurchatov**	**36.33**	**55**	P	**P**	**09 30 50.2**	**-2.4**
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**39.08**	**61**	P	**P**	**09 31 16.3**	**+0.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**39.08**	**61**	P	**P**	**09 31 16.3**	**+0.3**
	comp=Z,0.8nm,0.5s,baz=275,slow=7.8,SNR=15						
MKAR	**Makanchi Array**	**39.08**	**61**	P	**P**	**09 31 16.3**	**+0.3**
	comp=Z,1.0nm,0.5s						

*IDC **15** 09:28:20.3±3.4, 1°.62S×99°.43E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.3/23, mbtmp3.3/4, Error ellipse: s-maj=143.1km s-min=24.5km az=57.0*
*ISCJB **15** 09:28:22.5±1.1, 1°.62S±0°.09×99°.3E±0°.1, h30km, mb3.3/4, Error ellipse: s-maj=15.9km s-min=10.7km az=31.7*
*DJA **15** 09:28:22.0±1.7, 2°.5±7°.9×9°.9E±1°.7, h12km±18km, M4.3/3, MLv4.3/3*
ISC 15 09:28:25.1±1.3, **1°.54S**±0°.09×**99°.5E**±0°.1, **h30**km, **n9, σ0.97**/10, **mb3.3**/4, **Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.19**	**59**	P	**Pn**	**09 28 44.9**	**-0.9**
PDSI				S	**Sb**	**09 29 02.3**	**+0.1**
PPI	**Padang Panjang**	**1.44**	**42**	P	**Pn**	**09 28 47.9**	**-1.2**
PPI				S	**Sb**	**09 29 08.8**	**-0.4**
BKNI	**Bangkinang**	**2.44**	**41**	P	**Pb**	**09 29 09.9**	**+1.5**
MASI	**Maura Aman, Be**	**3.21**	**120**	P	**Pn**	**09 29 13.6**	**-0.1**
WRA	**Warramunga Arr**	**38.70**	**121**	P	**P**	**09 35 45.8**	**-1.0**
	0.4nm,0.6s,baz=302,slow=9.0,SNR=5.7						
ASAR	**Alice Springs**	**39.97**	**126**	P	**P**	**09 35 57.0**	**-0.3**
	0.2nm,0.6s,baz=299,slow=8.2,SNR=4.4						
SONM	**Songino Array**	**49.54**	**6**	P	**P**	**09 37 14.2**	**+0.8**
	0.1nm,0.4s,baz=190,slow=4.0,SNR=2.1						
MKAR	**Makanchi Array**	**50.44**	**345**	P	**P**	**09 37 19.8**	**-0.2**
	0.5nm,0.6s,baz=158,slow=5.1,SNR=2.6						
TXAR	**Lajitas Array**	**144.67**	**36**	PKP	PKPbc	09 47 59.0	+0.3
	0.2nm,0.6s,baz=223,slow=1.9,SNR=6.0						

IDC 15 09:36:56.0±3.0, **47°.02N**×**152°.31E, h106**km±29km, **mb3.0**/8, **mb1 3.3**/11, **mb1mx3.2**/26, **mbtmp3.0**/11, **Error ellipse: s-maj=32.7km s-min=14.0km az=141.0, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**7.01**	**28**	P	Pn	09 38 35.0	-0.8
	0.3nm,0.3s,baz=191,slow=17,SNR=3.3						
ASAJ	**Asahikawa**	**7.41**	**250**	P	Pn	09 38 42.5	+1.1
	0.8nm,0.3s,baz=83,slow=20,SNR=5.0						
USRK	**Ussuriysk Arra**	**14.50**	**266**	P	Pn	09 40 16.5	+0.6
	0.4nm,0.3s,baz=72,slow=12,SNR=4.4						
KSRS	**Korea Array**	**20.36**	**251**	P	P	09 41 23.6	-0.2
	0.7nm,0.5s,baz=47,slow=12,SNR=4.6						
ILAR	**Eielson Array**	**36.68**	**39**	P	P	09 43 51.9	-0.1
	0.3nm,0.8s,baz=263,slow=7.2,SNR=3.2						
MKAR	**Makanchi Array**	**46.33**	**297**	P	P	09 45 10.8	-0.2
	0.2nm,0.5s,baz=69,slow=7.3,SNR=3.7						
NVAR	**Mina Array Bea**	**62.79**	**62**	P	P	09 47 10.3	0.0
	0.2nm,0.5s,baz=295,slow=8.6,SNR=3.1						
PDAR	**Pinedale Array**	**65.03**	**54**	P	P	09 47 24.9	0.0
	0.2nm,0.5s,baz=338,slow=1.9,SNR=2.7						
WRA	**Warramunga Arr**	**68.59**	**198**	P	P	09 47 46.6	-0.7
	0.4nm,1.0s,baz=9.6,slow=6.0,SNR=3.0						
ASAR	**Alice Springs**	**72.30**	**198**	P	P	09 48 10.3	+0.5
	0.3nm,0.7s,baz=16,slow=5.8,SNR=6.3						
TXAR	**Lajitas Array**	**77.84**	**60**	P	P	09 48 42.3	+0.4
	0.4nm,0.6s,baz=291,slow=3.7,SNR=6.5						

MEX 15 09:49:38.5±0.5, **16°.51N**×**96°.58W, h61**km±5km, **MD3.9, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VHO	**Vista Hermosa**	**0.58**	**345**	*e*P	Pn	09 49 50.3	-1.4
VHO				*i* S	Sn	09 49 59.5	-1.8
HUIG	**Huatulco**	**0.86**	**149**	*e*P	Pn	09 49 53.7	-1.1
HUIG				*e*S	Sn	09 50 04.7	-2.2
PNIG	**Pinotepa**	**1.49**	**266**	*e*P	Pn	09 50 01.7	-1.5
PNIG				*i* S	Sn	09 50 19.0	-2.8
CMIG	**Matias Romero**	**1.72**	**70**	*e*P	Pn	09 50 04.6	-1.6
CMIG				*i* S	Sn	09 50 24.9	-2.3
TPIG	**Tehuac#an**	**2.04**	**339**	*e*P	Pn	09 50 08.6	-2.1
TPIG				*i* S	Sn	09 50 34.0	-1.4
PCIG		**3.32**	**104**	*e*P	Pn	09 50 27.4	-0.6
PCIG				*i* S	Sn	09 51 04.7	-1.7

*ISK **15** 09:54:10.8, 38°.71N×31°.28E, h5km, ML3.9*
*IDC **15** 09:54:10.7±1.5, 38°.67N×31°.41E, h0km, mb3.4/2, mb1 3.5/4, mb1mx3.3/24, mbtmp3.5/4, ML4.3/1, Error ellipse: s-maj=25.6km s-min=15.7km az=147.0*
*ISCJB **15** 09:54:11.2±0.6, 38°.71N±0°.03×31°.27E±0°.03, h4km±5km, mb3.3/2, Error ellipse: s-maj=5.6km s-min=4.0km az=178.6*
*CSEM **15** 09:54:11.8±0.2, 38°.71N×31°.27E, h2km, ML3.7, Error ellipse: s-maj=3.7km s-min=3.0km az=167.0*
*DDA **15** 09:54:11.1, 38°.71N×31°.27E, h4km, MD3.5, ML3.7*
ISC 15 09:54:11.8±1.1, **38°.72N**±0°.03×**31°.28E**±0°.02, **h7**km±8km, **n77, σ1.06**/95, **7C-8D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLV	**Bolvadin**	**0.26**	**270**	*i* P	**Pg**	**09 54 17.1**	**+0.1**
BOLV				*i* S	**Sg**	**09 54 20.8**	**+0.3**
BOLV	**Bolvadin**	**0.26**	**270**	*i* P	**Pg**	**09 54 17.1**	**+0.1**
BOLV				*i* S	**Sg**	**09 54 20.8**	**+0.3**
KDHN	**Kadinhani**	**0.68**	**106**	*i* P	**Pg**	**09 54 25.0**	**+0.1**
KDHN				*i* S	**Sb**	**09 54 34.4**	**-1.3**
KDHN	**Kadinhani**	**0.68**	**106**	*i* P	**Pg**	**09 54 25.2**	**+0.2**
KDHN				*i* S	**Sb**	**09 54 34.4**	**-1.3**
SVRH	**Sivrihisar-ESK**	**0.75**	**14**	PG	**Pg**	**09 54 25.9**	**-0.4**
SVRH				*e*SG	**Sg**	**09 54 36.6**	**+0.5**
SVRH	**Sivrihisar-ESK**	**0.75**	**14**	*i* Pg	**Pg**	**09 54 25.9**	**-0.4**
SVRH				*e*Sg	**Sg**	**09 54 36.6**	**+0.5**
ESKT	**Eskisehir**	**0.87**	**337**	*e*PG	**Pg**	**09 54 28.1**	**-0.4**
ESKT				*e*SG	**Sg**	**09 54 40.9**	**+1.0**
ESKT	**Eskisehir**	**0.87**	**337**	*e*Pg	**Pg**	**09 54 28.2**	**-0.4**
SEYT	**Eskypehyr**	**0.87**	**337**	*i* P	**Pg**	**09 54 27.6**	**-1.0**
SEYT				*i* S	**Sg**	**09 54 34.3**	**-5.6**
SEYT	**Eskypehyr**	**0.87**	**337**	*i* P	**Pg**	**09 54 27.6**	**-1.0**
ISP	**Isparta**	**1.07**	**214**	*e*PG	**Pg**	**09 54 31.5**	**-0.9**
ISP	**Isparta**	**1.07**	**214**	*e*Pg	**Pg**	**09 54 31.5**	**-0.9**
BORA	**Eskisehir**	**1.33**	**331**	*i* P	**Pb**	**09 54 37.4**	**+0.3**
BORA				*i* S	**Sn**	**09 54 55.6**	**+0.8**
BORA	**Eskisehir**	**1.33**	**331**	*i* P	**Pb**	**09 54 37.4**	**+0.3**
BORA				*i* S	**Sn**	**09 54 55.6**	**+0.8**
KHAL	**Karahalli**	**1.45**	**257**	*i* P	**Pn**	**09 54 38.5**	**0.0**
KHAL				*i* S	**Sg**	**09 54 59.7**	**+1.4**
KHAL	**Karahalli**	**1.45**	**257**	*i* P	**Pn**	**09 54 38.5**	**0.0**
KHAL				*i* S	**Sg**	**09 54 59.7**	**+1.4**
GDZ	**Gediz**	**1.45**	**285**	*i* P	**Pn**	**09 54 38.4**	**-0.2**
GDZ				*i* S	**Sb**	**09 54 57.1**	**-0.8**
GDZ	**Gediz**	**1.45**	**285**	*i* P	**Pn**	**09 54 38.4**	**-0.2**
GDZ				*i* S	**Sb**	**09 54 57.1**	**-0.8**
ANTO	**Ankara**	**1.64**	**45**	⇓*i*P	**Pb**	**09 54 42.2**	**-0.3**
ANTO	**Ankara**	**1.64**	**45**	⇓*i*P	**Pb**	**09 54 42.2**	**-0.3**
GPA	**Golpazari**	**1.74**	**335**	*e*PN	**Pn**	**09 54 43.1**	**+0.6**
GPA	**Golpazari**	**1.74**	**335**	*e*Pn	**Pn**	**09 54 43.1**	**+0.6**
MDUB	**Mudurnu**	**1.75**	**358**	*e*PN	**Pn**	**09 54 43.4**	**+0.7**
MDUB	**Mudurnu**	**1.75**	**358**	*e*Pn	**Pn**	**09 54 43.4**	**+0.7**
GULT	**Gulveren**	**1.81**	**341**	*e*PN	**Pn**	**09 54 43.5**	**+0.1**
GULT	**Gulveren**	**1.81**	**341**	*e*Pn	**Pn**	**09 54 43.6**	**+0.1**
CAVI	**Cavuskoy**	**1.85**	**324**	*e*PN	**Pn**	**09 54 44.2**	**+0.2**
CAVI	**Cavuskoy**	**1.85**	**324**	*e*Pn	**Pn**	**09 54 44.2**	**+0.2**
SGKT	**Sivrigoynuk**	**1.95**	**18**	*i* P	**Pg**	**09 54 49.4**	**+0.2**
SGKT				*i* S	**Sg**	**09 55 16.5**	**+2.0**
KULA	**Kula-Manisa**	**2.06**	**265**	*e*PN	**Pn**	**09 54 46.9**	**0.0**
KULA	**Kula-Manisa**	**2.06**	**265**	*e*Pn	**Pn**	**09 54 46.9**	**0.0**
ADVT	**Abdulvahap**	**2.09**	**326**	*e*PN	**Pn**	**09 54 47.7**	**+0.5**
ADVT	**Abdulvahap**	**2.09**	**326**	*e*Pn	**Pn**	**09 54 47.7**	**+0.5**
BRTR	**Keskin Array B**	**2.09**	**60**	Pn	**Pn**	**09 54 48.1**	**+0.8**
	6.9nm,0.3s,baz=236,slow=16,SNR=112						
BRTR				Lg	Lg	09 55 14.8	
	9.9nm,0.3s,baz=236,slow=26,SNR=11						
SPNC	**Sapanca-Adapaz**	**2.10**	**339**	*e*PN	**Pn**	**09 54 47.9**	**+0.5**
SPNC	**Sapanca-Adapaz**	**2.10**	**339**	*e*Pn	**Pn**	**09 54 47.9**	**+0.5**
ELDT	**Eldivan**	**2.43**	**42**	*i* P	**Pn**	**09 54 52.6**	**+0.6**
ELDT				*i* S	**Sg**	**09 55 31.0**	**+1.3**
ELDT	**Eldivan**	**2.43**	**42**	*i* P	**Pn**	**09 54 52.6**	**+0.6**
HRT	**Hereke**	**2.44**	**330**	*e*PN	**Pn**	**09 54 52.5**	**+0.4**
HRT	**Hereke**	**2.44**	**330**	*e*Pn	**Pn**	**09 54 52.5**	**+0.4**
MDNY	**Mudanya-Bursa**	**2.48**	**312**	*e*PN	**Pn**	**09 54 53.4**	**+0.8**
MDNY	**Mudanya-Bursa**	**2.48**	**312**	*e*Pn	**Pn**	**09 54 53.4**	**+0.8**
CDAG	**Cicekdag**	**2.57**	**68**	*i* P	**Pn**	**09 54 55.2**	**+1.3**
CDAG				*i* S	**Sb**	**09 55 28.7**	**-1.3**
CDAG	**Cicekdag**	**2.57**	**68**	*i* P	**Pn**	**09 54 55.2**	**+1.3**
CDAG				*i* S	**Sb**	**09 55 28.7**	**-1.3**
ARMT	**Armutlu**	**2.63**	**315**	*e*PN	**Pn**	**09 54 54.9**	**+0.3**
ARMT	**Armutlu**	**2.63**	**315**	*e*Pn	**Pn**	**09 54 54.9**	**+0.3**
AKS	**Akhisar**	**2.71**	**275**	*e*PN	**Pn**	**09 54 56.1**	**+0.3**
AKS	**Akhisar**	**2.71**	**275**	*e*Pn	**Pn**	**09 54 56.1**	**+0.3**
SILT	**Sile**	**2.74**	**333**	*e*PN	**Pn**	**09 54 57.0**	**+0.8**
SILT	**Sile**	**2.74**	**333**	*e*Pn	**Pn**	**09 54 57.0**	**+0.8**
KCTX	**Karacabey (Bur**	**2.74**	**305**	*e*PN	**Pn**	**09 54 57.4**	**+1.2**
KCTX	**Karacabey (Bur**	**2.74**	**305**	*e*Pn	**Pn**	**09 54 57.4**	**+1.2**
ISK	**Istanbul-Kandi**	**2.90**	**325**	*e*PN	**Pn**	**09 54 59.0**	**+0.6**
ISK	**Istanbul-Kandi**	**2.90**	**325**	*e*Pn	**Pn**	**09 54 59.0**	**+0.6**
GONE	**Gonen-Balikesi**	**3.09**	**297**	*e*PN	**Pn**	**09 55 01.5**	**+0.6**
GONE	**Gonen-Balikesi**	**3.09**	**297**	*e*Pn	**Pn**	**09 55 01.5**	**+0.6**
SLVT	**Silivri**	**3.44**	**318**	*e*PN	**Pn**	**09 55 06.8**	**+1.0**
SLVT	**Silivri**	**3.44**	**318**	*e*Pn	**Pn**	**09 55 06.8**	**+1.0**
RKY	**Sarkoy-Tekirda**	**3.73**	**303**	*e*PN	**Pn**	**09 55 10.7**	**+0.9**
RKY	**Sarkoy-Tekirda**	**3.73**	**303**	*e*Pn	**Pn**	**09 55 10.7**	**+0.9**
TIRR	**Tirgusor**	**6.13**	**340**	⇓*i*P	**Pn**	**09 55 43.5**	**+0.9**
TIRR	**Tirgusor**	**6.13**	**340**	⇓*i*P	**Pn**	**09 55 43.5**	**+0.9**
TLB	**Topalu**	**6.35**	**339**	⇑*i*P	**Pn**	**09 55 46.4**	**+0.7**
TLB	**Topalu**	**6.35**	**339**	⇑*i*P	**Pn**	**09 55 46.4**	**+0.7**
TLCR		**6.72**	**345**	⇑*i*P	**Pn**	**09 55 50.8**	**0.0**
CFR	**Carcaliu**	**6.87**	**341**	⇓*i*P	**Pn**	**09 55 53.1**	**+0.3**
CFR	**Carcaliu**	**6.87**	**341**	⇓*i*P	**Pn**	**09 55 53.1**	**+0.3**
VTS	**Vitosha**	**7.25**	**305**	⇑*i*P	**Pn**	**09 56 00.2**	**+1.9**
VTS	**Vitosha**	**7.25**	**305**	⇑*i*P	**Pn**	**09 56 00.2**	**+1.9**
VRI	**Vrincioaia**	**7.90**	**336**	⇓*i*P	**Pn**	**09 56 08.3**	**+1.3**
VRI	**Vrincioaia**	**7.90**	**336**	⇓*i*P	**Pn**	**09 56 08.3**	**+1.3**
PLOR	**Plostina**	**7.91**	**336**	⇑*i*P	**Pn**	**09 56 09.1**	**+1.9**
PLOR	**Plostina**	**7.91**	**336**	⇑*i*P	**Pn**	**09 56 09.1**	**+1.9**
BARS	**Barje**	**8.27**	**303**	*e*Pn	**Pn**	**09 56 13.9**	**+1.8**
AKASG	**Malin Array Be**	**12.07**	**354**	Pn	**Pn**	**09 57 03.0**	**-1.1**
	2.0nm,0.3s,baz=166,slow=12,SNR=3.6						
TORD	**Torodi Ar. Bea**	**36.54**	**234**	P	**P**	**10 01 18.7**	**+0.6**
	0.7nm,0.7s,baz=27,slow=9.2,SNR=4.2						
MKAR	**Makanchi Array**	**37.74**	**61**	P	**P**	**10 01 27.2**	**-0.9**
	0.2nm,0.5s,baz=282,slow=7.2,SNR=3.0						

*IDC **15** 09:56:11.1±1.4, 43°.08N×126°.17W, h0km, mb3.3/4, mb1 3.8/10, mb1mx3.7/32, mbtmp3.6/10, ML3.5/6, MS3.4/9, Ms1 3.4/9, ms1mx3.2/17, Error ellipse: s-maj=26.9km s-min=10.9km az=44.0*
*NEIC **15** 09:56:12.8±0.9, 43°.02N×126°.30W, h10km, mb4.1/5, Error ellipse: s-maj=11.9km s-min=6.7km az=57.0*
ISC 15 09:56:12.6±2.2, **43°.02N**±0°.05×**126°.35W**±0°.07, **h7**km±13km, **n285,** σ1.67/262, **mb3.7**/5, **MS3.3**/4, **105C-106D, Off coast of Oregon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**1.48**	**95**	P	**Pn**	**09 56 37.1**	**-2.7**
KEBM				*e*Pn	**Pn**	**09 56 37.1**	**-2.7**
KEBM				*e*Sn	**Sb**	**09 56 60.0**	**+0.3**
KBO	**Bosley Butte**	**1.76**	**116**	*e*Pn	**Pn**	**09 56 41.1**	**-2.4**
KBO				*e*Sn	**Sg**	**09 57 10.2**	**+1.1**
TAKO	**Tahkenitch**	**1.80**	**65**	P	**Pn**	**09 56 41.6**	**-2.5**
RNO	**Roman Nose**	**2.10**	**64**	P	**Pn**	**09 56 46.1**	**-2.1**
UMPQ	**Umpqua Communi**	**2.22**	**82**	P

	baz=13					
F19A	Roth Farm, Mol	12.76	71	⇓P	Pn	09 59 15.2 +0.8
	baz=13					
K19A	Absolon Red Bu	12.83	85	⇓P	Pn	09 59 17.0 +1.5
	baz=13					
E19A	Rath Farm, Rou	12.95	69	⇓P	Pn	09 59 17.4 +0.3
	baz=13					
D19A	Cripps Ranch,	13.02	65	⇓P	Pn	09 59 17.7 -0.3
	baz=13,SNR=8.9					
C19A	Slack Wire Ran	13.04	63	⇑P	Pn	09 59 17.9 -0.3
	baz=13,SNR=6.4					
O19A	Miners Draw (B	13.16	96	⇑P	Pn	09 59 20.5 +0.4
	baz=13					
K20A	Yellowstone Ra	13.22	85	⇓P	Pn	09 59 20.7 -0.2
	baz=13					
I20A	Worland	13.27	80	⇑P	Pn	09 59 23.1 +1.7
	baz=13					
B19A	Brinkman Farms	13.31	60	⇑P	Pn	09 59 21.0 -0.9
	baz=13					
L20A	Wamsutter	13.33	88	⇑P	Pn	09 59 23.2 +0.9
	baz=13					
J20A	Shoshoni	13.34	82	⇓P	Pn	09 59 23.1 +0.7
	baz=13,SNR=7.9					
D20A	Manuel Ranch,	13.50	66	⇓P	Pn	09 59 25.0 +0.5
	baz=13					
N20A	Spence Gulch,	13.64	93	⇑P	Pn	09 59 28.1 +1.5
	baz=14					
WUAZ	Wupatki	13.79	118	⇓P	P	09 59 33.7 -3.7
	baz=14					
J21A	Lysite	13.80	82	⇓P	Pn	09 59 28.6 -0.2
	baz=14,SNR=5.9					
Y14A	Wickenburg	13.82	127	⇓P	P	09 59 34.7 -2.8
	baz=14					
O20A	White River Ci	13.86	96	⇑P	Pn	09 59 33.4 +3.8
	baz=14					
I21A	Big Trails, Te	13.88	80	⇑P	Pn	09 59 30.8 +1.0
	baz=14					
K21A	Alcova	14.02	85	⇓P	Pn	09 59 32.3 +0.4
	baz=14					
N21A	Black Mountain	14.21	93	⇓P	Pn	09 59 35.3 +0.9
	baz=14					
D21A	La Casta Ranch	14.26	67	⇓P	Pn	09 59 36.4 +1.4
	baz=14					
X16A	Lo Mia Camp, P	14.44	122	⇓P	P	09 59 41.9 -2.7
	baz=14					
I22A	9 Mile Ranch,	14.46	80	⇓P	Pn	09 59 38.9 +1.2
	baz=14					
R20A	Redvale	14.47	103	⇓P	Pn	09 59 38.3 +0.3
	baz=14					
J22A	Midwest	14.50	82	⇓P	Pn	09 59 39.1 +0.8
	baz=14					
F22A	Rosebud	14.62	72	⇓P	P	09 59 44.1 -2.3
	baz=14					
S20A	Disappointment	14.64	105	⇑P	P	09 59 43.7 -3.1
	baz=15					
A21A	Bergtoll Ranch	14.74	59	⇑P	P	09 59 45.6 -2.1
	baz=15					
D22A	Cohagen	14.83	67	⇑P	Pn	09 59 43.6 +0.9
	baz=15					
O22A	Kremmling	15.09	94	⇓P	Pn	09 59 47.2 +0.8
	baz=15					
W18A	Petrified Fore	15.10	116	⇓P	Pn	09 59 48.3 +1.8
	baz=15					
S21A	Coal Bank Pass	15.12	104	⇑P	Pn	09 59 48.6 +1.7
	baz=15					
B22A	Reddig Ranch S	15.16	63	⇓P	P	09 59 52.3 0.0
	baz=15,SNR=8.2					
F23A	Volborg	15.21	73	⇓P	P	09 59 51.1 -1.9
	baz=15					
Q22A	Crested Butte,	15.26	99	⇑P	P	09 59 51.4 -2.3
	baz=15					
X18A	Snowflake	15.32	118	⇓P	P	09 59 51.7 -2.7
	baz=15					
N23A	Red Feather La	15.33	91	⇓P	Pn	09 59 51.0 +1.4
	baz=15					
A22A	Carney Farms,	15.38	60	⇓P	P	09 59 52.6 -2.2
	baz=15					
D23A	Lindsay	15.49	67	⇑P	Pn	09 59 52.7 +1.3
	baz=15					
V20A	Brimhall	15.57	112	⇑P	P	09 59 55.8 -1.3
	baz=16,SNR=9.9					
C23A	Lambert	15.60	65	⇓P	P	09 59 56.6 -0.6
	baz=16					
DLBC	Dease Lake	15.61	353	Pn	Pn	09 59 54.3 +1.2
DLBC	Dease Lake	15.61	353	Pn	Pn	09 59 54.3 +1.2
	0.0nm,0.3s,baz=169,slow=16,SNR=2.6					
DLBC				LR	LR	10 05 08.1
	comp=Z,104nm,18.6s,baz=187,slow=34					
R22A	Saguache, Gunn	15.62	101	⇑P	P	09 59 55.8 -1.9
	baz=16					
S22A	4UR Ranch, Cre	15.77	103	⇓P	P	09 59 57.3 -2.1
	baz=16					
U21A	Nageezi	15.80	108	⇑P	Pn	09 59 57.0 +1.3
	baz=16					
H24A	Dirks Ranch, A	15.81	76	⇑P	Pn	09 59 56.5 +0.9
	baz=16					
P23A	Jefferson	15.85	96	⇓P	Pn	09 59 57.0 +0.5
	baz=16					
ISCO	Idaho Springs	15.88	95	eP	P	10 00 03.2 +2.6
	3.8nm,0.8s					
ISCO	Idaho Springs	15.88	95	⇑P	P	09 59 58.9 -1.7
	baz=16					
W20A	Ramah	15.92	114	⇓P	P	09 59 58.9 -2.1
	baz=16					
T22A	Edith	16.04	105	⇑P	Pn	09 59 59.9 +1.0
	baz=16					
C24A	Savage	16.06	66	⇓P	P	10 00 01.0 -1.4
	baz=16					
D24A	Glendive	16.07	68	⇑P	P	10 00 01.4 -1.1
	baz=16					
X20A	Quemado	16.26	115	⇑P	P	10 00 04.6 -0.2
	baz=16					
R23A	Moffat	16.30	100	⇑P	Pn	10 00 02.5 +0.2
	baz=16					
DGMT	Dagmar	16.37	63	⇑P	P	10 00 04.9 -0.9
	baz=16					
S23A	Nye Farm, Mont	16.38	102	⇑P	P	10 00 05.8 -0.3
	baz=16					
I25A	Rochford	16.43	79	⇑P	P	10 00 06.0 -0.6
	baz=16					
Q24A	Divide	16.50	97	⇑P	P	10 00 07.8 +0.3
	baz=16					
V22A	San Miguel Ran	16.58	109	⇑P	P	10 00 07.5 -0.9
	baz=16					
A24A	Westby	16.59	61	⇑P	P	10 00 08.5 +0.3
	baz=16,SNR=9.8					
G25A	Newell	16.60	75	⇓P	Pn	10 00 05.4 -0.5
	baz=16					
E25A	Miller Ranch,	16.65	70	⇓P	Pn	10 00 05.9 -0.6
	baz=17					
SDCO	Great Sand Dun	16.72	101	eP	Pn	10 00 08.3 +0.7
	19nm,1.6s					
Y20A	Horse Springs,	16.73	117	⇓P	P	10 00 11.2 +1.2
	baz=17					
D25A	Fairfield	16.76	68	⇑P	P	10 00 08.7 -1.4
	baz=17					
X21A	Alamocita Cree	16.80	114	⇑P	P	10 00 10.2 -0.5
	baz=17					
U23A	El Rito	16.87	107	⇓P	P	10 00 11.7 +0.1
	baz=17					
G27A	Dupree	16.95	74	⇓P	P	10 00 19.8 +7.7
	baz=18					
S24A	Houchin Ranch,	16.97	101	⇑P	Pn	10 00 11.1 +0.3
	baz=17					
P25A	Willow Gulch B	17.03	94	⇑P	Pn	10 00 11.6 +0.2
	baz=17					
Z20A	Nine Sixteen R	17.09	119	⇑P	P	10 00 14.9 +0.9
	baz=17					
T24B	San Luis	17.10	103	⇑P	P	10 00 13.4 -0.8
	baz=17,SNR=5.6					
Y21A	Point of Rocks	17.13	115	⇑P	P	10 00 16.1 +1.7
	baz=17					
F26A	Lodgepole	17.13	72	⇑P	Pn	10 00 12.1 -0.4
	baz=17					
A25A	Svangstu Ranch	17.17	62	⇑P	P	10 00 15.5 +0.9
	baz=17,SNR=7.5					
V23A	Ortiz Mt. (NFS	17.17	108	⇑P	P	10 00 13.9 -1.0
	baz=17					
Q25A	Bedland, Calha	17.17	96	⇑P	P	10 00 13.7 -1.2
	baz=17					
G26A	Maurine	17.18	74	⇑P	P	10 00 14.9 +0.1
	baz=17					
E26A	Carlson Angus	17.30	70	⇓P	P	10 00 15.4 -0.7
	baz=17					
D26A	Manning	17.35	68	⇓P	P	10 00 16.5 -0.1
	baz=17					
ANMO	Albuquerque	17.41	111	eP	P	10 00 17.3 -0.2
ANMO	Albuquerque	17.41	111	Pn	Pn	10 00 15.9 -0.2
	0.1nm,0.3s,baz=302,slow=12,SNR=14					
R25A	Fountain Ranch	17.43	99	⇓P	P	10 00 17.6 -0.1
	baz=17					
120A	U Bar Ranch, L	17.44	121	⇓P	P	10 00 19.8 +2.1
	baz=17					
W23A	Werner Place,	17.50	110	⇓P	P	10 00 19.1 +0.6
	baz=17,SNR=11					
S25A	Robets Cordova	17.52	100	⇓P	P	10 00 19.5 +0.7
	baz=17					
Z21A	St. Cloud Mine	17.56	117	⇓P	P	10 00 20.9 +1.7
	baz=18					
F27A	Lemmon	17.59	72	⇑P	P	10 00 19.6 +0.4
	baz=18					
P26A	Davis Ranch, A	17.61	93	⇓P	P	10 00 19.9 +0.2
	baz=18					
I27A	Quinn	17.63	78	⇓P	P	10 00 20.8 +1.1
	baz=18					
Y22A	Socorro	17.64	114	⇓P	P	10 00 21.7 +1.6
	baz=18					
B26A	Jensen Ranch,	17.64	64	⇑P	P	10 00 20.4 +0.6
	baz=18					
Q26A	Hugo	17.70	96	⇑P	P	10 00 19.9 -0.8
	baz=18					
BNM	Barren Site	17.74	113	eP	P	10 00 22.6 +1.3
	29nm,1.7s					
J27A	Elkhorn Farm,	17.76	81	⇓P	P	10 00 22.2 +1.1
	baz=18					
T25A	Trinidad	17.76	102	⇓P	P	10 00 21.2 -0.2
	baz=18					
X23A	Hourglass Bar	17.80	112	⇑P	P	10 00 22.5 +0.7
	baz=18,SNR=5.1					
V24A	Rampart Ranch,	17.82	107	⇑P	P	10 00 22.7 +0.6
	baz=18,SNR=6.6					
319A	Douglas	17.84	125	⇑P	P	10 00 25.5 +3.3
	baz=18					
E27A	Carson	17.92	70	⇑P	P	10 00 23.9 +1.0
	baz=18					
220A	Playas Peak, P	17.94	122	⇓P	P	10 00 24.9 +1.6
	baz=18					
R26A	Arlington	17.98	97	⇓P	P	10 00 25.4 +1.6
	baz=18					
121A	Cookes Peak, D	17.98	119	⇑P	P	10 00 26.8 +3.0
	baz=18					
W24A	Lazy 6 Ranch,	17.99	109	⇑P	P	10 00 25.1 +1.2
	baz=18,SNR=8.3					
C27A	Sayler Ranch,	18.05	66	⇑P	P	10 00 25.7 +1.4
	baz=18					
Z22A	Elephant Butte	18.06	116	⇓P	P	10 00 25.9 +1.3
	baz=18					
U25A	Circle Dot Ran	18.10	104	⇑P	P	10 00 25.8 +0.6
	baz=18					
V25A	Rancho No Teng	18.22	106	⇓P	P	10 00 27.9 +1.4
	baz=18					
S26A	Kim	18.23	99	⇓P	P	10 00 27.2 +0.6
	baz=18					
Y23A	Lovelace Mesa,	18.26	113	⇓P	P	10 00 28.3 +1.4
	baz=18					
J28A	Allard Ranch,	18.29	80	⇓P	P	10 00 27.8 +0.7
	baz=18					
KSCO	Kaye Shedlock'	18.32	95	eP	P	10 00 29.4 +1.9
T26A	Comanche Natio	18.34	101	⇓P	P	10 00 28.5 +0.8
	baz=18					
A27A	Ledoux Ranch,	18.39	62	⇓P	P	10 00 29.4 +1.4
	baz=18					
R27A	Eads	18.46	97	⇓P	Pn	10 00 30.9 +1.8
	baz=18					
Z23A	Rita Site, Whi	18.54	115	⇓P	Pn	10 00 33.2 +3.2
	baz=18					
W25A	X Bar L Ranch,	18.65	107	⇓P	Pn	10 00 33.5 +2.1
	baz=19					
Y24A	Capitan	18.68	112	⇓P	Pn	10 00 33.3 +1.4
	baz=19					
222A	Williams Famil	18.70	119	⇑P	Pn	10 00 34.5 +2.5
	baz=19					
P28A	Saint Francis	18.78	92	⇑P	Pn	10 00 33.4 +0.6
	baz=19					
V26A	Tequesquite Ra	18.83	105	⇓P	Pn	10 00 34.5 +0.9
	baz=19					
X25A	Clemmons Ranch	18.87	109	⇑P	Pn	10 00 35.4 +1.2
	baz=19					
B28A	Dugan Ranch, T	18.89	64	⇓P	Pn	10 00 34.6 +0.6
	baz=19					
A28A	Rude Farm, Bot	19.01	63	⇑P	Pn	10 00 37.1 +1.5
	baz=19					
R28A	Tribune	19.16	96	⇑P	Pn	10 00 37.5 0.0
	baz=19					
Y25A	Mesa, Roswell	19.19	111	⇑P	Pn	10 00 39.1 +1.2
	baz=19					
W26A	Owens Ranch, T	19.20	107	⇓P	Pn	10 00 39.9 +1.8
	baz=19					
U27A	Thompson Grove	19.22	102	⇓P	Pn	10 00 39.5 +1.2
	baz=19					
P29A	Atwood	19.37	91	⇑P	Pn	10 00 40.9 +0.9
	baz=19					
124A	Stringfield Ra	19.40	115	⇑P	Pn	10 00 42.2 +1.7
	baz=19					
T28A	Walsh	19.43	99	⇑P	Pn	10 00 41.4 +0.7
	baz=19					
X26A	CR and CF Fran	19.45	108	⇑P	Pn	10 00 42.2 +1.2
	baz=19,SNR=6.6					
V27A	Dan Oppiter Fa	19.53	104	⇓P	Pn	10 00 44.0 +2.1
	baz=19					
Z25A	Roswell	19.54	113	⇓P	Pn	10 00 43.9 +1.7
	baz=20					
B29A	Wagenman Farm,	19.56	64	⇑P	Pn	10 00 43.4 +1.3
	baz=20					
R29A	Marienthal	19.62	95	⇓P	Pn	10 00 43.2 +0.2
	baz=20,SNR=6.1					
A29A	Manning Farm,	19.69	63	⇓P	Pn	10 00 45.3 +1.6
	baz=20					
W27A	Bowe Ranch, En	19.71	106	⇓P	Pn	10 00 46.1 +2.0
	baz=20					
224A	Cornudas Mount	19.74	117	⇑P	Pn	10 00 45.8 +1.3
	baz=20					
O30A	MW Ranch, Wils	19.84	89	⇑P	Pn	10 00 45.6 +0.1
	baz=20					
D30A	Buchanan	19.87	69	⇓P	Pn	10 00 45.7 -0.1
	baz=20					
P30A	Selden	19.89	91	⇑P	Pn	10 00 46.7 +0.5
	baz=20					
X27A	F and S Farms,	19.90	107	⇓P	Pn	10 00 48.7 +2.2
	baz=20					
125A	Gardner Draw,	19.95	114	⇓P	Pn	10 00 47.3 +0.2
	baz=20					
Z26A	Caprock	20.05	112	⇑P	Pn	10 00 49.4 +1.2
	baz=20					
Q30A	Quinter	20.10	93	⇓P	Pn	10 00 48.3 -0.4
	baz=20,SNR=5.7					
324A	Moseley Ranch,	20.18	118	⇑P	Pn	10 00 50.5 +0.7
	baz=20					
225A	Deer Hill, Car	20.18	116	⇓P	Pn	10 00 49.7 -0.1
	baz=20					
L31A	Butterfield Fa	20.24	83	⇓P	Pn	10 00 49.7 -0.6
	baz=20					
Y27A	Causey	20.27	109	⇓P	Pn	10 00 50.7 0.0
	baz=20					
R30A	Dighton	20.30	95	⇑P	Pn	10 00 50.4 -0.6
	baz=20,SNR=7.0					
S30A	Montezuma	20.41	96	⇑P	Pn	10 00 51.7 -0.7
	baz=20,SNR=7.7					
MSTX	Muleshoe	20.49	108	⇓P	Pn	10 00 53.0 -0.4
	baz=20					
P31A	Stockton	20.54	91	⇓P	Pn	10 00 53.0 -0.8
	baz=20					
325A	Bean Ranch, Si	20.55	117	⇓P	Pn	10 00 54.7 +0.5
	baz=20					
226B	Tecolote Peak,	20.64	115	⇑P	Pn	10 00 55.4 +0.3
	baz=21					
Q31A	Ellis	20.69	92	⇓P	P	10 00 53.9 +0.6
	baz=21					
YKA	Yellowknife Ar	20.70	16	P	P	10 00 53.3 +0.2
YKA	Yellowknife Ar	20.70	16	P	P	10 00 53.3 +0.2
	1.1nm,0.8s,baz=224,slow=6.9,SNR=3.5					
U30A	WK&E Inc. Balk	20.74	100	⇑P	Pn	10 00 55.2 -1.1
	baz=21					
R31A	Burdett	20.85	94	⇑P	Pn	10 00 56.7 -0.8
	baz=21,SNR=6.2					
Y28A	McKinney Farm,	20.89	108	⇓P	Pn	10 00 58.3 +0.2
	baz=21					
425A	Indio Mountain	20.93	119	⇓P	Pn	10 00 59.1 +0.6
	baz=21					
X29A	Tulia	20.99	106	⇑P	P	10 00 59.2 +2.6
	baz=21					
S31A	Mullinville	21.13	96	⇓P	P	10 00 59.9 +1.8
	baz=21					
Z28A	Tucker Farm, M	21.13	109	⇑P	P	10 01 00.1 +1.9
	baz=21					
T31A	Randall Ranch,	21.20	97	⇑P	P	10 01 00.8 +1.9
	baz=21,SNR=6.9					
326A	Caldwell Ranch	21.24	116	⇓P	P	10 01 02.3 +3.0
	baz=21					
Y29A	Porterfield Fa	21.32	107	⇑P	P	10 01 01.6 +1.4
	baz=21					
128A	Castleberry Fa	21.45	111	⇑P	P	10 01 04.3 +2.8
	baz=21					
X30A	Coker Ranch, T	21.57	105	⇓P	P	10 01 05.9 +3.1
	baz=22					
Z29A	Hungry Hill Ra	21.62	109	⇓P	P	10 01 05.2 +1.8
	baz=22					
426A	McDonald Obser	21.62	117	⇑P	P	10 01 06.9 +3.3
	baz=22					
V31A	Spring Creek L	21.66	101	⇑P	P	10 01 06.0 +2.2
	baz=22					
AGMN	Agassiz Nation	21.87	65	eP	P	10 01 05.6 -0.2
	12nm,1.0s					
W31A	Holland Ranch,	21.87	102	⇓P	P	10 01 10.0 +4.0
	baz=22					
427A	Hayter Ranch,	21.92	116	⇓P	P	10 01 11.0 +4.4
	baz=22					
526A	Mary Lane Ranc	21.98	119	⇑P	P	10 01 11.1 +3.7
	baz=22					
X31A	McDonald Ranch	22.11	103	⇓P	P	10 01 10.7 +2.1
	baz=22					
527A	Woodward Ranch	22.24	118	⇓P	P	10 01 13.2 +3.1
	baz=22					
Y31A	Rekieta Farm,	22.26	105	⇑P	P	10 01 12.2 +2.1
	baz=22					
626A	Big Bend Ranch	22.30	120	⇓P	P	10 01 15.3 +4.6
	baz=22					
MENT	Mentasta	22.39	339	eP	P	10 01 12.0 +0.7
428A	Kincaid Ranch,	22.47	115	⇑P	P	10 01 15.7 +3.2
	baz=22					
KSU1	Kansas State U	22.70	90	eP	P	10 01 15.7 +0.9
	14nm,1.0s					
TXAR	Lajitas Array	22.75	119	P	P	10 01 15.6 +0.1
TXAR	Lajitas Array	22.75	119	P	P	10 01 15.6 +0.1
	0.3nm,0.8s,baz=306,slow=7.7,SNR=5.0					
528A	Cox Ranch, San	22.77	117	⇓P	P	10 01 18.8 +3.1
	baz=23					
230A	Sterling City	22.82	111	⇑P	P	10 01 19.3 +3.2
	baz=23					
627A	Terlingua Ranc	22.84	119	⇑P	P	10 01 19.2 +2.7
	baz=23					
LPIG	La Paz	23.04	140	LR	LR	10 09 42.0
	comp=Z,94nm,19.0s,baz=346,slow=35					
429A	Davenport Ranc	23.06	114	⇑P	P	10 01 21.2 +2.5
	baz=23					
330A	Mertzon	23.06	112	⇓P	P	10 01 20.3 +1.5
	baz=23					
628A	Black Gap, Mar	23.14	118	⇑P	P	10 01 22.6 +3.1
	baz=23					
Z32A	Haskell	23.16	106	⇑P	P	10 01 23.6 +3.9
	baz=23					
529A	Stev Forest Ra	23.16	116	⇑P	P	10 01 22.7 +2.9
	baz=23					
231A	Bronte	23.34	110	⇓P	P	10 01 24.1 +2.6
	baz=23					
430A	Baggett Ranch,	23.40	113	⇓P	P	10 01 23.7 +1.5
	baz=23					
331A	San Angelo	23.63	111	⇓P	P	10 01 27.8 +3.3
	baz=24					
232A	Coleman	23.83	109	⇑P	P	10 01 27.6 +1.3
	baz=24					
431A	Sonora	23.89	113	⇑P	P	10 01 29.3 +2.4
	baz=24					
SPMN	St. Paul	24.09	73	⇑P	P	10 01 31.4 +2.8
	baz=24					
531A	Rocksprings	24.25	113	⇑P	P	10 01 33.4 +3.0
	baz=24					
ILAR	Eielson Array	24.70	339	P	P	10 01 33.5 -0.5
ILAR	Eielson Array	24.70	339	P	P	10 01 33.5 -0.5
	1.1nm,0.7s,baz=148,slow=8.4,SNR=18					
ILAR				LR	LR	10 09 19.5
	comp=Z,76nm,21.8s,baz=168,slow=32					
631A	Perdido Creek	24.71	115	⇑P	P	10 01 37.4 +2.9
	baz=25					
632A	Uvalde	25.18	114	⇓P	P	10 01 42.4 +3.7
	baz=25					
INK	Inuvik	25.64	354	LR	LR	10 11 33.7
	comp=Z,108nm,18.2s,baz=155,slow=36					
ROSC	El Rosal	59.54	114	LR	LR	10 36 12.1
	comp=Z,33nm,18.0s,baz=12,slow=40					
SONM	Songino Array	78.28	327	P	P	10 08 11.6 -1.7
SONM	Songino Array	78.28	327	P	P	10 08 11.5 -1.7
	0.3nm,0.4s,baz=34,slow=10,SNR=3.2					

GUC 15 10:35:25.8±0.7, 31°.10S×71°.73W, h6km±35km, MD3.8, ML3.3, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CMCH	Comarbala	0.63	97	⇑P	i P	Pb	10 35 38.8	-0.5
CMCH					i S	Sb	10 35 48.5	+0.1
CMCH					AML	AML	10 35 48.7	
	comp=E,3µm,0.2s							
PACH	Papudo	1.45	170	⇓P	i P	Pn	10 35 52.2	-0.5
ROCH	El Roble	1.96	162	⇓P	i P	Pn	10 35 60.0	+0.1
ROCH					eS	Sb	10 36 26.7	-0.5
PEL	Peldehue	2.22	157	eP		Pn	10 36 04.1	+0.8
PEL					i S	Sb	10 36 35.7	+1.4
PEL					AML	AML	10 36 38.4	
	comp=E,368nm,0.3s							
CLCH	Cerro Calan	2.50	156	AML		AML	10 36 49.9	
	comp=E,178nm,0.6s							
LMEL	Las Melosas	3.03	155	eP		Pn	10 36 15.5	+1.1
LMEL					eS	Sb	10 36 54.5	-3.2
LMEL					AML	AML	10 37 03.6	
	comp=N,90nm,0.2s							

MEX 15 10:39:09.6±0.6, 17°.09N×94°.90W, h52km±6km, MD3.7, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.02	81	eP		Pn	10 39 16.3	-1.3
CMIG					eS	Sn	10 39 21.4	-1.9
TGIG		1.73	100	eP		Pn	10 39 36.5	-1.0
TGIG					i S	Sn	10 39 56.6	-1.9
HUIG	Huatulco	1.75	222	eP		Pn	10 39 35.6	-1.9
HUIG					eS	Sn	10 39 57.4	-1.4
VHO	Vista Hermosa	1.75	270	eP		Pn	10 39 37.1	-0.7
VHO					eS	Sn	10 39 57.2	-2.0
PCIG		2.12	130	i P		Pn	10 39 42.5	-0.1
PCIG					i S	Sn	10 40 06.1	-1.7
PNIG	Pinotepa	3.17	258	eP		Pn	10 39 55.1	-1.9
PNIG					eS	Sn	10 40 31.3	-2.3

WEL 15 10:51:12.4±0.3, 39°.47S×174°.36E, h211km±2km, ML3.6/11, 3C-17D, Error ellipse: s-maj=2.2km s-min=1.4km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
DREZ	Durham Road	0.31	336		PN	Pn	10 51 39.9	-0.3
DREZ					SN	S	10 52 00.7	-1.2
KHEZ	Kahui Hut	0.32	304	eP	N	Pn	10 51 40.4	+0.1
KHEZ					SN	S	10 52 01.5	-0.6
NWEZ	Newall Road	0.43	297		PN	Pn	10 51 40.4	-0.1
VRZ	Vera Road	0.47	42	⇓	PN	Pn	10 51 39.8	-0.8
VRZ					SN	S	10 52 00.6	-2.0
WAZ	Wanganui	0.56	121		PN	Pn	10 51 41.4	+0.5
WAZ					SN	S	10 52 02.8	-0.4
PKVZ	Pokaka	0.79	77	⇓	PN	Pn	10 51 41.6	-0.4
MTVZ	Mangateitei	0.86	85		PN	Pn	10 51 42.2	-0.3
TWVZ	Taurewa	0.93	65	⇓	PN	Pn	10 51 42.3	-0.6
TRVZ	Turoa	0.94	80		PN	Pn	10 51 43.1	-0.1
FWVZ	Far West T-bar	0.95	77	⇓	PN	Pn	10 51 42.8	-0.4
WPVZ	Whakapapa	0.96	74		PN	Pn	10 51 42.8	-0.3
WNVZ	Wahianoa	0.97	82		PN	Pn	10 51 43.1	-0.2
WHVZ	Whangaehu Hut	0.97	79		PN	Pn	10 51 43.3	-0.1
NGZ	Ngauruhoe	1.01	73	⇓	PN	Pn	10 51 43.4	-0.2
WTVZ	West Tongariro	1.02	70	⇓	PN	Pn	10 51 43.2	-0.3
TUVZ	Tukino	1.02	79		PN	Pn	10 51

POWZ	Post Office Ro	1.42	131	PN	Pn	10 51 46.3	0.0
KIW	Kapiti Island	1.45	163	PN	Pn	10 51 46.5	-0.1
KIW				AML	AML	10 52 11.7	
KIW				AML	AML	10 52 11.8	
OGWZ	Otaki Gorge	1.48	155	⇓PN	Pn	10 51 46.9	+0.1
PNHZ	Pukenui	1.49	108	PN	Pn	10 51 47.0	0.0
MRZ	Mangatainoka R	1.51	142	⇓PN	Pn	10 51 46.9	-0.2
MRZ				AML	AML	10 52 12.3	
MRZ				AML	AML	10 52 13.0	
DVHZ	Dannevirke	1.62	121	PN	Pn	10 51 48.0	-0.1
PRWZ	Pori Road	1.64	132	PN	Pn	10 51 48.5	+0.3
PRWZ				SN	S	10 52 14.7	-1.3
HOWZ	Holdsworth Sta	1.68	149	PN	Pn	10 51 48.3	-0.3
BKZ	Black Stump Fm	1.68	80	⇓PN	Pn	10 51 48.2	-0.6
BKZ				SN	S	10 52 15.0	-1.6
WPHZ	Waipukurau	1.71	111	PN	Pn	10 51 49.1	+0.2
CAW	Cannon Point	1.72	162	PN	Pn	10 51 48.7	-0.3
CAW				AML	AML	10 52 15.6	
CAW				AML	AML	10 52 16.8	
TCW	Tory Channel	1.74	182	PN	Pn	10 51 49.2	+0.1
TCW				AML	AML	10 52 17.5	
TCW				AML	AML	10 52 17.9	
TIWZ	Tintock	1.75	139	PN	Pn	10 51 49.2	-0.1
MCHZ	McNeill Hill	1.81	90	PN	Pn	10 51 50.2	+0.3
WEL	Wellington	1.84	170	PN	Pn	10 51 50.0	0.0
BFZ	Birch Farm	1.88	130	⇑PN	Pn	10 51 50.3	-0.2
MTW	Mount Morrison	1.90	153	PN	Pn	10 51 50.3	-0.4
MTW				AML	AML	10 52 19.1	
MTW				AML	AML	10 52 20.5	
NNZ	Nelson	1.90	203	⇑PN	Pn	10 51 50.0	-0.6
ANWZ	Angora Road	1.90	122	PN	Pn	10 51 50.9	+0.3
PRHZ	Porangahau	1.92	115	⇓PN	Pn	10 51 51.2	+0.3
NMHZ	Naumai	1.94	80	⇓PN	Pn	10 51 51.5	+0.3
QRZ	Quartz Range	1.95	225	⇓PN	Pn	10 51 49.8	-1.3
KAHZ	Kahuranaki	1.97	100	PN	Pn	10 51 51.8	+0.4
TUWZ	Tuamarina	1.98	189	PN	Pn	10 51 51.1	-0.3
TUWZ				AML	AML	10 52 20.3	
TUWZ				AML	AML	10 52 21.1	
PXZ	Pawanui	2.01	107	PN	Pn	10 51 51.9	+0.2
PXZ				AML	AML	10 52 22.2	
PXZ				AML	AML	10 52 22.2	
TMWZ	Te Maipa	2.01	145	PN	Pn	10 51 51.5	-0.3
CPWZ	Castlepoint	2.01	136	PN	Pn	10 51 52.2	+0.4
MSWZ	Moikau Station	2.06	161	PN	Pn	10 51 51.6	-0.6
MSWZ				AML	AML	10 52 28.6	
PAWZ	Paruwai Farm	2.07	157	PN	Pn	10 51 51.8	-0.6
PAWZ				AML	AML	10 52 22.6	
PAWZ				AML	AML	10 52 25.2	
CKHZ	Cape Kidnapper	2.11	96	PN	Pn	10 51 53.2	+0.4
TRWZ	Traveller	2.17	153	PN	Pn	10 51 53.0	-0.4
RAHZ	Arahi	2.19	76	PN	Pn	10 51 53.4	-0.3
PLWZ	Palliser	2.20	162	ePN	Pn	10 51 53.1	-0.7
BSWZ	Blackbirch Sta	2.27	189	PN	Pn	10 51 54.6	+0.2
URZ	Urewera	2.46	61	PN	Pn	10 51 54.9	-1.7
URZ				AML	AML	10 52 26.3	
THZ	Tophouse	2.54	205	PN	Pn	10 51 56.4	-1.0
KNZ	Kokohu	2.61	81	PN	Pn	10 51 57.5	-0.6
MWZ	Matawai	2.72	66	PN	Pn	10 51 58.0	-1.4
MHGZ	Mahia Peninsul	2.77	85	PN	Pn	10 51 59.9	-0.1
PRGZ	Paritu Road	2.79	80	PN	Pn	10 51 59.8	-0.5
DSZ	Denniston Nort	2.99	220	⇑PN	Pn	10 52 01.0	-1.5
KHZ	Kahutara	3.01	192	PN	Pn	10 52 02.0	-0.6
CNGZ	Carnagh Statio	3.16	73	PN	Pn	10 52 04.1	-0.3
PUZ	Puketiti	3.35	67	PN	Pn	10 52 05.2	-1.6
LTZ	Lake Taylor	3.66	205	PN	Pn	10 52 09.0	-1.5
OXZ	Oxford	4.23	204	PN	Pn	10 52 15.1	-2.2
CRLZ	Canterbury Las	4.30	197	PN	Pn	10 52 15.8	-2.3
MQZ	McQueen's Vall	4.42	196	PN	Pn	10 52 16.9	-2.7
WVZ	Waitaha Valley	4.52	216	PN	Pn	10 52 18.8	-2.1
LBZ	Lake Benmore	5.81	211	ePN	Pn	10 52 34.1	-3.3
ODZ	Otahua Downs	6.21	205	PN	Pn	10 52 40.7	-1.7

*ISCJB **15** 11:21:18.3±0.8, 37.°61N±0.°09×95.°87E±0.°06, h12km, mb3.5/5, Error ellipse: s-maj=13.0km s-min=7.1km az=170.8*
*IDC **15** 11:21:18.2±1.1, 37.°58N×95.°86E, h0km, mb3.6/5, mb1 3.7/10, mb1mx3.6/31, mbtmp3.6/10, ML3.8/5, Error ellipse: s-maj=33.7km s-min=18.0km az=48.0*
*BJI **15** 11:21:21.2, 37.°62N×95.°73E, h8km, mb4.3/2, ML3.7/5, Ms3.5/3, Ms7 3.5/3*

ISC 15 11:21:19.4±1.0, 37.°59N±0.°10×95.°76E±0.°06, h12km, n13, σ1§17/17, mb3.7/5, 2D, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	Gaotai	3.66	59	Pn	Pb	11 22 22.3	-1.8
GTA				Pg	Pg	11 22 30.5	+1.0
GTA				Sg	Sg	11 23 17.4	+0.4
GTA				smax	smax		
	comp=N,91nm,1.1s						
GTA				smax	smax		
	comp=E,58nm,1.1s						
GTA				LR	LR		
	comp=N,520nm,8.1s						
GTA				LR	LR		
	comp=E,370nm,7.4s						
GTA				LR	LR		
	comp=Z,530nm,8.6s						
LZH	Lanzhou	6.65	101	ePg	Pg	11 23 22.3	-4.5
LZH				Sg	Sg	11 24 51.5	-1.5
LZH				smax	smax		
	comp=N,64nm,1.2s						
LZH				smax	smax		
	comp=E,85nm,1.2s						
LZH				LR	LR		
	comp=N,280nm,5.8s						
LZH				LR	LR		
	comp=E,250nm,5.6s						
LZH				LR	LR		
	comp=Z,280nm,8.0s						
SONM	Songino Array	12.87	34	Pn	Pn	11 24 23.3	+1.2
	comp=Z,0.5nm,0.3s,baz=217,slow=15,SNR=9.8						
MK31	Makanchi Array	13.56	317	⇓Pn	Pn	11 24 32.8	+1.3
	comp=Z,0.7nm,0.4s,baz=124,slow=14,SNR=17						
MK31				⇓Sn	Sn	11 27 00.4	-1.7
	comp=Z,3.2nm,0.7s,baz=128,slow=25,SNR=9.2						
MKAR	Makanchi Array	13.56	317	Pn	Pn	11 24 29.6	-1.9
	comp=Z,0.5nm,0.3s,baz=132,slow=14,SNR=9.3						
MKAR				Sn	Sn	11 27 01.0	-1.0
	comp=Z,0.2nm,0.3s,baz=128,slow=25,SNR=7.4						
AAK	Ala-Archa	17.02	294	P	P	11 25 19.3	+0.2
	comp=Z,0.2nm,0.3s,baz=153,slow=2.3,SNR=2.0						
KURBB	Kurchatov Arra	17.91	322	P	P	11 25 29.0	+0.3
	comp=Z,0.1nm,0.3s,baz=127,slow=11,SNR=2.7						
ZALV	Zalesovo Beam	18.01	339	P	P	11 25 30.1	+0.3
	comp=Z,0.4nm,0.3s,baz=144,slow=10.0,SNR=2.9						
BVAR	Borovoye Array	23.41	319	P	P	11 26 29.1	+1.0
	comp=Z,0.8nm,0.5s,baz=99,slow=9.2,SNR=1.8						
KSRS	Korea Array	25.45	80	P	P	11 26 46.9	-0.2
	comp=Z,1.0nm,0.5s,baz=281,slow=9.6,SNR=6.2						
ILAR	Eielson Array	66.89	24	P	P	11 32 11.3	+0.3
	comp=Z,0.5nm,0.8s,baz=314,slow=5.0,SNR=4.9						
WRA	Warramunga Arr	67.78	141	P	P	11 32 17.1	0.0
	comp=Z,0.9nm,1.0s,baz=296,slow=3.5,SNR=3.5						
ASAR	Alice Springs	70.71	143	P	P	11 32 36.3	+1.0
	comp=Z,0.4nm,0.8s,baz=340,slow=6.4,SNR=3.0						

*IDC **15** 11:24:36.6±0.7, 11.°55N×125.°53E, h0km, mb3.9/14, mb1 4.0/14, mb1mx3.9/25, mbtmp3.9/14, Error ellipse: s-maj=42.2km s-min=14.8km az=71.0*
*ISCJB **15** 11:24:40.8±0.6, 11.°80N±0.°05×125.°79E±0.°08, h36km, mb3.9/14, Error ellipse: s-maj=12.5km s-min=6.6km az=24.4*

ISC 15 11:24:42.4±0.7, 11.°77N±0.°07×125.°70E±0.°08, h36km, n26, σ1§86/28, mb4.0/14, 1C-2D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	Borongan	0.30	236	eP	Pn	11 24 48.5	-2.0
PLP	Palo	0.93	230	⇓iP	Pn	11 24 57.0	-1.9
PLP				iS	Sn	11 25 07.0	-3.9
OCLP	Ormoc	1.28	236	eP	Pn	11 25 03.8	+0.1
MSLP	Maasin	1.82	207	eP	Pn	11 25 11.9	+0.7
SCPH	Surigao	1.99	186	⇓eP	Pn	11 25 23.0	+10
LLP	Lapu-Lapu	2.23	230	eP	Pn	11 25 17.2	+0.4
LLP				eS	Sn	11 25 47.0	+3.9
TBP	Tagbilaran	2.74	221	eP	Pn	11 25 24.5	+0.7
BUTP	Butuan	2.78	182	eP	Pn	11 25 27.1	+2.6
RCP	Roxas	2.90	266	⇑eP	Pn	11 25 27.8	+1.8
GUIM	Jordan	3.25	250	eP	Pn	11 25 31.6	+0.7
BUKP	Musuan	3.92	189	eP	Pn	11 25 43.0	+3.0
PAGZ	Pagadian	4.51	211	eP	Pn	11 25 48.5	+0.3
KSRS	Korea Array	25.65	4	P	P	11 30 09.0	+0.3
	0.9nm,0.8s,baz=180,slow=11,SNR=4.2						
WRA	Warramunga Arr	32.64	165	P	P	11 31 08.1	-2.9
	0.3nm,0.7s,baz=341,slow=9.1,SNR=3.6						
ASAR	Alice Springs	36.12	167	P	P	11 31 40.1	-1.1
	0.3nm,0.5s,baz=348,slow=8.3,SNR=9.5						
ASAR				PcP	PcP	11 34 05.5	-1.2
	0.3nm,0.5s,baz=353,slow=2.5,SNR=4.0						
SONM	Songino Array	39.43	339	P	P	11 32 10.5	+1.5
	0.4nm,0.5s,baz=158,slow=9.5,SNR=3.5						
STKA	Stephens Creek	45.99	161	P	P	11 33 00.8	-1.4
	1.2nm,0.6s,baz=356,slow=13,SNR=4.1						
PETK	Petropavlovsk-	48.52	25	P	P	11 33 24.2	+2.5
	2.0nm,1.0s,baz=172,slow=13,SNR=3.6						
MKAR	Makanchi Array	50.50	322	P	P	11 33 38.4	+1.4
	2.9nm,0.7s,baz=119,slow=8.4,SNR=29						
ZALV	Zalesovo Beam	53.05	331	P	P	11 33 55.6	-0.2
	0.5nm,0.3s,baz=122,slow=7.0,SNR=3.1						
KURBB	Kurchatov Arra	54.53	325	P	P	11 34 07.9	+1.2
	5.3nm,0.7s,baz=125,slow=7.1,SNR=42						
BVAR	Borovoye Array	60.12	325	P	P	11 34 46.9	+0.7
	1.2nm,0.8s,baz=92,slow=18,SNR=4.4						
ARCES	ARCESS Array B	82.60	340	P	P	11 37 01.2	-0.3
	4.9nm,0.9s,baz=82,slow=6.8,SNR=8.8						
BRTR	Keskin Array B	84.15	309	P	P	11 37 09.6	-0.7
	0.4nm,0.6s,baz=123,slow=7.1,SNR=3.0						
FINES	FINESS Array B	84.31	332	P	P	11 37 10.4	0.0
	0.9nm,0.4s,baz=4.3,slow=7.6,SNR=5.1						
AKASG	Malin Array Be	85.05	321	P	P	11 37 13.5	-0.9
	0.3nm,0.3s,baz=60,slow=5.2,SNR=5.5						

IDC 15 11:34:30.6±7.0, 19.°26S×178.°46W, h547km±80km, mb3.0/8, mb1 3.3/8, mb1mx3.0/19, mbtmp3.0/8, Error ellipse: s-maj=95.1km s-min=22.2km az=154.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	44.36	261	P	P	11 41 52.0	-0.8
	0.2nm,0.4s,baz=97,slow=7.7,SNR=7.5						
ASAR	Alice Springs	44.40	256	P	P	11 41 53.2	+0.1
	0.6nm,0.8s,baz=96,slow=7.9,SNR=8.9						
ASAR				PcP	PcP	11 43 24.2	-0.8
	0.4nm,0.6s,baz=111,slow=3.8,SNR=5.7						
FITZ	Fitzroy Crossi	52.77	262	P	P	11 42 55.5	+0.2
	1.3nm,1.0s,baz=120,slow=14,SNR=3.4						
YBH	Yreka Blue Hor	79.60	39	P	P	11 45 42.6	+1.3
	1.5nm,0.8s,baz=35,slow=5.9,SNR=5.9						
NVAR	Mina Array Bea	80.43	44	P	P	11 45 45.5	-0.4
	0.8nm,0.8s,baz=229,slow=9.4,SNR=6.2						
TXAR	Lajitas Array	86.75	58	P	P	11 46 16.9	-0.3
	0.7nm,0.9s,baz=225,slow=5.4,SNR=7.2						
ILAR	Eielson Array	87.21	13	P	P	11 46 17.4	-1.0
	2.5nm,1.1s,baz=215,slow=5.3,SNR=11						
PDAR	Pinedale Array	88.36	43	P	P	11 46 24.1	-0.5
	0.4nm,0.6s,baz=236,slow=3.4,SNR=4.9						
BRTR	Keskin Array B	145.68	313	PKPbc	PKPbc	11 53 08.5	-0.3
	0.6nm,0.6s,baz=142,slow=5.6,SNR=3.4						

IDC 15 11:38:42.2±30.0, 21.°09S×178.°17W, h0km, mb4.1/4, mb1 4.3/4, mb1mx3.8/18, mbtmp4.1/4, Error ellipse: s-maj=579.1km s-min=152.8km az=89.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	37.39	245	P	P	11 45 54.9	-2.1
	1.1nm,0.6s,baz=90,slow=18,SNR=3.2						
ASAR	Alice Springs	44.23	257	P	P	11 46 53.4	-0.2
	2.3nm,0.8s,baz=100,slow=7.1,SNR=35						
WRA	Warramunga Arr	44.37	263	P	P	11 46 55.7	+1.0
	1.8nm,0.3s,baz=91,slow=8.4,SNR=129						
FITZ	Fitzroy Crossi	52.80	263	P	P	11 47 59.7	+0.1
	1.1nm,0.5s,baz=94,slow=7.4,SNR=7.3						

IDC 15 12:10:35.6±7.3, 13.°32N×93.°00E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/26, mbtmp3.4/3, Error ellipse: s-maj=418.4km s-min=30.4km az=60.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	34.56	347	P	P	12 17 25.9	-0.1
	0.3nm,0.7s,baz=157,slow=7.8,SNR=3.6						
WRA	Warramunga Arr	52.42	128	P	P	12 19 50.1	-0.2
	0.5nm,1.0s,baz=306,slow=9.6,SNR=4.5						
ASAR	Alice Springs	54.33	132	P	P	12 20 04.3	0.0
	0.2nm,0.4s,baz=310,slow=7.2,SNR=13						

IDC 15 12:11:15.0±4.2, 21.°62S×169.°98E, h0km, mb3.7/4, mb1 3.8/5, mb1mx3.7/18, mbtmp3.7/5, ML3.9/1, Error ellipse: s-maj=112.9km s-min=63.1km az=173.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.31	262	Pn	Pn	12 12 09.3	+1.1
	12nm,0.3s,baz=108,slow=22,SNR=533						
DZM				Sn	Sn	12 12 47.9	-0.6
	13nm,0.3s,baz=21,slow=23,SNR=9.8						
STKA	Stephens Creek	27.25	242	P	P	12 17 01.6	+0.5
	0.8nm,0.5s,baz=72,slow=13,SNR=2.9						
ASAR	Alice Springs	33.30	260	P	P	12 17 53.7	-1.0
	0.2nm,0.5s,baz=80,slow=8.6,SNR=7.1						
WRA	Warramunga Arr	33.32	266	P	P	12 17 54.4	-0.5
	0.6nm,0.5s,baz=101,slow=8.5,SNR=18						
FITZ	Fitzroy Crossi	41.75	267	P	P	12 19 06.7	+0.5
	0.8nm,0.6s,baz=121,slow=5.9,SNR=4.2						
VNA3	Neumayer Olymp	87.39	180	eP	P	12 24 01.2	-2.6
VNA2	Neumayer-Watz	87.69	181	eP	P	12 24 02.9	-2.3
	baz=179,slow=3.9						

*TIF **15** 12:36:47.5, 42.°59N×43.°43E, h12km±1km*
*CSEM **15** 12:36:48.4±0.2, 42.°58N×43.°39E, h2km, mb4.0, Error ellipse: s-maj=4.4km s-min=2.6km az=112.0*
*DDA **15** 12:36:48.3, 42.°53N×43.°25E, h9km, MD3.1*
*MOS **15** 12:36:48.7±0.8, 42.°57N×43.°43E, h13km, mb4.0/1, Error ellipse: s-maj=0.1km s-min=0.0km az=51.9*

ISC 15 12:36:48.0±0.8, 42.°57N±0.°02×43.°39E±0.°02, h8km±5km, n58, σ0§87/104, 4C-7D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	Oni	0.05	66	PG	Pg	12 36 49.8	+0.1
ONI	Oni	0.05	66	Pg	Pg	12 36 49.8	+0.1
ONI	Oni	0.05	66	P	Pg	12 36 49.8	+0.1
ONI				S	Sg	12 36 51.3	+0.4
DIGR	Digorskoe uzhe	0.36	23	⇓iPG	Pg	12 36 54.8	-0.2
DIGR				iS	Sg	12 37 00.1	+0.3
DIGR	Digorskoe uzhe	0.36	23	iPg	Pg	12 36 54.8	-0.2
DIGR				iSg	Sg	12 37 00.1	+0.3
ZEI	Tsey	0.43	60	⇓iPG	Pg	12 36 56.0	-0.4
ZEI				iS	Sg	12 37 01.9	-0.3
ZEI	Tsey	0.43	60	iPg	Pg	12 36 56.0	-0.4
ZEI				iSg	Sg	12 37 01.9	-0.3
KORR	Kora	0.72	44	⇑iPG	Pg	12 37 01.7	0.0
KORR				eS	Sg	12 37 11.5	+0.4
KORR	Kora	0.72	44	iPg	Pg	12 37 01.7	0.0
KORR				eSg	Sg	12 37 11.5	+0.4
LSNR	Lesken	0.78	24	⇓iPG	Pg	12 37 03.1	+0.2
LSNR				eS	Sg	12 37 13.6	+0.6
LSNR	Lesken	0.78	24	iPg	Pg	12 37 03.1	+0.2
LSNR				eSg	Sg	12 37 13.6	+0.6
NCK	Nalchik	0.94	9	⇑iPG	Pn	12 37 07.2	-0.3
NCK				iS	Sn	12 37 20.6	-0.6
NCK	Nalchik	0.94	9	iPg	Pn	12 37 07.2	-0.3
NCK				iSg	Sn	12 37 20.6	-0.6
STDR	Stavd-Durt	0.94	31	⇓iPG	Pn	12 37 07.3	-0.2
STDR				eS	Sn	12 37 20.2	-0.9
STDR	Stavd-Durt	0.94	31	iPg	Pn	12 37 07.3	-0.2
STDR				eSg	Sn	12 37 20.2	-0.9
VLKR	Vladikavkaz	1.06	63	ePG	Pb	12 37 08.6	0.0
VLKR				eS	Sb	12 37 22.8	+0.2
VLKR	Vladikavkaz	1.06	63	ePg	Pb	12 37 08.6	0.0
VLKR				eSg	Sb	12 37 22.8	+0.2
DUS	Dusheti	1.08	116	P	Pn	12 37 10.4	+0.8
DUS				S	Sn	12 37 30.1	+5.3
SNJR	Sundja	1.16	64	ePG	Pb	12 37 09.7	-0.6
SNJR				eS	Sg	12 37 25.2	0.0
SNJR	Sundja	1.16	64	ePg	Pb	12 37 09.7	-0.6
SNJR				eSg	Sg	12 37 25.2	0.0
AKH	Akhalkalaki	1.16	176	PG	Pb	12 37 09.8	-0.6
AKH	Akhalkalaki	1.16	176	Pg	Pb	12 37 09.8	-0.6
AKH	Akhalkalaki	1.16	176	P	Pb	12 37 09.8	-0.6
AKH				S	Sb	12 37 26.0	+0.2
BTKR	Batakoyurt	1.16	46	⇓iPG	Pn	12 37 11.9	+1.3
BTKR				eS	Sn	12 37 27.6	+0.8
BTKR	Batakoyurt	1.16	46	iPg	Pn	12 37 11.9	+1.3
BTKR				eSg	Sn	12 37 27.6	+0.8
KUBR	Kubataba	1.23	1	⇓iPG	Pg	12 37 12.7	+1.2
KUBR				iS	Sn	12 37 30.1	+1.7
KUBR	Kubataba	1.23	1	iPg	Pg	12 37 12.7	+1.2
SHAR	Shatzhatmas	1.29	336	⇓iPG	Pn	12 37 12.4	-0.1
SHAR				iS	Sb	12 37 29.4	0.0
SHAR	Shatzhatmas	1.29	336	iPg	Pn	12 37 12.4	-0.1
SHAR				iSg	Sb	12 37 29.4	0.0
TBLG	Delisi	1.30	130	ePG	Pn	12 37 12.3	-0.3
TBLG	Delisi	1.30	130	ePg	Pn	12 37 12.3	-0.3
TBLG	Delisi	1.30	130	P	Pn	12 37 12.4	-0.2
TBLG				S	Sn	12 37 30.8	+0.5
PRTR	Priterechnaya	1.35	29	ePG	Pg	12 37 14.5	+0.7
PRTR				eS	Sg	12 37 32.5	+1.2
PRTR	Priterechnaya	1.35	29	ePg	Pg	12 37 14.5	+0.7
PRTR				eSg	Sg	12 37 32.5	+1.2
KZR	Kazreti	1.41	147	P	Pn	12 37 12.9	-1.2
KZR				S	Sb	12 37 31.7	-1.1
KIV	Kislovodsk	1.48	340	⇑iPG	Pb	12 37 16.1	+0.3
KIV				iS	Sb	12 37 35.4	+0.6
KIV	Kislovodsk	1.48	340	iPg	Pb	12 37 16.1	+0.3
KIV				iSg	Sb	12 37 35.4	+0.6
PYA	Pyatigorsk	1.48	351	⇑iPG	Pg	12 37 16.7	+0.3
PYA				iS	Sg	12 37 36.1	+0.5
PYA	Pyatigorsk	1.48	351	iPg	Pg	12 37 16.7	+0.3
PYA				iSg	Sg	12 37 36.1	+0.5
TRKR	Terskaya	1.51	40	ePG	Pb	12 37 15.8	-0.5
TRKR				eS	Sb	12 37 35.7	+0.1
TRKR	Terskaya	1.51	40	ePg	Pb	12 37 15.8	-0.5
TRKR				eSg	Sb	12 37 35.7	+0.1
ARTV	Artvin	1.76	219	iP	Pn	12 37 19.8	+0.7
ARTV				iS	Sb	12 37 43.2	+0.1
ARTV	Artvin	1.76	219	iP	Pn	12 37 19.8	+0.7
ARTV				iS	Sb	12 37 43.2	+0.1
DBOC	Borcka	1.78	227	iP	Pn	12 37 19.2	+0.1
DBOC				iS	Sb	12 37 43.6	+0.3
DBOC	Borcka	1.78	227	iP	Pn	12 37 19.2	+0.1
DBOC				iS	Sb	12 37 43.6	+0.3
DGRG	David-gareji	1.85	127	ePN	Pb	12 37 22.3	+0.2
DGRG	David-gareji	1.85	127	ePn	Pb	12 37 22.3	+0.2
DGRG	David-gareji	1.85	127	P	Pb	12 37 22.3	+0.2
DGRG				S	Sg	12 37 48.6	+1.2
DAGI	Agillar	1.86	217	iP	Pb	12 37 21.4	-0.8
DAGI				iS	Sb	12 37 46.1	+0.5
DBAD	Bademkaya	2.00	220	iP	Pb	12 37 23.7	-1.0
DBAD				iS	Sb	12 37 50.8	+0.9
DBAD	Bademkaya	2.00	220	iP	Pb	12 37 23.7	-1.0
DBAD				iS	Sb	12 37 50.8	+0.9
DDEM	Demirkent	2.08	217	iP	Pb	12 37 25.1	-0.9
DDEM				iS	Sb	12 37 52.3	+0.3
DDEM	Demirkent	2.08	217	iP	Pb	12 37 25.1	-0.9
DDEM				iS	Sb	12 37 52.3	+0.3
DIGO	Kars	2.15	180	eP	Pb	12 37 26.9	-0.5
DIGO				iS	Sb	12 37 55.6	+1.3
DIGO	Kars	2.15	180	eP	Pb	12 37 26.9	-0.5
DIGO				iS	Sb	12 37 55.6	+1.3
GNI	Garni	2.62	157	iPn	Pb	12 37 32.7	-1.6
ARU	Arti	16.95	30	P	Pn	12 40 43.3	-2.1
BRVK	Borovoye	20.76	50	iP	P	12 41 27.9	-1.2

GUC 15 12:47:06.2±1.1, 21.°26S×70.°20W, h68km±12km, ML3.5, 1C-7D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB07	Plate Boundary	0.55	148	⇓iP	Pn	12 47 20.3	+0.7
PB07				iS	Sn	12 47 29.8	+0.4
PB07				AML	AML	12 47 32.3	
	comp=E,1μm,0.2s						
PB01	Plate Boundary	0.70	72	⇑iP	Pn	12 47 21.1	0.0
PB01				iS	Sn	12 47 30.7	-1.4
PB01				AML	AML	12 47 31.1	
	comp=E,5μm,0.2s						
HMBC	Humberstone	1.02	16	⇓iP	Pn	12 47 25.8	+0.7
HMBC				iS	Sn	12 47 39.8	+0.7
HMBC				AML	AML	12 47 40.8	
	comp=E,1μm,0.2s						
PB09	Plate Boundary	1.03	121	⇓iP	Pn	12 47 25.8	+0.5
PB09				iS	Sn	12 47 38.9	-0.7
PB09				AML	AML	12 47 41.0	
	comp=E,4μm,0.2s						
PB04	Plate Boundary	1.20	147	⇓iP	Pn	12 47 26.8	-0.3
PB04				iS	Sn	12 47 41.2	-1.5
PB04				AML	AML	12 47 44.0	
	comp=E,1μm,0.2s						
MNMC	Minimini	2.19	15	⇓iP	Pn	12 47 41.7	+0.9
MNMC				iS	Sn	12 48 08.5	+1.2
MNMC				AML	AML	12 48 11.1	
	comp=E,531nm,0.3s						
PB10	Plate Boundary	2.27	188	⇓iP	Pn	12 47 41.9	+0.4
PB10				iS	Sn	12 48 07.8	-0.6
PB10				AML	AML	12 48 09.8	
	comp=E,303nm,0.3

IDI	Anoyia	1.42	341	ePN	Pn	12 54 08.3	-0.5
IDI	Anoyia	1.42	341	P	Pb	12 54 09.5	0.0
IDI	Anoyia	1.42	341	ePB	Pg	12 54 10.1	-0.1
IDI	Anoyia	1.42	341	Pn	Pn	12 54 08.4	-0.3
	5.4nm,0.3s,baz=163,slow=22,SNR=20						
IDI	Anoyia	1.42	341	ePn	Pn	12 54 08.3	-0.5
IDI	Anoyia	1.42	341	P	Pb	12 54 09.5	0.0
IDI	Anoyia	1.42	341	ePb	Pg	12 54 10.1	-0.1
GVD	Gavdhos	1.45	308	ePB	Pb	12 54 10.2	+0.3
GVD	Gavdhos	1.45	308	ePb	Pb	12 54 10.2	+0.3
VAM	Vamos	1.79	325	P	Pb	12 54 16.0	+0.2
VAM	Vamos	1.79	325	ePG	Pb	12 54 16.0	+0.2
VAM	Vamos	1.79	325	P	Pb	12 54 16.0	+0.2
KARN	Karanos	1.93	319	P	Pb	12 54 18.5	+0.3
KARN	Karanos	1.93	319	ePN	Pb	12 54 18.5	+0.3
KARN	Karanos	1.93	319	P	Pb	12 54 18.5	+0.3
KARP	Karpathos	2.12	41	P	Pb	12 54 21.5	+0.1
KARP				S	Sb	12 54 49.0	+1.2
KARP	Karpathos	2.12	41	ePN	Pb	12 54 21.4	+0.1
KARP	Karpathos	2.12	41	P	Pb	12 54 21.5	+0.1
KARP				S	Sb	12 54 49.0	+1.2
ANKY	Antikythira Is	2.61	318	ePN	Pb	12 54 28.2	-1.6
ANKY	Antikythira Is	2.61	318	ePn	Pb	12 54 28.2	-1.6
KYTH	Kithira	3.06	320	ePN	Pn	12 54 34.2	+2.9
KYTH	Kithira	3.06	320	ePn	Pn	12 54 34.2	+2.9
APE	Apeiranthos	3.12	1	eP	Pn	12 54 34.6	+2.6
APE	Apeiranthos	3.12	1	eP	Pn	12 54 34.6	+2.6
DAT	Datca	3.27	31	eP	Pn	12 54 32.2	-2.0
DAT	Datca	3.27	31	eP	Pn	12 54 32.2	-2.0
BODT	Bodrum	3.45	25	eP	Pn	12 54 34.4	-2.3
BODT	Bodrum	3.45	25	eP	Pn	12 54 34.4	-2.3
FETY	Fethiye	3.99	47	eP	Pn	12 54 42.7	-1.4
FETY	Fethiye	3.99	47	eP	Pn	12 54 42.7	-1.4
ELL	Elmali	4.58	51	eP	Pn	12 54 50.9	-1.4
ELL	Elmali	4.58	51	eP	Pn	12 54 50.9	-1.4
SUTC	Sutluce-Ispart	5.72	50	eP	Pn	12 55 07.5	-0.4
HDMB	Hadim	6.47	60	eP	Pn	12 55 19.7	+1.4
IKL	Isikli	7.12	69	eP	Pn	12 55 28.2	+1.3
MMAI	Mount Meron Ar	8.35	94	Pn	Pn	12 55 42.3	-1.7
	2.4nm,0.3s,baz=263,slow=12,SNR=2.8						
BRTR	Keskin Array B	8.73	46	Pn	Pn	12 55 50.8	+1.6
	0.1nm,0.3s,baz=233,slow=14,SNR=2.8						
EIL	Elat	9.13	115	Pn	Pn	12 55 53.3	-1.3
	0.6nm,0.3s,baz=233,slow=20,SNR=3.6						
AKASG	Malin Array Be	16.97	8	P	Pn	12 57 41.4	+1.3
	2.1nm,0.3s,baz=199,slow=10,SNR=6.4						
GERES	GERESS Array B	17.27	333	P	Pn	12 57 43.0	-1.1
	0.1nm,0.3s,baz=156,slow=12,SNR=8.8						
FINES	FINESS Array B	27.52	1	P	P	12 59 28.8	-0.4
	0.6nm,0.5s,baz=189,slow=7.9,SNR=2.2						
ARCES	ARCESS Array B	35.64	0	P	P	13 00 38.9	-1.6
	2.2nm,0.9s,baz=187,slow=8.5,SNR=7.1						
MKAR	Makanchi Array	44.24	56	P	P	13 01 53.4	+1.2
	0.5nm,0.6s,baz=283,slow=6.7,SNR=7.4						
ZALV	Zalesovo Beam	45.67	45	P	P	13 02 03.2	-0.3
	0.8nm,0.5s,baz=286,slow=11,SNR=3.4						
ILAR	Eielson Array	81.42	357	P	P	13 05 59.8	+0.2
	0.2nm,0.6s,baz=354,slow=1.8,SNR=4.1						

*IDC **15** 13:22:49.2±2.9, 8°.58S×116°.63E, h122km±23km, mb3.2/4, mb1 3.3/6, mb1mx3.1/22, mbtmp3.2/6, Error ellipse: s-maj=46.5km s-min=15.8km az=55.0*
*DJA **15** 13:23:02.9±1.2, 8°S±27°×11°8E±°, h214km±11km, M4.1/7, mb4.3/1, mB4.7/1, MLv4.0/7, Mw(mB)4.0/1*

ISC 15 13:23:01.5±1.0, 8°.15S±0°.09×117°.88E±0°.07, h250km, n14, σ2§27/14, mb3.5/3, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTNI	Mataram	1.76	254	P	Pn	13 23 40.8	-1.1
LBFI	Labuhan Bajo,	2.02	100	P	Pn	13 23 42.8	-1.3
LBFI				S	S	13 24 13.9	-3.7
SRBI	Singaraja	2.64	271	P	Pn	13 23 49.3	-0.9
IGBI	Denpasar	2.79	256	P	Pn	13 23 50.1	-1.6
WSI	Waingapu	2.83	123	P	Pn	13 23 50.8	-1.3
KAPI	Kappang	3.62	31	P	Pn	13 23 59.7	-1.2
	0.8nm,0.3s,baz=240,slow=14,SNR=4.1						
JAGI	Jajag, Banyuwa	3.71	265	P	Pn	13 24 00.1	-1.8
MMRI	Maumere	4.34	97	P	Pn	13 24 01.7	-7.6
SOEI	Soe	6.51	105	P	Pn	13 24 36.5	+0.4
FITZ	Fitzroy Crossi	12.45	143	P	Pn	13 25 49.1	-1.5
	0.0nm,0.3s,baz=339,slow=11,SNR=2.3						
FITZ				S	S	13 28 11.5	+2.2
	0.1nm,0.3s,baz=189,slow=19,SNR=3.8						
WRA	Warramunga Arr	19.79	128	P	Pn	13 27 16.1	-2.0
	0.8nm,0.6s,baz=302,slow=12,SNR=34						
WRA				S	S	13 31 01.4	+19
	1.1nm,0.9s,baz=303,slow=24,SNR=5.3						
ASAR	Alice Springs	21.77	137	P	P	13 27 37.2	+3.7
	1.3nm,0.5s,baz=311,slow=8.8,SNR=33						
ASAR				S	S	13 31 36.5	+20
	0.4nm,0.8s,baz=306,slow=19,SNR=4.6						
STKA	Stephens Creek	32.31	140	P	P	13 29 11.2	+3.9
	0.6nm,0.5s,baz=340,slow=17,SNR=7.8						
SONM	Songino Array	56.66	351	P	P	13 32 21.3	+2.3
	0.5nm,0.6s,baz=171,slow=7.4,SNR=4.6						

*BKK **15** 13:24:24.7±1.8, 0°S±27°×9°3E±2°3, h10km, M4.7/10, mB5.0/4, mb4.9/10, Mw(mB)4.3/4*
*ISCJB **15** 13:25:28.7±0.6, 5°.26N±0°.07×94°.21E±0°.07, h46km, mb4.3/15, MS3.3/1, Error ellipse: s-maj=13.1km s-min=7.2km az=135.4*
*IDC **15** 13:25:32.2±0.8, 5°.36N×94°.39E, h57km±6km, mb4.1/15, mb1 4.2/16, mb1mx3.9/31, mbtmp4.1/16, MS3.2/2, Ms1 3.2/2, ms1mx2.6/42, Error ellipse: s-maj=28.3km s-min=11.0km az=56.0*

ISC 15 13:25:31.0±0.7, 5°.32N±0°.09×94°.3E±0°.1, h46km, n38, σ1§29/41, mb4.3/15, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKDT	Phuket	4.76	57	P	Pn	13 26 41.6	+1.2
	289nm,0.3s,12μm						
PSI	Prapat	5.26	118	P	Pn	13 26 48.2	+0.9
	4.8nm,0.3s,baz=301,slow=15,SNR=14						
PSI				LR	LR	13 29 18.3	
	comp=Z,171nm,18.5s,baz=127,slow=43						
KRAB	Krabi	5.67	59	P	Pn	13 26 54.9	+2.2
	157nm,0.4s,3μm						
SURA	Surathani	6.53	54	P	Pn	13 27 06.1	+1.4
	82nm,0.5s						
PBKT	Sadao Pong	12.96	30	P	P	13 28 43.1	+1.1
	14nm,0.8s						
SUKH	Sukhothai	13.17	23	P	P	13 28 45.3	+0.9
	7.2nm,0.8s,76nm						
CHTO	Chiang Mai	14.16	18	P	P	13 28 55.2	-0.2
	26nm,0.8s						
PAYA	Payao	14.98	21	P	P	13 29 05.7	+1.1
	11nm,0.8s,102nm						
SKNT	Sakolnakorn	14.98	39	P	P	13 29 05.2	+0.7
CMAI	Chiengmai2	15.24	17	P	P	13 29 08.2	+0.5
	40nm,1.1s						
ODAN	Odare	22.40	344	eP	P	13 30 24.1	-1.9
	14nm,0.7s						
RAMN	Ramite	22.72	342	eP	P	13 30 27.5	-1.9
	13nm,0.6s						
TAPN	Taplejung	22.78	345	eP	P	13 30 27.3	-2.8
JIRN	Jiri	23.51	342	eP	P	13 30 36.2	-1.2
PKI	Pulchoki	23.68	340	eP	P	13 30 37.8	-1.2
PKIN	Phulchoki	23.69	340	eP	P	13 30 37.5	-1.5
DMN	Daman	23.82	339	eP	P	13 30 38.7	-1.5
GUN	Gumba	23.84	341	eP	P	13 30 38.7	-1.8
	17nm,0.5s						
KKN	Kakani	23.93	340	eP	P	13 30 39.9	-1.3
KOLN	Koldanda	24.53	337	eP	P	13 30 46.7	+0.1
	20nm,0.6s						
DANN	Dangsing	24.98	338	eP	P	13 30 50.6	-0.3
	57nm,0.7s						
PYUN	Piuthan	25.07	336	eP	P	13 30 52.1	+0.6
	89nm,0.5s						
KAPI	Kappang	27.43	112	P	P	13 31 11.2	-1.6
	3.8nm,0.3s,baz=215,slow=19,SNR=5.8						
FITZ	Fitzroy Crossi	38.71	128	P	P	13 32 49.7	-1.2
	2.7nm,0.7s,baz=271,slow=6.2,SNR=7.0						
MKAR	Makanchi Array	42.59	348	P	P	13 33 22.7	+0.1
	5.7nm,0.5s,baz=168,slow=8.2,SNR=80						
SONM	Songino Array	43.61	12	P	P	13 33 30.3	-0.6
	4.5nm,0.8s,baz=191,slow=8.0,SNR=29						
SONM				PcP	PcP	13 35 18.3	+0.5
	0.6nm,0.5s,baz=202,slow=4.3,SNR=4.2						
KSRS	Korea Array	44.31	39	P	P	13 33 35.7	-0.9
	1.6nm,0.7s,baz=214,slow=9.0,SNR=11						
KSRS				LR	LR	13 52 06.8	
	comp=Z,37nm,18.3s,baz=185,slow=36						
WRA	Warramunga Arr	46.70	124	P	P	13 33 55.8	0.0
	2.3nm,0.4s,baz=305,slow=8.2,SNR=41						
KURBB	Kurchatov Arra	47.04	346	P	P	13 33 57.4	-0.5
	2.6nm,0.3s,baz=172,slow=6.8,SNR=27						
ASAR	Alice Springs	48.20	128	P	P	13 34 07.3	-0.1
	2.8nm,0.7s,baz=300,slow=7.5,SNR=43						
ASAR				pP	pP	13 34 21.8	+1.6
	1.3nm,0.4s,baz=304,slow=7.5,SNR=6.0						
ZALV	Zalesovo Beam	49.09	353	P	P	13 34 13.6	-0.1
	5.2nm,0.4s,baz=187,slow=6.5,SNR=25						
ZALV				pP	pP	13 34 28.5	+2.1
	2.9nm,0.5s,baz=174,slow=7.8,SNR=4.4						
BVAR	Borovoye Array	51.44	342	P	P	13 34 30.8	-0.7
	2.6nm,0.7s,baz=128,slow=9.6,SNR=5.9						
BVAR				pP	pP	13 34 46.4	+2.1
	2.3nm,0.7s,baz=142,slow=7.5,SNR=5.0						
STKA	Stephens Creek	58.27	133	P	P	13 35 20.4	-0.9
	1.8nm,0.7s,baz=284,slow=5.2,SNR=4.8						
FINES	FINESS Array B	75.02	332	P	P	13 37 07.0	-0.5
	1.7nm,0.7s,baz=128,slow=5.3,SNR=4.0						
MAW	Mawson	76.08	192	P	P	13 37 13.7	+0.3
	0.9nm,0.3s,baz=227,slow=16,SNR=4.1						
GERES	GERESS Array B	79.81	319	P	P	13 37 35.1	+0.3
	1.7nm,0.7s,baz=100,slow=5.8,SNR=10						
GERES				pP	pP	13 37 51.1	+2.8
	1.3nm,0.7s,baz=74,slow=4.9,SNR=2.8						
ILAR	Eielson Array	97.04	22	P	P	13 38 56.6	-1.2
	0.2nm,0.5s,baz=309,slow=4.4,SNR=7.0						
TXAR	Lajitas Array	141.46	26	PKP	PKPdf	13 44 57.9	0.0
	0.3nm,0.4s,baz=210,slow=1.5,SNR=4.1						

IDC 15 13:30:08.3±1.7, 23°.74S×180°.00E, h535km±18km, mb3.5/12, mb1 3.6/15, mb1mx3.4/24, mbtmp3.5/15, Error ellipse: s-maj=17.3km s-min=12.8km az=31.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	12.49	40	P	P	13 32 52.8	+0.7
	1.2nm,0.3s,baz=46,slow=21,SNR=4.1						
DZM	Mont Dzumac	12.60	275	P	P	13 32 53.7	+0.5
	0.4nm,0.3s,baz=192,slow=20,SNR=4.7						
URZ	Urewera	14.69	189	P	P	13 33 13.5	-1.0
	2.4nm,0.3s,baz=163,slow=3.2,SNR=13						
URZ				S	S	13 35 44.1	-4.0
	0.8nm,0.3s,baz=33,slow=23,SNR=8.3						
RPZ	Rata Peaks	21.25	198	P	P	13 34 15.1	-1.0
	10nm,0.5s,baz=4.3,slow=4.7,SNR=14						
CTA	Charters Tower	31.47	270	P	P	13 35 47.1	+0.7
	6.4nm,0.3s,baz=94,slow=11,SNR=16						
STKA	Stephens Creek	34.78	248	P	P	13 36 14.8	+0.6
	2.0nm,0.4s,baz=87,slow=10,SNR=9.9						
ASAR	Alice Springs	42.06	260	P	P	13 37 13.2	-0.2
	2.1nm,0.4s,baz=97,slow=7.4,SNR=43						
ASAR				ScP	ScP	13 41 57.5	+1.9
	0.6nm,0.8s,baz=119,slow=5.0,SNR=4.7						
ASAR				S	S	13 42 53.6	-0.6
	0.3nm,0.7s,baz=102,slow=14,SNR=5.4						
WRA	Warramunga Arr	42.42	266	P	P	13 37 15.4	-0.8
	2.4nm,0.3s,baz=90,slow=5.9,SNR=75						
FITZ	Fitzroy Crossi	50.84	265	P	P	13 38 19.6	-0.3
	2.1nm,0.5s,baz=121,slow=8.8,SNR=14						
VNDA	Vanda	54.54	185	P	P	13 38 46.5	+1.1
	1.5nm,0.6s,baz=0.4,slow=6.6,SNR=14						
QSPA	South Pole Qui	66.35	180	P	P	13 40 04.1	+0.3
	7.1nm,0.7s,baz=28,slow=1.8,SNR=34						
MAW	Mawson	77.90	200	P	P	13 41 10.5	+0.1
	2.8nm,0.6s,baz=113,slow=6.8,SNR=8.0						
SNAA	Sanae	84.83	179	eP	P	13 41 44.4	-1.7
SNAA	Sanae	84.83	179	P	P	13 41 44.6	-1.5
	0.3nm,0.5s,baz=219,slow=8.5,SNR=34						
VNA3	Neumayer Olymp	85.04	177	eP	P	13 41 45.7	-1.3
VNA2	Neumayer--Watz	85.46	178	eP	P	13 41 47.9	-1.1
	baz=200,slow=3.7						
TXAR	Lajitas Array	90.34	58	P	P	13 42 12.3	-0.4
	0.3nm,0.6s,baz=226,slow=7.9,SNR=4.5						
SONM	Songino Array	96.98	319	P	P	13 42 42.3	-0.2
	0.1nm,0.4s,baz=35,slow=5.3,SNR=4.0						
MKAR	Makanchi Array	112.04	313	PKiKP	PKiKP	13 47 40.5	-2.2
	0.1nm,0.4s,baz=120,slow=1.4,SNR=3.1						
AKASG	Malin Array Be	144.83	327	PKP	PKPdf	13 48 42.4	-1.7
	0.7nm,0.4s,baz=42,slow=4.0,SNR=5.7						
BRTR	Keskin Array B	147.48	307	PKPbc	PKPbc	13 48 53.2	+0.7
	1.0nm,0.6s,baz=88,slow=2.5,SNR=4.7						
TORD	Torodi Ar. Bea	169.35	189	PKPab	PKPab	13 50 29.9	-1.3
	0.3nm,0.5s,baz=156,slow=3.7,SNR=4.7						

NNC 15 13:36:51.0±0.6, 50°.04N×78°.77E, h0km, mb3.6, mpv3.3, 17C-10D, Error ellipse: s-maj=9.8km s-min=3.3km az=75.0, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	Kurchatov Arra	0.57	343	⇑P	Pg	13 37 02.1	+0.1
KUR07				⇑S	Sg	13 37 10.6	+1.2
KUR06	Kurchatov Arra	0.59	344	⇑P	Pg	13 37 02.4	+0.1
KUR06				⇑S	Sg	13 37 11.1	+1.2
KUR14	Kurchatov Arra	0.59	349	⇑P	Pg	13 37 02.3	0.0
KUR14				⇑S	Sg	13 37 10.8	+0.8
KUR15	Kurchatov Arra	0.60	347	⇑P	Pg	13 37 02.6	+0.1
KUR15				⇑S	Sg	13 37 11.0	+0.8
KURBB	Kurchatov Arra	0.60	345	⇑P	Pg	13 37 02.7	0.0
	49nm,0.3s						
KURBB				⇓S	Sg	13 37 11.6	+1.1
	228nm,0.6s						
KUR16	Kurchatov Arra	0.61	343	⇑P	Pg	13 37 03.0	+0.2
KUR16				⇓S	Sg	13 37 11.6	+0.8
KUR05	Kurchatov Arra	0.62	346	⇑P	Pg	13 37 03.0	+0.1
KUR05				⇓S	Sg	13 37 11.7	+0.6
KUR17	Kurchatov Arra	0.62	342	⇓P	Pg	13 37 03.1	+0.1
KUR17				⇓S	Sg	13 37 12.3	+1.1
KUR04	Kurchatov Arra	0.64	347	⇑P	Pg	13 37 03.2	-0.1
KUR04				⇑S	Sg	13 37 12.6	+1.0
MK31	Makanchi Array	4.00	143	⇑Pn	Pn	13 37 54.8	+1.1
	2.4nm,0.4s,baz=324,slow=10,SNR=29						
MK31				⇑Lg	Lg	13 38 58.7	
	13nm,0.7s,baz=329,slow=29,SNR=8.5						
VOSK	Vostochnaya	5.57	302	⇑Pn	Pn	13 38 15.0	-0.1
	0.9nm,0.5s						
VOSK				⇓Sn	Sn	13 39 19.9	+0.1
	4.7nm,0.8s						
VOSK				⇓Lg	Lg	13 39 47.9	
	7.8nm,0.9s						
BVA0	Borovoye Array	6.03	303	⇓Pn	Pn	13 38 25.9	+4.5
	1.2nm,0.4s,baz=91,slow=13,SNR=7.7						
BVA0				⇓Sn	Sn	13 39 31.1	+0.1
	2.6nm,0.6s,baz=101,slow=24,SNR=4.5						
BVA0				⇑Lg	Lg	13 40 07.8	
	6.6nm,0.8s,baz=104,slow=26,SNR=4.8						
TKM2	Tokmak 2	7.45	198	⇓Lg	Lg	13 40 44.8	
	2.8nm,0.5s						

IDC 15 13:52:07.8±8.6, 3°.54N×126°.98E, h102km±85km, mb3.6/12, mb1 3.7/12, mb1mx3.6/25, mbtmp3.6/12, 1D, Error ellipse: s-maj=58.6km s-min=16.8km az=75.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	Cotabato--PC H	4.56	324	⇓iP	Pn	13 53 12.1	-2.5
FITZ	Fitzroy Crossi	21.54	183	P	P	13 56 49.1	+0.2
	1.5nm,0.7s,baz=358,slow=17,SNR=4.1						
WRA	Warramunga Arr	24.43	163	P	P	13 57 16.8	-0.3
	3.0nm,0.7s,baz=344,slow=9.7,SNR=21						
ASAR	Alice Springs	27.87	166	P	P	13 57 47.9	-0.3
	0.4nm,0.6s,baz=354,slow=7.0,SNR=7.9						
KSRS	Korea Array	33.77	1	P	P	13 58 39.2	-0.6
	0.4nm,0.8s,baz=181,slow=12,SNR=5.5						
STKA	Stephens Creek	37.86	160	P	P	13 59 15.2	+0.4
	3.4nm,0.9s,baz=334,slow=8.1,SNR=11						
SONM	Songino Array	47.56	341	P	P	14 00 34.0	+0.8
	1.2nm,0.7s,baz=162,slow=8.8,SNR=6.6						
MKAR	Makanchi Array	57.85	325	P	P	14 01 48.9	0.0
	1.4nm,0.5s,baz=119,slow=7.8,SNR=22						
ZALV	Zalesovo Beam	60.87	333	P	P	14 02 08.7	-0.8
	0.7nm,0.3s,baz=134,slow=8.3,SNR=2.8						
BVAR	Borovoye Array	67.61	327	P	P	14 02 54.2	+0.6
	0.9nm,0.7s,baz=115,slow=10.0,SNR=4.9						
AKTO	Aktyubinsk	73.96	322	P	P	14 03 32.5	+0.4
	2.0nm,0.8s,baz=78,slow=7.5,SNR=6.9						
BRTR	Keskin Array B	90.33	310	P	P	14 04 57.0	-0.9
	0.3nm,0.4s,baz=93,slow=8.7,SNR=3.0						
ARCES	ARCESS Array B	90.71	340	P	P	14 04 58.9	0.0
	2.1nm,0.8s,baz=72,slow=5.9,SNR=3.9						

MAN 15 14:02:51, 12°.72N×125°.13E, h20km, mb4.7, ML3.6, MS3.6, 2D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNP	Catarman	0.51	245	eP	Pn	14 03 02.9	-0.2
CNP				eS	Sn	14 03 13.1	+1.9
PVCP	Virac	1.29	312	eP	Pn	14 03 13.8	-0.1
PLP	Palo	1.56	186	⇓eP	Pn	14 03 17.5	-0.1
PLP				eS	Sb	14 03 38.5	+0.1
OCLP	Ormoc	1.74	197	eP	Pb	14 03 21.9	-0.3
MSLP	Maasin	2.59	186	eP	Pn	14 03 34.2	+2.4
MSLP				eS	Sn	14 04 02.6	0.0
RCO	Roxas	2.61	244	⇓eP	Pn	14 03 34.4	+2.3
GUIM	Jordan	3.25	230	eP	Pn	14 03 42.7	+1.9
CUYO	Cuyo Island	4.44	246	eP	Pn	14 04 01.2	+3.9

GUC 15 14:09:35.6±0.9, 31°.52S×71°.09W, h30km±5km, MD3.5, ML3.4, 4C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	Combarbala	0.35	12	⇑iP	Pb	14 09 44.0	+0.1
CMCH				i S	Sn	14 09 51.7	+0.8
CMCH				AML	AML	14 09 52.4	
	comp=E,10μm,0.3s						
PACH	Papudo	1.06	196	⇑iP	Pn	14 09 54.3	-0.2
PACH				i S	Sb	14 10 09.2	+0.1
JACH	Jahuel	1.23	160	⇑iP	Pn	14 09 57.0	0.0
JACH				i S	Sb	14 10 14.1	-0.1
ROCH	El Roble	1.45	177	eP	Pn	14 09 59.3	-0.9
ROCH				i S	Sn	14 10 19.1	+0.7
ROCH				AML	AML	14 10 24.0	
	comp=E,553nm,0.4s						
PEL	Peldehue	1.66	168	⇓iP	Pn	14 10 03.8	+1.0
PEL				i S	Sb	14 10 25.1	-1.1
PEL				AML	AML	14 10 27.3	
	comp=N,787nm,0.3s						
CLCH	Cerro Calan	1.93	166	eP	Pn	14 10 06.6	+0.1
CLCH				i S	Sn	14 10 31.5	+1.6
CLCH				AML	AML	14 10 38.7	
	comp=E,296nm,0.4s						
CHCH	Chadas Angostu	2.44	171	eP	Pn	14 10 14.5	+1.0
LMEL	Las Melosas	2.44	162	⇑iP	Pn	14 10 15.0	+1.4
LMEL				i S	Sn	14 10 45.4	+2.7
LMEL				AML	AML	14 10 49.6	
	comp=N,268nm,0.2s						
CACH	El Canelo	2.62	171	eP	Pn	14 10 17.3	+1.2
CACH				i S	Sn	14 10 49.0	+1.8

*ISCJB **15** 14:17:26.6±0.7, 28°.58N±0°.06×139°.1E±0°.1, h448km, mb3.1/3, Error ellipse: s-maj=15.3km s-min=7.5km az=174.0*
*JMA **15** 14:17:26.9±0.1, 28°.71N×140°.05E, h503km, M3.4*
*IDC **15** 14:17:27.9±0.9, 28°.51N×139°.34E, h455km±36km, mb2.8/3, mb1 3.0/7, mb1mx2.7/25, mbtmp2.9/7, Error ellipse: s-maj=89.4km s-min=13.9km az=70.0*

ISC 15 14:17:27.8±0.9, 28°.64N±0°.08×139°.3E±0°.1, h448km, n15, σ1§82/18, mb2.9/3, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	2.99	120	P	P	14 18 35.3	+0.7
CBIJ				eS	S	14 19 29.8	+1.0
CBIJ	Chichi jima	2.99	120	P	P	14 18 34.5	-0.1
	25nm,0.3s,baz=310,slow=23,SNR=9.3						
CBIJ				S	S	14 19 28.9	+0.1
	71nm,0.3s,baz=285,slow=23,SNR=20						
JIE	Ise	6.14	340	P	P	14 19 08.0	+4.7
JKN2	Miekihoku	6.15	336	P	P	14 19 07.7	+4.3
BSO3	Boso 3	6.23	9	eS	S	14 20 22.3	-0.4
JRY	Ryogami san	7.36	358	P	P	14 19 17.5	+1.3
JAG	Ashikaga	7.76	1	P	P	14 19 20.7	+0.2
JAG				eS	S	14 20 48.0	-4.9
MJAR	Matsushiro Arr	7.93	354	P	P	14 19 23.9	+1.6
	0.5nm,0.3s,baz=169,slow=11,SNR=5.0						
JHO	Hitachi	8.02	7	P	P	14 19 24.0	+0.8
JHO				eS	S	14 20 55.8	-2.2
JFK	Kawauchi	8.80	8	P	P	14 19 33.5	+1.8
JFK				eS	S	14 21 12.8	-0.9
KSRS	Korea Array	12.96	316	P	P	14 20 17.5	+0.7
	0.2nm,0.3s,baz=129,slow=9.9,SNR=6.5						
USRK	Ussuriysk Arra	16.59	341	P	P	14 20 57.8	+2.2
	0.5nm,0.3s,baz=142,slow=7.2,SNR=7.1						
WRA	Warramunga Arr	48.54	186	P	P	14 25 27.3	-1.5
	1.7nm,0.4s,baz=3.0,slow=7.7,SNR=54						
KURBB	Kurchatov Arra	50.13	314	P	P	14 25 40.7	+0.5
	0.1nm,0.4s,baz=96,slow=8.0,SNR=3.1						
ASAR	Alice Springs	52.26	186	P	P	14 25 54.6	-1.5
	0.3nm,0.4s,baz=2.7,slow=7.2,SNR=22	

*IDC **15** 14:43:58.9±2.7, 27°.48N×57°.88E, h0km, mb3.7/5, mb1 3.7/5, mb1mx3.4/29, mbtmp3.7/5, Error ellipse: s-maj=62.3km s-min=25.9km az=151.0*
*ISCJB **15** 14:44:07.7±0.6, 27°.84N±0°.03×57°.43E±0°.08, h30km, mb3.6/5, Error ellipse: s-maj=10.2km s-min=4.6km az=10.7*
*TEH **15** 14:44:08.0, 28°.03N×57°.37E, h16km, ML3.6*
*CSEM **15** 14:44:08.3±0.2, 27°.79N×57°.46E, h20km, ML3.6, Error ellipse: s-maj=7.8km s-min=3.5km az=100.0*
*THR **15** 14:44:10.4±0.3, 28°.05N×57°.14E, h27km±3km, ML3.5*
*OMAN **15** 14:44:20.4±99.0, 26°.72N×57°.23E, h0km±96km, Error ellipse: s-maj=288.1km s-min=20.2km az=25.0*

ISC 15 14:44:08.6±1.0, 27°.81N±0°.04×57°.51E±0°.07, h30km, n54, σ1§31/56, mb3.9/5, 1C-2D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBND	**Bandar-abas**	**0.94**	**248**	*e*Pg	**Pb**	**14 44 26.8**	**+0.5**
IBND				*e*Sg	**Sb**	**14 44 42.1**	**+3.8**
IBND				*e*		14 44 58.4	
	comp=Z,43μm,0.2s						
IBND	**Bandar-abas**	**0.94**	**248**	*e*Pg	**Pb**	**14 44 26.8**	**+0.5**
IBND				*e*Sg	**Sb**	**14 44 42.1**	**+3.8**
BNDS	**Bandar-Abbas**	**1.26**	**251**	*e*Pg	**Pn**	**14 44 30.4**	**+0.1**
BNDS				AML	AML	14 44 53.4	
	comp=N,1μm,0.4s						
BNDS				AML	AML	14 44 59.4	
	comp=E,987nm,0.4s						
BNDS	**Bandar-Abbas**	**1.26**	**251**	*e*Pg	**Pn**	**14 44 30.4**	**+0.1**
BANOM	**Banah**	**2.17**	**210**	P	**Pn**	**14 44 42.3**	**-0.4**
	SNR=115						
BANOM				⇓P	**Pn**	**14 44 42.8**	**+0.1**
BANOM	**Banah**	**2.17**	**210**	P	**Pn**	**14 44 42.8**	**+0.1**
BANOM				S	**Sn**	**14 45 10.3**	**+1.7**
KRBR	**Kerman**	**2.27**	**343**	*e*Pg	**Pn**	**14 44 45.6**	**+1.3**
KRBR				AML	AML	14 45 23.8	
	comp=E,345nm,0.6s						
KRBR				AML	AML	14 45 24.0	
	comp=N,332nm,0.4s						
KRBR	**Kerman**	**2.27**	**343**	*e*Pg	**Pn**	**14 44 45.6**	**+1.3**
HATD	**Hatta, Dubai**	**3.22**	**203**	⇑P	**Pn**	**14 44 54.8**	**-2.3**
HATD	**Hatta, Dubai**	**3.22**	**203**	P	**Pn**	**14 44 55.9**	**-1.2**
NAZ	**Nazwa, Dubai**	**3.26**	**211**	⇓P	**Pn**	**14 44 58.5**	**+0.8**
NAZ	**Nazwa, Dubai**	**3.26**	**211**	P	**Pn**	**14 44 57.2**	**-0.5**
ASHO	**Ashiyiah**	**3.38**	**203**	P	**Pn**	**14 44 60.0**	**+0.7**
	SNR=30						
ASHO	**Ashiyiah**	**3.38**	**203**	P	**Pn**	**14 45 00.0**	**+0.7**
	SNR=30						
FAQ	**Al Faqa, Dubai**	**3.50**	**210**	P	**Pn**	**14 45 00.9**	**-0.2**
ASUD	**Al Ashush, Dub**	**3.73**	**212**	P	**Pn**	**14 45 05.0**	**+0.9**
	SNR=22						
ASUD	**Al Ashush, Dub**	**3.73**	**212**	P	**Pn**	**14 45 04.5**	**+0.4**
GHIR	**Ghir-Karzin**	**4.03**	**278**	*e*Pn	**Pn**	**14 45 07.8**	**-0.6**
GHIR	**Ghir-Karzin**	**4.03**	**278**	*e*Pn	**Pn**	**14 45 07.8**	**-0.6**
IBAF	**Bafgh**	**4.13**	**336**	*e*Pn	**Pn**	**14 45 10.1**	**+0.3**
IBAF				*e*		14 45 26.4	
	comp=Z,707nm,0.2s						
IBAF	**Bafgh**	**4.13**	**336**	*e*Pn	**Pn**	**14 45 10.1**	**+0.3**
ISRV	**Sarvestan**	**4.17**	**293**	*e*Pn	**Pn**	**14 45 10.7**	**+0.1**
ISRV				*e*		14 46 11.8	
	comp=Z,776nm,0.1s						
ISRV	**Sarvestan**	**4.17**	**293**	*e*Pn	**Pn**	**14 45 10.7**	**+0.1**
IMEH	**Mehriz**	**4.37**	**325**	*e*Pn	**Pn**	**14 45 13.7**	**+0.5**
IMEH				*e*		14 45 32.5	
	comp=Z,420nm,0.1s						
IMEH	**Mehriz**	**4.37**	**325**	*e*Pn	**Pn**	**14 45 13.7**	**+0.5**
ARQ	**Araqi**	**4.54**	**192**	P	**Pn**	**14 45 15.2**	**-0.2**
	SNR=30						
ARQ	**Araqi**	**4.54**	**192**	P	**Pn**	**14 45 15.2**	**-0.2**
	SNR=30						
ICHK	**Chekchek**	**5.18**	**329**	*e*Pn	**Pn**	**14 45 24.6**	**+0.4**
ICHK				*e*		14 45 54.9	
	comp=Z,299nm,0.3s						
ICHK	**Chekchek**	**5.18**	**329**	*e*Pn	**Pn**	**14 45 24.6**	**+0.4**
ITEG	**Tejag**	**5.18**	**12**	*e*Pn	**Pn**	**14 45 25.4**	**+1.1**
ITEG				*e*		14 45 49.0	
	comp=Z,388nm,0.2s						
ITEG	**Tejag**	**5.18**	**12**	*e*Pn	**Pn**	**14 45 25.4**	**+1.1**
ISAD	**Sadrabad**	**5.27**	**322**	*e*Pn	**Pn**	**14 45 26.3**	**+0.7**
ISAD				*e*		14 45 31.5	
	comp=Z,289nm,0.2s						
ISAD	**Sadrabad**	**5.27**	**322**	*e*Pn	**Pn**	**14 45 26.3**	**+0.7**
IDAH	**Dahanechah**	**5.32**	**22**	*e*Pn	**Pn**	**14 45 28.0**	**+1.8**
IDAH				*e*		14 46 02.2	
	comp=Z,292nm,0.2s						
IDAH	**Dahanechah**	**5.32**	**22**	*e*Pn	**Pn**	**14 45 28.0**	**+1.8**
IKAZ	**Kazeroun**	**5.35**	**293**	*e*Pn	**Pn**	**14 45 26.3**	**-0.5**
IKAZ				*e*		14 46 37.7	
	comp=Z,1μm,0.2s						
IKAZ	**Kazeroun**	**5.35**	**293**	*e*Pn	**Pn**	**14 45 26.3**	**-0.5**
IMON	**Monand**	**5.68**	**19**	*e*Pn	**Pn**	**14 45 32.9**	**+1.8**
IMON				*e*		14 46 01.1	
	comp=E,580nm,0.1s						
IMON	**Monand**	**5.68**	**19**	*e*Pn	**Pn**	**14 45 32.9**	**+1.8**
TABS	**Tabas**	**5.83**	**357**	*e*Pn	**Pn**	**14 45 34.0**	**+0.9**
TABS	**Tabas**	**5.83**	**357**	*e*Pn	**Pn**	**14 45 34.0**	**+0.9**
IZEF	**Zefreh**	**6.76**	**320**	*e*Pn	**Pn**	**14 45 46.0**	**-0.1**
IZEF				*e*		14 45 46.2	
	comp=Z,200nm,0.2s						
IZEF	**Zefreh**	**6.76**	**320**	*e*Pn	**Pn**	**14 45 46.0**	**-0.1**
IKLH	**Kolahrood**	**7.51**	**318**	*e*Pn	**Pn**	**14 45 56.6**	**+0.3**
IKLH				*e*		14 45 58.1	
	comp=Z,104nm,0.1s						
IKLH	**Kolahrood**	**7.51**	**318**	*e*Pn	**Pn**	**14 45 56.6**	**+0.3**
QRN	**Al-Qurain**	**8.51**	**279**	*e*P	**Pn**	**14 46 08.0**	**-1.9**
QRN				AML	AML	14 47 41.4	
	comp=Z,27nm,0.3s						
UMR	**Umm Al-Rimmam**	**8.78**	**284**	*e*P	**Pn**	**14 46 12.2**	**-1.3**
RDF	**Al-Radifah**	**8.85**	**280**	*e*P	**Pn**	**14 46 12.8**	**-1.6**
RDF				AML	AML	14 47 50.2	
	comp=Z,14nm,0.4s						
NAY	**Al-Naaiem**	**9.15**	**281**	*e*P	**Pn**	**14 46 16.8**	**-1.7**
NAY				AML	AML	14 47 57.7	
	comp=Z,5.0nm,0.3s						
AKTO	**Aktyubinsk**	**22.60**	**1**	P	**P**	**14 49 04.4**	**-2.2**
	comp=Z,0.6nm,0.5s,baz=181,slow=14,SNR=2.5						
BRTR	**Keskin Array B**	**23.06**	**307**	P	**P**	**14 49 10.7**	**-1.0**
	comp=Z,3.2nm,0.9s,baz=122,slow=10,SNR=14						
MKAR	**Makanchi Array**	**27.16**	**39**	P	P	14 49 43.8	-5.4
	comp=Z,0.4nm,0.7s,baz=231,slow=7.7,SNR=4.2						
ZALV	**Zalesovo Beam**	**32.91**	**30**	P	P	14 50 36.2	-3.8
	comp=Z,0.5nm,0.3s,baz=239,slow=10.0,SNR=2.2						
TORD	**Torodi Ar. Bea**	**53.87**	**266**	P	**P**	**14 53 26.4**	**-3.0**
	comp=Z,0.5nm,0.4s,baz=66,slow=7.4,SNR=8.5						

*BJI **15** 14:55:11.6, 0°.10S×126°.56E, h10km, mB5.0/17, mb4.6/28, Ms4.6/11, Ms7 4.3/12*
*IDC **15** 14:55:17.8±0.6, 0°.75N×126°.34E, h0km, mb4.3/17, mb1 4.5/19, mb1mx4.4/25, mbtmp4.3/19, ML4.3/2, Error ellipse: s-maj=21.8km s-min=12.0km az=84.0*
*ISCJB **15** 14:55:22.8±0.3, 0°.72N±0°.03×126°.29E±0°.04, h47km, mb4.5/34, MS4.1/4, Error ellipse: s-maj=5.2km s-min=4.7km az=23.3*
*NEIC **15** 14:55:22.4±3.8, 0°.76N×126°.35E, h31km±28km, mb4.5/9, Error ellipse: s-maj=12.4km s-min=7.0km az=68.0*
*DJA **15** 14:55:23.7±0.7, 1°.N±6°×12°.6E±°, h55km±21km, M4.7/9, mb5.0/5, mB5.0/4, MLv4.6/9, Mw(mB)4.3/4*

ISC 15 14:55:24.7±0.4, 0°.66N±0°.05×126°.34E±0°.05, h47km, n72, σ1§38/90, mb4.5/34, MS4.2/4, 1D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.03**	**84**	P	**Pn**	**14 55 41.9**	**-0.9**
TNTI				S	**Sn**	**14 55 57.4**	**+1.2**
LBMI	**Labuha**	**1.74**	**138**	P	**Pn**	**14 55 52.6**	**+0.1**
SGSI	**Sangihe**	**3.11**	**345**	P	Pn	14 56 07.1	-4.2
LUWI	**Luwuk**	**3.95**	**245**	P	**Pn**	**14 56 23.6**	**+0.8**
MRSI	**Marisa**	**4.40**	**268**	P	**Pn**	**14 56 27.8**	**-1.3**
AAI	**Ambon**	**4.70**	**157**	P	**Pn**	**14 56 34.9**	**+1.7**
APSI	**Ampana**	**4.94**	**252**	P	**Pn**	**14 56 36.6**	**+0.1**
	448nm,0.9s,4μm1.6nm						
CTBH	**Cotabato--PC H**	**6.84**	**342**	⇓*i*P	**Pn**	**14 57 01.9**	**-0.6**
BNSI	**Bone**	**8.01**	**231**	P	**Pn**	**14 57 18.7**	**+0.2**
	73nm,0.8s						
SPSI	**Sidrap Palu**	**8.02**	**235**	P	**Pn**	**14 57 18.6**	**-0.1**
	77nm,0.6s,1μm						
BKSI	**Bulukumba**	**8.60**	**226**	P	**Pn**	**14 57 27.9**	**+1.3**
	60nm,0.5s,793nm						
KAPI	**Kappang**	**8.67**	**229**	*e*P	**Pn**	**14 57 27.1**	**-0.5**
	33nm,0.6s						
KAPI				Sn	**Sn**	**14 59 05.9**	**+1.9**
KAPI	**Kappang**	**8.67**	**229**	P	**Pn**	**14 57 27.6**	**0.0**
KAPI	**Kappang**	**8.67**	**229**	Pn	**Pn**	**14 57 27.0**	**-0.6**
	7.3nm,0.3s,baz=27,slow=5.4,SNR=26						
KAPI				Sn	**Sn**	**14 59 05.9**	**+1.9**
	0.7nm,0.3s,baz=248,slow=19,SNR=2.9						
KSM	**Kuching**	**16.05**	**273**	*e*P	**Pn**	**14 59 07.2**	**-0.2**
	27nm,0.8s						
FITZ	**Fitzroy Crossi**	**18.66**	**182**	P	**P**	**14 59 38.0**	**-0.9**
FITZ	**Fitzroy Crossi**	**18.66**	**182**	P	**P**	**14 59 38.0**	**-0.9**
	0.5nm,0.3s,baz=6.6,slow=11,SNR=11						
WRAB	**Tennant Creek**	**21.92**	**159**	*e*P	**P**	**15 00 13.7**	**-0.6**
	22nm,0.6s						
WRA	**Warramunga Arr**	**21.93**	**159**	P	**P**	**15 00 13.8**	**-0.6**
WRA	**Warramunga Arr**	**21.93**	**159**	P	**P**	**15 00 13.8**	**-0.6**
	12nm,0.6s,baz=336,slow=10,SNR=106						
TPUB	**Ta-pu**	**23.18**	**347**	*e*P	**P**	**15 00 23.5**	**-3.9**
	17nm,0.7s						
QIZ	**Qiongzhong**	**24.39**	**319**	P	**P**	**15 00 37.6**	**-1.2**
QIZ				S	**S**	**15 04 59.3**	**+3.8**
QIZ				pmax	pmax		
	comp=Z,32nm,2.2s						
AS31	**Alice Springs**	**25.28**	**164**	*e*P	**P**	**15 00 47.5**	**+0.6**
ASAR	**Alice Springs**	**25.28**	**164**	P	**P**	**15 00 47.8**	**+0.9**
ASAR	**Alice Springs**	**25.28**	**164**	P	**P**	**15 00 47.8**	**+0.9**
	comp=Z,6.7nm,0.4s,baz=348,slow=14,SNR=92						
IPM	**Ipoh**	**25.57**	**279**	*e*P	**P**	**15 00 47.7**	**-1.9**
	comp=Z,20nm,0.9s						
PSI	**Prapat**	**27.48**	**275**	P	**P**	**15 01 05.2**	**-1.9**
PSI	**Prapat**	**27.48**	**275**	P	**P**	**15 01 05.2**	**-1.9**
	comp=Z,3.7nm,0.6s,baz=113,slow=15,SNR=3.4						
GYA	**Guiyang**	**31.88**	**325**	*e*P	**P**	**15 01 44.8**	**-1.0**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
NJ2	**Nanjing**	**32.01**	**348**	*e*P	**P**	**15 01 46.3**	**-0.4**
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
JNU	**Nakatsue**	**32.57**	**7**	P	**P**	**15 01 51.2**	**-0.5**
JNU	**Nakatsue**	**32.57**	**7**	P	**P**	**15 01 51.2**	**-0.5**
	comp=Z,6.6nm,0.9s,baz=148,slow=2.6,SNR=4.4						
KMI	**Kunming**	**33.33**	**319**	P	**P**	**15 01 59.0**	**+0.3**
KMI				pmax	pmax		
	comp=Z,9.0nm,2.0s						
STKA	**Stephens Creek**	**35.44**	**157**	*e*P	**P**	**15 02 16.5**	**-0.1**
	comp=Z,1.6nm,0.7s						
STKA	**Stephens Creek**	**35.44**	**157**	P	**P**	**15 02 16.0**	**-0.6**
	comp=Z,8.5nm,0.7s,baz=328,slow=7.8,SNR=24						
KSAR	**Wonju Array Be**	**36.63**	**2**	P	**P**	**15 02 26.2**	**-0.4**
KSRS	**Korea Array**	**36.64**	**2**	P	**P**	**15 02 26.2**	**-0.5**
	comp=Z,2.3nm,0.6s,baz=180,slow=9.6,SNR=15						
CD2	**Chengdu**	**36.92**	**327**	P	**P**	**15 02 29.3**	**-0.1**
CD2				pP	pP	15 02 33.9	-8.0
CD2				sP	sP	15 02 36.6	-11
CD2				PP	**PnPn**	**15 03 55.4**	**+0.7**
CD2				S	**S**	**15 08 13.3**	**+2.0**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				pmax	pmax		
	comp=Z,70nm,3.6s						
CD2				LR	LR		
	comp=N,450nm,4.1s						
CD2				LR	LR		
	comp=Z,300nm,4.9s						
MAT	**Matsushiro**	**37.36**	**16**	P	**P**	**15 02 31.4**	**-1.5**
MJAR	**Matsushiro Arr**	**37.36**	**16**	P	**P**	**15 02 31.3**	**-1.6**
MJAR	**Matsushiro Arr**	**37.36**	**16**	P	**P**	**15 02 31.3**	**-1.6**
	comp=Z,3.1nm,0.8s,baz=194,slow=9.7,SNR=9.9						
LZH	**Lanzhou**	**40.97**	**332**	*e*P	**P**	**15 03 04.0**	**+0.7**
LZH				pP	pP	15 03 08.5	-7.4
LZH				sP	sP	15 03 11.3	-10
LZH				*e*PP	**PnPn**	**15 04 42.3**	**-0.7**
LZH				pmax	pmax		
	comp=Z,20nm,1.3s						
LZH				pmax	pmax		
	comp=Z,49nm,5.6s						
LZH				LR	LR		
	comp=N,280nm,13.2s						
LZH				LR	LR		
	comp=E,280nm,13.5s						
LZH				LR	LR		
	comp=Z,360nm,17.6s						
HHC	**Hu-ho-hao-te**	**42.19**	**343**	*e*P	**P**	**15 03 12.9**	**-0.2**
HHC				sP	sP	15 03 21.0	-10
HHC				PP	**PP**	**15 04 53.6**	**+2.1**
HHC				S	**S**	**15 09 31.9**	**+1.9**
HHC				ScS	**ScS**	**15 13 13.1**	**+1.6**
HHC				pmax	pmax		
	comp=Z,37nm,0.6s						
HHC				pmax	pmax		
	comp=Z,110nm,4.6s						
HHC				LR	LR		
	comp=N,260nm,16.7s						
HHC				LR	LR		
	comp=E,200nm,17.8s						
HHC				LR	LR		
	comp=Z,200nm,17.8s						
CN2	**Changchun**	**42.96**	**359**	*e*P	**P**	**15 03 19.9**	**+0.8**
CN2				*e*sP	sP	15 03 27.0	-10
CN2				*e*S	**S**	**15 09 44.0**	**+3.0**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,100nm,3.0s						
CN2				LR	LR		
	comp=N,200nm,14.0s						
CN2				LR	LR		
	comp=E,200nm,14.0s						
CN2				LR	LR		
	comp=Z,300nm,15.0s						
USRK	**Ussuriysk Arra**	**43.64**	**6**	P	**P**	**15 03 23.2**	**-1.4**
	comp=Z,4.1nm,0.7s,baz=190,slow=5.3,SNR=9.8						
MDJ	**Mudanjiang**	**43.86**	**3**	P	**P**	**15 03 27.8**	**+1.4**
MDJ				pP	pP	15 03 29.9	-9.3
MDJ				sP	sP	15 03 32.5	-12
MDJ				PP	**PcP**	**15 05 10.5**	**-1.6**
MDJ				PcP	**PP**	**15 05 12.5**	**+3.2**
MDJ				S	**S**	**15 09 58.3**	**+4.1**
MDJ				pmax	pmax		
	comp=Z,10.0nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,44nm,6.9s						
MDJ				LR	LR		
	comp=N,48nm,5.1s						
MDJ				LR	LR		
	comp=E,47nm,6.1s						
MDJ				LR	LR		
	comp=Z,82nm,7.9s						
DZM	**Mont Dzumac**	**45.16**	**123**	P	**P**	**15 03 37.3**	**0.0**
DZM	**Mont Dzumac**	**45.16**	**123**	P	**P**	**15 03 37.3**	**0.0**
	comp=Z,7.7nm,0.8s,baz=134,slow=11,SNR=4.1						
GTA	**Gaotai**	**45.54**	**331**	*e*P	**P**	**15 03 40.8**	**+0.7**
GTA				pP	pP	15 03 45.3	-7.6
GTA				sP	sP	15 03 48.0	-10
GTA				PcP	**PcP**	**15 05 19.9**	**+1.7**
GTA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ULN	**Ulaanbaatar**	**49.91**	**343**	*e*P	**P**	**15 04 12.8**	**-1.0**
	comp=Z,3.3nm,0.8s						
SONM	**Songino Array**	**50.07**	**343**	P	**P**	**15 04 13.7**	**-1.3**
SONM	**Songino Array**	**50.07**	**343**	P	**P**	**15 04 13.7**	**-1.3**
	comp=Z,0.9nm,0.6s,baz=155,slow=9.7,SNR=8.3						
WMQ	**Urumqi**	**55.02**	**327**	*e*P	**P**	**15 04 51.4**	**-0.3**
WMQ				pP	pP	15 04 56.0	-8.8
WMQ				sP	sP	15 04 58.4	-12
WMQ				PcP	**PcP**	**15 05 53.6**	**+0.7**
WMQ				pmax	pmax		
	comp=Z,11nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,120nm,4.2s						
WMQ				LR	LR		
	comp=E,54nm,18.2s						
WMQ				LR	LR		
	comp=Z,46nm,20.3s						
PETK	**Petropavlovsk-**	**58.40**	**22**	P	**P**	**15 05 14.2**	**-1.2**
PETK	**Petropavlovsk-**	**58.40**	**22**	P	**P**	**15 05 14.2**	**-1.2**
	comp=Z,2.1nm,0.6s,baz=194,slow=6.2,SNR=4.5						
KSH	**Kashi**	**59.95**	**317**	*e*P	**P**	**15 05 27.1**	**+0.5**
KSH				pP	pP	15 05 31.6	-8.2
KSH				PcS	**PcS**	**15 10 14.1**	**-0.7**
KSH				S	**S**	**15 13 36.3**	**+0.6**
KSH				ScS	**ScS**	**15 15 13.3**	**-0.2**
KSH				pmax	pmax		
	comp=Z,80nm,6.6s						
KSH				LR	LR		
	comp=N,57nm,4.8s						
KSH				LR	LR		
	comp=E,70nm,5.2s						
KSH				LR	LR		
	comp=Z,92nm,6.2s						
ZALV	**Zalesovo Beam**	**63.14**	**334**	P	**P**	**15 05 48.0**	**+0.5**
ZALV	**Zalesovo Beam**	**63.14**	**334**	P	**P**	**15 05 48.0**	**+0.5**
	comp=Z,1.0nm,0.3s,baz=164,slow=7.7,SNR=4.0						
CASY	**Casey**	**67.75**	**187**	*e*P	**P**	**15 06 17.2**	**+0.1**
	comp=Z,2.9nm,0.9s						
ABKAR	**Akbulak array**	**74.28**	**321**	*e*P	**P**	**15 06 55.8**	**-1.3**
	comp=Z,1.4nm,0.6s						
VNDA	**Vanda**	**80.45**	**173**	*e*P	**P**	**15 07 31.6**	**+0.5**
	comp=Z,14nm,1.8s						
VNDA	**Vanda**	**80.45**	**173**	P	**P**	**15 07 31.8**	**+0.7**
	comp=Z,2.5nm,1.0s,baz=305,slow=5.9,SNR=12						
KBZ	**Khabaz**	**84.80**	**314**	P	**P**	**15 07 55.0**	**+0.7**
KBZ	**Khabaz**	**84.80**	**314**	P	**P**	**15 07 55.0**	**+0.7**
	comp=Z,2.4nm,0.8s,baz=174,slow=5.9,SNR=4.3						
ILAR	**Eielson Array**	**88.02**	**25**	P	**P**	**15 08 07.5**	**-2.2**
ILAR	**Eielson Array**	**88.02**	**25**	P	**P**	**15 08 07.5**	**-2.2**
	comp=Z,0.3nm,0.8s,baz=183,slow=7.2,SNR=3.9						
BRTR	**Keskin Array B**	**91.66**	**310**	P	**P**	**15 08 25.9**	**-1.6**
BRTR	**Keskin Array B**	**91.66**	**310**	P	**P**	**15 08 25.9**	**-1.6**
	comp=Z,0.5nm,0.7s,baz=38,slow=49,SNR=2.6						
ARCES	**ARCESS Array B**	**93.17**	**340**	P	**P**	**15 08 33.4**	**-0.2**
ARCES	**ARCESS Array B**	**93.17**	**340**	P	**P**	**15 08 33.4**	**-0.2**
	comp=Z,2.5nm,0.8s,baz=92,slow=11,SNR=5.2						
TORD	**Torodi Ar. Bea**	**123.44**	**286**	PKP	**PKPdf**	**15 14 17.4**	**-0.5**
TORD	**Torodi Ar. Bea**	**123.44**	**286**	PKP	**PKPdf**	**15 14 17.4**	**-0.5**
	comp=Z,0.9nm,0.8s,baz=22,slow=1.9,SNR=4.7						

GUC 15 14:59:56.0±0.3, 22°.53S×66°.59W, h270km, ML3.9, 1C-1D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB04	**Plate Boundary**	**2.70**	**275**	*i*P	Pn	15 00 56.0	+9.4
PB04				*i*S	S	15 01 41.8	+15
PB04				AML	AML	15 01 44.5	
	comp=N,76nm,0.2s						
PB01	**Plate Boundary**	**3.08**	**298**	⇓*i*P	Pn	15 00 53.3	+2.6
PB01				*i*S	S	15 01 36.9	+2.6
PB01				AML	AML	15 01 38.8	
	comp=E,96nm,0.3s						
PB07	**Plate Boundary**	**3.16**	**284**	⇑*i*P	Pn	15 00 54.4	+2.7
PB07				*i*S	S	15 01 38.5	+2.5
PB07				AML	AML	15 01 40.4	
	comp=N,93nm,0.3s						
ANCH	**Antofagasta**	**3.70**	**251**	*i*P	Pn	15 01 00.2	+2.9
ANCH				*i*S	S	15 01 49.5	+3.3
PB10	**Plate Boundary**	**3.78**	**254**	*e*P	Pn	15 01 00.8	+2.5
PB10				*i*S	S	15 01 50.6	+2.6

NNC 15 15:03:54.0±5.2, 44°.41N×81°.61E, h0km, mb3.9, mpv3.3, 4C-4D, Error ellipse: s-maj=62.6km s-min=23.5km az=132.0, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**2.44**	**11**	⇓Pn	Pn	15 04 35.6	+0.5
	2.9nm,0.3s,baz=189,slow=15,SNR=5.1						
MK31				⇑Lg	Lg	15 05 13.4	
	6.0nm,0.4s,baz=187,slow=29,SNR=4.6						
TKM2	**Tokmak 2**	**4.61**	**253**	⇓Pg	Pg	15 05 20.4	-2.3
	2.2nm,0.6s						
TKM2				⇓Lg	Lg	15 06 22.5	
	4.1nm,0.5s						
KURBB	**Kurchatov Arra**	**6.56**	**343**	⇑Pg	Pb	15 05 51.9	+3.0
	3.4nm,0.5s						
KURBB				⇓Lg	Lg	15 07 27.5	
	8.2nm,0.7s						
VOSK	**Vostochnaya**	**10.89**	**324**	⇑P	Pn	15 06 27.3	-3.8
	3.1nm,0.6s						
BVA0	**Borovoye Array**	**11.36**	**323**	⇑P	Pn	15 06 32.7	-4.8
	2.0nm,0.6s,baz=120,slow=8.2,SNR=11						

*NEIC **15** 15:22:56.2±0.3, 16°.62S×72°.35W, mb4.6/4, Error ellipse: s-maj=8.7km s-min=6.1km az=56.0*
NEIC Felt [II] at Aplao and Camana.
*IDC **15** 15:22:56.1±0.7, 16°.68S×72°.38W, h68km±5km, mb3.9/11, mb1 4.1/15, mb1mx4.0/22, mbtmp3.9/15, Error ellipse: s-maj=19.9km s-min=14.3km az=45.0*

ISC 15 15:22:56.4±0.4, 16°.74S±0°.07×72°.59W±0°.08, h76km, n62, σ1§74/65, mb4.4/16, 1C, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.30**	**85**	P	**Pn**	**15 24 02.6**	**+2.6**
LPAZ	**La Paz**	**4.30**	**85**	P	**Pn**	**15 24 02.6**	**+2.6**
	56nm,0.3s,baz=276,slow=10,SNR=1014						
NNA	**Nana**	**6.26**	**318**	*e*P	**Pn**	**15 24 26.5**	**+0.2**
	41nm,0.4s						
NNA				S	**Sn**	**15 25 31.8**	**-4.7**
NNA	**Nana**	**6.26**	**318**	P	**Pn**	**15 24 26.9**	**+0.6**
	9.4nm,0.3s,baz=139,slow=9.8,SNR=10						
NNA				S	**Sn**	**15 25 31.8**	**-4.7**
	7.0nm,0.3s,baz=177,slow=18,SNR=2.0						
LVC	**Limon Verde**	**6.80**	**150**	*e*P	**Pn**	**15 24 33.3**	**-0.5**
	102nm,0.3s						
LVC				*e*S	**Sn**	**15 25 45.5**	**-4.3**
SIV	**San Ignacio**	**11.09**	**88**	P	Pn	15 25 28.6	-3.5
SIV	**San Ignacio**	**11.09**	**88**	P	Pn	15 25 28.6	-3.5
	1.5nm,0.3s,baz=276,slow=13,SNR=17						
SAML	**Samuel**	**12.00**	**51**	*e*P	Pn	15 25 40.6	-4.0
	10nm,0.7s						
CFAA	**Coronel Fontan**	**15.32**	**166**	P	**Pn**	**15 26 29.7**	**+1.3**
CFAA	**Coronel Fontan**	**15.32**	**166**	P	**Pn**	**15 26

0.3nm,0.3s,baz=256,slow=5.2,SNR=2.6
ESDC pP **pP** **15 35 43.5 -0.7**
2.7nm,0.8s,baz=261,slow=5.6,SNR=2.9
YKA Yellowknife Ar 85.58 342 P **P** **15 35 26.1 +0.2**
YKA Yellowknife Ap 85.58 342 P **P** **15 35 26.1 +0.2**
2.9nm,0.6s,baz=138,slow=5.7,SNR=6.7
MAW Mawson 89.85 164 P **P** **15 35 47.8 +1.3**
MAW Mawson 89.85 164 P **P** **15 35 47.8 +1.3**
2.1nm,0.7s,baz=264,slow=10,SNR=4.2
SUMG Summit 91.95 10 *i* P **P** **15 35 57.5 +1.1**
5.7nm,0.9s
ASAR Alice Springs 132.22 214 PKP **PKPdf** **15 42 02.2 -0.2**
ASAR Alice Springs 132.22 214 PKP **PKPdf** **15 42 02.2 -0.2**
0.6nm,0.6s,baz=133,slow=1.7,SNR=20
WRA Warramunga Arr 134.96 217 PKP **PKPdf** **15 42 08.1 +0.4**
WRA Warramunga Arr 134.96 217 PKP **PKPdf** **15 42 08.1 +0.4**
1.5nm,0.7s,baz=148,slow=1.9,SNR=20
ZALV Zalesovo Beam 138.92 20 PKP **PKPdf** **15 42 15.0 +1.2**
ZALV Zalesovo Beam 138.92 20 PKP **PKPdf** **15 42 15.0 +1.2**
1.7nm,0.6s,baz=270,slow=3.0,SNR=6.7
MK31 Makanchi Array 143.52 29 *e*PKPpre PKPpre 15 42 19.8
MKAR Makanchi Array 143.52 29 PKP PKPbc 15 42 20.3 +0.4
MKAR Makanchi Array 143.52 29 PKP PKPbc 15 42 20.3 +0.4
0.6nm,0.7s,baz=323,slow=4.1,SNR=10.0
USRK Ussuriysk Arra 145.64 328 PKPbc **PKPab** **15 42 26.8 -0.1**
1.7nm,0.6s,baz=42,slow=3.1,SNR=4.9
MJAR Matsushiro Arr 146.35 312 PKPbc **PKPbc** **15 42 28.5 -0.5**
MJAR pPKPbc pPKPbc 15 42 49.1 -1.1
MJAR Matsushiro Ap 146.35 312 PKPbc **PKPbc** **15 42 28.5 -0.5**
3.7nm,0.8s,baz=224,slow=1.1,SNR=10
MJAR pPKPbc pPKPbc 15 42 49.1 -1.1
3.3nm,0.9s,baz=206,slow=0.8,SNR=5.7
MAJO Matsushiro 146.35 312 *e*PKPdf **PKPdf** **15 42 28.3 +0.7**
SONM Songino Array 148.98 1 PKPbc **PKPbc** **15 42 36.5 +0.7**
SONM Songino Array 148.98 1 PKPbc **PKPbc** **15 42 36.5 +0.7**
2.3nm,0.7s,baz=329,slow=2.1,SNR=19
KSRS Korea Array 152.56 323 PKPbc **PKPbc** **15 42 45.3 +0.9**
2.0nm,0.8s,baz=22,slow=2.0,SNR=8.4
KSAR Wonju Array Be 152.59 323 PKPbc **PKPbc** **15 42 45.3 +0.8**

MAN 15 15:56:03,18.41N×120.82E,h10km,mb4.2,ML3.0,MS2.8,1D,Luzon

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.21**	**247**	⇓*i*	P		Pg	15 56 08.7	+1.2
PIP					*e*S		Sg	15 56 14.7	+4.3
APYP	**Conner**	**0.67**	**144**	*e*P			Pb	15 56 16.6	-0.2
APYP					*e*S		Sn	15 56 29.4	+0.2
ABRA	**Dolores**	**0.76**	**188**	*e*P			Pg	15 56 18.0	+0.3
ABRA					*e*S		Sn	15 56 31.7	+0.4
CAUP	**Cauayan**	**1.74**	**147**	*e*P			Pb	15 56 34.6	-0.5

IDC 15 15:58:34.2±2.5,0.46N×120.84E,h530km±28km,mb2.9/5,mb1 3.1/6,mb1mx2.8/24,mbtmp2.9/6,Error ellipse: s-maj=80.9km s-min=16.7km az=62.0,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.04**	**166**	P			P	16 02 23.5	+0.9
0.2nm,0.3s,baz=351,slow=11,SNR=16									
WRA	**Warramunga Arr**	**24.21**	**148**	P			P	16 03 07.8	-1.3
1.0nm,0.2s,baz=324,slow=8.2,SNR=56									
ASAR	**Alice Springs**	**27.14**	**153**	P			P	16 03 35.0	+0.1
0.8nm,0.4s,baz=340,slow=15,SNR=35									
ASAR				PcP			PcP	16 06 38.2	-0.1
0.2nm,0.5s,baz=331,slow=1.9,SNR=4.5									
ASAR				ScP			ScP	16 09 28.8	+0.1
0.3nm,0.7s,baz=347,slow=2.8,SNR=4.6									
STKA	**Stephens Creek**	**37.69**	**150**	P			P	16 05 04.7	+0.3
3.2nm,0.5s,baz=327,slow=8.2,SNR=25									
MKAR	**Makanchi Array**	**57.10**	**329**	P			P	16 07 30.0	0.0
0.2nm,0.6s,baz=126,slow=7.3,SNR=3.1									
VNDA	**Vanda**	**81.01**	**172**	P			P	16 09 52.2	-0.8
0.3nm,0.6s,baz=304,slow=4.5,SNR=2.2									

IDC 15 16:09:01.8±4.5,37.30N×95.87E,h0km,mb3.8/1,mb1 3.6/4,mb1mx3.3/28,mbtmp3.6/4,ML3.6/3,MS3.9/4,Ms1 3.9/4,ms1mx2.9/53,1C-1D,Error ellipse: s-maj=92.8km s-min=28.4km az=26.0,Qinghai

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**13.06**	**33**	Pn			Pn	16 12 08.5	-0.3
0.3nm,0.3s,baz=218,slow=16,SNR=6.0									
MK31	**Makanchi Array**	**13.83**	**318**	⇓Pn			Pn	16 12 15.3	-3.9
0.3nm,0.5s,baz=130,slow=14,SNR=11									
MK31				⇑Sn			Sn	16 14 41.9	-12
0.4nm,0.6s,baz=132,slow=25									
MKAR	**Makanchi Array**	**13.83**	**318**	Pn			Pn	16 12 15.4	-3.8
0.2nm,0.3s,baz=122,slow=14,SNR=11									
MKAR				Sn			Sn	16 14 42.2	-11
0.1nm,0.3s,baz=133,slow=32,SNR=2.9									
KURBB	**Kurchatov Arra**	**18.19**	**323**	P			Pn	16 13 15.6	-0.1
0.1nm,0.3s,baz=128,slow=12,SNR=4.1									
KSRS	**Korea Array**	**25.41**	**80**	P			P	16 14 30.8	-0.2
1.3nm,0.6s,baz=284,slow=9.6,SNR=7.8									
ASF	**Jabal al Asfar**	**48.06**	**282**	LR			LR	16 43 33.0	
comp=Z,140nm,18.6s,baz=228,slow=43									
MMAI	**Mount Meron Ar**	**48.89**	**284**	LR			LR	16 41 22.9	
comp=Z,162nm,20.4s,baz=285,slow=40									
EIL	**Elat**	**50.62**	**280**	LR			LR	16 42 12.8	
comp=Z,112nm,21.5s,baz=91,slow=39									
VRAC	**Vranov**	**56.41**	**309**	LR			LR	16 42 36.7	
comp=Z,60nm,18.1s,baz=342,slow=36									

IDC 15 16:14:54.9±5.7,5.69S×150.92E,h67km±47km,mb3.3/6,mb1 3.6/7,mb1mx3.4/18,mbtmp3.4/7,ML2.8/1,MS2.8/1,Ms1 2.8/1,ms1mx2.4/17,Error ellipse: s-maj=54.2km s-min=29.9km az=114.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.25**	**225**	P			Pn	16 16 11.7	+1.0
2.1nm,0.3s,baz=10,slow=21,SNR=6.7									
PMG				S			Sn	16 17 10.4	+0.4
1.9nm,0.3s,baz=100,slow=18,SNR=4.3									
HNR	**Honiara**	**9.69**	**113**	LR			LR	16 20 12.5	
comp=Z,54nm,19.9s,baz=184,slow=33									
WRA	**Warramunga Arr**	**21.46**	**227**	P			P	16 19 37.4	-0.5
1.1nm,0.7s,baz=52,slow=10,SNR=12									
ASAR	**Alice Springs**	**24.24**	**221**	P			P	16 20 05.9	+0.2
0.5nm,0.7s,baz=54,slow=9.5,SNR=26									
FITZ	**Fitzroy Crossi**	**27.59**	**241**	P			P	16 20 35.9	-0.1
2.7nm,0.9s,baz=145,slow=9.6,SNR=7.5									
SONM	**Songino Array**	**66.09**	**329**	P			P	16 25 34.2	-0.8
0.4nm,0.7s,baz=134,slow=6.2,SNR=2.3									
MKAR	**Makanchi Array**	**79.77**	**319**	P			P	16 26 56.8	+1.0
0.2nm,0.5s,baz=104,slow=6.1,SNR=3.1									
NVAR	**Mina Array Bea**	**94.11**	**52**	P			P	16 28 06.2	-0.4
0.3nm,0.5s,baz=263,slow=5.8,SNR=3.9									
TORD	**Torodi Ar. Bea**	**148.77**	**286**	PKPbc			PKPbc	16 34 35.2	-0.6
1.1nm,0.3s,baz=95,slow=2.3,SNR=20									

IDC 15 16:24:17.3±5.8,9.01S×120.62E,h62km±59km,mb3.9/8,mb1 4.0/11,mb1mx3.7/23,mbtmp3.9/11,ML4.1/3,MS3.2/1,Ms1 3.2/1,ms1mx2.4/34,Error ellipse: s-maj=58.0km s-min=25.0km az=53.0,Sumba region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**4.06**	**348**	P			Pn	16 25 23.7	+6.8
3.2nm,0.3s,baz=341,slow=22,SNR=11									
KAPI				S			Sn	16 26 08.8	+5.6
1.9nm,0.3s,baz=235,slow=18,SNR=2.2									
FITZ	**Fitzroy Crossi**	**10.27**	**152**	P			Pn	16 26 42.0	0.0
0.2nm,0.3s,baz=322,slow=9.4,SNR=15									
FITZ				S			Sn	16 28 26.4	-9.3
1.2nm,0.3s,baz=337,slow=8.9,SNR=3.7									
WRA	**Warramunga Arr**	**17.15**	**131**	P			Pn	16 28 11.3	-1.6
1.5nm,0.3s,baz=311,slow=8.7,SNR=94									
WRA				S			Sn	16 31 09.7	-13
1.0nm,0.3s,baz=304,slow=25,SNR=9.7									
ASAR	**Alice Springs**	**19.34**	**140**	P			P	16 28 38.4	+0.6
0.8nm,0.3s,baz=321,slow=10,SNR=60									
ASAR				S			S	16 32 03.5	-10
0.4nm,0.3s,baz=315,slow=25,SNR=9.0									
ASAR				LR			LR	16 37 42.6	
comp=Z,72nm,19.5s,baz=211,slow=42									
STKA	**Stephens Creek**	**29.95**	**142**	P			P	16 30 20.0	+0.2
3.0nm,0.5s,baz=304,slow=9.9,SNR=15									

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**57.98**	**349**	P			P	16 34 04.5	+0.9
1.0nm,0.5s,baz=166,slow=8.3,SNR=6.9									
MKAR	**Makanchi Array**	**65.20**	**332**	P			P	16 34 52.6	+0.5
1.9nm,0.5s,baz=144,slow=7.6,SNR=32									
PETK	**Petropavlovsk-**	**69.45**	**23**	P			P	16 35 18.7	-0.2
1.6nm,1.0s,baz=199,slow=3.1,SNR=3.8									
ZALV	**Zalesovo Beam**	**69.63**	**338**	P			P	16 35 19.3	-0.6
2.4nm,0.3s,baz=146,slow=4.9,SNR=16									
KURBB	**Kurchatov Arra**	**69.69**	**333**	P			P	16 35 20.5	+0.1
1.3nm,0.5s,baz=142,slow=5.8,SNR=21									
BVAR	**Borovoye Array**	**75.06**	**331**	P			P	16 35 52.1	-0.2
1.7nm,0.9s,baz=113,slow=6.9,SNR=7.8									
AKTO	**Aktyubinsk**	**80.15**	**325**	P			P	16 36 20.4	-0.4
0.8nm,0.6s,baz=135,slow=2.9,SNR=2.8									

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*IDC **15** 16:28:38.9±1.1,63.72N×151.13W,h0km,mb3.5/2,mb1 3.6/5,mb1mx3.4/25,mbtmp3.4/5,ML3.1/3,Error ellipse: s-maj=17.8km s-min=10.6km az=128.0*
*ISCJB **15** 16:28:39.0±0.4,63.59N±0.02×150.93W±0.05,h13km±3km,mb3.5/2,Error ellipse: s-maj=3.8km s-min=3.4km az=19.2*
*NEIC **15** 16:28:39.1,63.57N×150.93W,h13km,ML3.4(AEIC),After AEIC.*
ISC 15 16:28:39.0±0.9,63.63N±0.03×150.96W±0.03,h13km±5km,n78,σ1§29/88,Central Alaska

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KTH	**Kantishna Hill**	**0.07**	**166**	P			**Pg**	**16 28 41.7**	**-0.2**
KTH				S			**Sg**	**16 28 43.3**	**-0.6**
BPAW	**Bear Paw Mtn.**	**0.48**	**359**	P			**Pb**	**16 28 50.3**	**+1.0**
BPAW				S			**Sb**	**16 28 57.5**	**+1.3**
CAST	**Castle Rocks**	**0.54**	**248**	P			**Pg**	**16 28 49.3**	**-0.3**
CAST				S			**Sg**	**16 28 56.2**	**-0.6**
CHUM	**Lake Minchumin**	**0.66**	**294**	P			**Pn**	**16 28 53.0**	**-0.8**
CHUM				S			**Sn**	**16 29 02.3**	**-1.7**
BWN	**Browne**	**0.86**	**50**	P			**Pn**	**16 28 57.6**	**+0.9**
HUR	**Hurricane**	**0.88**	**137**	P			**Pg**	**16 28 54.7**	**-1.4**
MCK	**McKinley**	**0.91**	**82**	*e*Pg			**Pg**	**16 28 56.1**	**-0.4**
PPLA	**Purkeyplle**	**0.92**	**218**	P			**Pg**	**16 28 55.4**	**-1.3**
RND	**Reindeer**	**0.97**	**102**	P			**Pg**	**16 28 56.6**	**-1.1**
NEA	**Nenana**	**1.26**	**40**	P			**Pn**	**16 29 02.6**	**+0.3**
CUT	**Chulitna**	**1.27**	**165**	P			**Pn**	**16 29 01.4**	**-0.9**
MLY	**Manley**	**1.42**	**4**	P			**Pg**	**16 29 05.5**	**-0.6**
WRH	**Wood River Hil**	**1.52**	**55**	P			**Pn**	**16 29 05.7**	**-0.1**
SKT	**Skwentna**	**1.67**	**189**	P			**Pn**	**16 29 07.5**	**-0.3**
DHY	**Denali Highway**	**1.71**	**107**	P			**Pn**	**16 29 08.7**	**+0.1**
CCB	**Clear Creek Bu**	**1.72**	**52**	P			**Pn**	**16 29 08.6**	**0.0**
MDM	**Murphy Dome**	**1.79**	**40**	P			**Pn**	**16 29 09.7**	**+0.2**
COLA	**College**	**1.85**	**46**	P			**Pn**	**16 29 10.7**	**+0.4**
HDA	**Harding Lake**	**1.93**	**64**	P			**Pb**	**16 29 13.4**	**-0.6**
GLM	**Gilmore Dome**	**2.07**	**47**	P			**Pb**	**16 29 15.8**	**-0.7**
IL1	**Eielson Array**	**2.12**	**55**	P			**Pn**	**16 29 14.2**	**+0.1**
ILAR	**Eielson Array**	**2.12**	**55**	Pn			**Pn**	**16 29 14.1**	**0.0**
ILAR				Pg			**Pb**	**16 29 18.6**	**+1.4**
ILAR				Lg			Lg	16 29 45.8	
ILAR	**Eielson Array**	**2.12**	**55**	Pn			**Pn**	**16 29 14.1**	**0.0**
5.4nm,0.3s,baz=238,slow=14,SNR=36									
ILAR				Pg			**Pb**	**16 29 18.6**	**+1.4**
7.8nm,0.3s,baz=242,slow=17,SNR=86									
ILAR				Lg			Lg	16 29 45.8	
44nm,0.3s,baz=240,slow=29,SNR=18									
STLK	**Strandline Lak**	**2.17**	**191**	P			**Pn**	**16 29 14.7**	**-0.1**
SUA	**Susitna One**	**2.17**	**177**	P			**Pn**	**16 29 14.8**	**-0.1**
PMR	**Palmer**	**2.21**	**157**	P			**Pn**	**16 29 15.1**	**-0.1**
TT01	**Tatalina**	**2.40**	**255**	P			**Pn**	**16 29 17.4**	**-0.5**
SCM	**Sheep Creek Mo**	**2.46**	**135**	P			**Pn**	**16 29 18.6**	**-0.2**
BGL	**Barrier Glacie**	**2.46**	**196**	P			**Pn**	**16 29 20.2**	**+1.4**
SPBG	**Spurr Blockage**	**2.46**	**196**	P			**Pn**	**16 29 20.6**	**+1.8**
SPU	**Mount Spurr**	**2.50**	**192**	P			**Pn**	**16 29 20.3**	**+0.9**
CKL	**Chakachamna La**	**2.52**	**195**	P			**Pn**	**16 29 21.2**	**+1.6**
PAX	**Paxson**	**2.57**	**102**	P			**Pn**	**16 29 22.0**	**+1.8**
IM04	**Indian Mountai**	**2.65**	**334**	*e*Pn			**Pn**	**16 29 22.7**	**+1.4**
IM3	**Indian Mountai**	**2.65**	**335**	P			**Pn**	**16 29 22.9**	**+1.6**
IMA2	**Indian Mountai**	**2.72**	**336**	P			**Pn**	**16 29 23.8**	**+1.5**
HARP	**HAARP**	**2.92**	**112**	P			**Pn**	**16 29 26.9**	**+1.9**
RDT	**Redoubt**	**3.14**	**193**	P			**Pn**	**16 29 29.1**	**+1.0**
DFR	**Drift River**	**3.15**	**196**	P			**Pn**	**16 29 29.8**	**+1.5**
KLU	**Klutina**	**3.17**	**130**	P			**Pn**	**16 29 29.8**	**+1.3**
NCT	**North Crescent**	**3.21**	**198**	P			**Pn**	**16 29 29.8**	**+0.7**
RDWB	**Redoubt West**	**3.27**	**197**	P			**Pn**	**16 29 31.5**	**+1.5**
JPK	**Jack Peak**	**3.29**	**140**	P			**Pn**	**16 29 31.2**	**+1.1**
RSO	**Redoubt South**	**3.29**	**196**	*e*Pn			**Pn**	**16 29 31.5**	**+1.2**
GLI	**Glacier Island**	**3.30**	**145**	P			**Pn**	**16 29 31.1**	**+0.9**
VLZ	**Valdez**	**3.30**	**137**	P			**Pn**	**16 29 31.4**	**+1.2**
MENT	**Mentasta**	**3.34**	**99**	*e*Pn			**Pn**	**16 29 33.5**	**+2.7**
DIV	**Divide**	**3.48**	**134**	P			**Pn**	**16 29 33.6**	**+0.8**
COLD	**Coldfoot**	**3.63**	**5**	P			**Pn**	**16 29 36.6**	**+1.8**
BRLK	**Bradley Lake**	**3.88**	**179**	P			**Pn**	**16 29 39.1**	**+0.9**
EYAK	**Cordova Ski Ar**	**3.94**	**139**	P			**Pn**	**16 29 40.9**	**+1.9**
BMRM	**Bremner River**	**3.99**	**129**	*e*Pn			**Pn**	**16 29 40.4**	**+0.6**
CNPM	**China Poot**	**4.12**	**182**	P			**Pn**	**16 29 42.8**	**+1.4**
BCA3	**Beaver Creek A**	**4.17**	**94**	P			**Pn**	**16 29 42.6**	**+0.3**
GOAT	**Goat Mountain**	**4.23**	**133**	P			**Pn**	**16 29 44.0**	**+0.9**
VRDI	**Verde Repeater**	**4.24**	**121**	P			**Pn**	**16 29 44.3**	**+1.0**
MCARA	**McCarthy VSAT**	**4.31**	**118**	P			**Pn**	**16 29 45.4**	**+1.2**
RAGM	**Ragged Mountai**	**4.40**	**135**	P			**Pn**	**16 29 45.6**	**+0.3**
EGAK	**Eagle**	**4.44**	**71**	*e*Pn			**Pn**	**16 29 46.1**	**+0.2**
BM3	**Burnt Mountain**	**4.63**	**32**	P			**Pn**	**16 29 49.9**	**+1.3**
PTPK	**Patty Peak**	**4.65**	**118**	P			**Pn**	**16 29 51.4**	**+2.5**
BALM	**Baldy**	**4.78**	**119**	P			**Pn**	**16 29 52.2**	**+1.5**
KHIT	**Khitrov Hills**	**4.83**	**128**	P			**Pn**	**16 29 53.1**	**+1.8**
KIAG	**Kiagna River**	**4.85**	**120**	P			**Pn**	**16 29 52.5**	**+0.8**
BARN	**Barnard Glacie**	**5.04**	**117**	P			**Pn**	**16 29 57.0**	**+2.7**
ISLE	**Juniper Island**	**5.06**	**123**	P			**Pn**	**16 29 55.2**	**+0.7**
BARK	**Barkley Ridge**	**5.13**	**125**	P			**Pn**	**16 29 56.6**	**+1.1**
DAWY	**Dawson**	**5.14**	**80**	P			**Pn**	**16 29 55.7**	**+0.2**
GRNC	**Granite Creek**	**5.20**	**120**	P			**Pn**	**16 29 57.6**	**+1.1**
KDAK	**Kodiak Island**	**5.92**	**188**	Pn			**Pn**	**16 30 06.0**	**-0.1**
KDAK				Sn			**Sn**	**16 31 13.8**	**+0.2**
KDAK	**Kodiak Island**	**5.92**	**188**	Pn			**Pn**	**16 30 06.0**	**-0.1**
0.4nm,0.3s,baz=342,slow=6.4,SNR=4.6									
KDAK				Sn			**Sn**	**16 31 13.8**	**+0.2**
0.3nm,0.3s,baz=113,slow=7.7,SNR=3.5									
HYT	**Haines Junctio**	**6.88**	**108**	*e*P			**Pn**	**16 30 21.9**	**+2.4**
INK	**Inuvik**	**8.51**	**49**	Pn			**Pn**	**16 30 41.8**	**+0.2**
INK				Sn			**Sn**	**16 32 13.3**	**-3.9**
INK	**Inuvik**	**8.51**	**49**	Pn			**Pn**	**16 30 41.8**	**+0.2**
0.2nm,0.3s,baz=235,slow=12,SNR=2.6									
INK				Sn			**Sn**	**16 32 13.3**	**-3.9**
0.1nm,0.3s,baz=208,slow=15,SNR=1.6									
TXAR	**Lajitas Array**	**45.53**	**116**	P			**P**	**16 36 59.5**	**+1.5**
TXAR	**Lajitas Array**	**45.53**	**116**	P			**P**	**16 36 59.5**	**+1.5**
0.4nm,0.6s,baz=331,slow=6.1,SNR=6.2									
SONM	**Songino Array**	**53.47**	**305**	P			**P**	**16 37 58.5**	**0.0**
SONM	**Songino Array**	**53.47**	**305**	P			**P**	**16 37 58.5**	**0.0**
0.3nm,0.5s,baz=40,slow=7.5,SNR=2.4									

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*IDC **15** 16:30:58.8±0.7,34.01N×25.54E,h0km,mb4.1/20,mb1 4.2/31,mb1mx4.1/41,mbtmp4.1/31,MS3.2/5,Ms1 3.2/5,ms1mx2.9/43,Error ellipse: s-maj=14.0km s-min=12.0km az=10.0*
*ATH **15** 16:30:58.7,33.94N×25.43E,h8km±2km,MD3.8/8*
*BJI **15** 16:30:58.2,33.90N×25.60E,h10km,mb4.4/6,Ms4.9/1,Ms7 4.6/1*
*MOS **15** 16:30:59.1±1.2,33.95N×25.55E,h13km,mb4.4/21,Error ellipse: s-maj=10.1km s-min=5.3km az=74.3*
*ISCJB **15** 16:30:59.8±0.7,33.87N±0.02×25.61E±0.02,h20km±6km,mb4.1/34,MS3.5/2,Error ellipse: s-maj=3.8km s-min=2.6km az=44.5*
*THE **15** 16:31:01.0,33.61N×25.42E,h29km±25km,ML3.7/2,Error ellipse: s-maj=26.2km s-min=1.6km az=198.0*
*CSEM **15** 16:31:02.7±0.1,33.91N×25.55E,h30km,mb4.2/27,Error ellipse: s-maj=4.0km s-min=2.7km az=37.0*
*TEH **15** 16:31:02.2,33.93N×25.68E,h10km,ML4.4*
*HLW **15** 16:31:03.8,33.89N×25.60E,h30km±26km,Md3.4,Ml3.6*
*NSSC **15** 16:31:06.7±1.0,33.99N×26.41E,h0km±132km,ML3.2*
ISC 15 16:31:01.6±0.5,33.88N±0.03×25.62E±0.04,h20km±4km,n368,σ1§29/387,mb4.1/34,7C-1D,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**1.33**	**22**	*e*PG			**Pn**	**16 31 23.5**	**-1.5**
ZKR				*e*SG			**Sb**	**16 31 42.8**	**+0.4**
ZKR	**Zakros**	**1.33**	**22**	*e*Pg			**Pn**	**16 31 23.5**	**-1.5**
ZKR				*e*Sg			**Sb**	**16 31 42.8**	**+0.4**
NPS	**Neapolis**	**1.38**	**360**	P			**Pb**	**16 31 27.3**	**+0.6**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NPS				S			**Sb**	**16 31 47.0**	**+3.1**
NPS	**Neapolis**	**1.38**	**360**	*e*PG			**Pn**	**16 31 23.4**	**-2.4**
NPS	**Neapolis**	**1.38**	**360**	*e*Pg			**Pn**	**16 31 23.4**	**-2.4**
NPS	**Neapolis**	**1.38**	**360**	P			**Pb**	**16 31 27.3**	**+0.6**
NPS				S			**Sb**	**16 31 47.0**	**+3.1**
IDI	**Anoyia**	**1.53**	**337**	*e*PN			Pn	16 31 24.1	-3.7
IDI	**Anoyia**	**1.53**	**337**	P			**Pn**	**16 31 28.1**	**+0.2**
IDI	**Anoyia**	**1.53**	**337**	*e*PG			**Pn**	**16 31 24.8**	**-3.1**
IDI	**Anoyia**	**1.53**	**337**	Pn			**Pn**	**16 31 25.1**	**-2.7**
12nm,0.3s,baz=166,slow=17,SNR=58									
IDI				Sn			**Sn**	**16 31 43.9**	**-3.3**
51nm,0.3s,baz=177,slow=16,SNR=15									
IDI	**Anoyia**	**1.53**	**337**	*e*Pn			Pn	16 31 24.2	-3.7
IDI	**Anoyia**	**1.53**	**337**	P			**Pn**	**16 31 28.1**	**+0.2**
VAM	**Vamos**	**1.92**	**323**	P			**Pn**	**16 31 32.1**	**-1.1**
VAM	**Vamos**	**1.92**	**323**	*e*PN			**Pn**	**16 31 32.7**	**-0.5**
VAM				*e*SN			**Sn**	**16 31 56.5**	**-0.3**
VAM	**Vamos**	**1.92**	**323**	P			**Pn**	**16 31 32.1**	**-1.1**
VAM	**Vamos**	**1.92**	**323**	*e*Pn			**Pn**	**16 31 32.7**	**-0.5**
VAM				*e*Sn			**Sn**	**16 31 56.5**	**-0.3**
KARP	**Karpathos**	**2.09**	**37**	P			**Pb**	**16 31 37.7**	**-1.2**
KARP				S			**Sb**	**16 32 05.4**	**+1.0**
KARP	**Karpathos**	**2.09**	**37**	*e*PN			**Pb**	**16 31 37.7**	**-1.2**
KARP	**Karpathos**	**2.09**	**37**	P			**Pb**	**16 31 37.7**	**-1.2**
KARP				S			**Sb**	**16 32 05.4**	**+1.0**
LTBQ	**Tobruq**	**2.31**	**219**	*i* P			**Pn**	**16 31 37.7**	**-0.9**
SNR=42									
SLUM		**2.41**	**188**	AMP				16 32 00.0	
comp=E,300μm,0.7s,logA/T=5.6,baz=188									
SLUM		**2.41**	**188**	P			**Pn**	**16 31 41.0**	**+1.2**
THR6	**Thira Island,**	**2.48**	**356**	P			**Pn**	**16 31 42.3**	**+1.5**
THR6	**Thira Island,**	**2.48**	**356**	P			**Pn**	**16 31 42.3**	**+1.5**
SANT	**Santorini**	**2.49**	**357**	*e*PN			**Pn**	**16 31 40.6**	**-0.4**
SANT	**Santorini**	**2.49**	**357**	*e*Pn			**Pn**	**16 31 40.6**	**-0.4**
THR1	**Thera Island**	**2.49**	**357**	P			**Pn**	**16 31 42.5**	**+1.5**
THR1	**Thera Island**	**2.49**	**357**	P			**Pn**	**16 31 42.5**	**+1.5**
THR3	**Thira Island,**	**2.53**	**356**	P			**Pn**	**16 31 43.2**	**+1.7**
THR3	**Thira Island,**	**2.53**	**356**	P			**Pn**	**16 31 43.2**	**+1.7**
ANKY	**Antikythira Is**	**2.75**	**317**	P			**Pn**	**16 31 43.1**	**-1.5**
ANKY	**Antikythira Is**	**2.75**	**317**	P			**Pn**	**16 31 43.1**	**-1.5**
HMAT	**Matruh**	**3.04**	**155**	S			**Sn**	**16 32 24.6**	**+0.1**
baz=155									
HMAT	**Matruh**	**3.04**	**155**	S			**Sn**	**16 32 24.6**	**+0.1**
ARG	**Arkhangelos**	**3.11**	**41**	P			**Pn**	**16 31 51.8**	**+2.3**
ARG				S			**Sb**	**16 32 30.6**	**-3.0**
ARG	**Arkhangelos**	**3.11**	**41**	*e*PN			**Pn**	**16 31 51.7**	**+2.3**
ARG				*e*SN			**Sn**	**16 32 29.5**	**+3.5**
ARG	**Arkhangelos**	**3.11**	**41**	*e*Pn			**Pn**	**16 31 51.7**	**+2.3**
ARG				S			**Sb**	**16 32 30.6**	**-3.0**
APE	**Apeiranthos**	**3.18**	**359**	*e*P			Pn	16 31 47.2	-3.4
APE	**

HHAG	**Hagoal**	**6.75**	**124**	P		**Pn**	**16 32 41.8**	**+2.2**
HHAG				S		**Sn**	**16 33 54.8**	**-1.2**
IKL	**Isikli**	**7.02**	**68**	*e*P		**Pn**	**16 32 44.0**	**+0.8**
IKL	**Isikli**	**7.02**	**68**	*e*P		**Pn**	**16 32 44.0**	**+0.8**
KIZT	**Kizilcal**	**7.09**	**44**	*e*P		**Pn**	**16 32 45.1**	**+0.7**
KIZT	**Kizilcal**	**7.09**	**44**	*e*P		**Pn**	**16 32 45.1**	**+0.7**
CAVI	**Cavuskoy**	**7.16**	**27**	*e*P		**Pn**	**16 32 45.6**	**+0.5**
CAVI	**Cavuskoy**	**7.16**	**27**	*e*P		**Pn**	**16 32 45.6**	**+0.5**
AMAG	**Maghara**	**7.19**	**115**	S		**Sn**	**16 34 05.5**	**-1.2**
	baz=114							
AMAG	**Maghara**	**7.19**	**115**	S		**Sn**	**16 34 05.5**	**-1.2**
SVRH	**Sivrihisar-ESK**	**7.30**	**39**	*e*P		**Pn**	**16 32 48.1**	**+0.9**
SVRH	**Sivrihisar-ESK**	**7.30**	**39**	*e*P		**Pn**	**16 32 48.1**	**+0.9**
ADVT	**Abdulvahap**	**7.32**	**25**	*e*P		**Pn**	**16 32 47.2**	**-0.1**
ADVT	**Abdulvahap**	**7.32**	**25**	*e*P		**Pn**	**16 32 47.2**	**-0.1**
SUZ		**7.33**	**121**	P		**Pn**	**16 32 49.7**	**+2.1**
	baz=121							
SUZ		**7.33**	**121**	P		**Pn**	**16 32 49.7**	**+2.1**
GULT	**Gulveren**	**7.62**	**29**	*e*P		**Pn**	**16 32 52.2**	**+0.7**
GULT	**Gulveren**	**7.62**	**29**	*e*P		**Pn**	**16 32 52.2**	**+0.7**
HRT	**Hereke**	**7.64**	**24**	*e*P		**Pn**	**16 32 51.4**	**-0.4**
HRT	**Hereke**	**7.64**	**24**	*e*P		**Pn**	**16 32 51.4**	**-0.4**
KDZ	**Kurdzhali**	**7.76**	**359**	*e*P		**Pn**	**16 32 53.1**	**-0.3**
KDZ	**Kurdzhali**	**7.76**	**359**	*e*P		**Pn**	**16 32 53.1**	**-0.3**
RZN	**Rozhen**	**7.83**	**355**	*e*P		**Pn**	**16 32 54.7**	**+0.2**
RZN	**Rozhen**	**7.83**	**355**	*e*P		**Pn**	**16 32 54.7**	**+0.2**
MMB	**Musomiste**	**7.84**	**350**	*e*P		**Pn**	**16 32 53.8**	**-0.7**
MMB	**Musomiste**	**7.84**	**350**	*e*P		**Pn**	**16 32 53.8**	**-0.7**
MDUB	**Mudurnu**	**7.94**	**32**	*e*P		**Pn**	**16 32 56.7**	**+0.8**
MDUB	**Mudurnu**	**7.94**	**32**	*e*P		**Pn**	**16 32 56.7**	**+0.8**
AFSR	**Af´ar-Bala (A**	**8.16**	**45**	*e*P		**Pn**	**16 33 00.6**	**+1.5**
AFSR	**Af´ar-Bala (A**	**8.16**	**45**	*e*P		**Pn**	**16 33 00.5**	**+1.5**
MMAI	**Mount Meron Ar**	**8.22**	**93**	Pn		**Pn**	**16 32 59.4**	**-0.4**
	comp=E,6.6nm,0.3s,baz=269,slow=11,SNR=19							
MMAI				Sn		**Sn**	**16 34 30.3**	**-1.8**
	comp=E,6.3nm,0.3s,baz=282,slow=17,SNR=5.3							
ANTO	**Ankara**	**8.29**	**42**	*e*P		**Pn**	**16 33 02.8**	**+2.1**
ANTO	**Ankara**	**8.29**	**42**	*e*P		**Pn**	**16 33 02.8**	**+2.1**
KARA	**Karaisali**	**8.39**	**64**	*e*P		**Pn**	**16 33 03.0**	**+1.0**
KARA	**Karaisali**	**8.39**	**64**	*e*P		**Pn**	**16 33 03.1**	**+1.0**
NIG	**Nigde**	**8.42**	**57**	*e*P		**Pn**	**16 33 04.2**	**+1.6**
NIG	**Nigde**	**8.42**	**57**	*e*P		**Pn**	**16 33 04.2**	**+1.6**
BRTR	**Keskin Array B**	**8.68**	**45**	Pn		**Pn**	**16 33 06.8**	**+0.8**
	comp=E,0.4nm,0.3s,baz=226,slow=13,SNR=29							
BRTR				Sn		**Sn**	**16 34 42.1**	**-1.4**
	comp=E,0.1nm,0.3s,baz=203,slow=22,SNR=2.6							
BRTR	**Keskin Array B**	**8.68**	**45**	P		**Pn**	**16 33 06.9**	**+0.8**
BRTR				S		**Sn**	**16 34 42.1**	**-1.4**
ARNB	**Al Arnab**	**8.73**	**74**	*e*P		**Pn**	**16 33 06.4**	**-0.4**
ARNB				*e*S		Sn	16 34 32.7	-12
ARNB				AML		AML	16 34 49.3	
	comp=E,26nm,0.4s							
ARNB				AML		AML	16 34 54.6	
	comp=N,14nm,0.5s							
ARNB				AML		AML	16 34 56.8	
	comp=Z,33nm,0.7s							
ARNB	**Al Arnab**	**8.73**	**74**	*e*P		**Pn**	**16 33 06.4**	**-0.4**
	SNR=45							
TCHB	**Talchebab**	**8.75**	**95**	*e*P		**Pn**	**16 33 06.3**	**-0.7**
TCHB				*e*S		Sn	16 34 34.0	-11
TCHB				AML		AML	16 34 48.5	
	comp=Z,87nm,0.5s							
TCHB				AML		AML	16 34 48.7	
	comp=N,41nm,0.6s							
TCHB				AML		AML	16 34 57.1	
	comp=E,107nm,0.6s							
TCHB	**Talchebab**	**8.75**	**95**	*e*P		**Pn**	**16 33 06.3**	**-0.7**
	SNR=45							
BIDA	**Albida**	**8.91**	**80**	*e*P		**Pn**	**16 33 08.2**	**-1.0**
BIDA				*e*S		Sn	16 34 37.0	-12
BIDA				AML		AML	16 34 55.3	
	comp=N,75nm,0.5s							
BIDA				AML		AML	16 34 55.7	
	comp=Z,29nm,0.5s							
BIDA	**Albida**	**8.91**	**80**	*e*P		**Pn**	**16 33 08.2**	**-1.0**
	SNR=45							
HAWK	**Haweek**	**8.96**	**83**	*e*P		**Pn**	**16 33 09.3**	**-0.6**
HAWK				*e*S		Sn	16 34 37.8	-13
HAWK				AML		AML	16 34 56.1	
	comp=E,22nm,0.6s							
HAWK				AML		AML	16 34 56.6	
	comp=N,26nm,0.6s							
HAWK				AML		AML	16 34 56.9	
	comp=Z,15nm,0.5s							
HAWK	**Haweek**	**8.96**	**83**	*e*P		**Pn**	**16 33 09.3**	**-0.6**
	SNR=45							
EIL	**Elat**	**8.98**	**115**	Pn		**Pn**	**16 33 10.7**	**+0.5**
	comp=Z,3.1nm,0.3s,baz=313,slow=4.7,SNR=16							
EIL				Sn		**Sn**	**16 34 48.2**	**-2.4**
	comp=Z,3.4nm,0.3s,baz=32,slow=13,SNR=4.3							
WRDH	**Warideh**	**9.03**	**77**	*e*P		**Pn**	**16 33 10.3**	**-0.6**
WRDH				*e*S		Sn	16 34 40.2	-12
WRDH				AML		AML	16 34 52.5	
	comp=E,30nm,0.6s							
WRDH				AML		AML	16 34 55.0	
	comp=Z,18nm,0.4s							
WRDH				AML		AML	16 34 55.5	
	comp=N,22nm,0.6s							
WRDH	**Warideh**	**9.03**	**77**	*e*P		**Pn**	**16 33 10.3**	**-0.6**
	SNR=45							
KOZT	**Kozan**	**9.04**	**64**	*e*P		**Pn**	**16 33 12.2**	**+1.2**
KOZT	**Kozan**	**9.04**	**64**	*e*P		**Pn**	**16 33 12.2**	**+1.2**
BTCH	**Batrach**	**9.15**	**73**	*e*P		**Pn**	**16 33 13.0**	**+0.4**
BTCH				*e*S		Sn	16 34 43.1	-12
BTCH	**Batrach**	**9.15**	**73**	*e*P		**Pn**	**16 33 13.0**	**+0.4**
	SNR=45							
SALA	**Sala**	**9.37**	**94**	*e*P		**Pn**	**16 33 15.3**	**-0.4**
SALA				*e*S		Sn	16 34 49.2	-12
SALA				AML		AML	16 35 11.2	
	comp=N,27nm,0.5s							
SALA				AML		AML	16 35 15.2	
	comp=E,2.6nm,0.5s							
SALA				AML		AML	16 35 23.6	
	comp=Z,36nm,0.6s							
SALA	**Sala**	**9.37**	**94**	*e*P		**Pn**	**16 33 15.3**	**-0.4**
	SNR=45							
CORM	**Corum**	**9.55**	**46**	*e*P		**Pn**	**16 33 19.7**	**+1.6**
CORM	**Corum**	**9.55**	**46**	*e*P		**Pn**	**16 33 19.7**	**+1.6**
ASF	**Jabal al Asfar**	**9.62**	**97**	Pn		**Pn**	**16 33 18.8**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=250,slow=5.8,SNR=4.7							
ASF				Sn		**Sn**	**16 35 04.3**	**-2.2**
	comp=Z,0.6nm,0.3s,baz=307,slow=20,SNR=3.5							
BNN	**Bunyan**	**9.62**	**56**	*e*P		**Pn**	**16 33 20.6**	**+1.6**
BNN	**Bunyan**	**9.62**	**56**	*e*P		**Pn**	**16 33 20.6**	**+1.6**
ZALF	**Zalf**	**9.84**	**92**	*e*P		**Pn**	**16 33 22.6**	**+0.7**
ZALF				*e*S		Sn	16 34 59.8	-12
ZALF				AML		AML	16 35 28.0	
	comp=Z,8.2nm,0.6s							
ZALF				AML		AML	16 35 33.5	
	comp=E,14nm,0.6s							
ZALF				AML		AML	16 35 34.5	
	comp=N,13nm,0.6s							
ZALF	**Zalf**	**9.84**	**92**	*e*P		**Pn**	**16 33 22.6**	**+0.7**
	SNR=45							
MLR	**Muntele Rosu**	**11.60**	**1**	Pn		**Pn**	**16 33 46.3**	**+0.2**
	comp=N,0.0nm,0.3s,baz=180,slow=8.1,SNR=5.0							
MLR				LR		LR	16 38 44.9	
	comp=N,29nm,18.1s,baz=189,slow=41							
MLR	**Muntele Rosu**	**11.60**	**1**	P		**Pn**	**16 33 46.3**	**+0.2**
	comp=N,29nm,18.1s							
KEST	**Kesra**	**13.51**	**282**	Pn		**Pn**	**16 34 14.8**	**+2.7**
	comp=N,0.1nm,0.3s,baz=315,slow=4.3,SNR=2.6							
KEST				LR		LR	16 39 30.1	
	comp=N,48nm,21.5s,baz=306,slow=38							
ANN	**Anapa**	**14.21**	**36**	*e*P		**Pn**	**16 34 19.3**	**-2.3**
ANN				pmax		pmax		
	comp=Z,30nm,0.8s							
KECS	**Kecovo**	**15.09**	**347**	*e*P		**P**	**16 34 37.0**	**-1.6**
KECS				pmax		pmax		
	comp=Z,1.0nm,1.1s							
KECS	**Kecovo**	**15.09**	**347**	*e*P		**P**	**16 34 37.0**	**-1.6**
KECS	**Kecovo**	**15.09**	**347**	*e*P		**P**	**16 34 37.0**	**-1.6**
	comp=Z,1.0nm,1.1s							
KOLS	**Kolonicke sedl**	**15.25**	**352**	*e*P		**P**	**16 34 41.1**	**+0.7**
KOLS				pmax		pmax		
	comp=Z,5.0nm,1.1s							
KOLS	**Kolonicke sedl**	**15.25**	**352**	*e*P		**P**	**16 34 41.1**	**+0.7**
KOLS	**Kolonicke sedl**	**15.25**	**352**	*e*P		**P**	**16 34 41.1**	**+0.7**
	comp=Z,5.0nm,1.1s							
CRVS	**Cervenica-Dubn**	**15.33**	**350**	*e*P		**P**	**16 34 43.2**	**+1.9**
CRVS				pmax		pmax		
	comp=Z,8.0nm,1.7s							
CRVS	**Cervenica-Dubn**	**15.33**	**350**	*e*P		**P**	**16 34 43.2**	**+1.9**
CRVS	**Cervenica-Dubn**	**15.33**	**350**	*e*P		**P**	**16 34 43.2**	**+1.9**
	comp=Z,8.0nm,1.7s							
ARSA	**Arzberg**	**15.38**	**333⇑**	*e*Pn		**P**	**16 34 39.8**	**-2.2**
	comp=Z,5.8nm,1.0s							
ARSA	**Arzberg**	**15.38**	**333**	P		**P**	**16 34 39.8**	**-2.2**
	comp=Z,5.8nm,1.0s							
VYHS	**Vyhne**	**15.46**	**343**	*e*P		P	16 34 49.5	+6.7
VYHS				pmax		pmax		
	comp=Z,1.0nm,0.7s							
VYHS	**Vyhne**	**15.46**	**343**	*e*P		P	16 34 49.5	+6.7
PGF	**Ploggiola**	**15.65**	**308**	*e*P		Pn	16 34 35.7	-5.3
	comp=Z,62nm,1.0s							
CONA	**Conrad Observa**	**15.84**	**335⇓**	*e*Pn		**Pn**	**16 34 44.4**	**+1.1**
	comp=Z,3.8nm,1.1s							
CONA	**Conrad Observa**	**15.84**	**335**	P		**Pn**	**16 34 44.4**	**+1.1**
	comp=Z,3.8nm,1.1s							
STHS	**Stebnicka Huta**	**15.86**	**349**	*e*P		P	16 34 52.6	+5.4
STHS				pmax		pmax		
	comp=Z,4.0nm,1.0s							
STHS	**Stebnicka Huta**	**15.86**	**349**	*e*P		P	16 34 52.6	+5.4
KBA	**Koelnbreinsper**	**16.13**	**328⇑**	*e*P		**P**	**16 34 51.4**	**+1.0**
	comp=Z,6.6nm,0.7s							
KBA	**Koelnbreinsper**	**16.13**	**328**	P		**P**	**16 34 51.4**	**+1.0**
	comp=Z,6.6nm,0.7s							
ABTA	**Abfaltersbach**	**16.25**	**326⇑**	*e*Pn		**P**	**16 34 51.1**	**-0.6**
	comp=Z,16nm,0.8s							
ABTA	**Abfaltersbach**	**16.25**	**326**	P		**P**	**16 34 51.1**	**-0.6**
	comp=Z,16nm,0.8s							
MOA	**Molln**	**16.36**	**332⇑**	*e*Pn		**P**	**16 34 52.4**	**-0.4**
	comp=Z,6.1nm,0.9s							
MOA	**Molln**	**16.36**	**332**	P		**P**	**16 34 52.4**	**-0.4**
	comp=Z,6.1nm,0.9s							
GNI	**Garni**	**16.49**	**62**	Pn		**P**	**16 34 53.5**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=45,slow=20,SNR=2.7							
GNI				LR		LR	16 41 32.3	
	comp=Z,69nm,19.7s,baz=75,slow=38							
GNI	**Garni**	**16.49**	**62**	P		**P**	**16 34 53.5**	**-0.9**
	comp=Z,69nm,19.7s							
KIV	**Kislovodsk**	**16.63**	**48**	*e*P		**P**	**16 34 55.1**	**-0.8**
KIV				*e*S		**Sn**	**16 37 57.4**	**-0.2**
KIV				pmax		pmax		
	comp=Z,18nm,1.0s							
KIV				MLR		MLR		
	comp=Z,34nm,13.0s							
KIV	**Kislovodsk**	**16.63**	**48**	*e*P		**P**	**16 34 55.1**	**-0.8**
	comp=Z,18nm,1.0s							
KBZ	**Khabaz**	**16.64**	**49**	P		**P**	**16 34 55.9**	**0.0**
KBZ	**Khabaz**	**16.64**	**49**	Pn		**P**	**16 34 55.9**	**0.0**
	comp=Z,0.2nm,0.3s,baz=284,slow=8.7,SNR=12							
KBZ	**Khabaz**	**16.64**	**49**	P		**P**	**16 34 55.9**	**0.0**
VRAC	**Vranov**	**16.81**	**339**	Pn		**Pn**	**16 34 53.7**	**-2.0**
	comp=Z,0.8nm,0.3s,baz=137,slow=7.4,SNR=4.0							
ZEI	**Tsey**	**16.84**	**53**	*e*P		**P**	**16 34 57.8**	**-0.5**
ZEI				pmax		pmax		
	comp=Z,21nm,1.0s							
ZEI	**Tsey**	**16.84**	**53**	*e*P		**P**	**16 34 57.8**	**-0.5**
	comp=Z,21nm,1.0s							
KIEV	**Kiev**	**17.01**	**8**	*e*P		**Pn**	**16 34 56.8**	**-1.3**
AKASG	**Malin Array Be**	**17.02**	**8**	P		**Pn**	**16 34 56.2**	**-2.0**
AKASG				pmax		pmax		
	comp=Z,3.0nm,0.3s							
AKASG	**Malin Array Be**	**17.02**	**8**	Pn		**Pn**	**16 34 56.2**	**-2.0**
	comp=Z,2.7nm,0.3s,baz=198,slow=11,SNR=17							
WTTA	**Wattenberg**	**17.04**	**326⇑**	*e*Pn		**P**	**16 35 00.6**	**+0.1**
	comp=Z,26nm,1.0s							
WTTA	**Wattenberg**	**17.04**	**326**	P		**P**	**16 35 00.6**	**+0.1**
	comp=Z,26nm,1.0s							
SBF	**Sospel**	**17.29**	**311**	*e*P		**P**	**16 35 02.6**	**-0.5**
	comp=Z,54nm,0.8s							
SBF	**Sospel**	**17.29**	**311**	*e*P		**P**	**16 35 02.6**	**-0.5**
	comp=Z,27nm,0.8s							
GERES	**GERESS Array B**	**17.39**	**333**	P		**Pn**	**16 35 01.9**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=149,slow=11,SNR=19							
GERES	**GERESS Array B**	**17.39**	**333**	P		**Pn**	**16 35 01.9**	**-1.1**
DAVOX	**Davos/Dischmat**	**17.57**	**322**	P		**Pn**	**16 35 04.3**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=191,slow=19,SNR=3.1							
DAVOX				LR		LR	16 42 28.5	
	comp=Z,200nm,19.4s,baz=89,slow=40							
DAVOX	**Davos/Dischmat**	**17.57**	**322**	P		**Pn**	**16 35 04.3**	**-1.1**
	comp=Z,200nm,19.4s							
RETA	**Reute**	**17.61**	**325⇑**	*e*Pn		**P**	**16 35 09.0**	**+2.3**
	comp=Z,4.5nm,0.6s							
KHC	**Kasperske Hory**	**17.67**	**333**	*e*P		**Pn**	**16 35 06.6**	**+0.1**
KHC				MLR		MLR		
	comp=Z,200nm,13.6s							
KHC	**Kasperske Hory**	**17.67**	**333**	*e*P		**Pn**	**16 35 06.6**	**+0.1**
KHC				AMS		AMS	16 42 10.0	
	comp=Z,200nm,13.6s							
KHC	**Kasperske Hory**	**17.67**	**333**	*e*P		**Pn**	**16 35 06.6**	**+0.1**
	comp=Z,200nm,13.6s							
DPC	**Dobruska-Polom**	**17.82**	**340**	*e*P		**Pn**	**16 35 07.6**	**-0.7**
DPC	**Dobruska-Polom**	**17.82**	**340**	*e*P		**Pn**	**16 35 07.6**	**-0.7**
DPC	**Dobruska-Polom**	**17.82**	**340**	*e*P		**Pn**	**16 35 07.6**	**-0.7**
MBDF	**Montbardon**	**18.13**	**312**	*e*P		**Pn**	**16 35 11.5**	**-0.7**
	comp=Z,19nm,1.0s							
MBDF	**Montbardon**	**18.13**	**312**	*e*P		**Pn**	**16 35 11.5**	**-0.7**
	comp=Z,9.6nm,1.0s							
LPL	**La Plagne**	**18.56**	**314**	*e*P		**Pn**	**16 35 17.4**	**-0.2**
	comp=Z,5.1nm,0.7s							
LPL	**La Plagne**	**18.56**	**314**	*e*P		**Pn**	**16 35 17.4**	**-0.2**
	comp=Z,2.5nm,0.7s							
RST	**Umm Al-Ruwaisa**	**18.70**	**98**	*e*P		**Pn**	**16 35 20.4**	**+1.2**
RST				AMb		AMB	16 35 23.2	
	comp=Z,229nm,0.8s							
RST	**Umm Al-Ruwaisa**	**18.70**	**98**	*e*P		**Pn**	**16 35 20.4**	**+1.2**
	comp=Z,229nm,0.8s							
NAY	**Al-Naaiem**	**18.98**	**98**	*e*P		**Pn**	**16 35 23.1**	**+0.5**
NAY				AMb		AMB	16 35 28.1	
	comp=Z,20nm,1.0s							
NAY	**Al-Naaiem**	**18.98**	**98**	*e*P		**Pn**	**16 35 23.1**	**+0.5**
CABF	**La Chapelle**	**19.53**	**316**	*e*P		**P**	**16 35 26.9**	**-0.9**
CABF	**La Chapelle**	**19.53**	**316**	*e*P		**P**	**16 35 26.9**	**-0.9**
CLL	**Collm**	**19.69**	**336**	*e*P		Pn	16 35 36.0	+5.1
CLL	**Collm**	**19.69**	**336**	*es*P		sP	16 35 36.0	-1.8
CLL				*e*S		**Sn**	**16 39 12.0**	**+0.7**
LASF	**Ste Croix**	**19.70**	**308**	*e*P		**P**	**16 35 28.2**	**-1.4**
	comp=Z,28nm,1.2s							
LASF	**Ste Croix**	**19.70**	**308**	*e*P		**P**	**16 35 28.2**	**-1.4**
	comp=Z,14nm,1.2s							
VORD	**Divnogorie**	**19.78**	**26**	*e*P		**P**	**16 35 29.5**	**-0.8**
VORD				pmax		pmax		
	comp=N,30nm,0.9s							
VORD				pmax		pmax		
	comp=Z,9.0nm,0.9s							
VORD				pmax		pmax		
	comp=E,10.0nm,0.6s							
VORD	**Divnogorie**	**19.78**	**26**	*e*P		**P**	**16 35 29.5**	**-0.8**
VSR	**Storozhevoye**	**19.94**	**26**	*e*P		**Pn**	**16 35 33.4**	**-0.4**
VSR				pmax		pmax		
	comp=N,10.0nm,0.7s							
VSR				pmax		pmax		
	comp=Z,9.0nm,0.7s							
VSR				pmax		pmax		
	comp=E,10.0nm,0.8s							
VSR	**Storozhevoye**	**19.94**	**26**	*e*P		**Pn**	**16 35 33.4**	**-0.4**
CDF	**Champ du Feu**	**19.97**	**322**	*e*P		**Pn**	**16 35 34.0**	**-0.3**
	comp=E,31nm,1.2s							
CDF	**Champ du Feu**	**19.97**	**322**	*e*P		**Pn**	**16 35 34.0**	**-0.3**
	comp=E,15nm,1.2s							
IRAZ	**Razeghan**	**20.05**	**79**	*e*P		**P**	**16 35 33.3**	**-0.4**
IRAZ	**Razeghan**	**20.05**	**79**	*e*P		**P**	**16 35 33.3**	**-0.4**
IGZV	**Ghazvin**	**20.26**	**76**	*e*P		Pn	16 35 38.2	+0.2
IGZV	**Ghazvin**	**20.26**	**76**	*e*P		Pn	16 35 38.2	+0.2
MTLF	**Montolieu**	**20.53**	**304**	*e*P		**P**	**16 35 37.0**	**-1.6**
MTLF	**Montolieu**	**20.53**	**304**	*e*P		**P**	**16 35 37.0**	**-1.6**
VRHR	**Novokhopersk**	**20.78**	**29**	*e*P		**P**	**16 35 41.5**	**+0.2**
VRHR				pmax		pmax		
	comp=Z,30nm,0.7s							
VRHR				pmax		pmax		
	comp=N,50nm,0.8s							
VRHR				pmax		pmax		
	comp=E,10.0nm,0.5s							
VRHR	**Novokhopersk**	**20.78**	**29**	*e*P		**P**	**16 35 41.5**	**+0.2**
	comp=E,50nm,0.8s							
SMF	**Signal de Mont**	**20.87**	**314**	*e*P		**P**	**16 35 39.6**	**-2.6**
SMF	**Signal de Mont**	**20.87**	**314**	*e*P		**P**	**16 35 39.6**	**-2.6**
LOR	**Lormes**	**21.17**	**316**	*e*P		**P**	**16 35 44.6**	**-1.0**
	comp=E,20nm,1.1s							
LOR				*e*R				
	comp=E,146nm,21.2s							
LOR	**Lormes**	**21.17**	**316**	*e*P		**P**	**16 35 44.6**	**-1.0**
	comp=E,10nm,1.1s							
SSF	**Saint Saulge**	**21.27**	**315**	*e*P		**P**	**16 35 45.5**	**-1.1**
	comp=E,13nm,0.8s							
SSF	**Saint Saulge**	**21.27**	**315**	*e*P		**P**	**16 35 45.5**	**-1.1**
	comp=E,6.7nm,0.8s							
IKLH	**Kolahrood**	**21.61**	**84**	*e*P		**P**	**16 35 52.8**	**+2.1**
IKLH	**Kolahrood**	**21.61**	**84**	*e*P		**P**	**16 35 52.8**	**+2.1**
TCF	**Toulx Ste Croi**	**21.69**	**312**	*e*P		**P**	**16 35 49.8**	**-1.3**
	comp=E,29nm,1.2s							
TCF	**Toulx Ste Croi**	**21.69**	**312**	*e*P		**P**	**16 35 49.8**	**-1.3**
	comp=E,15nm,1.2s							
RJF	**Les Rejaudoux**	**21.72**	**309**	*e*P		**P**	**16 35 50.6**	**-0.8**
	comp=E,26nm,1.1s							
RJF				*e*R				
	comp=E,106nm,18.5s							
RJF	**Les Rejaudoux**	**21.72**	**309**	*e*P		**P**	**16 35 50.6**	**-0.8**
	comp=E,13nm,1.1s							
IGAR	**Gharneh**	**22.15**	**86**	*e*Pn		**P**	**16 35 58.6**	**+2.2**
IZEF	**Zefreh**	**22.30**	**85**	*e*P		**P**	**16 35 58.4**	**+0.3**
IZEF	**Zefreh**	**22.30**	**85**	*e*P		**P**	**16 35 58.4**	**+0.3**
OBN	**Obninsk**	**22.57**	**17**	*i* P		**P**	**16 36 01.6**	**+1.3**
OBN				*e*			16 36 22.9	
OBN				*e*			16 39 57.4	
OBN				*e*S		**S**	**16 40 03.8**	**-2.7**
OBN				pmax		pmax		
	comp=Z,11nm,0.7s							
OBN				MLR		MLR		
	comp=Z,100nm,17.0s							
OBN	**Obninsk**	**22.57**	**17**	*i* P		**P**	**16 36 01.6**	**+1.3**
	comp=Z,11nm,0.7s							
OBN				*e*S		**S**	**16 40 03.8**	**-2.7**
	comp=Z,100nm,17.0s							
BAIF	**Baives**	**22.57**	**322**	*e*P		**P**	**16 35 59.4**	**-1.0**
	comp=Z,13nm,0.6s							
BAIF	**Baives**	**22.57**	**322**	*e*P		**P**	**16 35 59.4**	**-1.0**
	comp=Z,6.4nm,0.6s							
SJPF	**Ste Jean**	**22.87**	**302**	*e*P		**P**	**16 36 03.7**	**0.0**
	comp=Z,17nm,0.8s							
SJPF	**Ste Jean**	**22.87**	**302**	*e*P		**P**	**16 36 03.7**	**0.0**
	comp=Z,8.3nm,0.8s							
MFF	**Saint Martin d**	**23.30**	**311**	*e*P		**P**	**16 36 07.5**	**-0.5**
MFF	**Saint Martin d**	**23.30**	**311**	*e*P		**P**	**16 36 07.5**	**-0.5**
IPAR	**Pars**	**23.61**	**92**	*e*P		P	16 35 15.6	-56
ISRV	**Sarvestan**	**23.80**	**93**	*e*P		**P**	**16 36 15.2**	**+1.7**
ISRV	**Sarvestan**	**23.80**	**93**	*e*P		**P**	**16 36 15.2**	**+1.7**
LDF	**La Druitiere**	**24.16**	**315**	*e*P		**P**	**16 36 14.1**	**-2.2**
LDF	**La Druitiere**	**24.16**	**315**	*e*P		**P**	**16 36 14.1**	**-2.2**
ESDC	**Sonseca Array**	**24.33**	**292**	P		**P**	**16 36 17.3**	**-0.8**
	comp=Z,0.4nm,0.4s,baz=79,slow=9.4,SNR=6.2							
IMEH	**Mehriz**	**24.50**	**88**	*e*P		**P**	**16 36 21.4**	**+1.5**
IMEH	**Mehriz**	**24.50**	**88**	*e*P		**P**	**16 36 21.4**	**+1.5**
VSU	**Vasula**	**24.60**	**1**	*i* P		**P**	**16 36 20.8**	**+0.6**
VSU				pmax		pmax		
	comp=Z,26nm,1.0s							
VSU	**Vasula**	**24.60**	**1**	*i* P		**P**	**16 36 20.8**	**+0.6**
	comp=Z,26nm,1.0s							
MDT	**Midelt**	**25.24**	**276**	P		**P**	**16 36 27.7**	**+1.2**
	comp=Z,2.6nm,0.8s,baz=99,slow=12,SNR=3.7							
IBAF	**Bafgh**	**25.25**	**87**	*e*P		**P**	**16 36 28.8**	**+2.2**
IBAF	**Bafgh**	**25.25**	**87**	*e*P		**P**	**16 36 28.8**	**+2.2**
HFS	**Hagfors**	**27.41**	**347**	P		**P**	**16 36 45.2**	**-0.3**
	comp=Z,2.1nm,0.7s,baz=204,slow=6.5,SNR=3.7							
HFS	**Hagfors**	**27.41**	**347**	P		**P**	**16 36 45.2**	**-0.3**
	comp=Z,2.0nm,0.7s							
NB2	**NORSAR Subarra**	**28.73**	**345**	P		**P**	**16 36 58.7**	**+1.3**
	comp=Z,1.3nm,0.6s,baz=158,slow=11							
NB2	**NORSAR Subarra**	**28.73**	**345**	P		**P**	**16 36 58.7**	**+1.3**
	comp=Z,1.3nm,0.6s,

SONM	Songino Array	60.01	50	P		P	16 41 07.6	+0.8
	comp=Z,1.0nm,0.6s,baz=284,slow=7.6,SNR=7.5							
SONM	Songino Array	60.01	50	P		P	16 41 07.6	+0.8
	comp=Z,1.0nm,0.9s							
BOSA	Boshof	62.16	180	P		P	16 41 23.2	+1.7
	comp=Z,2.8nm,0.9s,baz=3.5,slow=6.5,SNR=6.5							
BOSA	Boshof	62.16	180	P		P	16 41 23.2	+1.7
	comp=Z,2.0nm,0.7s							
SCHQ	Schefferville	64.41	320	P		P	16 41 35.2	-0.9
	comp=Z,3.3nm,0.7s,baz=61,slow=8.4,SNR=4.2							
USRK	Ussuriysk Arra	77.48	45	P		P	16 42 55.0	-0.6
	comp=Z,1.7nm,0.7s,baz=283,slow=7.2,SNR=5.1							
KSRS	Korea Array	78.76	52	P		P	16 43 03.5	+0.7
	comp=Z,1.0nm,0.7s,baz=303,slow=4.6,SNR=4.5							
KSRS	Korea Array	78.76	52	P		P	16 43 03.5	+0.7
	comp=Z,1.0nm,0.7s							
YKA	Yellowknife Ar	78.78	342	P		P	16 43 00.9	-1.6
	comp=Z,1.2nm,0.7s,baz=28,slow=5.9,SNR=2.6							
YKA	Yellowknife Ar	78.78	342	P		P	16 43 00.9	-1.6
	comp=Z,1.0nm,0.7s							
ILAR	Eielson Array	81.50	357	P		P	16 43 18.6	+1.5
	comp=Z,0.5nm,0.6s,baz=349,slow=3.8,SNR=4.9							
ILAR	Eielson Array	81.50	357	P		P	16 43 18.6	+1.5
	comp=Z,1.0nm,0.6s							
ASAR	Alice Springs	117.44	101	PKP		PKPdf	16 49 45.3	-0.9
	comp=Z,0.6nm,1.1s,baz=298,slow=2.0,SNR=3.3							

MAN 15 16:50:09, 7°.24N×123°.75E, h24km, mb4.0, ML2.8, MS2.4, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAGZ	Pagadian	0.71	329	eP	Pn	16 50 23.9	+0.4
PAGZ				eS	Sb	16 50 31.9	-0.1
IPIL	Ipil	1.29	295	eP	Pb	16 50 32.4	-0.2
BUKP	Musuan	1.45	64	eP	Pb	16 50 34.8	-0.6

IDC 15 17:02:52.6±2.5, 14°.32S×166°.83E, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.8/18, mbtmp3.9/6, ML4.5/1, Error ellipse: s-maj=61.2km s-min=33.1km az=100.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	7.72	183	Pn	Pn	17 04 46.5	0.0
	7.3nm,0.3s,baz=84,slow=23,SNR=116						
DZM				Sn	Sn	17 06 03.6	-11
	1.4nm,0.3s,baz=120,slow=20,SNR=2.1						
WRA	Warramunga Arr	31.51	255	P	P	17 09 16.7	0.0
	0.3nm,0.4s,baz=83,slow=7.8,SNR=14						
ASAR	Alice Springs	32.42	248	P	P	17 09 24.0	-0.7
	0.7nm,0.4s,baz=72,slow=9.8,SNR=37						
CMAR	Chiang Mai Arr	74.39	294	P	P	17 14 34.3	+1.4
	0.4nm,0.7s,baz=141,slow=5.0,SNR=3.5						
SONM	Songino Array	81.91	324	P	P	17 15 13.8	-0.5
	0.4nm,0.4s,baz=139,slow=6.6,SNR=4.5						
MKAR	Makanchi Array	96.61	316	P	P	17 16 23.5	-1.1
	0.6nm,0.8s,baz=101,slow=6.3,SNR=5.6						

BJI 15 17:04:31.5, 35°.66N×81°.65E, h17km, ML3.5/5, Ms3.5/1, Ms7 3.4/1, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	Kashi	5.93	312	Pn	Pn	17 06 02.5	+3.8
KSH				Sn	Sn	17 07 10.5	+4.2
KSH				smax	smax		
	comp=N,43nm,0.7s						
KSH				smax	smax		
	comp=E,99nm,1.0s						

CASC 15 17:09:44.6±1.6, 14°.08N×91°.79W, h50km±21km, MD3.6, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	Jato	0.28	33	eP	Pn	17 09 54.1	+0.5
FUG	Fuego 3	0.99	68	eP	Pn	17 10 02.1	-0.4
PCG	Pacaya	1.19	75	eP	Pn	17 10 05.4	+0.1
PCG				eS	Sn	17 10 22.4	+1.7
IXG	Ixpaco	1.30	86	eP	Pn	17 10 07.5	+0.8
IXG				eS	Sn	17 10 24.1	+1.0
NBG	Las Nubes	1.49	70	eP	Pn	17 10 10.5	+1.2
NBG				eS	Sn	17 10 29.2	+1.2
RBDL	Robledal	2.04	89	eP	Pn	17 10 17.0	+0.2
RTR	El Retiro	2.09	95	eP	Pn	17 10 17.8	+0.3
SBLS	San Blas	2.12	96	eP	Pn	17 10 18.1	+0.1
SNJE	San Jose	2.13	95	eP	Pn	17 10 18.6	+0.5
MRL	Marmol	2.26	64	eP	Pn	17 10 20.3	+0.6
BOQS	Boqueron	2.46	98	eP	Pn	17 10 23.1	+0.5
BOQS				eS	Sn	17 10 51.9	+0.2
LFRS	El Faro	2.69	99	eP	Pn	17 10 26.2	+0.6
LFRS				eS	Sn	17 10 58.0	+0.9

*ATH **15** 17:12:47.1, 33°.92N×25°.45E, h5km±2km, MD3.6/12*
*CSEM **15** 17:12:47.1, 33°.92N×25°.45E, h5km, MD3.6, After ATH*
*IDC **15** 17:12:47.9±1.3, 34°.05N×25°.51E, h0km, mb3.7/6, mb1 3.7/10, mb1mx3.6/25, mbtmp3.6/10, Error ellipse: s-maj=22.4km s-min=20.3km az=44.0*
ISC 15 17:12:47.3±1.8, 33°.94N±0°.06×25°.51E±0°.03, h3km±10km, n44, σ1§25/58, mb3.7/6, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAST	Lasithi	1.22	359	ePG	Pg	17 13 10.4	-0.4
LAST				eSB	Sb	17 13 27.9	+0.6
LAST	Lasithi	1.22	359	ePg	Pg	17 13 10.4	-0.4
LAST				eSb	Sb	17 13 27.9	+0.6
SIVA	Sivas	1.22	332	ePB	Pg	17 13 10.6	-0.2
SIVA				eSB	Sn	17 13 28.0	-0.4
SIVA	Sivas	1.22	332	ePb	Pg	17 13 10.6	-0.2
SIVA				eSb	Sn	17 13 28.0	-0.4
ZKR	Zakros	1.31	26	ePB	Pb	17 13 12.7	+0.1
ZKR				eSB	Sn	17 13 31.7	+1.1
ZKR	Zakros	1.31	26	ePb	Pb	17 13 12.7	+0.1
ZKR				eSb	Sn	17 13 31.7	+1.1
NPS	Neapolis	1.33	4	ePB	Pn	17 13 12.3	-0.4
NPS	Neapolis	1.33	4	ePb	Pn	17 13 12.3	-0.4
IDI	Anoyia	1.44	339	ePN	Pn	17 13 14.3	-0.1
IDI	Anoyia	1.44	339	ePB	Pn	17 13 14.3	-0.1
IDI				eSB	Sg	17 13 33.9	+0.2
IDI	Anoyia	1.44	339	Pn	Pn	17 13 14.5	+0.1
	3.1nm,0.3s,baz=158,slow=16,SNR=33						
IDI				Sn	Sn	17 13 34.6	+0.7
	20nm,0.3s,baz=287,slow=13,SNR=12						
IDI	Anoyia	1.44	339	ePb	Pn	17 13 14.3	-0.1
IDI				eSb	Sg	17 13 33.9	+0.2
GVD	Gavdhos	1.48	308	ePB	Pb	17 13 15.5	0.0
GVD	Gavdhos	1.48	308	ePb	Pb	17 13 15.5	0.0
VAM	Vamos	1.82	324	ePG	Pb	17 13 21.0	-0.3
VAM	Vamos	1.82	324	ePg	Pb	17 13 21.0	-0.3
KARN	Karanos	1.96	319	ePG	Pb	17 13 23.0	-0.7
KARN				eSN	Sg	17 13 51.1	+0.7
KARN	Karanos	1.96	319	ePg	Pb	17 13 23.0	-0.7
KARN				eSn	Sg	17 13 51.1	+0.7
KARP	Karpathos	2.11	40	ePG	Pb	17 13 26.9	+0.8
KARP				eSN	Sg	17 13 55.1	+0.1
KARP	Karpathos	2.11	40	ePg	Pb	17 13 26.9	+0.8
KARP				eSn	Sg	17 13 55.1	+0.1
ANKY	Antikythira Is	2.65	317	ePN	Pb	17 13 33.4	-1.9
ANKY	Antikythira Is	2.65	317	ePn	Pb	17 13 33.4	-1.9
KYTH	Kithira	3.10	320	ePN	Pn	17 13 39.2	+2.1
KYTH	Kithira	3.10	320	ePn	Pn	17 13 39.2	+2.1
APE	Apeiranthos	3.13	0	eP	Pn	17 13 39.8	+2.3
DAT	Datca	3.26	31	eP	Pn	17 13 36.8	-2.6
VLI	Veliai	3.48	324	ePN	Pn	17 13 44.2	+1.8
VLI	Veliai	3.48	324	ePn	Pn	17 13 44.2	+1.8
DALY	Dalyan (Mu¨la	3.86	41	eP	Pn	17 13 46.0	-1.5
YER	Yerkesik	3.91	35	eP	Pn	17 13 46.0	-2.3
ELL	Elmali	4.56	51	eP	Pn	17 13 56.0	-1.3
SUTC	Sutluce-Ispart	5.70	50	eP	Pn	17 14 11.9	-1.0
HDMB	Hadim	6.45	60	eP	Pn	17 14 23.9	+0.6
IKL	Isikli	7.09	69	eP	Pn	17 14 33.1	+1.3
MMAI	Mount Meron Ar	8.32	94	Pn	Pn	17 14 48.9	0.0
	1.8nm,0.3s,baz=268,slow=11,SNR=8.2						
MMAI				Sn	Sn	17 16 19.4	-4.0
	1.1nm,0.3s,baz=264,slow=26,SNR=3.5						
BRTR	Keskin Array B	8.71	46	Pn	Pn	17 14 52.9	-1.4
	0.0nm,0.3s,baz=229,slow=13,SNR=2.2						
AKASG	Malin Array Be	16.98	8	Pn	P	17 16 46.8	-0.8
	1.0nm,0.3s,baz=198,slow=11,SNR=12						
GERES	GERESS Array B	17.30	333	P	Pn	17 16 49.3	-0.5
	0.1nm,0.3s,baz=146,slow=12,SNR=3.7						
FINES	FINESS Array B	27.53	1	P	P	17 18 33.7	-1.2
	0.8nm,0.6s,baz=198,slow=8.7,SNR=2.0						
TORD	Torodi Ar. Bea	29.94	232	P	P	17 18 58.6	+1.8
	0.1nm,0.3s,baz=35,slow=8.5,SNR=3.7						
ARCES	ARCESS Array B	35.65	360	P	P	17 19 44.9	-1.3
	1.2nm,0.7s,baz=177,slow=9.1,SNR=6.1						
MKAR	Makanchi Array	44.22	56	P	P	17 20 58.9	+1.2
	0.8nm,0.6s,baz=280,slow=6.4,SNR=14						
ZALV	Zalesovo Beam	45.65	45	P	P	17 21 08.6	-0.3
	0.7nm,0.3s,baz=282,slow=7.2,SNR=2.9						
SONM	Songino Array	60.04	50	P	P	17 22 57.2	+1.6
	0.2nm,0.4s,baz=276,slow=7.1,SNR=2.7						

*IDC **15** 17:13:10.5±1.5, 40°.95S×176°.42E, h0km, mb4.1/2, mb1 4.2/4, mb1mx3.9/16, mbtmp4.0/4, ML3.7/2, Error ellipse: s-maj=40.5km s-min=29.5km az=124.0*
*WEL **15** 17:13:13.5±0.2, 40°.97S×176°.53E, h29km±1km, ML4.1/44, Error ellipse: s-maj=2.4km s-min=1.3km az=90.0, MM 4.*
WEL Felt between Manawatu, Wellington and Wairarapa, maximum reported intensity.
ISC 15 17:13:12.8±0.8, 40°.97S±0°.04×176°.53E±0°.05, h28km, n88, σ1§39/91, 21C-1D, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPWZ	Castlepoint	0.26	283	⇓P*	Pn	17 13 20.2	-0.5
CPWZ				S*	Sb	17 13 25.6	+1.6
BFZ	Birch Farm	0.36	323	⇑P*	Pn	17 13 21.0	-1.1
BFZ				S*	Sn	17 13 26.5	-1.8
TMWZ	Te Maipa	0.50	254	⇑P*	Pn	17 13 24.7	+0.5
ANWZ	Angora Road	0.51	355	⇑P*	Pn	17 13 23.9	-0.3
ANWZ				S*	Sn	17 13 31.8	-0.2
TIWZ	Tintock	0.53	291	⇑P*	Pn	17 13 24.3	-0.2
PRWZ	Pori Road	0.59	314	⇑P*	Pn	17 13 25.3	0.0
PRHZ	Porangahau	0.70	7	⇑P*	Pn	17 13 27.0	+0.1
DVHZ	Dannevirke	0.72	337	⇑P*	Pn	17 13 27.1	-0.1
TRWZ	Traveller	0.77	236	⇑P*	Pn	17 13 28.3	+0.5
TRWZ				AML	AML	17 13 49.2	
TRWZ				AML	AML	17 13 51.1	
HOWZ	Holdsworth Sta	0.77	275	⇑P*	Pn	17 13 27.9	+0.1
MRZ	Mangatainoka R	0.78	293	⇑eP*	Pn	17 13 28.0	0.0
MRZ				AML	AML	17 13 41.8	
MRZ				AML	AML	17 13 42.6	
MTW	Mount Morrison	0.80	256	⇑P*	Pn	17 13 28.4	+0.1
MTW				AML	AML	17 13 44.7	
MTW				AML	AML	17 13 45.5	
POWZ	Post Office Ro	0.82	315	⇑P*	Pn	17 13 28.7	+0.2
WPHZ	Waipukurau	0.91	356	P*	Pb	17 13 29.9	0.0
PAWZ	Paruwai Farm	0.93	243	⇑P*	Pb	17 13 30.3	0.0
PAWZ				AML	AML	17 13 51.8	
PAWZ				AML	AML	17 13 58.2	
PXZ	Pawanui	0.97	15	P*	Pb	17 13 30.4	-0.6
PXZ				AML	AML	17 13 58.2	
PXZ				AML	AML	17 13 58.2	
PXZ				AML	AML	17 14 05.4	
PXZ				AML	AML	17 14 05.4	
TSZ	Takapari Road	1.01	334	⇑P*	Pb	17 13 31.3	-0.4
TSZ				AML	AML	17 13 49.1	
TSZ				AML	AML	17 13 49.4	
OGWZ	Otaki Gorge	1.04	278	⇑P*	Pb	17 13 32.0	-0.2
MSWZ	Moikau Station	1.06	245	⇑P*	Pb	17 13 31.9	-0.7
MSWZ				AML	AML	17 13 56.1	
MSWZ				AML	AML	17 13 59.2	
PNHZ	Pukenui	1.08	346	⇑P*	Pb	17 13 32.5	-0.5
CAW	Cannon Point	1.11	262	⇑P*	Pb	17 13 32.9	-0.6
CAW				AML	AML	17 13 55.5	
CAW				AML	AML	17 13 56.2	
PLWZ	Palliser	1.13	238	P*	Pn	17 13 32.7	-0.2
KAHZ	Kahuranaki	1.20	13	Pn	Pb	17 13 33.8	-1.1
KIW	Kapiti Island	1.23	274	⇑P*	Pb	17 13 36.8	-0.6
KIW				AML	AML	17 13 57.8	
KIW				AML	AML	17 14 03.6	
BHW	Baring Head	1.33	250	⇑P*	Pb	17 13 35.6	-1.5
BHW				AML	AML	17 14 04.1	
BHW				AML	AML	17 14 05.2	
WEL	Wellington	1.37	256	PN	Pb	17 13 36.3	-1.4
SNZO	South Karori	1.42	256	⇑Pn	Pb	17 13 36.9	-1.7
SNZO				AML	AML	17 14 06.5	
SNZO				AML	AML	17 14 10.4	
BHHZ	Black Hill Sta	1.52	346	PN	Pb	17 13 38.8	-1.6
MCHZ	McNeill Hill	1.53	5	Pn	Pb	17 13 38.8	-1.7
MOVZ	Moawhango	1.67	339	Pn	Pb	17 13 41.5	-1.5
MOVZ				AML	AML	17 14 13.3	
MOVZ				AML	AML	17 14 16.0	
WAZ	Wanganui	1.69	315	Pn	Pb	17 13 42.2	-1.0
WAZ				AML	AML	17 14 15.2	
WAZ				AML	AML	17 14 38.8	
TCW	Tory Channel	1.72	261	Pn	Pn	17 13 41.1	+0.3
TCW				AML	AML	17 14 14.9	
TCW				AML	AML	17 14 15.2	
MTVZ	Mangateitei	1.78	332	PN	Pb	17 13 43.3	-1.5
MTVZ				AML	AML	17 14 23.4	
MTVZ				AML	AML	17 14 27.0	
WNVZ	Wahianoa	1.79	336	PN	Pb	17 13 43.5	-1.5
WNVZ				AML	AML	17 14 21.4	
WNVZ				AML	AML	17 14 24.4	
BKZ	Black Stump Fm	1.80	359	PN	Pn	17 13 42.4	+0.3
BKZ				AML	AML	17 14 16.9	
BKZ				AML	AML	17 14 23.1	
TRVZ	Turoa	1.83	335	PN	Pb	17 13 44.2	-1.6
TRVZ				AML	AML	17 14 16.7	
TRVZ				AML	AML	17 14 16.8	
WHVZ	Whangaehu Hut	1.83	337	PN	Pb	17 13 44.0	-1.8
FWVZ	Far West T-bar	1.87	336	PN	Pb	17 13 44.6	-1.8
FWVZ				AML	AML	17 14 19.4	
FWVZ				AML	AML	17 14 30.4	
NMHZ	Naumai	1.88	7	PN	Pn	17 13 43.8	+0.6
PKVZ	Pokaka	1.91	331	PN	Pb	17 13 45.4	-1.5
PKVZ				AML	AML	17 14 23.3	
PKVZ				AML	AML	17 14 27.1	
WPVZ	Whakapapa	1.92	336	PN	Pb	17 13 45.3	-1.9
WPVZ				AML	AML	17 14 22.5	
WPVZ				AML	AML	17 14 25.7	
OTVZ	Oturere	1.92	340	PN	Pb	17 13 45.5	-1.7
OTVZ				AML	AML	17 14 24.3	
OTVZ				AML	AML	17 14 30.6	
NGZ	Ngauruhoe	1.93	338	PN	Pb	17 13 45.5	-1.8
NGZ				AML	AML	17 14 19.3	
NGZ				AML	AML	17 14 24.4	
DUWZ	D'Urville Isla	1.98	274	PN	Pb	17 13 45.5	-2.8
DUWZ				AML	AML	17 14 21.7	
DUWZ				AML	AML	17 14 24.0	
WTVZ	West Tongariro	1.99	338	PN	Pb	17 13 46.0	-2.3
WTVZ				AML	AML	17 14 24.4	
WTVZ				AML	AML	17 14 33.2	
KRVZ	Karewarewa	1.99	340	PN	Pb	17 13 46.2	-2.3
KRVZ				AML	AML	17 14 26.5	
KRVZ				AML	AML	17 14 32.8	
TUWZ	Tuamarina	2.01	256	PN	Pn	17 13 44.4	-0.4
TUWZ				AML	AML	17 14 24.2	
TUWZ				AML	AML	17 14 26.6	
RITZ	Rihia Road	2.05	345	PN	Pb	17 13 46.9	-2.5
RITZ				AML	AML	17 14 35.0	
RITZ				AML	AML	17 14 39.0	
TWVZ	Taurewa	2.07	336	PN	Pb	17 13 47.5	-2.3
TWVZ				AML	AML	17 14 28.3	
TWVZ				AML	AML	17 14 34.9	
KATZ	Kakaramea	2.09	342	PN	Pb	17 13 48.3	-1.9
KATZ				AML	AML	17 14 30.0	
KATZ				AML	AML	17 14 34.6	
RAHZ	Arahi	2.09	12	PN	Pn	17 13 45.6	-0.4
MHGZ	Mahia Peninsul	2.10	31	PN	Pn	17 13 45.3	-0.8
HATZ	Hinemaiaia	2.10	351	AML	AML	17 14 31.1	
HATZ				AML	AML	17 14 40.8	
BSWZ	Blackbirch Sta	2.13	249	PN	Pn	17 13 46.5	-0.1
BSWZ				AML	AML	17 14 31.6	
BSWZ				AML	AML	17 14 33.8	
KNZ	Kokohu	2.13	25	PN	Pn	17 13 45.6	-1.0
RATZ	Rangitukua	2.18	344	PN	Pb	17 13 48.4	-3.1
RATZ				AML	AML	17 14 33.1	
RATZ				AML	AML	17 14 46.0	
VRZ	Vera Road	2.29	323	PN	Pb	17 13 50.1	-3.4
VRZ				AML	AML	17 14 34.2	
VRZ				AML	AML	17 14 43.5	
PRGZ	Paritu Road	2.29	27	PN	Pn	17 13 48.1	-0.7
WATZ	Wairara	2.34	345	PN	Pn	17 13 50.1	+0.6
WATZ				AML	AML	17 15 02.0	
WATZ				AML	AML	17 15 05.4	
WHTZ	Whakaora	2.34	349	PN	Pn	17 13 50.4	+0.9
NNZ	Nelson	2.39	263	PN	Pn	17 13 50.5	+0.4
NNZ				AML	AML	17 14 37.5	
NNZ				AML	AML	17 14 44.0	
DFE	Dawson Falls	2.48	311	ePN	Pb	17 13 54.5	-2.2
NEZ	North Egmont	2.52	311	ePN	Pb	17 13 54.3	-3.1
KHEZ	Kahui Hut	2.55	310	ePN	Pb	17 13 54.8	-3.2
PKE	Pukeiti	2.63	311	PN	Pb	17 13 55.8	-3.5
PKE				AML	AML	17 14 44.2	
PKE				AML	AML	17 14 44.5	
KHZ	Kahutara	2.67	236	PN	Pn	17 13 53.1	-0.7
KHZ				AML	AML	17 14 28.4	
KHZ				AML	AML	17 14 28.9	
TARZ	Mount Tarawera	2.73	360	PN	Pn	17 13 54.8	-0.1
MWZ	Matawai	2.74	17	PN	Pn	17 13 53.8	-1.1
MWZ				AML	AML	17 14 33.4	
MWZ				AML	AML	17 15 06.5	
URZ	Urewera	2.74	10	PN	Pn	17 13 54.2	-0.7
URZ				AML	AML	17 14 32.8	
URZ				AML	AML	17 14 34.2	
URZ	Urewera	2.74	10	Pn	Pn	17 13 54.5	-0.4
	10nm,0.3s,baz=228,slow=7.0,SNR=73						
URZ				Sn	Sn	17 14 25.0	-2.1
	21nm,0.3s,baz=309,slow=19,SNR=7.4						
HIZ	Hauiti	2.77	332	PN	Pn	17 13 56.6	+1.2
HIZ				AML	AML	17 14 45.4	
HIZ				AML	AML	17 14 51.2	
THZ	Tophouse	2.84	253	PN	Pn	17 13 55.7	-0.7
THZ				AML	AML	17 14 57.4	
THZ				AML	AML	17 15 02.0	
QRZ	Quartz Range	3.04	271	PN	Pn	17 13 59.7	+0.7
PUZ	Puketiti	3.19	25	ePN	Pn	17 13 59.4	-1.7
PUZ				AML	AML	17 14 41.5	
PUZ				AML	AML	17 15 05.2	
DSZ	Denniston Nort	3.64	256	ePN	Pn	17 14 06.6	-0.7
LTZ	Lake Taylor	3.66	239	ePN	Pn	17 14 06.7	-0.9
LTZ				AML	AML	17 15 29.5	
LTZ				AML	AML	17 15 41.4	
MQZ	McQueen's Vall	3.97	225	ePN	Pn	17 14 10.2	-1.6
OXZ	Oxford	4.09	233	ePN	Pn	17 14 12.2	-1.2
WVZ	Waitaha Valley	4.80	242	ePN	Pn	17 14 21.5	-1.8
RPZ	Rata Peaks	4.90	234	PN	Pn	17 14 23.8	-0.7
RPZ	Rata Peaks	4.90	234	Pn	Pn	17 14 23.9	-0.7
	3.8nm,0.3s,baz=318,slow=22,SNR=17						
RPZ				Sn	Sn	17 15 16.9	-3.4
	3.5nm,0.3s,baz=184,slow=23,SNR=9.7						
LBZ	Lake Benmore	5.79	232	ePN	Pn	17 14 35.9	-0.9
ODZ	Otahua Downs	5.93	225	PN	Pn	17 14 37.9	-0.9
ASAR	Alice Springs	39.51	283	P	P	17 20 42.3	+1.2
	1.0nm,0.4s,baz=122,slow=6.7,SNR=70						
WRA	Warramunga Arr	41.47	287	P	P	17 20 58.5	+1.0
	1.8nm,0.5s,baz=126,slow=8.2,SNR=45						
ARCES	ARCESS Array B	147.61	341	PKPbc	PKPab	17 32 55.9	+0.3
	2.6nm,0.9s,baz=54,slow=2.3,SNR=5.9						
BRTR	Keskin Array B	151.82	280	PKPbc	PKPbc	17 33 07.2	+2.4
	0.6nm,0.8s,baz=172,slow=4.4,SNR=3.0						
BRTR				PKPab	PKPab	17 33 14.3	+0.4
	0.7nm,0.8s,baz=138,slow=9.9,SNR=4.0						
TORD	Torodi Ar. Bea	151.92	191	PKPab	PKPab	17 33 15.8	+1.3
	0.4nm,0.7s,baz=157,slow=3.2,SNR=3.1						

*CSEM **15** 17:17:23.9, 33°.86N×25°.44E, h11km, MD3.6, After ATH*
*ATH **15** 17:17:23.9, 33°.86N×25°.44E, h11km±1km, MD3.6/8*
*IDC **15** 17:17:24.4±3.4, 34°.01N×25°.57E, h0km, mb3.4/1, mb1 3.6/5, mb1mx3.4/25, mbtmp3.4/5, ML3.8/4, Error ellipse: s-maj=62.0km s-min=20.1km az=42.0*
ISC 15 17:17:22.5±1.6, 33°.83N±0°.05×25°.45E±0°.03, h1km±10km, n32, σ1§21/48, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	Sivas	1.30	336	ePN	Pb	17 17 47.1	-0.6
SIVA				eSB	Sg	17 18 05.2	+1.0
SIVA	Sivas	1.30	336	ePn	Pb	17 17 47.1	-0.6
SIVA				eSb	Sg	17 18 05.2	+1.0
LAST	Lasithi	1.33	1	ePB	Pg	17 17 48.9	+0.9
LAST				eSB	Sg	17 18 06.3	+1.0
LAST	Lasithi	1.33	1	ePb	Pg	17 17 48.9	+0.9
LAST				eSb	Sg	17 18 06.3	+1.0
ZKR	Zakros	1.43	26	ePG	Pg	17 17 49.8	-0.2
ZKR				eSB	Sg	17 18 09.5	+0.9
ZKR	Zakros	1.43	26	ePg	Pg	17 17 49.8	-0.2
ZKR				eSb	Sg	17 18 09.5	+0.9
NPS	Neapolis	1.44	5	ePG	Pg	17 17 50.2	+0.1
NPS				eSB	Sg	17 18 09.4	+0.7
NPS	Neapolis	1.44	5	ePg	Pg	17 17 50.2	+0.1
NPS				eSb	Sg	17 18 09.4	+0.7
GVD	Gavdhos	1.51	312	ePB	Pg	17 17 52.3	+0.8
GVD				eSB	Sg	17 18 12.1	+1.1
GVD	Gavdhos	1.51	312	ePb	Pg	17 17 52.3	+0.8
GVD				eSb	Sg	17 18 12.1	+1.1
IDI	Anoyia	1.53	343	ePG	Pg	17 17 51.4	-0.4
IDI				eSB	Sg	17 18 13.1	+1.5
IDI	Anoyia	1.53	343	Pn	Pb	17 17 51.0	-0.7
	2.8nm,0.3s,baz=158,slow=17,SNR=11						
IDI				Sn	Sb	17 18 10.6	-1.0
	14nm,0.3s,baz=314,slow=18,SNR=9.2						
IDI	Anoyia	1.53	343	ePg	Pg	17 17 51.4	-0.4
IDI				eSb	Sg	17 18 13.1	+1.5
VAM	Vamos	1.88	327	ePN	Pg	17 17 57.8	-0.8
VAM				eSN	Sg	17 18 22.5	-0.4
VAM	Vamos	1.88	327	ePn	Pg	17 17 57.8	-0.8
VAM				eSn	Sg	17 18

0.7nm,0.6s,baz=157,slow=7.8,SNR=6.1
MKAR Makanchi Array 57.70 325 P P 17 40 29.4 -0.2
0.9nm,0.5s,baz=117,slow=7.5,SNR=20
AKTO Aktyubinsk 73.81 322 P P 17 42 12.6 -0.8
1.6nm,0.7s,baz=90,slow=8.1,SNR=7.9
ARCES ARCESS Array B 90.60 340 P P 17 43 40.0 -0.9
2.6nm,0.8s,baz=31,slow=2.8,SNR=5.7

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*ISCJB **15** 17:43:18.7±0.5, 22°.87S±0°.05×66°.03W±0°.06, h251km±7km, mb3.8/10, Error ellipse: s-maj=9.1km s-min=7.7km az=6.7*
*IDC **15** 17:43:19.7±1.4, 22°.79S×65°.90W, h246km±12km, mb3.6/10, mb1 3.8/15, mb1mx3.7/20, mbtmp3.6/15, Error ellipse: s-maj=16.1km s-min=11.4km az=70.0*
*GUC **15** 17:43:21.3±0.5, 22°.79S×66°.59W, h280km, ML5.5*
ISC 15 17:43:19.3±0.8, 22°.83S±0°.06×66°.02W±0°.07, h243km±8km, n38, σ1§21/46, mb3.8/10, 9C-2D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**Plate Boundary**	**3.16**	**288**	⇑*iP*	**Pn**	**17 44 15.5**	**+2.2**
PB09				*i* S	**S**	**17 44 56.8**	**+0.9**
PB09				AML	AML	17 45 01.0	
	comp=N,3μm,0.3s						
PB04	**Plate Boundary**	**3.26**	**279**	⇑*iP*	Pn	17 44 22.2	+8.0
PB04				*i* S	S	17 45 07.9	+10
PB04				AML	AML	17 45 16.0	
	comp=N,1μm,0.3s						
MACH	**Maria Elena**	**3.52**	**280**	⇑*iP*	**Pn**	**17 44 18.6**	**+1.2**
MACH				*i* S	**S**	**17 45 02.1**	**-1.2**
PB01	**Plate Boundary**	**3.68**	**298**	⇑*iP*	**Pn**	**17 44 20.5**	**+1.3**
PB01				*i* S	**S**	**17 45 06.1**	**-0.4**
PB01				AML	AML	17 45 07.5	
	comp=E,3μm,0.3s						
PB07	**Plate Boundary**	**3.75**	**286**	⇑*iP*	**Pn**	**17 44 21.2**	**+1.2**
PB07				*i* S	**S**	**17 45 06.4**	**-1.7**
PB07				AML	AML	17 45 08.3	
	comp=N,2μm,0.4s						
CEN1	**Los Morros**	**3.89**	**261**	⇓*iP*	Pn	17 44 24.9	+3.3
CEN1				*i* S	**S**	**17 45 12.3**	**+1.4**
CEN1				AML	AML	17 45 15.2	
	comp=N,1μm,0.3s						
ANCH	**Antofagasta**	**4.13**	**257**	⇑*iP*	**Pn**	**17 44 25.0**	**+0.7**
ANCH				*i* S	**S**	**17 45 13.7**	**-2.1**
PB10	**Plate Boundary**	**4.23**	**260**	⇑*iP*	**Pn**	**17 44 25.8**	**+0.2**
PB10				*i* S	**S**	**17 45 15.0**	**-3.0**
PB10				AML	AML	17 45 20.2	
	comp=E,4μm,0.6s						
HMBC	**Humberstone**	**4.41**	**304**	⇑*iP*	**Pn**	**17 44 28.1**	**+0.2**
HMBC				*i* S	**S**	**17 45 19.6**	**-2.6**
HMBC				AML	AML	17 45 22.6	
	comp=N,4μm,0.5s						
MNMC	**Minimini**	**4.97**	**317**	⇑*iP*	**Pn**	**17 44 35.9**	**+1.0**
MNMC				*i* S	**S**	**17 45 33.7**	**-1.2**
CDCH	**Caldera**	**6.07**	**225**	AML	AML	17 45 56.1	
	comp=N,338nm,0.3s						
LPAZ	**La Paz**	**6.81**	**343**	P	Pn	**17 44 59.7**	**+1.6**
	comp=N,2.8nm,0.3s,baz=153,slow=8.7,SNR=61						
LPAZ				S	**S**	**17 46 15.4**	**-1.8**
	comp=N,0.9nm,0.3s,baz=293,slow=18,SNR=12						
SIV	**San Ignacio**	**8.25**	**35**	P	**Pn**	**17 45 16.5**	**+0.6**
	comp=N,6.3nm,0.3s,baz=248,slow=12,SNR=70						
CPUP	**Villa Florida**	**8.64**	**116**	P	**Pn**	**17 45 20.4**	**-0.3**
	comp=N,0.5nm,0.3s,baz=288,slow=12,SNR=4.9						
CFAA	**Coronel Fontan**	**8.96**	**192**	P	**Pn**	**17 45 23.4**	**-1.4**
	comp=N,0.9nm,0.3s,baz=7.4,slow=14,SNR=49						
CFAA				S	S	17 46 57.4	-8.6
	comp=N,1.5nm,0.3s,baz=275,slow=16,SNR=13						
BB16B	**Bebedouro**	**16.27**	**87**	⇓*iP*	**P**	**17 46 54.5**	**+0.8**
BB16B				*i*		17 46 57.6	
BB16B				*i*		17 47 01.6	
BB16B				*i*		17 47 05.7	
BB16B				*i*		17 47 10.9	
PLCA	**Paso Flores**	**18.25**	**191**	P	**P**	**17 47 14.9**	**-0.2**
	comp=N,0.9nm,0.3s,baz=12,slow=12,SNR=36						
BDFB	**Brasilia**	**18.43**	**70**	P	**P**	**17 47 18.0**	**+0.7**
	comp=N,1.7nm,0.3s,baz=233,slow=13,SNR=13						
VNA3	**Neumayer Olymp**	**57.96**	**161**	*e*P	**P**	**17 52 46.8**	**+0.7**
VNA1	**Neumayer--Stat**	**58.14**	**161**	*e*P	**P**	17 52 42.4	-4.8
VNA2	**Neumayer--Watz**	**58.52**	**161**	*e*P	**P**	**17 52 50.7**	**+0.8**
	baz=298,slow=7.3						
SNAA	**Sanae**	**60.15**	**161**	*e*P	**P**	**17 53 01.4**	**+0.3**
SNAA	**Sanae**	**60.15**	**161**	P	**P**	**17 53 01.3**	**+0.3**
	comp=N,1.2nm,0.7s,baz=290,slow=7.1,SNR=38						
TXAR	**Lajitas Array**	**63.27**	**323**	P	**P**	**17 53 22.5**	**+0.1**
	comp=N,0.3nm,0.5s,baz=143,slow=9.1,SNR=3.0						
DBIC	**Dimbokro**	**66.58**	**71**	P	**P**	**17 53 42.8**	**-1.2**
	comp=N,3.4nm,0.5s,baz=196,slow=7.4,SNR=9.9						
TORD	**Torodi Ar. Bea**	**75.31**	**69**	P	**P**	**17 54 35.0**	**-1.3**
	comp=N,6.1nm,0.4s,baz=258,slow=5.9,SNR=62						
VNDA	**Vanda**	**76.00**	**190**	P	**P**	**17 54 40.5**	**+1.4**
	comp=N,0.7nm,0.6s,baz=144,slow=2.7,SNR=5.4						
PDAR	**Pinedale Array**	**76.62**	**329**	P	**P**	**17 54 43.5**	**+0.2**
	comp=N,0.6nm,0.6s,baz=133,slow=7.3,SNR=4.3						
NVAR	**Mina Array Bea**	**78.20**	**321**	P	**P**	**17 54 53.4**	**+1.1**
	comp=N,0.4nm,0.6s,baz=165,slow=6.2,SNR=4.1						
BOSA	**Boshof**	**80.46**	**117**	P	**P**	**17 55 03.0**	**-1.6**
	comp=N,5.5nm,1.0s,baz=253,slow=3.7,SNR=7.9						
MAW	**Mawson**	**82.28**	**162**	P	**P**	**17 55 13.9**	**+0.7**
	comp=N,1.3nm,0.4s,baz=256,slow=8.3,SNR=5.3						
YKA	**Yellowknife Ar**	**93.35**	**340**	P	**P**	**17 56 06.2**	**+0.1**
	comp=N,1.0nm,0.4s,baz=130,slow=4.5,SNR=4.4						
ASAR	**Alice Springs**	**129.89**	**204**	PKP	**PKPdf**	**18 02 00.1**	**-0.5**
	comp=N,0.8nm,0.5s,baz=131,slow=1.7,SNR=16						
ASAR				SKPbc	SKPab	18 04 58.0	-1.8
	comp=N,0.2nm,0.6s,baz=146,slow=3.2,SNR=5.0						
WRA	**Warramunga Arr**	**133.07**	**207**	PKP	**PKPdf**	**18 02 06.5**	**-0.1**
	comp=N,1.3nm,0.6s,baz=165,slow=1.7,SNR=18						
BVAR	**Borovoye Array**	**135.32**	**36**	PKP	**PKPdf**	**18 02 10.4**	**+0.6**
	comp=N,0.3nm,0.4s,baz=352,slow=4.4,SNR=3.0						
ZALV	**Zalesovo Beam**	**141.94**	**29**	PKP	**PKPdf**	**18 02 22.0**	**+0.2**
	comp=N,0.8nm,0.4s,baz=305,slow=6.1,SNR=3.2						
MKAR	**Makanchi Array**	**145.05**	**39**	PKP	**PKPab**	**18 02 27.8**	**0.0**
	comp=N,4.7nm,0.9s,baz=316,slow=2.8,SNR=34						
MKAR				SKPbc	**SKPbc**	**18 05 43.4**	**-0.4**
	comp=N,0.4nm,0.7s,baz=348,slow=2.2,SNR=4.1						
SONM	**Songino Array**	**154.32**	**12**	PKP	**PKPdf**	**18 02 43.0**	**+0.7**
	comp=N,0.6nm,0.8s,baz=17,slow=1.5,SNR=3.2						
SONM				PKPbc	**PKiKP**	**18 02 50.8**	**+0.1**
	comp=N,0.4nm,0.4s,baz=44,slow=1.2,SNR=3.9						

IDC 15 17:47:52.5±2.5, 7°.80S×115°.93E, h0km, mb3.1/4, mb1 3.2/4, mb1mx3.1/20, mbtmp3.1/4, Error ellipse: s-maj=132.9km s-min=23.4km az=53.0, Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.54**	**126**	P	P	17 52 44.0	+0.4
	0.2nm,0.7s,baz=300,slow=12,SNR=4.6						
ASAR	**Alice Springs**	**23.36**	**134**	P	P	17 53 02.6	-0.3
	0.3nm,0.7s,baz=314,slow=9.2,SNR=4.6						
SONM	**Songino Array**	**56.03**	**352**	P	P	17 57 32.8	-0.4
	0.7nm,0.6s,baz=175,slow=7.8,SNR=5.7						
MKAR	**Makanchi Array**	**62.04**	**334**	P	P	17 58 15.1	+0.3
	0.2nm,0.6s,baz=126,slow=7.3,SNR=3.5						

IDC 15 18:10:11.9±3.0, 48°.74N×154°.78E, h85km±27km, mb3.1/5, mb1 3.4/7, mb1mx3.2/25, mbtmp3.3/7, Error ellipse: s-maj=32.3km s-min=24.6km az=105.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**4.75**	**22**	P	Pn	18 11 20.8	-0.2
	1.5nm,0.3s,baz=176,slow=14,SNR=21						
ASAJ	**Asahikawa**	**9.59**	**246**	P	Pn	18 12 27.7	+0.7
	1.6nm,0.3s,baz=83,slow=13,SNR=24						
FX1	**Attu Island--F**	**12.34**	**63**	S	Sn	18 15 08.7	-11
	1.9nm,0.3s,baz=90,slow=20,SNR=4.9						
USRK	**Ussuriysk Arra**	**16.32**	**262**	P	P	18 13 59.5	+2.3
	0.2nm,0.3s,baz=81,slow=13,SNR=4.6						
KSRS	**Korea Array**	**22.50**	**250**	P	P	18 15 04.2	-0.1
	0.9nm,0.5s,baz=50,slow=10,SNR=5.2						
MKAR	**Makanchi Array**	**47.04**	**296**	P	P	18 18 34.8	+0.2
	0.3nm,0.6s,baz=71,slow=7.4,SNR=5.6						
KURBB	**Kurchatov Arra**	**47.31**	**303**	P	P	18 18 35.9	-0.7
	0.2nm,0.5s,baz=68,slow=8.6,SNR=5.3						
KURBB				PcP	PcP	18 20 06.5	+0.4
	0.1nm,0.4s,baz=64,slow=3.0,SNR=4.4						
WRA	**Warramunga Arr**	**70.76**	**200**	P	P	18 21 18.0	-0.8
	0.6nm,0.8s,baz=16,slow=6.1,SNR=5.2						
ASAR	**Alice Springs**	**74.45**	**200**	P	P	18 21 41.2	+0.5
	0.3nm,0.5s,baz=13,slow=5.0,SNR=9.2						

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*ISCJB **15** 18:22:14.9±0.7, 33°.90N±0°.05×25°.39E±0°.07, h17km, mb3.5/6, Error ellipse: s-maj=9.2km s-min=5.7km az=142.1*
*IDC **15** 18:22:14.5±1.1, 34°.02N×25°.27E, h0km, mb3.6/6, mb1 3.6/9, mb1mx3.5/27, mbtmp3.6/9, ML3.7/3, Error ellipse: s-maj=21.3km s-min=19.2km az=176.0*
ISC 15 18:22:17.1±0.9, 34°.03N±0°.07×25°.26E±0°.05, h17km, n24, σ1§14/26, mb3.7/6, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**1.06**	**339**	P	**Pb**	**18 22 36.7**	**-0.2**
SIVA	**Sivas**	**1.06**	**339**	S	**Sg**	**18 22 53.0**	**+1.6**
LAST	**Lasithi**	**1.15**	**9**	P	**Pn**	**18 22 36.6**	**-1.8**
LAST	**Lasithi**	**1.15**	**9**	S	**Sg**	**18 22 54.2**	**-0.1**
NPS	**Neapolis**	**1.27**	**13**	P	**Pn**	**18 22 38.8**	**-1.2**
GVD	**Gavdhos**	**1.27**	**310**	P	**Pg**	**18 22 41.0**	**-0.5**
GVD	**Gavdhos**	**1.27**	**310**	S	**Sg**	**18 22 58.5**	**+0.4**
IDI	**Anoyia**	**1.29**	**346**	P	**Pn**	**18 22 39.1**	**-1.4**
IDI	**Anoyia**	**1.29**	**346**	S	**Sg**	**18 22 59.0**	**0.0**
IDI	**Anoyia**	**1.29**	**346**	Pn	**Pn**	**18 22 39.7**	**-0.8**
	9.5nm,0.3s,baz=170,slow=20,SNR=46						
IDI				Sn	**Sg**	**18 22 59.7**	**+0.6**
	15nm,0.3s,baz=296,slow=17,SNR=5.1						
VAM	**Vamos**	**1.63**	**328**	P	**Pn**	**18 22 45.5**	**+0.5**
VAM	**Vamos**	**1.63**	**328**	S	**Sb**	**18 23 07.5**	**+0.5**
KARN	**Karanos**	**1.76**	**321**	P	**Pb**	**18 22 47.8**	**-1.2**
KARP	**Karpathos**	**2.18**	**45**	P	**Pb**	**18 22 55.1**	**-0.9**
MMAI	**Mount Meron Ar**	**8.53**	**94**	Pn	**Pn**	**18 24 19.3**	**-0.6**
	0.3nm,0.3s,baz=289,slow=14,SNR=3.1						
KBZ	**Khabaz**	**16.77**	**50**	Pn	**P**	**18 26 17.1**	**+3.8**
	0.0nm,0.3s,baz=225,slow=14,SNR=2.4						
AKASG	**Malin Array Be**	**16.91**	**9**	Pn	**Pn**	**18 26 12.6**	**-0.2**
	0.7nm,0.3s,baz=199,slow=11,SNR=5.2						
GERES	**GERESS Array B**	**17.12**	**333**	P	**P**	**18 26 17.1**	**-0.1**
	0.1nm,0.3s,baz=152,slow=12,SNR=12						
ESDC	**Sonseca Array**	**24.00**	**292**	P	**P**	**18 27 30.3**	**-0.6**
	0.2nm,0.4s,baz=82,slow=8.4,SNR=3.0						
TORD	**Torodi Ar. Bea**	**29.84**	**232**	P	**P**	**18 28 23.8**	**+0.2**
	0.4nm,0.5s,baz=31,slow=8.8,SNR=7.6						
KURBB	**Kurchatov Arra**	**41.77**	**50**	P	**P**	**18 30 04.7**	**-0.7**
	0.7nm,0.7s,baz=280,slow=8.6,SNR=12						
MKAR	**Makanchi Array**	**44.33**	**56**	P	**P**	**18 30 26.1**	**-0.2**
	1.2nm,0.6s,baz=277,slow=6.6,SNR=16						
MKAR				PcP	**PcP**	**18 32 10.5**	**+0.4**
	0.1nm,0.5s,baz=265,slow=5.5,SNR=2.6						
ZALV	**Zalesovo Beam**	**45.73**	**45**	P	**P**	**18 30 37.0**	**-0.2**
	0.7nm,0.5s,baz=268,slow=8.0,SNR=3.4						
SONM	**Songino Array**	**60.14**	**50**	P	**P**	**18 32 24.5**	**+0.7**
	0.6nm,0.6s,baz=286,slow=10,SNR=2.9						

MAN 15 18:30:37, 9°.16N×125°.63E, h13km, mb3.9, ML2.7, MS2.3, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.19**	**181**	*e*P	Pb	18 30 42.5	+0.2
BUTP				*e*S	Sb	18 30 47.3	+1.4
SCPH	**Surigao**	**0.64**	**348**	⇑*e*P	Pb	18 30 49.9	-0.1
CGP	**Cagayan de Oro**	**1.16**	**233**	*e*P	Pb	18 30 57.6	-1.2
BUKP	**Musuan**	**1.39**	**204**	*e*P	Pn	18 31 01.4	-0.7
BUKP				*e*S	Sg	18 31 22.5	+0.6

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*ISCJB **15** 18:36:01.4±0.5, 24°.58N±0°.08×95°.00E±0°.05, h112km, mb3.8/18, Error ellipse: s-maj=11.9km s-min=6.1km az=18.2*
*IDC **15** 18:36:03.2±0.9, 24°.65N×95°.32E, h118km±7km, mb3.6/18, mb1 3.7/19, mb1mx3.6/32, mbtmp3.6/19, Error ellipse: s-maj=21.1km s-min=11.2km az=54.0*
ISC 15 18:36:03.3±0.7, 24°.56N±0°.09×94°.93E±0°.07, h112km, n39, σ1§86/45, mb3.8/18, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**2.94**	**291**	*e*P	**Pn**	**18 36 49.6**	**+0.9**
SHL				*e*S	**Sn**	**18 37 24.5**	**+0.7**
SHL				AML	AML	18 37 25.6	
	comp=E,5μm,0.2s						
SHL				AML	AML	18 37 25.9	
	comp=N,4μm,0.5s						
TAPN	**Taplejung**	**7.07**	**295**	*e*Pn	**Pn**	**18 37 46.0**	**+1.5**
TAPN				*e*Sn	**Sn**	**18 39 02.0**	**-1.5**
	comp=N,828nm,0.7s						
CMAR	**Chiang Mai Arr**	**7.12**	**148**	P	**Pn**	**18 37 44.9**	**-0.1**
	comp=N,5.6nm,0.3s,baz=326,slow=13,SNR=432						
ODAN	**Odare**	**7.18**	**290**	*e*Pn	**Pn**	**18 37 47.2**	**+1.3**
ODAN				*e*Sn	**Sn**	**18 39 03.0**	**-3.0**
	comp=N,779nm,0.4s						
RAMN	**Ramite**	**7.88**	**289**	*e*Pn	**Pn**	**18 37 56.6**	**+1.2**
RAMN				*e*Sn	**Sn**	**18 39 20.2**	**-2.9**
	comp=N,494nm,0.5s						
BOK	**Bokaro**	**8.30**	**267**	*e*P	**Pn**	**18 38 02.6**	**+1.7**
BOK				*e*S	**Sn**	**18 39 31.4**	**-1.5**
BOK				AML	AML	18 39 35.6	
	comp=E,106nm,0.0s						
BOK				AML	AML	18 39 38.1	
	comp=N,178nm,0.9s						
JIRN	**Jiri**	**8.44**	**293**	*e*Pn	**Pn**	**18 38 04.0**	**+0.9**
GUN	**Gumba**	**8.79**	**294**	*e*Pn	**Pn**	**18 38 08.4**	**+0.6**
PKI	**Pulchoki**	**9.07**	**291**	*e*Pn	**Pn**	**18 38 11.8**	**+0.1**
PKIN	**Phulchoki**	**9.09**	**291**	*e*Pn	**Pn**	**18 38 11.8**	**0.0**
KKN	**Kakani**	**9.25**	**292**	*e*Pn	**Pn**	**18 38 14.1**	**+0.2**
DMN	**Daman**	**9.34**	**291**	*e*Pn	**Pn**	**18 38 14.9**	**-0.3**
KOLN	**Koldanda**	**10.67**	**290**	*e*Pn	**Pn**	**18 38 32.4**	**-0.8**
DANN	**Dangsing**	**10.70**	**293**	*e*Pn	**Pn**	**18 38 33.0**	**-0.6**
PYUN	**Piuthan**	**11.28**	**291**	*e*Pn	**Pn**	**18 38 39.9**	**-1.4**
NGP	**Nagpur**	**15.03**	**260**	*e*S	**Sn**	**18 42 09.0**	**-7.1**
DDI	**Dehra Dun**	**16.04**	**295**	*e*S	Sn	18 42 29.9	-11
BHPL	**Bhopal**	**16.07**	**269**	*e*4	**Pn**	**18 39 42.5**	**-0.5**
BHPL				AMB	AMB	18 39 48.7	
	comp=E,6.8nm,0.8s						
BHPL				*e*S	Sn	18 42 31.2	-10
SMLA	**Simla**	**17.01**	**297**	*e*P	**P**	**18 39 55.8**	**+1.4**
SMLA				AMB	AMB	18 39 59.4	
	comp=Z,11nm,1.9s						
SMLA				*e*S	Sn	18 42 53.2	-11
DHRM	**DHARAMSHALA**	**18.08**	**299**	*e*4	**P**	**18 40 08.8**	**+2.4**
DHRM				AMB	AMB	18 40 11.4	
	comp=Z,11nm,0.4s						
DHRM				*e*S	S	18 43 17.2	-11
POO	**Poona**	**20.50**	**257**	*e*P	**S**	**18 44 21.0**	**+5.0**
MKAR	**Makanchi Array**	**24.39**	**339**	P	**P**	**18 41 11.7**	**+0.6**
	comp=Z,5.1nm,0.6s,baz=149,slow=10,SNR=78						
AAK	**Ala-Archa**	**24.69**	**322**	P	**P**	**18 41 16.4**	**+2.4**
	comp=Z,0.9nm,0.4s,baz=114,slow=6.6,SNR=4.8						
SONM	**Songino Array**	**24.95**	**19**	P	**P**	**18 41 13.9**	**-2.4**
	comp=Z,1.0nm,0.3s,baz=197,slow=9.4,SNR=14						
KURBB	**Kurchatov Arra**	**28.95**	**338**	P	**P**	**18 41 51.9**	**0.0**
	comp=Z,1.0nm,0.5s,baz=146,slow=9.5,SNR=14						
ZALV	**Zalesovo Beam**	**30.32**	**348**	P	**P**	**18 42 02.8**	**-1.1**
	comp=Z,1.0nm,0.3s,baz=160,slow=8.0,SNR=6.4						
ZALV				pP	**pP**	**18 42 29.9**	**+1.3**
	comp=Z,0.4nm,0.4s,baz=131,slow=7.9,SNR=2.0						
KSRS	**Korea Array**	**30.90**	**58**	P	P	18 42 04.5	-4.8
	comp=Z,0.7nm,0.6s,baz=243,slow=8.9,SNR=4.0						
AKTO	**Aktyubinsk**	**38.44**	**322**	P	**P**	**18 43 15.3**	**+1.4**
	comp=Z,0.5nm,0.4s,baz=104,slow=12,SNR=4.1						
BRTR	**Keskin Array B**	**53.10**	**302**	P	**P**	**18 45 10.6**	**+1.0**
	comp=Z,0.3nm,0.5s,baz=124,slow=7.9,SNR=3.1						
AKASG	**Malin Array Be**	**56.14**	**316**	P	**P**	**18 45 30.5**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=76,slow=6.3,SNR=4.0						
WRA	**Warramunga Arr**	**58.55**	**136**	P	**P**	**18 45 46.4**	**-2.0**
	comp=Z,0.5nm,0.3s,baz=318,slow=7.8,SNR=37						
FINES	**FINESS Array B**	**58.65**	**328**	P	**P**	**18 45 48.5**	**0.0**
	comp=Z,2.1nm,0.6s,baz=93,slow=6.6,SNR=8.6						
ARCES	**ARCESS Array B**	**60.04**	**338**	P	**P**	**18 45 57.6**	**-0.3**
	comp=Z,1.5nm,0.8s,baz=91,slow=5.6,SNR=4.9						
ASAR	**Alice Springs**	**61.04**	**139**	P	**P**	**18 46 04.0**	**-1.5**
	comp=Z,0.6nm,0.6s,baz=314,slow=6.6,SNR=28						
HFS	**Hagfors**	**64.71**	**327**	P	**P**	**18 46 28.9**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=87,slow=11,SNR=5.5						
NOA	**NORSAR Array B**	**65.82**	**328**	P	**P**	**18 46 36.2**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=62,slow=6.9,SNR=2.6						
NOA				pP	**pP**	**18 47 04.8**	**+0.7**
	comp=Z,1.0nm,0.7s,baz=84,slow=6.6,SNR=2.9						
GERES	**GERESS Array B**	**66.30**	**315**	P	**P**	**18 46 39.9**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=57,slow=6.0,SNR=3.5						
GERES				pP	**PcP**	**18 47 08.6**	**-0.4**
	comp=Z,0.7nm,0.8s,baz=34,slow=5.0,SNR=3.2						
BOSA	**Boshof**	**85.35**	**236**	P	**P**	**18 48 28.8**	**+0.4**
	comp=Z,3.1nm,0.9s,baz=86,slow=13,SNR=5.1						
TORD	**Torodi Ar. Bea**	**87.52**	**283**	P	**P**	**18 48 39.8**	**+0.6**
	comp=Z,0.5nm,0.8s,baz=18,slow=3.8,SNR=2.7						

MAN 15 18:36:54, 12°.87N×121°.12E, h20km, mb4.1, ML2.9, MS2.6, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJMP	**San Jose**	**0.41**	**180**	*e*P	Pb	18 37 03.6	+1.1
SJMP				*e*S	Sn	18 37 10.9	-0.8
PGP	**Puerto Galera**	**0.65**	**346**	⇑*i*P	Pb	18 37 06.0	-0.8
BOAC	**Boac**	**0.92**	**50**	*e*P	Pn	18 37 11.6	-0.2
BOAC				*e*S	Sn	18 37 24.8	+0.4
LUBP	**Lubang**	**1.21**	**315**	*e*P	Pb	18 37 16.2	0.0
BUSP	**Coron**	**1.24**	**226**	*e*P	Pn	18 37 16.4	+0.1
BUSP				*e*S	Sn	18 37 32.7	+0.2
AUQP	**San Andres**	**1.58**	**73**	*e*P	Pb	18 37 23.6	+1.0
CUYO	**Cuyo Island**	**2.01**	**183**	*e*P	Pn	18 37 27.5	+0.6
ENPP	**El Nido**	**2.34**	**225**	*e*P	Pn	18 37 31.9	+0.5

IDC 15 18:43:54.3±8.1, 21°.89S×177°.94W, h354km±71km, mb3.7/4, mb1 3.8/6, mb1mx3.4/18, mbtmp3.6/6, Error ellipse: s-maj=45.3km s-min=28.0km az=59.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.49**	**266**	P	Pn	18 47 05.1	-0.3
	0.2nm,0.3s,baz=61,slow=19,SNR=3.1						
URZ	**Urewera**	**16.87**	**194**	P	P	18 47 27.6	-1.2
	0.8nm,0.3s,baz=180,slow=4.0,SNR=4.6						
URZ				S	S	18 50 22.3	-4.3
	0.6nm,0.3s,baz=99,slow=19,SNR=4.8						
STKA	**Stephens Creek**	**37.26**	**246**	P	P	18 50 34.0	+0.5
	4.8nm,0.6s,baz=93,slow=9.5,SNR=15						
ASAR	**Alice Springs**	**44.27**	**258**	P	P	18 51 29.9	-0.5
	6.4nm,0.8s,baz=97,slow=8.4,SNR=104						
ASAR				PcP	PcP	18 53 09.1	+1.2
	0.7nm,0.6s,baz=104,slow=4.2,SNR=5.9						
WRA	**Warramunga Arr**	**44.48**	**263**	P	P	18 51 31.1	-1.1
	1.7nm,0.3s,baz=90,slow=6.1,SNR=106						
CMAR	**Chiang Mai Arr**	**90.63**	**290**	P	P	18 56 19.1	+1.3
	1.4nm,0.8s,baz=138,slow=3.6						
ARCES	**ARCESS Array B**	**130.29**	**349**	PKP	PKPdf	19 02 21.0	-1.1
	3.6nm,0.9s,baz=318,slow=1.6,SNR=6.3						
AKASG	**Malin Array Be**	**144.25**	**330**	PKP	PKPab	19 02 45.8	-1.5
	1.0nm,0.5s,baz=45,slow=4.5,SNR=6.3						
BRTR	**Keskin Array B**	**147.80**	**311**	PKPbc	PKPbc	19 02 56.9	-1.4
	0.8nm,0.7s,baz=120,slow=1.6,SNR=4.7						
GERES	**GERESS Array B**	**151.54**	**344**	PKPbc	PKPbc	19 03 05.5	-1.4
	0.3nm,0.5s,baz=29,slow=3.0,SNR=3.8						
TORD	**Torodi Ar. Bea**	**171.30**	**178**	PKPab	PKPab	19 04 45.0	+1.4
	0.6nm,0.7s,baz=180,slow=3.3,SNR=7.4						

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*KRSC **15** 19:04:05.9±0.5, 55°.13N×160°.49E, h4km±5km, ML4.4*
*MOS **15** 19:04:06.1±1.1, 55°.14N×160°.41E, h4km, mb4.3/11, Error ellipse: s-maj=13.3km s-min=6.8km az=94.1*
*ISCJB **15** 19:04:08.0±0.6, 55°.14N±0°.02×160°.45E±0°.05, h8km±4km, mb4.0/19, MS3.5/8, Error ellipse: s-maj=5.0km s-min=2.4km az=15.1*
*IDC **15** 19:04:09.7±5.9, 55°.03N×160°.49E, h22km±40km, mb3.7/14, mb1 4.0/16, mb1mx3.8/28, mbtmp3.8/16, ML4.2/2, MS3.5/8, Ms1 3.5/8, ms1mx3.2/42, Error ellipse: s-maj=20.2km s-min=10.3km az=7.0*
*BJI **15** 19:04:24.1, 54°.70N×158°.50E, h90km, mB4.5/6, mb4.2/8, Ms4.0/2, Ms7 3.9/2*
ISC 15 19:04:07.2±1.2, 55°.14N±0°.02×160°.48E±0°.03, h1km±8km, n82, σ1§13/112, mb4.2/19, MS3.5/8, 1C-2D, Kamchatka Peninsula

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

BKI	**Bering**	**3.15**	**87**	PN	**Pn**	**19 04 58.5**	**+0.7**
BKI				S	**Sn**	**19 05 37.0**	**+1.0**
BKI	**Bering**	**3.15**	**87**	*e*P	**Pn**	**19 04 58.5**	**+0.7**
BKI				*i* S	**Sn**	**19 05 37.0**	**+1.0**
ASAK	**Asacha**	**3.15**	**210**	P	**Pn**	**19 05 00.1**	**+2.1**
PALN	**Palana**	**3.97**	**356**	*e*P	**Pb**	**19 05 15.6**	**-2.2**
FX1	**Attu Island--F**	**7.81**	**102**	Pn	**Pn**	**19 06 01.9**	**+0.2**
	comp=Z,20nm,0.3s,baz=13,slow=7.0,SNR=24						
FX1				Sn	**Sn**	**19 07 26.1**	**-4.5**
	comp=Z,4.1nm,0.3s,baz=313,slow=19,SNR=3.4						
FX1				LR	LR	19 08 47.1	
	comp=Z,336nm,18.7s,baz=309,slow=36						
SEY	**Seymchan**	**8.85**	**335**	*e*PN	**Pn**	**19 06 16.6**	**+0.6**
YSS	**Yuzh-Sakhalins**	**13.80**	**241**	*i* P	Pn	19 07 17.5	-6.2
HABR	**Khabarovsk**	**17.02**	**257**	P	Pn	19 07 58.6	-7.5
HABR				pmax	pmax		
	comp=Z,9.0nm,1.3s						
HABR				MLR	MLR		
	comp=Z,172nm,20.0s						
YAK	**Yakutsk**	**17.34**	**306**	*e*P	**P**	**19 08 11.1**	**-0.4**
YAK				pmax	pmax		
	comp=Z,15nm,1.0s						
YAK				MLR	MLR		
	comp=Z,252nm,17.0s						
YAK				MLR	MLR		
	comp=N,62nm,13.0s						
YAK				MLR	MLR		
	comp=E,108nm,13.0s						
USRK	**Ussuriysk Arra**	**21.28**	**251**	P	**P**	**19 08 52.6**	**-2.1**
	comp=E,0.8nm,0.7s,baz=61,slow=15,SNR=1.9						
USRK				LR	LR	19 18 13.8	
	comp=E,124nm,18.3s,baz=201,slow=40						
TIXI	**Tiksi**	**21.34**	**333**	*e*P	**P**	**19 08 57.4**	**+2.3**
TIXI				pmax	pmax		
	comp=Z,31nm,1.4s						
MJA0	**Matsu Arr-Jizo**	**24.02**	**228**	*e*P	**P**	**19 09 25.4**	**+2.1**
MJA0				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MJAR	**Matsushiro Arr**	**24.04**	**229**	P	**P**	**19 09 21.4**	**-2.0**
	comp=Z,1.1nm,0.5s,baz=12,slow=7.6,SNR=7.3						
TLY	**Talaya**	**33.25**	**288**	*e*P	**P**	**19 10 45.0**	**-0.6**
TLY				pmax	pmax		
	comp=Z,15nm,1.0s						
TLY				MLR	MLR		
	comp=Z,105nm,16.0s						
SONM	**Songino Array**	**33.70**	**280**	P	**P**	**19 10 49.5**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=66,slow=6.9,SNR=5.1						
SONM				LR	LR	19 25 23.8	
	comp=Z,68nm,18.5s,baz=74,slow=38						
ZALV	**Zalesovo Beam**	**41.89**	**301**	LR	LR	19 30 42.8	
	comp=Z,138nm,19.3s,baz=70,slow=38						
KURK	**Kurchatov**	**46.87**	**300**	P	**P**	**19 12 38.3**	**-0.1**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KURBB	**Kurchatov Arra**	**46.97**	**300**	P	**P**	**19 12 38.3**	**-0.9**
	comp=Z,1.7nm,0.7s,baz=55,slow=7.9,SNR=10						
MKAR	**Makanchi Array**	**47.50**	**294**	P	**P**	**19 12 42.4**	**-1.0**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR				MLR	MLR		
	comp=Z,53nm,21.2s						
MKAR	**Makanchi Array**	**47.50**	**294**	P	**P**	**19 12 42.4**	**-1.0**
	comp=Z,1.5nm,0.7s,baz=57,slow=7.9,SNR=14						
MKAR				LR	LR	19 32 51.8	
	comp=Z,53nm,21.1s,baz=244,slow=36						
BVAR	**Borovoye Array**	**49.31**	**307**	P	**P**	**19 12 56.5**	**-0.8**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BVAR	**Borovoye Array**	**49.31**	**307**	P	**P**	**19 12 56.5**	**-0.8**
	comp=Z,1.8nm,0.7s,baz=54,slow=7.3,SNR=8.0						
BRVK	**Borovoye**	**49.34**	**307**	⇑*i*P	**P**	**19 12 57.6**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ARU	**Arti**	**52.05**	**316**	*i* P	**P**	**19 13 19.2**	**+1.3**
AAK	**Ala-Archa**	**54.40**	**295**	⇓*i*P	**P**	**19 13 35.3**	**-0.3**
AAK				pmax	pmax		
	comp=Z,17nm,1.7s						
NVAR	**Mina Array Bea**	**54.86**	**72**	P	**P**	**19 13 38.1**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=306,slow=6.6,SNR=5.2						
PDAR	**Pinedale Array**	**56.35**	**62**	P	**P**	**19 13 50.7**	**+1.0**
	comp=Z,0.4nm,0.5s,baz=339,slow=2.3,SNR=1.9						
FINES	**FINESS Array B**	**58.33**	**336**	P	**P**	**19 14 03.5**	**+0.3**
	comp=Z,2.2nm,0.8s,baz=35,slow=4.7,SNR=4.4						
NOA	**NORSAR Array B**	**61.64**	**344**	LR	LR	19 43 37.9	
	comp=Z,19nm,22.0s,baz=285,slow=38						
AKASG	**Malin Array Be**	**66.98**	**329**	P	**P**	**19 14 59.2**	**-1.7**
AKASG	**Malin Array Be**	**66.98**	**329**	P	**P**	**19 14 59.2**	**-1.7**
	comp=Z,0.4nm,0.4s,baz=29,slow=6.7,SNR=2.4						
KBZ	**Khabaz**	**68.21**	**316**	P	**P**	**19 15 08.4**	**-0.4**
KBZ				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KBZ				MLR	MLR		
	comp=Z,81nm,20.6s						
KBZ	**Khabaz**	**68.21**	**316**	P	**P**	**19 15 08.3**	**-0.4**
	comp=Z,2.8nm,0.9s,baz=219,slow=3.4,SNR=4.9						
KBZ				LR	LR	19 49 06.7	
	comp=Z,81nm,20.6s,baz=189,slow=40						
CLL	**Collm**	**70.52**	**339**	*e*P	**P**	**19 15 25.0**	**+2.0**
CLL	**Collm**	**70.52**	**339**	*e*P	**P**	**19 15 25.0**	**+2.0**
BRTR	**Keskin Array B**	**75.19**	**320**	P	**P**	**19 15 52.3**	**+1.2**
	comp=Z,0.7nm,0.7s,baz=46,slow=8.3,SNR=4.3						
BRTR				LR	LR	19 54 37.2	
	comp=Z,27nm,18.8s,baz=138,slow=40						
WRA	**Warramunga Arr**	**78.03**	**205**	P	**P**	**19 16 05.6**	**-1.4**
	comp=Z,0.7nm,0.7s,baz=19,slow=5.9,SNR=3.9						
ASAR	**Alice Springs**	**81.72**	**204**	P	**P**	**19 16 26.4**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=20,slow=5.4,SNR=6.6						

IDC 15 19:08:48.6±1.1, 3°.52N×126°.68E, h0km, mb3.9/10, mb1 4.0/10, mb1mx3.8/25, mbtmp3.9/10, MS3.4/1, Ms1 3.4/1, ms1mx2.6/33, 1C, Error ellipse: s-maj=96.8km s-min=14.8km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**4.40**	**327**	⇑*i*P	Pb	19 10 03.0	-3.8
FITZ	**Fitzroy Crossi**	**21.51**	**183**	P	P	19 13 39.0	-0.4
	2.4nm,1.0s,baz=10.0,slow=17,SNR=3.0						
WRA	**Warramunga Arr**	**24.50**	**162**	P	P	19 14 09.8	-0.1
	2.7nm,0.8s,baz=340,slow=10,SNR=19						
ASAR	**Alice Springs**	**27.93**	**166**	P	P	19 14 41.1	+0.3
	0.3nm,0.6s,baz=346,slow=7.5,SNR=8.1						
STKA	**Stephens Creek**	**37.96**	**159**	P	P	19 16 08.4	+0.2
	2.1nm,0.6s,baz=319,slow=12,SNR=7.7						
SONM	**Songino Array**	**47.48**	**342**	P	P	19 17 25.7	+0.2
	0.5nm,0.6s,baz=164,slow=11,SNR=3.9						
PETK	**Petropavlovsk-**	**55.64**	**22**	LR	LR	19 40 20.3	
	comp=Z,35nm,18.7s,baz=301,slow=34						
MKAR	**Makanchi Array**	**57.69**	**325**	P	P	19 18 41.9	+0.8
	0.8nm,0.5s,baz=119,slow=7.3,SNR=18						
KURBB	**Kurchatov Arra**	**61.88**	**327**	P	P	19 19 10.0	+0.2
	0.8nm,0.2s,baz=128,slow=6.5,SNR=10.0						
BVAR	**Borovoye Array**	**67.46**	**327**	P	P	19 19 46.2	-0.1
	0.3nm,0.5s,baz=109,slow=13,SNR=3.6						
BRTR	**Keskin Array B**	**90.11**	**310**	P	P	19 21 50.6	-0.6
	0.3nm,0.5s,baz=123,slow=5.3,SNR=2.5						
ARCES	**ARCESS Array B**	**90.62**	**340**	P	P	19 21 51.3	-1.4
	4.0nm,1.1s,baz=57,slow=4.5,SNR=5.5						
TORD	**Torodi Ar. Bea**	**122.93**	**288**	PKP	PKPdf	19 27 47.3	-0.7
	0.1nm,0.4s,baz=86,slow=1.8,SNR=3.1						

*IDC **15** 19:47:36.8±1.0, 13°.60N×120°.94E, h128km±12km, mb3.2/6, mb1 3.3/6, mb1mx3.1/26, mbtmp3.2/6, Error ellipse: s-maj=119.0km s-min=14.7km az=66.0*
*ISCJB **15** 19:47:37.1±0.6, 13°.51N±0°.06×120°.66E±0°.09, h150km, mb3.4/6, Error ellipse: s-maj=11.9km s-min=8.6km az=16.8*
*MAN **15** 19:47:38, 13°.55N×120°.68E, h106km, mb4.0, ML2.8, MS2.4*

ISC 15 19:47:36.6±1.1, 13°.68N±0°.08×120°.57E±0°.10, h150km, n15, σ1°.99/15, mb3.4/6, 2C-2D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.55**	**41**	⇓*e*P	**Pn**	**19 47 57.9**	**-0.4**
TGY				*i* S	**Sn**	**19 48 11.4**	**-3.3**
TGY	**Tagaytay City**	**0.55**	**41**	P	**Pn**	**19 47 57.0**	**-1.3**
	89nm,0.3s,baz=138,slow=3.5,SNR=7.0						
TGY				S	**Sn**	**19 48 11.5**	**-3.3**
	102nm,0.3s,baz=344,slow=22,SNR=20						
LQP	**Lukban**	**1.04**	**65**	⇑*e*	**Pn**	**19 48 00.9**	**-1.0**
BUSP	**Coron**	**1.71**	**192**	*e*P	**Pn**	**19 48 07.4**	**-1.0**
BUSP				*e*S	**Sn**	**19 48 29.6**	**-3.2**
GQP	**Guinayangan**	**1.84**	**83**	⇑*i*P	**Pn**	**19 48 09.5**	**-0.3**
AUQP	**San Andres**	**2.08**	**100**	*e*P	**Pn**	**19 48 13.9**	**+1.3**
ENPP	**El Nido**	**2.70**	**205**	*e*P	**Pn**	**19 48 21.0**	**+0.8**
CUYO	**Cuyo Island**	**2.85**	**171**	*e*P	**Pn**	**19 48 21.7**	**-0.4**
PVCP	**Virac**	**3.49**	**91**	⇓*e*P	**Pn**	**19 48 30.7**	**+0.5**
SONM	**Songino Array**	**36.04**	**344**	P	P	19 54 27.9	+4.4
	0.4nm,0.6s,baz=167,slow=8.6,SNR=2.8						
WRA	**Warramunga Arr**	**36.06**	**158**	P	**P**	**19 54 24.7**	**+0.9**
	0.6nm,1.1s,baz=339,slow=9.2,SNR=3.8						
ASAR	**Alice Springs**	**39.34**	**161**	P	**P**	**19 54 51.6**	**+0.2**
	0.3nm,1.0s,baz=331,slow=7.4,SNR=3.3						
MKAR	**Makanchi Array**	**45.97**	**324**	P	P	19 55 49.5	+4.9
	0.3nm,0.3s,baz=116,slow=8.0,SNR=9.8						
ZALV	**Zalesovo Beam**	**49.02**	**333**	P	**P**	**19 56 10.7**	**+2.8**
	1.0nm,0.4s,baz=122,slow=7.1,SNR=7.2						
KURBB	**Kurchatov Arra**	**50.13**	**326**	P	P	19 56 21.3	+4.8
	1.2nm,0.6s,baz=131,slow=7.6,SNR=8.2						

*IDC **15** 19:51:31.7±9.5, 36°.68N×70°.79E, h162km±67km, mb3.4/1, mb1 3.1/4, mb1mx2.8/28, mbtmp3.1/4, Error ellipse: s-maj=86.2km s-min=66.9km az=162.0*

ISC 15 19:51:31.5±2.7, 36°.8N±0°.2×70°.7E±0°.2, h150km, n11, σ0°.90/14, 4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.86**	**23**	P	**Pn**	**19 52 56.9**	**+0.3**
	SNR=34						
KK31	**Karatay Array**	**6.34**	**359**	⇓Pn	**Pn**	**19 53 02.7**	**+0.1**
	1.3nm,0.3s,baz=178,slow=13,SNR=118						
KK31				⇓Sn	**Sn**	**19 54 13.0**	**-1.0**
	0.9nm,0.3s,baz=171,slow=26,SNR=3.6						
EKS2	**Erkin-Say**	**6.37**	**21**	P	**Pn**	**19 53 03.9**	**+0.8**
	SNR=17						
AAK	**Ala-Archa**	**6.57**	**26**	P	**Pn**	**19 53 07.2**	**+1.3**
	SNR=10						
AAK	**Ala-Archa**	**6.57**	**26**	P	**Pn**	**19 53 06.9**	**+1.0**
	2.2nm,0.3s,baz=177,slow=5.8,SNR=31						
AAK				S	**Sn**	**19 54 21.3**	**+1.4**
	0.5nm,0.3s,baz=319,slow=22,SNR=13						
CHMS	**Chumysh**	**6.98**	**26**	P	**Pn**	**19 53 11.3**	**0.0**
	SNR=10.0						
TKM2	**Tokmak 2**	**7.24**	**30**	⇓Pn	**Pn**	**19 53 14.6**	**-0.1**
	6.8nm,0.7s						
TKM2				⇓Sn	**Sn**	**19 54 34.7**	**-1.1**
	1.6nm,0.6s						
TKM2	**Tokmak 2**	**7.24**	**30**	P	**Pn**	**19 53 14.8**	**+0.1**
	SNR=16						
MKAR	**Makanchi Array**	**13.25**	**37**	P	**Pn**	**19 54 32.7**	**-1.1**
	0.1nm,0.3s,baz=214,slow=10,SNR=3.7						
ZALV	**Zalesovo Beam**	**19.80**	**25**	P	**P**	**19 55 50.0**	**0.0**
	0.4nm,0.3s,baz=213,slow=10,SNR=9.7						
ARCES	**ARCESS Array B**	**40.80**	**338**	P	**P**	**19 58 57.4**	**-0.2**
	1.4nm,0.8s,baz=119,slow=7.3,SNR=3.5						

IDC 15 20:35:56.5±82.0, 16°.90S×164°.88E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/18, mbtmp3.7/3, Error ellipse: s-maj=1358.0km s-min=114.0km az=68.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**25.84**	**230**	P	P	20 41 30.3	+0.5
	2.3nm,1.0s,baz=67,slow=7.7,SNR=3.6						
WRA	**Warramunga Arr**	**29.11**	**259**	P	P	20 41 58.6	-0.7
	0.2nm,0.3s,baz=93,slow=7.6,SNR=5.2						
ASAR	**Alice Springs**	**29.78**	**252**	P	P	20 42 05.5	+0.2
	0.4nm,0.4s,baz=78,slow=8.9,SNR=8.4						

IDC 15 20:41:03.6±1.2, 0°.40N×122°.30E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.5/23, mbtmp3.7/4, Error ellipse: s-maj=157.1km s-min=20.8km az=64.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.41**	**150**	P	P	20 46 14.2	-0.2
	1.1nm,0.6s,baz=328,slow=11,SNR=6.6						
ASAR	**Alice Springs**	**26.45**	**156**	P	P	20 46 42.6	+0.1
	0.2nm,0.6s,baz=337,slow=11,SNR=5.5						
SONM	**Songino Array**	**49.23**	**346**	P	P	20 49 54.1	+0.2
	1.2nm,0.6s,baz=163,slow=9.2,SNR=9.0						
MKAR	**Makanchi Array**	**57.91**	**329**	P	P	20 50 57.3	-0.3
	1.2nm,0.5s,baz=126,slow=8.7,SNR=24						

IDC 15 21:28:00.7±1.5, 2°.31N×127°.92E, h0km, mb3.5/6, mb1 3.7/6, mb1mx3.4/23, mbtmp3.5/6, Error ellipse: s-maj=105.5km s-min=18.1km az=70.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.41**	**186**	P	P	21 32 39.9	+0.4
	1.0nm,0.4s,baz=2.3,slow=14,SNR=5.1						
WRA	**Warramunga Arr**	**23.00**	**164**	P	P	21 33 07.3	0.0
	0.9nm,0.6s,baz=342,slow=10,SNR=16						
ASAR	**Alice Springs**	**26.47**	**168**	P	P	21 33 39.7	-0.1
	0.1nm,0.3s,baz=344,slow=12,SNR=3.1						
STKA	**Stephens Creek**	**36.40**	**160**	P	P	21 35 06.2	-0.8
	0.7nm,0.4s,baz=342,slow=10,SNR=2.9						
MKAR	**Makanchi Array**	**59.39**	**325**	P	P	21 38 05.3	+0.3
	0.3nm,0.3s,baz=111,slow=8.0,SNR=9.7						
KURBB	**Kurchatov Arra**	**63.56**	**327**	P	P	21 38 32.9	-0.1
	0.3nm,0.4s,baz=123,slow=6.3,SNR=3.1						

IDC 15 22:30:35.4±1.2, 3°.54N×126°.78E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.5/24, mbtmp3.6/6, Error ellipse: s-maj=139.4km s-min=17.5km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.49**	**163**	P	P	22 35 55.8	-0.8
	1.6nm,0.8s,baz=342,slow=10,SNR=9.8						
ASAR	**Alice Springs**	**27.92**	**166**	P	P	22 36 28.1	+0.5
	0.2nm,0.4s,baz=359,slow=9.3,SNR=3.0						
STKA	**Stephens Creek**	**37.94**	**159**	P	P	22 37 55.3	+0.4
	0.8nm,0.3s,baz=337,slow=14,SNR=4.0						
SONM	**Songino Array**	**47.49**	**341**	P	P	22 39 12.7	+0.3
	0.3nm,0.5s,baz=158,slow=8.2,SNR=3.1						
MKAR	**Makanchi Array**	**57.74**	**325**	P	P	22 40 28.4	+0.1
	0.5nm,0.6s,baz=121,slow=7.8,SNR=10						
KURBB	**Kurchatov Arra**	**61.92**	**327**	P	P	22 40 56.2	-0.7
	0.3nm,0.5s,baz=131,slow=6.5,SNR=7.8						

*TIR **15** 22:53:13.9, 41°.13N×20°.43E, h5km, ML3.0*
*PDG **15** 22:53:14.5±0.3, 41°.11N×19°.49E, h15km, ML2.6/11, Error ellipse: s-maj=0.4km s-min=0.7km az=0.0*
*ATH **15** 22:53:15.2, 41°.21N×19°.52E, h25km±5km, MD3.5/7*
*CSEM **15** 22:53:15.3±0.1, 41°.17N×19°.57E, h2km, ML2.1, Error ellipse: s-maj=4.5km s-min=2.3km az=67.0*
*BEO **15** 22:53:18.7±0.7, 41°.27N×19°.59E, h15km±3km, ML2.1/6*

ISC 15 22:53:15.8±1.0, 41°.18N±0°.02×19°.54E±0°.02, h13km±8km, n75, σ1°.16/136, 4C-9D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.30**	**56**	*e*PG	**Pg**	**22 53 21.5**	**-0.4**
TIR				*e*SG	**Sb**	**22 53 27.9**	**0.0**
TIR	**Tirane**	**0.30**	**56**	*e*Pg	**Pg**	**22 53 21.6**	**-0.4**
TIR				*e*Sg	**Sn**	**22 53 30.5**	**-1.7**
TIR	**Tirane**	**0.30**	**56**	*e*Pg	**Pg**	**22 53 21.5**	**-0.4**
TIR				*e*Sb	**Sg**	**22 53 26.1**	**0.0**
TIR				*e*Sg	**Sb**	**22 53 27.9**	**0.0**
ULC	**Ulcinj**	**0.81**	**344**	*e*Pg	**Pb**	**22 53 31.3**	**-0.5**
ULC				*e*Sg	**Sn**	**22 53 44.3**	**-0.6**
ULC	**Ulcinj**	**0.81**	**344**	*e*Pg	**Pb**	**22 53 31.3**	**-0.5**
ULC				*e*Sg	**Sn**	**22 53 44.3**	**-0.6**
PHP	**Peshkopia**	**0.84**	**53**	*e*PG	**Pb**	**22 53 30.2**	**-2.2**
PHP				*e*SG	**Sn**	**22 53 47.0**	**+1.2**
PHP	**Peshkopia**	**0.84**	**53**	*e*Pg	**Pb**	**22 53 30.2**	**-2.2**
PHP				*e*Sg	**Sn**	**22 53 47.0**	**+1.2**
PUK	**Puka**	**0.90**	**17**	*e*PG	**Pb**	**22 53 32.9**	**-0.5**
PUK				*e*SG	**Sn**	**22 53 50.1**	**+2.9**
PUK	**Puka**	**0.90**	**17**	*e*Pg	**Pb**	**22 53 32.9**	**-0.5**
DRME	**Dracevica, Mon**	**1.04**	**345**	⇓*i*Pg	**Pb**	**22 53 35.4**	**-0.3**
DRME				*e*Sg	**Sn**	**22 53 52.3**	**+1.8**
DRME	**Dracevica, Mon**	**1.04**	**345**	⇓*i*Pg	**Pb**	**22 53 35.4**	**-0.3**
DRME				*e*Sg	**Sn**	**22 53 52.3**	**+1.8**
KBN	**Korca**	**1.10**	**120**	*e*PG	**Pb**	**22 53 36.3**	**-0.5**
KBN				*e*SG	**Sg**	**22 53 53.7**	**+2.3**
KBN	**Korca**	**1.10**	**120**	*e*Pg	**Pb**	**22 53 36.3**	**-0.5**
KBN				*e*Sg	**Sg**	**22 53 53.7**	**+2.3**
BUM	**Brajici-Budva**	**1.22**	**337**	⇑*i*Pg	**Pn**	**22 53 38.1**	**-0.5**
BUM				*e*Sg	**Sg**	**22 53 57.2**	**+2.1**
BUM	**Brajici-Budva**	**1.22**	**337**	⇑*i*Pg	**Pn**	**22 53 38.1**	**-0.5**
BUM				*e*Sg	**Sg**	**22 53 57.2**	**+2.1**
BCI	**Bajram Curri**	**1.25**	**18**	*e*PG	**Pg**	**22 53 40.4**	**+0.6**
BCI				*e*SG	**Sg**	**22 53 59.1**	**+3.0**
BCI	**Bajram Curri**	**1.25**	**18**	*e*Pg	**Pg**	**22 53 40.4**	**+0.6**
BCI				*e*Sg	**Sg**	**22 53 59.1**	**+3.0**
PDG	**Podgorica**	**1.26**	**350**	*e*Pg	**Pn**	**22 53 39.3**	**+0.1**
PDG				*e*Sg	**Sg**	**22 53 57.0**	**+0.4**
PDG	**Podgorica**	**1.26**	**350**	*e*Pg	**Pn**	**22 53 39.3**	**+0.1**
PDG				*e*Sg	**Sg**	**22 53 57.0**	**+0.4**
TTG	**Podgorica**	**1.26**	**350**	⇓*i*Pg	**Pn**	**22 53 39.3**	**+0.1**
TTG				*e*Sg	**Sg**	**22 53 58.8**	**+2.2**
SRN	**Sarande**	**1.35**	**165**	*e*PG	**Pn**	**22 53 39.7**	**-0.7**
SRN				*e*SG	**Sg**	**22 53 59.3**	**0.0**
SRN	**Sarande**	**1.35**	**165**	*e*Pg	**Pn**	**22 53 39.7**	**-0.7**
SRN				*e*Sg	**Sg**	**22 53 59.3**	**0.0**
BIA	**Bitola**	**1.36**	**96**	*e*Pn	**Pn**	**22 53 39.8**	**-0.8**
BIA	**Bitola**	**1.36**	**96**	*e*Pn	**Pn**	**22 53 39.2**	**-1.4**
PVY	**Plav**	**1.45**	**12**	*e*Pg	**Pb**	**22 53 42.6**	**-0.1**
PVY				*e*Sg	**Sg**	**22 54 04.5**	**+2.1**
PVY	**Plav**	**1.45**	**12**	*e*Pg	**Pb**	**22 53 42.6**	**-0.1**
PVY				*e*Sg	**Sg**	**22 54 04.5**	**+2.1**
FNA	**Florina**	**1.45**	**105**	*e*PN	**Pn**	**22 53 41.9**	**+0.1**
FNA				*e*SN	**Sg**	**22 54 01.8**	**-0.7**
FNA	**Florina**	**1.45**	**105**	*e*Pn	**Pn**	**22 53 41.9**	**+0.1**
FNA				*e*Sn	**Sg**	**22 54 01.8**	**-0.7**
KEK	**Kerkira**	**1.48**	**172**	*e*PN	**Pb**	**22 53 42.7**	**-0.6**
KEK				*e*SN	**Sg**	**22 54 02.8**	**-0.8**
KEK	**Kerkira**	**1.48**	**172**	*e*Pn	**Pb**	**22 53 42.7**	**-0.6**
KEK				*e*Sn	**Sg**	**22 54 02.8**	**-0.8**
HCY	**Herceg Novi**	**1.48**	**329**	⇓*i*Pg	**Pn**	**22 53 41.6**	**-0.7**
HCY				*e*Sg	**Sg**	**22 54 04.6**	**+1.0**
HCY	**Herceg Novi**	**1.48**	**329**	⇓*i*Pg	**Pn**	**22 53 41.6**	**-0.7**
HCY				*e*Sg	**Sg**	**22 54 04.6**	**+1.0**
NKME	**Niksic**	**1.64**	**345**	*e*Pn	**Pn**	**22 53 44.7**	**+0.2**
NKME				*e*Sn	**Sg**	**22 54 08.3**	**-0.4**
NKME	**Niksic**	**1.64**	**345**	*e*Pn	**Pn**	**22 53 44.7**	**+0.2**
NKME				*e*Sn	**Sg**	**22 54 08.3**	**-0.4**
PE1	**Pezze di Greco**	**1.64**	**257**	*e*Pn	**Pb**	**22 53 45.7**	**-0.3**
PE1				*e*Sn	**Sb**	**22 54 07.9**	**+1.3**
NKY	**Niksic**	**1.68**	**346**	⇑*i*Pn	**Pn**	**22 53 44.6**	**-0.4**
NKY				*e*Sn	**Sg**	**22 54 09.9**	**0.0**
NKY	**Niksic**	**1.68**	**346**	⇑*i*Pn	**Pn**	**22 53 44.6**	**-0.4**
NKY				*e*Sn	**Sg**	**22 54 09.9**	**0.0**
BEY	**Berane**	**1.71**	**9**	*e*Pn	**Pb**	**22 53 46.4**	**-0.8**
BEY				*e*Sn	**Sg**	**22 54 10.6**	**-0.2**
IVA	**Berane**	**1.71**	**9**	*e*Pn	**Pb**	**22 53 46.4**	**-0.8**
IVA				*e*Sn	**Sg**	**22 54 10.6**	**-0.2**
TREB	**Trebinje**	**1.77**	**330**	*e*Pn	**Pn**	**22 53 47.3**	**+1.1**
TREB				*e*Sg	**Sg**	**22 54 12.9**	**+0.1**
TREB	**Trebinje**	**1.77**	**330**	*e*Pn	**Pn**	**22 53 47.3**	**+1.1**
TREB				*e*Sg	**Sg**	**22 54 12.9**	**+0.1**
JAN	**Janina**	**1.82**	**146**	*e*PN	**Pn**	**22 53 47.4**	**+0.4**
JAN				*e*SN	**Sb**	**22 54 10.9**	**-1.0**
JAN	**Janina**	**1.82**	**146**	*e*Pn	**Pn**	**22 53 47.4**	**+0.4**
JAN				*e*Sn	**Sb**	**22 54 10.9**	**-1.0**
BRY	**Bratogost**	**1.87**	**337**	*e*Pn	**Pn**	**22 53 47.7**	**0.0**
BRY				*e*Sn	**Sb**	**22 54 14.0**	**+0.7**
BRY	**Bratogost**	**1.87**	**337**	*e*Pn	**Pn**	**22 53 47.7**	**0.0**
BRY				*e*Sn	**Sb**	**22 54 14.0**	**+0.7**
UPM	**Unac-Piva**	**2.07**	**347**	⇓*i*Pn	**Pn**	**22 53 51.3**	**+0.8**
UPM				*e*Sn	**Sb**	**22 54 18.6**	**-0.6**
UPM	**Unac-Piva**	**2.07**	**347**	⇓*i*Pn	**Pn**	**22 53 51.3**	**+0.8**
UPM				*e*Sn	**Sb**	**22 54 18.6**	**-0.6**
SJES	**Sjenica**	**2.10**	**9**	*e*Pn	**Pn**	**22 53 52.0**	**+1.1**
SJES				*e*Sg	**Sg**	**22 54 22.7**	**-0.7**
SJES	**Sjenica**	**2.10**	**9**	*e*Pn	**Pn**	**22 53 52.0**	**+1.1**
SJES				*e*Sg	**Sg**	**22 54 22.7**	**-0.7**
PLE	**Pljevlja**	**2.15**	**357**	⇓*i*Pn	**Pn**	**22 53 51.8**	**+0.3**
PLE				*e*S

MIDA				Sg	Sg	22 55 56.9	+0.3		
	10µm,0.6s								
MIDA	Miranda	0.33	174	Pg	Pg	22 55 51.4	-0.7		
MIDA				Sg	Sg	22 55 56.9	+0.3		
	10µm,0.6s								
FRES	Fresagrandinar	0.34	89	Pg	Pg	22 55 51.1	-1.3		
FRES				Sg	Sg	22 55 57.2	+0.2		
	5µm,0.6s								
FRES	Fresagrandinar	0.34	89	Pg	Pg	22 55 51.1	-1.3		
FRES				Sg	Sg	22 55 57.2	+0.2		
	5µm,0.6s								
SDI	San Donato	0.39	229	⇑iPg	Pg	22 55 52.4	-1.0		
SDI	San Donato	0.39	229	⇑iPg	Pg	22 55 52.4	-1.0		
CERA	Filignano	0.40	201	Pg	Pg	22 55 52.5	-0.9		
CERA				Sg	Sg	22 55 59.5	+0.8		
	4µm,0.8s								
CERA	Filignano	0.40	201	Pg	Pg	22 55 52.5	-0.9		
CERA				Sg	Sg	22 55 59.5	+0.8		
	4µm,0.8s								
POFI	Posta Fibreno	0.45	236	Pg	Pg	22 55 53.2	-1.2		
POFI				Sg	Sg	22 56 00.8	+0.5		
	1µm,0.4s								
POFI	Posta Fibreno	0.45	236	Pg	Pg	22 55 53.2	-1.2		
BSSO	Busso	0.51	146	Pg	Pg	22 55 54.7	-0.8		
BSSO				Sg	Sg	22 56 03.2	+0.9		
	1µm,0.4s								
BSSO	Busso	0.51	146	Pg	Pg	22 55 54.7	-0.8		
BSSO				Sg	Sg	22 56 03.2	+0.9		
	1µm,0.4s								
VAGA	Valle Agricola	0.55	178	Pg	Pg	22 55 55.1	-1.2		
VAGA				Sg	Sg	22 56 02.3	-1.3		
	2µm,0.3s								
VAGA	Valle Agricola	0.55	178	Pg	Pg	22 55 55.1	-1.2		
VAGA				Sg	Sg	22 56 02.3	-1.3		
	2µm,0.3s								
SGG	Gregorio Mates	0.59	168	Pg	Pg	22 55 55.5	-1.6		
	2µm,0.6s								
SGG	Gregorio Mates	0.59	168	Pg	Pg	22 55 55.5	-1.6		
	2µm,0.6s								
CIGN	Sant'Elia a Pi	0.61	121	Pg	Pg	22 55 56.0	-1.3		
CIGN				Sg	Sg	22 56 05.1	-0.2		
	867nm,0.5s								
CIGN	Sant'Elia a Pi	0.61	121	Pg	Pg	22 55 56.0	-1.3		
CIGN				Sg	Sg	22 56 05.1	-0.2		
	867nm,0.5s								
PTQR	Pietraquaria	0.61	275	Pg	Pg	22 55 55.9	-1.4		
PTQR	Pietraquaria	0.61	275	Pg	Pg	22 55 55.9	-1.4		
PTRJ	Pietraroja	0.65	158	Pg	Pg	22 55 56.2	-1.9		
	3µm,0.5s								
PTRJ	Pietraroja	0.65	158	Pg	Pg	22 55 56.2	-1.9		
	3µm,0.5s								
SACR	S. Croce Del S	0.68	147	Pg	Pg	22 55 57.0	-1.7		
SACR				Sg	Sg	22 56 07.8	+0.2		
SACR	S. Croce Del S	0.68	147	Pg	Pg	22 55 57.0	-1.7		
SACR				Sg	Sg	22 56 07.8	+0.2		
GUAR	Guarcino	0.69	256	Pg	Pg	22 55 57.2	-1.7		
GUAR				Sg	Sg	22 56 08.1	+0.1		
	1µm,0.4s								
GUAR	Guarcino	0.69	256	Pg	Pg	22 55 57.2	-1.7		
TERO	Teramo	0.80	326	Pg	Pg	22 55 58.6	-2.3		
TERO				Sg	Sb	22 56 11.7	-0.3		
	792nm,0.4s								
TERO	Teramo	0.80	326	Pg	Pg	22 55 58.6	-2.3		
TERO				Sg	Sb	22 56 11.7	-0.3		
	792nm,0.4s								
MODR	Mondragone	0.86	197	Pg	Pg	22 56 01.1	-1.0		
MODR	Mondragone	0.86	197	Pg	Pg	22 56 01.1	-1.0		
FIAM	Fiamignano	0.87	291	Pg	Pg	22 55 59.8	-2.5		
	887nm,0.7s								
FIAM	Fiamignano	0.87	291	Pg	Pg	22 55 59.8	-2.5		
	887nm,0.7s								
IPES	Pescosannita	0.87	147	Pg	Pg	22 56 00.0	-2.3		
PSB1	Pescosannita	0.87	149	Pg	Pg	22 56 00.2	-2.1		
	598nm,0.8s								
PSB1	Pescosannita	0.87	149	Pg	Pg	22 56 00.2	-2.1		
	598nm,0.8s								
TRTR	Tortoreto Alta	0.87	345	Pg	Pg	22 56 01.2	-1.1		
TRTR	Tortoreto Alta	0.87	345	Pg	Pg	22 56 01.2	-1.1		
CERT	Cerreto	0.92	269	Pg	Pg	22 56 00.9	-2.3		
	867nm,0.5s								
CERT	Cerreto	0.92	269	Pg	Pg	22 56 00.9	-2.3		
	867nm,0.5s								
MOCO	Biccari - m.te	0.93	130	Pg	Pg	22 56 01.3	-2.1		
	220nm,0.4s								
MRB1	Monte Rocchett	1.02	145	Pg	Pg	22 56 03.1	-2.0		
	1µm,0.5s								
MRB1	Monte Rocchett	1.02	145	Pg	Pg	22 56 03.1	-2.0		
	1µm,0.5s								
OFFI	Offida	1.04	338	Pg	Pg	22 56 04.2	-1.4		
OFFI	Offida	1.04	338	Pg	Pg	22 56 04.2	-1.4		
MTCE	Montecelio	1.10	273	Pg	Pb	22 56 03.8	-2.6		
	453nm,0.5s								
MTCE	Montecelio	1.10	273	Pg	Pb	22 56 03.8	-2.6		
	453nm,0.5s								
GUMA	Gualdo di Mace	1.11	350	Pg	Pn	22 56 08.2	+1.3		
	2µm,0.6s								
GUMA	Gualdo di Mace	1.11	350	Pg	Pn	22 56 08.2	+1.3		
	2µm,0.6s								
RDP	Rocca di Papa	1.14	260	Pg	Pb	22 56 04.7	-2.4		
	1µm,0.4s								
RDP	Rocca di Papa	1.14	260	Pg	Pb	22 56 04.7	-2.4		
	1µm,0.4s								
RMP	Rome, Mte Porz	1.14	263	Pg	Pb	22 56 04.4	-2.7		
	813nm,0.6s								
RMP	Rome, Mte Porz	1.14	263	Pg	Pb	22 56 04.4	-2.7		
	813nm,0.6s								
SGRT	San Giovanni R	1.17	100	Pg	Pb	22 56 05.4	-2.2		
	1µm,0.4s								
SGRT	San Giovanni R	1.17	100	Pg	Pb	22 56 05.4	-2.2		
	1µm,0.4s								
NRCA	Norcia	1.19	317	Pg	Pb	22 56 05.1	-2.9		
NRCA	Norcia	1.19	317	Pg	Pb	22 56 05.1	-2.9		
SGTA	Sant Agata di	1.20	133	Pg	Pn	22 56 05.4	-2.7		
	568nm,0.5s								
SGTA	Sant Agata di	1.20	133	Pg	Pn	22 56 05.4	-2.7		
	568nm,0.5s								
MNS	Montasola	1.21	291	Pg	Pn	22 56 05.8	-2.5		
	708nm,0.7s								
MNS	Montasola	1.21	291	Pg	Pn	22 56 05.8	-2.5		
	708nm,0.7s								
CAFE	Carife	1.21	140	Pg	Pn	22 56 05.7	-2.7		
	561nm,0.4s								
CAFE	Carife	1.21	140	Pg	Pn	22 56 05.7	-2.7		
	561nm,0.4s								
SNAL	S. Angelo Dei	1.28	144	Pg	Pn	22 56 06.5	-2.8		
	2µm,1.1s								
SNAL	S. Angelo Dei	1.28	144	Pg	Pn	22 56 06.5	-2.8		
	2µm,1.1s								
MSAG	Monte S. Angel	1.29	101	Pg	Pn	22 56 08.2	-1.2		
	2µm,0.3s								
MSAG	Monte S. Angel	1.29	101	Pg	Pn	22 56 08.2	-1.2		
	2µm,0.3s								
MCRV	Calabrutti - M	1.39	148	Pg	Pn	22 56 08.9	-1.8		
	248nm,0.3s								
MCRV	Calabrutti - M	1.39	148	Pg	Pn	22 56 08.9	-1.8		
	248nm,0.3s								
MRLC	Muro Lucano	1.55	141	Pg	Pn	22 56 12.7	-0.2		
	201nm,0.5s								
MRLC	Muro Lucano	1.55	141	Pg	Pn	22 56 12.7	-0.2		
	201nm,0.5s								
CING	Cingoli	1.59	332	Pg	Pn	22 56 12.8	-0.7		
	290nm,0.6s								
CING	Cingoli	1.59	332	Pg	Pn	22 56 12.8	-0.7		
	290nm,0.6s								
PALZ	Palazzo San Ge	1.67	127	Pg	Pn	22 56 13.8	-0.7		
	524nm,0.9s								
PALZ	Palazzo San Ge	1.67	127	Pg	Pn	22 56 13.8	-0.7		
	524nm,0.9s								
CDRU	Civita di Ruta	1.69	150	Pg	Pn	22 56 14.3	-0.6		
	111nm,0.6s								
CDRU	Civita di Ruta	1.69	150	Pg	Pn	22 56 14.3	-0.6		
	111nm,0.6s								
MRVN	Minervino Murg	1.75	121	Pg	Pn	22 56 14.5	-1.1		
	139nm,0.6s								
MRVN	Minervino Murg	1.75	121	Pg	Pn	22 56 14.5	-1.1		
	139nm,0.6s								
ACER	Acerenza	1.76	132	Pg	Pn	22 56 15.3	-0.5		
ACER	Acerenza	1.76	132	Pg	Pn	22 56 15.3	-0.5		
CDT	Castel del Mon	1.78	119	ePn	Pn	22 56 16.6	+0.5		
CDT				eSn	Sn	22 56 38.2	-0.5		
PIEI	Pieia	2.00	322	Pg	Pn	22 56 19.6	+0.6		
PIEI	Pieia	2.00	322	Pg	Pn	22 56 19.6	+0.6		
FSSB	Fossombrone	2.02	329	Pg	Pn	22 56 19.9	+0.5		
	257nm,0.4s								
FSSB	Fossombrone	2.02	329	Pg	Pn	22 56 19.9	+0.5		
	257nm,0.4s								
AMUR	Altamura	2.09	120	Pg	Pn	22 56 19.4	-0.9		
	157nm,0.3s								
AMUR	Altamura	2.09	120	Pg	Pn	22 56 19.4	-0.9		
	157nm,0.3s								
SIRI	Monte Sirino -	2.18	144	Pg	Pn	22 56 22.2	+0.6		
	113nm,0.9s								
SIRI	Monte Sirino -	2.18	144	Pg	Pn	22 56 22.2	+0.6		
	113nm,0.9s								
BAI	Bari	2.18	112	ePn	Pn	22 56 20.8	-0.7		
MATE	Matera	2.29	124	Pg	Pn	22 56 22.6	-0.5		
	176nm,0.6s								
MATE	Matera	2.29	124	Pg	Pn	22 56 22.6	-0.5		
	176nm,0.6s								
NVLJ	Novalja	2.64	10	i Pn	Pn	22 56 25.9	-2.0		
NVLJ				Sn	Sn	22 56 58.7	-1.1		
PE1	Pezze di Greco	2.68	115	ePn	Pn	22 56 27.8	-0.6		
STON	Ston	2.74	70	ePn	Pn	22 56 28.1	-1.1		
STON				Sn	Sn	22 57 02.1	0.0		
UDBI	Udbina	2.80	23	ePn	Pn	22 56 29.6	-0.5		
TREB	Trebinje	3.16	75	ePn	Pn	22 56 34.2	-0.8		
HCY	Herceg Novi	3.22	80	⇑iPn	Pn	22 56 35.5	-0.3		
HCY				eSn	Sn	22 57 14.4	+0.3		
HCY	Herceg Novi	3.22	80	⇑iPn	Pn	22 56 35.5	-0.3		
HCY				eSn	Sn	22 57 14.4	+0.3		
BRY	Bratogost	3.34	72	⇓iPn	Pn	22 56 37.7	+0.1		
BRY				eSn	Sn	22 57 16.9	-0.3		
BRY	Bratogost	3.34	72	⇓iPn	Pn	22 56 37.7	+0.1		
BRY				eSn	Sn	22 57 16.9	-0.3		
BUM	Brajici-Budva	3.50	83	⇓iPn	Pn	22 56 39.2	-0.5		
BUM				eSn	Sn	22 57 20.6	-0.5		
BUM	Brajici-Budva	3.50	83	⇓iPn	Pn	22 56 39.2	-0.5		
BUM				eSn	Sn	22 57 20.6	-0.5		
SKDS	Skadanscina	3.58	358	i Pn	Pn	22 56 39.2	-1.6		
SKDS				i Sn	Sn	22 57 22.3	-0.8		
SKDS	Skadanscina	3.58	358	i Pn	Pn	22 56 39.2	-1.6		
SKDS				i Sn	Sn	22 57 22.3	-0.8		
NKME	Niksic	3.60	76	⇑iPn	Pn	22 56 40.9	-0.3		
NKME				eSn	Sn	22 57 23.4	-0.3		
NKME	Niksic	3.60	76	⇑iPn	Pn	22 56 40.9	-0.3		
NKME				eSn	Sn	22 57 23.4	-0.3		
BOJS	Bojanci	3.62	12	i Pn	Pn	22 56 40.6	-0.6		
BOJS				i Sn	Sn	22 57 24.0	+0.2		
BOJS	Bojanci	3.62	12	i Pn	Pn	22 56 40.7	-0.6		
BOJS				i Sn	Sn	22 57 23.5	-0.3		
NKY	Niksic	3.64	75	ePn	Pn	22 56 41.4	-0.3		
NKY				eSn	Sn	22 57 24.5	-0.2		
NKY	Niksic	3.64	75	ePn	Pn	22 56 41.4	-0.3		
NKY				eSn	Sn	22 57 24.5	-0.2		
UPM	Unac-Piva	3.68	69	⇑iPn	Pn	22 56 42.0	-0.3		
UPM				eSn	Sn	22 57 24.7	-1.0		
UPM	Unac-Piva	3.68	69	⇑iPn	Pn	22 56 42.0	-0.3		
UPM				eSn	Sn	22 57 24.7	-1.0		
DRME	Dracevica, Mon	3.71	85	ePn	Pn	22 56 42.7	+0.1		
DRME				eSn	Sn	22 57 25.6	-0.6		
DRME	Dracevica, Mon	3.71	85	ePn	Pn	22 56 42.7	+0.1		
DRME				eSn	Sn	22 57 25.6	-0.6		
ULC	Ulcinj	3.75	88	⇓iPn	Pn	22 56 43.3	+0.1		
ULC				eSn	Sn	22 57 27.0	-0.3		
ULC	Ulcinj	3.75	88	⇓iPn	Pn	22 56 43.3	+0.1		
ULC				eSn	Sn	22 57 27.0	-0.3		
CEY	Cerknica	3.77	2	i Pn	Pn	22 56 41.9	-1.6		
CEY	Cerknica	3.77	2	i Pn	Pn	22 56 41.9	-1.6		
PDG	Podgorica	3.78	81	⇓iPn	Pn	22 56 43.4	-0.1		
PDG				eSn	Sn	22 57 26.4	-1.4		
TTG	Podgorica	3.78	81	⇓iPn	Pn	22 56 43.4	-0.1		
TTG				eSn	Sn	22 57 26.4	-1.4		
VISS	Visnje	3.86	7	i Pn	Pn	22 56 44.0	-0.7		
VISS	Visnje	3.86	7	i Pn	Pn	22 56 44.0	-0.7		
PGF	Pioggiola	3.91	280	eP	Pn	22 56 46.5	+1.1		
PGF	Pioggiola	3.91	280	eP	Pn	22 56 46.5	+1.1		
PLE	Pljevlja	4.06	69	⇑iPn	Pn	22 56 47.0	-0.4		
PLE				eSn	Sn	22 57 33.1	-1.8		
PLE	Pljevlja	4.06	69	⇑iPn	Pn	22 56 47.0	-0.4		
PLE				eSn	Sn	22 57 33.1	-1.8		
VOY	Vojsko	4.07	357	ePn	Pn	22 56 47.7	+0.1		
VOY				eSn	Sn	22 57 33.8	-1.4		
VOY	Vojsko	4.07	357	ePn	Pn	22 56 47.7	+0.1		
VOY				eSn	Sn	22 57 33.8	-1.4		
TIR	Tirane	4.28	96	eP	Pn	22 56 51.1	+0.7		
TIR	Tirane	4.28	96	eP	Pn	22 56 51.1	+0.7		
TIR	Tirane	4.28	96	ePG	Sn	22 57 40.5	+0.2		
BEY	Berane	4.30	76	⇑iPn	Pn	22 56 51.0	+0.2		
BEY				eSn	Sn	22 57 39.5	-1.4		
IVA	Berane	4.30	76	⇑iPn	Pn	22 56 51.0	+0.2		
IVA				eSn	Sn	22 57 39.5	-1.4		
PVY	Plav	4.31	80	⇑iPn	Pn	22 56 51.4	+0.4		
PVY				eSn	Sn	22 57 40.0	-1.2		
PVY	Plav	4.31	80	⇑iPn	Pn	22 56 51.4	+0.4		
PVY				eSn	Sn	22 57 40.0	-1.2		
OBKA	Obir	4.55	3	⇑ePn	Pn	22 56 54.5	+0.3		
	1.9nm,0.2s								
OBKA	Obir	4.55	3	Pn	Pn	22 56 54.5	+0.3		
	1.9nm,0.2s								
IVAS	Ivanjica	4.66	68	ePn	Pn	22 56 56.8	+1.1		
DIVS	Divibare	4.74	61	ePn	Pn	22 56 57.7	+0.9		
SOKA	Soboth	4.75	7	⇓ePn	Pn	22 56 57.0	+0.1		
	1.0nm,0.4s								
SOKA	Soboth	4.75	7	Pn	Pn	22 56 57.0	+0.1		
	1.0nm,0.4s								
KEK	Kerkira	4.80	116	eP	Pn	22 56 58.2	+0.7		
KEK	Kerkira	4.80	116	eP	Pn	22 56 57.9	+0.4		
KEK	Kerkira	4.80	116	ePB	Sn	22 57 53.2	+0.1		
ABTA	Abfaltersbach	4.93	346	i Pn	Pn	22 56 59.5	+0.1		
	6.4nm,0.5s,SNR=6.6								
ABTA				⇑eSn	Sn	22 57 55.8	-0.6		
	20nm,0.6s								
ABTA	Abfaltersbach	4.93	346	Pn	Pn	22 56 59.5	+0.1		
	6.4nm,0.5s,SNR=6.6								
ABTA				Sn	Sn	22 57 55.8	-0.6		
	20nm,0.6s								
GRUS	Gruza	5.15	66	ePn	Pn	22 57 04.3	+2.0		
KBA	Koelnbreinsper	5.15	353	⇑ePn	Pn	22 57 04.5	+2.0		
	2.1nm,0.2s								
KBA				⇑iSn	Sn	22 58 00.4	-1.5		
	6.8nm,0.5s								
KBA	Koelnbreinsper	5.15	353	Pn	Pn	22 57 04.5	+2.0		
	2.1nm,0.2s								
KBA				Sn	Sn	22 58 00.4	-1.5		
	6.8nm,0.5s								
SELS	Selova	5.25	74	ePn	Pn	22 57 03.8	0.0		
PKSM	Moragy	5.31	35	⇓iP	Pn	22 57 07.6	+3.1		
PKSM	Moragy	5.31	35	⇓iP	Pn	22 57 07.6	+3.1		
ARSA	Arzberg	5.37	10	⇑ePn	Pn	22 57 04.7	-0.6		
	1.6nm,0.3s								
ARSA				⇓eSn	Sn	22 58 07.7	+0.7		
	2.3nm,0.4s								
ARSA	Arzberg	5.37	10	Pn	Pn	22 57 04.7	-0.6		
	1.6nm,0.3s								
ARSA				Sn	Sn	22 58 07.7	+0.7		
	2.3nm,0.4s								
FNA	Florina	5.52	100	eP	Pn	22 57 07.0	-0.5		
FNA	Florina	5.52	100	eP	Pn	22 57 09.1	+1.6		
FNA	Florina	5.52	100	ePN	Sn	22 58 07.6	-3.3		
JAN	Janina	5.54	112	eP	Pn	22 57 08.8	+1.0		
JAN	Janina	5.54	112	eP	Pn	22 57 08.9	+1.1		
JAN	Janina	5.54	112	ePN	Sn	22 58 05.7	-5.7		
WTTA	Wattenberg	5.61	342	⇓iPn	Pn	22 57 10.0	+1.2		
	0.8nm,0.2s								
WTTA				⇑iSn	Sn	22 58 16.4	+3.3		
	11nm,0.4s								
WTTA	Wattenberg	5.61	342	Pn	Pn	22 57 10.0	+1.2		
	0.8nm,0.2s								
FETA	Feichten	5.63	335	⇑iPn	Pn	22 57 09.9	+0.8		
	4.6nm,0.6s,SNR=6.2								
FETA				⇑iSn	Sn	22 58 15.4	+1.6		
	6.5nm,0.6s								
FETA	Feichten	5.63	335	Pn	Pn	22 57 09.9	+0.8		
	4.6nm,0.6s,SNR=6.2								
BARS	Barje	5.70	79	ePn	Pn	22 57 10.9	+1.0		
DAVOX	Davos/Dischmat	5.73	329	Pn	Pn	22 57 11.2	+0.8		
	0.9nm,0.3s,baz=158,slow=18,SNR=20								
DAVOX				Sn	Sn	22 58 12.0	-4.1		
	0.6nm,0.3s,baz=126,slow=19,SNR=2.1								
MOTA	Moosalm	5.81	339	i Pn	Pn	22 57 12.7	+1.1		
	1.4nm,0.2s,SNR=6.3								
MOTA				⇑iSn	Sn	22 58 23.4	+5.2		
	3.0nm,0.2s								
MOTA	Moosalm	5.81	339	Pn	Pn	22 57 12.7	+1.1		
	1.4nm,0.2s,SNR=6.3								
LKD2	Lefkada island	5.86	121	eP	Pn	22 57 11.9	-0.2		
LKD2	Lefkada island	5.86	121	eP	Pn	22 57 12.7	+0.6		
LKD2	Lefkada island	5.86	121	ePN	Sn	22 58 16.6	-2.6		
MOA	Molln	5.88	0	⇓iPn	Pn	22 57 11.9	-0.6		
	2.8nm,0.3s								
MOA				⇓iSn	Sn	22 58 18.7	-1.0		
	10nm,0.6s								
MOA	Molln	5.88	0	Pn	Pn	22 57 11.9	-0.6		
	2.8nm,0.3s								
MOA				Sn	Sn	22 58 18.7	-1.0		
	10nm,0.6s								
KZN	Kozani	5.95	104	ePN	Sn	22 58 19.7	-1.7		
RETA	Reutte	6.04	337	⇓iPn	Pn	22 57 16.0	+1.3		
	1.6nm,0.3s								
RETA				⇑iSn	Sn	22 58 25.3	+1.6		
	4.7nm,0.3s								
CONA	Conrad Observa	6.08	11	⇑iPn	Pn	22 57 14.2	-0.9		
	1.7nm,0.2s								
CONA				⇑iSn	Sn	22 58 21.3	-3.3		
	3.7nm,0.3s								
CONA	Conrad Observa	6.08	11	Pn	Pn	22 57 14.2	-0.9		
	1.7nm,0.2s								
CONA				Sn	Sn	22 58 21.3	-3.3		
	3.7nm,0.3s								
MBDF	Montbardon	6.08	299	eP	Pn	22 57 17.5	+2.2		
DAVA	Damuels	6.15	331	⇑iPn	Pn	22 57 17.7	+1.5		
	2.5nm,0.2s								
DAVA				⇓iSn	Sn	22 58 29.0	+2.5		
	19nm,0.5s								
VLS	Valsamata	6.18	126	eP	Pn	22 57 16.3	-0.3		
VLS	Valsamata	6.18	126	eP	Pn	22 57 19.2	+2.6		
VLS	Valsamata	6.18	126	ePN	Sn	22 58 26.4	-0.8		
ZAPS	Zavoj	6.35	75	ePn	Pn	22 57 19.5	+0.6		
THL	Klokotos Trika	6.39	109	eP	Pn	22 57 18.5	-0.9		
THL	Klokotos Trika	6.39	109	eP	Pn	22 57 21.9	+2.5		
THL	Klokotos Trika	6.39	109	ePN	Sn	22 58 26.0	-6.3		
LPG	La Plagne	6.45	306	eSn	Sn	22 58 27.8	-6.4		
	3.6nm,0.5s								
LPL	La Plagne	6.47	306	ePn	Pn	22 57 18.9	-1.8		
LPL				eSn	Sn	22 58 28.3	-6.3		
	2.3nm,0.5s								
LPL	La Plagne	6.47	306	ePn	Pn	22 57 18.9	-1.8		
EVR	Evrytania	6.55	115	eP	Pn	22 57 23.4	+1.7		
EVR	Evrytania	6.55	115	eP	Pn	22 57 23.3	+1.6		
EVR	Evrytania	6.55	115	ePN	Sn	22 58 31.7	-4.6		
VTS	Vitosha	6.70	82	⇑iP	Pn	22 57 24.3	+0.5		
VTS	Vitosha	6.70	82	⇑iP	Pn	22 57 24.3	+0.5		
RLS	Riolos of Patr	6.80	123	eP	Pn	22 57 24.9	-0.1		
RLS	Riolos of Patr	6.80	123	eP	Pn	22 57 26.5	+1.5		
RLS	Riolos of Patr	6.80	123	ePB	Sn	22 58 41.8	-0.5		
AGG	Agios Georgios	6.85	113	eP	Pn	22 57 26.8	+1.0		
AGG	Agios Georgios	6.85	113	eP	Pn	22 57 27.1	+1.3		
AGG	Agios Georgios	6.85	113	ePG	Sn	22 58 42.1	-1.6		
EFP	Efpalio	6.87	118	eP	Pn	22 57 27.8	+1.8		
EFP	Efpalio	6.87	118	eP	Pn	22 57 27.5	+1.5		
EFP	Efpalio	6.87	118	ePG	Sn	22 58 43.6	-0.4		
GERES	GÉRESS Array B	6.89	357	Pn	Pn	22 57 24.6	-1.7		
	0.3nm,0.3s,baz=171,slow=13,SNR=7.9								
GERES				Sn	Sn	22 58 40.9	-3.7		
	0.9nm,0.3s,baz=166,slow=24,SNR=9.4								
SOH	Sokhos	6.97	96	ePG	Sn	22 58 43.3	-3.3		
TRIZ	Trizonia	7.01	118	eP	Pn	22 57 29.1	+1.2		
TRIZ	Trizonia	7.01	118	eP	Pn	22 57 29.6	+1.7		
TRIZ	Trizonia	7.01	118	ePB	Sn	22 58 41.9	-5.7		
LAKA	Lakka	7.02	119	eP	Pn	22 57 29.6	+1.5		
LAKA	Lakka	7.02	119	eP	Pn	22 57 29.6	+1.5		
LAKA	Lakka	7.02	119	ePG	Sn	22 58 45.0	-2.8		
KALE	Kalithea	7.04	118	eP	Pn	22 57 30.2	+1.8		
KALE	Kalithea	7.04	118	eP	Pn	22 57 29.6	+1.2		
KALE	Kalithea	7.04	118	ePG	Sn	22 58 46.3	-2.1		
PLG	Polygyros	7.15	100	eP	Pn	22 57 27.1	-2.7		
KHC	Kasperske Hory	7.18	357	ePN	Pn	22 57 28.6	-1.6		
KHC				ex	x	22 57 33.5			
KHC				eSN	Sn	22 58 47.6	-4.1		
KHC	Kasperske Hory	7.18	357	Pn	Pn	22 57 28.6	-1.6		
KLV	Kalavryta, Ach	7.25	120

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.30**	**129**	⇓P*	**Pb**	**23 08 34.2**	**+0.3**
DCZ				S*	**Sg**	**23 08 37.7**	**+1.2**
DCZ				AML	AML	23 08 38.3	
DCZ				AML	AML	23 08 38.3	
DCZ	**Deep Cove**	**0.30**	**129**	⇓P*	**Pb**	**23 08 34.2**	**+0.3**
DCZ				S*	**Sg**	**23 08 37.7**	**+1.2**
MLZ	**Mavora Lakes**	**0.95**	**94**	⇓P*	**Pg**	**23 08 44.6**	**-0.2**
MLZ				S*	**Sg**	**23 08 56.5**	**-0.6**
MLZ				AML	AML	23 08 56.6	
MLZ	**Mavora Lakes**	**0.95**	**94**	⇓P*	**Pg**	**23 08 44.6**	**-0.2**
WHZ	**Wether Hill Ro**	**0.99**	**128**	⇓P*	**Pg**	**23 08 45.2**	**-0.4**
WHZ				S*	**Sg**	**23 08 57.6**	**-0.9**
WHZ				AML	AML	23 08 58.3	
WHZ	**Wether Hill Ro**	**0.99**	**128**	⇓P*	**Pg**	**23 08 45.2**	**-0.4**
MSZ	**Milford Sound**	**0.99**	**52**	P*	**Pg**	**23 08 45.0**	**-0.6**
MSZ				AML	AML	23 09 02.9	
MSZ				AML	AML	23 09 03.0	
MSZ				AML	AML	23 09 05.6	
MSZ				AML	AML	23 09 05.6	
MSZ	**Milford Sound**	**0.99**	**52**	P*	**Pg**	**23 08 45.0**	**-0.6**
WKZ	**Wanaka**	**1.62**	**74**	PN	**Pn**	**23 08 55.7**	**+0.6**
WKZ				AML	AML	23 09 25.4	
WKZ				AML	AML	23 09 25.4	
WKZ				AML	AML	23 09 25.7	
WKZ				AML	AML	23 09 25.7	
WKZ	**Wanaka**	**1.62**	**74**	Pn	**Pn**	**23 08 55.7**	**+0.6**
APZ	**The Paps**	**1.74**	**153**	*e*PN	**Pn**	**23 08 57.0**	**+0.2**
APZ	**The Paps**	**1.74**	**153**	*e*Pn	**Pn**	**23 08 57.0**	**+0.2**
EAZ	**Earnscleugh**	**1.75**	**89**	PN	**Pn**	**23 08 57.6**	**+0.7**
EAZ				AML	AML	23 09 23.5	
EAZ				AML	AML	23 09 23.6	
EAZ				AML	AML	23 09 31.6	
EAZ				AML	AML	23 09 31.7	
EAZ	**Earnscleugh**	**1.75**	**89**	Pn	**Pn**	**23 08 57.6**	**+0.7**
JCZ	**Jackson Bay**	**1.84**	**49**	PN	**Pn**	**23 08 59.3**	**+1.2**
JCZ				AML	AML	23 09 28.1	
JCZ				AML	AML	23 09 32.7	
JCZ	**Jackson Bay**	**1.84**	**49**	Pn	**Pn**	**23 08 59.3**	**+1.2**
SYZ	**Scrubby Hill**	**2.04**	**129**	⇑PN	**Pn**	**23 09 00.8**	**0.0**
TUZ	**Tuapeka**	**2.08**	**110**	PN	**Pn**	**23 09 01.5**	**+0.1**
TUZ				AML	AML	23 09 29.0	
TUZ				AML	AML	23 09 39.6	
TUZ	**Tuapeka**	**2.08**	**110**	Pn	**Pn**	**23 09 01.5**	**+0.1**
LBZ	**Lake Benmore**	**2.55**	**70**	PN	**Pn**	**23 09 08.1**	**+0.2**
LBZ				AML	AML	23 09 56.3	
LBZ				AML	AML	23 09 56.3	
LBZ				AML	AML	23 09 57.1	
LBZ	**Lake Benmore**	**2.55**	**70**	Pn	**Pn**	**23 09 08.1**	**+0.2**
FOZ	**Fox Glacier**	**2.68**	**51**	*e*PN	**Pn**	**23 09 11.0**	**+1.4**
FOZ				AML	AML	23 09 58.3	
FOZ				AML	AML	23 09 59.7	
FOZ				AML	AML	23 09 59.8	
FOZ				AML	AML	23 10 02.3	
FOZ	**Fox Glacier**	**2.68**	**51**	*e*Pn	**Pn**	**23 09 11.0**	**+1.4**
ODZ	**Otahua Downs**	**2.71**	**86**	⇓PN	**Pn**	**23 09 09.9**	**-0.2**
ODZ	**Otahua Downs**	**2.71**	**86**	Pn	**Pn**	**23 09 09.9**	**-0.2**
HHSZ	**Highcliff Hill**	**2.71**	**104**	PN	**Pn**	**23 09 10.4**	**+0.2**
RPZ	**Rata Peaks**	**3.41**	**64**	PN	**Pn**	**23 09 19.4**	**-0.3**
RPZ				AML	AML	23 10 03.8	
RPZ				AML	AML	23 10 04.5	
WVZ	**Waitaha Valley**	**3.58**	**53**	*e*PN	**Pn**	**23 09 22.1**	**+0.1**
WVZ				AML	AML	23 10 23.6	
WVZ	**Waitaha Valley**	**3.58**	**53**	*e*Pn	**Pn**	**23 09 22.1**	**+0.1**
OXZ	**Oxford**	**4.22**	**64**	*e*PN	**Pn**	**23 09 30.9**	**0.0**
MQZ	**McQueen's Vall**	**4.46**	**71**	*e*PN	**Pn**	**23 09 32.8**	**-1.2**
MQZ	**McQueen's Vall**	**4.46**	**71**	*e*Pn	**Pn**	**23 09 32.8**	**-1.2**
LTZ	**Lake Taylor**	**4.66**	**59**	AML	AML	23 10 37.4	
LTZ				AML	AML	23 11 09.6	
DSZ	**Denniston Nort**	**5.06**	**47**	*e*PN	**Pn**	**23 09 42.0**	**-0.4**
DSZ				AML	AML	23 10 47.9	
DSZ				AML	AML	23 10 50.3	
DSZ	**Denniston Nort**	**5.06**	**47**	*e*Pn	**Pn**	**23 09 42.0**	**-0.4**
KHZ	**Kahutara**	**5.64**	**62**	*e*PN	**Pn**	**23 09 50.8**	**+0.6**
KHZ	**Kahutara**	**5.64**	**62**	*e*Pn	**Pn**	**23 09 50.9**	**+0.6**
THZ	**Tophouse**	**5.65**	**54**	*e*PN	**Pn**	**23 09 49.9**	**-0.6**
THZ				AML	AML	23 11 04.1	
THZ				AML	AML	23 11 05.1	
THZ	**Tophouse**	**5.65**	**54**	*e*Pn	**Pn**	**23 09 49.9**	**-0.6**
WCZ	**Waipu Caves**	**10.94**	**34**	PN	**Pn**	**23 11 03.3**	**+0.3**
WCZ	**Waipu Caves**	**10.94**	**34**	Pn	**Pn**	**23 11 03.3**	**+0.3**
WRA	**Warramunga Arr**	**36.84**	**303**	P	**P**	**23 15 35.1**	**+0.2**
	0.4nm,0.9s,baz=136,slow=7.8,SNR=3.0						
BRTR	**Keskin Array B**	**145.43**	**278**	PKPbc	**PKPbc**	**23 28 04.5**	**+0.1**
	1.0nm,0.7s,baz=136,slow=4.0,SNR=6.9						
TORD	**Torodi Ar. Bea**	**145.56**	**206**	PKPbc	**PKPdf**	**23 28 04.5**	**-0.7**
	2.3nm,0.5s,baz=138,slow=2.4,SNR=53						
ARCES	**ARCESS Array B**	**148.97**	**335**	PKPbc	**PKPbc**	**23 28 12.7**	**-0.5**
	1.8nm,0.7s,baz=90,slow=2.7,SNR=14						
AKASG	**Malin Array Be**	**151.42**	**296**	PKPbc	**PKPbc**	**23 28 18.8**	**-0.9**
	1.0nm,0.4s,baz=97,slow=2.2,SNR=5.8						
FINES	**FINESS Array B**	**152.11**	**319**	PKPbc	**PKPbc**	**23 28 20.6**	**-0.3**
	0.7nm,0.4s,baz=25,slow=4.6,SNR=6.4						

GUC 15 23:09:56.6±0.4, 23°.93S×67°.52W, h205km, ML3.5, 1C-5D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB04	**Plate Boundary**	**2.46**	**312**	⇓*i*P	Pn	23 10 47.5	+7.1
PB04				*i* S	S	23 11 26.3	+12
PB04				AML	AML	23 11 31.0	
	comp=N,76nm,0.1s						
CEN1	**Los Morros**	**2.52**	**282**	⇓*i*P	Pn	23 10 43.7	+2.5
CEN1				*i* S	S	23 11 18.9	+3.5
CEN1				AML	AML	23 11 21.9	
	comp=E,65nm,0.5s						
ANCH	**Antofagasta**	**2.66**	**275**	⇓*i*P	Pn	23 10 44.1	+1.4
ANCH				*i* S	S	23 11 20.0	+2.0
PB10	**Plate Boundary**	**2.82**	**278**	⇓*i*P	Pn	23 10 46.0	+1.6
PB10				*e*S	S	23 11 23.4	+2.2
PB10				AML	AML	23 11 27.5	
	comp=N,182nm,0.4s						
PB07	**Plate Boundary**	**3.10**	**315**	⇑*i*P	Pn	23 10 49.6	+1.6
PB07				AML	AML	23 11 33.5	
	comp=E,55nm,0.2s						
PB01	**Plate Boundary**	**3.40**	**327**	⇓*i*P	Pn	23 10 52.8	+1.3
PB01				*i* S	S	23 11 36.7	+2.8
PB01				AML	AML	23 11 37.6	
	comp=E,45nm,0.3s						

*IDC **15** 23:27:56.1±3.6, 36°.50N×71°.39E, h168km±31km, mb3.4/12, mb1 3.6/16, mb1mx3.4/30, mbtmp3.5/16, MS2.6/1, Ms1 2.6/1, ms1mx2.1/25, Error ellipse: s-maj=23.5km s-min=15.2km az=14.0*
*ISCJB **15** 23:27:57.1±0.4, 36°.67N±0°.03×71°.40E±0°.06, h188km, mb3.7/12, Error ellipse: s-maj=7.8km s-min=3.1km az=150.8*
*NNC **15** 23:28:04.5±3.7, 37°.22N×71°.38E, h199km±30km, mb3.3, mpv4.6, Error ellipse: s-maj=32.8km s-min=19.1km az=22.0*

ISC 15 23:27:58.2±0.5, 36°.73N±0°.06×71°.54E±0°.07, h188km, n54, σ1§36/62, mb3.7/12, 6C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**5.50**	**140**	*e*P	**Pn**	**23 29 16.0**	**-2.8**
THN				*e*S	**Sn**	**23 30 21.0**	**-1.2**
DLH	**Dalhousie**	**5.54**	**138**	*e*P	**Pn**	**23 29 19.0**	**-0.6**
DLH				*e*S	**Sn**	**23 30 21.0**	**-2.7**
AML	**Almayashu**	**5.65**	**17**	P	**Pn**	**23 29 22.1**	**+1.1**
	SNR=72						
DHRM	**DHARAMSHALA**	**5.95**	**137**	*e*P	**Pn**	**23 29 26.9**	**+2.0**
DHRM				*e*S	**Sn**	**23 30 33.2**	**0.0**
DHRM				AML	AML	23 30 35.7	
	comp=N,440nm,0.6s						
DHRM				AML	AML	23 30 36.5	
	comp=E,629nm,0.6s						
EKS2	**Erkin-Say**	**6.17**	**16**	P	**Pn**	**23 29 28.4**	**+0.8**
	SNR=39						
AAK	**Ala-Archa**	**6.32**	**20**	P	**Pn**	**23 29 31.1**	**+1.5**
	SNR=75						
AAK	**Ala-Archa**	**6.32**	**20**	P	**Pn**	**23 29 31.1**	**+1.5**
	comp=E,17nm,0.3s,baz=165,slow=5.7,SNR=125						
AAK				S	**Sn**	**23 30 40.9**	**-0.9**
	comp=E,3.0nm,0.3s,baz=314,slow=24,SNR=12						
KK31	**Karatay Array**	**6.42**	**353**	P	**Pn**	**23 29 30.7**	**0.0**
	comp=E,23nm,0.3s,baz=176,slow=12,SNR=709						
KK31				⇑S	**Sn**	**23 30 39.8**	**-4.0**
	comp=E,24nm,0.5s,baz=169,slow=15,SNR=9.0						
KBK	**Karagaybulak**	**6.48**	**23**	P	**Pn**	**23 29 33.7**	**+2.1**
	SNR=37						
ULHL	**Ulahol**	**6.60**	**32**	P	**Pn**	**23 29 35.3**	**+2.0**
	SNR=13						
CHMS	**Chumysh**	**6.73**	**21**	P	**Pn**	**23 29 36.6**	**+1.8**
	SNR=7.2						
SDNR	**Sundarnagar**	**6.89**	**138**	*e*P	**Pn**	**23 29 37.0**	**0.0**
SDNR				*e*S	**Sn**	**23 30 54.0**	**-1.1**
USP	**Ospenovka**	**6.92**	**18**	P	**Pn**	**23 29 37.9**	**+0.7**
	SNR=21						
TKM2	**Tokmak 2**	**6.93**	**26**	⇑P	**Pn**	**23 29 39.1**	**+1.6**
	comp=E,28nm,0.6s						
TKM2				⇑S	**Sn**	**23 30 53.8**	**-2.3**
	comp=E,7.2nm,0.7s						
TKM2	**Tokmak 2**	**6.93**	**26**	P	**Pn**	**23 29 39.1**	**+1.6**
	SNR=72						
SMLA	**Simla**	**7.28**	**138**	*i* P	**Pn**	**23 29 43.3**	**+1.2**
SMLA				*i* S	**Sn**	**23 31 02.4**	**-2.0**
SMLA				AML	AML	23 31 05.4	
	comp=N,151nm,0.3s						
SMLA				AML	AML	23 31 05.4	
	comp=E,124nm,0.2s						
DDI	**Dehra Dun**	**8.39**	**138**	*e*S	**Sn**	**23 31 28.6**	**-2.2**
DDI				AML	AML	23 31 31.9	
	comp=E,288nm,0.0s						
DDI				AML	AML	23 31 32.4	
	comp=N,291nm,1.0s						
NDI	**New Delhi**	**9.34**	**148**	*e*S	Sn	23 31 45.0	-8.3
MK31	**Makanchi Array**	**12.85**	**35**	⇑P	**P**	**23 30 56.2**	**-1.7**
	comp=N,0.8nm,0.5s,baz=210,slow=11,SNR=18						
MKAR	**Makanchi Array**	**12.85**	**35**	P	**Pn**	**23 30 54.6**	**+0.5**
	comp=N,0.2nm,0.3s,baz=214,slow=12,SNR=12						
PYUN	**Piuthan**	**12.94**	**128**	*e*P	**Pn**	**23 30 55.4**	**-0.1**
	comp=N,74nm,0.5s						
DANN	**Dangsing**	**13.26**	**126**	*e*P	**Pn**	**23 31 00.1**	**+0.4**
	comp=N,15nm,0.3s						
KOLN	**Koldanda**	**13.55**	**128**	*e*P	**Pn**	**23 31 03.9**	**+0.7**
	comp=N,11nm,0.3s						
KKN	**Kakani**	**14.63**	**124**	*e*P	**P**	**23 31 17.5**	**-0.6**
	comp=N,14nm,0.4s						
DMN	**Daman**	**14.64**	**125**	*e*P	**P**	**23 31 17.8**	**-0.4**
KURBB	**Kurchatov Arra**	**14.77**	**18**	⇓P	**Pn**	**23 31 16.8**	**-1.1**
	comp=N,3.4nm,0.6s						
KURBB	**Kurchatov Arra**	**14.77**	**18**	P	**Pn**	**23 31 17.2**	**-0.7**
	comp=N,0.4nm,0.3s,baz=210,slow=11,SNR=7.5						
PKIN	**Phulchoki**	**14.85**	**124**	*e*P	**P**	**23 31 21.0**	**+0.5**
	comp=N,14nm,0.3s						
PKI	**Pulchoki**	**14.86**	**124**	*e*P	**P**	**23 31 20.7**	**0.0**
GUN	**Gumba**	**14.96**	**122**	*e*P	**P**	**23 31 22.5**	**+0.7**
AB31	**Akbulak array**	**15.10**	**330**	⇓P	**Pn**	**23 31 20.3**	**-1.7**
	comp=N,2.6nm,0.5s,baz=156,slow=11,SNR=4.5						
AB31				⇑S	S	23 34 00.2	-10
	comp=N,6.4nm,0.6s,baz=158,slow=22,SNR=5.4						
JIRN	**Jiri**	**15.33**	**122**	*e*P	**P**	**23 31 26.6**	**+0.6**
	comp=N,30nm,0.4s						
VOSK	**Vostochnaya**	**16.00**	**359**	⇓P	**P**	**23 31 32.8**	**+0.1**
	comp=N,4.6nm,0.7s						
RAMN	**Ramite**	**16.07**	**123**	*e*P	**Pn**	**23 31 35.3**	**+1.1**
	comp=N,20nm,0.5s						
BVA0	**Borovoye Array**	**16.32**	**358**	⇓P	**Pn**	**23 31 38.0**	**+1.3**
	comp=N,1.7nm,0.5s,baz=153,slow=8.8,SNR=13						
BVAR	**Borovoye Array**	**16.32**	**358**	P	**P**	**23 31 35.6**	**-0.6**
	comp=N,1.1nm,0.3s,baz=155,slow=11,SNR=14						
BVAR				LR	LR	23 39 13.6	
	comp=N,21nm,19.7s,baz=54,slow=41						
TAPN	**Taplejung**	**16.57**	**120**	*e*P	**Pn**	**23 31 41.4**	**+1.0**
	comp=N,11nm,0.3s						
ODAN	**Odare**	**16.66**	**122**	*e*P	**Pn**	**23 31 42.0**	**+0.7**
	comp=N,8.6nm,0.5s						
AKTO	**Aktyubinsk**	**16.80**	**329**	⇑P	**P**	**23 31 42.3**	**+0.7**
	comp=N,3.4nm,0.5s						
AKTO				⇓S	**S**	**23 34 45.2**	**-1.9**
	comp=N,4.0nm,0.8s						
AKTO	**Aktyubinsk**	**16.80**	**329**	P	**Pn**	**23 31 42.8**	**+0.2**
	comp=N,1.3nm,0.3s,baz=139,slow=9.3,SNR=19						
AKTO				S	S	23 34 40.3	-6.8
	comp=N,0.1nm,0.3s,baz=139,slow=19,SNR=3.9						
ZALV	**Zalesovo Beam**	**19.53**	**24**	P	**P**	**23 32 12.8**	**+1.7**
	comp=N,1.4nm,0.3s,baz=219,slow=11,SNR=16						
BRTR	**Keskin Array B**	**29.78**	**287**	P	**P**	**23 33 47.5**	**+0.1**
	comp=N,0.7nm,0.6s,baz=107,slow=9.3,SNR=6.7						
AKASG	**Malin Array Be**	**33.14**	**308**	P	**P**	**23 34 16.4**	**-0.1**
	comp=N,1.4nm,0.4s,baz=78,slow=7.9,SNR=6.5						
FINES	**FINESS Array B**	**37.54**	**326**	P	**P**	**23 34 54.9**	**+1.1**
	comp=N,0.7nm,0.3s,baz=123,slow=8.7,SNR=10						
ARCES	**ARCESS Array B**	**41.10**	**337**	P	**P**	**23 35 24.8**	**+1.6**
	comp=N,1.7nm,0.7s,baz=116,slow=9.0,SNR=14						
GERES	**GERESS Array B**	**43.15**	**305**	P	**P**	**23 35 40.2**	**+0.1**
	comp=N,0.2nm,0.3s,baz=64,slow=8.9,SNR=4.0						
NB2	**NORSAR Subarra**	**44.46**	**323**	P	**P**	**23 35 50.7**	**+0.4**
	comp=Z,1.2nm,0.5s,baz=97,slow=7.9						
NOA	**NORSAR Array B**	**44.46**	**323**	P	**P**	**23 35 50.8**	**+0.5**
	comp=Z,1.7nm,0.6s,baz=96,slow=7.7,SNR=12						
ESDC	**Sonseca Array**	**57.73**	**298**	P	**P**	**23 37 29.8**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=70,slow=8.2,SNR=4.3						
TORD	**Torodi Ar. Bea**	**66.16**	**269**	P	**P**	**23 38 24.1**	**-1.7**
	comp=Z,1.6nm,0.5s,baz=48,slow=5.7,SNR=45						
INK	**Inuvik**	**73.61**	**9**	P	**P**	**23 39 11.5**	**+1.2**
	comp=Z,0.9nm,0.5s,baz=299,slow=13,SNR=2.9						
YKA	**Yellowknife Ar**	**81.00**	**3**	P	**P**	**23 39 52.8**	**+1.3**
	comp=Z,1.4nm,0.7s,baz=352,slow=5.3,SNR=3.9						
WRA	**Warramunga Arr**	**81.74**	**122**	P	**P**	**23 39 56.4**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=316,slow=6.8,SNR=9.8						
ASAR	**Alice Springs**	**84.03**	**125**	P	**P**	**23 40 08.2**	**+0.4**
	comp=Z,0.6nm,0.8s,baz=310,slow=5.7,SNR=5.2						

FUNV 15 23:47:06.1, 11°.90N×71°.17W, h23km, MW3.8, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DABV	**Dabajuro**	**1.10**	**152**	*e*P	Pn	23 47 25.3	-0.9
MONV	**Montecano**	**1.17**	**87**	*e*P	Pb	23 47 27.6	-0.1
MONV				*e*S	Sb	23 47 42.6	+0.1
QARV	**Quebrada Arrib**	**1.80**	**159**	*e*P	Pn	23 47 35.2	-0.6
QARV				*e*S	Sn	23 47 57.0	-0.9
SIQV	**Siquisique**	**1.82**	**133**	*e*P	Pn	23 47 35.0	-1.1
SIQV				*e*S	Sn	23 47 56.8	-1.7
VIRV	**Villa del Rosa**	**1.84**	**221**	*e*P	Pn	23 47 35.6	-0.8
VIRV				*e*S	Sn	23 47 57.2	-1.7
CURV	**Curarigua**	**2.22**	**148**	*e*P	Pn	23 47 40.0	-1.6
JACV	**Jacura**	**2.43**	**109**	*e*P	Pn	23 47 43.7	-0.7
JACV				*e*S	Sn	23 48 11.9	-1.7
TEPV	**Terepaima**	**2.73**	**135**	*e*P	Pn	23 47 47.5	-1.2
TEPV				*e*S	Sn	23 48 18.2	-2.8
SANV	**Sanarito**	**2.87**	**146**	*e*P	Pn	23 47 50.3	-0.4
SANV				*e*S	Sn	23 48 22.8	-1.9
VIGV	**El Vigia**	**3.04**	**184**	*e*P	Pn	23 47 52.2	-0.8
VIGV				*e*S	Sn	23 48 26.5	-2.2
TURV	**Turiamo**	**3.57**	**113**	*e*P	Pn	23 47 58.6	-1.4
TURV				*e*S	Sn	23 48 37.4	-4.2
SOCV	**Socops**	**3.60**	**175**	*e*P	Pn	23 48 00.2	-0.4
SOCV				*e*S	Sn	23 48 39.9	-2.6
CAPV	**Capacho**	**4.16**	**196**	*e*P	Pn	23 48 07.3	-1.3
BAUV	**El Baul**	**4.25**	**133**	*e*P	Pn	23 48 08.5	-1.0
BAUV				*e*S	Sn	23 48 54.0	-4.5
BIRV	**Birongo**	**5.01**	**106**	*e*P	Pn	23 48 18.1	-1.8
BIRV				*e*S	Sn	23 49 12.0	-5.2
CUPV	**Cœpira**	**5.59**	**109**	*e*P	Pn	23 48 27.1	-0.9

*CSEM **15** 23:53:16.2, 41°.67N×13°.97E, h11km, ML1.6, After ROM*

ROM 15 23:53:16.2±0.1, 41°.67N×13°.97E, h11km±2km, Ml1.6/2, Error ellipse: s-maj=2.5km s-min=0.8km az=6.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CERA	**Filignano**	**0.08**	**152**	Pg	Pg	23 53 19.2	+0.4
CERA				Sg	Sg	23 53 21.2	+0.5
CERA	**Filignano**	**0.08**	**152**	Pg	Pg	23 53 19.2	+0.4
CERA				Sg	Sg	23 53 21.2	+0.5
SDI	**San Donato**	**0.12**	**289**	Pg	Pg	23 53 19.9	+0.5
SDI				Sg	Sg	23 53 22.2	+0.5
SDI	**San Donato**	**0.12**	**289**	Pg	Pg	23 53 19.9	+0.5
SDI				Sg	Sg	23 53 22.2	+0.5
RNI2	**Rionero Sannit**	**0.14**	**76**	Pg	Pg	23 53 20.2	+0.5
RNI2				Sg	Sg	23 53 23.2	+1.0
RNI2	**Rionero Sannit**	**0.14**	**76**	Pg	Pg	23 53 20.2	+0.5
RNI2				Sg	Sg	23 53 23.2	+1.0
POFI	**Posta Fibreno**	**0.20**	**284**	Pg	Pg	23 53 21.1	+0.5
POFI				Sg	Sg	23 53 24.7	+1.1
	93nm,0.6s						
POFI	**Posta Fibreno**	**0.20**	**284**	Pg	Pg	23 53 21.1	+0.5
POFI				Sg	Sg	23 53 24.7	+1.1
	93nm,0.6s						
MIDA	**Miranda**	**0.22**	**97**	Pg	Pg	23 53 21.1	+0.2
MIDA				Sg	Sg	23 53 25.0	+0.9
	152nm,0.4s						
MIDA	**Miranda**	**0.22**	**97**	Pg	Pg	23 53 21.1	+0.2
MIDA				Sg	Sg	23 53 25.0	+0.9
	152nm,0.4s						

*ROM **15** 23:53:22.8±0.1, 42°.24N×13°.49E, h10km±1km, Ml2.5/11, Error ellipse: s-maj=1.3km s-min=0.9km az=85.0*
*CSEM **15** 23:53:22.8, 42°.24N×13°.49E, h10km, ML2.5, After ROM*

ISC 15 23:53:22.9±1.0, 42°.24N±0°.02×13°.50E±0°.02, h19km±3km, n33, σ0§97/58, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTQR	**Pietraquaria**	**0.23**	**199**	Pg	**Pg**	**23 53 28.2**	**-0.3**
PTQR				Sg	**Sg**	**23 53 32.1**	**-0.2**
	109nm,0.2s						
PTQR	**Pietraquaria**	**0.23**	**199**	Pg	**Pg**	**23 53 28.2**	**-0.3**
PTQR				Sg	**Sg**	**23 53 32.1**	**-0.2**
	109nm,0.2s						
FIAM	**Fiamignano**	**0.29**	**276**	Pg	**Pg**	**23 53 29.1**	**-0.4**
FIAM				Sg	**Sg**	**23 53 33.8**	**-0.1**
	494nm,0.5s						
FIAM	**Fiamignano**	**0.29**	**276**	Pg	**Pg**	**23 53 29.1**	**-0.4**
FIAM				Sg	**Sg**	**23 53 33.8**	**-0.1**
	494nm,0.5s						
INTR	**Introdacqua**	**0.38**	**127**	Pg	**Pg**	**23 53 30.0**	**-0.9**
INTR				Sg	**Sb**	**23 53 36.8**	**+0.2**
	556nm,0.4s						
INTR	**Introdacqua**	**0.38**	**127**	Pg	**Pg**	**23 53 30.0**	**-0.9**
INTR				Sg	**Sb**	**23 53 36.8**	**+0.2**
	556nm,0.4s						
TERO	**Teramo**	**0.39**	**11**	Pg	**Pg**	**23 53 31.0**	**-0.2**
TERO				Sg	**Sb**	**23 53 37.1**	**0.0**
	450nm,0.5s						
TERO	**Teramo**	**0.39**	**11**	Pg	**Pg**	**23 53 31.0**	**-0.2**
TERO				Sg	**Sb**	**23 53 37.1**	**0.0**
	450nm,0.5s						
GUAR	**Guarcino**	**0.46**	**198**	Pg	**Pg**	**23 53 32.3**	**-0.2**
	156nm,0.4s						
GUAR	**Guarcino**	**0.46**	**198**	Pg	**Pg**	**23 53 32.3**	**-0.2**
	156nm,0.4s						
CERT	**Cerreto**	**0.48**	**233**	Pg	**Pg**	**23 53 32.5**	**-0.3**
CERT				Sg	**Sb**	**23 53 39.8**	**+0.3**
CERT	**Cerreto**	**0.48**	**233**	Pg	**Pg**	**23 53 32.5**	**-0.3**
CERT				Sg	**Sb**	**23 53 39.8**	**+0.3**
MTCE	**Montecelio**	**0.60**	**249**	Pg	**Pg**	**23 53 34.6**	**-0.4**
	107nm,0.5s						
MTCE	**Montecelio**	**0.60**	**249**	Pg	**Pg**	**23 53 34.6**	**-0.4**
	107nm,0.5s						
MNS	**Montasola**	**0.62**	**284**	Pg	**Pg**	**23 53 34.8**	**-0.6**
	147nm,0.6s						
MNS	**Montasola**	**0.62**	**284**	Pg	**Pg**	**23 53 34.8**	**-0.6**
	147nm,0.6s						
CAFR	**Castel Frentan**	**0.63**	**91**	Pg	**Pg**	**23 53 35.2**	**-0.3**
CAFR				Sg	**Sb**	**23 53 44.7**	**+1.1**
CAFR	**Castel Frentan**	**0.63**	**91**	Pg	**Pg**	**23 53 35.2**	**-0.3**
CAFR				Sg	**Sb**	**23 53 44.7**	**+1.1**
NRCA	**Norcia**	**0.66**	**335**	Pg	**Pb**	**23 53 35.2**	**-0.6**
NRCA				Sg	**Sb**	**23 53 45.3**	**+0.7**
	30nm,0.2s						
NRCA	**Norcia**	**0.66**	**335**	Pg	**Pb**	**23 53 35.2**	**-0.6**
NRCA				Sg	**Sb**	**23 53 45.3**	**+0.7**
	30nm,0.2s						
OFFI	**Offida**	**0.71**	**11**	Pg	**Pg**	**23 53 37.3**	**+0.3**
OFFI				Sg	**Sg**	**23 53 47.0**	**+0.5**
OFFI	**Offida**	**0.71**	**11**	Pg	**Pg**	**23 53 37.3**	**+0.3**
OFFI				Sg	**Sg**	**23 53 47.0**	**+0.5**
MIDA	**Miranda**	**0.82**	**136**	Pg	**Pb**	**23 53 38.0**	**-0.6**
MIDA				Sg	**Sn**	**23 53 50.9**	**-0.2**
	152nm,0.4s						
MIDA	**Miranda**	**0.82**	**136**	Pg	**Pb**	**23 53 38.0**	**-0.6**
MIDA				Sg	**Sn**	**23 53 50.9**	**-0.2**
	152nm,0.4s						
GUMA	**Gualdo di Mace**	**0.89**	**21**	Pg	**Pb**	**23 53 38.8**	**-0.9**
GUMA				Sg	**Sb**	**23 53 50.4**	**-0.7**
	296nm,0.6s						
GUMA	**Gualdo di Mace**	**0.89**	**21**	Pg	**Pb**	**23 53 38.8**	**-0.9**
GUMA				Sg	**Sb**	**23 53 50.4**	**-0.7**

FINES	FINESS Array B	30.63	325	P		P	01 03 52.6	0.0
	0.4nm,0.4s,baz=123,slow=7.0,SNR=4.1							
ARCES	ARCESS Array B	34.99	338	P		P	01 04 31.4	+0.8
	1.8nm,0.8s,baz=132,slow=7.2,SNR=4.6							

PRE 16 00:57:50.2±2.0, 1°31N×30°76E, h10km, ML3.5, Uganda

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBAR	Mbarara	1.90	181	eP	Pn	00 58 22.5	-0.5
MBAR				eS	Sb	00 58 48.7	-0.6
KIG	Kigali	3.33	192	eP	Pn	00 58 43.5	+0.9
KIG				eS	Sn	00 59 20.3	-2.2
KIG				AML	AML	00 59 45.3	
	comp=Z,112nm,0.3s						
KMBO	Kilima Mbogo	6.93	110	eP	Pn	00 59 33.5	+1.4
KMBO				eS	Sn	01 00 47.4	-4.0

KRSC 16 01:35:56.7±0.6, 50°85N×156°94E, h130km±60km, ML3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	Pauzhetka	0.62	353	eP	Pn	01 36 17.6	+1.1
PAU				i S	Sn	01 36 32.6	+1.1
MIPR	Malaya Ipel'ka	1.43	356	eP	Pn	01 36 24.2	+0.2
MIPR				i S	Sn	01 36 43.8	-1.1
ASAK	Asacha	1.65	21	eP	Pn	01 36 28.8	+2.3
MTVR	Mutnovka	1.81	25	eP	Pn	01 36 31.1	+2.6
MTVR				i S	Sn	01 36 56.1	+3.2
RUS	Russkaya	1.86	31	eP	Pn	01 36 31.3	+2.4
RUS				i S	Sn	01 36 55.9	+2.3
APC	Apacha	2.08	4	eP	Pn	01 36 31.9	+0.3
APC				i S	Sn	01 36 58.2	-0.2
UGLR	Uglovaya	2.63	25	eP	Pn	01 36 41.5	+2.8
UGLR				i S	Sn	01 37 14.3	+3.3
NLC	Nalytchevo	2.76	32	eP	Pn	01 36 41.5	+1.4
NLC				i S	Sn	01 37 13.8	+0.2
GNL	Ganaly	2.92	12	eP	Pn	01 36 43.5	+1.2
KII	Karymskiy	3.54	25	eP	Pn	01 36 52.8	+2.4
MKZ	Mys Kozlova	4.72	36	eP	Pn	01 37 07.7	+1.8
MKZ				i S	Sn	01 37 58.2	-1.5
TUMR	Tumrok	4.84	22	eP	Pn	01 37 10.8	+3.1
KMNR	Kamenistaya	5.30	21	eP	Pn	01 37 16.8	+3.0
KOZ	Kozyrevsk	5.50	17	eP	Pn	01 37 19.1	+2.7
SRDR	Sredinnyy	5.72	16	eP	Pn	01 37 22.4	+3.0
KBTR	Krutoberegovo	6.41	31	eP	Pn	01 37 30.0	+1.5

NIED **16** *01:48:00,42°10N×142°50E,h53km,Mw3.7 Best double couple: M₀3.82000×10¹⁴ NP1:φ₀24.00000°, δ64.00000°, λ93.00000°. NP2:φ₀197.00000°, δ26.00000°, λ83.00000°.*
ISCJB **16** *01:48:46.9±0.6,42°00N±0°05×142°58E±0°05,h68km±4km, mb3.5/9,Error ellipse: s-maj=8.6km s-min=5.4km az=160.1*
JMA **16** *01:48:48.0±0.1,42°04N×142°60E,h62km±2km,M3.5*
JMA Felt I J1.
IDC **16** *01:48:52.4±2.1,42°27N×142°52E,h94km±13km,mb3.4/9, mb1 3.5/12,mb1mx3.4/26,mbtmp3.4/12,Error ellipse: s-maj=25.6km s-min=14.3km az=126.0*

ISC 16 01:48:47.7±0.9, 42°00N±0°06×142°58E±0°04, h61km±7km, n26, σ0°66/35, mb3.7/9, 4C-6D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	Urakawa-nobuka	0.30	24	↑↑P	Pn	01 48 57.9	0.0
JNBK				eS	Sn	01 49 05.5	+0.1
JEM	Erimo	0.43	88	↑↑P	Pn	01 48 59.4	+0.4
JEM				eS	Sn	01 49 07.4	+0.2
JBT2	Biratori 2	0.79	348	↓↓P	Pn	01 49 02.9	-0.2
JBT2				eS	Sn	01 49 14.4	0.0
JCH	Churui	0.84	43	↑↑P	Pn	01 49 03.7	0.0
JCH				eS	Sn	01 49 15.5	0.0
JFR	Furan	1.16	0	P	Pn	01 49 07.7	-0.2
JKB	Kayabe	1.16	265	↓↓P	Pn	01 49 08.1	+0.2
JKB				eS	Sn	01 49 23.0	+0.1
JEW	Eniwo	1.19	315	↓↓P	Pn	01 49 08.4	+0.2
JEW				eS	Sn	01 49 24.7	+1.2
JNB	Noboribetsu	1.24	293	↓↓P	Pn	01 49 08.4	-0.5
JNB				eS	Sn	01 49 24.3	-0.4
JOB	Onbets	1.29	45	↑↑P	Pn	01 49 10.5	+0.9
JOB				eS	Sn	01 49 27.3	+1.3
JOT	Ohata	1.31	242	↓↓P	Pn	01 49 10.2	+0.4
JAB	Ashibetsu	1.52	350	P	Pn	01 49 13.0	+0.3
JAB				eS	Sn	01 49 32.1	+0.6
JAR	Ashorobuto	1.56	34	P	Pn	01 49 13.2	0.0
JAR				eS	Sn	01 49 32.2	-0.3
JYM2	Yakumo 2	1.65	275	↓↓P	Pn	01 49 14.6	+0.2
ASAJ	Asahikawa	2.11	0	P	Pn	01 49 21.6	+0.9
	38nm,0.3s,baz=206,slow=12,SNR=50						
ASAJ				S	Sn	01 49 46.4	+0.6
	14nm,0.3s,baz=290,slow=31,SNR=9.4						
MJAR	Matsushiro Arr	6.42	213	P	Pn	01 50 28.1	+8.4
	0.6nm,0.3s,baz=28,slow=13,SNR=2.9						
USRK	Ussuriysk Arra	8.06	289	P	Pn	01 50 43.8	+1.8
	0.2nm,0.3s,baz=92,slow=14,SNR=5.7						
KSRS	Korea Array	12.16	253	P	Pn	01 51 42.6	+4.5
	0.2nm,0.3s,baz=60,slow=13,SNR=3.8						
SONM	Songino Array	26.11	295	P	P	01 54 15.9	+0.1
	0.5nm,0.6s,baz=81,slow=10,SNR=3.2						
ZALV	Zalesovo Beam	39.40	308	P	P	01 56 11.2	+0.1
	1.6nm,0.6s,baz=94,slow=6.4,SNR=8.3						
MKAR	Makanchi Array	42.42	298	P	P	01 56 36.4	+0.2
	1.3nm,1.0s,baz=84,slow=12,SNR=6.2						
ILAR	Eielson Array	44.86	35	P	P	01 56 55.0	-0.5
	0.4nm,0.8s,baz=262,slow=6.3,SNR=3.5						
BVAR	Borovoye Array	48.01	309	P	P	01 57 20.6	+0.3
	0.7nm,0.4s,baz=73,slow=10,SNR=4.6						
FINES	FINESS Array B	64.86	332	P	P	01 59 19.0	-0.9
	1.4nm,0.7s,baz=19,slow=8.8,SNR=5.2						
NOA	NORSAR Array B	69.96	337	P	P	01 59 51.4	-0.8
	0.7nm,0.6s,baz=36,slow=6.1,SNR=3.8						
AKASG	Malin Array Be	70.94	322	P	P	01 59 57.3	-0.9
	0.1nm,0.3s,baz=105,slow=17,SNR=4.1						
TXAR	Lajitas Array	86.40	53	P	P	02 01 24.3	+0.7
	0.3nm,0.7s,baz=290,slow=3.7,SNR=3.6						

ISCJB **16** *02:01:05.4±0.3,38°43N±0°02×22°56E±0°03,h24km±3km, Error ellipse: s-maj=4.1km s-min=3.4km az=11.9*
CSEM **16** *02:01:05.4±0.1,38°46N×22°59E,h12km,ML1.7/4,Error ellipse: s-maj=3.3km s-min=2.5km az=112.0*
THE **16** *02:01:05.3,38°44N×22°58E,h16km±2km,ML1.7/4,Error ellipse: s-maj=2.1km s-min=0.6km az=249.0*
ATH **16** *02:01:05.1,38°46N×22°62E,h19km±2km,MD2.8/14*

ISC 16 02:01:05.3±0.9, 38°45N±0°02×22°59E±0°02, h16km±7km, n48, σ0°43/84, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AXAR	Agios Charalam	0.32	10	P	Pg	02 01 11.9	-0.1
AXAR				S	Sb	02 01 17.8	+0.1
AXAR	Agios Charalam	0.32	10	P	Pg	02 01 11.9	-0.1
AXAR				S	Sb	02 01 17.8	+0.1
KALE	Kalithea	0.36	261	P	Pg	02 01 12.3	-0.4
KALE				S	Sg	02 01 17.9	+0.2
KALE	Kalithea	0.36	261	ePB	Pg	02 01 12.3	-0.4
KALE				eSB	Sg	02 01 18.1	+0.4
KALE	Kalithea	0.36	261	P	Pg	02 01 12.3	-0.4
KALE				S	Sg	02 01 17.9	+0.2
TRIZ	Trizonia	0.41	258	P	Pg	02 01 13.1	-0.5
TRIZ				S	Sb	02 01 19.9	-0.3
TRIZ	Trizonia	0.41	258	ePB	Pg	02 01 13.2	-0.4
TRIZ				eSB	Sg	02 01 19.6	+0.3
TRIZ	Trizonia	0.41	258	ePb	Pg	02 01 13.2	-0.4
TRIZ				eSb	Sg	02 01 19.6	+0.3
LTK	Loutraki	0.52	145	P	Pg	02 01 15.5	-0.1
LTK				S	Sb	02 01 23.9	+0.6
LTK	Loutraki	0.52	145	ePN	Pg	02 01 15.6	-0.1
LTK				eSN	Sb	02 01 23.8	+0.5
LTK	Loutraki	0.52	145	P	Pg	02 01 15.5	-0.1
LTK				eSn	Sb	02 01 23.8	+0.5
LAKA	Lakka	0.52	247	ePN	Pg	02 01 15.5	-0.2
LAKA				eSN	Sb	02 01 23.8	+0.4
LAKA	Lakka	0.52	247	ePn	Pg	02 01 15.5	-0.2
LAKA				eSn	Sb	02 01 23.8	+0.4
KLV	Kalavryta, Ach	0.53	221	P	Pg	02 01 15.4	-0.4
KLV	Kalavryta, Ach	0.53	221	ePN	Pg	02 01 15.4	-0.4
KLV				eSN	Sg	02 01 23.6	+0.6
KLV	Kalavryta, Ach	0.53	221	P	Pg	02 01 15.4	-0.4
KLV				eSn	Sg	02 01 23.6	+0.6
EFP	Efpalio	0.54	268	ePN	Pg	02 01 15.4	-0.5
EFP				eSN	Sb	02 01 24.3	+0.5
EFP	Efpalio	0.54	268	ePn	Pg	02 01 15.4	-0.5
EFP				eSn	Sb	02 01 24.3	+0.5
GUR	Goura	0.55	201	P	Pg	02 01 15.9	-0.3
GUR				S	Sg	02 01 23.1	-0.4
GUR	Goura	0.55	201	ePN	Pg	02 01 15.9	-0.3
GUR				eSN	Sb	02 01 24.5	+0.3
GUR	Goura	0.55	201	P	Pg	02 01 15.9	-0.3
GUR				S	Sg	02 01 23.1	-0.4
GUR				eSn	Sb	02 01 24.5	+0.3
AGG	Agios Georgios	0.61	341	P	Pg	02 01 17.1	-0.2
AGG				S	Sb	02 01 25.8	-0.1
AGG	Agios Georgios	0.61	341	ePN	Pg	02 01 17.1	-0.2
AGG				eSN	Sg	02 01 25.2	-0.2
AGG	Agios Georgios	0.61	341	P	Pg	02 01 17.1	-0.2
AGG				eSn	Sg	02 01 25.2	-0.2
SMIA	Simia	0.65	48	P	Pg	02 01 17.8	-0.2
SMIA				S	Sb	02 01 27.8	+0.7
SMIA	Simia	0.65	48	P	Pg	02 01 17.8	-0.2
SMIA				S	Sb	02 01 27.8	+0.7
MAKR	Makrakomi, Fth	0.67	328	P	Pg	02 01 18.2	-0.2
MAKR				S	Sn	02 01 29.3	-1.0
MAKR	Makrakomi, Fth	0.67	328	P	Pg	02 01 18.2	-0.2
MAKR				S	Sn	02 01 29.3	-1.0
EVR	Evrytania	0.77	308	ePN	Pb	02 01 20.9	+0.6
EVR				eSN	Sn	02 01 31.8	-1.1
EVR	Evrytania	0.77	308	ePn	Pb	02 01 20.9	+0.6
EVR				eSn	Sn	02 01 31.8	-1.1
RLS	Riolos of Patr	0.97	246	ePN	Pg	02 01 24.0	0.0
RLS				eSN	Sn	02 01 37.8	+0.3
RLS	Riolos of Patr	0.97	246	ePn	Pg	02 01 24.0	0.0
RLS				eSn	Sn	02 01 37.8	+0.3
XOR	Xorichti	1.03	27	P	Pn	02 01 25.0	-0.1
XOR				S	Sg	02 01 38.8	+0.1
XOR	Xorichti	1.03	27	P	Pn	02 01 25.0	-0.1
XOR				S	Sg	02 01 38.8	+0.1
DID	Didima	1.07	151	ePN	Pb	02 01 25.6	+0.1
DID	Didima	1.07	151	ePn	Pb	02 01 25.6	+0.1
AMT	Artemida-Makis	1.15	217	ePN	Pg	02 01 27.3	-0.2
AMT	Artemida-Makis	1.15	217	ePn	Pg	02 01 27.3	-0.2
THL	Klokotos Trika	1.20	338	ePN	Pg	02 01 28.6	+0.2
THL				eSN	Sg	02 01 44.8	+0.7
THL	Klokotos Trika	1.20	338	ePn	Pg	02 01 28.6	+0.2
THL				eSn	Sg	02 01 44.8	+0.7
AOS	Alonnisos	1.24	54	ePN	Pn	02 01 27.6	-0.3
AOS	Alonnisos	1.24	54	ePn	Pn	02 01 27.6	-0.3
ITM	Ithomi	1.37	203	ePN	Pg	02 01 31.7	0.0
ITM	Ithomi	1.37	203	ePn	Pg	02 01 31.7	0.0
PYL	PYLOS	1.69	204	ePN	Pb	02 01 36.6	+0.6
PYL	PYLOS	1.69	204	ePn	Pb	02 01 36.6	+0.6
VLI	Veliai	1.75	171	ePN	Pb	02 01 36.6	-0.4
VLI	Veliai	1.75	171	ePn	Pb	02 01 36.6	-0.4

MAN 16 02:11:37,13°30N×120°17E, h1km, mb4.0, ML2.8, MS2.4, 2C-2D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	Puerto Galera	0.79	75	↓↓iP	Pb	02 11 53.5	-0.2
TGY	Tagaytay City	1.09	43	↑↑iP	Pn	02 11 59.3	-0.3
SJMP	San Jose	1.25	132	eP	Pn	02 12 02.5	+0.9
SJMP				eS	Sn	02 12 19.7	+0.6
BUSP	Coron	1.29	179	eP	Pn	02 12 03.0	+0.8
LQP	Lukban	1.56	59	↑↑eP	Pg	02 12 07.1	-0.1
BOAC	Boac	1.64	84	eP	Pb	02 12 08.0	-0.1
OTRP	Odiongan	2.04	117	eP	Pb	02 12 13.7	-1.2
ENPP	El Nido	2.21	199	eP	Pn	02 12 15.7	+0.9
GQP	Guinayangan	2.30	75	↓↓eP	Pb	02 12 17.7	-1.6

BJI **16** *02:14:13.7,22°00S×179°80W,h587km,mb4.5/5*
ISCJB **16** *02:14:14.8±0.3,21°97S±0°07×179°88W±0°07,h600km, mb4.2/40,Error ellipse: s-maj=10.8km s-min=6.5km az=145.1*
NEIC **16** *02:14:14.7±0.8,21°99S×179°83W,h587km±9km,mb4.3/27, Error ellipse: s-maj=13.8km s-min=6.9km az=147.0*
IDC **16** *02:14:19.5±3.0,21°95S×179°97W,h643km±35km,mb3.3/8, mb1 3.6/8,mb1mx3.3/17,mbtmp3.3/8,Error ellipse: s-maj=24.0km s-min=15.9km az=164.0*

ISC 16 02:14:15.4±0.5, 22°00S±0°08×179°82W±0°08, h600km, n99, σ1°17/115, mb4.3/40, 21C-4D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.69	334	ePn	P	02 15 43.8	-2.4
DZM	Mont Dzumac	12.74	267	P	P	02 17 01.2	-0.5
	1.1nm,0.3s,baz=83,slow=18,SNR=8.5						
URZ	Urewera	16.42	189	P	P	02 17 33.8	-2.6
	1.7nm,0.3s,baz=353,slow=2.3,SNR=6.6						
URZ				S	S	02 20 20.7	+0.6
	0.7nm,0.3s,baz=165,slow=16,SNR=4.4						
CTAO	Charters Tower	31.68	267	eP	P	02 19 52.3	+0.6
	9.4nm,0.8s						
PMG	Port Moresby	34.07	286	eP	P	02 20 11.9	0.0
	21nm,1.0s						
STKA	Stephens Creek	35.61	246	P	P	02 20 25.3	+0.9
	2.6nm,0.5s,baz=84,slow=7.2,SNR=9.2						
COEN	Coen	36.02	276	eP	P	02 20 29.3	+1.3
AS31	Alice Springs	42.53	259	eP	P	02 21 20.4	+0.3
ASAR	Alice Springs	42.54	259	P	P	02 21 20.8	+0.7
	7.2nm,0.8s,baz=89,slow=8.3,SNR=64						
ASAR				S	S	02 26 57.7	-2.7
	0.7nm,0.9s,baz=85,slow=14,SNR=5.6						
WRAB	Tennant Creek	42.72	264	eP	P	02 21 21.3	-0.3
	8.2nm,1.0s						
WRA	Warramunga Arr	42.73	264	P	P	02 21 21.5	-0.1
	4.7nm,0.7s,baz=97,slow=8.3,SNR=28						
FORT	Forrest	47.15	248	eP	P	02 21 55.4	+0.3
	18nm,0.8s						
FITZ	Fitzroy Crossi	51.16	264	P	P	02 22 25.9	+1.2
	2.4nm,0.8s,baz=178,slow=13,SNR=4.0						
MBWA	Marble Bar	55.88	259	eP	P	02 22 58.1	+0.1
	16nm,1.0s						
VNDA	Vanda	56.28	185	eP	P	02 23 01.0	+1.3
	0.7nm,0.7s						
VNDA	Vanda	56.28	185	P	P	02 23 01.2	+1.5
	0.7nm,0.7s,baz=353,slow=7.5,SNR=9.1						
QSPA	South Pole Qui	68.07	180	eP	P	02 24 16.5	+0.3
	9.6nm,1.3s						
CN2	Changchun	82.47	323	eP	P	02 25 37.3	+1.3
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
YBH	Yreka Blue Hor	82.52	39	eP	P	02 25 37.0	+0.4
	comp=Z,3.0nm,0.9s						
HUMO	Hull Mountain	82.92	39	eP	P	02 25 39.8	+1.4
	comp=Z,8.7nm,1.2s						
PAHR	Pah Rah Range	83.33	42	eP	P	02 25 41.4	+0.7
	comp=Z,5.9nm,1.2s						
MOD	Modoc	84.06	40	eP	P	02 25 44.0	-0.2
	comp=Z,13nm,1.0s						
K05A	Summer Lake	84.20	39	eP	P	02 25 46.0	+1.1
	comp=Z,9.5nm,1.0s						
TUC	Tucson	85.24	53	eP	P	02 25 51.4	+1.3
	comp=Z,2.7nm,0.9s						
WVOR	Wild Horse Val	85.37	41	eP	P	02 25 50.5	0.0
	comp=Z,3.0nm,0.9s						
I07A	Izee	85.82	39	eP	P	02 25 53.1	+0.5
	comp=Z,16nm,1.7s						
GYA	Guiyang	85.92	300	eP	P	02 25 55.0	+1.5
GYA				pP	pP	02 28 01.8	0.0
GYA				sP	sP	02 28 59.3	-2.6
GYA				PP	PP	02 29 28.4	+3.2
GYA				S	S	02 35 40.0	+1.7
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ELK	Elko	86.53	43	eP	P	02 25 56.9	+0.6
	comp=Z,2.0nm,1.0s						
SNAA	Sanae	86.55	179	eP	P	02 25 54.5	-1.1
G08A	Pilot Rock	86.84	38	eP	P	02 25 58.2	+0.8
	comp=Z,5.4nm,0.9s						
HAWA	Hanford	87.16	37	eP	P	02 25 59.7	+1.0
	comp=Z,6.1nm,0.9s						
DUG	Dugway	87.81	45	eP	P	02 26 02.8	+0.7
E09A	Wood Farm, Sta	88.01	37	eP	P	02 26 03.7	+1.0
	comp=Z,5.6nm,0.9s						
F10A	Beach Ranch, E	88.23	38	eP	P	02 26 04.0	+0.2
	comp=Z,6.4nm,0.8s						
B08A	Colville Reser	88.43	35	eP	P	02 26 04.8	+0.1
	comp=Z,5.1nm,0.8s						
HLID	Hailey	88.57	41	eP	P	02 26 06.2	+0.6
	comp=Z,3.4nm,0.9s						
SRU	San Rafael	88.78	47	eP	P	02 26 07.3	+0.6
	comp=Z,4.4nm,0.9s						
MCK	McKinley	88.81	13	eP	P	02 26 05.5	-0.5
	comp=Z,5.6nm,0.8s						
MNTX	Cornudas Mount	89.00	55	eP	P	02 26 07.8	+0.1
	comp=Z,2.8nm,0.8s						
HHC	Hu-ho-hao-te	89.19	315	eP	P	02 26 07.6	-0.9
HHC				pP	pP	02 28 20.8	+2.9
HHC				sP	sP	02 29 17.3	-0.4
HHC				PP	PP	02 29 53.5	+2.9
HHC				SKS	SKSac	02 35 40.8	-1.0
HHC				S	S	02 36 04.6	-3.3
HHC				sS	sS	02 39 57.8	-1.1
HHC				SS	SS	02 42 22.8	+1.2
TXAR	Lajitas Array	89.29	58	P	P	02 26 10.1	+0.9
	comp=Z,2.1nm,0.8s,baz=216,slow=6.4,SNR=24						
HWUT	Hardware Ranch	89.35	44	eP	P	02 26 08.8	-0.5
	comp=Z,3.7nm,0.7s						
NEW	Newport	89.58	36	eP	P	02 26 09.8	-0.2
ANMO	Albuquerque	89.67	52	eP	P	02 26 10.8	-0.1
	comp=Z,2.7nm,1.3s						
ILAR	Eielson Array	90.16	13	P	P	02 26 11.5	-0.7
	comp=Z,0.8nm,0.4s,baz=222,slow=4.4,SNR=9.4						
CD2	Chengdu	90.18	303	P	P	02 26 14.1	+0.9
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
TPAW	Teton Pass	90.69	43	eP	P	02 26 15.9	+0.4
SNOW	Snow King Moun	90.80	43	eP	P	02 26 16.5	+0.5
LOHW	Long Hollow	90.97	43	eP	P	02 26 16.7	0.0
	comp=Z,1.5nm,0.7s						
BW06	Boulder Array	91.22	44	eP	P	02 26 17.8	-0.2
	comp=Z,3.2nm,1.0s						
PDAR	Pinedale Array	91.22	44	P	P	02 26 17.5	-0.4
	comp=Z,1.8nm,1.0s,baz=183,slow=3.1,SNR=9.2						
WMOK	Wichita Mounta	95.30	55	eP	P	02 26 38.2	+1.8
	comp=Z,3.6nm,0.9s						
SAML	Samuel	110.71	109	ePKP	PKiKP	02 31 42.5	+0.6
MKAR	Makanchi Array	110.98	313	PKiKP	PKiKP	02 31 40.6	-0.9
	comp=Z,0.3nm,0.4s,baz=162,slow=0.8,SNR=5.1						
BVAR	Borovoye Array	119.12	319	PKP	PKPdf	02 31 55.8	-1.1
	comp=Z,0.9nm,0.4s,baz=84,slow=4.6,SNR=4.2						
ABKAR	Abkulak array	125.98	316	ePKPdf	PKPdf	02 32 10.1	0.0
ARCES	ARCESS Array B	130.07	349	PKP	PKPdf	02 32 16.8	-0.5
	comp=Z,1.8nm,0.6s,baz=93,slow=2.4,SNR=9.9						
FINES	FINESS Array B	136.70	342	PKP	PKPdf	02 32 30.3	+0.4
	comp=Z,1.1nm,0.6s,baz=90,slow=3.8,SNR=5.2						
HFS	Hagfors	140.72	349	PKhKP	PKPpre	02 32 31.1	
	comp=Z,1.7nm,0.5s,baz=64,slow=3.4,SNR=14						
AKASG	Malin Array Be	143.45	329	PKP	PKPdf	02 32 40.7	-1.7
	comp=Z,4.0nm,0.5s,baz=42,slow=4.5,SNR=47						
KIEV	Kiev	143.47	329	ePKPdf	PKPdf	02 32 40.7	-1.7
BR131	Keskin Array S	146.53	310	ePKPbc	PKPbc	02 32 50.8	-0.1
BRTR	Keskin Array B	146.53	310	PKPbc	PKPbc	02 32 51.0	+0.1
	comp=Z,2.2nm,0.8s,baz=130,slow=4.8,SNR=14						
EKA	Eskdalemuir Ar	146.62	3	PKPbc	PKPbc	02 32 50.0	-0.4
	comp=Z,1.7nm,0.6s,baz=6.9,slow=1.7,SNR=7.4						
TLCR		147.07	321	↑iP	PKPab	02 32 52.7	-2.8
ANTO	Ankara	147.08	310	↓↓iP	PKPbc	02 32 52.8	+0.5
KWP	Kalwaria Pacla	147.18	333	ePKPbc	PKPbc	02 32 52.2	+0.1
KWP	Kalwaria Pacla	147.18	333	↓↓iP	PKPbc	02 32 52.5	+0.4
BUR08	Bucovina Ar. S	147.46	328	ePKPbc	PKPab	02 32 54.8	-2.5
CFR	Carcaliu	147.47	322	↑↑iP	PKPbc	02 32 53.2	+0.3
TESR	Tescani	147.47	325	↑↑iP	PKPbc	02 32 53.3	+0.4
BURAR	Bucovina Array	147.47	328	↓↓iP	PKPab	02 32 55.3	-2.0
TIRR	Tirgusor	147.72	321	↑↑iP	PKPbc	02 32 53.0	-0.6
VRI	Vrincioaia	147.84	324	↑↑iP	PKPbc	02 32 54.6	+0.7
TLB	Topalu	147.87	321	↑↑iP	PKPbc	02 32 55.1	+1.1
MANR	Mangalia	147.98	319	↑↑iP	PKPab	02 32 55.7	-3.6
TRPA	Tarpa	148.37	331	↓↓iP	PKPbc	02 32 56.3	+1.2
OKC	Ostrava-Krasne	148.81	337	↑↑ePKP	PKPbc	02 32 56.7	+0.6
UPC	Upice	148.95	340	↑↑ePKP	PKPbc	02 32 57.4	+0.9
DPC	Dobruska-Polom	148.99	340	↑↑ePKP	PKPbc	02 32 57.6	+0.9
MORC	Moravsky Berou	149.07	338	ePKPbc	PKPbc	02 32 56.7	-0.2
KRLC	Kraliky	149.08	339	↑↑ePKP	PKPbc	02 32 57.8	+0.9
CLL	Collm	149.09	344	↑↑iPKPbc	PKPbc	02 32 57.0	+0.2
	comp=Z,12nm,0.9s						
CLL				i PKPab	PKPab	02 33 03.8	+0.2
BRG	Berggiesshubel	149.24	343	ePKP	PKPbc	02 32 57.7	+0.6
	comp=Z,8.8nm,0.6s						
BRG				e		02 47 42.3	
	comp=Z,3.0nm,0.8s						
DRGR		149.27	329	↑↑iP	PKPbc	02 32 57.7	+0.2
ARR	Arges	149.28	325	↑↑iP	PKPbc	02 32 59.0	+1.5
PVCC	Panska Ves	149.37	342	↑↑ePKP	PKPbc	02 32 57.8	+0.3
PSZ	Piszkesteto	149.69	333	ePKPbc	PKPbc	02 32 58.5	+0.1
PRU	Pruhonice	149.86	341	↑↑ePKP	PKPbc	02 32 59.0	+0.3
TREC	Trest	150.18	340	↑↑ePKP	PKPbc	02 32 59.7	+0.2
NKC	Novy Kostel	150.21	344	↑↑ePKP	PKPbc	02 33 00.0	+0.5
BZS	Buzias	150.64	328	↑↑iP	PKPbc	02 33 00.8	+0.2
KHC	Kasperske Hory	150.91	342	↑↑ePKP	PKPbc

HDMB	Hadim	6.35	61	*e*P	Pn	02 17 19.1	+2.5
KONT	Konya--Tatoy	6.73	53	*e*P	Pn	02 17 22.6	+1.0
MMAI	Mount Meron Ar	8.31	95	Pn	Pn	02 17 43.7	+0.2
	1.4nm,0.3s,baz=276,slow=13,SNR=5.3						
BRTR	Keskin Array B	8.58	47	Pn	Pn	02 17 49.3	+2.1
	0.1nm,0.3s,baz=236,slow=10,SNR=4.5						
EIL	Elat	9.15	116	Pn	Pn	02 17 52.4	-2.5
	0.5nm,0.3s,baz=353,slow=22,SNR=4.8						
AKASG	Malin Array Be	16.80	8	Pn	Pn	02 19 38.8	+0.9
	0.4nm,0.3s,baz=201,slow=10,SNR=6.4						
GERES	GERESS Array B	17.15	333	Pn	P	02 19 44.6	+0.5
	0.1nm,0.3s,baz=141,slow=13,SNR=4.5						
TORD	Torodi Ar. Bea	30.06	232	P	P	02 21 57.2	+5.2
	0.4nm,0.6s,baz=36,slow=8.2,SNR=4.2						
ARCES	ARCESS Array B	35.48	360	P	P	02 22 38.3	-0.6
	4.7nm,1.0s,baz=163,slow=7.1,SNR=3.1						
KURBB	Kurchatov Arra	41.55	50	P	P	02 23 30.0	-0.1
	0.8nm,0.9s,baz=275,slow=8.6,SNR=7.6						
MKAR	Makanchi Array	44.11	56	P	P	02 23 51.3	+0.3
	0.6nm,0.7s,baz=287,slow=8.2,SNR=5.2						

*ATH **16** 04:15:48.5,41°.70N×20°.49E,h3km,MD3.5/10*
*TIR **16** 04:15:50.3±1.6,41°.52N×20°.53E,h16km±10km,ML2.9*
*PDG **16** 04:15:50.7±0.5,41°.50N×20°.43E,h10km,ML3.3/12,Error ellipse: s-maj=0.6km s-min=0.8km az=0.0*
*CSEM **16** 04:15:51.6±0.1,41°.53N×20°.44E,h2km,ML2.8/9,Error ellipse: s-maj=3.5km s-min=2.1km az=62.0*
*THE **16** 04:15:51.7,41°.55N×20°.48E,h0km±2km,ML2.8/9,Error ellipse: s-maj=2.4km s-min=1.0km az=311.0*
*SKO **16** 04:15:52.0,41°.50N×20°.41E,h14km,M2.7,ML3.0*
*BEO **16** 04:15:53.4±0.5,41°.53N×20°.38E,h7km±3km,ML2.9/1*
ISC 16 04:15:49.8±0.8,41°.51N±0°.01×20°.49E±0°.01,h11km±6km, n141,σ1$66/239,6C-11D,Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHP	**Peshkopia**	**0.18**	**348**	*e*PG	**Pg**	**04 15 54.1**	**+0.3**
PHP				*e*SG	**Sg**	04 15 57.0	+0.4
PHP	**Peshkopia**	**0.18**	**348**	P	**Pg**	**04 15 54.2**	**+0.4**
PHP				S	**Sg**	04 15 57.0	+0.4
PHP	**Peshkopia**	**0.18**	**348**	*e*Pg	**Pg**	**04 15 54.1**	**+0.3**
	SNR=132						
PHP				S	**Sg**	04 15 57.0	+0.4
TIR	**Tirane**	**0.50**	**251**	*e*PG	**Pg**	**04 16 00.0**	**+0.4**
TIR				*e*SG	**Sg**	04 16 07.7	+1.5
TIR	**Tirane**	**0.50**	**251**	P	**Pg**	**04 15 59.9**	**+0.4**
TIR				S	**Sg**	04 16 07.6	+1.4
TIR	**Tirane**	**0.50**	**251**	*e*Pg	**Pg**	**04 16 00.3**	**+0.7**
TIR	**Tirane**	**0.50**	**251**	P	**Pg**	**04 16 00.0**	**+0.4**
TIR	**Tirane**	**0.50**	**251**	*e*Pg	**Pg**	**04 16 00.3**	**+0.7**
TIR				S	**Sg**	04 16 07.6	+1.4
PUK	**Puka**	**0.70**	**320**	*e*PG	**Pg**	**04 16 02.1**	**-1.3**
PUK				*e*SG	**Sb**	04 16 14.1	+0.4
PUK	**Puka**	**0.70**	**320**	*e*Pg	**Pg**	**04 16 02.1**	**-1.3**
	SNR=98						
PUK				*e*Sg	**Sb**	**04 16 14.1**	**+0.4**
	SNR=98						
PRZK	**Prizren**	**0.73**	**16**	P	**Pb**	**04 16 04.5**	**-0.1**
BIA	**Bitola**	**0.80**	**128**	P	**Pn**	**04 16 05.9**	**-1.1**
BIA				S	**Sn**	04 16 19.9	+1.0
BIA	**Bitola**	**0.80**	**128**	*i* Pg	Pb	04 16 01.4	-4.3
BIA				*i* Sg	**Sn**	04 16 20.5	+1.6
BIA	**Bitola**	**0.80**	**128**	P	**Pn**	**04 16 05.9**	**-1.1**
BIA				S	**Sn**	04 16 19.9	+1.0
SKO	**Skopje**	**0.85**	**57**	P	**Pn**	**04 16 07.5**	**-0.2**
SKO				S	**Sn**	04 16 20.7	+0.5
SKO	**Skopje**	**0.85**	**57**	*i* Pg	Pb	04 16 01.9	-4.7
SKO				*e*Lg	Lg	04 16 22.2	
	comp=E,558nm,0.7s						
SKO				*i* Sg	**Sn**	**04 16 22.6**	**+2.4**
SKO				*e*Lg	Lg	04 16 22.8	
	comp=N,1μm,0.4s						
SKO	**Skopje**	**0.85**	**57**	P	**Pn**	**04 16 07.5**	**-0.2**
SKO	**Skopje**	**0.85**	**57**	*i* Pg	**Pn**	**04 16 07.8**	**+0.1**
SKO				S	**Sn**	04 16 20.7	+0.5
SKO				*i* Sg	**Sg**	**04 16 21.5**	**+4.3**
SKO				*e*Lg	Lg	04 16 21.8	
	comp=N,1μm,0.4s						
KBN	**Korca**	**0.91**	**166**	*e*PG	**Pn**	**04 16 09.7**	**+1.0**
KBN				*e*SG	**Sn**	04 16 24.2	+2.4
KBN	**Korca**	**0.91**	**166**	P	**Pn**	**04 16 09.3**	**+0.6**
KBN				S	**Sn**	04 16 23.6	+1.8
KBN	**Korca**	**0.91**	**166**	P	**Pn**	**04 16 09.3**	**+0.6**
KBN	**Korca**	**0.91**	**166**	*e*Pg	**Pn**	**04 16 09.7**	**+1.0**
	SNR=95						
KBN				S	**Sn**	04 16 23.6	+1.8
KBN				*e*Sg	**Sn**	04 16 24.2	+2.4
	SNR=95						
BCI	**Bajram Curri**	**0.91**	**340**	*e*PG	**Pb**	**04 16 06.7**	**-1.0**
BCI				*e*SG	**Sn**	04 16 20.6	-1.2
BCI	**Bajram Curri**	**0.91**	**340**	*e*Pg	**Pb**	**04 16 06.7**	**-1.0**
	SNR=95						
BCI				*e*Sg	**Sn**	**04 16 20.6**	**-1.2**
	SNR=95						
ZATK	**Zatriq**	**0.94**	**6**	P	**Pb**	**04 16 07.8**	**-0.5**
FNA	**Florina**	**0.98**	**137**	P	**Pn**	**04 16 09.9**	**+0.2**
FNA				S	**Sn**	04 16 24.7	+1.1
FNA	**Florina**	**0.98**	**137**	*e*PB	**Pn**	**04 16 09.9**	**+0.2**
FNA				*e*SB	**Sn**	04 16 25.3	+1.7
FNA	**Florina**	**0.98**	**137**	P	**Pn**	**04 16 09.9**	**+0.2**
FNA				S	**Sn**	04 16 24.7	+1.1
FNA				*e*Sb	**Sn**	04 16 25.3	+1.7
ULC	**Ulcinj**	**1.04**	**296**	⇑*i*Pg	**Pb**	04 16 08.8	-1.0
ULC				*e*Sg	**Sn**	04 16 24.9	0.0
ULC	**Ulcinj**	**1.04**	**296**	P	**Pb**	04 16 08.9	-0.9
ULC				*e*Sg	**Sn**	04 16 24.9	0.0
PEJK	**Peje**	**1.14**	**352**	P	**Pb**	04 16 11.7	0.0
PVY	**Plav**	**1.16**	**340**	⇓*i*Pg	**Pn**	04 16 11.5	-0.6
PVY				*e*Sg	**Sg**	04 16 29.4	+2.3
PVY	**Plav**	**1.16**	**340**	⇓*i*Pg	**Pn**	04 16 11.5	-0.6
PVY				*e*Sg	**Sg**	04 16 29.4	+2.3
NEST	**Nestorio**	**1.17**	**159**	P	**Pg**	04 16 14.1	+1.7
NEST				S	**Sg**	04 16 32.2	+4.6
NEST	**Nestorio**	**1.17**	**159**	P	**Pg**	04 16 14.1	+1.7
NEST				S	**Sg**	04 16 32.2	+4.6
GJIK	**Gjilan**	**1.18**	**36**	P	**Pg**	04 16 13.6	+1.0
GJIK				S	**Sg**	04 16 31.3	+3.3
DRME	**Dracevica, Mon**	**1.19**	**305**	⇓*i*Pg	**Pn**	04 16 11.7	-0.7
DRME				*e*Sg	**Sg**	04 16 30.0	+1.8
DRME	**Dracevica, Mon**	**1.19**	**305**	⇓*i*Pg	**Pn**	04 16 11.7	-0.7
DRME				*e*Sg	**Sg**	04 16 30.0	+1.8
PDG	**Podgorica**	**1.30**	**315**	P	**Pb**	04 16 14.1	-0.2
PDG				S	**Sg**	04 16 34.4	+2.6
PDG	**Podgorica**	**1.30**	**315**	*e*Pg	**Pb**	04 16 14.2	-0.1
PDG				*e*Sg	**Sg**	04 16 31.9	+0.1
PDG	**Podgorica**	**1.30**	**315**	P	**Pb**	04 16 14.1	-0.2
PDG				*e*Sg	**Sg**	04 16 31.9	+0.1
PDG				S	**Sg**	04 16 34.4	+2.6
TTG	**Podgorica**	**1.30**	**315**	⇓*i*Pg	**Pn**	04 16 13.7	-0.3
TTG				*e*Sg	**Sg**	04 16 33.7	+1.9
SMRK	**Smrekonice**	**1.40**	**14**	P	**Pg**	04 16 18.2	+1.4
SMRK				S	**Sg**	04 16 40.3	+5.3
BUM	**Brajici-Budva**	**1.43**	**304**	⇑*i*Pg	**Pb**	04 16 16.3	-0.3
BUM				*e*Sg	**Sg**	04 16 38.4	+2.5
BUM	**Brajici-Budva**	**1.43**	**304**	⇑*i*Pg	**Pb**	04 16 16.3	-0.3
BUM				*e*Sg	**Sg**	04 16 38.4	+2.5
BEY	**Berane**	**1.43**	**342**	⇓*i*Pg	**Pb**	04 16 16.2	-0.4
BEY	**Berane**	**1.43**	**342**	P	**Pb**	04 16 16.9	+0.3
BEY				*e*Sg	**Sg**	04 16 39.0	+3.0
IVA	**Berane**	**1.43**	**342**	⇓*i*Pg	**Pb**	04 16 16.2	-0.4
IVA				*e*Sg	**Sg**	04 16 39.0	+3.0
KZN	**Kozani**	**1.54**	**141**	P	**Pg**	04 16 20.8	+1.3
KZN				S	**Sg**	04 16 44.2	+4.7
KZN	**Kozani**	**1.54**	**141**	*e*PB	**Pg**	04 16 20.3	+0.8
KZN				*e*SB	**Sg**	04 16 44.4	+4.9
KZN	**Kozani**	**1.54**	**141**	*e*Pg	**Pg**	04 16 20.3	+0.8
KZN	**Kozani**	**1.54**	**141**	P	**Pg**	04 16 20.8	+1.3
KZN				*e*Sb	**Sg**	04 16 44.4	+4.9
VAY	**Valandovo**	**1.57**	**96**	P	**Pg**	04 16 19.2	-0.8
VAY				S	**Sg**	04 16 41.3	+0.8
VAY	**Valandovo**	**1.57**	**96**	⇑*i*Pn	**Pg**	04 16 19.7	-0.3
VAY				*i* Sn	**Sg**	04 16 42.0	+1.5
VAY				*e*Lg	Lg	04 16 42.0	
	comp=N,83nm,0.8s						
VAY				*e*Lg	Lg	04 16 44.8	
	comp=E,68nm,0.5s						
VAY	**Valandovo**	**1.57**	**96**	P	**Pg**	04 16 19.2	-0.8
VAY				*i* Sn	**Sg**	04 16 41.4	+0.9
VAY				*e*Lg	Lg	04 16 44.2	
	comp=E,68nm,0.5s						
BARS	**Barje**	**1.64**	**37**	*e*Pn	**Pg**	**04 16 23.0**	**+1.8**
BARS				*e*Sg	**Sg**	**04 16 46.5**	**+4.0**
SRN	**Sarande**	**1.67**	**193**	P	**Pg**	**04 16 22.5**	**+0.6**
SRN				S	**Sg**	**04 16 46.9**	**+3.4**
SRN	**Sarande**	**1.67**	**193**	P	**Pg**	**04 16 22.5**	**+0.6**
SRN				S	**Sg**	**04 16 46.9**	**+3.4**
NKME	**Niksic**	**1.70**	**318**	⇓*i*Pn	**Pb**	**04 16 21.2**	**+0.1**
NKME				*e*Sn	**Sg**	**04 16 45.2**	**+0.7**
NKME	**Niksic**	**1.70**	**318**	⇓*i*Pn	**Pb**	**04 16 21.2**	**+0.1**
NKME				*e*Sn	**Sg**	**04 16 45.2**	**+0.7**
NKY	**Niksic**	**1.71**	**320**	⇑*i*Pn	**Pb**	**04 16 21.7**	**+0.3**
NKY				*e*Sn	**Sg**	**04 16 45.7**	**+0.7**
NKY	**Niksic**	**1.71**	**320**	⇑*i*Pn	**Pb**	**04 16 21.7**	**+0.3**
NKY				*e*Sn	**Sg**	**04 16 45.7**	**+0.7**
HCY	**Herceg Novi**	**1.76**	**303**	⇓*i*Pn	**Pb**	**04 16 21.9**	**-0.2**
HCY				*e*Sn	**Sg**	**04 16 46.8**	**+0.4**
HCY	**Herceg Novi**	**1.76**	**303**	⇓*i*Pn	**Pb**	**04 16 21.9**	**-0.2**
HCY				*e*Sn	**Sg**	**04 16 46.8**	**+0.4**
SELS	**Selova**	**1.77**	**15**	*e*Pn	**Pg**	**04 16 23.7**	**-0.1**
SELS				*e*Sg	**Sg**	**04 16 49.0**	**+2.2**
SJES	**Sjenica**	**1.79**	**348**	*e*Pn	**Pb**	**04 16 22.9**	**+0.1**
SJES				*e*Sg	**Sg**	**04 16 50.2**	**+2.7**
SJES	**Sjenica**	**1.79**	**348**	*e*Pn	**Pb**	**04 16 22.9**	**+0.1**
SJES				*e*Sg	**Sg**	**04 16 50.2**	**+2.7**
KNT	**Kendrikon**	**1.84**	**100**	P	**Pg**	**04 16 24.3**	**-0.9**
KNT				S	**Sg**	**04 16 51.1**	**+2.0**
KNT	**Kendrikon**	**1.84**	**100**	P	**Pg**	**04 16 24.3**	**-0.9**
KNT				S	**Sg**	**04 16 51.1**	**+2.0**
JAN	**Janina**	**1.87**	**171**	*e*PG	**Pg**	**04 16 26.7**	**+1.0**
JAN				*e*SN	**Sg**	**04 16 52.6**	**+2.6**
JAN	**Janina**	**1.87**	**171**	*e*Pg	**Pg**	**04 16 26.7**	**+1.0**
JAN				*e*Sg	**Sg**	**04 16 52.6**	**+2.6**
KEK	**Kerkira**	**1.87**	**197**	P	**Pb**	**04 16 25.5**	**+1.0**
KEK				S	**Sg**	**04 16 50.8**	**+0.9**
KEK	**Kerkira**	**1.87**	**197**	*e*PB	**Pb**	**04 16 25.1**	**+1.0**
KEK				*e*SN	**Sg**	**04 16 54.2**	**+4.3**
KEK	**Kerkira**	**1.87**	**197**	P	**Pb**	**04 16 25.0**	**+1.0**
KEK				S	**Sg**	**04 16 50.8**	**+0.9**
KEK				*e*Sn	**Sg**	**04 16 54.2**	**+4.3**
IGT	**Igoumenitsa**	**1.98**	**184**	P	**Pg**	**04 16 27.4**	**-0.4**
IGT				S	**Sg**	**04 16 54.0**	**+0.6**
IGT	**Igoumenitsa**	**1.98**	**184**	P	**Pg**	**04 16 27.4**	**-0.4**
IGT				S	**Sg**	**04 16 54.0**	**+0.6**
PLE	**Pljevlja**	**2.00**	**336**	*e*Pn	**Pb**	**04 16 25.9**	**-0.3**
PLE				*e*Sn	**Sb**	**04 16 52.7**	**+1.6**
PLE	**Pljevlja**	**2.00**	**336**	*e*Pn	**Pb**	**04 16 25.9**	**-0.3**
PLE				*e*Sn	**Sb**	**04 16 52.7**	**+1.6**
TREB	**Trebinje**	**2.00**	**308**	*e*Pn	**Pb**	**04 16 26.1**	**-0.1**
TREB				*e*Sg	**Sg**	**04 16 54.2**	**+0.1**
TREB	**Trebinje**	**2.00**	**308**	*e*Pn	**Pb**	**04 16 26.1**	**-0.1**
TREB				*e*Sg	**Sg**	**04 16 54.2**	**+0.1**
BRY	**Bratogost**	**2.01**	**314**	*e*Pn	**Pb**	**04 16 26.0**	**-0.5**
BRY				*e*Sn	**Sb**	**04 16 53.3**	**+1.7**
BRY	**Bratogost**	**2.01**	**314**	*e*Pn	**Pb**	**04 16 26.0**	**-0.5**
BRY				*e*Sn	**Sb**	**04 16 53.3**	**+1.7**
UPM	**Unac-Piva**	**2.06**	**326**	*e*Pn	**Pb**	**04 16 26.8**	**-0.6**
UPM				*e*Sn	**Sb**	**04 16 54.8**	**+1.7**
UPM	**Unac-Piva**	**2.06**	**326**	*e*Pn	**Pb**	**04 16 26.8**	**-0.6**
UPM	**Unac-Piva**	**2.06**	**326**	P	**Pg**	**04 16 29.0**	**-0.4**
UPM				*e*Sn	**Sb**	**04 16 54.8**	**+1.7**
IVAS	**Ivanjica**	**2.08**	**353**	*e*Pn	**Pb**	**04 16 27.9**	**+0.2**
IVAS				*e*Sg	**Sg**	**04 16 56.8**	**0.0**
IVAS	**Ivanjica**	**2.08**	**353**	*e*Pn	**Pb**	**04 16 27.9**	**+0.2**
IVAS				*e*Sg	**Sg**	**04 16 56.8**	**0.0**
THL	**Klokotos Trika**	**2.26**	**149**	P	**Pb**	**04 16 31.1**	**+0.4**
THL				S	**Sg**	**04 17 00.7**	**-1.8**
THL	**Klokotos Trika**	**2.26**	**149**	*e*PN	**Pg**	**04 16 32.2**	**-1.0**
THL				*e*SN	**Sg**	**04 17 02.3**	**-0.2**
THL	**Klokotos Trika**	**2.26**	**149**	P	**Pb**	**04 16 31.1**	**+0.4**
THL	**Klokotos Trika**	**2.26**	**149**	*e*Pn	**Pg**	**04 16 32.2**	**-1.0**
THL				S	**Sg**	**04 17 00.7**	**-1.8**
THL				*e*Sn	**Sg**	**04 17 02.3**	**-0.2**
SOH	**Sokhos**	**2.27**	**107**	*e*PN	**Pb**	**04 16 30.6**	**-0.2**
SOH	**Sokhos**	**2.27**	**107**	*e*Pn	**Pb**	**04 16 30.6**	**-0.2**
VTS	**Vitosha**	**2.29**	**61**	P	**Pb**	**04 16 30.8**	**-0.5**
VTS				S	**Sb**	**04 17 00.7**	**+0.9**
VTS	**Vitosha**	**2.29**	**61**	P	**Pb**	**04 16 30.8**	**-0.5**
VTS				S	**Sb**	**04 17 00.7**	**+0.9**
ZAPS	**Zavoj**	**2.37**	**41**	*e*Pn	**Pg**	**04 16 33.7**	**-1.6**
ZAPS				*e*Sg	**Sg**	**04 17 10.9**	**+4.8**
STON	**Ston**	**2.48**	**304**	*e*Pn	**Pb**	**04 16 34.9**	**+0.5**
STON				*e*Sg	**Sg**	**04 17 10.8**	**+1.2**
STON	**Ston**	**2.48**	**304**	*e*Pn	**Pb**	**04 16 34.5**	**+0.1**
STON				Sn	**Sb**	**04 17 05.6**	**+0.6**
STON	**Ston**	**2.48**	**304**	*e*Pn	**Pb**	**04 16 34.9**	**+0.5**
STON				*e*Sg	**Sg**	**04 17 10.8**	**+1.2**
BBLS	**Lazići**	**2.49**	**342**	*e*Pn	**Pb**	**04 16 34.7**	**+0.1**
BBLS				*e*Sg	**Sg**	**04 17 09.9**	**+0.1**
BBLS	**Lazići**	**2.49**	**342**	*e*Pn	**Pb**	**04 16 34.7**	**+0.1**
BBLS				*e*Sg	**Sg**	**04 17 09.9**	**+0.1**
PLG	**Polygyros**	**2.51**	**116**	*e*PB	**Pb**	**04 16 33.8**	**-1.1**
PLG	**Polygyros**	**2.51**	**116**	*e*Pb	**Pb**	**04 16 33.8**	**-1.1**
NVR	**Nevrokopi**	**2.54**	**92**	*e*PB	**Pb**	**04 16 32.9**	**-2.5**
NVR	**Nevrokopi**	**2.54**	**92**	*e*Pn	**Pb**	**04 16 32.9**	**-2.5**
BOLS	**Boljevac**	**2.56**	**24**	*e*Pn	**Pb**	**04 16 36.0**	**+0.3**
BOLS	**Boljevac**	**2.56**	**24**	*e*Pn	**Pb**	**04 16 36.0**	**+0.3**
DIVS	**Divibare**	**2.61**	**352**	P	**Pb**	**04 16 35.1**	**-1.6**
DIVS				S	**Sb**	**04 17 09.0**	**+0.1**
DIVS	**Divibare**	**2.61**	**352**	*e*Pn	**Pb**	**04 16 35.6**	**-1.1**
DIVS				*e*Sg	**Sg**	**04 17 17.2**	**+3.4**
DIVS	**Divibare**	**2.61**	**352**	P	**Pb**	**04 16 35.1**	**-1.6**
DIVS	**Divibare**	**2.61**	**352**	*e*Pn	**Pb**	**04 16 35.6**	**-1.1**
DIVS				S	**Sb**	**04 17 09.0**	**+0.1**
DIVS				*e*Sg	**Sg**	**04 17 17.2**	**+3.4**
LKD2	**Lefkada island**	**2.72**	**177**	P	**Pb**	**04 16 37.2**	**-1.3**
LKD2				S	**Sb**	**04 17 11.2**	**-0.7**
LKD2	**Lefkada island**	**2.72**	**177**	*e*PN	**Pb**	**04 16 37.2**	**-1.3**
LKD2	**Lefkada island**	**2.72**	**177**	P	**Pb**	**04 16 37.2**	**-1.3**
LKD2				S	**Sb**	**04 17 11.2**	**-0.7**
EVR	**Evrytania**	**2.78**	**158**	P	**Pb**	**04 16 38.7**	**-0.9**
EVR				S	**Sb**	**04 17 14.2**	**+0.6**
EVR	**Evrytania**	**2.78**	**158**	*e*PB	**Pb**	**04 16 39.2**	**-0.4**
EVR	**Evrytania**	**2.78**	**158**	P	**Pb**	**04 16 38.7**	**-0.9**
EVR	**Evrytania**	**2.78**	**158**	*e*Pb	**Pb**	**04 16 39.2**	**-0.4**
EVR				S	**Sb**	**04 17 14.2**	**+0.6**
MAKR	**Makrakomi, Fth**	**2.79**	**153**	P	**Pb**	**04 16 38.1**	**-1.6**
MAKR				S	**Sb**	**04 17 12.8**	**-1.1**
MAKR	**Makrakomi, Fth**	**2.79**	**153**	P	**Pb**	**04 16 38.1**	**-1.6**
MAKR				S	**Sb**	**04 17 12.8**	**-1.1**
AGG	**Agios Georgios**	**2.85**	**150**	P	**Pb**	**04 16 38.5**	**-2.3**
AGG				S	**Sb**	**04 17 13.8**	**-1.9**
AGG	**Agios Georgios**	**2.85**	**150**	*e*PN	**Pb**	**04 16 39.1**	**-1.7**
AGG	**Agios Georgios**	**2.85**	**150**	P	**Pb**	**04 16 38.5**	**-2.3**
AGG	**Agios Georgios**	**2.85**	**150**	*e*Pn	**Pb**	**04 16 39.1**	**-1.7**
AGG				S	**Sb**	**04 17 13.8**	**-1.9**
PAIG	**Paliouri**	**2.89**	**122**	*e*PN	**Pb**	**04 16 39.0**	**-2.4**
PAIG	**Paliouri**	**2.89**	**122**	*e*Pn	**Pb**	**04 16 39.0**	**-2.4**
XOR	**Xorichti**	**2.97**	**135**	P	Pb	04 16 40.0	-2.8
XOR				S	**Sb**	**04 17 17.8**	**-1.3**
XOR	**Xorichti**	**2.97**	**135**	P	Pb	04 16 40.0	-2.8
XOR				S	**Sb**	**04 17 17.8**	**-1.3**
NEO	**Neokhori**	**3.03**	**136**	*e*PN	**Pb**	**04 16 42.0**	**-1.8**
NEO	**Neokhori**	**3.03**	**136**	*e*Pn	**Pb**	**04 16 42.0**	**-1.8**
KALE	**Kalithea**	**3.36**	**157**	*e*PB	**Pb**	**04 16 48.0**	**-1.5**
KALE	**Kalithea**	**3.36**	**157**	*e*Pb	**Pb**	**04 16 48.0**	**-1.5**
TRIZ	**Trizonia**	**3.37**	**158**	*e*PN	Pb	04 16 46.0	-3.5
TRIZ	**Trizonia**	**3.37**	**158**	*e*Pn	Pb	04 16 46.0	-3.5
LAKA	**Lakka**	**3.46**	**160**	*e*PN	**Pb**	**04 16 49.2**	**-1.9**
LAKA	**Lakka**	**3.46**	**160**	*e*Pn	**Pb**	**04 16 49.2**	**-1.9**
AOS	**Alonnisos**	**3.49**	**131**	*e*PN	Pn	04 16 46.7	+2.7
AOS	**Alonnisos**	**3.49**	**131**	*e*Pn	Pn	04 16 46.7	+2.7
KLV	**Kalavryta, Ach**	**3.69**	**159**	*e*PN	Pb	04 16 51.6	-3.5
KLV	**Kalavryta, Ach**	**3.69**	**159**	*e*Pn	Pb	04 16 51.6	-3.5
UDBI	**Udbina**	**4.59**	**313**	*i* Pn	Pn	04 17 03.3	+4.0
UDBI				Sn	**Sn**	**04 17 56.9**	**+4.2**

IDC 16 04:19:49.3±0.9,10°.95N×139°.33E,h0km,mb3.9/6, mb1 4.1/6,mb1mx3.8/22,mbtmp3.9/6,MS3.3/6,Ms1 3.3/6, ms1mx2.9/35,Error ellipse: s-maj=49.8km s-min=18.3km az=85.0,Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**21.67**	**159**	LR	LR	04 32 16.1	
	comp=Z,66nm,19.7s,baz=184,slow=34						
MJAR	**Matsushiro Arr**	**25.50**	**358**	LR	LR	04 34 30.3	
	comp=Z,54nm,18.8s,baz=165,slow=35						
KSRS	**Korea Array**	**28.32**	**341**	LR	LR	04 37 03.0	
	comp=Z,30nm,18.2s,baz=150,slow=36						
WRA	**Warramunga Arr**	**31.09**	**189**	P	P	04 26 08.6	-0.9
	0.7nm,0.7s,baz=7.7,slow=9.5,SNR=4.3						
WRA				PcP	PcP	04 29 05.4	+0.1
	0.4nm,0.6s,baz=354,slow=2.9,SNR=4.2						
USRK	**Ussuriysk Arra**	**33.73**	**350**	LR	LR	04 38 13.9	
	comp=Z,74nm,19.5s,baz=180,slow=33						
ASAR	**Alice Springs**	**34.81**	**189**	P	P	04 26 42.1	0.0
	1.3nm,0.5s,baz=16,slow=13,SNR=49						
ASAR				PcP	PcP	04 29 16.1	+0.4
	0.9nm,0.7s,baz=23,slow=1.5,SNR=9.1						
STKA	**Stephens Creek**	**42.63**	**177**	P	P	04 27 47.7	+0.1
	3.2nm,0.7s,baz=348,slow=9.0,SNR=6.0						
PETK	**Petropavlovsk-**	**44.57**	**16**	LR	LR	04 47 25.5	
	comp=Z,25nm,19.2s,baz=105,slow=37						
SONM	**Songino Array**	**45.99**	**329**	P	P	04 28 15.2	+0.6
	0.3nm,0.4s,baz=134,slow=10,SNR=3.4						
MKAR	**Makanchi Array**	**59.72**	**318**	P	P	04 29 55.4	-0.5
	1.6nm,0.8s,baz=102,slow=10,SNR=10						
ILAR	**Eielson Array**	**73.26**	**25**	P	P	04 31 22.0	-0.2
	0.9nm,0.7s,baz=248,slow=6.1,SNR=12						
ARCES	**ARCESS Array B**	**87.87**	**341**	LR	LR	05 16 39.2	
	comp=Z,28nm,18.1s,baz=278,slow=39						
TORD	**Torodi Ar. Bea**	**131.62**	**299**	PKP	PKPdf	04 39 04.2	-1.0
	0.4nm,0.8s,baz=81,slow=0.7,SNR=4.1						

*CSEM **16** 04:37:24.0,38°.12N×21°.82E,h18km,ML1.3/4,After THE*
THE 16 04:37:24.0,38°.12N×21°.82E,h18km±2km,ML1.3/4,Error ellipse: s-maj=2.5km s-min=0.6km az=68.0,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAKA	**Lakka**	**0.17**	**46**	P	Pg	04 37 28.7	+0.1
LAKA				S	Sg	04 37 31.8	+0.1
LAKA	**Lakka**	**0.17**	**46**	P	Pg	04 37 28.7	+0.1
LAKA				S	Sg	04 37 31.8	+0.1
KLV	**Kalavryta, Ach**	**0.27**	**107**	P	Pg	04 37 30.0	-0.1
KLV				S	Sg	04 37 34.4	+0.1
KLV	**Kalavryta, Ach**	**0.27**	**107**	P	Pg	04 37 30.0	-0.1
KLV				S	Sg	04 37 34.4	+0.1
TRIZ	**Trizonia**	**0.31**	**39**	P	Pg	04 37 30.6	-0.2
TRIZ				S	Sb	04 37 35.8	0.0
TRIZ	**Trizonia**	**0.31**	**39**	P	Pg	04 37 30.6	-0.2
TRIZ				S	Sb	04 37 35.8	0.0
KALE	**Kalithea**	**0.37**	**43**	P	Pg	04 37 31.6	-0.2
KALE				S	Sg	04 37 37.3	+0.2
KALE	**Kalithea**	**0.37**	**43**	P	Pg	04 37 31.6	-0.2
KALE				S	Sg	04 37 37.3	+0.2
GUR	**Goura**	**0.45**	**114**	P	Pg	04 37 32.6	-0.7
GUR				S	Sb	04 37 40.2	+0.1
GUR	**

ISK	**Istanbul-Kandi**	**2.01**	**26**	*e*Pn	**Pn**	**04 38 31.0**	**+0.5**
ISK				S	**Sn**	**04 38 55.6**	**-0.3**
CTKS	**Kestanelik-??a**	**2.03**	**13**	*e*PN	**Pb**	**04 38 32.2**	**-1.2**
CTKS	**Kestanelik-??a**	**2.03**	**13**	*e*Pn	**Pb**	**04 38 32.2**	**-1.2**
BGKT	**Bogazkoy**	**2.03**	**19**	*e*PN	**Pb**	**04 38 32.2**	**-1.3**
BGKT	**Bogazkoy**	**2.03**	**19**	*e*Pn	**Pb**	**04 38 32.2**	**-1.3**
HRT	**Hereke**	**2.06**	**40**	*e*PN	**Pn**	**04 38 32.5**	**+1.2**
HRT	**Hereke**	**2.06**	**40**	*e*Pn	**Pn**	**04 38 32.5**	**+1.2**
GPA	**Golpazari**	**2.12**	**60**	*e*PN	**Pb**	**04 38 33.8**	**-1.2**
GPA	**Golpazari**	**2.12**	**60**	*e*Pn	**Pb**	**04 38 33.8**	**-1.2**
YER	**Yerkesik**	**2.14**	**172**	*e*PN	**Pn**	**04 38 32.6**	**+0.2**
YER	**Yerkesik**	**2.14**	**172**	*e*Pn	**Pn**	**04 38 32.6**	**+0.2**
KLYT	**Kilyos**	**2.17**	**23**	*e*PN	**Pn**	**04 38 33.5**	**+0.7**
KLYT	**Kilyos**	**2.17**	**23**	*e*Pn	**Pn**	**04 38 33.5**	**+0.7**
ALN	**Alexandroupoli**	**2.17**	**319**	*e*PG	**Pb**	**04 38 36.3**	**+0.1**
ALN				*e*SN	**Sg**	**04 39 05.0**	**-1.1**
SMTH	**Samothraki Isl**	**2.19**	**304**	P	**Pn**	**04 38 33.6**	**+0.5**
SMTH				S	**Sn**	**04 39 00.7**	**+0.2**
SMTH	**Samothraki Isl**	**2.19**	**304**	*e*PB	**Pn**	**04 38 33.4**	**+0.3**
SMTH	**Samothraki Isl**	**2.19**	**304**	P	**Pn**	**04 38 33.6**	**+0.5**
SMTH				S	**Sn**	**04 39 00.7**	**+0.2**
CTYL	**Yal??k??y-??at**	**2.23**	**7**	*e*PN	**Pn**	**04 38 35.0**	**+1.4**
CTYL	**Yal??k??y-??at**	**2.23**	**7**	*e*Pn	**Pn**	**04 38 35.0**	**+1.4**
BODT	**Bodrum**	**2.24**	**192**	*e*PN	**Pn**	**04 38 34.7**	**+0.9**
BODT	**Bodrum**	**2.24**	**192**	*e*Pn	**Pn**	**04 38 34.7**	**+0.9**
ESKT	**Eskisehir**	**2.29**	**83**	*e*PN	**Pb**	**04 38 36.6**	**-1.4**
ESKT	**Eskisehir**	**2.29**	**83**	*e*Pn	**Pb**	**04 38 36.6**	**-1.4**
SILT	**Sile**	**2.31**	**35**	*e*PN	**Pn**	**04 38 35.2**	**+0.5**
SILT	**Sile**	**2.31**	**35**	*e*Pn	**Pn**	**04 38 35.2**	**+0.5**
GULT	**Gulveren**	**2.32**	**59**	*e*PN	**Pb**	**04 38 37.0**	**-1.5**
GULT	**Gulveren**	**2.32**	**59**	*e*Pn	**Pb**	**04 38 37.0**	**-1.5**
DALY	**Dalyan (Mu¨la**	**2.51**	**166**	*e*PN	**Pn**	**04 38 39.0**	**+1.6**
DALY	**Dalyan (Mu¨la**	**2.51**	**166**	*e*Pn	**Pn**	**04 38 39.0**	**+1.6**
DAT	**Datca**	**2.54**	**186**	*e*PN	**Pn**	**04 38 39.0**	**+1.0**
DAT	**Datca**	**2.54**	**186**	*e*Pn	**Pn**	**04 38 39.0**	**+1.0**
RDO	**Rodhopi**	**2.62**	**317**	*e*PB	**Pn**	**04 38 39.8**	**+0.9**
RDO	**Rodhopi**	**2.62**	**317**	*e*Pb	**Pn**	**04 38 39.8**	**+0.9**
EDRB	**Edirne**	**2.73**	**341**	*e*PN	**Pn**	**04 38 41.8**	**+1.3**
EDRB	**Edirne**	**2.73**	**341**	P	**Pn**	**04 38 41.0**	**+0.5**
EDRB				S	**Sn**	**04 39 13.8**	**+0.1**
EDRB	**Edirne**	**2.73**	**341**	P	**Pn**	**04 38 41.0**	**+0.5**
EDRB	**Edirne**	**2.73**	**341**	*e*Pn	**Pn**	**04 38 41.8**	**+1.3**
EDRB				S	**Sn**	**04 39 13.8**	**+0.1**
FETY	**Fethiye**	**2.78**	**160**	*e*PN	**Pn**	**04 38 43.0**	**+1.8**
FETY	**Fethiye**	**2.78**	**160**	*e*Pn	**Pn**	**04 38 43.0**	**+1.8**
MDUB	**Mudurnu**	**2.81**	**63**	*e*PN	**Pn**	**04 38 43.7**	**+2.1**
MDUB	**Mudurnu**	**2.81**	**63**	*e*Pn	**Pn**	**04 38 43.7**	**+2.1**
SVRH	**Sivrihisar-ESK**	**2.81**	**85**	*e*PN	**Pb**	**04 38 44.1**	**-2.7**
SVRH	**Sivrihisar-ESK**	**2.81**	**85**	*e*Pn	**Pb**	**04 38 44.1**	**-2.7**
KDZ	**Kurdzhali**	**3.05**	**322**	P	**Pn**	**04 38 44.9**	**0.0**
KDZ	**Kurdzhali**	**3.05**	**322**	P	**Pn**	**04 38 44.9**	**0.0**
RZN	**Rozhen**	**3.44**	**316**	P	**Pn**	**04 38 47.5**	**-2.9**
RZN	**Rozhen**	**3.44**	**316**	P	**Pn**	**04 38 47.5**	**-2.9**
PRD	**Provadia**	**3.96**	**355**	P	Pn	04 38 52.6	-4.7

MOS ***16*** *05:10:11.6±1.0, 54°.44N×161°.86E, h45km, mb4.2/11, Error ellipse: s-maj=15.7km s-min=8.7km az=82.7*
ISCJB ***16*** *05:10:12.3±0.5, 54°.42N±0°.02×161°.86E±0°.06, h52km±5km, mb3.9/16, MS3.5/4, Error ellipse: s-maj=6.7km s-min=2.6km az=23.2*
KRSC ***16*** *05:10:12.6±0.7, 54°.43N×161°.67E, h34km±33km, ML4.5*
IDC ***16*** *05:10:16.3±2.1, 54°.60N×161°.53E, h68km±21km, mb3.6/15, mb1 3.9/16, mb1mx3.8/26, mbtmp3.6/16, MS3.5/4, Ms1 3.4/4, ms1mx2.9/30, Error ellipse: s-maj=19.6km s-min=13.7km az=142.0*

ISC 16 05:10:12.0±1.1, 54°.42N±0°.03×161°.90E±0°.05, h33km±3km, n73, σ1°21/108, mb4.0/16, MS3.5/4, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.17**	**325**	PN	**Pb**	**05 10 18.6**	**+0.4**
MKZ	**Mys Kozlova**	**0.17**	**325**	P	**Pb**	**05 10 18.6**	**+0.4**
TUMR	**Tumrok**	**1.33**	**311**	*e*P	**Pn**	**05 10 34.3**	**0.0**
KII	**Karymskiy**	**1.49**	**256**	*e*P	**Pn**	**05 10 37.1**	**+0.7**
KII				*i* S	**Sn**	**05 10 54.9**	**+0.2**
KMNR	**Kamenistaya**	**1.64**	**325**	P	**Pn**	**05 10 39.6**	**+1.0**
KMNR				*i* S	**Sn**	**05 10 59.3**	**+0.7**
BZGR	**Bezymyannyi-Gr**	**1.67**	**336**	*e*P	**Pn**	**05 10 39.8**	**+0.9**
BZGR				*i* S	**Sn**	**05 10 59.4**	**+0.1**
ZLN	**Zelenaya**	**1.72**	**339**	*e*P	**Pn**	**05 10 40.7**	**+1.1**
BZMR	**Bezymyannaya**	**1.72**	**333**	*e*P	**Pn**	**05 10 40.8**	**+1.2**
BZMR				*i* S	**Sn**	**05 11 01.7**	**+1.2**
BZWR	**Bezymyannyi-We**	**1.74**	**333**	*e*P	**Pn**	**05 10 40.9**	**+0.9**
BZWR				*i* S	**Sn**	**05 11 01.8**	**+0.7**
KIRR	**Kirishev**	**1.78**	**331**	*e*P	**Pn**	**05 10 41.4**	**+1.0**
KIRR				*i* S	**Sn**	**05 11 02.7**	**+0.8**
LGNR	**Loginova**	**1.80**	**338**	P	**Pn**	**05 10 42.4**	**+1.5**
LGNR				*i* S	**Sn**	**05 11 04.6**	**+1.8**
CIRR	**Tsirk**	**1.82**	**339**	*e*P	**Pn**	**05 10 42.4**	**+1.4**
KPT	**Kopyto**	**1.82**	**329**	*e*P	**Pn**	**05 10 42.4**	**+1.4**
KBTR	**Krutoberegovo**	**1.87**	**16**	PN	**Pn**	**05 10 42.4**	**+0.9**
KBTR	**Krutoberegovo**	**1.87**	**16**	P	**Pn**	**05 10 42.4**	**+0.9**
KRSR	**Krestovskiy**	**1.96**	**338**	*e*P	**Pn**	**05 10 43.4**	**+0.6**
KRSR				*i* S	**Sn**	**05 11 05.8**	**-0.4**
NLC	**Nalytchevo**	**1.96**	**231**	PN	**Pb**	**05 10 43.0**	**+0.2**
NLC				S	**Sn**	**05 11 04.8**	**-1.5**
NLC	**Nalytchevo**	**1.96**	**231**	*e*P	**Pn**	**05 10 43.0**	**+0.2**
NLC				*i* S	**Sn**	**05 11 04.8**	**-1.5**
KOZR	**Kozyr**	**2.01**	**326**	PN	**Pn**	**05 10 44.9**	**+1.4**
KOZR				S	**Sn**	**05 11 08.5**	**+1.1**
KOZ	**Kozyrevsk**	**2.01**	**326**	*e*P	**Pn**	**05 10 44.9**	**+1.4**
KOZ				*i* S	**Sn**	**05 11 08.5**	**+1.1**
KLY	**Klyuchi**	**2.02**	**340**	PN	**Pn**	**05 10 44.2**	**+0.5**
KLY				S	**Sn**	**05 11 07.4**	**-0.4**
KLY	**Klyuchi**	**2.02**	**340**	*e*P	**Pn**	**05 10 44.2**	**+0.5**
KLY				*i* S	**Sn**	**05 11 07.4**	**-0.4**
SDLR	**Sedlovina**	**2.12**	**239**	P	**Pn**	**05 10 46.3**	**+1.2**
SDLR				*i* S	**Sn**	**05 11 11.0**	**+0.7**
SMAR	**Somma**	**2.17**	**239**	P	**Pn**	**05 10 47.1**	**+1.2**
SMAR				*i* S	**Sn**	**05 11 12.2**	**+0.5**
KRER	**Koryakskii**	**2.17**	**240**	*e*P	**Pn**	**05 10 47.5**	**+1.6**
KRER				*i* S	**Sn**	**05 11 13.1**	**+1.3**
SMKR	**Semkarok**	**2.18**	**354**	*e*P	**Pn**	**05 10 47.3**	**+1.4**
SMKR				*i* S	**Sn**	**05 11 12.5**	**+0.7**
BDR	**Baidarnaya**	**2.19**	**350**	*e*P	**Pn**	**05 10 47.6**	**+1.6**
UGLR	**Uglovaya**	**2.19**	**238**	P	**Pn**	**05 10 47.4**	**+1.3**
UGLR				*i* S	**Sn**	**05 11 12.8**	**+0.8**
KRX	**Arik**	**2.20**	**242**	*e*P	**Pn**	**05 10 47.4**	**+1.2**
KRX				*i* S	**Sn**	**05 11 12.5**	**+0.2**
AVH	**Avacha**	**2.20**	**240**	P	**Pn**	**05 10 47.9**	**+1.7**
AVH				*i* S	**Sn**	**05 11 13.0**	**+0.7**
KOK	**Koryaka**	**2.24**	**241**	P	**Pn**	**05 10 48.3**	**+1.6**
KOK				*i* S	**Sn**	**05 11 14.2**	**+1.0**
SRDR	**Sredinnyy**	**2.27**	**328**	*e*P	**Pn**	**05 10 47.9**	**+0.8**
SRKR	**Sorokina**	**2.28**	**350**	*e*P	**Pn**	**05 10 48.4**	**+1.2**
SRKR				*i* S	**Sn**	**05 11 14.1**	**0.0**
ESO	**Esso**	**2.37**	**311**	PN	**Pn**	**05 10 49.2**	**+0.7**
ESO	**Esso**	**2.37**	**311**	*e*P	**Pn**	**05 10 49.2**	**+0.7**
INSR	**Institute**	**2.38**	**237**	*e*P	**Pn**	**05 10 49.4**	**+0.8**
INSR				*i* S	**Sn**	**05 11 16.5**	**0.0**
PET	**Petropavlovsk**	**2.38**	**235**	*e*PN	**Pn**	**05 10 49.6**	**+1.0**
PET				*e*S	**Sn**	**05 11 15.5**	**-1.1**
PET	comp=Z,112nm,0.6s			pmax	pmax		
PET	comp=E,702nm,0.5s			smax	smax		
PET	comp=Z,500nm,19.0s			MLR	MLR		
PET	comp=Z,200nm,14.0s			MLR	MLR		
PET	**Petropavlovsk**	**2.38**	**235**	*e*P	**Pn**	**05 10 49.4**	**+0.8**
PET				*i* S	**Sn**	**05 11 16.7**	**+0.1**
GNL	**Ganaly**	**2.44**	**254**	P	**Pn**	**05 10 51.2**	**+1.7**
GNL				*i* S	**Sn**	**05 11 18.8**	**+0.5**
PETK	**Petropavlovsk-**	**2.82**	**244**	PN	**Pn**	**05 10 56.2**	**+1.6**
PETK				S	**Sn**	**05 11 30.4**	**+3.0**
PETK	comp=Z,11nm,0.3s			pmax	pmax		
PETK	comp=N,27nm,0.3s			smax	smax		
PETK	**Petropavlovsk-**	**2.82**	**244**	P	**Pn**	**05 10 56.2**	**+1.6**
PETK	comp=N,10nm,0.3s,baz=81,slow=20,SNR=113			S	**Sn**	**05 11 30.4**	**+3.0**
PETK	comp=N,27nm,0.3s,baz=76,slow=38,SNR=12						
RUS	**Russkaya**	**2.84**	**227**	PN	**Pn**	**05 10 55.5**	**+0.6**
RUS				S	**Sn**	**05 11 27.1**	**-0.8**
RUS	**Russkaya**	**2.84**	**227**	*e*P	**Pn**	**05 10 55.5**	**+0.6**
RUS				*i* S	**Sn**	**05 11 27.1**	**-0.8**
MTVR	**Mutnovka**	**2.95**	**230**	*e*P	**Pn**	**05 10 57.6**	**+1.1**
MTVR				*i* S	**Sn**	**05 11 30.7**	**-0.1**
GRL	**Gorelyy**	**2.95**	**232**	*e*P	**Pn**	**05 10 57.8**	**+1.2**
GRL				*i* S	**Sn**	**05 11 31.4**	**+0.5**
ASAK	**Asacha**	**3.14**	**231**	*e*P	**Pn**	**05 11 00.9**	**+1.7**
ASAK				*i* S	**Sn**	**05 11 36.4**	**+0.9**
APC	**Apacha**	**3.19**	**244**	*e*P	**Pn**	**05 11 02.1**	**+2.4**
APC				*i* S	**Sn**	**05 11 38.2**	**+1.7**
MIPR	**Malaya Ipel'ka**	**3.75**	**237**	*e*P	**Pn**	**05 11 08.9**	**+1.4**
FX1	**Attu Island--F**	**6.87**	**98**	P	**Pn**	**05 11 51.3**	**+1.0**
FX1	comp=N,6.2nm,0.3s,baz=292,slow=4.3,SNR=24			S	**Sn**	**05 13 03.6**	**-3.6**
FX1	comp=N,5.0nm,0.3s,baz=101,slow=21,SNR=6.4						
MJAR	**Matsushiro Arr**	**24.21**	**232**	P	**P**	**05 15 25.0**	**-0.3**
MJAR	comp=N,0.9nm,0.3s,baz=21,slow=10,SNR=3.7						
ILAR	**Eielson Array**	**27.12**	**47**	P	**P**	**05 15 52.0**	**+0.5**
ILAR	comp=N,1.2nm,0.9s,baz=268,slow=8.0,SNR=7.8						
INK	**Inuvik**	**32.16**	**39**	P	**P**	**05 16 36.9**	**+0.9**
INK	comp=N,1.0nm,0.6s,baz=313,slow=7.0,SNR=4.6						
SONM	**Songino Array**	**34.65**	**282**	PcP	**PcP**	**05 19 31.5**	**-0.1**
SONM	comp=N,0.3nm,0.6s,baz=90,slow=1.4,SNR=4.4			LR	LR	05 31 41.0	
ZALV	**Zalesovo Beam**	**42.97**	**302**	LR	LR	05 37 24.9	
ZALV	comp=N,50nm,18.3s,baz=246,slow=38						
NEW	**Newport**	**48.32**	**62**	P	**P**	**05 18 51.4**	**+1.6**
NEW	comp=N,1.3nm,0.8s,baz=318,slow=5.7,SNR=4.6						
MKAR	**Makanchi Array**	**48.54**	**296**	P	**P**	**05 18 50.5**	**-1.0**
MKAR	**Makanchi Array**	**48.54**	**296**	P	**P**	**05 18 50.5**	**-1.0**
MKAR	comp=N,0.2nm,0.5s,baz=46,slow=8.4,SNR=3.0						
ARCES	**ARCESS Array B**	**52.35**	**347**	P	**P**	**05 19 19.2**	**-0.8**
ARCES	comp=N,3.9nm,0.9s,baz=24,slow=8.9,SNR=3.5						
SUMG	**Summit**	**52.51**	**8**	*i* P	**P**	**05 19 22.0**	**+0.5**
SUMG	comp=Z,11nm,0.9s			pmax	pmax		
SUMG	**Summit**	**52.51**	**8**	*i* P	**P**	**05 19 22.0**	**+0.5**
SUMG	comp=Z,11nm,0.9s						
PDAR	**Pinedale Array**	**55.95**	**63**	P	**P**	**05 19 48.9**	**+2.1**
PDAR	comp=Z,0.7nm,0.8s,baz=357,slow=3.0,SNR=6.3						
FINES	**FINESS Array B**	**59.32**	**337**	P	**P**	**05 20 08.5**	**-1.4**
FINES	comp=Z,2.6nm,0.5s,baz=29,slow=7.7,SNR=10						
FINES				LR	LR	05 52 42.8	
NB2	**NORSAR Subarra**	**62.56**	**344**	P	**P**	**05 20 30.5**	**-1.5**
NB2	comp=Z,1.1nm,0.7s,baz=22,slow=6.9						
NOA	**NORSAR Array B**	**62.56**	**344**	P	**P**	**05 20 30.3**	**-1.7**
NOA	comp=Z,1.9nm,0.8s,baz=21,slow=6.7,SNR=5.5						
AKASG	**Malin Array Be**	**68.02**	**330**	P	**P**	**05 21 06.0**	**-1.4**
AKASG	**Malin Array Be**	**68.02**	**330**	P	**P**	**05 21 06.0**	**-1.4**
AKASG	comp=Z,0.5nm,0.4s,baz=25,slow=7.2,SNR=2.8						
TXAR	**Lajitas Array**	**69.14**	**69**	P	**P**	**05 21 16.6**	**+1.7**
TXAR	comp=Z,1.0nm,0.6s,baz=298,slow=4.6,SNR=16						
KBZ	**Khabaz**	**69.30**	**317**	P	**P**	**05 21 14.7**	**-0.7**
KBZ	comp=Z,2.0nm,0.8s			pmax	pmax		
KBZ	**Khabaz**	**69.30**	**317**	P	**P**	**05 21 14.7**	**-0.7**
KBZ	comp=Z,2.1nm,0.8s,baz=314,slow=6.6,SNR=4.3						
KBZ				LR	LR	05 59 24.0	
WRA	**Warramunga Arr**	**77.74**	**206**	P	**P**	**05 22 05.9**	**+0.7**
WRA	comp=Z,1.2nm,0.7s,baz=17,slow=5.9,SNR=7.4						
ASAR	**Alice Springs**	**81.42**	**206**	P	**P**	**05 22 26.2**	**+1.1**
ASAR	comp=Z,0.8nm,0.7s,baz=4.0,slow=5.6,SNR=8.1						
ESDC	**Sonseca Array**	**85.49**	**349**	P	**P**	**05 22 45.3**	**-0.9**
ESDC	comp=Z,0.1nm,0.3s,baz=15,slow=5.3,SNR=3.0						
QSPA	**South Pole Qui**	**144.17**	**180**	PKP	**PKPab**	**05 29 40.5**	**0.0**
QSPA	comp=Z,2.3nm,0.8s,baz=45,slow=1.5,SNR=13						

WEL 16 05:13:25.8±0.5, 45°.99S×166°.63E, h20km±4km, ML3.6/11, Error ellipse: s-maj=7.0km s-min=1.6km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.19**	**169**	P*	Pb	05 13 30.3	+0.2
PYZ				S*	Sg	05 13 34.3	+0.2
DCZ	**Deep Cove**	**0.62**	**36**	P*	Pb	05 13 37.2	-0.8
DCZ				S*	Sg	05 13 47.3	+0.6
DCZ				AML	AML	05 13 48.8	
DCZ				AML	AML	05 13 48.9	
DCZ				AML	AML	05 13 56.1	
WHZ	**Wether Hill Ro**	**0.92**	**85**	P*	Pb	05 13 43.0	-0.1
WHZ				AML	AML	05 13 58.7	
WHZ				AML	AML	05 13 59.8	
MLZ	**Mavora Lakes**	**1.25**	**60**	PN	Pn	05 13 48.1	-0.2
MLZ				AML	AML	05 14 11.9	
MLZ				AML	AML	05 14 17.4	
APZ	**The Paps**	**1.27**	**133**	PN	Pn	05 13 46.4	-2.0
MSZ	**Milford Sound**	**1.60**	**35**	*e*PN	Pn	05 13 50.5	-2.5
MSZ				AML	AML	05 14 24.6	
MSZ				AML	AML	05 14 29.5	
MSZ				AML	AML	05 14 29.5	
SYZ	**Scrubby Hill**	**1.82**	**109**	PN	Pn	05 13 55.9	-0.1
EAZ	**Earnscleugh**	**2.02**	**69**	*e*PN	Pn	05 13 59.7	+0.9
EAZ				AML	AML	05 14 32.0	
EAZ				AML	AML	05 14 36.7	
WKZ	**Wanaka**	**2.04**	**56**	PN	Pb	05 14 00.8	-1.5
WKZ				AML	AML	05 14 32.3	
WKZ				AML	AML	05 14 34.4	
TUZ	**Tuapeka**	**2.09**	**90**	PN	Pn	05 14 00.1	+0.3
TUZ				AML	AML	05 14 30.3	
TUZ				AML	AML	05 14 43.6	
JCZ	**Jackson Bay**	**2.43**	**39**	*e*PN	Pn	05 14 06.4	+1.8
JCZ				AML	AML	05 14 49.3	
JCZ				AML	AML	05 14 49.8	
ODZ	**Otahua Downs**	**2.97**	**73**	PN	Pn	05 14 11.1	-0.8
LBZ	**Lake Benmore**	**2.98**	**59**	*e*PN	Pn	05 14 12.1	+0.1
LBZ				AML	AML	05 14 53.1	
LBZ				AML	AML	05 15 13.4	
FOZ	**Fox Glacier**	**3.25**	**43**	*e*PN	Pn	05 14 18.8	+3.1
DSZ	**Denniston Nort**	**5.65**	**43**	*e*PN	Pn	05 14 49.6	+0.9
THZ	**Tophouse**	**6.19**	**49**	*e*PN	Pn	05 14 56.0	-0.2

DJA 16 06:37:55.4±1.5, 1°S±22°×9°9E±°, h13km±22km, M3.9/4, MLv3.9/4, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.19**	**72**	P	Pn	06 38 15.6	-2.2
PDSI				S	Sb	06 38 32.8	-0.4
PPI	**Padang Panjang**	**1.34**	**53**	P	Pn	06 38 19.1	-0.8
PPI				S	Sb	06 38 36.5	-1.1
MNSI	**Mandailing Nat**	**2.08**	**7**	P	Pn	06 38 29.9	-0.1
BKNI	**Bangkinang**	**2.34**	**47**	P	Pn	06 38 33.6	0.0

ISCJB ***16*** *06:38:26.4±0.7, 36°.25N±0°.03×21°.98E±0°.04, h24km±4km, mb3.9/4, Error ellipse: s-maj=7.0km s-min=3.3km az=138.4*
IDC ***16*** *06:38:26.4±1.5, 36°.92N×22°.70E, h0km, mb3.9/4, mb1 3.9/4, mb1mx3.6/23, mbtmp3.9/4, Error ellipse: s-maj=63.9km s-min=27.4km az=134.0*
ATH ***16*** *06:38:27.0, 36°.27N×22°.04E, h30km±2km, ML3.0*
CSEM ***16*** *06:38:27.2±0.3, 36°.30N×22°.04E, h20km, ML3.4/8, Error ellipse: s-maj=7.8km s-min=3.5km az=48.0*
THE ***16*** *06:38:28.1, 36°.30N×22°.04E, h24km±3km, ML3.4/8, Error ellipse: s-maj=4.0km s-min=1.4km az=228.0*

ISC 16 06:38:27.6±1.1, 36°.29N±0°.04×22°.01E±0°.04, h28km±11km, n125, σ1°19/158, mb4.0/4, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.64**	**341**	P	**Pb**	**06 38 39.5**	**-0.9**
PYL				S	**Sb**	**06 38 49.9**	**+0.8**
PYL	**PYLOS**	**0.64**	**341**	*e*PB	**Pb**	**06 38 39.6**	**-0.9**
PYL				*e*SN	**Sn**	**06 38 50.8**	**+0.6**
PYL	**PYLOS**	**0.64**	**341**	P	**Pb**	**06 38 39.5**	**-0.9**
PYL				S	**Sb**	**06 38 49.9**	**+0.8**
PYL				*e*Sn	**Sn**	**06 38 50.8**	**+0.6**
KYTH	**Kithira**	**0.83**	**90**	P	**Pb**	**06 38 43.2**	**-0.4**
KYTH	**Kithira**	**0.83**	**90**	*e*PN	**Pb**	**06 38 43.9**	**+0.4**
KYTH	**Kithira**	**0.83**	**90**	P	**Pb**	**06 38 43.2**	**-0.4**
KYTH	**Kithira**	**0.83**	**90**	*e*Pn	**Pn**	**06 38 43.9**	**+0.4**
VLI	**Veliai**	**0.86**	**60**	P	**Pb**	**06 38 43.2**	**-0.9**
VLI				S	**Sn**	**06 38 56.0**	**+0.4**
VLI	**Veliai**	**0.86**	**60**	*e*PN	**Pb**	**06 38 43.4**	**-0.7**
VLI				*e*SN	**Sn**	**06 38 56.5**	**+0.9**
VLI	**Veliai**	**0.86**	**60**	P	**Pb**	**06 38 43.2**	**-0.9**
VLI				S	**Sn**	**06 38 56.0**	**+0.4**
ITM	**Ithomi**	**0.89**	**356**	P	**Pb**	**06 38 43.7**	**-0.9**
ITM				S	**Sn**	**06 38 56.8**	**+0.4**
ITM	**Ithomi**	**0.89**	**356**	*e*PB	**Pb**	**06 38 44.1**	**-0.5**
ITM				*e*SN	**Sn**	**06 38 58.3**	**+1.9**
ITM	**Ithomi**	**0.89**	**356**	P	**Pb**	**06 38 43.7**	**-0.9**
ITM	**Ithomi**	**0.89**	**356**	*e*Pn	**Pb**	**06 38 44.1**	**-0.5**
ITM				S	**Sn**	**06 38 56.8**	**+0.4**
ITM				*e*Sn	**Sn**	**06 38 58.3**	**+1.9**
VLX	**Vlachokerasia**	**1.12**	**15**	P	**Pn**	**06 38 47.6**	**0.0**
VLX				S	**Sn**	**06 39 03.9**	**+1.8**
VLX	**Vlachokerasia**	**1.12**	**15**	*e*PB	**Pn**	**06 38 47.7**	**+0.1**
VLX				*e*SN	**Sn**	**06 39 04.4**	**+2.3**
VLX	**Vlachokerasia**	**1.12**	**15**	P	**Pn**	**06 38 47.6**	**0.0**
VLX				S	**Sn**	**06 39 03.9**	**+1.8**
VLX				*e*Sn	**Sn**	**06 39 04.4**	**+2.3**
ANKY	**Antikythira Is**	**1.13**	**111**	P	**Pn**	**06 38 48.2**	**+0.7**
ANKY				S	**Sb**	**06 39 02.7**	**-0.1**
ANKY	**Antikythira Is**	**1.13**	**111**	*e*PN	**Pn**	**06 38 47.8**	**+0.3**
ANKY				*e*SN	**Sn**	**06 39 02.5**	**+0.4**
ANKY	**Antikythira Is**	**1.13**	**111**	*e*Pn	**Pn**	**06 38 47.8**	**+0.3**
ANKY	**Antikythira Is**	**1.13**	**111**	P	**Pn**	**06 38 48.2**	**+0.7**
ANKY				*e*Sn	**Sn**	**06 39 02.5**	**+0.4**
SFD	**Strofades**	**1.25**	**321**	P	**Pn**	**06 38 48.5**	**-0.7**
SFD				S	**Sn**	**06 39 05.2**	**+0.2**
SFD	**Strofades**	**1.25**	**321**	*e*PN	**Pn**	**06 38 50.3**	**+1.1**
SFD				*e*SN	**Sb**	**06 39 06.7**	**+0.4**
SFD	**Strofades**	**1.25**	**321**	P	**Pn**	**06 38 48.5**	**-0.7**
SFD	**Strofades**	**1.25**	**321**	*e*Pn	**Pn**	**06 38 50.3**	**+1.1**
SFD				S	**Sn**	**06 39 05.2**	**+0.2**
SFD				*e*Sn	**Sb**	**06 39 06.7**	**+0.4**
AMT	**Artemida-Makis**	**1.27**	**349**	*e*PN	**Pn**	**06 38 50.5**	**+1.0**
AMT				*e*SN	**Sb**	**06 39 09.0**	**+2.2**
AMT	**Artemida-Makis**	**1.27**	**349**	*e*Pn	**Pn**	**06 38 50.7**	**+1.0**
AMT				*e*Sn	**Sb**	**06 39 09.0**	**+2.2**
DIDY	**Didyma**	**1.53**	**39**	P	**Pn**	**06 38 52.6**	**-0.6**
DIDY				S	**Sn**	**06 39 11.6**	**-0.6**
DIDY	**Didyma**	**1.53**	**39**	P	**Pn**	**06 38 52.6**	**-0.6**
DIDY				S	**Sn**	**06 39 11.6**	**-0.6**
DID	**Didima**	**1.57**	**39**	P	**Pn**	**06 38 53.4**	**-0.2**
DID				S	**Sn**	**06 39 11.8**	**-1.2**
DID	**Didima**	**1.57**	**39**	*e*PB	**Pn**	**06 38 53.4**	**-0.2**
DID	**Didima**	**1.57**	**39**	P	**Pn**	**06 38 53.4**	**-0.2**
DID				S	**Sn**	**06 39 11.8**	**-1.2**
GUR	**Goura**	**1.67**	**9**	P	**Pn**	**06 38 56.1**	**+1.0**
GUR	**Goura**	**1.67**	**9**	*e*PB	**Pn**	**06 38 56.2**	**+1.1**
GUR	**Goura**	**1.67**	**9**	P	**Pn**	**06 38 56.1**	**+1.0**
ACOR	**Acrocorinthos**	**1.74**	**23**	P	**Pn**	**06 38 57.3**	**+1.3**
ACOR	**Acrocorinthos**	**1.74**	**23**	P	**Pn**	**06 38 57.3**	**+1.3**
KLV	**Kalavryta, Ach**	**1.76**	**4**	P	**Pn**	**06 38 57.2**	**+1.0**
KLV	**Kalavryta, Ach**	**1.76**	**4**	*e*PN	**Pn**	**06 38 57.3**	**+1.0**
KLV				*e*SN	**Sn**	**06 39 19.6**	**+1.9**
KLV	**Kalavryta, Ach**	**1.76**	**4**	P	**Pn**	**06 38 57.2**	**+1.0**
KLV				*e*Sn	**Sn**	**06 39 19.6**	**+1.9**
**KAR

CMCH	**Combarbala**	**0.53**	**118**	⇓*iP*	Pn	06 43 26.8	+0.4
CMCH				*i* S	Sn	06 43 34.8	+0.5
CMCH				AML	AML	06 43 35.3	
	comp=N,9μm,0.5s						
TLL	**Tololo Astrono**	**0.99**	**40**	⇑*iP*	Pn	06 43 33.9	+1.1
TLL				*i* S	Sn	06 43 47.3	+1.5
TLL				AML	AML	06 43 49.3	
	comp=E,761nm,0.4s						
PACH	**Papudo**	**1.61**	**177**	⇓*iP*	Pn	06 43 42.5	+1.3
PACH				*i* S	Sn	06 44 03.1	+2.3
LCO	**Las Campanas**	**2.04**	**21**	*eP*	Pn	06 43 48.9	+1.5
LCO				*i* S	Sn	06 44 13.9	+2.1
LCO				AML	AML	06 44 15.5	
	comp=E,868nm,0.5s						
ROCH	**El Roble**	**2.09**	**168**	⇓*iP*	Pn	06 43 48.7	+0.7
ROCH				*e*S	Sn	06 44 14.9	+1.8
ROCH				AML	AML	06 44 20.4	
	comp=N,598nm,0.4s						
IHA	**Instituto Hidr**	**2.10**	**182**	⇓*iP*	Pn	06 43 48.5	+0.7
PEL	**Peldehue**	**2.33**	**162**	⇑*iP*	Pn	06 43 52.0	+0.9
PEL				*i* S	Sn	06 44 20.8	+2.2
PEL				AML	AML	06 44 24.5	
	comp=E,414nm,0.3s						
VACH	**Vallenar**	**2.44**	**16**	⇓*iP*	Pn	06 43 54.6	+2.2
VACH				*i* S	Sn	06 44 23.8	+2.8
CLCH	**Cerro Calan**	**2.61**	**161**	*eP*	Pn	06 43 55.9	+1.0
CLCH				AML	AML	06 44 43.8	
	comp=E,272nm,0.7s						
FCH	**Farellones**	**2.62**	**156**	AML	AML	06 44 27.6	
	comp=E,201nm,0.2s						
ANTU	**Antumapu**	**2.75**	**164**	AML	AML	06 44 41.7	
	comp=N,200nm,0.5s						
TACH	**Talagante**	**2.77**	**169**	⇑*iP*	Pn	06 43 58.1	+1.1
CHCH	**Chadas Angostu**	**3.10**	**166**	*eP*	Pn	06 44 02.1	+0.5
LMEL	**Las Melosas**	**3.13**	**159**	⇑*iP*	Pn	06 44 03.7	+1.5
LMEL				*i* S	Sn	06 44 39.8	+1.4
LMEL				AML	AML	06 44 55.9	
	comp=N,152nm,0.2s						
CACH	**El Canelo**	**3.28**	**166**	*eP*	Pn	06 44 05.3	+1.1

ISCJB ***16*** *06:44:42.6±0.3, 2°.93S±0°.02×77°.71W±0°.05, h21km, mb4.3/28, MS3.8/8, Error ellipse: s-maj=6.7km s-min=3.0km az=163.4*
IGQ ***16*** *06:44:44.1, 2°.78S×78°.10W, h12km±5km, Mb4.5, Ms4.3, Error ellipse: s-maj=3.5km s-min=1.6km az=2.4*
BJI ***16*** *06:44:46.0, 2°.90S×77°.60W, h36km, mB5.3/5, Ms4.9/2, Ms7 4.9/3*
IDC ***16*** *06:44:46.0±3.4, 2°.83S×77°.68W, h34km±28km, mb3.8/12, mb1 4.1/15, mb1mx4.0/26, mbtmp4.1/15, ML4.6/3, MS3.7/7, Ms1 3.7/7, ms1mx3.5/32, Error ellipse: s-maj=21.3km s-min=11.8km az=67.0*
NEIC ***16*** *06:44:46.7±0.7, 2°.82S×77°.59W, h40km±7km, mb4.6/21, MD4.6(IGQ), Error ellipse: s-maj=10.5km s-min=4.7km az=66.0*
NEIC Felt at Banos, Ecuador.
ISC 16 06:44:43.6±0.4, 2°.85S±0°.03×77°.82W±0°.06, h21km, n123, σ1§84/134, mb4.5/31, MS3.8/8, 33C-3D, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAT1	**Patacocha**	**1.47**	**335**	⇑P	**Pn**	**06 45 08.7**	**-0.7**
BPAT	**Tungurahua Vol**	**1.48**	**335**	⇑S	**Sn**	**06 45 27.5**	**-0.8**
BPAT	**Tungurahua Vol**	**1.48**	**335**	⇑P	**Pn**	**06 45 08.7**	**-0.7**
ARRY	**Arrayan**	**1.48**	**335**	⇑P	**Pn**	**06 45 08.4**	**-1.0**
BMAS	**Trigal station**	**1.50**	**334**	⇑P	**Pn**	**06 45 08.8**	**-0.8**
BMAS	**Trigal station**	**1.50**	**334**	⇑S	**Sn**	**06 45 28.0**	**-0.7**
ULBA	**Ulba**	**1.51**	**337**	⇑P	**Pn**	**06 45 09.6**	**-0.3**
BULB	**Ulba Tungurahu**	**1.52**	**337**	⇑P	**Pn**	**06 45 09.6**	**-0.5**
RETU	**Refugio**	**1.53**	**336**	⇑P	**Pn**	**06 45 09.8**	**-0.4**
BRUN	**Tungurahua Vol**	**1.54**	**337**	⇑S	**Sb**	**06 45 30.7**	**-0.2**
BRUN	**Tungurahua Vol**	**1.54**	**337**	⇑P	**Pn**	**06 45 09.9**	**-0.3**
BIL2	**Estacion Bilba**	**1.55**	**334**	⇓P	**Pn**	**06 45 10.2**	**0.0**
RUN5	**Runtun**	**1.55**	**337**	⇑P	**Pn**	**06 45 09.9**	**-0.4**
JUI6	**Juive**	**1.56**	**335**	⇑P	**Pn**	**06 45 09.9**	**-0.5**
IGUA	**Igualata**	**1.58**	**329**	⇑P	**Pn**	**06 45 11.4**	**+0.4**
PISA	**Pisayambo**	**1.87**	**342**	⇓P	**Pb**	**06 45 16.1**	**-1.4**
BMOR	**Cotopaxi Volca**	**2.20**	**343**	⇑P	**Pb**	**06 45 21.9**	**-1.3**
BMOR	**Cotopaxi Volca**	**2.20**	**343**	⇑S	**Sb**	**06 45 51.1**	**+0.9**
TAMB	**Tambo**	**2.21**	**346**	⇑P	**Pb**	**06 45 21.8**	**-1.5**
BTAM	**Cotopaxi Volca**	**2.24**	**345**	⇑S	**Sb**	**06 45 53.4**	**+2.1**
BTAM	**Cotopaxi Volca**	**2.24**	**345**	⇑P	**Pb**	**06 45 22.3**	**-1.4**
COV1	**Cotopaxi Volc**	**2.24**	**346**	⇑P	**Pb**	**06 45 22.9**	**-0.8**
BREF	**Cotopaxi Volca**	**2.26**	**344**	⇑S	**Sb**	**06 45 51.6**	**-0.2**
BREF	**Cotopaxi Volca**	**2.26**	**344**	⇑P	**Pb**	**06 45 22.9**	**-1.2**
BNAS	**Cotopaxi Volca**	**2.27**	**343**	⇑S	**Sb**	**06 45 54.5**	**+2.6**
BNAS	**Cotopaxi Volca**	**2.27**	**343**	⇑P	**Pb**	**06 45 23.1**	**-1.1**
CAMI	**Rancho Maria**	**2.27**	**342**	⇑P	**Pb**	**06 45 23.2**	**-1.0**
VC1	**Cotopaxi 1**	**2.27**	**345**	⇑P	**Pb**	**06 45 22.9**	**-1.4**
NAS2	**Nasa**	**2.29**	**343**	⇑P	**Pb**	**06 45 23.5**	**-1.0**
ARNL	**Arenillas**	**2.35**	**253**	⇑S	**Sb**	**06 45 52.4**	**-1.5**
ARNL	**Arenillas**	**2.35**	**253**	⇑P	**Pn**	**06 45 21.3**	**+0.3**
PITA	**Cotopaxi Volc**	**2.36**	**345**	⇑P	**Pb**	**06 45 24.5**	**-1.3**
ANTI	**Antisana**	**2.41**	**352**	P	**Pn**	**06 45 23.8**	**+1.3**
JUA2	**San Juan 2**	**2.74**	**343**	P	**Pb**	**06 45 30.0**	**-2.2**
LAV4	**Lava4-Reventad**	**2.75**	**4**	P	**Pn**	**06 45 27.6**	**+0.8**
CHAR	**Charly**	**2.75**	**3**	⇓P	**Pn**	**06 45 28.2**	**+1.3**
CONE	**Cono NE Rev Vo**	**2.77**	**4**	P	**Pb**	**06 45 31.5**	**-1.2**
GGP	**Refugio Guagua**	**2.77**	**344**	P	**Pb**	**06 45 30.1**	**-2.7**
TERV	**Terraza Guagua**	**2.77**	**344**	⇑P	**Pb**	**06 45 31.7**	**-1.1**
PINO	**Pino**	**2.79**	**344**	⇑P	**Pb**	**06 45 30.6**	**-2.6**
ELAGU	**Cayambe Volc**	**2.82**	**357**	P	**Pb**	**06 45 31.2**	**-2.3**
ELAGU	**Cayambe Volc**	**2.82**	**357**	S	**Sb**	**06 46 10.2**	**+2.3**
ANGU	**Angureal**	**2.89**	**356**	S	**Sb**	**06 46 13.7**	**+3.8**
ANGU	**Angureal**	**2.89**	**356**	P	**Pb**	**06 45 33.4**	**-1.4**
OTAV	**Otavalo**	**3.13**	**348**	S	**Sb**	**06 46 21.5**	**+4.5**
OTAV	**Otavalo**	**3.13**	**348**	P	**Pn**	**06 45 34.7**	**+2.5**
OTAV	**Otavalo**	**3.13**	**348**	*e*Pn	**Pn**	**06 45 34.7**	**+2.5**
MAG1	**Magdalena**	**3.38**	**325**	P	**Pn**	**06 45 37.8**	**+2.5**
ATAH	**Atahualpa**	**4.29**	**188**	Pn	**Pn**	**06 45 50.1**	**+1.9**
ATAH				Sn	**Sn**	**06 46 38.8**	**+1.0**
ATAH	**Atahualpa**	**4.29**	**188**	Pn	**Pn**	**06 45 50.1**	**+1.9**
	67nm,0.3s,baz=18,slow=9.8,SNR=242						
ATAH				Sn	**Sn**	**06 46 38.8**	**+1.0**
	26nm,0.3s,baz=338,slow=8.9,SNR=3.6						
ROSC	**El Rosal**	**8.41**	**24**	*e*Pn	**Pn**	**06 46 45.0**	**+0.2**
ROSC				Pg	Pb	06 47 14.7	+5.7
ROSC				Lg	Lg	06 49 12.2	
ROSC	**El Rosal**	**8.41**	**24**	Pn	**Pn**	**06 46 44.5**	**-0.2**
	2.5nm,0.3s,baz=94,slow=17,SNR=10						
ROSC				Pg	Pb	06 47 14.7	+5.7
	3.4nm,0.3s,baz=113,slow=15,SNR=9.0						
ROSC				Lg	Lg	06 49 12.2	
	4.2nm,0.3s,baz=82,slow=20,SNR=4.2						
ROSC				LR	LR	06 50 32.3	
	comp=Z,490nm,18.3s,baz=223,slow=42						
NNA	**Nana**	**9.13**	**174**	*e*Pn	**Pn**	**06 46 54.1**	**-0.2**
NNA				*e*Sn	**Sn**	**06 48 36.3**	**-0.1**
NNA				Sn	Sn	06 48 36.6	+0.1
NNA	**Nana**	**9.13**	**174**	Pn	**Pn**	**06 46 54.0**	**-0.3**
	4.6nm,0.3s,baz=352,slow=8.3,SNR=9.9						
NNA				Sn	**Sn**	**06 48 36.6**	**+0.1**
	6.8nm,0.3s,baz=108,slow=22,SNR=3.8						
BCIP	**Isla Barro Col**	**12.11**	**350**	*e*Pn	Pn	06 47 38.2	+3.2
SDV	**Santo Domingo**	**13.69**	**31**	*e*Pn	**Pn**	**06 47 56.2**	**-0.6**
SAML	**Samuel**	**15.76**	**113**	*e*Pn	**Pn**	**06 48 21.3**	**-3.3**
	3.9nm,0.7s						
LPAZ	**La Paz**	**16.40**	**145**	*e*Pn	**Pn**	**06 48 34.2**	**+0.8**
	12nm,0.7s						
LPAZ	**La Paz**	**16.40**	**145**	Pn	**Pn**	**06 48 34.4**	**+1.1**
	0.6nm,0.3s,baz=328,slow=13,SNR=18						
TGUH	**Tegucigalpa,Un**	**19.24**	**331**	*e*Pn	**Pn**	**06 49 09.3**	**+1.6**
	25nm,1.0s						
SIV	**San Ignacio**	**21.03**	**129**	P	**P**	**06 49 26.5**	**+0.2**
SIV	**San Ignacio**	**21.03**	**129**	P	**P**	**06 49 26.5**	**+0.2**
	12nm,0.6s,baz=309,slow=11,SNR=46						
LVC	**Limon Verde**	**21.46**	**157**	*e*P	**P**	**06 49 32.2**	**+1.1**
	41nm,1.0s						
APG	**El Apazote**	**21.72**	**325**	P	**P**	**06 49 35.0**	**+1.1**
APG	**El Apazote**	**21.72**	**325**	P	**P**	**06 49 35.0**	**+1.1**
	4.4nm,0.9s,baz=178,slow=9.7,SNR=7.1						
APG				LR	LR	06 56 36.8	
	comp=Z,171nm,19.4s,baz=277,slow=33						
TEIG	**Tepich**	**25.13**	**336**	P	**P**	**06 50 10.8**	**+3.4**
TEIG	**Tepich**	**25.13**	**336**	P	**P**	**06 50 10.8**	**+3.4**
	6.6nm,0.8s,baz=104,slow=4.2,SNR=7.5						
TEIG				LR	LR	06 59 31.0	
	comp=Z,227nm,20.4s,baz=278,slow=35						
CMIG	**Matias Romero**	**26.01**	**320**	P	**P**	**06 50 18.3**	**+2.9**
CMIG	**Matias Romero**	**26.01**	**320**	P	**P**	**06 50 18.3**	**+2.9**
	13nm,1.0s,baz=114,slow=7.6,SNR=15						
CMIG				LR	LR	06 58 55.9	
	comp=Z,109nm,18.3s,baz=21,slow=33						
CFAA	**Coronel Fontan**	**29.99**	**163**	P	**P**	**06 50 51.9**	**+1.0**
CFAA	**Coronel Fontan**	**29.99**	**163**	P	**P**	**06 50 51.9**	**+1.0**
	0.2nm,0.4s,baz=351,slow=9.0,SNR=5.5						
CPUP	**Villa Florida**	**30.52**	**142**	P	**P**	**06 50 55.9**	**+0.3**
CPUP	**Villa Florida**	**30.52**	**142**	P	**P**	**06 50 55.9**	**+0.3**
	0.8nm,0.4s,baz=303,slow=5.2,SNR=4.2						
BDFB	**Brasilia**	**31.98**	**115**	P	**P**	**06 51 09.0**	**+0.2**
BDFB	**Brasilia**	**31.98**	**115**	P	**P**	**06 51 09.0**	**+0.2**
	3.0nm,0.5s,baz=254,slow=7.7,SNR=9.6						
BDFB				LR	LR	07 05 19.1	
	comp=Z,256nm,20.2s,baz=239,slow=39						
BB16B	**Bebedouro**	**33.71**	**125**	⇑*iP*	**P**	**06 51 22.7**	**-1.1**
BB16B				*i*		06 51 30.4	
BB16B				*i*		06 51 33.4	
PLCA	**Paso Flores**	**38.28**	**171**	P	**P**	**06 52 03.3**	**+0.7**
PLCA	**Paso Flores**	**38.28**	**171**	P	**P**	**06 52 03.3**	**+0.7**
	1.4nm,0.5s,baz=336,slow=8.5,SNR=9.7						
JCT	**Junction City**	**39.23**	**329**	*e*P	**P**	**06 52 12.5**	**+1.7**
	8.4nm,1.0s						
TXAR	**Lajitas Array**	**40.47**	**324**	P	**P**	**06 52 22.1**	**+1.0**
TXAR				PcP	**PcP**	**06 54 23.7**	**-0.1**
TXAR	**Lajitas Array**	**40.47**	**324**	P	**P**	**06 52 22.1**	**+1.0**
	0.4nm,0.7s,baz=145,slow=9.9,SNR=6.3						
TXAR				PcP	**PcP**	**06 54 23.7**	**-0.1**
	0.4nm,0.7s,baz=142,slow=4.5,SNR=2.0						
TXAR				LR	LR	07 11 13.9	
	comp=Z,49nm,19.0s,baz=0.0,slow=39						
ABTX	**Abilene, Hawle**	**40.90**	**331**	*e*P	**P**	**06 52 25.5**	**+1.0**
MSTX	**Muleshoe**	**43.52**	**329**	*e*P	**P**	**06 52 47.0**	**+1.0**
ANMO	**Albuquerque**	**46.22**	**327**	*e*P	**P**	**06 53 08.8**	**+1.2**
	4.9nm,0.8s						
TUC	**Tucson**	**46.90**	**321**	*e*P	**P**	**06 53 13.9**	**+1.1**
	27nm,2.4s						
SDCO	**Great Sand Dun**	**47.86**	**330**	*e*P	**P**	**06 53 21.7**	**+1.2**
	4.0nm,0.8s						
WUAZ	**Wupatki**	**49.43**	**324**	*e*P	P	06 53 36.1	+3.7
	6.2nm,1.0s						
ISCO	**Idaho Springs**	**49.52**	**332**	*e*P	**P**	**06 53 34.1**	**+0.8**
	54nm,2.6s						
SRU	**San Rafael**	**51.48**	**328**	*e*P	**P**	**06 53 49.1**	**+1.1**
	4.1nm,1.0s						
JLU	**Jordanelle**	**53.05**	**328**	*e*P	**P**	**06 54 00.6**	**+1.0**
	9.5nm,1.6s						
PDAR	**Pinedale Array**	**53.70**	**331**	P	**P**	**06 54 04.4**	**0.0**
PDAR	**Pinedale Array**	**53.70**	**331**	P	**P**	**06 54 04.4**	**0.0**
	0.5nm,0.8s,baz=139,slow=7.0,SNR=3.0						
PDAR				LR	LR	07 17 40.6	
	comp=Z,99nm,19.3s,baz=64,slow=37						
HWUT	**Hardware Ranch**	**53.84**	**329**	*e*P	**P**	**06 54 05.8**	**+0.4**
	4.8nm,0.8s						
RRI2	**Red Ridge**	**54.99**	**331**	*e*P	**P**	**06 54 13.3**	**-0.5**
	88nm,3.0s						
IMW	**Indian Meadow**	**55.21**	**331**	*e*P	**P**	**06 54 17.2**	**+1.8**
	42nm,2.5s						
GCMT	**Greycliff**	**56.06**	**334**	*e*P	**P**	**06 54 21.9**	**+0.5**
	5.9nm,0.9s						
F10A	**Beach Ranch, E**	**59.82**	**329**	*e*P	**P**	**06 54 49.1**	**+1.5**
	24nm,2.0s						
G08A	**Pilot Rock**	**60.27**	**328**	*e*P	**P**	**06 54 51.8**	**+1.0**
	4.5nm,1.1s						
NEW	**Newport**	**61.34**	**331**	*e*P	**P**	**06 54 58.9**	**+1.0**
	33nm,2.3s						
DBIC	**Dimbokro**	**73.44**	**82**	P	**P**	**06 56 14.0**	**-1.2**
DBIC	**Dimbokro**	**73.44**	**82**	P	**P**	**06 56 14.0**	**-1.2**
	5.8nm,1.0s,baz=225,slow=10.0,SNR=2.9						
TORD	**Torodi Ar. Bea**	**80.45**	**76**	P	**P**	**06 56 54.1**	**-0.6**
TORD	**Torodi Ar. Bea**	**80.45**	**76**	P	**P**	**06 56 54.1**	**-0.6**
	1.2nm,0.9s,baz=281,slow=6.1,SNR=8.7						
INK	**Inuvik**	**80.60**	**342**	*e*P	**P**	**06 56 55.0**	**+0.7**
	6.5nm,1.1s						
VNA2	**Neumayer--Watz**	**80.98**	**162**	*e*P	**P**	**06 56 56.9**	**+0.5**
	baz=308,slow=5.8						
RAGM	**Ragged Mountai**	**81.25**	**332**	*e*P	P	06 57 03.7	+5.7
EGAK	**Eagle**	**81.53**	**337**	*e*P	**P**	**06 56 59.9**	**+0.6**
	107nm,3.0s						
SNAA	**Sanae**	**82.60**	**162**	*e*P	**P**	**06 57 05.3**	**+0.3**
ILAR	**Eielson Array**	**83.78**	**336**	P	**P**	**06 57 10.7**	**-0.4**
ILAR	**Eielson Array**	**83.78**	**336**	P	**P**	**06 57 10.7**	**-0.4**
	0.3nm,0.7s,baz=117,slow=5.2,SNR=2.7						
KURK	**Kurchatov**	**128.33**	**19**	PKP	**PKPdf**	**07 03 49.4**	**+0.6**
KURBB	**Kurchatov Arra**	**128.38**	**19**	PKP	**PKPdf**	**07 03 49.4**	**+0.5**
	0.5nm,0.6s,baz=326,slow=2.5,SNR=4.3						
CN2	**Changchun**	**134.30**	**336**	*e*PKP	**PKPdf**	**07 04 00.8**	**+0.5**
KSH	**Kashi**	**136.43**	**30**	*e*PKP	**PKPdf**	**07 04 03.8**	**-0.8**
KSH				sPKP		07 04 18.3	
KSH				PP	**PP**	**07 06 47.1**	**+2.3**
KSH				SKS	**SKSdf**	**07 11 09.3**	**-5.4**
KSH				SKKS	**SKKSac**	**07 13 34.0**	**-5.7**
KSH				SS	**SS**	**07 24 41.4**	**-3.9**
KSH				AMB	AMB		
	comp=Z,84nm,4.5s						
WMQ	**Urumqi**	**137.23**	**15**	*e*PKP	**PKPdf**	**07 04 06.1**	**+0.2**
WMQ				LR	LR		
	comp=N,50nm,20.0s						
WMQ				LR	LR		
	comp=Z,35nm,20.5s						
WRA	**Warramunga Arr**	**141.14**	**233**	PKPpre	PKPpre	07 04 08.6	
WRA	**Warramunga Arr**	**141.14**	**233**	PKhKP	PKPpre	07 04 08.6	
	comp=Z,0.5nm,0.7s,baz=112,slow=2.9,SNR=6.2						
HHC	**Hu-ho-hao-te**	**141.24**	**349**	*e*PKP	**PKPdf**	**07 04 11.3**	**-2.0**
HHC				sPKP		07 04 26.3	
HHC				PP	**PP**	**07 07 16.3**	**+2.3**
HHC				SKS	**SKSdf**	**07 11 15.4**	**-7.2**
HHC				SKKS	**SKKSac**	**07 14 03.0**	**-4.8**
HHC				SS	**SS**	**07 25 41.0**	**-0.1**
HHC				AMB	AMB		
	comp=Z,240nm,10.2s						
HHC				LR	LR		
	comp=Z,200nm,19.0s						
GTA	**Gaotai**	**143.55**	**3**	*e*PKP	**PKPdf**	**07 04 21.3**	**+3.8**
GTA				pPKP	pPKPdf	07 04 32.0	+7.3
GTA				sPKP		07 04 35.8	
NJ2	**Nanjing**	**146.99**	**333**	*e*PKPbc	**PKPdf**	**07 04 23.3**	**-0.1**
CD2	**Chengdu**	**152.05**	**357**	PKPbc	**PKPdf**	**07 04 30.5**	**-1.1**
GYA	**Guiyang**	**156.14**	**350**	*e*PKP	**PKPdf**	**07 04 35.6**	**-2.0**
GYA				PKS	**PKSdf**	**07 08 08.4**	**-3.4**
GYA				PP	**PP**	**07 08 44.8**	**+4.0**
GYA				AMB	AMB		
	comp=Z,80nm,7.8s						
KMI	**Kunming**	**157.85**	**359**	PKP	**PKPdf**	**07 04 39.3**	**-0.6**

TIR ***16*** *06:49:21.4±1.3, 41°.06N×19°.57E, h4km±561km, ML3.1*
CSEM ***16*** *06:49:22.4±0.2, 41°.11N×19°.54E, h2km, ML2.3/3, Error ellipse: s-maj=5.7km s-min=3.3km az=50.0*
THE ***16*** *06:49:22.5, 41°.29N×19°.46E, h17km±2km, ML2.3/3, Error ellipse: s-maj=5.1km s-min=1.0km az=335.0*
PDG ***16*** *06:49:23.8±0.3, 41°.20N×19°.69E, h11km, ML2.4/11, Error ellipse: s-maj=0.9km s-min=1.2km az=0.0*
BEO ***16*** *06:49:23.1±0.8, 41°.15N×19°.51E, h3km±2km, ML2.2/7*
ISC 16 06:49:22.4±1.2, 41°.13N±0°.03×19°.53E±0°.03, h3km±9km, n54, σ0§87/98, 9C-12D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.34**	**49**	*e*PG	**Pg**	**06 49 29.1**	**+0.1**
TIR				*e*SG	**Sg**	**06 49 34.3**	**+0.9**
TIR	**Tirane**	**0.34**	**49**	P	**Pg**	**06 49 28.8**	**-0.2**
TIR				S	**Sg**	**06 49 34.2**	**+0.9**
TIR	**Tirane**	**0.34**	**49**	⇑*iP*g	**Pg**	**06 49 29.0**	**+0.1**
TIR	**Tirane**	**0.34**	**49**	P	**Pg**	**06 49 28.8**	**-0.2**
TIR	**Tirane**	**0.34**	**49**	*e*Pg	**Pg**	**06 49 29.1**	**+0.1**
	SNR=94						
TIR				S	**Sg**	**06 49 34.2**	**+0.9**
ULC	**Ulcinj**	**0.86**	**346**	⇓*iP*g	**Pb**	**06 49 39.5**	**-0.6**
ULC				*e*Sg	**Sb**	**06 49 52.7**	**+0.7**
ULC	**Ulcinj**	**0.86**	**346**	⇓*iP*g	**Pb**	**06 49 39.5**	**-0.6**
ULC				*e*Sg	**Sb**	**06 49 52.7**	**+0.7**
PUK	**Puka**	**0.95**	**17**	*e*PG	**Pg**	**06 49 40.3**	**-0.5**
PUK	**Puka**	**0.95**	**17**	*e*Pg	**Pg**	**06 49 40.3**	**-0.5**
	SNR=92						
DRME	**Dracevica, Mon**	**1.09**	**347**	⇑*iP*g	**Pg**	**06 49 43.0**	**-0.3**
DRME				*e*Sg	**Sn**	**06 50 00.2**	**0.0**
DRME	**Dracevica, Mon**	**1.09**	**347**	⇑*iP*g	**Pg**	**06 49 43.0**	**-0.3**
DRME				*e*Sg	**Sn**	**06 50 00.2**	**0.0**
BUM	**Brajici-Budva**	**1.26**	**338**	⇓*iP*g	**Pg**	**06 49 46.4**	**-0.3**
BUM				*e*Sg	**Sn**	**06 50 05.5**	**+0.9**
BUM	**Brajici-Budva**	**1.26**	**338**	⇓*iP*g	**Pg**	**06 49 46.4**	**-0.3**
BUM				*e*Sg	**Sn**	**06 50 05.5**	**+0.9**
BCI	**Bajram Curri**	**1.30**	**18**	*e*PG	**Pn**	**06 49 47.2**	**-0.4**
BCI				*e*SG	**Sn**	**06 50 07.9**	**+2.4**
BCI	**Bajram Curri**	**1.30**	**18**	*e*Pg	**Pn**	**06 49 47.2**	**-0.4**
	SNR=91						
BCI				*e*Sg	**Sn**	**06 50 07.9**	**+2.4**
	SNR=91						
PDG	**Podgorica**	**1.32**	**351**	*e*Pn	**Pb**	**06 49 47.7**	**-0.1**
PDG				*e*Sg	**Sn**	**06 50 05.9**	**+0.1**
PDG	**Podgorica**	**1.32**	**351**	⇑*iP*g	**Pg**	**06 49 46.3**	**-1.4**
PDG	**Podgorica**	**1.32**	**351**	*e*Pn	**Pb**	**06 49 47.7**	**-0.1**
PDG				*e*Sg	**Sn**	**06 50 05.9**	**+0.1**
TTG	**Podgorica**	**1.32**	**351**	⇑*iP*g	**Pg**	**06 49 46.3**	**-1.4**
TTG				*e*Sg	**Sn**	**06 50 06.8**	**+1.0**
NEST	**Nestorio**	**1.36**	**121**	P	**Pn**	**06 49 47.8**	**-0.6**
NEST				S	**Sn**	**06 50 08.2**	**+1.2**
NEST	**Nestorio**	**1.36**	**121**	P	**Pn**	**06 49 47.8**	**-0.6**
KEK	**Kerkira**	**1.43**	**172**	P	**Pn**	**06 49 49.5**	**+0.2**
KEK				S	**Sg**	**06 50 09.7**	**+1.4**
KEK	**Kerkira**	**1.43**	**172**	P	**Pn**	**06 49 49.5**	**+0.2**
FNA	**Florina**	**1.44**	**103**	P	**Pn**	**06 49 48.8**	**-0.7**
FNA				S	**Sb**	**06 50 08.3**	**-0.5**
FNA	**Florina**	**1.44**	**103**	P	**Pn**	**06 49 48.8**	**-0.7**
FNA				S	**Sb**	**06 50 08.3**	**-0.5**
PVY	**Plav**	**1.50**	**12**	⇓*iP*g	**Pb**	**06 49 50.6**	**-0.4**
PVY				*e*Sg	**Sg**	**06 50 12.4**	**+1.7**
PVY	**Plav**	**1.50**	**12**	⇓*iP*g	**Pb**	**06 49 50.6**	**-0.4**
PVY				*e*Sg	**Sg**	**06 50 12.4**	**+1.7**
HCY	**Herceg Novi**	**1.53**	**330**	⇓*iP*g	**Pg**	**06 49 51.9**	**+0.2**
HCY				*e*Sg	**Sg**	**06 50 13.7**	**+2.2**
HCY	**Herceg Novi**	**1.53**	**330**	⇓*iP*g	**Pg**	**06 49 51.9**	**+0.2**
HCY				*e*Sg	**Sg**	**06 50 13.7**	**+2.2**
NKME	**Niksic**	**1.69**	**346**	⇑*iP*n	**Pn**	**06 49 52.9**	**-0.1**
NKME				*e*Sn	**Sg**	**06 50 16.9**	**+0.1**
NKME	**Niksic**	**1.69**	**346**	⇑*iP*n	**Pn**	**06 49 52.9**	**-0.1**
NKME				*e*Sn	**Sg**	**06 50 16.9**	**+0.1**
NKY	**Niksic**	**1.73**	**347**	⇓*iP*n	**Pb**	**06 49 54.3**	**-0.6**
NKY				*e*Sn	**Sg**	**06 50 18.9**	**+0.9**
NKY	**Niksic**	**1.73**	**347**	⇓*iP*n	**Pb**	**06 49 54.3**	**-0.6**
NKY				*e*Sn	**Sg**	**06 50 18.9**	**+0.9**
BEY	**Berane**	**1.76**	**9**	*e*Pn	**Pn**	**06 49 54.2**	**+0.2**
BEY				*e*Sn	**Sg**	**06 50 18.7**	**-0.4**
IVA	**Berane**	**1.76**	**9**	*e*Pn	**Pn**	**06 49 54.2**	**+0.2**
IVA				*e*Sn	**Sg**	**06 50 18.7**	**-0.4**
TREB	**Trebinje**	**1.81**	**331**	*e*Pn	**Pn**	**06 49 54.9**	**+0.3**
TREB				*e*Sg	**Sg**	**06 50 20.3**	**-0.4**
TREB	**Trebinje**	**1.81**	**331**	*e*Pn	**Pn**	**06 49 54.9**	**+0.3**
TREB				*e*Sg	**Sg**	**06 50 20.3**	**-0.4**
BRY	**Bratogost**	**1.92**	**338**	⇑*iP*n	**Pb**	**06 49 57.3**	**-0.9**
BRY				*e*Sn	**Sg**	**06 50 23.2**	**-0.9**
BRY	**Bratogost**	**1.92**	**338**	⇑*iP*n	**Pb**	**06 49 57.3**	**-0.9**
BRY				*e*Sn	**Sg**	**06 50 23.2**	**-0.9**
UPM	**Unac-Piva**	**2.12**	**348**	⇓*iP*n	**Pn**	**06 49 59.9**	**+0.9**
UPM

LAKA			S	Sg	07 13 25.5	-0.3
UPR	**University Cam**	0.77 205	P	Pg	07 13 15.3	-0.6
UPR	**University Cam**	0.77 205	P	Pg	07 13 15.3	-0.6
UPR			S	Sg	07 13 26.1	+0.1
SMIA	**Simia**	0.80 97	P	Pg	07 13 16.3	-0.2
SMIA			S	Sb	07 13 27.8	+0.5
SMIA	**Simia**	0.80 97	P	Pg	07 13 16.3	-0.2
SMIA			S	Sb	07 13 27.8	+0.5
NEO	**Neokhori**	0.86 68	P	Pb	07 13 16.2	-1.5
NEO			S	Sg	07 13 30.0	+0.9
NEO	**Neokhori**	0.86 68	*e*PN	Pb	07 13 16.9	-0.8
NEO			*e*SN	Sb	07 13 29.2	0.0
NEO	**Neokhori**	0.86 68	P	Pb	07 13 16.2	-1.5
NEO	**Neokhori**	0.86 68	*e*Pn	Pb	07 13 16.9	-0.8
NEO			*e*Sn	Sb	07 13 29.2	0.0
NEO			S	Sg	07 13 30.0	+0.9
XOR	**Xorichti**	0.87 63	P	Pb	07 13 16.4	-1.4
XOR	**Xorichti**	0.87 63	P	Pb	07 13 16.4	-1.4
KLV	**Kalavryta, Ach**	0.94 182	P	Pb	07 13 17.3	-1.7
KLV			S	Sn	07 13 33.5	+0.6
KLV	**Kalavryta, Ach**	0.94 182	*e*PB	Pb	07 13 17.2	-1.7
KLV			*e*SN	Sb	07 13 31.0	-0.3
KLV	**Kalavryta, Ach**	0.94 182	P	Pb	07 13 17.3	-1.7
KLV			S	Sb	07 13 31.0	-0.3
SKIA	**Skiathos**	1.01 79	P	Pb	07 13 19.8	-0.4
SKIA	**Skiathos**	1.01 79	P	Pb	07 13 19.8	-0.4
AXS	**Araxos**	1.01 219	P	Pb	07 13 19.7	-0.5
AXS			S	Sn	07 13 35.5	+0.8
AXS	**Araxos**	1.01 219	P	Pb	07 13 19.7	-0.5
AXS			S	Sg	07 13 34.0	+0.2
GUR	**Goura**	1.05 174	P	Pb	07 13 20.3	-0.7
GUR			S	Sn	07 13 36.4	+0.6
GUR	**Goura**	1.05 174	*e*PB	Pb	07 13 19.2	-1.8
GUR			*e*SN	Sb	07 13 34.8	+0.2
GUR	**Goura**	1.05 174	*e*Pb	Pb	07 13 19.2	-1.8
GUR	**Goura**	1.05 174	P	Pb	07 13 20.3	-0.7
GUR			*e*Sn	Sb	07 13 34.8	+0.2
GUR			S	Sg	07 13 35.5	+0.5
RLS	**Riolos of Patr**	1.08 212	P	Pb	07 13 20.6	-0.9
RLS			S	Sn	07 13 36.7	+0.3
RLS	**Riolos of Patr**	1.08 212	*e*PN	Pb	07 13 20.6	-0.9
RLS			*e*SN	Sb	07 13 35.1	-0.3
RLS	**Riolos of Patr**	1.08 212	P	Pb	07 13 20.6	-0.9
RLS			*e*Sn	Sb	07 13 35.1	-0.3
MRKA	**Markates**	1.12 104	P	Pg	07 13 22.6	-0.1
MRKA	**Markates**	1.12 104	P	Pb	07 13 21.8	-0.4
MRKA			S	Sb	07 13 35.8	-0.8
LTK	**Loutraki**	1.13 147	P	Pb	07 13 21.8	-0.5
LTK	**Loutraki**	1.13 147	*e*PN	Pb	07 13 21.2	-1.1
LTK			*e*SN	Sn	07 13 37.7	0.0
LTK	**Loutraki**	1.13 147	*e*Pn	Pb	07 13 21.2	-1.1
LTK	**Loutraki**	1.13 147	P	Pb	07 13 21.8	-0.5
LTK			S	Sb	07 13 35.5	-1.4
LTK			*e*Sn	Sn	07 13 37.7	0.0
ACOR	**Acrocorinthos**	1.21 154	P	Pn	07 13 22.5	-1.0
ACOR			S	Sg	07 13 41.3	+1.1
ACOR	**Acrocorinthos**	1.21 154	P	Pn	07 13 22.5	-1.0
ACOR			S	Sg	07 13 41.3	+1.1
LKD2	**Lefkada island**	1.21 261	P	Pn	07 13 22.7	-0.7
LKD2			S	Sg	07 13 43.8	+3.6
LKD2	**Lefkada island**	1.21 261	*e*PN	Pn	07 13 22.8	-0.7
LKD2			*e*SN	Sb	07 13 38.5	-0.7
LKD2	**Lefkada island**	1.21 261	P	Pn	07 13 22.9	-0.6
LKD2			*e*Sn	Sb	07 13 38.5	-0.7
LKD2			S	Sg	07 13 40.4	+0.2
JAN	**Janina**	1.24 303	P	Pn	07 13 23.2	-0.7
JAN			S	Sg	07 13 43.5	+2.5
JAN	**Janina**	1.24 303	*e*PN	Pn	07 13 22.4	-1.5
JAN			*e*SN	Sb	07 13 38.8	-1.2
JAN	**Janina**	1.24 303	*e*Pn	Pn	07 13 22.4	-1.5
JAN	**Janina**	1.24 303	P	Pn	07 13 23.2	-0.7
JAN			*e*Sn	Sb	07 13 38.8	-1.2
JAN			S	Sg	07 13 43.5	+2.5
AOS	**Alonnisos**	1.33 81	P	Pn	07 13 24.4	-0.5
AOS			S	Sn	07 13 41.6	-0.8
AOS	**Alonnisos**	1.33 81	*e*PN	Pn	07 13 24.5	-0.5
AOS			*e*SN	Sb	07 13 42.5	+0.1
AOS	**Alonnisos**	1.33 81	*e*Pn	Pn	07 13 24.5	-0.5
AOS			S	Sn	07 13 41.6	-0.8
AOS			*e*Sn	Sb	07 13 42.5	+0.1
KZN	**Kozani**	1.36 346	P	Pn	07 13 25.0	-0.6
KZN			S	Sg	07 13 44.5	-0.5
KZN	**Kozani**	1.36 346	*e*PN	Pn	07 13 24.7	-0.9
KZN			*e*SN	Sn	07 13 43.3	-0.2
KZN	**Kozani**	1.36 346	*e*Pn	Pn	07 13 24.7	-0.9
KZN	**Kozani**	1.36 346	P	Pn	07 13 25.0	-0.6
KZN			*e*Sn	Sn	07 13 43.3	-0.2
KZN			S	Sg	07 13 44.5	-0.5
ERET	**Eretria**	1.37 113	P	Pb	07 13 26.2	-0.2
ERET			S	Sn	07 13 43.5	-0.2
ERET	**Eretria**	1.37 113	P	Pb	07 13 26.2	-0.2
ERET			S	Sn	07 13 43.5	-0.2
KFL	**Anninata**	1.41 232	P	Pn	07 13 26.2	+0.1
KFL	**Anninata**	1.41 232	P	Pn	07 13 26.2	+0.1
PAIG	**Paliouri**	1.49 50	P	Pn	07 13 26.2	-1.0
PAIG			S	Sn	07 13 45.1	-1.3
PAIG	**Paliouri**	1.49 50	*e*PB	Pn	07 13 26.1	-1.1
PAIG	**Paliouri**	1.49 50	P	Pn	07 13 26.2	-1.0
PAIG			S	Sn	07 13 45.1	-1.3
VLS	**Valsamata**	1.49 238	P	Pb	07 13 28.8	+0.4
VLS			S	Sg	07 13 50.2	+1.1
VLS	**Valsamata**	1.49 238	*e*PN	Pn	07 13 26.9	-0.4
VLS			*e*SN	Sb	07 13 47.1	-0.1
VLS	**Valsamata**	1.49 238	*e*Pn	Pb	07 13 26.9	-0.4
VLS	**Valsamata**	1.49 238	P	Pb	07 13 28.8	+0.4
VLS			*e*Sn	Sb	07 13 47.1	-0.1
VLS			S	Sg	07 13 50.2	+1.1
AMT	**Artemida-Makis**	1.50 195	P	Pn	07 13 28.0	+0.6
AMT	**Artemida-Makis**	1.50 195	*e*PN	Pn	07 13 27.5	+0.1
AMT			*e*SN	Sn	07 13 47.0	+0.3
AMT	**Artemida-Makis**	1.50 195	P	Pn	07 13 27.7	+0.3
AMT			*e*Sn	Sn	07 13 47.0	+0.3
IGT	**Igoumenitsa**	1.54 291	P	Pb	07 13 29.2	-0.1
IGT	**Igoumenitsa**	1.54 291	P	Pb	07 13 29.2	-0.1
ATH	**Athens Observa**	1.56 130	P	Pb	07 13 29.1	-0.6
ATH			S	Sb	07 13 49.0	-0.3
ATH	**Athens Observa**	1.56 130	*e*PN	Pn	07 13 28.7	+0.4
ATH			*e*SN	Sb	07 13 49.0	-0.3
ATH	**Athens Observa**	1.56 130	*e*Pn	Pn	07 13 28.7	+0.4
ATH	**Athens Observa**	1.56 130	P	Pb	07 13 29.1	-0.6
ATH			*e*Sn	Sb	07 13 49.0	-0.3
NAIG	**Nisos Aigina**	1.59 140	*e*PN	Pn	07 13 29.1	+0.5
NAIG	**Nisos Aigina**	1.59 140	*e*Pn	Pn	07 13 29.1	+0.5
ATHU	**Athens Univers**	1.61 129	P	Pn	07 13 29.6	+0.6
ATHU			S	Sn	07 13 49.7	+0.3
ATHU	**Athens Univers**	1.61 129	P	Pn	07 13 29.5	+0.6
ATHU			S	Sn	07 13 49.7	+0.3
PTL	**Penteli**	1.61 125	P	Pn	07 13 29.5	+0.6
PTL	**Penteli**	1.61 125	*e*PN	Pn	07 13 29.1	+0.2
PTL			*e*SN	Sn	07 13 49.9	+0.4
PTL	**Penteli**	1.61 125	*e*Pn	Pn	07 13 29.1	+0.2
PTL	**Penteli**	1.61 125	P	Pn	07 13 29.5	+0.6
PTL			S	Sn	07 13 48.6	-0.9
PTL			*e*Sn	Sn	07 13 49.9	+0.4
VLX	**Vlachokerasia**	1.62 175	P	Pn	07 13 29.9	+0.8
VLX			S	Sn	07 13 50.3	+0.6
VLX	**Vlachokerasia**	1.62 175	*e*PN	Pn	07 13 29.3	+0.2
VLX			*e*SN	Sb	07 13 50.5	-0.4
VLX	**Vlachokerasia**	1.62 175	*e*Pn	Pn	07 13 29.3	+0.2
VLX	**Vlachokerasia**	1.62 175	P	Pn	07 13 29.9	+0.8
VLX			*e*Sn	Sb	07 13 50.5	-0.4
NEST	**Nestorio**	1.68 329	P	Pn	07 13 29.9	-0.1
NEST	**Nestorio**	1.68 329	P	Pn	07 13 29.9	-0.1
DID	**Didima**	1.69 151	P	Pn	07 13 30.6	+0.6
DID			S	Sn	07 13 52.1	+0.7
DID	**Didima**	1.69 151	*e*PN	Pn	07 13 30.6	+0.6
DID			*e*SN	Sn	07 13 52.2	+0.8
DID	**Didima**	1.69 151	P	Pn	07 13 30.5	+0.6
DID			*e*Sn	Sn	07 13 52.2	+0.8
PLG	**Polygyros**	1.69 34	P	Pn	07 13 29.4	-0.7
PLG	**Polygyros**	1.69 34	*e*PB	Pn	07 13 29.0	-1.1
PLG			*e*SN	Sn	07 13 51.3	-0.3
PLG	**Polygyros**	1.69 34	*e*Pb	Pn	07 13 29.0	-1.1
PLG	**Polygyros**	1.69 34	P	Pn	07 13 29.4	-0.7
PLG			*e*Sn	Sn	07 13 51.3	-0.3
DIDY	**Didyma**	1.70 152	P	Pn	07 13 30.9	+0.6
DIDY	**Didyma**	1.70 152	P	Pn	07 13 30.9	+0.6
THE	**Thessaloniki**	1.75 20	P	Pn	07 13 29.4	-1.5
HORT	**Hortiatis**	1.76 23	P	Pn	07 13 29.4	-1.6

HORT			S	Sn	07 13 53.3	+0.1
ITM	**Ithomi**	1.81 187	P	Pb	07 13 33.5	-0.4
ITM			S	Sb	07 13 57.3	+0.9
ITM	**Ithomi**	1.81 187	*e*PN	Pn	07 13 32.2	+0.5
ITM	**Ithomi**	1.81 187	P	Pn	07 13 32.3	+0.5
ITM			S	Sb	07 13 57.3	+0.9
FNA	**Florina**	1.91 341	P	Pn	07 13 32.8	-0.3
FNA	**Florina**	1.91 341	*e*PN	Pn	07 13 32.7	-0.3
FNA			*e*SB	Sn	07 13 56.1	-0.7
FNA	**Florina**	1.91 341	*e*Pn	Pn	07 13 32.7	-0.3
FNA			*e*Sb	Sn	07 13 56.1	-0.7
SRN	**Sarande**	1.92 299	P	Pb	07 13 35.1	-0.6
SRN			S	Sb	07 14 00.7	+1.2
SRN	**Sarande**	1.92 299	P	Pb	07 13 35.1	-0.6
SRN			S	Sb	07 14 00.7	+1.2
OUR	**Ouranopolis**	1.93 45	P	Pn	07 13 32.9	-0.4
OUR	**Ouranopolis**	1.93 45	P	Pn	07 13 32.9	-0.4
SFD	**Strofades**	1.96 209	P	Pb	07 13 36.5	+0.1
SFD	**Strofades**	1.96 209	*e*PN	Pn	07 13 34.0	+0.3
SFD			*e*SN	Sn	07 13 58.1	0.0
SFD	**Strofades**	1.96 209	*e*Pn	Pn	07 13 34.0	+0.3
SFD	**Strofades**	1.96 209	P	Pb	07 13 36.5	+0.1
SFD			*e*Sn	Sn	07 13 58.1	0.0
KBN	**Korca**	1.96 327	P	Pn	07 13 34.0	+0.1
KBN	**Korca**	1.96 327	P	Pn	07 13 34.0	+0.1
KEK	**Kerkira**	2.00 292	P	Pb	07 13 36.2	-0.8
KEK	**Kerkira**	2.00 292	*e*PN	Pn	07 13 34.1	-0.1
KEK			*e*SB	Sn	07 13 58.5	-0.4
KEK	**Kerkira**	2.00 292	*e*Pn	Pn	07 13 34.1	-0.1
KEK	**Kerkira**	2.00 292	P	Pb	07 13 36.2	-0.8
KEK			*e*Sb	Sn	07 13 58.5	-0.4
SOH	**Sokhos**	2.04 26	P	Pn	07 13 34.3	-0.6
SOH	**Sokhos**	2.04 26	*e*PB	Pn	07 13 34.4	-0.5
SOH			*e*SN	Sn	07 14 00.1	-0.1
SOH	**Sokhos**	2.04 26	P	Pn	07 13 34.3	-0.6
SOH			*e*Sn	Sn	07 14 00.1	-0.1
PYL	**PYLOS**	2.11 190	P	Pb	07 13 38.4	-0.6
PYL	**PYLOS**	2.11 190	*e*PN	Pn	07 13 35.7	-0.1
PYL			*e*SN	Sn	07 14 01.8	-0.1
PYL	**PYLOS**	2.11 190	*e*Pn	Pn	07 13 35.7	-0.1
PYL	**PYLOS**	2.11 190	P	Pb	07 13 38.4	-0.6
PYL			*e*Sn	Sn	07 14 01.8	-0.1
PYL			S	Sb	07 14 04.7	-0.4
BIA	**Bitola**	2.14 342	P	Pn	07 13 35.7	-0.6
BIA			S	Sn	07 14 01.9	-0.8
BIA	**Bitola**	2.14 342	P	Pn	07 13 35.7	-0.6
BIA			S	Sn	07 14 01.9	-0.8
KNT	**Kendrikon**	2.24 14	P	Pn	07 13 37.2	-0.4
KNT			S	Sn	07 14 03.1	-2.0
KNT	**Kendrikon**	2.24 14	P	Pn	07 13 37.2	-0.4
KNT			S	Sn	07 14 03.1	-2.0
VLI	**Veliai**	2.34 165	P	Pn	07 13 39.3	+0.4
VLI	**Veliai**	2.34 165	*e*PN	Pn	07 13 38.9	0.0
VLI			*e*SN	Sn	07 14 07.5	+0.1
VLI	**Veliai**	2.34 165	*e*Pn	Pn	07 13 38.9	0.0
VLI	**Veliai**	2.34 165	P	Pn	07 13 39.3	+0.4
VLI			*e*Sn	Sn	07 14 07.5	+0.1
VAY	**Valandovo**	2.35 7	P	Pn	07 13 37.5	-1.6
VAY			S	Sn	07 14 06.5	-1.3
VAY	**Valandovo**	2.35 7	P	Pn	07 13 37.5	-1.6
VAY			S	Sn	07 14 06.5	-1.3
SRS	**Serrai**	2.39 26	P	Pn	07 13 39.0	-0.6
SRS	**Serrai**	2.39 26	P	Pn	07 13 39.0	-0.6
KAVA	**Kavala**	2.69 41	P	Pn	07 13 42.5	-1.2
KAVA	**Kavala**	2.69 41	P	Pn	07 13 42.6	-1.2
NVR	**Nevrokopi**	2.69 28	P	Pn	07 13 43.2	-0.6
NVR	**Nevrokopi**	2.69 28	*e*PN	Pn	07 13 43.2	-0.6
NVR			*e*SN	Sn	07 14 15.5	-0.6
NVR	**Nevrokopi**	2.69 28	P	Pn	07 13 43.2	-0.6
NVR			*e*Sn	Sn	07 14 15.5	-0.6
KYTH	**Kithira**	2.78 166	P	Pn	07 13 46.9	+1.9
KYTH	**Kithira**	2.78 166	*e*PN	Pn	07 13 45.9	+0.9
TIR	**Tirane**	2.96 324	*e*PN	Pn	07 13 49.6	+2.1
TIR	**Tirane**	2.96 324	*e*Pn	Pn	07 13 49.6	+2.1
SMTH	**Samothraki Isl**	2.97 59	P	Pn	07 13 46.6	-1.1
SMTH	**Samothraki Isl**	2.97 59	*e*PN	Pn	07 13 46.5	-1.1
SMTH	**Samothraki Isl**	2.97 59	P	Pn	07 13 46.6	-1.1
SKO	**Skopje**	3.04 349	P	Pn	07 13 49.0	+0.4
SKO	**Skopje**	3.04 349	P	Pn	07 13 49.0	+0.4
CHOS	**Chios island**	3.08 100	P	Pn	07 13 50.0	+0.8
CHOS	**Chios island**	3.08 100	*e*PN	Pn	07 13 50.0	+0.8
CHOS	**Chios island**	3.08 100	P	Pn	07 13 50.0	+0.8
BOZC	**Bozcaada**	3.11 73	*i* P	Pn	07 13 50.9	+1.4
BOZC			*i* S	Sn	07 14 26.2	-0.3
PRK	**Paraskevi**	3.18 84	P	Pn	07 13 51.0	+0.5
PRK	**Paraskevi**	3.18 84	*e*PN	Pn	07 13 51.4	+0.7
PRK			*e*SN	Sn	07 14 28.2	-0.1
PRK	**Paraskevi**	3.18 84	P	Pn	07 13 51.0	+0.5
PRK			*e*Sn	Sn	07 14 28.2	-0.1
ANKY	**Antikythira Is**	3.23 164	P	Pn	07 13 51.5	+0.3
ANKY			S	Sn	07 14 30.7	+1.2
ANKY	**Antikythira Is**	3.23 164	*e*PN	Pn	07 13 51.7	+0.5
ANKY			*e*SN	Sn	07 14 29.3	-0.2
ANKY	**Antikythira Is**	3.23 164	*e*Sn	Sn	07 14 29.3	-0.2
ANKY			S	Sn	07 14 30.7	+1.2
APE	**Apeiranthos**	3.25 125	*e*PN	Pn	07 13 53.5	+1.9
APE	**Apeiranthos**	3.25 125	P	Pn	07 13 52.5	+0.9
APE	**Apeiranthos**	3.25 125	⇑P	Pn	07 13 52.5	+0.9
APE	**Apeiranthos**	3.25 125	*e*PN	Pn	07 13 52.5	+0.9
APE	**Apeiranthos**	3.25 125	⇑*i*P	Pn	07 13 52.5	+0.9
APE	**Apeiranthos**	3.25 125	P	Pn	07 13 52.5	+0.9
EZN	**Ezine**	3.31 74	*e*PN	Pn	07 13 50.0	-2.3
EZN	**Ezine**	3.31 74	*e*Pn	Pn	07 13 50.0	-2.3
RDO	**Rodhopi**	3.35 49	P	Pn	07 13 52.1	-0.8
RDO	**Rodhopi**	3.35 49	*e*PN	Pn	07 13 52.0	-0.8
RDO	**Rodhopi**	3.35 49	P	Pn	07 13 52.1	-0.8
URLA	**Izmir**	3.50 99	*i* P	Pn	07 13 56.1	+1.1
URLA	**Izmir**	3.50 99	*i* P	Pn	07 13 56.1	+1.1
ALN	**Alexandroupoli**	3.52 56	P	Pn	07 13 54.7	-0.5
ALN	**Alexandroupoli**	3.52 56	*e*PN	Pn	07 13 54.8	-0.5
GELI	**Tayfur-Gelibol**	3.59 65	*e*PN	Pn	07 13 55.8	-0.4
SANT	**Santorini**	3.67 134	*e*PN	Pn	07 13 58.5	+1.1
SANT	**Santorini**	3.67 134	*e*Pn	Pn	07 13 58.5	+1.1
VTS	**Vitosha**	3.69 12	P	Pn	07 13 57.7	+0.1
VTS			S	Sn	07 14 39.5	-1.4
VTS	**Vitosha**	3.69 12	⇓P	Pn	07 13 58.0	+0.4
VTS	**Vitosha**	3.69 12	⇓*i*P	Pn	07 13 58.0	+0.4
VTS	**Vitosha**	3.69 12	P	Pn	07 13 57.7	+0.1
VTS			S	Sn	07 14 39.5	-1.4
ULC	**Ulcinj**	3.73 324	⇑*i*Pn	Pn	07 13 58.6	+0.5
ULC			*e*SN	Sn	07 14 42.0	+0.2
ULC	**Ulcinj**	3.73 324	⇑*i*Pn	Pn	07 13 58.6	+0.5
ULC			*e*Sn	Sn	07 14 42.0	+0.2
LPK	**Lapseki**	3.79 67	*e*PN	Pn	07 13 58.7	-0.2
KARN	**Karanos**	3.83 158	P	Pn	07 14 00.6	+1.1
KARN			S	Sn	07 14 45.1	+0.8
KARN	**Karanos**	3.83 158	*e*PN	Pn	07 14 00.6	+1.1
KARN			*e*SN	Sn	07 14 44.6	+0.3
KARN	**Karanos**	3.83 158	*e*Sn	Sn	07 14 44.6	+0.3
KARN			S	Sn	07 14 45.1	+0.8
BARS	**Barje**	3.84 356	⇑*i*Pn	Pn	07 13 59.7	+0.1
BARS	**Barje**	3.84 356	⇑*i*Pn	Pn	07 13 59.7	+0.1
SMG	**Samos**	3.87 108	P	Pn	07 14 01.1	+1.1
SMG	**Samos**	3.87 108	*e*PN	Pn	07 14 01.0	+1.1
SMG			*e*SN	Sn	07 14 44.5	-0.6
SMG	**Samos**	3.87 108	*e*Pn	Pn	07 14 01.0	+1.1
SMG			*e*Sn	Sn	07 14 44.5	-0.6
VAM	**Vamos**	3.91 155	P	Pn	07 14 01.4	+0.8
VAM	**Vamos**	3.91 155	*e*PN	Pn	07 14 01.1	+0.5
VAM			*e*SN	Sn	07 14 46.9	+0.6
DRME	**Dracevica, Mon**	3.94 325	*e*Pn	Pn	07 14 01.4	+0.5
DRME			*e*Sn	Sn	07 14 46.9	+0.1
DRME	**Dracevica, Mon**	3.94 325	*e*Pn	Pn	07 14 01.4	+0.5
DRME			*e*Sn	Sn	07 14 46.9	+0.1
PVY	**Plav**	3.99 336	⇓*i*Pn	Pn	07 14 02.0	+0.3
PVY			*e*Sn	Sn	07 14 47.7	-0.6
PVY	**Plav**	3.99 336	⇓*i*Pn	Pn	07 14 02.0	+0.3
PVY			*e*Sn	Sn	07 14 47.7	-0.6
IZM	**Izmir**	4.01 97	*e*PN	Pn	07 14 03.2	+1.3
IZM	**Izmir**	4.01 97	*e*Pn	Pn	07 14 03.2	+1.3
PDG	**Podgorica**	4.10 328	P	Pn	07 14 05.5	+2.3
PDG	**Podgorica**	4.10 328	*e*Pn	Pn	07 14 03.8	+0.6
PDG			*i* Sn	Sn	07 14 50.6	-0.3
PDG	**Podgorica**	4.10 328	⇑*i*Pn	Pn	07 14 03.8	+0.6
PDG	**Podgorica**	4.10 328	P	Pn	07 14 05.5	+2.3
PDG			*i* Sn	Sn	07 14 50.6	-0.3
TTG	**Podgorica**	4.10 328	⇑*i*Pn	Pn	07 14 03.8	+0.6
TTG			*e*Sn	Sn	07 14 50.9	0.0
BUM	**Brajici-Budva**	4.16 324	⇓*i*Pn	Pn	07 14 04.2	+0.2

BUM			*e*Sn	Sn	07 14 51.9	-0.5
BUM	**Brajici-Budva**	4.16 324	⇓*i*Pn	Pn	07 14 04.2	+0.2
BUM			*e*Sn	Sn	07 14 51.9	-0.5
GCAM	**G?zelcaml?**	4.17 106	*i* P	Pn	07 14 05.5	+1.5
GCAM	**G?zelcaml?**	4.17 106	*i* P	Pn	07 14 05.5	+1.5
KRBG	**Karabiga-Canak**	4.18 69	*e*PN	Pn	07 14 01.9	-2.4
KRBG	**Karabiga-Canak**	4.18 69	*e*Pn	Pn	07 14 01.9	-2.4
RKY	**Sarkoy-Tekirda**	4.20 64	*e*P	Pn	07 14 03.6	-1.0
BEY	**Berane**	4.26 337	⇓*i*Pn	Pn	07 14 05.3	-0.1
BEY			*e*Sn	Sn	07 14 54.1	-0.8
IVA	**Berane**	4.26 337	⇓*i*Pn	Pn	07 14 05.3	-0.1
IVA			*e*Sn	Sn	07 14 54.1	-0.8
IDI	**Anoyia**	4.27 149	P	Pn	07 14 06.0	+0.4
IDI	**Anoyia**	4.27 149	*e*PN	Pn	07 14 06.3	+0.7
IDI			*e*SN	Sn	07 14 54.6	-0.6
IDI	**Anoyia**	4.27 149	Pn	Pn	07 14 06.7	+1.2
IDI			Sn	Sn	07 14 54.0	-1.2
IDI	**Anoyia**	4.27 149	Pn	Pn	07 14 06.7	+1.2
	7.3nm,0.3s,baz=327,slow=12,SNR=32					
IDI			Sn	Sn	07 14 54.0	-1.2
	14nm,0.3s,baz=108,slow=20,SNR=2.9					
IDI			LR	LR	07 15 56.5	
	comp=Z,201nm,20.9s,baz=309,slow=40					
IDI	**Anoyia**	4.27 149	Pn	Pn	07 14 06.7	+1.2
IDI			*e*Sn	Sn	07 14 54.6	-0.6
BALY	**Balya**	4.27 78	*i* P	Pn	07 14 07.5	+1.9
BALY	**Balya**	4.27 78	*i* P	Pn	07 14 07.5	+1.9
ZAPS	**Zavoj**	4.30 4	*i* Pn	Pn	07 14 06.5	+0.6
ZAPS			*e*Sn	Sn	07 14 54.2	-1.7
SELS	**Selova**	4.31 349	*i* Pn	Pn	07 14 05.6	-0.5
GONE	**Gonen-Balikesi**	4.38 74	*e*P	Pn	07 14 07.9	+0.9
AKS	**Akhisar**	4.38 90	*e*P	Pn	07 14 08.3	+1.2
AKS	**Akhisar**	4.38 90	*e*P	Pn	07 14 08.3	+1.2
AKHS	**Akhisar**	4.38 90	*i* P	Pn	07 14 09.5	+2.4
AKHS	**Akhisar**	4.38 90	*i* P	Pn	07 14 09.5	+2.4
GVD	**Gavdhos**	4.41 159	P	Pn	07 14 09.7	+2.3
GVD	**Gavdhos**	4.41 159	*e*PN	Pn	07 14 08.1	+0.7
GVD			*e*SN	Sn	07 14 59.0	+0.6
GVD	**Gavdhos**	4.41 159	*e*Pn	Pn	07 14 08.1	+0.7
GVD	**Gavdhos**	4.41 159	P	Pn	07 14 09.7	+2.3
GVD			*e*Sn	Sn	07 14 59.0	+0.6
HCY	**Herceg Novi**	4.46 322	⇓*i*Pn	Pn	07 14 08.6	+0.5
HCY			*e*Sn	Sn	07 14 59.4	-0.3
HCY	**Herceg Novi**	4.46 322	⇓*i*Pn	Pn	07 14 08.6	+0.5
HCY			*e*Sn	Sn	07 14 59.4	-0.3
BALB	**Balikesir**	4.46 80	*e*P	Pn	07 14 10.8	+2.7
BODT	**Bodrum**	4.47 114	*e*P	Pn	07 14 09.6	+1.3
BODT	**Bodrum**	4.47 114	*e*P	Pn	07 14 09.6	+1.3
SIVA	**Sivas**	4.48 151	P	Pn	07 14 09.8	+1.5
SIVA	**Sivas**	4.48 151	*e*PN	Pn	07 14 09.4	+1.1
SIVA			*e*SN	Sn	07 15 00.4	+0.2
NKME	**Niksic**	4.51 328	⇓*i*

MLR Muntele Rosu 7.07 22 Pn **Pn 07 14 44.7 +0.6**
MLR Muntele Rosu 7.07 22 Pn **Pn 07 14 44.7 +0.6**
1.4nm,0.3s,baz=198,slow=5.7,SNR=24
MLR LR LR 07 17 54.0
comp=Z,60nm,20.2s,baz=203,slow=41
MLR Muntele Rosu 7.07 22 P **Pn 07 14 44.7 +0.6**
SUTC Sutluce-Ispart 7.09 99 *e*P **Pn 07 14 47.6 +3.2**
MDUB Mudurnu 7.10 75 *e*P **Pn 07 14 45.9 +1.5**
TLB Topalu 7.10 36 ⇑P **Pn 07 14 45.7 +1.4**
TLB Topalu 7.10 36 ⇑*i*P **Pn 07 14 45.7 +1.4**
TLB Topalu 7.10 36 P **Pn 07 14 45.7 +1.4**
TIRR Tirgusor 7.18 38 ⇓P **Pn 07 14 44.9 -0.5**
TIRR Tirgusor 7.18 38 ⇓*i*P **Pn 07 14 44.9 -0.5**
TIRR Tirgusor 7.18 38 P **Pn 07 14 44.9 -0.5**
SVRH Sivrihisar-ESK 7.26 83 *e*P **Pn 07 14 48.6 +2.0**
SIRR Siria 7.29 357 ⇓*i*P **Pn 07 14 48.6 +1.6**
UDBI Udbina 7.33 321 *i* Pn **Pn 07 14 47.5 -0.1**
UDBI Sn **Sn 07 16 08.9 -1.7**
DOPR Dopca 7.37 18 ⇑*i*P **Pn 07 14 48.5 +0.5**
CFR Carcaliu 7.61 34 ⇑P **Pn 07 14 52.3 +1.1**
CFR Carcaliu 7.61 34 ⇑*i*P **Pn 07 14 52.3 +1.1**
CFR Carcaliu 7.61 34 P **Pn 07 14 52.3 +1.1**
PLOR Plostina 7.61 24 ⇓P **Pn 07 14 53.0 +1.6**
PLOR Plostina 7.61 24 ⇓*i*P **Pn 07 14 53.0 +1.6**
PLOR Plostina 7.61 24 P **Pn 07 14 53.0 +1.6**
VRI Vrincioaia 7.65 25 ⇓P **Pn 07 14 53.2 +1.3**
VRI Vrincioaia 7.65 25 ⇓*i*P **Pn 07 14 53.2 +1.3**
VRI Vrincioaia 7.65 25 P **Pn 07 14 53.2 +1.3**
PKSM Moragy 7.68 341 ⇓P **Pn 07 14 52.3 0.0**
PKSM Moragy 7.68 341 ⇓*i*P **Pn 07 14 52.3 0.0**
PKSM Moragy 7.68 341 ⇓*e*Pn **Pn 07 14 52.1 -0.2**
PKSM Moragy 7.68 341 P **Pn 07 14 52.3 0.0**
NVLJ Novalja 7.81 318 *e*Pn **Pn 07 14 53.6 -0.5**
NVLJ Sn **Sn 07 16 18.4 -3.8**
PKS2 Kecel 7.82 345 ⇑*e*Pn **Pn 07 14 54.6 +0.4**
PKS2 Kecel 7.82 345 ⇑*e*P **Pn 07 14 54.6 +0.4**
TLCR 7.91 36 ⇓P **Pn 07 14 57.0 +1.5**
TLCR 7.91 36 ⇓*i*P **Pn 07 14 57.0 +1.5**
TLCR 7.91 36 P **Pn 07 14 57.0 +1.5**
KONT Konya--Tatoy 8.04 94 *e*P Pn 07 15 00.8 +3.4
PKSN Nyarlorinc 8.09 349 *e*Sn **Sn 07 16 30.8 +1.7**
PKSN Nyarlorinc 8.09 349 *e*S **Sn 07 16 30.8 +1.7**
PKS9 Tamasi 8.13 341 ⇓*e*PKKPbc **Pn 07 14 59.0 +0.6**
PKS9 *e*Sn **Sn 07 16 31.0 +1.0**
PKS9 Tamasi 8.13 341 ⇓*e*P **Pn 07 14 59.0 +0.6**
PKS9 *e*S **Sn 07 16 31.0 +1.0**
TESR Tescani 8.21 22 ⇑*i*P **Pn 07 15 06.1 +0.6**
ARCR ARCALIA 8.25 10 ⇓*i*P **Pn 07 15 00.4 +0.3**
BOJS Bojanci 8.30 324 *i* Pn **Pn 07 14 59.9 -0.9**
BOJS *i* Sn **Sn 07 16 30.2 -4.1**
BOJS Bojanci 8.30 324 Pn **Pn 07 14 59.9 -0.9**
HDMB Hadim 8.38 101 *e*P Pn 07 14 55.7 -6.3
VISS Visnje 8.72 324 *i* Pn **Pn 07 15 06.5 -0.1**
VISS *i* Sn **Sn 07 16 39.9 -4.6**
VISS Visnje 8.72 324 *i* Pn **Pn 07 15 06.4 -0.1**
BRTR Keskin Array B 8.90 82 Pn **Pn 07 15 11.4 +2.2**
BRTR Sn **Sn 07 16 45.2 -4.0**
BRTR Keskin Array B 8.90 82 Pn **Pn 07 15 11.4 +2.2**
1.1nm,0.3s,baz=259,slow=12,SNR=21
BRTR Sn **Sn 07 16 45.2 -4.0**
0.1nm,0.3s,baz=257,slow=19,SNR=2.2
BRTR Keskin Array B 8.90 82 P **Pn 07 15 11.4 +2.2**
BURAR Bucovina Array 8.90 13 ⇑P **Pn 07 15 09.9 +0.7**
BURAR Bucovina Array 8.90 13 ⇑*i*P **Pn 07 15 09.9 +0.7**
PSZ Piszkesteto 9.09 350 ⇑P **Pn 07 15 12.4 +0.7**
PSZ Piszkesteto 9.09 350 ⇑*i*P **Pn 07 15 12.4 +0.7**
PSZ Piszkesteto 9.09 350 ⇑*e*PKKPbc **Pn 07 15 12.4 +0.7**
PSZ *e*Sn **Sn 07 16 52.7 -1.0**
PSZ Piszkesteto 9.09 350 ⇑*e*P **Pn 07 15 12.4 +0.7**
PSZ *e*S **Sn 07 16 52.7 -1.0**
TRPA Tarpa 9.15 1 ⇓*i*P **Pn 07 15 13.0 +0.6**
JAVS Javornik 9.15 322 *i* Pn **Pn 07 15 10.7 -1.8**
JAVS *i* Sn Sn 07 16 49.2 -6.1
JAVS Javornik 9.15 322 *i* Pn **Pn 07 15 10.7 -1.8**
SOKA Soboth 9.31 328 ⇑*e*Pn **Pn 07 15 13.9 -0.9**
16nm,0.6s
SOKA ⇑*i*Sn **Sn 07 16 55.2 -4.1**
8.6nm,0.6s
SOKA Soboth 9.31 328 Pn **Pn 07 15 13.9 -0.9**
16nm,0.6s
VOY Vojsko 9.33 322 *e*Pn **Pn 07 15 14.3 -0.7**
VOY *e* 07 15 19.1
VOY *e*Sn **Sn 07 16 54.5 -5.3**
VOY Vojsko 9.33 322 *e*Pn **Pn 07 15 14.3 -0.7**
OBKA Obir 9.39 326 ⇓*i*Sn **Sn 07 17 00.9 -0.2**
25nm,0.5s
OBKA Obir 9.39 326 Sn **Sn 07 17 00.9 -0.2**
25nm,0.5s
KECS Kecovo 9.58 353 *e*P **Pn 07 15 19.8 +1.5**
KECS *e* 07 17 02.3
KECS Kecovo 9.58 353 *e*PN **Pn 07 15 19.8 +1.5**
KECS *e*SN **Sn 07 17 02.3 -3.3**
KECS Kecovo 9.58 353 *e*P **Pn 07 15 19.8 +1.5**
ARSA Arzberg 9.59 332 ⇓*i*Pn **Pn 07 15 18.0 -0.5**
8.5nm,0.4s
ARSA Arzberg 9.59 332 Pn **Pn 07 15 18.0 -0.5**
8.5nm,0.4s
VYHS Vyhne 9.81 347 *e*P **Pn 07 15 22.9 +1.4**
VYHS *e* 07 17 06.3
VYHS Vyhne 9.81 347 *e*PN **Pn 07 15 22.9 +1.4**
VYHS *e*SN **Sn 07 17 06.3 -5.1**
VYHS Vyhne 9.81 347 *e*P **Pn 07 15 22.9 +1.4**
CRVS Cervenica-Dubn 9.93 357 *e*P **Pn 07 15 24.7 +1.5**
CRVS Cervenica-Dubn 9.93 357 *e*PN **Pn 07 15 24.7 +1.5**
CRVS Cervenica-Dubn 9.93 357 *e*P **Pn 07 15 24.7 +1.5**
KOLS Kolonicke sedl 9.95 0 *e*P **Pn 07 15 26.1 +2.7**
KOLS Kolonicke sedl 9.95 0 *e*PN **Pn 07 15 26.1 +2.7**
SWA2 10.08 163 P **Pn 07 15 23.1 -2.2**
baz=164
SWA2 S Sn 07 17 08.6 -10
baz=164
SWA2 10.08 163 P **Pn 07 15 23.1 -2.2**
KBA Koelnbreinsper 10.36 324 ⇑*i*Sn **Sn 07 17 21.8 -3.2**
7.6nm,0.7s
ABTA Abfaltersbach 10.52 321 ⇑*i*Pn **Pn 07 15 31.2 0.0**
7.5nm,0.4s
ABTA ⇑*i*Sn **Sn 07 17 26.6 -2.2**
25nm,0.7s
ABTA Abfaltersbach 10.52 321 Pn **Pn 07 15 31.2 0.0**
7.5nm,0.4s
ABTA Sn **Sn 07 17 26.6 -2.2**
25nm,0.7s
MOA Molln 10.57 330 ⇓*i*Pn **Pn 07 15 31.4 -0.5**
13nm,0.8s
MOA ⇑*i*Sn **Sn 07 17 28.8 -1.1**
9.4nm,0.6s
MOA Molln 10.57 330 Pn **Pn 07 15 31.4 -0.5**
13nm,0.8s
MOA Sn **Sn 07 17 28.8 -1.1**
9.4nm,0.6s
PGF Pioggiola 10.62 294 *e*P **Pn 07 15 35.6 +2.9**
PGF Pioggiola 10.62 294 *e*P **Pn 07 15 35.6 +2.9**
PGF Pioggiola 10.62 294 *e*P **Pn 07 15 35.6 +2.9**
KWP Kalwaria Pacla 10.65 2 ⇓P **Pn 07 15 34.7 +1.7**
KWP Kalwaria Pacla 10.65 2 ⇓*i*P **Pn 07 15 34.7 +1.7**
KWP Kalwaria Pacla 10.65 2 *e*P Pn 07 15 36.7 +3.7
KWP Kalwaria Pacla 10.65 2 P **Pn 07 15 34.7 +1.7**
KEST Kesra 10.73 256 Pn **Pn 07 15 34.6 +0.4**
KEST Kesra 10.73 256 Pn **Pn 07 15 34.6 +0.4**
0.5nm,0.3s,baz=4.2,slow=2.6,SNR=13
KEST Kesra 10.73 256 Pn **Pn 07 15 34.6 +0.4**
WTTA Wattenberg 11.30 320 ⇑*i*Pn **Pn 07 15 43.0 +0.9**
5.8nm,0.4s
WTTA ⇑*i*Sn **Sn 07 17 44.1 -4.2**
27nm,0.7s
WTTA Wattenberg 11.30 320 Pn **Pn 07 15 43.0 +0.9**
5.8nm,0.4s
GERES GERESS Array B 11.60 331 Pn **Pn 07 15 45.6 -0.5**
GERES GERESS Array B 11.60 331 Pn **Pn 07 15 45.6 -0.5**
0.3nm,0.3s,baz=149,slow=14,SNR=12
GERES GERESS Array B 11.60 331 P **Pn 07 15 45.6 -0.5**
FETA Feichten 11.61 317 ⇓*i*Sn **Sn 07 17 52.2 -3.5**
8.3nm,0.8s
MOTA Moosalm 11.63 320 ⇓*i*Sn **Sn 07 17 54.3 -1.8**
7.5nm,0.4s
MOTA Moosalm 11.63 320 Sn **Sn 07 17 54.3 -1.8**
7.5nm,0.4s
KHC Kasperske Hory 11.88 331 *e*P **Pn 07 15 48.7 -1.1**
KHC MLR MLR
comp=Z,600nm,9.6s
KHC Kasperske Hory 11.88 331 *e*P **Pn 07 15 48.7 -1.1**
KHC *ex* x 07 15 51.0
KHC AMS AMS 07 20 50.0
comp=Z,600nm,9.6s
KHC Kasperske Hory 11.88 331 *e*P **Pn 07 15 48.7 -1.1**
comp=Z,600nm,9.6s
RETA Reutte 11.89 319 ⇑*i*Pn Pn 07 15 54.8 +4.7
DAVOX Davos/Dischmat 11.92 315 Pn **Pn 07 15 51.1 +0.6**
DAVOX Sn **Sn 07 17 59.1 -4.2**
DAVOX Davos/Dischmat 11.92 315 Pn **Pn 07 15 51.1 +0.6**
comp=Z,0.3nm,0.3s,baz=164,slow=20,SNR=2.1
DAVOX Sn **Sn 07 17 59.1 -4.2**
comp=Z,0.7nm,0.3s,baz=39,slow=16,SNR=5.9
DAVOX Davos/Dischmat 11.92 315 P **Pn 07 15 51.1 +0.6**
comp=Z,1.0nm,0.3s
SBF Sospel 12.10 298 *e*P **Pn 07 15 51.3 -1.6**
comp=Z,473nm,1.7s
SBF Sospel 12.10 298 *e*P **Pn 07 15 51.3 -1.6**
SBF pmax pmax
comp=Z,473nm,1.7s
SBF Sospel 12.10 298 *e*P **Pn 07 15 51.3 -1.6**
comp=Z,473nm,1.7s
SBF Sospel 12.10 298 *e*P **Pn 07 15 51.3 -1.6**
comp=Z,236nm,1.7s
DPC Dobruska-Polom 12.10 342 *e*P **Pn 07 15 49.8 -3.1**
DPC Dobruska-Polom 12.10 342 *e*P **Pn 07 15 49.8 -3.1**
DPC AMS AMS 07 21 20.0
GLL Jalalah 12.24 137 P **Pn 07 15 53.1 -1.7**
baz=137
GLL Jalalah 12.24 137 P **Pn 07 15 53.1 -1.7**
MMAI Mount Meron Ar 12.24 115 Pn **Pn 07 15 54.9 0.0**
MMAI Mount Meron Ar 12.24 115 Pn **Pn 07 15 54.9 0.0**
comp=Z,3.5nm,0.3s,baz=290,slow=15,SNR=4.8
MMAI Mount Meron Ar 12.24 115 Pn **Pn 07 15 54.9 0.0**
RSH 12.38 127 P **Pn 07 15 55.6 -1.1**
baz=126
RSH 12.38 127 P **Pn 07 15 55.6 -1.1**
LMR La Mourre 12.59 295 *e*P **Pn 07 16 02.1 +2.6**
comp=Z,54nm,1.2s
LMR La Mourre 12.59 295 *e*P **Pn 07 16 02.1 +2.6**
LMR pmax pmax
comp=Z,55nm,1.2s
LMR La Mourre 12.59 295 *e*P **Pn 07 16 02.1 +2.6**
comp=Z,54nm,1.2s
AKASG Malin Array Be 12.73 21 P **Pn 07 16 00.2 -1.2**
AKASG Malin Array Be 12.73 21 Pn **Pn 07 16 00.2 -1.2**
AKASG Malin Array Be 12.73 21 Pn **Pn 07 16 00.2 -1.2**
comp=Z,0.8nm,0.3s,baz=330,slow=28,SNR=5.2
AKASG Malin Array Be 12.73 21 P **Pn 07 16 00.2 -1.2**
MBDF Montbardon 12.84 301 *e*P **Pn 07 16 04.8 +1.7**
MBDF Montbardon 12.84 301 *e*P **Pn 07 16 04.8 +1.7**
MBDF Montbardon 12.84 301 *e*P **Pn 07 16 04.8 +1.7**
MBDF Montbardon 12.84 301 *e*P **Pn 07 16 04.8 +1.7**
LPG La Plagne 13.15 305 *e*P Pn 07 16 10.7 +3.2
comp=Z,36nm,1.1s
LPG La Plagne 13.15 305 *e*P Pn 07 16 10.7 +3.2
LPG pmax pmax
comp=Z,36nm,1.1s
LPG La Plagne 13.15 305 *e*P Pn 07 16 10.7 +3.2
comp=Z,36nm,1.1s
LPL La Plagne 13.17 305 *e*P **Pn 07 16 10.5 +2.8**
LPL La Plagne 13.17 305 *e*P **Pn 07 16 10.5 +2.8**
LPL La Plagne 13.17 305 *e*P **Pn 07 16 10.5 +2.8**
ASF Jabal al Asfar 13.75 115 LR LR 07 22 23.5
comp=Z,31nm,20.4s,baz=260,slow=41
CLL Collm 13.91 335 *e*P **P 07 16 26.0 +0.3**
CLL Collm 13.91 335 *e*PP **P 07 16 26.0 +0.3**
CLL *i* sPP 07 16 31.2
CLL *i* 07 16 33.5
CABF La Chapelle 14.05 308 *e*P **Pn 07 16 22.5 +2.9**
comp=Z,70nm,1.3s
CABF La Chapelle 14.05 308 *e*P **Pn 07 16 22.5 +2.9**
CABF pmax pmax
comp=Z,71nm,1.3s
CABF La Chapelle 14.05 308 *e*P **Pn 07 16 22.5 +2.9**
comp=Z,70nm,1.3s
HAU Haudompre 14.59 313 *e*P **Pn 07 16 29.8 +2.9**
comp=Z,15nm,0.7s
HAU *e*R
comp=Z,169nm,17.5s
HAU Haudompre 14.59 313 *e*P **Pn 07 16 29.8 +2.9**
HAU pmax pmax
comp=Z,15nm,0.7s
HAU Haudompre 14.59 313 *e*P **Pn 07 16 29.8 +2.9**
comp=Z,15nm,0.7s
SUW Suwalki 15.05 2 *e*P **P 07 16 38.3 0.0**
SUW Suwalki 15.05 2 *e*P **P 07 16 38.3 0.0**
SMF Signal de Mont 15.47 306 *e*P **Pn 07 16 38.8 +0.2**
comp=Z,17nm,0.9s
SMF Signal de Mont 15.47 306 *e*P **Pn 07 16 38.8 +0.2**
SMF pmax pmax
comp=Z,17nm,0.9s
SMF Signal de Mont 15.47 306 *e*P **Pn 07 16 38.8 +0.2**
comp=Z,17nm,0.9s
LOR Lormes 15.71 308 *e*P **Pn 07 16 43.7 +1.9**
LOR *e*R
comp=Z,143nm,17.6s
LOR Lormes 15.71 308 *e*P **Pn 07 16 43.7 +1.9**
LOR Lormes 15.71 308 *e*P **Pn 07 16 43.7 +1.9**
AVF Avril sur Loir 15.84 306 *e*P **P 07 16 46.7 -0.4**
comp=Z,24nm,1.0s
AVF Avril sur Loir 15.84 306 *e*P **P 07 16 46.7 -0.4**
AVF pmax pmax
comp=Z,25nm,1.0s
AVF Avril sur Loir 15.84 306 *e*P **P 07 16 46.7 -0.4**
comp=Z,24nm,1.0s
AVF Avril sur Loir 15.84 306 *e*P **P 07 16 46.7 -0.4**
comp=Z,12nm,1.0s
SSF Saint Saulge 15.85 307 *e*P **Pn 07 16 45.3 +1.8**
comp=Z,18nm,0.9s
SSF Saint Saulge 15.85 307 *e*P **Pn 07 16 45.3 +1.8**
SSF pmax pmax
comp=Z,18nm,0.9s
SSF Saint Saulge 15.85 307 *e*P **Pn 07 16 45.3 +1.8**
comp=Z,18nm,0.9s
SSF Saint Saulge 15.85 307 *e*P **Pn 07 16 45.3 +1.8**
comp=Z,8.8nm,0.9s
BGF Bois d'Agland 16.07 304 *e*P **P 07 16 51.7 +2.0**
comp=Z,35nm,0.9s
BGF Bois d'Agland 16.07 304 *e*P **P 07 16 51.7 +2.0**
BGF pmax pmax
comp=Z,35nm,0.9s
BGF Bois d'Agland 16.07 304 *e*P **P 07 16 51.7 +2.0**
comp=Z,35nm,0.9s
BGF Bois d'Agland 16.07 304 *e*P **P 07 16 51.7 +2.0**
comp=Z,18nm,0.9s
KIV Kislovodsk 16.13 65 *e*P **P 07 16 49.9 -0.6**
KIV pmax pmax
comp=Z,8.0nm,1.1s
KIV MLR MLR
comp=Z,29nm,13.0s
KIV Kislovodsk 16.13 65 *e*P **P 07 16 49.9 -0.6**
comp=Z,29nm,13.0s
KBZ Khabaz 16.24 66 P **P 07 16 54.1 +2.5**
KBZ Khabaz 16.24 66 Pn **P 07 16 54.1 +2.5**
KBZ Khabaz 16.24 66 Pn **P 07 16 54.1 +2.5**
comp=Z,0.2nm,0.3s,baz=282,slow=9.0,SNR=5.0
KBZ Khabaz 16.24 66 P **P 07 16 54.1 +2.5**
ZEI Tsey 16.84 70 *e*P **P 07 17 01.6 +3.1**
ZEI pmax pmax
comp=Z,4.0nm,0.4s
BAIF Baives 16.90 317 *e*P **Pn 07 16 56.2 -0.6**
comp=Z,38nm,1.1s
BAIF Baives 16.90 317 *e*P **Pn 07 16 56.2 -0.6**
BAIF pmax pmax
comp=Z,38nm,1.1s
BAIF Baives 16.90 317 *e*P **Pn 07 16 56.2 -0.6**
comp=Z,38nm,1.1s
BAIF Baives 16.90 317 *e*P **Pn 07 16 56.2 -0.6**
comp=Z,19nm,1.1s
VORD Divnogorie 16.98 40 *e*P **P 07 16 59.8 +0.1**
VORD pmax pmax
comp=Z,6.0nm,0.9s
VORD pmax pmax
comp=N,8.0nm,0.6s
VORD pmax pmax
comp=E,10.0nm,1.0s
VORD Divnogorie 16.98 40 *e*P **P 07 16 59.8 +0.1**
comp=E,8.0nm,0.6s
VSR Storozhevoye 17.07 39 *e*P **P 07 17 03.1 +2.4**
VSR pmax pmax
comp=Z,6.0nm,0.4s
VSR pmax pmax
comp=N,10.0nm,0.7s
VSR pmax pmax
comp=E,10.0nm,1.0s
VSR Storozhevoye 17.07 39 *e*P **P 07 17 03.1 +2.4**
comp=E,10.0nm,0.7s
GNI Garni 17.42 79 P **P 07 17 05.4 +0.5**
comp=E,14nm,1.7s
MFF Saint Martin d 18.04 302 *e*P **P 07 17 12.7 +1.3**
MFF Saint Martin d 18.04 302 *e*P **P 07 17 12.7 +1.3**
MFF Saint Martin d 18.04 302 *e*P **P 07 17 12.7 +1.3**
MFF Saint Martin d 18.04 302 *e*P **P 07 17 12.7 +1.3**
VRHR Novokhopersk 18.24 42 *e*P **P 07 17 16.5 +2.9**
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=Z,3.0nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.5s
LDF La Druitiere 18.70 308 *e*P **Pn 07 17 20.8 +1.7**
comp=E,128nm,1.5s
LDF La Druitiere 18.70 308 *e*P **Pn 07 17 20.8 +1.7**
LDF pmax pmax
comp=Z,128nm,1.5s
LDF La Druitiere 18.70 308 *e*P **Pn 07 17 20.8 +1.7**
comp=Z,128nm,1.5s
LDF La Druitiere 18.70 308 *e*P **Pn 07 17 20.8 +1.7**
comp=Z,64nm,1.5s
OBN Obninsk 18.81 26 ⇑*e*P **Pn 07 17 21.9 +1.5**
OBN pmax pmax
comp=Z,19nm,0.6s
OBN MLR MLR
comp=Z,100nm,12.0s
OBN Obninsk 18.81 26 *e*P **Pn 07 17 21.9 +1.5**
comp=Z,100nm,12.0s
GRR Gorron 19.08 307 *e*P **Pn 07 17 24.5 +0.8**
comp=Z,34nm,0.9s
GRR Gorron 19.08 307 *e*P **Pn 07 17 24.5 +0.8**
GRR pmax pmax
comp=Z,34nm,0.9s
GRR Gorron 19.08 307 *e*P **Pn 07 17 24.5 +0.8**
comp=Z,34nm,0.9s
GRR Gorron 19.08 307 *e*P **Pn 07 17 24.5 +0.8**
comp=Z,17nm,0.9s
VSU Vasula 19.71 7 ⇓*e*P **Pn 07 17 31.0 -0.2**
VSU Vasula 19.71 7 *e*P **Pn 07 17 31.0 -0.2**
ESDC Sonseca Array 20.23 280 P **P 07 17 35.5 0.0**
ESDC Sonseca Array 20.23 280 P **P 07 17 35.5 0.0**
comp=Z,1.1nm,0.5s,baz=73,slow=11,SNR=9.1
ESDC LR LR 07 25 05.7
comp=Z,79nm,20.3s,baz=80,slow=36
ESDC Sonseca Array 20.23 280 P **P 07 17 35.5 0.0**
QUIF Quistinic 20.39 304 *e*P **P 07 17 37.2 +0.1**
QUIF Quistinic 20.39 304 *e*P **P 07 17 37.2 +0.1**
QUIF Quistinic 20.39 304 *e*P **P 07 17 37.2 +0.1**
QUIF Quistinic 20.39 304 *e*P **P 07 17 37.2 +0.1**
PUL Pulkovo 21.43 11 P **P 07 17 50.5 +2.2**
PUL pmax pmax
comp=Z,88nm,0.4s
PUL Pulkovo 21.43 11 P **P 07 17 50.5 +2.2**
comp=Z,88nm,0.4s
HFS Hagfors 21.84 349 P **P 07 17 51.8 -0.9**
HFS Hagfors 21.84 349 P **P 07 17 51.8 -0.9**
comp=Z,4.0nm,0.5s,baz=156,slow=11,SNR=16
HFS LR LR 07 26 01.3
comp=Z,77nm,19.6s,baz=177,slow=36
HFS Hagfors 21.84 349 P **P 07 17 51.8 -0.9**
MDT Midelt 22.52 262 P **P 07 18 00.2 -0.3**
MDT Midelt 22.52 262 P **P 07 18 00.2 -0.3**
comp=Z,5.4nm,0.8s,baz=82,slow=10.0,SNR=9.1
MDT LR LR 07 27 09.7
comp=Z,98nm,20.0s,baz=284,slow=38
MDT Midelt 22.52 262 P **P 07 18 00.2 -0.3**
FINES FINESS Array B 22.62 5 P **P 07 17 59.7 -1.2**
FINES PcP **PcP 07 21 52.3 -1.1**
FINES FINESS Array B 22.62 5 P **P 07 17 59.7 -1.2**
comp=Z,4.8nm,0.5s,baz=170,slow=9.4,SNR=8.9
FINES PcP **PcP 07 21 52.3 -1.1**
comp=Z,0.7nm,0.3s,baz=197,slow=2.0,SNR=4.8
FINES LR LR 07 27 44.4
comp=Z,153nm,18.2s,baz=270,slow=39
FINES FINESS Array B 22.62 5 P **P 07 17 59.7 -1.2**
FINES FINESS Array B 22.62 5 PcP **PcP 07 21 52.3 -1.1**
NB2 NORSAR Subarra 23.12 346 P **P 07 18 04.7 -1.6**
comp=Z,9.1nm,0.8s,baz=154,slow=10
NB2 NORSAR Subarra 23.12 346 P **P 07 18 04.7 -1.6**
comp=Z,9.1nm,0.8s,SNR=0.6
NOA NORSAR Array B 23.12 346 P **P 07 18 05.2 -1.1**
NOA PcP **PcP 07 21 53.6 -1.0**
NOA NORSAR Array B 23.12 346 P **P 07 18 05.2 -1.1**
comp=Z,5.3nm,0.9s,baz=156,slow=9.0,SNR=11
NOA PcP **PcP 07 21 53.6 -1.0**
comp=Z,1.5nm,0.7s,baz=134,slow=2.5,SNR=3.2
NOA NORSAR Array B 23.12 346 P **P 07 18 05.2 -1.1**
KAF Kangasniemi 23.30 5 *e*P **P 07 18 06.8 -1.2**
KAF Kangasniemi 23.30 5 *e*p **P 07 18 06.8 -1.2**
KAF Kangasniemi 23.30 5 *e*P **P 07 18 06.8 -1.2**
EKA Eskdalemuir Ar 23.56 322 P **P 07 18 09.9 -0.8**
EKA Eskdalemuir Ar 23.56 322 P **P 07 18 09.9 -0.8**
comp=Z,15nm,0.8s,baz=122,slow=9.8,SNR=19
EKA Eskdalemuir Ar 23.56 322 P **P 07 18 09.9 -0.8**
KLMR Klimovskoe 24.42 21 *e*P **P 07 18 19.5 +0.8**
KLMR pmax pmax
comp=Z,20nm,1.0s
KLMR Klimovskoe 24.42 21 *e*P **P 07 18 19.5 +0.8**
comp=Z,20nm,1.0s
JOF Joensuu 24.60 10 *e*P **P 07 18 20.1 -0.2**
JOF Joensuu 24.60 10 *e*p **P 07 18 20.1 -0.2**
JOF Joensuu 24.60 10 *e*P **P 07 18 20.1 -0.2**
AKTO Aktyubinsk 27.65 54 LR LR 07 30 17.3
comp=Z,36nm,21.1s,baz=142,slow=37
ARU Arti 29.59 42 *d i*P **P 07 19 07.2 +2.0**
ARU 07 19 58.3
ARU S S 07 24 05.8 +6.2
ARU SS **SnSn 07 25 28.1 +0.3**
ARU pmax pmax
comp=Z,6.0nm,1.0s
ARU Arti 29.59 42 *i* P **P 07 19 07.2 +2.0**
comp=Z,6.0nm,1.0s
ARCES ARCESS Array B 30.67 2 P **P 07 19 13.5 -1.1**
ARCES PcP **PcP 07 22 10.7 -1.5**
ARCES ARCESS Array B 30.67 2 P **P 07 19 13.5 -1.1**
comp=Z,1.8nm,0.6s,baz=192,slow=9.0,SNR=17
ARCES PcP **PcP 07 22 10.7 -1.5**
comp=Z,2.5nm,0.8s,baz=191,slow=2.4,SNR=8.9
ARCES LR LR 07 32 24.6
comp=Z,83nm,18.6s,baz=110,slow=38
ARCES ARCESS Array B 30.67 2 P **P 07 19 13.5 -1.1**
TORD Torodi Ar. Bea 31.49 221 P **P 07 19 21.8 -0.5**
TORD Torodi Ar. Bea 31.49 221 P **P 07 19 21.8 -0.5**
comp=Z,2.6nm,0.6s,baz=31,slow=9.1,SNR=27
TORD Torodi Ar. Bea 31.49 221 P **P 07 19 21.8 -0.5**
BRVK Borovoye 35.53 51 *e*P **P 07 19 59.5 +2.3**
BRVK pmax pmax
comp=Z,6.0nm,2.3s
BRVK Borovoye 35.53 51 *e*P **P 07 19 59.5 +2.3**
comp=Z,6.0nm,2.3s
AAK Ala-Archa 39.24 67 ⇓*e*P **P 07 20 30.3 +1.3**
AAK pmax pmax
comp=Z,11nm,1.6s
AAK Ala-Archa 39.24 67 *e*P **P 07 20 30.3 +1.3**
comp=Z,11nm,1.6s
SPITS Spitsbergen Ar 39.38 358 P **P 07 20 29.1 -0.4**
SPITS Spitsbergen Ar 39.38 358 P **P 07 20 29.1 -0.4**
comp=Z,2.1nm,0.5s,baz=162,slow=10,SNR=5.3
SPITS Spitsbergen Ar 39.38 358 P **P 07 20 29.1 -0.4**
KBS Kingsbay 40.27 357 P **P 07 20 37.4 +0.5**
KBS pmax pmax
comp=Z,144nm,2.5s
KBS Kingsbay 40.27 357 P **P 07 20 37.4 +0.5**
comp=Z,144nm,2.5s
DBIC Dimbokro 40.38 224 P **P 07 20 37.5 -0.9**
DBIC Dimbokro 40.38 224 P **P 07 20 37.5 -0.9**
comp=Z,3.4nm,0.7s,baz=283,slow=8.7,SNR=4.4
DBIC Dimbokro 40.38 224 P **P 07 20 37.5 -0.9**
LIC Lamto 40.84 224 *e*P **P 07 20 41.5 -0.8**
comp=Z,8.0nm,0.4s
LIC Lamto 40.84 224 *e*P **P 07 20 41.5 -0.8**
comp=Z,8.0nm,0.4s
LIC Lamto 40.84 224 *e*P **P 07 20 41.5 -0.8**
comp=Z,4.0nm,0.4s
MKAR Makanchi Array 43.76 59 P **P 07 21 05.5 -0.4**
MKAR Makanchi Array 43.76 59 P **P 07 21 05.5 -0.4**
MKAR Makanchi Array 43.76 59 P **P 07 21 05.5 -0.4**
comp=Z,2.5nm,0.5s,baz=274,slow=7.5,SNR=55
MKAR LR LR 07 42 31.0
comp=Z,33nm,18.3s,baz=175,slow=40
MKAR Makanchi Array 43.76 59 P **P 07 21 05.5 -0.4**
ZALV Zalesovo Beam 44.18 49 P **P 07 21 08.4 -0.6**
ZALV Zalesovo Beam 44.18 49 P **P 07 21 08.3 -0.6**
ZALV Zalesovo Beam 44.18 49 P **P 07 21 08.3 -0.6**
comp=Z,4.1nm,0.6s,baz=277,slow=8.7,SNR=14

ZALV	Zalesovo Beam	44.18	49	P		P	07 21 08.4	-0.6
HVS	Khovu-Aksy	50.04	51	⇓eP		P	07 21 56.2	+1.3
HVS				pmax	pmax			
	comp=Z,18nm,1.2s							
HVS	Khovu-Aksy	50.04	51	eP		P	07 21 56.2	+1.3
	comp=Z,18nm,1.2s							
PYUN	Piuthan	50.99	83	eP		P	07 22 01.4	-1.1
	comp=Z,82nm,0.5s							
DANN	Dangsing	51.46	82	eP		P	07 22 04.6	-1.6
	comp=Z,21nm,0.5s							
KOLN	Koldanda	51.62	83	eP		P	07 22 05.7	-1.6
	comp=Z,11nm,0.6s							
GUN	Gumba	53.31	82	eP		P	07 22 15.7	-4.3
	comp=Z,20nm,0.8s							
JIRN	Jiri	53.67	82	eP		P	07 22 18.7	-4.0
	comp=Z,9.0nm,0.4s							
RAMN	Ramite	54.34	82	eP		P	07 22 24.4	-3.0
	comp=Z,15nm,0.8s							
ODAN	Odare	55.00	82	eP		P	07 22 27.9	-4.3
	comp=Z,8.1nm,0.2s							
TAPN	Taplejung	55.00	81	eP		P	07 22 26.3	-6.0
	comp=Z,7.9nm,0.6s							
ZAK	Zakamensk	56.04	50	eP		P	07 22 39.3	+0.1
ZAK				pmax	pmax			
	comp=Z,2.0nm,1.1s							
ZAK	Zakamensk	56.04	50	eP		P	07 22 39.3	+0.1
	comp=Z,2.0nm,1.1s							
TIXI	Tiksi	58.44	21	⇑P		P	07 22 57.5	+1.9
TIXI				pmax	pmax			
	comp=Z,5.0nm,1.6s							
TIXI	Tiksi	58.44	21	P		P	07 22 57.5	+1.9
	comp=Z,5.0nm,1.6s							
SCHQ	Schefferville	58.76	317	P		P	07 22 58.4	+0.3
SCHQ	Schefferville	58.76	317	P		P	07 22 58.4	+0.3
	comp=Z,3.3nm,0.5s,baz=60,slow=14,SNR=9.5							
SCHQ	Schefferville	58.76	317	P		P	07 22 58.4	+0.3
SONM	Songino Array	58.93	51	P		P	07 22 58.9	-0.8
SONM	Songino Array	58.93	51	P		P	07 22 58.9	-0.8
	comp=Z,0.7nm,0.6s,baz=297,slow=6.5,SNR=3.7							
SONM	Songino Array	58.93	51	P		P	07 22 58.9	-0.8
ULN	Ulaanbaatar	59.32	51	eP		P	07 23 02.7	+0.3
HIA	Hailar	66.03	45	P		P	07 23 48.2	+1.3
BOSA	Boshof	67.31	177	P		P	07 23 55.2	-0.1
BOSA	Boshof	67.31	177	P		P	07 23 55.2	-0.1
	comp=Z,2.4nm,0.9s,baz=354,slow=6.1,SNR=3.0							
BOSA	Boshof	67.31	177	P		P	07 23 55.2	-0.1
YKA	Yellowknife Ar	73.08	341	P		P	07 24 29.5	-0.6
YKA	Yellowknife Ar	73.08	341	P		P	07 24 29.5	-0.6
	comp=Z,3.5nm,0.7s,baz=32,slow=5.6,SNR=6.7							
YKA	Yellowknife Ar	73.08	341	P		P	07 24 29.5	-0.6
ILAR	Eielson Array	76.23	355	P		P	07 24 47.9	-0.5
ILAR	Eielson Array	76.23	355	P		P	07 24 47.9	-0.5
	comp=Z,0.7nm,0.8s,baz=9.9,slow=5.1,SNR=7.7							
ILAR	Eielson Array	76.23	355	P		P	07 24 47.9	-0.5
KSAR	Wonju Array Be	77.79	52	P		P	07 24 56.6	-1.1
KSAR	Wonju Array Be	77.79	52	P		P	07 24 56.6	-1.1
KSRS	Korea Array	77.81	52	P		P	07 24 56.6	-1.1
	comp=Z,1.0nm,0.5s,baz=311,slow=4.7,SNR=4.5							
KSRS	Korea Array	77.81	52	P		P	07 24 56.6	-1.1
	comp=Z,1.0nm,0.4s							
YSS	Yuzh-Sakhalins	79.34	37	eP		P	07 25 07.6	+1.6
YSS	Yuzh-Sakhalins	79.34	37	eP		P	07 25 07.6	+1.6
PET	Petropavlovsk	80.91	25	eP		P	07 25 15.7	+1.3
PET	Petropavlovsk	80.91	25	eP		P	07 25 15.7	+1.3
ERM	Erimo	83.17	40	⇓eP		P	07 25 27.6	+1.2
ERM				pmax	pmax			
	comp=Z,21nm,1.3s							
ERM	Erimo	83.17	40	eP		P	07 25 27.6	+1.2
	comp=Z,21nm,1.3s							
MJAR	Matsushiro Arr	84.48	47	P		P	07 25 33.0	-0.3
MJAR	Matsushiro Arr	84.48	47	P		P	07 25 33.0	-0.3
	comp=Z,0.8nm,0.5s,baz=325,slow=10,SNR=3.4							
BDFB	Brasilia	85.04	245	P		P	07 25 36.7	+0.3
BDFB	Brasilia	85.04	245	P		P	07 25 36.7	+0.3
	comp=Z,1.1nm,0.5s,baz=159,slow=6.7,SNR=3.3							
PDAR	Pinedale Array	87.61	327	P		P	07 25 47.5	-1.4
PDAR	Pinedale Array	87.61	327	P		P	07 25 47.5	-1.4
	comp=Z,0.4nm,0.7s,baz=76,slow=6.3,SNR=3.7							
TXAR	Lajitas Array	95.35	315	P		P	07 26 24.8	-0.2
TXAR	Lajitas Array	95.35	315	P		P	07 26 24.8	-0.2
	comp=Z,0.3nm,0.6s,baz=87,slow=3.2,SNR=4.9							
ASAR	Alice Springs	120.96	97	PKP		PKPdf	07 31 51.9	-1.2
ASAR	Alice Springs	120.96	97	PKP		PKPdf	07 31 51.9	-1.2
	comp=Z,1.6nm,0.7s,baz=339,slow=2.3,SNR=6.1							

*IDC **16** 07:23:38.4±2.1,27°.63S×177°.39W,h103km±18km, mb4.0/11,mb1 4.2/11,mb1mx4.0/17,mbtmp4.0/11,MS3.2/3, Ms1 3.2/3,ms1mx2.9/31,Error ellipse: s-maj=21.5km s-min=19.9km az=4.0*

*ISCJB **16** 07:23:39.9±0.6,27°.81S±0°.07×177°.5W±0°.1,h130km, mb4.1/13,Error ellipse: s-maj=16.6km s-min=9.5km az=3.7*

*NEIC **16** 07:23:39.4±1.0,27°.71S×177°.36W,h113km±8km,mb4.8/4, Error ellipse: s-maj=12.9km s-min=10.2km az=88.0*

ISC 16 07:23:41.2±0.5,27°.85S±0°.07×177°.4W±0°.1,h130km,n61, σ1§38/58,mb4.1/13,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.47	199	P	Pn	07 24 07.0	-2.0
RAO				S	Sn	07 24 29.0	-1.2
RAO	Raoul Island	1.47	199	P	Pn	07 24 07.0	-2.0
	2μm,0.3s,baz=79,slow=5.1,SNR=66						
RAO				S	Sn	07 24 29.0	-1.2
	5μm,0.3s,baz=257,slow=24,SNR=12						
MSVF	Nonsavu	10.91	336	ePn	Pn	07 26 11.6	-2.3
	42nm,1.3s						
URZ	Urewera	11.36	203	P	Pn	07 26 09.2	-10
URZ				S	Sn	07 28 15.7	-9.0
URZ	Urewera	11.36	203	P	Pn	07 26 09.2	-10
	1.5nm,0.3s,baz=342,slow=19,SNR=21						
URZ				S	Sn	07 28 15.7	-9.0
	6.3nm,0.3s,baz=193,slow=22,SNR=14						
AFI	Afiamalu	14.82	22	P	Pn	07 26 54.9	-10
AFI				S	Sn	07 29 24.1	-25
AFI	Afiamalu	14.82	22	P	Pn	07 26 54.9	-10
	13nm,0.3s,baz=348,slow=22,SNR=12						
AFI				S	Sn	07 29 24.1	-25
	3.7nm,0.3s,baz=9.0,slow=19,SNR=1.5						
DZM	Mont Dzumac	15.75	288	P	P	07 27 20.4	+3.1
DZM	Mont Dzumac	15.75	288	P	P	07 27 20.4	+3.1
	1.2nm,0.3s,baz=104,slow=15,SNR=13						
DZM				LR	LR	07 31 57.8	
	comp=Z,119nm,20.3s,baz=204,slow=32						
RPZ	Rata Peaks	18.37	207	P	P	07 27 42.5	-3.3
RPZ	Rata Peaks	18.37	207	P	P	07 27 42.5	-3.3
	1.8nm,0.3s,baz=359,slow=4.0,SNR=6.6						
HNR	Honiara	28.14	306	LR	LR	07 37 13.5	
	comp=Z,36nm,20.3s,baz=30,slow=29						
CTA	Charters Tower	34.02	275	P	P	07 30 13.7	+0.8
CTA	Charters Tower	34.02	275	P	P	07 30 13.7	+0.8
	6.2nm,0.5s,baz=107,slow=11,SNR=8.0						
CTAO	Charters Tower	34.02	275	eP	P	07 30 13.3	+0.4
	4.7nm,0.5s						
STKA	Stephens Creek	35.65	253	P	P	07 30 27.2	+0.4
STKA	Stephens Creek	35.65	253	P	P	07 30 27.2	+0.4
	1.8nm,0.6s,baz=80,slow=12,SNR=4.8						
STKA				LR	LR	07 43 09.3	
	comp=Z,38nm,19.0s,baz=28,slow=33						
ASAR	Alice Springs	43.85	264	P	P	07 31 34.3	-0.4
ASAR	Alice Springs	43.85	264	P	P	07 31 34.3	-0.4
	4.0nm,0.9s,baz=115,slow=8.2,SNR=17						
WRAB	Tennant Creek	44.60	269	eP	P	07 31 39.7	-1.0
	8.5nm,0.3s						
WRA	Warramunga Arr	44.61	269	P	P	07 31 40.0	-0.8
WRA	Warramunga Arr	44.61	269	P	P	07 31 40.0	-0.8
	6.6nm,0.6s,baz=106,slow=7.7,SNR=16						
VNDA	Vanda	50.68	186	P	P	07 32 28.7	+1.9
VNDA	Vanda	50.68	186	P	P	07 32 28.7	+1.9
	0.6nm,0.6s,baz=346,slow=3.6,SNR=8.8						
QSPA	South Pole Qui	62.25	180	eP	P	07 33 50.5	+1.5
	2.2nm,0.8s						
MAW	Mawson	74.88	200	P	P	07 35 08.7	+1.6
MAW	Mawson	74.88	200	P	P	07 35 08.7	+1.6
	1.3nm,0.6s,baz=124,slow=3.5,SNR=3.8						
PETK	Petropavlovsk-	83.49	345	P	P	07 35 53.5	-0.5
PETK	Petropavlovsk-	83.49	345	P	P	07 35 53.5	-0.5
	7.2nm,0.8s,baz=142,slow=7.8,SNR=17						
TXAR	Lajitas Array	90.56	57	P	P	07 36 29.1	+0.1
TXAR	Lajitas Array	90.56	57	P	P	07 36 29.1	+0.1
	0.6nm,0.9s,baz=194,slow=4.8,SNR=5.2						
CMAR	Chiang Mai Arr	93.08	289	P	P	07 36 41.2	+0.5
CMAR	Chiang Mai Arr	93.08	289	P	P	07 36 41.2	+0.5
	1.2nm,0.4s,baz=145,slow=4.9,SNR=3.6						
PDAR	Pinedale Array	93.92	43	P	P	07 36 43.8	-0.5
PDAR	Pinedale Array	93.92	43	P	P	07 36 43.8	-0.5
	0.8nm,0.9s,baz=216,slow=3.1,SNR=6.1						
ILAR	Eielson Array	95.33	13	P	P	07 36 48.7	-1.2
ILAR	Eielson Array	95.33	13	P	P	07 36 48.7	-1.2
	0.5nm,0.6s,baz=219,slow=4.7,SNR=7.1						
BOSA	Boshof	119.81	203	PKP	PKPdf	07 42 17.0	+0.3
BOSA	Boshof	119.81	203	PKP	PKPdf	07 42 17.0	+0.3
	3.0nm,0.9s,baz=130,slow=9.0,SNR=4.2						
TKM2	Tokmak 2	120.38	305	ePKPdf	PKPdf	07 42 16.4	-0.9
BVAR	Borovoye Array	124.94	317	PKP	PKPdf	07 42 24.8	-0.6
BVAR	Borovoye Array	124.94	317	PKP	PKPdf	07 42 24.8	-0.6
	1.1nm,0.4s,baz=153,slow=0.6,SNR=3.5						
ARCES	ARCESS Array B	136.21	349	PKP	PKPdf	07 42 47.2	+0.9
ARCES	ARCESS Array B	136.21	349	PKP	PKPdf	07 42 47.2	+0.9
	1.4nm,0.5s,baz=4.2,slow=1.7,SNR=11						
FINES	FINESS Array B	142.93	342	PKPpre	PKPpre	07 42 54.2	
FINES	FINESS Array B	142.93	342	PKhKP	PKPpre	07 42 54.2	
	1.6nm,0.4s,baz=64,slow=4.4,SNR=7.4						
KBZ	Khabaz	144.08	307	PKP	PKPdf	07 43 02.5	+1.2
KBZ	Khabaz	144.08	307	PKP	PKPdf	07 43 02.5	+1.2
	1.3nm,0.7s,baz=140,slow=5.0,SNR=3.9						
NB2	NORSAR Subarra	146.31	352	PKP	PKPdf	07 43 05.1	+0.4
	comp=Z,6.9nm,0.8s,baz=11,slow=2.9						
NOA	NORSAR Array B	146.31	352	PKPbc	PKPdf	07 43 05.4	+0.7
NOA	NORSAR Array B	146.31	352	PKPbc	PKPdf	07 43 05.4	+0.7
	comp=Z,6.5nm,0.8s,baz=14,slow=4.4,SNR=14						
HFS	Hagfors	146.85	350	PKPbc	PKPdf	07 43 06.6	+1.0
HFS	Hagfors	146.85	350	PKPbc	PKPdf	07 43 06.6	+1.0
	comp=Z,12nm,0.8s,baz=72,slow=4.8,SNR=21						
AKASG	Malin Array Be	149.55	326	PKPbc	PKPbc	07 43 14.1	-0.9
AKASG	Malin Array Be	149.55	326	PKPbc	PKPbc	07 43 14.1	-0.9
	comp=Z,5.8nm,0.6s,baz=42,slow=3.9,SNR=26						
KIEV	Kiev	149.56	326	ePKPdf	PKPdf	07 43 12.0	+1.8
BRTR	Keskin Array B	151.77	303	PKPbc	PKPbc	07 43 19.7	-1.1
BRTR	Keskin Array B	151.77	303	PKPbc	PKPbc	07 43 19.7	-1.1
	comp=Z,1.1nm,0.6s,baz=136,slow=4.3,SNR=5.6						
CLL	Collm	155.29	344	ePKPab	PKPab	07 43 43.0	-1.4
	comp=Z,5.0nm,0.9s						
TORD	Torodi Ar. Bea	165.34	176	PKP	PKPdf	07 43 30.5	-0.4
TORD				PKPab	PKPab	07 44 30.6	+1.6
TORD	Torodi Ar. Bea	165.34	176	PKP	PKPdf	07 43 30.5	-0.4
	comp=Z,0.7nm,0.7s,baz=286,slow=1.2,SNR=4.7						
TORD				PKPab	PKPab	07 44 30.6	+1.6
	comp=Z,0.3nm,0.6s,baz=186,slow=1.4,SNR=2.8						

IDC 16 07:26:11.8±5.6,7°.50S×128°.50E,h85km±58km,mb4.0/6, mb1 4.0/9,mb1mx3.7/22,mbtmp3.9/9,ML4.1/3,Error ellipse: s-maj=56.4km s-min=26.5km az=58.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	10.90	195	P	Pn	07 28 44.9	0.0
	1.4nm,0.3s,baz=32,slow=11,SNR=48						
FITZ				S	Sn	07 30 38.5	-6.6
	3.0nm,0.3s,baz=83,slow=17,SNR=10.0						
WRA	Warramunga Arr	13.61	156	P	Pn	07 29 19.9	-1.4
	0.9nm,0.3s,baz=349,slow=27,SNR=51						
ASAR	Alice Springs	16.89	163	P	P	07 30 03.7	-0.1
	0.5nm,0.3s,baz=334,slow=9.2,SNR=24						
ASAR				S	Sn	07 33 03.2	-7.3
	0.5nm,0.3s,baz=327,slow=17,SNR=4.9						
STKA	Stephens Creek	27.16	155	P	P	07 31 47.5	+0.3
	1.0nm,0.4s,baz=352,slow=7.1,SNR=3.6						
SONM	Songino Array	58.45	343	P	P	07 35 59.7	+0.7
	2.3nm,0.8s,baz=160,slow=6.0,SNR=11						
PETK	Petropavlovsk-	65.27	19	P	P	07 36 44.0	-0.4
	1.9nm,0.8s,baz=180,slow=4.3,SNR=4.2						
MKAR	Makanchi Array	67.83	328	P	P	07 37 01.1	+0.2
	2.2nm,0.7s,baz=116,slow=8.1,SNR=23						
KURBB	Kurchatov Arra	72.16	329	P	P	07 37 27.0	-0.3
	4.5nm,0.8s,baz=126,slow=5.3,SNR=17						
AKTO	Aktyubinsk	83.56	323	P	P	07 38 29.9	-0.7
	2.5nm,0.8s,baz=101,slow=6.1,SNR=7.3						

*ISCJB **16** 07:34:43.7±1.1,53°.55N±0°.08×91°.4E±0°.1,h10km,mb3.4/2, Error ellipse: s-maj=12.9km s-min=10.3km az=145.6*

*IDC **16** 07:34:44.4±1.5,53°.66N×91°.39E,h0km,mb3.3/3, mb1 3.6/7,mb1mx3.4/31,mbtmp3.5/7,ML3.5/4,Error ellipse: s-maj=27.4km s-min=13.7km az=137.0*

*NNC **16** 07:34:57.4±5.4,52°.70N×90°.58E,h0km,mb4.2,mpv4.0, Error ellipse: s-maj=45.0km s-min=31.5km az=75.0*

ISC 16 07:34:45.7±1.5,53°.6N±0°.1×91°.4E±0°.1,h10km,n13, σ2§43/14,7C-4D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	Zalesovo Beam	3.91	278	Pn	Pn	07 35 44.8	-1.0
	0.6nm,0.3s,baz=93,slow=15,SNR=8.1						
ZALV				Pg	Pb	07 35 49.8	-5.0
	3.4nm,0.3s,baz=92,slow=15,SNR=26						
ZALV				Lg	Lg	07 36 41.0	
	6.4nm,0.3s,baz=96,slow=30,SNR=9.6						
KURBB	Kurchatov Arra	8.45	255	⇑Pn	Pn	07 36 47.3	-0.7
	7.2nm,0.5s						
KURBB				⇑Sn	Sn	07 38 18.1	-5.3
	75nm,1.2s						
KURBB				⇑Lg	Lg	07 39 06.1	
	45nm,0.7s						
KURBB	Kurchatov Arra	8.45	255	Pn	Pn	07 36 47.0	-1.0
	1.3nm,0.3s,baz=65,slow=14,SNR=45						
KURBB				Sn	Sn	07 38 22.4	-1.0
	0.6nm,0.3s,baz=66,slow=25,SNR=14						
KURBB				Lg	Lg	07 39 07.2	
	0.5nm,0.3s,baz=68,slow=35,SNR=11						
MK31	Makanchi Array	8.95	224	Pn	Pn	07 36 57.0	+2.0
	2.6nm,0.7s,baz=38,slow=12,SNR=25						
MK31				⇓Sn	Sn	07 38 33.2	-2.6
	4.1nm,0.7s,baz=36,slow=18,SNR=3.6						
MK31				⇓Lg	Lg	07 39 11.7	
	26nm,0.9s,baz=59,slow=34,SNR=5.2						
MKAR	Makanchi Array	8.95	224	Pn	Pn	07 36 56.9	+1.9
	0.5nm,0.3s,baz=41,slow=14,SNR=16						
MKAR				Sn	Sn	07 38 36.7	+0.9
	0.3nm,0.3s,baz=40,slow=27,SNR=5.1						
MKAR				Lg	Lg	07 39 22.8	
	0.2nm,0.3s,baz=36,slow=32,SNR=2.4						
SONM	Songino Array	11.11	115	Lg	Lg	07 40 40.0	
	0.2nm,0.3s,baz=304,slow=30,SNR=7.3						
VOSK	Vostochnaya	12.28	274	⇑Pn	Pn	07 37 47.9	+7.5
	1.0nm,0.3s						
VOSK				⇑Sn	Sn	07 39 58.5	+1.3
	6.3nm,1.0s						
BVA0	Borovoye Array	12.57	276	⇓Pn	Pn	07 37 54.8	+10
	2.2nm,0.8s,baz=115,slow=14,SNR=5.6						
BVA0				⇑Sn	Sn	07 40 14.0	+10
	7.4nm,0.9s,baz=69,slow=30,SNR=5.2						
BVAR	Borovoye Array	12.57	276	Pn	Pn	07 37 44.2	-0.2
	0.3nm,0.3s,baz=68,slow=19,SNR=1.8						
BVAR				Sn	Sn	07 40 08.3	+4.0
	1.2nm,0.3s,baz=75,slow=27,SNR=8.7						
BRVK	Borovoye	12.62	276	⇓Pn	Pn	07 37 58.2	+13
	3.6nm,0.6s						
BRVK				⇑Sn	Sn	07 40 15.5	+10
	19nm,0.9s						
AKTO	Aktyubinsk	20.67	275	P	Pn	07 39 26.1	-1.7
	1.0nm,0.7s,baz=94,slow=16,SNR=2.8						
ILAR	Eielson Array	53.78	27	P	P	07 44 07.5	-0.2
	0.3nm,0.7s,baz=324,slow=6.0,SNR=3.7						
TORD	Torodi Ar. Bea	79.36	278	P	P	07 46 51.6	-0.2
	0.5nm,0.9s,baz=29,slow=3.3,SNR=2.8						

IDC 16 07:38:43.9±1.6,1°.85N×128°.56E,h0km,mb3.6/6, mb1 3.8/6,mb1mx3.6/22,mbtmp3.6/6,Error ellipse: s-maj=97.2km s-min=19.7km az=70.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	20.03	188	P	P	07 43 18.9	+0.3
	2.0nm,0.9s,baz=51,slow=14,SNR=2.9						
WRA	Warramunga Arr	22.39	166	P	P	07 43 43.9	-0.2
	1.3nm,0.8s,baz=344,slow=11,SNR=8.6						
ASAR	Alice Springs	25.89	169	P	P	07 44 17.8	0.0
	0.7nm,0.8s,baz=2.7,slow=8.8,SNR=6.9						
STKA	Stephens Creek	35.75	161	P	P	07 45 44.3	-0.4
	1.6nm,0.7s,baz=317,slow=11,SNR=3.9						
MKAR	Makanchi Array	60.13	325	P	P	07 48 53.8	+0.5
	0.5nm,0.7s,baz=121,slow=8.4,SNR=4.2						
KURBB	Kurchatov Arra	64.30	327	P	P	07 49 20.8	-0.4
	0.4nm,0.7s,baz=124,slow=6.1,SNR=5.2						

*ISCJB **16** 07:40:53.6±0.2,1°.39S±0°.03×80°.67W±0°.02,h11km, mb4.2/19,MS4.1/11,Error ellipse: s-maj=4.3km s-min=2.2km az=22.7*

*IGQ **16** 07:40:53.8,1°.27S×80°.76W,h42km±11km,Mb4.7,Ms4.6, Error ellipse: s-maj=3.3km s-min=1.9km az=4.1*

*IDC **16** 07:41:00.1±2.1,1°.38S×80°.49W,h63km±20km,mb3.7/12, mb1 3.9/17,mb1mx3.8/28,mbtmp3.8/17,MS4.1/13, Ms1 4.1/13,ms1mx3.8/34,Error ellipse: s-maj=27.5km s-min=10.8km az=66.0*

*NEIC **16** 07:41:00.7±0.9,1°.31S×80°.36W,h69km±8km,mb4.5/9, MD4.7(IGQ),Error ellipse: s-maj=12.4km s-min=5.6km az=67.0*

NEIC Felt at Portoviejo.

ISC 16 07:40:53.9±0.4,1°.36S±0°.04×80°.58W±0°.05,h11km,n306, σ1§44/301,mb4.3/19,MS4.1/11,101C-124D,Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PECV	Mancha de Ca P	0.79	43	P	Pg	07 41 07.4	-1.7
JAMA	Jama	1.15	19	P	Pb	07 41 16.2	+0.3
MAG1	Magdalena	1.51	32	⇓P	Pn	07 41 21.3	+0.4
IGUA	Igualata	1.95	94	P	Pn	07 41 28.6	+1.1
RIOE	Riobamba	1.99	101	⇓P	Pn	07 41 28.5	+0.7
BIL2	Estacion Bilba	2.08	93	P	Pn	07 41 31.2	+2.1
BMAS	Trigal station	2.11	94	⇓S	Sn	07 41 57.2	+1.4
BMAS	Trigal station	2.11	94	⇓P	Pn	07 41 31.0	+1.6
JUI6	Juive	2.12	92	⇓P	Pn	07 41 31.4	+1.9
ARRY	Arroyan	2.13	94	⇓P	Pn	07 41 31.1	+1.3
RETU	Refugio	2.14	92	⇓P	Pn	07 41 32.2	+2.2
PAT1	Patacocha	2.15	94	⇓P	Pn	07 41 31.8	+1.6
BPAT	Tungurahua Vol	2.15	94	⇓S	Sn	07 41 59.1	+2.0
BPAT	Tungurahua Vol	2.15	94	⇓P	Pn	07 41 31.8	+1.6
RUN5	Runtun	2.16	92	P	Pn	07 41 32.0	+1.9
BRUN	Tungurahua Vol	2.17	92	⇓S	Sb	07 42 00.3	-0.2
BRUN	Tungurahua Vol	2.17	92	⇓P	Pn	07 41 32.0	+1.7
BULB	Ulba Tungurahu	2.17	92	⇓S	Sb	07 42 00.1	-0.5
BULB	Ulba Tungurahu	2.17	92	⇓P	Pn	07 41 32.1	+1.7
ULBA	Ulba	2.18	92	P	Pn	07 41 32.1	+1.7
CAMI	Rancho Maria	2.19	72	P	Pn	07 41 31.6	+1.0
BNAS	Cotopaxi Volca	2.21	72	⇓P	Pn	07 41 32.1	+1.2
BMOR	Cotopaxi Volca	2.21	74	⇓S	Sb	07 42 03.6	+1.7
BMOR	Cotopaxi Volca	2.21	74	⇓P	Pn	07 41 32.1	+1.1
PISA	Pisayambo	2.22	82	P	Pn	07 41 32.6	+1.5
NAS2	Nasa	2.23	71	P	Pn	07 41 32.7	+1.5
ARNL	Arenillas	2.23	167	⇓S	Sn	07 41 59.3	+0.9
ARNL	Arenillas	2.23	167	⇓P	Pn	07 41 31.4	+0.6
BREF	Cotopaxi Volca	2.25	72	⇓P	Pn	07 41 32.9	+1.3
JUA2	San Juan 2	2.28	60	P	Pn	07 41 32.1	+0.2
BTAM	Cotopaxi Volca	2.29	73	⇓P	Pn	07 41 33.5	+1.4
PITA	Cotopaxi Volc	2.29	70	⇑P	Pn	07 41 33.5	+1.4
VC1	Cotopaxi 1	2.29	72	P	Pn	07 41 34.0	+1.8
TERV	Terraza Guagua	2.30	59	P	Pn	07 41 32.8	+0.5
PINO	Pino	2.31	59	P	Pn	07 41 32.3	-0.1
GGP	Refugio Guagua	2.31	59	⇑P	Pn	07 41 32.5	+0.1
TAMB	Tambo	2.31	73	P	Pn	07 41 33.8	+1.4
COV1	Cotopaxi Volc	2.34	73	⇑P	Pn	07 41 33.4	+0.5
MACE	Macas	2.54	111	⇓P	Pn	07 41 37.3	+2.1
ANTI	Antisana	2.58	70	⇑P	Pn	07 41 38.0	+1.8
OTAV	Otavalo	2.66	53	⇓S	Sn	07 42 10.6	+1.1
OTAV	Otavalo	2.66	53	⇓P	Pn	07 41 37.2	+0.1
OTAV	Otavalo	2.66	53	ePn	Pn	07 41 37.9	+0.8
OTAV				eSn	Sn	07 42 11.1	+1.5
CAYR	Refugio Cayamb	2.92	62	P	Pn	07 41 44.0	+3.2
ATAH	Atahualpa	6.14	159	P	Pn	07 42 29.0	+4.1
ATAH				S	Sn	07 43 37.5	+2.1
ATAH	Atahualpa	6.14	159	P	Pn	07 42 29.0	+4.1
	2.6nm,0.3s,baz=5.1,slow=4.9,SNR=22						
ATAH				S	Sn	07 43 37.5	+2.1
	8.3nm,0.3s,baz=125,slow=17,SNR=4.7						
ATAH				LR	LR	07 45 01.6	
	comp=Z,3μm,18.6s,baz=338,slow=40						
ROSC	El Rosal	8.78	45	ePn	Pn	07 43 03.2	+2.0
ROS

526A	Mary Lane Ranc baz=39	38.46 326	⇓P	P	07 48 17.4 +1.2
329A	Wagon Wheel Ra baz=39	38.47 330	⇑P	P	07 48 17.2 +1.1
328A	Wristen Ranch, baz=39	38.80 329	⇑P	P	07 48 19.9 +1.0
Z32A	Haskell baz=39	38.81 334	⇑P	P	07 48 19.9 +0.9
130A	Snyder baz=39	38.88 332	⇓P	P	07 48 20.0 +0.4
426A	McDonald Obser baz=39	38.89 327	⇑P	P	07 48 21.0 +1.1
Z31A	Sharp Cattle R baz=39	39.11 334	⇓P	P	07 48 22.2 +0.7
326A	Caldwell Ranch baz=40	39.37 328	⇑P	P	07 48 25.0 +1.3
Y32A	R-V Farms, Ver baz=40	39.39 335	⇑P	P	07 48 24.6 +0.8
425A	Indio Mountain baz=40	39.51 326	⇓P	P	07 48 26.5 +1.5
Z30A	Sanderson Ranc baz=40	39.53 332	⇑P	P	07 48 26.4 +1.4
TUL1	Tulsa baz=40	39.70 341	⇑P	P	07 48 27.2 +0.9
Y31A	Rekieta Farm, baz=40	39.71 334	⇓P	P	07 48 28.2 +1.7
Z29A	Hungry Hill Ra baz=40	39.78 332	⇑P	P	07 48 28.7 +1.6
Y30A	Stafford Cattl baz=40	39.92 333	⇑P	P	07 48 29.7 +1.5
325A	Bean Ranch, Si baz=40	39.95 327	⇓P	P	07 48 30.8 +2.2
226B	Tecolote Peak, baz=40	40.06 328	⇑P	P	07 48 31.4 +1.9
X31A	McDonald Ranch baz=40	40.16 335	⇑P	P	07 48 31.3 +1.2
PLCA	Paso Flores	40.23 168	P	P	07 48 30.8 +0.1
PLCA	Paso Flores 7.3nm,1.0s,baz=332,slow=9.0,SNR=13	40.23 168	P	P	07 48 30.8 +0.1
Y29A	Porterfield Fa baz=40	40.26 332	⇑P	P	07 48 32.5 +1.4
324A	Moseley Ranch, baz=40	40.29 326	⇓P	P	07 48 32.4 +1.0
X30A	Coker Ranch, T baz=41,SNR=5.7	40.39 334	⇑P	P	07 48 32.6 +0.5
126A	Clayton Basin, baz=41	40.43 329	⇑P	P	07 48 34.0 +1.5
225A	Deer Hill, Car baz=41	40.44 328	⇑P	P	07 48 34.0 +1.3
Z27A	Tatum baz=41	40.55 330	⇑P	P	07 48 34.8 +1.2
Y28A	McKinney Farm, baz=41	40.57 332	⇑P	P	07 48 35.3 +1.6
X29A	Tulia baz=41	40.76 333	⇑P	P	07 48 36.1 +0.9
125A	Gardner Draw, baz=41	40.77 328	⇑P	P	07 48 36.6 +1.2
224A	Cornudas Mount baz=41	40.79 327	⇓P	P	07 48 36.7 +1.1
MSTX	Muleshoe baz=41	40.87 331	⇓P	P	07 48 36.9 +0.7
Z26A	Caprock baz=41	40.91 329	⇓P	P	07 48 37.4 +0.9
Y27A	Causey baz=41	40.99 331	⇓P	P	07 48 37.7 +0.5
X28A	Dimmitt baz=41	41.05 332	⇑P	P	07 48 37.9 +0.3
V31A	Spring Creek L baz=41	41.08 336	⇓P	P	07 48 38.6 +0.7
Z25A	Roswell baz=42	41.29 329	⇑P	P	07 48 41.2 +1.6
W29A	Amraillo baz=42	41.30 333	⇑P	P	07 48 40.7 +1.0
123A	Bell Site, Whi baz=42	41.62 327	⇓P	P	07 48 44.4 +2.0
Z24A	Sheeppen Canyo baz=42	41.67 328	⇑P	P	07 48 44.8 +1.9
X26A	CR and CF Fran baz=42	41.84 331	⇑P	P	07 48 46.3 +2.1
W27A	Bowe Ranch, En baz=42	41.90 332	⇓P	P	07 48 46.3 +1.7
U30A	WK&E Inc. Balk baz=42	42.07 336	⇑P	P	07 48 47.4 +1.5
Z23A	Rita Site, Whi baz=42	42.08 327	⇑P	P	07 48 48.2 +2.1
V28A	Channing baz=42	42.08 333	⇓P	P	07 48 47.3 +1.2
Y24A	Capitan baz=42	42.17 329	⇓P	P	07 48 48.9 +2.0
W26A	Owens Ranch, T baz=42	42.26 331	⇑P	P	07 48 48.8 +1.3
220A	Playas Peak, P baz=43	42.37 324	⇑P	P	07 48 50.5 +1.9
121A	Cookes Peak, D baz=43	42.40 325	⇑P	P	07 48 50.9 +2.1
Z22A	Elephant Butte baz=43	42.47 327	⇓P	P	07 48 51.4 +2.0
Y23A	Lovelace Mesa, baz=43	42.50 328	⇓P	P	07 48 51.6 +2.0
W25A	X Bar L Ranch, baz=43	42.70 331	⇑P	P	07 48 52.2 +1.1
V26A	Tequesquite Ra baz=43,SNR=7.1	42.84 332	⇑P	P	07 48 53.7 +1.5
T29A	Hugoton baz=43	42.87 335	⇓P	P	07 48 54.1 +1.7
KSU1	Kansas State U 16nm,0.6s	42.87 342	eP	P	07 48 52.5 +0.1
Z21A	St. Cloud Mine baz=43	42.91 326	⇑P	P	07 48 54.6 +1.6
U27A	Thompson Grove baz=43	42.91 333	⇓P	P	07 48 53.6 +0.8
Y22A	Socorro baz=43	42.99 327	⇓P	P	07 48 55.5 +1.9
X23A	Hourglass Bar baz=43	43.07 329	⇓P	P	07 48 56.0 +1.8
W24A	Lazy 6 Ranch, baz=43	43.16 330	⇓P	P	07 48 56.8 +1.8
S29A	Ulysses baz=43	43.19 336	⇓P	P	07 48 56.8 +1.8
V25A	Rancho No Teng baz=44,SNR=5.6	43.27 331	⇓P	P	07 48 57.2 +1.4
Z20A	Nine Sixteen R baz=44	43.29 325	⇓P	P	07 48 58.3 +2.3
U26A	Atchley Ranch, baz=44	43.31 332	⇓P	P	07 48 57.9 +1.7
R30A	Dighton baz=44	43.43 337	⇓P	P	07 48 58.2 +1.2
X22A	Bernardo baz=44	43.44 328	⇑P	P	07 48 58.7 +1.4
S28A	Manter baz=44	43.49 335	⇓P	P	07 48 58.8 +1.3
ANMO	Albuquerque 5.2nm,1.0s	43.49 329	eP	P	07 48 58.7 +1.0
W23A	Werner Place, baz=44	43.50 329	⇑P	P	07 48 59.6 +1.9
V24A	Rampart Ranch, baz=44	43.50 330	⇓P	P	07 48 58.5 +0.8
U25A	Circle Dot Ran baz=44	43.62 332	⇓P	P	07 49 00.2 +1.6
Y20A	Horse Springs, baz=44	43.74 326	⇑P	P	07 49 01.9 +2.1
X21A	Alamocita Cree baz=44	43.82 327	⇑P	P	07 49 02.1 +1.8
R29A	Marienthal baz=44	43.89 337	⇓P	P	07 49 02.7 +2.0
R28A	Tribune baz=44	44.09 336	⇓P	P	07 49 03.5 +1.2
S26A	Kim baz=44	44.19 334	⇑P	P	07 49 04.0 +0.8
T25A	Trinidad baz=44	44.22 332	⇓P	P	07 49 05.0 +1.5
Q29A	Oakley baz=44	44.23 337	⇓P	P	07 49 04.8 +1.4
W21A	San Fidel baz=44	44.25 328	⇑P	P	07 49 05.5 +1.8
X20A	Quemado baz=44	44.28 326	⇓P	P	07 49 06.3 +2.2
U23A	El Rito baz=45,SNR=6.0	44.43 330	⇑P	P	07 49 06.5 +1.3
R27A	Eads baz=45,SNR=5.4	44.46 335	⇑P	P	07 49 05.4 +0.2
V22A	San Miguel Ran baz=45	44.47 329	⇑P	P	07 49 07.2 +1.6
T24B	San Luis baz=45	44.62 331	⇑P	P	07 49 08.0 +1.2
S25A	Robets Cordova baz=45	44.66 333	⇓P	P	07 49 08.6 +1.6
W20A	Ramah baz=45	44.72 327	⇓P	P	07 49 09.8 +2.3
U22A	Llaves baz=45	44.80 330	⇓P	P	07 49 08.0 -0.2
T23A	Casias Ranch, baz=45	44.91 331	⇑P	P	07 49 10.4 +1.3
214A	Organ Pipe Nat baz=45	45.05 320	⇓P	P	07 49 11.3 +1.2
X18A	Snowflake baz=45	45.09 325	⇓P	P	07 49 12.4 +1.9
U21A	Nageezi baz=46	45.25 329	⇑P	P	07 49 13.8 +2.0
T22A	Edith baz=46	45.32 330	⇓P	P	07 49 14.4 +2.1
P27A	Ficken Ranch, baz=46	45.44 336	⇓P	P	07 49 15.0 +1.9
BGNE	Belgrade baz=46	45.46 341	⇑P	P	07 49 15.1 +2.0
Q25A	Bedland, Calha baz=46	45.60 334	⇑P	P	07 49 16.3 +1.8
T21A	Navajo Lake baz=46	45.62 329	⇓P	P	07 49 16.5 +1.8
S22A	4UR Ranch, Cre baz=46	45.86 331	⇓P	P	07 49 17.9 +1.2
X16A	Lo Mia Camp, P baz=46,SNR=5.3	45.88 324	⇑P	P	07 49 18.2 +1.5
P25A	Willow Gulch B baz=46	46.07 335	⇓P	P	07 49 19.2 +1.1
Z14A	Wintersburg baz=46	46.07 322	⇓P	P	07 49 20.5 +2.5
R22A	Saguache, Gunn baz=46	46.20 331	⇓P	P	07 49 20.7 +1.3
MVCO	Mesa Verde baz=46	46.28 329	⇓P	P	07 49 21.3 +1.3
Q23A	Hartsel baz=46	46.31 333	⇑P	P	07 49 21.5 +1.3
L31A	Butterfield Fa baz=47	46.37 341	⇑P	P	07 49 21.3 +1.0
Y14A	Wickenburg baz=47	46.49 322	⇑P	P	07 49 23.8 +2.4
WUAZ	Wupatki 5.6nm,0.9s	46.61 325	eP	P	07 49 24.4 +2.0
WUAZ	Wupatki baz=47,SNR=5.1	46.61 325	⇓P	P	07 49 24.3 +1.9
S20A	Disappointment baz=47	46.69 330	⇑P	P	07 49 24.4 +1.3
P23A	Jefferson baz=47	46.69 333	⇑P	P	07 49 24.8 +1.6
R21A	Cimarron baz=47	46.70 331	⇓P	P	07 49 24.1 +0.9
Q22A	Crested Butte, baz=47	46.78 332	⇓P	P	07 49 25.8 +1.9
ISCO	Idaho Springs baz=47	46.94 334	⇑P	P	07 49 26.7 +1.7
R20A	Redvale baz=47	46.97 330	⇑P	P	07 49 27.1 +1.8
O23A	Lake Granby, G baz=48	47.41 334	⇓P	P	07 49 29.7 +0.9
P21A	Newcastle baz=48	47.56 332	⇑P	P	07 49 31.4 +1.5
DVTC	Desert V Tower baz=48	47.64 318	⇑P	P	07 49 32.7 +2.3
O22A	Kremmling baz=48	47.65 333	⇓P	P	07 49 31.7 +1.1
U15A	North Rim baz=48	47.78 325	⇓P	P	07 49 33.2 +1.5
W13A	Hualapai Mount baz=48	47.81 323	⇓P	P	07 49 33.7 +1.8
BC3	Big Chuckawall baz=48	47.84 320	⇓P	P	07 49 33.9 +1.8
J28A	Allard Ranch, baz=48	48.28 340	⇓P	P	07 49 36.3 +1.1
M23A	Laramie baz=49	48.35 335	⇑P	P	07 49 37.4 +1.5
P19A	Cripple Cowboy baz=49	48.38 331	⇑P	P	07 49 37.3 +1.0
J27A	Elkhorn Farm, baz=49	48.40 339	⇑P	P	07 49 37.6 +1.4
I29A	Vivian Onida baz=49	48.50 341	⇑P	P	07 49 37.5 +0.6
N21A	Black Mountain baz=49	48.57 333	⇓P	P	07 49 38.7 +1.0
GMRC	Granite Mounta baz=49	48.70 321	⇑P	P	07 49 41.1 +2.5
I28A	Midland baz=49	48.77 340	⇓P	P	07 49 40.3 +1.4
L23A	Garrett baz=49	48.87 335	⇑P	P	07 49 41.6 +1.6
Q16A	Castle Valley baz=49	48.96 328	⇑P	P	07 49 42.2 +1.5
N20A	Spence Gulch, baz=49	48.97 332	⇓P	P	07 49 42.1 +1.3
I27A	Quinn baz=49	49.13 340	⇓P	P	07 49 42.8 +1.1
HEC	Hector,Ludlow baz=49	49.15 321	⇑P	P	07 49 44.0 +2.0
BBRC	Big Bear Solar baz=49	49.17 320	⇓P	P	07 49 44.6 +2.1
M20A	Sweetwater, Wa baz=50	49.46 333	⇑P	P	07 49 45.7 +1.3
H27A	Hones baz=50	49.64 340	⇑P	P	07 49 46.9 +1.3
I25A	Rochford baz=50	49.70 338	⇑P	P	07 49 47.0 +0.8
EDW2	Edwards Air Fo baz=50	50.25 319	⇓P	P	07 49 52.4 +2.0
J22A	Midwest baz=50	50.27 336	⇑P	P	07 49 51.2 +0.7
F28A	McLaughlin baz=50	50.29 342	⇓P	P	07 49 51.4 +0.9
G26A	Maurine baz=51	50.39 340	⇑P	P	07 49 51.9 +0.6
LRMC	Laurel Mountai baz=51	50.42 320	⇑P	P	07 49 54.2 +2.5
FURC	Furnace Creek, baz=51	50.53 322	⇓P	P	07 49 54.5 +2.2
MPMC	Manual Prospec baz=51	50.66 321	⇑P	P	07 49 55.6 +1.9
DUG	Dugway baz=51	50.76 328	⇓P	P	07 49 55.8 +1.5
K19A	Absolon Red Bu baz=51	50.81 333	⇓P	P	07 49 55.8 +1.1
D30A	Buchanan baz=51,SNR=5.9	50.83 344	⇑P	P	07 49 54.8 +0.3
E28A	Huff baz=51	50.91 342	⇑P	P	07 49 55.8 +0.7
R11A	Troy Canyon, C baz=51	51.00 325	⇓P	P	07 49 57.4 +1.3
D29A	Pettibone, Tap baz=51	51.02 343	⇓P	P	07 49 56.9 +0.9
ISA	Isabella baz=51	51.04 320	⇑P	P	07 49 58.6 +2.2
E27A	Carson baz=51	51.05 341	⇓P	P	07 49 57.4 +1.2
PDAR	Pinedale Array	51.09 333	P	P	07 49 57.5 +0.6
PDAR	Pinedale Array 1.5nm,1.2s,baz=153,slow=10.0,SNR=4.9	51.09 333	P	P	07 49 57.5 +0.6
HWUT	Hardware Ranch 6.1nm,1.1s	51.16 330	eP	P	07 49 58.0 +0.8
MDND	Maddock baz=52	51.74 344	⇑P	P	07 50 01.9 +0.6
B30A	Myrvik Farm, E baz=52	51.95 345	⇑P	P	07 50 03.9 +1.0
B29A	Wagenman Farm, baz=52	52.24 344	⇑P	P	07 50 06.1 +1.1
D25A	Fairfield baz=52	52.26 341	⇓P	P	07 50 06.3 +1.1
RRI2	Red Ridge 3.0nm,0.7s	52.36 332	eP	P	07 50 07.1 +0.7
A30A	Hoffart Farm, baz=53	52.40 345	⇑P	P	07 50 06.9 +0.7
C26A	Wahner Farm, P baz=53	52.46 342	⇓P	P	07 50 07.5 +0.8
E22A	Miles City baz=53	52.58 338	⇑P	P	07 50 08.2 +0.6
A29A	Manning Farm, baz=53,SNR=6.3	52.62 345	⇓P	P	07 50 07.8 0.0
C24A	Savage baz=53	52.96 340	⇓P	P	07 50 11.0 +0.5
F19A	Roth Farm, Mol baz=54	53.27 336	⇓P	P	07 50 13.9 +1.0
E20A	Meyer Farm, Mu baz=54	53.47 337	⇑P	P	07 50 15.5 +1.3
C22A	Vida baz=54	53.66 339	⇑P	P	07 50 16.6 +1.1
E19A	Rath Farm, Rou baz=54	53.70 336	⇑P	P	07 50 16.4 +0.4
D20A	Manuel Ranch, baz=54	53.95 337	⇓P	P	07 50 19.1 +1.3
B23A	Brockton baz=54	53.96 340	⇑P	P	07 50 18.9 +1.2
HLID	Hailey baz=54	54.02 330	⇑P	P	07 50 19.6 +1.1
A24A	Westby baz=54	54.03 341	⇑P	P	07 50 19.3 +1.0
C21A	Desert Coulee baz=54	54.17 338	⇑P	P	07 50 20.6 +1.3
D19A	Cripps Ranch, baz=54	54.31 337	⇓P	P	07 50 21.7 +1.3
C20A	Veseth Ranch, baz=55	54.42 338	⇓P	P	07 50 22.4 +1.3
MFID	Camas Ranch baz=55	54.63 329	⇓P	P	07 50 24.7 +1.9
B21A	Ellsworth Farm baz=55	54.64 339	⇓P	P	07 50 24.0 +1.3
C19A	Slack Wire Ran baz=55	54.84 337	⇓P	P	07 50 25.5 +1.3
B20A	Solberg Farm, baz=55	55.02 338	⇓P	P	07 50 26.7 +1.2
A21A	Bergtoll Ranch baz=55	55.08 339	⇑P	P	07 50 27.0 +1.1
A20A	Cobblestone Ra baz=56	55.35 338	⇓P	P	07 50 29.2 +1.3
EGMT	Eagleton baz=56	55.35 337	⇑P	P	07 50 29.5 +1.6
B19A	Brinkman Farms baz=56	55.39 337	⇓P	P	07 50 29.6 +1.5
YBH	Yreka Blue Hor	57.36 323	P	P	07 50 42.7 +0.3
YBH	Yreka Blue Hor 1.9nm,1.0s,baz=4.2,slow=2.7,SNR=3.9	57.36 323	P	P	07 50 42.7 +0.3
NEW	Newport comp=Z,110nm,19.2s,baz=140,slow=36	58.72 332	LR	LR	08 16 16.1
YKA	Yellowknife Ar	68.66 344	P	P	07 51 56.7 -0.3
YKA	Yellowknife Ar 0.7nm,0.5s,baz=133,slow=6.0,SNR=3.1	68.66 344	P	P	07 51 56.7 -0.3
PPT	Papeete comp=Z,103nm,20.0s,baz=55,slow=30	69.58 252	LR	LR	08 15 35.4
DBIC	Dimbokro comp=Z,157nm,20.4s,baz=240,slow=34	75.99 83	LR	LR	08 23 39.4
INK	Inuvik	78.34 342	P	P	07 52 53.0 -0.8
INK	Inuvik 4.9nm,1.0s,baz=102,slow=3.2,SNR=5.3	78.34 342	P	P	07 52 53.0 -0.8
ILAR	Eielson Array	81.32 337	P	P	07 53 09.0 -1.1
ILAR	Eielson Array 1.0nm,1.1s,baz=104,slow=2.6,SNR=5.3	81.32 337	P	P	07 53 09.0 -1.1
ILAR	LR comp=Z,84nm,20.0s,baz=59,slow=37		LR	LR	08 31 14.2
TORD	Torodi Ar. Bea	82.79 77	P	P	07 53 17.4 -1.5
TORD	Torodi Ar. Bea 2.4nm,1.1s,baz=299,slow=7.3,SNR=8.7	82.79 77	P	P	07 53 17.4 -1.5
TORD	LR comp=Z,180nm,18.5s,baz=225,slow=34		LR	LR	08 27 51.3
PPLA	Purkeypile	82.90 334	eP	P	07 53 18.1 -0.6
VNA2	Neumayer--Watz baz=301,slow=4.2	83.26 162	eP	P	07 53 18.7 -1.5
SNAA	Sanae	84.87 162	eP	P	07 53 27.5 -1.0
QSPA	South Pole Qui 8.0nm,1.3s	88.70 180	eP	P	07 53 46.8 -0.5
ARCES	ARCESS Array B comp=Z,46nm,20.1s,baz=299,slow=34	96.86 20	LR	LR	08 35 24.0
URZ	Urewera comp=Z,122nm,18.0s,baz=119,slow=30	98.81 231	LR	LR	08 30 27.0
FINES	FINESS Array B comp=Z,74nm,20.1s,baz=270,slow=34	99.11 28	LR	LR	08 36 41.3
ZALV	Zalesovo Beam	126.22 11	PKP	PKPdf	07 59 55.7 -0.9
ZALV	Zalesovo Beam 0.7nm,0.4s,baz=298,slow=3.2,SNR=3.9	126.22 11	PKP	PKPdf	07 59 55.7 -0.9
KURK	Kurchatov	127.76 17	PKP	PKPdf	07 59 59.5 -0.1
KURBB	Kurchatov Arra 0.3nm,0.3s,baz=319,slow=3.2,SNR=4.6	127.81 17	PKP	PKPdf	07 59 59.5 -0.2
MKAR	Makanchi Array	132.34 16	PKP	PKPdf	08 00 06.3 -2.2
MKAR	Makanchi Array 1.0nm,1.0s,baz=14,slow=2.5,SNR=3.9	132.34 16	PKP	PKPdf	08 00 06.3 -2.2
ASAR	Alice Springs	138.26 231	PKP	PKPdf	08 00 17.4 -2.8
ASAR	Alice Springs 0.9nm,0.8s,baz=75,slow=1.4,SNR=6.3	138.26 231	PKP	PKPdf	08 00 17.4 -2.8
WRA	Warramunga Arr	139.74 236	PKP	PKPdf	08 00 20.5 -2.5
WRA	Warramunga Arr 0.9nm,0.8s,baz=120,slow=1.7,SNR=7.9	139.74 236	PKP	PKPdf	08 00 20.5 -2.5
FITZ	Fitzroy Crossi	147.75 232	PKPbc	PKPbc	08 00 39.3 -0.5
FITZ	Fitzroy Crossi 5.1nm,0.9s,baz=42,slow=1.3,SNR=4.7	147.75 232	PKPbc	PKPbc	08 00 39.3 -0.5

MEX 16 07:54:15.7±0.4, 16°.95N×95°.34W, h100km±4km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.46	71	eP	Pn	07 54 29.9	-1.3
CMIG				i S	Sn	07 54 41.0	-1.7
VHO	Vista Hermosa	1.34	276	eP	Pn	07 54 39.0	-1.3
VHO				i S	Sn	07 54 57.5	-1.5
HUIG	Huatulco	1.39	213	eP	Pn	07 54 38.8	-1.8
HUIG				eS	Sn	07 54 57.8	-1.6
TGIG		2.12	94	eP	Pn	07 54 48.9	-1.1
TGIG				eS	Sn	07 55 14.5	-1.7
PCIG		2.38	121	eP	Pn	07 54 51.9	-1.3
PCIG				eS	Sn	07 55 21.3	-0.6
CCIG	Comitan	3.14	102	eP	Pn	07 55 02.4	-1.2
CCIG				eS	Sn	07 55 39.7	-0.7

*TIF **16** 08:18:17.7, 42°.56N×43°.49E, h9km±1km*
*CSEM **16** 08:18:18.8, 42°.57N×43°.42E, h13km, mb3.8, After OBN*
*MOS **16** 08:18:18.8±1.4, 42°.57N×43°.42E, h13km, mb3.8/1, Error ellipse: s-maj=8.7km s-min=5.0km az=76.2*

ISC 16 08:18:18.7±0.8, 42°.54N±0°.02×43°.44E±0°.03, h5km±6km, n63, σ0°.63/101, 5C-8D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	Oni	0.05	9	PG	Pg	08 18 19.9	-0.2
ONI	Oni	0.05	9	Pg	Pg	08 18 19.9	-0.2
ONI	Oni	0.05	9	P	Pg	08 18 20.0	-0.2
ONI				S	Sg	08 18 21.4	+0.2
DIGR	Digorskoe uzhe	0.38	16	⇓iPG	Pg	08 18 25.2	-0.9
DIGR				i S	Sg	08 18 30.9	-0.2
DIGR	Digorskoe uzhe	0.38	16	i Pg	Pg	08 18 25.2	-0.9
DIGR				i Sg	Sg	08 18 30.9	-0.2
ZEI	Tsey	0.42	53	⇓iPG	Pg	08 18 26.4	-0.5
ZEI				i S	Sg	08 18 32.5	0.0
ZEI	Tsey	0.42	53	i Pg	Pg	08 18 26.4	-0.5
ZEI				i Sg	Sg	08 18 32.5	0.0
LACR	Lac	0.69	65	⇓iPG	Pg	08 18 31.3	-0.8
LACR				i S	Sg	08 18 41.0	-0.1
LACR	Lac	0.69	65	i Pg	Pg	08 18 31.3	-0.8
LACR				i Sg	Sg	08 18 41.0	-0.1
KORR	Kora	0.72	40	⇑iPG	Pg	08 18 32.2	-0.3
KORR				i S	Sg	08 18 42.3	+0.5
KORR	Kora	0.72	40	i Pg	Pg	08 18 32.2	-0.3
KORR				i Sg	Sg	08 18 42.3	+0.5
LSNR	Lesken	0.79	21	⇓iPG	Pg	08 18 33.7	-0.2
LSNR				i S	Sg	08 18 44.7	+0.5
LSNR	Lesken	0.79	21	i Pg	Pg	08 18 33.7	-0.2
LSNR				i Sg	Sg	08 18 44.7	+0.5
STDR	Stavd-Durt	0.95	29	⇓iPG	Pb	08 18 37.9	+0.2
STDR				i S	Sb	08 18 51.1	+0.6
STDR	Stavd-Durt	0.95	29	i Pg	Pb	08 18 37.9	+0.2
STDR				i Sg	Sb	08 18 51.1	+0.6
NCK	Nalchik	0.96	7	ePG	Pg	08 18 37.3	+0.1
NCK	Nalchik	0.96	7	ePg	Pg	08 18 37.3	+0.1
VLKR	Vladikavkaz	1.04	60	ePG	Pg	08 18 38.2	-0.5
VLKR				eS	Sg	08 18 52.5	+0.3
VLKR	Vladikavkaz	1.04	60	ePg	Pg	08 18 38.2	-0.5
VLKR				eSg	Sg	08 18 52.5	+0.3
AKH	Akhalkalaki	1.13	178	PG	Pg	08 18 39.5	-0.8
AKH	Akhalkalaki	1.13	178	Pg	Pg	08 18 39.5	-0.8
AKH	Akhalkalaki	1.13	178	P	Pg	08 18 39.5	-0.8
AKH				S	Sg	08 18 55.4	+0.5
SNJR	Sundja	1.14	62	ePG	Pg	08 18 40.1	-0.5
SNJR				eS	Sg	08 18 55.5	+0.1
SNJR	Sundja	1.14	62	ePg	Pg	08 18 40.1	-0.5
SNJR				eSg	Sg	08 18 55.5	+0.1
BTKR	Batakoyurt	1.16	44	⇑iPG	Pn	08 18 42.2	+0.5
BTKR				eS	Sn	08 18 58.0	0.0
BTKR	Batakoyurt	1.16	44	i Pg	Pn	08 18 42.2	+0.5
BTKR				eSg	Sn	08 18 58.0	0.0
TBLG	Delisi	1.26	129	PG	Pg	08 18 42.2	-0.6
TBLG	Delisi	1.26	129	Pg	Pg	08 18 42.2	-0.6
TBLG	Delisi	1.26	129	P	Pg	08 18 42.2	-0.6
TBLG				S	Sb	08 18 59.7	+0.3
KUBR	Kubataba	1.26	359	⇑iPG	Pn	08 18 43.3	+0.2

KUBR				*i* S	**Sn**	**08 19 01.3**	**+0.8**
KUBR	**Kubataba**	**1.26**	**359**	*i* Pg	**Pn**	**08 18 43.3**	**+0.2**
KUBR				*i* Sg	**Sn**	**08 19 01.3**	**+0.8**
SHAR	**Shatzhatmas**	**1.33**	**335**	⇓*i*PG	**Pn**	**08 18 43.2**	**-1.0**
SHAR				*i* S	**Sb**	**08 19 01.0**	**-0.8**
SHAR	**Shatzhatmas**	**1.33**	**335**	*i* Pg	**Pn**	**08 18 43.2**	**-1.0**
SHAR				*i* Sg	**Sb**	**08 19 01.0**	**-0.8**
PRTR	**Priterechnaya**	**1.36**	**27**	*e*PG	**Pn**	**08 18 43.5**	**-0.9**
PRTR				*e*S	**Sb**	**08 19 01.8**	**-0.6**
PRTR	**Priterechnaya**	**1.36**	**27**	*e*Pg	**Pn**	**08 18 43.5**	**-0.9**
PRTR				*e*Sg	**Sb**	**08 19 01.8**	**-0.6**
KZR	**Kazreti**	**1.36**	**148**	P	**Pn**	**08 18 43.4**	**-1.1**
KZR				S	**Sb**	**08 19 01.7**	**-0.8**
TRKR	**Terskaya**	**1.52**	**38**	*e*PG	**Pb**	**08 18 47.3**	**0.0**
TRKR				*e*S	**Sg**	**08 19 07.7**	**+0.3**
TRKR	**Terskaya**	**1.52**	**38**	*e*Pg	**Pb**	**08 18 47.3**	**0.0**
TRKR				*e*Sg	**Sg**	**08 19 07.7**	**+0.3**
KIV	**Kislovodsk**	**1.52**	**339**	⇑*i*PG	**Pn**	**08 18 46.4**	**-0.3**
KIV				*i* S	**Sn**	**08 19 06.3**	**-0.6**
KIV	**Kislovodsk**	**1.52**	**339**	*i* Pg	**Pn**	**08 18 46.4**	**-0.3**
KIV				*i* Sg	**Sn**	**08 19 06.3**	**-0.6**
PYA	**Pyatigorsk**	**1.52**	**350**	⇑*e*PG	**Pn**	**08 18 46.8**	**+0.2**
PYA				*i* S	**Sb**	**08 19 07.0**	**-0.1**
PYA	**Pyatigorsk**	**1.52**	**350**	*e*Pg	**Pn**	**08 18 46.8**	**+0.2**
PYA				*i* Sg	**Sb**	**08 19 07.0**	**-0.1**
ARTV	**Artvin**	**1.76**	**220**	*i* P	**Pn**	**08 18 49.9**	**-0.2**
ARTV				*i* S	**Sn**	**08 19 13.6**	**+0.6**
DBOC	**Borcka**	**1.78**	**229**	*i* P	**Pn**	**08 18 50.2**	**-0.1**
DBOC				*i* S	**Sb**	**08 19 14.3**	**-0.2**
DGRG	**David-gareji**	**1.80**	**126**	PN	**Pb**	**08 18 52.2**	**-0.1**
DGRG	**David-gareji**	**1.80**	**126**	Pn	**Pb**	**08 18 52.2**	**-0.1**
DGRG	**David-gareji**	**1.80**	**126**	P	**Pb**	**08 18 52.2**	**-0.1**
DGRG				S	**Sg**	**08 19 19.5**	**+2.9**
DAGI	**Agillar**	**1.85**	**219**	*i* P	**Pn**	**08 18 51.7**	**+0.5**
DAGI				*i* S	**Sb**	**08 19 16.8**	**+0.2**
DBAD	**Bademkaya**	**2.00**	**221**	*i* P	**Pn**	**08 18 53.7**	**+0.4**
DBAD				*i* S	**Sb**	**08 19 20.7**	**-0.2**
DDEM	**Demirkent**	**2.08**	**218**	*i* P	**Pn**	**08 18 55.1**	**+0.8**
DDEM				*i* S	**Sb**	**08 19 23.5**	**+0.4**
GNI	**Garni**	**2.58**	**157**	*i* Pn	**Pb**	**08 19 03.9**	**-1.6**
SOC	**Sochi**	**2.92**	**292**	⇓*e*PN	**Pn**	**08 19 05.3**	**-0.6**
SOC	**Sochi**	**2.92**	**292**	*e*Pn	**Pn**	**08 19 05.3**	**-0.6**
KIEV	**Kiev**	**12.72**	**315**	*e*P	**Pn**	**08 21 20.1**	**-0.1**
KIEV	**Kiev**	**12.72**	**315**	*e*P	**Pn**	**08 21 20.1**	**-0.1**
OBN	**Obninsk**	**13.37**	**343**	*i* P	**Pn**	**08 21 27.9**	**-1.0**
OBN	**Obninsk**	**13.37**	**343**	*i* P	**Pn**	**08 21 27.9**	**-1.0**
APE	**Apeiranthos**	**14.80**	**254**	*e*P	**Pn**	**08 21 49.6**	**+0.9**
APE	**Apeiranthos**	**14.80**	**254**	*e*P	**Pn**	**08 21 49.6**	**+0.9**
BRVK	**Borovoye**	**20.75**	**50**	⇓*e*P	Pn	08 23 03.8	+1.2
BRVK	**Borovoye**	**20.75**	**50**	*e*P	Pn	08 23 03.8	+1.2
AAK	**Ala-Archa**	**22.80**	**79**	*i* P	**P**	**08 23 23.3**	**+0.8**
AAK	**Ala-Archa**	**22.80**	**79**	*i* P	**P**	**08 23 23.3**	**+0.8**

IDC 16 08:27:16.4±51.0, 16°.41S×177°.95W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/17, mbtmp3.9/3, Error ellipse: s-maj=933.0km s-min=153.2km az=77.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.75**	**240**	P	P	08 34 50.9	-0.2
	0.6nm,0.4s,baz=89,slow=13,SNR=2.9						
WRA	**Warramunga Arr**	**45.36**	**258**	P	P	08 35 36.8	-0.1
	0.1nm,0.3s,baz=90,slow=8.3,SNR=11						
ASAR	**Alice Springs**	**45.64**	**253**	P	P	08 35 39.0	-0.1
	2.3nm,0.5s,baz=88,slow=8.5,SNR=53						

KRSC 16 08:28:15.5±0.5, 49°.58N×156°.75E, h9km±10km, ML3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.18**	**340**	*e*P	Pb	08 28 37.0	-1.0
SKR				*e*S	Sb	08 28 52.4	-0.9
PAU	**Pauzhetka**	**1.89**	**1**	S	Sb	08 29 13.1	-0.7
MIPR	**Malaya Ipel'ka**	**2.70**	**0**	P	Pn	08 28 59.9	+0.8
MIPR				S	Sn	08 29 31.7	-0.2
ASAK	**Asacha**	**2.90**	**14**	*e*P	Pn	08 29 04.2	+2.3
MTVR	**Mutnovka**	**3.04**	**17**	*e*P	Pn	08 29 06.2	+2.2
RUS	**Russkaya**	**3.07**	**21**	*e*P	Pn	08 29 05.3	+1.2
RUS				*e*S	Sn	08 29 40.5	-0.3
APC	**Apacha**	**3.36**	**4**	*e*P	Pn	08 29 10.2	+2.1
APC				*e*S	Sn	08 29 48.9	+0.8
PET	**Petropavlovsk**	**3.65**	**18**	*e*P	Pn	08 29 13.5	+1.4
PET				*e*S	Sn	08 29 55.4	+0.2
UGLR	**Uglovaya**	**3.86**	**19**	*e*P	Pn	08 29 17.8	+2.7
KRER	**Koryakskii**	**3.93**	**18**	*e*P	Pn	08 29 18.4	+2.1
KRER				*e*S	Sn	08 30 05.9	+3.2
SDLR	**Sedlovina**	**3.94**	**19**	*e*P	Pn	08 29 18.0	+1.8
SDLR				*e*S	Sn	08 30 04.5	+1.9
GNL	**Ganaly**	**4.19**	**10**	*e*P	Pn	08 29 21.9	+2.2
MKZ	**Mys Kozlova**	**5.85**	**30**	*e*P	Pn	08 29 43.2	+0.9
MKZ				*e*S	Sn	08 30 46.5	-3.0
TUMR	**Tumrok**	**6.08**	**19**	*e*P	Pn	08 29 50.0	+4.4
KBTR	**Krutoberegovo**	**7.58**	**27**	*e*P	Pn	08 30 07.6	+1.5

*ATH **16** 08:32:13.8, 33°.90N×25°.50E, h9km±2km, MD3.6/12*
*CSEM **16** 08:32:14.0±0.9, 33°.90N×25°.53E, h2km, MD3.6, Error ellipse: s-maj=15.7km s-min=11.0km az=164.0*
*THE **16** 08:32:15.6, 33°.93N×25°.51E, h0km±6km, Error ellipse: s-maj=14.7km s-min=2.0km az=154.0*
*IDC **16** 08:32:16.4±1.2, 34°.13N×25°.35E, h0km, mb3.6/5, mb1 3.8/9, mb1mx3.7/28, mbtmp3.6/9, ML4.0/4, Error ellipse: s-maj=20.8km s-min=19.2km az=34.0*

ISC 16 08:32:15.7±1.9, 33°.99N±0°.07×25°.50E±0°.04, h1km±10km, n47, σ1§19/60, mb3.5/5, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAST	**Lasithi**	**1.17**	**359**	P	**Pb**	**08 32 38.5**	**-0.3**
LAST				S	**Sn**	**08 32 57.4**	**+1.5**
LAST	**Lasithi**	**1.17**	**359**	*e*PB	**Pg**	**08 32 37.8**	**-0.3**
LAST				*e*SB	**Sg**	**08 32 54.8**	**+1.5**
LAST	**Lasithi**	**1.17**	**359**	*e*Pb	**Pg**	**08 32 37.8**	**-0.3**
LAST	**Lasithi**	**1.17**	**359**	P	**Pb**	**08 32 38.5**	**-0.3**
LAST				*e*Sb	**Sg**	**08 32 54.8**	**+1.5**
LAST				S	**Sn**	**08 32 57.4**	**+1.5**
SIVA	**Sivas**	**1.17**	**331**	P	**Pg**	**08 32 37.7**	**-0.5**
SIVA				S	**Sn**	**08 32 56.9**	**+1.0**
SIVA	**Sivas**	**1.17**	**331**	*e*PB	**Pg**	**08 32 37.5**	**-0.7**
SIVA				*e*SB	**Sg**	**08 32 54.5**	**+1.1**
SIVA	**Sivas**	**1.17**	**331**	P	**Pg**	**08 32 37.7**	**-0.5**
SIVA				*e*Sb	**Sg**	**08 32 54.5**	**+1.1**
SIVA				S	**Sn**	**08 32 56.9**	**+1.0**
ZKR	**Zakros**	**1.27**	**28**	P	**Pb**	**08 32 40.2**	**-0.2**
ZKR	**Zakros**	**1.27**	**28**	*e*PB	**Pg**	**08 32 39.1**	**-0.9**
ZKR	**Zakros**	**1.27**	**28**	*e*Pb	**Pg**	**08 32 39.1**	**-0.9**
ZKR	**Zakros**	**1.27**	**28**	P	**Pb**	**08 32 40.2**	**-0.2**
NPS	**Neapolis**	**1.27**	**4**	*e*PB	**Pn**	**08 32 38.6**	**-2.1**
NPS	**Neapolis**	**1.27**	**4**	*e*Pb	**Pn**	**08 32 38.6**	**-2.1**
IDI	**Anoyia**	**1.39**	**339**	P	**Pn**	**08 32 41.3**	**-1.0**
IDI				S	**Sb**	**08 33 00.5**	**-0.3**
IDI	**Anoyia**	**1.39**	**339**	*e*PB	**Pn**	**08 32 41.5**	**-0.8**
IDI	**Anoyia**	**1.39**	**339**	Pn	**Pn**	**08 32 40.0**	**-2.3**
	10nm,0.3s,baz=172,slow=16,SNR=32						
IDI				Sn	**Sb**	**08 32 58.2**	**-2.6**
	16nm,0.3s,baz=152,slow=21,SNR=10						
IDI	**Anoyia**	**1.39**	**339**	*e*Pb	**Pn**	**08 32 41.5**	**-0.8**
IDI				S	**Sb**	**08 33 00.5**	**-0.3**
GVD	**Gavdhos**	**1.44**	**306**	P	**Pn**	**08 32 41.8**	**-1.2**
GVD				S	**Sg**	**08 33 04.1**	**+2.0**
GVD	**Gavdhos**	**1.44**	**306**	*e*PG	**Pn**	**08 32 41.8**	**-1.2**
GVD	**Gavdhos**	**1.44**	**306**	P	**Pn**	**08 32 41.8**	**-1.2**
GVD				S	**Sg**	**08 33 04.1**	**+2.0**
VAM	**Vamos**	**1.77**	**323**	P	**Pb**	**08 32 47.9**	**-1.2**
VAM				S	**Sn**	**08 33 11.1**	**+0.4**
VAM	**Vamos**	**1.77**	**323**	*e*PG	**Pb**	**08 32 48.7**	**-0.4**
VAM	**Vamos**	**1.77**	**323**	P	**Pb**	**08 32 47.9**	**-1.2**
VAM	**Vamos**	**1.77**	**323**	*e*Pg	**Pb**	**08 32 48.7**	**-0.4**
VAM				S	**Sn**	**08 33 11.1**	**+0.4**
KARN	**Karanos**	**1.92**	**318**	P	**Pn**	**08 32 49.8**	**+0.1**
KARN	**Karanos**	**1.92**	**318**	*e*PN	**Pn**	**08 32 49.7**	**+0.1**
KARN	**Karanos**	**1.92**	**318**	*e*Pn	**Pn**	**08 32 49.7**	**+0.1**
ANKY	**Antikythira Is**	**2.60**	**317**	*e*PB	**Pn**	**08 32 58.9**	**0.0**
ANKY	**Antikythira Is**	**2.60**	**317**	*e*Pb	**Pn**	**08 32 58.9**	**0.0**
KYTH	**Kithira**	**3.05**	**319**	*e*PB	**Pn**	**08 33 06.1**	**+1.0**
KYTH	**Kithira**	**3.05**	**319**	*e*Pb	**Pn**	**08 33 06.1**	**+1.0**
APE	**Apeiranthos**	**3.07**	**0**	*e*PN	**Pn**	**08 33 06.3**	**+0.9**
APE	**Apeiranthos**	**3.07**	**0**	*e*Pn	**Pn**	**08 33 06.3**	**+0.9**
VLI	**Veliai**	**3.43**	**323**	P	**Pn**	**08 33 09.4**	**-1.0**
VLI	**Veliai**	**3.43**	**323**	*e*PN	**Pn**	**08 33 10.4**	**0.0**
VLI	**Veliai**	**3.43**	**323**	P	**Pn**	**08 33 09.4**	**-1.0**
VLI	**Veliai**	**3.43**	**323**	*e*Pn	**Pn**	**08 33 10.4**	**0.0**
BRTR	**Keskin Array B**	**8.67**	**46**	Pn	Pn	08 34 30.3	+7.8
	0.1nm,0.3s,baz=238,slow=8.3,SNR=2.8						
EIL	**Elat**	**9.12**	**116**	Pn	Pn	08 34 30.9	+2.4
	0.8nm,0.3s,baz=308,slow=3.3,SNR=2.5						
KBZ	**Khabaz**	**16.65**	**49**	Pn	**P**	**08 36 15.5**	**+2.8**
	0.1nm,0.3s,baz=277,slow=8.1,SNR=3.4						
AKASG	**Malin Array Be**	**16.92**	**8**	Pn	**P**	**08 36 14.2**	**-1.5**
	1.1nm,0.3s,baz=201,slow=10,SNR=11						
GERES	**GERESS Array B**	**17.25**	**333**	Pn	**P**	**08 36 18.4**	**-1.1**
	0.3nm,0.3s,baz=142,slow=13,SNR=5.0						
ESDC	**Sonseca Array**	**24.19**	**292**	P	**P**	**08 37 35.0**	**+1.2**
	0.4nm,0.5s,baz=76,slow=11,SNR=3.4						
NOA	**NORSAR Array B**	**28.60**	**345**	P	**P**	**08 38 11.4**	**-1.9**
	0.7nm,0.7s,baz=147,slow=9.1,SNR=2.8						
TORD	**Torodi Ar. Bea**	**29.97**	**232**	P	**P**	**08 38 25.9**	**0.0**
	0.4nm,0.5s,baz=31,slow=8.6,SNR=6.5						
KURBB	**Kurchatov Arra**	**41.65**	**50**	P	**P**	**08 40 06.4**	**+0.9**
	0.3nm,0.6s,baz=274,slow=9.0,SNR=3.3						
MKAR	**Makanchi Array**	**44.19**	**56**	P	**P**	**08 40 27.2**	**+1.0**
	1.1nm,0.5s,baz=266,slow=7.9,SNR=16						

IDC 16 08:38:11.3±4.1, 1°.70N×122°.75E, h428km±44km, mb3.1/5, mb1 3.3/6, mb1mx3.0/24, mbtmp3.2/6, Error ellipse: s-maj=77.3km s-min=17.1km az=58.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**7.31**	**204**	P	P	08 39 59.0	-0.2
	4.2nm,0.3s,baz=333,slow=4.5,SNR=7.5						
WRA	**Warramunga Arr**	**24.33**	**153**	P	P	08 42 52.9	-0.4
	1.9nm,0.4s,baz=335,slow=9.4,SNR=51						
ASAR	**Alice Springs**	**27.45**	**157**	P	P	08 43 20.6	-0.3
	0.4nm,0.3s,baz=339,slow=9.7,SNR=16						
ASAR				PcP	PcP	08 46 26.1	-0.5
	0.3nm,0.3s,baz=349,slow=2.6,SNR=4.6						
STKA	**Stephens Creek**	**37.88**	**153**	P	P	08 44 50.8	+0.8
	2.9nm,0.4s,baz=328,slow=8.6,SNR=10						
MKAR	**Makanchi Array**	**57.05**	**328**	P	P	08 47 15.0	0.0
	0.2nm,0.4s,baz=117,slow=7.2,SNR=2.8						
VNDA	**Vanda**	**81.96**	**172**	P	P	08 49 44.2	-0.2
	0.3nm,0.4s,baz=324,slow=6.3,SNR=4.4						

*ISCJB **16** 09:28:00.8±0.5, 34°.94N±0°.05×140°.43E±0°.05, h61km±3km, mb3.7/7, Error ellipse: s-maj=9.8km s-min=5.9km az=35.4*
*IDC **16** 09:28:00.5±3.1, 34°.92N×140°.50E, h38km±28km, mb3.5/7, mb1 3.9/10, mb1mx3.6/28, mbtmp3.7/10, ML3.7/2, MS3.3/2, Ms1 3.3/2, ms1mx2.6/29, Error ellipse: s-maj=25.2km s-min=16.6km az=89.0*
*JMA **16** 09:28:00.7±0.1, 34°.99N×140°.49E, h60km±2km, M3.4*
JMA Felt I J1.
*NIED **16** 09:28:00, 34°.90N×140°.50E, h47km, Mw3.8 Best double couple: M₀5.06000×10¹⁴ NP1:φ₀s135.00000°, δ75.00000°, λ-33.00000°. NP2:φ₀s234.00000°, δ58.00000°, λ-163.00000°.*

ISC 16 09:28:01.9±0.8, 34°.96N±0°.06×140°.43E±0°.05, h56km±6km, n21, σ0§92/30, mb3.9/7, 7D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO4	**Boso 4**	**0.08**	**291**	⇓P	**Pn**	**09 28 10.1**	**-0.1**
BSO4				S	**Sn**	**09 28 17.4**	**+1.2**
BSO3	**Boso 3**	**0.17**	**158**	⇓P	**Pn**	**09 28 10.0**	**-0.4**
BSO3				S	**Sn**	**09 28 16.3**	**-0.2**
KTR	**Katsuura**	**0.21**	**333**	⇓P	**Pn**	**09 28 10.3**	**-0.6**
KTR				S	**Sn**	**09 28 16.4**	**-1.0**
TATJ	**Tateyama 2**	**0.45**	**279**	⇓P	**Pn**	**09 28 13.3**	**+0.3**
TATJ				S	**Sn**	**09 28 22.3**	**+1.3**
JCN	**Nagara**	**0.49**	**338**	⇓P	**Pn**	**09 28 13.3**	**-0.1**
JCN				*e*S	**Sn**	**09 28 22.3**	**+0.5**
BSO1	**Boso 1**	**0.54**	**124**	P	**Pn**	**09 28 12.9**	**-0.5**
BSO1				*e*S	**Sn**	**09 28 22.8**	**+0.9**
JIM2	**Oshima 3**	**0.86**	**254**	⇓P	**Pn**	**09 28 17.3**	**-0.6**
JIM2				S	**Sn**	**09 28 29.2**	**-0.5**
JOD2	**Odawara 2**	**1.14**	**286**	⇓P	**Pn**	**09 28 20.8**	**-0.9**
JOD2				S	**Sn**	**09 28 35.7**	**-0.7**
JYT	**Yasato**	**1.28**	**351**	P	**Pn**	**09 28 22.5**	**-1.0**
MJAR	**Matsushiro Arr**	**2.40**	**312**	Pn	**Pn**	**09 28 38.5**	**-0.2**
	9.4nm,0.3s,baz=143,slow=14,SNR=51						
MJAR				Sn	**Sn**	**09 29 07.0**	**0.0**
	19nm,0.3s,baz=130,slow=29,SNR=11						
MAT	**Matsushiro**	**2.40**	**312**	P	**Pn**	**09 28 38.8**	**0.0**
MAT				S	**Sn**	**09 29 06.9**	**-0.1**
CBIJ	**Chichi jima**	**7.98**	**169**	Pn	**Pn**	**09 29 53.0**	**-2.2**
	baz=270,slow=20						
CBIJ				LR	LR	09 32 29.6	
	comp=Z,830nm,19.6s,baz=317,slow=34						
ASAJ	**Asahikawa**	**9.29**	**10**	Pn	**Pn**	**09 30 11.2**	**-1.8**
	1.1nm,0.3s,baz=256,slow=13,SNR=12						
PETK	**Petropavlovsk-**	**21.88**	**29**	LR	LR	09 41 47.0	
	comp=Z,21nm,20.7s,baz=138,slow=38						
MKAR	**Makanchi Array**	**44.58**	**304**	P	**P**	**09 36 09.2**	**+0.9**
	0.4nm,0.7s,baz=97,slow=10,SNR=4.0						
KURBB	**Kurchatov Arra**	**46.67**	**309**	P	**P**	**09 36 24.8**	**+0.1**
	0.8nm,0.5s,baz=84,slow=7.7,SNR=4.9						
ILAR	**Eielson Array**	**51.67**	**31**	P	**P**	**09 37 02.9**	**+0.2**
	1.1nm,0.8s,baz=266,slow=6.1,SNR=11						
WRA	**Warramunga Arr**	**54.91**	**187**	P	**P**	**09 37 25.8**	**-1.1**
	1.4nm,0.4s,baz=23,slow=7.3,SNR=50						
ASAR	**Alice Springs**	**58.63**	**187**	P	**P**	**09 37 54.5**	**+1.2**
	0.7nm,0.4s,baz=24,slow=11,SNR=16						
NVAR	**Mina Array Bea**	**76.88**	**52**	P	**P**	**09 39 49.0**	**+0.7**
	0.5nm,0.8s,baz=290,slow=4.5,SNR=4.0						
PDAR	**Pinedale Array**	**79.69**	**45**	P	**P**	**09 40 04.7**	**+0.8**
	0.2nm,0.6s,baz=247,slow=1.9,SNR=3.4						

IDC 16 09:39:05.4±2.5, 0°.23S×132°.63E, h0km, mb3.8/2, mb1 4.0/4, mb1mx3.6/21, mbtmp3.8/4, ML3.7/2, MS3.2/1, Ms1 3.2/1, ms1mx2.3/31, Error ellipse: s-maj=98.7km s-min=26.7km az=77.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.05**	**201**	P	P	09 43 27.9	-1.4
	0.1nm,0.3s,baz=40,slow=13,SNR=6.1						
WRA	**Warramunga Arr**	**19.67**	**175**	P	P	09 43 36.5	+0.4
	0.3nm,0.3s,baz=356,slow=11,SNR=17						
ASAR	**Alice Springs**	**23.33**	**177**	P	P	09 44 16.0	+0.5
	7.4nm,0.9s,baz=357,slow=10,SNR=43						
MJAR	**Matsushiro Arr**	**36.95**	**7**	LR	LR	09 59 18.0	
	comp=Z,39nm,21.9s,baz=230,slow=33						
MKAR	**Makanchi Array**	**64.17**	**324**	P	P	09 49 41.9	0.0
	0.4nm,0.7s,baz=120,slow=7.2,SNR=4.0						

IDC 16 09:46:18.5±13.0, 18°.63S×167°.71E, h0km, mb3.8/3, mb1 3.9/4, mb1mx3.6/17, mbtmp3.7/4, ML3.5/1, Error ellipse: s-maj=228.7km s-min=40.7km az=78.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.63**	**199**	Pn	Pn	09 47 15.8	-0.3
	3.7nm,0.3s,baz=73,slow=22,SNR=116						
DZM				Sn	Sn	09 48 00.3	+0.6
	11nm,0.3s,baz=126,slow=21,SNR=14						
STKA	**Stephens Creek**	**26.97**	**236**	P	P	09 52 02.6	+0.6
	3.1nm,1.0s,baz=100,slow=11,SNR=3.6						
WRA	**Warramunga Arr**	**31.50**	**262**	P	P	09 52 42.2	-0.2
	0.6nm,1.0s,baz=99,slow=10.0,SNR=4.1						
ASAR	**Alice Springs**	**31.88**	**255**	P	P	09 52 45.5	-0.2
	1.0nm,0.5s,baz=82,slow=8.5,SNR=21						

CASC 16 09:52:41.8±3.2, 8°.39N×82°.86W, h5km±12km, MD3.5, 1C-2D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.40**	**311**	⇑*e*P	Pg	09 52 50.0	+0.4
ACR				*e*S	Sg	09 52 56.4	+1.4
BRU2	**Volcan**	**0.44**	**23**	⇓*i*P	Pg	09 52 51.0	+0.5
BRU2				*e*S	Sb	09 52 58.8	-0.5
TBS2		**0.45**	**27**	*e*P	Pb	09 52 52.1	-0.5
TBS2				*e*S	Sb	09 53 00.1	+0.4
BRU	**Baru**	**0.51**	**36**	*e*P	Pg	09 52 52.2	-0.1
CTCR	**Cotoan**	**0.52**	**11**	⇓*i*P	Pg	09 52 52.4	+0.4
CTCR				*e*S	Sb	09 53 01.0	-0.6
CNI	**Changuinola**	**1.08**	**18**	*e*P	Pg	09 53 01.1	-1.4
BUS	**Buena Vista**	**1.46**	**323**	*e*P	Pn	09 53 07.6	-1.9
BUS				*e*S	Sb	09 53 27.6	-1.8
QCR	**Quepos**	**1.65**	**309**	*e*P	Pn	09 53 10.6	-0.9
QCR				*e*S	Sb	09 53 33.7	-0.2
URSC	**Urasca**	**1.70**	**328**	*e*P	Pn	09 53 11.4	-1.0
URSC				*e*S	Sn	09 53 34.6	-0.1
CGA2	**Cerro Gallo 2**	**2.26**	**316**	*e*P	Pn	09 53 19.8	-0.3
ZANG	**Zanguenga, Cho**	**3.02**	**79**	*e*P	Pb	09 53 33.4	-2.7
ZANG				*e*S	Sn	09 54 06.0	-0.9

IDC 16 09:59:38.5±3.4, 30°.69S×71°.41W, h82km±28km, mb3.7/7, mb1 3.8/11, mb1mx3.7/20, mbtmp3.7/11, Error ellipse: s-maj=27.5km s-min=17.1km az=87.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**2.87**	**109**	P	Pn	10 00 20.6	-1.6
	11nm,0.3s,baz=290,slow=12,SNR=625						
CFAA				S	Sn	10 00 57.1	+1.3
	14nm,0.3s,baz=230,slow=23,SNR=12						
CPUP	**Villa Florida**	**13.12**	**74**	P	Pn	10 02 39.9	-1.6
	0.6nm,0.3s,baz=220,slow=13,SNR=3.6						
LPAZ	**La Paz**	**14.64**	**13**	P	Pn	10 03 01.6	-0.7
	0.2nm,0.3s,baz=175,slow=7.4,SNR=7.8						
SIV	**San Ignacio**	**17.42**	**35**	P	Pn	10 03 35.4	-0.9
	0.4nm,0.3s,baz=227,slow=9.3,SNR=7.0						
BDFB	**Brasilia**	**26.13**	**60**	P	P	10 05 03.8	-1.4
	3.5nm,0.6s,baz=221,slow=8.6,SNR=6.3						
SNAA	**Sanae**	**54.46**	**159**	P	P	10 08 56.3	-0.8
	0.4nm,0.5s,baz=305,slow=11,SNR=8.0						
QSPA	**South Pole Qui**	**59.54**	**180**	P	P	10 09 33.2	+0.1
	0.9nm,0.6s,baz=109,slow=3.1,SNR=12						
TXAR	**Lajitas Array**	**67.13**	**330**	P	P	10 10 24.7	+1.1
	0.3nm,0.5s,baz=157,slow=8.0,SNR=6.5						
DBIC	**Dimbokro**	**73.63**	**72**	P	P	10 11 03.6	+0.3
	2.7nm,0.5s,baz=184,slow=8.2,SNR=6.2						
MAW	**Mawson**	**76.20**	**164**	P	P	10 11 17.4	+0.1
	0.9nm,0.5s,baz=208,slow=3.3,SNR=7.1						
TORD	**Torodi Ar. Bea**	**82.58**	**70**	P	P	10 11 53.2	+0.3
	1.1nm,0.4s,baz=280,slow=6.0,SNR=38						
WRA	**Warramunga Arr**	**123.90**	**209**	PKP	PKPdf	10 18 26.7	-1.0
	0.4nm,0.9s,baz=168,slow=1.3,SNR=4.6						
ZALV	**Zalesovo Beam**	**151.12**	**30**	PKPbc	PKPbc	10 19 21.8	+0.2
	3.2nm,0.5s,baz=303,slow=3.2,SNR=9.3						

WEL 16 10:18:04.8±0.8, 46°.20S×165°.96E, h33km, ML4.1/14, 2C-1D, Error ellipse: s-maj=8.1km s-min=4.0km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.50**	**87**	⇓PN	Pb	10 18 14.8	-0.7
PYZ				SN	Sb	10 18 21.5	-1.3
PYZ				SN	Sn	10 18 21.7	-1.5
DCZ	**Deep Cove**	**1.10**	**50**	PN	Pn	10 18 23.4	-0.5
DCZ				SN	Sn	10 18 38.0	0.0
DCZ				AML	AML	10 18 39.7	
DCZ				AML	AML	10 18 39.8	
WHZ	**Wether Hill Ro**	**1.42**	**78**	PN	Pn	10 18 28.9	+0.6
WHZ				SN	Sb	10 18 47.4	-1.1
WHZ				AML	AML	10 18 50.7	
APZ	**The Paps**	**1.54**	**115**	PN	Pn	10 18 30.0	0.0
MLZ	**Mavora Lakes**	**1.77**	**62**	PN	Pn	10 18 34.9	+1.7
MLZ				AML	AML	10 19 02.6	
MLZ				AML	AML	10 19 04.8	
MSZ	**Milford Sound**	**2.06**	**43**	PN

JNU				LR	LR	10 30 26.6	
	comp=Z,54nm,22.0s,baz=330,slow=32						
ASAJ	**Asahikawa**	**11.42**	**6**	P	**Pn**	**10 28 28.9**	**-1.6**
	0.7nm,0.3s,baz=190,slow=11,SNR=5.3						
KSRS	**Korea Array**	**11.55**	**297**	P	Pn	10 28 36.5	+4.2
	baz=102,slow=11,SNR=5.0						
KSRS				LR	LR	10 32 41.6	
	comp=Z,30nm,21.9s,baz=90,slow=35						
SONM	**Songino Array**	**29.97**	**310**	P	**P**	**10 31 52.9**	**+0.5**
	1.8nm,0.6s,baz=110,slow=8.9,SNR=9.0						
ZALV	**Zalesovo Beam**	**44.52**	**316**	P	**P**	**10 33 54.9**	**-0.2**
	1.6nm,0.3s,baz=107,slow=7.6,SNR=5.6						
MKAR	**Makanchi Array**	**46.08**	**306**	P	**P**	**10 34 07.4**	**-0.2**
	6.2nm,0.7s,baz=83,slow=9.3,SNR=48						
WRA	**Warramunga Arr**	**52.78**	**188**	P	**P**	**10 34 58.7**	**0.0**
	0.7nm,0.4s,baz=4.5,slow=7.5,SNR=25						
ASAR	**Alice Springs**	**56.50**	**188**	P	**P**	**10 35 25.9**	**+0.1**
	0.4nm,0.7s,baz=3.7,slow=6.3,SNR=6.5						
FINES	**FINESS Array B**	**72.36**	**333**	P	**P**	**10 37 08.6**	**-0.2**
	1.7nm,0.7s,baz=93,slow=5.6,SNR=5.3						
KBZ	**Khabaz**	**73.33**	**311**	P	**P**	**10 37 15.2**	**+0.4**
	2.4nm,0.8s,baz=63,slow=4.5,SNR=4.2						
AKASG	**Malin Array Be**	**77.38**	**323**	P	**P**	**10 37 37.3**	**-0.7**
	0.4nm,0.3s,baz=47,slow=6.8,SNR=3.1						
BRTR	**Keskin Array B**	**81.32**	**312**	P	**P**	**10 37 59.7**	**-0.1**
	1.5nm,0.8s,baz=72,slow=4.7,SNR=5.9						
TXAR	**Lajitas Array**	**93.11**	**52**	P	**P**	**10 38 57.0**	**-0.4**
	0.3nm,0.7s,baz=294,slow=2.9,SNR=3.9						
TORD	**Torodi Ar. Bea**	**119.92**	**313**	PKP	**PKPdf**	**10 44 32.7**	**-1.1**
	0.2nm,0.4s,baz=62,slow=2.4,SNR=3.7						

MEX 16 10:41:17.9±0.6, 18°28N×100°95W, h75km±8km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIG	**Puente Sto Nin**	**0.57**	**90**	*eP*	Pn	10 41 30.9	-1.0
ARIG				*eS*	Sn	10 41 40.2	-2.0
ZIIG	**Zihuatanejo**	**0.83**	**217**	*eP*	Pn	10 41 33.1	-1.5
ZIIG				*i* S	Sn	10 41 45.1	-2.0
PLIG	**Platanillo**	**1.38**	**85**	*eP*	Pn	10 41 39.6	-2.0
PLIG				*eS*	Sn	10 41 57.0	-2.4
CAIG	**El Cayaco**	**1.38**	**152**	*i* P	Pn	10 41 40.8	-0.7
CAIG				*eS*	Sn	10 41 57.0	-2.3
YAIG	**Yautepec**	**1.88**	**72**	*eP*	Pn	10 41 46.5	-1.7
YAIG				*eS*	Sn	10 42 09.2	-2.0

IDC 16 10:46:14.8±5.0, 1°18S×100°16E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/23, mbtmp3.3/3, Error ellipse: s-maj=263.9km s-min=30.1km az=53.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.28**	**121**	P	P	10 53 37.0	-0.4
	0.5nm,0.9s,baz=297,slow=8.1,SNR=7.1						
ASAR	**Alice Springs**	**39.61**	**127**	P	P	10 53 48.5	0.0
	0.3nm,0.6s,baz=302,slow=8.2,SNR=5.7						
MKAR	**Makanchi Array**	**50.29**	**344**	P	P	10 55 12.9	-0.2
	0.2nm,0.5s,baz=155,slow=8.8,SNR=3.4						
TXAR	**Lajitas Array**	**143.96**	**37**	PKP	PKPdf	11 05 53.5	+0.3
	0.2nm,0.4s,baz=325,slow=1.4,SNR=6.2						

IDC 16 10:47:58.8±50.0, 15°56S×172°38W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.7/19, mbtmp4.1/3, Error ellipse: s-maj=968.0km s-min=181.9km az=79.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**44.81**	**240**	P	P	10 56 14.7	0.0
	3.5nm,0.9s,baz=90,slow=9.1,SNR=5.8						
WRA	**Warramunga Arr**	**50.77**	**257**	P	P	10 57 00.8	-0.3
	0.4nm,0.4s,baz=94,slow=6.7,SNR=25						
ASAR	**Alice Springs**	**51.00**	**252**	P	P	10 57 02.8	-0.1
	4.2nm,0.6s,baz=88,slow=8.5,SNR=83						

GUC 16 11:27:46.6±0.7, 32°79S×73°05W, h20km±10km, MD3.5, ML3.0, 1C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**1.38**	**80**	*i* S	Sn	11 28 28.7	+0.1
ROCH	**El Roble**	**1.72**	**97**	⇑*i* P	Pn	11 28 16.0	+0.2
ROCH				*i* S	Sb	11 28 38.5	-0.9
ROCH				AML	AML	11 28 40.5	
	comp=N,89nm,0.5s						
PEL	**Peldehue**	**2.02**	**101**	⇓*i* P	Pn	11 28 20.7	+1.1
PEL				*i* S	Sb	11 28 46.8	-0.7
PEL				AML	AML	11 28 47.9	
	comp=E,281nm,0.2s						
LMEL	**Las Melosas**	**2.60**	**115**	⇓*i* P	Pn	11 28 29.4	+1.6
LMEL				*i* S	Sn	11 29 01.3	+2.2
LMEL				AML	AML	11 29 03.4	
	comp=N,140nm,0.1s						

MEX 16 11:35:03.1±0.3, 16°22N×97°81W, h11km±15km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.35**	**300**	*eP*	Pg	11 35 09.7	-0.5
PNIG				*eS*	Sg	11 35 14.9	0.0
VHO	**Vista Hermosa**	**1.34**	**50**	*eP*	Pn	11 35 24.4	-3.7
VHO				*eS*	Sb	11 35 40.8	-5.1
HUIG	**Huatulco**	**1.70**	**105**	*eP*	Pn	11 35 29.5	-3.2
HUIG				*eS*	Sn	11 35 49.2	-5.3
TPIG	**Tehuac#an**	**2.23**	**11**	*i* P	Pn	11 35 36.7	-3.7
TPIG				*i* S	Sn	11 36 04.0	-4.1
CMIG	**Matias Romero**	**2.94**	**72**	*eP*	Pn	11 35 46.9	-2.9
CMIG				*eS*	Sn	11 36 21.4	-3.8

ISCJB ***16*** *11:36:13.6±0.2, 7°14S±0°04×111°87E±0°03, h252km±2km, mb4.5/30, Error ellipse: s-maj=7.8km s-min=4.6km az=26.3*
BKK ***16*** *11:36:16.1±0.3, 7°S±5°×11°2E±°, h238km±5km, M4.4/8, mB4.3/1, mb4.2/8, MLv4.5/4, Mw(mB)3.4/1*
NEIC ***16*** *11:36:17.1±1.0, 7°07S×111°88E, h271km±10km, mb4.4/13, Error ellipse: s-maj=11.5km s-min=4.4km az=60.0*
DJA ***16*** *11:36:17.3±0.3, 7°S±4°×11°2E±°, h224km±3km, M4.4/22, mb4.4/7, mB5.0/1, MLv4.3/22, Mw(mB)4.3/1*
IDC ***16*** *11:36:17.1±1.7, 7°02S×111°96E, h268km±16km, mb4.1/18, mb1 4.2/19, mb1mx4.1/24, mbtmp4.1/19, Error ellipse: s-maj=15.1km s-min=7.1km az=62.0*

ISC 16 11:36:14.8±0.5, 7°13S±0°05×111°87E±0°04, h247km±4km, n102, σ1§17/122, mb4.5/30, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NGJI	**Ngawi**	**0.47**	**239**	P	**Pn**	**11 36 47.6**	**+0.3**
NGJI				S	**S**	**11 37 12.9**	**+0.2**
SJI	**Sawahan**	**0.61**	**190**	P	**Pn**	**11 36 46.6**	**-1.3**
GRJI	**Gresik**	**0.64**	**71**	P	**Pn**	**11 36 47.3**	**-0.5**
GRJI				S	**S**	**11 37 12.7**	**-1.0**
PWJI	**Pagerwojo**	**0.89**	**184**	P	**Pn**	**11 36 47.7**	**-1.3**
PWJI				S	**S**	**11 37 14.1**	**-1.8**
KRKI	**Karangkates**	**1.18**	**151**	P	**Pn**	**11 36 50.0**	**-0.6**
KRKI				S	**S**	**11 37 18.3**	**-0.4**
UGM	**Wanagama**	**1.55**	**240**	P	**Pn**	**11 36 52.6**	**-0.7**
UGM				S	**S**	**11 37 22.3**	**-1.2**
YOGI	**Yogyakarta**	**1.71**	**246**	P	**Pn**	**11 36 54.5**	**0.0**
YOGI				S	**S**	**11 37 24.7**	**-1.0**
BLJI	**Banyuglugur**	**1.82**	**110**	P	**Pn**	**11 36 55.0**	**-0.4**
GMJI	**Gumukmas**	**1.93**	**126**	P	**Pn**	**11 36 55.5**	**-0.9**
GMJI				S	**S**	**11 37 28.3**	**-0.9**
KMMI	**Kalianget**	**2.08**	**88**	P	**Pn**	**11 36 57.7**	**-0.1**
KMMI				S	**S**	**11 37 31.2**	**-0.4**
BJII	**Banjamegara**	**2.15**	**264**	P	**Pn**	**11 36 58.7**	**+0.1**
BJII				S	**S**	**11 37 32.9**	**-0.1**
ABJI	**Asem Bagus**	**2.44**	**106**	P	**Pn**	**11 37 01.2**	**0.0**
JAGI	**Jajag, Banyuwa**	**2.63**	**121**	P	**Pn**	**11 37 01.9**	**-1.3**
JAGI				S	**S**	**11 37 38.3**	**-3.0**
BYJI	**Banyuwangi**	**2.69**	**114**	P	**Pn**	**11 37 04.5**	**+0.7**
TGJI	**Tegal**	**2.74**	**275**	P	**Pn**	**11 37 03.5**	**-0.9**
KPJI	**Karang Pucung**	**2.92**	**266**	P	**Pn**	**11 37 06.5**	**+0.2**
SRBI	**Singaraja**	**3.45**	**106**	P	**Pn**	**11 37 12.2**	**+0.1**
CISI	**Cisompet, Garu**	**4.05**	**264**	P	**Pn**	**11 37 18.2**	**-0.9**
LEM	**Lembang**	**4.23**	**274**	P	**Pn**	**11 37 21.8**	**+0.4**
CBJI	**Citeko**	**5.04**	**278**	P	**Pn**	**11 37 34.0**	**+3.0**
DBJI	**Dramaga**	**5.12**	**276**	P	**Pn**	**11 37 34.4**	**+2.4**
	105nm,0.8s,0.5nm						
SBUM	**Sibu**	**9.52**	**2**	*e*Pn	**Pn**	**11 38 28.8**	**+1.4**
SBUM	**Sibu**	**9.52**	**2**	P	**Pn**	**11 38 28.9**	**+1.4**
	15nm,1.1s						
TPRI	**Tanjung Pinang**	**10.84**	**317**	P	P	11 38 54.1	+5.3
MRSI	**Marisa**	**12.57**	**53**	P	**P**	**11 39 08.9**	**+0.9**
	31nm,0.8s						
KKM	**Kota Kinabalu**	**13.78**	**18**	Pn	**P**	**11 39 21.8**	**+0.2**
	24nm,0.9s						
MYLDM	**Lahad Datu**	**13.90**	**29**	P	P	11 39 26.2	+3.4
	19nm,1.3s						
IPM	**Ipoh**	**15.81**	**316**	*e*P	**Pn**	**11 39 44.6**	**-0.4**
	11nm,1.0s						
IPM				*e*Pn	P	11 39 53.2	+9.3
MBWA	**Marble Bar**	**15.89**	**152**	*e*P	**P**	**11 39 45.5**	**+0.9**
	25nm,0.6s						
AAI	**Ambon**	**16.60**	**79**	P	**Pn**	**11 39 58.9**	**+4.6**
	79nm,0.8s,1μm						
FITZ	**Fitzroy Crossi**	**17.29**	**130**	P	**P**	**11 40 01.4**	**+1.3**
FITZ				S	**S**	**11 43 10.1**	**+2.9**
FITZ	**Fitzroy Crossi**	**17.29**	**130**	P	**P**	**11 40 01.4**	**+1.3**
	8.2nm,0.3s,baz=314,slow=9.6,SNR=238						
FITZ				S	**S**	**11 43 10.1**	**+2.9**
	1.2nm,0.3s,baz=196,slow=19,SNR=7.5						
WRA	**Warramunga Arr**	**25.24**	**123**	P	**P**	**11 41 18.8**	**+0.1**
WRA				S	**S**	**11 45 23.8**	**-2.1**
WRA	**Warramunga Arr**	**25.24**	**123**	P	**P**	**11 41 18.8**	**+0.1**
	3.7nm,0.3s,baz=296,slow=11,SNR=140						
WRA				S	**S**	**11 45 23.8**	**-2.1**
	0.6nm,0.7s,baz=288,slow=17,SNR=2.1						
WRAB	**Tennant Creek**	**25.25**	**123**	*e*P	**P**	**11 41 18.9**	**+0.1**
	7.4nm,0.5s						
NWAO	**Narrogin (SRO)**	**26.15**	**170**	P	**P**	**11 41 27.1**	**+0.4**
NWAO	**Narrogin (SRO)**	**26.15**	**170**	P	**P**	**11 41 27.1**	**+0.4**
	13nm,1.0s,baz=343,slow=7.7,SNR=6.8						
ASAR	**Alice Springs**	**26.79**	**130**	P	**P**	**11 41 33.0**	**+0.4**
ASAR				S	**S**	**11 45 48.6**	**-1.6**
ASAR				ScP	**ScP**	**11 48 05.2**	**-0.2**
ASAR	**Alice Springs**	**26.79**	**130**	P	**P**	**11 41 33.0**	**+0.4**
	8.6nm,0.3s,baz=306,slow=8.6,SNR=416						
ASAR				S	**S**	**11 45 48.6**	**-1.6**
	0.7nm,0.8s,baz=305,slow=15,SNR=3.2						
ASAR				ScP	**ScP**	**11 48 05.2**	**-0.2**
	1.8nm,0.8s,baz=307,slow=2.0,SNR=9.9						
AS31	**Alice Springs**	**26.80**	**130**	*e*P	**P**	**11 41 33.1**	**+0.5**
CHTO	**Chiang Mai**	**28.75**	**334**	*e*P	**P**	**11 41 51.0**	**+1.1**
	16nm,1.6s						
CHTO	**Chiang Mai**	**28.75**	**334**	P	**P**	**11 41 52.1**	**+2.2**
	7.9nm,1.3s						
COEN	**Coen**	**31.49**	**105**	*e*P	**P**	**11 42 14.2**	**+0.1**
	47nm,0.5s						
STKA	**Stephens Creek**	**37.06**	**136**	*e*P	**P**	**11 43 02.8**	**+1.2**
	3.2nm,0.4s						
STKA	**Stephens Creek**	**37.06**	**136**	P	**P**	**11 43 02.9**	**+1.2**
	16nm,0.4s,baz=310,slow=8.9,SNR=71						
ENH	**Enshi**	**37.25**	**357**	P	**P**	**11 43 03.3**	**+0.1**
	7.8nm,0.7s						
SHL	**Shillong**	**37.87**	**330**	*e*P	**P**	**11 43 09.5**	**+0.9**
ODAN	**Odare**	**41.28**	**326**	*e*P	**P**	**11 43 37.0**	**+0.3**
	110nm,0.5s						
TAPN	**Taplejung**	**41.49**	**327**	*e*P	**P**	**11 43 39.2**	**+0.7**
	61nm,0.5s						
LSA	**Lhasa**	**41.68**	**332**	*e*P	**P**	**11 43 41.0**	**+0.8**
	14nm,0.6s						
RAMN	**Ramite**	**41.80**	**325**	*e*P	**P**	**11 43 41.3**	**+0.4**
	24nm,0.3s						
JIRN	**Jiri**	**42.58**	**325**	*e*P	**P**	**11 43 47.8**	**+0.5**
	144nm,0.5s						
GUN	**Gumba**	**42.94**	**325**	*e*P	**P**	**11 43 50.6**	**+0.4**
	123nm,0.5s						
PKI	**Pulchoki**	**42.95**	**325**	*e*P	**P**	**11 43 50.0**	**-0.3**
	18nm,0.4s						
DMN	**Daman**	**43.16**	**324**	*e*P	**P**	**11 43 51.8**	**0.0**
	91nm,0.6s						
KKN	**Kakani**	**43.19**	**325**	*e*P	**P**	**11 43 52.0**	**-0.1**
	40nm,0.6s						
KOLN	**Koldanda**	**44.16**	**323**	*e*P	**P**	**11 43 59.5**	**-0.3**
	85nm,0.5s						
DANN	**Dangsing**	**44.50**	**324**	*e*P	**P**	**11 44 02.2**	**-0.3**
	92nm,0.6s						
PYUN	**Piuthan**	**44.77**	**323**	*e*P	**P**	**11 44 04.3**	**-0.3**
	159nm,0.5s						
KSAR	**Wonju Array Be**	**46.79**	**18**	P	**P**	**11 44 20.7**	**+0.8**
KSRS	**Korea Array**	**46.82**	**18**	P	**P**	**11 44 20.7**	**+0.7**
	2.3nm,0.6s,baz=201,slow=8.6,SNR=13						
MJAR	**Matsushiro Arr**	**49.97**	**28**	P	**P**	**11 44 42.5**	**-1.7**
MJAR	**Matsushiro Arr**	**49.97**	**28**	P	**P**	**11 44 42.5**	**-1.7**
	2.5nm,0.8s,baz=206,slow=8.5,SNR=8.9						
USRK	**Ussuriysk Arra**	**54.23**	**18**	P	**P**	**11 45 14.8**	**-0.4**
	3.0nm,0.5s,baz=190,slow=7.3,SNR=8.3						
ULN	**Ulaanbaatar**	**54.92**	**356**	*e*P	**P**	**11 45 20.1**	**-0.3**
SONM	**Songino Array**	**54.94**	**355**	P	**P**	**11 45 20.5**	**+0.1**
SONM				PcP	**PcP**	**11 46 18.7**	**-0.3**
SONM				ScP	**ScP**	**11 49 52.9**	**-0.8**
SONM	**Songino Array**	**54.94**	**355**	P	**P**	**11 45 20.5**	**+0.1**
	7.5nm,0.5s,baz=177,slow=8.6,SNR=47						
SONM				PcP	**PcP**	**11 46 18.7**	**-0.3**
	0.7nm,0.4s,baz=180,slow=5.5,SNR=2.9						
SONM				ScP	**ScP**	**11 49 52.9**	**-0.8**
	0.5nm,0.6s,baz=172,slow=4.4,SNR=3.6						
KBL	**Kabul**	**57.91**	**319**	*e*P	**P**	**11 45 40.1**	**-1.6**
	6.4nm,0.5s						
TKM2	**Tokmak 2**	**59.73**	**330**	*e*P	**P**	**11 45 53.7**	**-0.3**
	11nm,1.0s						
MK31	**Makanchi Array**	**59.77**	**337**	*e*P	**P**	**11 45 53.7**	**-0.3**
MKAR	**Makanchi Array**	**59.77**	**337**	P	**P**	**11 45 53.7**	**-0.3**
MKAR	**Makanchi Array**	**59.77**	**337**	P	**P**	**11 45 53.7**	**-0.3**
	16nm,0.4s,baz=147,slow=7.1,SNR=275						
AAK	**Ala-Archa**	**60.08**	**329**	*e*P	**P**	**11 45 56.4**	**0.0**
	7.0nm,1.1s						
EKS2	**Erkin-Say**	**60.47**	**328**	*e*P	**P**	**11 45 59.0**	**0.0**
	9.7nm,0.7s						
RPZ	**Rata Peaks**	**63.03**	**136**	P	**P**	**11 46 16.6**	**+0.6**
RPZ	**Rata Peaks**	**63.03**	**136**	P	**P**	**11 46 16.6**	**+0.6**
	4.7nm,0.5s,baz=330,slow=8.1,SNR=5.5						
ZAA0	**Zalesovo Array**	**64.97**	**343**	*e*P	**P**	**11 46 27.4**	**-0.8**
ZALV	**Zalesovo Beam**	**64.97**	**343**	P	**P**	**11 46 27.2**	**-1.0**
ZALV	**Zalesovo Beam**	**64.97**	**343**	P	**P**	**11 46 27.2**	**-1.0**
	18nm,0.3s,baz=156,slow=5.5,SNR=25						
URZ	**Urewera**	**66.22**	**129**	P	**P**	**11 46 36.2**	**-0.3**
URZ	**Urewera**	**66.22**	**129**	P	**P**	**11 46 36.2**	**-0.3**
	2.7nm,0.6s,baz=264,slow=4.2,SNR=6.4						
MAW	**Mawson**	**68.70**	**198**	P	**P**	**11 46 52.9**	**+1.5**
MAW	**Mawson**	**68.70**	**198**	P	**P**	**11 46 52.9**	**+1.5**
	2.3nm,0.4s,baz=69,slow=7.8,SNR=16						
PETK	**Petropavlovsk-**	**71.42**	**27**	P	**P**	**11 47 07.7**	**-0.5**
PETK	**Petropavlovsk-**	**71.42**	**27**	P	**P**	**11 47 07.7**	**-0.5**
	2.7nm,0.6s,baz=208,slow=4.9,SNR=8.5						
RDF	**Al-Radifah**	**71.48**	**304**	*e*P	**P**	**11 47 07.7**	**-1.3**
UMR	**Umm Al-Rimmam**	**71.55**	**304**	*e*P	**P**	**11 47 07.9**	**-1.5**
UMR				AMb	AMB	11 47 08.7	
	comp=Z,52nm,0.7s						
NAY	**Al-Naaiem**	**71.84**	**304**	*e*P	**P**	**11 47 09.2**	**-2.0**
NAY				AMb	AMB	11 47 13.2	
	comp=Z,16nm,1.5s						
ABKAR	**Akbulak array**	**72.07**	**327**	*e*P	**P**	**11 47 11.3**	**-0.8**
RST	**Umm Al-Ruwaisa**	**72.12**	**304**	*e*P	**P**	**11 47 10.9**	**-2.0**
RST				AMb	AMB	11 47 11.8	
	comp=Z,324nm,0.6s						
VNDA	**Vanda**	**74.98**	**170**	P	**P**	**11 47 29.6**	**+1.0**
VNDA	**Vanda**	**74.98**	**170**	P	**P**	**11 47 29.6**	**+1.0**
	comp=Z,1.2nm,0.4s,baz=315,slow=5.5,SNR=27						
KBZ	**Khabaz**	**80.02**	**317**	P	**P**	**11 47 56.5**	**-0.5**
KBZ	**Khabaz**	**80.02**	**317**	P	**P**	**11 47 56.5**	**-0.5**
	comp=Z,5.3nm,0.8s,baz=128,slow=5.3,SNR=8.7						
BRTR	**Keskin Array B**	**85.55**	**311**	P	**P**	**11 48 24.7**	**-1.0**
BRTR	**Keskin Array B**	**85.55**	**311**	P	**P**	**11 48 24.7**	**-1.0**
	comp=Z,1.9nm,0.6s,baz=127,slow=6.1,SNR=10						
AKASG	**Malin Array Be**	**90.82**	**321**	P	**P**	**11 48 48.1**	**-2.0**
AKASG	**Malin Array Be**	**90.82**	**321**	P	**P**	**11 48 48.1**	**-2.0**
	comp=Z,1.5nm,0.5s,baz=85,slow=4.6,SNR=7.3						
CPUP	**Villa Florida**	**145.13**	**197**	PKPbc	**PKPbc**	**11 55 24.0**	**+0.4**
CPUP	**Villa Florida**	**145.13**	**197**	PKPbc	**PKPbc**	**11 55 24.0**	**+0.4**
	comp=Z,0.9nm,0.4s,baz=116,slow=5.8,SNR=3.7						
WVT	**Waverly**	**145.97**	**29**	*e*PKPbc	**PKPbc**	**11 55 25.5**	**-0.5**
CBYP	**Canovanas**	**168.70**	**349**	*e*PKPdf	**PKPdf**	**11 55 52.0**	**-1.2**

IDC 16 12:06:13.2±2.2, 3°25S×128°08E, h0km, mb3.2/2, mb1 3.5/3, mb1mx3.3/21, mbtmp3.3/3, ML3.6/1, Error ellipse: s-maj=141.9km s-min=29.3km az=67.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.68**	**160**	P	P	12 10 22.1	0.0
	0.2nm,0.3s,baz=339,slow=11,SNR=21						
ASAR	**Alice Springs**	**21.07**	**165**	P	P	12 10 58.6	-0.5
	0.3nm,0.3s,baz=345,slow=12,SNR=12						
MKAR	**Makanchi Array**	**64.06**	**327**	P	P	12 16 49.0	0.0
	0.3nm,0.8s,baz=130,slow=5.8,SNR=2.8						

NIED ***16*** *12:38:00, 33°40N×130°90E, h8km, Mw3.7 Best double couple: M0 3.87000×10^14 NP1:φ=323.00000°, δ=68.00000°, λ=-25.00000°. NP2:φ=63.00000°, δ=67.00000°, λ=-156.00000°.*
ISCJB ***16*** *12:38:04.4±1.0, 33°37N±0°04×131°0E±0°1, h6km±8km, mb3.2/2, Error ellipse: s-maj=16.7km s-min=6.6km az=175.0*
JMA ***16*** *12:38:04.6, 33°37N×130°92E, h12km, M3.5 Broadband fault plane solution: P waves. NP1:φ=326.00000°, δ=78.00000°, λ=-46.00000°. NP2:φ=68.00000°, δ=45.00000°, λ=-163.00000°. Principal axes: T Plg21.0000°, Azm24.0000°; N Plg43.0000°, Azm135.0000°; P Plg40.0000°, Azm276.0000°;*
JMA Felt III J1.
IDC ***16*** *12:38:05.5±1.2, 33°11N×130°83E, h23km±12km, mb3.2/2, mb1 3.2/4, mb1mx3.1/27, mbtmp3.1/4, ML2.9/2 Error ellipse: s-maj=36.5km s-min=17.2km az=150.0*

ISC 16 12:38:05.1±1.3, 33°37N±0°03×130°89E±0°09, h4km±11km, n8, σ1§39/12, 3C, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNU	**Nakatsue**	**0.25**	**181**	⇑P	**Pg**	**12 38 09.8**	**0.0**
JNU				*e*S	**Sg**	**12 38 13.3**	**+0.2**
JNU	**Nakatsue**	**0.25**	**181**	Pg	**Pg**	**12 38 09.8**	**0.0**
	363nm,0.3s,baz=22,slow=15,SNR=4741						
JNU				Lg	Lg	12 38 13.3	
	238nm,0.3s,baz=186,slow=18,SNR=67						
JFA	**Akaike**	**0.35**	**348**	⇑P	**Pg**	**12 38 11.8**	**-0.1**
JFA				*e*S	**Sg**	**12 38 16.7**	**+0.2**
JTA	**Tamana**	**0.50**	**216**	⇑P	**Pg**	**12 38 14.6**	**-0.1**
KSRS	**Korea Array**	**4.74**	**330**	Pn	**Pn**	**12 39 18.8**	**+1.5**
	0.3nm,0.3s,baz=145,slow=15,SNR=4.1						
KSRS				Pg	**Pg**	**12 39 34.9**	**-1.0**
	1.0nm,0.3s,baz=149,slow=17,SNR=17						
KSRS				Sn	**Sn**	**12 40 14.9**	**+2.2**
	0.9nm,0.3s,baz=150,slow=24,SNR=6.7						
KSRS				Lg	Lg	12 40 38.0	
	2.2nm,0.3s,baz=146,slow=29,SNR=11						
MJAR	**Matsushiro Arr**	**6.79**	**60**	Pn	**Pn**	**12 39 46.3**	**+0.6**
	0.3nm,0.3s,baz=242,slow=14,SNR=4.8						
MJAR				Lg	Lg	12 41 41.7	
	0.3nm,0.3s,baz=231,slow=30,SNR=6.1						
SONM	**Songino Array**	**23.42**	**315**	P	**P**	**12 43 15.8**	**+0.5**
	0.5nm,0.6s,baz=132,slow=9.6,SNR=4.3						
MKAR	**Makanchi Array**	**38.92**	**305**	P	**P**	**12 45 29.3**	**-2.6**
	0.3nm,0.5s,baz=105,slow=9.4,SNR=2.9						

BKK ***16*** *13:57:18.1±1.5, 48°N±15°×15°5E±2°7, h10km, M5.1/11, mB5.5/4, mb5.2/11, Mw(mB)5.0/4*
KRSC ***16*** *13:57:40.9±1.5, 48°38N×154°84E, h203km±52km, ML4.8*
BJI ***16*** *13:57:40.4, 48°86N×153°73E, h179km, mB4.8/28, mb4.7/47*
ISCJB ***16*** *13:57:41.3±0.3, 48°83N±0°04×153°45E±0°05, h167km±2km, mb4.7/159, Error ellipse: s-maj=7.4km s-min=3.0km az=143.1*
SKHL ***16*** *13:57:41.7±2.3, 48°70N×153°77E, h160km±10km, mb5.0/1, mbh4.9/1, msh4.3/1*
IDC ***16*** *13:57:42.7±0.7, 48°85N×153°49E, h172km±6km, mb4.3/36, mb1 4.3/41, mb1mx4.3/42, mbtmp4.2/41, Error ellipse: s-maj=10.7km s-min=7.2km az=146.0*
MOS ***16*** *13:57:42.2±1.0, 48°81N×153°42E, h176km, mb5.0/57, Error ellipse: s-maj=7.8km s-min=4.5km az=99.0*
NEIC ***16*** *13:57:43.4±0.2, 48°81N×153°46E, mb4.9/68, Error ellipse: s-maj=7.4km s-min=4.1km az=154.0*
TEH ***16*** *13:57:44.0, 48°88N×153°37E, h180km, ML4.6*
BGS ***16*** *13:57:50.8±1.9, 50°30N×152°19E, h154km, mb4.7*

ISC 16 13:57:43.1±0.4, 48°81N±0°05×153°55E±0°04, h178km±2km, h177km: pP-P, n479, σ1§40/566, mb4.8/159, 29C-24D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.51**	**41**	*e*PN	Pn	13 58 14.0	-12
SKR				pmax	pmax		
	comp=E,190nm,0.8s						
SKR				pmax	pmax		
	comp=Z,240nm,0.8s						
SKR				pmax	pmax		
	comp=N,80nm,0.5s						
SKR	**Severo-Kuril's**	**2.51**	**41**	*e*P	**Pn**	**13 58 24.9**	**-0.7**
SKR				*i* S	**Sn**	**13 58 56.7**	**-2.1**
PAU	**Pauzhetka**	**3.39**	**37**	PN	**Pn**	**13 58 35.6**	**

comp=N,116nm,2.3s
YUK pmax pmax
comp=Z,180nm,2.3s
YUK pmax pmax
comp=E,131nm,2.3s
YUK smax smax
comp=N,106nm,2.5s
YUK smax smax
comp=E,274nm,2.5s
YUK Yuzh-Kuril'sk 7.14 231 *i* P **Pn 13 59 23.8 -1.2**
YUK AMB AMB 13 59 31.8
comp=E,116nm,2.3s
YUK AMB AMB 13 59 31.8
comp=E,131nm,2.3s
YUK AMB AMB 13 59 31.8
comp=E,180nm,2.3s
YUK *i* S **Sn 14 00 41.7 -3.8**
YUK A A 14 00 53.7
comp=E,65nm,0.8s
YUK A A 14 00 53.7
comp=E,88nm,0.8s
YUK A A 14 01 20.4
comp=E,106nm,2.5s
YUK A A 14 01 20.4
comp=E,274nm,2.5s
YSS Yuzh-Sakhalins 7.49 260⇑ *i* PN **Pn 13 59 32.0 +2.4**
YSS pmax pmax
comp=N,30nm,0.9s
YSS pmax pmax
comp=Z,30nm,0.9s
YSS Yuzh-Sakhalins 7.49 260 *i* P **Pn 13 59 32.0 +2.4**
YSS AMB AMB 13 59 36.1
comp=Z,30nm,0.9s
YSS *e*S **Sn 14 00 58.0 +4.2**
TUMR Tumrok 7.65 30 *e*P **Pn 13 59 33.1 +1.4**
MKZ Mys Kozlova 7.67 38 PN **Pn 13 59 29.1 -2.8**
MKZ Mys Kozlova 7.67 38 *e*P **Pn 13 59 29.1 -2.8**
MKZ *i* S Sn 14 00 48.1 -10
ESO Esso 7.79 22 PN **Pn 13 59 35.3 +1.8**
ESO Esso 7.79 22 *e*P **Pn 13 59 35.3 +1.8**
KMNR Kamenistaya 8.07 28 *e*P **Pn 13 59 38.9 +1.6**
KPT Kopyto 8.24 27 *e*P **Pn 13 59 41.0 +1.5**
BZMR Bezymyannaya 8.30 28 *e*P **Pn 13 59 41.1 +0.8**
BZWR Bezymyannyi-We 8.33 28 *e*P **Pn 13 59 41.2 +0.5**
BZGR Bezymyannyi-Gr 8.37 29 *e*P **Pn 13 59 41.9 +0.7**
KRSR Krestovskiy 8.56 27 *e*P **Pn 13 59 43.7 0.0**
ASAJ Asahikawa 8.89 242 *e*P **Pn 13 59 49.0 +0.8**
comp=Z,22nm,0.9s
ASAJ S **Sn 14 01 26.6 -0.7**
ASAJ Asahikawa 8.89 242 P **Pn 13 59 47.0 -1.1**
comp=Z,2.3nm,0.3s,baz=69,slow=13,SNR=39
ASAJ S **Sn 14 01 26.6 -0.7**
comp=Z,1.1nm,0.3s,baz=54,slow=8.7,SNR=3.6
BDR Baidarnaya 9.05 28 *e*P **Pn 13 59 49.7 -0.4**
BDR *i* S Sn 14 01 21.8 -9.2
SRKR Sorokina 9.11 28 *e*P **Pn 13 59 50.8 -0.1**
SRKR *i* S Sn 14 01 24.5 -7.9
KBTR Krutoberegovo 9.31 34 PN **Pn 13 59 51.1 -2.3**
KBTR Krutoberegovo 9.31 34 *e*P **Pn 13 59 51.1 -2.3**
ERM Erimo 9.97 231 *e*PN Pn 13 59 59.1 -3.1
ERM pmax pmax
comp=Z,23nm,0.5s
ERM Erimo 9.97 231 *e*P **Pn 13 59 59.5 -2.7**
ERM Erimo 9.97 231 *e*P Pn 13 59 59.1 -3.1
comp=Z,23nm,0.5s
BKI Bering 9.97 45 PN **Pn 13 59 59.0 -3.1**
BKI Bering 9.97 45 *e*P **Pn 13 59 59.0 -3.1**
BKI *i* S Sn 14 01 37.9 -15
HABR Khabarovsk 12.24 275 PN Pn 14 00 26.3 -5.2
HABR *e*S Sn 14 02 40.6 -6.8
FX1 Attu Island--F 13.04 64 P **Pn 14 00 42.2 +0.6**
FX1 S **Sn 14 03 03.8 -2.5**
FX1 Attu Island--F 13.04 64 P **Pn 14 00 42.2 +0.6**
comp=Z,2.3nm,0.3s,baz=254,slow=7.4,SNR=12
FX1 S **Sn 14 03 03.8 -2.5**
comp=Z,9.9nm,0.3s,baz=86,slow=20,SNR=13
SEY Seymchan 14.17 358⇓ *i* P **Pn 14 00 56.2 +0.5**
SEY Seymchan 14.17 358 *e*P **Pn 14 00 56.2 +0.5**
KLR Kul'dur 14.31 280 *e*P **Pn 14 00 56.0 -1.5**
KLR pmax pmax
comp=E,130nm,2.2s
KLR pmax pmax
comp=Z,130nm,2.2s
USRK Ussuriysk Arra 15.53 261 P **Pn 14 01 12.5 -0.1**
comp=Z,0.5nm,0.3s,baz=61,slow=12,SNR=9.7
MAJO Matsushiro 16.62 228 *e*P **P 14 01 24.5 -0.8**
MAJO pmax pmax
comp=Z,17nm,0.6s
MAJO Matsushiro 16.62 228 *e*P **P 14 01 25.2 0.0**
MAJO Matsushiro 16.62 228 *e*P **P 14 01 24.5 -0.8**
comp=Z,17nm,0.6s
MAT Matsushiro 16.62 228 P **P 14 01 24.5 -0.7**
MJAR Matsushiro Arr 16.62 228 P **P 14 01 24.9 -0.3**
MJAR Matsushiro Arr 16.62 228 P **P 14 01 24.9 -0.3**
comp=Z,0.6nm,0.3s,baz=23,slow=11,SNR=12
MDJ Mudanjiang 16.93 265 P **P 14 01 28.1 -0.5**
MDJ pmax pmax
comp=Z,8.0nm,1.1s
MDJ pmax pmax
comp=Z,52nm,4.8s
MDJ Mudanjiang 16.93 265 *e*P **P 14 01 28.0 -0.6**
comp=Z,14nm,0.9s
YAK Yakutsk 18.79 324 *e*P **P 14 01 49.0 +0.4**
YAK pmax pmax
comp=N,10.0nm,1.2s
YAK pmax pmax
comp=Z,35nm,0.9s
YAK pmax pmax
comp=E,10.0nm,0.9s
CLNS Chul'man 18.97 306 *e*P **Pn 14 01 52.9 -0.6**
CLNS pmax pmax
comp=Z,52nm,1.0s
CLNS pmax pmax
comp=N,29nm,1.2s
CLNS pmax pmax
comp=E,37nm,0.9s
CN2 Changchun 19.99 266 *e*P **P 14 01 59.5 -2.2**
CN2 *e*sP **sP 14 02 52.1 -2.2**
CN2 *e*S S 14 05 27.4 -9.2
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,200nm,4.0s
KSRS Korea Array 21.77 248 P **P 14 02 20.9 +0.3**
comp=Z,16nm,1.0s,baz=47,slow=10,SNR=43
KSAR Wonju Array Be 21.80 248 P **P 14 02 20.9 0.0**
JNU Nakatsue 23.08 236 *e*P **P 14 02 33.3 +0.2**
comp=Z,5.1nm,0.8s
JNU Nakatsue 23.08 236 P **P 14 02 33.5 +0.5**
comp=Z,21nm,0.9s,baz=26,slow=5.2,SNR=8.4
TIXI Tiksi 25.58 342⇓ *i* P **P 14 02 54.9 -0.3**
TIXI pmax pmax
comp=Z,39nm,1.6s
BJI Beijing 27.86 266 P **P 14 03 17.1 +1.2**
BJI pmax pmax
comp=Z,15nm,1.0s
HHC Hu-ho-hao-te 30.50 271 *e*P **P 14 03 39.3 -0.1**
HHC pP **pP 14 04 15.8 -0.4**
HHC sP **sP 14 04 37.0 +0.4**
HHC PP **PnPn 14 04 45.4 -1.1**
HHC S **S 14 08 24.3 -3.2**
HHC sS **sS 14 09 29.6 -3.0**
HHC SS **SnSn 14 10 18.4 -8.0**
HHC ScS **ScS 14 13 57.4 +1.5**
HHC pmax pmax
comp=Z,62nm,1.0s
HHC pmax pmax
comp=Z,190nm,4.8s
HHC LR LR
comp=N,380nm,19.0s
HHC LR LR
comp=E,480nm,19.0s
HHC LR LR
comp=Z,360nm,19.0s
ULN Ulaanbaatar 30.55 286 *e*P **P 14 03 39.5 -0.4**
ULN Ulaanbaatar 30.55 286 *e*P **P 14 03 39.4 -0.4**
comp=Z,13nm,1.1s
NJ2 Nanjing 30.93 250 *e*P **P 14 03 43.1 0.0**
NJ2 pmax pmax
comp=Z,40nm,0.8s
SONM Songino Array 30.98 286 P **P 14 03 43.2 -0.4**
SONM PcP **PcP 14 06 35.4 +0.4**
SONM ScP **ScP 14 10 01.3 +0.5**
SONM Songino Array 30.98 286 P **P 14 03 43.2 -0.4**
comp=Z,4.6nm,0.8s,baz=87,slow=8.0,SNR=28
SONM PcP **PcP 14 06 35.4 +0.4**
comp=Z,1.5nm,0.8s,baz=98,slow=2.3,SNR=6.9
SONM ScP **ScP 14 10 01.3 +0.5**
comp=Z,1.0nm,0.9s,baz=71,slow=2.8,SNR=5.7
TLY Talaya 31.54 294 *e*P **P 14 03 49.5 +1.2**
TLY pmax pmax
comp=Z,22nm,1.1s
TLY Talaya 31.54 294 *e*P **P 14 03 48.6 +0.3**
ZAK Zakamensk 32.12 292 *e*P **P 14 03 53.4 -0.1**
ZAK pmax pmax
comp=Z,6.0nm,1.4s
MOY Mondy 33.14 295 *e*P **P 14 04 02.6 +0.3**
COLD Coldfoot 33.48 36 *e*P **P 14 04 05.7 +0.7**
COLA College 34.35 40 *e*P **P 14 04 13.6 +1.1**
ILAR Eielson Array 34.77 40 P **P 14 04 16.4 +0.3**
ILAR Eielson Array 34.77 40 P **P 14 04 16.4 +0.3**
comp=Z,1.9nm,0.8s,baz=260,slow=5.4,SNR=21
XAN Xi'an 36.03 263 P **P 14 04 28.0 +0.8**
XAN pmax pmax
comp=Z,2.0nm,0.9s
EGAK Eagle 37.22 40 *e*P **P 14 04 37.5 +0.7**
comp=Z,28nm,1.7s
HVS Khovu-Aksy 37.64 297⇓ *i* P **P 14 04 41.4 +0.7**
HVS pmax pmax
comp=Z,200nm,1.3s
ENH Enshi 38.06 257 *e*P **P 14 04 45.1 +0.7**
comp=Z,6.9nm,0.5s
LZH Lanzhou 38.16 269⇓ P **P 14 04 46.4 +1.1**
LZH pP **pP 14 05 24.3 +1.2**
LZH sP **sP 14 05 44.6 +1.4**
LZH *e*S **S 14 10 23.0 -2.2**
LZH sS **sS 14 11 33.0 +1.4**
LZH SS **SS 14 13 11.5 -8.9**
LZH pmax pmax
comp=Z,32nm,1.1s
LZH pmax pmax
comp=Z,97nm,3.8s
GTA Gaotai 38.98 277 P **P 14 04 52.3 +0.3**
GTA pP **pP 14 05 30.0 +0.1**
GTA sP **sP 14 05 50.3 +0.2**
GTA PcP **PcP 14 07 00.1 +1.5**
GTA ScP **ScP 14 10 32.3 +2.4**
GTA S **S 14 10 36.8 -0.5**
GTA SS **SS 14 13 29.5 -7.0**
GTA pmax pmax
comp=Z,14nm,1.1s
GTA pmax pmax
comp=Z,98nm,5.7s
GTA LR LR
comp=N,60nm,17.1s
GTA LR LR
comp=E,98nm,16.4s
GTA LR LR
comp=Z,80nm,16.4s
INK Inuvik 39.76 34 *e*P **P 14 04 59.3 +1.3**
comp=Z,2.1nm,0.5s
INK Inuvik 39.76 34 P **P 14 04 57.6 -0.3**
comp=Z,1.8nm,0.3s,baz=265,slow=6.6,SNR=21
CD2 Chengdu 41.38 263 P **P 14 05 13.3 +1.5**
CD2 pP **pP 14 05 52.3 +2.2**
CD2 sP **sP 14 06 12.6 +2.5**
CD2 PP **PnPn 14 06 54.1 -3.3**
CD2 S **S 14 11 12.8 -0.2**
CD2 sS **sS 14 12 21.1 +1.0**
CD2 SS **SS 14 14 17.4 -6.6**
CD2 pmax pmax
comp=Z,30nm,0.8s
CD2 pmax pmax
comp=Z,190nm,7.1s
ZALV Zalesovo Beam 41.67 304 P **P 14 05 12.4 -1.4**
ZALV 14 07 07.7
ZALV Zalesovo Beam 41.67 304 P **P 14 05 12.4 -1.4**
ZALV PcP **PcP 14 07 07.7 +0.8**
ZALV Zalesovo Beam 41.67 304 P **P 14 05 12.4 -1.4**
comp=Z,5.3nm,0.4s,baz=58,slow=6.9,SNR=25
ZALV PcP **PcP 14 07 07.7 +0.8**
comp=Z,2.9nm,0.5s,baz=64,slow=3.4,SNR=7.0
NVS Novosibirsk 42.19 306 *e*P **P 14 05 16.9 -1.1**
NVS *e* 14 07 09.0
NVS pmax pmax
comp=N,3.0nm,0.7s
NVS pmax pmax
comp=E,7.0nm,0.7s
NVS pmax pmax
comp=Z,11nm,0.7s
GYA Guiyang 42.48 256 *e*P **P 14 05 21.0 +0.2**
GYA pP **pP 14 06 01.3 +2.0**
GYA sP **sP 14 06 21.4 +2.2**
GYA PcP **PcP 14 07 11.8 +1.6**
GYA ScP **ScP 14 10 43.5 -0.3**
GYA PcS **PcS 14 11 03.0 +0.3**
GYA S **S 14 11 27.5 -1.8**
GYA sS **sS 14 12 37.4 +0.7**
GYA ScS **ScS 14 15 01.9 -1.2**
GYA pmax pmax
comp=Z,10.0nm,0.8s
WMQ Urumqi 44.48 290 P **P 14 05 38.0 +1.5**
WMQ pP **pP 14 06 16.5 +1.2**
WMQ sP **sP 14 06 36.4 +1.1**
WMQ PP **PP 14 07 25.3 +1.5**
WMQ *e*S **S 14 11 58.0 0.0**
WMQ sS **sS 14 13 05.6 -0.2**
WMQ SS **ScS 14 15 13.4 -1.8**
WMQ pmax pmax
comp=Z,15nm,1.0s
WMQ pmax pmax
comp=Z,120nm,6.0s
WMQ LR LR
comp=N,140nm,19.0s
WMQ LR LR
comp=E,100nm,20.1s
WMQ LR LR
comp=Z,93nm,21.0s
KMI Kunming 45.93 258 P **P 14 05 49.3 +0.9**
KMI pP **pP 14 06 30.3 +2.9**
KMI sP **sP 14 06 50.3 +3.1**
KMI pmax pmax
comp=Z,29nm,0.8s
QIZ Qiongzhong 45.95 245 P **P 14 05 48.6 +0.3**
QIZ S **S 14 12 20.8 +1.4**
QIZ pmax pmax
comp=Z,16nm,1.8s
MK31 Makanchi Array 46.28 296 *i* P **P 14 05 50.1 -0.5**
MK31 pmax pmax
comp=Z,17nm,0.4s
MKAR Makanchi Array 46.28 296 P **P 14 05 50.1 -0.5**
MKAR 14 07 23.8
MKAR Makanchi Array 46.28 296 *e*P **P 14 05 50.0 -0.5**
MKAR Makanchi Array 46.28 296 P **P 14 05 50.1 -0.5**
MKAR PcP **PcP 14 07 23.8 +0.9**
MKAR Makanchi Array 46.28 296 P **P 14 05 50.1 -0.5**
comp=Z,36nm,0.7s,baz=67,slow=8.0,SNR=275
MKAR PcP **PcP 14 07 23.8 +0.9**
comp=Z,1.4nm,0.4s,baz=68,slow=4.4,SNR=5.9
KURK Kurchatov 46.49 302 P **P 14 05 52.0 -0.1**
KURK 14 07 24.6
KURK Kurchatov 46.49 302 P **P 14 05 52.0 -0.1**
KURK PcP **PcP 14 07 24.6 +1.2**
KURBB Kurchatov Arra 46.58 302 P **P 14 05 52.0 -0.8**
comp=Z,32nm,0.8s,baz=65,slow=8.2,SNR=97
KURBB PcP **PcP 14 07 24.6 +0.8**
comp=Z,0.9nm,0.3s,baz=59,slow=3.5,SNR=4.9
RES Resolute Bay 48.79 19 *e*P **P 14 06 12.0 +2.6**
RES Resolute Bay 48.79 19 P **P 14 06 10.2 +0.8**
comp=Z,16nm,0.6s,baz=336,slow=6.4,SNR=8.0
YKA Yellowknife Ar 49.10 38 P **P 14 06 12.4 +0.4**
YKA Yellowknife Ar 49.10 38 P **P 14 06 12.4 +0.4**
comp=Z,2.6nm,1.0s,baz=303,slow=7.1,SNR=3.6
VOSK Vostochnaya 49.64 308 P **P 14 06 15.3 -0.9**
VOSK pmax pmax
comp=Z,16nm,0.5s
BVA0 Borovoye Array 49.79 308 P **P 14 06 16.8 -0.6**
BVA0 pmax pmax
comp=Z,22nm,0.4s
BVAR Borovoye Array 49.79 308 P **P 14 06 16.8 -0.6**
BVAR 14 07 36.2
BVAR Borovoye Array 49.79 308 P **P 14 06 16.8 -0.6**
BVAR PcP **PcP 14 07 36.2 +0.8**
BVAR Borovoye Array 49.79 308 P **P 14 06 16.8 -0.6**
comp=Z,18nm,0.4s,baz=63,slow=8.0,SNR=96
BVAR PcP **PcP 14 07 36.2 +0.8**
comp=Z,2.7nm,0.5s,baz=72,slow=4.8,SNR=5.3
BRVK Borovoye 49.83 308⇓ *i* P **P 14 06 17.0 -0.6**
BRVK pmax pmax
comp=Z,24nm,0.8s
BRVK Borovoye 49.83 308 *e*P **P 14 06 17.0 -0.6**
BRVK Borovoye 49.83 308 *e*P **P 14 06 16.9 -0.6**
comp=Z,22nm,0.6s
LSA Lhasa 50.48 272 *e*P **P 14 06 24.1 +0.7**
LSA pmax pmax
comp=Z,10.0nm,0.6s
LSA Lhasa 50.48 272 *e*P **P 14 06 24.1 +0.7**
comp=Z,9.7nm,0.6s
CMAI Chiengmai2 52.02 256 P **P 14 06 35.7 +1.1**
comp=Z,17nm,1.1s,comp=Z,1μm
TKM2 Tokmak 2 52.38 295 *e*P **P 14 06 36.8 -0.2**
TKM2 pmax pmax
comp=Z,6.0nm,0.6s
TKM2 Tokmak 2 52.38 295 P **P 14 06 37.4 +0.4**
SNR=9.6
TKM2 Tokmak 2 52.38 295 *e*P **P 14 06 36.8 -0.2**
comp=Z,6.1nm,0.6s
ULHL Ulahol 52.38 294 P **P 14 06 37.6 +0.5**
SNR=9.4
LOEI Loei 52.39 252 P **P 14 06 35.9 -1.2**
comp=Z,77nm,0.8s
SVE Sverdlovsk 52.53 316 *e*P **P 14 06 37.7 +0.1**
SVE pmax pmax
comp=Z,18nm,0.8s
USP Ospenovka 52.83 296 P **P 14 06 40.8 +0.7**
SNR=25
CHMS Chumysh 52.84 295 P **P 14 06 40.6 +0.4**
SNR=6.0
CHTO Chiang Mai 52.90 255 *e*P **P 14 06 41.7 +0.8**
CHTO pmax pmax
comp=Z,24nm,0.9s
CHTO Chiang Mai 52.90 255 *e*P **P 14 06 41.6 +0.8**
comp=Z,24nm,0.9s
CHTO Chiang Mai 52.90 255 P **P 14 06 41.9 +1.0**
comp=Z,33nm,1.1s,comp=Z,332nm
FRU Bishkek 53.01 295 *e*P **P 14 06 41.5 +0.1**
FRU pmax pmax
comp=Z,40nm,1.6s
CM31 Chiang Mai Arr 53.16 255 *e*P **P 14 06 44.4 +1.6**
comp=Z,14nm,0.9s
AAK Ala-Archa 53.20 295 *i* P **P 14 06 43.5 +0.5**
AAK Ala-Archa 53.20 295 P **P 14 06 43.5 +0.5**
SNR=14
AAK Ala-Archa 53.20 295 *e*P **P 14 06 43.5 +0.5**
AAK Ala-Archa 53.20 295 *e*P **P 14 06 42.7 -0.3**
comp=Z,7.9nm,0.6s
AAK Ala-Archa 53.20 295 P **P 14 06 42.6 -0.4**
comp=Z,7.4nm,0.5s,baz=66,slow=11,SNR=21
SUKH Sukhothai 53.44 254 P **P 14 06 46.6 +1.8**
comp=Z,4.0nm,0.7s
EKS2 Erkin-Say 53.61 296 *e*P **P 14 06 45.8 -0.2**
EKS2 pmax pmax
comp=Z,10.0nm,0.8s
EKS2 Erkin-Say 53.61 296 P **P 14 06 46.6 +0.7**
SNR=18
EKS2 Erkin-Say 53.61 296 *e*P **P 14 06 45.8 -0.2**
comp=Z,10.0nm,0.8s
ARU Arti 53.70 317 *d i* P **P 14 06 45.8 -0.4**
ARU *PP **pP 14 07 26.3 -0.1**
ARU 14 07 49.2
ARU S **S 14 14 07.6 +1.7**
ARU SS **SS 14 17 44.5 -3.9**
ARU pmax pmax
comp=Z,35nm,0.6s
ARU Arti 53.70 317 *e*P **P 14 06 45.4 -0.8**
KSH Kashi 54.16 291 P P 14 06 54.4 +4.5
KSH pP pP 14 07 34.3 +4.1
KSH PcS **PcS 14 11 54.5 +2.6**
KSH S **S 14 14 16.6 +3.8**
KSH sS sS 14 15 26.5 +3.6
KSH ScS **ScS 14 16 22.1 +1.1**
KSH pmax pmax
comp=Z,120nm,5.5s
KSH LR LR
comp=N,120nm,6.4s
KSH LR LR
comp=E,93nm,8.2s
KSH LR LR
comp=Z,150nm,6.0s
TAPN Taplejung 54.30 272 *e*P **P 14 06 51.8 +0.5**
ODAN Odare 54.84 272 *e*P **P 14 06 56.2 +1.1**
comp=Z,7.6nm,0.5s
JIRN Jiri 55.09 273 *e*P **P 14 06 57.9 +0.8**
comp=Z,55nm,0.7s
GUN Gumba 55.13 274 *e*P **P 14 06 57.9 +0.5**
comp=Z,30nm,0.4s
KK31 Karatay Array 55.28 298 *i* P **P 14 06 57.1 -0.7**
KK31 pmax pmax
comp=Z,3.0nm,0.6s
RAMN Ramite 55.30 272 *e*P **P 14 06 59.0 +0.6**
comp=Z,53nm,0.7s
KKN Kakani 55.61 274 *e*P **P 14 07 01.5 +0.9**
comp=Z,30nm,0.5s
PKI Pulchoki 55.67 274 *e*P **P 14 07 01.8 +0.6**
comp=Z,16nm,0.5s
DMN Daman 55.84 274 *e*P **P 14 07 03.1 +0.8**
comp=Z,49nm,0.7s
ARCES ARCESS Array B 56.00 340 P **P 14 07 01.9 -0.7**
ARCES ARCESS Array B 56.00 340 P **P 14 07 01.9 -0.7**
comp=Z,2.8nm,0.6s,baz=24,slow=7.1,SNR=18
DANN Dangsing 56.24 276 *e*P **P 14 07 06.3 +1.2**
comp=Z,87nm,0.5s
KOLN Koldanda 56.73 275 *e*P **P 14 07 09.3 +0.8**
comp=Z,35nm,0.5s
PYUN Piuthan 56.91 276 *e*P **P 14 07 10.1 +0.3**
comp=Z,106nm,0.5s
BSMT Bassoo Peak 57.20 53 *e*P **P 14 07 13.4 +1.8**
comp=Z,5.0nm,1.1s
AB31 Akbulak array 57.34 309 *i* P **P 14 07 11.6 -0.6**
AB31 pmax pmax
comp=Z,6.0nm,0.3s
ABKAR Akbulak array 57.34 309 *e*P **P 14 07 11.5 -0.7**
comp=Z,6.8nm,0.4s
AKTO Aktyubinsk 57.58 311 *i* P **P 14 07 12.2 -1.7**
AKTO pmax pmax
comp=Z,5.0nm,0.5s
MOD Modoc 57.83 62 *e*P **P 14 07 17.5 +1.5**
comp=Z,18nm,1.2s
WVOR Wild Horse Val 58.46 60 *e*P **P 14 07 21.6 +1.3**
WVOR pmax pmax
comp=Z,6.0nm,0.9s
WVOR Wild Horse Val 58.46 60 *e*P **P 14 07 21.6 +1.3**
comp=Z,6.2nm,0.9s
CHMT Chamberlain Mo 58.60 53 *e*P **P 14 07 22.4 +1.1**
comp=Z,3.4nm,1.3s
BEKR Beckworth 59.09 64 *e*P **P 14 07 25.4 +0.7**
comp=Z,1.0nm,0.7s
JOF Joensuu 59.62 333 *e*P **P 14 07 27.9 +0.2**
JOF pmax pmax
comp=Z,5.0nm,0.5s
JOF Joensuu 59.62 333 *ep* **P 14 07 27.9 +0.2**
comp=Z,5.0nm,0.5s
LRM Limekiln Ridge 59.73 54 *e*P **P 14 07 30.6 +1.5**
comp=Z,64nm,1.1s
DLMT Dillon 59.95 54 P **P 14 07 31.4 +0.9**
comp=Z,9.3nm,1.5s
NDI New Delhi 60.30 281 *e*P **P 14 07 30.0 -2.9**
WAKR Walker 60.51 64 *e*P **P 14 07 36.1 +1.6**
comp=Z,6.6nm,1.1s
NVAR Mina Array Bea 61.23 64 P **P 14 07 39.9 +0.5**
NVAR PcP **pP 14 08 21.3 +0.7**
NVAR Mina Array Bea 61.23 64 P **P 14 07 39.9 +0.5**
comp=Z,3.9nm,0.8s,baz=286,slow=7.1,SNR=29
NVAR PcP **pP 14 08 21.3 +0.7**
comp=Z,0.9nm,1.0s,baz=298,slow=7.8,SNR=3.6
NV11 Mina Array Sit 61.32 63 *e*P **P 14 07 41.4 +1.5**
KAF Kangasniemi 61.70 335 *e*P **P 14 07 41.0 -0.8**
KAF pmax pmax
comp=Z,5.0nm,0.5s
KAF Kangasniemi 61.70 335 *ep* **P 14 07 41.0 -0.8**
comp=Z,5.3nm,0.5s
TPAW Teton Pass 62.07 55 *e*P **P 14 07 46.6 +1.7**
comp=Z,12nm,1.3s
FINES FINESS Array B 62.30 334 P **P 14 07 45.3 -0.5**
FINES PcP **pP 14 08 25.4 -1.8**
FINES FINESS Array B 62.30 334 P **P 14 07 45.3 -0.5**
comp=Z,11nm,0.4s,baz=36,slow=7.6,SNR=55
FINES PcP **pP 14 08 25.4 -1.8**
comp=Z,1.2nm,0.3s,baz=63,slow=3.4,SNR=3.6
SFJD Kangerlussuaq 63.07 10 P **P 14 07 50.5 -0.3**
SFJD Kangerlussuaq 63.07 10 P **P 14 07 50.5 -0.3**
comp=Z,6.9nm,0.4s,baz=315,slow=4.6,SNR=4.2
DUG Dugway 63.24 59 *e*P **P 14 07 54.0 +1.4**
DUG pmax pmax
comp=Z,7.0nm,1.2s

DUG Dugway 63.24 59 *eP* **P 14 07 54.0 +1.4**
comp=Z,7.2nm,1.2s
PDAR Pinedale Array 63.31 55 P **P 14 07 52.8 -0.3**
PDAR pP **pP 14 08 34.3 -0.3**
PDAR Pinedale Array 63.31 55 P **P 14 07 52.8 -0.3**
comp=Z,3.8nm,0.9s,baz=318,slow=2.0,SNR=17
PDAR pP **pP 14 08 34.3 -0.3**
comp=Z,1.4nm,0.8s,baz=317,slow=2.4,SNR=2.6
OBN Obninsk 63.78 325⇑ *eP* **P 14 07 55.6 0.0**
OBN pmax pmax
comp=Z,15nm,1.2s
OBN Obninsk 63.78 325 *eP* **P 14 07 56.0 +0.4**
VSU Vasula 64.52 332 *eP* **P 14 08 00.7 +0.3**
SRU San Rafael 65.27 58 *eP* **P 14 08 07.2 +1.3**
SRU pmax pmax
comp=Z,10.0nm,0.9s
SRU San Rafael 65.27 58 *eP* **P 14 08 07.2 +1.3**
comp=Z,10nm,0.9s
ISHV Shirvan 66.32 300 *eP* **P 14 08 11.8 -0.8**
NB2 NORSAR Subarra 66.37 341 P **P 14 08 11.7 -0.6**
comp=Z,11nm,0.8s,baz=25,slow=6.5
NOA NORSAR Array B 66.37 341 P **P 14 08 11.7 -0.6**
NOA NORSAR Array B 66.37 341 P **P 14 08 11.7 -0.6**
comp=Z,6.2nm,0.7s,baz=27,slow=6.5,SNR=21
ISFR Sfrayin 66.48 300 *eP* **P 14 08 13.3 -0.4**
HYB Hyderabad 67.25 271 *i P* **P 14 08 18.0 -0.5**
KIV Kíslovodsk 69.58 314 *eP* **P 14 08 34.1 +1.5**
KIV pmax pmax
comp=Z,11nm,1.0s
KBZ Khabaz 69.64 314 P **P 14 08 32.9 0.0**
KBZ Khabaz 69.64 314 P **P 14 08 32.9 0.0**
KBZ Khabaz 69.64 314 P **P 14 08 32.9 0.0**
comp=Z,5.6nm,0.8s,baz=116,slow=2.2,SNR=9.3
AKASG Malin Array Be 70.00 326 *i P* **P 14 08 34.4 -0.6**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKASG Malin Array Be 70.00 326 P **P 14 08 34.2 -0.8**
AKASG Malin Array Be 70.00 326 P **P 14 08 34.2 -0.8**
comp=Z,1.8nm,0.4s,baz=33,slow=5.8,SNR=14
WRA Warramunga Arr 70.56 199 P **P 14 08 38.1 -0.6**
WRA Warramunga Arr 70.56 199 P **P 14 08 38.1 -0.6**
comp=Z,2.1nm,0.6s,baz=17,slow=6.7,SNR=23
SCHQ Schefferville 71.30 23 P **P 14 08 41.8 -1.0**
SCHQ Schefferville 71.30 23 P **P 14 08 41.8 -1.0**
comp=Z,2.1nm,0.4s,baz=308,slow=10,SNR=7.1
MDO Dochfour 72.55 348 *eP* **P 14 08 50.4 +0.2**
KAC Achnashellach 72.62 348 *eP* **P 14 08 50.5 0.0**
DRUM Mains of Drumt 72.78 347 *eP* **P 14 08 51.5 0.0**
DRUM AMB AMB 14 08 56.4
comp=Z,77nm,2.8s
KPL Plockton 72.82 348 *eP* **P 14 08 52.4 +0.7**
KPL AMB AMB 14 08 53.5
comp=Z,70nm,3.7s
KSB Sheil Bridge 72.92 348 *eP* **P 14 08 52.8 +0.5**
KWP Kalwaria Pacla 73.20 329 ⇓P **P 14 08 55.0 +0.9**
KWP Kalwaria Pacla 73.20 329 ⇓*iP* **P 14 08 55.0 +0.9**
KWP Kalwaria Pacla 73.20 329 *eP* **P 14 08 55.1 +0.9**
EAB Aberfoyle 73.75 347 *eP* **P 14 08 57.6 +0.4**
ESY Stoneypath 73.75 346 *eP* **P 14 08 57.9 +0.6**
STHS Stebnicka Huta 73.88 330 *eP* **P 14 08 58.9 +0.8**
STHS pmax pmax
comp=Z,8.0nm,0.8s
STHS Stebnicka Huta 73.88 330 *eP* **P 14 08 58.9 +0.8**
KOLS Kolonicke sedl 73.95 329 *eP* **P 14 08 58.8 +0.3**
KOLS pmax pmax
comp=Z,12nm,1.2s
KOLS Kolonicke sedl 73.95 329 *eP* **P 14 08 58.8 +0.3**
BURAR Bucovina Array 74.03 326 ⇑P **P 14 08 59.0 -0.1**
BURAR Bucovina Array 74.03 326 ⇑*iP* **P 14 08 59.0 -0.1**
PGBU Glenifferbraes 74.14 347 *eP* **P 14 09 00.2 +0.7**
KSP Ksiaz 74.19 333 *eP* **P 14 09 00.4 +0.5**
KSP Ksiaz 74.19 333 *eP* **P 14 09 00.7 +0.8**
CRVS Cervenica-Dubn 74.25 329 *eP* **P 14 09 00.5 +0.2**
CRVS pmax pmax
comp=Z,5.0nm,1.0s
CRVS Cervenica-Dubn 74.25 329 *eP* **P 14 09 00.5 +0.2**
ASAR Alice Springs 74.26 199 P **P 14 09 00.7 +0.2**
ASAR pP **pP 14 09 42.5 -0.7**
ASAR Alice Springs 74.26 199 P **P 14 09 00.7 +0.2**
comp=Z,1.6nm,0.4s,baz=9.5,slow=5.3,SNR=31
ASAR pP **pP 14 09 42.5 -0.7**
comp=Z,1.0nm,0.8s,baz=9.1,slow=5.5,SNR=3.3
TESR Tescani 74.42 325 ⇓*iP* **P 14 09 01.5 +0.2**
ESK Eskdalemuir 74.43 346 *eP* **P 14 09 00.8 -0.3**
OKC Ostrava-Krasne 74.51 332 *eP* **P 14 09 02.6 +0.9**
OKC Ostrava-Krasne 74.51 332 *eP* **P 14 09 02.6 +0.9**
ECK Cauldkaine Hil 74.55 346 *eP* **P 14 09 02.3 +0.4**
TRPA Tarpa 74.55 328 ⇑*iP* **P 14 09 02.9 +1.0**
UPC Upice 74.57 333 *eP* **P 14 09 02.8 +0.7**
UPC *e* 14 09 10.0
UPC Upice 74.57 333 *eP* **P 14 09 02.8 +0.7**
UPC *ex* x 14 09 10.0
DPC Dobruska-Polom 74.62 333 *eP* **P 14 09 03.5 +1.1**
DPC Dobruska-Polom 74.62 333 *eP* **P 14 09 03.5 +1.1**
TLCR 74.68 323 ⇑P **P 14 09 03.1 +0.3**
TLCR 74.68 323 ⇑*iP* **P 14 09 03.1 +0.3**
CLL Collm 74.71 336 ⇑*iP* **P 14 09 02.9 +0.1**
CLL pmax pmax
comp=Z,36nm,0.8s
CLL Collm 74.71 336 ⇑*iP* **P 14 09 02.9 +0.1**
comp=Z,36nm,0.8s
MORC Moravsky Berou 74.75 332 *eP* **P 14 09 02.3 -0.9**
MORC pmax pmax
comp=Z,27nm,1.1s
MORC Moravsky Berou 74.75 332 *eP* **P 14 09 02.3 -0.9**
comp=Z,27nm,1.1s
BRG Berggiesshubel 74.84 335 *eP* **P 14 09 04.1 +0.5**
comp=Z,15nm,1.0s
BRG Berggiesshubel 74.84 335 *eP* **P 14 09 04.1 +0.5**
VRI Vrincioaia 74.93 325 ⇑P **P 14 09 04.2 -0.1**
VRI Vrincioaia 74.93 325 ⇑*iP* **P 14 09 04.2 -0.1**
KECS Kecovo 74.94 330 *eP* **P 14 09 04.7 +0.5**
KECS pmax pmax
comp=Z,5.0nm,1.0s
KECS Kecovo 74.94 330 *eP* **P 14 09 04.7 +0.5**
PVCC Panska Ves 74.97 334 *eP* **P 14 09 05.3 +0.9**
PVCC Panska Ves 74.97 334 *eP* **P 14 09 05.3 +0.9**
PLOR Plostina 74.97 325 ⇑P **P 14 09 05.6 +1.1**
PLOR Plostina 74.97 325 ⇑*iP* **P 14 09 05.6 +1.1**
GAL1 Galloway 75.09 347 *eP* **P 14 09 04.9 0.0**
GAL1 AMB AMB 14 09 09.2
comp=Z,51nm,3.8s
TIRR Tirgusor 75.45 323 ⇓P **P 14 09 07.9 +0.8**
TIRR Tirgusor 75.45 323 *eP* **P 14 09 07.0 -0.2**
comp=Z,12nm,0.8s
TIRR Tirgusor 75.45 323 ⇓*iP* **P 14 09 07.9 +0.8**
VRAC Vranov 75.46 333 P **P 14 09 07.3 +0.1**
VRAC Vranov 75.46 333 P **P 14 09 07.3 +0.1**
comp=Z,15nm,0.8s,baz=34,slow=6.5,SNR=10
PRU Pruhonice 75.46 334 *eP* **P 14 09 07.7 +0.5**
PRU Pruhonice 75.46 334 *eP* **P 14 09 07.7 +0.5**
VYHS Vyhne 75.47 331 *eP* **P 14 09 08.3 +1.0**
VYHS pmax pmax
comp=Z,8.0nm,1.1s
VYHS Vyhne 75.47 331 *eP* **P 14 09 08.3 +1.0**
HPK Haverah Park 75.48 345 *eP* **P 14 09 07.7 +0.6**
HPK AMB AMB 14 09 09.4
comp=Z,91nm,3.9s
TLB Topalu 75.49 323 ⇓P **P 14 09 07.9 +0.5**
TLB Topalu 75.49 323 ⇓*iP* **P 14 09 07.9 +0.5**
MLR Muntele Rosu 75.55 325 P **P 14 09 08.0 +0.1**
MLR Muntele Rosu 75.55 325 P **P 14 09 08.0 +0.1**
comp=Z,3.6nm,0.5s,baz=352,slow=11,SNR=25
PSZ Piszkesteto 75.62 330 ⇓P **P 14 09 09.4 +1.2**
PSZ Piszkesteto 75.62 330 ⇓*iP* **P 14 09 09.4 +1.2**
ISR Istrita 75.63 324 ⇑P **P 14 09 09.5 +1.2**
ISR Istrita 75.63 324 ⇑*iP* **P 14 09 09.4 +1.2**
SMOL Smolenice 75.90 332 *eP* **P 14 09 11.0 +1.3**
SMOL Smolenice 75.90 332 *eP* **P 14 09 11.0 +1.3**
KBI1 Birley Grange 76.14 345 *eP* **P 14 09 11.7 +0.7**
PSN Preselentsi 76.18 322 *i P* **P 14 09 09.5 -1.9**
TXAR Lajitas Array 76.23 61 P **P 14 09 12.2 +0.2**
TXAR pP **pP 14 09 54.5 -0.5**
TXAR Lajitas Array 76.23 61 P **P 14 09 12.2 +0.2**
comp=Z,4.1nm,0.8s,baz=305,slow=4.4,SNR=20
TXAR pP **pP 14 09 54.5 -0.5**
comp=Z,0.6nm,0.6s,baz=301,slow=3.9,SNR=2.2
LOT Lotru 76.40 326 ⇑*iP* **P 14 09 12.8 +0.1**
SIRR Siria 76.45 328 ⇓*iP* **P 14 09 13.3 +0.4**
BUC1 Bucharest 76.48 324 ⇑*iP* P 14 09 06.4 -6.6
KHC Kasperske Hory 76.51 334 *eP* **P 14 09 13.9 +0.7**
KHC *e* 14 09 18.2
KHC Kasperske Hory 76.51 334 *eP* **P 14 09 13.9 +0.7**
KHC *ex* x 14 09 18.2
KHC Kasperske Hory 76.51 334 *eP* **P 14 09 13.8 +0.7**
comp=Z,28nm,0.9s
GERES GERESS Array B 76.73 334 P **P 14 09 14.3 -0.2**
GERES GERESS Array B 76.73 334 P **P 14 09 14.3 -0.2**
comp=Z,6.4nm,0.7s,baz=32,slow=5.2,SNR=40
FOEL Foel Wylfa 76.77 346 *eP* **P 14 09 15.3 +0.8**
FOEL AMB AMB 14 09 19.2
comp=Z,32nm,1.7s
PRD Provadia 76.90 323 *i P* **P 14 09 16.2 +0.8**
CONA Conrad Observa 76.91 332 ⇑*iP* **P 14 09 16.6 +1.1**
comp=Z,14nm,0.7s,SNR=7.6
BZS Buzias 77.03 328 ⇑P **P 14 09 15.9 -0.2**
BZS Buzias 77.03 328 ⇑*iP* **P 14 09 15.9 -0.2**
BRTR Keskin Array B 77.09 317 P **P 14 09 16.8 +0.1**
BRTR Keskin Array B 77.09 317 P **P 14 09 16.8 +0.1**
comp=Z,17nm,0.8s,baz=57,slow=4.6,SNR=38
MEM Membach 77.12 339 P **P 14 09 17.4 +0.9**
comp=Z,24nm,0.9s
ANTO Ankara 77.35 317 ⇑P **P 14 09 19.9 +1.8**
ANTO Ankara 77.35 317 P **P 14 09 19.3 +1.2**
comp=Z,9.7nm,0.6s
ANTO Ankara 77.35 317 ⇑*iP* **P 14 09 19.9 +1.8**
SZH Strazhica 77.42 324 *i P* **P 14 09 18.2 -0.1**
BCLA Clavier 77.46 340 P **P 14 09 19.2 +0.8**
comp=Z,18nm,1.3s
BCLA PCP **PcP 14 09 29.2 +1.2**
MOA Molln 77.46 333 ⇓*iP* **P 14 09 19.6 +1.1**
comp=Z,14nm,0.9s,SNR=6.3
PKSM Moragy 77.53 330 ⇑P **P 14 09 18.9 0.0**
PKSM Moragy 77.53 330 ⇑*iP* **P 14 09 18.9 0.0**
ARSA Arzberg 77.61 332 ⇑*iP* **P 14 09 20.6 +1.3**
comp=Z,18nm,1.1s,SNR=5.2
UMR Umm Al-Rimmam 77.82 301 *eP* **P 14 09 20.8 +0.1**
UMR AMb AMB 14 09 21.6
comp=Z,48nm,0.6s
GIVF Givet 77.86 340 *eP* **P 14 09 21.2 +0.6**
comp=Z,50nm,1.0s
GIVF Givet 77.86 340 *eP* **P 14 09 21.2 +0.6**
GIVF pmax pmax
comp=Z,50nm,1.0s
GIVF Givet 77.86 340 *eP* **P 14 09 21.2 +0.6**
comp=Z,50nm,1.0s
DOU Dourbes 77.92 340 P **P 14 09 21.4 +0.5**
BAIF Baives 78.04 340 *eP* **P 14 09 22.4 +0.8**
BAIF Baives 78.04 340 *eP* **P 14 09 22.4 +0.8**
BAIF Baives 78.04 340 *eP* **P 14 09 22.4 +0.8**
MPEP Malo Peshtene 78.19 325 *i P* **P 14 09 22.9 +0.3**
RST Umm Al-Ruwaisa 78.26 301 *eP* **P 14 09 23.5 +0.3**
RST AMb AMB 14 09 24.2
comp=Z,564nm,0.8s
SOKA Soboth 78.28 332 ⇓*iP* **P 14 09 24.1 +1.0**
comp=Z,31nm,1.2s,SNR=10
QRN Al-Qurain 78.31 300 *eP* **P 14 09 23.8 +0.3**
QRN AMb AMB 14 09 24.5
comp=Z,71nm,0.9s
NAY Al-Naaiem 78.31 301 *eP* **P 14 09 23.5 +0.1**
NAY AMb AMB 14 09 24.3
comp=Z,36nm,0.9s
RDF Al-Radifah 78.38 301 *eP* **P 14 09 24.6 +0.8**
RDF AMb AMB 14 09 26.5
comp=Z,63nm,1.1s
KBA Koelnbreinsper 78.43 333 ⇓*iP* **P 14 09 25.5 +1.5**
comp=Z,70nm,0.9s,SNR=18
OBKA Obir 78.58 332 ⇓*iP* **P 14 09 25.3 +0.5**
comp=Z,15nm,0.8s
DIM Dimitrovgrad 78.61 323 *i P* **P 14 09 25.0 +0.1**
BFO Black Forest 78.67 337 *eP* **P 14 09 25.3 +0.2**
BFO pmax pmax
comp=Z,32nm,1.3s
BFO Black Forest 78.67 337 *eP* **P 14 09 25.3 +0.2**
comp=Z,32nm,1.3s
PGB Panagyurishte 78.72 324 *i P* **P 14 09 26.0 +0.5**
MYKA Terra Mystica 78.74 333 ⇓*iP* **P 14 09 26.1 +0.5**
comp=Z,15nm,0.9s
WTTA Wattenberg 78.75 335 ⇑*iP* **P 14 09 27.0 +1.2**
comp=Z,43nm,0.6s,SNR=14
RETA Reutte 78.79 335 *i P* **P 14 09 27.1 +1.2**
comp=Z,24nm,0.9s,SNR=6.6
MOTA Moosalm 78.83 335 ⇓*iP* **P 14 09 27.4 +1.2**
comp=Z,31nm,0.6s,SNR=14
CDF Champ du Feu 78.86 338 *eP* **P 14 09 27.0 +0.8**
comp=Z,54nm,1.0s
CDF Champ du Feu 78.86 338 *eP* **P 14 09 27.0 +0.8**
CDF pmax pmax
comp=Z,54nm,1.0s
CDF Champ du Feu 78.86 338 *eP* **P 14 09 27.0 +0.8**
comp=Z,54nm,1.0s
ABTA Abfaltersbach 78.97 334 ⇓*iP* **P 14 09 27.4 +0.5**
comp=Z,12nm,0.7s
KDZ Kurdzhali 79.00 323 *i P* **P 14 09 28.1 +1.1**
VTS Vitosha 79.05 325 ⇑P **P 14 09 27.8 +0.3**
VTS Vitosha 79.05 325 ⇑*iP* **P 14 09 27.8 +0.3**
VTS Vitosha 79.05 325 *i P* **P 14 09 27.7 +0.3**
ECH Echery 79.07 338 *eP* **P 14 09 27.4 +0.1**
ECH pmax pmax
comp=Z,29nm,1.0s
ECH Echery 79.07 338 *eP* **P 14 09 27.4 +0.1**
comp=Z,29nm,1.0s
PAGF Fort de Pagny 79.10 339 *eP* **P 14 09 28.7 +1.3**
comp=Z,27nm,0.9s
PAGF Fort de Pagny 79.10 339 *eP* **P 14 09 28.7 +1.3**
comp=Z,27nm,0.9s
DAVA Damuels 79.22 336 *i P* **P 14 09 29.5 +1.2**
comp=Z,34nm,0.9s,SNR=7.7
FETA Feichten 79.23 335 ⇑*iP* **P 14 09 29.3 +0.9**
comp=Z,23nm,1.0s,SNR=6.5
MEZF Maizieres J'vi 79.31 339 *eP* **P 14 09 29.6 +1.0**
comp=Z,52nm,0.8s
MEZF Maizieres J'vi 79.31 339 *eP* **P 14 09 29.6 +1.0**
comp=Z,52nm,0.8s
HAU Haudompre 79.47 338 *eP* **P 14 09 30.0 +0.5**
comp=Z,27nm,0.8s
HAU Haudompre 79.47 338 *eP* **P 14 09 30.0 +0.5**
HAU pmax pmax
comp=Z,27nm,0.8s
HAU Haudompre 79.47 338 *eP* **P 14 09 30.0 +0.5**
comp=Z,27nm,0.8s
HINF Hinteralfeld 79.52 338 *eP* **P 14 09 30.2 +0.4**
HINF Hinteralfeld 79.52 338 *eP* **P 14 09 30.2 +0.4**
HINF Hinteralfeld 79.52 338 *eP* **P 14 09 30.2 +0.4**
SFTF Sexfontaines 79.59 339 *eP* **P 14 09 31.0 +0.9**
comp=Z,52nm,0.6s
SFTF Sexfontaines 79.59 339 *eP* **P 14 09 31.0 +0.9**
comp=Z,52nm,0.6s
DAVOX Davos/Dischmat 79.68 336 P **P 14 09 31.3 +0.4**
DAVOX Davos/Dischmat 79.68 336 P **P 14 09 31.3 +0.4**
comp=Z,22nm,0.8s,baz=21,slow=11,SNR=14
MMB Mumoiste 79.71 324 *i P* **P 14 09 31.3 +0.4**
KKB Krupnik 79.72 325 *i P* **P 14 09 31.3 +0.4**
TUE Stuetta 80.11 336 *eP* **P 14 09 34.1 +0.9**
comp=Z,40nm,0.8s
FLN La Foliniere 80.25 343 *eP* **P 14 09 34.3 +0.7**
comp=Z,62nm,1.0s
FLN La Foliniere 80.25 343 *eP* **P 14 09 34.3 +0.7**
FLN pmax pmax
comp=Z,62nm,1.0s
FLN La Foliniere 80.25 343 *eP* **P 14 09 34.3 +0.7**
comp=Z,62nm,1.0s
LDF La Druitiere 80.34 343 *eP* **P 14 09 34.9 +0.8**
comp=Z,8.8nm,0.3s
LDF La Druitiere 80.34 343 *eP* **P 14 09 34.9 +0.8**
LDF pmax pmax
comp=Z,9.0nm,0.3s
LDF La Druitiere 80.34 343 *eP* **P 14 09 34.9 +0.8**
comp=Z,8.8nm,0.3s
GRR Gorron 80.68 343 *eP* **P 14 09 36.9 +1.0**
GRR Gorron 80.68 343 *eP* **P 14 09 36.9 +1.0**
GRR Gorron 80.68 343 *eP* **P 14 09 36.9 +1.0**
LOR Lormes 80.75 340 *eP* **P 14 09 37.0 +0.7**
comp=Z,74nm,1.0s,baz=22
LOR Lormes 80.75 340 *eP* **P 14 09 37.0 +0.7**
comp=Z,74nm,1.0s
CABF La Chapelle 80.83 338 *eP* **P 14 09 37.9 +1.0**
comp=Z,63nm,1.1s
CABF La Chapelle 80.83 338 *eP* **P 14 09 37.9 +1.0**
CABF pmax pmax
comp=Z,63nm,1.1s
CABF La Chapelle 80.83 338 *eP* **P 14 09 37.9 +1.0**
comp=Z,63nm,1.1s
SSF Saint Saulge 81.02 340 *eP* **P 14 09 38.5 +0.7**
comp=Z,37nm,1.0s
SSF Saint Saulge 81.02 340 *eP* **P 14 09 38.5 +0.7**
SSF pmax pmax
comp=Z,37nm,1.0s
SSF Saint Saulge 81.02 340 *eP* **P 14 09 38.5 +0.7**
comp=Z,37nm,1.0s
STKA Stephens Creek 81.03 190 P **P 14 09 38.5 +0.8**
STKA Stephens Creek 81.03 190 P **P 14 09 38.5 +0.8**
comp=Z,0.8nm,0.4s,baz=3.1,slow=13,SNR=2.2
SGMF Saint Gilles 81.13 344 *eP* **P 14 09 39.4 +1.1**
comp=Z,45nm,0.6s
SGMF Saint Gilles 81.13 344 *eP* **P 14 09 39.4 +1.1**
SGMF pmax pmax
comp=Z,45nm,0.6s
SGMF Saint Gilles 81.13 344 *eP* **P 14 09 39.4 +1.1**
comp=Z,45nm,0.6s
ROSF Rostrenen 81.18 345 *eP* **P 14 09 39.7 +1.2**
comp=Z,36nm,0.7s
ROSF Rostrenen 81.18 345 *eP* **P 14 09 39.7 +1.2**
ROSF pmax pmax
comp=Z,36nm,0.7s
ROSF Rostrenen 81.18 345 *eP* **P 14 09 39.7 +1.2**
comp=Z,36nm,0.7s
AVF Avril sur Loir 81.31 340 *eP* **P 14 09 40.3 +1.0**
comp=Z,71nm,1.0s
AVF Avril sur Loir 81.31 340 *eP* **P 14 09 40.3 +1.0**
AVF pmax pmax
comp=Z,71nm,1.0s
AVF Avril sur Loir 81.31 340 *eP* **P 14 09 40.3 +1.0**
comp=Z,71nm,1.0s
SMF Signal de Mont 81.34 339 *eP* **P 14 09 40.4 +1.0**
comp=Z,87nm,1.2s
SMF Signal de Mont 81.34 339 *eP* **P 14 09 40.4 +1.0**
SMF pmax pmax
comp=Z,87nm,1.2s
SMF Signal de Mont 81.34 339 *eP* **P 14 09 40.4 +1.0**
comp=Z,87nm,1.2s
QUIF Quistinic 81.56 344 *eP* **P 14 09 41.6 +1.1**
comp=Z,34nm,0.8s
QUIF Quistinic 81.56 344 *eP* **P 14 09 41.6 +1.1**
QUIF pmax pmax
comp=Z,34nm,0.8s
QUIF Quistinic 81.56 344 *eP* **P 14 09 41.6 +1.1**
comp=Z,34nm,0.8s
ASF Jabal al Asfar 81.60 310 P **P 14 09 41.9 +0.8**
ASF Jabal al Asfar 81.60 310 P **P 14 09 41.9 +0.8**
comp=Z,13nm,0.9s,baz=351,slow=3.7,SNR=11
BGF Bois d'Agland 81.65 340 *eP* **P 14 09 42.0 +0.9**
comp=Z,17nm,0.5s
BGF Bois d'Agland 81.65 340 *eP* **P 14 09 42.0 +0.9**
BGF pmax pmax
comp=Z,17nm,0.5s
BGF Bois d'Agland 81.65 340 *eP* **P 14 09 42.0 +0.9**
comp=Z,17nm,0.5s
MMAI Mount Meron Ar 81.67 312 P **P 14 09 42.5 +1.0**
MMAI Mount Meron Ar 81.67 312 P **P 14 09 42.5 +1.0**
comp=Z,20nm,0.6s,baz=37,slow=7.3,SNR=30
LPL La Plagne 81.69 337 *eP* **P 14 09 43.1 +1.5**
comp=Z,59nm,0.9s
LPL La Plagne 81.69 337 *eP* **P 14 09 43.1 +1.5**
LPL pmax pmax
comp=Z,59nm,0.9s
LPL La Plagne 81.69 337 *eP* **P 14 09 43.1 +1.5**
comp=Z,59nm,0.9s
LPG La Plagne 81.70 337 *eP* **P 14 09 43.3 +1.6**
comp=Z,92nm,1.0s
LPG La Plagne 81.70 337 *eP* **P 14 09 43.3 +1.6**
LPG pmax pmax
comp=Z,92nm,1.0s
LPG La Plagne 81.70 337 *eP* **P 14 09 43.3 +1.6**
comp=Z,92nm,1.0s
TCF Toulx Ste Croi 82.05 340 *eP* **P 14 09 44.3 +1.1**
comp=Z,27nm,0.7s
TCF Toulx Ste Croi 82.05 340 *eP* **P 14 09 44.3 +1.1**
TCF pmax pmax
comp=Z,27nm,0.7s
TCF Toulx Ste Croi 82.05 340 *eP* **P 14 09 44.3 +1.1**
comp=Z,27nm,0.7s
MFF Saint Martin d 82.25 342 *eP* **P 14 09 45.4 +1.2**
comp=Z,13nm,0.5s
MFF Saint Martin d 82.25 342 *eP* **P 14 09 45.4 +1.2**
MFF pmax pmax
comp=Z,13nm,0.5s
MFF Saint Martin d 82.25 342 *eP* **P 14 09 45.4 +1.2**
comp=Z,13nm,0.5s
MBDF Montbardon 82.41 337 *eP* **P 14 09 46.1 +0.8**
comp=Z,32nm,1.0s
MBDF Montbardon 82.41 337 *eP* **P 14 09 46.1 +0.8**
MBDF pmax pmax
comp=Z,32nm,1.0s
MBDF Montbardon 82.41 337 *eP* **P 14 09 46.1 +0.8**
comp=Z,32nm,1.0s
ORIF Oris-en-Rattie 82.46 337 *eP* **P 14 09 47.0 +1.6**
comp=Z,64nm,1.0s
ORIF Oris-en-Rattie 82.46 337 *eP* **P 14 09 47.0 +1.6**
ORIF pmax pmax
comp=Z,64nm,1.0s
ORIF Oris-en-Rattie 82.46 337 *eP* **P 14 09 47.0 +1.6**
comp=Z,64nm,1.0s
VIVF Saint-Julien-l 82.82 338 *eP* **P 14 09 48.4 +1.2**
comp=Z,23nm,0.7s
VIVF Saint-Julien-l 82.82 338 *eP* **P 14 09 48.4 +1.2**
VIVF pmax pmax
comp=Z,23nm,0.7s
VIVF Saint-Julien-l 82.82 338 *eP* **P 14 09 48.4 +1.2**
comp=Z,23nm,0.7s
SBF Sospel 83.04 336 *eP* **P 14 09 48.9 +0.5**
comp=Z,27nm,0.5s
SBF Sospel 83.04 336 *eP* **P 14 09 48.9 +0.5**
SBF pmax pmax
comp=Z,27nm,0.5s
SBF Sospel 83.04 336 *eP* **P 14 09 48.9 +0.5**
comp=Z,27nm,0.5s
RJF Les Rejaudoux 83.13 341 *eP* **P 14 09 50.9 +2.1**
comp=Z,20nm,0.7s
RJF Les Rejaudoux 83.13 341 *eP* **P 14 09 50.9 +2.1**
RJF pmax pmax
comp=Z,20nm,0.7s
RJF Les Rejaudoux 83.13 341 *eP* **P 14 09 50.9 +2.1**
comp=Z,20nm,0.7s
CAF Calviac 83.37 340 *eP* **P 14 09 52.0 +2.0**
comp=Z,29nm,0.8s
CAF Calviac 83.37 340 *eP* **P 14 09 52.0 +2.0**
CAF pmax pmax
comp=Z,29nm,0.8s
CAF Calviac 83.37 340 *eP* **P 14 09 52.0 +2.0**
comp=Z,29nm,0.8s
SMRF Simiane la Rot 83.42 337 *eP* **P 14 09 52.1 +1.8**
SMRF Simiane la Rot 83.42 337 *eP* **P 14 09 52.1 +1.8**
LFF La Frestale 83.65 341 *eP* **P 14 09 53.1 +1.7**
comp=Z,64nm,0.9s
LFF La Frestale 83.65 341 *eP* **P 14 09 53.1 +1.7**
LFF pmax pmax
comp=Z,65nm,0.9s
LFF La Frestale 83.65 341 *eP* **P 14 09 53.1 +1.7**
comp=Z,64nm,0.9s
LASF Ste Croix 83.75 339 *eP* **P 14 09 53.8 +1.8**
comp=Z,52nm,1.1s
LASF Ste Croix 83.75 339 *eP* **P 14 09 53.8 +1.8**
comp=Z,52nm,1.1s
LMR La Mourre 83.78 336 *eP* **P 14 09 53.0 +0.9**
LMR La Mourre 83.78 336 *eP* **P 14 09 53.0 +0.9**
LMR La Mourre 83.78 336 *eP* **P 14 09 53.0 +0.9**
PGF Pioggiola 83.82 334 *eP* **P 14 09 53.3 +0.8**
comp=Z,18nm,0.6s
PGF Pioggiola 83.82 334 *eP* **P 14 09 53.3 +0.8**
PGF pmax pmax
comp=Z,18nm,0.6s
PGF Pioggiola 83.82 334 *eP* **P 14 09 53.3 +0.8**
comp=Z,18nm,0.6s
EIL Elat 84.60 310 P **P 14 09 56.6 +0.1**
EIL Elat 84.60 310 P **P 14 09 56.6 +0.1**
comp=Z,18nm,0.7s,baz=358,slow=1.8,SNR=16
IDI Anoyia 84.62 320 P **P 14 09 56.0 -0.6**
IDI Anoyia 84.62 320 P **P 14 09 56.0 -0.6**
comp=Z,9.1nm,0.5s,baz=31,slow=10,SNR=10
MTLF Montolieu 84.84 339 *eP* **P 14 09 59.1 +1.7**
comp=Z,11nm,0.6s
MTLF Montolieu 84.84 339 *eP* **P 14 09 59.1 +1.7**
MTLF pmax pmax
comp=Z,11nm,0.6s
MTLF Montolieu 84.84 339 *eP* **P 14 09 59.1 +1.7**
comp=Z,11nm,0.6s
EPF Esparros 85.56 341 *eP* **P 14 10 02.7 +1.6**
comp=Z,19nm,0.5s
EPF Esparros 85.56 341 *eP* **P 14 10 02.7 +1.6**
EPF pmax pmax
comp=Z,19nm,0.5s
EPF Esparros 85.56 341 *eP* **P 14 10 02.7 +1.6**
comp=Z,19nm,0.5s
SJPF Ste Jean 85.81 342 *eP* **P 14 10 04.5 +2.2**
comp=Z,9.6nm,0.7s

SJPF	**Ste Jean**	**85.81**	**342**	*eP*	**P**	**14 10 04.5**	**+2.2**
SJPF				pmax	pmax		
	comp=Z,10.0nm,0.6s						
SJPF	**Ste Jean**	**85.81**	**342**	*eP*	**P**	**14 10 04.5**	**+2.2**
	comp=Z,9.6nm,0.6s						
ETSF	**Etsaut**	**85.88**	**341**	*eP*	**P**	**14 10 04.8**	**+2.1**
	comp=Z,15nm,0.6s						
ETSF	**Etsaut**	**85.88**	**341**	*eP*	**P**	**14 10 04.8**	**+2.1**
ETSF				pmax	pmax		
	comp=Z,15nm,0.6s						
ETSF	**Etsaut**	**85.88**	**341**	*eP*	**P**	**14 10 04.8**	**+2.1**
	comp=Z,15nm,0.6s						
ESDC	**Sonseca Array**	**89.67**	**343**	P	**P**	**14 10 20.3**	**-0.5**
ESDC	**Sonseca Array**	**89.67**	**343**	P	**P**	**14 10 20.3**	**-0.5**
	comp=Z,1.4nm,0.5s,baz=22,slow=2.3,SNR=9.1						
KEST	**Kesra**	**90.00**	**332**	P	**P**	**14 10 22.1**	**-0.2**
KEST	**Kesra**	**90.00**	**332**	P	**P**	**14 10 22.1**	**-0.2**
	comp=Z,4.0nm,0.7s,baz=302,slow=3.2,SNR=9.7						
TORD	**Torodi Ar. Bea**	**113.47**	**330**	PKiKP	**PKiKP**	**14 15 59.2**	**-1.0**
TORD	**Torodi Ar. Bea**	**113.47**	**330**	PKiKP	**PKiKP**	**14 15 59.2**	**-1.0**
	comp=Z,0.2nm,0.5s,baz=46,slow=1.1,SNR=3.8						
QSPA	**South Pole Qui**	**138.55**	**180**	PKPpre	PKPpre	14 16 36.1	
QSPA				PKP	**PKPdf**	**14 16 44.3**	**-1.9**
QSPA	**South Pole Qui**	**138.55**	**180**	PKhKP	PKPpre	14 16 36.1	
	comp=Z,0.8nm,0.9s,baz=282,slow=9.4,SNR=5.3						
QSPA				PKP	**PKPdf**	**14 16 44.3**	**-1.9**
	comp=Z,0.8nm,0.5s,baz=324,slow=0.7,SNR=15						
CFAA	**Coronel Fontan**	**144.28**	**77**	PKP	**PKPab**	**14 16 55.6**	**-0.4**
CFAA	**Coronel Fontan**	**144.28**	**77**	PKP	**PKPab**	**14 16 55.6**	**-0.4**
	comp=Z,0.3nm,0.4s,baz=250,slow=1.7,SNR=3.7						

NAO ***16*** *14:00:59.1±1.2, 62°.43N×22°.27E, ML2.0*
ISCJB ***16*** *14:01:00.3±0.5, 62°.45N±0°.03×22°.43E±0°.08, h0km, Error ellipse: s-maj=5.6km s-min=4.7km az=150.3*
BER ***16*** *14:01:00.9±2.7, 62°.48N×22°.29E, h0km, ML2.0(NAO), Suspected explosion*
HEL ***16*** *14:01:01.5±0.1, 62°.46N×22°.40E, h0km, ML2.0, ML1.6(UPP), Explosion*
CSEM ***16*** *14:01:01.8±0.2, 62°.53N×22°.49E, h2km, ML2.0, Error ellipse: s-maj=7.0km s-min=4.1km az=29.0, Mining explosion.*
IDC ***16*** *14:01:05.8±0.8, 62°.74N×23°.39E, h0km, mb1 3.3/2, mb1mx3.0/25, mbtmp3.1/2, ML3.1/2, Error ellipse: s-maj=11.5km s-min=6.2km az=46.0*
UPP ***16*** *14:01:05.1, 62°.70N×22°.06E, h0km, ML1.6, Suspected Mining explosion.*

ISC 16 14:00:59.6±0.8, 62°.49N±0°.03×22°.21E±0°.04, h0km, n37, σ1§37/43, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAF	**Ylistaro**	**0.59**	**21**	*eP*	**Pg**	**14 01 11.6**	**+0.6**
VAF				*eS*	**Sg**	**14 01 19.5**	**+0.8**
VAF	**Ylistaro**	**0.59**	**21**	P	**Pg**	**14 01 11.6**	**+0.6**
VAF				S	**Sg**	**14 01 19.5**	**+0.8**
RAF	**Rauma**	**1.49**	**188**	*eP*	**Pn**	**14 01 27.1**	**-0.5**
RAF				*eS*	**Sg**	**14 01 46.4**	**-1.0**
UMAU	**Umeaa**	**1.56**	**334**	*eP*	**Pg**	**14 01 29.9**	**+0.4**
UMAU	**Umeaa**	**1.56**	**334**	P	**Pg**	**14 01 29.9**	**+0.4**
HUSU	**Husum**	**1.61**	**303**	*eP*	**Pg**	**14 01 31.7**	**+1.2**
HUSU	**Husum**	**1.61**	**303**	P	**Pg**	**14 01 31.7**	**+1.2**
SUF	**Sumiainen**	**1.84**	**81**	*eP*	**Pn**	**14 01 32.2**	**-0.2**
SUF				*eS*	**Sn**	**14 01 55.2**	**-1.1**
SUF	**Sumiainen**	**1.84**	**81**	P	**Pn**	**14 01 32.2**	**-0.2**
SUF				S	**Sn**	**14 01 55.2**	**-1.1**
KAF	**Kangasniemi**	**1.95**	**99**	*eP*	**Pn**	**14 01 34.6**	**+0.7**
KAF				*eS*	**Sn**	**14 01 58.9**	**-0.3**
KAF	**Kangasniemi**	**1.95**	**99**	P	**Pn**	**14 01 34.6**	**+0.7**
KAF				S	**Sn**	**14 01 58.8**	**-0.3**
FIA0	**FINESS Array S**	**2.11**	**118**	Pn	**Pn**	**14 01 36.6**	**+0.5**
	baz=306,slow=16						
FIA0				Lg	Lg	14 02 03.8	
	baz=302,slow=28						
FIA0	**FINESS Array S**	**2.11**	**118**	Pn	**Pn**	**14 01 36.6**	**+0.5**
	baz=306,slow=16						
FIA0				Lg	Lg	14 02 03.8	
	baz=302,slow=28						
FIA0	**FINESS Array S**	**2.11**	**118**	*eP*	**Pn**	**14 01 36.5**	**+0.5**
FIA0				*e*SG	**Sn**	**14 02 03.6**	**+0.7**
FIA0	**FINESS Array S**	**2.11**	**118**	Pn	**Pn**	**14 01 36.6**	**+0.5**
	baz=306,slow=15,SNR=50						
FIA0				Lg	Lg	14 02 03.8	
	baz=302,slow=26						
FINES	**FINESS Array B**	**2.11**	**118**	Pg	**Pn**	**14 01 36.6**	**+0.5**
	0.7nm,0.3s,baz=308,slow=17,SNR=12						
FINES				Lg	Lg	14 02 03.6	
	6.4nm,0.3s,baz=306,slow=27,SNR=55						
BURU	**Burvik**	**2.13**	**350**	*eP*	**Pb**	**14 01 39.2**	**+0.1**
BURU	**Burvik**	**2.13**	**350**	P	**Pb**	**14 01 39.2**	**+0.1**
BREU	**Bredtraesk**	**2.17**	**312**	*eP*	**Pb**	**14 01 40.2**	**+0.6**
BREU	**Bredtraesk**	**2.17**	**312**	P	**Pb**	**14 01 40.2**	**+0.6**
SVAU	**Svanoeiden**	**2.33**	**331**	*eP*	**Pb**	**14 01 42.6**	**+0.1**
SVAU	**Svanoeiden**	**2.33**	**331**	P	**Pb**	**14 01 42.6**	**+0.1**
SOLU	**Sollefteaa**	**2.39**	**291**	*eP*	**Pb**	**14 01 43.7**	**+0.2**
SOLU	**Sollefteaa**	**2.39**	**291**	P	**Pb**	**14 01 43.7**	**+0.2**
PVF	**Pernaja**	**2.62**	**137**	MSG		14 02 19.3	
	comp=Z,11nm,0.3s						
KJN	**Kajaani**	**2.96**	**55**	MSG		14 02 29.7	
	comp=Z,4.1nm,0.3s						
SJUU	**Sjulsmark**	**3.04**	**355**	*eP*	**Pn**	**14 01 51.0**	**+2.1**
SJUU	**Sjulsmark**	**3.04**	**355**	P	**Pn**	**14 01 51.0**	**+2.1**
VJF	**Virojoki**	**3.22**	**125**	MSG		14 02 41.9	
	comp=Z,3.0nm,0.3s						
HFS	**Hagfors**	**4.74**	**244**	Lg	Lg	14 03 27.2	
	baz=62,slow=37						
HFS	**Hagfors**	**4.74**	**244**	Lg	Lg	14 03 27.2	
	baz=62,slow=37						
HFS	**Hagfors**	**4.74**	**244**	Lg	Lg	14 03 27.2	
	baz=62,slow=28,SNR=9.2						
NOA	**NORSAR Array B**	**5.42**	**259**	Pn	**Pb**	**14 02 33.8**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=92,slow=16,SNR=3.1						
NOA				Sn	**Sb**	**14 03 42.0**	**+1.4**
	comp=Z,0.4nm,0.3s,baz=358,slow=8.5,SNR=2.5						
ARA0	**ARCESS Array S**	**7.20**	**9**	Pn	**Pn**	**14 02 45.7**	**-0.3**
	baz=185,slow=14						
ARA0				Sn	**Sn**	**14 04 04.4**	**-4.0**
	baz=192,slow=22						
ARA0				Lg	Lg	14 04 41.9	
	baz=180,slow=37						
ARA0	**ARCESS Array S**	**7.20**	**9**	Pn	**Pn**	**14 02 45.7**	**-0.3**
	baz=185,slow=14						
ARA0				Sn	**Sn**	**14 04 04.4**	**-4.0**
	baz=192,slow=22						
ARA0				Lg	Lg	14 04 41.9	
	baz=180,slow=37						
ARA0	**ARCESS Array S**	**7.20**	**9**	Pn	**Pn**	**14 02 45.7**	**-0.3**
	baz=185,slow=13,SNR=50						
ARA0				Lg	Lg	14 04 41.9	
	baz=180,slow=32,SNR=90						
ARCES	**ARCESS Array B**	**7.20**	**9**	Pn	**Pn**	**14 02 46.1**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=184,slow=13,SNR=22						
ARCES				Sn	**Sn**	**14 04 04.1**	**-4.2**
	comp=Z,0.3nm,0.3s,baz=194,slow=24,SNR=6.3						

DJA ***16*** *14:07:19.6±0.8, 0°.N±3°×10°.0E±°, h10km, M3.9/8, mb3.7/1, MLv3.9/8*
ISCJB ***16*** *14:07:20.9±0.5, 0°.23N±0°.05×100°.22E±0°.05, h50km, mb3.8/5, Error ellipse: s-maj=8.1km s-min=5.8km az=143.5*
IDC ***16*** *14:07:23.4±8.3, 0°.13S×99°.88E, h79km±51km, mb3.4/5, mb1 3.5/6, mb1mx3.2/26, mbtmp3.4/6, Error ellipse: s-maj=113.8km s-min=61.2km az=71.0*

ISC 16 14:07:22.8±0.9, 0°.16N±0°.05×100°.20E±0°.06, h50km, n29, σ2§00/26, mb3.8/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	**Padang Panjang**	**0.65**	**162**	P	**Pn**	**14 07 33.2**	**-2.7**
PDSI	**Padang**	**1.10**	**166**	P	**Pn**	**14 07 41.6**	**-0.3**
PDSI				S	**Sn**	**14 07 56.3**	**+0.3**
SDSI	**Sungai Dareh**	**1.64**	**132**	S	**Sn**	**14 08 13.3**	**+4.1**
RGRI	**Rengat**	**2.19**	**103**	P	**Pn**	**14 07 56.8**	**0.0**
GSI	**Gunungsitoli**	**2.86**	**293**	P	**Pn**	**14 08 04.6**	**-1.4**
GSI				S	**Sn**	**14 08 39.0**	**-0.2**
PSI	**Prapat**	**2.92**	**334**	P	**Pn**	**14 08 08.2**	**+1.3**
	baz=42,slow=3.1						
PSI				S	**Sn**	**14 08 43.7**	**+3.0**
	7.4nm,0.3s,baz=306,slow=17,SNR=2.8						
FRIM	**Kepong**	**3.37**	**25**	P	Pn	14 08 21.6	+8.6
KGM	**Kluang**	**3.62**	**59**	P	**Pn**	**14 08 16.7**	**+0.3**
KGM	**Kluang**	**3.62**	**59**	P	Pn	14 08 30.6	+14
MYKOM	**Kota Tinggi**	**3.99**	**66**	P	**Pn**	**14 08 21.4**	**-0.1**
MYKOM	**Kota Tinggi**	**3.99**	**66**	P	**Pn**	**14 08 21.1**	**-0.4**
KCSI	**Kotacane, Aceh**	**4.13**	**324**	P	**Pn**	**14 08 21.2**	**-2.2**
IPM	**Ipoh**	**4.37**	**11**	P	**Pn**	**14 08 26.1**	**-0.5**
IPM	**Ipoh**	**4.37**	**11**	P	**Pn**	**14 08 25.5**	**-1.2**
SNSI	**Sinabang, Aceh**	**4.47**	**300**	P	**Pn**	**14 08 29.9**	**+1.8**
KSI	**Kapahiang**	**4.48**	**148**	P	Pn	14 08 24.1	-4.2
KULM	**Kulim**	**5.11**	**5**	P	**Pn**	**14 08 34.9**	**-2.0**
KULM	**Kulim**	**5.11**	**5**	P	**Pn**	**14 08 34.7**	**-2.2**
KTGM	**Kuala Trenggan**	**5.91**	**30**	P	**Pn**	**14 08 47.4**	**-0.4**
KSM	**Kuching**	**10.19**	**83**	P	**Pn**	**14 09 43.7**	**-2.8**
SBUM	**Sibu**	**12.23**	**79**	P	Pn	14 10 11.2	-3.2
BTM	**Bintulu**	**13.22**	**77**	P	Pn	14 10 20.9	-7.1
KDM	**Kudat**	**17.90**	**68**	P	P	14 11 45.7	+17
MYLDM	**Lahad Datu**	**18.94**	**74**	P	**Pn**	**14 11 45.4**	**+4.5**
SONM	**Songino Array**	**47.79**	**6**	P	**P**	**14 15 55.4**	**+0.1**
	0.3nm,0.7s,baz=183,slow=5.8,SNR=3.1						
MKAR	**Makanchi Array**	**49.02**	**344**	P	**P**	**14 16 03.4**	**-1.3**
	0.4nm,0.4s,baz=152,slow=8.6,SNR=7.7						
KURBB	**Kurchatov Arra**	**53.55**	**343**	P	**P**	**14 16 36.4**	**-2.1**
	0.2nm,0.4s,baz=165,slow=8.1,SNR=3.5						
ZALV	**Zalesovo Beam**	**55.10**	**349**	P	**P**	**14 16 48.4**	**-1.3**
	1.2nm,0.5s,baz=165,slow=6.2,SNR=5.3						
ARCES	**ARCESS Array B**	**84.52**	**340**	P	**P**	**14 19 49.1**	**-1.0**
	1.4nm,0.8s,baz=98,slow=4.6,SNR=4.2						

ISN ***16*** *14:09:22.8±1.3, 36°.33N×32°.69E, h0km±999km, ML3.4*
BJI ***16*** *14:09:38.8, 34°.42N×32°.77E, h21km, mB5.1/4, mb4.6/11*
DDA ***16*** *14:09:38.9, 34°.49N×32°.96E, h51km, ML4.4*
ISK ***16*** *14:09:39.8, 34°.65N×33°.08E, h13km, ML4.7*
ISCJB ***16*** *14:09:41.3±0.4, 34°.72N±0°.01×33°.07E±0°.01, h13km±2km, mb4.5/75, MS3.9/16, Error ellipse: s-maj=2.2km s-min=1.8km az=21.2*
IDC ***16*** *14:09:41.0±0.4, 34°.83N×33°.09E, h0km, mb4.3/31, mb1 4.5/41, mb1mx4.4/43, mbtmp4.4/41, ML4.3/7, MS3.9/19, Ms1 3.9/19, ms1mx3.6/46, Error ellipse: s-maj=10.9km s-min=9.3km az=100.0*
CSEM ***16*** *14:09:42.2±0.1, 34°.73N×33°.14E, h5km, ML4.6, Error ellipse: s-maj=2.6km s-min=2.0km az=57.0*
MOS ***16*** *14:09:42.4±1.3, 34°.68N×33°.14E, h20km, mb4.9/37, Error ellipse: s-maj=6.5km s-min=3.7km az=106.4*
NSSC ***16*** *14:09:42.1±1.7, 34°.77N×33°.17E, h0km±23km, MD2.2, ML4.1*
GRAL ***16*** *14:09:42.9±0.8, 34°.79N×33°.13E, h14km±4km, MD4.4*
TEH ***16*** *14:09:42.2, 34°.72N×33°.15E, h2km, ML4.6*
NIC ***16*** *14:09:42.8±0.2, 34°.86N×33°.06E, h1km, ML4.6*
NIC Felt earthquake; Maximum Intensity 4; Felt I=IV MM at Limassol, I=II MM at Larnaca and Nicosia.
DJA ***16*** *14:09:44.9±0.7, 35°.N±6°×3°.3E±1°.1, h15km, M4.9/8, mB5.3/4, mb4.8/8, MLv4.9/2, Mw(mB)4.7/4*
NEIC ***16*** *14:09:45.2±2.0, 34°.78N×33°.13E, h28km±15km, mb4.8/25, Error ellipse: s-maj=6.9km s-min=5.1km az=215.0*
HLW ***16*** *14:09:47.3, 34°.55N×33°.15E, h31km±23km, Md3.8, Ml4.3*

ISC 16 14:09:43.5±0.7, 34°.76N±0°.02×33°.09E±0°.02, h16km±4km, n621, σ1§50/657, mb4.6/74, MS3.9/16, 20C-26D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SZAC	**Souni-Zanaja**	**0.17**	**270**	P	**Pg**	**14 09 47.0**	**-0.8**
SZAC	**Souni-Zanaja**	**0.17**	**270**	P	**Pg**	**14 09 47.0**	**-0.8**
CSS	**Prodhromos**	**0.29**	**44**	P	**Pg**	**14 09 48.0**	**-1.7**
CSS				S	**Sg**	**14 09 52.5**	**-1.4**
CSS	**Prodhromos**	**0.29**	**44**	P	**Pg**	**14 09 48.0**	**-1.7**
CSS				S	**Sg**	**14 09 52.5**	**-1.4**
LEF	**Lefka**	**0.40**	**336**	PG	**Pg**	**14 09 49.7**	**-1.9**
LEF				SG	**Sb**	**14 09 57.8**	**-0.3**
LEF	**Lefka**	**0.40**	**336**	*i* Pg	**Pg**	**14 09 49.7**	**-1.9**
LEF				*i* Sg	**Sb**	**14 09 57.8**	**-0.3**
AKIN	**Ak¨-nc¨-lar- K**	**0.40**	**50**	PG	**Pg**	**14 09 50.1**	**-1.7**
AKIN				SG	**Sg**	**14 09 56.4**	**-0.9**
AKIN	**Ak¨-nc¨-lar- K**	**0.40**	**50**	*i* Pg	**Pg**	**14 09 50.1**	**-1.7**
AKIN				*i* Sg	**Sg**	**14 09 56.4**	**-0.9**
MAMC	**Mammari**	**0.43**	**14**	P	**Pg**	**14 09 50.4**	**-1.8**
MAMC	**Mammari**	**0.43**	**14**	P	**Pg**	**14 09 50.4**	**-1.8**
ALFC	**Alevga**	**0.57**	**315**	⇓P	**Pg**	**14 09 52.8**	**-2.0**
ALFC	**Alevga**	**0.57**	**315**	⇓P	**Pg**	**14 09 52.8**	**-2.0**
PPCY	**Paphos**	**0.63**	**282**	⇓P	**Pg**	**14 09 55.1**	**-0.7**
PPCY	**Paphos**	**0.63**	**282**	⇓P	**Pg**	**14 09 55.1**	**-0.7**
LFK	**Lefkose**	**0.64**	**35**	PG	**Pg**	**14 09 55.0**	**-1.1**
LFK				SG	**Sb**	**14 10 05.5**	**+0.4**
LFK	**Lefkose**	**0.64**	**35**	*i* Pg	**Pg**	**14 09 55.0**	**-1.1**
LFK				*i* Sg	**Sb**	**14 10 05.5**	**+0.4**
AKMC	**Akamas**	**0.68**	**294**	⇑P	**Pg**	**14 09 55.7**	**-1.2**
AKMC	**Akamas**	**0.68**	**294**	⇑P	**Pg**	**14 09 55.7**	**-1.2**
EREN	**Erenkoy**	**1.18**	**49**	PN	**Pn**	**14 10 03.4**	**-1.9**
EREN				SN	**Sg**	**14 10 21.7**	**+0.1**
EREN	**Erenkoy**	**1.18**	**49**	*i* Pn	**Pn**	**14 10 03.4**	**-1.9**
EREN				*i* Sn	**Sg**	**14 10 21.7**	**+0.1**
IKL	**Isikli**	**1.56**	**18**	*e*PN	**Pn**	**14 10 07.6**	**-3.0**
GAZI	**Gazipasa**	**1.61**	**337**	*i* P	Pn	14 10 08.1	-3.2
GAZI				*i* S	**Sn**	**14 10 28.8**	**-3.0**
GAZI	**Gazipasa**	**1.61**	**337**	*i* P	Pn	14 10 08.1	-3.2
GAZI				*i* S	**Sn**	**14 10 28.8**	**-3.0**
ERMK	**Ermenek**	**1.89**	**356**	*i* P	**Pn**	**14 10 13.5**	**-1.9**
ERMK				*i* S	**Sg**	**14 10 44.3**	**-0.1**
ERMK	**Ermenek**	**1.89**	**356**	*i* P	**Pn**	**14 10 13.5**	**-1.9**
ERMK				*i* S	**Sg**	**14 10 44.3**	**-0.1**
KIZK	**Mersin**	**1.92**	**26**	*i* P	**Pn**	**14 10 13.4**	**-2.2**
KIZK				*i* S	**Sb**	**14 10 42.2**	**+0.1**
HDMB	**Hadim**	**2.26**	**348**	*e*PN	**Pn**	**14 10 19.9**	**-0.6**
HDMB	**Hadim**	**2.26**	**348**	*e*Pn	**Pn**	**14 10 19.9**	**-0.6**
BHL	**Bhannes**	**2.29**	**111**	*e*P	**Pn**	**14 10 18.6**	**-2.1**
BHL	**Bhannes**	**2.29**	**111**	*e*P	**Pn**	**14 10 18.6**	**-2.1**
NAQL	**Naqoura**	**2.36**	**133**	*e*P	**Pn**	**14 10 20.2**	**-1.5**
HWQ	**Hawqa**	**2.41**	**101**	*e*P	**Pn**	**14 10 20.7**	**-1.7**
HWQ				*e*S	**Sn**	**14 10 48.4**	**-3.3**
HWQ	**Hawqa**	**2.41**	**101**	*e*P	**Pn**	**14 10 20.7**	**-1.7**
HWQ				*e*S	**Sn**	**14 10 48.4**	**-3.3**
MMAI	**Mount Meron Ar**	**2.59**	**131**	Pn	**Pn**	**14 10 24.0**	**-0.9**
MMAI				Sn	**Sn**	**14 10 55.4**	**-0.8**
MMAI	**Mount Meron Ar**	**2.59**	**131**	Pn	**Pn**	**14 10 24.0**	**-0.9**
	548nm,0.3s,baz=311,slow=12,SNR=811						
MMAI				Sn	**Sn**	**14 10 55.4**	**-0.8**
	523nm,0.3s,baz=312,slow=27,SNR=20						
MMAI	**Mount Meron Ar**	**2.59**	**131**	Pn	**Pn**	**14 10 24.0**	**-0.9**
MMAI				Sn	**Sn**	**14 10 55.3**	**-0.8**
RCY	**Rachaya**	**2.60**	**118**	*e*P	**Pn**	**14 10 23.6**	**-1.6**
RCY				*e*S	**Sn**	**14 10 53.4**	**-3.1**
RCY	**Rachaya**	**2.60**	**118**	*e*P	**Pn**	**14 10 23.5**	**-1.6**
RCY				*e*S	**Sn**	**14 10 53.4**	**-3.1**
ARNB	**Al Arnab**	**2.60**	**64**	*e*P	**Pn**	**14 10 25.0**	**0.0**
ARNB				*e*S	**Sn**	**14 10 56.2**	**-0.3**
ARNB				AML	AML	14 11 00.4	
	comp=E,16μm,0.2s						
ARNB				AML	AML	14 11 02.0	
	comp=N,832nm,0.6s						
BRBR	**Barbar**	**2.73**	**119**	*e*P	**Pn**	**14 10 26.2**	**-0.7**
BRBR				*e*P	Pb	14 10 26.4	-5.7
BRBR				*e*S	**Sn**	**14 10 58.8**	**-0.9**
BRBR				AML	AML	14 10 59.8	
	comp=E,806nm,0.4s						
BRBR				AML	AML	14 11 03.2	
	comp=N,2μm,0.7s						
BRBR	**Barbar**	**2.73**	**119**	*e*P	**Pn**	**14 10 26.2**	**-0.7**
	SNR=45						
BRBR				*e*S	**Sn**	**14 10 58.8**	**-0.9**
	comp=N,2μm,0.7s,SNR=40						
YAYL	**Yayladag**	**2.78**	**62**	*i* P	**Pn**	**14 10 27.0**	**-0.5**
YAYL				*i* S	**Sn**	**14 10 59.8**	**-1.0**
HTY	**Hatay**	**2.84**	**60**	*e*PN	**Pn**	**14 10 26.9**	**-1.3**
MARH	**Ras Al Marh**	**2.90**	**104**	*e*P	**Pn**	**14 10 29.1**	**-0.3**
MARH				*e*S	**Sn**	**14 11 02.8**	**-1.3**
MARH				AML	AML	14 11 09.1	
	comp=E,2μm,0.6s						
MARH				AML	AML	14 11 12.1	
	comp=N,1μm,0.4s						
MARH	**Ras Al Marh**	**2.90**	**104**	*e*P	**Pn**	**14 10 29.0**	**-0.3**
	SNR=45						
MARH				*e*S	**Sn**	**14 11 02.8**	**-1.3**
	comp=N,1μm,0.4s,SNR=40						
QASN	**Qassioun**	**2.91**	**114**	*e*P	**Pn**	**14 10 28.4**	**-0.9**
QASN				*e*S	**Sn**	**14 11 01.7**	**-2.4**
QASN				AML	AML	14 11 04.1	
	comp=E,3μm,0.5s						
QASN				AML	AML	14 11 05.9	
	comp=N,10μm,0.4s						
QASN	**Qassioun**	**2.91**	**114**	*e*P	**Pn**	**14 10 28.4**	**-0.9**
	SNR=45						
QASN				*e*S	**Sn**	**14 11 01.7**	**-2.4**
	comp=N,10μm,0.4s,SNR=40						
YURE	**YUREGIR**	**2.92**	**44**	*i* P	**Pn**	**14 10 29.4**	**0.0**
YURE				*i* S	**Sn**	**14 11 05.7**	**+1.4**
YURE	**YUREGIR**	**2.92**	**44**	*i* P	**Pn**	**14 10 29.4**	**0.0**
YURE				*i* S	**Sn**	**14 11 05.7**	**+1.4**
KARA	**Karaisali**	**2.96**	**32**	*e*PN	**Pn**	**14 10 28.6**	**-1.4**
KARA	**Karaisali**	**2.96**	**32**	*e*Pn	**Pn**	**14 10 28.6**	**-1.4**
MMLI	**Mount Malkishu**	**3.02**	**139**	*e*PN	**Pn**	**14 10 28.6**	**-2.2**
MMLI	**Mount Malkishu**	**3.02**	**139**	*e*Pn	**Pn**	**14 10 28.6**	**-2.2**
BTCH	**Batrach**	**3.04**	**64**	*e*P	**Pn**	**14 10 30.8**	**-0.2**
BTCH				*e*S	**Sn**	**14 11 06.5**	**-0.6**
BTCH				AML	AML	14 11 08.5	
	comp=E,3μm,0.4s						
BTCH				AML	AML	14 11 09.2	
	comp=N,2μm,0.4s						
BTCH	**Batrach**	**3.04**	**64**	*e*P	**Pn**	**14 10 30.8**	**-0.2**
	SNR=45						
BTCH				*e*S	**Sn**	**14 11 06.5**	**-0.6**
	comp=N,2μm,0.4s,SNR=40						
TOTH	**TOTAH**	**3.10**	**116**	*e*P	**Pn**	**14 10 32.3**	**+0.4**
TOTH				*e*S	**Sn**	**14 11 08.0**	**-0.7**
TOTH				AML	AML	14 11 09.4	
	comp=N,3μm,0.6s						
TOTH				AML	AML	14 11 10.8	
	comp=E,2μm,0.7s						
TOTH	**TOTAH**	**3.10**	**116**	*e*P	**Pn**	**14 10 32.3**	**+0.4**
	SNR=45						
TOTH				*e*S	**Sn**	**14 11 08.0**	**-0.7**
	comp=E,2μm,0.7s,SNR=40						
CEYT	**Ceyhan**	**3.12**	**43**	*e*PN	**Pn**	**14 10 30.8**	**-1.3**
CEYT	**Ceyhan**	**3.12**	**43**	*e*Pn	**Pn**	**14 10 30.8**	**-1.3**
COBT	**Iskenderun**	**3.12**	**55**	*i* P	**Pn**	**14 10 32.0**	**-0.3**
COBT				*i* S	**Sn**	**14 11 09.2**	**-0.2**
COBT	**Iskenderun**	**3.12**	**55**	*i* P	**Pn**	**14 10 32.0**	**-0.3**
COBT				*i* S	**Sn**	**14 11 09.2**	**-0.2**
KORT	**Korkueli**	**3.16**	**316**	*i* P	**Pn**	**14 10 34.8**	**+2.0**
KORT				*i* S	**Sb**	**14 11 19.9**	**+2.2**
KORT	**Korkueli**	**3.16**	**316**	*i* P	**Pn**	**14 10 34.8**	**+2.0**
TCHB	**Talchebab**	**3.18**	**130**	*e*P	**Pn**	**14 10 33.4**	**+0.5**
TCHB				*e*S	**Sn**	**14 11 10.5**	**0.0**
TCHB				AML	AML	14 11 15.7	
	comp=N,1μm,0.6s						
TCHB				AML	AML	14 11 17.5	
	comp=E,3μm,0.4s						
SUTC	**Sutluce-Ispart**	**3.20**	**329**	*e*PN	**Pn**	**14 10 32.7**	**-0.7**
SUTC	**Sutluce-Ispart**	**3.20**	**329**	*e*Pn	**Pn**	**14 10 32.7**	**-0.7**
AKAS	**Kas**	**3.20**	**298**	*i* P	**Pn**	**14 10 32.7**	**-0.7**
AKAS				*i* S	**Sg**	**14 11 30.9**	**+4.5**
AKAS	**Kas**	**3.20**	**298**	*i* P	**Pn**	**14 10 32.7**	**-0.7**
KONT	**Konya--Tatoy**	**3.24**	**350**	*e*PN	**Pn**	**14 10 33.7**	**-0.1**
KONT	**Konya--Tatoy**	**3.24**	**350**	*e*Pn	**Pn**	**14 10 33.7**	**-0.1**
ELL	**Elmali**	**3.26**	**308**	*e*PN	**Pn**	**14 10 33.1**	**-1.1**
ELL	**Elmali**	**3.26**	**308**	*e*Pn	**Pn**	**14 10 33.1**	**-1.1**
BCK	**Bucak**	**3.38**	**324**	*e*PN	**Pn**	**14 10 35.0**	**-0.7**
BCK	**Bucak**	**3.38**	**324**	*e*Pn	**Pn**	**14 10 35.0**	**-0.7**
SULT	**Sultanhani-AKS**	**3.45**	**6**	*e*PN	**Pn**	**14 10 35.8**	**-1.0**
SULT	**Sultanhani-AKS**	**3.45**	**6**	*e*Pn	**Pn**	**14 10 35.8**	**-1.0**
KOZT	**Kozan**	**3.51**	**38**	*e*PN	**Pn**	**14 10 37.1**	**-0.4**
KOZT	**Kozan**	**3.51**	**38**	*e*Pn	**Pn**	**14 10 37.1**	**-0.4**
ROOS	**tl_alroos**	**3.52**	**98**	*e*P	**Pn**	**14 10 38.8**	**+1.1**
ROOS				*e*S	**Sn**	**14 11 18.4**	**-0.6**
SALA	**Sala**	**3.66**	**123**	*e*P	**Pn**	**14 10 40.5**	**+0.8**
SALA				*e*S	**Sn**	**14 11 22.2**	**-0.4**
SALA				AML	AML	14 11 25.6	
	comp=E,99nm,0.4s						
SALA				AML	AML	14 11 28.4	

ANTO	Ankara	5.11	357	⇓iP		Pn	14 11 00.9	+1.4
SQR		5.12	199	P		Pn	14 10 59.8	+0.2
	baz=201							
SQR		5.12	199	P		Pn	14 10 59.8	+0.2
NIS1	Nisyros Isl.	5.15	293	eP		Pn	14 10 58.2	-1.9
KULA	Kula-Manisa	5.17	318	ePN		Pn	14 11 00.7	+0.3
KULA	Kula-Manisa	5.17	318	ePn		Pn	14 11 00.7	+0.3
YOZ	Yozgat	5.19	19	ePN		Pn	14 11 01.0	+0.3
YOZ	Yozgat	5.19	19	ePn		Pn	14 11 01.0	+0.3
DARE	Darende-Malaty	5.19	42	ePN		Pn	14 11 00.2	-0.5
BODT	Bodrum	5.22	298	ePN		Pn	14 11 00.3	-0.7
BODT	Bodrum	5.22	298	ePn		Pn	14 11 00.3	-0.7
HSAF	As Saff	5.28	195	P		Pn	14 11 01.3	-0.6
	baz=196							
HSAF	As Saff	5.28	195	P		Pn	14 11 01.3	-0.6
GLL	Jalalah	5.29	193	P		Pn	14 11 01.5	-0.6
	baz=195							
GLL	Jalalah	5.29	193	P		Pn	14 11 01.5	-0.6
AYT	Al 'Ayyat	5.30	199	P		Pn	14 11 02.0	0.0
	baz=200							
AYT	Al 'Ayyat	5.30	199	P		Pn	14 11 02.0	0.0
EIL	Elat	5.31	162	Pn		Pn	14 11 02.0	-0.2
EIL				Sn		Sn	14 12 02.5	-0.6
EIL	Elat	5.31	162	Pn		Pn	14 11 02.0	-0.2
	comp=E,13nm,0.3s,baz=344,slow=8.1,SNR=83							
EIL				Sn		Sn	14 12 02.5	-0.6
	comp=E,56nm,0.3s,baz=71,slow=16,SNR=10.0							
EIL				LR		LR	14 13 40.7	
	comp=E,1µm,19.0s,baz=328,slow=44							
EIL	Elat	5.31	162	Pn		Pn	14 11 02.0	-0.2
EIL				Sn		Sn	14 12 02.5	-0.6
HMYD	Mayadein	5.31	202	P		Pn	14 11 02.5	+0.3
	baz=204							
HMYD	Mayadein	5.31	202	P		Pn	14 11 02.5	+0.3
FYM	Al Fayyum	5.34	200	P		Pn	14 11 03.0	+0.5
	baz=201							
FYM				S		Sn	14 11 59.1	-4.7
	baz=201							
FYM	Al Fayyum	5.34	200	P		Pn	14 11 03.1	+0.5
FYM				S		Sn	14 11 59.1	-4.7
URFA	Urfa	5.36	58	ePN		Pn	14 11 02.3	-0.6
URFA	Urfa	5.36	58	ePn		Pn	14 11 02.3	-0.6
ZAF		5.48	185	P		Pn	14 11 04.2	-0.3
	baz=186							
ZAF		5.48	185	P		Pn	14 11 04.2	-0.3
HNAT	Natroun	5.52	203	P		Pn	14 11 05.1	0.0
	baz=205							
HNAT	Natroun	5.52	203	P		Pn	14 11 05.1	0.0
CORM	Corum	5.55	12	ePN		Pn	14 11 06.4	+0.8
CORM	Corum	5.55	12	ePn		Pn	14 11 06.4	+0.8
MALT	Malatya	5.57	49	ePN		Pn	14 11 06.3	+0.3
MALT	Malatya	5.57	49	⇑iP		Pn	14 11 06.2	+0.3
MALT	Malatya	5.57	49	ePn		Pn	14 11 06.3	+0.3
ZKR	Zakros	5.66	276	eP		Pn	14 11 04.5	-2.5
HBST	Basata	5.70	165	P		Pn	14 11 07.1	-0.4
	baz=165							
HBST	Basata	5.70	165	P		Pn	14 11 07.1	-0.4
SMG	Samos	5.85	302	eP		Pn	14 11 08.3	-1.3
MDUB	Mudurnu	5.90	346	ePN		Pn	14 11 11.2	+0.8
MDUB	Mudurnu	5.90	346	ePn		Pn	14 11 11.2	+0.8
IZM	Izmir	5.93	309	ePN		Pn	14 11 10.3	-0.5
IZM	Izmir	5.93	309	ePn		Pn	14 11 10.3	-0.5
GPA	Golpazari	5.95	339	ePN		Pn	14 11 12.0	+1.0
GPA	Golpazari	5.95	339	ePn		Pn	14 11 12.0	+1.0
SFNV	Sufian	5.96	72	eP		Pn	14 11 10.7	-0.5
SFNV				eS		Sn	14 12 15.5	-3.6
SFNV	Sufian	5.96	72	eP		Pn	14 11 10.7	-0.5
	SNR=45							
DST	Dursunbey	6.01	325	ePN		Pn	14 11 12.4	+0.5
DST	Dursunbey	6.01	325	ePn		Pn	14 11 12.4	+0.5
CAVI	Cavuskoy	6.02	336	ePN		Pn	14 11 12.9	+0.9
CAVI	Cavuskoy	6.02	336	ePn		Pn	14 11 12.9	+0.9
SVSK	Karacayir	6.02	30	ePN		Pn	14 11 12.0	+0.1
SVSK	Karacayir	6.02	30	ePn		Pn	14 11 12.0	+0.1
GULT	Gulveren	6.02	341	ePN		Pn	14 11 12.4	+0.3
GULT	Gulveren	6.02	341	ePn		Pn	14 11 12.4	+0.3
HRDS	Abu Rudays	6.03	178	P		Pn	14 11 11.9	-0.2
	baz=178							
XRY	Khrisi	6.08	273	eP		Pn	14 11 11.4	-1.4
HDHB	Dhahab	6.15	167	P		Pn	14 11 13.2	-0.6
	baz=167							
HDHB	Dhahab	6.15	167	P		Pn	14 11 13.2	-0.6
NPS	Neapolis	6.16	277	eP		Pn	14 11 13.0	-0.9
ADVT	Abdulvahap	6.26	336	ePN		Pn	14 11 15.8	+0.6
ADVT	Abdulvahap	6.26	336	ePn		Pn	14 11 15.8	+0.6
HKAT	Jabal Katrina	6.26	173	P		Pn	14 11 14.7	-0.8
	baz=172							
HKAT	Jabal Katrina	6.26	173	P		Pn	14 11 14.7	-0.8
LAST	Lasithi	6.26	276	eP		Pn	14 11 12.9	-2.5
MZRK	Al-Mazaregh	6.28	78	eP		Pn	14 11 15.1	-0.4
MZRK				eS		Sn	14 12 23.1	-3.8
MZRK	Al-Mazaregh	6.28	78	eP		Pn	14 11 15.1	-0.4
	SNR=45							
TOS	Tosya	6.31	6	ePN		Pn	14 11 17.2	+1.1
TOS	Tosya	6.31	6	ePn		Pn	14 11 17.2	+1.1
TR2		6.37	175	P		Pn	14 11 16.3	-0.6
	baz=175							
TR2		6.37	175	P		Pn	14 11 16.3	-0.6
BALB	Balikesir	6.41	321	ePN		Pn	14 11 17.9	+0.7
BALB	Balikesir	6.41	321	ePn		Pn	14 11 17.9	+0.7
ILIC	ilic-Erzincan	6.41	41	ePN		Pn	14 11 18.2	+0.7
ILIC	ilic-Erzincan	6.41	41	ePn		Pn	14 11 18.2	+0.7
SANT	Santorini	6.42	287	eP		Pn	14 11 15.1	-2.5
KBSD	Kabsdagh	6.45	68	eP		Pn	14 11 18.2	+0.3
KBSD				eS		Sn	14 12 28.0	-3.3
KBSD	Kabsdagh	6.45	68	eP		Pn	14 11 18.2	+0.3
	SNR=45							
GRB	Gharib	6.47	182	P		Pn	14 11 17.6	-0.6
	baz=183							
GRB	Gharib	6.47	182	P		Pn	14 11 17.6	-0.6
PTK	Pertek	6.53	49	ePN		Pn	14 11 19.5	+0.4
PTK	Pertek	6.53	49	ePn		Pn	14 11 19.5	+0.4
MAZI	Mazidag	6.54	64	ePN		Pn	14 11 19.7	+0.5
MAZI	Mazidag	6.54	64	ePn		Pn	14 11 19.7	+0.5
APE	Apeiranthos	6.55	293	ePN		Pn	14 11 15.7	-3.6
APE	Apeiranthos	6.55	293	eP		Pn	14 11 18.4	-0.9
APE	Apeiranthos	6.55	293	eP		Pn	14 11 12.6	-6.8
APE	Apeiranthos	6.55	293	⇓iP		Pn	14 11 12.6	-6.8
APE	Apeiranthos	6.55	293	eP		Pn	14 11 18.4	-0.9
DIY	Diyarbakir	6.56	59	ePN		Pn	14 11 19.6	+0.2
DIY	Diyarbakir	6.56	59	ePn		Pn	14 11 19.6	+0.2
RSDY	Resadiye-TOKAT	6.56	30	ePN		Pn	14 11 20.0	+0.6
RSDY	Resadiye-TOKAT	6.56	30	ePn		Pn	14 11 20.0	+0.6
KCTX	Karacabey (Bur	6.66	327	ePN		Pn	14 11 21.7	+0.9
KCTX	Karacabey (Bur	6.66	327	ePn		Pn	14 11 21.7	+0.9
CHOS	Chios island	6.72	305	eP		Pn	14 11 20.5	-1.1
KVT	Kavak	6.73	19	ePN		Pn	14 11 22.6	+0.8
KVT	Kavak	6.73	19	ePn		Pn	14 11 22.6	+0.8
IDI	Anoyia	6.75	277	ePN		Pn	14 11 21.7	-0.3
IDI	Anoyia	6.75	277	eP		Pn	14 11 20.3	-1.7
IDI	Anoyia	6.75	277	Pn		Pn	14 11 21.0	-1.1
IDI				Sn		Sn	14 12 36.5	-2.1
IDI	Anoyia	6.75	277	Pn		Pn	14 11 21.0	-1.1
	comp=E,7.2nm,0.3s,baz=111,slow=8.5,SNR=21							
IDI				Sn		Sn	14 12 36.5	-2.1
	comp=E,8.5nm,0.3s,baz=215,slow=21,SNR=11							
IDI	Anoyia	6.75	277	ePn		Pn	14 11 21.7	-0.3
TR1		6.77	174	P		Pn	14 11 21.7	-0.6
	baz=173							
TR1		6.77	174	P		Pn	14 11 21.7	-0.6
GONE	Gonen-Balikesi	6.81	322	ePN		Pn	14 11 24.2	+1.4
GONE	Gonen-Balikesi	6.81	322	ePn		Pn	14 11 24.2	+1.4
SIVA	Sivas	6.81	275	eP		Pn	14 11 21.5	-1.3
BYBT	Boyabat	6.83	11	ePN		Pn	14 11 24.7	+1.6
BYBT	Boyabat	6.83	11	ePn		Pn	14 11 24.7	+1.6
SILT	Sile	6.94	338	ePN		Pn	14 11 25.9	+1.3
SILT	Sile	6.94	338	ePn		Pn	14 11 25.9	+1.3
EZC	Erzincan	7.06	43	ePN		Pn	14 11 26.3	0.0
EZC	Erzincan	7.06	43	ePn		Pn	14 11 26.3	0.0
PRK	Paraskevi	7.06	311	eP		Pn	14 11 24.4	-1.8
DIKM	Dikmen	7.09	13	ePN		Pn	14 11 26.8	+0.1
DIKM	Dikmen	7.09	13	ePn		Pn	14 11 26.8	+0.1
ERZN	Erzincan	7.16	46	ePN		Pn	14 11 28.0	+0.3
KLYT	Kilyos	7.23	335	ePN		Pn	14 11 29.3	+0.8
KLYT	Kilyos	7.23	335	ePn		Pn	14 11 29.3	+0.8
KRBG	Karabiga-Canak	7.27	322	ePN		Pn	14 11 30.1	+1.1
KRBG	Karabiga-Canak	7.27	322	ePn		Pn	14 11 30.1	+1.1
VAM	Vamos	7.32	278	eP		Pn	14 11 27.8	-2.0
BNGB	Bing¶ll	7.41	53	ePN		Pn	14 11 31.0	-0.1
LPK	Lapseki	7.53	320	ePN		Pn	14 11 33.9	+1.3
LPK	Lapseki	7.53	320	ePn		Pn	14 11 33.9	+1.3
KARN	Karanos	7.55	278	eP		Pn	14 11 30.8	-2.2
RKY	Sarkoy-Tekirda	7.55	323	ePN		Pn	14 11 33.1	+0.1
RKY	Sarkoy-Tekirda	7.55	323	ePn		Pn	14 11 33.1	+0.1
BTMT	Batman	7.58	61	ePN		Pn	14 11 34.3	+0.8
BTMT	Batman	7.58	61	ePn		Pn	14 11 34.3	+0.8
GUMT	Gumushane	7.62	40	ePN		Pn	14 11 33.9	-0.2
GUMT	Gumushane	7.62	40	ePn		Pn	14 11 33.9	-0.2
GELI	Tayfur-Gelibol	7.70	319	ePN		Pn	14 11 35.0	0.0
GELI	Tayfur-Gelibol	7.70	319	ePn		Pn	14 11 35.0	0.0
SIRT	Sirnak	8.05	67	ePN		Pn	14 11 39.4	-0.5
SIRT	Sirnak	8.05	67	ePn		Pn	14 11 39.4	-0.5
ANKY	Antikythira Is	8.08	281	eP		Pn	14 11 37.3	-2.9
LIA	Limnos Island	8.12	312	eP		Pn	14 11 36.2	-4.6
LTBQ	Tobruq	8.12	253	i P		Pn	14 11 40.5	-0.4
	SNR=90							
SMTH	Samothraki Isl	8.28	316	eP		Pn	14 11 44.9	+2.0
KYTH	Kithira	8.34	283	eP		Pn	14 11 39.4	-4.4
DID	Didima	8.43	292	eP		Pn	14 11 43.9	-1.2
VLI	Veliai	8.48	286	eP		Pn	14 11 42.2	-3.6
EDRB	Edirne	8.66	327	ePN		Pn	14 11 49.1	+0.9
EDRB	Edirne	8.66	327	ePn		Pn	14 11 49.1	+0.9
LTK	Loutraki	8.79	295	eP		Pn	14 11 50.5	+0.5
VLX	Vlachokerasia	9.06	290	eP		Pn	14 11 52.1	-1.6
GUR	Goura	9.23	293	eP		Pn	14 11 54.4	-1.7
KLV	Kalavryta, Ach	9.41	294	eP		Pn	14 11 57.1	-1.4
PYL	PYLOS	9.46	286	eP		Pn	14 11 51.0	-8.2
BHD	Baghdad	9.49	96	ePN4		Pn	14 11 51.4	-8.1
BHD				eSN4		Sn	14 13 35.2	-11
KALE	Kalithea	9.52	296	eP		Pn	14 12 01.2	+1.1
TRIZ	Trizonia	9.57	295	eP		Pn	14 12 01.2	+0.6
LAKA	Lakka	9.60	294	eP		Pn	14 12 01.2	+0.1
EFP	Efpalio	9.71	295	eP		Pn	14 12 02.0	-0.6
THL	Klokotos Trika	10.06	302	eP		Pn	14 12 07.7	+0.4
SOC	Sochi	10.20	28	c iP		Pn	14 12 10.6	+1.3
SOC				e			14 14 12.1	
SOC				pmax		pmax		
	comp=Z,68nm,1.0s							
SOC				MLR		MLR		
	comp=Z,898nm,13.0s							
SOC	Sochi	10.20	28	i P		Pn	14 12 10.6	+1.3
	comp=Z,68nm,1.0s							
SIM	Simferopol'	10.21	4	P		Pn	14 12 12.2	+2.8
SIM				S		Sn	14 14 10.2	+6.6
SIM				pmax		pmax		
	comp=Z,40nm,0.8s							
SIM				MLR		MLR		
	comp=Z,590nm,12.0s							
SIM	Simferopol'	10.21	4	P		Pn	14 12 12.2	+2.8
	comp=Z,40nm,0.8s							
TIRR	Tirgusor	10.34	341	⇑P		Pn	14 12 13.5	+2.4
TIRR	Tirgusor	10.34	341	⇑iP		Pn	14 12 13.5	+2.4
TIRR	Tirgusor	10.34	341	P		Pn	14 12 13.5	+2.4
TLB	Topalu	10.56	340	⇓P		Pn	14 12 15.9	+1.8
TLB	Topalu	10.56	340	⇓iP		Pn	14 12 15.9	+1.8
TLB	Topalu	10.56	340	P		Pn	14 12 15.9	+1.8
GNI	Garni	10.71	56	Pn		Pn	14 12 19.2	+2.7
GNI	Garni	10.71	56	Pn		Pn	14 12 19.2	+2.7
	comp=Z,1.2nm,0.3s,baz=305,slow=12,SNR=2.9							
GNI				LR		LR	14 17 09.5	
	comp=Z,720nm,19.7s,baz=256,slow=42							
IBDR	Badra	10.79	95	ePN4		Pn	14 12 10.4	-7.1
IBDR				eSN4		Sn	14 14 07.3	-11
VTS	Vitosha	10.99	318	⇓P		Pn	14 12 25.6	+5.4
VTS	Vitosha	10.99	318	⇓iP		Pn	14 12 25.6	+5.4
NSR	Nassriya	11.59	105	ePn		Pn	14 12 24.9	-3.4
NSR				eSN4			14 14 33.5	
ZEI	Tsey	11.63	43	eP		Pn	14 12 32.5	+3.4
ZEI				pmax		pmax		
	comp=Z,43nm,1.1s							
KBZ	Khabaz	11.74	37	P		Pn	14 12 33.8	+3.4
KBZ	Khabaz	11.74	37	Pn		Pn	14 12 33.8	+3.4
KBZ	Khabaz	11.74	37	Pn		Pn	14 12 33.8	+3.4
	comp=Z,0.0nm,0.3s,baz=231,slow=13,SNR=4.1							
KBZ				LR		LR	14 18 17.5	
	comp=Z,484nm,18.7s,baz=332,slow=44							
KIV	Kislovodsk	11.81	36	eP		Pn	14 12 34.7	+3.4
KIV				eS		Sn	14 14 50.0	+7.2
KIV				pmax		pmax		
	comp=Z,25nm,1.0s							
KIV				MLR		MLR		
	comp=Z,191nm,13.0s							
MLR	Muntele Rosu	12.03	335	Pn		Pn	14 12 37.1	+2.7
MLR	Muntele Rosu	12.03	335	Pn		Pn	14 12 37.1	+2.7
	comp=Z,0.0nm,0.3s,baz=172,slow=7.7,SNR=7.4							
MLR				LR		LR	14 18 08.3	
	comp=Z,270nm,19.0s,baz=165,slow=42							
MLR	Muntele Rosu	12.03	335	P		Pn	14 12 37.1	+2.7
VRI	Vrincioaia	12.11	338	⇑P		Pn	14 12 38.8	+3.4
VRI	Vrincioaia	12.11	338	⇑iP		Pn	14 12 38.8	+3.4
PLOR	Plostina	12.12	338	⇓P		Pn	14 12 38.4	+2.8
PLOR	Plostina	12.12	338	⇓iP		Pn	14 12 38.4	+2.8
PLOR	Plostina	12.12	338	P		Pn	14 12 38.4	+2.8
KIS	Kishinev	12.65	347	eP		Pn	14 12 40.0	-2.7
KIS				LRM		MLR	14 18 08.0	
	comp=Z,500nm,14.0s							
KIS	Kishinev	12.65	347	eP		Pn	14 12 40.0	-2.7
KIS				e			14 15 12.0	
KIS				MLR		MLR		
	comp=Z,400nm,12.0s							
KIS				MLR		MLR		
	comp=Z,500nm,14.0s							
MAK	Makhachkala	13.89	50	eP		Pn	14 12 57.5	-2.2
MAK				eS		Sn	14 15 31.9	-1.6
MAK				pmax		pmax		
	comp=Z,78nm,1.6s							
MAK				MLR		MLR		
	comp=Z,490nm,11.0s							
MAK	Makhachkala	13.89	50	eP		Pn	14 12 57.5	-2.2
	comp=Z,78nm,1.6s							
BURAR	Bucovina Array	14.14	338	⇓P		P	14 13 10.1	-0.6
BURAR	Bucovina Array	14.14	338	⇓iP		P	14 13 10.1	-0.6
IPIR	Pirpir	14.96	93	eP		Pn	14 13 16.4	+1.7
IKLH	Kolahrood	15.40	90	eP		Pn	14 13 22.3	+1.9
IKLH	Kolahrood	15.40	90	eP		Pn	14 13 22.3	+1.9
TRPA	Tarpa	15.51	333	⇓iP		P	14 13 26.2	+0.4
UZH	Uzhgorod	16.01	333	eP		P	14 13 33.9	+2.5
UZH	Uzhgorod	16.01	333	eP		P	14 13 33.9	+2.5
IZEF	Zefreh	16.10	91	eP		P	14 13 31.3	-1.5
IZEF	Zefreh	16.10	91	eP		P	14 13 31.3	-1.5
IALA	Alasht	16.13	80	eP		Pn	14 13 31.3	+1.3
IALA	Alasht	16.13	80	eP		Pn	14 13 31.3	+1.3
AKASG	Malin Array Be	16.18	351	P		Pn	14 13 28.5	-1.7
AKASG	Malin Array Be	16.18	351	Pn		Pn	14 13 28.5	-1.7
AKASG	Malin Array Be	16.18	351	Pn		Pn	14 13 28.5	-1.7
	comp=Z,5.2nm,0.3s,baz=172,slow=12,SNR=23							
AKASG	Malin Array Be	16.18	351	Pn		Pn	14 13 28.5	-1.7
KOLS	Kolonicke sedl	16.27	334	eP		P	14 13 35.9	+1.6
KOLS				pmax		pmax		
	comp=Z,14nm,1.0s							
KOLS	Kolonicke sedl	16.27	334	eP		P	14 13 35.9	+1.6
KOLS	Kolocke sedl	16.27	334	eP		P	14 13 35.9	+1.6
	comp=Z,14nm,1.0s							
PSZ	Piszkesteto	16.43	327	⇓P		P	14 13 36.7	+0.5
PSZ	Piszkesteto	16.43	327	⇓iP		P	14 13 36.7	+0.5
PSZ	Piszkesteto	16.43	327	P		P	14 13 36.7	+0.5
LVV	L'vov	16.46	339	eP		P	14 13 36.2	-0.2
LVV	L'vov	16.46	339	eP		P	14 13 36.2	-0.2
ISHM	Shahmirzad	16.53	81	eP		P	14 13 38.9	+1.3
ISHM	Shahmirzad	16.53	81	eP		P	14 13 38.9	+1.3
CRVS	Cervenica-Dubn	16.55	332	eP		P	14 13 38.5	+1.1
CRVS				pmax		pmax		
	comp=Z,5.0nm,1.1s							
CRVS	Cervenica-Dubn	16.55	332	eP		P	14 13 38.5	+1.1
CRVS	Cervenica-Dubn	16.55	332	eP		P	14 13 38.5	+1.1
	comp=Z,5.0nm,1.1s							
KECS	Kecovo	16.61	329	eP		P	14 13 40.3	+2.2
KECS				pmax		pmax		
	comp=Z,5.0nm,1.1s							
KECS	Kecovo	16.61	329	eP		P	14 13 40.3	+2.2
KECS	Kecovo	16.61	329	eP		P	14 13 40.3	+2.2
	comp=Z,5.0nm,1.1s							
KWP	Kalwaria Pacla	16.71	336	⇓P		P	14 13 42.0	+2.8
KWP	Kalwaria Pacla	16.71	336	⇓iP		P	14 13 42.0	+2.8
KWP	Kalwaria Pacla	16.71	336	eP		P	14 13 42.1	+2.8
KWP	Kalwaria Pacla	16.71	336	P		P	14 13 42.0	+2.8
VORD	Divnogorie	16.82	14	eP		P	14 13 39.9	-0.4
VORD				pmax		pmax		
	comp=Z,20nm,1.0s							
VORD				pmax		pmax		
	comp=N,80nm,1.5s							
VORD				pmax		pmax		
	comp=E,70nm,1.8s							
VORD	Divnogorie	16.82	14	eP		P	14 13 39.9	-0.4
	comp=E,80nm,1.5s							
IKIA	Kiasar	16.84	79	eP		P	14 13 42.6	+1.6
IKIA	Kiasar	16.84	79	eP		P	14 13 42.6	+1.6
IGLO	Ghaloghah	16.95	78	eP		P	14 13 42.1	-0.1
VSR	Storozhevoye	17.03	13	eP		P	14 13 42.3	-0.4
VSR				pmax		pmax		
	comp=N,60nm,1.4s							
VSR				pmax		pmax		
	comp=Z,40nm,1.4s							
VSR				pmax		pmax		
	comp=E,30nm,1.8s							
VSR	Storozhevoye	17.03	13	eP		P	14 13 42.3	-0.4
STHS	Stebnicka Huta	17.05	333	eP		P	14 13 46.0	+3.0
STHS				pmax		pmax		
	comp=Z,5.0nm,1.0s							
STHS	Stebnicka Huta	17.05	333	eP		P	14 13 46.0	+3.0
STHS	Stebnicka Huta	17.05	333	eP		P	14 13 46.0	+3.0
	comp=Z,5.0nm,1.0s							
VYHS	Vyhne	17.34	327	eP		P	14 13 47.9	+1.8
VYHS				pmax		pmax		
	comp=Z,4.0nm,1.0s							
VYHS	Vyhne	17.34	327	eP		P	14 13 47.9	+1.8
VYHS	Vyhne	17.34	327	eP		P	14 13 47.9	+1.8
	comp=Z,4.0nm,1.0s							
VRHR	Novokhopersk	17.47	18	eP		P	14 13 48.0	+0.5
VRHR				pmax		pmax		
	comp=Z,220nm,0.9s							
VRHR				pmax		pmax		
	comp=N,180nm,0.7s							
VRHR				pmax		pmax		
	comp=E,50nm,1.0s							
VRHR	Novokhopersk	17.47	18	eP		P	14 13 48.0	+0.5
	comp=E,180nm,0.7s							
ISRV	Sarvestan	17.79	102	eP		P	14 13 56.6	+5.0
IMEH	Mehriz	18.34	94	eP		Pn	14 13 57.1	-0.5
IMEH	Mehriz	18.34	94	eP		Pn	14 13 57.1	-0.5
OKC	Ostrava-Krasne	18.64	329	eP		Pn	14 14 02.7	+2.0
OKC				MLR		MLR		
	comp=Z,400nm,12.8s							
OKC	Ostrava-Krasne	18.64	329	eP		Pn	14 14 02.7	+2.0
OKC				AMS		AMS	14 22 30.0	
	comp=Z,400nm,12.8s							
OKC	Ostrava-Krasne	18.64	329	eP		Pn	14 14 02.7	+2.0
	comp=Z,400nm,12.8s							
MORC	Moravsky Berou	18.86	327	ePn		Pn	14 14 05.1	+1.6
MYKA	Terra Mystica	18.87	315	⇑iP		Pn	14 14 08.3	+4.7
	comp=Z,18nm,0.6s							
VRAC	Vranov	18.95	325	Pn		Pn	14 14 05.8	+1.2
VRAC	Vranov	18.95	325	Pn		Pn	14 14 05.8	+1.2
	comp=Z,0.4nm,0.3s,baz=140,slow=12,SNR=5.2							
VRAC	Vranov	18.95	325	ePn		Pn	14 14 05.6	+1.0
IBAF	Bafgh	19.07	93	eP		Pn	14 14 08.4	+2.0
KBA	Koelnbreinsper	19.28	316	⇑iPn		Pn	14 14 10.4	+1.7
	comp=Z,26nm,1.1s							
KBA	Koelnbreinsper	19.28	316	P		Pn	14 14 10.4	+1.7
	comp=Z,26nm,1.1s							
KEST	Kesra	19.41	280	Pn		Pn	14 14 10.3	+0.1
KEST	Kesra	19.41	280	Pn		Pn	14 14 10.3	+0.1
	comp=Z,0.2nm,0.3s,baz=248,slow=4.8,SNR=15							
KEST	Kesra	19.41	280	Pn		Pn	14 14 10.4	+0.1
DPC	Dobruska-Polom	19.81	327	eP		Pn	14 14 14.8	-0.1
DPC	Dobruska-Polom	19.81	327	eP		Pn	14 14 14.8	-0.1
DPC	Dobruska-Polom	19.81	327	eP		Pn	14 14 14.8	-0.1
ISHV	Shirvan	20.06	75	eP		Pn	14 14 19.6	+1.4
UPC	Upice	20.07	327	eP		P	14 14 14.4	-1.7
UPC				e			14 14 19.8	
UPC	Upice	20.07	327	eP		P	14 14 14.4	-1.7
UPC				ex		x	14 14 19.8	
MICGM	Minsk	20.08	351	⇑eP		P	14 14 12.0	-4.1
MNK	Minsk	20.08	351	⇑eP		P	14 14 12.0	-4.2
MNK				pm

SBF Sospel 21.77 302 *eP* **P 14 14 36.3 +1.8**
comp=Z,75nm,0.9s
CLL Collm 22.00 325 *eP* **P 14 14 38.0 +1.1**
CLL *e* 14 14 43.0
CLL *eS* **S 14 18 38.0 -1.1**
CLL pmax pmax
comp=Z,9.0nm,1.1s
CLL Collm 22.00 325 *eP* **P 14 14 38.0 +1.1**
comp=Z,9.0nm,1.1s
CLL *ep*P **pP 14 14 43.0 +1.6**
CLL *e*(sP) sP 14 14 50.0 +6.6
CLL *eS* **S 14 18 38.0 -1.1**
CLL *e*SSS SSS 14 19 21.0
IMYA Miami 22.01 78 *eP* **P 14 14 35.8 -1.6**
FRF La Foret Royal 22.24 301 *eP* **P 14 14 39.2 -0.3**
comp=Z,46nm,1.0s
FRF La Foret Royal 22.24 301 *eP* **P 14 14 39.2 -0.3**
FRF pmax pmax
comp=Z,46nm,1.0s
FRF La Foret Royal 22.24 301 *eP* **P 14 14 39.2 -0.3**
comp=Z,46nm,1.0s
MOX Moxa 22.27 322 *eP* **P 14 14 40.3 +0.5**
comp=Z,30nm,1.0s
MOX Moxa 22.27 322 *eP* **P 14 14 40.3 +0.5**
MOX pmax pmax
comp=Z,30nm,1.0s
LMR La Mourre 22.28 301 *eP* **P 14 14 39.7 -0.3**
comp=Z,353nm,1.8s
LMR La Mourre 22.28 301 *eP* **P 14 14 39.7 -0.3**
LMR pmax pmax
comp=Z,353nm,1.8s
LMR La Mourre 22.28 301 *eP* **P 14 14 39.7 -0.3**
comp=Z,353nm,1.8s
IDAH Dahanechah 22.34 88 *eP* **P 14 14 43.9 +2.9**
MBDF Montbardon 22.47 304 *eP* **P 14 14 42.3 +0.1**
comp=Z,41nm,0.9s
MBDF Montbardon 22.47 304 *eP* **P 14 14 42.3 +0.1**
MBDF pmax pmax
comp=Z,41nm,0.9s
MBDF Montbardon 22.47 304 *eP* **P 14 14 42.3 +0.1**
comp=Z,41nm,0.9s
LPG La Plagne 22.72 306 *eP* **P 14 14 46.0 +1.0**
comp=Z,23nm,0.8s
LPG La Plagne 22.72 306 *eP* **P 14 14 46.0 +1.0**
LPG pmax pmax
comp=Z,23nm,0.8s
LPG La Plagne 22.72 306 *eP* **P 14 14 46.0 +1.0**
comp=Z,23nm,0.8s
LPL La Plagne 22.74 306 *eP* **P 14 14 46.5 +1.4**
comp=Z,14nm,0.7s
LPL La Plagne 22.74 306 *eP* **P 14 14 46.5 +1.4**
LPL pmax pmax
comp=Z,14nm,0.7s
LPL La Plagne 22.74 306 *eP* **P 14 14 46.5 +1.4**
comp=Z,14nm,0.7s
ORIF Oris-en-Rattie 23.13 304 *eP* **P 14 14 50.2 +1.1**
comp=Z,14nm,0.7s
ORIF *e*R
comp=Z,374nm,20.5s
ORIF Oris-en-Rattie 23.13 304 *eP* **P 14 14 50.2 +1.1**
ORIF pmax pmax
comp=Z,14nm,0.7s
ORIF Oris-en-Rattie 23.13 304 *eP* **P 14 14 50.2 +1.1**
comp=Z,14nm,0.7s
UBBA Unterbreizbach 23.20 321 *eP* **P 14 14 50.3 +0.9**
comp=Z,68nm,2.3s
CDF Champ du Feu 23.50 313 *eP* **P 14 14 53.7 +0.9**
comp=Z,27nm,0.9s
CDF Champ du Feu 23.50 313 *eP* **P 14 14 53.7 +0.9**
CDF pmax pmax
comp=Z,27nm,0.9s
CDF Champ du Feu 23.50 313 *eP* **P 14 14 53.7 +0.9**
comp=Z,27nm,0.9s
HINF Hinteralfeld 23.51 312 *eP* **P 14 14 52.9 +0.1**
comp=Z,3.6nm,0.3s
HINF Hinteralfeld 23.51 312 *eP* **P 14 14 52.9 +0.1**
HINF pmax pmax
comp=Z,4.0nm,0.3s
HINF Hinteralfeld 23.51 312 *eP* **P 14 14 52.9 +0.1**
comp=Z,3.6nm,0.3s
CABF La Chapelle 23.53 308 *eP* **P 14 14 51.2 -1.9**
comp=Z,60nm,1.2s
CABF La Chapelle 23.53 308 *eP* **P 14 14 51.2 -1.9**
CABF pmax pmax
comp=Z,60nm,1.2s
CABF La Chapelle 23.53 308 *eP* **P 14 14 51.2 -1.9**
comp=Z,60nm,1.2s
CLZ Clausthal 23.61 323 *eP* **P 14 14 54.1 +0.4**
comp=Z,43nm,1.8s
CLZ Clausthal 23.61 323 *eP* **P 14 14 54.1 +0.4**
CLZ pmax pmax
comp=Z,43nm,1.8s
HAU Haudompre 23.90 312 *eP* **P 14 14 57.0 +0.5**
comp=Z,4.6nm,0.5s
HAU *e*R
comp=Z,357nm,21.0s
HAU Haudompre 23.90 312 *eP* **P 14 14 57.0 +0.5**
HAU pmax pmax
comp=Z,5.0nm,0.4s
HAU Haudompre 23.90 312 *eP* **P 14 14 57.0 +0.5**
comp=Z,4.6nm,0.4s
VIVF Saint-Julien-l 23.94 303 *eP* **P 14 14 57.9 +1.0**
comp=Z,46nm,1.4s
VIVF Saint-Julien-l 23.94 303 *eP* **P 14 14 57.9 +1.0**
VIVF pmax pmax
comp=Z,46nm,1.4s
VIVF Saint-Julien-l 23.94 303 *eP* **P 14 14 57.9 +1.0**
comp=Z,46nm,1.4s
AKTO Aktyubinsk 23.97 42 P **P 14 14 56.5 -0.6**
AKTO Aktyubinsk 23.97 42 P **P 14 14 56.5 -0.6**
AKTO Aktyubinsk 23.97 42 P **P 14 14 56.5 -0.6**
comp=Z,9.3nm,0.9s,baz=241,slow=9.4,SNR=21
AKTO LR LR 14 27 00.4
comp=Z,226nm,18.1s,baz=21,slow=44
VSU Vasula 24.09 352↓ *eP* **P 14 14 59.4 +1.3**
VSU pmax pmax
comp=Z,162nm,2.4s
NRDL Niedersach Rie 24.14 324 *eP* **P 14 15 02.8 +4.2**
LASF Ste Croix 24.32 301 *eP* **P 14 15 00.0 -0.5**
comp=Z,21nm,0.9s
LASF Ste Croix 24.32 301 *eP* **P 14 15 00.0 -0.5**
comp=Z,21nm,0.9s
PAGF Fort de Pagny 24.50 313 *eP* **P 14 15 01.4 -0.6**
comp=Z,4.0nm,0.6s
PAGF Fort de Pagny 24.50 313 *eP* **P 14 15 01.4 -0.6**
comp=Z,4.0nm,0.6s
ATD Arta Tunnel 24.77 157 LR LR 14 23 43.6
comp=Z,128nm,20.5s,baz=6.9,slow=34
BSEG Bad Segeberg 24.97 327 *eP* **P 14 15 06.9 +0.8**
comp=Z,115nm,2.4s
BSEG Bad Segeberg 24.97 327 *eP* **P 14 15 06.9 +0.8**
BSEG pmax pmax
comp=Z,115nm,2.4s
BUG Bochum--Univer 24.98 320 *eP* **P 14 15 06.6 +0.4**
SMF Signal de Mont 25.01 307 *eP* **P 14 15 05.4 -1.2**
comp=Z,22nm,0.9s
SMF Signal de Mont 25.01 307 *eP* **P 14 15 05.4 -1.2**
SMF pmax pmax
comp=Z,22nm,0.9s
SMF Signal de Mont 25.01 307 *eP* **P 14 15 05.4 -1.2**
comp=Z,22nm,0.9s
LOR Lormes 25.19 309 *eP* **P 14 15 09.1 +0.8**
comp=Z,9.4nm,0.6s
LOR *e*R
comp=Z,244nm,22.8s
LOR Lormes 25.19 309 *eP* **P 14 15 09.1 +0.8**
comp=Z,9.4nm,0.6s
MTLF Montolieu 25.35 299 *eP* **P 14 15 08.7 -1.1**
comp=Z,56nm,1.2s
MTLF Montolieu 25.35 299 *eP* **P 14 15 08.7 -1.1**
MTLF pmax pmax
comp=Z,56nm,1.2s
MTLF Montolieu 25.35 299 *eP* **P 14 15 08.7 -1.1**
comp=Z,56nm,1.2s
SSF Saint Saulge 25.35 308 *eP* **P 14 15 10.0 +0.3**
comp=Z,11nm,0.7s
SSF Saint Saulge 25.35 308 *eP* **P 14 15 10.0 +0.3**
SSF pmax pmax
comp=Z,11nm,0.7s
SSF Saint Saulge 25.35 308 *eP* **P 14 15 10.0 +0.3**
comp=Z,11nm,0.7s
GIVF Givet 25.69 315 *eP* **P 14 15 14.2 +1.4**
comp=Z,24nm,0.7s
GIVF Givet 25.69 315 *eP* **P 14 15 14.2 +1.4**
GIVF pmax pmax
comp=Z,24nm,0.7s
GIVF Givet 25.69 315 *eP* **P 14 15 14.2 +1.4**
comp=Z,24nm,0.7s
BAIF Baives 26.03 315 *eP* **P 14 15 18.0 +2.2**
comp=Z,20nm,0.8s
BAIF Baives 26.03 315 *eP* **P 14 15 18.0 +2.2**
BAIF pmax pmax
comp=Z,21nm,0.8s
BAIF Baives 26.03 315 *eP* **P 14 15 18.0 +2.2**
comp=Z,20nm,0.8s
RJF Les Rejaudoux 26.22 303 *eP* **P 14 15 19.2 +1.6**
comp=Z,30nm,1.0s
RJF *e*R
comp=Z,238nm,17.5s
RJF Les Rejaudoux 26.22 303 *eP* **P 14 15 19.2 +1.6**
RJF pmax pmax
comp=Z,30nm,1.0s
RJF Les Rejaudoux 26.22 303 *eP* **P 14 15 19.2 +1.6**
comp=Z,30nm,1.0s
EPF Esparros 26.66 298 *eP* **P 14 15 22.4 +0.7**
comp=Z,32nm,1.3s
EPF Esparros 26.66 298 *eP* **P 14 15 22.4 +0.7**
EPF pmax pmax
comp=Z,32nm,1.3s
EPF Esparros 26.66 298 *eP* **P 14 15 22.4 +0.7**
comp=Z,32nm,1.3s
FINES FINESS Array B 27.08 353 P **P 14 15 23.1 -2.1**
FINES FINESS Array B 27.08 353 P **P 14 15 23.1 -2.1**
comp=Z,16nm,0.6s,baz=150,slow=11,SNR=38
FINES LR LR 14 27 19.7
comp=Z,443nm,18.6s,baz=270,slow=39
ETSF Etsaut 27.31 297 *eP* **P 14 15 28.8 +1.3**
comp=Z,35nm,1.2s
ETSF Etsaut 27.31 297 *eP* **P 14 15 28.8 +1.3**
ETSF pmax pmax
comp=Z,35nm,1.2s
ETSF Etsaut 27.31 297 *eP* **P 14 15 28.8 +1.3**
comp=Z,35nm,1.2s
ARU Arti 27.77 31 *d iP* **P 14 15 34.1 +2.7**
ARU 14 16 21.9
ARU S S 14 20 22.0 +8.6
ARU SS **SnSn 14 21 34.0 +8.0**
ARU pmax pmax
comp=Z,37nm,1.7s
JOF Joensuu 28.21 358 *eP* **P 14 15 33.6 -1.7**
JOF pmax pmax
comp=Z,13nm,0.9s
JOF Joensuu 28.21 358 *ep* **P 14 15 33.6 -1.7**
comp=Z,13nm,0.9s
HFS Hagfors 28.36 340 P **P 14 15 35.0 -1.6**
HFS Hagfors 28.36 340 P **P 14 15 35.0 -1.6**
comp=Z,5.8nm,0.7s,baz=134,slow=12,SNR=7.4
HFS LR LR 14 28 43.3
comp=Z,414nm,18.4s,baz=154,slow=40
SVE Sverdlovsk 28.91 32 *eP* **P 14 15 41.7 +0.1**
SVE pmax pmax
comp=Z,25nm,1.3s
ESDC Sonseca Array 29.77 291 P **P 14 15 49.4 -0.1**
ESDC Sonseca Array 29.77 291 P **P 14 15 49.4 -0.1**
comp=Z,1.5nm,0.6s,baz=77,slow=9.1,SNR=7.2
NB2 NORSAR Subarra 29.82 339 P **P 14 15 48.0 -1.6**
comp=Z,7.3nm,1.1s,baz=142,slow=9.3
NB2 NORSAR Subarra 29.82 339 P **P 14 15 48.0 -1.6**
comp=Z,7.3nm,1.1s,SNR=7.2
NOA NORSAR Array B 29.82 339 P **P 14 15 48.1 -1.5**
NOA NORSAR Array B 29.82 339 P **P 14 15 48.1 -1.5**
comp=Z,4.8nm,1.0s,baz=140,slow=9.4,SNR=6.7
NOA LR LR 14 29 38.7
comp=Z,273nm,20.1s,baz=155,slow=40
BRVK Borovoye 31.97 44↓ *iP* **P 14 16 08.7 +0.1**
BRVK pmax pmax
comp=Z,8.0nm,1.0s
BVAR Borovoye Array 32.02 44 P **P 14 16 08.0 -1.1**
BVAR Borovoye Array 32.02 44 P **P 14 16 08.0 -1.1**
BVAR Borovoye Array 32.02 44 P **P 14 16 08.0 -1.1**
comp=Z,4.3nm,0.8s,baz=225,slow=5.3,SNR=19
AAK Ala-Archa 32.99 64↓ *eP* **P 14 16 18.9 +0.9**
AAK pmax pmax
comp=Z,7.0nm,1.6s
AAK Ala-Archa 32.99 64 P **P 14 16 17.3 -0.6**
AAK Ala-Archa 32.99 64 P **P 14 16 17.3 -0.6**
comp=Z,0.6nm,0.3s,baz=236,slow=11,SNR=3.7
ARCES ARCESS Array B 35.09 355 P **P 14 16 33.8 -1.8**
ARCES ARCESS Array B 35.09 355 P **P 14 16 33.8 -1.8**
comp=Z,4.3nm,0.6s,baz=165,slow=6.9,SNR=14
ARCES LR LR 14 32 28.1
comp=Z,390nm,18.7s,baz=163,slow=39
TORD Torodi Ar. Bea 35.62 241 P **P 14 16 40.1 -0.7**
TORD PP **PP 14 18 07.9 +6.2**
TORD PcP **PcP 14 19 08.5 -0.8**
TORD Torodi Ar. Bea 35.62 241 P **P 14 16 40.1 -0.7**
comp=Z,4.2nm,0.9s,baz=64,slow=7.1,SNR=21
TORD PP **PP 14 18 07.9 +6.2**
comp=Z,1.6nm,0.9s,baz=40,slow=11,SNR=4.0
TORD PcP **PcP 14 19 08.5 -0.8**
comp=Z,0.6nm,0.8s,baz=72,slow=3.4,SNR=2.5
KMBO Kilima Mbogo 35.91 173 *eP* **P 14 16 44.6 +1.2**
KMBO Kilima Mbogo 35.91 173 P **P 14 16 44.0 +0.6**
comp=Z,2.7nm,0.7s,baz=222,slow=22,SNR=5.7
KURBB Kurchatov Arra 36.34 50 P **P 14 16 46.4 -0.2**
comp=Z,2.7nm,0.7s,baz=271,slow=9.0,SNR=24
KURBB PP **PP 14 18 11.3 +2.1**
comp=Z,1.5nm,0.8s,baz=275,slow=12,SNR=4.5
KURBB PcP **PcP 14 19 10.7 -0.2**
comp=Z,1.2nm,0.6s,baz=263,slow=3.7,SNR=7.7
KURK Kurchatov 36.41 50 P **P 14 16 46.4 -0.8**
KURK 14 18 11.3
KURK 14 19 10.7
KURK Kurchatov 36.41 50 P **P 14 16 46.4 -0.8**
KURK PP **PP 14 18 11.3 +1.3**
KURK PcP **PcP 14 19 10.7 -0.4**
MKAR Makanchi Array 38.56 57 *ceP* **P 14 17 05.5 0.0**
MKAR pmax pmax
comp=Z,6.0nm,0.8s
MKAR Makanchi Array 38.56 57 P **P 14 17 05.2 -0.3**
MKAR Makanchi Array 38.56 57 P **P 14 17 05.2 -0.3**
comp=Z,5.9nm,0.8s,baz=260,slow=8.1,SNR=22
MKAR LR LR 14 36 54.0
comp=Z,85nm,18.1s,baz=36,slow=42
NVS Novosibirsk 39.81 44 *eP* **P 14 17 15.1 -0.7**
NVS *e* 14 18 47.6
NVS pmax pmax
comp=N,4.0nm,1.3s
NVS pmax pmax
comp=E,7.0nm,1.3s
NVS pmax pmax
comp=Z,14nm,1.3s
ZALV Zalesovo Beam 40.61 45 P **P 14 17 20.2 -2.2**
ZALV Zalesovo Beam 40.61 45 P **P 14 17 20.2 -2.2**
ZALV Zalesovo Beam 40.61 45 P **P 14 17 20.2 -2.2**
comp=Z,3.7nm,0.5s,baz=259,slow=8.1,SNR=13
ZALV LR LR 14 35 31.8
comp=Z,106nm,19.5s,baz=70,slow=38
DANN Dangsing 43.28 84 *eP* **P 14 17 44.9 0.0**
comp=Z,34nm,0.7s
KOLN Koldanda 43.36 85 *eP* **P 14 17 46.4 +0.9**
DMN Daman 44.66 84 *eP* **P 14 17 56.5 +0.5**
comp=Z,25nm,0.9s
DBIC Dimbokro 44.73 240 P **P 14 17 55.0 -1.2**
DBIC Dimbokro 44.73 240 P **P 14 17 55.0 -1.2**
comp=Z,6.0nm,0.8s,baz=15,slow=9.6,SNR=4.1
DBIC LR LR 14 40 38.2
comp=Z,93nm,20.2s,baz=249,slow=42
KKN Kakani 44.73 84 *eP* **P 14 17 57.0 +0.5**
comp=Z,23nm,0.8s
PKIN Phulchoki 44.91 84 *eP* **P 14 17 58.2 +0.2**
comp=Z,15nm,1.0s
PKI Phulchoki 44.92 84 *eP* **P 14 17 59.1 +0.9**
LIC Lamto 45.16 240 *eP* **P 14 17 58.3 -1.4**
baz=35
LIC *e*R
comp=Z,167nm,22.5s
LIC Lamto 45.16 240 *eP* **P 14 17 58.3 -1.4**
GUN Gumba 45.18 84 *eP* **P 14 18 00.4 +0.2**
JIRN Jiri 45.53 84 *eP* **P 14 18 03.6 +0.6**
comp=Z,32nm,0.9s
HVS Khovu-Aksy 45.95 50↓ *eP* **P 14 18 06.4 +0.7**
HVS pmax pmax
comp=Z,50nm,1.2s
RAMN Ramite 46.14 84 *eP* **P 14 18 09.4 +1.7**
comp=Z,17nm,0.8s
ODAN Odare 46.82 84 *eP* **P 14 18 13.9 +0.8**
comp=Z,24nm,1.1s
TAPN Taplejung 46.89 83 *eP* **P 14 18 14.6 +0.9**
comp=Z,52nm,1.1s
LSZ Lusaka 49.97 186 *eP* **P 14 18 37.6 +0.4**
comp=Z,4.8nm,0.6s
LSZ Lusaka 49.97 186 P **P 14 18 38.0 +0.8**
comp=Z,7.4nm,0.7s,baz=17,slow=8.5,SNR=16
TLY Talaya 52.07 48 *eP* P 14 18 57.7 +5.2
TLY pmax pmax
comp=Z,8.0nm,1.1s
TLY MLR MLR
comp=Z,94nm,15.0s
ZAK Zakamensk 52.08 50 *eP* **P 14 18 52.5 -0.2**
ZAK pmax pmax
comp=Z,3.0nm,1.3s
GTA Gaotai 52.35 64 *eP* **P 14 18 55.6 +0.7**
GTA pmax pmax
comp=Z,4.0nm,0.8s
SONM Songino Array 54.64 52 P **P 14 19 11.5 -0.1**
SONM Songino Array 54.64 52 P **P 14 19 11.5 -0.1**
comp=Z,2.0nm,0.6s,baz=289,slow=6.9,SNR=11
SONM LR LR 14 45 41.6
comp=Z,582nm,18.6s,baz=290,slow=40
OPO Ambohidratompo 54.70 164 P **P 14 19 13.3 +1.1**
OPO Ambohidratompo 54.70 164 P **P 14 19 13.3 +1.1**
comp=Z,2.7nm,0.7s,baz=352,slow=7.4,SNR=4.3
ULN Ulaanbaatar 55.06 52 P **P 14 19 16.2 +1.5**
comp=Z,6.0nm,1.9s,comp=Z,763nm
LBTB Lobatse 59.87 188 P **P 14 19 50.1 +1.5**
LBTB Lobatse 59.87 188 P **P 14 19 50.1 +1.5**
comp=Z,2.6nm,0.5s,baz=14,slow=8.3,SNR=2.4
CMAR Chiang Mai Arr 60.11 87 P **P 14 19 50.2 -0.3**
CMAR Chiang Mai Arr 60.11 87 P **P 14 19 50.2 -0.3**
comp=Z,2.5nm,0.6s,baz=295,slow=8.6
BOSA Boshof 63.46 188 P **P 14 20 13.2 +0.4**
BOSA Boshof 63.46 188 P **P 14 20 13.2 +0.4**
comp=Z,10.0nm,0.8s,baz=4.7,slow=7.7,SNR=10
BOSA LR LR 14 50 43.2
comp=Z,127nm,19.2s,baz=166,slow=39
RES Resolute Bay 65.64 347 LR LR 14 49 13.9
comp=Z,92nm,20.2s,baz=309,slow=36
SCHQ Schefferville 67.62 322 P **P 14 20 39.2 -0.2**
SCHQ Schefferville 67.62 322 P **P 14 20 39.2 -0.2**
comp=Z,4.0nm,0.8s,baz=41,slow=9.3,SNR=3.7
SUR Sutherland 67.77 191 P **P 14 20 42.2 +1.5**
SUR Sutherland 67.77 191 P **P 14 20 42.2 +1.5**
comp=Z,11nm,0.8s,baz=41,slow=7.7,SNR=6.4
PSI Prapat 68.64 102 P **P 14 20 45.6 -0.9**
PSI Prapat 68.64 102 P **P 14 20 45.6 -0.9**
comp=Z,2.1nm,0.3s,baz=288,slow=6.4,SNR=3.8
SEY Seymchan 71.32 25↑ *eP* **P 14 21 02.7 +0.6**
USRK Ussuriysk Arra 72.38 48 P **P 14 21 09.7 +0.9**
comp=Z,1.5nm,0.7s,baz=342,slow=4.8,SNR=4.1
KSAR Wonju Array Be 73.22 56 P **P 14 21 13.1 -0.8**
KSRS Korea Array 73.24 56 P **P 14 21 13.1 -0.9**
comp=Z,1.2nm,0.8s,baz=304,slow=6.2,SNR=5.4
YKA Yellowknife Ar 79.66 345 P **P 14 21 48.9 -1.0**
YKA Yellowknife Ar 79.66 345 P **P 14 21 48.9 -1.0**
comp=Z,0.9nm,0.5s,baz=22,slow=5.2,SNR=3.0
MJAR Matsushiro Arr 80.59 52 P **P 14 21 54.9 -0.6**
MJAR Matsushiro Arr 80.59 52 P **P 14 21 54.9 -0.6**
comp=Z,1.5nm,0.7s,baz=305,slow=2.9,SNR=5.1
EGAK Eagle 80.69 358 *eP* **P 14 21 55.1 -0.4**
comp=Z,8.0nm,1.0s
ILAR Eielson Array 80.80 360 P **P 14 21 56.6 +0.5**
ILAR Eielson Array 80.80 360 P **P 14 21 56.6 +0.5**
comp=Z,1.4nm,1.1s,baz=317,slow=2.9,SNR=6.4
PDAR Pinedale Array 95.63 333 P **P 14 23 09.8 +1.1**
PDAR Pinedale Array 95.63 333 P **P 14 23 09.8 +1.1**
comp=Z,0.3nm,0.5s,baz=78,slow=5.6,SNR=2.3

IDC 16 14:10:56.5±0.7, 46°.81S×33°.67E, h0km, mb4.0/11, mb1 4.2/12, mb1mx4.1/22, mbtmp4.0/12, ML3.9/1, MS3.5/6, Ms1 3.5/6, ms1mx3.2/37, 1C, Error ellipse: s-maj=30.2km s-min=16.1km az=68.0, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**17.45**	**321**	LR	LR	14 20 31.4	
	comp=Z,211nm,19.2s,baz=228,slow=33						
BOSA	**Boshof**	**19.32**	**337**	P	P	14 15 23.7	+0.4
	0.2nm,0.3s,baz=166,slow=10,SNR=5.1						
BOSA				LR	LR	14 21 35.3	
	comp=Z,127nm,18.1s,baz=181,slow=33						
SYO	**Syowa Base**	**22.46**	**174**↓	*eP*	P	14 15 55.2	-1.6
LBTB	**Lobatse**	**22.68**	**341**	P	P	14 15 59.7	+0.1
	9.8nm,0.9s,baz=156,slow=9.1,SNR=11						
LBTB				LR	LR	14 24 07.4	
	comp=Z,92nm,18.1s,baz=357,slow=35						
MAW	**Mawson**	**25.70**	**154**	P	P	14 16 29.9	+2.0
	3.7nm,1.0s,baz=311,slow=11,SNR=8.0						
MAW				LR	LR	14 23 21.2	
	comp=Z,131nm,19.9s,baz=124,slow=29						
SNAA	**Sanae**	**30.22**	**202**	P	P	14 17 09.2	+0.8
	0.5nm,0.9s,baz=101,slow=5.2,SNR=3.5						
SNAA				LR	LR	14 25 49.0	
	comp=Z,36nm,19.8s,baz=188,slow=30						
QSPA	**South Pole Qui**	**43.41**	**180**	P	P	14 18 58.8	-1.8
	2.9nm,1.0s,baz=253,slow=5.3,SNR=5.3						
VNDA	**Vanda**	**51.90**	**167**	P	P	14 20 06.5	+0.3
	2.1nm,0.9s,baz=244,slow=8.0,SNR=9.8						
TORD	**Torodi Ar. Bea**	**66.21**	**326**	P	P	14 21 46.6	+0.6
	1.6nm,0.8s,baz=162,slow=5.6,SNR=6.1						
CPUP	**Villa Florida**	**71.95**	**251**	P	P	14 22 21.0	-0.8
	0.8nm,0.4s,baz=120,slow=7.0,SNR=3.7						
STKA	**Stephens Creek**	**78.34**	**124**	P	P	14 22 58.5	-0.2
	4.2nm,0.7s,baz=247,slow=2.3,SNR=6.7						
ASAR	**Alice Springs**	**79.74**	**114**	P	P	14 23 06.0	-0.4
	1.3nm,0.8s,baz=222,slow=5.9,SNR=12						
WRA	**Warramunga Arr**	**82.72**	**111**	P	P	14 23 21.8	-0.5
	0.8nm,0.9s,baz=205,slow=6.3,SNR=8.4						
KAPI	**Kappang**	**83.69**	**91**	LR	LR	14 53 32.7	
	comp=Z,71nm,18.9s,baz=240,slow=30						
BRTR	**Keskin Array B**	**86.15**	**360**	P	P	14 23 39.1	0.0
	0.6nm,0.7s,baz=186,slow=2.9,SNR=3.3						

IDC 16 14:11:44.7±10.0, 1°.39S×99°.48E, h0km, mb3.5/3, mb1 3.6/3, mb1mx3.3/23, mbtmp3.5/3, Error ellipse: s-maj=549.9km s-min=28.8km az=53.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.75**	**121**	P	P	14 19 10.7	-0.5
	0.4nm,0.7s,baz=300,slow=9.0,SNR=5.3						
ASAR	**Alice Springs**	**40.03**	**126**	P	P	14 19 22.2	+0.3
	0.3nm,0.7s,baz=295,slow=8.9,SNR=4.1						
MKAR	**Makanchi Array**	**50.31**	**345**	P	P	14 20 43.0	-0.1
	0.4nm,0.4s,baz=157,slow=8.3,SNR=6.7						

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*ISCJB **16** 14:16:08.3±0.4, 15°.41S±0°.08×173°.42W±0°.10, h10km, mb4.7/30, MS4.2/13, Error ellipse: s-maj=14.6km s-min=10.1km az=26.9*
*BJI **16** 14:16:08.2, 15°.51S×173°.61W, h10km, mB5.2/14, mb5.0/20, Ms5.2/10, Ms7 4.8/10*
*IDC **16** 14:16:08.6±0.5, 15°.45S×173°.31W, h0km, mb4.5/15, mb1 4.7/15, mb1mx4.5/23, mbtmp4.6/15, MS4.1/12, Ms1 4.1/12, ms1mx3.8/28, Error ellipse: s-maj=23.4km s-min=14.0km az=111.0*
*NEIC **16** 14:16:09.2±0.4, 15°.45S×173°.11W, h10km, mb4.7/10, Error ellipse: s-maj=15.8km s-min=10.9km az=130.0*

ISC 16 14:16:10.1±0.9, 15°.28S±0°.07×172°.98W±0°.07, h19km±3km, n95, σ1°76/118, mb4.8/30, MS4.2/13, 3C, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.79**	**41**	*eP*n	**Pn**	**14 16 39.2**	**-0.9**
AFI				Sn	**Sn**	**14 16 58.3**	**-4.1**
AFI	**Afiamalu**	**1.79**	**41**	Pn	**Pn**	**14 16 39.6**	**-0.5**
	100nm,0.3s,baz=36,slow=15,SNR=111						
AFI				Sn	**Sn**	**14 16 58.3**	**-4.1**
	450nm,0.3s,baz=62,slow=22,SNR=21						
AFI				LR	LR	14 17 37.0	
	comp=Z,2μm,19.4s,baz=9.7,slow=42						
MSVF	**Nonsavu**	**8.94**	**253**	*eP*	Pn	14 18 25.1	+6.8
	112nm,1.0s						
RAR	**Rarotonga**	**13.86**	**117**	Pn	**Pn**	**14 19 23.4**	**-2.2**
RAR	**Rarotonga**	**13.86**	**117**	Pn	**Pn**	**14 19 23.4**	**-2.2**
	15nm,0.3s,baz=47,slow=0.0,SNR=3.9						
RAR				LR	LR	14 23 18.5	
	comp=Z,727nm,21.5s,baz=135,slow=31						
RAO	**Raoul Island**	**14.63**	**197**	LR	LR	14 24 27.6	
	comp=Z,546nm,19.1s,baz=48,slow=35						
DZM	**Mont Dzumac**	**20.61**	**248**	P	**P**	**14 20 45.4**	**-3.0**
DZM	**Mont Dzumac**	**20.61**	**248**	P	**P**	**14 20 45.4**	**-3.0**
	8.2nm,0.8s,baz=62,slow=18,SNR=10						

PPT	Papeete	22.56	99	LR	LR	14 27 57.8
	comp=Z,398nm,18.7s,baz=78,slow=31					
URZ	Urewera	24.50	199	*e*P	P	14 21 25.6 -2.6
	17nm,0.7s					
URZ	Urewera	24.50	199	P	P	14 21 25.7 -2.5
	6.5nm,0.3s,baz=1.3,slow=5.4,SNR=18					
HNR	Honiara	27.06	279	LR	LR	14 31 08.4
	comp=Z,409nm,18.8s,baz=106,slow=34					
RPZ	Rata Peaks	31.44	202	P	P	14 22 30.7 +0.4
RPZ	Rata Peaks	31.44	202	P	P	14 22 30.7 +0.4
	6.2nm,0.6s,baz=39,slow=6.5,SNR=4.8					
PMG	Port Moresby	39.33	274	LR	LR	14 38 06.7
	comp=Z,154nm,19.2s,baz=243,slow=34					
STKA	Stephens Creek	44.44	240	*e*P	P	14 24 17.8 -2.3
	2.5nm,0.9s					
STKA	Stephens Creek	44.44	240	P	P	14 24 18.1 -2.0
	12nm,0.6s,baz=94,slow=10,SNR=35					
STKA			LR	LR		14 40 18.0
	comp=Z,185nm,21.3s,baz=31,slow=33					
WRAB	Tennant Creek	50.25	257	*e*P	P	14 25 02.4 -3.0
	10nm,0.9s					
WRA	Warramunga Arr	50.26	257	P	P	14 25 03.1 -2.5
WRA			PcP	PcP	PcP	14 26 24.7 +0.2
WRA	Warramunga Arr	50.26	257	P	P	14 25 03.1 -2.5
	7.5nm,0.7s,baz=91,slow=8.4,SNR=133					
WRA			PcP	PcP	PcP	14 26 24.7 +0.2
	4.7nm,0.8s,baz=87,slow=3.7,SNR=7.1					
WRA			LR	LR		14 44 47.9
	comp=Z,258nm,20.2s,baz=70,slow=34					
ASAR	Alice Springs	50.53	252	P	P	14 25 05.2 -2.4
ASAR			PcP	PcP	PcP	14 26 25.7 +0.3
ASAR	Alice Springs	50.53	252	P	P	14 25 05.2 -2.4
	28nm,0.6s,baz=87,slow=8.2,SNR=330					
ASAR			PcP	PcP	PcP	14 26 25.7 +0.3
	2.3nm,0.8s,baz=94,slow=4.9,SNR=4.6					
ASAR			LR	LR		14 44 55.9
	comp=Z,477nm,21.0s,baz=110,slow=34					
FITZ	Fitzroy Crossi	58.63	258	LR	LR	14 49 11.6
	comp=Z,297nm,21.5s,baz=197,slow=34					
SBA	Scott Base	63.40	185	*e*P	P	14 26 39.4 +1.6
	6.1nm,0.9s					
VNDA	Vanda	63.53	186	*e*P	P	14 26 40.0 +1.3
	4.2nm,0.9s					
VNDA	Vanda	63.53	186	P	P	14 26 40.1 +1.4
	3.5nm,0.8s,baz=51,slow=4.7,SNR=21					
MJAR	Matsushiro Arr	69.11	320	LR	LR	14 51 51.3
	comp=Z,141nm,20.4s,baz=165,slow=31					
ASAJ	Asahikawa	71.65	328	P	P	14 27 33.5 +3.1
ASAJ	Asahikawa	71.65	328	P	P	14 27 33.5 +3.1
	7.7nm,0.8s,baz=190,slow=6.1,SNR=6.6					
PETK	Petropavlovsk-	72.64	342	P	P	14 27 38.1 +1.9
PETK	Petropavlovsk-	72.64	342	P	P	14 27 38.1 +1.9
	5.4nm,0.8s,baz=141,slow=9.6,SNR=18					
QSPA	South Pole Qui	74.76	180	P	P	14 27 49.7 +1.0
QSPA	South Pole Qui	74.76	180	P	P	14 27 49.7 +1.0
	13nm,1.0s,baz=34,slow=3.0,SNR=39					
USRK	Ussuriysk Arra	77.53	323	P	P	14 28 07.5 +3.0
	3.8nm,1.1s,baz=140,slow=6.5,SNR=7.8					
MDJ	Mudanjiang	79.18	322	P	P	14 28 14.3 +0.6
MDJ			pP	pP	pP	14 28 17.6 -2.5
MDJ			sP	sP	sP	14 28 18.9 -3.5
MDJ			PP	PP	PP	14 31 10.4 -3.1
MDJ			S	S	S	14 38 14.8 +2.3
MDJ			sS	SKSac	SKSac	14 38 20.8 -7.9
MDJ			SS	SS	SS	14 43 18.1 -1.3
MDJ			pmax	pmax		
	comp=Z,3.0nm,0.4s					
MDJ			pmax	pmax		
	comp=Z,51nm,4.1s					
MDJ			LR	LR		
	comp=N,73nm,22.3s					
MDJ			LR	LR		
	comp=E,91nm,21.9s					
MDJ			LR	LR		
	comp=Z,130nm,22.7s					
TXAR	Lajitas Array	80.21	56	P	P	14 28 22.8 +3.0
TXAR	Lajitas Array	80.21	56	P	P	14 28 22.8 +3.0
	comp=Z,0.6nm,0.7s,baz=226,slow=5.0,SNR=6.2					
NJ2	Nanjing	80.42	307	*e*P	P	14 28 21.3 +0.7
NJ2			pmax	pmax		
	comp=Z,30nm,0.6s					
CN2	Changchun	81.25	320	*e*P	P	14 28 26.5 +1.6
CN2			*e*S	S	S	14 38 35.1 +0.7
CN2			pmax	pmax		
	comp=Z,10.0nm,0.6s					
CN2			pmax	pmax		
	comp=Z,200nm,3.0s					
CN2			LR	LR		
	comp=N,300nm,15.0s					
CN2			LR	LR		
	comp=E,300nm,15.0s					
CN2			LR	LR		
	comp=Z,300nm,16.0s					
BSMT	Bassoo Peak	81.43	35	*e*P	P	14 28 27.9 +1.9
	comp=Z,4.7nm,1.0s					
QLMT	Earthquake Lak	81.77	39	*e*P	P	14 28 31.1 +3.2
	comp=Z,0.6nm,0.1s					
CHMT	Chamberlain Mo	81.79	37	*e*P	P	14 28 29.7 +1.8
	comp=Z,2.9nm,1.0s					
PDAR	Pinedale Array	81.91	42	P	P	14 28 30.9 +2.3
PDAR	Pinedale Array	81.91	42	P	P	14 28 30.9 +2.3
	comp=Z,1.1nm,0.8s,baz=188,slow=4.1,SNR=8.5					
ILAR	Eielson Array	82.25	11	P	P	14 28 31.2 +1.6
ILAR	Eielson Array	82.25	11	P	P	14 28 31.2 +1.6
	comp=Z,1.1nm,0.8s,baz=216,slow=5.6,SNR=6.2					
HRY	Holter Researc	82.51	37	*e*P	P	14 28 34.1 +2.5
	comp=Z,9.5nm,0.7s					
QIZ	Qiongzhong	83.23	292	P	P	14 28 33.8 -2.0
QIZ			S	S	S	14 38 55.1 -0.6
QIZ			pmax	pmax		
	comp=Z,24nm,2.1s					
BJI	Beijing	85.68	313	P	P	14 28 47.5 -0.2
BJI			PP	PP	PP	14 32 07.6 +0.5
BJI			S	S	S	14 39 18.5 -0.8
BJI			SS	SS	SS	14 44 55.5 -0.8
BJI			pmax	pmax		
	comp=Z,9.0nm,0.9s					
BJI			LR	LR		
	comp=N,93nm,9.9s					
BJI			LR	LR		
	comp=E,130nm,9.9s					
BJI			LR	LR		
	comp=Z,63nm,18.2s					
MAW	Mawson	88.03	199	P	P	14 28 59.5 +0.8
MAW	Mawson	88.03	199	P	P	14 28 59.5 +0.8
	comp=Z,6.2nm,1.0s,baz=136,slow=7.8,SNR=10					
GYA	Guiyang	88.34	298	*e*P	P	14 29 01.0 -0.2
GYA			PP	PP	PP	14 32 30.8 +1.7
GYA			SKS	SKSac	SKSac	14 39 27.3 -2.3
GYA			S	S	S	14 39 44.5 -1.4
GYA			pmax	pmax		
	comp=Z,10.0nm,1.0s					
GYA			pmax	pmax		
	comp=Z,80nm,5.2s					
HHC	Hu-ho-hao-te	89.24	313	*e*P	P	14 29 03.0 -2.0
HHC			pP	PcP	PcP	14 29 07.8 +1.3
HHC			PP	PP	PP	14 32 35.3 -0.6
HHC			SKS	SKSac	SKSac	14 39 29.9 -4.4
HHC			S	SKKSac	SKKSac	14 39 48.8 +2.5
HHC			SS	SS	SS	14 45 48.5 -0.1
HHC			pmax	pmax		
	comp=Z,25nm,0.3s					
HHC			pmax	pmax		
	comp=Z,130nm,6.8s					
HHC			LR	LR		
	comp=N,220nm,15.5s					
HHC			LR	LR		
	comp=E,170nm,15.5s					
HHC			LR	LR		
	comp=Z,150nm,18.4s					
KMI	Kunming	91.34	296	P	P	14 29 15.0 -0.3
KMI			pmax	pmax		
	comp=Z,8.0nm,1.1s					
CD2	Chengdu	92.09	301	P	P	14 29 19.3 +0.8
CD2			pP	pP	pP	14 29 24.0 -1.0
CD2			sP	sP	sP	14 29 26.3 -1.0
CD2			PP	PP	PP	14 33 01.3 +2.6
CD2			SKS	SKSac	SKSac	14 39 50.5 -0.5
CD2			S	S	S	14 40 18.4 -1.8
CD2			sS	ScS	ScS	14 40 25.8 +3.2
CD2			SS	SS	SS	14 46 30.3 +0.2
CD2			pmax	pmax		
	comp=Z,10.0nm,0.5s					
CD2			pmax	pmax		
	comp=Z,170nm,7.7s					
CD2			LR	LR		
	comp=N,180nm,5.9s					
CD2			LR	LR		
	comp=Z,190nm,7.1s					
SNAA	Sanae	93.00	177	*e*P	P	14 29 22.5 +0.5
SNAA	Sanae	93.00	177	*e*P	P	14 29 21.7 -0.3
	comp=Z,4.9nm,1.1s					
SONM	Songino Array	95.03	318	LR	LR	15 07 08.1
	comp=Z,55nm,20.7s,baz=198,slow=32					
MKAR	Makanchi Array	111.03	315	PKiKP	PKiKP	14 34 42.7 +0.4
MKAR	Makanchi Array	111.03	315	PKiKP	PKiKP	14 34 42.7 +0.4
	comp=Z,0.6nm,0.7s,baz=107,slow=2.1,SNR=5.4					
KURK	Kurchatov	113.32	319	PKiKP	PKiKP	14 34 47.1 +0.6
KURBB	Kurchatov Arra	113.38	319	PKiKP	PKiKP	14 34 47.1 +0.5
	comp=Z,0.7nm,0.7s,baz=91,slow=2.0,SNR=7.9					
KSH	Kashi	115.72	307	*e*PKP	PKPdf	14 34 52.3 +0.7
KSH			PP	PP	PP	14 35 57.4 +2.6
KSH			PKS	PKSdf	PKSdf	14 38 27.8 -0.6
KSH			SKS	SKSdf	SKSdf	14 42 03.4 +0.4
KSH			SKKS	SKKSac	SKKSac	14 42 50.5 -4.7
KSH			SS	SS	SS	14 51 51.6 -3.1
KSH			LR	LR		
	comp=N,140nm,6.1s					
KSH			LR	LR		
	comp=E,86nm,4.9s					
KSH			LR	LR		
	comp=Z,180nm,7.5s					
BVAR	Borovoye Array	118.03	322	PKP	PKPdf	14 34 56.5 +1.0
BVAR	Borovoye Array	118.03	322	PKP	PKPdf	14 34 56.5 +1.0
	comp=Z,1.1nm,0.5s,baz=102,slow=3.5,SNR=7.7					
ARCES	ARCESS Array B	124.55	352	PKP	PKPdf	14 35 08.6 +1.0
ARCES	ARCESS Array B	124.55	352	PKP	PKPdf	14 35 08.6 +1.0
	comp=Z,1.9nm,0.7s,baz=20,slow=2.9,SNR=6.7					
AKASG	Malin Array Be	140.38	338	PKP	PKPdf	14 35 39.1 +1.3
AKASG	Malin Array Be	140.38	338	PKP	PKPdf	14 35 39.1 +1.3
	comp=Z,0.4nm,0.4s,baz=36,slow=1.1,SNR=4.8					
STHS	Stebnicka Huta	144.03	344	*e*PKP	PKPdf	14 35 44.1 -0.3
KOLS	Kolonicke sedl	144.18	343	*e*PKP	PKPdf	14 35 45.7 +1.0
BUR08	Bucovina Ar. S	144.39	339	*e*PKP	PKPdf	14 35 44.9 -0.3
CRVS	Cervenica-Dubn	144.44	344	*e*PKP	PKPdf	14 35 45.2 +0.1
KECS	Kecovo	145.08	344	*e*PKP	PKPdf	14 35 47.3 +1.1
VRAC	Vranov	145.17	349	PKPbc	PKPdf	14 35 47.4 +1.0
VRAC	Vranov	145.17	349	PKPbc	PKPdf	14 35 47.4 +1.0
	comp=Z,1.5nm,0.3s,baz=30,slow=9.9,SNR=6.7					
VYHS	Vyhne	145.48	346	*e*PKP	PKPab	14 35 48.8 +1.6
TIRR	Tirgusor	145.72	332	*e*PKP	PKPab	14 35 49.0 +0.9
KHC	Kasperske Hory	145.82	352	*e*PKP	PKPab	14 35 49.5 +1.1
KHC	Kasperske Hory	145.82	352	*e*PKP	PKPab	14 35 49.5 +1.1
MLR	Muntele Rosu	145.93	336	PKPbc	PKPab	14 35 50.9 +1.9
MLR	Muntele Rosu	145.93	336	PKPbc	PKPab	14 35 50.9 +1.9
	comp=Z,2.3nm,0.7s,baz=11,slow=4.1,SNR=14					
KMBO	Kilima Mbogo	145.95	244	*e*PKP	PKPab	14 35 50.5 +0.2
KMBO			PKPbc	PKPab	PKPab	14 35 50.8 +0.5
KMBO	Kilima Mbogo	145.95	244	PKPbc	PKPab	14 35 50.8 +0.5
	comp=Z,7.0nm,0.8s,baz=83,slow=4.0,SNR=12					
GERES	GERESS Array B	146.08	352	PKPbc	PKPab	14 35 50.4 +0.9
GERES	GERESS Array B	146.08	352	PKPbc	PKPab	14 35 50.4 +0.9
	comp=Z,1.4nm,0.6s,baz=26,slow=3.4,SNR=13					
BRTR	Keskin Array B	146.32	321	PKPbc	PKPab	14 35 51.5 +0.7
BRTR	Keskin Array B	146.32	321	PKPbc	PKPab	14 35 51.5 +0.7
	comp=Z,8.3nm,0.8s,baz=56,slow=1.2,SNR=35					
CONA	Conrad Observa	146.63	349	⇑*i*PKPbc	PKPbc	14 35 50.6 0.0
	comp=Z,7.8nm,0.9s					
MOA	Molln	146.98	351	⇑*i*PKPab	PKPab	14 35 53.1 +0.2
ARSA	Arzberg	147.35	349	⇑*i*PKPab	PKPab	14 35 54.7 +0.3
	comp=Z,4.5nm,0.8s					
DAVOX	Davos/Dischmat	148.50	356	PKPbc	PKPab	14 35 57.8 -1.4
DAVOX	Davos/Dischmat	148.50	356	PKPbc	PKPab	14 35 57.8 -1.4
	comp=Z,6.1nm,0.8s,baz=359,slow=8.0,SNR=5.7					
MMAI	Mount Meron Ar	148.80	310	PKPbc	PKPbc	14 35 57.8 +0.9
MMAI	Mount Meron Ar	148.80	310	PKPbc	PKPbc	14 35 57.8 +0.9
	comp=Z,1.1nm,0.5s,baz=71,slow=5.6,SNR=3.7					

*JMA **16** 14:25:47.8±0.3,33°.82N×137°.25E,h369km±3km, M3.1*
*ISCJB **16** 14:25:48.9±0.4,33°.83N±0°.05×137°.19E±0°.06,*
h359km±2km, mb3.5/12, Error ellipse: s-maj=9.8km
s-min=6.6km az=141.5
*IDC **16** 14:25:48.7±0.9,33°.71N×137°.24E,h344km±9km, mb3.3/12,*
mb1 3.4/17, mb1mx3.3/32, mbtmp3.3/17, Error ellipse:
s-maj=13.1km s-min=11.4km az=97.0

ISC 16 14:25:49.9±0.7,33.85N±0°.07×137.22E±0°.06,h355km±5km,
n39,σ1§26/54,mb3.5/12,Near south coast of eastern
Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO2	TONANKAI O.B.S	0.20	234	P	Pn	14 26 34.0	+0.1
TTO2				S	S	14 27 11.2	+2.0
TTO4	TONANKAI O.B.S	0.30	60	P	Pn	14 26 34.1	+0.2
TK01	Tokai 1	0.32	106	S	S	14 27 09.7	+0.4
TTO1	TONANKAI O.B.S	0.43	238	P	Pn	14 26 34.0	-0.2
TTO1				*e*S	S	14 27 11.5	+1.8
TK02	Tokai 2	0.46	78	P	Pn	14 26 34.5	+0.3
TK02				S	S	14 27 11.4	+1.5
TTO5	TONANKAI O.B.S	0.57	46	P	Pn	14 26 34.9	+0.4
JIE	Ise	0.69	322	P	Pn	14 26 34.9	-0.1
JIE				S	S	14 27 10.4	-0.9
TK03	Tokai 3	0.69	63	S	S	14 27 13.0	+2.0
JWZ	Kozaga	1.30	256	P	Pn	14 26 36.4	-1.1
JWZ				S	S	14 27 13.4	-2.2
JWY	Kouya	1.40	286	P	Pn	14 26 37.8	-0.2
JWY				S	S	14 27 15.0	-1.7
JGM	Miyama	1.89	347	P	Pn	14 26 41.0	+0.2
JGM				S	S	14 27 21.4	-0.4
JYN	Shimob	1.97	33	P	Pn	14 26 41.0	-0.4
JYN				S	S	14 27 22.6	-0.2
JWT	Wachi	2.07	314	S	S	14 27 22.3	-1.7
JOD2	Odawara 2	2.09	47	P	Pn	14 26 41.7	-0.5
JOD2				S	S	14 27 24.0	-0.2
JHJ2	Mitsune	2.29	108	P	Pn	14 26 42.9	-0.8
JAI	Aioi	2.31	269	P	Pn	14 26 43.1	-0.7
JAI				S	S	14 27 25.4	-1.8
JKG	Kaga	2.53	343	P	Pn	14 26 45.4	0.0
JRY	Ryogami san	2.56	32	P	Pn	14 26 45.7	-0.1
JRY				S	S	14 27 30.8	0.0
MAT	Matsushiro	2.80	16	P	Pn	14 26 47.3	-0.5
MAT				S	S	14 27 33.3	-1.1
MJAR	Matsushiro Arr	2.80	16	P	Pn	14 26 47.4	-0.4
	7.7nm,0.3s,baz=188,slow=9.9,SNR=130						
MJAR				S	S	14 27 33.5	-1.0
	baz=191,slow=12,SNR=3.4						
BSO1	Boso 1	3.21	75	P	Pn	14 26 48.4	-2.4
BSO1				S	S	14 27 36.8	-3.2
JHS	Saijyo	3.58	290	P	Pn	14 26 54.9	-0.1
JTO	Tosashimizu	3.83	256	P	Pn	14 26 56.6	-0.8
JNU	Nakatsue	5.35	264	P	Pn	14 27 13.2	-0.4
	1.7nm,0.3s,baz=80,slow=8.5,SNR=16						
KSRS	Korea Array	8.38	298	P	Pn	14 27 49.2	+0.8
	1.7nm,0.3s,baz=113,slow=12,SNR=62						
ASAJ	Asahikawa	11.06	21	P	P	14 28 21.1	+0.4
	1.2nm,0.3s,baz=226,slow=11,SNR=16						
ASAJ				S	S	14 30 20.0	-4.0
	0.3nm,0.3s,baz=53,slow=20,SNR=4.3						
USRK	Ussuriysk Arra	11.10	340	P	P	14 28 21.5	+0.4
	0.4nm,0.3s,baz=154,slow=9.8,SNR=8.5						
PETK	Petropavlovsk-	24.16	31	P	P	14 30 36.2	+1.2
	1.4nm,0.7s,baz=218,slow=6.8,SNR=8.5						
SONM	Songino Array	26.97	310	P	P	14 31 01.5	+1.2
	1.8nm,0.6s,baz=120,slow=10,SNR=11						
ZALV	Zalesovo Beam	41.64	315	P	P	14 33 04.9	+0.4
	0.4nm,0.4s,baz=95,slow=7.8,SNR=2.6						
MKAR	Makanchi Array	43.00	304	P	P	14 33 15.5	0.0
	0.6nm,0.3s,baz=85,slow=9.4,SNR=18						
KURBB	Kurchatov Arra	45.34	310	P	P	14 33 33.5	-0.3
	1.2nm,0.5s,baz=90,slow=7.1,SNR=24						
BVAR	Borovoye Array	50.23	314	P	P	14 34 11.6	+0.7
	0.3nm,0.3s,baz=90,slow=12,SNR=3.0						
KDAK	Kodiak Island	51.74	40	P	P	14 34 22.4	+0.6
	7.8nm,0.4s,baz=270,slow=1.0,SNR=2.1						
WRA	Warramunga Arr	53.57	183	P	P	14 34 33.8	-1.8
	2.7nm,0.4s,baz=360,slow=7.6,SNR=82						
ASAR	Alice Springs	57.29	184	P	P	14 35 00.5	-1.3
	1.0nm,0.5s,baz=356,slow=4.7,SNR=24						
FINES	FINESS Array B	70.00	332	P	P	14 36 23.5	0.0
	1.8nm,0.9s,baz=42,slow=6.4,SNR=3.1						
NVAR	Mina Array Bea	79.64	51	P	P	14 37 20.4	+1.3
	0.5nm,0.6s,baz=294,slow=4.4,SNR=5.7						
PDAR	Pinedale Array	82.33	43	P	P	14 37 33.7	+0.7
	0.5nm,0.6s,baz=298,slow=3.2,SNR=3.9						

*IDC **16** 14:34:03.9±6.1,36°.33N×70°.46E,h179km±56km, mb3.2/4,*
mb1 3.2/9, mb1mx3.0/32, mbtmp3.2/9, Error ellipse:
s-maj=45.4km s-min=27.7km az=20.0
*ISCJB **16** 14:34:06.0±0.6,36°.55N±0°.04×70°.37E±0°.09,h204km,*
mb3.3/3, Error ellipse: s-maj=9.7km s-min=5.4km
az=175.0
*NNC **16** 14:34:11.4±5.2,36°.93N×70°.36E,h202km±46km, mb3.0,*
mpv4.0, Error ellipse: s-maj=44.8km s-min=26.1km
az=19.0

ISC 16 14:34:06.3±0.8,36°.51N±0°.06×70°.53E±0°.09,h204km,n29,
σ1§48/33,mb3.3/3,7C-6D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	Cherat	2.91	157	⇑P	Pn	14 34 56.9	+1.6
CEP				S	S	14 35 34.0	+1.1
THW	Thamme Wali	3.84	165	⇑P	Pn	14 35 07.4	+1.1
KSH	Kashi	5.24	53	Pn	Pn	14 35 21.3	-2.6
KSH				Sn	S	14 36 16.9	-8.0
KSH				smax	smax		
	comp=N,47nm,0.4s						
KSH				smax	smax		
	comp=E,32nm,0.4s						
DLH	Dalhousie	5.98	130	*e*P	S	14 36 40.0	-2.4
AML	Almayashu	6.13	23	P	Pn	14 35 36.5	+1.0
	SNR=40						
KK31	Karatay Array	6.59	360	P	Pn	14 35 41.1	+0.1
	comp=E,2.6nm,0.3s,baz=195,slow=15,SNR=46						
KK31				⇓S	S	14 36 52.9	-3.3
	comp=E,3.0nm,0.3s,baz=194,slow=16,SNR=10						
EKS2	Erkin-Say	6.63	21	P	Pn	14 35 43.2	+1.4
	SNR=13						
AAK	Ala-Archa	6.84	25	P	Pn	14 35 46.0	+1.5
	SNR=7.4						
AAK	Ala-Archa	6.84	25	P	Pn	14 35 46.0	+1.5
	comp=E,2.9nm,0.3s,baz=182,slow=6.8,SNR=15						
AAK				S	S	14 37 01.6	-0.7
	comp=E,2.1nm,0.3s,baz=313,slow=20,SNR=26						
KBK	Karagaybulak	7.02	28	P	Pn	14 35 48.8	+1.9
	SNR=5.7						
CHMS	Chumysh	7.25	25	P	S	14 37 13.0	+1.1
	SNR=5.2						
USP	Ospenovka	7.41	23	P	Pn	14 35 52.1	+0.4
	SNR=5.2						
TKM2	Tokmak 2	7.50	30	⇑P	Pn	14 35 54.2	+1.1
TKM2				⇓S	S	14 37 16.5	-1.5
	comp=E,10nm,0.5s						
TKM2				⇓S	S	14 37 16.5	-1.5
	comp=E,5.6nm,0.7s						
TKM2	Tokmak 2	7.50	30	P	Pn	14 35 54.9	+1.8
	SNR=23						
MK31	Makanchi Array	13.51	37	⇑P	P	14 37 11.3	-0.9
	comp=E,2.0nm,0.8s,baz=213,slow=9.3,SNR=13						
MKAR	Makanchi Array	13.51	37	P	P	14 37 11.8	-0.4
	comp=E,0.1nm,0.3s,baz=215,slow=12,SNR=9.0						
AB31	Akbulak array	14.89	332	⇓P	Pn	14 37 25.7	-1.2
	comp=E,0.6nm,0.3s,baz=142,slow=11,SNR=24						
AB31				⇓S	S	14 40 04.8	-7.1
	comp=E,1.1nm,0.8s,baz=158,slow=24,SNR=2.7						
KURBB	Kurchatov Arra	15.24	20	⇑P	Pn	14 37 30.3	-0.7
	comp=E,1.3nm,0.6s						
KURBB	Kurchatov Arra	15.24	20	P	P	14 37 31.6	+0.3
	comp=E,0.1nm,0.3s,baz=209,slow=10,SNR=7.2						
VOSK	Vostochnaya	16.21	1	⇓P	Pn	14 37 42.8	0.0
	comp=E,1.2nm,0.7s						
BVA0	Borovoye Array	16.51	360	⇓P	Pn	14 37 48.9	+2.5
	comp=E,4.6nm,1.4s,baz=162,slow=11,SNR=6.7						
BVAR	Borovoye Array	16.51	360	P	Pn	14 37 47.5	+1.2
	comp=E,0.6nm,0.3s,baz=163,slow=11,SNR=6.8						
BRVK	Borovoye	16.55	359	⇑P	Pn	14 37 48.1	+1.4
	comp=E,3.2nm,0.7s						
AKTO	Aktyubinsk	16.59	331	⇑P	Pn	14 37 47.4	+0.1
	comp=E,5.5nm,0.7s						
AKTO	Aktyubinsk	16.59	331	P	Pn	14 37 48.1	+0.9
	comp=E,0.5nm,0.3s,baz=145,slow=11,SNR=17						
ZALV	Zalesovo Beam	20.07	25	P	P	14 38 25.3	+1.5
	comp=E,1.1nm,0.3s,baz=219,slow=12,SNR=9.4						
HFS	Hagfors	42.83	322	P	P	14 41 44.8	+1.0
	comp=E,2.1nm,0.8s,baz=96,slow=13,SNR=3.3						
TORD	Torodi Ar. Bea	65.34	268	P	P	14 44 25.8	-1.2
	comp=E,0.2nm,0.4s,baz=54,slow=5.6,SNR=0.9						
ASAR	Alice Springs	84.57	125	P	P	14 46 17.0	+0.3
	comp=E,0.3nm,0.5s,baz=313,slow=5.1,SNR=5.0						

*IDC **16** 14:35:48.8±0.7,37°.03N×32°.55W,h0km, mb4.3/23,*
mb1 4.4/23, mb1mx4.3/34, mbtmp4.3/23, MS3.9/22,
Ms1 3.9/22, ms1mx3.8/38, Error ellipse: s-maj=21.4km
s-min=13.9km az=175.0
*ISCJB **16** 14:35:49.4±0.4,37°.08N±0°.08×32°.57W±0°.06,h13km,*
mb4.4/39, MS3.8/23, Error ellipse: s-maj=11.6km
s-min=7.3km az=175.6
*NEIC **16** 14:35:50.5±0.2,37°.05N×32°.53W,h10km, mb4.8/16, Error*
ellipse: s-maj=7.9km s-min=5.0km az=176.0
*GCMT **16** 14:35:52.4±0.4,37°.00N×32°.68W,h18km±1km, MW4.8,*
Moment Tensor Solution. s16,c16; s61,c84; Moment
tensor: Scale 10^{16}Nm; M_{rr}=2.19±.20; $M_{\theta\theta}$1.35±.14;
$M_{\phi\phi}$0.84±.12; $M_{r\theta}$-0.43±.30; $M_{\theta\phi}$1.20±.06; $M_{\phi r}$0.40±.26;
Best double couple: $M_0$2.30000×10^{16} NP1:ϕ_s65.00000°,
δ48.00000°,λ-70.00000°. NP2:ϕ_s217.00000°,δ46.00000°,
λ-111.00000°. Principal axes: T 2.3200, Plg1.0000°,
Azm141.0000°; N 0.0200, Plg15.0000°, Azm232.0000°; P
-2.3400, Plg75.0000°, Azm47.0000°; Data Used: IU CN
IC II G.
*CSEM **16** 14:35:53.8±0.1,37°.05N×32°.50W,h33km, mb4.7/17,*
Mw4.8 Error ellipse: s-maj=6.2km s-min=3.9km az=175.0

ISC 16 14:35:51.1±0.5,37.07N±0°.09×32.57W±0°.08,h13km,n127,
σ0§78/123,mb4.6/39,MS3.9/23,Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAB	San Pablo	22.25	75	*e*P	P	14 40 46.7	-1.

TORD	Torodi Ar. Bea	38.77	119	P	P	14 43 14.5 -1.0
DBIC	Dimbokro	39.41	133	LR	LR	14 57 57.9
	comp=Z,299nm,19.0s,baz=283,slow=34					
FINES	FINESS Array B	43.42	37	P	P	14 43 53.5 +0.3
FINES	FINESS Array B	43.42	37	P	P	14 43 53.5 +0.3
	comp=Z,3.3nm,0.7s,baz=256,slow=5.3,SNR=7.2					
FINES				LR	LR	15 00 01.9
	comp=Z,148nm,18.2s,baz=90,slow=33					
FINES	FINESS Array B	43.42	37	P	P	14 43 53.5 +0.3
SDV	Santo Domingo	44.41	241	eP	P	14 44 02.9 +1.0
SDV	Santo Domingo	44.41	241	eP	P	14 44 02.9 +1.0
ARCES	ARCESS Array B	44.72	25	P	P	14 44 01.4 -2.1
ARCES	ARCESS Array B	44.72	25	P	P	14 44 01.4 -2.1
	comp=Z,7.8nm,0.9s,baz=271,slow=6.1,SNR=9.4					
ARCES				LR	LR	14 58 29.5
	comp=Z,73nm,19.7s,baz=263,slow=30					
ARCES	ARCESS Array B	44.72	25	P	P	14 44 01.4 -2.1
KIEV	Kiev	45.27	52	eP	P	14 44 07.4 -0.8
	comp=Z,13nm,1.1s					
KIEV	Kiev	45.27	52	eP	P	14 44 07.4 -0.8
	comp=Z,13nm,1.1s					
AKASG	Malin Array Be	45.28	52	P	P	14 44 07.4 -0.8
AKASG	Malin Array Be	45.28	52	P	P	14 44 07.4 -0.8
	comp=Z,6.8nm,0.7s,baz=275,slow=7.4,SNR=6.3					
AKASG	Malin Array Be	45.28	52	P	P	14 44 07.4 -0.8
IDI	Anoyia	45.80	74	LR	LR	15 02 55.7
	comp=Z,53nm,18.1s,baz=258,slow=36					
BRTR	Keskin Array B	50.88	65	P	P	14 44 51.1 -0.8
BRTR				PcP	PcP	14 46 08.1 -0.3
BRTR	Keskin Array B	50.88	65	P	P	14 44 51.1 -0.8
	comp=Z,0.9nm,0.8s,baz=302,slow=6.3,SNR=4.0					
BRTR				PcP	PcP	14 46 08.1 -0.3
	comp=Z,1.1nm,0.9s,baz=274,slow=3.3,SNR=4.5					
BRTR				LR	LR	15 05 12.5
	comp=Z,41nm,19.5s,baz=93,slow=35					
BRTR	Keskin Array B	50.88	65	P	P	14 44 51.1 -0.8
SAML	Samuel	54.03	218	eP	P	14 45 14.6 -0.6
	comp=Z,1.7nm,1.0s					
SAML	Samuel	54.03	218	eP	P	14 45 14.6 -0.6
	comp=Z,1.7nm,1.0s					
YKA	Yellowknife Ar	54.34	326	P	P	14 45 17.6 +0.7
YKA				PcP	PcP	14 46 19.8 -1.0
YKA	Yellowknife Ar	54.34	326	P	P	14 45 17.6 +0.7
	comp=Z,1.7nm,0.9s,baz=73,slow=7.3,SNR=5.1					
YKA				PcP	PcP	14 46 19.7 -1.0
	comp=Z,1.5nm,0.7s,baz=78,slow=4.3,SNR=4.4					
YKA	Yellowknife Ar	54.34	326	P	P	14 45 17.6 +0.7
BDFB	Brasilia	54.41	198	LR	LR	15 03 23.3
	comp=Z,30nm,18.6s,baz=202,slow=30					
JCT	Junction City	55.24	284	eP	P	14 45 23.8 -0.3
	comp=Z,14nm,1.0s					
JCT	Junction City	55.24	284	eP	P	14 45 23.8 -0.3
	comp=Z,14nm,1.0s					
KBZ	Khabaz	56.02	58	P	P	14 45 30.4 +1.1
KBZ	Khabaz	56.02	58	P	P	14 45 30.4 +1.1
	comp=Z,9.2nm,1.0s,baz=295,slow=4.3,SNR=11					
KBZ	Khabaz	56.02	58	P	P	14 45 30.4 +1.1
ASF	Jabal al Asfar	56.22	73	P	P	14 45 32.9 +1.7
ASF	Jabal al Asfar	56.22	73	P	P	14 45 32.9 +1.7
	comp=Z,2.0nm,0.5s,baz=220,slow=6.7,SNR=3.6					
PDAR	Pinedale Array	57.41	302	P	P	14 45 39.7 +0.1
PDAR	Pinedale Array	57.41	302	P	P	14 45 39.7 +0.1
	comp=Z,1.8nm,0.8s,baz=84,slow=7.8,SNR=14					
PDAR				LR	LR	15 08 40.6
	comp=Z,252nm,21.5s,baz=83,slow=34					
PDAR	Pinedale Array	57.41	302	P	P	14 45 39.7 +0.1
TPAW	Teton Pass	58.08	303	eP	P	14 45 44.6 +0.4
	comp=Z,5.0nm,0.8s					
TPAW	Teton Pass	58.08	303	eP	P	14 45 44.7 +0.4
	comp=Z,5.0nm,0.8s					
RRI2	Red Ridge	58.38	303	eP	P	14 45 46.5 0.0
	comp=Z,8.5nm,1.0s					
RRI2	Red Ridge	58.38	303	eP	P	14 45 46.5 0.0
	comp=Z,8.5nm,1.0s					
TXAR	Lajitas Array	58.75	285	P	P	14 45 49.4 +0.4
TXAR	Lajitas Array	58.75	285	P	P	14 45 49.4 +0.4
	comp=Z,3.9nm,0.8s,baz=81,slow=7.7,SNR=24					
TXAR	Lajitas Array	58.75	285	P	P	14 45 49.4 +0.4
MVCO	Mesa Verde	58.89	295	P	P	14 45 50.6 +0.5
	comp=Z,8.7nm,1.2s					
MVCO	Mesa Verde	58.89	295	P	P	14 45 50.6 +0.5
	comp=Z,8.6nm,1.2s					
HWUT	Hardware Ranch	59.24	301	eP	P	14 45 52.3 0.0
	comp=Z,5.0nm,0.9s					
HWUT	Hardware Ranch	59.24	301	eP	P	14 45 52.3 0.0
	comp=Z,5.0nm,0.9s					
DAU	Daniels Canyon	59.51	300	eP	P	14 45 54.9 +0.5
	comp=Z,9.3nm,0.9s					
DAU	Daniels Canyon	59.51	300	eP	P	14 45 54.9 +0.5
	comp=Z,9.3nm,0.9s					
NEW	Newport	60.18	310	eP	P	14 45 58.6 0.0
	comp=Z,8.1nm,1.0s					
NEW	Newport	60.18	310	eP	P	14 45 58.6 0.0
	comp=Z,8.1nm,1.0s					
DUG	Dugway	60.69	300	eP	P	14 46 02.5 +0.3
	comp=Z,12nm,1.3s					
DUG	Dugway	60.69	300	eP	P	14 46 02.5 +0.3
	comp=Z,12nm,1.3s					
MVU	Marysvale	60.99	298	eP	P	14 46 05.2 +0.7
	comp=Z,4.6nm,0.8s					
MVU	Marysvale	60.99	298	eP	P	14 46 05.2 +0.7
	comp=Z,4.6nm,0.8s					
LPAZ	La Paz	62.77	219	P	P	14 46 16.5 -0.4
LPAZ	La Paz	62.77	219	P	P	14 46 16.5 -0.4
	comp=Z,2.9nm,0.9s,baz=24,slow=7.0,SNR=7.4					
LPAZ				LR	LR	15 09 49.3
	comp=Z,87nm,18.8s,baz=127,slow=32					
LPAZ	La Paz	62.77	219	P	P	14 46 16.5 -0.4
AKTO	Aktyubinsk	62.86	46	P	P	14 46 16.9 +0.3
AKTO	Aktyubinsk	62.86	46	P	P	14 46 16.9 +0.3
	comp=Z,4.9nm,0.7s,baz=290,slow=6.1,SNR=18					
AKTO	Aktyubinsk	62.86	46	P	P	14 46 16.9 +0.3
NV11	Mina Array Sit	65.18	300	eP	P	14 46 32.0 -0.2
NV11	Mina Array Sit	65.18	300	eP	P	14 46 32.0 -0.2
ILAR	Eielson Array	66.36	335	P	P	14 46 39.5 +0.3
ILAR				PcP	PcP	14 47 08.8 -0.1
ILAR	Eielson Array	66.36	335	P	P	14 46 39.4 +0.3
	comp=Z,1.6nm,0.9s,baz=46,slow=5.7,SNR=11					
ILAR				PcP	PcP	14 47 08.8 -0.1
	comp=Z,1.4nm,0.8s,baz=32,slow=2.8,SNR=6.3					
ILAR				LR	LR	15 13 13.2
	comp=Z,191nm,18.4s,baz=96,slow=34					
ILAR	Eielson Array	66.36	335	P	P	14 46 39.5 +0.3
ILAR	Eielson Array	66.36	335	PcP	PcP	14 47 08.8 -0.1
BRVK	Borovoye	68.22	39	P	P	14 46 50.4 -0.8
	comp=Z,14nm,1.4s					
BRVK	Borovoye	68.22	39	P	P	14 46 50.3 -0.8
	comp=Z,14nm,1.4s					
BVAR	Borovoye Array	68.29	39	P	P	14 46 51.8 +0.2
BVAR	Borovoye Array	68.29	39	P	P	14 46 51.8 +0.2
	comp=Z,2.9nm,0.8s,baz=290,slow=4.3,SNR=12					
BVAR	Borovoye Array	68.29	39	P	P	14 46 51.8 +0.2
KURK	Kurchatov	73.77	38	P	P	14 47 24.5 -0.3
KURK	Kurchatov	73.77	38	P	P	14 47 24.5 -0.3
KURBB	Kurchatov Arra	73.78	38	P	P	14 47 24.5 -0.4
	comp=Z,6.0nm,1.0s,baz=311,slow=6.2,SNR=58					
ZALV	Zalesovo Beam	74.54	33	P	P	14 47 29.0 -0.2
ZALV	Zalesovo Beam	74.54	33	P	P	14 47 29.0 -0.2
	comp=Z,2.4nm,0.8s,baz=297,slow=6.5,SNR=10.0					
ZALV	Zalesovo Beam	74.54	33	P	P	14 47 29.0 -0.2
AAK	Ala-Archa	76.60	46	LR	LR	15 20 38.4
	comp=Z,94nm,19.2s,baz=348,slow=35					
MK31	Makanchi Array	78.17	40	eP	P	14 47 49.2 -0.8
MK31	Makanchi Array	78.17	40	eP	P	14 47 49.2 -0.8
MKAR	Makanchi Array	78.17	40	P	P	14 47 49.4 -0.7
MKAR	Makanchi Array	78.17	40	P	P	14 47 49.4 -0.7
	comp=Z,3.3nm,0.8s,baz=320,slow=5.4,SNR=22					
MKAR	Makanchi Array	78.17	40	P	P	14 47 49.4 -0.7
BOSA	Boshof	84.92	132	LR	LR	15 26 29.2
	comp=Z,117nm,18.2s,baz=330,slow=36					
SONM	Songino Array	87.88	26	P	P	14 48 40.4 0.0
SONM				PP	PP	14 52 08.2 +2.6
SONM	Songino Array	87.88	26	P	P	14 48 40.4 0.0
	comp=Z,2.4nm,1.1s,baz=317,slow=5.4,SNR=10					
SONM				PP	PP	14 52 08.2 +2.6
	comp=Z,0.6nm,1.0s,baz=321,slow=3.8,SNR=4.2					
SONM				LR	LR	15 26 25.1
	comp=Z,79nm,18.4s,baz=138,slow=34					
SONM	Songino Array	87.88	26	P	P	14 48 40.4 0.0
SONM	Songino Array	87.88	26	PP	PP	14 52 08.2 +2.6
ULN	Ulaanbaatar	88.08	26	eP	P	14 48 41.3 -0.1
	comp=Z,3.4nm,1.1s					
ULN	Ulaanbaatar	88.08	26	eP	P	14 48 41.3 -0.1
	comp=Z,3.4nm,1.1s					
PETK	Petropavlovsk-	89.75	354	P	P	14 48 48.5 -0.5
PETK	Petropavlovsk-	89.75	354	P	P	14 48 48.5 -0.5
	comp=Z,2.1nm,1.0s,baz=358,slow=4.5,SNR=3.9					
PETK				LR	LR	15 26 15.7
	comp=Z,59nm,20.6s,baz=97,slow=34					
PETK	Petropavlovsk-	89.75	354	P	P	14 48 48.5 -0.5
WRA	Warramunga Arr	159.46	37	PKPab	PKPab	14 56 27.1 -0.5
WRA	Warramunga Arr	159.46	37	PKPab	PKPab	14 56 27.1 -0.5
	comp=Z,2.5nm,0.9s,baz=327,slow=4.7,SNR=6.9					
WRA	Warramunga Arr	159.46	37	PKPab	PKPab	14 56 27.0 -0.5
ASAR	Alice Springs	162.29	45	PKPab	PKPab	14 56 38.8 -1.1
ASAR	Alice Springs	162.29	45	PKPab	PKPab	14 56 38.8 -1.1
	comp=Z,1.1nm,0.8s,baz=315,slow=5.5,SNR=5.0					
ASAR	Alice Springs	162.29	45	PKPab	PKPab	14 56 38.8 -1.1

*DJA **16** 14:42:00.9±0.5, 3°S±5°×14°0E±°, h84km±11km, M4.9/5, mb4.9/5, mBe6.1/1, MLv4.9/5, Mw(mB)5.7/1*
*IDC **16** 14:42:07.5±2.9, 3°70S×139°56E, h151km×30km, mb3.4/11, mb1 3.6/15, mb1mx3.5/22, mbtmp3.5/15, Error ellipse: s-maj=20.7km s-min=9.6km az=105.0*
ISC 16 14:41:57.9±0.6, 3°43S±0°08×139°52E±0°08, h37km, n29, σ2°27/22, mb3.9/12, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
WAMI	Wamena	0.92	241	P	Pn		14 42 21.1	+6.7
JAY	Jayapura	1.49	53	P	Pn		14 42 24.4	+2.2
SRPI	Serui, Papua	3.62	295	P	Pn		14 42 56.2	+4.7
BAKI	Biak	4.07	303	P	Pn		14 43 01.8	+4.1
MMPI	Merauke	5.08	170	P	Pn		14 43 16.5	+5.0
	606nm,0.7s,20μm3.1nm							
PMG	Port Moresby	9.64	128	P	Pn		14 44 18.6	+4.5
	0.8nm,0.3s,baz=293,slow=16,SNR=3.6							
PMG				S	Sn		14 46 02.8	+1.6
	0.2nm,0.3s,baz=300,slow=17,SNR=2.2							
SGSI	Sangihe	15.67	297	P	P		14 45 57.3	+18
SOEI	Soe	16.39	247	P	Pn		14 45 47.9	+2.4
	46nm,1.1s							
GTOI	Gorontalo	16.99	283	P	P		14 45 58.7	+4.3
GTOI	Gorontalo	16.99	283	P	P		14 45 56.7	+2.3
WRA	Warramunga Arr	17.17	197	P	Pn		14 45 53.4	-1.8
	0.4nm,0.3s,baz=24,slow=12,SNR=26							
WRA				S	Sn		14 48 55.3	-10
	0.3nm,0.3s,baz=11,slow=22,SNR=4.6							
CTA	Charters Tower	17.81	159	P	Pn		14 46 03.5	+0.5
	0.2nm,0.3s,baz=336,slow=14,SNR=2.8							
MRSI	Marisa	17.99	282	P	P		14 46 09.3	+3.8
APSI	Ampana	18.03	278	P	P		14 46 23.6	+18
FITZ	Fitzroy Crossi	19.94	222	P	P		14 46 27.2	+0.4
	0.2nm,0.3s,baz=59,slow=12,SNR=13							
FITZ				S	S		14 49 58.8	-10
	0.5nm,0.3s,baz=196,slow=11,SNR=11							
ASAR	Alice Springs	20.84	195	P	P		14 46 35.7	-0.9
	3.6nm,0.8s,baz=24,slow=9.7,SNR=40							
ASAR				S	S		14 50 19.4	-7.8
	2.6nm,0.9s,baz=16,slow=24,SNR=4.8							
MYLDM	Lahad Datu	22.67	292	P	P		14 47 00.6	+4.3
	23nm,1.4s,0.1nm							
PSI	Prapat	41.04	278	P	P		14 49 37.8	-0.5
	7.7nm,0.7s,baz=350,slow=11,SNR=8.5							
KSRS	Korea Array	42.08	346	P	P		14 49 46.3	+0.1
	0.4nm,0.5s,baz=167,slow=9.4,SNR=4.0							
CMAR	Chiang Mai Arr	45.49	300	P	P		14 50 13.2	-0.9
	0.4nm,0.7s,baz=111,slow=4.5,SNR=4.8							
RPZ	Rata Peaks	48.87	150	P	P		14 50 39.3	-0.7
	16nm,0.9s,baz=340,slow=7.2,SNR=5.5							
PETK	Petropavlovsk-	58.37	13	P	P		14 51 48.8	-0.6
	0.5nm,0.6s,baz=164,slow=5.7,SNR=5.7							
SONM	Songino Array	58.71	334	P	P		14 51 51.1	-0.9
	0.3nm,0.7s,baz=139,slow=5.5,SNR=2.9							
MKAR	Makanchi Array	70.85	322	P	P		14 53 09.7	-1.4
	0.8nm,0.4s,baz=96,slow=8.9,SNR=12							
ZALV	Zalesovo Beam	72.96	330	P	P		14 53 21.0	-2.5
	0.6nm,0.5s,baz=124,slow=6.5,SNR=3.1							
KURBB	Kurchatov Arra	74.78	325	P	P		14 53 32.5	-1.7
	0.6nm,0.6s,baz=117,slow=4.5,SNR=4.7							
BVAR	Borovoye Array	80.36	325	P	P		14 54 02.9	-2.4
	1.0nm,0.4s,baz=104,slow=6.1,SNR=5.1							
ILAR	Eielson Array	86.15	24	P	P		14 54 31.4	-3.5
	0.9nm,0.8s,baz=260,slow=5.3,SNR=5.5							
DBIC	Dimbokro	144.38	277	PKP	PKPab		15 01 27.4	-2.0
	7.6nm,0.8s,baz=101,slow=3.8,SNR=8.7							

*CSEM **16** 14:47:10.4, 38°67N×29°38W, h2km, ML2.7, After PDA*
PDA 16 14:47:10.4±0.6, 38°67N×29°38W, h2km±7km, MD3.5, ML2.7, Error ellipse: s-maj=9.8km s-min=4.8km az=84.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PCED	Cedros	0.53	95	eP	Pg		14 47 19.8	-0.9
PCED				A	A		14 47 24.9	
	162nm,0.5s							
PCED				eS	Sg		14 47 26.9	-0.7
PCED	Cedros	0.53	95	eP	Pg		14 47 19.8	-0.9
PCED				eS	Sg		14 47 26.9	-0.7
CALA	Caldeira	0.54	100	eS	Sg		14 47 27.0	-1.0
CALA	Caldeira	0.54	100	eS	Sg		14 47 27.0	-1.0
HOR	Horta	0.61	104	eS	Sg		14 47 28.9	-1.0
HOR	Horta	0.61	104	eS	Sg		14 47 28.9	-1.0
PCAN	Candelaria	0.73	106	eP	Pg		14 47 22.7	-1.8
PCAN				eS	Sg		14 47 31.9	-2.2
PCAN				A	A		14 47 35.5	
	128nm,0.3s							
PCAN	Candelaria	0.73	106	eP	Pg		14 47 22.7	-1.8
PCAN				eS	Sg		14 47 31.9	-2.2
PICO	Pico	0.77	103	eP	Pg		14 47 23.6	-1.7
PICO				eS	Sg		14 47 33.1	-2.2
PICO	Pico	0.77	103	eP	Pg		14 47 23.6	-1.7
PICO				eS	Sg		14 47 33.1	-2.2
ROSA	Rosais	0.89	87	eP	Pg		14 47 24.9	-2.7
ROSA				eS	Sg		14 47 35.9	-3.3
ROSA				A	A		14 47 42.2	
	154nm,0.4s							
ROSA	Rosais	0.89	87	eP	Pg		14 47 24.9	-2.7
ROSA				eS	Sg		14 47 35.9	-3.3
PPNO	Prainha do Nor	0.90	103	eP	Pg		14 47 25.1	-2.6
PPNO				eS	Sg		14 47 36.5	-3.0
PPNO				A	A		14 47 40.7	
	157nm,0.4s							
PPNO	Prainha do Nor	0.90	103	eP	Pg		14 47 25.1	-2.6
PPNO				eS	Sg		14 47 36.5	-3.0
PMAN	Manadas	1.01	92	eS	Sg		14 47 38.8	-4.2
PMAN				A	A		14 47 55.5	
	70nm,0.6s							
PMAN	Manadas	1.01	92	eS	Sg		14 47 38.8	-4.2
PID	Ribeirinha	1.02	103	eS	Sg		14 47 38.9	-4.3
PID	Ribeirinha	1.02	103	eS	Sg		14 47 38.9	-4.3
PGRA	Graciosa	1.15	72	eS	Sg		14 47 42.2	-5.2
PGRA				A	A		14 47 44.1	
	45nm,0.4s							
PGRA	Graciosa	1.15	72	eS	Sg		14 47 42.2	-5.2

*DDA **16** 14:48:13.6, 34°54N×33°06E, h3km, MD3.5*
*ISK **16** 14:48:17.6, 34°56N×32°95E, h7km, ML3.4*
*NSSC **16** 14:48:20.9±2.2, 35°00N×33°28E, h0km±8km, ML2.5*
*ISCJB **16** 14:48:22.1±0.3, 34°76N±0°02×33°06E±0°03, h27km±3km, Error ellipse: s-maj=4.5km s-min=3.1km az=153.5*
*NIC **16** 14:48:22.6±0.2, 34°82N×33°10E, h1km, ML3.5*
NIC Felt earthquake;.
*CSEM **16** 14:48:22.5±0.2, 34°79N×33°06E, h17km±1km, ML3.5, Error ellipse: s-maj=3.9km s-min=2.8km az=53.0*
ISC 16 14:48:22.2±1.1, 34°80N±0°02×33°08E±0°02, h18km±7km, n82, σ1°27/117, 6C-7D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SZAC	Souni-Zanaja	0.17	254	↑P	Pg		14 48 26.8	+0.1
SZAC	Souni-Zanaja	0.17	254	↑P	Pg		14 48 26.8	+0.1
CSS	Prodhromos	0.26	52	↓P	Pg		14 48 27.8	-0.2
CSS	Prodhromos	0.26	52	Pg	Pg		14 48 27.9	-0.1
CSS				Sg	Sb		14 48 32.3	-0.1
LEF	Lefka	0.35	333	ePG	Pg		14 48 29.8	+0.2
LEF				eSG	Sb		14 48 36.9	+1.7
LEF	Lefka	0.35	333	ePg	Pg		14 48 29.8	+0.2
LEF				eSg	Sb		14 48 36.9	+1.7
AKIN	Ak¨-nc¨-lar- K	0.38	56	ePG	Pg		14 48 29.6	-0.5
AKIN	Ak¨-nc¨-lar- K	0.38	56	ePg	Pg		14 48 29.6	-0.5
MAMC	Mammari	0.38	17	↓P	Pb		14 48 30.4	-0.1
MAMC	Mammari	0.38	17	↓P	Pb		14 48 30.4	-0.1
ALFC	Alevga	0.53	312	↓P	Pb		14 48 33.5	+0.5
ALFC				S	Sn		14 48 42.5	-1.0
ALFC	Alevga	0.53	312	↓P	Pb		14 48 33.5	+0.5
ALFC				S	Sn		14 48 42.5	-1.0
LFK	Lefkose	0.60	38	ePG	Pb		14 48 34.5	+0.3
LFK				eSG	Sn		14 48 47.2	+2.0
LFK	Lefkose	0.60	38	ePg	Pb		14 48 34.5	+0.3
LFK				eSg	Sn		14 48 47.2	+2.0
PPCY	Paphos	0.61	278	↓P	Pn		14 48 35.7	-0.3
PPCY	Paphos	0.61	278	↓P	Pn		14 48 35.7	-0.3
AKMC	Akamas	0.66	290	↑P	Pn		14 48 37.5	+0.9
AKMC	Akamas	0.66	290	↑P	Pn		14 48 37.5	+0.9
PHNC	Paralimni	0.81	75	↑P	Pn		14 48 40.0	+1.4
PHNC				S	Sn		14 48 54.4	+4.2
PHNC	Paralimni	0.81	75	↑P	Pn		14 48 40.0	+1.4
EREN	Erenkoy	1.15	51	ePN	Pg		14 48 44.8	+0.4
EREN	Erenkoy	1.15	51	ePn	Pg		14 48 44.8	+0.4
IKL	Isikli	1.51	19	ePN	Pn		14 48 48.8	+0.4
IKL	Isikli	1.51	19	ePn	Pn		14 48 48.8	+0.4
GAZI	Gazipasa	1.56	337	iP	Pn		14 48 43.1	-5.9
GAZI				iS	Sn		14 49 09.4	+0.5
KIZK	Mersin	1.88	27	iP	Pn		14 48 54.0	+0.5
KIZK				iS	Sb		14 49 18.1	-1.1
KIZK	Mersin	1.88	27	iP	Pn		14 48 54.0	+0.5
KIZK				iS	Sb		14 49 18.1	-1.1
HDMB	Hadim	2.21	348	ePN	Pn		14 48 59.7	+1.5
HDMB	Hadim	2.21	348	ePn	Pn		14 48 59.7	+1.5
HWQ	Hawqa	2.42	102	eP	Pn		14 49 01.0	0.0
HWQ	Hawqa	2.42	102	eP	Pn		14 49 01.0	0.0
ARNB	Al Arnab	2.59	65	eP	Pn		14 48 59.9	-3.3
ARNB				eS	Sn		14 49 30.8	-3.5
ARNB				AML	AML		14 49 36.3	
	comp=N,28nm,0.3s							
ARNB				AML	AML		14 49 52.1	
	comp=E,64nm,0.7s							
ARNB	Al Arnab	2.59	65	eP	Pn		14 48 59.9	-3.3
	SNR=45							
ARNB				eS	Sn		14 49 30.8	-3.5
	comp=E,64nm,0.7s,SNR=40							
MMA0	Mount Meron ar	2.63	132	Pn	Pn		14 49 03.9	+0.1
KSDI	Kefar Szold	2.68	126	Pn	Pn		14 49 04.6	+0.2
KSDI				Sn	Sn		14 49 36.2	-0.2
OFRI	'Ofer	2.69	143	Pn	Pn		14 49 05.0	+0.3
BRBR	Barbar	2.75	119	eP	Pn		14 49 06.4	+0.8
BRBR				eS	Sn		14 49 39.2	+0.6
BRBR				AML	AML		14 49 39.9	
	comp=N,92nm,0.3s							
BRBR				AML	AML		14 49 40.0	
	comp=E,55nm,0.3s							
BRBR	Barbar	2.75	119	eP	Pn		14 49 06.4	+0.8
	SNR=45							
BRBR				eS	Sn		14 49 39.2	+0.6
	comp=E,55nm,0.3s,SNR=40							
YAYL	Yayladag	2.76	63	iP	Pn		14 49 03.6	-2.0
YAYL				iS	Sn		14 49 38.8	+0.3
GULE	Gulek	2.83	29	iP	Pn		14 49 08.5	+1.8
GULE				iS	Sb		14 49 46.1	-0.6
GULE	Gulek	2.83	29	iP	Pn		14 49 08.5	+1.8
GULE				iS	Sb		14 49 46.1	-0.6
YURE	YUREGIR	2.89	45	iP	Pn		14 49 08.5	+1.1
YURE	YUREGIR	2.89	45	iP	Pn		14 49 08.5	+1.1
MARH	Ras Al Marh	2.92	104	eP	Pn		14 49 06.4	-1.5
MARH				eS	Sn		14 49 40.3	-2.4
MARH				AML	AML		14 49 44.5	
	comp=E,56nm,0.3s							
MARH				AML	AML		14 49 47.4	
	comp=N,32nm,0.2s							
MARH	Ras Al Marh	2.92	104	eP	Pn		14 49 06.4	-1.5
	SNR=45							
MARH				eS	Sn		14 49 40.3	-2.4
	comp=N,32nm,0.2s,SNR=40							
KARA	Karaisali	2.93	33	ePN	Pn		14 49 10.6	+2.7
KARA	Karaisali	2.93	33	ePn	Pn		14 49 10.6	+2.7
BTCH	Batrach	3.02	65	eP	Pn		14 49 08.1	-1.1
BTCH				eS	Sn		14 49 41.0	-3.9
BTCH				AML	AML		14 49 45.7	
	comp=E,140nm,0.3s							
BTCH				AML	AML		14 49 46.4	
	comp=N,95nm,0.4s							
BTCH	Batrach	3.02	65	eP	Pn		14 49 08.1	-1.1
	SNR=45							
BTCH				eS	Sn		14 49 41.0	-3.9
	comp=N,95nm,0.4s,SNR=40							
SLTI	Sal'it	3.04	147	Pn	Pn		14 49 09.7	+0.4
SLTI				Sn	Sn		14 49 45.1	-0.1
MMLI	Mount Malkishu	3.06	140	Pn	Pn		14 49 09.5	-0.2
MMLI				Sn	Sn		14 49 46.0	+0.1
SUTC	Sutluce-Ispart	3.15	328	ePN	Pn		14 49 11.4	+0.3
SUTC	Sutluce-Ispart	3.15	328	ePn	Pn		14 49 11.4	+0.3
KONT	Konya--Tatoy	3.19	350

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCAM	**G?zelcaml?**	**0.31**	**92**	*i* P	**Pb**	**14 58 25.2**	**-0.9**
GCAM				*i* S	**Sb**	**14 58 30.9**	**-0.5**
GCAM	**G?zelcaml?**	**0.31**	**92**	*i* P	**Pb**	**14 58 25.2**	**-0.9**
GCAM				*i* S	**Sb**	**14 58 30.9**	**-0.5**
URLA	**Izmir**	**0.68**	**343**	*i* P	**Pg**	**14 58 30.9**	**-0.4**
URLA				*i* S	**Sb**	**14 58 41.4**	**-0.7**
URLA	**Izmir**	**0.68**	**343**	*i* P	**Pg**	**14 58 30.9**	**-0.4**
URLA				*i* S	**Sb**	**14 58 41.4**	**-0.7**
BODT	**Bodrum**	**0.75**	**150**	*e*PG	**Pb**	**14 58 33.2**	**-0.5**
BODT				*e*SG	**Sg**	**14 58 43.0**	**+0.7**
BODT	**Bodrum**	**0.75**	**150**	*e*Pg	**Pb**	**14 58 33.2**	**-0.5**
BODT				*e*Sg	**Sg**	**14 58 43.0**	**+0.7**
IZM	**Izmir**	**0.76**	**26**	*e*PG	**Pg**	**14 58 32.6**	**-0.3**
IZM				*e*SG	**Sb**	**14 58 44.3**	**-0.2**
IZM	**Izmir**	**0.76**	**26**	*e*Pg	**Pg**	**14 58 32.6**	**-0.3**
IZM				*e*Sg	**Sb**	**14 58 44.3**	**-0.2**
AYDN	**Tasoluk**	**0.82**	**93**	*i* P	**Pg**	**14 58 34.3**	**+0.2**
AYDN				*i* S	**Sb**	**14 58 45.9**	**-0.4**
AYDN	**Tasoluk**	**0.82**	**93**	*i* P	**Pg**	**14 58 34.3**	**+0.2**
AYDN				*i* S	**Sb**	**14 58 45.9**	**-0.4**
DAT	**Datca**	**1.14**	**149**	*e*PN	**Pn**	**14 58 40.7**	**-0.2**
DAT	**Datca**	**1.14**	**149**	*e*Pn	**Pn**	**14 58 40.7**	**-0.2**
APE	**Apeiranthos**	**1.23**	**239**	*e*PN	**Pg**	**14 58 41.8**	**-0.1**
APE	**Apeiranthos**	**1.23**	**239**	*e*Pn	**Pg**	**14 58 41.8**	**-0.1**
YER	**Yerkesik**	**1.28**	**116**	*e*PN	**Pb**	**14 58 43.0**	**+0.3**
YER	**Yerkesik**	**1.28**	**116**	*e*Pn	**Pb**	**14 58 43.1**	**+0.3**
AKS	**Akhisar**	**1.39**	**33**	*e*PN	**Pg**	**14 58 44.9**	**0.0**
AKS	**Akhisar**	**1.39**	**33**	*e*Pn	**Pg**	**14 58 44.9**	**0.0**
KULA	**Kula-Manisa**	**1.64**	**60**	*e*PN	**Pn**	**14 58 48.2**	**+0.5**
KULA	**Kula-Manisa**	**1.64**	**60**	*e*Pn	**Pn**	**14 58 48.2**	**+0.5**
BALY	**Balya**	**2.11**	**16**	*i* P	**Pn**	**14 58 55.4**	**+1.2**
BALY				*i* S	**Sb**	**14 59 23.7**	**+0.2**
BALY	**Balya**	**2.11**	**16**	*i* P	**Pn**	**14 58 55.4**	**+1.2**
BALY				*i* S	**Sb**	**14 59 23.7**	**+0.2**
KHL	**Karahalli**	**2.20**	**73**	*e*PN	**Pb**	**14 58 57.0**	**-1.5**
KHL	**Karahalli**	**2.20**	**73**	*e*Pn	**Pb**	**14 58 57.0**	**-1.5**
GONE	**Gonen-Balikesi**	**2.42**	**15**	*e*PN	**Pn**	**14 59 00.0**	**+1.7**
GONE	**Gonen-Balikesi**	**2.42**	**15**	*e*Pn	**Pn**	**14 59 00.0**	**+1.7**

IDC 16 15:05:33.1±2.2, 4°.25S×129°.28E, h0km, mb3.5/1, mb1 3.6/4, mb1mx3.4/20, mbtmp3.4/4, ML3.2/3, Error ellipse: s-maj=110.8km s-min=27.0km az=73.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**14.22**	**194**	Pn	Pn	15 08 56.1	+0.1
	0.0nm,0.3s,baz=16,slow=18,SNR=2.3						
WRA	**Warramunga Arr**	**16.36**	**163**	Pn	Pn	15 09 22.5	-1.9
	0.1nm,0.3s,baz=345,slow=13,SNR=4.5						
ASAR	**Alice Springs**	**19.82**	**167**	P	P	15 10 06.2	+0.7
	0.2nm,0.3s,baz=348,slow=11,SNR=30						
MKAR	**Makanchi Array**	**65.55**	**327**	P	P	15 16 18.6	0.0
	0.2nm,0.4s,baz=115,slow=7.0,SNR=6.3						

*NIED **16** 15:10:00, 29°.50N×130°.70E, h23km, Mw3.9 Best double couple: M0=9.28000×10^14 NP1:φ=29.00000°, δ=78.00000°, λ=72.00000°. NP2:φ=266.00000°, δ=22.00000°, λ=145.00000°.*
*ISCJB **16** 15:10:27.7±0.7, 29°.48N±0°.04×130°.71E±0°.08, h53km±4km, mb3.8/10, Error ellipse: s-maj=13.1km s-min=4.4km az=20.9*
*JMA **16** 15:10:27.8±0.1, 29°.49N×130°.67E, h61km±4km, M3.7*
*IDC **16** 15:10:40.7±2.3, 30°.38N×130°.80E, h122km±27km, mb3.4/9, mb1 3.4/10, mb1mx3.3/26, mbtmp3.8/10, MS2.8/1, Ms1 2.8/1, ms1mx2.3/33, Error ellipse: s-maj=59.4km s-min=14.4km az=69.0*

ISC 16 15:10:28.7±1.4, 29°.48N±0°.05×130°.67E±0°.09, h47km±12km, n33, σ0=63/38, mb3.8/10, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.78**	**298**	P	**Pn**	**15 10 42.9**	**-0.6**
JNN				*e*S	**Sn**	**15 10 54.6**	**+0.5**
JKC	**Kuchinoerabu**	**1.06**	**337**	P	**Pn**	**15 10 46.9**	**-0.3**
JKC				*e*S	**Sn**	**15 11 01.2**	**+0.3**
JTN	**Tanegashima 3**	**1.20**	**13**	P	**Pn**	**15 10 48.6**	**-0.5**
JTN				S	**Sn**	**15 11 03.9**	**-0.4**
JZK	**Kikaishima**	**1.31**	**208**	P	**Pn**	**15 10 50.8**	**+0.1**
JZK				*e*S	**Sn**	**15 11 06.8**	**-0.2**
JAM	**Amami Oshima**	**1.42**	**221**	P	**Pn**	**15 10 51.6**	**-0.5**
JAM				*e*S	**Sn**	**15 11 10.3**	**+0.8**
JTSR	**Tashiro 2**	**1.69**	**7**	P	**Pn**	**15 10 56.2**	**+0.3**
JAMN	**Amaminishikomi**	**1.80**	**227**	P	**Pn**	**15 10 56.9**	**-0.4**
JAMN				*e*S	**Sn**	**15 11 19.7**	**+0.8**
JSU	**Suzuyama**	**2.03**	**355**	P	**Pn**	**15 11 00.0**	**-0.5**
JNAR	**Kushima--Naru**	**2.10**	**14**	P	**Pn**	**15 11 01.8**	**+0.3**
JTK	**Tokunoshima**	**2.27**	**222**	P	**Pn**	**15 11 03.6**	**-0.1**
JTK				*e*S	**Sn**	**15 11 30.6**	**+0.2**
JSJ	**Shimokoshiki**	**2.34**	**340**	P	**Pn**	**15 11 04.3**	**-0.4**
JNU	**Nakatsue**	**3.63**	**3**	P	**Pn**	**15 11 23.1**	**+0.6**
	1.8nm,0.3s,baz=198,slow=10,SNR=45						
JNU				S	**Sn**	**15 12 03.4**	**-0.8**
	1.2nm,0.3s,baz=300,slow=14,SNR=2.3						
KSRS	**Korea Array**	**8.28**	**345**	P	**Pn**	**15 12 27.9**	**+1.8**
	0.1nm,0.3s,baz=162,slow=13,SNR=3.4						
KSRS				LR	LR	15 15 54.2	
	comp=Z,67nm,18.6s,baz=160,slow=42						
SONM	**Songino Array**	**26.19**	**321**	P	**P**	**15 15 58.0**	**-0.9**
	0.6nm,0.6s,baz=140,slow=9.2,SNR=6.9						
KAPI	**Kappang**	**35.86**	**199**	P	P	15 17 36.6	+12
	7.8nm,0.4s,baz=219,slow=17,SNR=3.6						
ODAN	**Odare**	**38.08**	**277**	*e*P	**P**	**15 17 43.5**	**+0.2**
	7.6nm,0.4s						
JIRN	**Jiri**	**38.93**	**278**	*e*P	**P**	**15 17 50.0**	**-0.6**
	4.5nm,0.4s						
GUN	**Gumba**	**39.14**	**279**	*e*P	**P**	**15 17 52.7**	**+0.4**
	14nm,0.4s						
PKI	**Pulchoki**	**39.62**	**279**	*e*P	**P**	**15 17 56.5**	**+0.2**
PKIN	**Phulchoki**	**39.63**	**279**	*e*P	**P**	**15 17 56.9**	**+0.6**
	4.7nm,0.5s						
KKN	**Kakani**	**39.68**	**279**	*e*P	**P**	**15 17 57.1**	**+0.4**
	11nm,0.5s						
DMN	**Daman**	**39.88**	**279**	*e*P	**P**	**15 17 58.0**	**-0.3**
	4.7nm,0.4s						
DANN	**Dangsing**	**40.86**	**280**	*e*P	**P**	**15 18 06.8**	**+0.3**
	21nm,0.7s						
ZALV	**Zalesovo Beam**	**41.07**	**320**	P	**P**	**15 18 06.8**	**-0.8**
	0.5nm,0.4s,baz=106,slow=10,SNR=3.4						
MKAR	**Makanchi Array**	**41.09**	**309**	P	**P**	**15 18 08.2**	**+0.3**
	0.9nm,0.5s,baz=89,slow=11,SNR=16						
KOLN	**Koldanda**	**41.13**	**280**	*e*P	**P**	**15 18 08.0**	**-0.7**
	6.8nm,0.5s						
PYUN	**Piuthan**	**41.58**	**280**	*e*P	**P**	**15 18 12.7**	**+0.4**
	55nm,0.5s						
KURBB	**Kurchatov Arra**	**44.09**	**314**	P	**P**	**15 18 31.7**	**-0.3**
	1.1nm,0.5s,baz=95,slow=8.5,SNR=20						
WRA	**Warramunga Arr**	**49.26**	**175**	P	P	15 19 23.7	+11
	0.6nm,0.8s,baz=351,slow=8.1,SNR=3.6						
BVAR	**Borovoye Array**	**49.36**	**316**	P	**P**	**15 19 13.5**	**+0.2**
	2.5nm,0.5s,baz=94,slow=11,SNR=15						
ASAR	**Alice Springs**	**52.93**	**176**	P	P	15 19 50.4	+10
	0.3nm,0.8s,baz=11,slow=13,SNR=4.6						
BRTR	**Keskin Array B**	**76.74**	**308**	P	**P**	**15 22 16.7**	**+1.3**
	0.9nm,0.7s,baz=72,slow=4.7,SNR=3.1						
NOA	**NORSAR Array B**	**77.35**	**334**	P	**P**	**15 22 17.7**	**-0.6**
	1.0nm,0.9s,baz=31,slow=5.2,SNR=2.4						

IDC 16 15:23:57.8±1.2, 16°.24S×172°.99W, h0km, mb3.8/5, mb1 4.1/6, mb1mx3.8/21, mbtmp3.8/6, ML1.8/1, MS3.6/1, Ms1 3.6/1, ms1mx2.9/23, Error ellipse: s-maj=49.3km s-min=22.2km az=135.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.59**	**27**	Pn	Pn	15 24 39.5	-1.7
	11nm,0.3s,baz=209,slow=4.2,SNR=16						
AFI				Sn	Sn	15 25 09.6	-3.8
	42nm,0.3s,baz=88,slow=20,SNR=11						
HNR	**Honiara**	**27.22**	**281**	LR	LR	15 39 03.2	
	comp=Z,108nm,18.9s,baz=130,slow=33						
STKA	**Stephens Creek**	**43.97**	**241**	P	P	15 32 06.7	-0.3
	1.5nm,0.9s,baz=90,slow=14,SNR=2.0						
WRA	**Warramunga Arr**	**50.05**	**257**	P	P	15 32 54.2	-0.5
	1.1nm,1.2s,baz=98,slow=7.5,SNR=4.1						
ASAR	**Alice Springs**	**50.24**	**253**	P	P	15 32 56.5	+0.3
	2.1nm,0.6s,baz=88,slow=8.5,SNR=27						
VNDA	**Vanda**	**62.59**	**186**	P	P	15 34 22.9	-0.4
	0.4nm,0.7s,baz=22,slow=4.9,SNR=4.1						
NVAR	**Mina Array Bea**	**74.68**	**42**	P	P	15 35 40.5	+0.9
	1.4nm,1.1s,baz=235,slow=6.4,SNR=5.5						

IDC 16 15:30:57.5±7.1, 8°.10S×127°.43E, h0km, mb4.0/1, mb1 3.7/3, mb1mx3.3/19, mbtmp3.5/3, ML3.2/2, Error ellipse: s-maj=146.5km s-min=91.9km az=63.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.54**	**151**	Pn	Pn	15 34 10.5	-0.5
	0.1nm,0.3s,baz=320,slow=13,SNR=7.3						
WRA				Sn	Sn	15 36 42.6	+0.3
	0.1nm,0.3s,baz=332,slow=22,SNR=5.5						
ASAR	**Alice Springs**	**16.67**	**159**	Pn	P	15 34 54.2	-1.0
	0.1nm,0.3s,baz=339,slow=11,SNR=3.3						
STKA	**Stephens Creek**	**27.08**	**153**	P	P	15 36 41.7	-0.2
	2.2nm,1.0s,baz=337,slow=13,SNR=2.7						

*ISCJB **16** 15:39:58.5±0.2, 36°.52N±0°.02×27°.21E±0°.02, h134km±2km, mb3.6/8, Error ellipse: s-maj=3.2km s-min=2.0km az=18.7*
*HLW **16** 15:39:58.1, 36°.53N×27°.18E, h32km±25km, Md3.9, Ml3.8*
*ISK **16** 15:39:59.8, 36°.59N×27°.23E, h129km, ML3.3*
*IDC **16** 15:39:59.1±0.8, 36°.49N×27°.21E, h120km±11km, mb3.5/8, mb1 3.5/17, mb1mx3.4/35, mbtmp3.4/17, Error ellipse: s-maj=14.7km s-min=7.9km az=168.0*
*ATH **16** 15:39:59.3, 36°.59N×27°.18E, h130km*
*CSEM **16** 15:39:59.5±0.1, 36°.54N×27°.26E, h128km±1km, Mw3.4, Error ellipse: s-maj=2.7km s-min=1.6km az=18.0*
*NIC **16** 15:40:01.1±0.3, 36°.82N×27°.60E, h60km, mb4.2, ML3.6, MW3.4*
*THE **16** 15:40:03.6, 36°.53N×27°.06E, h107km±3km, ML3.6/3, Error ellipse: s-maj=3.9km s-min=1.7km az=70.0*
*DDA **16** 15:40:04.6, 36°.85N×27°.09E, h7km, MD3.1*

ISC 16 15:39:59.5±0.6, 36°.57N±0°.03×27°.24E±0°.03, h134km±5km, n221, σ1=24/294, mb3.7/8, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIS1	**Nisyros Isl.**	**0.06**	**303**	P	**Pn**	**15 40 17.5**	**-0.1**
NIS1				S	**Sn**	**15 40 29.9**	**-1.4**
NIS1	**Nisyros Isl.**	**0.06**	**303**	*e*P	**Pn**	**15 40 17.5**	**-0.1**
NIS1				*e*S	**Sn**	**15 40 30.7**	**-0.6**
NIS1	**Nisyros Isl.**	**0.06**	**303**	*e*P	**Pn**	**15 40 17.5**	**-0.1**
NIS1				*e*S	**Sn**	**15 40 30.7**	**-0.6**
DAT	**Datca**	**0.31**	**59**	*e*PG	**Pn**	**15 40 18.3**	**0.0**
DAT				*e*SG	**Sn**	**15 40 31.4**	**-1.0**
DAT	**Datca**	**0.31**	**59**	*e*Pg	**Pn**	**15 40 18.3**	**0.0**
DAT				*e*Sg	**Sn**	**15 40 31.5**	**-1.0**
BODT	**Bodrum**	**0.49**	**6**	*e*PG	**Pn**	**15 40 18.8**	**-0.2**
BODT	**Bodrum**	**0.49**	**6**	*e*Pg	**Pn**	**15 40 18.8**	**-0.2**
ARG	**Arkhangelos**	**0.80**	**116**	P	**Pn**	**15 40 22.0**	**+1.0**
ARG				S	**Sn**	**15 40 35.0**	**-2.3**
ARG	**Arkhangelos**	**0.80**	**116**	*e*P	**Pn**	**15 40 22.0**	**+1.0**
ARG				*e*S	**Sn**	**15 40 37.5**	**+0.2**
ARG	**Arkhangelos**	**0.80**	**116**	*e*P	**Pn**	**15 40 22.0**	**+1.0**
ARG				*e*S	**Sn**	**15 40 37.5**	**+0.2**
YER	**Yerkesik**	**1.01**	**56**	*e*PG	**Pn**	**15 40 23.6**	**+0.8**
YER	**Yerkesik**	**1.01**	**56**	*e*Pg	**Pn**	**15 40 23.6**	**+0.8**
KARP	**Karpathos**	**1.02**	**184**	P	**Pn**	**15 40 23.3**	**+0.3**
KARP				S	**Sn**	**15 40 38.1**	**-2.7**
KARP	**Karpathos**	**1.02**	**184**	*e*P	**Pn**	**15 40 23.1**	**+0.1**
KARP				*e*S	**Sn**	**15 40 40.8**	**0.0**
KARP	**Karpathos**	**1.02**	**184**	*e*P	**Pn**	**15 40 23.1**	**+0.1**
KARP				*e*S	**Sn**	**15 40 40.8**	**0.0**
GCAM	**G?zelcaml?**	**1.13**	**360**	*i* P	**Pn**	**15 40 23.9**	**0.0**
GCAM				*i* S	**Sn**	**15 40 41.2**	**-1.4**
GCAM	**G?zelcaml?**	**1.13**	**360**	*i* P	**Pn**	**15 40 23.9**	**0.0**
GCAM				*i* S	**Sn**	**15 40 41.2**	**-1.4**
TURN	**Turunc**	**1.14**	**74**	*i* P	**Pn**	**15 40 21.7**	**-2.3**
TURN				*i* S	Sn	15 40 36.2	-6.4
TURN	**Turunc**	**1.14**	**74**	*i* P	**Pn**	**15 40 21.7**	**-2.3**
DALY	**Dalyan (Mu¨la**	**1.16**	**77**	*e*PN	**Pn**	**15 40 25.4**	**+1.2**
DALY	**Dalyan (Mu¨la**	**1.16**	**77**	*e*Pn	**Pn**	**15 40 25.4**	**+1.2**
SMG	**Samos**	**1.18**	**344**	*e*P	**Pn**	**15 40 24.2**	**-0.3**
SMG				*e*S	**Sn**	**15 40 42.0**	**-1.6**
SMG	**Samos**	**1.18**	**344**	*e*P	**Pn**	**15 40 24.2**	**-0.3**
SMG				*e*S	**Sn**	**15 40 42.0**	**-1.6**
AYDN	**Tasoluk**	**1.20**	**25**	*i* P	**Pn**	**15 40 25.2**	**+0.4**
AYDN				*i* S	**Sn**	**15 40 40.9**	**-3.1**
AYDN	**Tasoluk**	**1.20**	**25**	*i* P	**Pn**	**15 40 25.2**	**+0.4**
AYDN				*i* S	**Sn**	**15 40 40.9**	**-3.1**
SANT	**Santorini**	**1.45**	**263**	*e*P	**Pn**	**15 40 27.3**	**0.0**
SANT				*e*S	**Sn**	**15 40 47.0**	**-1.5**
SANT	**Santorini**	**1.45**	**263**	*e*P	**Pn**	**15 40 27.3**	**0.0**
SANT				*e*S	**Sn**	**15 40 47.0**	**-1.5**
APE	**Apeiranthos**	**1.46**	**290**	*e*PN	**Pn**	**15 40 28.3**	**+0.9**
APE	**Apeiranthos**	**1.46**	**290**	*e*P	**Pn**	**15 40 27.5**	**+0.1**
APE				*e*S	**Sn**	**15 40 47.7**	**-1.1**
APE	**Apeiranthos**	**1.46**	**290**	*e*P	**Pn**	**15 40 27.5**	**+0.1**
APE	**Apeiranthos**	**1.46**	**290**	*e*Pn	**Pn**	**15 40 28.3**	**+0.9**
APE				*e*S	**Sn**	**15 40 47.7**	**-1.1**
FETY	**Fethiye**	**1.48**	**87**	*e*PN	**Pn**	**15 40 28.2**	**+0.5**
FETY	**Fethiye**	**1.48**	**87**	*e*Pn	**Pn**	**15 40 28.2**	**+0.5**
ZKR	**Zakros**	**1.67**	**210**	P	**Pn**	**15 40 30.7**	**+0.9**
ZKR	**Zakros**	**1.67**	**210**	*e*P	**Pn**	**15 40 30.6**	**+0.8**
ZKR				*e*S	**Sn**	**15 40 53.4**	**+0.4**
ZKR	**Zakros**	**1.67**	**210**	*e*P	**Pn**	**15 40 30.6**	**+0.8**
ZKR				*e*S	**Sn**	**15 40 53.4**	**+0.4**
DENT	**Denizli**	**1.86**	**50**	*e*PN	**Pn**	**15 40 31.9**	**-0.1**
DENT	**Denizli**	**1.86**	**50**	*e*Pn	**Pn**	**15 40 31.9**	**-0.1**
NPS	**Neapolis**	**1.86**	**226**	P	**Pn**	**15 40 31.9**	**-0.1**
NPS				S	**Sn**	**15 40 52.8**	**-4.0**
NPS	**Neapolis**	**1.86**	**226**	*e*P	**Pn**	**15 40 31.8**	**-0.2**
NPS				*e*S	**Sn**	**15 40 55.5**	**-1.3**
NPS	**Neapolis**	**1.86**	**226**	P	**Pn**	**15 40 31.9**	**-0.1**
NPS				*e*S	**Sn**	**15 40 55.5**	**-1.3**
KSL	**Kastellorizon**	**1.94**	**102**	*e*P	**Pn**	**15 40 34.0**	**+1.1**
KSL	**Kastellorizon**	**1.94**	**102**	*e*P	**Pn**	**15 40 34.0**	**+1.1**
LAST	**Lasithi**	**2.01**	**226**	*e*P	**Pn**	**15 40 33.7**	**-0.1**
LAST				*e*S	**Sn**	**15 40 58.4**	**-1.7**
LAST	**Lasithi**	**2.01**	**226**	*e*P	**Pn**	**15 40 33.7**	**-0.1**
LAST				*e*S	**Sn**	**15 40 58.4**	**-1.7**
CHOS	**Chios island**	**2.04**	**333**	*e*P	**Pn**	**15 40 34.3**	**0.0**
CHOS				*e*S	**Sn**	**15 41 00.2**	**-0.8**
CHOS	**Chios island**	**2.04**	**333**	*e*P	**Pn**	**15 40 34.3**	**0.0**
CHOS				*e*S	**Sn**	**15 41 00.2**	**-0.8**
ELL	**Elmali**	**2.15**	**84**	*e*PN	**Pn**	**15 40 36.5**	**+0.9**
ELL	**Elmali**	**2.15**	**84**	*e*Pn	**Pn**	**15 40 36.5**	**+0.9**
KULA	**Kula-Manisa**	**2.25**	**30**	*e*PN	**Pn**	**15 40 37.3**	**+0.6**
KULA	**Kula-Manisa**	**2.25**	**30**	*e*Pn	**Pn**	**15 40 37.3**	**+0.6**
IDI	**Anoyia**	**2.30**	**237**	*e*PN	**Pn**	**15 40 37.9**	**+0.5**
IDI	**Anoyia**	**2.30**	**237**	P	**Pn**	**15 40 37.0**	**-0.3**
IDI	**Anoyia**	**2.30**	**237**	*e*P	**Pn**	**15 40 37.1**	**-0.3**
IDI				*e*S	**Sn**	**15 41 05.2**	**-1.2**
IDI	**Anoyia**	**2.30**	**237**	P	**Pn**	**15 40 37.0**	**-0.3**
	21nm,0.3s,baz=54,slow=13,SNR=170						
IDI				S	**Sn**	**15 41 03.8**	**-2.6**
	49nm,0.3s,baz=281,slow=20,SNR=28						
IDI	**Anoyia**	**2.30**	**237**	*e*P	**Pn**	**15 40 37.1**	**-0.3**
IDI	**Anoyia**	**2.30**	**237**	*e*Pn	**Pn**	**15 40 37.9**	**+0.5**
IDI				*e*S	**Sn**	**15 41 05.2**	**-1.2**
SIVA	**Sivas**	**2.51**	**233**	*e*P	**Pn**	**15 40 40.3**	**+0.3**
SIVA				*e*S	**Sn**	**15 41 10.5**	**-0.6**
SIVA	**Sivas**	**2.51**	**233**	*e*P	**Pn**	**15 40 40.3**	**+0.3**
SIVA				*e*S	**Sn**	**15 41 10.5**	**-0.6**
KHL	**Karahalli**	**2.52**	**45**	*e*PN	**Pn**	**15 40 40.9**	**+0.7**
KHL	**Karahalli**	**2.52**	**45**	*e*Pn	**Pn**	**15 40 40.9**	**+0.7**
VAM	**Vamos**	**2.73**	**246**	*e*P	**Pn**	**15 40 42.9**	**+0.2**
VAM				*e*S	**Sn**	**15 41 14.9**	**-1.1**
VAM	**Vamos**	**2.73**	**246**	*e*P	**Pn**	**15 40 42.9**	**+0.2**
VAM				*e*S	**Sn**	**15 41 14.9**	**-1.1**
PRK	**Paraskevi**	**2.78**	**344**	*e*P	**Pn**	**15 40 43.7**	**+0.3**
PRK	**Paraskevi**	**2.78**	**344**	*e*P	**Pn**	**15 40 43.7**	**+0.3**
BCK	**Bucak**	**2.82**	**71**	*e*PN	**Pn**	**15 40 45.2**	**+1.2**
BCK	**Bucak**	**2.82**	**71**	*e*Pn	**Pn**	**15 40 45.2**	**+1.2**
KARN	**Karanos**	**2.94**	**248**	*e*P	**Pn**	**15 40 46.0**	**+0.6**
KARN				*e*S	**Sn**	**15 41 19.4**	**-1.4**
KARN	**Karanos**	**2.94**	**248**	*e*P	**Pn**	**15 40 46.0**	**+0.6**
KARN				*e*S	**Sn**	**15 41 19.4**	**-1.4**
PTL	**Penteli**	**3.07**	**300**	*e*P	**Pn**	**15 40 47.3**	**+0.2**
PTL	**Penteli**	**3.07**	**300**	*e*P	**Pn**	**15 40 47.3**	**+0.2**
GVD	**Gavdhos**	**3.09**	**237**	*e*P	**Pn**	**15 40 48.0**	**+0.6**
GVD	**Gavdhos**	**3.09**	**237**	*e*P	**Pn**	**15 40 48.0**	**+0.6**
BALB	**Balikesir**	**3.11**	**9**	*e*PN	**Pn**	**15 40 47.8**	**+0.2**
BALB	**Balikesir**	**3.11**	**9**	*e*Pn	**Pn**	**15 40 47.8**	**+0.2**
ATH	**Athens Observa**	**3.14**	**298**	*e*P	**Pn**	**15 40 48.3**	**+0.3**
ATH	**Athens Observa**	**3.14**	**298**	*e*P	**Pn**	**15 40 48.3**	**+0.3**
SUTC	**Sutluce-Ispart**	**3.14**	**72**	*e*PN	**Pn**	**15 40 49.4**	**+1.2**
SUTC	**Sutluce-Ispart**	**3.14**	**72**	*e*Pn	**Pn**	**15 40 49.4**	**+1.2**
NAIG	**Nisos Aigina**	**3.22**	**293**	*e*P	**Pn**	**15 40 49.5**	**+0.4**
NAIG	**Nisos Aigina**	**3.22**	**293**	*e*P	**Pn**	**15 40 49.5**	**+0.4**
ANKY	**Antikythira Is**	**3.26**	**259**	*e*P	**Pn**	**15 40 49.8**	**+0.2**
ANKY	**Antikythira Is**	**3.26**	**259**	*e*P	**Pn**	**15 40 49.8**	**+0.2**
DID	**Didima**	**3.34**	**287**	*e*P	**Pn**	**15 40 50.7**	**+0.1**
DID	**Didima**	**3.34**	**287**	*e*P	**Pn**	**15 40 50.7**	**+0.1**
KYTH	**Kithira**	**3.40**	**266**	P	**Pn**	**15 40 51.8**	**+0.3**
KYTH	**Kithira**	**3.40**	**266**	*e*P	**Pn**	**15 40 51.6**	**+0.1**
KYTH	**Kithira**	**3.40**	**266**	P	**Pn**	**15 40 51.8**	**+0.3**
VLI	**Veliai**	**3.46**	**274**	P	**Pn**	**15 40 52.6**	**+0.4**
VLI				S	**Sn**	**15 41 29.1**	**-4.0**
VLI	**Veliai**	**3.46**	**274**	*e*P	**Pn**	**15 40 52.6**	**+0.4**
VLI				*e*S	**Sn**	**15 41 31.1**	**-2.0**
VLI	**Veliai**	**3.46**	**274**	*e*P	**Pn**	**15 40 52.6**	**+0.4**
LTK	**Loutraki**	**3.70**	**294**	*e*P	**Pn**	**15 40 56.3**	**+0.9**
LTK	**Loutraki**	**3.70**	**294**	*e*P	**Pn**	**15 40 56.3**	**+0.9**
LPK	**Lapseki**	**3.82**	**354**	*e*PN	**Pn**	**15 40 57.2**	**+0.3**
LPK	**Lapseki**	**3.82**	**354**	*e*Pn	**Pn**	**15 40 57.2**	**+0.3**
GELI	**Tayfur-Gelibol**	**3.87**	**351**	*e*PN	**Pn**	**15 40 58.3**	**+0.7**
GELI	**Tayfur-Gelibol**	**3.87**	**351**	*e*Pn	**Pn**	**15 40 58.3**	**+0.7**
LKR	**Lokris**	**3.96**	**303**	*e*P	**Pn**	**15 40 59.4**	**+0.7**
LKR	**Lokris**	**3.96**	**303**	*e*P	**Pn**	**15 40 59.4**	**+0.7**
VLX	**Vlachokerasia**	**3.97**	**283**	*e*P	**Pn**	**15 40 59.9**	**+0.8**
VLX				*e*S	**Sn**	**15 41 43.1**	**-2.1**
VLX	**Vlachokerasia**	**3.97**	**283**	*e*P	**Pn**	**15 40 59.9**	**+0.8**
SMTH	**Samothraki Isl**	**4.12**	**342**	*e*P	**Pn**	**15 41 01.1**	**+0.2**
SMTH	**Samothraki Isl**	**4.12**	**342**	*e*P	**Pn**	**15 41 01.1**	**+0.2**
GUR	**Goura**	**4.14**	**291**	*e*P	**Pn**	**15 41 01.5**	**+0.3**
GUR				*e*S	**Sn**	**15 41 47.7**	**-1.5**
GUR	**Goura**	**4.14**	**291**	*e*P	**Pn**	**15 41 01.5**	**+0.3**
HDMB	**Hadim**	**4.23**	**83**	*e*PN	**Pn**	**15 41 03.9**	**+1.4**
HDMB	**Hadim**	**4.23**	**83**	*e*Pn	**Pn**	**15 41 03.9**	**+1.4**
ITM	**Ithomi**	**4.30**	**280**	P	**Pn**	**15 41 04.5**	**+1.2**
ITM	**Ithomi**	**4.30**	**280**	*e*P	**Pn**	**15 41 04.2**	**+0.9**
ITM				*e*S	**Sn**	**15 41 51.2**	**-1.7**
ITM	**Ithomi**	**4.30**	**280**	*e*P	**Pn**	**15 41 04.2**	**+0.9**
KONT	**Konya--Tatoy**	**4.31**	**70**	*e*PN	**Pn**	**15 41 04.7**	**+1.3**
KONT	**Konya--Tatoy**	**4.31**	**70**	*e*Pn	**Pn**	**15 41 04.7**	**+1.3**
KLV	**Kalavryta, Ach**	**4.32**	**291**	P	**Pn**	**15 41 04.4**	**+0.9**
KLV	**Kalavryta, Ach**	**4.32**	**291**	*e*P	**Pn**	**15 41 04.4**	**

SLTI	Sal'it	7.76	122	Pn	Pn	15 41 49.2	-0.4
RSH		7.77	134	P	Pn	15 41 49.7	-0.1
	baz=133						
RSH		7.77	134	P	Pn	15 41 49.7	-0.1
HSAF	As Saff	7.82	151	P	Pn	15 41 50.4	-0.1
	baz=150						
HSAF	As Saff	7.82	151	P	Pn	15 41 50.4	-0.1
MMLI	Mount Malkishu	7.91	119	Pn	Pn	15 41 51.2	-0.5
GLL	Jalalah	7.92	150	P	Pn	15 41 51.4	-0.4
	baz=150						
GLL	Jalalah	7.92	150	P	Pn	15 41 51.4	-0.4
HMDT	Nahal Hemdat	8.09	120	Pn	Pn	15 41 54.1	0.0
SUZ		8.18	143	P	Pn	15 41 55.5	+0.1
	baz=143						
SUZ		8.18	143	P	Pn	15 41 55.5	+0.1
KZIT	Kziot	8.21	131	Pn	Pn	15 41 55.4	-0.3
AWBH		8.34	170	P	Pn	15 41 57.0	-0.5
	baz=169						
AWBH		8.34	170	P	Pn	15 41 57.0	-0.5
DSI	Dead Sea	8.39	124	Pn	Pn	15 41 57.7	-0.5
ZAF		8.53	147	P	Pn	15 42 00.1	+0.1
	baz=146						
ZAF		8.53	147	P	Pn	15 42 00.1	+0.1
PRNI	Paran	8.97	132	Pn	Pn	15 42 05.2	-0.8
ASF	Jabal al Asfar	9.11	116	P	Pn	15 42 08.9	+1.1
	1.4nm,0.3s,baz=269,slow=3.8,SNR=12						
ASF				S	Sn	15 43 50.2	+1.5
	0.5nm,0.3s,baz=56,slow=21,SNR=3.6						
HRFI	Mount Harif	9.22	133	Pn	Pn	15 42 09.0	-0.3
MBRI	Mt Berech	9.32	134	Pn	Pn	15 42 10.4	-0.4
EIL	Elat	9.44	135	P	Pn	15 42 11.4	-0.8
	0.7nm,0.3s,baz=354,slow=10,SNR=5.3						
EIL				S	Sn	15 43 51.4	-5.3
	3.0nm,0.3s,baz=37,slow=23,SNR=9.3						
EIL	Elat	9.44	135	Pn	Pn	15 42 11.9	-0.3
KBZ	Khabaz	13.94	54	P	P	15 43 13.5	-1.3
	0.1nm,0.3s,baz=56,slow=18,SNR=2.1						
AKASG	Malin Array Be	14.20	5	P	P	15 43 17.3	-0.4
	1.4nm,0.3s,baz=193,slow=11,SNR=6.6						
KEST	Kesra	14.49	272	P	Pn	15 43 19.6	+1.4
	0.1nm,0.3s,baz=347,slow=6.8,SNR=5.1						
GERES	GERESS Array B	15.77	325	P	P	15 43 36.0	+0.8
	0.1nm,0.3s,baz=143,slow=12,SNR=2.8						
ESDC	Sonseca Array	24.68	287	P	P	15 45 08.3	+0.3
	0.7nm,0.3s,baz=86,slow=9.6,SNR=4.3						
FINES	FINESS Array B	24.91	359	P	P	15 45 09.6	0.0
	1.8nm,1.0s,baz=186,slow=12,SNR=3.3						
HFS	Hagfors	25.14	344	P	P	15 45 11.4	-0.3
	2.0nm,0.7s,baz=159,slow=12,SNR=3.3						
TORD	Torodi Ar. Bea	32.69	231	P	P	15 46 20.5	+1.3
	2.1nm,0.5s,baz=34,slow=8.9,SNR=27						
KURBB	Kurchatov Arra	38.92	52	P	P	15 47 13.7	+1.8
	0.6nm,0.4s,baz=277,slow=8.6,SNR=9.4						
MKAR	Makanchi Array	41.59	58	P	P	15 47 35.7	+1.7
	0.7nm,0.4s,baz=267,slow=8.3,SNR=16						
ZALV	Zalesovo Beam	42.81	47	P	P	15 47 44.7	+1.0
	0.6nm,0.3s,baz=292,slow=7.6,SNR=3.3						
SONM	Songino Array	57.29	52	P	P	15 49 35.3	+2.1
	0.3nm,0.7s,baz=297,slow=9.4,SNR=3.8						

IDC 16 15:40:51.7±1.0, 4°.73N×125°.94E, h0km, mb3.5/6, mb1 3.7/6, mb1mx3.4/25, mbtmp3.5/6, 1C, Error ellipse: s-maj=55.0km s-min=19.1km az=75.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	Cotabato--PC H	3.00	326	⇑iP	Pg	15 41 55.0	+5.9
FITZ	Fitzroy Crossi	22.69	181	P	P	15 45 55.4	+0.4
	1.6nm,0.8s,baz=12,slow=19,SNR=2.6						
WRA	Warramunga Arr	25.87	162	P	P	15 46 25.6	+0.2
	0.2nm,0.5s,baz=340,slow=10,SNR=6.1						
STKA	Stephens Creek	39.34	159	P	P	15 48 22.0	-0.8
	4.9nm,1.2s,baz=348,slow=9.3,SNR=3.2						
PETK	Petropavlovsk-	54.82	23	P	P	15 50 23.4	0.0
	0.4nm,0.5s,baz=192,slow=7.2,SNR=4.9						
MKAR	Makanchi Array	56.29	325	P	P	15 50 34.5	+0.2
	0.2nm,0.4s,baz=123,slow=7.8,SNR=5.5						
KURBB	Kurchatov Arra	60.48	327	P	P	15 51 03.0	-0.3
	0.2nm,0.6s,baz=125,slow=6.4,SNR=3.5						

*CSEM **16** 15:59:54.1, 38°.66N×29°.28W, h0km, ML3.6, After PDA*
PDA 16 15:59:54.1±1.0, 38°.66N×29°.28W, h0km±5km, MD3.7, ML3.6, Error ellipse: s-maj=6.7km s-min=5.4km az=88.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	Cedros	0.46	94	eP	Pg	16 00 02.5	-0.4
PCED				eS	Sg	16 00 08.8	0.0
PCED				A	A	16 00 09.1	
	2μm,0.4s						
PCED	Cedros	0.46	94	eP	Pg	16 00 02.5	-0.4
PCED				eS	Sg	16 00 08.8	0.0
CALA	Caldeira	0.46	100	eP	Pg	16 00 02.7	-0.4
CALA				eS	Sg	16 00 09.0	-0.2
CALA	Caldeira	0.46	100	eP	Pg	16 00 02.7	-0.4
CALA				eS	Sg	16 00 09.0	-0.2
HOR	Horta	0.53	105	eP	Pg	16 00 03.6	-0.7
HOR				eS	Sg	16 00 10.6	-0.5
HOR	Horta	0.53	105	eP	Pg	16 00 03.6	-0.7
HOR				eS	Sg	16 00 10.6	-0.5
PCAN	Candelaria	0.66	107	eP	Pg	16 00 05.3	-1.4
PCAN				eS	Sg	16 00 14.3	-1.0
PCAN				A	A	16 00 21.6	
	1μm,0.5s						
PCAN	Candelaria	0.66	107	eP	Pg	16 00 05.3	-1.4
PCAN				eS	Sg	16 00 14.3	-1.0
PICO	Pico	0.69	103	eP	Pg	16 00 06.3	-1.2
PICO				eS	Sg	16 00 15.5	-1.0
PICO	Pico	0.69	103	eP	Pg	16 00 06.3	-1.2
PICO				eS	Sg	16 00 15.5	-1.0
ROSA	Rosais	0.82	86	eP	Pg	16 00 07.7	-2.1
ROSA				eS	Sg	16 00 18.2	-2.2
ROSA				A	A	16 00 19.6	
	714nm,0.1s						
ROSA	Rosais	0.82	86	eP	Pg	16 00 07.7	-2.1
ROSA				eS	Sg	16 00 18.2	-2.2
PPNO	Prainha do Nor	0.82	103	eP	Pg	16 00 08.0	-2.0
PPNO				eS	Sg	16 00 18.4	-2.3
PPNO				A	A	16 00 22.5	
	864nm,0.2s						
PPNO	Prainha do Nor	0.82	103	eP	Pg	16 00 08.0	-2.0
PPNO				eS	Sg	16 00 18.4	-2.3
PMAN	Manadas	0.94	91	eP	Pg	16 00 09.2	-2.9
PMAN				eS	Sg	16 00 21.4	-2.8
PMAN				A	A	16 00 22.8	
	766nm,0.4s						
PMAN	Manadas	0.94	91	eP	Pg	16 00 09.2	-2.9
PMAN				eS	Sg	16 00 21.4	-2.8
PID	Ribeirinha	0.94	103	eP	Pg	16 00 09.8	-2.4
PID	Ribeirinha	0.94	103	eP	Pg	16 00 09.8	-2.4
PGRA	Graciosa	1.08	70	eP	Pg	16 00 11.5	-3.4
PGRA				eS	Sg	16 00 24.6	-4.3
PGRA				A	A	16 00 27.0	
	316nm,0.4s						
PGRA	Graciosa	1.08	70	eP	Pg	16 00 11.5	-3.4
PGRA				eS	Sg	16 00 24.6	-4.3
ADH	Angra Heroismo	1.60	90	eP	Pn	16 00 19.0	-4.7
ADH				A	A	16 00 40.5	
	209nm,0.5s						
ADH	Angra Heroismo	1.60	90	eP	Pn	16 00 19.0	-4.7
PSET	Sete Cidades	2.93	106	eP	Pn	16 00 37.8	-4.2
PSET	Sete Cidades	2.93	106	eP	Pn	16 00 37.8	-4.2
PDA	Ponta Delgada	3.00	107	eP	Pn	16 00 38.6	-4.2
PDA				eS	Sn	16 01 11.2	-8.2
PDA				A	A	16 01 12.5	
	81nm,0.1s						
PDA	Ponta Delgada	3.00	107	eP	Pn	16 00 38.6	-4.2
PDA				eS	Sn	16 01 11.2	-8.2
CMLA	Cha da Macela	3.09	106	eP	Pn	16 00 41.2	-3.0
CMLA	Cha da Macela	3.09	106	eP	Pn	16 00 41.2	-3.0
BART	Pico Bartolome	3.36	104	eP	Pn	16 00 43.8	-4.2
BART	Pico Bartolome	3.36	104	eP	Pn	16 00 43.8	-4.2
PSMA	Santa Maria	3.69	116	eP	Pn	16 00 47.4	-4.9
PSMA				eS	Sn	16 01 28.1	-8.4
PSMA				A	A	16 01 32.8	
	20nm,0.2s						
PSMN	Pico do Norte,	3.73	115	eP	Pn	16 00 48.0	-4.9
PSMN				eS	Sn	16 01 29.2	-8.3
PSMN				A	A	16 01 33.6	
	18nm,0.2s						
PSMN	Pico do Norte,	3.73	115	eP	Pn	16 00 48.0	-4.9
PSMN				eS	Sn	16 01 29.2	-8.3

IDC 16 16:08:32.3±7.0, 20°.76S×179°.84E, h0km, mb3.9/2, mb1 4.2/2, mb1mx3.6/17, mbtmp3.9/2, MS2.8/1, Ms1 2.8/1, ms1mx2.6/23, Error ellipse: s-maj=297.5km s-min=63.1km az=147.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	17.60	187	LR	LR	16 18 22.0	
	comp=Z,33nm,19.4s,baz=36,slow=34						
ASAR	Alice Springs	42.49	257	P	P	16 16 28.5	-1.1
	0.5nm,0.4s,baz=94,slow=7.4,SNR=41						
WRA	Warramunga Arr	42.56	263	P	P	16 16 31.1	+0.8
	0.8nm,0.3s,baz=96,slow=8.3,SNR=85						
BRTR	Keskin Array B	145.50	311	PKPbc	PKPdf	16 28 12.0	-0.8
	0.6nm,0.8s,baz=91,slow=4.7,SNR=3.0						

*ISCJB **16** 16:09:13.2±1.0, 25°.6N±0°.1×101°.2E±0°.1, h13km, mb3.4/5, MS2.8/2, Error ellipse: s-maj=20.0km s-min=8.0km az=34.4*
*BJI **16** 16:09:13.4, 25°.54N×101°.04E, h11km, ML3.3/8*
*IDC **16** 16:09:13.4±1.4, 25°.66N×101°.26E, h0km, mb3.4/5, mb1 3.6/5, mb1mx3.4/26, mbtmp3.5/5, MS2.9/2, Ms1 2.9/2, ms1mx2.6/25, Error ellipse: s-maj=80.5km s-min=19.7km az=65.0*
ISC 16 16:09:15.3±1.4, 25°.7N±0°.1×101°.2E±0°.1, h13km, n9, σ0§41/8, mb3.5/5, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	Kunming	1.50	110	Pg	Pn	16 09 42.5	+0.2
KMI				Sg	Sg	16 10 03.8	-0.1
KMI				smax	smax		
	comp=N,410nm,1.3s						
KMI				smax	smax		
	comp=E,310nm,1.0s						
XAN	Xi'an	10.72	37	P	Pn	16 11 48.8	+0.1
SONM	Songino Array	22.53	9	P	P	16 14 14.8	-0.2
	comp=E,0.6nm,0.6s,baz=194,slow=8.5,SNR=5.5						
KSRS	Korea Array	25.56	56	LR	LR	16 26 34.3	
	comp=E,12nm,19.2s,baz=310,slow=41						
MKAR	Makanchi Array	25.90	329	P	P	16 14 47.8	+0.7
	comp=E,0.8nm,0.8s,baz=139,slow=9.6,SNR=8.7						
ZALV	Zalesovo Beam	30.78	341	P	P	16 15 30.1	-0.3
	comp=E,0.5nm,0.6s,baz=140,slow=11,SNR=3.2						
MJAR	Matsushiro Arr	33.33	62	LR	LR	16 29 13.1	
	comp=E,47nm,20.1s,baz=110,slow=36						
WRA	Warramunga Arr	55.60	141	P	P	16 18 51.0	-0.1
	comp=E,0.8nm,1.1s,baz=317,slow=5.9,SNR=3.9						
ASAR	Alice Springs	58.37	144	P	P	16 19 10.4	-0.2
	comp=E,0.3nm,0.9s,baz=336,slow=6.9,SNR=3.6						

KRSC 16 16:38:21.1±0.4, 49°.32N×156°.86E, h55km±55km, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.45	341	eP	Pn	16 38 45.4	+0.5
SKR				eS	Sn	16 39 02.3	-0.5
PAU	Pauzhetka	2.15	359	eP	Pn	16 38 56.8	+2.3
PAU				eS	Sn	16 39 22.5	+2.5
MIPR	Malaya Ipel'ka	2.96	359	eP	Pn	16 39 08.1	+2.5
MIPR				eS	Sn	16 39 41.3	+1.4
ASAK	Asacha	3.14	12	eP	Pn	16 39 11.9	+3.8
ASAK				eS	Sn	16 39 48.8	+4.4
MTVR	Mutnovka	3.28	14	eP	Pn	16 39 14.2	+4.1
MTVR				eS	Sn	16 39 52.2	+4.3
RUS	Russkaya	3.29	18	eP	Pn	16 39 13.3	+3.3
RUS				eS	Sn	16 39 51.3	+3.4
APC	Apacha	3.62	3	eP	Pn	16 39 18.5	+4.0
PET	Petropavlovsk	3.88	16	eP	Pn	16 39 22.4	+4.3
PET				eS	Sn	16 40 07.5	+5.2
NLC	Nalytchevo	4.16	21	eS	Sn	16 40 11.3	+2.1
KRER	Koryakskii	4.16	16	eS	Sn	16 40 14.0	+4.2
SDLR	Sedlovina	4.16	17	eP	Pn	16 39 25.6	+3.4
SDLR				eS	Sn	16 40 14.2	+4.6
MKZ	Mys Kozlova	6.05	28	eP	Pn	16 39 50.7	+2.9
MKZ				eS	Sn	16 40 56.9	+1.4

*NIC **16** 16:43:02.8±0.3, 34°.80N×33°.13E, h6km, ML3.1, MW3.3*
*ISCJB **16** 16:43:02.8±0.5, 34°.74N±0°.03×33°.10E±0°.03, h8km±3km, Error ellipse: s-maj=5.2km s-min=3.9km az=27.7*
*CSEM **16** 16:43:03.4±0.2, 34°.77N×33°.08E, h5km, Mw3.3, Error ellipse: s-maj=5.1km s-min=3.5km az=25.0*
*ISK **16** 16:43:03.0, 34°.80N×33°.05E, h5km, MD3.3*
*NSSC **16** 16:43:04.3±0.8, 34°.88N×33°.34E, h0km±19km, MD1.8, ML2.0*
*DDA **16** 16:43:20.5, 35°.38N×33°.02E, h17km, MD3.2*
ISC 16 16:43:03.6±0.9, 34°.79N±0°.03×33°.09E±0°.02, h11km±6km, n52, σ1§10/82, 2C-2D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SZAC	Souni-Zanaja	0.18	260	P	Pg	16 43 07.0	-0.6
SZAC				S	Sg	16 43 11.1	+0.8
SZAC	Souni-Zanaja	0.18	260	P	Pg	16 43 07.0	-0.6
SZAC				S	Sg	16 43 11.1	+0.8
CSS	Prodhromos	0.26	48	P	Pg	16 43 08.2	-0.8
	37nm,0.2s						
CSS				S	Sg	16 43 12.1	-0.6
CSS	Prodhromos	0.26	48	P	Pg	16 43 08.2	-0.8
	37nm,0.2s						
CSS				S	Sg	16 43 12.1	-0.6
LEF	Lefka	0.37	333	ePG	Pg	16 43 10.6	-0.5
LEF				eSG	Sg	16 43 16.0	0.0
LEF	Lefka	0.37	333	ePg	Pg	16 43 10.6	-0.5
LEF				eSg	Sg	16 43 16.0	0.0
AKIN	Ak"–nc"–lar- K	0.38	53	ePG	Pg	16 43 11.0	-0.2
AKIN				eSG	Sg	16 43 17.2	+0.9
AKIN	Ak"–nc"–lar- K	0.38	53	ePg	Pg	16 43 11.0	-0.2
AKIN				eSg	Sg	16 43 17.2	+0.9
MAMC	Mammari	0.40	15	⇓P	Pg	16 43 10.4	-1.1
MAMC	Mammari	0.40	15	⇓P	Pg	16 43 10.4	-1.1
ALFC	Alevga	0.55	312	P	Pg	16 43 14.0	-0.4
	20nm,0.3s						
ALFC				S	Sb	16 43 22.6	-0.6
ALFC	Alevga	0.55	312	P	Pg	16 43 14.0	-0.4
	20nm,0.3s						
ALFC				S	Sb	16 43 22.6	-0.6
LFK	Lefkose	0.61	36	ePG	Pg	16 43 15.6	+0.1
LFK	Lefkose	0.61	36	ePg	Pg	16 43 15.6	+0.1
PPCY	Paphos	0.62	279	P	Pg	16 43 15.2	-0.6
PPCY	Paphos	0.62	279	P	Pg	16 43 15.2	-0.6
AKMC	Akamas	0.67	291	⇑P	Pg	16 43 16.9	+0.2
AKMC	Akamas	0.67	291	⇑P	Pg	16 43 16.9	+0.2
PHNC	Paralimni	0.80	74	P	Pb	16 43 20.0	+0.4
	14nm,0.8s						
PHNC				S	Sb	16 43 30.9	+0.5
PHNC	Paralimni	0.80	74	P	Pb	16 43 20.0	+0.4
	14nm,0.8s						
PHNC				S	Sb	16 43 30.9	+0.5
EREN	Erenkoy	1.15	50	ePN	Pg	16 43 26.7	+0.9
EREN	Erenkoy	1.15	50	ePn	Pg	16 43 26.7	+0.9
IKL	Isikli	1.53	18	ePN	Pn	16 43 30.6	-0.2
IKL				eSN	Sg	16 43 52.8	0.0
IKL	Isikli	1.53	18	ePn	Pn	16 43 30.6	-0.2
IKL				eSn	Sg	16 43 52.8	0.0
GAZI	Gazipasa	1.58	336	iP	Pn	16 43 30.6	-1.0
GAZI				iS	Sb	16 43 53.0	+0.2
GAZI	Gazipasa	1.58	336	iP	Pn	16 43 30.6	-1.0
GAZI				iS	Sb	16 43 53.0	+0.2
ERMK	Ermenek	1.86	355	iP	Pn	16 43 34.7	-0.9
ERMK				iS	Sn	16 43 59.7	+0.6
ERMK	Ermenek	1.86	355	iP	Pn	16 43 34.7	-0.9
ERMK				iS	Sn	16 43 59.7	+0.6
KIZK	Mersin	1.89	27	iP	Pn	16 43 36.8	+0.9
KIZK				iS	Sg	16 44 04.8	+0.3
KIZK	Mersin	1.89	27	iP	Pn	16 43 36.8	+0.9
KIZK				iS	Sg	16 44 04.8	+0.3
HDMB	Hadim	2.23	347	ePN	Pn	16 43 41.4	+0.7
HDMB	Hadim	2.23	347	ePn	Pn	16 43 41.4	+0.7
ARNB	Al Arnab	2.58	65	eP	Pn	16 43 45.0	-0.5
ARNB				eS	Sn	16 44 13.4	-3.6
ARNB				AML	AML	16 44 17.9	
	comp=E,30nm,0.3s						
ARNB				AML	AML	16 44 18.3	
	comp=N,10.0nm,0.4s						
ARNB	Al Arnab	2.58	65	eP	Pn	16 43 45.0	-0.5
	SNR=45						
ARNB				eS	Sn	16 44 13.4	-3.6
	comp=N,10.0nm,0.4s,SNR=40						
BRBR	Barbar	2.74	119	eP	Pn	16 43 47.5	-0.2
BRBR				eS	Sn	16 44 19.9	-1.0
BRBR				AML	AML	16 44 21.7	
	comp=E,14nm,0.4s						
BRBR				AML	AML	16 44 24.5	
	comp=N,20nm,0.7s						
BRBR	Barbar	2.74	119	eP	Pn	16 43 47.5	-0.2
	SNR=45						
BRBR				eS	Sn	16 44 19.9	-1.0
	comp=N,20nm,0.7s,SNR=40						
KARA	Karaisali	2.94	32	ePN	Pn	16 43 52.4	+2.1
KARA	Karaisali	2.94	32	ePn	Pn	16 43 52.4	+2.1
SUTC	Sutluce-Ispart	3.17	328	ePN	Pn	16 43 55.0	+1.4
SUTC	Sutluce-Ispart	3.17	328	ePn	Pn	16 43 55.0	+1.4
TCHB	Talchebab	3.19	131	eP	Pn	16 43 54.8	+1.0
TCHB				eS	Sn	16 44 31.9	0.0
TCHB				AML	AML	16 44 38.5	
	comp=E,30nm,0.6s						
TCHB				AML	AML	16 44 43.9	
	comp=N,19nm,0.5s						
TCHB	Talchebab	3.19	131	eP	Pn	16 43 54.8	+1.0
	SNR=45						
TCHB				eS	Sn	16 44 31.9	0.0
	comp=N,19nm,0.5s,SNR=40						
KONT	Konya--Tatoy	3.21	350	ePN	Pn	16 43 55.0	+1.0
KONT	Konya--Tatoy	3.21	350	ePn	Pn	16 43 55.0	+1.0
SULT	Sultanhani-AKS	3.42	6	ePN	Pn	16 43 58.2	+1.2
SULT	Sultanhani-AKS	3.42	6	ePn	Pn	16 43 58.2	+1.2
KOZT	Kozan	3.48	39	ePN	Pn	16 43 59.8	+2.1
KOZT	Kozan	3.48	39	ePn	Pn	16 43 59.8	+2.1
SALA	Sala	3.67	123	eP	Pn	16 44 01.4	+0.9
SALA				eS	Sn	16 44 42.4	-1.5
SALA				AML	AML	16 44 46.5	
	comp=E,1.2nm,0.5s						
SALA				AML	AML	16 44 53.0	
	comp=N,9.8nm,0.8s						
SALA	Sala	3.67	123	eP	Pn	16 44 01.4	+0.9
	SNR=45						
SALA				eS	Sn	16 44 42.4	-1.5
	comp=N,9.8nm,0.8s,SNR=40						
ZALF	Zalf	3.99	117	eP	Pn	16 44 05.5	+0.7
ZALF				eS	Sn	16 44 49.2	-2.3
ZALF				AML	AML	16 44 58.0	
	comp=E,5.1nm,0.4s						
ZALF				AML	AML	16 45 03.9	
	comp=N,6.2nm,0.6s						
ZALF	Zalf	3.99	117	eP	Pn	16 44 05.5	+0.7
	SNR=45						
ZALF				eS	Sn	16 44 49.2	-2.3
	comp=N,6.2nm,0.6s,SNR=40						

GUC 16 16:55:17.6±0.7, 34°.23S×70°.10W, h2km±2km, MD3.6, ML2.7, 6C-7D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMEL	Las Melosas	0.39	347	⇑iP	Pg	16 55 25.8	+0.5
LMEL				AML	AML	16 55 35.0	
	comp=N,1μm,0.3s						
CACH	El Canelo	0.43	284	⇑iP	Pg	16 55 26.4	+0.3
CHCH	Chadas Angostu	0.55	302	⇓iP	Pg	16 55 28.9	+0.7
CHCH				iS	Sb	16 55 37.7	-0.7
PCH	Pirque	0.70	330	⇓iP	Pg	16 55 31.5	+0.4
PCH				iS	Sb	16 55 42.6	-0.1
ANTU	Antumapu	0.79	325	⇓iP	Pg	16 55 33.4	+0.5
ANTU				iS	Sb	16 55 45.5	+0.1
ANTU				AML	AML	16 55 49.1	
	comp=E,454nm,0.5s						
SAN	Santiago	0.90	328	⇓iP	Pg	16 55 35.2	+0.2
SAN				AML	AML	16 55 51.0	
	comp=E,417nm,0.6s						
TACH	Talagante	0.90	309	⇓iP	Pg	16 55 35.1	+0.1
TACH				iS	Sb	16 55 48.4	-0.2
CLCH	Cerro Calan	0.91	336	⇑iP	Pg	16 55 35.3	+0.2
CLCH				AML	AML	16 55 52.6	
	comp=E,726nm,0.6s						
FCH	Farellones	0.91	350	⇑iP	Pb	16 55 36.5	-0.1
FCH				iS	Sb	16 55 50.2	+0.8
FCH				AML	AML	16 55 52.0	
	comp=N,400nm,0.4s						
RCDM	Rinconada Maip	0.94	321	⇓iP	Pg	16 55 36.2	+0.4
RCDM				iS	Sb	16 55 50.1	+0.3
RCDM				AML	AML	16 55 51.1	
	comp=E,305nm,0.1s						
LNV	Longovilo	1.12	283	⇑iP	Pg	16 55 38.5	-0.6
LNV				iS	Sb	16 55 54.9	0.0
PEL	Peldehue	1.19	335	⇓iP	Pg	16 55 40.2	-0.2
PEL				iS	Sn	16 55 58.3	+0.2
PEL				AML	AML	16 56 01.8	
	comp=E,413nm,0.3s						
ROCH	El Roble	1.47	328	⇑iP	Pn	16 55 44.4	-0.9
ROCH				AML	AML	16 56 11.7	
	comp=E,341nm,0.7s						
PACH	Papudo	2.02	326	eP	Pb	16 55 54.2	-1.0

DJA 16 17:25:55.7±2.3, 0°.S±15°×12°.5E±2°.5, h127km±43km, M3.5/4, MLv3.5/4, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	Gorontalo	2.03	290	P	Pn	17 26 31.5	+1.7
GTOI				S	Sn	17 27 01.2	+5.2
LUWI	Luwuk	2.36	245	P	Pn	17 26 34.7	+0.7
MRSI	Marisa	3.02	280	P	Pn	17 26 43.7	+1.2
APSI	Ampana	3.38	255	P	Pn	17 26 46.1	-1.1

IDC 16 17:31:23.7±1.0, 7°.54S×127°.25E, h0km, mb4.0/4, mb1 4.1/7, mb1mx3.9/19, mbtmp4.0/7, ML3.6/3, Error ellipse: s-maj=88.8km s-min=18.4km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	10.62	188	Pn	Pn	17 33 57.4	+0.2
	0.3nm,0.3s,baz=50,slow=4.3,SNR=14						
FITZ				Sn	Sn	17 35 49.5	-7.4
	1.5nm,0.3s,baz=74,slow=15,SNR=11						
WRA	Warramunga Arr	14.12	152	Pn	Pn	17 34 43.4	-1.8
	0.4nm,0.3s,baz=343,slow=9.9,SNR=18						
WRA				Sn	Sn	17 37 12.9	-10
	0.5nm,0.3s,baz=321,slow=24,SNR=13						
ASAR	Alice Springs	17.26	159	P	Pn	17 35 25.8	-0.6
	0.2nm,0.3s,baz=334,slow=10.0,SNR=26						
ASAR		

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.25**	**61**	P	**Pn**	**17 33 57.5**	**-0.4**
PDSI				S	**Sn**	**17 34 14.1**	**+0.4**
PPI	**Padang Panjang**	**1.47**	**44**	P	**Pn**	**17 34 00.3**	**-0.7**
MNSI	**Mandailing Nat**	**2.31**	**5**	P	**Pb**	**17 34 17.1**	**-0.4**
RGRI	**Rengat**	**3.18**	**69**	P	**Pn**	**17 34 27.0**	**+2.5**
MASI	**Maura Aman, Be**	**3.29**	**119**	P	**Pn**	**17 34 27.4**	**+1.4**
GSI	**Gunungsitoli**	**3.33**	**327**	P	**Pn**	**17 34 26.0**	**-0.6**
KSI	**Kapahiang**	**3.85**	**123**	P	**Pn**	**17 34 34.5**	**+0.7**
PSI	**Prapat**	**4.32**	**354**	P	**Pn**	**17 34 39.0**	**-1.2**
PSI				S	**Sn**	**17 35 28.2**	**-1.4**
PSI	**Prapat**	**4.32**	**354**	P	**Pn**	**17 34 39.0**	**-1.2**
	2.9nm,0.3s,baz=171,slow=10,SNR=15						
PSI				S	**Sn**	**17 35 28.2**	**-1.4**
	5.4nm,0.3s,baz=172,slow=15,SNR=4.1						
PSI				LR	LR	17 36 36.4	
	comp=Z,1μm,20.8s,baz=165,slow=42						
LHSI	**Lahat**	**4.74**	**119**	P	**Pn**	**17 34 47.7**	**+1.8**
FRIM	**Kepong**	**5.23**	**25**	P	**Pn**	**17 34 54.4**	**+1.7**
FRIM	**Kepong**	**5.23**	**25**	P	**Pn**	**17 34 54.5**	**+1.7**
KCSI	**Kotacane, Aceh**	**5.26**	**342**	P	**Pn**	**17 34 54.5**	**+1.4**
	84nm,0.9s,3μm						
KGM	**Kluang**	**5.28**	**48**	P	**Pn**	**17 34 55.6**	**+2.1**
MYKOM	**Kota Tinggi**	**5.55**	**54**	P	**Pn**	**17 34 59.5**	**+2.3**
MYKOM	**Kota Tinggi**	**5.55**	**54**	P	**Pn**	**17 34 59.5**	**+2.3**
MYKOM	**Kota Tinggi**	**5.55**	**54**	P	Pn	17 35 01.7	+4.5
	65nm,0.8s,1μm1.5nm						
MDSI	**Maura Dua**	**5.63**	**122**	P	**Pn**	**17 34 59.3**	**+1.1**
	123nm,0.7s,2μm						
LWLI	**Liwa**	**5.83**	**127**	P	**Pn**	**17 35 01.7**	**+0.7**
	740nm,0.7s,9μm						
IPM	**Ipoh**	**6.18**	**15**	*eP*	**Pn**	**17 35 07.0**	**+1.2**
	146nm,0.9s						
IPM	**Ipoh**	**6.18**	**15**	P	**Pn**	**17 35 08.8**	**+3.0**
IPM	**Ipoh**	**6.18**	**15**	P	**Pn**	**17 35 07.2**	**+1.3**
	156nm,1.0s,1μm						
KLI	**Kotabumi**	**6.40**	**121**	P	**Pn**	**17 35 10.6**	**+1.7**
	331nm,0.7s,3μm						
KASI	**Kota Agung**	**6.48**	**128**	P	**Pn**	**17 35 10.0**	**+0.1**
	208nm,0.6s,4μm						
PPBI	**Pangkal Pinang**	**6.79**	**95**	P	Pn	17 35 19.1	+4.9
	31nm,0.5s,0.3nm						
KULM	**Kulim**	**6.88**	**11**	*eP*	**Pn**	**17 35 15.8**	**+0.3**
	46nm,0.6s						
KULM	**Kulim**	**6.88**	**11**	P	**Pn**	**17 35 16.4**	**+1.0**
KULM	**Kulim**	**6.88**	**11**	P	Pn	17 35 22.9	+7.4
TPI	**Tanjungpandan**	**8.37**	**99**	P	Pn	17 35 40.5	+4.7
	32nm,0.6s,388nm0.1nm						
SKLT	**Songkhla**	**8.72**	**8**	P	Pn	17 35 47.3	+6.6
SKLT	**Songkhla**	**8.72**	**8**	P	Pn	17 35 47.3	+6.6
	43nm,0.8s						
DBJI	**Dramaga**	**8.90**	**124**	P	**Pn**	**17 35 43.8**	**+0.7**
	163nm,0.7s,0.7nm						
LEM	**Lembang**	**9.77**	**123**	P	Pn	17 36 03.1	+7.9
CISI	**Cisompet, Garu**	**10.33**	**126**	P	**Pn**	**17 36 03.7**	**+0.9**
	160nm,0.8s						
TGJI	**Tegal**	**11.08**	**119**	P	Pn	17 36 16.4	+3.4
	58nm,0.9s						
KPJI	**Karang Pucung**	**11.14**	**122**	P	**Pn**	**17 36 14.9**	**+1.0**
	121nm,0.8s						
STKI	**Sintang**	**12.21**	**83**	P	**P**	**17 36 43.0**	**+2.4**
NGJI	**Ngawi**	**13.38**	**116**	P	**P**	**17 36 53.0**	**-0.6**
SBUM	**Sibu**	**13.44**	**73**	P	Pn	17 36 50.1	+4.8
	15nm,1.9s,420nm						
SJI	**Sawahan**	**13.81**	**117**	P	**Pn**	**17 36 52.8**	**+2.4**
	73nm,1.1s						
KKM	**Kota Kinabalu**	**18.42**	**66**	*eP*	**P**	**17 37 50.8**	**+1.1**
	22nm,0.9s						
SUKH	**Sukhothai**	**18.88**	**1**	P	**Pn**	**17 37 57.5**	**+2.2**
	5.1nm,0.9s,51nm						
LOEI	**Loei**	**19.00**	**6**	P	**Pn**	**17 37 59.8**	**+3.0**
	68nm,1.0s,5μm						
MMSI	**Mamuju**	**19.56**	**94**	P	**Pn**	**17 38 03.8**	**+0.2**
CM31	**Chiang Mai Arr**	**19.86**	**359**	*eP*	**P**	**17 38 04.9**	**-0.4**
	11nm,0.7s						
CMAR	**Chiang Mai Arr**	**19.86**	**359**	P	**P**	**17 38 05.0**	**-0.3**
CMAR				PcP	**PcP**	**17 42 23.1**	**+0.7**
CMAR	**Chiang Mai Arr**	**19.86**	**359**	P	**P**	**17 38 05.0**	**-0.3**
	0.9nm,0.3s,baz=186,slow=9.8,SNR=52						
CMAR				PcP	**PcP**	**17 42 23.1**	**+0.7**
	0.2nm,0.3s,baz=208,slow=3.0,SNR=5.7						
CHTO	**Chiang Mai**	**20.21**	**359**	*eP*	**P**	**17 38 08.7**	**-0.4**
	7.3nm,0.8s						
CHTO	**Chiang Mai**	**20.21**	**359**	P	Pn	17 38 15.3	+4.1
	12nm,1.0s						
KAPI	**Kappang**	**20.64**	**100**	*eP*	**P**	**17 38 12.2**	**-1.7**
	26nm,0.6s						
KAPI	**Kappang**	**20.64**	**100**	P	**P**	**17 38 12.3**	**-1.6**
	15nm,0.5s,baz=290,slow=9.5,SNR=14						
PAYA	**Payao**	**20.75**	**1**	P	Pn	17 38 21.1	+3.5
	7.8nm,1.0s,71nm						
CMAI	**Chiengmai2**	**21.32**	**359**	P	**P**	**17 38 24.4**	**+3.1**
	28nm,0.7s,4μm						
QIZ	**Qiongzhong**	**22.87**	**26**	P	**P**	**17 38 36.3**	**-1.4**
QIZ				S	**S**	**17 42 47.5**	**+2.0**
QIZ				LR	LR		
	comp=E,250nm,14.1s						
QIZ				LR	LR		
	comp=Z,370nm,14.0s						
ODAN	**Odare**	**30.49**	**339**	*eP*	**P**	**17 39 48.2**	**+0.9**
	comp=Z,32nm,1.0s						
FITZ	**Fitzroy Crossi**	**30.60**	**124**	*eP*	**P**	**17 39 47.1**	**-0.9**
FITZ	**Fitzroy Crossi**	**30.60**	**124**	P	**P**	**17 39 46.9**	**-1.2**
	comp=Z,15nm,0.8s,baz=284,slow=5.5,SNR=12						
FITZ				LR	LR	17 54 03.3	
	comp=Z,135nm,19.5s,baz=325,slow=40						
TAPN	**Taplejung**	**30.82**	**339**	*eP*	**P**	**17 39 51.2**	**+0.9**
	comp=Z,62nm,1.0s						
RAMN	**Ramite**	**30.87**	**337**	*eP*	**P**	**17 39 51.7**	**+1.1**
	comp=Z,21nm,0.9s						
JIRN	**Jiri**	**31.66**	**337**	*eP*	**P**	**17 39 58.6**	**+0.8**
	comp=Z,57nm,0.8s						
GUN	**Gumba**	**32.01**	**337**	*eP*	**P**	**17 40 01.5**	**+0.7**
	comp=Z,42nm,0.6s						
LSA	**Lhasa**	**32.02**	**346**	P	**P**	**17 40 01.0**	**0.0**
LSA	**Lhasa**	**32.02**	**346**	*eP*	**P**	**17 40 01.8**	**+0.7**
	comp=Z,16nm,0.9s						
DMN	**Daman**	**32.05**	**336**	*eP*	**P**	**17 40 01.4**	**+0.4**
	comp=Z,16nm,0.8s						
KKN	**Kakani**	**32.14**	**336**	*eP*	**P**	**17 40 02.4**	**+0.6**
	comp=Z,27nm,0.8s						
KOLN	**Koldanda**	**32.83**	**334**	*eP*	**P**	**17 40 08.5**	**+0.6**
	comp=Z,20nm,0.6s						
ENH	**Enshi**	**33.05**	**16**	*eP*	**P**	**17 40 07.2**	**-2.4**
	comp=Z,4.4nm,0.6s						
DANN	**Dangsing**	**33.27**	**334**	*eP*	**P**	**17 40 12.3**	**+0.6**
NWAO	**Narrogin (SRO)**	**35.47**	**154**	P	**P**	**17 40 30.5**	**+0.1**
NWAO	**Narrogin (SRO)**	**35.47**	**154**	P	**P**	**17 40 30.5**	**+0.1**
	comp=Z,12nm,0.7s,baz=358,slow=9.5,SNR=6.7						
NWAO				LR	LR	17 53 31.4	
	comp=Z,223nm,21.2s,baz=212,slow=34						
WRA	**Warramunga Arr**	**38.77**	**121**	P	**P**	**17 40 57.6**	**-1.1**
WRA				PcP	**PcP**	**17 43 10.2**	**+0.1**
WRA				S	**S**	**17 46 50.8**	**-3.8**
WRA	**Warramunga Arr**	**38.77**	**121**	P	**P**	**17 40 57.6**	**-1.1**
	comp=Z,21nm,0.5s,baz=303,slow=9.0,SNR=85						
WRA				PcP	**PcP**	**17 43 10.2**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=305,slow=2.5,SNR=4.7						
WRA				S	**S**	**17 46 50.8**	**-3.8**
	comp=Z,1.1nm,0.9s,baz=294,slow=16,SNR=5.1						
WRAB	**Tennant Creek**	**38.78**	**121**	*eP*	**P**	**17 40 57.4**	**-1.4**
ASAR	**Alice Springs**	**40.04**	**126**	P	**P**	**17 41 08.9**	**-0.4**
ASAR				PcP	**PcP**	**17 43 14.2**	**+0.3**
ASAR				S	**S**	**17 47 11.9**	**-1.6**
ASAR	**Alice Springs**	**40.04**	**126**	P	**P**	**17 41 08.9**	**-0.4**
	comp=Z,7.9nm,0.7s,baz=300,slow=7.8,SNR=49						
ASAR				PcP	**PcP**	**17 43 14.2**	**+0.3**
	comp=Z,3.2nm,0.9s,baz=320,slow=3.2,SNR=6.3						
ASAR				S	**S**	**17 47 11.9**	**-1.6**
	comp=Z,1.2nm,0.7s,baz=298,slow=15,SNR=8.8						
ASAR				LR	LR	17 59 04.5	
	comp=Z,171nm,18.1s,baz=277,slow=38						
GTA	**Gaotai**	**40.73**	**1**	P	**P**	**17 41 15.8**	**+1.0**
GTA				pP	**pP**	**17 41 23.1**	**-0.7**
GTA				sP	**sP**	**17 41 26.5**	**-0.9**
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
JNU	**Nakatsue**	**45.50**	**38**	P	**P**	**17 41 52.6**	**-0.8**
JNU	**Nakatsue**	**45.50**	**38**	P	**P**	**17 41 52.6**	**-0.8**
	comp=Z,7.8nm,0.7s,baz=148,slow=2.7,SNR=7.6						
WMQ	**Urumqi**	**46.34**	**348**	P	**P**	**17 42 00.6**	**+0.7**
WMQ				pP	**pP**	**17 42 10.6**	**+1.7**
WMQ				sP	**sP**	**17 42 14.6**	**+2.1**
WMQ				pmax	pmax		
	comp=Z,45nm,1.0s						
WMQ				pmax	pmax		
	comp=Z,200nm,4.8s						
WMQ				LR	LR		
	comp=N,120nm,22.8s						
WMQ				LR	LR		
	comp=E,120nm,20.6s						
WMQ				LR	LR		
	comp=Z,76nm,21.4s						
KSAR	**Wonju Array Be**	**46.90**	**31**	P	**P**	**17 42 03.7**	**-0.6**
KSRS	**Korea Array**	**46.93**	**31**	P	**P**	**17 42 03.7**	**-0.8**
	comp=Z,2.3nm,0.6s,baz=222,slow=8.0,SNR=16						
KSRS				LR	LR	18 01 58.9	
	comp=Z,65nm,18.7s,baz=57,slow=36						
TKM2	**Tokmak 2**	**49.15**	**337**	*eP*	**P**	**17 42 22.3**	**+0.4**
	comp=Z,8.7nm,0.9s						
AAK	**Ala-Archa**	**49.35**	**336**	*eP*	**P**	**17 42 22.1**	**-1.3**
	comp=Z,9.7nm,1.3s						
CTA	**Charters Tower**	**49.37**	**115**	P	**P**	**17 42 22.8**	**-0.9**
CTA	**Charters Tower**	**49.37**	**115**	P	**P**	**17 42 22.8**	**-0.9**
	comp=Z,15nm,0.9s,baz=280,slow=11,SNR=10.0						
SONM	**Songino Array**	**49.53**	**6**	P	**P**	**17 42 24.4**	**-0.2**
SONM				PcP	**PcP**	**17 43 45.5**	**-0.7**
SONM	**Songino Array**	**49.53**	**6**	P	**P**	**17 42 24.4**	**-0.2**
	comp=Z,2.1nm,0.6s,baz=189,slow=9.2,SNR=22						
SONM				PcP	**PcP**	**17 43 45.5**	**-0.7**
	comp=Z,2.3nm,0.6s,baz=191,slow=4.6,SNR=5.6						
ULN	**Ulaanbaatar**	**49.64**	**7**	*eP*	**P**	**17 42 24.1**	**-1.3**
	comp=Z,2.3nm,0.6s						
EKS2	**Erkin-Say**	**49.67**	**335**	*eP*	**P**	**17 42 26.2**	**+0.5**
	comp=Z,7.7nm,0.8s						
STKA	**Stephens Creek**	**49.94**	**132**	*eP*	**P**	**17 42 28.1**	**+0.2**
	comp=Z,3.5nm,0.7s						
STKA	**Stephens Creek**	**49.94**	**132**	P	**P**	**17 42 27.9**	**+0.1**
	comp=Z,22nm,0.7s,baz=302,slow=6.8,SNR=64						
STKA				LR	LR	18 04 38.2	
	comp=Z,124nm,21.3s,baz=225,slow=37						
MK31	**Makanchi Array**	**50.40**	**345**	*eP*	**P**	**17 42 31.1**	**0.0**
MKAR	**Makanchi Array**	**50.40**	**345**	P	**P**	**17 42 31.4**	**+0.3**
MKAR	**Makanchi Array**	**50.40**	**345**	P	**P**	**17 42 31.4**	**+0.3**
	comp=Z,6.7nm,0.7s,baz=150,slow=8.1,SNR=63						
MKAR				LR	LR	18 08 20.1	
	comp=Z,61nm,19.2s,baz=334,slow=41						
KKAR	**Karatay Array**	**51.44**	**333**	*eP*	**P**	**17 42 38.2**	**-0.8**
	comp=Z,1.1nm,0.5s						
MJAR	**Matsushiro Arr**	**52.30**	**40**	P	**P**	**17 42 45.3**	**-0.2**
MJAR	**Matsushiro Arr**	**52.30**	**40**	P	**P**	**17 42 45.3**	**-0.2**
	comp=Z,1.2nm,0.7s,baz=225,slow=7.4,SNR=3.4						
MJAR				LR	LR	18 07 53.6	
	comp=Z,61nm,18.3s,baz=220,slow=39						
IPAY	**Payeh**	**53.24**	**319**	*eP*	P	17 42 47.9	-4.9
OPO	**Ambohidratompo**	**53.86**	**248**	P	**P**	**17 42 58.4**	**+0.9**
OPO	**Ambohidratompo**	**53.86**	**248**	P	**P**	**17 42 58.4**	**+0.9**
	comp=Z,1.3nm,0.7s,baz=128,slow=15,SNR=4.2						
USRK	**Ussuriysk Arra**	**54.04**	**29**	P	**P**	**17 42 57.6**	**-0.5**
	comp=Z,3.9nm,0.6s,baz=210,slow=3.7,SNR=11						
ZAA0	**Zalesovo Array**	**56.59**	**350**	*eP*	**P**	**17 43 16.0**	**-0.3**
ZALV	**Zalesovo Beam**	**56.59**	**350**	P	**P**	**17 43 16.2**	**0.0**
ZALV	**Zalesovo Beam**	**56.59**	**350**	P	**P**	**17 43 16.2**	**0.0**
	comp=Z,14nm,0.7s,baz=182,slow=5.7,SNR=43						
ZALV				LR	LR	18 12 18.0	
	comp=Z,51nm,19.2s,baz=59,slow=41						
RDF	**Al-Radifah**	**58.06**	**306**	*eP*	**P**	**17 43 27.2**	**-0.1**
RDF				AMb	AMB	17 43 28.5	
	comp=Z,36nm,1.4s						
UMR	**Umm Al-Rimmam**	**58.17**	**306**	*eP*	**P**	**17 43 27.8**	**-0.2**
NAY	**Al-Naaiem**	**58.44**	**306**	*eP*	**P**	**17 43 29.2**	**-0.6**
NAY				AMb	AMB	17 43 30.1	
	comp=Z,11nm,0.6s						
RST	**Umm Al-Ruwaisa**	**58.73**	**306**	*eP*	**P**	**17 43 31.3**	**-0.5**
RST				AMb	AMB	17 43 32.3	
	comp=Z,167nm,0.8s						
ASAJ	**Asahikawa**	**59.58**	**35**	P	**P**	**17 43 38.0**	**+0.5**
ASAJ	**Asahikawa**	**59.58**	**35**	P	**P**	**17 43 38.0**	**+0.5**
	comp=Z,4.8nm,0.9s,baz=226,slow=13,SNR=3.8						
ASAJ				LR	LR	18 12 49.2	
	comp=Z,47nm,18.6s,baz=349,slow=40						
BRVK	**Borovoye**	**59.58**	**340**	*eP*	**P**	**17 43 35.6**	**-1.7**
	comp=Z,3.8nm,0.8s						
HNR	**Honiara**	**60.73**	**100**	P	**P**	**17 43 44.8**	**-1.2**
HNR	**Honiara**	**60.73**	**100**	P	**P**	**17 43 44.8**	**-1.2**
	comp=Z,26nm,0.7s,baz=233,slow=10,SNR=3.3						
ABKAR	**Akbulak array**	**60.92**	**332**	*eP*	**P**	**17 43 45.4**	**-1.2**
	comp=Z,3.4nm,0.7s						
KMBO	**Kilima Mbogo**	**62.10**	**270**	P	**P**	**17 43 57.1**	**+1.6**
KMBO	**Kilima Mbogo**	**62.10**	**270**	P	**P**	**17 43 57.1**	**+1.6**
	comp=Z,0.8nm,0.2s,baz=57,slow=10,SNR=12						
KBZ	**Khabaz**	**67.54**	**319**	P	**P**	**17 44 29.9**	**-0.2**
KBZ	**Khabaz**	**67.54**	**319**	P	**P**	**17 44 29.9**	**-0.2**
	comp=Z,4.6nm,0.7s,baz=120,slow=7.8,SNR=12						
DZM	**Mont Dzumac**	**68.22**	**113**	LR	LR	18 15 57.8	
	comp=Z,94nm,18.3s,baz=216,slow=37						
BRTR	**Keskin Array B**	**72.54**	**313**	P	**P**	**17 45 00.1**	**-1.0**
BRTR	**Keskin Array B**	**72.54**	**313**	P	**P**	**17 45 00.1**	**-1.0**
	comp=Z,1.6nm,0.6s,baz=135,slow=7.0,SNR=10						
PETK	**Petropavlovsk-**	**72.82**	**32**	P	**P**	**17 45 01.6**	**-0.7**
PETK	**Petropavlovsk-**	**72.82**	**32**	P	**P**	**17 45 01.6**	**-0.7**
	comp=Z,1.8nm,0.8s,baz=214,slow=3.6,SNR=3.5						
PETK				LR	LR	18 21 26.2	
	comp=Z,33nm,20.4s,baz=281,slow=39						
BOSA	**Boshof**	**75.34**	**241**	P	**P**	**17 45 17.7**	**0.0**
BOSA	**Boshof**	**75.34**	**241**	P	**P**	**17 45 17.7**	**0.0**
	comp=Z,3.7nm,0.9s,baz=149,slow=3.5,SNR=3.7						
BOSA				LR	LR	18 16 20.8	
	comp=Z,115nm,18.3s,baz=63,slow=34						
AKASG	**Malin Array Be**	**78.72**	**322**	P	**P**	**17 45 34.7**	**-1.3**
AKASG	**Malin Array Be**	**78.72**	**322**	P	**P**	**17 45 34.7**	**-1.3**
	comp=Z,0.5nm,0.2s,baz=94,slow=4.4,SNR=6.0						
VRI	**Vrincioaia**	**79.08**	**317**	⇑P	**P**	**17 45 37.4**	**-0.7**
TESR	**Tescani**	**79.28**	**318**	⇓P	P	17 45 35.4	-3.8
BURAR	**Bucovina Array**	**80.49**	**319**	⇑P	**P**	**17 45 44.4**	**-1.5**
BUR08	**Bucovina Ar. S**	**80.50**	**319**	*eP*	**P**	**17 45 46.4**	**+0.5**
VTS	**Vitosha**	**80.86**	**313**	⇑P	**P**	**17 45 46.7**	**-1.4**
BZS	**Buzias**	**82.53**	**316**	⇑P	**P**	**17 45 56.7**	**+0.1**
KWP	**Kalwaria Pacla**	**82.53**	**320**	⇓P	P	17 45 45.7	-11
KOLS	**Kolonicke sedl**	**82.68**	**320**	*eP*	**P**	**17 45 58.0**	**+0.7**
VNDA	**Vanda**	**82.75**	**169**	P	**P**	**17 45 58.0**	**+0.9**
VNDA	**Vanda**	**82.75**	**169**	P	**P**	**17 45 58.0**	**+0.9**
	comp=Z,1.9nm,0.7s,baz=298,slow=5.8,SNR=16						
CRVS	**Cervenica-Dubn**	**83.20**	**319**	*eP*	**P**	**17 46 00.5**	**+0.5**
FINES	**FINESS Array B**	**83.40**	**332**	P	**P**	**17 46 00.6**	**-0.1**
FINES	**FINESS Array B**	**83.40**	**332**	P	**P**	**17 46 00.6**	**-0.1**
	comp=Z,2.9nm,0.5s,baz=103,slow=5.2,SNR=26						
STHS	**Stebnicka Huta**	**83.43**	**320**	*eP*	**P**	**17 46 02.2**	**+1.0**
KECS	**Kecovo**	**83.77**	**319**	*eP*	**P**	**17 46 03.2**	**+0.3**
VYHS	**Vyhne**	**84.86**	**319**	*eP*	**P**	**17 46 07.6**	**-0.9**
ARCES	**ARCESS Array B**	**85.81**	**340**	P	**P**	**17 46 12.9**	**+0.2**
ARCES	**ARCESS Array B**	**85.81**	**340**	P	**P**	**17 46 12.9**	**+0.2**
	comp=Z,3.5nm,0.9s,baz=79,slow=7.5,SNR=5.4						
ARCES				LR	LR	18 30 53.6	
	comp=Z,90nm,19.3s,baz=285,slow=40						
DPC	**Dobruska-Polom**	**86.72**	**320**	*eP*	**P**	**17 46 18.3**	**+0.6**
GERES	**GERESS Array B**	**88.28**	**319**	P	**P**	**17 46 24.9**	**-0.4**
GERES	**GERESS Array B**	**88.28**	**319**	P	**P**	**17 46 24.9**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=92,slow=4.0,SNR=9.9						
KHC	**Kasperske Hory**	**88.38**	**319**	*eP*	**P**	**17 46 26.5**	**+0.8**
NOA	**NORSAR Array B**	**90.42**	**331**	LR	LR	18 30 00.4	
	comp=Z,51nm,18.4s,baz=0.0,slow=37						
KEST	**Kesra**	**90.90**	**306**	P	**P**	**17 46 39.1**	**+1.2**
KEST	**Kesra**	**90.90**	**306**	P	**P**	**17 46 39.1**	**+1.2**
	comp=Z,3.9nm,1.1s,baz=27,slow=2.3,SNR=5.4						
SNAA	**Sanae**	**92.40**	**198**	LR	LR	18 22 53.1	
	comp=Z,31nm,21.4s,baz=184,slow=32						
NVAR	**Mina Array Bea**	**129.62**	**39**	PKP	**PKPdf**	**17 52 44.4**	**+1.0**
NVAR	**Mina Array Bea**	**129.62**	**39**	PKP	**PKPdf**	**17 52 44.4**	**+1.0**
	comp=Z,0.5nm,0.6s,baz=239,slow=2.3,SNR=4.6						
PDAR	**Pinedale Array**	**131.46**	**28**	PKP	**PKPdf**	**17 52 47.0**	**+0.2**
PDAR	**Pinedale Array**	**131.46**	**28**	PKP	**PKPdf**	**17 52 47.0**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=298,slow=1.9,SNR=2.8						
CPUP	**Villa Florida**	**144.33**	**217**	PKP	PKPbc	17 53 09.2	+0.4
CPUP	**Villa Florida**	**144.33**	**217**	PKP	PKPbc	17 53 09.2	+0.4
	comp=Z,7.3nm,0.7s,baz=124,slow=2.9,SNR=19						
TXAR	**Lajitas Array**	**144.69**	**36**	PKP	**PKPab**	**17 53 10.3**	**+0.4**
TXAR	**Lajitas Array**	**144.69**	**36**	PKP	**PKPab**	**17 53 10.3**	**+0.4**
	comp=Z,9.3nm,0.6s,baz=257,slow=1.1,SNR=71						
MIAR	**Mount Ida**	**144.99**	**19**	*e*PKPdf	**PKPbc**	**17 53 10.4**	**-0.3**
JCT	**Junction City**	**145.94**	**30**	*e*PKPdf	**PKPdf**	**17 53 13.8**	**+0.5**

IDC 16 17:45:50.0±5.0, 1°70S×148°71E, h0km, mb3.1/3, mb1 3.3/3, mb1mx3.1/18, mbtmp3.1/3, Error ellipse: s-maj=157.9km s-min=35.9km az=99.0, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.93**	**217**	P	P	17 50 55.3	-0.7
	0.2nm,0.3s,baz=44,slow=11,SNR=7.4						
ASAR	**Alice Springs**	**26.12**	**212**	P	P	17 51 27.3	+1.3
	0.2nm,0.8s,baz=45,slow=8.5,SNR=5.0						
MKAR	**Makanchi Array**	**75.33**	**319**	P	P	17 57 34.7	-0.6
	0.1nm,0.5s,baz=106,slow=5.9,SNR=3.1						

KRSC 16 17:54:42.1±0.4, 55°84N×162°57E, h38km±27km, ML3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.40**	**21**	*e*P	Pn	17 54 50.5	-0.6
KBTR				*i* S	Sn	17 54 57.8	-0.1
SMKR	**Semkarok**	**0.97**	**321**	*e*P	Pn	17 54 59.4	+0.2
SMKR				*i* S	Sn	17 55 11.2	-0.6
ZLN	**Zelenaya**	**1.01**	**281**	*e*P	Pn	17 55 00.3	+0.5
ZLN				*i* S	Sn	17 55 12.6	-0.3
BDR	**Baidarnaya**	**1.05**	**314**	*e*P	Pn	17 55 01.1	+0.7
BDR				*i* S	Sn	17 55 15.6	+1.6
CIRR	**Tsirk**	**1.06**	**286**	*e*P	Pn	17 55 00.0	-0.6
LGNR	**Loginova**	**1.08**	**284**	*e*P	Pn	17 55 01.5	+0.4
LGNR				*i* S	Sn	17 55 15.5	+0.3
SRKR	**Sorokina**	**1.13**	**317**	*e*P	Pn	17 55 02.2	+0.7
SRKR				*i* S	Sn	17 55 17.5	+1.7
KLY	**Klyuchi**	**1.18**	**295**	*e*P	Pn	17 55 00.9	-1.0
KLY				*i* S	Sn	17 55 13.7	-3.0
KRSR	**Krestovskiy**	**1.19**	**289**	*e*P	Pn	17 55 02.3	0.0
KRSR				*i* S	Sn	17 55 17.4	+0.1
MKZ	**Mys Kozlova**	**1.37**	**201**	*e*P	Pn	17 55 04.5	-0.2
MKZ				*i* S	Sn	17 55 20.6	-0.9
BKI	**Bering**	**2.04**	**107**	*e*P	Pn	17 55 13.9	+0.1
BKI				*i* S	Sn	17 55 37.3	-0.6
KII	**Karymskiy**	**2.55**	**226**	*e*P	Pn	17 55 21.5	+0.5
SDLR	**Sedlovina**	**3.35**	**221**	*e*P	Pn	17 55 33.7	+1.7
SDLR				*i* S	Sn	17 56 11.7	+1.2
KRER	**Koryakskii**	**3.38**	**223**	*e*P	Pn	17 55 34.6	+2.1
KRER				*i* S	Sn	17 56 13.6	+2.1
SMAR	**Somma**	**3.39**	**222**	*e*P	Pn	17 55 33.2	+0.5
UGLR	**Uglovaya**	**3.42**	**221**	*e*P	Pn	17 55 34.2	+1.2
UGLR				*i* S	Sn	17 56 12.5	+0.1
GNL	**Ganaly**	**3.44**	**233**	*e*P	Pn	17 55 35.0	+1.8
PET	**Petropavlovsk**	**3.63**	**221**	*e*P	Pn	17 55 38.6	+2.9
PET				*i* S	Sn	17 56 19.2	+2.0
RUS	**Russkaya**	**4.16**	**217**	*e*P	Pn	17 55 44.0	+1.0
RUS				*i* S	Sn	17 56 28.9	-1.4
MTVR	**Mutnovka**	**4.24**	**219**	*e*P	Pn	17 55 46.7	+2.5
MTVR				*i* S	Sn	17 56 33.7	+1.2
APC	**Apacha**	**4.30**	**230**	*e*P	Pn	17 55 46.3	+1.4
ASAK	**Asacha**	**4.42**	**220**	*e*P	Pn	17 55 49.5	+2.8

*IDC **16** 18:03:10.8±1.6, 43°60N×105°24W, h0km, mb3.8/6, mb1 3.9/10, mb1mx3.7/30, mbtmp3.7/10, ML3.9/4, MS3.1/4, Ms1 3.

baz=2.0
H26A Fairpoint 2.01 63 ⇓P Pn 18 03 47.9 +0.8
baz=2.0,SNR=53
G21A Lodge Grass 2.04 318 P Pn 18 03 47.9 +0.3
baz=2.0,SNR=214
G21A ⇑Sb **Sb 18 04 16.7 +1.0**
baz=2.0
J20A Shoshoni 2.07 261 ⇓Pb Pb 18 03 50.1 -0.3
baz=2.1
I20A Worland 2.08 277 ⇑P Pn 18 03 48.9 +0.8
baz=2.1,SNR=219
I20A ⇓Sb **Sb 18 04 17.5 +0.7**
baz=2.1
H20A Greybull 2.10 292 ⇓P Pn 18 03 48.2 -0.2
baz=2.1,SNR=61
F22A Rosebud 2.17 342 ⇑P Pn 18 03 49.0 -0.2
baz=2.2,SNR=180
F24A Ekalaka 2.20 15 ⇓P Pn 18 03 50.5 +0.7
baz=2.2
M24A Cheyenne 2.28 171 ⇓P Pb 18 03 52.6 -1.4
baz=2.3
L26A Underwood Farm 2.33 135 ⇑Pb Pb 18 03 55.0 +0.1
baz=2.3
L21A Rawlins 2.34 222 ⇓P Pn 18 03 52.9 +1.2
baz=2.4
G27A Dupree 2.36 45 P Pg 18 04 00.4 +3.4
baz=2.9,SNR=20
I27A Quinn 2.36 80 ⇓P Pb 18 03 53.8 -1.4
baz=2.3
PHWY Pilot Hill 2.42 183 *e*P Pn 18 03 54.3 +1.3
J27A Elkhorn Farm, 2.43 100 ⇑P Pb 18 03 55.1 -1.4
baz=2.4
K27A Flueckinger Fa 2.45 114 ⇓P Pn 18 03 54.4 +1.3
baz=2.4,SNR=46
M25A Palm-Egli Farm 2.46 158 ⇓P Pb 18 03 55.4 -1.7
baz=2.5
F21A Absaloka Mine, 2.48 329 ⇓P Pn 18 03 53.3 -0.2
baz=2.5,SNR=18
G26A Maurine 2.48 50 ⇑P Pn 18 03 54.8 +1.3
baz=2.4,SNR=92
G26A ⇑Sb **Sg 18 04 30.5 -0.9**
baz=2.4
K20A Yellowstone Ra 2.48 246 ⇑Pb Pb 18 03 56.7 -0.7
baz=2.5
RWWY Rawlins 2.48 216 *e*P Pb 18 03 55.6 -1.8
M22A Cedar Creek Ra 2.52 203 ⇑P Pb 18 03 56.3 -1.7
baz=2.5
F25A Bowman 2.55 30 ⇑P Pn 18 03 56.0 +1.4
baz=2.5
G20A Bridger 2.58 306 P Pn 18 03 54.6 -0.3
baz=2.6,SNR=402
I19A Meeteetse 2.71 278 ⇑P Pn 18 03 57.6 +0.8
baz=2.7,SNR=91
E22A Miles City 2.76 350 P Pn 18 03 57.1 -0.2
baz=2.7,SNR=32
E22A ⇑S **Sn 18 04 32.2 +0.9**
baz=2.7
K19A Absolon Red Bu 2.76 252 ⇑P Pn 18 03 58.4 +0.9
baz=2.8
K19A ⇑Sb **Sb 18 04 37.6 +1.1**
baz=2.8
J19A Crowheart 2.79 262 ⇓P Pn 18 03 59.6 +1.8
baz=2.8
F26A Lodgepole 2.82 40 ⇑P Pn 18 04 00.6 +2.4
baz=2.8
F26A ⇓Sb **Sg 18 04 40.7 -1.8**
baz=2.8
H19A Powell 2.83 291 ⇑P Pn 18 03 59.2 +0.7
baz=2.8,SNR=31
L20A Wamsutter 2.83 234 ⇑P Pn 18 04 00.6 +2.1
baz=2.9
N23A Red Feather La 2.87 190 ⇑P Pn 18 04 00.7 +1.6
baz=2.9
F20A Billings 2.91 316 ⇑P Pn 18 03 59.3 -0.3
baz=2.9,SNR=26
E24A Baker 2.92 13 ⇓P Pn 18 04 00.5 +0.9
baz=2.9,SNR=51
LAO LASA Array 3.04 348 *e*P Pn 18 03 60.0 -1.3
N25A Grover 3.04 163 ⇑Sb Sg 18 04 48.1 -1.4
baz=3.1
N22A Wattenberg Ran 3.05 197 ⇑Sb Sg 18 04 47.5 -2.3
baz=3.1
E25A Miller Ranch, 3.08 25 ⇓P Pn 18 04 02.3 +0.5
baz=3.0,SNR=8.1
E21A Keefer Ranch, 3.09 336 ⇑P Pn 18 04 01.8 -0.1
baz=3.1
F27A Lemmon 3.16 46 ⇓P Pn 18 04 03.3 +0.4
baz=3.1,SNR=5.5
RLMT Red Lodge 3.18 297 *e*P Pn 18 04 03.5 +0.2
H28A Mission Ridge 3.21 71 ⇑P Pn 18 04 04.5 +1.0
baz=3.2
PDAR Pinedale Array 3.27 254 Pn Pn 18 04 06.1 +1.5
PDAR Lg Lg 18 04 51.6
PDAR Pinedale Array 3.27 254 Pn Pn 18 04 06.1 +1.5
6.5nm,0.3s,baz=68,slow=15,SNR=52
PDAR Lg Lg 18 04 51.6
20nm,0.3s,baz=66,slow=29,SNR=6.7
BW06 Boulder Array 3.27 254 *e*P Pn 18 04 06.2 +1.6
N26A Koester Ranch, 3.27 152 ⇑P Pn 18 04 05.5 +1.0
baz=3.3
H18A Shoshone NF, C 3.29 288 ⇓P Pn 18 04 05.0 +0.1
baz=3.3,SNR=45
F19A Roth Farm, Mol 3.37 310 ⇑P Pn 18 04 06.3 +0.5
baz=3.4,SNR=162
E26A Carlson Angus 3.39 35 ⇓P Pn 18 04 06.7 +0.6
baz=3.4
G28A Parade 3.41 65 ⇓P Pn 18 04 06.6 +0.3
baz=3.4
E20A Meyer Farm, Mu 3.44 325 ⇑P Pn 18 04 06.4 -0.3
baz=3.4
D23A Lindsay 3.45 1 ⇑P Pn 18 04 07.5 +0.7
baz=3.4,SNR=36
D24A Glendive 3.46 11 ⇑P Pn 18 04 08.1 +1.2
baz=3.4,SNR=26
D22A Cohagen 3.48 350 ⇑P Pn 18 04 07.3 0.0
baz=3.5,SNR=6.4
D21A La Casta Ranch 3.55 341 ⇓P Pn 18 04 08.3 0.0
baz=3.5
N27A Anderson Farm, 3.56 144 ⇑P Pn 18 04 09.6 +1.2
baz=3.6
N20A Spence Gulch, 3.64 218 ⇑P Pn 18 04 11.0 +1.4
baz=3.7
OGNE Ogallala 3.67 138 *e*Pg Pg 18 04 21.3 -0.9
D25A Fairfield 3.69 21 ⇓P Pn 18 04 12.0 +1.8
baz=3.7
E19A Rath Farm, Rou 3.70 319 ⇓P Pn 18 04 09.9 -0.4
baz=3.7,SNR=39
M28A Bar X Bar Ranc 3.71 128 ⇑P Pn 18 04 11.6 +1.2
baz=3.7
O25A Wiggins 3.71 166 ⇑P Pn 18 04 12.5 +2.0
baz=3.7
GCMT Greycliff 3.75 305 *e*P Pn 18 04 11.7 +0.7
LKWY Lake 3.78 285 *e*P Pn 18 04 13.3 +1.7
C24A Savage 3.85 9 ⇑P Pn 18 04 13.7 +1.3
baz=3.8,SNR=18
LOHW Long Hollow 3.87 270 *e*P Pn 18 04 14.8 +2.0
D20A Manuel Ranch, 3.92 330 ⇑P Pn 18 04 13.1 -0.3
baz=3.9,SNR=19
ISCO Idaho Springs 3.93 184 *e*P Pn 18 04 16.0 +2.3
FLWY Flagg Ranch 3.94 277 *e*Pg Pb 18 04 23.4 +1.2
MOOW Moose Ponds 3.96 272 *e*P Pn 18 04 16.3 +2.3
SNOW Snow King Moun 3.99 268 *e*Pn Pn 18 04 15.5 +1.1
C22A Vida 4.04 354 ⇓P Pn 18 04 16.1 +1.1
baz=4.0,SNR=44
REDW Red Top Meadow 4.07 267 *e*Pn Pn 18 04 13.5 -2.1
YFT Old Faithful 4.07 282 *e*Pn Pn 18 04 13.9 -1.6
C23A Lambert 4.08 1 ⇓P Pn 18 04 16.6 +1.1
baz=4.1,SNR=33
IMW Indian Meadow 4.10 274 *e*P Pn 18 04 17.4 +1.4
O27A Beecher Island 4.10 148 ⇑P Pn 18 04 17.0 +1.2
baz=4.1,SNR=23
TPAW Teton Pass 4.13 269 *e*P Pn 18 04 18.4 +2.1
O20A White River Ci 4.21 213 *e*P Pn 18 04 18.8 +1.3
C21A Desert Coulee 4.29 343 ⇑P Pn 18 04 19.0 +0.6
baz=4.3,SNR=14
E28A Huff 4.32 47 ⇑P Pn 18 04 19.5 +0.7
baz=4.3,SNR=8.7
AHID Auburn Hatcher 4.36 259 *e*Pn Pn 18 04 19.5 0.0
RRI2 Red Ridge 4.41 267 *e*P Pn 18 04 21.1 +0.8
C20A Veseth Ranch, 4.42 335 ⇑P Pn 18 04 20.4 +0.2
baz=4.4,SNR=16
QLMT Earthquake Lak 4.55 286 Pn Pn 18 04 23.6 +1.4
BRSD Miller 4.61 79 Pn Pn 18 04 25.3 +2.6
P27A Ficken Ranch, 4.63 153 ⇓P Pn 18 04 24.3 +1.1
baz=4.6,SNR=21
SMCO Snowmass 4.72 196 *e*Pn Pn 18 04 22.3 -2.3
SMCO *e*Pg **Pb 18 04 36.1 +0.5**

B23A Brockton 4.75 2 ⇓P Pn 18 04 25.7 +1.1
baz=4.7,SNR=15
B25A Knox Farm, Ray 4.78 17 P Pn 18 04 26.4 +1.3
baz=4.7,SNR=31
DGMT Dagmar 4.81 9 *e*Pn Pn 18 04 27.0 +1.5
DGMT Dagmar 4.81 9 ⇑P Pn 18 04 26.6 +1.1
baz=4.8,SNR=14
BOZ Bozeman (W) 4.92 295 *e*Pn Pn 18 04 27.1 0.0
Q26A Hugo 4.98 164 ⇑P Pn 18 04 29.0 +1.0
baz=5.0,SNR=13
HWUT Hardware Ranch 5.10 248 *e*Pn Pn 18 04 29.8 +0.1
15nm,0.5s
EGMT Eagleton 5.32 326 *e*Pn Pn 18 04 33.1 +0.6
40nm,0.5s
Q28A Sharon Springs 5.33 150 ⇓P Pn 18 04 33.6 +0.9
baz=5.3,SNR=6.0
A25A Svangstu Ranch 5.43 15 ⇓P Pn 18 04 34.8 +0.9
baz=5.4,SNR=6.4
DLMT Dillon 5.48 290 *e*Pn Pn 18 04 36.6 +1.8
21nm,1.0s
HRY Holter Researc 5.51 305 *e*Pn Pn 18 04 35.8 +0.6
114nm,0.4s
LRM Limekiln Ridge 5.52 295 *e*Pn Pn 18 04 36.9 +1.4
46nm,0.5s
DAU Daniels Canyon 5.54 235 Pn Pn 18 04 35.6 -0.3
JLU Jordanelle 5.55 238 *e*Pn Pn 18 04 35.3 -0.5
2.9nm,0.4s
R26A Arlington 5.59 165 ⇓P Pn 18 04 37.2 +0.9
baz=5.6,SNR=8.9
R25A Fountain Ranch 5.62 172 ⇑P Pn 18 04 37.7 +0.9
baz=5.6,SNR=16
A19A Klindworth Far 5.73 336 ⇓P Pn 18 04 37.9 -0.3
baz=5.7,SNR=6.4
SPUT South Promonto 5.82 248 *e*Pn Pn 18 04 40.6 +1.0
4.5nm,0.5s
HVU Hansel Valley 5.85 253 *e*Pn Pn 18 04 41.1 +1.2
13nm,0.8s
SDCO Great Sand Dun 5.97 182 *e*Pn Pn 18 04 43.7 +1.9
6.3nm,0.8s
R28A Tribune 5.98 153 ⇑P Pn 18 04 42.0 +0.3
baz=6.0,SNR=16
SRU San Rafael 6.07 222 *e*Pn Pn 18 04 42.6 -0.3
22nm,0.4s
S26A Kim 6.25 167 ⇓P Pn 18 04 46.1 +0.7
baz=6.3,SNR=10
TMUT Trail Mountain 6.27 227 *e*Pn Pn 18 04 47.9 +2.0
20nm,0.4s
ECSD EROS Data Cent 6.28 87 *e*Pn Pn 18 04 46.7 +1.0
11nm,0.5s
BGU Big Grassy Mou 6.39 247 *e*Pn Pn 18 04 48.3 +0.9
3.2nm,0.6s
CHMT Chamberlain Mo 6.46 302 *e*Pn Pn 18 04 48.6 +0.2
3.6nm,0.5s
Q16A Castle Valley 6.54 225 *e*Pn Pn 18 04 49.8 +0.4
DUG Dugway 6.63 240 *e*Pn Pn 18 04 51.3 +0.7
5.7nm,0.5s
HLID Hailey 6.63 272 *e*Pn Pn 18 04 52.8 +2.1
1.9nm,0.6s
SLMT Seeley Lake 6.76 304 *e*Pn Pn 18 04 52.1 -0.3
5.7nm,0.5s
SWMT Swartz Lake 7.19 305 *e*Pn Pn 18 04 59.0 +0.7
5.0nm,0.5s
YBMT Yellow Bay 7.37 307 *e*Pn Pn 18 05 01.8 +0.9
5.2nm,0.4s
MVU Marysvale 7.39 227 *e*Pn Pn 18 05 02.0 +0.8
8.1nm,0.6s
JTMT Jette 7.47 306 *e*Pn Pn 18 05 03.2 +1.0
4.8nm,0.5s
BSMT Bassoo Peak 7.82 305 *e*Pn Pn 18 05 07.1 +0.1
3.1nm,0.6s
AGMN Agassiz Nation 7.99 52 *e*Pn Pn 18 05 08.0 -1.1
15nm,0.5s
WALA Waterton Lakes 8.00 315 *e*Pn Pn 18 05 07.9 -1.5
0.1nm,0.6s
NEW Newport 9.41 303 LR LR 18 09 29.9
comp=Z,144nm,21.2s,baz=130,slow=40
WUAZ Wupatki 9.45 212 *e*Pn Pn 18 05 28.6 -0.7
9.6nm,0.5s
NVAR Mina Array Bea 11.16 246 Pn Pn 18 05 55.3 +2.5
NVAR Mina Array Bea 11.16 246 Pn Pn 18 05 55.3 +2.5
0.2nm,0.3s,baz=53,slow=10,SNR=6.9
FFC Flin Flon 11.22 10 *e*Pn Pn 18 05 52.4 -1.0
54nm,1.1s
YBH Yreka Blue Hor 12.97 267 Pn Pn 18 06 21.2 +3.7
YBH Yreka Blue Hor 12.97 267 Pn Pn 18 06 21.2 +3.7
0.2nm,0.3s,baz=56,slow=7.8,SNR=4.8
YBH LR LR 18 10 58.1
comp=Z,49nm,18.0s,baz=249,slow=36
PFO Pinyon Flat Ob 13.34 225 LR LR 18 11 26.9
comp=Z,80nm,18.2s,baz=224,slow=37
TXAR Lajitas Array 14.42 174 Pn P 18 06 44.4 0.0
TXAR Pg 18 07 41.2
TXAR Lg Lg 18 10 52.8
TXAR Lajitas Array 14.42 174 Pn P 18 06 44.4 0.0
0.1nm,0.3s,baz=18,slow=15,SNR=3.9
TXAR Pg 18 07 41.3
0.1nm,0.3s,baz=5.3,slow=14,SNR=4.3
TXAR Lg Lg 18 10 52.8
0.1nm,0.3s,baz=4.7,slow=26,SNR=5.6
YKA Yellowknife Ar 19.58 347 P Pn 18 07 42.4 +0.1
YKA Yellowknife Ar 19.58 347 P Pn 18 07 42.4 +0.1
0.2nm,0.3s,baz=153,slow=13,SNR=4.4
INK Inuvik 28.74 339 LR LR 18 21 13.8
comp=Z,53nm,19.6s,baz=122,slow=38
ILAR Eielson Array 31.28 327 P P 18 09 33.9 +0.7
ILAR Eielson Array 31.28 327 P P 18 09 33.9 +0.7
0.3nm,0.7s,baz=101,slow=9.4,SNR=3.1
ARCES ARCESS Array B 61.43 18 P P 18 13 28.1 -1.3
ARCES ARCESS Array B 61.43 18 P P 18 13 28.1 -1.3
2.0nm,0.6s,baz=331,slow=8.5,SNR=8.1
AKASG Malin Array Be 77.97 28 P P 18 15 10.6 -1.0
AKASG Malin Array Be 77.97 28 P P 18 15 10.6 -1.0
0.3nm,0.3s,baz=326,slow=4.9,SNR=3.1
ZALV Zalesovo Beam 82.32 354 P P 18 15 33.3 -1.7
ZALV Zalesovo Beam 82.32 354 P P 18 15 33.3 -1.7
0.9nm,0.6s,baz=3.5,slow=7.7,SNR=4.4
SONM Songino Array 84.65 339 P P 18 15 48.2 +0.9
SONM Songino Array 84.65 339 P P 18 15 48.2 +0.9
0.3nm,0.6s,baz=7.6,slow=4.4,SNR=2.8
MKAR Makanchi Array 89.62 355 P P 18 16 11.8 +0.6
MKAR Makanchi Array 89.62 355 P P 18 16 11.8 +0.6
0.7nm,0.7s,baz=9.1,slow=4.6,SNR=10

IDC 16 18:12:24.0±0.9, 18°.12S×173°.82W, h0km, mb3.8/7, mb1 4.1/8, mb1mx3.9/21, mbtmp3.9/8, ML1.8/1, Error ellipse: s-maj=40.3km s-min=19.6km az=127.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.62**	**25**	Pn	Pn	18 13 35.7	+0.4
AFI	2.6nm,0.3s,baz=345,slow=20,SNR=3.3			Sn	Sn	18 14 19.1	-11
URZ	**Urewera**	**21.58**	**200**	P	P	18 17 15.2	0.0
	3.1nm,0.3s,baz=14,slow=18,SNR=2.5						
	5.6nm,0.4s,baz=11,slow=5.2,SNR=5.4						
WRA	**Warramunga Arr**	**48.88**	**259**	P	P	18 21 11.1	-0.9
	0.7nm,0.5s,baz=97,slow=8.7,SNR=10.0						
ASAR	**Alice Springs**	**48.94**	**254**	P	P	18 21 11.9	-0.5
	0.9nm,0.5s,baz=88,slow=8.3,SNR=25						
VNDA	**Vanda**	**60.65**	**186**	P	P	18 22 37.1	+0.8
	0.7nm,0.9s,baz=2.6,slow=6.5,SNR=4.2						
NVAR	**Mina Array Bea**	**76.61**	**42**	P	P	18 24 16.3	-0.6
	2.2nm,1.2s,baz=219,slow=7.0,SNR=4.3						
PDAR	**Pinedale Array**	**84.55**	**42**	P	P	18 24 57.5	-1.9
	0.6nm,0.9s,baz=212,slow=3.2,SNR=3.4						
ILAR	**Eielson Array**	**85.17**	**11**	P	P	18 25 03.7	+2.0
	0.4nm,0.8s,baz=215,slow=7.7,SNR=3.2						
BRTR	**Keskin Array B**	**147.95**	**318**	PKPbc	PKPbc	18 32 12.1	+0.4
	0.8nm,0.8s,baz=82,slow=3.1,SNR=4.9						

IDC 16 18:15:42.3±1.4, 7°.15S×149°.96E, h0km, mb3.8/4, mb1 3.9/6, mb1mx3.6/20, mbtmp3.8/6, ML3.5/2, Error ellipse: s-maj=31.3km s-min=26.1km az=132.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.56**	**231**	Pn	Pn	18 16 40.6	+1.7
	14nm,0.3s,baz=41,slow=3.3,SNR=52						
PMG				Sn	Sn	18 17 21.1	-0.7
	19nm,0.3s,baz=180,slow=23,SNR=20						
WRA	**Warramunga Arr**	**19.78**	**228**	P	P	18 20 13.9	-0.4
	0.3nm,0.3s,baz=54,slow=11,SNR=17						
ASAR	**Alice Springs**	**22.52**	**221**	P	P	18 20 43.5	-0.5
	0.6nm,0.8s,baz=53,slow=9.2,SNR=16						
FITZ	**Fitzroy Crossi**	**26.07**	**243**	P	P	18 21 17.6	-0.2
	3.1nm,0.6s,baz=63,slow=10.0,SNR=16						
URZ	**Urewera**	**39.52**	**146**	P	P	18 23 14.4	-0.6
	3.7nm,0.4s,baz=316,slow=18,SNR=6.2						
MKAR	**Makanchi Array**	**80.26**	**320**	P	P	18 27 54.3	-0.8
	0.1nm,0.7s,baz=134,slow=4.2,SNR=2.1						
TORD	**Torodi Ar. Bea**	**148.22**	**283**	PKPbc	PKPbc	18 35 32.8	+1.3
	0.3nm,0.5s,baz=86,slow=2.5,SNR=6.3						

*ISCJB **16** 18:15:48.7±0.4, 67°.06N±0°.03×21°.0E±0°.1, h0km, Error ellipse: s-maj=6.7km s-min=3.4km az=21.8*
*HEL **16** 18:15:49.8±0.1, 67°.08N×20°.98E, h0km, ML2.1, ML2.0(UPP), Explosion*
*UPP **16** 18:15:49.0, 67°.08N×20°.99E, h0km, ML2.0, Mining explosion.*
*IDC **16** 18:15:50.2±0.9, 67°.09N×21°.43E, h0km, mb1 3.0/4, mb1mx2.9/27, mbtmp3.0/4, ML2.4/4, Error ellipse: s-maj=17.8km s-min=7.1km az=116.0*
*CSEM **16** 18:15:50.0±0.2, 67°.05N×21°.09E, h2km, ML2.1, Error ellipse: s-maj=6.5km s-min=3.2km az=111.0, Mining explosion.*
*NAO **16** 18:15:50.2±1.0, 67°.05N×21°.24E, ML2.5*
*BER **16** 18:15:52.3±3.6, 67°.10N×20°.79E, h0km, ML2.1, ML2.5(NAO), Suspected explosion*

ISC 16 18:15:49.3±0.8, 67°.06N±0°.03×20°.98E±0°.03, h0km, n61, σ1°.04/76, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASU	**Masugnsbyn**	**0.56**	**45**	*i* P	**Pg**	**18 15 59.1**	**-0.9**
MASU	**Masugnsbyn**	**0.56**	**45**	P	**Pg**	**18 15 59.1**	**-0.9**
ERTU	**Ertsjaerv**	**0.70**	**136**	*i* P	**Pg**	**18 16 02.5**	**-0.1**
ERTU	**Ertsjaerv**	**0.70**	**136**	P	**Pg**	**18 16 02.5**	**-0.1**
PAJU	**Pajala**	**0.84**	**92**	*i* P	**Pg**	**18 16 04.5**	**-0.8**
PAJU	**Pajala**	**0.84**	**92**	P	**Pg**	**18 16 04.5**	**-0.8**
HARU	**Harads**	**0.90**	**180**	*e*P	**Pg**	**18 16 06.1**	**-0.4**
HARU	**Harads**	**0.90**	**180**	P	**Pg**	**18 16 06.1**	**-0.4**
SALU	**Saltoluokta**	**1.01**	**290**	*e*P	**Pg**	**18 16 07.8**	**-0.9**
SALU	**Saltoluokta**	**1.01**	**290**	P	**Pg**	**18 16 07.7**	**-0.9**
LANU	**Lannavaara**	**1.07**	**21**	*e*P	**Pg**	**18 16 08.6**	**-1.1**
LANU	**Lannavaara**	**1.07**	**21**	P	**Pg**	**18 16 08.7**	**-1.0**
KALU	**Kalix**	**1.54**	**141**	*e*P	**Pn**	**18 16 17.6**	**-0.3**
KALU	**Kalix**	**1.54**	**141**	P	**Pn**	**18 16 17.6**	**-0.3**
SJUU	**Sjulsmark**	**1.58**	**170**	*e*P	**Pn**	**18 16 18.1**	**-0.3**
SJUU	**Sjulsmark**	**1.58**	**170**	P	**Pn**	**18 16 18.1**	**-0.3**
HEF	**Hetta**	**1.70**	**36**	*e*P	**Pn**	**18 16 19.8**	**-0.4**
HEF				*e*S	**Sn**	**18 16 42.1**	**-0.4**
HEF				MSG		18 16 47.2	
	comp=Z,10nm,0.2s						
HEF	**Hetta**	**1.70**	**36**	P	**Pn**	**18 16 19.7**	**-0.4**
HEF				S	**Sn**	**18 16 42.1**	**-0.4**
LILU	**Lilltraesk**	**1.84**	**195**	*e*P	**Pn**	**18 16 22.4**	**+0.3**
LILU	**Lilltraesk**	**1.84**	**195**	P	**Pn**	**18 16 22.4**	**+0.3**
KIF	**Kilpisjarvi**	**1.95**	**358**	*e*P	**Pb**	**18 16 24.8**	**-0.9**
KIF				MSG		18 16 59.4	
	comp=Z,16nm,0.1s						
KIF	**Kilpisjarvi**	**1.95**	**358**	P	**Pb**	**18 16 24.7**	**-0.9**
RNF	**Rovaniemi**	**2.04**	**101**	*e*P	**Pn**	**18 16 25.9**	**+1.1**
RNF	**Rovaniemi**	**2.04**	**101**	P	**Pn**	**18 16 25.9**	**+1.1**
KTK1	**Kautokeino**	**2.14**	**22**	*e*P	**Pb**	**18 16 28.1**	**-0.7**
KTK1				*e*Sg	**Sg**	**18 16 58.5**	**+0.7**
KTK1				AML	AML	18 17 01.1	
	comp=Z,51nm,0.3s						
KTK1	**Kautokeino**	**2.14**	**22**	*e*P	**Pb**	**18 16 28.1**	**-0.7**
	SNR=50						
KTK1				*e*Sg	**Sg**	**18 16 58.5**	**+0.7**
	comp=Z,51nm,0.3s,SNR=90						
SGF	**Sodankyl**	**2.19**	**77**	*e*P	**Pn**	**18 16 27.8**	**+1.0**
SGF	**Sodankyl**	**2.19**	**77**	P	**Pn**	**18 16 27.8**	**+1.0**
BURU	**Burvik**	**2.49**	**176**	*e*P	**Pn**	**18 16 31.8**	**+0.8**
BURU	**Burvik**	**2.49**	**176**	P	**Pn**	**18 16 31.8**	**+0.8**
SVAU	**Svanoeiden**	**2.64**	**193**	*e*P	**Pn**	**18 16 33.6**	**+0.6**
SVAU	**Svanoeiden**	**2.64**	**193**	P	**Pn**	**18 16 33.6**	**+0.6**
MOR8	**Moi Rana**	**2.75**	**254**	*e*Sg	**Sn**	**18 17 10.6**	**+2.0**
MOR8				AML	AML	18 17 16.3	
	comp=Z,9.5nm,0.0s						
ARA0	**ARCESS Array S**	**3.00**	**32**	Pn	**Pn**	**18 16 38.5**	**+0.5**
	baz=211,slow=14						
ARA0				Sn	**Sn**	**18 17 15.2**	**+0.5**
	baz=212,slow=28						
ARA0	**ARCESS Array S**	**3.00**	**32**	Pn	**Pn**	**18 16 38.5**	**+0.5**
	baz=211,slow=14						
ARA0				Sn	**Sn**	**18 17 15.2**	**+0.5**
	baz=212,slow=28						
ARA0	**ARCESS Array S**	**3.00**	**32**	Pn	**Pn**	**18 16 38.5**	**+0.5**
	baz=211,slow=14,SNR=50						
ARA0				Sn	**Sn**	**18 17 15.2**	**+0.5**
	baz=212,slow=25,SNR=50						
ARCES	**ARCESS Array B**	**3.00**	**32**	Pn	**Pn**	**18 16 38.4**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=213,slow=14,SNR=33						
ARCES				Lg	Lg	18 17 19.6	
	comp=Z,1.1nm,0.3s,baz=214,slow=27,SNR=8.3						
UMAU	**Umeaa**	**3.19**	**182**	*e*P	**Pn**	**18 16 41.4**	**+0.7**
UMAU	**Umeaa**	**3.19**	**182**	P	**Pn**	**18 16 41.3**	**+0.7**
BREU	**Bredtraesk**	**3.34**	**199**	*e*P	**Pn**	**18 16 43.0**	**+0.5**
BREU	**Bredtraesk**	**3.34**	**199**	P	**Pn**	**18 16 43.1**	**+0.5**
VRF	**Varrio**	**3.40**	**74**	MSG		18 17 41.4	
	comp=Z,7.7nm,0.2s						
HUSU	**Husum**	**3.81**	**192**	*e*P	**Pn**	**18 16 50.4**	**+1.4**
HUSU	**Husum**	**3.81**	**192**	P	**Pn**	**18 16 50.4**	**+1.4**
VAF	**Ylistaro**	**4.10**	**169**	MSG		18 18 05.2	
	comp=Z,4.0nm,0.2s						
APA0	**Apatity Array**	**4.68**	**78**	Pn	**Pn**	**18 17 02.0**	**+1.0**
	baz=270,slow=11						
APA0				Sn	**Sn**	**18 17 56.2**	**+0.2**
	baz=284,slow=18						
APA0	**Apatity Array**	**4.68**	**78**	Pn	**Pn**	**18 17 02.0**	**+1.0**
	baz=270,slow=11						
APA0				Sn	**Sn**	**18 17 56.2**	**+0.2**
	baz=284,slow=18						
APA0	**Apatity Array**	**4.68**	**78**	Pn	**Pn**	**18 17 02.0**	**+1.0**
	baz=270,slow=10,SNR=50						
APA0				Sn	**Sn**	**18 17 56.2**	**+0.2**
	baz=284,slow=16,SNR=50						
SUF	**Sumiainen**	**4.88**	**151**	MSG		18 18 35.7	
	comp=Z,1.5nm,0.2s						
FIA0	**FINESS Array S**	**6.06**	**156**	Pn	**Pn**	**18 17 20.8**	**+0.8**
	baz=346,slow=16						
FIA0				Sn	**Sn**	**18 18 29.4**	**-0.5**
	baz=342,slow=22						
FIA0	**FINESS Array S**	**6.06**	**156**	Pn	**Pn**	**18 17 20.8**	**+0.8**
	baz=346,slow=16						
FIA0				Sn	**Sn**	**18 18 29.4**	**-0.5**
	baz=342,slow=22						
FIA0	**FINESS Array S**	**6.06**	**156**	Pn	**Pn**	**18 17 20.8**	**+0.8**
	baz=346,slow=15,SNR=50						
FIA0				Sn	**Sn**	**18 18 29.4**	**-0.5**
	baz=342,slow=20,SNR=50						
FINES	**FINESS Array B**	**6.06**	**156**	Pn	**Pn**	**18 17 20.7**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=342,slow=13,SNR=11						
FINES				Sn	**Sn**	**18 18 29.3**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=344,slow=22,SNR=3.4						
NB2	**NORSAR Subarra**	**7.40**	**220**	Pn	**Pn**	**18 17 41.4**	**+3.0**
	baz=27,slow=16						
NB2	**NORSAR Subarra**	**7.40**	**220**	Pn	**Pn**	**18 17 41.4**	**+3.0**
	baz=27,slow=16						
NB2	**NORSAR Subarra**	**7.40**	**220**	Pn	**Pn**	**18 17 41.4**	**+3.0**
	baz=27,slow=14,SNR=50						
NOA	**NORSAR Array B**	**7.40**	**220**	Pn	**Pn**	**18 17 39.7**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=25,slow=13,SNR=1.5						
NOA				Sn	**Sn**	**18 19 01.5**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=85,slow=19,SNR=1.3						
HFS	**Hagfors**	**7.67**	**208**	Pn	**Pn**	**18 17 41.0**	**-1.0**
	baz=41,slow=14						
HFS				Sn	**Sn**	**18 19 07.3**	**-2.1**
	baz=23,slow=28						
HFS	**Hagfors**	**7.67**	**208**	Pn	**Pn**	**18 17 41.0**	**-1.0**
	baz=41,slow=14						
HFS				Sn	**Sn**	**18 19 07.3**	**-2.1**
	baz=23,slow=28						
HFS	**Hagfors**	**7.67**	**208**	Pn	**Pn**	**18 17 42.6**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=25,slow=14,SNR=6.3						
HFS				Sn	**Sn**	**18 19 09.3**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=37,slow=20,SNR=5.9						
HFS	**Hagfors**	**7.67**	**208**	Pn	**Pn**	**18 17 41.0**	**-1.0**
	baz=41,slow=12,SNR=50						

*ISCJB **16** 18:19:36.2±0.5, 50°.25N±0°.04×18°.91E±0°.03, h0km, Error ellipse: s-maj=5.9km s-min=2.4km az=12.0*
*IPEC **16** 18:19:36.9±0.2, 50°.24N×18°.99E, h1km±1km, ML1.6/3,*

Error ellipse: s-maj=2.7km s-min=1.1km az=169.0
*CSEM **16** 18:19:37.5±0.3,50°.25N×18°.91E,h2km,ML2.5/5,Error ellipse: s-maj=7.6km s-min=2.8km az=11.0*
*WAR **16** 18:19:37.1,50°.23N×19°.04E*
*PRU **16** 18:19:38.8,50°.20N×18°.89E,h0km*
ISC 16 18:19:37.5±0.8,50°.21N±0°.04×18°.96E±0°.02,h0km,n28, σ0§84/49,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.54**	**89**	*e*Pg	**Pg**	**18 19 47.0**	**-0.9**
OJC				*e*Sg	**Sg**	**18 19 54.3**	**-0.6**
OJC	**Ojcow**	**0.54**	**89**	*e*Sg	**Sg**	**18 19 54.3**	**-0.6**
OKC	**Ostrava-Krasne**	**0.64**	**234**	*e*PG	**Pg**	**18 19 50.5**	**+0.7**
OKC				*e*SG	**Sg**	**18 19 58.3**	**+0.1**
	26nm,0.7s						
OKC	**Ostrava-Krasne**	**0.64**	**234**	Pg	**Pg**	**18 19 50.5**	**+0.7**
OKC				Sg	**Sg**	**18 19 58.3**	**+0.1**
	26nm,0.7s						
MORC	**Moravsky Berou**	**1.01**	**245**	*e*Pg	**Pg**	**18 19 56.8**	**-0.1**
	baz=63						
MORC				*e*Sg	**Sg**	**18 20 09.7**	**-0.3**
	8.6nm,0.2s,baz=63						
NIE	**Niedzica**	**1.19**	**132**	*e*Pg	**Pg**	**18 20 00.4**	**+0.2**
NIE				*e*Sg	**Sb**	**18 20 16.7**	**-0.1**
NIE	**Niedzica**	**1.19**	**132**	*e*Pg	**Pg**	**18 20 00.4**	**+0.2**
NIE				*e*Sg	**Sb**	**18 20 16.7**	**-0.1**
STHS	**Stebnicka Huta**	**1.68**	**117**	*e*PN	**Pn**	**18 20 09.0**	**+0.8**
STHS				*e*SN	**Sg**	**18 20 32.9**	**+1.4**
STHS	**Stebnicka Huta**	**1.68**	**117**	*e*Pn	**Pn**	**18 20 09.0**	**+0.8**
STHS				*e*Sn	**Sg**	**18 20 32.9**	**+1.4**
DPC	**Dobruska-Polom**	**1.69**	**276**	*e*PG	**Pn**	**18 20 07.7**	**-0.7**
DPC				*e*SG	**Sn**	**18 20 31.1**	**+0.3**
DPC	**Dobruska-Polom**	**1.69**	**276**	Pg	**Pn**	**18 20 07.7**	**-0.7**
DPC				Sg	**Sn**	**18 20 31.1**	**+0.3**
VYHS	**Vyhne**	**1.72**	**183**	*e*PN	**Pn**	**18 20 07.8**	**-1.0**
VYHS				*e*SN	**Sn**	**18 20 30.3**	**-1.2**
VRAC	**Vranov**	**1.78**	**240**	*e*Pn	**Pn**	**18 20 09.2**	**-0.3**
VRAC				*e*Sg	**Sb**	**18 20 33.6**	**-0.3**
	5.1nm,0.3s,baz=58						
KSP	**Ksiaz**	**1.81**	**291**	*e*Pn	**Pb**	**18 20 11.6**	**0.0**
KSP				*e*Sn	**Sg**	**18 20 36.6**	**+0.9**
KSP	**Ksiaz**	**1.81**	**291**	*e*Pg	**Pb**	**18 20 11.5**	**0.0**
KSP				*e*Sg	**Sg**	**18 20 36.1**	**+0.4**
UPC	**Upice**	**1.91**	**280**	*e*SG	**Sb**	**18 20 38.3**	**+0.7**
UPC	**Upice**	**1.91**	**280**	Sg	**Sb**	**18 20 38.3**	**+0.7**
KECS	**Kecovo**	**2.00**	**149**	*e*PN	**Pn**	**18 20 13.8**	**+1.2**
KECS				*e*SN	**Sn**	**18 20 37.4**	**-0.9**
KECS	**Kecovo**	**2.00**	**149**	*e*Pn	**Pn**	**18 20 13.8**	**+1.2**
KECS				*e*Sn	**Sn**	**18 20 37.4**	**-0.9**
KRUC	**Moravsky**	**2.02**	**236**	*e*Pn	**Pn**	**18 20 12.6**	**-0.3**
	baz=54						
KRUC				*e*Sn	**Sb**	**18 20 40.0**	**-0.9**
	2.2nm,0.2s,baz=54						
CRVS	**Cervenica-Dubn**	**2.09**	**128**	*e*PN	**Pb**	**18 20 15.8**	**-0.6**
CRVS				*e*SN	**Sb**	**18 20 42.5**	**-0.4**
CRVS	**Cervenica-Dubn**	**2.09**	**128**	*e*Pn	**Pb**	**18 20 15.8**	**-0.6**
CRVS				*e*Sn	**Sb**	**18 20 42.5**	**-0.4**
KOLS	**Kolonicke sedl**	**2.51**	**119**	*e*PG	**Pg**	**18 20 25.7**	**+0.1**
KOLS				*e*SG	**Sg**	**18 20 59.2**	**+1.1**
KOLS	**Kolonicke sedl**	**2.51**	**119**	*e*Pg	**Pg**	**18 20 25.7**	**+0.1**
KOLS				*e*Sg	**Sg**	**18 20 59.3**	**+1.1**
PRU	**Pruhonice**	**2.85**	**267**	*e*SG	**Sg**	**18 21 07.9**	**-1.2**
	7.2nm,0.9s						
PRU	**Pruhonice**	**2.85**	**267**	Sg	**Sg**	**18 21 07.9**	**-1.2**
	7.2nm,0.9s						
BRG	**Berggiesshubel**	**3.27**	**284**	SG	**Sg**	**18 21 22.5**	**+0.1**
	3.7nm,0.8s						
KHC	**Kasperske Hory**	**3.66**	**255**	*e*SG	**Sb**	**18 21 30.7**	**+2.8**
	10nm,1.0s						

IDC 16 18:27:29.2±1.9,1°.58S×99°.39E,h0km,mb3.9/8,mb1 4.0/8, mb1mx3.7/24,mbtmp3.9/8,Error ellipse: s-maj=94.6km s-min=17.2km az=54.0,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.37**	**354**	Pn	Pb	18 28 43.9	-3.2
	1.2nm,0.3s,baz=158,slow=5.4,SNR=4.3						
WRA	**Warramunga Arr**	**38.73**	**121**	P	P	18 34 54.3	-1.2
	2.0nm,0.7s,baz=301,slow=9.2,SNR=19						
ASAR	**Alice Springs**	**39.99**	**126**	P	P	18 35 06.2	+0.1
	0.6nm,0.7s,baz=298,slow=8.1,SNR=12						
SONM	**Songino Array**	**49.59**	**6**	P	P	18 36 22.7	+0.4
	0.3nm,0.5s,baz=194,slow=8.3,SNR=3.2						
STKA	**Stephens Creek**	**49.89**	**132**	P	P	18 36 26.0	+1.3
	2.4nm,0.9s,baz=270,slow=7.1,SNR=3.8						
MKAR	**Makanchi Array**	**50.46**	**345**	P	P	18 36 29.4	+0.6
	1.0nm,0.6s,baz=151,slow=8.1,SNR=12						
ZALV	**Zalesovo Beam**	**56.64**	**350**	P	P	18 37 14.0	0.0
	1.3nm,0.4s,baz=185,slow=8.1,SNR=7.6						
BVAR	**Borovoye Array**	**59.58**	**340**	P	P	18 37 33.3	-1.4
	0.6nm,0.4s,baz=133,slow=8.5,SNR=3.4						
FINES	**FINESS Array B**	**83.45**	**332**	P	P	18 39 58.8	+0.3
	2.5nm,0.9s,baz=96,slow=9.9,SNR=6.3						
TXAR	**Lajitas Array**	**144.73**	**36**	PKP	PKPbc	18 47 07.9	+0.1
	1.7nm,0.7s,baz=267,slow=1.2,SNR=13						

IDC 16 18:51:06.1±1.2,46°.75S×33°.84E,h0km,mb3.8/4, mb1 4.0/6,mb1mx3.8/21,mbtmp3.9/6,ML3.9/1,MS3.2/2, Ms1 3.1/2,ms1mx2.9/30,Error ellipse: s-maj=75.0km s-min=21.2km az=60.0,Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**17.48**	**321**	P	Pn	18 55 10.3	-1.3
	0.5nm,0.3s,baz=135,slow=14,SNR=5.3						
SUR				S	Sn	18 58 12.8	-14
	0.3nm,0.3s,baz=254,slow=15,SNR=3.1						
BOSA	**Boshof**	**19.32**	**337**	P	P	18 55 32.6	-0.4
	0.3nm,0.3s,baz=120,slow=18,SNR=8.4						
BOSA				LR	LR	19 01 18.2	
	comp=Z,92nm,19.3s,baz=22,slow=32						
LBTB	**Lobatse**	**22.67**	**340**	P	P	18 56 09.5	+0.3
	3.1nm,0.6s,baz=156,slow=8.8,SNR=6.2						
LBTB				LR	LR	19 03 31.1	
	comp=Z,47nm,21.0s,baz=93,slow=33						
VNDA	**Vanda**	**51.93**	**167**	P	P	19 00 15.9	-0.1
	0.5nm,0.8s,baz=254,slow=5.0,SNR=5.4						
TORD	**Torodi Ar. Bea**	**66.23**	**326**	P	P	19 01 56.3	+0.4
	1.0nm,0.8s,baz=163,slow=5.6,SNR=5.1						
ASAR	**Alice Springs**	**79.65**	**113**	P	P	19 03 15.6	0.0
	0.6nm,0.8s,baz=222,slow=5.6,SNR=6.8						

*IDC **16** 18:51:23.9±8.6,55°.00N×166°.16E,h0km,mb3.4/3, mb1 3.4/4,mb1mx3.2/26,mbtmp3.4/4,ML3.5/1,Error ellipse: s-maj=190.7km s-min=52.4km az=140.0*
*MOS **16** 18:51:44.7±0.9,55°.46N×162°.90E,h24km,mb4.2/1,Error ellipse: s-maj=20.2km s-min=11.4km az=72.0*
*ISCJB **16** 18:51:45.9±0.5,55°.46N±0°.03×162°.95E±0°.05, h42km±16km,mb3.3/3,Error ellipse: s-maj=5.2km s-min=4.2km az=160.6*
*KRSC **16** 18:51:45.7±0.6,55°.46N×162°.84E,h27km±26km,ML4.1*
ISC 16 18:51:44.1±1.1,55°.51N±0°.03×162°.97E±0°.03,h29km±11km, n50,σ1§40/76,mb3.3/3,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.71**	**353**	PN	**Pn**	**18 51 59.2**	**+1.1**
KBTR				S	**Sn**	**18 52 09.4**	**+1.4**
KBTR	**Krutoberegovo**	**0.71**	**353**	*e*P	**Pn**	**18 51 59.2**	**+1.1**
KBTR				*i* S	**Sn**	**18 52 09.4**	**+1.4**
MKZ	**Mys Kozlova**	**1.19**	**217**	PN	**Pb**	**18 52 05.3**	**-0.7**
MKZ				S	**Sn**	**18 52 18.8**	**-1.2**
MKZ	**Mys Kozlova**	**1.19**	**217**	*e*P	**Pb**	**18 52 05.3**	**-0.7**
MKZ				*i* S	**Sn**	**18 52 18.8**	**-1.2**
ZLN	**Zelenaya**	**1.33**	**293**	*e*P	**Pb**	**18 52 08.4**	**0.0**
ZLN				*i* S	**Sb**	**18 52 25.1**	**+0.1**
BZGR	**Bezymyannyi-Gr**	**1.36**	**289**	*e*P	**Pb**	**18 52 08.2**	**-0.7**
BZGR				*i* S	**Sn**	**18 52 24.3**	**0.0**
SMKR	**Semkarok**	**1.37**	**323**	*e*P	**Pb**	**18 52 08.9**	**-0.1**
SMKR				*i* S	**Sn**	**18 52 26.0**	**+1.5**
CIRR	**Tsirk**	**1.40**	**297**	*e*P	**Pb**	**18 52 09.8**	**+0.3**
CIRR				*i* S	**Sb**	**18 52 27.1**	**+0.1**
LGNR	**Loginova**	**1.41**	**295**	*e*P	**Pb**	**18 52 10.0**	**+0.1**
LGNR				*i* S	**Sb**	**18 52 27.1**	**-0.5**
BDR	**Baidarnaya**	**1.45**	**318**	*e*P	**Pb**	**18 52 10.0**	**-0.5**
BDR				*i* S	**Sb**	**18 52 28.4**	**-0.1**
BZMR	**Bezymyannaya**	**1.47**	**288**	*e*P	**Pb**	**18 52 10.2**	**-0.6**
BZMR				*i* S	**Sb**	**18 52 28.4**	**-0.7**
BZWR	**Bezymyannyi-We**	**1.47**	**289**	*e*P	**Pb**	**18 52 11.0**	**+0.1**
BZWR				*i* S	**Sb**	**18 52 29.4**	**+0.2**
SRKR	**Sorokina**	**1.53**	**319**	*e*P	**Pb**	**18 52 11.1**	**-0.7**
SRKR				*i* S	**Sn**	**18 52 30.0**	**+1.5**
KRSR	**Krestovskiy**	**1.53**	**299**	*e*P	**Pn**	**18 52 10.6**	**+1.0**
KRSR				*i* S	**Sn**	**18 52 29.4**	**+0.9**
KLY	**Klyuchi**	**1.54**	**303**	PN	**Pn**	**18 52 09.6**	**+0.1**
KLY				S	**Sn**	**18 52 26.8**	**-1.6**
KLY	**Klyuchi**	**1.54**	**303**	*e*P	**Pn**	**18 52 09.6**	**+0.1**
KLY				*i* S	**Sn**	**18 52 26.8**	**-1.6**
KIRR	**Kirishev**	**1.55**	**288**	*e*P	**Pb**	**18 52 11.8**	**-0.4**
KIRR				*i* S	**Sb**	**18 52 31.1**	**-0.4**
KMNR	**Kamenistaya**	**1.57**	**280**	*e*P	**Pb**	**18 52 12.4**	**-0.1**
KMNR				*i* S	**Sb**	**18 52 32.1**	**+0.1**
KPT	**Kopyto**	**1.62**	**288**	*e*P	**Pb**	**18 52 13.1**	**-0.2**
KPT				*i* S	**Sb**	**18 52 33.2**	**-0.2**
TUMR	**Tumrok**	**1.63**	**263**	*e*P	**Pb**	**18 52 13.1**	**-0.4**
BKI	**Bering**	**1.74**	**99**	PN	**Pb**	**18 52 15.1**	**-0.2**
BKI				S	**Sb**	**18 52 36.5**	**-0.2**
BKI	**Bering**	**1.74**	**99**	*e*P	**Pb**	**18 52 15.1**	**-0.2**
BKI				*i* S	**Sb**	**18 52 36.5**	**-0.2**
KOZR	**Kozyr**	**1.82**	**289**	PN	**Pb**	**18 52 16.6**	**-0.2**
KOZR				S	**Sb**	**18 52 39.5**	**+0.3**
KOZ	**Kozyrevsk**	**1.83**	**289**	*e*P	**Pb**	**18 52 16.6**	**-0.3**
KOZ				*i* S	**Sb**	**18 52 39.5**	**0.0**
SRDR	**Sredinnyy**	**2.00**	**295**	*e*P	**Pb**	**18 52 18.8**	**-1.0**
SRDR				*i* S	**Sb**	**18 52 43.1**	**-1.2**
KII	**Karymskiy**	**2.52**	**236**	*e*P	**Pn**	**18 52 25.0**	**+1.9**
SPN	**Mys Shipunski**	**2.97**	**217**	PN	**Pn**	**18 52 29.7**	**+0.5**
SPN	**Mys Shipunski**	**2.97**	**217**	*e*P	**Pn**	**18 52 29.7**	**+0.5**
SPN				*i* S	**Sn**	**18 53 01.3**	**-2.5**
NLC	**Nalytchevo**	**3.16**	**224**	PN	**Pn**	**18 52 33.2**	**+1.4**
NLC	**Nalytchevo**	**3.16**	**224**	*e*P	**Pn**	**18 52 33.2**	**+1.4**
NLC				*i* S	**Sn**	**18 53 07.9**	**-0.6**
SDLR	**Sedlovina**	**3.27**	**229**	*e*P	**Pn**	**18 52 35.7**	**+2.2**
SDLR				*i* S	**Sn**	**18 53 12.1**	**+0.6**
KRER	**Koryakskii**	**3.31**	**230**	*e*P	**Pn**	**18 52 36.8**	**+2.7**
SMAR	**Somma**	**3.32**	**229**	*e*P	**Pn**	**18 52 35.6**	**+1.4**
KRX	**Arik**	**3.32**	**231**	*e*P	Pn	18 52 37.2	+3.1
AVH	**Avacha**	**3.34**	**229**	*e*P	Pn	18 52 37.2	+2.8
AVH				*i* S	**Sn**	**18 53 15.3**	**+2.1**
UGLR	**Uglovaya**	**3.35**	**228**	*e*P	**Pn**	**18 52 36.8**	**+2.3**
UGLR				*i* S	**Sn**	**18 53 13.7**	**+0.4**
KOK	**Koryaka**	**3.37**	**231**	*e*P	Pb	18 52 39.2	-3.9
GNL	**Ganaly**	**3.44**	**240**	*e*P	**Pn**	**18 52 38.3**	**+2.5**
PET	**Petropavlovsk**	**3.55**	**227**	*e*PN	**Pn**	**18 52 39.2**	**+2.0**
PET				pmax	pmax		
	comp=Z,27nm,0.4s						
PET	**Petropavlovsk**	**3.55**	**227**	*e*P	**Pn**	**18 52 38.5**	**+1.3**
PET				*i* S	**Sn**	**18 53 18.2**	**+0.1**
PETK	**Petropavlovsk-**	**3.91**	**234**	PN	**Pn**	**18 52 44.8**	**+2.6**
PETK						18 53 31.6	
PETK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PETK				smax	smax		
	comp=N,1.0nm,0.3s						
PETK	**Petropavlovsk-**	**3.91**	**234**	Pn	**Pn**	**18 52 44.8**	**+2.6**
	comp=N,1.7nm,0.3s,baz=68,slow=18,SNR=17						
PETK				Sn	**Sn**	**18 53 31.6**	**+4.5**
	comp=N,1.1nm,0.3s,baz=84,slow=39,SNR=4.2						
RUS	**Russkaya**	**4.05**	**222**	PN	**Pn**	**18 52 46.4**	**+2.3**
RUS	**Russkaya**	**4.05**	**222**	*e*P	**Pn**	**18 52 46.4**	**+2.3**
MTVR	**Mutnovka**	**4.14**	**225**	*e*P	**Pn**	**18 52 47.9**	**+2.4**
ASAK	**Asacha**	**4.33**	**226**	*e*P	Pn	18 52 51.0	+3.0
SONM	**Songino Array**	**35.03**	**282**	P	**P**	**18 58 34.6**	**+0.6**
	comp=N,0.1nm,0.4s,baz=60,slow=9.6,SNR=2.5						
MKAR	**Makanchi Array**	**48.63**	**295**	P	**P**	**19 00 22.5**	**-2.5**
MKAR	**Makanchi Array**	**48.63**	**295**	P	**P**	**19 00 22.5**	**-2.5**
	comp=N,0.1nm,0.3s,baz=39,slow=6.1,SNR=4.8						
BRTR	**Keskin Array B**	**75.79**	**322**	P	P	19 03 20.4	-6.8
	comp=N,1.1nm,1.1s,baz=26,slow=7.0,SNR=3.6						

*ISCJB **16** 19:04:27.2±0.5,57°.64N±0°.04×19°.09E±0°.05,h0km,Error ellipse: s-maj=6.2km s-min=4.0km az=163.1*
*CSEM **16** 19:04:28.5±0.2,57°.62N×19°.08E,h2km,ML2.1,Error ellipse: s-maj=6.6km s-min=4.2km az=148.0,Mining explosion.*
*HEL **16** 19:04:28.7±0.2,57°.64N×19°.10E,h0km,ML1.8, ML2.1(UPP),Explosion*
*IDC **16** 19:04:28.9±2.4,57°.64N×19°.23E,h0km,mb1 3.2/4, mb1mx3.0/26,mbtmp3.1/4,ML2.5/4,Error ellipse: s-maj=24.1km s-min=9.2km az=1.0*
*UPP **16** 19:04:29.4,57°.70N×18°.97E,h0km,ML2.1,Mining explosion.*
ISC 16 19:04:27.5±0.9,57°.65N±0°.04×19°.07E±0°.03,h0km,n38, σ1§25/49,2C,Baltic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASPU	**Aespoe**	**1.35**	**261**	*e*P	**Pg**	**19 04 53.6**	**+0.2**
ASPU	**Aespoe**	**1.35**	**261**	P	**Pg**	**19 04 53.6**	**+0.2**
VSTU	**Vaestervik**	**1.36**	**272**	*e*P	**Pg**	**19 04 53.6**	**0.0**
VSTU	**Vaestervik**	**1.36**	**272**	P	**Pg**	**19 04 53.6**	**0.0**
NYNU	**Nynaeshamn**	**1.47**	**338⇑**	*e*P	**Pn**	**19 04 54.9**	**-0.4**
NYNU	**Nynaeshamn**	**1.47**	**338⇑**	P	**Pn**	**19 04 54.8**	**-0.4**
SLIT	**Slitere, Latvi**	**1.73**	**89**	*e*P	**Pn**	**19 04 59.0**	**0.2**
SLIT				*e*S	**Sn**	**19 05 22.0**	**+0.4**
SLIT	**Slitere, Latvi**	**1.73**	**89**	*e*P	**Pn**	**19 04 59.0**	**0.2**
	SNR=50						
SLIT				S	**Sn**	**19 05 21.9**	**+0.4**
NRTU	**Norrtaelje**	**2.05**	**354**	*e*P	**Pn**	**19 05 04.4**	**+1.3**
NRTU	**Norrtaelje**	**2.05**	**354**	P	**Pn**	**19 05 04.4**	**+1.3**
	baz=185						
ESKU	**Eskilstuna**	**2.12**	**320**	*e*P	**Pb**	**19 05 06.5**	**-0.3**
ESKU	**Eskilstuna**	**2.12**	**320**	P	**Pb**	**19 05 06.4**	**-0.3**
UPP	**Uppsala**	**2.34**	**342**	*e*P	**Pb**	**19 05 09.2**	**-1.3**
UPP	**Uppsala**	**2.34**	**342**	P	**Pb**	**19 05 09.2**	**-1.3**
BACU	**Backbrunna**	**2.44**	**336**	*e*P	**Pn**	**19 05 10.2**	**+1.7**
BACU	**Backbrunna**	**2.44**	**336**	P	**Pn**	**19 05 10.1**	**+1.7**
FLYU	**Flymyra**	**2.56**	**347**	*e*P	**Pn**	**19 05 11.9**	**+1.7**
FLYU	**Flymyra**	**2.56**	**347**	P	**Pn**	**19 05 11.8**	**+1.7**
AAL	**Aland**	**2.58**	**10**	*e*P	**Pn**	**19 05 11.0**	**+0.6**
AAL				*e*S	**Sn**	**19 05 42.3**	**-0.2**
AAL	**Aland**	**2.58**	**10**	P	**Pn**	**19 05 11.1**	**+0.6**
	baz=174						
AAL				S	**Sn**	**19 05 42.3**	**-0.2**
MTSE	**Matsula**	**2.73**	**65**	*e*S	**Sn**	**19 05 47.6**	**+1.5**
MTSE	**Matsula**	**2.73**	**65**	S	**Sn**	**19 05 47.6**	**+1.5**
OSTU	**Oestervaala**	**2.78**	**340**	*e*P	**Pn**	**19 05 14.2**	**+1.1**
OSTU	**Oestervaala**	**2.78**	**340**	P	**Pn**	**19 05 14.2**	**+1.1**
	baz=159						
BSD	**Bornholm Skovb**	**3.44**	**224**	*e*P	**Pn**	**19 05 22.9**	**+0.7**
BSD				*e*S	**Sn**	**19 06 02.6**	**-1.0**
BSD	**Bornholm Skovb**	**3.44**	**224**	*i* P	**Pn**	**19 05 23.0**	**+0.8**
	2.1nm,0.6s						
BSD				*i*		19 05 31.1	
BSD				*i* S	**Sn**	**19 06 03.4**	**-0.1**
BSD	**Bornholm Skovb**	**3.44**	**224**	P	**Pn**	**19 05 22.8**	**+0.7**
BSD				*i* S	**Sn**	**19 06 03.5**	**-0.1**
	6.2nm,0.7s,SNR=49						
RAF	**Rauma**	**3.65**	**21**	*e*P	**Pn**	**19 05 25.8**	**+0.7**
RAF				*e*S	**Sn**	**19 06 07.1**	**-1.8**
RAF				MSG		19 06 27.3	
	comp=Z,1.2nm,0.1s						
RAF	**Rauma**	**3.65**	**21**	*e*P	**Pn**	**19 05 25.9**	**+0.7**
	SNR=50						
RAF				S	**Sn**	**19 06 07.1**	**-1.8**
HFS	**Hagfors**	**3.74**	**314**	Pn	**Pn**	**19 05 28.2**	**+1.8**
	comp=Z,0.3nm,0.3s,baz=125,slow=12,SNR=10						
HFS				Sn	**Sn**	**19 06 13.9**	**+2.8**
	comp=Z,0.2nm,0.3s,baz=129,slow=21,SNR=3.9						
HFS				Lg	Lg	19 06 28.0	
	comp=Z,0.6nm,0.3s,baz=118,slow=30,SNR=7.6						
MEF	**Metsahovi**	**3.77**	**45**	MSG		19 06 30.6	
	comp=Z,2.3nm,0.2s						
MEF	**Metsahovi**	**3.77**	**45**	*e*P	**Pn**	**19 05 28.9**	**+2.1**
	SNR=50						
MEF				*e*S	**Sn**	**19 06 13.6**	**+1.8**
	SNR=50						
PVF	**Pernaja**	**4.55**	**47**	MSG		19 06 51.4	
	comp=Z,1.0nm,0.2s						
FINES	**FINESS Array B**	**5.21**	**40**	Pn	**Pn**	**19 05 47.4**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=219,slow=12,SNR=13						
FINES				Sn	**Sn**	**19 06 47.4**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=224,slow=22,SNR=5.9						
FINES				Lg	Lg	19 07 09.0	
	comp=Z,0.3nm,0.3s,baz=234,slow=26,SNR=5.5						
NOA	**NORSAR Array B**	**5.26**	**314**	Pn	**Pn**	**19 05 46.6**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=116,slow=10,SNR=3.5						
NOA				Sn	**Sn**	**19 06 49.7**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=147,slow=21,SNR=3.4						
NOA				Lg	Lg	19 07 14.2	
	comp=Z,0.4nm,0.3s,baz=155,slow=21,SNR=4.8						
MUD	**Monsted U'grnd**	**5.54**	**262**	*i* P	**Pn**	**19 05 52.9**	**+1.9**
MUD	**Monsted U'grnd**	**5.54**	**262**	*e*P	**Pn**	**19 05 52.9**	**+1.9**
ARCES	**ARCESS Array B**	**12.26**	**11**	Pn	**Pn**	**19 07 20.3**	**-2.7**
	comp=Z,0.1nm,0.3s,baz=195,slow=14,SNR=5.0						

MEX 16 19:19:19.1±0.7,16°.81N×95°.18W,h99km±7km,MD4.1, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.40**	**46**	*e*P	**Pn**	19 19 32.8	-1.4
CMIG				*e*S	Sn	19 19 43.6	-1.7
HUIG	**Huatulco**	**1.36**	**221**	*e*P	**Pn**	19 19 42.0	-1.7
HUIG				*e*S	Sn	19 20 01.4	-0.9
OXBJ	**Oaxaca**	**1.50**	**280**	*e*P	Pn	19 19 43.7	-1.9
OXBJ				*i* S	Sn	19 20 02.9	-2.7
VHO	**Vista Hermosa**	**1.51**	**280**	*e*P	Pn	19 19 45.0	-0.7
VHO				*i* S	Sn	19 20 04.4	-1.4
TGIG		**1.97**	**91**	*e*P	Pn	19 19 50.8	-0.6
TGIG				*e*S	Sn	19 20 14.8	-1.3
PCIG		**2.18**	**120**	*e*P	Pn	19 19 54.2	+0.2
PCIG				*i* S	Sn	19 20 20.5	-0.2
TPIG	**Tehuac#an**	**2.62**	**308**	*i* P	Pn	19 19 58.2	-1.9
TPIG				*i* S	Sn	19 20 29.4	-2.1
PNIG	**Pinotepa**	**2.85**	**262**	*e*P	Pn	19 20 00.6	-2.3
PNIG				*i* S	Sn	19 20 34.5	-2.1
CCIG	**Comitan**	**2.97**	**100**	*e*P	Pn	19 20 04.5	-0.1
CCIG				*i* S	Sn	19 20 38.4	-1.4

IDC 16 19:30:43.3±4.5,37°.49N×95°.99E,h0km,mb3.9/1, mb1 3.3/4,mb1mx3.2/28,mbtmp3.3/4,ML3.1/3,MS3.8/2, Ms1 3.8/2,ms1mx2.7/39,Error ellipse: s-maj=93.2km s-min=28.3km az=26.0,Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**12.85**	**33**	Pn	Pn	19 33 47.5	+0.2
	0.1nm,0.3s,baz=214,slow=16,SNR=4.7						
MKAR	**Makanchi Array**	**13.76**	**317**	Pn	Pn	19 33 56.1	-3.5
	0.1nm,0.3s,baz=123,slow=14,SNR=4.3						
MKAR				Sn	Sn	19 36 24.8	-8.3
	0.0nm,0.3s,baz=120,slow=27,SNR=2.0						
KURBB	**Kurchatov Arra**	**18.10**	**322**	P	Pn	19 34 54.3	-1.6
	0.0nm,0.3s,baz=131,slow=12,SNR=5.2						
KSRS	**Korea Array**	**25.28**	**80**	P	P	19 36 11.1	-0.1
	1.0nm,0.4s,baz=273,slow=9.9,SNR=6.9						
JNU	**Nakatsue**	**28.70**	**88**	LR	LR	19 49 48.4	
	comp=Z,53nm,18.8s,baz=247,slow=40						
CBIJ	**Chichi jima**	**40.05**	**91**	LR	LR	19 56 39.8	
	comp=Z,364nm,20.2s,baz=140,slow=39						

*ISCJB **16** 19:32:42.1±0.5,53°.79N±0°.04×160°.44E±0°.08,h87km±7km, mb3.7/4,Error ellipse: s-maj=9.5km s-min=3.3km az=34.2*
*KRSC **16** 19:32:42.6±0.4,53°.81N×160°.42E,h67km±57km,ML3.9*
*IDC **16** 19:32:45.6±1.7,53°.49N×159°.77E,h141km±18km,mb3.3/4, mb1 3.5/4,mb1mx3.0/27,mbtmp3.3/4,Error ellipse: s-maj=46.8km s-min=25.3km az=13.0*
ISC 16 19:32:41.6±0.9,53°.79N±0°.04×160°.42E±0°.05,h94km±7km, n40,σ1§14/61,mb3.6/4,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KII	**Karymskiy**	**0.63**	**294**	*e*P	**Pn**	**19 32 57.7**	**-0.1**
KII				*e*S	**Sn**	**19 33 09.4**	**-0.6**
SPN	**Mys Shipunski**	**0.73**	**199**	*e*P	**Pn**	**19 32 59.2**	**+0.5**
NLC	**Nalytchevo**	**0.89**	**227**	*e*P	**Pn**	**19 33 00.8**	**+0.5**
NLC				*e*S	**Sn**	**19 33 14.6**	**+0.2**
SDLR	**Sedlovina**	**1.05**	**242**	P	**Pn**	**19 33 02.8**	**+0.6**
SDLR				*e

LLP eS **Sb** **19 37 04.6 +2.2**
RCP Roxas 3.08 259⇓eP **Pn** **19 36 33.4 +1.1**
RCP eS **Sb** 19 37 15.2 -1.5
TBP Tagbilaran 3.11 219 eP Pb 19 36 34.8 -5.5
AUQP San Andres 3.29 291 eP **Pn** **19 36 37.4 +2.1**
CGP Cagayan de Oro 3.83 197 eP **Pn** **19 36 43.4 +0.7**
BOAC Boac 4.10 289 eP **Pn** **19 36 46.6 +0.2**
TGY Tagaytay City 5.15 293 Pn **Pn** **19 37 02.7 +1.8**
TGY Tagaytay City 5.15 293 Pn **Pn** **19 37 02.7 +1.8**
12nm,0.3s,baz=90,slow=20,SNR=2.1
ENH Enshi 23.56 322 eP **P** **19 40 54.5 +0.6**
5.7nm,1.0s
KSAR Wonju Array Be 25.26 4 P **P** **19 41 07.7 -1.7**
KSRS Korea Array 25.27 4 P **P** **19 41 07.7 -1.8**
1.3nm,0.8s,baz=186,slow=10,SNR=7.4
CMAR Chiang Mai Arr 26.66 287 P **P** **19 41 19.8 -2.6**
CMAR Chiang Mai Arr 26.66 287 P **P** **19 41 19.8 -2.6**
3.2nm,0.8s,baz=96,slow=7.4,SNR=9.8
CHTO Chiang Mai 26.73 288 eP **P** **19 41 22.0 -0.9**
8.8nm,1.4s
PSI Prapat 28.22 253 LR LR 19 52 34.6
comp=Z,133nm,19.6s,baz=219,slow=36
FITZ Fitzroy Crossi 30.05 180 P **P** **19 41 51.7 -0.8**
FITZ Fitzroy Crossi 30.05 180 P **P** **19 41 51.7 -0.8**
2.4nm,0.6s,baz=3.2,slow=6.5,SNR=18
WRAB Tennant Creek 32.96 165 P **P** **19 42 16.9 -1.2**
7.9nm,1.3s
WRA Warramunga Arr 32.97 165 P **P** **19 42 16.6 -1.6**
WRA PcP **PcP** **19 45 02.1 +0.1**
WRA Warramunga Arr 32.97 165 P **P** **19 42 16.6 -1.6**
1.4nm,1.0s,baz=359,slow=8.5,SNR=7.8
WRA PcP **PcP** **19 45 02.1 +0.1**
1.2nm,0.8s,baz=341,slow=3.0,SNR=6.6
ASAJ Asahikawa 34.98 21 LR LR 19 56 47.1
comp=Z,35nm,19.8s,baz=342,slow=36
AS31 Alice Springs 36.45 167 eP **P** **19 42 49.3 +1.0**
ASAR Alice Springs 36.45 167 P **P** **19 42 48.5 +0.3**
ASAR PcP **PcP** **19 45 12.3 +0.2**
ASAR ScP **ScP** **19 48 57.4 +0.5**
ASAR Alice Springs 36.45 167 P **P** **19 42 48.5 +0.3**
1.3nm,0.5s,baz=346,slow=6.9,SNR=65
ASAR PcP **PcP** **19 45 12.3 +0.2**
0.9nm,0.6s,baz=342,slow=2.6,SNR=7.8
ASAR ScP **ScP** **19 48 57.4 +0.5**
1.4nm,1.0s,baz=2.1,slow=4.1,SNR=6.4
LSA Lhasa 36.61 304 eP **P** **19 42 50.4 +0.3**
5.7nm,0.8s
TAPN Taplejung 38.76 299 eP **P** **19 43 08.3 +0.2**
34nm,1.2s
ODAN Odare 38.91 298 eP **P** **19 43 09.2 -0.1**
53nm,1.0s
SONM Songino Array 39.13 339 P **P** **19 43 11.5 +0.7**
SONM Songino Array 39.13 339 P **P** **19 43 11.5 +0.7**
1.3nm,0.9s,baz=157,slow=8.3,SNR=8.2
SONM LR LR 19 59 37.6
comp=Z,31nm,19.1s,baz=223,slow=37
RAMN Ramite 39.61 298 eP **P** **19 43 15.4 +0.2**
35nm,0.9s
JIRN Jiri 40.14 299 eP **P** **19 43 19.8 0.0**
30nm,0.8s
GUN Gumba 40.47 299 eP **P** **19 43 22.5 0.0**
54nm,0.9s
PKI Pulchoki 40.79 298 eP **P** **19 43 24.6 -0.5**
PKIN Phulchoki 40.80 298 eP **P** **19 43 24.8 -0.3**
6.2nm,0.6s
KKN Kakani 40.95 299 eP **P** **19 43 25.9 -0.4**
32nm,1.1s
DMN Daman 41.06 298 eP **P** **19 43 26.8 -0.4**
48nm,1.2s
DANN Dangsing 42.39 299 eP **P** **19 43 37.8 -0.4**
40nm,0.9s
KOLN Koldanda 40.40 298 eP **P** **19 43 37.9 -0.2**
30nm,0.9s
PYUN Piuthan 43.00 298 eP **P** **19 43 43.0 0.0**
STKA Stephens Creek 46.30 161 eP **P** **19 44 08.1 -0.8**
STKA Stephens Creek 46.30 161 P **P** **19 44 07.8 -1.1**
2.5nm,0.6s,baz=331,slow=9.8,SNR=8.3
PETK Petropavlovsk- 48.13 25 P **P** **19 44 21.4 -1.6**
PETK Petropavlovsk- 48.13 25 P **P** **19 44 21.4 -1.6**
0.6nm,0.4s,baz=200,slow=12,SNR=6.2
PETK LR LR 20 02 23.2
comp=Z,38nm,18.8s,baz=196,slow=33
MK31 Makanchi Array 50.29 322 eP **P** **19 44 40.3 +0.7**
MKAR Makanchi Array 50.29 322 P **P** **19 44 40.6 +1.0**
MKAR Makanchi Array 50.29 322 P **P** **19 44 40.6 +1.0**
3.6nm,0.7s,baz=113,slow=8.4,SNR=44
ZALV Zalesovo Beam 52.79 331 P **P** **19 44 56.1 -2.0**
ZALV Zalesovo Beam 52.79 331 P **P** **19 44 56.1 -2.0**
1.0nm,0.8s,baz=111,slow=8.1,SNR=3.7
KURK Kurchatov 54.29 325 P **P** **19 45 09.9 +0.7**
KURBB Kurchatov Arra 54.30 325 P **P** **19 45 09.9 +0.7**
5.2nm,0.7s,baz=125,slow=7.2,SNR=101
KBL Kabul 55.94 304 eP **P** **19 45 21.6 -0.1**
3.0nm,0.6s
KKAR Karatay Array 56.64 314 eP **P** **19 45 26.7 +0.4**
4.5nm,0.8s
BVAR Borovoye Array 59.89 325 P **P** **19 45 48.3 -0.6**
BVAR Borovoye Array 59.89 325 P **P** **19 45 48.3 -0.6**
4.0nm,1.0s,baz=112,slow=9.8,SNR=14
ABKAR Akbulak array 65.19 319 eP **P** **19 46 24.4 +0.1**
3.5nm,0.7s
ILAR Eielson Array 77.95 26 P **P** **19 47 43.4 +2.4**
ILAR Eielson Array 77.95 26 P **P** **19 47 43.4 +2.4**
0.4nm,0.7s,baz=258,slow=4.5,SNR=3.5
ARCES ARCESS Array B 82.30 340 P **P** **19 48 05.3 +1.0**
ARCES ARCESS Array B 82.30 340 P **P** **19 48 05.3 +1.0**
4.2nm,0.8s,baz=75,slow=6.5,SNR=12
BRTR Keskin Array B 84.02 309 P **P** **19 48 14.6 +0.7**
BRTR Keskin Array B 84.02 309 P **P** **19 48 14.6 +0.7**
0.6nm,0.8s,baz=126,slow=3.6,SNR=3.3
FINES FINESS Array B 84.05 332 P **P** **19 48 14.3 +0.9**
FINES FINESS Array B 84.05 332 P **P** **19 48 14.3 +0.9**
9.2nm,1.0s,baz=94,slow=4.1,SNR=13
AKASG Malin Array Be 84.85 321 P **P** **19 48 17.3 -0.4**
AKASG Malin Array Be 84.85 321 P **P** **19 48 17.3 -0.4**
4.6nm,1.0s,baz=62,slow=5.1,SNR=10
NOA NORSAR Array B 90.90 334 LR LR 20 33 33.2
comp=Z,49nm,18.7s,baz=350,slow=38
VNDA Vanda 91.83 173 P **P** **19 48 51.8 +1.4**
VNDA Vanda 91.83 173 P **P** **19 48 51.8 +1.4**
0.9nm,0.8s,baz=305,slow=5.3,SNR=5.2

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*IDC **16** 19:49:01.8±1.4, 1°.40S×119°.96E, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.3/23, mbtmp3.3/4, ML3.5/1, Error ellipse: s-maj=64.4km s-min=21.8km az=68.0*
*DJA **16** 19:49:03.8±1.7, 1°.S±7°.7×11°.9E±°.7, h10km, M4.1/6, MLv4.1/6*
*ISCJB **16** 19:49:05.3±0.9, 1°.38S±0°.06×119°.49E±0°.10, h37km, mb3.3/3, Error ellipse: s-maj=15.5km s-min=6.0km az=24.8*
ISC 16 19:49:07.5±1.2, 1°.45S±0°.07×119°.6E±0°.1, h37km, n12, σ1§86/14, mb3.4/3, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMSI	**Mamuju**	**1.39**	**208**	P	Pn	19 49 27.1	-3.3
MMSI				S	**Sn**	**19 49 47.5**	**-0.1**
APSI	**Ampana**	**2.16**	**76**	P	**Pn**	**19 49 41.3**	**+0.4**
MJSI	**Majene**	**2.17**	**195**	P	**Pn**	**19 49 42.3**	**+1.2**
MJSI				S	**Sn**	**19 50 08.0**	**+1.3**
SPSI	**Sidrap Palu**	**2.51**	**175**	P	**Pn**	**19 49 44.8**	**-1.0**
SPSI				S	**Sn**	**19 50 18.3**	**+3.2**
BNSI	**Bone**	**2.98**	**169**	P	**Pn**	**19 49 51.8**	**-0.5**
MRSI	**Marisa**	**3.06**	**51**	P	**Pn**	**19 49 51.8**	**-1.5**
LUWI	**Luwuk**	**3.24**	**83**	P	Pn	19 49 59.7	+3.9
KAPI	**Kappang**	**3.55**	**177**	Pn	**Pn**	**19 49 58.1**	**-1.9**
	3.8nm,0.3s,baz=331,slow=12,SNR=23						
KAPI				Sn	**Sn**	**19 50 42.9**	**+2.1**
	2.6nm,0.3s,baz=241,slow=19,SNR=5.8						
GTOI	**Gorontalo**	**4.03**	**59**	P	**Pn**	**19 50 08.0**	**+1.4**
WRA	**Warramunga Arr**	**23.39**	**143**	P	**P**	**19 54 10.2**	**-2.9**
	1.1nm,0.6s,baz=321,slow=11,SNR=15						
ASAR	**Alice Springs**	**26.10**	**149**	P	**P**	**19 54 36.6**	**-1.4**
	0.6nm,0.6s,baz=346,slow=15,SNR=12						
MKAR	**Makanchi Array**	**58.10**	**331**	P	**P**	**19 58 58.1**	**+0.8**
	0.1nm,0.4s,baz=121,slow=8.3,SNR=4.0						

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*ISCJB **16** 19:54:49.2±0.6, 13°.34N±0°.04×120°.01E±0°.06, h16km, mb3.9/5, Error ellipse: s-maj=7.9km s-min=5.8km az=177.7*
*MAN **16** 19:54:50, 13°.37N×120°.13E, h15km, mb4.5, ML3.4, MS3.3*
*IDC **16** 19:54:52.5±3.9, 13°.38N×120°.22E, h33km±33km, mb3.6/6, mb1 3.8/6, mb1mx3.5/25, mbtmp3.6/6, Error ellipse: s-maj=40.4km s-min=17.4km az=64.0*
ISC 16 19:54:50.3±0.8, 13°.32N±0°.05×120°.14E±0°.07, h16km, n17, σ0§77/20, mb3.7/6, 3C-2D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.42**	**14**	eP	**Pb**	**19 54 59.2**	**-0.2**
LUBP				eS	**Sg**	**19 55 03.7**	**-0.9**
PGP	**Puerto Galera**	**0.81**	**77**⇓	eP	**Pb**	**19 55 05.2**	**-0.8**
TGY	**Tagaytay City**	**1.09**	**45**⇑	iP	**Pb**	**19 55 11.1**	**+0.2**
TGY	**Tagaytay City**	**1.09**	**45**	Pg	**Pb**	**19 55 11.1**	**+0.2**
	1μm,0.3s,baz=221,slow=2.7,SNR=62						
TGY				Lg	Lg	19 55 25.9	
	2μm,0.3s,baz=271,slow=23,SNR=33						
SJMP	**San Jose**	**1.28**	**132**	eP	**Pn**	**19 55 14.1**	**+0.6**
SJMP				eS	**Sb**	**19 55 31.3**	**+1.1**
BUSP	**Coron**	**1.31**	**178**	eP	**Pn**	**19 55 14.7**	**+0.7**
LQP	**Lukban**	**1.57**	**60**⇑	eP	**Pb**	**19 55 18.8**	**-0.3**
BOAC	**Boac**	**1.66**	**85**	eP	**Pn**	**19 55 19.2**	**+0.4**
GQP	**Guinayangan**	**2.31**	**75**⇓	eP	**Pn**	**19 55 29.2**	**+1.5**
PCPH	**Palayan**	**2.41**	**22**⇓	eP	**Pn**	**19 55 29.5**	**+0.4**
PCPH				i S	**Sn**	**19 55 58.8**	**+0.6**
AUQP	**San Andres**	**2.46**	**90**	eP	**Pb**	**19 55 32.9**	**-1.4**
CMAR	**Chiang Mai Arr**	**21.01**	**287**	P	**P**	**19 59 34.3**	**+0.8**
	1.8nm,0.7s,baz=94,slow=9.1,SNR=23						
WRA	**Warramunga Arr**	**35.89**	**157**	P	**P**	**20 01 49.5**	**-0.4**
	0.9nm,0.4s,baz=341,slow=9.2,SNR=28						
SONM	**Songino Array**	**36.27**	**344**	P	**P**	**20 01 52.5**	**-0.5**
	0.6nm,0.5s,baz=162,slow=9.4,SNR=7.3						
ASAR	**Alice Springs**	**39.15**	**160**	P	**P**	**20 02 17.9**	**+0.4**
	1.3nm,0.7s,baz=340,slow=7.0,SNR=30						
MKAR	**Makanchi Array**	**46.02**	**324**	P	**P**	**20 03 12.6**	**-0.5**
	0.4nm,0.6s,baz=128,slow=9.9,SNR=4.4						
ARCES	**ARCESS Array B**	**79.24**	**339**	P	**P**	**20 06 53.9**	**-0.6**
	2.8nm,1.0s,baz=66,slow=6.8,SNR=5.3						

IDC 16 20:22:45.0±3.0, 1°.30S×15°.67W, h0km, mb3.7/4, mb1 3.7/4, mb1mx3.5/24, mbtmp3.7/4, MS3.3/2, Ms1 3.3/2, ms1mx2.9/27, Error ellipse: s-maj=82.4km s-min=35.9km az=91.0, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**13.38**	**54**	LR	LR	20 30 08.7	
	comp=Z,121nm,18.4s,baz=90,slow=33						
TORD	**Torodi Ar. Bea**	**22.42**	**50**	P	P	20 27 45.8	+0.2
	0.8nm,0.6s,baz=233,slow=11,SNR=14						
TORD				LR	LR	20 35 14.7	
	comp=Z,86nm,18.1s,baz=245,slow=33						
BOSA	**Boshof**	**47.56**	**129**	P	P	20 31 22.4	-0.4
	1.5nm,0.6s,baz=292,slow=5.4,SNR=7.3						
BRTR	**Keskin Array B**	**60.77**	**42**	P	P	20 32 59.5	+0.5
	0.4nm,0.5s,baz=235,slow=5.1,SNR=4.4						
AKASG	**Malin Array Be**	**64.34**	**30**	P	P	20 33 21.6	-0.9
	0.1nm,0.3s,baz=230,slow=6.1,SNR=4.3						
ASAR	**Alice Springs**	**141.39**	**132**	PKP	PKPdf	20 42 17.4	-1.6
	0.6nm,0.8s,baz=240,slow=1.8,SNR=5.3						
WRA	**Warramunga Arr**	**143.80**	**127**	PKP	PKPdf	20 42 24.5	+1.3
	0.7nm,0.8s,baz=234,slow=2.5,SNR=3.8						

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*TIR **16** 20:33:26.9±6.6, 41°.14N×19°.46E, h10km±999km, ML3.2*
*ISCJB **16** 20:33:33.0±0.4, 41°.15N±0°.01×19°.48E±0°.02, h4km±3km, Error ellipse: s-maj=2.8km s-min=2.0km az=150.8*
*ATH **16** 20:33:32.7, 41°.26N×19°.46E, h26km±10km, MD3.7/21*
*PDG **16** 20:33:33.6±0.4, 41°.11N×19°.49E, h15km, MD3.4/2, ML3.4/12, Error ellipse: s-maj=0.5km s-min=0.6km az=0.0*
*THE **16** 20:33:33.3, 41°.33N×19°.38E, h18km±7km, ML3.2/4, Error ellipse: s-maj=10.3km s-min=1.4km az=325.0*
*CSEM **16** 20:33:33.8±0.1, 41°.14N×19°.48E, h5km, MD3.6, Error ellipse: s-maj=2.6km s-min=2.0km az=61.0*
*BEO **16** 20:33:34.9±0.6, 41°.13N×19°.51E, h17km±2km, ML3.0/1*
*ROM **16** 20:33:34.0±0.2, 41°.18N×19°.48E, h10km, Ml3.2/9, Error ellipse: s-maj=3.4km s-min=2.2km az=142.0*
ISC 16 20:33:34.2±0.9, 41°.16N±0°.01×19°.51E±0°.02, h12km±7km, n193, σ1§11/262, 15C-18D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.33**	**55**	i PG	**Pg**	**20 33 40.6**	**-0.3**
TIR				i SG	**Sg**	**20 33 46.5**	**+1.1**
TIR	**Tirane**	**0.33**	**55**	P	**Pg**	**20 33 40.6**	**-0.3**
TIR	**Tirane**	**0.33**	**55**	Pn	**Pg**	**20 33 40.6**	**-0.3**
TIR				Sn	**Sb**	**20 33 46.8**	**-0.4**
	2μm,0.5s						
TIR	**Tirane**	**0.33**	**55**	ePg	**Pg**	**20 33 40.6**	**-0.3**
TIR				eSg	**Sb**	**20 33 49.9**	**+2.7**
TIR	**Tirane**	**0.33**	**55**	ePb	**Pg**	**20 33 40.7**	**-0.3**
TIR				eSb	**Sg**	**20 33 45.4**	**0.0**
TIR				i Sg	**Sg**	**20 33 46.5**	**+1.1**
	SNR=90						
TIR				Sn	**Sb**	**20 33 46.8**	**-0.4**
	2μm,0.5s						
ULC	**Ulcinj**	**0.83**	**346**⇓	iPg	**Pb**	**20 33 50.4**	**-0.2**
ULC				eSg	**Sn**	**20 34 04.1**	**+0.2**
ULC	**Ulcinj**	**0.83**	**346**⇓	iPg	**Pb**	**20 33 50.4**	**-0.2**
ULC				eSg	**Sn**	**20 34 04.1**	**+0.2**
PHP	**Peshkopia**	**0.88**	**53**	i PG	**Pg**	**20 33 49.3**	**-1.9**
PHP				i SG	**Sn**	**20 34 06.2**	**+1.1**
PHP	**Peshkopia**	**0.88**	**53**	P	**Pg**	**20 33 48.9**	**-2.3**
PHP	**Peshkopia**	**0.88**	**53**	P	**Pg**	**20 33 48.9**	**-2.3**
PHP	**Peshkopia**	**0.88**	**53**	i Pg	**Pg**	**20 33 49.3**	**-1.9**
	SNR=90						
PHP				i Sg	**Sn**	**20 34 06.2**	**+1.1**
	SNR=90						
PUK	**Puka**	**0.93**	**18**	i PG	**Pn**	**20 33 54.0**	**+0.9**
PUK	**Puka**	**0.93**	**18**	i Pg	**Pn**	**20 33 54.0**	**+0.9**
	SNR=90						
DRME	**Dracevica, Mon**	**1.06**	**347**⇓	iPg	**Pn**	**20 33 54.6**	**-0.2**
DRME				eSg	**Sn**	**20 34 11.6**	**+2.2**
DRME	**Dracevica, Mon**	**1.06**	**347**⇓	iPg	**Pn**	**20 33 54.6**	**-0.2**
DRME				eSg	**Sn**	**20 34 11.6**	**+2.2**
KBN	**Korca**	**1.11**	**118**	i PG	**Pn**	**20 33 55.8**	**+0.2**
KBN				i SG	**Sn**	**20 34 11.9**	**+1.1**
KBN	**Korca**	**1.11**	**118**	i Pg	**Pn**	**20 33 55.8**	**+0.2**
	SNR=90						
KBN				i Sg	**Sn**	**20 34 11.9**	**+1.1**
	SNR=90						
BUM	**Brajici-Budva**	**1.23**	**338**	ePg	**Pg**	**20 33 57.4**	**-0.5**
BUM				eSg	**Sn**	**20 34 16.9**	**+3.0**
BUM	**Brajici-Budva**	**1.23**	**338**	ePg	**Pg**	**20 33 57.4**	**-0.5**
BUM				eSg	**Sn**	**20 34 16.9**	**+3.0**
BCI	**Bajram Curri**	**1.28**	**19**	ePG	**Pn**	**20 33 55.8**	**-2.1**
BCI	**Bajram Curri**	**1.28**	**19**	ePg	**Pn**	**20 33 55.8**	**-2.1**
	SNR=90						
PDG	**Podgorica**	**1.28**	**352**	Pn	**Pg**	**20 33 58.6**	**-0.3**
	465nm,0.4s						
PDG	**Podgorica**	**1.28**	**352**	ePg	**Pg**	**20 33 58.6**	**-0.3**
PDG				eSg	**Sn**	**20 34 17.7**	**+2.6**
PDG	**Podgorica**	**1.28**	**352**	ePg	**Pg**	**20 33 58.6**	**-0.3**
PDG				eSg	**Sn**	**20 34 17.7**	**+2.6**
TTG	**Podgorica**	**1.28**	**352**⇑	iPg	**Pg**	**20 33 58.4**	**-0.5**
TTG				eSg	**Sn**	**20 34 18.1**	**+3.0**
SRN	**Sarande**	**1.33**	**164**	ePG	**Pg**	**20 33 59.2**	**-0.6**
SRN				eSG	**Sg**	**20 34 17.3**	**+0.2**
SRN	**Sarande**	**1.33**	**164**	P	**Pg**	**20 33 58.9**	**-0.9**
SCTE	**Santa Cesarea**	**1.34**	**217**	Pn	**Pg**	**20 33 59.3**	**-0.8**
	325nm,0.5s						
SCTE	**Santa Cesarea**	**1.34**	**217**	Pn	**Pg**	**20 33 59.3**	**-0.8**
	325nm,0.5s						
BIA	**Bitola**	**1.38**	**95**	i Pn	**Pn**	**20 33 59.4**	**+0.1**
BIA	**Bitola**	**1.38**	**95**	i Pn	**Pn**	**20 33 58.9**	**-0.4**
MESG	**Mesagne**	**1.38**	**246**	Pn	**Pb**	**20 33 59.1**	**-0.8**
	601nm,0.5s						
MESG	**Mesagne**	**1.38**	**246**	Pn	**Pb**	**20 33 59.1**	**-0.8**
	601nm,0.5s						
NEST	**Nestorio**	**1.39**	**122**	P	**Pg**	**20 34 00.3**	**-0.5**
NEST				S	**Sg**	**20 34 19.5**	**+0.7**
NEST	**Nestorio**	**1.39**	**122**	P	**Pg**	**20 34 00.3**	**-0.5**
NEST				S	**Sg**	**20 34 19.5**	**+0.7**
KEK	**Kerkira**	**1.46**	**171**	P	**Pb**	**20 34 00.4**	**-0.9**
KEK				S	**Sg**	**20 34 21.4**	**+0.2**
KEK	**Kerkira**	**1.46**	**171**	Pn	**Pb**	**20 34 00.8**	**-0.5**
KEK				Sn	**Sg**	**20 34 21.1**	**-0.1**
	206nm,0.5s						
KEK	**Kerkira**	**1.46**	**171**	ePN	**Pg**	**20 34 01.0**	**-1.3**
KEK				eSN	**Sg**	**20 34 21.4**	**+0.2**
KEK	**Kerkira**	**1.46**	**171**	P	**Pb**	**20 34 00.4**	**-0.9**
KEK	**Kerkira**	**1.46**	**171**	ePn	**Pg**	**20 34 01.0**	**-1.3**
KEK				Sn	**Sg**	**20 34 21.1**	**-0.1**
	206nm,0.5s						
KEK				S	**Sg**	**20 34 21.4**	**+0.2**
FNA	**Florina**	**1.46**	**104**	P	**Pn**	**20 34 00.6**	**+0.2**
FNA				S	**Sg**	**20 34 20.8**	**-0.5**
FNA	**Florina**	**1.46**	**104**	ePN	**Pn**	**20 34 00.0**	**-0.4**
FNA				eSN	**Sb**	**20 34 20.2**	**+0.3**
FNA	**Florina**	**1.46**	**104**	ePn	**Pn**	**20 34 00.0**	**-0.4**
FNA	**Florina**	**1.46**	**104**	P	**Pn**	**20 34 00.6**	**+0.2**
FNA				eSn	**Sb**	**20 34 20.2**	**+0.3**
PVY	**Plav**	**1.47**	**13**⇑	iPg	**Pn**	**20 34 01.0**	**+0.3**
PVY				eSg	**Sg**	**20 34 23.5**	**+1.8**
HCY	**Herceg Novi**	**1.50**	**330**⇑	iPg	**Pn**	**20 34 00.6**	**-0.3**
HCY				eSg	**Sg**	**20 34 23.8**	**+1.4**
HCY	**Herceg Novi**	**1.50**	**330**⇑	iPg	**Pn**	**20 34 00.6**	**-0.3**
HCY				eSg	**Sg**	**20 34 23.8**	**+1.4**
PE1	**Pezze di Greco**	**1.62**	**258**	ePn	**Pn**	**20 34 02.1**	**-0.4**
PE1				eSn	**Sg**	**20 34 27.0**	**+0.7**
NKME	**Niksic**	**1.66**	**346**⇑	iPn	**Pn**	**20 34 03.4**	**+0.2**
NKME				eSn	**Sg**	**20 34 27.8**	**+0.1**
NKME	**Niksic**	**1.66**	**346**⇑	iPn	**Pn**	**20 34 03.4**	**+0.2**
NKME				eSn	**Sg**	**20 34 27.8**	**+0.1**
SKO	**Skopje**	**1.66**	**60**	ePg	**Pb**	**20 34 04.4**	**-0.3**
SKO				eSg	**Sg**	**20 34 27.5**	**-0.2**
SKO	**Skopje**	**1.66**	**60**⇑	iPn	**Pn**	**20 34 01.5**	**-1.6**
SKO	**Skopje**	**1.66**	**60**⇑	iPn	**Pb**	**20 34 04.5**	**-0.3**
SKO				eSg	**Sg**	**20 34 27.5**	**-0.2**
NKY	**Niksic**	**1.70**	**347**⇓	iPn	**Pb**	**20 34 05.3**	**-0.1**
NKY				eSn	**Sg**	**20 34 28.5**	**-0.4**
NKY	**Niksic**	**1.70**	**347**⇓	iPn	**Pb**	**20 34 05.3**	**-0.1**
NKY				eSn	**Sg**	**20 34 28.5**	**-0.4**
BEY	**Berane**	**1.74**	**9**⇓	iPn	**Pb**	**20 34 05.8**	**-0.3**
BEY				eSn	**Sg**	**20 34 30.0**	**-0.1**
IVA	**Berane**	**1.74**	**9**⇓	iPn	**Pb**	**20 34 05.8**	**-0.3**
IVA				eSn	**Sg**	**20 34 30.0**	**-0.1**
IGT	**Igoumenitsa**	**1.74**	**159**	P	**Pn**	**20 34 04.6**	**+0.4**
IGT				S	**Sg**	**20 34 29.7**	**-0.5**
IGT	**Igoumenitsa**	**1.74**	**159**	P	**Pn**	**20 34 04.6**	**+0.4**
IGT				S	**Sg**	**20 34 29.7**	**-0.5**
TREB	**Trebinje**	**1.78**	**331**	ePn	**Pn**	**20 34 04.5**	**-0.3**
TREB				eSg	**Sg**	**20 34 32.3**	**+0.8**
TREB	**Trebinje**	**1.78**	**331**	ePn	**Pn**	**20 34 04.5**	**-0.3**
TREB				eSg	**Sg**	**20 34 32.3**	**+0.8**
JAN	**Janina**	**1.82**	**145**	ePB	**Pb**	**20 34 07.2**	**-0.2**
JAN				eSN	**Sb**	**20 34 30.3**	**+0.2**
JAN	**Janina**	**1.82**	**145**	ePb	**Pb**	**20 34 07.2**	**-0.2**
JAN				eSn	**Sb**	**20 34 30.3**	**+0.2**
BRY	**Bratogost**	**1.89**	**338**⇓	iPn	**Pn**	**20 34 06.4**	**0.0**
BRY				eSn	**Sb**	**20 34 33.1**	**+0.9**
BRY	**Bratogost**	**1.89**	**338**⇓	iPn	**Pn**	**20 34 06.4**	**0.0**
BRY				eSn	**Sb**	**20 34 33.1**	**+0.9**
NOCI	**Noci**	**1.89**	**260**	Pn	**Pn**	**20 34 05.7**	**-0.6**
	324nm,0.3s						
NOCI	**Noci**	**1.89**	**260**	Pn	**Pn**	**20 34 05.7**	**-0.6**
	324nm,0.3s						
KZN	**Kozani**	**1.92**	**116**	ePN	**Pn**	**20 34 07.7**	**+1.0**
KZN				eSN	**Sb**	**20 34 32.6**	**-0.4**
KZN	**Kozani**	**1.92**	**116**	ePn	**Pn**	**20 34 07.7**	**+1.0**
KZN				eSn	**Sb**	**20 34 32.6**	**-0.4**
BAI	**Bari**	**1.99**	**269**	ePg	**Pg**	**20 34 12.0**	**-0.4**
UPM	**Unac-Piva**	**2.09**	**348**⇓	iPn	**Pb**	**20 34 10.8**	**-1.4**
UPM				eSn	**Sb**	**20 34 38.0**	**-0.2**
UPM	**Unac-Piva**	**2.09**	**348**⇓	iPn	**Pb**	**20 34 10.8**	**-1.4**
UPM				eSn	**Sb**	**20 34 38.0**	**-0.2**
SJES	**Sjenica**	**2.13**	**9**	ePn	**Pn**	**20 34 10.6**	**+0.9**
SJES				eSg	**Sg**	**20 34 42.3**	**-0.4**
SJES	**Sjenica**	**2.13**	**9**	ePn	**Pn**	**20 34 10.6**	**+0.9**
SJES				eSg	**Sg**	**20 34 42.3**	**-0.4**
PLE	**Pljevlja**	**2.17**	**358**⇑	iPn	**Pn**	**20 34 11.4**	**+1.1**
PLE				eSn	**Sb**	**20 34 40.0**	**-0.4**
PLE	**Pljevlja**	**2.17**	**358**⇑	iPn	**Pn**	**20 34 11.4**	**+1.1**
PLE				eSn	**Sb**	**20 34 40.0**	**-0.4**
STON	**Ston**	**2.18**	**322**	ePn	**Pn**	**20 34 09.8**	**-0.4**
STON	**Ston**	**2.18**	**322**	ePn	**Pn**	**20 34 09.7**	**-0.4**
STON				Sn	**Sn**	**20 34 36.7**	**-0.4**
STON	**Ston**	**2.18**	**322**	ePn	**Pn**	**20 34 09.8**	**-0.4**
MATE	**Matera**	**2.19**	**257**	Pn	**Pn**	**20 34 10.8**	**+0.5**
	167nm,0.5s						
MATE	**Matera**	**2.19**	**257**	Pn	**Pn**	**20 34 10.8**	**+0.5**
	167nm,0.5s						
AMUR	**Altamura**	**2.21**	**264**	Pn	**Pn**	**20 34 10.4**	**-0.3**
AMUR	**Altamura**	**2.21**	**264**	Pn	**Pn**	**20 34 10.4**	**-0.3**
VAY	**Valandovo**	**2.31**	**85**	ePn	**Pn**	**20 34 13.5**	**+1.4**
VAY	**Valandovo**	**2.31**	**85**	i Pn	**Pb**	**20 34 15.6**	**-0.2**
VAY	**Valandovo**	**2.31**	**85**	ePn	**Pn**	**20 34 13.5**	**+1.4**
SELS	**Selova**	**2.38**	**30**	ePn	**Pn**	**20 34 13.5**	**+0.4**
BARS	**Barje**	**2.39**	**45**	ePn	**Pn**	**20 34 13.7**	**+0.6**
BARS	**Barje**	**2.39**	**45**	ePn	**Pn**	**20 34 13.7**	**+0.6**
CRAC	**Craco**	**2.47**	**252**	Pn	**Pn**	**20 34 14.1**	**-0.1**
CRAC	**Craco**	**2.47**	**252**	Pn	**Pn**	**20 34 14.1**	**-0.1**
THL	**Klokotos Trika**	**2.49**	**129**	ePN	**Pn**	**20 34 15.2**	**+0.7**
THL				eSN	**Sn**	**20 34 45.8**	**+1.0**
THL	**Klokotos Trika**	**2.49**	**129**	ePn	**Pn**	**20 34 15.2**	**+0.7**
THL				eSn	**Sn**	**20 34 45.8**	**+1.0**
MRVN	**Minervino Murg**	**2.51**	**269**	Pn	**Pn**	**

LKR	Lokris	3.67	132	*e*Pn	Pn	20 34 31.1	+0.3
KLV	Kalavryta, Ach	3.72	146	*e*PN	Pn	20 34 32.6	+1.1
KLV	Kalavryta, Ach	3.72	146	*e*Pn	Pn	20 34 32.6	+1.1
GUR	Goura	3.89	145	*e*PN	Pn	20 34 34.1	+0.2
GUR	Goura	3.89	145	*e*Pn	Pn	20 34 34.1	+0.2
AOS	Alonnisos	3.89	119	*e*PN	Pn	20 34 34.8	+1.0
AOS	Alonnisos	3.89	119	*e*Pn	Pn	20 34 34.8	+1.0
BLY	Banja Luka	3.97	335	*e*Pn	Pn	20 34 34.9	0.0
BLY	Banja Luka	3.97	335	*e*Pn	Pn	20 34 34.9	0.0
AMT	Artemida-Makis	4.00	154	*e*PN	Pn	20 34 35.8	+0.5
AMT	Artemida-Makis	4.00	154	*e*Pn	Pn	20 34 35.8	+0.5
SDI	San Donato 13nm,0.3s	4.32	279	Pn	Pn	20 34 41.1	+1.4
SDI	San Donato 13nm,0.3s	4.32	279	Pn	Pn	20 34 41.1	+1.4
UDBI	Udbina	4.35	322	*e*Pn	Pn	20 34 41.0	+0.8
UDBI				Sn	Sn	20 35 31.2	+0.4
VLX	Vlachokerasia	4.39	149	*e*PN	Pn	20 34 42.5	+1.8
VLX	Vlachokerasia	4.39	149	*e*Pn	Pn	20 34 42.5	+1.8
RDO	Rodhopi	4.55	88	*e*PN	Pn	20 34 43.5	+0.7
RDO	Rodhopi	4.55	88	*e*Pn	Pn	20 34 43.5	+0.7
PYL	PYLOS	4.60	157	*e*PN	Pn	20 34 41.6	-1.9
PYL	PYLOS	4.60	157	*e*Pn	Pn	20 34 41.6	-1.9
DID	Didima	4.65	140	*e*PN	Pn	20 34 46.3	+2.0
DID	Didima	4.65	140	*e*Pn	Pn	20 34 46.3	+2.0
BZS	Buzias	4.71	18	⇓*i*P	Pn	20 34 45.0	-0.1
BZS	Buzias	4.71	18	S	Sn	20 35 36.8	-2.8
BZS	Buzias	4.71	18	*e*Pn	Pn	20 34 44.9	-0.1
BZS				*e*Sn	Sn	20 35 36.9	-2.7
BZS	Buzias	4.71	18	⇓*i*P	Pn	20 34 45.0	-0.1
NVLJ	Novalja	4.82	316	*e*Pn	Pn	20 34 46.1	-0.4
NVLJ				Sn	Sn	20 35 40.4	-1.7
PKSM	Moragy	5.09	353	⇑*i*P	Pn	20 34 54.6	+4.4
PKSM	Moragy	5.09	353	S	Sb	20 35 58.7	-5.5
PKSM	Moragy	5.09	353	*e*Pn	Pn	20 34 52.2	+2.0
PKSM	Moragy	5.09	353	*e*Pn	Pn	20 34 52.2	+2.0
PKSM	Moragy	5.09	353	⇑*i*P	Pn	20 34 54.6	+4.4
VLI	Veliai	5.18	148	*e*PN	Pn	20 34 51.8	+0.4
VLI	Veliai	5.18	148	*e*Pn	Pn	20 34 51.8	+0.4
KYTH	Kithira	5.60	149	*e*PN	Pn	20 34 58.2	+0.9
KYTH	Kithira	5.60	149	*e*Pn	Pn	20 34 58.2	+0.9
DRGR		6.09	21	S	Sn	20 36 09.3	-4.2
MLR	Muntele Rosu	6.38	45	⇑*i*P	Pn	20 35 10.1	+2.0
MLR	Muntele Rosu	6.38	45	⇑*i*P	Pn	20 35 10.1	+2.0
SOKA	Soboth 2.6nm,0.3s	6.39	331	⇓*i*Pn	Pn	20 35 07.7	-0.6
SOKA	Soboth 2.6nm,0.3s	6.39	331	Pn	Pn	20 35 07.7	-0.6
MOA	Molln 1.9nm,0.2s	7.67	333	⇑*i*Pn	Pn	20 35 27.3	+1.6
MOA	Molln 1.9nm,0.2s	7.67	333	Pn	Pn	20 35 27.3	+1.6
WTTA	Wattenberg 2.8nm,0.3s	8.32	320	⇓*i*Pn	Pn	20 35 35.6	+0.9
WTTA	Wattenberg 2.8nm,0.3s	8.32	320	Pn	Pn	20 35 35.6	+0.9

IDC 16 20:45:52.2±0.9, 9°30S×125°39E, h0km, mb4.0/5, mb1 4.2/8, mb1mx4.0/20, mbtmp4.1/8, ML4.3/3, MS4.4/1, Ms1 4.4/1, ms1mx2.9/20, Error ellipse: s-maj=58.9km s-min=18.4km az=69.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi** 2.6nm,0.3s,baz=14,slow=11,SNR=74	**8.76**	**178**	Pn	Pn	20 47 59.1	-1.0
FITZ	3.5nm,0.3s,baz=163,slow=21,SNR=7.2			Sn	Sn	20 49 28.9	-11
FITZ	comp=Z,127nm,18.4s,baz=16,slow=42			LR	LR	20 52 02.4	
WRA	**Warramunga Arr** 2.3nm,0.3s,baz=318,slow=16,SNR=104	**13.67**	**142**	Pn	Pn	20 49 07.6	+0.2
WRA	1.6nm,0.3s,baz=310,slow=24,SNR=13			Sn	Sn	20 51 31.6	-8.6
ASAR	**Alice Springs** 0.7nm,0.3s,baz=318,slow=11,SNR=39	**16.45**	**151**	Pn	Pn	20 49 43.6	-0.9
ASAR	0.7nm,0.3s,baz=316,slow=20,SNR=9.8			Sn	Sn	20 52 37.8	-10
STKA	**Stephens Creek** 3.7nm,1.0s,baz=193,slow=9.2,SNR=5.4	**27.04**	**149**	P	P	20 51 36.6	+0.3
MJAR	**Matsushiro Arr** 1.0nm,0.7s,baz=193,slow=9.2,SNR=5.4	**47.16**	**14**	P	P	20 54 26.0	-0.5
SONM	**Songino Array** 0.5nm,0.5s,baz=158,slow=4.8,SNR=5.3	**59.32**	**345**	P	P	20 55 56.6	+0.6
MKAR	**Makanchi Array** 0.9nm,0.6s,baz=136,slow=7.5,SNR=12	**67.75**	**330**	P	P	20 56 51.5	-0.2
ZALV	**Zalesovo Beam** 0.8nm,0.5s,baz=129,slow=5.9,SNR=5.9	**71.72**	**336**	P	P	20 57 15.4	-0.5
LBTB	**Lobatse** comp=Z,181nm,21.8s,baz=291,slow=30	**94.87**	**244**	LR	LR	21 33 39.2	
TORD	**Torodi Ar. Bea** 0.1nm,0.5s,baz=52,slow=2.2,SNR=4.6	**124.73**	**280**	PKP	PKPdf	21 04 55.5	+0.6

*MOS **16** 20:50:11.5±4.0, 52°.30N×169°.40W, h33km, mb5.6/113, MS4.3/10, Error ellipse: s-maj=19.6km s-min=11.3km az=73.6*

*IDC **16** 20:50:11.5±0.4, 52°.26N×169°.38W, h0km, mb5.0/39, mb1 5.1/42, mb1mx5.1/44, mbtmp5.0/42, ML4.7/3, MS4.2/20, Ms1 4.2/20, ms1mx4.1/37, Error ellipse: s-maj=14.1km s-min=7.7km az=175.0*

*ISCJB **16** 20:50:13.1±0.7, 52°.13N±0°.02×169°.34W±0°.02, h21km±4km, mb5.2/337, MS4.4/41, Error ellipse: s-maj=4.0km s-min=2.0km az=12.0*

*BKK **16** 20:50:13.4±1.0, 52°N±12°×16°9W±2°2, h10km, M5.4/17, mB5.9/6, mb5.3/17, Mw(mB)5.5/6*

*BJI **16** 20:50:17.3, 52°.71N×170°.14W, h27km, mB5.2/38, mb5.4/58, Ms4.9/45, Ms7 4.6/45*

*NEIC **16** 20:50:17.0±0.1, 52°.24N×169°.33W, h35km, mb5.3/174, ML4.6(AEIC), Error ellipse: s-maj=4.0km s-min=2.2km az=173.0*

*GCMT **16** 20:50:18.2±0.2, 52°.12N×169°.36W, h17km, MW5.1, Moment Tensor Solution. s61,c97; s94,c160; Moment tensor: Scale 10^16^Nm; M_{rr}5.29±.14; $M_{\theta\theta}$-4.68±.11; $M_{\phi\phi}$-0.61±.09; $M_{r\theta}$3.42±.28; $M_{\theta\phi}$-1.92±.07; $M_{r\phi}$0.95±.25; Best double couple: $M_0$6.40000×10^16^ NP1:ϕ_s72.00000°, δ62.00000°, λ93.00000°. NP2:ϕ_s245.00000°, δ28.00000°, λ84.00000°. Principal axes: T 6.3700, Plg73.0000°, Azm350.0000°; N 0.1300, Plg3.0000°, Azm250.0000°; P -6.5000, Plg17.0000°, Azm159.0000°; Data Used: II IU IC CN G.*

*BGS **16** 20:50:22.5±1.6, 53°.20N×170°.17W, h33km, mb5.2*

*DJA **16** 20:50:25.4±7.8, 52°N±12°×17°0W±2°7, h107km±65km, M5.2/10, mB5.7/3, mb5.2/10, Mw(mB)5.2/3*

ISC 16 20:50:16.5±0.3, 52°.27N±0°.05×169°.42W±0°.03, h32km±1km, h32km:pP-P, n1286, σ1°04/1393, mb5.3/339, MS4.3/42, 364C-213D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.79**	**26**	P	Pn	20 50 29.6	-1.8
NIKH				S	Sn	20 50 40.1	-2.0
OKSP	**Okmok Steeple**	**1.20**	**34**	P	Pn	20 50 35.7	-1.4
OKCE	**Okmok Cone E**	**1.39**	**33**	P	Pn	20 50 39.4	-0.3
OKTU	**Okmok Mt. Tuli**	**1.40**	**36**	P	Pn	20 50 39.1	-0.7
MSOM	**Makushin Julie**	**2.15**	**43**	P	Pn	20 50 49.2	-0.9
MSOM	**Makushin Julie**	**2.15**	**43**	P	Pn	20 50 49.2	-0.9
MGOD	**Makushin Gods**	**2.17**	**44**	P	Pn	20 50 49.7	-0.7
MREP	**Makushin Rep't**	**2.24**	**45**	P	Pn	20 50 51.1	-0.2
MCIR	**Makushin Cirqu**	**2.27**	**41**	P	Pn	20 50 52.3	+0.5
MCIR				S	Sn	20 51 19.6	+0.8
MSW	**Makushin Switc**	**2.29**	**43**	P	Pn	20 50 52.7	+0.6
MTBL	**Makushin Table**	**2.38**	**43**	P	Pn	20 50 52.8	-0.4
AKRB	**Akutan Reef Bi**	**2.75**	**46**	P	Pn	20 50 59.5	+1.2
ZRO	**Akutan Zero**	**2.76**	**47**	P	Pn	20 50 59.1	+0.6
LVA	**Lava Point**	**2.79**	**46**	P	Pn	20 51 00.2	+1.3
LVA				S	Sn	20 51 33.9	+2.6
AKGG	**Akutan Green G**	**2.83**	**45**	P	Pn	20 50 59.9	+0.5
AKUT	**Akutan**	**2.89**	**48**	P	Pn	20 51 00.5	+0.3
AKUT				S	Sn	20 51 35.6	+2.0
BRPK	**Brown Peak**	**4.15**	**53**	P	Pn	20 51 17.8	+0.2
FALS	**False Pass**	**4.42**	**52**	P	Pn	20 51 23.0	+1.7
ADK	**Adak**	**4.50**	**268**	P	Pn	20 51 23.5	+1.2
ADK	**Adak**	**4.50**	**268**	P	Pn	20 51 23.5	+1.2
SPIA	**Saint Paul Isl**	**4.94**	**355**	P	Pn	20 51 29.9	+1.5
DRIA	**Deer Island**	**5.05**	**55**	P	Pn	20 51 29.9	0.0
DT1	**Dutton Round H**	**5.11**	**53**	P	Pn	20 51 32.3	+1.6
DTNA	**Dutton South F**	**5.15**	**53**	P	Pn	20 51 32.5	+1.3
SDPT	**Sand Point**	**6.13**	**56**	P	Pn	20 51 45.8	+1.1
CERAA	**Semis' Rag'd T**	**6.72**	**271**	P	Pn	20 51 54.4	+1.5
CESW	**Semis' Southwe**	**6.80**	**271**	P	Pn	20 51 54.9	+1.0
AMKA	**Amchitka**	**7.05**	**267**	P	Pn	20 51 59.3	+2.0
LSSE	**Little Sitkin**	**7.41**	**272**	P	Pn	20 52 05.2	+2.9
LSNW	**Little Sitkin**	**7.43**	**272**	P	Pn	20 52 04.5	+1.9
LSSA	**Little Sitkin**	**7.44**	**272**	P	Pn	20 52 04.3	+1.6
OHAK	**Old Harbor** 92nm,1.1s	**10.56**	**56**	*e*Pn	Pn	20 52 42.6	-2.7
FX1	**Attu Island--F**	**10.62**	**280**	*e*Pn	Pn	20 52 48.5	+2.3
FX1	**Attu Island--F** 14nm,0.3s,baz=275,slow=12,SNR=30	**10.62**	**280**	Pn	Pn	20 52 47.4	+1.1
FX1	comp=Z,812nm,21.6s,baz=98,slow=35			LR	LR	20 56 23.4	
KDAK	**Kodiak Island** 305nm,0.9s,SNR=7.6	**11.12**	**54**	Pn	Pn	20 52 52.3	-0.7
KDAK	**Kodiak Island** 62nm,0.9s	**11.12**	**54**	*e*Pn	Pn	20 52 50.6	-2.4
KDAK	**Kodiak Island** 6.8nm,0.3s,baz=247,slow=8.5,SNR=21	**11.12**	**54**	Pn	Pn	20 52 50.9	-2.1
RSO	**Redoubt South** 140nm,0.8s	**12.33**	**42**	*e*Pn	Pn	20 53 10.6	+0.9
TNA	**Tin City** 130nm,1.3s	**13.36**	**3**	*e*Pn	Pn	20 53 25.7	+2.1
PPLA	**Purkeypile** 262nm,1.4s	**14.05**	**34**	*e*Pn	Pn	20 53 35.4	+2.2
BPAW	**Bear Paw Mtn.** 226nm,1.2s	**15.25**	**32**	*e*Pn	Pn	20 53 48.9	-0.4
DIV	**Divide** 55nm,0.7s	**15.65**	**46**	*e*P	Pn	20 53 50.3	-4.1
MCK	**McKinley**	**15.71**	**35**	*e*P	Pn	20 53 55.3	+0.1
MCK	comp=Z,15nm,0.7s			pmax	pmax		
MCK	**McKinley** comp=Z,15nm,0.7s	**15.71**	**35**	*e*P	Pn	20 53 55.3	+0.1
IM04	**Indian Mountai**	**15.84**	**24**	*e*P	Pn	20 53 58.0	+1.2
BMRM	**Bremner River** comp=Z,179nm,1.1s	**16.11**	**48**	*e*P	Pn	20 53 57.0	-3.3
PAX	**Paxson**	**16.60**	**40**	*e*P	Pn	20 54 03.8	-2.8
PAX	comp=Z,51nm,1.2s			pmax	pmax		
PAX	**Paxson** comp=Z,50nm,1.2s	**16.60**	**40**	*e*P	Pn	20 54 03.8	-2.8
COLA	**College**	**16.79**	**33**	*e*P	Pn	20 54 07.4	-1.4
COLA	comp=Z,155nm,0.9s			pmax	pmax		
COLA	**College** comp=Z,155nm,0.9s	**16.79**	**33**	*e*P	Pn	20 54 07.4	-1.4
ILAR	**Eielson Array**	**17.05**	**34**	P	Pn	20 54 09.9	-2.3
ILAR				PcP	PcP	20 58 55.8	0.0
ILAR	**Eielson Array** comp=Z,0.6nm,0.3s,baz=241,slow=11,SNR=25	**17.05**	**34**	P	Pn	20 54 09.9	-2.3
ILAR	comp=Z,0.2nm,0.3s,baz=268,slow=3.3,SNR=8.7			PcP	PcP	20 58 55.8	0.0
MENT	**Mentasta**	**17.29**	**42**	*e*P	Pn	20 54 12.6	-2.6
COLD	**Coldfoot** comp=Z,68nm,1.3s	**17.72**	**25**	*e*P	Pn	20 54 19.8	-0.6
EGAK	**Eagle** comp=Z,23nm,0.7s	**19.14**	**38**	*e*P	P	20 54 34.8	-1.9
PET	**Petropavlovsk**	**19.30**	**285**	⇓*i*P	Pn	20 54 39.2	-0.5
PET				*e*S	S	20 58 13.6	-1.4
PET	comp=Z,101nm,0.6s			pmax	pmax		
PET	comp=Z,300nm,4.3s			pmax	pmax		
PET	comp=Z,300nm,6.1s			pmax	pmax		
PET	comp=Z,900nm,17.0s			MLR	MLR		
PET	comp=Z,800nm,15.0s			MLR	MLR		
HYT	**Haines Junctio**	**19.39**	**51**	*e*P	Pn	20 54 41.0	+0.1
DAWY	**Dawson**	**19.53**	**41**	*e*P	P	20 54 39.6	-1.4
PEA0B	**Petropavlovsk-**	**19.86**	**286**	*e*P	Pn	20 54 45.5	-0.8
PETK	**Petropavlovsk-**	**19.86**	**286**	P	P	20 54 45.2	+0.6
PETK	**Petropavlovsk-**	**19.86**	**286**	P	P	20 54 45.1	+0.6
PETK				PcP	PcP	20 59 01.1	+0.3
PETK	**Petropavlovsk-** comp=Z,17nm,0.3s,baz=94,slow=13,SNR=283	**19.86**	**286**	P	P	20 54 45.1	+0.6
PETK	comp=Z,0.1nm,0.3s,baz=99,slow=4.8,SNR=4.5			PcP	PcP	20 59 01.1	+0.3
PETK				LR	LR	21 01 31.2	
SKAG	**Skagway** comp=Z,100nm,1.1s	**20.26**	**56**	*e*P	P	20 54 49.7	+0.9
SKR	**Severo-Kuril's**	**21.41**	**280**	*e*P	P	20 54 50.0	-11
SKR				*e*		20 55 02.5	
SKR	comp=Z,220nm,1.0s			pmax	pmax		
SKR	comp=N,1μm,16.0s			MLR	MLR		
SKR	comp=E,1μm,16.0s			MLR	MLR		
SKR	comp=Z,1μm,16.0s			MLR	MLR		
CRAG	**Craig**	**21.48**	**67**	*e*P	P	20 55 02.2	+0.1
	comp=Z,131nm,1.2s						
SEY	**Seymchan**	**22.71**	**313**	⇓*i*P	P	20 55 15.7	+0.5
DLBC	**Dease Lake**	**22.97**	**59**	*e*P	P	20 55 20.1	+2.2
DLBC	**Dease Lake**	**22.97**	**59**	P	P	20 55 18.4	+0.4
	comp=Z,45nm,1.1s,baz=263,slow=9.7,SNR=26						
INK	**Inuvik**	**23.45**	**33**	P	P	20 55 20.7	-1.8
INK				PcP	PcP	20 59 08.2	+0.6
INK	**Inuvik** comp=Z,22nm,0.7s,baz=242,slow=10,SNR=42	**23.45**	**33**	P	P	20 55 20.7	-1.8
INK	comp=Z,11nm,0.7s,baz=279,slow=1.3,SNR=7.4			PcP	PcP	20 59 08.2	+0.6
INK	comp=Z,897nm,18.4s,baz=241,slow=39			LR	LR	21 05 31.4	
BBB	**Bella Bella**	**25.06**	**74**	P	P	20 55 37.8	+0.2
BBB	**Bella Bella**	**25.06**	**74**	P	P	20 55 37.8	+0.2
	comp=Z,29nm,1.2s,baz=260,slow=16,SNR=3.3						
MBW	**Mount Baker**	**29.98**	**77**	P	P	20 56 22.9	+1.0
JCW	**Jim Creek**	**30.22**	**79**	P	P	20 56 25.1	+1.3
YKW3	**Yellowknife Ar** comp=Z,0.8nm,1.1s	**30.32**	**49**	*e*P	P	20 56 24.7	+0.2
YKA	**Yellowknife Ar**	**30.33**	**49**	P	P	20 56 25.1	+0.4
YKA				PcP	PcP	20 59 24.4	+0.5
YKA				ScP	ScP	21 03 06.0	+2.4
YKA	**Yellowknife Ar**	**30.33**	**49**	P	P	20 56 25.1	+0.4
	comp=Z,22nm,1.0s,baz=275,slow=9.9,SNR=56						
YKA				PcP	PcP	20 59 24.4	+0.5
	comp=Z,2.8nm,0.7s,baz=278,slow=2.0,SNR=5.8						
YKA				ScP	ScP	21 03 06.0	+2.4
	comp=Z,1.6nm,0.9s,baz=289,slow=3.6,SNR=5.3						
RPW	**Rockport**	**30.36**	**78**	P	P	20 56 25.9	+0.8
HTW	**Haystack Looko**	**30.49**	**79**	P	P	20 56 27.6	+1.3
YUK	**Yuzh-Kuril'sk**	**30.52**	**272**	*d*i P	P	20 56 25.4	-1.1
YUK				*e*		20 57 18.9	
YUK				*i* S	S	21 01 24.9	-0.8
YUK	comp=Z,372nm,1.5s			pmax	pmax		
YUK	comp=E,293nm,1.4s			pmax	pmax		
YUK	comp=N,314nm,1.6s			pmax	pmax		
YUK	comp=N,676nm,1.5s			pmax	pmax		
YUK	comp=Z,929nm,1.4s			pmax	pmax		
YUK	comp=E,1μm,1.4s			pmax	pmax		
YUK	comp=N,284nm,22.0s			MLR	MLR		
YUK	comp=E,282nm,22.0s			MLR	MLR		
YUK	comp=Z,428nm,22.0s			MLR	MLR		
OBSR	**Observation Ro**	**30.87**	**81**	P	P	20 56 32.1	+2.2
LON	**Longmire**	**30.95**	**81**	*e*P	P	20 56 32.2	+1.9
LON	comp=Z,6.0nm,0.5s			pmax	pmax		
LON	**Longmire** comp=Z,6.2nm,0.5s	**30.95**	**81**	*e*P	P	20 56 32.2	+1.9
YSS	**Yuzh-Sakhalins**	**30.98**	**279**	⇓*e*P	P	20 56 31.1	+0.6
YSS				*e*PP	pP	20 56 42.1	+2.3
YSS				*e*		20 57 26.0	
YSS				*e*PPP	PPP	20 57 49.0	
YSS				*e*S	S	21 01 30.0	-2.8
YSS	comp=Z,40nm,1.0s			pmax	pmax		
YSS	comp=E,400nm,17.0s			MLR	MLR		
YSS	comp=Z,500nm,17.0s			MLR	MLR		
WPW	**White Pass**	**31.13**	**81**	P	P	20 56 33.2	+1.2
ETW	**Entiat**	**31.45**	**79**	P	P	20 56 35.8	+1.0
KIP	**Kipapa**	**32.03**	**160**	⇓*i*P	P	20 56 42.0	+2.0
KIP	comp=Z,34nm,1.0s			pmax	pmax		
ASAJ	**Asahikawa** comp=Z,24nm,0.9s	**32.48**	**275**	*e*P	P	20 56 43.7	0.0
ASAJ	**Asahikawa** comp=Z,53nm,0.9s,baz=54,slow=4.4,SNR=33	**32.48**	**275**	P	P	20 56 43.6	-0.1
ASAJ	comp=Z,647nm,20.2s,baz=250,slow=34			LR	LR	21 08 49.5	
HAWA	**Hanford** comp=Z,73nm,1.4s	**32.50**	**80**	*e*P	P	20 56 44.3	+0.4
OD2	**Odessa Site #2**	**32.52**	**78**	P	P	20 56 44.7	+0.6
TIXI	**Tiksi**	**32.80**	**329**	⇓*i*P	P	20 56 46.7	+0.4
TIXI	comp=Z,14nm,0.8s			pmax	pmax		
YBH	**Yreka Blue Hor** comp=Z,728nm,20.4s,baz=303,slow=30	**33.02**	**90**	LR	LR	21 06 52.7	
NEW	**Newport** comp=Z,66nm,1.2s	**33.07**	**76**	*e*P	P	20 56 49.0	+0.1
NEW	**Newport** comp=Z,40nm,1.1s,baz=300,slow=6.7,SNR=29	**33.07**	**76**	P	P	20 56 49.3	+0.4
NEW	comp=Z,382nm,20.6s,baz=130,slow=32			LR	LR	21 07 43.4	
NEW	**Newport** baz=33,SNR=16	**33.07**	**76**	⇑P	P	20 56 48.9	0.0
YAK	**Yakutsk**	**33.21**	**311**	*e*P	P	20 56 48.0	-1.9
YAK				*e*PP	pP	20 56 55.0	-4.3
YAK				*e*		20 57 55.7	
YAK				*e*		20 59 31.6	
YAK				*e*S	S	21 02 02.7	-4.6
YAK				*e*SS	sS	21 02 17.5	-5.3
YAK	comp=Z,35nm,0.9s			pmax	pmax		
YAK	comp=E,20nm,1.1s			pmax	pmax		
YAK	comp=Z,82nm,2.4s			pmax	pmax		
YAK	comp=E,230nm,4.1s			smax	smax		
YAK	comp=N,59nm,2.5s			smax	smax		
YAK	comp=N,467nm,13.0s			MLR	MLR		
YAK	comp=Z,716nm,14.0s			MLR	MLR		
YAK	comp=E,640nm,16.0s			MLR	MLR		
EDM	**Edmonton**	**33.22**	**66**	*e*P	P	20 56 50.4	+0.2
EDM	**Edmonton**	**33.22**	**66**	*e*P	P	20 56 50.4	+0.2
ERM	**Erimo** comp=E,362nm,0.8s,SNR=11	**33.29**	**271**	P	P	20 56 51.0	+0.2
ERM	**Erimo**	**33.29**	**271**	*c i*P	P	20 56 51.8	+1.0
ERM	comp=Z,128nm,1.7s			pmax	pmax		
ERM	**Erimo**	**33.29**	**271**	*e*P	P	20 56 51.6	+0.9
	comp=Z,210nm,1.6s						
WALA	**Waterton Lakes** comp=Z,2.1nm,1.3s	**34.61**	**73**	*e*P	P	20 57 02.1	-0.2
BMO	**Blue Mountains**	**34.62**	**81**	*e*P	P	20 57 02.8	+0.3
BMO	comp=Z,42nm,1.5s			pmax	pmax		
BMO	**Blue Mountains** comp=Z,42nm,1.5s	**34.62**	**81**	*e*P	P	20 57 02.8	+0.3
BSMT	**Bassoo Peak** comp=Z,56nm,1.3s	**34.65**	**75**	*e*P	P	20 57 03.1	+0.2
BLMT	**Blacktail Moun** comp=Z,107nm,1.4s	**34.82**	**75**	*e*P	P	20 57 04.5	+0.2
HABR	**Khabarovsk**	**34.88**	**286**	*c e*P	P	20 57 04.1	-0.5
HABR				*e*PP	pP	20 57 13.7	-0.3
HABR				*e*PPP	PPP	20 58 34.3	
HABR				*e*		20 59 36.2	
HABR				*e*SS	SS	21 04 50.3	-15
HABR				*e*SSS	SSS	21 05 08.0	
HABR				*e*		21 07 22.7	
HABR	comp=Z,128nm,1.2s			pmax	pmax		
HABR	comp=N,19nm,0.8s			pmax	pmax		
HABR	comp=E,80nm,1.2s			pmax	pmax		
HABR	comp=Z,656nm,16.0s			MLR	MLR		
JTMT	**Jette** comp=Z,35nm,1.4s	**35.00**	**75**	*e*P	P	20 57 05.8	0.0
YBMT	**Yellow Bay** comp=Z,27nm,1.2s	**35.10**	**75**	*e*P	P	20 57 06.2	-0.5
WVOR	**Wild Horse Val**	**35.12**	**86**	*e*P	P	20 57 07.3	+0.4
WVOR	comp=Z,26nm,1.1s			pmax	pmax		
WVOR	**Wild Horse Val** comp=Z,26nm,1.1s	**35.12**	**86**	*e*P	P	20 57 07.3	+0.4
SWMT	**Swartz Lake** comp=Z,42nm,1.7s	**35.28**	**75**	*e*P	P	20 57 07.7	-0.5
BEKR	**Beckworth** comp=Z,11nm,1.6s	**35.55**	**91**	*e*P	P	20 57 10.9	+0.2
MSO	**Missoula** baz=36,SNR=26	**35.65**	**76**	⇑P	P	20 57 10.9	-0.4
SLMT	**Seeley Lake** comp=Z,59nm,1.3s	**35.71**	**75**	*e*P	P	20 57 11.3	-0.6
CHMT	**Chamberlain Mo** comp=Z,34nm,1.4s	**36.01**	**76**	*e*P	P	20 57 13.8	-0.8
PAHR	**Pah Rah Range** comp=Z,9.6nm,1.1s	**36.25**	**90**	*e*P	P	20 57 15.9	-0.7
MFID	**Camas Ranch** baz=36,SNR=12	**36.29**	**82**	⇑P	P	20 57 16.6	-0.3
KLR	**Kul'dur**	**36.46**	**289**	*e*P	P	20 57 13.2	-4.9
KLR	comp=E,30nm,1.2s			pmax	pmax		
KLR	comp=Z,56nm,1.2s			pmax	pmax		
KLR	comp=Z,600nm,17.5s			MLR	MLR		
WAKR	**Walker** comp=Z,5.4nm,0.7s	**36.95**	**92**	*e*P	P	20 57 24.2	+1.5
HRY	**Holter Researc** comp=Z,32nm,1.3s	**36.96**	**75**	*e*P	P	20 57 22.5	-0.1
LRM	**Limekiln Ridge** comp=Z,158nm,1.2s	**37.05**	**77**	*e*P	P	20 57 22.9	-0.6
HLID	**Hailey** comp=Z,43nm,1.5s	**37.07**	**81**	*e*P	P	20 57 23.6	0.0
HLID	**Hailey** baz=37,SNR=22	**37.07**	**81**	⇓P	P	20 57 23.5	-0.1
DLMT	**Dillon** comp=Z,35nm,1.4s	**37.20**	**77**	*e*P	P	20 57 24.1	-0.6
EGMT	**Eagleton** comp=Z,131nm,1.1s	**37.53**	**72**	*e*P	P	20 57 26.9	-0.4
EGMT	**Eagleton** baz=37,SNR=34	**37.53**	**72**	⇓P	P	20 57 27.0	-0.4
BOZ	**Bozeman (W)**	**37.63**	**76**	*e*P	P	20 57 28.1	-0.2
BOZ	comp=Z,70nm,1.5s			pmax	pmax		
BOZ	**Bozeman (W)** comp=Z,70nm,1.5s	**37.63**	**76**	*e*P	P	20 57 28.1	-0.2
A19A	**Klindworth Far** baz=38,SNR=6.6	**37.68**	**70**	⇑P	P	20 57 28.2	-0.4
NVAR	**Mina Array Bea**	**37.70**	**91**	P	P	20 57 28.9	-0.1
NVAR				PcP	PcP	20 59 46.0	+0.3
NVAR	**Mina Array Bea** comp=Z,2.5nm,0.9s,baz=300,slow=8.6,SNR=16	**37.70**	**91**	P	P	20 57 28.9	-0.1
NVAR	comp=Z,4.7nm,1.0s,baz=289,slow=2.2,SNR=6.6			PcP	PcP	20 59 46.0	+0.3
NVAR	comp=Z,205nm,20.9s,baz=74,slow=32			LR	LR	21 10 28.0	
B19A	**Brinkman Farms** baz=38,SNR=13	**37.79**	**71**	⇑P	P	20 57 29.3	-0.2
C19A	**Slack Wire Ran** baz=38,SNR=56	**38.09**	**72**	⇓P	P	20 57 32.3	+0.3
A20A	**Cobblestone Ra** baz=38,SNR=9.3	**38.17**	**70**	⇓P	P	20 57 32.5	-0.2
ELK	**Elko** comp=Z,19nm,1.2s	**38.17**	**85**

A21A	**Bergtoll Ranch**	38.70	69	⇓P		P	20 57 36.8	-0.2
	baz=38							
C20A	**Veseth Ranch,**	38.71	72	⇑P		P	20 57 37.1	-0.1
	baz=38,SNR=51							
GCMT	**Greycliff**	38.72	75	*e*P		P	20 57 37.6	+0.2
	comp=Z,23nm,1.3s							
FFC	**Flin Flon**	38.80	59	*e*P		P	20 57 37.6	-0.2
FFC				pmax		pmax		
	comp=Z,23nm,0.9s							
FFC	**Flin Flon**	38.80	59	*e*P		P	20 57 37.6	-0.2
	comp=Z,23nm,0.9s							
VES	**Vestal, Richgr**	38.87	95	⇓P		P	20 57 38.1	-0.5
	baz=39							
USRK	**Ussuriysk Arra**	38.88	282	P		P	20 57 37.6	-1.0
	comp=Z,5.7nm,0.7s,baz=65,slow=7.8,SNR=20							
USRK				PcP		PcP	20 59 49.8	+0.8
	comp=Z,4.4nm,0.7s,baz=108,slow=2.5,SNR=9.0							
USRK				LR		LR	21 12 32.2	
	comp=Z,367nm,21.0s,baz=199,slow=34							
E19A	**Rath Farm, Rou**	38.89	74	⇑P		P	20 57 38.5	-0.3
	baz=39,SNR=20							
B21A	**Ellsworth Farm**	38.92	70	⇑P		P	20 57 38.6	-0.3
	baz=39,SNR=7.0							
LKWY	**Lake**	38.94	77	*e*P		P	20 57 40.1	+0.6
LKWY				pmax		pmax		
	comp=Z,27nm,0.9s							
LKWY	**Lake**	38.94	77	*e*P		P	20 57 40.0	+0.6
	comp=Z,27nm,0.9s							
D20A	**Manuel Ranch,**	38.95	72	⇓P		P	20 57 39.4	+0.1
	baz=39,SNR=29							
IMW	**Indian Meadow**	38.99	78	*e*P		P	20 57 40.2	+0.3
	comp=Z,26nm,1.1s							
FLWY	**Flagg Ranch**	39.03	78	*e*P		P	20 57 40.8	+0.7
	comp=Z,29nm,1.1s							
PKM	**Peak Mountain**	39.05	96	⇑P		P	20 57 40.2	-0.2
	baz=39							
RRI2	**Red Ridge**	39.06	79	*e*P		P	20 57 41.0	+0.5
	comp=Z,68nm,1.3s							
HVU	**Hansel Valley**	39.07	82	*e*P		P	20 57 40.6	+0.1
HVU				pmax		pmax		
	comp=Z,10.0nm,0.8s							
HVU	**Hansel Valley**	39.07	82	*e*P		P	20 57 40.6	+0.1
	comp=Z,9.6nm,0.8s							
CWC	**Cottonwood Cre**	39.10	93	⇑P		P	20 57 40.4	-0.3
	baz=39							
F19A	**Roth Farm, Mol**	39.12	75	⇑P		P	20 57 40.6	-0.2
	baz=39,SNR=13							
GRAC	**Grapevine Rang**	39.17	92	⇓P		P	20 57 41.3	+0.1
	baz=39							
C21A	**Desert Coulee**	39.18	71	⇓P		P	20 57 41.3	+0.1
	baz=39,SNR=26							
I17A	**Pilgrim Ck.**	39.19	78	⇓P		P	20 57 41.5	0.0
	baz=39							
TPAW	**Teton Pass**	39.21	79	*e*P		P	20 57 42.1	+0.4
	comp=Z,58nm,1.5s							
E20A	**Meyer Farm, Mu**	39.26	73	⇓P		P	20 57 41.7	-0.1
	baz=39,SNR=15							
A22A	**Carney Farms,**	39.27	69	⇓P		P	20 57 41.4	-0.5
	baz=39,SNR=5.3							
RLMT	**Red Lodge**	39.32	76	*e*P		P	20 57 42.5	0.0
	comp=Z,274nm,1.2s							
H18A	**Shoshone NF, C**	39.32	77	⇑P		P	20 57 42.2	-0.4
	baz=39,SNR=9.4							
REDW	**Red Top Meadow**	39.34	79	*e*P		P	20 57 42.7	0.0
	comp=Z,74nm,1.4s							
SNOW	**Snow King Moun**	39.34	79	*e*P		P	20 57 44.2	+1.4
	comp=Z,8.7nm,0.4s							
LOHW	**Long Hollow**	39.35	79	*e*P		P	20 57 43.0	+0.2
	comp=Z,9.3nm,1.0s							
ISA	**Isabella**	39.36	94	*e*P		P	20 57 42.6	-0.2
ISA				pmax		pmax		
	comp=Z,7.0nm,0.9s							
ISA	**Isabella**	39.36	94	*e*P		P	20 57 42.6	-0.2
	comp=Z,7.4nm,0.9s							
ISA	**Isabella**	39.36	94	⇑P		P	20 57 42.4	-0.4
	baz=39							
R11A	**Troy Canyon, C**	39.42	89	*e*P		P	20 57 42.8	-0.6
R11A	**Troy Canyon, C**	39.42	89	⇑P		P	20 57 42.9	-0.6
	baz=39,SNR=18							
BGU	**Big Grassy Mou**	39.42	84	*e*P		P	20 57 43.2	-0.2
	comp=Z,30nm,1.5s							
AHID	**Auburn Hatcher**	39.52	80	*e*P		P	20 57 44.5	+0.2
	comp=Z,41nm,1.3s							
VLA	**Vladivostok**	39.55	281	⇑*i*P		P	20 57 45.0	+0.9
VLA				pmax		pmax		
	comp=Z,47nm,1.2s							
F20A	**Billings**	39.62	74	⇓P		P	20 57 44.1	-0.8
	baz=39							
D21A	**La Casta Ranch**	39.63	72	⇑P		P	20 57 44.4	-0.5
	baz=39,SNR=16							
MJAR	**Matsushiro Arr**	39.66	268	P		P	20 57 45.4	+0.2
MJAR				PcP		PcP	20 59 52.0	+0.5
MJAR	**Matsushiro Arr**	39.66	268	P		P	20 57 45.4	+0.2
	comp=Z,5.0nm,0.6s,baz=32,slow=6.1,SNR=28							
MJAR				PcP		PcP	20 59 52.0	+0.5
	comp=Z,5.5nm,0.9s,baz=65,slow=0.6,SNR=8.1							
MJAR				LR		LR	21 13 18.4	
	comp=Z,312nm,19.5s,baz=70,slow=35							
MAJO	**Matsushiro**	39.66	268	*e*P		P	20 57 45.6	+0.4
MAJO				pmax		pmax		
	comp=Z,25nm,0.8s							
MAJO	**Matsushiro**	39.66	268	*e*P		P	20 57 45.6	+0.4
	comp=Z,25nm,0.8s							
MAT	**Matsushiro**	39.66	268	P		P	20 57 45.3	+0.1
MAT				S		S	21 03 50.6	+4.3
MPMC	**Manual Prospec**	39.70	93	⇑P		P	20 57 45.9	+0.1
	baz=40,SNR=6.1							
H19A	**Powell**	39.73	76	⇑P		P	20 57 45.5	-0.4
	baz=40							
BSC	**Santa Cruz Isl**	39.77	97	⇑P		P	20 57 46.2	+0.1
	baz=40							
I18A	**Diamond G Ranc**	39.77	78	⇓P		P	20 57 45.9	-0.4
	baz=40							
FURC	**Furnace Creek,**	39.83	92	⇓P		P	20 57 46.7	+0.2
	baz=40							
A23A	**Redstone**	39.88	68	⇑P		P	20 57 46.8	-0.1
	baz=40,SNR=5.8							
G20A	**Bridger**	39.89	75	⇓P		P	20 57 47.0	-0.2
	baz=40,SNR=30							
HWUT	**Hardware Ranch**	39.91	82	*e*P		P	20 57 47.8	+0.3
	comp=Z,19nm,1.4s							
C22A	**Vida**	39.92	70	⇑P		P	20 57 46.8	-0.5
	baz=40,SNR=13							
LRMC	**Laurel Mountai**	39.97	94	⇑P		P	20 57 48.0	+0.1
	baz=40							
DUG	**Dugway**	39.99	84	*e*P		P	20 57 47.7	-0.4
DUG				pmax		pmax		
	comp=Z,41nm,1.3s							
DUG	**Dugway**	39.99	84	*e*P		P	20 57 47.7	-0.4
	comp=Z,41nm,1.3s							
DUG	**Dugway**	39.99	84	⇑P		P	20 57 48.1	+0.1
	baz=40,SNR=13							
BLG	**Laguna Peak**	40.04	97	⇓P		P	20 57 48.9	+0.5
	baz=40							
D22A	**Cohagen**	40.06	71	⇑P		P	20 57 48.7	+0.2
	baz=40,SNR=45							
B23A	**Brockton**	40.07	69	⇓P		P	20 57 48.4	-0.1
	baz=40,SNR=11							
I19A	**Meeteetse**	40.08	77	⇓P		P	20 57 48.5	-0.4
	baz=40,SNR=9.2							
MDJ	**Mudanjiang**	40.09	284	P		P	20 57 47.5	-1.2
MDJ				pP		pP	20 57 56.5	-1.7
MDJ				sP		sP	20 58 00.3	-1.8
MDJ				PP		PP	20 59 18.9	-2.0
MDJ				S		S	21 03 50.3	-2.1
MDJ				sS		sS	21 04 06.0	-2.1
MDJ				pmax		pmax		
	comp=Z,11nm,1.0s							
MDJ				pmax		pmax		
	comp=Z,70nm,7.7s							
MDJ				LR		LR		
	comp=N,290nm,19.1s							
MDJ				LR		LR		
	comp=E,290nm,24.3s							
MDJ				LR		LR		
	comp=Z,480nm,20.1s							
EDW2	**Edwards Air Fo**	40.18	95	⇓P		P	20 57 49.9	+0.4
	baz=40							
F21A	**Absaloka Mine,**	40.21	74	⇓P		P	20 57 49.8	0.0
	baz=40							
LAO	**LASA Array**	40.28	72	*e*P		P	20 57 50.1	-0.2
	comp=Z,28nm,1.1s							
C23A	**Lambert**	40.30	70	⇑P		P	20 57 50.2	-0.3
	baz=40,SNR=57							
A24A	**Westby**	40.40	68	⇓P		P	20 57 50.9	-0.4
	baz=40							
H20A	**Greybull**	40.42	76	⇑P		P	20 57 50.7	-0.9
	baz=40,SNR=5.8							
BW06	**Boulder Array**	40.46	79	*e*P		P	20 57 51.8	-0.2
	comp=Z,46nm,1.1s							
PDAR	**Pinedale Array**	40.46	79	P		P	20 57 51.9	-0.1
PDAR	**Pinedale Array**	40.46	79	P		P	20 57 51.9	-0.1
	comp=Z,20nm,0.8s,baz=298,slow=4.0,SNR=154							
J19A	**Crowheart**	40.48	78	⇑P		P	20 57 51.8	-0.3
	baz=40,SNR=8.6							
G21A	**Lodge Grass**	40.48	74	⇓P		P	20 57 51.5	-0.5
	baz=40,SNR=11							
DGMT	**Dagmar**	40.52	68	*e*P		P	20 57 51.8	-0.5
	comp=Z,99nm,1.4s							
DGMT	**Dagmar**	40.52	68	⇑P		P	20 57 52.1	-0.1
	baz=40							
M17A	**Scullys Gap (B**	40.54	81	⇑P		P	20 57 52.2	-0.5
	baz=40,SNR=8.4							
SHOC	**Shoshone**	40.55	92	⇑P		P	20 57 52.7	0.0
	baz=40							
E22A	**Miles City**	40.57	72	⇑P		P	20 57 52.8	+0.1
	baz=40,SNR=11							
JLU	**Jordanelle**	40.58	83	*e*P		P	20 57 53.3	+0.2
	comp=Z,49nm,1.4s							
D23A	**Lindsay**	40.61	71	⇑P		P	20 57 53.2	+0.1
	baz=40,SNR=8.8							
GSC	**Goldstone**	40.62	93	*e*P		P	20 57 53.0	-0.3
GSC				pmax		pmax		
	comp=Z,29nm,1.3s							
GSC	**Goldstone**	40.62	93	*e*P		P	20 57 53.0	-0.3
	comp=Z,29nm,1.3s							
GSC	**Goldstone**	40.62	93	⇓P		P	20 57 53.5	+0.2
	baz=40,SNR=6.5							
I20A	**Worland**	40.64	77	⇑P		P	20 57 53.3	-0.2
	baz=40,SNR=7.5							
L18A	**Fontenelle, Gr**	40.65	80	⇑P		P	20 57 53.6	-0.1
	baz=40,SNR=7.4							
ALE	**Alert**	40.68	11	P		P	20 57 53.0	-0.2
	comp=Z,108nm,0.5s,SNR=6.4							
F22A	**Rosebud**	40.74	73	⇑P		P	20 57 53.8	-0.4
	baz=40,SNR=17							
DAU	**Daniels Canyon**	40.81	83	*e*P		P	20 57 55.3	+0.3
DAU				pmax		pmax		
	comp=Z,49nm,1.3s							
DAU	**Daniels Canyon**	40.81	83	*e*P		P	20 57 55.3	+0.3
	comp=Z,49nm,1.3s							
BFSC	**Mount Baldy Ra**	40.81	95	⇑P		P	20 57 54.7	-0.2
	baz=41							
K19A	**Absolon Red Bu**	40.85	78	⇓P		P	20 57 54.4	-0.8
	baz=41,SNR=32							
C24A	**Savage**	40.88	70	⇓P		P	20 57 55.7	+0.5
	baz=41,SNR=5.3							
A25A	**Svangstu Ranch**	40.90	67	⇓P		P	20 57 55.2	-0.1
	baz=41,SNR=11							
H21A	**Big Horn, Sher**	40.91	75	⇑P		P	20 57 55.2	-0.4
	baz=41,SNR=7.0							
J20A	**Shoshoni**	41.01	77	⇓P		P	20 57 56.4	-0.1
	baz=41,SNR=25							
G22A	**Birney**	41.03	74	⇑P		P	20 57 56.0	-0.6
	baz=41,SNR=10							
FCC	**Fort Churchill**	41.03	50	*e*P		P	20 57 56.0	-0.2
FCC				pmax		pmax		
	comp=Z,9.0nm,1.5s							
FCC	**Fort Churchill**	41.03	50	*e*P		P	20 57 56.0	-0.2
	comp=Z,8.7nm,1.5s							
TUQ	**Turquoise Moun**	41.08	92	⇑P		P	20 57 57.1	0.0
	baz=41							
SCI	**San Clemente I**	41.12	97	⇓P		P	20 57 58.1	+0.8
	baz=41							
D24A	**Glendive**	41.15	70	⇑P		P	20 57 57.6	+0.1
	baz=41,SNR=22							
B25A	**Knox Farm, Ray**	41.21	68	⇑P		P	20 57 57.7	-0.3
	baz=41							
I21A	**Big Trails, Te**	41.22	76	⇑P		P	20 57 57.6	-0.6
	baz=41,SNR=13							
HEC	**Hector,Ludlow**	41.23	94	⇓P		P	20 57 58.1	-0.2
	baz=41							
K20A	**Yellowstone Ra**	41.25	78	⇑P		P	20 57 57.6	-1.0
	baz=41,SNR=23							
F23A	**Volborg**	41.27	73	⇑P		P	20 57 58.0	-0.5
	baz=41,SNR=35							
J21A	**Lysite**	41.39	77	⇑P		P	20 57 59.1	-0.6
	baz=41,SNR=14							
E24A	**Baker**	41.46	71	⇑P		P	20 57 59.8	-0.3
	baz=41,SNR=18							
TMUT	**Trail Mountain**	41.52	84	*e*P		P	20 57 59.1	-1.8
	comp=Z,41nm,1.3s							
A26A	**Wade Farm, Ken**	41.53	67	⇓P		P	20 57 59.9	-0.7
	baz=41,SNR=5.9							
G23A	**Biddle**	41.57	73	⇓P		P	20 58 00.2	-0.8
	baz=41,SNR=10.0							
L20A	**Wamsutter**	41.63	79	⇓P		P	20 58 00.8	-0.9
	baz=41,SNR=5.6							
I22A	**9 Mile Ranch,**	41.66	76	⇑P		P	20 58 01.4	-0.3
	baz=42,SNR=9.5							
GMRC	**Granite Mounta**	41.67	93	⇑P		P	20 58 01.7	-0.3
	baz=42,SNR=9.7							
B26A	**Jensen Ranch,**	41.69	68	⇓P		P	20 58 01.4	-0.4
	baz=42,SNR=5.8							
F24A	**Ekalaka**	41.77	72	⇑P		P	20 58 02.2	-0.4
	baz=42,SNR=9.4							
Q16A	**Castle Valley**	41.77	85	*e*P		P	20 58 03.3	+0.5
Q16A	**Castle Valley**	41.77	85	⇓P		P	20 58 02.6	-0.3
	baz=42,SNR=5.5							
K21A	**Alcova**	41.92	78	⇑P		P	20 58 03.3	-0.8
	baz=42,SNR=24							
J22A	**Midwest**	41.93	76	⇑P		P	20 58 03.6	-0.5
	baz=42,SNR=28							
A27A	**Ledoux Ranch,**	41.95	66	⇓P		P	20 58 03.5	-0.4
	baz=42,SNR=8.6							
PFO	**Pinyon Flat Ob**	41.97	95	P		P	20 58 04.7	+0.2
	comp=Z,3.3nm,1.3s							
PFO	**Pinyon Flat Ob**	41.97	95	P		P	20 58 04.7	+0.2
	comp=Z,5.4nm,1.0s,baz=276,slow=4.7,SNR=6.8							
PFO	**Pinyon Flat Ob**	41.97	95	⇑P		P	20 58 04.2	-0.2
	baz=42							
BELC	**Belle Mtn. Jos**	41.98	94	⇓P		P	20 58 04.0	-0.6
	baz=42,SNR=5.5							
E25A	**Miller Ranch,**	42.02	71	⇑P		P	20 58 04.7	+0.1
	baz=42,SNR=12							
M20A	**Sweetwater, Wa**	42.03	80	⇓P		P	20 58 04.6	-0.4
	baz=42,SNR=6.2							
SRU	**San Rafael**	42.05	84	*e*P		P	20 58 06.0	+0.9
SRU				pmax		pmax		
	comp=Z,38nm,1.2s							
SRU	**San Rafael**	42.05	84	*e*P		P	20 58 06.0	+0.9
	comp=Z,38nm,1.2s							
C26A	**Wahner Farm, P**	42.06	68	⇓P		P	20 58 04.5	-0.4
	baz=42,SNR=5.7							
G24A	**Alzada**	42.07	73	⇑P		P	20 58 04.4	-0.7
	baz=42							
O19A	**Mirs Draw (B**	42.17	82	⇑P		P	20 58 05.6	-0.5
	baz=42,SNR=7.7							
B27A	**Peters Farms,**	42.22	67	⇓P		P	20 58 05.5	-0.7
	baz=42							
L21A	**Rawlins**	42.24	79	⇑P		P	20 58 06.0	-0.6
	baz=42,SNR=41							
F25A	**Bowman**	42.30	71	⇑P		P	20 58 06.6	-0.3
	baz=42,SNR=8.8							
H24A	**Dirks Ranch, A**	42.32	73	⇑P		P	20 58 05.8	-1.3
	baz=42,SNR=12							
K22A	**Casper**	42.35	77	⇑P		P	20 58 06.6	-0.9
	baz=42,SNR=10							
N20A	**Spence Gulch,**	42.38	80	⇑P		P	20 58 07.3	-0.5
	baz=42,SNR=12							
IRM	**Iron Mountain**	42.40	93	⇓P		P	20 58 07.6	-0.2
	baz=42,SNR=7.9							
C27A	**Sayler Ranch,**	42.45	68	⇑P		P	20 58 07.7	-0.4
	baz=42,SNR=5.5							
MONP	**Monument Peak**	42.48	96	⇑P		P	20 58 08.5	-0.2
	baz=42,SNR=6.0							
RWWY	**Rawlins**	42.50	79	*e*P		P	20 58 07.7	-1.1
	comp=Z,52nm,1.4s							
A28A	**Rude Farm, Bot**	42.52	66	⇓P		P	20 58 08.2	-0.4
	baz=42,SNR=8.1							
W13A	**Hualapai Mount**	42.55	91	⇓P		P	20 58 08.7	-0.5
	baz=42,SNR=9.8							
BC3	**Big Chuckawall**	42.55	94	⇓P		P	20 58 08.5	-0.7
	baz=42							
E26A	**Carlson Angus**	42.58	70	⇑P		P	20 58 08.5	-0.7
	baz=42							
U15A	**North Rim**	42.66	88	⇓P		P	20 58 09.7	-0.5
	baz=42,SNR=21							
P19A	**Cripple Cowboy**	42.67	82	⇓P		P	20 58 09.7	-0.5
	baz=42,SNR=6.3							
B28A	**Dugan Ranch, T**	42.71	66	⇑P		P	20 58 09.6	-0.5
	baz=42,SNR=8.6							
G25A	**Newell**	42.73	72	⇑P		P	20 58 09.6	-0.8
	baz=42,SNR=16							
L22A	**Ellis Ranch, M**	42.77	78	⇑P		P	20 58 10.6	-0.3
	baz=43,SNR=14							
D27A	**Center**	42.77	69	⇓P		P	20 58 10.1	-0.5
	baz=43							
I24A	**Kuemmerle Ranc**	42.78	75	⇓P		P	20 58 10.1	-0.8
	baz=43							
F26A	**Lodgepole**	42.80	71	⇑P		P	20 58 10.3	-0.7
	baz=43,SNR=8.9							
O20A	**White River Ci**	42.81	81	*e*P		P	20 58 10.7	-0.6
O20A	**White River Ci**	42.81	81	⇓P		P	20 58 10.6	-0.7
	baz=43,SNR=12							
K23A	**Bowen Ranch, D**	42.82	76	⇓P		P	20 58 10.6	-0.7
	baz=43							
SWSC	**Sam W. Stewart**	42.83	95	⇓P		P	20 58 11.1	-0.1
	baz=43							
DVTC	**Desert V Tower**	42.84	96	⇑P		P	20 58 11.8	+0.4
	baz=43							
N21A	**Black Mountain**	42.87	80	⇓P		P	20 58 10.9	-0.9
	baz=43,SNR=16							
G27A	**Dupree**	42.91	72	⇓P		P	20 58 15.7	+3.8
	baz=43,SNR=27							
PDMCI	**Parker Dam,Lak**	42.92	92	⇓P		P	20 58 12.0	0.0
	baz=43							
H25A	**Fruitdale**	42.95	73	⇑P		P	20 58 11.5	-0.7
	baz=43,SNR=7.6							
RSSD	**Black Hills**	42.98	74	*e*P		P	20 58 11.6	-1.0
RSSD				pmax		pmax		
	comp=Z,202nm,1.4s							
RSSD	**Black Hills**	42.98	74	*e*P		P	20 58 11.6	-1.0
	comp=Z,202nm,1.4s							
CN2	**Changchun**	43.01	286	*e*P		P	20 58 11.9	-0.7
CN2				*ep*P		pP	20 58 21.6	-0.6
CN2				*es*P		sP	20 58 25.6	-0.4
CN2				*e*S		S	21 04 34.3	-1.4
CN2				pmax		pmax		
	comp=Z,30nm,0.8s							
CN2				pmax		pmax		
	comp=Z,200nm,3.0s							
CN2				LR		LR		
	comp=N,500nm,17.0s							
CN2				LR		LR		
	comp=E,500nm,17.0s							
CN2				LR		LR		
	comp=Z,500nm,17.0s							
M22A	**Cedar Creek Ra**	43.04	79	⇑P		P	20 58 12.1	-1.1
	baz=43,SNR=18							
Y12C	**Blythe**	43.06	93	⇓P		P	20 58 13.3	+0.2
	baz=43							
J24A	**Dixon Ranch, L**	43.06	75	⇓P		P	20 58 12.5	-0.7
	baz=43,SNR=7.7							
C28A	**Hausauer Farms**	43.09	67	⇑P		P	20 58 13.1	-0.2
	baz=43							
A29A	**Manning Farm,**	43.09	65	⇑P		P	20 58 12.7	-0.6
	baz=43,SNR=7.3							
P20A	**De Beque**	43.11	82	⇑P		P	20 58 13.2	-0.5
	baz=43							
E27A	**Carson**	43.12	70	⇓P		P	20 58 13.0	-0.6
	baz=43,SNR=5.7							
G26A	**Maurine**	43.15	72	⇓P		P	20 58 13.4	-0.4
	baz=43,SNR=38							
L23A	**Garrett**	43.16	77	⇑P		P	20 58 13.2	-0.9
	baz=43,SNR=33							
F27A	**Lemmon**	43.17	71	⇓P		P	20 58 13.1	-0.8
	baz=43,SNR=14							
I25A	**Rochford**	43.22	74	⇑P		P	20 58 13.8	-0.7
	baz=43,SNR=6.3							
O21A	**Pagoda**	43.23	81	⇓P		P	20 58 13.8	-0.9
	baz=43,SNR=7.2							
D28A	**Regan**	43.27	68	⇑P		P	20 58 14.4	-0.3
	baz=43,SNR=10							
GLA	**Glamis**	43.35	94	⇑P		P	20 58 15.3	-0.2
	baz=43							
H26A	**Fairpoint**	43.44	72	⇓P		P	20 58 15.5	-0.7
	baz=43							
MDND	**Maddock**	43.46	67	*e*P		P	20 58 15.9	-0.3
MDND	**Maddock**	43.46	67	⇓P		P	20 58 15.8	-0.4
	baz=43,SNR=14							
N22A	**Wattenberg Ran**	43.49	79	⇑P		P	20 58 16.3	-0.6
	baz=43,SNR=9.6							
Q20A	**Ridgley Place,**	43.51	83	⇑P		P	20 58 15.9	-1.0
	baz=43,SNR=7.5							
M23A	**Laramie**	43.53	78	⇑P		P	20 58 16.3	-0.8
	baz=43,SNR=10.0							
E28A	**Huff**	43.54	69	⇑P		P	20 58 16.6	-0.3
	baz=43,SNR=7.0							
A30A	**Hoffart Farm,**	43.60	65	⇑P		P	20 58 17.0	-0.3
	baz=43							
P21A	**Newcastle**	43.67	81	⇓P		P	20 58 17.6	-0.6
	baz=44,SNR=12							
I26A	**New Underwood**	43.72	73	⇑P		P	20 58 17.8	-0.7
	baz=44,SNR=5.6							
N23A	**Red Feather La**	43.74	79	⇓P		P	20 58 18.3	-0.6
	baz=44,SNR=19							
PHWY	**Pilot Hill**	43.79	78	*e*P		P	20 58 17.4	-1.9
	comp=Z,10nm,1.0s							
WUAZ	**Wupatki**	43.82	89	*e*P		P	20 58 19.8	+0.3
	comp=Z,16nm,1.0s							
WUAZ	**Wupatki**	43.82	89	⇑P		P	20 58 18.9	-0.5
	baz=44,SNR=9.7							
O22A	**Kremmling**	43.82	80	⇑P		P	20 58 18.9	-0.7
	baz=44,SNR=15							
B30A	**Myrvik Farm, E**	43.85	65	⇓P		P	20 58 18.8	-0.6
	baz=44,SNR=6.0							
Y14A	**Wickenburg**	43.86	92	⇓P		P	20 58 19.3	-0.4
	baz=44,SNR=7.5							
F28A	**McLaughlin**	43.88	70	⇑P		P	20 58 19.0	-0.7
	baz=44,SNR=6.9							
R20A	**Redvale**	43.93	84	⇓P		P	20 58 19.8	-0.6
	baz=44,SNR=12							
K25A	**Mack Ranch, Ha**	43.95	76	⇓P		P	20 58 20.3	-0.1
	baz=44							
J26A	**Sides Ranch, S**	44.01	74	⇑P		P	20 58 20.5	-0.3
	baz=44,SNR=

baz=44,SNR=11
G29A **Hoven** 44.77 70 ⇓P P 20 58 26.4 -0.3
baz=45
R22A **Saguache, Gunn** 44.90 82 ⇑P P 20 58 28.4 +0.2
baz=45,SNR=25
N25A **Grover** 44.91 78 ⇓P P 20 58 27.8 -0.2
baz=45
J28A **Allard Ranch,** 45.03 73 ⇓P P 20 58 28.4 -0.5
baz=45,SNR=19
Q23A **Hartsel** 45.03 81 ⇓P P 20 58 29.1 -0.2
baz=45,SNR=14
W18A **Petrified Fore** 45.09 88 ⇓P P 20 58 29.8 +0.2
baz=45
S22A **4UR Ranch, Cre** 45.16 83 ⇓P P 20 58 30.1 -0.2
baz=45,SNR=29
T21A **Navajo Lake** 45.21 84 ⇓P P 20 58 30.7 +0.1
baz=45
I29A **Vivian Onida** 45.23 72 ⇑P P 20 58 29.9 -0.5
baz=45,SNR=8.6
AGMN **Agassiz Nation** 45.30 64 *e*P P 20 58 30.1 -0.8
comp=Z,62nm,1.2s
O25A **Wiggins** 45.32 79 ⇓P P 20 58 31.2 -0.1
baz=45,SNR=6.5
214A **Organ Pipe Nat** 45.33 94 ⇑P P 20 58 31.1 -0.3
baz=45,SNR=10
X18A **Snowflake** 45.34 89 ⇓P P 20 58 31.5 -0.2
baz=45
K28A **Ten Mile Ranch** 45.38 74 ⇑P P 20 58 31.4 -0.3
baz=45
KSRS **Korea Array** 45.38 277 P P 20 58 32.6 +1.0
comp=Z,31nm,0.8s,baz=55,slow=7.6,SNR=129
KSRS LR LR 21 18 08.8
comp=Z,190nm,18.1s,baz=50,slow=37
Q24A **Divide** 45.41 80 ⇓P P 20 58 31.7 -0.6
baz=45
KSAR **Wonju Array Be** 45.41 277 P P 20 58 32.6 +0.7
N26A **Koester Ranch,** 45.42 77 ⇑P P 20 58 31.8 -0.3
baz=45
V20A **Brimhall** 45.42 86 ⇑P P 20 58 31.7 -0.5
baz=45,SNR=5.6
R23A **Moffat** 45.49 82 ⇓P P 20 58 32.6 -0.3
baz=45,SNR=5.3
U21A **Nageezi** 45.50 85 ⇓P P 20 58 32.9 -0.1
baz=45,SNR=5.9
T22A **Edith** 45.59 84 ⇓P P 20 58 33.8 +0.2
baz=45,SNR=21
P25A **Willow Gulch B** 45.66 79 ⇓P P 20 58 34.0 -0.1
baz=46,SNR=13
O26A **Horse Wrangler** 45.72 78 ⇓P P 20 58 34.3 -0.2
baz=46
BRSD **Miller** 45.76 70 *e*P P 20 58 34.2 -0.4
BRSD **Miller** 45.76 70 ⇓P P 20 58 33.7 -0.9
baz=46,SNR=6.7
N27A **Anderson Farm,** 45.84 77 ⇓P P 20 58 35.0 -0.4
baz=46,SNR=6.1
W20A **Ramah** 45.84 87 ⇑P P 20 58 35.1 -0.5
baz=46,SNR=6.7
R24A **Sanders Place,** 45.90 81 ⇓P P 20 58 35.7 -0.4
baz=46,SNR=5.3
SDCO **Great Sand Dun** 45.97 82 *e*P P 20 58 36.0 -0.6
comp=Z,30nm,1.3s
Q25A **Bedland, Calha** 45.99 80 ⇓P P 20 58 36.3 -0.4
baz=46,SNR=11
U22A **Llaves** 46.03 84 ⇑P P 20 58 37.0 -0.1
baz=46,SNR=6.1
T23A **Casias Ranch,** 46.10 83 ⇑P P 20 58 37.6 -0.1
baz=46,SNR=8.2
P26A **Davis Ranch, A** 46.13 79 ⇑P P 20 58 37.5 -0.2
baz=46,SNR=11
INCN **Inchon** 46.15 278 P P 20 58 38.8 +1.0
SNR=12
INCN **Inchon** 46.15 278 *e*P P 20 58 38.4 +0.6
comp=Z,190nm,1.4s
M28A **Bar X Bar Ranc** 46.17 75 ⇑P P 20 58 37.6 -0.4
baz=46,SNR=7.3
S24A **Houchin Ranch,** 46.21 82 ⇓P P 20 58 38.3 -0.3
baz=46,SNR=22
X20A **Quemado** 46.23 88 ⇑P P 20 58 38.7 0.0
baz=46,SNR=9.7
O27A **Beecher Island** 46.26 77 ⇑P P 20 58 38.3 -0.4
baz=46
L29A **Maesberg Ranch** 46.29 74 ⇓P P 20 58 38.4 -0.5
baz=46
V22A **San Miguel Ran** 46.30 85 ⇑P P 20 58 38.5 -0.7
baz=46,SNR=6.1
TUC **Tucson** 46.33 92 *e*P P 20 58 39.3 -0.1
TUC pmax pmax
comp=Z,15nm,1.1s
TUC **Tucson** 46.33 92 *e*P P 20 58 39.3 -0.1
comp=Z,16nm,1.1s
Q26A **Hugo** 46.42 79 ⇑P P 20 58 39.8 -0.3
baz=46
JNU **Nakatsue** 46.43 270 *e*P P 20 58 40.4 +0.3
comp=Z,14nm,1.0s
JNU **Nakatsue** 46.43 270 P P 20 58 40.5 +0.5
comp=Z,16nm,0.6s,baz=32,slow=4.2,SNR=13
R25A **Fountain Ranch** 46.45 81 ⇑P P 20 58 40.0 -0.3
baz=46,SNR=17
U23A **El Rito** 46.46 84 ⇑P P 20 58 40.3 -0.2
baz=46,SNR=13
T24B **San Luis** 46.48 83 ⇑P P 20 58 40.5 -0.2
baz=46
S25A **Robets Cordova** 46.67 81 ⇑P P 20 58 41.8 -0.3
baz=46,SNR=30
O28A **Krutsinger Ran** 46.72 77 ⇑P P 20 58 42.0 -0.3
baz=46
Y20A **Horse Springs,** 46.73 88 ⇑P P 20 58 42.5 -0.1
baz=47,SNR=19
X21A **Alamocita Cree** 46.73 87 ⇑P P 20 58 42.7 +0.1
baz=47,SNR=26
L30A **Spencer Herefo** 46.81 74 ⇓P P 20 58 42.5 -0.4
baz=47
V23A **Ortiz Mt. (NFS** 46.85 85 ⇑P P 20 58 43.9 +0.3
baz=47
R26A **Arlington** 46.86 80 ⇑P P 20 58 43.1 -0.4
baz=47,SNR=17
KSCO **Kaye Shedlock'** 46.91 79 *e*P P 20 58 43.9 +0.1
KSCO **Kaye Shedlock'** 46.91 79 ⇓P P 20 58 43.6 -0.2
baz=47
U24A **Moreno Valley** 46.97 83 ⇑P P 20 58 44.4 -0.2
baz=47
N29A **Votaw Ranch, W** 46.97 75 ⇓P P 20 58 44.2 0.0
baz=47
M30A **Dale-Ortello V** 46.98 74 ⇑P P 20 58 44.1 -0.2
baz=47
T25A **Trinidad** 47.02 82 ⇓P P 20 58 44.8 -0.1
baz=47,SNR=35
P28A **Saint Francis** 47.08 78 ⇑P P 20 58 44.7 -0.4
baz=47
Y21A **Point of Rocks** 47.09 87 ⇓P P 20 58 45.5 0.0
baz=47,SNR=9.9
LAZ **Ladron** 47.16 87 *e*P P 20 58 46.0 +0.1
comp=Z,13nm,1.2s
X22A **Bernardo** 47.17 86 ⇑P P 20 58 46.0 +0.1
baz=47
L31A **Butterfield Fa** 47.19 73 ⇓P P 20 58 45.2 -0.7
baz=47
ANMO **Albuquerque** 47.21 86 P P 20 58 46.5 +0.1
ANMO PcP PcP 21 00 17.2 -0.2
ANMO **Albuquerque** 47.21 86 P P 20 58 46.5 +0.1
comp=Z,13nm,1.2s,baz=335,slow=7.7,SNR=12
ANMO PcP PcP 21 00 17.2 -0.2
comp=Z,8.6nm,1.0s,baz=269,slow=2.3,SNR=5.8
W23A **Werner Place,** 47.26 85 ⇑P P 20 58 46.3 -0.4
baz=47
R27A **Eads** 47.26 80 ⇓P P 20 58 46.2 -0.4
baz=47,SNR=15
S26A **Kim** 47.28 81 ⇑P P 20 58 46.0 -0.8
baz=47,SNR=28
Q28A **Sharon Springs** 47.35 78 ⇑P P 20 58 46.5 -0.8
baz=47,SNR=7.6
LENM **Lemitar** 47.42 87 *e*P P 20 58 47.8 -0.1
comp=Z,16nm,1.1s
V24A **Rampart Ranch,** 47.42 84 ⇑P P 20 58 47.7 -0.3
baz=47,SNR=20
120A **U Bar Ranch, L** 47.49 90 ⇓P P 20 58 48.2 -0.3
baz=47
T26A **Comanche Natio** 47.50 81 ⇑P P 20 58 47.7 -0.8
baz=47,SNR=16
U25A **Circle Dot Ran** 47.51 83 ⇑P P 20 58 47.9 -0.7
baz=47,SNR=26
LPM **Los Pinos Moun** 47.53 86 *e*P P 20 58 49.0 +0.2
comp=Z,15nm,1.2s
ECSD **EROS Data Cent** 47.54 70 *e*P P 20 58 46.9 -1.6
comp=Z,44nm,1.0s
P29A **Atwood** 47.55 77 ⇓P P 20 58 48.3 -0.5
baz=47,SNR=9.3
Z21A **St. Cloud Mine** 47.57 88 ⇓P P 20 58 49.2 +0.1
baz=47
Y22A **Socorro** 47.58 87 ⇑P P 20 58 49.1 -0.1
baz=47,SNR=12
S27A **Las Animas** 47.59 80 ⇓P P 20 58 48.8 -0.4
baz=47
X23A **Hourglass Bar** 47.62 86 ⇑P P 20 58 49.4 -0.1
baz=47,SNR=8.8
M31A **Lambtecht Ranc** 47.62 74 ⇓P P 20 58 48.9 -0.4
baz=47
BNM **Barren Site** 47.64 87 *e*P P 20 58 49.8 +0.1
comp=Z,28nm,1.2s
W24A **Lazy 6 Ranch,** 47.68 85 ⇓P P 20 58 49.5 -0.5
baz=48,SNR=10
O30A **MW Ranch, Wils** 47.71 76 ⇓P P 20 58 50.1 +0.1
baz=48
V25A **Rancho No Teng** 47.75 83 ⇑P P 20 58 50.2 -0.3
baz=48,SNR=14
R28A **Tribune** 47.82 79 ⇓P P 20 58 50.7 -0.3
baz=48
319A **Douglas** 47.90 91 ⇓P P 20 58 51.4 -0.2
baz=48
EYMN **Ely** 47.90 62 *e*P P 20 58 50.2 -1.1
comp=Z,55nm,1.3s
U26A **Atchley Ranch,** 47.91 82 ⇓P P 20 58 51.3 -0.4
baz=48,SNR=18
N31A **Bailey Ranch,** 47.96 74 ⇓P P 20 58 51.9 0.0
baz=48
Q29A **Oakley** 47.97 78 ⇑P P 20 58 51.4 -0.6
baz=48
P30A **Selden** 48.00 77 ⇓P P 20 58 51.7 -0.5
baz=48,SNR=5.5
220A **Playas Peak, P** 48.00 90 ⇓P P 20 58 51.7 -0.7
baz=48,SNR=16
121A **Cookes Peak, D** 48.02 89 ⇓P P 20 58 52.5 -0.1
baz=48,SNR=7.6
Z22A **Elephant Butte** 48.04 88 ⇑P P 20 58 52.2 -0.5
baz=48,SNR=14
BGNE **Belgrade** 48.07 73 *e*P P 20 58 51.9 -0.9
BGNE *e* 20 59 02.5
BGNE **Belgrade** 48.07 73 ⇓P P 20 58 51.8 -0.9
baz=48,SNR=6.5
X24A **Lazy VL Ranch,** 48.09 85 ⇑P P 20 58 52.7 -0.5
baz=48
T27A **Campo** 48.10 81 ⇓P P 20 58 52.2 -0.9
baz=48,SNR=5.8
Y23A **Loveface Mesa,** 48.14 86 ⇑P P 20 58 53.2 -0.3
baz=48,SNR=17
O31A **Woolen Ranch,** 48.16 75 ⇓P P 20 58 53.3 -0.1
baz=48
R29A **Marienthal** 48.18 78 ⇓P P 20 58 53.3 -0.4
baz=48,SNR=7.0
W25A **X Bar L Ranch,** 48.25 84 ⇓P P 20 58 54.0 -0.3
baz=48,SNR=41
S28A **Manter** 48.26 80 ⇑P P 20 58 54.0 -0.2
baz=48
V26A **Tequesquite Ra** 48.28 83 ⇓P P 20 58 54.6 0.0
baz=48,SNR=28
221A **Mesquite Ranch** 48.39 90 ⇓P P 20 58 55.5 +0.1
baz=48
122A **Conniff Cattle** 48.39 88 ⇑P P 20 58 55.3 -0.1
baz=48,SNR=5.6
320A **Kipp Ranch, An** 48.39 91 ⇑P P 20 58 55.0 -0.4
baz=48,SNR=13
T28A **Walsh** 48.43 80 ⇓P P 20 58 54.9 -0.7
baz=48,SNR=5.7
U27A **Thompson Grove** 48.46 82 ⇑P P 20 58 55.1 -0.7
baz=48,SNR=9.5
Y24A **Capitan** 48.52 86 ⇑P P 20 58 56.3 -0.2
baz=48,SNR=17
P31A **Stockton** 48.53 76 ⇓P P 20 58 55.7 -0.6
baz=48,SNR=7.3
X25A **Clemmons Ranch** 48.59 85 ⇑P P 20 58 56.8 -0.2
baz=48
S29A **Ulysses** 48.71 79 ⇑P P 20 58 57.5 -0.2
baz=48
222A **Williams Famil** 48.74 89 ⇓P P 20 58 57.8 -0.3
baz=49,SNR=5.9
W26A **Owens Ranch, T** 48.76 84 ⇑P P 20 58 57.8 -0.4
baz=49,SNR=6.6
R30A **Dighton** 48.78 78 ⇓P P 20 58 57.6 -0.7
baz=49,SNR=12
SPMN **St. Paul** 48.80 66 *e*P P 20 58 56.9 -1.4
SPMN **St. Paul** 48.80 66 ⇓P P 20 58 58.0 -0.3
baz=49
U28A **Mallet** 48.85 81 ⇑P P 20 58 58.1 -0.7
baz=49,SNR=11
Q31A **Ellis** 48.85 77 ⇑P P 20 58 58.5 -0.2
baz=49
T29A **Hugoton** 48.90 80 ⇑P P 20 58 59.0 -0.2
baz=49
Z24A **Sheeppen Canyo** 48.97 86 ⇓P P 20 58 59.6 -0.3
baz=49,SNR=11
Y25A **Mesa, Roswell** 48.98 85 ⇑P P 20 58 59.6 -0.3
baz=49,SNR=22
S30A **Montezuma** 49.09 79 ⇓P P 20 59 00.4 -0.2
baz=49
X26A **CR and CF Fran** 49.10 84 ⇑P P 20 59 00.1 -0.7
baz=49,SNR=17
W27A **Bowe Ranch, En** 49.21 83 ⇑P P 20 59 01.3 -0.3
baz=49
R31A **Burdett** 49.23 77 ⇑P P 20 59 01.4 -0.3
baz=49
V28A **Channing** 49.26 82 ⇑P P 20 59 01.2 -0.8
baz=49
124A **Stringfield Ra** 49.34 87 ⇓P P 20 59 02.1 -0.7
baz=49,SNR=10
U29A **Oasis Ranch, S** 49.38 80 ⇓P P 20 59 02.1 -0.8
baz=49
Z25A **Roswell** 49.40 86 ⇓P P 20 59 02.4 -0.7
baz=49,SNR=5.7
X27A **F and S Farms,** 49.47 83 ⇑P P 20 59 03.0 -0.7
baz=49
Y26A **Elida** 49.51 85 ⇑P P 20 59 03.7 -0.3
baz=49,SNR=6.7
W28A **Vega** 49.60 82 ⇓P P 20 59 03.9 -0.7
baz=49
V29A **Stinnett** 49.61 81 ⇑P P 20 59 04.0 -0.7
baz=49
S31A **Mullinville** 49.69 78 ⇑P P 20 59 04.5 -0.7
baz=50
U30A **WK&E Inc. Balk** 49.70 80 ⇑P P 20 59 04.7 -0.7
baz=50
224A **Cornudas Mount** 49.73 88 ⇓P P 20 59 05.1 -0.6
baz=50,SNR=12
SPITS **Spitsbergen Ar** 49.77 358 P P 20 59 05.2 -0.1
SPITS **Spitsbergen Ar** 49.77 358 P P 20 59 05.2 -0.1
comp=Z,2.7nm,0.3s,baz=50,slow=5.5,SNR=35
Z26A **Caprock** 49.86 85 ⇓P P 20 59 06.0 -0.6
baz=50,SNR=14
125A **Gardner Draw,** 49.86 87 ⇓P P 20 59 05.9 -0.7
baz=50,SNR=9.5
DAG **Danmarks Havn** 49.90 8 *i*P P 20 59 06.0 -0.2
DAG pmax pmax
comp=Z,24nm,0.8s
DAG **Danmarks Havn** 49.90 8 *i*P P 20 59 06.0 -0.2
comp=Z,32nm,0.8s
T31A **Randall Ranch,** 49.92 79 ⇓P P 20 59 06.1 -0.8
baz=50,SNR=8.2
Y27A **Causey** 49.94 84 ⇑P P 20 59 06.7 -0.5
baz=50,SNR=27
W29A **Amraillo** 50.03 82 ⇓P P 20 59 07.3 -0.5
baz=50
MNTX **Cornudas Mount** 50.07 88 *e*P P 20 59 07.7 -0.5
comp=Z,5.6nm,0.6s
X28A **Dimmitt** 50.10 83 ⇑P P 20 59 07.9 -0.5
baz=50
MSTX **Muleshoe** 50.12 84 *e*P P 20 59 07.6 -1.0
MSTX *e* 20 59 18.8
MSTX **Muleshoe** 50.12 84 ⇓P P 20 59 07.6 -1.0
baz=50,SNR=14
225A **Deer Hill, Car** 50.13 87 ⇓P P 20 59 08.4 -0.4
baz=50,SNR=16
324A **Moseley Ranch,** 50.19 88 ⇑P P 20 59 08.4 -0.8
baz=50,SNR=6.8
126A **Clayton Basin,** 50.26 86 ⇑P P 20 59 08.7 -0.9
baz=50,SNR=9.1
Z27A **Tatum** 50.30 85 ⇑P P 20 59 09.1 -0.9
baz=50,SNR=17
COWI **Conover** 50.30 63 *e*P P 20 59 08.4 -1.3
comp=Z,35nm,1.1s
TLY **Talaya** 50.37 306 *e*P P 20 59 10.8 +0.7
TLY *e* 21 00 59.8
TLY *e*S S 21 06 09.5 -11
TLY pmax pmax
comp=Z,87nm,1.3s
TLY **Talaya** 50.37 306 P P 20 59 10.6 +0.5
comp=Z,420nm,0.6s,SNR=6.1
X29A **Tulia** 50.45 83 ⇓P P 20 59 10.2 -0.9
baz=50
Y28A **McKinney Farm,** 50.48 84 ⇓P P 20 59 10.4 -0.9
baz=50
325A **Bean Ranch, Si** 50.55 88 ⇑P P 20 59 11.2 -0.7
baz=50,SNR=17
226B **Tecolote Peak,** 50.56 87 ⇓P P 20 59 11.0 -0.9
baz=50,SNR=17
W30A **Crooket Farms** 50.64 81 ⇑P P 20 59 12.1 -0.4
baz=50
127A **Arkansas Junct** 50.64 86 ⇓P P 20 59 12.0 -0.6
baz=50
V31A **Spring Creek L** 50.69 80 ⇓P P 20 59 12.3 -0.5
baz=50
BJI **Beijing** 50.77 287 P P 20 59 13.8 +0.5
BJI sP sP 20 59 25.8 -1.0
BJI PP PP 21 01 09.3 0.0
BJI S S 21 06 26.3 -0.3
BJI sS sS 21 06 42.5 -0.1
BJI pmax pmax
comp=Z,41nm,0.6s
BJI pmax pmax
comp=Z,160nm,4.2s
BJI LR LR
comp=N,610nm,17.6s
BJI LR LR
comp=E,340nm,16.3s
BJI LR LR
comp=Z,420nm,18.2s
Z28A **Tucker Farm, M** 50.82 84 ⇓P P 20 59 12.6 -1.2
baz=51,SNR=9.9
SUMG **Summit** 50.89 17 *e*P P 20 59 14.7 +0.5
SUMG pmax pmax
comp=Z,78nm,1.1s
SUMG **Summit** 50.89 17 *i*P P 20 59 14.6 +0.4
comp=Z,41nm,0.9s
SUMG **Summit** 50.89 17 *e*P P 20 59 14.7 +0.4
comp=Z,78nm,1.1s
425A **Indio Mountain** 50.95 89 ⇑P P 20 59 14.8 -0.2
baz=51,SNR=23
ULN **Ulaanbaatar** 50.96 301 P P 20 59 15.6 +0.9
SNR=12
ULN **Ulaanbaatar** 50.96 301 *e*P P 20 59 15.0 +0.3
comp=Z,32nm,1.0s
ULN **Ulaanbaatar** 50.96 301 P P 20 59 15.3 +0.5
comp=Z,33nm,1.0s
X30A **Coker Ranch, T** 50.96 82 ⇓P P 20 59 14.2 -0.6
baz=51
W31A **Holland Ranch,** 51.02 81 ⇓P P 20 59 14.6 -0.7
baz=51
326A **Caldwell Ranch** 51.20 87 ⇑P P 20 59 16.1 -0.6
baz=51,SNR=16
128A **Castleberry Fa** 51.22 85 ⇓P P 20 59 15.9 -0.9
baz=51,SNR=24
Z29A **Hungry Hill Ra** 51.26 84 ⇑P P 20 59 16.1 -1.0
baz=51,SNR=7.4
SONM **Songino Array** 51.32 301 P P 20 59 18.2 +0.7
SONM PcP PcP 21 00 32.9 +0.9
SONM **Songino Array** 51.32 301 P P 20 59 18.2 +0.7
comp=Z,14nm,0.8s,baz=60,slow=5.6,SNR=93
SONM PcP PcP 21 00 32.9 +0.9
comp=Z,5.8nm,0.8s,baz=88,slow=1.6,SNR=6.7
Y30A **Stafford Cattl** 51.33 83 ⇓P P 20 59 16.8 -0.8
baz=51
ZAK **Zakamensk** 51.35 305 ⇑*i*P P 20 59 17.8 +0.2
ZAK *e* 21 00 33.0
ZAK pmax pmax
comp=Z,25nm,1.4s
X31A **McDonald Ranch** 51.38 81 ⇓P P 20 59 16.6 -1.3
baz=51,SNR=5.9
228A **UT Block 9, Go** 51.50 85 ⇑P P 20 59 18.0 -0.9
baz=51
129A **Stewart Farms,** 51.59 84 ⇓P P 20 59 19.0 -0.6
baz=51
Z30A **Sanderson Ranc** 51.59 83 ⇑P P 20 59 18.4 -1.2
baz=51,SNR=14
426A **McDonald Obser** 51.62 88 ⇓P P 20 59 18.8 -1.3
baz=52,SNR=11
Y31A **Rekieta Farm,** 51.66 82 ⇑P P 20 59 19.1 -0.9
baz=52
JFWS **Jewell Farm** 51.68 67 *e*P P 20 59 18.2 -1.9
JFWS pmax pmax
comp=Z,65nm,1.1s
JFWS **Jewell Farm** 51.68 67 *e*P P 20 59 18.2 -1.9
comp=Z,65nm,1.1s
MOY **Mondy** 51.68 307 *e*P P 20 59 20.8 +0.7
MOY pmax pmax
comp=Z,34nm,1.4s
328A **Wristen Ranch,** 51.87 86 ⇑P P 20 59 20.4 -1.4
baz=52,SNR=14
427A **Hayter Ranch,** 51.88 87 ⇑P P 20 59 20.8 -1.0
baz=52,SNR=9.3
526A **Mary Lane Ranc** 52.01 88 ⇑P P 20 59 22.1 -0.8
baz=52,SNR=7.8
WMOK **Wichita Mounta** 52.03 80 *e*P P 20 59 22.1 -0.7
WMOK *e* 20 59 33.5
WMOK pmax pmax
comp=Z,33nm,1.1s
WMOK **Wichita Mounta** 52.03 80 *e*P P 20 59 22.1 -0.7
comp=Z,33nm,1.1s
WMOK *e* 20 59 33.5
229A **Bryant Ranch,** 52.08 85 ⇑P P 20 59 22.7 -0.5
baz=52
Y32A **R-V Farms, Ver** 52.13 81 ⇑P P 20 59 22.1 -1.4
baz=52,SNR=9.3
130A **Snyder** 52.16 84 ⇓P P 20 59 23.3 -0.5
baz=52
Z31A **Sharp Cattle R** 52.17 83 ⇓P P 20 59 22.6 -1.3
baz=52,SNR=8.1
527A **Woodward Ranch** 52.24 88 ⇓P P 20 59 23.7 -0.9
baz=52,SNR=13
329A **Wagon Wheel Ra** 52.31 86 ⇑P P 20 59 24.1 -0.9
baz=52,SNR=9.1
626A **Big Bend Ranch** 52.34 89 ⇑P P 20 59 24.4 -0.8
baz=52,SNR=10
428A **Kincaid Ranch,** 52.41 87 ⇓P P 20 59 25.0 -0.8
baz=52,SNR=20
131A **Roby** 52.46 83 ⇓P P 20 59 25.3 -0.8
baz=52
SFJD **Kangerlussuaq** 52.48 26 *i*P P 20 59 25.6 0.0
comp=Z,16nm,0.7s
LPIG **La Paz** 52.51 99 P P 20 59 26.2 -0.2
LPIG **La Paz** 52.51 99 P P 20 59 26.2 -0.2
comp=Z,13nm,0.3s,baz=152,slow=7.3,SNR=4.6
230A **Sterling City** 52.56 85 ⇓P P 20 59 25.7 -1.2
baz=52,SNR=8.1
Z32A **Haskell** 52.58 82 ⇓P P 20 59 25.9 -1.0
baz=52,SNR=25
528A **Cox Ranch, San** 52.74 87 ⇑P P 20 59 27.3 -0.9
baz=53,SNR=14
TXAR **Lajitas Array** 52.78 89 P P 20 59 28.1 -0.5
TXAR **Lajitas Array** 52.78 89 P P 20 59 28.1 -0.5
comp=Z,6.7nm,0.5s,baz=300,slow=5.8,SNR=54
TXAR LR LR 21 20 01.8
comp=Z,322nm,18.3s,baz=0.0,slow=34
330A **Mertzon** 52.86 85 ⇓P P 20 59 27.4 -1.6
baz=53,SNR=9.2
627A **Terlingua Ranc** 52.87 88 ⇑P P 20 59 28.3 -0.9
baz=53,SNR=20
HHC **Hu-ho-hao-te** 52.92 291 *e*P P 20 59 29.6 +0.1
HHC pP pP 20 59 39.8 +0.6
HHC sP sP 20 59 43.6 +0.5
HHC PP PP 21 01 29.8 +0.9
HHC S S 21 06 51.9 -4.5
HHC sS sS 21 07 12.5 0.0
HHC ScS ScS 21 09 12.4 -4.1
HHC SS SS 21 10 30.9 -4.1
HHC pmax pmax
comp=Z,74nm,0.8s
HHC pmax pmax
comp=Z,280nm,6.5s
HHC LR LR
comp=N,600nm,18.0s
HHC LR LR
comp=E,850nm,17.1s
HHC LR LR
comp=Z,1μm,17.5s
ABTX **Abilene, Hawle** 52.95 83 *e*P P 20 59 28.7 -0.9
ABTX *e* 20 59 40.6
ABTX **Abilene, Hawle** 52.95 83 ⇑P P 20 59 28.3 -1.4
baz=53,SNR=9.1
429A **Davenport Ranc** 52.96 86 ⇑P P 20 59 28.7 -1.1
baz=53,SNR=13
231A **Bronte** 53.02 84 ⇑P P 20 59 29.0 -1.1
baz=53
TUL1 **Tulsa** 53.04 77 ⇑P P 20 59 29.3 -1.0
baz=53
529A **Stev Forest Ra** 53.11 87 ⇓P P 20 59 29.8 -1.1

baz=53,SNR=12
628A Black Gap, Mar 53.15 88 ⇑P P 20 59 30.3 -0.9
baz=53,SNR=28
430A Baggett Ranch, 53.25 86 ⇓P P 20 59 30.7 -1.2
baz=53,SNR=16
331A San Angelo 53.38 85 ⇑P P 20 59 31.4 -1.5
baz=53,SNR=8.6
232A Coleman 53.46 83 ⇑P P 20 59 32.0 -1.4
baz=53,SNR=6.3
530A J-C Ranch, Com 53.64 86 ⇓P P 20 59 33.7 -1.1
baz=54,SNR=36
431A Sonora 53.71 85 ⇑P P 20 59 33.8 -1.5
baz=54,SNR=19
332A Millersview 53.75 84 ⇓P P 20 59 34.1 -1.5
baz=54,SNR=11
HDIL Hopedale 53.76 69 *e*P P 20 59 33.9 -1.5
comp=Z,134nm,1.2s
SSE Sheshan 53.77 276 P P 20 59 36.3 +0.7
SSE pP **pP** 20 59 44.3 -1.1
SSE S **S** 21 07 08.3 +0.5
SSE pmax pmax
comp=Z,100nm,1.3s
BTO Baotou 53.97 292 *e*P P 20 59 37.6 +0.5
BTO pmax pmax
comp=Z,29nm,0.8s
432A Menard 54.07 84 ⇑P P 20 59 36.8 -1.1
baz=54
531A Rocksprings 54.11 86 ⇑P P 20 59 36.6 -1.6
baz=54,SNR=13
JCT Junction City 54.35 85 *e*P P 20 59 38.8 -1.1
JCT pmax pmax
comp=Z,53nm,1.3s
JCT Junction City 54.35 85 *e*P P 20 59 38.8 -1.1
comp=Z,53nm,1.3s
JCT Junction City 54.35 85 ⇑P P 20 59 38.6 -1.3
baz=54,SNR=8.9
NJ2 Nanjing 54.53 278 *e*P P 20 59 41.1 0.0
NJ2 pP **pP** 20 59 50.1 -0.8
NJ2 sP **sP** 20 59 54.3 -0.5
NJ2 PP **PP** 21 01 43.0 -0.4
NJ2 S **S** 21 07 18.0 0.0
NJ2 sS **sS** 21 07 34.0 -0.1
NJ2 pmax pmax
comp=Z,10.0nm,1.0s
NJ2 pmax pmax
comp=Z,40nm,3.8s
NJ2 LR LR
comp=N,560nm,25.0s
NJ2 LR LR
comp=E,170nm,24.8s
532A Rocksprings 54.53 85 ⇑P P 20 59 39.6 -1.7
baz=54,SNR=8.8
631A Perdido Creek 54.62 86 ⇓P P 20 59 40.2 -1.8
baz=54,SNR=13
WHTX Lake Whitney 54.72 82 *e*P P 20 59 42.0 -0.5
WHTX Lake Whitney 54.72 82 ⇑P P 20 59 41.6 -1.0
baz=54,SNR=6.2
632A Uvalde 55.04 86 ⇓P P 20 59 44.0 -0.9
baz=55
SFIN Scholer Farm 55.13 67 *e*P P 20 59 44.0 -1.4
SFIN Scholer Farm 55.13 67 ⇓P P 20 59 44.1 -1.2
baz=55
MIAR Mount Ida 55.30 77 *e*P P 20 59 45.3 -1.4
MIAR pmax pmax
comp=Z,62nm,1.3s
MIAR Mount Ida 55.30 77 *e*P P 20 59 45.3 -1.4
comp=Z,62nm,1.3s
SCO Scoresbysund 55.33 13 *i*P P 20 59 46.8 +0.4
SCO pmax pmax
comp=Z,21nm,0.8s
SCO Scoresbysund 55.33 13 *i*P P 20 59 46.8 +0.4
comp=Z,21nm,0.7s
732A Laxson Ranch, 55.48 86 ⇓P P 20 59 46.6 -1.5
baz=55,SNR=6.7
HVS Khovu-Aksy 55.51 311 ⇓*i*P P 20 59 48.2 +0.1
HVS pmax pmax
comp=Z,337nm,1.3s
SCHQ Schefferville 55.53 43 *e*P P 20 59 48.1 0.0
comp=Z,59nm,1.0s
SCHQ Schefferville 55.53 43 P P 20 59 48.5 +0.4
comp=Z,39nm,0.9s,baz=328,slow=8.1,SNR=23
SCHQ LR LR 21 24 13.3
comp=Z,306nm,21.8s,baz=305,slow=37
OLIL Olney 55.66 69 *e*P P 20 59 48.0 -1.2
comp=Z,114nm,1.3s
PARMO Parma 56.11 72 *e*P P 20 59 50.5 -2.0
USIN University of 56.43 70 *e*P P 20 59 53.4 -1.4
comp=Z,117nm,1.1s
SADO Sadowa 56.53 59 P P 20 59 54.1 -1.3
SADO Sadowa 56.53 59 P P 20 59 54.1 -1.3
comp=Z,10nm,0.8s,baz=333,slow=6.6,SNR=7.5
NATX Nacogdoches 56.58 80 *e*P P 20 59 55.6 -0.3
comp=Z,36nm,0.8s
WCI Wyandotte Cave 57.04 69 *e*P P 20 59 57.6 -1.5
WCI pmax pmax
comp=Z,55nm,1.2s
WCI Wyandotte Cave 57.04 69 *e*P P 20 59 57.6 -1.5
comp=Z,55nm,1.2s
HKT Hockley 57.14 82 *e*P P 20 59 59.1 -0.7
HKT pmax pmax
comp=Z,37nm,1.4s
HKT Hockley 57.14 82 *e*P P 20 59 59.1 -0.7
comp=Z,37nm,1.4s
ZAA0 Zalesovo Array 57.48 318 *e*P P 21 00 01.6 -0.3
ZALV Zalesovo Beam 57.48 318 P P 21 00 01.9 0.0
ZALV 21 00 56.0
ZALV Zalesovo Beam 57.48 318 P P 21 00 01.9 0.0
ZALV PcP **PcP** 21 00 56.0 +0.7
ZALV Zalesovo Beam 57.48 318 P P 21 00 01.9 0.0
comp=Z,6.2nm,0.6s,baz=40,slow=7.0,SNR=28
ZALV PcP **PcP** 21 00 56.0 +0.7
comp=Z,5.0nm,0.5s,baz=24,slow=5.5,SNR=6.8
ZALV LR LR 21 27 01.0
comp=Z,258nm,18.7s,baz=68,slow=38
NVS Novosibirsk 57.48 319 *e*P P 21 00 00.8 -1.1
NVS pmax pmax
comp=N,5.0nm,0.8s
NVS pmax pmax
comp=E,10.0nm,0.8s
NVS pmax pmax
comp=Z,19nm,0.8s
WVT Waverly 57.60 72 *e*P P 21 00 01.5 -1.6
WVT pmax pmax
comp=Z,67nm,1.4s
WVT Waverly 57.60 72 *e*P P 21 00 01.5 -1.6
comp=Z,67nm,1.4s
OXF Oxford 57.80 74 *e*P P 21 00 03.2 -1.3
OXF pmax pmax
comp=Z,150nm,1.5s
OXF Oxford 57.80 74 *e*P P 21 00 03.2 -1.3
comp=Z,150nm,1.5s
ARCES ARCESS Array B 58.02 354 P P 21 00 04.3 -1.2
ARCES PcP **PcP** 21 00 57.2 +0.1
ARCES ARCESS Array B 58.02 354 P P 21 00 04.3 -1.2
comp=Z,12nm,0.8s,baz=20,slow=7.1,SNR=37
ARCES PcP **PcP** 21 00 57.2 +0.1
comp=Z,6.9nm,0.7s,baz=27,slow=5.7,SNR=5.1
ARCES LR LR 21 27 18.4
comp=Z,275nm,18.4s,baz=8.4,slow=38
ALLY Alegheny Colle 58.12 62 *e*P P 21 00 06.0 -0.7
comp=Z,82nm,0.9s
WHN Wuhan 58.32 280 P P 21 00 08.8 +0.6
WHN LR LR
comp=Z,570nm,12.1s
LVZ Lovozero 58.81 350 *d*⇓*i*P P 21 00 11.1 0.0
LVZ pmax pmax
comp=Z,105nm,2.5s
LVZ Lovozero 58.81 350 P P 21 00 11.3 +0.2
comp=Z,495nm,0.6s,SNR=5.4
XAN Xi'an 59.09 287 P P 21 00 13.8 +0.2
XAN pP **pP** 21 00 24.0 +0.5
XAN sP **sP** 21 00 28.0 +0.7
XAN PP **PP** 21 02 25.0 +1.0
XAN S **S** 21 08 20.9 +2.5
XAN sS **sS** 21 08 31.0 -3.7
XAN pmax pmax
comp=Z,15nm,1.2s
XAN pmax pmax
comp=Z,43nm,7.1s
XAN LR LR
comp=N,230nm,15.6s
XAN LR LR
comp=E,130nm,16.2s
XAN LR LR
comp=Z,120nm,16.5s
SSLB Suanglung 59.17 270 *e*P P 21 00 13.5 -0.7
comp=Z,30nm,0.8s
YULB Yu-li 59.26 269 *e*P P 21 00 14.3 -0.5
comp=Z,16nm,0.8s
SWET Sewanee 59.34 71 *e*P P 21 00 13.1 -2.2
comp=Z,16nm,1.1s
MCWV Mont Chateau 59.67 63 *e*P P 21 00 16.5 -0.9
comp=Z,50nm,1.0s
TZTN Tazewell 59.78 68 *e*P P 21 00 16.7 -1.5
comp=Z,18nm,0.8s
BINY Binghamton 59.96 59 *e*P P 21 00 17.7 -1.7
comp=Z,16nm,0.7s
SSPA Standing Stone 60.05 61 *e*P P 21 00 18.5 -1.5
comp=Z,51nm,1.3s
LRAL Lakeview Retre 60.26 74 *e*P P 21 00 19.4 -2.2
comp=Z,18nm,1.1s
GTA Gaotai 60.49 297 ⇑P P 21 00 23.3 +0.1
GTA pP **pP** 21 00 28.8 -4.4
GTA sP **sP** 21 00 31.8 -5.2
GTA S **S** 21 08 37.3 +0.8
GTA sS **sS** 21 08 48.0 -4.8
GTA pmax pmax
comp=Z,32nm,0.8s
GTA pmax pmax
comp=Z,110nm,4.1s
GTA LR LR
comp=N,400nm,17.1s
GTA LR LR
comp=E,440nm,19.2s
GTA LR LR
comp=Z,630nm,18.8s
LZH Lanzhou 60.59 292 ⇑P P 21 00 24.9 +0.9
LZH pP **pP** 21 00 34.3 +0.4
LZH sP **sP** 21 00 39.6 +1.9
LZH PcP **PcP** 21 01 09.3 +1.1
LZH PP **PP** 21 02 40.3 +2.9
LZH *e*S **S** 21 08 36.0 -1.9
LZH sS **sS** 21 08 54.3 +0.1
LZH SS **SS** 21 12 33.8 -2.1
LZH pmax pmax
comp=Z,48nm,0.9s
LZH pmax pmax
comp=Z,160nm,3.8s
LZH LR LR
comp=N,980nm,17.1s
LZH LR LR
comp=E,370nm,11.9s
LZH LR LR
comp=Z,930nm,18.2s
TMCR Tamitsa 61.95 347 *e*P P 21 00 32.4 -0.1
TMCR pmax pmax
comp=Z,28nm,0.8s
KMSC Kings Mountain 62.04 68 *e*P P 21 00 32.3 -1.3
KMSC Kings Mountain 62.04 68 ⇓P P 21 00 32.6 -1.0
baz=62
JSRW J. Sargeant Re 62.15 64 *e*P P 21 00 33.2 -1.1
SOKR Solikamsk 62.42 336 *e*P P 21 00 35.8 +0.1
SOKR pmax pmax
comp=Z,40nm,1.3s
WMQ Urumqi 63.57 308 P P 21 00 46.8 +3.1
WMQ pP **pP** 21 00 56.9 +3.2
WMQ sP **sP** 21 01 01.0 +3.5
WMQ PcP **PcP** 21 01 22.9 +2.9
WMQ PP **PP** 21 03 08.4 +5.2
WMQ *e*S **S** 21 09 16.8 +1.8
WMQ ScS **ScS** 21 10 34.9 +0.5
WMQ pmax pmax
comp=Z,36nm,0.8s
WMQ pmax pmax
comp=Z,220nm,4.1s
WMQ LR LR
comp=N,300nm,20.0s
WMQ LR LR
comp=E,290nm,20.1s
WMQ LR LR
comp=Z,370nm,18.8s
SVE Sverdlovsk 63.76 332 ⇑*i*P P 21 00 45.5 +0.8
SVE pmax pmax
comp=Z,45nm,1.5s
BRVK Borovoye 63.78 324 P P 21 00 45.4 +0.6
comp=Z,146nm,1.3s,SNR=6.6
BRVK Borovoye 63.78 324 *d*⇓*i*P P 21 00 44.8 -0.1
BRVK pmax pmax
comp=Z,50nm,1.7s
BRVK Borovoye 63.78 324 P P 21 00 45.5 +0.6
SNR=14
BRVK Borovoye 63.78 324 *e*P P 21 00 45.1 +0.2
comp=Z,13nm,0.7s
MK31 Makanchi Array 63.85 313 *e*P P 21 00 44.4 -1.1
MK31 Makanchi Array 63.85 313 *e*P P 21 00 44.4 -1.1
MKAR Makanchi Array 63.85 313 P P 21 00 44.7 -0.8
MKAR Makanchi Array 63.85 313 P P 21 00 44.7 -0.8
MKAR Makanchi Array 63.85 313 P P 21 00 44.7 -0.8
comp=Z,8.7nm,0.7s,baz=51,slow=6.9,SNR=98
JOF Joensuu 64.00 350 *e*P P 21 00 45.9 -0.2
JOF pmax pmax
comp=Z,26nm,0.8s
JOF Joensuu 64.00 350 *e*p P 21 00 45.9 -0.2
comp=Z,26nm,0.8s
CD2 Chengdu 64.37 288 P P 21 00 50.1 +0.9
CD2 pP **pP** 21 01 00.8 +1.7
CD2 sP **sP** 21 01 05.0 +2.1
CD2 PP **PP** 21 03 13.3 +2.7
CD2 PcS 21 05 27.1
CD2 S **S** 21 09 23.5 -1.7
CD2 sS **sS** 21 09 41.3 -0.4
CD2 SS **SS** 21 13 34.6 -0.2
CD2 pmax pmax
comp=Z,100nm,1.0s
CD2 pmax pmax
comp=Z,200nm,3.8s
CD2 LR LR
comp=N,420nm,22.6s
CD2 LR LR
comp=Z,460nm,15.1s
ARU Arti 64.69 333 *c*⇓*i*P P 21 00 50.8 0.0
ARU 21 01 22.2
ARU 21 03 06.8
ARU S **S** 21 09 29.6 +1.2
ARU SS **SS** 21 13 43.1 +4.6
ARU pmax pmax
comp=Z,69nm,1.7s
ARU Arti 64.69 333 P P 21 00 50.5 -0.3
comp=Z,198nm,1.0s,SNR=18
KLMR Klimovskoe 64.87 345 *e*P P 21 00 49.5 -2.4
KLMR pmax pmax
comp=Z,62nm,1.6s
KAF Kangasniemi 65.28 352 *e*P P 21 00 54.0 -0.5
KAF pmax pmax
comp=Z,53nm,0.7s
KAF Kangasniemi 65.28 352 *e*p P 21 00 54.0 -0.5
comp=Z,53nm,0.7s
MOL Molde 65.48 2 *e*P P 21 00 56.0 +0.2
MOL AMB AMB 21 00 59.0
comp=Z,58nm,1.7s
GYA Guiyang 65.92 282 P P 21 01 01.3 +1.9
GYA pP **pP** 21 01 11.6 +2.3
GYA PP **PP** 21 03 27.4 +3.1
GYA ScP 21 05 30.3
GYA S **S** 21 09 42.0 -2.5
GYA SKS **SKSac** 21 10 49.4 -3.5
GYA SS **SS** 21 13 58.9 -0.4
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,130nm,5.2s
GYA LR LR
comp=N,560nm,19.8s
GYA LR LR
comp=E,630nm,20.4s
GYA LR LR
comp=Z,720nm,21.2s
FINES FINESS Array B 65.97 352 P P 21 00 58.6 -0.3
FINES FINESS Array B 65.97 352 P P 21 00 58.6 -0.3
comp=Z,33nm,0.8s,baz=18,slow=8.8,SNR=75
FINES LR LR 21 34 40.3
comp=Z,208nm,18.5s,baz=90,slow=40
DOMB Dombas 66.03 1 *e*P P 21 00 59.6 +0.2
DOMB AMB AMB 21 01 03.3
comp=Z,48nm,1.8s
TGY Tagaytay City 66.52 263 P P 21 01 03.3 +0.1
TGY Tagaytay City 66.52 263 P P 21 01 03.3 +0.1
comp=Z,84nm,0.5s,baz=109,slow=20,SNR=3.7
HYA Hoyanger 66.86 2 *e*P P 21 01 04.8 +0.2
HYA AMB AMB 21 01 06.6
comp=Z,53nm,1.2s
NB2 NORSAR Subarra 67.04 360 P P 21 01 05.9 0.0
comp=Z,30nm,0.8s,baz=360,slow=6.5
NB2 NORSAR Subarra 67.04 360 P P 21 01 05.9 0.0
baz=360,slow=6.5
NOA NORSAR Array B 67.04 360 P P 21 01 05.8 0.0
NOA NORSAR Array B 67.04 360 P P 21 01 05.8 0.0
comp=Z,21nm,0.7s,baz=0.8,slow=6.3,SNR=68
CMIG Matias Romero 67.23 91 P P 21 01 06.7 -0.9
CMIG Matias Romero 67.23 91 P P 21 01 06.7 -0.9
comp=Z,11nm,1.1s,baz=325,slow=5.7,SNR=8.2
NC602 NORSAR Array S 67.35 359 *e*P P 21 01 07.5 -0.2
LRW Lerwick 67.55 6 *e*P P 21 01 09.1 0.0
LRW AMB AMB 21 01 13.9
comp=Z,136nm,2.7s
RUND Rundenannen 67.59 3 *e*P P 21 01 08.2 -1.1
RUND AMB AMB 21 01 12.2
comp=Z,86nm,1.7s
ODD1 Odda 68.13 2 *e*P P 21 01 13.4 +0.6
ODD1 AMB AMB 21 01 18.4
comp=Z,69nm,1.9s
OSL Oslo 68.15 360 *e*P P 21 01 13.2 +0.4
KONO Kongsberg 68.44 1 *e*P P 21 01 14.8 +0.2
KONO IAmb IAmb 21 01 15.7
comp=Z,40nm,0.8s
KONO AMB AMB 21 01 16.2
comp=Z,219nm,0.9s
KONO *e*pP **pP** 21 01 25.8 +1.1
BLS5 Blasjo 68.61 2 *e*P P 21 01 16.1 +0.3
BLS5 AMB AMB 21 01 17.7
comp=Z,33nm,1.4s
VSU Vasula 68.85 351 *d*⇓*i*P P 21 01 17.6 +0.4
VSU pmax pmax
comp=Z,193nm,0.7s
KMI Kunming 69.26 284 ⇑P P 21 01 21.4 +0.8
KMI pP **pP** 21 01 32.3 +1.7
KMI sP **sP** 21 01 36.0 +1.6
KMI PcP **PcP** 21 01 44.8 +0.7
KMI PP **PP** 21 03 56.5 +3.0
KMI S **S** 21 10 23.1 -1.7
KMI sS **sS** 21 10 40.8 -0.6
KMI SKS **SKSac** 21 11 14.4 -4.0
KMI ScS **SKKSac** 21 11 15.8 -2.7
KMI SS **SS** 21 14 51.3 +0.1
KMI pmax pmax
comp=Z,60nm,1.0s
KMI pmax pmax
comp=Z,210nm,3.1s
KMI LR LR
comp=N,260nm,14.1s
KMI LR LR
comp=E,240nm,14.7s
KMI LR LR
comp=Z,230nm,14.1s
MVH1 Achvaich 69.51 8 *e*P P 21 01 21.7 +0.4
QIZ Qiongzhong 69.56 275 P P 21 01 23.1 +0.9
QIZ S **S** 21 10 28.5 +0.6
QIZ pmax pmax
comp=Z,21nm,1.6s
QIZ LR LR
comp=Z,240nm,22.6s
TKM2 Tokmak 2 69.84 315 *i*P P 21 01 24.2 +0.3
TKM2 Tokmak 2 69.84 315 P P 21 01 24.3 +0.3
SNR=38
TKM2 Tokmak 2 69.84 315 *e*P P 21 01 24.0 +0.1
comp=Z,55nm,1.2s
MCD Coleburn Disti 69.93 8 *e*P P 21 01 24.4 +0.5
MDO Dochfour 69.97 9 *e*P P 21 01 24.6 +0.4
USP Ospenovka 70.03 316 P P 21 01 25.3 +0.4
SNR=41
MOS Moscow 70.06 344 *e*P P 21 01 24.1 -0.6
MOS pmax pmax
comp=Z,56nm,0.9s
ULHL Ulahol 70.10 314 P P 21 01 26.6 +1.1
SNR=12
CHMS Chumysh 70.14 315 P P 21 01 26.4 +0.8
SNR=20
MME1 Meikle Cairn 70.22 8 *e*P P 21 01 25.7 0.0
KBK Karagaybulak 70.33 315 P P 21 01 27.6 +0.7
SNR=29
FRU Bishkek 70.34 315 *i*P P 21 01 26.5 -0.2
FRU pmax pmax
comp=Z,110nm,1.6s
ABKAR Akbulak array 70.50 328 *e*P P 21 01 27.6 +0.1
comp=Z,43nm,0.9s
AAK Ala-Archa 70.55 315 P P 21 01 28.0 -0.2
comp=Z,321nm,0.8s,SNR=30
AAK Ala-Archa 70.55 315 *c*⇓*i*P P 21 01 28.9 +0.7
AAK Ala-Archa 70.55 315 P P 21 01 29.2 +1.0
SNR=21
AAK Ala-Archa 70.55 315 P P 21 01 28.9 +0.7
SNR=41
AAK Ala-Archa 70.55 315 *e*P P 21 01 28.6 +0.4
comp=Z,47nm,0.8s
MSVF Nonsavu 70.55 193 *e*P P 21 01 27.8 -0.4
MSVF pmax pmax
comp=Z,28nm,1.1s
MSVF Nonsavu 70.55 193 *e*P P 21 01 27.8 -0.4
comp=Z,28nm,1.1s
DRUM Mains of Drumt 70.65 8 *e*P P 21 01 28.4 +0.1
DRUM AMB AMB 21 01 29.3
comp=Z,66nm,1.1s
KZA Kyzart 70.67 315 P P 21 01 30.1 +0.8
SNR=10
OBN Obninsk 70.83 345 *d*⇓*i*P P 21 01 29.1 -0.3
OBN *i* 21 01 49.0
OBN pmax pmax
comp=Z,92nm,1.6s
EKS2 Erkin-Say 70.84 316 *e*P P 21 01 29.8 -0.1
EKS2 pmax pmax
comp=Z,50nm,1.0s
EKS2 Erkin-Say 70.84 316 P P 21 01 30.8 +0.9
SNR=37
EKS2 Erkin-Say 70.84 316 *e*P P 21 01 29.8 -0.1
comp=Z,50nm,1.0s
EAB Aberfoyle 71.21 9 *e*P P 21 01 32.3 +0.5
AML Almayashu 71.30 316 P P 21 01 34.2 +1.1
SNR=35
PGBU Glenifferbraes 71.57 9 *e*P P 21 01 34.3 +0.4
PGBU AMB AMB 21 01 38.2
comp=Z,37nm,1.8s
ESY Stoneypath 71.63 8 *e*P P 21 01 34.5 +0.2
MUD Monsted U'grnd 71.64 1 *i*P P 21 01 34.9 +0.6
MUD pmax pmax
comp=Z,14nm,0.7s
MUD Monsted U'grnd 71.64 1 *i*P P 21 01 34.9 +0.6
comp=Z,14nm,0.7s
PPT Papeete 71.65 160 LR LR 21 24 35.0
comp=Z,208nm,21.5s,baz=359,slow=29
EBL Broad Law 71.74 8 *e*P P 21 01 35.4 +0.5
PMG Port Moresby 71.80 226 P P 21 01 35.8 +0.1
PMG Port Moresby 71.80 226 P P 21 01 35.8 +0.1
comp=Z,12nm,0.7s,baz=333,slow=8.0,SNR=3.5
KKAR Karatay Array 71.84 318 *e*P P 21 01 35.7 -0.1
KKAR pmax pmax
comp=Z,30nm,0.8s
KKAR Karatay Array 71.84 318 *e*P P 21 01 35.7 -0.1
comp=Z,30nm,0.8s
ESK Eskdalemuir 72.17 8 *e*P P 21 01 38.0 +0.4
ESK AMB AMB 21 01 38.3
comp=Z,74nm,1.3s
ESK Eskdalemuir 72.17 8 *i*P P 21 01 38.6 +1.0
ESK Eskdalemuir 72.17 8 *e*P P 21 01 37.5 -0.1
comp=Z,45nm,1.3s
ECK Cauldkaine Hil 72.32 8 *e*P P 21 01 38.8 +0.4
COP Copenhagen 72.40 359 *i*P P 21 01 39.2 +0.3
COP pmax pmax
comp=Z,16nm,0.7s
COP Copenhagen 72.40 359 *i*P P 21 01 39.2 +0.3
comp=Z,16nm,0.7s
KSH Kashi 72.42 312 ⇑*i*P P 21 01 43.5 +4.0
KSH pP **PcP** 21 01 53.8 -3.4
KSH PP PP 21 04 27.4 +7.3
KSH S **S** 21 11 05.3 +4.4
KSH SKS **SKSac** 21 11 41.4 -0.3
KSH SS SS 21 15 47.3 +8.6
KSH pmax pmax
comp=Z,61nm,0.8s
KSH LR LR
comp=N,130nm,7.7s
KSH LR LR
comp=E,190nm,7.2s
KSH LR LR
comp=Z,170nm,11.8s
LSA Lhasa 72.46 296 P P 21 01 41.9 +1.6
LSA pmax pmax

comp=Z,70nm,0.9s
MICGM **Minsk** 72.63 350⇓eP P 21 01 37.0 -3.3
MNK **Minsk** 72.64 350⇓eP P 21 01 37.0 -3.3
MNK pmax pmax
comp=Z,160nm,1.0s
LLD **Lille Linde** 72.76 359 i P **P** **21 01 41.8 +0.8**
LLD pmax pmax
comp=Z,39nm,0.8s
LLD **Lille Linde** 72.76 359 i P **P** **21 01 41.8 +0.8**
comp=Z,39nm,0.8s
BSD **Bornholm Skovb** 72.92 357 i P **P** **21 01 42.0 0.0**
BSD pmax pmax
comp=Z,17nm,0.8s
BSD **Bornholm Skovb** 72.92 357 i P **P** **21 01 42.0 0.0**
comp=Z,17nm,0.7s
SUW **Suwalki** 73.57 352 eP **P** **21 01 45.1 -0.7**
SUW pmax pmax
comp=Z,134nm,1.0s
SUW **Suwalki** 73.57 352 eP **P** **21 01 45.1 -0.7**
comp=Z,134nm,1.0s
SUW **Suwalki** 73.57 352 eP **P** **21 01 45.3 -0.5**
HPK **Haverah Park** 73.66 7 eP **P** **21 01 46.9 +0.6**
HPK AMB AMB 21 01 48.7
comp=Z,65nm,1.8s
VRHR **Novokhopersk** 73.72 340 eP **P** **21 01 45.8 -1.0**
VRHR pmax pmax
comp=Z,20nm,0.6s
VRHR pmax pmax
comp=N,20nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.7s
WME **Myndd Eilian** 73.97 9 eP **P** **21 01 48.5 +0.3**
VSR **Storozhevoye** 74.10 342 eP **P** **21 01 49.0 0.0**
VSR pmax pmax
comp=Z,30nm,0.5s
VSR pmax pmax
comp=N,20nm,0.6s
VSR pmax pmax
comp=E,9.0nm,0.5s
BSEG **Bad Segeberg** 74.17 0 eP **P** **21 01 50.1 +0.8**
comp=Z,42nm,1.1s
BSEG **Bad Segeberg** 74.17 0 eP **P** **21 01 50.1 +0.8**
BSEG pmax pmax
comp=Z,42nm,1.1s
VORD **Divnogorie** 74.32 342 eP **P** **21 01 50.0 -0.2**
VORD pmax pmax
comp=Z,20nm,0.6s
VORD pmax pmax
comp=N,30nm,0.9s
VORD pmax pmax
comp=E,20nm,0.7s
KBI1 **Birley Grange** 74.36 8 eP **P** **21 01 50.9 +0.4**
STNC **Stoke** 74.47 8 eP **P** **21 01 51.9 +0.8**
STNC AMB AMB 21 01 58.5
comp=Z,81nm,2.3s
FOEL **Foel Wylfa** 74.58 9 eP **P** **21 01 52.6 +0.8**
FOEL AMB AMB 21 01 53.4
comp=Z,81nm,1.8s
GKP **Gorka Klasztor** 74.69 356 eP **P** **21 01 52.8 +0.5**
SKNT **Sakolnakorn** 74.70 278 P **P** **21 01 53.2 +0.2**
comp=Z,44nm,0.9s
HLM1 **Long Mynd** 74.98 8 eP **P** **21 01 54.6 +0.5**
HLM1 AMB AMB 21 01 56.6
comp=Z,30nm,1.3s
MYLDM **Lahad Datu** 74.98 259 P **P** **21 01 54.7 +0.1**
comp=Z,26nm,1.4s
UBPT **Khong Chiam** 75.10 276 P **P** **21 01 55.7 +0.4**
comp=Z,25nm,1.4s
UBPT **Khong Chiam** 75.10 276 P **P** **21 01 57.8 +2.5**
comp=Z,25nm,1.4s
PAYA **Payao** 75.36 283 P **P** **21 01 57.8 +1.0**
comp=Z,50nm,1.0s,comp=Z,7μm
CMAI **Chiengmai2** 75.41 284 P **P** **21 01 57.8 +0.5**
comp=Z,56nm,1.3s,comp=Z,5μm
MCH1 **Michaelchurch** 75.48 9 eP **P** **21 01 55.7 -1.3**
MCH1 AMB AMB 21 01 58.0
comp=Z,64nm,2.6s
RUE **Ruedersdorf** 75.59 358 eP **P** **21 01 58.3 +0.8**
comp=Z,98nm,1.5s
NRDL **Niedersach Rie** 75.61 0 eP **P** **21 01 58.2 +0.6**
comp=Z,33nm,1.3s
IBBN **Ibbenburen** 75.77 2 eP **P** **21 01 59.3 +0.7**
comp=Z,64nm,1.2s
BEL **Belsk** 75.91 353 eP **P** **21 02 00.2 +0.8**
LOEI **Loei** 75.94 280 P **P** **21 01 58.7 -1.4**
comp=Z,190nm,0.9s
WTSB **Winterswijk** 76.09 2 eP **P** **21 02 00.6 +0.2**
comp=Z,52nm,1.5s
TAPN **Taplejung** 76.18 297 eP **P** **21 02 02.1 +0.3**
comp=Z,75nm,0.7s
AKASG **Malin Array Be** 76.20 348 P **P** **21 02 00.5 -0.6**
AKASG **Malin Array Be** 76.20 348 P **P** **21 02 00.5 -0.6**
AKASG **Malin Array Be** 76.20 348 P **P** **21 02 00.5 -0.6**
comp=Z,28nm,0.7s,baz=13,slow=5.5,SNR=80
AKASG LR LR 21 40 48.3
comp=Z,188nm,18.3s,baz=355,slow=40
KIEV **Kiev** 76.21 348 eP **P** **21 02 00.3 -0.8**
KIEV pmax pmax
comp=Z,26nm,0.7s
KIEV **Kiev** 76.21 348 eP **P** **21 02 00.3 -0.8**
comp=Z,26nm,0.7s
CLZ **Clausthal** 76.27 0 eP **P** **21 02 02.5 +1.0**
comp=Z,58nm,1.3s
CLZ **Clausthal** 76.27 0 eP **P** **21 02 02.5 +1.0**
CLZ pmax pmax
comp=Z,58nm,1.3s
CHTO **Chiang Mai** 76.33 283 eP **P** **21 02 02.4 +0.1**
CHTO pmax pmax
comp=Z,78nm,1.6s
CHTO **Chiang Mai** 76.33 283 P **P** **21 02 03.0 +0.6**
SNR=15
CHTO **Chiang Mai** 76.33 283 eP **P** **21 02 02.4 +0.1**
comp=Z,78nm,1.6s
CHTO **Chiang Mai** 76.33 283 P **P** **21 02 02.6 +0.3**
comp=Z,34nm,1.4s,comp=Z,586nm
CHTO **Chiang Mai** 76.33 283 P **P** **21 02 02.6 +0.3**
comp=Z,34nm,1.4s,comp=Z,586nm
CM31 **Chiang Mai Arr** 76.61 283 eP **P** **21 02 04.6 +0.7**
comp=Z,43nm,0.9s
CMAR **Chiang Mai Arr** 76.61 283 P **P** **21 02 04.7 +0.8**
CMAR **Chiang Mai Arr** 76.61 283 P **P** **21 02 04.7 +0.8**
comp=Z,23nm,0.8s,baz=20,slow=4.9,SNR=20
CHAI **Chaiyaphum** 76.74 279 P **P** **21 02 05.6 +0.9**
comp=Z,4.7nm,1.5s
GUN **Gumba** 76.74 298 eP **P** **21 02 05.5 +0.5**
comp=Z,162nm,0.8s
ODAN **Odare** 76.75 297 eP **P** **21 02 05.1 +0.2**
comp=Z,31nm,0.7s
JIRN **Jiri** 76.77 298 eP **P** **21 02 06.0 +0.8**
CLL **Collm** 76.78 358 eP **P** **21 02 04.6 +0.2**
comp=Z,19nm,0.9s
CLL **Collm** 76.78 358⇑iP **P** **21 02 04.6 +0.2**
CLL i *PP pP 21 02 08.2 -6.3
CLL pmax pmax
comp=Z,19nm,0.9s
CLL **Collm** 76.78 358⇑iP **P** **21 02 04.6 +0.2**
comp=Z,19nm,0.9s
CLL i 21 02 08.2
CLL i PcP **PcP** **21 02 15.4 -0.1**
CLL eSS SS 21 16 42.0 -1.8
CLL e 21 21 24.0
NEUB **Neuenburg** 76.89 359 eP **P** **21 02 05.8 +0.8**
comp=Z,62nm,1.2s
SUKH **Sukhothai** 76.95 282 P **P** **21 02 06.8 +1.0**
comp=Z,7.6nm,1.1s,comp=Z,66nm
RAMN **Ramite** 77.11 297 eP **P** **21 02 07.4 +0.5**
comp=Z,164nm,0.9s
KSP **Ksiaz** 77.15 356 eP **P** **21 02 06.7 +0.2**
KSP **Ksiaz** 77.15 356 eP **P** **21 02 07.0 +0.5**
KKN **Kakani** 77.16 299 eP **P** **21 02 07.8 +0.6**
comp=Z,47nm,0.7s
FBE **Freiberg** 77.16 358 eP **P** **21 02 07.4 +0.9**
comp=Z,38nm,1.0s
BRG **Berggiesshubel** 77.19 358 i P **P** **21 02 07.0 +0.3**
comp=Z,24nm,0.9s
BRG ePKPPKP P'P'df 21 29 15.2 -6.6
comp=Z,1.8nm,0.6s
BRG **Berggiesshubel** 77.19 358 eP **P** **21 02 07.3 +0.6**
comp=Z,57nm,1.6s
BRG **Berggiesshubel** 77.19 358 i P **P** **21 02 07.0 +0.3**
BRG pmax pmax
comp=Z,4.0nm,0.9s
BEBN **Eben Emael** 77.23 3 P **P** **21 02 07.8 +0.9**
comp=Z,12nm,1.6s
PKI **Pulchoki** 77.26 299 eP **P** **21 02 08.1 +0.2**
PKIN **Phulchoki** 77.27 299 eP **P** **21 02 08.8 +1.0**
comp=Z,22nm,0.7s
HGN **Heimansgroeve** 77.27 3 eP **P** **21 02 07.6 +0.5**
comp=Z,78nm,1.5s
DMN **Daman** 77.40 299 eP **P** **21 02 08.9 +0.3**
MEM **Membach** 77.43 3 P **P** **21 02 08.4 +0.4**
comp=Z,28nm,1.4s
MOX **Moxa** 77.46 359 eP **P** **21 02 09.0 +0.8**
comp=Z,34nm,1.2s
MOX eL L 21 38 24.8
comp=Z,162nm,18.5s
MOX **Moxa** 77.46 359 eP **P** **21 02 09.0 +0.8**
MOX pmax pmax
comp=Z,34nm,1.2s
MOX MLR MLR
comp=Z,200nm,18.5s
SNF **Seneffe** 77.46 4 P **P** **21 02 08.8 +0.6**
UPC **Upice** 77.50 356⇑iP **P** **21 02 09.2 +0.8**
UPC **Upice** 77.50 356⇑iP **P** **21 02 09.2 +0.8**
PVCC **Panska Ves** 77.52 357⇑iP **P** **21 02 09.4 +0.8**
PVCC **Panska Ves** 77.52 357⇑iP **P** **21 02 09.4 +0.8**
DANN **Dangsing** 77.53 300 eP **P** **21 02 09.9 +0.6**
comp=Z,245nm,0.8s
OJC **Ojcow** 77.59 354 eP **P** **21 02 09.4 +0.5**
OJC **Ojcow** 77.59 354 eP **P** **21 02 09.4 +0.5**
BCLA **Clavier** 77.59 3 P **P** **21 02 09.3 +0.4**
comp=Z,32nm,1.8s
DPC **Dobruska-Polom** 77.64 356⇑iP **P** **21 02 10.4 +1.1**
DPC e 21 02 20.5
DPC **Dobruska-Polom** 77.64 356⇑iP **P** **21 02 10.4 +1.1**
DPC epP **pP** **21 02 20.5 +1.0**
LVV **L'vov** 77.65 351 i P **P** **21 02 08.8 -0.5**
LVV MLR MLR
comp=N,100nm,16.0s
LVV MLR MLR
comp=Z,100nm,16.0s
LVV MLR MLR
comp=E,100nm,19.0s
WERD **Werda** 77.65 359 eP **P** **21 02 10.1 +0.8**
comp=Z,85nm,2.3s
TANN **Tannenbergstha** 77.68 359 eP **P** **21 02 10.3 +0.8**
comp=Z,17nm,1.2s
GUNZ **Gunzen** 77.73 359 eP **P** **21 02 10.8 +1.0**
comp=Z,56nm,1.9s
TNS **Taunus Mts** 77.87 1 eP **P** **21 02 11.1 +0.5**
comp=Z,40nm,1.5s
TNS **Taunus Mts** 77.87 1 eP **P** **21 02 11.1 +0.5**
TNS pmax pmax
comp=Z,40nm,1.5s
DOU **Dourbes** 77.89 4 P **P** **21 02 11.0 +0.4**
comp=Z,20nm,1.5s
GIVF **Givet** 77.89 4 eP **P** **21 02 11.2 +0.6**
comp=Z,128nm,1.4s
GIVF **Givet** 77.89 4 eP **P** **21 02 11.2 +0.6**
GIVF pmax pmax
comp=Z,128nm,1.4s
GIVF **Givet** 77.89 4 eP **P** **21 02 11.2 +0.6**
comp=Z,128nm,1.4s
KRLC **Kraliky** 77.90 356⇑iP **P** **21 02 11.5 +0.8**
KRLC **Kraliky** 77.90 356⇑iP **P** **21 02 11.5 +0.8**
BAIF **Baives** 77.91 4⇑iP **P** **21 02 11.4 +0.7**
comp=Z,39nm,0.8s
BAIF **Baives** 77.91 4⇑iP **P** **21 02 11.4 +0.7**
BAIF pmax pmax
comp=Z,39nm,0.8s
BAIF **Baives** 77.91 4⇑iP **P** **21 02 11.4 +0.7**
comp=Z,39nm,0.8s
KWP **Kalwaria Pacla** 77.95 352 ⇑P **P** **21 02 11.5 +0.5**
KWP **Kalwaria Pacla** 77.95 352 eP **P** **21 02 11.4 +0.4**
comp=Z,93nm,1.1s
KWP **Kalwaria Pacla** 77.95 352⇑iP **P** **21 02 11.5 +0.5**
KWP **Kalwaria Pacla** 77.95 352 eP **P** **21 02 11.5 +0.5**
PRU **Pruhonice** 78.06 357⇑iP **P** **21 02 12.4 +0.8**
PRU **Pruhonice** 78.06 357⇑iP **P** **21 02 12.4 +0.8**
PRU AMS AMS 21 45 10.0
OKC **Ostrava-Krasne** 78.07 355⇑iP **P** **21 02 12.2 +0.6**
OKC **Ostrava-Krasne** 78.07 355⇑iP **P** **21 02 12.2 +0.6**
KOLN **Koldanda** 78.08 300 eP **P** **21 02 12.7 +0.4**
comp=Z,93nm,1.1s
PYUN **Piuthan** 78.14 301 eP **P** **21 02 12.2 -0.4**
comp=Z,209nm,0.8s
MORC **Moravsky Berou** 78.16 355 eP **P** **21 02 12.7 +0.5**
MORC pmax pmax
comp=Z,49nm,1.4s
MORC **Moravsky Berou** 78.16 355 eP **P** **21 02 12.7 +0.5**
comp=Z,49nm,1.4s
STHS **Stebnicka Huta** 78.29 353 eP **P** **21 02 14.4 +1.5**
STHS pmax pmax
comp=Z,20nm,0.9s
STHS **Stebnicka Huta** 78.29 353 eP **P** **21 02 14.4 +1.5**
ROTZ **Rotzenmuhle** 78.33 359 eP **P** **21 02 14.2 +1.1**
comp=Z,44nm,1.5s
NIE **Niedzica** 78.35 354 eP **P** **21 02 14.0 +0.8**
NIE **Niedzica** 78.35 354 eP **P** **21 02 14.0 +0.8**
WLF **Walferdange** 78.38 3 P **P** **21 02 14.7 +1.4**
comp=Z,40nm,2.1s
WLF **Walferdange** 78.38 3 eP **P** **21 02 14.3 +1.0**
comp=Z,88nm,1.7s
GRF **Grafenberg Arr** 78.42 360 eP **P** **21 02 14.8 +1.2**
comp=Z,118nm,1.6s
GRF eL L 21 36 34.8
comp=Z,103nm,21.2s
GRF **Grafenberg Arr** 78.42 360 eP **P** **21 02 14.8 +1.2**
GRF pmax pmax
comp=Z,118nm,1.6s
GRF MLR MLR
comp=Z,100nm,21.2s
GRFO **Grafenberg** 78.42 360 eP **P** **21 02 14.6 +1.0**
GRFO pmax pmax
comp=Z,66nm,1.4s
GRFO **Grafenberg** 78.42 360 eP **P** **21 02 14.6 +1.0**
comp=Z,66nm,1.4s
KOLS **Kolonicke sedl** 78.69 352 eP **P** **21 02 15.9 +0.8**
KOLS pmax pmax
comp=Z,31nm,1.5s
KOLS **Kolonicke sedl** 78.69 352 eP **P** **21 02 15.9 +0.8**
TREC **Trest** 78.73 357⇑iP **P** **21 02 15.9 +0.6**
TREC **Trest** 78.73 357⇑iP **P** **21 02 15.9 +0.6**
CRVS **Cervenica-Dubn** 78.78 353 eP **P** **21 02 16.2 +0.6**
CRVS pmax pmax
comp=Z,30nm,1.7s
CRVS **Cervenica-Dubn** 78.78 353 eP **P** **21 02 16.2 +0.6**
FLN **La Foliniere** 78.91 7⇑iP **P** **21 02 16.5 +0.3**
comp=Z,21nm,0.7s
FLN eR
comp=Z,232nm,21.0s
FLN **La Foliniere** 78.91 7⇑iP **P** **21 02 16.5 +0.3**
FLN pmax pmax
comp=Z,21nm,0.7s
FLN **La Foliniere** 78.91 7⇑iP **P** **21 02 16.5 +0.3**
comp=Z,21nm,0.7s
KHC **Kasperske Hory** 78.95 358⇑iP **P** **21 02 17.2 +0.7**
KHC e 21 02 30.5
KHC **Kasperske Hory** 78.95 358⇑iP **P** **21 02 17.2 +0.7**
KHC epP **pP** **21 02 30.5 +3.8**
KHC **Kasperske Hory** 78.95 358 eP **P** **21 02 17.0 +0.5**
comp=Z,82nm,1.6s
WET **Wettzell** 78.95 358 eP **P** **21 02 17.5 +1.0**
comp=Z,29nm,1.3s
WET **Wettzell** 78.95 358 eP **P** **21 02 17.5 +1.0**
WET pmax pmax
comp=Z,29nm,1.3s
UZH **Uzhgorod** 78.98 352⇓iP **P** **21 02 16.7 +0.1**
ROSF **Rostrenen** 79.08 9⇑iP **P** **21 02 17.7 +0.5**
comp=Z,16nm,0.8s
ROSF **Rostrenen** 79.08 9⇑iP **P** **21 02 17.7 +0.5**
ROSF pmax pmax
comp=Z,16nm,0.8s
ROSF **Rostrenen** 79.08 9⇑iP **P** **21 02 17.7 +0.5**
comp=Z,16nm,0.8s
LANF **Langenberg** 79.10 2 eP **P** **21 02 18.0 +0.7**
LDF **La Druitiere** 79.10 7⇑iP **P** **21 02 17.5 +0.2**
comp=Z,41nm,0.8s
LDF **La Druitiere** 79.10 7⇑iP **P** **21 02 17.5 +0.2**
LDF pmax pmax
comp=Z,41nm,0.8s
LDF **La Druitiere** 79.10 7⇑iP **P** **21 02 17.5 +0.2**
comp=Z,41nm,0.8s
GOF **Gofitskoye** 79.10 337 eP **P** **21 02 19.0 +1.6**
GOF pmax pmax
comp=Z,240nm,1.0s
GEC2 **GERESS Array S** 79.23 358 eP **P** **21 02 18.8 +0.7**
comp=Z,51nm,1.6s
GEC2 **GERESS Array S** 79.23 358 eP **P** **21 02 18.8 +0.7**
GEC2 pmax pmax
comp=Z,51nm,1.6s
GERES **GERESS Array B** 79.23 358 P **P** **21 02 18.8 +0.7**
GERES **GERESS Array B** 79.23 358 P **P** **21 02 18.8 +0.7**
comp=Z,7.1nm,0.8s,baz=12,slow=4.6,SNR=60
SGMF **Saint Gilles** 79.23 9⇑iP **P** **21 02 18.4 +0.4**
SGMF **Saint Gilles** 79.23 9⇑iP **P** **21 02 18.4 +0.4**
SGMF **Saint Gilles** 79.23 9⇑iP **P** **21 02 18.4 +0.4**
GRR **Gorron** 79.25 8⇑iP **P** **21 02 18.5 +0.4**
comp=Z,64nm,0.9s
GRR **Gorron** 79.25 8⇑iP **P** **21 02 18.5 +0.4**
GRR pmax pmax
comp=Z,64nm,0.9s
GRR **Gorron** 79.25 8⇑iP **P** **21 02 18.5 +0.4**
comp=Z,64nm,0.9s
KECS **Kecovo** 79.27 353 eP **P** **21 02 19.2 +0.9**
KECS pmax pmax
comp=Z,14nm,1.0s
KECS **Kecovo** 79.27 353 eP **P** **21 02 19.2 +0.9**
VYHS **Vyhne** 79.37 354 eP **P** **21 02 19.5 +0.7**
VYHS pmax pmax
comp=Z,24nm,1.2s
VYHS **Vyhne** 79.37 354 eP **P** **21 02 19.5 +0.7**
SMOL **Smolenice** 79.43 355 eP **P** **21 02 20.8 +1.7**
SMOL **Smolenice** 79.43 355 eP **P** **21 02 20.8 +1.7**
TRPA **Tarpa** 79.46 352⇑iP **P** **21 02 19.0 -0.2**
PAGF **Fort de Pagny** 79.47 3⇑iP **P** **21 02 20.5 +1.2**
comp=Z,57nm,1.3s
PAGF **Fort de Pagny** 79.47 3⇑iP **P** **21 02 20.5 +1.2**
comp=Z,57nm,1.3s
MEZF **Maizieres J'vi** 79.50 4⇑iP **P** **21 02 20.4 +0.9**
comp=Z,227nm,1.7s
MEZF **Maizieres J'vi** 79.50 4⇑iP **P** **21 02 20.4 +0.9**
comp=Z,227nm,1.7s
QUIF **Quistinic** 79.50 9⇑iP **P** **21 02 19.8 +0.3**
comp=Z,240nm,1.7s
QUIF **Quistinic** 79.50 9⇑iP **P** **21 02 19.8 +0.3**
QUIF pmax pmax
comp=Z,240nm,1.7s
QUIF **Quistinic** 79.50 9⇑iP **P** **21 02 19.8 +0.3**
comp=Z,240nm,1.7s
KBL **Kabul** 79.63 314 eP **P** **21 02 20.1 -0.6**
KBL pmax pmax
comp=Z,86nm,1.2s
KBL **Kabul** 79.63 314 eP **P** **21 02 20.1 -0.6**
comp=Z,86nm,1.2s
CDF **Champ du Feu** 79.66 2⇑iP **P** **21 02 21.1 +0.6**
comp=Z,95nm,1.4s
CDF **Champ du Feu** 79.66 2⇑iP **P** **21 02 21.1 +0.6**
CDF pmax pmax
comp=Z,95nm,1.4s
CDF **Champ du Feu** 79.66 2⇑iP **P** **21 02 21.1 +0.6**
comp=Z,95nm,1.4s
BUR08 **Bucovina Ar. S** 79.68 350 eP **P** **21 02 20.6 -0.1**
BURAR **Bucovina Array** 79.71 350 ⇓P **P** **21 02 20.8 0.0**
BURAR **Bucovina Array** 79.71 350⇓iP **P** **21 02 20.8 0.0**
BFO **Black Forest** 79.76 2 P **P** **21 02 21.5 +0.6**
comp=Z,112nm,1.5s,SNR=7.3
BFO **Black Forest** 79.76 2 eP **P** **21 02 21.6 +0.6**
comp=Z,51nm,1.5s
BFO **Black Forest** 79.76 2 eP **P** **21 02 21.6 +0.6**
BFO pmax pmax
comp=Z,51nm,1.5s
BFO **Black Forest** 79.76 2 eP **P** **21 02 21.4 +0.4**
comp=Z,42nm,1.4s
SFTF **Sexfontaines** 79.79 4⇑iP **P** **21 02 21.9 +0.8**
comp=Z,165nm,1.3s
SFTF **Sexfontaines** 79.79 4⇑iP **P** **21 02 21.9 +0.8**
comp=Z,165nm,1.3s
THEF **They Montfort** 79.81 3 eP **P** **21 02 21.7 +0.5**
ECH **Echery** 79.85 2 eP **P** **21 02 21.8 +0.4**
ECH pmax pmax
comp=Z,41nm,1.1s
ECH **Echery** 79.85 2 eP **P** **21 02 22.1 +0.6**
ECH **Echery** 79.85 2 eP **P** **21 02 21.8 +0.4**
comp=Z,41nm,1.1s
PSZ **Piszkesteto** 79.88 354 ⇑P **P** **21 02 22.6 +1.0**
PSZ **Piszkesteto** 79.88 354 eP **P** **21 02 22.6 +1.0**
comp=Z,49nm,1.3s
PSZ **Piszkesteto** 79.88 354⇑iP **P** **21 02 22.6 +1.0**
PSZ **Piszkesteto** 79.88 354⇓eP **P** **21 02 23.2 +1.6**
KIS **Kishinev** 79.89 347 eP **P** **21 02 20.0 -1.6**
KIS LRM MLR 21 43 44.0
comp=Z,300nm,20.0s
KIS **Kishinev** 79.89 347 eP **P** **21 02 20.0 -1.6**
MAK **Makhachkala** 79.92 333 eP P 21 02 33.4 +12
FUR **Furstenfeldbru** 79.94 360 eP **P** **21 02 23.0 +1.1**
comp=Z,65nm,1.2s
FUR **Furstenfeldbru** 79.94 360 eP **P** **21 02 23.0 +1.1**
FUR pmax pmax
comp=Z,65nm,1.2s
HAU **Haudompre** 80.04 3⇑iP **P** **21 02 23.1 +0.6**
comp=Z,97nm,1.2s
HAU eR
comp=Z,206nm,19.2s
HAU **Haudompre** 80.04 3⇑iP **P** **21 02 23.1 +0.6**
HAU pmax pmax
comp=Z,97nm,1.2s
HAU **Haudompre** 80.04 3⇑iP **P** **21 02 23.1 +0.6**
comp=Z,97nm,1.2s
SDDR **Presa de Saban** 80.05 72 P **P** **21 02 22.4 -0.6**
comp=Z,29nm,1.3s
CONA **Conrad Observa** 80.08 356 i P **P** **21 02 24.1 +1.3**
comp=Z,63nm,1.3s,SNR=22
MOA **Molln** 80.21 357 i P **P** **21 02 24.0 +0.6**
comp=Z,22nm,1.5s,SNR=5.4
MOF **Molkenrain** 80.22 2 eP **P** **21 02 24.1 +0.6**
KIV **Kislovodsk** 80.23 337 eP **P** **21 02 24.7 +1.1**
KIV pmax pmax
comp=Z,57nm,1.0s
KIV **Kislovodsk** 80.23 337 P **P** **21 02 24.3 +0.7**
comp=Z,337nm,0.7s,SNR=11
HINF **Hinteralfeld** 80.24 3⇑iP **P** **21 02 24.1 +0.5**
comp=Z,111nm,1.3s
HINF **Hinteralfeld** 80.24 3⇑iP **P** **21 02 24.1 +0.5**
HINF pmax pmax
comp=Z,111nm,1.3s
HINF **Hinteralfeld** 80.24 3⇑iP **P** **21 02 24.1 +0.5**
comp=Z,111nm,1.3s
SOP **Sopron** 80.30 356⇑eP **P** **21 02 25.3 +1.5**
ARCR **ARCALIA** 80.32 350⇓iP **P** **21 02 25.3 +1.3**
RJOB **Jochberg** 80.36 358 eP **P** **21 02 25.2 +1.0**
comp=Z,50nm,1.7s
KBZ **Khabaz** 80.39 337 P **P** **21 02 25.2 +0.9**
KBZ **Khabaz** 80.39 337 P **P** **21 02 25.2 +0.9**
KBZ **Khabaz** 80.39 337 P **P** **21 02 25.2 +0.9**
comp=Z,24nm,0.9s,baz=40,slow=2.2,SNR=43
LEOM **Leova** 80.48 348 ⇓P **P** **21 02 25.0 +0.2**
LEOM **Leova** 80.48 348⇓iP **P** **21 02 25.0 +0.2**
ANN **Anapa** 80.58 341 eP **P** **21 02 24.0 -1.4**
ANN pmax pmax
comp=Z,87nm,1.4s
HYF **Humbligny** 80.61 5 eP **P** **21 02 26.5 +1.0**
HYF **Humbligny** 80.61 5 eP **P** **21 02 26.5 +1.0**
RETA **Reutte** 80.62 360⇑iP **P** **21 02 26.7 +1.0**
comp=Z,26nm,1.2s,SNR=7.5
TESR **Tescani** 80.64 349⇑iP **P** **21 02 25.1 -0.6**
NDI **New Delhi** 80.64 305 eP **P** **21 02 24.0 -2.0**
LOR **Lormes** 80.68 5⇑iP **P** **21 02 26.6 +0.7**
comp=Z,118nm,1.3s,baz=1.5
LOR eR
comp=Z,228nm,18.0s
LOR **Lormes** 80.68 5⇑iP **P** **21 02 26.6 +0.7**
comp=Z,118nm,1.3s
LOMF **Lomont** 80.71 3 eP **P** **21 02 26.9 +0.8**
MOTA **Moosalm** 80.77 360 i P **P** **21 02 27.5 +1.0**
comp=Z,55nm,1.2s,SNR=18
ARSA **Arzberg** 80.77 357 i P **P** **21 02 27.9 +1.5**
comp=Z,44nm,1.3s,SNR=13
DRGR 80.77 352 ⇓P **P** **21 02 26.4 -0.1**
DRGR 80.77 352⇓iP **P** **21 02 26.4 -0.1**
PKS7 **Kunszentmiklos** 80.79 354⇓eP **P** **21 02 28.0 +1.6**
DAVA **Damuels** 80.82 0⇑iP **P** **21 02 27.7 +0.8**
comp=Z,34nm,1.2s,SNR=8.7
WTTA **Wattenberg** 80.84 359 i P **P** **21 02 28.3 +1.3**
comp=Z,95nm,2.0s,SNR=14
SSF **Saint Saulge** 80.86 5⇑iP **P** **21 02 27.6 +0.7**
comp=Z,146nm,1.3s
SSF **Saint Saulge** 80.86 5⇑iP **P** **21 02 27.6 +0.7**
SSF pmax pmax
comp=Z,146nm,1.3s
SSF **Saint Saulge** 80.86 5⇑iP **P** **21 02 27.6 +0.7**
comp=Z,146nm,1.3s
PKSN **Nyarlorinc** 80.89 354⇓eP **P** **21 02 28.7 +1.7**
GHRR 80.99 348⇑iP **P** **21 02 28.6 +1.1**
KBA **Koelnbreinsper** 81.00 358⇑iPcP **P** **21 02 29.6 +1.7**
comp=Z,102nm,1.2s,SNR=26

ZEI	Tsey	81.03	336	eP	P	21 02 26.4	-1.7
ZEI				pmax	pmax		
comp=Z,26nm,0.6s							
SIM	Simferopol'	81.06	343	ceP	P	21 02 29.3	+1.3
SIM				pmax	pmax		
comp=Z,29nm,0.9s							
MFF	Saint Martin d	81.08	7⇑	iP	P	21 02 28.8	+0.8
comp=Z,164nm,1.2s							
MFF	Saint Martin d	81.08	7⇑	iP	P	21 02 28.8	+0.8
MFF				pmax	pmax		
comp=Z,164nm,1.2s							
MFF	Saint Martin d	81.08	7⇑	iP	P	21 02 28.8	+0.8
comp=Z,164nm,1.2s							
FETA	Feichten	81.09	360	i P	P	21 02 29.5	+1.2
comp=Z,58nm,1.2s,SNR=18							
AVF	Avril sur Loir	81.13	5⇑	iP	P	21 02 28.9	+0.6
comp=Z,90nm,1.1s							
AVF	Avril sur Loir	81.13	5⇑	iP	P	21 02 28.9	+0.6
AVF				pmax	pmax		
comp=Z,90nm,1.1s							
AVF	Avril sur Loir	81.13	5⇑	iP	P	21 02 28.9	+0.6
comp=Z,90nm,1.1s							
VRI	Vrincioaia	81.26	349	⇑P	P	21 02 29.1	+0.1
VRI	Vrincioaia	81.26	349	⇑iP	P	21 02 29.1	+0.1
PLOR	Plostina	81.29	349	⇑P	P	21 02 29.7	+0.5
PLOR	Plostina	81.29	349	⇑iP	P	21 02 29.6	+0.4
SMF	Signal de Mont	81.30	5⇑	iP	P	21 02 29.9	+0.7
comp=Z,135nm,1.1s							
SMF	Signal de Mont	81.30	5⇑	iP	P	21 02 29.9	+0.7
SMF				pmax	pmax		
comp=Z,135nm,1.1s							
SMF	Signal de Mont	81.30	5⇑	iP	P	21 02 29.9	+0.7
comp=Z,135nm,1.1s							
PKS9	Tamasi	81.30	355⇓	eP	P	21 02 30.0	+0.8
BGF	Bois d'Agland	81.33	5	eP	P	21 02 30.1	+0.7
comp=Z,62nm,0.9s							
BGF	Bois d'Agland	81.33	5	eP	P	21 02 30.1	+0.7
BGF				pmax	pmax		
comp=Z,62nm,0.9s							
BGF	Bois d'Agland	81.33	5	eP	P	21 02 30.1	+0.7
comp=Z,62nm,0.9s							
ABTA	Abfaltersbach	81.35	359	i P	P	21 02 30.5	+0.9
comp=Z,53nm,1.2s,SNR=16							
SOKA	Soboth	81.36	357⇑	iP	P	21 02 30.8	+1.2
comp=Z,75nm,1.2s,SNR=18							
CABF	La Chapelle	81.42	3⇑	iP	P	21 02 31.2	+1.2
comp=Z,69nm,0.9s							
CABF	La Chapelle	81.42	3⇑	iP	P	21 02 31.2	+1.2
CABF				pmax	pmax		
comp=Z,69nm,0.9s							
CABF	La Chapelle	81.42	3⇑	iP	P	21 02 31.2	+1.2
comp=Z,69nm,0.9s							
MYKA	Terra Mystica	81.45	358	i PcP	P	21 02 31.8	+1.7
comp=Z,39nm,1.4s,SNR=7.2							
BEHE	Becsehely	81.50	356⇑	eP	P	21 02 31.1	+0.9
OBKA	Obir	81.54	357⇑	iP	P	21 02 31.4	+0.8
comp=Z,52nm,1.7s,SNR=7.0							
TCF	Toulx Ste Croi	81.56	6⇑	iP	P	21 02 31.2	+0.6
comp=Z,27nm,0.8s							
TCF	Toulx Ste Croi	81.56	6⇑	iP	P	21 02 31.2	+0.6
TCF				pmax	pmax		
comp=Z,27nm,0.8s							
TCF	Toulx Ste Croi	81.56	6⇑	iP	P	21 02 31.2	+0.6
comp=Z,27nm,0.8s							
TUE	Stuetta	81.63	1	eP	P	21 02 32.3	+1.1
comp=Z,68nm,1.3s							
PKSM	Moragy	81.66	354⇑	eP	P	21 02 31.0	-0.1
TLCR		81.66	347	⇑P	P	21 02 31.6	+0.5
TLCR		81.66	347	⇑iP	P	21 02 31.6	+0.5
GRER		81.71	348	⇑iP	P	21 02 32.5	+1.1
CTA	Charters Tower	81.73	222	P	P	21 02 31.4	-0.3
CTA	Charters Tower	81.73	222	P	P	21 02 31.4	-0.3
comp=Z,23nm,0.9s,baz=26,slow=7.0,SNR=11							
MLR	Muntele Rosu	81.73	349⇑	iP	P	21 02 32.8	+1.2
CFR	Carcaliu	81.76	348	⇓P	P	21 02 31.8	+0.2
CFR	Carcaliu	81.76	348	⇓iP	P	21 02 31.8	+0.2
AGO	Saint Agoulin	81.85	5	eP	P	21 02 33.2	+1.1
PLDF	La Plantade	81.96	5	eP	P	21 02 33.9	+1.1
ARR	Arges	81.99	350	⇓iP	P	21 02 33.7	+0.7
BZS	Buzias	82.03	352	⇑P	P	21 02 33.1	0.0
BZS	Buzias	82.03	352	⇑iP	P	21 02 33.0	0.0
PYM	Petit Puy Mans	82.14	5	eP	P	21 02 34.7	+0.9
TLB	Topalu	82.36	348	⇑P	P	21 02 35.1	+0.3
TLB	Topalu	82.36	348	⇑iP	P	21 02 35.0	+0.3
RSL	Roselend	82.36	3	eP	P	21 02 36.2	+1.2
TIRR	Tirgusor	82.43	347	⇑iP	P	21 02 35.5	+0.3
RJF	Les Rejaudoux	82.50	6⇑	iP	P	21 02 36.0	+0.5
comp=Z,30nm,0.9s							
RJF				eR			
comp=Z,348nm,19.0s							
RJF	Les Rejaudoux	82.50	6⇑	iP	P	21 02 36.0	+0.5
RJF				pmax	pmax		
comp=Z,30nm,0.9s							
RJF	Les Rejaudoux	82.50	6⇑	iP	P	21 02 36.0	+0.5
comp=Z,30nm,0.9s							
LPL	La Plagne	82.54	3⇑	iP	P	21 02 37.8	+1.8
comp=Z,36nm,1.0s							
LPL	La Plagne	82.54	3⇑	iP	P	21 02 37.8	+1.8
LPL				pmax	pmax		
comp=Z,36nm,1.0s							
LPL	La Plagne	82.54	3⇑	iP	P	21 02 37.8	+1.8
comp=Z,36nm,1.0s							
LPG	La Plagne	82.56	3⇑	iP	P	21 02 38.0	+1.8
comp=Z,47nm,1.2s							
LPG	La Plagne	82.56	3⇑	iP	P	21 02 38.0	+1.8
LPG				pmax	pmax		
comp=Z,47nm,1.2s							
LPG	La Plagne	82.56	3⇑	iP	P	21 02 38.0	+1.8
comp=Z,47nm,1.2s							
LBL	Lubilhac	82.67	5	eP	P	21 02 37.6	+1.1
SSB	Saint Sauveur	82.69	4	eP	P	21 02 37.5	+0.9
SSB				pmax	pmax		
comp=Z,46nm,1.3s							
SSB	Saint Sauveur	82.69	4	eP	P	21 02 37.6	+0.9
SSB	Saint Sauveur	82.69	4	eP	P	21 02 37.5	+0.9
comp=Z,46nm,1.3s							
GRN	Grenoble	82.78	3	eP	P	21 02 38.6	+1.5
HUMR	Humele	82.79	350	⇓iP	P	21 02 36.7	-0.3
LFF	La Frestale	82.80	7⇑	iP	P	21 02 38.0	+0.9
comp=Z,69nm,0.9s							
LFF	La Frestale	82.80	7⇑	iP	P	21 02 38.0	+0.9
LFF				pmax	pmax		
comp=Z,69nm,0.9s							
LFF	La Frestale	82.80	7⇑	iP	P	21 02 38.0	+0.9
comp=Z,69nm,0.9s							
GDM	Grand'Maison	82.83	3	eP	P	21 02 38.8	+1.3
CAF	Calviac	82.91	6⇑	iP	P	21 02 38.5	+0.8
comp=Z,75nm,1.1s							
CAF	Calviac	82.91	6⇑	iP	P	21 02 38.5	+0.8
CAF				pmax	pmax		
comp=Z,75nm,1.1s							
CAF	Calviac	82.91	6⇑	iP	P	21 02 38.5	+0.8
comp=Z,75nm,1.1s							
BNI	Bardonecchia	83.00	3	eP	P	21 02 40.3	+2.0
BNI				pmax	pmax		
comp=Z,20nm,0.7s							
BNI	Bardonecchia	83.00	3	eP	P	21 02 40.3	+2.0
comp=Z,20nm,0.7s							
ORIF	Oris-en-Rattie	83.11	3⇑	iP	P	21 02 40.3	+1.5
comp=Z,27nm,0.8s							
ORIF				eR			
comp=Z,183nm,19.8s							
ORIF	Oris-en-Rattie	83.11	3⇑	iP	P	21 02 40.3	+1.5
ORIF				pmax	pmax		
comp=Z,27nm,0.8s							
ORIF	Oris-en-Rattie	83.11	3⇑	iP	P	21 02 40.3	+1.5
comp=Z,27nm,0.8s							
VIVF	Saint-Julien-I	83.12	4⇑	iP	P	21 02 40.0	+1.2
comp=Z,51nm,0.9s							
VIVF	Saint-Julien-I	83.12	4⇑	iP	P	21 02 40.0	+1.2
VIVF				pmax	pmax		
comp=Z,51nm,0.9s							
VIVF	Saint-Julien-I	83.12	4⇑	iP	P	21 02 40.0	+1.2
comp=Z,51nm,0.9s							
LRS	Lares	83.17	69	eP	P	21 02 39.5	0.0
OG22	Abries	83.24	3	eP	P	21 02 41.1	+1.5
MBDF	Montbardon	83.33	3⇑	iP	P	21 02 41.9	+1.9
comp=Z,57nm,0.9s							
MBDF	Montbardon	83.33	3⇑	iP	P	21 02 41.9	+1.9
MBDF				pmax	pmax		
comp=Z,57nm,0.9s							
MBDF	Montbardon	83.33	3⇑	iP	P	21 02 41.9	+1.9
comp=Z,57nm,0.9s							
SURF	Saint Ours	83.58	3	eP	P	21 02 43.3	+1.9
PRD	Provadia	83.80	348	i P	P	21 02 43.2	+0.9
LASF	Ste Croix	83.86	5⇑	iP	P	21 02 43.9	+1.3
comp=Z,98nm,1.4s							
LASF	Ste Croix	83.86	5⇑	iP	P	21 02 43.9	+1.3
comp=Z,98nm,1.4s							
SZH	Strazhica	83.92	349	i P	P	21 02 42.7	-0.2
SMRF	Simiane la Rot	84.04	4	eP	P	21 02 45.5	+2.0
comp=Z,223nm,1.4s							
SMRF	Simiane la Rot	84.04	4	eP	P	21 02 45.5	+2.0
comp=Z,223nm,1.4s							
DIKM	Dikmen	84.04	342	eP	P	21 02 45.4	+1.8
TOUF	Mont Tournerai	84.06	2	eP	P	21 02 45.1	+1.3
AUTN	L'Aution	84.08	2	eP	P	21 02 45.1	+1.1
MPEP	Malo Peshtene	84.08	350	i P	P	21 02 43.4	-0.3
MVIF	Mont Vial	84.17	2	eP	P	21 02 44.6	+0.2
LUCF	Luceram	84.18	2	eP	P	21 02 44.6	+0.3
SBF	Sospel	84.21	2⇑	iP	P	21 02 45.4	+0.9
comp=Z,156nm,1.1s							
SBF	Sospel	84.21	2⇑	iP	P	21 02 45.4	+0.9
SBF				pmax	pmax		
comp=Z,156nm,1.1s							
SBF	Sospel	84.21	2⇑	iP	P	21 02 45.4	+0.9
comp=Z,156nm,1.1s							
AGRB	Hanur-Agry	84.28	335	eP	P	21 02 45.0	0.0
GUMT	Gumushane	84.29	338	eP	P	21 02 46.5	+1.5
REVF	Revere	84.33	2	eP	P	21 02 46.0	+1.0
EZM	Erzurum	84.38	337	eP	P	21 02 47.8	+2.2
KVT	Kavak	84.44	341	eP	P	21 02 47.7	+2.0
SJPF	Ste Jean	84.45	9⇑	iP	P	21 02 46.1	+0.5
comp=Z,35nm,0.7s							
SJPF	Ste Jean	84.45	9⇑	iP	P	21 02 46.1	+0.5
SJPF				pmax	pmax		
comp=Z,35nm,0.7s							
SJPF	Ste Jean	84.45	9⇑	iP	P	21 02 46.1	+0.5
comp=Z,35nm,0.7s							
FRF	La Foret Royal	84.49	3⇑	iP	P	21 02 46.9	+1.1
comp=Z,101nm,1.1s							
FRF	La Foret Royal	84.49	3⇑	iP	P	21 02 46.9	+1.1
FRF				pmax	pmax		
comp=Z,101nm,1.0s							
FRF	La Foret Royal	84.49	3⇑	iP	P	21 02 46.9	+1.1
comp=Z,101nm,1.0s							
MTLF	Montolieu	84.50	6⇑	iP	P	21 02 46.9	+1.1
comp=Z,135nm,1.3s							
MTLF	Montolieu	84.50	6⇑	iP	P	21 02 46.9	+1.1
MTLF				pmax	pmax		
comp=Z,135nm,1.3s							
MTLF	Montolieu	84.50	6⇑	iP	P	21 02 46.9	+1.1
comp=Z,135nm,1.3s							
LARF	Larrau	84.55	8	eP	P	21 02 47.8	+1.7
EPF	Esparros	84.67	8⇑	iP	P	21 02 47.1	+0.3
comp=Z,72nm,1.0s							
EPF	Esparros	84.67	8⇑	iP	P	21 02 47.1	+0.3
EPF				pmax	pmax		
comp=Z,72nm,1.0s							
EPF	Esparros	84.67	8⇑	iP	P	21 02 47.1	+0.3
comp=Z,72nm,1.0s							
LMR	La Mourre	84.71	3	eP	P	21 02 48.1	+1.2
comp=Z,256nm,1.5s							
LMR	La Mourre	84.71	3	eP	P	21 02 48.1	+1.2
LMR				pmax	pmax		
comp=Z,256nm,1.5s							
LMR	La Mourre	84.71	3	eP	P	21 02 48.1	+1.2
comp=Z,256nm,1.5s							
ETSF	Etsaut	84.72	8⇑	iP	P	21 02 48.3	+1.2
comp=Z,77nm,0.8s							
ETSF	Etsaut	84.72	8⇑	iP	P	21 02 48.3	+1.2
ETSF				pmax	pmax		
comp=Z,77nm,0.8s							
ETSF	Etsaut	84.72	8⇑	iP	P	21 02 48.3	+1.2
comp=Z,77nm,0.8s							
VIEF	Viey	84.79	8	eP	P	21 02 48.8	+1.4
MLS	Moulis	84.80	7	eP	P	21 02 48.3	+0.9
PGB	Panagyurishte	84.83	350	i P	P	21 02 47.5	-0.1
TOS	Tosya	84.87	342	eP	P	21 02 50.4	+2.5
VTS	Vitosha	84.89	351	⇑P	P	21 02 47.7	-0.3
VTS	Vitosha	84.89	351	⇑iP	P	21 02 47.7	-0.3
VTS	Vitosha	84.89	351	i P	P	21 02 47.8	-0.3
RESF	Ens	84.89	8	eP	P	21 02 49.5	+1.5
SAFT	Safranbolu	84.91	343	eP	P	21 02 49.6	+1.6
EZC	Erzincan	85.00	338	eP	P	21 02 50.6	+2.0
CARF	Carcanieres	85.11	6	eP	P	21 02 49.6	+0.5
EDRB	Edirne	85.22	348	eP	P	21 02 50.0	+0.5
SVSK	Karacayir	85.36	340	eP	P	21 02 51.8	+1.7
KLYT	Kilyos	85.49	346	eP	P	21 02 51.8	+1.0
PGF	Pioggiola	85.55	1⇑	iP	P	21 02 52.2	+0.9
comp=Z,334nm,1.2s							
PGF	Pioggiola	85.55	1⇑	iP	P	21 02 52.2	+0.9
PGF				pmax	pmax		
comp=Z,335nm,1.2s							
PGF	Pioggiola	85.55	1⇑	iP	P	21 02 52.2	+0.9
comp=Z,334nm,1.2s							
KDZ	Kurdzhali	85.58	349	i P	P	21 02 52.0	+0.7
CORM	Corum	85.58	342	eP	P	21 02 53.9	+2.4
BGKT	Bogazkoy	85.60	346	eP	P	21 02 52.6	+1.3
KKB	Krupnik	85.62	351	i P	P	21 02 52.0	+0.5
RZN	Rozhen	85.62	349	eP	P	21 02 52.6	+0.9
SLVT	Silivri	85.63	347	eP	P	21 02 52.6	+1.1
SKO	Skopje	85.67	352⇑	iP	P	21 02 53.9	+2.2
PTK	Pertek	85.81	338	eP	P	21 02 54.6	+1.9
HRT	Hereke	85.81	346	eP	P	21 02 53.8	+1.3
MMB	Musomiste	85.83	350	i P	P	21 02 53.3	+0.7
MDUB	Mudurnu	85.91	344	eP	P	21 02 54.3	+1.2
NVR	Nevrokopi	86.05	350	P	P	21 02 54.5	+0.8
NVR	Nevrokopi	86.05	350	eP	P	21 02 54.8	+1.1
NVR	Nevrokopi	86.05	350	P	P	21 02 54.5	+0.8
RDO	Rodhopi	86.06	349	P	P	21 02 54.6	+1.0
RDO	Rodhopi	86.06	349	eP	P	21 02 54.6	+1.0
RDO	Rodhopi	86.06	349	P	P	21 02 54.6	+1.0
GULT	Gulveren	86.06	345	eP	P	21 02 54.8	+1.0
ADVT	Abdulvahap	86.18	345	eP	P	21 02 55.0	+0.7
ARMT	Armutlu	86.19	346	eP	P	21 02 55.2	+0.9
VAY	Valandovo	86.21	351⇑	iP	P	21 02 54.4	0.0
BR131	Keskin Array S	86.21	342	eP	P	21 02 55.2	+0.6
comp=Z,9.2nm,1.0s							
BRTR	Keskin Array B	86.21	342	P	P	21 02 54.5	-0.2
BRTR	Keskin Array B	86.21	342	P	P	21 02 54.5	-0.2
comp=Z,6.8nm,0.9s,baz=52,slow=2.5,SNR=21							
IPM	Ipoh	86.22	272	eP	P	21 02 54.8	0.0
comp=Z,14nm,0.8s							
ANTO	Ankara	86.22	343	eP	P	21 02 55.3	+0.7
ANTO	Ankara	86.22	343	⇑P	P	21 02 55.8	+1.2
ANTO	Ankara	86.22	343	P	P	21 02 56.8	+2.2
SNR=14							
ANTO	Ankara	86.22	343	eP	P	21 02 56.9	+2.2
comp=Z,74nm,1.4s							
ANTO	Ankara	86.22	343	⇑iP	P	21 02 55.8	+1.2
SRS	Serrai	86.31	350	P	P	21 02 55.5	+0.6
SRS	Serrai	86.31	350	P	P	21 02 55.5	+0.6
SRS	Serrai	86.31	350	P	P	21 02 55.5	+0.6
CUKT	Cukurca	86.31	334	eP	P	21 02 55.8	+0.6
KNT	Kendrikon	86.33	351	P	P	21 02 56.0	+1.0
KNT	Kendrikon	86.33	351	P	P	21 02 56.0	+1.0
KNT	Kendrikon	86.33	351	P	P	21 02 56.0	+1.0
KCTX	Karacabey (Bur	86.56	346	eP	P	21 02 55.8	-0.3
KRBG	Karabiga-Canak	86.58	347	eP	P	21 02 57.1	+0.9
MALT	Malatya	86.58	338	⇓P	P	21 02 56.1	-0.3
MALT	Malatya	86.58	338	⇓iP	P	21 02 56.1	-0.3
BIA	Bitola	86.62	352	i P	P	21 02 56.5	-0.1
SOH	Sokhos	86.62	350	P	P	21 02 56.9	+0.4
SOH	Sokhos	86.62	350	P	P	21 02 56.9	+0.4
SOH	Sokhos	86.62	350	P	P	21 02 56.9	+0.4
FNA	Florina	86.85	352	P	P	21 02 57.5	-0.1
FNA	Florina	86.85	352	P	P	21 02 57.5	-0.1
FNA	Florina	86.85	352	eP	P	21 02 57.8	+0.2
FNA	Florina	86.85	352	P	P	21 02 57.5	-0.1
SVRH	Sivrihisar-ESK	86.86	344	eP	P	21 02 58.3	+0.6
WRA	Warramunga Arr	86.91	232	P	P	21 02 56.7	-1.3
WRA	Warramunga Arr	86.91	232	P	P	21 02 56.7	-1.3
comp=Z,6.9nm,0.9s,baz=38,slow=5.9,SNR=29							
OUR	Ouranopolis	87.04	350	P	P	21 02 58.8	+0.3
OUR	Ouranopolis	87.04	350	P	P	21 02 58.8	+0.3
OUR	Ouranopolis	87.04	350	P	P	21 02 58.8	+0.3
PLG	Polygyros	87.06	350	P	P	21 02 58.5	-0.1
PLG	Polygyros	87.06	350	P	P	21 02 58.5	-0.1
PLG	Polygyros	87.06	350	P	P	21 02 58.5	-0.1
PAIG	Paliouri	87.48	350	P	P	21 02 59.9	-0.7
PAIG	Paliouri	87.48	350	P	P	21 02 59.9	-0.7
PAIG	Paliouri	87.48	350	eP	P	21 03 00.1	-0.5
PAIG	Paliouri	87.48	350	P	P	21 02 59.9	-0.7
ESDC	Sonseca Array	87.56	11	P	P	21 03 00.7	-0.4
ESDC	Sonseca Array	87.56	11	P	P	21 03 00.7	-0.4
comp=Z,9.2nm,0.8s,baz=350,slow=4.7,SNR=41							
ESDC				LR	LR	21 42 16.9	
comp=Z,113nm,20.3s,baz=345,slow=36							
ESLA	Sonseca Array	87.56	11	eP	P	21 03 00.9	-0.2
comp=Z,2.6nm,1.0s							
PESTR	Estremoz	87.87	14	eP	P	21 03 02.6	+0.1
comp=Z,36nm,2.0s							
THL	Klokotos Trika	88.00	351	eP	P	21 03 02.8	-0.3
XOR	Xorichti	88.08	350	P	P	21 03 03.3	-0.2
XOR	Xorichti	88.08	350	P	P	21 03 03.3	-0.2
EVOP	Sao Brissos	88.12	15	eP	P	21 03 03.7	0.0
EVOP				pmax	pmax		
comp=Z,18nm,1.0s							
EVOP	Sao Brissos	88.12	15	eP	P	21 03 03.7	0.0
comp=Z,18nm,1.0s							
EVO	Evora	88.13	14	eP	P	21 03 03.7	-0.1
comp=Z,18nm,1.0s							
EVO				eR			
comp=Z,242nm,18.0s							
AOS	Alonnisos	88.20	350	eP	P	21 03 03.5	-0.6
SDV	Santo Domingo	88.38	78	eP	P	21 03 04.0	-1.5
comp=Z,3.0nm,0.8s							
AGG	Agios Georgios	88.51	351	eP	P	21 03 01.3	-4.3
MAKR	Makrakomi, Fth	88.54	351	P	P	21 03 05.6	-0.1
MAKR	Makrakomi, Fth	88.54	351	P	P	21 03 05.6	-0.1
PBAR	Barrancos	88.63	14	eP	P	21 03 06.4	+0.3
comp=Z,48nm,2.0s							
PBAR				epP	pP	21 03 17.4	+1.0
EVR	Evrytania	88.66	351	P	P	21 03 06.9	+0.5
EVR	Evrytania	88.66	351	eP	P	21 03 06.8	+0.4
EVR	Evrytania	88.66	351	P	P	21 03 06.9	+0.5
PSI	Prapat	88.82	273	P	P	21 03 07.8	+0.4
PSI	Prapat	88.82	273	P	P	21 03 07.8	+0.4
comp=Z,31nm,0.7s,baz=10,slow=4.4,SNR=32							
EFP	Efpalio	89.14	351	eP	P	21 03 09.4	+0.9
KALE	Kalithea	89.15	351	eP	P	21 03 07.8	-0.9
HYB	Hyderabad	89.16	298	i P	P	21 03 08.5	-0.4
TRIZ	Trizonia	89.19	351	eP	P	21 03 08.4	-0.3
LTK	Loutraki	89.44	350	eP	P	21 03 09.1	-0.8
KLV	Kalavryta, Ach	89.50	351	P	P	21 03 10.3	0.0
KLV	Kalavryta, Ach	89.50	351	eP	P	21 03 10.1	-0.2
KLV	Kalavryta, Ach	89.50	351	P	P	21 03 10.3	0.0
GUR	Goura	89.58	351	P	P	21 03 10.4	-0.3
GUR	Goura	89.58	351	eP	P	21 03 10.5	-0.3
GUR	Goura	89.58	351	P	P	21 03 10.4	-0.3
FITZ	Fitzroy Crossi	89.77	239	LR	LR	21 39 16.1	
comp=Z,111nm,20.0s,baz=57,slow=33							
DID	Didima	89.92	350	P	P	21 03 10.8	-1.4
DID	Didima	89.92	350	eP	P	21 03 11.1	-1.1
DID	Didima	89.92	350	P	P	21 03 10.8	-1.4
DIDY	Didyma	89.95	350	P	P	21 03 09.8	-2.6
AS31	Alice Springs	90.30	230	eP	P	21 03 13.2	-0.8
ASAR	Alice Springs	90.30	230	P	P	21 03 13.4	-0.5
ASAR	Alice Springs	90.30	230	P	P	21 03 13.4	-0.5
comp=Z,12nm,1.0s,baz=29,slow=4.6,SNR=55							
ITM	Ithomi	90.37	351	eP	P	21 03 13.9	-0.4
OTAV	Otavalo	90.41	89	eP	P	21 03 15.1	-0.3
comp=Z,14nm,1.3s							
PYL	PYLOS	90.67	351	eP	P	21 03 15.3	-0.4
VLI	Veliai	90.73	350	eP	P	21 03 14.6	-1.4
POO	Poona	90.75	302	⇓iP	P	21 03 15.0	-1.4
comp=Z,5.0nm,1.2s							
KARN	Karanos	91.92	349	eP	P	21 03 20.8	-0.7
LAST	Lasithi	91.97	348	eP	P	21 03 21.2	-0.6
MIB	Mutribah	92.17	329	eP	P	21 03 22.4	-0.3
MIB				AMb	AMB	21 03 23.7	
comp=Z,76nm,0.9s							
KEST	Kesra	92.36	1	eP	P	21 03 24.0	+0.3
KEST	Kesra	92.36	1	P	P	21 03 23.4	-0.2
comp=Z,3.3nm,1.1s,baz=328,slow=13,SNR=5.8							
RST	Umm Al-Ruwaisa	92.56	329	eP	P	21 03 23.5	-1.0
NAY	Al-Naaiem	92.71	329	eP	P	21 03 24.4	-0.9
NAY				AMb	AMB	21 03 26.0	
comp=Z,22nm,1.2s							
RDF	Al-Radifah	92.91	328	eP	P	21 03 25.7	-0.5
RDF				AMb	AMB	21 03 28.3	
comp=Z,42nm,1.6s							
STKA	Stephens Creek	94.10	220	P	P	21 03 30.8	-0.5
STKA	Stephens Creek	94.10	220	P	P	21 03 30.8	-0.5
comp=Z,3.1nm,0.7s,baz=67,slow=7.9,SNR=4.6							
STKA				LR	LR	21 46 47.1	
comp=Z,195nm,18.6s,baz=24,slow=36							
ARQ	Araqi	94.71	318	P	P	21 03 34.6	+0.1
SNR=6.9							
TORD	Torodi Ar. Bea	114.40	10	PKP	PKPdf	21 08 52.4	-0.7
TORD				PP	PP	21 09 52.8	+4.5
TORD				PKKPbc	PKKPbc	21 19 29.8	-0.4
TORD	Torodi Ar. Bea	114.40	10	PKP	PKPdf	21 08 52.4	-0.7
comp=Z,1.5nm,0.7s,baz=339,slow=2.5,SNR=13							
TORD				PP	PP	21 09 52.8	+4.5
comp=Z,0.6nm,0.8s,baz=355,slow=5.3,SNR=3.7							
TORD				PKKPbc	PKKPbc	21 19 29.8	-0.4
comp=Z,0.3nm,0.6s,baz=188,slow=2.3,SNR=6.8							
DBIC	Dimbokro	119.83	18	PKP	PKPdf	21 09 02.7	-0.8
DBIC	Dimbokro	119.83	18	PKP	PKPdf	21 09 02.7	-0.8
comp=Z,2.4nm,0.6s,baz=218,slow=8.6,SNR=6.5

0.6nm,0.6s,baz=298,slow=3.2,SNR=4.4
KSRS Korea Array 45.31 277 P **P 21 09 47.6 +1.7**
1.0nm,0.5s,baz=56,slow=8.2,SNR=5.2
KSAR Wonju Array Be 45.34 277 P **P 21 09 47.6 +1.4**
SONM Songino Array 51.20 301 P **P 21 10 32.0 +0.6**
SONM Songino Array 51.20 301 P **P 21 10 32.0 +0.6**
0.9nm,1.0s,baz=42,slow=5.2,SNR=3.8
TXAR Lajitas Array 52.84 89 P **P 21 10 41.4 -2.4**
TXAR Lajitas Array 52.84 89 P **P 21 10 41.4 -2.4**
0.5nm,0.5s,baz=317,slow=5.3,SNR=3.5
ZALV Zalesovo Beam 57.32 317 P **P 21 11 17.0 +1.3**
ZALV Zalesovo Beam 57.32 317 P **P 21 11 17.0 +1.3**
0.6nm,0.6s,baz=63,slow=7.3,SNR=2.9
MKAR Makanchi Array 63.70 313 P **P 21 11 59.6 +0.2**
MKAR Makanchi Array 63.70 313 P **P 21 11 59.6 +0.2**
0.4nm,0.7s,baz=48,slow=7.2,SNR=5.4
FINES FINESS Array B 65.80 352 P **P 21 12 12.4 -0.3**
FINES FINESS Array B 65.80 352 P **P 21 12 12.4 -0.3**
1.8nm,0.7s,baz=353,slow=14,SNR=4.7
NOA NORSAR Array B 66.89 360 P **P 21 12 20.4 +0.6**
NOA NORSAR Array B 66.89 360 P **P 21 12 20.4 +0.6**
1.2nm,0.7s,baz=360,slow=6.2,SNR=3.7
AKASG Malin Array Be 76.04 348 P **P 21 13 14.9 -0.1**
AKASG Malin Array Be 76.04 348 P **P 21 13 14.9 -0.1**
1.5nm,0.6s,baz=15,slow=6.3,SNR=5.4
LBTB Lobatse 150.33 331 PKPbc **PKPbc 21 21 18.8 -0.3**
LBTB Lobatse 150.33 331 PKPbc **PKPbc 21 21 18.8 -0.3**
4.0nm,0.9s,baz=188,slow=21,SNR=5.3

*IDC **16** 21:32:34.7±1.7, 7°.83S×107°.36E, h0km, mb3.6/8, mb1 3.8/8, mb1mx3.6/24, mbtmp3.7/8, Error ellipse: s-maj=96.4km s-min=16.5km az=49.0*
*ISCJB **16** 21:32:40.4±0.8, 8°.1S±0°.1×107°.26E±0°.09, h62km, mb3.5/7, Error ellipse: s-maj=19.7km s-min=8.2km az=35.4*
*DJA **16** 21:32:41.2±3.3, 8°S±6°×10°7E±°, h30km±40km, M4.7/6, mb4.9/2, MLv4.6/6*
ISC 16 21:32:42.5±1.1, 8°.0S±0°.2×107°.3E±0°.1, h62km, n14, σ0°82/14, mb3.5/7, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEM	**Lembang**	**1.22**	**15**	P	**Pn**	**21 33 04.4**	**+0.7**
YOGI	**Yogyakarta**	**2.97**	**86**	P	**Pn**	**21 33 26.6**	**-0.6**
UGM	**Wanagama**	**3.19**	**88**	P	**Pn**	**21 33 29.8**	**-0.4**
MDSI	**Maura Dua**	**4.69**	**318**	P	**Pn**	**21 33 51.6**	**+0.9**
LHSI	**Lahat**	**5.61**	**318**	P	**Pn**	**21 34 03.4**	**0.0**
84nm,1.0s,0.3nm
JAGI Jajag, Banyuwa 6.79 94 P **Pn 21 34 20.4 +0.9**
FITZ Fitzroy Crossi 20.46 121 P **P 21 37 15.0 -0.1**
3.0nm,0.7s,baz=290,slow=7.7,SNR=7.7
CMAR Chiang Mai Arr 27.57 343 P **P 21 38 22.5 -1.4**
0.3nm,0.5s,baz=179,slow=8.8,SNR=5.6
WRA Warramunga Arr 28.73 117 P **P 21 38 34.0 -0.3**
0.3nm,0.7s,baz=283,slow=15,SNR=7.6
ASAR Alice Springs 29.86 124 P **P 21 38 44.2 0.0**
0.6nm,1.1s,baz=239,slow=14,SNR=4.2
STKA Stephens Creek 39.74 131 P **P 21 40 10.7 +1.4**
2.9nm,0.6s,baz=314,slow=8.9,SNR=9.1
MKAR Makanchi Array 58.94 340 P **P 21 42 34.7 -0.6**
0.2nm,0.4s,baz=157,slow=8.8,SNR=8.3
ZALV Zalesovo Beam 64.59 346 P **P 21 43 12.6 -0.6**
0.4nm,0.4s,baz=126,slow=7.3,SNR=2.2
BRTR Keskin Array B 82.73 P **P 21 45 00.1 +0.1**
0.4nm,0.7s,baz=81,slow=4.3,SNR=3.6

IDC 16 22:06:24.2±5.2, 14°.11S×69°.65W, h156km±66km, mb3.7/3, mb1 3.8/4, mb1mx3.4/18, mbtmp3.8/4, Error ellipse: s-maj=115.6km s-min=36.6km az=21.0, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.61**	**146**	P	Pn	22 07 09.5	+1.7
74nm,0.3s,baz=300,slow=6.8,SNR=2184
LPAZ S Sn 22 07 41.2 -0.3
15nm,0.3s,baz=292,slow=11,SNR=19
DBIC Dimbokro 67.52 77 P P 22 17 04.3 +0.2
2.0nm,0.7s,baz=233,slow=5.1,SNR=4.1
TORD Torodi Ar. Bea 75.67 72 P P 22 17 52.9 0.0
1.3nm,0.8s,baz=249,slow=5.3,SNR=19
YKA Yellowknife Ar 84.02 341 P P 22 18 35.5 -1.2
0.6nm,0.5s,baz=136,slow=5.4,SNR=6.1
ZALV Zalesovo Beam 135.48 21 PKP PKPdf 22 25 24.9 -0.7
2.0nm,0.8s,baz=304,slow=2.2,SNR=7.2
WRA Warramunga Arr 138.74 215 PKhKP PKPpre 22 25 27.1
0.7nm,1.1s,baz=131,slow=1.9,SNR=3.0
MKAR Makanchi Array 139.85 30 PKP PKPdf 22 25 32.4 -1.6
0.2nm,0.7s,baz=358,slow=3.5,SNR=2.9
SONM Songino Array 146.22 5 PKPbc PKPbc 22 25 47.0 +0.4
2.0nm,0.7s,baz=341,slow=2.6,SNR=11

DJA 16 22:18:16.2±1.0, 8°S±5°×10°7E±°, h20km±11km, M4.3/8, mb5.0/1, MLv4.0/8, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.95**	**37**	P	Pb	22 18 32.9	-1.3
LEM	**Lembang**	**1.53**	**15**	P	Pn	22 18 42.5	-0.2
KPJI	**Karang Pucung**	**1.95**	**60**	P	Pn	22 18 48.4	+0.2
TGJI	**Tegal**	**2.37**	**53**	P	Pn	22 18 54.5	+0.6
BJII	**Banjamegara**	**2.65**	**68**	P	Pn	22 18 57.8	-0.1
KASI	**Kota Agung**	**3.88**	**316**	P	Pn	22 19 14.7	-0.1
PWJI	**Pagerwojo**	**4.54**	**87**	P	Pn	22 19 23.5	-0.3
LWLI	**Liwa**	**4.55**	**316**	P	Pn	22 19 23.9	-0.2
MDSI	**Maura Dua**	**4.87**	**321**	P	Pn	22 19 28.2	-0.2
MNAI	**Manna**	**5.79**	**313**	P	Pn	22 19 40.8	-0.2

IDC 16 22:20:35.2±2.3, 22°.68N×142°.63E, h256km±24km, mb3.1/4, mb1 3.2/6, mb1mx2.9/23, mbtmp3.1/6, Error ellipse: s-maj=68.3km s-min=21.3km az=77.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**4.42**	**355**	P	Pn	22 21 45.5	+1.3
baz=105,slow=20
CBIJ S S 22 22 38.4 -0.8
baz=270,slow=20
KSRS Korea Array 19.43 323 P P 22 24 44.8 +2.1
0.0nm,0.3s,baz=154,slow=8.6,SNR=4.2
SONM Songino Array 38.26 320 P P 22 27 30.1 -1.0
0.3nm,0.4s,baz=143,slow=7.4,SNR=4.0
WRA Warramunga Arr 43.12 191 P P 22 28 10.5 -0.3
0.3nm,0.5s,baz=5.8,slow=9.3,SNR=4.7
MKAR Makanchi Array 53.66 312 P P 22 29 30.2 -0.5
0.3nm,0.6s,baz=86,slow=9.6,SNR=6.9
FINES FINESS Array B 82.08 334 P P 22 32 27.1 +0.3
5.4nm,1.1s,baz=51,slow=4.5,SNR=13

IDC 16 22:36:53.4±7.1, 16°.98N×146°.00E, h116km±66km, mb3.7/12, mb1 3.9/12, mb1mx3.7/26, mbtmp3.7/12, MS2.7/1, Ms1 2.7/1, ms1mx2.4/33, Error ellipse: s-maj=37.5km s-min=13.1km az=91.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**20.67**	**342**	P	Pn	22 41 25.8	-1.7
1.2nm,0.6s,baz=156,slow=9.0,SNR=3.2
KSRS Korea Array 25.88 326 LR LR 22 50 04.6
comp=Z,17nm,21.1s,baz=180,slow=31
PMG Port Moresby 26.24 177 P P 22 42 17.9 +0.2
13nm,0.6s,baz=0.0,slow=9.1,SNR=3.1
CTA Charters Tower 36.84 180 P P 22 43 51.9 +1.4
5.5nm,0.9s,baz=30,slow=8.1,SNR=3.0
WRA Warramunga Arr 38.44 198 P P 22 44 03.0 -0.9
4.9nm,0.7s,baz=25,slow=9.3,SNR=47
ASAR Alice Springs 42.09 197 P P 22 44 33.4 -0.7
0.9nm,0.4s,baz=15,slow=10,SNR=19
STKA Stephens Creek 48.76 185 P P 22 45 26.0 -0.5
1.2nm,0.5s,baz=22,slow=9.2,SNR=6.1
MKAR Makanchi Array 59.86 315 P P 22 46 45.8 -1.0
0.2nm,0.5s,baz=85,slow=7.9,SNR=5.0
ILAR Eielson Array 65.06 26 P P 22 47 19.9 -1.2
0.6nm,0.4s,baz=252,slow=5.1,SNR=7.2
INK Inuvik 70.84 23 P P 22 47 55.6 -1.5
2.6nm,0.9s,baz=272,slow=6.6,SNR=3.4
YKA Yellowknife Ar 79.37 28 P P 22 48 45.7 -0.5
1.3nm,0.7s,baz=292,slow=5.4,SNR=6.3
ARCES ARCESS Array B 84.21 342 P P 22 49 13.1 +1.6
3.5nm,0.9s,baz=46,slow=7.7,SNR=2.7
PDAR Pinedale Array 88.82 46 P P 22 49 35.6 +0.8
0.4nm,0.5s,baz=282,slow=1.4,SNR=5.3
CFAA Coronel Fontan 145.73 122 PKPbc PKPdf 22 56 19.0 +0.2
1.3nm,0.7s,baz=301,slow=2.7,SNR=16
LPAZ La Paz 147.32 94 PKPbc PKPbc 22 56 25.1 0.0
3.1nm,0.8s,baz=342,slow=3.2,SNR=7.5

IDC 16 22:58:07.7±5.5, 15°.69S×178°.72W, h464km±60km, mb3.3/11, mb1 3.5/11, mb1mx3.4/16, mbtmp3.3/11, 3C-1D, Error ellipse: s-maj=27.6km s-min=19.9km az=131.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.48**	**239**	P	P	23 04 56.9	0.0
2.8nm,0.9s,baz=72,slow=6.4,SNR=3.8
WRA Warramunga Arr 44.78 257 P P 23 05 38.9 -0.3
0.3nm,0.3s,baz=86,slow=8.0,SNR=14
ASAR Alice Springs 45.15 252 P P 23 05 42.1 +0.2
1.1nm,0.4s,baz=84,slow=8.4,SNR=21
VNDA Vanda 62.62 185 P P 23 07 44.7 -0.4
0.5nm,0.6s,baz=355,slow=7.9,SNR=5.3
PETK Petropavlovsk- 71.47 345 P P 23 08 40.1 0.0
1.5nm,0.6s,baz=138,slow=6.9,SNR=3.5
YBH Yreka Blue Hor 77.01 40 P P 23 09 12.6 +0.7
1.6nm,0.5s,baz=236,slow=3.0,SNR=5.9
ILAR Eielson Array 83.81 13 P P 23 09 46.0 -0.9
1.6nm,0.4s,baz=230,slow=5.6,SNR=18
TXAR Lajitas Array 85.07 58 P P 23 09 54.6 +0.6
1.0nm,0.6s,baz=238,slow=5.2,SNR=8.6
PDAR Pinedale Array 85.96 44 P P 23 09 57.6 -0.6
1.7nm,0.5s,baz=226,slow=3.6,SNR=16
SONM Songino Array 91.69 319 P P 23 10 23.6 -1.1
0.3nm,0.5s,baz=100,slow=5.1,SNR=2.9
YKA Yellowknife Ar 92.45 25 P P 23 10 26.9 -0.8
0.5nm,0.7s,baz=247,slow=4.5,SNR=3.6
ARCES ARCESS Array B 124.09 350 PKP PKPdf 23 16 11.8 -0.2
1.2nm,0.5s,baz=14,slow=1.5,SNR=12
FINES FINESS Array B 130.99 345 PKP PKPdf 23 16 25.5 +0.2
1.8nm,0.9s,baz=58,slow=3.4,SNR=3.5
BRTR Keskin Array B 143.00 317 PKP PKPdf 23 16 46.9 -1.5
3.7nm,0.9s,baz=29,slow=1.6,SNR=17
TLB Topalu 143.38 327∥i P PKPdf 23 16 48.1 -0.5
MLR Muntele Rosu 143.78 330∥i P PKPdf 23 16 49.5 0.0
MLR Muntele Rosu 143.78 330 PKP PKPdf 23 16 49.0 -0.5
0.5nm,0.6s,baz=90,slow=3.0,SNR=8.0
VRAC Vranov 144.22 343 PKP PKPdf 23 16 49.9 -0.1
1.9nm,0.4s,baz=90,slow=1.0,SNR=4.1
DRGR 144.23 335∥i P PKPdf 23 16 50.0 -0.1
ARR Arges 144.49 331∥i P PKPab 23 16 52.4 +1.7
GERES GERESS Array B 145.41 346 PKPbc PKPbc 23 16 53.4 +0.3
1.7nm,0.6s,baz=25,slow=3.2,SNR=18
TORD Torodi Ar. Bea 177.44 189 PKP PKPdf 23 17 23.9 -1.1
0.7nm,1.0s,baz=41,slow=1.0,SNR=2.8

*ISCJB **16** 23:34:49.9±0.5, 46°.99N±0°.06×155°.53E±0°.09, h18km, mb4.0/19, Error ellipse: s-maj=10.6km s-min=6.6km az=42.3*
*IDC **16** 23:34:49.7±1.2, 46°.99N×155°.44E, h0km, mb3.8/12, mb1 4.0/17, mb1mx3.9/28, mbtmp3.9/17, ML3.3/5, Error ellipse: s-maj=30.3km s-min=16.4km az=147.0*
*MOS **16** 23:34:53.2±0.7, 46°.96N×155°.31E, h38km, mb4.5/5, Error ellipse: s-maj=12.5km s-min=11.5km az=76.1*
*NEIC **16** 23:34:54.2±0.4, 46°.97N×155°.49E, h35km, mb4.3/6, Error ellipse: s-maj=9.8km s-min=6.4km az=131.0*
ISC 16 23:34:51.9±0.6, 46°.89N±0°.07×155°.50E±0°.09, h18km, n75, σ1°18/78, mb4.0/19, 2C-3D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.82**	**6**	*e*PN	Pn	23 35 37.5	-12
SKR pmax pmax
comp=Z,50nm,0.5s
PETK Petropavlovsk- 6.39 12 PN **Pn 23 36 22.9 -2.1**
PETK 23 37 42.0
PETK Petropavlovsk- 6.39 12 Pn **Pn 23 36 22.9 -2.1**
PETK Sn **Sn 23 37 42.0 +4.5**
PETK Petropavlovsk- 6.39 12 Pn **Pn 23 36 22.9 -2.1**
comp=Z,0.9nm,0.3s,baz=181,slow=13,SNR=5.6
PETK Sn **Sn 23 37 42.0 +4.5**
baz=174,slow=17,SNR=2.3
PET Petropavlovsk 6.47 17 *e*PN **Pn 23 36 23.3 -2.9**
YSS Yuzh-Sakhalins 8.72 275 *e*PN **Pn 23 36 58.0 +0.9**
ASAJ Asahikawa 9.47 258 Pn **Pn 23 37 08.2 +0.8**
ASAJ Asahikawa 9.47 258 Pn **Pn 23 37 08.2 +0.8**
comp=Z,0.7nm,0.3s,baz=96,slow=19,SNR=4.6
ERM Erimo 10.07 246∥*e*PN **Pn 23 37 16.7 +1.1**
ERM pmax pmax
comp=Z,42nm,2.5s
FX1 Attu Island--F 12.86 56 Pn **Pn 23 37 52.0 -1.7**
FX1 Sn Sn 23 40 04.4 -12
FX1 Attu Island--F 12.86 56 Pn **Pn 23 37 52.0 -1.7**
comp=Z,0.7nm,0.3s,baz=292,slow=19,SNR=4.5
FX1 Sn Sn 23 40 04.4 -12
comp=Z,0.6nm,0.3s,baz=274,slow=12,SNR=3.8
MJA0 Matsu Arr-Jizo 16.48 237 *e*P **P 23 38 46.1 +1.4**
MJAR Matsushiro Arr 16.50 237 Pn **Pn 23 38 42.8 +0.4**
MJAR Matsushiro Arr 16.50 237 Pn **Pn 23 38 42.8 +0.4**
comp=Z,0.0nm,0.3s,baz=38,slow=8.7,SNR=4.9
MAJO Matsushiro 16.50 237 *e*P **Pn 23 38 42.3 -0.1**
MAJO Matsushiro 16.50 237 *e*Pn **Pn 23 38 42.2 -0.1**
USRK Ussuriysk Arra 16.67 269 Pn **Pn 23 38 43.6 -0.9**
comp=Z,0.4nm,0.3s,baz=72,slow=14,SNR=9.4
MDJ Mudanjiang 18.19 272 *e*Pn **P 23 39 03.6 0.0**
KSRS Korea Array 22.41 255 P **P 23 39 50.7 +1.4**
comp=Z,1.8nm,0.7s,baz=58,slow=10,SNR=5.6
KSAR Wonju Array Be 22.44 255 P **P 23 39 50.7 +1.0**
SONM Songino Array 32.83 290 P **P 23 41 23.4 -0.9**
SONM Songino Array 32.83 290 P **P 23 41 23.4 -0.9**
comp=Z,1.6nm,1.0s,baz=60,slow=9.7,SNR=3.9
TATO Taipei 34.76 243 *e*P **P 23 41 40.9 -0.2**
ILAR Eielson Array 35.42 39 P **P 23 41 46.4 0.0**
ILAR Eielson Array 35.42 39 P **P 23 41 46.4 0.0**
comp=Z,0.4nm,0.5s,baz=254,slow=7.9,SNR=6.2
TWG Pinlang 36.62 241 *e*P **P 23 41 56.9 -0.2**
ENH Enshi 39.00 261 *e*P **P 23 42 15.8 -1.4**
comp=Z,2.9nm,0.3s
ZALV Zalesovo Beam 43.85 306 P **P 23 42 55.5 -1.2**
ZALV 23 44 42.9
ZALV Zalesovo Beam 43.85 306 P **P 23 42 55.5 -1.2**
ZALV PcP **PcP 23 44 42.9 +0.2**
ZALV Zalesovo Beam 43.85 306 P **P 23 42 55.5 -1.2**
comp=Z,1.5nm,0.4s,baz=60,slow=7.1,SNR=9.3
ZALV PcP **PcP 23 44 42.9 +0.2**
comp=Z,0.8nm,0.8s,baz=69,slow=2.0,SNR=3.4
MK31 Makanchi Array 48.32 298 *e*P **P 23 43 31.3 -0.8**
MK31 Makanchi Array 48.32 298 *e*P **P 23 43 31.3 -0.8**
MKAR Makanchi Array 48.32 298 P **P 23 43 32.0 -0.1**
MKAR Makanchi Array 48.32 298 P **P 23 43 32.0 -0.1**
MKAR Makanchi Array 48.32 298 P **P 23 43 32.0 -0.1**
comp=Z,0.7nm,0.6s,baz=68,slow=8.5,SNR=11
BRVK Borovoye 52.06 310 *e*P **P 23 43 59.2 -1.1**
BRVK pmax pmax
comp=Z,6.0nm,0.6s
BRVK Borovoye 52.06 310 *e*P **P 23 43 59.2 -1.1**
comp=Z,6.0nm,0.6s
CHTO Chiang Mai 53.74 259 *e*P **P 23 44 13.1 0.0**
CHTO pmax pmax
comp=Z,1.0nm,0.5s
CHTO Chiang Mai 53.74 259 *e*P **P 23 44 13.1 0.0**
comp=Z,0.9nm,0.5s
AAK Ala-Archa 55.23 297 *e*P **P 23 44 23.6 -0.3**
AAK pmax pmax
comp=Z,1.0nm,0.5s
AAK Ala-Archa 55.23 297 *e*P **P 23 44 23.6 -0.3**
comp=Z,1.0nm,0.5s
ARU Arti 56.01 318 *d i*P **P 23 44 28.9 -0.1**
ARU 23 46 32.8
ARU S **S 23 52 15.2 -0.9**
ARU SS **SS 23 55 59.9 -1.6**
ARU pmax pmax
comp=Z,9.0nm,1.2s
KKAR Karatay Array 57.36 300 *e*P **P 23 44 38.5 -0.3**
KKAR pmax pmax
comp=Z,1.0nm,0.7s
KKAR Karatay Array 57.36 300 *e*P **P 23 44 38.5 -0.3**
comp=Z,1.0nm,0.7s
ARCES ARCESS Array B 58.25 342 P **P 23 44 44.6 -0.1**
ARCES ARCESS Array B 58.25 342 P **P 23 44 44.6 -0.1**
comp=Z,3.1nm,0.8s,baz=15,slow=8.7,SNR=3.6
ABKAR Akbulak array 59.58 311 *e*P **P 23 44 53.6 -0.6**
comp=Z,2.1nm,0.5s
JOF Joensuu 61.92 335 *e*P **P 23 45 09.9 0.0**
JOF Joensuu 61.92 335 *e*p **P 23 45 09.9 0.0**
FINES FINESS Array B 64.60 336 P **P 23 45 27.6 -0.1**
FINES FINESS Array B 64.60 336 P **P 23 45 27.6 -0.1**
comp=Z,1.2nm,0.4s,baz=39,slow=7.4,SNR=14
CTAO Charters Tower 67.18 189 *e*P **P 23 45 45.2 +0.5**
CTAO Charters Tower 67.18 189 *e*P **P 23 45 45.2 +0.5**
NOA NORSAR Array B 68.61 342 P **P 23 45 54.2 +0.9**
NOA NORSAR Array B 68.61 342 P **P 23 45 54.2 +0.9**
comp=Z,0.4nm,0.5s,baz=26,slow=6.4,SNR=3.4
WRAB Tennant Creek 69.19 201 *e*P **P 23 45 58.3 +1.0**
WRAB Tennant Creek 69.19 201 *e*P **P 23 45 58.3 +1.0**
AKASG Malin Array Be 72.33 327 P **P 23 46 17.0 +0.9**
AKASG Malin Array Be 72.33 327 P **P 23 46 17.0 +0.9**
AKASG Malin Array Be 72.33 327 P **P 23 46 17.0 +0.9**
comp=Z,0.4nm,0.3s,baz=32,slow=5.3,SNR=3.0
ASAR Alice Springs 72.89 201 P **P 23 46 20.4 +0.7**
ASAR Alice Springs 72.89 201 P **P 23 46 20.4 +0.7**
comp=Z,0.4nm,0.6s,baz=17,slow=5.2,SNR=3.8
BURAR Bucovina Array 76.36 328∥i P **P 23 46 40.0 +0.2**
CLL Collm 77.00 337 *e*P **P 23 46 43.0 -0.2**
CLL Collm 77.00 337 *e*P **P 23 46 43.0 -0.2**
ARMA Armidale 77.03 183 *e*P **P 23 46 43.1 -0.4**
MLR Muntele Rosu 77.88 326∥i P P 23 46 52.8 +4.4
GERES GERESS Array B 79.03 335 P **P 23 46 55.2 +0.6**
GERES GERESS Array B 79.03 335 P **P 23 46 55.2 +0.6**
comp=Z,0.3nm,0.5s,baz=34,slow=6.1,SNR=4.2
BRTR Keskin Array B 79.39 318 P **P 23 46 57.4 +0.5**
BRTR Keskin Array B 79.39 318 P **P 23 46 57.4 +0.5**
comp=Z,0.5nm,0.7s,baz=14,slow=6.7,SNR=2.5
STKA Stephens Creek 79.40 192 *e*P **P 23 46 57.1 +0.6**
VTS Vitosha 81.38 326∥i P P 23 47 12.7 +5.2
CAN Canberra 82.04 185 *e*P **P 23 47 11.3 +0.7**
CAN Canberra 82.04 185 *e*P **P 23 47 11.3 +0.7**

*BJI **16** 23:46:53.3, 5°.25S×102°.69E, h69km, mB5.1/35, mb5.3/51, Ms4.6/41, Ms7 4.4/39*
*SZGRF **16** 23:46:54.7, 3°.67S×106°.31E, h72km, mb5.4, Southern Sumatera, Indonesia*
*MOS **16** 23:46:56.4±0.9, 4°.37S×102°.79E, h37km, mb5.6/61, Error ellipse: s-maj=10.0km s-min=4.6km az=119.0*
*BKK **16** 23:46:56.4±0.2, 5°S±3°×10°2E±°, h10km, M5.1/35, mB5.5/23, mb5.2/35, MLv5.6/7, Mw(mB)4.9/23*
*ISCJB **16** 23:46:59.6±0.4, 4°.56S±0°.03×102°.62E±0°.03, h69km±3km, mb5.3/130, Error ellipse: s-maj=5.3km s-min=2.9km az=42.9*
*DJA **16** 23:46:59.9±0.3, 5°S±2°×10°3E±°, h41km±3km, M5.0/64, mb5.3/64, mB5.5/38, MLv5.5/25, Mw(mB)4.9/38*
*IDC **16** 23:47:00.6±1.2, 4°.45S×102°.71E, h62km±10km, mb4.8/27, mb1 4.9/29, mb1mx4.9/29, mbtmp4.8/29, MS4.1/21, Ms1 4.1/21, ms1mx3.9/34, Error ellipse: s-maj=13.8km s-min=8.8km az=61.0*
*TEH **16** 23:47:00.0, 4°.62S×102°.59E, h62km, ML5.2*
*NEIC **16** 23:47:01.2±0.6, 4°.50S×102°.67E, h70km±4km, mb5.3/37, Error ellipse: s-maj=6.5km s-min=3.7km az=51.0*
NEIC Felt at Bengkulu.
*GCMT **16** 23:47:03.1±0.2, 4°.75S×102°.38E, h58km±1km, MW5.0, Moment Tensor Solution. s59,c80; s75,c110; Moment tensor: Scale 10^16Nm; Mrr4.03±.16; Mθθ-1.24±.12; Mφφ-2.79±.14; Mrθ 1.11±.09; Mrφ2.63±.10; Mθr-1.34±.11; Best double couple: M0=4.70000×10^16 NP1:φs142.00000°, δ56.00000°, λ88.00000°. NP2:φs325.00000°, δ34.00000°, λ92.00000°. Principal axes: T 4.3600, Plg79.0000°, Azm46.0000°; N 0.7300, Plg1.0000°, Azm143.0000°; P -5.0900, Plg11.0000°, Azm233.0000°; Data Used: II IU IC G CN.*
ISC 16 23:47:01.1±0.3, 4°.60S±0°.04×102°.64E±0°.04, h71km±2km, h71km:pP-P, n759, σ1°23/842, mb5.3/129, 46C-32D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**0.40**	**54**	*e*Pn	**Pn**	**23 47 10.3**	**-2.9**
MNAI *e*Sn **Sn 23 47 19.0 -3.0**
MNAI Manna 0.40 54 P **Pn 23 47 10.3 -2.9**
MNAI S **Sn 23 47 19.3 -2.7**
KSI Kapahiang 0.94 357 P **Pn 23 47 17.7 -1.4**
KSI S **Sn 23 47 31.1 -1.2**
LHSI Lahat 1.17 49 P **Pn 23 47 21.7 -0.2**
LHSI S **Sn 23 47 37.8 +0.4**
LWLI Liwa 1.48 106 P **Pn 23 47 25.0 -1.0**
LWLI S **Sn 23 47 43.5 -1.2**
MDSI Maura Dua 1.54 86 P **Pn 23 47 26.0 -0.7**
MDSI S **Sn 23 47 46.3 +0.3**
KASI Kota Agung 2.07 116 P **Pn 23 47 31.9 -1.9**
KASI S **Sn 23 47 55.9 -2.7**
KLI Kotabumi 2.23 97 P **Pn 23 47 35.8 -0.1**
KLI S **Sn 23 48 06.9 +4.4**
PMBI Palembang 2.70 52 P **Pn 23 47 42.0 -0.3**
BLSI Bandar Lampung 2.71 106 P **Pn 23 47 42.2 -0.3**
RGRI Rengat 4.23 356 P **Pn 23 48 04.7 +1.5**
PPBI Pangkal Pinang 4.25 55 P **Pn 23 48 03.6 +0.1**
PDSI Padang 4.26 329 P **Pn 23 48 02.4 -1.2**
PDSI S **Sn 23 48 51.4 -0.6**
TNG Tangerang 4.29 112 P **Pn 23 48 07.0 +3.0**
TNG S **Sn 23 48 54.6 +1.8**
DBJI Dramaga 4.53 116 P **Pn 23 48 07.2 -0.1**
SKJI Sukabumi 4.58 122 P **Pn 23 48 07.2 -0.7**
SKJI S **Sn 23 48 57.2 -2.6**
PPI Padang Panjang 4.68 331 P **Pn 23 48 09.3 0.0**
TPI Tanjungpandan 5.33 70 P **Pn 23 48 18.7 +0.5**
61nm,0.7s,908nm0.7nm
LEM Lembang 5.43 114 P **Pn 23 48 22.3 +2.6**
823nm,0.9s,11μm3.4nm
CISI Cisompet, Garu 5.93 120 P **Pn 23 48 25.2 -1.3**
858nm,0.5s,20μm5.7nm
CISI S Sn 23 49 24.4 -8.7
858nm,0.5s,20μm5.7nm
MYKOM Kota Tinggi 6.46 11 P **Pn 23 48 35.1 +1.4**
MYKOM Kota Tinggi 6.46 11 P **Pn 23 48 34.6 +0.9**
302nm,0.9s,3μm1.0nm
XMIS Christmas Isla 6.56 153 *e*Pn Pn 23 48 27.5 -7.7
KGM Kluang 6.61 6 P **Pn 23 48 37.1 +1.4**
KPJI Karang Pucung 6.83 114 P **Pn 23 48 39.3 +0.6**
202nm,0.6s,0.8nm
TGJI Tegal 6.84 110 P **Pn 23 48 41.8 +3.0**
226nm,0.8s,0.8nm
BJII Banjamegara 7.54 111 P **Pn 23 48 49.6 +1.0**
74nm,0.8s,0.5nm
GSI Gunungsitoli 7.74 319 P **Pn 23 48 48.8 -2.4**
368nm,0.9s,5μm2.0nm
GSI S Sn 23 50 09.9 -7.5
368nm,0.9s,5μm2.0nm
FRIM Kepong 7.85 353 P **Pn 23 48 52.5 -0.2**
PSI Prapat 8.23 333 P Pn 23 48 54.1 -3.9
PSI Prapat 8.23 333 P Pn 23 48 54.1 -3.9
3.4nm,0.3s,baz=147,slow=11,SNR=19
PSI LR LR 23 52 28.0
comp=Z,2μm,20.3s,baz=14,slow=41
UGM Wanagama 8.50 113 *e*Pn **Pn 23 49 01.6 -0.1**
IPM Ipoh 9.16 350 *e*Pn **Pn 23 49 11.7 +1.0**
IPM Ipoh 9.16 350 P **Pn 23 49 07.5 -3.1**
IPM Ipoh 9.16 350 P **Pn 23 49 11.5 +0.9**
169nm,1.1s,2μm
NGJI Ngawi 9.20 108 P **Pn 23 49 12.9 +1.8**
171nm,0.9s
SNSI Sinabang, Aceh 9.39 318 P **Pn 23 49 11.3 -2.4**
626nm,0.7s,6μm
KCSI Kotacane, Aceh 9.42 329 P **Pn 23 49 11.0 -3.1**
68nm,0.7s,1μm
COCO West Island 9.47 217 Pn Pn 23 49 11.0 -3.9
4μm,1.0s,SNR=6.8
COCO West Island 9.47 217 *e*P Pn 23 49 07.9 -7.0
COCO West Island 9.47 217 *e*Pn Pn 23 49 07.9 -7.0
COCO West Island 9.47 217 P Pn 23 49 10.9 -3.9
798nm,1.0s
SJI Sawahan 9.60 109 P **Pn 23 49 18.1 +1.4**
130nm,0.5s
PWJI Pagerwojo 9.73 111 P **Pn 23 49 18.8 +0.5**
132nm,0.7s,3μm
PWJI S **Sn 23 51 03.5 -2.5**
132nm,0.7s,3μm
KSM Kuching 9.76 52 *e*Pn **Pn 23 49 19.4 +0.7**
KSM Kuching 9.76 52 P **Pn 23 49 18.2 -0.6**
KTGM Kuala Trenggan 9.87 3 P **Pn 23 49 23.4 +3.1**
STKI Sintang 9.97 63 P **Pn 23 49 29.4 +7.7**
KULM Kulim 10.02 349 *e*Pn **Pn 23 49 21.9 -0.5**
KULM Kulim 10.02 349 P **Pn 23 49 22.1 -0.3**
KULM Kulim 10.02 349 P **Pn 23 49 21.5 -0.9**

98nm,1.3s,1μm
KRKI Karangkates 10.38 110 P Pn 23 49 34.2 +7.0
BLJI Banyuglugur 11.34 107 P **Pn** **23 49 41.8 +1.5**
140nm,0.4s,11μm
GMJI Gumukmas 11.34 109 P **Pn** **23 49 40.8 +0.4**
88nm,1.2s,2μm
SKLT Songkhla 11.86 350 P **Pn** **23 49 46.9 -0.6**
82nm,0.9s,928nm
SKLT Songkhla 11.86 350 P **Pn** **23 49 48.9 +1.4**
81nm,0.9s,942nm
SBUM Sibu 11.86 54 *e*Pn Pn 23 49 50.8 +3.2
SBUM Sibu 11.86 54 P **Pn** **23 49 49.1 +1.6**
SBUM Sibu 11.86 54 P **Pn** **23 49 50.5 +3.0**
59nm,1.4s,836nm
ABJI Asem Bagus 11.96 106 P **Pn** **23 49 49.9 +1.1**
354nm,0.9s
JAGI Jajag, Banyuwa 12.07 109 P **Pn** **23 49 49.3 -1.1**
240nm,1.0s,3μm
MTKI Muara Teweh, K 12.77 74 P P 23 50 11.6 +3.3
SRBI Singaraja 12.97 106 P **Pn** **23 50 02.5 -0.1**
174nm,0.9s,2μm
BTM Bintulu 13.00 54 P **P** **23 50 08.1 -2.7**
MTNI Mataram 14.03 107 P **P** **23 50 20.3 -2.0**
84nm,0.5s,1μm
MJSI Majene 16.34 87 P **P** **23 50 47.4 -0.6**
272nm,1.5s,4μm
MMSI Mamuju 16.35 84 P **P** **23 50 50.6 +2.5**
128nm,0.9s,2μm
KAPI Kappang 17.06 92 Pn **Pn** **23 50 54.9 -0.3**
238nm,1.0s,SNR=5.4
KAPI Kappang 17.06 92 *e*Pn **P** **23 50 55.8 -0.2**
KAPI Kappang 17.06 92 P **P** **23 50 56.6 +0.6**
41nm,1.2s,730nm
KAPI Kappang 17.06 92 P **Pn** **23 50 53.9 -1.4**
7.2nm,0.3s,baz=286,slow=6.6,SNR=20
KAPI LR LR 23 57 43.8
comp=Z,1μm,21.8s,baz=282,slow=38
SPSI Sidrap Palu 17.10 89 P **P** **23 50 56.8 +0.4**
60nm,1.0s,962nm
KKM Kota Kinabalu 17.19 52 *e*P **P** **23 50 58.5 +1.0**
152nm,1.7s
KKM Kota Kinabalu 17.19 52 P **P** **23 50 58.9 +1.3**
KKM Kota Kinabalu 17.19 52 P **P** **23 50 58.4 +0.9**
43nm,1.4s,1μm
BNSI Bone 17.42 90 P **P** **23 51 01.5 +1.6**
165nm,1.4s,3μm
BKSI Bulukumba 17.44 93 P **Pn** **23 50 59.5 -0.3**
95nm,0.7s,1μm
LBFI Labuhan Bajo, 17.57 104 P **Pn** **23 51 01.1 -0.4**
136nm,0.7s,3μm
TSM Tawau 17.60 60 P **P** **23 51 03.6 +1.7**
SDKM Sandakan 17.75 55 P **Pn** **23 51 04.3 +0.7**
KDM Kudat 18.21 51 P **Pn** **23 51 10.6 +1.4**
MYLDM Lahad Datu 18.59 59 P **Pn** **23 51 15.4 +1.7**
MYLDM Lahad Datu 18.59 59 P **Pn** **23 51 15.4 +1.7**
110nm,0.8s,2μm
APSI Ampana 19.34 80 P **Pn** **23 51 22.9 +0.2**
271nm,0.9s
BBSI Bau Bau 19.88 93 P Pn 23 51 38.3 +9.2
MMRI Maumere 19.88 103 *e*P **P** **23 51 25.2 -1.7**
106nm,0.4s
MMRI Maumere 19.88 103 P **Pn** **23 51 33.7 +4.6**
121nm,0.7s
MRSI Marisa 19.93 76 P **P** **23 51 28.0 +0.5**
195nm,0.7s,2μm
UBPT Khong Chiam 19.95 8 P **P** **23 51 26.7 -0.8**
131nm,0.9s,1μm
UBPT Khong Chiam 19.95 8 P **P** **23 51 26.8 -0.8**
131nm,0.9s,1μm
CHAI Chaiyaphum 20.38 358 P **P** **23 51 32.1 -0.1**
34nm,0.9s,284nm
LUWI Luwuk 20.42 81 P Pn 23 51 35.6 +0.2
187nm,1.0s,2μm
GTOI Gorontalo 21.01 76 P **P** **23 51 39.0 -0.1**
124nm,0.8s,2μm
SKNT Sakolnakorn 21.48 4 P **P** **23 51 45.2 +1.2**
34nm,1.2s,5μm
SOEI Soe 22.06 105 P **P** **23 51 49.0 -1.5**
147nm,0.8s,2μm
CM31 Chiang Mai Arr 23.20 351 *e*P **P** **23 52 00.9 -1.2**
84nm,0.7s
CMAR Chiang Mai Arr 23.20 351 P **P** **23 52 00.9 -1.2**
CMAR Chiang Mai Arr 23.20 351 P **P** **23 52 00.9 -1.2**
141nm,1.0s,baz=183,slow=8.7,SNR=14
MBWA Marble Bar 23.38 136 *e*P **P** **23 52 04.4 +0.6**
83nm,1.4s
CHTO Chiang Mai 23.55 351 *e*P **P** **23 52 04.2 -1.1**
CHTO pmax pmax
comp=Z,54nm,0.8s
CHTO Chiang Mai 23.55 351 P **P** **23 52 04.4 -1.0**
SNR=28
CHTO Chiang Mai 23.55 351 *e*P **P** **23 52 04.2 -1.1**
comp=Z,54nm,0.8s
CHTO Chiang Mai 23.55 351 P **P** **23 52 04.1 -1.3**
comp=Z,85nm,1.2s,comp=Z,842nm
CHTO Chiang Mai 23.55 351 P **P** **23 52 04.0 -1.3**
comp=Z,85nm,1.2s,comp=Z,842nm
NLAI Namlea 24.45 88 P **P** **23 52 17.6 +4.1**
comp=Z,51nm,0.6s,comp=Z,5μm
QIZ Qiongzhong 24.53 17 P **P** **23 52 14.4 +0.2**
QIZ pP **pP** **23 52 30.6 -0.3**
QIZ sP **sP** **23 52 40.1 +0.7**
QIZ S **S** **23 56 31.4 +1.4**
QIZ sS **sS** **23 57 00.3 +1.6**
QIZ pmax pmax
comp=Z,18nm,1.4s
QIZ pmax pmax
comp=Z,140nm,7.9s
QIZ LR LR
comp=N,440nm,22.8s
QIZ LR LR
comp=E,230nm,21.4s
QIZ LR LR
comp=Z,490nm,17.6s
QIZ Qiongzhong 24.53 17 *e*P **P** **23 52 14.7 +0.5**
comp=Z,86nm,1.5s
PALK Pallekele 24.86 298 *e*P **P** **23 52 21.2 +3.8**
comp=Z,27nm,0.9s
RCP Roxas 25.65 51⇑ *e*P **P** **23 52 24.9 +0.4**
FITZ Fitzroy Crossi 26.20 123 *e*P **P** **23 52 29.3 -0.1**
FITZ Fitzroy Crossi 26.20 123 P **P** **23 52 28.9 -0.5**
comp=Z,12nm,0.4s,baz=310,slow=7.0,SNR=60
FITZ LR LR 00 02 21.8
comp=Z,268nm,21.0s,baz=304,slow=35
KMI Kunming 29.54 0⇑ P **P** **23 53 00.3 +0.9**
KMI pP **pP** **23 53 17.9 +1.6**
KMI sP **sP** **23 53 27.3 +2.6**
KMI PP **PnPn** **23 53 59.9 +2.8**
KMI S **S** **23 57 50.1 +0.6**
KMI sS **sS** **23 58 21.3 +2.8**
KMI SS **SnSn** **23 59 29.8 +5.5**
KMI pmax pmax
comp=Z,22nm,0.9s
KMI LR LR
comp=N,540nm,14.8s
KMI LR LR
comp=E,580nm,20.2s
KMI LR LR
comp=Z,540nm,13.5s
GYA Guiyang 31.12 7 P **P** **23 53 14.3 +1.1**
GYA pP **pP** **23 53 32.1 +1.9**
GYA sP **sP** **23 53 40.5 +2.0**
GYA PP **PnPn** **23 54 20.8 +3.3**
GYA S **S** **23 58 15.4 +1.4**
GYA sS **sS** **23 58 44.3 +1.3**
GYA ScP **ScP** **23 59 43.0 -1.1**
GYA PcS **PcS** **23 59 51.8 +0.2**
GYA ScS **ScS** **00 03 39.4 -2.1**
GYA pmax pmax
comp=Z,30nm,0.8s
GYA pmax pmax
comp=Z,140nm,4.9s
GYA LR LR
comp=N,760nm,17.8s
GYA LR LR
comp=E,660nm,18.4s
GYA LR LR
comp=Z,850nm,17.2s
NWAO Narrogin (SRO) 31.31 156 *e*P **P** **23 53 15.6 +0.9**
NWAO Narrogin (SRO) 31.31 156 P **P** **23 53 14.9 +0.2**
comp=Z,13nm,0.6s,baz=329,slow=11,SNR=14
HYB Hyderabad 32.31 313 *i* P **P** **23 53 22.0 -1.7**
TPUB Ta-pu 32.83 32 *e*P **P** **23 53 28.0 -0.1**
comp=Z,20nm,0.9s
SSLB Suanglung 33.39 32 *e*P **P** **23 53 32.8 -0.3**
comp=Z,11nm,0.8s

NACB Ninganchiao 34.04 32 *e*P **P** **23 53 39.1 +0.4**
comp=Z,16nm,0.9s
WRA Warramunga Arr 34.43 119 P **P** **23 53 41.4 -0.8**
WRA PcP **PcP** **23 56 16.4 0.0**
WRA S **S** **23 59 01.4 -4.0**
WRA ScP **ScP** **23 59 57.3 +1.7**
WRA Warramunga Arr 34.43 119 P **P** **23 53 41.4 -0.8**
comp=Z,8.1nm,0.5s,baz=297,slow=11,SNR=93
WRA PcP **PcP** **23 56 16.5 0.0**
comp=Z,2.2nm,0.4s,baz=304,slow=2.5,SNR=3.1
WRA S **S** **23 59 01.4 -4.0**
comp=Z,0.9nm,0.5s,baz=298,slow=17,SNR=3.7
WRA ScP **ScP** **23 59 57.3 +1.7**
comp=Z,1.9nm,0.8s,baz=301,slow=2.5,SNR=3.1
WRAB Tennant Creek 34.44 119 P **P** **23 53 41.2 -1.0**
comp=Z,221nm,0.4s,SNR=39
WRAB Tennant Creek 34.44 119 *e*P **P** **23 53 42.1 -0.1**
WRAB pmax pmax
comp=Z,34nm,0.9s
WRAB Tennant Creek 34.44 119 *e*P **P** **23 53 42.1 -0.1**
comp=Z,34nm,0.9s
ENH Enshi 35.29 10 *e*P **P** **23 53 48.4 -0.9**
comp=Z,50nm,0.6s
FORT Forrest 35.38 140 *e*P **P** **23 53 51.4 +1.3**
comp=Z,42nm,0.6s
AS31 Alice Springs 35.61 125 *e*P **P** **23 53 52.5 +0.2**
AS31 *e*pP **pP** **23 54 06.8 -2.7**
ASAR Alice Springs 35.61 125 P **P** **23 53 52.3 0.0**
ASAR S **S** **23 59 20.3 -3.4**
ASAR ScP **ScP** **00 00 01.8 +2.0**
ASAR Alice Springs 35.61 125 P **P** **23 53 52.3 0.0**
comp=Z,11nm,0.3s,baz=303,slow=8.3,SNR=154
ASAR S **S** **23 59 20.3 -3.4**
comp=Z,1.5nm,0.6s,baz=293,slow=16,SNR=6.1
ASAR ScP **ScP** **00 00 01.8 +2.0**
comp=Z,2.8nm,0.8s,baz=304,slow=3.0,SNR=7.9
ASAR LR LR 00 08 03.4
comp=Z,251nm,21.2s,baz=299,slow=35
LSA Lhasa 35.84 343 P **P** **23 53 54.3 -0.4**
LSA pmax pmax
comp=Z,30nm,1.2s
LSA Lhasa 35.84 343 *e*P **P** **23 53 54.2 -0.4**
LSA *e**PP **pP** **23 54 10.2 -1.6**
LSA 23 56 20.1
LSA *e*S **S** **23 59 26.0 -1.7**
LSA pmax pmax
comp=Z,56nm,1.0s
LSA Lhasa 35.84 343 *e*P **P** **23 53 54.2 -0.4**
comp=Z,56nm,1.0s
LSA *e*pP **pP** **23 54 10.2 -1.6**
LSA PcP **PcP** **23 56 20.1 -0.8**
LSA *e*S **S** **23 59 26.0 -1.7**
POO Poona 36.51 310⇑ *i* P **P** **23 54 00.0 0.0**
XAN Xi'an 38.88 8 P **P** **23 54 19.1 -0.7**
XAN pP **pP** **23 54 37.5 +0.3**
XAN PP **PnPn** **23 55 54.3 +1.1**
XAN S **S** **00 00 10.3 -2.7**
XAN sS **sS** **00 00 41.3 -1.3**
XAN pmax pmax
comp=Z,27nm,0.9s
XAN pmax pmax
comp=Z,31nm,5.1s
XAN LR LR
comp=N,350nm,17.3s
XAN LR LR
comp=E,100nm,18.7s
XAN LR LR
comp=Z,190nm,18.0s
LZH Lanzhou 40.49 2 P **P** **23 54 33.3 0.0**
LZH pP **pP** **23 54 54.8 +4.1**
LZH sP **sP** **23 55 02.8 +3.9**
LZH PP **PnPn** **23 56 11.3 -0.9**
LZH PcP **PcP** **23 56 35.8 +1.0**
LZH *e*S **S** **00 00 37.0 -0.1**
LZH sS **sS** **00 01 09.0 +2.1**
LZH pmax pmax
comp=Z,56nm,1.0s
LZH pmax pmax
comp=Z,220nm,6.2s
LZH LR LR
comp=N,330nm,11.7s
LZH LR LR
comp=E,320nm,11.9s
LZH LR LR
comp=Z,590nm,16.1s
COEN Coen 41.02 106 *e*P **P** **23 54 37.1 -0.6**
comp=Z,348nm,1.7s
BBOO Buckleboo 41.97 136 *e*P **P** **23 54 46.4 +1.1**
comp=Z,3μm,2.3s
SDNR Sundarnagar 43.44 327 *e*x **P** **23 54 57.6 +0.3**
GTA Gaotai 43.87 357 *e*P **P** **23 55 00.5 -0.2**
GTA pP **pP** **23 55 15.8 -2.5**
GTA sP **sP** **23 55 23.0 -3.4**
GTA PcP **PcP** **23 56 46.5 +0.6**
GTA ScP **ScP** **00 00 32.5 +1.0**
GTA S **S** **00 01 28.0 +1.2**
GTA SS SS 00 04 38.0 -7.6
GTA pmax pmax
comp=Z,36nm,1.0s
GTA pmax pmax
comp=Z,150nm,7.1s
GTA LR LR
comp=N,470nm,18.0s
GTA LR LR
comp=E,340nm,19.5s
GTA LR LR
comp=Z,640nm,18.1s
DLH Dalhousie 44.78 327 *e*x **P** **23 55 07.0 -1.2**
CTA Charters Tower 45.13 114 P **P** **23 55 11.3 +0.3**
CTA Charters Tower 45.13 114 P **P** **23 55 11.3 +0.3**
comp=Z,7.2nm,0.4s,baz=275,slow=9.5,SNR=8.5
CTAO Charters Tower 45.13 114 *e*P **P** **23 55 11.4 +0.4**
CTAO Charters Tower 45.13 114 *e*P **P** **23 55 11.4 +0.4**
STKA Stephens Creek 45.47 131 *e*P **P** **23 55 14.1 +0.6**
STKA Stephens Creek 45.47 131 P **P** **23 55 14.0 +0.5**
comp=Z,36nm,0.5s,baz=304,slow=7.4,SNR=103
STKA LR LR 00 14 24.9
comp=Z,197nm,19.4s,baz=116,slow=36
HHC Hu-ho-hao-te 45.96 9 *e*P **P** **23 55 17.3 0.0**
HHC pP **pP** **23 55 32.5 -2.5**
HHC sP **sP** **23 55 40.4 -2.7**
HHC PP **PP** **23 57 07.0 +0.7**
HHC S **S** **00 01 58.8 +1.8**
HHC ScS **ScS** **00 05 02.9 -3.6**
HHC SS **SS** **00 05 18.3 -4.6**
HHC pmax pmax
comp=Z,110nm,1.3s
HHC pmax pmax
comp=Z,190nm,4.6s
HHC LR LR
comp=N,1μm,16.2s
HHC LR LR
comp=E,430nm,17.2s
HHC LR LR
comp=Z,940nm,15.1s
JNU Nakatsue 46.08 33 *e*P **P** **23 55 17.8 -0.4**
JNU Nakatsue 46.08 33 P **P** **23 55 17.9 -0.4**
comp=Z,27nm,0.8s,baz=174,slow=4.6,SNR=12
BJT Baijiatuau 46.11 14 *e*P **P** **23 55 17.3 -1.0**
comp=Z,27nm,0.5s
BJI Beijing 46.13 14 P **P** **23 55 17.9 -0.6**
BJI S **S** **00 02 03.8 +4.6**
BJI pmax pmax
comp=Z,49nm,0.7s
BJI pmax pmax
comp=Z,80nm,3.4s
BJI LR LR
comp=N,490nm,19.9s
BJI LR LR
comp=E,220nm,19.5s
BJI LR LR
comp=Z,360nm,20.2s
KSAR Wonju Array Be 47.98 27 P **P** **23 55 32.9 -0.1**
KSAR PcP **PcP** **23 57 00.3 +0.2**
KSRS Korea Array 48.01 27 P **P** **23 55 32.9 -0.2**
comp=Z,21nm,0.9s,baz=227,slow=7.2,SNR=49
KSRS PcP **PcP** **23 57 00.3 +0.1**
comp=Z,4.5nm,1.0s,baz=201,slow=2.4,SNR=6.2
WMQ Urumqi 50.05 346 P **P** **23 55 49.8 +1.1**
WMQ pP **pP** **23 56 08.4 +1.8**
WMQ sP **sP** **23 56 17.3 +2.6**
WMQ PcP **PcP** **23 57 08.9 +1.3**
WMQ PP **PP** **23 57 46.8 +2.3**
WMQ S **S** **00 02 53.4 -1.2**
WMQ sS **sS** **00 03 26.0 +0.9**

WMQ ScS **ScS** **00 05 30.5 -2.9**
WMQ SS **SS** **00 06 23.8 -4.9**
WMQ pmax pmax
comp=Z,110nm,1.0s
WMQ pmax pmax
comp=Z,270nm,4.8s
WMQ LR LR
comp=N,130nm,18.1s
WMQ LR LR
comp=E,160nm,21.8s
WMQ LR LR
comp=Z,170nm,20.6s
KBL Kabul 50.17 324 *e*P **P** **23 55 49.6 -0.4**
KBL pmax pmax
comp=Z,40nm,1.2s
KBL Kabul 50.17 324 *e*P **P** **23 55 49.6 -0.4**
comp=Z,40nm,1.2s
KSH Kashi 50.31 333⇑ P **P** **23 55 49.5 -1.4**
KSH pP **pP** **23 56 08.3 -0.5**
KSH PP **PP** **23 57 46.8 -0.2**
KSH ScP **ScP** **00 00 56.3 -2.3**
KSH S **S** **00 02 53.3 -5.2**
KSH pmax pmax
comp=Z,57nm,1.0s
KSH LR LR
comp=N,140nm,5.5s
KSH LR LR
comp=E,110nm,7.3s
KSH LR LR
comp=Z,170nm,6.5s
EIDS Eidsvold 50.79 119 *e*P **P** **23 55 54.6 0.0**
comp=Z,26nm,1.2s
SMDO Samad 51.47 304 P **P** **23 56 01.9 +2.0**
SNR=6.0
SONM Songino Array 52.31 3 P **P** **23 56 06.1 +0.4**
SONM PcP **PcP** **23 57 16.0 0.0**
SONM Songino Array 52.31 3 P **P** **23 56 06.1 +0.4**
comp=Z,78nm,0.7s,baz=183,slow=9.0,SNR=368
SONM PcP **PcP** **23 57 16.0 0.0**
comp=Z,5.8nm,0.3s,baz=193,slow=4.1,SNR=23
CN2 Changchun 52.38 21 *e*P **P** **23 56 05.0 -1.1**
CN2 *e*pP **pP** **23 56 20.8 -3.4**
CN2 *e*S **S** **00 03 26.1 -0.6**
CN2 pmax pmax
comp=Z,50nm,0.9s
CN2 pmax pmax
comp=Z,200nm,5.0s
ULN Ulaanbaatar 52.39 4 P **P** **23 56 06.8 +0.5**
SNR=20
ULN Ulaanbaatar 52.39 4 *e*P **P** **23 56 06.4 +0.2**
comp=Z,64nm,1.1s
ULN Ulaanbaatar 52.39 4 P **P** **23 56 06.0 -0.2**
comp=Z,56nm,1.0s,comp=Z,717nm
ULHL Ulahol 52.44 335 P **P** **23 56 06.6 -0.2**
SNR=15
KZA Kyzart 52.72 335 P **P** **23 56 09.2 +0.1**
SNR=25
MAJO Matsushiro 52.72 36 *e*P **P** **23 56 07.0 -1.7**
MAJO pmax pmax
comp=Z,15nm,0.7s
MAJO Matsushiro 52.72 36 *e*P **P** **23 56 07.0 -1.7**
comp=Z,15nm,0.7s
MAT Matsushiro 52.72 36 P **P** **23 56 07.1 -1.7**
MJAR Matsushiro Arr 52.72 36 P **P** **23 56 07.4 -1.4**
MJAR PcP **PcP** **23 57 17.6 -0.1**
MJAR Matsushiro Arr 52.72 36 P **P** **23 56 07.4 -1.4**
comp=Z,15nm,0.9s,baz=216,slow=7.4,SNR=28
MJAR PcP **PcP** **23 57 17.6 -0.1**
comp=Z,3.5nm,0.6s,baz=204,slow=3.8,SNR=5.1
MJAR LR LR 00 17 07.0
comp=Z,105nm,21.7s,baz=200,slow=34
ARMA Armidale 52.76 125 *e*P **P** **23 56 12.2 +2.8**
comp=Z,25nm,1.1s
TKM2 Tokmak 2 53.26 335 *e*P **P** **23 56 12.6 -0.3**
TKM2 pmax pmax
comp=Z,75nm,0.9s
TKM2 Tokmak 2 53.26 335 P **P** **23 56 12.4 -0.5**
SNR=101
TKM2 Tokmak 2 53.26 335 *e*P **P** **23 56 12.6 -0.3**
comp=Z,75nm,0.9s
KBK Karagaybulak 53.32 335 P **P** **23 56 13.6 +0.3**
SNR=28
AML Almayashu 53.44 333 P **P** **23 56 14.3 -0.2**
SNR=45
AAK Ala-Archa 53.49 334 P **P** **23 56 14.0 -0.5**
comp=Z,149nm,1.2s,SNR=16
AAK Ala-Archa 53.49 334 *e*P **P** **23 56 14.6 +0.1**
AAK Ala-Archa 53.49 334 P **P** **23 56 15.0 +0.4**
SNR=14
AAK Ala-Archa 53.49 334 P **P** **23 56 14.7 +0.1**
SNR=23
AAK Ala-Archa 53.49 334 *e*P **P** **23 56 14.6 +0.1**
FRU Bishkek 53.60 335 *i* P **P** **23 56 14.0 -1.2**
FRU *e*S **S** **00 03 42.0 -1.4**
FRU pmax pmax
comp=Z,75nm,1.4s
CHMS Chumysh 53.68 335 P **P** **23 56 15.0 -0.7**
SNR=14
EKS2 Erkin-Say 53.83 334 *e*P **P** **23 56 17.0 +0.1**
EKS2 Erkin-Say 53.83 334 P **P** **23 56 17.1 +0.2**
SNR=103
EKS2 Erkin-Say 53.83 334 *e*P **P** **23 56 17.0 +0.1**
USP Ospenovka 54.01 335 P **P** **23 56 17.7 -0.4**
SNR=11
MK31 Makanchi Array 54.25 343 *e*P **P** **23 56 19.3 -0.5**
MK31 Makanchi Array 54.25 343 *e*P **P** **23 56 19.2 -0.5**
MKAR Makanchi Array 54.25 343 *e*P **P** **23 56 19.2 -0.6**
MKAR S **S** **00 03 50.2 -1.7**
MKAR Makanchi Array 54.25 343 *e*P **P** **23 56 19.1 -0.6**
MKAR S **S** **00 03 50.2 -1.7**
MKAR Makanchi Array 54.25 343 P **P** **23 56 19.1 -0.6**
comp=Z,58nm,0.7s,baz=146,slow=7.7,SNR=594
MKAR S **S** **00 03 50.2 -1.7**
comp=Z,1.4nm,1.2s,baz=162,slow=15,SNR=2.7
MKAR LR LR 00 23 04.1
comp=Z,102nm,21.4s,baz=157,slow=40
MDJ Mudanjiang 54.63 23 P **P** **23 56 22.3 -0.3**
MDJ pP **pP** **23 56 40.0 -0.8**
MDJ sP **sP** **23 56 48.3 -0.5**
MDJ PP **PP** **23 58 26.3 +0.5**
MDJ S **S** **00 03 58.9 +1.8**
MDJ sS sS 00 04 34.5 +6.5
MDJ pmax pmax
comp=Z,21nm,0.9s
MDJ pmax pmax
comp=Z,83nm,6.7s
MDJ LR LR
comp=N,140nm,25.1s
MDJ LR LR
comp=E,150nm,22.8s
MDJ LR LR
comp=Z,190nm,23.2s
MDJ Mudanjiang 54.63 23 *e*P **P** **23 56 21.5 -1.0**
comp=Z,10nm,0.8s
ZAK Zakamensk 54.76 1 *e*P **P** **23 56 22.7 -0.8**
ZAK pmax pmax
comp=Z,27nm,1.0s
IDAH Dahanechah 54.98 316 *e*P **P** **23 56 26.3 +0.7**
USRK Ussuriysk Arra 55.28 25 P **P** **23 56 26.7 -0.5**
comp=Z,43nm,0.6s,baz=219,slow=6.2,SNR=96
USRK LR LR 00 22 24.8
comp=Z,144nm,19.1s,baz=308,slow=38
IMON Monand 55.37 316 *e*P **P** **23 56 28.9 +0.5**
KK31 Karatay Array 55.66 332 *i* P **P** **23 56 28.5 -1.5**
KK31 pmax pmax
comp=Z,5.0nm,0.4s
KKAR Karatay Array 55.66 332 *e*P **P** **23 56 29.0 -1.1**
KKAR Karatay Array 55.66 332 *e*P **P** **23 56 29.0 -1.1**
ITEG Tejag 55.85 315 *e*P **P** **23 56 31.8 0.0**
HVS Khovu-Aksy 56.04 353⇓ *i*P **P** **23 56 31.9 -0.8**
HVS pmax pmax
comp=Z,101nm,1.1s
MOY Mondy 56.06 359 *e*P **P** **23 56 33.1 +0.2**
MOY pmax pmax
comp=Z,37nm,2.4s
TLY Talaya 56.07 1 P **P** **23 56 33.3 +0.5**
comp=Z,224nm,0.9s,SNR=5.2
IMYA Miami 56.90 319 *e*P **P** **23 56 37.6 -1.6**
IMOG Moghan 57.26 319 *e*P **P** **23 56 41.7 -0.2**
ISRO Mashad 57.29 319 *e*P **P** **23 56 40.3 -1.6**
IBAF Bafgh 57.46 312 *e*P **P** **23 56 43.3 +0.1**
IPAY Payeh 57.69 319 *e*P **P** **23 56 44.2 -0.6**
IAKL Akhelmad 57.93 319 *e*P **P** **23 56 46.1 -0.5**
IMEH Mehriz 58.07 311 *e*P **P** **23 56 46.9 -0.7**
IKRD Kardeh 58.19 319 *e*P P 23 56 43.1 -5.3

ISRV	Sarvestan	58.27	309	eP	P	23 56 49.8 +0.7
IEMG	Emamgholi	58.47	320	eP	P	23 56 50.3 -0.1
IPAR	Pars	58.53	309	eP	P	23 56 52.2 +1.3
ICHK	Chekchek	58.64	312	eP	P	23 56 51.2 -0.3
ISFR	Sfrayin	58.69	319	eP	P	23 56 51.2 -0.6
ISAD	Sadrabad	59.01	312	eP	P	23 56 53.1 -1.1
ERM	Erimo	59.23	34	P	P	23 56 54.5 -0.6
	comp=Z,217nm,0.8s,SNR=9.5					
ERM	Erimo	59.23	34	c iP	P	23 56 55.3 +0.2
ERM				pmax	pmax	
	comp=Z,39nm,1.7s					
ERM	Erimo	59.23	34	eP	P	23 56 54.3 -0.8
	comp=Z,22nm,0.6s					
KLR	Kul'dur	59.29	22	eP	P	23 56 51.0 -4.4
KLR				pmax	pmax	
	comp=E,28nm,0.9s					
KLR				pmax	pmax	
	comp=Z,62nm,0.9s					
IKAZ	Kazeroun	59.44	309	eP	P	23 56 58.3 +1.0
ZAA0	Zalesovo Array	60.22	348	eP	P	23 57 00.8 -0.8
ZALV	Zalesovo Beam	60.22	348	P	P	23 57 00.9 -0.8
ZALV				S	S	00 05 07.5 -2.5
ZALV	Zalesovo Beam	60.22	348	P	P	23 57 00.8 -0.8
ZALV				S	S	00 05 07.5 -2.5
ZALV	Zalesovo Beam	60.22	348	P	P	23 57 00.8 -0.8
	comp=Z,88nm,0.5s,baz=162,slow=4.9,SNR=494					
ZALV				S	S	00 05 07.5 -2.5
	comp=Z,0.9nm,0.5s,baz=160,slow=11,SNR=6.0					
ZALV				LR	LR	00 26 12.8
	comp=Z,348nm,20.6s,baz=70,slow=39					
ASAJ	Asahikawa	60.33	32	eP	P	23 57 02.6 0.0
ASAJ	Asahikawa	60.33	32	LR	LR	00 23 18.2
	comp=Z,84nm,18.5s,baz=254,slow=36					
IGAR	Gharneh	60.47	311	eP	P	23 57 04.7 +0.5
IZEF	Zefreh	60.49	312	eP	P	23 57 03.7 -0.6
IMND	Minoodasht	60.52	318	eP	P	23 57 05.5 +1.4
IKIA	Kiasar	61.14	316	eP	P	23 57 08.6 -0.1
IGLO	Ghaloghah	61.20	316	eP	P	23 57 05.1 -3.9
ISHM	Shahmirzad	61.21	315	eP	P	23 57 09.2 0.0
ILAS	Lasjerd	61.24	315	eP	P	23 57 08.9 -0.4
IKLH	Kolahrood	61.24	312	eP	P	23 57 09.5 +0.1
NVS	Novosibirsk	61.39	347	eP	P	23 57 07.8 -1.8
NVS				e		23 57 52.0
NVS				eS	S	00 05 18.3 -6.6
NVS				pmax	pmax	
	comp=N,20nm,1.0s					
NVS				pmax	pmax	
	comp=Z,36nm,1.0s					
NVS				pmax	pmax	
	comp=E,14nm,0.8s					
NVS				smax	smax	
	comp=N,8.0nm,1.7s					
NVS				smax	smax	
	comp=E,14nm,1.9s					
IALA	Alasht	61.69	315	eP	P	23 57 12.7 +0.3
RAYN	Ar Rayn	62.29	299	P	P	23 57 17.5 +1.1
	comp=E,97nm,0.8s,SNR=20					
RAYN	Ar Rayn	62.29	299	eP	P	23 57 17.1 +0.7
YSS	Yuzh-Sakhalins	62.34	30⇑	iP	P	23 57 16.0 -0.2
YSS				pmax	pmax	
	comp=Z,60nm,0.9s					
KBD	Kabd	62.48	306	eP	P	23 57 17.9 +0.5
KBD				AMb	AMB	23 57 19.4
	comp=Z,103nm,1.0s					
RDF	Al-Radifah	62.49	306	eP	P	23 57 18.4 +0.8
RDF				AMb	AMB	23 57 19.9
	comp=Z,206nm,0.9s					
UMR	Umm Al-Rimmam	62.60	307	eP	P	23 57 18.7 +0.4
UMR				AMb	AMB	23 57 19.8
	comp=Z,195nm,0.7s					
NAY	Al-Naaiem	62.87	306	eP	P	23 57 20.2 +0.1
NAY				AMb	AMB	23 57 21.6
	comp=Z,74nm,0.8s					
VOSK	Vostochnaya	63.07	339	eP	P	23 57 19.4 -1.5
VOSK				pmax	pmax	
	comp=Z,23nm,0.6s					
VOSK	Vostochnaya	63.07	339	eP	P	23 57 19.4 -1.5
	comp=Z,23nm,0.6s					
RST	Umm Al-Ruwaisa	63.16	306	eP	P	23 57 22.0 0.0
RST				AMb	AMB	23 57 23.4
	comp=Z,1μm,0.8s					
BRVK	Borovoye	63.59	339	P	P	23 57 23.8 -0.5
	comp=Z,233nm,1.0s,SNR=24					
BRVK	Borovoye	63.59	339	c iP	P	23 57 23.2 -1.1
BRVK				pmax	pmax	
	comp=Z,29nm,0.8s					
BRVK	Borovoye	63.59	339	P	P	23 57 23.6 -0.7
	SNR=14					
BRVK	Borovoye	63.59	339	eP	P	23 57 23.3 -1.1
CLNS	Chul'man	63.86	13	eP	P	23 57 25.2 -0.9
CLNS				pmax	pmax	
	comp=Z,23nm,0.9s					
CLNS				pmax	pmax	
	comp=N,13nm,0.9s					
CLNS				pmax	pmax	
	comp=E,12nm,1.0s					
IKOM	Komasi	64.66	311	eP	P	23 57 30.8 -1.1
AB31	Akbulak array	65.17	331	i P	P	23 57 33.5 -1.2
AB31				pmax	pmax	
	comp=Z,46nm,0.6s					
ABKAR	Akbulak array	65.17	331	eP	P	23 57 34.1 -0.6
IVIS	Veis	65.30	311	eP	P	23 57 35.8 -0.2
KMBO	Kilima Mbogo	65.37	271	eP	P	23 57 39.1 +2.0
KMBO	Kilima Mbogo	65.37	271	P	P	23 57 38.8 +1.8
	comp=Z,2.4nm,0.7s,baz=57,slow=22,SNR=8.4					
ILIN	Lien	65.38	312	eP	P	23 57 36.0 -0.7
IGHG	Ghaleghazi	65.43	311	eP	P	23 57 36.3 -0.7
IDHR	Dehrash	65.72	311	eP	P	23 57 37.9 -1.0
IHRS	Heris	66.80	315	eP	P	23 57 45.4 -0.4
AKTO	Aktyubinsk	66.89	331	i P	P	23 57 44.4 -1.3
AKTO				pmax	pmax	
	comp=Z,24nm,0.9s					
DRV	Dumont d'Urvil	67.13	165	P	P	23 57 41.0 -6.0
DRV				S	S	00 05 27.0 -69
IAZR	Azarshahr	67.28	314	eP	P	23 57 48.5 -0.3
ITBZ	Tabriz	67.40	315	eP	P	23 57 49.4 -0.1
ISHB	Shabestar	67.80	315	eP	P	23 57 52.3 +0.3
MAW	Mawson	68.46	195	P	P	23 57 57.0 +1.7
MAW	Mawson	68.46	195	P	P	23 57 57.0 +1.7
	comp=Z,9.6nm,1.1s,baz=58,slow=15,SNR=4.1					
MAW				LR	LR	00 21 59.0
	comp=Z,407nm,20.5s,baz=20,slow=31					
CUKT	Cukurca	68.81	313	eP	P	23 57 57.7 -0.6
CLDR	Caldiran	69.36	315	eP	P	23 58 02.6 +0.8
YAK	Yakutsk	69.61	13	eP	P	23 58 00.6 -1.9
YAK				e		23 58 16.5
YAK				e*PP	PcP	23 58 26.1 +1.1
YAK				e		00 00 32.6
YAK				eS	S	00 07 03.4 -1.7
YAK				e*SS	sS	00 07 37.7 +0.6
YAK				e		00 07 53.0
YAK				pmax	pmax	
	comp=Z,69nm,1.0s					
YAK				pmax	pmax	
	comp=N,23nm,1.2s					
YAK				pmax	pmax	
	comp=E,18nm,1.4s					
YAK				pmax	pmax	
	comp=Z,11nm,0.6s					
YAK				pmax	pmax	
	comp=N,3.0nm,0.5s					
YAK				pmax	pmax	
	comp=E,12nm,1.0s					
YAK				smax	smax	
	comp=N,42nm,2.8s					
YAK				smax	smax	
	comp=E,58nm,2.5s					
YAK				MLR	MLR	
	comp=N,229nm,28.0s					
YAK				MLR	MLR	
	comp=Z,190nm,26.0s					
YAK				MLR	MLR	
	comp=E,178nm,28.0s					
SVE	Sverdlovsk	70.08	337	iP	P	23 58 05.1 -0.4
SVE				pmax	pmax	
	comp=Z,75nm,1.0s					
ARU	Arti	70.63	336	c iP	P	23 58 08.3 -0.6
ARU						00 00 41.9
ARU				S	S	00 07 20.8 +3.6
ARU				pmax	pmax	
	comp=Z,51nm,1.0s					
ARU	Arti	70.63	336	P	P	23 58 08.4 -0.5
	comp=Z,221nm,1.0s,SNR=21					
ZEI	Tsey	70.92	318	eP	P	23 58 10.9 -0.3
ZEI				pmax	pmax	
	comp=Z,41nm,1.0s					
KBZ	Khabaz	71.98	319	P	P	23 58 17.7 +0.5
KBZ	Khabaz	71.98	319	P	P	23 58 17.7 +0.5
KBZ	Khabaz	71.98	319	P	P	23 58 17.7 +0.5
	comp=Z,30nm,0.9s,baz=120,slow=5.3,SNR=43					
KBZ				LR	LR	00 36 09.6
	comp=Z,57nm,18.1s,baz=114,slow=41					
KIV	Kislovodsk	72.22	319	eP	P	23 58 18.9 +0.1
KIV				pmax	pmax	
	comp=Z,39nm,1.1s					
KIV	Kislovodsk	72.22	319	P	P	23 58 18.2 -0.6
	comp=Z,208nm,1.0s,SNR=10					
GOF	Gofitskoye	72.46	320	eP	P	23 58 20.6 +0.5
MALT	Malatya	73.02	312	iP	P	23 58 24.4 +0.6
MALT	Malatya	73.02	312	iP	P	23 58 24.4 +0.6
SOKR	Solikamsk	73.46	338	eP	P	23 58 25.1 -0.6
SOKR				pmax	pmax	
	comp=Z,50nm,1.3s					
PETK	Petropavlovsk-	73.70	31	P	P	23 58 26.4 -0.9
PETK	Petropavlovsk-	73.70	31	P	P	23 58 26.4 -0.9
PETK	Petropavlovsk-	73.70	31	P	P	23 58 26.4 -0.9
	comp=Z,5.8nm,0.5s,baz=210,slow=6.5,SNR=14					
PETK				LR	LR	00 31 23.2
	comp=Z,66nm,18.6s,baz=252,slow=36					
LSZ	Lusaka	73.81	256	eP	P	23 58 30.3 +1.4
LSZ				ePcP	PcP	23 58 44.3 +0.2
SOC	Sochi	74.03	318	eP	P	23 58 28.8 -0.6
SOC				eS	S	00 07 56.4 -0.2
SOC				pmax	pmax	
	comp=Z,51nm,0.8s					
PET	Petropavlovsk	74.15	31	eP	P	23 58 28.9 -1.0
PET				eS	S	00 07 56.8 -0.7
PET				pmax	pmax	
	comp=Z,57nm,0.6s					
PET				MLR	MLR	
	comp=Z,100nm,23.0s					
RSDY	Resadiye-TOKAT	74.54	314	eP	P	23 58 33.3 +0.8
BFZ	Birch Farm	74.60	131	eP	P	23 58 33.5 +0.7
BKZ	Black Stump Fm	74.60	129	eP	P	23 58 33.1 +0.1
	comp=Z,36nm,0.6s					
SVSK	Karacayir	74.61	313	eP	P	23 58 33.7 +0.9
URZ	Urewera	74.98	128	LR	LR	00 34 50.4
	comp=Z,173nm,18.6s,baz=289,slow=38					
KARA	Karaisali	75.21	310	eP	P	23 58 37.0 +0.6
CSS	Prodhromos	75.88	308	eP	P	23 58 40.4 +0.1
VRHR	Novokhopersk	75.95	325	eP	P	23 58 39.5 -0.8
VRHR				eS	S	00 08 21.4 +3.9
VRHR				pmax	pmax	
	comp=Z,100nm,0.9s					
VRHR				pmax	pmax	
	comp=N,20nm,1.2s					
VRHR				pmax	pmax	
	comp=E,50nm,1.0s					
VRHR				smax	smax	
	comp=E,210nm,2.0s					
VRHR				smax	smax	
	comp=Z,20nm,1.6s					
VRHR				smax	smax	
	comp=N,90nm,1.4s					
SYO	Syowa Base	76.28	199⇑	eP	P	23 58 41.9 0.0
SYO	Syowa Base	76.28	199⇓	eX	PcP	23 58 51.6 -1.9
BOSA	Boshof	76.74	242	P	P	23 58 46.3 +0.8
BOSA	Boshof	76.74	242	P	P	23 58 46.3 +0.8
	comp=N,3.8nm,0.7s,baz=89,slow=4.1,SNR=8.5					
BOSA				LR	LR	00 27 13.2
	comp=N,387nm,18.5s,baz=159,slow=31					
BR131	Keskin Array S	77.00	312	eP	P	23 58 46.2 -0.5
	comp=N,21nm,0.9s					
BR131				epP	pP	23 59 04.3 -1.6
BRTR	Keskin Array B	77.00	312	P	P	23 58 46.2 -0.5
BRTR	Keskin Array B	77.00	312	P	P	23 58 46.2 -0.5
	comp=N,20nm,0.8s,baz=132,slow=7.3,SNR=107					
BRTR				LR	LR	00 35 41.2
	comp=N,78nm,18.0s,baz=214,slow=38					
SEY	Seymchan	77.06	21⇓	eP	P	23 58 46.2 -0.1
HDMB	Hadim	77.09	309	eP	P	23 58 47.5 +0.1
VORD	Divnogorie	77.22	325	eP	P	23 58 46.5 -1.0
VORD				pmax	pmax	
	comp=Z,30nm,1.0s					
VORD				pmax	pmax	
	comp=N,20nm,0.6s					
VORD				pmax	pmax	
	comp=E,120nm,1.6s					
VSR	Storozhevoye	77.40	325	eP	P	23 58 47.3 -1.2
VSR				eS	S	00 08 36.2 +2.8
VSR				pmax	pmax	
	comp=Z,70nm,0.9s					
VSR				pmax	pmax	
	comp=N,10.0nm,0.6s					
VSR				pmax	pmax	
	comp=E,60nm,1.1s					
VSR				smax	smax	
	comp=N,120nm,2.6s					
VSR				smax	smax	
	comp=Z,90nm,2.4s					
VSR				smax	smax	
	comp=E,110nm,4.3s					
ANTO	Ankara	77.67	312	iP	P	23 58 50.2 -0.2
ANTO	Ankara	77.67	312	P	P	23 58 50.4 0.0
	SNR=5.9					
ANTO	Ankara	77.67	312	eP	P	23 58 50.8 +0.4
	comp=E,28nm,1.0s					
ANTO	Ankara	77.67	312	iP	P	23 58 50.2 -0.2
TIXI	Tiksi	78.01	8	iP	P	23 58 49.7 -1.7
TIXI				pmax	pmax	
	comp=Z,6.0nm,0.5s					
SAFT	Safranbolu	78.14	314	eP	P	23 58 53.2 +0.3
SIM	Simferopol'	78.28	318	ceP	P	23 58 53.9 +0.4
SIM				pmax	pmax	
	comp=Z,43nm,0.8s					
MDUB	Mudurnu	79.01	313	eP	P	23 58 58.0 +0.2
VNDA	Vanda	79.12	169	eP	P	23 58 58.3 +0.7
VNDA	Vanda	79.12	169	P	P	23 58 58.3 +0.7
	comp=Z,3.7nm,0.7s,baz=310,slow=5.5,SNR=28					
VNDA				LR	LR	00 27 19.8
	comp=Z,154nm,20.6s,baz=314,slow=30					
GULT	Gulveren	79.50	312	eP	P	23 59 00.6 +0.1
MOS	Moscow	80.07	329	eP	P	23 59 02.7 -0.3
MOS				pmax	pmax	
	comp=Z,81nm,0.9s					
SBA	Scott Base	80.21	169	eP	P	23 59 05.8 +2.4
SBA	Scott Base	80.21	169	eP	P	23 59 05.8 +2.4
OBN	Obninsk	80.38	328	iP	P	23 59 04.5 -0.2
OBN				i		23 59 19.8
OBN				e		00 02 05.8
OBN				eS	S	00 09 02.5 -2.4
OBN				pmax	pmax	
	comp=Z,68nm,1.0s					
OBN	Obninsk	80.38	328	P	P	23 59 04.1 -0.6
	comp=Z,409nm,0.9s,SNR=7.6					
ISK	Istanbul-Kandi	80.73	313	eP	P	23 59 07.2 +0.3
KLMR	Klimovskoe	81.30	334	eP	P	23 59 08.4 -1.1
KLMR				pmax	pmax	
	comp=Z,89nm,1.3s					
IZM	Izmir	81.46	310	eP	P	23 59 12.0 +1.1
TLCR		81.94	317	iP	P	23 59 11.5 -1.7
PSN	Preselentsi	82.01	315	eP	P	23 59 14.1 +0.5
TIRR	Tirgusor	82.04	316	iP	P	23 59 13.8 +0.1
TIRR	Tirgusor	82.04	316	eP	P	23 59 13.9 +0.1
TIRR	Tirgusor	82.04	316	iP	P	23 59 13.8 +0.1
TLB	Topalu	82.33	316	iP	P	23 59 15.4 +0.2
TLB	Topalu	82.33	316	iP	P	23 59 15.4 +0.2
KIS	Kishinev	82.41	318	iP	P	23 59 15.5 -0.1
KIS	Kishinev	82.41	318	iP	P	23 59 15.5 -0.1
HARR	Harsova	82.43	316	iP	P	23 59 16.6 +0.8
HARR	Harsova	82.43	316	iP	P	23 59 16.6 +0.8
PRD	Provadia	82.45	314	i P	P	23 59 16.4 +0.5
LEOM	Leova	82.65	318	iP	P	23 59 17.4 +0.5
LEOM	Leova	82.65	318	iP	P	23 59 17.4 +0.5
IDI	Anoyia	82.69	306	eP	P	23 59 18.8 +1.4
JMB	Yambol	82.86	314	i P	P	23 59 18.9 +0.8
GHRR		83.12	317	iP	P	23 59 20.6 +1.3
AKASG	Malin Array Be	83.14	322	ceP	P	23 59 18.7 -0.6
AKASG				pmax	pmax	
	comp=Z,9.0nm,0.6s					
AKASG	Malin Array Be	83.14	322	P	P	23 59 18.8 -0.5
AKASG				PP	PP	00 02 28.8 -2.6
AKASG	Malin Array Be	83.14	322	P	P	23 59 18.8 -0.5
	comp=Z,8.6nm,0.6s,baz=84,slow=5.1,SNR=58					
AKASG				PP	PP	00 02 28.8 -2.6
	comp=Z,0.3nm,0.3s,baz=97,slow=6.0,SNR=4.0					
KIEV	Kiev	83.14	322	eP	P	23 59 18.6 -0.7
KIEV				pmax	pmax	
	comp=Z,27nm,1.1s					
KIEV	Kiev	83.14	322	eP	P	23 59 18.6 -0.7
	comp=Z,27nm,1.1s					
IAS	Iasi	83.29	318	iP	P	23 59 20.5 +0.3
IAS	Iasi	83.29	318	iP	P	23 59 20.5 +0.3
TMCR	Tamitsa	83.35	337	eP	P	23 59 17.7 -2.4
TMCR				e		00 02 29.6
TMCR				pmax	pmax	
	comp=Z,21nm,0.9s					
ISR	Istrita	83.49	316	iP	P	23 59 22.8 +1.5
ISR	Istrita	83.49	316	iP	P	23 59 22.8 +1.5
SZH	Strazhica	83.50	314	i P	P	23 59 21.5 +0.1
VRI	Vrincioaia	83.53	317	iP	P	23 59 22.6 +1.1
VRI	Vrincioaia	83.53	317	iP	P	23 59 22.6 +1.1
KDZ	Kurdzhali	83.54	313	i P	P	23 59 21.9 +0.3
PLOR	Plostina	83.58	317	iP	P	23 59 22.7 +0.9
PLOR	Plostina	83.58	317	iP	P	23 59 22.7 +0.9
TESR	Tescani	83.73	318	iP	P	23 59 23.2 +0.7
SECR		83.80	316	iP	P	23 59 20.6 -2.3
PVL	Pavlikeni	83.92	314	eP	P	23 59 24.6 +1.1
MLR	Muntele Rosu	83.98	317	iP	P	23 59 24.0 0.0
RZN	Rozhen	84.06	313	eP	P	23 59 24.9 +0.4
PRAR	RASCA	84.21	318	iP	P	23 59 25.5 +0.6
HUMR	Humele	84.44	315	iP	P	23 59 26.3 +0.1
DOPR	Dopca	84.47	317	iP	P	23 59 27.8 +1.5
PGB	Panagyurishte	84.63	313	i P	P	23 59 27.0 -0.2
MMB	Musomiste	84.77	312	i P	P	23 59 27.6 -0.3
ARR	Arges	84.86	316	iP	P	23 59 28.4 +0.1
BURAR	Bucovina Array	84.94	318	iP	P	23 59 29.9 +1.2
BURAR	Bucovina Array	84.94	318	iP	P	23 59 29.9 +1.2
MICGM	Minsk	84.94	326	eP	P	23 59 26.0 -2.4
MNK	Minsk	84.97	326	eP	P	23 59 26.0 -2.5
MNK				pmax	pmax	
	comp=Z,110nm,1.0s					
MPEP	Malo Peshtene	85.09	314	i P	P	23 59 30.0 +0.6
KKB	Krupnik	85.29	313	i P	P	23 59 30.3 -0.2
VTS	Vitosha	85.33	313	iP	P	23 59 31.0 +0.2
VTS	Vitosha	85.33	313	iP	P	23 59 31.0 +0.2
VTS	Vitosha	85.33	313	i P	P	23 59 31.1 +0.2
ARCR	ARCALIA	85.40	318	iP	P	23 59 32.4 +1.5
LOT	Lotru	85.47	316	iP	P	23 59 31.9 +0.5
NACGM	Naroch	85.66	326	e	P	23 59 29.0 -3.0
JOF	Joensuu	85.68	334	eP	P	23 59 32.3 +0.4
JOF				pmax	pmax	
	comp=Z,30nm,0.8s					
JOF	Joensuu	85.68	334	ep	P	23 59 32.3 +0.4
	comp=Z,30nm,0.8s					
DEV	Deva	86.15	316	iP	P	23 59 36.0 +1.4
DEV	Deva	86.15	316	iP	P	23 59 36.0 +1.4
DRGR		86.45	317	iP	P	23 59 37.1 +0.9
DRGR		86.45	317	iP	P	23 59 37.1 +0.9
VSU	Vasula	86.57	329	iP	P	23 59 36.4 +0.1
VSU				pmax	pmax	
	comp=Z,130nm,1.1s					
TRPA	Tarpa	86.80	319	iP	P	23 59 38.2 +0.5
KWP	Kalwaria Pacla	86.97	320	iP	P	23 59 39.3 +0.7
KWP	Kalwaria Pacla	86.97	320	iP	P	23 59 39.3 +0.7
KWP	Kalwaria Pacla	86.97	320	eP	P	23 59 39.3 +0.7
BZS	Buzias	86.99	316	iP	P	23 59 39.3 +0.6
BZS	Buzias	86.99	316	iP	P	23 59 39.3 +0.6
KOLS	Kolonicke sedl	87.12	319	eP	P	23 59 40.7 +1.4
KOLS				pmax	pmax	
	comp=Z,63nm,1.0s					
KOLS	Kolonicke sedl	87.12	319	eP	P	23 59 40.7 +1.4
SUW	Suwalki	87.51	324	eP	P	23 59 40.6 -0.4
SUW				pmax	pmax	
	comp=Z,153nm,1.0s					
SUW	Suwalki	87.51	324	eP	P	23 59 40.6 -0.4
	comp=Z,153nm,1.0s					
SUW	Suwalki	87.51	324	eP	P	23 59 41.2 +0.2
FINES	FINESS Array B	87.62	332	P	P	23 59 41.3 -0.1
FINES	FINESS Array B	87.62	332	P	P	23 59 41.3 -0.1
	comp=Z,12nm,0.6s,baz=106,slow=5.2,SNR=53					
FINES				LR	LR	00 41 55.6
	comp=Z,120nm,21.3s,baz=270,slow=38					
CRVS	Cervenica-Dubn	87.64	319	eP	P	23 59 42.8 +1.0
CRVS				pmax	pmax	
	comp=Z,9.0nm,1.0s					
CRVS	Cervenica-Dubn	87.64	319	eP	P	23 59 42.8 +1.0
KAF	Kangasniemi	87.68	333	eP	P	23 59 41.9 +0.2
KAF				pmax	pmax	
	comp=Z,31nm,0.7s					
KAF	Kangasniemi	87.68	333	ep	P	23 59 41.9 +0.2
	comp=Z,31nm,0.7s					
STHS	Stebnicka Huta	87.87	320	eP	P	23 59 44.2 +1.3
STHS				pmax	pmax	
	comp=Z,25nm,0.9s					
STHS	Stebnicka Huta	87.87	320	eP	P	23 59 44.2 +1.3
KECS	Kecovo	88.22	319	eP	P	23 59 45.1 +0.6
KECS				pmax	pmax	
	comp=Z,10.0nm,1.0s					
KECS	Kecovo	88.22	319	eP	P	23 59 45.1 +0.6
NIE	Niedzica	88.47	320	eP	P	23 59 46.9 +1.1
NIE	Niedzica	88.47	320	eP	P	23 59 46.9 +1.1
PSZ	Piszkesteto	88.52	318	iP	P	23 59 46.6 +0.5
PSZ	Piszkesteto	88.52	318	iP	P	23 59 46.6 +0.5
BEL	Belsk	88.55	322	eP	P	23 59 47.0 +1.0
OJC	Ojcow	88.92	320	eP	P	23 59 48.5 +0.7
OJC	Ojcow	88.92	320	eP	P	23 59 48.5 +0.7
PKSM	Moragy	89.13	316	iP	P	23 59 49.2 +0.3
PKSM	Moragy	89.13	316	iP	P	23 59 49.2 +0.3
VYHS	Vyhne	89.30	319	eP	P	23 59 50.3 +0.6
VYHS				pmax	pmax	
	comp=Z,13nm,1.3s					
VYHS	Vyhne	89.30	319	eP	P	23 59 50.3 +0.6
ARCES	ARCESS Array B	89.80	340	P	P	23 59 51.2 -0.3
ARCES	ARCESS Array B	89.80	340	P	P	23 59 51.2 -0.3
	comp=Z,7.2nm,0.8s,baz=100,slow=6.3,SNR=29					
ARCES				LR	LR	00 42 43.3
	comp=Z,155nm,20.8s,baz=191,slow=37					
OKC	Ostrava-Krasne	89.92	320	eP	P	23 59 52.9 +0.4
OKC	Ostrava-Krasne	89.92	320	eP	P	23 59 53.1 +0.6
SMOL	Smolenice	90.23	319	eP	P	23 59 55.3 +1.3
SMOL	Smolenice	90.23	319	eP	P	23 59 55.3 +1.3
KRLC	Kraliky	90.83	320	eP	P	23 59 57.8 +1.0
KRLC	Kraliky	90.83	320	eP	P	23 59 57.9 +1.1
GKP	Gorka Klasztor	90.89	323	eP	P	23 59 57.8 +0.9
DPC	Dobruska-Polom	91.15	320	eP	P	23 59 59.5 +1.3
DPC	Dobruska-Polom	91.15	320	eP	P	23 59 59.6 +1.3
CONA	Conrad Observa	91.21	318	i PcP	PcP	23 59 59.4 -0.3
	comp=Z,6.7nm,1.2s					
KSP	Ksiaz	91.22	321	eP	P	23 59 59.3 +0.8
BOJS	Bojanci	91.41	315	eP	P	00 00 00.4 +0.9
SOKA	Soboth	91.66	317	i PcP	PcP	00 00 02.1 +0.5
	comp=Z,23nm,1.1s,SNR=6.1					
VISS	Visnje	91.72	316	eP	P	00 00 01.8 +0.8
LJU	Ljubljana	91.96	316	eP	P	00 00 03.1 +1.0
PRU	Pruhonice	92.26	320	eP	P	00 00 04.0 +0.6
PVCC	Panska Ves	92.28	320	eP	P	00 00 04.8 +1.3
BRG	Berggiesshubel	92.70	321	i PKP	P	00 00 06.1 +0.7
	comp=Z,12nm,0.9s					
BRG	Berggiesshubel	92.70	321	ePKP		00 03 48.7
	comp=Z,7.9nm,1.3s					
BRG	Berggiesshubel	92.70	321	eP	P	00 00 06.2 +0.7
	comp=Z,12nm,0.9s					
BRG	Berggiesshubel	92.70	321	i P	P	00 00 06.1 +0.7
BRG				pmax	pmax	
	comp=Z,2.0nm,0.9s					
GEC2	GERESS Array S	92.72	319	eP	P	00 00 06.5 +0.8
	comp=Z,18nm,1.3s					
GEC2	GERESS Array S	92.72	319	eP	P	00 00 06.5 +0.8
GEC2				pmax	pmax	
	comp=Z,18nm,1.3s					
GERES	GERESS Array B	92.72	319	P	P	00 00 06.3

comp=Z,9.0nm,1.0s
MOX Moxa 94.17 320 *e*L L 00 48 01.7
comp=Z,102nm,19.4s
FUR Furstenfeldbru 94.30 318 *e*P **P 00 00 13.8 +0.9**
comp=Z,19nm,1.1s
FUR Furstenfeldbru 94.30 318 *e*P **P 00 00 13.8 +0.9**
FUR pmax pmax
comp=Z,19nm,1.1s
GRF Grafenberg Arr 94.39 319 *e*L L 00 39 08.0
comp=Z,99nm,20.4s
NB2 NORSAR Subarra 94.68 331 P **P 00 00 13.7 -0.6**
comp=Z,2.0nm,0.7s,baz=92,slow=4.6
NOA NORSAR Array B 94.68 331 P **P 00 00 14.1 -0.2**
NOA PP **PP 00 04 03.1 -0.2**
NOA NORSAR Array B 94.68 331 P **P 00 00 14.1 -0.2**
comp=Z,5.2nm,1.0s,baz=95,slow=5.0,SNR=8.5
NOA PP **PP 00 04 03.1 -0.2**
comp=Z,2.9nm,0.9s,baz=90,slow=7.5,SNR=4.0
NOA LR LR 00 49 52.8
comp=Z,75nm,21.1s,baz=70,slow=40
CLZ Clausthal 94.98 322 *e*P **P 00 00 16.6 +0.7**
comp=Z,10.0nm,1.3s
CLZ Clausthal 94.98 322 *e*P **P 00 00 16.6 +0.7**
CLZ pmax pmax
comp=Z,10.0nm,1.3s
BSEG Bad Segeberg 95.05 324 *e*P **P 00 00 16.8 +0.7**
comp=Z,13nm,1.1s
BSEG Bad Segeberg 95.05 324 *e*P **P 00 00 16.8 +0.7**
BSEG pmax pmax
comp=Z,13nm,1.1s
KEST Kesra 95.33 305 P **P 00 00 19.2 +1.3**
KEST Kesra 95.33 305 P **P 00 00 19.2 +1.3**
comp=Z,4.2nm,1.0s,baz=31,slow=15,SNR=5.7
KEST LR LR 00 42 55.6
comp=Z,31nm,20.2s,baz=284,slow=35
TNS Taunus Mts 96.19 320 *e*P **P 00 00 22.3 +0.8**
comp=Z,11nm,1.0s
TNS Taunus Mts 96.19 320 *e*P **P 00 00 22.3 +0.8**
TNS pmax pmax
comp=Z,11nm,1.0s
BUG Bochum--Univer 96.92 321 *e*P **P 00 00 25.1 +0.5**
comp=Z,11nm,0.6s
CDF Champ du Feu 96.97 318 *e*P **P 00 00 25.0 -0.1**
comp=Z,11nm,1.1s
CDF Champ du Feu 96.97 318 *e*P **P 00 00 25.0 -0.1**
CDF pmax pmax
comp=Z,11nm,1.1s
CDF Champ du Feu 96.97 318 *e*P **P 00 00 25.0 -0.1**
comp=Z,11nm,1.1s
MBDF Montbardon 97.38 314 *e*P **P 00 00 27.1 0.0**
comp=Z,18nm,1.2s
MBDF Montbardon 97.38 314 *e*P **P 00 00 27.1 0.0**
MBDF pmax pmax
comp=Z,18nm,1.2s
MBDF Montbardon 97.38 314 *e*P **P 00 00 27.1 0.0**
comp=Z,18nm,1.2s
LPG La Plagne 97.38 315 *e*P **P 00 00 27.3 0.0**
comp=Z,10nm,1.1s
LPG La Plagne 97.38 315 *e*P **P 00 00 27.3 0.0**
LPG pmax pmax
comp=Z,10.0nm,1.1s
LPG La Plagne 97.38 315 *e*P **P 00 00 27.3 0.0**
comp=Z,10nm,1.1s
LPL La Plagne 97.39 315 *e*P Pdif 00 00 27.4 +0.1
comp=Z,6.7nm,0.8s
LPL La Plagne 97.39 315 *e*P Pdif 00 00 27.4 +0.1
LPL pmax pmax
comp=Z,7.0nm,0.8s
LPL La Plagne 97.39 315 *e*P Pdif 00 00 27.4 +0.1
comp=Z,6.7nm,0.8s
HAU Haudompre 97.60 318 *e*P **P 00 00 27.7 -0.2**
comp=Z,10.0nm,0.9s
HAU Haudompre 97.60 318 *e*P **P 00 00 27.7 -0.2**
HAU pmax pmax
comp=Z,10.0nm,0.9s
HAU Haudompre 97.60 318 *e*P **P 00 00 27.7 -0.2**
comp=Z,10.0nm,0.9s
PAGF Fort de Pagny 98.00 318 *e*P **P 00 00 28.8 -0.8**
PAGF Fort de Pagny 98.00 318 *e*P **P 00 00 28.8 -0.8**
SFTF Sexfontaines 98.47 318 *e*P Pdif 00 00 32.0 +0.2
comp=Z,22nm,1.0s
SFTF Sexfontaines 98.47 318 *e*P Pdif 00 00 32.0 +0.2
comp=Z,22nm,1.0s
SMF Signal de Mont 99.36 316 *e*P **Pdif 00 00 36.6 +0.8**
SMF Signal de Mont 99.36 316 *e*P **Pdif 00 00 36.6 +0.8**
SMF Signal de Mont 99.36 316 *e*P **Pdif 00 00 36.6 +0.8**
AVF Avril sur Loir 99.69 317 *e*P **Pdif 00 00 38.5 +1.3**
AVF Avril sur Loir 99.69 317 *e*P **Pdif 00 00 38.5 +1.3**
AVF Avril sur Loir 99.69 317 *e*P **Pdif 00 00 38.5 +1.3**
MTLF Montolieu 100.72 313 *e*P **Pdif 00 00 43.0 +1.1**
comp=Z,15nm,1.3s
MTLF Montolieu 100.72 313 *e*P **Pdif 00 00 43.0 +1.1**
MTLF pmax pmax
comp=Z,15nm,1.3s
MTLF Montolieu 100.72 313 *e*P **Pdif 00 00 43.0 +1.1**
comp=Z,15nm,1.3s
TORD Torodi Ar. Bea 101.67 282 P **Pdif 00 00 47.4 +0.7**
TORD PKiKP **PKiKP 00 05 08.8 -1.4**
TORD PKKPbc **PKKPbc 00 16 54.0 +0.8**
TORD Torodi Ar. Bea 101.67 282 P **Pdif 00 00 47.4 +0.7**
comp=Z,0.8nm,1.0s,baz=72,slow=2.8,SNR=3.6
TORD PKiKP **PKiKP 00 05 08.8 -1.4**
comp=Z,0.7nm,0.9s,baz=58,slow=3.7,SNR=3.8
TORD PKKPbc **PKKPbc 00 16 54.0 +0.8**
comp=Z,0.2nm,0.4s,baz=295,slow=3.7,SNR=6.2
GRR Gorron 102.38 318 *e*P **Pdif 00 00 50.2 +1.1**
GRR Gorron 102.38 318 *e*P **Pdif 00 00 50.2 +1.1**
GRR Gorron 102.38 318 *e*P **Pdif 00 00 50.2 +1.1**
ILAR Eielson Array 102.79 24 PP PP 00 05 04.2 -0.7
ILAR Eielson Array 102.79 24 PP PP 00 05 04.2 -0.7
comp=Z,0.4nm,0.8s,baz=290,slow=8.5,SNR=4.1
ESDC Sonseca Array 105.69 310 PP PP 00 05 26.9 -0.5
ESDC Sonseca Array 105.69 310 PP PP 00 05 26.8 -0.5
comp=Z,0.7nm,0.8s,baz=79,slow=9.2,SNR=4.1
YKA Yellowknife Ar 116.04 18 PKP **PKPdf 00 05 35.3 -0.4**
YKA Yellowknife Ar 116.04 18 PKP **PKPdf 00 05 35.3 -0.4**
comp=Z,0.3nm,0.3s,baz=305,slow=2.2,SNR=12
HUMO Hull Mountain 124.66 40 *e*PKPdf **PKPdf 00 05 53.3 +0.3**
HAWA Hanford 124.67 34 *e*PKPdf **PKPdf 00 05 52.7 -0.1**
NEW Newport 124.84 31 *e*PKPdf **PKPdf 00 05 52.4 -0.7**
NEW PKP **PKPdf 00 05 53.2 0.0**
NEW Newport 124.84 31 PKP **PKPdf 00 05 53.2 0.0**
comp=Z,4.0nm,0.9s,baz=58,slow=1.8,SNR=8.3
NEW Newport 124.84 31 P **PKPdf 00 05 53.0 -0.2**
baz=125
YBH Yreka Blue Hor 125.25 41 PKP **PKPdf 00 05 55.4 +1.2**
YBH Yreka Blue Hor 125.25 41 PKP **PKPdf 00 05 55.4 +1.2**
comp=Z,1.2nm,0.6s,baz=9.4,slow=19,SNR=4.6
BSMT Bassoo Peak 126.30 31 *e*PKPdf **PKPdf 00 05 56.2 0.0**
MOD Modoc 126.71 39 *e*PKPdf **PKPdf 00 05 56.8 -0.2**
SLMT Seeley Lake 127.36 30 *e*P **PKPdf 00 05 57.7 -0.5**
MSO Missoula 127.41 31 P **PKPdf 00 05 58.1 -0.1**
baz=127
WVOR Wild Horse Val 127.46 38 *e*PKIKP **PKPdf 00 05 58.4 0.0**
WVOR Wild Horse Val 127.46 38 *e*PKPdf **PKPdf 00 05 58.4 0.0**
MFID Camas Ranch 128.56 35 P **PKPdf 00 06 00.6 +0.1**
baz=128
EGMT Eagleton 128.62 27 P **PKPdf 00 06 01.0 +0.6**
baz=128
A21A Bergtoll Ranch 129.13 25 P **PKPdf 00 06 01.7 +0.4**
baz=129
C19A Slack Wire Ran 129.15 27 P **PKPdf 00 06 01.5 0.0**
baz=129
SCHQ Schefferville 129.19 352 PKP **PKPdf 00 06 01.9 +0.7**
SCHQ Schefferville 129.19 352 PKP **PKPdf 00 06 01.9 +0.7**
comp=Z,1.7nm,0.4s,baz=33,slow=4.2,SNR=8.2
HLID Hailey 129.27 34 P **PKPdf 00 06 02.0 +0.1**
baz=129
A22A Carney Farms, 129.54 24 P **PKPdf 00 06 03.1 +1.0**
baz=129
C20A Veseth Ranch, 129.64 27 P **PKPdf 00 06 02.7 +0.3**
baz=129
D19A Cripps Ranch, 129.65 28 P **PKPdf 00 06 02.8 +0.4**
baz=129
C21A Desert Coulee 129.95 26 P **PKPdf 00 06 03.5 +0.6**
baz=130
D20A Manuel Ranch, 130.04 27 P **PKPdf 00 06 03.7 +0.6**
baz=130
E20A Meyer Farm, Mu 130.48 28 P **PKPdf 00 06 04.3 +0.3**
baz=130
D21A La Casta Ranch 130.58 26 P **PKPdf 00 06 04.5 +0.3**
baz=130
C23A Lambert 130.78 25 P **PKPdf 00 06 05.6 +1.1**
baz=131
D22A Cohagen 130.87 26 P **PKPdf 00 06 05.8 +1.1**
baz=131
E21A Keefer Ranch, 130.94 27 P **PKPdf 00 06 05.7 +0.8**
baz=131
RRI2 Red Ridge 131.12 33 *e*PKPdf **PKPdf 00 06 06.3 +0.7**
RRI2 *e*SKPbc **SKPab 00 09 25.8 +1.3**
ISA Isabella 131.13 45 P **PKPdf 00 06 06.6 +1.0**
baz=131
D23A Lindsay 131.27 25 P **PKPdf 00 06 06.5 +1.0**
baz=131
G20A Bridger 131.39 29 P **PKPdf 00 06 06.1 +0.3**
baz=131
F21A Absaloka Mine, 131.46 28 P **PKPdf 00 06 06.6 +0.7**
baz=131
E22A Miles City 131.52 26 P **PKPdf 00 06 06.8 +0.8**
baz=131
MPMC Manual Prospec 131.63 44 P **PKPdf 00 06 06.9 +0.3**
baz=132
R11A Troy Canyon, C 131.68 41 P **PKPdf 00 06 07.2 +0.6**
baz=132
LRMC Laurel Mountai 131.78 45 P **PKPdf 00 06 07.2 +0.4**
baz=132
FURC Furnace Creek, 131.85 43 P **PKPdf 00 06 06.6 -0.1**
baz=132
EDW2 Edwards Air Fo 131.86 46 P **PKPdf 00 06 06.5 -0.4**
baz=132
G21A Lodge Grass 131.87 28 P **PKPdf 00 06 07.4 +0.7**
baz=132
E24A Baker 132.13 25 P **PKPdf 00 06 07.5 +0.4**
baz=132
HWUT Hardware Ranch 132.14 35 *e*PKPdf **PKPdf 00 06 07.8 +0.3**
HWUT *e*SKPbc **SKPbc 00 09 27.9 +0.1**
DUG Dugway 132.32 37 P **PKPdf 00 06 07.8 0.0**
baz=132
I20A Worland 132.36 30 P **PKPdf 00 06 07.6 -0.1**
baz=132
J19A Crowheart 132.38 31 P **PKPdf 00 06 07.1 -0.7**
baz=132
PDAR Pinedale Array 132.46 32 PKP **PKPdf 00 06 07.9 -0.2**
PDAR SKPbc **SKPbc 00 09 29.4 +0.5**
PDAR Pinedale Array 132.46 32 PKP **PKPdf 00 06 07.9 -0.2**
comp=Z,1.1nm,0.6s,baz=239,slow=0.5,SNR=8.4
PDAR SKPbc **SKPbc 00 09 29.4 +0.5**
comp=Z,4.3nm,1.1s,baz=281,slow=0.8,SNR=12
GSC Goldstone 132.49 45 P **PKPdf 00 06 08.5 +0.3**
baz=132
G23A Biddle 132.72 27 P **PKPdf 00 06 08.3 0.0**
baz=132
M17A Scullys Gap (B 132.74 34 P **PKPdf 00 06 08.0 -0.6**
baz=132
L18A Fontenelle, Gr 132.78 33 P **PKPdf 00 06 08.2 -0.5**
baz=133
K19A Absolon Red Bu 132.79 32 P **PKPdf 00 06 08.2 -0.4**
baz=133
J20A Shoshoni 132.81 31 P **PKPdf 00 06 07.8 -0.8**
baz=133
I21A Big Trails, Te 132.87 30 P **PKPdf 00 06 08.5 -0.2**
baz=133
MDND Maddock 132.87 20 P **PKPdf 00 06 08.5 +0.1**
baz=133
K20A Yellowstone Ra 133.18 31 P **PKPdf 00 06 07.5 -1.9**
baz=133
I22A 9 Mile Ranch, 133.21 29 P **PKPdf 00 06 08.6 -0.7**
baz=133
F26A Lodgepole 133.38 24 P **PKPdf 00 06 09.2 -0.3**
baz=133
H24A Dirks Ranch, A 133.45 27 P **PKPdf 00 06 08.8 -0.9**
baz=133
J22A Midwest 133.56 29 P **PKPdf 00 06 09.2 -0.8**
baz=133
GMRC Granite Mounta 133.57 45 P **PKPdf 00 06 11.5 +1.2**
baz=133
PFO Pinyon Flat Ob 133.59 47 PKP **PKPdf 00 06 11.2 +0.9**
PFO SKPbc **SKPbc 00 09 33.7 +0.8**
PFO Pinyon Flat Ob 133.59 47 PKP **PKPdf 00 06 11.2 +0.9**
comp=Z,3.4nm,0.8s,baz=243,slow=1.3,SNR=4.9
PFO SKPbc **SKPbc 00 09 33.7 +0.8**
comp=Z,4.1nm,0.9s,baz=305,slow=6.7,SNR=4.4
G27A Dupree 133.65 25 P **PKPdf 00 06 10.3 +0.3**
baz=134
BELC Belle Mtn. Jos 133.73 46 P **PKPdf 00 06 11.5 +0.8**
baz=134
K21A Alcova 133.75 31 P **PKPdf 00 06 09.5 -1.0**
baz=134
D30A Buchanan 133.80 20 P **PKPdf 00 06 09.7 -0.5**
baz=134
K22A Casper 134.10 30 P **PKPdf 00 06 10.2 -0.9**
baz=134
L21A Rawlins 134.18 31 P **PKPdf 00 06 10.8 -0.5**
baz=134
IRM Iron Mountain 134.25 45 P **PKPdf 00 06 11.0 -0.4**
baz=134
BC3 Big Chuckawall 134.29 46 P **PKPdf 00 06 12.7 +1.1**
baz=134
I25A Rochford 134.38 27 P **PKPdf 00 06 11.2 -0.4**
baz=134
M21A Separation Pea 134.43 32 P **PKPdf 00 06 11.3 -0.6**
baz=134
PLCA Paso Flores 134.46 187 PKP **PKPdf 00 06 13.8 +2.1**
PLCA Paso Flores 134.46 187 PKP **PKPdf 00 06 13.8 +2.1**
comp=Z,0.8nm,0.6s,baz=130,slow=23,SNR=3.4
K23A Bowen Ranch, D 134.47 29 P **PKPdf 00 06 11.0 -0.8**
baz=134
J24A Dixon Ranch, L 134.50 28 P **PKPdf 00 06 11.3 -0.4**
baz=134
N20A Spence Gulch, 134.50 33 P **PKPdf 00 06 11.2 -0.8**
baz=134
F29A Eureka 134.51 22 P **PKPdf 00 06 11.3 -0.2**
baz=134
H27A Howes 134.61 25 P **PKPdf 00 06 11.4 -0.4**
baz=134
L23A Garrett 134.91 30 P **PKPdf 00 06 11.9 -0.8**
baz=135
U15A North Rim 134.93 41 P **PKPdf 00 06 13.7 +0.7**
baz=135
N21A Black Mountain 134.95 33 P **PKPdf 00 06 12.5 -0.4**
baz=135
M22A Cedar Creek Ra 134.98 31 P **PKPdf 00 06 12.7 -0.1**
baz=135
O20A White River Ci 135.00 34 P **PKPdf 00 06 12.3 -0.5**
baz=135
GLA Glamis 135.05 46 P **PKPdf 00 06 13.2 +0.2**
baz=135
J26A Sides Ranch, S 135.24 27 P **PKPdf 00 06 13.6 +0.5**
baz=135
G30A Faulkton 135.36 22 P **PKPdf 00 06 13.6 +0.5**
baz=135
H29A Onida 135.37 23 P **PKPdf 00 06 13.4 +0.1**
baz=135
M23A Laramie 135.38 31 P **PKPdf 00 06 13.6 0.0**
baz=135
N22A Wattenberg Ran 135.49 32 P **PKPdf 00 06 12.7 -1.1**
baz=135
I28A Midland 135.50 25 P **PKPdf 00 06 14.0 +0.5**
baz=135
N23A Red Feather La 135.69 31 P **PKPdf 00 06 13.5 -0.7**
baz=136
Q20A Ridgley Place, 135.77 35 P **PKPdf 00 06 14.3 0.0**
baz=136
I29A Vivian Onida 135.84 24 P **PKPdf 00 06 14.1 0.0**
baz=136
P21A Newcastle 135.86 34 P **PKPdf 00 06 13.8 -0.8**
baz=136
J28A Allard Ranch, 135.95 25 P **PKPdf 00 06 14.5 +0.1**
baz=136
WUAZ Wupatki 136.07 41 *e*PKPdf **PKPdf 00 06 14.1 -0.9**
WUAZ Wupatki 136.07 41 P **PKPdf 00 06 15.0 +0.1**
baz=136
O23A Lake Granby, G 136.20 32 P **PKPdf 00 06 15.4 +0.1**
baz=136
R20A Redvale 136.24 36 P **PKPdf 00 06 16.0 +0.7**
baz=136
S20A Usappointment 136.49 36 P **PKPdf 00 06 15.8 0.0**
baz=136
R21A Cimarron 136.60 35 P **PKPdf 00 06 15.9 -0.1**
baz=136
Q22A Crested Butte, 136.62 34 P **PKPdf 00 06 16.3 +0.2**
baz=136
X16A Lo Mia Camp, P 136.67 42 P **PKPdf 00 06 17.3 +1.2**
baz=136
S21A Coal Bank Pass 136.94 36 P **PKPdf 00 06 17.8 +1.1**
baz=137
R22A Saguache, Gunn 137.15 35 P **PKPdf 00 06 18.2 +1.1**
baz=137
S22A 4UR Ranch, Cre 137.44 35 P **PKPdf 00 06 18.2 +0.5**
baz=137
ECSD EROS Data Cent 137.48 21 *e*PKPdf **PKPdf 00 06 16.1 -1.1**
ECSD *e*SKP 00 09 44.8
P25A Willow Gulch B 137.62 31 P **PKPdf 00 06 18.1 +0.3**
baz=137
R23A Moffat 137.69 34 P **PKPdf 00 06 18.5 +0.4**
baz=138
U21A Nageezi 137.84 37 P **PKPdf 00 06 18.9 +0.6**
baz=138
T22A Edith 137.90 36 P **PKPdf 00 06 18.9 +0.5**
baz=138
P26A Davis Ranch, A 138.01 30 P **PKPdf 00 06 18.7 +0.3**
baz=138
W20A Ramah 138.16 39 P **PKPdf 00 06 19.9 +0.9**
baz=138
TUC Tucson 138.32 45 *e*PKIKP **PKPdf 00 06 19.1 0.0**
TUC Tucson 138.32 45 *e*PKPdf **PKPdf 00 06 19.1 0.0**
T23A Casias Ranch, 138.38 35 P **PKPdf 00 06 19.7 +0.4**
baz=138
S25A Robets Cordova 138.84 33 P **PKPdf 00 06 20.1 +0.1**
baz=139
BGNE Belgrade 138.89 24 *e*PKPdf **PKPdf 00 06 19.4 -0.4**
R26A Arlington 138.90 32 P **PKPdf 00 06 20.1 +0.1**
baz=139
Y20A Horse Springs, 139.00 41 P **PKPdf 00 06 21.0 +0.4**
baz=139
T25A Trinidad 139.23 34 P **PKPdf 00 06 20.7 -0.1**
baz=139
Z20A Nine Sixteen R 139.35 42 P **PKPdf 00 06 21.7 +0.6**
baz=139
S26A Kim 139.39 32 P **PKPdf 00 06 21.2 +0.2**
baz=139
X22A Bernardo 139.50 39 P **PKPdf 00 06 21.5 +0.2**
baz=139
ANMO Albuquerque 139.55 38 PKPpre PKPpre 00 06 16.7
ANMO *e*PKPpre PKPpre 00 06 17.8
ANMO *e*PKPdf **PKPdf 00 06 22.5 +1.0**
ANMO *e*SKPdf **SKPbc 00 09 51.5 +0.5**
ANMO SKPbc **SKPbc 00 09 52.4 +1.5**
ANMO Albuquerque 139.55 38 PKhKP PKPpre 00 06 16.7
comp=Z,4.0nm,1.0s,baz=220,slow=1.8,SNR=4.0
ANMO SKPbc **SKPbc 00 09 52.4 +1.5**
comp=Z,4.3nm,1.1s,baz=274,slow=4.1,SNR=5.5
T26A Comanche Natio 139.65 33 P **PKPdf 00 06 19.2 -2.4**
baz=139
120A U Bar Ranch, L 139.66 43 P **PKPdf 00 06 20.6 -1.1**
baz=140
V24A Rampart Ranch, 139.74 36 P **PKPdf 00 06 20.4 -1.5**
baz=140
U25A Circle Dot Ran 139.76 35 P **PKPdf 00 06 20.2 -1.6**
baz=140
Z21A St. Cloud Mine 139.84 41 P **PKPdf 00 06 20.9 -1.2**
baz=140
Y22A Socorro 139.89 40 P **PKPdf 00 06 22.9 +0.8**
baz=140
X23A Hourglass Bar 139.96 38 P **PKPdf 00 06 23.0 +0.8**
baz=140
W24A Lazy 6 Ranch, 140.01 37 P **PKPdf 00 06 23.3 +1.0**
baz=140
V25A Rancho No Teng 140.04 35 P **PKPdf 00 06 23.2 +0.9**
baz=140
220A Playas Peak, P 140.12 43 P **PKPdf 00 06 23.6 +1.1**
baz=140
U26A Atchley Ranch, 140.14 34 P **PKPdf 00 06 23.7 +1.2**
baz=140
121A Cookes Peak, D 140.24 42 P **PKPdf 00 06 23.6 +0.9**
baz=140
S28A Manter 140.24 31 P **PKPdf 00 06 23.9 +1.4**
baz=140
Z22A Elephant Butte 140.33 40 P **PKPdf 00 06 23.6 +0.8**
baz=140
320A Kipp Ranch, An 140.45 44 P **PKPdf 00 06 24.6 +1.5**
baz=140
Y23A Lovelace Mesa, 140.47 39 P **PKPdf 00 06 24.0 +0.8**
baz=140
T28A Walsh 140.48 32 P **PKPdf 00 06 24.7 +1.8**
baz=140
R30A Dighton 140.51 29 P **PKPdf 00 06 23.5 +0.6**
baz=140
V26A Tequesquite Ra 140.54 35 P **PKPdf 00 06 23.7 +0.6**
baz=140
W25A X Bar L Ranch, 140.56 36 P **PKPdf 00 06 24.1 +0.9**
baz=140
Y24A Capitan 140.86 38 P **PKPdf 00 06 24.4 +0.6**
baz=141
W26A Owens Ranch, T 141.06 35 P **PKPdf 00 06 24.4 +0.3**
baz=141
Z24A Sheeppen Canyo 141.30 39 P **PKPdf 00 06 25.7 +1.0**
baz=141
Y25A Mesa, Roswell 141.32 38 P **PKPdf 00 06 24.9 +0.3**
baz=141
T30A Plains 141.35 30 P **PKPdf 00 06 25.6 +1.1**
baz=141
X26A CR and CF Fran 141.41 36 P **PKPdf 00 06 25.2 +0.4**
baz=141
V28A Channing 141.45 33 P **PKPdf 00 06 25.3 +0.6**
baz=141
KSU1 Kansas State U 141.47 24 *e*PKPdf **PKPdf 00 06 23.5 -1.1**
KSU1 *ep*PKPdf **pPKPdf 00 06 42.1 -2.8**
W27A Bowe Ranch, En 141.48 35 P **PKPdf 00 06 26.0 +1.2**
baz=141
124A Stringfield Ra 141.66 40 P **PKPdf 00 06 26.2 +0.8**
baz=142
224A Cornudas Mount 142.02 41 P **PKPdf 00 06 26.9 +1.0**
baz=142
125A Gardner Draw, 142.19 39 P **PKPdf 00 06 27.0 +0.8**
baz=142
W29A Amraillo 142.23 33 P **PKPdf 00 06 27.5 +1.3**
baz=142
Y27A Causey 142.26 36 P **PKPdf 00 06 27.8 +1.5**
baz=142
MSTX Muleshoe 142.43 36 *e*PKPdf **PKPdf 00 06 25.7 -0.9**
MSTX Muleshoe 142.43 36 P **PKPdf 00 06 27.1 +0.6**
baz=142
324A Moseley Ranch, 142.45 41 P **PKPdf 00 06 27.5 +0.8**
baz=142
126A Clayton Basin, 142.59 39 P **PKPdf 00 06 27.4 +0.5**
baz=142
Z27A Tatum 142.63 37 P **PKPdf 00 06 23.8 -3.1**
baz=142
V31A Spring Creek L 142.69 31 P **PKPdf 00 06 23.7 -3.2**
baz=142
X29A Tulia 142.70 34 P **PKPdf 00 06 28.0 +1.0**
baz=142
325A Bean Ranch, Si 142.83 41 P **PKPdf 00 06 25.4 -2.0**
baz=143
226B Tecolote Peak, 142.88 39 P **PKPdf 00 06 25.5 -1.8**
baz=143
425A Indio Mountain 143.19 42 P PKPbc 00 06 25.4 +0.3
baz=143
SFIN Scholer Farm 143.31 12 P PKPbc 00 06 24.6 -0.3
baz=143
X31A McDonald Ranch 143.50 32 P PKPbc 00 06 26.4 +0.7
baz=143
326A Caldwell Ranch 143.51 40 P PKPbc 00 06 26.9 +0.9
baz=143
128A Castleberry Fa 143.55 37 P PKPbc 00 06 26.8 +0.8
baz=143
Z29A Hungry Hill Ra 143.56 36 P PKPbc 00 06 26.5 +0.5
baz=143
Y30A Stafford Cattl 143.56 34 P PKPbc 00 06 26.2 +0.2
baz=143
CPUP Villa Florida 143.64 211 PKPpre PKPpre 00 06 25.6
CPUP *e*PKPdf PKPbc 00 06 27.4 +1.2
CPUP *ep*PKPdf pPKPdf 00 06 44.7 -4.4
CPUP Villa Florida 143.64 211 PKhKP PKPpre 00 06 25.6
comp=Z,7.3nm,0.9s,baz=107,slow=2.2,SNR=9.1
228A UT Block 9, Go 143.84 38 P PKPbc 00 06 26.8 -0.1
baz=144
Y31A Rekieta Farm, 143.85 33 P PKPbc 00 06 26.8 +0.1
baz=144
Z30A Sanderson Ranc 143.87 35 P PKPab 00 06 26.4 +0.2
baz=144
426A McDonald Obser 143.90 41 P PKPbc 00 06 27.2 -0.1
baz=144
328A Wristen Ranch, 144.21 39 P PKPbc 00 06 28.1 +0.1
baz=144
Y32A R-V Farms, Ver 144.26 32 P **PKPab 00 06 27.5 -0.1**
baz=144
Z31A Sharp Cattle R 144.40 34 P **PKPab 00 06 28.0 -0.2**
baz=144
130A Snyder 144.47 36 P PKPbc 00 06 28.6 -0.1
baz=144
527A Woodward Ranch 144.51 41 P PKPbc 00 06 29.3 +0.3
baz=144
TUL1 Tulsa 144.51 26 *e*PKPdf **PKPab 00 06 28.0 -0.5**
TUL1 Tulsa 144.51 26 P **PKPab 00 06 28.2 -0.2**
baz=144
626A Big Bend Ranch 144.54 43 P PKPbc 00 06 29.2 +0.1
baz=144
BLO Bloomington 144.59 12 *e*PKIKP **PKPab 00 06 27.6 -1.0**
BLO Bloomington 144.59 12 *e*PKPdf **PKPab 00 06 27.6 -1.0**

329A	Wagon Wheel Ra	144.65	38	P	PKPbc	00 06 29.3	0.0
	baz=144						
OLIL	Olney	144.65	15	*e*PKPdf	PKPab	00 06 28.3	-0.6
BDFB	Brasília	144.66	235	PKP	PKPdf	00 06 31.0	+0.1
BDFB	Brasilia	144.66	235	PKP	PKPdf	00 06 31.0	+0.1
	comp=Z,14nm,0.8s,baz=98,slow=3.8,SNR=22						
428A	Kincaid Ranch,	144.73	40	P	PKPdf	00 06 30.3	-0.4
	baz=144						
131A	Roby	144.74	35	P	PKPab	00 06 29.5	0.0
	baz=144						
Z32A	Haskell	144.78	33	P	PKPab	00 06 29.1	-0.4
	baz=145						
230A	Sterling City	144.89	37	P	PKPab	00 06 30.1	0.0
	baz=145						
TXAR	Lajitas Array	145.00	42	PKP	PKPdf	00 06 30.9	-0.2
TXAR				SKPbc	SKPbc	00 10 04.7	+0.1
TXAR	Lajitas Array	145.00	42	PKP	PKPdf	00 06 30.9	-0.2
	comp=Z,12nm,0.3s,baz=322,slow=0.7,SNR=264						
TXAR				SKPbc	SKPbc	00 10 04.7	+0.1
	comp=Z,1.1nm,0.8s,baz=253,slow=1.8,SNR=4.7						
MCWV	Mont Chateau	145.03	3	*e*PKPdf	PKPbc	00 06 29.7	-0.5
528A	Cox Ranch, San	145.04	40	P	PKPab	00 06 30.9	+0.1
	baz=145						
627A	Terlingua Ranc	145.11	42	P	PKPdf	00 06 31.2	-0.2
	baz=145						
330A	Mertzon	145.19	37	P	PKPbc	00 06 30.6	-0.5
	baz=145						
ABTX	Abilene, Hawle	145.20	34	P	PKPbc	00 06 31.0	0.0
	baz=145						
429A	Davenport Ranc	145.29	39	P	PKPbc	00 06 31.0	-0.4
	baz=145						
SIUC	Southern Illin	145.30	17	*e*PKPdf	PKPbc	00 06 30.8	-0.3
231A	Bronte	145.32	36	P	PKPbc	00 06 31.0	-0.4
	baz=145						
628A	Black Gap, Mar	145.42	41	P	PKPab	00 06 32.2	+0.1
	baz=145						
529A	Stev Forest Ra	145.43	40	P	PKPdf	00 06 31.8	0.0
	baz=145						
USIN	University of	145.48	14	*e*PKPdf	PKPdf	00 06 30.8	-0.8
WCI	Wyandotte Cave	145.55	12	*e*PKIKP	PKPdf	00 06 31.0	-0.8
WCI	Wyandotte Cave	145.55	12	*e*PKPdf	PKPdf	00 06 31.0	-0.8
430A	Baggett Ranch,	145.59	38	P	PKPbc	00 06 32.3	0.0
	baz=145						
331A	San Angelo	145.71	37	P	PKPdf	00 06 32.3	+0.1
	baz=146						
232A	Coleman	145.74	35	P	PKPbc	00 06 32.6	-0.2
	baz=146						
530A	J-C Ranch, Com	145.97	39	P	PKPab	00 06 34.2	+0.1
	baz=146						
431A	Sonora	146.05	37	P	PKPbc	00 06 33.5	-0.3
	baz=146						
332A	Millersview	146.06	36	P	PKPbc	00 06 33.9	+0.1
	baz=146						
PARMO	Parma	146.12	18	*e*PKPdf	PKPbc	00 06 33.4	-0.2
432A	Menard	146.40	36	P	PKPbc	00 06 34.5	-0.3
	baz=146						
531A	Rocksprings	146.45	38	P	PKPbc	00 06 34.8	-0.2
	baz=146						
JCT	Junction City	146.68	37	P	PKPbc	00 06 35.3	-0.3
	baz=146						
532A	Rocksprings	146.87	37	P	PKPdf	00 06 34.8	+0.6
	baz=147						
WHTX	Lake Whitney	146.87	32	P	PKPbc	00 06 35.7	-0.4
	baz=147						
631A	Perdido Creek	146.96	39	P	PKPdf	00 06 35.0	+0.6
	baz=147						
632A	Uvalde	147.38	38	P	PKPdf	00 06 35.9	+0.8
	baz=147						
732A	Laxson Ranch,	147.81	39	P	PKPdf	00 06 36.8	+1.0
	baz=148						
KMSC	Kings Mountain	149.38	6	P	PKPdf	00 06 38.8	+0.6
	baz=149						
LVC	Limon Verde	151.72	197	*e*PKPbc	PKPbc	00 06 50.2	+1.4
TIGA	Tifton	152.67	12	P	PKPbc	00 06 49.9	-0.5
	baz=152						
LPAZ	La Paz	157.33	204	PKP	PKPdf	00 06 51.2	+0.4
LPAZ	La Paz	157.33	204	PKP	PKPdf	00 06 51.2	+0.4
	comp=Z,2.2nm,1.1s,baz=236,slow=15,SNR=5.4						
OTAV	Otavalo	175.53	166	*e*PKPdf	PKPdf	00 07 04.7	0.0

WEL 17 00:16:31.7±0.7, 46°.24S×165°.99E, h33km, ML3.5/8, 2D, Error ellipse: s-maj=7.5km s-min=3.7km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	Puysegur Point	0.48	82	⇓PN	Pb	00 16 41.6	-0.4
PYZ				SN	Sb	00 16 48.6	-0.6
DCZ	Deep Cove	1.11	47	⇓PN	Pn	00 16 50.5	-0.5
DCZ				SN	Sn	00 17 05.2	+0.1
DCZ				AML	AML	00 17 05.8	
DCZ				AML	AML	00 17 05.9	
WHZ	Wether Hill Ro	1.40	77	PN	Pn	00 16 55.8	+0.8
WHZ				AML	AML	00 17 16.8	
WHZ				AML	AML	00 17 17.0	
APZ	The Paps	1.50	114	PN	Pn	00 16 56.9	+0.5
MLZ	Mavora Lakes	1.77	61	*e*PN	Pn	00 17 01.5	+1.4
MLZ				AML	AML	00 17 29.4	
MLZ				AML	AML	00 17 30.0	
SYZ	Scrubby Hill	2.20	99	*e*PN	Pn	00 17 06.7	+0.8
EAZ	Earnscleugh	2.53	68	*e*PN	Pn	00 17 13.1	+2.6
EAZ				AML	AML	00 17 46.1	
EAZ				AML	AML	00 17 58.8	
TUZ	Tuapeka	2.55	85	*e*PN	Pn	00 17 13.1	+2.4
TUZ				AML	AML	00 18 00.3	
JCZ	Jackson Bay	2.92	43	*e*PN	Pn	00 17 18.5	+2.6
JCZ				AML	AML	00 18 12.9	
ODZ	Otahua Downs	3.47	72	PN	Pn	00 17 24.3	+0.8
LBZ	Lake Benmore	3.49	60	*e*PN	Pn	00 17 25.9	+2.2

IDC 17 00:18:44.5±1.9, 6°.76S×143°.63E, h0km, mb3.3/2, mb1 3.8/5, mb1mx3.6/16, mbtmp3.6/5, ML3.2/3, Error ellipse: s-maj=37.6km s-min=33.2km az=80.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.37	127	Pn	Pn	00 19 51.8	-0.5
	1.9nm,0.3s,baz=304,slow=3.6,SNR=4.2						
PMG				Sn	Sn	00 20 35.8	-8.1
	0.6nm,0.3s,baz=294,slow=20,SNR=2.5						
WRA	Warramunga Arr	15.91	214	Pn	Pn	00 22 28.0	-2.0
	0.1nm,0.3s,baz=30,slow=13,SNR=7.9						
ASAR	Alice Springs	19.23	208	P	Pn	00 23 12.0	+0.5
	0.5nm,0.3s,baz=38,slow=9.8,SNR=52						
FITZ	Fitzroy Crossi	20.85	236	P	P	00 23 27.8	-0.4
	0.6nm,0.5s,baz=84,slow=19,SNR=2.5						
MKAR	Makanchi Array	75.98	322	P	P	00 30 33.6	0.0
	0.4nm,0.8s,baz=113,slow=6.7,SNR=4.2						

CSEM 17 01:27:29.4, 37°.48N×22°.00E, h5km, MD2.4, After ATH

ATH 17 01:27:29.4, 37°.48N×22°.00E, h5km±1km, MD2.4/6, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMT	Artemida-Makis	0.24	283	*e*PG	Pg	01 27 34.4	+0.3
AMT				*e*SG	Sg	01 27 37.7	+0.4
AMT	Artemida-Makis	0.24	283	*e*Pg	Pg	01 27 34.4	+0.3
AMT				*e*Sg	Sg	01 27 37.7	+0.4
ITM	Ithomi	0.30	191	*e*PB	Pg	01 27 36.0	+0.6
ITM				*e*SB	Sg	01 27 40.7	+1.3
ITM	Ithomi	0.30	191	*e*Pb	Pg	01 27 36.0	+0.6
ITM				*e*Sb	Sg	01 27 40.7	+1.3
VLX	Vlachokerasia	0.32	110	*e*PB	Pg	01 27 35.9	+0.1
VLX	Vlachokerasia	0.32	110	*e*Pb	Pg	01 27 35.9	+0.1
GUR	Goura	0.53	31	*e*PG	Pg	01 27 39.7	-0.1
GUR				*e*SB	Sg	01 27 47.8	+1.0
GUR	Goura	0.53	31	*e*Pg	Pg	01 27 39.7	-0.1
GUR				*e*Sb	Sg	01 27 47.8	+1.0
KLV	Kalavryta, Ach	0.57	12	*e*PG	Pg	01 27 40.5	-0.1
KLV				*e*SB	Sb	01 27 49.6	-1.1
KLV	Kalavryta, Ach	0.57	12	*e*Pg	Pg	01 27 40.5	-0.1
KLV				*e*Sb	Sb	01 27 49.6	-1.1
PYL	PYLOS	0.62	200	*e*PB	Pg	01 27 41.5	+0.2
PYL				*e*SB	Sg	01 27 50.2	+0.8
PYL	PYLOS	0.62	200	*e*Pb	Pg	01 27 41.5	+0.2
PYL				*e*Sb	Sg	01 27 50.2	+0.8
RLS	Riolos of Patr	0.71	324	*e*PB	Pb	01 27 43.9	-0.5
RLS	Riolos of Patr	0.71	324	*e*Pb	Pb	01 27 43.9	-0.5
TRIZ	Trizonia	0.89	4	*e*PB	Pg	01 27 46.7	+0.3
TRIZ	Trizonia	0.89	4	*e*Pb	Pg	01 27 46.7	+0.3
KALE	Kalithea	0.92	7	*e*PB	Pg	01 27 47.3	+0.2
KALE	Kalithea	0.92	7	*e*Pb	Pg	01 27 47.3	+0.2
VLI	Veliai	1.07	135	*e*PB	Pg	01 27 50.0	+0.1
VLI	Veliai	1.07	135	*e*Pb	Pg	01 27 50.0	+0.1

NIED 17 01:47:00, 48°.00N×155°.10E, h14km, Mw4.2 Best double couple: M0:2.51000×10^15 NP1:φs:248.00000°, δ80.00000°, λ-26.00000°. NP2:φs:343.00000°, δ64.00000°, λ-169.00000°.

BJI 17 01:47:39.5, 48°.06N×154°.82E, h41km, mB4.9/21, mb4.7/36, Ms4.3/21, Ms7 3.9/21

ISCJB 17 01:47:41.2±0.5, 48°.15N±0°.04×154°.49E±0°.04, h42km±4km, mb4.6/105, MS3.9/22, Error ellipse: s-maj=6.9km s-min=3.3km az=147.1

SKHL 17 01:47:41.1±1.1, 47°.72N×155°.16E, h65km±5km, mb6.0/1, mbh5.8/1, Ms4.0/4, msh5.0/1

MOS 17 01:47:42.7±1.3, 48°.21N×154°.51E, h59km, mb5.0/39, Error ellipse: s-maj=7.9km s-min=5.6km az=85.0

TEH 17 01:47:43.0, 48°.19N×154°.42E, h42km, ML4.7

NEIC 17 01:47:43.4±0.7, 48°.21N×154°.33E, h46km±6km, mb4.8/56, Error ellipse: s-maj=7.2km s-min=4.3km az=147.0

IDC 17 01:47:46.5±2.1, 48°.26N×154°.36E, h75km±18km, mb4.0/26, mb1 4.2/29, mb1mx4.2/34, mbtmp4.1/29, MS3.7/19, Ms1 3.7/19, ms1mx3.6/36, Error ellipse: s-maj=13.8km s-min=10.5km az=122.0

ISC 17 01:47:43.3±0.4, 48°.16N±0°.05×154°.55E±0°.03, h47km±2km, h47km:pP-P, n347, σ1°58/401, mb4.7/105, MS3.9/22, 16C-16D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	2.73	21	*e*PN	Pn	01 48 13.0	-11
SKR				pmax	pmax		
	comp=Z,770nm,0.5s						
SKR				pmax	pmax		
	comp=N,460nm,0.3s						
SKR				pmax	pmax		
	comp=E,280nm,0.3s						
SKR				pmax	pmax		
	comp=N,1μm,2.0s						
SKR				pmax	pmax		
	comp=E,2μm,2.0s						
SKR				pmax	pmax		
	comp=Z,2μm,2.0s						
SKR				MLR	MLR		
	comp=N,2μm,10.0s						
SKR				MLR	MLR		
	comp=E,2μm,10.0s						
SKR				MLR	MLR		
	comp=Z,2μm,10.0s						
SKR	Severo-Kuril's	2.73	21	*e*P	Pn	01 48 13.0	-11
SKR				AMB	AMB	01 48 16.0	
	comp=Z,460nm,0.5s						
SKR				AMB	AMB	01 48 16.0	
	comp=Z,280nm,0.5s						
SKR				AMB	AMB	01 48 16.0	
	comp=Z,770nm,0.5s						
SKR				AMB	AMB	01 48 16.0	
	comp=Z,1μm,2.0s						
SKR				AMB	AMB	01 48 16.0	
	comp=Z,2μm,2.0s						
SKR				AMB	AMB	01 48 16.0	
	comp=Z,2μm,2.0s						
SKR				*i* S	Sn	01 48 44.0	-12
SKR				A	A	01 48 46.0	
	comp=Z,3μm,4.0s						
SKR				A	A	01 48 55.0	
	comp=Z,2μm,0.3s						
SKR				A	A	01 48 55.0	
	comp=Z,770nm,0.3s						
SKR				AMS	AMS	01 49 34.0	
	comp=Z,2μm,10.0s						
SKR				AMS	AMS	01 49 34.0	
	comp=Z,2μm,10.0s						
SKR				AMS	AMS	01 49 34.0	
	comp=Z,2μm,10.0s						
PEA0B	Petropavlovsk-	5.34	21	*e*Pn	Pn	01 49 02.1	+1.7
PEA0B				*e*S	Sn	01 50 16.1	+15
PETK	Petropavlovsk-	5.34	21	PN	Pn	01 49 02.1	+1.7
PETK				pmax	pmax		
	comp=Z,20nm,0.3s						
PETK				MLR	MLR		
	comp=Z,448nm,21.1s						
PETK	Petropavlovsk-	5.34	21	P	Pn	01 49 02.1	+1.7
PETK				S	Sn	01 50 14.3	+14
PETK	Petropavlovsk-	5.34	21	P	Pn	01 49 02.1	+1.7
	comp=Z,20nm,0.3s,baz=179,slow=12,SNR=126						
PETK				S	Sn	01 50 14.3	+14
	baz=165,slow=32,SNR=1.9						
PETK				LR	LR	01 51 20.1	
	comp=Z,448nm,21.1s,baz=330,slow=40						
KUR	Kuril'sk	5.45	240	⇓*i*PN	Pn	01 49 04.4	+2.5
KUR				*i* S	Sn	01 50 07.7	+4.5
KUR				pmax	pmax		
	comp=N,124nm,0.2s						
KUR				pmax	pmax		
	comp=Z,300nm,0.6s						
KUR				pmax	pmax		
	comp=E,71nm,0.2s						
KUR				smax	smax		
	comp=N,398nm,0.5s						
KUR				smax	smax		
	comp=E,75nm,0.4s						
KUR				MLR	MLR		
	comp=E,409nm,7.0s						
KUR				MLR	MLR		
	comp=Z,409nm,7.0s						
KUR	Kuril'sk	5.45	240	*i* P	Pn	01 49 04.4	+2.5
KUR				AMB	AMB	01 49 08.3	
	comp=Z,124nm,0.2s						
KUR				AMB	AMB	01 49 08.3	
	comp=Z,71nm,0.2s						
KUR				AMB	AMB	01 49 08.3	
	comp=Z,300nm,0.2s						
KUR				*i* S	Sn	01 50 07.7	+4.5
KUR				A	A	01 50 10.3	
	comp=Z,398nm,0.5s						
KUR				A	A	01 50 10.3	
	comp=Z,75nm,0.5s						
KUR				AMS	AMS	01 51 16.4	
	comp=Z,409nm,7.0s						
PET	Petropavlovsk	5.53	27	*e*PN	Pn	01 49 03.1	+0.2
PET				*e*S	Sn	01 50 05.5	+0.5
PET				pmax	pmax		
	comp=Z,84nm,0.5s						
PET				smax	smax		
	comp=E,606nm,0.7s						
PET				MLR	MLR		
	comp=Z,300nm,18.0s						
PET	Petropavlovsk	5.53	27	*e*P	Pn	01 49 04.7	+1.8
YUK	Yuzh-Kuril'sk	7.31	239	*i* PN	Pn	01 49 29.1	+1.7
YUK				*i* S	Sn	01 50 53.9	+4.9
YUK				pmax	pmax		
	comp=Z,258nm,0.3s						
YUK				pmax	pmax		
	comp=E,36nm,0.1s						
YUK				pmax	pmax		
	comp=N,68nm,0.1s						
YUK				MLR	MLR		
	comp=Z,436nm,18.0s						
YUK	Yuzh-Kuril'sk	7.31	239	*i* P	Pn	01 49 29.1	+1.7
YUK				AMB	AMB	01 49 29.2	
	comp=Z,68nm,0.3s						
YUK				AMB	AMB	01 49 29.2	
	comp=Z,36nm,0.3s						
YUK				AMB	AMB	01 49 29.2	
	comp=Z,258nm,0.3s						
YUK				*i* S	Sn	01 50 53.9	+4.9
YUK				AMS	AMS	01 52 10.0	
	comp=Z,681nm,18.0s						
YUK				AMS	AMS	01 52 10.0	
	comp=Z,436nm,18.0s						
JRA	Rausu	7.80	241	P	Pn	01 49 35.3	+1.3
NEM2	Nemuro 2	7.80	235	P	Pn	01 49 32.3	-1.8
NEM2				*e*S	Sn	01 50 55.6	-5.4
YSS	Yuzh-Sakhalins	8.07	266	⇑*i*PN	Pn	01 49 41.0	+3.2
YSS				pmax	pmax		
	comp=Z,50nm,0.6s						
YSS				MLR	MLR		
	comp=Z,400nm,14.0s						
YSS	Yuzh-Sakhalins	8.07	266	*i* P	Pn	01 49 41.0	+3.2
YSS				AMB	AMB	01 49 42.0	
	comp=Z,50nm,0.6s						
YSS				*i* S	Sn	01 51 08.8	+1.2
YSS				A	A	01 51 12.0	
	comp=Z,110nm,0.8s						
YSS				A	A	01 51 12.0	
	comp=Z,150nm,0.8s						
YSS				AMS	AMS	01 52 32.0	
	comp=Z,400nm,14.0s						
JNK	Nakash	8.24	240	P	Pn	01 49 40.3	+0.1
UGL	Uglegorsk	8.32	281	*e*P	Pn	01 50 12.5	+31
UGL				AMB	AMB	01 50 16.0	
	comp=Z,58nm,0.5s						
UGL				AMS	AMS	01 53 12.0	
	comp=Z,400nm,15.0s						
UGL				AMS	AMS	01 53 12.0	
	comp=Z,500nm,15.0s						
JTKR	Abashiri--Toko	8.50	244	P	Pn	01 49 45.7	+2.0
JAK	Akkeshi	8.62	237	P	Pn	01 49 43.6	-1.8
JAK				*e*S	Sn	01 51 16.1	-5.1
JMP	Maruseppu	8.81	246	P	Pn	01 49 52.5	+4.5
JSE	Soyaes	8.84	253	P	Pn	01 49 51.9	+3.5
JAR	Ashorobuto	8.97	241	P	Pn	01 49 51.2	+1.1
JWK2	Keihoku	9.14	257	P	Pn	01 49 57.6	+5.2
ASAJ	Asahikawa	9.23	248	P	Pn	01 49 57.1	+3.4
ASAJ	Asahikawa	9.23	248	*e*Pn	Pn	01 49 56.5	+2.8
ASAJ	Asahikawa	9.23	248	P	Pn	01 49 57.2	+3.6
	comp=Z,6.4nm,0.3s,baz=83,slow=14,SNR=30						
ASAJ				LR	LR	01 53 12.9	
	comp=Z,307nm,18.6s,baz=129,slow=36						
JKK2	Kamakawa 2	9.26	247	P	Pn	01 49 56.6	+2.5
JSS	Shosan	9.56	252	P	Pn	01 50 03.9	+5.7
JCH	Churui	9.62	239	P	Pn	01 49 57.8	-1.2
JCH				*e*S	Sn	01 51 38.9	-6.8
JFR	Furan	9.74	244	P	Pn	01 50 03.6	+2.9
JBT2	Biratori 2	10.11	242	P	Pn	01 50 06.1	+0.4
JEM	Erimo	10.12	237	P	Pn	01 50 04.9	-1.0
JEM				*e*S	Sn	01 51 52.2	-5.8
ERM	Erimo	10.13	237	*e*PN	Pn	01 50 05.3	-0.6
ERM	Erimo	10.13	237	*e*P	Pn	01 50 05.9	0.0
ERM	Erimo	10.13	237	*e*Pn	Pn	01 50 05.3	-0.6
ERM				*e*S	Sn	01 51 57.3	-0.7
JNBK	Urakawa-nobuka	10.18	239	P	Pn	01 50 07.0	+0.3
JNB	Noboribetsu	11.08	244	P	Pn	01 50 18.7	-0.3
JKB	Kayabe	11.43	242	P	Pn	01 50 21.3	-2.4
JKB				*e*S	Sn	01 52 22.8	-7.1
JSH	Shimam	11.59	247	P	Pn	01 50 26.5	+0.6
JYM2	Yakumo 2	11.69	244	P	Pn	01 50 26.5	-0.8
JSR	Shiriuchi	12.01	242	P	Pn	01 50 28.8	-2.9
JTM	Tenmabayashi	12.12	238	P	Pn	01 50 28.3	-4.8
JANG	Nango	12.15	235	P	Pn	01 50 28.4	-5.2
JANG				*e*S	Sn	01 52 34.3	-13
JOSM	Okushiri--Mats	12.25	246	P	Pn	01 50 33.6	-1.3
JTH	Tanohata	12.27	233	P	Pn	01 50 30.2	-5.0
JTH				*e*S	Sn	01 52 36.6	-14
FX1	Attu Island--F	12.74	61	*e*Pn	Pn	01 50 40.6	-1.0
FX1				*e*S	Sn	01 52 52.0	-10
FX1				S	Sn	01 52 53.1	-8.7
FX1				*e*PcP	PcP	01 56 16.6	+1.8
FX1	Attu Island--F	12.74	61	P	Pn	01 50 40.5	-1.0
	comp=Z,12nm,0.3s,baz=44,slow=0.3,SNR=59						
FX1				S	Sn	01 52 53.1	-8.7
	comp=Z,12nm,0.3s,baz=54,slow=24,SNR=10						
FX1				LR	LR	01 55 10.0	
	comp=Z,132nm,19.1s,baz=233,slow=35						
JOM	Ohasama	12.91	233	P	Pn	01 50 39.0	-5.0
HABR	Khabarovsk	12.98	279	*e*PN	Pn	01 50 46.2	+1.3
HABR				*e*S	Sn	01 53 11.7	+4.0
HABR				pmax	pmax		
	comp=Z,17nm,1.2s						
HABR				MLR	MLR		
	comp=Z,240nm,16.0s						
OFUJ	Ofunato	13.00	230	P	Pn	01 50 39.8	-5.4
OFUJ				*e*S	Sn	01 52 55.9	-12
SMY	Shemya	13.26	63	*e*PN	Pn	01 50 47.5	-1.1
SMY	Shemya	13.26	63	*e*Pn	Pn	01 50 47.5	-1.1
JRG	Rokugo	13.32	234	P	Pn	01 50 43.4	-6.1
SEY	Seymchan	14.86	356	⇓*i*P	P	01 51 12.6	-2.3
SEY	Seymchan	14.86	356	*e*P	P	01 51 12.6	-2.3
KLR	Kul'dur	15.09	283	*e*P	Pn	01 51 10.7	-2.4
KLR				MLR	MLR		
	comp=Z,500nm,15.0s						
USRK	Ussuriysk Arra	16.10	264	P	Pn	01 51 27.6	+1.3
	comp=Z,3.4nm,0.3s,baz=67,slow=12,SNR=73						
USRK				LR	LR	01 57 06.6	
	comp=Z,108nm,21.7s,baz=23,slow=35						
VLA	Vladivostok	16.61	261	⇓*e*P	P	01 51 35.5	+1.0
VLA				pmax	pmax		
	comp=Z,90nm,1.8s						
VLA	Vladivostok	16.61	261	*e*P	P	01 51 35.5	+1.0
MAJO	Matsushiro	16.71	232	*e*P	Pn	01 51 31.8	-2.2
MAJO				pmax	pmax		
	comp=Z,20nm,0.6s						
MAJO	Matsushiro	16.71	232	*e*P	Pn	01 51 31.8	-2.2
	comp=Z,20nm,0.6s						
MAT	Matsushiro	16.71	232	P	Pn	01 51 31.5	-2.4
MAT				S	Sn	01 54 36.5	-2.1
MAT	Matsushiro	16.71	232	P	Pn	01 51 31.6	-2.4
MJAR	Matsushiro Arr	16.71	232	P	Pn	01 51 31.0	-3.0
MJAR	Matsushiro Arr	16.71	232	P	Pn	01 51 31.0	-3.0
	comp=Z,0.7nm,0.3s,baz=29,slow=13,SNR=18						
MJAR				LR	LR	01 58 26.7	
	comp=Z,124nm,18.4s,baz=45,slow=38						
JRY	Ryogami san	16.76	229	P	Pn	01 51 33.4	-1.1
MDJ	Mudanjiang	17.55	268	P	Pn	01 51 42.8	-1.5
MDJ				pP	pP	01 51 53.3	-2.6
MDJ				sP	sP	01 51 58.8	-3.0
MDJ				S	Sn	01 54 55.8	-2.9
MDJ				PcP	PcP	01 56 20.8	-1.1
MDJ				ScP	ScP	01 59 52.3	-0.5
MDJ				PcS	PcS	01 59 57.9	-0.1
MDJ				ScS	ScS	02 03 32.8	0.0
MDJ				pmax	pmax		
	comp=Z,11nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,52nm,3.7s						
MDJ				LR	LR		
	comp=Z,100nm,25.8s						
MDJ	Mudanjiang	17.55	268	*e*Pn	P	01 51 45.2	+0.3
	comp=Z,14nm,0.8s						
JWT	Wachi	19.16	235	P	P	01 52 02.7	0.0
YAK	Yakutsk	19.71	324	*e*P	P	01 52 08.2	-0.1
YAK				pmax	pmax		
	comp=Z,40nm,1.0s						
YAK				pmax	pmax		
	comp=E,22nm,1.6s						
YAK				pmax	pmax		
	comp=N,17nm,1.7s						
YAK				pmax	pmax		
	comp=Z,32nm,0.9s						
YAK				pmax	pmax		
	comp=N,20nm,1.0s						
YAK				pmax	pmax		
	comp=E,20nm,1.1s						
CLNS	Chul'man	19.90	307	*e*P	Pn	01 52 15.9	+3.4
CLNS				pmax	pmax		
	comp=Z,23nm,1.0s						
CLNS				pmax	pmax		
	comp=N,22nm,0.9s						
CLNS				pmax	pmax		
	comp=E,37nm,1.1s						
CN2	Changchun	20.62	269	*e*P	P	01 52 16.5	-2.0
CN2				*e*pP	pP	01 52 27.3	-2.3
CN2				*e*S	S	01 55 57.5	-8.7
CN2				pmax	pmax		
	comp=Z,20nm,0.9s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
KSRS	Korea Array	22.16	251	P	P	01 52 36.2	+1.2
	comp=Z,28nm,0.9s,baz=44,slow=11,SNR=70						
KSAR	Wonju Array Be	22.20	251	P	P	01 52 36.2	+0.9
SNY	Shenyang	22.70	265	⇑P	P	01 52 39.9	-0.8
SNY				pmax	pmax		
	comp=Z,9.0nm,0.8s						
TJN	Taejon	23.18	250	*i* P	P

BJI pmax pmax
comp=Z,12nm,0.7s
BJI pmax pmax
comp=Z,80nm,3.8s
BJI LR LR
comp=N,120nm,15.7s
BJI LR LR
comp=E,140nm,15.7s
BJI LR LR
comp=Z,52nm,18.2s
HHC Hu-ho-hao-te 31.18 273 *e*P **P 01 53 58.3 +0.5**
HHC pP **pP 01 54 10.3 +0.1**
HHC sP **sP 01 54 15.8 0.0**
HHC PP **PnPn 01 55 01.3 +0.5**
HHC PcP **PcP 01 56 53.1 +1.4**
HHC S **S 01 58 59.3 -1.2**
HHC sS **sS 01 59 18.8 -2.6**
HHC ScP **ScP 02 00 31.9 +1.4**
HHC SS **SnSn 02 00 45.0 -0.7**
HHC ScS **ScS 02 04 26.9 -0.9**
HHC pmax pmax
comp=Z,34nm,1.3s
HHC pmax pmax
comp=Z,240nm,9.5s
HHC LR LR
comp=N,410nm,17.8s
HHC LR LR
comp=E,440nm,17.8s
HHC LR LR
comp=Z,470nm,17.8s
NJ2 Nanjing 31.35 252 *e*P **P 01 53 58.6 -0.6**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
ULN Ulaanbaatar 31.38 288 *e*P **P 01 54 00.3 +0.8**
SONM Songino Array 31.81 288 P **P 01 54 03.4 +0.2**
SONM PcP **PcP 01 56 52.4 -0.9**
SONM ScP **ScP 02 00 29.1 -3.4**
SONM Songino Array 31.81 288 P **P 01 54 03.4 +0.2**
comp=Z,1.3nm,0.8s,baz=60,slow=9.1,SNR=5.9
SONM PcP **PcP 01 56 52.4 -0.9**
comp=Z,0.8nm,0.7s,baz=104,slow=1.3,SNR=4.0
SONM ScP **ScP 02 00 29.1 -3.4**
comp=Z,0.3nm,0.3s,baz=62,slow=3.4,SNR=3.7
SONM LR LR 02 07 55.7
comp=Z,235nm,19.0s,baz=269,slow=38
TLY Talaya 32.42 296 *e*P P 01 53 58.1 -10
TLY pmax pmax
comp=Z,8.0nm,0.9s
TLY MLR MLR
comp=Z,187nm,20.0s
TLY Talaya 32.42 296 *e*P **P 01 54 10.2 +1.7**
COLD Coldfoot 33.62 35 *e*P **P 01 54 17.7 -1.0**
comp=Z,4.7nm,1.0s
COLA College 34.43 40 *e*P **P 01 54 26.6 +0.9**
COLA pmax pmax
comp=Z,31nm,0.8s
COLA College 34.43 40 *e*P **P 01 54 26.6 +0.9**
comp=Z,31nm,0.8s
ILAR Eielson Array 34.84 40 P **P 01 54 29.7 +0.4**
ILAR Eielson Array 34.84 40 P **P 01 54 29.7 +0.4**
comp=Z,0.6nm,0.5s,baz=264,slow=9.2,SNR=7.1
WHN Wuhan 35.23 255 ⇓P **P 01 54 34.8 +1.8**
TPUB Ta-pu 36.59 239 *e*P **P 01 54 44.6 -0.1**
comp=Z,12nm,0.8s
XAN Xi'an 36.62 264 P **P 01 54 44.5 -0.4**
XAN pmax pmax
comp=Z,1.0nm,0.6s
TWG Pinlang 36.71 238 P **P 01 54 44.7 -1.0**
comp=Z,32nm,0.6s
EGAK Eagle 37.29 40 *e*P **P 01 54 49.3 -0.9**
comp=Z,87nm,2.4s
LZH Lanzhou 38.83 271 *e*P **P 01 55 05.1 +1.4**
LZH pP **pP 01 55 19.1 +2.8**
LZH sP **sP 01 55 23.5 +1.6**
LZH pmax pmax
comp=Z,36nm,1.1s
LZH pmax pmax
comp=Z,150nm,3.6s
GTA Gaotai 39.72 278 *e*P **P 01 55 13.0 +1.9**
GTA pP **pP 01 55 25.3 +1.6**
GTA sP **sP 01 55 30.8 +1.5**
GTA S **S 02 01 13.8 +2.3**
GTA sS **sS 02 01 34.4 +1.7**
GTA SS **SS 02 04 04.8 -3.4**
GTA pmax pmax
comp=Z,4.0nm,1.1s
GTA pmax pmax
comp=Z,44nm,6.6s
GTA LR LR
comp=N,100nm,15.4s
GTA LR LR
comp=E,130nm,16.1s
GTA LR LR
comp=Z,180nm,16.6s
INK Inuvik 39.94 33 *e*P **P 01 55 13.7 +1.3**
comp=Z,4.1nm,0.6s
INK Inuvik 39.94 33 P **P 01 55 14.1 +1.7**
comp=Z,2.2nm,0.5s,baz=293,slow=6.1,SNR=10
CD2 Chengdu 41.97 265 P **P 01 55 30.8 +1.2**
CD2 pP **pP 01 55 42.6 +0.3**
CD2 sP **sP 01 55 47.8 -0.1**
CD2 PP **PnPn 01 57 11.5 -1.1**
CD2 PcP **PcP 01 57 27.1 +3.0**
CD2 S **S 02 01 46.4 +1.5**
CD2 sS **sS 02 02 04.9 -1.4**
CD2 SS **SS 02 04 46.9 -6.0**
CD2 pmax pmax
comp=Z,40nm,0.9s
CD2 pmax pmax
comp=Z,110nm,4.3s
CD2 LR LR
comp=N,200nm,5.3s
CD2 LR LR
comp=Z,190nm,10.1s
ZALV Zalesovo Beam 42.59 305 P **P 01 55 31.7 -2.6**
ZALV 01 57 25.3
ZALV pmax pmax
comp=Z,1.0nm,0.3s
ZALV MLR MLR
comp=Z,126nm,21.3s
ZALV Zalesovo Beam 42.59 305 P **P 01 55 31.6 -2.6**
ZALV PcP **PcP 01 57 25.3 -0.4**
ZALV pPcP 01 57 35.7
ZALV Zalesovo Beam 42.59 305 P **P 01 55 31.7 -2.6**
comp=Z,0.9nm,0.3s,baz=61,slow=7.3,SNR=5.1
ZALV PcP **PcP 01 57 25.3 -0.4**
comp=Z,2.0nm,0.7s,baz=84,slow=3.3,SNR=6.9
ZALV pPcP 01 57 35.7
comp=Z,1.5nm,0.6s,baz=72,slow=4.8,SNR=4.3
ZALV LR LR 02 13 42.5
comp=Z,126nm,21.3s,baz=69,slow=37
GYA Guiyang 42.97 257 *e*P **P 01 55 37.8 -0.1**
GYA pP **pP 01 55 49.6 -1.0**
GYA sP **sP 01 55 56.3 +0.2**
GYA PP **PP 01 57 19.6 +1.4**
GYA PcP **PcP 01 57 29.4 +1.8**
GYA ScP **ScP 02 01 15.0 +0.4**
GYA S **S 02 01 58.9 -1.0**
GYA sS **sS 02 02 18.8 -2.4**
GYA pmax pmax
comp=Z,10.0nm,1.0s
WMQ Urumqi 45.33 291 P **P 01 55 57.3 +0.8**
WMQ pP **pP 01 56 09.8 +0.5**
WMQ sP **sP 01 56 15.0 +0.1**
WMQ PP **PP 01 57 44.0 +1.1**
WMQ *e*S **S 02 02 33.3 -0.4**
WMQ sS **sS 02 02 54.3 -0.9**
WMQ ScS **ScS 02 05 47.6 -1.1**
WMQ pmax pmax
comp=Z,28nm,0.7s
WMQ pmax pmax
comp=Z,170nm,4.4s
WMQ LR LR
comp=N,66nm,18.0s
WMQ LR LR
comp=Z,95nm,22.0s
KIP Kipapa 46.24 108 *i*P **P 01 56 02.3 -1.4**
QIZ Qiongzhong 46.30 247 P **P 01 56 03.4 -0.9**
QIZ S **S 02 02 48.1 +0.2**
QIZ pmax pmax
comp=Z,10.0nm,1.7s
KMI Kunming 46.46 259 P **P 01 56 07.0 +1.2**
KMI pP **pP 01 56 17.0 -1.6**
KMI pmax pmax
comp=Z,14nm,0.8s

MK31 Makanchi Array 47.17 297 *e*P **P 01 56 09.3 -1.5**
MK31 Makanchi Array 47.17 297 *e*P **P 01 56 09.3 -1.5**
MKAR Makanchi Array 47.17 297 P **P 01 56 09.7 -1.1**
MKAR 01 57 41.4
MKAR pmax pmax
comp=Z,2.0nm,0.7s
MKAR MLR MLR
comp=Z,122nm,19.6s
MKAR Makanchi Array 47.17 297 P **P 01 56 09.7 -1.1**
MKAR PcP **PcP 01 57 41.4 -0.3**
MKAR Makanchi Array 47.17 297 P **P 01 56 09.7 -1.1**
comp=Z,2.4nm,0.7s,baz=66,slow=7.4,SNR=27
MKAR PcP **PcP 01 57 41.4 -0.3**
comp=Z,0.6nm,0.6s,baz=48,slow=6.0,SNR=2.6
MKAR LR LR 02 17 38.9
comp=Z,122nm,19.6s,baz=40,slow=38
YKA Yellowknife Ar 49.21 38 P **P 01 56 27.2 +1.0**
YKA Yellowknife Ar 49.21 38 P **P 01 56 27.2 +1.0**
comp=Z,1.7nm,0.7s,baz=298,slow=7.6,SNR=5.4
BVAR Borovoye Array 50.72 309 P **P 01 56 36.3 -1.6**
BVAR 01 57 53.9
BVAR pmax pmax
comp=Z,3.0nm,0.4s
BVAR Borovoye Array 50.72 309 P **P 01 56 36.3 -1.6**
BVAR PcP **PcP 01 57 53.9 -0.5**
BVAR Borovoye Array 50.72 309 P **P 01 56 36.3 -1.6**
comp=Z,2.9nm,0.4s,baz=61,slow=8.0,SNR=15
BVAR PcP **PcP 01 57 53.9 -0.5**
comp=Z,1.8nm,0.6s,baz=74,slow=5.4,SNR=3.8
BRVK Borovoye 50.76 309⇓*e*P **P 01 56 38.5 +0.3**
BRVK pmax pmax
comp=Z,4.0nm,0.7s
BRVK Borovoye 50.76 309 *e*P **P 01 56 36.5 -1.6**
comp=Z,4.6nm,0.6s
CHTO Chiang Mai 53.39 257 *e*P **P 01 56 58.3 +0.1**
CHTO pmax pmax
comp=Z,12nm,0.8s
CHTO Chiang Mai 53.39 257 *e*P **P 01 56 58.3 +0.1**
comp=Z,12nm,0.8s
AAK Ala-Archa 54.09 296⇑*i*P **P 01 57 04.3 +1.1**
AAK pmax pmax
comp=Z,10.0nm,1.2s
AAK Ala-Archa 54.09 296 *e*P **P 01 57 04.3 +1.1**
ARU Arti 54.63 317 *d i*P **P 01 57 05.9 -0.8**
ARU 01 59 07.8
ARU S **S 02 04 42.6 -0.2**
ARU SS **SS 02 08 18.6 -6.7**
ARU pmax pmax
comp=Z,29nm,5.0s
ARU Arti 54.63 317 *e*P **P 01 57 06.7 0.0**
KSH Kashi 55.02 292 *e*P P 01 57 13.3 +3.4
KSH pP pP 01 57 23.5 +0.4
KSH PP **PP 01 59 18.0 +4.9**
KSH PcS **PcS 02 02 13.1 +2.0**
KSH S **S 02 04 51.5 +2.8**
KSH ScS **ScS 02 06 56.4 +1.4**
KSH pmax pmax
comp=Z,56nm,2.9s
KSH LR LR
comp=N,66nm,6.3s
KSH LR LR
comp=E,130nm,5.7s
KSH LR LR
comp=Z,120nm,11.1s
KKAR Karatay Array 56.17 299 *e*P **P 01 57 17.6 -0.4**
KKAR pmax pmax
comp=Z,1.0nm,0.8s
KKAR Karatay Array 56.17 299 *e*P **P 01 57 17.6 -0.4**
comp=Z,1.4nm,0.8s
ARCES ARCESS Array B 56.84 341 P **P 01 57 19.9 -2.5**
ARCES ARCESS Array B 56.84 341 P **P 01 57 19.9 -2.5**
comp=Z,2.1nm,0.9s,baz=36,slow=7.9,SNR=2.9
ARCES LR LR 02 25 09.2
comp=Z,153nm,19.1s,baz=223,slow=40
BSMT Bassoo Peak 57.06 53 *e*P **P 01 57 25.5 +1.0**
BLMT Blacktail Moun 57.19 53 *e*P **P 01 57 27.1 +1.7**
comp=Z,12nm,1.0s
HNR Honiara 57.54 174 LR LR 02 19 21.9
comp=Z,72nm,18.4s,baz=273,slow=33
MOD Modoc 57.55 62 *e*P **P 01 57 29.6 +1.7**
comp=Z,13nm,0.9s
SLMT Seeley Lake 58.12 53 *e*P **P 01 57 33.1 +1.2**
MSO Missoula 58.14 54 *e*P **P 01 57 34.4 +2.5**
comp=Z,11nm,1.4s
WVOR Wild Horse Val 58.20 60 *e*P **P 01 57 32.9 +0.4**
WVOR pmax pmax
comp=Z,2.0nm,0.8s
WVOR Wild Horse Val 58.20 60 *e*P **P 01 57 32.9 +0.4**
comp=Z,1.8nm,0.8s
ABKAR Akbulak array 58.27 310 *e*P **P 01 57 31.5 -1.2**
comp=Z,2.7nm,0.6s
AKTO Aktyubinsk 58.51 312 LR LR 02 23 34.9
comp=Z,73nm,19.7s,baz=55,slow=37
HLID Hailey 59.92 57 *e*P **P 01 57 46.1 +1.7**
comp=Z,9.3nm,1.8s
BOZ Bozeman (W) 60.13 54 *e*P **P 01 57 47.4 +1.6**
BOZ pmax pmax
comp=Z,9.0nm,1.6s
BOZ Bozeman (W) 60.13 54 *e*P **P 01 57 47.4 +1.6**
comp=Z,9.4nm,1.6s
JOF Joensuu 60.50 334 *e*P **P 01 57 44.9 -2.9**
JOF Joensuu 60.50 334 *e*p **P 01 57 44.9 -2.9**
QLMT Earthquake Lak 60.76 54 *e*P **P 01 57 51.8 +1.6**
comp=Z,0.6nm,0.6s
IMW Indian Meadow 61.63 55 *e*P **P 01 57 59.2 +3.0**
comp=Z,14nm,1.6s
RRI2 Red Ridge 61.78 56 *e*P **P 01 57 59.4 +2.2**
comp=Z,5.9nm,0.8s
MOOW Moose Ponds 61.84 55 *e*P **P 01 57 57.2 -0.3**
comp=Z,10nm,1.6s
TPAW Teton Pass 61.89 55 *e*P **P 01 58 00.8 +2.8**
comp=Z,5.7nm,0.9s
TPAW *e*pP **pP 01 58 11.8 +0.5**
LOHW Long Hollow 62.00 55 *e*P **P 01 58 01.3 +2.7**
comp=Z,21nm,1.8s
LOHW *e*pP **pP 01 58 13.0 +1.0**
REDW Red Top Meadow 62.03 55 *e*P **P 01 58 00.5 +1.7**
comp=Z,10nm,1.2s
KAF Kangasniemi 62.57 335 *e*P **P 01 57 58.9 -2.9**
KAF Kangasniemi 62.57 335 *e*p **P 01 57 58.9 -2.9**
R11A Troy Canyon, C 62.60 62 *e*P **P 01 58 03.6 +0.9**
comp=Z,2.7nm,1.0s
R11A *e*pP **pP 01 58 16.1 +0.1**
DUG Dugway 63.01 59 *e*P **P 01 58 06.7 +1.4**
DUG pmax pmax
comp=Z,7.0nm,1.2s
DUG Dugway 63.01 59 *e*P **P 01 58 06.7 +1.4**
comp=Z,7.3nm,1.2s
PDAR Pinedale Array 63.13 55 P **P 01 58 07.2 +1.0**
PDAR Pinedale Array 63.13 55 P **P 01 58 07.2 +1.0**
comp=Z,1.4nm,0.8s,baz=331,slow=1.8,SNR=9.6
FINES FINESS Array B 63.17 335 P **P 01 58 04.0 -1.8**
FINES FINESS Array B 63.17 335 P **P 01 58 04.0 -1.8**
comp=Z,1.5nm,0.4s,baz=31,slow=7.3,SNR=20
FINES LR LR 02 27 30.3
comp=Z,129nm,19.4s,baz=270,slow=38
CCUT Cedar City 64.44 62 *e*P **P 01 58 17.7 +2.8**
comp=Z,6.8nm,1.3s
SRU San Rafael 65.04 59 *e*P **P 01 58 20.0 +1.3**
SRU pmax pmax
comp=Z,8.0nm,1.0s
SRU San Rafael 65.04 59 *e*P **P 01 58 20.0 +1.3**
comp=Z,7.9nm,1.0s
RSSD Black Hills 65.17 51 *e*P **P 01 58 20.5 +1.0**
RSSD pmax pmax
comp=Z,36nm,1.0s
RSSD Black Hills 65.17 51 *e*P **P 01 58 20.5 +1.0**
comp=Z,36nm,1.0s
RSSD *e*pP **pP 01 58 30.9 -2.0**
SMCO Snowmass 67.01 57 *e*P **P 01 58 32.5 +0.9**
comp=Z,4.5nm,1.0s
SMCO *e*pP **pP 01 58 45.3 +0.2**
NOA NORSAR Array B 67.20 342 P **P 01 58 31.2 -0.8**
NOA NORSAR Array B 67.20 342 P **P 01 58 31.2 -0.8**
comp=Z,1.5nm,0.9s,baz=33,slow=6.3,SNR=5.1
NOA LR LR 02 32 06.5
comp=Z,74nm,19.3s,baz=25,slow=40
ISCO Idaho Springs 67.33 55 *e*P **P 01 58 33.6 +0.1**
ISCO *e*PP **pP 01 58 46.6 -0.4**
ISCO pmax pmax
comp=Z,6.0nm,1.1s
ISCO Idaho Springs 67.33 55 *e*P **P 01 58 33.6 +0.1**
comp=Z,5.8nm,1.1s
ISCO *e*pP **pP 01 58 46.6 -0.4**
CTA Charters Tower 68.34 188 P **P 01 58 39.1 -0.4**

CTA Charters Tower 68.34 188 P **P 01 58 39.1 -0.4**
comp=Z,2.6nm,0.5s,baz=332,slow=7.2,SNR=5.1
CTAO Charters Tower 68.34 188 P **P 01 58 39.4 -0.1**
CTAO pmax pmax
comp=Z,16nm,1.1s
CTAO Charters Tower 68.34 188 P **P 01 58 39.4 -0.1**
comp=Z,16nm,1.1s
EYMN Ely 68.46 41 P **P 01 58 43.1 +2.9**
comp=Z,41nm,2.1s
ECSD EROS Data Cent 69.21 47 *e*P **P 01 58 45.2 +0.4**
comp=Z,9.4nm,1.0s
WRAB Tennant Creek 70.16 200 *e*P **P 01 58 50.7 0.0**
WRAB pmax pmax
comp=Z,21nm,1.4s
WRAB Tennant Creek 70.16 200 *e*P **P 01 58 50.7 0.0**
comp=Z,21nm,1.4s
WRA Warramunga Arr 70.17 200 P **P 01 58 50.6 -0.2**
WRA Warramunga Arr 70.17 200 P **P 01 58 50.6 -0.2**
comp=Z,7.7nm,0.7s,baz=14,slow=6.1,SNR=29
ANMO Albuquerque 70.27 60 *e*P **P 01 58 53.0 +1.2**
KIV Kislovodsk 70.51 315 *e*P **P 01 58 53.2 +0.3**
KIV pmax pmax
comp=Z,6.0nm,0.9s
KIV MLR MLR
comp=Z,68nm,18.0s
KBZ Khabaz 70.58 314 LR LR 02 32 22.2
comp=Z,112nm,19.0s,baz=242,slow=38
DZM Mont Dzumac 70.72 168 LR LR 02 25 40.8
comp=Z,94nm,18.9s,baz=77,slow=32
FITZ Fitzroy Crossi 70.85 209 P **P 01 58 55.1 +0.1**
FITZ Fitzroy Crossi 70.85 209 P **P 01 58 55.1 +0.1**
comp=Z,5.6nm,0.7s,baz=15,slow=4.4,SNR=9.8
AKASG Malin Array Be 70.91 327 P **P 01 58 53.5 -1.6**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 70.91 327 P **P 01 58 53.5 -1.6**
AKASG Malin Array Be 70.91 327 P **P 01 58 53.5 -1.6**
comp=Z,1.6nm,0.5s,baz=33,slow=6.3,SNR=9.1
SCHQ Schefferville 71.63 24 LR LR 02 34 16.3
comp=Z,38nm,19.6s,baz=78,slow=39
ANN Anapa 72.28 318 *e*P P 01 58 59.6 -3.8
ANN pmax pmax
comp=Z,24nm,1.0s
IHRS Heris 72.53 308 *e*P **P 01 59 05.1 -0.2**
ISHB Shabestar 73.30 309 *e*P **P 01 59 08.1 -1.8**
AS31 Alice Springs 73.86 200 *e*P **P 01 59 13.8 +1.0**
ASAR Alice Springs 73.86 200 P **P 01 59 13.7 +0.8**
ASAR Alice Springs 73.86 200 P **P 01 59 13.7 +0.8**
comp=Z,3.3nm,0.6s,baz=13,slow=5.2,SNR=19
KWP Kalwaria Pacla 74.10 330 ⇓P **P 01 59 13.0 -1.1**
KWP Kalwaria Pacla 74.10 330 ⇓*i*P **P 01 59 13.0 -1.1**
BUR08 Bucovina Ar. S 74.92 327 *e*P **P 01 59 18.8 -0.2**
BURAR Bucovina Array 74.94 327 ⇓P **P 01 59 17.7 -1.4**
BURAR Bucovina Array 74.94 327 ⇓*i*P **P 01 59 17.7 -1.4**
EKA Eskdalemuir Ar 75.19 347 P **P 01 59 20.3 0.0**
EKA Eskdalemuir Ar 75.19 347 P **P 01 59 20.3 0.0**
comp=Z,3.5nm,0.5s,baz=19,slow=5.1,SNR=32
TESR Tescani 75.34 326⇑*i*P **P 01 59 19.1 -2.2**
IKOM Komasi 75.36 305 *e*P **P 01 59 21.7 -0.2**
DPC Dobruska-Polom 75.50 334 *e*P **P 01 59 22.6 +0.4**
DPC Dobruska-Polom 75.50 334 *e*P **P 01 59 22.6 +0.4**
CLL Collm 75.58 336 *i* P **P 01 59 22.4 -0.2**
CLL *e**PP **pP 01 59 39.0 +2.8**
CLL pmax pmax
comp=Z,8.0nm,1.1s
CLL Collm 75.58 336 *i* P **P 01 59 22.4 -0.2**
comp=Z,8.0nm,1.1s
CLL *e*pP **pP 01 59 37.0 +0.8**
TLCR 75.60 324⇑P **P 01 59 20.5 -2.3**
TLCR 75.60 324⇑*i*P **P 01 59 20.5 -2.3**
TXAR Lajitas Array 75.96 62 P **P 01 59 25.9 +0.6**
TXAR Lajitas Array 75.96 62 P **P 01 59 25.9 +0.6**
comp=Z,2.4nm,0.7s,baz=302,slow=4.6,SNR=19
PRU Pruhonice 76.34 335 *e*P **P 01 59 27.5 +0.6**
PRU Pruhonice 76.34 335 *e*P **P 01 59 27.5 +0.6**
TIRR Tirgusor 76.37 323 ⇓P **P 01 59 24.7 -2.5**
TIRR Tirgusor 76.37 323 ⇓*i*P **P 01 59 24.7 -2.5**
TLB Topalu 76.41 324⇑P **P 01 59 25.5 -1.9**
TLB Topalu 76.41 324⇑*i*P **P 01 59 25.5 -1.9**
MLR Muntele Rosu 76.46 326⇑*i*P **P 01 59 26.0 -1.9**
DRGR 76.54 328 ⇓P **P 01 59 25.6 -2.6**
DRGR 76.54 328 ⇓*i*P **P 01 59 25.6 -2.6**
MALT Malatya 76.90 314⇑P **P 01 59 28.9 -1.6**
MALT Malatya 76.90 314⇑*i*P **P 01 59 28.9 -1.6**
KHC Kasperske Hory 77.38 335 *e*P **P 01 59 33.1 +0.2**
KHC pmax pmax
comp=Z,4.0nm,0.7s
KHC Kasperske Hory 77.38 335 *e*P **P 01 59 32.6 -0.3**
KHC Kasperske Hory 77.38 335 *e*P **P 01 59 33.1 +0.2**
comp=Z,4.0nm,0.7s
GERES GERESS Array B 77.61 335 P **P 01 59 33.7 -0.5**
GERES GERESS Array B 77.61 335 P **P 01 59 33.7 -0.5**
comp=Z,2.2nm,0.7s,baz=7.6,slow=4.0,SNR=16
GERES LR LR 02 34 57.6
comp=Z,91nm,21.7s,baz=351,slow=36
CONA Conrad Observa 77.79 333⇑*i*P **P 01 59 36.1 +0.8**
comp=Z,3.5nm,0.8s,SNR=4.4
MEM Membach 77.96 340 P **P 01 59 36.4 +0.3**
BR131 Keskin Array S 78.02 317 *e*P **P 01 59 36.9 +0.1**
comp=Z,3.1nm,0.8s
BRTR Keskin Array B 78.02 317 P **P 01 59 36.9 +0.1**
BRTR Keskin Array B 78.02 317 P **P 01 59 36.9 +0.1**
comp=Z,3.7nm,0.8s,baz=77,slow=4.1,SNR=19
BRTR LR LR 02 36 16.6
comp=Z,27nm,18.1s,baz=149,slow=37
GIVF Givet 78.70 341 *e*P **P 01 59 39.4 -0.7**
GIVF Givet 78.70 341 *e*P **P 01 59 39.4 -0.7**
GIVF Givet 78.70 341 *e*P **P 01 59 39.4 -0.7**
MIB Mutribah 78.75 302 *e*P **P 01 59 40.2 -0.6**
MIB AMb AMB 01 59 42.2
comp=Z,17nm,0.8s
BAIF Baives 78.88 341 *e*P **P 01 59 41.2 +0.1**
BAIF Baives 78.88 341 *e*P **P 01 59 41.2 +0.1**
BAIF Baives 78.88 341 *e*P **P 01 59 41.2 +0.1**
SOKA Soboth 79.16 333⇑*i*P **P 01 59 43.1 +0.3**
comp=Z,4.8nm,0.9s
RST Umm Al-Ruwaisa 79.17 302 *e*P **P 01 59 42.4 -0.7**
RST AMb AMB 01 59 44.7
comp=Z,75nm,0.8s
NAY Al-Naaiem 79.22 302 *e*P **P 01 59 42.5 -0.9**
NAY AMb AMB 01 59 45.8
comp=Z,7.1nm,1.0s
RDF Al-Radifah 79.29 301 *e*P **P 01 59 43.1 -0.6**
RDF AMb AMB 01 59 44.2
comp=Z,26nm,1.3s
KBA Koelnbreinsper 79.31 334⇓*i*P **P 01 59 44.3 +0.6**
comp=Z,15nm,0.7s
WTTA Wattenberg 79.62 335⇓*i*P **P 01 59 45.9 +0.5**
comp=Z,13nm,0.9s
MOTA Moosalm 79.70 336⇑*i*P **P 01 59 46.3 +0.5**
comp=Z,7.2nm,0.7s
CDF Champ du Feu 79.71 339 *e*P **P 01 59 45.1 -0.7**
comp=Z,21nm,1.3s
CDF Champ du Feu 79.71 339 *e*P **P 01 59 45.1 -0.7**
CDF pmax pmax
comp=Z,21nm,1.3s
CDF Champ du Feu 79.71 339 *e*P **P 01 59 45.1 -0.7**
comp=Z,21nm,1.3s
PAGF Fort de Pagny 79.95 340 *e*P **P 01 59 46.7 -0.3**
comp=Z,9.0nm,1.0s
PAGF Fort de Pagny 79.95 340 *e*P **P 01 59 46.7 -0.3**
comp=Z,9.0nm,1.0s
VTS Vitosha 79.96 326⇑P **P 01 59 44.9 -2.5**
VTS Vitosha 79.96 326⇑*i*P **P 01 59 44.9 -2.5**
MEZF Maizieres J'vi 80.15 340 *e*P **P 01 59 48.5 +0.4**
comp=Z,10nm,0.7s
MEZF Maizieres J'vi 80.15 340 *e*P **P 01 59 48.5 +0.4**
comp=Z,10nm,0.7s
HAU Haudompre 80.31 339 *e*P **P 01 59 49.0 0.0**
comp=Z,13nm,0.9s
HAU *e*R
comp=Z,137nm,22.8s
HAU Haudompre 80.31 339 *e*P **P 01 59 49.0 0.0**
HAU pmax pmax
comp=Z,13nm,0.9s
HAU Haudompre 80.31 339 *e*P **P 01 59 49.0 0.0**
comp=Z,13nm,0.9s
HINF Hinteralfeld 80.37 339 *e*P **P 01 59 48.2 -1.1**
HINF Hinteralfeld 80.37 339 *e*P **P 01 59 48.2 -1.1**
HINF Hinteralfeld 80.37 339 *e*P **P 01 59 48.2 -1.1**
SFTF Sexfontaines 80.44 340 *e*P **P 01 59 49.0 -0.6**
comp=Z,18nm,0.8s
SFTF Sexfontaines 80.44 340 *e*P **P 01 59 49.0 -0.6**
comp=Z,18nm,0.8s
STKA Stephens Creek 80.52 191 P **P 01 59 50.2 +0.2**

STKA	**Stephens Creek**	**80.52 191**	P	**P**	**01 59 50.2**	**+0.2**
	comp=Z,0.8nm,0.4s,baz=29,slow=18,SNR=2.9					
DAVOX	**Davos/Dischmat**	**80.55 336**	P	**P**	**01 59 50.7**	**+0.2**
DAVOX	**Davos/Dischmat**	**80.55 336**	P	**P**	**01 59 50.7**	**+0.2**
	comp=Z,5.1nm,0.8s,baz=10.0,slow=8.1,SNR=7.4					
TUE	**Stuetta**	**80.98 336**	*e*P	**P**	**01 59 52.9**	**+0.2**
	comp=Z,7.7nm,0.8s					
FLN	**La Foliniere**	**81.06 344**	*e*P	**P**	**01 59 51.8**	**-1.1**
FLN			*e*R			
	comp=Z,125nm,17.2s					
FLN	**La Foliniere**	**81.06 344**	*e*P	**P**	**01 59 51.8**	**-1.1**
FLN	**La Foliniere**	**81.06 344**	*e*P	**P**	**01 59 51.8**	**-1.1**
LDF	**La Druitiere**	**81.16 343**	*e*P	**P**	**01 59 52.6**	**-0.8**
	comp=Z,19nm,1.0s					
LDF	**La Druitiere**	**81.16 343**	*e*P	**P**	**01 59 52.6**	**-0.8**
LDF			pmax	pmax		
	comp=Z,19nm,1.0s					
LDF	**La Druitiere**	**81.16 343**	*e*P	**P**	**01 59 52.6**	**-0.8**
	comp=Z,19nm,1.0s					
GRR	**Gorron**	**81.50 344**	*e*P	**P**	**01 59 54.8**	**-0.4**
GRR	**Gorron**	**81.50 344**	*e*P	**P**	**01 59 54.8**	**-0.4**
GRR	**Gorron**	**81.50 344**	*e*P	**P**	**01 59 54.8**	**-0.4**
LOR	**Lormes**	**81.59 340**	*e*P	**P**	**01 59 55.0**	**-0.8**
	comp=Z,11nm,0.8s					
LOR			*e*R			
	comp=Z,107nm,22.0s					
LOR	**Lormes**	**81.59 340**	*e*P	**P**	**01 59 55.0**	**-0.8**
	comp=Z,11nm,0.8s					
CABF	**La Chapelle**	**81.68 339**	*e*P	**P**	**01 59 55.9**	**-0.5**
CABF	**La Chapelle**	**81.68 339**	*e*P	**P**	**01 59 55.9**	**-0.5**
CABF	**La Chapelle**	**81.68 339**	*e*P	**P**	**01 59 55.9**	**-0.5**
HYF	**Humbligny**	**81.86 341**	*e*P	**P**	**01 59 57.0**	**-0.2**
HYF	**Humbligny**	**81.86 341**	*e*P	**P**	**01 59 57.0**	**-0.2**
SSF	**Saint Saulge**	**81.86 340**	*e*P	**P**	**01 59 56.5**	**-0.7**
	comp=Z,15nm,0.9s					
SSF	**Saint Saulge**	**81.86 340**	*e*P	**P**	**01 59 56.5**	**-0.7**
SSF			pmax	pmax		
	comp=Z,15nm,0.9s					
SSF	**Saint Saulge**	**81.86 340**	*e*P	**P**	**01 59 56.5**	**-0.7**
	comp=Z,15nm,0.9s					
ROSF	**Rostrenen**	**81.98 345**	*e*P	**P**	**01 59 57.0**	**-0.8**
	comp=Z,12nm,0.9s					
ROSF	**Rostrenen**	**81.98 345**	*e*P	**P**	**01 59 57.0**	**-0.8**
ROSF			pmax	pmax		
	comp=Z,12nm,0.9s					
ROSF	**Rostrenen**	**81.98 345**	*e*P	**P**	**01 59 57.0**	**-0.8**
	comp=Z,12nm,0.9s					
FORT	**Forrest**	**82.09 203**	*e*P	**P**	**01 59 58.6**	**+0.3**
	comp=Z,38nm,0.7s					
AVF	**Avril sur Loir**	**82.15 340**	*e*P	**P**	**01 59 58.2**	**-0.5**
	comp=Z,9.0nm,0.8s					
AVF	**Avril sur Loir**	**82.15 340**	*e*P	**P**	**01 59 58.2**	**-0.5**
AVF			pmax	pmax		
	comp=Z,9.0nm,0.8s					
AVF	**Avril sur Loir**	**82.15 340**	*e*P	**P**	**01 59 58.2**	**-0.5**
	comp=Z,9.0nm,0.8s					
SMF	**Signal de Mont**	**82.18 340**	*e*P	**P**	**01 59 58.4**	**-0.5**
	comp=Z,8.4nm,0.8s					
SMF	**Signal de Mont**	**82.18 340**	*e*P	**P**	**01 59 58.4**	**-0.5**
SMF			pmax	pmax		
	comp=Z,8.0nm,0.8s					
SMF	**Signal de Mont**	**82.18 340**	*e*P	**P**	**01 59 58.4**	**-0.5**
	comp=Z,8.4nm,0.8s					
BGF	**Bois d'Agland**	**82.48 341**	*e*P	**P**	**02 00 00.1**	**-0.4**
BGF	**Bois d'Agland**	**82.48 341**	*e*P	**P**	**02 00 00.1**	**-0.4**
BGF	**Bois d'Agland**	**82.48 341**	*e*P	**P**	**02 00 00.1**	**-0.4**
ASF	**Jabal al Asfar**	**82.53 311**	P	**P**	**02 00 01.8**	**+0.7**
ASF	**Jabal al Asfar**	**82.53 311**	P	**P**	**02 00 01.8**	**+0.7**
	comp=Z,1.1nm,0.6s,baz=93,slow=3.1,SNR=3.8					
LPL	**La Plagne**	**82.54 338**	*e*P	**P**	**02 00 01.1**	**0.0**
	comp=Z,11nm,0.8s					
LPL	**La Plagne**	**82.54 338**	*e*P	**P**	**02 00 01.1**	**0.0**
LPL			pmax	pmax		
	comp=Z,11nm,0.8s					
LPL	**La Plagne**	**82.54 338**	*e*P	**P**	**02 00 01.1**	**0.0**
	comp=Z,11nm,0.8s					
LPG	**La Plagne**	**82.56 338**	*e*P	**P**	**02 00 01.4**	**+0.2**
	comp=Z,15nm,0.9s					
LPG	**La Plagne**	**82.56 338**	*e*P	**P**	**02 00 01.4**	**+0.2**
LPG			pmax	pmax		
	comp=Z,15nm,0.9s					
LPG	**La Plagne**	**82.56 338**	*e*P	**P**	**02 00 01.4**	**+0.2**
	comp=Z,15nm,0.9s					
MMAI	**Mount Meron Ar**	**82.60 312**	P	**P**	**02 00 01.9**	**+0.5**
MMAI	**Mount Meron Ar**	**82.60 312**	P	**P**	**02 00 01.9**	**+0.5**
	comp=Z,6.9nm,0.8s,baz=20,slow=8.0,SNR=9.9					
TCF	**Toulx Ste Croi**	**82.88 341**	*e*P	**P**	**02 00 02.2**	**-0.4**
	comp=Z,11nm,0.8s					
TCF	**Toulx Ste Croi**	**82.88 341**	*e*P	**P**	**02 00 02.2**	**-0.4**
TCF			pmax	pmax		
	comp=Z,11nm,0.8s					
TCF	**Toulx Ste Croi**	**82.88 341**	*e*P	**P**	**02 00 02.2**	**-0.4**
	comp=Z,11nm,0.8s					
MFF	**Saint Martin d**	**83.07 343**	*e*P	**P**	**02 00 02.6**	**-0.9**
	comp=Z,18nm,1.0s					
MFF	**Saint Martin d**	**83.07 343**	*e*P	**P**	**02 00 02.6**	**-0.9**
MFF			pmax	pmax		
	comp=Z,18nm,1.0s					
MFF	**Saint Martin d**	**83.07 343**	*e*P	**P**	**02 00 02.6**	**-0.9**
	comp=Z,18nm,1.0s					
ORIF	**Oris-en-Rattie**	**83.32 338**	*e*P	**P**	**02 00 04.3**	**-0.6**
	comp=Z,12nm,0.9s					
ORIF			*e*R			
	comp=Z,116nm,22.2s					
ORIF	**Oris-en-Rattie**	**83.32 338**	*e*P	**P**	**02 00 04.3**	**-0.6**
ORIF			pmax	pmax		
	comp=Z,12nm,0.9s					
ORIF	**Oris-en-Rattie**	**83.32 338**	*e*P	**P**	**02 00 04.3**	**-0.6**
	comp=Z,12nm,0.9s					
LASF	**Ste Croix**	**84.60 339**	*e*P	**P**	**02 00 10.3**	**-1.1**
LASF	**Ste Croix**	**84.60 339**	*e*P	**P**	**02 00 10.3**	**-1.1**
MTLF	**Montolieu**	**85.68 340**	*e*P	**P**	**02 00 15.8**	**-1.0**
MTLF	**Montolieu**	**85.68 340**	*e*P	**P**	**02 00 15.8**	**-1.0**
MTLF	**Montolieu**	**85.68 340**	*e*P	**P**	**02 00 15.8**	**-1.0**
TORD	**Torodi Ar. Bea**	**114.36 331**	PKP	PKPdf	02 06 16.7	-1.3
TORD	**Torodi Ar. Bea**	**114.36 331**	PKP	PKPdf	02 06 16.7	-1.2
	comp=Z,0.2nm,0.5s,baz=12,slow=1.7,SNR=6.6					
VNDA	**Vanda**	**125.49 178**	PKP	**PKPdf**	**02 06 36.6**	**-0.8**
VNDA	**Vanda**	**125.49 178**	PKP	**PKPdf**	**02 06 36.6**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=293,slow=4.8,SNR=7.1					
SAML	**Samuel**	**129.64 52**	*e*PKPdf	**PKPdf**	**02 06 51.4**	**+4.1**
CPUP	**Villa Florida**	**146.92 60**	PKPbc	**PKPbc**	**02 07 19.6**	**-0.7**
CPUP	**Villa Florida**	**146.92 60**	PKPbc	**PKPbc**	**02 07 19.6**	**-0.7**
	comp=Z,0.8nm,0.4s,baz=267,slow=2.0,SNR=3.6					
PLCA	**Paso Flores**	**147.35 94**	PKPbc	**PKPbc**	**02 07 21.6**	**+0.3**
PLCA	**Paso Flores**	**147.35 94**	PKPbc	**PKPbc**	**02 07 21.6**	**+0.3**
	comp=Z,2.3nm,0.9s,baz=313,slow=6.0,SNR=5.0					
SNAA	**Sanae**	**154.18 196**	*e*PKP	**PKPbc**	**02 07 35.6**	**-0.9**
SNAA	**Sanae**	**154.18 196**	*ep*PKP	**PKPab**	**02 07 50.9**	**+0.3**
SNAA	**Sanae**	**154.18 196**	PKPbc	**PKPbc**	**02 07 35.6**	**-0.9**
SNAA	**Sanae**	**154.18 196**	PKPbc	**PKPbc**	**02 07 35.6**	**-0.9**
	comp=Z,0.3nm,0.7s,baz=168,slow=16,SNR=5.9					
VNA2	**Neumayer--Watz**	**155.61 194**	*e*PKP	PKPdf	02 07 38.6	+8.4
VNA2	**Neumayer--Watz**	**155.61 194**	*ep*PKP	PKPab	02 07 51.3	-5.3
VNA2	**Neumayer--Watz**	**155.61 194**	*es*PKP	**PKPab**	**02 07 57.0**	**+0.4**

MEX 17 01:50:45.3±0.7, 16°.91N×95°.24W, h113km±7km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.38**	**62**	*e*P	Pn	01 51 00.9	-0.9
CMIG				*i* S	Sn	01 51 11.9	-2.4
HUIG	**Huatulco**	**1.41**	**216**	*e*P	Pn	01 51 09.8	-1.6
HUIG				*e*S	Sn	01 51 29.6	-1.4
VHO	**Vista Hermosa**	**1.44**	**276**	*e*P	Pn	01 51 10.7	-1.1
VHO				*e*S	Sn	01 51 30.6	-1.4
TGIG		**2.03**	**94**	*i* P	Pn	01 51 17.0	-1.9
TGIG				*i* S	Sn	01 51 43.2	-1.4
PCIG		**2.28**	**122**	*e*P	Pn	01 51 20.3	-1.7
PCIG				*e*S	Sn	01 51 49.4	-0.8
PNIG	**Pinotepa**	**2.82**	**260**	*e*P	Pn	01 51 27.7	-1.4
PNIG				*e*S	Sn	01 52 00.6	-2.1

*ISCJB **17** 02:04:30.8±0.4, 15°.21S±0°.04×71°.33W±0°.06, h142km, mb3.8/10, Error ellipse: s-maj=8.5km s-min=5.0km az=150.5*
*IDC **17** 02:04:34.3±0.7, 15°.00S×71°.17W, h153km±5km, mb3.7/10, mb1 3.8/14, mb1mx3.8/22, mbtmp3.7/14, Error ellipse: s-maj=16.9km s-min=10.1km az=35.0*
ISC 17 02:04:33.7±0.7, 15°.36S±0°.07×71°.34W±0°.08, h142km, n39, σ1°53/41, **mb4.0**/10, **1C-2D, Southern Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.23 107**		*e*P	**Pn**	**02 05 25.7**	**+1.4**
LPAZ				*e*S	**Sn**	**02 06 05.2**	**+1.9**
LPAZ	**La Paz**	**3.23 107**		P	**Pn**	**02 05 26.6**	**+2.3**
	5.8nm,0.3s,baz=296,slow=9.8,SNR=125						
LPAZ				S	**Sn**	**02 06 05.6**	**+2.3**
	3.7nm,0.3s,baz=0.0,slow=20,SNR=9.2						
MNMC	**Minimini**	**4.11 156**		*e*P	**Pn**	**02 05 36.2**	**+0.8**
MNMC				*e*S	**Sn**	**02 06 24.1**	**+0.6**
PSGC	**Pisagua**	**4.38 165**		*e*P	**Pn**	**02 05 38.9**	**0.0**
PSGC				*e*S	**Sn**	**02 06 29.0**	**-0.5**
HMBC	**Humberstone**	**5.09 164**		⇓*e*P	**Pn**	**02 05 47.9**	**-0.5**
HMBC				*e*S	**Sn**	**02 06 45.1**	**-1.3**
NNA	**Nana**	**6.31 301**		P	Pn	02 05 59.9	-4.7
	12nm,0.3s,baz=134,slow=7.9,SNR=25						
NNA				S	Sn	02 06 59.0	-17
	6.4nm,0.3s,baz=164,slow=10,SNR=5.0						
PB07	**Plate Boundary**	**6.49 168**		*e*P	**Pn**	**02 06 06.6**	**-0.5**
PB09	**Plate Boundary**	**6.71 163**		*e*P	**Pn**	**02 06 10.1**	**+0.1**
PB04	**Plate Boundary**	**7.09 166**		*e*P	**Pn**	**02 06 13.4**	**-1.6**
PB10	**Plate Boundary**	**8.15 175**		*e*P	**Pn**	**02 06 27.9**	**-1.3**
SIV	**San Ignacio**	**9.91 95**		P	**Pn**	**02 06 50.3**	**-2.5**
	1.5nm,0.3s,baz=285,slow=14,SNR=36						
SIV				S	**Sn**	**02 08 39.8**	**-2.8**
	0.4nm,0.3s,baz=220,slow=17,SNR=3.9						
ATAH	**Atahualpa**	**10.70 319**		P	Pn	02 06 56.4	-7.3
	0.3nm,0.3s,baz=116,slow=16,SNR=2.2						
ATAH				S	Sn	02 08 57.3	-4.8
	0.4nm,0.3s,baz=343,slow=20,SNR=3.1						
CFAA	**Coronel Fontan**	**16.42 171**		P	**P**	**02 08 18.6**	**+2.3**
	0.1nm,0.3s,baz=349,slow=11,SNR=7.8						
CPUP	**Villa Florida**	**17.04 122**		P	**P**	**02 08 22.3**	**-0.7**
	1.5nm,0.3s,baz=295,slow=10,SNR=19						
BB16B	**Bebedouro**	**22.34 108**		⇓*i*P	**P**	**02 09 17.9**	**-2.2**
BB16B				*i*		02 09 18.7	
BB16B				*i*		02 09 22.0	
BDFB	**Brasilia**	**22.48 94**		P	**P**	**02 09 19.9**	**-1.8**
	3.7nm,0.5s,baz=263,slow=12,SNR=8.8						
PLCA	**Paso Flores**	**25.29 179**		P	**P**	**02 09 48.8**	**+1.7**
	3.9nm,0.7s,baz=358,slow=7.5,SNR=8.4						
TXAR	**Lajitas Array**	**54.30 325**		P	P	02 13 43.0	-2.5
	0.7nm,0.8s,baz=134,slow=8.8,SNR=4.6						
VNA1	**Neumayer--Stat**	**66.81 161**		*e*P	**P**	**02 15 12.1**	**+2.4**
VNA2	**Neumayer--Watz**	**67.18 161**		*e*P	**P**	**02 15 13.5**	**+1.4**
SNAA	**Sanae**	**68.81 162**		*e*P	**P**	**02 15 23.5**	**+1.2**
SNAA	**Sanae**	**68.81 162**		P	**P**	**02 15 23.1**	**+0.8**
DBIC	**Dimbokro**	**69.39 77**		P	P	02 15 23.1	-3.6
	3.0nm,0.7s,baz=215,slow=8.2,SNR=4.5						
TORD	**Torodi Ar. Bea**	**77.60 73**		P	P	02 16 11.5	-3.3
	1.3nm,0.6s,baz=239,slow=5.1,SNR=24						
VNDA	**Vanda**	**82.47 190**		P	**P**	**02 16 41.5**	**+1.7**
	1.2nm,0.9s,baz=121,slow=6.1,SNR=6.5						
SYO	**Syowa Base**	**83.03 160**		⇓*e*P	**P**	**02 16 42.6**	**-0.2**
ESDC	**Sonseca Array**	**83.16 46**		P	P	02 16 40.8	-3.3
	0.3nm,0.5s,baz=251,slow=7.6,SNR=3.2						
YKA	**Yellowknife Ar**	**84.66 341**		P	P	02 16 48.1	-2.9
	2.1nm,0.8s,baz=137,slow=5.2,SNR=7.4						
YKA				pP	pP	02 17 26.5	-0.4
	1.5nm,0.8s,baz=139,slow=5.4,SNR=2.9						
BOSA	**Boshof**	**88.40 119**		P	**P**	**02 17 10.1**	**-0.2**
	2.8nm,0.9s,baz=262,slow=7.1,SNR=4.5						
AKTO	**Aktyubinsk**	**126.41 38**		PKP	**PKPdf**	**02 23 19.0**	**-0.7**
	1.4nm,0.7s,baz=280,slow=1.8,SNR=8.4						
ASAR	**Alice Springs**	**134.03 213**		PKP	**PKPdf**	**02 23 34.6**	**-0.5**
	0.6nm,0.7s,baz=138,slow=1.6,SNR=7.8						
WRA	**Warramunga Arr**	**136.78 217**		PKP	**PKPdf**	**02 23 39.9**	**-0.4**
	0.9nm,0.6s,baz=142,slow=1.9,SNR=9.7						
ZALV	**Zalesovo Beam**	**137.21 21**		PKP	**PKPdf**	**02 23 38.5**	**-1.5**
	4.6nm,0.9s,baz=302,slow=2.9,SNR=12						
ZALV				pPKP	**pPKPdf**	**02 24 19.2**	**+1.4**
	1.9nm,0.8s,baz=302,slow=3.2,SNR=2.7						
ZALV				SKPbc	**SKPbc**	**02 26 57.9**	**-2.2**
	0.3nm,0.3s,baz=321,slow=1.8,SNR=3.1						
MKAR	**Makanchi Array**	**141.73 30**		PKhKP	PKPpre	02 23 40.4	
	0.1nm,0.3s,baz=303,slow=2.3,SNR=2.9						
MKAR				PKP	**PKPdf**	**02 23 47.2**	**-1.3**
	0.4nm,0.7s,baz=321,slow=1.6,SNR=4.6						
FITZ	**Fitzroy Crossi**	**142.78 207**		PKhKP	PKPpre	02 23 46.7	
	2.7nm,0.8s,baz=207,slow=4.9,SNR=16						
USRK	**Ussuriysk Arra**	**145.08 330**		PKP	**PKPbc**	**02 23 52.2**	**-1.9**
	2.3nm,0.8s,baz=1.2,slow=2.0,SNR=5.2						
MJAR	**Matsushiro Arr**	**146.29 314**		PKPbc	**PKPdf**	**02 23 56.2**	**-0.6**
	4.8nm,0.9s,baz=100,slow=0.7,SNR=11						
SONM	**Songino Array**	**147.56 3**		PKPbc	**PKPdf**	**02 24 00.7**	**+2.1**
	4.4nm,0.7s,baz=320,slow=1.4,SNR=22						
SONM				pPKPbc	**pPKPbc**	**02 24 39.0**	**+0.1**
	3.1nm,1.1s,baz=11,slow=1.5,SNR=3.8						
KSRS	**Korea Array**	**152.14 326**		PKPbc	**PKPbc**	**02 24 12.2**	**-0.5**
	4.3nm,0.8s,baz=49,slow=1.4,SNR=18						
KSRS				pPKPbc	**pPKPbc**	**02 24 51.8**	**+1.4**
	1.6nm,0.7s,baz=78,slow=0.9,SNR=3.1						

IDC 17 02:09:59.3±1.2, 7°.22S×149°.83E, h0km, mb3.8/6, mb1 4.0/8, mb1mx3.8/19, mbtmp3.9/8, ML3.6/2, MS3.4/1, Ms1 3.4/1, ms1mx2.5/30, Error ellipse: s-maj=42.6km s-min=21.5km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.42 230**		Pn	Pn	02 10 55.9	+1.9
	16nm,0.3s,baz=54,slow=4.8,SNR=22						
PMG				Sn	Sn	02 11 34.7	-0.7
	31nm,0.3s,baz=357,slow=18,SNR=20						
CTA	**Charters Tower**	**13.26 195**		LR	LR	02 17 12.6	
	comp=Z,182nm,20.4s,baz=56,slow=33						
WRA	**Warramunga Arr**	**19.64 228**		P	P	02 14 29.7	-0.1
	0.3nm,0.3s,baz=53,slow=11,SNR=12						
ASAR	**Alice Springs**	**22.39 221**		P	P	02 14 59.5	-0.1
	0.9nm,0.4s,baz=53,slow=9.3,SNR=11						
STKA	**Stephens Creek**	**25.71 196**		P	P	02 15 31.1	-0.3
	0.9nm,0.5s,baz=24,slow=12,SNR=3.1						
FITZ	**Fitzroy Crossi**	**25.93 243**		P	P	02 15 33.3	-0.3
	6.2nm,0.7s,baz=66,slow=7.1,SNR=12						
MKAR	**Makanchi Array**	**80.22 320**		P	P	02 22 11.2	-0.8
	0.2nm,0.5s,baz=96,slow=6.4,SNR=4.8						
QSPA	**South Pole Qui**	**82.76 180**		P	P	02 22 24.9	-0.2
	1.1nm,1.0s,baz=357,slow=4.7,SNR=1.9						
ILAR	**Eielson Array**	**85.50 23**		P	P	02 22 39.0	+0.1
	0.5nm,0.8s,baz=236,slow=6.4,SNR=4.2						
TORD	**Torodi Ar. Bea**	**148.11 283**		PKPbc	PKPbc	02 29 48.5	+0.3
	0.5nm,0.4s,baz=58,slow=2.8,SNR=16						

MEX 17 02:29:16.3±0.6, 17°.04N×95°.62W, h74km±8km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.70**	**85**	*e*P	Pn	02 29 29.8	-1.7
CMIG				*i* S	Sn	02 29 41.2	-1.6
VHO	**Vista Hermosa**	**1.07**	**272**	*i* P	Pn	02 29 34.7	-1.4
VHO				*e*S	Sn	02 29 49.2	-1.7
HUIG	**Huatulco**	**1.34**	**201**	*i* P	Pn	02 29 38.2	-1.2
HUIG				*i* S	Sn	02 29 55.0	-1.7
TPIG	**Tehuac#an**	**2.16**	**310**	*i* P	Pn	02 29 48.5	-1.9
TPIG				*i* S	Sn	02 30 13.3	-3.1
TGIG		**2.40**	**96**	*i* P	Pn	02 29 52.1	-1.4
TGIG				*i* S	Sn	02 30 21.0	-1.1
PNIG	**Pinotepa**	**2.49**	**255**	*i* P	Pn	02 29 53.4	-1.3
PNIG				*i* S	Sn	02 30 22.1	-2.0

*IDC **17** 02:34:13.1±1.6, 51°.98N×169°.34W, h0km, mb3.5/5, mb1 3.7/8, mb1mx3.5/28, mbtmp3.5/8, ML3.7/2, Error ellipse: s-maj=44.6km s-min=15.9km az=178.0*
*NEIC **17** 02:34:15.4, 52°.21N×169°.35W, h5km, ML3.3(AEIC), After AEIC.*
*ISCJB **17** 02:34:17.4±1.2, 52°.2N±0°.1×169°.39W±0°.09, h39km±11km, mb3.5/5, Error ellipse: s-maj=18.9km s-min=5.8km az=155.5*
ISC 17 02:34:17.5±2.3, 52°.2N±0°.1×169°.30W±0°.07, h24km±16km, n20, σ0°81/26, **mb3.4**/5, **Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.85**	**18**	P	**Pb**	**02 34 33.0**	**-0.6**
NIKH				S	**Sn**	**02 34 45.2**	**-0.5**
OKSO	**Okmok South**	**1.38**	**30**	P	**Pn**	**02 34 40.9**	**-0.3**
OKSO				S	**Sb**	**02 34 59.8**	**+0.1**
OKCE	**Okmok Cone E**	**1.43**	**28**	P	**Pn**	**02 34 41.9**	**-0.2**
OKCE				S	**Sn**	**02 34 59.6**	**-0.6**
MREP	**Makushin Rep't**	**2.25**	**42**	P	**Pn**	**02 34 54.1**	**+0.8**
MSW	**Makushin Switc**	**2.31**	**40**	P	**Pn**	**02 34 54.2**	**+0.1**
MSW				S	**Sn**	**02 35 23.4**	**+1.5**
MTBL	**Makushin Table**	**2.40**	**40**	P	**Pn**	**02 34 56.0**	**+0.7**
AKRB	**Akutan Reef Bi**	**2.76**	**43**	P	**Pn**	**02 35 01.9**	**+1.6**
AKUT	**Akutan**	**2.89**	**46**	*e*Pn	**Pn**	**02 35 02.7**	**+0.6**
AKUT				*e*S	**Sn**	**02 35 36.0**	**0.0**
ADK	**Adak**	**4.57**	**269**	*e*Pn	**Pn**	**02 35 25.8**	**+0.7**
ADK				*e*S	**Sn**	**02 36 17.4**	**0.0**
SPIA	**Saint Paul Isl**	**5.05**	**354**	P	**Pn**	**02 35 32.7**	**+1.1**
AMKA	**Amchitka**	**7.12**	**268**	*e*Pn	**Pn**	**02 36 00.7**	**+0.6**
FX1	**Attu Island--F**	**10.71**	**281**	Pn	**Pn**	**02 36 49.8**	**+0.5**
	baz=139,slow=19						
ILAR	**Eielson Array**	**17.09**	**34**	Pn	**P**	**02 38 15.7**	**-0.5**
	0.0nm,0.3s,baz=232,slow=10,SNR=2.3						
HYT	**Haines Junctio**	**19.39**	**51**	*e*P	**Pn**	**02 38 44.0**	**+1.2**
PETK	**Petropavlovsk-**	**19.96**	**286**	P	**P**	**02 38 47.1**	**-0.6**
	1.0nm,0.3s,baz=92,slow=13,SNR=5.9						
INK	**Inuvik**	**23.49**	**33**	P	**P**	**02 39 25.8**	**+0.8**
	1.4nm,0.8s,baz=198,slow=3.2,SNR=4.0						
PDAR	**Pinedale Array**	**40.40**	**79**	P	**P**	**02 41 53.2**	**-0.4**
	0.4nm,0.5s,baz=312,slow=2.4,SNR=5.2						
TXAR	**Lajitas Array**	**52.71**	**89**	P	**P**	**02 43 29.8**	**-0.4**
	0.2nm,0.5s,baz=313,slow=6.0,SNR=5.2						
MKAR	**Makanchi Array**	**63.98**	**313**	P	**P**	**02 44 49.0**	**+0.4**
	0.2nm,0.6s,baz=57,slow=5.3,SNR=2.7						
FINES	**FINESS Array B**	**66.07**	**352**	P	**P**	**02 45 00.6**	**-1.2**
	1.3nm,0.8s,baz=339,slow=4.9,SNR=4.2						

*IDC **17** 03:19:59.1±1.3, 38°.74N×71°.60E, h0km, mb3.6/2, mb1 3.7/6, mb1mx3.4/29, mbtmp3.6/6, ML3.5/4, Error ellipse: s-maj=27.2km s-min=15.5km az=131.0*
*ISCJB **17** 03:20:02.4±1.0, 38°.77N±0°.08×71°.16E±0°.10, h33km, mb3.6/2, Error ellipse: s-maj=12.2km s-min=9.5km az=141.0*
*NNC **17** 03:20:05.6±3.4, 39°.28N×71°.08E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=26.4km s-min=18.6km az=11.0*
ISC 17 03:20:03.9±1.3, 38°.85N±0°.10×71°.02E±0°.08, h33km, n17, σ2°05/22, **4C-5D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.86**	**31**	P	**Pn**	**03 21 02.0**	**+0.7**
	SNR=13						
KK31	**Karatay Array**	**4.26**	**355**	Pn	**Pn**	**03 21 08.9**	**+2.5**
	3.9nm,0.3s,baz=182,slow=14,SNR=26						
KK31				⇑Sn	**Sn**	**03 21 58.7**	**+3.7**
	11nm,0.5s,baz=173,slow=18,SNR=5.6						
KK31				⇑Lg	Lg	03 22 09.6	
	12nm,0.4s,baz=147,slow=26,SNR=5.4						
EKS2	**Erkin-Say**	**4.34**	**28**	P	**Pn**	**03 21 09.2**	**+1.5**
	SNR=9.8						
KZA	**Kyzart**	**4.56**	**44**	P	**Pn**	**03 21 12.2**	**+1.2**
	SNR=9.7						
AAK	**Ala-Archa**	**4.61**	**34**	P	**Pn**	**03 21 12.4**	**+1.0**
	SNR=7.8						
AAK	**Ala-Archa**	**4.61**	**34**	Pn	**Pn**	**03 21 11.5**	**+0.1**
	5.8nm,0.3s,baz=198,slow=6.0,SNR=12						
AAK				Sn	**Sn**	**03 22 05.8**	**+2.0**
	1.6nm,0.3s,baz=174,slow=19,SNR=3.3						
CHMS	**Chumysh**	**5.02**	**33**	P	**Pn**	**03 21 17.6**	**+0.8**
	SNR=8.4						
USP	**Ospenovka**	**5.14**	**30**	P	**Pn**	**03 21 19.3**	**+0.8**
	SNR=11						
TKM2	**Tokmak 2**	**5.34**	**39**	⇓Pn	**Pn**	**03 21 22.4**	**+0.9**
	4.6nm,0.4s						
TKM2				⇑Sn	**Sn**	**03 22 21.0**	**-0.9**
	7.9nm,0.6s						
TKM2				⇓Lg	Lg	03 22 40.6	
	11nm,0.9s						
TKM2	**Tokmak 2**	**5.34**	**39**	P	**Pn**	**03 21 22.3**	**+0.9**
	SNR=5.3						
MKAR	**Makanchi Array**	**11.46**	**43**	Pn	**Pn**	**03 22 44.5**	**-0.7**

GERES	**GERESS Array B**	**3.09 210**	Pn		**Pn**	**03 43 12.3 +0.6**
	comp=Z,0.8nm,0.3s,baz=27,slow=12,SNR=26					
GERES			Pg		**Pb**	**03 43 18.2 +0.8**
	comp=Z,2.3nm,0.3s,baz=28,slow=17,SNR=41					
GERES			Lg		Lg	03 43 59.0
	comp=Z,3.3nm,0.3s,baz=34,slow=28,SNR=14					
NIE	**Niedzica**	**3.44 126**	*e*P		**Pg**	**03 43 26.5 -1.0**
NIE			*e*S		**Sg**	**03 44 11.1 -0.9**
VYHS	**Vyhne**	**3.53 148**	*e*PG		**Pb**	**03 43 27.2 +2.3**
VYHS			*e*SG		**Sg**	**03 44 17.0 +2.2**
VYHS	**Vyhne**	**3.53 148**	*e*Pg		**Pb**	**03 43 27.2 +2.3**
VYHS			*e*Sg		**Sg**	**03 44 17.0 +2.2**
CONA	**Conrad Observa**	**3.61 182**	⇓*i*Pn		**Pn**	**03 43 19.6 +0.7**
	comp=Z,1.5nm,0.3s					
CONA			⇑*i*Sg		**Sg**	**03 44 16.1 -1.4**
	comp=Z,12nm,0.4s					
CONA	**Conrad Observa**	**3.61 182**	Pn		**Pn**	**03 43 19.6 +0.7**
	comp=Z,1.5nm,0.3s					
CONA			Sg		**Sg**	**03 44 16.1 -1.4**
	comp=Z,12nm,0.4s					
MOA	**Molln**	**3.87 198**	⇓*i*Pn		**Pn**	**03 43 22.9 +0.6**
MOA	**Molln**	**3.87 198**	Pn		**Pn**	**03 43 22.9 +0.6**
STHS	**Stebnicka Huta**	**3.93 121**	*e*PN		**Pn**	**03 43 23.4 +0.3**
STHS			*e*PG		**Pg**	**03 43 36.2 -0.6**
STHS			*e*SG		**Sg**	**03 44 30.5 +2.8**
STHS	**Stebnicka Huta**	**3.93 121**	*e*Pn		**Pn**	**03 43 23.4 +0.3**
ARSA	**Arzberg**	**4.30 185**	⇑*i*Pn		Pn	03 43 31.7 +3.4
ARSA			⇑*i*Sg		**Sg**	**03 44 38.1 -1.6**
	comp=Z,12nm,0.6s					
ARSA	**Arzberg**	**4.30 185**	Pn		Pn	03 43 31.7 +3.4
ARSA			Sg		**Sg**	**03 44 38.1 -1.6**
	comp=Z,12nm,0.6s					
FINES	**FINESS Array B**	**11.36 25**	Pn		**Pn**	**03 45 03.4 -1.4**
	comp=Z,0.1nm,0.3s,baz=216,slow=9.4,SNR=3.3					
ARCES	**ARCESS Array B**	**18.61 10**	Pn		**P**	**03 46 37.3 -2.9**
	comp=Z,0.1nm,0.3s,baz=198,slow=11,SNR=5.9					

IDC 17 03:43:50.6±3.7, 3°.04S×140°.17E, h0km, mb3.1/3, mb1 3.4/4, mb1mx3.3/17, mbtmp3.2/4, ML3.1/1, Error ellipse: s-maj=118.8km s-min=28.2km az=93.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.74**	**198**	P	Pn	03 47 58.1	-1.2
	0.1nm,0.3s,baz=19,slow=13,SNR=7.8						
FITZ	**Fitzroy Crossi**	**20.66**	**223**	P	P	03 48 32.5	+0.2
	1.3nm,0.9s,baz=34,slow=11,SNR=3.2						
ASAR	**Alice Springs**	**21.39**	**196**	P	P	03 48 40.4	+0.4
	0.4nm,0.7s,baz=28,slow=9.2,SNR=5.4						
MKAR	**Makanchi Array**	**70.94**	**322**	P	P	03 55 10.0	0.0
	0.1nm,0.5s,baz=131,slow=6.5,SNR=2.6						

IDC 17 03:52:07.3±3.2, 6°.41S×147°.22E, h0km, mb2.8/1, mb1 3.3/3, mb1mx3.2/16, mbtmp3.1/3, ML2.7/2, MS2.9/1, Ms1 2.9/1, ms1mx2.5/8, Error ellipse: s-maj=77.7km s-min=34.1km az=88.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.98**	**181**	Pn	Pn	03 52 56.6	+0.8
	4.8nm,0.3s,baz=337,slow=7.4,SNR=8.7						
PMG				Sn	Sn	03 53 31.6	-0.6
	3.4nm,0.3s,baz=336,slow=20,SNR=2.6						
PMG				LR	LR	03 54 22.7	
	comp=Z,167nm,18.4s,baz=139,slow=45						
WRA	**Warramunga Arr**	**18.37**	**222**	P	Pn	03 56 22.0	-1.7
	0.0nm,0.3s,baz=45,slow=11,SNR=2.9						
ASAR	**Alice Springs**	**21.41**	**215**	P	P	03 56 57.2	+0.3
	0.3nm,0.4s,baz=52,slow=8.6,SNR=4.6						
TORD	**Torodi Ar. Bea**	**145.40**	**284**	PKPbc	PKPbc	04 11 47.7	-0.5
	1.1nm,1.1s,baz=77,slow=3.4,SNR=5.1						

IDC 17 04:00:33.2±0.9, 30°.82N×141°.86E, h0km, mb3.9/8, mb1 4.1/9, mb1mx3.9/21, mbtmp3.8/9, ML3.5/1, MS3.4/5, Ms1 3.4/5, ms1mx2.9/50, Error ellipse: s-maj=30.3km s-min=18.8km az=81.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.72**	**175**	LR	LR	04 02 49.7	
	comp=Z,991nm,21.4s,baz=259,slow=37						
MJAR	**Matsushiro Arr**	**6.47**	**333**	Pn	Pn	04 02 10.6	+0.9
	1.0nm,0.3s,baz=157,slow=11,SNR=18						
MJAR				Sn	Sn	04 03 24.4	+0.1
	0.2nm,0.3s,baz=162,slow=18,SNR=5.2						
MJAR				LR	LR	04 04 48.8	
	comp=Z,128nm,19.3s,baz=75,slow=40						
MAT	**Matsushiro**	**6.47**	**333**	P	Pn	04 02 11.4	+1.6
MAT				S	Sn	04 03 24.6	+0.3
KSRS	**Korea Array**	**13.30**	**304**	LR	LR	04 08 52.2	
	comp=Z,33nm,19.4s,baz=115,slow=38						
SONM	**Songino Array**	**31.92**	**312**	P	P	04 07 00.2	-0.4
	2.3nm,0.8s,baz=120,slow=8.9,SNR=6.3						
HNR	**Honiara**	**43.62**	**154**	LR	LR	04 26 55.1	
	comp=Z,45nm,18.2s,baz=358,slow=36						
MKAR	**Makanchi Array**	**47.95**	**307**	P	P	04 09 13.4	-0.1
	0.6nm,0.6s,baz=87,slow=9.9,SNR=7.3						
WRA	**Warramunga Arr**	**50.98**	**189**	P	P	04 09 36.7	-0.1
	1.8nm,0.6s,baz=6.1,slow=7.6,SNR=35						
ILAR	**Eielson Array**	**54.62**	**30**	P	P	04 10 02.9	-0.4
	0.3nm,0.7s,baz=276,slow=6.5,SNR=4.1						
ASAR	**Alice Springs**	**54.71**	**189**	P	P	04 10 04.3	0.0
	0.5nm,0.5s,baz=12,slow=7.0,SNR=12						
FINES	**FINESS Array B**	**74.50**	**333**	P	P	04 12 13.0	-0.2
	1.8nm,0.8s,baz=64,slow=3.2,SNR=3.5						
URZ	**Urewera**	**76.19**	**152**	LR	LR	04 42 30.5	
	comp=Z,85nm,18.4s,baz=119,slow=33						
PDAR	**Pinedale Array**	**81.78**	**45**	P	P	04 12 54.5	+0.1
	0.3nm,0.6s,baz=253,slow=2.7,SNR=2.7						
TXAR	**Lajitas Array**	**93.60**	**53**	P	P	04 13 51.9	+0.1
	0.5nm,0.9s,baz=282,slow=2.4,SNR=4.2						

*IDC **17** 04:17:24.8±0.5, 36°.21S×52°.46E, h0km, mb4.2/16, mb1 4.3/16, mb1mx4.2/26, mbtmp4.2/16, MS3.9/17, Ms1 3.9/17, ms1mx3.7/36, Error ellipse: s-maj=20.2km s-min=15.5km az=32.0*

*ISCJB **17** 04:17:26.2±0.4, 36°.29S±0°.06×52°.5E±0°.1, h18km, mb4.2/17, MS4.0/16, Error ellipse: s-maj=13.5km s-min=8.1km az=162.1*

*NEIC **17** 04:17:26.5±0.4, 36°.29S×52°.51E, h10km, mb4.3/3, Error ellipse: s-maj=12.8km s-min=9.4km az=69.0*

ISC 17 04:17:27.8±0.5, 36°.22S±0°.08×52°.5E±0°.1, h18km, n59, σ0°.96/50, mb4.3/17, MS3.9/16, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**15.27**	**12**	*e*Pn	**Pn**	**04 21 01.8**	**-0.7**
ABPO	**Ambohimpanom**	**17.75**	**343**	*e*Pn	**P**	**04 21 36.8**	**+1.8**
	8.1nm,0.6s						
OPO	**Ambohidratompo**	**18.19**	**344**	P	**P**	**04 21 42.7**	**+2.8**
OPO				S	**Sn**	**04 25 01.7**	**-0.7**
OPO	**Ambohidratompo**	**18.19**	**344**	P	**P**	**04 21 42.7**	**+2.8**
	1.6nm,0.3s,baz=166,slow=10,SNR=10.0						
OPO				S	**Sn**	**04 25 01.7**	**-0.7**
	0.7nm,0.3s,baz=92,slow=16,SNR=3.6						
OPO				LR	LR	04 27 11.9	
	comp=Z,303nm,21.5s,baz=167,slow=32						
BOSA	**Boshof**	**24.17**	**280**	*e*P	**P**	**04 22 42.1**	**-1.1**
BOSA	**Boshof**	**24.17**	**280**	P	**P**	**04 22 41.2**	**-2.0**
	5.9nm,0.9s,baz=116,slow=9.9,SNR=6.1						
BOSA				LR	LR	04 30 49.5	
	comp=Z,201nm,19.4s,baz=122,slow=33						
LBTB	**Lobatse**	**25.63**	**288**	*e*P	**P**	**04 22 55.5**	**-0.9**
LBTB	**Lobatse**	**25.63**	**288**	P	**P**	**04 22 55.2**	**-1.2**
	6.3nm,1.0s,baz=144,slow=13,SNR=5.6						
LBTB				LR	LR	04 31 01.4	
	comp=Z,274nm,18.3s,baz=137,slow=32						
SUR	**Sutherland**	**26.40**	**269**	LR	LR	04 31 08.7	
	comp=Z,285nm,18.9s,baz=86,slow=31						
LSZ	**Lusaka**	**30.09**	**308**	*e*P	**P**	**04 23 36.6**	**+0.2**
	4.1nm,0.9s						
MAW	**Mawson**	**31.99**	**173**	LR	LR	04 33 49.2	
	comp=Z,245nm,18.2s,baz=355,slow=31						
KMBO	**Kilima Mbogo**	**37.67**	**335**	LR	LR	04 38 00.6	
	comp=Z,238nm,22.0s,baz=92,slow=33						
SNAA	**Sanae**	**45.29**	**201**	*e*P	**P**	**04 25 45.1**	**+1.1**
SNAA	**Sanae**	**45.29**	**201**	*e*P	P	04 25 54.3	+10
SNAA	**Sanae**	**45.29**	**201**	*e*P	**P**	**04 25 44.4**	**+0.4**
SNAA	**Sanae**	**45.29**	**201**	P	**P**	**04 25 44.1**	**+0.1**
	1.7nm,0.9s,baz=84,slow=7.3,SNR=8.9						
VNA2	**Neumayer--Watz**	**46.46**	**203**	*e*P	**P**	**04 25 54.7**	**+1.5**
VNA2	**Neumayer--Watz**	**46.46**	**203**	*e*P	P	04 26 03.9	+11
	baz=63,slow=7.1						
VNA1	**Neumayer--Stat**	**46.67**	**204**	*e*P	P	04 25 59.0	+4.2
NWAO	**Narrogin (SRO)**	**52.51**	**107**	LR	LR	04 43 42.7	
	comp=Z,143nm,18.5s,baz=216,slow=30						
QSPA	**South Pole Qui**	**53.97**	**180**	*e*P	**P**	**04 26 50.1**	**-0.3**
	12nm,1.1s						
QSPA	**South Pole Qui**	**53.97**	**180**	P	**P**	**04 26 49.3**	**-1.0**
	7.4nm,1.0s,baz=260,slow=4.4,SNR=8.3						
VNDA	**Vanda**	**58.94**	**166**	P	**P**	**04 27 25.5**	**+0.1**
VNDA	**Vanda**	**58.94**	**166**	P	**P**	**04 27 25.5**	**+0.1**
	0.8nm,0.8s,baz=245,slow=7.7,SNR=3.2						
VNDA				LR	LR	04 50 02.5	
	comp=Z,165nm,19.0s,baz=174,slow=33						
FITZ	**Fitzroy Crossi**	**66.12**	**95**	P	**P**	**04 28 13.8**	**-0.4**
FITZ	**Fitzroy Crossi**	**66.12**	**95**	P	**P**	**04 28 13.8**	**-0.4**
	4.1nm,1.0s,baz=232,slow=6.2,SNR=3.6						
DBIC	**Dimbokro**	**68.57**	**296**	LR	LR	04 55 34.6	
	comp=Z,74nm,19.4s,baz=123,slow=33						
TORD	**Torodi Ar. Bea**	**68.60**	**306**	P	**P**	**04 28 30.0**	**+0.1**
TORD	**Torodi Ar. Bea**	**68.60**	**306**	P	**P**	**04 28 30.0**	**+0.1**
	1.8nm,0.6s,baz=130,slow=5.0,SNR=20						
TORD				LR	LR	04 57 45.4	
	comp=Z,94nm,20.4s,baz=220,slow=35						
ASAR	**Alice Springs**	**69.78**	**105**	P	**P**	**04 28 37.5**	**+0.3**
ASAR	**Alice Springs**	**69.78**	**105**	P	**P**	**04 28 37.5**	**+0.3**
	2.3nm,0.5s,baz=230,slow=6.0,SNR=28						
STKA	**Stephens Creek**	**71.33**	**116**	P	**P**	**04 28 46.7**	**+0.1**
STKA	**Stephens Creek**	**71.33**	**116**	P	**P**	**04 28 46.7**	**+0.1**
	3.1nm,0.8s,baz=247,slow=6.0,SNR=6.9						
WRA	**Warramunga Arr**	**72.09**	**102**	P	**P**	**04 28 51.6**	**+0.3**
WRA	**Warramunga Arr**	**72.09**	**102**	P	**P**	**04 28 51.6**	**+0.3**
	4.5nm,0.9s,baz=231,slow=5.5,SNR=29						
IDI	**Anoyia**	**75.65**	**337**	LR	LR	05 01 51.5	
	comp=Z,72nm,21.1s,baz=206,slow=35						
GNI	**Garni**	**76.33**	**354**	LR	LR	04 59 22.4	
	comp=Z,47nm,20.1s,baz=281,slow=33						
BRTR	**Keskin Array B**	**77.54**	**345**	P	**P**	**04 29 22.4**	**0.0**
BRTR	**Keskin Array B**	**77.54**	**345**	P	**P**	**04 29 22.4**	**0.0**
	0.4nm,0.5s,baz=145,slow=5.3,SNR=3.1						
BRTR				LR	LR	05 01 42.3	
	comp=Z,29nm,20.1s,baz=190,slow=34						
KEST	**Kesra**	**82.07**	**326**	LR	LR	05 08 42.1	
	comp=Z,54nm,18.4s,baz=223,slow=38						
RPZ	**Rata Peaks**	**82.83**	**140**	LR	LR	04 58 47.4	
	comp=Z,174nm,18.0s,baz=8.5,slow=30						
AKTO	**Aktyubinsk**	**86.42**	**4**	LR	LR	05 04 58.0	
	comp=Z,46nm,18.5s,baz=267,slow=33						
MKAR	**Makanchi Array**	**86.86**	**20**	P	**P**	**04 30 10.8**	**-0.1**
MKAR	**Makanchi Array**	**86.86**	**20**	P	**P**	**04 30 10.8**	**-0.1**
	0.3nm,0.6s,baz=214,slow=5.2,SNR=3.7						
AKASG	**Malin Array Be**	**88.95**	**345**	P	**P**	**04 30 20.7**	**0.0**
AKASG	**Malin Array Be**	**88.95**	**345**	P	**P**	**04 30 20.7**	**0.0**
	1.5nm,0.5s,baz=150,slow=4.3,SNR=4.2						
BDFB	**Brasilia**	**89.12**	**251**	P	**P**	**04 30 23.8**	**+1.2**
BDFB	**Brasilia**	**89.12**	**251**	P	**P**	**04 30 23.8**	**+1.2**
	1.8nm,0.6s,baz=210,slow=4.7,SNR=4.2						
CPUP	**Villa Florida**	**89.24**	**238**	P	**P**	**04 30 23.1**	**+0.2**
CPUP	**Villa Florida**	**89.24**	**238**	P	**P**	**04 30 23.1**	**+0.2**
	0.7nm,0.5s,baz=82,slow=15,SNR=3.9						
CPUP				LR	LR	05 01 40.8	
	comp=Z,90nm,18.5s,baz=184,slow=30						
ZALV	**Zalesovo Beam**	**94.04**	**18**	P	**P**	**04 30 43.5**	**-0.8**
ZALV	**Zalesovo Beam**	**94.04**	**18**	P	**P**	**04 30 43.5**	**-0.8**
	0.4nm,0.3s,baz=190,slow=7.3,SNR=2.7						
INK	**Inuvik**	**147.68**	**4**	*e*PKPbc	**PKPbc**	**04 37 10.2**	**+0.1**
INK	**Inuvik**	**147.68**	**4**	PKPbc	**PKPbc**	**04 37 10.3**	**+0.2**
	3.4nm,0.7s,baz=357,slow=9.3,SNR=9.3						
WVT	**Waverly**	**148.13**	**282**	*e*PKPbc	**PKPbc**	**04 37 11.8**	**-0.6**
ILAR	**Eielson Array**	**149.14**	**16**	PKPbc	**PKPbc**	**04 37 13.6**	**-0.5**
ILAR	**Eielson Array**	**149.14**	**16**	PKPbc	**PKPbc**	**04 37 13.6**	**-0.5**
	3.2nm,0.7s,baz=312,slow=3.4,SNR=22						
TXAR	**Lajitas Array**	**158.85**	**258**	PKP	**PKPdf**	**04 37 23.5**	**-1.3**
TXAR				PKPab	**PKPab**	**04 38 00.3**	**-0.6**
TXAR	**Lajitas Array**	**158.85**	**258**	PKP	**PKPdf**	**04 37 23.5**	**-1.3**
	0.3nm,0.8s,baz=160,slow=2.9,SNR=2.8						
TXAR				PKPab	**PKPab**	**04 38 00.3**	**-0.6**
	0.7nm,0.9s,baz=116,slow=5.7,SNR=4.7						

IDC 17 04:27:10.7±2.1, 4°.55S×149°.74E, h558km±21km, mb3.0/9, mb1 3.1/11, mb1mx3.0/18, mbtmp3.0/11, Error ellipse: s-maj=49.9km s-min=18.8km az=98.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.46**	**208**	P	P	04 28 46.1	+1.2
	6.1nm,0.3s,baz=30,slow=4.6,SNR=10						
PMG				S	S	04 30 01.7	-0.3
	0.8nm,0.3s,baz=324,slow=17,SNR=4.5						
CTA	**Charters Tower**	**15.81**	**192**	P	P	04 30 27.9	-0.2
	0.6nm,0.3s,baz=22,slow=12,SNR=6.5						
WRA	**Warramunga Arr**	**21.43**	**223**	P	P	04 31 19.0	-0.4
	0.5nm,0.4s,baz=45,slow=9.4,SNR=20						
ASAR	**Alice Springs**	**24.38**	**217**	P	P	04 31 46.0	+0.3
	0.2nm,0.3s,baz=39,slow=7.5,SNR=3.1						
STKA	**Stephens Creek**	**28.24**	**195**	P	P	04 32 19.0	-0.4
	0.7nm,0.5s,baz=68,slow=11,SNR=2.8						
KSRS	**Korea Array**	**46.47**	**336**	P	P	04 34 48.1	+0.2
	0.9nm,0.5s,baz=156,slow=8.6,SNR=4.1						
SONM	**Songino Array**	**64.52**	**329**	P	P	04 36 53.7	+0.5
	1.0nm,0.5s,baz=152,slow=6.4,SNR=3.9						
MKAR	**Makanchi Array**	**78.15**	**320**	P	P	04 38 12.2	-0.5
	0.4nm,0.6s,baz=102,slow=6.8,SNR=5.4						
ZALV	**Zalesovo Beam**	**79.27**	**327**	P	P	04 38 17.4	-1.0
	0.8nm,0.5s,baz=96,slow=5.8,SNR=2.9						
KURBB	**Kurchatov Arra**	**81.73**	**322**	P	P	04 38 31.4	+0.1
	0.3nm,0.3s,baz=117,slow=3.9,SNR=4.8						
ILAR	**Eielson Array**	**83.09**	**23**	P	P	04 38 37.3	-0.6
	0.4nm,0.6s,baz=246,slow=4.5,SNR=3.7						
TORD	**Torodi Ar. Bea**	**147.33**	**287**	PKPbc	PKPbc	04 45 53.0	0.0
	0.6nm,0.3s,baz=63,slow=2.9,SNR=12						

IDC 17 04:30:02.7±60.0, 22°.04S×175°.04W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.8/17, mbtmp3.9/3, MS3.5/1, Ms1 3.5/1, ms1mx2.7/34, Error ellipse: s-maj=1116.0km s-min=170.9km az=86.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPT	**Papeete**	**24.36**	**84**	LR	LR	04 42 01.7	
	comp=Z,119nm,21.5s,baz=247,slow=30						
STKA	**Stephens Creek**	**39.65**	**246**	P	P	04 37 36.7	+0.2
	2.5nm,0.8s,baz=80,slow=12,SNR=3.0						
ASAR	**Alice Springs**	**46.87**	**258**	P	P	04 38 34.7	-0.4
	0.5nm,0.4s,baz=100,slow=7.3,SNR=10						
WRA	**Warramunga Arr**	**47.13**	**263**	P	P	04 38 37.0	-0.2
	0.4nm,0.3s,baz=102,slow=8.3,SNR=28						

*CSEM **17** 04:33:48.9, 38°.07N×23°.27E, h5km, MD2.9, After ATH*

ATH 17 04:33:48.9, 38°.07N×23°.27E, h5km, MD2.9/7, ML1.5, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTK	**Loutraki**	**0.24**	**259**	*e*PG	Pg	04 33 53.4	-0.3
LTK				*e*SG	Sg	04 33 57.6	+0.6
LTK	**Loutraki**	**0.24**	**259**	*e*Pg	Pg	04 33 53.4	-0.3
LTK				*e*Sg	Sg	04 33 57.6	+0.6
NAIG	**Nisos Aigina**	**0.36**	**151**	*e*PG	Pg	04 33 55.1	-0.7
NAIG	**Nisos Aigina**	**0.36**	**151**	*e*Pg	Pg	04 33 55.1	-0.7
ATH	**Athens Observa**	**0.37**	**105**	*e*PB	Pg	04 33 56.0	0.0
ATH				*e*SB	Sg	04 34 00.9	+0.1
ATH	**Athens Observa**	**0.37**	**105**	*e*Pb	Pg	04 33 56.0	0.0
ATH				*e*Sb	Sg	04 34 00.9	+0.1
DID	**Didima**	**0.56**	**183**	*e*PG	Pg	04 33 59.5	-0.3
DID				*e*SB	Sg	04 34 07.8	+0.6
DID	**Didima**	**0.56**	**183**	*e*Pg	Pg	04 33 59.5	-0.3
DID				*e*Sb	Sg	04 34 07.8	+0.6
GUR	**Goura**	**0.74**	**260**	*e*PB	Pg	04 34 03.3	-0.1
GUR				*e*SB	Sg	04 34 13.5	+0.3
GUR	**Goura**	**0.74**	**260**	*e*Pb	Pg	04 34 03.3	-0.1
GUR				*e*Sb	Sg	04 34 13.5	+0.3
KLV	**Kalavryta, Ach**	**0.88**	**269**	*e*PG	Pg	04 34 05.4	-0.6
KLV				*e*SB	Sg	04 34 17.5	-0.1
KLV	**Kalavryta, Ach**	**0.88**	**269**	*e*Pg	Pg	04 34 05.4	-0.6
KLV				*e*Sb	Sg	04 34 17.5	-0.1
KALE	**Kalithea**	**0.95**	**290**	*e*PN	Pg	04 34 07.3	+0.1
KALE				*e*SB	Sg	04 34 19.9	+0.4
KALE	**Kalithea**	**0.95**	**290**	*e*Pn	Pg	04 34 07.3	+0.1
KALE				*e*Sb	Sg	04 34 19.9	+0.4
TRIZ	**Trizonia**	**0.99**	**288**	*e*PB	Pg	04 34 07.8	-0.1
TRIZ				*e*SB	Sb	04 34 21.3	-0.5
TRIZ	**Trizonia**	**0.99**	**288**	*e*Pb	Pg	04 34 07.8	-0.1
TRIZ				*e*Sb	Sb	04 34 21.3	-0.5
VLX	**Vlachokerasia**	**0.99**	**226**	*e*PG	Pg	04 34 07.3	-0.8
VLX				*e*SB	Sg	04 34 21.6	+0.5
VLX	**Vlachokerasia**	**0.99**	**226**	*e*Pg	Pg	04 34 07.3	-0.8
VLX				*e*Sb	Sg	04 34 21.6	+0.5
LAKA	**Lakka**	**1.03**	**280**	*e*PG	Pg	04 34 08.2	-0.6
LAKA	**Lakka**	**1.03**	**280**	*e*Pg	Pg	04 34 08.2	-0.6
EFP	**Efpalio**	**1.13**	**289**	*e*PB	Pb	04 34 10.9	-0.1
EFP	**Efpalio**	**1.13**	**289**	*e*Pb	Pb	04 34 10.9	-0.1
AGG	**Agios Georgios**	**1.20**	**323**	*e*PB	Pg	04 34 11.6	-0.5
AGG	**Agios Georgios**	**1.20**	**323**	*e*Pb	Pg	04 34 11.6	-0.5

IDC 17 04:35:52.2±4.8, 15°.52S×173°.52W, h97km±50km, mb3.5/2, mb1 3.7/3, mb1mx3.4/19, mbtmp3.5/3, Error ellipse: s-maj=281.5km s-min=35.7km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.32**	**47**	P	Pn	04 36 30.9	+1.9
	15nm,0.3s,baz=240,slow=8.1,SNR=12						
AFI				S	Sn	04 36 57.4	+0.2
	100nm,0.3s,baz=202,slow=16,SNR=24						
WRA	**Warramunga Arr**	**49.70**	**257**	P	P	04 44 34.6	-0.2
	0.3nm,0.5s,baz=95,slow=8.2,SNR=16						
ASAR	**Alice Springs**	**49.96**	**252**	P	P	04 44 36.3	-0.5
	2.0nm,0.7s,baz=87,slow=8.3,SNR=22						
ASAR				pP	pP	04 45 08.9	+8.8
	0.8nm,0.7s,baz=85,slow=8.9,SNR=3.8						
BRTR	**Keskin Array B**	**146.17**	**321**	PKPbc	PKPbc	04 55 21.4	-0.3
	0.9nm,0.8s,baz=29,slow=3.3,SNR=4.2						

*NIED **17** 04:38:00, 43°.80N×147°.40E, h62km, Mw4.0 Best double couple: M0 1.22000×10^15 NP1:φs 183.00000°, δ67.00000°, λ111.00000°. NP2:φs 319.00000°, δ31.00000°, λ50.00000°.*

*IDC **17** 04:38:15.1±0.6, 44°.10N×147°.22E, h0km, mb4.0/19, mb1 4.2/20, mb1mx4.1/25, mbtmp4.0/20, ML3.4/1, MS3.2/3, Ms1 3.2/3, ms1mx2.6/39, Error ellipse: s-maj=19.0km s-min=16.2km az=95.0*

*ISCJB **17** 04:38:22.8±0.7, 43°.97N±0°.04×147°.37E±0°.07, h79km±5km, mb3.9/24, Error ellipse: s-maj=9.6km s-min=5.1km az=40.1*

*NEIC **17** 04:38:23.4±1.1, 44°.07N×147°.30E, h64km±10km, mb4.3/1, Error ellipse: s-maj=14.1km s-min=9.3km az=131.0*

NEIC Recorded [1 JMA] in eastern Hokkaido.

*JMA **17** 04:38:23.5±0.2, 43°.81N×147°.41E, h37km, M4.8*

JMA Felt I J1.

*MOS **17** 04:38:23.0±1.2, 43°.99N×147°.24E, h79km, mb4.3/14, Error ellipse: s-maj=10.9km s-min=8.5km az=69.0*

*SKHL **17** 04:38:24.4±1.1, 43°.99N×147°.37E, h86km±4km, mb5.0/3, msh5.9/3*

ISC 17 04:38:23.0±1.0, 43°.99N±0°.05×147°.40E±0°.06, h62km±8km, n99, σ1°.24/116, mb4.0/24, 2C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**1.11**	**273**	*c i*PN	**Pn**	**04 38 43.1**	**+0.6**
YUK				*i* S	**Sn**	**04 38 57.4**	**+0.3**
YUK				pmax	pmax		
	comp=Z,2μm,0.2s						
YUK				smax	smax		
	comp=E,8μm,0.5s						
YUK				smax	smax		
	comp=N,4μm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.11**	**273**	*i* P	**Pn**	**04 38 43.1**	**+0.6**
YUK				AMB	AMB	04 38 44.8	
	comp=N,222nm,0.2s						
YUK				AMB	AMB	04 38 44.8	
	comp=N,283nm,0.2s						
YUK				AMB	AMB	04 38 44.8	
	comp=N,2μm,0.2s						
YUK				*i* S	**Sn**	**04 38 57.4**	**+0.3**
YUK				A	A	04 39 00.8	
	comp=N,4μm,0.5s						
YUK				A	A	04 39 00.8	
	comp=N,8μm,0.5s						
KUR	**Kuril'sk**	**1.29**	**15**	*c i*PN	**Pn**	**04 38 45.8**	**+0.9**
KUR				*i* S	**Sn**	**04 39 02.0**	**+0.7**
KUR				pmax	pmax		
	comp=E,123nm,0.3s						
KUR				pmax	pmax		
	comp=Z,189nm,0.4s						
KUR				pmax	pmax		
	comp=N,137nm,0.2s	

MAT			S	Sn	04 42 31.7	-8.2
MJAR	**Matsushiro Arr**	**10.22 226**	*e*P	**Pn**	**04 40 46.9**	**0.0**
MJAR	**Matsushiro Arr**	**10.22 226**	Pn	**Pn**	**04 40 46.1**	**-0.8**
MJAR	**Matsushiro Arr**	**10.22 226**	Pn	**Pn**	**04 40 46.1**	**-0.8**
comp=Z,0.9nm,0.3s,baz=23,slow=13,SNR=17						
USRK	**Ussuriysk Arra**	**11.08 276**	Pn	**Pn**	**04 40 59.9**	**+1.4**
comp=Z,0.5nm,0.3s,baz=85,slow=16,SNR=5.9						
PETK	**Petropavlovsk-**	**11.38 33**	*e*PN	**Pn**	**04 41 03.8**	**+1.2**
PETK			pmax	pmax		
comp=Z,1.0nm,0.3s						
PETK	**Petropavlovsk-**	**11.38 33**	Pn	**Pn**	**04 41 01.1**	**-1.5**
PETK	**Petropavlovsk-**	**11.38 33**	Pn	**Pn**	**04 41 01.1**	**-1.5**
comp=Z,0.5nm,0.3s,baz=200,slow=15,SNR=7.5						
KSRS	**Korea Array**	**16.13 253**	Pn	**Pn**	**04 42 02.9**	**-2.7**
comp=Z,0.1nm,0.3s,baz=66,slow=15,SNR=3.9						
KSRS			LR	LR	04 47 21.3	
comp=Z,29nm,21.5s,baz=205,slow=34						
KSAR	**Wonju Array Be**	**16.16 253**	Pn	**Pn**	**04 42 02.9**	**-3.1**
ULN	**Ulaanbaatar**	**28.11 292**	*e*P	**P**	**04 44 08.1**	**-0.8**
SONM	**Songino Array**	**28.55 292**	P	**P**	**04 44 11.6**	**-1.2**
SONM	**Songino Array**	**28.55 292**	P	**P**	**04 44 11.6**	**-1.2**
comp=Z,1.8nm,0.6s,baz=83,slow=9.3,SNR=6.1						
TLY	**Talaya**	**29.98 300**	*e*P	**P**	**04 44 23.8**	**-1.6**
TLY	**Talaya**	**29.98 300**	*e*P	**P**	**04 44 23.7**	**-1.6**
ZALV	**Zalesovo Beam**	**41.00 307**	PcP	**PcP**	**04 47 57.1**	**-1.3**
ZALV	**Zalesovo Beam**	**41.00 307**	PcP	**PcP**	**04 47 57.1**	**-1.3**
comp=Z,0.9nm,0.5s,baz=98,slow=6.0,SNR=3.7						
ILAR	**Eielson Array**	**41.19 36**	P	**P**	**04 46 01.0**	**+0.1**
ILAR	**Eielson Array**	**41.19 36**	P	**P**	**04 46 01.0**	**+0.1**
comp=Z,0.3nm,0.5s,baz=272,slow=9.4,SNR=5.8						
MK31	**Makanchi Array**	**44.64 297**	*e*P	**P**	**04 46 28.5**	**-0.6**
MK31	**Makanchi Array**	**44.64 297**	*e*P	**P**	**04 46 28.5**	**-0.6**
MKAR	**Makanchi Array**	**44.64 297**	P	**P**	**04 46 28.9**	**-0.2**
MKAR					04 48 10.1	
MKAR			pmax	pmax		
comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**44.64 297**	*e*P	**P**	**04 46 29.0**	**-0.2**
MKAR	**Makanchi Array**	**44.64 297**	P	**P**	**04 46 28.9**	**-0.2**
MKAR			PcP	**PcP**	**04 48 10.1**	**-0.7**
MKAR	**Makanchi Array**	**44.64 297**	P	**P**	**04 46 28.9**	**-0.2**
comp=Z,1.2nm,0.5s,baz=78,slow=8.8,SNR=21						
MKAR			PcP	**PcP**	**04 48 10.1**	**-0.7**
comp=Z,0.3nm,0.5s,baz=49,slow=4.4,SNR=2.8						
KURK	**Kurchatov**	**45.55 304**	P	**P**	**04 46 35.2**	**-1.0**
KURK					04 48 13.9	
KURK			pmax	pmax		
comp=Z,1.0nm,0.4s						
KURK	**Kurchatov**	**45.55 304**	P	**P**	**04 46 35.2**	**-1.0**
KURK			PcP	**PcP**	**04 48 13.9**	**+0.1**
KURBB	**Kurchatov Arra**	**45.63 304**	P	**P**	**04 46 35.2**	**-1.7**
comp=Z,0.5nm,0.4s,baz=70,slow=8.7,SNR=7.5						
KURBB			PcP	**PcP**	**04 48 13.9**	**-0.2**
comp=Z,0.2nm,0.3s,baz=95,slow=3.1,SNR=4.5						
INK	**Inuvik**	**46.11 30**	P	**P**	**04 46 41.0**	**+0.7**
INK	**Inuvik**	**46.11 30**	P	**P**	**04 46 41.0**	**+0.7**
comp=Z,1.4nm,0.5s,baz=337,slow=1.4,SNR=10						
AAK	**Ala-Archa**	**51.42 296**	*e*P	**P**	**04 47 21.6**	**-0.1**
AAK			pmax	pmax		
comp=Z,5.0nm,1.2s						
AAK	**Ala-Archa**	**51.42 296**	*e*P	**P**	**04 47 21.6**	**-0.1**
ABKAR	**Akbulak array**	**57.06 309**	*e*P	**P**	**04 48 02.2**	**-0.1**
comp=Z,1.6nm,0.5s						
ARCES	**ARCESS Array B**	**59.09 340**	P	**P**	**04 48 15.7**	**-0.6**
ARCES	**ARCESS Array B**	**59.09 340**	P	**P**	**04 48 15.7**	**-0.6**
comp=Z,3.3nm,0.9s,baz=44,slow=7.2,SNR=5.8						
PSI	**Prapat**	**59.23 240**	LR	LR	05 11 38.2	
comp=Z,204nm,21.5s,baz=208,slow=34						
WRA	**Warramunga Arr**	**64.73 194**	P	**P**	**04 48 54.6**	**0.0**
WRA	**Warramunga Arr**	**64.73 194**	P	**P**	**04 48 54.6**	**0.0**
comp=Z,0.5nm,0.7s,baz=12,slow=6.6,SNR=3.6						
FINES	**FINESS Array B**	**64.75 333**	P	**P**	**04 48 53.2**	**-1.0**
FINES	**FINESS Array B**	**64.75 333**	P	**P**	**04 48 53.2**	**-1.0**
comp=Z,2.1nm,0.5s,baz=46,slow=8.2,SNR=11						
ASAR	**Alice Springs**	**68.45 193**	P	**P**	**04 49 19.5**	**+1.2**
ASAR	**Alice Springs**	**68.45 193**	P	**P**	**04 49 19.5**	**+1.2**
comp=Z,0.2nm,0.6s,baz=14,slow=6.1,SNR=3.4						
NB2	**NORSAR Subarra**	**69.45 339**	P	**P**	**04 49 23.3**	**-0.8**
comp=Z,0.8nm,0.5s,baz=31,slow=6.5						
NOA	**NORSAR Array B**	**69.45 339**	P	**P**	**04 49 23.4**	**-0.7**
NOA	**NORSAR Array B**	**69.45 339**	P	**P**	**04 49 23.4**	**-0.7**
comp=Z,0.7nm,0.4s,baz=31,slow=6.3,SNR=9.2						
HFS	**Hagfors**	**69.54 337**	P	**P**	**04 49 23.8**	**-0.8**
HFS	**Hagfors**	**69.54 337**	P	**P**	**04 49 23.8**	**-0.8**
comp=Z,1.7nm,0.4s,baz=38,slow=5.6,SNR=16						
PDAR	**Pinedale Array**	**69.62 50**	P	**P**	**04 49 26.1**	**+0.4**
PDAR	**Pinedale Array**	**69.62 50**	P	**P**	**04 49 26.1**	**+0.4**
comp=Z,0.3nm,0.6s,baz=298,slow=1.9,SNR=2.8						
KIV	**Kislovodsk**	**69.74 312**	*e*P	**P**	**04 49 27.5**	**+1.2**
KIV			pmax	pmax		
comp=Z,18nm,1.0s						
KBZ	**Khabaz**	**69.78 312**	P	**P**	**04 49 26.9**	**+0.5**
KBZ			pmax	pmax		
comp=Z,6.0nm,0.8s						
KBZ	**Khabaz**	**69.78 312**	P	**P**	**04 49 26.9**	**+0.5**
KBZ	**Khabaz**	**69.78 312**	P	**P**	**04 49 26.9**	**+0.5**
comp=Z,6.0nm,0.8s,baz=67,slow=3.8,SNR=12						
AKASG	**Malin Array Be**	**71.50 324**	*e*P	**P**	**04 49 36.0**	**-0.6**
AKASG			pmax	pmax		
comp=Z,2.0nm,0.4s						
AKASG	**Malin Array Be**	**71.50 324**	P	**P**	**04 49 36.1**	**-0.6**
AKASG	**Malin Array Be**	**71.50 324**	P	**P**	**04 49 36.1**	**-0.6**
comp=Z,1.5nm,0.4s,baz=40,slow=6.8,SNR=7.7						
BUR08	**Bucovina Ar. S**	**75.54 324**	*e*P	**P**	**04 50 00.9**	**+0.3**
STKA	**Stephens Creek**	**75.69 185**	P	**P**	**04 50 03.4**	**+2.1**
STKA	**Stephens Creek**	**75.69 185**	P	**P**	**04 50 03.4**	**+2.1**
comp=Z,2.6nm,0.9s,baz=34,slow=3.6,SNR=2.4						
MLR	**Muntele Rosu**	**76.88 322**	P	**P**	**04 50 07.8**	**-0.6**
MLR	**Muntele Rosu**	**76.88 322**	P	**P**	**04 50 07.8**	**-0.6**
comp=Z,0.5nm,0.6s,baz=354,slow=19,SNR=4.2						
BRTR	**Keskin Array B**	**77.51 314**	P	P	04 50 06.7	-5.3
BRTR	**Keskin Array B**	**77.51 314**	P	P	04 50 06.7	-5.3
comp=Z,0.9nm,0.8s,baz=64,slow=3.4,SNR=3.5						
EKA	**Eskdalemuir Ar**	**77.95 343**	P	**P**	**04 50 13.7**	**-0.3**
EKA	**Eskdalemuir Ar**	**77.95 343**	P	**P**	**04 50 13.7**	**-0.3**
comp=Z,1.0nm,0.6s,baz=24,slow=5.7,SNR=5.8						
GERES	**GERESS Array B**	**79.04 331**	P	**P**	**04 50 18.9**	**-1.2**
GERES	**GERESS Array B**	**79.04 331**	P	**P**	**04 50 18.9**	**-1.2**
comp=Z,0.5nm,0.6s,baz=12,slow=6.8,SNR=3.7						
TXAR	**Lajitas Array**	**82.37 56**	P	**P**	**04 50 39.8**	**+1.4**
TXAR	**Lajitas Array**	**82.37 56**	P	**P**	**04 50 39.8**	**+1.4**
comp=Z,0.4nm,0.6s,baz=302,slow=4.2,SNR=6.4						

BJI ***17*** *04:52:19.8, 1°.13N×128°.76E, h85km, mB5.2/33, mb5.5/60, Ms4.6/30, Ms7 4.2/25*

ISCJB ***17*** *04:52:25.1±0.4, 1°.63N±0°.02×128°.38E±0°.02, h91km±3km, mb5.2/148, Error ellipse: s-maj=4.1km s-min=3.3km az=146.7*

BKK ***17*** *04:52:25.2±0.8, 2°N±5°×12°9E±°, h64km±7km, M5.3/27, mB5.6/12, mb5.3/27, MLv5.7/3, Mw(mB)5.1/12*

MOS ***17*** *04:52:26.4±1.0, 1°.65N×128°.27E, h103km, mb5.3/41, Error ellipse: s-maj=10.1km s-min=4.9km az=115.2*

TEH ***17*** *04:52:26.0, 1°.65N×128°.24E, h82km, ML5.3*

IDC ***17*** *04:52:26.7±0.7, 1°.62N×128°.25E, h94km±6km, mb4.8/30, mb1 4.9/33, mb1mx4.8/35, mbtmp4.8/33, MS3.8/16, Ms1 3.8/16, ms1mx3.6/31, Error ellipse: s-maj=12.8km s-min=6.5km az=79.0*

NEIC ***17*** *04:52:26.9±0.6, 1°.61N×128°.24E, h95km±5km, mb5.3/50, Error ellipse: s-maj=5.4km s-min=3.1km az=70.0*

NEIC Felt at Tidore.

GCMT ***17*** *04:52:27.9±0.2, 1°.67N×128°.34E, h99km±1km, MW5.1, Moment Tensor Solution. s64,c84; s92,c144; Moment tensor: Scale 10^16^Nm; M_{rr}4.71±.12; $M_{\theta\theta}$0.04±.14; $M_{\phi\phi}$-4.75±.15; $M_{r\theta}$1.69±.09; $M_{\theta\phi}$1.36±.13; $M_{\phi r}$-1.28±.12; Best double couple: $M_0$5.40000×10^16^ NP1:ϕ_s151.00000°, δ56.00000°, λ73.00000°. NP2:ϕ_s360.00000°, δ37.00000°, λ114.00000°. Principal axes: T 5.3200, Plg73.0000°, Azm16.0000°; N 0.0700, Plg14.0000°, Azm161.0000°; P -5.3900, Plg10.0000°, Azm253.0000°; Data Used: II IU IC G CN.*

DJA ***17*** *04:52:27.7±0.3, 2°N±3°×12°8E±°, h70km±3km, M5.4/70, mb5.4/70, mB5.8/36, MLv5.4/12, Mw(mB)5.4/36, Mwp6.6/2*

ISC 17 04:52:26.4±0.3, 1°.61N±0°.03×128°.31E±0°.04, h89km±2km, h89km:pP-P, n646,σ1§17/758, mb5.3/148, 23C-19D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.25**	**229**	*e*Pn	**Pn**	**04 52 49.0**	**-0.1**
TNTI	**Ternate**	**1.25**	**229**	P	**Pn**	**04 52 48.7**	**-0.3**
TNTI				S	**Sn**	**04 53 05.4**	**-0.7**
LBMI	**Labuha**	**2.37 200**		S	**Sn**	**04 53 32.0**	**+0.1**
SGSI	**Sangihe**	**3.46 307**		P	**Pn**	**04 53 18.5**	**+0.3**
SGSI				S	**Sn**	**04 53 59.2**	**+1.1**
SWI	**Sorong**	**3.84 130**		P	**Pn**	**04 53 23.7**	**+0.4**
SWI				S	**Sn**	**04 54 05.5**	**-1.9**
NLAI	**Namlea**	**4.96 194**		P	**Pn**	**04 53 39.6**	**+1.1**
AAI	**Ambon**	**5.26 181**		P	**Pn**	**04 53 43.6**	**+1.0**
243nm,0.9s,4μm0.9nm							
GTOI	**Gorontalo**	**5.38 260**		P	**Pn**	**04 53 46.7**	**+2.5**
2μm,0.7s,19μm6.5nm							
GSPH	**General Santos**	**5.57 323**	⇑	*i*P	**Pn**	**04 53 47.5**	**+0.5**
GSPH				*i* S	**Sn**	**04 54 49.0**	**-0.8**
FAKI	**Fak Fak**	**5.98 139**		P	**Pn**	**04 53 54.0**	**+1.6**
194nm,0.8s,4μm1.4nm							
FAKI				S	**Sn**	**04 54 58.2**	**-1.3**
194nm,0.8s,4μm1.4nm							
LUWI	**Luwuk**	**6.12 245**		P	**Pn**	**04 53 54.5**	**+0.1**
1μm,1.1s,13μm4.5nm							
MRSI	**Marisa**	**6.46 260**		P	**Pn**	**04 53 59.5**	**+0.5**
795nm,0.6s,12μm215μm3.2nm							
RKPI	**Ransiki, Papua**	**6.64 118**		P	Pn	04 54 07.0	+5.6
614nm,0.9s,20μm3.0nm							
CTBH	**Cotabato--PC H**	**6.89 324**	⇑	*i*P	**Pn**	**04 54 06.8**	**+2.0**
APSI	**Ampana**	**7.11 249**		P	Pn	04 53 57.9	-10
TOLI	**Toli-Toli**	**7.52 266**		P	**Pn**	**04 54 14.3**	**+0.8**
1μm,0.7s,15μm3.5nm							
BAKI	**Biak**	**8.28 110**		P	Pn	04 54 28.1	+4.3
SRPI	**Serui, Papua**	**8.65 113**		P	Pn	04 54 33.2	+4.3
584nm,0.8s							
KKSI	**Kolaka, Sulawe**	**8.78 229**		P	**Pn**	**04 54 31.7**	**+1.0**
BBSI	**Bau Bau**	**9.08 219**		P	**Pn**	**04 54 37.4**	**+2.7**
563nm,1.0s,4μm							
BNSI	**Bone**	**10.13 234**		P	**Pn**	**04 54 49.1**	**0.0**
839nm,1.0s,6μm							
SPSI	**Sidrap Palu**	**10.17 237**		P	**Pn**	**04 54 50.7**	**+1.2**
1μm,0.8s,8μm							
MYLDM	**Lahad Datu**	**10.41 290**		P	**Pn**	**04 54 56.0**	**+3.1**
MJSI	**Majene**	**10.63 241**		P	**Pn**	**04 54 57.8**	**+1.9**
310nm,1.0s,4μm							
BKSI	**Bulukumba**	**10.68 230**		P	**Pn**	**04 54 57.2**	**+0.6**
800nm,0.7s,7μm							
TSM	**Tawau**	**10.76 285**		P	**Pn**	**04 54 58.6**	**+1.1**
KAPI	**Kappang**	**10.78 232**		Pn	**Pn**	**04 54 57.3**	**-0.6**
3μm,0.6s,SNR=26							
KAPI	**Kappang**	**10.78 232**		Pn	**Pn**	**04 54 57.6**	**-0.3**
SNR=21							
KAPI	**Kappang**	**10.78 232**		*e*P	**Pn**	**04 54 56.8**	**-1.1**
KAPI				*e*S	**Sn**	**04 56 51.8**	**-5.0**
KAPI	**Kappang**	**10.78 232**		P	**Pn**	**04 54 57.4**	**-0.5**
382nm,0.9s,4μm							
KAPI	**Kappang**	**10.78 232**		P	**Pn**	**04 54 56.5**	**-1.5**
26nm,0.3s,baz=74,slow=5.3,SNR=43							
KAPI				S	**Sn**	**04 56 52.5**	**-4.3**
1.2nm,0.3s,baz=315,slow=20,SNR=2.4							
SGKI	**Sangatta, Kali**	**10.91 259**		P	**Pn**	**04 54 59.1**	**-0.6**
703nm,1.0s,8μm							
BKB	**Balikpapan**	**11.76 256**		P	**Pn**	**04 55 11.4**	**+0.3**
251nm,0.9s,2μm							
SDKM	**Sandakan**	**11.79 290**		P	**Pn**	**04 55 13.6**	**+2.0**
KDM	**Kudat**	**12.60 295**		P	P	04 55 26.5	-3.8
KKM	**Kota Kinabalu**	**12.84 290**		*e*Pn	**Pn**	**04 55 25.4**	**-0.4**
KKM	**Kota Kinabalu**	**12.84 290**		P	**Pn**	**04 55 27.4**	**+1.7**
JAY	**Jayapura**	**13.05 108**		P	**P**	**04 55 36.7**	**+1.2**
LBFI	**Labuhan Bajo,**	**13.07 220**		P	**Pn**	**04 55 29.1**	**+0.4**
296nm,0.7s,3μm							
MTKI	**Muara Teweh, K**	**13.64 259**		P	**Pn**	**04 55 35.8**	**-0.5**
154nm,1.1s							
TGY	**Tagaytay City**	**14.40 330**		P	**Pn**	**04 55 47.4**	**+1.3**
TGY	**Tagaytay City**	**14.40 330**		P	**Pn**	**04 55 47.4**	**+1.3**
38nm,0.3s,baz=166,slow=18,SNR=8.6							
BTM	**Bintulu**	**15.29 276**		P	**Pn**	**04 55 58.2**	**+0.8**
MTNI	**Mataram**	**15.80 230**		P	**Pn**	**04 56 04.0**	**+0.1**
138nm,1.2s,2μm							
SBUM	**Sibu**	**16.10 273**		P	**P**	**04 56 11.1**	**+1.9**
SRBI	**Singaraja**	**16.22 233**		P	**P**	**04 56 10.7**	**+0.1**
201nm,1.3s,2μm							
KMMI	**Kalianget**	**16.69 239**		P	**P**	**04 56 18.0**	**+2.2**
171nm,1.4s,3μm							
ABJI	**Asem Bagus**	**16.86 236**		P	**P**	**04 56 20.1**	**+2.5**
170nm,1.1s							
NBBI	**Negara**	**16.86 234**		P	**P**	**04 56 17.4**	**-0.3**
234nm,1.1s,4μm							
STKI	**Sintang**	**16.89 265**		P	**P**	**04 56 18.3**	**+0.2**
96nm,1.0s							
BYJI	**Banyuwangi**	**16.99 235**		P	**P**	**04 56 22.3**	**+3.2**
616nm,1.5s							
JAGI	**Jajag, Banyuwa**	**17.30 234**		P	**P**	**04 56 24.3**	**+1.8**
181nm,1.1s,3μm							
BLJI	**Banyuglugur**	**17.36 237**		P	**P**	**04 56 25.7**	**+2.5**
251nm,1.0s,4μm							
GMJI	**Gumukmas**	**17.77 236**		P	**Pn**	**04 56 29.9**	**+1.8**
190nm,1.2s,2μm							
GRJI	**Gresik**	**17.92 242**		P	**Pn**	**04 56 30.0**	**+0.1**
177nm,1.1s,2μm							
KSM	**Kuching**	**17.99 270**		*e*Pn	**P**	**04 56 30.4**	**+0.2**
KSM	**Kuching**	**17.99 270**		P	**Pn**	**04 56 32.3**	**+1.5**
KRKI	**Karangkates**	**18.55 238**		P	**Pn**	**04 56 39.1**	**+1.6**
426nm,1.3s							
SJI	**Sawahan**	**18.93 240**		P	**Pn**	**04 56 42.3**	**+0.2**
388nm,1.0s,6μm							
NGJI	**Ngawi**	**19.02 242**		P	**Pn**	**04 56 44.1**	**+1.0**
241nm,1.0s							
PWJI	**Pagerwojo**	**19.03 240**		P	**Pn**	**04 56 42.4**	**-0.8**
244nm,1.1s,4μm							
FITZ	**Fitzroy Crossi**	**19.76 188**		P	**P**	**04 56 49.2**	**-0.2**
FITZ				S	**S**	**05 00 29.8**	**+2.4**
FITZ				ScP	**ScP**	**05 04 31.7**	**-1.2**
FITZ	**Fitzroy Crossi**	**19.76 188**		P	**P**	**04 56 49.2**	**-0.2**
baz=5.7,slow=10							
FITZ				S	**S**	**05 00 29.8**	**+2.4**
baz=324,slow=19,SNR=1.5							
FITZ				ScP	**ScP**	**05 04 31.7**	**-1.2**
UGM	**Wanagama**	**20.10 242**		*e*Pn	Pn	04 56 54.7	-1.1
417nm,1.2s							
UGM	**Wanagama**	**20.10 242**		P	Pn	04 56 54.5	-1.3
350nm,1.5s							
YOGI	**Yogyakarta**	**20.25 242**		P	Pn	04 56 57.2	-0.4
667nm,1.0s							
GUMO	**Guam**	**20.26 53**		*e*P	**P**	**04 56 55.3**	**+0.4**
166nm,0.6s							
BJII	**Banjamegara**	**20.57 244**		P	Pn	04 57 00.5	-0.8
433nm,1.6s,6μm							
TGJI	**Tegal**	**20.91 246**		P	**P**	**04 57 03.4**	**+1.4**
309nm,1.1s,3μm							
TPI	**Tanjungpandan**	**21.09 258**		P	**P**	**04 57 03.7**	**-0.2**
50nm,1.1s,533nm							
KPJI	**Karang Pucung**	**21.27 245**		P	**P**	**04 57 07.3**	**+1.5**
386nm,1.1s,3μm							
KPJI				S	**S**	**05 01 00.3**	**+2.9**
386nm,1.1s,3μm							
COEN	**Coen**	**21.36 137**		*e*P	**P**	**04 57 08.5**	**+1.7**
405nm,0.9s							
PMG	**Port Moresby**	**21.73 121**		*e*P	**P**	**04 57 11.8**	**+1.1**
14nm,0.6s							
PMG	**Port Moresby**	**21.73 121**		P	**P**	**04 57 11.7**	**+0.9**
11nm,0.5s,baz=294,slow=10.0,SNR=4.2							
WRAB	**Tennant Creek**	**22.21 165**		P	**P**	**04 57 15.0**	**-0.7**
574nm,0.6s,SNR=83							
WRAB	**Tennant Creek**	**22.21 165**		*e*P	**P**	**04 57 15.7**	**0.0**
WRAB				pmax	pmax		
comp=Z,70nm,0.8s							
WRAB	**Tennant Creek**	**22.21 165**		*e*P	**P**	**04 57 15.7**	**0.0**
comp=Z,70nm,0.8s							
WRA	**Warramunga Arr**	**22.22 165**		P	**P**	**04 57 15.4**	**-0.4**
WRA				pP	**pP**	**04 57 33.3**	**-0.3**
WRA				S	**S**	**05 01 12.7**	**-2.2**
WRA				PKiKP	**PKiKP**	**05 08 53.7**	**-1.6**
WRA	**Warramunga Arr**	**22.22 165**		P	**P**	**04 57 15.4**	**-0.4**
comp=Z,58nm,0.7s,baz=334,slow=11,SNR=175							
WRA				pP	**pP**	**04 57 33.3**	**-0.3**
comp=Z,56nm,0.8s,baz=341,slow=10,SNR=11							
WRA				S	**S**	**05 01 12.7**	**-2.2**
comp=Z,3.4nm,0.9s,baz=344,slow=20,SNR=5.0							
WRA				PKiKP	**PKiKP**	**05 08 53.7**	**-1.6**
comp=Z,0.7nm,0.8s,baz=314,slow=1.2,SNR=4.8							
TWG	**Pinlang**	**22.23 342**		*e*P	**P**	**04 57 13.9**	**-1.9**
comp=Z,210nm,0.8s							
LEM	**Lembang**	**22.28 248**		P	**P**	**04 57 17.4**	**+0.7**
comp=Z,93nm,0.8s							
CISI	**Cisompet, Garu**	**22.37 246**		P	**P**	**04 57 17.0**	**-0.6**
comp=Z,145nm,0.9s							
PPBI	**Pangkal Pinang**	**22.48 260**		P	**P**	**04 57 18.6**	**-0.1**
comp=Z,58nm,1.1s,comp=Z,7μm							
YULB	**Yu-li**	**22.70 343**		*e*P	**P**	**04 57 19.3**	**-1.6**
comp=Z,26nm,0.6s							
TPUB	**Ta-pu**	**22.82 342**		*e*P	**P**	**04 57 20.5**	**-1.5**
comp=Z,119nm,0.7s							
CBJI	**Citeko**	**22.85 249**		P	P	04 57 27.5	+5.0
comp=Z,348nm,0.9s							
DBJI	**Dramaga**	**22.99 249**		P	**P**	**04 57 25.9**	**+2.0**
comp=Z,124nm,1.4s							
SSLB	**Suanglung**	**23.17 343**		*e*P	**P**	**04 57 24.1**	**-1.4**
comp=Z,128nm,0.8s							
NACB	**Ninganchiao**	**23.36 344**		*e*P	**P**	**04 57 26.7**	**-0.5**
comp=Z,91nm,0.5s							
SBJI	**Serang**	**23.43 251**		P	**P**	**04 57 30.5**	**+2.5**
comp=Z,185nm,1.4s,comp=Z,8μm							
YHNB	**Yeheng**	**23.89 344**		*e*P	**P**	**04 57 32.2**	**+0.2**
comp=Z,132nm,0.6s							
MBWA	**Marble Bar**	**24.13 200**		*e*P	**P**	**04 57 33.5**	**-0.7**
comp=Z,6.7nm,0.9s							
MBWA				*e*PcP	**PcP**	**05 01 13.5**	**+0.2**
TATO	**Taipei**	**24.15 345**		*e*P	**P**	**04 57 34.2**	**0.0**
comp=Z,81nm,0.7s							
KLI	**Kotabumi**	**24.29 255**		P	**P**	**04 57 38.6**	**+2.9**
comp=Z,130nm,0.8s							
MYKOM	**Kota Tinggi**	**24.45 271**		P	**P**	**04 57 39.5**	**+2.4**
KASI	**Kota Agung**	**24.81 253**		P	**P**	**04 57 42.2**	**+1.7**
comp=Z,127nm,1.1s							
MDSI	**Maura Dua**	**24.86 256**		P	**P**	**04 57 42.3**	**+1.4**
comp=Z,93nm,1.1s							
KGM	**Kluang**	**24.98 271**		P	**P**	**04 57 45.0**	**+3.0**
QZH	**Quanzhou**	**25.03 339**	⇑	*i*P	**P**	**04 57 41.6**	**-0.7**
QZH				S	S	05 02 09.3	+9.3
QZH				pmax	pmax		
comp=Z,440nm,0.9s							
QIZ	**Qiongzhong**	**25.04 315**		P	**P**	**04 57 42.8**	**+0.3**
QIZ				pP	**pP**	**04 58 00.8**	**-1.8**
QIZ				sP	**sP**	**04 58 09.3**	**-3.8**
QIZ				S	**S**	**05 02 01.6**	**+1.2**
LWLI	**Liwa**	**25.10 255**		P	**P**	**04 57 46.6**	**+3.4**
comp=Z,157nm,0.7s,comp=Z,9μm							
LHSI	**Lahat**	**25.35 258**		P	P	04 57 50.5	+5.1
comp=Z,98nm,1.1s							
KTGM	**Kuala Trenggan**	**25.39 279**		P	**P**	**04 57 48.4**	**+2.7**
AS31	**Alice Springs**	**25.70 168**		*e*P	**P**	**04 57 48.7**	**+0.2**
AS31				*e*PcP	**PcP**	**05 01 16.6**	**-0.2**
ASAR	**Alice Springs**	**25.70 168**		P	**P**	**04 57 48.5**	**+0.1**
ASAR				pP	**pP**	**04 58 09.6**	**+0.9**
ASAR				PcP	**PcP**	**05 01 16.1**	**-0.7**
ASAR				ScP	**ScP**	**05 04 47.1**	**-1.3**
ASAR				PKiKP	**PKiKP**	**05 08 55.5**	**-1.6**
ASAR	**Alice Springs**	**25.70 168**		P	**P**	**04 57 48.5**	**+0.1**
comp=Z,7.9nm,0.5s,baz=348,slow=7.3,SNR=57							
ASAR				pP	**pP**	**04 58 09.6**	**+0.9**
comp=Z,35nm,0.9s,baz=347,slow=10.0,SNR=15							
ASAR				PcP	**PcP**	**05 01 16.1**	**-0.7**
comp=Z,7.0nm,0.6s,baz=355,slow=2.1,SNR=11							
ASAR				ScP	**ScP**	**05 04 47.1**	**-1.3**
comp=Z,2.3nm,0.8s,baz=341,slow=2.2,SNR=6.9							
ASAR				LR	LR	05 08 15.6	
comp=Z,180nm,18.7s,baz=180,slow=37							
ASAR				PKiKP	**PKiKP**	**05 08 55.5**	**-1.6**
comp=Z,0.7nm,0.8s,baz=16,slow=1.0,SNR=6.1							
MASI	**Maura Aman, Be**	**26.48 260**		P	P	04 58 02.3	+6.7
comp=Z,293nm,0.9s							
FRIM	**Kepong**	**26.70 274**		P	**P**	**04 57 58.7**	**+1.1**
IPM	**Ipoh**	**27.39 277**		P	**P**	**04 58 06.1**	**+2.3**
CTA	**Charters Tower**	**27.83 142**		P	**P**	**04 58 08.1**	**+0.5**
CTA				PcP	**PcP**	**05 01 22.7**	**+0.8**
CTA	**Charters Tower**	**27.83 142**		P	**P**	**04 58 08.1**	**+0.5**
comp=Z,22nm,1.0s,baz=333,slow=15,SNR=7.7							
CTA				PcP	**PcP**	**05 01 22.7**	**+0.8**
comp=Z,6.8nm,0.8s,baz=334,slow=7.8,S

comp=Z,41nm,0.8s
BBOO Buckleboo 35.01 169 *e*P **P 04 59 10.4 0.0**
comp=Z,5μm,2.6s
STKA Stephens Creek 35.60 160 *e*P **P 04 59 16.2 +0.6**
comp=Z,8.3nm,0.6s
STKA Stephens Creek 35.60 160 P **P 04 59 16.2 +0.6**
comp=Z,35nm,0.6s,baz=337,slow=8.0,SNR=73
STKA LR LR 05 16 39.8
comp=Z,144nm,18.0s,baz=250,slow=41
KSAR Wonju Array Be 35.66 359 P **P 04 59 16.4 +0.4**
KSAR PcP **PcP 05 01 42.0 -0.7**
KSAR ScP **ScP 05 05 20.1 -0.8**
KSRS Korea Array 35.68 359 P **P 04 59 16.4 +0.3**
comp=Z,20nm,0.5s,baz=176,slow=9.8,SNR=89
KSRS PcP **PcP 05 01 42.0 -0.7**
comp=Z,3.6nm,0.8s,baz=191,slow=2.8,SNR=7.2
KSRS ScP **ScP 05 05 20.1 -0.8**
comp=Z,0.3nm,0.3s,baz=185,slow=4.4,SNR=5.0
KSRS LR LR 05 13 22.7
comp=Z,89nm,18.1s,baz=190,slow=35
MAJO Matsushiro 35.95 14 *e*P **P 04 59 17.3 -1.2**
MAJO pmax pmax
comp=Z,39nm,0.7s
MAJO Matsushiro 35.95 14 *e*P **P 04 59 17.3 -1.2**
comp=Z,39nm,0.7s
MAT Matsushiro 35.95 14 P **P 04 59 16.7 -1.8**
MAT S **S 05 04 48.7 -1.8**
MJAR Matsushiro Arr 35.95 14 P **P 04 59 17.1 -1.4**
MJAR PcP **PcP 05 01 44.0 +0.4**
MJAR Matsushiro Arr 35.95 14 P **P 04 59 17.1 -1.4**
comp=Z,23nm,0.7s,baz=185,slow=9.6,SNR=60
MJAR PcP **PcP 05 01 44.0 +0.4**
comp=Z,4.7nm,1.0s,baz=171,slow=3.1,SNR=4.6
MJAR LR LR 05 11 25.4
comp=Z,144nm,21.3s,baz=200,slow=32
XAN Xi'an 37.01 333 P **P 04 59 28.5 +0.9**
XAN pP **pP 04 59 47.5 -0.9**
XAN PP **PnPn 05 01 01.5 +6.5**
XAN S **S 05 05 07.3 +0.5**
XAN pmax pmax
comp=Z,59nm,1.0s
XAN pmax pmax
comp=Z,56nm,3.6s
CD2 Chengdu 37.28 324 P **P 04 59 31.3 +1.4**
CD2 pP **pP 04 59 50.9 +0.2**
CD2 sP **sP 05 00 00.8 -0.2**
CD2 PP **PnPn 05 01 01.0 +2.8**
CD2 S **S 05 05 12.3 +1.4**
CD2 sS **sS 05 05 46.3 -0.4**
CD2 pmax pmax
comp=Z,90nm,1.0s
CD2 pmax pmax
comp=Z,160nm,5.4s
CD2 LR LR
comp=N,290nm,8.3s
DL2 Dalian 37.62 351 P **P 04 59 33.6 +1.0**
DL2 S **S 05 05 19.8 +4.0**
DL2 pmax pmax
comp=Z,150nm,0.7s
DL2 pmax pmax
comp=Z,100nm,5.9s
DL2 LR LR
comp=N,250nm,5.4s
DL2 LR LR
comp=Z,190nm,4.9s
ARMA Armidale 38.84 147 *e*P **P 04 59 44.2 +1.1**
comp=Z,55nm,0.9s
BJT Baijiatuau 39.80 345 *e*P **P 04 59 51.4 +0.7**
comp=Z,401nm,0.5s
BJI Beijing 39.82 345 P **P 04 59 51.6 +0.7**
BJI S **S 05 05 51.8 +3.1**
BJI SS **SnSn 05 08 53.8 -2.8**
BJI pmax pmax
comp=Z,660nm,3.6s
BJI LR LR
comp=N,100nm,26.4s
BJI LR LR
comp=E,120nm,24.6s
SNY Shenyang 40.27 355 ⇑P **P 04 59 55.0 +0.4**
SNY pmax pmax
comp=Z,69nm,0.8s
SNY pmax pmax
comp=Z,89nm,6.0s
SNY LR LR
comp=N,290nm,15.1s
SNY LR LR
comp=E,190nm,14.0s
LZH Lanzhou 41.12 329 ⇑P **P 05 00 04.3 +2.3**
LZH pP **pP 05 00 27.0 +3.9**
LZH sP **sP 05 00 37.6 +4.3**
LZH PP **PnPn 05 01 43.8 +0.1**
LZH S **S 05 06 12.0 +3.3**
LZH sS **sS 05 06 45.3 +0.4**
LZH SS **SS 05 09 13.0 -1.7**
LZH pmax pmax
comp=Z,150nm,1.0s
LZH pmax pmax
comp=Z,380nm,3.8s
VLA Vladivostok 41.46 4 *i* P **P 05 00 04.8 +0.4**
VLA pmax pmax
comp=Z,46nm,0.7s
CAN Canberra 41.52 154 *e*P **P 05 00 06.6 +1.4**
CAN pmax pmax
comp=Z,54nm,1.1s
CAN Canberra 41.52 154 *e*P **P 05 00 06.5 +1.4**
comp=Z,54nm,1.1s
HHC Hu-ho-hao-te 41.90 341 *e*P **P 05 00 09.3 +1.1**
HHC pP **pP 05 00 28.5 -0.9**
HHC sP **sP 05 00 38.0 -1.6**
HHC PP **PnPn 05 01 50.6 -2.1**
HHC PcP **PcP 05 02 03.8 +1.4**
HHC ScP **ScP 05 05 46.1 +1.2**
HHC S **S 05 06 23.0 +3.0**
HHC sS **sS 05 06 55.1 -1.2**
HHC ScS **ScS 05 10 01.8 -0.5**
HHC pmax pmax
comp=Z,330nm,0.9s
HHC pmax pmax
comp=Z,220nm,8.3s
HHC LR LR
comp=N,450nm,17.8s
HHC LR LR
comp=E,320nm,17.8s
HHC LR LR
comp=Z,450nm,15.5s
CN2 Changchun 42.09 357 *e*P **P 05 00 09.0 -0.6**
CN2 *e*pP **pP 05 00 31.8 +1.1**
CN2 *e*S **S 05 06 21.6 -0.9**
CN2 pmax pmax
comp=Z,20nm,0.9s
CN2 pmax pmax
comp=Z,200nm,3.0s
BTO Baotou 42.21 339 *e*P **P 05 00 10.6 -0.1**
ERM Erimo 42.39 16*c i*P **P 05 00 13.0 +1.0**
ERM pmax pmax
comp=Z,47nm,2.5s
SHL Shillong 42.40 307 *i* P **P 05 00 12.5 -0.1**
SHL *e*S **S 05 06 27.0 -0.9**
USRK Ussuriysk Arra 42.54 4 P **P 05 00 12.7 -0.5**
comp=Z,23nm,0.8s,baz=188,slow=6.8,SNR=37
USRK LR LR 05 16 36.8
comp=Z,73nm,18.8s,baz=176,slow=34
MDJ Mudanjiang 42.84 1 P **P 05 00 15.9 +0.2**
MDJ pP **pP 05 00 35.3 -1.6**
MDJ sP **sP 05 00 44.5 -2.6**
MDJ PP **PP 05 01 55.5 -1.3**
MDJ PcP **PcP 05 02 05.5 +0.2**
MDJ ScP **ScP 05 05 49.3 +0.9**
MDJ PcS **PcS 05 05 57.9 +0.4**
MDJ S **S 05 06 35.1 +1.6**
MDJ SS **SS 05 09 48.8 +0.7**
MDJ ScS **ScS 05 10 08.8 +1.1**
MDJ pmax pmax
comp=Z,44nm,1.0s
MDJ pmax pmax
comp=Z,96nm,4.1s
MDJ LR LR
comp=N,160nm,33.2s
MDJ LR LR
comp=E,74nm,35.2s
MDJ LR LR
comp=Z,220nm,31.3s
MDJ Mudanjiang 42.84 1 *e*P **P 05 00 15.6 -0.1**
comp=Z,45nm,1.0s
DZM Mont Dzumac 44.04 125 P **P 05 00 26.4 +0.7**

DZM Mont Dzumac 44.04 125 P **P 05 00 26.4 +0.7**
comp=Z,46nm,1.1s,baz=301,slow=6.7,SNR=7.8
ASAJ Asahikawa 44.19 15 *e*P **P 05 00 26.9 +0.4**
comp=Z,11nm,0.9s
ASAJ *e* 05 02 11.2
ASAJ Asahikawa 44.19 15 LR LR 05 19 00.4
comp=Z,104nm,18.7s,baz=177,slow=36
LSA Lhasa 45.02 312 P **P 05 00 36.0 +2.1**
LSA pmax pmax
comp=Z,70nm,0.9s
LSA Lhasa 45.02 312 *e*P **P 05 00 35.3 +1.4**
LSA pmax pmax
comp=Z,37nm,0.7s
LSA Lhasa 45.02 312 *e*P **P 05 00 35.3 +1.4**
comp=Z,37nm,0.7s
GTA Gaotai 45.72 329 ⇑P **P 05 00 40.3 +1.4**
GTA pP **pP 05 01 00.3 0.0**
GTA sP **sP 05 01 11.0 +0.6**
GTA PcP **PcP 05 02 16.5 +1.1**
GTA S **S 05 07 17.8 +2.1**
GTA ScS **ScS 05 10 25.9 -0.5**
GTA SS **SS 05 10 35.5 -5.8**
GTA pmax pmax
comp=Z,72nm,0.9s
GTA pmax pmax
comp=Z,280nm,4.8s
GTA LR LR
comp=N,140nm,15.9s
GTA LR LR
comp=E,86nm,16.6s
GTA LR LR
comp=Z,240nm,18.1s
TAPN Taplejung 46.54 307 *e*P **P 05 00 46.8 +1.1**
comp=Z,140nm,0.9s
ODAN Odare 46.58 306 *e*P **P 05 00 47.1 +1.1**
comp=Z,203nm,0.7s
YSS Yuzh-Sakhalins 46.89 14 *e*P **P 05 00 48.0 +0.3**
YSS *e* 05 01 19.5
YSS *e* 05 02 18.2
RAMN Ramite 47.26 306 *e*P **P 05 00 52.7 +1.4**
comp=Z,256nm,0.6s
KLR Kul'dur 47.54 3 *e*P P 05 00 48.8 -3.9
KLR pmax pmax
comp=Z,28nm,1.4s
JIRN Jiri 47.89 307 *e*P **P 05 00 57.5 +1.2**
comp=Z,188nm,0.6s
HIA Hailar 48.05 352 *e*P **P 05 00 57.1 +0.4**
comp=Z,8.6nm,0.5s
GUN Gumba 48.24 307 *e*P **P 05 01 00.1 +1.1**
comp=Z,264nm,0.7s
PKI Pulchoki 48.48 306 *e*P **P 05 01 01.4 +0.6**
PKIN Phulchoki 48.49 306 *e*P **P 05 01 01.9 +1.1**
KKN Kakani 48.67 306 *e*P **P 05 01 03.0 +0.8**
DMN Daman 48.74 306 *e*P **P 05 01 03.5 +0.8**
comp=Z,202nm,1.0s
ULN Ulaanbaatar 49.62 341 P **P 05 01 10.1 +1.1**
SNR=52
ULN Ulaanbaatar 49.62 341 *e*P **P 05 01 09.6 +0.7**
comp=Z,141nm,1.0s
SONM Songino Array 49.80 341 P **P 05 01 11.1 +0.8**
SONM PcP **PcP 05 02 29.9 0.0**
SONM Songino Array 49.80 341 P **P 05 01 11.1 +0.8**
comp=Z,51nm,0.9s,baz=156,slow=8.3,SNR=116
SONM PcP **PcP 05 02 29.9 0.0**
comp=Z,3.8nm,0.5s,baz=163,slow=4.1,SNR=3.9
SONM LR LR 05 24 28.0
comp=Z,72nm,21.4s,baz=127,slow=39
KOLN Koldanda 50.03 306 *e*P **P 05 01 13.6 +1.2**
comp=Z,314nm,0.6s
DANN Dangsing 50.13 306 *e*P **P 05 01 14.2 +0.9**
comp=Z,317nm,0.6s
PYUN Piuthan 50.65 306 *e*P **P 05 01 18.7 +1.5**
comp=Z,884nm,0.6s
HYB Hyderabad 51.33 291 *i* P **P 05 01 21.0 -1.2**
HYB *e*pP **pP 05 01 41.0 -3.0**
CIT Chita 51.74 348 *e*P **P 05 01 25.8 +1.1**
CIT *e* 05 01 48.3
CIT *e* 05 01 58.7
CIT pmax pmax
comp=Z,166nm,1.8s
MSVF Nonsavu 52.61 114 *e*P **P 05 01 33.4 +1.7**
MSVF pmax pmax
comp=Z,41nm,1.2s
MSVF Nonsavu 52.61 114 *e*P **P 05 01 33.4 +1.7**
comp=Z,41nm,1.2s
ZAK Zakamensk 53.04 340 *e*P **P 05 01 33.8 -0.6**
ZAK pmax pmax
comp=Z,9.0nm,1.4s
TLY Talaya 54.03 341 *e*P **P 05 01 41.5 0.0**
TLY pmax pmax
comp=Z,22nm,1.1s
TLY MLR MLR
comp=Z,66nm,17.0s
MOY Mondy 54.91 340 *e*P **P 05 01 48.6 +0.6**
MOY pmax pmax
comp=Z,67nm,1.9s
WMQ Urumqi 55.36 325 P **P 05 01 53.0 +1.7**
WMQ pP **pP 05 02 12.4 -1.0**
WMQ sP **sP 05 02 21.0 -2.3**
WMQ PcP **PcP 05 02 52.0 +1.2**
WMQ pmax pmax
comp=Z,110nm,0.8s
WMQ pmax pmax
comp=Z,260nm,4.0s
WMQ LR LR
comp=N,140nm,22.7s
WMQ LR LR
comp=E,130nm,23.8s
WMQ LR LR
comp=Z,120nm,28.0s
POO Poona 55.93 291 ⇓*i* P **P 05 01 54.0 -1.8**
comp=Z,4.0nm,1.0s
PEA0B Petropavlovsk- 56.82 21 *e*P **P 05 02 01.8 +0.4**
PETK Petropavlovsk- 56.82 21 P **P 05 02 02.1 +0.6**
PETK 05 02 56.5
PETK Petropavlovsk- 56.82 21 P **P 05 02 02.0 +0.6**
PETK PcP **PcP 05 02 56.5 +0.3**
PETK Petropavlovsk- 56.82 21 P **P 05 02 02.0 +0.6**
comp=Z,28nm,0.6s,baz=187,slow=5.5,SNR=58
PETK PcP **PcP 05 02 56.5 +0.3**
comp=Z,4.8nm,0.6s,baz=182,slow=5.3,SNR=2.9
PETK LR LR 05 23 59.3
comp=Z,39nm,18.5s,baz=73,slow=33
PET Petropavlovsk 57.09 21 *e*P **P 05 02 03.4 +0.1**
PET *e*S **S 05 09 49.1 -2.3**
PET pmax pmax
comp=Z,48nm,0.6s
HVS Khovu-Aksy 57.32 335*c i*P **P 05 02 05.6 +0.5**
HVS pmax pmax
comp=Z,466nm,1.2s
RPZ Rata Peaks 59.13 145 *e*P **P 05 02 18.5 +0.7**
comp=Z,43nm,1.1s
RAO Raoul Island 59.82 125 LR LR 05 25 57.2
comp=Z,82nm,20.5s,baz=29,slow=34
KHZ Kahutara 59.83 143 *e*P **P 05 02 22.2 -0.4**
comp=Z,23nm,0.8s
BKZ Black Stump Fm 59.96 138 *e*P **P 05 02 23.8 +0.1**
MK31 Makanchi Array 60.19 325 *i* P **P 05 02 25.3 +0.3**
MK31 pmax pmax
comp=Z,68nm,0.6s
MK31 Makanchi Array 60.19 325 *e*P **P 05 02 25.4 +0.4**
MKAR Makanchi Array 60.19 325 P **P 05 02 25.3 +0.3**
MKAR *PP **pP 05 02 48.7 +1.3**
MKAR Makanchi Array 60.19 325 P **P 05 02 25.3 +0.3**
MKAR pP **pP 05 02 48.7 +1.3**
MKAR Makanchi Array 60.19 325 P **P 05 02 25.3 +0.3**
comp=Z,70nm,0.6s,baz=119,slow=8.5,SNR=743
MKAR pP **pP 05 02 48.7 +1.3**
comp=Z,17nm,0.6s,baz=119,slow=8.3,SNR=4.4
YAK Yakutsk 60.29 1*c i*P **P 05 02 25.3 0.0**
YAK *e*PP **pP 05 02 50.7 +3.0**
YAK *e* 05 03 09.3
YAK *e*S **S 05 10 33.0 +0.5**
YAK *e* 05 12 02.9
YAK pmax pmax
comp=E,8.0nm,0.9s
YAK pmax pmax
comp=Z,116nm,0.9s
YAK pmax pmax
comp=N,28nm,1.0s
YAK pmax pmax
comp=Z,11nm,0.8s
YAK pmax pmax
comp=E,8.0nm,0.9s
YAK pmax pmax

comp=N,7.0nm,1.0s
YAK smax smax
comp=N,73nm,3.2s
YAK smax smax
comp=E,55nm,3.0s
KSH Kashi 60.65 315 ⇑*i* P **P 05 02 30.3 +1.8**
KSH pP **pP 05 02 49.6 -1.3**
KSH PP **PP 05 04 45.6 +2.5**
KSH PcS **PcS 05 07 14.8 +0.1**
KSH S **S 05 10 37.1 -1.2**
KSH pmax pmax
comp=Z,32nm,1.0s
KSH LR LR
comp=N,140nm,5.1s
KSH LR LR
comp=E,150nm,5.9s
KSH LR LR
comp=Z,190nm,6.1s
ULHL Ulahol 61.64 318 *i* P **P 05 02 36.3 +1.1**
ULHL Ulahol 61.64 318 P **P 05 02 36.3 +1.1**
SNR=6.9
KZA Kyzart 62.23 318 *i* P **P 05 02 40.6 +1.2**
KZA Kyzart 62.23 318 P **P 05 02 40.6 +1.2**
SNR=23
TKM2 Tokmak 2 62.37 319 *e*P **P 05 02 40.5 +0.4**
TKM2 pmax pmax
comp=Z,36nm,0.7s
TKM2 Tokmak 2 62.37 319 P **P 05 02 40.6 +0.4**
SNR=49
TKM2 Tokmak 2 62.37 319 *e*P **P 05 02 40.5 +0.4**
comp=Z,36nm,0.7s
KBK Karagaybulak 62.69 318 *i* P **P 05 02 43.1 +0.9**
KBK Karagaybulak 62.69 318 P **P 05 02 43.1 +0.9**
SNR=5.4
CHMS Chumysh 62.96 319 *i* P **P 05 02 44.4 +0.6**
CHMS Chumysh 62.96 319 P **P 05 02 44.4 +0.6**
SNR=8.2
AAK Ala-Archa 62.98 318 P **P 05 02 44.0 -0.1**
comp=Z,76nm,0.7s,SNR=7.9
AAK Ala-Archa 62.98 318*c i*P **P 05 02 44.9 +0.8**
AAK pmax pmax
comp=Z,74nm,1.7s
AAK Ala-Archa 62.98 318 P **P 05 02 44.9 +0.8**
SNR=9.7
AAK Ala-Archa 62.98 318 P **P 05 02 44.9 +0.8**
SNR=10
AAK Ala-Archa 62.98 318 *e*P **P 05 02 43.9 -0.1**
comp=Z,5.9nm,0.5s
FRU Bishkek 62.98 318 *e*P **P 05 02 43.0 -0.9**
FRU *e* 05 03 07.0
FX1 Attu Island--F 63.16 29 *e*P **P 05 02 45.3 +0.5**
FX1 Attu Island--F 63.16 29 LR LR 05 27 22.7
comp=Z,53nm,19.2s,baz=273,slow=33
ZAA0 Zalesovo Array 63.18 333 *e*P **P 05 02 44.0 -1.0**
ZALV Zalesovo Beam 63.18 333 P **P 05 02 44.2 -0.8**
ZALV Zalesovo Beam 63.18 333 P **P 05 02 44.2 -0.8**
ZALV ⇑*e* 05 31 46.8
ZALV Zalesovo Beam 63.18 333 P **P 05 02 44.2 -0.8**
comp=Z,19nm,0.9s,baz=114,slow=6.6,SNR=60
ZALV LR LR 05 30 35.3
comp=Z,98nm,19.4s,baz=96,slow=36
ZALV PKP2bc 05 31 46.8
comp=Z,1.0nm,0.4s,baz=336,slow=3.3,SNR=3.9
USP Ospenovka 63.24 319 *i* P **P 05 02 46.1 +0.4**
USP Ospenovka 63.24 319 P **P 05 02 46.1 +0.4**
SNR=37
AML Almayashu 63.31 317 *i* P **P 05 02 47.4 +0.9**
AML Almayashu 63.31 317 P **P 05 02 47.4 +0.9**
SNR=29
EKS2 Erkin-Say 63.47 318 *e*P **P 05 02 48.2 +0.9**
EKS2 pmax pmax
comp=Z,38nm,0.8s
EKS2 Erkin-Say 63.47 318 P **P 05 02 48.2 +0.9**
SNR=40
EKS2 Erkin-Say 63.47 318 *e*P **P 05 02 48.2 +0.9**
comp=Z,38nm,0.8s
SEY Seymchan 63.75 12*c e*P **P 05 02 49.9 +1.4**
KBL Kabul 64.06 308 *e*P **P 05 02 51.6 +0.2**
KBL pmax pmax
comp=Z,32nm,0.8s
KBL Kabul 64.06 308 *e*P **P 05 02 51.5 +0.2**
comp=Z,32nm,0.8s
NVS Novosibirsk 64.47 333 *e*P **P 05 02 52.3 -1.0**
NVS *e* 05 03 14.3
NVS pmax pmax
comp=N,18nm,1.0s
NVS pmax pmax
comp=E,20nm,1.0s
NVS pmax pmax
comp=Z,41nm,1.0s
KK31 Karatay Array 65.85 317 *i* P **P 05 03 02.3 -0.3**
KK31 pmax pmax
comp=Z,35nm,0.7s
VOSK Vostochnaya 69.49 327 P **P 05 03 24.3 -1.0**
VOSK pmax pmax
comp=Z,24nm,0.6s
TIXI Tiksi 69.94 0*c i*P **P 05 03 27.4 -0.2**
TIXI pmax pmax
comp=Z,110nm,1.8s
BVA0 Borovoye Array 69.95 327 *i* P **P 05 03 27.6 -0.5**
BVA0 pmax pmax
comp=Z,71nm,1.1s
BRVK Borovoye 70.02 327 P **P 05 03 28.1 -0.4**
comp=Z,351nm,0.7s,SNR=16
BRVK Borovoye 70.02 327 *e*P **P 05 03 28.3 -0.2**
BRVK pmax pmax
comp=Z,49nm,0.9s
BRVK Borovoye 70.02 327 P **P 05 03 28.4 -0.2**
SNR=18
BRVK Borovoye 70.02 327 *e*P **P 05 03 28.3 -0.2**
comp=Z,49nm,0.9s
IDAH Dahanechah 71.06 304 *e*P **P 05 03 36.4 +0.8**
ITEG Tejag 72.01 304 *e*P **P 05 03 41.8 +0.5**
ARQ Araqi 72.65 294 P **P 05 03 45.4 +0.4**
SNR=6.8
KIP Kipapa 74.23 68*c i*P **P 05 03 55.5 +1.2**
KIP pmax pmax
comp=Z,123nm,1.3s
AB31 Akbulak array 74.78 321 *i* P **P 05 03 56.1 -0.8**
AB31 pmax pmax
comp=Z,20nm,0.8s
ABKAR Akbulak array 74.78 321 *e*P **P 05 03 56.1 -0.8**
comp=Z,40nm,1.1s
AKTO Aktyubinsk 76.29 322 P **P 05 04 04.5 -1.1**
AKTO Aktyubinsk 76.29 322 P **P 05 04 04.5 -1.1**
AKTO Aktyubinsk 76.29 322 P **P 05 04 04.5 -1.1**
comp=Z,11nm,0.7s,baz=99,slow=6.8,SNR=43
IANJ Anjilo 76.37 306 *e*P **P 05 04 06.2 -0.4**
SVE Sverdlovsk 76.58 328⇑*i*P **P 05 04 06.6 -0.4**
SVE pmax pmax
comp=Z,44nm,1.0s
ISHM Shahmirzad 76.92 306 *e*P **P 05 04 09.5 -0.3**
ILAS Lasjerd 77.13 306 *e*P **P 05 04 10.6 -0.3**
IALA Alasht 77.34 307 *e*P **P 05 04 12.3 +0.2**
ARU Arti 77.56 328*d i*P **P 05 04 11.8 -0.7**
ARU *PP **pP 05 04 35.0 -0.8**
ARU 05 07 05.1
ARU S **S 05 13 56.1 -0.6**
ARU SS SS 05 18 49.5 -8.2
ARU pmax pmax
comp=Z,38nm,1.2s
IKLH Kolahrood 78.03 304 *e*P **P 05 04 16.3 +0.3**
SOKR Solikamsk 79.33 331 *e*P **P 05 04 21.5 -0.6**
SOKR pmax pmax
comp=Z,10.0nm,0.6s
QRN Al-Qurain 80.80 299 *e*P **P 05 04 29.6 -1.2**
QRN AMb AMB 05 04 30.4
comp=Z,101nm,0.6s
KBD Kabd 81.02 299 *e*P **P 05 04 30.7 -1.2**
KBD AMb AMB 05 04 32.8
comp=Z,33nm,0.9s
RDF Al-Radifah 81.13 299 *e*P **P 05 04 31.8 -0.8**
RDF AMb AMB 05 04 33.0
comp=Z,62nm,1.4s
VNDA Vanda 81.14 173 *e*P **P 05 04 31.5 0.0**
comp=Z,26nm,1.1s
VNDA Vanda 81.14 173 P **P 05 04 31.4 -0.2**
comp=Z,10nm,0.6s,baz=318,slow=6.4,SNR=98
VNDA LR LR 05 37 31.2
comp=Z,85nm,21.8s,baz=341,slow=33
MIB Mutribah 81.36 300 *e*P **P 05 04 32.3 -1.4**
MIB AMb AMB 05 04 33.8
comp=Z,84nm,0.9s
NAY Al-Naaiem 81.42 299 *e*P **P 05 04 32.6 -1.5**
NAY AMb AMB 05 04 34.0

comp=Z,54nm,0.7s
RST Umm Al-Ruwaisa 81.64 299 *e*P **P 05 04 33.6 -1.7**
SBA Scott Base 82.03 172 *e*P **P 05 04 37.0 +0.8**
SBA pmax pmax
comp=Z,7.0nm,0.8s
SBA Scott Base 82.03 172 *e*P **P 05 04 37.0 +0.8**
comp=Z,6.7nm,0.8s
MAW Mawson 82.33 201 LR LR 05 40 02.0
comp=Z,104nm,18.7s,baz=249,slow=35
RAYN Ar Rayn 82.76 293 P **P 05 04 40.2 -1.1**
comp=Z,268nm,0.8s,SNR=15
KDAK Kodiak Island 82.84 32 P **P 05 04 41.1 +0.3**
KDAK Kodiak Island 82.84 32 P **P 05 04 41.1 +0.3**
comp=Z,39nm,0.6s,baz=250,slow=3.9,SNR=19
PPLA Purkeypile 83.79 27 *e*P **P 05 04 46.1 +0.3**
comp=Z,28nm,0.7s
BPAW Bear Paw Mtn. 84.50 26 *e*P **P 05 04 49.8 +0.5**
comp=Z,25nm,1.0s
ZEI Tsey 84.80 313 *e*P **P 05 04 49.1 -2.4**
ZEI pmax pmax
comp=Z,27nm,1.3s
PMR Palmer 85.05 28 *e*P **P 05 04 51.6 -0.4**
PMR pmax pmax
comp=Z,127nm,1.3s
PMR Palmer 85.05 28 *e*P **P 05 04 51.6 -0.4**
comp=Z,127nm,1.3s
COLD Coldfoot 85.23 23 *e*P **P 05 04 53.5 +0.7**
comp=Z,9.5nm,0.6s
MCK McKinley 85.36 26 *e*P **P 05 04 53.6 0.0**
MCK pmax pmax
comp=Z,13nm,0.8s
MCK McKinley 85.36 26 *e*P **P 05 04 53.5 0.0**
comp=Z,13nm,0.8s
KBZ Khabaz 85.57 314 P **P 05 04 54.2 -0.8**
KBZ Khabaz 85.57 314 P **P 05 04 54.2 -0.8**
KBZ Khabaz 85.57 314 P **P 05 04 54.2 -0.8**
comp=Z,8.1nm,0.8s,baz=118,slow=4.3,SNR=10
KIV Kislovodsk 85.73 314 *e*P **P 05 04 55.4 -0.5**
KIV *e**PP **pP 05 05 21.9 +2.3**
KIV *e* 05 15 10.0
KIV pmax pmax
comp=Z,11nm,1.1s
KIV MLR MLR
comp=Z,40nm,18.0s
COLA College 85.93 25 *e*P **P 05 04 55.4 -0.9**
COLA pmax pmax
comp=Z,21nm,0.8s
COLA College 85.93 25 *e*P **P 05 04 55.4 -0.9**
comp=Z,21nm,0.8s
ILAR Eielson Array 86.34 25 P **P 05 04 56.8 -1.5**
ILAR Eielson Array 86.34 25 P **P 05 04 56.8 -1.5**
comp=Z,2.2nm,0.6s,baz=261,slow=4.3,SNR=20
ILAR LR LR 05 42 44.2
comp=Z,42nm,19.4s,baz=257,slow=35
DIV Divide 86.63 29 *e*P **P 05 05 00.3 +0.4**
comp=Z,88nm,1.2s
VRHR Novokhopersk 86.67 321 *e*P **P 05 04 58.8 -1.4**
VRHR pmax pmax
comp=Z,30nm,0.6s
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,30nm,0.8s
PAX Paxson 86.86 27 *e*P **P 05 05 01.2 +0.2**
PAX pmax pmax
comp=Z,26nm,1.3s
PAX Paxson 86.86 27 *e*P **P 05 05 01.2 +0.2**
comp=Z,26nm,1.3s
KLMR Klimovskoe 88.02 331 *e*P P 05 05 03.2 -3.3
KLMR *e* 05 08 29.7
KLMR pmax pmax
comp=Z,54nm,1.4s
VORD Divnogorie 88.14 321 *e*P **P 05 05 04.8 -2.5**
VORD pmax pmax
comp=Z,8.0nm,0.7s
VORD pmax pmax
comp=N,80nm,0.5s
VORD pmax pmax
comp=E,220nm,0.6s
VSR Storozhevoye 88.22 321 *e*P **P 05 05 05.9 -1.8**
VSR pmax pmax
comp=Z,20nm,1.3s
VSR pmax pmax
comp=N,10.0nm,1.0s
VSR pmax pmax
comp=E,20nm,1.5s
EGAK Eagle 88.79 25 *e*P **P 05 05 09.8 -0.3**
comp=E,15nm,1.0s
MALT Malatya 88.92 308 ⇓P **P 05 05 11.8 +0.4**
MALT Malatya 88.92 308 ⇓*i*P **P 05 05 11.8 +0.4**
MOS Moscow 89.07 326 *e*P **P 05 05 08.8 -2.7**
MOS pmax pmax
comp=Z,64nm,0.9s
ANN Anapa 89.50 315 *e*P **P 05 05 11.7 -2.1**
ANN *e**PP **pP 05 05 38.8 +1.1**
ANN pmax pmax
comp=Z,45nm,1.3s
OBN Obninsk 89.69 325 ⇑*i*P **P 05 05 13.8 -0.7**
OBN *e**PP **pP 05 05 40.2 +1.9**
OBN *e* 05 08 51.3
OBN pmax pmax
comp=Z,22nm,1.0s
ASF Jabal al Asfar 90.35 302 P **P 05 05 18.3 +0.1**
ASF Jabal al Asfar 90.35 302 P **P 05 05 18.3 +0.1**
comp=Z,9.1nm,0.7s,baz=42,slow=3.6,SNR=21
APA Apatity 90.41 338 ⇓*e*P P 05 05 24.0 +6.4
HYT Haines Junctio 90.66 29 *e*P **P 05 05 19.5 +0.4**
SYO Syowa Base 91.02 201 ⇑*e*P **P 05 05 19.0 -1.4**
SYO Syowa Base 91.02 201 ⇓*e*PcP **PcP 05 05 21.3 0.0**
KMBO Kilima Mbogo 91.08 269 P **P 05 05 21.6 -0.6**
KMBO Kilima Mbogo 91.08 269 P **P 05 05 21.6 -0.6**
comp=Z,1.1nm,0.3s,baz=52,slow=12,SNR=4.4
QSPA South Pole Qui 91.52 180 *e*P **P 05 05 22.8 -0.2**
comp=Z,31nm,1.5s
INK Inuvik 91.55 22 *e*P **P 05 05 22.0 -0.9**
comp=Z,14nm,1.1s
INK Inuvik 91.55 22 P **P 05 05 21.9 -0.9**
comp=Z,9.1nm,0.9s,baz=243,slow=4.3,SNR=9.7
MMAI Mount Meron Ar 91.57 303 P **P 05 05 23.9 +0.1**
MMAI Mount Meron Ar 91.57 303 P **P 05 05 23.9 +0.1**
comp=Z,3.3nm,0.4s,baz=102,slow=7.8,SNR=9.6
BR131 Keskin Array S 92.58 310 *e*P **P 05 05 26.9 -1.6**
comp=Z,4.1nm,0.8s
BRTR Keskin Array B 92.58 310 P **P 05 05 26.8 -1.7**
BRTR Keskin Array B 92.58 310 P **P 05 05 26.8 -1.7**
comp=Z,5.4nm,0.9s,baz=108,slow=5.2,SNR=17
ARCES ARCESS Array B 92.97 340 P **P 05 05 28.4 -1.1**
ARCES ARCESS Array B 92.97 340 P **P 05 05 28.4 -1.1**
comp=Z,7.4nm,0.7s,baz=86,slow=5.2,SNR=33
ARCES LR LR 05 53 05.9
comp=Z,73nm,19.1s,baz=74,slow=39
KBS Kingsbay 93.36 350 *e*P **P 05 05 30.3 -0.7**
KBS pmax pmax
comp=Z,8.0nm,0.8s
FINES FINESS Array B 94.44 332 P **P 05 05 34.1 -2.1**
FINES FINESS Array B 94.44 332 P **P 05 05 34.2 -2.1**
comp=Z,6.1nm,1.0s,baz=173,slow=1.5,SNR=5.9
AKASG Malin Array Be 94.52 321 P **P 05 05 35.1 -1.8**
AKASG Malin Array Be 94.52 321 P **P 05 05 35.1 -1.8**
AKASG Malin Array Be 94.52 321 P **P 05 05 35.1 -1.8**
comp=Z,0.5nm,0.3s,baz=67,slow=4.1,SNR=9.5
DLBC Dease Lake 94.74 31 P **P 05 05 38.0 +0.1**
DLBC Dease Lake 94.74 31 P **P 05 05 38.0 +0.1**
comp=Z,8.7nm,1.0s,baz=257,slow=5.8,SNR=7.7
TIRR Tirgusor 95.94 315 ⇓P **P 05 05 42.1 -1.5**
TIRR Tirgusor 95.94 315 ⇓*i*P **P 05 05 42.1 -1.5**
TLB Topalu 96.19 315 ⇓P **P 05 05 43.6 -1.1**
TLB Topalu 96.19 315 ⇓*i*P **P 05 05 43.6 -1.1**
VRI Vrincioaia 96.91 316 ⇓P **P 05 05 47.5 -0.5**
VRI Vrincioaia 96.91 316 ⇓*i*P **P 05 05 47.5 -0.5**
PLOR Plostina 96.96 316 ⇑P **P 05 05 48.1 -0.1**
PLOR Plostina 96.96 316 ⇑*i*P **P 05 05 48.1 -0.1**
MLR Muntele Rosu 97.51 316 ⇓*i*P **P 05 05 50.1 -0.7**
BURAR Bucovina Array 97.62 318 ⇓P **P 05 05 50.7 -0.6**
BURAR Bucovina Array 97.62 318 ⇓*i*P **P 05 05 50.7 -0.6**
KWP Kalwaria Pacla 98.84 321 ⇓P **P 05 05 55.9 -0.6**
KWP Kalwaria Pacla 98.84 321 ⇓*i*P **P 05 05 55.9 -0.6**
UZH Uzhgorod 99.33 320 *e*P **Pdif 05 05 58.3 -0.4**
DRGR 99.46 318 ⇓P **Pdif 05 05 58.6 -0.9**
DRGR 99.46 318 ⇓*i*P **Pdif 05 05 58.6 -0.9**
CRVS Cervenica-Dubn 99.80 320 *e*P **Pdif 05 06 00.3 -0.5**
CRVS Cervenica-Dubn 99.80 320 PDIF **Pdif 05 06 00.3 -0.5**
STHS Stebnicka Huta 99.81 321 *e*P **Pdif 05 05 58.6 -2.3**
STHS Stebnicka Huta 99.81 321 PDIF **Pdif 05 05 58.6 -2.3**
VTS Vitosha 99.99 314 ⇑P **Pdif 05 05 59.0 -3.0**
VTS Vitosha 99.99 314 ⇑*i*P **Pdif 05 05 59.0 -3.0**
KECS Kecovo 100.53 320 *e*P **Pdif 05 06 03.4 -0.7**
KECS Kecovo 100.53 320 PDIF **Pdif 05 06 03.4 -0.7**
YKA Yellowknife Ar 100.76 25 P **Pdif 05 06 02.5 -2.3**
YKA Yellowknife Ar 100.76 25 P **Pdif 05 06 02.5 -2.3**
comp=Z,1.7nm,0.8s,baz=317,slow=6.1,SNR=4.2
NB2 NORSAR Subarra101.38 334 P **Pdif 05 06 05.7 -1.9**
comp=Z,6.7nm,1.0s,baz=66,slow=4.6
NB2 NORSAR Subarra101.38 334 P **Pdif 05 06 05.7 -1.9**
baz=66,slow=4.6
NOA NORSAR Array B101.38 334 P **Pdif 05 06 06.0 -1.6**
NOA NORSAR Array B101.38 334 P **Pdif 05 06 06.0 -1.6**
comp=Z,4.4nm,1.0s,baz=67,slow=4.6,SNR=5.4
GERES GERESS Array B 104.72 322 PKiKP **PKiKP 05 10 37.4 -0.5**
GERES GERESS Array B 104.72 322 PKiKP **PKiKP 05 10 37.4 -0.5**
comp=Z,1.2nm,0.6s,baz=62,slow=3.2,SNR=4.8
MFID Camas Ranch 107.38 43 P **PKiKP 05 10 43.1 0.0**
baz=107
HLID Hailey 108.30 43 P **PKiKP 05 10 45.4 +0.5**
baz=108
EDW2 Edwards Air Fo 108.33 52 P **PKiKP 05 10 45.1 0.0**
baz=108
MPMC Manual Prospec 108.41 51 P **PKiKP 05 10 45.3 0.0**
baz=108
C19A Slack Wire Ran 110.09 37 P **PKiKP 05 10 48.0 0.0**
baz=110
LPG La Plagne 110.37 320 *e*PP PP 05 11 27.9 +3.2
comp=Z,18nm,0.9s
B20A Solberg Farm, 110.39 36 P **PKiKP 05 10 48.0 -0.5**
baz=110
DUG Dugway 110.61 46 P **PKiKP 05 10 48.8 -0.5**
baz=111
D21A La Casta Ranch 111.64 37 P **PKiKP 05 10 50.6 -0.4**
baz=112
G20A Bridger 111.72 39 P **PKiKP 05 10 51.1 -0.1**
baz=112
PDAR Pinedale Array 111.89 42 PKiKP **PKiKP 05 10 51.3 -0.5**
PDAR PKKPbc **PKKPbc 05 21 43.3 -2.6**
PDAR Pinedale Array 111.89 42 PKiKP **PKiKP 05 10 51.3 -0.5**
comp=Z,0.6nm,0.7s,baz=80,slow=1.5,SNR=6.6
PDAR PKKPbc **PKKPbc 05 21 43.3 -2.6**
comp=Z,0.6nm,0.7s,baz=118,slow=8.0,SNR=4.0
L18A Fontenelle, Gr 111.90 43 P **PKiKP 05 10 51.8 0.0**
baz=112
C22A Vida 111.98 36 P **PKiKP 05 10 51.5 -0.1**
baz=112
D22A Cohagen 112.09 37 P **PKiKP 05 10 52.2 +0.4**
baz=112
B23A Brockton 112.14 35 P **PKiKP 05 10 51.9 +0.1**
baz=112
L19A Farson 112.29 43 P **PKiKP 05 10 51.9 -0.6**
baz=112
U15A North Rim 112.29 49 P **PKiKP 05 10 53.2 +0.4**
baz=112
I20A Worland 112.33 41 P **PKiKP 05 10 52.5 0.0**
baz=112
K19A Absolon Red Bu 112.34 42 P **PKiKP 05 10 52.4 -0.2**
baz=112
C23A Lambert 112.36 36 P **PKiKP 05 10 52.2 0.0**
baz=112
Y14A Wickenburg 112.55 52 P **PKiKP 05 10 53.4 +0.4**
baz=112
E22A Miles City 112.57 37 P **PKiKP 05 10 52.3 -0.4**
baz=112
J20A Shoshoni 112.62 41 P **PKiKP 05 10 52.7 -0.4**
baz=113
K20A Yellowstone Ra 112.75 42 P **PKiKP 05 10 52.8 -0.5**
baz=113
I21A Big Trails, Te 112.94 40 P **PKiKP 05 10 53.2 -0.4**
baz=113
O19A Miners Draw (B 113.18 45 P **PKiKP 05 10 53.9 -0.3**
baz=113
F23A Volborg 113.24 38 P **PKiKP 05 10 53.7 -0.3**
baz=113
WUAZ Wupatki 113.30 50 P **PKiKP 05 10 55.3 +0.7**
baz=113
K21A Alcova 113.48 42 P **PKiKP 05 10 54.8 0.0**
baz=113
E24A Baker 113.50 37 P **PKiKP 05 10 54.5 0.0**
baz=113
P19A Cripple Cowboy 113.55 45 P **PKiKP 05 10 54.8 -0.2**
baz=114
N20A Spence Gulch, 113.56 44 P **PKiKP 05 10 54.9 -0.1**
baz=114
J22A Midwest 113.64 41 P **PKiKP 05 10 54.2 -0.8**
baz=114
O20A White River Ci 113.87 44 P **PKiKP 05 10 56.1 +0.5**
baz=114
K22A Casper 113.95 41 P **PKiKP 05 10 55.0 -0.6**
baz=114
P20A De Beque 114.02 45 P **PKiKP 05 10 56.1 +0.3**
baz=114
E25A Miller Ranch, 114.07 36 P PKPdf 05 10 55.6 0.0
baz=114
N21A Black Mountain 114.11 44 P PKPdf 05 10 55.5 -0.6
baz=114
H24A Dirks Ranch, A 114.24 39 P PKPdf 05 10 55.5 -0.5
baz=114
Q20A Ridgley Place, 114.31 46 P PKPdf 05 10 56.5 +0.1
baz=114
D26A Manning 114.36 36 P PKPdf 05 10 55.9 -0.2
baz=114
C27A Sayler Ranch, 114.53 35 P PKPdf 05 10 56.4 0.0
baz=114
A28A Rude Farm, Bot 114.55 33 P PKPdf 05 10 56.5 +0.1
baz=114
S20A Disappointment 114.71 47 P PKPdf 05 10 56.9 -0.5
baz=115
G25A Newell 114.72 38 P PKPdf 05 10 56.8 -0.1
baz=115
B28A Dugan Ranch, T 114.76 33 P PKPdf 05 10 56.9 +0.1
baz=115
N22A Wattenberg Ran 114.82 43 P PKPdf 05 10 56.8 -0.7
baz=115
F26A Lodgepole 114.84 37 P PKPdf 05 10 56.7 -0.3
baz=115
G27A Dupree 114.92 37 P PKPdf 05 10 57.9 +0.6
baz=116
A29A Manning Farm, 115.10 33 P **PKPdf 05 10 56.9 -0.6**
baz=115
I25A Rochford 115.11 39 P **PKPdf 05 10 57.0 -0.9**
baz=115
N23A Red Feather La 115.13 43 P **PKPdf 05 10 57.9 -0.1**
baz=115
U20A Newcomb 115.15 48 P **PKPdf 05 10 58.5 +0.4**
baz=115
G26A Maurine 115.17 37 P **PKPdf 05 10 57.5 -0.2**
baz=115
E27A Carson 115.19 36 P **PKPdf 05 10 57.7 0.0**
baz=115
S21A Coal Bank Pass 115.19 47 P **PKPdf 05 10 59.4 +1.1**
baz=115
Q22A Crested Butte, 115.33 45 P **PKPdf 05 10 59.2 +0.7**
baz=115
H26A Fairpoint 115.41 38 P **PKPdf 05 10 57.5 -0.7**
baz=115
O23A Lake Granby, G 115.45 43 P **PKPdf 05 10 59.1 +0.3**
baz=115
W20A Ramah 115.64 50 P **PKPdf 05 10 59.8 +0.6**
baz=116
T21A Navajo Lake 115.64 47 P **PKPdf 05 11 00.3 +1.2**
baz=116
I26A New Underwood 115.65 39 P **PKPdf 05 10 58.1 -0.7**
baz=116
R22A Saguache, Gunn 115.70 46 P **PKPdf 05 11 00.3 +1.0**
baz=116
U21A Nageezi 115.77 48 P **PKPdf 05 11 00.3 +0.9**
baz=116
H27A Howes 115.83 38 P **PKPdf 05 10 58.3 -0.7**
baz=116
ISCO Idaho Springs 115.84 44 P **PKPdf 05 10 59.8 +0.3**
baz=116
S22A 4UR Ranch, Cre 115.85 46 P **PKPdf 05 11 00.5 +0.9**
baz=116
X20A Quemado 115.86 50 P **PKPdf 05 11 00.0 +0.4**
baz=116
B30A Myrvik Farm, E 115.86 33 P **PKPdf 05 10 57.8 -1.1**
baz=116
F28A McLaughlin 115.95 36 P **PKPdf 05 10 58.9 -0.3**
baz=116
V21A Milan 116.03 49 P **PKPdf 05 11 00.2 +0.3**
baz=116
Q23A Hartsel 116.07 45 P **PKPdf 05 11 00.2 +0.2**
baz=116
T22A Edith 116.10 47 P **PKPdf 05 11 00.7 +0.6**
baz=116
K26A Motz Farm, Whi 116.11 40 P **PKPdf 05 10 59.5 -0.2**
baz=116
Y20A Horse Springs, 116.18 51 P **PKPdf 05 11 01.1 +0.8**
baz=116
C30A Mose, Pekin 116.22 33 P **PKPdf 05 10 59.4 -0.2**
baz=116
Z20A Nine Sixteen R 116.30 52 P **PKPdf 05 11 00.8 +0.4**
baz=116
319A Douglas 116.35 54 P **PKPdf 05 11 00.7 +0.2**
baz=116
R23A Moffat 116.38 45 P **PKPdf 05 11 01.0 +0.4**
baz=116
U22A Llaves 116.39 48 P **PKPdf 05 11 01.6 +1.0**
baz=116
X21A Alamocita Cree 116.44 50 P **PKPdf 05 11 01.6 +0.8**
baz=116
H28A Mission Ridge 116.44 37 P **PKPdf 05 10 59.9 -0.2**
baz=116
P24A Kohler Place, 116.45 44 P **PKPdf 05 11 00.8 +0.2**
baz=116
V22A San Miguel Ran 116.53 48 P **PKPdf 05 11 02.1 +1.2**
baz=116
E30A Jud 116.67 35 P **PKPdf 05 11 00.1 -0.5**
baz=117
Y21A Point of Rocks 116.69 50 P **PKPdf 05 11 02.6 +1.4**
baz=117
I28A Midland 116.71 38 P **PKPdf 05 11 00.1 -0.6**
baz=117
T23A Casias Ranch, 116.72 47 P **PKPdf 05 11 02.3 +1.1**
baz=117
220A Playas Peak, P 116.78 53 P **PKPdf 05 11 01.2 -0.2**
baz=117
R24A Sanders Place, 116.88 45 P **PKPdf 05 11 02.1 +0.7**
baz=117
U23A El Rito 116.90 47 P **PKPdf 05 11 01.6 +0.1**
baz=117
Z21A St. Cloud Mine 116.95 51 P **PKPdf 05 11 02.1 +0.4**
baz=117
P25A Willow Gulch B 116.96 43 P **PKPdf 05 11 01.6 0.0**
baz=117
J28A Allard Ranch, 116.97 38 P **PKPdf 05 11 00.5 -0.7**
baz=117
X22A Bernardo 117.01 50 P **PKPdf 05 11 02.4 +0.6**
baz=117
S24A Houchin Ranch, 117.06 46 P **PKPdf 05 11 02.5 +0.6**
baz=117
121A Cookes Peak, D 117.14 52 P **PKPdf 05 11 02.1 0.0**
baz=117
Q25A Bedland, Calha 117.18 44 P **PKPdf 05 11 01.9 -0.1**
baz=117
I29A Vivian Onida 117.23 37 P **PKPdf 05 11 01.1 -0.6**
baz=117
K28A Ten Mile Ranch 117.26 39 P **PKPdf 05 11 01.3 -0.6**
baz=117
Y22A Socorro 117.26 50 P **PKPdf 05 11 03.0 +0.7**
baz=117
G30A Faulkton 117.31 36 P **PKPdf 05 11 01.4 -0.4**
baz=117
W23A Werner Place, 117.40 49 P **PKPdf 05 11 03.5 +0.9**
baz=117
R25A Fountain Ranch 117.50 45 P **PKPdf 05 11 02.6 0.0**
baz=118
P26A Davis Ranch, A 117.50 43 P **PKPdf 05 11 02.7 +0.1**
baz=118
Z22A Elephant Butte 117.52 51 P **PKPdf 05 11 03.4 +0.7**
baz=118
U24A Moreno Valley 117.53 47 P **PKPdf 05 11 03.6 +0.8**
baz=118
X23A Hourglass Bar 117.60 49 P **PKPdf 05 11 03.5 +0.5**
baz=118
S25A Robets Cordova 117.61 45 P **PKPdf 05 11 02.6 -0.3**
baz=118
Q26A Hugo 117.68 44 P **PKPdf 05 11 02.2 -0.7**
baz=118
O27A Beecher Island 117.79 42 P **PKPdf 05 11 03.0 -0.1**
baz=118
I30A Oacoma 117.82 37 P **PKPdf 05 11 02.1 -0.8**
baz=118
V24A Rampart Ranch, 117.82 48 P **PKPdf 05 11 04.3 +0.9**
baz=118
T25A Trinidad 117.85 46 P **PKPdf 05 11 04.0 +0.6**
baz=118
K29A Lazy Trails An 117.89 39 P **PKPdf 05 11 02.5 -0.6**
baz=118
W24A Lazy 6 Ranch, 117.94 48 P **PKPdf 05 11 04.1 +0.6**
baz=118
Y23A Lovelace Mesa, 117.96 50 P **PKPdf 05 11 04.0 +0.4**
baz=118
R26A Arlington 118.02 44 P **PKPdf 05 11 03.7 +0.2**
baz=118
P27A Ficken Ranch, 118.03 43 P **PKPdf 05 11 03.3 -0.2**
baz=118
Z23A Rita Site, Whi 118.08 51 P **PKPdf 05 11 04.1 +0.3**
baz=118
U25A Circle Dot Ran 118.17 47 P **PKPdf 05 11 04.4 +0.5**
baz=118
X24A Lazy VL Ranch, 118.18 49 P **PKPdf 05 11 04.1 +0.1**
baz=118
KSCO Kaye Shedlock' 118.25 43 P **PKPdf 05 11 04.3 +0.3**
baz=118
V25A Rancho No Teng 118.26 47 P **PKPdf 05 11 04.6 +0.5**
baz=118
123A Bell Site, Whi 118.30 51 P **PKPdf 05 11 05.2 +1.0**
baz=118
S26A Kim 118.31 45 P **PKPdf 05 11 04.1 0.0**
baz=118
T26A Comanche Natio 118.42 46 P **PKPdf 05 11 04.6 +0.2**
baz=118
Y24A Capitan 118.43 50 P **PKPdf 05 11 05.1 +0.5**
baz=118
R27A Eads 118.48 44 P **PKPdf 05 11 04.4 0.0**
baz=118
P28A Saint Francis 118.58 42 P **PKPdf 05 11 04.3 -0.2**
baz=118
W25A X Bar L Ranch, 118.64 48 P **PKPdf 05 11 05.3 +0.5**
baz=119
U26A Atchley Ranch, 118.66 46 P **PKPdf 05 11 05.1 +0.2**
baz=119
S27A Las Animas 118.68 45 P **PKPdf 05 11 04.9 +0.1**
baz=119
Z24A Sheeppen Canyo 118.72 50 P **PKPdf 05 11 05.8 +0.6**
baz=119
Q28A Sharon Springs 118.78 43 P **PKPdf 05 11 05.0 +0.1**
baz=119
V26A Tequesquite Ra 118.89 47 P **PKPdf 05 11 04.9 -0.4**
baz=119
124A Stringfield Ra 118.90 51 P **PKPdf 05 11 06.0 +0.5**
baz=119
O29A 4D Ranch, Culb 118.94 41 P **PKPdf 05 11 04.9 -0.3**
baz=119
Y25A Mesa, Roswell 119.00 49 P **PKPdf 05 11 05.7 +0.1**
baz=119
224A Cornudas Mount 119.09 52 P **PKPdf 05 11 06.2 +0.4**
baz=119
T27A Campo 119.09 45 P **PKPdf 05 11 05.5 -0.1**
baz=119
P29A Atwood 119.12 42 P **PKPdf 05 11 05.2 -0.3**
baz=119
L31A Butterfield Fa 119.13 39 P **PKPdf 05 11 04.9 -0.5**
baz=119
R28A Tribune 119.13 44 P **PKPdf 05 11 05.6 0.0**
baz=119
W26A Owens Ranch, T 119.21 48 P **PKPdf 05 11 06.1 +0.2**
baz=119
Z25A Roswell 119.24 50 P **PKPdf 05 11 06.5 +0.5**
baz=119
U27A Thompson Grove 119.31 46 P **PKPdf 05 11 06.1 0.0**
baz=119
324A Moseley Ranch, 119.36 52 P **PKPdf 05 11 06.3 0.0**
baz=119
X26A CR and CF Fran 119.40 48 P **PKPdf 05 11 06.2 -0.1**
baz=119
S28A Manter 119.43 44 P **PKPdf 05 11 06.2 -0.1**
baz=119
Q29A Oakley 119.44 43 P **PKPdf 05 11 05.8 -0.4**
baz=119
M31A Lambtecht Ranc 119.49 39 P **PKPdf 05 11 05.0 -1.2**
baz=119
T28A Walsh 119.50 45 P **PKPdf 05 11 06.1 -0.3**
baz=119
125A Gardner Draw, 119.54 51 P **PKPdf 05 11 06.8 +0.2**
baz=120
V27A Dan Oppiter Fa 119.60 47 P **PKPdf 05 11 06.5 -0.1**
baz=120
P30A Selden 119.60 42 P **PKPdf 05 11 06.7 +0.2**
baz=120
W27A Bowe Ranch, En 119.74 48 P **PKPdf 05 11 06.7 -0.3**
baz=120
U28A Mallet 119.76 46 P **PKPdf 05 11 06.8 -0.1**
baz=120

325A	Bean Ranch, Si	119.79	52	P	PKPdf	05 11 07.1	-0.1
	baz=120						
Z26A	Caprock	119.81	50	P	PKPdf	05 11 06.8	-0.3
	baz=120						
X27A	F and S Farms,	119.89	48	P	PKPdf	05 11 07.3	+0.1
	baz=120						
S29A	Ulysses	119.96	44	P	PKPdf	05 11 07.2	0.0
	baz=120						
BGNE	Belgrade	119.98	39	P	PKPdf	05 11 06.2	-0.9
	baz=120						
425A	Indio Mountain	120.00	53	P	PKPdf	05 11 07.7	+0.1
	baz=120						
126A	Clayton Basin,	120.03	50	P	PKPdf	05 11 07.5	0.0
	baz=120						
V28A	Channing	120.05	47	P	PKPdf	05 11 07.8	+0.3
	baz=120						
T29A	Hugoton	120.06	45	P	PKPdf	05 11 07.5	+0.1
	baz=120						
ESDC	Sonseca Array	120.08	319	PKP	PKPdf	05 11 06.4	-1.0
ESDC	Sonseca Array	120.08	319	PKP	PKPdf	05 11 06.4	-1.0
	comp=Z,0.3nm,0.4s,baz=16,slow=3.3,SNR=3.3						
226B	Tecolote Peak,	120.15	51	P	PKPdf	05 11 07.7	0.0
	baz=120						
Y27A	Causey	120.17	49	P	PKPdf	05 11 07.5	-0.3
	baz=120						
P31A	Stockton	120.19	41	P	PKPdf	05 11 07.4	-0.2
	baz=120						
R30A	Dighton	120.22	43	P	PKPdf	05 11 07.5	-0.2
	baz=120						
Z27A	Tatum	120.37	49	P	PKPdf	05 11 08.0	-0.2
	baz=120						
S30A	Montezuma	120.41	44	P	PKPdf	05 11 08.2	+0.1
	baz=120						
MSTX	Muleshoe	120.43	49	P	PKPdf	05 11 08.0	-0.3
	baz=120						
V29A	Stinnett	120.50	46	P	PKPdf	05 11 08.6	+0.3
	baz=120						
O32A	Brockman Farm,	120.52	40	P	PKPdf	05 11 07.5	-0.7
	baz=120						
127A	Arkansas Junct	120.53	50	P	PKPdf	05 11 08.5	0.0
	baz=120						
X28A	Dimmitt	120.62	48	P	PKPdf	05 11 08.6	0.0
	baz=121						
T30A	Plains	120.65	44	P	PKPdf	05 11 08.6	+0.1
	baz=121						
R31A	Burdett	120.72	43	P	PKPdf	05 11 08.5	-0.1
	baz=121						
426A	McDonald Obser	120.81	53	P	PKPdf	05 11 08.8	-0.4
	baz=121						
U30A	WK&E Inc. Balk	120.81	45	P	PKPdf	05 11 09.0	+0.2
	baz=121						
Y28A	McKinney Farm,	120.85	48	P	PKPdf	05 11 09.2	+0.1
	baz=121						
526A	Mary Lane Ranc	121.00	53	P	PKPdf	05 11 09.8	+0.2
	baz=121						
X29A	Tulia	121.02	48	P	PKPdf	05 11 09.2	-0.1
	baz=121						
S31A	Mullinville	121.09	43	P	PKPdf	05 11 09.3	0.0
	baz=121						
626A	Big Bend Ranch	121.15	54	P	PKPdf	05 11 09.8	+0.1
	baz=121						
T31A	Randall Ranch,	121.22	44	P	PKPdf	05 11 09.7	+0.1
	baz=121						
128A	Castleberry Fa	121.22	50	P	PKPdf	05 11 09.6	-0.2
	baz=121						
427A	Hayter Ranch,	121.23	52	P	PKPdf	05 11 10.0	+0.1
	baz=121						
Y29A	Porterfield Fa	121.30	48	P	PKPdf	05 11 10.0	+0.1
	baz=121						
527A	Woodward Ranch	121.34	53	P	PKPdf	05 11 09.6	-0.6
	baz=121						
228A	UT Block 9, Go	121.35	50	P	PKPdf	05 11 09.9	-0.1
	baz=121						
U31A	Nine Bar Ranch	121.45	45	P	PKPdf	05 11 10.2	+0.1
	baz=121						
328A	Wristen Ranch,	121.49	51	P	PKPdf	05 11 10.2	-0.1
	baz=122						
Z29A	Hungry Hill Ra	121.54	49	P	PKPdf	05 11 10.2	-0.2
	baz=122						
TXAR	Lajitas Array	121.61	54	PKP	PKPdf	05 11 10.8	+0.2
TXAR	Lajitas Array	121.61	54	PKP	PKPdf	05 11 10.8	+0.2
	comp=Z,2.4nm,0.7s,baz=207,slow=1.4,SNR=29						
X30A	Coker Ranch, T	121.63	47	P	PKPdf	05 11 10.4	-0.1
	baz=122						
129A	Stewart Farms,	121.69	50	P	PKPdf	05 11 10.3	-0.3
	baz=122						
V31A	Spring Creek L	121.75	45	P	PKPdf	05 11 11.3	+0.6
	baz=122						
627A	Terlingua Ranc	121.79	54	P	PKPdf	05 11 11.2	+0.2
	baz=122						
428A	Kincaid Ranch,	121.85	52	P	PKPdf	05 11 11.5	+0.4
	baz=122						
Y30A	Stafford Cattl	121.87	48	P	PKPdf	05 11 11.0	0.0
	baz=122						
W31A	Holland Ranch,	121.96	46	P	PKPdf	05 11 11.2	+0.1
	baz=122						
Z30A	Sanderson Ranc	121.96	49	P	PKPdf	05 11 10.8	-0.3
	baz=122						
528A	Cox Ranch, San	121.99	53	P	PKPdf	05 11 11.7	+0.3
	baz=122						
329A	Wagon Wheel Ra	122.09	51	P	PKPdf	05 11 11.2	-0.3
	baz=122						
628A	Black Gap, Mar	122.18	53	P	PKPdf	05 11 11.8	+0.1
	baz=122						
X31A	McDonald Ranch	122.19	47	P	PKPdf	05 11 11.5	-0.1
	baz=122						
Y31A	Rekieta Farm,	122.30	47	P	PKPdf	05 11 11.6	-0.2
	baz=122						
SCHQ	Schefferville	122.38	10	PKP	PKPdf	05 11 10.2	-1.0
SCHQ	Schefferville	122.38	10	PKP	PKPdf	05 11 10.2	-1.0
	comp=Z,2.6nm,0.5s,baz=22,slow=19,SNR=6.1						
529A	Stev Forest Ra	122.46	52	P	PKPdf	05 11 12.2	0.0
	baz=122						
429A	Davenport Ranc	122.51	52	P	PKPdf	05 11 12.2	-0.1
	baz=122						
230A	Sterling City	122.59	50	P	PKPdf	05 11 12.3	-0.1
	baz=123						
Z31A	Sharp Cattle R	122.68	48	P	PKPdf	05 11 12.3	-0.2
	baz=123						
330A	Mertzon	122.75	51	P	PKPdf	05 11 12.2	-0.5
	baz=123						
131A	Roby	122.79	49	P	PKPdf	05 11 12.7	-0.1
	baz=123						
Y32A	R-V Farms, Ver	122.88	47	P	PKPdf	05 11 12.5	-0.3
	baz=123						
430A	Baggett Ranch,	122.96	51	P	PKPdf	05 11 13.3	+0.1
	baz=123						
530A	J-C Ranch, Com	123.15	52	P	PKPdf	05 11 13.7	+0.2
	baz=123						
231A	Bronte	123.17	50	P	PKPdf	05 11 13.1	-0.4
	baz=123						
Z32A	Haskell	123.18	48	P	PKPdf	05 11 13.6	+0.2
	baz=123						
331A	San Angelo	123.36	50	P	PKPdf	05 11 13.4	-0.5
	baz=123						
ABTX	Abilene, Hawle	123.37	49	P	PKPdf	05 11 13.7	-0.2
	baz=123						
431A	Sonora	123.49	51	P	PKPdf	05 11 14.0	-0.1
	baz=124						
232A	Coleman	123.70	49	P	PKPdf	05 11 14.6	+0.1
	baz=124						
531A	Rocksprings	123.76	52	P	PKPdf	05 11 14.8	+0.1
	baz=124						
332A	Millersview	123.86	50	P	PKPdf	05 11 14.5	-0.3
	baz=124						
432A	Menard	124.04	51	P	PKPdf	05 11 14.8	-0.4
	baz=124						
631A	Perdido Creek	124.05	52	P	PKPdf	05 11 15.2	-0.1
	baz=124						
JCT	Junction City	124.21	51	P	PKPdf	05 11 15.3	-0.2
	baz=124						
532A	Rocksprings	124.28	51	P	PKPdf	05 11 15.5	-0.2
	baz=124						
TUL1	Tulsa	124.51	43	P	PKPdf	05 11 15.8	-0.1
	baz=124						
632A	Uvalde	124.64	52	P	PKPdf	05 11 16.5	+0.2
	baz=125						
732A	Laxson Ranch,	124.82	53	P	PKPdf	05 11 16.8	+0.1
	baz=125						
TORD	Torodi Ar. Bea	125.06 287		PKP	PKPdf	05 11 16.6	-0.9
TORD				PKKPbc	PKKPab	05 20 56.9	0.0
TORD	Torodi Ar. Bea	125.06 287		PKP	PKPdf	05 11 16.6	-0.9
	comp=Z,7.8nm,0.8s,baz=80,slow=1.8,SNR=61						
TORD				PKKPbc	PKKPab	05 20 56.9	0.0
	comp=Z,0.4nm,0.9s,baz=302,slow=2.4,SNR=4.6						
SFIN	Scholer Farm	127.19	34	P	PKPdf	05 11 20.6	-0.3
	baz=127						
DBIC	Dimbokro	132.53 280		PKP	PKPdf	05 11 31.0	-0.7
DBIC				SKPbc	SKPbc	05 14 49.0	-2.0
DBIC	Dimbokro	132.53 280		PKP	PKPdf	05 11 31.0	-0.7
	comp=Z,4.3nm,0.5s,baz=48,slow=3.7,SNR=12						
DBIC				SKPbc	SKPbc	05 14 49.0	-2.0
	comp=Z,4.5nm,0.9s,baz=142,slow=4.3,SNR=4.2						
LIC	Lamto	132.76 280		*e*PKIKP	PKPdf	05 11 32.5	+0.3
	comp=Z,17nm,0.6s						
LIC	Lamto	132.76 280		*e*PKPdf	PKPdf	05 11 32.5	+0.3
KMSC	Kings Mountain	134.12	34	P	PKPdf	05 11 34.3	+0.2
	baz=134						
PLCA	Paso Flores	137.47 159		PKP	PKPdf	05 11 39.8	-0.6
PLCA				SKPbc	SKPbc	05 15 06.5	+0.5
PLCA	Paso Flores	137.47 159		PKP	PKPdf	05 11 39.8	-0.6
	comp=Z,1.8nm,0.6s,baz=185,slow=5.8,SNR=4.1						
PLCA				SKPbc	SKPbc	05 15 06.5	+0.5
	comp=Z,0.7nm,0.5s,baz=209,slow=13,SNR=3.0						
CFAA	Coronel Fontan	146.32 154		PKPbc	PKPdf	05 11 56.5	+0.1
CFAA	Coronel Fontan	146.32 154		PKPbc	PKPdf	05 11 56.5	+0.1
	comp=Z,1.8nm,0.6s,baz=216,slow=2.9,SNR=46						
ATAH	Atahualpa	152.83 102		PKP	PKPdf	05 12 07.2	-0.4
ATAH				PKPbc	PKiKP	05 12 15.8	+0.8
ATAH				PKPab	PKPab	05 12 25.4	-0.6
ATAH	Atahualpa	152.83 102		PKP	PKPdf	05 12 07.2	-0.4
	comp=Z,9.7nm,0.9s,baz=338,slow=13,SNR=4.2						
ATAH				PKPbc	PKiKP	05 12 15.8	+0.8
	comp=Z,16nm,0.7s,baz=288,slow=4.2,SNR=7.3						
ATAH				PKPab	PKPab	05 12 25.4	-0.6
	comp=Z,12nm,0.7s,baz=207,slow=9.0,SNR=4.5						
CPUP	Villa Florida	154.83 168		PKP	PKPdf	05 12 09.4	-0.1
CPUP				PKPbc	PKiKP	05 12 18.5	+0.3
CPUP				PKPab	PKPab	05 12 32.6	-0.8
CPUP	Villa Florida	154.83 168		PKP	PKPdf	05 12 09.4	-0.1
	comp=Z,1.0nm,0.5s,baz=278,slow=20,SNR=5.2						
CPUP				PKPbc	PKiKP	05 12 18.5	+0.3
	comp=Z,6.2nm,0.7s,baz=201,slow=1.4,SNR=12						
CPUP				PKPab	PKPab	05 12 32.6	-0.8
	comp=Z,6.3nm,0.9s,baz=178,slow=3.9,SNR=5.9						
ROSC	El Rosal	156.49 74		PKP	PKPdf	05 12 12.1	-0.6
ROSC				PKPab	PKPab	05 12 42.9	+1.3
ROSC	El Rosal	156.49 74		PKP	PKPdf	05 12 12.1	-0.6
	comp=Z,3.9nm,0.7s,baz=268,slow=14,SNR=4.4						
ROSC				PKPab	PKPab	05 12 42.9	+1.3
	comp=Z,2.4nm,0.5s,baz=270,slow=20,SNR=4.2						
LPAZ	La Paz	158.21 133		PKP	PKPdf	05 12 15.4	+0.5
LPAZ				PKPab	PKPab	05 12 49.0	-0.1
LPAZ	La Paz	158.21 133		PKP	PKPdf	05 12 15.4	+0.5
	comp=Z,4.1nm,1.0s,baz=222,slow=13,SNR=12						
LPAZ				PKPab	PKPab	05 12 49.0	-0.1
	comp=Z,7.6nm,0.9s,baz=190,slow=4.2,SNR=12						
SIV	San Ignacio	162.98 148		PKP	PKPdf	05 12 19.5	+0.1
SIV				PKPab	PKPab	05 13 08.6	-0.5
SIV	San Ignacio	162.98 148		PKP	PKPdf	05 12 19.5	+0.1
	comp=Z,1.9nm,0.7s,baz=231,slow=0.8,SNR=6.1						
SIV				PKPab	PKPab	05 13 08.6	-0.5
	comp=Z,3.5nm,0.7s,baz=220,slow=4.4,SNR=8.7						
BDFB	Brasilia	165.59 194		PKP	PKPdf	05 12 21.4	-0.5
BDFB				PKPab	PKPab	05 13 19.9	-0.7
BDFB	Brasilia	165.59 194		PKP	PKPdf	05 12 21.4	-0.5
	comp=Z,4.5nm,0.9s,baz=83,slow=1.0,SNR=8.1						
BDFB				PKPab	PKPab	05 13 19.9	-0.7
	comp=Z,2.0nm,0.8s,baz=199,slow=4.6,SNR=3.3						

CASC 17 04:53:33.4±2.1, 13°.50N×90°.57W, h38km±276km, MD3.5, 1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCG	Pacaya	0.89	357	*e*P	Pn	04 53 49.9	+0.2
SBLS	San Blas	0.98	70	*e*P	Pn	04 53 50.6	-0.3
SBLS				*e*S	Sn	04 54 03.4	-0.3
RTR	El Retiro	0.98	66	*e*P	Pn	04 53 50.9	+0.1
FUG	Fuego 3	0.98	344	*e*P	Pn	04 53 50.8	-0.1
SNJE	San Jose	1.00	68	*e*P	Pn	04 53 51.0	-0.2
RBDL	Robledal	1.05	54	*e*P	Pn	04 53 51.8	0.0
RBDL				*e*S	Sn	04 54 05.9	+0.5
NBG	Las Nubes	1.10	11	*e*P	Pn	04 53 54.1	+1.4
NBG				*e*S	Sn	04 54 09.3	+2.3
BOQS	Boqueron	1.27	79	*e*P	Pn	04 53 55.1	+0.2
BOQS				*e*S	Sn	04 54 11.3	+0.3
SNET	Serv Nac Est T	1.31	82	*e*P	Pn	04 53 55.4	+0.1
SNET				*e*P	Pn	04 53 55.4	+0.1
SNET				*e*S	Sn	04 54 12.4	+0.8
JAT	Jato	1.32	308	*e*P	Pn	04 53 55.8	+0.5
LFU	La Fuente	1.44	80	*e*P	Pn	04 53 57.5	+0.5
LFU				*e*S	Sn	04 54 16.7	+2.1
LFRS	El Faro	1.47	85	*e*P	Pn	04 53 57.8	+0.3
LFRS				*e*S	Sn	04 54 16.5	+0.9
MRL	Marmol	1.77	28	*e*P	Pn	04 54 03.1	+1.3

MOS 17 05:13:32.0±1.3, 47°.78N×155°.93E, h48km, mb4.1/1, Error ellipse: s-maj=99.9km s-min=17.4km az=78.4

KRSC 17 05:13:32.0±1.6, 47°.78N×155°.93E, h48km±52km, ML4.3, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	2.91	2	*e*PN	Pn	05 14 06.0	-10
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR	Severo-Kuril's	2.91	2	*e*P	Pn	05 14 16.4	+0.7
SKR				*e*S	Sn	05 14 48.5	-0.9
PAU	Pauzhetka	3.73	8	PN	Pn	05 14 29.5	+2.4
PAU				S	Sn	05 15 11.2	+1.5
PAU	Pauzhetka	3.73	8	*e*P	Pn	05 14 29.5	+2.4
PAU				*e*S	Sn	05 15 11.2	+1.5
MIPR	Malaya Ipel'ka	4.53	6	*e*P	Pn	05 14 39.9	+1.9
ASAK	Asacha	4.78	15	*e*P	Pn	05 14 45.2	+3.7
ASAK				*e*S	Sn	05 15 39.6	+4.0
MTVR	Mutnovka	4.93	16	*e*P	Pn	05 14 47.1	+3.5
MTVR				*e*S	Sn	05 15 42.0	+2.6
RUS	Russkaya	4.95	19	PN	Pn	05 14 46.5	+2.9
RUS				S	Sn	05 15 41.7	+2.2
RUS	Russkaya	4.95	19	*e*P	Pn	05 14 46.5	+2.9
RUS				*e*S	Sn	05 15 41.7	+2.2
GRL	Gorelyy	4.97	15	*e*P	Pn	05 14 47.9	+3.7
UGLR	Uglovaya	5.74	18	*e*P	Pn	05 14 58.9	+4.2
AVH	Avacha	5.78	17	*e*P	Pn	05 14 59.8	+4.6
AVH				*e*S	Sn	05 16 05.1	+5.0
SMAR	Somma	5.79	17	*e*P	Pn	05 14 59.9	+4.4
SDLR	Sedlovina	5.82	18	*e*P	Pn	05 14 59.3	+3.5
SPN	Mys Shipunski	5.93	25	PN	Pn	05 15 01.4	+4.2
SPN	Mys Shipunski	5.93	25	*e*P	Pn	05 15 01.4	+4.2
GNL	Ganaly	6.06	11	*e*P	Pn	05 15 02.9	+3.8
MKZ	Mys Kozlova	7.70	26	PN	Pn	05 15 23.9	+2.5
MKZ	Mys Kozlova	7.70	26	*e*P	Pn	05 15 23.9	+2.5
MKZ				*e*S	Sn	05 16 46.7	-0.4
KBTR	Krutoberegovo	9.44	24	PN	Pn	05 15 49.9	+4.6
KBTR	Krutoberegovo	9.44	24	*e*P	Pn	05 15 49.9	+4.6
BKI	Bering	9.71	36	*e*S	Sn	05 17 37.2	+0.8

IDC 17 05:18:09.9±2.0, 3°.65N×126°.67E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.5/24, mbtmp3.4/4, MS3.0/1, Ms1 3.0/1, ms1mx2.3/16, Error ellipse: s-maj=126.2km s-min=24.7km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	21.64	183	P	P	05 23 02.1	0.0
	0.7nm,0.4s,baz=9.5,slow=12,SNR=3.3						
PMG	Port Moresby	24.19	123	LR	LR	05 34 31.1	
	comp=Z,34nm,18.6s,baz=191,slow=41						
WRA	Warramunga Arr	24.63	162	P	P	05 23 31.8	-0.5
	0.5nm,0.4s,baz=341,slow=10,SNR=7.8						
ASAR	Alice Springs	28.06	166	P	P	05 24 04.1	+0.8
	0.2nm,0.4s,baz=347,slow=12,SNR=3.0						
MKAR	Makanchi Array	57.58	325	P	P	05 28 01.5	-0.2
	0.1nm,0.3s,baz=123,slow=8.8,SNR=3.6						

GUC 17 05:55:54.5±0.5, 21°.59S×67°.44W, h200km, ML3.5, 3C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	Plate Boundary	1.69	263	↑*i*P	Pn	05 56 31.1	+0.8
PB09				*i* S	Sn	05 56 59.3	+1.4
PB09				AML	AML	05 57 04.6	
	comp=E,165nm,0.1s						
PB01	Plate Boundary	1.99	285	↑*i*P	Pn	05 56 34.4	+1.4
PB01				*i* S	Sn	05 57 04.3	+1.4
PB01				AML	AML	05 57 05.8	
	comp=N,214nm,0.4s						
PB04	Plate Boundary	2.02	250	AML	AML	05 57 17.0	
	comp=E,76nm,0.2s						
HMBC	Humberstone	2.64	299	↑*i*P	Pn	05 56 41.6	+1.4
HMBC				*i* S	Sn	05 57 17.3	+1.7
HMBC				AML	AML	05 57 18.5	
	comp=N,123nm,0.6s						
MNMC	Minimini	3.17	320	AML	AML	05 57 36.4	
	comp=E,94nm,0.2s						
PSGC	Pisagua	3.20	308	*i* P	Pn	05 56 48.1	+1.4
PSGC				*i* S	Sn	05 57 29.2	+1.6
PSGC				AML	AML	05 57 31.6	
	comp=N,23nm,0.3s						
PB10	Plate Boundary	3.46	236	AML	AML	05 57 30.3	
	comp=E,102nm,0.3s						

IDC 17 06:04:04.1±1.8, 14°.52N×124°.44E, h0km, mb3.5/4, mb1 3.8/5, mb1mx3.5/25, mbtmp3.6/5, ML4.6/1, Error ellipse: s-maj=55.0km s-min=21.9km az=50.0
MAN 17 06:04:08, 14°.41N×124°.11E, h1km, mb4.6, ML3.5, MS3.4
ISCJB 17 06:04:09.3±1.2, 14°.42N±0°.08×124°.3E±0°.1, h50km, mb3.5/4, Error ellipse: s-maj=16.0km s-min=10.3km az=153.2

ISC 17 06:04:11.6±1.4, 14°.4N±0°.1×124°.2E±0°.1, h50km, n11, σ1§34/12, mb3.5/4, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVCP	Virac	0.75	183	*e*P	Pn	06 04 24.5	-1.5
PVCP				*e*S	Sn	06 04 36.0	-0.4
GQP	Guinayangan	1.75	256	↑*e*P	Pn	06 04 38.8	-0.8
AUQP	San Andres	1.79	236	*e*P	Pn	06 04 42.0	+1.8
CNP	Catarman	1.88	166	*e*P	Pn	06 04 43.7	+2.4
BOAC	Boac	2.45	249	*e*P	Pn	06 04 49.6	+0.5
LQP	Lukban	2.59	265	*e*P	Pn	06 04 52.4	+1.1
TGY	Tagaytay City	3.17	266	Pn	Pn	06 05 00.5	+1.4
	51nm,0.3s,baz=135,slow=1.4,SNR=2.7						
TGY				Sn	Sn	06 05 45.7	+10
	30nm,0.3s,baz=103,slow=20,SNR=3.3						
CMAR	Chiang Mai Arr	24.56	283	P	P	06 09 26.5	-0.6
	0.5nm,0.3s,baz=108,slow=8.6,SNR=4.3						
WRA	Warramunga Arr	35.50	163	P	P	06 11 03.3	-0.6
	0.4nm,0.8s,baz=344,slow=8.9,SNR=3.3						
ASAR	Alice Springs	38.95	166	P	P	06 11 33.2	+0.2
	0.8nm,0.7s,baz=339,slow=6.5,SNR=7.9						
MKAR	Makanchi Array	47.59	322	P	P	06 12 42.1	-0.4
	0.5nm,0.8s,baz=112,slow=9.5,SNR=3.4						

ISCJB 17 06:32:29.9±0.5, 39°.19N±0°.04×140°.84E±0°.09, h120km±4km, mb3.5/4, Error ellipse: s-maj=12.0km s-min=6.9km az=12.1
JMA 17 06:32:31.1±0.1, 39°.21N×140°.72E, h111km±1km, M3.2
IDC 17 06:32:31.8±4.1, 39°.16N×140°.89E, h125km±44km, mb3.3/4, mb1 3.5/6, mb1mx3.3/24, mbtmp3.2/6, Error ellipse: s-maj=68.6km s-min=19.2km az=104.0

ISC 17 06:32:30.9±0.9, 39°.18N±0°.05×140°.83E±0°.08, h115km±6km, n17, σ0§67/25, mb3.4/4, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JRG	Rokugo	0.26	325	P	Pn	06 32 46.7	-0.3
JRG				S	Sn	06 32 58.6	-0.6
JMK	Ichinoseki	0.38	127	P	Pn	06 32 47.7	+0.2
JMK				S	Sn	06 33 00.2	+0.1
JYK	Kaneyama	0.45	234	P	Pn	06 32 47.6	-0.3
JYK				*e*S	Sn	06 33 00.2	-0.6
JOM	Ohasama	0.46	51	P	Pn	06 32 48.3	+0.3
JOM				S	Sn	06 33 01.0	+0.1
JOU	Okura	0.83	189	P	Pn	06 32 51.2	+0.4
JOU				*e*S	Sn	06 33 06.5	+0.6
JIO	Ouri	0.83	151	P	Pn	06 32 50.9	+0.1
JIO				S	Sn	06 33 06.2	+0.3
JAH	Hinai	1.01	352	P	Pn	06 32 52.7	+0.1
JAH				*e*S	Sn	06 33 09.3	+0.3
JANG	Nango	1.30	24	P	Pn	06 32 56.0	+0.4
JANG				*e*S	Sn	06 33 14.7	+0.2
JAW	Awa shima	1.43	240	P	Pn	06 32 56.9	-0.2
JFT	Otama	1.71	193	P	Pn	06 33 01.3	+0.8
MAT	Matsushiro	3.35	219	P	Pn	06 33 22.0	+0.3
MJAR	Matsushiro Arr	3.35	219	P	Pn	06 33 22.9	+1.2
	1.3nm,0.3s,baz=24,slow=17,SNR=7.4						
USRK	Ussuriysk Arra	8.29	310	P	Pn	06 34 29.7	+1.5
	0.9nm,0.3s,baz=120,slow=15,SNR=14						
ILAR	Eielson Array	47.94	33	P	P	06 40 58.1	+0.8
	0.4nm,0.6s,baz=267,slow=5.7,SNR=5.1						
WRA	Warramunga Arr	59.13	187	P	P	06 42 19.2	-0.1
	0.5nm,0.5s,baz=2.6,slow=7.1,SNR=14						
ASAR	Alice Springs	62.86	187	P	P	06 42 44.4	-0.2
	0.3nm,0.8s,baz=10,slow=7.6,SNR=5.3						
PDAR	Pinedale Array	76.49	46	P	P	06 44 06.9	-1.5
	0.5nm,0.7s,baz=276,slow=1.1,SNR=4.1						

MEX 17 06:57:26.4±0.7, 16°.70N×94°.44W, h122km±9km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.57	312	*e*P	Pn	06 57 44.1	-0.9
CMIG				*i* S	Sn	06 57 56.6	-2.4
TGIG		1.27	86	*e*P	Pn	06 57 51.0	-0.4
TGIG				*e*S	Sn	06 58 08.5	-1.9
PCIG		1.54	130	*i* P	Pn	06 57 52.7	-1.7
PCIG				*i* S	Sn	06 58 13.9	-1.8
HUIG	Huatulco	1.85	240	*e*P	Pn	06 57 56.5	-1.7
HUIG				*i* S	Sn	06 58 21.0	-1.3
VHO	Vista Hermosa	2.22	280	*e*P	Pn	06 58 01.9	-1.1
VHO				*e*S	Sn	06 58 29.5	-1.6
PNIG	Pinotepa	3.55	266	*i* P	Pn	06 58 18.4	-1.6
PNIG				*e*S	Sn	06 58 59.2	-2.3

IDC 17 07:07:38.5±2.3, 6°.75S×129°.77E, h0km, mb3.5/1, mb1 4.3/4, mb1mx3.8/20, mbtmp4.1/4, ML4.4/3, MS3.2/2, Ms1 3.2/2, ms1mx2.6/22, Error ellipse: s-maj=88.0km s-min=29.3km az=77.0, Banda Sea

| Code | Station

mb1 3.7/4, mb1mx3.5/23, mbtmp3.5/4, Error ellipse: s-maj=316.4km s-min=21.5km az=62.0
ISCJB ***17*** *07:20:38.8±1.6, 23°.24N±0°.05×123°.84E±0°.07, h31km±11km, mb3.4/4, Error ellipse: s-maj=10.5km s-min=8.2km az=22.3*
JMA ***17*** *07:20:39.2±0.3, 23°.25N×123°.86E, h42km, M3.1*
ISC 17 07:20:37.7±4.0, 23°.28N±0°.07×123°.85E±0°.07, h11km±25km, n12, σ0°.46/19, mb3.4/4, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.78**	**357**	P	**Pn**	**07 20 54.2**	**-0.3**
HATJ				S	**Sb**	**07 21 04.9**	**+1.1**
JKRS	**Kuro-shima**	**0.97**	**9**	P	**Pn**	**07 20 57.2**	**0.0**
JKRS				S	**Sn**	**07 21 11.0**	**+0.1**
IRIF	**Iriomote-Funau**	**1.06**	**354**	P	**Pn**	**07 20 58.6**	**+0.2**
IRIF				S	**Sb**	**07 21 11.5**	**-0.4**
JIJ	**Ishigaki jima**	**1.12**	**14**	P	**Pb**	**07 20 58.8**	**-0.2**
JIJ				S	**Sb**	**07 21 13.1**	**-0.4**
YOJ	**Yonaguni jima**	**1.41**	**327**	P	**Pn**	**07 21 03.4**	**+0.2**
YOJ				S	**Sn**	**07 21 21.1**	**-0.7**
JTJ	**Tarama**	**1.57**	**30**	P	**Pn**	**07 21 05.3**	**-0.1**
JTJ				S	**Sn**	**07 21 25.5**	**-0.2**
JMJ	**Miyako jima 2**	**2.02**	**40**	*e*S	**Sn**	**07 21 36.6**	**-0.3**
JOGS	**Gusukube**	**2.05**	**44**	P	**Pn**	**07 21 12.3**	**+0.2**
JOGS				*e*S	**Sn**	**07 21 37.8**	**+0.2**
MKAR	**Makanchi Array**	**40.69**	**316**	P	**P**	**07 28 18.7**	**+0.6**
	0.2nm,0.4s,baz=98,slow=7.8,SNR=5.9						
WRA	**Warramunga Arr**	**44.16**	**166**	P	**P**	**07 28 45.9**	**-0.6**
	0.5nm,0.7s,baz=347,slow=8.9,SNR=9.4						
KURBB	**Kurchatov Arra**	**44.38**	**320**	P	**P**	**07 28 47.9**	**0.0**
	0.4nm,0.8s,baz=115,slow=7.9,SNR=3.7						
ASAR	**Alice Springs**	**47.67**	**167**	P	**P**	**07 29 14.5**	**+0.3**
	0.6nm,0.6s,baz=352,slow=7.5,SNR=13						

IDC ***17*** *07:45:54.9±6.7, 23°.14N×123°.76E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/21, mbtmp3.3/3, Error ellipse: s-maj=436.6km s-min=30.6km az=61.0*
ISCJB ***17*** *07:45:57.3±2.8, 23°.22N±0°.05×123°.87E±0°.08, h32km±23km, mb3.2/3, Error ellipse: s-maj=12.3km s-min=8.4km az=6.1*
JMA ***17*** *07:45:57.1±0.4, 23°.21N×123°.86E, h41km, M3.1*
ISC 17 07:45:57.2±1.7, 23°.27N±0°.08×123°.88E±0°.08, h19km±5km, n10, σ0°.60/16, mb3.3/3, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.79**	**355**	P	**Pg**	**07 46 12.6**	**-0.1**
HATJ				S	**Sn**	**07 46 24.3**	**-0.2**
JKRS	**Kuro-shima**	**0.97**	**7**	P	**Pn**	**07 46 15.9**	**+0.1**
JKRS				S	**Sn**	**07 46 29.4**	**+0.3**
IRIF	**Iriomote-Funau**	**1.07**	**353**	P	**Pb**	**07 46 17.0**	**-0.1**
IRIF				S	**Sb**	**07 46 31.0**	**+0.3**
JIJ	**Ishigaki jima**	**1.12**	**13**	P	**Pb**	**07 46 17.6**	**-0.3**
JIJ				S	**Sb**	**07 46 31.7**	**-0.4**
YOJ	**Yonaguni jima**	**1.43**	**326**	P	**Pn**	**07 46 22.0**	**-0.1**
YOJ				S	**Sn**	**07 46 39.8**	**-0.5**
JTJ	**Tarama**	**1.56**	**29**	P	**Pn**	**07 46 23.6**	**-0.3**
JTJ				S	**Sn**	**07 46 43.8**	**+0.2**
JMJ	**Miyako jima 2**	**2.01**	**40**	*e*S	**Sn**	**07 46 55.1**	**+0.4**
MKAR	**Makanchi Array**	**40.71**	**316**	P	**P**	**07 53 37.4**	**+0.8**
	0.2nm,0.5s,baz=106,slow=11,SNR=3.0						
WRA	**Warramunga Arr**	**44.14**	**166**	P	**P**	**07 54 03.4**	**-1.3**
	0.4nm,0.8s,baz=347,slow=8.8,SNR=4.6						
ASAR	**Alice Springs**	**47.66**	**168**	P	**P**	**07 54 33.4**	**+0.9**
	0.2nm,0.6s,baz=350,slow=12,SNR=5.6						

ISCJB ***17*** *08:01:29.1±0.7, 39°.69N±0°.05×72°.9E±0°.1, h14km, Error ellipse: s-maj=11.8km s-min=6.6km az=9.6*
NNC ***17*** *08:01:31.6±6.9, 39°.83N×73°.38E, h13km±35km, mb3.6, mpv3.2, Error ellipse: s-maj=57.6km s-min=38.8km az=178.0*
ISC 17 08:01:30.9±1.2, 39°.69N±0°.06×73°.11E±0°.08, h14km, n13, σ1°.79/17, 5C-2D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**2.48**	**10**	P	**Pn**	**08 02 11.4**	**+0.1**
	SNR=102						
KZA	**Kyzart**	**2.89**	**33**	P	**Pn**	**08 02 16.0**	**-0.9**
	SNR=9.8						
EKS2	**Erkin-Say**	**3.01**	**9**	P	**Pn**	**08 02 19.2**	**+0.8**
	SNR=15						
AAK	**Ala-Archa**	**3.12**	**19**	P	**Pn**	**08 02 20.5**	**+0.6**
	SNR=24						
KBK	**Karagaybulak**	**3.27**	**24**	P	**Pn**	**08 02 22.7**	**+0.7**
	SNR=9.1						
ULHL	**Ulahol**	**3.48**	**42**	P	**Pn**	**08 02 24.0**	**-0.9**
	SNR=7.7						
CHMS	**Chumysh**	**3.53**	**20**	P	**Pn**	**08 02 25.6**	**+0.2**
	SNR=5.9						
USP	**Ospenovka**	**3.73**	**16**	P	**Pn**	**08 02 28.2**	**+0.2**
	SNR=14						
TKM2	**Tokmak 2**	**3.73**	**29**	Pn	**Pn**	**08 02 27.5**	**-0.8**
	7.6nm,0.5s						
TKM2				⇑Lg	Lg	08 03 25.4	
	14nm,0.7s						
TKM2	**Tokmak 2**	**3.73**	**29**	P	**Sb**	**08 03 24.0**	**+2.1**
	SNR=9.6						
KK31	**Karatay Array**	**3.93**	**331**	⇑Pn	**Pn**	**08 02 33.4**	**+2.5**
	1.2nm,0.4s,baz=129,slow=12,SNR=43						
KK31				⇓Pg	**Pb**	**08 02 42.6**	**+2.5**
	2.3nm,0.3s,baz=139,slow=16,SNR=9.1						
KK31				⇑Sn	**Sb**	**08 03 24.0**	**-3.6**
	2.3nm,0.3s,baz=127,slow=22						
KK31				⇓Lg	Lg	08 03 39.0	
	7.6nm,0.3s,baz=146,slow=29						
CEP	**Cherat**	**5.93**	**190**	P	**Pn**	**08 02 56.7**	**-1.8**
CEP				S	**Sn**	**08 04 08.0**	**+1.7**
AB31	**Akbulak array**	**13.39**	**320**	⇑Pn	**Pn**	**08 04 38.7**	**-1.8**
	0.4nm,0.5s,baz=133,slow=12,SNR=5.8						
AB31				⇑Sn	**Sn**	**08 07 07.6**	**-1.5**
	0.4nm,0.6s						

WEL 17 08:13:35.9±0.4, 37°.58S×176°.59E, h156km±3km, ML3.5/16, 5C-2D, Error ellipse: s-maj=4.5km s-min=4.2km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.80**	**149**	PN	Pn	08 13 59.7	+0.1
URZ				SN	Sn	08 14 18.2	+0.3
URZ				AML	AML	08 14 20.0	
MWZ	**Matawai**	**1.06**	**136**	PN	Pn	08 14 02.4	+0.6
MWZ				SN	Sn	08 14 21.5	-0.2
MWZ				AML	AML	08 14 24.3	
MXZ	**Matakaoa Point**	**1.37**	**90**	PN	Pn	08 14 04.1	-0.5
RAHZ	**Arahi**	**1.39**	**164**	PN	Pn	08 14 05.4	+0.6
PUZ	**Puketiti**	**1.41**	**111**	PN	Pn	08 14 04.5	-0.5
PUZ				SN	Sn	08 14 26.5	-0.9
NMHZ	**Naumai**	**1.53**	**174**	PN	Pn	08 14 07.1	+0.9
CNGZ	**Carnagh Statio**	**1.57**	**126**	PN	Pn	08 14 07.1	+0.6
BKZ	**Black Stump Fm**	**1.59**	**183**	PN	Pn	08 14 06.3	-0.6
BKZ				SN	Sn	08 14 30.4	-0.4
KNZ	**Kokohu**	**1.67**	**150**	PN	Pn	08 14 07.5	-0.1
WPVZ	**Whakapapa**	**1.82**	**206**	PN	Pn	08 14 10.1	+0.6
TUVZ	**Tukino**	**1.84**	**203**	PN	Pn	08 14 10.1	+0.4
FWVZ	**Far West T-bar**	**1.86**	**206**	PN	Pn	08 14 10.1	+0.1
MCHZ	**McNeill Hill**	**1.86**	**177**	PN	Pn	08 14 10.2	+0.4
WHVZ	**Whangaehu Hut**	**1.87**	**204**	PN	Pn	08 14 10.4	+0.2
MHGZ	**Mahia Peninsul**	**1.88**	**147**	PN	Pn	08 14 10.1	+0.1
MHGZ				SN	Sn	08 14 35.8	-0.6
WNVZ	**Wahianoa**	**1.91**	**204**	⇑PN	Pn	08 14 10.7	+0.2
BHHZ	**Black Hill Sta**	**1.95**	**192**	⇑PN	Pn	08 14 10.4	-0.4
PKVZ	**Pokaka**	**1.97**	**209**	⇑PN	Pn	08 14 11.4	+0.4
MTVZ	**Mangateitei**	**2.00**	**206**	PN	Pn	08 14 11.7	+0.2
CKHZ	**Cape Kidnapper**	**2.11**	**170**	PN	Pn	08 14 12.4	-0.2
CKHZ				SN	Sn	08 14 40.0	-1.1
KAHZ	**Kahuranaki**	**2.22**	**174**	⇑PN	Pn	08 14 13.7	-0.3
PNHZ	**Pukenui**	**2.35**	**187**	PN	Pn	08 14 14.4	-1.1
PXZ	**Pawanui**	**2.46**	**175**	⇑PN	Pn	08 14 15.8	-0.9
WAZ	**Wanganui**	**2.51**	**209**	PN	Pn	08 14 16.9	-0.4
TSZ	**Takapari Road**	**2.52**	**191**	PN	Pn	08 14 16.3	-1.3
PRHZ	**Porangahau**	**2.68**	**179**	PN	Pn	08 14 18.4	-1.1
DVHZ	**Dannevirke**	**2.74**	**187**	PN	Pn	08 14 18.4	-1.8
ANWZ	**Angora Road**	**2.88**	**182**	PN	Pn	08 14 20.6	-1.3
POWZ	**Post Office Ro**	**2.88**	**193**	PN	Pn	08 14 20.3	-1.7
PRWZ	**Pori Road**	**3.01**	**189**	PN	Pn	08 14 22.1	-1.5
BFZ	**Birch Farm**	**3.11**	**185**	⇓PN	Pn	08 14 22.8	-2.0
MRZ	**Mangatainoka R**	**3.18**	**194**	PN	Pn	08 14 23.3	-2.3
TIWZ	**Tintock**	**3.24**	**189**	PN	Pn	08 14 24.4	-2.1
CPWZ	**Castlepoint**	**3.34**	**185**	PN	Pn	08 14 26.1	-1.6
OGWZ	**Otaki Gorge**	**3.42**	**198**	⇓PN	Pn	08 14 26.3	-2.4
HOWZ	**Holdsworth Sta**	**3.42**	**194**	PN	Pn	08 14 26.1	-2.7
KIW	**Kapiti Island**	**3.53**	**201**	PN	Pn	08 14 27.4	-2.7
MTW	**Mount Morrison**	**3.67**	**193**	PN	Pn	08 14 29.0	-3.0
CAW	**Cannon Point**	**3.71**	**198**	PN	Pn	08 14 29.6	-3.0
MSWZ	**Moikau Station**	**3.97**	**195**	PN	Pn	08 14 32.4	-3.5
SNZO	**South Karori**	**4.00**	**201**	PN	Pn	08 14 32.8	-3.3
TCW	**Tory Channel**	**4.04**	**206**	PN	Pn	08 14 33.6	-3.2
BHW	**Baring Head**	**4.05**	**199**	PN	Pn	08 14 33.3	-3.5
PLWZ	**Palliser**	**4.12**	**194**	PN	Pn	08 14 34.1	-3.7
TUWZ	**Tuamarina**	**4.36**	**207**	PN	Pn	08 14 37.3	-3.6
NNZ	**Nelson**	**4.40**	**213**	PN	Pn	08 14 38.1	-3.3
QRZ	**Quartz Range**	**4.52**	**223**	PN	Pn	08 14 39.3	-3.7
THZ	**Tophouse**	**5.05**	**213**	PN	Pn	08 14 46.6	-3.5
KHZ	**Kahutara**	**5.37**	**205**	PN	Pn	08 14 50.0	-4.1
OXZ	**Oxford**	**6.70**	**210**	PN	Pn	08 15 06.3	-5.6
MQZ	**McQueen's Vall**	**6.81**	**205**	PN	Pn	08 15 07.2	-6.1

IDC ***17*** *08:29:05.9±0.7, 51°.61N×15°.84E, h0km, mb3.3/1, mb1 3.4/9, mb1mx3.3/27, mbtmp3.3/9, ML3.3/7, Error ellipse: s-maj=13.6km s-min=6.7km az=104.0*
IPEC ***17*** *08:29:05.6±0.3, 51°.52N×16°.30E, h0km, ML2.7/3, Error ellipse: s-maj=3.2km s-min=1.7km az=67.0*
ISCJB ***17*** *08:29:05.1±0.6, 51°.43N±0°.03×16°.09E±0°.03, h0km, mb3.1/1, Error ellipse: s-maj=4.4km s-min=2.9km az=11.6*
WAR ***17*** *08:29:06.4, 51°.52N×16°.12E*
CSEM ***17*** *08:29:07.2±0.4, 51°.41N×16°.07E, h2km, ML3.4/10, Error ellipse: s-maj=6.8km s-min=3.7km az=2.0*
PRU ***17*** *08:29:08.2, 51°.40N×16°.07E, h0km*
ISC 17 08:29:06.0±0.9, 51°.50N±0°.04×16°.08E±0°.02, h0km, n46, σ0°.81/77, 1C-4D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.67**	**168**	*e*Pg	**Pg**	**08 29 19.1**	**+0.3**
KSP				*e*Sg	**Sg**	**08 29 27.9**	**+0.5**
KSP	**Ksiaz**	**0.67**	**168**	⇓*i*Pg	**Pg**	**08 29 19.2**	**+0.4**
KSP				*i* Sg	**Sg**	**08 29 28.0**	**+0.5**
UPC	**Upice**	**0.99**	**183**	*e*PG	**Pg**	**08 29 25.1**	**+0.1**
UPC	**Upice**	**0.99**	**183**	Pg	**Pg**	**08 29 25.1**	**+0.1**
DPC	**Dobruska-Polom**	**1.16**	**172**	*e*PG	**Pg**	**08 29 27.9**	**-0.3**
DPC				*e*SG	**Sg**	**08 29 42.1**	**-1.1**
DPC	**Dobruska-Polom**	**1.16**	**172**	Pg	**Pg**	**08 29 27.9**	**-0.3**
DPC				Sg	**Sg**	**08 29 42.1**	**-1.1**
PVCC	**Panska Ves**	**1.36**	**225**	*e*PG	**Pg**	**08 29 32.2**	**+0.1**
PVCC				*e*SG	**Sn**	**08 29 50.8**	**-0.2**
	166nm,0.5s						
PVCC	**Panska Ves**	**1.36**	**225**	Pg	**Pg**	**08 29 32.2**	**+0.1**
PVCC				Sg	**Sn**	**08 29 50.8**	**-0.2**
	166nm,0.5s						
BRG	**Berggiesshubel**	**1.48**	**246**	PN	Pn	**08 29 33.2**	**-0.7**
BRG				PG	**Pb**	**08 29 34.8**	**+0.4**
BRG				SG	**Sb**	**08 29 54.1**	**+0.3**
	76nm,0.6s						
KRLC	**Kraliky**	**1.49**	**162**	*e*PG	**Pn**	**08 29 34.2**	**+0.1**
KRLC				*e*SG	**Sg**	**08 29 52.5**	**-1.4**
KRLC	**Kraliky**	**1.49**	**162**	Pg	**Pn**	**08 29 34.2**	**+0.1**
KRLC				Sg	**Sg**	**08 29 52.5**	**-1.4**
PRU	**Pruhonice**	**1.80**	**214**	*e*PG	**Pb**	**08 29 39.5**	**-0.3**
PRU				*e*SG	**Sn**	**08 30 01.7**	**-0.1**
	26nm,0.5s						
PRU	**Pruhonice**	**1.80**	**214**	Pg	**Pb**	**08 29 39.5**	**-0.3**
PRU				Sg	**Sn**	**08 30 01.7**	**-0.1**
	26nm,0.5s						
CLL	**Collm**	**1.94**	**266**	*e*Pn	**Pn**	**08 29 40.0**	**-0.1**
CLL				*e*Pg	**Pb**	**08 29 42.0**	**-0.1**
CLL				*i*		08 29 46.9	
CLL				*e*		08 29 57.0	
CLL				*e*Sg	**Sg**	**08 30 09.0**	**+0.8**
	comp=Z,34nm,0.6s						
MORC	**Moravsky Berou**	**1.96**	**151**	*e*Pn	**Pn**	**08 29 39.5**	**-1.0**
MORC				*e*Sg	**Sn**	**08 30 05.3**	**-0.5**
	comp=Z,40nm,0.5s,baz=336						
OKC	**Ostrava-Krasne**	**2.12**	**141**	*e*SG	**Sb**	**08 30 11.8**	**-0.3**
	comp=Z,59nm,0.6s						
OKC	**Ostrava-Krasne**	**2.12**	**141**	Sg	**Sb**	**08 30 11.8**	**-0.3**
	comp=Z,59nm,0.6s						
VRAC	**Vranov**	**2.22**	**171**	Pn	**Pn**	**08 29 44.2**	**+0.2**
	comp=Z,2.2nm,0.3s,baz=337,slow=14,SNR=7.3						
VRAC				Sn	**Sb**	**08 30 15.3**	**+0.4**
	comp=Z,2.9nm,0.3s,baz=39,slow=21,SNR=4.1						
VRAC	**Vranov**	**2.22**	**171**	*e*Pn	**Pn**	**08 29 43.8**	**-0.2**
	baz=355						
VRAC				*e*Sg	**Sb**	**08 30 15.1**	**+0.2**
	comp=Z,40nm,0.6s,baz=355						
TREC	**Trest**	**2.24**	**190**	*e*PN	**Pn**	**08 29 45.5**	**+1.2**
TREC				*e*PG	**Pb**	**08 29 48.0**	**+0.7**
TREC	**Trest**	**2.24**	**190**	Pn	**Pn**	**08 29 45.5**	**+1.2**
KRUC	**Moravsky**	**2.45**	**175**	*e*Pn	**Pn**	**08 29 47.0**	**-0.1**
	baz=359						
KRUC				*e*Sg	**Sb**	**08 30 22.7**	**+1.2**
	comp=Z,58nm,0.7s,baz=359						
NKC	**Novy Kostel**	**2.63**	**243**	*e*PN	**Pn**	**08 29 50.2**	**+0.5**
NKC				*e*PG	**Pg**	**08 29 55.9**	**-0.4**
NKC				*e*SG	**Sg**	**08 30 31.3**	**+1.0**
	comp=Z,25nm,0.4s						
NKC	**Novy Kostel**	**2.63**	**243**	Pn	**Pn**	**08 29 50.2**	**+0.5**
OJC	**Ojcow**	**2.68**	**117**	*e*Pg	**Pg**	**08 29 57.7**	**+0.4**
OJC				*e*Sg	**Sg**	**08 30 32.7**	**+0.7**
OJC	**Ojcow**	**2.68**	**117**	*e*Pg	**Pg**	**08 29 57.7**	**+0.4**
OJC				*e*Sg	**Sg**	**08 30 32.7**	**+0.7**
KHC	**Kasperske Hory**	**2.86**	**215**	*e*PN	**Pn**	**08 29 53.3**	**+0.4**
KHC				*e*PG	**Pb**	**08 29 59.1**	**+1.2**
KHC				*e*SN	**Sn**	**08 30 26.4**	**-1.6**
KHC				*e*SG	**Sg**	**08 30 37.7**	**-0.2**
	comp=Z,19nm,0.6s						
KHC	**Kasperske Hory**	**2.86**	**215**	Pn	**Pn**	**08 29 53.3**	**+0.4**
GERES	**GERESS Array B**	**3.06**	**211**	Pn	**Pn**	**08 29 56.1**	**+0.3**
	comp=Z,1.5nm,0.3s,baz=28,slow=12,SNR=24						
GERES				Pg	**Pb**	**08 30 02.7**	**+1.3**
	comp=Z,3.8nm,0.3s,baz=28,slow=17,SNR=35						
GERES				Sn	**Sn**	**08 30 33.6**	**+0.5**
	comp=Z,2.3nm,0.3s,baz=35,slow=26,SNR=5.3						
GERES				Lg	Lg	08 30 43.2	
	comp=Z,4.8nm,0.3s,baz=32,slow=26,SNR=12						
ZST	**Bratislava**	**3.37**	**168**	*e*SN	**Sg**	**08 30 54.2**	**0.0**
NIE	**Niedzica**	**3.41**	**126**	*e*P	**Pg**	**08 30 10.1**	**-1.2**
NIE				*e*S	**Sg**	**08 30 54.8**	**-0.7**
VYHS	**Vyhne**	**3.49**	**148**	*e*PN	**Pn**	**08 30 01.9**	**+0.4**
VYHS				*e*PG	**Pg**	**08 30 12.6**	**-0.3**
CONA	**Conrad Observa**	**3.58**	**182**	⇑*i*Pn	**Pn**	**08 30 03.5**	**+0.8**
	comp=Z,2.0nm,0.3s						
CONA				⇓*i*Sg	**Sg**	**08 30 59.7**	**-1.1**
	comp=Z,24nm,0.4s						
CONA	**Conrad Observa**	**3.58**	**182**	Pn	**Pn**	**08 30 03.5**	**+0.8**
	comp=Z,2.0nm,0.3s						
CONA				Sg	**Sg**	**08 30 59.7**	**-1.1**
	comp=Z,24nm,0.4s						
MOA	**Molln**	**3.84**	**199**	⇓*i*Pn	**Pn**	**08 30 06.9**	**+0.6**
MOA				⇓*i*Sg	**Sg**	**08 31 08.3**	**-0.9**
	comp=Z,28nm,0.6s						
MOA	**Molln**	**3.84**	**199**	Pn	**Pn**	**08 30 06.9**	**+0.6**
MOA				Sg	**Sg**	**08 31 08.3**	**-0.9**
	comp=Z,28nm,0.6s						
STHS	**Stebnicka Huta**	**3.90**	**120**	*e*PN	**Pn**	**08 30 08.0**	**+0.9**
STHS				*e*PG	**Pg**	**08 30 20.6**	**-0.1**
KECS	**Kecovo**	**4.14**	**135**	*e*PG	**Pg**	**08 30 27.7**	**+2.3**
KECS	**Kecovo**	**4.14**	**135**	*e*Pg	**Pg**	**08 30 27.7**	**+2.3**
AKASG	**Malin Array Be**	**8.31**	**90**	Pn	**Pn**	**08 31 06.2**	**-1.4**
	comp=Z,0.6nm,0.3s,baz=278,slow=12,SNR=4.9						
HFS	**Hagfors**	**8.76**	**352**	Pn	Pn	08 31 09.0	-4.8
	comp=Z,0.1nm,0.3s,baz=182,slow=14,SNR=2.2						
NOA	**NORSAR Array B**	**9.94**	**346**	Pn	Pn	08 31 25.3	-4.7
	comp=Z,0.2nm,0.3s,baz=173,slow=13,SNR=2.6						
FINES	**FINESS Array B**	**11.38**	**25**	Pn	Pn	08 31 45.5	-4.1
	comp=Z,0.3nm,0.3s,baz=207,slow=12,SNR=5.8						
EKA	**Eskdalemuir Ar**	**12.10**	**296**	Pn	Pn	08 31 55.7	-3.7
	baz=99,slow=14,SNR=2.3						
ARCES	**ARCESS Array B**	**18.64**	**10**	P	**P**	**08 33 23.8**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=199,slow=13,SNR=7.2						
TORD	**Torodi Ar. Bea**	**39.98**	**202**	P	**P**	**08 36 41.9**	**-0.3**
	comp=Z,0.5nm,1.0s,baz=2.3,slow=7.8,SNR=2.5						

IDC 17 08:41:59.5±2.1, 17°.09S×174°.19W, h0km, mb3.8/5, mb1 4.1/5, mb1mx3.8/18, mbtmp3.8/5, MS3.7/7, Ms1 3.6/7, ms1mx3.3/31, Error ellipse: s-maj=95.6km s-min=30.0km az=149.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.93**	**37**	LR	LR	08 43 54.7	
	comp=Z,402nm,20.8s,baz=52,slow=29						
RAR	**Rarotonga**	**14.22**	**109**	LR	LR	08 49 44.1	
	comp=Z,281nm,19.5s,baz=279,slow=33						
DZM	**Mont Dzumac**	**18.90**	**252**	LR	LR	08 51 35.3	
	comp=Z,91nm,18.2s,baz=206,slow=30						
PPT	**Papeete**	**23.50**	**95**	LR		08 54 22.0	
	comp=Z,292nm,19.5s,baz=166,slow=32						
HNR	**Honiara**	**26.28**	**284**	LR	LR	08 56 04.6	
	comp=Z,334nm,18.6s,baz=94,slow=32						
STKA	**Stephens Creek**	**42.55**	**241**	LR	LR	09 05 59.9	
	comp=Z,50nm,19.0s,baz=206,slow=34						
ASAR	**Alice Springs**	**48.88**	**253**	P	P	08 50 47.1	-0.5
	1.6nm,0.8s,baz=89,slow=8.4,SNR=15						
ASAR				LR	LR	09 09 58.3	
	comp=Z,125nm,18.5s,baz=101,slow=34						
PETK	**Petropavlovsk-**	**74.01**	**343**	P	P	08 53 37.2	+0.4
	1.5nm,0.8s,baz=104,slow=6.3,SNR=3.7						
NVAR	**Mina Array Bea**	**76.08**	**42**	P	P	08 53 49.9	+0.5
	0.4nm,0.7s,baz=211,slow=5.1,SNR=4.8						
PDAR	**Pinedale Array**	**84.02**	**42**	P	P	08 54 32.0	-0.4
	0.4nm,0.9s,baz=235,slow=3.2,SNR=2.9						
ILAR	**Eielson Array**	**84.24**	**11**	P	P	08 54 30.9	-1.7
	0.3nm,0.8s,baz=208,slow=3.7,SNR=3.0						
BRTR	**Keskin Array B**	**146.95**	**319**	PKPbc	PKPbc	09 01 45.1	+0.5
	1.2nm,0.9s,baz=46,slow=6.2,SNR=4.9						

IDC 17 08:47:43.6±2.2, 5°.63N×76°.11W, h98km±21km, mb3.3/7, mb1 3.6/7, mb1mx3.4/21, mbtmp3.3/7, MS3.2/2, Ms1 3.2/2, ms1mx2.8/17, Error ellipse: s-maj=36.3km s-min=16.0km az=51.0, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**1.93**	**113**	P	Pn	08 48 15.3	-0.4
	22nm,0.3s,baz=280,slow=12,SNR=52						
ROSC				S	Sn	08 48 40.7	+0.6
	32nm,0.3s,baz=272,slow=18,SNR=13						
CMIG	**Matias Romero**	**21.62**	**303**	LR	LR	09 00 11.8	
	comp=Z,36nm,19.9s,baz=167,slow=35						
LPAZ	**La Paz**	**23.16**	**160**	P	P	08 52 42.1	-0.4
	0.9nm,0.6s,baz=346,slow=8.3,SNR=6.1						
SIV	**San Ignacio**	**26.13**	**145**	P	P	08 53 08.5	-0.3
	1.7nm,0.5s,baz=328,slow=11,SNR=10						
TXAR	**Lajitas Array**	**35.12**	**315**	P	P	08 54 26.3	-1.7
	0.5nm,0.8s,baz=104,slow=6.6,SNR=3.5						
TXAR				PcP	PcP	08 56 58.9	+1.3
	0.1nm,0.5s,baz=112,slow=3.4,SNR=3.5						
PDAR	**Pinedale Array**	**47.36**	**327**	P	P	08 56 08.5	+0.3
	0.6nm,0.7s,baz=120,slow=8.8,SNR=4.0						
NVAR	**Mina Array Bea**	**50.25**	**317**	P	P	08 56 31.0	+0.7
	0.4nm,0.8s,baz=111,slow=6.8,SNR=4.6						
NVAR				PcP	PcP	08 57 49.1	+1.1
	0.3nm,0.6s,baz=151,slow=3.9,SNR=3.0						
YBH	**Yreka Blue Hor**	**54.80**	**318**	LR	LR	09 23 35.1	
	comp=Z,50nm,20.3s,baz=142,slow=39						
ILAR	**Eielson Array**	**76.80**	**335**	P	P	08 59 23.7	-0.6
	0.3nm,0.8s,baz=116,slow=5.4,SNR=4.8						
TORD	**Torodi Ar. Bea**	**76.89**	**78**	P	P	08 59 25.3	-0.5
	0.5nm,0.6s,baz=280,slow=5.4,SNR=6.9						
ASAR	**Alice Springs**	**146.00**	**235**	PKPbc	PKPbc	09 07 12.8	-0.2
	0.9nm,0.4s,baz=118,slow=3.8,SNR=19						
WRA	**Warramunga Arr**	**147.16**	**242**	PKPbc	PKPdf	09 07 14.8	+0.7
	0.7nm,0.5s,baz=114,slow=3.0,SNR=11						

PGC ***17*** *09:21:06.8±34.0, 64°.75N×140°.73W, h5km, ML3.3/4, 99km Wnw of Dawson, Yt Southern Yukon Territory, Canada*
NEIC ***17*** *09:21:06.8, 64°.75N×140°.73W, h5km, ML3.0(AEIC), ML3.3(PGC), After PGC.*
ISC 17 09:21:05.0±1.6, 64°.81N±0°.04×140°.65W±0°.04, h2km±13km, n30, σ1°.51/34, 3D, Southern Yukon Territory

comp=E,770nm,1.0s
LZH LR LR
comp=N,4μm,8.8s
LZH LR LR
comp=E,3μm,7.5s
LZH LR LR
comp=Z,3μm,8.6s
WMQ Urumqi 8.73 317 P Pn 09 26 28.4 +2.2
WMQ pP 09 26 31.6
WMQ sP 09 26 34.4
WMQ S **Sn 09 28 07.5 +3.3**
WMQ pmax pmax
comp=Z,95nm,0.7s
WMQ pmax pmax
comp=Z,210nm,3.0s
WMQ LR LR
comp=N,3μm,10.6s
WMQ LR LR
comp=E,2μm,8.1s
WMQ LR LR
comp=Z,2μm,8.1s
LSA Lhasa 8.89 208 P Pn 09 26 30.9 +2.1
LSA LR LR
comp=N,340nm,6.2s
LSA LR LR
comp=Z,1μm,7.4s
LSA Lhasa 8.89 208 *e*P **Pn 09 26 29.5 +0.7**
LSA pmax pmax
comp=Z,20nm,0.6s
LSA Lhasa 8.89 208 *e*Pn **Pn 09 26 29.5 +0.7**
comp=Z,20nm,0.6s
CD2 Chengdu 9.38 134 P Pn 09 26 36.8 +1.7
CD2 pP 09 26 40.0
CD2 sP 09 26 42.8
CD2 PP **PnPn 09 26 44.6 +1.9**
CD2 S **Sn 09 28 23.1 +2.8**
CD2 sS 09 28 28.0
CD2 SS **SnSn 09 28 36.5 +4.6**
CD2 pmax pmax
comp=Z,50nm,1.0s
CD2 pmax pmax
comp=Z,220nm,5.7s
CD2 LR LR
comp=N,3μm,7.1s
CD2 LR LR
comp=Z,3μm,10.8s
BTO Baotou 11.36 71 *e*P **Pn 09 27 01.0 -1.2**
TAPN Taplejung 12.39 216 *e*P **Pn 09 27 17.9 +1.2**
HHC Hu-ho-hao-te 12.55 71 *e*P **Pn 09 27 17.9 -0.7**
HHC pP P 09 27 21.3 -8.9
HHC sP 09 27 23.3
HHC PP **PnPn 09 27 28.8 +2.5**
HHC S **Sn 09 29 39.0 +0.9**
HHC sS 09 29 44.0
HHC SS **SnSn 09 29 52.9 +2.9**
HHC PcP **PcP 09 32 56.3 -0.7**
HHC pmax pmax
comp=Z,98nm,1.3s
HHC pmax pmax
comp=Z,140nm,3.0s
HHC LR LR
comp=N,1μm,8.9s
HHC LR LR
comp=E,1μm,7.9s
HHC LR LR
comp=Z,1μm,8.9s
SONM Songino Array 12.73 34 Pn **Pn 09 27 21.5 +0.5**
SONM Lg Lg 09 31 08.0
SONM Songino Array 12.73 34 Pn **Pn 09 27 21.5 +0.5**
comp=Z,5.6nm,0.3s,baz=216,slow=15,SNR=47
SONM Lg Lg 09 31 08.0
comp=Z,0.5nm,0.3s,baz=220,slow=30,SNR=5.0
SONM LR LR 09 32 34.9
comp=Z,1μm,19.4s,baz=230,slow=39
GUN Gumba 12.87 224 *e*P **Pn 09 27 22.7 -0.5**
comp=Z,117nm,1.1s
JIRN Jiri 12.90 222 *e*P **Pn 09 27 23.5 -0.1**
comp=Z,66nm,1.0s
ULN Ulaanbaatar 13.05 35 *e*Pn **Pn 09 27 27.2 +1.8**
ULN Ulaanbaatar 13.05 35 P **Pn 09 27 24.5 -0.9**
comp=Z,29nm,1.0s,comp=Z,489nm
RAMN Ramite 13.27 219 *e*P **Pn 09 27 27.5 -1.0**
comp=Z,67nm,1.0s
KKN Kakani 13.30 225 *e*P **Pn 09 27 27.1 -1.8**
PKI Pulchoki 13.39 224 *e*P **Pn 09 27 28.9 -1.4**
PKIN Phulchoki 13.40 224 *e*P **Pn 09 27 29.4 -0.9**
comp=Z,28nm,0.8s
ENH Enshi 13.48 119 *e*Pn **Pn 09 27 29.0 -2.3**
comp=Z,66nm,0.8s
DMN Daman 13.53 225 *e*P **Pn 09 27 31.2 -1.0**
MK31 Makanchi Array 13.56 316 Pn **Pn 09 27 30.6 -1.7**
comp=Z,9.9nm,0.6s,baz=127,slow=11,SNR=162
MK31 ⇑Sn **Sn 09 29 59.5 -3.0**
comp=Z,26nm,0.8s,baz=127,slow=26,SNR=7.7
MK31 Makanchi Array 13.56 316 *i* P **Pn 09 27 30.5 -1.7**
MK31 09 29 59.4
MK31 pmax pmax
comp=Z,13nm,0.6s
MK31 smax smax
comp=N,41nm,0.9s
MK31 Makanchi Array 13.56 316 *e*Pn **Pn 09 27 30.7 -1.5**
MKAR Makanchi Array 13.56 316 *e*P **Pn 09 27 30.8 -1.4**
MKAR 09 30 04.0
MKAR Makanchi Array 13.56 316 *e*Pn **Pn 09 27 30.8 -1.4**
MKAR Sn **Sn 09 30 04.0 +1.5**
MKAR Lg Lg 09 31 30.7
MKAR Makanchi Array 13.56 316 Pn **Pn 09 27 30.7 -1.4**
comp=N,2.4nm,0.3s,baz=124,slow=12,SNR=50
MKAR Sn **Sn 09 30 04.0 +1.5**
comp=N,0.8nm,0.3s,baz=129,slow=25,SNR=6.1
MKAR Lg Lg 09 31 30.7
baz=114,slow=30,SNR=2.3
MKAR LR LR 09 32 44.3
comp=N,211nm,20.9s,baz=124,slow=37
ZAK Zakamensk 13.75 20⇑*e*P Pn 09 27 38.8 +3.9
ZAK pmax pmax
comp=Z,48nm,1.3s
DANN Dangsing 13.78 231 *e*P **Pn 09 27 33.9 -1.7**
KMI Kunming 13.81 153 P Pn 09 27 32.3 -3.7
KMI pP P 09 27 36.8 -7.6
KMI sP 09 27 39.4
KMI S **Sn 09 30 10.3 +1.1**
KMI pmax pmax
comp=Z,13nm,0.6s
KMI pmax pmax
comp=Z,110nm,3.8s
KMI LR LR
comp=N,690nm,6.3s
KMI LR LR
comp=E,260nm,6.2s
KMI LR LR
comp=Z,640nm,8.9s
KOLN Koldanda 14.29 230 *e*P **Pn 09 27 40.9 -1.6**
comp=Z,25nm,0.7s
GYA Guiyang 14.43 138⇑*i*P **Pn 09 27 43.3 -1.1**
GYA PP **PnPn 09 27 55.4 +3.1**
GYA S **Sn 09 30 27.0 +2.9**
GYA SS **S 09 30 43.3 -0.6**
GYA pmax pmax
comp=Z,30nm,0.8s
GYA pmax pmax
comp=Z,120nm,4.6s
GYA LR LR
comp=N,4μm,13.6s
GYA LR LR
comp=E,2μm,14.0s
GYA LR LR
comp=Z,4μm,13.8s
PYUN Piuthan 14.44 232 *e*P **Pn 09 27 42.7 -1.8**
comp=Z,182nm,0.6s
MOY Mondy 14.44 13 *e*P P 09 27 54.9 +3.8
MOY pmax pmax
comp=Z,122nm,1.4s
TLY Talaya 15.03 19 *e*P **P 09 28 01.5 +4.0**
TLY *e*S **S 09 30 49.1 -6.5**
TLY pmax pmax
comp=Z,20nm,1.0s
TLY MLR MLR
comp=Z,583nm,8.0s
KSH Kashi 15.68 283 P **Pn 09 28 02.8 +1.9**
KSH pP **P 09 28 06.3 +1.4**
KSH PP pP 09 28 15.6 +6.0
KSH S **Sn 09 30 58.0 +3.7**
KSH sS **S 09 31 03.6 -5.7**
KSH SS **SnSn 09 31 16.5 +9.5**
KSH pmax pmax
comp=Z,23nm,1.0s
KSH pmax pmax
comp=Z,73nm,1.6s
KSH LR LR
comp=N,650nm,9.5s
KSH LR LR
comp=E,430nm,7.1s
KSH LR LR
comp=Z,830nm,13.5s
IRK Irkutsk 15.70 19 *e*P **P 09 28 07.3 +2.3**
IRK pmax pmax
comp=Z,163nm,1.3s
BJT Baijiatuau 15.97 75 *e*P **P 09 28 06.8 -1.2**
comp=Z,238nm,1.4s
BJI Beijing 15.98 75 P **Pn 09 28 04.0 -0.6**
BJI pP **P 09 28 09.3 +1.3**
BJI S **Sn 09 31 01.4 +0.1**
BJI pmax pmax
comp=Z,16nm,0.6s
BJI LR LR
comp=N,1μm,18.0s
BJI LR LR
comp=E,690nm,10.2s
BOK Bokaro 16.28 215 *e*P **Pn 09 28 07.1 -1.5**
TKM2 Tokmak 2 16.33 295⇓Pn **Pn 09 28 07.8 -1.6**
comp=E,64nm,0.8s
TKM2 Tokmak 2 16.33 295 *e*P **Pn 09 28 08.1 -1.2**
TKM2 pmax pmax
comp=Z,64nm,0.8s
TKM2 Tokmak 2 16.33 295 P **Pn 09 28 08.2 -1.2**
SNR=61
TKM2 Tokmak 2 16.33 295 *e*Pn **Pn 09 28 08.1 -1.2**
comp=Z,64nm,0.8s
DDI Dehra Dun 16.50 249 *e*P **Pn 09 28 11.2 -0.2**
DDI AMB AMB 09 28 15.0
comp=Z,76nm,1.1s
SDNR Sundarnagar 16.75 254 *e*4 **Pn 09 28 18.0 +3.5**
KBK Karagaybulak 16.75 294 P **Pn 09 28 13.9 -0.7**
SNR=21
SMLA Simla 16.77 253 *i* P **Pn 09 28 14.1 -0.7**
SMLA Simla 16.77 253 *e*P **Pn 09 28 13.9 -0.7**
SMLA *e*P **Pn 09 28 14.1 -0.7**
WHN Wuhan 16.85 110⇓P **P 09 28 17.8 0.0**
WHN S **S 09 31 29.0 -4.1**
WHN pmax pmax
comp=Z,110nm,0.8s
WHN LR LR
comp=N,3μm,7.9s
WHN LR LR
comp=E,1μm,9.6s
WHN LR LR
comp=Z,3μm,9.4s
DHRM DHARAMSHALA 16.94 257 *e*P **Pn 09 28 17.4 +0.2**
DHRM AMB AMB 09 28 22.7
comp=Z,118nm,0.6s
FRU Bishkek 17.02 294 *e*P **Pn 09 28 15.0 -2.9**
FRU pmax pmax
comp=Z,130nm,2.5s
TIA Tai'an 17.04 88⇓P **P 09 28 20.8 +0.9**
TIA LR LR
comp=N,970nm,14.7s
TIA LR LR
comp=E,780nm,9.3s
TIA LR LR
comp=Z,440nm,12.3s
AAK Ala-Archa 17.07 294 Pn **Pn 09 28 18.0 -0.7**
comp=Z,325nm,0.9s,SNR=12
AAK Ala-Archa 17.07 294 *e*P **Pn 09 28 18.3 -0.4**
AAK 09 31 34.5
AAK pmax pmax
comp=Z,47nm,0.9s
AAK Ala-Archa 17.07 294 P **Pn 09 28 19.0 +0.3**
SNR=31
AAK Ala-Archa 17.07 294 *e*Pn **Pn 09 28 18.2 -0.4**
comp=Z,47nm,0.9s
AAK Sn **S 09 31 34.5 -3.2**
AAK Ala-Archa 17.07 294 Pn **Pn 09 28 19.2 +0.5**
comp=Z,0.9nm,0.3s,baz=107,slow=6.7,SNR=25
AAK Sn **S 09 31 34.5 -3.2**
comp=Z,0.3nm,0.3s,baz=337,slow=20,SNR=2.5
AAK LR LR 09 35 38.1
comp=Z,269nm,20.6s,baz=82,slow=39
DLH Dalhousie 17.08 258 *e*P **Pn 09 28 18.0 -0.9**
DLH *e*4 09 28 23.0
USP Ospenovka 17.19 296 P **Pn 09 28 18.8 -1.2**
SNR=9.2
BHK Bhakra 17.20 254 *e*P **P 09 28 21.4 -0.4**
THN Thein Dam 17.32 258 *e*P **Pn 09 28 20.7 -0.9**
AML Almayashu 17.59 292 P **P 09 28 26.5 +0.2**
SNR=14
EKS2 Erkin-Say 17.60 293 *e*P **P 09 28 26.1 -0.1**
EKS2 pmax pmax
comp=Z,21nm,1.0s
EKS2 Erkin-Say 17.60 293 P **P 09 28 26.2 -0.1**
SNR=17
EKS2 Erkin-Say 17.60 293 *e*Pn **P 09 28 26.1 -0.1**
comp=Z,21nm,1.0s
KURBB Kurchatov Arra 17.90 322 P **Pn 09 28 28.3 -0.4**
comp=Z,0.9nm,0.3s,baz=132,slow=12,SNR=47
CMAI Chiengmai2 17.90 170 P **P 09 28 30.8 +1.1**
comp=Z,14nm,0.7s,comp=Z,995nm
KURK Kurchatov 17.91 322 P **Pn 09 28 28.3 -0.6**
KURK pmax pmax
comp=Z,1.0nm,0.3s
KURK Kurchatov 17.91 322 P **Pn 09 28 28.2 -0.6**
ZAA0 Zalesovo Array 17.96 338 *e*Pn **Pn 09 28 29.5 0.0**
ZALV Zalesovo Beam 17.96 338 P **P 09 28 30.0 0.0**
ZALV S **S 09 31 57.1 +1.6**
ZALV pmax pmax
comp=Z,1.0nm,0.3s
ZALV MLR MLR
comp=Z,236nm,21.3s
ZALV Zalesovo Beam 17.96 338 P **P 09 28 30.0 0.0**
ZALV S **S 09 31 57.0 +1.6**
ZALV Lg Lg 09 33 54.8
ZALV Zalesovo Beam 17.96 338 P **P 09 28 30.0 0.0**
comp=Z,0.9nm,0.3s,baz=150,slow=12,SNR=26
ZALV S **S 09 31 57.0 +1.6**
comp=Z,0.2nm,0.3s,baz=179,slow=26,SNR=2.1
ZALV Lg Lg 09 33 54.8
comp=Z,0.3nm,0.3s,baz=162,slow=24,SNR=4.5
ZALV LR LR 09 35 45.6
comp=Z,236nm,21.2s,baz=229,slow=38
PAYA Payao 18.59 168 P **Pn 09 28 39.0 +1.7**
comp=Z,10nm,1.0s
CHCP Chirah Chowk 18.81 264 P **P 09 28 39.7 +0.3**
KUDL Kundal 18.83 245 *e*P **P 09 28 37.3 -2.4**
CHTO Chiang Mai 18.99 171 *e*P **P 09 28 41.8 +0.3**
CHTO pmax pmax
comp=Z,10.0nm,0.8s
CHTO Chiang Mai 18.99 171 *e*P **P 09 28 41.8 +0.3**
comp=Z,10nm,0.8s
CHTO Chiang Mai 18.99 171 P **Pn 09 28 42.1 -0.1**
comp=Z,17nm,0.9s,comp=Z,450nm
CHTO Chiang Mai 18.99 171 P **Pn 09 28 42.1 -0.1**
comp=Z,17nm,0.9s,comp=Z,450nm
NVS Novosibirsk 19.21 337⇑*i*P **P 09 28 44.0 +0.4**
NVS *e*S **S 09 32 22.1 +1.6**
NVS pmax pmax
comp=N,15nm,0.7s
NVS pmax pmax
comp=E,10.0nm,0.7s
NVS pmax pmax
comp=Z,20nm,0.7s
NVS smax smax
comp=N,15nm,1.8s
NVS smax smax
comp=E,11nm,1.8s
CM31 Chiang Mai Arr 19.34 171 *e*P **P 09 28 44.4 -0.9**
comp=E,11nm,0.7s
KHET Khetri 19.37 246 *e*P **P 09 28 43.2 -2.4**
KHET *e*x x 09 32 20.4
NJ2 Nanjing 19.64 100 *e*P **P 09 28 48.8 +0.2**
NJ2 pmax pmax
comp=Z,20nm,1.0s
CEP Cherat 19.82 266 P **P 09 28 50.5 -0.2**
KK31 Karatay Array 20.04 294⇑P **P 09 28 53.7 +0.8**
comp=Z,20nm,0.8s,baz=91,slow=12,SNR=135
KK31 Karatay Array 20.04 294*ce*P **P 09 28 53.6 +0.8**
KK31 pmax pmax
comp=Z,25nm,0.8s
KKAR Karatay Array 20.04 294 *e*P **P 09 28 53.5 +0.7**
KKAR Karatay Array 20.04 294 *e*P **P 09 28 53.5 +0.7**
DL2 Dalian 20.22 79 *e*P **P 09 28 55.5 +0.7**
DL2 S **S 09 32 42.4 +1.3**
DL2 pmax pmax
comp=Z,110nm,0.9s
DL2 pmax pmax
comp=Z,140nm,2.7s
DL2 LR LR
comp=E,280nm,10.8s
DL2 LR LR
comp=Z,430nm,16.2s
THW Thamme Wali 20.30 263 P **P 09 28 56.7 +1.0**
SUKH Sukhothai 20.39 170 P **P 09 28 57.8 +1.0**
comp=Z,8.0nm,0.9s,comp=Z,71nm
HIA Hailar 20.73 48 *e*P **P 09 29 00.2 -0.1**
comp=Z,21nm,0.6s
BHPL Bhopal 21.40 233 *e*P **P 09 29 06.4 -1.3**
BHPL AMB AMB 09 29 09.5
comp=Z,78nm,0.6s
SNY Shenyang 21.64 70⇑P **P 09 29 09.9 -0.2**
SNY pmax pmax
comp=Z,96nm,0.9s
SNY LR LR
comp=N,2μm,16.7s
SNY LR LR
comp=E,240nm,6.9s
SNY LR LR
comp=Z,560nm,8.9s
SKNT Sakolnakorn 21.83 159 P **P 09 29 12.0 -0.3**
comp=Z,79nm,1.0s,comp=Z,3μm
SSE Sheshan 21.85 100 P **P 09 29 15.8 +3.4**
SSE S **S 09 33 17.5 +4.2**
SSE pmax pmax
comp=Z,81nm,0.7s
SSE pmax pmax
comp=Z,120nm,4.3s
KBL Kabul 21.89 270 *e*P **P 09 29 13.9 +0.8**
KBL pmax pmax
comp=Z,55nm,0.8s
KBL Kabul 21.89 270 *e*P **P 09 29 13.9 +0.8**
comp=Z,55nm,0.8s
NGP Nagpur 22.00 226 *e*P **P 09 29 15.1 +1.0**
NGP AMB AMB 09 29 17.0
comp=Z,40nm,1.4s
QIZ Qiongzhong 22.23 143 P **P 09 29 15.4 -1.2**
QIZ S **S 09 33 22.4 +1.7**
QIZ pmax pmax
comp=Z,44nm,0.8s
QIZ pmax pmax
comp=Z,200nm,3.9s
QIZ LR LR
comp=N,320nm,12.6s
QIZ LR LR
comp=E,320nm,15.9s
QIZ LR LR
comp=Z,470nm,8.8s
QIZ Qiongzhong 22.23 143 *e*P **P 09 29 14.2 -2.3**
comp=Z,30nm,0.8s
VIS Vishakhapatnam 22.74 212 *e*P **P 09 29 23.1 +1.0**
VIS AMB AMB 09 29 25.1
comp=Z,18nm,0.8s
VOSK Vostochnaya 22.95 319⇓P **P 09 29 23.9 -0.1**
comp=Z,25nm,0.7s
VOSK Vostochnaya 22.95 319 *e*P **P 09 29 24.2 +0.2**
VOSK pmax pmax
comp=Z,37nm,1.0s
VOSK Vostochnaya 22.95 319 *e*P **P 09 29 24.2 +0.2**
comp=Z,37nm,1.0s
QZH Quanzhou 23.11 117⇑*i*P **P 09 29 25.6 -0.3**
QZH *e*S **S 09 33 34.0 -2.5**
QZH LR LR
comp=N,1μm,10.2s
QZH LR LR
comp=E,850nm,10.2s
QZH LR LR
comp=Z,1μm,8.4s
CN2 Changchun 23.14 65 *e*P **P 09 29 25.3 -0.7**
CN2 *e*pP **pP 09 29 30.8 0.0**
CN2 *e*sP **sP 09 29 34.0 +1.1**
CN2 *e*S **S 09 33 30.4 -6.3**
CN2 pmax pmax
comp=Z,30nm,1.3s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,790nm,14.0s
CN2 LR LR
comp=E,600nm,14.0s
CN2 LR LR
comp=Z,540nm,13.0s
BVA0 Borovoye Array 23.41 319⇓P **P 09 29 28.4 -0.2**
comp=Z,19nm,0.8s
BVA0 Borovoye Array 23.41 319 P **P 09 29 28.4 -0.2**
BVA0 pmax pmax
comp=Z,27nm,0.9s
BVAR Borovoye Array 23.41 319 P **P 09 29 29.3 +0.7**
BVAR S **S 09 33 39.3 -1.7**
BVAR pmax pmax
comp=Z,16nm,0.7s
BVAR smax smax
comp=N,1.0nm,0.6s
BVAR MLR MLR
comp=Z,289nm,20.1s
BVAR Borovoye Array 23.41 319 P **P 09 29 29.3 +0.7**
BVAR S **S 09 33 39.3 -1.7**
BVAR Borovoye Array 23.41 319 P **P 09 29 29.3 +0.7**
comp=Z,16nm,0.7s,baz=112,slow=10,SNR=33
BVAR S **S 09 33 39.3 -1.7**
comp=Z,0.5nm,0.6s,baz=153,slow=19,SNR=1.8
BVAR LR LR 09 39 21.2
comp=Z,289nm,20.1s,baz=115,slow=38
BRVK Borovoye 23.48 319⇑P **P 09 29 29.8 +0.4**
comp=Z,38nm,0.7s
BRVK Borovoye 23.48 319 P **P 09 29 29.6 +0.2**
comp=Z,261nm,0.7s,SNR=6.1
BRVK Borovoye 23.48 319*c i*P **P 09 29 29.7 +0.4**
BRVK pmax pmax
comp=Z,28nm,0.7s
BRVK Borovoye 23.48 319 *e*P **P 09 29 29.5 +0.2**
comp=Z,28nm,0.7s
AKL Akola 23.54 229 *e*P **P 09 29 28.8 -1.4**
AKL AMB AMB 09 29 33.4
comp=Z,104nm,0.8s
UBPT Khong Chiam 23.88 157 P **P 09 29 33.2 -0.2**
comp=Z,87nm,0.9s,comp=Z,1μm
UBPT Khong Chiam 23.88 157 P **P 09 29 32.5 -0.9**
comp=Z,87nm,0.9s,comp=Z,1μm
INCN Inchon 24.32 81 *e*P **P 09 29 36.8 -0.7**
comp=Z,58nm,0.7s
DGPR DIGLIPUR 24.55 187 *e*P **P 09 29 37.5 -2.1**
TJN Taejon 25.10 83 *i* P **P 09 29 44.4 -0.1**
YHNB Yeheng 25.28 114 *e*P **P 09 29 45.5 -0.8**
comp=Z,20nm,0.7s
HYB Hyderabad 25.29 222 *i* P **P 09 29 48.0 +1.6**
HYB Hyderabad 25.29 222 *e*P **P 09 29 46.3 -0.1**
KSAR Wonju Array Be 25.30 81 P **P 09 29 45.3 -1.0**
KSRS Korea Array 25.33 81 P **P 09 29 45.3 -1.2**
comp=Z,72nm,0.7s,baz=274,slow=9.8,SNR=134
KSRS LR LR 09 39 26.6
comp=Z,106nm,19.3s,baz=105,slow=36
SSLB Suanglung 25.52 116 *e*P **P 09 29 49.0 +0.7**
comp=Z,26nm,0.8s
LATR Latur 25.59 227 *ex* P 09 29 42.3 -6.7
LATR AMB AMB 09 29 45.5
comp=Z,36nm,0.8s
TPUB Ta-pu 25.59 117 *e*P **P 09 29 48.4 -0.7**
comp=Z,46nm,1.1s
NACB Ninganchiao 25.74 114 *e*P **P 09 29 50.5 +0.1**
comp=Z,39nm,0.7s
YULB Yu-li 26.01 116 *e*P **P 09 29 52.8 -0.1**
comp=Z,16nm,0.9s
PBA Port Blair 26.07 187 *e*P P 09 29 53.2 -0.2
PBA AMB AMB 09 30 05.1
comp=Z,70nm,2.0s
MDJ Mudanjiang 26.17 64 P **P 09 29 53.8 -0.4**
MDJ pP **pP 09 29 56.8 -2.4**
MDJ PcP **PcP 09 33 20.9 0.0**
MDJ S **S 09 34 24.8 -0.5**
MDJ ScP **ScP 09 37 00.6 +0.8**
MDJ PcS **PcS 09 37 02.0 +0.3**
MDJ ScS **ScS 09 40 50.3 +0.7**
MDJ pmax pmax
comp=Z,10.0nm,0.9s
MDJ pmax pmax
comp=Z,75nm,4.4s
MDJ LR LR
comp=N,310nm,9.0s
MDJ LR LR
comp=E,350nm,14.6s

MDJ LR LR
comp=Z,460nm,11.2s
TWG Pinlang 26.21 117 *eP* **P 09 29 55.8 +1.1**
comp=Z,177nm,1.0s
POO Poona 27.12 231 *eP* **P 09 30 02.3 -0.7**
POO AMB AMB 09 30 07.0
comp=Z,54nm,1.3s
USRK Ussuriysk Arra 27.87 65 P **P 09 30 08.9 -0.6**
comp=Z,3.6nm,0.7s,baz=266,slow=7.4,SNR=8.9
USRK LR LR 09 42 27.9
comp=Z,93nm,19.6s,baz=81,slow=39
KLR Kul'dur 28.21 54 *eP* P 09 30 07.2 -5.2
KLR MLR MLR
comp=Z,1μm,9.0s
AB31 Akbulak array 28.27 306 P **P 09 30 13.2 +0.3**
comp=Z,3.2nm,0.6s,baz=101,slow=8.6,SNR=58
AB31 Akbulak array 28.27 306 *ceP* **P 09 30 13.2 +0.3**
AB31 pmax pmax
comp=Z,4.0nm,0.5s
ABKAR Akbulak array 28.27 306 *eP* **P 09 30 14.1 +1.2**
IMYA Miami 28.50 278 *eP* **P 09 30 17.3 +1.9**
JNU Nakatsue 28.78 88 P **P 09 30 16.0 -1.6**
JNU Nakatsue 28.78 88 P **P 09 30 16.0 -1.6**
comp=Z,5.2nm,0.7s,baz=351,slow=7.4,SNR=4.2
ISRO Mashad 29.01 279 *eP* **P 09 30 21.7 +1.9**
KRAB Krabi 29.48 173 P P 09 30 28.8 +4.8
comp=Z,27μm,1.0s,comp=Z,379μm
AKTO Aktyubinsk 29.72 308 P **P 09 30 26.8 +1.0**
AKTO pmax pmax
comp=Z,15nm,0.9s
AKTO MLR MLR
comp=Z,97nm,18.2s
AKTO Aktyubinsk 29.72 308 P **P 09 30 26.8 +1.0**
AKTO Aktyubinsk 29.72 308 P **P 09 30 26.8 +1.0**
comp=Z,15nm,0.9s,baz=94,slow=8.5,SNR=28
AKTO LR LR 09 43 18.5
comp=Z,97nm,18.2s,baz=282,slow=38
ISFR Sfrayin 29.99 281 *eP* **P 09 30 30.9 +2.3**
SVE Sverdlovsk 30.16 321⇑ *eP* **P 09 30 30.9 +1.3**
SVE pmax pmax
comp=Z,17nm,0.9s
ARU Arti 31.06 319 *c iP* **P 09 30 38.3 +0.7**
ARU 09 31 38.4
ARU S **S 09 35 43.9 +2.1**
ARU SS **SnSn 09 37 23.4 +0.5**
ARU pmax pmax
comp=Z,24nm,1.0s
SOKR Solikamsk 33.15 324 *eP* **P 09 30 56.9 +1.1**
SOKR pmax pmax
comp=Z,8.0nm,0.8s
MJAR Matsushiro Arr 33.56 79 P **P 09 30 56.8 -3.0**
MJAR Matsushiro Arr 33.56 79 P **P 09 30 56.8 -3.0**
comp=Z,2.3nm,0.7s,baz=293,slow=9.6,SNR=7.1
MJAR LR LR 09 44 48.3
comp=Z,65nm,19.2s,baz=95,slow=37
PSI Prapat 34.83 175 LR LR 09 44 55.2
comp=Z,133nm,20.8s,baz=228,slow=36
YSS Yuzh-Sakhalins 35.41 60 *eP* P 09 31 10.0 -5.6
YSS *e* 09 31 15.0
ASAJ Asahikawa 35.50 65 *eP* **P 09 31 16.2 -0.2**
ASAJ Asahikawa 35.50 65 P **P 09 31 15.4 -1.0**
comp=Z,18nm,0.7s,baz=258,slow=9.0,SNR=22
ASAJ LR LR 09 46 39.4
comp=Z,119nm,18.4s,baz=258,slow=38
KKM Kota Kinabalu 36.53 145 *eP* **P 09 31 25.6 0.0**
comp=Z,36nm,0.9s
MAK Makhachkala 36.85 294 *eP* P 09 31 17.1 -11
MAK MLR MLR
comp=Z,183nm,12.0s
TIXI Tiksi 37.98 16⇓ *iP* **P 09 31 37.5 +0.3**
TIXI pmax pmax
comp=Z,16nm,1.0s
MYLDM Lahad Datu 38.37 142 P **P 09 31 43.1 +2.1**
comp=Z,138nm,1.0s,comp=Z,1μm
ZEI Tsey 39.49 294 *eP* **P 09 31 50.9 +0.4**
ZEI pmax pmax
comp=Z,22nm,1.4s
KBZ Khabaz 40.05 296 P **P 09 31 57.7 +2.9**
KBZ pmax pmax
comp=Z,9.0nm,0.8s
KBZ MLR MLR
comp=Z,52nm,21.5s
KBZ Khabaz 40.05 296 P **P 09 31 57.7 +2.9**
KBZ Khabaz 40.05 296 P **P 09 31 57.7 +2.9**
comp=Z,9.0nm,0.8s,baz=105,slow=5.1,SNR=17
KBZ LR LR 09 49 31.7
comp=Z,52nm,21.5s,baz=233,slow=38
VRHR Novokhopersk 40.12 307 *eP* **P 09 31 54.9 -0.5**
VRHR pmax pmax
comp=N,7.0nm,0.6s
VRHR pmax pmax
comp=Z,20nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.8s
KIV Kislovodsk 40.16 296 *eP* **P 09 31 57.1 +1.2**
KIV pmax pmax
comp=Z,20nm,0.8s
KIV MLR MLR
comp=Z,113nm,15.0s
UMR Umm Al-Rimmam 40.56 273 *eP* **P 09 32 00.2 +0.9**
RDF Al-Radifah 40.96 272 *eP* **P 09 32 03.4 +0.9**
RDF AMb AMB 09 32 08.8
comp=Z,29nm,1.0s
NAY Al-Naaiem 41.06 273 *eP* **P 09 32 04.0 +0.6**
NAY AMb AMB 09 32 07.9
comp=Z,78nm,0.9s
RST Umm Al-Ruwaisa 41.15 273 *eP* **P 09 32 04.6 +0.4**
RST AMb AMB 09 32 08.2
comp=Z,824nm,0.9s
VORD Divnogorie 41.60 307 *eP* **P 09 32 04.6 -2.9**
VORD pmax pmax
comp=Z,20nm,1.1s
VORD pmax pmax
comp=N,10.0nm,0.4s
VORD pmax pmax
comp=E,10.0nm,0.5s
VSR Storozhevoye 41.66 308 *eP* **P 09 32 08.1 0.0**
VSR pmax pmax
comp=Z,30nm,1.4s
VSR pmax pmax
comp=N,8.0nm,0.5s
VSR pmax pmax
comp=E,40nm,1.1s
KLMR Klimovskoe 41.76 322 *eP* **P 09 32 08.2 -0.5**
KLMR pmax pmax
comp=Z,25nm,1.2s
SEY Seymchan 42.13 35⇓ *iP* **P 09 32 12.5 +0.8**
OBN Obninsk 43.05 314 *eP* **P 09 32 19.8 +0.6**
OBN pmax pmax
comp=Z,20nm,1.0s
OBN MLR MLR
comp=Z,200nm,18.0s
ANN Anapa 43.70 299 *eP* **P 09 32 23.3 -1.4**
ANN pmax pmax
comp=Z,28nm,0.7s
PEA0B Petropavlovsk- 44.63 49 *eP* **P 09 32 31.2 -0.8**
PETK Petropavlovsk- 44.63 49 P **P 09 32 31.4 -0.7**
PETK 09 34 13.0
PETK pmax pmax
comp=Z,14nm,0.8s
PETK pmax pmax
comp=Z,3.0nm,0.7s
PETK Petropavlovsk- 44.63 49 P **P 09 32 31.4 -0.7**
PETK PcP **PcP 09 34 13.0 -1.6**
PETK Petropavlovsk- 44.63 49 P **P 09 32 31.4 -0.7**
comp=Z,14nm,0.8s,baz=259,slow=7.2,SNR=24
PETK PcP **PcP 09 34 13.0 -1.6**
comp=Z,2.8nm,0.7s,baz=108,slow=3.3,SNR=5.0
PET Petropavlovsk 45.21 49 *eP* **P 09 32 35.4 -1.2**
PET *eS* **S 09 39 12.5 -3.2**
PET pmax pmax
comp=Z,15nm,0.9s
PET MLR MLR
comp=Z,200nm,15.0s
JOF Joensuu 45.80 325 *eP* **P 09 32 40.3 -0.9**
JOF pmax pmax
comp=Z,9.0nm,0.5s
JOF Joensuu 45.80 325 *ep* **P 09 32 40.3 -0.9**
comp=Z,8.5nm,0.5s
BR131 Keskin Array S 47.75 293 *eP* **P 09 32 57.6 +0.7**
comp=Z,11nm,0.7s
BRTR Keskin Array B 47.75 293 P **P 09 32 57.9 +0.9**
BRTR Keskin Array B 47.75 293 P **P 09 32 57.9 +0.9**
comp=Z,12nm,0.7s,baz=98,slow=7.7,SNR=37
AKASG Malin Array Be 47.96 308 P **P 09 32 58.5 +0.3**
AKASG pmax pmax
comp=Z,9.0nm,0.8s
AKASG Malin Array Be 47.96 308 P **P 09 32 58.5 +0.3**
AKASG Malin Array Be 47.96 308 P **P 09 32 58.5 +0.3**
comp=Z,9.0nm,0.8s,baz=64,slow=9.0,SNR=13
KIEV Kiev 47.97 308 *eP* P 09 32 53.7 -4.6
KIEV pmax pmax
comp=Z,39nm,1.4s
KIEV Kiev 47.97 308 *eP* P 09 32 53.7 -4.6
comp=Z,39nm,1.4s
KAF Kangasniemi 48.13 324 *eP* **P 09 32 57.3 -2.1**
KAF pmax pmax
comp=Z,4.0nm,0.5s
KAF Kangasniemi 48.13 324 *ep* **P 09 32 57.3 -2.1**
comp=Z,4.4nm,0.5s
FINES FINESS Array B 48.28 323 P **P 09 33 00.8 +0.2**
FINES FINESS Array B 48.28 323 P **P 09 33 00.8 +0.2**
comp=Z,4.8nm,0.6s,baz=102,slow=8.2,SNR=13
ARCES ARCESS Array B 48.43 334 P **P 09 33 02.2 +0.6**
ARCES PcP **PcP 09 34 27.4 -0.2**
ARCES ARCESS Array B 48.43 334 P **P 09 33 02.2 +0.6**
comp=Z,2.3nm,0.5s,baz=72,slow=7.8,SNR=17
ARCES PcP **PcP 09 34 27.4 -0.2**
comp=Z,1.9nm,0.7s,baz=108,slow=4.0,SNR=4.2
ARCES LR LR 09 55 26.1
comp=Z,79nm,18.9s,baz=129,slow=38
CSS Prodhromos 49.64 287 *eP* **P 09 33 13.2 +1.7**
comp=Z,18nm,1.0s
ISP Isparta 50.68 291 *eP* **P 09 33 20.7 +1.3**
ISP pmax pmax
comp=Z,49nm,1.0s
ISP Isparta 50.68 291 *eP* **P 09 33 20.7 +1.3**
comp=Z,49nm,1.0s
DAMY Dhamar 50.92 257 *eP* **P 09 33 22.7 +1.0**
BUR08 Bucovina Ar. S 51.25 305 *eP* **P 09 33 23.7 +0.2**
SPITS Spitsbergen Ar 51.29 345 LR LR 09 58 37.6
comp=Z,87nm,21.5s,baz=185,slow=40
MLR Muntele Rosu 51.39 302 LR LR 09 56 37.1
comp=Z,20nm,19.8s,baz=57,slow=38
LVV L'vov 51.41 308 *eP* **P 09 33 21.4 -3.1**
KWP Kalwaria Pacla 52.28 308 *eP* **P 09 33 31.5 +0.4**
KWP pmax pmax
comp=Z,19nm,0.6s
KWP Kalwaria Pacla 52.28 308 *eP* **P 09 33 31.5 +0.4**
comp=Z,19nm,0.6s
UZH Uzhgorod 52.83 307 *eP* **P 09 33 32.1 -3.0**
UZH *e* 09 33 40.1
CHOS Chios island 53.74 294 *eP* **P 09 33 42.8 +0.7**
FX1 Attu Island--F 53.83 47 *eP* **P 09 33 41.5 -0.9**
NIE Niedzica 53.84 308 *eP* **P 09 33 44.2 +1.6**
NIE Niedzica 53.84 308 *eP* **P 09 33 44.2 +1.6**
OJC Ojcow 53.91 310 *eP* **P 09 33 43.8 +0.8**
OJC Ojcow 53.91 310 *eP* **P 09 33 44.3 +1.2**
comp=Z,15nm,0.8s
OJC Ojcow 53.91 310 *eP* **P 09 33 43.8 +0.8**
HFS Hagfors 54.48 322 LR LR 09 58 38.0
comp=Z,128nm,18.2s,baz=271,slow=38
PLG Polygyros 54.86 297 *eP* **P 09 33 50.7 +0.6**
OKC Ostrava-Krasne 55.04 309 *eP* **P 09 33 52.9 +1.6**
OKC Ostrava-Krasne 55.04 309 *eP* **P 09 33 52.9 +1.6**
OKC *ep*P **pP 09 33 56.3 -0.2**
NB2 NORSAR Subarra 55.42 324 P **P 09 33 53.7 -0.1**
comp=Z,3.3nm,0.5s,baz=71,slow=7.4
NOA NORSAR Array B 55.42 324 P **P 09 33 53.8 -0.1**
NOA NORSAR Array B 55.42 324 P **P 09 33 53.8 -0.1**
comp=Z,4.0nm,0.6s,baz=72,slow=7.2,SNR=16
NOA LR LR 09 58 00.9
comp=Z,62nm,19.1s,baz=85,slow=36
MORC Moravsky Berou 55.43 310 *eP* **P 09 33 55.0 +0.9**
MORC Moravsky Berou 55.43 310 *eP* **P 09 33 55.0 +0.9**
IDI Anoyia 55.85 291 *eP* **P 09 33 57.1 -0.3**
comp=Z,16nm,0.6s
PKSM Moragy 55.97 305⇑ *eP* **P 09 33 56.3 -1.7**
PKSM *eP* **pP 09 34 00.8 -2.5**
DPC Dobruska-Polom 55.98 311 *eP* **P 09 33 59.4 +1.3**
DPC Dobruska-Polom 55.98 311 *eP* **P 09 33 59.4 +1.3**
DPC *ep*P **pP 09 34 01.7 -1.7**
DPC Dobruska-Polom 55.98 311 *eP* **P 09 33 59.5 +1.4**
UPC Upice 56.12 311 *eP* **P 09 34 00.6 +1.6**
UPC Upice 56.12 311 *eP* **P 09 34 00.6 +1.6**
UPC *ep*P **pP 09 34 02.8 -1.5**
VRAC Vranov 56.17 309 LR LR 09 59 21.5
comp=Z,117nm,18.7s,baz=245,slow=37
AGG Agios Georgios 56.18 296 *eP* **P 09 33 59.1 -0.5**
THL Klokotos Trika 56.19 297 *eP* **P 09 33 59.2 -0.4**
VAM Vamos 56.31 291 *eP* **P 09 33 57.5 -3.1**
KALE Kalithea 56.57 295 *eP* **P 09 34 01.5 -1.0**
EVR Evrytania 56.59 296 *eP* **P 09 34 01.7 -1.0**
GUR Goura 56.61 295 *eP* **P 09 34 01.4 -1.4**
TRIZ Trizonia 56.63 295 *eP* **P 09 34 01.5 -1.3**
VLI Veliai 56.68 293 *eP* **P 09 34 01.4 -1.8**
KLV Kalavryta, Ach 56.70 295 *eP* **P 09 34 02.1 -1.3**
LAKA Lakka 56.74 295 *eP* **P 09 34 03.3 -0.4**
ANKY Antikythira Is 56.77 292 *eP* **P 09 34 04.2 +0.3**
CONA Conrad Observa 57.12 308⇓ *iP* **P 09 34 07.4 +1.1**
comp=Z,7.6nm,0.7s
PRU Pruhonice 57.18 311 *eP* **P 09 34 07.8 +1.3**
PRU MLR MLR
comp=Z,200nm,13.3s
PRU Pruhonice 57.18 311 *eP* **P 09 34 07.8 +1.3**
PRU AMS AMS 09 59 30.0
comp=Z,200nm,13.3s
RLS Riolos of Patr 57.19 295 *eP* P 09 34 02.5 -4.3
BRG Berggiesshubel 57.22 312 *eP* **P 09 34 07.5 +0.7**
comp=Z,6.9nm,0.9s
BRG
comp=N,119nm,10.0s
BRG
comp=E,159nm,13.9s
BRG
comp=Z,209nm,12.9s
BRG Berggiesshubel 57.22 312 *eP* **P 09 34 07.5 +0.7**
BRG pmax pmax
comp=Z,5.0nm,0.9s
BRG MLR MLR
comp=N,7μm,10.0s
BRG MLR MLR
comp=E,119nm,13.9s
BRG MLR MLR
comp=Z,159nm,12.9s
PYL PYLOS 57.48 294 *eP* **P 09 34 07.2 -1.6**
CLL Collm 57.62 312 *eP* P 09 34 05.0 -4.6
CLL *i* 09 34 14.4
CLL pmax pmax
comp=Z,4.0nm,0.7s
CLL pmax pmax
comp=Z,23nm,1.6s
CLL Collm 57.62 312 *eP* **P 09 34 10.0 +0.4**
comp=Z,23nm,1.6s
CLL *ep*P **pP 09 34 14.0 -0.9**
CLL LmV 10 00 00.0
comp=Z,100nm,18.7s
VLS Valsamata 57.77 296 *eP* **P 09 34 08.6 -2.3**
KHC Kasperske Hory 58.08 310 *eP* **P 09 34 14.3 +1.4**
KHC MLR MLR
comp=Z,200nm,11.6s
KHC Kasperske Hory 58.08 310 *eP* **P 09 34 14.3 +1.4**
KHC *ep*P **pP 09 34 16.3 -2.0**
KHC AMS AMS 10 00 00.0
comp=Z,200nm,11.6s
SOKA Soboth 58.11 307⇓ *iP* **P 09 34 14.4 +1.1**
comp=Z,18nm,1.5s
GEC2 GERESS Array S 58.11 310 *eP* **P 09 34 15.1 +1.8**
GEC2 GERESS Array S 58.11 310 *eP* **P 09 34 15.1 +1.8**
GERES GERESS Array B 58.11 310 P **P 09 34 13.6 +0.4**
GERES GERESS Array B 58.11 310 P **P 09 34 13.6 +0.4**
comp=Z,2.5nm,0.6s,baz=79,slow=6.9,SNR=12
GERES LR LR 10 00 30.2
comp=Z,142nm,18.1s,baz=243,slow=37
JMIC Jan Mayen 59.30 338 LR LR 10 04 44.6
comp=Z,66nm,18.9s,baz=77,slow=41
ABTA Abfaltersbach 59.68 308⇓ *iP* **P 09 34 24.3 +0.2**
comp=Z,6.6nm,0.6s
WTTA Wattenberg 60.01 309⇓ *iP* **P 09 34 27.1 +0.5**
comp=Z,16nm,0.7s
MOTA Moosalm 60.31 309⇓ *iP* **P 09 34 29.1 +0.6**
comp=Z,11nm,0.7s
RETA Reute 60.46 309⇓ *iP* **P 09 34 31.0 +1.5**
comp=Z,6.9nm,0.6s
FETA Feichten 60.67 309⇑ *iP* **P 09 34 30.2 -0.9**
FUORN Ofenpass-Fuorn 61.13 308 *eP* **P 09 34 35.0 +0.7**
DAVOX Davos/Dischmat 61.30 309 LR LR 10 02 26.1
comp=Z,63nm,20.9s,baz=84,slow=37
BFO Black Forest 61.58 311 *eP* **P 09 34 37.9 +0.9**
BFO Black Forest 61.58 311 *eP* **P 09 34 37.9 +0.9**
TUE Stuetta 61.77 308 *eP* **P 09 34 38.6 +0.1**
FITZ Fitzroy Crossi 62.15 148 *eP* **P 09 34 40.4 -0.6**
FITZ Fitzroy Crossi 62.15 148 LR LR 10 01 49.6
comp=Z,49nm,19.9s,baz=177,slow=36
CDF Champ du Feu 62.18 311 *eP* **P 09 34 41.5 +0.4**
comp=Z,12nm,0.6s
CDF Champ du Feu 62.18 311 *eP* **P 09 34 41.5 +0.4**
CDF pmax pmax
comp=Z,12nm,0.6s
CDF Champ du Feu 62.18 311 *eP* **P 09 34 41.5 +0.4**
comp=Z,12nm,0.6s
HINF Hinteralfeld 62.70 311 *eP* **P 09 34 44.8 +0.3**
comp=Z,19nm,1.0s
HINF Hinteralfeld 62.70 311 *eP* **P 09 34 44.8 +0.3**
HINF pmax pmax
comp=Z,19nm,1.0s
HINF Hinteralfeld 62.70 311 *eP* **P 09 34 44.8 +0.3**
comp=Z,19nm,1.0s
GIVF Givet 62.86 314 *eP* **P 09 34 46.2 +0.7**
GIVF Givet 62.86 314 *eP* **P 09 34 46.2 +0.7**
GIVF Givet 62.86 314 *eP* **P 09 34 46.2 +0.7**
HAU Haudompre 62.91 311 *eP* **P 09 34 46.3 +0.3**
HAU *eR*
comp=Z,108nm,18.5s
HAU Haudompre 62.91 311 *eP* **P 09 34 46.3 +0.3**
HAU Haudompre 62.91 311 *eP* **P 09 34 46.3 +0.3**
PAGF Fort de Pagny 63.03 312 *eP* **P 09 34 47.7 +1.0**
comp=Z,4.5nm,0.6s
PAGF Fort de Pagny 63.03 312 *eP* **P 09 34 47.7 +1.0**
comp=Z,4.5nm,0.6s
SENIN Lac Senin/Sane 63.09 309 *eP* **P 09 34 48.1 +0.7**
comp=Z,8.8nm,0.7s
BAIF Baives 63.23 314 *eP* **P 09 34 48.8 +0.9**
BAIF Baives 63.23 314 *eP* **P 09 34 48.8 +0.9**
BAIF Baives 63.23 314 *eP* **P 09 34 48.8 +0.9**
SFTF Sexfontaines 63.60 312 *eP* **P 09 34 50.9 +0.4**
SFTF Sexfontaines 63.60 312 *eP* **P 09 34 50.9 +0.4**
CABF La Chapelle 63.71 310 *eP* **P 09 34 51.6 +0.2**
CABF La Chapelle 63.71 310 *eP* **P 09 34 51.6 +0.2**
CABF La Chapelle 63.71 310 *eP* **P 09 34 51.6 +0.2**
PGF Pioggiola 63.77 305 *eP* **P 09 34 52.4 +0.6**
comp=Z,48nm,1.0s
PGF Pioggiola 63.77 305 *eP* **P 09 34 52.4 +0.6**
PGF pmax pmax
comp=Z,48nm,1.0s
PGF Pioggiola 63.77 305 *eP* **P 09 34 52.4 +0.6**
comp=Z,48nm,1.0s
LPG La Plagne 63.82 308 *eP* **P 09 34 53.3 +1.0**
comp=Z,25nm,0.7s
LPG La Plagne 63.82 308 *eP* **P 09 34 53.3 +1.0**
LPG pmax pmax
comp=Z,25nm,0.7s
LPG La Plagne 63.82 308 *eP* **P 09 34 53.3 +1.0**
comp=Z,25nm,0.7s
LPL La Plagne 63.83 308 *eP* **P 09 34 53.2 +0.9**
comp=Z,22nm,0.6s
LPL La Plagne 63.83 308 *eP* **P 09 34 53.2 +0.9**
LPL pmax pmax
comp=Z,23nm,0.6s
LPL La Plagne 63.83 308 *eP* **P 09 34 53.2 +0.9**
comp=Z,22nm,0.6s
BNI Bardonecchia 64.08 308 *eP* **P 09 34 56.9 +3.0**
BNI Bardonecchia 64.08 308 *eP* **P 09 34 56.9 +3.0**
SBF Sospel 64.16 307 *eP* **P 09 34 54.8 +0.5**
comp=Z,40nm,0.7s
SBF Sospel 64.16 307 *eP* **P 09 34 54.8 +0.5**
SBF pmax pmax
comp=Z,40nm,0.7s
SBF Sospel 64.16 307 *eP* **P 09 34 54.8 +0.5**
comp=Z,40nm,0.7s
MBDF Montbardon 64.17 308 *eP* **P 09 34 54.3 -0.2**
comp=Z,10nm,0.6s
MBDF Montbardon 64.17 308 *eP* **P 09 34 54.3 -0.2**
MBDF pmax pmax
comp=Z,10.0nm,0.6s
MBDF Montbardon 64.17 308 *eP* **P 09 34 54.3 -0.2**
comp=Z,10nm,0.6s
COLD Coldfoot 64.18 23 *eP* **P 09 34 54.9 +1.0**
ORIF Oris-en-Rattie 64.64 308 *eP* **P 09 34 57.8 +0.3**
comp=Z,25nm,0.7s
ORIF *eR*
comp=Z,164nm,19.0s
ORIF Oris-en-Rattie 64.64 308 *eP* **P 09 34 57.8 +0.3**
ORIF pmax pmax
comp=Z,25nm,0.7s
ORIF Oris-en-Rattie 64.64 308 *eP* **P 09 34 57.8 +0.3**
comp=Z,25nm,0.7s
LOR Lormes 64.75 311 *eP* **P 09 34 57.8 -0.2**
LOR *eR*
comp=Z,124nm,19.5s
LOR Lormes 64.75 311 *eP* **P 09 34 57.8 -0.2**
LMR La Mourre 65.01 306 *eP* **P 09 35 00.1 +0.4**
LMR La Mourre 65.01 306 *eP* **P 09 35 00.1 +0.4**
LMR La Mourre 65.01 306 *eP* **P 09 35 00.1 +0.4**
SSF Saint Saulge 65.06 311 *eP* **P 09 35 00.1 +0.1**
SSF Saint Saulge 65.06 311 *eP* **P 09 35 00.1 +0.1**
SSF Saint Saulge 65.06 311 *eP* **P 09 35 00.1 +0.1**
SMF Signal de Mont 65.06 311 *eP* **P 09 35 00.3 +0.2**
comp=Z,21nm,0.6s
SMF Signal de Mont 65.06 311 *eP* **P 09 35 00.3 +0.2**
SMF pmax pmax
comp=Z,21nm,0.6s
SMF Signal de Mont 65.06 311 *eP* **P 09 35 00.3 +0.2**
comp=Z,21nm,0.6s
AVF Avril sur Loir 65.28 311 *eP* **P 09 35 01.7 +0.2**
comp=Z,56nm,1.5s
AVF Avril sur Loir 65.28 311 *eP* **P 09 35 01.7 +0.2**
AVF pmax pmax
comp=Z,56nm,1.5s
AVF Avril sur Loir 65.28 311 *eP* **P 09 35 01.7 +0.2**
comp=Z,56nm,1.5s
VIVF Saint-Julien-l 65.42 309 *eP* **P 09 35 02.8 +0.3**
VIVF Saint-Julien-l 65.42 309 *eP* **P 09 35 02.8 +0.3**
VIVF Saint-Julien-l 65.42 309 *eP* **P 09 35 02.8 +0.3**
SUMG Summit 65.58 346 *eP* **P 09 35 03.4 -0.1**
SUMG Summit 65.58 346 *eP* **P 09 35 03.4 -0.1**
BPAW Bear Paw Mtn. 65.79 26 *eP* **P 09 35 05.2 +0.6**
comp=Z,17nm,0.9s
CAST Castle Rocks 65.81 27 *eP* **P 09 35 05.4 +0.8**
PPLA Purkeypile 66.08 28 *eP* **P 09 35 07.5 +1.0**
comp=Z,24nm,0.8s
TCF Toulx Ste Croi 66.22 311 *eP* **P 09 35 08.0 +0.4**
comp=Z,28nm,0.9s
TCF Toulx Ste Croi 66.22 311 *eP* **P 09 35 08.0 +0.4**
TCF pmax pmax
comp=Z,29nm,0.9s
TCF Toulx Ste Croi 66.22 311 *eP* **P 09 35 08.0 +0.4**
comp=Z,28nm,0.9s
LASF Ste Croix 66.31 308 *eP* **P 09 35 08.9 +0.7**
comp=Z,32nm,1.0s
LASF Ste Croix 66.31 308 *eP* **P 09 35 08.9 +0.7**
comp=Z,32nm,1.0s
KMBO Kilima Mbogo 66.36 249 *eP* **P 09 35 09.7 +0.5**
comp=Z,9.8nm,1.2s
KMBO Kilima Mbogo 66.36 249 P **P 09 35 09.7 +0.5**
comp=Z,4.7nm,0.9s,baz=44,slow=10,SNR=7.3
COLA College 66.38 25 *eP* **P 09 35 08.9 +0.6**
COLA pmax pmax
comp=Z,59nm,0.7s
COLA College 66.38 25 *eP* **P 09 35 08.9 +0.6**
comp=Z,59nm,0.7s
LDF La Druitiere 66.42 314 *eP* **P 09 35 08.9 +0.1**
LDF La Druitiere 66.42 314 *eP* **P 09 35 08.9 +0.1**
LDF La Druitiere 66.42 314 *eP* **P 09 35 08.9 +0.1**
MCK McKinley 66.73 26 *eP* **P 09 35 11.5 +0.9**
MCK McKinley 66.73 26 *eP* **P 09 35 11.5 +0.9**
ILAR Eielson Array 66.77 25 P **P 09 35 10.3 -0.4**
ILAR PP **PP 09 37 36.0 -1.2**
ILAR Eielson Array 66.77 25 P **P 09 35 10.3 -0.4**
comp=Z,7.6nm,0.8s,baz=294,slow=5.5,SNR=78
ILAR PP **PP 09 37 36.0 -1.2**
comp=Z,1.0nm,1.0s,baz=307,slow=6.3,SNR=4.1
ILAR LR LR 10 07 57.5
comp=Z,66nm,20.1s,baz=313,slow=39
KEST Kesra 66.87 298 P **P 09 35 12.0 0.0**
KEST Kesra 66.87 298 P **P 09 35 12.0 0.0**
comp=Z,1.2nm,0.7s,baz=266,slow=1.6,SNR=4.1
GRR Gorron 66.94 314 *eP* **P 09 35 12.5 +0.4**
comp=Z,25nm,0.7s
GRR Gorron 66.94 314 *eP* **P 09 35 12.5 +0.4**
GRR pmax pmax
comp=Z,25nm,0.6s
GRR Gorron 66.94 314 *eP* **P 09 35 12.5 +0.4**
comp=Z,25nm,0.6s
CAF Calviac 66.99 310 *eP* **P 09 35 13.4 +0.8**
comp=Z,22nm,1.0s

CAF	Calviac	66.99	310	eP	P	09 35 13.4	+0.8
CAF				pmax	pmax		
comp=Z,22nm,1.0s							
CAF	Calviac	66.99	310	eP	P	09 35 13.4	+0.8
comp=Z,22nm,1.0s							
RJF	Les Rejaudoux	67.13	310	eP	P	09 35 14.3	+0.9
RJF				eR			
comp=Z,146nm,20.0s							
RJF	Les Rejaudoux	67.13	310	eP	P	09 35 14.3	+0.9
RJF	Les Rejaudoux	67.13	310	eP	P	09 35 14.3	+0.9
RSO	Redoubt South	67.32	30	eP	P	09 35 15.7	+1.2
comp=Z,52nm,0.9s							
MFF	Saint Martin d	67.46	312	eP	P	09 35 15.8	+0.4
MFF	Saint Martin d	67.46	312	eP	P	09 35 15.8	+0.4
MFF	Saint Martin d	67.46	312	eP	P	09 35 15.8	+0.4
RES	Resolute Bay	67.68	3	LR	LR	10 05 10.9	
comp=Z,94nm,18.1s,baz=271,slow=36							
MTLF	Montolieu	67.71	308	eP	P	09 35 17.6	+0.5
MTLF	Montolieu	67.71	308	eP	P	09 35 17.6	+0.5
MTLF	Montolieu	67.71	308	eP	P	09 35 17.6	+0.5
WRAB	Tennant Creek	67.78	141	P	P	09 35 16.9	-0.8
comp=Z,90nm,0.9s,SNR=8.4							
WRAB	Tennant Creek	67.78	141	eP	P	09 35 16.0	-1.7
WRAB				pmax	pmax		
comp=Z,18nm,1.1s							
WRAB	Tennant Creek	67.78	141	eP	P	09 35 16.0	-1.7
comp=Z,18nm,1.1s							
WRA	Warramunga Arr	67.78	141	P	P	09 35 16.4	-1.3
WRA				PcP	PcP	09 35 42.9	-1.5
WRA	Warramunga Arr	67.78	141	P	P	09 35 16.4	-1.3
comp=Z,6.9nm,0.8s,baz=329,slow=5.6,SNR=49							
WRA				PcP	PcP	09 35 42.9	-1.5
comp=Z,1.8nm,0.8s,baz=335,slow=4.3,SNR=5.5							
LFF	La Frestale	67.79	310	eP	P	09 35 18.4	+0.9
LFF	La Frestale	67.79	310	eP	P	09 35 18.4	+0.9
LFF	La Frestale	67.79	310	eP	P	09 35 18.4	+0.9
SGMF	Saint Gilles	67.98	315	eP	P	09 35 19.5	+0.8
comp=Z,51nm,1.0s							
SGMF	Saint Gilles	67.98	315	eP	P	09 35 19.5	+0.8
SGMF				pmax	pmax		
comp=Z,51nm,1.0s							
SGMF	Saint Gilles	67.98	315	eP	P	09 35 19.5	+0.8
comp=Z,51nm,1.0s							
PMR	Palmer	68.01	28	eP	P	09 35 18.5	-0.1
PMR	Palmer	68.01	28	eP	P	09 35 18.5	-0.1
INK	Inuvik	68.09	18	eP	P	09 35 18.3	-0.7
comp=Z,18nm,0.9s							
SML	Sawmill	68.17	27	eP	P	09 35 20.0	+0.3
SML	Sawmill	68.17	27	eP	P	09 35 20.0	+0.3
ROSF	Rostrenen	68.34	315	eP	P	09 35 21.6	+0.7
ROSF	Rostrenen	68.34	315	eP	P	09 35 21.6	+0.7
ROSF	Rostrenen	68.34	315	eP	P	09 35 21.6	+0.7
PAX	Paxson	68.42	26	eP	P	09 35 20.1	-1.2
PAX	Paxson	68.42	26	eP	P	09 35 20.1	-1.2
QUIF	Quistinic	68.50	314	eP	P	09 35 22.9	+1.0
comp=Z,40nm,0.8s							
QUIF	Quistinic	68.50	314	eP	P	09 35 22.9	+1.0
QUIF				pmax	pmax		
comp=Z,40nm,0.8s							
QUIF	Quistinic	68.50	314	eP	P	09 35 22.9	+1.0
comp=Z,40nm,0.8s							
EGAK	Eagle	68.58	23	eP	P	09 35 22.5	+0.3
comp=Z,14nm,0.8s							
KDAK	Kodiak Island	69.02	32	P	P	09 35 23.6	-1.3
KDAK	Kodiak Island	69.02	32	P	P	09 35 23.6	-1.3
comp=Z,19nm,0.7s,baz=315,slow=6.2,SNR=7.4							
KDAK				LR	LR	10 08 23.0	
comp=Z,176nm,18.8s,baz=302,slow=38							
EPF	Esparros	69.04	309	eP	P	09 35 25.3	-0.2
comp=Z,13nm,0.9s							
EPF	Esparros	69.04	309	eP	P	09 35 25.3	-0.2
EPF				pmax	pmax		
comp=Z,13nm,0.9s							
EPF	Esparros	69.04	309	eP	P	09 35 25.3	-0.2
comp=Z,13nm,0.9s							
DAWY	Dawson	69.63	23	eP	P	09 35 28.6	-0.2
ETSF	Etsaut	69.67	309	eP	P	09 35 30.3	+0.9
comp=Z,12nm,0.7s							
ETSF	Etsaut	69.67	309	eP	P	09 35 30.3	+0.9
ETSF				pmax	pmax		
comp=Z,12nm,0.7s							
ETSF	Etsaut	69.67	309	eP	P	09 35 30.3	+0.9
comp=Z,12nm,0.7s							
BMRM	Bremner River	70.08	27	eP	P	09 35 32.3	+0.8
AS31	Alice Springs	70.72	143	eP	P	09 35 34.7	-1.2
ASAR	Alice Springs	70.72	143	P	P	09 35 33.9	-2.0
ASAR				PcP	PcP	09 35 55.4	-1.3
ASAR	Alice Springs	70.72	143	P	P	09 35 33.9	-2.0
comp=Z,8.3nm,0.9s,baz=327,slow=6.0,SNR=74							
ASAR				PcP	PcP	09 35 55.4	-1.3
comp=Z,2.2nm,0.6s,baz=327,slow=3.8,SNR=8.0							
HYT	Haines Junctio	72.61	24	eP	P	09 35 47.8	+0.8
ESDC	Sonseca Array	73.60	308	P	P	09 35 53.3	+0.2
ESDC	Sonseca Array	73.60	308	P	P	09 35 53.3	+0.2
comp=Z,4.8nm,0.8s,baz=48,slow=5.7,SNR=11							
YKA	Yellowknife Ar	77.19	14	P	P	09 36 12.9	-0.3
YKA	Yellowknife Ar	77.19	14	P	P	09 36 12.9	-0.3
comp=Z,1.7nm,0.7s,baz=339,slow=6.6,SNR=4.2							
STKA	Stephens Creek	81.29	142	P	P	09 36 34.8	-1.1
STKA	Stephens Creek	81.29	142	P	P	09 36 34.8	-1.1
comp=Z,11nm,0.5s,baz=334,slow=5.3,SNR=50							
LSZ	Lusaka	82.46	244	eP	P	09 36 42.5	-0.2
comp=Z,6.4nm,0.8s							
TOA0	Torodi Ar. Sit	85.35	283	eP	P	09 36 56.0	-1.3
TORD	Torodi Ar. Bea	85.35	283	P	P	09 36 57.2	-0.2
TORD				PP	PP	09 40 14.8	-0.4
TORD	Torodi Ar. Bea	85.35	283	P	P	09 36 57.2	-0.2
comp=Z,2.0nm,0.5s,baz=46,slow=4.5,SNR=34							
TORD				PP	PP	09 40 14.8	-0.4
comp=Z,1.1nm,0.9s,baz=57,slow=9.0,SNR=2.7							
EDM	Edmonton	85.98	17	eP	P	09 36 59.5	-0.4
EDM	Edmonton	85.98	17	eP	P	09 36 59.5	-0.4
SCHQ	Schefferville	86.66	350	P	P	09 37 02.6	-0.6
SCHQ	Schefferville	86.66	350	P	P	09 37 02.6	-0.6
comp=Z,4.0nm,0.7s,baz=46,slow=9.2,SNR=3.9							
SCHQ				LR	LR	10 24 08.9	
comp=Z,43nm,19.1s,baz=69,slow=41							
LON	Longmire	89.41	25	eP	P	09 37 16.8	+0.3
LON				pmax	pmax		
comp=Z,4.0nm,0.7s							
LON	Longmire	89.41	25	eP	P	09 37 16.8	+0.3
comp=Z,3.7nm,0.7s							
NEW	Newport	89.52	21	eP	P	09 37 16.7	-0.3
comp=Z,13nm,1.2s							
NEW	Newport	89.52	21	P	P	09 37 17.2	+0.2
baz=89							
BLMT	Blacktail Moun	90.52	20	eP	P	09 37 22.5	+0.6
comp=Z,23nm,1.1s							
BSMT	Bassoo Peak	90.55	20	eP	P	09 37 22.3	+0.3
comp=Z,5.4nm,1.0s							
YBMT	Yellow Bay	90.75	20	eP	P	09 37 23.4	+0.6
comp=Z,11nm,1.0s							
JTMT	Jette	90.78	20	eP	P	09 37 23.7	+0.7
comp=Z,11nm,1.0s							
A19A	Klindworth Far	91.03	16	P	P	09 37 23.8	-0.2
baz=91							
SWMT	Swartz Lake	91.08	20	eP	P	09 37 24.7	+0.4
comp=Z,7.5nm,1.0s							
A21A	Bergtoll Ranch	91.36	15	P	P	09 37 25.3	-0.3
baz=91							
B19A	Brinkman Farms	91.44	16	P	P	09 37 25.6	-0.3
baz=91							
SLMT	Seeley Lake	91.46	20	eP	P	09 37 26.2	0.0
comp=Z,11nm,1.3s							
EGMT	Eagleton	91.66	17	P	P	09 37 26.5	-0.5
baz=91							
MSO	Missoula	91.72	20	P	P	09 37 27.0	-0.4
baz=91							
A23A	Redstone	91.78	14	P	P	09 37 26.8	-0.7
baz=92							
B21A	Ellsworth Farm	91.87	15	P	P	09 37 27.9	0.0
baz=92							
A24A	Westby	91.98	13	P	P	09 37 28.6	+0.2
baz=92							
B22A	Reddig Ranch S	92.20	14	P	P	09 37 29.3	-0.2
baz=92							
A26A	Wade Farm, Ken	92.34	12	P	P	09 37 29.9	-0.1
baz=92							
C20A	Veseth Ranch,	92.34	16	P	P	09 37 29.7	-0.4
baz=92							
DGMT	Dagmar	92.38	13	P	P	09 37 30.7	+0.4
baz=92							
HRY	Holter Researc	92.38	19	eP	P	09 37 30.4	0.0
comp=Z,2.9nm,0.7s							
C21A	Desert Coulee	92.43	15	P	P	09 37 30.3	-0.2
baz=92							
D19A	Cripps Ranch,	92.67	17	P	P	09 37 31.4	-0.3
baz=92							
C22A	Vida	92.75	15	P	P	09 37 32.1	+0.1
baz=92							
A30A	Hoffart Farm,	92.84	9	P	P	09 37 32.1	-0.3
baz=92							
C23A	Lambert	92.84	14	P	P	09 37 32.7	+0.3
baz=92							
D22A	Cohagen	93.26	15	P	P	09 37 34.3	-0.1
baz=93							
B30A	Myrvik Farm, E	93.31	9	P	P	09 37 33.8	-0.7
baz=93							
E19A	Rath Farm, Rou	93.35	17	P	P	09 37 34.1	-0.8
baz=93							
D23A	Lindsay	93.44	14	P	P	09 37 35.3	+0.1
baz=93							
E20A	Meyer Farm, Mu	93.46	16	P	P	09 37 34.8	-0.6
baz=93							
YBH	Yreka Blue Hor	93.46	28	LR	LR	10 17 53.8	
comp=Z,35nm,20.9s,baz=325,slow=34							
C27A	Sayler Ranch,	93.57	12	P	P	09 37 35.6	-0.1
baz=93							
F19A	Roth Farm, Mol	93.89	17	P	P	09 37 37.0	-0.4
baz=94							
WVOR	Wild Horse Val	94.28	25	eP	P	09 37 40.0	+0.7
WVOR				pmax	pmax		
comp=Z,4.0nm,0.9s							
WVOR	Wild Horse Val	94.28	25	eP	P	09 37 40.0	+0.7
comp=Z,4.2nm,0.9s							
D30A	Buchanan	94.57	10	P	P	09 37 39.8	-0.5
baz=94							
G20A	Bridger	94.66	17	P	P	09 37 40.4	-0.5
baz=94							
F24A	Ekalaka	94.86	14	P	P	09 37 41.1	-0.7
baz=94							
H17A	Grant Village	94.86	19	eP	P	09 37 43.3	+1.2
IMW	Indian Meadow	95.23	19	eP	P	09 37 44.2	+0.4
comp=Z,2.6nm,0.9s							
G23A	Biddle	95.29	15	P	P	09 37 43.4	-0.3
baz=95							
PDAR	Pinedale Array	96.64	19	P	P	09 37 49.7	-0.5
PDAR	Pinedale Array	96.64	19	P	P	09 37 49.7	-0.5
comp=Z,0.5nm,0.8s,baz=25,slow=3.9,SNR=4.3							
PDAR				LR	LR	10 23 33.0	
comp=Z,42nm,18.6s,baz=339,slow=37							
NVAR	Mina Array Bea	97.97	26	P	Pdif	09 37 56.9	+0.6
NVAR	Mina Array Bea	97.97	26	P	Pdif	09 37 56.9	+0.6
comp=Z,0.7nm,0.7s,baz=287,slow=2.2,SNR=7.1							
VNDA	Vanda	121.59	167	PKP	PKPdf	09 43 10.9	-1.2
VNDA	Vanda	121.59	167	PKP	PKPdf	09 43 10.9	-1.2
comp=Z,1.0nm,0.9s,baz=267,slow=2.2,SNR=5.6							
QSPA	South Pole Qui	127.45	180	ePKPdf	PKPdf	09 43 22.5	-1.2
SNAA	Sanae	127.99	203	eP	PKPdf	09 43 17.7	-6.9
VNA2	Neumayer--Watz	129.41	204	eP	PKPdf	09 43 27.3	+0.1
baz=62,slow=2.3							
VNA1	Neumayer--Stat	129.69	205	eP	PKPdf	09 43 28.0	+0.3
BB16B	Bebedouro	145.12	288	i⇓P	PKPdf	09 43 57.5	-0.1
BB16B				i		09 43 59.8	
BB16B				i		09 44 01.2	
BB16B				i		09 44 02.8	
BB16B				i		09 44 06.5	
SAML	Samuel	145.71	321	ePKPdf	PKPdf	09 43 58.5	-0.3

BJI ***17*** *09:29:47.9, 21°.32N×143°.75E, h250km, mB4.8/13, mb4.4/21*
ISCJB ***17*** *09:29:54.6±0.7, 21°.78N±0°.04×143°.13E±0°.04, h255km±5km, mb4.3/68, Error ellipse: s-maj=7.1km s-min=5.7km az=13.5*
IDC ***17*** *09:29:54.6±1.3, 21°.76N×143°.16E, h247km±11km, mb3.8/22, mb1 4.1/25, mb1mx4.0/30, mbtmp3.9/25, Error ellipse: s-maj=14.5km s-min=9.4km az=79.0*
NEIC ***17*** *09:29:55.9±0.6, 21°.75N×143°.08E, h260km±5km, mb4.6/41, Error ellipse: s-maj=5.5km s-min=4.1km az=87.0*
JMA ***17*** *09:29:57.6±0.2, 22°.05N×143°.37E, h270km±3km, M5.1*
ISC 17 09:29:56.0±0.6, 21°.84N±0°.05×143°.20E±0°.06, h259km±4km, n371, σ0°90/401, mb4.5/67, 107C-112D, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	Haha-jima-NKT	4.86	349	P	Pn	09 31 10.8	+0.5
JHHJ				S	S	09 32 07.4	-2.2
CBIJ	Chichi jima	5.31	350	P	Pn	09 31 15.8	0.0
CBIJ				S	S	09 32 18.0	-1.7
CBIJ	Chichi jima	5.31	350	P	Pn	09 31 15.8	0.0
CBIJ				S	S	09 32 18.4	-1.2
CBIJ	Chichi jima	5.31	350	P	Pn	09 31 15.8	0.0
baz=180,slow=14							
CBIJ				S	S	09 32 18.4	-1.2
baz=287,slow=20							
GUMO	Guam	8.36	169	ePn	Pn	09 31 54.1	0.0
956nm,1.4s							
JHJ2	Mitsune	11.62	346	P	P	09 32 35.0	-2.8
JKO	Kozu shima	12.81	345	P	P	09 32 49.3	-1.7
BSO1	Boso 1	12.91	352	P	P	09 32 50.9	-0.7
TTO1	TONANKAI O.B.S	13.03	336	P	P	09 32 53.9	+0.7
JWZ	Kozaga	13.39	332	P	P	09 32 58.0	+0.5
JIE	Ise	13.75	337	P	P	09 33 02.1	+0.7
JOD2	Odawara 2	13.85	346	P	P	09 33 01.5	-1.1
JOD2				eS	S	09 35 29.1	-6.2
JTO	Tosashimizu	14.33	322	P	Pn	09 33 10.5	+2.6
JOW	Kunigami	14.48	293	P	Pn	09 33 12.4	+2.6
JRY	Ryogami san	14.61	346	P	Pn	09 33 11.0	-0.2
JRY				eS	S	09 35 44.6	-7.9
MJAR	Matsushiro Arr	15.28	345	P	Pn	09 33 18.1	-1.0
MJAR				S	S	09 36 07.2	+0.6
MJAR	Matsushiro Arr	15.28	345	P	Pn	09 33 18.1	-1.0
8.5nm,0.3s,baz=168,slow=9.7,SNR=74							
MJAR				S	S	09 36 07.2	+0.6
0.6nm,0.3s,baz=168,slow=16,SNR=4.2							
MAJO	Matsushiro	15.28	345	eP	Pn	09 33 19.3	+0.1
42nm,0.3s							
MAT	Matsushiro	15.28	345	P	Pn	09 33 18.4	-0.8
MAT				S	S	09 36 07.1	+0.5
MAT	Matsushiro	15.28	345	P	Pn	09 33 18.9	-0.3
JSJ	Shimokoshiki	15.51	312	P	Pn	09 33 23.6	+1.6
JKE	Kume jima 2	15.64	290	P	Pn	09 33 25.7	+2.1
JNU	Nakatsue	15.66	318	eP	P	09 33 22.6	-0.1
80nm,1.3s							
JNU	Nakatsue	15.66	318	P	Pn	09 33 24.0	+0.2
8.6nm,0.3s,baz=124,slow=8.3,SNR=35							
JHS	Saijyo	15.81	328	P	Pn	09 33 26.7	+1.2
JMK	Ichinoseki	17.14	355	P	Pn	09 33 40.7	-0.3
KSRS	Korea Array	20.41	323	P	P	09 34 12.9	-0.9
27nm,1.0s,baz=146,slow=8.8,SNR=40							
KSRS				ScP	ScP	09 41 26.4	+0.2
3.0nm,1.0s,baz=151,slow=3.0,SNR=12							
KSAR	Wonju Array Be	20.42	323	P	P	09 34 12.9	-1.0
KSAR				ScP	ScP	09 41 26.4	+0.2
ASAJ	Asahikawa	22.22	359	P	P	09 34 32.8	+1.6
ASAJ	Asahikawa	22.22	359	P	P	09 34 32.8	+1.6
1.7nm,0.3s,baz=166,slow=12,SNR=3.2							
NJ2	Nanjing	23.92	300	eP	P	09 34 45.6	-1.2
NJ2				pmax	pmax		
comp=Z,10.0nm,0.5s							
USRK	Ussuriysk Arra	24.15	340	P	P	09 34 49.6	+0.9
comp=Z,1.0nm,0.5s,baz=151,slow=9.0,SNR=3.6							
CN2	Changchun	26.39	330	eP	P	09 35 10.9	+2.1
WHN	Wuhan	27.24	295	⇓P	P	09 35 17.0	+0.4
QIZ	Qiongzhong	31.35	271	P	P	09 35 51.8	-1.2
QIZ				S	S	09 40 40.8	-0.1
QIZ				pmax	pmax		
comp=Z,5.0nm,1.6s							
HHC	Hu-ho-hao-te	32.75	313	eP	P	09 36 08.3	+3.3
HHC				pP	pP	09 36 57.0	+0.7
HHC				sP	sP	09 37 23.1	-3.2
HHC				PP	PnPn	09 37 31.4	+6.7
HHC				PcP	PcP	09 38 42.8	-1.0
HHC				S	S	09 41 05.5	+3.3
HHC				ScP	ScP	09 42 01.4	-1.6
HHC				sS	sS	09 42 34.6	0.0
HHC				SS	SS	09 43 27.0	-5.1
HHC				ScS	ScS	09 46 04.8	+1.3
HHC				pmax	pmax		
comp=Z,34nm,1.3s							
HHC				pmax	pmax		
comp=Z,790nm,7.1s							
HHC				LR	LR		
comp=N,230nm,14.3s							
HHC				LR	LR		
comp=E,320nm,14.3s							
HHC				LR	LR		
comp=Z,270nm,14.9s							
PETK	Petropavlovsk-	33.13	16	P	P	09 36 08.9	+1.0
PETK	Petropavlovsk-	33.13	16	P	P	09 36 08.9	+1.0
comp=Z,1.4nm,0.7s,baz=197,slow=10,SNR=3.6							
GYA	Guiyang	33.58	285	eP	P	09 36 10.8	-1.6
GYA				pP	pP	09 37 02.6	-1.3
GYA				sP	sP	09 37 30.3	-3.5
GYA				PP	PP	09 37 35.4	+1.1
GYA				PcP	PcP	09 38 47.3	+0.8
GYA				S	S	09 41 15.0	-0.5
GYA				ScP	ScP	09 42 06.8	+0.6
GYA				PcS	PcS	09 42 31.3	-1.6
GYA				ScS	ScS	09 46 06.5	-1.9
GYA				pmax	pmax		
comp=Z,10.0nm,0.8s							
CD2	Chengdu	36.32	293	P	P	09 36 35.1	-0.5
CD2				pP	pP	09 37 26.1	-1.6
CD2				sP	sP	09 37 53.9	-3.5
CD2				PP	PnPn	09 38 07.9	+0.4
CD2				S	S	09 41 57.9	+0.9
CD2				SS	SS	09 44 40.8	-6.8
CD2				pmax	pmax		
comp=Z,20nm,0.5s							
CD2				pmax	pmax		
comp=Z,120nm,4.5s							
KMI	Kunming	37.16	283	P	P	09 36 42.3	-0.6
KMI				pmax	pmax		
comp=Z,13nm,0.5s							
SONM	Songino Array	39.24	320	P	P	09 37 00.4	+0.6
SONM	Songino Array	39.24	320	P	P	09 37 00.4	+0.6
comp=Z,1.9nm,0.3s,baz=114,slow=4.6,SNR=9.4							
GTA	Gaotai	40.80	305	eP	P	09 37 13.3	+0.6
GTA				pP	pP	09 38 06.6	+0.7
GTA				pmax	pmax		
comp=Z,6.0nm,1.3s							
WRAB	Tennant Creek	42.41	192	eP	P	09 37 24.2	-1.5
comp=Z,15nm,0.6s							
WRA	Warramunga Arr	42.43	192	P	P	09 37 24.3	-1.5
WRA				ScP	ScP	09 42 40.3	+0.7
WRA	Warramunga Arr	42.43	192	P	P	09 37 24.3	-1.5
comp=Z,9.7nm,0.6s,baz=9.8,slow=8.2,SNR=79							
WRA				ScP	ScP	09 42 40.3	+0.7
comp=Z,3.9nm,0.9s,baz=8.3,slow=4.4,SNR=12							
AS31	Alice Springs	46.13	192	eP	P	09 37 53.1	-2.0
ASAR	Alice Springs	46.13	192	P	P	09 37 53.4	-1.7
ASAR				ScP	ScP	09 42 55.3	+0.5
ASAR	Alice Springs	46.13	192	P	P	09 37 53.4	-1.7
comp=Z,4.0nm,0.6s,baz=17,slow=12,SNR=55							
ASAR				ScP	ScP	09 42 55.3	+0.5
comp=Z,1.6nm,0.8s,baz=11,slow=4.1,SNR=11							
WMQ	Urumqi	50.50	309	P	P	09 38 28.8	+0.6
WMQ				pP	pP	09 39 24.1	+0.4
WMQ				PcP	PcP	09 39 42.9	+0.7
WMQ				sP	sP	09 39 52.0	-0.6
WMQ				pmax	pmax		
comp=Z,11nm,1.0s							
WMQ				pmax	pmax		
comp=Z,100nm,4.0s							
STKA	Stephens Creek	53.44	182	P	P	09 38 48.5	-1.2
STKA	Stephens Creek	53.44	182	P	P	09 38 48.5	-1.2
comp=Z,2.0nm,0.5s,baz=353,slow=9.7,SNR=4.0							
ZALV	Zalesovo Beam	54.11	322	P	P	09 38 54.1	-0.2
ZALV				ScP	ScP	09 43 28.0	-0.5
ZALV	Zalesovo Beam	54.11	322	P	P	09 38 54.1	-0.2
comp=Z,3.4nm,0.5s,baz=98,slow=6.8,SNR=16							
ZALV				ScP	ScP	09 43 28.0	-0.5
comp=Z,1.1nm,0.7s,baz=125,slow=5.7,SNR=3.8							
MKAR	Makanchi Array	54.61	313	P	P	09 38 58.5	+0.3
MKAR				PcP	PcP	09 39 57.4	-0.3
MKAR	Makanchi Array	54.61	313	P	P	09 38 58.5	+0.3
comp=Z,0.8nm,0.5s,baz=86,slow=8.8,SNR=13							
MKAR				PcP	PcP	09 39 57.4	-0.3
comp=Z,0.5nm,0.3s,baz=82,slow=3.8,SNR=5.4							
KURK	Kurchatov	57.38	317	P	P	09 39 17.9	+0.3
KURBB	Kurchatov Arra	57.43	317	P	P	09 39 17.9	0.0
comp=Z,1.6nm,0.5s,baz=94,slow=7.7,SNR=13							
RSO	Redoubt South	58.48	32	eP	P	09 39 24.9	-0.3
KSH	Kashi	59.16	304	eP	P	09 39 31.3	+1.1
KSH				pP	pP	09 40 28.6	+1.0
KSH				PP	PP	09 41 47.3	+3.3
KSH				S	S	09 47 17.3	+0.2
KSH				ScS	ScS	09 48 51.9	-2.3
KSH				pmax	pmax		
comp=Z,240nm,5.6s							
KSH				LR	LR		
comp=N,100nm,6.2s							
KSH				LR	LR		
comp=E,100nm,5.9s							
KSH				LR	LR		
comp=Z,160nm,6.2s							
PPLA	Purkeypile	59.25	29	eP	P	09 39 31.0	+0.6
IMA2	Indian Mountai	59.39	25	eP	P	09 39 32.4	+1.1
CAST	Castle Rocks	59.41	28	eP	P	09 39 32.5	+1.1
comp=Z,24nm,0.8s							
BPAW	Bear Paw Mtn.	60.03	28	eP	P	09 39 36.4	+0.8
comp=Z,23nm,0.6s							
PMR	Palmer	60.41	31	eP	P	09 39 38.2	+0.1
comp=Z,14nm,0.7s							
MCK	McKinley	60.85	28	eP	P	09 39 41.4	+0.3
comp=Z,20nm,1.0s							
COLD	Coldfoot	61.02	24	eP	P	09 39 43.4	+1.2
comp=Z,10nm,0.8s							
COLA	College	61.51	27	eP	P	09 39 45.6	+0.2
comp=Z,25nm,0.8s							
ILAR	Eielson Array	61.90	27	P	P	09 39 47.4	-0.7
ILAR	Eielson Array	61.90	27	P	P	09 39 47.4	-0.7
comp=Z,16nm,0.8s,baz=259,slow=5.4,SNR=88							
PAX	Paxson	62.29	29	eP	P	09 39 51.6	+0.8
comp=Z,45nm,1.7s							
BMRM	Bremner River	62.51	32	eP	P	09 39 53.4	+1.2
comp=Z,24nm,0.8s							
BVAR	Borovoye Array	62.57	319	P	P	09 39 52.9	+0.2
BVAR	Borovoye Array	62.57	319	P	P	09 39 52.9	+0.2
comp=Z,2.3nm,0.3s,baz=94,slow=8.7,SNR=11							
KKAR	Karatay Array	62.98	308	eP	P	09 39 55.5	-0.1
EGAK	Eagle	64.34	27	eP	P	09 40 04.5	+0.5
comp=Z,5.3nm,0.8s							
DAWY	Dawson	65.08	28	eP	P	09 40 09.3	+0.5
HYT	Haines Junctio	65.98	32	eP	P	09 40 16.4	+1.7
ABKAR	Akbulak array	69.46	316	eP	P	09 40 36.5	+0.1
YKA	Yellowknife Ar

RCTC	Rector, Farmer baz=83	83.14	54	⇓P	P	09 41 53.5 +0.1
VES	Vestal, Richgr baz=83	83.43	54	⇓P	P	09 41 54.7 -0.1
HLID	Hailey comp=Z,3.7nm,1.0s	83.73	46	eP	P	09 41 56.8 +0.3
HLID	Hailey baz=84,SNR=5.7	83.73	46	⇑P	P	09 41 56.7 +0.2
ISA	Isabella baz=84	83.96	54	⇑P	P	09 41 57.2 -0.5
LRM	Limekiln Ridge	84.06	43	eP	P	09 41 58.4 +0.2
HRY	Holter Researc	84.07	42	eP	P	09 41 58.5 +0.4
DLMT	Dillon	84.16	43	eP	P	09 41 59.0 +0.4
ELK	Elko comp=Z,2.9nm,0.7s	84.31	48	eP	P	09 42 00.1 +0.5
MPMC	Manual Prospec baz=84,SNR=8.2	84.55	53	⇑P	P	09 42 00.9 +0.2
LRMC	Laurel Mountai baz=85,SNR=13	84.62	54	⇓P	P	09 42 01.1 0.0
EDW2	Edwards Air Fo baz=85	84.63	55	⇓P	P	09 42 01.5 +0.4
EGMT	Eagleton baz=85	84.75	40	⇑P	P	09 42 01.6 +0.2
FURC	Furnace Creek, baz=85,SNR=8.1	84.85	53	⇑P	P	09 42 02.2 +0.2
A19A	Klindworth Far baz=85,SNR=7.8	84.94	39	⇑P	P	09 42 02.5 +0.2
R11A	Troy Canyon, C baz=85,SNR=9.1	85.03	51	⇑P	P	09 42 03.2 +0.1
B19A	Brinkman Farms baz=85,SNR=15	85.04	39	⇓P	P	09 42 03.0 +0.3
QLMT	Earthquake Lak	85.14	44	eP	P	09 42 04.7 +1.1
C19A	Slack Wire Ran baz=85,SNR=5.3	85.31	40	⇑P	P	09 42 04.4 +0.2
GSC	Goldstone comp=Z,6.1nm,0.9s	85.36	54	eP	P	09 42 04.9 +0.2
GSC	Goldstone baz=85,SNR=5.5	85.36	54	⇑P	P	09 42 04.5 -0.2
A20A	Cobblestone Ra baz=85	85.44	39	⇓P	P	09 42 05.0 +0.2
SHOC	Shoshone baz=86	85.51	53	⇑P	P	09 42 05.5 +0.2
I16A	Newdale baz=86,SNR=7.5	85.52	44	⇑P	P	09 42 05.9 +0.5
B20A	Solberg Farm, baz=86	85.59	39	⇓P	P	09 42 05.6 +0.1
D19A	Cripps Ranch, baz=86,SNR=16	85.67	41	⇓P	P	09 42 06.3 +0.3
BBRC	Big Bear Solar baz=86	85.68	55	⇑P	P	09 42 06.8 +0.3
FFC	Flin Flon	85.69	32	eP	P	09 42 05.9 +0.1
MURC	Murrieta baz=86	85.73	56	⇑P	P	09 42 06.1 -0.4
BGU	Big Grassy Mou comp=Z,2.8nm,0.7s	85.76	48	eP	P	09 42 06.2 -0.5
RRI2	Red Ridge comp=Z,3.4nm,0.7s	85.86	45	eP	P	09 42 08.1 +0.8
IMW	Indian Meadow comp=Z,5.8nm,1.0s	85.87	44	eP	P	09 42 08.3 +1.0
H17A	Grant Village	85.88	44	eP	P	09 42 09.0 +1.7
H17A	Grant Village baz=86	85.88	44	⇑P	P	09 42 09.0 +1.7
HEC	Hector,Ludlow baz=86	85.90	54	⇑P	P	09 42 07.6 +0.3
FLWY	Flagg Ranch comp=Z,5.4nm,0.8s	85.94	44	eP	P	09 42 08.9 +1.4
C20A	Veseth Ranch, baz=86,SNR=9.1	85.94	40	⇓P	P	09 42 07.5 +0.2
TUQ	Turquoise Moun baz=86	85.96	54	⇑P	P	09 42 08.0 +0.3
A21A	Bergtoll Ranch baz=86,SNR=5.6	85.97	38	⇑P	P	09 42 07.2 -0.1
TPAW	Teton Pass comp=Z,45nm,2.6s	86.04	45	eP	P	09 42 08.8 +0.7
E19A	Rath Farm, Rou baz=86	86.06	41	⇑P	P	09 42 08.2 +0.3
MOOW	Moose Ponds comp=Z,2.5nm,0.9s	86.06	44	eP	P	09 42 08.9 +0.8
SHPR	Sheep Range	86.09	52	eP	P	09 42 08.8 +0.5
D20A	Manuel Ranch, baz=86,SNR=12	86.16	40	⇓P	P	09 42 08.6 +0.3
B21A	Ellsworth Farm baz=86	86.19	39	⇓P	P	09 42 08.6 +0.3
LOHW	Long Hollow comp=Z,48nm,2.6s	86.21	44	eP	P	09 42 09.5 +0.7
DUG	Dugway comp=Z,7.1nm,0.8s	86.22	48	eP	P	09 42 08.3 -0.6
DUG	Dugway baz=86,SNR=11	86.22	48	⇑P	P	09 42 08.9 0.0
F19A	Roth Farm, Mol baz=86	86.24	42	⇓P	P	09 42 08.8 0.0
PFO	Pinyon Flat Ob comp=Z,11nm,1.0s	86.29	55	eP	P	09 42 09.2 -0.2
PFO	Pinyon Flat Ob baz=86,SNR=9.3	86.29	55	⇓P	P	09 42 09.2 -0.2
H18A	Shoshone NF, C baz=86	86.33	43	⇑P	P	09 42 09.6 +0.2
RLMT	Red Lodge comp=Z,4.7nm,0.5s	86.38	43	eP	P	09 42 10.1 +0.4
GMRC	Granite Mounta baz=86,SNR=8.9	86.42	54	⇑P	P	09 42 10.0 +0.1
C21A	Desert Coulee baz=86,SNR=7.3	86.43	39	⇑P	P	09 42 09.8 +0.2
E20A	Meyer Farm, Mu baz=86	86.44	41	⇑P	P	09 42 10.0 +0.3
HWUT	Hardware Ranch comp=Z,2.0nm,0.7s	86.46	46	eP	P	09 42 10.1 0.0
BELC	Belle Mtn. Jos baz=86,SNR=6.8	86.48	55	⇓P	P	09 42 09.8 -0.4
A22A	Carney Farms, baz=86	86.55	38	⇓P	P	09 42 10.1 0.0
MONP	Monument Peak baz=87,SNR=7.0	86.61	56	⇑P	P	09 42 10.7 -0.3
I18A	Diamond G Ranc baz=87	86.68	44	⇑P	P	09 42 11.4 +0.3
H19A	Powell baz=87	86.77	43	⇑P	P	09 42 12.1 +0.7
B22A	Reddig Ranch S baz=87	86.84	39	⇑P	P	09 42 11.3 -0.3
D21A	La Casta Ranch baz=87	86.86	40	⇑P	P	09 42 12.1 +0.4
DVTC	Desert V Tower baz=87	86.95	56	⇑P	P	09 42 12.5 0.0
JLU	Jordanelle comp=Z,5.7nm,1.0s	86.98	47	eP	P	09 42 13.1 +0.4
G20A	Bridger baz=87	86.99	42	⇓P	P	09 42 12.5 +0.1
BC3	Big Chuckawall baz=87,SNR=11	87.04	55	⇓P	P	09 42 12.7 -0.2
I19A	Meeteetse baz=87	87.05	43	⇓P	P	09 42 13.1 +0.2
E21A	Keefer Ranch, baz=87	87.06	41	⇓P	P	09 42 13.1 +0.4
IRM	Iron Mountain baz=87,SNR=6.1	87.06	54	⇑P	P	09 42 13.0 +0.1
SWSC	Sam W. Stewart baz=87	87.07	56	⇓P	P	09 42 12.5 -0.4
C22A	Vida baz=87	87.18	39	⇑P	P	09 42 13.3 +0.1
PDAR	Pinedale Array	87.28	45	P	P	09 42 13.5 -0.6
PDAR			PP		PP	09 45 39.6 -1.9
PDAR	Pinedale Array comp=Z,0.6nm,0.5s,baz=178,slow=0.7,SNR=6.3	87.28	45	P	P	09 42 13.5 -0.6
PDAR			PP		PP	09 45 39.6 -1.9
B23A	Brockton baz=87	87.34	38	⇑P	P	09 42 13.9 0.0
J19A	Crowheart baz=87	87.37	44	⇓P	P	09 42 14.4 0.0
H20A	Greybull baz=87	87.47	43	⇑P	P	09 42 14.9 +0.2
C23A	Lambert baz=88	87.56	39	⇓P	P	09 42 15.2 +0.2
W13A	Hualapai Mount baz=88,SNR=5.3	87.62	53	⇓P	P	09 42 15.3 -0.4
A24A	Westby baz=88	87.67	37	⇓P	P	09 42 15.3 -0.2
Y12C	Blythe baz=88	87.71	55	⇑P	P	09 42 16.4 +0.5
K19A	Absolon Red Bu baz=88	87.71	44	⇓P	P	09 42 15.5 -0.6
GLA	Glamis baz=88	87.77	55	⇑P	P	09 42 16.9 +0.7
PDMCI	Parker Dam,Lak baz=88	87.77	54	⇓P	P	09 42 16.7 +0.5
D23A	Lindsay baz=88	87.86	39	⇓P	P	09 42 17.3 +0.8
Q16A	Castle Valley	87.92	49	eP	P	09 42 17.4 +0.3
Q16A	Castle Valley baz=88	87.92	49	⇓P	P	09 42 17.5 +0.3
H21A	Big Horn, Sher baz=88	88.01	42	⇓P	P	09 42 17.6 +0.3
K20A	Yellowstone Ra baz=88	88.12	44	⇓P	P	09 42 17.7 -0.2
C24A	Savage baz=88	88.14	39	⇑P	P	09 42 18.4 +0.7
U15A	North Rim baz=88	88.22	51	⇓P	P	09 42 19.2 +0.5
I21A	Big Trails, Te baz=88	88.24	43	⇑P	P	09 42 19.1 +0.6
SRU	San Rafael comp=Z,5.3nm,0.7s	88.29	48	eP	P	09 42 18.9 +0.1
L20A	Wamsutter baz=88	88.43	45	⇓P	P	09 42 19.3 -0.1
F23A	Volborg baz=88	88.48	41	⇓P	P	09 42 19.4 0.0
B25A	Knox Farm, Ray baz=88	88.49	38	⇓P	P	09 42 20.6 +1.3
113A	Mohawk Valley, baz=89	88.69	55	⇓P	P	09 42 20.8 +0.2
O19A	Miners Draw (B baz=89	88.70	47	⇑P	P	09 42 20.4 -0.3
I22A	9 Mile Ranch, baz=89	88.72	43	⇓P	P	09 42 20.6 0.0
Y14A	Wickenburg baz=89,SNR=12	88.77	54	⇓P	P	09 42 21.1 +0.1
M20A	Sweetwater, Wa baz=89	88.77	45	⇓P	P	09 42 21.6 +0.5
A26A	Wade Farm, Ken baz=89	88.79	37	⇑P	P	09 42 21.3 +0.6
NB2	NORSAR Subarra comp=Z,1.3nm,0.8s,baz=56,slow=5.1	88.81	339	P	P	09 42 18.7 -1.9
NOA	NORSAR Array B	88.81	339	P	P	09 42 19.4 -1.2
NOA	NORSAR Array B comp=Z,1.5nm,0.8s,baz=46,slow=5.6,SNR=5.0	88.81	339	P	P	09 42 19.4 -1.2
K21A	Alcova baz=89	88.84	44	⇓P	P	09 42 21.4 0.0
J22A	Midwest baz=89	88.95	43	⇑P	P	09 42 22.4 +0.6
B26A	Jensen Ranch, baz=89	88.96	37	⇑P	P	09 42 22.0 +0.4
N20A	Spence Gulch, baz=89	89.03	46	⇓P	P	09 42 22.6 +0.3
Z14A	Wintersburg baz=89	89.06	54	⇑P	P	09 42 22.9 +0.6
L21A	Rawlins baz=89	89.08	45	⇓P	P	09 42 22.7 +0.2
P19A	Cripple Cowboy baz=89,SNR=10	89.11	47	⇓P	P	09 42 22.6 0.0
A27A	Ledoux Ranch, baz=89	89.20	36	⇑P	P	09 42 23.3 +0.7
G24A	Alzada baz=89	89.27	41	⇑P	P	09 42 23.2 +0.1
WUAZ	Wupatki baz=89	89.29	52	⇑P	P	09 42 24.3 +0.7
K22A	Casper baz=89	89.30	44	⇑P	P	09 42 23.4 -0.1
C26A	Wahner Farm, P baz=89	89.33	38	⇑P	P	09 42 23.8 +0.5
O20A	White River Ci baz=89	89.38	47	⇓P	P	09 42 23.9 0.0
F25A	Bowman baz=90	89.54	40	⇓P	P	09 42 25.0 +0.6
N21A	Black Mountain baz=90	89.56	46	⇑P	P	09 42 24.9 +0.1
P20A	De Beque baz=90	89.58	47	⇑P	P	09 42 24.4 -0.4
C27A	Sayler Ranch, baz=90	89.73	38	⇓P	P	09 42 25.4 +0.3
X16A	Lo Mia Camp, P baz=90	89.73	53	⇓P	P	09 42 25.9 +0.3
A28A	Rude Farm, Bot baz=90	89.76	36	⇑P	P	09 42 25.6 +0.3
214A	Organ Pipe Nat baz=90	89.77	56	⇓P	P	09 42 26.3 +0.6
K23A	Bowen Ranch, D baz=90	89.82	43	⇑P	P	09 42 25.7 -0.2
E26A	Carlson Angus baz=90	89.84	39	⇓P	P	09 42 26.0 +0.2
M22A	Cedar Creek Ra baz=90	89.86	45	⇑P	P	09 42 26.5 +0.3
Q20A	Ridgley Place, baz=90	89.90	48	⇑P	P	09 42 26.2 -0.1
G25A	Newell baz=90	89.95	40	⇓P	P	09 42 26.3 +0.1
B28A	Dugan Ranch, T baz=90	89.96	37	⇓P	P	09 42 26.6 +0.4
D27A	Center baz=90	90.04	38	⇓P	P	09 42 27.1 +0.5
F26A	Lodgepole baz=90	90.05	40	⇑P	P	09 42 27.1 +0.3
L23A	Garrett baz=90	90.09	44	⇓P	P	09 42 26.9 -0.3
RSSD	Black Hills comp=Z,12nm,0.8s	90.13	42	eP	P	09 42 27.2 -0.1
H25A	Fruitdale baz=90	90.14	41	⇑P	P	09 42 27.5 +0.3
G27A	Dupree baz=91,SNR=13	90.14	40	⇑P	P	09 42 30.0 +2.9
J24A	Dixon Ranch, L baz=90	90.14	43	⇑P	P	09 42 27.6 +0.4
R20A	Redvale baz=90	90.20	48	⇑P	P	09 42 28.1 +0.3
P21A	Newcastle baz=90	90.20	47	⇑P	P	09 42 28.5 +0.7
N22A	Wattenberg Ran baz=90	90.25	45	⇓P	P	09 42 28.3 +0.3
BRTR	Keskin Array B	90.25	313	P	P	09 42 26.9 -1.1
BRTR	Keskin Array B comp=Z,1.1nm,0.8s,baz=94,slow=3.7,SNR=5.0	90.25	313	P	P	09 42 26.9 -1.1
A29A	Manning Farm, baz=90,SNR=6.5	90.32	36	⇓P	P	09 42 27.9 +0.1
C28A	Hausauer Farms baz=90	90.36	37	⇑P	P	09 42 28.2 +0.2
I25A	Rochford baz=90,SNR=5.6	90.37	42	⇑P	P	09 42 27.9 -0.5
S20A	Disappointment baz=90	90.38	49	⇑P	P	09 42 28.6 -0.1
E27A	Carson baz=90,SNR=5.8	90.39	39	⇓P	P	09 42 28.6 +0.4
G26A	Maurine baz=90	90.39	40	⇓P	P	09 42 28.5 +0.2
F27A	Lemmon baz=90	90.42	39	⇓P	P	09 42 28.7 +0.2
Q21A	Lamborn Mesa, baz=90	90.45	48	⇓P	P	09 42 29.2 +0.3
O22A	Kremmling baz=90	90.50	46	⇓P	P	09 42 29.2 0.0
B29A	Wagenman Farm, baz=90	90.51	36	⇓P	P	09 42 28.9 +0.2
N23A	Red Feather La baz=90,SNR=7.3	90.54	45	⇑P	P	09 42 29.5 +0.1
D28A	Regan baz=90	90.54	38	⇓P	P	09 42 29.3 +0.4
MVCO	Mesa Verde baz=91	90.58	49	⇓P	P	09 42 30.1 +0.5
L24A	Wheatland baz=91	90.62	44	⇓P	P	09 42 30.1 +0.6
H26A	Fairpoint baz=91	90.64	41	⇑P	P	09 42 29.7 +0.2
J25A	Sunshine Ranch baz=91	90.65	42	⇓P	P	09 42 29.4 -0.3
W18A	Petrified Fore baz=91	90.66	52	⇓P	P	09 42 29.7 -0.3
R21A	Cimarron baz=91,SNR=9.9	90.69	48	⇓P	P	09 42 30.1 0.0
SMCO	Snowmass comp=Z,2.0nm,0.8s	90.69	47	eP	P	09 42 30.2 -0.1
MDND	Maddock comp=Z,19nm,1.0s	90.72	37	eP	P	09 42 29.4 -0.3
MDND	Maddock baz=91	90.72	37	⇑P	P	09 42 29.8 0.0
X18A	Snowflake baz=91	90.78	52	⇑P	P	09 42 31.3 +0.8
A30A	Hoffart Farm, baz=91	90.81	35	⇑P	P	09 42 30.7 +0.5
E28A	Huff baz=91	90.81	38	⇑P	P	09 42 30.4 +0.3
S21A	Coal Bank Pass baz=91	90.86	49	⇑P	P	09 42 30.9 -0.1
Q22A	Crested Butte, baz=91,SNR=8.3	90.89	47	⇓P	P	09 42 31.1 +0.1
O23A	Lake Granby, G baz=91,SNR=6.4	90.90	46	⇓P	P	09 42 31.4 +0.3
U20A	Newcomb baz=91	90.96	50	⇓P	P	09 42 31.2 0.0
M24A	Cheyenne baz=91	90.98	44	⇓P	P	09 42 31.4 +0.1
K25A	Mack Ranch, Ha baz=91	91.01	43	⇑P	P	09 42 31.7 +0.3
H27A	Howes baz=91	91.05	40	⇑P	P	09 42 31.5 +0.1
B30A	Myrvik Farm, E baz=91	91.08	36	⇓P	P	09 42 31.4 0.0
J26A	Sides Ranch, S baz=91	91.14	42	⇑P	P	09 42 31.9 0.0
F28A	McLaughlin baz=91	91.15	39	⇓P	P	09 42 31.9 +0.1
D29A	Pettibone, Tap baz=91	91.17	37	⇓P	P	09 42 31.6 -0.2
V20A	Brimhall baz=91	91.27	51	⇑P	P	09 42 32.9 +0.2
N24A	Carr baz=91	91.27	45	⇑P	P	09 42 32.9 +0.2
ISCO	Idaho Springs comp=Z,5.5nm,1.3s	91.31	46	eP	P	09 42 33.7 +0.7
ISCO	Idaho Springs baz=91	91.31	46	⇓P	P	09 42 33.3 +0.3
R22A	Saguache, Gunn baz=91	91.31	48	⇑P	P	09 42 32.6 -0.5
P23A	Jefferson baz=91	91.37	46	⇑P	P	09 42 34.1 +0.8
I27A	Quinn baz=91	91.37	41	⇑P	P	09 42 33.0 +0.2
K26A	Motz Farm, Whi baz=91	91.40	43	⇑P	P	09 42 32.9 -0.1
E29A	Napoleon baz=91	91.42	38	⇓P	P	09 42 33.2 +0.2
C30A	Mose, Pekin baz=91	91.43	36	⇓P	P	09 42 33.1 +0.1
S22A	4UR Ranch, Cre baz=92	91.49	48	⇓P	P	09 42 34.2 +0.3
O24A	Longmont baz=92	91.50	45	⇑P	P	09 42 34.3 +0.6
G28A	Parade baz=91	91.51	40	⇓P	P	09 42 33.8 +0.3
U21A	Nageezi baz=92	91.54	50	⇑P	P	09 42 34.4 +0.4
W20A	Ramah baz=92	91.56	51	⇓P	P	09 42 34.3 +0.1
Q23A	Hartsel baz=92,SNR=6.5	91.60	47	⇓P	P	09 42 34.8 +0.4
D30A	Buchanan baz=92	91.61	37	⇓P	P	09 42 33.9 0.0
T22A	Edith baz=92	91.79	49	⇓P	P	09 42 35.6 +0.3
X20A	Quemado baz=92	91.83	52	⇓P	P	09 42 36.4 +1.0
E30A	Jud baz=92	91.87	38	⇓P	P	09 42 35.2 +0.1
P24A	Kohler Place, baz=92	91.92	46	⇑P	P	09 42 36.0 +0.3
R23A	Moffat baz=92	91.96	47	⇑P	P	09 42 36.8 +0.8
K27A	Flueckinger Fa baz=92	91.99	42	⇑P	P	09 42 35.8 0.0
O25A	Wiggins baz=92	92.14	45	⇑P	P	09 42 36.9 +0.3
U22A	Llaves baz=92	92.14	49	⇓P	P	09 42 37.5 +0.7
J28A	Allard Ranch, baz=92	92.22	41	⇑P	P	09 42 36.7 -0.1
Y20A	Horse Springs, baz=92	92.22	52	⇓P	P	09 42 37.6 +0.3
V22A	San Miguel Ran baz=92	92.32	50	⇑P	P	09 42 37.8 +0.1
P25A	Willow Gulch B baz=92	92.41	46	⇑P	P	09 42 38.3 +0.3
R24A	Sanders Place, baz=92	92.43	47	⇑P	P	09 42 38.5 +0.4
K28A	Ten Mile Ranch baz=92	92.52	42	⇓P	P	09 42 38.3 +0.1
U23A	El Rito baz=93	92.63	49	⇓P	P	09 42 39.0 0.0
S24A	Houchin Ranch, baz=93	92.66	48	⇑P	P	09 42 39.6 +0.4
Q25A	Bedland, Calha baz=93	92.67	46	⇑P	P	09 42 39.4 +0.3
120A	U Bar Ranch, L baz=93	92.67	53	⇑P	P	09 42 40.1 +0.9
Y21A	Point of Rocks baz=93	92.69	52	⇑P	P	09 42 39.8 +0.4
T24B	San Luis baz=93	92.83	48	⇓P	P	09 42 40.6 +0.5
V23A	Ortiz Mt. (NFS baz=93	92.92	50	⇑P	P	09 42 40.7 +0.3
P26A	Davis Ranch, A baz=93	92.93	45	⇑P	P	09 42 40.5 +0.2
Z21A	St. Cloud Mine baz=93	93.02	52	⇓P	P	09 42 41.7 +0.8
220A	Playas Peak, P baz=93	93.05	54	⇓P	P	09 42 41.5 +0.5
Q26A	Hugo baz=93	93.15	46	⇓P	P	09 42 41.2 -0.1
U24A	Moreno Valley baz=93	93.23	49	⇓P	P	09 42 42.0 +0.1
Y22A	Socorro baz=93	93.24	52	⇓P	P	09 42 42.3 +0.5
121A	Cookes Peak, D baz=93	93.31	53	⇑P	P	09 42 42.9 +0.7
T25A	Trinidad baz=93	93.46	48	⇓P	P	09 42 43.1 +0.2
X23A	Hourglass Bar baz=94	93.49	51	⇓P	P	09 42 43.2 +0.2
V24A	Rampart Ranch, baz=94	93.57	49	⇑P	P	09 42 43.7 +0.3
W24A	Lazy 6 Ranch, baz=94	93.73	50	⇑P	P	09 42 43.7 -0.4
U25A	Circle Dot Ran baz=94	93.84	48	⇓P	P	09 42 44.2 -0.4
R27A	Eads baz=94	93.96	46	⇓P	P	09 42 45.6 +0.6
T26A	Comanche Natio baz=94	94.00	47	⇓P	P	09 42 45.0 -0.3
N29A	Votaw Ranch, W baz=94	94.02	43	⇓P	P	09 42 44.8 -0.3
Z23A	Rita Site, Whi baz=94	94.10	52	⇑P	P	09 42 46.0 +0.3
U26A	Atchley Ranch, baz=94	94.30	48	⇑P	P	09 42 46.9 +0.2
V26A	Tequesquite Ra baz=94	94.58	49	⇑P	P	09 42 48.2 +0.3
CLL	Collm	95.07	331	e(P)	P	09 42 53.0 +3.4
Z25A	Roswell baz=95	95.19	51	⇑P	P	09 42 50.5 -0.2
224A	Cornudas Mount baz=95	95.20	53	⇓P	P	09 42 50.8 0.0
125A	Gardner Draw, baz=96	95.55	52	⇑P	P	09 42 52.5 +0.1
Z26A	Caprock baz=96	95.73	51	⇑P	P	09 42 52.7 -0.5
Y27A	Causey baz=96	96.00	50	⇑P	P	09 42 54.1 -0.3
425A	Indio Mountain baz=96	96.24	53	⇓P	P	09 42 55.3 -0.2
Z28A	Tucker Farm, M baz=97	96.86	50	⇓P	P	09 42 57.6 -0.7
426A	McDonald Obser baz=97	97.01	53	⇓P	P	09 42 57.9 -1.2
526A	Mary Lane Ranc baz=97	97.27	54	⇓P	Pdif	09 42 59.3 -0.9
TXAR	Lajitas Array	97.95	54	P	Pdif	09 43 03.4 +0.2
TXAR	Lajitas Array comp=Z,0.5nm,0.8s,baz=334,slow=2.8,SNR=4.3	97.95	54	P	Pdif	09 43 03.4 +0.2
Y31A	Rekieta Farm, baz=98	98.00	49	⇓Pdiff	Pdif	09 43 03.4 +0.1
329A	Wagon Wheel Ra baz=98	98.10	52	⇑Pdiff	Pdif	09 43 04.0 +0.2
627A	Terlingua Ranc baz=98	98.10	54	⇑Pdiff	Pdif	09 43 04.0 +0.1
628A	Black Gap, Mar baz=98	98.46	54	⇓Pdiff	Pdif	09 43 05.5 +0.1
Z32A	Haskell baz=99	98.91	49	⇓Pdiff	P	09 43 07.2 -0.2
USIN	University of	103.70	39	ePdif	Pdif	09 43 27.7 -0.8
KMSC	Kings Mountain baz=109	109.31	38	⇓Pdiff	PKiKP	09 47 55.2 -0.6
SNAA	Sanae	126.49	193	ePKPdf	PKPdf	09 48 27.1 -0.5
VNA2	Neumayer--Watz	127.99	192	ePKPdf	PKPdf	09 48 30.4 0.0
VNA1	Neumayer--Stat	128.38	192	ePKPdf	PKPdf	09 48 31.8 +0.7
TORD	Torodi Ar. Bea	128.66	309	PKP	PKPdf	09 48 32.6 -0.8
TORD	Torodi Ar. Bea comp=Z,0.1nm,0.3s,baz=141,slow=1.8,SNR=6.7	128.66	309	PKP	PKPdf	09 48 32.6 -0.8
PLCA	Paso Flores	145.84	131	PKPbc	PKPbc	09 49 05.2 0.0

PLCA	**Paso Flores**	**145.84 131**	PKPbc	**PKPbc**	**09 49 05.2**	**0.0**
	comp=Z,12nm,0.9s,baz=234,slow=2.5,SNR=24					
LPAZ	**La Paz**	**149.91 85**	PKP	**PKPdf**	**09 49 12.1**	**-0.1**
LPAZ			PKPbc	**PKiKP**	**09 49 17.6**	**-0.5**
LPAZ			PKPab	**PKPab**	**09 49 24.4**	**+0.5**
LPAZ	**La Paz**	**149.91 85**	PKP	**PKPdf**	**09 49 12.1**	**-0.1**
	comp=Z,1.1nm,0.9s,baz=288,slow=6.4,SNR=3.6					
LPAZ			PKPbc	**PKiKP**	**09 49 17.6**	**-0.5**
	comp=Z,7.2nm,0.6s,baz=329,slow=4.1,SNR=27					
LPAZ			PKPab	**PKPab**	**09 49 24.4**	**+0.5**
	comp=Z,6.2nm,0.6s,baz=284,slow=1.8,SNR=13					

*KRSC **17** 09:43:43.9±4.4, 55°.55N×162°.25E, h66km±65km, ML4.5*
*MOS **17** 09:43:44.8±1.1, 55°.59N×162°.19E, h77km, mb4.2/22, Error ellipse: s-maj=11.5km s-min=7.2km az=80.8*
*ISCJB **17** 09:43:45.3±0.3, 55°.56N±0°.02×162°.22E±0°.05, h80km±2km, mb3.9/28, Error ellipse: s-maj=4.4km s-min=3.4km az=15.9*
*IDC **17** 09:43:45.9±0.6, 55°.72N×162°.05E, h61km±5km, mb3.7/24, mb1 3.9/27, mb1mx3.8/36, mbtmp3.7/27, Error ellipse: s-maj=13.9km s-min=9.3km az=154.0*

ISC 17 09:43:45.9±0.6, 55°.55N±0°.03×162°.22E±0°.03, h67km±5km, h66km:pP-P, n92, σ1°22/130, mb4.0/28, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.74**	**27**	PN	**Pn**	**09 44 01.3**	**+0.4**
KBTR				S	**Sn**	**09 44 13.5**	**+1.5**
KBTR	**Krutoberegovo**	**0.74**	**27**	P	**Pn**	**09 44 01.3**	**+0.4**
KBTR				*e*S	**Sn**	**09 44 13.5**	**+1.5**
ZLN	**Zelenaya**	**0.93**	**301**	*e*P	**Pn**	**09 44 03.9**	**+0.6**
ZLN				*e*S	**Sn**	**09 44 17.0**	**+0.7**
BZGR	**Bezymyannyi-Gr**	**0.94**	**295**	*e*P	**Pn**	**09 44 03.5**	**-0.1**
BZGR				*e*S	**Sn**	**09 44 17.5**	**+0.8**
CIRR	**Tsirk**	**1.00**	**305**	*e*P	**Pn**	**09 44 04.5**	**+0.2**
CIRR				*e*S	**Sn**	**09 44 19.2**	**+1.1**
LGNR	**Loginova**	**1.01**	**302**	*e*P	**Pn**	**09 44 04.8**	**+0.2**
LGNR				*e*S	**Sn**	**09 44 19.0**	**+0.5**
MKZ	**Mys Kozlova**	**1.04**	**196**	PN	**Pn**	**09 44 04.4**	**-0.2**
MKZ				S	**Sn**	**09 44 19.0**	**+0.4**
MKZ	**Mys Kozlova**	**1.04**	**196**	P	**Pn**	**09 44 04.4**	**-0.2**
MKZ				*e*S	**Sn**	**09 44 19.0**	**+0.4**
BZMR	**Bezymyannaya**	**1.05**	**292**	P	**Pn**	**09 44 04.8**	**-0.2**
BZMR				*e*S	**Sn**	**09 44 20.3**	**+1.2**
BZWR	**Bezymyannyi-We**	**1.06**	**294**	P	**Pn**	**09 44 05.1**	**0.0**
BZWR				*e*S	**Sn**	**09 44 20.2**	**+0.9**
SMKR	**Semkarok**	**1.11**	**338**	*e*P	**Pn**	**09 44 06.3**	**+0.6**
KIRR	**Kirishev**	**1.14**	**291**	*e*P	**Pn**	**09 44 06.4**	**+0.4**
KIRR				*e*S	**Sn**	**09 44 22.1**	**+1.0**
KMNR	**Kamenistaya**	**1.14**	**281**	P	**Pn**	**09 44 06.2**	**+0.1**
KMNR				*e*S	**Sn**	**09 44 22.0**	**+0.8**
KRSR	**Krestovskiy**	**1.15**	**306**	*e*P	**Pn**	**09 44 05.9**	**-0.2**
KRSR				*e*S	**Sn**	**09 44 20.8**	**-0.4**
BDR	**Baidarnaya**	**1.17**	**331**	P	**Pn**	**09 44 07.0**	**+0.6**
KLY	**Klyuchi**	**1.17**	**311**	PN	**Pn**	**09 44 05.2**	**-1.1**
KLY				S	**Sn**	**09 44 20.1**	**-1.4**
KLY	**Klyuchi**	**1.17**	**311**	*e*P	**Pn**	**09 44 05.2**	**-1.1**
KLY				*e*S	**Sn**	**09 44 20.1**	**-1.4**
KPT	**Kopyto**	**1.20**	**291**	*e*P	**Pn**	**09 44 07.0**	**+0.1**
KPT				*e*S	**Sn**	**09 44 23.9**	**+1.4**
TUMR	**Tumrok**	**1.21**	**258**	*e*P	**Pn**	**09 44 07.5**	**+0.5**
SRKR	**Sorokina**	**1.25**	**332**	*e*P	**Pn**	**09 44 08.1**	**+0.6**
SRKR				*e*S	**Sn**	**09 44 25.6**	**+2.0**
KOZR	**Kozyr**	**1.41**	**292**	PN	**Pn**	**09 44 10.4**	**+0.9**
KOZR				S	**Sn**	**09 44 29.4**	**+2.1**
KOZ	**Kozyrevsk**	**1.42**	**292**	*e*P	**Pn**	**09 44 10.4**	**+0.8**
KOZ				*e*S	**Sn**	**09 44 29.4**	**+1.9**
SRDR	**Sredinnyy**	**1.60**	**300**	*e*P	**Pn**	**09 44 12.2**	**+0.1**
SRDR				*e*S	**Sn**	**09 44 33.6**	**+1.6**
ESO	**Esso**	**2.02**	**282**	PN	**Pn**	**09 44 18.6**	**+0.8**
ESO				S	**Sn**	**09 44 42.1**	**+0.1**
ESO	**Esso**	**2.02**	**282**	*e*P	**Pn**	**09 44 18.6**	**+0.8**
ESO				*e*S	**Sn**	**09 44 42.1**	**+0.1**
BKI	**Bering**	**2.17**	**98**	PN	**Pn**	**09 44 20.2**	**+0.6**
BKI				S	**Sn**	**09 44 45.7**	**+0.3**
BKI	**Bering**	**2.17**	**98**	*e*P	**Pn**	**09 44 20.2**	**+0.6**
BKI				*e*S	**Sn**	**09 44 45.7**	**+0.3**
KII	**Karymskiy**	**2.21**	**228**	*e*P	**Pn**	**09 44 21.0**	**+0.7**
SPN	**Mys Shipunski**	**2.78**	**209**	PN	**Pn**	**09 44 27.0**	**-0.9**
SPN				S	**Sn**	**09 44 59.0**	**-1.3**
SPN	**Mys Shipunski**	**2.78**	**209**	P	**Pn**	**09 44 27.0**	**-0.9**
SPN				*e*S	**Sn**	**09 44 59.0**	**-1.3**
NLC	**Nalytchevo**	**2.92**	**216**	*e*S	**Sn**	**09 45 04.4**	**+0.6**
SDLR	**Sedlovina**	**3.00**	**222**	P	**Pn**	**09 44 31.9**	**+0.8**
KRX	**Arik**	**3.03**	**225**	*e*P	**Pn**	**09 44 32.9**	**+1.4**
KRER	**Koryakskii**	**3.03**	**223**	P	**Pn**	**09 44 32.9**	**+1.3**
SMAR	**Somma**	**3.04**	**222**	*e*P	**Pn**	**09 44 32.8**	**+1.0**
AVH	**Avacha**	**3.07**	**223**	P	**Pn**	**09 44 33.2**	**+1.2**
UGLR	**Uglovaya**	**3.08**	**222**	P	**Pn**	**09 44 33.2**	**+1.1**
UGLR				*e*S	**Sn**	**09 45 09.2**	**+1.4**
KOK	**Koryaka**	**3.09**	**224**	*e*P	**Pn**	**09 44 33.7**	**+1.5**
GNL	**Ganaly**	**3.11**	**235**	P	**Pn**	**09 44 33.7**	**+1.2**
PET	**Petropavlovsk**	**3.29**	**221**	*e*PN	**Pn**	**09 44 35.8**	**+0.9**
PET				*e*S	**Sn**	**09 45 12.4**	**-0.3**
PET				pmax	pmax		
	comp=Z,85nm,0.5s						
PET				smax	smax		
	comp=E,509nm,0.8s						
PET				MLR	MLR		
	comp=Z,200nm,13.0s						
PET	**Petropavlovsk**	**3.29**	**221**	*e*P	**Pn**	**09 44 35.9**	**+1.1**
PET				*e*S	**Sn**	**09 45 13.6**	**+0.9**
PETK	**Petropavlovsk-**	**3.61**	**229**	PN	**Pn**	**09 44 40.7**	**+1.4**
PETK				S	**Sn**	**09 45 23.9**	**+3.3**
PETK				pmax	pmax		
	comp=Z,6.0nm,0.3s						
PETK				smax	smax		
	comp=N,5.0nm,0.3s						
PETK	**Petropavlovsk-**	**3.61**	**229**	P	**Pn**	**09 44 40.7**	**+1.4**
	comp=N,5.5nm,0.3s,baz=59,slow=16,SNR=54						
PETK				S	**Sn**	**09 45 23.9**	**+3.3**
	comp=N,5.0nm,0.3s,baz=66,slow=18,SNR=3.0						
RUS	**Russkaya**	**3.82**	**217**	PN	**Pn**	**09 44 42.7**	**+0.6**
RUS				S	**Sn**	**09 45 25.4**	**-0.3**
RUS	**Russkaya**	**3.82**	**217**	*e*P	**Pn**	**09 44 42.7**	**+0.6**
RUS				*e*S	**Sn**	**09 45 25.4**	**-0.3**
MTVR	**Mutnovka**	**3.89**	**219**	*e*P	**Pn**	**09 44 44.9**	**+1.6**
APC	**Apacha**	**3.97**	**231**	*e*P	**Pn**	**09 44 46.4**	**+2.2**
ASAK	**Asacha**	**4.07**	**221**	P	**Pn**	**09 44 47.7**	**+2.0**
MIPR	**Malaya Ipel'ka**	**4.61**	**227**	P	**Pn**	**09 44 55.1**	**+2.2**
TILK	**Tilichiki**	**5.33**	**21**	*e*P	**Pn**	**09 45 04.9**	**+2.2**
FX1	**Attu Island--F**	**6.95**	**108**	P	**Pn**	**09 45 25.1**	**+0.2**
	comp=N,19nm,0.3s,baz=356,slow=5.7,SNR=88						
FX1				S	**Sn**	**09 46 39.4**	**-3.1**
	comp=N,20nm,0.3s,baz=345,slow=20,SNR=21						
ASAJ	**Asahikawa**	**17.00**	**236**	P	**P**	**09 47 39.9**	**0.0**
	comp=N,0.7nm,0.3s,baz=21,slow=5.2,SNR=7.3						
ERM	**Erimo**	**18.39**	**230**	*e*P	**P**	**09 47 54.5**	**-0.7**
TIXI	**Tiksi**	**21.43**	**332**	*e*P	**P**	**09 48 28.2**	**+0.3**
TIXI				pmax	pmax		
	comp=Z,7.0nm,1.2s						
KDAK	**Kodiak Island**	**24.58**	**66**	P	**P**	**09 48 58.9**	**-0.3**
	comp=Z,21nm,0.9s,baz=308,slow=12,SNR=3.6						
MJA0	**Matsu Arr-Jizo**	**25.05**	**231**	*e*P	**P**	**09 49 03.9**	**+0.2**
MJA0				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MAT	**Matsushiro**	**25.07**	**231**	P	**P**	**09 49 03.3**	**-0.6**
MJAR	**Matsushiro Arr**	**25.07**	**231**	P	**P**	**09 49 03.0**	**-0.9**
	comp=Z,5.0nm,0.8s,baz=27,slow=8.2,SNR=18						
MJAR				pP	**pP**	**09 49 20.6**	**+0.9**
	comp=Z,1.5nm,0.5s,baz=26,slow=8.7,SNR=3.3						
ILAR	**Eielson Array**	**26.22**	**49**	P	**P**	**09 49 13.9**	**-0.1**
	comp=Z,2.0nm,0.8s,baz=265,slow=9.3,SNR=22						
KSRS	**Korea Array**	**29.32**	**246**	P	**P**	**09 49 44.0**	**+2.1**
	comp=Z,0.4nm,0.4s,baz=51,slow=9.1,SNR=3.1						
TLY	**Talaya**	**34.07**	**288**	*e*P	P	09 50 34.8	+11
TLY				pmax	pmax		
	comp=Z,10.0nm,1.1s						
TLY				MLR	MLR		
	comp=Z,26nm,8.0s						
SONM	**Songino Array**	**34.60**	**281**	P	**P**	**09 50 29.0**	**+0.8**
	comp=Z,0.6nm,0.7s,baz=27,slow=9.9,SNR=2.3						
YKA	**Yellowknife Ar**	**40.52**	**45**	P	**P**	**09 51 18.7**	**+0.9**
	comp=Z,3.2nm,0.8s,baz=304,slow=8.9,SNR=3.4						
WHN	**Wuhan**	**41.85**	**254**	P	**P**	**09 51 26.9**	**-2.2**
SPITS	**Spitsbergen Ar**	**44.91**	**351**	P	**P**	**09 51 51.9**	**-1.3**
	comp=Z,1.7nm,0.4s,baz=64,slow=7.6,SNR=8.4						
KURK	**Kurchatov**	**47.51**	**301**	P	**P**	**09 52 12.7**	**-1.2**
KURK				*PP	**pP**	**09 52 29.4**	**-1.3**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KURK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KURBB	**Kurchatov Arra**	**47.61**	**301**	P	**P**	**09 52 12.7**	**-2.0**
	comp=Z,0.7nm,0.4s,baz=55,slow=8.0,SNR=10						
KURBB				pP	**pP**	**09 52 29.4**	**-2.1**
	comp=Z,0.9nm,0.7s,baz=55,slow=8.1,SNR=3.3						
MKAR	**Makanchi Array**	**48.23**	**295**	P	**P**	**09 52 18.0**	**-1.5**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**48.23**	**295**	P	**P**	**09 52 18.0**	**-1.5**
	comp=Z,0.6nm,0.6s,baz=55,slow=6.9,SNR=6.1						
YBH	**Yreka Blue Hor**	**49.06**	**73**	P	**P**	**09 52 25.7**	**-0.3**
	baz=345,slow=5.4						
BVAR	**Borovoye Array**	**49.85**	**308**	P	**P**	**09 52 29.9**	**-1.9**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BVAR	**Borovoye Array**	**49.85**	**308**	P	**P**	**09 52 29.9**	**-1.9**
	comp=Z,0.9nm,0.4s,baz=60,slow=6.8,SNR=3.2						
ARCES	**ARCESS Array B**	**51.33**	**342**	P	**P**	**09 52 41.8**	**-0.9**
	comp=Z,2.8nm,0.8s,baz=39,slow=7.2,SNR=4.1						
NVAR	**Mina Array Bea**	**53.78**	**73**	P	**P**	**09 53 04.0**	**+2.4**
	comp=Z,3.4nm,0.6s,baz=305,slow=7.5,SNR=38						
AAK	**Ala-Archa**	**55.11**	**296**	*e*P	**P**	**09 53 10.9**	**-0.2**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.2s						
PDAR	**Pinedale Array**	**55.27**	**64**	P	**P**	**09 53 14.2**	**+1.9**
	comp=Z,2.4nm,0.8s,baz=327,slow=2.5,SNR=22						
JOF	**Joensuu**	**55.85**	**335**	*e*P	**P**	**09 53 13.4**	**-2.4**
JOF	**Joensuu**	**55.85**	**335**	*e*p	**P**	**09 53 13.4**	**-2.4**
AKTO	**Aktyubinsk**	**57.08**	**312**	P	**P**	**09 53 24.5**	**-0.3**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKTO	**Aktyubinsk**	**57.08**	**312**	P	**P**	**09 53 24.5**	**-0.3**
	comp=Z,0.8nm,0.3s,baz=51,slow=5.1,SNR=4.2						
FINES	**FINESS Array B**	**58.35**	**337**	P	**P**	**09 53 33.0**	**-0.5**
	comp=Z,2.4nm,0.5s,baz=40,slow=8.0,SNR=8.5						
NB2	**NORSAR Subarra**	**61.51**	**344**	P	**P**	**09 53 54.4**	**-0.8**
	comp=Z,0.8nm,0.6s,baz=19,slow=6.9						
NOA	**NORSAR Array B**	**61.51**	**344**	P	**P**	**09 53 54.4**	**-0.8**
	comp=Z,0.8nm,0.6s,baz=21,slow=6.8,SNR=5.1						
HFS	**Hagfors**	**61.98**	**343**	P	**P**	**09 53 57.3**	**-1.0**
	comp=Z,1.1nm,0.5s,baz=66,slow=3.6,SNR=7.2						
ANMO	**Albuquerque**	**62.71**	**68**	P	**P**	**09 54 04.2**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=284,slow=6.6,SNR=3.6						
TXAR	**Lajitas Array**	**68.56**	**69**	P	**P**	**09 54 42.9**	**+1.5**
	comp=Z,0.6nm,0.5s,baz=299,slow=5.1,SNR=11						
EKA	**Eskdalemuir Ar**	**68.83**	**351**	P	**P**	**09 54 42.6**	**0.0**
	comp=Z,0.5nm,0.4s,baz=24,slow=5.4,SNR=3.2						
GERES	**GERESS Array B**	**72.68**	**339**	P	**P**	**09 55 05.9**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=46,slow=4.2,SNR=2.6						
BRTR	**Keskin Array B**	**75.49**	**321**	P	**P**	**09 55 22.7**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=60,slow=5.9,SNR=3.7						
WRA	**Warramunga Arr**	**78.84**	**207**	P	**P**	**09 55 41.8**	**+0.3**
	comp=Z,0.5nm,1.0s,baz=11,slow=5.9,SNR=3.6						
WRA				pP	**pP**	**09 55 58.9**	**-0.7**
	comp=Z,1.3nm,0.7s,baz=19,slow=5.7,SNR=7.3						
ASAR	**Alice Springs**	**82.52**	**206**	P	**P**	**09 56 01.6**	**+0.6**
	comp=Z,0.5nm,0.9s,baz=22,slow=6.9,SNR=4.4						
ASAR				pP	**pP**	**09 56 19.6**	**+0.3**
	comp=Z,1.3nm,0.8s,baz=14,slow=5.4,SNR=9.2						
QSPA	**South Pole Qui**	**145.31**	**180**	PKPbc	**PKPbc**	**10 03 14.0**	**-0.3**
	comp=Z,1.2nm,0.7s,baz=357,slow=3.3,SNR=8.2						
QSPA				pPKPbc	pPKPbc	10 03 32.0	-1.5
	comp=Z,2.2nm,0.7s,baz=353,slow=1.4,SNR=5.4						

MEX 17 09:46:50.8±0.8, 18°.80N×103°.48W, h94km±11km, MD3.5, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.53**	**166**	*e*P	Pn	09 47 04.3	-1.9
MMIG				*e*S	Sn	09 47 16.1	-1.4
CJM	**Chamela**	**1.63**	**295**	*i* P	Pn	09 47 17.4	-1.0
CJM				*e*S	Sn	09 47 37.9	-1.5
ZIIG	**Zihuatanejo**	**2.25**	**121**	*e*P	Pn	09 47 24.7	-1.8
ZIIG				*e*S	Sn	09 47 52.9	-0.9
MOIG	**Morelia**	**2.34**	**68**	*e*P	Pn	09 47 26.5	-1.4
MOIG				*i* S	Sn	09 47 54.5	-1.8

*ISCJB **17** 10:14:36.8±0.4, 34°.74N±0°.04×24°.78E±0°.04, h49km±5km, mb3.4/5, Error ellipse: s-maj=7.0km s-min=3.9km az=32.1*
*CSEM **17** 10:14:38.2±0.2, 34°.79N×24°.77E, h30km, MD3.8, Error ellipse: s-maj=6.1km s-min=3.5km az=37.0*
*IDC **17** 10:14:38.4±1.7, 34°.88N×24°.85E, h35km±12km, mb3.5/5, mb1 3.7/9, mb1mx3.5/30, mbtmp3.6/9, ML4.0/4, Error ellipse: s-maj=23.2km s-min=18.8km az=23.0*
*ATH **17** 10:14:39.0, 35°.00N×24°.78E, h40km±1km, MD3.8/33*
*THE **17** 10:14:40.3, 34°.92N×24°.75E, h21km±1km, ML3.5/4, Error ellipse: s-maj=2.5km s-min=1.0km az=10.0*
*HLW **17** 10:14:45.5, 34°.45N×25°.45E, h31km±29km, Md4.0, Ml3.8*

ISC 17 10:14:39.0±0.7, 34°.83N±0°.03×24°.80E±0°.03, h44km±8km, n106, σ1°06/108, mb3.3/5, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.19**	**2**	*e*P	Pn	10 14 45.3	-1.3
SIVA				*e*S	Sn	10 14 49.8	-2.1
SIVA	**Sivas**	**0.19**	**2**	*e*P	Pn	10 14 45.3	-1.3
SIVA				*e*S	Sn	10 14 49.8	-2.1
IDI	**Anoyia**	**0.46**	**9**	P	**Pn**	**10 14 47.8**	**-1.7**
IDI				S	**Sn**	**10 14 54.9**	**-2.1**
IDI	**Anoyia**	**0.46**	**9**	*e*P	**Pn**	**10 14 47.9**	**-1.7**
IDI				*e*S	**Sn**	**10 14 54.6**	**-2.4**
IDI	**Anoyia**	**0.46**	**9**	Pg	**Pn**	**10 14 47.8**	**-1.7**
	178nm,0.3s,baz=207,slow=16,SNR=273						
IDI				Lg	Lg	10 14 55.2	
	662nm,0.3s,baz=264,slow=18,SNR=88						
IDI	**Anoyia**	**0.46**	**9**	*e*P	**Pn**	**10 14 47.9**	**-1.7**
IDI				S	**Sn**	**10 14 54.9**	**-2.1**
GVD	**Gavdhos**	**0.59**	**271**	*e*P	**Pn**	**10 14 51.1**	**+0.1**
GVD				*e*S	**Sn**	**10 15 01.6**	**+2.0**
GVD	**Gavdhos**	**0.59**	**271**	*e*P	**Pn**	**10 14 51.1**	**+0.1**
LAST	**Lasithi**	**0.65**	**59**	*e*P	**Pn**	**10 14 51.7**	**-0.2**
LAST				*e*S	**Sn**	**10 15 01.1**	**-0.1**
LAST	**Lasithi**	**0.65**	**59**	*e*P	**Pn**	**10 14 51.7**	**-0.2**
LAST				*e*S	**Sn**	**10 15 01.1**	**-0.1**
XRY	**Khrisi**	**0.74**	**86**	*e*P	**Pn**	**10 14 54.3**	**+1.3**
XRY	**Khrisi**	**0.74**	**86**	*e*P	**Pn**	**10 14 54.3**	**+1.3**
VAM	**Vamos**	**0.76**	**320**	P	**Pn**	**10 14 52.9**	**-0.4**
VAM				S	**Sn**	**10 15 03.1**	**-0.6**
VAM	**Vamos**	**0.76**	**320**	*e*P	**Pn**	**10 14 52.8**	**-0.5**
VAM	**Vamos**	**0.76**	**320**	*e*P	**Pn**	**10 14 52.8**	**-0.5**
VAM				S	**Sn**	**10 15 03.1**	**-0.6**
NPS	**Neapolis**	**0.79**	**57**	P	**Pn**	**10 14 54.3**	**+0.5**
NPS				S	**Sn**	**10 15 06.2**	**+1.6**
NPS	**Neapolis**	**0.79**	**57**	*e*P	**Pn**	**10 14 54.1**	**+0.3**
NPS	**Neapolis**	**0.79**	**57**	*e*P	**Pn**	**10 14 54.1**	**+0.3**
NPS				S	**Sn**	**10 15 06.2**	**+1.6**
KARN	**Karanos**	**0.92**	**308**	*e*P	**Pn**	**10 14 55.9**	**+0.3**
KARN	**Karanos**	**0.92**	**308**	*e*P	**Pn**	**10 14 55.9**	**+0.3**
ZKR	**Zakros**	**1.20**	**76**	*e*P	Pn	10 15 01.4	+2.1
ZKR	**Zakros**	**1.20**	**76**	*e*P	Pn	10 15 01.4	+2.1
ANKY	**Antikythira Is**	**1.60**	**311**	P	**Pn**	**10 15 06.4**	**+1.5**
ANKY				S	**Sn**	**10 15 24.4**	**0.0**
ANKY	**Antikythira Is**	**1.60**	**311**	*e*P	**Pn**	**10 15 06.2**	**+1.3**
ANKY	**Antikythira Is**	**1.60**	**311**	*e*P	**Pn**	**10 15 06.2**	**+1.3**
ANKY				S	**Sn**	**10 15 24.4**	**0.0**
SANT	**Santorini**	**1.63**	**19**	P	**Pn**	**10 15 05.4**	**+0.1**
SANT				S	**Sn**	**10 15 26.0**	**+1.0**
SANT	**Santorini**	**1.63**	**19**	*e*P	**Pn**	**10 15 04.3**	**-1.0**
SANT	**Santorini**	**1.63**	**19**	P	**Pn**	**10 15 05.4**	**+0.1**
THR1	**Thera Island**	**1.63**	**19**	P	**Pn**	**10 15 05.5**	**+0.2**
THR1	**Thera Island**	**1.63**	**19**	P	**Pn**	**10 15 05.5**	**+0.2**
THR3	**Thira Island,**	**1.65**	**17**	P	**Pn**	**10 15 05.8**	**+0.3**
THR3	**Thira Island,**	**1.65**	**17**	P	**Pn**	**10 15 05.8**	**+0.3**
KYTH	**Kithira**	**2.04**	**316**	P	**Pn**	**10 15 11.2**	**+0.3**
KYTH	**Kithira**	**2.04**	**316**	*e*P	**Pn**	**10 15 11.3**	**+0.3**
KYTH	**Kithira**	**2.04**	**316**	P	**Pn**	**10 15 11.2**	**+0.3**
KARP	**Karpathos**	**2.06**	**69**	P	Pn	10 15 13.1	+1.9
KARP				S	**Sn**	**10 15 38.6**	**+2.9**
KARP	**Karpathos**	**2.06**	**69**	*e*P	Pn	10 15 13.2	+2.0
KARP	**Karpathos**	**2.06**	**69**	P	Pn	10 15 13.1	+1.9
KARP				S	**Sn**	**10 15 38.6**	**+2.9**
APE	**Apeiranthos**	**2.31**	**15**	*e*P	**Pn**	**10 15 13.9**	**-0.7**
APE	**Apeiranthos**	**2.31**	**15**	*e*P	**Pn**	**10 15 13.9**	**-0.7**
VLI	**Veliai**	**2.42**	**322**	P	**Pn**	**10 15 15.9**	**-0.1**
VLI				S	**Sn**	**10 15 43.6**	**-0.8**
VLI	**Veliai**	**2.42**	**322**	*e*P	**Pn**	**10 15 15.8**	**-0.2**
VLI	**Veliai**	**2.42**	**322**	*e*P	**Pn**	**10 15 15.8**	**-0.2**
NIS1	**Nisyros Isl.**	**2.62**	**47**	*e*P	**Pn**	**10 15 19.6**	**+0.8**
NIS1	**Nisyros Isl.**	**2.62**	**47**	*e*P	**Pn**	**10 15 19.6**	**+0.8**
ARG	**Arkhangelos**	**3.04**	**62**	*e*P	**Pn**	**10 15 25.7**	**+1.1**
ARG	**Arkhangelos**	**3.04**	**62**	*e*P	**Pn**	**10 15 25.7**	**+1.1**
NAIG	**Nisos Aigina**	**3.11**	**340**	*e*P	**Pn**	**10 15 25.1**	**-0.4**
NAIG	**Nisos Aigina**	**3.11**	**340**	*e*P	**Pn**	**10 15 25.1**	**-0.4**
VLX	**Vlachokerasia**	**3.21**	**323**	P	**Pn**	**10 15 27.3**	**+0.3**
VLX	**Vlachokerasia**	**3.21**	**323**	*e*P	**Pn**	**10 15 27.2**	**+0.3**
VLX	**Vlachokerasia**	**3.21**	**323**	*e*P	**Pn**	**10 15 27.2**	**+0.3**
PYL	**PYLOS**	**3.23**	**311**	*e*P	**Pn**	**10 15 26.5**	**-0.7**
PYL	**PYLOS**	**3.23**	**311**	*e*P	**Pn**	**10 15 26.5**	**-0.7**
PTL	**Penteli**	**3.30**	**347**	*e*P	**Pn**	**10 15 27.8**	**-0.4**
PTL	**Penteli**	**3.30**	**347**	*e*P	**Pn**	**10 15 27.8**	**-0.4**
ITM	**Ithomi**	**3.31**	**316**	*e*P	**Pn**	**10 15 28.1**	**-0.2**
ITM	**Ithomi**	**3.31**	**316**	*e*P	**Pn**	**10 15 28.1**	**-0.2**
LTK	**Loutraki**	**3.51**	**336**	*e*P	**Pn**	**10 15 30.2**	**-0.9**
LTK	**Loutraki**	**3.51**	**336**	*e*P	**Pn**	**10 15 30.2**	**-0.9**
GUR	**Goura**	**3.68**	**328**	*e*P	**Pn**	**10 15 32.8**	**-0.7**
GUR	**Goura**	**3.68**	**328**	*e*P	**Pn**	**10 15 32.8**	**-0.7**
KLV	**Kalavryta, Ach**	**3.85**	**327**	*e*P	**Pn**	**10 15 35.2**	**-0.6**
KLV	**Kalavryta, Ach**	**3.85**	**327**	*e*P	**Pn**	**10 15 35.2**	**-0.6**
LKR	**Lokris**	**4.08**	**340**	*e*P	**Pn**	**10 15 38.4**	**-0.4**
LKR	**Lokris**	**4.08**	**340**	*e*P	**Pn**	**10 15 38.4**	**-0.4**
LAKA	**Lakka**	**4.09**	**327**	*e*P	**Pn**	**10 15 38.5**	**-0.6**
LAKA	**Lakka**	**4.09**	**327**	*e*P	**Pn**	**10 15 38.5**	**-0.6**
KALE	**Kalithea**	**4.15**	**330**	*e*P	**Pn**	**10 15 39.4**	**-0.5**
KALE	**Kalithea**	**4.15**	**330**	*e*P	**Pn**	**10 15 39.4**	**-0.5**
TRIZ	**Trizonia**	**4.16**	**329**	*e*P	**Pn**	**10 15 39.4**	**-0.5**
TRIZ	**Trizonia**	**4.16**	**329**	*e*P	**Pn**	**10 15 39.4**	**-0.5**
AOS	**Alonnisos**	**4.39**	**351**	*e*P	**Pn**	**10 15 42.7**	**-0.5**
AOS	**Alonnisos**	**4.39**	**351**	*e*P	**Pn**	**10 15 42.7**	**-0.5**
AGG	**Agios Georgios**	**4.63**	**335**	*e*P	**Pn**	**10 15 47.2**	**+0.8**
AGG	**Agios Georgios**	**4.63**	**335**	*e*P	**Pn**	**10 15 47.2**	**+0.8**
NEO	**Neokhori**	**4.64**	**345**	*e*P	**Pn**	**10 15 46.6**	**0.0**
NEO	**Neokhori**	**4.64**	**345**	*e*P	**Pn**	**10 15 46.6**	**0.0**
EVR	**Evrytania**	**4.73**	**330**	*e*P	Pn	10 15 49.2	+1.3
EVR	**Evrytania**	**4.73**	**330**	*e*P	Pn	10 15 49.2	+1.3
SWA2		**5.60**	**174**	AMP		10 16 00.0	
	comp=N,110μm,0.5s,logA/T=5.4,baz=179						
SWA2		**5.60**	**174**	P	**Pn**	**10 16 00.9**	**+1.2**
HNAT	**Natroun**	**7.15**	**135**	P	Pn	10 16 19.1	-1.9

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	0.4nm,1.0s,baz=140,slow=8.0,SNR=7.1						
FITZ	**Fitzroy Crossi**	**43.91**	**294**	P	**P**	**10 26 36.5**	**+0.6**
	2.1nm,1.0s,baz=146,slow=7.3,SNR=2.8						
TORD	**Torodi Ar. Bea**	**145.96**	**205**	PKPbc	**PKPdf**	**10 38 06.5**	**+0.7**
	0.4nm,0.6s,baz=172,slow=2.0,SNR=4.8						

IDC 17 10:20:53.0±10.0, 1°.78N×98°.11E, h0km, mb3.4/3, mb1 3.5/3, mb1mx3.2/25, mbtmp3.4/3, Error ellipse: s-maj=367.0km s-min=30.3km az=66.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.58**	**123**	P	P	10 28 43.3	+0.3
	0.4nm,0.8s,baz=302,slow=9.2,SNR=6.0						
ASAR	**Alice Springs**	**43.03**	**128**	P	P	10 28 54.3	-0.5
	0.2nm,0.6s,baz=298,slow=8.0,SNR=3.5						
SONM	**Songino Array**	**46.43**	**8**	P	P	10 29 21.6	-0.1
	0.3nm,0.3s,baz=183,slow=8.7,SNR=4.3						

*LDG **17** 10:28:42.6±0.1, 39°.34N×73°.80E, h10km, Mb4.5/8, Ms3.2/6, Error ellipse: s-maj=5.9km s-min=4.9km az=39.0*
*IDC **17** 10:28:44.2±0.7, 39°.43N×73°.69E, h0km, mb4.1/17, mb1 4.3/23, mb1mx4.1/34, mbtmp4.1/23, ML4.0/6, MS3.1/9, Ms1 3.1/9, ms1mx2.9/40, Error ellipse: s-maj=13.5km s-min=10.3km az=131.0*
*BJI **17** 10:28:44.0, 39°.39N×73°.59E, h8km, mB4.4/3, mb4.2/10, ML4.0/5, Ms3.8/2, Ms7 3.5/2*
*NNC **17** 10:28:46.5±2.5, 39°.63N×73°.56E, h0km, mb4.5, mpv4.3, Error ellipse: s-maj=24.5km s-min=10.7km az=14.0*
*ISCJB **17** 10:28:46.5±0.2, 39°.39N±0°.03×73°.60E±0°.04, h29km, mb4.2/28, MS3.4/7, Error ellipse: s-maj=4.3km s-min=3.7km az=178.7*
*MOS **17** 10:28:46.6±0.8, 39°.40N×73°.60E, h26km, mb4.5/20, Error ellipse: s-maj=8.2km s-min=4.9km az=94.4*
*NEIC **17** 10:28:50.3±0.5, 39°.60N×73°.60E, h35km, mb4.8/8, Error ellipse: s-maj=9.7km s-min=6.2km az=141.0*
*TEH **17** 10:28:51.4, 39°.64N×73°.50E, h40km, ML4.4*
ISC 17 10:28:47.9±0.4, 39°.41N±0°.04×73°.72E±0°.04, h29km, n197, σ1§48/192, mb4.3/28, MS3.4/7, 12C-8D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.75**	**86**	Pg	Pn	10 29 12.3	-4.2
KSH				Sg	**Sn**	**10 29 33.8**	**-4.1**
KSH				smax	smax		
	comp=N,1μm,0.7s						
KSH				smax	smax		
	comp=E,1μm,0.5s						
AML	**Almayashu**	**2.72**	**360**	*i* PN	**Pn**	**10 29 30.4**	**+0.4**
AML	**Almayashu**	**2.72**	**360**	P	**Pn**	**10 29 30.4**	**+0.4**
	SNR=142						
KZA	**Kyzart**	**2.91**	**23**	*i* PN	**Pn**	**10 29 33.4**	**+0.8**
KZA	**Kyzart**	**2.91**	**23**	P	**Pn**	**10 29 33.4**	**+0.8**
	SNR=59						
EKS2	**Erkin-Say**	**3.25**	**1**	*e*PN	**Pn**	**10 29 38.0**	**+1.0**
EKS2	**Erkin-Say**	**3.25**	**1**	P	**Pn**	**10 29 38.0**	**+1.0**
	SNR=74						
EKS2	**Erkin-Say**	**3.25**	**1**	*e*Pn	**Pn**	**10 29 38.0**	**+1.0**
AAK	**Ala-Archa**	**3.27**	**10**	*c i*PN	**Pn**	**10 29 38.8**	**+1.4**
AAK				pmax	pmax		
	comp=Z,435nm,0.6s						
AAK	**Ala-Archa**	**3.27**	**10**	Pn	**Pn**	**10 29 39.1**	**+1.7**
AAK				Sn	**Sn**	**10 30 17.4**	**+1.9**
AAK				Lg	Lg	10 30 25.8	
AAK	**Ala-Archa**	**3.27**	**10**	Pn	**Pn**	**10 29 39.1**	**+1.7**
	comp=Z,95nm,0.3s,baz=162,slow=8.6,SNR=332						
AAK				Sn	**Sn**	**10 30 17.4**	**+1.9**
	comp=Z,17nm,0.3s,baz=240,slow=20,SNR=3.0						
AAK				Lg	Lg	10 30 25.8	
	comp=Z,103nm,0.3s,baz=280,slow=24,SNR=13						
AAK				LR	LR	10 31 03.6	
	comp=Z,319nm,21.0s,baz=174,slow=43						
KBK	**Karagaybulak**	**3.37**	**16**	*i* PN	**Pn**	**10 29 40.2**	**+1.4**
KBK	**Karagaybulak**	**3.37**	**16**	P	**Pn**	**10 29 40.2**	**+1.4**
	SNR=235						
ULHL	**Ulahol**	**3.42**	**33**	*i* PN	**Pn**	**10 29 40.7**	**+1.2**
ULHL	**Ulahol**	**3.42**	**33**	P	**Pn**	**10 29 40.7**	**+1.2**
	SNR=84						
FRU	**Bishkek**	**3.49**	**11**	*e*PN	**Pn**	**10 29 41.0**	**+0.8**
FRU				*i*		10 30 31.0	
FRU				pmax	pmax		
	comp=Z,350nm,1.6s						
FRU				smax	smax		
	comp=E,2μm,1.8s						
CHMS	**Chumysh**	**3.67**	**12**	*i* PN	**Pn**	**10 29 43.9**	**+1.2**
CHMS	**Chumysh**	**3.67**	**12**	P	**Pn**	**10 29 44.0**	**+1.2**
	SNR=54						
TKM2	**Tokmak 2**	**3.78**	**21**	⇑Pn	**Pn**	**10 29 45.7**	**+1.2**
	comp=E,69nm,0.4s						
TKM2				⇑Lg	Lg	10 30 41.2	
	comp=E,254nm,0.5s						
TKM2	**Tokmak 2**	**3.78**	**21**	*i* PN	**Pn**	**10 29 45.6**	**+1.2**
TKM2	**Tokmak 2**	**3.78**	**21**	P	**Pn**	**10 29 45.6**	**+1.2**
	SNR=125						
TKM2	**Tokmak 2**	**3.78**	**21**	*e*Pn	**Pn**	**10 29 45.4**	**+1.0**
USP	**Ospenovka**	**3.90**	**8**	*i* PN	**Pn**	**10 29 47.3**	**+1.4**
USP	**Ospenovka**	**3.90**	**8**	P	**Pn**	**10 29 47.3**	**+1.4**
	SNR=62						
KK31	**Karatay Array**	**4.41**	**328**	⇑Pn	**Pn**	**10 29 53.9**	**+1.0**
	comp=E,8.3nm,0.2s,baz=130,slow=13,SNR=298						
KK31				⇓Pg	**Pb**	**10 30 03.5**	**-1.1**
	comp=E,19nm,0.3s,baz=163,slow=14,SNR=22						
KK31				⇓Sn	**Sn**	**10 30 47.4**	**+4.2**
	comp=E,74nm,0.4s,baz=173,slow=25,SNR=4.4						
KK31				Lg	Lg	10 30 59.8	
	comp=E,130nm,0.5s,baz=141,slow=31,SNR=5.7						
KK31	**Karatay Array**	**4.41**	**328**	PN	**Pn**	**10 29 53.8**	**+1.0**
KK31				*i*		10 30 03.4	
KK31						10 30 47.4	
KK31						10 30 59.8	
KK31				pmax	pmax		
	comp=Z,37nm,0.3s						
KK31				pmax	pmax		
	comp=Z,25nm,0.2s						
KK31				smax	smax		
	comp=N,120nm,0.4s						
KK31				pmax	pmax		
	comp=N,135nm,0.3s						
KKAR	**Karatay Array**	**4.41**	**328**	*e*PN	**Pn**	**10 29 53.7**	**+0.8**
KKAR	**Karatay Array**	**4.41**	**328**	*e*Pn	**Pn**	**10 29 53.7**	**+0.8**
KNDC	**Almaty**	**4.52**	**32**	⇓Pn	**Pn**	**10 29 57.3**	**+2.8**
KNDC				⇓Pg	**Pb**	**10 30 05.4**	**-1.2**
KNDC				⇑Lg	Lg	10 31 05.3	
AAA	**Alma-Ata**	**4.56**	**31**	*i* PN	**Pb**	**10 30 05.0**	**-2.2**
AAA				*i* S	**Sb**	**10 31 05.3**	**+3.6**
AAA				pmax	pmax		
	comp=Z,246nm,0.2s						
AAA				smax	smax		
	comp=N,961nm,0.4s						
CHCP	**Chirah Chowk**	**5.75**	**184**	P	Pn	10 30 18.8	+7.4
CEP	**Cherat**	**5.76**	**195**	P	Pn	10 30 18.9	+7.3
CEP				S	Sb	10 31 29.0	-7.4
KBL	**Kabul**	**6.13**	**219**	*e*PN	Pn	10 30 22.2	+5.4
KBL				pmax	pmax		
	comp=Z,19nm,0.4s						
KBL	**Kabul**	**6.13**	**219**	*e*Pn	Pn	10 30 22.2	+5.4
	comp=Z,19nm,0.4s						
THW	**Thamme Wali**	**6.79**	**194**	P	Pn	10 30 31.8	+6.1
DLH	**Dalhousie**	**7.09**	**164**	*e*P	**Pn**	**10 30 33.0**	**+3.0**
DLH				*e*S	**Sn**	**10 31 54.0**	**+4.3**
THN	**Thein Dam**	**7.15**	**166**	*e*P	Pn	10 30 35.6	+5.1
THN				*e*4		10 32 03.1	
SDNR	**Sundarnagar**	**8.33**	**160**	*e*P	Pn	10 30 50.0	+3.3
SDNR				*e*4		10 32 27.0	
MK31	**Makanchi Array**	**9.68**	**38**	⇑Pn	**Pn**	**10 31 07.6**	**+2.5**
	comp=Z,2.4nm,0.5s,baz=222,slow=15,SNR=10.0						
MK31				⇑Lg	Lg	10 33 42.6	
	comp=Z,9.8nm,0.8s,baz=218,slow=25,SNR=3.9						
MK31	**Makanchi Array**	**9.68**	**38**	*i* P	**Pn**	**10 31 06.9**	**+1.7**
MK31				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MK31	**Makanchi Array**	**9.68**	**38**	*e*Pn	**Pn**	**10 31 07.5**	**+2.3**
MKAR	**Makanchi Array**	**9.68**	**38**	P	**Pn**	**10 31 06.9**	**+1.7**
MKAR	**Makanchi Array**	**9.68**	**38**	Pn	**Pn**	**10 31 06.9**	**+1.7**
MKAR				Lg	Lg	10 33 55.1	
MKAR	**Makanchi Array**	**9.68**	**38**	Pn	**Pn**	**10 31 06.9**	**+1.7**
	comp=Z,0.3nm,0.3s,baz=222,slow=15,SNR=15						
MKAR				Lg	Lg	10 33 55.1	
	comp=Z,0.7nm,0.3s,baz=234,slow=33,SNR=6.2						
NDI	**New Delhi**	**11.09**	**164**	*e*P	Pn	10 31 38.9	+14
NDI				AMB	AMB	10 31 41.2	
	comp=Z,4.5nm,0.6s						
NDI				*e*S	Sn	10 33 40.3	+13
IMYA	**Miami**	**11.19**	**258**	*e*P	**Pn**	**10 31 25.2**	**-0.8**
KHET	**Khetri**	**11.44**	**171**	*e*P	Pn	10 31 32.8	+3.4
KHET				*e*S	**Sn**	**10 33 33.8**	**-2.4**
KHET				AML	AML	10 33 42.6	
	comp=N,122nm,0.1s						
KHET				AML	AML	10 33 42.6	
	comp=E,76nm,0.2s						
KUDL	**Kundal**	**11.47**	**168**	*e*P	**Pn**	**10 31 32.8**	**+3.1**
KUDL				*e*S	**Sn**	**10 33 33.6**	**-3.2**
SONA	**Sohna**	**11.48**	**165**	*e*P	**Pn**	**10 31 33.0**	**+3.1**
SONA				*e*S	**Sn**	**10 33 33.8**	**-3.2**
ISRO	**Mashad**	**11.68**	**259**	*e*P	**Pn**	**10 31 30.9**	**-1.8**
KURBB	**Kurchatov Arra**	**11.71**	**15**	Pn	**Pn**	**10 31 32.4**	**-0.6**
	comp=E,0.4nm,0.3s,baz=207,slow=12,SNR=14						
KURBB				Sn	Sn	10 33 36.4	-6.2
	comp=E,0.1nm,0.3s,baz=196,slow=30,SNR=2.8						
KURBB				Lg	Lg	10 34 49.4	
	comp=E,0.5nm,0.3s,baz=209,slow=25,SNR=17						
KURK	**Kurchatov**	**11.82**	**15**	P	**Pn**	**10 31 32.4**	**-2.0**
KURK	**Kurchatov**	**11.82**	**15**	Pn	**Pn**	**10 31 32.4**	**-2.0**
KURK				Sn	Sn	10 33 36.4	-8.8
KURK				Lg	Lg	10 34 49.4	
IMOG	**Moghan**	**11.85**	**258**	*e*P	**Pn**	**10 31 34.2**	**-1.0**
IEMG	**Emamgholi**	**11.99**	**265**	*e*P	**Pn**	**10 31 35.7**	**-1.4**
IPAY	**Payeh**	**11.99**	**260**	*e*P	**Pn**	**10 31 35.9**	**-1.2**
IAKL	**Akhelmad**	**12.13**	**261**	*e*P	**Pn**	**10 31 37.5**	**-1.5**
IKRD	**Kardeh**	**12.26**	**262**	*e*P	Pn	10 31 28.9	-12
ISFR	**Sfrayin**	**12.58**	**264**	*e*P	**Pn**	**10 31 43.8**	**-1.4**
AGRA	**Agra**	**12.65**	**163**	*e*S	**Sn**	**10 34 02.0**	**-3.7**
AGRA				AML	AML	10 34 31.1	
	comp=N,54nm,0.2s						
AGRA				AML	AML	10 34 31.8	
	comp=E,60nm,0.5s						
VOSK	**Vostochnaya**	**13.45**	**353**	⇑Pn	Pn	10 31 53.2	-3.5
	comp=E,3.4nm,0.6s						
VOSK				⇓Lg	Lg	10 35 47.5	
	comp=E,69nm,1.3s						
VOSK	**Vostochnaya**	**13.45**	**353**	P	Pn	10 31 53.1	-3.5
VOSK				pmax	pmax		
	comp=Z,7.0nm,0.7s						
VOSK				pmax	pmax		
	comp=N,134nm,1.9s						
PYUN	**Piuthan**	**13.66**	**143**	*e*P	**Pn**	**10 31 58.5**	**-1.3**
	comp=N,129nm,0.4s						
BVA0	**Borovoye Array**	**13.81**	**352**	⇓Pn	Pn	10 31 58.1	-3.4
	comp=N,7.1nm,0.9s						
BVA0				⇑Lg	Lg	10 35 52.8	
	comp=N,37nm,1.1s						
BVA0	**Borovoye Array**	**13.81**	**352**	P	Pn	10 31 57.5	-4.1
BVA0				pmax	pmax		
	comp=Z,8.0nm,0.7s						
BVA0				pmax	pmax		
	comp=N,92nm,1.5s						
BVAR	**Borovoye Array**	**13.81**	**352**	P	**Pn**	**10 31 59.2**	**-2.3**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BVAR				MLR	MLR		
	comp=Z,32nm,18.4s						
BVAR	**Borovoye Array**	**13.81**	**352**	Pn	**Pn**	**10 31 59.2**	**-2.3**
BVAR				Lg	Lg	10 35 57.8	
BVAR	**Borovoye Array**	**13.81**	**352**	Pn	**Pn**	**10 31 59.2**	**-2.3**
	comp=Z,1.1nm,0.3s,baz=160,slow=14,SNR=23						
BVAR				Lg	Lg	10 35 57.8	
	comp=Z,0.8nm,0.3s,baz=153,slow=30,SNR=4.0						
BVAR				LR	LR	10 37 20.9	
	comp=Z,32nm,18.4s,baz=289,slow=38						
DANN	**Dangsing**	**13.82**	**140**	*e*P	Pn	10 31 59.8	-2.3
	comp=Z,20nm,0.4s						
BRVK	**Borovoye**	**13.85**	**351**	⇓Pn	Pn	10 31 59.0	-3.1
	comp=Z,30nm,1.4s						
BRVK				⇓Lg	Lg	10 35 52.5	
	comp=Z,60nm,1.4s						
BRVK	**Borovoye**	**13.85**	**351**	P	Pn	10 31 59.0	-3.1
BRVK				pmax	pmax		
	comp=Z,90nm,2.4s						
BRVK				pmax	pmax		
	comp=N,72nm,1.6s						
BRVK	**Borovoye**	**13.85**	**351**	*e*Pn	Pn	10 31 58.7	-3.4
	comp=N,8.3nm,0.6s						
AB31	**Akbulak array**	**13.91**	**320**	⇑Pn	**Pn**	**10 32 00.3**	**-2.6**
	comp=N,2.4nm,0.4s						
AB31				⇑Sn	**Sn**	**10 34 30.6**	**-5.6**
	comp=N,3.0nm,0.4s						
AB31	**Akbulak array**	**13.91**	**320**	*i* P	**Pn**	**10 32 00.3**	**-2.6**
AB31				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ABKAR	**Akbulak array**	**13.91**	**320**	*e*Pn	**Pn**	**10 32 00.5**	**-2.4**
	comp=Z,4.9nm,0.4s						
KOLN	**Koldanda**	**14.22**	**142**	*e*P	**Pn**	**10 32 06.7**	**-0.9**
	comp=Z,11nm,0.4s						
AKTO	**Aktyubinsk**	**15.62**	**320**	P	**Pn**	**10 32 24.4**	**-1.5**
AKTO	**Aktyubinsk**	**15.62**	**320**	Pn	**Pn**	**10 32 24.4**	**-1.5**
AKTO	**Aktyubinsk**	**15.62**	**320**	Pn	**Pn**	**10 32 24.4**	**-1.5**
	comp=Z,0.4nm,0.3s,baz=129,slow=14,SNR=17						
JIRN	**Jiri**	**15.65**	**135**	*e*P	**Pn**	**10 32 25.3**	**-1.5**
	comp=Z,20nm,0.5s						
ZAA0	**Zalesovo Array**	**16.38**	**24**	*e*Pn	**Pn**	**10 32 35.4**	**-0.2**
ZALV	**Zalesovo Beam**	**16.38**	**24**	*i* P	**Pn**	**10 32 35.7**	**+0.1**
ZALV				pmax	pmax		
	comp=Z,8.0nm,0.8s						
ZALV	**Zalesovo Beam**	**16.38**	**24**	Pn	**Pn**	**10 32 34.9**	**-0.7**
ZALV	**Zalesovo Beam**	**16.38**	**24**	Pn	**Pn**	**10 32 34.9**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=211,slow=12,SNR=15						
ZALV				LR	LR	10 39 26.9	
	comp=Z,47nm,19.9s,baz=45,slow=39						
RAMN	**Ramite**	**16.43**	**135**	*e*P	**Pn**	**10 32 34.4**	**-2.3**
NVS	**Novosibirsk**	**16.71**	**19**	*e*P	**Pn**	**10 32 37.9**	**-1.9**
NVS				pmax	pmax		
	comp=Z,39nm,1.6s						
NVS				pmax	pmax		
	comp=N,26nm,1.5s						
ODAN	**Odare**	**16.94**	**134**	*e*P	**Pn**	**10 32 41.6**	**-1.5**
	comp=N,12nm,0.5s						
HVS	**Khovu-Aksy**	**18.24**	**43**	*e*P	**Pn**	**10 33 00.3**	**+1.4**
HVS				pmax	pmax		
	comp=Z,61nm,1.2s						
ARU	**Arti**	**19.75**	**335**	*c i*P	**Pn**	**10 33 16.6**	**-0.2**
ARU				S	**S**	**10 36 55.7**	**-0.4**
ARU				pmax	pmax		
	comp=Z,18nm,2.5s						
GTA	**Gaotai**	**20.15**	**82**	*e*P	**P**	**10 33 20.6**	**+0.7**
GTA				pP	**pP**	**10 33 26.1**	**-1.6**
GTA				sP	**sP**	**10 33 28.5**	**-2.9**
GTA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
GNI	**Garni**	**22.24**	**281**	*e*Pn	**P**	**10 33 42.7**	**+0.2**
	comp=Z,40nm,1.5s						
GNI	**Garni**	**22.24**	**281**	P	**P**	**10 33 42.8**	**+0.3**
	comp=Z,2.2nm,0.3s,baz=319,slow=11,SNR=2.7						
KBZ	**Khabaz**	**23.38**	**291**	P	**P**	**10 33 52.8**	**-1.3**
KBZ				pmax	pmax		
	comp=Z,2.0nm,1.0s						
KBZ	**Khabaz**	**23.38**	**291**	P	**P**	**10 33 52.8**	**-1.3**
KBZ	**Khabaz**	**23.38**	**291**	P	**P**	**10 33 52.8**	**-1.3**
	comp=Z,2.1nm,1.0s,baz=229,slow=9.3,SNR=2.7						
ZAK	**Zakamensk**	**23.49**	**52**	*e*P	**P**	**10 33 56.0**	**+0.8**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.3s						
KIV	**Kislovodsk**	**23.54**	**291**	*e*P	**P**	**10 33 57.1**	**+1.4**
KIV				*e*S	**S**	**10 38 08.1**	**+0.3**
KIV				pmax	pmax		
	comp=Z,13nm,1.1s						
SONM	**Songino Array**	**24.96**	**60**	P	**P**	**10 34 10.3**	**+1.5**
SONM	**Songino Array**	**24.96**	**60**	P	**P**	**10 34 10.3**	**+1.5**
	comp=Z,2.2nm,1.0s,baz=268,slow=11,SNR=8.1						
SONM				LR	LR	10 44 49.6	
	comp=Z,140nm,21.0s,baz=156,slow=39						
CMAR	**Chiang Mai Arr**	**30.21**	**126**	LR	LR	10 50 19.4	
	comp=Z,5μm,20.8s,baz=313,slow=43						
BRTR	**Keskin Array B**	**30.72**	**284**	P	**P**	**10 35 02.2**	**+1.7**
BRTR	**Keskin Array B**	**30.72**	**284**	P	**P**	**10 35 02.2**	**+1.7**
	comp=Z,1.2nm,0.5s,baz=95,slow=7.4,SNR=5.4						
AKASG	**Malin Array Be**	**32.92**	**305**	P	**P**	**10 35 19.5**	**0.0**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKASG	**Malin Array Be**	**32.92**	**305**	P	**P**	**10 35 19.5**	**0.0**
AKASG	**Malin Array Be**	**32.92**	**305**	P	**P**	**10 35 19.5**	**0.0**
	comp=Z,0.7nm,0.3s,baz=82,slow=8.0,SNR=8.5						
MLR	**Muntele Rosu**	**35.34**	**296**	LR	LR	10 50 51.6	
	comp=Z,14nm,20.8s,baz=235,slow=38						
FINES	**FINESS Array B**	**36.35**	**323**	P	**P**	**10 35 49.4**	**+0.4**
FINES	**FINESS Array B**	**36.35**	**323**	P	**P**	**10 35 49.4**	**+0.4**
	comp=Z,2.2nm,0.4s,baz=115,slow=10.0,SNR=16						
QIZ	**Qiongzhong**	**37.16**	**113**	P	**P**	**10 35 57.5**	**+1.1**
QIZ				S	**S**	**10 41 45.6**	**+4.3**
QIZ				pmax	pmax		
	comp=Z,6.0nm,1.5s						
ARCES	**ARCESS Array B**	**39.33**	**336**	P	**P**	**10 36 14.1**	**0.0**
ARCES	**ARCESS Array B**	**39.33**	**336**	P	**P**	**10 36 14.1**	**0.0**
	comp=Z,1.9nm,0.3s,baz=107,slow=8.5,SNR=24						
VRAC	**Vranov**	**41.12**	**303**	LR	LR	10 56 14.2	
	comp=Z,46nm,18.2s,baz=238,slow=40						
HFS	**Hagfors**	**42.17**	**320**	P	**P**	**10 36 37.8**	**+0.2**
HFS	**Hagfors**	**42.17**	**320**	P	**P**	**10 36 37.7**	**+0.2**
	comp=Z,2.9nm,0.5s,baz=97,slow=12,SNR=13						
HFS				LR	LR	10 56 25.0	
	comp=Z,63nm,19.3s,baz=332,slow=39						
TIXI	**Tiksi**	**42.27**	**23**	*e*P	**P**	**10 36 38.0**	**-0.2**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.7s						
GERES	**GERESS Array B**	**43.07**	**303**	P	**P**	**10 36 46.3**	**+1.1**
GERES	**GERESS Array B**	**43.07**	**303**	P	**P**	**10 36 46.3**	**+1.1**
	comp=Z,1.1nm,0.6s,baz=101,slow=5.6,SNR=9.3						
GERES				LR	LR	10 58 11.8	
	comp=Z,27nm,19.9s,baz=29,slow=41						
NB2	**NORSAR Subarra**	**43.41**	**321**	P	**P**	**10 36 47.2**	**-0.5**
	comp=Z,1.3nm,0.4s,baz=92,slow=8.6						
NOA	**NORSAR Array B**	**43.41**	**321**	P	**P**	**10 36 47.5**	**-0.2**
NOA	**NORSAR Array B**	**43.41**	**321**	P	**P**	**10 36 47.5**	**-0.2**
	comp=Z,1.4nm,0.5s,baz=92,slow=7.9,SNR=8.8						
NOA				LR	LR	10 56 48.5	
	comp=Z,10.0nm,18.6s,baz=180,slow=39						
HINF	**Hinteralfeld**	**47.76**	**303**	*e*P	**P**	**10 37 22.7**	**+0.5**
HINF	**Hinteralfeld**	**47.76**	**303**	*e*P	**P**	**10 37 22.7**	**+0.5**
HINF	**Hinteralfeld**	**47.76**	**303**	*e*P	**P**	**10 37 22.7**	**+0.5**
HAU	**Haudompre**	**48.03**	**304**	*e*P	**P**	**10 37 24.6**	**+0.2**
	comp=Z,5.2nm,0.6s						
HAU				*e*R			
	comp=Z,46nm,19.5s						
HAU	**Haudompre**	**48.03**	**304**	*e*P	**P**	**10 37 24.6**	**+0.2**
HAU				pmax	pmax		
	comp=Z,5.0nm,0.6s						
HAU	**Haudompre**	**48.03**	**304**	*e*P	**P**	**10 37 24.6**	**+0.2**
	comp=Z,5.2nm,0.6s						
LPG	**La Plagne**	**48.49**	**300**	*e*P	**P**	**10 37 28.9**	**+0.6**
LPG	**La Plagne**	**48.49**	**300**	*e*P	**P**	**10 37 28.9**	**+0.6**
LPG	**La Plagne**	**48.49**	**300**	*e*P	**P**	**10 37 28.9**	**+0.6**
LPL	**La Plagne**	**48.50**	**300**	*e*P	**P**	**10 37 28.7**	**+0.5**
	comp=Z,6.5nm,0.6s						
LPL	**La Plagne**	**48.50**	**300**	*e*P	**P**	**10 37 28.7**	**+0.5**
LPL				pmax	pmax		
	comp=Z,7.0nm,0.6s						
LPL	**La Plagne**	**48.50**	**300**	*e*P	**P**	**10 37 28.7**	**+0.5**
	comp=Z,6.5nm,0.6s						
CABF	**La Chapelle**	**48.60**	**302**	*e*P	**P**	**10 37 29.6**	**+0.8**
CABF	**La Chapelle**	**48.60**	**302**	*e*P	**P**	**10 37 29.6**	**+0.8**
CABF	**La Chapelle**	**48.60**	**302**	*e*P	**P**	**10 37 29.6**	**+0.8**
MBDF	**Montbardon**	**48.72**	**299**	*e*P	**P**	**10 37 30.0**	**+0.1**
	comp=Z,4.5nm,0.6s						
MBDF	**Montbardon**	**48.72**	**299**	*e*P	**P**	**10 37 30.0**	**+0.1**
MBDF				pmax	pmax		
	comp=Z,5.0nm,0.6s						
MBDF	**Montbardon**	**48.72**	**299**	*e*P	**P**	**10 37 30.0**	**+0.1**
	comp=Z,4.5nm,0.6s						
BAIF	**Baives**	**48.83**	**307**	*e*P	**P**	**10 37 31.0**	**+0.6**
	comp=Z,9.3nm,0.5s						
BAIF	**Baives**	**48.83**	**307**	*e*P	**P**	**10 37 31.0**	**+0.6**
BAIF				pmax	pmax		
	comp=Z,9.0nm,0.5s						
BAIF	**Baives**	**48.83**	**307**	*e*P	**P**	**10 37 31.0**	**+0.6**
	comp=Z,9.3nm,0.5s						
FRF	**La Foret Royal**	**49.18**	**298**	*e*P	**P**	**10 37 33.3**	**+0.1**
FRF	**La Foret Royal**	**49.18**	**298**	*e*P	**P**	**10 37 33.3**	**+0.1**
FRF	**La Foret Royal**	**49.18**	**298**	*e*P	**P**	**10 37 33.3**	**+0.1**
LMR	**La Mourre**	**49.35**	**298**	*e*P	**P**	**10 37 34.4**	**-0.1**
LMR	**La Mourre**	**49.35**	**298**	*e*P	**P**	**10 37 34.4**	**-0.1**
LMR	**La Mourre**	**49.35**	**298**	*e*P	**P**	**10 37 34.4**	**-0.1**
SMRF	**Simiane la Rot**	**49.78**	**299**	*e*P	**P**	**10 37 38.3**	**+0.5**
SMRF	**Simiane la Rot**	**49.78**	**299**	*e*P	**P**	**10 37 38.3**	**+0.5**
SMF	**Signal de Mont**	**50.06**	**302**	*e*P	**P**	**10 37 39.8**	**-0.1**
	comp=Z,2.4nm,0.4s						
SMF	**Signal de Mont**	**50.06**	**302**	*e*P	**P**	**10 37 39.8**	**-0.1**
SMF				pmax	pmax		
	comp=Z,2.0nm,0.4s						
SMF	**Signal de Mont**	**50.06**	**302**	*e*P	**P**	**10 37 39.8**	**-0.1**
	comp=Z,2.4nm,0.4s						
VIVF	**Saint-Julien-l**	**50.09**	**300**	*e*P	**P**	**10 37 40.7**	**+0.5**
VIVF	**Saint-Julien-l**	**50.09**	**300**	*e*P	**P**	**10 37 40.7**	**+0.5**
VIVF	**Saint-Julien-l**	**50.09**	**300**	*e*P	**P**	**10 37 40.7**	**+0.5**
AVF	**Avril sur Loir**	**50.33**	**303**	*

BUTP				*e*S		**Sb**	**11 39 16.1 +0.4**
SCPH	**Surigao**	**0.51**	**358**	*e*P		**Pb**	**11 39 13.0 -1.0**
SCPH				*e*S		Sb	11 39 13.5 -7.5
CGP	**Cagayan de Oro**	**1.14**	**225⇑**	*e*P		**Pb**	**11 39 24.7 +0.1**
CGP				*i* S		**Sn**	**11 39 41.8 +2.6**
BUKP	**Musuan**	**1.45**	**198**	*e*P		**Pb**	**11 39 30.4 +0.3**
TBP	**Tagbilaran**	**1.67**	**285**	*e*P		**Pb**	**11 39 33.0 -0.7**
PLP	**Palo**	**1.95**	**345⇓**	*e*P		**Pb**	**11 39 37.0 -1.6**
PLP				*e*S		**Sb**	**11 40 03.6 +1.1**
SNPH	**Sibulan**	**2.24**	**272⇑**	*i*P		Pn	11 39 29.3 -10
SNPH				*i* S		**Sb**	**11 40 09.3 -1.5**
CTBH	**Cotabato--PC H**	**2.39**	**212⇑**	*e*P		**Pb**	**11 39 43.5 -2.5**
MATI	**Mati**	**2.43**	**162**	*e*P		**Pb**	**11 39 44.5 -2.2**
PAGZ	**Pagadian**	**2.53**	**236**	*e*P		**Pb**	**11 39 45.9 -2.5**
KSRS	**Korea Array**	**28.14**	**4**	LR		LR	11 55 46.9
	comp=Z,33nm,19.1s,baz=200,slow=36						
WRA	**Warramunga Arr**	**30.30**	**163**	P		**P**	**11 45 13.3 -0.2**
	0.9nm,0.8s,baz=346,slow=9.4,SNR=3.4						
ASAR	**Alice Springs**	**33.75**	**166**	P		**P**	**11 45 44.2 +0.5**
	0.2nm,0.4s,baz=349,slow=7.1,SNR=4.5						
MKAR	**Makanchi Array**	**52.37**	**324**	P		**P**	**11 48 14.8 +0.8**
	0.2nm,0.6s,baz=120,slow=8.7,SNR=2.5						

IDC 17 12:07:18.0±2.2, 23°.77S×67°.14W, h218km±21km, mb3.2/1, mb1 3.4/6, mb1mx3.2/19, mbtmp3.2/6, Error ellipse: s-maj=27.2km s-min=19.9km az=113.0, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**7.50**	**353**	P	Pn	12 09 05.7	0.0
	0.7nm,0.3s,baz=164,slow=6.8,SNR=16						
CPUP	**Villa Florida**	**9.25**	**108**	P	Pn	12 09 28.9	+1.6
	0.7nm,0.3s,baz=260,slow=12,SNR=6.1						
SIV	**San Ignacio**	**9.61**	**37**	P	Pn	12 09 31.4	-0.8
	0.6nm,0.3s,baz=235,slow=11,SNR=7.5						
PLCA	**Paso Flores**	**17.15**	**189**	P	P	12 11 03.3	-0.1
	0.3nm,0.3s,baz=0.1,slow=12,SNR=8.1						
BDFB	**Brasilia**	**19.72**	**69**	P	P	12 11 30.8	-0.7
	0.8nm,0.3s,baz=246,slow=14,SNR=8.6						
TORD	**Torodi Ar. Bea**	**76.60**	**69**	P	P	12 18 44.9	-0.1
	0.4nm,0.4s,baz=264,slow=6.0,SNR=6.9						
ASAR	**Alice Springs**	**128.61**	**205**	PKP	PKPdf	12 25 58.0	-1.8
	0.3nm,0.7s,baz=120,slow=2.0,SNR=4.5						
MKAR	**Makanchi Array**	**146.43**	**39**	PKPbc	PKPab	12 26 34.5	-0.1
	0.3nm,0.5s,baz=318,slow=1.6,SNR=4.0						

IDC 17 12:44:36.6±56.0, 19°.03S×177°.19W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/17, mbtmp3.8/3, Error ellipse: s-maj=1041.0km s-min=162.8km az=81.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.13**	**243**	P	P	12 52 05.7	-0.3
	3.0nm,1.1s,baz=103,slow=14,SNR=2.1						
WRA	**Warramunga Arr**	**45.58**	**260**	P	P	12 52 58.5	-0.3
	0.8nm,1.1s,baz=96,slow=7.5,SNR=6.2						
ASAR	**Alice Springs**	**45.62**	**255**	P	P	12 52 59.2	+0.1
	1.2nm,0.7s,baz=91,slow=8.1,SNR=19						

*ISCJB **17** 12:47:00.8±0.7, 36°.52N±0°.03×9°.51W±0°.05, h10km, Error ellipse: s-maj=5.9km s-min=4.3km az=152.3*
*CSEM **17** 12:47:02.8±0.3, 36°.45N×9°.62W, h30km, ML3.7/6, Error ellipse: s-maj=6.4km s-min=4.3km az=85.0*
*MDD **17** 12:47:03.4±1.3, 36°.43N×9°.73W, h45km±41km, mb4.3/9, Error ellipse: s-maj=12.3km s-min=7.7km az=61.0, PRXIMO*
*INMG **17** 12:47:04.4±1.0, 36°.49N×9°.60W, h17km±3km, ML2.5, Error ellipse: s-maj=4.2km s-min=2.2km az=55.0*
*CNRM **17** 12:47:04.0, 36°.25N×9°.73W, h30km, MD3.2*

ISC 17 12:46:59.3±1.4, 36°.43N±0°.05×9°.69W±0°.05, h10km, n112, σ2°.16/188, 3C-3D, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**0.98**	**44**	*e*P		**Pn**	**12 47 20.6 +1.4**
PFVI				*e*S		**Sb**	**12 47 32.7 +1.2**
PFVI				A		A	12 47 33.7
	72nm,0.2s						
PFVI	**Vila Bisbo**	**0.98**	**44**	⇑P		**Pn**	**12 47 20.6 +1.4**
	81nm,0.1s,SNR=18						
PFVI				S		**Sb**	**12 47 32.5 +1.0**
	81nm,0.1s,SNR=15						
PFVI	**Vila Bisbo**	**0.98**	**44**	P		**Pn**	**12 47 20.6 +1.4**
	81nm,0.1s,SNR=18						
PFVI				*e*S		**Sb**	**12 47 32.7 +1.2**
	72nm,0.2s						
MORF	**Marmelete**	**1.21**	**43**	*e*P		**Pg**	**12 47 23.7 +1.2**
MORF				*e*S		**Sg**	**12 47 38.4 +0.2**
MORF				A		A	12 47 38.5
	80nm,0.3s						
MORF	**Marmelete**	**1.21**	**43**	P		**Pg**	**12 47 23.7 +1.2**
MORF				S		**Sg**	**12 47 38.4 +0.2**
	80nm,0.3s						
MORF	**Marmelete**	**1.21**	**43**	*e*P		**Pg**	**12 47 23.7 +1.2**
MORF				S		**Sg**	**12 47 38.4 +0.2**
	80nm,0.3s						
PTEO	**Sao Teotonio**	**1.35**	**34**	*e*P		**Pb**	**12 47 25.6 +0.8**
PTEO				*e*S		**Sb**	**12 47 41.7 -0.4**
PTEO				A		A	12 47 42.7
	42nm,0.1s						
PTEO	**Sao Teotonio**	**1.35**	**34**	P		**Pb**	**12 47 25.6 +0.8**
PTEO				S		**Sb**	**12 47 41.7 -0.4**
	21nm,0.1s						
PTEO	**Sao Teotonio**	**1.35**	**34**	*e*P		**Pb**	**12 47 25.6 +0.8**
PTEO				S		**Sb**	**12 47 41.7 -0.4**
	21nm,0.1s						
PBDV	**Barranco-do-Ve**	**1.62**	**60**	*e*Pn		**Pn**	**12 47 29.6 +1.5**
PBDV				*e*Sn		**Sn**	**12 47 48.0 -1.1**
PBDV				A		A	12 47 52.5
	23nm,0.2s						
PBDV	**Barranco-do-Ve**	**1.62**	**60**	P		**Pn**	**12 47 29.6 +1.5**
PBDV				S		**Sn**	**12 47 48.0 -1.1**
	23nm,0.2s						
PBDV	**Barranco-do-Ve**	**1.62**	**60**	P		**Pn**	**12 47 29.6 +1.5**
PBDV				S		**Sn**	**12 47 48.0 -1.1**
	23nm,0.2s						
PCVE	**Castro Verde**	**1.78**	**47**	*e*Pn		**Pn**	**12 47 31.8 +1.6**
PCVE				*e*Sn		**Sn**	**12 47 52.6 -0.3**
PCVE				A		A	12 47 53.7
	22nm,0.3s						
PCVE	**Castro Verde**	**1.78**	**47**	P		**Pn**	**12 47 31.8 +1.6**
PCVE				S		**Sn**	**12 47 52.6 -0.3**
	22nm,0.3s						
PCVE	**Castro Verde**	**1.78**	**47**	P		**Pn**	**12 47 31.8 +1.6**
PCVE				S		**Sn**	**12 47 52.6 -0.3**
	22nm,0.3s						
PVAQ	**Vaqueiros**	**1.85**	**58**	*e*Pn		**Pn**	**12 47 32.6 +1.4**
PVAQ				*e*Sn		**Sn**	**12 47 53.6 -1.0**
PVAQ				A		A	12 47 54.8
	47nm,0.1s						
PVAQ	**Vaqueiros**	**1.85**	**58**	P		**Pn**	**12 47 32.6 +1.4**
PVAQ				S		**Sn**	**12 47 53.6 -1.0**
	47nm,0.1s						
PVAQ	**Vaqueiros**	**1.85**	**58**	P		**Pn**	**12 47 32.6 +1.4**
PVAQ				S		**Sn**	**12 47 53.6 -1.0**
	47nm,0.1s						
PNCL	**Nicolau / Gran**	**1.91**	**29**	*e*Pn		**Pn**	**12 47 33.1 +1.1**
PNCL				*e*Sn		**Sn**	**12 47 55.5 -0.6**
PNCL				A		A	12 47 58.0
	23nm,0.1s						
PNCL	**Nicolau / Gran**	**1.91**	**29**	*e*Pn		**Pn**	**12 47 33.1 +1.1**
PNCL				*e*Sn		**Sn**	**12 47 55.5 -0.6**
	23nm,0.1s						
EGRO	**El Granado**	**2.08**	**57**	⇑P		**Pn**	**12 47 35.5 +1.3**
	1.5nm,0.1s,SNR=18						
EGRO				S		**Sn**	**12 47 59.0 -1.2**
	17nm,0.1s,SNR=12						
EGRO	**El Granado**	**2.08**	**57**	P		**Pn**	**12 47 35.5 +1.3**
	1.5nm,0.1s,SNR=18						
EGRO				S		**Sn**	**12 47 59.0 -1.2**
	17nm,0.1s,SNR=12						
PBEJ	**Beja**	**2.15**	**42**	*e*Pn		**Pn**	**12 47 36.6 +1.3**
PBEJ				*e*Sn		**Sn**	**12 48 00.9 -1.2**
PBEJ				A		A	12 48 13.2
	8.7nm,0.2s						
PBEJ	**Beja**	**2.15**	**42**	P		**Pn**	**12 47 36.6 +1.3**
PBEJ				S		**Sn**	**12 48 00.9 -1.2**
	4.3nm,0.2s						
PBEJ	**Beja**	**2.15**	**42**	P		**Pn**	**12 47 36.6 +1.3**
PBEJ				S		**Sn**	**12 48 00.9 -1.2**
	4.3nm,0.2s						
PMST	**Lisbon--Monsan**	**2.33**	**10**	*e*Sn		**Sn**	**12 48 05.2 -1.3**
PMST	**Lisbon--Monsan**	**2.33**	**10**	*e*Sn		**Sn**	**12 48 05.2 -1.3**
PACT	**Alcochete**	**2.43**	**16**	*e*Pn		**Pn**	**12 47 41.0 +2.0**
PACT				*e*Sn		**Sn**	**12 48 08.3 -0.5**
PACT				A		A	12 48 11.9
	21nm,0.1s						
PACT	**Alcochete**	**2.43**	**16**	*e*Pn		**Pn**	**12 47 41.0 +2.0**
PACT				*e*Sn		**Sn**	**12 48 08.3 -0.5**
	21nm,0.1s						
EVO	**Evora**	**2.48**	**32**	*e*Sn		**Sn**	**12 48 08.9 -1.3**
EVO	**Evora**	**2.48**	**32**	S		**Sn**	**12 48 08.9 -1.3**
EVO	**Evora**	**2.48**	**32**	S		**Sn**	**12 48 08.9 -1.3**
PMAFR	**Mafra**	**2.54**	**7**	*e*Sn		**Sn**	**12 48 10.9 -0.7**
PMAFR				A		A	12 48 12.4
	60nm,0.2s						
PMAFR	**Mafra**	**2.54**	**7**	⇑P		**Pn**	**12 47 41.6 +1.0**
	11nm,0.1s,SNR=18						
PMAFR				S		**Sn**	**12 48 08.6 -3.0**
	61nm,0.1s,SNR=5.9						
PMAFR	**Mafra**	**2.54**	**7**	P		**Pn**	**12 47 41.6 +1.0**
	11nm,0.1s,SNR=18						
PMAFR				S		**Sn**	**12 48 08.6 -3.0**
	61nm,0.1s,SNR=5.9						
PMAFR				*e*Sn		**Sn**	**12 48 10.9 -0.7**
	60nm,0.2s						
PBAR	**Barrancos**	**2.74**	**50**	*e*Pn		**Pn**	**12 47 44.3 +1.0**
PBAR				*e*Sn		**Sn**	**12 48 15.1 -1.3**
PBAR				A		A	12 48 16.5
	7.0nm,0.2s						
PBAR	**Barrancos**	**2.74**	**50**	P		**Pn**	**12 47 44.3 +1.0**
PBAR				S		**Sn**	**12 48 15.1 -1.3**
	7.0nm,0.2s						
PBAR	**Barrancos**	**2.74**	**50**	P		**Pn**	**12 47 44.3 +1.0**
PBAR				S		**Sn**	**12 48 15.1 -1.3**
	7.0nm,0.2s						
EMIN	**Mina Concepcio**	**2.75**	**60**	P		**Pn**	**12 47 44.5 +0.9**
	1.1nm,0.1s,SNR=18						
EMIN				S		**Sn**	**12 48 14.9 -2.0**
	5.3nm,0.1s,SNR=8.3						
EMIN	**Mina Concepcio**	**2.75**	**60**	P		**Pn**	**12 47 44.5 +0.9**
	1.1nm,0.1s,SNR=18						
EMIN				S		**Sn**	**12 48 14.9 -2.0**
	5.3nm,0.1s,SNR=8.3						
PMTG	**Montargil**	**2.88**	**23**	*e*Pn		**Pn**	**12 47 46.3 +1.1**
PMTG				*e*Sn		**Sn**	**12 48 18.2 -1.7**
PMTG				A		A	12 48 19.8
	13nm,0.1s						
PMTG	**Montargil**	**2.88**	**23**	*e*Pn		**Pn**	**12 47 46.3 +1.1**
PMTG				*e*Sn		**Sn**	**12 48 18.2 -1.7**
	13nm,0.1s						
PESTR	**Estremoz**	**2.95**	**34**	*e*Pn		**Pn**	**12 47 46.9 +0.7**
PESTR				*e*Sn		**Sn**	**12 48 20.0 -1.6**
PESTR				A		A	12 48 47.0
	5.1nm,0.5s						
PESTR	**Estremoz**	**2.95**	**34**	P		**Pn**	**12 47 46.9 +0.7**
PESTR				S		**Sn**	**12 48 20.0 -1.6**
	5.1nm,0.5s						
PESTR	**Estremoz**	**2.95**	**34**	P		**Pn**	**12 47 46.9 +0.7**
PESTR				S		**Sn**	**12 48 20.0 -1.6**
	5.1nm,0.5s						
ESPR	**Espera**	**3.11**	**81**	P		**Pn**	**12 47 50.4 +1.9**
	3.4nm,0.1s,SNR=7.9						
ESPR				S		**Sn**	**12 48 23.9 -1.8**
	57nm,0.3s,SNR=5.3						
ESPR	**Espera**	**3.11**	**81**	P		**Pn**	**12 47 50.4 +1.9**
	3.4nm,0.1s,SNR=7.9						
ESPR				S		**Sn**	**12 48 23.9 -1.8**
	57nm,0.3s,SNR=5.3						
EBAD	**Badajoz**	**3.14**	**42**	⇓P		**Pn**	**12 47 49.8 +0.9**
	1.7nm,0.1s,SNR=18						
EBAD				S		**Sn**	**12 48 23.9 -2.6**
	8.6nm,0.1s,SNR=8.0						
EBAD	**Badajoz**	**3.14**	**42**	P		**Pn**	**12 47 49.8 +0.9**
	1.7nm,0.1s,SNR=18						
EBAD				S		**Sn**	**12 48 23.9 -2.6**
	8.6nm,0.1s,SNR=8.0						
PTOM	**Tomar**	**3.34**	**17**	*e*Sn		**Sn**	**12 48 29.4 -1.8**
PTOM	**Tomar**	**3.34**	**17**	S		**Sn**	**12 48 29.4 -1.8**
PTOM	**Tomar**	**3.34**	**17**	S		**Sn**	**12 48 29.4 -1.8**
EJIF	**Jimena Fronter**	**3.40**	**88**	P		**Pn**	**12 47 54.0 +1.5**
	1.0nm,0.1s,SNR=7.9						
EJIF				S		**Sn**	**12 48 30.8 -2.1**
	1.6nm,0.2s,SNR=7.9						
EJIF	**Jimena Fronter**	**3.40**	**88**	P		**Pn**	**12 47 54.0 +1.5**
	1.0nm,0.1s,SNR=7.9						
EJIF				S		**Sn**	**12 48 30.8 -2.1**
	1.6nm,0.2s,SNR=7.9						
PMRV	**Marv??o**	**3.50**	**31**	*e*Pn		**Pn**	**12 47 54.9 +1.1**
PMRV				*e*Sn		**Sn**	**12 48 32.8 -2.5**
PMRV				A		A	12 48 35.3
	9.5nm,0.2s						
PMRV	**Marv??o**	**3.50**	**31**	P		**Pn**	**12 47 54.9 +1.1**
PMRV				S		**Sn**	**12 48 32.8 -2.5**
	9.5nm,0.2s						
PMRV	**Marv??o**	**3.50**	**31**	P		**Pn**	**12 47 54.9 +1.1**
PMRV				S		**Sn**	**12 48 32.8 -2.5**
	9.5nm,0.2s						
PCAS	**Casmilo, Conde**	**3.73**	**14**	*e*Sn		**Sn**	**12 48 39.0 -2.1**
PCAS				A		A	12 48 41.8
	8.3nm,0.3s						
PCAS	**Casmilo, Conde**	**3.73**	**14**	*e*Sn		**Sn**	**12 48 39.0 -2.1**
	8.3nm,0.3s						
ECAB	**El Cabril**	**3.78**	**63**	P		**Pn**	**12 47 59.0 +1.3**
	2.1nm,0.1s,SNR=6.4						
ECAB				S		**Sn**	**12 48 38.7 -3.5**
	1.7nm,0.1s						
ECAB	**El Cabril**	**3.78**	**63**	P		**Pn**	**12 47 59.0 +1.3**
	2.1nm,0.1s,SNR=6.4						
ECAB				S		**Sn**	**12 48 38.7 -3.5**
	1.7nm,0.1s						
PCBR	**Castelo Branco**	**3.82**	**26**	*e*Pn		**Pn**	**12 47 59.9 +1.7**
PCBR				*e*Sn		**Sn**	**12 48 40.9 -2.3**
PCBR	**Castelo Branco**	**3.82**	**26**	P		**Pn**	**12 47 59.9 +1.7**
PCBR				S		**Sn**	**12 48 40.9 -2.3**
PCBR	**Castelo Branco**	**3.82**	**26**	P		**Pn**	**12 47 59.9 +1.7**
PCBR				S		**Sn**	**12 48 40.9 -2.3**
EMIJ	**Mijas**	**3.96**	**87**	S		**Sn**	**12 48 44.3 -2.4**
	1.9nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**3.96**	**87**	S		**Sn**	**12 48 44.3 -2.4**
	1.9nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**4.43**	**65**	P		**Pn**	**12 48 07.9 +1.3**
	0.4nm,0.1s,SNR=7.9						
EADA				S		**Sn**	**12 48 54.9 -3.3**
	5.9nm,0.1s,SNR=5.8						
EADA	**Adamuz**	**4.43**	**65**	P		**Pn**	**12 48 07.9 +1.3**
	0.4nm,0.1s,SNR=7.9						
EADA				S		**Sn**	**12 48 54.9 -3.3**
	5.9nm,0.1s,SNR=5.8						
ELUQ	**Luque**	**4.48**	**74**	S		**Sn**	**12 48 57.2 -2.4**
	7.1nm,0.2s,SNR=7.9						
ELUQ	**Luque**	**4.48**	**74**	S		**Sn**	**12 48 57.2 -2.4**
	7.1nm,0.2s,SNR=7.9						
PVIS	**Viseu**	**4.50**	**18**	*e*Sn		**Sn**	**12 48 57.4 -2.7**
PVIS	**Viseu**	**4.50**	**18**	S		**Sn**	**12 48 57.4 -2.7**
PVIS	**Viseu**	**4.50**	**18**	S		**Sn**	**12 48 57.4 -2.7**
EPLA	**Plasencia**	**4.61**	**37**	P		**Pn**	**12 48 09.8 +0.8**
	0.3nm,0.0s,SNR=7.9						
EPLA				S		**Sn**	**12 48 59.3 -3.3**
	3.1nm,0.1s,SNR=6.6						
EPLA	**Plasencia**	**4.61**	**37**	P		**Pn**	**12 48 09.8 +0.8**
	0.3nm,0.0s,SNR=7.9						
EPLA				S		**Sn**	**12 48 59.3 -3.3**
	3.1nm,0.1s,SNR=6.6						
CIA	**Chichaoua**	**4.92**	**171**	P		Pn	12 48 12.0 -1.3
CIA				S		Sn	12 49 04.0 -6.3
CIA	**Chichaoua**	**4.92**	**171**	*i* P		Pn	12 48 12.0 -1.3
CIA				*i* S		Sn	12 49 04.0 -6.3
EBAN	**Banos Encina**	**5.01**	**68**	P		**Pn**	**12 48 15.8 +1.2**
	1.2nm,0.1s,SNR=7.9						
EBAN				S		**Sn**	**12 49 07.4 -5.2**
	3.4nm,0.1s,SNR=7.9						
EBAN	**Banos Encina**	**5.01**	**68**	P		**Pn**	**12 48 15.8 +1.2**
	1.2nm,0.1s,SNR=7.9						
EBAN				S		**Sn**	**12 49 07.4 -5.2**
	3.4nm,0.1s,SNR=7.9						
POLO	**Lamas de Olo**	**5.15**	**16**	*e*Pn		**Pn**	**12 48 17.8 +1.2**
POLO				*e*Sn		**Sn**	**12 49 12.4 -3.7**
POLO	**Lamas de Olo**	**5.15**	**16**	*e*Pn		**Pn**	**12 48 17.8 +1.2**
POLO				*e*Sn		**Sn**	**12 49 12.4 -3.7**
MVO	**Moncorvo**	**5.16**	**23**	*e*Pn		**Pn**	**12 48 18.1 +1.4**
MVO				*e*Sn		**Sn**	**12 49 13.2 -3.1**
MVO				A		A	12 49 16.2
	5.1nm,0.5s						
MVO	**Moncorvo**	**5.16**	**23**	P		**Pn**	**12 48 17.4 +0.7**
	1.1nm,0.1s,SNR=5.8						
MVO				S		**Sn**	**12 49 11.6 -4.7**
	3.4nm,0.1s,SNR=7.0						
MVO	**Moncorvo**	**5.16**	**23**	P		**Pn**	**12 48 17.4 +0.7**
	1.1nm,0.1s,SNR=5.8						
MVO	**Moncorvo**	**5.16**	**23**	*e*Pn		**Pn**	**12 48 18.1 +1.4**
MVO				S		**Sn**	**12 49 11.6 -4.7**
	3.4nm,0.1s,SNR=7.0						
MVO				*e*Sn		Sb	12 49 13.2 -19
	5.1nm,0.5s						
OUK	**Oukaimeden**	**5.43**	**163**	P		**Pn**	**12 48 21.0 +0.4**
OUK				S		Sn	12 49 16.0 -7.3
OUK	**Oukaimeden**	**5.43**	**163**	*i* P		**Pn**	**12 48 21.0 +0.4**
OUK				*i* S		Sn	12 49 16.0 -7.3
PCAB	**Cabril**	**5.43**	**13**	*e*Sn		**Sn**	**12 49 19.1 -3.7**
PCAB				A		A	12 49 21.4
	6.2nm,0.3s						
PCAB	**Cabril**	**5.43**	**13**	S		**Sn**	**12 49 19.1 -3.7**
	3.1nm,0.3s						
PCAB	**Cabril**	**5.43**	**13**	S		**Sn**	**12 49 19.1 -3.7**
	3.1nm,0.3s						
EQES	**Quesada**	**5.46**	**74**	P		**Pn**	**12 48 23.2 +2.3**
	0.1nm,0.1s,SNR=7.9						
EQES				S		**Sn**	**12 49 19.9 -3.9**
	1.2nm,0.1s,SNR=10						
EQES	**Quesada**	**5.46**	**74**	P		**Pn**	**12 48 23.2 +2.3**
	0.1nm,0.1s,SNR=7.9						
EQES				S		**Sn**	**12 49 19.9 -3.9**
	1.2nm,0.1s,SNR=10						
ESDC	**Sonseca Array**	**5.56**	**53**	⇓P		**Pn**	**12 48 23.1 +1.0**
	5.2nm,0.2s,baz=238,slow=13,SNR=18						
ESDC				S		**Sn**	**12 49 22.3 -3.8**
	2.7nm,0.1s,baz=239,slow=24,SNR=21						
ESDC	**Sonseca Array**	**5.56**	**53**	P		**Pn**	**12 48 23.1 +1.0**
	5.2nm,0.2s,baz=238,SNR=18						
ESDC				S		**Sn**	**12 49 22.3 -3.8**
	2.7nm,0.1s,SNR=21						
ELOB	**Lobios**	**5.57**	**13**	P		**Pn**	**12 48 23.3 +0.9**
	0.5nm,0.1s,SNR=7.9						
ELOB				S		**Sn**	**12 49 21.1 -5.4**
	2.2nm,0.1s,SNR=7.5						
ELOB	**Lobios**	**5.57**	**13**	P		**Pn**	**12 48 23.3 +0.9**
	0.5nm,0.1s,SNR=7.9						
PGAV	**Gavieira, Arco**	**5.63**	**11**	*e*Pn		**Pn**	**12 48 24.1 +0.9**
PGAV				*e*Sn		**Sn**	**12 49 24.4 -3.6**
PGAV	**Gavieira, Arco**	**5.63**	**11**	*e*Pn		**Pn**	**12 48 24.1 +0.9**
PGAV				*e*Sn		**Sn**	**12 49 24.4 -3.6**
PBRG	**Braganca**	**5.83**	**22**	*e*Sn		**Sn**	**12 49 30.0 -2.9**
PBRG	**Braganca**	**5.83**	**22**	S		**Sn**	**12 49 30.0 -2.9**
PBRG	**Braganca**	**5.83**	**22**	S		**Sn**	**12 49 30.0 -2.9**
EHUE	**Huescar**	**5.83**	**74**	S		**Sn**	**12 49 28.0 -5.0**
	1.8nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**5.96**	**22**	P		**Pn**	**12 48 29.1 +1.4**
	0.5nm,0.1s,SNR=7.9						
ECAL				S		**Sn**	**12 49 32.4 -3.6**
	4.3nm,0.2s,SNR=6.7						
ECAL	**Calabor**	**5.96**	**22**	P		**Pn**	**12 48 29.1 +1.4**
	0.5nm,0.1s,SNR=7.9						
ECAL				S		**Sn**	**12 49 32.4 -3.6**
	4.3nm,0.2s,SNR=6.7						
GUD	**Guadarrama**	**6.04**	**44**	⇓P		**Pn**	**12 48 29.9 +1.0**
	2.4nm,0.2s,SNR=18						
GUD				S		**Sn**	**12 49 33.7 -4.4**
	0.7nm,0.2s						
GUD	**Guadarrama**	**6.04**	**44**	P		**Pn**	**12 48 29.9 +1.0**
	2.4nm,0.2s,SNR=18						
GUD				S		**Sn**	**12 49 33.7 -4.4**
	0.7nm,0.2s						
ZFT	**Errachidia**	**6.23**	**133**	P		**Pn**	**12 48 32.0 +0.5**
ZFT				S		Sn	12 49 38.0 -4.8
ZFT	**Errachidia**	**6.23**	**133**	*i* P		**Pn**	**12 48 32.0 +0.5**
ZFT				*e*S		Sn	12 49 38.0 -4.8
EMAZ	**Mazaricos**	**6.53**	**5**	P		**Pn**	**12 48 35.6 +0.1**
	0.5nm,0.1s,SNR=7.9						
EMAZ				S		Sn	12 49 43.9 -6.1
	8.7nm,0.3s,SNR=7.9						
EMAZ	**Mazaricos**	**6.53**	**5**	P		**Pn**	**12 48 35.6 +0.1**
	0.5nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**6.83**	**69**	P		**Pn**	**12 48 40.7 +1.0**
	0.2nm,0.1s,SNR=7.9						
ETOB				S		**Sn**	**12 49 52.5 -5.1**
	0.8nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**6.83**	**69**	P		**Pn**	**12 48 40.7 +1.0**
	0.2nm,0.1s,SNR=7.9						
ETOB				S		**Sn**	**12 49 52.5 -5.1**
	0.8nm,0.1s,SNR=7.9						

IDC 17 12:53:21.2±2.3, 6°.16S×130°.07E, h0km, mb4.1/1, mb1 3.7/3, mb1mx3.4/19, mbtmp3.5/3, ML3.2/2, MS2.6/1, Ms1 2.6/1, ms1mx2.2/29, Error ellipse: s-maj=152.8km s-min=30.3km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.63**	**200**	LR	LR	13 01 54.6	
	comp=Z,26nm,19.9s,baz=164,slow=41						
WRA	**Warramunga Arr**	**14.31**	**164**	Pn	Pn	12 56 44.0	-1.2
	0.1nm,0.3s,baz=346,slow=14,SNR=11						
WRA				Sn	Sn	12 59 12.6	-12
	0.4nm,0.3s,baz=358,slow=23,SNR=9.1						
ASAR	**Alice Springs**

JOB			*e*S	Sn	13 13 04.6	-1.6
JCH	**Churui**	**5.23 246**	P	Pn	13 12 17.6	-0.3
JCH			*e*S	Sn	13 13 14.5	-2.6
JEM	**Erimo**	**5.66 242**	P	Pn	13 12 24.8	+1.0
JEM			*e*S	Sn	13 13 25.3	-2.5
JNBK	**Urakawa-nobuka**	**5.78 246**	P	Pn	13 12 24.6	-0.9
JNBK			*e*S	Sn	13 13 26.5	-4.3
JNB	**Noboribetsu**	**6.84 252**	P	Pn	13 12 41.0	+1.0
JNB			*e*S	Sn	13 13 54.7	-2.1
JKB	**Kayabe**	**7.10 248**	P	Pn	13 12 42.9	-0.6
JKB			*e*S	Sn	13 13 57.6	-5.5
JANG	**Nango**	**7.63 237**	*e*S	Sn	13 14 06.5	-10
JTM	**Tenmabayashi**	**7.65 241**	*e*S	Sn	13 14 08.7	-8.1
JTH	**Tanohata**	**7.71 233**	*e*S	Sn	13 14 04.9	-13
OFUJ	**Ofunato**	**8.42 229**	*e*S	Sn	13 14 25.8	-10
JRG	**Rokugo**	**8.78 234**	*e*S	Sn	13 14 35.6	-8.9
JIO	**Ouri**	**9.05 228**	*e*S	Sn	13 14 40.0	-11

PRE 17 13:11:14.3±1.9, 25°.19S×26°.95E, h2km, ML1.6, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSR	**Koster**	**0.66 184**		*e*P	Pg	13 11 27.6	+0.3
KSR				*e*S	Sg	13 11 36.0	-0.2
KSR				AML	AML	13 11 38.9	
	comp=Z,24nm,0.6s						
LBTB	**Lobatse**	**1.24 278**		*e*P	Pg	13 11 36.9	-1.3
LBTB				*e*S	Sn	13 11 56.4	+0.2
PRYS	**Parys**	**1.77 168**		*e*P	Pb	13 11 47.5	-0.2
SWZ	**Schweizer**	**2.46 216**		*e*P	Pn	13 11 54.9	-0.8

IDC 17 13:17:27.3±0.9, 14°.41S×75°.63W, h60km±8km, mb3.5/6, mb1 3.8/11, mb1mx3.7/21, mbtmp3.7/11, MS3.4/1, Ms1 3.3/1, ms1mx2.9/13, Error ellipse: s-maj=29.9km s-min=10.7km az=59.0, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.68 334**		P	Pn	13 18 06.9	-1.3
	75nm,0.3s,baz=128,slow=12,SNR=37						
NNA				S	Sn	13 18 41.4	+1.9
	124nm,0.3s,baz=149,slow=12,SNR=4.8						
LPAZ	**La Paz**	**7.47 105**		P	Pn	13 19 16.1	+1.5
	2.2nm,0.3s,baz=289,slow=9.1,SNR=39						
ATAH	**Atahualpa**	**7.72 339**		P	Pn	13 19 17.4	-0.2
	0.4nm,0.3s,baz=148,slow=13,SNR=3.5						
SIV	**San Ignacio**	**14.14 98**		P	Pn	13 20 45.0	+0.2
	0.5nm,0.3s,baz=299,slow=15,SNR=8.3						
CFAA	**Coronel Fontan**	**18.41 160**		P	Pn	13 21 39.5	+1.1
	0.1nm,0.3s,baz=333,slow=11,SNR=6.4						
CFAA				pP	pP	13 21 52.0	+1.4
	0.1nm,0.3s,baz=332,slow=9.1,SNR=2.4						
CPUP	**Villa Florida**	**20.83 128**		P	P	13 22 04.7	+0.6
	0.6nm,0.4s,baz=275,slow=11,SNR=2.4						
PLCA	**Paso Flores**	**26.60 171**		P	P	13 23 00.4	+0.2
	2.2nm,0.6s,baz=340,slow=12,SNR=7.8						
BDFB	**Brasilia**	**26.69 96**		LR	LR	13 36 10.1	
	comp=Z,79nm,21.4s,baz=246,slow=42						
TXAR	**Lajitas Array**	**51.22 328**		P	P	13 26 24.1	-1.0
	0.3nm,0.5s,baz=143,slow=7.5,SNR=4.0						
TXAR				pP	pP	13 26 39.5	-1.3
	0.4nm,0.5s,baz=155,slow=8.7,SNR=3.1						
PDAR	**Pinedale Array**	**64.86 333**		P	P	13 27 59.9	-0.6
	0.2nm,0.4s,baz=112,slow=7.2,SNR=2.6						
NVAR	**Mina Array Bea**	**66.02 324**		pP	pP	13 28 24.3	0.0
	0.5nm,0.9s,baz=148,slow=5.3,SNR=2.7						
TORD	**Torodi Ar. Bea**	**81.30 74**		P	P	13 29 37.3	-0.5
	3.2nm,0.7s,baz=258,slow=4.8,SNR=20						
TORD				pP	pP	13 29 54.2	-0.5
	1.0nm,0.7s,baz=256,slow=5.0,SNR=3.0						
VNDA	**Vanda**	**82.64 191**		P	P	13 29 44.1	+0.4
	1.0nm,1.0s,baz=180,slow=3.0,SNR=4.3						
ASAR	**Alice Springs**	**132.40 218**		PKP	PKPdf	13 36 35.3	-0.5
	0.4nm,0.5s,baz=122,slow=2.0,SNR=12						
WRA	**Warramunga Arr**	**134.90 222**		PKP	PKPdf	13 36 40.3	-0.2
	1.2nm,0.7s,baz=133,slow=1.9,SNR=11						
SONM	**Songino Array**	**146.63 358**		PKPbc	PKPbc	13 37 01.8	-0.6
	0.5nm,0.6s,baz=312,slow=1.9,SNR=3.7						
SONM				pPKPbc	pPKPbc	13 37 18.5	-1.5
	1.0nm,0.8s,baz=350,slow=3.8,SNR=7.3						
KSRS	**Korea Array**	**148.93 322**		pPKPbc	pPKPbc	13 37 24.8	-1.6
	1.4nm,0.8s,baz=360,slow=3.9,SNR=3.6						

IDC 17 13:21:58.1±1.4, 16°.56S×178°.21W, h0km, mb3.8/6, mb1 4.1/6, mb1mx3.9/17, mbtmp3.8/6, Error ellipse: s-maj=107.0km s-min=19.5km az=150.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.45 240**		P	P	13 29 30.4	+0.1
	3.2nm,0.5s,baz=95,slow=9.6,SNR=10						
WRA	**Warramunga Arr**	**45.08 258**		P	P	13 30 16.1	-0.2
	1.0nm,0.4s,baz=96,slow=7.0,SNR=33						
ASAR	**Alice Springs**	**45.35 253**		P	P	13 30 18.1	-0.4
	11nm,0.6s,baz=88,slow=8.3,SNR=177						
NVAR	**Mina Array Bea**	**78.33 44**		P	P	13 34 00.0	-0.6
	0.3nm,0.6s,baz=222,slow=9.2,SNR=2.5						
ILAR	**Eielson Array**	**84.54 13**		P	P	13 34 33.1	+0.5
	0.3nm,0.8s,baz=221,slow=5.2,SNR=4.5						
TXAR	**Lajitas Array**	**85.12 58**		P	P	13 34 36.8	+0.2
	0.3nm,0.7s,baz=251,slow=5.6,SNR=2.5						
PDAR	**Pinedale Array**	**86.25 43**		P	P	13 34 42.4	+0.3
	0.3nm,0.6s,baz=228,slow=1.8,SNR=4.0						

*ISCJB **17** 13:40:04.9±0.9, 4°.19S±0°.04×134°.19E±0°.07, h10km, mb3.8/2, Error ellipse: s-maj=10.6km s-min=5.7km az=172.8*
*DJA **17** 13:40:06.5±0.7, 4°.5±3°.3×13°.4E±°, h10km, M3.8/4, MLv3.8/4*
*IDC **17** 13:40:09.0±2.1, 4°.33S×133°.23E, h0km, mb4.0/2, mb1 3.9/4, mb1mx3.6/17, mbtmp3.8/4, ML3.6/2, Error ellipse: s-maj=101.9km s-min=27.1km az=75.0*
ISC 17 13:40:05.7±1.1, 4°.19S±0°.04×134°.12E±0°.09, h10km, n10, σ2§19/15, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMPI	**Kaimana, Papua**	**0.67 322**		P	**Pg**	**13 40 16.2**	**-2.5**
KMPI				S	**Sg**	**13 40 26.7**	**-0.8**
TLE	**Tual**	**1.99 224**		P	**Pn**	**13 40 40.2**	**+0.7**
TLE				S	**Sn**	**13 41 06.6**	**+2.1**
FAKI	**Fak Fak**	**2.26 304**		P	**Pn**	**13 40 44.2**	**+1.1**
FAKI				S	**Sb**	**13 41 13.1**	**-1.5**
RKPI	**Ransiki, Papua**	**2.66 1**		P	**Pn**	**13 40 48.8**	**+0.1**
RKPI				S	**Sn**	**13 41 22.0**	**+0.9**
SWI	**Sorong**	**4.37 319**		P	**Pn**	**13 41 13.9**	**+1.7**
SWI				S	**Sn**	**13 42 05.7**	**+2.4**
WRA	**Warramunga Arr**	**15.66 179**		Pn	**Pn**	**13 43 44.8**	**-1.8**
	0.1nm,0.3s,baz=356,slow=13,SNR=8.5						
WRA				Sn	**Sn**	**13 46 37.6**	**-2.6**
	0.1nm,0.3s,baz=352,slow=24,SNR=4.4						
FITZ	**Fitzroy Crossi**	**16.13 210**		Pn	**Pn**	**13 43 49.5**	**-3.1**
	0.2nm,0.3s,baz=38,slow=13,SNR=11						
FITZ				Sn	Sn	13 46 39.2	-12
	0.1nm,0.3s,baz=219,slow=22,SNR=3.4						
ASAR	**Alice Springs**	**19.36 181**		P	**Pn**	**13 44 35.2**	**+2.5**
	0.2nm,0.3s,baz=4.8,slow=11,SNR=34						
STKA	**Stephens Creek**	**28.42 167**		P	P	13 46 06.2	+5.6
	2.1nm,0.9s,baz=335,slow=14,SNR=3.2						
MKAR	**Makanchi Array**	**68.24 324**		P	**P**	**13 51 09.2**	**+2.5**
	0.9nm,0.8s,baz=111,slow=6.7,SNR=6.9						

*ISCJB **17** 13:40:12.1±1.1, 64°.83N±0°.05×140°.6W±0°.1, h11km±7km, Error ellipse: s-maj=8.3km s-min=7.5km az=163.9*
*NEIC **17** 13:40:13.6, 64°.70N×140°.69W, h1km, ML3.0(PGC), ML3.0(AEIC), After AEIC.*
*PGC **17** 13:40:15.5±44.0, 64°.77N×140°.25W, h1km, ML3.0/4, 88km northwest of Dawson, Yt Southern Yukon Territory, Canada*
ISC 17 13:40:12.4±1.1, 64°.73N±0°.04×140°.59W±0°.04, h10km±10km, n16, σ1§70/21, 3D, Southern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGAK	**Eagle**	**0.25 281**		P	**Pg**	**13 40 17.4**	**0.0**
EGAK				S	**Sg**	**13 40 20.8**	**-0.1**
DAWY	**Dawson**	**0.85 142**		P	**Pg**	**13 40 29.6**	**+1.0**
DAWY				S	**Sg**	**13 40 41.4**	**+1.7**
DAWY	**Dawson**	**0.85 142**		⇑P	**Pg**	**13 40 29.7**	**+1.0**
DAWY				⇓S	**Sg**	**13 40 40.5**	**+0.8**
SCRK	**Sand Creek**	**1.66 244**		P	**Pn**	**13 40 43.0**	**+1.3**
SCRK				S	**Sn**	**13 41 03.9**	**+0.7**
BCA3	**Beaver Creek A**	**1.75 198**		P	**Pn**	**13 40 44.0**	**+1.1**
MENT	**Mentasta**	**2.27 219**		P	**Pn**	**13 40 50.7**	**+0.7**
IL1	**Eielson Array**	**2.70 274**		P	**Pn**	**13 40 57.3**	**+1.4**
PAX	**Paxson**	**2.79 233**		*e*P	**Pn**	**13 40 58.3**	**+1.1**
COLA	**College**	**3.11 276**		*e*P	**Pn**	**13 41 01.7**	**+0.2**
HYT	**Haines Junctio**	**4.17 159**		Pn	Pn	13 41 20.0	+3.8
HYT				Sg	**Sg**	**13 42 24.6**	**-1.5**
HYT	**Haines Junctio**	**4.17 159**		⇑Pn	Pn	13 41 20.0	+3.8
HYT				⇑Sg	**Sg**	**13 42 24.6**	**-1.5**
INK	**Inuvik**	**4.57 35**		*e*Pn	**Pn**	**13 41 22.4**	**+0.9**
INK				*e*Sn	**Sn**	**13 42 13.5**	**-1.0**
INK	**Inuvik**	**4.57 35**		⇑Pn	**Pn**	**13 41 23.1**	**+1.6**
INK				⇓Sn	**Sn**	**13 42 13.2**	**-1.3**
WHY	**Whitehorse**	**4.86 145**		Sg	**Sg**	**13 42 44.6**	**-3.5**
WHY	**Whitehorse**	**4.86 145**		⇓Sg	**Sg**	**13 42 44.6**	**-3.5**
DLBC	**Dease Lake**	**8.07 137**		⇑Sg	Sg	13 44 23.5	-7.5

MEX 17 13:46:12.2±0.7, 16°.75N×94°.37W, h126km±9km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.59 305**		*e*P	Pn	13 46 30.3	-1.0
CMIG				*e*S	Sn	13 46 44.0	-1.8
TGIG		**1.20 89**		*e*P	Pn	13 46 35.7	-1.1
TGIG				*i* S	Sn	13 46 53.1	-2.4
PCIG		**1.52 133**		*e*P	Pn	13 46 39.6	-0.7
PCIG				*e*S	Sn	13 47 00.4	-1.2
HUIG	**Huatulco**	**1.93 240**		*e*P	Pn	13 46 43.0	-2.2
HUIG				*e*S	Sn	13 47 08.4	-1.9
PNIG	**Pinotepa**	**3.62 265**		*e*P	Pn	13 47 05.5	-1.4
PNIG				*e*S	Sn	13 47 46.7	-2.4

IDC 17 14:11:50.8±1.2, 3°.92N×127°.75E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.7/24, mbtmp3.8/7, Error ellipse: s-maj=88.4km s-min=16.3km az=71.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.98 185**		P	P	14 16 48.3	+1.6
	1.3nm,0.8s,baz=360,slow=12,SNR=2.9						
WRA	**Warramunga Arr**	**24.59 165**		P	P	14 17 12.9	+0.1
	1.6nm,0.7s,baz=342,slow=10,SNR=31						
ASAR	**Alice Springs**	**28.07 168**		P	P	14 17 44.2	-0.1
	1.2nm,0.6s,baz=354,slow=7.8,SNR=41						
STKA	**Stephens Creek**	**37.96 161**		P	P	14 19 09.1	-1.4
	0.9nm,0.5s,baz=319,slow=11,SNR=4.8						
SONM	**Songino Array**	**47.45 341**		P	P	14 20 28.0	+0.5
	0.3nm,0.5s,baz=128,slow=7.3,SNR=2.6						
MKAR	**Makanchi Array**	**57.98 325**		P	P	14 21 46.2	+0.9
	0.7nm,0.5s,baz=121,slow=7.9,SNR=5.8						
KURBB	**Kurchatov Arra**	**62.13 327**		P	P	14 22 12.4	-1.3
	0.5nm,0.2s,baz=127,slow=5.9,SNR=3.4						

MAN 17 14:21:28, 7°.69N×126°.42E, h67km, mb4.3, ML3.1, MS2.9, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.76 192**		*e*P	Pn	14 21 45.1	+1.7
MATI				*e*S	Sn	14 21 58.5	+3.8
DMPH	**Davao City--Mi**	**1.09 236**		⇑*e*P	Pn	14 21 50.0	+2.5
DMPH				*e*S	Sn	14 22 07.0	+5.0
BUKP	**Musuan**	**1.36 278**		*e*P	Pn	14 21 52.8	+1.7
BUTP	**Butuan**	**1.50 328**		*e*P	Pn	14 21 54.7	+1.8
CTBH	**Cotabato--PC H**	**2.21 258**		⇑*i*P	Pn	14 22 03.6	+1.2
CTBH				*i* S	Sn	14 22 30.5	+1.8

IDC 17 14:30:34.4±1.1, 10°.17S×161°.45E, h112km±7km, mb3.9/15, mb1 4.0/17, mb1mx3.9/24, mbtmp3.9/17, MS3.3/3, Ms1 3.3/3, ms1mx3.0/25, Error ellipse: s-maj=16.9km s-min=10.7km az=63.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.66 296**		P	Pn	14 31 02.9	-0.3
	430nm,0.3s,baz=156,slow=3.8,SNR=254						
HNR				S	Sn	14 31 25.4	+0.3
	2μm,0.3s,baz=341,slow=24,SNR=24						
DZM	**Mont Dzumac**	**12.77 159**		P	Pn	14 33 33.8	+1.8
	3.6nm,0.3s,baz=77,slow=22,SNR=33						
DZM				S	Sn	14 35 49.1	-3.5
	1.9nm,0.3s,baz=96,slow=22,SNR=6.3						
CTA	**Charters Tower**	**17.66 234**		P	Pn	14 34 33.8	+0.3
	0.3nm,0.3s,baz=93,slow=5.0,SNR=3.8						
WRA	**Warramunga Arr**	**27.89 246**		P	P	14 36 13.2	-0.8
	1.7nm,0.7s,baz=72,slow=9.0,SNR=20						
WRA				pP	pP	14 36 38.5	0.0
	1.5nm,0.6s,baz=74,slow=9.2,SNR=5.2						
STKA	**Stephens Creek**	**28.36 217**		P	P	14 36 18.8	+0.7
	1.1nm,0.9s,baz=216,slow=6.6,SNR=3.0						
STKA				pP	pP	14 36 42.6	-0.1
	1.0nm,0.6s,baz=158,slow=23,SNR=1.6						
ASAR	**Alice Springs**	**29.50 239**		P	P	14 36 27.6	-0.8
	0.3nm,0.4s,baz=62,slow=9.9,SNR=10.0						
ASAR				pP	pP	14 36 53.9	+0.9
	1.0nm,0.7s,baz=63,slow=10,SNR=5.7						
MJAR	**Matsushiro Arr**	**51.35 336**		P	P	14 39 27.1	-0.4
	3.2nm,0.6s,baz=172,slow=8.6,SNR=13						
JNU	**Nakatsue**	**51.98 327**		P	P	14 39 32.0	-0.3
	6.9nm,0.8s,baz=148,slow=20,SNR=7.1						
KSRS	**Korea Array**	**56.85 328**		P	P	14 40 06.8	-0.6
	2.5nm,0.9s,baz=141,slow=8.2,SNR=8.9						
KSRS				LR	LR	15 05 27.5	
	comp=Z,20nm,18.2s,baz=134,slow=37						
USRK	**Ussuriysk Arra**	**60.35 336**		P	P	14 40 31.6	0.0
	7.6nm,0.8s,baz=138,slow=5.9,SNR=15						
PETK	**Petropavlovsk-**	**63.11 357**		P	P	14 40 50.8	+1.0
	2.1nm,0.8s,baz=182,slow=8.9,SNR=6.8						
PETK				LR	LR	15 06 27.7	
	comp=Z,14nm,19.2s,baz=104,slow=34						
VNDA	**Vanda**	**67.33 180**		P	P	14 41 16.8	0.0
	0.4nm,0.6s,baz=359,slow=5.5,SNR=3.8						
SONM	**Songino Array**	**75.51 325**		P	P	14 42 07.7	+1.2
	7.3nm,0.7s,baz=141,slow=5.7,SNR=45						
SONM				pP	pP	14 42 33.1	-1.9
	1.0nm,0.6s,baz=143,slow=5.9,SNR=2.6						
ILAR	**Eielson Array**	**84.08 20**		P	P	14 42 52.5	+0.2
	1.9nm,1.0s,baz=254,slow=4.3,SNR=9.5						
BBB	**Bella Bella**	**86.29 36**		LR	LR	15 22 09.1	
	comp=Z,33nm,18.2s,baz=186,slow=36						
MKAR	**Makanchi Array**	**90.02 318**		P	P	14 43 21.3	-0.1
	1.9nm,0.6s,baz=90,slow=6.8,SNR=20						
ZALV	**Zalesovo Beam**	**90.40 325**		P	P	14 43 22.3	-0.7
	0.4nm,0.4s,baz=181,slow=9.9,SNR=2.7						
KURBB	**Kurchatov Arra**	**93.32 321**		P	P	14 43 35.5	-1.1
	0.7nm,0.8s,baz=112,slow=3.2,SNR=9.6						
BVAR	**Borovoye Array**	**98.68 322**		P	P	14 43 59.5	-1.4
	0.5nm,0.5s,baz=86,slow=4.8,SNR=3.6						

GUC 17 14:38:30.4±0.3, 22°.55S×66°.60W, h265km±13km, ML3.9, 1D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**Plate Boundary**	**2.56 286**		*e*P	Pn	14 39 21.8	+2.2
PB09				*i* S	S	14 40 00.7	+2.2
PB09				AML	AML	14 40 05.4	
	comp=N,162nm,0.4s						
PB04	**Plate Boundary**	**2.69 275**		*i* P	Pn	14 39 29.8	+9.3
PB04				*i* S	S	14 40 15.0	+15
PB01	**Plate Boundary**	**3.07 299**		⇓*i*P	Pn	14 39 27.2	+2.4
PB01				*i* S	S	14 40 10.4	+2.5
ANCH	**Antofagasta**	**3.69 251**		*e*P	Pn	14 39 34.2	+2.9
ANCH				*i* S	S	14 40 22.6	+2.9
HMBC	**Humberstone**	**3.81 306**		*e*P	Pn	14 39 34.3	+1.4
HMBC				*i* S	S	14 40 24.1	+1.5
MNMC	**Minimini**	**4.41 320**		*e*P	Pn	14 39 41.4	+1.3
MNMC				*i* S	S	14 40 36.9	+1.3

IDC 17 14:43:42.2±63.0, 16°.95S×179°.28W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/18, mbtmp3.8/3, Error ellipse: s-maj=1155.0km s-min=149.8km az=77.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.37 240**		P	P	14 51 05.6	+0.2
	1.7nm,0.8s,baz=84,slow=9.2,SNR=3.2						
WRA	**Warramunga Arr**	**43.99 259**		P	P	14 51 51.5	-0.3
	0.2nm,0.4s,baz=95,slow=7.8,SNR=15						
ASAR	**Alice Springs**	**44.26 253**		P	P	14 51 53.6	-0.3
	1.9nm,0.5s,baz=91,slow=7.0,SNR=62						

IDC 17 15:33:19.0±1.7, 0°.40N×126°.17E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.5/22, mbtmp3.7/5, Error ellipse: s-maj=105.8km s-min=23.7km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.40 182**		P	Pn	15 37 35.1	-0.6
	baz=352,slow=8.2						
WRA	**Warramunga Arr**	**21.75 159**		P	P	15 38 11.7	-0.7
	3.5nm,0.7s,baz=338,slow=12,SNR=22						
ASAR	**Alice Springs**	**25.08 163**		P	P	15 38 46.0	+0.5
	0.9nm,0.8s,baz=344,slow=11,SNR=28						
STKA	**Stephens Creek**	**35.27 157**		P	P	15 40 15.7	0.0
	0.6nm,0.5s,baz=343,slow=11,SNR=2.8						
MKAR	**Makanchi Array**	**59.98 327**		P	P	15 43 27.3	-0.1
	0.3nm,0.4s,baz=123,slow=7.4,SNR=5.7						

*IDC **17** 15:43:21.7±1.9, 2°.42N×95°.34E, h0km, mb3.4/5, mb1 3.5/7, mb1mx3.4/29, mbtmp3.4/7, ML3.6/2, Error ellipse: s-maj=61.2km s-min=20.9km az=52.0*
*ISCJB **17** 15:43:23.9±0.9, 2°.46N±0°.09×95°.39E±0°.06, h25km, mb3.4/5, Error ellipse: s-maj=13.3km s-min=7.6km az=26.8*
*DJA **17** 15:43:28.1±1.5, 2°N±6°×9°6E±°, h33km, M3.6/3, MLv3.6/3*
ISC 17 15:43:26.2±1.3, 2°.48N±0°.10×95°.50E±0°.09, h25km, n10, σ1§12/14, mb3.3/5, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.83 95**		P	**Pn**	**15 43 42.2**	**-0.1**
SNSI				S	**Sb**	**15 43 52.8**	**0.0**
GSI	**Gunungsitoli**	**2.38 119**		P	**Pn**	**15 44 04.3**	**+0.6**
GSI				S	**Sn**	**15 44 32.9**	**+0.7**
KCSI	**Kotacane, Aceh**	**2.49 66**		P	**Pn**	**15 44 05.8**	**+0.6**
KCSI				S	**Sn**	**15 44 36.4**	**+1.5**
PSI	**Prapat**	**3.44 85**		Pn	**Pn**	**15 44 19.0**	**+0.7**
	3.5nm,0.3s,baz=286,slow=11,SNR=14						
PSI				Sn	**Sn**	**15 44 55.4**	**-2.9**
	4.3nm,0.3s,baz=66,slow=22,SNR=6.2						
CMAR	**Chiang Mai Arr**	**16.23 12**		Pn	**Pn**	**15 47 13.2**	**+0.5**
	0.1nm,0.3s,baz=200,slow=10,SNR=4.7						
WRA	**Warramunga Arr**	**44.15 122**		P	**P**	**15 51 32.9**	**-0.3**
	0.4nm,0.8s,baz=300,slow=9.5,SNR=6.0						
ASAR	**Alice Springs**	**45.52 127**		P	**P**	**15 51 44.3**	**+0.2**
	0.3nm,0.9s,baz=297,slow=7.1,SNR=4.7						
MKAR	**Makanchi Array**	**45.61 347**		P	**P**	**15 51 43.8**	**-0.6**
	0.5nm,0.6s,baz=160,slow=8.6,SNR=6.5						
KURBB	**Kurchatov Arra**	**50.07 346**		P	**P**	**15 52 18.3**	**-0.5**
	0.1nm,0.7s,baz=172,slow=6.7,SNR=2.6						
ZALV	**Zalesovo Beam**	**52.04 352**		P	**P**	**15 52 33.2**	**-0.4**
	0.8nm,0.3s,baz=154,slow=9.2,SNR=4.3						

*IDC **17** 15:45:22.3±1.2, 50°.94N×178°.28W, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.5/28, mbtmp3.6/6, ML2.5/1, MS2.5/2, Ms1 2.5/2, ms1mx2.4/46, Error ellipse: s-maj=44.9km s-min=16.7km az=16.0*
*ISCJB **17** 15:45:24.3±0.7, 50°.99N±0°.09×178°.35W±0°.07, h23km, mb3.6/5, MS2.6/1, Error ellipse: s-maj=12.6km s-min=6.1km az=179.7*
*NEIC **17** 15:45:24.9, 50°.84N×178°.28W, h27km, ML3.5(AEIC), After AEIC.*
ISC 17 15:45:25.8±0.9, 51°.1N±0°.1×178°.36W±0°.05, h23km, n26, σ0§52/28, mb3.7/5, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADK	**Adak**	**1.33 51**		P	**Pn**	**15 45 49.0**	**0.0**
ADK				S	**Sn**	**15 46 05.3**	**-0.7**
CERAA	**Semis' Rag'd T**	**1.49 305**		P	**Pn**	**15 45 51.1**	**-0.1**
AMKA	**Amchitka**	**1.50 283**		P	**Pn**	**15 45 50.3**	**-1.0**
AMKA				S	**Sn**	**15 46 10.7**	**+0.4**
CESW	**Semis' Southwe**	**1.55 304**		P	**Pn**	**15 45 51.8**	**-0.2**
CEAP	**Semis' Anvil P**	**1.60 307**		P	**Pn**	**15 45 52.3**	**-0.3**
CETU	**Semis' Tuman**	**1.62 305**		P	**Pn**	**15 45 52.7**	**-0.2**
CETU				S	**Sb**	**15 46 15.7**	**+0.7**
LSSE	**Little Sitkin**	**2.11 296**		P	**Pn**	**15 45 60.0**	**+0.3**
LSSA	**Little Sitkin**	**2.15 296**		P	**Pn**	**15 45 59.8**	**-0.5**
LSNW	**Little Sitkin**	**2.15 296**		P	**Pn**	**15 46 00.3**	**0.0**
FX1	**Attu Island--F**	**5.55 292**		P	**Pn**	**15 46 46.5**	**-0.4**
FX1	**Attu Island--F**	**5.55 292**		**Pn**	**Pn**	**15 46 46.9**	**0.0**
	0.4nm,0.3s,baz=96,slow=4.4,SNR=4.3						
FX1				Sn	**Sn**	**15 47 49.6**	**-0.2**
	0.7nm,0.3s,baz=342,slow=20,SNR=2.6						
PETK	**Petropavlovsk-**	**14.85 287**		LR	LR	15 54 07.3	
	comp=Z,14nm,20.3s,baz=43,slow=35						
ASAJ	**Asahikawa**	**26.98 270**		LR	LR	16 00 58.2	
	comp=Z,15nm,18.5s,baz=179,slow=35						
PDAR	**Pinedale Array**	**46.14 72**		P	**P**	**15 53 49.5**	**+1.0**
	0.9nm,0.6s,baz=301,slow=4.1,SNR=9.0						
SONM	**Songino Array**	**47.04 297**		P	**P**	**15 53 54.8**	**-0.5**
	0.4nm,0.5s,ba

WRA	**Warramunga Arr**	**45.16 258**	P	P	16 14 51.1	0.0
	0.3nm,0.6s,baz=95,slow=7.5,SNR=8.4					
ASAR	**Alice Springs**	**45.44 253**	P	P	16 14 53.0	-0.2
	1.7nm,0.4s,baz=89,slow=7.7,SNR=72					
FITZ	**Fitzroy Crossi**	**53.54 260**	P	P	16 15 54.6	-0.5
	1.3nm,0.9s,baz=114,slow=12,SNR=2.6					

*IDC **17** 16:07:05.4±2.2, 7°.18N×126°.52E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.4/24, mbtmp3.6/4, Error ellipse: s-maj=127.9km s-min=24.4km az=68.0*
*ISCJB **17** 16:07:11.4±1.2, 7°.15N±0°.07×126°.72E±0°.10, h64km±10km, mb3.5/4, Error ellipse: s-maj=16.5km s-min=10.1km az=159.5*
*MAN **17** 16:07:12, 7°.30N×126°.72E, h20km, mb4.6, ML3.5, MS3.4*
ISC 17 16:07:12.2±1.8, 7°.14N±0°.07×126°.7E±0°.1, h53km±15km, n11, σ1§16/16, mb3.5/4, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.51**	**248**	*eP*	**Pn**	**16 07 23.4**	**-0.3**
MATI				*eS*	**Sn**	**16 07 31.9**	**-0.2**
DMPH	**Davao City--Mi**	**1.22**	**267⇑**	*eP*	**Pn**	**16 07 34.2**	**+1.3**
DMPH				*eS*	**Sn**	**16 07 50.5**	**+2.1**
BUKP	**Musuan**	**1.81**	**294**	*eP*	**Pn**	**16 07 40.9**	**-0.2**
BUKP				*eS*	**Sn**	**16 08 03.4**	**+0.5**
GSPH	**General Santos**	**2.06**	**240⇑**	*iP*	**Pn**	**16 07 43.6**	**-0.9**
GSPH				*i S*	**Sn**	**16 08 07.5**	**-1.6**
BUTP	**Butuan**	**2.13**	**329**	*eP*	**Pn**	**16 07 45.6**	**+0.3**
CGP	**Cagayan de Oro**	**2.41**	**303**	*eP*	**Pn**	**16 07 48.7**	**-0.4**
CGP				*i S*	**Sn**	**16 08 15.5**	**-1.9**
CTBH	**Cotabato--PC H**	**2.47**	**272⇓**	*iP*	**Pn**	**16 07 50.3**	**+0.4**
FITZ	**Fitzroy Crossi**	**25.10**	**182**	P	**P**	**16 12 33.1**	**+1.0**
	2.5nm,1.1s,baz=0.0,slow=8.1,SNR=3.1						
WRA	**Warramunga Arr**	**27.93**	**165**	P	**P**	**16 12 58.4**	**+0.7**
	0.3nm,0.4s,baz=345,slow=10,SNR=8.1						
ASAR	**Alice Springs**	**31.41**	**167**	P	**P**	**16 13 28.7**	**+0.3**
	0.1nm,0.3s,baz=340,slow=7.2,SNR=15						
MKAR	**Makanchi Array**	**54.80**	**324**	P	**P**	**16 16 36.0**	**-0.8**
	0.8nm,0.7s,baz=109,slow=7.6,SNR=7.4						

*IDC **17** 16:13:36.4±3.2, 31°.65N×140°.16E, h0km, mb3.4/4, mb1 3.5/5, mb1mx3.3/23, mbtmp3.3/5, ML2.9/1, Error ellipse: s-maj=121.3km s-min=20.7km az=72.0*
*ISCJB **17** 16:13:39.1±1.0, 32°.05N±0°.07×141°.0E±0°.2, h57km, mb3.4/4, Error ellipse: s-maj=22.7km s-min=7.7km az=161.2*
*JMA **17** 16:13:41.0±0.2, 32°.52N×141°.09E, h0km, M3.2*
ISC 17 16:13:41.0±1.4, 32°.0N±0°.1×140°.9E±0°.2, h57km, n12, σ1§31/15, mb3.3/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	**1.41**	**317**	*eS*	**Sn**	**16 14 21.0**	**-1.0**
JHJ2	**Mitsune**	**1.43**	**319**	P	**Pn**	**16 14 04.7**	**+0.1**
JHJ2				S	**Sn**	**16 14 20.9**	**-1.5**
BSO3	**Boso 3**	**2.78**	**353**	*eS*	**Sn**	**16 14 53.0**	**-2.0**
JIM2	**Oshima 3**	**2.96**	**335**	P	**Pn**	**16 14 25.3**	**-0.2**
JIZS	**Izushimoda**	**3.18**	**328**	P	**Pn**	**16 14 29.3**	**+0.8**
JOD2	**Odawara 2**	**3.57**	**335**	P	**Pn**	**16 14 33.9**	**+0.1**
JOD2				S	**Sn**	**16 15 12.8**	**-1.9**
JRY	**Ryogami san**	**4.31**	**337**	P	**Pn**	**16 14 45.3**	**+1.2**
MJAR	**Matsushiro Arr**	**5.03**	**334**	Pn	**Pn**	**16 14 55.7**	**+1.8**
	0.5nm,0.3s,baz=173,slow=15,SNR=6.5						
MJAR				Sn	**Sn**	**16 15 52.4**	**+1.8**
	0.5nm,0.3s,baz=195,slow=38,SNR=3.4						
SONM	**Songino Array**	**30.52**	**311**	P	**P**	**16 19 49.0**	**+0.1**
	0.2nm,0.4s,baz=113,slow=14,SNR=3.3						
MKAR	**Makanchi Array**	**46.59**	**306**	P	**P**	**16 22 03.9**	**+0.6**
	0.6nm,0.5s,baz=87,slow=9.6,SNR=14						
WRA	**Warramunga Arr**	**52.07**	**188**	P	**P**	**16 22 44.4**	**-0.8**
	0.3nm,0.7s,baz=6.3,slow=7.6,SNR=5.4						
ASAR	**Alice Springs**	**55.80**	**188**	P	**P**	**16 23 12.1**	**-0.3**
	0.2nm,0.9s,baz=5.1,slow=6.0,SNR=5.2						

MAN 17 16:45:42, 6°.81N×126°.64E, h27km, mb4.1, ML2.9, MS2.7, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.40**	**290**	*eP*	Pn	16 45 51.8	-0.2
MATI				*eS*	Sn	16 46 00.3	+1.6
BUKP	**Musuan**	**1.89**	**304**	*eP*	Pn	16 46 12.9	+0.3
BUTP	**Butuan**	**2.37**	**335**	*eP*	Pn	16 46 19.9	+0.7
CGP	**Cagayan de Oro**	**2.53**	**310**	*eP*	Pn	16 46 21.7	+0.4
PAGZ	**Pagadian**	**3.39**	**288**	*eP*	Pn	16 46 34.5	+1.3

IDC 17 16:56:15.2±1.4, 49°.42S×124°.67E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.8/15, mbtmp3.8/6, MS3.3/6, Ms1 3.3/6, ms1mx3.1/23, Error ellipse: s-maj=77.2km s-min=17.7km az=104.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**17.39**	**339**	LR	LR	17 04 26.4	
	comp=Z,47nm,18.5s,baz=2.2,slow=28						
STKA	**Stephens Creek**	**21.64**	**42**	P	P	17 01 07.3	+0.2
	5.1nm,0.8s,baz=204,slow=14,SNR=9.3						
STKA				LR	LR	17 08 00.6	
	comp=Z,99nm,18.8s,baz=35,slow=33						
ASAR	**Alice Springs**	**26.71**	**19**	P	P	17 01 56.6	+0.4
	0.9nm,0.4s,baz=190,slow=10.0,SNR=34						
ASAR				LR	LR	17 11 14.2	
	comp=Z,90nm,19.6s,baz=263,slow=34						
WRA	**Warramunga Arr**	**30.42**	**18**	P	P	17 02 28.7	-0.6
	0.8nm,0.9s,baz=195,slow=8.4,SNR=3.8						
VNDA	**Vanda**	**31.53**	**165**	P	P	17 02 38.3	-0.2
	0.8nm,0.7s,baz=310,slow=8.0,SNR=6.7						
RPZ	**Rata Peaks**	**31.99**	**98**	LR	LR	17 12 06.4	
	comp=Z,1μm,18.9s,baz=147,slow=30						
MAW	**Mawson**	**35.13**	**216**	LR	LR	17 16 14.5	
	comp=Z,43nm,19.4s,baz=143,slow=34						
QSPA	**South Pole Qui**	**40.70**	**180**	P	P	17 03 57.2	-0.1
	1.1nm,1.0s,baz=332,slow=17,SNR=2.2						
DZM	**Mont Dzumac**	**42.72**	**66**	LR	LR	17 19 37.4	
	comp=Z,60nm,19.8s,baz=221,slow=33						
HNR	**Honiara**	**49.52**	**49**	LR	LR	17 22 34.7	
	comp=Z,45nm,20.8s,baz=107,slow=32						
SNAA	**Sanae**	**53.65**	**198**	P	P	17 05 38.0	0.0
	0.6nm,0.8s,baz=183,slow=13,SNR=4.5						

GUC 17 17:08:43.3±0.6, 32°.53S×71°.55W, h20km±4km, MD3.5, ML3.0, 3C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.50**	**189**	*i P*	Pb	17 08 53.1	-0.3
IHA				*i S*	Sb	17 09 00.2	0.0
ROCH	**El Roble**	**0.63**	**134**	*i P*	Pb	17 08 55.8	-0.2
ROCH				*i S*	Sg	17 09 04.9	-0.1
ROCH				AML	AML	17 09 08.2	
	comp=E,2μm,0.5s						
JACH	**Jahuel**	**0.82**	**101⇓**	*iP*	Pb	17 08 58.8	-0.3
JACH				*i S*	Sb	17 09 09.9	+0.1
PEL	**Peldehue**	**0.95**	**130⇑**	*iP*	Pb	17 09 01.0	-0.2
PEL				*i S*	Sb	17 09 13.8	+0.4
PEL				AML	AML	17 09 14.5	
	comp=N,2μm,0.4s						
CLCH	**Cerro Calan**	**1.21**	**136**	AML	AML	17 09 28.1	
	comp=E,273nm,0.7s						
FCH	**Farellones**	**1.32**	**127**	*i P*	Pn	17 08 46.8	-20
FCH				*i S*	Sn	17 09 04.6	-20
PCH	**Pirque**	**1.39**	**142⇑**	*iP*	Pn	17 09 07.2	-0.5
PCH				*i S*	Sn	17 09 25.8	+0.2
CMCH	**Combarbala**	**1.43**	**19**	*eP*	Pn	17 09 08.1	-0.2
CMCH				*i S*	Sn	17 09 26.6	-0.1
LMEL	**Las Melosas**	**1.73**	**140⇑**	*iP*	Pn	17 09 12.8	+0.3
LMEL				*i S*	Sb	17 09 35.2	-0.9
LMEL				AML	AML	17 09 40.3	
	comp=N,132nm,0.2s						
TLL	**Tololo Astrono**	**2.44**	**15**	*i P*	Pn	17 09 23.6	+1.2
TLL				*i S*	Sb	17 09 54.5	-2.3
TLL				AML	AML	17 10 03.4	
	comp=N,130nm,0.6s						

IDC 17 17:19:55.6±2.2, 18°.72S×177°.50W, h613km±83km, mb3.3/3, mb1 3.5/5, mb1mx3.0/20, mbtmp3.4/5, Error ellipse: s-maj=120.2km s-min=59.1km az=137.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.29**	**50**	P	P	17 21 49.0	0.0
	11nm,0.3s,baz=148,slow=2.6,SNR=18						
AFI				S	S	17 23 21.8	+0.2
	1.4nm,0.3s,baz=5.2,slow=11,SNR=2.9						
DZM	**Mont Dzumac**	**15.42**	**255**	P	P	17 23 08.0	+0.8
	0.3nm,0.3s,baz=94,slow=15,SNR=4.0						
STKA	**Stephens Creek**	**39.01**	**242**	P	P	17 26 31.2	-0.2
	4.3nm,0.8s,baz=75,slow=9.3,SNR=9.7						
WRA	**Warramunga Arr**	**45.34**	**260**	P	P	17 27 20.9	-0.1
	2.1nm,0.5s,baz=97,slow=7.6,SNR=90						
ASAR	**Alice Springs**	**45.41**	**255**	P	P	17 27 21.4	0.0
	4.6nm,0.7s,baz=87,slow=8.4,SNR=147						

IDC 17 17:22:21.0±5.0, 17°.13S×176°.41W, h0km, mb4.6/3, mb1 4.6/3, mb1mx3.9/18, mbtmp4.6/3, Error ellipse: s-maj=180.6km s-min=56.8km az=135.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**35.46**	**259**	P	P	17 29 19.9	+0.5
	2.7nm,0.4s,baz=72,slow=3.2,SNR=3.5						
STKA	**Stephens Creek**	**40.67**	**241**	P	P	17 30 03.5	+0.2
	2.7nm,0.5s,baz=97,slow=9.2,SNR=16						
ASAR	**Alice Springs**	**46.84**	**253**	P	P	17 30 52.2	-0.9
	12nm,0.6s,baz=87,slow=8.4,SNR=58						
BRTR	**Keskin Array B**	**145.56**	**317**	PKPbc	PKPdf	17 42 01.1	-0.7
	0.8nm,0.7s,baz=42,slow=2.3,SNR=4.9						

IDC 17 17:24:29.2±2.4, 5°.37S×130°.01E, h0km, mb3.5/1, mb1 4.2/4, mb1mx3.6/19, mbtmp4.0/4, ML4.1/3, Error ellipse: s-maj=110.0km s-min=28.1km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**13.36**	**198**	Pn	Pn	17 27 42.0	+1.9
	0.7nm,0.3s,baz=42,slow=11,SNR=38						
FITZ				Sn	Sn	17 29 59.8	-10
	0.3nm,0.3s,baz=140,slow=19,SNR=3.8						
WRA	**Warramunga Arr**	**15.09**	**164**	Pn	Pn	17 28 02.2	-1.6
	0.7nm,0.3s,baz=334,slow=15,SNR=18						
WRA				Sn	Sn	17 30 37.5	-14
	2.1nm,0.3s,baz=346,slow=24,SNR=11						
ASAR	**Alice Springs**	**18.57**	**169**	P	P	17 28 47.4	-0.6
	1.2nm,0.3s,baz=343,slow=9.7,SNR=76						
ASAR				S	Sn	17 32 01.4	-15
	0.5nm,0.3s,baz=353,slow=25,SNR=6.1						
MKAR	**Makanchi Array**	**66.88**	**326**	P	P	17 35 23.2	0.0
	0.3nm,0.6s,baz=123,slow=6.3,SNR=5.7						

MAN 17 17:32:44, 11°.96N×125°.65E, h30km, mb4.5, ML3.4, MS3.2, 1D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**1.02**	**220⇓**	*eP*	Pn	17 33 01.6	-0.8
PLP				*eS*	Sb	17 33 16.2	0.0
OCLP	**Ormoc**	**1.36**	**229**	*eP*	Pb	17 33 07.9	-0.9
MSLP	**Maasin**	**1.97**	**203**	*eP*	Pn	17 33 16.9	+1.6
MSLP				*eS*	Sn	17 33 40.7	+1.6
GUIM	**Jordan**	**3.28**	**247**	*eP*	Pn	17 33 34.6	+1.3

IDC 17 17:32:48.9±3.3, 2°.38S×139°.80E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.4/18, mbtmp3.5/4, ML3.7/1, Error ellipse: s-maj=104.4km s-min=26.5km az=92.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.25**	**197**	P	Pn	17 37 02.1	-1.8
	0.2nm,0.3s,baz=18,slow=13,SNR=6.9						
WRA				S	Sn	17 40 14.4	-14
	0.1nm,0.3s,baz=4.1,slow=24,SNR=3.6						
FITZ	**Fitzroy Crossi**	**20.91**	**221**	P	Pn	17 37 34.5	-1.1
	1.8nm,0.8s,baz=27,slow=14,SNR=3.7						
FITZ				S	S	17 41 15.5	-12
	2.0nm,0.9s,baz=66,slow=20,SNR=2.4						
ASAR	**Alice Springs**	**21.92**	**195**	P	P	17 37 44.4	+0.4
	0.8nm,0.6s,baz=23,slow=9.8,SNR=16						
MKAR	**Makanchi Array**	**70.20**	**322**	P	P	17 44 03.4	-0.3
	0.2nm,0.5s,baz=100,slow=7.7,SNR=3.8						

*ISCJB **17** 18:10:56.1±0.8, 34°.88N±0°.07×140°.8E±0°.1, h69km±5km, mb3.7/2, Error ellipse: s-maj=16.0km s-min=9.3km az=144.0*
*JMA **17** 18:10:56.9±0.1, 34°.83N×140°.69E, h65km±2km, M3.2*
*IDC **17** 18:10:59.0±4.8, 34°.99N×140°.73E, h81km±62km, mb3.2/2, mb1 3.5/5, mb1mx3.1/27, mbtmp3.4/5, ML3.4/2, Error ellipse: s-maj=47.7km s-min=33.8km az=155.0*
ISC 17 18:10:58.0±1.2, 34°.89N±0°.09×140°.72E±0°.09, h62km±7km, n15, σ0§82/20, 6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO3	**Boso 3**	**0.19**	**245**	⇓P	**Pn**	**18 11 06.5**	**-0.7**
BSO3				S	**Sn**	**18 11 14.4**	**+0.4**
BSO1	**Boso 1**	**0.31**	**138**	⇓P	**Pn**	**18 11 07.5**	**-0.2**
BSO4	**Boso 4**	**0.33**	**288**	⇓P	**Pn**	**18 11 08.0**	**-0.4**
BSO4				S	**Sn**	**18 11 16.7**	**+0.7**
KTR	**Katsuura**	**0.42**	**308**	P	**Pn**	**18 11 08.8**	**-0.5**
KTR				S	**Sn**	**18 11 17.4**	**-0.1**
JCN	**Nagara**	**0.68**	**321**	P	**Pn**	**18 11 12.4**	**+0.3**
TATJ	**Tateyama 2**	**0.70**	**282**	P	**Pn**	**18 11 12.1**	**-0.2**
JIM2	**Oshima 3**	**1.08**	**261**	⇓P	**Pn**	**18 11 15.7**	**-1.4**
JOD2	**Odawara 2**	**1.39**	**286**	⇓P	**Pn**	**18 11 20.2**	**-1.1**
JIZS	**Izushimoda**	**1.53**	**264**	⇓P	**Pn**	**18 11 22.0**	**-1.1**
MJAR	**Matsushiro Arr**	**2.63**	**310**	P	**Pn**	**18 11 37.5**	**-0.5**
	8.2nm,0.3s,baz=125,slow=11,SNR=72						
MJAR				S	**Sn**	**18 12 08.8**	**0.0**
	4.4nm,0.3s,baz=142,slow=22,SNR=13						
MAT	**Matsushiro**	**2.63**	**310**	P	**Pn**	**18 11 38.3**	**+0.2**
MAT				S	**Sn**	**18 12 09.8**	**+0.9**
JNU	**Nakatsue**	**8.36**	**261**	P	**Pn**	**18 12 58.2**	**+1.7**
	0.3nm,0.3s,baz=25,slow=9.4,SNR=4.8						
ASAJ	**Asahikawa**	**9.33**	**8**	P	**Pn**	**18 13 09.2**	**-0.4**
	0.5nm,0.3s,baz=219,slow=8.6,SNR=7.0						
ASAJ				S	Sn	18 14 44.7	-8.3
	0.2nm,0.3s,baz=254,slow=19,SNR=2.0						
WRA	**Warramunga Arr**	**54.86**	**187**	P	**P**	**18 20 21.7**	**-0.4**
	0.6nm,0.3s,baz=2.3,slow=7.7,SNR=20						
ASAR	**Alice Springs**	**58.59**	**187**	P	**P**	**18 20 48.2**	**-0.3**
	0.2nm,0.5s,baz=22,slow=11,SNR=5.6						

*GUC **17** 18:26:09.5±0.3, 21°.13S×68°.57W, h158km±3km, ML3.9*
*IDC **17** 18:26:14.7±6.5, 20°.53S×67°.05W, h146km±21km, mb3.8/2, mb1 3.4/4, mb1mx3.3/17, mbtmp3.4/4, Error ellipse: s-maj=137.9km s-min=18.5km az=57.0*
ISC 17 18:26:08.5±1.1, 21°.09S±0°.06×68°.5W±0°.2, h168km±16km, n14, σ0§48/17, 6C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**Plate Boundary**	**0.90**	**273⇓**	*iP*	**Pn**	**18 26 34.5**	**+0.2**
PB01				*i S*	**Sn**	**18 26 53.7**	**-0.4**
PB01				AML	AML	18 26 55.4	
	comp=N,1μm,0.3s						
PB09	**Plate Boundary**	**0.97**	**223⇑**	*iP*	**Pn**	**18 26 35.1**	**+0.2**
PB09				*i S*	**Sn**	**18 26 54.6**	**-0.7**
PB09				AML	AML	18 27 00.2	
	comp=E,3μm,0.4s						
PB07	**Plate Boundary**	**1.41**	**243⇑**	*iP*	**Pn**	**18 26 39.4**	**+0.6**
PB07				*i S*	**Sn**	**18 27 02.0**	**-0.2**
PB07				AML	AML	18 27 03.5	
	comp=N,2μm,0.2s						
PB04	**Plate Boundary**	**1.47**	**217**	*i P*	Pn	18 26 45.1	+6.0
PB04				*i S*	Sn	18 27 12.2	+9.4
PB04				AML	AML	18 27 14.2	
	comp=E,882nm,0.5s						
HMBC	**Humberstone**	**1.51**	**302⇑**	*iP*	**Pn**	**18 26 39.9**	**+0.3**
HMBC				*i S*	**Sn**	**18 27 03.5**	**-0.2**
HMBC				AML	AML	18 27 05.9	
	comp=E,1μm,0.1s						
MACH	**Maria Elena**	**1.58**	**226⇑**	*iP*	**Pn**	**18 26 41.3**	**+0.7**
MACH				*i S*	**Sn**	**18 27 05.4**	**+0.1**
PSGC	**Pisagua**	**2.11**	**315⇑**	*iP*	**Pn**	**18 26 45.9**	**-0.2**
PSGC				*i S*	**Sn**	**18 27 14.8**	**-0.4**
PSGC				AML	AML	18 27 17.1	
	comp=N,327nm,0.1s						
MNMC	**Minimini**	**2.19**	**333⇑**	*iP*	**Pn**	**18 26 47.7**	**+0.5**
MNMC				*i S*	**Sn**	**18 27 17.8**	**+0.6**
MNMC				AML	AML	18 27 21.1	
	comp=E,1μm,0.2s						
CEN1	**Los Morros**	**2.76**	**214**	AML	AML	18 27 34.4	
	comp=N,151nm,0.2s						
PB10	**Plate Boundary**	**3.05**	**217**	AML	AML	18 27 37.9	
	comp=N,470nm,0.4s						
LPAZ	**La Paz**	**4.79**	**5**	P	**Pn**	**18 27 20.6**	**+0.4**
	comp=N,1.3nm,0.3s,baz=184,slow=6.6,SNR=22						
LPAZ				S	Sn	18 28 10.9	-5.2
	baz=102,slow=8.7,SNR=1.6						
CPUP	**Villa Florida**	**11.51**	**119**	P	Pn	18 28 42.9	-5.0
	comp=N,0.5nm,0.3s,baz=300,slow=16,SNR=3.2						
CPUP				S	Sn	18 30 40.9	-15
	comp=N,0.2nm,0.3s,baz=327,slow=17,SNR=2.5						
DBIC	**Dimbokro**	**68.28**	**73**	P	**P**	**18 36 51.2**	**-0.6**
	comp=N,1.1nm,0.4s,baz=225,slow=7.1,SNR=2.4						
TORD	**Torodi Ar. Bea**	**76.89**	**70**	P	**P**	**18 37 42.8**	**+0.2**
	comp=N,1.7nm,0.6s,baz=255,slow=5.3,SNR=29						

*IDC **17** 18:34:24.7±5.2, 36°.25N×70°.50E, h170km±47km, mb3.4/6, mb1 3.5/11, mb1mx3.2/31, mbtmp3.4/11, Error ellipse: s-maj=36.6km s-min=23.2km az=30.0*
*ISCJB **17** 18:34:27.8±0.4, 36°.52N±0°.03×70°.45E±0°.07, h204km, mb3.5/5, Error ellipse: s-maj=8.4km s-min=3.9km az=157.8*
*NNC **17** 18:34:34.3±3.9, 36°.99N×70°.31E, h200km±34km, mb3.0, mpv3.7, Error ellipse: s-maj=33.7km s-min=20.2km az=26.0*
ISC 17 18:34:28.3±0.7, 36°.55N±0°.06×70°.48E±0°.08, h204km, n37, σ1§70/44, mb3.5/5, 9C-6D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.96**	**156⇑**	P	**Pn**	**18 35 18.3**	**+0.4**
CEP				S	**S**	**18 35 55.0**	**-1.0**
CHCP	**Chirah Chowk**	**3.68**	**141⇑**	P	**Pn**	**18 35 27.4**	**+1.0**
THW	**Thamme Wali**	**3.89**	**164⇑**	P	**Pn**	**18 35 28.9**	**0.0**
SARP	**Sargodha**	**4.96**	**158⇑**	P	**Pn**	**18 35 41.9**	**-0.4**
DLH	**Dalhousie**	**6.04**	**130**	*ex*	x	18 36 13.0	
DLH				*ex*	**S**	**18 37 01.0**	**-4.8**
KK31	**Karatay Array**	**6.55**	**0⇑**	P	**Pn**	**18 36 03.2**	**+0.6**
	4.3nm,0.5s,baz=114,slow=12,SNR=102						
KK31				⇓S	**S**	**18 37 14.2**	**-3.1**
	6.0nm,0.3s,baz=196,slow=27,SNR=10						
AAK	**Ala-Archa**	**6.83**	**26**	P	**Pn**	**18 36 07.7**	**+1.3**
	1.2nm,0.3s,baz=177,slow=3.4,SNR=9.2						
AAK				S	**S**	**18 37 23.4**	**-0.6**
	2.0nm,0.3s,baz=313,slow=19,SNR=25						
BHK	**Bhakra**	**7.11**	**134**	*ex*	**S**	**18 37 29.6**	**-1.1**
TKM2	**Tokmak 2**	**7.49**	**30⇑**	P	**Pn**	**18 36 16.1**	**+1.1**
	2.6nm,0.7s						
TKM2				⇓S	**S**	**18 37 38.7**	**-1.2**
	7.8nm,0.8s						
MK31	**Makanchi Array**	**13.51**	**37⇑**	P	**P**	**18 37 36.1**	**+1.8**
	1.5nm,0.7s,baz=212,slow=12,SNR=7.5						
MKAR	**Makanchi Array**	**13.51**	**37**	P	**P**	**18 37 34.2**	**-0.1**
	0.1nm,0.3s,baz=218,slow=9.2,SNR=8.4						
PYUN	**Piuthan**	**13.51**	**125**	*eP*	**Pn**	**18 37 31.5**	**-0.8**
	48nm,0.4s						
DANN	**Dangsing**	**13.87**	**122**	*eP*	**Pn**	**18 37 37.1**	**+0.3**
KOLN	**Koldanda**	**14.14**	**125**	*eP*	**Pn**	**18 37 39.1**	**-0.9**
	4.5nm,0.3s						
AB31	**Akbulak array**	**14.84**	**332**	P	**Pn**	**18 37 47.7**	**-0.5**
	1.6nm,0.5s,baz=146,slow=11,SNR=54						
AB31				⇓S	**S**	**18 40 27.4**	**-5.4**
	0.9nm,0.5s,baz=159,slow=23,SNR=3.4						
KURBB	**Kurchatov Arra**	**15.22**	**20⇑**	P	**Pn**	**18 37 53.0**	**+0.2**
	2.5nm,0.8s						
KURBB	**Kurchatov Arra**	**15.22**	**20**	P	**P**	**18 37 53.4**	**+0.2**
	0.2nm,0.3s,baz=209,slow=10.0,SNR=8.4						
KKN	**Kakani**	**15.26**	**121**	*eP*	**Pn**	**18 37 53.6**	**-0.2**
	24nm,0.5s						
PKIN	**Phulchoki**	**15.48**	**121**	*eP*	**P**	**18 37 57.4**	**+0.9**
	17nm,0.3s						
PKI	**Pulchoki**	**15.49**	**121**	*eP*	**P**	**18 37 56.8**	**+0.1**
GUN	**Gumba**	**15.61**	**119**	*eP*	**Pn**	**18 37 59.1**	**+1.0**
	12nm,0.3s						
JIRN	**Jiri**	**15.98**	**119**	*eP*	**P**	**18 38 02.8**	**+0.6**
	37nm,0.4s						
VOSK	**Vostochnaya**	**16.18**	**1⇑**	P	**Pn**	**18 38 04.8**	**+0.4**
	3.8nm,1.1s						
BVA0	**Borovoye Array**	**16.48**	**360⇓**	P	**Pn**	**18 38 11.3**	**+3.3**
	1.1nm,0.5s,baz=156,slow=15,SNR=5.4						
BVAR	**Borovoye Array**	**16.48**	**360**	P	**Pn**	**18 38 08.2**	**+0.2**
	0.7nm,0.3s,baz=177,slow=10,SNR=13						
AKTO	**Aktyubinsk**	**16.53**	**331**	⇓P	**Pn**	**18 38 09.5**	**+0.9**
	16nm,0.8s						
AKTO				⇓S	**S**	**18 41 07.4**	**-2.7**
	1.9nm,0.8s						
AKTO	**Aktyubinsk**	**16.53**	**331**	P	**Pn**	**18 38 09.8**	**+1.2**
	1.2nm,0.3s,baz=144,slow=11,SNR=56						
AKTO				S	**S**	**18 41 08.0**	**-2.0**
	0.0nm,0.3s,baz=164,slow=19,SNR=3.5						
RAMN	**Ramite**	**16.70**	**120**	*eP*	**Pn**	**18 38 11.3**	**+0.2**
	18nm,0.5s						
TAPN	**Taplejung**	**17.24**	**117**	*eP*	**Pn**	**18 38 18.5**	**+0.9**
	8.3nm,0.4s						
ODAN	**Odare**	**17.31**	**119**	*eP*	**Pn**	**18 38 19.1**	**+0.8**
	16nm,0.5s						
ZALV	**Zalesovo Beam**	**20.05**	**25**	P	**P**	**18 38 47.3**	**+1.6**
	1.7nm,0.3s,baz=222,slow=11,

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**0.60**	**353**	*i* P	**Pn**	**18 46 10.6**	**+1.2**
CCIG				*e*S	**S**	**18 46 36.8**	**+0.5**
PCIG		**1.12**	**271**	*e*P	**Pn**	**18 46 11.8**	**+0.1**
PCIG				*i* S	**S**	**18 46 39.7**	**-0.5**
JAT	**Jato**	**1.42**	**163**	*e*P	**Pn**	**18 46 15.9**	**+2.2**
TGIG		**1.49**	**317**	*i* P	**Pn**	**18 46 15.7**	**+1.5**
TGIG				*e*S	**S**	**18 46 45.1**	**+0.2**
APG	**El Apazote**	**1.68**	**114**	P	**Pn**	**18 46 16.6**	**+0.7**
	21nm,0.3s,baz=293,slow=8.6,SNR=255						
APG				S	**S**	**18 46 46.6**	**-1.2**
	20nm,0.3s,baz=162,slow=20,SNR=21						
FUG	**Fuego 3**	**1.70**	**136**	*e*P	Pn	18 46 20.7	+4.6
FUG				*e*S	**S**	**18 46 43.5**	**-4.6**
NBG	**Las Nubes**	**1.98**	**123**	*e*P	Pn	18 46 23.0	+4.5
IXG	**Ixpaco**	**2.16**	**134**	*e*P	Pn	18 46 24.5	+4.5
MRL	**Marmol**	**2.37**	**105**	*e*P	**Pn**	**18 46 23.2**	**+1.3**
CMIG	**Matias Romero**	**3.05**	**298**	P	**Pn**	**18 46 28.7**	**0.0**
	189nm,0.3s,baz=111,slow=9.5,SNR=1406						
CMIG				S	**S**	**18 47 07.3**	**-3.7**
	70nm,0.3s,baz=67,slow=23,SNR=10						
HUIG	**Huatulco**	**3.90**	**272**	*i* P	**Pn**	**18 46 38.0**	**-0.3**
HUIG				*i* S	**S**	**18 47 26.4**	**-1.9**
VHO	**Vista Hermosa**	**4.69**	**288**	*e*P	**Pn**	**18 46 49.4**	**+1.6**
VHO				*i* S	**S**	**18 47 43.8**	**-1.8**
TEIG	**Tepich**	**5.77**	**38**	P	**Pn**	**18 46 59.8**	**-0.9**
	161nm,0.3s,baz=241,slow=1.9,SNR=713						
PNIG	**Pinotepa**	**5.88**	**278**	*i* P	**Pn**	**18 47 03.5**	**+1.3**
PNIG				*e*S	**S**	**18 48 09.8**	**-1.8**
TXAR	**Lajitas Array**	**17.29**	**324**	P	**Pn**	**18 49 24.2**	**+1.7**
	0.2nm,0.3s,baz=151,slow=12,SNR=24						
NVAR	**Mina Array Bea**	**32.34**	**320**	P	P	18 51 45.6	+4.4
	0.8nm,0.7s,baz=136,slow=7.8,SNR=6.9						
NVAR				pP	pP	18 52 35.9	+3.9
	1.0nm,0.8s,baz=135,slow=8.0,SNR=7.1						
LPAZ	**La Paz**	**39.59**	**142**	P	**P**	**18 52 44.2**	**+1.1**
	5.6nm,0.6s,baz=325,slow=5.7,SNR=25						
YKA	**Yellowknife Ar**	**49.38**	**346**	P	**P**	**18 53 59.2**	**+0.2**
	2.0nm,0.6s,baz=148,slow=7.7,SNR=4.4						
BDFB	**Brasilia**	**53.48**	**124**	P	**P**	**18 54 29.6**	**-0.5**
	3.6nm,0.4s,baz=276,slow=7.1,SNR=5.1						
CPUP	**Villa Florida**	**53.71**	**141**	P	**P**	**18 54 29.9**	**-1.5**
	0.4nm,0.4s,baz=326,slow=12,SNR=4.7						
PLCA	**Paso Flores**	**59.58**	**161**	P	**P**	**18 55 14.6**	**+2.1**
	3.7nm,0.8s,baz=17,slow=5.2,SNR=7.9						
ESDC	**Sonseca Array**	**78.72**	**52**	P	**P**	**18 57 08.6**	**-1.3**
	0.8nm,0.6s,baz=290,slow=6.9,SNR=5.4						
NOA	**NORSAR Array B**	**82.70**	**29**	P	**P**	**18 57 31.3**	**+1.0**
	0.5nm,0.6s,baz=276,slow=6.6,SNR=3.3						
ARCES	**ARCESS Array B**	**84.56**	**18**	P	**P**	**18 57 39.4**	**-0.2**
	3.5nm,0.9s,baz=280,slow=4.5,SNR=6.7						
FINES	**FINESS Array B**	**89.00**	**25**	P	**P**	**18 58 00.4**	**-0.6**
	18nm,1.3s,baz=342,slow=2.9,SNR=7.8						
TORD	**Torodi Ar. Bea**	**90.04**	**76**	P	**P**	**18 58 04.5**	**-2.3**
	0.5nm,0.9s,baz=286,slow=4.6,SNR=5.1						
WRA	**Warramunga Arr**	**135.73**	**257**	PKP	**PKPdf**	**19 04 27.9**	**+1.7**
	0.6nm,0.5s,baz=89,slow=2.6,SNR=14						
ASAR	**Alice Springs**	**136.15**	**252**	PKhKP	PKPpre	19 04 19.8	
	0.2nm,0.4s,baz=102,slow=3.7,SNR=4.7						
ASAR				PKP	**PKiKP**	**19 04 29.5**	**+0.8**
	0.5nm,0.6s,baz=94,slow=2.7,SNR=4.4						
CMAR	**Chiang Mai Arr**	**144.38**	**342**	PKP	**PKPab**	**19 04 40.5**	**-0.2**
	0.5nm,0.6s,baz=329,slow=2.7,SNR=5.1						

*IDC **17** 18:59:59.4±0.6, 41°.46S×88°.43W, h0km, mb4.4/13, mb1 4.5/14, mb1mx4.5/19, mbtmp4.3/14, ML3.0/1, MS3.9/18, Ms1 3.9/18, ms1mx3.8/28, Error ellipse: s-maj=22.1km s-min=16.4km az=104.0*

*ISCJB **17** 19:00:00.3±0.3, 41°.37S±0°.06×88°.31W±0°.09, h10km, mb4.5/21, MS4.0/17, Error ellipse: s-maj=10.9km s-min=7.4km az=44.4*

*NEIC **17** 19:00:00.9±0.4, 41°.45S×88°.51W, h10km, mb4.8/10, Error ellipse: s-maj=11.6km s-min=10.2km az=199.0*

ISC 17 19:00:00.7±0.5, 41°.45S±0°.09×88°.55W±0°.10, h10km, n278, σ1.9 04/273, mb4.7/21, MS4.0/17, 105C-97D, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**13.60**	**93**	Pn	**Pn**	**19 03 15.5**	**+1.8**
PLCA	**Paso Flores**	**13.60**	**93**	Pn	**Pn**	**19 03 15.5**	**+1.8**
	0.3nm,0.3s,baz=247,slow=13,SNR=6.1						
USHA	**Ushuaia**	**18.87**	**142**	LR	LR	19 10 28.2	
	comp=Z,280nm,19.7s,baz=90,slow=33						
CFAA	**Coronel Fontan**	**19.01**	**65**	P	**P**	**19 04 22.6**	**-0.1**
CFAA	**Coronel Fontan**	**19.01**	**65**	P	**P**	**19 04 22.6**	**-0.1**
	0.1nm,0.3s,baz=232,slow=10.0,SNR=17						
CFAA				LR	LR	19 10 58.5	
	comp=Z,28nm,20.0s,baz=238,slow=35						
LCO	**Las Campanas**	**19.10**	**55**	*e*P	**P**	**19 04 22.4**	**-1.5**
	26nm,1.1s						
TRQA	**Tornquist**	**20.68**	**89**	*e*P	**P**	**19 04 41.7**	**+0.9**
	68nm,1.4s						
CPUP	**Villa Florida**	**29.79**	**69**	P	**P**	**19 06 06.8**	**-0.9**
CPUP	**Villa Florida**	**29.79**	**69**	P	**P**	**19 06 06.8**	**-0.9**
	0.7nm,0.5s,baz=217,slow=9.0,SNR=3.2						
CPUP				LR	LR	19 16 18.9	
	comp=Z,258nm,21.3s,baz=259,slow=33						
LPAZ	**La Paz**	**30.63**	**41**	P	**P**	**19 06 16.7**	**+0.8**
LPAZ	**La Paz**	**30.63**	**41**	P	**P**	**19 06 16.7**	**+0.8**
	1.3nm,0.5s,baz=194,slow=7.9,SNR=7.0						
LPAZ				LR	LR	19 14 37.4	
	comp=Z,55nm,18.2s,baz=274,slow=29						
ATAH	**Atahualpa**	**35.34**	**18**	P	**P**	**19 06 57.9**	**+1.1**
ATAH	**Atahualpa**	**35.34**	**18**	P	**P**	**19 06 57.9**	**+1.1**
	9.2nm,0.7s,baz=158,slow=6.2,SNR=4.4						
ATAH				LR	LR	19 16 53.9	
	comp=Z,77nm,20.9s,baz=330,slow=29						
BDFB	**Brasilia**	**43.35**	**66**	P	**P**	**19 08 02.9**	**-0.5**
BDFB	**Brasilia**	**43.35**	**66**	P	**P**	**19 08 02.9**	**-0.5**
	2.5nm,0.5s,baz=289,slow=3.6,SNR=4.9						
BDFB				LR	LR	19 25 28.7	
	comp=Z,208nm,20.1s,baz=51,slow=35						
ROSC	**El Rosal**	**47.88**	**19**	LR	LR	19 27 34.9	
	comp=Z,76nm,19.7s,baz=179,slow=35						
VNA1	**Neumayer--Stat**	**48.40**	**154**	*e*P	**P**	**19 08 43.9**	**+1.5**
VNA2	**Neumayer--Watz**	**48.64**	**154**	*e*P	**P**	**19 08 45.3**	**+1.0**
QSPA	**South Pole Qui**	**48.79**	**180**	P	**P**	**19 08 47.0**	**+1.2**
QSPA				PcP	**PcP**	**19 10 10.4**	**0.0**
QSPA	**South Pole Qui**	**48.79**	**180**	P	**P**	**19 08 46.9**	**+1.2**
	3.1nm,0.8s,baz=134,slow=3.2,SNR=16						
QSPA				PcP	**PcP**	**19 10 10.4**	**0.0**
	4.9nm,1.0s,baz=49,slow=0.4,SNR=5.5						
QSPA				LR	LR	19 26 08.3	
	comp=Z,125nm,18.1s,baz=223,slow=32						
SNAA	**Sanae**	**49.96**	**156**	*e*P	**P**	**19 08 54.9**	**+0.4**
SNAA	**Sanae**	**49.96**	**156**	*e*P	**P**	**19 08 54.9**	**+0.4**
	13nm,1.5s						
VNDA	**Vanda**	**53.93**	**195**	P	**P**	**19 09 25.6**	**+1.8**
VNDA				PcP	**PcP**	**19 10 28.9**	**-0.2**
VNDA	**Vanda**	**53.93**	**195**	P	**P**	**19 09 25.6**	**+1.8**
	3.2nm,1.1s,baz=116,slow=6.9,SNR=11						
VNDA				PcP	**PcP**	**19 10 28.9**	**-0.2**
	0.8nm,0.7s,baz=134,slow=3.6,SNR=4.1						
VNDA				LR	LR	19 27 22.8	
	comp=Z,111nm,20.4s,baz=106,slow=30						
PPT	**Papeete**	**56.96**	**275**	LR	LR	19 26 45.8	
	comp=Z,136nm,18.9s,baz=0.5,slow=28						
URZ	**Urewera**	**68.79**	**237**	LR	LR	19 32 40.5	
	comp=Z,122nm,21.8s,baz=106,slow=28						
MAW	**Mawson**	**69.14**	**169**	LR	LR	19 39 35.2	
	comp=Z,78nm,19.8s,baz=103,slow=34						
RPZ	**Rata Peaks**	**69.16**	**230**	LR	LR	19 33 15.4	
	comp=Z,164nm,18.1s,baz=196,slow=29						
732A	**Laxson Ranch,**	**70.62**	**349**	⇓P	**P**	**19 11 16.8**	**+0.7**
	baz=71						
632A	**Uvalde**	**71.36**	**350**	⇑P	**P**	**19 11 21.5**	**+0.9**
	baz=72						
631A	**Perdido Creek**	**71.38**	**349**	⇑P	**P**	**19 11 21.1**	**+0.3**
	baz=72						
TXAR	**Lajitas Array**	**71.80**	**346**	P	**P**	**19 11 24.2**	**+0.8**
TXAR	**Lajitas Array**	**71.80**	**346**	P	**P**	**19 11 24.2**	**+0.8**
	4.5nm,0.9s,baz=161,slow=8.0,SNR=26						
TXAR				LR	LR	19 38 26.9	
	comp=Z,66nm,18.6s,baz=0.0,slow=32						
628A	**Black Gap, Mar**	**71.81**	**347**	⇑P	**P**	**19 11 24.0**	**+0.5**
	baz=72,SNR=11						
627A	**Terlingua Ranc**	**71.87**	**346**	⇓P	**P**	**19 11 24.3**	**+0.5**
	baz=72,SNR=6.5						
532A	**Rocksprings**	**71.98**	**350**	⇓P	**P**	**19 11 25.1**	**+0.6**
	baz=72,SNR=7.6						
626A	**Big Bend Ranch**	**72.10**	**346**	⇑P	**P**	**19 11 25.8**	**+0.6**
	baz=72,SNR=9.1						
531A	**Rocksprings**	**72.11**	**349**	⇓P	**P**	**19 11 25.7**	**+0.5**
	baz=72,SNR=12						
530A	**J-C Ranch, Com**	**72.21**	**348**	⇓P	**P**	**19 11 26.4**	**+0.6**
	baz=73,SNR=19						
JCT	**Junction City**	**72.32**	**350**	⇑P	**P**	**19 11 26.9**	**+0.5**
	baz=73						
529A	**Stev Forest Ra**	**72.33**	**348**	⇓P	**P**	**19 11 26.8**	**+0.3**
	baz=73,SNR=5.7						
528A	**Cox Ranch, San**	**72.45**	**347**	⇑P	**P**	**19 11 27.8**	**+0.5**
	baz=73						
527A	**Woodward Ranch**	**72.58**	**346**	⇑P	**P**	**19 11 28.5**	**+0.4**
	baz=73,SNR=8.7						
526A	**Mary Lane Ranc**	**72.58**	**346**	⇓P	**P**	**19 11 28.7**	**+0.5**
	baz=73,SNR=11						
431A	**Sonora**	**72.63**	**349**	⇓P	**P**	**19 11 28.3**	**+0.1**
	baz=73,SNR=6.9						
430A	**Baggett Ranch,**	**72.82**	**349**	⇑P	**P**	**19 11 29.5**	**+0.1**
	baz=73,SNR=5.5						
428A	**Kincaid Ranch,**	**72.99**	**347**	⇑P	**P**	**19 11 31.1**	**+0.6**
	baz=73						
426A	**McDonald Obser**	**73.17**	**346**	⇓P	**P**	**19 11 32.0**	**+0.3**
	baz=74,SNR=8.1						
332A	**Millersview**	**73.20**	**350**	⇑P	**P**	**19 11 31.9**	**+0.3**
	baz=74						
331A	**San Angelo**	**73.22**	**349**	⇑P	**P**	**19 11 32.3**	**+0.6**
	baz=74						
427A	**Hayter Ranch,**	**73.23**	**347**	⇑P	**P**	**19 11 32.1**	**+0.2**
	baz=74,SNR=7.4						
330A	**Mertzon**	**73.42**	**349**	⇓P	**P**	**19 11 33.5**	**+0.5**
	baz=74						
425A	**Indio Mountain**	**73.46**	**345**	⇑P	**P**	**19 11 33.9**	**+0.6**
	baz=74						
WHTX	**Lake Whitney**	**73.53**	**352**	⇓P	**P**	**19 11 33.8**	**+0.2**
	baz=74						
329A	**Wagon Wheel Ra**	**73.62**	**348**	⇓P	**P**	**19 11 34.6**	**+0.4**
	baz=74						
328A	**Wristen Ranch,**	**73.65**	**347**	⇓P	**P**	**19 11 34.7**	**+0.3**
	baz=74						
232A	**Coleman**	**73.69**	**350**	⇑P	**P**	**19 11 34.7**	**+0.2**
	baz=74						
230A	**Sterling City**	**73.89**	**349**	⇑P	**P**	**19 11 36.2**	**+0.5**
	baz=74						
325A	**Bean Ranch, Si**	**74.02**	**345**	⇓P	**P**	**19 11 37.0**	**+0.3**
	baz=74						
324A	**Moseley Ranch,**	**74.19**	**345**	⇑P	**P**	**19 11 37.7**	**+0.1**
	baz=75						
228A	**UT Block 9, Go**	**74.34**	**348**	⇑P	**P**	**19 11 38.7**	**+0.3**
	baz=75						
ABTX	**Abilene, Hawle**	**74.41**	**350**	⇓P	**P**	**19 11 39.0**	**+0.3**
	baz=75						
131A	**Roby**	**74.56**	**350**	⇑P	**P**	**19 11 40.3**	**+0.7**
	baz=75						
226B	**Tecolote Peak,**	**74.56**	**346**	⇑P	**P**	**19 11 40.2**	**+0.5**
	baz=75						
225A	**Deer Hill, Car**	**74.72**	**346**	⇓P	**P**	**19 11 41.1**	**+0.4**
	baz=75						
129A	**Stewart Farms,**	**74.73**	**348**	⇑P	**P**	**19 11 41.4**	**+0.8**
	baz=75						
320A	**Kipp Ranch, An**	**74.73**	**342**	⇓P	**P**	**19 11 42.0**	**+1.3**
	baz=75						
128A	**Castleberry Fa**	**74.81**	**348**	⇑P	**P**	**19 11 41.9**	**+0.8**
	baz=75						
224A	**Cornudas Mount**	**74.81**	**345**	⇑P	**P**	**19 11 42.2**	**+1.0**
	baz=75						
319A	**Douglas**	**74.94**	**342**	⇑P	**P**	**19 11 43.5**	**+1.6**
	baz=75						
127A	**Arkansas Junct**	**75.01**	**347**	⇑P	**P**	**19 11 43.1**	**+0.8**
	baz=75						
Z32A	**Haskell**	**75.06**	**351**	⇑P	**P**	**19 11 43.2**	**+0.7**
	baz=75						
Z31A	**Sharp Cattle R**	**75.16**	**350**	⇑P	**P**	**19 11 43.7**	**+0.6**
	baz=76						
222A	**Wilms Famil**	**75.16**	**344**	⇓P	**P**	**19 11 44.2**	**+1.0**
	baz=76						
125A	**Gardner Draw,**	**75.22**	**346**	⇑P	**P**	**19 11 44.1**	**+0.6**
	baz=76						
Z30A	**Sanderson Ranc**	**75.26**	**349**	⇑P	**P**	**19 11 43.7**	**0.0**
	baz=76						
220A	**Playas Peak, P**	**75.28**	**343**	⇑P	**P**	**19 11 44.9**	**+1.0**
	baz=76						
Z29A	**Hungry Hill Ra**	**75.32**	**349**	⇑P	**P**	**19 11 44.5**	**+0.5**
	baz=76						
124A	**Stringfield Ra**	**75.41**	**345**	⇑P	**P**	**19 11 45.4**	**+0.7**
	baz=76,SNR=7.9						
Z27A	**Tatum**	**75.61**	**347**	⇑P	**P**	**19 11 46.7**	**+0.9**
	baz=76						
Z26A	**Caprock**	**75.70**	**347**	⇑P	**P**	**19 11 46.2**	**0.0**
	baz=76,SNR=7.2						
121A	**Cookes Peak, D**	**75.72**	**343**	⇑P	**P**	**19 11 47.4**	**+1.0**
	baz=76						
Y32A	**R-V Farms, Ver**	**75.75**	**351**	⇓P	**P**	**19 11 47.0**	**+0.6**
	baz=76						
Y31A	**Rekieta Farm,**	**75.81**	**350**	⇑P	**P**	**19 11 47.4**	**+0.7**
	baz=76						
Z25A	**Roswell**	**75.83**	**346**	⇓P	**P**	**19 11 48.0**	**+1.0**
	baz=76						
120A	**U Bar Ranch, L**	**75.92**	**343**	⇑P	**P**	**19 11 49.0**	**+1.4**
	baz=76						
Z24A	**Sheeppen Canyo**	**76.00**	**346**	⇓P	**P**	**19 11 49.1**	**+1.1**
	baz=76						
Y27A	**Causey**	**76.16**	**348**	⇑P	**P**	**19 11 48.9**	**+0.1**
	baz=76,SNR=5.5						
MSTX	**Muleshoe**	**76.18**	**348**	*e*P	**P**	**19 11 49.1**	**+0.2**
MSTX	**Muleshoe**	**76.18**	**348**	⇑P	**P**	**19 11 48.9**	**-0.1**
	baz=76,SNR=5.9						
Z22A	**Elephant Butte**	**76.24**	**344**	⇓P	**P**	**19 11 50.5**	**+1.1**
	baz=77						
Y26A	**Elida**	**76.31**	**347**	⇓P	**P**	**19 11 50.0**	**+0.3**
	baz=77						
214A	**Organ Pipe Nat**	**76.39**	**339**	⇓P	**P**	**19 11 51.5**	**+1.4**
	baz=77						
Z20A	**Nine Sixteen R**	**76.45**	**343**	⇑P	**P**	**19 11 51.4**	**+0.8**
	baz=77						
Y25A	**Mesa, Roswell**	**76.46**	**346**	⇓P	**P**	**19 11 51.4**	**+0.9**
	baz=77						
KMSC	**Kings Mountain**	**76.50**	**6**	⇑P	**P**	**19 11 49.8**	**-0.8**
	baz=77						
Y24A	**Capitan**	**76.59**	**346**	⇑P	**P**	**19 11 52.4**	**+1.0**
	baz=77						
CPCT	**Cooper Cave**	**76.61**	**3**	*e*P	**P**	**19 11 51.4**	**+0.2**
Y22A	**Socorro**	**76.90**	**344**	⇓P	**P**	**19 11 54.2**	**+1.1**
	baz=77						
X26A	**CR and CF Fran**	**76.92**	**347**	⇓P	**P**	**19 11 54.2**	**+1.1**
	baz=77						
X25A	**Clemmons Ranch**	**77.04**	**346**	⇑P	**P**	**19 11 54.7**	**+0.9**
	baz=77						
Y21A	**Point of Rocks**	**77.12**	**344**	⇑P	**P**	**19 11 55.0**	**+0.5**
	baz=78						
W29A	**Amarillo**	**77.14**	**349**	⇓P	**P**	**19 11 54.5**	**+0.2**
	baz=78						
Y20A	**Horse Springs,**	**77.17**	**343**	⇓P	**P**	**19 11 56.0**	**+1.3**
	baz=78						
TUL1	**Tulsa**	**77.27**	**354**	*e*P	**P**	**19 11 54.9**	**0.0**
TUL1	**Tulsa**	**77.27**	**354**	⇑P	**P**	**19 11 55.7**	**+0.8**
	baz=78						
W27A	**Bowe Ranch, En**	**77.30**	**348**	⇓P	**P**	**19 11 56.1**	**+0.8**
	baz=78						
X23A	**Hourglass Bar**	**77.37**	**345**	⇑P	**P**	**19 11 56.8**	**+1.0**
	baz=78						
X22A	**Bernardo**	**77.46**	**344**	⇑P	**P**	**19 11 57.5**	**+1.2**
	baz=78						
V31A	**Spring Creek L**	**77.54**	**351**	⇓P	**P**	**19 11 57.7**	**+1.1**
	baz=78						
X21A	**Alamocita Cree**	**77.56**	**344**	⇓P	**P**	**19 11 58.0**	**+1.0**
	baz=78						
W25A	**X Bar L Ranch,**	**77.68**	**347**	⇑P	**P**	**19 11 57.7**	**+0.3**
	baz=78,SNR=5.5						
ANMO	**Albuquerque**	**77.78**	**345**	*e*P	**P**	**19 11 58.7**	**+0.6**
	8.1nm,1.1s						
ANMO	**Albuquerque**	**77.78**	**345**	P	**P**	**19 11 59.0**	**+0.9**
	baz=170,slow=9.9						
W24A	**Lazy 6 Ranch,**	**77.84**	**346**	⇑P	**P**	**19 11 59.0**	**+0.6**
	baz=78,SNR=13						
W23A	**Werner Place,**	**77.93**	**345**	⇑P	**P**	**19 12 00.0**	**+1.1**
	baz=78						
GLA	**Glamis**	**77.98**	**338**	⇓P	**P**	**19 12 00.8**	**+1.7**
	baz=78						
V26A	**Tequesquite Ra**	**78.13**	**347**	⇑P	**P**	**19 12 00.8**	**+0.9**
	baz=78						
V25A	**Rancho No Teng**	**78.31**	**347**	⇓P	**P**	**19 12 02.1**	**+1.1**
	baz=79						
Y14A	**Wickenburg**	**78.32**	**339**	⇓P	**P**	**19 12 01.9**	**+1.0**
	baz=79,SNR=5.5						
W20A	**Ramah**	**78.37**	**343**	⇓P	**P**	**19 12 02.7**	**+1.3**
	baz=79						
X16A	**Lo Mia Camp, P**	**78.37**	**341**	⇑P	**P**	**19 12 02.9**	**+1.5**
	baz=79						
Y12C	**Blythe**	**78.55**	**338**	⇓P	**P**	**19 12 03.8**	**+1.7**
	baz=79						
U27A	**Thompson Grove**	**78.59**	**348**	⇓P	**P**	**19 12 03.4**	**+1.0**
	baz=79						
U26A	**Atchley Ranch,**	**78.71**	**348**	⇑P	**P**	**19 12 04.2**	**+1.0**
	baz=79						
BC3	**Big Chuckawall**	**78.73**	**337**	⇑P	**P**	**19 12 04.5**	**+1.3**
	baz=79						
V22A	**San Miguel Ran**	**78.81**	**345**	⇑P	**P**	**19 12 04.8**	**+1.0**
	baz=79,SNR=9.1						
U25A	**Circle Dot Ran**	**78.82**	**347**	⇓P	**P**	**19 12 04.2**	**+0.4**
	baz=79,SNR=6.0						
T30A	**Plains**	**78.89**	**350**	⇑P	**P**	**19 12 04.5**	**+0.6**
	baz=79						
PDMCI	**Parker Dam,Lak**	**78.96**	**339**	⇓P	**P**	**19 12 06.0**	**+1.7**
	baz=79						
PFO	**Pinyon Flat Ob**	**78.98**	**337**	P	**P**	**19 12 06.1**	**+1.4**
PFO	**Pinyon Flat Ob**	**78.98**	**337**	P	**P**	**19 12 06.1**	**+1.4**
	2.4nm,0.7s,baz=316,slow=2.2,SNR=3.7						
PFO	**Pinyon Flat Ob**	**78.98**	**337**	⇑P	**P**	**19 12 06.0**	**+1.4**
	baz=79						
V20A	**Brimhall**	**79.01**	**344**	⇑P	**P**	**19 12 05.6**	**+0.7**
	baz=79,SNR=5.4						
T29A	**Hugoton**	**79.09**	**350**	⇓P	**P**	**19 12 06.3**	**+1.2**
	baz=80						
IRM	**Iron Mountain**	**79.11**	**338**	⇑P	**P**	**19 12 06.9**	**+1.6**
	baz=80						
T28A	**Walsh**	**79.17**	**349**	⇓P	**P**	**19 12 06.1**	**+0.6**
	baz=80						
T27A	**Campo**	**79.20**	**348**	⇑P	**P**	**19 12 06.2**	**+0.5**
	baz=80,SNR=7.1						
BELC	**Belle Mtn. Jos**	**79.21**	**337**	⇓P	**P**	**19 12 07.1**	**+1.2**
	baz=80						
WUAZ	**Wupatki**	**79.40**	**341**	⇑P	**P**	**19 12 08.1**	**+1.2**
	baz=80						
T26A	**Comanche Natio**	**79.45**	**348**	⇓P	**P**	**19 12 07.7**	**+0.5**
	baz=80,SNR=7.6						
U21A	**Nageezi**	**79.45**	**344**	⇑P	**P**	**19 12 08.3**	**+1.0**
	baz=80						
T25A	**Trinidad**	**79.54**	**347**	⇑P	**P**	**19 12 08.7**	**+0.9**
	baz=80,SNR=5.6						
U20A	**Newcomb**	**79.58**	**344**	⇑P	**P**	**19 12 09.1**	**+1.2**
	baz=80						
T24B	**San Luis**	**79.64**	**346**	⇓P	**P**	**19 12 09.6**	**+1.2**
	baz=80						
S27A	**Las Animas**	**79.84**	**348**	⇓P	**P**	**19 12 10.6**	**+1.3**
	baz=80						
GMRC	**Granite Mounta**	**79.84**	**338**	⇑P	**P**	**19 12 10.4**	**+1.0**
	baz=80,SNR=5.7						
S26A	**Kim**	**79.86**	**348**	⇑P	**P**	**19 12 10.2**	**+0.9**
	baz=80,SNR=9.4						
T22A	**Edith**	**79.87**	**345**	⇓P	**P**	**19 12 10.6**	**+1.0**
	baz=80						
BFSC	**Mount Baldy Ra**	**79.93**	**336**	⇓P	**P**	**19 12 11.3**	**+1.5**
	baz=80						
T21A	**Navajo Lake**	**79.97**	**345**	⇓P	**P**	**19 12 11.5**	**+1.4**
	baz=80						
S25A	**Robets Cordova**	**80.06**	**347**	⇓P	**P**	**19 12 11.3**	**+0.8**
	baz=80,SNR=9.6						
HEC	**Hector,Ludlow**	**80.08**	**337**	⇓P	**P**	**19 12 12.2**	**+1.6**
	baz=80						
S24A	**Houchin Ranch,**	**80.17**	**347**	⇑P	**P**	**19 12 12.2**	**+1.0**
	baz=80,SNR=7.3						
R28A	**Tribune**	**80.33**	**349**	⇑P	**P**	**19 12 12.9**	**+1.1**
	baz=81						
BSC	**Santa Cruz Isl**	**80.33**	**334**	⇑P	**P**	**19 12 13.8**	**+2.0**
	baz=81						
R27A	**Eads**	**80.41**	**349**	⇓P	**P**	**19 12 13.2**	**+0.9**
	baz=81						
U15A	**North Rim**	**80.49**	**341**	⇑P	**P**	**19 12 14.1**	**+1.1**
	baz=81,SNR=7.5						
R25A	**Fountain Ranch**	**80.51**	**347**	⇓P	**P**	**19 12 13.5**	**+0.6**
	baz=81,SNR=5.2						
R26A	**Arlington**	**80.53**	**348**	⇑P	**P**	**19 12 13.8**	**+0.9**
	baz=81,SNR=6.2						
TUQ	**Turquoise Moun**	**80.53**	**338**	⇑P	**P**	**19 12 14.7**	**+1.6**
	baz=81						
S22A	**4UR Ranch, Cre**	**80.57**	**345**	⇑P	**P**	**19 12 14.3**	**+0.9**
	baz=81						
EDW2	**Edwards Air Fo**	**80.63**	**336**	⇓P	**P**	**19 12 14.5**	**+1.1**
	baz=81						
GSC	**Goldstone**	**80.66**	**337**	⇑P	**P**	**19 12 15.2**	**+1.5**
	baz=81						
S21A	**Coal Bank Pass**	**80.67**	**345**	⇑P	**P**	**19 12 15.3**	**+1.3**
	baz=81						
R24A	**Sanders Place,**	**80.73**	**347**	⇓P	**P**	**19 12 15.7**	**+1.6**
	baz=81

J28A	Allard Ranch,	85.25 351	⇓P		P	19 12 38.0 +0.8
	baz=86					
K22A	Casper	85.27 347	⇓P		P	19 12 38.4 +1.0
	baz=86,SNR=8.6					
K21A	Alcova	85.38 346	⇑P		P	19 12 38.5 +0.4
	baz=86,SNR=7.5					
J26A	Sides Ranch, S	85.38 349	⇑P		P	19 12 38.9 +0.9
	baz=86					
J24A	Dixon Ranch, L	85.63 348	⇑P		P	19 12 40.3 +1.1
	baz=86					
K19A	Absolon Red Bu	85.86 345	⇓P		P	19 12 41.1 +0.6
	baz=86					
PDAR	Pinedale Array	85.95 345	P		P	19 12 41.2 +0.3
PDAR	Pinedale Array	85.95 345	P		P	19 12 41.2 +0.3
	2.9nm,0.9s,baz=152,slow=4.1,SNR=19					
J21A	Lysite	86.11 346	⇓P		P	19 12 42.1 +0.5
	baz=86,SNR=5.6					
I25A	Rochford	86.17 349	⇓P		P	19 12 42.8 +0.8
	baz=87					
DZM	Mont Dzumac	86.23 244	LR		LR	19 41 03.3
	comp=Z,118nm,20.5s,baz=161,slow=28					
J20A	Shoshoni	86.23 346	⇓P		P	19 12 43.4 +1.2
	baz=87					
I21A	Big Trails, Te	86.53 347	⇓P		P	19 12 44.3 +0.6
	baz=87					
G30A	Faulkton	86.71 353	⇓P		P	19 12 44.7 +0.4
	baz=87					
I20A	Worland	86.81 346	⇑P		P	19 12 46.7 +1.7
	baz=87					
I18A	Diamond G Ranc	86.90 345	⇓P		P	19 12 46.7 +1.1
	baz=87					
TPAW	Teton Pass	86.92 344	eP		P	19 12 46.5 +0.7
	5.0nm,0.9s					
H24A	Dirks Ranch, A	87.00 349	⇑P		P	19 12 46.8 +1.0
	baz=87					
I19A	Meeteetse	87.06 345	⇓P		P	19 12 47.6 +1.2
	baz=87					
G26A	Maurine	87.27 350	⇓P		P	19 12 47.4 +0.3
	baz=88					
BOSA	Boshof	87.28 126	P		P	19 12 47.1 -0.9
BOSA	Boshof	87.28 126	P		P	19 12 47.1 -0.9
	4.7nm,1.1s,baz=230,slow=7.9,SNR=4.0					
IMW	Indian Meadow	87.31 344	eP		P	19 12 48.4 +0.7
	7.2nm,1.4s					
G27A	Dupree	87.39 350	⇑P		P	19 12 47.5 -0.2
	baz=88					
F29A	Eureka	87.48 352	⇓P		P	19 12 48.5 +0.4
	baz=88					
HLID	Hailey	87.77 341	eP		P	19 12 50.4 +0.6
	6.3nm,1.1s					
HLID	Hailey	87.77 341	⇑P		P	19 12 50.7 +0.9
	baz=88					
H18A	Shoshone NF, C	87.81 345	⇑P		P	19 12 50.6 +0.7
	baz=88					
MFID	Camas Ranch	87.98 340	⇑P		P	19 12 51.9 +1.3
	baz=88					
G20A	Bridger	88.06 346	⇓P		P	19 12 51.9 +0.9
	baz=88					
F23A	Volborg	88.08 348	⇓P		P	19 12 51.8 +0.8
	baz=88					
F22A	Rosebud	88.27 348	⇓P		P	19 12 52.7 +0.8
	baz=89					
E28A	Huff	88.30 352	⇑P		P	19 12 52.5 +0.6
	baz=89					
F19A	Roth Farm, Mol	88.80 346	⇑P		P	19 12 54.9 +0.5
	baz=89,SNR=5.4					
D24A	Glendive	89.29 349	⇓P		P	19 12 57.4 +0.8
	baz=90					
E20A	Meyer Farm, Mu	89.29 347	⇓P		P	19 12 57.7 +1.0
	baz=90					
E19A	Rath Farm, Rou	89.36 346	⇓P		P	19 12 58.0 +1.0
	baz=90					
MDND	Maddock	89.45 353	⇑P		P	19 12 58.2 +0.9
	baz=90					
D22A	Cohagen	89.59 348	⇑P		P	19 12 59.3 +1.2
	baz=90					
D21A	La Casta Ranch	89.64 348	⇑P		P	19 12 59.4 +1.1
	baz=90					
DBIC	Dimbokro	89.66 81	P		P	19 12 57.8 -1.4
DBIC	Dimbokro	89.66 81	P		P	19 12 57.8 -1.4
	2.4nm,0.8s,baz=169,slow=5.7,SNR=3.5					
DBIC			LR		LR	19 46 55.5
	comp=Z,57nm,20.5s,baz=21,slow=31					
B30A	Myrvik Farm, E	89.93 354	⇓P		P	19 12 59.9 +0.4
	baz=90					
D19A	Cripps Ranch,	90.06 346	⇑P		P	19 13 01.2 +0.9
	baz=90					
A29A	Manning Farm,	90.48 353	⇓P		P	19 13 02.4 +0.3
	baz=91					
A28A	Rude Farm, Bot	90.56 352	⇓P		P	19 13 02.8 +0.3
	baz=91					
C19A	Slack Wire Ran	90.64 346	⇑P		P	19 13 04.0 +1.0
	baz=91					
STKA	Stephens Creek	93.63 221	LR		LR	19 47 37.3
	comp=Z,92nm,19.3s,baz=24,slow=30					
TORD	Torodi Ar. Bea	98.75 80	P		P	19 13 40.4 -0.4
TORD	Torodi Ar. Bea	98.75 80	P		P	19 13 40.4 -0.4
	0.3nm,0.9s,baz=228,slow=4.5,SNR=2.4					
TORD			LR		LR	19 52 22.1
	comp=Z,76nm,21.3s,baz=95,slow=32					
HNR	Honiara	99.47 249	LR		LR	19 49 22.1
	comp=Z,52nm,18.5s,baz=277,slow=30					
PETK	Petropavlovsk-	135.12 309	PKP		PKPdf	19 19 20.1 +0.5
PETK	Petropavlovsk-	135.12 309	PKP		PKPdf	19 19 20.0 +0.5
	0.5nm,0.6s,baz=116,slow=6.6,SNR=2.5					
BRTR	Keskin Array B	136.77 72	PKP		PKPdf	19 19 23.4 +0.1
BRTR	Keskin Array B	136.77 72	PKP		PKPdf	19 19 23.4 +0.1
	0.5nm,0.7s,baz=147,slow=5.2,SNR=3.7					
KBZ	Khabaz	144.58 70	PKP		PKPbc	19 19 35.6 -0.1
KBZ	Khabaz	144.58 70	PKP		PKPbc	19 19 35.6 -0.1
	6.4nm,0.9s,baz=274,slow=1.8,SNR=15					
SSLB	Suanglung	149.75 244	ePKPbc		PKPbc	19 19 49.4 -1.7
USRK	Ussuriysk Arra	150.35 289	PKPbc		PKPbc	19 19 50.6 -1.2
	5.6nm,1.1s,baz=207,slow=1.7,SNR=5.7					
KSRS	Korea Array	151.69 274	PKPbc		PKPbc	19 19 53.5 -1.7
	3.0nm,0.9s,baz=113,slow=3.5,SNR=8.2					
KSAR	Wonju Array Be	151.72 274	PKPbc		PKPbc	19 19 53.5 -1.8
ABKAR	Akbulak array	156.65 60	ePKPdf		PKPdf	19 19 54.9 -0.5
KOLN	Koldanda	164.91 152	eP		PKPab	19 20 59.2 -2.3
	9.5nm,0.9s					
PYUN	Piuthan	164.99 150	eP		PKPab	19 20 59.9 -1.9
	16nm,0.6s					
RAMN	Ramite	165.00 163	eP		PKPab	19 20 59.7 -2.2
	31nm,1.1s					
ODAN	Odare	165.07 166	eP		PKPab	19 21 00.9 -1.3
	32nm,0.9s					
DMN	Daman	165.25 157	eP		PKPab	19 21 01.3 -1.7
	5.7nm,0.7s					
DANN	Dangsing	165.50 152	eP		PKPab	19 21 02.1 -2.1
	14nm,0.8s					
ZALV	Zalesovo Beam	166.72 17	PKP		PKPdf	19 20 03.1 -2.5
ZALV			PKPab		PKPab	19 21 07.4 -1.1
ZALV	Zalesovo Beam	166.72 17	PKP		PKPdf	19 20 03.1 -2.5
	0.5nm,0.6s,baz=193,slow=6.1,SNR=3.7					
ZALV			PKPab		PKPab	19 21 07.4 -1.1
	0.6nm,0.6s,baz=329,slow=5.2,SNR=3.6					

*IDC **17** 19:14:19.9±2.0, 0.°04S×17.°59W, h0km, mb4.0/6, mb1 4.3/8, mb1mx3.9/27, mbtmp4.2/8, ML4.7/2, MS3.4/6, Ms1 3.4/6, ms1mx3.0/44, Error ellipse: s-maj=57.3km s-min=38.5km az=106.0*

*LIC **17** 19:16:02.9±0.0, 3.°97N×10.°94W, h2km, Mb5.2/3, Error ellipse: s-maj=0.0km s-min=0.0km az=67.0*

ISC 17 19:14:21.6±2.1, 0.2S±0.°4×17.5W±0.°2, h12km, n17, σ0.9 97/11, mb4.1/6, MS3.5/4, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIC	Lamto	13.93	63	eP	Pn	19 17 39.2	+0.2
	24nm,0.3s						
TIC	Toumodi	14.13	61	eP	Pn	19 17 41.5	-0.3
	29nm,0.3s						
KIC	Kosan Boka	14.25	63	eP	Pn	19 17 43.6	+0.2
	38nm,0.8s						
DBIC	Dimbokro	14.29	61	Pn	Pn	19 17 43.0	-0.9
	3.9nm,0.3s,baz=240,slow=14,SNR=46						
DBIC				Sn	Sn	19 20 12.4	-10
	1.3nm,0.3s,baz=135,slow=16,SNR=5.8						
DBIC				LR	LR	19 22 24.3	
	comp=Z,46nm,21.9s,baz=226,slow=34						
BBTS	Babate	14.77	3	Pn	Pn	19 17 46.5	-4.0
	2.7nm,0.3s,baz=208,slow=17,SNR=3.0						
BBTS				Sn	Sn	19 20 16.1	-18
	3.9nm,0.3s,baz=12,slow=20,SNR=10						
BBTS				LR	LR	19 22 10.7	
	comp=Z,128nm,21.9s,baz=269,slow=32						
TORD	Torodi Ar. Bea	23.14	54	P	P	19 19 27.9	-0.1
	16nm,1.0s,baz=242,slow=9.4,SNR=46						
TORD				LR	LR	19 27 16.5	
	comp=Z,95nm,18.9s,baz=230,slow=34						
MDT	Midelt	34.98	19	LR	LR	19 35 33.9	
	comp=Z,67nm,18.6s,baz=161,slow=36						
KEST	Kesra	43.58	32	P	P	19 22 27.1	+1.4
	1.0nm,0.9s,baz=191,slow=10,SNR=3.4						
GERES	GERESS Array B	55.73	24	P	P	19 23 58.0	-0.2
	1.0nm,0.7s,baz=210,slow=7.7,SNR=14						
ROSC	El Rosal	57.03	276	LR	LR	19 46 04.9	
	comp=Z,67nm,18.4s,baz=194,slow=34						
BRTR	Keskin Array B	61.15	43	P	P	19 24 37.4	+1.0
	1.4nm,0.7s,baz=238,slow=6.4,SNR=9.3						
ATAH	Atahualpa	61.16	262	LR	LR	19 51 54.6	
	comp=Z,52nm,20.8s,baz=356,slow=37						
AKASG	Malin Array Be	64.28	31	P	P	19 24 54.9	-1.9
	0.4nm,0.5s,baz=236,slow=7.2,SNR=5.1						
FINES	FINESS Array B	69.78	21	P	P	19 25 31.6	+0.1
	1.2nm,0.5s,baz=214,slow=6.5,SNR=8.0						
DRV	Dumont d'Urvil	111.41	171	R		19 32 00.0	
ASAR	Alice Springs	143.46	132	PKP	PKPbc	19 33 55.2	+0.9
	0.4nm,0.6s,baz=212,slow=2.0,SNR=4.4						
WRA	Warramunga Arr	145.89	128	PKPbc	PKPab	19 34 02.4	0.0
	0.4nm,0.5s,baz=244,slow=3.9,SNR=8.0						

*NNC **17** 19:44:44.0±5.2, 37.°98N×74.°81E, h0km, mb4.2, mpv4.2, Error ellipse: s-maj=49.1km s-min=29.2km az=17.0*

*IDC **17** 19:44:51.4±0.8, 38.°62N×75.°18E, h0km, mb3.8/13, mb1 3.9/18, mb1mx3.8/32, mbtmp3.8/18, ML3.4/4, MS3.2/3, Ms1 3.2/3, ms1mx2.6/33, Error ellipse: s-maj=17.0km s-min=15.4km az=146.0*

*ISCJB **17** 19:44:52.6±0.4, 38.°52N±0.°04×75.°15E±0.°07, h20km, mb3.7/13, MS3.2/3, Error ellipse: s-maj=9.2km s-min=5.1km az=150.1*

*BJI **17** 19:44:52.7, 38.°64N×75.°07E, h10km, mB4.1/4, mb3.8/6, ML3.8/6, Ms3.7/4, Ms7 3.6/3*

ISC 17 19:44:54.3±0.6, 38.°61N±0.°06×75.°23E±0.°06, h20km, n47, σ1.9 33/46, mb3.9/13, MS3.1/3, 7C-7D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	Kashi	1.07	33	Pg	Pb	19 45 02.8	-12
KSH				Sg	Sb	19 45 10.3	-18
KSH				smax	smax		
	comp=N,4μm,0.8s						
KSH				smax	smax		
	comp=E,6μm,0.6s						
KZA	Kyzart	3.46	0	P	Pn	19 45 49.5	+2.0
	SNR=21						
AML	Almayashu	3.70	342	P	Pn	19 45 51.5	+0.7
	SNR=8.3						
ULHL	Ulahol	3.71	12	P	Pb	19 45 59.5	+0.2
	SNR=9.8						
KBK	Karagaybulak	4.04	357	P	Pn	19 45 57.8	+2.5
	SNR=24						
AAK	Ala-Archa	4.05	352	P	Pn	19 45 57.7	+2.3
	SNR=11						
AAK	Ala-Archa	4.05	352	Pn	Pn	19 45 57.2	+1.9
	comp=E,2.0nm,0.3s,baz=162,slow=7.0,SNR=32						
AAK				Sn	Sb	19 46 52.5	-1.3
	comp=E,1.6nm,0.3s,baz=180,slow=19,SNR=2.5						
EKS2	Erkin-Say	4.19	345	P	Pb	19 46 08.3	+0.8
	SNR=6.4						
TKM2	Tokmak 2	4.31	4	⇓Pn	Pn	19 46 01.7	+2.8
	comp=E,54nm,0.4s						
TKM2				⇑Sn	Sb	19 47 03.5	+2.3
	comp=E,142nm,1.6s						
TKM2	Tokmak 2	4.31	4	P	Pn	19 46 01.6	+2.6
	SNR=86						
CHMS	Chumysh	4.40	355	P	Pn	19 46 02.2	+2.2
	SNR=9.7						
USP	Ospenovka	4.68	353	P	Pb	19 46 17.5	+1.8
	SNR=9.8						
KK31	Karatay Array	5.74	323	⇑Pn	Pn	19 46 19.1	+0.7
	comp=E,1.9nm,0.3s,baz=133,slow=12,SNR=76						
KK31				⇓Sn	Sn	19 47 29.5	+5.9
	comp=E,3.0nm,0.4s						
KK31				⇑Lg	Lg	19 47 54.1	
	comp=E,10nm,0.7s						
MK31	Makanchi Array	9.68	30	⇓Pn	Pn	19 47 14.5	+2.0
	comp=E,6.7nm,1.2s,baz=212,slow=12,SNR=15						
MK31				⇓Lg	Lg	19 50 09.6	
	comp=E,1.4nm,0.6s						
MKAR	Makanchi Array	9.68	30	Pn	Pn	19 47 13.9	+1.4
	comp=E,0.3nm,0.3s,baz=206,slow=13,SNR=18						
MKAR				Lg	Lg	19 49 57.5	
	comp=E,0.1nm,0.3s,baz=192,slow=21,SNR=3.3						
KURBB	Kurchatov Arra	12.23	10	⇑Pn	Pn	19 47 46.7	-0.6
	comp=E,3.5nm,0.8s						
KURBB				⇓Lg	Lg	19 51 31.5	
	comp=E,12nm,1.0s						
KURBB	Kurchatov Arra	12.23	10	Pn	Pn	19 47 46.9	-0.4
	comp=E,0.1nm,0.3s,baz=196,slow=12,SNR=18						
KURBB				Lg	Lg	19 51 13.2	
	comp=E,0.1nm,0.3s,baz=207,slow=32,SNR=3.7						
PYUN	Piuthan	12.32	146	eP	Pn	19 47 50.0	+1.1
	comp=E,72nm,0.5s						
KOLN	Koldanda	12.88	145	eP	Pn	19 47 57.2	+0.7
	comp=E,11nm,0.5s						
KKN	Kakani	13.68	139	eP	Pn	19 48 08.1	+0.8
DMN	Daman	13.73	140	eP	Pn	19 48 09.0	+0.8
	comp=E,6.3nm,0.4s						
JIRN	Jiri	14.26	137	eP	Pn	19 48 15.1	-0.3
	comp=E,10.0nm,0.4s						
VOSK	Vostochnaya	14.42	350	⇑Pn	P	19 48 23.1	-0.8
	comp=E,1.6nm,0.8s						
VOSK				⇑Lg	Lg	19 52 38.7	
	comp=E,7.0nm,1.4s						
BVA0	Borovoye Array	14.80	348	⇓Pn	P	19 48 26.5	-1.6
	comp=E,3.5nm,0.9s,baz=139,slow=9.3,SNR=6.3						
BVAR	Borovoye Array	14.80	348	Pn	Pn	19 48 21.8	-0.5
	comp=E,0.2nm,0.3s,baz=147,slow=14,SNR=3.4						
RAMN	Ramite	15.04	137	eP	Pn	19 48 23.2	-2.8
	comp=E,17nm,0.7s						
AB31	Akbulak array	15.28	319	⇑Pn	Pn	19 48 25.9	-2.9
	comp=E,0.7nm,0.5s,baz=121,slow=13,SNR=4.4						
ZALV	Zalesovo Beam	16.68	20	Pn	Pn	19 48 45.8	-1.0
	baz=207,slow=12,SNR=5.8						
AKTO	Aktyubinsk	16.99	320	⇓Pn	Pn	19 48 49.3	-1.3
	comp=E,4.5nm,0.9s						
AKTO	Aktyubinsk	16.99	320	Pn	Pn	19 48 48.4	-2.3
	comp=E,0.2nm,0.3s,baz=114,slow=17,SNR=7.1						
GTA	Gaotai	19.11	80	eP	Pn	19 49 17.8	+0.9
GTA				pP	pP	19 49 21.6	-0.1
GTA				sP	sP	19 49 24.8	+0.5
GTA				S	S	19 52 51.8	-0.2
GTA				sS	sS	19 52 58.3	-2.7
GTA				SS	SnSn	19 53 19.1	+15
GTA				pmax	pmax		
	comp=Z,2.0nm,1.3s						
GTA				pmax	pmax		
	comp=Z,55nm,5.5s						
GTA				LR	LR		
	comp=N,71nm,16.4s						
GTA				LR	LR		
	comp=E,110nm,15.4s						
GTA				LR	LR		
	comp=Z,74nm,14.3s						
SONM	Songino Array	24.37	58	P	P	19 50 12.3	+1.2
	comp=Z,0.4nm,0.5s,baz=276,slow=5.2,SNR=4.4						
SONM				LR	LR	20 01 27.7	
	comp=Z,30nm,19.6s,baz=71,slow=41						
KBZ	Khabaz	24.77	292	P	P	19 50 13.7	-0.9
	comp=Z,1.1nm,0.9s,baz=72,slow=16,SNR=2.1						
BRTR	Keskin Array B	32.06	285	P	P	19 51 21.1	+1.2
	comp=Z,0.8nm,0.7s,baz=80,slow=8.0,SNR=4.5						
AKASG	Malin Array Be	34.34	306	P	P	19 51 39.1	-0.3
	comp=Z,0.6nm,0.4s,baz=79,slow=7.4,SNR=6.5						
FINES	FINESS Array B	37.70	324	P	P	19 52 08.1	+0.1
	comp=Z,1.7nm,0.6s,baz=107,slow=9.4,SNR=10						
ARCES	ARCESS Array B	40.54	336	P	P	19 52 31.3	-0.4
	comp=Z,5.1nm,1.0s,baz=113,slow=9.1,SNR=4.6						
KSRS	Korea Array	41.05	75	LR	LR	20 11 43.5	
	comp=Z,24nm,18.4s,baz=175,slow=39						
GERES	GERESS Array B	44.49	304	P	P	19 53 05.0	+0.8
	comp=Z,0.3nm,0.4s,baz=52,slow=7.1,SNR=4.4						
NB2	NORSAR Subarra	44.77	322	P	P	19 53 05.7	-0.5
	comp=Z,1.7nm,0.6s,baz=90,slow=8.6						
NOA	NORSAR Array B	44.77	322	P	P	19 53 06.0	-0.2
	comp=Z,2.4nm,0.6s,baz=91,slow=8.0,SNR=8.2						
TORD	Torodi Ar. Bea	69.10	270	P	P	19 55 58.7	-0.5
	comp=Z,0.7nm,0.7s,baz=46,slow=5.7,SNR=6.4						
INK	Inuvik	71.24	11	P	P	19 56 11.2	-0.3
	comp=Z,0.9nm,0.7s,baz=326,slow=11,SNR=1.6						
DBIC	Dimbokro	78.13	269	P	P	19 56 52.5	+0.2
	comp=Z,7.2nm,1.2s,baz=350,slow=6.1,SNR=3.2						
WRA	Warramunga Arr	80.35	125	P	P	19 57 04.4	+0.1
	comp=Z,0.3nm,0.8s,baz=325,slow=5.3,SNR=3.3						
ASAR	Alice Springs	82.80	128	P	P	19 57 18.1	+0.9
	comp=Z,0.2nm,0.6s,baz=318,slow=5.4,SNR=5.1						
PDAR	Pinedale Array	98.88	4	LR	LR	20 52 01.1	
	comp=Z,25nm,19.4s,baz=255,slow=41						

*IDC **17** 19:53:56.9±1.8, 43.°75N×105.°41W, h0km, mb4.3/2, mb1 4.0/4, mb1mx3.5/28, mbtmp3.8/4, ML4.4/1, MS2.9/2, Ms1 2.9/2, ms1mx2.5/45, Error ellipse: s-maj=53.2km s-min=11.4km az=152.0*

*ISCJB **17** 19:53:58.1±0.2, 43.°68N±0.°02×105.°31W±0.°02, h0km, mb4.5/2, Error ellipse: s-maj=2.2km s-min=2.2km az=135.5*

*NEIC **17** 19:53:58.3±0.8, 43.°76N×105.°29W, h0km, ML3.3, Error ellipse: s-maj=11.0km s-min=8.4km az=214.0, Suspected Mining explosion.*

NEIC 60 km [40 miles] SSE of Gillette.

ISC 17 19:53:58.3±0.7, 43.°69N±0.°02×105.°32W±0.°02, h0km, n105, σ0.9 95/118, 39C-36D, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I23A	Meade Ranch, G	0.29	339	⇓P	Pb	19 54 05.5	-1.0
	baz=0.2,SNR=76						
J23A	Dilts Ranch, B	0.33	210	P	Pg	19 54 05.0	+0.3
	baz=0.4,SNR=819						
I24A	Kuemmerle Ranc	0.53	71	⇓P	Pg	19 54 08.7	+0.2
	baz=0.5,SNR=958						
J24A	Dixon Ranch, L	0.60	127	P	Pg	19 54 09.2	-0.6
	baz=0.6,SNR=265						
J24A				⇑S	Sg	19 54 18.3	+0.8
	baz=0.6						
I22A	9 Mile Ranch,	0.87	284	P	Pg	19 54 15.3	+0.5
	baz=0.9,SNR=318						
H23A	Clabaugh Cattl	0.87	356	⇑P	Pb	19 54 15.4	-1.0
	baz=0.8,SNR=9.5						
J22A	Midwest	0.89	252	⇓P	Pg	19 54 15.1	-0.1
	baz=0.9						
K23A	Bowen Ranch, D	0.96	193	⇑P	Pg	19 54 16.1	-0.6
	baz=1.0						
K24A	Anderson Ranch	1.04	159	⇓P	Pg	19 54 17.2	-0.9
	baz=1.1,SNR=15						
K24A				⇑S	Sg	19 54 31.6	0.0
	baz=1.1						
J25A	Sunshine Ranch	1.15	105	⇑P	Pg	19 54 19.2	-1.0
	baz=1.1,SNR=83						
J25A				⇓S	Sg	19 54 35.7	+0.7
	baz=1.1						
H22A	Clearmont	1.17	321	⇓P	Pn	19 54 21.4	-0.6
	baz=1.1,SNR=54						
H24A	Dirks Ranch, A	1.19	27	⇓P	Pg	19 54 20.6	-0.6
	baz=1.1						
I25A	Rochford	1.20	73	⇑P	Pg	19 54 20.3	-0.9
	baz=1.2						
I25A				⇑S	Sb	19 54 38.1	+0.1
	baz=1.2						
K22A	Casper	1.36	221	P	Pg	19 54 23.1	-1.2
	baz=1.4,SNR=174						
K22A				⇓S	Sn	19 54 44.2	+0.6
	baz=1.4						
I21A	Big Trails, Te	1.43	276	⇓P	Pn	19 54 24.4	-1.3
	baz=1.4,SNR=220						
G23A	Biddle	1.51	358	P	Pg	19 54 26.8	-0.5
	baz=1.4,SNR=139						
K25A	Mack Ranch, Ha	1.51	135	⇓P	Pn	19 54 26.0	-0.8
	baz=1.5,SNR=62						
K25A				⇓S	Sb	19 54 48.1	+1.0
	baz=1.5						
H25A	Fruitdale	1.55	53	⇑P	Pn	19 54 27.0	-0.2
	baz=1.5						
H21A	Big Horn, Sher	1.55	308	⇑P	Pg	19 54 27.8	-0.2
	baz=1.5,SNR=34						
J21A	Lysite	1.58	258	P	Pn	19 54 27.2	-0.6
	baz=1.6,SNR=595						
J21A				⇑S	Sg	19 54 49.9	+0.7
	baz=1.6						
L23A	Garrett	1.60	190	⇓P	Pn	19 54 26.8	-1.2
	baz=1.7						
L23A				⇑S	Sn	19 54 50.3	+0.8
	baz=1.7						
L24A	Wheatland	1.67	170	⇑P	Pn	19 54 28.1	-0.8
	baz=1.7						
L24A				⇓S	Sn	19 54 52.2	+1.1
	baz=1.7						
J26A	Sides Ranch, S	1.68	102	⇓P	Pn	19 54 28.7	-0.2
	baz=1.7						
G22A	Birney	1.68	336	⇑P	Pg	19 54 29.9	-0.5
	baz=1.6,SNR=92						
G24A	Alzada	1.76	21	⇓P	Pb	19 54 31.1	-0.4
	baz=1.7,SNR=17						
K21A	Alcova	1.76	234	P	Pn	19 54 30.4	+0.2
	baz=1.8,SNR=718						
K21A				⇑S	Sb	19 54 54.8	+0.4
	baz=1.8						
I26A	New Underwood	1.81	78	⇑P	Pn	19 54 31.2	+0.3
	baz=1.8						
L25A	Engebretsen Ra	1.83	147	⇓P	Pn	19 54 31.5	+0.4
	baz=1.9,SNR=29						
L22A	Ellis Ranch, M	1.85	207	⇓P	Pn	19 54 31.3	-0.2
	baz=1.9						
L22A				⇓S	Sn	19 54 56.9	+1.3
	baz=1.9						
K26A	Motz Farm, Whi	1.85	122	⇓P	Pn	19 54 31.8	+0.4
	baz=1.9,SNR=18						
G25A	Newell	2.03	42	⇓Pb	Pb	19 54 35.8	-0.2
	baz=2.0						
G25A				⇓Sb	Sg	19 55 03.8	+0.3
	baz=2.0						
F23A	Volborg	2.03	358	P	Pn	19 54 34.5	+0.7
	baz=2.0,SNR=138						
F23A				⇑Sb	Sg	19 55 03.9	+0.4
	baz=2.0						
J20A	Shoshoni	2.04	261	⇑Pb	Pb	19 54 36.2	0.0
	baz=2.1,SNR=234						
J20A				⇑Sb	Sg	19 55 04.6	+0.8
	baz=2.1						
G21A	Lodge Grass	2.04	319	⇓P	Pb	19 54 34.8	-1.5
	baz=2.0,SNR=21						
I20A	Worland	2.05	278	⇓P	Pb	19 54 35.4	-1.0
	baz=2.1,SNR=112						
H26A	Fairpoint	2.05	62	⇑Pb	Pb	19 54 36.1	-0.4
	baz=2.0						
H20A	Greybull	2.09	293	⇓P	Pn	19 54 35.4	+0.7
	baz=2.1,SNR=26						
F22A	Rosebud	2.19	343	⇑P	Pn	19 54 36.4	+0.3
	baz=2.1						
M24A	Cheyenne	2.25	170

baz=3.1,SNR=39
BW06 Boulder Array 3.23 255 *e*P **Pn 19 54 51.1 +0.6**
PDAR Pinedale Array 3.23 255 Pn **Pn 19 54 51.4 +0.9**
PDAR Pg **Pb 19 54 56.9 +0.2**
PDAR Lg Lg 19 55 37.6
PDAR Pinedale Array 3.23 255 Pn **Pn 19 54 51.4 +0.9**
4.8nm,0.3s,baz=77,slow=16,SNR=56
PDAR Pg **Pb 19 54 56.9 +0.2**
23nm,0.3s,baz=72,slow=18,SNR=106
PDAR Lg Lg 19 55 37.6
31nm,0.3s,baz=71,slow=32,SNR=16
H18A Shoshone NF, C 3.28 289 ⇓P **Pn 19 54 51.6 +0.5**
baz=3.3,SNR=9.5
F19A Roth Farm, Mol 3.37 311 ⇑P **Pn 19 54 53.1 +0.9**
baz=3.3,SNR=87
D24A Glendive 3.50 11 ⇑P **Pn 19 54 55.1 +1.1**
baz=3.4,SNR=16
N27A Anderson Farm, 3.55 143 ⇑P **Pn 19 54 55.1 +0.4**
baz=3.6,SNR=6.8
N20A Spence Gulch, 3.59 218 ⇑P **Pn 19 54 56.2 +0.7**
baz=3.7,SNR=12
OGNE Ogallala 3.67 137 *e*P **Pn 19 54 57.5 +1.2**
E19A Rath Farm, Rou 3.70 320 ⇓P **Pn 19 54 57.4 +0.7**
baz=3.7,SNR=14
LKWY Lake 3.76 285 *e*P **Pn 19 54 57.4 -0.4**
LOHW Long Hollow 3.83 271 *e*P **Pn 19 54 59.7 +1.0**
H17A Grant Village 3.85 282 *e*P Pn 19 55 02.4 +3.3
ISCO Idaho Springs 3.89 183 *e*P **Pn 19 55 00.6 +1.0**
MOOW Moose Ponds 3.93 273 *e*P **Pn 19 55 02.2 +2.1**
SNOW Snow King Moun 3.96 269 *e*Pg **Pg 19 55 11.6 -2.4**
REDW Red Top Meadow 4.04 267 *e*Pn **Pn 19 55 02.8 +1.3**
YFT Old Faithful 4.05 283 *e*Pg **Pb 19 55 11.9 +1.4**
IMW Indian Meadow 4.07 275 *e*P **Pn 19 55 04.2 +2.1**
TPAW Teton Pass 4.09 269 *e*P **Pn 19 55 03.5 +1.1**
O20A White River Ci 4.17 213 *e*P **Pn 19 55 04.5 +1.1**
YMR Madison River 4.18 285 *e*Pg **Pb 19 55 13.6 +0.9**
E28A Huff 4.36 47 ⇓P **Pn 19 55 06.3 +0.4**
baz=4.3,SNR=12
RRI2 Red Ridge 4.38 268 *e*P **Pn 19 55 07.1 +0.9**
P26A Davis Ranch, A 4.38 160 ⇑P **Pn 19 55 06.5 +0.2**
baz=4.4,SNR=17
P27A Ficken Ranch, 4.61 153 ⇑P **Pn 19 55 09.4 +0.1**
baz=4.7,SNR=22
C19A Slack Wire Ran 4.81 328 ⇑P **Pn 19 55 12.5 +0.5**
baz=4.8,SNR=13
HWUT Hardware Ranch 5.05 248 *e*Pn **Pn 19 55 14.5 -1.0**
8.8nm,0.6s
DAU Daniels Canyon 5.50 235 *e*Pn **Pn 19 55 23.5 +1.8**
8.4nm,0.3s
MCMT McKenzie Canyo 5.53 284 *e*Pn **Pn 19 55 19.9 -2.1**
1.5nm,0.4s
R25A Fountain Ranch 5.59 172 ⇑P **Pn 19 55 22.5 -0.3**
baz=5.7,SNR=12
R27A Eads 5.73 160 ⇑P **Pn 19 55 24.6 0.0**
baz=5.8,SNR=8.9
MDND Maddock 5.77 42 ⇑P **Pn 19 55 24.9 -0.2**
baz=5.7,SNR=5.6
SPUT South Promonto 5.78 248 *e*Pn **Pn 19 55 24.6 -0.8**
5.2nm,0.4s
SRU San Rafael 6.02 222 *e*Pn **Pn 19 55 28.7 -0.1**
178nm,0.6s
TMUT Trail Mountain 6.23 227 *e*Pn **Pn 19 55 32.9 +1.1**
6.8nm,0.5s
Q16A Castle Valley 6.49 225 *e*Pn **Pn 19 55 35.6 +0.4**
Q16A Castle Valley 6.49 225 ⇓P **Pn 19 55 35.4 +0.1**
baz=6.5,SNR=14
DUG Dugway 6.59 241 ⇓P **Pn 19 55 36.8 +0.3**
baz=6.6,SNR=8.1
NVAR Mina Array Bea 11.12 246 Pn **Pn 19 56 39.6 +0.9**
NVAR Mina Array Bea 11.12 246 Pn **Pn 19 56 39.6 +0.9**
0.1nm,0.3s,baz=56,slow=11,SNR=2.4
YBH Yreka Blue Hor 12.94 267 LR LR 20 02 22.7
comp=Z,63nm,18.4s,baz=87,slow=39
PFO Pinyon Flat Ob 13.29 225 LR LR 20 02 38.1
comp=Z,50nm,20.4s,baz=153,slow=39
ARCES ARCESS Array B 61.47 18 P **P 20 04 14.5 -1.6**
ARCES ARCESS Array B 61.47 18 P **P 20 04 14.5 -1.6**
2.9nm,0.9s,baz=330,slow=8.3,SNR=4.5
FINES FINESS Array B 68.09 23 P **P 20 04 58.7 -0.7**
FINES FINESS Array B 68.09 23 P **P 20 04 58.7 -0.7**
3.9nm,1.1s,baz=329,slow=7.1,SNR=3.8

IDC 17 20:06:35.5±2.4, 6°79S×126°00E, h513km±27km, mb2.9/3, mb1 2.9/6, mb1mx2.7/23, mbtmp2.8/6, Error ellipse: s-maj=50.9km s-min=15.7km az=56.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.25**	**182**	P	P	20 09 06.2	0.0
	0.3nm,0.3s,baz=4.6,slow=11,SNR=22						
FITZ				S	S	20 11 07.2	-3.0
	0.2nm,0.3s,baz=200,slow=19,SNR=7.2						
WRA	**Warramunga Arr**	**15.38**	**149**	P	P	20 09 49.4	-0.2
	0.5nm,0.3s,baz=339,slow=11,SNR=54						
WRA				S	S	20 12 31.0	+1.5
	0.1nm,0.3s,baz=335,slow=16,SNR=3.2						
ASAR	**Alice Springs**	**18.42**	**156**	P	P	20 10 19.9	+0.8
	0.2nm,0.3s,baz=329,slow=7.6,SNR=20						
ASAR				ScP	ScP	20 17 07.8	-2.3
	0.1nm,0.3s,baz=343,slow=2.6,SNR=9.6						
PSI	**Prapat**	**28.66**	**289**	P	P	20 11 48.5	-2.4
	4.1nm,0.5s,baz=17,slow=7.6,SNR=3.9						
CMAR	**Chiang Mai Arr**	**36.63**	**314**	P	P	20 12 58.0	-0.4
	0.8nm,0.4s,baz=142,slow=6.7,SNR=10						
MKAR	**Makanchi Array**	**65.93**	**329**	P	P	20 16 32.4	+1.9
	0.1nm,0.4s,baz=126,slow=7.5,SNR=4.5						

IDC 17 20:55:23.2±1.8, 5°85N×126°01E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/25, mbtmp3.7/5, MS3.1/1, Ms1 3.1/1, ms1mx2.3/32, Error ellipse: s-maj=82.4km s-min=25.5km az=68.0
ISCJB 17 20:55:33.0±0.7, 5°87N±0°06×126°2E±0°1, h100km, mb3.8/6, Error ellipse: s-maj=18.0km s-min=7.1km az=160.0
MAN 17 20:55:33, 5°72N×126°14E, h46km, mb4.7, ML3.6, MS3.6
ISC 17 20:55:34.2±0.9, 5°92N±0°09×126°2E±0°1, h100km, n11, σ0°65/11, mb3.6/6, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.02**	**3**	*e*P	**Pn**	**20 55 54.5**	**-0.3**
MATI				*e*S	**Sn**	**20 56 10.2**	**-0.1**
KCP	**Kidapawan**	**1.55**	**314**	⇑*i*P	**Pn**	**20 56 00.6**	**-0.5**
KCP				*i* S	**Sn**	**20 56 20.9**	**-0.6**
BUKP	**Musuan**	**2.25**	**330**	*e*P	Pn	20 56 11.1	+1.0
CGP	**Cagayan de Oro**	**2.93**	**329**	*e*P	Pn	20 56 20.2	+1.2
PAGZ	**Pagadian**	**3.39**	**304**	*e*P	**Pn**	**20 56 25.7**	**+0.5**
FITZ	**Fitzroy Crossi**	**23.88**	**181**	P	**P**	**21 00 38.6**	**0.0**
	0.8nm,0.3s,baz=359,slow=11,SNR=9.4						
FITZ				LR	LR	21 10 49.3	
	comp=Z,43nm,18.7s,baz=57,slow=39						
WRA	**Warramunga Arr**	**26.92**	**163**	P	**P**	**21 01 05.9**	**-0.3**
	0.3nm,0.4s,baz=343,slow=9.9,SNR=10.0						
ASAR	**Alice Springs**	**30.36**	**166**	P	**P**	**21 01 36.7**	**0.0**
	0.7nm,0.6s,baz=346,slow=7.0,SNR=16						
NWAO	**Narrogin (SRO)**	**39.56**	**192**	P	**P**	**21 02 54.6**	**-1.1**
	29nm,1.1s,baz=354,slow=9.2,SNR=3.0						
STKA	**Stephens Creek**	**40.35**	**160**	P	**P**	**21 03 03.0**	**+0.8**
	2.4nm,0.8s,baz=316,slow=11,SNR=3.9						
MKAR	**Makanchi Array**	**55.47**	**325**	P	**P**	**21 04 59.4**	**+0.8**
	0.3nm,0.5s,baz=106,slow=8.0,SNR=4.1						

IDC 17 21:04:45.6±6.9, 19°05S×176°76W, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.7/18, mbtmp3.8/4, Error ellipse: s-maj=299.4km s-min=34.9km az=143.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.97**	**260**	P	P	21 13 09.9	-1.0
	0.3nm,0.3s,baz=98,slow=6.8,SNR=14						
ASAR	**Alice Springs**	**46.00**	**255**	P	P	21 13 11.2	+0.1
	1.9nm,0.7s,baz=89,slow=8.7,SNR=29						
FITZ	**Fitzroy Crossi**	**54.39**	**261**	P	P	21 14 15.3	+0.5
	1.1nm,0.8s,baz=122,slow=9.5,SNR=2.6						
ILAR	**Eielson Array**	**86.65**	**12**	P	P	21 17 30.6	0.0
	0.4nm,0.8s,baz=207,slow=3.8,SNR=3.1						

IDC 17 22:00:34.8±2.1, 6°87S×128°44E, h0km, mb3.3/1, mb1 4.1/4, mb1mx3.6/20, mbtmp3.9/4, ML4.0/3, Error ellipse: s-maj=90.4km s-min=28.2km az=74.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.50**	**194**	Pn	Pn	22 03 18.4	-1.9
	0.8nm,0.3s,baz=38,slow=9.1,SNR=23						
FITZ				Sn	Sn	22 05 12.0	-18
	0.9nm,0.3s,baz=134,slow=22,SNR=4.1						
WRA	**Warramunga Arr**	**14.20**	**157**	Pn	Pn	22 03 58.2	+0.9
	0.9nm,0.3s,baz=342,slow=13,SNR=50						
WRA				Sn	Sn	22 06 23.2	-13
	1.3nm,0.3s,baz=324,slow=24,SNR=11						
ASAR	**Alice Springs**	**17.51**	**163**	P	P	22 04 41.5	-0.4
	0.6nm,0.3s,baz=337,slow=11,SNR=31						
ASAR				S	Sn	22 07 43.5	-13
	0.2nm,0.3s,baz=348,slow=26,SNR=4.8						
MKAR	**Makanchi Array**	**67.28**	**328**	P	P	22 11 31.4	+0.1
	0.1nm,0.5s,baz=134,slow=8.5,SNR=4.6						

ISCJB 17 22:09:45.6±0.7, 10°88N±0°05×62°29W±0°03, h88km±7km, Error ellipse: s-maj=8.9km s-min=5.1km az=167.5
FUNV 17 22:09:49.2, 10°78N×62°27W, h70km, MW3.0
TRN 17 22:09:49.6, 11°10N×62°14W, h63km, MD3.6
ISC 17 22:09:45.4±1.3, 10°93N±0°04×62°27W±0°04, h90km±9km, n15, σ1°84/28, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.28**	**171**	*e*P	**Pn**	**22 09 59.1**	**+0.3**
GUIV				*e*S	**Sn**	**22 10 07.3**	**-1.4**
TCE	**Chacachacare**	**0.56**	**114**	*e*P	**Pn**	**22 10 02.0**	**+1.4**
TCE				*e*S	**Sn**	**22 10 12.2**	**+0.2**
CRUV	**Carupano**	**0.98**	**255**	*e*P	**Pn**	**22 10 05.7**	**+0.8**
CRUV				*e*S	**Sn**	**22 10 18.9**	**-0.7**
GUNV	**Guanoco**	**1.01**	**221**	*e*P	**Pn**	**22 10 06.1**	**+0.9**
GUNV				*e*S	**Sn**	**22 10 18.9**	**-1.2**
TBH	**Brigand Hill**	**1.26**	**110**	*e*P	**Pn**	**22 10 10.2**	**+2.0**
TBH				*e*S	**Sn**	**22 10 27.0**	**+1.6**
GRW	**Mount Saint Ca**	**1.36**	**26**	*e*P	**Pn**	**22 10 10.0**	**+0.5**
GRW				*e*S	**Sn**	**22 10 24.3**	**-3.4**
TOSP	**Speyside**	**1.74**	**78**	*e*P	**Pn**	**22 10 15.1**	**+0.9**
TOSP				*e*S	**Sn**	**22 10 34.8**	**-1.4**
ORIV	**Oritupano**	**2.16**	**211**	*e*P	**Pn**	**22 10 21.2**	**+1.4**
PCRV	**Puerto La Cruz**	**2.44**	**252**	*e*P	**Pn**	**22 10 25.8**	**+2.3**
PCRV				*e*S	**Sn**	**22 10 51.5**	**-1.3**
SVB	**Belmont**	**2.53**	**23**	*e*P	**Pn**	**22 10 26.7**	**+2.0**
SVB				*e*S	**Sn**	**22 10 52.9**	**-2.0**
RIOV	**Rio Grande**	**2.88**	**171**	*e*P	**Pn**	**22 10 29.9**	**+0.6**
RIOV				*e*S	**Sn**	**22 11 01.1**	**-2.0**
CUPV	**Cœpira**	**3.57**	**256**	*e*P	**Pn**	**22 10 40.8**	**+2.2**
CUPV				*e*S	**Sn**	**22 11 19.1**	**-0.8**
BIRV	**Birongo**	**3.96**	**264**	*e*P	**Pn**	**22 10 46.8**	**+2.9**
BIRV				*e*S	**Sn**	**22 11 27.9**	**-1.4**
LUEV	**Luepa**	**5.12**	**171**	*e*P	**Pn**	**22 10 59.4**	**-0.4**
LUEV				*e*S	Sn	22 11 51.5	-6.2
BAUV	**El Baul**	**6.02**	**251**	*e*P	**Pn**	**22 11 13.2**	**+1.3**
BAUV				*e*S	**Sn**	**22 12 15.7**	**-3.8**

IDC 17 22:13:08.8±2.2, 31°43N×138°40E, h0km, mb3.4/2, mb1 3.6/4, mb1mx3.3/23, mbtmp3.4/4, ML3.3/2, MS3.3/1, Ms1 3.3/1, ms1mx2.3/26, Error ellipse: s-maj=71.5km s-min=26.7km az=74.0
ISCJB 17 22:13:28.1±0.9, 33°6N±0°2×138°6E±0°2, h357km±16km, mb3.0/1, Error ellipse: s-maj=29.6km s-min=17.6km az=29.5
JMA 17 22:13:28.5±0.3, 33°41N×138°69E, h345km, M3.3
ISC 17 22:13:29.2±1.3, 33°6N±0°2×138°5E±0°1, h350km±17km, n13, σ0°76/19, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOD2	**Odawara 2**	**1.72**	**15**	P	**Pn**	**22 14 19.5**	**+0.9**
JOD2				*e*S	**S**	**22 14 58.8**	**+0.5**
JNY	**Yasuok**	**1.83**	**343**	P	**Pn**	**22 14 19.1**	**-0.3**
BSO4	**Boso 4**	**2.04**	**47**	P	**Pn**	**22 14 20.0**	**-0.6**
BSO4				*e*S	**S**	**22 15 02.5**	**+0.6**
BSO1	**Boso 1**	**2.28**	**62**	P	**Pn**	**22 14 21.9**	**0.0**
BSO1				*e*S	**S**	**22 15 03.5**	**-0.8**
JHU	**Hanno**	**2.33**	**15**	P	**Pn**	**22 14 23.4**	**+0.6**
JHU				*e*S	**S**	**22 15 05.7**	**-0.3**
JRY	**Ryogami san**	**2.42**	**7**	P	**Pn**	**22 14 24.6**	**+0.9**
JRY				*e*S	**S**	**22 15 08.2**	**+0.7**
JAG	**Ashikaga**	**2.91**	**15**	P	**Pn**	**22 14 28.2**	**+0.5**
JAG				*e*S	**S**	**22 15 13.5**	**-1.3**
MJAR	**Matsushiro Arr**	**2.94**	**355**	Pn	**Pn**	**22 14 27.8**	**-0.2**
	0.8nm,0.3s,baz=173,slow=11,SNR=9.9						
MAT	**Matsushiro**	**2.94**	**355**	P	**Pn**	**22 14 28.2**	**+0.2**
JHO	**Hitachi**	**3.43**	**29**	P	**Pn**	**22 14 33.3**	**+0.8**
JHO				*e*S	**S**	**22 15 22.7**	**-0.8**
CBIJ	**Chichi jima**	**7.21**	**153**	LR	LR	22 15 54.1	
	comp=Z,306nm,21.3s,baz=56,slow=30						
KSRS	**Korea Array**	**9.46**	**297**	Pn	**Pn**	**22 15 39.8**	**-0.8**
	0.3nm,0.3s,baz=110,slow=13,SNR=6.6						
WRA	**Warramunga Arr**	**53.40**	**185**	P	**P**	**22 22 14.3**	**+0.2**
	0.8nm,1.1s,baz=14,slow=7.2,SNR=6.0						

ISCJB 17 22:27:13.4±0.8, 22°18S±0°06×68°9W±0°2, h126km±11km, mb3.1/1, Error ellipse: s-maj=24.1km s-min=8.9km az=12.4
GUC 17 22:27:15.0±0.6, 22°15S×68°99W, h114km±4km, ML3.6
IDC 17 22:27:39.6±7.8, 20°06S×67°68W, h260km±50km, mb2.9/1, mb1 2.9/3, mb1mx2.8/17, mbtmp2.8/3, Error ellipse: s-maj=108.0km s-min=47.6km az=32.0
ISC 17 22:27:14.7±1.1, 22°11S±0°06×68°9W±0°2, h120km±12km, n14, σ1°78/17, 7C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**Plate Boundary**	**0.43**	**318**	⇑*i*P	**Pn**	**22 27 32.6**	**+0.2**
PB09				*i* S	**Sn**	**22 27 45.6**	**-0.1**
PB04	**Plate Boundary**	**0.54**	**253**	⇑*i*P	Pn	22 27 38.0	+5.2
PB04				*i* S	Sn	22 27 56.0	+10
PB04				AML	AML	22 27 57.7	
	comp=N,2μm,0.1s						
MACH	**Maria Elena**	**0.77**	**264**	⇑*i*P	**Pn**	**22 27 34.4**	**-0.4**
MACH				*i* S	**Sn**	**22 27 49.5**	**-0.5**
PB07	**Plate Boundary**	**0.96**	**293**	⇑*i*P	**Pn**	**22 27 36.7**	**+0.2**
PB07				*i* S	**Sn**	**22 27 53.0**	**0.0**
PB07				AML	AML	22 27 54.9	
	comp=E,2μm,0.4s						
PB01	**Plate Boundary**	**1.18**	**334**	⇑*i*P	**Pn**	**22 27 39.0**	**+0.3**
PB01				*i* S	**Sn**	**22 27 57.7**	**+0.8**
PB01				AML	AML	22 27 59.1	
	comp=E,776nm,0.3s						
CEN1	**Los Morros**	**1.73**	**222**	*e*P	**Pn**	**22 27 47.6**	**+2.7**
CEN1				*e*S	**Sn**	**22 28 12.3**	**+4.3**
HMBC	**Humberstone**	**2.03**	**334**	⇑*i*P	**Pn**	**22 27 48.5**	**-0.2**
HMBC				*e*S	**Sn**	**22 28 14.7**	**+0.1**
HMBC				AML	AML	22 28 19.8	
	comp=N,450nm,0.6s						
PB10	**Plate Boundary**	**2.04**	**227**	AML	AML	22 28 17.5	
	comp=N,585nm,0.1s						
ANCH	**Antofagasta**	**2.07**	**221**	⇑*i*P	**Pn**	**22 27 47.7**	**-1.3**
ANCH				*i* S	**Sn**	**22 28 13.3**	**-2.0**
ANCH				AML	AML	22 28 17.0	
	comp=E,439nm,0.3s						
MNMC	**Minimini**	**3.03**	**348**	AML	AML	22 28 43.3	
	comp=N,227nm,0.1s						
LPAZ	**La Paz**	**5.84**	**8**	P	**Pn**	**22 28 41.9**	**+2.3**
	comp=N,0.3nm,0.3s,baz=166,slow=8.3,SNR=12						
LPAZ				S	Sn	22 29 31.8	-14
	comp=N,0.2nm,0.3s,baz=207,slow=11,SNR=2.4						
BDFB	**Brasilia**	**20.80**	**76**	P	**P**	**22 31 45.0**	**-1.7**
	comp=N,0.3nm,0.3s,baz=225,slow=14,SNR=3.1						
SYO	**Syowa Base**	**75.94**	**159**	⇓*e*P	P	22 38 55.0	+7.1
TORD	**Torodi Ar. Bea**	**77.58**	**70**	P	**P**	**22 38 57.6**	**-0.4**
	comp=N,0.2nm,0.5s,baz=252,slow=5.7,SNR=9.9						

TIR 17 22:53:01.7±6.0, 40°01N×19°94E, h10km±999km
BJI 17 22:53:03.2, 39°90N×19°90E, h10km, mb4.7/4
ROM 17 22:53:05.8±0.2, 39°84N×20°17E, h10km, Ml4.3/48, Error ellipse: s-maj=3.7km s-min=2.4km az=118.0
IDC 17 22:53:06.3±0.6, 40°02N×20°16E, h0km, mb4.2/18, mb1 4.2/26, mb1mx4.1/35, mbtmp4.1/26, ML4.0/6, MS3.4/11, Ms1 3.4/11, ms1mx3.2/42, Error ellipse: s-maj=13.4km s-min=10.7km az=70.0
ATH 17 22:53:07.2, 40°01N×19°94E, h14km, MD4.4/36, ML4.5
LDG 17 22:53:07.7±0.1, 39°95N×19°96E, h10km, Ml4.3/9, Error ellipse: s-maj=4.3km s-min=2.5km az=15.0
PDG 17 22:53:08.8±0.4, 39°96N×19°88E, h23km±1km, MD4.5/2, ML4.4/12, Error ellipse: s-maj=0.7km s-min=0.7km az=0.0
PRU 17 22:53:08.6, 39°81N×19°92E, h13km, M4.4
CSEM 17 22:53:08.6±0.1, 39°98N×19°94E, h10km, mb4.3/18, ML4.3/4, Error ellipse: s-maj=2.5km s-min=1.7km az=30.0
MOS 17 22:53:08.5±1.4, 39°92N×19°84E, h33km, mb4.5/24, Error ellipse: s-maj=5.7km s-min=3.7km az=79.6
TEH 17 22:53:08.3, 39°93N×19°98E, h2km, ML4.6
THE 17 22:53:08.3, 39°99N×19°97E, h0km±2km, ML4.3/13, Error ellipse: s-maj=2.3km s-min=0.9km az=265.0
NEIC 17 22:53:10.3±2.0, 39°96N×20°00E, h29km±17km, mb4.4/3, Error ellipse: s-maj=8.3km s-min=5.9km az=202.0
BEO 17 22:53:11.8±1.9, 40°13N×20°19E, h10km±4km, ML4.0/8
HLW 17 22:53:13.0, 39°76N×20°94E, h33km±19km, Md4.8, Ml4.4
ISC 17 22:53:08.0±0.7, 39°97N±0°01×19°96E±0°01, h9km±4km, n850, σ1°49/923, mb4.3/30, MS3.5/7, 49C-32D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRN	**Sarande**	**0.10**	**162**	*i* PG	**Pg**	**22 53 10.6**	**+0.1**
SRN				*i* SG	**Sg**	**22 53 13.2**	**+1.0**
SRN	**Sarande**	**0.10**	**162**	P	**Pg**	**22 53 10.5**	**+0.1**
SRN				S	**Sg**	**22 53 13.0**	**+0.8**
SRN	**Sarande**	**0.10**	**162**	P	**Pg**	**22 53 10.5**	**+0.1**
SRN				S	**Sg**	**22 53 13.0**	**+0.8**
KEK	**Kerkira**	**0.29**	**206**	P	**Pg**	**22 53 13.8**	**0.0**
KEK				S	**Sb**	**22 53 19.5**	**-0.7**
KEK	**Kerkira**	**0.29**	**206**	*e*PB	**Pg**	**22 53 13.9**	**+0.1**
KEK				*e*SB	**Sb**	**22 53 18.8**	**-1.4**
KEK	**Kerkira**	**0.29**	**206**	P	**Pg**	**22 53 13.8**	**0.0**
KEK				S	**Sb**	**22 53 19.5**	**-0.7**
IGT	**Igoumenitsa**	**0.52**	**147**	P	**Pg**	**22 53 17.5**	**-0.7**
IGT				S	**Sb**	**22 53 27.5**	**+0.5**
IGT	**Igoumenitsa**	**0.52**	**147**	P	**Pg**	**22 53 17.5**	**-0.7**
IGT				S	**Sb**	**22 53 27.5**	**+0.5**
JAN	**Janina**	**0.75**	**114**	P	**Pg**	**22 53 21.9**	**-0.6**
JAN				S	**Sb**	**22 53 34.4**	**+0.8**
JAN	**Janina**	**0.75**	**114**	*e*PB	**Pg**	**22 53 22.1**	**-0.4**
JAN				*e*SB	**Sg**	**22 53 31.6**	**-0.8**
JAN	**Janina**	**0.75**	**114**	P	**Pg**	**22 53 21.9**	**-0.6**
JAN				S	**Sb**	**22 53 34.4**	**+0.8**
KBN	**Korca**	**0.91**	**44**	*i* PG	**Pg**	**22 53 24.9**	**-0.6**
KBN				*i* SG	**Sb**	**22 53 38.5**	**+0.4**
KBN	**Korca**	**0.91**	**44**	P	**Pg**	**22 53 23.7**	**-1.8**
KBN	**Korca**	**0.91**	**44**	P	**Pg**	**22 53 23.7**	**-1.8**
KBN	**Korca**	**0.91**	**44**	*i* Pg	**Pg**	**22 53 24.9**	**-0.6**
	SNR=90						
KBN				*i* Sg	**Sb**	**22 53 38.5**	**+0.4**
	SNR=90						
NEST	**Nestorio**	**0.94**	**62**	P	**Pg**	**22 53 24.3**	**-1.9**
NEST				S	**Sb**	**22 53 40.2**	**+1.0**
NEST	**Nestorio**	**0.94**	**62**	P	**Pg**	**22 53 24.3**	**-1.9**
NEST				S	**Sb**	**22 53 40.2**	**+1.0**
SCTE	**Santa Cesarea**	**1.15**	**276**	Pn	**Pg**	**22 53 30.8**	**+0.6**
SCTE				Sn	**Sn**	**22 53 47.7**	**+1.6**
SCTE	**Santa Cesarea**	**1.15**	**276**	Pn	**Pg**	**22 53 30.8**	**+0.6**
SCTE				Sn	**Sn**	**22 53 47.7**	**+1.6**
LKD2	**Lefkada island**	**1.30**	**155**	P	**Pn**	**22 53 31.3**	**-1.0**
LKD2				S	**Sg**	**22 53 52.8**	**+3.0**
LKD2	**Lefkada island**	**1.30**	**155**	*e*PB	**Pg**	**22 53 32.8**	**-0.1**
LKD2				*e*SB	**Sg**	**22 53 50.3**	**+0.5**
LKD2	**Lefkada island**	**1.30**	**155**	P	**Pn**	**22 53 31.3**	**-1.0**
LKD2	**Lefkada island**	**1.30**	**155**	*e*Pb	**Pg**	**22 53 32.8**	**-0.1**
LKD2				*e*Sb	**Sg**	**22 53 50.3**	**+0.5**
LKD2				S	**Sg**	**22 53 52.8**	**+3.0**
FNA	**Florina**	**1.35**	**53**	P	**Pn**	**22 53 31.7**	**-1.4**
FNA	**Florina**	**1.35**	**53**	*e*PB	**Pn**	**22 53 32.5**	**-0.6**
FNA				*e*SB	**Sn**	**22 53 51.3**	**+0.2**
FNA	**Florina**	**1.35**	**53**	P	**Pn**	**22 53 31.7**	**-1.4**
FNA	**Florina**	**1.35**	**53**	*e*Pn	**Pn**	**22 53 32.5**	**-0.6**
FNA				*e*Sb	**Sn**	**22 53 51.3**	**+0.2**
TIR	**Tirane**	**1.38**	**357**	*i* PG	**Pb**	**22 53 33.8**	**-0.1**
TIR				*i* SG	**Sb**	**22 53 52.2**	**+0.6**
TIR	**Tirane**	**1.38**	**357**	P	**Pb**	**22 53 34.1**	**+0.2**
TIR				S	**Sg**	**22 53 54.5**	**+2.2**
TIR	**Tirane**	**1.38**	**357**	*e*P	**Pb**	**22 53 34.3**	**+0.4**
TIR	**Tirane**	**1.38**	**357**	Pn	**Pb**	**22 53 34.1**	**+0.2**
	6μm,1.0s						
TIR	**Tirane**	**1.38**	**357**	*e*Pn	**Pb**	**22 53 34.3**	**+0.4**
TIR	**Tirane**	**1.38**	**357**	*e*Pg	**Pb**	**22 53 33.8**	**-0.1**
TIR	**Tirane**	**1.38**	**357**	*e*Pg	**Pb**	**22 53 34.3**	**+0.4**
TIR				*i* Sg	**Sb**	**22 53 52.2**	**+0.6**
	SNR=90						
TIR				*e*Sb	**Sg**	**22 53 54.6**	**+2.2**
KZN	**Kozani**	**1.43**	**76**	P	**Pn**	**22 53 33.2**	**-0.9**
KZN				S	**Sg**	**22 53 56.5**	**+2.6**
KZN	**Kozani**	**1.43**	**76**	*e*PG	**Pn**	**22 53 33.8**	**-0.3**
KZN				*e*SB	**Sg**	**22 53 54.5**	**+0.6**
KZN	**Kozani**	**1.43**	**76**	P	**Pn**	**22 53 33.2**	**-0.9**
KZN	**Kozani**	**1.43**	**76**	*e*Pg	**Pn**	**22 53 33.8**	**-0.3**
KZN				*e*Sb	**Sg**	**22 53 54.5**	**+0.6**
KZN				S	**Sg**	**22 53 56.5**	**+2.6**
BIA	**Bitola**	**1.47**	**44**	P	**Pn**	**22 53 33.5**	**-1.3**
BIA	**Bitola**	**1.47**	**44**	*i* Pn	**Pn**	**22 53 34.8**	**0.0**
BIA	**Bitola**	**1.47**	**44**	P	**Pn**	**22 53 33.5**	**-1.3**
BIA	**Bitola**	**1.47**	**44**	*i* Pn	**Pn**	**22 53 34.2**	**-0.6**
THL	**Klokotos Trika**	**1.63**	**104**	P	**Pb**	**22 53 37.8**	**-0.5**
THL				S	**Sg**	**22 54 02.0**	**+1.5**
THL	**Klokotos Trika**	**1.63**	**104**	*e*PG	**Pb**	**22 53 38.4**	**+0.1**
THL				*e*SB	**Sg**	**22 54 00.5**	**0.0**
THL	**Klokotos Trika**	**1.63**	**104**	P	**Pb**	**22 53 37.8**	**-0.5**
THL	**Klokotos

SKO	Skopje	2.29	29	P	Pb	22 53 48.0	-1.5
SKO	Skopje	2.29	29	*i* Pn	Pb	22 53 50.5	+1.0
SKO	Skopje	2.29	29	P	Pb	22 53 48.0	-1.5
SKO	Skopje	2.29	29	*i* Pn	Pb	22 53 49.4	-0.1
TRIZ	Trizonia	2.29	134	P	Pb	22 53 47.9	-1.6
TRIZ	Trizonia	2.29	134	*e*PN	Pb	22 53 47.9	-1.6
TRIZ				*e*SN	Sb	22 54 17.1	-0.8
TRIZ	Trizonia	2.29	134	P	Pb	22 53 47.9	-1.6
TRIZ				*e*Sn	Sb	22 54 17.1	-0.8
KALE	Kalithea	2.31	132	P	Pb	22 53 48.3	-1.7
KALE	Kalithea	2.31	132	*e*PN	Pb	22 53 48.2	-1.7
KALE				*e*SN	Sb	22 54 17.7	-0.9
KALE	Kalithea	2.31	132	*e*Pn	Pb	22 53 48.2	-1.7
KALE				*e*Sn	Sb	22 54 17.7	-0.9
LAKA	Lakka	2.33	137	P	Pn	22 53 48.1	+1.5
LAKA	Lakka	2.33	137	*e*PN	Pn	22 53 48.1	+1.5
LAKA				*e*SN	Sb	22 54 17.8	-1.4
LAKA	Lakka	2.33	137	P	Pn	22 53 48.1	+1.5
LAKA				*e*Sn	Sb	22 54 17.8	-1.4
NOCI	Noci 3µm,0.4s	2.36	291	Pn	Pn	22 53 47.1	+0.2
NOCI	Noci 3µm,0.4s	2.36	291	Pn	Pn	22 53 47.1	+0.2
THE	Thessaloniki	2.39	73	P	Pn	22 53 48.3	+1.0
THE	Thessaloniki	2.39	73	P	Pn	22 53 48.3	+1.0
VAY	Valandovo	2.40	55	P	Pn	22 53 47.9	+0.5
VAY	Valandovo	2.40	55	*e*Pn	Pn	22 53 47.6	+0.2
VAY	Valandovo	2.40	55	*i* Pn	Pn	22 53 48.6	+1.2
VAY	Valandovo	2.40	55	*e*Pn	Pn	22 53 47.6	+0.2
VAY	Valandovo	2.40	55	P	Pn	22 53 47.9	+0.5
AXAR	Agios Charalam	2.41	119	P	Pn	22 53 49.3	+1.7
AXAR	Agios Charalam	2.41	119	P	Pn	22 53 49.3	+1.7
BUM	Brajici-Budva	2.46	341 ⇓	*i* Pn	Pn	22 53 48.6	+0.2
BUM				*e*Sn	Sn	22 54 19.9	+1.3
BUM	Brajici-Budva	2.46	341 ⇓	*i* Pn	Pn	22 53 48.6	+0.2
BUM				*e*Sn	Sn	22 54 19.9	+1.3
HORT	Hortiatis	2.48	74	P	Pn	22 53 49.6	+1.0
HORT				S	Sn	22 54 20.2	+1.2
HORT	Hortiatis	2.48	74	P	Pn	22 53 49.6	+1.0
HORT				S	Sn	22 54 20.2	+1.2
PDG	Podgorica 546nm,0.6s	2.51	348	Pn	Pn	22 53 49.5	+0.5
PDG	Podgorica 546nm,0.6s	2.51	348	*e*Pn	Pb	22 53 52.1	-1.2
PDG				*e*Sg	Sg	22 54 29.3	+0.5
PDG	Podgorica 546nm,0.6s	2.51	348	Pn	Pn	22 53 49.5	+0.5
PDG				*e*Sn	Sn	22 54 20.8	+1.1
TTG	Podgorica	2.51	348 ⇑	*i* Pn	Pn	22 53 49.4	+0.5
TTG				*e*Sn	Sn	22 54 20.8	+1.1
KNT	Kendrikon	2.53	61	P	Pn	22 53 50.3	+1.0
KNT				S	Sb	22 54 23.0	-1.9
KNT	Kendrikon	2.53	61	P	Pn	22 53 50.3	+1.0
KNT				S	Sb	22 54 23.0	-1.9
XOR	Xorichti	2.56	103	P	Pn	22 53 50.7	+1.0
XOR	Xorichti	2.56	103	P	Pn	22 53 50.7	+1.0
KLV	Kalavryta, Ach	2.57	138	P	Pn	22 53 51.0	+1.1
KLV	Kalavryta, Ach	2.57	138	*e*PB	Pn	22 53 51.3	+1.4
KLV				*e*SG	Sb	22 54 23.9	-2.1
KLV	Kalavryta, Ach	2.57	138	P	Pn	22 53 51.0	+1.1
KLV	Kalavryta, Ach	2.57	138	*e*Pn	Pn	22 53 51.3	+1.4
KLV				*e*Sn	Sb	22 54 23.9	-2.1
MATE	Matera 1µm,0.4s	2.58	286	Pn	Pn	22 53 50.3	+0.4
MATE	Matera 1µm,0.4s	2.58	286	Pn	Pn	22 53 50.3	+0.4
NEO	Neokhori	2.60	104	P	Pn	22 53 51.3	+1.0
NEO	Neokhori	2.60	104	*e*PN	Pn	22 53 51.8	+1.5
NEO				*e*SG	Sn	22 54 24.3	+2.3
NEO	Neokhori	2.60	104	P	Pn	22 53 51.3	+1.0
NEO	Neokhori	2.60	104	*e*Pn	Pn	22 53 51.8	+1.5
NEO				*e*Sn	Sn	22 54 24.3	+2.3
BAI	Bari	2.61	297	*e*Pn	Pn	22 53 50.2	-0.1
PVY	Plav	2.62	360 ⇓	*i* Pn	Pn	22 53 51.9	+1.3
PVY				*e*Sn	Sn	22 54 23.1	+0.5
PVY	Plav	2.62	360 ⇓	*i* Pn	Pn	22 53 51.9	+1.3
PVY				*e*Sn	Sn	22 54 23.1	+0.5
PLG	Polygyros	2.70	80	P	Pn	22 53 52.5	+0.9
PLG	Polygyros	2.70	80	*e*PB	Pn	22 53 52.7	+1.1
PLG				*e*SN	Sn	22 54 25.3	+0.9
PLG	Polygyros	2.70	80	P	Pn	22 53 52.5	+0.9
PLG				*e*Sg	Sn	22 54 25.3	+0.9
LKR	Lokris	2.70	118	P	Pn	22 53 53.1	+1.5
LKR	Lokris	2.70	118	*e*PN	Pn	22 53 52.9	+1.3
LKR				*e*SN	Sn	22 54 26.8	+2.5
LKR	Lokris	2.70	118	*e*Pb	Pn	22 53 52.9	+1.3
LKR				*e*Sn	Sn	22 54 26.8	+2.5
SERS	Sersale 278nm,0.5s	2.70	251	Pn	Pn	22 53 51.3	-0.4
SERS	Sersale 278nm,0.5s	2.70	251	Pn	Pn	22 53 51.3	-0.4
HCY	Herceg Novi	2.71	336 ⇓	*i* Pn	Pn	22 53 51.1	-0.6
HCY				*e*Sn	Sn	22 54 25.0	+0.4
HCY	Herceg Novi	2.71	336 ⇓	*i* Pn	Pn	22 53 51.1	-0.6
HCY				*e*Sn	Sn	22 54 25.0	+0.4
SOH	Sokhos	2.73	71	P	Pn	22 53 53.6	+1.6
SOH	Sokhos	2.73	71	*e*PB	Pn	22 53 53.5	+1.6
SOH				*e*SN	Sn	22 54 26.5	+1.5
SOH	Sokhos	2.73	71	*e*Pb	Pn	22 53 53.5	+1.6
SOH				*e*Sg	Sn	22 54 26.5	+1.5
AMUR	Altamura 1µm,0.6s	2.73	291	Pn	Pn	22 53 52.2	+0.2
AMUR	Altamura 1µm,0.6s	2.73	291	Pn	Pn	22 53 52.2	+0.2
SMIA	Simia	2.74	112	P	Pn	22 53 53.5	+1.4
SMIA	Simia	2.74	112	P	Pn	22 53 53.5	+1.4
GUR	Goura	2.75	137	P	Pn	22 53 53.9	+1.6
GUR	Goura	2.75	137	*e*PN	Pn	22 53 54.0	+1.6
GUR				*e*SN	Sn	22 54 28.0	+2.2
GUR	Goura	2.75	137	*e*Pb	Pn	22 53 54.0	+1.6
GUR				*e*Sn	Sn	22 54 28.0	+2.2
MIGL	Miglionico 5µm,0.6s	2.77	284	Pn	Pn	22 53 53.4	+0.9
MIGL	Miglionico 5µm,0.6s	2.77	284	Pn	Pn	22 53 53.4	+0.9
SALB	San Lorenzo Be 881nm,0.6s	2.78	269	Pn	Pn	22 53 52.7	-0.1
SALB	San Lorenzo Be 881nm,0.6s	2.78	269	Pn	Pn	22 53 52.7	-0.1
AMT	Artemida-Makis	2.79	150	*e*PN	Pn	22 53 54.3	+1.4
AMT				*e*SN	Sn	22 54 29.0	+2.4
AMT	Artemida-Makis	2.79	150	*e*Pb	Pn	22 53 54.3	+1.4
AMT				*e*Sn	Sn	22 54 29.0	+2.4
TDS	Terranova Siba 158nm,0.7s	2.81	265	Pn	Pn	22 53 53.8	+0.7
TDS	Terranova Siba 158nm,0.7s	2.81	265	Pn	Pn	22 53 53.8	+0.7
SKIA	Skiathos	2.83	105	P	Pn	22 53 54.7	+1.4
SKIA	Skiathos	2.83	105	P	Pn	22 53 54.7	+1.4
PAIG	Paliouri	2.86	90	P	Pn	22 53 54.2	+0.5
PAIG				S	Sn	22 54 29.3	+1.1
PAIG	Paliouri	2.86	90	*e*PN	Pn	22 53 54.3	+0.5
PAIG				*e*SN	Sn	22 54 29.5	+1.3
PAIG	Paliouri	2.86	90	P	Pn	22 53 54.2	+0.5
PAIG				*e*Sn	Sn	22 54 29.5	+1.3
NKME	Niksic	2.90	345 ⇑	*i* Pn	Pn	22 53 54.9	+0.6
NKME				*e*Sn	Sn	22 54 29.9	+0.7
NKME	Niksic	2.90	345 ⇑	*i* Pn	Pn	22 53 54.9	+0.6
NKME				*e*Sn	Sn	22 54 29.9	+0.7
BEY	Berane	2.90	359	*e*Pn	Pn	22 53 55.3	+0.9
BEY				*e*Sn	Sn	22 54 30.0	+0.6
IVA	Berane	2.90	359	*e*Pn	Pn	22 53 55.3	+0.9
IVA				*e*Sn	Sn	22 54 30.0	+0.6
NKY	Niksic	2.93	346 ⇑	*i* Pn	Pn	22 53 55.8	+0.9
NKY				*e*Sn	Sn	22 54 31.3	+1.1
NKY	Niksic	2.93	346 ⇑	*i* Pn	Pn	22 53 55.8	+0.9
NKY				*e*Sn	Sn	22 54 31.3	+1.1
GRI	Girifalco 372nm,0.4s	2.98	248	Pn	Pn	22 53 55.3	-0.1
GRI	Girifalco 372nm,0.4s	2.98	248	Pn	Pn	22 53 55.3	-0.1
SCHR	S. Chirico Rap 351nm,0.6s	2.99	276	Pn	Pn	22 53 56.8	+1.2
SRS	Serrai	2.99	66	P	Pn	22 53 56.5	+0.9
SRS	Serrai	2.99	66	P	Pn	22 53 56.5	+0.9
TREB	Trebinje	3.00	337	*e*Pn	Pb	22 53 59.2	-2.4
TREB	Trebinje	3.00	337	*e*Pn	Pb	22 53 59.2	-2.4
CDT	Castel del Mon	3.02	293	*e*Pn	Pn	22 53 57.7	+1.7
PTRP	Pietrapertosa 2µm,11.0s	3.04	282	Pn	Pn	22 53 57.6	+1.3
PTRP	Pietrapertosa 2µm,11.0s	3.04	282	Pn	Pn	22 53 57.6	+1.3
LTK	Loutraki	3.04	129	P	Pn	22 53 57.1	+0.8
LTK	Loutraki	3.04	129	*e*PN	Pn	22 53 57.3	+1.0
LTK				*e*SN	Sn	22 54 35.4	+2.6
LTK	Loutraki	3.04	129	P	Pn	22 53 57.1	+0.8
LTK				*e*Sg	Sn	22 54 35.4	+2.6
MRVN	Minervino Murg 848nm,0.7s	3.07	292	Pn	Pn	22 53 57.0	+0.3
MRVN	Minervino Murg 848nm,0.7s	3.07	292	Pn	Pn	22 53 57.0	+0.3
MRKA	Markates	3.08	113	P	Pn	22 53 58.1	+1.3
MRKA	Markates	3.08	113	P	Pn	22 53 58.1	+1.3
OUR	Ouranopolis	3.10	82	P	Pn	22 53 58.1	+1.0
OUR	Ouranopolis	3.10	82	P	Pn	22 53 58.1	+1.0
BRY	Bratogost	3.12	340	*e*Pn	Pn	22 53 58.0	+0.6
BRY				*e*Sn	Sn	22 54 35.3	+0.5
BRY	Bratogost	3.12	340	*e*Pn	Pn	22 53 58.0	+0.6
BRY				*e*Sn	Sn	22 54 35.3	+0.5
AOS	Alonnisos	3.13	104	P	Pn	22 53 58.0	+0.5
AOS				S	Sn	22 54 37.4	+2.4
AOS	Alonnisos	3.13	104	*e*PN	Pn	22 53 58.5	+1.0
AOS				*e*SN	Sn	22 54 36.7	+1.7
AOS	Alonnisos	3.13	104	P	Pn	22 53 58.0	+0.5
AOS	Alonnisos	3.13	104	*e*Pn	Pn	22 53 58.5	+1.0
AOS				*e*Sn	Sn	22 54 36.7	+1.7
AOS				S	Sn	22 54 37.4	+2.4
PLAC	Placanica 412nm,0.7s	3.13	242	Pn	Pn	22 53 57.6	+0.1
PLAC	Placanica 412nm,0.7s	3.13	242	Pn	Pn	22 53 57.6	+0.1
SIRI	Monte Sirino - 659nm,0.6s	3.15	275	Pn	Pn	22 53 58.8	+1.0
SIRI	Monte Sirino - 659nm,0.6s	3.15	275	Pn	Pn	22 53 58.8	+1.0
BARS	Barje	3.17	26	*e*Pn	Pn	22 53 59.1	+1.1
BARS	Barje	3.17	26	*e*Pn	Pn	22 53 59.1	+1.1
ACER	Acerenza	3.18	286	Pn	Pn	22 53 59.0	+0.8
ACER	Acerenza	3.18	286	Pn	Pn	22 53 59.0	+0.8
ITM	Ithomi	3.18	150	P	Pn	22 53 59.3	+1.1
ITM	Ithomi	3.18	150	*e*PN	Pn	22 53 59.9	+1.7
ITM				*e*SN	Sn	22 54 39.1	+2.8
ITM	Ithomi	3.18	150	P	Pn	22 53 59.3	+1.1
ITM	Ithomi	3.18	150	*e*Pn	Pn	22 53 59.9	+1.7
ITM				*e*Sn	Sn	22 54 39.1	+2.8
CUC	Castrocucco 531nm,0.5s	3.19	272	Pn	Pn	22 53 59.4	+1.1
CUC	Castrocucco 531nm,0.5s	3.19	272	*e*Pn	Pn	22 53 59.3	+1.0
CUC				*e*Pg	Pg	22 54 10.4	+1.3
CUC	Castrocucco	3.19	272	*e*Pn	Pn	22 53 59.3	+1.0
PALZ	Palazzo San Ge 2µm,0.5s	3.21	289	Pn	Pn	22 53 59.2	+0.7
PALZ	Palazzo San Ge 2µm,0.5s	3.21	289	Pn	Pn	22 53 59.2	+0.7
MCEL	Monticello 453nm,0.5s	3.21	278	Pn	Pn	22 53 59.4	+0.8
MCEL	Monticello 453nm,0.5s	3.21	278	Pn	Pn	22 53 59.4	+0.8
VLX	Vlachokerasia	3.21	143	P	Pn	22 54 00.6	+1.9
VLX	Vlachokerasia	3.21	143	*e*PN	Pn	22 54 00.6	+1.9
VLX				*e*SN	Sn	22 54 39.4	+2.3
VLX	Vlachokerasia	3.21	143	P	Pn	22 54 00.6	+1.9
VLX				*e*Sn	Sn	22 54 39.4	+2.3
MTSN	Montesano sull 735nm,0.7s	3.24	277	Pn	Pn	22 54 00.0	+0.9
MTSN	Montesano sull 735nm,0.7s	3.24	277	Pn	Pn	22 54 00.0	+0.9
NVR	Nevrokopi	3.27	64	P	Pn	22 54 00.5	+1.1
NVR	Nevrokopi	3.27	64	*e*PN	Pn	22 54 00.9	+1.5
NVR				*e*SN	Sn	22 54 40.4	+1.9
NVR	Nevrokopi	3.27	64	P	Pn	22 54 00.5	+1.1
NVR	Nevrokopi	3.27	64	*e*Pn	Pn	22 54 00.9	+1.5
NVR				*e*Sn	Sn	22 54 40.4	+1.9
SJES	Sjenica	3.29	0	*e*Pn	Pn	22 54 02.9	+3.1
SJES	Sjenica	3.29	0	*e*Pn	Pn	22 54 02.9	+3.1
UPM	Unac-Piva	3.33	347 ⇓	*i* Pn	Pn	22 54 01.4	+1.1
UPM				*e*Sn	Sn	22 54 40.3	+0.3
UPM	Unac-Piva	3.33	347 ⇓	*i* Pn	Pn	22 54 01.4	+1.1
UPM				*e*Sn	Sn	22 54 40.3	+0.3
ERET	Eretria	3.35	116	P	Pn	22 54 01.8	+1.2
ERET	Eretria	3.35	116	P	Pn	22 54 01.8	+1.2
SELS	Selova	3.36	15	*e*Pn	Pn	22 54 01.3	+0.6
STON	Ston	3.36	330	*e*Pn	Pb	22 54 05.3	-2.4
STON	Ston	3.36	330	*e*Pn	Pn	22 54 00.5	-0.1
STON				Sn	Sn	22 54 39.7	-0.9
STON	Ston	3.36	330	*e*Pn	Pb	22 54 05.3	-2.4
PYL	PYLOS	3.37	155	*e*PN	Pn	22 54 01.6	+0.8
PYL				*e*SN	Sn	22 54 43.1	+2.1
PYL	PYLOS	3.37	155	*e*Pn	Pn	22 54 01.6	+0.8
PYL				*e*Sn	Sn	22 54 43.1	+2.1
PLE	Pljevlja	3.38	353	*e*Pn	Pn	22 54 02.2	+1.1
PLE				*e*Sn	Sn	22 54 41.6	+0.2
PLE	Pljevlja	3.38	353	*e*Pn	Pn	22 54 02.2	+1.1
PLE				*e*Sn	Sn	22 54 41.6	+0.2
JOPP	Joppolo 359nm,0.3s	3.44	248	Pn	Pn	22 54 02.0	+0.2
JOPP	Joppolo 359nm,0.3s	3.44	248	Pn	Pn	22 54 02.0	+0.2
VULT	Monte Vulture 1µm,0.5s	3.46	288	Pn	Pn	22 54 03.5	+1.4
VULT	Monte Vulture 1µm,0.5s	3.46	288	Pn	Pn	22 54 03.5	+1.4
MRLC	Muro Lucano 460nm,0.5s	3.51	284	Pn	Pn	22 54 03.1	+0.4
MRLC	Muro Lucano 460nm,0.5s	3.51	284	Pn	Pn	22 54 03.1	+0.4
MS1	Monte Sant'Ang	3.51	301	*e*Pn	Pn	22 54 03.1	+0.4
BULG	Bulgheria - Ca	3.52	273	Pn	Pn	22 54 03.5	+0.6
BULG	Bulgheria - Ca	3.52	273	Pn	Pn	22 54 03.5	+0.6
NAIG	Nisos Aigina	3.53	128	*e*PN	Pn	22 54 04.5	+1.5
NAIG	Nisos Aigina	3.53	128	*e*Pn	Pn	22 54 04.5	+1.5
MSAG	Monte S. Angel	3.53	301	Pn	Pn	22 54 03.1	0.0
MSAG	Monte S. Angel	3.53	301	Pn	Pn	22 54 03.1	0.0
ATH	Athens Observa	3.54	123	P	Pn	22 54 04.2	+1.1
ATH	Athens Observa	3.54	123	*e*PN	Pn	22 54 04.2	+1.1
ATH				*e*SN	Sn	22 54 46.9	+1.8
ATH	Athens Observa	3.54	123	P	Pn	22 54 04.2	+1.1
ATH				*e*Sn	Sn	22 54 46.9	+1.8
DID	Didima	3.55	133	P	Pn	22 54 03.8	+0.5
DID				S	Sn	22 54 48.0	+2.6
DID	Didima	3.55	133	*e*PN	Pn	22 54 04.3	+1.0
DID				*e*SN	Sn	22 54 47.5	+2.1
DID	Didima	3.55	133	P	Pn	22 54 03.8	+0.5
DID	Didima	3.55	133	*e*Pn	Pn	22 54 04.3	+1.0
DID				*e*Sn	Sn	22 54 47.5	+2.1
DID				S	Sn	22 54 48.0	+2.6
DIDY	Didyma	3.56	133	P	Pn	22 54 03.9	+0.4
DIDY	Didyma	3.56	133	P	Pn	22 54 03.9	+0.4
VTS	Vitosha	3.58	42	*e*P	Pn	22 54 06.0	+2.2
VTS	Vitosha	3.58	42	P	Pn	22 54 06.1	+2.2
VTS	Vitosha	3.58	42	⇓P	Pn	22 54 05.9	+2.1
VTS	Vitosha	3.58	42	⇓*i* P	Pn	22 54 05.8	+2.0
VTS	Vitosha	3.58	42	*e*Pn	Pn	22 54 05.1	+1.3
VTS	Vitosha	3.58	42	*e*Pn	Pn	22 54 05.1	+1.3
VTS	Vitosha	3.58	42	P	Pn	22 54 05.9	+2.1
SOI	Samo 176nm,0.4s	3.59	239	Pn	Pn	22 54 03.6	-0.1
SOI	Samo 176nm,0.4s	3.59	239	Pn	Pn	22 54 03.6	-0.1
CMPR	Campora 310nm,0.4s	3.59	277	Pn	Pn	22 54 05.0	+1.2
CMPR	Campora 310nm,0.4s	3.59	277	Pn	Pn	22 54 05.0	+1.2
ATHU	Athens Univers	3.59	123	P	Pn	22 54 04.8	+1.0
ATHU	Athens Univers	3.59	123	P	Pn	22 54 04.8	+1.0
PTL	Penteli	3.59	121	P	Pn	22 54 04.8	+0.9
PTL	Penteli	3.59	121	*e*PN	Pn	22 54 04.8	+0.9
PTL				*e*SN	Sn	22 54 47.8	+1.3
PTL	Penteli	3.59	121	P	Pn	22 54 04.8	+0.9
PTL				*e*Sn	Sn	22 54 47.8	+1.3
CEL	Celeste 325nm,0.5s	3.60	243	Pn	Pn	22 54 03.4	-0.5
CEL	Celeste 325nm,0.5s	3.60	243	*e*Pn	Pn	22 54 03.2	-0.7
CEL				*e*Sn	Sn	22 54 45.2	-1.4
CEL	Celeste 325nm,0.5s	3.60	243	Pn	Pn	22 54 03.4	-0.5
CEL				*e*Sn	Sn	22 54 45.2	-1.4
CDRU	Civita di Ruta 229nm,0.3s	3.60	280	Pn	Pn	22 54 04.7	+0.6
CDRU	Civita di Ruta 229nm,0.3s	3.60	280	Pn	Pn	22 54 04.7	+0.6
SGO	Sicignano 342nm,0.6s	3.61	281	Pn	Pn	22 54 04.8	+0.7
SGO	Sicignano 342nm,0.6s	3.61	281	Pn	Pn	22 54 04.8	+0.7
KAVA	Kavala	3.62	72	P	Pn	22 54 04.8	+0.6
KAVA				S	Sn	22 54 50.0	+3.0
KAVA	Kavala	3.62	72	P	Pn	22 54 04.8	+0.6
KAVA				S	Sn	22 54 50.0	+3.0
SGRT	San Giovanni R 760nm,0.6s	3.66	300	Pn	Pn	22 54 04.8	-0.1
SGRT	San Giovanni R 760nm,0.6s	3.66	300	Pn	Pn	22 54 04.8	-0.1
MSCL	Scilla 94nm,0.9s	3.68	243	Pn	Pn	22 54 04.9	-0.2
MSCL	Scilla 94nm,0.9s	3.68	243	Pn	Pn	22 54 04.9	-0.2
MPAZ	Palizzi 209nm,0.3s	3.68	238	Pn	Pn	22 54 04.1	-1.0
MPAZ	Palizzi 209nm,0.3s	3.68	238	Pn	Pn	22 54 04.1	-1.0
SGTA	Sant Agata di 743nm,0.5s	3.69	290	Pn	Pn	22 54 06.3	+1.0
SGTA	Sant Agata di 743nm,0.5s	3.69	290	Pn	Pn	22 54 06.3	+1.0
SNAL	S. Angelo Dei 4µm,2.0s	3.75	286	Pn	Pn	22 54 07.1	+1.0
SNAL	S. Angelo Dei 4µm,2.0s	3.75	286	Pn	Pn	22 54 07.1	+1.0
MCRV	Calabrutti - M 310nm,0.4s	3.75	284	Pn	Pn	22 54 06.6	+0.5
MCRV	Calabrutti - M 310nm,0.4s	3.75	284	Pn	Pn	22 54 06.6	+0.5
CAFE	Carife 3µm,2.1s	3.75	288	Pn	Pn	22 54 07.0	+0.8
CAFE	Carife 3µm,2.1s	3.75	288	Pn	Pn	22 54 07.0	+0.8
ZAPS	Zavoj	3.86	30	*e*Pn	Pn	22 54 08.5	+1.0
MSRU	Castanea 486nm,0.4s	3.86	245	Pn	Pn	22 54 06.5	-1.0
MSRU	Castanea 486nm,0.4s	3.86	245	Pn	Pn	22 54 06.5	-1.0
MTTG	Motta San Giov 421nm,0.5s	3.86	241	Pn	Pn	22 54 06.8	-0.8
MTTG	Motta San Giov 421nm,0.5s	3.86	241	Pn	Pn	22 54 06.8	-0.8
MOCO	Biccari - m.te 2µm,1.7s	3.91	292	Pn	Pn	22 54 09.6	+1.3
BBLS	Lazići	3.91	354	*e*Pn	Pn	22 54 10.2	+1.9
BBLS	Lazići	3.91	354	*e*Pn	Pn	22 54 10.2	+1.9
GRUS	Gruza	3.96	8	*e*Pn	Pn	22 54 10.4	+1.6
GRUS	Gruza	3.96	8	*e*Pn	Pn	22 54 10.4	+1.6
VLI	Veliai	4.00	143	P	Pn	22 54 10.0	+0.5
VLI	Veliai	4.00	143	*e*PN	Pn	22 54 11.1	+1.6
VLI				*e*SN	Sn	22 54 58.6	+2.2
VLI	Veliai	4.00	143	P	Pn	22 54 10.0	+0.5
VLI	Veliai	4.00	143	*e*Pn	Pn	22 54 11.1	+1.6
VLI				*e*Sn	Sn	22 54 58.6	+2.2
LIA	Limnos Island	4.01	89	P	Pn	22 54 10.7	+1.1
LIA	Limnos Island	4.01	89	*e*PN	Pn	22 54 10.7	+1.1
LIA				*e*SN	Sn	22 54 58.4	+1.7
LIA	Limnos Island	4.01	89	P	Pn	22 54 10.7	+1.1
LIA				*e*Sn	Sn	22 54 58.4	+1.7
MELA	Melanico ??? S 2µm,0.6s	4.06	297	Pn	Pn	22 54 10.7	+0.5
MELA	Melanico ??? S 2µm,0.6s	4.06	297	Pn	Pn	22 54 10.7	+0.5
DIVS	Divibare	4.12	0	*e*Pn	Pn	22 54 13.0	+1.8
DIVS	Divibare	4.12	0	*e*Pn	Pn	22 54 13.0	+1.8
BOLS	Boljevac	4.13	20	*e*Pn	Pn	22 54 11.3	+0.1
BOLS	Boljevac	4.13	20	*e*Pn	Pn	22 54 11.3	+0.1
PLD	Plovdiv	4.17	58	P	Pn	22 54 14.3	+2.5
PLD	Plovdiv	4.17	58	*e*Pn	Pn	22 54 11.3	-0.5
PLD	Plovdiv	4.17	58	*e*Pn	Pn	22 54 11.3	-0.5
PLD	Plovdiv	4.17	58	P	Pn	22 54 14.3	+2.5
CIGN	Sant'Elia a Pi 363nm,0.7s	4.19	295	Pn	Pn	22 54 13.0	+0.9
CIGN	Sant'Elia a Pi 363nm,0.7s	4.19	295	Pn	Pn	22 54 13.0	+0.9
SACR	S. Croce Del S	4.24	291	Pn	Pn	22 54 14.2	+1.4
SACR	S. Croce Del S	4.24	291	Pn	Pn	22 54 14.2	+1.4
SMTH	Samothraki Isl	4.29	82	P	Pn	22 54 14.1	+0.6
SMTH	Samothraki Isl	4.29	82	*e*PN	Pn	22 54 15.4	+1.9
SMTH				*e*SN	Sn	22 55 04.8	+1.2
SMTH	Samothraki Isl	4.29	82	P	Pn	22 54 14.1	+0.6
SMTH	Samothraki Isl	4.29	82	*e*Pn	Pn	22 54 15.4	+1.9
SMTH				*e*Sn	Sn	22 55 04.8	+1.2
PTRJ	Pietraroja 775nm,0.6s	4.36	290	Pn	Pn	22 54 15.8	+1.3
PTRJ	Pietraroja 775nm,0.6s	4.36	290	Pn	Pn	22 54 15.8	+1.3
BSSO	Busso 228nm,0.5s	4.37	293	Pn	Pn	22 54 15.9	+1.3
BSSO	Busso 228nm,0.5s	4.37	293	Pn	Pn	22 54 15.9	+1.3
SVIS	Svilajnac	4.39

APE Apeiranthos 5.24 122 ePN Pn 22 54 27.9 +1.4
APE Apeiranthos 5.24 122⇑iP Pn 22 54 26.5 0.0
APE Apeiranthos 5.24 122 P Pn 22 54 27.1 +0.6
APE Apeiranthos 5.24 122 ePn Pn 22 54 27.9 +1.4
URLA Izmir 5.40 105 i P Pn 22 54 30.5 +1.8
URLA Izmir 5.40 105 i P Pn 22 54 30.5 +1.8
ZIMR 5.46 46 ⇓P Pn 22 54 33.2 +3.7
ZIMR 5.46 46⇓iP Pn 22 54 33.2 +3.7
EDRB Edirne 5.47 68 eP Pn 22 54 33.5 +3.9
TERO Teramo 5.47 301 Pn Pn 22 54 30.6 +0.9
187nm,0.6s
TERO Teramo 5.47 301 Pn Pn 22 54 30.6 +0.9
187nm,0.6s
UDBI Udbina 5.52 327 ePn Pn 22 54 31.1 +0.8
UDBI Sn Sn 22 55 32.8 -1.1
KARN Karanos 5.54 144 P Pn 22 54 31.1 +0.5
KARN Karanos 5.54 144 P Pn 22 54 31.1 +0.5
RKY Sarkoy-Tekirda 5.56 80 eP Pn 22 54 33.6 +2.7
SART Tekirdag 5.56 80 i P Pn 22 54 32.3 +1.3
SART i S Sn 22 55 32.2 -2.8
SART Tekirdag 5.56 80 i P Pn 22 54 32.3 +1.3
JMB Yambol 5.58 61 P Pn 22 54 32.9 +1.8
JMB Yambol 5.58 61 ePn Pn 22 54 32.6 +1.5
JMB Yambol 5.58 61 ePn Pn 22 54 32.6 +1.5
JMB Yambol 5.58 61 P Pn 22 54 32.9 +1.8
SANT Santorini 5.63 128 ePN Pn 22 54 33.2 +1.4
SANT Santorini 5.63 128 ePn Pn 22 54 30.3 -1.5
SANT Santorini 5.63 128 ePn Pn 22 54 33.2 +1.4
KRBG Karabiga-Canak 5.63 83 eP Pn 22 54 34.2 +2.3
BZS Buzias 5.77 12 ⇑P Pn 22 54 33.8 0.0
BZS Buzias 5.77 12⇑iP Pn 22 54 33.8 0.0
BZS Buzias 5.77 12 ePn Pn 22 54 33.4 -0.4
BZS Buzias 5.77 12 ePn Pn 22 54 33.4 -0.4
BZS Buzias 5.77 12 P Pn 22 54 33.8 0.0
GZR Gura Zlata 5.80 20 ⇓P Pn 22 54 35.9 +1.7
GZR Gura Zlata 5.80 20⇓iP Pn 22 54 35.9 +1.7
GZR Gura Zlata 5.80 20 ePn Pn 22 54 35.8 +1.6
GZR Gura Zlata 5.80 20 ePn Pn 22 54 35.8 +1.6
SMG Samos 5.82 111 ePN Pn 22 54 36.3 +1.8
SMG Samos 5.82 111 ePn Pn 22 54 36.3 +1.8
HUMR Humele 5.88 38⇓iP Pn 22 54 37.7 +2.4
HUMR Humele 5.88 38⇓iP Pn 22 54 37.7 +2.4
IZM Izmir 5.88 103 eP Pn 22 54 38.5 +3.1
NRCA Norcia 5.89 301 Pn Pn 22 54 36.3 +0.8
159nm,0.5s
NRCA Norcia 5.89 301 Pn Pn 22 54 36.3 +0.8
159nm,0.5s
BALY Balya 5.90 90 i P Pn 22 54 37.6 +2.0
BALY i S Sn 22 55 40.0 -3.2
BALY Balya 5.90 90 i P Pn 22 54 37.6 +2.0
GONE Gonen-Balikesi 5.93 87 eP Pn 22 54 38.6 +2.7
NVLJ Novalja 5.94 322 ePn Pn 22 54 35.8 -0.2
NVLJ Sn Sn 22 55 41.7 -2.5
FDMO Fiordimonte 6.00 303 Pn Pn 22 54 37.8 +0.8
108nm,0.6s
FDMO Fiordimonte 6.00 303 Pn Pn 22 54 37.8 +0.8
108nm,0.6s
GVD Gavdhos 6.08 146 ePn Pn 22 54 36.8 -1.3
98nm,0.4s
GVD eSn Sn 22 55 40.5 -7.3
IDI Anoyia 6.09 139 eP Pn 22 54 36.3 -1.9
IDI Anoyia 6.09 139 ePn Pn 22 54 36.6 -1.7
IDI Sn Sn 22 55 40.9 -7.2
IDI eSn Sn 22 55 44.5 -3.6
IDI Anoyia 6.09 139 Pn Pn 22 54 36.8 -1.4
1.8nm,0.3s,baz=320,slow=16,SNR=21
IDI Sn Sn 22 55 40.9 -7.2
4.9nm,0.3s,baz=301,slow=19,SNR=3.2
IDI LR LR 22 57 20.0
comp=Z,92nm,20.4s,baz=157,slow=42
CESI CESI - Serrava 6.11 302 Pn Pn 22 54 39.5 +1.1
50nm,0.6s
CESI CESI - Serrava 6.11 302 Pn Pn 22 54 39.5 +1.1
50nm,0.6s
BALB Balikesir 6.11 91 eP Pn 22 54 41.7 +3.4
AKS Akhisar 6.17 98 eP Pn 22 54 42.2 +2.9
PKSM Moragy 6.31 352 ⇑P Pn 22 54 40.8 -0.4
PKSM Moragy 6.31 352⇑iP Pn 22 54 40.8 -0.4
PKSM Moragy 6.31 352 ePn Pn 22 54 40.9 -0.3
PKSM Moragy 6.31 352 ePn Pn 22 54 40.9 -0.3
ARR Arges 6.40 31⇓iP Pn 22 54 44.2 +1.8
ARR Arges 6.40 31⇓iP Pn 22 54 44.2 +1.8
SLVT Silivri 6.40 76 eP Pn 22 54 46.4 +3.9
SIRR Siria 6.42 11⇓iP Pn 22 54 43.0 +0.4
SIRR Siria 6.42 11⇓iP Pn 22 54 43.0 +0.4
BODT Bodrum 6.45 114 eP Pn 22 54 46.4 +3.2
MTUR Matau 6.46 34 ⇓P Pn 22 54 45.8 +2.5
MTUR Matau 6.46 34⇓iP Pn 22 54 45.8 +2.5
MTUR Matau 6.46 34 P Pn 22 54 45.8 +2.5
NPS Neapolis 6.50 135 ePN Pn 22 54 45.0 +1.3
NPS Neapolis 6.50 135 ePn Pn 22 54 45.0 +1.3
BOJS Bojanci 6.53 329 i Pn Pn 22 54 44.0 -0.1
BOJS Bojanci 6.53 329 i Pn Pn 22 54 44.0 -0.1
DURS Dursunbey 6.57 91 i P Pn 22 54 46.7 +1.9
DURS i S Sn 22 55 55.3 -4.5
DURS Dursunbey 6.57 91 i P Pn 22 54 46.7 +1.9
PIEI Pieia 6.60 305 Pn Pn 22 54 45.4 +0.3
60nm,0.4s
PIEI Pieia 6.60 305 Pn Pn 22 54 45.4 +0.3
60nm,0.4s
AYDN Tasoluk 6.60 108 i P Pn 22 54 47.6 +2.4
AYDN Tasoluk 6.60 108 i P Pn 22 54 47.6 +2.4
CTKS Kestanelik-??a 6.62 76 eP Pn 22 54 49.4 +4.0
GBRS Gornja Briga 6.73 327 i Pn Pn 22 54 47.2 +0.3
DAT Datca 6.80 116 eP Pn 22 54 52.0 +3.9
BGKT Bogazkoy 6.82 77 eP Pn 22 54 52.0 +3.9
ARMT Armutlu 6.83 82 eP Pn 22 54 53.0 +4.6
DEMI Demirci 6.83 95 i P Pn 22 54 51.9 +3.5
DEMI Demirci 6.83 95 i P Pn 22 54 51.9 +3.5
MANT Manisa 6.83 100 i P Pn 22 54 51.8 +3.2
MANT Manisa 6.83 100 i P Pn 22 54 51.8 +3.2
PARC Parchiule 6.84 305 Pn Pn 22 54 49.2 +0.7
66nm,0.5s
PARC Parchiule 6.84 305 Pn Pn 22 54 49.2 +0.7
66nm,0.5s
KULA Kula-Manisa 6.91 99 eP Pn 22 54 53.0 +3.6
CRE Caprese Michel 7.01 304 Pn Pn 22 54 51.6 +0.7
22nm,0.4s
CRE Caprese Michel 7.01 304 Pn Pn 22 54 51.6 +0.7
22nm,0.4s
ISK Istanbul-Kandi 7.02 78 eP Pn 22 54 55.0 +4.2
MLR Muntele Rosu 7.06 37 Pn Pn 22 54 54.7 +3.2
MLR Muntele Rosu 7.06 37 Pn Pn 22 54 54.7 +3.2
0.4nm,0.3s,baz=226,slow=6.5,SNR=19
MLR Muntele Rosu 7.06 37 P Pn 22 54 54.7 +3.2
ISR Istrita 7.07 41 ⇑P Pn 22 54 54.9 +3.2
ISR Istrita 7.07 41⇑iP Pn 22 54 54.9 +3.2
ISR Istrita 7.07 41 P Pn 22 54 54.9 +3.2
SKDS Skadanscina 7.08 324 ePn Pn 22 54 51.0 -0.8
SKDS eSn Sn 22 56 07.7 -4.7
SKDS
comp=Z,34nm,0.3s
SKDS Skadanscina 7.08 324 ePn Pn 22 54 51.0 -0.8
YER Yerkesik 7.11 111 eP Pn 22 54 56.1 +3.9
AMRR Amara 7.17 47 ⇑P Pn 22 54 55.1 +2.2
AMRR Amara 7.17 47⇑iP Pn 22 54 55.1 +2.2
AMRR Amara 7.17 47 P Pn 22 54 55.1 +2.2
DOPR Dopca 7.19 32⇑iP Pn 22 54 55.5 +2.2
DOPR Dopca 7.19 32⇑iP Pn 22 54 55.5 +2.2
ASQU Asqua 7.20 305 Pn Pn 22 54 54.9 +1.5
comp=Z,35nm,0.6s
ASQU Asqua 7.20 305 Pn Pn 22 54 54.9 +1.5
comp=Z,35nm,0.6s
SFI Santa Sofia 7.21 306 Pn Pn 22 54 55.3 +1.7
comp=Z,28nm,0.6s
SFI Santa Sofia 7.21 306 Pn Pn 22 54 55.3 +1.7
comp=Z,28nm,0.6s
TRI Trieste 7.32 324 eP Pn 22 54 54.0 -1.0
TRI e 22 56 13.7
TRI pmax pmax
comp=Z,16nm,0.4s
TRI Trieste 7.32 324 Pn Pn 22 54 54.3 -0.7
TRI Trieste 7.32 324 ePn Pn 22 54 54.0 -1.0
comp=Z,16nm,0.4s
TRI eSn Sn 22 56 13.7 -4.4
TRI Trieste 7.32 324 eP Pn 22 54 54.0 -1.0
comp=Z,16nm,0.4s
TRI Trieste 7.32 324 Pn Pn 22 54 54.3 -0.7
ARG Arkhangelos 7.45 118 ePN Pn 22 55 00.4 +3.6
ARG Arkhangelos 7.45 118 ePn Pn 22 55 00.4 +3.6
SILT Sile 7.46 78 eP Pn 22 54 59.0 +2.0
MANR Mangalia 7.49 56⇑iP Pn 22 55 00.1 +2.7
MANR Mangalia 7.49 56⇑iP Pn 22 55 00.1 +2.7
VOY Vojsko 7.51 326 ePn Pn 22 54 57.7 -0.1
VOY e 22 54 59.0
VOY eSn Sn 22 56 18.7 -4.3
VOY Vojsko 7.51 326 ePn Pn 22 54 57.7 -0.1
DALY Dalyan (Mu¨la 7.52 112 eP Pn 22 55 01.2 +3.5
PERS Pernice 7.54 334 i Pn Pn 22 54 57.6 -0.5
PERS Pernice 7.54 334 i Pn Pn 22 54 57.6 -0.5
HARR Harsova 7.55 49 ⇓P Pn 22 55 00.6 +2.4
HARR Harsova 7.55 49⇓iP Pn 22 55 00.6 +2.4
HARR Harsova 7.55 49 P Pn 22 55 00.6 +2.4
TLB Topalu 7.56 50 ⇑P Pn 22 55 00.9 +2.6
TLB Topalu 7.56 50⇑iP Pn 22 55 00.9 +2.6
TLB Topalu 7.56 50 P Pn 22 55 00.9 +2.6
SOKA Soboth 7.61 333 i Pn Pn 22 54 58.8 -0.2
comp=Z,5.4nm,0.3s,SNR=11
SOKA Soboth 7.61 333 Pn Pn 22 54 58.8 -0.2
comp=Z,5.4nm,0.3s,SNR=11
OBKA Obir 7.63 331⇑ePn Pn 22 55 00.5 +1.1
OBKA ⇑iSn Sn 22 56 24.2 -1.8
comp=Z,44nm,0.5s
OBKA Obir 7.63 331 Pn Pn 22 55 00.5 +1.1
OBKA Sn Sn 22 56 24.2 -1.8
comp=Z,44nm,0.5s
PLOR Plostina 7.65 38 ⇓P Pn 22 55 02.7 +3.1
PLOR Plostina 7.65 38⇓iP Pn 22 55 02.7 +3.1
PLOR Plostina 7.65 38 P Pn 22 55 02.7 +3.1
VRI Vrincioaia 7.70 38 ⇑P Pn 22 55 03.1 +2.8
VRI Vrincioaia 7.70 38⇑iP Pn 22 55 03.1 +2.8
VRI Vrincioaia 7.70 38 P Pn 22 55 03.1 +2.8
TIRR Tirgusor 7.71 52 ⇑P Pn 22 55 02.4 +2.1
TIRR Tirgusor 7.71 52 ePn Pn 22 55 00.9 +0.6
comp=Z,22nm,0.9s
TIRR Tirgusor 7.71 52⇑iP Pn 22 55 02.4 +2.1
TIRR Tirgusor 7.71 52 ePn Pn 22 55 00.9 +0.6
comp=Z,22nm,0.9s
TIRR Tirgusor 7.71 52 P Pn 22 55 02.4 +2.1
FETY Fethiye 7.91 112 eP Pn 22 55 06.3 +3.2
PSZ Piszkesteto 7.95 360 ⇑P Pn 22 55 03.8 +0.1
PSZ Piszkesteto 7.95 360 ePn Pn 22 55 03.7 0.0
comp=Z,32nm,1.1s
PSZ Piszkesteto 7.95 360⇑iP Pn 22 55 03.8 +0.1
PSZ Piszkesteto 7.95 360 P Pn 22 55 03.8 +0.1
ARSA Arzberg 7.96 338⇑iPn Pn 22 55 04.5 +0.8
comp=Z,4.1nm,0.6s
ARSA Arzberg 7.96 338 ePn Pn 22 55 04.3 +0.5
ARSA Arzberg 7.96 338 ePn Pn 22 55 04.3 +0.5
PTCC Patocco-Chiusa 8.04 325 Pn Pn 22 55 04.0 -0.9
PTCC Patocco-Chiusa 8.04 325 Pn Pn 22 55 04.0 -0.9
GULT Gulveren 8.09 83 eP Pn 22 55 09.4 +3.7
TLCR 8.35 49 ⇑P Pn 22 55 12.4 +3.2
TLCR 8.35 49⇑iP Pn 22 55 12.4 +3.2
TLCR 8.35 49 P Pn 22 55 12.4 +3.2
AKAS Kas 8.47 113 i P Pn 22 55 14.8 +3.9
AKAS Kas 8.47 113 i P Pn 22 55 14.8 +3.9
CONA Conrad Observa 8.48 341⇑iPn Pn 22 55 13.9 +2.8
comp=Z,0.9nm,0.3s
CONA Conrad Observa 8.48 341 Pn Pn 22 55 13.9 +2.8
comp=Z,0.9nm,0.3s
KECS Kecovo 8.52 2 eP Pn 22 55 14.1 +2.7
KECS Kecovo 8.52 2 ePN Pn 22 55 14.1 +2.7
KECS Kecovo 8.52 2 eP Pn 22 55 14.1 +2.7
BURAR Bucovina Array 8.53 25 ⇑P Pn 22 55 14.9 +3.2
BURAR Bucovina Array 8.53 25⇑iP Pn 22 55 14.9 +3.2
BURAR Bucovina Array 8.53 25⇑iP Pn 22 55 14.9 +3.2
BUR08 Bucovina Ar. S 8.55 25 ePn Pn 22 55 14.5 +2.5
BUR08 Bucovina Ar. S 8.55 25 ePn Pn 22 55 14.5 +2.5
VYHS Vyhne 8.56 355 eP Pn 22 55 12.8 +0.8
VYHS Vyhne 8.56 355 ePN Pn 22 55 12.8 +0.8
VYHS Vyhne 8.56 355 eP Pn 22 55 12.8 +0.8
KBA Koelnbreinsper 8.57 328⇑iPn Pn 22 55 12.6 +0.2
comp=Z,2.9nm,0.4s
KBA ⇑iSn Sn 22 56 48.4 -0.9
comp=Z,9.5nm,0.5s
KBA Koelnbreinsper 8.57 328 Pn Pn 22 55 12.6 +0.2
comp=Z,2.9nm,0.4s
KBA Sn Sn 22 56 48.4 -0.9
comp=Z,9.5nm,0.5s
MDUB Mudurnu 8.61 83 eP Pn 22 55 16.0 +3.2
PGF Pioggiola 8.65 291 eP Pn 22 55 16.7 +3.3
PGF Pioggiola 8.65 291 eP Pn 22 55 16.7 +3.3
PGF Pioggiola 8.65 291 eP Pn 22 55 16.7 +3.3
ROVR Rover¨¤ Verone 8.65 314 Pn Pn 22 55 12.0 -1.4
ROVR Rover¨¤ Verone 8.65 314 Pn Pn 22 55 12.0 -1.4
KORT Korkueli 8.67 107 i P Pn 22 55 18.5 +4.8
ABTA Abfaltersbach 8.68 324⇑iPn Pn 22 55 13.9 +0.2
comp=Z,4.1nm,0.4s
ABTA ⇑iSn Sn 22 56 48.4 -3.2
comp=Z,27nm,0.8s
ABTA Abfaltersbach 8.68 324 Pn Pn 22 55 13.9 +0.2
comp=Z,4.1nm,0.4s
ABTA Sn Sn 22 56 48.4 -3.2
comp=Z,27nm,0.8s
UZH Uzhgorod 8.82 10 eP Pn 22 55 15.3 -0.2
UZH eS Sn 22 56 56.3 +1.4
UZH MLR MLR
comp=N,500nm,8.0s
UZH MLR MLR
comp=E,490nm,8.0s
UZH MLR MLR
comp=Z,330nm,8.0s
UZH Uzhgorod 8.82 10 eP Pn 22 55 15.3 -0.2
UZH eS Sn 22 56 56.3 +1.4
MOA Molln 8.88 334⇑iPn Pn 22 55 17.3 +0.9
comp=Z,3.4nm,0.5s
MOA ⇓iSn Sn 22 56 58.5 +1.9
comp=Z,11nm,0.5s
MOA Molln 8.88 334 Pn Pn 22 55 17.3 +0.9
comp=Z,3.4nm,0.5s
KOLS Kolonicke sedl 9.11 10 eP Pn 22 55 24.8 +5.2
KOLS Kolonicke sedl 9.11 10 ePN Pn 22 55 24.8 +5.2
KIZT Kizilcal 9.29 93 eP Pn 22 55 25.0 +2.8
KEST Kesra 9.40 247 Pn Pn 22 55 27.0 +3.4
KEST Sn Sn 22 57 10.2 +0.6
KEST Kesra 9.40 247 Pn Pn 22 55 27.0 +3.4
comp=Z,0.0nm,0.3s,baz=184,slow=19,SNR=3.4
KEST Sn Sn 22 57 10.2 +0.6
comp=Z,0.0nm,0.3s,baz=9.0,slow=19,SNR=2.1
KEST Kesra 9.40 247 Sn Sn 22 57 10.1 +0.6
WTTA Wattenberg 9.46 323 i Pn Pn 22 55 25.6 +1.1
comp=Z,6.9nm,0.4s,SNR=5.2
WTTA ⇓iSn Sn 22 57 08.7 -2.3
comp=Z,17nm,0.4s
WTTA Wattenberg 9.46 323 Pn Pn 22 55 25.6 +1.1
comp=Z,6.9nm,0.4s,SNR=5.2
WTTA Sn Sn 22 57 08.7 -2.3
comp=Z,17nm,0.4s
SLUM 9.47 152 AMP 22 56 00.0
comp=E,110µm,0.5s,logA/T=5.3,baz=155
SLUM 9.47 152 P Pn 22 55 21.5 -3.1
STHS Stebnicka Huta 9.49 5 eP Pn 22 55 28.5 +3.7
STHS Stebnicka Huta 9.49 5 ePN Pn 22 55 28.5 +3.7
KIS Kishinev 9.52 40 eP Pn 22 55 23.0 -2.2
KIS LRM MLR 22 59 10.0
comp=E,300nm,18.0s
KIS Kishinev 9.52 40 eP Pn 22 55 23.0 -2.2
KIS MLR MLR
comp=Z,500nm,11.0s
VRAC Vranov 9.64 347 Pn Pn 22 55 28.7 +1.9
VRAC Vranov 9.64 347 Pn Pn 22 55 28.7 +1.9
baz=49,slow=20,SNR=2.8
VRAC Vranov 9.64 347 P Pn 22 55 28.7 +1.9
FETA Feichten 9.72 319 ⇑Pn Pn 22 55 31.5 +3.4
comp=Z,0.7nm,0.3s
MOTA Moosalm 9.77 322 i Pn Pn 22 55 29.3 +0.6
comp=Z,8.4nm,0.5s,SNR=16
MOTA ⇓iSn Sn 22 57 15.6 -3.0
comp=Z,7.8nm,0.5s
MOTA Moosalm 9.77 322 Pn Pn 22 55 29.3 +0.6
comp=Z,8.4nm,0.5s,SNR=16
MOTA Sn Sn 22 57 15.6 -3.0
comp=Z,7.8nm,0.5s
KWP Kalwaria Pacla 9.85 10 eP Pn 22 55 36.4 +6.6
KWP pmax pmax
comp=Z,40nm,1.4s
KWP Kalwaria Pacla 9.85 10 ePn Pn 22 55 36.4 +6.6
comp=Z,40nm,1.4s
KONT Konya--Tatoy 9.87 98 eP Pn 22 55 26.8 -3.2
GERES GERESS Array B 9.93 335 Pn Pn 22 55 30.2 -0.7
GERES GERESS Array B 9.93 335 Pn Pn 22 55 30.2 -0.7
comp=Z,0.5nm,0.3s,baz=153,slow=13,SNR=13
GERES GERESS Array B 9.93 335 P Pn 22 55 30.2 -0.7
comp=Z,1.0nm,0.3s
DAVOX Davos/Dischmat 10.00 316 Pn Pn 22 55 33.5 +1.5
DAVOX Sn Sn 22 57 23.0 -1.4
DAVOX Davos/Dischmat 10.00 316 Pn Pn 22 55 33.5 +1.5
baz=132,slow=15
DAVOX Sn Sn 22 57 23.0 -1.4
comp=Z,1.9nm,0.3s,baz=346,slow=21,SNR=6.0
DAVOX LR LR 23 00 03.3
comp=Z,228nm,21.3s,baz=258,slow=41
DAVOX Davos/Dischmat 10.00 316 P Pn 22 55 33.5 +1.5
comp=Z,2.0nm,0.3s
DAVOX S Sn 22 57 23.0 -1.4
comp=Z,228nm,21.3s
RETA Reutte 10.03 322⇑ePn Pn 22 55 33.0 +0.7
RETA ⇑iSn Sn 22 57 22.2 -2.7
comp=Z,7.8nm,0.5s
RETA Reutte 10.03 322 Pn Pn 22 55 33.0 +0.7
RETA Sn Sn 22 57 22.2 -2.7
comp=Z,7.8nm,0.5s
TUE Stuetta 10.11 313 ePn Pn 22 55 33.2 -0.2
comp=Z,8.9nm,0.5s
TUE eSn Sn 22 57 19.0 -7.9
TUE Stuetta 10.11 313 ePn Pn 22 55 33.2 -0.2
comp=Z,8.9nm,0.5s
KHC Kasperske Hory 10.22 336 eP Pn 22 55 34.8 -0.1
KHC Kasperske Hory 10.22 336 ePN Pn 22 55 34.8 -0.1
KHC Kasperske Hory 10.22 336 ePn Pn 22 55 33.9 -1.0
comp=Z,4.8nm,0.8s
KHC Kasperske Hory 10.22 336 Pn Pn 22 55 34.8 -0.1
HDMB Hadim 10.27 103 eP Pn 22 55 37.5 +1.9
BR131 Keskin Array S 10.52 87 ePn Pn 22 55 38.6 -0.5
comp=Z,2.6nm,0.7s
BR131 Keskin Array S 10.52 87 ePn Pn 22 55 38.6 -0.5
comp=Z,2.6nm,0.7s
BRTR Keskin Array B 10.52 87 Pn Pn 22 55 41.8 +2.7
BRTR Keskin Array B 10.52 87 Pn Pn 22 55 41.8 +2.7
comp=Z,0.2nm,0.3s,baz=265,slow=12,SNR=8.0
BRTR Keskin Array B 10.52 87 Pn Pn 22 55 41.8 +2.7
BRTR Keskin Array B 10.52 87 eP Pn 22 55 42.7 +3.6
comp=Z,4.0nm,0.9s
FRF La Foret Royal 10.57 294 eP Pn 22 55 42.8 +3.2
FRF La Foret Royal 10.57 294 eP Pn 22 55 42.8 +3.2
FRF La Foret Royal 10.57 294 eP Pn 22 55 42.8 +3.2
MBDF Montbardon 10.86 300 ePn Pn 22 55 39.9 -3.7
MBDF Montbardon 10.86 300 eP Pn 22 55 46.5 +2.9
MBDF eSn Sn 22 57 34.9 -10
comp=Z,8.1nm,0.5s
MBDF Montbardon 10.86 300 eP Pn 22 55 46.5 +2.9
MBDF e 22 57 34.9
MBDF Montbardon 10.86 300 eP Pn 22 55 46.5 +2.9
MBDF eSn Sn 22 57 34.9 -10
MBDF Montbardon 10.86 300 eP Pn 22 55 46.5 +2.9
LPG La Plagne 11.17 304 ePn Pn 22 55 46.5 -1.6
LPG eSn Sn 22 57 41.5 -12
comp=Z,28nm,0.6s
LPG La Plagne 11.17 304 eP Pn 22 55 46.5 -1.6
LPG La Plagne 11.17 304 ePn Pn 22 55 46.5 -1.6
LPG eSn Sn 22 57 41.5 -12
LPG La Plagne 11.17 304 ePn Pn 22 55 46.5 -1.6
LPL La Plagne 11.19 304 ePn Pn 22 55 46.8 -1.5
LPL eSn Sn 22 57 41.7 -12
comp=Z,19nm,0.5s
LPL La Plagne 11.19 304 eP Pn 22 55 46.8 -1.5
LPL La Plagne 11.19 304 ePn Pn 22 55 46.8 -1.5
LPL eSn Sn 22 57 41.7 -12
LPL La Plagne 11.19 304 ePn Pn 22 55 46.8 -1.5
ORIF Oris-en-Rattie 11.52 300 eP Pn 22 55 54.6 +2.0
ORIF eSn Sn 22 57 51.0 -10
comp=Z,5.5nm,0.4s
ORIF Oris-en-Rattie 11.52 300 eP Pn 22 55 54.6 +2.0
ORIF e 22 57 51.0
ORIF Oris-en-Rattie 11.52 300 eP Pn 22 55 54.6 +2.0
ORIF eSn Sn 22 57 51.0 -10
ORIF Oris-en-Rattie 11.52 300 eP Pn 22 55 54.6 +2.0
SIM Simferopol' 11.57 60 eP Pn 22 55 58.3 +5.0
SIM pmax pmax
comp=Z,34nm,1.7s
SIM MLR MLR
comp=Z,90nm,8.4s
SWA2 11.62 155 P Pn 22 55 51.2 -2.7
baz=159
SWA2 S Sn 22 57 50.1 -14
baz=159
SWA2 11.62 155 P Pn 22 55 51.2 -2.7
SWA2 S Sn 22 57 50.1 -14
CABF La Chapelle 12.09 308 ePn Pn 22 56 00.1 -0.3
CABF eSn Sn 22 58 05.0 -10
comp=Z,6.5nm,0.5s
CABF La Chapelle 12.09 308 eP Pn 22 56 00.1 -0.3
CABF e 22 58 05.0
CABF La Chapelle 12.09 308 ePn Pn 22 56 00.1 -0.3
CABF eSn Sn 22 58 05.0 -10
CABF La Chapelle 12.09 308 ePn Pn 22 56 00.1 -0.3
HINF Hinteralfeld 12.27 314 ePn Pn 22 55 59.5 -3.4
HINF eSn Sn 22 58 09.1 -11
comp=Z,10nm,0.5s
HINF Hinteralfeld 12.27 314 eP Pn 22 55 59.5 -3.4
HINF Hinteralfeld 12.27 314 ePn Pn 22 55 59.5 -3.4
HINF eSn Sn 22 58 09.1 -11
CDF Champ du Feu 12.40 317 ePn Pn 22 56 03.2 -1.5
CDF eSn Sn 22 58 12.1 -11
comp=Z,3.6nm,0.4s
CDF Champ du Feu 12.40 317 eP Pn 22 56 03.2 -1.5
CDF Champ du Feu 12.40 317 ePn Pn 22 56 03.2 -1.5
CDF eSn Sn 22 58 12.1 -11
CDF Champ du Feu 12.40 317 ePn Pn 22 56 03.2 -1.5
AKASG Malin Array Be 12.54 28 ceP Pn 22 56 09.0 +2.5
AKASG Malin Array Be 12.54 28 Pn Pn 22 56 08.6 +2.1
AKASG Malin Array Be 12.54 28 Pn Pn 22 56 08.6 +2.1
comp=Z,0.6nm,0.3s,baz=214,slow=13,SNR=9.4
AKASG Malin Array Be 12.54 28 Pn Pn 22 56 08.6 +2.1
AKASG Malin Array Be 12.54 28 eP Pn 22 56 09.0 +2.5
HAU Haudompre 12.66 314 ePn Pn 22 56 06.6 -1.6
HAU eSn Sn 22 58 18.0 -11
comp=Z,15nm,0.3s
HAU Haudompre 12.66 314 eP Pn 22 56 06.6 -1.6
HAU Haudompre 12.66 314 ePn Pn 22 56 06.6 -1.6
HAU eSn Sn 22 58 18.0 -11
HAU Haudompre 12.66 314 ePn Pn 22 56 06.6 -1.6
SMF Signal de Mont 13.49 305 ePn Pn 22 56 16.7 -2.8
SMF eSn Sn 22 58 38.5 -11
comp=Z,5.5nm,0.4s
SMF Signal de Mont 13.49 305 eP Pn 22 56 16.7 -2.8
SMF e 22 58 38.5
SMF Signal de Mont 13.49 305 ePn Pn 22 56 16.7 -2.8
SMF eSn Sn 22 58 38.5 -11
HNAT Natroun 13.52 136 P Pn 22 56 15.9 -4.0
baz=139
HNAT Natroun 13.52 136 P Pn 22 56 15.9 -4.0
LOR Lormes 13.74 307 ePn Pn 22 56 21.8 -1.1
LOR Lormes 13.74 307 ePn Pn 22 56 21.8 -1.1
LOR Lormes 13.74 307 ePn Pn 22 56 21.8 -1.1
MMAI Mount Meron Ar 14.22 114 Pn Pn 22 56 27.1 -2.5
MMAI Mount Meron Ar 14.22 114 Pn Pn 22 56 27.1 -2.5
comp=Z,1.2nm,0.3s,baz=298,slow=11,SNR=13
KSDI Kefar Szold 14.30 113 Pn Pn 22 56 27.9 -2.7
SLTI Sal'it 14.41 118 Pn Pn 22 56 27.8 -4.4
MMLI Mount Malkishu 14.56 116 Pn Pn 22 56 29.8 -4.4
HMDT Nahal Hemdat 14.74 117 Pn Pn 22 56 32.7 -3.9
KZIT Kziot 14.82 123 Pn Pn 22 56 32.4 -5.4
DSI Dead Sea 15.05 119 Pn Pn 22 56 36.8 -4.0
MZDA Masada 15.20 120 Pn Pn 22 56 39.0 -3.7
ZFRI Zfri 15.56 122 Pn Pn 22 56 43.2 -4.3
KRMI Paran Flat 15.56 125 Pn Pn 22 56 42.4 -5.2
PRNI Paran 15.58 123 Pn Pn 22 56 42.6 -5.3
NACGM Naroch 15.62 15 e P 22 56 52.0 -0.4
ASF Jabal al Asfar 15.73 114 Pn Pn 22 56 49.1 -0.8
ASF Jabal al Asfar 15.73 114 Pn Pn 22 56 49.1 -0.8
comp=Z,0.1nm,0.3s,baz=270,slow=5.2,SNR=3.7
HRFI Mount Harif 15.82 124 Pn Pn 22 56 45.1 -5.8
MBRI Mt Berech 15.90 125 Pn Pn 22 56 47.4 -4.7
EIL Elat 16.01 125 Pn Pn 22 56 50.5 -2.8
EIL Sn Sn 22 59 37.3 -14
EIL Elat 16.01 125 Pn Pn 22 56 50.5 -2.8
comp=Z,0.7nm,0.3s,baz=332,slow=5.5,SNR=6.5
EIL Sn Sn 22 59 37.3 -14
comp=Z,0.7nm,0.3s,baz=158,slow=19,SNR=4.0
EIL Elat 16.01 125 Pn Pn 22 56 49.4 -4.0
KIV Kislovodsk 17.35 69 eP P 22 57 11.2 -0.5
KIV eS Sn 23 00 26.3 +2.9
KIV pmax pmax
comp=Z,23nm,1.1s
KIV MLR MLR
comp=Z,26nm,13.0s
KIV Kislovodsk 17.35 69 eP P 22 57 11.2 -0.5

comp=Z,23nm,1.1s
VORD Divnogorie 17.40 44 *e*P **Pn 22 57 09.2 -1.6**
VORD pmax pmax
comp=Z,10.0nm,1.4s
VORD pmax pmax
comp=N,20nm,0.9s
VORD pmax pmax
comp=E,20nm,1.0s
VORD Divnogorie 17.40 44 *e*P **Pn 22 57 09.2 -1.6**
comp=E,20nm,0.9s
KBZ Khabaz 17.48 70 P **P 22 57 14.7 +1.6**
KBZ Khabaz 17.48 70 P **P 22 57 14.7 +1.6**
KBZ Khabaz 17.48 70 P **P 22 57 14.7 +1.6**
comp=E,0.2nm,0.3s,baz=312,slow=11,SNR=5.2
KBZ Khabaz 17.48 70 P **P 22 57 14.7 +1.6**
ESDC Sonseca Array 18.37 277 P **P 22 57 25.6 +2.6**
ESDC Sonseca Array 18.37 277 P **P 22 57 25.6 +2.6**
comp=E,0.2nm,0.3s,baz=76,slow=11,SNR=8.1
ESDC LR LR 23 04 05.9
comp=E,63nm,19.8s,baz=105,slow=36
VRHR Novokhopersk 18.74 46 *e*P **Pn 22 57 28.5 +1.2**
VRHR pmax pmax
comp=Z,10.0nm,1.0s
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=E,20nm,0.9s
VRHR Novokhopersk 18.74 46 *e*P **Pn 22 57 28.5 +1.2**
comp=E,10.0nm,0.6s
OBN Obninsk 18.77 31 *i*P **P 22 57 26.3 -0.8**
OBN pmax pmax
comp=Z,22nm,1.6s
OBN MLR MLR
comp=Z,100nm,12.0s
OBN Obninsk 18.77 31 *i*P **P 22 57 26.3 -0.8**
comp=Z,100nm,12.0s
GNI Garni 18.96 81 P **Pn 22 57 31.1 +0.9**
GNI Garni 18.96 81 P **Pn 22 57 31.1 +0.9**
comp=Z,0.2nm,0.3s,baz=25,slow=3.8,SNR=5.6
GNI LR LR 23 04 38.5
comp=Z,56nm,20.0s,baz=54,slow=37
GNI Garni 18.96 81 *e*P **P 22 57 29.3 -0.2**
comp=Z,26nm,1.2s
MOS Moscow 19.64 31 *e*P **P 22 57 34.9 -1.7**
MOS pmax pmax
comp=Z,37nm,1.0s
MOS Moscow 19.64 31 *e*P **P 22 57 34.9 -1.7**
comp=Z,37nm,1.0s
ITBZ Tabriz 20.38 86 *e*P **P 22 57 44.2 -0.9**
ITBZ Tabriz 20.38 86 *e*P **P 22 57 44.2 -0.9**
HFS Hagfors 20.56 351 P **P 22 57 46.1 -0.6**
HFS Hagfors 20.56 351 P **P 22 57 46.1 -0.6**
comp=Z,4.2nm,0.4s,baz=161,slow=9.4,SNR=33
HFS LR LR 23 05 52.1
comp=Z,169nm,18.2s,baz=176,slow=37
HFS Hagfors 20.56 351 P **P 22 57 46.1 -0.6**
comp=Z,169nm,18.2s
MDT Midelt 20.99 258 LR LR 23 05 06.6
comp=Z,71nm,20.1s,baz=177,slow=34
IHRS Heris 21.04 86 *e*P **P 22 57 49.6 -2.7**
IHRS Heris 21.04 86 *e*P **P 22 57 49.6 -2.7**
IDHR Dehrash 21.62 96 *e*P **P 22 57 57.8 -0.8**
IDHR Dehrash 21.62 96 *e*P **P 22 57 57.8 -0.8**
EKA Eskdalemuir Ar 21.73 323 P **P 22 57 59.3 0.0**
EKA Eskdalemuir Ar 21.73 323 P **P 22 57 59.3 0.0**
comp=Z,1.8nm,0.6s,baz=109,slow=8.7,SNR=9.9
EKA Eskdalemuir Ar 21.73 323 P **P 22 57 59.3 0.0**
comp=Z,2.0nm,0.6s
NB2 NORSAR Subarra 21.78 348 P **P 22 57 59.2 -0.6**
comp=Z,22nm,1.4s,baz=162,slow=11
NB2 NORSAR Subarra 21.78 348 P **P 22 57 59.2 -0.6**
comp=Z,22nm,1.4s,baz=162,slow=11,SNR=3.1
NOA NORSAR Array B 21.78 348 P **P 22 57 58.9 -1.0**
NOA NORSAR Array B 21.78 348 P **P 22 57 58.9 -1.0**
comp=Z,1.9nm,0.6s,baz=159,slow=8.6,SNR=24
NOA LR LR 23 07 43.2
comp=Z,177nm,18.3s,baz=165,slow=40
NOA NORSAR Array B 21.78 348 P **P 22 57 58.9 -1.0**
comp=Z,177nm,18.3s
FINES FINESS Array B 21.83 8 P **P 22 58 00.2 0.0**
FINES FINESS Array B 21.83 8 P **P 22 58 00.2 0.0**
comp=Z,2.5nm,0.3s,baz=172,slow=9.4,SNR=24
FINES FINESS Array B 21.83 8 P **P 22 58 00.2 0.0**
FIA1 FINESS Array S 21.83 8 *e*P **P 22 57 57.7 -2.6**
IVIS Veis 22.04 96 *e*P **P 22 58 03.4 +0.4**
IVIS Veis 22.04 96 *e*P **P 22 58 03.4 +0.4**
KAF Kangasniemi 22.50 8 *e*P **P 22 58 05.0 -2.6**
KAF pmax pmax
comp=Z,2.0nm,0.3s
KAF Kangasniemi 22.50 8 *e*p **P 22 58 05.0 -2.6**
comp=Z,1.8nm,0.3s
JOF Joensuu 23.97 13 *e*P **P 22 58 20.1 -2.2**
JOF pmax pmax
comp=Z,2.0nm,0.3s
JOF Joensuu 23.97 13 *e*p **P 22 58 20.1 -2.2**
comp=Z,1.8nm,0.3s
IRAZ Razeghan 24.09 91 *e*P **P 22 58 22.5 -1.5**
IRAZ Razeghan 24.09 91 *e*P **P 22 58 22.5 -1.5**
RST Umm Al-Ruwaisa 24.46 107 *e*P **P 22 58 26.1 -1.1**
RST AMb AMB 22 58 27.0
comp=Z,152nm,0.7s
RST Umm Al-Ruwaisa 24.46 107 *e*P **P 22 58 26.1 -1.1**
comp=Z,152nm,0.7s
MIB Mutribah 24.55 106 *e*P **P 22 58 26.3 -1.7**
MIB AMb AMB 22 58 27.6
comp=Z,35nm,0.8s
MIB Mutribah 24.55 106 *e*P **P 22 58 26.3 -1.7**
IR5 Iran Long-Peri 24.66 91 *e*P **P 22 58 27.7 -1.4**
IR5 Iran Long-Peri 24.66 91 *e*P **P 22 58 27.7 -1.4**
IR3 Iran Long-Peri 24.91 90 *e*P **P 22 58 28.6 -2.7**
IR3 Iran Long-Peri 24.91 90 *e*P **P 22 58 28.6 -2.7**
IVRN Varamin 25.61 91 *e*P **P 22 58 36.7 -1.0**
IVRN Varamin 25.61 91 *e*P **P 22 58 36.7 -1.0**
IFIR Firoozkooh 26.18 89 *e*P **P 22 58 40.9 -2.2**
IFIR Firoozkooh 26.18 89 *e*P **P 22 58 40.9 -2.2**
ISFB Sefidab 26.24 92 *e*P **P 22 58 42.1 -1.3**
ISFB Sefidab 26.24 92 *e*P **P 22 58 42.1 -1.3**
ISHM Shahmirzad 26.54 88 *e*P **P 22 58 45.1 -1.2**
ISHM Shahmirzad 26.54 88 *e*P **P 22 58 45.1 -1.2**
IGAR Gharneh 26.87 96 *e*P **P 22 58 47.7 -1.5**
IZEF Zefreh 26.88 95 *e*P **P 22 58 47.7 -1.7**
IZEF Zefreh 26.88 95 *e*P **P 22 58 47.7 -1.7**
AKTK Aktyubinsk 28.49 56 P **P 22 59 01.6 -1.7**
comp=Z,75nm,20.3s
AKTO Aktyubinsk 28.49 56 P **P 22 59 01.6 -1.7**
AKTO pmax pmax
comp=Z,2.0nm,0.4s
AKTO MLR MLR
comp=Z,75nm,20.3s
AKTO Aktyubinsk 28.49 56 P **P 22 59 01.6 -1.7**
AKTO Aktyubinsk 28.49 56 P **P 22 59 01.6 -1.7**
comp=Z,1.7nm,0.4s,baz=253,slow=12,SNR=5.4
AKTO LR LR 23 11 06.0
comp=Z,75nm,20.3s,baz=78,slow=38
AKTO Aktyubinsk 28.49 56 P **P 22 59 01.6 -1.7**
IPAR Pars 28.81 100 *e*P **P 22 59 04.7 -2.0**
IPAR Pars 28.81 100 *e*P **P 22 59 04.7 -2.0**
IMEH Mehriz 29.27 96 *e*P **P 22 59 09.3 -1.5**
IMEH Mehriz 29.27 96 *e*P **P 22 59 09.3 -1.5**
AB31 Akbulak array 29.63 58 *i*P **P 22 59 11.6 -1.9**
AB31 Akbulak array 29.63 58 *i*P **P 22 59 11.6 -1.9**
ABKAR Akbulak array 29.63 58 *e*P **P 22 59 11.2 -2.3**
ARCES ARCESS Array B 29.77 4 P **P 22 59 12.6 -1.9**
ARCES ARCESS Array B 29.77 4 P **P 22 59 12.6 -1.9**
comp=Z,2.6nm,0.8s,baz=189,slow=12,SNR=18
ARCES LR LR 23 12 21.6
comp=Z,130nm,21.9s,baz=114,slow=39
ARCES ARCESS Array B 29.77 4 P **P 22 59 12.6 -1.9**
comp=Z,130nm,21.9s
IBAF Bafgh 29.91 95 *e*P **P 22 59 13.4 -3.0**
IBAF Bafgh 29.91 95 *e*P **P 22 59 13.4 -3.0**
IKRD Kardeh 30.23 84 *e*P **P** 22 59 25.6 +6.3
IAKL Akhelmad 30.47 84 *e*P **P 22 59 19.6 -1.8**
IPAY Payeh 30.70 84 *e*P **P 22 59 22.7 -0.7**
IPAY Payeh 30.70 84 *e*P **P 22 59 22.7 -0.7**
TORD Torodi Ar. Bea 31.19 216 P **P 22 59 27.6 +0.2**
TORD Torodi Ar. Bea 31.19 216 P **P 22 59 27.6 +0.2**
comp=Z,2.7nm,0.9s,baz=31,slow=8.9,SNR=16
TORD LR LR 23 12 35.9
comp=Z,54nm,18.8s,baz=145,slow=37
TORD Torodi Ar. Bea 31.19 216 P **P 22 59 27.6 +0.2**
IMYA Miami 31.58 84 *e*P **P 22 59 30.7 -0.4**
IMYA Miami 31.58 84 *e*P **P 22 59 30.7 -0.4**
ITEG Tejag 31.80 90 *e*P **P 22 59 31.6 -1.5**
ITEG Tejag 31.80 90 *e*P **P 22 59 31.6 -1.5**

BRVK Borovoye 36.26 52 ||*i*P **P 23 00 10.5 -0.8**
BRVK pmax pmax
comp=Z,9.0nm,1.7s
BRVK Borovoye 36.26 52 *i*P **P 23 00 10.5 -0.8**
comp=Z,9.0nm,1.7s
KK31 Karatay Array 37.50 68 *i*P **P 23 00 20.1 -1.9**
KK31 pmax pmax
comp=Z,2.0nm,0.5s
KK31 Karatay Array 37.50 68 *i*P **P 23 00 20.1 -1.9**
comp=Z,2.0nm,0.5s
KKAR Karatay Array 37.50 68 *e*P **P 23 00 20.5 -1.5**
KKAR pmax pmax
comp=Z,3.0nm,0.6s
KKAR Karatay Array 37.50 68 *e*P **P 23 00 20.5 -1.5**
comp=Z,2.5nm,0.6s
KKAR Karatay Array 37.50 68 *e*P **P 23 00 20.5 -1.5**
comp=Z,2.5nm,0.6s
SPITS Spitsbergen Ar 38.35 359 P **P 23 00 27.7 -1.0**
SPITS Spitsbergen Ar 38.35 359 P **P 23 00 27.7 -1.0**
comp=Z,8.1nm,1.0s,baz=141,slow=9.3,SNR=6.2
SPITS Spitsbergen Ar 38.35 359 P **P 23 00 27.7 -1.0**
comp=Z,9.0nm,1.0s
EKS2 Erkin-Say 39.94 68 *e*P **P 23 00 41.2 -1.4**
EKS2 pmax pmax
comp=Z,16nm,1.3s
EKS2 Erkin-Say 39.94 68 *e*P **P 23 00 41.2 -1.4**
comp=Z,16nm,1.3s
EKS2 Erkin-Say 39.94 68 *e*P **P 23 00 41.2 -1.4**
comp=Z,16nm,1.3s
DBIC Dimbokro 39.94 220 P **P 23 00 42.2 -0.5**
DBIC Dimbokro 39.94 220 P **P 23 00 42.2 -0.5**
comp=Z,2.7nm,0.9s,baz=16,slow=8.8,SNR=3.5
DBIC LR LR 23 20 06.9
comp=Z,66nm,18.4s,baz=8.7,slow=40
DBIC Dimbokro 39.94 220 P **P 23 00 42.2 -0.5**
comp=Z,66nm,18.4s
AAK Ala-Archa 40.46 68 *d*i*P **P 23 00 46.5 -0.5**
AAK pmax pmax
comp=Z,24nm,1.7s
AAK Ala-Archa 40.46 68 *e*P **P 23 00 46.4 -0.5**
comp=Z,8.4nm,1.3s
AAK Ala-Archa 40.46 68 *e*P **P 23 00 46.4 -0.5**
comp=Z,8.4nm,1.3s
MK31 Makanchi Array 44.75 60 *i*P **P 23 01 19.9 -1.7**
MK31 pmax pmax
comp=Z,1.0nm,0.2s
MK31 Makanchi Array 44.75 60 *e*P **P 23 01 20.1 -1.6**
MK31 Makanchi Array 44.75 60 *e*P **P 23 01 20.0 -1.6**
MKAR Makanchi Array 44.75 60 P **P 23 01 20.0 -1.6**
MKAR pmax pmax
comp=Z,4.0nm,0.6s
MKAR Makanchi Array 44.75 60 P **P 23 01 20.0 -1.6**
MKAR Makanchi Array 44.75 60 P **P 23 01 20.0 -1.6**
comp=Z,4.1nm,0.6s,baz=281,slow=7.6,SNR=82
MKAR Makanchi Array 44.75 60 P **P 23 01 20.0 -1.6**
comp=Z,4.0nm,0.6s
ZAA0 Zalesovo Array 44.84 49 *e*P **P 23 01 20.4 -1.7**
ZAA0 Zalesovo Array 44.84 49 *e*P **P 23 01 20.4 -1.7**
ZALV Zalesovo Beam 44.84 49 P **P 23 01 21.0 -1.1**
ZALV pmax pmax
comp=Z,3.0nm,0.3s
ZALV Zalesovo Beam 44.84 49 P **P 23 01 20.9 -1.1**
ZALV Zalesovo Beam 44.84 49 P **P 23 01 20.9 -1.1**
comp=Z,3.4nm,0.3s,baz=282,slow=8.6,SNR=16
ZALV Zalesovo Beam 44.84 49 P **P 23 01 21.0 -1.1**
comp=Z,3.0nm,0.3s
HVS Khovu-Aksy 50.77 51 *e*P **P 23 02 07.8 -0.5**
HVS pmax pmax
comp=Z,16nm,1.0s
HVS Khovu-Aksy 50.77 51 *e*P **P 23 02 07.8 -0.5**
comp=Z,16nm,1.0s
PYUN Piuthan 52.57 82 *e*P **P 23 02 19.4 -2.8**
comp=Z,44nm,0.5s
DANN Dangsing 53.03 82 *e*P **P 23 02 23.7 -2.0**
KOLN Koldanda 53.21 83 *e*P **P 23 02 23.9 -3.0**
comp=Z,5.5nm,0.5s
KKN Kakani 54.47 82 *e*P **P 23 02 33.5 -2.7**
RAMN Ramite 55.91 82 *e*P **P 23 02 43.9 -2.7**
comp=Z,10nm,0.6s
TAPN Taplejung 56.55 81 *e*P **P 23 02 49.2 -2.0**
comp=Z,18nm,0.8s
ZAK Zakamensk 56.72 50 *e*P P 23 02 48.5 -3.4
ZAK pmax pmax
comp=Z,2.0nm,1.4s
SCHQ Schefferville 56.86 316 P **P 23 02 52.2 -0.5**
SCHQ Schefferville 56.86 316 P **P 23 02 52.2 -0.5**
comp=Z,3.4nm,0.8s,baz=34,slow=11,SNR=9.7
SCHQ Schefferville 56.86 316 P **P 23 02 52.2 -0.5**
SONM Songino Array 59.66 51 P **P 23 03 11.4 -1.2**
SONM Songino Array 59.66 51 P **P 23 03 11.4 -1.2**
comp=Z,3.4nm,1.1s,baz=283,slow=7.4,SNR=12
SONM Songino Array 59.66 51 P **P 23 03 11.4 -1.2**
comp=Z,3.0nm,1.1s
BOSA Boshof 68.41 175 P **P 23 04 10.7 +0.6**
BOSA Boshof 68.41 175 P **P 23 04 10.7 +0.6**
comp=Z,4.6nm,1.0s,baz=9.5,slow=6.1,SNR=3.4
BOSA Boshof 68.41 175 P **P 23 04 10.6 +0.6**
CMAR Chiang Mai Arr 70.08 82 P **P 23 04 19.1 -1.5**
CMAR Chiang Mai Arr 70.08 82 P **P 23 04 19.2 -1.5**
comp=Z,0.6nm,0.3s,baz=297,slow=7.2,SNR=3.3
CMAR Chiang Mai Arr 70.08 82 P **P 23 04 19.1 -1.5**
WHN Wuhan 74.17 63 P **P 23 04 42.8 -2.2**
KSAR Wonju Array Be 78.51 51 P **P 23 05 08.8 -0.7**
KSAR Wonju Array Be 78.51 51 P **P 23 05 08.8 -0.7**
KSRS Korea Array 78.53 51 P **P 23 05 08.8 -0.8**
comp=Z,0.9nm,0.4s,baz=353,slow=6.3,SNR=5.8
KSRS Korea Array 78.53 51 P **P 23 05 08.8 -0.8**
comp=Z,1.0nm,0.4s
BDFB Brasilia 83.90 244 P **P 23 05 41.1 +2.5**
BDFB Brasilia 83.90 244 P **P 23 05 41.1 +2.5**
comp=Z,0.9nm,0.3s,baz=45,slow=5.7,SNR=3.2
MJAR Matsushiro Arr 85.04 45 P **P 23 05 43.5 -0.5**
MJAR Matsushiro Arr 85.04 45 P **P 23 05 43.5 -0.5**
comp=Z,1.3nm,0.6s,baz=287,slow=6.7,SNR=5.9
MJAR Matsushiro Arr 85.04 45 P **P 23 05 43.5 -0.5**
comp=Z,1.0nm,0.6s
TXAR Lajitas Array 93.43 313 P **P** 23 06 27.5 +3.4
TXAR Lajitas Array 93.43 313 P **P** 23 06 27.5 +3.4
comp=Z,0.3nm,0.9s,baz=353,slow=5.3,SNR=3.7

*THE **17** 23:00:10.1, 34°82N×23°28E, h0km±3km, ML2.5/1, Error ellipse: s-maj=5.1km s-min=1.5km az=205.0*
*ATH **17** 23:00:11.5, 34°95N×23°36E, h11km±2km, MD3.5/16*
*CSEM **17** 23:00:12.4±0.7, 34°99N×23°40E, h2km, MD3.5, Error ellipse: s-maj=18.7km s-min=5.3km az=29.0*
ISC 17 23:00:11.4±1.9, **34°94N**±0°07×**23°41E**±0°06, **h0**km±13km, **n48**, σ0°**90**/58, **Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.56**	**100**	P	**Pg**	**23 00 22.6**	**+0.4**
GVD				S	**Sb**	**23 00 33.5**	**+0.7**
GVD	**Gavdhos**	**0.56**	**100**	*e*PB	**Pg**	**23 00 22.7**	**+0.5**
GVD				*e*SB	**Sb**	**23 00 31.7**	**-1.1**
GVD	**Gavdhos**	**0.56**	**100**	*e*Pb	**Pg**	**23 00 22.7**	**+0.5**
GVD				*e*Sb	**Sb**	**23 00 31.7**	**-1.1**
GVD				S	**Sb**	**23 00 33.5**	**+0.7**
KARN	**Karanos**	**0.62**	**42**	P	**Pb**	**23 00 24.5**	**-0.7**
KARN				S	**Sn**	**23 00 37.3**	**-1.0**
KARN	**Karanos**	**0.62**	**42**	*e*PB	**Pg**	**23 00 24.0**	**+0.6**
KARN	**Karanos**	**0.62**	**42**	P	**Pb**	**23 00 24.5**	**-0.7**
VAM	**Vamos**	**0.80**	**54**	P	**Pg**	**23 00 27.4**	**+0.6**
VAM				S	**Sn**	**23 00 42.7**	**+0.1**
VAM	**Vamos**	**0.80**	**54**	*e*PB	**Pg**	**23 00 27.3**	**+0.5**
VAM				*e*SB	**Sb**	**23 00 38.7**	**-0.9**
VAM	**Vamos**	**0.80**	**54**	P	**Pg**	**23 00 27.4**	**+0.6**
ANKY	**Antikythira Is**	**0.94**	**355**	*e*PN	**Pg**	**23 00 29.3**	**0.0**
SIVA	**Sivas**	**1.15**	**85**	P	**Pg**	**23 00 33.6**	**+0.1**
SIVA				S	**Sn**	**23 00 52.5**	**+1.3**
SIVA	**Sivas**	**1.15**	**85**	*e*PG	**Pg**	**23 00 33.7**	**+0.2**
SIVA	**Sivas**	**1.15**	**85**	P	**Pg**	**23 00 33.6**	**+0.1**
IDI	**Anoyia**	**1.26**	**73**	P	**Pb**	**23 00 35.9**	**-0.2**
IDI	**Anoyia**	**1.26**	**73**	*e*PB	**Pb**	**23 00 35.9**	**-0.2**
IDI	**Anoyia**	**1.26**	**73**	P	**Pb**	**23 00 35.9**	**-0.2**
KYTH	**Kithira**	**1.38**	**347**	P	**Pn**	**23 00 36.9**	**-1.0**
KYTH	**Kithira**	**1.38**	**347**	*e*PN	**Pn**	**23 00 36.1**	**-1.8**
KYTH	**Kithira**	**1.38**	**347**	*e*Pn	**Pn**	**23 00 36.1**	**-1.8**
KYTH	**Kithira**	**1.38**	**347**	P	**Pn**	**23 00 36.9**	**-1.0**
LAST	**Lasithi**	**1.71**	**82**	*e*PN	**Pb**	**23 00 43.4**	**-0.4**
LAST	**Lasithi**	**1.71**	**82**	*e*Pn	**Pb**	**23 00 43.4**	**-0.4**
VLI	**Veliai**	**1.82**	**348**	P	**Pn**	**23 00 44.8**	**+0.8**
VLI				S	**Sn**	**23 01 08.4**	**+0.7**
VLI	**Veliai**	**1.82**	**348**	*e*PG	**Pn**	**23 00 44.7**	**+0.8**
VLI				S	**Sn**	**23 01 08.4**	**+0.7**
NPS	**Neapolis**	**1.84**	**79**	*e*PG	**Pb**	**23 00 46.0**	**+0.2**
ZKR	**Zakros**	**2.31**	**85**	*e*PN	**Pb**	**23 00 52.4**	**-1.5**
ZKR	**Zakros**	**2.31**	**85**	*e*Pn	**Pb**	**23 00 52.4**	**-1.5**
PYL	**PYLOS**	**2.38**	**326**	P	**Pn**	**23 00 49.9**	**-1.7**
PYL	**PYLOS**	**2.38**	**326**	*e*PN	**Pn**	**23 00 52.7**	**+1.1**
PYL	**PYLOS**	**2.38**	**326**	P	**Pn**	**23 00 49.9**	**-1.7**
PYL	**PYLOS**	**2.38**	**326**	*e*Pn	**Pn**	**23 00 52.7**	**+1.1**
ITM	**Ithomi**	**2.54**	**332**	*e*PN	**Pn**	**23 00 54.8**	**+0.9**
ITM	**Ithomi**	**2.54**	**332**	*e*Pn	**Pn**	**23 00 54.8**	**+0.9**
DID	**Didima**	**2.57**	**357**	*e*PB	**Pn**	**23 00 54.7**	**+0.4**
DID	**Didima**	**2.57**	**357**	*e*Pb	**Pn**	**23 00 54.7**	**+0.4**
VLX	**Vlachokerasia**	**2.57**	**341**	*e*PN	**Pn**	**23 00 55.5**	**+1.1**
VLX	**Vlachokerasia**	**2.57**	**341**	*e*Pn	**Pn**	**23 00 55.5**	**+1.1**
GUR	**Goura**	**3.12**	**344**	*e*PN	**Pn**	**23 01 02.9**	**+1.0**
GUR	**Goura**	**3.12**	**344**	*e*Pn	**Pn**	**23 01 02.9**	**+1.0**
KLV	**Kalavryta, Ach**	**3.26**	**342**	*e*PN	**Pn**	**23 01 04.6**	**+0.7**
KLV	**Kalavryta, Ach**	**3.26**	**342**	*e*Pn	**Pn**	**23 01 04.6**	**+0.7**
TRIZ	**Trizonia**	**3.59**	**343**	*e*PN	**Pn**	**23 01 08.7**	**+0.5**
TRIZ	**Trizonia**	**3.59**	**343**	*e*Pn	**Pn**	**23 01 08.7**	**+0.5**
KALE	**Kalithea**	**3.60**	**344**	*e*PN	**Pn**	**23 01 08.8**	**+0.4**
KALE	**Kalithea**	**3.60**	**344**	*e*Pn	**Pn**	**23 01 08.8**	**+0.4**
AGG	**Agios Georgios**	**4.17**	**348**	*e*PN	**Pn**	**23 01 17.0**	**+0.7**
AGG	**Agios Georgios**	**4.17**	**348**	*e*Pn	**Pn**	**23 01 17.0**	**+0.7**

IDC 17 23:09:44.6±1.7, **5°28S×154°14E, h434**km±20km, **mb3.5**/10, **mb1 3.6**/12, **mb1mx3.6**/20, **mbtmp3.5**/12, **Error ellipse: s-maj=15.4km s-min=9.4km az=110.0, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.04**	**239**	P	P	23 11 40.1	-0.2
	3.8nm,0.3s,baz=50,slow=4.9,SNR=6.9						
CTA	**Charters Tower**	**16.59**	**207**	P	P	23 13 13.6	+0.5
	0.9nm,0.3s,baz=36,slow=13,SNR=11						
DZM	**Mont Dzumac**	**20.50**	**146**	P	P	23 13 51.0	-0.7
	8.8nm,0.5s,baz=293,slow=5.3,SNR=13						
WRA	**Warramunga Arr**	**24.15**	**231**	P	P	23 14 24.9	+0.2
	5.2nm,0.4s,baz=54,slow=9.5,SNR=113						
WRA				S	S	23 18 11.6	+0.6
	0.7nm,0.5s,baz=54,slow=15,SNR=4.8						
ASAR	**Alice Springs**	**26.72**	**225**	P	P	23 14 47.1	-0.3
	1.0nm,0.3s,baz=56,slow=9.0,SNR=24						
ASAR				S	S	23 18 51.5	+0.1
	1.6nm,0.6s,baz=55,slow=15,SNR=13						
MJAR	**Matsushiro Arr**	**44.20**	**342**	P	P	23 17 13.2	-0.2
	1.5nm,0.5s,baz=171,slow=8.7,SNR=4.5						
KSRS	**Korea Array**	**49.04**	**332**	P	P	23 17 51.5	+1.2
	1.2nm,0.4s,baz=140,slow=7.4,SNR=5.1						
USRK	**Ussuriysk Arra**	**53.14**	**340**	P	P	23 18 19.1	-1.1
	3.7nm,0.9s,baz=169,slow=8.1,SNR=2.7						
PETK	**Petropavlovsk-**	**58.25**	**3**	P	P	23 18 56.4	+0.6
	1.4nm,0.3s,baz=155,slow=7.2,SNR=4.5						
CMAR	**Chiang Mai Arr**	**59.29**	**295**	P	P	23 19 03.4	-0.2
	0.6nm,0.4s,baz=109,slow=4.9,SNR=3.9						
VNDA	**Vanda**	**72.31**	**178**	P	P	23 20 25.4	+1.1
	1.2nm,0.7s,baz=339,slow=7.6,SNR=8.2						
ILAR	**Eielson Array**	**82.11**	**22**	P	P	23 21 17.1	-1.0
	1.5nm,0.6s,baz=243,slow=4.9,SNR=18						
BDFB	**Brasilia**	**149.78**	**134**	PKPbc	PKPbc	23 28 46.3	+0.6
	3.5nm,0.4s,baz=254,slow=2.5,SNR=3.6						
TORD	**Torodi Ar. Bea**	**151.72**	**288**	PKPbc	PKPbc	23 28 49.7	-0.3
	0.8nm,0.6s,baz=56,slow=4.1,SNR=4.4						

*ATH **17** 23:14:27.9, 40°09N×19°85E, h13km±1km, MD3.6/16*
*ISCJB **17** 23:14:28.1±0.7, 40°02N±0°02×19°79E±0°04, h0km±4km, Error ellipse: s-maj=4.7km s-min=3.5km az=160.3*
*CSEM **17** 23:14:29.4±0.5, 40°05N×19°78E, h8km, ML3.0/8, Error ellipse: s-maj=10.2km s-min=3.8km az=112.0*
*THE **17** 23:14:30.5, 39°99N×19°91E, h0km±2km, ML3.0/8, Error ellipse: s-maj=3.1km s-min=1.1km az=283.0*
ISC 17 23:14:30.0±1.1, **40°02N**±0°02×**19°90E**±0°03, **h3**km±9km, **n89**, σ0°**93**/121, **Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRN	**Sarande**	**0.16**	**151**	P	**Pg**	**23 14 32.6**	**-0.6**
SRN				S	**Sg**	**23 14 34.9**	**-0.4**
KEK	**Kerkira**	**0.32**	**194**	P	**Pg**	**23 14 36.1**	**-0.1**
KEK				S	**Sg**	**23 14 41.6**	**+1.3**
KEK	**Kerkira**	**0.32**	**194**	*e*PB	**Pg**	**23 14 36.0**	**-0.1**
KEK				*e*SB	**Sg**	**23 14 41.2**	**+0.9**
KEK	**Kerkira**	**0.32**	**194**	P	**Pg**	**23 14 36.1**	**-0.1**
KEK				*e*Sb	**Sg**	**23 14 41.2**	**+0.9**
IGT	**Igoumenitsa**	**0.59**	**146**	P	**Pg**	**23 14 40.2**	**-1.2**
IGT				S	**Sg**	**23 14 48.8**	**-0.3**
JAN	**Janina**	**0.82**	**116**	P	**Pg**	**23 14 45.2**	**-0.5**
JAN				S	**Sg**	**23 14 56.5**	**+0.2**
JAN	**Janina**	**0.82**	**116**	*e*PB	**Pg**	**23 14 43.9**	**-1.8**
JAN				*e*SB	**Sg**	**23 14 56.7**	**+0.4**
JAN	**Janina**	**0.82**	**116**	*e*Pb	**Pg**	**23 14 43.9**	**-1.8**
JAN				*e*Sb	**Sg**	**23 14 56.7**	**+0.4**
KBN	**Korca**	**0.91**	**48**	P	**Pb**	**23 14 48.1**	**-0.2**
KBN				S	**Sb**	**23 15 01.3**	**+0.5**
KBN	**Korca**	**0.91**	**48**	P	**Pb**	**23 14 48.1**	**-0.2**
KBN				S	**Sb**	**23 15 01.3**	**+0.5**
NEST	**Nestorio**	**0.96**	**66**	P	**Pg**	**23 14 47.6**	**-0.8**
FNA	**Florina**	**1.36**	**56**	P	**Pn**	**23 14 54.6**	**-1.3**
FNA				S	**Sn**	**23 15 16.1**	**+1.7**
FNA	**Florina**	**1.36**	**56**	*e*PG	**Pn**	**23 14 52.9**	**-3.0**
FNA				*e*SB	**Sg**	**23 15 12.9**	**-0.8**
FNA	**Florina**	**1.36**	**56**	*e*Pg	**Pn**	**23 14 52.9**	**-3.0**
FNA	**Florina**	**1.36**	**56**	P	**Pn**	**23 14 54.6**	**-1.3**
FNA				*e*Sb	**Sg**	**23 15 12.9**	**-0.8**
FNA				S	**Sn**	**23 15 16.1**	**+1.7**
LKD2	**Lefkada island**	**1.37**	**154**	P	**Pn**	**23 14 54.9**	**-1.0**
LKD2				S	**Sn**	**23 15 14.6**	**+0.1**
LKD2	**Lefkada island**	**1.37**	**154**	*e*PB	**Pn**	**23 14 55.3**	**-0.6**
LKD2				*e*SB	**Sb**	**23 15 14.4**	**+0.4**
LKD2	**Lefkada island**	**1.37**	**154**	P	**Pn**	**23 14 54.9**	**-1.0**
LKD2	**Lefkada island**	**1.37**	**154**	*e*Pb	**Pn**	**23 14 55.3**	**-0.6**
LKD2				S	**Sn**	**23 15 14.6**	**+0.1**
KZN	**Kozani**	**1.46**	**78**	P	**Pg**	**23 14 57.7**	**-0.3**
KZN				S	**Sg**	**23 15 19.6**	**+2.6**
KZN	**Kozani**	**1.46**	**78**	*e*PB	**Pn**	**23 14 56.0**	**-1.3**
KZN	**Kozani**	**1.46**	**78**	*e*Pb	**Pn**	**23 14 56.0**	**-1.3**
KZN	**Kozani**	**1.46**	**78**	P	**Pg**	**23 14 57.7**	**-0.3**
KZN				S	**Sg**	**23 15 19.6**	**+2.6**
BIA	**Bitola**	**1.47**	**47**	P	**Pn**	**23 14 56.8**	**-0.6**
BIA				S	**Sg**	**23 15 19.7**	**+2.4**
BIA	**Bitola**	**1.47**	**47**	*i*Pn	**Pb**	**23 14 57.2**	**-0.8**
BIA	**Bitola**	**1.47**	**47**	P	**Pn**	**23 14 56.8**	**-0.6**
THL	**Klokotos Trika**	**1.69**	**105**	P	**Pb**	**23 15 01.4**	**-0.3**
THL				S	**Sb**	**23 15 24.2**	**+0.8**
THL	**Klokotos Trika**	**1.69**	**105**	*e*PN	**Pn**	**23 14 59.8**	**-0.6**
THL				*e*SN	**Sb**	**23 15 24.0**	**+0.6**
THL	**Klokot

VAY	**Valandovo**	**2.41 57**	*i* Pn	**Pn**	**23 15 10.3 +0.1**
KNT	**Kendrikon**	**2.55 63**	P	**Pn**	**23 15 12.8 +0.6**
KNT	**Kendrikon**	**2.55 63**	P	**Pn**	**23 15 12.8 +0.6**
KLV	**Kalavryta, Ach**	**2.64 138**	*e*PB	**Pn**	**23 15 13.8 +0.3**
KLV	**Kalavryta, Ach**	**2.64 138**	*e*Pb	**Pn**	**23 15 13.8 +0.3**
NEO	**Neokhori**	**2.67 105**	P	**Pn**	**23 15 14.2 +0.4**
NEO	**Neokhori**	**2.67 105**	P	**Pn**	**23 15 14.2 +0.4**
PLG	**Polygyros**	**2.74 82**	P	**Pn**	**23 15 15.1 +0.3**
PLG	**Polygyros**	**2.74 82**	P	**Pn**	**23 15 15.1 +0.3**
SOH	**Sokhos**	**2.76 72**	*e*PB	**Pn**	**23 15 15.2 +0.2**
SOH	**Sokhos**	**2.76 72**	*e*Pb	**Pn**	**23 15 15.2 +0.2**
GUR	**Goura**	**2.82 137**	P	**Pn**	**23 15 16.2 +0.2**
GUR	**Goura**	**2.82 137**	*e*PN	**Pn**	**23 15 16.2 +0.2**
GUR	**Goura**	**2.82 137**	P	**Pn**	**23 15 16.2 +0.2**
AMT	**Artemida-Makis**	**2.86 150**	*e*PN	**Pn**	**23 15 15.9 -0.6**
AMT	**Artemida-Makis**	**2.86 150**	*e*Pn	**Pn**	**23 15 15.9 -0.6**
PAIG	**Paliouri**	**2.91 91**	*e*PN	**Pn**	**23 15 16.5 -0.6**
PAIG	**Paliouri**	**2.91 91**	*e*Pn	**Pn**	**23 15 16.5 -0.6**
OUR	**Ouranopolis**	**3.14 83**	P	**Pn**	**23 15 20.5 +0.2**
OUR	**Ouranopolis**	**3.14 83**	P	**Pn**	**23 15 20.5 +0.2**
AOS	**Alonnisos**	**3.19 104**	*e*PN	**Pn**	**23 15 21.0 0.0**
AOS	**Alonnisos**	**3.19 104**	*e*Pn	**Pn**	**23 15 21.0 0.0**
ITM	**Ithomi**	**3.25 150**	*e*PN	**Pn**	**23 15 22.1 +0.2**
ITM	**Ithomi**	**3.25 150**	*e*Pn	**Pn**	**23 15 22.1 +0.2**
VLX	**Vlachokerasia**	**3.29 143**	*e*PN	**Pn**	**23 15 22.9 +0.5**
VLX	**Vlachokerasia**	**3.29 143**	*e*Pn	**Pn**	**23 15 22.9 +0.5**
STON	**Ston**	**3.29 331**	*e*Pn	**Pn**	**23 15 22.3 0.0**
STON			Sn	**Sn**	**23 16 01.0 -0.9**
PYL	**PYLOS**	**3.44 155**	*e*PN	**Pn**	**23 15 23.3 -1.1**
PYL	**PYLOS**	**3.44 155**	*e*Pn	**Pn**	**23 15 23.3 -1.1**
DID	**Didima**	**3.62 133**	*e*PN	**Pn**	**23 15 26.5 -0.5**
DID	**Didima**	**3.62 133**	*e*Pn	**Pn**	**23 15 26.5 -0.5**
KYTH	**Kithira**	**4.48 146**	P	**Pn**	**23 15 39.0 +0.6**
KYTH	**Kithira**	**4.48 146**	*e*PN	**Pn**	**23 15 39.0 +0.3**
KYTH	**Kithira**	**4.48 146**	*e*Pn	**Pn**	**23 15 39.0 +0.3**
KYTH	**Kithira**	**4.48 146**	P	**Pn**	**23 15 39.3 +0.6**
UDBI	**Udbina**	**5.45 327**	*e*Pn	**Pn**	**23 15 53.0 +1.0**
UDBI			Sn	**Sn**	**23 16 53.7 -1.4**
NVLJ	**Novalja**	**5.87 322**	*e*Pn	**Pn**	**23 15 59.1 +1.3**
NVLJ			Sn	**Sn**	**23 17 03.6 -1.9**

LDG ***17*** *23:14:50.1±0.2, 41°.76N×96°.98E, h10km, Mb4.8/25, Ms3.2/2, Error ellipse: s-maj=7.0km s-min=4.3km az=110.0*
BJI ***17*** *23:14:51.2, 41°.65N×97°.05E, h6km, mB4.7/24, mb4.6/39, ML5.3/10, Ms4.6/49, Ms7 4.3/45*
ISCJB ***17*** *23:14:52.5±0.1, 41°.80N±0°.02×96°.92E±0°.03, h21km, mb4.7/105, MS4.1/11, Error ellipse: s-maj=3.6km s-min=2.5km az=27.2*
NEIC ***17*** *23:14:53.6±0.2, 41°.71N×96°.99E, mb4.8/21, Error ellipse: s-maj=5.6km s-min=4.1km az=17.0*
IDC ***17*** *23:14:54.1±0.5, 41°.73N×97°.14E, h23km±3km, mb4.2/23, mb1 4.4/28, mb1mx4.3/33, mbtmp4.3/28, ML4.6/5, MS4.0/8, Ms1 4.0/8, ms1mx3.6/51, Error ellipse: s-maj=15.5km s-min=9.3km az=41.0*
TEH ***17*** *23:14:54.0, 41°.60N×96°.79E, h15km, ML4.8*
MOS ***17*** *23:14:54.0±1.0, 41°.75N×96°.91E, h33km, mb4.7/35, MS4.1/8, Error ellipse: s-maj=7.9km s-min=3.9km az=44.5*
ISC 17 23:14:53.8±0.4,**41.72N**±0°.04×**96.95E**±0°.03,**h17**km±2km, **h16**km:**pP-P, n426,** σ1$**38**/463,**mb4.7**/105,**MS4.1**/11, **59C-15D, Gansu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**3.18**	**136**	⇓Pn	**Pn**	**23 15 42.1**	**-1.0**
GTA				Pg	**Pb**	**23 15 47.1**	**-2.7**
GTA				Sg	**Sb**	**23 16 26.5**	**-1.8**
GTA				smax	smax		
	comp=N,8μm,0.7s						
GTA				smax	smax		
	comp=E,6μm,0.8s						
GTA				LR	LR		
	comp=N,11μm,6.7s						
GTA				LR	LR		
	comp=E,10μm,7.1s						
GTA				LR	LR		
	comp=Z,6μm,9.7s						
WMQ	**Urumqi**	**7.13**	**290**	Pn	**Pn**	**23 16 39.0**	**+1.7**
WMQ				Sn	**Sn**	**23 18 00.5**	**+2.6**
WMQ				LR	LR		
	comp=N,520nm,18.0s						
WMQ				LR	LR		
	comp=E,610nm,15.2s						
WMQ				LR	LR		
	comp=Z,710nm,21.2s						
LZH	**Lanzhou**	**7.78**	**134**	⇑Pn	**Pn**	**23 16 44.8**	**-1.6**
LZH				Sn	**Sn**	**23 18 13.5**	**-0.6**
LZH				Sg	Sb	23 18 54.0	+13
LZH				smax	smax		
	comp=N,2μm,1.0s						
LZH				smax	smax		
	comp=E,1μm,0.9s						
LZH				LR	LR		
	comp=N,4μm,4.1s						
LZH				LR	LR		
	comp=E,5μm,4.6s						
LZH				LR	LR		
	comp=Z,3μm,8.6s						
SONA0	**Songino Array**	**9.08**	**44**	*e*Pn	**Pn**	**23 17 03.2**	**-0.8**
SONM	**Songino Array**	**9.08**	**44**	Pn	**Pn**	**23 17 03.2**	**-0.8**
SONM	**Songino Array**	**9.08**	**44**	Pn	**Pn**	**23 17 03.2**	**-0.8**
	comp=Z,6.2nm,0.3s,baz=228,slow=15,SNR=81						
SONM				Lg	Lg	23 19 37.7	
	comp=Z,21nm,0.3s,baz=208,slow=42,SNR=10.0						
SONM				LR	LR	23 20 56.5	
	comp=Z,366nm,18.7s,baz=229,slow=40						
SONA1	**Songino Array**	**9.09**	**44**	*e*Pn	**Pn**	**23 17 03.0**	**-1.3**
ULN	**Ulaanbaatar**	**9.45**	**46**	*e*Pn	**Pn**	**23 17 06.9**	**-2.2**
ULN				*e*Lg	Lg	23 19 43.7	
HVS	**Khovu-Aksy**	**9.68**	**348**	*e*P	**Pn**	**23 17 09.6**	**-2.7**
ZAK	**Zakamensk**	**9.71**	**25**	*e*P	**Pn**	**23 17 13.5**	**+0.8**
ZAK				*e*		23 19 00.3	
ZAK				pmax	pmax		
	comp=Z,44nm,0.9s						
ZAK				smax	smax		
	comp=E,775nm,1.4s						
BTO	**Baotou**	**9.92**	**92**	*e*P	**Pn**	**23 17 15.9**	**+0.2**
MOY	**Mondy**	**10.33**	**14**	*e*P	**Pn**	**23 17 22.9**	**+1.7**
MOY				pmax	pmax		
	comp=Z,85nm,1.1s						
TLY	**Talaya**	**10.96**	**22**	*e*P	Pn	23 17 36.3	+6.5
TLY				pmax	pmax		
	comp=N,5.0nm,0.6s						
TLY				MLR	MLR		
	comp=N,607nm,8.0s						
HHC	**Hu-ho-hao-te**	**11.04**	**90**	*e*P	Pn	23 17 34.5	+3.6
HHC				pP		23 17 37.8	
HHC				sP		23 17 41.1	
HHC				PP	**PnPn**	**23 17 44.1**	**+5.7**
HHC				S	Sn	23 19 42.0	+8.1
HHC				pmax	pmax		
	comp=Z,120nm,1.0s						
HHC				LR	LR		
	comp=N,2μm,10.9s						
HHC				LR	LR		
	comp=E,2μm,10.9s						
HHC				LR	LR		
	comp=Z,790nm,9.9s						
MK01	**Makanchi Array**	**11.65**	**301**	*e*Pn	**Pn**	**23 17 38.6**	**-0.6**
MK31	**Makanchi Array**	**11.67**	**301**	*e*P	**Pn**	**23 17 38.9**	**-0.5**
MK31	**Makanchi Array**	**11.67**	**301**	*e*Pn	**Pn**	**23 17 38.9**	**-0.5**
MK32	**Makanchi Array**	**11.67**	**301**	*e*Pn	**Pn**	**23 17 38.7**	**-0.7**
MKAR	**Makanchi Array**	**11.67**	**301**	*e*P	**Pn**	**23 17 38.9**	**-0.5**
MKAR	**Makanchi Array**	**11.67**	**301**	*e*Pn	**Pn**	**23 17 38.9**	**-0.5**
MKAR	**Makanchi Array**	**11.67**	**301**	Pn	**Pn**	**23 17 38.7**	**-0.7**
	comp=Z,7.9nm,0.3s,baz=103,slow=15,SNR=210						
MKAR				Lg	Lg	23 21 10.3	
	comp=Z,7.0nm,0.3s,baz=112,slow=25,SNR=3.6						
MKAR				LR	LR	23 22 35.2	
	comp=Z,703nm,20.6s,baz=108,slow=39						
CD2	**Chengdu**	**12.10**	**151**	P	Pn	23 17 49.5	+4.1
CD2				pP	P	23 17 52.8	-5.4
CD2				sP		23 17 55.9	
CD2				PP	**PnPn**	**23 17 59.4**	**+6.2**
CD2				S	**Sn**	**23 20 05.0**	**+5.0**
CD2				sS		23 20 10.3	
CD2				SS	**SnSn**	**23 20 19.3**	**+7.3**
CD2				pmax	pmax		
	comp=Z,20nm,0.6s						
CD2				pmax	pmax		
	comp=Z,190nm,5.7s						
CD2				LR	LR		
	comp=N,2μm,9.5s						
CD2				LR	LR		
	comp=Z,2μm,10.1s						
XAN	**Xi'an**	**12.17**	**125**	P	**Pn**	**23 17 43.4**	**-3.0**
XAN				S	**Sn**	**23 19 59.3**	**-2.3**
XAN				pmax	pmax		
	comp=Z,24nm,6.5s						
XAN				LR	LR		
	comp=N,1μm,11.4s						
XAN				LR	LR		
	comp=E,410nm,10.7s						
XAN				LR	LR		
	comp=Z,460nm,11.4s						
LSA	**Lhasa**	**12.88**	**203**	P	**Pn**	**23 17 56.8**	**+0.3**
LSA	**Lhasa**	**12.88**	**203**	*e*P	**Pn**	**23 17 56.1**	**-0.4**
LSA	**Lhasa**	**12.88**	**203**	*e*Pn	**Pn**	**23 17 56.1**	**-0.4**
BJI	**Beijing**	**14.64**	**90**	P	**Pn**	**23 18 22.0**	**+1.9**
BJI				LR	LR		
	comp=N,1μm,11.7s						
BJI				LR	LR		
	comp=E,720nm,14.9s						
BJI				LR	LR		
	comp=Z,250nm,16.2s						
ZAA0	**Zalesovo Array**	**14.67**	**331**	*e*Pn	**Pn**	**23 18 18.7**	**-1.6**
ZALV	**Zalesovo Beam**	**14.67**	**331**	P	**Pn**	**23 18 19.6**	**-0.8**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZALV				MLR	MLR		
	comp=Z,755nm,19.9s						
ZALV	**Zalesovo Beam**	**14.67**	**331**	Pn	**Pn**	**23 18 19.6**	**-0.8**
	comp=Z,1.2nm,0.3s,baz=139,slow=11,SNR=97						
ZALV				Lg	Lg	23 22 42.2	
	comp=Z,0.9nm,0.3s,baz=166,slow=18,SNR=5.1						
ZALV				LR	LR	23 24 12.2	
	comp=Z,754nm,19.9s,baz=207,slow=38						
AAA	**Alma-Ata**	**14.84**	**283**	*i* P	**Pn**	**23 18 21.7**	**-1.1**
AAA				*i* S	**Sn**	**23 21 09.2**	**+2.4**
AAA				pmax	pmax		
	comp=Z,200nm,0.3s						
AAA				smax	smax		
	comp=E,200nm,1.2s						
AAA				MLR	MLR		
	comp=Z,900nm,2.0s						
ENH	**Enshi**	**15.26**	**134**	*e*Pn	**Pn**	**23 18 25.7**	**-2.8**
	comp=Z,60nm,0.9s						
ULHL	**Ulahol**	**15.41**	**279**	*i* P	**Pn**	**23 18 27.6**	**-3.0**
ULHL	**Ulahol**	**15.41**	**279**	P	**Pn**	**23 18 27.6**	**-3.0**
	SNR=8.3						
KURK	**Kurchatov**	**15.52**	**312**	P	**Pn**	**23 18 29.1**	**-2.5**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KURK	**Kurchatov**	**15.52**	**312**	*e*Pn	**Pn**	**23 18 29.1**	**-2.5**
KURBB	**Kurchatov Arra**	**15.52**	**311**	Pn	**Pn**	**23 18 29.1**	**-2.6**
	comp=Z,1.2nm,0.3s,baz=112,slow=14,SNR=24						
KURBB				Lg	Lg	23 23 07.2	
	comp=Z,1.8nm,0.3s,baz=113,slow=26,SNR=8.9						
TKM2	**Tokmak 2**	**15.84**	**281**	*i* P	**Pn**	**23 18 34.8**	**-1.3**
TKM2	**Tokmak 2**	**15.84**	**281**	P	**Pn**	**23 18 34.8**	**-1.3**
	SNR=86						
TKM2	**Tokmak 2**	**15.84**	**281**	*e*Pn	**Pn**	**23 18 33.8**	**-2.3**
	comp=Z,51nm,0.6s						
NVS	**Novosibirsk**	**15.95**	**330**	*e*P	**Pn**	**23 18 34.5**	**-2.7**
NVS				*e*		23 21 40.8	
KSH	**Kashi**	**16.08**	**269**	P	**P**	**23 18 42.6**	**+0.2**
KSH				sP	**sP**	**23 18 49.6**	**+0.3**
KSH				PP	PnPn	23 18 55.8	+8.1
KSH				S	**Sn**	**23 21 42.0**	**+4.9**
KSH				pmax	pmax		
	comp=Z,23nm,0.6s						
KSH				LR	LR		
	comp=N,1μm,3.5s						
KSH				LR	LR		
	comp=E,1μm,3.2s						
KSH				LR	LR		
	comp=Z,700nm,11.7s						
KZA	**Kyzart**	**16.16**	**279**	*i* P	**Pn**	**23 18 38.8**	**-1.7**
KZA	**Kyzart**	**16.16**	**279**	P	**Pn**	**23 18 38.8**	**-1.7**
	SNR=55						
TAPN	**Taplejung**	**16.22**	**211**	*e*P	**P**	**23 18 43.5**	**-0.7**
	comp=Z,184nm,1.4s						
KBK	**Karagaybulak**	**16.33**	**281**	*i* P	**Pn**	**23 18 40.1**	**-2.3**
KBK	**Karagaybulak**	**16.33**	**281**	P	**Pn**	**23 18 40.1**	**-2.3**
	SNR=31						
CHMS	**Chumysh**	**16.45**	**282**	*i* P	**Pn**	**23 18 42.1**	**-1.7**
CHMS	**Chumysh**	**16.45**	**282**	P	**Pn**	**23 18 42.1**	**-1.7**
	SNR=8.2						
GUN	**Gumba**	**16.48**	**217**	*e*P	**Pn**	**23 18 45.6**	**+1.0**
	comp=Z,186nm,0.8s						
FRU	**Bishkek**	**16.56**	**281**	*e*P	**Pn**	**23 18 40.5**	**-4.7**
FRU				pmax	pmax		
	comp=Z,50nm,1.2s						
JIRN	**Jiri**	**16.56**	**216**	*e*P	**Pn**	**23 18 46.7**	**+1.1**
	comp=Z,339nm,0.8s						
TIA	**Tai'an**	**16.61**	**103**	⇓P	P	23 18 53.4	+5.2
TIA				S	**Sn**	**23 21 51.3**	**+1.4**
TIA				pmax	pmax		
	comp=Z,50nm,1.0s						
TIA				LR	LR		
	comp=N,580nm,13.1s						
TIA				LR	LR		
	comp=E,1μm,8.2s						
TIA				LR	LR		
	comp=Z,940nm,11.2s						
USP	**Ospenovka**	**16.63**	**283**	*i* P	**Pn**	**23 18 44.9**	**-1.1**
USP	**Ospenovka**	**16.63**	**283**	P	**Pn**	**23 18 45.0**	**-1.1**
	SNR=13						
SHL	**Shillong**	**16.65**	**196**	*e*P	**Pn**	**23 18 45.0**	**-1.5**
AAK	**Ala-Archa**	**16.67**	**281**	P	**Pn**	**23 18 44.7**	**-1.9**
AAK						23 21 49.8	
AAK				pmax	pmax		
	comp=Z,3.0nm,0.3s						
AAK				MLR	MLR		
	comp=Z,508nm,20.2s						
AAK	**Ala-Archa**	**16.67**	**281**	P	**Pn**	**23 18 44.7**	**-1.9**
	SNR=17						
AAK	**Ala-Archa**	**16.67**	**281**	*e*Pn	**Pn**	**23 18 44.0**	**-2.7**
	comp=Z,20nm,0.5s						
AAK				*e*Sn	**Sn**	**23 21 49.8**	**-1.5**
AAK	**Ala-Archa**	**16.67**	**281**	Pn	**Pn**	**23 18 44.7**	**-1.9**
	comp=Z,2.5nm,0.3s,baz=96,slow=8.4,SNR=26						
AAK				Sn	**Sn**	**23 21 49.8**	**-1.5**
	comp=Z,0.4nm,0.3s,baz=333,slow=18,SNR=2.6						
AAK				LR	LR	23 26 25.3	
	comp=Z,508nm,20.1s,baz=85,slow=41						
ODAN	**Odare**	**16.78**	**211**	*e*P	**Pn**	**23 18 48.8**	**+0.6**
	comp=Z,399nm,0.9s						
KKN	**Kakani**	**16.86**	**218**	*e*P	**Pn**	**23 18 48.5**	**-0.7**
	comp=Z,52nm,0.6s						
PKI	**Pulchoki**	**16.99**	**217**	*e*P	**Pn**	**23 18 50.0**	**-0.9**
	comp=Z,44nm,0.6s						
PKIN	**Phulchoki**	**16.99**	**217**	*e*P	**Pn**	**23 18 50.8**	**-0.1**
	comp=Z,23nm,0.6s						
RAMN	**Ramite**	**17.01**	**213**	*e*P	**Pn**	**23 18 49.9**	**-1.3**
	comp=Z,124nm,0.9s						
DMN	**Daman**	**17.09**	**218**	*e*P	**Pn**	**23 18 50.8**	**-1.4**
	comp=Z,66nm,1.0s						
DANN	**Dangsing**	**17.14**	**223**	*e*P	**Pn**	**23 18 51.7**	**-1.0**
EKS2	**Erkin-Say**	**17.19**	**281**	*e*P	**Pn**	**23 18 51.6**	**-1.6**
EKS2				pmax	pmax		
	comp=Z,21nm,0.7s						
EKS2	**Erkin-Say**	**17.19**	**281**	P	**Pn**	**23 18 51.8**	**-1.4**
	SNR=11						
EKS2	**Erkin-Say**	**17.19**	**281**	*e*Pn	**Pn**	**23 18 51.6**	**-1.6**
	comp=Z,21nm,0.7s						
GYA	**Guiyang**	**17.20**	**149**	⇑*i*P	**Pn**	**23 18 50.9**	**-2.5**
GYA				PP	**PnPn**	**23 19 07.3**	**+4.0**
GYA				S	**Sn**	**23 22 04.9**	**+0.5**
GYA				SS	**SnSn**	**23 22 25.4**	**+7.7**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,4.5s						
GYA				LR	LR		
	comp=N,1μm,13.3s						
GYA				LR	LR		
	comp=E,1μm,14.5s						
GYA				LR	LR		
	comp=Z,2μm,13.8s						
KMI	**Kunming**	**17.24**	**162**	P	**Pn**	**23 18 54.5**	**+0.6**
KMI				pP	**pP**	**23 18 59.3**	**-0.8**
KMI				S	**Sn**	**23 21 59.3**	**-6.1**
KMI				pmax	pmax		
	comp=Z,26nm,0.8s						
KMI				LR	LR		
	comp=N,520nm,10.0s						
KMI				LR	LR		
	comp=E,440nm,8.1s						
KMI				LR	LR		
	comp=Z,460nm,10.1s						
AML	**Almayashu**	**17.31**	**279**	*i* P	**Pn**	**23 18 54.1**	**-0.8**
AML	**Almayashu**	**17.31**	**279**	P	**Pn**	**23 18 54.1**	**-0.8**
	SNR=18						
HIA	**Hailar**	**17.63**	**57**	*e*Pn	**Pn**	**23 18 56.6**	**-1.9**
	comp=Z,27nm,1.1s						
KOLN	**Koldanda**	**17.69**	**222**	*e*P	**Pn**	**23 18 56.8**	**-2.7**
	comp=Z,49nm,0.8s						
WHN	**Wuhan**	**17.91**	**123**	⇓P	**P**	**23 19 04.8**	**+2.3**
WHN				S	**Sn**	**23 22 20.9**	**-0.4**
WHN				LR	LR		
	comp=N,2μm,11.7s						
WHN				LR	LR		
	comp=E,2μm,13.9s						
WHN				LR	LR		
	comp=Z,2μm,13.8s						
KK31	**Karatay Array**	**19.55**	**283**	*ce*P	**Pn**	**23 19 21.2**	**-0.7**
KK31				pmax	pmax		
	comp=Z,19nm,0.8s						
KKAR	**Karatay Array**	**19.55**	**283**	*e*P	**Pn**	**23 19 21.4**	**-0.5**
KKAR	**Karatay Array**	**19.55**	**283**	*e*P	**Pn**	**23 19 21.4**	**-0.5**
SNY	**Shenyang**	**19.84**	**81**	⇓P	**Pn**	**23 19 28.4**	**+3.1**
SNY				S	**S**	**23 23 05.1**	**-1.3**
SNY				pmax	pmax		
	comp=Z,10.0nm,0.3s						
SNY				pmax	pmax		
	comp=Z,190nm,5.8s						
SNY				LR	LR		
	comp=N,1μm,11.0s						
SNY				LR	LR		
	comp=E,460nm,12.1s						
SNY				LR	LR		
	comp=Z,660nm,12.7s						
NJ2	**Nanjing**	**19.96**	**112**	*e*P	**P**	**23 19 22.8**	**-2.2**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
NJ2				LR	LR		
	comp=Z,1μm,12.5s						
CHCP	**Chirah Chowk**	**20.36**	**254**	P	**P**	**23 19 30.1**	**+0.7**
VOSK	**Vostochnaya**	**20.67**	**311**	*e*P	**P**	**23 19 32.0**	**-0.7**
VOSK				pmax	pmax		
	comp=Z,20nm,0.8s						
VOSK	**Vostochnaya**	**20.67**	**311**	*e*P	**P**	**23 19 31.9**	**-0.7**
	comp=Z,20nm,0.8s						
CN2	**Changchun**	**20.99**	**75**	*e*P	Pn	23 19 38.8	+0.1
CN2				*ep*P	pP	23 19 44.3	+3.4
CN2				*e*S	**S**	**23 23 26.9**	**-2.3**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,800nm,14.0s						
CN2				LR	LR		
	comp=E,660nm,14.0s						
CN2				LR	LR		
	comp=Z,580nm,14.0s						
BVAR	**Borovoye Array**	**21.12**	**311**	P	**P**	**23 19 37.0**	**-0.4**
BVAR				pmax	pmax		
	comp=Z,15nm,0.7s						
BVAR	**Borovoye Array**	**21.12**	**311**	P	**P**	**23 19 37.0**	**-0.4**
	comp=Z,14nm,0.7s,baz=98,slow=11,SNR=76						
BVAR				Lg	Lg	23 26 00.7	
	comp=Z,12nm,1.0s,baz=100,slow=25,SNR=3.8						
BRVK	**Borovoye**	**21.19**	**311**	*c i*P	**P**	**23 19 37.8**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,25nm,0.8s						
BRVK	**Borovoye**	**21.19**	**311**	*e*P	**P**	**23 19 37.3**	**-0.9**
	comp=Z,22nm,0.7s						
CEP	**Cherat**	**21.26**	**256**	P	**P**	**23 19 39.3**	**0.0**
THW	**Thamme Wali**	**21.89**	**254**	P	**P**	**23 19 45.4**	**-0.6**
SSE	**Sheshan**	**22.13**	**111**	P	**P**	**23 19 50.9**	**+2.4**
SSE				S	**S**	**23 23 55.4**	**+3.7**
SSE				pmax	pmax		
	comp=Z,28nm,0.7s						
SSE				pmax	pmax		
	comp=Z,160nm,5.6s						
SSE				LR	LR		
	comp=N,70nm,14.2s						
SSE				LR	LR		
	comp=E,150nm,14.1s						
SSE				LR	LR		
	comp=Z,270nm,15.3s						
CHTO	**Chiang Mai**	**22.90**	**175**	*e*P	**P**	**23 19 55.5**	**-1.2**
CHTO				pmax	pmax		
	comp=Z,8.0nm,1.0s						
CHTO	**Chiang Mai**	**22.90**	**175**	*e*P	**P**	**23 19 55.5**	**-1.2**
	comp=Z,8.4nm,1.0s						
KBL	**Kabul**	**23.03**	**261**	*e*P	**P**	**23 19 58.6**	**+0.4**
KBL				pmax	pmax		
	comp=Z,29nm,0.8s						
KBL	**Kabul**	**23.03**	**261**	*e*P	**P**	**23 19 58.6**	**+0.4**
	comp=Z,29nm,0.8s						
INCN	**Inchon**	**23.20**	**91**	*e*P	**P**	**23 19 58.1**	**-1.7**
	comp=Z,24nm,0.8s						
CM31	**Chiang Mai Arr**	**23.25**	**175**	*e*P	**P**	**23 19 60.0**	**-0.4**
CMAR	**Chiang Mai Arr**	**23.25**	**175**	P	**P**	**23 19 60.0**	**-0.4**
	comp=Z,2.1nm,0.7s,baz=352,slow=9.7,SNR=11						
CM01	**Chiang Mai Arr**	**23.29**	**175**	*e*P	**P**	**23 19 59.3**	**-1.4**
MDJ	**Mudanjiang**	**23.90**	**72**	P	**P**	**23 20 08.4**	**+1.9**
MDJ				pP	**pP**	**23 20 11.4**	**-0.1**
MDJ				sP	**sP**	**23 20 12.6**	**-1.0**
MDJ				PcP	**PcP**	**23 23 49.9**	**+1.1**
MDJ				S	**S**	**23 24 25.6**	**+3.7**
MDJ				ScP	**ScP**	**23 27 28.5**	**+2.2**
MDJ				PcS	**PcS**	**23 27 29.6**	**+1.3**
MDJ				ScS	**ScS**	**23 31 16.3**	**+3.2**
MDJ				pmax	pmax		
	comp=Z,10.0nm,2.0s						
MDJ				pmax	pmax		
	comp=Z,63nm,5.0s						
MDJ				LR	LR		
	comp=N,780nm,10.1s						
MDJ				LR	LR		
	comp=E,82nm,4.4s						
MDJ				LR	LR		
	comp=Z,320nm,7.3s						
KS01	**Wonju Array Si**	**24.15**	**90**	*e*P	**P**	**23 20 10.2**	**+1.3**
KS15	**Wonju Array Si**	**24.15**	**90**	*e*P	**P**	**23 20 08.2**	**-0.7**
KS15				*ep*P	**pP**	**23 20 14.3**	**+0.4**
KSRS	**Korea Array**	**24.18**	**90**	P	**P**	**23 20 08.2**	**-0.9**
	comp=Z,4.6nm,0.7s,baz=282,slow=8.5,SNR=11						
KSRS				pP	**pP**	**23 20 14.3**	**+0.2**
	comp=Z,19nm,0.8s,baz=281,slow=8.6,SNR=25						
KSRS				LR	LR	23 30 02.1	
	comp=Z,183nm,18.9s,baz=118,slow=38						
QIZ	**Qiongzhong**	**25.15**	**150**	P	**P**	**23 20 18.9**	**+0.9**
QIZ				S	**S**	**23 24 45.3**	**+3.0**
QIZ				pmax	pmax		
	comp=Z,5.0nm,1.9s						
QIZ				LR	LR		
	comp=N,510nm,14.5s						
QIZ				LR	LR		
	comp=E,850nm,14.7s						
QIZ				LR	LR		
	comp=Z,1μm,12.1s						
KLR	**Kul'dur**	**25.36**	**61**	*e*P	**P**	**23 20 21.6**	**+1.9**
KLR				MLR	MLR		
	comp=Z,900nm,9.5s						
USRK	**Ussuriysk Arra**	**

ARU Arti 28.69 314 *d iP* **P 23 20 48.8 -0.8**
ARU 23 21 38.3
ARU S **S 23 25 39.4 +1.8**
ARU SS **SnSn 23 26 58.7 +0.6**
ARU pmax pmax
comp=Z,46nm,1.7s
IMYA Miami 28.97 272 *eP* **P 23 20 52.3 -0.3**
IPAY Payeh 29.76 272 *eP* **P 23 21 00.7 +1.1**
IKRD Kardeh 30.00 273 *eP* P 23 20 56.0 -5.8
ISFR Sfrayin 30.28 274 *eP* **P 23 21 05.2 +0.9**
IDAH Dahanechah 30.66 265 *eP* **P 23 21 09.2 +1.5**
ITEG Tejag 31.43 266 *eP* **P 23 21 15.0 +0.7**
MJAR Matsushiro Arr 32.19 85 pP pP 23 21 25.4 -0.5
comp=Z,1.3nm,0.6s,baz=290,slow=11,SNR=5.5
ERM Erimo 34.09 74 *eP* **P 23 21 37.6 +0.4**
ERM pmax pmax
comp=Z,16nm,1.0s
ISHM Shahmirzad 34.27 275 *eP* **P 23 21 41.7 +2.5**
ISFB Sefidab 35.65 273 *eP* **P 23 21 52.2 +1.2**
IVRN Varamin 35.76 274 *eP* **P 23 21 52.2 +0.3**
MAK Makhachkala 36.15 289 *eP* **P 23 21 54.3 -0.7**
MAK MLR MLR
comp=Z,528nm,16.0s
IZEF Zefreh 36.23 271 *eP* **P 23 21 56.4 +0.3**
IRAZ Razeghan 36.94 276 *eP* **P 23 22 02.0 -0.1**
ISRV Sarvestan 37.35 265 *eP* **P 23 22 07.1 +1.3**
IHRS Heris 37.94 282 *eP* **P 23 22 10.9 +0.3**
IAZR Azarshahr 38.96 281 *eP* **P 23 22 20.5 +1.3**
GNI Garni 38.97 286 *eP* P 23 22 14.6 -4.6
GNI Garni 38.97 286 *eP* **P 23 22 17.8 -1.4**
comp=Z,11nm,0.8s
GNI Garni 38.97 286 P **P 23 22 21.1 +1.9**
comp=Z,5.9nm,0.6s,baz=7.4,slow=3.0,SNR=7.4
KLMR Klimovskoe 39.16 319 *eP* **P 23 22 18.9 -1.3**
KLMR pmax pmax
comp=Z,59nm,1.2s
KBZ Khabaz 39.17 292 P **P 23 22 20.4 -0.2**
KBZ pmax pmax
comp=Z,4.0nm,0.7s
KBZ MLR MLR
comp=Z,351nm,18.5s
KBZ Khabaz 39.17 292 *eP* **P 23 22 20.4 -0.2**
KBZ Khabaz 39.17 292 P **P 23 22 20.4 -0.2**
comp=Z,3.9nm,0.7s,baz=99,slow=7.4,SNR=8.8
KBZ LR LR 23 40 48.1
comp=Z,351nm,18.5s,baz=150,slow=40
KIV Kislovodsk 39.25 292 *eP* **P 23 22 18.5 -2.9**
KIV *eS* **S 23 28 21.7 +0.5**
KIV pmax pmax
comp=Z,12nm,1.0s
KIV MLR MLR
comp=Z,174nm,15.0s
MOS Moscow 40.29 311 *eP* **P 23 22 26.5 -3.2**
MOS pmax pmax
comp=Z,55nm,0.9s
AGRB Hanur-Agry 40.44 286 *eP* **P 23 22 31.1 -0.2**
CUKT Cukurca 40.87 282 *eP* **P 23 22 35.1 +0.2**
OBN Obninsk 40.95 310 *eP* **P 23 22 33.0 -2.2**
OBN *i* 23 22 42.5
OBN pmax pmax
comp=Z,28nm,0.8s
PEA0 Petropavlovsk- 41.45 53 *eP* **P 23 22 36.8 -2.5**
PETK Petropavlovsk- 41.45 53 pP pP 23 22 45.0 +0.4
comp=Z,5.8nm,0.8s,baz=226,slow=6.0,SNR=4.3
MIB Mutribah 41.45 270 *eP* **P 23 22 40.0 +0.4**
MIB AMb AMB 23 22 41.2
comp=Z,40nm,1.1s
RDF Al-Radifah 41.75 268 *eP* **P 23 22 43.0 +1.0**
RDF AMb AMB 23 22 44.5
comp=Z,25nm,0.4s
NAY Al-Naaiem 41.81 269 *eP* **P 23 22 43.0 +0.5**
NAY AMb AMB 23 22 43.7
comp=Z,31nm,0.7s
RST Umm Al-Ruwaisa 41.86 270 *eP* **P 23 22 43.2 +0.2**
GUMT Gumushane 42.63 288 *eP* **P 23 22 49.5 +0.2**
JOF Joensuu 43.04 322 *eP* **P 23 22 51.8 -0.4**
JOF pmax pmax
comp=Z,3.0nm,0.6s
JOF Joensuu 43.04 322 *ep* **P 23 22 51.8 -0.4**
comp=Z,3.2nm,0.6s
PTK Pertek 43.28 286 *eP* **P 23 22 53.9 -0.8**
ILIC Ilic-Erzincan 43.66 287 *eP* **P 23 22 57.4 -0.3**
MALT Malatya 44.21 286 ⇓P **P 23 23 03.8 +1.8**
MALT Malatya 44.21 286 ⇓*iP* **P 23 23 03.8 +1.8**
ARA0 ARCESS Array S 45.22 332 *eP* **P 23 23 09.2 -0.3**
ARCES ARCESS Array B 45.22 332 P **P 23 23 09.2 -0.3**
comp=Z,3.1nm,0.5s,baz=87,slow=7.9,SNR=12
KAF Kangasniemi 45.43 321 *eP* P 23 23 06.9 -4.4
KAF pmax pmax
comp=Z,6.0nm,0.9s
KAF Kangasniemi 45.43 321 *ep* P 23 23 06.9 -4.4
comp=Z,5.8nm,0.9s
FIA0 FINESS Array S 45.63 321 *eP* **P 23 23 12.7 -0.1**
FIA0 FINESS Array S 45.63 321 *eP* **P 23 23 12.7 -0.1**
FINES FINESS Array B 45.63 321 P **P 23 23 12.7 -0.1**
comp=Z,7.1nm,0.7s,baz=78,slow=6.8,SNR=28
BNN Bunyan 45.84 288 *eP* **P 23 23 16.4 +1.4**
AKASG Malin Array Be 46.20 305 P **P 23 23 17.0 -0.5**
AKASG pmax pmax
comp=Z,9.0nm,0.6s
AKASG Malin Array Be 46.20 305 P **P 23 23 17.0 -0.5**
comp=Z,9.4nm,0.6s,baz=61,slow=8.2,SNR=27
AKBB Malin Array Si 46.20 305 *eP* **P 23 23 17.0 -0.5**
AKBB Malin Array Si 46.20 305 *eP* **P 23 23 17.0 -0.5**
RAYN Ar Rayn 46.26 263 *eP* **P 23 23 17.0 -1.4**
comp=Z,6.3nm,1.1s
NACGM Naroch 46.53 312 *e* **P 23 23 17.0 -3.1**
NIG Nigde 47.03 287 *eP* **P 23 23 24.8 +0.3**
BR101 Keskin Array S 47.05 290 *eP* **P 23 23 24.8 +0.3**
BRTR Keskin Array B 47.05 290 P **P 23 23 24.8 +0.3**
comp=Z,5.2nm,0.8s,baz=91,slow=7.3,SNR=37
KIS Kishinev 47.61 301 *eP* **P 23 23 28.0 -0.6**
comp=Z,100nm,1.0s
KIS Kishinev 47.61 301 *eP* **P 23 23 28.0 -0.6**
KIS pmax pmax
comp=Z,95nm,1.0s
BR231 Keskin MP Arra 47.61 290 *eP* P 23 23 25.6 -3.2
SULT Sultanhani-AKS 47.77 288 *eP* **P 23 23 30.5 +0.4**
ASF Jabal al Asfar 48.07 279 *eP* **P 23 23 34.1 +1.6**
ASF Jabal al Asfar 48.07 279 P **P 23 23 34.1 +1.6**
comp=Z,13nm,0.8s,baz=17,slow=5.3,SNR=34
TLCR 48.25 298 ⇑P **P 23 23 33.3 -0.2**
TLCR 48.25 298 ⇑*iP* **P 23 23 33.3 -0.2**
MMAI Mount Meron Ar 48.76 281 P **P 23 23 38.8 +1.1**
comp=Z,2.8nm,0.7s,baz=73,slow=11,SNR=5.3
TIRR Tirgusor 48.78 298 ⇑P **P 23 23 37.5 -0.2**
TIRR Tirgusor 48.78 298 ⇑*iP* **P 23 23 37.5 -0.2**
SUW Suwalki 48.80 311 *eP* **P 23 23 36.1 -1.6**
SUW pmax pmax
comp=Z,36nm,0.9s
SUW Suwalki 48.80 311 *eP* **P 23 23 36.0 -1.6**
comp=Z,36nm,0.9s
TLB Topalu 48.98 298 ⇑P **P 23 23 39.0 -0.2**
TLB Topalu 48.98 298 ⇑*iP* **P 23 23 39.0 -0.2**
HDMB Hadim 49.05 287 *eP* **P 23 23 39.6 -0.5**
VRI Vrincioaia 49.36 300 ⇓P **P 23 23 42.9 +0.8**
VRI Vrincioaia 49.36 300 ⇓*iP* **P 23 23 42.9 +0.8**
PLOR Plostina 49.42 300 ⇓P **P 23 23 43.3 +0.7**
PLOR Plostina 49.42 300 ⇓*iP* **P 23 23 43.3 +0.7**
LVV L'vov 49.64 306 *eP* **P 23 23 44.2 0.0**
BURAR Bucovina Array 49.69 303 ⇑P **P 23 23 44.7 0.0**
BURAR Bucovina Array 49.69 303 ⇑*iP* **P 23 23 44.7 0.0**
BUR04 Bucovina Ar. S 49.69 303 *eP* **P 23 23 42.9 -1.8**
ISR Istrita 49.76 299 ⇑P **P 23 23 45.7 +0.4**
ISR Istrita 49.76 299 ⇑*iP* **P 23 23 45.7 +0.4**
SUTC Sutluce-Ispart 49.88 288 *eP* **P 23 23 45.5 -0.9**
KWP Kalwaria Pacla 50.51 306 ⇑P **P 23 23 51.5 +0.6**
KWP Kalwaria Pacla 50.51 306 ⇑*iP* **P 23 23 51.5 +0.6**
KWP Kalwaria Pacla 50.51 306 *eP* **P 23 23 51.4 +0.6**
EIL Elat 50.77 277 *eP* **P 23 23 53.8 +0.8**
EIL Elat 50.77 277 P **P 23 23 53.8 +0.8**
comp=Z,6.0nm,0.9s,baz=27,slow=6.6,SNR=5.5
ARR Arges 50.91 300 ⇑*iP* **P 23 23 54.5 +0.6**
ELL Elmali 50.99 288 *eP* **P 23 23 53.0 -1.7**
KOLS Kolonicke sedl 51.03 305 *eP* **P 23 23 55.0 +0.2**
KOLS pmax pmax
comp=Z,8.0nm,1.2s
KOLS Kolonicke sedl 51.03 305 *eP* **P 23 23 55.0 +0.2**
TRPA Tarpa 51.17 304 ⇑*iP* **P 23 23 56.0 +0.3**
STHS Stebnicka Huta 51.48 306 *eP* **P 23 23 58.6 +0.5**
STHS pmax pmax
comp=Z,3.0nm,0.8s
STHS Stebnicka Huta 51.48 306 *eP* **P 23 23 58.6 +0.5**

NIE Niedzica 52.04 306 *eP* **P 23 24 03.2 +0.9**
NIE Niedzica 52.04 306 *eP* **P 23 24 03.2 +0.9**
OJC Ojcow 52.04 307 *eP* **P 23 24 02.4 +0.1**
OJC Ojcow 52.04 307 *eP* **P 23 24 00.6 -1.7**
comp=Z,25nm,0.8s
OJC Ojcow 52.04 307 *eP* **P 23 24 02.4 +0.1**
NB2 NORSAR Subarra 52.68 322 P **P 23 24 05.6 -1.3**
comp=Z,4.8nm,0.8s,baz=72,slow=7.9
NB200 NORSAR Array S 52.68 322 *eP* **P 23 24 05.8 -1.1**
NOA NORSAR Array B 52.68 322 P **P 23 24 05.8 -1.1**
comp=Z,2.0nm,0.7s,baz=72,slow=7.0,SNR=9.4
BZS Buzias 52.75 301 ⇑P **P 23 24 07.5 -0.1**
BZS Buzias 52.75 301 ⇑*iP* **P 23 24 07.5 -0.1**
BSD Bornholm Skovb 52.97 315 *eP* **P 23 24 07.9 -1.1**
BSD pmax pmax
comp=Z,9.0nm,1.1s
BSD Bornholm Skovb 52.97 315 *i P* **P 23 24 07.9 -1.1**
comp=Z,9.1nm,1.0s
VTS Vitosha 53.00 297 *eP* **P 23 24 09.3 -0.4**
VTS Vitosha 53.00 297 ⇓P **P 23 24 10.3 +0.6**
VTS Vitosha 53.00 297 ⇓*iP* **P 23 24 10.3 +0.6**
OKC Ostrava-Krasne 53.17 307 *i P* **P 23 24 11.1 +0.5**
OKC *e* 23 24 16.2
OKC Ostrava-Krasne 53.17 307 ⇑*iP* **P 23 24 11.1 +0.5**
OKC *epP* **pP 23 24 16.2 +0.2**
VYHS Vyhne 53.30 306 *eP* **P 23 24 12.0 +0.4**
VYHS pmax pmax
comp=Z,4.0nm,1.0s
VYHS Vyhne 53.30 306 *eP* **P 23 24 12.0 +0.4**
MORC Moravsky Berou 53.56 308 *eP* **P 23 24 12.3 -1.2**
MORC pmax pmax
comp=Z,11nm,0.9s
MORC Moravsky Berou 53.56 308 *eP* **P 23 24 12.3 -1.2**
comp=Z,10nm,0.9s
KSP Ksiaz 53.86 309 *eP* **P 23 24 16.0 +0.3**
KRLC Kraliky 53.88 308 ⇑P **P 23 24 16.3 +0.4**
KRLC Kraliky 53.88 308 ⇑*iP* **P 23 24 16.3 +0.4**
DPC Dobruska-Polom 54.04 309 ⇑*iP* **P 23 24 17.8 +0.7**
DPC *e* 23 24 23.1
DPC Dobruska-Polom 54.04 309 ⇑*iP* **P 23 24 17.8 +0.7**
DPC *epP* **pP 23 24 23.1 +0.7**
DPC Dobruska-Polom 54.04 309 *eP* **P 23 24 16.2 -0.9**
comp=Z,83nm,1.0s
UPC Upice 54.16 309 ⇑*iP* **P 23 24 18.2 +0.3**
UPC *e* 23 24 23.6
UPC Upice 54.16 309 ⇑*iP* **P 23 24 18.2 +0.3**
UPC *epP* **pP 23 24 23.6 +0.4**
PKSM Moragy 54.38 303 ⇑P **P 23 24 19.9 +0.4**
PKSM Moragy 54.38 303 ⇑*iP* **P 23 24 19.9 +0.4**
TREC Trest 54.98 308 *iP* **P 23 24 24.5 +0.7**
TREC Trest 54.98 308 ⇑*iP* **P 23 24 24.5 +0.7**
PVCC Panska Ves 54.99 309 *iP* **P 23 24 24.6 +0.7**
PVCC Panska Ves 54.99 309 ⇑*iP* **P 23 24 24.6 +0.7**
BRG Berggiesshubel 55.20 310 *eP* **P 23 24 25.4 0.0**
comp=Z,5.5nm,1.0s
BRG Berggiesshubel 55.20 310 *eP* **P 23 24 25.5 +0.1**
comp=Z,12nm,1.2s
BRG Berggiesshubel 55.20 310 *eP* **P 23 24 25.4 0.0**
BRG pmax pmax
comp=Z,15nm,1.0s
PRU Pruhonice 55.23 309 ⇑*iP* **P 23 24 26.0 +0.4**
PRU *e* 23 24 31.4
PRU Pruhonice 55.23 309 ⇑*iP* **P 23 24 26.0 +0.4**
PRU *epP* **pP 23 24 31.4 +0.4**
IDI Anoyia 55.25 289 *eP* **P 23 24 24.3 -1.8**
IDI Anoyia 55.25 289 *eP* **P 23 24 24.5 -1.6**
comp=Z,9.2nm,0.8s
CONA Conrad Observa 55.34 306 ⇑*iP* **P 23 24 27.4 +0.8**
comp=Z,12nm,1.2s,SNR=5.7
MUD Monsted U'grnd 55.42 318 *eP* **P 23 24 27.3 +0.5**
MUD pmax pmax
comp=Z,7.0nm,0.8s
MUD Monsted U'grnd 55.42 318 *i P* **P 23 24 27.3 +0.5**
comp=Z,7.2nm,0.8s
CLL Collm 55.55 311 *eP* **P 23 24 27.7 -0.2**
comp=Z,11nm,1.1s
CLL Collm 55.55 311 *i P* **P 23 24 27.7 -0.2**
CLL *i* 23 24 35.5
CLL pmax pmax
comp=Z,10.0nm,1.1s
CLL Collm 55.55 311 *i P* **P 23 24 27.7 -0.2**
comp=Z,10.0nm,1.1s
CLL *i* pP **pP 23 24 33.1 -0.1**
CLL *i* 23 24 35.5
CLL *ePP* **PP 23 26 30.0 -1.7**
ARSA Arzberg 55.85 306 ⇑*iP* **P 23 24 30.3 +0.1**
comp=Z,2.3nm,0.7s
BSEG Bad Segeberg 55.90 315 *eP* **P 23 24 31.0 +0.7**
comp=Z,20nm,1.5s
BSEG Bad Segeberg 55.90 315 *eP* **P 23 24 31.0 +0.7**
BSEG pmax pmax
comp=Z,20nm,1.5s
KHC Kasperske Hory 56.17 308 *i P* **P 23 24 32.9 +0.4**
KHC *e* 23 24 38.1
KHC Kasperske Hory 56.17 308 ⇑*iP* **P 23 24 32.9 +0.4**
KHC *epP* **pP 23 24 38.1 +0.3**
KHC Kasperske Hory 56.17 308 *eP* **P 23 24 31.2 -1.2**
comp=Z,5.8nm,1.0s
GROS Grobnik 56.22 305 *i P* **P 23 24 32.6 -0.3**
GEC2 GERESS Array S 56.23 308 *eP* **P 23 24 33.1 +0.1**
comp=Z,4.0nm,0.9s
GEC2 GERESS Array S 56.23 308 *eP* **P 23 24 33.1 +0.1**
GEC2 pmax pmax
comp=Z,4.0nm,0.9s
GEC2 GERESS Array S 56.23 308 *eP* **P 23 24 31.8 -1.1**
GERES GERESS Array B 56.23 308 P **P 23 24 33.0 +0.1**
comp=Z,1.8nm,0.7s,baz=60,slow=7.9,SNR=18
TANN Tannenbergstha 56.25 310 *eP* **P 23 24 33.2 +0.2**
comp=Z,6.0nm,1.2s
MOA Molln 56.34 307 ⇑*iP* **P 23 24 34.1 +0.4**
comp=Z,7.7nm,1.0s
PERS Pernice 56.38 305 *i P* **P 23 24 33.7 -0.2**
SOKA Soboth 56.41 305 *i P* **P 23 24 34.2 0.0**
comp=Z,10nm,1.2s,SNR=6.7
WET Wettzell 56.58 309 *eP* **P 23 24 35.5 +0.2**
comp=Z,7.0nm,1.0s
WET Wettzell 56.58 309 *eP* **P 23 24 35.5 +0.2**
WET pmax pmax
comp=Z,7.0nm,1.0s
MOX Moxa 56.63 311 *eP* **P 23 24 35.7 0.0**
comp=Z,5.0nm,1.0s
MOX Moxa 56.63 311 *eP* **P 23 24 35.7 0.0**
MOX pmax pmax
comp=Z,5.0nm,1.0s
NRDL Niedersach Rie 56.64 313 *eP* **P 23 24 36.4 +0.8**
comp=Z,24nm,1.5s
ROTZ Rotzenmuhle 56.69 309 *eP* **P 23 24 36.7 +0.6**
comp=Z,9.0nm,1.2s
OBKA Obir 56.78 305 ⇓*iP* **P 23 24 37.3 +0.4**
comp=Z,5.9nm,0.8s
BOJS Bojanci 56.81 304 *i P* **P 23 24 37.1 +0.1**
GRB3 Grafenberg Arr 57.11 309 *eP* **P 23 24 39.9 +0.8**
comp=Z,12nm,1.1s
GRB4 Grafenberg Arr 57.20 309 *eP* **P 23 24 40.3 +0.6**
comp=Z,16nm,1.1s
GRA3 Grafenberg Arr 57.20 310 *eP* **P 23 24 40.4 +0.7**
comp=Z,17nm,1.2s
GRA2 Grafenberg Arr 57.23 310 *eP* **P 23 24 40.6 +0.7**
comp=Z,8.0nm,0.8s
KBA Koelnbreinsper 57.25 306 ⇓*iP* **P 23 24 40.0 -0.3**
comp=Z,5.2nm,0.9s
GRB5 Grafenberg Arr 57.29 309 *eP* **P 23 24 41.0 +0.6**
comp=Z,7.0nm,0.8s
ABTA Abfaltersbach 57.91 306 ⇑*iP* **P 23 24 44.1 -0.7**
comp=Z,4.4nm,0.6s
WTTA Wattenberg 58.19 307 ⇑*iP* **P 23 24 47.2 +0.3**
comp=Z,16nm,0.9s,SNR=6.8
MOTA Moosalm 58.47 307 ⇑*iP* **P 23 24 48.7 -0.1**
comp=Z,10nm,0.9s,SNR=10.0
RETA Reutte 58.60 308 ⇑*iP* **P 23 24 49.9 +0.2**
comp=Z,2.8nm,0.5s
FETA Feichten 58.85 307 ⇑*iP* **P 23 24 51.4 -0.1**
comp=Z,10nm,1.1s
FUORN Ofenpass-Fuorn 59.32 307 *eP* **P 23 24 53.9 -1.0**
comp=Z,11nm,0.8s
TUE Stuetta 59.95 307 *eP* **P 23 24 57.9 -1.3**
comp=Z,6.8nm,0.8s
COLD Coldfoot 60.16 24 *eP* **P 23 24 59.8 -0.2**
comp=Z,13nm,0.8s
CDF Champ du Feu 60.18 310 ⇑*iP* **P 23 25 00.2 -0.4**
comp=Z,6.3nm,0.6s
CDF Champ du Feu 60.18 310 *eP* **P 23 25 00.2 -0.4**
CDF Champ du Feu 60.18 310 *eP* **P 23 25 00.2 -0.4**
GIVF Givet 60.70 312 *eP* **P 23 25 04.1 +0.1**
GIVF Givet 60.70 312 *eP* **P 23 25 04.1 +0.1**

GIVF Givet 60.70 312 *eP* **P 23 25 04.1 +0.1**
HINF Hinteralfeld 60.73 309 *eP* **P 23 25 03.8 -0.5**
comp=Z,5.6nm,0.8s
HINF Hinteralfeld 60.73 309 *eP* **P 23 25 03.8 -0.5**
HINF Hinteralfeld 60.73 309 *eP* **P 23 25 03.8 -0.5**
HAU Haudompre 60.92 310 ⇑*iP* **P 23 25 05.3 -0.3**
comp=Z,8.0nm,0.7s
HAU Haudompre 60.92 310 *eP* **P 23 25 05.3 -0.3**
HAU Haudompre 60.92 310 *eP* **P 23 25 05.3 -0.3**
PAGF Fort de Pagny 60.99 311 ⇑*iP* **P 23 25 06.4 +0.4**
comp=Z,5.4nm,0.8s
BAIF Baives 61.06 313 *eP* **P 23 25 06.7 +0.3**
comp=Z,20nm,1.1s
BAIF Baives 61.06 313 *eP* **P 23 25 06.7 +0.3**
BAIF Baives 61.06 313 *eP* **P 23 25 06.7 +0.3**
SFTF Sexfontaines 61.57 311 ⇑*iP* **P 23 25 09.6 -0.3**
comp=Z,15nm,0.9s
SFTF Sexfontaines 61.57 311 *eP* **P 23 25 09.6 -0.3**
CABF La Chapelle 61.80 309 *eP* **P 23 25 10.5 -1.1**
comp=Z,7.7nm,0.8s
CABF La Chapelle 61.80 309 *eP* **P 23 25 10.5 -1.1**
CABF La Chapelle 61.80 309 *eP* **P 23 25 10.5 -1.1**
LPG La Plagne 62.00 307 ⇑*iP* **P 23 25 13.6 +0.4**
comp=Z,16nm,0.8s
LPG La Plagne 62.00 307 *eP* **P 23 25 13.6 +0.4**
LPG La Plagne 62.00 307 *eP* **P 23 25 13.6 +0.4**
LPL La Plagne 62.00 307 ⇑*iP* **P 23 25 13.4 +0.3**
comp=Z,7.7nm,0.5s
LPL La Plagne 62.00 307 *eP* **P 23 25 13.4 +0.3**
LPL La Plagne 62.00 307 *eP* **P 23 25 13.4 +0.3**
PGF Pioggiola 62.19 303 ⇑*iP* **P 23 25 14.4 +0.1**
comp=Z,16nm,0.8s
PGF Pioggiola 62.19 303 *eP* **P 23 25 14.4 +0.1**
PGF Pioggiola 62.19 303 *eP* **P 23 25 14.4 +0.1**
MBDF Montbardon 62.40 306 *eP* **P 23 25 15.5 -0.2**
comp=Z,24nm,0.9s
MBDF Montbardon 62.40 306 *eP* **P 23 25 15.5 -0.2**
MBDF Montbardon 62.40 306 *eP* **P 23 25 15.5 -0.2**
SBF Sospel 62.46 305 ⇑*iP* **P 23 25 15.7 -0.3**
comp=Z,26nm,0.7s
SBF Sospel 62.46 305 *eP* **P 23 25 15.7 -0.3**
SBF Sospel 62.46 305 *eP* **P 23 25 15.7 -0.3**
LOR Lormes 62.74 310 ⇑*iP* **P 23 25 16.8 -1.0**
comp=Z,14nm,1.0s
LOR Lormes 62.74 310 *eP* **P 23 25 16.8 -1.0**
ILAR Eielson Array 62.77 26 P **P 23 25 17.6 -0.1**
comp=Z,0.5nm,0.7s,baz=299,slow=5.9,SNR=4.1
ILAR pP **pP 23 25 24.4 +1.3**
comp=Z,2.5nm,0.8s,baz=294,slow=5.6,SNR=15
ILB Eielson Array 62.77 26 *eP* **P 23 25 17.6 -0.1**
ILB *epP* **pP 23 25 24.4 +1.3**
ORIF Oris-en-Rattie 62.83 307 ⇑*iP* **P 23 25 18.4 -0.1**
comp=Z,15nm,0.7s
ORIF Oris-en-Rattie 62.83 307 *eP* **P 23 25 18.4 -0.1**
ORIF Oris-en-Rattie 62.83 307 *eP* **P 23 25 18.4 -0.1**
SSF Saint Saulge 63.06 310 *eP* **P 23 25 19.3 -0.6**
SSF Saint Saulge 63.06 310 *eP* **P 23 25 19.3 -0.6**
SSF Saint Saulge 63.06 310 *eP* **P 23 25 19.3 -0.6**
SMF Signal de Mont 63.09 310 *eP* **P 23 25 19.6 -0.5**
comp=Z,13nm,0.9s
SMF Signal de Mont 63.09 310 *eP* **P 23 25 19.6 -0.5**
SMF Signal de Mont 63.09 310 *eP* **P 23 25 19.6 -0.5**
FRF La Foret Royal 63.10 305 *eP* **P 23 25 19.7 -0.5**
FRF La Foret Royal 63.10 305 *eP* **P 23 25 19.7 -0.5**
FRF La Foret Royal 63.10 305 *eP* **P 23 25 19.7 -0.5**
AVF Avril sur Loir 63.29 310 *eP* **P 23 25 20.8 -0.6**
comp=Z,4.7nm,0.7s
AVF Avril sur Loir 63.29 310 *eP* **P 23 25 20.8 -0.6**
AVF Avril sur Loir 63.29 310 *eP* **P 23 25 20.8 -0.6**
LMR La Mourre 63.31 305 *eP* **P 23 25 21.1 -0.5**
LMR La Mourre 63.31 305 *eP* **P 23 25 21.1 -0.5**
LMR La Mourre 63.31 305 *eP* **P 23 25 21.1 -0.5**
HYF Humbligny 63.44 311 *eP* **P 23 25 22.2 -0.2**
HYF Humbligny 63.44 311 *eP* **P 23 25 22.2 -0.2**
SMRF Simiane la Rot 63.53 306 *eP* **P 23 25 23.0 -0.1**
SMRF Simiane la Rot 63.53 306 *eP* **P 23 25 23.0 -0.1**
VIVF Saint-Julien-l 63.58 307 *eP* **P 23 25 23.1 -0.4**
VIVF Saint-Julien-l 63.58 307 *eP* **P 23 25 23.1 -0.4**
VIVF Saint-Julien-l 63.58 307 *eP* **P 23 25 23.1 -0.4**
TCF Toulx Ste Croi 64.23 310 ⇑*iP* **P 23 25 27.4 -0.3**
comp=Z,11nm,0.7s
TCF Toulx Ste Croi 64.23 310 *eP* **P 23 25 27.4 -0.3**
TCF Toulx Ste Croi 64.23 310 *eP* **P 23 25 27.4 -0.3**
LDF La Druitiere 64.24 313 *eP* **P 23 25 27.1 -0.5**
LDF La Druitiere 64.24 313 *eP* **P 23 25 27.1 -0.5**
LDF La Druitiere 64.24 313 *eP* **P 23 25 27.1 -0.5**
FLN La Foliniere 64.34 313 *eP* **P 23 25 28.0 -0.3**
FLN La Foliniere 64.34 313 *eP* **P 23 25 28.0 -0.3**
FLN La Foliniere 64.34 313 *eP* **P 23 25 28.0 -0.3**
LASF Ste Croix 64.50 307 ⇑*iP* **P 23 25 29.6 +0.1**
LASF Ste Croix 64.50 307 *eP* **P 23 25 29.6 +0.1**
GRR Gorron 64.76 313 ⇑*iP* **P 23 25 30.6 -0.4**
comp=Z,25nm,0.8s
GRR Gorron 64.76 313 *eP* **P 23 25 30.6 -0.4**
GRR Gorron 64.76 313 *eP* **P 23 25 30.6 -0.4**
CAF Calviac 65.08 309 *eP* **P 23 25 33.7 +0.4**
comp=Z,14nm,0.9s
CAF Calviac 65.08 309 *eP* **P 23 25 33.7 +0.4**
CAF Calviac 65.08 309 *eP* **P 23 25 33.7 +0.4**
FITZ Fitzroy Crossi 65.17 150 P **P 23 25 33.0 -1.0**
comp=Z,2.4nm,0.5s,baz=357,slow=5.9,SNR=10
RJF Les Rejaudoux 65.18 309 *eP* **P 23 25 33.9 0.0**
comp=Z,9.0nm,0.8s
RJF Les Rejaudoux 65.18 309 *eP* **P 23 25 33.9 0.0**
RJF Les Rejaudoux 65.18 309 *eP* **P 23 25 33.9 0.0**
MFF Saint Martin d 65.39 311 ⇑*iP* **P 23 25 35.0 -0.2**
comp=Z,29nm,0.9s
MFF Saint Martin d 65.39 311 *eP* **P 23 25 35.0 -0.2**
MFF Saint Martin d 65.39 311 *eP* **P 23 25 35.0 -0.2**
SGMF Saint Gilles 65.76 314 *eP* **P 23 25 37.6 +0.1**
SGMF Saint Gilles 65.76 314 *eP* **P 23 25 37.6 +0.1**
SGMF Saint Gilles 65.76 314 *eP* **P 23 25 37.6 +0.1**
LFF La Frestale 65.84 309 *eP* **P 23 25 38.5 +0.4**
LFF La Frestale 65.84 309 *eP* **P 23 25 38.5 +0.4**
LFF La Frestale 65.84 309 *eP* **P 23 25 38.5 +0.4**
MTLF Montolieu 65.90 307 *eP* **P 23 25 38.4 -0.1**
MTLF Montolieu 65.90 307 *eP* **P 23 25 38.4 -0.1**
MTLF Montolieu 65.90 307 *eP* **P 23 25 38.4 -0.1**
ROSF Rostrenen 66.10 314 *eP* **P 23 25 40.1 +0.4**
ROSF Rostrenen 66.10 314 *eP* **P 23 25 40.1 +0.4**
ROSF Rostrenen 66.10 314 *eP* **P 23 25 40.1 +0.4**
QUIF Quistinic 66.29 314 *eP* **P 23 25 40.9 0.0**
QUIF Quistinic 66.29 314 *eP* **P 23 25 40.9 0.0**
QUIF Quistinic 66.29 314 *eP* **P 23 25 40.9 0.0**
EPF Esparros 67.19 308 ⇑*iP* **P 23 25 46.1 -0.8**
comp=Z,11nm,0.7s
EPF Esparros 67.19 308 *eP* **P 23 25 46.1 -0.8**
EPF Esparros 67.19 308 *eP* **P 23 25 46.1 -0.8**
ETSF Etsaut 67.80 308 *eP* **P 23 25 51.0 +0.2**
ETSF Etsaut 67.80 308 *eP* **P 23 25 51.0 +0.2**
ETSF Etsaut 67.80 308 *eP* **P 23 25 51.0 +0.2**
SJPF Ste Jean 68.06 309 *eP* **P 23 25 53.0 +0.7**
SJPF Ste Jean 68.06 309 *eP* **P 23 25 53.0 +0.7**
SJPF Ste Jean 68.06 309 *eP* **P 23 25 53.0 +0.7**
KMBO Kilima Mbogo 68.61 248 P **P 23 25 57.5 +1.1**
comp=Z,0.6nm,0.2s,baz=41,slow=20,SNR=2.5
WRA Warramunga Arr 70.44 143 *eP* **P 23 26 05.5 -1.7**
WRA *ePcP* **pP 23 26 13.2 +0.6**
WRA Warramunga Arr 70.44 143 P **P 23 26 05.5 -1.7**
comp=Z,3.8nm,0.8s,baz=340,slow=6.0,SNR=17
WRA pP **pP 23 26 13.2 +0.6**
comp=Z,4.8nm,0.8s,baz=340,slow=6.1,SNR=14
ES19 SONSECA Array 71.75 307 *eP* **P 23 26 12.5 -2.6**
ESDC Sonseca Array 71.81 307 *eP* **P 23 26 15.3 -0.2**
ESDC *ePcP* **pP 23 26 22.9 +2.0**
ESDC Sonseca Array 71.81 307 P **P 23 26 15.3 -0.2**
comp=Z,3.0nm,0.7s,baz=50,slow=5.8,SNR=22
ESDC pP **pP 23 26 22.9 +2.0**
comp=Z,1.6nm,0.6s,baz=48,slow=5.8,SNR=7.2
AS12 Alice Springs 73.51 145 *eP* **P 23 26 24.2 -1.3**
AS12 *ePcP* **pP 23 26 31.9 +0.9**
ASAR Alice Springs 73.51 145 P **P 23 26 24.2 -1.3**
comp=Z,2.0nm,0.6s,baz=334,slow=6.7,SNR=21
ASAR pP **pP 23 26 31.9 +0.9**
comp=Z,3.1nm,0.8s,baz=333,slow=6.2,SNR=14
AS01 Alice Springs 73.53 145 *eP* **P 23 26 23.7 -1.9**
STKA Stephens Creek 83.99 143 *eP* **P 23 27 20.5 -2.5**
STKA Stephens Creek 83.99 143 P **P 23 27 20.5 -2.5**
comp=Z,1.2nm,0.8s,baz=5.2,slow=11,SNR=3.0
TOA0 Torodi Ar. Sit 85.24 283 *eP* **P 23 27 27.8 -2.0**
TORD Torodi Ar. Bea 85.24 283 P **P 23 27 28.8 -0.9**
comp=Z,1.3nm,0.8s,baz=43,slow=5.5,SNR=10
PD31 Pinedale Array 92.56 19 *epP* pP 23 28 10.9 +0.9

PDAR Pinedale Array 92.56 19 pP pP 23 28 10.9 +0.9
comp=Z,0.7nm,0.8s,baz=357,slow=5.4,SNR=4.6

IDC 17 23:15:37.1±2.7, 55.86S×27.21W, h0km, mb3.7/2, mb1 3.8/2, mb1mx3.6/16, mbtmp3.7/2, Error ellipse: s-maj=97.0km s-min=45.4km az=9.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**50.26**	**305**	P	P	23 24 35.7	-0.2
	0.5nm,0.4s,baz=126,slow=5.1,SNR=4.7						
TORD	**Torodi Ar. Bea**	**72.90**	**30**	P	P	23 27 07.9	0.0
	0.3nm,0.6s,baz=203,slow=6.3,SNR=5.8						
SONM	**Songino Array**	**150.72**	**86**	PKPbc	PKPbc	23 35 30.1	-0.3
	0.6nm,0.6s,baz=223,slow=2.9,SNR=3.8						

*ISCJB **17** 23:21:37.3±0.2, 29.15S±0.04×112.21W±0.05, h10km, mb5.5/176, MS6.0/206, Error ellipse: s-maj=6.6km s-min=5.2km az=176.8*
*IDC **17** 23:21:38.1±0.4, 28.98S×112.56W, h0km, mb4.6/14, mb1 4.8/14, mb1mx4.7/18, mbtmp4.6/14, MS6.0/22, Ms1 6.0/22, ms1mx6.0/23, Error ellipse: s-maj=19.8km s-min=16.5km az=164.0*
*NEIC **17** 23:21:38.5±0.2, 29.14S×112.27W, h10km, mb5.7/166, MS6.0/165, MW6.1, MW6.2, MW6.2(USGS), Error ellipse: s-maj=5.7km s-min=4.6km az=93.0, Moment Tensor Solution. s93 Moment tensor: Scale 10^{18}Nm; M_{rr}0.02; $M_{\theta\theta}$-1.45; $M_{\phi\phi}$ 1.44; $M_{r\theta}$0.05; $M_{\theta\phi}$-1.02; $M_{\phi r}$-0.15; Best double couple: M_o1.80000×10^{18} NP1:ϕ_s117.00000°, δ87.00000°, λ176.00000°. NP2:ϕ_s208.00000°, δ86.00000°, λ4.00000°. Principal axes: T 1.7800, Plg5.0000°, Azm72.0000°; N 0.0000, Plg84.0000°, Azm254.0000°; P -1.7700, Plg0.0000°, Azm162.0000°;*
*MOS **17** 23:21:39.5±1.3, 28.87S×112.28W, h17km, mb5.8/41, MS6.0/33 Error ellipse: s-maj=14.3km s-min=6.9km az=82.6*
*BJI **17** 23:21:43.6, 29.10S×112.30W, h20km, mB5.9/27, Ms6.2/35, Ms7 6.2/36*
*GCMT **17** 23:21:46.0±0.1, 29.24S×112.44W, h13km, MW6.2, Moment Tensor Solution. s111, c256; s99, c190; Moment tensor: Scale 10^{18}Nm; M_{rr}0.15±.01; $M_{\theta\theta}$-1.98±.01; $M_{\phi\phi}$ 1.83±.02; $M_{r\theta}$-0.23±.03; $M_{\theta\phi}$-1.60±.01; $M_{\phi r}$-0.12±.03; Best double couple: M_o2.50000×10^{18} NP1:ϕ_s25.00000°, δ87.00000°, λ-4.00000°. NP2: ϕ_s115.00000°, δ86.00000°, λ-177.00000°. Principal axes: T 2.4100, Plg1.0000°, Azm70.0000°; N 0.1800, Plg85.0000°, Azm170.0000°; P -2.5900, Plg5.0000°, Azm340.0000°; Data Used: II IU CN IC G. Mantle waves from 103 sta. Surface waves: sta=117, comp=264, per=50.*
*NEIC **17** 23:21:58.5±0.0, 29.36S×112.36W, h10km, Moment Tensor Solution. s144 Moment tensor: Scale 10^{18}Nm; M_{rr}0.22; $M_{\theta\theta}$-2.09; $M_{\phi\phi}$ 1.87; $M_{r\theta}$0.05; $M_{\theta\phi}$-1.41; $M_{\phi r}$1.40; Best double couple: M_o2.80000×10^{18} NP1:ϕ_s294.00000°, δ64.00000°, λ168.00000°. NP2:ϕ_s29.00000°, δ80.00000°, λ27.00000°. Principal axes: T 2.9600, Plg26.0000°, Azm254.0000°; N -0.3300, Plg61.0000°, Azm48.0000°; P -2.6300, Plg10.0000°, Azm159.0000°;*

ISC 17 23:21:39.0±0.2, 29.17S±0.06×112.31W±0.06, h10km, n1271, σ1930/1154, mb5.7/177, MS6.0/207, 255C-229D, Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAYG	**Puerto Ayora**	**35.28**	**40**	PFAKE		23 28 50.0	+16
PAYG				LR	LR		
	comp=Z,37μm,20.0s						
PLCA	**Paso Flores**	**35.81**	**120**	*eP*	**P**	**23 28 39.1**	**+0.4**
	comp=Z,222nm,2.1s						
PLCA	**Paso Flores**	**35.81**	**120**	P	P	23 28 43.6	+4.9
	comp=Z,5.2nm,0.9s,baz=265,slow=6.7,SNR=6.2						
PLCA				LR	LR	23 39 38.0	
	comp=Z,11μm,18.9s,baz=277,slow=30						
PPT	**Papeete**	**35.96**	**280**	*eP*	**P**	**23 28 38.6**	**-1.5**
PPT				*e*ScS	ScS	23 38 56.2	-2.6
PPT	**Papeete**	**35.96**	**280**	LR	LR	23 38 56.2	
	comp=Z,21μm,20.9s,baz=111,slow=29						
LMEL	**Las Melosas**	**36.02**	**108**	⇑P	**P**	**23 28 42.8**	**+2.2**
LCO	**Las Campanas**	**36.23**	**100**	*eP*	**P**	**23 28 42.3**	**-0.3**
	comp=Z,158nm,1.3s						
LCO				LR	LR		
	comp=Z,28μm,21.0s						
NNA	**Nana**	**37.16**	**70**	PFAKE		23 29 00.0	+10
NNA				LR	LR		
	comp=Z,67μm,22.0s						
LVC	**Limon Verde**	**39.42**	**91**	*eP*	**P**	**23 29 09.9**	**+0.3**
	comp=Z,294nm,1.6s						
LVC				LR	LR		
	comp=Z,47μm,21.0s						
USHA	**Ushuaia**	**40.51**	**142**	LR	LR	23 42 16.7	
	comp=Z,54μm,19.0s,baz=266,slow=30						
TRQA	**Tornquist**	**42.41**	**116**	*eP*	**P**	**23 29 33.7**	**-0.1**
	comp=Z,60nm,1.5s						
TRQA				LR	LR		
	comp=Z,9μm,22.0s						
LPAZ	**La Paz**	**42.48**	**82**	*eP*	**P**	**23 29 35.0**	**-0.3**
	comp=Z,218nm,1.8s						
LPAZ	**La Paz**	**42.48**	**82**	P	**P**	**23 29 37.9**	**+2.6**
	comp=Z,8.8nm,0.9s,baz=238,slow=6.3,SNR=26						
LPAZ				LR	LR	23 43 15.7	
	comp=Z,24μm,19.9s,baz=252,slow=30						
RAR	**Rarotonga**	**43.43**	**269**	PFAKE		23 29 50.0	+7.8
RAR				LR	LR		
	comp=Z,21μm,19.0s						
RAR	**Rarotonga**	**43.43**	**269**	LR	LR	23 42 32.2	
	comp=Z,16μm,19.6s,baz=90,slow=29						
OTAV	**Otavalo**	**43.60**	**54**	*eP*	**P**	**23 29 44.7**	**+0.5**
	comp=Z,283nm,1.9s						
OTAV				LR	LR		
	comp=Z,14μm,19.0s						
EFI	**East Falkland**	**45.76**	**135**	PFAKE		23 30 10.0	+10
EFI				LR	LR		
	comp=Z,13μm,19.0s						
PMSA	**Palmer Station**	**46.55**	**154**	*eP*	**P**	**23 30 06.7**	**+0.2**
	comp=Z,65nm,1.1s						
PMSA				LR	LR		
	comp=Z,24μm,21.0s						
PMSA	**Palmer Station**	**46.55**	**154**	LR	LR	23 44 44.4	
	comp=Z,21μm,19.8s,baz=299,slow=30						
JTS	**JuntasAbangare**	**47.29**	**38**	*eP*	**P**	**23 30 12.6**	**-0.2**
	comp=Z,177nm,1.3s						
JTS				LR	LR		
	comp=Z,27μm,20.0s						
CPUP	**Villa Florida**	**48.37**	**100**	*eP*	**P**	**23 30 21.2**	**0.0**
CPUP	**Villa Florida**	**48.37**	**100**	P	**P**	**23 30 22.4**	**+1.2**
	comp=Z,1.9nm,0.7s,baz=230,slow=8.8,SNR=6.6						
CPUP				LR	LR	23 47 11.0	
	comp=Z,17μm,20.1s,baz=241,slow=32						
TGUH	**Tegucigalpa,Un**	**49.32**	**33**	*eP*	**P**	**23 30 27.4**	**-1.0**
TGUH				LR	LR		
	comp=Z,8μm,22.0s						
BCIP	**Isla Barro Col**	**49.33**	**44**	*eP*	**P**	**23 30 27.9**	**-0.7**
	comp=Z,368nm,2.3s						
BCIP				LR	LR		
	comp=Z,25μm,20.0s						
ROSC	**El Rosal**	**49.75**	**53**	*eP*	**P**	**23 30 30.8**	**-1.5**
ROSC	**El Rosal**	**49.75**	**53**	P	**P**	**23 30 35.2**	**+2.8**
	comp=Z,76nm,1.3s,baz=93,slow=20,SNR=37						
ROSC				LR	LR	23 47 47.5	
	comp=Z,19μm,20.4s,baz=200,slow=32						
SAML	**Samuel**	**50.19**	**77**	*eP*	**P**	**23 30 34.3**	**-0.9**
	comp=Z,141nm,1.6s						
SAML				LR	LR		
	comp=Z,106μm,20.0s						
XMAS	**Kiritimati**	**53.17**	**298**	PFAKE		23 31 10.0	+12
XMAS				LR	LR		
	comp=Z,8μm,19.0s						
TEIG	**Tepich**	**54.31**	**28**	*eP*	**P**	**23 31 03.8**	**-1.9**
	comp=Z,130nm,1.5s						
TEIG				*e*PcP	PcP	**23 32 09.0**	**-0.7**
TEIG				LR	LR		
	comp=Z,4μm,20.0s						
SDV	**Santo Domingo**	**55.18**	**53**	*eP*	**P**	**23 31 10.9**	**-1.4**
	comp=Z,66nm,1.1s						
RAO	**Raoul Island**	**56.53**	**253**	PFAKE		23 31 30.0	+8.3
RAO				LR	LR		
	comp=Z,20μm,22.0s						
RAO	**Raoul Island**	**56.53**	**253**	LR	LR	23 49 26.3	
	comp=Z,19μm,21.2s,baz=91,slow=30						
AFI	**Afiamalu**	**56.82**	**272**	PFAKE		23 31 40.0	+16
AFI				LR	LR		
	comp=Z,12μm,19.0s						
AFI	**Afiamalu**	**56.82**	**272**	LR	LR	23 50 16.3	
	comp=Z,11μm,19.2s,baz=114,slow=30						
KVTX	**Kingsville**	**58.07**	**15**	*eP*	**P**	**23 31 31.8**	**-0.5**
	comp=Z,114nm,1.0s						
KVTX				LR	LR		
	comp=Z,8μm,22.0s						
URZ	**Urewera**	**58.13**	**241**	*eP*	**P**	**23 31 32.2**	**-0.6**
	comp=Z,136nm,1.8s						
URZ	**Urewera**	**58.13**	**241**	LR	LR	23 50 38.7	
	comp=Z,38μm,20.7s,baz=98,slow=30						
BKZ	**Black Stump Fm**	**58.38**	**240**	*eP*	**P**	**23 31 34.4**	**-0.3**
	comp=Z,90nm,1.4s						
LTX	**Lajitas**	**58.76**	**9**	*eP*	**P**	**23 31 37.8**	**+0.5**
LTX	**Lajitas**	**58.76**	**9**	*eP*	**P**	**23 31 37.8**	**+0.5**
TXAR	**Lajitas Array**	**58.76**	**9**	P	**P**	**23 31 37.8**	**+0.5**
	comp=Z,6.6nm,0.9s,baz=188,slow=8.3,SNR=33						
TXAR				LR	LR	23 52 19.6	
	comp=Z,3μm,18.5s,baz=355,slow=31						
TX31	**Lajitas Ar. Si**	**58.76**	**9**	*eP*	**P**	**23 31 36.8**	**-0.5**
732A	**Laxson Ranch,**	**58.77**	**13**	⇓P	**P**	**23 31 37.4**	**+0.2**
	baz=59						
627A	**Terlingua Ranc**	**58.92**	**9**	⇓P	**P**	**23 31 39.7**	**+1.2**
	baz=59,SNR=42						
626A	**Big Bend Ranch**	**58.92**	**8**	⇓P	**P**	**23 31 39.6**	**+1.2**
	baz=59,SNR=41						
628A	**Black Gap, Mar**	**59.02**	**10**	⇓P	**P**	**23 31 39.8**	**+0.7**
	baz=59,SNR=18						
628A				⇑S	**S**	**23 39 50.5**	**+4.7**
	baz=59						
SNZO	**South Karori**	**59.22**	**237**	PFAKE		23 31 50.0	+10
SNZO				LR	LR		
	comp=Z,22μm,22.0s						
631A	**Perdido Creek**	**59.33**	**12**	⇑P	**P**	**23 31 41.5**	**+0.4**
	baz=60,SNR=18						
526A	**Mary Lane Ranc**	**59.42**	**8**	⇓P	**P**	**23 31 42.7**	**+0.7**
	baz=60,SNR=12						
632A	**Uvalde**	**59.57**	**13**	⇓P	**P**	**23 31 43.3**	**+0.5**
	baz=60,SNR=39						
527A	**Woodward Ranch**	**59.57**	**9**	⇓P	**P**	**23 31 43.7**	**+0.7**
	baz=60,SNR=44						
LMGC	**Las Mercedes**	**59.64**	**39**	*eP*	**P**	**23 31 45.0**	**+1.6**
LMGC				*e*S	**S**	**23 39 56.2**	**+2.3**
	comp=N,5μm,36.8s						
LMGC				*e*			
	comp=E,6μm,27.6s						
528A	**Cox Ranch, San**	**59.70**	**10**	⇑P	**P**	**23 31 44.5**	**+0.7**
	baz=60,SNR=16						
529A	**Stev Forest Ra**	**59.75**	**10**	⇑P	**P**	**23 31 44.8**	**+0.7**
	baz=60,SNR=38						
MGV	**Manicaragua**	**59.75**	**35**	*eP*	P	23 31 40.6	-3.6
SBA	**Scott Base**	**59.79**	**194**	*eP*	**P**	**23 31 45.4**	**+1.6**
SBA				pmax	pmax		
	comp=Z,492nm,2.3s						
SBA				MLR	MLR		
	comp=Z,8μm,20.0s						
SBA	**Scott Base**	**59.79**	**194**	*eP*	**P**	**23 31 45.4**	**+1.6**
	comp=Z,492nm,2.3s						
SBA				LR	LR		
	comp=Z,8μm,20.0s						
530A	**J-C Ranch, Com**	**59.91**	**11**	⇑P	**P**	**23 31 46.2**	**+1.0**
	baz=60,SNR=47						
426A	**McDonald Obser**	**60.03**	**8**	⇑P	**P**	**23 31 46.6**	**+0.4**
	baz=60,SNR=29						
425A	**Indio Mountain**	**60.03**	**7**	⇑P	**P**	**23 31 46.5**	**+0.4**
	baz=60,SNR=11						
531A	**Rocksprings**	**60.07**	**12**	⇑P	**P**	**23 31 47.0**	**+0.7**
	baz=60,SNR=29						
CCCC	**Cccc**	**60.15**	**38**	*eP*	**P**	**23 31 48.4**	**+1.5**
532A	**Rocksprings**	**60.15**	**12**	⇓P	**P**	**23 31 47.7**	**+0.9**
	baz=60,SNR=42						
428A	**Kincaid Ranch,**	**60.27**	**10**	⇑P	**P**	**23 31 48.8**	**+1.1**
	baz=61,SNR=34						
319A	**Douglas**	**60.28**	**3**	⇑P	**P**	**23 31 49.1**	**+1.3**
	baz=61,SNR=25						
320A	**Kipp Ranch, An**	**60.28**	**4**	⇑P	**P**	**23 31 48.2**	**+0.4**
	baz=61						
429A	**Davenport Ranc**	**60.29**	**10**	⇓P	**P**	**23 31 48.4**	**+0.6**
	baz=61,SNR=33						
427A	**Hayter Ranch,**	**60.29**	**9**	⇓P	**P**	**23 31 48.4**	**+0.6**
	baz=61,SNR=46						
BDFB	**Brasilia**	**60.31**	**92**	*eP*	**P**	**23 31 49.0**	**+0.6**
BDFB	**Brasilia**	**60.31**	**92**	P	**P**	**23 31 49.7**	**+1.3**
	comp=Z,5.0nm,0.8s,baz=247,slow=9.6,SNR=10						
BDFB				LR	LR	23 55 50.3	
	comp=Z,12μm,19.9s,baz=246,slow=34						
JCT	**Junction City**	**60.51**	**12**	*eP*	**P**	**23 31 48.9**	**-0.4**
JCT				pmax	pmax		
	comp=Z,119nm,1.0s						
JCT				MLR	MLR		
	comp=Z,7μm,19.0s						
JCT	**Junction City**	**60.51**	**12**	*eP*	**P**	**23 31 48.9**	**-0.4**
	comp=Z,119nm,1.0s						
JCT				LR	LR		
	comp=Z,7μm,19.0s						
JCT	**Junction City**	**60.51**	**12**	⇓P	**P**	**23 31 49.9**	**+0.6**
	baz=61,SNR=35						
430A	**Baggett Ranch,**	**60.55**	**11**	⇑P	**P**	**23 31 50.0**	**+0.4**
	baz=61,SNR=12						
431A	**Sonora**	**60.56**	**12**	⇑P	**P**	**23 31 50.0**	**+0.4**
	baz=61,SNR=67						
GTBY	**Guantanamo Bay**	**60.59**	**41**	PFAKE		23 32 00.0	+10
GTBY				LR	LR		
	comp=Z,7μm,21.0s						
325A	**Bean Ranch, Si**	**60.62**	**7**	⇑P	**P**	**23 31 50.0**	**-0.1**
	baz=61,SNR=32						
324A	**Moseley Ranch,**	**60.63**	**7**	⇑P	**P**	**23 31 50.0**	**-0.2**
	baz=61,SNR=38						
326A	**Caldwell Ranch**	**60.68**	**8**	⇑P	**P**	**23 31 50.4**	**0.0**
	baz=61,SNR=17						
327A	**Balmorhea Ranc**	**60.79**	**9**	⇑P	**P**	**23 31 50.7**	**-0.5**
	baz=61						
214A	**Organ Pipe Nat**	**60.80**	**360**	⇑P	**P**	**23 31 52.2**	**+1.0**
	baz=61,SNR=25						
VNDA	**Vanda**	**60.84**	**194**	P	**P**	**23 31 53.7**	**+2.7**
	comp=Z,3.0nm,1.0s,baz=94,slow=6.4,SNR=8.2						
VNDA				LR	LR	23 53 29.1	
	comp=Z,12μm,18.7s,baz=89,slow=31						
220A	**Playas Peak, P**	**60.85**	**4**	⇑P	**P**	**23 31 52.5**	**+0.8**
	baz=61,SNR=21						
HKT	**Hockley**	**60.86**	**16**	*eP*	**P**	**23 31 52.2**	**+0.7**
HKT				pmax	pmax		
	comp=Z,258nm,1.9s						
HKT	**Hockley**	**60.86**	**16**	*eP*	**P**	**23 31 52.2**	**+0.7**
	comp=Z,258nm,1.9s						
MNTX	**Cornudas Mount**	**60.90**	**7**	*eP*	**P**	**23 31 51.6**	**-0.2**
	comp=Z,33nm,1.2s						
MNTX				LR	LR		
	comp=Z,2μm,21.0s						
432A	**Menard**	**60.90**	**12**	⇑P	**P**	**23 31 52.2**	**+0.3**
	baz=61,SNR=7,8						
328A	**Wristen Ranch,**	**60.90**	**9**	⇓P	**P**	**23 31 52.4**	**+0.5**
	baz=61,SNR=25						
221A	**Mesquite Ranch**	**61.00**	**4**	⇑P	**P**	**23 31 52.9**	**+0.2**
	baz=61						
QSPA	**South Pole Qui**	**61.01**	**180**	PFAKE		23 32 00.0	+7.5
QSPA				LR	LR		
	comp=Z,17μm,19.0s						
223A	**Chaparral, Ant**	**61.10**	**6**	⇓P	**P**	**23 31 53.8**	**+0.4**
	baz=61						
329A	**Wagon Wheel Ra**	**61.12**	**10**	⇑P	**P**	**23 31 54.0**	**+0.5**
	baz=61,SNR=35						
222A	**Williams Famil**	**61.14**	**5**	⇓P	**P**	**23 31 54.8**	**+1.2**
	baz=61						
TUC	**Tucson**	**61.16**	**1**	*eP*	**P**	**23 31 53.6**	**-0.1**
TUC				pmax	pmax		
	comp=Z,103nm,1.7s						
TUC				MLR	MLR		
	comp=Z,19μm,21.0s						
TUC	**Tucson**	**61.16**	**1**	*eP*	**P**	**23 31 53.6**	**-0.1**
	comp=Z,103nm,1.7s						
TUC				LR	LR		
	comp=Z,19μm,21.0s						
330A	**Mertzon**	**61.17**	**11**	⇓P	**P**	**23 31 54.3**	**+0.5**
	baz=62,SNR=33						
331A	**San Angelo**	**61.20**	**12**	⇓P	**P**	**23 31 54.0**	**0.0**
	baz=62,SNR=14						
224A	**Cornudas Mount**	**61.25**	**7**	⇓P	**P**	**23 31 55.1**	**+0.7**
	baz=62,SNR=70						
MOAC	**Moa**	**61.26**	**40**	*eP*	P	23 31 46.5	-8.0
RPZ	**Rata Peaks**	**61.28**	**234**	LR	LR	23 53 34.6	
	comp=Z,20μm,18.1s,baz=92,slow=31						
MASC	**Masc**	**61.29**	**41**	*eP*	**P**	**23 31 54.6**	**-0.1**
225A	**Deer Hill, Car**	**61.36**	**7**	⇑P	**P**	**23 31 55.2**	**0.0**
	baz=62,SNR=23						
332A	**Millersview**	**61.40**	**12**	⇓P	**P**	**23 31 55.4**	**+0.1**
	baz=62,SNR=17						
226B	**Tecolote Peak,**	**61.41**	**8**	⇑P	**P**	**23 31 55.8**	**+0.4**
	baz=62,SNR=17						
227A	**Bennet, Jal**	**61.45**	**9**	⇓P	**P**	**23 31 56.3**	**+0.6**
	baz=62						
120A	**U Bar Ranch, L**	**61.48**	**4**	⇑P	**P**	**23 31 56.8**	**+0.8**
	baz=62						
121A	**Cookes Peak, D**	**61.52**	**4**	⇑P	**P**	**23 31 56.9**	**+0.6**
	baz=62,SNR=18						
DVTC	**Desert V Tower**	**61.60**	**356**	⇑P	**P**	**23 31 57.5**	**+0.8**
	baz=62,SNR=15						
113A	**Mohawk Valley,**	**61.62**	**359**	⇓P	**P**	**23 31 57.6**	**+1.0**
	baz=62,SNR=11						
228A	**UT Block 9, Go**	**61.65**	**9**	⇓P	**P**	**23 31 57.3**	**+0.3**
	baz=62,SNR=16						
230A	**Sterling City**	**61.65**	**11**	⇑P	**P**	**23 31 57.2**	**+0.2**
	baz=62,SNR=13						
BAR	**Barrett**	**61.65**	**356**	*eP*	**P**	**23 31 56.6**	**-0.4**
	comp=Z,240nm,2.1s						
OUZ	**Omahuta**	**61.66**	**243**	*eP*	**P**	**23 31 57.2**	**0.0**
	comp=Z,81nm,1.3s						
123A	**Bell Site, Whi**	**61.74**	**6**	⇑P	**P**	**23 31 58.6**	**+1.0**
	baz=62						
122A	**Conniff Cattle**	**61.74**	**5**	⇑P	**P**	**23 31 58.8**	**+1.1**
	baz=62						
231A	**Bronte**	**61.83**	**12**	⇑P	**P**	**23 31 58.3**	**+0.1**
	baz=62						
MONP	**Monument Peak**	**61.85**	**356**	⇑P	**P**	**23 31 59.3**	**+0.8**
	baz=62,SNR=18						
SWSC	**Sam W. Stewart**	**61.86**	**357**	⇑P	**P**	**23 31 59.3**	**+0.9**
	baz=62						
124A	**Stringfield Ra**	**61.88**	**7**	⇑P	**P**	**23 31 59.3**	**+0.6**
	baz=62,SNR=39						
109C	**Camp Elliot, M**	**61.89**	**355**	⇓P	**P**	**23 31 59.2**	**+0.7**
	baz=62						
232A	**Coleman**	**61.91**	**12**	⇓P	**P**	**23 31 58.8**	**+0.1**
	baz=62,SNR=13						
125A	**Gardner Draw,**	**61.92**	**7**	⇓P	**P**	**23 31 59.1**	**+0.2**
	baz=62,SNR=61						
GLA	**Glamis**	**61.93**	**358**	*eP*	**P**	**23 31 59.5**	**+0.6**
GLA				pmax	pmax		
	comp=Z,114nm,1.4s						
GLA	**Glamis**	**61.93**	**358**	*eP*	**P**	**23 31 59.5**	**+0.6**
	comp=Z,114nm,1.4s						
GLA	**Glamis**	**61.93**	**358**	⇑P	**P**	**23 31 59.6**	**+0.7**
	baz=62						
126A	**Clayton Basin,**	**61.98**	**8**	⇑P	**P**	**23 31 59.2**	**-0.1**
	baz=62,SNR=13						
Z20A	**Nine Sixteen R**	**62.05**	**4**	⇓P	**P**	**23 32 00.2**	**+0.4**
	baz=62,SNR=18						
127A	**Arkansas Junct**	**62.10**	**9**	⇓P	**P**	**23 32 00.1**	**0.0**
	baz=62						
SCI	**San Clemente I**	**62.10**	**354**	⇓P	**P**	**23 31 59.6**	**-0.4**
	baz=62						
SDDR	**Presa de Saban**	**62.13**	**45**	*eP*	**P**	**23 31 59.6**	**-0.9**
	comp=Z,39nm,1.1s						
SDDR				LR	LR		
	comp=Z,11μm,21.0s						
128A	**Castleberry Fa**	**62.16**	**9**	⇑P	**P**	**23 32 00.8**	**+0.3**
	baz=62,SNR=32						
Z14A	**Wintersburg**	**62.20**	**359**	⇑P	**P**	**23 32 01.4**	**+0.8**
	baz=62						
129A	**Stewart Farms,**	**62.26**	**10**	⇑P	**P**	**23 32 01.7**	**+0.5**
	baz=63,SNR=13						
Z22A	**Elephant Butte**	**62.30**	**5**	⇓P	**P**	**23 32 02.3**	**+0.8**
	baz=63,SNR=18						
Z21A	**St. Cloud Mine**	**62.30**	**4**	⇓P	**P**	**23 32 02.4**	**+0.8**
	baz=63,SNR=49						
Z23A	**Rita Site, Whi**	**62.36**	**6**	⇓P	**P**	**23 32 02.5**	**+0.6**
	baz=63,SNR=12						
130A	**Snyder**	**62.37**	**11**	⇓P	**P**	**23 32 02.2**	**+0.3**
	baz=63						
WHTX	**Lake Whitney**	**62.45**	**14**	⇑P	**P**	**23 32 01.0**	**-1.2**
	baz=63						
CIS	**Catalina Islan**	**62.51**	**354**	⇓P	**P**	**23 32 03.2**	**+0.5**
	baz=63						
Z24A	**Sheeppen Canyo**	**62.51**	**7**	⇑P	**P**	**23 32 03.1**	**+0.1**
	baz=63,SNR=18						
Z25A	**Roswell**	**62.53**	**7**	⇑P	**P**	**23 32 03.3**	**+0.4**
	baz=63,SNR=23						
131A	**Roby**	**62.54**	**11**	⇑P	**P**	**23 32 03.1**	**+0.1**
	baz=63,SNR=8.9						
BC3	**Big Chuckawall**	**62.56**	**357**	⇓P	**P**	**23 32 03.4**	**+0.3**
	baz=63,SNR=78						
PFO	**Pinyon Flat Ob**	**62.56**	**356**	P	**P**	**23 32 04.0**	**+0.8**
	comp=Z,143nm,1.3s,SNR=7.3						
PFO	**Pinyon Flat Ob**	**62.56**	**356**	PFAKE		23 32 10.0	+6.8
PFO				LR	LR		
	comp=Z,17μm,20.0s						
PFO	**Pinyon Flat Ob**	**62.56**	**356**	⇓P	**P**	**23 32 04.1**	**+0.9**
	baz=63,SNR=14						
MURC	**Murrieta**	**62.60**	**355**	⇑P	**P**	**23 32 04.1**	**+0.7**
	baz=63						
Z26A	**Caprock**	**62.61**	**8**	⇑P	**P**	**23 32 03.4**	**-0.1**
	baz=63,SNR=39						
Y12C	**Blythe**	**62.62**	**358**	⇑P	**P**	**23 32 04.0**	**+0.6**
	baz=63,SNR=21						
ABTX	**Abilene, Hawle**	**62.62**	**12**	*eP*	**P**	**23 32 03.3**	**-0.2**
ABTX	**Abilene, Hawle**	**62.62**	**12**	⇑P	**P**	**23 32 03.9**	**+0.4**
	baz=63,SNR=11						
Z27A	**Tatum**	**62.74**	**9**	⇓P	**P**	**23 32 04.7**	**+0.3**
	baz=63,SNR=12						
Y14A	**Wickenburg**	**62.77**	**359**	⇓P	**P**	**23 32 05.3**	**+0.8**
	baz=63,SNR=20						
FMP	**Fort Macarthur**	**62.80**	**354**	⇑P	**P**	**23 32 04.8**	**+0.2**
	baz=63						
Z28A	**Tucker Farm, M**	**62.83**	**9**	⇑P	**P**	**23 32 04.9**	**-0.1**
	baz=63,SNR=14						
Y20A	**Horse Springs,**	**62.85**	**4**	⇓P	**P**	**23 32 06.2**	**+1.0**
	baz=63,SNR=26						
NATX	**Nacogdoches**	**62.88**	**17**	PFAKE		23 32 20.0	+15
NATX				LR	LR		
	comp=Z,3μm,19.0s						
Z29A	**Hungry Hill Ra**	**62.90**	**10**	⇓P	**P**	**23 32 05.2**	**-0.2**
	baz=63,SNR=18						
BELC	**Belle Mtn. Jos**	**62.93**	**357**	⇑P	**P**	**23 32 06.8**	**+1.1**
	baz=63,SNR=41						
Y22A	**Socorro**	**62.97**	**5**	⇓P	**P**	**23 32 06.8**	**+0.8**
	baz=63,SNR=18						
Y21A	**Point of Rocks**	**62.99**	**4**	⇓P	**P**	**23 32 06.9**	**+0.7**
	baz=63,SNR=24						
Z30A	**Sanderson Ranc**	**63.02**	**11**	⇑P	**P**	**23 32 06.0**	**-0.2**

MSTX	Muleshoe	63.45	9	eP	P	23 32 08.0	-1.0
MSTX	Muleshoe	63.45	9	⇓P	P	23 32 09.0	-0.1
	baz=64,SNR=32						
Y28A	McKinney Farm,	63.46	9	⇓P	P	23 32 09.0	-0.1
	baz=64,SNR=15						
X20A	Quemado	63.48	4	⇑P	P	23 32 10.4	+1.0
	baz=64,SNR=14						
Y29A	Porterfield Fa	63.50	10	⇑P	P	23 32 09.3	-0.1
	baz=64						
X22A	Bernardo	63.53	5	⇓P	P	23 32 11.1	+1.4
	baz=64,SNR=13						
Y30A	Stafford Cattl	63.63	11	⇑P	P	23 32 10.1	-0.2
	baz=64						
SBC	Santa Barbara	63.66	353	⇓P	P	23 32 11.0	+0.7
	baz=64						
X23A	Hourglass Bar	63.67	6	⇓P	P	23 32 11.1	+0.4
	baz=64						
GMRC	Granite Mounta	63.69	357	⇑P	P	23 32 11.6	+1.0
	baz=64,SNR=51						
X24A	Lazy VL Ranch,	63.73	6	⇓P	P	23 32 11.5	+0.5
	baz=64						
OSI	Osito Adit	63.73	354	⇑P	P	23 32 11.3	+0.5
	baz=64						
X25A	Clemmons Ranch	63.77	7	⇓P	P	23 32 11.0	-0.3
	baz=64						
HEC	Hector,Ludlow	63.77	356	⇑P	P	23 32 11.6	+0.5
	baz=64						
Y31A	Rekieta Farm,	63.82	11	⇑P	P	23 32 11.9	+0.5
	baz=64,SNR=39						
GRGR	Grenville	63.84	57	eP	P	23 32 10.0	-1.9
	comp=Z,156nm,1.0s						
GRGR				LR	LR		
	comp=Z,10µm,21.0s						
RRX	Edison Barstow	63.86	356	⇓P	P	23 32 11.8	+0.2
	baz=64						
X26A	CR and CF Fran	63.89	8	⇑P	P	23 32 12.0	0.0
	baz=64,SNR=15						
EDW2	Edwards Air Fo	63.94	355	⇑P	P	23 32 12.7	+0.5
	baz=64,SNR=18						
W13A	Hualapai Mount	63.95	359	⇑P	P	23 32 13.3	+0.8
	baz=64,SNR=13						
W18A	Petrified Fore	63.99	2	eP	P	23 32 13.5	+0.8
W18A	Petrified Fore	63.99	2	⇑P	P	23 32 13.3	+0.5
	baz=64						
Y32A	R-V Farms, Ver	64.00	12	⇑P	P	23 32 13.2	+0.5
	baz=64,SNR=7.9						
ANMO	Albuquerque	64.02	5	PFAKE		23 32 20.0	+7.1
ANMO				LR	LR		
	comp=Z,7µm,21.0s						
W20A	Ramah	64.06	3	⇓P	P	23 32 13.9	+0.7
	baz=64,SNR=14						
CRPR	Cabo Rojo, PR	64.06	49	eP	P	23 32 12.3	-1.0
	comp=Z,609nm,2.3s						
X29A	Tulia	64.07	10	⇓P	P	23 32 13.4	+0.3
	baz=64						
X28A	Dimmitt	64.07	9	⇓P	P	23 32 13.3	+0.2
	baz=64,SNR=9.2						
X27A	F and S Farms,	64.07	8	⇑P	P	23 32 13.5	+0.3
	baz=64						
MSVF	Nonsavu	64.10	263	eP	P	23 32 13.2	-0.6
MSVF				pmax	pmax		
	comp=Z,67nm,1.3s						
MSVF				MLR	MLR		
	comp=Z,15µm,22.0s						
MSVF	Nonsavu	64.10	263	eP	P	23 32 13.2	-0.6
	comp=Z,67nm,1.3s						
MSVF				LR	LR		
	comp=Z,15µm,22.0s						
W21A	San Fidel	64.10	4	⇑P	P	23 32 13.7	+0.3
	baz=64						
W22A	Albuquerque	64.11	5	⇓P	P	23 32 14.0	+0.6
	baz=64						
PKM	Peak Mountain	64.12	353	⇓P	P	23 32 14.8	+1.3
	baz=64,SNR=9.3						
GRTK	Grand Turk	64.14	43	PFAKE		23 32 30.0	+16
GRTK				LR	LR		
	comp=Z,11µm,20.0s						
DWPF	Disney	64.17	30	eP	P	23 32 11.8	-1.9
	comp=Z,173nm,1.5s						
X30A	Coker Ranch, T	64.19	10	⇓P	P	23 32 14.0	+0.1
	baz=64						
LSP	Las Mesas	64.20	49	eP	P	23 32 12.7	-1.6
ARVC	Arvin	64.25	354	⇓P	P	23 32 14.9	+0.7
	baz=65						
W23A	Werner Place,	64.25	6	⇑P	P	23 32 15.3	+0.8
	baz=65,SNR=15						
GSC	Goldstone	64.27	356	eP	P	23 32 14.0	-0.4
GSC				pmax	pmax		
	comp=Z,99nm,1.2s						
GSC	Goldstone	64.27	356	eP	P	23 32 14.0	-0.4
	comp=Z,99nm,1.2s						
GSC	Goldstone	64.27	356	⇑P	P	23 32 15.7	+1.2
	baz=65,SNR=34						
WUAZ	Wupatki	64.35	1	eP	P	23 32 15.0	0.0
	comp=Z,106nm,1.6s						
WUAZ				LR	LR		
	comp=Z,11µm,21.0s						
WUAZ	Wupatki	64.35	1	⇓P	P	23 32 15.9	+0.8
	baz=65,SNR=17						
TUQ	Turquoise Moun	64.35	357	⇓P	P	23 32 15.8	+0.8
	baz=65,SNR=23						
W24A	Lazy 6 Ranch,	64.37	6	⇑P	P	23 32 15.5	+0.3
	baz=65,SNR=36						
OBIP	Obispado Ponce	64.42	49	eP	P	23 32 15.5	-0.1
	comp=Z,337nm,2.4s						
W26A	Owens Ranch, T	64.43	8	⇑P	P	23 32 16.0	+0.5
	baz=65,SNR=20						
LRS	Lares	64.44	49	eP	P	23 32 14.8	-1.1
CELP	Cerrillos	64.46	49	eP	P	23 32 14.4	-1.6
VBMS	Vicksburg	64.47	20	eP	P	23 32 15.0	-0.7
	comp=Z,524nm,2.0s						
VBMS				LR	LR		
	comp=Z,2µm,19.0s						
W25A	X Bar L Ranch,	64.47	7	⇓P	P	23 32 16.0	+0.1
	baz=65,SNR=22						
W27A	Bowe Ranch, En	64.49	8	⇓P	P	23 32 16.3	+0.4
	baz=65,SNR=16						
BRAL	Brewton	64.50	24	PFAKE		23 32 30.0	+14
BRAL				LR	LR		
	comp=Z,4µm,19.0s						
LRMC	Laurel Mountai	64.50	355	⇑P	P	23 32 16.8	+0.8
	baz=65,SNR=25						
X31A	McDonald Ranch	64.52	11	⇑P	P	23 32 16.3	+0.3
	baz=65						
AOPR	Arecibo Observ	64.54	49	eP	P	23 32 14.7	-1.8
	comp=Z,39nm,1.0s						
SMMC	Simmler	64.55	353	⇑P	P	23 32 16.8	+0.7
	baz=65						
V20A	Brimhall	64.73	3	⇓P	P	23 32 18.4	+0.8
	baz=65,SNR=16						
W29A	Amraillo	64.74	10	⇑P	P	23 32 17.0	-0.5
	baz=65						
ISA	Isabella	64.75	354	eP	P	23 32 16.4	-1.1
ISA				pmax	pmax		
	comp=Z,103nm,1.6s						
ISA	Isabella	64.75	354	eP	P	23 32 16.4	-1.1
	comp=Z,103nm,1.6s						
ISA	Isabella	64.75	354	⇓P	P	23 32 18.7	+1.1
	baz=65,SNR=13						
V21A	Milan	64.78	4	⇑P	P	23 32 18.7	+0.8
	baz=65,SNR=16						
W28A	Vega	64.79	9	⇑P	P	23 32 17.9	+0.1
	baz=65						
WWPM	Walker Pass	64.79	355	eP	P	23 32 20.9	+3.0
V23A	Ortiz Mt. (NFS	64.83	6	⇑P	P	23 32 18.9	+0.7
	baz=65						
SHOC	Shoshone	64.83	356	⇑P	P	23 32 18.7	+0.7
	baz=65,SNR=22						
WMOK	Wichita Mounta	64.84	12	eP	P	23 32 17.2	-0.9
WMOK				pmax	pmax		
	comp=Z,81nm,2.4s						
WMOK				MLR	MLR		
	comp=Z,6µm,22.0s						
WMOK	Wichita Mounta	64.84	12	eP	P	23 32 17.2	-0.9
	comp=Z,81nm,2.4s						
WMOK				LR	LR		
	comp=Z,6µm,22.0s						
V24A	Rampart Ranch,	64.89	6	⇓P	P	23 32 19.2	+0.5
	baz=65						
PTRM	Twissleman Ran	64.91	353	eP	P	23 32 18.7	+0.1
V22A	San Miguel Ran	64.94	5	⇓P	P	23 32 19.6	+0.6
	baz=65,SNR=28						
W30A	Crocket Farms	64.96	11	⇑P	P	23 32 19.4	+0.5
	baz=65						
VES	Vestal, Richgr	64.98	354	⇓P	P	23 32 19.8	+0.9
	baz=65						
HUMP	Col San Antoni	64.99	50	eP	P	23 32 17.5	-1.9
	comp=Z,34nm,1.2s						
MPMC	Manual Prospec	65.07	355	⇑P	P	23 32 20.1	+0.3
	baz=65,SNR=60						
V25A	Rancho No Teng	65.07	7	⇓P	P	23 32 19.5	-0.3
	baz=65,SNR=17						
W31A	Holland Ranch,	65.07	11	⇑P	P	23 32 19.4	-0.2
	baz=65						
CBYP	Canovanas	65.08	49	eP	P	23 32 18.4	-1.6
	comp=Z,58nm,1.3s						
V26A	Tequesquite Ra	65.12	8	⇑P	P	23 32 20.2	+0.2
	baz=65,SNR=19						
MTP	Monte Pirata	65.16	50	eP	P	23 32 18.8	-1.7
	comp=Z,47nm,1.3s						
V27A	Dan Oppiter Fa	65.20	8	⇓P	P	23 32 20.2	-0.3
	baz=66						
U15A	North Rim	65.25	0	⇑P	P	23 32 21.9	+0.8
	baz=66,SNR=27						
V28A	Channing	65.27	9	⇓P	P	23 32 21.8	+0.8
	baz=66						
U20A	Newcomb	65.30	3	⇓P	P	23 32 21.3	+0.1
	baz=66						
SHPR	Sheep Range	65.39	357	eP	P	23 32 21.9	+0.2
U21A	Nageezi	65.40	4	⇓P	P	23 32 22.5	+0.5
	baz=66,SNR=18						
U22A	Llaves	65.41	5	⇑P	P	23 32 22.9	+0.9
	baz=66						
U23A	El Rito	65.41	5	⇓P	P	23 32 22.9	+0.9
	baz=66,SNR=30						
FURC	Furnace Creek,	65.44	356	⇓P	P	23 32 22.9	+1.0
	baz=66,SNR=29						
CDVI	St. Croix	65.44	51	eP	P	23 32 21.4	-0.9
	comp=Z,67nm,0.6s						
RCTC	Rector, Farmer	65.46	354	⇓P	P	23 32 22.6	+0.6
	baz=66						
CWC	Cottonwood Cre	65.49	355	⇑P	P	23 32 23.7	+1.3
	baz=66						
V29A	Stinnett	65.50	10	⇓P	P	23 32 22.9	+0.5
	baz=66						
V30A	Spur Ranch, Mi	65.51	10	⇑P	P	23 32 23.4	+0.9
	baz=66						
U24A	Moreno Valley	65.57	6	⇑P	P	23 32 23.6	+0.5
	baz=66						
U25A	Circle Dot Ran	65.65	7	⇓P	P	23 32 24.0	+0.5
	baz=66,SNR=13						
V31A	Spring Creek L	65.66	11	⇑P	P	23 32 24.4	+1.0
	baz=66						
U26A	Atchley Ranch,	65.72	8	⇓P	P	23 32 24.4	+0.5
	baz=66,SNR=15						
STVI	Saint Thomas	65.74	50	eP	P	23 32 22.5	-1.7
	comp=Z,39nm,1.1s						
MIAR	Mount Ida	65.80	17	eP	P	23 32 23.3	-1.0
MIAR				pmax	pmax		
	comp=Z,33nm,1.0s						
MIAR				MLR	MLR		
	comp=Z,2µm,19.0s						
MIAR	Mount Ida	65.80	17	eP	P	23 32 23.3	-1.0
	comp=Z,33nm,1.0s						
MIAR				LR	LR		
	comp=Z,2µm,19.0s						
U27A	Thompson Grove	65.86	8	⇑P	P	23 32 25.1	+0.3
	baz=66,SNR=15						
U28A	Mallet	65.89	9	⇓P	P	23 32 25.3	+0.3
	baz=66						
T21A	Navajo Lake	65.97	4	⇓P	P	23 32 26.0	+0.4
	baz=66						
GRAC	Grapevine Rang	66.00	356	⇑P	P	23 32 26.8	+1.3
	baz=66						
T22A	Edith	66.03	5	⇑P	P	23 32 26.7	+0.7
	baz=66,SNR=29						
BBGH	Gun Hill	66.05	58	PFAKE		23 32 40.0	+14
BBGH				LR	LR		
	comp=Z,14µm,20.0s						
U29A	Oasis Ranch, S	66.10	10	⇓P	P	23 32 27.1	+0.9
	baz=66						
TIN	Tinemaha	66.11	355	⇑P	P	23 32 27.4	+1.0
	baz=66						
T23A	Casias Ranch,	66.12	5	⇓P	P	23 32 27.0	+0.4
	baz=66						
MVCO	Mesa Verde	66.13	3	eP	P	23 32 26.2	-0.4
	comp=Z,130nm,1.4s						
MVCO				LR	LR		
	comp=Z,12µm,19.0s						
MVCO	Mesa Verde	66.13	3	⇑P	P	23 32 26.6	-0.1
	baz=66,SNR=18						
SAO	San Andreas Ge	66.15	352	eP	P	23 32 25.3	-1.2
SAO				pmax	pmax		
	comp=Z,64nm,1.3s						
SAO	San Andreas Ge	66.15	352	eP	P	23 32 25.3	-1.2
	comp=Z,64nm,1.3s						
TIGA	Tifton	66.18	27	eP	P	23 32 25.4	-1.4
TIGA	Tifton	66.18	27	⇑P	P	23 32 27.4	+0.6
	baz=66						
T24B	San Luis	66.21	6	⇑P	P	23 32 28.2	+1.0
	baz=66						
U31A	Nine Bar Ranch	66.24	11	⇓P	P	23 32 27.8	+0.7
	baz=66						
U30A	WK&E Inc. Balk	66.27	10	⇑P	P	23 32 28.0	+0.6
	baz=67						
UALR	University of	66.34	18	eP	P	23 32 27.1	-0.7
	comp=Z,264nm,2.2s						
LRAL	Lakeview Retre	66.36	23	PFAKE		23 32 40.0	+12
LRAL				LR	LR		
	comp=Z,3µm,19.0s						
T25A	Trinidad	66.38	7	⇑P	P	23 32 28.7	+0.5
	baz=67						
CCUT	Cedar City	66.38	359	eP	P	23 32 28.5	+0.3
	comp=Z,56nm,1.3s						
T27A	Campo	66.50	8	⇑P	P	23 32 29.3	+0.4
	baz=67						
T26A	Comanche Natio	66.50	8	⇓P	P	23 32 29.4	+0.4
	baz=67,SNR=20						
TUL1	Tulsa	66.58	15	eP	P	23 32 28.8	-0.5
TUL1	Tulsa	66.58	15	⇓P	P	23 32 29.2	0.0
	baz=67,SNR=13						
ARUT	Antelope Range	66.62	359	eP	P	23 32 29.5	-0.2
ARUT	Antelope Range	66.62	359	eP	P	23 32 29.5	-0.2
S21A	Coal Bank Pass	66.62	4	⇑P	P	23 32 30.0	+0.1
	baz=67,SNR=18						
T28A	Walsh	66.64	9	⇓P	P	23 32 29.8	+0.1
	baz=67						
MLAC	Mammoth Lakes	66.73	354	⇓P	P	23 32 30.6	+0.1
	baz=67						
S20A	Disappointment	66.76	3	⇑P	P	23 32 31.3	+0.6
	baz=67,SNR=16						
S22A	4UR Ranch, Cre	66.77	5	⇓P	P	23 32 31.2	+0.4
	baz=67,SNR=14						
T29A	Hugoton	66.79	10	⇓P	P	23 32 30.8	+0.1
	baz=67						
S23A	Nye Farm, Mont	66.79	5	⇑P	P	23 32 32.2	+1.3
	baz=67						
S24A	Houchin Ranch,	66.80	6	⇓P	P	23 32 30.9	-0.1
	baz=67						
T30A	Plains	66.80	10	⇑P	P	23 32 31.1	+0.4
	baz=67						
KIP	Kipapa	66.86	314	PFAKE		23 32 40.0	+8.7
KIP				LR	LR		
	comp=Z,11µm,20.0s						
SDCO	Great Sand Dun	66.88	6	eP	P	23 32 31.3	-0.1
	comp=Z,32nm,1.3s						
SDCO				LR	LR		
	comp=Z,8µm,22.0s						
S25A	Robets Cordova	66.89	7	⇑P	P	23 32 32.1	+0.6
	baz=67,SNR=22						
OXF	Oxford	66.94	20	eP	P	23 32 30.0	-1.5
OXF				pmax	pmax		
	comp=Z,142nm,1.6s						
OXF				MLR	MLR		
	comp=Z,2µm,19.0s						
OXF	Oxford	66.94	20	eP	P	23 32 30.0	-1.5
	comp=Z,142nm,1.6s						
OXF				LR	LR		
	comp=Z,2µm,19.0s						
S26A	Kim	66.96	8	⇓P	P	23 32 32.1	+0.3
	baz=67,SNR=18						
T31A	Randall Ranch,	66.98	11	⇑P	P	23 32 32.4	+0.6
	baz=67						
TPH	Tonopah	67.06	356	PFAKE		23 32 40.0	+7.5
TPH				LR	LR		
	comp=Z,7µm,19.0s						
S27A	Las Animas	67.09	8	⇑P	P	23 32 33.1	+0.4
	baz=67						
R20A	Redvale	67.11	3	⇓P	P	23 32 33.2	+0.3
	baz=67,SNR=13						
S28A	Manter	67.13	9	⇓P	P	23 32 33.1	+0.3
	baz=67						
FUNA	Funafuti	67.13	273	PFAKE		23 32 50.0	+17
FUNA				LR	LR		
	comp=Z,14µm,20.0s						
R11A	Troy Canyon, C	67.24	357	eP	P	23 32 34.0	+0.4
R11A	Troy Canyon, C	67.24	357	⇓P	P	23 32 34.7	+1.1
	baz=68,SNR=34						
R22A	Saguache, Gunn	67.25	5	⇑P	P	23 32 34.4	+0.5
	baz=68						
VNA1	Neumayer--Stat	67.27	159	eP	P	23 32 34.9	+1.6
S29A	Ulysses	67.27	10	⇓P	P	23 32 33.6	-0.1
	baz=68						
CMB	Columbia Colle	67.28	353	eP	P	23 32 33.9	+0.2
CMB				pmax	pmax		
	comp=Z,162nm,1.8s						
CMB	Columbia Colle	67.28	353	eP	P	23 32 33.9	+0.2
	comp=Z,162nm,1.8s						
R23A	Moffat	67.29	6	⇑P	P	23 32 34.7	+0.6
	baz=68						
MVU	Marysvale	67.33	0	eP	P	23 32 34.9	+0.6
	comp=Z,274nm,2.5s						
MVU				LR	LR		
	comp=Z,10µm,20.0s						
R21A	Cimarron	67.34	4	⇓P	P	23 32 35.0	+0.7
	baz=68,SNR=16						
S30A	Montezuma	67.39	10	⇑P	P	23 32 34.7	+0.3
	baz=68						
R25A	Fountain Ranch	67.39	7	⇑P	P	23 32 35.0	+0.4
	baz=68,SNR=14						
R24A	Sanders Place,	67.39	6	⇓P	P	23 32 35.3	+0.6
	baz=68,SNR=6.6						
VNA2	Neumayer--Watz	67.42	160	eP	P	23 32 35.1	+0.8
ANWB	Willy Bob	67.44	53	eP	P	23 32 34.2	-0.8
	comp=Z,97nm,1.1s						
ANWB				LR	LR		
	comp=Z,7µm,21.0s						
NV01	Mina Array Sit	67.48	355	eP	P	23 32 35.4	+0.1
S31A	Mullinville	67.52	11	⇓P	P	23 32 35.7	+0.4
	baz=68						
HBAR	Harrisburg	67.54	19	eP	P	23 32 34.5	-0.8
R26A	Arlington	67.63	8	⇓P	P	23 32 36.2	+0.1
	baz=68						
WAKR	Walker	67.66	354	eP	P	23 32 36.6	+0.3
R27A	Eads	67.70	8	⇑P	P	23 32 36.4	0.0
	baz=68,SNR=17						
Q16A	Castle Valley	67.75	1	eP	P	23 32 37.0	+0.2
Q16A	Castle Valley	67.75	1	⇓P	P	23 32 37.3	+0.5
	baz=68,SNR=12						
PLAL	Pickwick Lake	67.79	21	eP	P	23 32 35.4	-1.5
	comp=Z,62nm,1.4s						
Q21A	Lamborn Mesa,	67.80	4	⇑P	P	23 32 37.6	+0.4
	baz=68						
Q22A	Crested Butte,	67.87	5	⇑P	P	23 32 37.9	+0.1
	baz=68,SNR=5.5						
Q20A	Ridgley Place,	67.88	3	⇑P	P	23 32 38.2	+0.5
	baz=68						
R28A	Tribune	67.88	9	⇑P	P	23 32 38.1	+0.5
	baz=68						
SRU	San Rafael	67.95	2	eP	P	23 32 37.8	-0.3
SRU				pmax	pmax		
	comp=Z,59nm,1.0s						
SRU	San Rafael	67.95	2	eP	P	23 32 37.8	-0.3
	comp=Z,60nm,1.0s						
GOGA	Godfrey	67.98	26	eP	P	23 32 37.2	-1.0
GOGA				pmax	pmax		
	comp=Z,46nm,1.2s						
GOGA	Godfrey	67.98	26	eP	P	23 32 37.2	-1.0
	comp=Z,46nm,1.2s						
Q23A	Hartsel	68.00	5	⇓P	P	23 32 38.9	+0.4
	baz=68						
R30A	Dighton	68.05	10	⇓P	P	23 32 39.0	+0.4
	baz=68,SNR=13						
R29A	Marienthal	68.05	9	⇓P	P	23 32 38.7	0.0
	baz=68						
GNAR	Gosnell	68.11	19	eP	P	23 32 38.5	-0.4
Q24A	Divide	68.11	6	⇑P	P	23 32 39.6	+0.2
	baz=68						
TMUT	Trail Mountain	68.13	1	eP	P	23 32 39.8	+0.4
	comp=Z,457nm,2.6s						
Q25A	Bedland, Calha	68.15	7	⇓P	P	23 32 39.1	-0.4
	baz=68,SNR=16						
R31A	Burdett	68.17	11	⇓P	P	23 32 39.7	+0.3
	baz=68						
SMCO	Snowmass	68.18	4	eP	P	23 32 40.1	+0.3
	comp=Z,20nm,1.0s						
Q26A	Hugo	68.24	7	⇓P	P	23 32 40.2	+0.3
	baz=69						
HALT	Halls	68.26	20	eP	P	23 32 39.2	-0.6
P20A	De Beque	68.42	3	⇓P	P	23 32 41.5	+0.4
	baz=69						
SNAA	Sanae	68.42	161	eP	P	23 32 41.4	+0.8
SNAA	Sanae	68.42	161	eP	P	23 32 42.2	+1.6
	comp=Z,195nm,1.8s						
KSCO	Kaye Shedlock'	68.43	8	eP	P	23 32 41.1	0.0
KSCO	Kaye Shedlock'	68.43	8	⇑P	P	23 32 41.8	+0.7
	baz=69						
P23A	Jefferson	68.46	5	⇑P	P	23 32 42.1	+0.6
	baz=69						
P21A	Newcastle	68.50	4	⇑P	P	23 32 42.1	+0.5
	baz=69						
P19A	Cripple Cowboy	68.53	3	⇑P	P	23 32 42.2	+0.5
	baz=69						
Q29A	Oakley	68.53	9	⇑P	P	23 32 42.0	+0.3
	baz=69						
HOPS	Hopland	68.56	351	eP	P	23 32 41.4	-0.3
	comp=Z,206nm,1.5s						
Q28A	Sharon Springs	68.58	9	⇑P	P	23 32 42.6	+0.7
	baz=69						
GLAT	Glass	68.61	20	eP	P	23 32 41.4	-0.6
P22A	Eagle	68.61	5	⇑P	P	23 32 42.9	+0.6
	baz=69,SNR=16						
P24A	Kohler Place,	68.68	6	⇓P	P	23 32 42.7	0.0
	baz=69						
SWET	Sewanee	68.71	23	eP	P	23 32 41.9	-0.9
	comp=Z,67nm,1.1s						
Q30A	Quinter	68.73	10	⇓P	P	23 32 43.1	+0.2
	baz=69						
PBMO	Poplar Bluff	68.75	19	eP	P	23 32 42.1	-0.8
	comp=Z,139nm,1.5s						
P25A	Willow Gulch B	68.75	7	⇑P	P	23 32 43.4	+0.3
	baz=69						
NLU	North Lily Min	68.78	0	eP	P	23 32 43.1	-0.2
	comp=Z,45nm,1.2s						
PARMO	Parma	68.84	19	eP	P	23 32 44.1	+0.6
MPU	Maple Canyon	68.84	1	eP	P	23 32 43.5	-0.2
	comp=Z,312nm,2.6s						
PAHR	Pah Rah Range	68.84	354	eP	P	23 32 43.7	+0.1
	comp=Z,70nm,1.4s						
P26A	Davis Ranch, A	68.89	7	⇓P	P	23 32 44.7	+0.7
	baz=69						
Q31A	Ellis	68.89	11	⇓P	P	23 32 44.2	+0.4
	baz=69						
ISCO	Idaho Springs	68.90	6	eP	P	23 32 44.3	+0.1
ISCO				pmax	pmax		
	comp=Z,56nm,1.6s						
ISCO				MLR	MLR		
	comp=Z,3µm,20.0s						
ISCO	Idaho Springs	68.90	6	eP	P	23 32 44.3	+0.1
	comp=Z,56nm,1.6s						
ISCO				LR	LR		
	comp=Z,3µm,20.0s						
ISCO	Idaho Springs	68.90	6	⇓P	P	23 32 44.6	+0.4
	baz=69						
WVT	Waverly	68.92	21	eP	P	23 32 42.7	-1.3
WVT				pmax	pmax		
	comp=Z,33nm,1.1s						
WVT	Waverly	68.92	21	eP	P	23 32 42.7	-1.3
	comp=Z,33nm,1.1s						
P27A	Ficken Ranch,	68.98	8	⇓P	P	23 32 44.7	+0.3
	baz=69						
DUG	Dugway	69.02	360	eP	P	23 32 44.8	+0.1
DUG				pmax	pmax		
	comp=Z,114nm,1.8s						
DUG				MLR	MLR		
	comp=Z,12µm,20.0s						
DUG	Dugway	69.02	360	eP	P	23 32 44.8	+0.1
	comp=Z,114nm,1.8s						
DUG				LR	LR		
	comp=Z,12µm,20.0s						
DUG	Dugway	69.02	360	⇓P	P	23 32 45.5	+0.8
	baz=69,SNR=25						
O20A	White River Ci	69.06	3	eP	P	23 32 45.5	+0.5
O20A	White River Ci	69.06	3

O22A	Kremmling	69.19	5	⇑P	P	23 32 46.1	+0.1
	baz=70,SNR=12						
DAU	Daniels Canyon	69.24	1	eP	P	23 32 46.4	+0.1
DAU	Daniels Canyon	69.24	1	eP	P	23 32 46.4	+0.1
P29A	Atwood	69.24	9	⇑P	P	23 32 45.8	-0.2
	baz=70						
O24A	Longmont	69.27	6	⇓P	P	23 32 46.4	+0.1
	baz=70						
P30A	Selden	69.28	10	⇓P	P	23 32 46.5	+0.2
	baz=70						
O23A	Lake Granby, G	69.29	5	⇓P	P	23 32 47.1	+0.5
	baz=70						
O25A	Wiggins	69.35	7	⇓P	P	23 32 46.5	-0.3
	baz=70						
P31A	Stockton	69.40	11	⇑P	P	23 32 47.7	+0.7
	baz=70,SNR=12						
BMN	Battle Mountai	69.40	356	eP	P	23 32 47.9	+0.8
BMN				pmax	pmax		
	comp=Z,112nm,1.2s						
BMN				MLR	MLR		
	comp=Z,15μm,19.0s						
BMN	Battle Mountai	69.40	356	eP	P	23 32 47.9	+0.8
	comp=Z,112nm,1.2s						
BMN				LR	LR		
	comp=Z,15μm,19.0s						
KIPM	Iron Peak	69.41	351	eP	P	23 32 46.7	-0.4
CPCT	Cooper Cave	69.41	24	eP	P	23 32 47.0	-0.1
JLU	Jordanelle	69.43	1	eP	P	23 32 47.2	-0.2
	comp=Z,80nm,1.3s						
KSU1	Kansas State U	69.48	13	eP	P	23 32 47.2	-0.3
	comp=Z,121nm,1.4s						
KSU1				LR	LR		
	comp=Z,4μm,19.0s						
CTU	Camp Tracy	69.51	0	eP	P	23 32 48.6	+0.8
	comp=Z,39nm,1.1s						
O26A	Horse Wrangler	69.57	7	⇑P	P	23 32 48.6	+0.5
	baz=70						
O27A	Beecher Island	69.61	8	⇑P	P	23 32 48.6	+0.3
	baz=70						
ELK	Elko	69.62	358	eP	P	23 32 48.2	-0.4
	comp=Z,238nm,2.5s						
O28A	Krutsinger Ran	69.64	9	⇓P	P	23 32 49.1	+0.6
	baz=70						
N21A	Black Mountain	69.72	4	⇓P	P	23 32 49.2	0.0
	baz=70						
BGU	Big Grassy Mou	69.75	359	eP	P	23 32 49.0	-0.3
	comp=Z,54nm,1.3s						
N20A	Spence Gulch,	69.75	3	⇓P	P	23 32 48.9	-0.5
	baz=70,SNR=14						
O29A	4D Ranch, Culb	69.77	9	⇑P	P	23 32 49.9	+0.6
	baz=70						
N22A	Wattenberg Ran	69.83	5	⇑P	P	23 32 50.5	+0.6
	baz=70,SNR=13						
O30A	MW Ranch, Wils	69.93	10	⇑P	P	23 32 51.3	+1.0
	baz=70						
N23A	Red Feather La	69.96	5	⇑P	P	23 32 51.3	+0.6
	baz=70						
SIUC	Southern Illin	69.97	19	eP	P	23 32 49.7	-0.8
	comp=Z,116nm,1.2s						
N24A	Carr	69.99	6	⇑P	P	23 32 51.3	+0.6
	baz=70						
O31A	Woolen Ranch,	70.02	11	⇓P	P	23 32 51.3	+0.5
	baz=70						
WDC	Whiskeytown Da	70.05	352	eP	P	23 32 50.5	-0.4
WDC				pmax	pmax		
	comp=Z,91nm,1.4s						
WDC	Whiskeytown Da	70.05	352	eP	P	23 32 50.5	-0.4
	comp=Z,91nm,1.4s						
N25A	Grover	70.05	7	⇓P	P	23 32 51.9	+0.8
	baz=70						
SPUT	South Promonto	70.13	360	eP	P	23 32 51.0	-0.6
	comp=Z,76nm,1.7s						
N26A	Koester Ranch,	70.16	7	⇓P	P	23 32 52.4	+0.7
	baz=70						
DRV	Dumont d'Urvil	70.18	204	P	P	23 32 49.0	-2.5
DRV	Dumont d'Urvil	70.18	204	PP	PP	23 35 23.0	-3.3
DRV				S	S	23 41 55.0	-7.6
DRV				SS	SS	23 46 31.0	-0.7
DRV				L	L	23 49 00.0	
DRV				R		23 54 00.0	
N27A	Anderson Farm,	70.21	8	⇑P	P	23 32 52.7	+0.7
	baz=70						
N28A	Pribbeno Ranch	70.22	9	⇑P	P	23 32 53.0	+0.9
	baz=70						
M17A	Scullys Gap (B	70.31	1	⇑P	P	23 32 53.5	+0.7
	baz=71						
KMSC	Kings Mountain	70.33	27	eP	P	23 32 52.6	-0.1
KMSC	Kings Mountain	70.33	27	⇓P	P	23 32 53.7	+0.9
	baz=71,SNR=11						
M19A	Rock Springs	70.39	3	⇑P	P	23 32 53.1	-0.1
	baz=71						
PHWY	Pilot Hill	70.41	5	eP	P	23 32 52.9	-0.6
	comp=Z,41nm,1.4s						
OGNE	Ogallala	70.41	8	PFAKE		23 33 00.0	+6.8
OGNE				LR	LR		
	comp=Z,4μm,19.0s						
OGNE	Ogallala	70.41	8	⇓P	P	23 32 54.3	+1.1
	baz=71						
M20A	Sweetwater, Wa	70.41	3	⇑P	P	23 32 53.8	+0.4
	baz=71						
M22A	Cedar Creek Ra	70.42	5	⇓P	P	23 32 53.7	+0.2
	baz=71						
HWUT	Hardware Ranch	70.43	1	eP	P	23 32 53.0	-0.4
	comp=Z,29nm,1.3s						
HWUT				LR	LR		
	comp=Z,14μm,22.0s						
N29A	Votaw Ranch, W	70.48	9	⇑P	P	23 32 54.1	+0.5
	baz=71						
KHMM	Horse Mountain	70.49	351	eP	P	23 32 54.4	+0.6
	comp=Z,146nm,1.4s						
N30A	Hueftle Ranch,	70.53	10	⇑P	P	23 32 55.2	+1.2
	baz=71						
SLM	Saint Louis	70.54	18	eP	P	23 32 53.4	-0.6
SLM				pmax	pmax		
	comp=Z,29nm,0.8s						
SLM	Saint Louis	70.54	18	eP	P	23 32 53.4	-0.6
	comp=Z,29nm,0.8s						
M23A	Laramie	70.55	5	⇑P	P	23 32 54.9	+0.6
	baz=71						
HVU	Hansel Valley	70.60	360	eP	P	23 32 53.9	-0.5
HVU				pmax	pmax		
	comp=Z,165nm,2.4s						
HVU	Hansel Valley	70.60	360	eP	P	23 32 53.9	-0.5
	comp=Z,165nm,2.4s						
M24A	Cheyenne	70.63	6	⇑P	P	23 32 56.0	+1.3
	baz=71						
USIN	University of	70.66	20	eP	P	23 32 54.6	-0.1
	comp=Z,79nm,1.0s						
RWWY	Rawlins	70.67	4	eP	P	23 32 54.6	-0.4
	comp=Z,43nm,1.3s						
M25A	Palm-Egli Farm	70.67	7	⇑P	P	23 32 56.1	+1.2
	baz=71						
TZTN	Tazewell	70.74	24	eP	P	23 32 54.8	-0.5
	comp=Z,57nm,1.1s						
L18A	Fontenelle, Gr	70.77	2	⇑P	P	23 32 55.0	-0.6
	baz=71,SNR=6.7						
N32A	Stulken Farm,	70.79	11	⇓P	P	23 32 56.0	+0.5
	baz=71						
M26A	McRoberts Ranc	70.80	7	⇓P	P	23 32 56.3	+0.7
	baz=71						
L20A	Wamsutter	70.92	3	⇑P	P	23 32 57.2	+0.8
	baz=71,SNR=10.0						
L21A	Rawlins	70.93	4	⇓P	P	23 32 56.6	0.0
	baz=71						
M28A	Bar X Bar Ranc	70.94	9	⇑P	P	23 32 57.4	+0.9
	baz=71						
M27A	Reverse DX Ran	70.94	8	⇓P	P	23 32 57.2	+0.7
	baz=71						
L22A	Ellis Ranch, M	71.06	5	⇓P	P	23 32 58.0	+0.7
	baz=71						
M29A	Burnside Ranch	71.08	9	⇓P	P	23 32 58.4	+1.1
	baz=71						
MOD	Modoc	71.11	354	eP	P	23 32 57.8	+0.3
	comp=Z,816nm,1.7s						
L24A	Wheatland	71.19	6	⇓P	P	23 32 58.8	+0.8
	baz=72						
L23A	Garrett	71.19	5	⇑P	P	23 32 58.4	+0.3
	baz=72						
YBH	Yreka Blue Hor	71.20	352	eP	P	23 32 57.3	-0.7
	comp=Z,24nm,1.1s						
OLIL	Olney	71.24	20	eP	P	23 32 58.0	-0.2
	comp=Z,82nm,1.3s						
M31A	Lambtecht Ranc	71.24	11	⇓P	P	23 32 59.0	+0.8
	baz=72						
M30A	Dale-Ortello V	71.29	10	⇑P	P	23 32 59.3	+0.7
	baz=72						
WCI	Wyandotte Cave	71.33	21	eP	P	23 32 58.0	-0.8
WCI				pmax	pmax		
	comp=Z,21nm,0.9s						
WCI	Wyandotte Cave	71.33	21	eP	P	23 32 58.0	-0.8
	comp=Z,21nm,0.9s						
L26A	Underwood Farm	71.37	7	⇓P	P	23 33 01.1	+2.0
	baz=72						
L25A	Engebretsen Ra	71.39	7	⇑P	P	23 33 00.5	+1.3
	baz=72						
BGNE	Belgrade	71.44	11	eP	P	23 32 59.1	-0.2
BGNE	Belgrade	71.44	11	⇓P	P	23 33 00.4	+1.0
	baz=72						
WVOR	Wild Horse Val	71.49	355	eP	P	23 33 00.3	+0.5
WVOR				pmax	pmax		
	comp=Z,212nm,1.6s						
WVOR				MLR	MLR		
	comp=Z,35μm,20.0s						
WVOR	Wild Horse Val	71.49	355	eP	P	23 33 00.3	+0.5
	comp=Z,212nm,1.6s						
WVOR				LR	LR		
	comp=Z,35μm,20.0s						
L27A	T5 Ranch, Ells	71.50	8	⇓P	P	23 33 01.0	+1.2
	baz=72						
L28A	Connealy Angus	71.52	8	⇑P	P	23 33 01.0	+1.1
	baz=72						
K20A	Yellowstone Ra	71.57	3	⇓P	P	23 32 59.6	-0.8
	baz=72,SNR=14						
AHID	Auburn Hatcher	71.59	1	eP	P	23 32 59.2	-1.3
	comp=Z,18nm,0.9s						
AHID				LR	LR		
	comp=Z,15μm,21.0s						
K21A	Alcova	71.60	4	⇑P	P	23 33 00.1	-0.4
	baz=72						
BW06	Boulder Array	71.63	2	eP	P	23 32 59.6	-1.2
BW06				LR	LR		
	comp=Z,9μm,20.0s						
PD31	Pinedale Array	71.63	2	eP	P	23 33 00.1	-0.7
PDAR	Pinedale Array	71.63	2	P	P	23 33 00.1	-0.7
	comp=Z,8.1nm,0.9s,baz=163,slow=5.6,SNR=31						
PDAR				LR	LR	23 59 31.1	
	comp=Z,8μm,20.2s,baz=195,slow=32						
K22A	Casper	71.67	4	⇓P	P	23 33 01.0	+0.1
	baz=72,SNR=21						
K19A	Absolon Red Bu	71.71	3	⇑P	P	23 33 00.8	-0.4
	baz=72,SNR=9.8						
L30A	Spencer Herefo	71.72	10	⇓P	P	23 33 01.7	+0.6
	baz=72						
L29A	Maesberg Ranch	71.72	9	⇑P	P	23 33 02.2	+1.1
	baz=72						
CNNC	Cliffs of the	71.82	29	eP	P	23 33 00.7	-1.1
	comp=Z,153nm,1.5s						
CNNC				LR	LR		
	comp=Z,5μm,19.0s						
K23A	Bowen Ranch, D	71.84	5	⇓P	P	23 33 02.3	+0.4
	baz=72,SNR=13						
K25A	Mack Ranch, Ha	71.85	7	⇓P	P	23 33 03.4	+1.4
	baz=72						
K24A	Anderson Ranch	71.87	6	⇑P	P	23 33 02.6	+0.5
	baz=72						
KBO	Bosley Butte	71.88	351	eP	P	23 33 01.6	-0.5
	comp=Z,205nm,1.4s						
K05A	Summer Lake	71.98	353	eP	P	23 33 02.9	+0.1
	comp=Z,152nm,1.3s						
K26A	Motz Farm, Whi	72.01	7	⇑P	P	23 33 03.5	+0.6
	baz=72						
L31A	Butterfield Fa	72.08	10	⇑P	P	23 33 03.7	+0.5
	baz=72						
HUMO	Hull Mountain	72.09	352	eP	P	23 33 02.7	-0.6
	comp=Z,73nm,1.4s						
BLO	Bloomington	72.12	21	eP	P	23 33 01.7	-1.8
BLO				pmax	pmax		
	comp=Z,683nm,3.0s						
BLO	Bloomington	72.12	21	eP	P	23 33 01.7	-1.8
	comp=Z,683nm,3.0s						
K27A	Flueckinger Fa	72.12	8	⇓P	P	23 33 04.6	+1.1
	baz=72						
J19A	Crowheart	72.14	3	⇑P	P	23 33 04.1	+0.3
	baz=72						
RRI2	Red Ridge	72.17	1	eP	P	23 33 03.4	-0.7
	comp=Z,198nm,1.9s						
REDW	Red Top Meadow	72.19	1	eP	P	23 33 02.3	-1.9
	comp=Z,98nm,1.6s						
K28A	Ten Mile Ranch	72.24	8	⇓P	P	23 33 05.8	+1.6
	baz=73						
DZM	Mont Dzumac	72.26	254	P	P	23 33 04.8	-0.2
	comp=Z,13nm,0.9s,baz=152,slow=19,SNR=5.2						
DZM				LR	LR	23 57 09.7	
	comp=Z,17μm,21.4s,baz=170,slow=30						
J20A	Shoshoni	72.28	3	⇑P	P	23 33 04.9	+0.4
	baz=73,SNR=16						
SNOW	Snow King Moun	72.30	1	eP	P	23 33 03.9	-0.8
	comp=Z,55nm,1.4s						
J21A	Lysite	72.30	4	⇓P	P	23 33 05.4	+0.7
	baz=73,SNR=13						
MFID	Camas Ranch	72.31	357	⇑P	P	23 33 05.5	+0.9
	baz=73,SNR=16						
TPAW	Teton Pass	72.32	1	eP	P	23 33 04.2	-0.7
	comp=Z,40nm,0.9s						
J08A	Circle Bar Ran	72.40	355	eP	P	23 33 05.9	+0.7
	comp=Z,180nm,1.8s						
HLID	Hailey	72.41	358	eP	P	23 33 05.5	+0.1
	comp=Z,68nm,1.3s						
HLID				LR	LR		
	comp=Z,16μm,20.0s						
HLID	Hailey	72.41	358	⇓P	P	23 33 06.3	+0.9
	baz=73,SNR=63						
K29A	Lazy Trails An	72.43	9	⇓P	P	23 33 06.1	+0.7
	baz=73						
J22A	Midwest	72.43	4	⇓P	P	23 33 05.6	+0.1
	baz=73						
LOHW	Long Hollow	72.45	1	eP	P	23 33 05.0	-0.6
	comp=Z,25nm,1.1s						
J23A	Dilts Ranch, B	72.49	5	⇑P	P	23 33 05.8	0.0
	baz=73						
J24A	Dixon Ranch, L	72.49	6	⇑P	P	23 33 06.4	+0.7
	baz=73						
BLA	Blacksburg	72.50	26	eP	P	23 33 05.5	-0.3
BLA				pmax	pmax		
	comp=Z,78nm,1.1s						
BLA				MLR	MLR		
	comp=Z,4μm,19.0s						
BLA	Blacksburg	72.50	26	eP	P	23 33 05.5	-0.3
	comp=Z,78nm,1.1s						
BLA				LR	LR		
	comp=Z,4μm,19.0s						
I18A	Diamond G Ranc	72.56	2	⇓P	P	23 33 06.6	+0.2
	baz=73						
MOOW	Moose Ponds	72.58	1	eP	P	23 33 05.1	-1.3
	comp=Z,28nm,1.3s						
HDIL	Hopedale	72.59	18	eP	P	23 33 05.6	-0.7
	comp=Z,63nm,1.0s						
HDIL				LR	LR		
	comp=Z,4μm,19.0s						
J26A	Sides Ranch, S	72.63	7	⇓P	P	23 33 07.5	+1.0
	baz=73						
J25A	Sunshine Ranch	72.63	6	⇑P	P	23 33 07.2	+0.6
	baz=73						
J27A	Elkhorn Farm,	72.69	8	⇓P	P	23 33 08.5	+1.6
	baz=73						
VWCC	Virginia Weste	72.70	27	eP	P	23 33 05.5	-1.5
IMW	Indian Meadow	72.73	1	eP	P	23 33 06.0	-1.4
	comp=Z,38nm,1.3s						
I17A	Pilgrim Ck.	72.75	1	⇑P	P	23 33 07.7	+0.3
	baz=73						
I21A	Big Trails, Te	72.78	4	⇑P	P	23 33 07.4	-0.1
	baz=73,SNR=27						
MAIT	Maitri	72.82	163	eP	P	23 33 06.3	-1.0
I20A	Worland	72.87	3	⇑P	P	23 33 07.8	-0.2
	baz=73,SNR=11						
SCIA	State Center	72.89	15	eP	P	23 33 07.6	-0.5
	comp=Z,78nm,1.3s						
SCIA				LR	LR		
	comp=Z,4μm,20.0s						
I22A	9 Mile Ranch,	72.91	4	⇓P	P	23 33 08.7	+0.4
	baz=73,SNR=12						
FLWY	Flagg Ranch	72.92	1	eP	P	23 33 07.5	-1.0
	comp=Z,42nm,0.9s						
I19A	Meeteetse	72.92	3	⇓P	P	23 33 08.1	-0.3
	baz=73,SNR=9.9						
J28A	Allard Ranch,	72.95	8	⇓P	P	23 33 09.3	+0.9
	baz=73,SNR=14						
I24A	Kuemmerle Ranc	73.02	6	⇑P	P	23 33 10.1	+1.2
	baz=73						
I23A	Meade Ranch, G	73.05	5	⇓P	P	23 33 09.1	0.0
	baz=73						
PINOR	Pine Mountain	73.05	354	eP	P	23 33 08.8	-0.1
	comp=Z,110nm,1.5s						
SFIN	Scholer Farm	73.06	20	eP	P	23 33 08.5	-0.5
SFIN	Scholer Farm	73.06	20	⇑P	P	23 33 08.8	-0.2
	baz=73						
I07A	Izee	73.20	355	eP	P	23 33 10.5	+0.6
H17A	Grant Village	73.23	1	eP	P	23 33 10.9	+0.6
H17A	Grant Village	73.23	1	⇑P	P	23 33 11.4	+1.1
	baz=74						
I25A	Rochford	73.26	6	⇑P	P	23 33 11.1	+0.7
	baz=74,SNR=12						
YFT	Old Faithful	73.28	1	eP	P	23 33 10.1	-0.5
	comp=Z,86nm,1.8s						
RSSD	Black Hills	73.33	6	eP	P	23 33 10.3	-0.6
RSSD				pmax	pmax		
	comp=Z,133nm,1.3s						
RSSD	Black Hills	73.33	6	eP	P	23 33 10.3	-0.6
	comp=Z,134nm,1.3s						
I26A	New Underwood	73.36	7	⇓P	P	23 33 11.6	+0.7
	baz=74						
LKWY	Lake	73.40	1	eP	P	23 33 08.9	-2.4
LKWY				pmax	pmax		
	comp=Z,20nm,1.0s						
LKWY				MLR	MLR		
	comp=Z,16μm,22.0s						
LKWY	Lake	73.40	1	eP	P	23 33 08.9	-2.4
	comp=Z,20nm,1.0s						
LKWY				LR	LR		
	comp=Z,16μm,22.0s						
H20A	Greybull	73.41	3	⇑P	P	23 33 10.5	-0.7
	baz=74						
I27A	Quinn	73.49	8	⇑P	P	23 33 12.0	+0.4
	baz=74						
YMR	Madison River	73.50	1	eP	P	23 33 11.8	-0.1
	comp=Z,62nm,1.2s						
I28A	Midland	73.53	8	⇑P	P	23 33 12.2	+0.4
	baz=74						
H18A	Shoshone NF, C	73.53	2	⇓P	P	23 33 12.1	0.0
	baz=74,SNR=10						
YNR	Norris Junctio	73.55	1	eP	P	23 33 12.4	+0.3
	comp=Z,42nm,1.4s						
H19A	Powell	73.55	2	⇑P	P	23 33 11.8	-0.2
	baz=74						
H21A	Big Horn, Sher	73.60	4	⇑P	P	23 33 12.5	+0.2
	baz=74						
H22A	Clearmont	73.61	4	⇓P	P	23 33 12.8	+0.4
	baz=74						
MCMT	McKenzie Canyo	73.65	360	eP	P	23 33 12.1	-0.6
H23A	Clabaugh Cattl	73.65	5	⇓P	P	23 33 13.2	+0.6
	baz=74						
QLMT	Earthquake Lak	73.65	1	eP	P	23 33 12.8	+0.1
I29A	Vivian Onida	73.67	9	⇑P	P	23 33 13.3	+0.7
	baz=74						
BMO	Blue Mountains	73.81	356	eP	P	23 33 12.9	-0.6
	comp=Z,90nm,1.6s						
BMO				LR	LR		
	comp=Z,19μm,20.0s						
H25A	Fruitdale	73.87	6	⇑P	P	23 33 14.5	+0.6
	baz=74						
H24A	Dirks Ranch, A	73.91	6	⇑P	P	23 33 14.0	0.0
	baz=74						
JSRW	J. Sargeant Re	73.92	28	eP	P	23 33 12.9	-1.3
H26A	Fairpoint	73.95	7	⇑P	P	23 33 14.8	+0.5
	baz=74						
URVA	University of	73.96	28	eP	P	23 33 12.6	-1.8
ECSD	EROS Data Cent	73.97	12	eP	P	23 33 13.8	-0.5
	comp=Z,32nm,1.1s						
ECSD				LR	LR		
	comp=Z,2μm,21.0s						
RLMT	Red Lodge	73.99	2	eP	P	23 33 13.3	-1.5
	comp=Z,90nm,1.7s						
RLMT				LR	LR		
	comp=Z,10μm,20.0s						
H27A	Howes	74.04	8	⇓P	P	23 33 15.3	+0.5
	baz=74						
H04A	Detroit Lake	74.05	353	eP	P	23 33 14.3	-0.5
	comp=Z,94nm,1.4s						
COR	Corvallis	74.09	352	eP	P	23 33 14.9	-0.1
COR				pmax	pmax		
	comp=Z,261nm,1.4s						
COR	Corvallis	74.09	352	eP	P	23 33 14.9	-0.1
	comp=Z,261nm,1.4s						
G20A	Bridger	74.13	3	⇑P	P	23 33 14.7	-0.7
	baz=74,SNR=12						
DLMT	Dillon	74.18	360	eP	P	23 33 14.7	-1.0
	comp=Z,40nm,1.3s						
G21A	Lodge Grass	74.19	4	⇓P	P	23 33 15.8	+0.1
	baz=74						
H28A	Mission Ridge	74.21	8	⇓P	P	23 33 16.0	+0.2
	baz=74						
ACSO	Alum Creek Sta	74.24	23	eP	P	23 33 14.9	-1.1
	comp=Z,385nm,2.9s						
ACSO				LR	LR		
	comp=Z,4μm,19.0s						
G22A	Birney	74.24	4	⇑P	P	23 33 16.1	+0.1
	baz=75						
BRSD	Miller	74.27	10	eP	P	23 33 16.1	0.0
	comp=Z,90nm,1.2s						
BRSD	Miller	74.27	10	⇓P	P	23 33 16.3	+0.2
	baz=75						
H29A	Onida	74.27	9	⇓P	P	23 33 16.4	+0.3
	baz=75						
G23A	Biddle	74.29	5	⇑P	P	23 33 15.9	-0.4
	baz=75						
G08A	Pilot Rock	74.36	355	eP	P	23 33 16.6	-0.1
	comp=Z,108nm,1.4s						
G25A	Newell	74.45	7	⇑P	P	23 33 17.0	-0.2
	baz=75						
BOZ	Bozeman (W)	74.47	0	eP	P	23 33 16.9	-0.5
BOZ				pmax	pmax		
	comp=Z,113nm,2.2s						
BOZ				MLR	MLR		
	comp=Z,4μm,21.0s						
BOZ	Bozeman (W)	74.47	0	eP	P	23 33 16.9	-0.5
	comp=Z,113nm,2.2s						
BOZ				LR	LR		
	comp=Z,4μm,21.0s						
G24A	Alzada	74.49	6	⇓P	P	23 33 17.1	-0.4
	baz=75						
JFWS	Jewell Farm	74.55	17	eP	P	23 33 17.3	-0.5
JFWS				pmax	pmax		
	comp=Z,25nm,0.9s						
JFWS				MLR	MLR		
	comp=Z,4μm,21.0s						
JFWS	Jewell Farm	74.55	17	eP	P	23 33 17.2	-0.5
	comp=Z,25nm,0.9s						
JFWS				LR	LR		
	comp=Z,4μm,21.0s						
CBN	Corbin	74.57	28	eP	P	23 33 16.4	-1.6
	comp=Z,407nm,2.3s						
CBN				LR	LR		
	comp=Z,5μm,19.0s						
G28A	Parade	74.62	8	⇑P	P	23 33 18.1	-0.1
	baz=75						
G26A	Maurine	74.64	7	⇓P	P	23 33 18.2	-0.1
	baz=75						
LRM	Limekiln Ridge	74.64	360	eP	P	23 33 18.9	+0.3
GCMT	Greycliff	74.65	2	eP	P	23 33 17.8	-0.6
G27A	Dupree	74.69	7	⇑P	P	23 33 19.4	+0.8
	baz=75						
F20A	Billings	74.71	3	⇑P	P	23 33 18.7	0.0
	baz=75						
F19A	Roth Farm, Mol	74.73	2	⇑P	P	23 33 18.8	0.0
	baz=75						
F21A	Absaloka Mine,	74.79	4	⇑P	P	23 33 19.2	0.0
	baz=75						
F22A	Rosebud	74.80	4	⇑P	P	23 33 19.2	0.0
	baz=75						
F23A	Volborg	74.80	5	⇑P	P	23 33 19.0	-0.2
	baz=75,SNR=12						
MCWV	Mont Chateau	74.85	25	eP	P	23 33 19.2	-0.4
	comp=Z,201nm,1.9s						
MCWV				LR	LR		
	comp=Z,5μm,20.0s						
G29A	Hoven	74.87	9	⇑P	P	23 33 19.0	-0.5
	baz=75						
G30A	Faulkton	74.92	10	⇑P	P	23 33 19.9	+0.1
	baz=75						
F10A	Beach Ranch, E	74.92	356	eP	P	23 33 19.0	-0.9
	comp=Z,420nm,2.5s						
F24A	Ekalaka	75.00	6	⇓P	P	23 33 20.3	-0.1
	baz=75						
F25A	Bowman	75.17	6	⇑P	P	23 33 21.5	+0.1
	baz=76						
F26A	Lodgepole	75.18	7	⇓P	P	23 33 21.6	+0.2
	baz=76						
F27A	Lemmon	75.27	7	⇑P	P	23 33 22.0	+0.1
	baz=76						
F04A	Amboy	75.31	353

RCBR LR LR
comp=Z,15µm,19.0s
E19A Rath Farm, Rou 75.35 3 ⇑P P 23 33 22.1 -0.3
baz=76,SNR=10.0
F28A McLaughlin 75.40 8 ⇑P P 23 33 22.9 +0.3
baz=76
E20A Meyer Farm, Mu 75.42 3 ⇓P P 23 33 22.9 +0.1
baz=76
E22A Miles City 75.48 5 ⇑P P 23 33 23.3 +0.2
baz=76
HAWA Hanford 75.49 355 *eP* **P 23 33 22.5 -0.6**
comp=Z,77nm,1.5s
HAWA LR LR
comp=Z,17µm,21.0s
E21A Keefer Ranch, 75.51 4 ⇓P P 23 33 23.2 -0.1
baz=76
F29A Eureka 75.51 9 ⇑P P 23 33 23.3 +0.1
baz=76
E09A Wood Farm, Sta 75.52 356 *eP* **P 23 33 22.3 -1.0**
comp=Z,56nm,1.4s
HRY Holter Researc 75.53 0 *eP* **P 23 33 22.9 -0.6**
F30A Leola 75.62 10 ⇑P P 23 33 24.0 +0.1
baz=76
MSO Missoula 75.66 359 *eP* **P 23 33 23.0 -1.3**
comp=Z,176nm,2.3s
MSO Missoula 75.66 359 ⇑P P 23 33 25.0 +0.8
baz=76
LAO LASA Array 75.71 4 *eP* **P 23 33 23.1 -1.3**
comp=Z,137nm,1.8s
LAO LR LR
comp=Z,7µm,20.0s
E24A Baker 75.73 6 ⇑P P 23 33 24.7 +0.2
baz=76
CHMT Chamberlain Mo 75.74 359 *eP* **P 23 33 23.6 -1.2**
E25A Miller Ranch, 75.75 6 ⇓P P 23 33 24.7 0.0
baz=76
SDMD Soldier's Deli 75.81 28 *eP* **P 23 33 23.9 -1.2**
comp=Z,122nm,1.6s
E26A Carlson Angus 75.82 7 ⇑P P 23 33 25.7 +0.7
baz=76
E27A Carson 75.88 8 ⇓P P 23 33 25.9 +0.6
baz=76
D20A Manuel Ranch, 76.00 3 ⇓P P 23 33 26.7 +0.6
baz=76
D21A La Casta Ranch 76.04 4 ⇑P P 23 33 26.6 +0.3
baz=76
D19A Cripps Ranch, 76.05 2 ⇑P P 23 33 26.9 +0.5
baz=76
E03A Lebam 76.05 352 *eP* **P 23 33 26.1 -0.2**
comp=Z,84nm,1.1s
LON Longmire 76.06 353 *eP* **P 23 33 25.2 -1.2**
LON pmax pmax
comp=Z,32nm,1.2s
LON Longmire 76.06 353 *eP* **P 23 33 25.2 -1.2**
comp=Z,32nm,1.2s
SLMT Seeley Lake 76.07 359 *eP* **P 23 33 24.9 -1.7**
BBSR BB Station 76.09 40 PFAKE 23 33 40.0 +13
BBSR LR LR
comp=Z,6µm,21.0s
D08A Wollman Farm, 76.11 355 *eP* **P 23 33 25.2 -1.4**
comp=Z,187nm,2.3s
E28A Huff 76.12 8 ⇓P P 23 33 26.6 -0.2
baz=76
SPMN St. Paul 76.15 14 *eP* **P 23 33 25.2 -1.7**
SPMN St. Paul 76.15 14 ⇑P P 23 33 27.4 +0.5
baz=76
D22A Cohagen 76.17 4 ⇓P P 23 33 27.7 +0.7
baz=76,SNR=11
E29A Napoleon 76.25 9 ⇑P P 23 33 27.7 +0.2
baz=77
D23A Lindsay 76.26 5 ⇓P P 23 33 28.2 +0.7
baz=77
D24A Glendive 76.28 6 ⇑P P 23 33 28.6 +0.9
baz=77
E30A Jud 76.29 9 ⇓P P 23 33 28.2 +0.5
baz=77
SWMT Swartz Lake 76.34 359 *eP* **P 23 33 27.2 -0.9**
D26A Manning 76.37 7 ⇑P P 23 33 29.0 +0.8
baz=77
D25A Fairfield 76.40 6 ⇑P P 23 33 29.8 +1.4
baz=77
SSPA Standing Stone 76.45 26 *eP* **P 23 33 27.0 -1.7**
comp=Z,89nm,1.5s
LTY Liberty 76.45 354 *eP* **P 23 33 27.5 -1.2**
comp=Z,161nm,2.1s
ALLY Alegheny Colle 76.48 24 *eP* **P 23 33 27.6 -1.3**
comp=Z,81nm,1.3s
D05A Enumclaw 76.51 353 *eP* **P 23 33 27.6 -1.2**
comp=Z,109nm,1.4s
MVL Millersville 76.51 28 *eP* **P 23 33 27.8 -1.2**
comp=Z,76nm,1.4s
D27A Center 76.55 8 ⇓P P 23 33 30.0 +0.8
baz=77
JTMT Jette 76.59 359 *eP* **P 23 33 28.2 -1.3**
C19A Slack Wire Ran 76.61 2 ⇑P P 23 33 30.0 +0.5
baz=77,SNR=13
C20A Veseth Ranch, 76.63 3 ⇓P P 23 33 30.2 +0.5
baz=77,SNR=9.9
C24A Savage 76.68 5 ⇑P P 23 33 30.6 +0.7
baz=77
YBMT Yellow Bay 76.70 359 *eP* **P 23 33 28.3 -1.8**
BSMT Bassoo Peak 76.70 358 *eP* **P 23 33 28.4 -1.9**
D29A Pettibone, Tap 76.74 9 ⇓P P 23 33 30.8 +0.6
baz=77
D28A Regan 76.75 8 ⇑P P 23 33 30.7 +0.5
baz=77
C22A Vida 76.78 4 ⇑P P 23 33 31.7 +1.2
baz=77
C21A Desert Coulee 76.79 4 ⇓P P 23 33 30.0 -0.5
baz=77
C09A Chrisman Ranch 76.81 356 *eP* **P 23 33 29.1 -1.4**
comp=Z,331nm,2.3s
BLMT Blacktail Moun 76.85 359 *eP* **P 23 33 28.9 -2.2**
EGMT Eagleton 76.88 2 *eP* **P 23 33 30.8 -0.3**
comp=Z,157nm,1.8s
EGMT LR LR
comp=Z,12µm,22.0s
EGMT Eagleton 76.88 2 ⇑P P 23 33 32.0 +1.0
baz=77,SNR=11
C23A Lambert 76.89 5 ⇑P P 23 33 31.8 +0.7
baz=77
D30A Buchanan 76.91 9 ⇑P P 23 33 32.1 +1.0
baz=77
NLWA Neilton Lookou 76.92 352 *eP* **P 23 33 30.1 -1.1**
NLWA LR LR
comp=Z,16µm,21.0s
ERPA Erie 76.95 24 *eP* **P 23 33 29.6 -1.9**
comp=Z,56nm,1.2s
ERPA LR LR
comp=Z,4µm,20.0s
C25A Freed Ranch, W 76.96 6 ⇑P P 23 33 31.9 +0.4
baz=77
C27A Sayler Ranch, 77.15 7 ⇓P P 23 33 33.4 +0.8
baz=78
C26A Wahner Farm, P 77.19 7 ⇑P P 23 33 33.9 +1.1
baz=78
NEW Newport 77.20 357 *eP* **P 23 33 32.6 -0.3**
comp=Z,112nm,1.4s
NEW LR LR
comp=Z,30µm,20.0s
NEW Newport 77.20 357 ⇑P P 23 33 33.2 +0.4
baz=78,SNR=22
C28A Hausauer Farms 77.28 8 ⇓P P 23 33 34.1 +0.8
baz=78
B22A Reddig Ranch S 77.33 4 ⇓P P 23 33 34.8 +1.3
baz=78
B19A Brinkman Farms 77.33 2 ⇑P P 23 33 35.2 +1.7
baz=78
B20A Solberg Farm, 77.35 3 ⇑P P 23 33 34.5 +0.8
baz=78
TARA Tarawa 77.39 279 PFAKE 23 33 50.0 +15
TARA LR LR
comp=Z,6µm,22.0s
B21A Ellsworth Farm 77.39 4 ⇓P P 23 33 34.7 +0.8
baz=78
B08A Colville Reser 77.43 355 *eP* **P 23 33 33.2 -0.9**
comp=Z,284nm,3.0s
MDND Maddock 77.52 9 *eP* **P 23 33 32.9 -1.6**
MDND Maddock 77.52 9 ⇓P P 23 33 35.5 +1.0
baz=78
B25A Knox Farm, Ray 77.53 6 ⇓P P 23 33 35.7 +1.1
baz=78
C30A Mose, Pekin 77.53 10 ⇓P P 23 33 35.7 +1.1
baz=78
B23A Brockton 77.56 5 ⇑P P 23 33 36.0 +1.2
baz=78
DGMT Dagmar 77.63 6 *eP* **P 23 33 33.9 -1.3**
comp=Z,114nm,1.4s
DGMT LR LR
comp=Z,9µm,22.0s
DGMT Dagmar 77.63 6 ⇓P P 23 33 35.9 +0.7
baz=78
TAU Tasmania Unive 77.68 228 PFAKE 23 33 50.0 +14
TAU LR LR
comp=Z,11µm,20.0s
B26A Jensen Ranch, 77.72 7 ⇑P P 23 33 36.7 +0.9
baz=78
B06A Marblemount 77.77 354 *eP* **P 23 33 35.1 -0.8**
comp=Z,33nm,1.0s
A20A Cobblestone Ra 77.80 3 ⇓P P 23 33 36.6 +0.4
baz=78
A19A Klindworth Far 77.81 2 ⇑P P 23 33 37.4 +1.1
baz=78
COWI Conover 77.81 16 *eP* **P 23 33 35.1 -1.2**
comp=Z,78nm,1.3s
COWI LR LR
comp=Z,4µm,19.0s
B27A Peters Farms, 77.86 8 ⇑P P 23 33 36.2 -0.3
baz=78
WALA Waterton Lakes 77.89 359 *eP* **P 23 33 35.4 -1.4**
A21A Bergtoll Ranch 77.96 4 ⇓P P 23 33 38.0 +0.9
baz=78
B28A Dugan Ranch, T 78.01 8 ⇑P P 23 33 38.1 +0.9
baz=78
A22A Carney Farms, 78.02 4 ⇓P P 23 33 38.2 +0.8
baz=78
A23A Redstone 78.06 5 ⇓P P 23 33 38.7 +1.1
baz=78
A24A Westby 78.10 6 ⇑P P 23 33 38.1 +0.3
baz=78
PGC Sidney 78.11 352 *eP* **P 23 33 36.5 -1.3**
B29A Wagenman Farm, 78.15 9 ⇓P P 23 33 38.8 +0.7
baz=78
CPNY Central Park 78.17 29 *eP* **P 23 33 37.7 -0.6**
comp=Z,565nm,2.8s
A25A Svangstu Ranch 78.19 6 ⇓P P 23 33 39.6 +1.3
baz=78
MMNY Mt. Morris Dam 78.25 25 *eP* **P 23 33 38.0 -0.7**
comp=Z,167nm,1.3s
A26A Wade Farm, Ken 78.26 7 ⇑P P 23 33 39.4 +0.7
baz=79
B30A Myrvik Farm, E 78.28 9 ⇓P P 23 33 39.5 +0.7
baz=79
A05A Maple Falls 78.31 353 *eP* **P 23 33 38.2 -0.6**
comp=Z,114nm,1.5s
A27A Ledoux Ranch, 78.40 7 ⇓P P 23 33 40.2 +0.7
baz=79
A28A Rude Farm, Bot 78.47 8 ⇑P P 23 33 40.2 +0.3
baz=79
AGMN Agassiz Nation 78.52 11 *eP* **P 23 33 39.4 -0.7**
comp=Z,53nm,1.4s
AGMN LR LR
comp=Z,7µm,19.0s
BINY Binghamton 78.52 27 *eP* **P 23 33 38.7 -1.6**
comp=Z,272nm,1.9s
BINY LR LR
comp=Z,3µm,19.0s
A29A Manning Farm, 78.62 9 ⇓P P 23 33 40.9 +0.2
baz=79
A30A Hoffart Farm, 78.76 9 ⇑P P 23 33 42.5 +1.1
baz=79
EYMN Ely 79.02 14 *eP* **P 23 33 41.9 -0.9**
comp=Z,52nm,1.3s
EYMN LR LR
comp=Z,6µm,20.0s
CASY Casey 79.39 196 *eP* **P 23 33 45.4 +0.6**
comp=Z,51nm,1.4s
CASY LR LR
comp=Z,7µm,20.0s
SYO Syowa Base 79.96 170 *eP* **P 23 33 48.3 +0.5**
SYO Syowa Base 79.96 170 *iSP* sP 23 33 53.8 +1.4
SYO Syowa Base 79.96 170 *eP* **SKSac 23 44 03.7 -1.1**
CAN Canberra 80.15 235 PFAKE 23 34 00.0 +10
CAN LR LR
comp=Z,7µm,21.0s
ACCN Adirondack Com 80.44 27 *eP* **P 23 33 49.7 -1.0**
comp=Z,457nm,2.6s
WES Weston 80.60 30 *eP* **P 23 33 50.9 -0.6**
WES Weston 80.60 30 *eP* **P 23 33 50.9 -0.6**
NCB Newcomb 80.71 27 *eP* **P 23 33 50.6 -1.5**
comp=Z,129nm,1.4s
NCB LR LR
comp=Z,4µm,21.0s
PTN Potsdam (NY) 80.92 26 *eP* **P 23 33 53.3 +0.1**
PTN pmax pmax
comp=Z,314nm,1.8s
PTN Potsdam (NY) 80.92 26 *eP* **P 23 33 53.3 +0.1**
comp=Z,314nm,1.8s
LONY Lake Ozonia 81.11 26 *eP* **P 23 33 53.8 -0.5**
comp=Z,166nm,1.5s
LONY LR LR
comp=Z,3µm,22.0s
MDV Middlebury 81.15 27 *eP* **P 23 33 51.7 -2.7**
LBNH Lisbon 81.86 28 PFAKE 23 34 10.0 +12
LBNH LR LR
comp=Z,3µm,19.0s
EDM Edmonton 82.05 359 *eP* **P 23 33 57.4 -1.7**
EDM Edmonton 82.05 359 *eP* **P 23 33 57.4 -1.7**
MIR Mirnyy 82.64 190 *eP* **P 23 34 05.0 +2.9**
MIR *eS* S 23 44 26.0 +6.8
MIR *ePS* PnS 23 45 40.0 +32
MIR pmax pmax
comp=Z,94nm,1.5s
MIR pmax pmax
comp=Z,1µm,5.0s
EIDS Eidsvold 83.36 245 *eP* **P 23 34 06.3 -0.4**
comp=Z,151nm,1.8s
MAW Mawson 83.45 178 LR LR 00 09 18.6
comp=Z,10µm,18.2s,baz=179,slow=34
HNR Honiara 83.51 263 PFAKE 23 34 20.0 +12
HNR LR LR
comp=Z,685nm,22.0s
PKME Peaks-Kenny Pk 83.79 29 PFAKE 23 34 20.0 +12
PKME LR LR
comp=Z,3µm,20.0s
FFC Flin Flon 84.03 6 *eP* **P 23 34 08.2 -1.0**
FFC pmax pmax
comp=Z,259nm,1.7s
FFC MLR MLR
comp=Z,3µm,20.0s
FFC Flin Flon 84.03 6 *eP* **P 23 34 08.2 -1.0**
comp=Z,259nm,1.7s
FFC LR LR
comp=Z,3µm,20.0s
MIDW Midway 84.41 306 PFAKE 23 34 20.0 +8.2
MIDW LR LR
comp=Z,6µm,19.0s
WRAK Wrangell Islan 86.94 349 PFAKE 23 34 30.0 +6.4
WRAK LR LR
comp=Z,21µm,20.0s
STKA Stephens Creek 87.21 235 *eP* **P 23 34 24.9 -1.0**
comp=Z,18nm,1.9s
STKA Stephens Creek 87.21 235 P **P 23 34 25.8 -0.1**
comp=Z,3.1nm,1.1s,baz=193,slow=5.7,SNR=3.4
STKA LR LR 00 06 02.8
comp=Z,6µm,20.7s,baz=124,slow=31
DLBC Dease Lake 88.53 351 *eP* **P 23 34 29.8 -1.5**
CTA Charters Tower 89.85 247 *eP* **P 23 34 39.5 +0.9**
CTA Charters Tower 89.85 247 P **P 23 34 39.5 +0.9**
comp=Z,12nm,1.0s,baz=119,slow=7.9,SNR=5.6
CTAO Charters Tower 89.85 247 *eP* **P 23 34 36.4 -2.2**
CTAO pmax pmax
comp=Z,61nm,1.4s
CTAO MLR MLR
comp=Z,8µm,22.0s
CTAO Charters Tower 89.85 247 *eP* **P 23 34 36.4 -2.2**
comp=Z,61nm,1.4s
CTAO LR LR
comp=Z,8µm,22.0s
WAKE Wake Island 91.74 291 PFAKE 23 35 00.0 +13
WAKE LR LR
comp=Z,4µm,20.0s
HYT Haines Junctio 92.01 348 *eP* **P 23 34 44.8 -2.8**
SCHQ Schefferville 92.34 24 *eP* **P 23 34 47.0 -2.1**
comp=Z,175nm,2.1s
SCHQ Schefferville 92.34 24 P **P 23 34 49.7 +0.5**
comp=Z,6.9nm,0.9s,baz=243,slow=7.2,SNR=3.8
SCHQ LR LR 00 14 10.4
comp=Z,3µm,20.2s,baz=220,slow=34
KDAK Kodiak Island 92.98 340 PFAKE 23 35 00.0 +8.0
KDAK LR LR
comp=Z,14µm,20.0s
ASCN Ascension 93.06 101 PFAKE 23 35 00.0 +6.5
ASCN LR LR
comp=Z,3µm,19.0s
PMG Port Moresby 94.53 257 PFAKE 23 35 10.0 +10
PMG LR LR
comp=Z,7µm,20.0s
SACV Santiago Islan 96.05 76 PFAKE 23 35 20.0 +13
SACV LR LR
comp=Z,9µm,21.0s
SHEL Horse Pasture 96.16 112 PFAKE 23 35 20.0 +12
SHEL LR LR
comp=Z,4µm,19.0s
EGAK Eagle 96.31 348 PFAKE 23 35 20.0 +13
EGAK LR LR
comp=Z,9µm,19.0s
ILAR Eielson Array 97.44 346 LR LR 00 12 46.3
comp=Z,5µm,18.2s,baz=135,slow=32
AS12 Alice Springs 97.46 238 *eP* **P 23 35 12.8 -0.7**
ASAR Alice Springs 97.46 238 P **P 23 35 12.8 -0.7**
comp=Z,0.4nm,0.6s,baz=130,slow=5.3,SNR=4.5
ASAR LR LR 00 12 28.6
comp=Z,8µm,21.4s,baz=136,slow=31
COLA College 97.74 345 PFAKE 23 35 20.0 +6.4
COLA LR LR
comp=Z,6µm,19.0s
ADK Adak 98.40 326 PFAKE 23 35 30.0 +13
ADK LR LR
comp=Z,8µm,20.0s
WRAB Tennant Creek 99.30 241 PFAKE 23 35 30.0 +8.2
WRAB LR LR
comp=Z,26µm,21.0s
WRA Warramunga Arr 99.30 241 *eP* **Pdif 23 35 23.6 +1.8**
WRA Warramunga Arr 99.30 241 P **Pdif 23 35 23.6 +1.8**
comp=Z,0.9nm,0.9s,baz=133,slow=4.4,SNR=4.0
PAF Port-aux-Franc 101.80 182 PFAKE 23 35 40.0 +7.7
PAF LR LR
comp=Z,6µm,19.0s
NWAO Narrogin (SRO) 102.41 221 PFAKE 23 35 50.0 +15
NWAO LR LR
comp=Z,5µm,19.0s
ROSA Rosais 103.38 53 *e*LR LR 00 10 56.7
ROSA A A 00 10 59.4
comp=Z,196nm,4.0s
PGRA Graciosa 103.70 53 *e*LR LR 00 11 14.7
PGRA A A 00 11 17.7
comp=Z,174nm,2.3s
SUR Sutherland 104.32 140 PFAKE 23 35 50.0 +5.8
SUR LR LR
comp=Z,8µm,22.0s
PSET Sete Cidades 104.77 55 *e*LR LR 00 11 52.4
PSET A A 00 11 53.6
comp=Z,549nm,4.2s
CMLA Cha da Macela 104.89 55 *e*LR LR 00 11 49.9
CMLA A A 00 11 52.4
comp=Z,3µm,1.9s
CMLA Cha da Macela 104.89 55 PFAKE 23 36 00.0 +14
CMLA LR LR
comp=Z,5µm,19.0s
PSMN Pico do Norte, 104.89 56 *e*LR LR 00 12 22.4
PSMN A A 00 12 26.4
comp=Z,346nm,4.1s
SFJD Kangerlussuaq 106.44 21 PFAKE 23 40 10.0
SFJD LR LR
comp=Z,4µm,19.0s
GUMO Guam 107.57 276 PFAKE 23 40 20.0
GUMO LR LR
comp=Z,4µm,19.0s
MBWA Marble Bar 109.15 231 PFAKE 23 40 20.0
MBWA LR LR
comp=Z,15µm,20.0s
TSUM Tsumeb 111.81 129 *e*PKiKP **PKiKP 23 40 10.4 -4.6**
TSUM LR LR
comp=Z,6µm,20.0s
BORG Borgarnes 116.39 29 PFAKE 23 40 30.0 +7.9
BORG LR LR
comp=Z,5µm,20.0s
TOA0 Torodi Ar. Sit 117.14 90 *e*PKPdf **PKPdf 23 40 23.9 -1.1**
TORD Torodi Ar. Bea 117.14 90 PKP **PKPdf 23 40 24.5 -0.5**
comp=Z,0.8nm,0.8s,baz=226,slow=3.8,SNR=5.1
LIS Lisbon 117.25 59 *eP* **PKPdf 23 40 25.7 +1.2**
LIS *e*PP **PP 23 41 35.3 -0.4**
LIS AMS AMS 00 23 29.7
comp=Z,6µm,21.9s
LIS Lisbon 117.25 59 *e*PKIKP **PKPdf 23 40 25.7 +1.2**
LIS *e* 23 41 35.3
RTC Rabat Centre 117.61 65 PFAKE 23 40 40.0 +15
RTC LR LR
comp=Z,10µm,21.0s
YUK Yuzh-Kuril'sk 117.72 307 *i* PKIKP **PKPdf 23 40 27.2 +1.9**
YUK *i* PS **PS 23 51 27.5 +3.8**
YUK *i* SS SS 23 57 53.6 +2.1
YUK *i* SSS SSS 00 02 10.6
EVO Evora 118.05 59 *e*PKIKP **PKPdf 23 40 27.2 +1.1**
comp=Z,54nm,1.6s
MTE Manteigas 118.91 58 PFAKE 23 40 40.0 +12
MTE LR LR
comp=Z,5µm,19.0s
ERM Erimo 119.14 304 PFAKE 23 40 40.0 +12
ERM LR LR
comp=Z,3µm,20.0s
KAPI Kappang 119.57 245 PFAKE 23 40 40.0 +10
KAPI LR LR
comp=Z,6µm,20.0s
YSS Yuzh-Sakhalins 120.51 310 *i* PKIKP PKPdf 23 40 37.0 +6.5
YSS *e*SS SS 23 58 31.0 +3.6
YSS *e*SSS SSS 00 02 55.0
YSS MLR MLR
comp=N,1µm,18.0s
YSS MLR MLR
comp=E,2µm,18.0s
YSS MLR MLR
comp=Z,2µm,18.0s
PAB San Pablo 121.07 59 PFAKE 23 40 40.0 +8.0
PAB LR LR
comp=Z,8µm,22.0s
DAV Davao City (W) 121.37 260 PFAKE 23 40 40.0 +6.8
DAV LR LR
comp=Z,3µm,21.0s
ESDC Sonseca Array 121.39 59 *e*PKPdf **PKPdf 23 40 33.3 +0.7**
ESDC Sonseca Array 121.39 59 PKP **PKPdf 23 40 33.3 +0.7**
comp=Z,0.8nm,0.8s,baz=326,slow=2.3,SNR=4.9
MAJO Matsushiro 121.49 297 PFAKE 23 40 40.0 +7.2
MAJO LR LR
comp=Z,2µm,20.0s
LSZ Lusaka 121.62 134 PFAKE 23 40 40.0 +6.1
LSZ LR LR
comp=Z,6µm,21.0s
ESK Eskdalemuir 124.17 41 PFAKE 23 40 50.0 +13
ESK LR LR
comp=Z,3µm,20.0s
EKA Eskdalemuir Ar 124.19 41 *e*PKPdf **PKPdf 23 40 37.7 +0.3**
EKA Eskdalemuir Ar 124.19 41 PKP **PKPdf 23 40 37.7 +0.3**
comp=Z,1.2nm,0.9s,baz=180,slow=0.1,SNR=3.4
TAM Tamanrasset 124.31 81 PFAKE 23 40 50.0 +11
TAM LR LR
comp=Z,9µm,20.0s
KBS Kingsbay 124.82 11 PFAKE 23 40 50.0 +12
KBS LR LR
comp=Z,6µm,20.0s
GRR Gorron 125.08 49 *e*PKIKP **PKPdf 23 40 40.1 +0.8**
comp=Z,98nm,1.6s
EPF Esparros 125.22 56 *e*PKIKP **PKPdf 23 40 40.8 +1.0**
comp=Z,23nm,1.1s
RJF Les Rejaudoux 126.37 53 *e*PKIKP **PKPdf 23 40 42.6 +0.7**
MTLF Montolieu 126.62 56 *e*PKIKP **PKPdf 23 40 42.9 +0.5**
CAF Calviac 126.71 54 *e*PKIKP **PKPdf 23 40 43.7 +1.1**
comp=Z,32nm,1.4s
BGF Bois d'Agland 127.41 52 *e*PKIKP **PKPdf 23 40 44.7 +0.9**
comp=Z,83nm,1.5s
KLR Kul'dur 128.09 311 *e*PKIKP PKPdf 23 40 52.2 +7.2
SMF Signal de Mont 128.10 52 *e*PKIKP **PKPdf 23 40 45.8 +0.6**
comp=Z,41nm,1.4s
LOR Lormes 128.16 51 *e*PKIKP **PKPdf 23 40 46.1 +0.8**
comp=Z,43nm,1.5s
ABPO Ambohimpanom 128.18 155 PFAKE 23 41 00.0 +14
ABPO LR LR
comp=Z,5µm,20.0s
SSB Saint Sauveur 128.49 54 PFAKE 23 41 00.0 +14
SSB LR LR
comp=Z,3µm,20.0s
BAIF Baives 128.50 47 *e*PKIKP **PKPdf 23 40 46.9 +1.1**
comp=Z,15nm,1.0s
VIVF Saint-Julien-l 128.55 54 *e*PKIKP **PKPdf 23 40 47.2 +1.1**
RER Riviere de l'E 128.65 166 PFAKE 23 41 00.0 +13
RER LR LR
comp=Z,3µm,21.0s
KKM Kota Kinabalu 128.81 253 PFAKE 23 41 00.0 +12
KKM LR LR

comp=Z,4μm,20.0s
SFTF Sexfontaines 129.00 50 *e*PKIKP **PKPdf 23 40 47.9 +1.1**
comp=Z,90nm,1.5s
MEZF Maizieres J'vi 129.01 49 *e*PKIKP **PKPdf 23 40 48.1 +1.3**
comp=Z,60nm,1.4s
SMRF Simiane la Rot 129.12 55 *e*PKIKP **PKPdf 23 40 48.9 +1.7**
comp=Z,98nm,1.7s
MDJ Mudanjiang 129.31 305 PKP **PKPdf 23 40 48.4 +0.9**
MDJ SS SS 00 00 20.6 +2.2
MDJ LR LR
comp=N,900nm,25.2s
MDJ LR LR
comp=E,3μm,25.2s
MDJ LR LR
comp=Z,4μm,25.2s
MDJ Mudanjiang 129.31 305 PFAKE 23 41 00.0 +12
MDJ LR LR
comp=Z,3μm,22.0s
ORIF Oris-en-Rattie 129.41 54 *e*PKIKP **PKPdf 23 40 49.2 +1.4**
comp=Z,39nm,1.5s
KSRS Korea Array 129.73 296 PKP **PKPdf 23 40 48.1 -0.3**
comp=Z,0.5nm,0.3s,baz=102,slow=5.1,SNR=3.9
WLF Walferdange 129.75 48 PFAKE 23 41 00.0 +12
WLF LR LR
comp=Z,4μm,19.0s
KS15 Wonju Array Si 129.76 296 *e*PKPdf **PKPdf 23 40 48.1 -0.4**
FRF La Foret Royal 129.86 56 *e*PKIKP **PKPdf 23 40 49.6 +1.0**
comp=Z,88nm,1.6s
HAU Haudompre 129.87 50 *e*PKIKP **PKPdf 23 40 49.5 +1.0**
comp=Z,50nm,1.6s
BNI Bardonecchia 129.98 54 PFAKE 23 41 00.0 +11
BNI LR LR
comp=Z,7μm,21.0s
LPL La Plagne 130.04 53 *e*PKIKP **PKPdf 23 40 51.1 +1.9**
comp=Z,82nm,1.7s
LPG La Plagne 130.06 53 *e*PKIKP **PKPdf 23 40 51.2 +1.9**
comp=Z,132nm,1.8s
COCO West Island 130.17 219 PFAKE 23 41 00.0 +10
COCO LR LR
comp=Z,3μm,20.0s
HINF Hinteralfeld 130.21 50 *e*PKIKP **PKPdf 23 40 50.0 +0.8**
ECH Echery 130.41 50 PFAKE 23 41 00.0 +10
ECH LR LR
comp=Z,3μm,19.0s
KONO Kongsberg 130.73 35 PFAKE 23 41 00.0 +10
KONO LR LR
comp=Z,3μm,21.0s
INCN Inchon 130.75 296 PFAKE 23 41 00.0 +10
INCN LR LR
comp=Z,3μm,19.0s
KSM Kuching 130.97 244 PFAKE 23 41 00.0 +8.4
KSM LR LR
comp=Z,4μm,20.0s
BFO Black Forest 131.20 50 PFAKE 23 41 00.0 +9.0
BFO LR LR
comp=Z,3μm,19.0s
VSL Villasalto 131.51 62 PFAKE 23 41 00.0 +8.1
VSL LR LR
comp=Z,3μm,20.0s
TUE Stuetta 131.89 52 *e*PKPdf **PKPdf 23 40 54.8 +2.2**
TUE LR LR
comp=Z,4μm,20.0s
BSEG Bad Segeberg 132.06 42 *e*PKPdf PKPdf 23 41 00.3 +7.9
BSEG Bad Segeberg 132.06 42 *e*PKIKP PKPdf 23 41 00.3 +7.9
UBBA Unterbreizbach 132.18 46 *e*PKPdf PKPdf 23 41 00.7 +8.1
CN2 Changchun 132.24 304 *e*PKP **PKPdf 23 40 56.3 +3.2**
CN2 PP PP 23 43 22.3 +6.3
CN2 SS SS 00 00 58.4 +4.0
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,1μm,20.0s
CN2 LR LR
comp=E,2μm,20.0s
CN2 LR LR
comp=Z,2μm,21.0s
TATO Taipei 132.25 278 PFAKE 23 41 00.0 +6.3
TATO LR LR
comp=Z,3μm,22.0s
YHNB Yeheng 132.25 278 PFAKE 23 41 10.0 +16
YHNB LR LR
comp=Z,3μm,22.0s
DAVA Damuels 132.26 51⇓ *i*sPKiKP sPKiKP 23 41 01.7 +2.8
comp=Z,15nm,1.5s
CLZ Clausthal 132.33 45 *e*PKPdf PKPdf 23 41 01.1 +8.1
CLZ Clausthal 132.33 45 *e*PKIKP PKPdf 23 41 01.1 +8.1
FUORN Ofenpass-Fuorn 132.53 52 *e*PKPdf **PKPdf 23 40 54.3 +0.4**
VLC Villacollemand 132.59 55 PFAKE 23 41 00.0 +6.2
VLC LR LR
comp=Z,4μm,21.0s
FETA Feichten 132.84 51⇑ *i*pPKPdf pPKPdf 23 40 56.3 -1.4
comp=Z,18nm,2.0s
RETA Reutte 132.85 51⇓ *i*pPKPdf pPKPdf 23 40 56.4 -1.3
comp=Z,17nm,1.7s
GRFO Grafenberg 133.04 48 *e*PKIKP **PKPdf 23 40 53.8 -0.6**
GRFO Grafenberg 133.04 48 *e*PKPdf **PKPdf 23 40 53.8 -0.6**
GRF Grafenberg Arr 133.04 48 *e*L L 00 43 14.2
comp=Z,4μm,19.7s
MOTA Moosalm 133.09 51⇑ *i*PKPdf **PKPdf 23 40 54.3 -0.5**
comp=Z,28nm,1.4s
MOX Moxa 133.22 46 *e*PKPdf PKPdf 23 41 01.6 +6.9
MOX Moxa 133.22 46 *e*L L 00 37 42.6
comp=Z,5μm,19.8s
WTTA Wattenberg 133.45 51⇓ *i*pPKPdf pPKPdf 23 40 58.0 -1.0
comp=Z,34nm,1.7s
ROTZ Rotzenmuhle 133.67 48 *e*PKPdf PKPdf 23 41 03.3 +7.7
TANN Tannenbergstha 133.78 47 *e*PKPdf PKPdf 23 41 03.4 +7.5
MBAR Mbarara 133.93 123 *e*PKPdf **PKPdf 23 40 54.1 -3.4**
CLL Collm 134.02 45 *e*PKPdf PKPdf 23 41 04.0 +7.8
CLL Collm 134.02 45 *e*PKIKP **PKPdf 23 40 57.0 +0.8**
CLL MLR MLR
comp=Z,4μm,18.6s
CLL Collm 134.02 45 *e*PKPdf **PKPdf 23 40 57.0 +0.8**
CLL *e*PKPdfmax 23 41 03.0
comp=Z,95nm,2.7s
CLL *i* sPKPdfm 23 41 07.5
comp=Z,41nm,1.8s
CLL *i* 23 41 10.9
comp=Z,76nm,2.1s
CLL *e* 23 41 33.0
CLL *e*PP **PP 23 43 30.0 +3.0**
CLL *e* 23 44 14.0
CLL *e*PKSdf **PKSdf 23 44 32.0 -0.3**
comp=Z,400nm,19.0s
CLL *e*Sdif Sdif 23 51 46.0 +3.8
CLL *e*PS **PS 23 53 41.0 -5.8**
CLL *e*PSmax 23 54 05.0
CLL *e*PPS PPS 23 55 26.0
CLL *e*PPSmax 23 55 55.0
CLL *e*SS **SS 00 01 14.0 -1.3**
CLL *e* 00 03 15.0
CLL *e*SSS SSS 00 06 18.0
CLL *e*PPPrev 00 08 30.0
CLL Lm MLR 00 38 00.0
comp=N,2μm,19.9s
CLL Lm MLR 00 38 00.0
comp=E,3μm,18.6s
CLL Lm MLR 00 38 00.0
comp=Z,4μm,18.6s
CLL L(360 01 18 00.0
comp=Z,1μm,21.8s
ABTA Abfaltersbach 134.07 52⇑ *i*sPKiKP sPKiKP 23 41 03.6 +1.2
comp=Z,13nm,2.0s
WET Wettzell 134.16 48 *e*PKPdf PKPdf 23 41 04.0 +7.4
WET Wettzell 134.16 48 *e*PKIKP PKPdf 23 41 04.0 +7.4
KHC Kasperske Hory 134.62 48 *e*PKIKP **PKPdf 23 40 57.2 -0.3**
KHC *e* 23 41 04.8
KHC *e* 23 43 29.1
KHC Kasperske Hory 134.62 48 *e*PKP **PKPdf 23 40 57.2 -0.3**
KHC *ex* x 23 41 04.8
KHC *e*PP **PP 23 43 29.1 -1.9**
KHC *e*SKP 23 44 34.5
KHC Kasperske Hory 134.62 48 *e*PKPdf **PKPdf 23 40 56.6 -0.8**
KBA Koelnbreinsper 134.62 51⇑ *i*sPKiKP sPKiKP 23 41 04.4 +0.7
comp=Z,11nm,1.6s
BRG Berggiesshubel 134.66 46 *e*PKP **PKPdf 23 41 01.0 +3.6**
comp=Z,24nm,1.6s
BRG *e* 23 41 10.1
comp=Z,49nm,2.1s
BRG PP **PP 23 43 31.0 -0.1**
BRG *i* 23 44 32.0
BRG *i* 23 50 29.0
BRG SDIFF 23 51 51.0
BRG Berggiesshubel 134.66 46 *e*PKPdf PKPdf 23 41 04.1 +6.7
BRG Berggiesshubel 134.66 46 *e*PKIKP **PKPdf 23 41 01.0 +3.6**

BRG *e* 23 41 10.1
BRG 23 43 31.0
BRG pmax pmax
comp=Z,6.0nm,1.7s
BRG pmax pmax
comp=Z,25nm,2.1s
GEC2 GERESS Array S 134.73 49 *e*PKPdf PKPdf 23 41 04.9 +7.2
GEC2 GERESS Array S 134.73 49 *e*PKIKP **PKPdf 23 40 57.2 -0.6**
GEC2 GERESS Array S 134.73 49 *e*PKPdf **PKPdf 23 40 57.2 -0.6**
GERES GERESS Array B 134.73 49 PKP **PKPdf 23 40 57.1 -0.6**
comp=Z,0.9nm,0.9s,baz=23,slow=5.3,SNR=7.0
DL2 Dalian 134.83 297 PKP **PKPdf 23 40 58.3 +0.2**
DL2 LR LR
comp=N,560nm,32.4s
DL2 LR LR
comp=Z,750nm,25.3s
PRA Prague 135.07 47 PKP **PKPdf 23 40 58.0 -0.2**
PRA PP **PP 23 43 34.0 +0.3**
PVCC Panska Ves 135.10 46 *e*PKIKP **PKPdf 23 41 02.2 +4.0**
PVCC Panska Ves 135.10 46 *e*PKP **PKPdf 23 41 02.2 +4.0**
PRU Pruhonice 135.15 47 *e*PKIKP **PKPdf 23 40 57.3 -1.1**
PRU *e* 23 43 34.1
PRU Pruhonice 135.15 47 *e*PKP **PKPdf 23 40 57.3 -1.1**
PRU *e*PP **PP 23 43 34.1 -0.1**
PRU *e*SKP 23 44 34.0
PRU *ex* x 23 55 51.1
OBKA Obir 135.49 52⇓ *i*PP PP 23 43 40.6 +4.0
SOKA Soboth 135.81 52⇑ *i*pPKPdf **pPKPdf 23 41 02.1 -1.1**
comp=Z,1.2nm,0.8s
SOKA ⇑ *i*sPKiKP sPKiKP 23 41 10.0 +4.0
comp=Z,8.5nm,1.5s
TREC Trest 135.85 48 *e*PP PP 23 43 36.5 -2.2
HIA Hailar 135.94 312 PFAKE 23 41 10.0 +10
HIA LR LR
comp=Z,3μm,19.0s
UPC Upice 136.01 46 *e*PKIKP **PKPdf 23 41 01.1 +1.1**
UPC *e* 23 41 08.3
UPC Upice 136.01 46 *e*PKP **PKPdf 23 41 01.1 +1.1**
UPC *ex* x 23 41 08.3
KSP Ksiaz 136.14 46 *e*PKIKP **PKPdf 23 41 04.3 +4.1**
KSP *e* 23 43 39.0
KSP *e*SP SP 23 53 56.0 -6.6
KSP *e*SS **SS 00 01 41.0 +0.2**
KSP MLR MLR
comp=Z,10μm,19.3s
DPC Dobruska-Polom 136.24 46 *e*PKIKP **PKPdf 23 40 58.8 -1.6**
DPC *e* 23 41 00.1
DPC Dobruska-Polom 136.24 46 *e*PKP **PKPdf 23 41 04.4 +4.0**
DPC *ex* x 23 41 12.2
DPC Dobruska-Polom 136.24 46 *e*PKPpre PKPpre 23 40 58.8
DPC *e*PKPdf **PKPdf 23 41 00.1 -0.4**
CONA Conrad Observa 136.26 50⇓ *i*pPKPdf pPKPdf 23 41 03.7 -0.3
CONA Conrad Observa 136.26 50 P PKPdf 23 41 12.0 +11
comp=Z,15nm,1.8s
CEL Celeste 136.46 64 PFAKE 23 41 10.0 +8.8
CEL LR LR
comp=Z,6μm,21.0s
APA Apatity 136.48 18⇓ *i*PKIKP PKPdf 23 41 09.8 +10
CUC Castrocucco 136.49 61 *e*PKPdf **PKPdf 23 40 57.9 -3.4**
CUC LR LR
comp=Z,3μm,19.0s
KRLC Kraliky 136.57 47 *e*PKIKP **PKPdf 23 41 01.6 +0.5**
KRLC *e* 23 41 08.8
KRLC Kraliky 136.57 47 *e*PKP **PKPdf 23 41 01.6 +0.5**
KRLC *e*pPKP **pPKPdf 23 41 08.8 +4.3**
OKC Ostrava-Krasne 137.48 47 *e*PKIKP **PKPdf 23 41 02.9 +0.2**
OKC *e* 23 41 09.9
OKC *e* 23 43 46.5
OKC Ostrava-Krasne 137.48 47 *e*PKP **PKPdf 23 41 02.9 +0.2**
OKC *e*pPKP **pPKPdf 23 41 09.9 +3.8**
OKC *e*PP **PP 23 43 46.5 -2.3**
KMBO Kilima Mbogo 138.11 131 PFAKE 23 41 20.0 +15
KMBO LR LR
comp=Z,5μm,21.0s
VYHS Vyhne 138.15 49 *e*PKIKP PKPdf 23 41 12.2 +8.2
VYHS Vyhne 138.15 49 *e*PKP PKPdf 23 41 12.2 +8.2
PKSM Moragy 138.33 52 ⇓PKIKP **PKPdf 23 41 08.9 +4.5**
PKSM Moragy 138.33 52 ⇓ *i*P **PKPdf 23 41 08.9 +4.5**
PSZ Piszkesteto 138.94 49 PFAKE 23 41 20.0 +14
PSZ LR LR
comp=Z,3μm,21.0s
BJI Beijing 139.09 299 PKP **PKPdf 23 41 06.4 +0.5**
BJI SS SS 00 02 17.3 +0.7
BJI LR LR
comp=N,1μm,23.9s
BJI LR LR
comp=E,3μm,24.5s
BJI LR LR
comp=Z,3μm,24.5s
BJT Baijiatuau 139.09 299 PFAKE 23 41 20.0 +14
BJT LR LR
comp=Z,3μm,22.0s
SUW Suwalki 139.43 40 *e*PKIKP **PKPdf 23 41 04.0 -2.1**
SUW Suwalki 139.43 40 *e*PKPdf **PKPdf 23 41 04.0 -2.1**
STHS Stebnicka Huta 139.54 47 *e*PKIKP PKPdf 23 41 16.5 +10
STHS Stebnicka Huta 139.54 47 *e*PKP PKPdf 23 41 16.5 +10
TIR Tirane 139.58 59 PFAKE 23 41 20.0 +13
TIR LR LR
comp=Z,3μm,21.0s
WHN Wuhan 139.73 284 PKP **PKPdf 23 41 05.6 -1.8**
WHN PP **PP 23 44 04.5 +1.0**
WHN SS SS 00 02 28.0 +3.3
WHN LR LR
comp=N,7μm,20.9s
WHN LR LR
comp=E,3μm,20.5s
WHN LR LR
comp=Z,6μm,20.5s
KOLS Kolonicke sedl 140.30 47 *e*PKIKP PKPdf 23 41 15.6 +7.7
KOLS Kolonicke sedl 140.30 47 *e*PKP PKPdf 23 41 15.6 +7.7
UZH Uzhgorod 140.38 48 *e*PKIKP **PKPdf 23 41 05.0 -3.0**
UZH *i* 23 41 08.1
UZH *e* 23 47 07.1
UZH MLR MLR
comp=N,1μm,19.0s
UZH MLR MLR
comp=E,630nm,19.0s
UZH MLR MLR
comp=Z,900nm,19.0s
QIZ Qiongzhong 140.40 265 PKP **PKPdf 23 41 07.5 -1.5**
QIZ SS SS 00 02 33.0 +0.3
QIZ LR LR
comp=N,1μm,20.0s
QIZ LR LR
comp=E,450nm,19.6s
QIZ LR LR
comp=Z,2μm,24.7s
QIZ Qiongzhong 140.40 265 PFAKE 23 41 20.0 +11
QIZ LR LR
comp=Z,2μm,22.0s
KWP Kalwaria Pacla 140.42 46 PFAKE 23 41 20.0 +12
KWP LR LR
comp=Z,3μm,21.0s
BZS Buzias 140.47 53 ⇓PKIKP PKPdf 23 41 13.6 +5.3
BZS Buzias 140.47 53 ⇓ *i*P PKPdf 23 41 13.6 +5.3
KULM Kulim 140.81 239 PFAKE 23 41 20.0 +10
KULM LR LR
comp=Z,4μm,21.0s
LVV L'vov 141.20 46 *e*PKHKP PKPpre 23 41 02.2
LVV *e* 23 44 09.8
MICGM Minsk 141.79 37 *e* **PKPdf 23 41 08.0 -2.4**
PLG Polygyros 142.33 61 P **PKPdf 23 41 10.5 -1.4**
PLG Polygyros 142.33 61 *e*PKIKP **PKPdf 23 41 10.5 -1.4**
PLG Polygyros 142.33 61 *e*PKPdf **PKPdf 23 41 10.5 -1.4**
BUR04 Bucovina Ar. S 142.52 49 *e*PKPpre PKPpre 23 41 08.6
HHC Hu-ho-hao-te 142.58 300 *e*PKP **PKPdf 23 41 15.6 +3.2**
HHC PP PP 23 44 26.8 +6.1
HHC PKS **PKSdf 23 44 50.6 +2.4**
HHC SKS **SKSdf 23 48 23.4 +1.0**
HHC SKKS **SKKSac 23 51 17.1 +3.4**
HHC SS **SS 00 03 02.0 +4.5**
HHC AMB AMB
comp=Z,410nm,6.0s
HHC LR LR
comp=N,4μm,17.8s
HHC LR LR
comp=E,4μm,20.2s
HHC LR LR
comp=Z,5μm,20.2s
ARR Arges 142.60 52⇓ *i*P **PKPdf 23 41 10.2 -2.0**
OUR Ouranopolis 142.75 61 P **PKPdf 23 41 10.6 -1.9**
OUR Ouranopolis 142.75 61 *e*PKIKP **PKPdf 23 41 10.6 -1.9**
OUR Ouranopolis 142.75 61 *e*PKPdf **PKPdf 23 41 10.6 -1.9**

PLD Plovdiv 143.13 58 P PKPbc 23 41 10.7 +0.6
PLD Plovdiv 143.13 58 *e*P **PKPdf 23 41 12.3 -0.9**
KLMR Klimovskoe 143.16 23 *e*PKIKP **PKPdf 23 41 17.7 +5.1**
KLMR *e* 23 44 24.5
KLMR pmax pmax
comp=Z,111nm,1.6s
DGAR Diego Garcia 143.34 188 PFAKE 23 41 30.0 +16
DGAR LR LR
comp=Z,4μm,21.0s
SIVA Sivas 143.42 70 P **PKPdf 23 41 12.9 -1.0**
SIVA Sivas 143.42 70 *e*PKPdf **PKPdf 23 41 12.9 -1.0**
MLR Muntele Rosu 143.49 52 *e*PKPdf PKPbc 23 41 11.9 +0.7
MLR Muntele Rosu 143.49 52 PKP PKPbc 23 41 11.9 +0.7
comp=Z,3.7nm,1.0s,baz=276,slow=0.7,SNR=18
IDI Anoyia 143.50 69 *e*P **PKPdf 23 41 13.1 -1.1**
IDI Anoyia 143.50 69 P PKPbc 23 41 11.9 +0.5
IDI Anoyia 143.50 69 *e*PKPdf PKPbc 23 41 12.0 +0.6
IDI Anoyia 143.50 69 PKP PKPbc 23 41 12.3 +0.9
comp=Z,10.0nm,0.9s,baz=272,slow=2.2,SNR=5.6
KDZ Kurdzhali 143.72 58 *e*P **PKPdf 23 41 14.0 -0.2**
BTO Baotou 143.77 300 *e*P PKPab 23 41 10.0 -1.4
ENH Enshi 143.83 282 *e*PKPpre PKPpre 23 41 09.5
ENH *e*PKPdf PKPbc 23 41 12.8 +0.3
ENH LR LR
comp=Z,15nm,19.0s
RDO Rodhopi 143.86 59 P PKPab 23 41 11.4 -0.1
RDO Rodhopi 143.86 59 *e*PKPpre PKPab 23 41 11.4 -0.1
SZH Strazhica 143.88 56 *i* P PKPab 23 41 11.6 0.0
PLOR Plostina 143.89 51 ⇑PKIKP PKPbc 23 41 12.9 +0.7
PLOR Plostina 143.89 51 ⇑ *i*P PKPbc 23 41 12.9 +0.7
SMTH Samothraki Isl 143.91 60 P PKPbc 23 41 13.0 +0.6
VRI Vrincioaia 143.94 51 ⇓PKIKP PKPbc 23 41 12.9 +0.6
VRI Vrincioaia 143.94 51 ⇓ *i*P PKPbc 23 41 12.9 +0.6
ISR Istrita 143.98 52 ⇓PKIKP PKPbc 23 41 13.5 +1.0
ISR Istrita 143.98 52 ⇓ *i*P PKPbc 23 41 13.5 +1.0
LAST Lasithi 143.98 69 P PKPab 23 41 10.4 -1.9
LAST Lasithi 143.98 69 *e*PKPpre PKPab 23 41 10.4 -1.9
SANT Santorini 144.00 67 P **PKPdf 23 41 15.9 +1.0**
SANT Santorini 144.00 67 *e*PKPdf PKPbc 23 41 13.2 +0.4
SANT LR LR
comp=Z,4μm,22.0s
APE Apeiranthos 144.06 66 *e*P **PKPdf 23 41 15.4 +0.3**
APE Apeiranthos 144.06 66 ⇓PKIKP **PKPab 23 41 12.5 0.0**
APE Apeiranthos 144.06 66 ⇓ *i*P **PKPab 23 41 12.5 0.0**
KIEV Kiev 144.06 42 *e*PKIKP **PKPab 23 41 11.9 -0.1**
KIEV MLR MLR
comp=Z,3μm,21.0s
KIEV Kiev 144.06 42 *e*PKPdf **PKPab 23 41 11.9 -0.1**
KIEV LR LR
comp=Z,3μm,21.0s
AKASG Malin Array Be 144.07 42 PKP PKPbc 23 41 12.5 0.0
comp=Z,3.9nm,0.7s,baz=285,slow=3.8,SNR=18
AKBB Malin Array Si 144.07 42 *e*PKIKP PKPbc 23 41 12.5 0.0
AKBB Malin Array Si 144.07 42 *e*PKPdf PKPbc 23 41 12.5 0.0
NPS Neapolis 144.09 69 P **PKPab 23 41 12.6 -0.1**
ALN Alexandroupoli 144.26 60 P **PKPdf 23 41 15.5 +0.3**
ALN Alexandroupoli 144.26 60 *e*PKIKP **PKPdf 23 41 15.5 +0.3**
ALN Alexandroupoli 144.26 60 *e*PKPdf **PKPdf 23 41 15.5 +0.3**
MSEY Mahe Island 144.36 159 PFAKE 23 41 30.0 +14
MSEY LR LR
comp=Z,4μm,22.0s
BOZC Bozcaada 144.36 61 *i* P **PKPab 23 41 12.3 -1.2**
CHOS Chios island 144.45 64 P **PKPab 23 41 13.4 -0.6**
ULN Ulaanbaatar 144.47 313 PFAKE 23 41 30.0 +14
ULN LR LR
comp=Z,5μm,21.0s
JMB Yambol 144.47 57 P PKPbc 23 41 14.4 +0.3
JMB Yambol 144.47 57 *e*PKIKP PKPbc 23 41 14.4 +0.3
JMB Yambol 144.47 57 *e*PKPdf PKPbc 23 41 14.4 +0.3
JMB Yambol 144.47 57 *e*P **PKPdf 23 41 15.4 -0.1**
IRK Irkutsk 144.51 321 *e*PKIKP PKPbc 23 41 13.8 -0.1
IRK pmax pmax
comp=Z,174nm,2.7s
PRK Paraskevi 144.57 62 P **PKPab 23 41 13.6 -0.7**
PRK Paraskevi 144.57 62 *e*PKIKP **PKPab 23 41 13.6 -0.7**
PRK Paraskevi 144.57 62 *e*PKPdf **PKPab 23 41 13.6 -0.7**
EZN Ezine 144.57 61 *e*P **PKPdf 23 41 20.7 +5.0**
ZKR Zakros 144.58 70 P **PKPdf 23 41 16.1 +0.2**
ZKR Zakros 144.58 70 *e*PKPdf **PKPdf 23 41 16.1 +0.2**
GELI Tayfur-Gelibol 144.64 60 *e*P **PKPab 23 41 14.1 -0.4**
EDRB Edirne 144.68 58 *e*P **PKPab 23 41 13.9 -0.6**
EDRB Edirne 144.68 58 P **PKPab 23 41 13.7 -0.9**
EDRB Edirne 144.68 58 *e*PKPdf **PKPab 23 41 13.7 -0.9**
XAN Xi'an 144.72 289 PKP PKPbc 23 41 15.3 +0.1
XAN PKS **PKSdf 23 44 49.6 -2.3**
XAN SKS **SKSdf 23 48 23.5 -2.3**
XAN AMB AMB
comp=Z,130nm,7.0s
XAN LR LR
comp=N,1μm,21.0s
XAN LR LR
comp=E,860nm,21.4s
XAN LR LR
comp=Z,830nm,21.0s
LEOM Leova 144.81 50 ⇑PKIKP **PKPdf 23 41 15.6 -0.3**
LEOM Leova 144.81 50 ⇑ *i*P **PKPdf 23 41 15.6 -0.3**
LPK Lapseki 144.86 60 *e*P **PKPdf 23 41 15.9 -0.3**
URLA Izmir 144.87 64 *i* P **PKPab 23 41 14.0 -1.5**
SONA1 Songino Array 144.89 313 *e*PKPdf **PKPab 23 41 14.1 -1.3**
AYVA Ayvalik 144.89 62 *i* P PKPbc 23 41 15.6 +0.1
SONA0 Songino Array 144.90 313 *e*PKPdf **PKPab 23 41 14.3 -1.1**
SONM Songino Array 144.90 313 PKP **PKPab 23 41 14.3 -1.1**
comp=Z,18nm,0.9s,baz=101,slow=2.3,SNR=5.8
PRD Provadia 144.95 55 *i* P **PKPdf 23 41 16.1 -0.2**
KIS Kishinev 145.05 49 *e*PKIKP **PKPab 23 41 16.0 +0.2**
KIS Kishinev 145.05 49 *e*PKP2 PKPdf 23 41 22.5 +6.2
KIS Kishinev 145.05 49 *e*PP PP 23 44 40.0 +5.0
KIS Kishinev 145.05 49 *e*PKIKP **PKPab 23 41 16.0 +0.2**
KIS *e* 23 41 22.5
KIS *e* 23 44 40.0
KIS *e*PPP PPP 23 47 52.0
KIS *e* 23 48 28.0
KIS *e* 23 57 08.0
KIS *e*SSS SSS 00 08 52.0
TLY Talaya 145.11 320 *e*PKIKP **PKPdf 23 41 18.4 +2.0**
TLY pmax pmax
comp=N,30nm,1.4s
RKY Sarkoy-Tekirda 145.14 60 *e*P **PKPbc 23 41 14.1 -2.3**
SART Tekirdag 145.14 60 *i* P **PKPbc 23 41 16.4 0.0**
KRBG Karabiga-Canak 145.26 60 *e*P **PKPdf 23 41 18.8 +1.9**
PHSR Pinarhisar 145.28 58 *e*P **PKPbc 23 41 15.8 -0.9**
KARP Karpathos 145.37 69 P **PKPab 23 41 18.0 +0.6**
KARP Karpathos 145.37 69 *e*PKPdf **PKPab 23 41 18.0 +0.6**
TKR Tekirdag 145.38 59 *e*P **PKPbc 23 41 12.2 -4.8**
NIS1 Nisyros Isl. 145.38 67 P **PKPab 23 41 21.5 +4.1**
GCAM G?zelcaml? 145.40 65 *i* P **PKPab 23 41 17.4 0.0**
TIRR Tirgusor 145.42 53 ⇓PKIKP **PKPab 23 41 17.7 +0.5**
TIRR Tirgusor 145.42 53 ⇓*e*PKPbc **PKPbc 23 41 16.6 -0.4**
TIRR Tirgusor 145.42 53 ⇓ *i*P **PKPab 23 41 17.7 +0.5**
PSN Preselentsi 145.42 54 *i* P PKPbc 23 41 09.7 -7.3
BODT Bodrum 145.48 66 *e*P **PKPab 23 41 19.3 +1.5**
GYA Guiyang 145.52 275 ⇑ *i*PKPbc **PKPdf 23 41 17.6 -0.4**
GYA PP **PP 23 44 42.0 +3.2**
GYA PKS **PKSdf 23 44 51.3 -2.4**
GYA SKKS 23 51 29.4
GYA SS **SS 00 03 31.3 -0.9**
GYA AMB AMB
comp=Z,820nm,7.6s
GYA LR LR
comp=N,2μm,22.6s
GYA LR LR
comp=E,1μm,23.4s
GYA LR LR
comp=Z,3μm,21.0s
BALY Balya 145.57 61 *i* P **PKPdf 23 41 16.7 -0.9**
BDRM Kayabasi 145.59 66 *i* P **PKPdf 23 41 16.0 -1.7**
GONE Gonen-Balikesi 145.60 61 *e*P **PKPab 23 41 18.6 +0.6**
DAT Datca 145.70 67 *e*P **PKPab 23 41 19.8 +1.1**
AKHS Akhisar 145.80 63 *i* P **PKPdf 23 41 18.1 +0.2**
OBN Obninsk 145.80 32 *i* PKP2 **PKPdf 23 41 16.2 -1.1**
OBN *i* 23 44 41.6
OBN *i* SS SS 00 03 34.9 +2.3
OBN pmax pmax
comp=Z,85nm,1.6s
OBN MLR MLR
comp=Z,5μm,20.0s
SLVT Silivri 145.85 59 *e*P **PKPab 23 41 21.6 +2.7**
ZAK Zakamensk 145.88 318 *e*PKP2 **PKPdf 23 41 18.0 +0.2**
MOS Moscow 145.90 30 *e*PKIKP **PKPab 23 41 18.5 -0.1**
MOS *e* 23 44 40.4
MOS pmax pmax
comp=Z,122nm,1.9s

MOS				pmax	pmax		
	comp=Z,300nm,2.3s						
MOS				MLR	MLR		
	comp=N,2μm,20.0s						
MOS				MLR	MLR		
	comp=E,500nm,20.0s						
MOS				MLR	MLR		
	comp=Z,3μm,20.0s						
AYDN	**Tasoluk**	**145.92**	**65**	*i* P	**PKPdf**	**23 41 18.3**	**0.0**
ELBA	**Catalca**	**146.03**	**59**	*i* P	**PKPdf**	**23 41 18.4**	**+0.1**
KCTX	**Karacabey (Bur**	**146.08**	**60**	*e*P	**PKPab**	**23 41 19.8**	**-0.1**
FURI	**Furi**	**146.13**	**121**	*e*PKPdf	**PKPab**	**23 41 22.7**	**+1.6**
ARG	**Arkhangelos**	**146.15**	**68**	P	**PKPbc**	**23 41 19.2**	**-0.4**
ARG	**Arkhangelos**	**146.15**	**68**	*e*PKP2	**PKPbc**	**23 41 19.2**	**-0.4**
ARG	**Arkhangelos**	**146.15**	**68**	*e*PKPdf	**PKPbc**	**23 41 19.2**	**-0.4**
DURS	**Dursunbey**	**146.25**	**62**	*i* P	**PKPdf**	**23 41 17.8**	**-1.0**
YER	**Yerkesik**	**146.26**	**66**	*e*P	**PKPbc**	**23 41 19.8**	**-0.2**
BGKT	**Bogazkoy**	**146.28**	**59**	*e*P	**PKPdf**	**23 41 18.8**	**+0.2**
ARMT	**Armutlu**	**146.43**	**60**	*e*P	**PKPab**	**23 41 21.6**	**+0.4**
KLYT	**Kilyos**	**146.47**	**58**	*e*P	**PKPdf**	**23 41 17.9**	**-1.1**
MDNY	**Mudanya-Bursa**	**146.47**	**60**	*e*P	**PKPab**	**23 41 21.6**	**+0.3**
DEMI	**Demirci**	**146.48**	**62**	*i* P	**PKPdf**	**23 41 19.8**	**+0.6**
KULA	**Kula-Manisa**	**146.48**	**63**	*e*P	**PKPab**	**23 41 23.6**	**+2.0**
KULA	**Kula-Manisa**	**146.48**	**63**	P	**PKPdf**	**23 41 19.9**	**+0.7**
ISK	**Istanbul-Kandi**	**146.51**	**59**	*e*P	**PKPbc**	**23 41 20.7**	**+0.2**
ISK	**Istanbul-Kandi**	**146.51**	**59**	P	**PKPdf**	**23 41 19.3**	**+0.3**
ISK	**Istanbul-Kandi**	**146.51**	**59**	*e*PKP2	**PKPdf**	**23 41 19.3**	**+0.3**
ISK	**Istanbul-Kandi**	**146.51**	**59**	*e*PKPdf	**PKPdf**	**23 41 19.3**	**+0.3**
TURN	**Turunc**	**146.52**	**66**	*i* P	**PKPdf**	**23 41 18.5**	**-0.7**
DALY	**Dalyan (Mu¯la**	**146.57**	**67**	*e*P	**PKPbc**	**23 41 20.7**	**-0.1**
MOY	**Mondy**	**146.58**	**322**	*e*PKP2	**PKPbc**	**23 41 20.8**	**+0.3**
DNZL	**Cakiroluk**	**146.84**	**65**	*i* P	**PKPbc**	**23 41 21.3**	**-0.5**
CMBY	**CAMPBELL BAY**	**146.87**	**233**	*e*P	**PKPdf**	**23 41 18.9**	**-1.5**
CMBY				AMS	AMS	00 34 43.1	
	comp=Z,2μm,27.3s						
FETY	**Fethiye**	**146.92**	**67**	*e*P	**PKPab**	**23 41 25.7**	**+2.4**
SILT	**Sile**	**146.93**	**59**	*e*P	**PKPab**	**23 41 23.6**	**+0.5**
HRT	**Hereke**	**147.00**	**59**	*e*P	**PKPab**	**23 41 27.4**	**+3.9**
GDZ	**Gediz**	**147.07**	**62**	*i* P	**PKPbc**	**23 41 21.4**	**-0.9**
ADVT	**Abdulvahap**	**147.11**	**60**	*e*P	**PKPab**	**23 41 24.5**	**+0.7**
KHAL	**Karahalli**	**147.15**	**64**	*i* P	**PKPdf**	**23 41 19.3**	**-1.0**
CAVI	**Cavuskoy**	**147.22**	**60**	*e*P	**PKPab**	**23 41 26.4**	**+2.1**
GOLH	**Golhisar**	**147.28**	**66**	*i* P	**PKPdf**	**23 41 21.5**	**+0.9**
AKAS	**Kas**	**147.35**	**68**	*i* P	**PKPab**	**23 41 24.9**	**-0.2**
SPNC	**Sapanca-Adapaz**	**147.50**	**59**	*e*P	**PKPab**	**23 41 30.2**	**+4.8**
GULT	**Gulveren**	**147.70**	**60**	*e*P	**PKPbc**	**23 41 24.5**	**+0.5**
KORT	**Korkueli**	**147.92**	**66**	*i* P	**PKPbc**	**23 41 24.7**	**-0.1**
ISP	**Isparta**	**148.00**	**65**	*e*P	**PKPab**	**23 41 26.7**	**-0.9**
ISP	**Isparta**	**148.00**	**65**	P	**PKPbc**	**23 41 24.7**	**-0.2**
ISP	**Isparta**	**148.00**	**65**	*e*PKP2	**PKPbc**	**23 41 23.9**	**-1.0**
ISP				MLR	MLR		
	comp=Z,3μm,20.0s						
ISP	**Isparta**	**148.00**	**65**	*e*PKPdf	**PKPbc**	**23 41 23.9**	**-1.0**
ISP				LR	LR		
	comp=Z,3μm,20.0s						
ISP	**Isparta**	**148.00**	**65**	‖*i* P	PKPab	23 41 33.2	+5.6
MDUB	**Mudurnu**	**148.21**	**59**	*e*P	**PKPab**	**23 41 30.2**	**+1.9**
SVRH	**Sivrihisar-ESK**	**148.60**	**61**	*e*P	**PKPbc**	**23 41 26.4**	**0.0**
KMI	**Kunming**	**148.62**	**271**	PKPbc	**PKPbc**	**23 41 25.9**	**-1.1**
KMI				PP	**PP**	**23 45 00.5**	**+3.3**
KMI				SKS	**SKSdf**	**23 48 29.5**	**-2.7**
KMI				SKKS	**SKKSac**	**23 51 48.0**	**-0.9**
KMI				SS	**SS**	**00 04 09.8**	**+2.3**
KMI				AMB	AMB		
	comp=Z,750nm,8.0s						
KMI				LR	LR		
	comp=N,2μm,22.9s						
KMI				LR	LR		
	comp=E,1μm,22.0s						
KMI				LR	LR		
	comp=Z,3μm,23.2s						
SOKR	**Solikamsk**	**148.69**	**11**	⇓*i* PKP2	**PKPab**	**23 41 33.5**	**+4.1**
SOKR				pmax	pmax		
	comp=Z,50nm,1.3s						
SOKR				MLR	MLR		
	comp=Z,7μm,30.0s						
CD2	**Chengdu**	**148.81**	**282**	PKPbc	**PKPdf**	**23 41 23.9**	**+0.6**
CD2				pPKP	**PKPab**	**23 41 34.8**	**+3.8**
CD2				sPKP		23 41 38.3	
CD2				PKS	**PP**	**23 44 57.4**	**-0.6**
CD2				PP	PP	23 45 01.8	+3.8
CD2				SKS	**SKSdf**	**23 48 29.4**	**-2.4**
CD2				SKKS	**SKKSac**	**23 51 49.3**	**0.0**
CD2				SS	**SS**	**00 04 09.5**	**+0.4**
CD2				AMB	AMB		
	comp=Z,750nm,7.7s						
CD2				LR	LR		
	comp=N,2μm,22.6s						
CD2				LR	LR		
	comp=Z,3μm,23.8s						
LZH	**Lanzhou**	**148.91**	**292**	*e*PKPbc	**PKPbc**	**23 41 28.0**	**+0.6**
LZH				pPKP	**PKPab**	**23 41 30.8**	**-0.6**
LZH				sPKP		23 41 32.5	
LZH				PP	PP	23 45 07.0	+8.5
LZH				SKKS		23 51 53.1	
LZH				AMB	AMB		
	comp=Z,550nm,7.3s						
LZH				LR	LR		
	comp=N,1μm,18.2s						
LZH				LR	LR		
	comp=E,2μm,16.5s						
LZH				LR	LR		
	comp=Z,4μm,20.0s						
KIZT	**Kizilcal**	**148.95**	**62**	*e*P	**PKPbc**	**23 41 28.5**	**+1.2**
VOR	**Voronezh**	**149.07**	**35**	PKIKP	**PKPdf**	**23 41 23.0**	**+0.1**
VOR				pmax	pmax		
	comp=Z,420nm,2.0s						
KDHN	**Kadinhani**	**149.18**	**63**	*i* P	**PKPdf**	**23 41 24.8**	**+1.1**
SIM	**Simferopol'**	**149.19**	**50***c*	*i* PKP2	**PKPbc**	**23 41 29.3**	**+1.7**
SIM				pmax	pmax		
	comp=Z,41nm,1.3s						
KONT	**Konya--Tatoy**	**149.44**	**64**	*e*P	**PKPbc**	**23 41 30.2**	**+1.7**
BR231	**Keskin MP Arra**	**149.50**	**60**	*e*PKPdf	**PKPdf**	**23 41 24.4**	**+0.2**
BR231				*e*PKPbc	**PKiKP**	**23 41 30.4**	**+0.6**
ANTO	**Ankara**	**149.51**	**60**	*e*P	**PKPbc**	**23 41 29.1**	**+0.4**
ANTO	**Ankara**	**149.51**	**60**	*e*PKP2	**PKPbc**	**23 41 29.2**	**+0.5**
ANTO				MLR	MLR		
	comp=Z,3μm,22.0s						
ANTO	**Ankara**	**149.51**	**60**	*e*PKPbc	**PKPbc**	**23 41 29.2**	**+0.5**
ANTO				LR	LR		
	comp=Z,3μm,22.0s						
CM01	**Chiang Mai Arr**	**149.54**	**256**	*e*PKPbc	**PKPbc**	**23 41 28.6**	**-0.6**
GAZI	**Gazipasa**	**149.54**	**67**	*i* P	**PKPbc**	**23 41 31.0**	**+2.2**
VORD	**Divnogorie**	**149.56**	**36**	*i* PKP2	**PKPbc**	**23 41 28.0**	**-0.3**
VORD				pmax	pmax		
	comp=Z,10.0nm,1.0s						
VORD				pmax	pmax		
	comp=N,7.0nm,0.8s						
VORD				pmax	pmax		
	comp=E,10.0nm,0.9s						
VORD				MLR	MLR		
	comp=N,3μm,20.0s						
VORD				MLR	MLR		
	comp=Z,4μm,20.0s						
VORD				MLR	MLR		
	comp=E,2μm,21.0s						
AKMC	**Akamas**	**149.59**	**70**	P	**PKPab**	**23 41 33.1**	**-0.9**
PPCY	**Paphos**	**149.61**	**70**	P	**PKPab**	**23 41 33.3**	**-0.7**
HDMB	**Hadim**	**149.63**	**66**	*e*P	**PKPbc**	**23 41 27.4**	**-1.8**
CHTO	**Chiang Mai**	**149.72**	**257**	*e*PKPdf	**PKPdf**	**23 41 26.1**	**+1.1**
CHTO				LR	LR		
	comp=Z,3μm,21.0s						
AFSR	**Af¯ar-Bala (A**	**149.79**	**61**	*e*P	**PKPbc**	**23 41 31.2**	**+1.8**
ALFC	**Alevga**	**149.81**	**69**	P	**PKPab**	**23 41 32.6**	**-2.3**
	comp=Z,0.6nm,0.8s						
BBAL	**Bala**	**149.81**	**61**	*i* P	**PKPbc**	**23 41 28.4**	**-1.1**
ELDT	**Eldivan**	**149.88**	**59**	*i* P	**PKPab**	**23 41 36.1**	**+0.9**
ILGA	**Ilgaz**	**149.97**	**58**	*i* P	**PKPbc**	**23 41 29.4**	**-0.5**
ERMK	**Ermenek**	**149.99**	**67**	*i* P	**PKPbc**	**23 41 29.2**	**-0.9**
CANT	**Cankiri**	**150.00**	**59**	*e*P	**PKPab**	**23 41 33.1**	**-2.5**
LEF	**Lefka**	**150.05**	**70**	*e*P	**PKPab**	**23 41 34.0**	**-1.9**
SZAC	**Souni-Zanaja**	**150.05**	**70**	P	**PKPbc**	**23 41 32.4**	**+2.3**
BR101	**Keskin Array S**	**150.18**	**60**	*e*PKPbc	**PKPbc**	**23 41 31.0**	**+0.6**
BRTR	**Keskin Array B**	**150.18**	**60**	PKP	**PKPdf**	**23 41 25.9**	**+0.7**
	comp=Z,4.3nm,0.9s,baz=197,slow=4.5,SNR=4.3						
BRTR				PKPbc	**PKiKP**	**23 41 31.0**	**-0.2**
	comp=Z,5.4nm,0.9s,baz=230,slow=0.6,SNR=18						
SULT	**Sultanhani-AKS**	**150.31**	**63**	*e*P	**PKPbc**	**23 41 31.2**	**+0.5**
MAMC	**Mammari**	**150.32**	**69**	P	**PKPbc**	**23 41 32.1**	**+1.4**
CSS	**Prodhromos**	**150.42**	**70**	P	**PKPbc**	**23 41 31.9**	**+1.0**
	comp=Z,1.2nm,1.2s						
CSS	**Prodhromos**	**150.42**	**70**	P	**PKPbc**	**23 41 30.8**	**-0.1**
CSS	**Prodhromos**	**150.42**	**70**	*e*PKPdf	**PKPdf**	**23 41 23.4**	**-2.3**
CSS				*e*PKPbc	**PKPbc**	**23 41 31.9**	**+1.0**
CSS				LR	LR		
	comp=Z,3μm,21.0s						
LFK	**Lefkose**	**150.57**	**69**	*e*P	**PKPab**	**23 41 36.6**	**-1.5**
IKL	**Isikli**	**150.64**	**67**	*e*P	**PKPbc**	**23 41 30.2**	**-1.2**
VRHR	**Novokhopersk**	**150.67**	**34**	*i* PKIKP	**PKPbc**	**23 41 30.5**	**-0.4**
VRHR				*e*		23 41 41.4	
VRHR				pmax	pmax		
	comp=Z,50nm,0.8s						
VRHR				pmax	pmax		
	comp=N,10.0nm,1.2s						
VRHR				pmax	pmax		
	comp=E,10.0nm,0.7s						
CDAG	**Cicekdag**	**150.75**	**60**	*i* P	**PKPbc**	**23 41 30.6**	**-1.1**
CORM	**Corum**	**150.84**	**59**	*e*P	**PKPab**	**23 41 39.6**	**+0.4**
PBA	**Port Blair**	**150.86**	**238**	*e*P	PKPdf	23 41 25.8	-1.1
CTKT	**Corum**	**150.86**	**58**	*i* P	**PKPbc**	**23 41 32.1**	**+0.1**
DIKM	**Dikmen**	**150.96**	**56**	*e*P	**PKPbc**	**23 41 33.1**	**+1.1**
PHNC	**Paralimni**	**150.99**	**70**	P	**PKPdf**	**23 41 28.8**	**+2.3**
AVNT	**Avonos**	**151.27**	**62**	*i* P	**PKPbc**	**23 41 32.8**	**-0.2**
GULE	**Gulek**	**151.42**	**65**	*i* P	**PKPbc**	**23 41 30.9**	**-2.5**
HAVZ	**Havza**	**151.44**	**57**	*i* P	**PKPdf**	**23 41 22.4**	**-4.6**
ANN	**Anapa**	**151.45**	**49**	*i* PKIKP	**PKPbc**	**23 41 32.9**	**-0.1**
ANN				*e*SS	SS	00 04 29.7	-7.2
ANN				*e*SSS	SSS	00 10 19.9	
ANN				pmax	pmax		
	comp=Z,129nm,1.5s						
EIL	**Elat**	**151.53**	**81**	*e*PKPbc	**PKPbc**	**23 41 34.5**	**+0.9**
EIL	**Elat**	**151.53**	**81**	PKPbc	**PKPbc**	**23 41 34.5**	**+0.9**
	comp=Z,9.8nm,0.8s,baz=352,slow=2.6,SNR=10						
KARA	**Karaisali**	**151.64**	**65**	*e*P	**PKPdf**	**23 41 26.4**	**-1.0**
DGPR	**DIGLIPUR**	**151.68**	**241**	*e*P	**PKPdf**	**23 41 26.4**	**-1.7**
KVT	**Kavak**	**151.68**	**57**	*e*P	**PKPbc**	**23 41 37.8**	**+4.1**
GTA	**Gaotai**	**151.69**	**300**	*e*PKPbc	**PKPbc**	**23 41 34.8**	**+0.9**
GTA				PKPab	PKPab	23 41 51.8	+9.1
GTA				PKS	PKSdf	23 45 07.8	+5.5
GTA				PP	PP	23 45 25.1	+11
GTA				AMB	AMB		
	comp=Z,650nm,7.4s						
GTA				LR	LR		
	comp=N,1μm,22.3s						
GTA				LR	LR		
	comp=E,3μm,21.9s						
GTA				LR	LR		
	comp=Z,4μm,23.3s						
SVE	**Sverdlovsk**	**151.91**	**8**	*e*PKIKP	**PKPbc**	**23 41 37.4**	**+3.7**
SVE				pmax	pmax		
	comp=Z,65nm,1.9s						
ARU	**Arti**	**152.00**	**11**	*i* PKIKP	**PKPbc**	**23 41 34.0**	**+0.1**
ARU						23 45 16.4	
ARU				PPP	PPP	23 48 35.7	
NVS	**Novosibirsk**	**152.00**	**341**	*e*PKIKP	**PKPab**	**23 41 42.7**	**-0.5**
NVS				pmax	pmax		
	comp=Z,64nm,1.5s						
NVS				pmax	pmax		
	comp=E,30nm,1.3s						
BNN	**Bunyan**	**152.02**	**61**	*e*P	**PKPab**	**23 41 43.5**	**-0.6**
MMAI	**Mount Meron Ar**	**152.15**	**74**	PKP	**PKPdf**	**23 41 29.9**	**+1.5**
	comp=E,3.4nm,0.9s,baz=250,slow=4.2,SNR=3.8						
MMAI				PKPbc	**PKiKP**	**23 41 35.5**	**0.0**
	comp=E,28nm,1.1s,baz=298,slow=3.1,SNR=9.1						
TOKA	**Tokat**	**152.19**	**58**	*i* P	**PKPbc**	**23 41 39.6**	**+4.7**
CEYT	**Ceyhan**	**152.22**	**65**	*e*P	**PKPbc**	**23 41 34.0**	**-1.0**
KOZT	**Kozan**	**152.22**	**64**	*e*P	**PKPdf**	**23 41 28.3**	**0.0**
ZAA0	**Zalesovo Array**	**152.27**	**338**	*e*PKPdf	**PKPdf**	**23 41 26.2**	**-1.6**
ZAA0				*e*PKPbc	**PKPbc**	**23 41 33.6**	**-1.0**
ZAA0				*e*PKPab	**PKPab**	**23 41 43.5**	**-0.9**
ZALV	**Zalesovo Beam**	**152.27**	**338**	PKP	**PKPdf**	**23 41 27.2**	**-0.6**
	comp=E,1.1nm,0.7s,baz=5.7,slow=4.5,SNR=5.9						
ZALV				PKPbc	**PKPbc**	**23 41 34.1**	**-0.5**
	comp=E,5.4nm,0.7s,baz=24,slow=3.6,SNR=24						
ERBA	**Erbaa**	**152.30**	**57**	*i* P	**PKPbc**	**23 41 35.6**	**+0.4**
PINB	**Pinarbasi**	**152.48**	**62**	*i* P	**PKPbc**	**23 41 35.7**	**-0.2**
YAYL	**Yayladag**	**152.61**	**67**	*i* P	**PKPdf**	**23 41 28.6**	**-0.5**
SVSK	**Karacayir**	**152.67**	**59**	*e*P	**PKPab**	**23 41 44.5**	**-2.1**
SCER	**sogukcermik**	**152.78**	**59**	*i* P	**PKPbc**	**23 41 40.3**	**+3.9**
RSDY	**Resadiye-TOKAT**	**152.80**	**58**	*e*P	**PKPab**	**23 41 51.1**	**+3.9**
DARE	**Darende-Malaty**	**153.33**	**61**	*e*P	**PKPbc**	**23 41 34.0**	**-3.6**
ASF	**Jabal al Asfar**	**153.40**	**76**	*e*PKPdf	**PKPdf**	**23 41 32.3**	**+2.0**
ASF				*e*PKPbc	**PKiKP**	**23 41 39.6**	**+1.6**
ASF	**Jabal al Asfar**	**153.40**	**76**	PKP	**PKPdf**	**23 41 32.3**	**+2.0**
	comp=E,1.5nm,0.9s,baz=297,slow=7.3,SNR=6.4						
ASF				PKPbc	**PKiKP**	**23 41 39.6**	**+1.6**
	comp=E,16nm,1.1s,baz=256,slow=0.5,SNR=9.3						
SOC	**Sochi**	**153.44**	**50**	*i* PKIKP	**PKPdf**	**23 41 33.6**	**+3.7**
SOC				*e*PPP	PPP	23 48 50.3	
SUSE	**Susehri**	**153.49**	**58**	*i* P	**PKPdf**	**23 41 33.4**	**+3.2**
GZT	**Gaziantep**	**153.61**	**64**	*i* P	**PKPdf**	**23 41 31.6**	**+1.0**
DAMY	**Dhamar**	**154.03**	**119**	*e*PKPbc	**PKPbc**	**23 41 41.0**	**+1.1**
MALT	**Malatya**	**154.11**	**62**	*e*P	**PKPbc**	**23 41 37.6**	**-1.7**
MALT	**Malatya**	**154.11**	**62**	⇑PKIKP	**PKPdf**	**23 41 32.6**	**+1.5**
MALT	**Malatya**	**154.11**	**62**	⇑*i* P	**PKPdf**	**23 41 32.6**	**+1.5**
KELT	**Kelkit**	**154.28**	**57**	*i* P	**PKPdf**	**23 41 33.3**	**+1.8**
PTK	**Pertek**	**154.71**	**60**	*e*P	**PKPdf**	**23 41 35.9**	**+3.8**
GOF	**Gofitskoye**	**154.89**	**44**	*e*PKIKP	**PKPbc**	**23 41 43.5**	**+2.9**
KIV	**Kislovodsk**	**155.21**	**47**	*e*PKIKP	**PKPdf**	**23 41 32.6**	**+0.1**
KIV				*e*		23 45 34.4	
KIV				*e*		23 48 36.3	
KIV				*e*SS	SS	00 05 18.4	+0.1
KIV				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KOPT	**Kop Dagi**	**155.23**	**57**	*i* P	**PKPdf**	**23 41 34.0**	**+1.1**
KBZ	**Khabaz**	**155.45**	**47**	*e*PKIKP	**PKPdf**	**23 41 34.3**	**+1.6**
KBZ	**Khabaz**	**155.45**	**47**	*e*PKPdf	**PKPdf**	**23 41 34.2**	**+1.6**
KBZ	**Khabaz**	**155.45**	**47**	PKP	**PKPdf**	**23 41 34.2**	**+1.6**
	comp=Z,2.4nm,0.8s,baz=180,slow=2.0,SNR=4.9						
DBOC	**Borcka**	**155.63**	**53**	*i* P	**PKPdf**	**23 41 35.1**	**+2.1**
BNGB	**Bing¯¶l**	**155.66**	**59**	*e*P	**PKPdf**	**23 41 36.9**	**+3.6**
DBAD	**Bademkaya**	**155.77**	**54**	*i* P	**PKPdf**	**23 41 35.5**	**+2.1**
DDEM	**Demirkent**	**155.85**	**54**	*i* P	**PKPdf**	**23 41 36.6**	**+3.2**
ARTV	**Artvin**	**155.87**	**53**	*i* P	PKPdf	23 41 41.2	+7.6
DAGI	**Agillar**	**155.90**	**54**	*i* P	PKPdf	23 41 39.7	+6.2
BNGL	**BINGOL**	**156.02**	**59**	*i* P	**PKPdf**	**23 41 36.2**	**+2.3**
BRVK	**Borovoye**	**156.06**	**356**	*e*PKIKP	**PKPdf**	**23 41 32.3**	**-0.9**
BRVK				*e*		23 41 59.2	
BRVK				MLR	MLR		
	comp=Z,7μm,20.0s						
BRVK	**Borovoye**	**156.06**	**356**	*e*PKPdf	**PKPdf**	**23 41 32.3**	**-0.9**
BRVK				*e*PKPab	**PKPab**	**23 41 59.2**	**-1.3**
BRVK				LR	LR		
	comp=Z,7μm,20.0s						
BVAR	**Borovoye Array**	**156.09**	**356**	PKP	**PKPdf**	**23 41 33.9**	**+0.7**
	comp=Z,0.8nm,0.7s,baz=228,slow=1.8,SNR=5.3						
BVAR				PKPab	**PKPab**	**23 42 00.6**	**0.0**
	comp=Z,6.1nm,0.8s,baz=357,slow=3.3,SNR=10						
BVAR				PP	**PP**	**23 45 39.9**	**+2.4**
	comp=Z,1.1nm,0.9s,baz=35,slow=5.3,SNR=4.5						
MARD	**Mardin**	**156.13**	**63**	*i* P	**PKPdf**	**23 41 35.7**	**+1.7**
VRTB	**Varto-Mus**	**156.19**	**58**	*e*P	**PKPdf**	**23 41 37.8**	**+3.8**
HOMI	**Horasan**	**156.25**	**56**	*i* P	**PKPdf**	**23 41 35.5**	**+1.3**
VOSK	**Vostochnaya**	**156.35**	**355**	*e*PKIKP	**PKPdf**	**23 41 33.7**	**+0.1**
VOSK				*e*		23 42 01.0	
VOSK	**Vostochnaya**	**156.35**	**355**	*e*PKPdf	**PKPdf**	**23 41 33.7**	**+0.1**
VOSK				*e*PKPab	**PKPab**	**23 42 01.0**	**-0.8**
KARS	**Kars**	**156.89**	**54**	*e*P	**PKPdf**	**23 41 37.8**	**+2.9**
KURK	**Kurchatov**	**156.96**	**342**	*e*PKIKP	**PKPdf**	**23 41 34.8**	**+0.4**
KURK	**Kurchatov**	**156.96**	**342**	*e*PKPdf	**PKPdf**	**23 41 34.8**	**+0.4**
KURK				*e*PKPab	**PKPab**	**23 42 03.8**	**-0.6**
KURBB	**Kurchatov Arra**	**157.07**	**342**	PKP	**PKPdf**	**23 41 34.8**	**+0.3**
	comp=Z,0.9nm,0.2s,baz=16,slow=0.3,SNR=6.7						
KURBB				PKPab	**PKPab**	**23 42 03.8**	**-1.1**
	comp=Z,4.4nm,0.7s,baz=27,slow=3.8,SNR=8.9						
TUTA	**Tutak**	**157.12**	**57**	*i* P	**PKPdf**	**23 41 40.2**	**+4.9**
DIGO	**Kars**	**157.18**	**54**	*i* P	**PKPdf**	**23 41 38.8**	**+3.4**
AGRB	**Hanur-Agry**	**157.20**	**56**	*e*P	**PKPdf**	**23 41 38.8**	**+3.4**
SIRN	**S¨–rnak**	**157.36**	**62**	*i* P	PKPdf	23 41 43.1	+7.6
SIRT	**Sirnak**	**157.38**	**62**	*e*P	**PKPdf**	**23 41 35.9**	**+0.4**
CLDR	**Caldiran**	**158.02**	**57**	*e*P	**PKPdf**	**23 41 36.9**	**+0.4**
SHL	**Shillong**	**158.22**	**266**	*e*P	**PKPdf**	**23 41 36.1**	**-0.9**
GNI	**Garni**	**158.24**	**54**	*e*PKPdf	**PKPdf**	**23 41 37.6**	**+1.0**
GNI				*e*PKPdif	**PKPdf**	**23 41 38.5**	**+1.9**
GNI				*e*PKPab	**PKPab**	**23 42 06.1**	**-4.5**
GNI				*e*PKPab	PKPab	23 42 10.3	-0.4
GNI				LR	LR		
	comp=Z,3μm,21.0s						
GNI	**Garni**	**158.24**	**54**	PKPab	**PKPab**	**23 42 10.3**	**-0.4**
	comp=Z,4.2nm,0.7s,baz=34,slow=3.6,SNR=3.7						
HAKT	**HAKKARI**	**158.34**	**61**	*i* P	**PKPdf**	**23 41 37.4**	**+0.5**
WMQ	**Urumqi**	**158.34**	**318**	PKP	**PKPdf**	**23 41 37.3**	**+0.8**
WMQ				PKS	**PKSdf**	**23 45 09.4**	**-0.7**
WMQ				PP	**PP**	**23 45 55.3**	**+4.4**
WMQ				SKS	**SKSdf**	**23 48 37.8**	**-4.5**
WMQ				SKKS	**SKKSac**	**23 52 38.3**	**-1.9**
WMQ				SS	**SS**	**00 05 49.5**	**-2.1**
WMQ				AMB	AMB		
	comp=Z,700nm,6.4s						
WMQ				LR	LR		
	comp=N,6μm,23.6s						
WMQ				LR	LR		
	comp=E,4μm,23.6s						
WMQ				LR	LR		
	comp=Z,6μm,22.3s						
CUKT	**Cukurca**	**158.34**	**62**	*e*P	**PKPdf**	**23 41 39.7**	**+2.9**
MAK	**Makhachkala**	**158.73**	**44**	*e*PKIKP	PKPdf	23 41 44.4	+7.6
MAK				*e*		23 45 51.4	
MAK				*e*		23 48 40.0	
MAK				*e*SS	SS	00 05 53.3	-2.3
MAK				pmax	pmax		
	comp=Z,344nm,2.0s						
MK32	**Makanchi Array**	**159.04**	**331**	*e*PKPdf	**PKPdf**	**23 41 37.7**	**+0.6**
MK32				*e*PKPab	**PKPab**	**23 42 13.5**	**-0.1**
MKAR	**Makanchi Array**	**159.04**	**331**	*e*PKIKP	**PKPdf**	**23 41 38.7**	**+1.5**
MKAR	**Makanchi Array**	**159.04**	**331**	*e*PKPdf	**PKPdf**	**23 41 38.7**	**+1.5**
MKAR	**Makanchi Array**	**159.04**	**331**	PKP	**PKPdf**	**23 41 37.7**	**+0.6**
	comp=Z,1.1nm,0.9s,baz=259,slow=1.2,SNR=4.1						
MKAR				PKPab	**PKPab**	**23 42 13.5**	**-0.1**
	comp=Z,2.8nm,0.9s,baz=20,slow=4.6,SNR=4.1						
MK01	**Makanchi Array**	**159.05**	**331**	*e*PKPdf	**PKPdf**	**23 41 36.5**	**-0.6**
ABKAR	**Akbulak array**	**159.09**	**14**	*e*PKPdf	**PKPdf**	**23 41 37.3**	**+0.2**
ABKAR				*e*PKPab	**PKPab**	**23 42 13.0**	**-0.7**
RAYN	**Ar Rayn**	**159.35**	**101**	*e*PKPdf	**PKPdf**	**23 41 38.6**	**+0.4**
RAYN				*e*PKPab	**PKPab**	**23 42 18.0**	**+2.2**
LSA	**Lhasa**	**159.56**	**277**	*e*PKIKP	**PKPdf**	**23 41 37.3**	**-1.6**
LSA				MLR	MLR		
	comp=Z,3μm,20.0s						
LSA	**Lhasa**	**159.56**	**277**	*e*PKPdf	**PKPdf**	**23 41 37.3**	**-1.6**
LSA				LR	LR		
	comp=Z,3μm,20.0s						
HYB	**Hyderabad**	**164.63**	**223**	*e*P	**PKPdf**	**23 41 41.2**	**-2.6**
TKM2	**Tokmak 2**	**164.88**	**337**	*e*PKIKP	**PKPdf**	**23 41 42.7**	**-0.8**
TKM2				MLR	MLR		
	comp=Z,7μm,22.0s						
TKM2	**Tokmak 2**	**164.88**	**337**	*e*PKPdf	**PKPdf**	**23 41 42.7**	**-0.8**
TKM2				LR	LR		
	comp=Z,7μm,22.0s						
GOA	**Goa**	**165.25**	**204**	*ex*	x	23 43 09.6	
FRU	**Bishkek**	**165.27**	**340**	*e*PKIKP	**PKPdf**	**23 41 44.0**	**+0.4**
FRU				pmax	pmax		
	comp=Z,120nm,2.5s						
AAK	**Ala-Archa**	**165.49**	**340**	*e*PKIKP	**PKPdf**	**23 41 41.7**	**-2.3**
AAK				*e*		23 42 38.6	
AAK				MLR	MLR		
	comp=Z,7μm

KYTH Kithira 4.44 146 *e*Pn **Pn 23 43 26.8 +0.8**

IDC 17 23:47:48.9±89.0, 14°.98S×164°.43E, h0km, mb3.9/3, mb1 4.0/3, mb1mx3.6/17, mbtmp3.9/3, Error ellipse: s-maj=1494.0km s-min=102.0km az=63.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**26.77**	**227**	P	P	23 53 30.3	-0.3
	2.9nm,0.6s,baz=38,slow=7.7,SNR=11						
WRA	**Warramunga Arr**	**29.10**	**256**	P	P	23 53 52.0	+0.4
	0.3nm,0.6s,baz=91,slow=12,SNR=4.1						
ASAR	**Alice Springs**	**30.02**	**249**	P	P	23 53 59.6	-0.1
	0.5nm,0.6s,baz=72,slow=9.6,SNR=8.8						

*BJI **18** 00:09:40.3, 50°.38N×87°.54E, h16km, mB4.7/4, mb4.2/9, ML4.4/6, Ms4.0/1*
*IDC **18** 00:09:42.6±0.6, 50°.19N×87°.90E, h0km, mb4.1/13, mb1 4.3/20, mb1mx4.2/30, mbtmp4.2/20, ML4.6/5, MS3.6/2, Ms1 3.6/2, ms1mx3.3/39, Error ellipse: s-maj=11.4km s-min=8.0km az=176.0*
*MOS **18** 00:09:42.7±1.8, 50°.12N×87°.75E, h16km, mb4.4/7, Error ellipse: s-maj=6.9km s-min=6.1km az=73.3*
*ASRS **18** 00:09:42.2±1.0, 50°.09N×87°.82E, h15km, Ms3.7/5*
*ISCJB **18** 00:09:42.1±0.7, 50°.15N±0°.02×87°.75E±0°.04, h7km±4km, mb4.2/21, Error ellipse: s-maj=4.5km s-min=3.7km az=154.1*
*NEIC **18** 00:09:44.0±0.5, 50°.13N×87°.79E, h10km, mb4.2/8, Error ellipse: s-maj=9.2km s-min=7.6km az=162.0*
*TEH **18** 00:09:44.3, 50°.27N×87°.79E, h10km, ML4.4*
*NNC **18** 00:09:46.7±2.9, 50°.33N×87°.36E, h5km±17km, mb4.8, mpv5.2, Error ellipse: s-maj=23.0km s-min=11.3km az=82.0*

ISC 18 00:09:44.1±1.1, 50°.17N±0°.04×87°.71E±0°.04, h9km±6km, n147, σ1.972/169, mb4.2/21, 8C-12D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKAR	**Aktash**	**0.16**	**339**	*i* PG	**Pg**	**00 09 47.5**	**-0.1**
AKAR	**Aktash**	**0.16**	**339**	*i* Pg	**Pg**	**00 09 47.5**	**-0.1**
AKAR				*i* Sg	**Sg**	**00 09 50.8**	**+0.8**
ARTR	**Artybash**	**1.65**	**351**	*e*PN	**Pn**	**00 10 13.6**	**+0.3**
ARTR				*e*		00 10 37.9	
ARTR	**Artybash**	**1.65**	**351**	*e*Pg	**Pn**	**00 10 13.6**	**+0.3**
ARTR				*e*Sg	**Sg**	**00 10 37.9**	**+0.8**
UKR	**Ust'-Kan**	**2.02**	**293**	*e*PN	**Pb**	**00 10 21.5**	**+0.4**
UKR				*e*		00 10 48.0	
UKR	**Ust'-Kan**	**2.02**	**293**	*e*Pg	**Pb**	**00 10 21.5**	**+0.4**
UKR				*e*Sg	**Sb**	**00 10 48.0**	**+1.6**
TASR	**Tashtagol**	**2.59**	**2**	*e*PN	**Pb**	**00 10 30.9**	**+0.1**
TASR				*e*		00 11 04.8	
TASR	**Tashtagol**	**2.59**	**2**	*e*Pg	**Pb**	**00 10 30.9**	**+0.1**
TASR				*e*Sg	**Sb**	**00 11 04.8**	**+2.1**
HVS	**Khovu-Aksy**	**3.94**	**74**	*d i* PN	**Pn**	**00 10 45.7**	**+0.9**
ZAA0	**Zalesovo Array**	**4.18**	**336**	*e*Pn	**Pn**	**00 10 49.9**	**+1.9**
ZAA0				*e*Sn	**Sn**	**00 11 38.9**	**+2.0**
ZALV	**Zalesovo Beam**	**4.18**	**336**	PN	**Pn**	**00 10 50.0**	**+2.0**
ZALV						00 11 38.7	
ZALV				pmax	pmax		
	comp=Z,17nm,0.3s						
ZALV				smax	smax		
	comp=N,31nm,0.3s						
ZALV	**Zalesovo Beam**	**4.18**	**336**	Pn	**Pn**	**00 10 50.0**	**+2.0**
ZALV				Sn	**Sn**	**00 11 38.8**	**+1.8**
ZALV				Lg	Lg	00 11 56.2	
ZALV	**Zalesovo Beam**	**4.18**	**336**	Pn	**Pn**	**00 10 50.0**	**+2.0**
	comp=N,17nm,0.3s,baz=154,slow=14,SNR=161						
ZALV				Sn	**Sn**	**00 11 38.7**	**+1.8**
	comp=N,31nm,0.3s,baz=155,slow=24,SNR=12						
ZALV				Lg	Lg	00 11 56.2	
	comp=N,28nm,0.3s,baz=151,slow=30,SNR=9.7						
MK31	**Makanchi Array**	**4.94**	**229**	⇓Pn	**Pn**	**00 11 01.3**	**+2.8**
	comp=N,222nm,0.7s,baz=50,slow=12,SNR=1278						
MK31				⇓Sn	**Sn**	**00 11 58.6**	**+2.8**
	comp=N,90nm,0.6s,baz=52,slow=20,SNR=6.1						
MK31				⇑Lg	Lg	00 12 19.9	
	comp=N,161nm,0.5s,baz=53,slow=29,SNR=3.9						
MK31	**Makanchi Array**	**4.94**	**229**	PN	**Pn**	**00 11 01.3**	**+2.8**
MK31				*e*		00 12 00.4	
MK31				pmax	pmax		
	comp=Z,52nm,0.2s						
MK31				smax	smax		
	comp=N,88nm,0.5s						
MK31				pmax	pmax		
	comp=N,208nm,0.5s						
MK31	**Makanchi Array**	**4.94**	**229**	*e*Pn	**Pn**	**00 11 01.5**	**+2.9**
MK31				*e*Sn	**Sn**	**00 11 58.1**	**+2.3**
MKAR	**Makanchi Array**	**4.94**	**229**	PN	**Pn**	**00 11 01.5**	**+2.9**
MKAR						00 12 00.7	
MKAR				pmax	pmax		
	comp=Z,41nm,0.3s						
MKAR				smax	smax		
	comp=N,27nm,0.3s						
MKAR				MLR	MLR		
	comp=Z,305nm,19.2s						
MKAR	**Makanchi Array**	**4.94**	**229**	Pn	**Pn**	**00 11 01.4**	**+2.9**
MKAR				Sn	**Sn**	**00 12 00.7**	**+4.9**
MKAR				Lg	Lg	00 12 17.9	
MKAR	**Makanchi Array**	**4.94**	**229**	Pn	**Pn**	**00 11 01.4**	**+2.9**
	comp=Z,41nm,0.3s,baz=48,slow=13,SNR=1753						
MKAR				Sn	**Sn**	**00 12 00.7**	**+4.9**
	comp=Z,27nm,0.3s,baz=53,slow=22,SNR=10						
MKAR				Lg	Lg	00 12 17.9	
	comp=Z,23nm,0.3s,baz=50,slow=31,SNR=4.5						
MKAR				LR	LR	00 13 06.1	
	comp=Z,305nm,19.2s,baz=329,slow=40						
NVS	**Novosibirsk**	**5.41**	**331**	*e*PN	**Pn**	**00 11 06.7**	**+1.8**
NVS				*e*		00 11 22.5	
NVS				*e*		00 12 08.8	
NVS	**Novosibirsk**	**5.41**	**331**	*e*Pn	**Pn**	**00 11 06.7**	**+1.8**
NVS				*e*Pg	Pb	00 11 22.5	+3.7
NVS				*e*Sn	**Sn**	**00 12 08.8**	**+1.5**
NVS				*e*Sg	**Sg**	**00 12 35.4**	**-2.3**
KURK	**Kurchatov**	**5.83**	**279**	PN	**Pn**	**00 11 13.1**	**+2.4**
KURK						00 12 22.7	
KURK				pmax	pmax		
	comp=Z,19nm,0.3s						
KURK				smax	smax		
	comp=N,15nm,0.3s						
KURK	**Kurchatov**	**5.83**	**279**	Pn	**Pn**	**00 11 13.1**	**+2.4**
KURK				Sn	**Sn**	**00 12 22.7**	**+5.1**
KURK				Lg	Lg	00 12 48.6	
KURBB	**Kurchatov Arra**	**5.89**	**278**	⇑Pn	**Pn**	**00 11 13.2**	**+1.7**
	comp=N,142nm,0.5s						
KURBB				⇑Sn	**Sn**	**00 12 19.1**	**+0.1**
	comp=N,297nm,0.8s						
KURBB				⇓Lg	Lg	00 12 46.7	
	comp=N,426nm,0.6s						
KURBB	**Kurchatov Arra**	**5.89**	**278**	Pn	**Pn**	**00 11 13.1**	**+1.7**
	comp=N,19nm,0.3s,baz=94,slow=14,SNR=319						
KURBB				Sn	**Sn**	**00 12 22.7**	**+3.7**
	comp=N,15nm,0.3s,baz=89,slow=27,SNR=8.7						
KURBB				Lg	Lg	00 12 48.6	
	comp=N,13nm,0.3s,baz=89,slow=31,SNR=11						
WMQ	**Urumqi**	**6.36**	**180**	Pn	**Pn**	**00 11 19.6**	**+1.6**
WMQ				smax	smax		
	comp=N,280nm,0.6s						
WMQ				smax	smax		
	comp=E,150nm,0.9s						
TLY	**Talaya**	**10.18**	**75**	*e*P	**Pn**	**00 12 09.0**	**-1.3**
VOSK	**Vostochnaya**	**10.75**	**290**	⇓Pn	**Pn**	**00 12 17.0**	**-1.1**
	comp=E,6.5nm,0.6s						
VOSK				⇑Sn	**Sn**	**00 14 14.6**	**-3.9**
	comp=E,10.0nm,0.7s						
VOSK	**Vostochnaya**	**10.75**	**290**	P	**Pn**	**00 12 17.0**	**-1.1**
VOSK						00 14 14.5	
VOSK				pmax	pmax		
	comp=Z,7.0nm,0.5s						
VOSK				smax	smax		
	comp=N,23nm,0.9s						
TKM2	**Tokmak 2**	**11.04**	**234**	*i* P	**Pn**	**00 12 22.3**	**-0.1**
TKM2	**Tokmak 2**	**11.04**	**234**	P	**Pn**	**00 12 22.3**	**-0.1**
	SNR=23						
TKM2	**Tokmak 2**	**11.04**	**234**	*e*Pn	**Pn**	**00 12 21.8**	**-0.6**
	comp=N,21nm,0.8s						
BVA0	**Borovoye Array**	**11.14**	**291**	⇓Pn	**Pn**	**00 12 22.8**	**-0.7**
	comp=N,8.3nm,0.7s,baz=95,slow=13,SNR=38						
BVA0				⇓Sn	**Sn**	**00 14 25.5**	**-2.6**
	comp=N,16nm,0.7s,baz=92,slow=21,SNR=8.7						
BVA0	**Borovoye Array**	**11.14**	**291**	*i* P	**Pn**	**00 12 22.7**	**-0.7**
BVA0				*i*		00 14 26.1	
BVA0				pmax	pmax		
	comp=Z,16nm,0.8s						
BVA0				smax	smax		
	comp=N,17nm,0.6s						
BVAR	**Borovoye Array**	**11.14**	**291**	P	**Pn**	**00 12 23.3**	**-0.2**
BVAR						00 14 25.3	
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
BVAR				smax	smax		
	comp=N,3.0nm,0.3s						
BVAR	**Borovoye Array**	**11.14**	**291**	Pn	**Pn**	**00 12 23.3**	**-0.2**
BVAR				Sn	**Sn**	**00 14 25.3**	**-2.8**
BVAR	**Borovoye Array**	**11.14**	**291**	Pn	**Pn**	**00 12 23.3**	**-0.2**
	comp=N,2.2nm,0.3s,baz=100,slow=15,SNR=30						
BVAR				Sn	**Sn**	**00 14 25.3**	**-2.8**
	comp=N,2.6nm,0.3s,baz=98,slow=23,SNR=11						
BRVK	**Borovoye**	**11.21**	**292**	⇑Pn	**Pn**	**00 12 23.6**	**-0.8**
	comp=N,26nm,0.9s						
BRVK				⇑Sn	**Sn**	**00 14 25.5**	**-4.2**
	comp=N,33nm,0.7s						
BRVK	**Borovoye**	**11.21**	**292**	*e*P	**Pn**	**00 12 24.3**	**-0.1**
BRVK				*e*		00 14 22.8	
BRVK				pmax	pmax		
	comp=Z,15nm,0.8s						
BRVK	**Borovoye**	**11.21**	**292**	*e*Pn	**Pn**	**00 12 24.3**	**-0.1**
	comp=Z,15nm,0.8s						
BRVK				*e*Sn	Sn	00 14 22.8	-6.9
ULHL	**Ulahol**	**11.21**	**229**	*i* P	**Pn**	**00 12 27.3**	**+2.6**
ULHL	**Ulahol**	**11.21**	**229**	P	**Pn**	**00 12 27.3**	**+2.6**
	SNR=11						
USP	**Ospenovka**	**11.39**	**238**	*e*P	**Pn**	**00 12 26.3**	**-0.7**
USP	**Ospenovka**	**11.39**	**238**	P	**Pn**	**00 12 26.3**	**-0.7**
	SNR=8.6						
CHMS	**Chumysh**	**11.43**	**236**	*i* P	**Pn**	**00 12 30.2**	**+2.7**
CHMS	**Chumysh**	**11.43**	**236**	P	**Pn**	**00 12 30.2**	**+2.7**
	SNR=8.5						
KBK	**Karagaybulak**	**11.57**	**234**	*i* P	Pn	00 12 32.7	+3.2
KBK	**Karagaybulak**	**11.57**	**234**	P	Pn	00 12 32.7	+3.2
	SNR=8.1						
FRU	**Bishkek**	**11.62**	**236**	*e*P	**Pn**	**00 12 31.0**	**+0.9**
FRU				pmax	pmax		
	comp=E,240nm,2.0s						
AAK	**Ala-Archa**	**11.82**	**235**	*e*P	**Pn**	**00 12 32.6**	**-0.4**
AAK				*e*		00 14 43.1	
AAK				pmax	pmax		
	comp=Z,20nm,0.6s						
AAK	**Ala-Archa**	**11.82**	**235**	P	**Pn**	**00 12 36.0**	**+3.0**
	SNR=10						
AAK	**Ala-Archa**	**11.82**	**235**	*e*Pn	**Pn**	**00 12 32.6**	**-0.4**
	comp=Z,20nm,0.6s						
AAK				*e*Sn	**Sn**	**00 14 43.1**	**-2.0**
AAK				Lg	Lg	00 15 54.6	
AAK	**Ala-Archa**	**11.82**	**235**	Pn	**Pn**	**00 12 33.4**	**+0.4**
	comp=Z,2.6nm,0.3s,baz=76,slow=8.2,SNR=27						
AAK				Sn	**Sn**	**00 14 40.5**	**-4.5**
	comp=Z,0.6nm,0.3s,baz=253,slow=19,SNR=2.8						
AAK				Lg	Lg	00 15 54.6	
	comp=Z,0.6nm,0.3s,baz=232,slow=17,SNR=5.1						
KZA	**Kyzart**	**11.83**	**232**	*i* P	**Pn**	**00 12 35.3**	**+2.0**
KZA	**Kyzart**	**11.83**	**232**	P	**Pn**	**00 12 35.3**	**+2.0**
	SNR=8.0						
EKS2	**Erkin-Say**	**12.19**	**237**	*e*P	**Pn**	**00 12 37.3**	**-0.6**
EKS2				pmax	pmax		
	comp=Z,12nm,0.8s						
EKS2	**Erkin-Say**	**12.19**	**237**	P	**Pn**	**00 12 35.3**	**-2.7**
	SNR=9.3						
EKS2	**Erkin-Say**	**12.19**	**237**	*e*Pn	**Pn**	**00 12 37.3**	**-0.6**
	comp=Z,12nm,0.8s						
SONM	**Songino Array**	**12.49**	**94**	Pn	**Pn**	**00 12 40.8**	**-1.3**
SONM				Lg	Lg	00 16 15.2	
SONM	**Songino Array**	**12.49**	**94**	Pn	**Pn**	**00 12 40.8**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=300,slow=9.7,SNR=8.8						
SONM				Lg	Lg	00 16 15.2	
	comp=Z,0.2nm,0.3s,baz=286,slow=27,SNR=4.4						
SONM				LR	LR	00 18 05.0	
	comp=Z,511nm,19.5s,baz=147,slow=41						
KK31	**Karatay Array**	**13.75**	**246**	⇓Pn	**Pn**	**00 12 56.5**	**-2.7**
	comp=Z,3.8nm,0.5s,baz=52,slow=16,SNR=41						
KK31				⇓Sn	**Sn**	**00 15 33.6**	**+1.6**
	comp=Z,5.6nm,0.6s,baz=55,slow=25,SNR=5.1						
KK31	**Karatay Array**	**13.75**	**246**	*e*P	**Pn**	**00 12 56.5**	**-2.7**
KK31				*e*		00 15 25.4	
KK31				pmax	pmax		
	comp=Z,6.0nm,0.5s						
KK31				smax	smax		
	comp=N,8.0nm,0.6s						
KK31				pmax	pmax		
	comp=N,22nm,0.7s						
KKAR	**Karatay Array**	**13.75**	**246**	*e*P	**Pn**	**00 12 56.6**	**-2.6**
KKAR				*e*		00 15 25.9	
KKAR				pmax	pmax		
	comp=Z,70nm,0.6s						
KKAR	**Karatay Array**	**13.75**	**246**	*e*Pn	**Pn**	**00 12 56.6**	**-2.6**
	comp=Z,70nm,0.6s						
KKAR				*e*Sn	Sn	00 15 25.9	-6.1
GTA	**Gaotai**	**13.75**	**137**	*e*P	**Pn**	**00 12 59.4**	**+0.1**
GTA				pP	P	00 13 03.3	-4.7
GTA				sP		00 13 06.5	
GTA				S	**Sn**	**00 15 31.5**	**-0.7**
GTA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,210nm,4.7s						
SVE	**Sverdlovsk**	**17.35**	**303**	⇑*i*P	**Pn**	**00 13 44.0**	**-2.2**
SVE				pmax	pmax		
	comp=Z,15nm,1.0s						
AB31	**Akbulak array**	**17.94**	**278**	⇑Pn	**Pn**	**00 13 53.0**	**-0.6**
	comp=Z,3.1nm,0.5s,baz=79,slow=11,SNR=81						
AB31	**Akbulak array**	**17.94**	**278**	*e*P	**Pn**	**00 13 52.7**	**-0.9**
AB31				pmax	pmax		
	comp=Z,4.0nm,0.5s						
ABKAR	**Akbulak array**	**17.94**	**278**	*e*Pn	**Pn**	**00 13 51.2**	**-2.5**
	comp=Z,5.3nm,0.6s						
ARU	**Arti**	**18.41**	**301**	*d i*P	**P**	**00 13 58.1**	**-1.3**
ARU				S	**Sn**	**00 17 25.5**	**+0.5**
ARU				pmax	pmax		
	comp=Z,12nm,1.7s						
AKTO	**Aktyubinsk**	**18.91**	**282**	P	**P**	**00 14 04.8**	**-0.1**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKTO	**Aktyubinsk**	**18.91**	**282**	P	**P**	**00 14 04.8**	**-0.1**
AKTO				Lg	Lg	00 19 39.7	
AKTO	**Aktyubinsk**	**18.91**	**282**	P	**P**	**00 14 04.8**	**-0.1**
	comp=Z,0.9nm,0.3s,baz=94,slow=12,SNR=38						
AKTO				Lg	Lg	00 19 39.7	
	comp=Z,0.1nm,0.3s,baz=180,slow=20,SNR=2.1						
LSA	**Lhasa**	**20.61**	**171**	*e*P	**P**	**00 14 25.4**	**+1.3**
LSA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
LSA	**Lhasa**	**20.61**	**171**	*e*Pn	**P**	**00 14 25.4**	**+1.3**
	comp=Z,6.0nm,0.7s						
KBL	**Kabul**	**20.75**	**228**	*e*P	**P**	**00 14 24.1**	**-1.2**
KBL				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KBL	**Kabul**	**20.75**	**228**	*e*P	**P**	**00 14 24.1**	**-1.2**
	comp=Z,7.2nm,0.8s						
DANN	**Dangsing**	**22.00**	**189**	*e*P	**P**	**00 14 38.3**	**-0.5**
	comp=Z,13nm,0.5s						
GUN	**Gumba**	**22.28**	**184**	*e*P	**P**	**00 14 41.4**	**-0.5**
	comp=Z,16nm,0.5s						
PYUN	**Piuthan**	**22.34**	**191**	*e*P	**P**	**00 14 42.0**	**-0.4**
	comp=Z,67nm,0.5s						
KKN	**Kakani**	**22.43**	**186**	*e*P	**P**	**00 14 43.0**	**-0.4**
	comp=Z,14nm,0.5s						
JIRN	**Jiri**	**22.51**	**184**	*e*P	**P**	**00 14 43.9**	**-0.5**
	comp=Z,13nm,0.5s						
KOLN	**Koldanda**	**22.59**	**190**	*e*P	**P**	**00 14 44.0**	**-1.1**
	comp=Z,16nm,0.8s						
PKIN	**Phulchoki**	**22.63**	**185**	*e*P	**P**	**00 14 44.3**	**-1.3**
	comp=Z,6.0nm,0.5s						
PKI	**Pulchoki**	**22.64**	**185**	*e*P	**P**	**00 14 44.4**	**-1.3**
TAPN	**Taplejung**	**22.79**	**180**	*e*P	**P**	**00 14 46.1**	**-1.2**
	comp=Z,26nm,1.0s						
RAMN	**Ramite**	**23.20**	**183**	*e*P	**P**	**00 14 49.8**	**-1.7**
	comp=Z,16nm,0.7s						
ODAN	**Odare**	**23.28**	**181**	*e*P	**P**	**00 14 51.3**	**-1.0**
	comp=Z,15nm,0.8s						
IMYA	**Miami**	**24.23**	**246**	*e*P	**P**	**00 15 01.0**	**-0.3**
IEMG	**Emamgholi**	**24.37**	**250**	*e*P	**P**	**00 15 02.6**	**-0.2**
ISRO	**Mashad**	**24.62**	**247**	*e*P	**P**	**00 15 05.5**	**+0.7**
IPAY	**Payeh**	**24.81**	**247**	*e*P	**P**	**00 15 07.9**	**+1.3**
IAKL	**Akhelmad**	**24.85**	**248**	*e*P	**P**	**00 15 07.8**	**+0.7**
IKRD	**Kardeh**	**24.87**	**249**	*e*P	P	00 15 02.3	-5.0
ISFR	**Sfrayin**	**25.00**	**250**	*e*P	**P**	**00 15 09.4**	**+1.0**
IMON	**Monand**	**26.72**	**241**	*e*P	**P**	**00 15 25.2**	**+1.2**
IDAH	**Dahanechah**	**26.95**	**240**	*e*P	**P**	**00 15 25.3**	**-0.8**
ITEG	**Tejag**	**27.46**	**242**	*e*P	**P**	**00 15 31.2**	**+0.6**
USRK	**Ussuriysk Arra**	**30.33**	**84**	P	**P**	**00 15 56.0**	**+0.3**
	comp=Z,2.8nm,0.7s,baz=284,slow=8.2,SNR=7.3						
KBZ	**Khabaz**	**30.88**	**275**	P	**P**	**00 16 03.5**	**+2.9**
KBZ	**Khabaz**	**30.88**	**275**	P	**P**	**00 16 03.5**	**+2.9**
KBZ	**Khabaz**	**30.88**	**275**	P	**P**	**00 16 03.5**	**+2.9**
	comp=Z,0.7nm,0.5s,baz=319,slow=20,SNR=2.4						
KSAR	**Wonju Array Be**	**31.28**	**98**	P	**P**	**00 16 03.6**	**-0.6**
KSRS	**Korea Array**	**31.29**	**98**	P	**P**	**00 16 03.6**	**-0.7**
	comp=Z,1.5nm,0.6s,baz=302,slow=7.8,SNR=4.8						
FINES	**FINESS Array B**	**35.07**	**313**	P	**P**	**00 16 36.8**	**-0.2**
FINES	**FINESS Array B**	**35.07**	**313**	P	**P**	**00 16 36.8**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=64,slow=9.4,SNR=5.7						
AKASG	**Malin Array Be**	**36.41**	**294**	P	**P**	**00 16 48.7**	**+0.1**
AKASG	**Malin Array Be**	**36.41**	**294**	P	**P**	**00 16 48.7**	**+0.1**
AKASG	**Malin Array Be**	**36.41**	**294**	P	**P**	**00 16 48.7**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=53,slow=8.1,SNR=4.8						
MIB	**Mutribah**	**36.43**	**251**	*e*P	**P**	**00 16 49.1**	**+0.1**
MIB				AMb	AMB	00 16 50.2	
	comp=Z,18nm,0.8s						
RST	**Umm Al-Ruwaisa**	**36.86**	**251**	*e*P	**P**	**00 16 52.2**	**-0.5**
RST				AMb	AMB	00 16 57.5	
	comp=Z,202nm,1.0s						
NAY	**Al-Naaiem**	**36.89**	**251**	*e*P	**P**	**00 16 52.6**	**-0.3**
NAY				AMb	AMB	00 16 53.8	
	comp=Z,19nm,1.1s						
BR131	**Keskin Array S**	**38.87**	**276**	*e*P	**P**	**00 17 10.7**	**+0.9**
	comp=Z,2.3nm,0.5s						
BRTR	**Keskin Array B**	**38.87**	**276**	P	**P**	**00 17 10.8**	**+1.0**
BRTR	**Keskin Array B**	**38.87**	**276**	P	**P**	**00 17 10.8**	**+1.0**
	comp=Z,4.4nm,0.7s,baz=71,slow=4.4,SNR=30						
BUR08	**Bucovina Ar. S**	**40.10**	**291**	*e*P	**P**	**00 17 19.6**	**-0.3**
PETK	**Petropavlovsk-**	**41.95**	**58**	P	**P**	**00 17 35.6**	**+0.7**
PETK	**Petropavlovsk-**	**41.95**	**58**	P	**P**	**00 17 35.6**	**+0.7**
PETK	**Petropavlovsk-**	**41.95**	**58**	P	**P**	**00 17 35.6**	**+0.7**
	comp=Z,1.5nm,0.8s,baz=322,slow=4.4,SNR=3.9						
NB2	**NORSAR Subarra**	**42.09**	**315**	P	**P**	**00 17 35.5**	**-0.5**
	comp=Z,1.5nm,0.7s,baz=65,slow=7.9						
NOA	**NORSAR Array B**	**42.09**	**315**	P	**P**	**00 17 35.8**	**-0.2**
NOA	**NORSAR Array B**	**42.09**	**315**	P	**P**	**00 17 35.8**	**-0.2**
	comp=Z,2.1nm,0.7s,baz=65,slow=7.8,SNR=8.0						
CLL	**Collm**	**45.36**	**302**	⇓*i*P	**P**	**00 18 03.0**	**+0.7**
CLL	**Collm**	**45.36**	**302**	⇓*i*P	**P**	**00 18 03.0**	**+0.7**
PAGF	**Fort de Pagny**	**50.80**	**302**	*e*P	**P**	**00 18 44.6**	**+0.1**
PAGF	**Fort de Pagny**	**50.80**	**302**	*e*P	**P**	**00 18 44.6**	**+0.1**
LPG	**La Plagne**	**52.01**	**298**	*e*P	**P**	**00 18 53.4**	**-0.5**
	comp=Z,11nm,1.0s						
LPG	**La Plagne**	**52.01**	**298**	*e*P	**P**	**00 18 53.4**	**-0.5**
LPG	**La Plagne**	**52.01**	**298**	*e*P	**P**	**00 18 53.4**	**-0.5**
	comp=Z,11nm,1.0s						
ILAR	**Eielson Array**	**57.84**	**24**	P	**P**	**00 19 35.2**	**-0.2**
ILAR	**Eielson Array**	**57.84**	**24**	P	**P**	**00 19 35.2**	**-0.2**
	comp=Z,1.1nm,0.9s,baz=314,slow=4.3,SNR=8.1						
ESDC	**Sonseca Array**	**61.80**	**299**	P	**P**	**00 20 02.6**	**-0.6**
ESDC	**Sonseca Array**	**61.80**	**299**	P	**P**	**00 20 02.6**	**-0.6**
	comp=Z,1.7nm,0.7s,baz=52,slow=6.7,SNR=9.2						
CMLA	**Cha da Macela**	**74.57**	**311**	*i* P	**P**	**00 21 25.8**	**+2.6**
TORD	**Torodi Ar. Bea**	**77.49**	**275**	P	**P**	**00 21 39.7**	**-0.4**
TORD	**Torodi Ar. Bea**	**77.49**	**275**	P	**P**	**00 21 39.7**	**-0.4**
	comp=Z,3.3nm,0.8s,baz=31,slow=5.6,SNR=21						
BSMT	**Bassoo Peak**	**80.45**	**15**	*e*P	**P**	**00 21 56.8**	**+0.6**
	comp=Z,4.8nm,1.2s						
JTMT	**Jette**	**80.63**	**15**	*e*P	**P**	**00 21 56.8**	**-0.3**
	comp=Z,2.3nm,0.9s						
WRA	**Warramunga Arr**	**81.04**	**136**	P	**P**	**00 21 57.5**	**-1.8**
WRA	**Warramunga Arr**	**81.04**	**136**	P	**P**	**00 21 57.5**	**-1.8**
	comp=Z,1.6nm,0.7s,baz=339,slow=5.7,SNR=14						
ASAR	**Alice Springs**	**84.12**	**138**	P	**P**	**00 22 13.7**	**-1.6**
ASAR	**Alice Springs**	**84.12**	**138**	P	**P**	**00 22 13.7**	**-1.6**
	comp=Z,1.0nm,0.7s,baz=334,slow=5.0,SNR=11						
PDAR	**Pinedale Array**	**86.22**	**13**	P	**P**	**00 22 25.4**	**-0.6**
PDAR	**Pinedale Array**	**86.22**	**13**	P	**P**	**00 22 25.4**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=58,slow=3.7,SNR=4.8						
HWUT	**Hardware Ranch**	**87.05**	**14**	*e*P	**P**	**00 22 29.5**	**-0.6**
	comp=Z,4.4nm,1.0s						
CPUP	**Villa Florida**	**144.17**	**299**	*e*PKPdf	**PKPab**	**00 29 16.6**	**-1.2**
CPUP				PKPpre	PKPpre	00 29 17.3	
CPUP	**Villa Florida**	**144.17**	**299**	PKhKP	PKPpre	00 29 17.3	
	comp=Z,3.0nm,0.6s,baz=35,slow=2.4,SNR=11						

*IDC **18** 00:19:34.4±0.6, 13°.99N×92°.91E, h0km, mb4.0/20, mb1 4.2/20, mb1mx4.1/30, mbtmp4.0/20, Error ellipse: s-maj=22.5km s-min=13.1km az=55.0*
*ISCJB **18** 00:19:37.1±0.5, 13°.96N±0°.08×92°.9E±0°.1, h32km, mb4.0/21, Error ellipse: s-maj=16.9km s-min=8.5km az=143.5*

**ISC 18 00:19:39.5±0.5,

GERES	**GERESS Array B**	**72.50 317**	P	**P**	**00 31 03.4**	**+0.1**
	comp=E,1.6nm,0.7s,baz=90,slow=6.7,SNR=15					
NB2	**NORSAR Subarra**	**73.82 330**	P	**P**	**00 31 10.1**	**-0.7**
	comp=Z,0.7nm,0.6s,baz=88,slow=6.2					
NOA	**NORSAR Array B**	**73.82 330**	P	**P**	**00 31 10.0**	**-0.7**
	comp=Z,1.9nm,0.8s,baz=90,slow=6.1,SNR=4.3					
BOSA	**Boshof**	**77.95 236**	P	**P**	**00 31 35.6**	**+0.6**
	comp=Z,5.2nm,0.7s,baz=66,slow=7.2,SNR=13					
ESDC	**Sonseca Array**	**86.37 310**	P	**P**	**00 32 19.0**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=64,slow=3.9,SNR=3.6					
TORD	**Torodi Ar. Bea**	**88.07 283**	P	**P**	**00 32 27.6**	**+0.1**
	comp=Z,1.2nm,0.8s,baz=91,slow=5.3,SNR=7.9					
ILAR	**Eielson Array**	**89.47 22**	P	**P**	**00 32 33.0**	**-0.2**
	comp=Z,0.6nm,0.8s,baz=298,slow=5.8,SNR=3.9					

ATH ***18*** *00:36:24.9, 40.05N×19.86E, h18km±1km, MD3.5/17*
THE ***18*** *00:36:25.2, 40.05N×19.95E, h2km±25km, ML2.7/2, Error ellipse: s-maj=25.2km s-min=0.8km az=0.0*
CSEM ***18*** *00:36:25.6±0.4, 40.04N×19.93E, h2km, ML2.7/2, Error ellipse: s-maj=8.4km s-min=4.1km az=124.0*

ISC 18 00:36:25.6±1.1, 40.02N±0.03×19.96E±0.04, h18km±3km, n58, σ1§47/68, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRN	**Sarande**	**0.15**	**167**	P	**Pb**	**00 36 28.6**	**-0.5**
SRN				S	**Sb**	**00 36 30.9**	**-0.5**
SRN	**Sarande**	**0.15**	**167**	P	**Pb**	**00 36 28.6**	**-0.5**
SRN				S	**Sb**	**00 36 30.9**	**-0.5**
KEK	**Kerkira**	**0.33**	**202**	P	**Pb**	**00 36 32.0**	**-1.1**
KEK				S	**Sb**	**00 36 37.5**	**-0.6**
KEK	**Kerkira**	**0.33**	**202**	*e*PB	**Pb**	**00 36 32.2**	**-0.9**
KEK				*e*SB	**Sb**	**00 36 37.7**	**-0.4**
KEK	**Kerkira**	**0.33**	**202**	P	**Pb**	**00 36 32.0**	**-1.1**
KEK	**Kerkira**	**0.33**	**202**	*e*Pb	**Pb**	**00 36 32.2**	**-0.9**
KEK				S	**Sb**	**00 36 37.5**	**-0.6**
IGT	**Igoumenitsa**	**0.57**	**149**	P	**Pb**	**00 36 36.0**	**-1.0**
IGT				S	**Sg**	**00 36 45.2**	**+0.6**
IGT	**Igoumenitsa**	**0.57**	**149**	P	**Pb**	**00 36 36.0**	**-1.0**
IGT				S	**Sg**	**00 36 45.2**	**+0.6**
JAN	**Janina**	**0.78**	**118**	P	**Pb**	**00 36 39.9**	**-0.7**
JAN				S	**Sg**	**00 36 52.2**	**+1.0**
JAN	**Janina**	**0.78**	**118**	*e*PB	**Pg**	**00 36 40.7**	**-0.2**
JAN				*e*SN	**Sg**	**00 36 52.7**	**+1.5**
JAN	**Janina**	**0.78**	**118**	P	**Pb**	**00 36 39.9**	**-0.7**
JAN	**Janina**	**0.78**	**118**	*e*Pb	**Pg**	**00 36 40.7**	**-0.2**
JAN				S	**Sg**	**00 36 52.2**	**+1.0**
NEST	**Nestorio**	**0.92**	**65**	P	**Pb**	**00 36 42.5**	**-0.6**
NEST	**Nestorio**	**0.92**	**65**	P	**Pb**	**00 36 42.5**	**-0.6**
FNA	**Florina**	**1.32**	**54**	*e*PN	**Pg**	**00 36 50.7**	**-0.5**
FNA				*e*SN	**Sg**	**00 37 10.8**	**+2.3**
FNA	**Florina**	**1.32**	**54**	*e*Pn	**Pg**	**00 36 50.7**	**-0.5**
FNA				*e*Sn	**Sg**	**00 37 10.8**	**+2.3**
LKD2	**Lefkada island**	**1.35**	**156**	*e*PN	**Pg**	**00 36 50.7**	**-0.9**
LKD2				*e*SN	**Sg**	**00 37 11.2**	**+2.0**
LKD2	**Lefkada island**	**1.35**	**156**	*e*Pn	**Pg**	**00 36 50.7**	**-0.9**
LKD2				*e*Sn	**Sg**	**00 37 11.2**	**+2.0**
KZN	**Kozani**	**1.42**	**78**	*e*PN	**Pg**	**00 36 52.7**	**-0.3**
KZN				*e*SN	**Sg**	**00 37 13.9**	**+2.4**
KZN	**Kozani**	**1.42**	**78**	*e*Pn	**Pg**	**00 36 52.7**	**-0.3**
KZN				*e*Sn	**Sg**	**00 37 13.9**	**+2.4**
BIA	**Bitola**	**1.44**	**46**	*e*Pn	**Pg**	**00 36 53.0**	**-0.4**
BIA	**Bitola**	**1.44**	**46**	*e*Pn	**Pg**	**00 36 52.4**	**-1.0**
THL	**Klokotos Trika**	**1.65**	**105**	*e*PN	**Pg**	**00 36 56.8**	**-0.5**
THL	**Klokotos Trika**	**1.65**	**105**	*e*Pn	**Pg**	**00 36 56.8**	**-0.5**
VLS	**Valsamata**	**1.91**	**165**	*e*PN	**Pb**	**00 37 00.2**	**+0.3**
VLS	**Valsamata**	**1.91**	**165**	*e*Pn	**Pb**	**00 37 00.2**	**+0.3**
AGG	**Agios Georgios**	**2.09**	**118**	*e*PN	**Pb**	**00 37 03.2**	**+0.2**
AGG	**Agios Georgios**	**2.09**	**118**	*e*Pn	**Pb**	**00 37 03.2**	**+0.2**
EFP	**Efpalio**	**2.20**	**136**	*e*PB	**Pb**	**00 37 03.3**	**-1.5**
EFP	**Efpalio**	**2.20**	**136**	*e*Pb	**Pb**	**00 37 03.3**	**-1.5**
RLS	**Riolos of Patr**	**2.29**	**149**	*e*PB	**Pb**	**00 37 04.4**	**-1.9**
RLS	**Riolos of Patr**	**2.29**	**149**	*e*Pb	**Pb**	**00 37 04.4**	**-1.9**
TRIZ	**Trizonia**	**2.33**	**135**	*e*PB	**Pb**	**00 37 06.1**	**-1.0**
TRIZ	**Trizonia**	**2.33**	**135**	*e*Pb	**Pb**	**00 37 06.1**	**-1.0**
KALE	**Kalithea**	**2.35**	**133**	*e*PN	**Pb**	**00 37 06.0**	**-1.5**
KALE	**Kalithea**	**2.35**	**133**	*e*Pn	**Pb**	**00 37 06.0**	**-1.5**
LAKA	**Lakka**	**2.37**	**138**	*e*PB	**Pb**	**00 37 06.4**	**-1.5**
LAKA	**Lakka**	**2.37**	**138**	*e*Pb	**Pb**	**00 37 06.4**	**-1.5**
KLV	**Kalavryta, Ach**	**2.61**	**138**	*e*PB	**Pb**	**00 37 10.1**	**-1.8**
KLV	**Kalavryta, Ach**	**2.61**	**138**	*e*Pb	**Pb**	**00 37 10.1**	**-1.8**
PLG	**Polygyros**	**2.69**	**81**	*e*PN	**Pn**	**00 37 09.5**	**+1.4**
PLG	**Polygyros**	**2.69**	**81**	*e*Pn	**Pn**	**00 37 09.5**	**+1.4**
SOH	**Sokhos**	**2.71**	**72**	*e*PN	**Pn**	**00 37 10.2**	**+1.9**
SOH				*e*SN	**Sb**	**00 37 44.3**	**-2.3**
SOH	**Sokhos**	**2.71**	**72**	*e*Pn	**Pn**	**00 37 10.2**	**+1.9**
SOH				*e*Sn	**Sb**	**00 37 44.3**	**-2.3**
GUR	**Goura**	**2.79**	**138**	*e*PN	**Pb**	**00 37 12.2**	**-2.8**
GUR	**Goura**	**2.79**	**138**	*e*Pn	**Pb**	**00 37 12.2**	**-2.8**
AMT	**Artemida-Makis**	**2.84**	**151**	*e*PN	Pb	00 37 12.3	-3.5
AMT	**Artemida-Makis**	**2.84**	**151**	*e*Pn	Pb	00 37 12.3	-3.5
PAIG	**Paliouri**	**2.86**	**91**	*e*PN	**Pn**	**00 37 12.7**	**+2.4**
PAIG	**Paliouri**	**2.86**	**91**	*e*Pn	**Pn**	**00 37 12.7**	**+2.4**
AOS	**Alonnisos**	**3.15**	**104**	*e*PN	Pb	00 37 17.4	-3.6
AOS	**Alonnisos**	**3.15**	**104**	*e*Pn	Pb	00 37 17.4	-3.6
NVR	**Nevrokopi**	**3.25**	**65**	*e*PN	Pb	00 37 19.1	-3.7
NVR	**Nevrokopi**	**3.25**	**65**	*e*Pn	Pb	00 37 19.1	-3.7
VLX	**Vlachokerasia**	**3.26**	**144**	*e*PN	Pn	00 37 18.4	+2.5
VLX	**Vlachokerasia**	**3.26**	**144**	*e*Pn	Pn	00 37 18.4	+2.5
DID	**Didima**	**3.59**	**133**	*e*PN	**Pn**	**00 37 22.7**	**+2.3**
DID	**Didima**	**3.59**	**133**	*e*Pn	**Pn**	**00 37 22.7**	**+2.3**

IDC ***18*** *00:43:23.5±0.5, 37.57N×95.57E, h0km, mb4.2/23, mb1 4.3/27, mb1mx4.3/34, mbtmp4.2/27, ML4.3/5, MS4.9/1, Ms1 4.9/1, ms1mx3.7/50, Error ellipse: s-maj=17.6km s-min=10.6km az=36.0*
ISCJB ***18*** *00:43:23.2±0.2, 37.56N±0.03×95.60E±0.03, h10km, mb4.5/60, MS4.6/3, Error ellipse: s-maj=3.6km s-min=3.0km az=178.9*
NEIC ***18*** *00:43:24.6±2.5, 37.60N×95.63E, h10km±3km, mb4.8/22, Error ellipse: s-maj=15.0km s-min=11.5km az=60.0*
BJI ***18*** *00:43:25.4, 37.67N×95.66E, h8km, mB5.2/14, mb4.6/34, ML4.8/10, Ms4.7/30, Ms7 4.5/26*
MOS ***18*** *00:43:25.3±1.4, 37.55N×95.61E, h23km, mb4.6/36, Error ellipse: s-maj=8.8km s-min=5.2km az=125.8*
TEH ***18*** *00:43:27.0, 37.62N×95.56E, h12km, ML4.8*
NNC ***18*** *00:43:29.3±2.2, 38.10N×95.34E, h0km, mb4.7, Error ellipse: s-maj=41.9km s-min=27.8km az=63.0*

ISC 18 00:43:25.6±0.3, 37.59N±0.04×95.53E±0.03, h10km, n221, σ1§78/219, mb4.5/61, MS4.5/3, 16C-15D, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**3.82**	**60**	Pn	**Pn**	**00 44 25.3**	**+0.6**
GTA				Pg	**Pb**	**00 44 33.8**	**+0.5**
GTA				Sn	**Sn**	**00 45 10.6**	**+0.9**
GTA				Sg	**Sb**	**00 45 22.9**	**+3.2**
GTA				smax	smax		
	comp=N,610nm,1.2s						
GTA				smax	smax		
	comp=E,560nm,0.8s						
GTA				LR	LR		
	comp=N,8μm,8.0s						
GTA				LR	LR		
	comp=E,4μm,7.1s						
GTA				LR	LR		
	comp=Z,5μm,9.0s						
LZH	**Lanzhou**	**6.84**	**100**	Pn	**Pn**	**00 45 05.8**	**-0.3**
LZH				smax	smax		
	comp=N,500nm,1.0s						
LZH				smax	smax		
	comp=E,640nm,0.9s						
LZH				LR	LR		
	comp=N,5μm,9.1s						
LZH				LR	LR		
	comp=E,2μm,8.7s						
WMQ	**Urumqi**	**8.61**	**319**	P	**Pn**	**00 45 31.0**	**+0.7**
WMQ				S	**Sn**	**00 47 09.0**	**+1.6**
WMQ				pmax	pmax		
	comp=Z,69nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,550nm,3.6s						
WMQ				LR	LR		
	comp=N,4μm,28.0s						
WMQ				LR	LR		
	comp=E,4μm,22.9s						
WMQ				LR	LR		
	comp=Z,4μm,21.0s						
LSA	**Lhasa**	**8.67**	**206**	P	Pn	00 45 35.5	+3.9
LSA	**Lhasa**	**8.67**	**206**	*e*P	**Pn**	**00 45 31.0**	**-0.6**
LSA	**Lhasa**	**8.67**	**206**	*e*Pn	**Pn**	**00 45 31.0**	**-0.6**
CD2	**Chengdu**	**9.53**	**132**	P	**Pn**	**00 45 45.8**	**+2.9**
CD2				S	**Sn**	**00 47 34.5**	**+4.4**
CD2				pmax	pmax		
	comp=Z,30nm,0.5s						
CD2				pmax	pmax		
	comp=Z,170nm,5.3s						
CD2				LR	LR		
	comp=N,5μm,11.3s						
CD2				LR	LR		
	comp=Z,3μm,8.3s						
XAN	**Xi'an**	**11.44**	**104**	P	Pn	00 46 04.9	-4.2
XAN				pmax	pmax		
	comp=Z,3.0nm,0.6s						
XAN				LR	LR		
	comp=N,1μm,11.5s						
XAN				LR	LR		
	comp=E,460nm,10.9s						
XAN				LR	LR		
	comp=Z,810nm,10.4s						
BTO	**Baotou**	**11.66**	**71**	*e*P	**Pn**	**00 46 09.6**	**-2.5**
SHL	**Shillong**	**12.38**	**196**	*e*P	**Pn**	**00 46 21.2**	**-1.0**
GUN	**Gumba**	**12.61**	**223**	*e*P	**Pn**	**00 46 25.7**	**+0.3**
	comp=Z,68nm,1.0s						
JIRN	**Jiri**	**12.64**	**221**	*e*P	**Pn**	**00 46 27.3**	**+1.4**
	comp=Z,100nm,0.7s						
HHC	**Hu-ho-hao-te**	**12.85**	**70**	*e*P	**Pn**	**00 46 28.8**	**+0.3**
HHC				S	**Sn**	**00 48 52.4**	**+0.8**
HHC				pmax	pmax		
	comp=Z,43nm,0.8s						
HHC				pmax	pmax		
	comp=Z,2μm,4.1s						
HHC				LR	LR		
	comp=N,2μm,15.2s						
HHC				LR	LR		
	comp=E,2μm,14.3s						
HHC				LR	LR		
	comp=Z,2μm,13.4s						
SONA0	**Songino Array**	**12.97**	**34**	*e*Pn	**Pn**	**00 46 30.0**	**-0.1**
SONM	**Songino Array**	**12.97**	**34**	Pn	**Pn**	**00 46 30.0**	**-0.1**
	comp=Z,1.7nm,0.3s,baz=218,slow=15,SNR=54						
SONM				Lg	Lg	00 50 18.5	
	comp=Z,0.4nm,0.3s,baz=223,slow=30,SNR=5.0						
SONA1	**Songino Array**	**12.98**	**34**	*e*Pn	**Pn**	**00 46 29.7**	**-0.6**
RAMN	**Ramite**	**13.02**	**218**	*e*P	**Pn**	**00 46 30.2**	**-0.7**
	comp=Z,53nm,1.1s						
PKIN	**Phulchoki**	**13.13**	**223**	*e*P	**Pn**	**00 46 32.6**	**+0.1**
	comp=Z,28nm,0.7s						
DMN	**Daman**	**13.27**	**224**	*e*P	**Pn**	**00 46 34.4**	**+0.1**
	comp=Z,32nm,0.9s						
MK01	**Makanchi Array**	**13.41**	**317**	*e*Pn	**Pn**	**00 46 33.6**	**-2.4**
MK31	**Makanchi Array**	**13.43**	**317**	Pn	**Pn**	**00 46 34.3**	**-2.0**
	comp=Z,8.2nm,0.5s,baz=127,slow=14,SNR=378						
MK31				⇑Sn	**Sn**	**00 49 01.2**	**-4.4**
	comp=Z,43nm,0.8s,baz=125,slow=27,SNR=10.0						
MK31	**Makanchi Array**	**13.43**	**317**	P	**Pn**	**00 46 34.3**	**-2.0**
MK31						00 49 01.2	
MK31				pmax	pmax		
	comp=Z,11nm,0.4s						
MK31				smax	smax		
	comp=N,23nm,0.6s						
MK32	**Makanchi Array**	**13.43**	**317**	*e*Pn	**Pn**	**00 46 33.7**	**-2.6**
MK32				*e*Sn	**Sn**	**00 49 01.4**	**-4.2**
MKAR	**Makanchi Array**	**13.43**	**317**	P	**Pn**	**00 46 33.7**	**-2.6**
MKAR				pmax	pmax		
	comp=Z,7.0nm,0.3s						
MKAR	**Makanchi Array**	**13.43**	**317**	*e*Pn	**Pn**	**00 46 34.4**	**-1.9**
MKAR	**Makanchi Array**	**13.43**	**317**	Pn	**Pn**	**00 46 33.7**	**-2.6**
	comp=Z,6.9nm,0.3s,baz=126,slow=14,SNR=220						
MKAR				Sn	**Sn**	**00 49 01.4**	**-4.2**
	comp=Z,1.2nm,0.3s,baz=124,slow=24,SNR=7.6						
DANN	**Dangsing**	**13.50**	**230**	*e*P	**Pn**	**00 46 38.4**	**+0.9**
	comp=Z,22nm,0.7s						
ENH	**Enshi**	**13.69**	**118**	*e*Pn	**Pn**	**00 46 37.5**	**-2.4**
KMI	**Kunming**	**13.87**	**152**	P	P	00 46 47.1	-3.8
KMI				pmax	pmax		
	comp=Z,7.0nm,0.5s						
ZAK	**Zakamensk**	**13.94**	**21**	*e*P	**Pn**	**00 46 45.0**	**+1.8**
ZAK				*e*		00 49 20.6	
ZAK				pmax	pmax		
	comp=Z,29nm,1.3s						
KOLN	**Koldanda**	**14.02**	**229**	*e*P	**Pn**	**00 46 43.6**	**-0.9**
	comp=Z,13nm,0.7s						
GYA	**Guiyang**	**14.56**	**136**	⇓*i*P	**Pn**	**00 46 50.3**	**-1.6**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,90nm,4.8s						
GYA				LR	LR		
	comp=N,1μm,20.2s						
GYA				LR	LR		
	comp=E,2μm,21.1s						
GYA				LR	LR		
	comp=Z,2μm,20.8s						
MOY	**Mondy**	**14.59**	**14**	*e*P	**P**	**00 47 00.8**	**+2.1**
MOY				pmax	pmax		
	comp=Z,15nm,1.2s						
TLY	**Talaya**	**15.21**	**20**	*e*P	**P**	**00 47 06.2**	**+0.8**
TLY				pmax	pmax		
	comp=Z,25nm,1.7s						
TLY				MLR	MLR		
	comp=Z,827nm,13.0s						
KSH	**Kashi**	**15.42**	**283**	P	**P**	**00 47 05.8**	**-2.2**
KSH				pP	**pP**	**00 47 08.9**	**-1.9**
KSH				PP	**PnPn**	**00 47 18.0**	**+6.5**
KSH				S	**Sn**	**00 49 56.5**	**+2.2**
KSH				sS	S	00 50 02.0	-8.5
KSH				SS	**SnSn**	**00 50 14.5**	**+7.6**
KSH				pmax	pmax		
	comp=Z,13nm,0.7s						
KSH				pmax	pmax		
	comp=Z,240nm,6.0s						
KSH				LR	LR		
	comp=N,380nm,3.2s						
KSH				LR	LR		
	comp=E,330nm,3.6s						
KSH				LR	LR		
	comp=Z,860nm,13.1s						
IRK	**Irkutsk**	**15.89**	**20**	*e*P	**Pn**	**00 47 09.4**	**+0.2**
IRK				pmax	pmax		
	comp=Z,119nm,1.5s						
BOK	**Bokaro**	**16.04**	**214**	*e*P	**Pn**	**00 47 09.5**	**-1.9**
TKM2	**Tokmak 2**	**16.11**	**296**	⇓P	**Pn**	**00 47 10.5**	**-1.9**
	comp=Z,58nm,1.1s						
TKM2	**Tokmak 2**	**16.11**	**296**	*e*P	**Pn**	**00 47 10.4**	**-1.9**
TKM2				pmax	pmax		
	comp=Z,32nm,0.6s						
TKM2	**Tokmak 2**	**16.11**	**296**	P	**Pn**	**00 47 10.6**	**-1.7**
	SNR=25						
TKM2	**Tokmak 2**	**16.11**	**296**	*e*Pn	**Pn**	**00 47 10.4**	**-1.9**
	comp=Z,32nm,0.6s						
DDI	**Dehra Dun**	**16.20**	**249**	*e*P	**Pn**	**00 47 13.1**	**-0.3**
DDI				AMB	AMB	00 47 23.8	
	comp=Z,82nm,0.9s						
KZA	**Kyzart**	**16.20**	**292**	*i* P	**Pn**	**00 47 12.0**	**-1.7**
KZA	**Kyzart**	**16.20**	**292**	P	**Pn**	**00 47 12.0**	**-1.7**
	SNR=12						
BJT	**Baijiatuau**	**16.27**	**75**	*e*Pn	**Pn**	**00 47 12.5**	**-1.7**
	comp=Z,36nm,0.7s						
SMLA	**Simla**	**16.46**	**252**	*e*P	**Pn**	**00 47 14.4**	**-2.3**
SMLA				AMB	AMB	00 47 24.9	
	comp=Z,75nm,1.8s						
KBK	**Karagaybulak**	**16.52**	**294**	*i* P	**Pn**	**00 47 16.8**	**-0.8**
KBK	**Karagaybulak**	**16.52**	**294**	P	**Pn**	**00 47 16.8**	**-0.8**
	SNR=11						
DHRM	**DHARAMSHALA**	**16.64**	**257**	*e*P	**Pn**	**00 47 17.8**	**-1.4**
DHRM				AMB	AMB	00 47 31.8	
	comp=Z,68nm,0.8s						
FRU	**Bishkek**	**16.80**	**295**	*e*P	**Pn**	**00 47 20.5**	**-0.4**
FRU				pmax	pmax		
	comp=Z,60nm,2.0s						
AAK	**Ala-Archa**	**16.85**	**294**	*ce*P	**Pn**	**00 47 21.2**	**-0.5**
AAK				pmax	pmax		
	comp=Z,69nm,1.2s						
AAK	**Ala-Archa**	**16.85**	**294**	P	**P**	**00 47 24.3**	**+0.5**
	SNR=14						
AAK	**Ala-Archa**	**16.85**	**294**	*e*Pn	**Pn**	**00 47 22.4**	**+0.7**
	comp=Z,30nm,1.0s						
AAK	**Ala-Archa**	**16.85**	**294**	Pn	**Pn**	**00 47 22.1**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=105,slow=7.6,SNR=16						
USP	**Ospenovka**	**16.97**	**296**	*i* P	**P**	**00 47 26.3**	**+1.3**
USP	**Ospenovka**	**16.97**	**296**	P	**P**	**00 47 26.3**	**+1.3**
	SNR=6.1						
THN	**Thein Dam**	**17.02**	**258**	*ex*	**P**	**00 47 27.1**	**+1.5**
WHN	**Wuhan**	**17.09**	**109**	P	**Pn**	**00 47 22.3**	**-2.4**
WHN				LR	LR		
	comp=N,1μm,6.8s						
WHN				LR	LR		
	comp=E,3μm,11.4s						
WHN				LR	LR		
	comp=Z,3μm,14.9s						
AML	**Almayashu**	**17.35**	**292**	*i* P	**P**	**00 47 32.8**	**+3.1**
AML	**Almayashu**	**17.35**	**292**	P	**P**	**00 47 32.8**	**+3.1**
	SNR=19						
EKS2	**Erkin-Say**	**17.37**	**294**	*e*P	**Pn**	**00 47 28.8**	**+0.5**
EKS2				pmax	pmax		
	comp=Z,22nm,1.2s						
EKS2	**Erkin-Say**	**17.37**	**294**	P	**P**	**00 47 29.0**	**-0.6**
	SNR=13						
EKS2	**Erkin-Say**	**17.37**	**294**	*e*Pn	**Pn**	**00 47 28.8**	**+0.5**
	comp=Z,22nm,1.2s						
KURBB	**Kurchatov Arra**	**17.80**	**322**	⇑P	**Pn**	**00 47 31.2**	**-2.1**
	comp=Z,26nm,1.4s						
KURBB	**Kurchatov Arra**	**17.80**	**322**	P	**Pn**	**00 47 30.4**	**-2.9**
	comp=Z,1.9nm,0.3s,baz=137,slow=11,SNR=15						
KURK	**Kurchatov**	**17.81**	**323**	P	**Pn**	**00 47 30.4**	**-3.1**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KURK	**Kurchatov**	**17.81**	**323**	*e*Pn	**Pn**	**00 47 30.4**	**-3.1**
ZAA0	**Zalesovo Array**	**17.95**	**339**	*e*Pn	**Pn**	**00 47 32.7**	**-2.4**
ZALV	**Zalesovo Beam**	**17.95**	**339**	P	**Pn**	**00 47 32.8**	**-2.3**
ZALV	**Zalesovo Beam**	**17.95**	**339**	P	**Pn**	**00 47 32.8**	**-2.3**
	comp=Z,0.2nm,0.3s,baz=153,slow=10.0,SNR=16						
CHTO	**Chiang Mai**	**18.95**	**170**	*e*P	**P**	**00 47 46.1**	**-0.8**
CHTO				pmax	pmax		
	comp=Z,9.0nm,0.9s						
CHTO	**Chiang Mai**	**18.95**	**170**	*e*P	**P**	**00 47 46.1**	**-0.8**
	comp=Z,9.0nm,0.9s						
NVS	**Novosibirsk**	**19.18**	**338**	*e*P	**P**	**00 47 48.7**	**-0.6**
NVS				*e*S	**S**	**00 51 28.0**	**+1.5**
NVS				pmax	pmax		
	comp=Z,30nm,1.3s						
NVS				pmax	pmax		
	comp=N,8.0nm,0.8s						
NVS				smax	smax		
	comp=N,31nm,2.2s						
NVS				smax	smax		
	comp=E,16nm,1.8s						
CM31	**Chiang Mai Arr**	**19.30**	**170**	*e*P	**Pn**	**00 47 51.4**	**-0.4**
CMAR	**Chiang Mai Arr**	**19.30**	**170**	P	**Pn**	**00 47 51.4**	**-0.4**
	comp=E,0.6nm,0.3s,baz=343,slow=9.9,SNR=2.6						
CM01	**Chiang Mai Arr**	**19.34**	**170**	*e*P	**P**	**00 47 51.0**	**-0.2**
KK31	**Karatay Array**	**19.81**	**294**	⇓P	**Pn**	**00 47 58.7**	**+0.9**
	comp=E,28nm,1.2s,baz=95,slow=12,SNR=65						
KK31	**Karatay Array**	**19.81**	**294**	*i* P	**Pn**	**00 47 58.7**	**+0.9**
KK31				pmax	pmax		
	comp=Z,27nm,1.1s						
KKAR	**Karatay Array**	**19.81**	**294**	*e*P	**P**	**00 47 56.4**	**+0.1**
KKAR	**Karatay Array**	**19.81**	**294**	*e*P	**P**	**00 47 56.4**	**+0.1**
NJ2	**Nanjing**	**19.91**	**99**	*e*P	**Pn**	**00 48 00.8**	**+1.8**
NJ2				sS	Sn	00 51 50.5	+7.6
NJ2				pmax	pmax		
	comp=Z,20nm,0.9s						
NJ2				pmax	pmax		
	comp=Z,690nm,7.0s						
NJ2				LR	LR		
	comp=N,3μm,23.0s						
NJ2				LR	LR		
	comp=E,1μm,20.6s						
NJ2				LR	LR		
	comp=Z,1μm,19.8s						
HIA	**Hailar**	**21.01**	**49**	*e*P	**P**	**00 48 08.4**	**-0.8**
	comp=Z,37nm,1.0s						
BHPL	**Bhopal**	**21.12**	**232**	*e*P	**P**	**00 48 10.0**	**-0.6**
BHPL				AMB	AMB	00 48 14.2	
	comp=Z,19nm,1.0s						
KBL	**Kabul**	**21.60**	**270**	*e*P	**P**	**00 48 17.1**	**+1.2**
KBL				pmax	pmax		
	comp=Z,24nm,1.0s						
KBL	**Kabul**	**21.60**	**270**	*e*P	**P**	**00 48 17.1**	**+1.2**
	comp=Z,24nm,1.0s						
NGP	**Nagpur**	**21.73**	**226**	*e*P	**P**	**00 48 17.9**	**+0.7**
NGP				AMB	AMB	00 48 26.2	
	comp=Z,13nm,0.8s						
SNY	**Shenyang**	**21.95**	**70**	⇓P	**P**	**00 48 18.3**	**-1.0**
SNY				pmax	pmax		
	comp=Z,30nm,1.0s						
SNY				LR	LR		
	comp=N,870nm,17.2s						
SNY				LR	LR		
	comp=E,1μm,19.1s						
SNY				LR	LR		
	comp=Z,2μm,18.0s						
QIZ	**Qiongzhong**	**22.33**	**142**	P	**P**	**00 48 25.8**	**+2.2**
QIZ				S	**S**	**00 52 30.0**	**+0.9**
QIZ				pmax	pmax		
	comp=Z,17nm,0.9s						
VOSK	**Vostochnaya**	**22.83**	**319**	*e*P	**P**	**00 48 28.3**	**-0.4**
VOSK				pmax	pmax		
	comp=Z,22nm,0.9s						
VOSK	**Vostochnaya**	**22.83**	**319**	*e*P	**P**	**00 48 28.3**	**-0.4**
	comp=Z,22nm,0.9s						
AKL	**Akola**	**23.27**	**229**	*e*P	**P**	**00 48 32.5**	**-0.9**
AKL				AMB	AMB	00 48 38.9	
	comp=Z,26nm,0.6s						
BVA0	**Borovoye Array**	**23.29**	**320**	⇓P	**P**	**00 48 34.2**	**+0.7**
	comp=Z,25nm,1.5s,baz=110,slow=9.6,SNR=6.1						
BVA0	**Borovoye Array**	**23.29**	**320**	*i* P	**P**	**00 48 34.1**	**+0.7**
BVA0				pmax	pmax		
	comp=Z,25nm,1.5s						
BVAR	**Borovoye Array**	**23.29**	**320**	P	**P**	**00 48 32.9**	**-0.5**
BVAR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
BVAR	**Borovoye Array**	**23.29**	**320**	P	**P**	**00 48 32.9**	**-0.5**
	comp=Z,5.3nm,0.7s,baz=124,slow=12,SNR=16						
BRVK	**Bor

ARU Arti 30.94 319 *d iP* **P 00 49 42.7 +0.2**
ARU S S 00 54 37.7 -9.0
ARU pmax pmax
comp=Z,19nm,1.7s
MJAR Matsushiro Arr 33.86 78 P **P 00 50 09.3 +0.9**
comp=Z,0.8nm,0.4s,baz=288,slow=7.4,SNR=3.6
IZEF Zefreh 35.36 276 *eP* **P 00 50 23.9 +2.2**
YSS Yuzh-Sakhalins 35.70 60 *eP* **P 00 50 27.0 +2.9**
TIXI Tiksi 38.15 16 *eP* P 00 50 51.1 +6.5
TIXI pmax pmax
comp=Z,6.0nm,1.0s
MYLDM Lahad Datu 38.47 141 *eP* **P 00 50 46.2 -1.8**
comp=Z,41nm,0.9s
KIV Kislovodsk 39.94 296⇑ *iP* P 00 51 03.4 +3.3
KIV pmax pmax
comp=Z,8.0nm,1.7s
VRHR Novokhopersk 39.95 307 *eP* **P 00 51 01.3 +1.3**
VRHR pmax pmax
comp=Z,10.0nm,1.0s
VRHR pmax pmax
comp=N,5.0nm,0.9s
VRHR pmax pmax
comp=E,6.0nm,1.0s
VORD Divnogorie 41.43 307 *eP* **P 00 51 13.2 +1.0**
VORD pmax pmax
comp=Z,5.0nm,0.4s
VORD pmax pmax
comp=N,10.0nm,0.8s
VORD pmax pmax
comp=E,20nm,0.7s
KLMR Klimovskoe 41.66 322 *eP* P 00 51 06.1 -7.8
KLMR pmax pmax
comp=Z,17nm,1.1s
SEY Seymchan 42.37 35⇓ *iP* P 00 51 26.4 +6.7
OBN Obninsk 42.90 314⇑ *iP* **P 00 51 25.9 +1.8**
OBN *e* 00 53 02.0
OBN pmax pmax
comp=Z,21nm,1.6s
PETK Petropavlovsk- 44.91 49 P **P 00 51 39.9 -0.4**
PETK pmax pmax
comp=Z,1.0nm,0.6s
PETK Petropavlovsk- 44.91 49 P **P 00 51 39.9 -0.4**
comp=Z,1.1nm,0.6s,baz=257,slow=11,SNR=2.7
JOF Joensuu 45.71 325 *eP* **P 00 51 45.6 -0.9**
JOF pmax pmax
comp=Z,1.0nm,0.4s
JOF Joensuu 45.71 325 *ep* **P 00 51 45.6 -0.9**
comp=Z,0.6nm,0.4s
BR101 Keskin Array S 47.52 293 *eP* **P 00 52 01.3 +0.1**
BRTR Keskin Array B 47.52 293 P **P 00 52 01.3 +0.1**
comp=Z,1.0nm,0.6s,baz=99,slow=6.6,SNR=14
AKASG Malin Array Be 47.79 308 *eP* **P 00 52 05.8 +2.8**
AKASG pmax pmax
comp=Z,3.0nm,0.8s
AKASG Malin Array Be 47.79 308 P **P 00 52 02.4 -0.5**
comp=Z,3.1nm,0.8s,baz=64,slow=8.1,SNR=13
AKASG LR LR 01 14 34.8
comp=Z,1μm,20.3s,baz=105,slow=39
AKBB Malin Array Si 47.79 308 *eP* **P 00 52 02.4 -0.5**
AKBB Malin Array Si 47.79 308 *eP* **P 00 52 02.4 -0.5**
KIEV Kiev 47.80 308 *eP* **P 00 52 02.0 -1.0**
KIEV Kiev 47.80 308 *eP* **P 00 52 02.0 -1.0**
KAF Kangasniemi 48.04 324 *eP* **P 00 52 04.9 +0.2**
KAF Kangasniemi 48.04 324 *ep* **P 00 52 04.9 +0.2**
comp=Z,0.3nm,0.3s
BR231 Keskin MP Arra 48.11 293 *eP* **P 00 52 03.0 -2.7**
FIA0 FINESS Array S 48.19 323 *eP* **P 00 52 04.8 -1.1**
FIA0 FINESS Array S 48.19 323 *eP* **P 00 52 04.8 -1.1**
FINES FINESS Array B 48.19 323 P **P 00 52 04.8 -1.1**
comp=Z,3.5nm,0.9s,baz=86,slow=8.5,SNR=7.2
VRI Vrincioaia 50.56 302⇓ *iP* **P 00 52 27.0 +2.7**
VRI Vrincioaia 50.56 302⇓ *iP* **P 00 52 27.0 +2.7**
PLOR Plostina 50.62 302⇓ *iP* **P 00 52 24.8 +0.1**
PLOR Plostina 50.62 302⇓ *iP* **P 00 52 24.8 +0.1**
BURAR Bucovina Array 51.07 305⇑ *iP* **P 00 52 29.7 +1.5**
BURAR Bucovina Array 51.07 305⇑ *iP* **P 00 52 29.7 +1.5**
ARR Arges 52.11 302⇑ *iP* **P 00 52 35.7 -0.3**
KWP Kalwaria Pacla 52.12 308⇑ *iP* **P 00 52 37.0 +1.1**
KWP Kalwaria Pacla 52.12 308⇑ *iP* **P 00 52 37.0 +1.1**
LOT Lotru 52.66 303⇑ *iP* **P 00 52 42.1 +2.0**
VTS Vitosha 54.00 300⇓ *iP* **P 00 52 47.2 -2.9**
VTS Vitosha 54.00 300⇓ *iP* **P 00 52 47.2 -2.9**
HFS Hagfors 54.38 322 P **P 00 52 52.8 +0.4**
comp=Z,2.0nm,0.7s,baz=138,slow=9.1,SNR=5.1
VYHS Vyhne 54.89 308 *eP* **P 00 52 57.6 +1.4**
VYHS Vyhne 54.89 308 *eP* **P 00 52 57.6 +1.4**
VYHS *e* 01 29 25.6
MORC Moravsky Berou 55.27 310 *eP* **P 00 52 59.3 +0.3**
MORC pmax pmax
comp=Z,14nm,1.4s
MORC Moravsky Berou 55.27 310 *eP* **P 00 52 59.3 +0.3**
comp=Z,14nm,1.4s
NB2 NORSAR Subarra 55.32 324 P **P 00 52 58.6 -0.6**
comp=Z,1.3nm,0.6s,baz=71,slow=7.4
NB200 NORSAR Array S 55.32 324 *eP* **P 00 52 58.8 -0.5**
NOA NORSAR Array B 55.32 324 P **P 00 52 58.7 -0.5**
comp=Z,2.6nm,0.8s,baz=75,slow=7.6,SNR=8.4
IDI Anoyia 55.61 291 *eP* **P 00 53 00.7 -1.0**
comp=Z,10nm,0.8s
IDI Anoyia 55.61 291 P **P 00 53 01.6 -0.1**
comp=Z,8.0nm,0.6s,baz=16,slow=18,SNR=4.9
DPC Dobruska-Polom 55.82 310 *eP* **P 00 53 01.6 -1.4**
DPC pmax pmax
comp=Z,243nm,2.1s
DPC Dobruska-Polom 55.82 310 *eP* **P 00 53 03.8 +0.8**
DPC Dobruska-Polom 55.82 310 *eP* **P 00 53 01.6 -1.4**
comp=Z,243nm,2.1s
UPC Upice 55.96 311 *eP* P 00 53 07.9 +4.0
UPC Upice 55.96 311 *ep*P **P 00 53 07.9 +4.0**
VRAC Vranov 56.01 309 *eP* **P 00 53 06.1 +1.8**
VRAC Vranov 56.01 309 P **P 00 53 06.1 +1.8**
comp=Z,1.1nm,0.6s,baz=105,slow=17,SNR=2.8
BRG Berggiesshubel 57.07 312 *eP* P 00 53 15.3 +3.5
comp=Z,18nm,1.7s
BRG Berggiesshubel 57.07 312 *eP* P 00 53 15.3 +3.5
BRG pmax pmax
comp=Z,18nm,1.7s
CLL Collm 57.47 312⇑ *iP* P 00 53 17.7 +3.1
CLL pmax pmax
comp=Z,6.0nm,1.1s
CLL Collm 57.47 312⇑ *ipP* **P 00 53 17.7 +3.1**
comp=Z,6.0nm,1.1s
PERS Pernice 57.90 307 *i* P P 00 53 22.3 +4.5
GERES GERESS Array B 57.95 310 P **P 00 53 18.2 +0.1**
comp=Z,0.8nm,0.7s,baz=65,slow=7.5,SNR=9.2
BOJS Bojanci 58.25 305 *i* P P 00 53 23.8 +3.6
VISS Visnje 58.40 306 *i* P P 00 53 25.9 +4.6
WLF Walferdange 62.14 313 AP pP 00 53 51.4 +1.4
FITZ Fitzroy Crossi 62.23 147 P **P 00 53 47.0 -0.6**
comp=Z,4.0nm,0.9s,baz=340,slow=5.6,SNR=5.6
LPG La Plagne 63.66 308 *eP* **P 00 53 57.1 -0.2**
comp=Z,13nm,0.8s
COLD Coldfoot 64.38 23 *eP* **P 00 54 00.8 -0.5**
comp=Z,11nm,1.1s
EKA Eskdalemuir Ar 64.53 321 *eP* **P 00 54 01.9 -0.7**
EKA Eskdalemuir Ar 64.53 321 P **P 00 54 01.9 -0.7**
comp=Z,0.9nm,0.7s,baz=60,slow=5.6,SNR=3.2
CAST Castle Rocks 66.02 27 *eP* **P 00 54 11.3 -0.8**
comp=Z,98nm,2.5s
IL1 Eielson Array 66.97 24 *eP* **P 00 54 17.0 -1.1**
ILAR Eielson Array 66.97 24 P **P 00 54 16.7 -1.4**
comp=Z,1.8nm,0.7s,baz=311,slow=5.2,SNR=6.0
ILB Eielson Array 66.97 24 *eP* **P 00 54 16.6 -1.4**
WRAB Tennant Creek 67.89 140 *eP* **P 00 54 23.0 -1.4**
WRAB pmax pmax
comp=Z,99nm,2.5s
WRAB Tennant Creek 67.89 140 *eP* **P 00 54 23.0 -1.4**
comp=Z,99nm,2.5s
WRA Warramunga Arr 67.89 140 *eP* **P 00 54 23.3 -1.1**
WRA Warramunga Arr 67.89 140 P **P 00 54 23.3 -1.1**
comp=Z,5.0nm,0.9s,baz=340,slow=6.3,SNR=17
EGAK Eagle 68.78 23 *eP* **P 00 54 29.2 -0.2**
comp=Z,8.9nm,1.0s
DAWY Dawson 69.83 23 *eP* **P 00 54 33.8 -2.2**
AS12 Alice Springs 70.82 143 *eP* **P 00 54 42.1 -0.5**
ASAR Alice Springs 70.82 143 P **P 00 54 42.1 -0.5**
comp=Z,2.0nm,0.7s,baz=337,slow=5.7,SNR=12
AS01 Alice Springs 70.84 143 *eP* **P 00 54 39.9 -2.8**
ES19 SONSECA Array 73.38 307 *eP* **P 00 54 55.5 -2.4**
ESDC Sonseca Array 73.43 307 *eP* **P 00 54 56.8 -1.4**
ESDC Sonseca Array 73.43 307 P **P 00 54 56.8 -1.4**
comp=Z,0.8nm,0.6s,baz=50,slow=5.3,SNR=8.0
YKA Yellowknife Ar 77.35 14 P **P 00 55 20.6 +0.4**
comp=Z,1.4nm,0.7s,baz=337,slow=5.7,SNR=2.7
STKA Stephens Creek 81.39 142 *eP* **P 00 55 40.8 -1.8**
comp=Z,22nm,2.6s
STKA Stephens Creek 81.39 142 P **P 00 55 40.8 -1.8**
comp=Z,6.4nm,0.7s,baz=329,slow=7.3,SNR=13
TOA0 Torodi Ar. Sit 85.09 283 *eP* **P 00 56 01.5 -0.6**
TORD Torodi Ar. Bea 85.09 283 P **P 00 56 01.8 -0.4**
comp=Z,1.2nm,0.9s,baz=39,slow=4.7,SNR=6.3
BLMT Blacktail Moun 90.70 20 *eP* **P 00 56 27.0 -1.8**
JTMT Jette 90.97 20 *eP* **P 00 56 29.1 -0.8**
BEKR Beckworth 96.17 27 *eP* P 00 56 50.4 -3.7
comp=Z,12nm,1.9s
PD31 Pinedale Array 96.82 18 *eP* **P 00 56 57.4 +0.3**
PDAR Pinedale Array 96.82 18 P **P 00 56 57.4 +0.3**
comp=Z,0.3nm,0.6s,baz=359,slow=4.6,SNR=1.2
VNDA Vanda 121.57 166 *e*PKPdf **PKPdf 01 02 16.9 -1.2**
VNDA Vanda 121.57 166 PKP **PKPdf 01 02 16.9 -1.2**
comp=Z,0.5nm,0.8s,baz=276,slow=3.6,SNR=3.5

BKK ***18*** *00:52:49.5±0.7,6°N±6°×12°8E±°, h10km, M5.3/9, mB5.7/4, mb5.2/9, MLv5.4/2, Mw(mB)5.3/4*
NEIC ***18*** *00:52:58.8±2.0,4°.88N×126°.75E, h66km±6km, mb4.9/17, Error ellipse: s-maj=21.1km s-min=11.2km az=70.0*
ISCJB ***18*** *00:52:58.5±0.5,4°.84N±0°.03×126°.83E±0°.05, h76km±4km, mb4.6/55, Error ellipse: s-maj=8.5km s-min=3.9km az=162.1*
BJI ***18*** *00:52:59.9,4°.97N×126°.49E, h58km, mB5.4/10, mb4.7/24, Ms4.9/9, Ms7 4.8/9*
MAN ***18*** *00:52:59,4°.72N×126°.50E, h107km, mb5.6, ML4.6, MS5.0*
AUST ***18*** *00:53:00.3±0.6,5°.01N×127°.20E, h96km, Error ellipse: s-maj=1.5km s-min=1.0km az=6.0*
IDC ***18*** *00:53:00.5±3.2,4°.82N×126°.66E, h75km±28km, mb4.1/25, mb1 4.2/26, mb1mx4.2/30, mbtmp4.1/26, Error ellipse: s-maj=22.8km s-min=9.5km az=75.0*
DJA ***18*** *00:53:05.1±0.5,4°N±5°×12°7E±°, h62km±18km, M5.0/8, mb5.2/7, mB5.5/5, MLv5.0/8, Mw(mB)5.0/5, Mwp6.3/1*
ISC 18 00:52:59.5±0.4,4°.82N±0°.04×126°.76E±0°.06, h66km±3km, n159,σ1⇕31/181, mb4.6/55, 1C-2D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SGSI	Sangihe	1.67	227	P		Pn	ISC	00 53 28.6	+2.0
MATI	Mati	2.17	347	*e*P		Pn	ISC	00 53 34.7	+1.2
MATI				*e*S		Sn	ISC	00 54 02.8	+3.5
GSPH	General Santos	2.19	305	⇓ *i*P		Pn	ISC	00 53 31.7	-2.2
DAV	Davao City (W)	2.52	332	*e*Pn		Pn	ISC	00 53 38.4	+0.1
DAV	Davao City (W)	2.52	332	P		Pn	ISC	00 53 47.1	+8.9
DMPH	Davao City--Mi	2.57	331	⇑ *e*P		Pn	ISC	00 53 37.7	-1.1
DMPH				*e*S		Sn	ISC	00 54 07.0	-2.0
CTBH	Cotabato--PC H	3.45	314	⇓ *i*P		Pn	ISC	00 53 43.5	-7.4
BUKP	Musuan	3.47	331	*e*P		Pn	ISC	00 53 52.2	+1.0
TNTI	Ternate	4.07	171	*e*Pn		Pn	ISC	00 53 59.6	+0.3
TNTI	Ternate	4.07	171	P		Pn	ISC	00 54 00.6	+1.3
BUTP	Butuan	4.27	345	*e*P		Pn	ISC	00 54 04.8	+2.6
PAGZ	Pagadian	4.50	312	*e*P		Pn	ISC	00 54 06.7	+1.4
SCPH	Surigao	5.09	346	*e*P		Pn	ISC	00 54 15.9	+2.6
IPIL	Ipil	5.10	306	*e*P		Pn	ISC	00 54 12.1	-1.3
GTOI	Gorontalo	5.59	222	P		Pn	ISC	00 54 21.7	+1.5
	207nm,0.9s,3μm0.7nm								
TBP	Tagbilaran	5.63	329	*e*P		Pn	ISC	00 54 21.0	+0.3
MRSI	Marisa	6.46	228	P		Pn	ISC	00 54 34.4	+2.3
	182nm,0.6s,2μm0.7nm								
LUWI	Luwuk	7.05	214	P		Pn	ISC	00 54 45.9	+5.7
LUWI	Luwuk	7.05	214	P		Pn	ISC	00 54 46.0	+5.7
	baz=7.5,SNR=5.9								
SWI	Sorong	7.22	141	P		Pn	ISC	00 54 43.0	+0.5
	47nm,0.6s,0.2nm								
SWI	Sorong	7.22	141	P		Pn	ISC	00 54 42.7	+0.2
	baz=7.1,SNR=4.0								
APSI	Ampana	7.65	222	P		Pn	ISC	00 54 54.6	+6.3
NLAI	Namlea	8.01	178	P		Pn	ISC	00 54 52.7	-0.6
	202nm,0.7s,2μm0.6nm								
MYLDM	Lahad Datu	8.23	273	*e*Pn		Pn	ISC	00 54 59.2	+2.8
MYLDM	Lahad Datu	8.23	273	P		Pn	ISC	00 55 01.5	+5.2
	176nm,1.2s,0.5nm								
FAKI	Fak Fak	9.45	144	P		Pn	ISC	00 55 13.7	+0.7
	baz=9.4,SNR=8.2								
RKPI	Ransiki, Papua	9.72	130	P		Pn	ISC	00 55 21.2	+4.5
	59nm,1.1s,4μm162μm								
MMSI	Mamuju	10.82	227	P		Pn	ISC	00 55 36.2	+4.4
SMKI	Samarinda	10.88	242	P		Pn	ISC	00 55 32.9	+0.4
KAPI	Kappang	12.02	216	*e*Pn		Pn	ISC	00 55 49.6	+1.5
KAPI	Kappang	12.02	216	P		Pn	ISC	00 55 49.6	+1.5
	1.1nm,0.3s,baz=18,slow=11,SNR=5.4								
MMRI	Maumere	14.11	199	*e*Pn		Pn	ISC	00 56 14.1	-2.2
SBUM	Sibu	14.70	261	*e*Pn		Pn	ISC	00 56 24.8	+0.8
WSI	Waingapu	15.77	204	S		S	ISC	00 59 44.0	+1.2
	baz=16,SNR=5.1								
KSM	Kuching	16.75	259	*e*Pn		P	ISC	00 56 53.6	+2.2
	21nm,0.6s								
KSM	Kuching	16.75	259	P		P	ISC	00 56 54.7	+3.4
	baz=17,SNR=5.1								
MTN	Manton Dam	18.08	166	P		P	ISC	00 57 03.9	-2.0
	baz=18,SNR=12								
MTN				S		S	ISC	01 00 31.3	+2.1
	baz=18,SNR=3.4								
KDU	Kakadu	18.30	162	P		P	ISC	00 57 08.2	-0.1
	baz=18,SNR=10								
TPUB	Ta-pu	19.30	343	*e*P		P	ISC	00 57 14.0	-5.3
	20nm,0.9s								
SSLB	Suanglung	19.67	344	*e*P		P	ISC	00 57 18.3	-5.0
	27nm,1.3s								
KNRA	Kununurra	20.46	174	P		P	ISC	00 57 32.5	+0.6
	baz=21,SNR=8.4								
QIZ	Qiongzhong	21.72	312	P		P	ISC	00 57 46.1	+0.7
QIZ				pmax		pmax			
	comp=Z,6.0nm,1.3s								
FITZ	Fitzroy Crossi	22.80	183	*e*P		P	ISC	00 57 56.0	-0.9
FITZ	Fitzroy Crossi	22.80	183	P		P	ISC	00 57 56.8	-0.2
	comp=Z,42nm,0.7s,baz=7.1,slow=7.0,SNR=80								
FITZ	Fitzroy Crossi	22.80	183	P		P	ISC	00 57 56.8	-0.2
	baz=23,SNR=54								
COEN	Coen	24.77	139	*e*P		P	ISC	00 58 14.4	-0.9
	comp=Z,92nm,1.0s								
COEN	Coen	24.77	139	P		P	ISC	00 58 14.9	-0.4
	baz=25,SNR=6.4								
SKNT	Sakolnakorn	25.38	300	P		P	ISC	00 58 29.5	+8.7
WRA	Warramunga Arr	25.71	163	*e*P		P	ISC	00 58 23.1	-0.7
WRA				*e*PcP		PcP	ISC	01 01 52.5	-0.3
WRA	Warramunga Arr	25.71	163	P		P	ISC	00 58 23.1	-0.7
	comp=Z,40nm,0.7s,baz=343,slow=9.9,SNR=83								
WRA				PcP		PcP	ISC	01 01 52.5	-0.3
	comp=Z,1.2nm,0.7s,baz=330,slow=2.9,SNR=3.4								
CHAI	Chaiyaphum	26.70	296	P		P	ISC	00 58 34.7	+1.9
	comp=Z,3.1nm,1.0s,comp=Z,162nm								
MBWA	Marble Bar	26.72	195	*e*P		P	ISC	00 58 31.6	-1.3
	comp=Z,16nm,0.8s								
NJ2	Nanjing	28.08	346	*e*P		P	ISC	00 58 49.8	+4.8
NJ2				pP		pP	ISC	00 58 58.4	-2.6
NJ2				sP		sP	ISC	00 59 06.3	-2.5
NJ2				S		S	ISC	01 03 31.4	+6.2
NJ2				pmax		pmax			
	comp=Z,9.0nm,0.6s								
NJ2				LR		LR			
	comp=N,5μm,14.1s								
NJ2				LR		LR			
	comp=E,3μm,15.2s								
NJ2				LR		LR			
	comp=Z,1μm,17.3s								
JNU	Nakatsue	28.42	7	*e*P		P	ISC	00 58 45.3	-2.8
	comp=Z,40nm,1.5s								
GYA	Guiyang	28.84	320	*e*P		P	ISC	00 58 53.4	+1.4
GYA				pP		pP	ISC	00 59 08.8	+0.8
GYA				sP		sP	ISC	00 59 16.4	+0.6
GYA				PP		PnPn	ISC	00 59 47.5	+1.2
GYA				S		S	ISC	01 03 37.4	-0.2
GYA				sS		sS	ISC	01 04 02.3	-2.7
GYA				PcS		PcS	ISC	01 05 42.3	-1.0
GYA				ScS		ScS	ISC	01 09 29.3	-0.9
GYA				pmax		pmax			
	comp=Z,10.0nm,0.8s								
AS12	Alice Springs	29.16	166	*e*P		P	ISC	00 58 54.5	-0.3
AS12				*e*PcP		PcP	ISC	01 02 01.5	+0.5
ASAR	Alice Springs	29.16	166	P		P	ISC	00 58 54.5	-0.3
	comp=Z,2.8nm,0.5s,baz=347,slow=6.7,SNR=46								
ASAR				PcP		PcP	ISC	01 02 01.5	+0.5
	comp=Z,1.7nm,0.6s,baz=356,slow=2.5,SNR=4.6								
AS01	Alice Springs	29.17	166	*e*P		P	ISC	00 58 54.1	-0.7
PAYA	Payao	29.93	301	P		P	ISC	00 59 01.8	+0.2
	comp=Z,4μm,0.6s,comp=Z,617μm								
CTAO	Charters Tower	31.31	143	*e*P		P	ISC	00 59 13.0	-0.7
	comp=Z,13nm,0.9s								
PATS	Pohnpei	31.45	85	P		P	ISC	00 59 04.0	-11
	baz=31,SNR=3.0								
MEEK	Meekatharra	32.25	194	P		P	ISC	00 59 22.5	+0.5
	baz=33,SNR=16								
KS15	Wonju Array Si	32.48	2	*e*P		P	ISC	00 59 23.2	-0.5
KSRS	Korea Array	32.50	2	P		P	ISC	00 59 23.2	-0.6
	comp=Z,1.6nm,0.6s,baz=178,slow=9.4,SNR=6.8								
MJAR	Matsushiro Arr	33.28	17	P		P	ISC	00 59 31.6	+0.9
	comp=Z,0.5nm,0.3s,baz=217,slow=12,SNR=2.5								
XAN	Xi'an	33.46	333	P		P	ISC	00 59 31.6	-0.9
XAN				pmax		pmax			
	comp=Z,2.0nm,0.8s								
CD2	Chengdu	33.79	323	P		P	ISC	00 59 37.1	+1.7
CD2				pP		pP	ISC	00 59 51.8	+0.3
CD2				sP		sP	ISC	00 59 58.8	-0.5
CD2				PP		PP	ISC	01 00 51.9	-1.1
CD2				S		S	ISC	01 04 56.3	+1.7
CD2				sS		sS	ISC	01 05 21.3	-0.9
CD2				pmax		pmax			
	comp=Z,10.0nm,0.5s								
CD2				pmax		pmax			
	comp=Z,80nm,3.9s								
CD2				LR		LR			
	comp=N,2μm,19.0s								
CD2				LR		LR			
	comp=Z,2μm,21.4s								
MORW	Morawa	35.23	196	P		P	ISC	00 59 48.4	+0.6
	baz=36,SNR=5.3								
FORT	Forrest	35.42	178	*e*P		P	ISC	00 59 49.2	-0.2
	comp=Z,57nm,0.8s								
FORT	Forrest	35.42	178	P		P	ISC	00 59 49.8	+0.4
	baz=36,SNR=12								
BJI	Beijing	36.34	346	P		P	ISC	00 59 59.4	+2.3
BJI				S		S	ISC	01 05 38.8	+5.4
BJI				pmax		pmax			
	comp=Z,30nm,0.9s								
BJI				pmax		pmax			
	comp=Z,830nm,10.8s								
BJI				LR		LR			
	comp=N,1μm,20.4s								
BJI				LR		LR			
	comp=E,1μm,21.6s								
BJI				LR		LR			
	comp=Z,2μm,26.2s								
BLDU	Ballidu	36.52	195	P		P	ISC	00 59 59.3	+0.6
	baz=37,SNR=10								
KLBR	Kellerberrin	37.21	193	P		P	ISC	01 00 05.3	+0.7
	baz=38,SNR=8.1								
LZH	Lanzhou	37.59	329	*e*P		P	ISC	01 00 10.4	+2.4
LZH				pP		pP	ISC	01 00 25.8	+1.5
LZH				sP		sP	ISC	01 00 31.9	-0.1
LZH				pmax		pmax			
	comp=Z,13nm,1.0s								
EIDS	Eidsvold	38.20	143	*e*P		P	ISC	01 00 12.9	-0.1
	comp=Z,18nm,0.8s								
EIDS	Eidsvold	38.20	143	P		P	ISC	01 00 13.1	+0.1
	baz=38,SNR=6.5								
HHC	Hu-ho-hao-te	38.38	341	*e*P		P	ISC	01 00 15.8	+1.3
HHC				PP		PnPn	ISC	01 01 49.3	+3.5
HHC				PcP		PcP	ISC	01 02 26.6	-0.4
HHC				S		S	ISC	01 06 06.8	+2.2
HHC				ScP		ScP	ISC	01 06 08.9	-0.4
HHC				PcS		PcS	ISC	01 06 16.4	+0.2
HHC				ScS		ScS	ISC	01 10 17.9	-1.5
HHC				pmax		pmax			
	comp=Z,45nm,0.8s								
HHC				LR		LR			
	comp=N,1μm,14.3s								
HHC				LR		LR			
	comp=E,1μm,15.3s								
HHC				LR		LR			
	comp=Z,1μm,14.6s								
BBOO	Buckleboo	38.45	167	*e*P		P	ISC	01 00 14.4	-0.6
	comp=Z,100nm,0.8s								
BBOO	Buckleboo	38.45	167	P		P	ISC	01 00 15.2	+0.1
	baz=39,SNR=9.3								
NWAO	Narrogin (SRO)	38.61	193	*e*P		P	ISC	01 00 14.3	-2.1
	comp=Z,148nm,1.7s								
STKA	Stephens Creek	39.14	160	*e*P		P	ISC	01 00 20.8	0.0
	comp=Z,6.3nm,0.8s								
STKA				*e*PcP		PcP	ISC	01 02 28.3	-1.0
STKA	Stephens Creek	39.14	160	P		P	ISC	01 00 21.0	+0.2
	comp=Z,26nm,0.8s,baz=338,slow=8.4,SNR=38								
STKA				PcP		PcP	ISC	01 02 28.3	-1.0
	comp=Z,3.1nm,0.6s,baz=309,slow=19,SNR=3.3								
STKA	Stephens Creek	39.14	160	P		P	ISC	01 00 21.1	+0.4
	baz=39,SNR=26								
USRK	Ussuriysk Arra	39.49	6	P		P	ISC	01 00 25.4	+1.8
	comp=Z,1.3nm,0.5s,baz=190,slow=7.3,SNR=3.5								
RKGY	Rocky Gully	40.29	193	P		P	ISC	01 00 32.6	+2.3
	baz=41,SNR=7.7								
GTA	Gaotai	42.18	328	*e*P		P	ISC	01 00 47.1	+1.1
GTA				pP		pP	ISC	01 01 02.3	-0.3
GTA				sP		sP	ISC	01 01 09.8	-0.4
GTA				pmax		pmax			
	comp=Z,4.0nm,1.0s								
ARMA	Armidale	42.36	147	*e*P		P	ISC	01 00 46.5	-1.1
	comp=Z,19nm,0.9s								
ARMA	Armidale	42.36	147	P		P	ISC	01 00 48.5	+1.0
	baz=42,SNR=5.9								
TAPN	Taplejung	43.40	305	*e*P		P	ISC	01 00 55.9	-0.4
	comp=Z,10nm,0.4s								
ODAN	Odare	43.47	305	*e*P		P	ISC	01 00 56.5	-0.2
	comp=Z,12nm,0.4s								
ARPS	Mount Arapiles	43.71	162	P		P	ISC	01 00 59.4	+1.2
	baz=44,SNR=12								
RAMN	Ramite	44.15	304	*e*P		P	ISC	01 01 02.3	0.0
	comp=Z,15nm,0.6s								
JIRN	Jiri	44.77	305	*e*P		P	ISC	01 01 07.1	-0.2
	comp=Z,17nm,0.5s								
GUN	Gumba	45.12	305	*e*P		P	ISC	01 01 09.6	-0.4
	comp=Z,29nm,0.6s								
DMN	Daman	45.63	304	*e*P		P	ISC	01 01 14.1	+0.1
TOO	Toolangi	45.64	159	P		P	ISC	01 01 17.3	+3.7
	baz=46,SNR=5.3								
SONA0	Songino Array	46.28	341	*e*P		P	ISC	01 01 19.4	+0.8
SONM	Songino Array	46.28	341	P		P	ISC	01 01 19.4	+0.8
	comp=Z,2.7nm,0.5s,baz=158,slow=7.8,SNR=21								
SONA1	Songino Array	46.29	341	*e*P		P	ISC	01 01 18.4	-0.3
KOLN	Koldanda	46.93	304	*e*P		P	ISC	01 01 23.2	-1.0
	comp=Z,11nm,0.3s								
DANN	Dangsing	47.01	305	*e*P		P	ISC	01 01 24.0	-0.9
	comp=Z,21nm,0.5s								
WMQ	Urumqi	51.85	325	*e*P		P	ISC	01 01 55.0	-6.2
WMQ				pP		pP	ISC	01 02 24.4	+6.1
WMQ				sP		sP	ISC	01 02 38.8	+13
WMQ				pmax		pmax			
	comp=Z,5.0nm,1.0s								
WMQ				pmax		pmax			
	comp=Z,47nm,4.1s						

comp=Z,2.3nm,0.7s,baz=116,slow=6.8,SNR=17
BRVK Borovoye 66.50 327 *e*P **P 01 03 41.8 -0.4**
comp=Z,9.4nm,0.6s
ISFR Sfrayin 70.19 308 *e*P **P 01 04 07.5 +1.6**
ABKAR Akbulak array 71.33 321 *e*P **P 01 04 09.4 -2.8**
AKTO Aktyubinsk 72.83 321 P **P 01 04 20.1 -1.1**
comp=Z,1.8nm,0.6s,baz=72,slow=6.3,SNR=3.8
RDF Al-Radifah 78.24 298 *e*P **P 01 04 52.2 -0.5**
RDF AMb AMB 01 05 02.1
comp=Z,27nm,1.2s
NAY Al-Naaiem 78.52 299 *e*P **P 01 04 52.6 -1.6**
NAY AMb AMB 01 04 55.7
comp=Z,8.5nm,1.0s
ILAR Eielson Array 84.11 25 P **P 01 05 21.9 -1.2**
comp=Z,2.1nm,0.8s,baz=239,slow=5.4,SNR=6.7
ILB Eielson Array 84.11 25 *e*P **P 01 05 21.9 -1.2**
VNDA Vanda 84.50 173 *e*P **P 01 05 25.1 +0.4**
VNDA Vanda 84.50 173 P **P 01 05 25.1 +0.4**
comp=Z,4.2nm,0.9s,baz=314,slow=6.1,SNR=23
JOF Joensuu 88.23 333 *e*p **P 01 05 41.6 -1.7**
comp=Z,1.0nm,0.3s
BR101 Keskin Array S 89.35 310 *e*P **P 01 05 48.3 -1.0**
BRTR Keskin Array B 89.35 310 P **P 01 05 48.3 -1.0**
comp=Z,1.8nm,0.8s,baz=121,slow=5.3,SNR=12
SPA0 Spitsbergen Ar 89.42 349 *e*P **P 01 05 48.5 -0.1**
SPITS Spitsbergen Ar 89.42 349 P **P 01 05 48.5 -0.1**
comp=Z,7.0nm,0.9s,baz=195,slow=25,SNR=5.2
ARA0 ARCESS Array S 89.44 340 *e*P **P 01 05 48.1 -0.8**
ARCES ARCESS Array B 89.44 340 P **P 01 05 48.1 -0.8**
comp=Z,3.6nm,0.7s,baz=84,slow=3.8,SNR=7.1
KMBO Kilima Mbogo 89.60 269 P **P 01 05 50.2 -0.9**
comp=Z,1.1nm,0.4s,baz=82,slow=7.1,SNR=5.6
BR231 Keskin MP Arra 90.00 310 *e*P P 01 05 48.6 -3.6
KAF Kangasniemi 90.65 332 *e*p **P 01 05 54.6 0.0**
comp=Z,1.3nm,0.4s
FIA0 FINESS Array S 90.89 332 *e*P **P 01 05 54.0 -1.8**
FINES FINESS Array B 90.89 332 P **P 01 05 54.0 -1.8**
comp=Z,2.8nm,0.7s,baz=77,slow=4.1,SNR=20
AKASG Malin Array Be 91.07 321 P **P 01 05 55.7 -1.1**
comp=Z,0.3nm,0.3s,baz=62,slow=5.0,SNR=4.9
AKBB Malin Array Si 91.07 321 *e*P **P 01 05 55.7 -1.1**
MLR Muntele Rosu 94.14 316 *e*P **P 01 06 11.4 +0.1**
MLR Muntele Rosu 94.14 316 P **P 01 06 11.4 +0.1**
comp=Z,0.3nm,0.6s,baz=180,slow=8.1
BUR04 Bucovina Ar. S 94.21 318 *e*P P 01 06 08.3 -3.2
HFS Hagfors 97.07 332 P **P 01 06 22.4 -1.7**
comp=Z,0.5nm,0.5s,baz=114,slow=24,SNR=3.5
NB2 NORSAR Subarra 97.83 334 P **P 01 06 25.9 -1.7**
comp=Z,3.0nm,1.0s,baz=64,slow=5.1
NB200 NORSAR Array S 97.83 334 *e*P **P 01 06 25.9 -1.7**
NOA NORSAR Array B 97.83 334 P **P 01 06 25.9 -1.7**
comp=Z,0.9nm,0.7s,baz=67,slow=4.8,SNR=4.3
GERES GERESS Array B 101.25 322 P **Pdif 01 06 43.5 +0.3**
comp=Z,0.6nm,0.9s,baz=104,slow=2.8,SNR=4.8
LTX Lajitas 120.91 52 *e*PKPdf **PKPdf 01 11 44.1 -1.2**
TXAR Lajitas Array 120.91 52 PKP **PKPdf 01 11 44.1 -1.2**
comp=Z,0.3nm,0.7s,baz=132,slow=3.8,SNR=3.1
TOA0 Torodi Ar. Sit 122.60 289 *e*PKPdf **PKPdf 01 11 48.8 +0.1**
TORD Torodi Ar. Bea 122.60 289 PKP **PKPdf 01 11 48.8 +0.1**
comp=Z,2.1nm,0.7s,baz=58,slow=2.0,SNR=18
DBIC Dimbokro 130.37 283 PKP **PKPdf 01 12 04.0 +0.5**
comp=Z,3.0nm,0.8s,baz=102,slow=12,SNR=4.4
PLCA Paso Flores 141.01 159 PKP **PKPdf 01 12 23.8 +1.0**
comp=Z,1.5nm,0.7s,baz=16,slow=21,SNR=4.7
CPUP Villa Florida 158.26 170 PKP **PKPdf 01 12 49.3 -0.6**
comp=Z,0.4nm,0.4s,baz=73,slow=16,SNR=3.3
CPUP PKPab **PKPab 01 13 24.9 +1.0**
comp=Z,3.2nm,0.7s,baz=132,slow=5.7,SNR=9.2
LPAZ La Paz 161.47 129 *e*PKPdf **PKPdf 01 12 55.2 +0.6**
LPAZ *e*PKPab **PKPab 01 13 40.2 +1.1**
LPAZ La Paz 161.47 129 PKP **PKPdf 01 12 55.2 +0.6**
comp=Z,0.9nm,0.7s,baz=332,slow=8.9,SNR=3.8
LPAZ PKPab **PKPab 01 13 40.2 +1.1**

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*IDC **18** 01:04:57.3±0.4, 1°.49S×99°.39E, h0km, mb4.6/34, mb1 4.7/35, mb1mx4.7/36, mbtmp4.6/35, ML3.9/1, Error ellipse: s-maj=15.1km s-min=9.9km az=51.0*
*ISCJB **18** 01:04:59.0±1.0, 1°.52S±0°.03×99°.28E±0°.03, h18km±7km, mb4.8/99, MS4.6/8, Error ellipse: s-maj=6.2km s-min=3.7km az=142.6*
*NEIC **18** 01:04:59.0±0.2, 1°.54S×99°.34E, h10km, mb4.9/44, Error ellipse: s-maj=7.1km s-min=4.4km az=53.0*
*BJI **18** 01:04:59.0, 1°.97S×99°.22E, h42km, mB5.3/7, mb4.8/29, Ms4.9/18, Ms7 4.7/18*
*BKK **18** 01:05:01.6±0.3, 2°S±4°×9°9E±°, h10km, M4.9/22, mB5.2/7, mb4.9/22, MLv5.2/5, Mw(mB)4.6/7*
*DJA **18** 01:05:02.2±0.4, 1°S±3°×9°9E±°, h15km, M5.1/17, mb5.3/11, mB5.5/11, MLv5.2/17, Mw(mB)5.0/11*
*TEH **18** 01:05:03.0, 1°.52S×99°.32E, h35km, ML4.9*
*AUST **18** 01:05:03.7±3.3, 1°.50S×99°.45E, h32km, Error ellipse: s-maj=1.8km s-min=0.8km az=230.0*
ISC 18 01:05:03.2±0.4, 1°.49S±0°.04×99°.37E±0°.05, h37km±1km, n362, σ1°S33/356, mb4.8/100, MS4.6/9, 31C-28D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.24**	**62**	P	**Pn**	**01 05 22.2**	**-1.8**
PDSI				S	**Sn**	**01 05 38.6**	**-0.9**
PPI	**Padang Panjang**	**1.46**	**45**	P	**Pn**	**01 05 25.7**	**-1.3**
PPI	**Padang Panjang**	**1.46**	**45**	P	**Pn**	**01 05 25.7**	**-1.3**
baz=1.4,SNR=397							
RGRI	**Rengat**	**3.18**	**69**	P	**Pn**	**01 05 50.5**	**-0.2**
GSI	**Gunungsitoli**	**3.31**	**327**	P	**Pn**	**01 05 51.9**	**-0.6**
MASI	**Maura Aman, Be**	**3.31**	**120**	P	**Pn**	**01 05 53.2**	**+0.7**
KSI	**Kapahiang**	**3.87**	**124**	P	**Pn**	**01 06 01.2**	**+0.9**
PSI	**Prapat**	**4.29**	**354**	Pn	**Pn**	**01 06 04.4**	**-1.7**
PSI	**Prapat**	**4.29**	**354**	Pn	**Pn**	**01 06 04.4**	**-1.7**
6.5nm,0.3s,baz=156,slow=14,SNR=15							
PSI	**Prapat**	**4.29**	**354**	P	**Pn**	**01 06 04.7**	**-1.4**
baz=4.2,SNR=9.6							
MNAI	**Manna**	**4.58**	**129**	*e*Pn	**Pn**	**01 06 10.0**	**0.0**
MNAI	**Manna**	**4.58**	**129**	P	**Pn**	**01 06 09.5**	**-0.5**
baz=4.5,SNR=58							
MNAI				S	**Sn**	**01 07 04.4**	**+2.5**
baz=4.5,SNR=6.4							
LHSI	**Lahat**	**4.75**	**119**	P	Pn	01 06 14.2	+1.8
FRIM	**Kepong**	**5.21**	**26**	P	**Pn**	**01 06 18.5**	**-0.2**
FRIM	**Kepong**	**5.21**	**26**	P	**Pn**	**01 06 19.0**	**+0.3**
KCSI	**Kotacane, Aceh**	**5.23**	**342**	P	**Pn**	**01 06 18.3**	**-0.6**
131nm,0.7s,3μm1.0nm							
BTDF	**Bukit Timah Da**	**5.24**	**57**	P	Pn	01 06 23.9	+4.9
baz=5.2,SNR=5.1							
BTDF				P	Pn	01 06 23.9	+4.9
baz=5.2,SNR=5.1							
KGM	**Kluang**	**5.27**	**49**	P	Pn	01 06 21.5	+2.0
MYKOM	**Kota Tinggi**	**5.54**	**54**	P	Pn	01 06 25.9	+2.7
MYKOM	**Kota Tinggi**	**5.54**	**54**	P	**Pn**	**01 06 24.9**	**+1.7**
141nm,0.8s,2μm2.5nm							
MDSI	**Maura Dua**	**5.65**	**122**	P	**Pn**	**01 06 25.3**	**+0.6**
133nm,0.9s,2μm0.6nm							
TPRI	**Tanjung Pinang**	**5.69**	**65**	P	Pn	01 06 28.3	+3.1
2μm,1.7s,43μm7.3nm							
TPRI	**Tanjung Pinang**	**5.69**	**65**	P	Pn	01 06 35.1	+10
2μm,1.7s,43μm7.3nm							
LWLI	**Liwa**	**5.85**	**127**	P	**Pn**	**01 06 28.0**	**+0.5**
744nm,0.8s,9μm3.0nm							
IPM	**Ipoh**	**6.16**	**16**	*e*Pn	**Pn**	**01 06 32.6**	**+0.9**
IPM	**Ipoh**	**6.16**	**16**	P	Pn	01 06 34.4	+2.7
IPM	**Ipoh**	**6.16**	**16**	P	Pn	01 06 33.6	+1.9
133nm,0.8s,1μm0.8nm							
KLI	**Kotabumi**	**6.42**	**122**	P	Pn	01 06 38.2	+2.9
201nm,0.8s,5μm0.9nm							
KASI	**Kota Agung**	**6.50**	**128**	P	**Pn**	**01 06 35.4**	**-1.0**
170nm,0.6s,4μm1.3nm							
PPBI	**Pangkal Pinang**	**6.80**	**96**	P	Pn	01 06 45.1	+4.6
KULM	**Kulim**	**6.86**	**11**	*e*Pn	**Pn**	**01 06 41.5**	**+0.3**
KULM	**Kulim**	**6.86**	**11**	P	Pn	01 06 44.1	+2.8
KULM	**Kulim**	**6.86**	**11**	P	**Pn**	**01 06 41.6**	**+0.3**
85nm,0.9s,989nm0.5nm							
KTGM	**Kuala Trenggan**	**7.75**	**29**	P	**Pn**	**01 06 54.1**	**+0.5**
TPI	**Tanjungpandan**	**8.38**	**99**	P	Pn	01 07 08.7	+6.6
SKLT	**Songkhla**	**8.70**	**8**	P	Pn	01 07 13.0	+5.6
SKLT	**Songkhla**	**8.70**	**8**	P	Pn	01 07 13.0	+6.5
71nm,0.8s							
DBJI	**Dramaga**	**8.92**	**125**	P	Pn	01 07 11.3	+1.7
102nm,1.2s,3μm0.5nm							
KRAB	**Krabi**	**9.65**	**359**	P	Pn	01 07 25.9	+6.3
47nm,0.7s,513nm							
LEM	**Lembang**	**9.79**	**123**	P	Pn	01 07 31.0	+9.4
CMBY	**CAMPBELL BAY**	**10.04**	**327**	*e*P	**Pn**	**01 07 23.1**	**-1.8**
CISI	**Cisompet, Garu**	**10.35**	**126**	S	**Sn**	**01 09 20.1**	**-4.1**
baz=10,SNR=3.0							
UGM	**Wanagama**	**12.81**	**120**	P	**Pn**	**01 08 00.3**	**-2.7**
baz=13,SNR=4.8							
SBUM	**Sibu**	**13.43**	**73**	*e*Pn	Pn	01 08 14.2	+2.7
PBA	**Port Blair**	**14.63**	**333**	*e*P	Pn	01 08 26.5	-1.2
DGPR	**DIGLIPUR**	**15.91**	**337**	*e*P	**Pn**	**01 08 44.5**	**0.0**
JAGI	**Jajag, Banyuwa**	**16.27**	**116**	P	**Pn**	**01 08 50.2**	**+1.1**
baz=16,SNR=3.7							
CHAI	**Chaiyaphum**	**17.48**	**8**	P	P	01 09 15.1	+10
KKM	**Kota Kinabalu**	**18.41**	**66**	*e*P	**Pn**	**01 09 16.2**	**+0.4**
34nm,0.9s							
SUKH	**Sukhothai**	**18.86**	**1**	P	**Pn**	**01 09 22.7**	**+1.7**
7.6nm,0.9s,56nm							
SKNT	**Sakolnakorn**	**18.91**	**14**	P	Pn	01 09 28.3	+6.7
16nm,1.3s							
CM31	**Chiang Mai Arr**	**19.83**	**359**	*e*P	**P**	**01 09 31.3**	**+0.4**
13nm,0.8s							
CHTO	**Chiang Mai**	**20.18**	**359**	*e*P	**P**	**01 09 34.5**	**-0.2**
8.8nm,0.7s							
CHTO	**Chiang Mai**	**20.18**	**359**	P	Pn	01 09 38.4	+1.5
17nm,0.8s							
PALK	**Pallekele**	**20.56**	**295**	*e*P	Pn	01 09 40.3	-1.0
23nm,0.9s							
KAPI	**Kappang**	**20.65**	**100**	*e*P	**P**	**01 09 40.5**	**+0.6**
47nm,1.0s							
KAPI	**Kappang**	**20.65**	**100**	P	**P**	**01 09 40.3**	**+0.4**
10nm,0.4s,baz=273,slow=6.4,SNR=5.6							
QIZ	**Qiongzhong**	**22.84**	**26**	P	**P**	**01 10 04.8**	**+1.4**
QIZ				S	**S**	**01 14 05.9**	**-4.5**
QIZ				LR	LR		
comp=N,800nm,17.6s							
QIZ				LR	LR		
comp=Z,960nm,18.3s							
VIS	**Vishakhapatnam**	**24.78**	**321**	*e*P	**P**	**01 10 22.2**	**+0.4**
VIS				AMB	AMB	01 10 48.6	
comp=Z,20nm,0.9s							
KMI	**Kunming**	**26.66**	**7**	P	P	01 10 44.0	+5.0
KMI				pmax	pmax		
comp=Z,13nm,0.7s							
SHL	**Shillong**	**27.86**	**345**	*e*P	**P**	**01 10 49.3**	**-0.3**
SHL				AMB	AMB	01 10 52.6	
comp=Z,12nm,0.8s							
MBWA	**Marble Bar**	**27.87**	**136**	*e*P	**P**	**01 10 49.2**	**-0.4**
comp=Z,22nm,1.2s							
BOK	**Bokaro**	**28.35**	**333**	*e*P	**P**	**01 10 54.8**	**+0.9**
BOK				AMB	AMB	01 11 03.7	
comp=Z,24nm,1.2s							
GYA	**Guiyang**	**28.67**	**14**	*e*P	P	01 11 00.3	+3.5
GYA				pP	pP	01 11 10.8	+3.4
GYA				PP	**PnPn**	**01 11 53.3**	**+5.1**
GYA				PcP	**PcP**	**01 14 07.0**	**-0.1**
GYA				S	**S**	**01 15 45.6**	**+2.2**
GYA				sS	sS	01 16 02.4	+1.5
GYA				ScP	**ScP**	**01 17 45.0**	**-0.7**
GYA				ScS	**ScS**	**01 21 37.8**	**-1.5**
GYA				pmax	pmax		
comp=Z,10.0nm,0.8s							
GYA				pmax	pmax		
comp=Z,90nm,4.9s							
GYA				LR	LR		
comp=N,420nm,17.6s							
GYA				LR	LR		
comp=E,380nm,18.1s							
GYA				LR	LR		
comp=Z,450nm,18.0s							
LATR Latur 29.91 312 *e*P **P 01 11 07.3 -0.5**							
NGP Nagpur 30.02 320 *e*P **P 01 11 07.3 -1.5**							
ODAN Odare 30.46 339 *e*P **P 01 11 13.5 +0.7**							
comp=Z,32nm,0.6s							
FITZ Fitzroy Crossi 30.62 124 *e*P **P 01 11 13.1 -1.0**							
comp=Z,20nm,1.0s							
FITZ Fitzroy Crossi 30.62 124 P **P 01 11 13.0 -1.1**							
comp=Z,8.7nm,0.9s,baz=297,slow=5.9,SNR=8.5							
FITZ Fitzroy Crossi 30.62 124 P **P 01 11 13.0 -1.0**							
baz=31,SNR=6.3							
FITZ				S	**S**	**01 16 19.9**	**+5.9**
baz=31,SNR=3.8							
TAPN Taplejung 30.79 339 *e*P **P 01 11 16.8 +1.0**							
comp=Z,42nm,0.7s							
RAMN Ramite 30.84 337 *e*P **P 01 11 17.2 +1.0**							
comp=Z,25nm,0.7s							
MEEK Meekatharra 31.10 145 P **P 01 11 18.8 +0.6**							
baz=31,SNR=4.9							
JIRN Jiri 31.64 337 *e*P **P 01 11 24.3 +1.0**							
comp=Z,60nm,0.8s							
PKI Pulchoki 31.86 336 *e*P **P 01 11 25.6 +0.3**							
PKIN Phulchoki 31.88 336 *e*P **P 01 11 25.6 +0.3**							
comp=Z,10nm,0.7s							
GUN Gumba 31.98 337 *e*P **P 01 11 27.0 +0.7**							
comp=Z,50nm,0.6s							
LSA Lhasa 32.00 346 P **P 01 11 27.3 +0.7**							
LSA				pmax	pmax		
comp=Z,20nm,0.8s							
LSA Lhasa 32.00 346 *e*P **P 01 11 27.4 +0.8**							
comp=Z,19nm,0.6s							
DMN Daman 32.02 336 *e*P **P 01 11 27.3 +0.7**							
KKN Kakani 32.11 336 *e*P **P 01 11 27.8 +0.5**							
CD2 Chengdu 32.49 7 P P 01 11 34.4 +4.0							
CD2				pP	pP	01 11 44.3	+3.2
CD2				sP	sP	01 11 48.4	+2.8
CD2				PP	**PP**	**01 12 44.0**	**-0.4**
CD2				S	**S**	**01 16 47.3**	**+4.2**
CD2				sS	sS	01 17 03.9	+3.2
CD2				SS	**SnSn**	**01 18 46.0**	**+7.2**
CD2				pmax	pmax		
comp=Z,10.0nm,0.5s							
CD2				pmax	pmax		
comp=Z,480nm,11.8s							
CD2				LR	LR		
comp=N,1μm,16.6s							
CD2				LR	LR		
comp=Z,1μm,17.8s							
KOLN Koldanda 32.81 334 *e*P **P 01 11 34.1 +0.7**							
comp=Z,47nm,0.7s							
DANN Dangsing 33.24 334 *e*P **P 01 11 37.8 +0.5**							
comp=Z,30nm,0.7s							
KDU Kakadu 34.63 110 P **P 01 11 46.5 -2.7**							
baz=35,SNR=3.7							
NWAO Narrogin (SRO) 35.49 154 P **P 01 11 53.8 -2.6**							
NWAO Narrogin (SRO) 35.49 154 P **P 01 11 53.8 -2.6**							
comp=Z,18nm,0.8s,baz=279,slow=4.1,SNR=3.5							
XAN Xi'an 36.47 13 P **P 01 12 02.6 -2.2**							
XAN				pmax	pmax		
comp=Z,2.0nm,0.6s							
NJ2 Nanjing 38.13 27 *e*P **P 01 12 20.8 +1.9**							
NJ2				pP	pP	01 12 28.0	-1.6
NJ2				sP	sP	01 12 33.1	-1.0
NJ2				S	**S**	**01 18 12.8**	**+3.2**
NJ2				sS	ScP	01 18 28.9	+11
NJ2				pmax	pmax		
comp=Z,14nm,0.7s							
NJ2				LR	LR		
comp=N,2μm,10.8s							
NJ2				LR	LR		
comp=E,860nm,19.5s							
NJ2				LR	LR		
comp=Z,1μm,18.4s							
SMLA Simla 38.70 329 *e*P **P 01 12 23.1 -0.6**							
SMLA				AMB	AMB	01 12 24.2	
comp=Z,16nm,0.7s							
WRA Warramunga Arr 38.79 121 P **P 01 12 23.4 -1.3**							
WRA				PcP	**PcP**	**01 14 35.8**	**0.0**
WRA				S	S	01 18 15.7	-4.3
WRA Warramunga Arr 38.79 121 P **P 01 12 23.4 -1.3**							
comp=Z,12nm,0.5s,baz=302,slow=9.0,SNR=222							
WRA				PcP	**PcP**	**01 14 35.8**	**0.0**
comp=Z,2.4nm,0.7s,baz=311,slow=2.5,SNR=5.1							
WRA				S	S	01 18 15.7	-4.3
comp=Z,1.8nm,0.9s,baz=291,slow=17,SNR=4.6							
WRAB Tennant Creek 38.80 121 *e*P **P 01 12 23.3 -1.4**							
comp=Z,19nm,0.6s							
WRAB				*e*PcP	**PcP**	**01 14 36.0**	**+0.2**
FORT Forrest 39.84 140 *e*P **P 01 12 33.9 +0.7**							
comp=Z,36nm,0.8s							
FORT Forrest 39.84 140 P **P 01 12 34.3 +1.1**							
baz=40,SNR=7.9							
DHRM DHARAMSHALA 40.04 329 *e*P **P 01 12 34.8 -0.3**							
AS31 Alice Springs 40.06 126 *e*P **P 01 12 34.4 -0.9**							
ASAR Alice Springs 40.06 126 P **P 01 12 34.5 -0.7**							
ASAR				PcP	**PcP**	**01 14 40.2**	**+0.5**
ASAR				S	**S**	**01 18 36.6**	**-2.4**
ASAR Alice Springs 40.06 126 P **P 01 12 34.5 -0.7**							
comp=Z,5.1nm,0.5s,baz=298,slow=8.1,SNR=55							
ASAR				PcP	**PcP**	**01 14 40.2**	**+0.5**
comp=Z,4.0nm,0.9s,baz=306,slow=3.2,SNR=6.8							
ASAR				S	**S**	**01 18 36.6**	**-2.4**
comp=Z,1.6nm,0.8s,baz=298,slow=15,SNR=11							
GTA Gaotai 40.71 1 *e*P P 01 12 45.6 +5.2							
GTA				pP	pP	01 12 50.1	-1.1
GTA				sP	sP	01 12 52.6	-3.1
GTA				S	S	01 18 58.3	+10
GTA				sS	sS	01 19 06.4	+0.2
GTA				pmax	pmax		
comp=Z,5.0nm,1.4s							
GTA				LR	LR		
comp=N,670nm,16.2s							
GTA				LR	LR		
comp=E,610nm,17.1s							
GTA				LR	LR		
comp=Z,470nm,16.9s							
HHC Hu-ho-hao-te 43.58 13 *e*P **P 01 13 05.1 +1.3**							
HHC				sP	**sP**	**01 13 18.9**	**-0.3**
HHC				PP	**PcP**	**01 14 48.6**	**-2.4**
HHC				ScP	**ScP**	**01 18 39.5**	**-0.3**
HHC				PcS	**PcS**	**01 18 43.3**	**-0.5**
HHC				S	**S**	**01 19 33.6**	**+2.9**
HHC				SS	**SS**	**01 22 41.6**	**-5.0**
HHC				ScS	**ScS**	**01 22 59.8**	**-0.8**
HHC				pmax	pmax		
comp=Z,37nm,1.1s							
HHC				LR	LR		
comp=N,850nm,16.2s							
HHC				LR	LR		
comp=E,810nm,16.9s							
HHC				LR	LR		
comp=Z,970nm,16.5s							
JNU Nakatsue 45.48 38 *e*P **P 01 13 18.6 -0.5**							
comp=Z,12nm,1.0s							
JNU Nakatsue 45.48 38 P **P 01 13 17.6 -1.4**							
comp=Z,5.7nm,0.5s,baz=12,slow=6.1,SNR=7.2							
KBL Kabul 45.76 324 *e*P **P 01 13 20.5 -0.9**							
comp=Z,3.0nm,0.6s							
KSH Kashi 46.11 335 P **P 01 13 23.3 -0.7**							
KSH				pP	pP	01 13 33.3	-1.6
KSH				PP	**PP**	**01 15 11.0**	**-1.7**
KSH				S	**S**	**01 20 04.1**	**-3.3**
KSH				SS	**ScS**	**01 23 20.4**	**+3.5**
KSH				pmax	pmax		
comp=Z,270nm,10.0s							
KSH				LR	LR		
comp=N,400nm,14.0s							
KSH				LR	LR		
comp=E,770nm,18.8s							
KSH				LR	LR		
comp=Z,350nm,18.3s							
WMQ Urumqi 46.31 348 P **P 01 13 27.4 +2.0**							
WMQ				pP	pP	01 13 37.4	+1.0
WMQ				sP	**sP**	**01 13 40.4**	**-0.4**
WMQ				PP	**PP**	**01 15 15.4**	**+0.7**
WMQ				pmax	pmax		
comp=Z,44nm,1.0s							
WMQ				LR	LR		
comp=N,640nm,18.3s							
WMQ				LR	LR		
comp=E,310nm,18.7s							
WMQ				LR	LR		
comp=Z,510nm,19.0s							
BBOO Buckleboo 46.45 136 P **P 01 13 26.7 +0.1**							
baz=46,SNR=18							
KSAR Wonju Array Be 46.88 31 P **P 01 13 29.0 -1.0**							
KSRS Korea Array 46.91 31 P **P 01 13 29.0 -1.2**							
comp=Z,3.6nm,0.6s,baz=226,slow=7.8,SNR=15							
TKM2 Tokmak 2 49.12 337 P **P 01 13 48.1 +0.6**							
SNR=17							
TKM2 Tokmak 2 49.12 337 *e*P **P 01 13 48.0 +0.6**							
comp=Z,14nm,0.6s							
KBK Karagaybulak 49.16 336 P **P 01 13 48.9 +1.2**							
SNR=5.7							
AML Almayashu 49.24 335 P **P 01 13 49.3 +0.7**							
SNR=14							
AAK Ala-Archa 49.32 336 *e*P **P 01 13 49.6 +0.7**							
comp=Z,48nm,2.2s							
AAK				PcP	**PcP**	**01 15 11.6**	**+0.3**
AAK Ala-Archa 49.32 336 P **P 01 13 49.4 +0.5**							
comp=Z,2.5nm,0.5s,baz=150,slow=5.5,SNR=8.6							
AAK				PcP	**PcP**	**01 15 11.6**	**+0.3**
comp=Z,2.0nm,0.6s,baz=11,slow=5.2,SNR=2.4							
CTA Charters Tower 49.38 115 P **P 01 13 48.6 -1.0**							
CTA Charters Tower 49.38 115 P **P 01 13 48.6 -1.0**							
comp=Z,4.2nm,0.6s,baz=278,slow=12,SNR=4.4							
CTAO Charters Tower 49.38 115 *e*P **P 01 13 48.6 -1.0**							
comp=Z,28nm,1.0s							
SONM Songino Array 49.51 6 P **P 01 13 50.5 +0.3**							
SONM				PcP	**PcP**	**01 15 11.1**	**-0.7**
SONM Songino Array 49.51 6 P **P 01 13 50.5 +0.3**							
comp=Z,3.7nm,0.6s,baz=191,slow=9.4,SNR=26							
SONM				PcP	**PcP**	**01 15 11.0**	**-0.7**
comp=Z,3.9nm,0.6s,baz=187,slow=3.8,SNR=7.0							
ULN Ulaanbaatar 49.61 7 *e*P **P 01 13 52.5 +1.5**							
comp=Z,5.4nm,0.8s							
EKS2 Erkin-Say 49.64 335 P **P 01 13 52.4 +1.0**							
SNR=11							
EKS2 Erkin-Say 49.64 335 *e*P **P 01 13 52.3 +1.0**							
comp=Z,15nm,0.8s							
USP Ospenovka 49.85 336 P **P 01 13 53.3 +0.5**							
SNR=12							
STKA Stephens Creek 49.96 132 *e*P **P 01 13 54.0 +0.2**							
comp=Z,3.4nm,0.8s							
STKA Stephens Creek 49.96 132 P **P 01 13 54.2 +0.4**							
comp=Z,15nm,0.6s,baz=311,slow=7.2,SNR=42							
STKA Stephens Creek 49.96 132 P **P 01 13 54.0 +0.2**							
baz=50,SNR=24							
MK31 Makanchi Array 50.38 345 *e*P **P 01 13 56.6 -0.1**							
MKAR Makanchi Array 50.38 345 *e*P **P 01 13 56.9 +0.2**							
MKAR Makanchi Array 50.38 345 P **P 01 13 56.8 +0.2**							
comp=Z,14nm,0.6s,baz=148,slow=8.1,SNR=112							
CN2 Changchun 50.78 24 *e*P **P 01 14 01.1 +1.4**							
KKAR Karatay Array 51.42 333 *e*P **P 01 14 04.5 -0.1**							
MJAR Matsushiro Arr 52.29 40 P **P 01 14 11.7 +0.5**							
MJAR Matsushiro Arr 52.29 40 P **P 01 14 11.7 +0.5**							
comp=Z,0.9nm,0.5s,baz=203,slow=8.5,SNR=3.3							
ARPS Mount Arapiles 52.59 137 P **P 01 14 16.0 +2.6**							
baz=53,SNR=9.5							
CMSA Cobar Meteorol 52.92 129 P **P 01 14 16.5 +0.5**							
baz=53,SNR=13							
IBAF Bafgh 52.97 312 *e*P **P 01 14 14.6

UMR AMb AMB 01 14 54.1
comp=Z,48nm,0.7s
NAY Al-Naaiem 58.41 306 *eP* **P 01 14 54.6 -0.9**
NAY AMb AMB 01 14 55.7
comp=Z,34nm,0.7s
RST Umm Al-Ruwaisa 58.71 306 *eP* **P 01 14 57.0 -0.5**
RST AMb AMB 01 14 58.0
comp=Z,318nm,0.8s
VOSK Vostochnaya 59.04 340 *eP* **P 01 14 58.4 -0.9**
comp=Z,6.2nm,0.7s
BVAR Borovoye Array 59.49 340 P **P 01 15 01.5 -1.0**
BVAR Borovoye Array 59.49 340 P **P 01 15 01.5 -1.0**
comp=Z,5.5nm,0.6s,baz=140,slow=9.3,SNR=38
BRVK Borovoye 59.56 340 *eP* **P 01 15 02.1 -0.8**
comp=Z,5.1nm,0.7s
ABKAR Akbulak array 60.90 332 *eP* **P 01 15 11.3 -0.8**
comp=Z,8.6nm,0.7s
KMBO Kilima Mbogo 62.10 270 *eP* **P 01 15 22.6 +1.4**
comp=Z,8.0nm,0.7s
KMBO Kilima Mbogo 62.10 270 P **P 01 15 22.6 +1.4**
comp=Z,8.6nm,0.7s,baz=63,slow=8.8,SNR=28
KMBO Kilima Mbogo 62.10 270 P **P 01 15 23.0 +1.7**
baz=62,SNR=5.9
AKTO Aktyubinsk 62.61 332 P **P 01 15 22.6 -1.1**
AKTO Aktyubinsk 62.61 332 P **P 01 15 22.6 -1.1**
comp=Z,3.6nm,0.9s,baz=139,slow=7.8,SNR=11
CUKT Cukurca 64.33 313 *eP* **P 01 15 32.7 -2.7**
GNI Garni 64.72 316 *eP* **P 01 15 38.2 +0.1**
comp=Z,9.7nm,0.9s
BNGB Bing*ll 67.13 314 *eP* **P 01 15 52.4 -1.1**
KBZ Khabaz 67.51 319 P **P 01 15 55.6 0.0**
KBZ Khabaz 67.51 319 P **P 01 15 55.6 0.0**
comp=Z,12nm,0.7s,baz=131,slow=5.7,SNR=28
ILIC ilic-Erzincan 68.82 314 *eP* **P 01 16 03.9 -0.2**
CSS Prodhromos 71.41 308 *eP* **P 01 16 19.5 -0.5**
comp=Z,18nm,1.1s
LSZ Lusaka 71.46 254 *eP* **P 01 16 20.9 +0.2**
comp=Z,7.5nm,1.1s
BR131 Keskin Array S 72.52 313 *eP* **P 01 16 25.1 -1.5**
comp=Z,2.7nm,0.6s
BRTR Keskin Array B 72.52 313 P **P 01 16 25.4 -1.2**
BRTR Keskin Array B 72.52 313 P **P 01 16 25.4 -1.2**
comp=Z,3.9nm,0.7s,baz=133,slow=6.8,SNR=31
HDMB Hadim 72.61 309 *eP* P 01 16 23.0 -4.3
PETK Petropavlovsk- 72.80 32 P **P 01 16 27.0 -0.8**
PETK Petropavlovsk- 72.80 32 P **P 01 16 27.0 -0.8**
comp=Z,1.6nm,0.5s,baz=249,slow=9.1,SNR=3.9
KONT Konya--Tatoy 72.97 310 *eP* **P 01 16 27.9 -1.4**
SAFT Safranbolu 73.65 314 *eP* **P 01 16 30.7 -2.5**
SVRH Sivrihisar-ESK 74.00 312 *eP* P 01 16 28.2 -7.2
LBTB Lobatse 74.67 245 *eP* **P 01 16 40.1 +0.5**
comp=Z,12nm,1.1s
BOSA Boshof 75.35 241 *eP* **P 01 16 43.4 0.0**
comp=Z,3.5nm,0.6s
BOSA Boshof 75.35 241 P **P 01 16 43.6 +0.1**
comp=Z,1.5nm,0.5s,baz=62,slow=8.5,SNR=8.3
SYO Syowa Base 78.14 199⇑ *eP* **P 01 16 58.0 -0.2**
IDI Anoyia 78.23 306 *eP* **P 01 16 59.3 -0.1**
IDI Anoyia 78.23 306 *eP* **P 01 16 58.6 -0.8**
comp=Z,7.3nm,0.6s
IDI Anoyia 78.23 306 P **P 01 16 59.6 +0.1**
comp=Z,10nm,0.5s,baz=80,slow=7.2,SNR=30
AKASG Malin Array Be 78.70 322 P **P 01 17 00.2 -1.4**
AKASG Malin Array Be 78.70 322 P **P 01 17 00.2 -1.4**
comp=Z,1.1nm,0.5s,baz=81,slow=5.3,SNR=13
VRI Vrincioaia 79.05 317⇓ *iP* **P 01 17 04.3 +0.6**
BKZ Black Stump Fm 79.08 129 *eP* **P 01 17 04.1 0.0**
comp=Z,36nm,0.6s
PLOR Plostina 79.10 317⇑ *iP* **P 01 17 04.3 +0.3**
MLR Muntele Rosu 79.50 317 P **P 01 17 06.4 +0.1**
MLR Muntele Rosu 79.50 317 P **P 01 17 06.4 +0.1**
comp=Z,2.8nm,0.8s,baz=144,slow=2.4,SNR=32
ARR Arges 80.37 316⇑ *iP* **P 01 17 10.6 -0.4**
BURAR Bucovina Array 80.46 319⇑ *iP* **P 01 17 12.2 +0.8**
BUR08 Bucovina Ar. S 80.48 319 *eP* **P 01 17 12.2 +0.6**
VTS Vitosha 80.84 313⇓ *iP* **P 01 17 13.4 -0.2**
JOF Joensuu 81.49 335 *ep* **P 01 17 15.5 -0.9**
comp=Z,0.8nm,0.4s
GZR Gura Zlata 81.66 316⇓ *iP* **P 01 17 16.9 -0.9**
TRPA Tarpa 82.33 319⇓ *iP* **P 01 17 21.7 +0.5**
BZS Buzias 82.50 316⇑ *iP* **P 01 17 22.2 +0.1**
KWP Kalwaria Pacla 82.51 320⇓ *iP* **P 01 17 22.5 +0.3**
KWP Kalwaria Pacla 82.51 320 *eP* **P 01 17 22.4 +0.3**
SIRR Siria 82.59 317⇓ *iP* **P 01 17 23.1 +0.5**
KOLS Kolonicke sedl 82.66 320 *eP* **P 01 17 23.8 +0.9**
VNDA Vanda 82.78 169 *eP* **P 01 17 23.4 +0.5**
comp=Z,17nm,1.6s
VNDA Vanda 82.78 169 P **P 01 17 23.3 +0.4**
comp=Z,2.8nm,0.8s,baz=304,slow=5.8,SNR=20
SUW Suwalki 83.11 325 *eP* **P 01 17 24.7 -0.3**
comp=Z,27nm,0.9s
SUW Suwalki 83.11 325 *eP* **P 01 17 24.6 -0.5**
CRVS Cervenica-Dubn 83.18 319 *eP* **P 01 17 26.2 +0.6**
FINES FINESS Array B 83.37 332 P **P 01 17 25.8 -0.5**
FINES PP **PP 01 20 41.2 +2.8**
FINES FINESS Array B 83.37 332 P **P 01 17 25.8 -0.5**
comp=Z,6.7nm,0.5s,baz=104,slow=5.8,SNR=68
FINES PP **PP 01 20 41.2 +2.8**
comp=Z,2.5nm,0.9s,baz=100,slow=7.2,SNR=5.6
STHS Stebnicka Huta 83.41 320 *eP* **P 01 17 27.7 +0.9**
KAF Kangasniemi 83.45 333 *ep* **P 01 17 26.3 -0.3**
comp=Z,2.5nm,0.4s
KECS Kecovo 83.75 319 *eP* **P 01 17 28.6 +0.1**
SBA Scott Base 83.88 169 *eP* **P 01 17 30.5 +2.0**
comp=Z,8.3nm,0.9s
PSZ Piszkesteto 84.05 318 *eP* **P 01 17 30.0 -0.1**
comp=Z,6.9nm,0.8s
PSZ Piszkesteto 84.05 318⇓ *iP* **P 01 17 30.4 +0.3**
OJC Ojcow 84.47 321 *eP* **P 01 17 32.6 +0.5**
comp=Z,7.3nm,0.9s
PKSM Moragy 84.65 317⇑ *iP* **P 01 17 33.1 0.0**
OKC Ostrava-Krasne 85.46 320 *iP* **P 01 17 37.5 +0.4**
ARCES ARCESS Array B 85.78 340 P **P 01 17 38.4 +0.1**
ARCES ARCESS Array B 85.78 340 P **P 01 17 38.4 +0.1**
comp=Z,6.5nm,0.9s,baz=84,slow=8.3,SNR=6.2
ARE0 ARCESS Array S 85.78 340 *eP* **P 01 17 38.9 +0.6**
MORC Moravsky Berou 85.84 320 *eP* **P 01 17 39.2 +0.1**
comp=Z,2.4nm,0.8s
DPC Dobruska-Polom 86.69 320 *iP* **P 01 17 44.0 +0.7**
DPC *ex* x 01 17 51.6
DPC Dobruska-Polom 86.69 320 *eP* **P 01 17 43.5 +0.2**
comp=Z,35nm,0.7s
ARSA Arzberg 86.90 317⇑ *iP* **P 01 17 44.6 +0.3**
comp=Z,4.5nm,0.9s
UPC Upice 86.91 321 *iP* **P 01 17 45.1 +0.8**
TREC Trest 87.12 319 *iP* **P 01 17 45.9 +0.6**
SOKA Soboth 87.18 317 *iP* **P 01 17 46.4 +0.6**
comp=Z,5.6nm,0.9s,SNR=8.0
PRU Pruhonice 87.80 320 *iP* **P 01 17 48.9 +0.4**
PRU *ex* x 01 17 57.0
BRG Berggiesshubel 88.25 321 *eP* **P 01 17 51.1 +0.5**
comp=Z,7.0nm,0.8s
BRG *e* 01 17 59.1
comp=Z,14nm,1.6s
GEC2 GERESS Array S 88.25 319 *eP* **P 01 17 51.3 +0.4**
comp=Z,8.0nm,1.0s
GEC2 GERESS Array S 88.25 319 *eP* **P 01 17 51.6 +0.7**
GERES GERESS Array B 88.25 319 P **P 01 17 51.1 +0.3**
GERES GERESS Array B 88.25 319 P **P 01 17 51.1 +0.3**
comp=Z,2.1nm,0.6s,baz=91,slow=4.0,SNR=24
KHC Kasperske Hory 88.35 319 *iP* **P 01 17 51.5 +0.2**
KHC Kasperske Hory 88.35 319 *eP* **P 01 17 51.5 +0.2**
comp=Z,29nm,2.2s
QSPA South Pole Qui 88.47 180 *eP* **P 01 17 52.3 +0.7**
comp=Z,5.2nm,0.7s
FBE Freiberg 88.63 321 *eP* **P 01 17 53.3 +0.9**
WET Wettzell 88.81 319 *eP* **P 01 17 53.9 +0.5**
comp=Z,6.0nm,0.9s
CLL Collm 88.87 321 *eP* **P 01 17 53.9 +0.3**
comp=Z,9.0nm,1.3s
CLL Collm 88.87 321 *iP* **P 01 17 54.1 +0.5**
comp=Z,9.0nm,1.2s
ROTZ Rotzenmuhle 89.29 320 *eP* **P 01 17 56.6 +1.0**
comp=Z,6.0nm,1.0s
WTTA Wattenberg 89.54 317⇑ *iP* **P 01 17 56.7 -0.4**
comp=Z,4.6nm,0.6s
NEUB Neuenburg 89.64 321 *eP* **P 01 17 57.7 +0.5**
comp=Z,16nm,1.0s
MOTA Moosalm 89.91 317⇑ *iP* **P 01 17 58.4 -0.4**
comp=Z,5.0nm,0.7s,SNR=4.9
GRF Grafenberg Arr 89.92 320 *eP* **P 01 17 59.3 +0.7**
comp=Z,22nm,1.4s
RETA Reutte 90.14 317 *iP* **P 01 17 59.7 0.0**
comp=Z,6.0nm,0.7s,SNR=9.8
FETA Feichten 90.15 317⇑ *iPcP* **P 01 18 00.1 +0.2**
comp=Z,5.8nm,1.0s,SNR=4.3
NOA NORSAR Array B 90.40 331 P **P 01 17 59.3 -1.3**
NOA NORSAR Array B 90.40 331 P **P 01 17 59.3 -1.3**
comp=Z,1.4nm,0.8s,baz=92,slow=5.1,SNR=3.6
FUORN Ofenpass-Fuorn 90.46 316 *eP* **P 01 18 02.5 +1.0**
comp=Z,16nm,1.1s
CLZ Clausthal 90.54 322 *eP* **P 01 18 02.1 +0.7**
comp=Z,5.0nm,0.8s
NAO01 NORSAR Array S 90.55 331 *eP* **P 01 18 00.2 -1.0**
comp=Z,2.3nm,0.6s
DAVOX Davos/Dischmat 90.72 317 P **P 01 18 03.2 +0.6**
DAVOX Davos/Dischmat 90.72 317 P **P 01 18 03.3 +0.6**
comp=Z,6.4nm,0.5s,baz=132,slow=7.3,SNR=17
DAVA Damuels 90.74 317⇑ *iPcP* **P 01 18 03.1 +0.4**
comp=Z,12nm,0.8s,SNR=7.1
KEST Kesra 90.88 306 *eP* **P 01 18 04.6 +1.1**
KEST Kesra 90.88 306 P **P 01 18 04.5 +1.1**
comp=Z,4.7nm,1.0s,baz=184,slow=0.2,SNR=14
TNS Taunus Mts 91.73 320 *eP* **P 01 18 07.7 +0.7**
comp=Z,8.0nm,1.0s
SNAA Sanae 92.43 198 *eP* **P 01 18 11.3 +1.5**
SNAA Sanae 92.43 198 *eP* **P 01 18 10.2 +0.3**
comp=Z,1.5nm,0.8s
LPG La Plagne 92.89 315⇑ *iP* **P 01 18 12.8 0.0**
comp=Z,3.4nm,0.6s
LPG La Plagne 92.89 315⇑ *iP* **P 01 18 12.8 0.0**
comp=Z,3.4nm,0.6s
LPL La Plagne 92.91 315⇑ *iP* **P 01 18 12.9 +0.1**
comp=Z,4.1nm,0.5s
LPL La Plagne 92.91 315⇑ *iP* **P 01 18 12.9 +0.1**
comp=Z,4.1nm,0.5s
FRF La Foret Royal 93.00 313 *eP* **P 01 18 13.3 +0.3**
FRF La Foret Royal 93.00 313 *eP* **P 01 18 13.3 +0.3**
CABF La Chapelle 93.33 316 *eP* **P 01 18 14.9 +0.3**
comp=Z,6.7nm,0.6s
CABF La Chapelle 93.33 316 *eP* **P 01 18 14.9 +0.3**
comp=Z,6.7nm,0.6s
ORIF Oris-en-Rattie 93.52 315 *eP* **P 01 18 15.7 +0.2**
comp=Z,4.0nm,0.7s
ORIF Oris-en-Rattie 93.52 315 *eP* **P 01 18 15.7 +0.2**
comp=Z,4.0nm,0.7s
VNA2 Neumayer--Watz 94.03 198 *eP* **P 01 18 18.3 +1.1**
baz=309,slow=11
TORD Torodi Ar. Bea 97.81 283 P **P 01 18 34.7 -0.8**
TORD Torodi Ar. Bea 97.81 283 P **P 01 18 34.7 -0.8**
comp=Z,0.5nm,0.8s,baz=94,slow=4.6,SNR=4.4
IMA2 Indian Mountai 98.19 23 *eP* Pdif 01 18 37.7 +1.4
ROSF Rostrenen 99.51 319 *eP* **Pdif 01 18 42.2 -0.2**
comp=Z,10nm,1.0s
ROSF Rostrenen 99.51 319 *eP* **Pdif 01 18 42.2 -0.2**
comp=Z,10nm,1.0s
MCK McKinley 100.81 25 *ePdif* **Pdif 01 18 47.6 -0.3**
LTY Liberty 122.70 31 *ePKPdf* **PKPdf 01 23 56.9 +1.5**
SCHQ Schefferville 125.65 350 PKP **PKPdf 01 24 00.8 +0.1**
SCHQ Schefferville 125.65 350 PKP **PKPdf 01 24 00.7 +0.1**
comp=Z,4.3nm,0.8s,baz=22,slow=11,SNR=3.5
WVOR Wild Horse Val 126.91 35 *ePKPdf* **PKPdf 01 24 04.5 +0.8**
BOZ Bozeman (W) 128.28 27 *ePKPdf* **PKPdf 01 24 06.9 +0.7**
HLID Hailey 128.44 31 *ePKPdf* **PKPdf 01 24 07.4 +0.8**
MOOW Moose Ponds 130.13 28 *ePKPdf* **PKPdf 01 24 10.0 +0.1**
TPAW Teton Pass 130.22 29 *ePKPdf* **PKPdf 01 24 09.8 -0.3**
HWUT Hautelwane Ranch 131.31 31 *ePKPdf* **PKPdf 01 24 12.6 +0.5**
PDAR Pinedale Array 131.44 28 PKP **PKPdf 01 24 11.0 -1.4**
PDAR Pinedale Array 131.44 28 PKP **PKPdf 01 24 11.0 -1.4**
comp=Z,19nm,0.6s,baz=176,slow=1.1,SNR=4.8
DUG Dugway 131.66 33 *ePKPdf* **PKPdf 01 24 13.7 +0.9**
RSSD Black Hills 132.74 23 *ePKPdf* **PKPdf 01 24 14.4 -0.4**
SDCO Great Sand Dun 137.29 29 *ePKPdf* **PKPdf 01 24 24.4 +0.8**
TUC Tucson 138.22 40 *ePKPdf* **PKPdf 01 24 25.5 +0.3**
Z26A Caprock 141.54 32 ⇑P **PKPdf 01 24 27.5 -3.7**
baz=142
MNTX Cornudas Mount 141.94 35 *ePKPdf* **PKPdf 01 24 32.5 +0.7**
324A Moseley Ranch, 142.07 36 ⇑P **PKPdf 01 24 29.1 -3.2**
baz=142
GDL2 Guadalupe Moun 142.15 34 *ePKPdf* **PKPdf 01 24 35.5 +3.1**
X31A McDonald Ranch 142.41 27 ⇓P **PKPdf 01 24 28.5 -4.1**
baz=142
425A Indio Mountain 142.84 36 ⇓P **PKPdf 01 24 30.2 -3.4**
baz=143
Z31A Sharp Cattle R 143.43 28 ⇓P PKPbc 01 24 31.2 -0.4
baz=143
426A McDonald Obser 143.48 35 ⇑P PKPbc 01 24 32.7 +0.6
baz=143
BDFB Brasilia 143.54 241 PKP PKPbc 01 24 32.5 -0.1
BDFB Brasilia 143.54 241 PKP PKPbc 01 24 32.4 -0.1
comp=Z,1.3nm,0.4s,baz=236,slow=7.3,SNR=3.0
328A Wristen Ranch, 143.62 33 ⇓P PKPbc 01 24 32.4 +0.1
baz=144
427A Hayter Ranch, 143.70 34 ⇑P PKPbc 01 24 33.3 +0.7
baz=144
Z32A Haskell 143.75 27 ⇓P PKPbc 01 24 32.7 +0.2
baz=144
131A Roby 143.84 29 ⇓P PKPbc 01 24 33.5 +0.6
baz=144
526A Mary Lane Ranc 143.89 36 ⇓P PKPbc 01 24 33.9 +0.6
baz=144,SNR=6.2
329A Wagon Wheel Ra 143.99 32 ⇓P PKPbc 01 24 33.3 -0.1
baz=144,SNR=5.4
527A Woodward Ranch 144.11 35 ⇓P PKPbc 01 24 34.5 +0.6
baz=144,SNR=18
230A Sterling City 144.12 31 ⇑P PKPbc 01 24 34.5 +0.7
baz=144
428A Kincaid Ranch, 144.19 34 ⇓P PKPbc 01 24 34.8 +0.7
baz=144,SNR=14
626A Big Bend Ranch 144.24 36 ⇑P PKPbc 01 24 34.7 +0.4
baz=144,SNR=12
CPUP Villa Florida 144.34 218 *ePKPdf* PKPbc 01 24 34.7 +0.2
CPUP Villa Florida 144.34 218 PKP **PKPab 01 24 34.4 +0.2**
comp=Z,12nm,0.7s,baz=111,slow=2.3,SNR=40
330A Mertzon 144.47 31 ⇑P PKPbc 01 24 35.0 0.0
baz=144,SNR=8.6
231A Brote 144.48 30 ⇑P PKPbc 01 24 35.1 +0.2
baz=144
528A Cox Ranch, San 144.57 34 ⇑P PKPbc 01 24 35.9 +0.5
baz=144,SNR=7.6
TXAR Lajitas Array 144.68 36 PKP PKPbc 01 24 36.3 +0.6
TXAR PP **PP 01 27 51.3 -1.5**
TXAR Lajitas Array 144.68 36 PKP PKPbc 01 24 36.3 +0.6
comp=Z,13nm,0.5s,baz=246,slow=1.0,SNR=163
TXAR PP **PP 01 27 51.3 -1.5**
comp=Z,1.2nm,0.5s,baz=189,slow=0.8,SNR=9.6
429A Davenport Ranc 144.71 33 ⇓P **PKPab 01 24 35.5 -0.1**
baz=145,SNR=8.0
627A Terlingua Ranc 144.75 36 ⇑P PKPbc 01 24 36.5 +0.6
baz=145,SNR=39
232A Coleman 144.84 29 ⇓P PKPbc 01 24 36.2 +0.1
baz=145
WVT Waverly 144.90 10 *ePKPdf* **PKPab 01 24 35.1 -0.8**
529A Stev Forest Ra 144.91 34 ⇓P **PKPab 01 24 36.4 +0.1**
baz=145
430A Baggett Ranch, 144.93 32 ⇑P **PKPab 01 24 36.4 0.0**
baz=145,SNR=16
331A San Angelo 144.93 30 ⇓P **PKPab 01 24 36.2 -0.1**
baz=145
MIAR Mount Ida 144.97 19 *ePKPdf* **PKPab 01 24 36.1 -0.2**
628A Black Gap, Mar 145.02 35 ⇓P **PKPdf 01 24 37.2 -0.1**
baz=145,SNR=17
TZTN Tazewell 145.02 4 *ePKPdf* **PKPab 01 24 35.7 -0.7**
UALR University of 145.13 17 *ePKPbc* **PKPbc 01 24 36.6 -0.2**
332A Millersview 145.21 29 ⇑P **PKPab 01 24 37.5 +0.2**
baz=145,SNR=18
431A Sonora 145.34 31 ⇓P **PKPbc 01 24 37.6 -0.1**
baz=145,SNR=8.0
530A J-C Ranch, Com 145.38 33 ⇓P **PKPab 01 24 38.5 +0.5**
baz=145,SNR=36
432A Menard 145.60 30 ⇓P **PKPdf 01 24 38.4 +0.1**
baz=146,SNR=6.9
WHTX Lake Whitney 145.76 26 ⇑P **PKPdf 01 24 38.7 +0.2**
baz=146
531A Rocksprings 145.78 32 ⇓P **PKPbc 01 24 39.4 +0.2**
baz=146,SNR=32
JCT Junction City 145.91 30 *ePKPbc* **PKPbc 01 24 39.5 0.0**
JCT Junction City 145.91 30 ⇑P **PKPbc 01 24 39.8 +0.3**
baz=146,SNR=50
PLAL Pickwick Lake 145.97 11 *ePKPdf* **PKPdf 01 24 38.0 -0.7**
CPCT Cooper Cave 146.02 6 *ePKPbc* **PKPdf 01 24 39.0 +0.2**
SWET Sewanee 146.09 8 *ePKPbc* **PKPdf 01 24 38.5 -0.5**
532A Rocksprings 146.15 31 ⇑P **PKPbc 01 24 40.1 -0.1**
baz=146,SNR=16
631A Perdido Creek 146.36 32 ⇓P **PKPbc 01 24 40.6 -0.3**
baz=146,SNR=9.6
KMSC Kings Mountain 146.51 1 *ePKPbc* **PKPdf 01 24 40.1 +0.4**
KMSC Kings Mountain 146.51 1 ⇑P **PKPbc 01 24 40.8 -0.3**
baz=146
632A Uvalde 146.71 31 ⇓P **PKPbc 01 24 42.1 +0.2**
baz=147,SNR=12
LRAL Lakeview Retre 148.06 10 *ePKPbc* **PKPbc 01 24 44.6 -0.8**
GOGA Godfrey 148.14 4 *ePKPdf* **PKPbc 01 24 45.3 -0.3**
LCO Las Campanas 148.21 197 *ePKPbc* **PKPbc 01 24 46.8 +0.4**
HKT Hockley 148.22 26 *ePKPdf* **PKPdf 01 24 42.5 0.0**
HKT *ePKPbc* **PKPbc 01 24 46.5 +0.6**
LVC Limon Verde 153.45 205 *ePKPbc* **PKPbc 01 24 59.8 +0.9**
LPAZ La Paz 158.45 214 *ePKPdf* **PKPdf 01 24 58.9 +0.4**
LPAZ *ePKPab* **PKPab 01 25 33.2 +0.2**
LPAZ La Paz 158.45 214 PKP **PKPdf 01 24 58.2 -0.2**
comp=Z,0.8nm,0.7s,baz=155,slow=1.3,SNR=3.7
LPAZ PKPab **PKPab 01 25 33.6 +0.6**
comp=Z,0.8nm,0.6s,baz=350,slow=16,SNR=2.8

KRSC 18 01:07:16.8±2.7, 55°48N×166°29E, h29km±41km, ML3.8, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.33**	**213**	*eP*	Pb	01 07 24.9	+0.3
BKI				*i S*	Sb	01 07 30.3	+0.5
KBTR	**Krutoberegovo**	**2.09**	**292**	*eP*	Pn	01 07 49.5	-0.3
KBTR				*i S*	Sn	01 08 14.2	-0.6
MKZ	**Mys Kozlova**	**2.78**	**252**	*eP*	Pn	01 08 00.9	+1.6
MKZ				*i S*	Sn	01 08 33.0	+1.1
SMKR	**Semkarok**	**2.92**	**294**	*eP*	Pn	01 08 02.0	+0.6
SMKR				*i S*	Sn	01 08 35.8	+0.2
BDR	**Baidarnaya**	**3.05**	**293**	*eP*	Pn	01 08 04.9	+1.7
SRKR	**Sorokina**	**3.10**	**294**	*eP*	Pn	01 08 05.5	+1.6
TUMR	**Tumrok**	**3.51**	**269**	*eP*	Pn	01 08 11.7	+2.2
SPN	**Mys Shipunski**	**4.38**	**240**	*eP*	Pn	01 08 23.2	+1.9
SPN				*i S*	Sn	01 09 10.4	-0.9
NLC	**Nalytchevo**	**4.68**	**243**	*eP*	Pn	01 08 27.9	+2.6
NLC				*i S*	Sn	01 09 19.3	+0.7
SDLR	**Sedlovina**	**4.86**	**246**	*eP*	Pn	01 08 30.7	+2.7
SDLR				*i S*	Sn	01 09 24.8	+1.4
KRER	**Koryakskii**	**4.92**	**247**	*eP*	Pn	01 08 32.0	+3.1
KRER				*i S*	Sn	01 09 24.9	-0.1
UGLR	**Uglovaya**	**4.92**	**246**	*eP*	Pn	01 08 32.1	+3.2
UGLR				*i S*	Sn	01 09 26.6	+1.6
GNL	**Ganaly**	**5.17**	**253**	*eP*	Pn	01 08 35.5	+3.1
RUS	**Russkaya**	**5.51**	**240**	*eP*	Pn	01 08 39.5	+2.7
MTVR	**Mutnovka**	**5.65**	**241**	*eP*	Pn	01 08 41.5	+2.6
MTVR				*i S*	Sn	01 09 42.5	-0.3
ASAK	**Asacha**	**5.85**	**241**	*eP*	Pn	01 08 44.9	+3.4
ASAK				*i S*	Sn	01 09 49.7	+2.1

IDC 18 01:12:47.4±2.4, 5°34S×133°59E, h0km, mb3.5/1, mb1 3.7/4, mb1mx3.5/17, mbtmp3.5/4, ML3.6/1, Error ellipse: s-maj=77.0km s-min=28.0km az=86.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.53**	**177**	Pn	Pn	01 16 16.2	+1.7
baz=357,slow=12,SNR=2.5							
FITZ	**Fitzroy Crossi**	**14.88**	**211**	Pn	Pn	01 16 19.0	-0.1
0.2nm,0.3s,baz=30,slow=14,SNR=11							
FITZ				Sn	Sn	01 19 03.0	-1.8
0.2nm,0.3s,baz=186,slow=17,SNR=5.1							
ASAR	**Alice Springs**	**18.22**	**179**	P	Pn	01 17 01.4	-0.5
0.2nm,0.3s,baz=6.6,slow=10.0,SNR=7.1							
MKAR	**Makanchi Array**	**68.87**	**325**	P	P	01 23 53.9	0.0
0.4nm,0.8s,baz=124,slow=7.7,SNR=2.9							

*SFS **18** 01:17:38.0, 36°38N×11°50W, h0km, ML4.1*
*ISCJB **18** 01:17:38.5±0.5, 36°35N±0°03×11°33W±0°04, h10km, Error ellipse: s-maj=4.3km s-min=4.0km az=171.7*
*MDD **18** 01:17:39.6±1.1, 36°39N×11°52W, h0km, mb4.2/24, Error ellipse: s-maj=9.7km s-min=6.5km az=62.0, PRXIMO*
*INMG **18** 01:17:40.6±2.3, 36°16N×11°65W, h36km±11km, ML3.0, Error ellipse: s-maj=5.9km s-min=3.3km az=120.0*
*IGIL **18** 01:17:40.2, 36°19N×11°69W, h32km, ML3.1*
*LDG **18** 01:17:40.9±0.2, 36°25N×11°72W, h30km, Ml3.4/4, Error ellipse: s-maj=3.2km s-min=2.5km az=51.0*
*CSEM **18** 01:17:42.6±0.2, 36°40N×11°40W, h30km, mb4.2, Error ellipse: s-maj=4.3km s-min=3.3km az=59.0*
*CNRM **18** 01:17:43.6, 35°93N×11°67W, h32km, MD3.4*

ISC 18 01:17:36.8±1.5, 36°30N±0°05×11°58W±0°08, h10km, n192, σ1972/290, 4C-1D, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**2.36**	**69**	*i P*	**Pn**	**01 18 17.4**	**+1.8**
PFVI				*eS*	**Sn**	**01 18 43.8**	**-0.8**
PFVI				A	A	01 18 48.8	
38nm,0.2s							
PFVI	**Vila Bisbo**	**2.36**	**69**	⇓P	**Pn**	**01 18 17.1**	**+1.5**
50nm,0.3s,SNR=18							
PFVI				S	**Sn**	**01 18 43.7**	**-0.8**
18nm,0.3s,SNR=5.6							
PFVI	**Vila Bisbo**	**2.36**	**69**	P	**Pn**	**01 18 17.1**	**+1.5**
50nm,0.3s,SNR=18							
PFVI				*eS*	**Sn**	**01 18 43.8**	**-0.8**
38nm,0.2s							
MORF	**Marmelete**	**2.55**	**66**	*i P*	**Pn**	**01 18 20.2**	**+1.9**
MORF				*eS*	**Sn**	**01 18 48.8**	**-0.7**
MORF				A	A	01 18 55.5	
45nm,0.2s							
MORF	**Marmelete**	**2.55**	**66**	⇑P	**Pn**	**01 18 20.2**	**+1.9**
MORF				S	**Sn**	**01 18 48.8**	**-0.7**
45nm,0.2s							
MORF	**Marmelete**	**2.55**	**66**	P	**Pn**	**01 18 20.2**	**+1.9**
MORF				*eS*	**Sn**	**01 18 48.8**	**-0.7**
45nm,0.2s							
PTEO	**Sao Teotonio**	**2.60**	**61**	*eP*	**Pn**	**01 18 20.9**	**+2.0**
PTEO				*eS*	**Sn**	**01 18 50.7**	**+0.2**
PTEO				A	A	01 18 56.0	
27nm,0.1s							
PTEO	**Sao Teotonio**	**2.60**	**61**	P	**Pn**	**01 18 20.9**	**+2.0**
PTEO				S	**Sn**	**01 18 50.7**	**+0.2**
13nm,0.1s							
PTEO	**Sao Teotonio**	**2.60**	**61**	P	**Pn**	**01 18 20.9**	**+2.0**
PTEO				*eS*	**Sn**	**01 18 50.7**	**+0.2**
27nm,0.1s							
PNCL	**Nicolau / Gran**	**3.03**	**52**	*eP*	**Pn**	**01 18 26.8**	**+2.0**
PNCL				*eS*	**Sn**	**01 19 01.1**	**0.0**
PNCL				A	A	01 19 03.6	
60nm,0.3s							
PBDV	**Barranco-do-Ve**	**3.07**	**71**	*i P*	**Pn**	**01 18 27.6**	**+2.2**
PBDV				*eS*	**Sn**	**01 19 02.2**	**-0.1**
PBDV				A	A	01 19 08.8	
16nm,0.2s							
PBDV	**Barranco-do-Ve**	**3.07**	**71**	⇑P	**Pn**	**01 18 27.6**	**+2.2**
PBDV				S	**Sn**	**01 19 02.2**	**-0.1**
16nm,0.2s							
PBDV	**Barranco-do-Ve**	**3.07**	**71**	P	**Pn**	**01 18 27.6**	**+2.2**
PBDV				*eS*	**Sn**	**01 19 02.2**	**-0.1**
16nm,0.2s							
PMST	**Lisbon--Monsan**	**3.09**	**37**	*eP*	**Pn**	**01 18 28.1**	**+2.5**
PMST				*eS*	**Sn**	**01 19 02.3**	**-0.2**
PMST				A	A	01 19 08.0	
41nm,0.5s							
PMST	**Lisbon--Monsan**	**3.09**	**37**	*eP*	**Pn**	**01 18 28.1**	**+2.5**
PMST				*eS*	**Sn**	**01 19 02.3**	**-0.2**
41nm,0.5s							
LIS	**Lisbon**	**3.09**	**38**	*eS*	**Sn**	**01 19 02.3**	**-0.3**
LIS				AML	AML	01 19 04.4	
comp=E,68nm,0.3s							
LIS	**Lisbon**	**3.09**	**38**	*eS*	**Sn**	**01 19 02.3**	**-0.3**
LIS	**Lisbon**	**3.09**	**38**	S	**Sn**	**01 19 02.3**	**-0.3**
LIS	**Lisbon**	**3.09**	**38**	*eS*	**Sn**	**01 19 02.3**	**-0.3**
PCVE	**Castro Verde**	**3.13**	**64**	*eP*	**Pn**	**01 18 28.2**	**+2.0**
PCVE				*eS*	**Sn**	**01 19 03.2**	**-0.4**
PCVE				A	A	01 19 07.8	
comp=E,19nm,0.3s							
PCVE	**Castro Verde**	**3.13**	**64**	⇑P	**Pn**	**01 18 28.2**	**+2.0**
PCVE				S	**

comp=E,21nm,0.8s,SNR=20
PMAFR S Sn 01 19 04.9 -0.8
PVAQ Vaqueiros 3.28 69 eP Pn 01 18 30.4 +2.1
PVAQ eS Sn 01 19 07.2 -0.2
PVAQ A A 01 19 15.4
comp=E,23nm,0.1s
PVAQ Vaqueiros 3.28 69 ⇑P Pn 01 18 30.4 +2.1
PVAQ S Sn 01 19 07.2 -0.2
comp=E,23nm,0.1s
PVAQ Vaqueiros 3.28 69 P Pn 01 18 30.4 +2.1
PVAQ eS Sn 01 19 07.2 -0.2
comp=E,23nm,0.1s
PACT Alcochete 3.29 41 eP Pn 01 18 30.6 +2.3
PACT eS Sn 01 19 07.9 +0.4
PACT A A 01 19 14.9
comp=E,32nm,0.6s
PACT Alcochete 3.29 41 eP Pn 01 18 30.6 +2.3
PACT eS Sn 01 19 07.9 +0.4
comp=E,32nm,0.6s
MOE Montemor 3.39 48 eP Pn 01 18 32.1 +2.3
MOE eS Sn 01 19 09.2 -0.9
MOE Montemor 3.39 48 P Pn 01 18 32.1 +2.3
MOE S Sn 01 19 09.2 -0.9
MOE Montemor 3.39 48 P Pn 01 18 32.1 +2.3
MOE S Sn 01 19 09.2 -0.9
PBEJ Beja 3.43 59 eP Pn 01 18 31.9 +1.6
PBEJ eS Sn 01 19 09.9 -1.0
PBEJ A A 01 19 15.0
comp=E,15nm,0.2s
PBEJ Beja 3.43 59 P Pn 01 18 31.9 +1.6
PBEJ S Sn 01 19 09.9 -1.0
comp=E,7.7nm,0.2s
PBEJ Beja 3.43 59 P Pn 01 18 31.9 +1.6
PBEJ eS Sn 01 19 09.9 -1.0
comp=E,15nm,0.2s
EGRO El Granado 3.50 68 P Pn 01 18 33.4 +2.1
comp=E,4.5nm,0.3s,SNR=44
EGRO S Sn 01 19 12.8 0.0
comp=E,9.6nm,0.3s,SNR=6.6
EGRO El Granado 3.50 68 P Pn 01 18 33.4 +2.1
comp=E,4.5nm,0.3s,SNR=44
EGRO S Sn 01 19 12.8 0.0
comp=E,9.6nm,0.3s,SNR=6.6
EVOP Sao Brissos 3.53 50 ePn Pn 01 18 33.5 +1.8
EVOP eSn Sn 01 19 13.0 -0.6
comp=E,15nm,0.3s
EVO Evora 3.61 51 ePn Pn 01 18 33.5 +0.8
EVO eSn Sn 01 19 13.0 -2.4
comp=E,31nm,0.3s
EVO Evora 3.61 51 eP Pn 01 18 34.6 +1.9
EVO eS Sn 01 19 14.7 -0.7
EVO A A 01 19 16.7
comp=E,48nm,0.1s
EVO Evora 3.61 51 P Pn 01 18 34.6 +1.9
EVO S Sn 01 19 14.7 -0.7
comp=E,48nm,0.1s
EVO Evora 3.61 51 P Pn 01 18 34.6 +1.9
EVO eS Sn 01 19 14.7 -0.7
comp=E,48nm,0.1s
ALMR Almeirim 3.71 39 eP Pn 01 18 36.0 +1.9
ALMR eS Sn 01 19 17.2 -0.7
ALMR AML AML 01 19 19.1
comp=N,65nm,0.3s
ALMR Almeirim 3.71 39 eP Pn 01 18 36.0 +1.9
ALMR eS Sn 01 19 17.2 -0.7
ALMR Almeirim 3.71 39 P Pn 01 18 36.0 +1.9
ALMR S Sn 01 19 17.2 -0.7
ALMR Almeirim 3.71 39 P Pn 01 18 36.0 +1.9
ALMR S Sn 01 19 17.2 -0.7
PMTG Montargil 3.83 43 eP Pn 01 18 37.4 +1.6
PMTG eS Sn 01 19 20.5 -0.5
PMTG A A 01 19 24.9
comp=N,14nm,0.1s
PMTG Montargil 3.83 43 eP Pn 01 18 37.4 +1.6
PMTG eS Sn 01 19 20.5 -0.5
comp=N,14nm,0.1s
PESTR Estremoz 4.07 50 eP Pn 01 18 41.1 +1.9
PESTR eS Sn 01 19 25.4 -1.5
PESTR A A 01 19 27.6
comp=N,7.4nm,0.2s
PESTR Estremoz 4.07 50 P Pn 01 18 41.1 +1.9
PESTR S Sn 01 19 25.4 -1.5
comp=N,7.4nm,0.2s
PESTR Estremoz 4.07 50 P Pn 01 18 41.1 +1.9
PESTR eS Sn 01 19 25.4 -1.5
comp=N,7.4nm,0.2s
PBAR Barrancos 4.07 61 eP Pn 01 18 41.0 +1.8
PBAR eS Sn 01 19 26.4 -0.5
PBAR A A 01 19 29.3
comp=N,14nm,0.7s
PBAR Barrancos 4.07 61 P Pn 01 18 41.0 +1.8
PBAR S Sn 01 19 26.4 -0.5
comp=N,14nm,0.7s
PBAR Barrancos 4.07 61 P Pn 01 18 41.0 +1.8
PBAR eS Sn 01 19 26.4 -0.5
comp=N,14nm,0.7s
PTOM Tomar 4.15 36 eS Sn 01 19 28.4 -0.4
PTOM A A 01 19 32.5
comp=N,20nm,0.1s
PTOM Tomar 4.15 36 S Sn 01 19 28.4 -0.4
comp=N,10nm,0.1s
PTOM Tomar 4.15 36 eS Sn 01 19 28.4 -0.4
comp=N,20nm,0.1s
EMIN Mina Concepcio 4.19 68 P Pn 01 18 42.3 +1.6
comp=N,6.5nm,0.3s,SNR=116
EMIN S Sn 01 19 27.8 -1.9
comp=N,8.3nm,0.3s,SNR=6.6
EMIN Mina Concepcio 4.19 68 P Pn 01 18 42.3 +1.6
comp=N,6.5nm,0.3s,SNR=116
EMIN S Sn 01 19 27.8 -1.9
comp=N,8.3nm,0.3s,SNR=6.6
EBAD Badajoz 4.38 55 P Pn 01 18 44.7 +1.4
comp=N,3.4nm,0.3s,SNR=76
EBAD S Sn 01 19 33.1 -1.3
comp=N,9.0nm,0.3s,SNR=8.5
EBAD Badajoz 4.38 55 P Pn 01 18 44.7 +1.4
comp=N,3.4nm,0.3s,SNR=76
EBAD S Sn 01 19 33.1 -1.3
comp=N,9.0nm,0.3s,SNR=8.5
PCAS Casmilo, Conde 4.46 32 eP Pn 01 18 46.4 +1.9
PCAS eS Sn 01 19 35.3 -1.2
PCAS A A 01 19 41.2
comp=N,10.0nm,0.3s
PCAS Casmilo, Conde 4.46 32 eP Pn 01 18 46.4 +1.9
PCAS eS Sn 01 19 35.3 -1.2
comp=N,10.0nm,0.3s
PMRV Marv??o 4.55 45 eP Pn 01 18 47.2 +1.5
PMRV eS Sn 01 19 36.8 -1.9
PMRV A A 01 19 40.3
comp=N,19nm,0.2s
PMRV Marv??o 4.55 45 P Pn 01 18 47.2 +1.5
PMRV S Sn 01 19 36.8 -1.9
comp=N,19nm,0.2s
PMRV Marv??o 4.55 45 P Pn 01 18 47.2 +1.5
PMRV eS Sn 01 19 36.8 -1.9
comp=N,19nm,0.2s
ESPR Espera 4.64 81 P Pn 01 18 48.8 +1.9
comp=N,18nm,0.5s,SNR=61
ESPR S Sn 01 19 38.4 -2.4
comp=N,5.7nm,0.2s
ESPR Espera 4.64 81 P Pn 01 18 48.8 +1.9
comp=N,18nm,0.5s,SNR=61
ESPR S Sn 01 19 38.4 -2.4
comp=N,5.7nm,0.2s
PCBR Castelo Branco 4.79 41 eP Pn 01 18 50.8 +1.8
PCBR eS Sn 01 19 42.7 -1.8
PCBR A A 01 19 44.5
comp=N,9.5nm,0.3s
PCBR Castelo Branco 4.79 41 P Pn 01 18 50.8 +1.8
PCBR S Sn 01 19 42.7 -1.8
comp=N,4.8nm,0.3s
PCBR Castelo Branco 4.79 41 P Pn 01 18 50.8 +1.8
PCBR eS Sn 01 19 42.7 -1.8
comp=N,9.5nm,0.3s
EJIF Jimena Fronter 4.93 86 P Pn 01 18 53.3 +2.4
comp=N,1.4nm,0.3s,SNR=7.9
EJIF S Sn 01 19 45.6 -2.4
comp=N,5.8nm,1.0s,SNR=7.9
EJIF Jimena Fronter 4.93 86 P Pn 01 18 53.3 +2.4
comp=N,1.4nm,0.3s,SNR=7.9
EJIF S Sn 01 19 45.6 -2.4
comp=N,5.8nm,1.0s,SNR=7.9
LIJA Lijar 5.00 81 P Pn 01 18 54.0 +2.0
LIJA S Sn 01 19 47.0 -2.9
LIJA Lijar 5.00 81 P Pn 01 18 54.0 +2.0
LIJA S Sn 01 19 47.0 -2.9
ECEU Ceuta 5.04 93 S Sn 01 19 50.8 +0.2
comp=N,3.1nm,0.4s
ECEU Ceuta 5.04 93 S Sn 01 19 50.8 +0.2
comp=N,3.1nm,0.4s
PMPST Porto Santo, M 5.07 232 eP Pn 01 18 50.1 -2.8
PMPST eS Sn 01 19 39.3 -12
PMPST A A 01 19 45.0
comp=N,32nm,0.3s
PMPS Porto Santo 5.08 232 eP Pn 01 18 50.4 -2.6
PMPS eS Sn 01 19 40.6 -11
PMPS A A 01 19 44.1
comp=N,17nm,0.3s
PMPS Porto Santo 5.08 232 P Pn 01 18 50.1 -2.9
PMPS S Sn 01 19 39.3 -12
comp=N,16nm,0.3s
MTE Manteigas 5.17 37 eP Pn 01 18 56.1 +1.7
MTE eS Sn 01 19 52.3 -1.8
MTE A A 01 19 56.3
comp=N,6.1nm,0.2s
MTE Manteigas 5.17 37 P Pn 01 18 56.1 +1.7
MTE S Sn 01 19 52.3 -1.8
comp=N,3.1nm,0.2s
MTE Manteigas 5.17 37 P Pn 01 18 56.1 +1.7
MTE eS Sn 01 19 52.3 -1.8
comp=N,6.1nm,0.2s
ECAB El Cabril 5.22 68 P Pn 01 18 56.7 +1.7
comp=N,8.4nm,0.2s,SNR=136
ECAB S Sn 01 19 52.8 -2.6
comp=N,6.1nm,0.4s,SNR=5.9
ECAB El Cabril 5.22 68 P Pn 01 18 56.7 +1.7
comp=N,8.4nm,0.2s,SNR=136
ECAB S Sn 01 19 52.8 -2.6
comp=N,6.1nm,0.4s,SNR=5.9
PVIS Viseu 5.27 32 eP Pn 01 18 57.1 +1.5
PVIS eS Sn 01 19 53.9 -2.5
PVIS A A 01 19 56.5
comp=N,13nm,0.1s
PVIS Viseu 5.27 32 P Pn 01 18 57.1 +1.5
PVIS S Sn 01 19 53.9 -2.5
comp=N,6.4nm,0.1s
PVIS Viseu 5.27 32 P Pn 01 18 57.1 +1.5
PVIS eS Sn 01 19 53.9 -2.5
comp=N,13nm,0.1s
CIA Chichaoua 5.27 153 P Pn 01 18 56.0 +0.3
CIA S Sn 01 19 50.0 -6.5
CIA Chichaoua 5.27 153 i P Pn 01 18 56.0 +0.3
EMIJ Mijas 5.49 85 P Pn 01 18 60.0 +1.3
comp=N,3.8nm,0.6s,SNR=14
EMIJ S Sn 01 19 58.8 -3.1
comp=N,7.0nm,0.8s
EMIJ Mijas 5.49 85 P Pn 01 19 00.0 +1.3
comp=N,3.8nm,0.6s,SNR=14
EMIJ S Sn 01 19 58.8 -3.1
comp=N,7.0nm,0.8s
PMAR Madeira 5.67 233 eP Pn 01 18 59.0 -2.3
PMAR eS Sn 01 19 54.7 -12
PMAR Madeira 5.67 233 P Pn 01 18 59.0 -2.3
PMAR S Sn 01 19 54.7 -12
EPLA Plasencia 5.73 47 P Pn 01 19 03.9 +2.0
comp=N,1.9nm,0.3s,SNR=39
EPLA S Sn 01 20 05.4 -2.4
comp=N,5.7nm,0.4s,SNR=11
EPLA Plasencia 5.73 47 P Pn 01 19 03.9 +2.0
comp=N,1.9nm,0.3s,SNR=39
EPLA S Sn 01 20 05.4 -2.4
comp=N,5.7nm,0.4s,SNR=11
PMOZ Porto Moniz, M 5.79 235 eP Pn 01 19 00.7 -2.2
PMOZ A A 01 20 03.6
comp=N,25nm,0.5s
PVRL Vila Real 5.81 30 eP Pn 01 19 04.5 +1.4
PVRL eS Sn 01 20 05.9 -3.8
PVRL A A 01 20 08.9
comp=N,12nm,0.1s
PVRL Vila Real 5.81 30 P Pn 01 19 04.5 +1.4
PVRL S Sn 01 20 05.9 -3.8
comp=N,6.2nm,0.1s
PVRL Vila Real 5.81 30 P Pn 01 19 04.5 +1.4
POLO Lamas de Olo 5.86 29 eP Pn 01 19 05.3 +1.5
POLO eS Sn 01 20 07.6 -3.5
POLO A A 01 20 10.3
comp=N,3.7nm,0.2s
POLO Lamas de Olo 5.86 29 eP Pn 01 19 05.3 +1.5
POLO eS Sn 01 20 07.6 -3.5
comp=N,3.7nm,0.2s
EADA Adamuz 5.89 69 P Pn 01 19 05.6 +1.5
comp=N,5.9nm,0.3s,SNR=70
EADA S Sn 01 20 09.6 -2.1
comp=N,2.8nm,0.5s
EADA Adamuz 5.89 69 P Pn 01 19 05.6 +1.5
comp=N,5.9nm,0.3s,SNR=70
EADA S Sn 01 20 09.6 -2.1
comp=N,2.8nm,0.5s
KIB El Ksiba 5.89 127 P Pn 01 19 06.0 +1.7
KIB S Sn 01 20 07.0 -4.9
KIB El Ksiba 5.89 127 P Pn 01 19 06.0 +1.7
TZC Tazercounte 5.91 133 P Pn 01 19 07.0 +2.4
TZC S Sn 01 20 08.0 -4.4
TZC Tazercounte 5.91 133 P Pn 01 19 07.0 +2.4
OUK Oukaimeden 5.94 148 P Pn 01 19 05.0 -0.2
OUK S Sn 01 20 05.0 -8.8
ELUQ Luque 5.99 76 P Pn 01 19 07.3 +1.8
comp=N,0.4nm,0.4s,SNR=7.9
ELUQ S Sn 01 20 12.1 -2.1
comp=N,28nm,0.9s,SNR=7.9
ELUQ Luque 5.99 76 P Pn 01 19 07.3 +1.8
comp=N,0.4nm,0.4s,SNR=7.9
ELUQ S Sn 01 20 12.1 -2.1
comp=N,28nm,0.9s,SNR=7.9
MVO Moncorvo 6.02 35 eP Pn 01 19 07.5 +1.6
MVO eS Sn 01 20 11.7 -3.2
MVO A A 01 20 16.3
comp=N,8.6nm,0.2s
MVO Moncorvo 6.02 35 P Pn 01 19 07.5 +1.6
comp=N,2.3nm,0.3s,SNR=14
MVO S Sn 01 20 12.2 -2.7
comp=N,6.8nm,0.4s,SNR=6.5
MVO Moncorvo 6.02 35 P Pn 01 19 07.5 +1.6
comp=N,2.3nm,0.3s,SNR=14
MVO S Sn 01 20 12.2 -2.7
comp=N,6.8nm,0.4s,SNR=6.5
PCAB Cabril 6.07 26 eP Pn 01 19 08.1 +1.5
PCAB eS Sn 01 20 13.4 -2.7
PCAB A A 01 20 15.0
comp=N,7.2nm,0.1s
PCAB Cabril 6.07 26 P Pn 01 19 08.1 +1.5
PCAB S Sn 01 20 13.4 -2.7
comp=N,3.6nm,0.1s
PCAB Cabril 6.07 26 P Pn 01 19 08.1 +1.5
PCAB eS Sn 01 20 13.4 -2.7
comp=N,7.2nm,0.1s
ELOB Lobios 6.19 25 P Pn 01 19 09.8 +1.4
comp=N,3.8nm,0.6s,SNR=12
ELOB S Sn 01 20 14.7 -4.5
comp=N,6.5nm,0.2s,SNR=12
ELOB Lobios 6.19 25 P Pn 01 19 09.8 +1.4
comp=N,3.8nm,0.6s,SNR=12
PGAV Gavieira, Arco 6.21 23 eP Pn 01 19 10.6 +2.0
PGAV eS Sn 01 20 17.1 -2.6
PGAV A A 01 20 19.7
comp=N,8.2nm,0.2s
PGAV Gavieira, Arco 6.21 23 eP Pn 01 19 10.6 +2.0
PGAV eS Sn 01 20 17.1 -2.6
comp=N,8.2nm,0.2s
EZAM Zamans 6.25 20 P Pn 01 19 10.1 +1.0
comp=N,4.9nm,0.5s,SNR=7.9
EZAM S Sn 01 20 16.6 -4.0
comp=N,14nm,0.4s,SNR=7.9
EZAM Zamans 6.25 20 P Pn 01 19 10.1 +1.0
comp=N,4.9nm,0.5s,SNR=7.9
EGUA Guajares 6.47 83 P Pn 01 19 14.2 +2.1
comp=N,4.2nm,0.2s,SNR=7.9
EGUA S Sn 01 20 24.1 -1.8
comp=N,75nm,0.8s,SNR=7.9
EGUA Guajares 6.47 83 P Pn 01 19 14.2 +2.1
comp=N,4.2nm,0.2s,SNR=7.9
EGUA S Sn 01 20 24.1 -1.8
comp=N,75nm,0.8s,SNR=7.9
EBAN Banos Encina 6.49 71 P Pn 01 19 13.6 +1.3
comp=N,5.3nm,0.2s,SNR=14
EBAN S Sn 01 20 22.6 -3.8
comp=N,2.3nm,0.4s
EBAN Banos Encina 6.49 71 P Pn 01 19 13.6 +1.3
comp=N,5.3nm,0.2s,SNR=14
EBAN S Sn 01 20 22.6 -3.8
comp=N,2.3nm,0.4s
EQUE Quentar 6.59 80 P Pn 01 19 15.8 +1.9
comp=N,0.9nm,0.3s,SNR=7.9
EQUE S Sn 01 20 26.6 -2.6
comp=N,20nm,1.2s,SNR=7.9
EQUE Quentar 6.59 80 P Pn 01 19 15.8 +1.9
comp=N,0.9nm,0.3s,SNR=7.9
EQUE S Sn 01 20 26.6 -2.6
comp=N,20nm,1.2s,SNR=7.9
PBRG Braganca 6.66 33 eP Pn 01 19 16.4 +1.7
PBRG eS Sn 01 20 26.6 -4.1
PBRG A A 01 20 29.8
comp=N,5.0nm,0.1s
PBRG Braganca 6.66 33 P Pn 01 19 16.4 +1.7
PBRG S Sn 01 20 26.6 -4.1
comp=N,2.5nm,0.1s
PBRG Braganca 6.66 33 P Pn 01 19 16.4 +1.7
ECAL Calabor 6.77 32 P Pn 01 19 18.1 +1.8
comp=N,1.7nm,0.3s,SNR=11
ECAL S Sn 01 20 29.5 -4.0
comp=N,9.6nm,0.3s,SNR=10
ECAL Calabor 6.77 32 P Pn 01 19 18.1 +1.8
comp=N,1.7nm,0.3s,SNR=11
ECAL S Sn 01 20 29.5 -4.0
comp=N,9.6nm,0.3s,SNR=10
ESDC Sonseca Array 6.89 58 P Pn 01 19 19.2 +1.3
comp=N,1.7nm,0.2s,baz=243,slow=13,SNR=59
ESDC S Sn 01 20 33.8 -2.6
comp=N,1.6nm,0.2s,baz=245,slow=23,SNR=14
ESDC Sonseca Array 6.89 58 P Pn 01 19 19.2 +1.3
comp=N,1.7nm,0.2s,baz=243,slow=13,SNR=59
ESDC S Sn 01 20 33.8 -2.6
comp=N,1.6nm,0.2s,baz=245,slow=23,SNR=14
EMAZ Mazaricos 6.94 16 P Pn 01 19 18.9 +0.4
comp=N,6.3nm,0.6s,SNR=7.9
EMAZ S Sn 01 20 29.4 -8.0
comp=N,38nm,1.2s,SNR=8.7
EMAZ Mazaricos 6.94 16 P Pn 01 19 18.9 +0.4
comp=N,6.3nm,0.6s,SNR=7.9
EQES Quesada 6.96 75 P Pn 01 19 20.1 +1.1
comp=N,6.3nm,0.9s,SNR=25
EQES S Sn 01 20 35.7 -2.6
comp=N,1.6nm,0.4s,SNR=8.5
EQES Quesada 6.96 75 P Pn 01 19 20.1 +1.1
comp=N,6.3nm,0.9s,SNR=25
EQES S Sn 01 20 35.7 -2.6
comp=N,1.6nm,0.4s,SNR=8.5
STS Santiago 6.98 19 P Pn 01 19 20.2 +1.1
comp=N,1.5nm,0.2s,SNR=7.9
STS S Sn 01 20 33.6 -4.9
comp=N,15nm,1.0s,SNR=7.9
STS Santiago 6.98 19 P Pn 01 19 20.2 +1.1
comp=N,1.5nm,0.2s,SNR=7.9
EBER Berja 7.01 83 P Pn 01 19 21.2 +1.5
comp=N,4.0nm,0.5s,SNR=5.8
EBER S Sn 01 20 37.3 -2.3
comp=N,12nm,0.7s,SNR=7.9
EBER Berja 7.01 83 P Pn 01 19 21.2 +1.5
comp=N,4.0nm,0.5s,SNR=5.8
EBER S Sn 01 20 37.3 -2.3
comp=N,12nm,0.7s,SNR=7.9
GUD Guadarrama 7.26 51 P Pn 01 19 24.8 +1.8
comp=N,2.9nm,0.8s,SNR=12
GUD S Sn 01 20 42.1 -3.4
comp=N,2.4nm,0.3s,SNR=7.5
GUD Guadarrama 7.26 51 P Pn 01 19 24.8 +1.8
comp=N,2.9nm,0.8s,SNR=12
GUD S Sn 01 20 42.1 -3.4
comp=N,2.4nm,0.3s,SNR=7.5
EHUE Huescar 7.34 75 P Pn 01 19 25.3 +1.2
comp=N,0.1nm,0.3s,SNR=7.9
EHUE S Sn 01 20 44.5 -3.0
comp=N,4.4nm,1.2s,SNR=7.9
EHUE Huescar 7.34 75 P Pn 01 19 25.3 +1.2
comp=N,0.1nm,0.3s,SNR=7.9
EHUE S Sn 01 20 44.5 -3.0
comp=N,4.4nm,1.2s,SNR=7.9
EVIA Vianos 7.58 69 P Pn 01 19 28.6 +1.1
comp=N,7.2nm,0.4s,SNR=6.1
EVIA S Sn 01 20 51.3 -2.2
comp=N,13nm,1.1s
EVIA Vianos 7.58 69 P Pn 01 19 28.6 +1.1
comp=N,7.2nm,0.4s,SNR=6.1
EVIA S Sn 01 20 51.3 -2.2
comp=N,13nm,1.1s
EPON Pontenova 7.80 25 P Pn 01 19 31.7 +1.4
comp=N,0.8nm,0.5s,SNR=7.9
EPON S Sn 01 20 54.1 -4.6
comp=N,13nm,0.8s,SNR=7.9
EPON Pontenova 7.80 25 P Pn 01 19 31.7 +1.4
comp=N,0.8nm,0.5s,SNR=7.9
CFUE Fuerteventura 7.89 195 P Pn 01 19 29.6 -2.0
comp=N,1.8nm,0.4s,SNR=4.0
CFUE S Sn 01 20 49.0 -12
comp=N,23nm,1.3s,SNR=7.9
ETOB Tobarra 8.31 71 P Pn 01 19 38.8 +1.4
comp=N,5.5nm,0.6s,SNR=14
ETOB S Sn 01 21 07.7 -3.6
comp=N,34nm,1.3s,SNR=7.9
ETOB Tobarra 8.31 71 P Pn 01 19 38.8 +1.4
comp=N,5.5nm,0.6s,SNR=14
ETOB S Sn 01 21 07.7 -3.6
comp=N,34nm,1.3s,SNR=7.9
EARI Arriondas 8.53 33 P Pn 01 19 42.2 +1.8
comp=N,0.6nm,0.4s,SNR=7.9
EARI S Sn 01 21 12.2 -4.5
comp=N,16nm,1.4s,SNR=7.9
EARI Arriondas 8.53 33 P Pn 01 19 42.2 +1.8
comp=N,0.6nm,0.4s,SNR=7.9
EOSO Osorio 8.87 203 S Sn 01 21 10.7 -14
comp=N,29nm,0.6s,SNR=7.9
EMOS Mosqueruela 9.62 62 P Pn 01 19 57.8 +2.3
comp=N,2.3nm,0.4s,SNR=7.9
EMOS S Sn 01 21 38.3 -5.3
comp=N,147nm,1.5s,SNR=7.9
EMOS Mosqueruela 9.62 62 P Pn 01 19 57.8 +2.3
comp=N,2.3nm,0.4s,SNR=7.9
EMOS S Sn 01 21 38.3 -5.3
comp=N,147nm,1.5s,SNR=7.9
ESAC San Caprasio 10.19 55 S Sn 01 21 50.6 -7.0
comp=N,38nm,1.0s,SNR=7.9
IEPA Eparoz 10.25 48 P Pn 01 20 06.3 +2.3
comp=N,0.1nm,0.3s,SNR=7.9
IEPA S Sn 01 21 53.1 -6.0
comp=N,8.1nm,1.0s,SNR=7.9
IEPA Eparoz 10.25 48 P Pn 01 20 06.3 +2.3
comp=N,0.1nm,0.3s,SNR=7.9
IELO Elcoad 10.31 48 P Pn 01 20 07.0 +2.2
comp=N,3.8nm,0.6s,SNR=7.9
IELO S Sn 01 21 55.2 -5.2
comp=N,25nm,1.2s,SNR=7.9
IELO Elcoad 10.31 48 P Pn 01 20 07.0 +2.2
comp=N,3.8nm,0.6s,SNR=7.9
ELIZ Elizondo 10.33 45 P Pn 01 20 07.0 +2.0
comp=N,2.1nm,0.5s,SNR=7.9
ELIZ Elizondo 10.33 45 P Pn 01 20 07.0 +2.0
comp=N,2.1nm,0.5s,SNR=7.9
ERTA Horta de San J 10.41 60 P Pn 01 20 07.3 +1.2
comp=N,1.2nm,0.4s,SNR=7.9
ERTA Horta de San J 10.41 60 P Pn 01 20 07.3 +1.2
comp=N,1.2nm,0.4s,SNR=7.9
SJPF Ste Jean 10.48 46 ePn Pn 01 20 08.9 +1.9
SJPF eSn Sn 01 21 59.1 -5.3
comp=N,1.5nm,0.3s
SJPF Ste Jean 10.48 46 P Pn 01 20 08.9 +1.9
ETSF Etsaut 10.75 49 ePn Pn 01 20 12.0 +1.2
ETSF eSn Sn 01 22 05.4 -5.8
comp=N,0.7nm,0.3s
ETSF Etsaut 10.75 49 P Pn 01 20 12.0 +1.2
EBIE Bielsa 11.07 51 P Pn 01 20 17.3 +2.0
comp=N,1.1nm,0.4s,SNR=7.9
EBIE S Sn 01 22 13.3 -6.0
comp=N,15nm,1.6s,SNR=7.9
EBIE Bielsa 11.07 51 P Pn 01 20 17.3 +2.0
comp=N,1.1nm,0.4s,SNR=7.9
EPOB Poblet 11.08 59 P Pn 01 20 16.5 +1.1
comp=N,1.1nm,0.4s,SNR=4.0
EPOB Poblet 11.08 59 P Pn 01 20 16.5 +1.1
comp=N,1.1nm,0.4s,SNR=4.0
EPF Esparros 11.37 50 ePn Pn 01 20 20.4 +1.1
EPF eSn Sn 01 22 20.4 -6.1
comp=N,0.8nm,0.3s
EPF Esparros 11.37 50 P Pn 01 20 20.4 +1.1
CSOR Sort 11.55 54 P Pn 01 20 23.9 +2.0
comp=N,1.7nm,0.8s,SNR=7.9
CSOR S Sn 01 22 25.1 -5.9
comp=N,1.9nm,1.2s,SNR=7.9
CSOR Sort 11.55 54 P Pn 01 20 23.9 +2.0

comp=N,1.7nm,0.8s,SNR=7.9
CLLI Llivia 12.16 55 P **Pn 01 20 30.9 +0.8**
comp=N,0.4nm,0.3s,SNR=7.9
CLLI S Sn 01 22 39.2 -6.6
comp=N,4.4nm,1.0s,SNR=7.9
CLLI Llivia 12.16 55 P **Pn 01 20 30.9 +0.8**
comp=N,0.4nm,0.3s,SNR=7.9
LFF La Frestale 12.71 43 *e*Pn **Pn 01 20 39.1 +1.5**
LFF La Frestale 12.71 43 P **Pn 01 20 39.1 +1.5**
QUIF Quistinic 13.17 26 *e*Pn **Pn 01 20 44.4 +0.6**
QUIF Quistinic 13.17 26 P **Pn 01 20 44.4 +0.6**
MFF Saint Martin d 13.38 36 *e*Pn **Pn 01 20 48.4 +1.8**
MFF Saint Martin d 13.38 36 P **Pn 01 20 48.4 +1.8**
CAF Calviac 13.46 46 *e*Pn **Pn 01 20 48.2 +0.4**
CAF Calviac 13.46 46 P **Pn 01 20 48.2 +0.4**

MEX 18 01:25:43.6±0.6, 16°.11N×98°.11W, h5km±528km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.28**	**356**	*e*P	Pg	01 25 49.1	-0.1
PNIG				*e*S	Sg	01 25 52.6	-0.4
VHO	**Vista Hermosa**	**1.63**	**54**	*i* P	Pn	01 26 09.2	-4.1
VHO				*i* S	Sn	01 26 30.1	-4.7
HUIG	**Huatulco**	**1.95**	**100**	*i* P	Pn	01 26 13.3	-4.1
HUIG				*i* S	Sn	01 26 37.5	-4.9
CMIG	**Matias Romero**	**3.24**	**72**	*i* P	Pn	01 26 32.1	-3.1
CMIG				*i* S	Sn	01 27 09.7	-4.5

ISCJB ***18*** *01:27:02.6±0.3, 36°.58N±0°.02×9°.65W±0°.03, h10km, Error ellipse: s-maj=3.2km s-min=2.7km az=175.6*
SFS ***18*** *01:27:06.0, 36°.61N×9°.88W, h0km, ML3.8*
MDD ***18*** *01:27:07.2±0.6, 36°.59N×9°.85W, h41km±27km, mb4.8/50, Error ellipse: s-maj=5.2km s-min=4.1km az=93.0, PRXIMO*
LDG ***18*** *01:27:07.8±0.1, 36°.57N×9°.80W, h30km, Ml4.1/9, Error ellipse: s-maj=2.5km s-min=2.2km az=57.0*
INMG ***18*** *01:27:08.9±1.2, 36°.57N×9°.72W, h31km±9km, MD3.5, ML3.7, Error ellipse: s-maj=5.8km s-min=2.7km az=57.0*
IGIL ***18*** *01:27:08.0, 36°.52N×9°.72W, h32km, ML4.1*
CSEM ***18*** *01:27:11.0±0.3, 36°.82N×9°.43W, h30km, ML4.4/9, Error ellipse: s-maj=5.4km s-min=2.9km az=49.0*
CNRM ***18*** *01:27:11.9, 36°.21N×9°.46W, h24km, MD3.6*

ISC 18 01:27:03.4±0.8, 36°.58N±0°.03×9°.71W±0°.03, h10km, n263, σ1s78/389, 18C-3D, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**0.90**	**52**	*i* P	**Pn**	**01 27 24.1**	**+2.0**
PFVI				*e*S	**Sb**	**01 27 35.0**	**+2.0**
PFVI				A	A	01 27 36.7	
	957nm,0.4s						
PFVI	**Vila Bisbo**	**0.90**	**52**	⇑P	**Pn**	**01 27 24.0**	**+2.0**
	1μm,0.3s,SNR=18						
PFVI				S	**Sb**	**01 27 34.8**	**+1.8**
	563nm,0.3s,SNR=22						
PFVI	**Vila Bisbo**	**0.90**	**52**	P	**Pn**	**01 27 24.0**	**+2.0**
	1μm,0.3s,SNR=18						
MORF	**Marmelete**	**1.11**	**49**	*i* P	**Pn**	**01 27 27.1**	**+2.0**
MORF				*e*S	**Sb**	**01 27 40.3**	**+0.9**
MORF				A	A	01 27 42.1	
	773nm,0.4s						
MORF	**Marmelete**	**1.11**	**49**	⇑P	**Pn**	**01 27 27.1**	**+2.0**
MORF				S	**Sb**	**01 27 40.3**	**+0.9**
	773nm,0.4s						
MORF	**Marmelete**	**1.11**	**49**	P	**Pn**	**01 27 27.1**	**+2.0**
MORF				S	**Sb**	**01 27 40.3**	**+0.9**
	773nm,0.4s						
PTEO	**Sao Teotonio**	**1.24**	**39**	*i* P	**Pb**	**01 27 28.8**	**+1.9**
PTEO				*e*S	**Sb**	**01 27 43.8**	**+0.8**
PTEO				A	A	01 27 57.0	
	578nm,0.5s						
PTEO	**Sao Teotonio**	**1.24**	**39**	⇑P	**Pb**	**01 27 28.8**	**+1.9**
PTEO				S	**Sb**	**01 27 43.8**	**+0.8**
	289nm,0.5s						
PTEO	**Sao Teotonio**	**1.24**	**39**	P	**Pb**	**01 27 28.8**	**+1.9**
PTEO				S	**Sb**	**01 27 43.8**	**+0.8**
	289nm,0.5s						
PBDV	**Barranco-do-Ve**	**1.57**	**65**	*i* P	**Pn**	**01 27 33.6**	**+2.3**
PBDV				*e*S	**Sn**	**01 27 51.2**	**-0.6**
PBDV				A	A	01 27 54.6	
	405nm,0.5s						
PBDV	**Barranco-do-Ve**	**1.57**	**65**	⇑P	**Pn**	**01 27 33.6**	**+2.3**
PBDV				S	**Sn**	**01 27 51.2**	**-0.6**
	405nm,0.5s						
PBDV	**Barranco-do-Ve**	**1.57**	**65**	P	**Pn**	**01 27 33.6**	**+2.3**
PBDV				S	**Sn**	**01 27 51.2**	**-0.6**
	405nm,0.5s						
PCVE	**Castro Verde**	**1.70**	**51**	*i* P	**Pn**	**01 27 35.4**	**+2.3**
PCVE				*e*S	**Sn**	**01 27 54.8**	**-0.1**
PCVE				A	A	01 28 07.2	
	196nm,0.3s						
PCVE	**Castro Verde**	**1.70**	**51**	⇑P	**Pn**	**01 27 35.4**	**+2.3**
PCVE				S	**Sn**	**01 27 54.8**	**-0.1**
	196nm,0.3s						
PCVE	**Castro Verde**	**1.70**	**51**	P	**Pn**	**01 27 35.4**	**+2.3**
PCVE				S	**Sn**	**01 27 54.8**	**-0.1**
	196nm,0.3s						
PVAQ	**Vaqueiros**	**1.79**	**62**	*i* Pn	**Pn**	**01 27 36.5**	**+2.1**
PVAQ				*e*Sn	**Sn**	**01 27 56.5**	**-0.7**
PVAQ				A	A	01 27 59.3	
	271nm,0.2s						
PVAQ	**Vaqueiros**	**1.79**	**62**	⇑P	**Pn**	**01 27 36.5**	**+2.1**
PVAQ				S	**Sn**	**01 27 56.5**	**-0.7**
	271nm,0.2s						
PVAQ	**Vaqueiros**	**1.79**	**62**	P	**Pn**	**01 27 36.5**	**+2.1**
PVAQ				S	**Sn**	**01 27 56.5**	**-0.7**
	271nm,0.2s						
PNCL	**Nicolau / Gran**	**1.79**	**31**	*i* Pn	**Pn**	**01 27 36.2**	**+1.8**
PNCL				*e*Sn	**Sn**	**01 27 56.7**	**-0.5**
PNCL				A	A	01 28 11.5	
	275nm,0.5s						
EGRO	**El Granado**	**2.02**	**61**	⇑P	**Pn**	**01 27 39.4**	**+1.9**
	34nm,0.3s,SNR=18						
EGRO				S	**Sn**	**01 28 02.3**	**-0.4**
	163nm,0.3s,SNR=17						
EGRO	**El Granado**	**2.02**	**61**	P	**Pn**	**01 27 39.4**	**+1.9**
	34nm,0.3s,SNR=18						
EGRO				S	**Sn**	**01 28 02.3**	**-0.4**
	163nm,0.3s,SNR=17						
PBEJ	**Beja**	**2.06**	**45**	*i* Pn	**Pn**	**01 27 39.8**	**+1.8**
PBEJ				*e*Sn	**Sn**	**01 28 03.7**	**-0.1**
PBEJ				A	A	01 28 06.5	
	122nm,0.3s						
PBEJ	**Beja**	**2.06**	**45**	⇑Pn	**Pn**	**01 27 39.8**	**+1.8**
PBEJ				Sn	**Sn**	**01 28 03.7**	**-0.1**
	61nm,0.3s						
PBEJ	**Beja**	**2.06**	**45**	Pn	**Pn**	**01 27 39.8**	**+1.8**
PBEJ				Sn	**Sn**	**01 28 03.7**	**-0.1**
	61nm,0.3s						
LIS	**Lisbon**	**2.18**	**12**	*e*P	**Pn**	**01 27 41.8**	**+2.1**
LIS				*e*S	**Sn**	**01 28 06.2**	**-0.4**
LIS				AML	AML	01 28 08.3	
	comp=N,2μm,0.4s						
LIS	**Lisbon**	**2.18**	**12**	*e*P	**Pn**	**01 27 41.8**	**+2.1**
LIS				*e*S	**Sn**	**01 28 06.2**	**-0.4**
LIS	**Lisbon**	**2.18**	**12**	P	**Pn**	**01 27 41.8**	**+2.1**
LIS				S	**Sn**	**01 28 06.2**	**-0.4**
LIS	**Lisbon**	**2.18**	**12**	*e*P	**Pn**	**01 27 41.8**	**+2.1**
LIS				*e*S	**Sn**	**01 28 06.2**	**-0.4**
PMST	**Lisbon--Monsan**	**2.19**	**11**	*e*Pn	**Pn**	**01 27 41.7**	**+1.8**
PMST				*e*Sn	**Sn**	**01 28 06.5**	**-0.5**
PMST				A	A	01 28 08.4	
	comp=N,507nm,0.4s						
PMST	**Lisbon--Monsan**	**2.19**	**11**	*e*Pn	**Pn**	**01 27 41.7**	**+1.8**
PMST				*e*Sn	**Sn**	**01 28 06.5**	**-0.5**
	comp=N,507nm,0.4s						
MOE	**Montemor**	**2.22**	**29**	*e*Pn	**Pn**	**01 27 42.4**	**+2.2**
MOE				*e*Sn	**Sn**	**01 28 07.1**	**-0.6**
MOE	**Montemor**	**2.22**	**29**	P	**Pn**	**01 27 42.4**	**+2.2**
MOE				S	**Sn**	**01 28 07.1**	**-0.6**
MOE	**Montemor**	**2.22**	**29**	P	**Pn**	**01 27 42.4**	**+2.2**
MOE				S	**Sn**	**01 28 07.1**	**-0.6**
PACT	**Alcochete**	**2.29**	**17**	*e*Pn	**Pn**	**01 27 43.5**	**+2.3**
PACT				*e*Sn	**Sn**	**01 28 10.3**	**+0.9**
PACT				A	A	01 28 14.2	
	comp=N,304nm,0.4s						
PACT	**Alcochete**	**2.29**	**17**	*e*Pn	**Pn**	**01 27 43.5**	**+2.3**
PACT				*e*Sn	**Sn**	**01 28 10.3**	**+0.9**
	comp=N,304nm,0.4s						
EVOP	**Sao Brissos**	**2.32**	**32**	*e*Pn	**Pn**	**01 27 43.0**	**+1.5**
EVOP				*e*Sn	**Sn**	**01 28 09.0**	**-1.1**
	comp=N,452nm,0.4s						
EVO	**Evora**	**2.37**	**34**	*e*Pn	**Pn**	**01 27 43.0**	**+0.7**
EVO				*e*Sn	**Sn**	**01 28 09.0**	**-2.4**
	comp=N,904nm,0.4s						
EVO	**Evora**	**2.37**	**34**	*e*Pn	**Pn**	**01 27 43.9**	**+1.6**
EVO				*e*Sn	**Sn**	**01 28 10.3**	**-1.1**
EVO				A	A	01 28 12.8	
	comp=N,162nm,0.2s						
EVO	**Evora**	**2.37**	**34**	P	**Pn**	**01 27 43.9**	**+1.6**
EVO				S	**Sn**	**01 28 10.3**	**-1.1**
	comp=N,162nm,0.2s						
EVO	**Evora**	**2.37**	**34**	P	**Pn**	**01 27 43.9**	**+1.6**
EVO				S	**Sn**	**01 28 10.3**	**-1.1**
	comp=N,162nm,0.2s						
PMAFR	**Mafra**	**2.39**	**8**	*e*Pn	**Pn**	**01 27 44.4**	**+1.7**
PMAFR				*e*Sn	**Sn**	**01 28 11.1**	**-0.9**
PMAFR				A	A	01 28 14.0	
	comp=N,1μm,0.6s						
PMAFR	**Mafra**	**2.39**	**8**	⇑P	**Pn**	**01 27 44.4**	**+1.7**
	comp=N,52nm,0.3s,SNR=18						
PMAFR				S	**Sn**	**01 28 10.0**	**-2.0**
	comp=N,956nm,0.3s,SNR=38						
PMAFR	**Mafra**	**2.39**	**8**	P	**Pn**	**01 27 44.4**	**+1.7**
	comp=N,52nm,0.3s,SNR=18						
PMAFR				S	**Sn**	**01 28 10.0**	**-2.0**
	comp=N,956nm,0.3s,SNR=38						
PMAFR				*e*Sn	**Sn**	**01 28 11.1**	**-0.9**
	comp=N,1μm,0.6s						
PBAR	**Barrancos**	**2.66**	**52**	*e*Pn	**Pn**	**01 27 47.9**	**+1.7**
PBAR				*e*Sn	**Sn**	**01 28 17.5**	**-1.0**
PBAR				A	A	01 28 20.2	
	comp=N,141nm,0.3s						
PBAR	**Barrancos**	**2.66**	**52**	P	**Pn**	**01 27 47.9**	**+1.7**
PBAR				S	**Sn**	**01 28 17.5**	**-1.0**
	comp=N,141nm,0.3s						
PBAR	**Barrancos**	**2.66**	**52**	P	**Pn**	**01 27 47.9**	**+1.7**
PBAR				S	**Sn**	**01 28 17.5**	**-1.0**
	comp=N,141nm,0.3s						
EMIN	**Mina Concepcio**	**2.70**	**63**	⇑P	**Pn**	**01 27 48.4**	**+1.5**
	comp=N,34nm,0.3s,SNR=18						
EMIN				S	**Sn**	**01 28 19.2**	**-0.4**
	comp=N,89nm,0.3s						
EMIN	**Mina Concepcio**	**2.70**	**63**	P	**Pn**	**01 27 48.4**	**+1.5**
	comp=N,34nm,0.3s,SNR=18						
EMIN				S	**Sn**	**01 28 19.2**	**-0.4**
	comp=N,89nm,0.3s						
ALMR	**Almeirim**	**2.72**	**19**	*e*P	**Pn**	**01 27 49.0**	**+1.9**
ALMR				*e*S	**Sn**	**01 28 19.2**	**-0.9**
ALMR				AML	AML	01 28 21.6	
	comp=E,640nm,0.8s						
ALMR	**Almeirim**	**2.72**	**19**	*e*P	**Pn**	**01 27 49.0**	**+1.9**
ALMR				*e*S	**Sn**	**01 28 19.2**	**-0.9**
ALMR	**Almeirim**	**2.72**	**19**	P	**Pn**	**01 27 49.0**	**+1.9**
ALMR				S	**Sn**	**01 28 19.2**	**-0.9**
ALMR	**Almeirim**	**2.72**	**19**	*e*P	**Pn**	**01 27 49.0**	**+1.9**
ALMR				*e*S	**Sn**	**01 28 19.2**	**-0.9**
PMTG	**Montargil**	**2.75**	**25**	*e*Pn	**Pn**	**01 27 49.3**	**+1.8**
PMTG				*e*Sn	**Sn**	**01 28 20.0**	**-0.7**
PMTG				A	A	01 28 21.3	
	comp=E,204nm,0.6s						
PMTG	**Montargil**	**2.75**	**25**	*e*Pn	**Pn**	**01 27 49.3**	**+1.8**
PMTG				*e*Sn	**Sn**	**01 28 20.0**	**-0.7**
	comp=E,204nm,0.6s						
PESTR	**Estremoz**	**2.83**	**36**	*i* Pn	**Pn**	**01 27 50.0**	**+1.3**
PESTR				*e*Sn	**Sn**	**01 28 22.3**	**-0.6**
PESTR				A	A	01 28 23.3	
	comp=E,92nm,0.2s						
PESTR	**Estremoz**	**2.83**	**36**	⇑P	**Pn**	**01 27 50.0**	**+1.3**
PESTR				S	**Sn**	**01 28 22.3**	**-0.6**
	comp=E,46nm,0.2s						
PESTR	**Estremoz**	**2.83**	**36**	P	**Pn**	**01 27 50.0**	**+1.3**
PESTR				S	**Sn**	**01 28 22.3**	**-0.6**
	comp=E,46nm,0.2s						
CNIL	**Conil**	**2.95**	**93**	⇑P	Pn	01 27 53.5	+3.2
CNIL				S	**Sn**	**01 28 27.8**	**+2.0**
CNIL	**Conil**	**2.95**	**93**	P	Pn	01 27 53.5	+3.2
CNIL				S	**Sn**	**01 28 27.8**	**+2.0**
EBAD	**Badajoz**	**3.05**	**44**	⇑P	**Pn**	**01 27 53.0**	**+1.4**
	comp=E,25nm,0.2s,SNR=18						
EBAD				S	**Sn**	**01 28 26.3**	**-1.8**
	comp=E,92nm,0.3s						
EBAD	**Badajoz**	**3.05**	**44**	P	**Pn**	**01 27 53.0**	**+1.4**
	comp=E,25nm,0.2s,SNR=18						
EBAD				S	**Sn**	**01 28 26.3**	**-1.8**
	comp=E,92nm,0.3s						
ESPR	**Espera**	**3.11**	**84**	⇑P	**Pn**	**01 27 54.5**	**+2.0**
	comp=E,40nm,0.3s,SNR=18						
ESPR				S	**Sn**	**01 28 28.6**	**-1.0**
	comp=E,261nm,0.3s,SNR=14						
ESPR	**Espera**	**3.11**	**84**	P	**Pn**	**01 27 54.5**	**+2.0**
	comp=E,40nm,0.3s,SNR=18						
ESPR				S	**Sn**	**01 28 28.6**	**-1.0**
	comp=E,261nm,0.3s,SNR=14						
PTOM	**Tomar**	**3.20**	**18**	*e*Pn	**Pn**	**01 27 55.7**	**+2.0**
PTOM				*e*Sn	**Sn**	**01 28 30.6**	**-1.3**
PTOM				A	A	01 28 32.8	
	comp=E,173nm,0.3s						
PTOM	**Tomar**	**3.20**	**18**	P	**Pn**	**01 27 55.7**	**+2.0**
PTOM				S	**Sn**	**01 28 30.6**	**-1.3**
	comp=E,86nm,0.3s						
PTOM	**Tomar**	**3.20**	**18**	P	**Pn**	**01 27 55.7**	**+2.0**
PTOM				S	**Sn**	**01 28 30.6**	**-1.3**
	comp=E,86nm,0.3s						
PMRV	**Marv??o**	**3.38**	**32**	*e*Pn	**Pn**	**01 27 57.9**	**+1.7**
PMRV				*e*Sn	**Sn**	**01 28 34.4**	**-2.0**
PMRV				A	A	01 28 36.5	
	comp=E,261nm,0.3s						
PMRV	**Marv??o**	**3.38**	**32**	P	**Pn**	**01 27 57.9**	**+1.7**
PMRV				S	**Sn**	**01 28 34.4**	**-2.0**
	comp=E,261nm,0.3s						
PMRV	**Marv??o**	**3.38**	**32**	P	**Pn**	**01 27 57.9**	**+1.7**
PMRV				S	**Sn**	**01 28 34.4**	**-2.0**
	comp=E,261nm,0.3s						
EJIF	**Jimena Fronter**	**3.42**	**91**	⇑P	**Pn**	**01 27 59.5**	**+2.8**
	comp=E,8.5nm,0.2s,SNR=18						
EJIF				S	**Sn**	**01 28 35.9**	**-1.4**
	comp=E,60nm,0.3s,SNR=7.9						
EJIF	**Jimena Fronter**	**3.42**	**91**	P	**Pn**	**01 27 59.5**	**+2.8**
	comp=E,8.5nm,0.2s,SNR=18						
EJIF				S	**Sn**	**01 28 35.9**	**-1.4**
	comp=E,60nm,0.3s,SNR=7.9						
LIJA	**Lijar**	**3.47**	**83**	⇑P	**Pn**	**01 28 00.1**	**+2.5**
LIJA				S	**Sn**	**01 28 36.2**	**-2.6**
LIJA	**Lijar**	**3.47**	**83**	P	**Pn**	**01 28 00.1**	**+2.5**
LIJA				S	**Sn**	**01 28 36.2**	**-2.6**
RTC	**Rabat Centre**	**3.48**	**137**	P	**Pn**	**01 27 58.0**	**+0.4**
RTC				S	Sn	01 28 33.0	-5.9
ECEU	**Ceuta**	**3.57**	**100**	P	**Pn**	**01 28 01.3**	**+2.5**
	comp=E,21nm,0.3s,SNR=18						
ECEU				S	**Sn**	**01 28 41.7**	**+0.7**
	comp=E,18nm,0.4s						
ECEU	**Ceuta**	**3.57**	**100**	P	**Pn**	**01 28 01.3**	**+2.5**
	comp=E,21nm,0.3s,SNR=18						
ECEU				S	**Sn**	**01 28 41.7**	**+0.7**
	comp=E,18nm,0.4s						
RSA	**Sarsar**	**3.59**	**117**	P	**Pn**	**01 28 00.0**	**+0.9**
RSA				S	Sn	01 28 36.0	-5.5
RSA	**Sarsar**	**3.59**	**117**	*i* P	**Pn**	**01 28 00.0**	**+0.9**
PCAS	**Casmilo, Conde**	**3.59**	**15**	*e*Pn	**Pn**	**01 28 00.9**	**+1.8**
PCAS				*e*Sn	**Sn**	**01 28 40.5**	**-1.2**
PCAS				A	A	01 28 44.2	
	comp=E,176nm,0.5s						
PCAS	**Casmilo, Conde**	**3.59**	**15**	*e*Pn	**Pn**	**01 28 00.9**	**+1.8**
PCAS				*e*Sn	**Sn**	**01 28 40.5**	**-1.2**
	comp=E,176nm,0.5s						
REAL	**Reales**	**3.63**	**90**	P	**Pb**	**01 28 08.5**	**+0.8**
REAL				S	**Sn**	**01 28 42.2**	**-0.5**
DKH	**Dar Kharkhour**	**3.69**	**106**	P	**Pn**	**01 28 03.0**	**+2.4**
DKH				S	**Sn**	**01 28 40.0**	**-4.2**
DKH	**Dar Kharkhour**	**3.69**	**106**	*i* P	**Pn**	**01 28 03.0**	**+2.4**
PCBR	**Castelo Branco**	**3.70**	**28**	*e*Pn	**Pn**	**01 28 02.3**	**+1.7**
PCBR				*e*Sn	**Sn**	**01 28 42.6**	**-1.6**
PCBR				A	A	01 28 45.3	
	comp=E,83nm,0.4s						
PCBR	**Castelo Branco**	**3.70**	**28**	P	**Pn**	**01 28 02.3**	**+1.7**
PCBR				S	**Sn**	**01 28 42.6**	**-1.6**
	comp=E,42nm,0.4s						
PCBR	**Castelo Branco**	**3.70**	**28**	P	**Pn**	**01 28 02.3**	**+1.7**
PCBR				S	**Sn**	**01 28 42.6**	**-1.6**
	comp=E,42nm,0.4s						
ECAB	**El Cabril**	**3.73**	**65**	⇓P	**Pn**	**01 28 02.5**	**+1.5**
	comp=E,45nm,0.3s,SNR=18						
ECAB				S	**Sn**	**01 28 43.3**	**-1.8**
	comp=E,81nm,0.4s,SNR=12						
ECAB	**El Cabril**	**3.73**	**65**	P	**Pn**	**01 28 02.5**	**+1.5**
	comp=E,45nm,0.3s,SNR=18						
ECAB				S	**Sn**	**01 28 43.3**	**-1.8**
	comp=E,81nm,0.4s,SNR=12						
EMIJ	**Mijas**	**3.97**	**89**	⇓P	**Pn**	**01 28 05.8**	**+1.4**
	comp=E,6.3nm,0.3s,SNR=18						
EMIJ				S	**Sn**	**01 28 48.8**	**-2.2**
	comp=E,25nm,0.3s,SNR=5.7						
EMIJ	**Mijas**	**3.97**	**89**	P	**Pn**	**01 28 05.8**	**+1.4**
	comp=E,6.3nm,0.3s,SNR=18						
EMIJ				S	**Sn**	**01 28 48.8**	**-2.2**
	comp=E,25nm,0.3s,SNR=5.7						
MTE	**Manteigas**	**4.17**	**23**	*e*Pn	**Pn**	**01 28 08.8**	**+1.6**
MTE				*e*Sn	**Sn**	**01 28 53.9**	**-2.1**
MTE				A	A	01 28 56.6	
	comp=E,142nm,0.3s						
MTE	**Manteigas**	**4.17**	**23**	P	**Pn**	**01 28 08.8**	**+1.6**
MTE				S	**Sn**	**01 28 53.9**	**-2.1**
	comp=E,71nm,0.3s						
MTE	**Manteigas**	**4.17**	**23**	P	**Pn**	**01 28 08.8**	**+1.6**
MTE				S	**Sn**	**01 28 53.9**	**-2.1**
	comp=E,71nm,0.3s						
EMAL	**Malaga-Limoner**	**4.25**	**86**	P	**Pn**	**01 28 10.7**	**+2.6**
EMAL				S	**Sn**	**01 28 56.2**	**-1.6**
EMAL	**Malaga-Limoner**	**4.25**	**86**	P	**Pn**	**01 28 10.7**	**+2.6**
EMAL				S	**Sn**	**01 28 56.2**	**-1.6**
PVIS	**Viseu**	**4.37**	**18**	*e*Pn	**Pn**	**01 28 11.2**	**+1.4**
PVIS				*e*Sn	**Sn**	**01 28 58.4**	**-2.3**
PVIS				A	A	01 29 02.5	
	comp=E,61nm,0.1s						
PVIS	**Viseu**	**4.37**	**18**	P	**Pn**	**01 28 11.2**	**+1.4**
PVIS				S	**Sn**	**01 28 58.4**	**-2.3**
	comp=E,30nm,0.1s						
PVIS	**Viseu**	**4.37**	**18**	P	**Pn**	**01 28 11.2**	**+1.4**
PVIS				S	**Sn**	**01 28 58.4**	**-2.3**
	comp=E,30nm,0.1s						
EADA	**Adamuz**	**4.38**	**67**	P	**Pn**	**01 28 11.7**	**+1.7**
	comp=E,24nm,0.3s,SNR=204						
EADA				S	**Sn**	**01 28 58.9**	**-2.3**
	comp=E,70nm,0.4s,SNR=24						
EADA	**Adamuz**	**4.38**	**67**	P	**Pn**	**01 28 11.7**	**+1.7**
	comp=E,24nm,0.3s,SNR=204						
EADA				S	**Sn**	**01 28 58.9**	**-2.3**
	comp=E,70nm,0.4s,SNR=24						
ELUQ	**Luque**	**4.46**	**76**	P	**Pn**	**01 28 13.0**	**+1.9**
	comp=E,11nm,0.2s,SNR=7.9						
ELUQ				S	**Sn**	**01 29 00.1**	**-3.0**
	comp=E,77nm,0.3s,SNR=7.9						
ELUQ	**Luque**	**4.46**	**76**	P	**Pn**	**01 28 13.0**	**+1.9**
	comp=E,11nm,0.2s,SNR=7.9						
ELUQ				S	**Sn**	**01 29 00.1**	**-3.0**
	comp=E,77nm,0.3s,SNR=7.9						
EPLA	**Plasencia**	**4.50**	**38**	⇑P	**Pn**	**01 28 13.0**	**+1.4**
	comp=E,23nm,0.3s,SNR=18						
EPLA				S	**Sn**	**01 29 01.8**	**-2.2**
	comp=E,84nm,0.3s,SNR=19						
EPLA	**Plasencia**	**4.50**	**38**	P	**Pn**	**01 28 13.0**	**+1.4**
	comp=E,23nm,0.3s,SNR=18						
EPLA				S	**Sn**	**01 29 01.8**	**-2.2**
	comp=E,84nm,0.3s,SNR=19						
PTO	**Porto**	**4.63**	**10**	*e*Pn	**Pn**	**01 28 14.9**	**+1.5**
PTO				*e*Sn	**Sn**	**01 29 04.3**	**-2.9**
PTO				A	A	01 29 07.5	
	comp=E,139nm,0.1s						
PTO	**Porto**	**4.63**	**10**	P	**Pn**	**01 28 14.9**	**+1.5**
PTO				S	**Sn**	**01 29 04.3**	**-2.9**
	comp=E,70nm,0.1s						
PTO	**Porto**	**4.63**	**10**	P	**Pn**	**01 28 14.9**	**+1.5**
PTO				S	**Sn**	**01 29 04.3**	**-2.9**
	comp=E,70nm,0.1s						
PVRL	**Vila Real**	**4.94**	**18**	*e*Pn	**Pn**	**01 28 18.8**	**+1.2**
PVRL				*e*Sn	**Sn**	**01 29 11.2**	**-3.6**
PVRL				A	A	01 29 15.6	
	comp=E,169nm,0.3s						
PVRL	**Vila Real**	**4.94**	**18**	P	**Pn**	**01 28 18.8**	**+1.2**
PVRL				S	**Sn**	**01 29 11.2**	**-3.6**
	comp=E,84nm,0.3s						
PVRL	**Vila Real**	**4.94**	**18**	P	**Pn**	**01 28 18.8**	**+1.2**
PVRL				S	**Sn**	**01 29 11.2**	**-3.6**
	comp=E,84nm,0.3s						
EGUA	**Guajares**	**4.94**	**85**	P	**Pn**	**01 28 19.7**	**+2.0**
	comp=E,16nm,0.3s,SNR=7.9						
EGUA				S	**Sn**	**01 29 13.1**	**-1.8**
	comp=E,182nm,0.4s,SNR=7.9						
EGUA	**Guajares**	**4.94**	**85**	P	**Pn**	**01 28 19.7**	**+2.0**
	comp=E,16nm,0.3s,SNR=7.9						
EGUA				S	**Sn**	**01 29 13.1**	**-1.8**
	comp=E,182nm,0.4s,SNR=7.9						
EBAN	**Banos Encina**	**4.97**	**70**	P	**Pn**	**01 28 19.9**	**+1.7**
	comp=E,18nm,0.2s,SNR=46						
EBAN				S	Sn	01 29 11.3	-4.4
	comp=E,47nm,0.3s,SNR=8.7						
EBAN	**Banos Encina**	**4.97**	**70**	P	**Pn**	**01 28 19.9**	**+1.7**
	comp=E,18nm,0.2s,SNR=46						
EBAN				S	Sn	01 29 11.3	-4.4
	comp=E,47nm,0.3s,SNR=8.7						
POLO	**Lamas de Olo**	**5.01**	**17**	*e*Pn	**Pn**	**01 28 19.9**	**+1.2**
POLO				*e*Sn	**Sn**	**01 29 13.4**	**-3.3**
POLO				A	A	01 29 17.4	
	comp=E,52nm,0.3s						
POLO	**Lamas de Olo**	**5.01**	**17**	*e*Pn	**Pn**	**01 28 19.9**	**+1.2**
POLO				*e*Sn	**Sn**	**01 29 13.4**	**-3.3**
	comp=E,52nm,0.3s						
KIB	**El Ksiba**

EBER	**Berja**	**5.49**	**85**	P	**Pn**	**01 28 27.3 +2.0**
	comp=E,18nm,1.0s,SNR=12					
EBER				S	**Sn**	**01 29 26.5 -2.1**
	comp=E,13nm,0.5s					
PGAV	**Gavieira, Arco**	**5.49**	**11**	*e*Pn	**Pn**	**01 28 26.6 +1.3**
PGAV				*e*Sn	**Sn**	**01 29 25.1 -3.4**
PGAV				A	A	01 29 28.6
	comp=E,109nm,0.4s					
PGAV	**Gavieira, Arco**	**5.49**	**11**	*e*Pn	**Pn**	**01 28 26.6 +1.3**
PGAV				*e*Sn	**Sn**	**01 29 25.1 -3.4**
	comp=E,109nm,0.4s					
OUK	**Oukaimeden**	**5.57**	**164**	P	**Pn**	**01 28 27.0 +0.3**
OUK				S	Sn	01 29 21.0 -10
EZAM	**Zamans**	**5.62**	**8**	P	**Pn**	**01 28 28.3 +1.4**
	comp=E,18nm,0.2s,SNR=7.9					
EZAM				S	Sn	01 29 26.4 -5.1
	comp=E,90nm,0.4s,SNR=7.9					
EZAM	**Zamans**	**5.62**	**8**	P	**Pn**	**01 28 28.3 +1.4**
	comp=E,18nm,0.2s,SNR=7.9					
EZAM				S	Sn	01 29 26.4 -5.1
	comp=E,90nm,0.4s,SNR=7.9					
EMEL	**Melilla**	**5.62**	**101**	S	**Sn**	**01 29 28.1 -3.6**
	comp=E,111nm,0.6s,SNR=7.9					
MELI	**Melilla**	**5.64**	**101**	S	**Sn**	**01 29 28.8 -3.3**
	comp=E,73nm,0.6s,SNR=4.0					
PBRG	**Braganca**	**5.70**	**23**	*e*Pn	**Pn**	**01 28 29.4 +1.3**
PBRG				*e*Sn	**Sn**	**01 29 30.1 -3.6**
PBRG				A	A	01 29 33.1
	comp=E,59nm,0.3s					
PBRG	**Braganca**	**5.70**	**23**	P	**Pn**	**01 28 29.4 +1.3**
PBRG				S	**Sn**	**01 29 30.1 -3.6**
	comp=E,30nm,0.3s					
PBRG	**Braganca**	**5.70**	**23**	P	**Pn**	**01 28 29.4 +1.3**
PBRG				S	**Sn**	**01 29 30.1 -3.6**
	comp=E,30nm,0.3s					
EHUE	**Huescar**	**5.81**	**76**	P	**Pn**	**01 28 31.0 +1.3**
	comp=E,4.6nm,0.3s,SNR=7.9					
EHUE				S	**Sn**	**01 29 33.7 -2.8**
	comp=E,17nm,0.2s,SNR=7.9					
EHUE	**Huescar**	**5.81**	**76**	P	**Pn**	**01 28 31.0 +1.3**
	comp=E,4.6nm,0.3s,SNR=7.9					
EHUE				S	**Sn**	**01 29 33.7 -2.8**
	comp=E,17nm,0.2s,SNR=7.9					
ECAL	**Calabor**	**5.83**	**22**	⇓P	**Pn**	**01 28 31.2 +1.3**
	comp=E,51nm,0.5s,SNR=18					
ECAL				S	Sn	01 29 32.1 -4.7
	comp=E,80nm,0.3s,SNR=9.1					
ECAL	**Calabor**	**5.83**	**22**	P	**Pn**	**01 28 31.2 +1.3**
	comp=E,51nm,0.5s,SNR=18					
ECAL				S	Sn	01 29 32.1 -4.7
	comp=E,80nm,0.3s,SNR=9.1					
GUD	**Guadarrama**	**5.95**	**45**	P	**Pn**	**01 28 32.6 +1.0**
	comp=E,18nm,0.3s,SNR=304					
GUD				S	**Sn**	**01 29 36.1 -3.7**
	comp=E,49nm,0.3s,SNR=13					
GUD	**Guadarrama**	**5.95**	**45**	P	**Pn**	**01 28 32.6 +1.0**
	comp=E,18nm,0.3s,SNR=304					
GUD				S	**Sn**	**01 29 36.1 -3.7**
	comp=E,49nm,0.3s,SNR=13					
ENIJ	**Nijar**	**6.03**	**84**	P	**Pn**	**01 28 34.8 +2.1**
	comp=E,0.5nm,0.2s,SNR=7.9					
ENIJ				S	**Sn**	**01 29 39.0 -2.9**
	comp=E,11nm,0.2s,SNR=7.9					
ENIJ	**Nijar**	**6.03**	**84**	P	**Pn**	**01 28 34.8 +2.1**
	comp=E,0.5nm,0.2s,SNR=7.9					
ENIJ				S	**Sn**	**01 29 39.0 -2.9**
	comp=E,11nm,0.2s,SNR=7.9					
EVIA	**Vianos**	**6.08**	**68**	P	**Pn**	**01 28 34.7 +1.3**
	comp=E,28nm,0.4s,SNR=23					
EVIA				S	**Sn**	**01 29 39.6 -3.5**
	comp=E,52nm,0.2s,SNR=10					
EVIA	**Vianos**	**6.08**	**68**	P	**Pn**	**01 28 34.7 +1.3**
	comp=E,28nm,0.4s,SNR=23					
EVIA				S	**Sn**	**01 29 39.6 -3.5**
	comp=E,52nm,0.2s,SNR=10					
AFS	**Agadir Fac de**	**6.15**	**178**	P	**Pn**	**01 28 36.0 +1.8**
AFS				S	Sn	01 29 37.0 -7.6
STS	**Santiago**	**6.36**	**8**	P	**Pn**	**01 28 38.1 +1.0**
	comp=E,7.3nm,0.3s,SNR=7.9					
STS				S	Sn	01 29 44.5 -5.3
	comp=E,10nm,0.2s,SNR=7.9					
STS	**Santiago**	**6.36**	**8**	P	**Pn**	**01 28 38.1 +1.0**
	comp=E,7.3nm,0.3s,SNR=7.9					
STS				S	Sn	01 29 44.5 -5.3
	comp=E,10nm,0.2s,SNR=7.9					
EMAZ	**Mazaricos**	**6.38**	**5**	P	**Pn**	**01 28 38.1 +0.6**
	comp=E,12nm,0.3s,SNR=58					
EMAZ				S	Sn	01 29 44.9 -5.5
	comp=E,36nm,0.3s,SNR=9.1					
EMAZ	**Mazaricos**	**6.38**	**5**	P	**Pn**	**01 28 38.1 +0.6**
	comp=E,12nm,0.3s,SNR=58					
PMPST	**Porto Santo, M**	**6.47**	**239**	*e*Pn	**Pn**	**01 28 37.3 -1.4**
PMPST				*e*Sn	Sn	01 29 41.4 -11
PMPST				A	A	01 29 51.9
	comp=E,62nm,0.3s					
PMPS	**Porto Santo**	**6.48**	**239**	*e*Pn	**Pn**	**01 28 37.8 -1.0**
PMPS				*e*Sn	Sn	01 29 42.5 -10
PMPS				A	A	01 29 47.9
	comp=E,52nm,0.3s					
PMPS	**Porto Santo**	**6.48**	**239**	P	**Pn**	**01 28 37.3 -1.5**
PMPS				S	Sn	01 29 41.4 -11
	comp=E,31nm,0.3s					
YBT	**Youssef Ben Ta**	**6.72**	**178**	P	**Pn**	**01 28 43.0 +0.9**
YBT				S	Sn	01 29 51.0 -7.7
ETOB	**Tobarra**	**6.80**	**70**	P	**Pn**	**01 28 44.5 +1.3**
	comp=E,5.6nm,0.3s,SNR=7.9					
ETOB				S	Sn	01 29 56.3 -4.4
	comp=E,5.8nm,0.4s,SNR=7.9					
ETOB	**Tobarra**	**6.80**	**70**	P	**Pn**	**01 28 44.5 +1.3**
	comp=E,5.6nm,0.3s,SNR=7.9					
ETOB				S	Sn	01 29 56.3 -4.4
	comp=E,5.8nm,0.4s,SNR=7.9					
EMUR	**La Murta**	**6.87**	**77**	P	**Pn**	**01 28 45.6 +1.3**
	comp=E,5.4nm,0.4s,SNR=8.6					
EMUR				S	**Sn**	**01 29 58.6 -3.9**
	comp=E,14nm,0.4s,SNR=4.9					
EMUR	**La Murta**	**6.87**	**77**	P	**Pn**	**01 28 45.6 +1.3**
	comp=E,5.4nm,0.4s,SNR=8.6					
EMUR				S	**Sn**	**01 29 58.6 -3.9**
	comp=E,14nm,0.4s,SNR=4.9					
EPON	**Pontenova**	**7.02**	**15**	P	**Pn**	**01 28 47.3 +1.1**
	comp=E,21nm,1.1s,SNR=10					
EPON				S	Sn	01 30 00.4 -5.6
	comp=E,10nm,0.3s,SNR=5.6					
EPON	**Pontenova**	**7.02**	**15**	P	**Pn**	**01 28 47.3 +1.1**
	comp=E,21nm,1.1s,SNR=10					
EPON				S	Sn	01 30 00.4 -5.6
	comp=E,10nm,0.3s,SNR=5.6					
PMAR	**Madeira**	**7.07**	**239**	*e*Pn	**Pn**	**01 28 46.2 -0.9**
PMAR				*e*Sn	Sn	01 29 59.2 -8.7
PMAR				A	A	01 30 03.0
	comp=E,74nm,0.2s					
PMAR	**Madeira**	**7.07**	**239**	P	**Pn**	**01 28 46.2 -0.9**
PMAR				S	Sn	01 29 59.2 -8.7
	comp=E,37nm,0.2s					
PMOZ	**Porto Moniz, M**	**7.22**	**241**	*e*Pn	**Pn**	**01 28 49.2 +0.2**
PMOZ				*e*Sn	Sn	01 30 02.2 -9.0
PMOZ				A	A	01 30 10.7
	comp=E,74nm,0.3s					
EARI	**Arriondas**	**7.55**	**26**	P	**Pn**	**01 28 54.8 +1.3**
	comp=E,6.2nm,0.4s,SNR=27					
EARI				S	Sn	01 30 13.6 -5.5
	comp=E,63nm,1.3s					
EARI	**Arriondas**	**7.55**	**26**	P	**Pn**	**01 28 54.8 +1.3**
	comp=E,6.2nm,0.4s,SNR=27					
EARI				S	Sn	01 30 13.6 -5.5
	comp=E,63nm,1.3s					
EBEN	**Beniarda**	**7.82**	**71**	P	**Pn**	**01 28 58.8 +1.6**
	comp=E,4.4nm,0.5s,SNR=7.8					
EBEN				S	Sn	01 30 20.8 -5.0
	comp=E,50nm,1.2s					
EBEN	**Beniarda**	**7.82**	**71**	P	**Pn**	**01 28 58.8 +1.6**
	comp=E,4.4nm,0.5s,SNR=7.8					
EBEN				S	Sn	01 30 20.8 -5.0
	comp=E,50nm,1.2s					
EMOS	**Mosqueruela**	**8.17**	**60**	P	**Pn**	**01 29 04.8 +2.7**
	comp=E,18nm,0.4s,SNR=51					
EMOS				S	Sn	01 30 29.9 -4.7
	comp=E,22nm,0.2s,SNR=7.8					
EMOS	**Mosqueruela**	**8.17**	**60**	P	**Pn**	**01 29 04.8 +2.7**
	comp=E,18nm,0.4s,SNR=51					
EMOS				S	Sn	01 30 29.9 -4.7
	comp=E,22nm,0.2s,SNR=7.8					
ELAN	**Lanestosa**	**8.21**	**34**	P	**Pn**	**01 29 04.3 +1.9**
	comp=E,9.3nm,0.8s,SNR=11					
ELAN				S	Sn	01 30 29.6 -5.6
	comp=E,16nm,0.5s,SNR=7.9					
ELAN	**Lanestosa**	**8.21**	**34**	P	**Pn**	**01 29 04.3 +1.9**
	comp=E,9.3nm,0.8s,SNR=11					
ELAN				S	Sn	01 30 29.6 -5.6
	comp=E,16nm,0.5s,SNR=7.9					
CFUE	**Fuerteventura**	**8.68**	**205**	P	Pn	01 29 07.1 -1.9
	comp=E,4.2nm,0.3s,SNR=7.9					
CFUE				S	Sn	01 30 37.6 -9.3
	comp=E,15nm,0.4s,SNR=7.9					
EARA	**Aranguren**	**8.80**	**43**	P	**Pn**	**01 29 12.0 +1.3**
	SNR=7.9					
EARA				S	Sn	01 30 44.0 -5.9
	comp=E,7.4nm,0.2s,SNR=7.9					
EARA	**Aranguren**	**8.80**	**43**	P	**Pn**	**01 29 12.0 +1.3**
	SNR=7.9					
EARA				S	Sn	01 30 44.0 -5.9
	comp=E,7.4nm,0.2s,SNR=7.9					
ESAC	**San Caprasio**	**8.82**	**52**	P	**Pn**	**01 29 12.4 +1.4**
	comp=E,8.1nm,0.2s,SNR=12					
ESAC				S	Sn	01 30 45.2 -5.3
	comp=E,15nm,0.3s					
ESAC	**San Caprasio**	**8.82**	**52**	P	**Pn**	**01 29 12.4 +1.4**
	comp=E,8.1nm,0.2s,SNR=12					
ESAC				S	Sn	01 30 45.2 -5.3
	comp=E,15nm,0.3s					
IUNC	**Unciti**	**8.83**	**43**	P	**Pn**	**01 29 12.8 +1.7**
	comp=E,5.2nm,0.2s,SNR=7.9					
IUNC				S	Sn	01 30 45.1 -5.6
	comp=E,19nm,0.5s,SNR=7.9					
IUNC	**Unciti**	**8.83**	**43**	P	**Pn**	**01 29 12.9 +1.7**
	comp=E,5.2nm,0.2s,SNR=7.9					
IUNC				S	Sn	01 30 45.1 -5.6
	comp=E,19nm,0.5s,SNR=7.9					
IUSE	**Utxeti**	**8.94**	**42**	P	**Pn**	**01 29 14.6 +2.1**
	comp=E,4.3nm,0.2s,SNR=7.9					
IUSE				S	Sn	01 30 47.4 -5.8
	comp=E,4.9nm,0.4s,SNR=7.9					
IUSE	**Utxeti**	**8.94**	**42**	P	**Pn**	**01 29 14.6 +2.1**
	comp=E,4.3nm,0.2s,SNR=7.9					
IUSE				S	Sn	01 30 47.4 -5.8
	comp=E,4.9nm,0.4s,SNR=7.9					
ERTA	**Horta de San J**	**8.98**	**58**	P	**Pn**	**01 29 14.9 +1.8**
	comp=E,8.9nm,0.5s,SNR=14					
ERTA				S	Sn	01 30 48.4 -5.8
	comp=E,4.9nm,0.4s,SNR=7.1					
ERTA	**Horta de San J**	**8.98**	**58**	P	**Pn**	**01 29 14.9 +1.8**
	comp=E,8.9nm,0.5s,SNR=14					
ERTA				S	Sn	01 30 48.4 -5.8
	comp=E,4.9nm,0.4s,SNR=7.1					
IEPA	**Eparoz**	**8.98**	**44**	P	**Pn**	**01 29 15.0 +1.9**
	comp=E,9.7nm,0.2s,SNR=7.9					
IEPA				S	Sn	01 30 48.2 -6.1
	comp=E,32nm,0.7s,SNR=7.9					
IEPA	**Eparoz**	**8.98**	**44**	P	**Pn**	**01 29 15.0 +1.9**
	comp=E,9.7nm,0.2s,SNR=7.9					
IEPA				S	Sn	01 30 48.2 -6.1
	comp=E,32nm,0.7s,SNR=7.9					
IELO	**Elcoad**	**9.04**	**44**	P	**Pn**	**01 29 15.7 +1.8**
	comp=E,1.7nm,0.1s,SNR=7.9					
IELO				S	Sn	01 30 49.4 -6.3
	comp=E,11nm,0.3s,SNR=7.9					
IELO	**Elcoad**	**9.04**	**44**	P	**Pn**	**01 29 15.7 +1.8**
	comp=E,1.7nm,0.1s,SNR=7.9					
IELO				S	Sn	01 30 49.4 -6.3
	comp=E,11nm,0.3s,SNR=7.9					
ELIZ	**Elizondo**	**9.09**	**41**	⇑P	**Pn**	**01 29 16.3 +1.6**
	comp=E,20nm,0.3s,SNR=18					
ELIZ				S	Sn	01 30 50.6 -6.5
	comp=E,5.8nm,0.4s					
ELIZ	**Elizondo**	**9.09**	**41**	P	**Pn**	**01 29 16.3 +1.6**
	comp=E,20nm,0.3s,SNR=18					
ELIZ				S	Sn	01 30 50.6 -6.5
	comp=E,5.8nm,0.4s					
EALK	**Alkurruntz**	**9.14**	**41**	P	**Pn**	**01 29 16.8 +1.5**
	comp=E,9.0nm,0.3s,SNR=26					
EALK				S	Sn	01 30 52.0 -6.2
	comp=E,11nm,0.4s,SNR=5.5					
EALK	**Alkurruntz**	**9.14**	**41**	P	**Pn**	**01 29 16.8 +1.5**
	comp=E,9.0nm,0.3s,SNR=26					
EALK				S	Sn	01 30 52.0 -6.2
	comp=E,11nm,0.4s,SNR=5.5					
SJPF	**Ste Jean**	**9.22**	**42**	*e*Pn	**Pn**	**01 29 17.7 +1.3**
SJPF				*e*Sn	Sn	01 30 54.7 -5.5
	comp=E,8.9nm,0.3s					
SJPF	**Ste Jean**	**9.22**	**42**	P	**Pn**	**01 29 17.7 +1.3**
SJPF				*e*Sn	Sn	01 30 54.7 -5.5
	comp=E,4.4nm,0.3s					
OSSF	**Osses**	**9.30**	**42**	*e*P	**Pn**	**01 29 19.1 +1.7**
OSSF	**Osses**	**9.30**	**42**	*e*P	**Pn**	**01 29 19.1 +1.7**
LARF	**Larrau**	**9.30**	**43**	*e*P	**Pn**	**01 29 20.2 +2.7**
LARF	**Larrau**	**9.30**	**43**	*e*P	**Pn**	**01 29 20.2 +2.7**
ORDF	**Ordiarp**	**9.45**	**43**	*e*P	**Pn**	**01 29 21.5 +2.0**
ORDF	**Ordiarp**	**9.45**	**43**	*e*P	**Pn**	**01 29 21.5 +2.0**
ETSF	**Etsaut**	**9.45**	**45**	*e*Pn	**Pn**	**01 29 21.1 +1.4**
ETSF				*e*Sn	Sn	01 30 59.7 -6.3
	comp=E,18nm,0.5s					
ETSF	**Etsaut**	**9.45**	**45**	P	**Pn**	**01 29 21.1 +1.4**
ETSF				*e*Sn	Sn	01 30 59.7 -6.3
	comp=E,8.9nm,0.5s					
EPOB	**Poblet**	**9.65**	**57**	P	**Pn**	**01 29 23.7 +1.3**
	comp=E,3.8nm,0.3s,SNR=20					
EPOB				S	Sn	01 31 04.1 -6.9
	comp=E,6.7nm,0.5s,SNR=7.9					
EPOB	**Poblet**	**9.65**	**57**	P	**Pn**	**01 29 23.7 +1.3**
	comp=E,3.8nm,0.3s,SNR=20					
EPOB				S	Sn	01 31 04.1 -6.9
	comp=E,6.7nm,0.5s,SNR=7.9					
REYF	**Montagne du Re**	**9.66**	**45**	*e*P	**Pn**	**01 29 24.2 +1.8**
REYF	**Montagne du Re**	**9.66**	**45**	*e*P	**Pn**	**01 29 24.2 +1.8**
EBIE	**Bielsa**	**9.74**	**48**	P	**Pn**	**01 29 25.2 +1.5**
	comp=E,9.6nm,0.3s,SNR=50					
EBIE				S	Sn	01 31 06.6 -6.6
	comp=E,8.6nm,0.4s,SNR=5.8					
EBIE	**Bielsa**	**9.74**	**48**	P	**Pn**	**01 29 25.2 +1.5**
	comp=E,9.6nm,0.3s,SNR=50					
EBIE				S	Sn	01 31 06.6 -6.6
	comp=E,8.6nm,0.4s,SNR=5.8					
VIEF	**Viey**	**9.78**	**47**	*e*P	**Pn**	**01 29 25.7 +1.5**
VIEF	**Viey**	**9.78**	**47**	*e*P	**Pn**	**01 29 25.7 +1.5**
EOSO	**Osorio**	**9.82**	**212**	S	Sn	01 31 04.2 -11
	comp=E,15nm,0.5s,SNR=7.9					
LABF	**Labassere**	**9.91**	**46**	*e*P	**Pn**	**01 29 28.1 +2.2**
LABF	**Labassere**	**9.91**	**46**	*e*P	**Pn**	**01 29 28.1 +2.2**
EPF	**Esparros**	**10.06**	**47**	*e*Pn	**Pn**	**01 29 29.1 +1.2**
EPF				*e*Sn	Sn	01 31 14.3 -6.5
	comp=E,33nm,0.5s					
EPF	**Esparros**	**10.06**	**47**	P	**Pn**	**01 29 29.1 +1.2**
EPF				*e*Sn	Sn	01 31 14.3 -6.5
	comp=E,16nm,0.5s					
CRAJ	**Montana Rajada**	**10.13**	**217**	S	Sn	01 31 10.9 -12
	comp=E,25nm,0.4s,SNR=7.9					
CCAN	**Las Canadas**	**10.17**	**217**	P	Pn	01 29 25.0 -4.7
	comp=E,1.4nm,0.2s,SNR=9.7					
CCAN				S	Sn	01 31 11.0 -13
	comp=E,7.0nm,0.8s,SNR=7.9					
CSOR	**Sort**	**10.18**	**52**	P	**Pn**	**01 29 30.3 +0.7**
	comp=E,4.4nm,0.3s,SNR=24					
CSOR				S	Sn	01 31 17.6 -6.3
	comp=E,19nm,0.7s,SNR=6.1					
CSOR	**Sort**	**10.18**	**52**	P	**Pn**	**01 29 30.3 +0.7**
	comp=E,4.4nm,0.3s,SNR=24					
CSOR				S	Sn	01 31 17.6 -6.3
	comp=E,19nm,0.7s,SNR=6.1					
EMIR	**Miracle**	**10.21**	**55**	P	**Pn**	**01 29 31.4 +1.4**
	comp=E,6.5nm,0.3s,SNR=13					
EMIR				S	Sn	01 31 18.1 -6.4
	comp=E,14nm,0.7s,SNR=7.9					
EMIR	**Miracle**	**10.21**	**55**	P	**Pn**	**01 29 31.4 +1.4**
	comp=E,6.5nm,0.3s,SNR=13					
EMIR				S	Sn	01 31 18.1 -6.4
	comp=E,14nm,0.7s,SNR=7.9					
EGOM	**La Gomera**	**10.52**	**219**	S	Sn	01 31 20.5 -12
	comp=E,16nm,0.5s,SNR=7.9					
CFON	**Fontmartina**	**10.75**	**58**	P	**Pn**	**01 29 38.8 +1.4**
	comp=E,3.7nm,0.3s,SNR=9.4					
CFON	**Fontmartina**	**10.75**	**58**	P	**Pn**	**01 29 38.8 +1.4**
	comp=E,3.7nm,0.3s,SNR=9.4					
CLLI	**Llivia**	**10.77**	**53**	P	**Pn**	**01 29 39.2 +1.5**
	comp=E,4.0nm,0.4s,SNR=22					
CLLI				S	Sn	01 31 31.6 -6.9
	comp=E,7.8nm,0.7s,SNR=5.8					
CLLI	**Llivia**	**10.77**	**53**	P	**Pn**	**01 29 39.2 +1.5**
	comp=E,4.0nm,0.4s,SNR=22					
CLLI				S	Sn	01 31 31.5 -6.9
	comp=E,7.8nm,0.7s,SNR=5.8					
CTIG	**El Hierro**	**11.19**	**221**	S	Sn	01 31 37.0 -12
	comp=E,17nm,0.7s,SNR=7.9					
MTLF	**Montolieu**	**11.37**	**50**	*e*Pn	**Pn**	**01 29 46.1 +0.3**
MTLF				*e*Sn	Sn	01 31 46.2 -6.6
	comp=E,2.3nm,0.4s					
MTLF	**Montolieu**	**11.37**	**50**	P	**Pn**	**01 29 46.1 +0.3**
MTLF				*e*Sn	Sn	01 31 46.2 -6.6
	comp=E,1.1nm,0.4s					
LFF	**La Frestale**	**11.50**	**40**	*e*Pn	**Pn**	**01 29 47.9 +0.3**
LFF				*e*Sn	Sn	01 31 48.4 -7.7
	comp=E,5.1nm,0.5s					
LFF	**La Frestale**	**11.50**	**40**	P	**Pn**	**01 29 47.9 +0.3**
RJF	**Les Rejaudoux**	**12.15**	**41**	*e*Pn	**Pn**	**01 29 56.3 -0.2**
RJF				*e*Sn	Sn	01 32 03.8 -8.3
	comp=E,2.6nm,0.3s					
RJF	**Les Rejaudoux**	**12.15**	**41**	P	**Pn**	**01 29 56.3 -0.2**
CAF	**Calviac**	**12.20**	**43**	*e*Pn	**Pn**	**01 29 56.9 -0.3**
CAF				*e*Sn	Sn	01 32 03.8 -10
	comp=E,5.1nm,0.4s					
CAF	**Calviac**	**12.20**	**43**	P	**Pn**	**01 29 56.9 -0.3**
MFF	**Saint Martin d**	**12.30**	**33**	*e*Pn	**Pn**	**01 29 58.7 +0.2**
MFF	**Saint Martin d**	**12.30**	**33**	P	**Pn**	**01 29 58.7 +0.2**
QUIF	**Quistinic**	**12.31**	**21**	*e*Pn	**Pn**	**01 29 59.6 +0.9**
QUIF	**Quistinic**	**12.31**	**21**	P	**Pn**	**01 29 59.6 +0.9**
ROSF	**Rostrenen**	**12.66**	**20**	*e*Pn	**Pn**	**01 30 04.1 +0.6**
ROSF				*e*Sn	Sn	01 32 15.0 -10
	comp=E,4.4nm,0.5s					
ROSF	**Rostrenen**	**12.66**	**20**	*e*Pn	**Pn**	**01 30 04.1 +0.6**
LASF	**Ste Croix**	**12.76**	**50**	*e*Pn	**Pn**	**01 30 05.3 +0.4**
LASF	**Ste Croix**	**12.76**	**50**	*e*Pn	**Pn**	**01 30 05.3 +0.4**
SGMF	**Saint Gilles**	**12.80**	**22**	*e*Pn	**Pn**	**01 30 05.2 -0.1**
SGMF	**Saint Gilles**	**12.80**	**22**	*e*Pn	**Pn**	**01 30 05.2 -0.1**
GRR	**Gorron**	**13.47**	**26**	*e*Pn	**Pn**	**01 30 14.9 +0.4**
GRR	**Gorron**	**13.47**	**26**	*e*Pn	**Pn**	**01 30 14.9 +0.4**
SMRF	**Simiane la Rot**	**13.80**	**53**	*e*Pn	**Pn**	**01 30 20.0 +1.0**
SMRF	**Simiane la Rot**	**13.80**	**53**	*e*Pn	**Pn**	**01 30 20.0 +1.0**
LDF	**La Druitiere**	**13.91**	**27**	*e*Pn	**Pn**	**01 30 20.8 +0.3**
LDF	**La Druitiere**	**13.91**	**27**	*e*Pn	**Pn**	**01 30 20.8 +0.3**
FLN	**La Foliniere**	**13.92**	**26**	*e*Pn	**Pn**	**01 30 21.1 +0.5**
	baz=209					
FLN	**La Foliniere**	**13.92**	**26**	*e*Pn	**Pn**	**01 30 21.1 +0.5**
	baz=209					
FRF	**La Foret Royal**	**14.32**	**56**	*e*Pn	**Pn**	**01 30 26.6 +0.5**
FRF	**La Foret Royal**	**14.32**	**56**	*e*Pn	**Pn**	**01 30 26.6 +0.5**

IDC 18 02:08:01.1±2.5, 5°26S×130°20E, h0km, mb3.4/1, mb1 3.5/4, mb1mx3.3/18, mbtmp3.3/4, ML3.2/3, Error ellipse: s-maj=99.3km s-min=30.9km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**13.52**	**199**	Pn	Pn	02 11 13.5	-0.8
	0.1nm,0.3s,baz=18,slow=16,SNR=4.3						
WRA	**Warramunga Arr**	**15.14**	**165**	Pn	Pn	02 11 35.7	-0.7
	0.1nm,0.3s,baz=348,slow=14,SNR=5.2						
ASAR	**Alice Springs**	**18.64**	**169**	P	Pn	02 12 21.4	+0.6
	0.2nm,0.3s,baz=356,slow=13,SNR=3.6						
MKAR	**Makanchi Array**	**66.90**	**326**	P	P	02 18 55.2	-0.1
	0.3nm,0.7s,baz=122,slow=7.0,SNR=2.4						

*AUST **18** 02:22:58.3±2.2, 13°.19S×167°.45E, h78km, Error ellipse: s-maj=2.5km s-min=1.2km az=349.0*
*ISCJB **18** 02:23:09.2±0.8, 14°.24S±0°.07×167°.4E±0°.1, h170km, mb3.8/10, Error ellipse: s-maj=18.2km s-min=9.8km az=178.8*
*IDC **18** 02:23:10.2±2.0, 14°.28S×167°.39E, h163km±14km, mb3.6/10, mb1 3.8/11, mb1mx3.7/20, mbtmp3.7/11, Error ellipse: s-maj=22.6km s-min=18.7km az=114.0*

ISC 18 02:23:10.6±0.7, 14°.27S±0°.09×167°.4E±0°.1, h170km, n34, σ0.94/40, mb3.8/9, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.81**	**187**	P	**Pn**	**02 25 02.8**	**+1.3**
	5.4nm,0.3s,baz=7.1,slow=17,SNR=27						
DZM				S	**Sn**	**02 26 29.0**	**-0.1**
	baz=357,slow=18,SNR=2.2						
EIDS	**Eidsvold**	**18.91**	**232**	P	**Pn**	**02 27 20.4**	**-0.5**
	baz=20,SNR=4.0						
CTA	**Charters Tower**	**21.03**	**251**	P	**P**	**02 27 41.5**	**+0.3**
	1.9nm,0.6s,baz=56,slow=11,SNR=2.0						
STKA	**Stephens Creek**	**29.41**	**229**	P	**P**	**02 28 58.8**	**+0.7**
	3.9nm,0.5s,baz=51,slow=8.9,SNR=18						
STKA				PcP	**PcP**	**02 31 59.8**	**-0.1**
	2.0nm,0.6s,baz=350,slow=3.1,SNR=4.5						
STKA	**Stephens Creek**	**29.41**	**229**	P	**P**	**02 28 59.1**	**+1.0**
	baz=30,SNR=12						
WRA	**Warramunga Arr**	**32.09**	**255**	P	**P**	**02 29 20.9**	**-0.9**
	0.5nm,0.3s,baz=86,slow=9.5,SNR=5.2						
WRA				PcP	**PcP**	**02 32 05.8**	**-1.4**
	0.6nm,0.8s,baz=84,slow=3.4,SNR=3.4						
ASAR	**Alice Springs**	**32.98**	**248**	P	**P**	**02 29 28.6**	**-1.0**
	1.0nm,0.3s,baz=81,slow=8.8,SNR=19						
ASAR				PcP	**PcP**	**02 32 07.9**	**-1.8**
	0.3nm,0.4s,baz=81,slow=2.0,SNR=4.4						
BBOO	**Buckleboo**	**33.98**	**232**	P	**P**	**02 29 38

CSEM 18 02:35:22.2±0.4, 42°.73N×13°.68W, h10km, mb4.0/7, Error ellipse: s-maj=7.7km s-min=5.7km az=110.0

ISC 18 02:35:19.6±3.2, 42°.80N±0°.08×13°.9W±0°.2, h10km, n65, σ1§25/121, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
EMAZ	**Mazaricos**	**3.58**	**86**	P		**Pn**	**02 36 16.6**	**+1.4**
	1.2nm,0.3s,SNR=4.0							
EMAZ				S		**Sn**	**02 36 57.1**	**-0.5**
	17nm,1.0s,SNR=6.2							
EMAZ	**Mazaricos**	**3.58**	**86**	P		**Pn**	**02 36 16.6**	**+1.4**
	1.2nm,0.3s,SNR=4.0							
EMAZ				S		**Sn**	**02 36 57.1**	**-0.5**
	17nm,1.0s,SNR=6.2							
PGAV	**Gavieira, Arco**	**4.21**	**99**	*e*Pn		**Pn**	**02 36 25.8**	**+1.8**
PGAV				*e*Sn		**Sn**	**02 37 14.6**	**+1.3**
PGAV				A		A	02 37 16.4	
	4.2nm,0.5s							
PGAV	**Gavieira, Arco**	**4.21**	**99**	*e*Pn		**Pn**	**02 36 25.8**	**+1.8**
PGAV				*e*Sn		**Sn**	**02 37 14.6**	**+1.3**
	4.2nm,0.5s							
ELOB	**Lobios**	**4.39**	**100**	P		**Pn**	**02 36 27.9**	**+1.5**
	1.8nm,0.3s,SNR=7.9							
ELOB				S		**Sn**	**02 37 18.6**	**+1.0**
	5.5nm,0.9s,SNR=6.6							
ELOB	**Lobios**	**4.39**	**100**	P		**Pn**	**02 36 27.9**	**+1.5**
	1.8nm,0.3s,SNR=7.9							
ELOB				S		**Sn**	**02 37 18.6**	**+1.0**
	5.5nm,0.9s,SNR=6.6							
POLO	**Lamas de Olo**	**4.72**	**105**	*e*Pn		**Pn**	**02 36 32.3**	**+1.3**
POLO				*e*Sn		**Sn**	**02 37 26.9**	**+1.0**
POLO	**Lamas de Olo**	**4.72**	**105**	*e*Pn		**Pn**	**02 36 32.3**	**+1.3**
POLO				*e*Sn		**Sn**	**02 37 26.9**	**+1.0**
PCAS	**Casmilo, Conde**	**4.87**	**122**	*e*Sn		**Sn**	**02 37 30.1**	**+0.9**
PCAS	**Casmilo, Conde**	**4.87**	**122**	*e*Sn		**Sn**	**02 37 30.1**	**+0.9**
EPON	**Pontenova**	**4.94**	**82**	P		**Pn**	**02 36 33.6**	**-0.2**
	2.8nm,0.5s,SNR=7.9							
EPON				S		**Sn**	**02 37 30.1**	**-0.9**
	9.3nm,0.7s,SNR=7.9							
EPON	**Pontenova**	**4.94**	**82**	P		**Pn**	**02 36 33.6**	**-0.2**
	2.8nm,0.5s,SNR=7.9							
EPON				S		**Sn**	**02 37 30.1**	**-0.9**
	9.3nm,0.7s,SNR=7.9							
PMAFR	**Mafra**	**5.17**	**136**	*e*Pn		**Pn**	**02 36 37.8**	**+0.8**
PMAFR				*e*Sn		**Sn**	**02 37 38.3**	**+1.7**
PMAFR	**Mafra**	**5.17**	**136**	P		**Pn**	**02 36 37.6**	**+0.6**
	0.7nm,0.1s,SNR=7.9							
PMAFR				S		**Sn**	**02 37 35.5**	**-1.2**
	7.9nm,0.4s,SNR=7.9							
PMAFR	**Mafra**	**5.17**	**136**	*e*Pn		**Pn**	**02 36 37.8**	**+0.8**
PMAFR				S		**Sn**	**02 37 35.5**	**-1.2**
	7.9nm,0.4s,SNR=7.9							
PMAFR				*e*Sn		**Sn**	**02 37 38.3**	**+1.7**
ECAL	**Calabor**	**5.33**	**97**	S		**Sn**	**02 37 40.6**	**-0.3**
	4.0nm,0.4s,SNR=5.9							
ECAL	**Calabor**	**5.33**	**97**	S		**Sn**	**02 37 40.6**	**-0.3**
	4.0nm,0.4s,SNR=5.9							
MVO	**Moncorvo**	**5.34**	**105**	*e*Pn		**Pn**	**02 36 40.8**	**+1.4**
MVO				*e*Sn		**Sn**	**02 37 40.9**	**0.0**
MVO				A		A	02 37 42.6	
	0.9nm,0.1s							
MVO	**Moncorvo**	**5.34**	**105**	P		**Pn**	**02 36 40.1**	**+0.7**
	7.7nm,0.9s							
MVO				S		**Sn**	**02 37 40.8**	**-0.1**
	1.8nm,0.6s,SNR=6.0							
MVO	**Moncorvo**	**5.34**	**105**	P		**Pn**	**02 36 40.1**	**+0.7**
	7.7nm,0.9s							
MVO				S		**Sn**	**02 37 40.8**	**-0.1**
	1.8nm,0.6s,SNR=6.0							
MVO	**Moncorvo**	**5.34**	**105**	*e*Pn		**Pn**	**02 36 40.8**	**+1.4**
MVO				S		**Sn**	**02 37 40.8**	**-0.1**
	1.8nm,0.6s,SNR=6.0							
PBRG	**Braganca**	**5.36**	**98**	*e*Sn		**Sn**	**02 37 41.9**	**+0.4**
PBRG	**Braganca**	**5.36**	**98**	S		**Sn**	**02 37 41.9**	**+0.4**
PBRG	**Braganca**	**5.36**	**98**	S		**Sn**	**02 37 41.9**	**+0.4**
PMTG	**Montargil**	**5.65**	**129**	*e*Pn		**Pn**	**02 36 44.5**	**+0.8**
PMTG				*e*Sn		**Sn**	**02 37 48.3**	**-0.4**
PMTG	**Montargil**	**5.65**	**129**	*e*Pn		**Pn**	**02 36 44.5**	**+0.8**
PMTG				*e*Sn		**Sn**	**02 37 48.3**	**-0.4**
PESTR	**Estremoz**	**6.16**	**128**	*e*Pn		**Pn**	**02 36 50.8**	**+0.2**
PESTR				*e*Sn		**Sn**	**02 37 59.1**	**-2.0**
PESTR	**Estremoz**	**6.16**	**128**	P		**Pn**	**02 36 50.8**	**+0.2**
PESTR				S		**Sn**	**02 37 59.1**	**-2.0**
PESTR	**Estremoz**	**6.16**	**128**	P		**Pn**	**02 36 50.8**	**+0.2**
PESTR				S		**Sn**	**02 37 59.1**	**-2.0**
PNCL	**Nicolau / Gran**	**6.19**	**137**	*e*Pn		**Pn**	**02 36 51.9**	**+0.8**
PNCL				*e*Sn		**Sn**	**02 38 01.4**	**-0.5**
PNCL				A		A	02 38 06.0	
	0.9nm,0.1s							
PNCL	**Nicolau / Gran**	**6.19**	**137**	*e*Pn		**Pn**	**02 36 51.9**	**+0.8**
PNCL				*e*Sn		**Sn**	**02 38 01.4**	**-0.5**
	0.9nm,0.1s							
EARI	**Arriondas**	**6.35**	**83**	P		**Pn**	**02 36 53.5**	**+0.2**
	0.1nm,0.1s,SNR=7.9							
EARI				S		**Sn**	**02 38 04.4**	**-1.4**
	12nm,0.8s,SNR=7.9							
EARI	**Arriondas**	**6.35**	**83**	P		**Pn**	**02 36 53.5**	**+0.2**
	0.1nm,0.1s,SNR=7.9							
EARI				S		**Sn**	**02 38 04.4**	**-1.4**
	12nm,0.8s,SNR=7.9							
EPLA	**Plasencia**	**6.44**	**112**	P		**Pn**	**02 36 55.4**	**+0.8**
	30nm,1.6s							
EPLA				S		**Sn**	**02 38 07.2**	**-1.0**
	15nm,0.8s,SNR=7.0							
EPLA	**Plasencia**	**6.44**	**112**	P		**Pn**	**02 36 55.4**	**+0.8**
	30nm,1.6s							
EPLA				S		**Sn**	**02 38 07.2**	**-1.0**
	15nm,0.8s,SNR=7.0							
EBAD	**Badajoz**	**6.57**	**126**	P		**Pn**	**02 36 56.4**	**+0.1**
	0.8nm,0.2s,SNR=7.9							
EBAD				S		**Sn**	**02 38 09.4**	**-1.8**
	6.0nm,1.0s,SNR=7.9							
EBAD	**Badajoz**	**6.57**	**126**	P		**Pn**	**02 36 56.4**	**+0.1**
	0.8nm,0.2s,SNR=7.9							
EBAD				S		**Sn**	**02 38 09.4**	**-1.8**
	6.0nm,1.0s,SNR=7.9							
MORF	**Marmelete**	**6.78**	**142**	*e*Pn		**Pn**	**02 36 59.6**	**+0.4**
MORF				*e*Sn		**Sn**	**02 38 16.5**	**+0.1**
MORF	**Marmelete**	**6.78**	**142**	P		**Pn**	**02 36 59.6**	**+0.4**
MORF				S		**Sn**	**02 38 16.5**	**+0.1**
MORF	**Marmelete**	**6.78**	**142**	P		**Pn**	**02 36 59.6**	**+0.4**
MORF				S		**Sn**	**02 38 16.5**	**+0.1**
PCVE	**Castro Verde**	**6.81**	**137**	*e*Pn		**Pn**	**02 37 00.4**	**+0.9**
PCVE				*e*Sn		**Sn**	**02 38 14.5**	**-2.6**
PCVE	**Castro Verde**	**6.81**	**137**	P		**Pn**	**02 37 00.4**	**+0.9**
PCVE				S		**Sn**	**02 38 14.5**	**-2.6**
PCVE	**Castro Verde**	**6.81**	**137**	P		**Pn**	**02 37 00.4**	**+0.9**
PCVE				S		**Sn**	**02 38 14.5**	**-2.6**
PFVI	**Vila Bisbo**	**6.84**	**144**	*e*Pn		**Pn**	**02 37 00.3**	**+0.3**
PFVI				*e*Sn		**Sn**	**02 38 16.5**	**-1.5**
PFVI	**Vila Bisbo**	**6.84**	**144**	P		**Pn**	**02 37 00.2**	**+0.1**
	0.4nm,0.2s,SNR=7.9							
PFVI				S		**Sn**	**02 38 16.3**	**-1.7**
	2.6nm,0.3s,SNR=7.9							
PFVI	**Vila Bisbo**	**6.84**	**144**	*e*Pn		**Pn**	**02 37 00.3**	**+0.3**
PFVI				*e*Sn		**Sn**	**02 38 16.5**	**-1.5**
PBAR	**Barrancos**	**6.94**	**129**	*e*Pn		**Pn**	**02 37 02.4**	**+1.0**
PBAR				*e*Sn		**Sn**	**02 38 19.4**	**-1.0**
PBAR	**Barrancos**	**6.94**	**129**	P		**Pn**	**02 37 02.4**	**+1.0**
PBAR				S		**Sn**	**02 38 19.4**	**-1.0**
PBAR	**Barrancos**	**6.94**	**129**	P		**Pn**	**02 37 02.4**	**+1.0**
PBAR				S		**Sn**	**02 38 19.4**	**-1.0**
PVAQ	**Vaqueiros**	**7.14**	**137**	*e*Pn		**Pn**	**02 37 05.1**	**+0.9**
PVAQ				*e*Sn		**Sn**	**02 38 24.5**	**-0.9**
PVAQ	**Vaqueiros**	**7.14**	**137**	P		**Pn**	**02 37 05.1**	**+0.9**
PVAQ				S		**Sn**	**02 38 24.5**	**-0.9**
PVAQ	**Vaqueiros**	**7.14**	**137**	P		**Pn**	**02 37 05.1**	**+0.9**
PVAQ				S		**Sn**	**02 38 24.5**	**-0.9**
PBDV	**Barranco-do-Ve**	**7.17**	**139**	*e*Pn		**Pn**	**02 37 05.8**	**+1.3**
PBDV				*e*Sn		**Sn**	**02 38 26.6**	**+0.7**
PBDV	**Barranco-do-Ve**	**7.17**	**139**	P		**Pn**	**02 37 05.8**	**+1.3**
PBDV				S		**Sn**	**02 38 26.6**	**+0.7**
PBDV	**Barranco-do-Ve**	**7.17**	**139**	P		**Pn**	**02 37 05.8**	**+1.3**
PBDV				S		**Sn**	**02 38 26.6**	**+0.7**
EMIN	**Mina Concepcio**	**7.43**	**130**	P		**Pn**	**02 37 09.3**	**+1.2**
	1.6nm,0.6s,SNR=8.1							
EMIN				S		**Sn**	**02 38 30.1**	**-2.4**
	1.0nm,1.0s,SNR=4.0							
EMIN	**Mina Concepcio**	**7.43**	**130**	P		**Pn**	**02 37 09.3**	**+1.2**
	1.6nm,0.6s,SNR=8.1							
EMIN				S		**Sn**	**02 38 30.1**	**-2.4**
	1.0nm,1.0s,SNR=4.0							
GUD	**Guadarrama**	**7.56**	**103**	P		**Pn**	**02 37 11.3**	**+1.3**
	0.2nm,0.2s,SNR=4.0							
GUD	**Guadarrama**	**7.56**	**103**	P		**Pn**	**02 37 11.3**	**+1.3**
	0.2nm,0.2s,SNR=4.0							
ELAN	**Lanestosa**	**7.64**	**83**	P		**Pn**	**02 37 11.9**	**+1.0**
	14nm,1.0s,SNR=5.9							
ELAN				S		**Sn**	**02 38 34.6**	**-2.9**
	53nm,1.2s,SNR=7.9							
ELAN	**Lanestosa**	**7.64**	**83**	P		**Pn**	**02 37 11.9**	**+1.0**
	14nm,1.0s,SNR=5.9							
ELAN				S		**Sn**	**02 38 34.7**	**-2.9**
	53nm,1.2s,SNR=7.9							
ECAB	**El Cabril**	**7.97**	**123**	P		**Pn**	**02 37 16.5**	**+1.0**
	0.6nm,0.2s,SNR=7.9							
ECAB				S		**Sn**	**02 38 43.4**	**-2.3**
	0.4nm,0.9s,SNR=7.9							
ECAB	**El Cabril**	**7.97**	**123**	P		**Pn**	**02 37 16.5**	**+1.0**
	0.6nm,0.2s,SNR=7.9							
ECAB				S		**Sn**	**02 38 43.4**	**-2.3**
	0.4nm,0.9s,SNR=7.9							
EADA	**Adamuz**	**8.44**	**120**	P		**Pn**	**02 37 22.3**	**+0.3**
	0.4nm,0.3s,SNR=7.9							
EADA				S		**Sn**	**02 38 54.8**	**-2.5**
	1.1nm,0.4s,SNR=7.9							
EADA	**Adamuz**	**8.44**	**120**	P		**Pn**	**02 37 22.3**	**+0.3**
	0.4nm,0.3s,SNR=7.9							
EADA				S		**Sn**	**02 38 54.8**	**-2.5**
	1.1nm,0.4s,SNR=7.9							

ISCJB 18 02:35:32.4±0.5, 20°.18S±0°.05×69°.0W±0°.1, h106km±9km, mb3.9/3, Error ellipse: s-maj=16.7km s-min=7.5km az=1.7
GUC 18 02:35:33.7±0.5, 20°.23S×69°.27W, h107km±6km, ML4.4
IDC 18 02:35:36.3±2.6, 20°.23S×68°.79W, h116km±22km, mb3.7/5, mb1 3.7/8, mb1mx3.5/19, mbtmp3.7/8, Error ellipse: s-maj=36.9km s-min=20.2km az=112.0

ISC 18 02:35:33.3±0.8, 20°.19S±0°.05×69°.0W±0°.1, h98km±11km, n15, σ0§74/18, mb4.0/3, 3C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
HMBC	**Humberstone**	**0.80**	**263**	⇑*i*P		**Pn**	**02 35 51.5**	**-0.1**
HMBC				*i* S		**Sn**	**02 36 04.7**	**-0.6**
HMBC				AML		AML	02 36 05.6	
	comp=N,21μm,0.3s							
PSGC	**Pisagua**	**1.17**	**300**	⇑*i*P		**Pn**	**02 35 55.4**	**-0.2**
PSGC				*i* S		**Sn**	**02 36 11.6**	**-0.9**
PSGC				AML		AML	02 36 12.9	
	comp=N,8μm,0.3s							
MNMC	**Minimini**	**1.17**	**334**	⇓*i*P		**Pn**	**02 35 56.9**	**+1.0**
MNMC				*i* S		**Sn**	**02 36 14.5**	**+1.7**
MNMC				AML		AML	02 36 16.6	
	comp=N,13μm,0.2s							
PB07	**Plate Boundary**	**1.72**	**207**	⇑*e*P		**Pn**	**02 36 02.5**	**0.0**
PB07				*i* S		**Sn**	**02 36 24.1**	**-0.4**
PB07				AML		AML	02 36 28.1	
	comp=E,4μm,0.4s							
MACH	**Maria Elena**	**2.10**	**198**	*i* P		**Pn**	**02 36 07.9**	**+0.5**
MACH				*i* S		**Sn**	**02 36 33.7**	**+0.3**
PB04	**Plate Boundary**	**2.11**	**191**	*e*P		Pn	02 36 10.9	+3.7
PB04				*i* S		Sn	02 36 39.4	+6.3
PB04				AML		AML	02 36 47.8	
	comp=N,2μm,0.3s							
LPAZ	**La Paz**	**3.98**	**13**	P		Pn	02 36 36.6	+3.8
	comp=N,3.9nm,0.3s,baz=207,slow=5.7,SNR=133							
SIV	**San Ignacio**	**8.65**	**62**	P		**Pn**	**02 37 35.4**	**-0.4**
	comp=N,4.1nm,0.3s,baz=257,slow=11,SNR=51							
CPUP	**Villa Florida**	**12.38**	**122**	P		**Pn**	**02 38 25.6**	**-0.5**
	comp=N,0.3nm,0.3s,baz=301,slow=14,SNR=3.1							
BDFB	**Brasilia**	**20.51**	**81**	P		**P**	**02 40 03.4**	**-0.6**
	comp=N,6.0nm,0.5s,baz=260,slow=11,SNR=8.9							
PLCA	**Paso Flores**	**20.52**	**183**	P		**P**	**02 40 04.7**	**+0.9**
	comp=N,6.6nm,0.8s,baz=358,slow=11,SNR=12							
SNAA	**Sanae**	**63.55**	**161**	P		**P**	**02 45 53.7**	**+0.6**
	comp=N,0.6nm,0.6s,baz=272,slow=6.9,SNR=11							
DBIC	**Dimbokro**	**68.49**	**74**	P		**P**	**02 46 25.4**	**-0.2**
	comp=N,0.8nm,0.3s,baz=233,slow=5.1,SNR=6.7							
TORD	**Torodi Ar. Bea**	**77.04**	**71**	P		**P**	**02 47 15.7**	**-0.5**
	comp=N,1.2nm,0.4s,baz=254,slow=5.5,SNR=57							
WRA	**Warramunga Arr**	**134.01**	**211**	PKP		**PKPdf**	**02 54 40.0**	**-0.1**
	comp=N,0.3nm,0.7s,baz=154,slow=1.9,SNR=2.9							

ISCJB 18 02:41:08.3±0.6, 2°.91S±0°.05×128°.24E±0°.05, h33km, mb4.1/2, Error ellipse: s-maj=8.0km s-min=6.4km az=153.5
IDC 18 02:41:10.8±4.2, 3°.19S×129°.42E, h0km, mb4.1/2, mb1 4.3/4, mb1mx3.7/21, mbtmp4.1/4, ML4.0/2, Error ellipse: s-maj=81.8km s-min=39.4km az=78.0
DJA 18 02:41:10.3±0.7, 3°.5±5°.×12°.8E±°, h50km±13km, M4.3/6, mb4.7/1, mB5.3/1, MLv4.0/6, Mw(mB)4.7/1

ISC 18 02:41:09.4±0.9, 2°.88S±0°.05×128°.16E±0°.07, h35km, n10, σ2§25/15, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.80**	**178**	P		**Pn**	**02 41 26.9**	**+2.7**
AAI				S		**Sn**	**02 41 38.3**	**+3.4**
NLAI	**Namlea**	**1.12**	**251**	P		**Pn**	**02 41 28.5**	**0.0**
NLAI				S		**Sn**	**02 41 44.7**	**+2.0**
LBMI	**Labuha**	**2.33**	**343**	P		**Pn**	**02 41 46.3**	**+1.1**
LBMI				S		**Sn**	**02 42 13.7**	**+1.2**
SWI	**Sorong**	**3.69**	**57**	P		**Pn**	**02 42 04.1**	**+0.2**
FAKI	**Fak Fak**	**4.08**	**91**	P		**Pn**	**02 42 09.9**	**+0.5**
APSI	**Ampana**	**6.80**	**287**	P		**Pn**	**02 42 46.9**	**+0.2**
FITZ	**Fitzroy Crossi**	**15.33**	**189**	Pn		**P**	**02 44 47.0**	**-0.6**
	0.4nm,0.3s,baz=16,slow=17,SNR=13							
WRA	**Warramunga Arr**	**18.00**	**161**	P		**Pn**	**02 45 15.7**	**-1.3**
	0.7nm,0.3s,baz=347,slow=12,SNR=28							
WRA				S		**Sn**	**02 48 32.3**	**-4.5**
	0.0nm,0.3s,baz=340,slow=23,SNR=2.6							
ASAR	**Alice Springs**	**21.40**	**165**	P		**P**	**02 45 53.7**	**-0.5**
	7.8nm,0.6s,baz=346,slow=12,SNR=59							
ASAR				S		**S**	**02 49 46.6**	**-3.4**
	0.8nm,0.7s,baz=350,slow=22,SNR=3.8							
STKA	**Stephens Creek**	**31.49**	**158**	P		**P**	**02 47 29.1**	**+1.1**
	1.0nm,0.5s,baz=312,slow=14,SNR=2.2							

IDC 18 02:42:29.9±0.9, 52°.79N×171°.10E, h0km, mb3.8/13, mb1 4.0/13, mb1mx3.8/26, mbtmp3.8/13, Error ellipse: s-maj=26.8km s-min=10.0km az=7.0
ISCJB 18 02:42:33.3±0.6, 52°.80N±0°.08×170°.90E±0°.05, h33km, mb3.7/15, Error ellipse: s-maj=11.7km s-min=4.7km az=4.5
MOS 18 02:42:33.2±1.1, 52°.76N×171°.10E, h38km, mb4.2/10, Error ellipse: s-maj=17.3km s-min=12.2km az=123.4
KRSC 18 02:42:36.6±6.8, 52°.61N×170°.50E, h54km±53km, ML4.2

ISC 18 02:42:34.7±0.8, 52°.68N±0°.09×170°.93E±0°.06, h35km, n43, σ1§86/59, mb3.8/15, Near Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
FX1	**Attu Island--F**	**1.37**	**81**	Pn		Pn	02 42 53.8	-3.6
	241nm,0.3s,baz=306,slow=3.8,SNR=1595							
FX1				Sn		Sn	02 43 09.8	-4.6
	632nm,0.3s,baz=353,slow=19,SNR=45							
BKI	**Bering**	**3.87**	**313**	P		**Pn**	**02 43 33.7**	**+2.1**
BKI				S		**Sn**	**02 44 15.5**	**-0.3**
BKI	**Bering**	**3.87**	**313**	*e*P		**Pn**	**02 43 33.7**	**+2.1**
BKI				*e*S		**Sn**	**02 44 15.5**	**-0.3**
MKZ	**Mys Kozlova**	**5.79**	**293**	P		**Pn**	**02 43 59.0**	**+1.0**
MKZ				S		**Sn**	**02 45 01.5**	**-1.5**
MKZ	**Mys Kozlova**	**5.79**	**293**	*e*P		**Pn**	**02 43 59.0**	**+1.0**
MKZ				*e*S		**Sn**	**02 45 01.5**	**-1.5**
KBTR	**Krutoberegovo**	**5.90**	**310**	P		**Pn**	**02 43 59.7**	**+0.1**
KBTR				S		**Sn**	**02 45 02.3**	**-3.6**
KBTR	**Krutoberegovo**	**5.90**	**310**	*e*P		**Pn**	**02 43 59.7**	**+0.1**
KBTR				*e*S		**Sn**	**02 45 02.3**	**-3.6**
SPN	**Mys Shipunski**	**6.61**	**278**	P		**Pn**	**02 44 10.9**	**+1.6**
SPN				S		**Sn**	**02 45 20.8**	**-2.6**
SPN	**Mys Shipunski**	**6.61**	**278**	*e*P		**Pn**	**02 44 10.9**	**+1.6**
SPN				*e*S		**Sn**	**02 45 20.8**	**-2.6**
TUMR	**Tumrok**	**6.87**	**297**	*e*P		**Pn**	**02 44 15.5**	**+2.5**
KII	**Karymskiy**	**7.00**	**286**	*e*S		**Sn**	**02 45 32.8**	**-0.3**
NLC	**Nalytchevo**	**7.02**	**279**	S		**Sn**	**02 45 32.4**	**-1.0**
UGLR	**Uglovaya**	**7.33**	**279**	*e*P		**Pn**	**02 44 21.2**	**+1.9**
UGLR				*e*S		**Sn**	**02 45 39.2**	**-2.1**
SMAR	**Somma**	**7.35**	**279**	*e*P		**Pn**	**02 44 21.8**	**+2.2**
KRER	**Koryakskii**	**7.38**	**280**	P		**Pn**	**02 44 22.4**	**+2.4**
KRER				*e*S		**Sn**	**02 45 41.4**	**-1.1**
AVH	**Avacha**	**7.39**	**279**	*e*P		**Pn**	**02 44 22.2**	**+2.2**
AVH				*e*S		**Sn**	**02 45 40.9**	**-1.6**
KRX	**Arik**	**7.44**	**280**	P		**Pn**	**02 44 23.0**	**+2.2**
KRX				*e*S		**Sn**	**02 45 42.0**	**-1.9**
KOK	**Koryaka**	**7.45**	**280**	*e*P		**Pn**	**02 44 22.8**	**+1.9**
KOK				*e*S		**Sn**	**02 45 40.9**	**-3.2**
SRDR	**Sredinnyy**	**7.47**	**304**	*e*P		**Pn**	**02 44 24.2**	**+3.0**
SRDR				*e*S		**Sn**	**02 45 43.4**	**-1.2**
RUS	**Russkaya**	**7.57**	**273**	P		**Pn**	**02 44 24.5**	**+2.0**
RUS				S		**Sn**	**02 45 43.9**	**-3.1**
RUS	**Russkaya**	**7.57**	**273**	*e*P		**Pn**	**02 44 24.5**	**+2.0**
RUS				*e*S		**Sn**	**02 45 43.9**	**-3.1**
MTVR	**Mutnovka**	**7.77**	**274**	*e*P		**Pn**	**02 44 26.3**	**+1.0**
MTVR				*e*S		**Sn**	**02 45 48.7**	**-3.3**
GNL	**Ganaly**	**7.87**	**283**	*e*P		**Pn**	**02 44 29.0**	**+2.3**
GNL				*e*S		**Sn**	**02 45 53.3**	**-1.1**
TILK	**Tilichiki**	**8.22**	**343**	*e*P		**Pn**	**02 44 33.8**	**+2.5**
KDAK	**Kodiak Island**	**21.24**	**62**	P		**P**	**02 47 14.8**	**-2.5**
	5.7nm,0.8s,baz=262,slow=7.1,SNR=3.4							
ILAR	**Eielson Array**	**24.48**	**44**	P		**P**	**02 47 48.4**	**-1.7**
	0.6nm,0.5s,baz=250,slow=7.4,SNR=6.7							
ZAK	**Zakamensk**	**40.74**	**295**	*e*P		P	02 50 28.2	+16
ZAK				pmax		pmax		
	comp=Z,3.0nm,1.1s							
PDAR	**Pinedale Array**	**51.81**	**67**	P		**P**	**02 51 37.9**	**-1.3**
	comp=Z,0.5nm,0.5s,baz=300,slow=3.3,SNR=4.6							
MKAR	**Makanchi Array**	**54.10**	**302**	P		**P**	**02 51 56.0**	**+0.3**
MKAR	**Makanchi Array**	**54.10**	**302**	P		**P**	**02 51 56.0**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=35,slow=5.5,SNR=2.2							
ARCES	**ARCESS Array B**	**55.51**	**346**	P		**P**	**02 52 05.3**	**-0.3**
	comp=Z,3.8nm,0.9s,baz=25,slow=9.3,SNR=3.8							
FINES	**FINESS Array B**	**62.84**	**342**	P		**P**	**02 52 56.7**	**+0.4**
	comp=Z,1.4nm,0.8s,baz=45,slow=14,SNR=3.0							
TXAR	**Lajitas Array**	**64.58**	**75**	P		**P**	**02 53 08.3**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=314,slow=4.3,SNR=9.8							
NB2	**NORSAR Subarra**	**65.48**	**349**	P		**P**	**02 53 13.6**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=11,slow=6.9							
NOA	**NORSAR Array B**	**65.48**	**349**	P		**P**	**02 53 13.3**	**-0.4**
	comp=Z,1.4nm,0.8s,baz=12,slow=6.5,SNR=4.1							
HFS	**Hagfors**	**66.06**	**348**	P		**P**	**02 53 16.9**	**-0.5**
	comp=Z,2.2nm,0.9s,baz=70,slow=6.5,SNR=4.6							
AKASG	**Malin Array Be**	**72.04**	**336**	P		**P**	**02 53 54.9**	**+0.3**
AKASG	**Malin Array Be**	**72.04**	**336**	P		**P**	**02 53 54.9**	**+0.3**
	comp=Z,0.3nm,0.4s,baz=12,slow=4.8,SNR=2.7							
EKA	**Eskdalemuir Ar**	**72.24**	**356**	P		**P**	**02 53 56.0**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=30,slow=5.9,SNR=2.9							
GERES	**GERESS Array B**	**77.01**	**345**	P		**P**	**02 54 24.3**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=28,slow=6.0,SNR=5.2							
WRA	**Warramunga Arr**	**78.99**	**215**	P		**P**	**02 54 35.7**	**+0.9**
	comp=Z,0.4nm,0.8s,baz=30,slow=6.3,SNR=2.7							
BRTR	**Keskin Array B**	**80.79**	**328**	P		**P**	**02 54 45.5**	**+0.9**
	comp=Z,0.5nm,0.8s,baz=103,slow=6.2,SNR=3.6							
BOSA	**Boshof**	**145.09**	**300**	PKPbc		**PKPab**	**03 02 08.4**	**+0.7**
	comp=Z,1.7nm,0.7s,baz=90,slow=3.0,SNR=3.7							

ISCJB 18 02:49:23.8±1.1, 18°.2S±0°.3×178°.0W±0°.2, h590km, mb3.9/9, Error ellipse: s-maj=45.4km s-min=9.7km az=150.4
IDC 18 02:49:24.2±1.6, 17°.83S×178°.40W, h543km±17km, mb3.4/8, mb1 3.5/10, mb1mx3.4/18, mbtmp3.4/10, Error ellipse: s-maj=36.8km s-min=12.6km az=149.0

ISC 18 02:49:26.1±1.1, 18°.1S±0°.3×178°.0W±0°.2, h590km, n30, σ1§26/30, mb3.9/9, 1D, Fiji Islands region

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

TLL			*i* S	Sn	04 39 03.4	+3.3
TLL			AML	AML	04 39 15.7	
	comp=E,147nm,0.5s					
ROCH	**El Roble**	**1.58 161**	*e*P	Pn	04 38 42.8	0.0
ROCH			*i* S	Sn	04 39 03.4	+1.2
ROCH			AML	AML	04 39 08.0	
	comp=N,319nm,0.4s					
PEL	**Peldehue**	**1.84 155**⇓	*i* P	Pn	04 38 47.5	+1.3
PEL			*i* S	Sn	04 39 11.1	+2.7
PEL			AML	AML	04 39 14.5	
	comp=E,400nm,0.3s					
LCO	**Las Campanas**	**2.59 18**⇓	*i* P	Pn	04 38 58.2	+1.4
LCO			*i* S	Sn	04 39 29.7	+2.5
LCO			AML	AML	04 39 43.1	
	comp=E,61nm,0.3s					

IDC 18 04:42:42.3±5.8, 20°.49S×177°.38W, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.8/18, mbtmp4.0/4, Error ellipse: s-maj=182.0km s-min=92.5km az=144.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.32**	**244**	P	P	04 50 05.3	+0.4
	1.2nm,0.5s,baz=99,slow=10,SNR=3.7						
ASAR	**Alice Springs**	**45.09**	**257**	P	P	04 51 00.4	-0.1
	1.4nm,0.5s,baz=100,slow=8.2,SNR=17						
WRA	**Warramunga Arr**	**45.18**	**262**	P	P	04 51 01.2	-0.1
	1.0nm,0.5s,baz=101,slow=8.6,SNR=6.0						
FITZ	**Fitzroy Crossi**	**53.60**	**262**	P	P	04 52 05.1	-0.6
	1.7nm,0.8s,baz=96,slow=10,SNR=9.8						
AKASG	**Malin Array Be**	**143.28**	**332**	PKP	PKPdf	05 02 17.9	-0.5
	0.5nm,0.3s,baz=44,slow=4.3,SNR=4.5						

IDC 18 04:59:55.8±7.5, 20°.15N×147°.40E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.5/24, mbtmp3.5/5, Error ellipse: s-maj=282.4km s-min=23.8km az=79.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.85**	**199**	P	P	05 07 47.7	-0.1
	0.3nm,0.3s,baz=20,slow=8.4,SNR=6.9						
SONM	**Songino Array**	**43.05**	**320**	P	P	05 07 58.1	+0.7
	0.2nm,0.4s,baz=128,slow=6.5,SNR=4.5						
ASAR	**Alice Springs**	**45.50**	**197**	P	P	05 08 17.0	-0.1
	0.2nm,0.5s,baz=24,slow=7.1,SNR=3.2						
ZALV	**Zalesovo Beam**	**57.86**	**322**	P	P	05 09 48.7	-0.5
	0.7nm,0.4s,baz=98,slow=8.9,SNR=3.7						
MKAR	**Makanchi Array**	**58.63**	**313**	P	P	05 09 54.6	-0.3
	0.6nm,0.8s,baz=84,slow=8.5,SNR=4.5						

*NEIC **18** 05:07:17.3, 19°.04N×63°.72W, h104km, MD3.5(RSPR), After RSPR.*

RSPR 18 05:07:17.3, 19°.04N×63°.72W, h104km±1km, MD3.5/8, 24C-6D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABV	**Anegada**	**0.66**	**242**⇓	*e*P	Pn	05 07 34.6	-0.2
ABV	**Anegada**	**0.66**	**242**	*e*S	Sn	05 07 47.4	-0.4
ABV	**Anegada**	**0.66**	**242**⇓	*e*P	Pn	05 07 34.6	-0.2
ABV				*e*S	Sn	05 07 47.4	-0.4
ABVI	**Anegada Island**	**0.66**	**242**⇓	*e*P	Pn	05 07 34.6	-0.2
ABVI				*e*S	Sn	05 07 47.4	-0.4
TBVI	**Tortola**	**1.05**	**234**⇑	*e*P	Pn	05 07 38.3	-0.4
TBVI				*e*S	Sn	05 07 54.8	+0.1
TBVI	**Tortola**	**1.05**	**234**⇑	*e*P	Pn	05 07 38.3	-0.4
TBVI				*e*S	Sn	05 07 54.8	+0.1
TBVI	**Tortola**	**1.05**	**234**⇑	*e*P	Pn	05 07 38.3	-0.4
TBVI				*e*S	Sn	05 07 54.8	+0.1
STVI	**Saint Thomas**	**1.36**	**240**⇓	*e*P	Pn	05 07 41.6	-0.4
STVI	**Saint Thomas**	**1.36**	**240**	*e*S	Sn	05 08 00.6	-0.2
STVI	**Saint Thomas**	**1.36**	**240**⇓	*e*P	Pn	05 07 41.6	-0.4
STVI				*e*S	Sn	05 08 00.6	-0.2
STVI	**Saint Thomas**	**1.36**	**240**⇓	*e*P	Pn	05 07 41.6	-0.4
STVI				*e*S	Sn	05 08 00.6	-0.2
MTP	**Monte Pirata**	**1.98**	**242**⇑	*e*P	Pn	05 07 49.6	-0.2
MTP	**Monte Pirata**	**1.98**	**242**	*e*S	Sn	05 08 14.3	-0.3
MTP	**Monte Pirata**	**1.98**	**242**⇑	*e*P	Pn	05 07 49.6	-0.2
MTP				*e*S	Sn	05 08 14.3	-0.3
MTP	**Monte Pirata**	**1.98**	**242**⇑	*e*P	Pn	05 07 49.6	-0.2
MTP				*e*S	Sn	05 08 14.3	-0.3
CBYP	**Canovanas**	**2.17**	**250**⇑	*e*P	Pn	05 07 52.0	-0.3
CBYP	**Canovanas**	**2.17**	**250**	*e*S	Sn	05 08 18.9	-0.2
CBYP	**Canovanas**	**2.17**	**250**⇑	*e*P	Pn	05 07 52.2	-0.1
CBYP				*e*S	Sn	05 08 18.9	-0.2
CBYP	**Canovanas**	**2.17**	**250**⇑	*e*P	Pn	05 07 52.0	-0.3
CBYP				*e*S	Sn	05 08 18.9	-0.2
HUMP	**Col San Antoni**	**2.21**	**246**⇑	*e*P	Pn	05 07 52.5	-0.3
HUMP	**Col San Antoni**	**2.21**	**246**	*e*S	Sn	05 08 20.2	+0.3
HUMP	**Col San Antoni**	**2.21**	**246**⇑	*e*P	Pn	05 07 52.5	-0.3
HUMP				*e*S	Sn	05 08 20.2	+0.3
HUMP	**Col San Antoni**	**2.21**	**246**⇑	*e*P	Pn	05 07 52.5	-0.3
HUMP				*e*S	Sn	05 08 20.2	+0.3
CPD	**Cerro la Pandu**	**2.31**	**245**⇑	*e*P	Pn	05 07 53.7	-0.5
CPD	**Cerro la Pandu**	**2.31**	**245**⇑	*e*P	Pn	05 07 53.7	-0.5
CPD	**Cerro la Pandu**	**2.31**	**245**⇑	*e*P	Pn	05 07 53.7	-0.5
SJG	**San Juan**	**2.48**	**249**⇑	*e*P	Pn	05 07 55.8	-0.6
SJG	**San Juan**	**2.48**	**249**⇑	*e*P	Pn	05 07 55.8	-0.6
SJG	**San Juan**	**2.48**	**249**⇑	*e*P	Pn	05 07 55.8	-0.6
AOPR	**Arecibo Observ**	**2.96**	**257**⇑	*e*P	Pn	05 08 02.8	+0.1
AOPR	**Arecibo Observ**	**2.96**	**257**⇑	*e*P	Pn	05 08 02.8	+0.1
AOPR	**Arecibo Observ**	**2.96**	**257**⇑	*e*P	Pn	05 08 02.8	+0.1
CRPR	**Cabo Rojo, PR**	**3.38**	**253**⇑	*e*P	Pn	05 08 08.4	+0.1
CRPR	**Cabo Rojo, PR**	**3.38**	**253**⇑	*e*P	Pn	05 08 08.4	+0.1
CRPR	**Cabo Rojo, PR**	**3.38**	**253**⇑	*e*P	Pn	05 08 08.4	+0.1

*IDC **18** 05:18:01.9±1.0, 1°.84S×99°.42E, h0km, mb4.1/10, mb1 4.2/11, mb1mx4.0/25, mbtmp4.1/11, ML3.1/1, Error ellipse: s-maj=47.2km s-min=15.1km az=56.0*

*NEIC **18** 05:18:03.4±0.6, 1°.87S×99°.35E, h10km, mb4.0/3, Error ellipse: s-maj=22.5km s-min=8.6km az=61.0*

*ISCJB **18** 05:18:04.9±0.6, 1°.71S±0°.07×99°.33E±0°.06, h30km, mb4.3/13, Error ellipse: s-maj=9.9km s-min=8.1km az=177.9*

*DJA **18** 05:18:09.2±1.1, 1°.5S±6°×9°.9E±°, h22km±14km, M4.6/5, mb4.6/2, mB5.6/1, MLv4.6/5, Mw(mB)5.1/1*

ISC 18 05:18:07.1±0.6, 1°.63S±0°.07×99°.54E±0°.07, h30km, n40, σ1§19/44, mb4.1/13, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.16**	**53**	P	**Pn**	**05 18 27.7**	**+0.3**
PDSI				S	**Sb**	**05 18 45.2**	**+1.8**
PPI	**Padang Panjang**	**1.44**	**37**	P	**Pn**	**05 18 32.9**	**+1.7**
PPI				S	**Sn**	**05 18 46.5**	**-2.7**
RGRI	**Rengat**	**3.07**	**66**	P	Pb	05 19 13.1	+12
RGRI				S	**Sb**	**05 19 35.6**	**-2.5**
MASI	**Maura Aman, Be**	**3.09**	**119**	P	**Pb**	**05 19 03.5**	**+2.0**
MASI				S	Sb	05 19 44.8	+6.0
PSI	**Prapat**	**4.44**	**352**	Pn	**Pn**	**05 19 11.8**	**-0.8**
PSI	**Prapat**	**4.44**	**352**	Pn	**Pn**	**05 19 11.8**	**-0.8**
	1.0nm,0.3s,baz=151,slow=11,SNR=6.2						
LHSI	**Lahat**	**4.54**	**119**	P	Pn	05 19 17.9	+4.0
MDSI	**Maura Dua**	**5.43**	**122**	P	Pb	05 19 33.5	-7.9
	27nm,1.0s,0.1nm						
LWLI	**Liwa**	**5.63**	**127**	P	Pb	05 19 36.4	-8.4
IPM	**Ipoh**	**6.24**	**14**	*e*Pn	Pn	05 19 47.0	+10
	18nm,0.9s						
KULM	**Kulim**	**6.96**	**9**	*e*Pn	**Pn**	**05 19 49.2**	**+2.1**
	9.5nm,0.8s						
KULM				*e*S	Sb	05 21 45.0	+15
FITZ	**Fitzroy Crossi**	**30.40**	**124**	P	**P**	**05 24 14.8**	**-2.1**
FITZ	**Fitzroy Crossi**	**30.40**	**124**	P	**P**	**05 24 14.8**	**-2.1**
	2.9nm,0.9s,baz=297,slow=4.5,SNR=4.2						
TWG	**Pinlang**	**32.11**	**40**	*e*P	**P**	**05 24 30.5**	**-1.4**
	139nm,0.3s						
WRA	**Warramunga Arr**	**38.58**	**121**	P	**P**	**05 25 26.7**	**-1.0**
WRA				PcP	**PcP**	**05 27 40.4**	**+0.4**
WRA	**Warramunga Arr**	**38.58**	**121**	P	**P**	**05 25 26.7**	**-1.0**
	1.4nm,0.5s,baz=302,slow=9.2,SNR=24						
WRA				PcP	**PcP**	**05 27 40.4**	**+0.4**
	0.4nm,0.5s,baz=313,slow=2.4,SNR=5.5						
WRAB	**Tennant Creek**	**38.59**	**121**	*e*P	**P**	**05 25 26.9**	**-0.8**
	3.4nm,0.6s						
ASAR	**Alice Springs**	**39.84**	**126**	P	**P**	**05 25 38.2**	**0.0**
ASAR				PcP	**PcP**	**05 27 43.4**	**-0.6**
ASAR	**Alice Springs**	**39.84**	**126**	P	**P**	**05 25 38.2**	**0.0**
	1.6nm,0.5s,baz=302,slow=8.1,SNR=16						
ASAR				PcP	**PcP**	**05 27 43.4**	**-0.6**
	0.6nm,0.7s,baz=297,slow=2.7,SNR=4.2						
SONM	**Songino Array**	**49.62**	**6**	P	**P**	**05 26 56.8**	**+0.9**
SONM				PcP	**PcP**	**05 28 17.8**	**+0.6**
SONM	**Songino Array**	**49.62**	**6**	P	**P**	**05 26 56.8**	**+0.9**
	0.8nm,0.5s,baz=188,slow=9.2,SNR=4.9						
SONM				PcP	**PcP**	**05 28 17.8**	**+0.6**
	0.5nm,0.7s,baz=186,slow=2.9,SNR=2.1						
STKA	**Stephens Creek**	**49.74**	**132**	*e*P	**P**	**05 26 57.8**	**+0.8**
	1.6nm,1.1s						
STKA	**Stephens Creek**	**49.74**	**132**	P	**P**	**05 26 54.9**	**-2.1**
	3.1nm,0.7s,baz=289,slow=7.0,SNR=5.7						
MK31	**Makanchi Array**	**50.55**	**345**	*e*P	**P**	**05 27 03.9**	**+1.0**
MKAR	**Makanchi Array**	**50.55**	**345**	P	**P**	**05 27 03.8**	**+1.0**
MKAR	**Makanchi Array**	**50.55**	**345**	P	**P**	**05 27 03.8**	**+1.0**
	1.6nm,0.5s,baz=150,slow=8.0,SNR=24						
USRK	**Ussuriysk Arra**	**54.05**	**28**	P	**P**	**05 27 29.4**	**+0.5**
	2.3nm,0.8s,baz=243,slow=6.3,SNR=4.0						
ZALV	**Zalesovo Beam**	**56.72**	**350**	P	**P**	**05 27 48.6**	**+0.8**
ZALV	**Zalesovo Beam**	**56.72**	**350**	P	**P**	**05 27 48.6**	**+0.8**
	3.9nm,0.4s,baz=167,slow=7.4,SNR=9.3						
ABKAR	**Akbulak array**	**61.09**	**332**	*e*P	**P**	**05 28 18.2**	**-0.2**
	0.5nm,0.5s						
BRTR	**Keskin Array B**	**72.73**	**313**	P	**P**	**05 29 32.5**	**-0.3**
BRTR	**Keskin Array B**	**72.73**	**313**	P	**P**	**05 29 32.5**	**-0.3**
	0.5nm,0.5s,baz=120,slow=6.3,SNR=3.7						
FINES	**FINESS Array B**	**83.57**	**332**	P	**P**	**05 30 32.4**	**+0.2**
FINES	**FINESS Array B**	**83.57**	**332**	P	**P**	**05 30 32.4**	**+0.2**
	0.7nm,0.4s,baz=116,slow=9.4,SNR=4.1						
CPUP	**Villa Florida**	**144.34**	**217**	PKP	**PKPab**	**05 37 38.4**	**-0.8**
CPUP	**Villa Florida**	**144.34**	**217**	PKP	**PKPab**	**05 37 38.4**	**-0.8**
	1.5nm,0.6s,baz=160,slow=4.8,SNR=5.2						
TXAR	**Lajitas Array**	**144.68**	**37**	PKP	**PKPdf**	**05 37 41.9**	**+0.1**
TXAR	**Lajitas Array**	**144.68**	**37**	PKP	**PKPdf**	**05 37 41.9**	**+0.1**
	2.1nm,0.6s,baz=268,slow=1.3,SNR=29						
MIAR	**Mount Ida**	**145.03**	**19**	*e*PKPdf	**PKPab**	**05 37 41.8**	**+0.3**
JCT	**Junction City**	**145.94**	**31**	*e*PKPdf	**PKPab**	**05 37 45.4**	**+0.3**

*THE **18** 05:47:54.2, 40°.02N×19°.95E, h0km±2km, ML3.0/5, Error ellipse: s-maj=3.2km s-min=0.9km az=311.0*

*ISCJB **18** 05:47:55.5±0.4, 39°.92N±0°.02×19°.95E±0°.04, h12km±3km, Error ellipse: s-maj=5.6km s-min=3.3km az=5.0*

*ATH **18** 05:47:55.4, 39°.90N×20°.02E, h18km±1km, MD3.2/6*

*CSEM **18** 05:47:56.0±0.2, 39°.90N×20°.04E, h5km, ML3.9, Error ellipse: s-maj=5.7km s-min=3.5km az=86.0*

*TIR **18** 05:47:56.6, 39°.95N×20°.05E, h2km, ML3.9*

ISC 18 05:47:55.1±0.8, 39°.91N±0°.02×20°.00E±0°.02, h14km±4km, n62, σ1§55/92, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRN	**Sarande**	**0.03**	**180**	*i* PG	**Pg**	**05 47 57.4**	**-0.3**
SRN	**Sarande**	**0.03**	**180**	P	**Pg**	**05 47 57.4**	**-0.3**
SRN				S	**Sg**	**05 47 59.8**	**+0.4**
SRN	**Sarande**	**0.03**	**180**	P	**Pg**	**05 47 57.4**	**-0.3**
SRN				S	**Sg**	**05 47 59.8**	**+0.4**
KEK	**Kerkira**	**0.25**	**218**	P	**Pg**	**05 48 00.8**	**+0.3**
KEK				S	**Sb**	**05 48 06.0**	**+0.4**
KEK	**Kerkira**	**0.25**	**218**	*e*PB	**Pg**	**05 48 00.8**	**+0.3**
KEK				*e*SB	**Sb**	**05 48 05.4**	**-0.2**
KEK	**Kerkira**	**0.25**	**218**	P	**Pg**	**05 48 00.8**	**+0.3**
KEK				*e*Sb	**Sb**	**05 48 05.4**	**-0.2**
KEK				S	**Sb**	**05 48 06.0**	**+0.4**
IGT	**Igoumenitsa**	**0.46**	**146**	P	**Pb**	**05 48 04.6**	**-0.3**
IGT				S	**Sn**	**05 48 12.9**	**-2.2**
IGT	**Igoumenitsa**	**0.46**	**146**	P	**Pb**	**05 48 04.6**	**-0.3**
IGT				S	**Sn**	**05 48 12.9**	**-2.2**
JAN	**Janina**	**0.70**	**111**	P	**Pb**	**05 48 08.4**	**-0.7**
JAN				S	**Sn**	**05 48 20.7**	**-0.5**
JAN	**Janina**	**0.70**	**111**	*e*PN	**Pb**	**05 48 08.4**	**-0.7**
JAN				*e*SN	**Sb**	**05 48 17.5**	**-1.1**
JAN	**Janina**	**0.70**	**111**	P	**Pb**	**05 48 08.4**	**-0.7**
JAN				*e*Sn	**Sb**	**05 48 17.5**	**-1.1**
JAN				S	**Sn**	**05 48 20.7**	**-0.5**
KBN	**Korca**	**0.93**	**40**	*i* PG	**Pn**	**05 48 13.9**	**+0.1**
KBN				*i* SG	**Sn**	**05 48 27.8**	**+0.9**
KBN	**Korca**	**0.93**	**40**	*i* Pg	**Pn**	**05 48 13.9**	**+0.1**
KBN				*i* Sg	**Sn**	**05 48 27.8**	**+0.9**
NEST	**Nestorio**	**0.95**	**58**	P	**Pb**	**05 48 11.0**	**-2.3**
NEST				S	**Sg**	**05 48 26.1**	**+0.3**
NEST	**Nestorio**	**0.95**	**58**	P	**Pb**	**05 48 11.0**	**-2.3**
NEST				S	**Sg**	**05 48 26.1**	**+0.3**
LKD2	**Lefkada island**	**1.23**	**155**	P	**Pg**	**05 48 19.0**	**+0.2**
LKD2				S	**Sg**	**05 48 39.0**	**+4.1**
LKD2	**Lefkada island**	**1.23**	**155**	*e*PN	**Pg**	**05 48 18.5**	**-0.3**
LKD2				*e*SN	**Sg**	**05 48 35.0**	**+0.1**
LKD2	**Lefkada island**	**1.23**	**155**	*e*Pn	**Pg**	**05 48 18.5**	**-0.3**
LKD2	**Lefkada island**	**1.23**	**155**	P	**Pg**	**05 48 19.0**	**+0.2**
LKD2				*e*Sn	**Sg**	**05 48 35.0**	**+0.1**
LKD2				S	**Sg**	**05 48 39.0**	**+4.1**
FNA	**Florina**	**1.36**	**50**	P	**Pn**	**05 48 19.0**	**-0.7**
FNA				S	**Sg**	**05 48 41.3**	**+2.2**
FNA	**Florina**	**1.36**	**50**	*e*PN	**Pg**	**05 48 21.0**	**-0.3**
FNA				*e*SN	**Sg**	**05 48 40.7**	**+1.6**
FNA	**Florina**	**1.36**	**50**	P	**Pn**	**05 48 19.0**	**-0.7**
FNA	**Florina**	**1.36**	**50**	*e*Pn	**Pg**	**05 48 21.0**	**-0.3**
FNA				*e*Sn	**Sg**	**05 48 40.7**	**+1.6**
FNA				S	**Sg**	**05 48 41.3**	**+2.2**
KZN	**Kozani**	**1.41**	**73**	*e*PN	**Pg**	**05 48 22.1**	**-0.2**
KZN				*e*SN	**Sg**	**05 48 41.5**	**+0.8**
KZN	**Kozani**	**1.41**	**73**	*e*Pn	**Pg**	**05 48 22.1**	**-0.2**
KZN				*e*Sn	**Sg**	**05 48 41.5**	**+0.8**
TIR	**Tirane**	**1.44**	**356**	*i* PG	**Pg**	**05 48 24.1**	**+1.4**
TIR				*i* SG	**Sg**	**05 48 44.5**	**+3.1**
TIR	**Tirane**	**1.44**	**356**	*e*Pn	**Pg**	**05 48 23.1**	**+0.4**
TIR	**Tirane**	**1.44**	**356**	*i* Pg	**Pg**	**05 48 24.1**	**+1.4**
TIR				*i* Sg	**Sg**	**05 48 44.5**	**+3.1**
THL	**Klokotos Trika**	**1.59**	**102**	P	**Pg**	**05 48 24.5**	**-1.1**
THL	**Klokotos Trika**	**1.59**	**102**	P	**Pg**	**05 48 24.5**	**-1.1**
EVR	**Evrytania**	**1.72**	**125**	*e*PN	**Pb**	**05 48 26.8**	**+0.4**
EVR	**Evrytania**	**1.72**	**125**	*e*Pn	**Pb**	**05 48 26.8**	**+0.4**
VLS	**Valsamata**	**1.79**	**165**	*e*PN	**Pb**	**05 48 27.5**	**-0.2**
VLS	**Valsamata**	**1.79**	**165**	*e*Pn	**Pb**	**05 48 27.5**	**-0.2**
PHP	**Peshkopia**	**1.80**	**11**	*i* PG	**Pg**	**05 48 29.7**	**0.0**
PHP				*i* SG	**Sg**	**05 48 56.4**	**+3.4**
PHP	**Peshkopia**	**1.80**	**11**	*i* Pg	**Pg**	**05 48 29.7**	**0.0**
PHP				*i* Sg	**Sg**	**05 48 56.4**	**+3.4**
AGG	**Agios Georgios**	**2.01**	**116**	*e*PN	**Pb**	**05 48 31.3**	**-0.1**
AGG	**Agios Georgios**	**2.01**	**116**	*e*Pn	**Pb**	**05 48 31.3**	**-0.1**
AXS	**Araxos**	**2.02**	**148**	P	**Pb**	**05 48 30.3**	**-1.2**
AXS	**Araxos**	**2.02**	**148**	P	**Pb**	**05 48 30.3**	**-1.2**
PUK	**Puka**	**2.13**	**358**	*i* PG	**Pg**	**05 48 35.7**	**-0.2**
PUK	**Puka**	**2.13**	**358**	*i* Pg	**Pg**	**05 48 35.7**	**-0.2**
RLS	**Riolos of Patr**	**2.18**	**148**	*e*PN	**Pb**	**05 48 32.7**	**-1.5**
RLS	**Riolos of Patr**	**2.18**	**148**	*e*Pn	**Pb**	**05 48 32.7**	**-1.5**
KLV	**Kalavryta, Ach**	**2.51**	**137**	*e*PB	**Pb**	**05 48 37.9**	**-2.0**
KLV	**Kalavryta, Ach**	**2.51**	**137**	*e*Pb	**Pb**	**05 48 37.9**	**-2.0**
LKR	**Lokris**	**2.65**	**117**	*e*PN	**Pn**	**05 48 38.7**	**+1.4**
LKR	**Lokris**	**2.65**	**117**	*e*Pn	**Pn**	**05 48 38.7**	**+1.4**
PLG	**Polygyros**	**2.68**	**79**	*e*PN	**Pn**	**05 48 39.5**	**+1.7**
PLG	**Polygyros**	**2.68**	**79**	*e*Pn	**Pn**	**05 48 39.5**	**+1.7**
SOH	**Sokhos**	**2.72**	**69**	*e*PN	**Pn**	**05 48 40.2**	**+1.9**
SOH	**Sokhos**	**2.72**	**69**	*e*Pn	**Pn**	**05 48 40.2**	**+1.9**
PAIG	**Paliouri**	**2.83**	**89**	*e*PN	**Pn**	**05 48 41.7**	**+1.9**
PAIG	**Paliouri**	**2.83**	**89**	*e*Pn	**Pn**	**05 48 41.7**	**+1.9**
AOS	**Alonnisos**	**3.09**	**103**	*e*PN	**Pn**	**05 48 45.2**	**+1.8**
AOS	**Alonnisos**	**3.09**	**103**	*e*Pn	**Pn**	**05 48 45.2**	**+1.8**
BARS	**Barje**	**3.21**	**25**	*e*Pn	**Pn**	**05 48 45.8**	**+0.8**
SJES	**Sjenica**	**3.34**	**360**	*e*Pn	**Pn**	**05 48 49.6**	**+2.6**
STON	**Ston**	**3.42**	**330**	*e*Pn	**Pn**	**05 48 46.9**	**-1.0**
STON				Sn	**Sn**	**05 49 25.4**	**-2.8**
GRUS	**Gruza**	**4.01**	**7**	*e*Pn	Pn	05 49 00.3	+4.3
DIVS	**Divibare**	**4.18**	**360**	*e*Pn	Pb	05 49 04.3	-4.1
NVLJ	**Novalja**	**6.01**	**322**	*e*Pn	**Pn**	**05 49 22.4**	**-1.0**
NVLJ				Sn	**Sn**	**05 50 27.6**	**-4.3**

*IDC **18** 05:53:48.8±1.2, 24°.29N×121°.00E, h0km, mb3.4/5, mb1 3.7/6, mb1mx3.5/25, mbtmp3.5/6, ML3.7/1, Error ellipse: s-maj=66.2km s-min=20.2km az=67.0*

*ISCJB **18** 05:53:56.2±0.4, 24°.82N±0°.03×121°.97E±0°.03, h82km±3km, mb3.3/5, Error ellipse: s-maj=5.7km s-min=4.0km az=32.3*

*NEIC **18** 05:53:56.1, 24°.86N×122°.00E, h27km, ML4.7(TAP), After TAP.*

NEIC Recorded [2 TAP] in I-lan and [1 TAP] in Hua-lien, T'ai-chung and T'ai-pei.

*TAP **18** 05:53:57.4, 24°.77N×121°.93E, h74km, ML4.3, A*

ISC 18 05:53:57.2±0.8, 24°.82N±0°.04×121°.94E±0°.04, h80km±5km, n64, σ1§09/106, mb3.4/5, 9C-13D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILA	**Ilan**	**0.18**	**253**	*i* P	**Pn**	**05 54 09.1**	**+0.2**
	baz=275						
ILA				*i* S	**Sn**	**05 54 17.4**	**-0.1**
	baz=275						
TWB1	**Santiao Chiao**	**0.20**	**14**⇑	*i* P	**Pn**	**05 54 08.9**	**-0.1**
	baz=21						
TWB1				*i* S	**Sn**	**05 54 16.8**	**-0.8**
	baz=21						
TWC	**Suao**	**0.22**	**201**⇓	*i* P	**Pn**	**05 54 08.8**	**-0.3**
	baz=200						
TWC				S	**Sn**	**05 54 16.8**	**-1.0**
	baz=200						
TWE	**Neicheng**	**0.26**	**249**⇓	*i* P	**Pn**	**05 54 09.3**	**0.0**
	baz=257						
TWE				*i* S	**Sn**	**05 54 17.7**	**-0.4**
	baz=257						
NWF	**Wu-fen Shan**	**0.29**	**331**⇑	*i* P	**Pn**	**05 54 09.5**	**0.0**
	baz=337						
NWF				S	**Sn**	**05 54 17.9**	**-0.7**
	baz=337						
TWA	**Mucha**	**0.36**	**297**⇑	*i* P	**Pn**	**05 54 09.9**	**0.0**
	baz=308						
TWA				*i* S	**Sn**	**05 54 18.6**	**-0.6**
	baz=308						
ENTT	**Nioudou**	**0.38**	**242**⇓	*i* P	**Pn**	**05 54 10.3**	**+0.2**
	baz=247						
ENTT				S	**Sn**	**05 54 19.3**	**-0.2**
	baz=247						
ENA	**Nanau**	**0.43**	**205**⇓	*i* P	**Pn**	**05 54 10.4**	**+0.1**
	baz=205						
ENA				S	**Sn**	**05 54 20.0**	**-0.1**
	baz=205						
TAP1	**Taipei**	**0.44**	**300**	P	**Pn**	**05 54 10.4**	**0.0**
	baz=312						
TAP1				S	**Sn**	**05 54 19.6**	**-0.6**
	baz=312						
TATO	**Taipei**	**0.44**	**291**	*e*Pn	**Pn**	**05 54 10.2**	**-0.2**
TAP	**Taipei**	**0.45**	**299**	*e*P	**Pn**	**05 54 10.3**	**-0.2**
	baz=312						
TAP				*i* S	**Sn**	**05 54 19.9**	**-0.5**
	baz=312						
YHNB	**Yeheng**	**0.53**	**254**	*e*Pn	**Pn**	**05 54 10.8**	**-0.6**
YHNB				*e*Sn	**Sn**	**05 54 21.2**	**-0.6**
NSK	**Sanguang**	**0.55**	**255**⇓	*i* P	**Pn**	**05 54 11.3**	**-0.1**
	baz=259						
NSK				*i* S	**Sn**	**05 54 21.1**	**-0.9**
	baz=259						
TWS1	**Kuangyinshan**	**0.55**	**301**⇑	*i* P	**Pn**	**05 54 11.8**	**+0.4**
	baz=313						
TWS1				S	**Sn**	**05 54 22.1**	**+0.2**
	baz=313						
TWY	**Chenhua**	**0.55**	**326**	*i* P	**Pn**	**05 54 11.5**	**+0.1**
	baz=330						
TWY				S	**Sn**	**05 54 21.8**	**0.0**
	baz=330						
NNS	**Nan Shan**	**0.64**	**234**⇓	*i* P	**Pn**	**05 54 12.5**	**+0.1**
	baz=243						
NNS				*e*S	**Sn**	**05 54 23.4**	**-0.2**
	baz=243						
NCU	**National Centr**	**0.70**	**283**⇓	*i* P	**Pn**	**05 54 13.3**	**+0.4**
	baz=278						
NCU				*i* S	**Sn**	**05 54 24.9**	**+0.4**
	baz=278						
NACB	**Ninganchiao**	**0.71**	**206**	*e*Pn	**Pn**	**05 54 11.8**	**-1.3**
NACB				*e*Sn	**Sn**	**05 54 24.3**	**-0.5**
TWD	**Chiawan**	**0.80**	**203**	*e*P	**Pn**	**05 54 13.1**	**-0.8**
	baz=211						
PCYT	**Pengchaiyu**	**0.82**	**8**⇑	*i* P	**Pn**	**05 54 14.9**	**+0.7**
	baz=5.0						
NSTT	**Nanjuang**	**0.87**	**258**⇓	*i* P	**Pn**

baz=225
TWG Pinlang 2.14 202 *e*P **Pn 05 54 29.5 -1.5**
baz=190
TWG Pinlang 2.14 202 *e*Pn **Pn 05 54 28.9 -2.2**
SCLT Jiali 2.28 225 *e*P **Pn 05 54 33.1 +0.2**
baz=223
SCLT *e*S **Sn 05 55 00.5 +0.2**
baz=223
TWM1 Shoushan 2.42 215 *e*P **Pn 05 54 36.0 +1.1**
baz=223
PNG Penghu 2.51 241 *e*P **Pn 05 54 35.0 -0.9**
baz=240
WDGT Dungji 2.60 234 *e*P **Pn 05 54 36.4 -0.8**
baz=232
WDGT *e*S **Sn 05 55 05.6 -2.1**
baz=232
EAST Anshuo 2.62 203 *e*P **Pn 05 54 36.7 -0.9**
baz=191
QZH Quanzhou 3.04 273⇑*i*Pn **Pn 05 54 40.4 -2.7**
QZH Sn **Sn 05 55 13.0 -5.5**
QZH smax smax
comp=N,170nm,0.7s
QZH smax smax
comp=E,120nm,0.3s
TWK1 Hengchun 3.04 200 *e*P **Pn 05 54 42.9 -0.3**
baz=189
KNM Kinmen 3.21 264 *e*P **Pn 05 54 46.3 +0.8**
baz=262
KSRS Korea Array 13.59 21 Pn **P 05 57 14.4 +1.7**
comp=E,0.3nm,0.3s,baz=200,slow=12,SNR=12
SONM Songino Array 26.06 336 P **P 05 59 24.6 +1.3**
comp=E,0.4nm,0.6s,baz=163,slow=10,SNR=2.7
MKAR Makanchi Array 38.37 315 P **P 06 01 08.8 -1.8**
comp=E,0.2nm,0.4s,baz=102,slow=9.1,SNR=4.8
KURBB Kurchatov Arra 42.07 319 P **P 06 01 42.4 +1.3**
comp=E,0.1nm,0.4s,baz=98,slow=5.7,SNR=2.3
WRA Warramunga Arr 46.10 164 P **P 06 02 12.6 -1.0**
comp=E,0.8nm,0.6s,baz=346,slow=8.6,SNR=12
ASAR Alice Springs 49.57 166 P **P 06 02 39.7 -0.7**
comp=E,0.4nm,0.6s,baz=340,slow=6.6,SNR=5.5

IDC 18 06:02:09.3±3.9, 4.73S×151.15E, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.6/16, mbtmp3.9/3, Error ellipse: s-maj=119.7km s-min=52.9km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.10**	**220**	Sn	Sn	06 04 54.2	+2.7
	10nm,0.3s,baz=179,slow=20,SNR=8.6						
WRA	**Warramunga Arr**	**22.28**	**226**	P	P	06 07 08.7	+0.2
	1.4nm,0.7s,baz=50,slow=9.8,SNR=15						
ASAR	**Alice Springs**	**25.12**	**220**	P	P	06 07 35.9	-0.3
	0.5nm,0.4s,baz=58,slow=8.8,SNR=6.5						
FITZ	**Fitzroy Crossi**	**28.26**	**240**	P	P	06 08 04.5	0.0
	1.8nm,0.4s,baz=59,slow=9.0,SNR=23						
TORD	**Torodi Ar. Bea**	**148.72**	**288**	PKPbc	PKPbc	06 21 59.3	-0.5
	0.4nm,0.7s,baz=84,slow=1.8,SNR=2.6						

KRSC 18 06:06:31.1±7.8, 49.48N×156.93E, h5km±5km, ML3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.31**	**337**	*e*P	Pn	06 06 55.9	-0.2
SKR				*e*S	Sg	06 07 12.9	-0.4
PAU	**Pauzhetka**	**1.99**	**358**	*e*P	Pb	06 07 08.3	+0.5
PAU				*e*S	Sb	06 07 32.5	-0.4
ASAK	**Asacha**	**2.97**	**12**	*e*P	Pn	06 07 21.6	+2.6
MTVR	**Mutnovka**	**3.11**	**14**	*e*S	Sn	06 08 00.0	+1.4
RUS	**Russkaya**	**3.12**	**18**	*e*P	Pn	06 07 22.1	+1.2
RUS				*e*S	Sn	06 08 00.0	+1.4
AVH	**Avacha**	**3.96**	**16**	*e*P	Pn	06 07 35.4	+2.9
SDLR	**Sedlovina**	**4.00**	**17**	*e*P	Pn	06 07 34.6	+1.5
SPN	**Mys Shipunski**	**4.11**	**27**	*e*P	Pn	06 07 37.2	+2.7
SPN				*e*S	Sn	06 08 27.2	+4.3
GNL	**Ganaly**	**4.27**	**8**	*e*P	Pn	06 07 37.9	+1.0
MKZ	**Mys Kozlova**	**5.88**	**28**	*e*P	Pn	06 08 01.4	+2.6
MKZ				*e*S	Sn	06 09 07.8	+1.3

ISCJB ***18*** *06:06:37.6±0.6, 27.76N±0.06×140.2E±0.1, h500km, mb3.1/5, Error ellipse: s-maj=17.3km s-min=7.0km az=168.6*
IDC ***18*** *06:06:37.9±0.7, 27.74N×140.15E, h488km±24km, mb2.8/5, mb1 2.9/5, mb1mx2.7/20, mbtmp2.8/5, Error ellipse: s-maj=75.5km s-min=17.1km az=73.0*
JMA ***18*** *06:06:38.9±0.1, 27.90N×140.61E, h507km, M3.8*
ISC 18 06:06:38.3±0.8, 27.80N±0.09×140.3E±0.2, h500km, n13, σ1§41/19, mb3.2/5, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.80**	**112**	P	**P**	**06 07 43.1**	**+0.5**
CBIJ				*e*S	**S**	**06 08 34.1**	**-0.5**
CBIJ	**Chichi jima**	**1.80**	**112**	P	**P**	**06 07 43.0**	**+0.5**
	baz=282,slow=20						
CBIJ				S	**S**	**06 08 33.1**	**-1.5**
	baz=288,slow=19						
JHHJ	**Haha-jima-NKT**	**2.03**	**125**	P	**P**	**06 07 44.7**	**+1.1**
JHHJ				*e*S	**S**	**06 08 36.7**	**+0.1**
BSO1	**Boso 1**	**6.86**	**5**	*e*S	**S**	**06 09 47.6**	**-0.1**
JIE	**Ise**	**7.26**	**336**	P	**P**	**06 08 29.8**	**+2.8**
JRY	**Ryogami san**	**8.28**	**352**	P	**P**	**06 08 38.7**	**+1.2**
JRY				*e*S	**S**	**06 10 15.3**	**-0.1**
JAG	**Ashikaga**	**8.63**	**355**	P	**P**	**06 08 41.7**	**+0.6**
JAG				*e*S	**S**	**06 10 18.4**	**-3.7**
JHO	**Hitachi**	**8.79**	**1**	P	**P**	**06 08 44.5**	**+1.7**
JHO				*e*S	**S**	**06 10 24.0**	**-1.1**
SONM	**Songino Array**	**33.06**	**316**	P	**P**	**06 12 31.3**	**-0.5**
	0.5nm,0.6s,baz=116,slow=9.8,SNR=3.1						
WRA	**Warramunga Arr**	**47.81**	**188**	P	**P**	**06 14 29.5**	**-0.5**
	0.4nm,0.3s,baz=5.5,slow=7.7,SNR=9.7						
MKAR	**Makanchi Array**	**48.75**	**309**	P	**P**	**06 14 36.6**	**-0.2**
	0.3nm,0.4s,baz=101,slow=7.6,SNR=7.9						
ASAR	**Alice Springs**	**51.54**	**188**	P	**P**	**06 14 57.2**	**-0.3**
	0.2nm,0.4s,baz=6.6,slow=6.4,SNR=4.4						
FINES	**FINESS Array B**	**76.58**	**333**	P	**P**	**06 17 36.9**	**+0.4**
	0.8nm,0.4s,baz=77,slow=6.3,SNR=5.7						

NEIC ***18*** *06:16:19.2, 19.28N×64.07W, h88km, MD3.5(RSPR), After RSPR.*
RSPR 18 06:16:19.2, 19.28N×64.07W, h89km±6km, MD3.5/5, 18C-3D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABV	**Anegada**	**0.60**	**204**⇑	*e*P	Pn	06 16 34.2	-0.5
ABV	**Anegada**	**0.60**	**204**	*e*S	Sn	06 16 45.9	-0.2
ABV	**Anegada**	**0.60**	**204**⇑	*e*P	Pn	06 16 34.2	-0.5
ABV				*e*S	Sn	06 16 45.9	-0.2
ABVI	**Anegada Island**	**0.60**	**204**⇑	*e*P	Pn	06 16 34.2	-0.5
ABVI				*e*S	Sn	06 16 45.9	-0.2
STVI	**Saint Thomas**	**1.25**	**222**⇓	*e*P	Pn	06 16 41.2	-0.6
STVI	**Saint Thomas**	**1.25**	**222**	*e*S	Sn	06 16 58.0	-0.7
STVI	**Saint Thomas**	**1.25**	**222**⇓	*e*P	Pn	06 16 41.2	-0.6
STVI				*e*S	Sn	06 16 58.2	-0.5
STVI	**Saint Thomas**	**1.25**	**222**⇓	*e*P	Pn	06 16 41.2	-0.6
STVI				*e*S	Sn	06 16 58.0	-0.7
MTP	**Monte Pirata**	**1.83**	**230**⇑	*e*P	Pn	06 16 48.9	-0.3
MTP	**Monte Pirata**	**1.83**	**230**	*e*S	Sn	06 17 11.9	0.0
MTP	**Monte Pirata**	**1.83**	**230**⇑	*e*P	Pn	06 16 48.9	-0.3
MTP				*e*S	Sn	06 17 11.9	0.0
MTP	**Monte Pirata**	**1.83**	**230**⇑	*e*P	Pn	06 16 48.9	-0.3
MTP				*e*S	Sn	06 17 11.9	0.0
CBYP	**Canovanas**	**1.97**	**240**⇑	*e*P	Pn	06 16 50.2	-0.8
CBYP	**Canovanas**	**1.97**	**240**⇑	*e*P	Pn	06 16 50.2	-0.8
CBYP	**Canovanas**	**1.97**	**240**⇑	*e*P	Pn	06 16 50.2	-0.8
HUMP	**Col San Antoni**	**2.03**	**236**⇑	*e*P	Pn	06 16 51.7	0.0
HUMP	**Col San Antoni**	**2.03**	**236**⇑	*e*P	Pn	06 16 51.7	0.0
HUMP	**Col San Antoni**	**2.03**	**236**⇑	*e*P	Pn	06 16 51.7	0.0
CPD	**Cerro la Pandu**	**2.14**	**235**⇑	*e*P	Pn	06 16 52.4	-0.9
CPD	**Cerro la Pandu**	**2.14**	**235**⇑	*e*P	Pn	06 16 52.4	-0.9
CPD	**Cerro la Pandu**	**2.14**	**235**⇑	*e*P	Pn	06 16 52.4	-0.9
CRPR	**Cabo Rojo, PR**	**3.15**	**247**⇑	*e*P	Pn	06 17 06.4	-0.3
CRPR	**Cabo Rojo, PR**	**3.15**	**247**⇑	*e*P	Pn	06 17 06.4	-0.3
CRPR	**Cabo Rojo, PR**	**3.15**	**247**⇑	*e*P	Pn	06 17 06.4	-0.3

SKO 18 06:19:57.9, 41.50N×20.36E, h32km, M1.9, ML2.3,

Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIA	**Bitola**	**0.87**	**123**	*i* Pg	Pb	06 20 15.4	+0.8
BIA				*i* Sg	Sb	06 20 26.9	+0.8
SKO	**Skopje**	**0.94**	**59**	*e*Pg	Pb	06 20 16.6	+0.9
SKO				*e*Lg	Lg	06 20 29.3	
	comp=E,28nm,0.4s						
SKO				*i* Sg	Sb	06 20 29.4	+1.6
SKO				*e*Lg	Lg	06 20 29.6	
	comp=N,87nm,0.4s						

IDC ***18*** *06:23:50.9±0.4, 12.59N×120.61E, h0km, mb5.3/39, mb1 5.4/40, mb1mx5.4/42, mbtmp5.3/40, ML3.7/1, MS5.6/38, Ms1 5.6/38, ms1mx5.5/50, Error ellipse: s-maj=13.6km s-min=10.0km az=78.0*
BJI ***18*** *06:23:52.1, 12.63N×120.74E, h24km, mB6.0/57, mb5.6/64, Ms6.1/82, Ms7 5.9/74*
MAN ***18*** *06:23:53, 12.47N×120.33E, h21km, mb6.2, ML5.3, MS6.0*
MAN INTENSITY IV - MAMBURAO & SAN JOSE OCC. MINDORO; BATANGAS CITY; BOAC MARINDUQUE; CORON PALAWAN; INTENSITY III - MAKATI CITY; PASAY CITY; MANILA CITY; TAGAYTAY CITY.
ISCJB ***18*** *06:23:54.0±0.5, 12.68N±0.01×120.50E±0.02, h24km±4km, mb5.8/326, MS5.8/243, Error ellipse: s-maj=3.1km s-min=2.4km az=178.4*
NEIC ***18*** *06:23:53.5±0.1, 12.62N×120.43E, h12km, mb6.0/150, MS5.7/150, MW5.9, MW5.9, MW6.0(USGS), Error ellipse: s-maj=4.2km s-min=3.5km az=82.0, Moment Tensor Solution. s54 Moment tensor: Scale 10^{17}Nm; M_{rr}0.76; $M_{\theta\theta}$6.99; $M_{\phi\phi}$-7.75; $M_{r\theta}$2.32; $M_{r\phi}$-0.59; $M_{\theta\phi}$-0.61; Best double couple: $M_0$7.80000×10^{17} NP1:ϕ_s46.00000°, δ74.00000°, λ169.00000°. NP2:ϕ_s139.00000°, δ80.00000°, λ16.00000°. Principal axes: T 7.8000, Plg18.0000°, Azm2.0000°; N 0.0100, Plg71.0000°, Azm171.0000°; P -7.8100, Plg3.0000°, Azm271.0000°;*
NEIC Felt [IV PIVS] at Mamburao and San Jose; [III PIVS] at Lubang; [II PIVS] at Calapan and Puerto Galera. Also felt at Bongabong and Roxas. Felt [IV PIVS] at Batangas; [III PIVS] at Dasmarinas, Lucban, Makati, Manila, Pasay and Tagaytay; [II PIVS] at Guinayangan, Luzon. Also felt at Calaca, Malvar, Mataasnakahoy, San Pablo and Santa Rosa. Felt [IV PIVS] at Boac, Marinduque and at Coron, Palawan. Felt [II PIVS] at Malay, Panay.
GCMT ***18*** *06:23:55.8±0.1, 12.65N×120.38E, h12km, MW5.9, Moment Tensor Solution. s113,c231; s86,c127; Moment tensor: Scale 10^{18}Nm; M_{rr}-0.13±.01; $M_{\theta\theta}$1.04±.01; $M_{\phi\phi}$-0.91±.01; $M_{r\theta}$-0.08±.02; $M_{r\phi}$-0.24±.01; $M_{\theta\phi}$-0.19±.02; Best double couple: $M_0$1.00000×10^{18} NP1:ϕ_s53.00000°, δ83.00000°, λ-169.00000°. NP2: ϕ_s321.00000°, δ79.00000°, λ-7.00000°. Principal axes: T 1.0700, Plg3.0000°, Azm187.0000°; N -0.0900, Plg77.0000°, Azm85.0000°; P -0.9900, Plg13.0000°, Azm277.0000°; Data Used: II IU CN IC G. Surface waves: sta=118, comp=267, per= 50.*
BKK ***18*** *06:23:56.2±0.2, 13.N±3.×12.0E±., h10km, M5.8/37, mb5.7/37, mB6.2/34, MLv6.1/2, Mw(mB)5.8/34, Mwp5.8/8*
SZGRF ***18*** *06:23:58.9, 13.12N×120.12E, h24km, mb5.9, MS5.7, Mindoro, Philippine Islands*
DJA ***18*** *06:23:59.4±0.9, 13.N±3.×12.0E±., h37km±7km, M6.0/127, mb5.8/127, mB6.2/97, MLv6.2/2, Mw(mB)5.9/97, Mwp6.1/16*
MOS ***18*** *06:24:01.1±1.0, 12.90N×120.68E, h80km, mb6.2/107, MS5.7/70, Error ellipse: s-maj=7.7km s-min=3.7km az=118.7*
NEIC ***18*** *06:24:08.6±0.0, 12.57N×120.52E, h10km, Moment Tensor Solution. s130 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.17; $M_{\theta\theta}$9.25; $M_{\phi\phi}$-8.08; $M_{r\theta}$0.47; $M_{\theta\phi}$-1.73; $M_{r\phi}$-2.13; Best double couple: $M_0$9.10000×10^{17} NP1:ϕ_s320.00000°, δ82.00000°, λ-13.00000°. NP2:ϕ_s52.00000°, δ77.00000°, λ-171.00000°. Principal axes: T 9.4600, Plg3.0000°, Azm6.0000°; N -0.6500, Plg74.0000°, Azm109.0000°; P -8.8200, Plg15.0000°, Azm275.0000°;*
ISC 18 06:23:56.0±0.3, 12.62N±0.02×120.50E±0.03, h28km±1km, h27km:pP-P, n1519, σ1§60/1572, mb5.9/336, MS5.8/245, 108C-35D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJMP	**San Jose**	**0.63**	**105**	*e*P	**Pb**	**06 24 07.5**	**-1.0**
BUSP	**Coron**	**0.68**	**205**	*e*P	Pb	06 24 04.3	-5.1
BUSP				*e*S	**Sb**	**06 24 13.4**	**-5.1**
PGP	**Puerto Galera**	**0.98**	**27**⇑	*i*P	**Pn**	**06 24 13.7**	**-0.3**
TGY	**Tagaytay City**	**1.53**	**16**	Pn	**Pn**	**06 24 22.4**	**+0.8**
TGY				Sn	**Sb**	**06 24 44.2**	**+1.4**
TGY	**Tagaytay City**	**1.53**	**16**⇑	*i*P	**Pb**	**06 24 23.3**	**-0.5**
TGY	**Tagaytay City**	**1.53**	**16**	Pn	**Pn**	**06 24 22.4**	**+0.8**
	5μm,0.3s,baz=180,slow=6.1,SNR=617						
TGY				Sn	**Sb**	**06 24 44.2**	**+1.4**
	23μm,0.3s,baz=272,slow=22,SNR=10						
LQP	**Lukban**	**1.79**	**34**⇑	*i*P	**Pn**	**06 24 25.7**	**+0.4**
CUYO	**Cuyo Island**	**1.84**	**164**	*e*P	**Pn**	**06 24 24.5**	**-1.2**
KALP	**Kalibo**	**2.03**	**117**⇑	*e*P	**Pn**	**06 24 26.9**	**-1.5**
GQP	**Guinayangan**	**2.29**	**56**⇑	*e*P	**Pn**	**06 24 33.3**	**+1.4**
RCP	**Roxas**	**2.44**	**115**⇓	*e*P	**Pn**	**06 24 33.3**	**-0.7**
RCP				*e*S	**Sn**	**06 25 02.9**	**-0.1**
GUIM	**Jordan**	**2.85**	**134**	*e*P	**Pn**	**06 24 39.5**	**-0.2**
GUIM				*e*S	Sn	06 25 04.9	-8.3
PCPH	**Palayan**	**2.98**	**11**⇑	*e*P	**Pn**	**06 24 41.3**	**-0.1**
PCPH				*e*S	**Sn**	**06 25 18.3**	**+2.1**
PPR	**Puerto Princes**	**3.32**	**212**⇓	*e*P	**Pn**	**06 24 43.9**	**-2.2**
PPR				*e*S	Sb	06 25 58.8	+25
PVCP	**Virac**	**3.69**	**74**⇑	*i*P	**Pn**	**06 24 53.0**	**+1.7**
BCPH	**Baguio City Da**	**3.74**	**1**⇑	*i*P	**Pn**	**06 24 51.5**	**-0.5**
LLP	**Lapu-Lapu**	**4.10**	**124**	*e*P	**Pn**	**06 24 57.2**	**+0.3**
LLP				*e*S	**Sb**	**06 25 52.5**	**-4.3**
OCLP	**Ormoc**	**4.32**	**111**	*e*P	**Pn**	**06 25 01.1**	**+1.2**
TBP	**Tagbilaran**	**4.41**	**131**	*e*P	**Pn**	**06 25 01.2**	**+0.1**
PLP	**Palo**	**4.62**	**108**	*i* P	**Pn**	**06 25 03.9**	**-0.2**
PALP	**Palanan**	**4.79**	**23**⇑	*i*P	**Pn**	**06 25 08.9**	**+2.6**
DCPH	**Dipolog City**	**4.90**	**145**⇑	*e*P	**Pn**	**06 25 05.9**	**-2.0**
MSLP	**Maasin**	**4.94**	**120**	*e*P	**Pn**	**06 25 10.1**	**+1.6**
CVP	**Calilao Caves**	**5.21**	**14**⇓	*e*P	**Pn**	**06 25 13.0**	**+0.9**
IPIL	**Ipil**	**5.22**	**157**⇑	*i*P	**Pn**	**06 25 11.3**	**-1.0**
SIPP	**Brgy, Tapao**	**5.27**	**360**⇓	*e*P	Pn	06 25 17.0	+4.1
PAGZ	**Pagadian**	**5.53**	**149**	*e*P	**Pn**	**06 25 16.3**	**-0.2**
SCPH	**Surigao**	**5.66**	**119**	*e*P	**Pn**	**06 25 18.8**	**+0.6**
PIP	**Pasuquin**	**5.67**	**1**⇓	*e*P	**Pn**	**06 25 19.7**	**+1.3**
ZMPH	**Zamboanga City**	**5.84**	**165**⇑	*e*P	Pn	06 25 17.2	-3.6
CGP	**Cagayan de Oro**	**5.85**	**135**	*e*P	**Pn**	**06 25 21.1**	**+0.2**
BUKP	**Musuan**	**6.51**	**136**	*e*P	**Pn**	**06 25 31.6**	**+1.5**
CTBH	**Cotabato--PC H**	**6.52**	**145**⇑	*i*P	**Pn**	**06 25 30.9**	**+0.8**
KDM	**Kudat**	**6.72**	**213**	P	**Pn**	**06 25 34.3**	**+1.3**
DAV	**Davao City (W)**	**7.45**	**137**⇑	*e*P	Pb	06 25 55.3	-9.3
DAV	**Davao City (W)**	**7.45**	**137**	*e*Pn	**Pn**	**06 25 45.6**	**+2.6**
MYLDM	**Lahad Datu**	**7.66**	**195**	P	**Pn**	**06 25 43.9**	**-1.8**
MYLDM	**Lahad Datu**	**7.66**	**195**	P	**Pn**	**06 25 46.0**	**+0.3**
	2μm,1.1s,41μm367μm9.7nm						
SDKM	**Sandakan**	**7.67**	**205**	P	**Pn**	**06 25 43.7**	**-2.2**
KKM	**Kota Kinabalu**	**7.78**	**213**	*e*Pn	**Pn**	**06 25 47.6**	**0.0**
KKM	**Kota Kinabalu**	**7.78**	**213**	P	**Pn**	**06 25 46.1**	**-1.5**
KKM	**Kota Kinabalu**	**7.78**	**213**	P	**Pn**	**06 25 50.6**	**+3.0**
	425nm,1.5s,9μm3.1nm						
TSM	**Tawau**	**8.67**	**198**	P	**Pn**	**06 25 58.3**	**-1.5**
TWG	**Pinlang**	**10.16**	**3**	*e*Pn	**Pn**	**06 26 20.8**	**+0.8**
TPUB	**Ta-pu**	**10.62**	**1**	*e*Pn	**Pn**	**06 26 24.3**	**-2.1**
YULB	**Yu-li**	**10.74**	**4**	*e*Pn	**Pn**	**06 26 28.2**	**+0.2**
SSLB	**Suanglung**	**11.11**	**2**	*e*Pn	**Pn**	**06 26 33.6**	**+0.5**
HKC	**Hong Kong Obse**	**11.35**	**329**⇑	*i*P	**Pn**	**06 26 38.0**	**+1.6**
NACB	**Ninganchiao**	**11.54**	**5**	*e*Pn	**Pn**	**06 26 40.5**	**+1.6**
BTM	**Bintulu**	**11.89**	**219**	P	**Pn**	**06 26 46.9**	**+3.0**
YHNB	**Yeheng**	**12.01**	**4**	*e*Pn	**Pn**	**06 26 45.4**	**-0.1**
	294nm,1.0s						
QIZ	**Qiongzhong**	**12.06**	**303**	P	**Pn**	**06 26 44.6**	**-1.6**
QIZ				pmax	pmax		
	comp=Z,660nm,1.2s						
QIZ				pmax	pmax		
	comp=Z,4μm,5.3s						
QIZ				LR	LR		
	comp=N,47μm,12.6s						
QIZ				LR	LR		
	comp=Z,56μm,16.3s						
QIZ	**Qiongzhong**	**12.06**	**303**	*e*Pn	**Pn**	**06 26 44.1**	**-2.1**
	comp=Z,1μm,1.2s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**12.15**	**173**	P	**Pn**	**06 26 48.7**	**+1.3**
	comp=Z,252nm,1.3s,comp=Z,6μm						
GTOI	**Gorontalo**	**12.17**	**168**	P	**Pn**	**06 26 46.3**	**-1.3**
	comp=Z,481nm,1.3s,comp=Z,9μmcomp=Z,98μm						
TATO	**Taipei**	**12.32**	**4**	*e*Pn	**Pn**	**06 26 49.9**	**+0.2**
QZH	**Quanzhou**	**12.38**	**352**⇑	*i*P	**Pn**	**06 26 47.8**	**-2.7**
QZH				S	**Sn**	**06 29 02.1**	**-5.6**
QZH				pmax	pmax		
	comp=Z,350nm,1.1s						
QZH				pmax	pmax		
	comp=Z,12μm,7.4s						
QZH				LR	LR		
	comp=N,41μm,12.8s						
QZH				LR	LR		
	comp=E,48μm,14.3s						
QZH				LR	LR		
	comp=Z,66μm,16.2s						
GZH	**Guangzhou**	**12.43**	**328**	P	Pn	06 26 54.4	+3.3
GZH				S	**Sn**	**06 29 12.0**	**+3.2**
GZH				LR	LR		
	comp=N,71μm,14.1s						
GZH				LR	LR		
	comp=E,71μm,12.6s						
GZH				LR	LR		
	comp=Z,98μm,13.3s						
SBUM	**Sibu**	**13.01**	**220**	*e*Pn	**Pn**	**06 26 57.6**	**-1.6**
SBUM	**Sibu**	**13.01**	**220**	P	**Pn**	**06 26 59.4**	**+0.2**
SBUM	**Sibu**	**13.01**	**220**	P	**Pn**	**06 27 01.4**	**+2.2**
	comp=Z,362nm,1.4s,comp=Z,6μm						
APSI	**Ampana**	**13.50**	**175**	P	**Pn**	**06 27 07.9**	**+2.1**
	comp=Z,479nm,1.2s,comp=Z,14μmcomp=Z,53μm						
TNTI	**Ternate**	**13.60**	**149**	*e*Pn	**Pn**	**06 27 07.9**	**+0.6**
TNTI	**Ternate**	**13.60**	**149**	P	Pn	06 27 11.5	+4.2
	comp=Z,426nm,1.2s,comp=Z,6μm						
LUWI	**Luwuk**	**13.76**	**170**	P	P	06 27 14.3	-3.4
	comp=Z,871nm,1.1s,comp=Z,14μmcomp=Z,62μm						
BKB	**Balikpapan**	**14.25**	**195**	P	**Pn**	**06 27 18.8**	**+2.7**
	comp=Z,390nm,1.3s,comp=Z,9μmcomp=Z,71μm						
MTKI	**Muara Teweh, K**	**14.58**	**203**	P	**P**	**06 27 24.6**	**-2.1**
	comp=Z,313nm,1.0s,comp=Z,8μm						
KSM	**Kuching**	**14.99**	**223**	*e*Pn	**Pn**	**06 27 23.3**	**-2.8**
KSM	**Kuching**	**14.99**	**223**	P	**Pn**	**06 27 23.8**	**-2.3**
KSM	**Kuching**	**14.99**	**223**	P	**Pn**	**06 27 24.4**	**-1.7**
	comp=Z,216nm,0.9s,comp=Z,5μm						
MMSI	**Mamuju**	**15.30**	**186**	P	**Pn**	**06 27 31.6**	**+1.4**
	comp=Z,1μm,1.6s,comp=Z,26μm						
STKI	**Sintang**	**15.35**	**216**	P	**P**	**06 27 33.4**	**-1.9**
	comp=Z,461nm,2.1s,comp=Z,16μm						
JOW	**Kunigami**	**15.91**	**26**	*e*P	**Pn**	**06 27 38.5**	**+0.4**
	comp=Z,269nm,1.2s						
MJSI	**Majene**	**16.14**	**185**	P	**P**	**06 27 42.6**	**-1.5**
	comp=Z,1μm,1.3s,comp=Z,25μm						
SPSI	**Sidrap Palu**	**16.50**	**183**	P	**Pn**	**06 27 45.9**	**+0.3**
	comp=Z,226nm,2.2s,comp=Z,8μm						
KKSI	**Kolaka, Sulawe**	**16.73**	**176**	P	**Pn**	**06 27 48.3**	**-0.2**
	comp=Z,485nm,1.3s						
BNSI	**Bone**	**16.92**	**181**	P	**Pn**	**06 27 51.2**	**+0.3**
	comp=Z,310nm,2.2s,comp=Z,12μm						
NLAI	**Namlea**	**17.07**	**157**	P	**P**	**06 27 57.3**	**+2.9**
	comp=Z,154nm,1.2s,comp=Z,3μm						
SWI	**Sorong**	**17.14**	**141**	P	**P**	**06 27 56.8**	**+1.7**
	comp=Z,191nm,1.4s,comp=Z,4μm						
KAPI	**Kappang**	**17.54**	**182**	Pn	**Pn**	**06 27 58.3**	**-0.3**
	comp=Z,902nm,1.5s,SNR=12						
KAPI	**Kappang**	**17.54**	**182**	P	**Pn**	**06 27 58.1**	**-0.5**
	SNR=16						
KAPI	**Kappang**	**17.54**	**182**	*e*P	**Pn**	**06 27 57.5**	**-1.1**
KAPI	**Kappang**	**17.54**	**182**	P	**Pn**	**06 27 57.5**	**-1.1**
	comp=Z,237nm,2.0s,comp=Z,7μmcomp=Z,34μm						
KAPI	**Kappang**	**17.54**	**182**	Pn	**Pn**	**06 27 56.9**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=25,slow=12,SNR=8.4						
KAPI				LR	LR	06 34 46.6	
	comp=Z,21μm,21.4s,baz=26,slow=37						
PBKI	**Pangkalan Bun**	**17.57**	**211**	P	**Pn**	**06 27 58.5**	**-0.6**
BKSI	**Bulukumba**	**17.83**	**181**	P	**Pn**	**06 28 02.0**	**-0.3**
	comp=Z,176nm,1.6s,comp=Z,6μmcomp=Z,31μm						
AAI	**Ambon**	**17.92**	**154**	P	**P**	**06 28 05.4**	**+1.6**
	comp=Z,327nm,1.1s,comp=Z,7μm						
BBSI	**Bau Bau**	**18.11**	**173**	P	**P**	**06 28 07.7**	**+1.8**
	comp=Z,258nm,1.2s,comp=Z,13μm						
SSE	**Sheshan**	**18.39**	**2**	P	**P**	**06 28 08.1**	**-0.8**
SSE				sP	**sP**	**06 28 20.0**	**+0.1**
SSE				S	**S**	**06 31 36.1**	**-1.5**
SSE				pmax	pmax		
	comp=Z,40nm,0.6s						
SSE				pmax	pmax		
	comp=Z,7μm,9.2s						
SSE				LR	LR		
	comp=N,24μm,25.5s						
SSE				LR	LR		
	comp=E,16μm,25.5s						
SSE				LR	LR		
	comp=Z,34μm,20.9s						
KTGM	**Kuala Trenggan**	**18.61**	**249**	P	**P**	**06 28 11.1**	**-0.2**
WHN	**Wuhan**	**18.72**	**343**⇑	*i*P	**Pn**	**06 28 13.1**	**+0.1**
WHN				S	**S**	**06 31 45.8**	**+1.8**
WHN				LR	LR		
	comp=N,21μm,10.8s						
WHN				LR	LR		
	comp=E,59μm,12.1s						
WHN		

comp=E,25μm,14.1s
KMI LR LR
comp=Z,32μm,14.3s
IPM Ipoh 20.87 249 *e*P **P 06 28 36.2 +0.1**
comp=Z,361nm,1.1s
IPM Ipoh 20.87 249 P **P 06 28 36.0 -0.2**
IPM Ipoh 20.87 249 P **P 06 28 36.3 +0.2**
comp=Z,343nm,1.1s,comp=Z,5μm
KULM Kulim 20.90 251 *e*P **P 06 28 36.6 +0.2**
comp=Z,326nm,1.0s
KULM LR LR
comp=Z,36μm,22.0s
KULM Kulim 20.90 251 P **P 06 28 37.0 +0.5**
KULM Kulim 20.90 251 P **P 06 28 37.3 +0.9**
comp=Z,331nm,1.2s,comp=Z,6μm
LBFI Labuhan Bajo, 20.98 182 P **P 06 28 37.2 0.0**
comp=Z,1μm,1.4s,comp=Z,24μm
GRJI Gresik 20.98 203 P Pn 06 28 40.5 +0.6
comp=Z,711nm,1.1s,comp=Z,6μm
MMRI Maumere 21.19 175 *e*P P 06 28 46.8 +7.3
comp=Z,2μm,1.6s
MMRI Maumere 21.19 175 P **P 06 28 40.9 +1.4**
comp=Z,598nm,1.5s,comp=Z,10μm
ABJI Asem Bagus 21.22 197 P **P 06 28 39.8 0.0**
comp=Z,763nm,1.9s,comp=Z,17μm
SRBI Singaraja 21.23 195 P **P 06 28 40.8 +0.9**
comp=Z,782nm,1.4s,comp=Z,12μm
SRPI Serui, Papua 21.25 132 P **P 06 28 43.7 +3.5**
comp=Z,585nm,1.2s,comp=Z,10μm
BLJI Banyuglugur 21.37 199 P **P 06 28 42.0 +0.6**
comp=Z,434nm,1.1s,comp=Z,8μmcomp=Z,81μm
CM31 Chiang Mai Arr 21.55 288 *e*P **P 06 28 44.4 +1.0**
comp=Z,979nm,1.2s
CMAR Chiang Mai Arr 21.55 288 P **P 06 28 44.0 +0.6**
CMAR Chiang Mai Arr 21.55 288 P **P 06 28 44.0 +0.6**
comp=Z,191nm,1.0s,baz=104,slow=8.9
MTNI Mataram 21.55 192 P **P 06 28 45.8 +2.4**
comp=Z,381nm,1.5s,comp=Z,8μm
BYJI Banyuwangi 21.58 197 P **P 06 28 47.3 +3.6**
comp=Z,1μm,1.7s,comp=Z,21μm
CHTO Chiang Mai 21.63 289 *e*P **P 06 28 44.3 +0.1**
CHTO pmax pmax
comp=Z,485nm,1.4s
CHTO MLR MLR
comp=Z,16μm,21.0s
CHTO Chiang Mai 21.63 289 P **P 06 28 44.7 +0.4**
SNR=109
CHTO Chiang Mai 21.63 289 *e*P **P 06 28 44.3 +0.1**
comp=Z,485nm,1.4s
CHTO LR LR
comp=Z,16μm,21.0s
CHTO Chiang Mai 21.63 289 P **P 06 28 44.0 -0.2**
comp=Z,390nm,1.0s,comp=Z,5μmcomp=Z,20μm
CHTO Chiang Mai 21.63 289 P **P 06 28 44.0 -0.2**
comp=Z,390nm,1.0s,comp=Z,5μm
NBBI Negara 21.66 196 P **P 06 28 48.7 +4.2**
comp=Z,709nm,1.8s,comp=Z,16μmcomp=Z,142μm
NGJI Ngawi 21.80 205 P **P 06 28 48.3 +2.3**
comp=Z,867nm,1.2s,comp=Z,15μm
DNP Denpasar 21.80 194 P **P 06 28 50.3 +4.2**
comp=Z,1μm,1.2s,comp=Z,31μm
CMAI Chiengmai2 21.82 292 P **P 06 28 47.5 +1.0**
comp=Z,628nm,1.4s,comp=Z,9μm
TLE Tual 21.84 145 P **P 06 28 47.6 +1.1**
comp=Z,817nm,1.1s,comp=Z,14μm
JAGI Jajag, Banyuwa 21.88 197 P **P 06 28 47.6 +0.7**
comp=Z,568nm,2.0s,comp=Z,13μmcomp=Z,32μm
GMJI Gumukmas 21.91 199 P **P 06 28 47.6 +0.4**
comp=Z,457nm,1.4s,comp=Z,13μm
IGBI Denpasar 21.96 194 P **P 06 28 49.3 +1.6**
comp=Z,468nm,1.6s,comp=Z,10μm
PMBI Palembang 21.97 226 P **P 06 28 51.4 +3.5**
comp=Z,822nm,1.2s
SJI Sawahan 22.01 204 P **P 06 28 49.7 +1.3**
comp=Z,486nm,1.7s,comp=Z,14μm
KRKI Karangkates 22.14 202 P **P 06 28 53.6 +3.9**
comp=Z,944nm,1.6s,comp=Z,29μm
WSI Waingapu 22.15 181 P **P 06 28 54.4 +4.6**
comp=Z,1μm,0.5s,comp=Z,31μm
RGRI Rengat 22.15 236 P **P 06 28 50.8 +0.9**
comp=Z,396nm,1.3s
PWJI Pagerwojo 22.26 203 P **P 06 28 53.8 +2.9**
comp=Z,478nm,1.6s,comp=Z,9μm
TGJI Tegal 22.42 211 P **P 06 28 53.3 +0.6**
comp=Z,520nm,1.4s,comp=Z,11μm
JNU Nakatsue 22.50 23 *e*P **P 06 28 52.5 -1.0**
comp=Z,128nm,1.4s
JNU S S 06 32 50.9 -8.0
JNU Nakatsue 22.50 23 P **P 06 28 51.9 -1.7**
comp=Z,28nm,1.0s,baz=186,slow=4.3,SNR=9.1
JNU S S 06 32 50.9 -8.0
comp=Z,7.6nm,0.8s,baz=338,slow=14,SNR=4.3
BJII Banjamegara 22.54 209 P **P 06 28 55.5 +1.4**
comp=Z,534nm,1.6s
SOEI Soe 22.55 170 P **P 06 28 57.5 +3.3**
comp=Z,615nm,1.4s,comp=Z,8μmcomp=Z,27μm
UGM Wanagama 22.68 206 P **P 06 28 58.5 +3.0**
comp=Z,900nm,1.3s,comp=Z,19μm
YOGI Yogyakarta 22.70 207 P **P 06 28 59.6 +3.9**
comp=Z,1μm,1.2s,comp=Z,20μm
KPJI Karang Pucung 22.92 211 P **P 06 29 00.8 +2.8**
comp=Z,467nm,1.7s,comp=Z,8μm
LEM Lembang 23.18 214 P **P 06 29 04.2 +3.4**
comp=Z,369nm,1.1s,comp=Z,7μm
TNG Tangerang 23.20 217 P **P 06 29 03.9 +3.1**
comp=Z,992nm,0.9s,comp=Z,20μm
CLJI Cilicap 23.21 210 P **P 06 29 03.8 +2.9**
comp=Z,582nm,1.6s,comp=Z,13μm
CBJI Citeko 23.28 216 P P 06 29 07.2 +5.6
comp=Z,690nm,1.1s,comp=Z,18μm
KLI Kotabumi 23.31 223 P **P 06 29 05.0 +3.0**
comp=Z,409nm,1.0s,comp=Z,8μm
BLSI Bandar Lampung 23.44 221 P **P 06 29 05.6 +2.4**
comp=Z,410nm,1.0s,comp=Z,7μm
DBJI Dramaga 23.45 216 P **P 06 29 06.5 +3.2**
comp=Z,403nm,1.9s,comp=Z,11μm
SBJI Serang 23.47 218 P **P 06 29 07.1 +3.6**
comp=Z,304nm,1.4s,comp=Z,9μm
PSI Prapat 23.48 247 P **P 06 29 02.2 -1.6**
PSI PcP **PcP 06 32 50.0 +0.5**
PSI Prapat 23.48 247 P **P 06 29 02.2 -1.6**
comp=Z,41nm,0.8s,baz=48,slow=8.8,SNR=58
PSI PcP **PcP 06 32 50.0 +0.5**
comp=Z,18nm,0.8s,baz=335,slow=2.4,SNR=2.9
PSI LR LR 06 38 39.5
LHSI Lahat 23.48 227 P **P 06 29 04.7 +1.0**
comp=Z,362nm,1.1s,comp=Z,10μm
MDSI Maura Dua 23.49 225 P **P 06 29 04.4 +0.7**
comp=Z,300nm,1.0s,comp=Z,8μm
CISI Cisompet, Garu 23.68 213 P **P 06 29 05.0 -0.6**
comp=Z,918nm,1.6s,comp=Z,14μm
TIA Tai'an 23.68 353 ⇑P **P 06 29 04.5 -0.9**
TIA S **S 06 33 21.8 +3.2**
TIA pmax pmax
comp=Z,150nm,1.9s
TIA pmax pmax
comp=Z,4μm,4.7s
TIA LR LR
comp=N,27μm,22.6s
TIA LR LR
comp=E,33μm,13.3s
TIA LR LR
comp=Z,26μm,22.6s
GUMO Guam 23.76 85 *e*P **P 06 29 08.5 +2.1**
comp=Z,3μm,2.0s
GUMO LR LR
comp=Z,17μm,19.0s
XAN Xi'an 23.78 336 P **P 06 29 05.0 -1.4**
XAN pP **pP 06 29 10.6 -3.8**
XAN PP **PnPn 06 29 40.3 +5.5**
XAN S **S 06 33 20.3 -0.1**
XAN sS **sS 06 33 29.5 -4.2**
XAN pmax pmax
comp=Z,460nm,4.6s
XAN LR LR
comp=N,25μm,19.3s
XAN LR LR
comp=E,13μm,17.5s
XAN LR LR
comp=Z,12μm,16.7s
PPI Padang Panjang 23.80 238 P **P 06 29 06.4 -0.3**
comp=Z,237nm,1.1s,comp=Z,6μm
CD2 Chengdu 23.87 322 P **P 06 29 06.8 -0.6**
CD2 pP **pP 06 29 19.3 +3.9**
CD2 PP **PnPn 06 29 42.3 +6.2**
CD2 PcP **PcP 06 32 49.6 -0.4**
CD2 S **S 06 33 17.0 -4.9**
CD2 SS **SnSn 06 34 10.3 +7.9**
CD2 pmax pmax
comp=Z,510nm,1.0s
CD2 pmax pmax
comp=Z,5μm,6.8s
CD2 LR LR
comp=N,39μm,19.0s
CD2 LR LR
comp=Z,18μm,27.8s
SKJI Sukabumi 23.92 216 P **P 06 29 08.7 +0.9**
comp=Z,438nm,1.6s
LWLI Liwa 23.96 224 P **P 06 29 08.4 +0.1**
comp=Z,1μm,0.9s,comp=Z,18μm
MASI Maura Aman, Be 23.96 230 P **P 06 29 11.6 +3.3**
comp=Z,866nm,1.5s,comp=Z,17μm
PDSI Padang 24.00 237 P **P 06 29 08.0 -0.7**
comp=Z,439nm,1.2s,comp=Z,8μm
KSI Kapahiang 24.04 229 P **P 06 29 11.3 +2.3**
comp=Z,728nm,1.7s
KASI Kota Agung 24.04 222 P **P 06 29 08.5 -0.4**
comp=Z,533nm,0.9s,comp=Z,9μm
KCSI Kotacane, Aceh 24.23 250 P **P 06 29 09.5 -1.2**
comp=Z,262nm,1.3s,comp=Z,4μm
LHMI Lhok Sumawe 24.38 255 P **P 06 29 12.9 +0.8**
comp=Z,390nm,2.0s,comp=Z,8μmcomp=Z,14μm
JAY Jayapura 25.08 125 P **P 06 29 22.4 +3.9**
comp=Z,132nm,1.1s
GSI Gunungsitoli 25.34 245 P **P 06 29 19.1 -1.8**
comp=Z,236nm,1.0s,comp=Z,5μm
INCN Inchon 25.36 11 P sP 06 29 32.6 +0.3
SNR=9.7
INCN Inchon 25.36 11 *e*P **P 06 29 21.4 +0.7**
comp=Z,917nm,1.8s
INCN LR LR
comp=Z,19μm,20.0s
EGSI Enggano, Bengk 25.43 226 P **P 06 29 23.8 +2.2**
comp=Z,421nm,1.3s
KSAR Wonju Array Be 25.58 14 P **P 06 29 21.2 -1.6**
KSRS Korea Array 25.60 14 P **P 06 29 21.2 -1.7**
comp=Z,21nm,0.9s,baz=192,slow=8.8,SNR=24
KSRS LR LR 06 41 10.5
comp=Z,17μm,18.7s,baz=198,slow=41
TIY Taiyuan 26.00 345 *e*P **P 06 29 26.8 +0.1**
TIY S **S 06 33 57.9 +2.1**
TIY pmax pmax
comp=Z,310nm,1.3s
TIY pmax pmax
comp=Z,2μm,8.4s
TIY LR LR
comp=N,5μm,9.1s
TIY LR LR
comp=E,8μm,11.2s
TIY LR LR
comp=Z,12μm,15.0s
DL2 Dalian 26.20 2 P **P 06 29 26.8 -1.5**
DL2 S **S 06 33 56.8 -1.9**
DL2 pmax pmax
comp=Z,180nm,1.2s
DL2 pmax pmax
comp=Z,2μm,10.8s
DL2 LR LR
comp=N,10μm,21.0s
DL2 LR LR
comp=Z,14μm,16.7s
DGPR DIGLIPUR 26.87 274 *e*P **P 06 29 33.3 -1.4**
DGPR AMB AMB 06 30 27.5
comp=Z,186nm,0.7s
PBA Port Blair 27.14 271 *e*P P 06 29 36.2 -0.9
XMIS Christmas Isla 27.28 213 *e*P **P 06 29 41.4 +3.1**
comp=Z,1μm,1.0s
BJT Baijiatuau 27.55 353 *e*P **P 06 29 38.3 -2.3**
comp=Z,385nm,1.3s
BJT LR LR
comp=Z,21μm,20.0s
BJI Beijing 27.57 353 P **P 06 29 40.5 -0.2**
BJI S **S 06 34 22.1 +1.7**
BJI pmax pmax
comp=Z,110nm,1.6s
BJI pmax pmax
comp=Z,2μm,4.1s
BJI LR LR
comp=N,16μm,23.0s
BJI LR LR
comp=E,19μm,18.4s
BJI LR LR
comp=Z,16μm,23.5s
LZH Lanzhou 27.77 330 ⇑P **P 06 29 43.3 +0.6**
LZH pP **pP 06 29 49.4 -1.4**
LZH sP **sP 06 29 52.4 -1.8**
LZH PP **PnPn 06 30 34.1 +4.8**
LZH S **S 06 34 25.0 +1.1**
LZH sS **sS 06 34 35.5 -1.8**
LZH SS **SnSn 06 35 44.0 +6.4**
LZH pmax pmax
comp=Z,300nm,1.4s
LZH pmax pmax
comp=Z,950nm,4.0s
LZH LR LR
comp=N,22μm,12.5s
LZH LR LR
comp=E,31μm,13.7s
LZH LR LR
comp=Z,35μm,14.6s
MAJO Matsushiro 28.65 31 *e*P **P 06 29 48.3 -2.1**
MAJO pmax pmax
comp=Z,498nm,2.6s
MAJO MLR MLR
comp=Z,14μm,19.0s
MAJO Matsushiro 28.65 31 *e*P **P 06 29 48.3 -2.1**
comp=Z,498nm,2.6s
MAJO LR LR
comp=Z,14μm,19.0s
MAT Matsushiro 28.65 31 P P 06 29 46.2 -4.2
MAT S **S 06 34 34.2 -3.3**
MJAR Matsushiro Arr 28.65 31 P **P 06 29 47.8 -2.6**
MJAR Matsushiro Arr 28.65 31 P **P 06 29 47.8 -2.6**
comp=Z,11nm,1.0s,baz=208,slow=7.9,SNR=21
HHC Hu-ho-hao-te 29.19 346 *e*P **P 06 29 55.0 -0.3**
HHC PP **PnPn 06 30 51.6 +3.0**
HHC PcP **PcP 06 33 01.9 -0.4**
HHC S **S 06 34 43.9 -2.2**
HHC SS **SnSn 06 36 17.1 +5.0**
HHC ScP **ScP 06 36 38.0 -4.2**
HHC PcS **PcS 06 36 42.4 -2.8**
HHC ScS **ScS 06 40 30.4 -6.0**
HHC pmax pmax
comp=Z,380nm,1.1s
HHC pmax pmax
comp=Z,4μm,4.3s
HHC LR LR
comp=N,32μm,14.1s
HHC LR LR
comp=E,18μm,12.7s
HHC LR LR
comp=Z,30μm,14.7s
SNY Shenyang 29.22 5 ⇑P **P 06 29 52.3 -3.0**
SNY pmax pmax
comp=Z,2μm,9.8s
SNY LR LR
comp=N,18μm,17.6s
SNY LR LR
comp=E,14μm,16.7s
SNY LR LR
comp=Z,22μm,18.1s
BTO Baotou 29.36 344 *e*P **P 06 29 55.1 -1.6**
BTO pmax pmax
comp=Z,34nm,1.1s
SHL Shillong 29.87 300 *i* P **P 06 30 01.5 0.0**
SHL AMB AMB 06 30 06.7
comp=Z,406nm,3.1s
SHL *ex* x 06 34 56.5
FITZ Fitzroy Crossi 30.95 170 P **P 06 30 08.7 -2.2**
FITZ Fitzroy Crossi 30.95 170 P **P 06 30 08.7 -2.2**
comp=Z,24nm,1.1s,baz=350,slow=8.7,SNR=12
FITZ LR LR 06 44 29.5
comp=Z,4μm,20.2s,baz=1.0,slow=40
CN2 Changchun 31.36 7 *e*P **P 06 30 12.5 -1.7**
CN2 *e*pP **pP 06 30 23.9 +1.5**
CN2 *e*S **S 06 35 15.8 -4.0**
CN2 pmax pmax
comp=Z,460nm,6.0s
CN2 LR LR
comp=N,15μm,21.0s
CN2 LR LR
comp=E,20μm,21.0s
CN2 LR LR
comp=Z,20μm,20.0s
VLA Vladivostok 31.94 16 *e*P **P 06 30 18.6 -0.8**
VLA pmax pmax
comp=Z,88nm,2.0s
LSA Lhasa 32.07 307 P **P 06 30 21.5 +0.2**
LSA pP **pP 06 30 33.1 +3.6**
LSA S **S 06 35 28.8 -3.5**
LSA LR LR
comp=N,7μm,28.1s
LSA LR LR
comp=E,7μm,33.8s
LSA LR LR
comp=Z,12μm,18.3s
LSA Lhasa 32.07 307 *e*P **P 06 30 21.7 +0.4**
LSA pmax pmax
comp=Z,382nm,1.3s
LSA MLR MLR
comp=Z,11μm,20.0s
LSA Lhasa 32.07 307 *e*P **P 06 30 21.7 +0.4**
comp=Z,382nm,1.3s
LSA LR LR
comp=Z,11μm,20.0s
GTA Gaotai 32.35 329 ⇑P **P 06 30 23.8 +0.6**
GTA pP **pP 06 30 33.1 +1.7**
GTA sP **sP 06 30 37.3 +2.5**
GTA PP **PP 06 31 34.5 -2.1**
GTA PcP **PcP 06 33 12.4 +1.7**
GTA S **S 06 35 37.1 +1.4**
GTA sS **sS 06 35 53.8 +4.6**
GTA pmax pmax
comp=Z,110nm,2.3s
GTA pmax pmax
comp=Z,2μm,5.7s
GTA LR LR
comp=N,16μm,19.0s
GTA LR LR
comp=E,34μm,17.8s
GTA LR LR
comp=Z,35μm,17.4s
MDJ Mudanjiang 32.82 12 P **P 06 30 26.4 -0.7**
MDJ pP **pP 06 30 32.8 -2.5**
MDJ sP **sP 06 30 35.1 -3.6**
MDJ PP **PP 06 31 40.4 -1.2**
MDJ PcP **PcP 06 33 11.9 +0.2**
MDJ S **S 06 35 43.1 +0.5**
MDJ pmax pmax
comp=Z,37nm,1.2s
MDJ pmax pmax
comp=Z,1μm,6.7s
MDJ LR LR
comp=N,10μm,35.2s
MDJ LR LR
comp=E,23μm,30.6s
MDJ LR LR
comp=Z,17μm,28.2s
MDJ Mudanjiang 32.82 12 *e*P **P 06 30 26.1 -1.0**
comp=Z,74nm,1.0s
MDJ LR LR
comp=Z,15μm,21.0s
USRK Ussuriysk Arra 32.98 15 P **P 06 30 27.1 -1.3**
comp=Z,9.6nm,0.8s,baz=205,slow=7.6,SNR=14
USRK LR LR 06 46 39.6
comp=Z,10μm,18.1s,baz=182,slow=42
MBWA Marble Bar 33.58 181 *e*P **P 06 30 32.6 -1.3**
comp=Z,68nm,1.0s
MBWA LR LR
comp=Z,8μm,19.0s
TAPN Taplejung 33.99 300 *e*P **P 06 30 37.8 -0.1**
comp=Z,965nm,1.0s
COCO West Island 34.04 225 PFAKE 06 30 50.0 +12
COCO LR LR
comp=Z,6μm,20.0s
ODAN Odare 34.10 300 *e*P **P 06 30 38.7 -0.1**
comp=Z,1μm,1.0s
PMG Port Moresby 34.36 128 *e*P **P 06 30 39.5 -1.3**
comp=Z,318nm,1.6s
PMG Port Moresby 34.36 128 P **P 06 30 41.1 +0.3**
comp=Z,118nm,1.5s,comp=Z,2μm
PMG Port Moresby 34.36 128 LR LR 06 44 10.3
comp=Z,6μm,19.8s,baz=320,slow=36
BOK Bokaro 34.61 294 *e*P **P 06 30 43.4 +0.4**
BOK AMB AMB 06 30 49.7
comp=Z,350nm,2.2s
COEN Coen 34.68 139 *e*P **P 06 30 45.9 +2.4**
comp=Z,384nm,1.0s
RAMN Ramite 34.80 299 *e*P **P 06 30 44.9 0.0**
comp=Z,1μm,1.1s
WRAB Tennant Creek 35.11 157 P **P 06 30 45.0 -2.3**
comp=Z,618nm,1.5s,SNR=33
WRAB Tennant Creek 35.11 157 *e*P **P 06 30 44.9 -2.3**
WRAB pmax pmax
comp=Z,6.0nm,0.9s
WRAB MLR MLR
comp=Z,9μm,20.0s
WRAB Tennant Creek 35.11 157 *e*P **P 06 30 44.9 -2.3**
comp=Z,5.8nm,0.9s
WRAB LR LR
comp=Z,9μm,20.0s
WRA Warramunga Arr 35.11 157 P **P 06 30 44.2 -3.0**
WRA *e* 07 01 40.9
WRA Warramunga Arr 35.11 157 P **P 06 30 44.2 -3.0**
comp=Z,15nm,0.6s,baz=336,slow=9.4,SNR=82
WRA P3KPbc 07 01 40.9
comp=Z,1.5nm,0.7s,baz=157,slow=4.0,SNR=7.9
ERM Erimo 35.31 30 *d i*P **P 06 30 48.2 -0.5**
ERM pmax pmax
comp=Z,61nm,1.7s
ERM Erimo 35.31 30 *e*P **P 06 30 48.5 -0.1**
comp=Z,69nm,1.1s
ERM LR LR
comp=Z,10μm,19.0s
JIRN Jiri 35.36 300 *e*P **P 06 30 49.7 -0.1**
comp=Z,982nm,0.8s
GUN Gumba 35.70 301 *e*P **P 06 30 52.5 -0.2**
comp=Z,4μm,1.2s
PKI Pulchoki 36.00 300 *e*P **P 06 30 54.5 -0.7**
comp=Z,1μm,1.1s
PKIN Phulchoki 36.01 300 *e*P **P 06 30 54.4 -0.9**
comp=Z,1μm,1.2s
KKN Kakani 36.17 300 *e*P **P 06 30 56.1 -0.5**
comp=Z,1μm,1.0s
VIS Vishakhapatnam 36.19 283 *e*P **P 06 30 56.7 +0.1**
DMN Daman 36.27 300 *e*P **P 06 30 56.8 -0.7**
comp=Z,1μm,1.0s
HIA Hailar 36.54 359 *e*P **P 06 30 58.1 -1.1**
comp=Z,62nm,1.1s
HIA LR LR
comp=Z,23μm,20.0s
ASAJ Asahikawa 36.67 27 *e*P **P 06 31 00.5 +0.1**
comp=Z,62nm,1.2s
ASAJ Asahikawa 36.67 27 LR LR 06 47 02.1
comp=Z,11μm,19.2s,baz=40,slow=38
ULN Ulaanbaatar 36.89 345 *e*P **P 06 31 02.0 -0.4**
comp=Z,787nm,1.6s
ULN LR LR
comp=Z,10μm,19.0s
SONM Songino Array 37.03 344 P **P 06 31 03.0 -0.5**
SONM Songino Array 37.03 344 P **P 06 31 03.0 -0.5**
comp=Z,75nm,0.6s,baz=164,slow=8.8,SNR=458
KOLN Koldanda 37.59 299 *e*P **P 06 31 07.9 -0.8**
comp=Z,444nm,0.9s
DANN Dangsing 37.62 300 *e*P **P 06 31 08.2 -0.8**
comp=Z,2μm,1.2s
KLR Kul'dur 37.67 12 ⇓ *i*P P 06 31 03.2 -5.5
KLR *e* 06 32 36.5
KLR *e*SS SS 06 40 03.5 +21
KLR pmax pmax
comp=Z,96nm,1.4s
KLR pmax pmax
comp=Z,2μm,9.5s
KLR MLR MLR
comp=N,6μm,13.5s
KLR MLR MLR
comp=Z,10μm,13.5s
HABR Khabarovsk 37.74 16 *e*P **P 06 31 07.0 -2.3**
HABR *e**PP pP 06 31 25.9 +8.3
HABR *e**SP sP 06 31 35.6 +15
HABR *e* 06 32 34.4
HABR *e* 06 33 22.9
HABR *e*S S 06 36 51.3 -6.7
HABR *e**SS ScP 06 37 24.6 +13
HABR *e*SSS SSS 06 39 56.6
HABR *e* 06 41 11.6
HABR pmax pmax
comp=Z,40nm,1.3s

HABR				MLR	MLR	
	comp=Z,12μm,17.0s					
HABR				MLR	MLR	
	comp=N,7μm,17.0s					
HABR				MLR	MLR	
	comp=E,9μm,18.0s					
YUK	**Yuzh-Kuril'sk**	**38.13**	**30**	*i* P	P	06 31 08.2 -4.5
YUK				*i*		06 32 40.5
YUK				*i* S	S	06 36 53.9 -10
YUK				*i* SS	**SnSn**	**06 39 41.7 -7.0**
YUK				pmax	pmax	
	comp=N,44nm,0.7s					
YUK				pmax	pmax	
	comp=E,601nm,1.4s					
YUK				pmax	pmax	
	comp=Z,706nm,1.4s					
PYUN	**Piuthan**	**38.20**	**300**	*e*P	**P**	**06 31 13.6 -0.2**
	comp=Z,2μm,1.1s					
AS31	**Alice Springs**	**38.38**	**160**	*e*P	**P**	**06 31 13.4 -1.6**
ASAR	**Alice Springs**	**38.38**	**160**	P	**P**	**06 31 13.2 -1.8**
ASAR	**Alice Springs**	**38.38**	**160**	P	**P**	**06 31 13.2 -1.8**
	comp=Z,8.4nm,0.5s,baz=338,slow=6.9,SNR=74					
YSS	**Yuzh-Sakhalins**	**39.01**	**24***c*	*e*P	**P**	**06 31 18.0 -2.0**
YSS				*e*		06 32 52.0
YSS				*e*S	S	06 37 09.0 -8.3
YSS				*e*SS	SnSn	06 39 54.0 -16
YSS				*e*SSS	SSS	06 40 32.0
YSS				pmax	pmax	
	comp=Z,70nm,1.1s					
YSS				pmax	pmax	
	comp=Z,1μm,5.0s					
YSS				MLR	MLR	
	comp=Z,11μm,20.0s					
YSS				MLR	MLR	
	comp=N,8μm,18.0s					
YSS				MLR	MLR	
	comp=E,6μm,18.0s					
PALK	**Pallekele**	**39.52**	**266**	*e*P	**P**	**06 31 24.2 -0.7**
PALK	**Pallekele**	**39.52**	**266**	P	**P**	**06 31 26.3 +1.4**
	comp=E,61nm,1.6s,comp=E,2μm					
CIT	**Chita**	**39.69**	**353**	*e*P	**P**	**06 31 24.6 -1.1**
CIT				*e*		06 31 39.6
CIT				*e*		06 31 54.0
CIT				*e*		06 37 28.3
CIT				pmax	pmax	
	comp=Z,298nm,1.6s					
KUR	**Kuril'sk**	**39.99**	**30**	*e*P	**P**	**06 31 28.0 -0.2**
KUR				pmax	pmax	
	comp=Z,370nm,1.0s					
KUR				pmax	pmax	
	comp=Z,2μm,4.0s					
KUR				pmax	pmax	
	comp=N,3.0nm,3.6s					
ZAK	**Zakamensk**	**40.20**	**343**⇑	*e*P	**P**	**06 31 29.4 -0.7**
ZAK				pmax	pmax	
	comp=Z,77nm,1.0s					
NGP	**Nagpur**	**40.46**	**288**	*e*P	**P**	**06 31 32.5 0.0**
NGP				AMP		06 31 48.5
	comp=Z,403nm,1.6s					
NGP				*e*x	x	06 37 44.4
HYB	**Hyderabad**	**40.73**	**282**⇓	*i* P	**P**	**06 31 34.0 -0.8**
	comp=Z,220nm,1.0s					
HYB				*e*S	**S**	**06 37 44.0 +0.1**
HYB				LR	LR	06 53 48.0
	comp=Z,8.7nm,16.0s					
HYB	**Hyderabad**	**40.73**	**282**	*e*P	**P**	**06 31 34.5 -0.3**
HYB				AMB	AMB	06 31 37.1
	comp=Z,207nm,0.8s					
LGTI	**Lohaghat**	**40.88**	**301**	*e*x	pP	06 31 43.3 -0.9
CTA	**Charters Tower**	**41.22**	**142**	LR	LR	06 51 35.1
	comp=Z,4μm,19.1s,baz=147,slow=40					
CTAO	**Charters Tower**	**41.22**	**142**	*e*P	**P**	**06 31 38.8 +0.1**
CTAO				pmax	pmax	
	comp=Z,134nm,1.1s					
CTAO				MLR	MLR	
	comp=Z,6μm,21.0s					
CTAO	**Charters Tower**	**41.22**	**142**	*e*P	**P**	**06 31 38.8 +0.1**
	comp=Z,134nm,1.1s					
CTAO				LR	LR	
	comp=Z,6μm,21.0s					
TLY	**Talaya**	**41.27**	**344***c*	*i* P	**P**	**06 31 37.9 -0.9**
TLY				*e*		06 33 22.1
TLY				*e*		06 33 36.7
TLY				*e*PPP	PPP	06 33 51.1
TLY				*e*SSS	SSS	06 41 32.8
TLY				pmax	pmax	
	comp=Z,153nm,1.3s					
TLY				MLR	MLR	
	comp=Z,11μm,21.0s					
TLY	**Talaya**	**41.27**	**344**	P	**P**	**06 31 39.7 +0.9**
	comp=Z,549nm,1.5s,SNR=17					
IRK	**Irkutsk**	**41.62**	**345**	*e*P	**P**	**06 31 40.8 -0.8**
IRK				*e*		06 37 57.6
IRK				pmax	pmax	
	comp=Z,357nm,1.3s					
WMQ	**Urumqi**	**41.95**	**324**	*e*P	P	06 31 49.6 +5.1
WMQ	**Urumqi**	**41.95**	**324**	P	**P**	**06 31 44.8 +0.3**
WMQ				pP	**pP**	**06 31 50.8 -2.1**
WMQ				sP	**sP**	**06 31 53.8 -2.4**
WMQ				PP	**PnPn**	**06 33 25.0 -2.1**
WMQ				PcP	**PcP**	**06 33 41.4 +1.7**
WMQ				ScP	**ScP**	**06 37 29.3 +1.0**
WMQ				S	**S**	**06 38 01.8 +0.3**
WMQ				SS	**SS**	**06 41 02.0 -6.8**
WMQ				ScS	**ScS**	**06 41 43.8 -1.8**
WMQ				pmax	pmax	
	comp=Z,320nm,1.1s					
WMQ				pmax	pmax	
	comp=Z,4μm,3.7s					
WMQ				LR	LR	
	comp=N,23μm,26.6s					
WMQ				LR	LR	
	comp=E,14μm,20.7s					
WMQ				LR	LR	
	comp=Z,9μm,19.7s					
MOY	**Mondy**	**42.02**	**342**	*e*P	**P**	**06 31 45.0 0.0**
MOY				pmax	pmax	
	comp=Z,556nm,2.6s					
BHPL	**Bhopal**	**42.17**	**291**	*e*P	**P**	**06 31 46.6 -0.1**
AKL	**Akola**	**42.32**	**287**	*e*P	**P**	**06 31 48.0 +0.2**
AKL				AMP		06 31 51.2
	comp=Z,360nm,1.5s					
AKL				*i* S	**S**	**06 38 08.6 +1.2**
LATR	**Latur**	**42.65**	**283**⇑	*e*x	P	06 31 44.8 -5.6
LATR				*e*x	x	06 31 47.8
	comp=Z,563nm,1.3s					
DDI	**Dehra Dun**	**42.95**	**301**	*e*x	P	06 31 48.3 -4.5
DDI				AMB	AMB	06 31 57.1
	comp=Z,635nm,1.6s					
TRD	**Trivandrum**	**42.96**	**269**	*e*P	**P**	**06 31 53.1 0.0**
TRD				⇓*e*x	x	06 31 56.4
TRD				*e*x	x	06 38 32.4
NDI	**New Delhi**	**43.27**	**299**	*e*x	P	06 31 50.0 -5.4
NDI				*e*x	x	06 32 19.1
FORT	**Forrest**	**43.76**	**171**	*e*P	**P**	**06 31 57.5 -1.7**
	comp=Z,285nm,0.9s					
SMLA	**Simla**	**43.89**	**302**	*i* P	**P**	**06 31 59.6 -0.8**
SMLA				AMB	AMB	06 32 09.1
	comp=Z,282nm,0.9s					
HVS	**Khovu-Aksy**	**44.14**	**336***c*	*i* P	**P**	**06 32 02.5 +0.3**
HVS				pmax	pmax	
	comp=Z,593nm,1.1s					
SDNR	**Sundarnagar**	**44.15**	**302**	*e*P	**P**	**06 32 02.0 -0.5**
CLNS	**Chul'man**	**44.25**	**3**	*e*P	**P**	**06 32 00.6 -2.3**
CLNS				*e*		06 33 46.3
CLNS				*e*S	**S**	**06 38 31.8 -2.9**
CLNS				pmax	pmax	
	comp=Z,44nm,1.3s					
CLNS				pmax	pmax	
	comp=N,42nm,1.1s					
CLNS				pmax	pmax	
	comp=E,19nm,1.3s					
CLNS				pmax	pmax	
	comp=N,15nm,1.0s					
CLNS				pmax	pmax	
	comp=E,17nm,1.0s					
CLNS				pmax	pmax	
	comp=Z,18nm,1.3s					
CLNS				smax	smax	
	comp=E,611nm,13.0s					
CLNS				smax	smax	
	comp=N,920nm,13.0s					
CLNS				MLR	MLR	
	comp=N,6μm,18.0s					
CLNS				MLR	MLR	
	comp=Z,12μm,21.0s					
CLNS				MLR	MLR	
	comp=E,7μm,15.0s					
BHK	**Bhakra**	**44.59**	**302**	*e*x	**P**	**06 32 07.0 +1.0**
WAKE	**Wake Island**	**44.77**	**75**	*e*P	P	06 32 13.4 +5.9
	comp=E,456nm,1.2s					
WAKE				LR	LR	
	comp=Z,5μm,22.0s					
DHRM	**DHARAMSHALA**	**44.90**	**303**	*e*P	**P**	**06 32 07.5 -1.2**
HNR	**Honiara**	**44.90**	**117**	LR	LR	06 49 08.4
	comp=Z,4μm,21.2s,baz=134,slow=34					
KAD	**Karad**	**44.90**	**282**	*e*P	**P**	**06 32 08.1 -0.6**
POO	**Poona**	**45.22**	**284**	*e*P	**P**	**06 32 10.4 -0.8**
POO				*i* PCP	**PcP**	**06 33 50.0 -1.2**
POO				*i* PP	**PP**	**06 33 56.0 -1.2**
POO				*e*PCS	**PcS**	**06 37 43.0 -2.3**
DLH	**Dalhousie**	**45.25**	**303**	*e*P	**P**	**06 32 12.0 +0.5**
NWAO	**Narrogin (SRO)**	**45.40**	**184**	*e*P	**P**	**06 32 14.2 +2.0**
	comp=Z,126nm,1.1s					
NWAO				LR	LR	
	comp=Z,5μm,21.0s					
MK31	**Makanchi Array**	**46.78**	**324**	*i* P	**P**	**06 32 23.3 +0.2**
MK31				pmax	pmax	
	comp=Z,311nm,1.0s					
MK31	**Makanchi Array**	**46.78**	**324**	*e*P	**P**	**06 32 23.4 +0.3**
MKAR	**Makanchi Array**	**46.78**	**324**	P	**P**	**06 32 23.4 +0.3**
MKAR						06 33 56.8
MKAR	**Makanchi Array**	**46.78**	**324**	P	**P**	**06 32 23.4 +0.3**
MKAR				PcP	**PcP**	**06 33 56.8 +0.7**
MKAR	**Makanchi Array**	**46.78**	**324**	P	**P**	**06 32 23.4 +0.3**
	comp=Z,80nm,1.0s,baz=123,slow=8.4,SNR=171					
MKAR				PcP	**PcP**	**06 33 56.8 +0.7**
	comp=Z,80nm,1.1s,baz=126,slow=3.7,SNR=4.2					
MKAR				LR	LR	06 53 22.6
	comp=Z,6μm,18.3s,baz=117,slow=38					
KSH	**Kashi**	**47.47**	**313**	P	**P**	**06 32 30.5 +1.8**
KSH				pP	pP	06 32 42.9 +5.7
KSH				PP	**PP**	**06 34 21.5 +1.2**
KSH				PcS	**PcS**	**06 37 54.5 +0.3**
KSH				S	**S**	**06 39 21.1 -0.7**
KSH				sS	sS	06 39 42.0 +6.3
KSH				pmax	pmax	
	comp=Z,310nm,1.6s					
KSH				pmax	pmax	
	comp=Z,1μm,2.7s					
KSH				LR	LR	
	comp=N,10μm,14.0s					
KSH				LR	LR	
	comp=E,10μm,14.0s					
KSH				LR	LR	
	comp=Z,14μm,15.9s					
BBOO	**Buckleboo**	**47.56**	**162**	*e*P	**P**	**06 32 27.6 -1.7**
	comp=Z,3μm,1.1s					
SKR	**Severo-Kuril's**	**47.75**	**30**	*e*P	P	06 32 27.0 -3.5
SKR				*e*		06 34 26.0
SKR				*e*PPP	PPP	06 35 10.0
SKR				*e*S	S	06 39 18.0 -7.1
SKR				*e*SS	ScS	06 42 34.0 +12
SKR				pmax	pmax	
	comp=Z,480nm,1.5s					
SKR				pmax	pmax	
	comp=N,1μm,4.0s					
SKR				pmax	pmax	
	comp=E,1μm,4.0s					
SKR				pmax	pmax	
	comp=Z,3μm,4.0s					
SKR				smax	smax	
	comp=N,4.0nm,20.0s					
SKR				smax	smax	
	comp=E,4μm,20.0s					
SKR				MLR	MLR	
	comp=N,3μm,20.0s					
SKR				MLR	MLR	
	comp=Z,5μm,20.0s					
EIDS	**Eidsvold**	**48.11**	**142**	*e*P	**P**	**06 32 32.5 -1.2**
	comp=Z,251nm,1.2s					
KRAR	**Krasnoyarsk**	**48.29**	**340**	*e*P	P	06 32 38.0 +3.4
KRAR				pmax	pmax	
	comp=Z,206nm,1.2s					
AAA	**Alma-Ata**	**48.31**	**318**	*e*P	**P**	**06 32 36.3 +1.2**
AAA				*e*S	**S**	**06 39 29.9 -3.6**
AAA				pmax	pmax	
	comp=Z,2μm,6.2s					
AAA				smax	smax	
	comp=E,3μm,8.6s					
AAA				MLR	MLR	
	comp=Z,7μm,18.0s					
ULHL	**Ulahol**	**48.35**	**316**	P	**P**	**06 32 36.4 +0.8**
	SNR=65					
STKA	**Stephens Creek**	**48.65**	**156**	*e*P	**P**	**06 32 37.1 -0.5**
	comp=Z,32nm,1.2s					
STKA	**Stephens Creek**	**48.65**	**156**	P	**P**	**06 32 36.6 -1.1**
	comp=Z,22nm,0.8s,baz=332,slow=8.4,SNR=11					
KZA	**Kyzart**	**48.96**	**315**	P	**P**	**06 32 40.9 +0.4**
	SNR=48					
TKM2	**Tokmak 2**	**49.06**	**317**	*i* P	**P**	**06 32 41.3 +0.2**
TKM2	**Tokmak 2**	**49.06**	**317**	P	**P**	**06 32 41.4 +0.2**
	SNR=43					
TKM2	**Tokmak 2**	**49.06**	**317**	*e*P	**P**	**06 32 41.2 +0.2**
	comp=Z,502nm,1.7s					
TKM2				LR	LR	
	comp=Z,10μm,20.0s					
BHJ	**Bhuj**	**49.30**	**290**	*e*P	**P**	**06 32 42.1 -0.8**
KBK	**Karagaybulak**	**49.39**	**316**	P	**P**	**06 32 44.4 +0.9**
	SNR=52					
CHMS	**Chumysh**	**49.66**	**316**	P	**P**	**06 32 45.6 +0.2**
	SNR=21					
FRU	**Bishkek**	**49.68**	**316**	*i* P	**P**	**06 32 46.0 +0.4**
FRU				*i*		06 33 14.0
FRU				pmax	pmax	
	comp=Z,440nm,1.6s					
AAK	**Ala-Archa**	**49.69**	**316**	P	**P**	**06 32 46.5 +0.7**
	comp=Z,900nm,1.1s,SNR=36					
AAK	**Ala-Archa**	**49.69**	**316***c*	*i* P	**P**	**06 32 46.7 +0.9**
AAK				pmax	pmax	
	comp=Z,308nm,1.7s					
AAK	**Ala-Archa**	**49.69**	**316**	P	**P**	**06 32 46.8 +1.0**
	SNR=135					
AAK	**Ala-Archa**	**49.69**	**316**	P	**P**	**06 32 46.9 +1.0**
	SNR=33					
AAK	**Ala-Archa**	**49.69**	**316**	*e*P	**P**	**06 32 46.3 +0.5**
	comp=Z,195nm,1.1s					
AAK	**Ala-Archa**	**49.69**	**316**	LR	LR	06 56 47.9
	comp=Z,12μm,21.1s,baz=96,slow=40					
YAK	**Yakutsk**	**49.77**	**6***c*	*i* P	**P**	**06 32 43.8 -2.0**
YAK				*e*		06 34 06.1
YAK				*e*		06 34 39.5
YAK				*e*S	**S**	**06 39 51.9 -1.3**
YAK				*e*		06 42 31.8
YAK				pmax	pmax	
	comp=Z,83nm,1.0s					
YAK				pmax	pmax	
	comp=N,43nm,1.2s					
YAK				pmax	pmax	
	comp=E,11nm,1.2s					
YAK				pmax	pmax	
	comp=Z,24nm,0.6s					
YAK				smax	smax	
	comp=E,106nm,2.0s					
YAK				MLR	MLR	
	comp=Z,13μm,24.0s					
YAK				MLR	MLR	
	comp=N,9μm,17.0s					
ZAA0	**Zalesovo Array**	**49.92**	**333**	*e*P	**P**	**06 32 46.7 -0.4**
ZALV	**Zalesovo Beam**	**49.92**	**333**	P	**P**	**06 32 46.6 -0.5**
ZALV						06 34 05.7
ZALV	**Zalesovo Beam**	**49.92**	**333**	P	**P**	**06 32 46.6 -0.5**
ZALV				PcP	**PcP**	**06 34 05.7 -1.4**
ZALV	**Zalesovo Beam**	**49.92**	**333**	P	**P**	**06 32 46.6 -0.5**
	comp=N,55nm,0.4s,baz=131,slow=8.0,SNR=193					
ZALV				PcP	**PcP**	**06 34 05.7 -1.4**
	comp=N,20nm,1.0s,baz=144,slow=5.2,SNR=2.3					
ZALV				LR	LR	06 55 18.2
	comp=N,15μm,20.5s,baz=134,slow=38					
USP	**Ospenovka**	**49.94**	**317**	P	**P**	**06 32 47.7 +0.2**
	SNR=32					
AML	**Almayashu**	**50.05**	**315**	P	**P**	**06 32 49.5 +0.7**
	SNR=48					
PEA0B	**Petropavlovsk-**	**50.06**	**28**	*e*P	**P**	**06 32 48.0 -0.2**
PETK	**Petropavlovsk-**	**50.06**	**28**	P	**P**	**06 32 47.5 -0.7**
PETK	**Petropavlovsk-**	**50.06**	**28**	P	**P**	**06 32 47.5 -0.7**
PETK	**Petropavlovsk-**	**50.06**	**28**	P	**P**	**06 32 47.5 -0.7**
	comp=N,25nm,0.8s,baz=214,slow=4.9,SNR=46					
PETK				LR	LR	06 57 09.0
	comp=N,4μm,19.1s,baz=225,slow=40					
EKS2	**Erkin-Say**	**50.19**	**316**	*e*P	**P**	**06 32 50.2 +0.6**
EKS2				pmax	pmax	
	comp=Z,299nm,1.3s					
EKS2				MLR	MLR	
	comp=Z,14μm,20.0s					
EKS2	**Erkin-Say**	**50.19**	**316**	P	**P**	**06 32 49.8 +0.3**
	SNR=57					
EKS2	**Erkin-Say**	**50.19**	**316**	*e*P	**P**	**06 32 50.2 +0.6**
	comp=Z,299nm,1.3s					
EKS2				LR	LR	
	comp=Z,14μm,20.0s					
PET	**Petropavlovsk**	**50.45**	**29***c*	*i* P	**P**	**06 32 50.5 -0.6**
PET				*e*		06 34 44.8
PET				*e*S	**S**	**06 40 04.5 +1.5**
PET				pmax	pmax	
	comp=Z,66nm,1.9s					
PET				pmax	pmax	
	comp=Z,2μm,5.7s					
PET				pmax	pmax	
	comp=Z,1μm,10.2s					
PET				pmax	pmax	
	comp=Z,900nm,11.2s					
PET				MLR	MLR	
	comp=Z,7μm,23.0s					
PET				MLR	MLR	
	comp=Z,5μm,23.0s					
KURBB	**Kurchatov Arra**	**50.97**	**327**	P	**P**	**06 32 55.4 +0.2**
	comp=Z,79nm,0.8s,baz=126,slow=7.4,SNR=199					
KURBB				S	**S**	**06 40 12.7 +2.4**
	comp=Z,1.7nm,1.1s,baz=120,slow=14,SNR=5.0					
KURK	**Kurchatov**	**50.97**	**327**	P	**P**	**06 32 55.4 +0.2**
KURK				S	**S**	**06 40 12.7 +2.4**
KURK	**Kurchatov**	**50.97**	**327**	P	**P**	**06 32 55.4 +0.2**
KURK				S	**S**	**06 40 12.7 +2.4**
NVS	**Novosibirsk**	**51.20**	**333**⇑	*i* P	**P**	**06 32 56.3 -0.5**
NVS				*e**PP	pP	06 33 18.0 +13
NVS				*e*S	**S**	**06 40 11.4 -2.0**
NVS				*e*		06 42 42.8
NVS				pmax	pmax	
	comp=Z,370nm,1.1s					
NVS				pmax	pmax	
	comp=N,280nm,1.5s					
NVS				pmax	pmax	
	comp=E,190nm,1.3s					
NVS				smax	smax	
	comp=E,146nm,2.0s					
KBL	**Kabul**	**51.34**	**304**	*e*P	**P**	**06 32 58.1 -0.3**
KBL				pmax	pmax	
	comp=Z,521nm,1.8s					
KBL	**Kabul**	**51.34**	**304**	*e*P	**P**	**06 32 58.1 -0.3**
	comp=Z,521nm,1.8s					
DGAR	**Diego Garcia**	**51.73**	**250**	PFAKE		06 33 10.0 +8.7
DGAR				LR	LR	
	comp=Z,11μm,19.0s					
ARMA	**Armidale**	**52.24**	**146**	*e*P	**P**	**06 33 05.8 +0.8**
	comp=Z,241nm,1.1s					
KK31	**Karatay Array**	**52.59**	**315**	*i* P	**P**	**06 33 07.4 0.0**
KK31				pmax	pmax	
	comp=Z,360nm,1.1s					
KKAR	**Karatay Array**	**52.59**	**315**	*e*P	**P**	**06 33 07.5 +0.1**
KKAR				pmax	pmax	
	comp=Z,249nm,0.9s					
KKAR	**Karatay Array**	**52.59**	**315**	*e*P	**P**	**06 33 07.5 +0.1**
	comp=Z,249nm,0.9s					
TARA	**Tarawa**	**53.12**	**98**	PFAKE		06 33 20.0 +8.3
TARA				LR	LR	
	comp=Z,4μm,22.0s					
CAN	**Canberra**	**54.80**	**151**	*e*P	**P**	**06 33 24.9 +1.3**
CAN				pmax	pmax	
	comp=Z,120nm,1.1s					
CAN				MLR	MLR	
	comp=Z,4μm,20.0s					
CAN	**Canberra**	**54.80**	**151**	*e*P	**P**	**06 33 24.9 +1.3**
	comp=Z,120nm,1.1s					
CAN				LR	LR	
	comp=Z,4μm,20.0s					
SEY	**Seymchan**	**55.09**	**17***c*	*i* P	**P**	**06 33 25.3 0.0**
VOSK	**Vostochnaya**	**56.09**	**326**	P	**P**	**06 33 32.5 -0.2**
VOSK				pmax	pmax	
	comp=Z,164nm,1.4s					
BVA0	**Borovoye Array**	**56.55**	**326**	*i* P	**P**	**06 33 35.9 0.0**
BVA0				pmax	pmax	
	comp=Z,1μm,3.0s					
BVAR	**Borovoye Array**	**56.55**	**326**	P	**P**	**06 33 35.8 -0.1**
BVAR	**Borovoye Array**	**56.55**	**326**	P	**P**	**06 33 35.8 -0.1**
BVAR	**Borovoye Array**	**56.55**	**326**	P	**P**	**06 33 35.8 -0.1**
	comp=Z,41nm,0.6s,baz=118,slow=8.7,SNR=79					
BVAR				LR	LR	06 59 14.1
	comp=Z,5μm,18.6s,baz=106,slow=38					
BRVK	**Borovoye**	**56.62**	**326**	P	**P**	**06 33 36.3 -0.1**
	comp=Z,2μm,1.0s,SNR=74					
BRVK	**Borovoye**	**56.62**	**326***c*	*i* P	**P**	**06 33 36.7 +0.3**
BRVK				pmax	pmax	
	comp=Z,243nm,1.0s					
BRVK	**Borovoye**	**56.62**	**326**	P	**P**	**06 33 36.9 +0.4**
	SNR=165					
BRVK	**Borovoye**	**56.62**	**326**	*e*P	**P**	**06 33 36.5 0.0**
	comp=Z,382nm,1.0s					
BRVK				LR	LR	
	comp=Z,6μm,19.0s					
DZM	**Mont Dzumac**	**56.74**	**127**	*e*P	**P**	**06 33 37.3 -0.6**
	comp=Z,91nm,1.1s					
FX1	**Attu Island--F**	**57.89**	**35**	*e*P	**P**	**06 33 45.9 +0.5**
FX1	**Attu Island--F**	**57.89**	**35**	P	**P**	**06 33 45.6 +0.1**
	comp=Z,69nm,0.9s,baz=263,slow=8.1,SNR=11					
SMY	**Shemya**	**58.36**	**35**	*e*P	**P**	**06 33 49.5 +0.9**
SMY				pmax	pmax	
	comp=Z,292nm,1.4s					
SMY	**Shemya**	**58.36**	**35**	*e*P	**P**	**06 33 49.5 +0.9**
	comp=Z,292nm,1.4s					
IDAH	**Dahanechah**	**58.64**	**301**	*e*P	**P**	**06 33 50.9 -0.5**
IMYA	**Miami**	**58.84**	**305**	*e*P	**P**	**06 33 53.7 +1.1**
WBK	**Wadi Bani Khal**	**59.13**	**289**	P	**P**	**06 33 56.0 +1.4**
	SNR=11					
TIXI	**Tiksi**	**59.21**	**3***c*	*i* P	**P**	**06 33 52.2 -2.1**
TIXI				pmax	pmax	
	comp=Z,85nm,1.2s					
TIXI				MLR	MLR	
	comp=Z,15μm,20.0s					
IKOO	**Kooshah**	**59.34**	**300**	*e*P	**P**	**06 33 56.7 +0.5**
IMOG	**Moghan**	**59.42**	**305**	*e*P	**P**	**06 33 56.2 -0.6**
MIDW	**Midway**	**59.68**	**65**	*e*P	**P**	**06 33 59.2 +0.9**
MIDW				pmax	pmax	
	comp=Z,309nm,1.3s					
MIDW				LR	LR	
	comp=Z,6μm,21.0s					
IPAY	**Payeh**	**59.73**	**305**	*e*P	**P**	**06 33 58.5 -0.3**
JMDO	**Jabal Madar**	**59.94**	**289**	P	**P**	**06 34 00.4 +0.1**
	SNR=10.0					
IAKL	**Akhelmad**	**59.94**	**305**	*e*P	**P**	**06 33 59.7 -0.6**
SMDO	**Samad**	**59.97**	**289**	⇓P	**P**	**06 34 01.2 +0.7**
	SNR=6.5					
IEMG	**Emamgholi**	**60.12**	**306**	*e*P	**P**	**06 34 01.4 -0.2**
IKRD	**Kardeh**	**60.16**	**305**	*e*P	P	06 33 57.2 -4.6
TAU	**Tasmania Unive**	**60.48**	**158**	*e*P	P	06 34 07.0 +3.6
TAU				pmax	pmax	
	comp=Z,103nm,1.4s					
TAU				MLR	MLR	
	comp=Z,5μm,20.0s					
TAU	**Tasmania Unive**	**60.48**	**158**	*e*P	P	06 34 07.0 +3.6
	comp=Z,103nm,1.4s					
TAU				LR	LR	
	comp=Z,5μm,20.0s					
ISFR	**Sfrayin**	**60.60**	**305**	*e*P	**P**	**06 34 04.9 +0.1**
HOQ	**Hoqain**	**60.63**	**290**	P	**P**	**06 34 04.4 -0.5**
	SNR=17					
BSY	**Bisya**	**60.76**	**289**	P	**P**	**06 34 05.2 -0.6**
	SNR=14					
ISHV	**Shirvan**	**60.89**	**306**	*e*P	**P**	**06 34 08.9 +2.2**
AMKA	**Amchitka**	**60.92**	**38**	*e*P	**P**	**06 34 06.3 0.0**
	comp=Z,112nm,1.0s					
ARQ	**Araqi**	**61.37**	**290**	P	**P**	**06 34 10.6 +0.6**
	SNR=17					
AB31	**Akbulak array**	**61.41**	**319**	*i* P	**P**	**06 34 09.5 -0.2**
AB31				pmax	pmax	
	comp=Z,78nm,0.7s					
ABKAR	**Akbulak array**	**61.41**	**319**	*e*P	**P**	**06 34 09.5 -0.2**
	comp=Z,103nm,0.8s					
IBAF	**Bafgh**	**62.21**	**299**	*e*P	**P**	**06 34 15.4 -0.3**
AKTO	**Aktyubinsk**	**62.91**	**320**	P	**P**	**06 34 19.7 -0.1**
AKTO	**Aktyubinsk**	**62.91**	**320**	P	**P**	**06 34 19.7 -0.1**
AKTO	**Aktyubinsk**	**62.91**	**320**	P	**P**	**06 34 19.7 -0.1**
	comp=Z,113nm,1.1s,baz=119,slow=7.3,SNR=59					
AKTO				LR	LR	07 03 36.4
	comp=Z,15μm,19.2s,baz=272,slow=38					
IMEH	**Mehriz**	**63.02**	**299**	*e*P	**P**	**06 34 20.5 -0.7**
SVE	**Sverdlovsk**	**63.20**	**328**⇓	*e*P	**P**	**06 34 21.6 0.0**
SVE				*e*S	**S**	**06 42 50.4 -0.9**

SVE eSS **SS** **06 46 59.5 +2.0**
SVE pmax pmax
comp=Z,493nm,1.2s
SVE pmax pmax
comp=Z,433nm,8.6s
SVE MLR MLR
comp=Z,5μm,17.0s
ADK Adak 63.46 38 eP **P** **06 34 22.1 -1.2**
ADK pmax pmax
comp=Z,2μm,1.6s
ADK MLR MLR
comp=Z,3μm,21.0s
ADK Adak 63.46 38 eP **P** **06 34 22.1 -1.2**
comp=Z,2μm,1.6s
ADK LR LR
comp=Z,3μm,21.0s
IANJ Anjilo 63.76 303 eP **P** **06 34 25.4 -0.6**
ISAD Sadrabad 63.82 299 eP **P** **06 34 26.7 +0.2**
RBK Rabkut 63.93 283 P **P** **06 34 27.3 +0.2**
SNR=19
IKIA Kiasar 63.99 304 eP **P** **06 34 28.8 +1.3**
ARU Arti 64.17 327c iP **P** **06 34 27.2 -0.8**
ARU *PP pP 06 34 46.4 +10
ARU 06 35 00.1
ARU 06 36 51.4
ARU PPP PPP 06 38 23.5
ARU S **S** **06 43 00.3 -3.0**
ARU SS **SS** **06 47 08.9 -3.7**
ARU SSS SSS 06 49 57.7
ARU pmax pmax
comp=Z,111nm,1.0s
ARU MLR MLR
comp=Z,6μm,18.0s
ARU Arti 64.17 327 P **P** **06 34 27.9 -0.1**
comp=Z,902nm,1.3s,SNR=28
ISHM Shahmirzad 64.28 304 eP **P** **06 34 29.5 0.0**
MSVF Nonsavu 64.32 117 eP **P** **06 34 30.1 +0.4**
MSVF pmax pmax
comp=Z,38nm,0.8s
MSVF MLR MLR
comp=Z,3μm,20.0s
MSVF Nonsavu 64.32 117 eP **P** **06 34 30.1 +0.4**
comp=Z,38nm,0.8s
MSVF LR LR
comp=Z,3μm,20.0s
ILAS Lasjerd 64.54 303 eP **P** **06 34 31.0 -0.1**
ABTO Aybut 64.81 283 P **P** **06 34 32.3 -0.6**
SNR=18
IPRN Peran 65.08 304 eP **P** **06 34 34.8 +0.3**
ISFB Sefidab 65.09 302 eP **P** **06 34 34.3 -0.2**
IVRN Varamin 65.53 303 eP **P** **06 34 36.7 -0.7**
SOKR Solikamsk 65.99 330c iP **P** **06 34 39.2 -0.5**
SOKR S **S** **06 43 24.8 -0.7**
SOKR pmax pmax
comp=Z,80nm,1.1s
SOKR MLR MLR
comp=Z,13μm,23.0s
IMHD Mahdasht 66.41 304 eP **P** **06 34 43.3 +0.2**
IGZV Ghazvin 66.79 304 eP **P** **06 34 45.6 0.0**
MSEY Mahe Island 66.84 259 eP **P** **06 34 47.3 +1.3**
comp=Z,99nm,1.1s
MSEY LR LR
comp=Z,6μm,22.0s
IRAZ Razeghan 67.01 303 eP **P** **06 34 46.4 -0.6**
ISRB Sarab 68.85 306 eP **P** **06 35 00.6 +2.1**
UMR Umm Al-Rimmam 69.00 297 eP **P** **06 34 58.6 -0.7**
UMR AMb AMB 06 35 06.4
comp=Z,472nm,1.2s
MAK Makhachkala 69.08 311 eP **P** **06 35 01.0 +1.4**
MAK e*SP sP 06 35 26.0 +14
MAK e 06 37 35.6
MAK ePPP PPP 06 39 16.7
MAK eS **S** **06 44 05.5 +2.3**
MAK e*SS sS 06 44 31.2 +14
MAK eSS SS 06 48 20.0 -9.3
MAK pmax pmax
comp=Z,96nm,0.8s
MIB Mutribah 69.31 297 eP **P** **06 35 00.6 -0.7**
MIB AMb AMB 06 35 08.8
comp=Z,538nm,1.1s
IHRS Heris 69.34 306 eP **P** **06 35 03.0 +1.4**
NAY Al-Naaiem 69.43 297 eP **P** **06 35 01.5 -0.5**
NAY AMb AMB 06 35 09.5
comp=Z,273nm,1.3s
MRIV Mauritius Mete 70.06 243 eP **P** **06 35 05.6 -0.4**
IAZR Azarshahr 70.19 306 eP **P** **06 35 07.2 +0.3**
IMRD Marand 70.39 307 eP **P** **06 35 08.3 +0.3**
GNI Garni 71.12 308 eP **P** **06 35 12.2 -0.2**
GNI Garni 71.12 308 P **P** **06 35 13.9 +1.5**
SNR=62
GNI Garni 71.12 308 eP **P** **06 35 13.4 +1.0**
comp=Z,232nm,1.0s
GNI Garni 71.12 308 P **P** **06 35 12.9 +0.5**
comp=Z,27nm,0.8s,baz=192,slow=7.5,SNR=17
GNI LR LR 07 10 57.8
comp=Z,5μm,21.8s,baz=332,slow=40
RAYN Ar Rayn 71.45 291 P **P** **06 35 14.7 +0.2**
comp=Z,878nm,1.2s,SNR=41
ZEI Tsey 71.72 311 eP **P** **06 35 15.2 -0.8**
ZEI pmax pmax
comp=Z,91nm,0.8s
CLDR Caldiran 71.78 307 eP **P** **06 35 17.2 +0.7**
RER Riviere de l'E 71.90 243 PFAKE 06 35 30.0 +13
RER LR LR
comp=Z,3μm,19.0s
DYDN Diyadin 71.94 308 iP **P** **06 35 18.6 +1.2**
HAKT HAKKARI 71.99 306 iP **P** **06 35 17.1 -0.8**
AFI Afiamalu 72.10 109 LR LR 07 04 43.5
comp=Z,2μm,20.4s,baz=277,slow=34
DIGO Kars 72.16 309 iP **P** **06 35 19.9 +1.1**
GOF Gofitskoye 72.33 313 eP **P** **06 35 20.0 +0.6**
GOF pmax pmax
comp=Z,70nm,0.8s
KARS Kars 72.38 309 eP **P** **06 35 20.6 +0.7**
KBZ Khabaz 72.45 312 P **P** **06 35 20.1 0.0**
KBZ Khabaz 72.45 312 P **P** **06 35 20.1 0.0**
KBZ Khabaz 72.45 312 P **P** **06 35 20.1 0.0**
comp=Z,30nm,0.9s,baz=152,slow=5.2,SNR=27
KBZ LR LR 07 11 14.0
comp=Z,3μm,18.9s,baz=260,slow=39
GEVA Gevas 72.48 306 iP **P** **06 35 20.3 -0.2**
AGRB Hanur-Agry 72.48 308 eP **P** **06 35 23.4 +2.8**
RAO Raoul Island 72.52 126 LR LR 07 03 36.4
comp=Z,2μm,21.8s,baz=276,slow=33
RPZ Rata Peaks 72.54 144 eP **P** **06 35 18.9 -1.6**
comp=Z,159nm,1.1s
RPZ Rata Peaks 72.54 144 LR LR 07 07 57.2
comp=Z,3μm,18.4s,baz=214,slow=36
KIV Kislovodsk 72.60 312c iP **P** **06 35 21.3 +0.2**
KIV i 06 35 38.9
KIV e 06 38 05.4
KIV iS **S** **06 44 46.1 +1.7**
KIV pmax pmax
comp=Z,86nm,1.0s
KIV Kislovodsk 72.60 312 P **P** **06 35 21.9 +0.8**
comp=Z,1μm,0.9s,SNR=29
SIRT Sirnak 73.00 306 eP **P** **06 35 25.5 +1.9**
SIRN S¨–rnak 73.03 306 iP **P** **06 35 24.1 +0.4**
URZ Urewera 73.21 137 eP **P** **06 35 26.9 +2.4**
comp=Z,58nm,1.3s
URZ Urewera 73.21 137 LR LR 07 06 58.6
comp=Z,2μm,18.7s,baz=128,slow=35
DAGI Agillar 73.25 309 iP **P** **06 35 25.9 +0.9**
HOMI Horasan 73.30 308 iP **P** **06 35 25.9 +0.4**
VRHR Novokhopersk 73.30 320 eP **P** **06 35 23.8 -1.2**
VRHR eS **S** **06 44 48.1 -3.7**
VRHR pmax pmax
comp=Z,260nm,1.0s
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=E,170nm,1.0s
VRHR smax smax
comp=E,360nm,3.2s
VRHR smax smax
comp=Z,310nm,4.7s
VRHR smax smax
comp=N,150nm,1.5s
VRHR MLR MLR
comp=Z,3μm,16.0s
VRHR MLR MLR
comp=N,200nm,11.0s
VRHR MLR MLR
comp=E,2μm,15.0s
SNZO South Karori 73.31 140 PFAKE 06 35 40.0 +15

SNZO LR LR
comp=Z,3μm,20.0s
DDEM Demirkent 73.38 309 iP **P** **06 35 26.2 +0.4**
DBAD Bademkaya 73.42 309 iP **P** **06 35 25.9 -0.2**
DBOC Borcka 73.42 310 iP **P** **06 35 26.9 +0.9**
SDPT Sand Point 73.48 36 eP **P** **06 35 24.1 -1.8**
comp=Z,213nm,1.3s
VRTB Varto-Mus 73.69 307 eP P 06 35 31.0 +3.3
ERZM Erzurum 73.72 308 iP **P** **06 35 31.0 +3.0**
BEST Besiri 73.91 306 iP **P** **06 35 31.2 +2.2**
BNGL BINGOL 73.94 307 iP **P** **06 35 30.6 +1.3**
BNGB Bing¶l 74.30 307 eP **P** **06 35 32.0 +0.7**
MARD Mardin 74.33 305 iP **P** **06 35 32.3 +0.8**
MAZI Mazidag 74.59 306 eP **P** **06 35 34.7 +1.8**
CHGN Chignik 74.66 35 eP **P** **06 35 31.4 -1.4**
KLMR Klimovskoe 74.67 330c iP **P** **06 35 31.9 -0.9**
KLMR e 06 38 23.4
KLMR S **SKiKP** **06 44 57.4 +0.9**
KLMR pmax pmax
comp=Z,477nm,1.2s
KLMR pmax pmax
comp=Z,756nm,1.5s
SOC Sochi 74.76 312d iP **P** **06 35 32.1 -1.6**
SOC e 06 35 45.5
SOC e*PP **PcP** **06 35 52.8 +5.1**
SOC e 06 38 25.0
SOC ePPP PPP 06 40 05.2
SOC eS **S** **06 45 03.2 -5.4**
SOC e 06 45 33.9
SOC e*SS **ScS** **06 45 43.1 -0.7**
SOC eSS **SS** **06 49 59.5 +3.2**
SOC pmax pmax
comp=Z,98nm,1.0s
VORD Divnogorie 74.77 320 eP **P** **06 35 31.5 -2.1**
VORD eS **S** **06 45 04.6 -3.8**
VORD pmax pmax
comp=Z,90nm,0.6s
VORD pmax pmax
comp=N,310nm,0.9s
VORD pmax pmax
comp=E,30nm,0.3s
VORD smax smax
comp=N,890nm,5.3s
VORD smax smax
comp=Z,100nm,3.3s
VORD smax smax
comp=E,570nm,5.9s
DIYA Diyarbakir 74.81 306 iP **P** **06 35 35.1 +0.9**
VOR Voronezh 74.81 320 P **P** **06 35 33.0 -0.8**
VOR pmax pmax
comp=Z,960nm,1.6s
GUMT Gumushane 75.13 309 eP **P** **06 35 38.2 +2.2**
EZC Erzincan 75.27 308 eP **P** **06 35 37.8 +0.9**
PTK Pertek 75.31 307 eP **P** **06 35 38.0 +0.8**
KELT Kelkit 75.32 308 iP **P** **06 35 37.4 +0.2**
TMCR Tamitsa 75.44 333 eP **P** **06 35 36.9 -0.2**
TMCR e 06 35 46.9
TMCR pmax pmax
comp=Z,276nm,1.1s
ATD Arta Tunnel 75.65 279 LR LR 07 07 09.0
comp=Z,2μm,20.5s,baz=85,slow=34
ELZG Elazig 75.66 307 iP **P** **06 35 41.4 +2.2**
MOS Moscow 75.66 325 eP **P** **06 35 37.1 -1.5**
MOS e 06 35 50.2
MOS e 06 38 25.1
MOS eS **S** **06 45 14.6 -3.5**
MOS eSS **SS** **06 50 06.0 -3.4**
MOS pmax pmax
comp=Z,246nm,1.5s
MOS pmax pmax
comp=Z,1μm,2.4s
MOS MLR MLR
comp=Z,5μm,17.0s
MOS MLR MLR
comp=E,5μm,18.0s
MOS MLR MLR
comp=N,4μm,16.0s
URFA Urfa 75.88 306 eP **P** **06 35 40.1 -0.3**
PAF Port-aux-Franc 75.90 211 PFAKE 06 35 50.0 +10
PAF LR LR
comp=Z,3μm,19.0s
MALT Malatya 76.11 307 eP **P** **06 35 43.7 +2.0**
MALT Malatya 76.11 307 ⇑P **P** **06 35 42.9 +1.2**
MALT Malatya 76.11 307 ⇑iP **P** **06 35 42.9 +1.2**
SUSE Susehri 76.12 309 iP **P** **06 35 43.2 +1.5**
OBN Obninsk 76.29 324 ⇑iP **P** **06 35 41.2 -0.9**
OBN i*PP **PcP** **06 35 58.9 +4.9**
OBN i 06 38 38.1
OBN iS **S** **06 45 22.9 -2.0**
OBN iSS **SS** **06 50 21.5 +2.7**
OBN pmax pmax
comp=Z,362nm,1.8s
OBN MLR MLR
comp=Z,6μm,20.0s
OBN Obninsk 76.29 324 P **P** **06 35 43.9 +1.8**
comp=Z,1μm,1.6s,SNR=9.5
ANN Anapa 76.32 313 eP **P** **06 35 41.6 -1.0**
ANN e*PP PcP 06 36 02.0 +7.6
ANN eS **S** **06 45 23.6 -2.2**
ANN pmax pmax
comp=Z,132nm,1.0s
ANN MLR MLR
comp=N,3μm,24.0s
ANN MLR MLR
comp=E,1μm,24.0s
ANN MLR MLR
comp=Z,5μm,24.0s
RSDY Resadiye-TOKAT 76.77 309 eP P 06 35 49.5 +4.2
IM04 Indian Mountai 76.82 25 eP **P** **06 35 44.3 -0.8**
LVZ Lovozero 76.83 337d iP **P** **06 35 44.9 -0.2**
LVZ pmax pmax
comp=Z,212nm,1.0s
LVZ Lovozero 76.83 337 P **P** **06 35 44.7 -0.4**
comp=Z,1μm,1.0s,SNR=5.1
IMA2 Indian Mountai 76.86 25 eP **P** **06 35 45.0 -0.4**
GZT Gaziantep 76.88 306 iP **P** **06 35 46.0 -0.2**
SCER sogukcermik 76.97 308 iP **P** **06 35 47.7 +1.1**
SVSK Karacayir 77.07 308 eP **P** **06 35 50.0 +3.1**
ERBA Erbaa 77.18 309 iP **P** **06 35 48.1 +0.5**
APA Apatity 77.32 337⇑iP **P** **06 35 48.0 +0.3**
APA i 06 35 54.4
APA iS **S** **06 45 35.0 -0.8**
APA i 06 45 48.0
APA iPS PnS 06 46 06.0 -11
APA pmax pmax
comp=Z,175nm,1.0s
APA MLR MLR
comp=Z,24μm,18.0s
KUZU Kuzuini 77.33 305 iP **P** **06 35 49.3 +0.7**
KMRS Kahramanmaras 77.39 306 eP **P** **06 35 49.5 +0.7**
TOKA Tokat 77.42 309 iP **P** **06 35 49.8 +0.8**
OHAK Old Harbor 77.45 34 eP **P** **06 35 48.4 -0.3**
comp=Z,110nm,1.1s
RSO Redoubt South 77.52 30 eP **P** **06 35 48.9 -0.4**
comp=Z,159nm,1.0s
PPLA Purkeypile 77.64 28 eP **P** **06 35 49.7 -0.2**
comp=Z,95nm,1.2s
PINB Pinarbasi 77.66 307 iP **P** **06 35 51.1 +0.5**
KVT Kavak 77.67 310 eP **P** **06 35 50.1 -0.2**
KIP Kipapa 77.68 71 PFAKE 06 36 00.0 +9.4
KIP LR LR
comp=Z,2μm,19.0s
KDAK Kodiak Island 77.79 33 P **P** **06 35 50.6 0.0**
comp=Z,390nm,1.5s,SNR=8.1
KDAK Kodiak Island 77.79 33 eP **P** **06 35 50.4 -0.2**
comp=Z,140nm,1.4s
KDAK LR LR
comp=Z,3μm,20.0s
KDAK Kodiak Island 77.79 33 P **P** **06 35 50.5 -0.1**
comp=Z,17nm,0.5s,baz=298,slow=4.5,SNR=12
HAVZ Havza 77.92 310 iP **P** **06 35 52.1 +0.4**
ASF Jabal al Asfar 78.03 301 P **P** **06 35 53.6 +1.1**
ASF Jabal al Asfar 78.03 301 P **P** **06 35 53.6 +1.1**
comp=Z,28nm,1.1s,baz=69,slow=6.1,SNR=44
ASF LR LR 07 14 43.2
comp=Z,2μm,19.6s,baz=36,slow=39
BNN Bunyan 78.07 307 eP **P** **06 35 53.2 +0.5**
BPAW Bear Paw Mtn. 78.10 27 eP **P** **06 35 52.3 +0.1**
comp=Z,226nm,1.2s
FKH Fakeheh 78.17 303 eP **P** **06 35 53.8 +0.5**
COLD Coldfoot 78.19 23 eP **P** **06 35 52.7 0.0**
comp=Z,56nm,1.2s
YAYL Yayladag 78.20 305 iP **P** **06 35 53.8 +0.3**
KOZT Kozan 78.25 306 eP **P** **06 35 55.5 +2.0**

YOZ Yozgat 78.38 308 eP **P** **06 35 53.3 -1.2**
JOF Joensuu 78.50 332 eP **P** **06 35 53.7 -0.7**
JOF pmax pmax
comp=Z,13nm,0.4s
JOF Joensuu 78.50 332 ep **P** **06 35 53.7 -0.7**
comp=Z,13nm,0.4s
OPO Ambohidratompo 78.63 248 LR LR 07 09 58.3
comp=Z,4μm,18.4s,baz=55,slow=35
SIM Simferopol' 78.66 314ceP **P** **06 35 55.8 +0.1**
SIM 06 39 00.3
SIM eS **S** **06 45 50.0 -1.1**
SIM pmax pmax
comp=Z,145nm,0.9s
CTKT Corum 78.67 309 iP **P** **06 35 56.1 +0.1**
ABPO Ambohimpanom 78.72 247 eP **P** **06 35 57.2 +0.5**
ABPO pmax pmax
comp=Z,60nm,1.0s
ABPO MLR MLR
comp=Z,4μm,19.0s
ABPO Ambohimpanom 78.72 247 eP **P** **06 35 57.2 +0.5**
comp=Z,60nm,1.0s
ABPO LR LR
comp=Z,4μm,19.0s
RCY Rachaya 78.74 302 eP **P** **06 35 56.7 +0.2**
BHL Bhannes 78.84 302 eP **P** **06 35 57.9 +0.9**
CORM Corum 78.84 309 eP **P** **06 35 56.1 -0.8**
KARA Karaisali 78.88 306 eP **P** **06 35 55.6 -1.5**
RC01 Rabbit Creek A 78.95 30 eP **P** **06 35 56.0 -0.9**
comp=Z,46nm,1.0s
CASY Casey 79.03 184 eP **P** **06 35 55.5 -1.5**
comp=Z,111nm,1.4s
CASY LR LR
comp=Z,2μm,21.0s
MCK McKinley 79.04 27 eP **P** **06 35 56.7 -0.7**
MCK pmax pmax
comp=Z,162nm,1.0s
MCK McKinley 79.04 27 eP **P** **06 35 56.7 -0.7**
comp=Z,162nm,1.0s
BZK Bozkurt 79.09 311 eP **P** **06 35 58.0 -0.1**
GULE Gulek 79.10 306 iP **P** **06 36 00.5 +2.0**
CDAG Cicekdag 79.11 308 iP **P** **06 35 57.1 -1.4**
NIG Nigde 79.12 307 eP **P** **06 35 59.6 +0.9**
MMAI Mount Meron Ar 79.17 302 P **P** **06 36 00.1 +1.3**
MMAI Mount Meron Ar 79.17 302 P **P** **06 36 00.1 +1.3**
comp=Z,19nm,0.8s,baz=72,slow=9.4,SNR=14
MMAI LR LR 07 15 39.9
comp=Z,2μm,21.0s,baz=80,slow=39
PMR Palmer 79.18 29 eP **P** **06 35 57.2 -1.0**
PMR pmax pmax
comp=Z,67nm,0.9s
PMR Palmer 79.18 29 eP **P** **06 35 57.2 -1.0**
comp=Z,66nm,0.9s
TOS Tosya 79.19 310 eP **P** **06 35 58.8 0.0**
COLA College 79.38 26 eP **P** **06 35 58.5 -0.7**
COLA pmax pmax
comp=Z,283nm,1.2s
COLA MLR MLR
comp=Z,2μm,19.0s
COLA College 79.38 26 eP **P** **06 35 58.5 -0.7**
comp=Z,283nm,1.2s
COLA LR LR
comp=Z,2μm,19.0s
ILGA Ilgaz 79.42 310 iP **P** **06 35 59.7 -0.6**
CANT Cankiri 79.56 309 eP **P** **06 36 00.1 -0.6**
BR131 Keskin Array S 79.66 308 eP **P** **06 36 00.7 -0.8**
comp=Z,19nm,0.8s
BRTR Keskin Array B 79.66 308 P **P** **06 36 00.9 -0.6**
BRTR PP **PP** **06 38 57.9 -4.4**
BRTR Keskin Array B 79.66 308 P **P** **06 36 00.9 -0.6**
comp=Z,9.9nm,0.8s,baz=86,slow=5.9,SNR=25
BRTR PP **PP** **06 38 57.9 -4.4**
comp=Z,5.6nm,1.0s,baz=79,slow=7.9,SNR=3.7
ELDT Eldivan 79.72 309 iP **P** **06 36 01.6 -0.2**
ILAR Eielson Array 79.80 26 P **P** **06 35 59.6 -1.9**
ILAR PKKPbc **PKKPbc** **06 54 47.5 -2.6**
ILAR P'P' 07 02 57.2
ILAR Eielson Array 79.80 26 P **P** **06 35 59.6 -1.9**
comp=Z,12nm,0.9s,baz=264,slow=4.3,SNR=38
ILAR PKKPbc **PKKPbc** **06 54 47.5 -2.6**
comp=Z,2.8nm,0.9s,baz=124,slow=1.1,SNR=7.6
ILAR PKPPKP **P'P'df** **07 02 57.2 +3.2**
comp=Z,2.2nm,1.1s,baz=164,slow=3.4,SNR=7.6
ILAR LR LR 07 13 46.0
comp=Z,3μm,21.3s,baz=39,slow=38
SULT Sultanhani-AKS 79.97 307 eP **P** **06 36 05.8 +2.8**
ARCES ARCESS Array B 80.01 339 P **P** **06 36 02.3 -0.3**
ARCES ARCESS Array B 80.01 339 P **P** **06 36 02.3 -0.3**
comp=Z,170nm,1.1s,baz=86,slow=5.9,SNR=74
ARCES LR LR 07 15 46.4
comp=Z,11μm,19.3s,baz=175,slow=39
ARE0 ARCESS Array S 80.01 339 eP **P** **06 36 02.6 0.0**
ARE0 ARCESS Array S 80.01 339 eP **P** **06 36 02.4 -0.2**
BBAL Bala 80.08 308 iP **P** **06 36 03.2 -0.5**
IKL Isikli 80.11 305 eP **P** **06 36 01.9 -1.9**
AFSR Af´ar-Bala (A 80.13 308 eP **P** **06 36 03.1 -0.9**
ANTO Ankara 80.28 309 eP **P** **06 36 04.0 -0.7**
ANTO Ankara 80.28 309 eP **P** **06 36 05.4 +0.7**
ANTO pmax pmax
comp=Z,61nm,1.1s
ANTO MLR MLR
comp=Z,2μm,19.0s
ANTO Ankara 80.28 309 ⇑P **P** **06 36 06.4 +1.7**
SNR=23
ANTO Ankara 80.28 309 eP **P** **06 36 05.4 +0.7**
comp=Z,61nm,1.1s
ANTO LR LR
comp=Z,2μm,19.0s
ANTO Ankara 80.28 309⇑iP **P** **06 36 05.0 +0.3**
DRV Dumont d'Urvil 80.37 172 P P 06 35 54.0 -10
DRV Dumont d'Urvil 80.37 172 PP PP 06 39 03.0 -4.6
DRV S **S** **06 46 11.0 +2.9**
DRV SS SS 06 51 39.0 +19
DRV L L 06 57 00.0
DRV R 07 02 00.0
LFK Lefkose 80.38 304 eP **P** **06 36 05.1 -0.2**
CSS Prodhromos 80.59 304 P **P** **06 36 06.6 +0.2**
comp=Z,5.5nm,1.5s
CSS Prodhromos 80.59 304 P **P** **06 36 06.3 -0.1**
CSS Prodhromos 80.59 304 eP **P** **06 36 06.6 +0.2**
CSS Prodhromos 80.59 304 eP **P** **06 36 06.3 -0.1**
comp=Z,273nm,1.0s
CSS LR LR
comp=Z,3μm,21.0s
SPA0 Spitsbergen Ar 80.60 348 eP **P** **06 36 05.3 -0.3**
SPA0 eS **S** **06 46 12.5 +1.9**
SPITS Spitsbergen Ar 80.60 348 P **P** **06 36 05.0 -0.6**
SPITS Spitsbergen Ar 80.60 348 P **P** **06 36 05.0 -0.6**
comp=Z,14nm,0.4s,baz=90,slow=7.2,SNR=27
MAMC Mammari 80.65 304 P **P** **06 36 08.7 +2.0**
ERMK Ermenek 80.67 305 iP **P** **06 36 08.5 +1.5**
PAX Paxson 80.69 28 eP **P** **06 36 05.7 -0.8**
PAX pmax pmax
comp=Z,142nm,1.6s
PAX Paxson 80.69 28 eP **P** **06 36 05.7 -0.8**
comp=Z,142nm,1.6s
DIV Divide 80.85 29 eP **P** **06 36 07.2 -0.2**
comp=Z,80nm,1.0s
HEF Hetta 80.87 338 eP **P** **06 36 06.8 -0.4**
KTK1 Kautokeino 80.90 339 eP **P** **06 36 07.1 -0.2**
KTK1 epP **PcP** **06 36 11.4 -2.4**
KTK1 AMB AMB 06 36 13.7
comp=Z,135nm,0.8s
KAF Kangasniemi 80.90 332 eP **P** **06 36 06.6 -0.9**
KAF pmax pmax
comp=Z,7.0nm,0.4s
KAF Kangasniemi 80.90 332 ep **P** **06 36 06.6 -0.9**
comp=Z,7.2nm,0.4s
KONT Konya--Tatoy 80.90 307 eP **P** **06 36 07.6 -0.5**
LEF Lefka 80.92 304 eP **P** **06 36 08.4 +0.3**
BJO Bjornoya 80.92 345 AMS AMS 07 10 54.2
comp=Z,7μm,17.0s
HDMB Hadim 80.96 306 eP **P** **06 36 08.8 +0.2**
SZAC Souni-Zanaja 80.98 304 P **P** **06 36 09.1 +0.6**
KDHN Kadinhani 81.00 307 iP **P** **06 36 07.3 -1.4**
KDZE Karadeniz Ereo 81.08 310 eP **P** **06 36 08.5 -0.4**
FIA1 FINESS Array S 81.12 331 eP **P** **06 36 07.7 -1.0**
FINES FINESS Array B 81.12 331 P **P** **06 36 08.1 -0.6**
FINES PP **PP** **06 39 15.3 +1.7**
FINES FINESS Array B 81.12 331 P **P** **06 36 08.0 -0.6**
comp=Z,32nm,0.6s,baz=57,slow=5.1,SNR=70
FINES PP **PP** **06 39 15.3 +1.7**
comp=Z,7.0nm,0.9s,baz=76,slow=6.3,SNR=2.6
FINES LR LR 07 16 37.7
comp=Z,7μm,18.8s,baz=90,slow=39
KIZT Kizilcal 81.13 308 eP **P** **06 36 08.7 -0.6**

ALFC	**Alevga**	**81.15 304**	P	**P**	**06 36 09.3**	**-0.1**
	comp=Z,2.5nm,1.0s					
AKASG	**Malin Array Be**	**81.15 320**	P	**P**	**06 36 07.8**	**-1.2**
AKASG					06 39 17.6	
AKASG	**Malin Array Be**	**81.15 320**	P	**P**	**06 36 07.8**	**-1.2**
AKASG			PP	**PP**	**06 39 17.6**	**+3.5**
AKASG	**Malin Array Be**	**81.15 320**	P	**P**	**06 36 07.8**	**-1.2**
	comp=Z,42nm,0.8s,baz=67,slow=5.1,SNR=90					
AKASG			PP	**PP**	**06 39 17.6**	**+3.5**
	comp=Z,24nm,1.1s,baz=65,slow=7.1,SNR=4.2					
AKASG			LR	LR	07 16 44.1	
	comp=Z,4μm,19.1s,baz=60,slow=39					
KIEV	**Kiev**	**81.16 320**	*e*P	**P**	**06 36 07.8**	**-1.3**
KIEV			pmax	pmax		
	comp=Z,175nm,1.1s					
KIEV			MLR	MLR		
	comp=Z,4μm,19.0s					
KIEV	**Kiev**	**81.16 320**	*e*P	**P**	**06 36 07.8**	**-1.3**
	comp=Z,175nm,1.1s					
KIEV			LR	LR		
	comp=Z,4μm,19.0s					
KBS	**Kingsbay**	**81.20 349**	*e*	P	06 36 12.9	+4.1
KBS			*e*S	**S**	**06 46 20.3**	**+3.5**
KBS			AMS	AMS	07 16 17.6	
	comp=Z,13μm,19.0s					
KBS	**Kingsbay**	**81.20 349**	*ce*P	**P**	**06 36 09.1**	**+0.4**
KBS			pmax	pmax		
	comp=Z,97nm,2.5s					
KBS	**Kingsbay**	**81.20 349**	*e*P	**P**	**06 36 09.2**	**+0.4**
	comp=Z,32nm,1.3s					
KBS			LR	LR		
	comp=Z,15μm,19.0s					
GAZI	**Gazipasa**	**81.21 305**	*i* P	**P**	**06 36 09.1**	**-0.5**
VSU	**Vasula**	**81.31 328**	*c i*P	**P**	**06 36 09.1**	**-0.6**
VSU			pmax	pmax		
	comp=Z,471nm,1.0s					
SVRH	**Sivrihisar-ESK**	**81.32 308**	*e*P	**P**	**06 36 09.9**	**-0.3**
MICGM	**Minsk**	**81.35 324** ⇑	*e*P	**P**	**06 36 08.0**	**-2.0**
MNK	**Minsk**	**81.38 324**	*ce*P	**P**	**06 36 08.0**	**-2.1**
MNK			*e**PP	pP	06 36 34.0	+15
MNK			*e*		06 39 20.0	
MNK			*e*S	**S**	**06 46 16.0**	**-3.4**
MNK			pmax	pmax		
	comp=E,450nm,2.0s					
MNK			pmax	pmax		
	comp=Z,330nm,1.5s					
MNK			MLR	MLR		
	comp=E,5μm,20.0s					
MNK			MLR	MLR		
	comp=Z,9μm,17.0s					
AKMC	**Akamas**	**81.39 304**	P	**P**	**06 36 09.9**	**-0.8**
MDUB	**Mudurnu**	**81.40 310**	*e*P	**P**	**06 36 10.0**	**-0.7**
PPCY	**Paphos**	**81.40 304**	P	**P**	**06 36 12.1**	**+1.4**
BMRM	**Bremner River**	**81.44 29**	*e*P	**P**	**06 36 10.2**	**-0.2**
	comp=Z,84nm,1.2s					
MENT	**Mentasta**	**81.48 27**	*e*P	**P**	**06 36 10.6**	**0.0**
MIR	**Mirnyy**	**81.52 191**	*e*P	**P**	**06 36 11.0**	**+0.6**
MIR			*e*S	**S**	**06 46 24.0**	**+4.0**
MIR			*e*PS	**PnS**	**06 47 20.0**	**+10**
MIR			*e*SSS	SSS	06 55 10.0	
MIR			pmax	pmax		
	comp=Z,81nm,1.5s					
MIR			pmax	pmax		
	comp=Z,700nm,3.0s					
KIF	**Kilpisjarvi**	**81.76 339**	*e*P	**P**	**06 36 11.3**	**-0.5**
XMAS	**Kiritimati**	**81.81 90**	PFAKE		06 36 20.0	+6.8
XMAS			LR	LR		
	comp=Z,3μm,19.0s					
SEYT	**Eskypehyr**	**81.82 309**	*i* P	**P**	**06 36 12.1**	**-0.8**
BOLV	**Bolvadin**	**81.88 308**	*i* P	**P**	**06 36 13.2**	**-0.1**
NACGM	**Naroch**	**81.91 324**	*e*P	**P**	**06 36 10.0**	**-2.9**
GULT	**Gulveren**	**81.92 310**	*e*P	**P**	**06 36 12.7**	**-0.8**
KIS	**Kishinev**	**82.02 316** ⇑	*i*P	**P**	**06 36 14.0**	**+0.3**
	comp=Z,500nm,2.0s					
KIS	**Kishinev**	**82.02 316**	*e*PP	PP	06 39 38.0	+17
KIS			*e*S	**S**	**06 46 23.0**	**-3.4**
KIS	**Kishinev**	**82.02 316**	*e*PS		06 47 07.0	
KIS			*e*SS	SS	06 52 00.0	+15
KIS			*e*SSS	SSS	06 57 20.0	
KIS			LRM	MLR	07 17 20.0	
	comp=Z,5μm,18.0s					
KIS	**Kishinev**	**82.02 316** *α*	*i*P	**P**	**06 36 14.0**	**+0.3**
KIS			*e*		06 36 34.0	
KIS			*e*S	**S**	**06 46 23.0**	**-3.4**
KIS			*e*PS	PnS	06 47 07.0	-10
KIS			pmax	pmax		
	comp=Z,500nm,2.0s					
KIS			pmax	pmax		
	comp=Z,1μm,5.0s					
KIS			MLR	MLR		
	comp=Z,4μm,17.0s					
KIS			MLR	MLR		
	comp=N,3μm,20.0s					
KIS			MLR	MLR		
	comp=E,5μm,20.0s					
KIS			MLR	MLR		
	comp=Z,5μm,18.0s					
SUTC	**Sutluce-Ispart**	**82.05 307**	*e*P	**P**	**06 36 12.9**	**-1.3**
BORA	**Eskisehir**	**82.06 309**	*i* P	**P**	**06 36 13.2**	**-1.0**
EGAK	**Eagle**	**82.21 25**	*e*P	**P**	**06 36 14.4**	**+0.1**
	comp=Z,65nm,1.1s					
EGAK			LR	LR		
	comp=Z,3μm,20.0s					
TRO	**Tromso**	**82.25 340**	AMS	AMS	07 16 59.8	
	comp=Z,30nm,19.0s					
TLCR		**82.34 314**	P	**P**	**06 36 15.2**	**-0.2**
TLCR		**82.34 314** ⇑	*i*P	**P**	**06 36 15.2**	**-0.2**
ISP	**Isparta**	**82.36 307**	*e*P	**P**	**06 36 15.4**	**-0.4**
ISP	**Isparta**	**82.36 307**	P	**P**	**06 36 14.6**	**-1.2**
ISP	**Isparta**	**82.36 307** ⇓	P	**P**	**06 36 17.0**	**+1.2**
ISP	**Isparta**	**82.36 307**	*e*P	**P**	**06 36 16.5**	**+0.7**
	comp=Z,102nm,0.9s					
ISP			LR	LR		
	comp=Z,3μm,22.0s					
ISP	**Isparta**	**82.36 307** ⇓	*i*P	**P**	**06 36 17.0**	**+1.2**
BCK	**Bucak**	**82.37 307**	*e*P	**P**	**06 36 16.2**	**+0.4**
SILT	**Sile**	**82.45 310**	*e*P	**P**	**06 36 15.8**	**-0.3**
CAVI	**Cavuskoy**	**82.47 309**	*e*P	**P**	**06 36 16.1**	**-0.2**
HRT	**Hereke**	**82.49 310**	*e*P	**P**	**06 36 15.6**	**-0.8**
LEOM	**Leova**	**82.50 316**	P	**P**	**06 36 16.2**	**0.0**
LEOM	**Leova**	**82.50 316** ⇑	*i*P	**P**	**06 36 16.1**	**-0.1**
ADVT	**Abdulvahap**	**82.50 310**	*e*P	**P**	**06 36 14.6**	**-1.8**
KORT	**Korkueli**	**82.64 306**	*i* P	**P**	**06 36 14.8**	**-2.5**
TIRR	**Tirgusor**	**82.75 314** ⇓	P	**P**	**06 36 17.7**	**+0.1**
TIRR	**Tirgusor**	**82.75 314**	*e*P	**P**	**06 36 17.1**	**-0.4**
	comp=Z,88nm,0.9s					
TIRR	**Tirgusor**	**82.75 314** ⇓	*i*P	**P**	**06 36 17.7**	**+0.1**
CFR	**Carcaliu**	**82.81 315**	P	**P**	**06 36 17.8**	**-0.1**
CFR	**Carcaliu**	**82.81 315** ⇑	*i*P	**P**	**06 36 17.8**	**-0.1**
IAS	**Iasi**	**82.83 317**	P	**P**	**06 36 19.5**	**+1.6**
IAS	**Iasi**	**82.83 317** ⇑	*i*P	**P**	**06 36 19.5**	**+1.6**
BUY	**Buyukada**	**82.89 310**	*e*P	**P**	**06 36 17.2**	**-1.1**
ISK	**Istanbul-Kandi**	**82.90 310**	*e*P	**P**	**06 36 17.4**	**-1.0**
ISK	**Istanbul-Kandi**	**82.90 310**	P	P	06 36 21.8	+3.4
ISK	**Istanbul-Kandi**	**82.90 310**	P	P	06 36 21.8	+3.4
ISK	**Istanbul-Kandi**	**82.90 310**	P	P	06 36 21.8	+3.4
GDZ	**Gediz**	**82.94 308**	*i* P	**P**	**06 36 17.3**	**-1.5**
ELL	**Elmali**	**83.03 306**	*e*P	**P**	**06 36 19.4**	**0.0**
HARR	**Harsova**	**83.05 314** ⇑	*i*P	P	06 36 23.8	+4.7
KHAL	**Karahalli**	**83.06 308**	*i* P	**P**	**06 36 19.3**	**-0.2**
BGKT	**Bogazkoy**	**83.09 311**	*e*P	**P**	**06 36 18.8**	**-0.6**
DAWY	**Dawson**	**83.13 26**	*e*P	**P**	**06 36 19.1**	**-0.1**
ARMT	**Armutlu**	**83.14 310**	*e*P	**P**	**06 36 18.7**	**-1.0**
GHRR		**83.15 316** ⇓	*i*P	**P**	**06 36 19.6**	**0.0**
MDNY	**Mudanya-Bursa**	**83.16 310**	*e*P	**P**	**06 36 20.4**	**+0.7**
GOLH	**Golhisar**	**83.22 307**	*i* P	**P**	**06 36 18.5**	**-1.8**
PETR	**Petresti**	**83.34 315** ⇓	*i*P	**P**	**06 36 18.6**	**-2.0**
ELBA	**Catalca**	**83.35 311**	*i* P	**P**	**06 36 22.0**	**+1.3**
SLVT	**Silivri**	**83.50 311**	*e*P	P	06 36 17.5	-4.0
DEMI	**Demirci**	**83.53 308**	*i* P	**P**	**06 36 21.3**	**-0.5**
DNZL	**Cakiroluk**	**83.53 307**	*i* P	**P**	**06 36 21.4**	**-0.6**
KCTX	**Karacabey (Bur**	**83.57 310**	*e*P	**P**	**06 36 21.2**	**-0.8**
GRER		**83.58 315** ⇑	*i*P	**P**	**06 36 22.3**	**+0.4**
DURS	**Dursunbey**	**83.61 309**	*i* P	**P**	**06 36 22.1**	**-0.2**
KMBO	**Kilima Mbogo**	**83.65 267**	P	**P**	**06 36 24.7**	**+1.6**
	SNR=77					
KMBO	**Kilima Mbogo**	**83.65 267**	*e*P	**P**	**06 36 24.3**	**+1.2**
	comp=Z,413nm,1.6s					
KMBO	**Kilima Mbogo**	**83.65 267**	P	**P**	**06 36 23.6**	**+0.5**
	comp=Z,29nm,1.1s,baz=56,slow=7.4,SNR=43					
KMBO			LR	LR	07 09 23.7	
	comp=Z,4μm,21.5s,baz=79,slow=33					
VRI	**Vrincioaia**	**83.65 315** ⇓	P	**P**	**06 36 23.0**	**+0.7**
VRI	**Vrincioaia**	**83.65 315** ⇓	*i*P	**P**	**06 36 23.0**	**+0.7**
PGOR	**Pogoanele**	**83.67 314** ⇑	*i*P	**P**	**06 36 22.9**	**+0.6**
KULA	**Kula-Manisa**	**83.68 308**	*e*P	**P**	**06 36 22.0**	**-0.6**
PRAR	**RASCA**	**83.69 317** ⇑	*i*P	**P**	**06 36 23.3**	**+0.9**
FETY	**Fethiye**	**83.70 306**	*e*P	**P**	**06 36 21.9**	**-0.8**
PRD	**Provadia**	**83.71 313**	*i* P	**P**	**06 36 22.5**	**0.0**
PLOR	**Plostina**	**83.71 315**	P	**P**	**06 36 22.9**	**+0.3**
PLOR	**Plostina**	**83.71 315** ⇑	*i*P	**P**	**06 36 22.9**	**+0.3**
PHSR	**Pinarhisar**	**83.93 311**	*e*P	**P**	**06 36 23.4**	**-0.3**
ISR	**Istrita**	**83.93 315** ⇑	P	**P**	**06 36 25.2**	**+1.5**
ISR	**Istrita**	**83.93 315** ⇑	*i*P	**P**	**06 36 25.2**	**+1.5**
DALY	**Dalyan (Mu¨la**	**84.01 306**	*e*P	**P**	**06 36 24.3**	**+0.1**
STEI	**Steigen**	**84.03 338**	*e*P	**P**	**06 36 23.1**	**-0.6**
STEI			AMB	AMB	06 36 29.9	
	comp=Z,560nm,1.0s					
TURN	**Turunc**	**84.04 306**	*i* P	**P**	**06 36 24.8**	**+0.5**
TKR	**Tekirdag**	**84.05 311**	*e*P	**P**	**06 36 23.5**	**-0.8**
BALB	**Balikesir**	**84.05 309**	*e*P	**P**	**06 36 23.8**	**-0.6**
GONE	**Gonen-Balikesi**	**84.12 310**	*e*P	**P**	**06 36 23.9**	**-0.8**
SUW	**Suwalki**	**84.15 324**	*e*P	**P**	**06 36 25.5**	**+1.0**
SUW			pmax	pmax		
	comp=Z,1μm,1.3s					
SUW	**Suwalki**	**84.15 324**	*e*P	**P**	**06 36 25.5**	**+1.0**
	comp=Z,1μm,1.3s					
SUW	**Suwalki**	**84.15 324**	*e*P	**P**	**06 36 23.9**	**-0.6**
SUW			*e*S	**S**	**06 46 45.1**	**-2.5**
SUW			LMZ	LR	07 15 18.4	
SULR		**84.22 314** ⇓	*i*P	**P**	**06 36 26.5**	**+1.4**
BALY	**Balya**	**84.23 309**	*i* P	**P**	**06 36 24.2**	**-1.1**
YER	**Yerkesik**	**84.24 307**	*e*P	**P**	**06 36 27.1**	**+1.7**
AKS	**Akhisar**	**84.25 308**	*e*P	**P**	**06 36 25.6**	**+0.1**
MLR	**Muntele Rosu**	**84.27 315**	P	**P**	**06 36 25.5**	**0.0**
MLR	**Muntele Rosu**	**84.27 315**	P	**P**	**06 36 25.5**	**0.0**
	comp=Z,32nm,1.1s,baz=51,slow=5.0,SNR=72					
SECR		**84.28 315** ⇓	*i*P	**P**	**06 36 26.5**	**+1.1**
BURAR	**Bucovina Array**	**84.31 317**	P	**P**	**06 36 25.9**	**+0.2**
BURAR	**Bucovina Array**	**84.31 317** ⇑	*i*P	**P**	**06 36 25.9**	**+0.2**
BUR08	**Bucovina Ar. S**	**84.31 317**	*e*P	**P**	**06 36 25.7**	**0.0**
KRBG	**Karabiga-Canak**	**84.34 310**	*e*P	**P**	**06 36 24.6**	**-1.3**
SART	**Tekirdag**	**84.37 310**	*i* P	**P**	**06 36 26.2**	**+0.1**
RKY	**Sarkoy-Tekirda**	**84.37 310**	*e*P	**P**	**06 36 25.5**	**-0.6**
RKY	**Sarkoy-Tekirda**	**84.37 310**	*e*P	**P**	**06 36 26.9**	**+0.9**
JMB	**Yambol**	**84.44 312**	P	**P**	**06 36 26.8**	**+0.5**
JMB	**Yambol**	**84.44 312**	P	**P**	**06 36 26.8**	**+0.5**
JMB	**Yambol**	**84.44 312**	P	**P**	**06 36 26.8**	**+0.5**
AYDN	**Tasoluk**	**84.45 307**	*i* P	**P**	**06 36 25.7**	**-0.8**
ARG	**Arkhangelos**	**84.54 306**	*e*P	**P**	**06 36 27.7**	**+0.8**
DOPR	**Dopca**	**84.55 316** ⇑	*i*P	**P**	**06 36 27.4**	**+0.6**
LOF	**Lofoten**	**84.56 339**	*e*P	**P**	**06 36 26.1**	**-0.2**
LOF			AMS	AMS	07 19 44.4	
	comp=Z,6μm,15.7s					
LVV	**L'vov**	**84.59 320**	*e*P	**P**	**06 36 25.6**	**-1.3**
LVV			*e*		06 39 38.8	
LVV			*e*S	S	06 46 45.8	-6.5
LVV			*e*SS	SS	06 52 13.8	-9.3
SZH	**Strazhica**	**84.75 313**	*i* P	**P**	**06 36 27.6**	**-0.2**
LPK	**Lapseki**	**84.75 310**	*e*P	**P**	**06 36 25.5**	**-2.4**
IZM	**Izmir**	**84.78 308**	*e*P	**P**	**06 36 27.9**	**-0.2**
HYT	**Haines Junctio**	**84.84 25**	*e*P	**P**	**06 36 28.8**	**+0.7**
DAT	**Datca**	**84.87 306**	*e*P	**P**	**06 36 29.4**	**+0.7**
BDRM	**Kayabasi**	**84.91 307**	*i* P	**P**	**06 36 27.6**	**-1.2**
MOR8	**Moi Rana**	**84.91 337**	*e*P	**P**	**06 36 26.5**	**-1.7**
MOR8			*e*pP	**PcP**	**06 36 31.4**	**-0.1**
MOR8			AMB	AMB	06 36 36.1	
	comp=Z,279nm,1.2s					
MTUR	**Matau**	**84.93 315** ⇑	*i*P	P	06 36 33.0	+4.2
GCAM	**G?zelcaml?**	**84.94 307**	*i* P	**P**	**06 36 28.8**	**-0.1**
GELI	**Tayfur-Gelibol**	**84.96 310**	*e*P	**P**	**06 36 27.4**	**-1.5**
BODT	**Bodrum**	**85.01 307**	*e*P	**P**	**06 36 27.4**	**-1.9**
AYVA	**Ayvalik**	**85.02 309**	*i* P	**P**	**06 36 29.4**	**+0.1**
ZIMR		**85.06 313**	P	**P**	**06 36 29.8**	**+0.4**
ZIMR		**85.06 313** ⇑	*i*P	**P**	**06 36 29.8**	**+0.4**
GOLR		**85.09 315** ⇑	*i*P	**P**	**06 36 30.0**	**+0.5**
HUMR	**Humele**	**85.14 314** ⇑	*i*P	**P**	**06 36 29.5**	**-0.3**
RAR	**Rarotonga**	**85.17 113**	PFAKE		06 36 40.0	+10
RAR			LR	LR		
	comp=Z,1μm,19.0s					
ARR	**Arges**	**85.20 315** ⇑	*i*P	**P**	**06 36 30.4**	**+0.3**
NIS1	**Nisyros Isl.**	**85.21 306**	*e*P	**P**	**06 36 29.4**	**-0.9**
SMG	**Samos**	**85.25 307**	P	**P**	**06 36 29.0**	**-1.5**
SMG	**Samos**	**85.25 307**	*e*P	**P**	**06 36 30.8**	**+0.3**
SMG	**Samos**	**85.25 307**	P	**P**	**06 36 29.0**	**-1.5**
FLOS	**Flostrand**	**85.26 337**	*e*P	**P**	**06 36 28.7**	**-1.1**
URLA	**Izmir**	**85.30 308**	*i* P	**P**	**06 36 29.8**	**-0.9**
PRK	**Paraskevi**	**85.35 309**	P	**P**	**06 36 29.9**	**-1.0**
PRK	**Paraskevi**	**85.35 309**	P	**P**	**06 36 29.9**	**-1.0**
PRK	**Paraskevi**	**85.35 309**	*e*P	**P**	**06 36 30.2**	**-0.7**
PRK	**Paraskevi**	**85.35 309**	P	**P**	**06 36 29.9**	**-1.0**
BOZC	**Bozcaada**	**85.39 310**	*i* P	**P**	**06 36 31.1**	**0.0**
STOK	**Stokkvaagen**	**85.39 337**	*e*P	**P**	**06 36 31.0**	**+0.5**
STOK			AMB	AMB	06 36 44.3	
	comp=N,31nm,1.1s					
KARP	**Karpathos**	**85.45 305**	P	**P**	**06 36 29.8**	**-1.8**
KARP	**Karpathos**	**85.45 305**	*e*P	**P**	**06 36 29.8**	**-1.8**
KARP	**Karpathos**	**85.45 305**	P	**P**	**06 36 29.8**	**-1.8**
KWP	**Kalwaria Pacla**	**85.47 320** ⇓	P	**P**	**06 36 31.6**	**+0.2**
KWP	**Kalwaria Pacla**	**85.47 320**	*e*P	**P**	**06 36 31.3**	**0.0**
	comp=N,749nm,1.1s					
KWP			LR	LR		
	comp=Z,4μm,19.0s					
KWP	**Kalwaria Pacla**	**85.47 320** ⇓	*i*P	**P**	**06 36 31.5**	**+0.2**
KWP	**Kalwaria Pacla**	**85.47 320**	*e*P	**P**	**06 36 31.5**	**+0.2**
KWP			*e*S	**S**	**06 47 02.6**	**+1.6**
KWP			LMZ	LR	07 21 25.8	
RDO	**Rodhopi**	**85.49 311**	P	**P**	**06 36 30.6**	**-1.0**
RDO	**Rodhopi**	**85.49 311**	*e*P	**P**	**06 36 30.7**	**-0.9**
RDO	**Rodhopi**	**85.49 311**	P	**P**	**06 36 30.6**	**-1.0**
SMTH	**Samothraki Isl**	**85.64 310**	P	**P**	**06 36 29.8**	**-2.6**
SMTH	**Samothraki Isl**	**85.64 310**	*e*P	**P**	**06 36 31.0**	**-1.4**
SMTH	**Samothraki Isl**	**85.64 310**	P	**P**	**06 36 29.8**	**-2.6**
CHOS	**Chios island**	**85.70 308**	P	**P**	**06 36 32.2**	**-0.6**
CHOS	**Chios island**	**85.70 308**	*e*P	**P**	**06 36 32.2**	**-0.6**
CHOS	**Chios island**	**85.70 308**	P	**P**	**06 36 32.2**	**-0.6**
LOT	**Lotru**	**85.77 315** ⇑	*i*P	**P**	**06 36 33.8**	**+0.7**
PLD	**Plovdiv**	**85.89 312**	P	**P**	**06 36 32.9**	**-0.6**
PLD	**Plovdiv**	**85.89 312**	P	**P**	**06 36 32.9**	**-0.6**
PLD	**Plovdiv**	**85.89 312**	P	**P**	**06 36 32.9**	**-0.6**
KOLS	**Kolonicke sedl**	**85.92 319**	*e*P	**P**	**06 36 35.2**	**+1.6**
KOLS			pmax	pmax		
	comp=Z,64nm,1.0s					
KOLS	**Kolonicke sedl**	**85.92 319**	*e*P	**P**	**06 36 35.2**	**+1.6**
RZN	**Rozhen**	**85.97 312**	*i* P	**P**	**06 36 33.4**	**-0.8**
UZH	**Uzhgorod**	**85.98 319**	*e*P	**P**	**06 36 34.1**	**+0.2**
UZH			*i*		06 39 54.9	
UZH			*i*		06 46 48.9	
UZH			*i* S	**S**	**06 47 02.0**	**-4.0**
UZH			*e*		06 48 03.5	
UZH			*e*		06 52 36.5	
UZH			MLR	MLR		
	comp=N,4μm,17.0s					
UZH			MLR	MLR		
	comp=E,3μm,17.0s					
UZH			MLR	MLR		
	comp=Z,2μm,17.0s					
LIA	**Limnos Island**	**86.03 310**	P	**P**	**06 36 34.5**	**+0.2**
LIA	**Limnos Island**	**86.03 310**	*e*P	**P**	**06 36 33.2**	**-1.1**
LIA	**Limnos Island**	**86.03 310**	P	**P**	**06 36 34.5**	**+0.2**
BEL	**Belsk**	**86.09 322**	*e*P	**P**	**06 36 34.6**	**+0.3**
BEL			*e*S	**S**	**06 47 06.3**	**-0.6**
BEL			LMZ	LR	07 16 09.7	
PGB	**Panagyurishte**	**86.17 313**	*i* Pg	**P**	**06 36 34.6**	**-0.4**
DEV	**Deva**	**86.25 316** ⇓	P	**P**	**06 36 36.2**	**+0.9**
DEV	**Deva**	**86.25 316** ⇓	*i*P	**P**	**06 36 36.2**	**+0.9**
KAVA	**Kavala**	**86.28 311**	P	**P**	**06 36 34.8**	**-0.7**
KAVA	**Kavala**	**86.28 311**	P	**P**	**06 36 34.8**	**-0.7**
MPEP	**Malo Peshtene**	**86.28 313**	*i* P	**P**	**06 36 35.3**	**-0.2**
ZKR	**Zakros**	**86.29 305**	P	**P**	**06 36 35.3**	**-0.5**
ZKR	**Zakros**	**86.29 305**	*e*P	**P**	**06 36 35.2**	**-0.5**
ZKR	**Zakros**	**86.29 305**	P	**P**	**06 36 35.3**	**-0.5**
SKAG	**Skagway**	**86.29 30**	*e*P	**P**	**06 36 36.4**	**+1.2**
	comp=Z,73nm,1.1s					
APE	**Apeiranthos**	**86.40 307**	P	**P**	**06 36 36.2**	**-0.1**
APE	**Apeiranthos**	**86.40 307**	P	**P**	**06 36 36.2**	**-0.1**
APE	**Apeiranthos**	**86.40 307**	*e*P	**P**	**06 36 36.6**	**+0.3**
APE	**Apeiranthos**	**86.40 307**	P	**P**	**06 36 36.2**	**-0.1**
CRVS	**Cervenica-Dubn**	**86.44 319**	*e*P	**P**	**06 36 36.9**	**+0.7**
CRVS			pmax	pmax		
	comp=Z,255nm,1.2s					
CRVS	**Cervenica-Dubn**	**86.44 319**	*e*P	**P**	**06 36 36.9**	**+0.7**
NSS	**Namsos**	**86.46 336**	*e*P	**P**	**06 36 35.0**	**-0.9**
NSS			AMS	AMS	07 18 49.8	
	comp=Z,8μm,19.1s					
SANT	**Santorini**	**86.61 306**	P	**P**	**06 36 35.3**	**-2.0**
SANT	**Santorini**	**86.61 306**	*e*P	**P**	**06 36 37.9**	**+0.6**
	comp=Z,231nm,1.1s					
SANT			LR	LR		
	comp=Z,1μm,21.0s					
NVR	**Nevrokopi**	**86.67 311**	P	**P**	**06 36 36.4**	**-1.1**
NVR	**Nevrokopi**	**86.67 311**	*e*P	**P**	**06 36 36.3**	**-1.2**
NVR	**Nevrokopi**	**86.67 311**	P	**P**	**06 36 36.4**	**-1.1**
MMB	**Musomiste**	**86.71 312**	*i* P	**P**	**06 36 36.6**	**-1.1**
NPS	**Neapolis**	**86.74 305**	P	**P**	**06 36 38.2**	**+0.3**
NPS	**Neapolis**	**86.74 305**	P	**P**	**06 36 38.2**	**+0.3**
NPS	**Neapolis**	**86.74 305**	*e*P	**P**	**06 36 38.3**	**+0.3**
NPS	**Neapolis**	**86.74 305**	P	**P**	**06 36 38.2**	**+0.3**
XRY	**Khrisi**	**86.77 305**	*e*P	P	06 36 41.9	+3.9
OUR	**Ouranopolis**	**86.83 310**	P	**P**	**06 36 37.4**	**-0.8**
OUR	**Ouranopolis**	**86.83 310**	P	**P**	**06 36 37.4**	**-0.8**
OUR	**Ouranopolis**	**86.83 310**	P	**P**	**06 36 37.4**	**-0.8**
VTS	**Vitosha**	**86.85 313**	*e*P	**P**	**06 36 39.4**	**+0.9**
VTS	**Vitosha**	**86.85 313**	P	**P**	**06 36 37.0**	**-1.5**
VTS	**Vitosha**	**86.85 313** ⇑	P	**P**	**06 36 38.3**	**-0.2**
VTS	**Vitosha**	**86.85 313**	P	**P**	**06 36 37.0**	**-1.5**
VTS	**Vitosha**	**86.85 313** ⇑	*i*P	**P**	**06 36 38.3**	**-0.2**
LAST	**Lasithi**	**86.87 305**	P	**P**	**06 36 38.0**	**-0.7**
LAST	**Lasithi**	**86.87 305**	*e*P	**P**	**06 36 38.5**	**-0.2**
LAST	**Lasithi**	**86.87 305**	P	**P**	**06 36 38.0**	**-0.7**
SRS	**Serrai**	**86.93 311**	P	**P**	**06 36 37.8**	**-0.9**
SRS	**Serrai**	**86.93 311**	P	**P**	**06 36 37.8**	**-0.9**
SRS	**Serrai**	**86.93 311**	P	**P**	**06 36 37.8**	**-0.9**
SIRR	**Siria**	**87.00 317** ⇓	*i*P	**P**	**06 36 39.7**	**+0.7**
NIE	**Niedzica**	**87.03 320**	*e*P	**P**	**06 36 39.7**	**+0.6**
NIE	**Niedzica**	**87.03 320**	*e*P	**P**	**06 36 39.7**	**+0.6**
SIT	**Sitka**	**87.06 32**	*e*P	**P**	**06 36 39.2**	**+0.3**
SIT			pmax	pmax		
	comp=Z,185nm,1.3s					
SIT	**Sitka**	**87.06 32**	*e*P	**P**	**06 36 39.2**	**+0.3**
	comp=Z,185nm,1.3s					
KKB	**Krupnik**	**87.11 312**	*i* P	**P**	**06 36 38.7**	**-0.9**
OJC	**Ojcow**	**87.13 321**	*e*P	**P**	**06 36 39.6**	**+0.1**
OJC			*e*S	**S**	**06 47 12.6**	**-4.6**
OJC	**Ojcow**	**87.13 321**	*e*P	**P**	**06 36 39.6**	**+0.1**
OJC			*e*S	**S**	**06 47 12.6**	**-4.6**
OJC			L	L	07 20 50.0	
	comp=Z,6μm,18.5s					
PAIG	**Paliouri**	**87.15 310**	P	**P**	**06 36 38.5**	**-1.3**
PAIG	**Paliouri**	**87.15 310**	P	**P**	**06 36 38.5**	**-1.3**
PAIG	**Paliouri**	**87.15 310**	*e*P	**P**	**06 36 38.3**	**-1.5**
PAIG	**Paliouri**	**87.15 310**	P	**P**	**06 36 38.5**	**-1.3**
SOH	**Sokhos**	**87.17 311**	P	**P**	**06 36 38.9**	**-1.1**
SOH	**Sokhos**	**87.17 311**	P	**P**	**06 36 38.9**	**-1.1**
SOH	**Sokhos**	**87.17 311**	*e*P	**P**	**06 36 37.8**	**-2.2**
SOH	**Sokhos**	**87.17 311**	P	**P**	**06 36 38.9**	**-1.1**
KECS	**Kecovo**	**87.18 319**	*e*P	**P**	**06 36 40.3**	**+0.5**
KECS			pmax	pmax		
	comp=Z,47nm,1.1s					
KECS	**Kecovo**	**87.18 319**	*e*P	**P**	**06 36 40.3**	**+0.5**
AOS	**Alonnisos**	**87.18 309**	P	**P**	**06 36 37.9**	**-2.1**
AOS	**Alonnisos**	**87.18 309**	*e*P	**P**	**06 36 38.1**	**-1.9**
AOS	**Alonnisos**	**87.18 309**	P	**P**	**06 36 37.9**	**-2.1**
BZS	**Buzias**	**87.19 316**	P	**P**	**06 36 39.6**	**-0.3**
BZS	**Buzias**	**87.19 316** ⇑	*i*P	**P**	**06 36 39.6**	**-0.3**
PLG	**Polygyros**	**87.22 311**	P	**P**	**06 36 39.0**	**-1.2**
PLG	**Polygyros**	**87.22 311**	P	**P**	**06 36 39.

OKC	**Ostrava-Krasne**	**88.26 321**	*e*P	**P**	**06 36 45.3**	**+0.4**
OKC			*e*pP	**PcP**	**06 36 49.9**	**+3.3**
OKC			*e*SKS	**SKSac**	**06 47 18.4**	**+6.5**
OKC			AMS	AMS	07 20 20.0	
	comp=Z,4μm,16.0s					
SKO	**Skopje**	**88.27 313**	P	**P**	**06 36 46.8**	**+1.6**
SKO	**Skopje**	**88.27 313**	P	**P**	**06 36 46.8**	**+1.6**
SKO	**Skopje**	**88.27 313**	P	**P**	**06 36 46.8**	**+1.6**
SKO	**Skopje**	**88.27 313**	*e*P	**P**	**06 36 46.1**	**+1.0**
NAO01	**NORSAR Array S**	**88.34 333**	*e*P	**P**	**06 36 44.1**	**-1.0**
	comp=Z,48nm,0.7s					
AGG	**Agios Georgios**	**88.39 310**	P	**P**	**06 36 45.1**	**-0.7**
AGG	**Agios Georgios**	**88.39 310**	P	**P**	**06 36 45.1**	**-0.7**
AGG	**Agios Georgios**	**88.39 310**	*e*P	**P**	**06 36 43.1**	**-2.7**
AGG	**Agios Georgios**	**88.39 310**	P	**P**	**06 36 45.1**	**-0.7**
BUD	**Budapest**	**88.40 318**	⇓*e*P	**P**	**06 36 44.0**	**-1.6**
ANKY	**Antikythira Is**	**88.43 306**	P	**P**	**06 36 45.9**	**-0.1**
ANKY	**Antikythira Is**	**88.43 306**	*e*P	P	06 36 41.7	-4.3
ANKY	**Antikythira Is**	**88.43 306**	P	**P**	**06 36 45.9**	**-0.1**
BSD	**Bornholm Skovb**	**88.45 326**	*i* P	**P**	**06 36 44.7**	**-0.9**
BSD			pmax	pmax		
	comp=Z,48nm,1.0s					
BSD			MLR	MLR		
	comp=Z,7μm,17.0s					
BSD	**Bornholm Skovb**	**88.45 326**	*i* P	**P**	**06 36 44.7**	**-0.9**
BSD						
	comp=Z,48nm,0.9s					
BSD						
	comp=Z,7μm,17.0s					
KZN	**Kozani**	**88.47 311**	P	**P**	**06 36 46.1**	**-0.1**
KZN	**Kozani**	**88.47 311**	P	**P**	**06 36 46.1**	**-0.1**
KZN	**Kozani**	**88.47 311**	*e*P	P	06 36 42.8	-3.4
KZN	**Kozani**	**88.47 311**	P	**P**	**06 36 46.1**	**-0.1**
THL	**Klokotos Trika**	**88.48 310**	*e*P	**P**	**06 36 43.7**	**-2.5**
VLI	**Veliai**	**88.50 307**	P	**P**	**06 36 44.5**	**-1.8**
VLI	**Veliai**	**88.50 307**	*e*P	**P**	**06 36 44.0**	**-2.3**
VLI	**Veliai**	**88.50 307**	P	**P**	**06 36 44.5**	**-1.8**
MAKR	**Makrakomi, Fth**	**88.54 310**	P	**P**	**06 36 44.6**	**-1.9**
MAKR	**Makrakomi, Fth**	**88.54 310**	P	**P**	**06 36 44.6**	**-1.9**
FNA	**Florina**	**88.64 311**	P	**P**	**06 36 45.6**	**-1.4**
FNA	**Florina**	**88.64 311**	P	**P**	**06 36 45.6**	**-1.4**
FNA	**Florina**	**88.64 311**	*e*P	**P**	**06 36 44.7**	**-2.3**
FNA	**Florina**	**88.64 311**	P	**P**	**06 36 45.6**	**-1.4**
GUR	**Goura**	**88.65 308**	P	**P**	**06 36 45.0**	**-2.2**
GUR	**Goura**	**88.65 308**	*e*P	**P**	**06 36 44.5**	**-2.7**
GUR	**Goura**	**88.65 308**	P	**P**	**06 36 45.0**	**-2.2**
MORC	**Moravsky Berou**	**88.65 321**	*e*P	**P**	**06 36 46.6**	**-0.2**
MORC			pmax	pmax		
	comp=Z,139nm,1.2s					
MORC	**Moravsky Berou**	**88.65 321**	*e*P	**P**	**06 36 46.6**	**-0.2**
	comp=Z,139nm,1.2s					
KALE	**Kalithea**	**88.69 309**	P	**P**	**06 36 46.4**	**-0.9**
KALE	**Kalithea**	**88.69 309**	*e*P	**P**	**06 36 45.7**	**-1.6**
KALE	**Kalithea**	**88.69 309**	P	**P**	**06 36 46.4**	**-0.9**
DIVS	**Divibare**	**88.72 315**	P	**P**	**06 36 46.7**	**-0.6**
TRIZ	**Trizonia**	**88.75 309**	P	**P**	**06 36 47.6**	**+0.2**
TRIZ	**Trizonia**	**88.75 309**	*e*P	**P**	**06 36 45.5**	**-1.9**
VLX	**Vlachokerasia**	**88.77 308**	P	**P**	**06 36 46.3**	**-1.4**
VLX	**Vlachokerasia**	**88.77 308**	*e*P	**P**	**06 36 45.7**	**-2.0**
VLX	**Vlachokerasia**	**88.77 308**	P	**P**	**06 36 46.3**	**-1.4**
KLV	**Kalavryta, Ach**	**88.77 309**	P	**P**	**06 36 45.7**	**-2.0**
KLV	**Kalavryta, Ach**	**88.77 309**	*e*P	**P**	**06 36 45.7**	**-2.0**
KLV	**Kalavryta, Ach**	**88.77 309**	P	**P**	**06 36 45.7**	**-2.0**
OSL	**Oslo**	**88.78 332**	*e*P	**P**	**06 36 46.5**	**-0.6**
EVR	**Evrytania**	**88.81 310**	P	**P**	**06 36 48.3**	**+0.5**
EVR	**Evrytania**	**88.81 310**	*e*P	**P**	**06 36 48.1**	**+0.2**
EVR	**Evrytania**	**88.81 310**	P	**P**	**06 36 48.3**	**+0.5**
WRAK	**Wrangell Islan**	**88.82 32**	PFAKE		06 37 00.0	+13
WRAK			LR	LR		
	comp=Z,2μm,22.0s					
LAKA	**Lakka**	**88.85 309**	P	**P**	**06 36 46.5**	**-1.5**
LAKA	**Lakka**	**88.85 309**	*e*P	**P**	**06 36 46.3**	**-1.7**
LAKA	**Lakka**	**88.85 309**	P	**P**	**06 36 46.5**	**-1.5**
EFP	**Efpalio**	**88.86 309**	P	**P**	**06 36 47.8**	**-0.2**
EFP	**Efpalio**	**88.86 309**	*e*P	**P**	**06 36 47.0**	**-1.0**
PKSM	**Moragy**	**89.03 317**	P	**P**	**06 36 48.5**	**-0.1**
PKSM	**Moragy**	**89.03 317**	⇑*i*P	**P**	**06 36 48.5**	**-0.1**
PKSM	**Moragy**	**89.03 317**	⇓*e*P	**P**	**06 36 49.4**	**+0.8**
KRLC	**Kraliky**	**89.03 321**	*e*P	**P**	**06 36 49.4**	**+0.8**
KRLC	**Kraliky**	**89.03 321**	*e*P	**P**	**06 36 49.4**	**+0.8**
KRLC			*e*pP	**pP**	**06 36 54.6**	**-3.0**
MOL	**Molde**	**89.07 335**	*e*P	**P**	**06 36 48.3**	**-0.1**
MOL			AMB	AMB	06 36 59.7	
	comp=Z,140nm,1.4s					
MOL			AMS	AMS	07 21 07.3	
	comp=Z,12μm,18.9s					
PHP	**Peshkopia**	**89.07 312**	P	**P**	**06 36 47.8**	**-1.2**
PHP	**Peshkopia**	**89.07 312**	P	**P**	**06 36 47.8**	**-1.2**
PHP	**Peshkopia**	**89.07 312**	P	**P**	**06 36 47.8**	**-1.2**
KSP	**Ksiaz**	**89.08 322**	⇑*e*P	**P**	**06 36 48.9**	**+0.2**
KSP			*e*S	S	06 47 27.5	-8.2
KSP			MLR	MLR		
	comp=Z,9μm,23.3s					
KSP	**Ksiaz**	**89.08 322**	*e*P	**P**	**06 36 49.1**	**+0.4**
KSP			*e*S	**S**	**06 47 37.2**	**+1.5**
KSP			LMZ	LR	07 18 03.2	
PKST	**T¨'s**	**89.11 318**	*e*P	**P**	**06 36 48.7**	**-0.3**
IVA	**Berane**	**89.13 314**	⇑*i*P	**P**	**06 36 48.6**	**-0.7**
PKS9	**Tamasi**	**89.15 318**	*e*P	**P**	**06 36 47.9**	**-1.3**
PVY	**Plav**	**89.16 313**	⇑*i*P	**P**	**06 36 49.5**	**0.0**
ITM	**Ithomi**	**89.17 308**	P	**P**	**06 36 51.8**	**+2.3**
ITM	**Ithomi**	**89.17 308**	*e*P	**P**	**06 36 48.1**	**-1.4**
ITM	**Ithomi**	**89.17 308**	P	**P**	**06 36 51.8**	**+2.3**
DPC	**Dobruska-Polom**	**89.22 322**	*e*P	**P**	**06 36 49.8**	**+0.3**
DPC			*e*		06 40 26.0	
DPC			*e*		06 47 21.4	
DPC	**Dobruska-Polom**	**89.22 322**	*e*P	**P**	**06 36 49.8**	**+0.3**
DPC			*e*pP	**pP**	**06 36 56.3**	**-2.2**
DPC			*e*PP	PP	06 40 26.0	+6.3
DPC			*e*SKS	**SKSac**	**06 47 21.4**	**+3.7**
DPC			AMS	AMS	07 18 00.0	
DLBC	**Dease Lake**	**89.23 30**	*e*P	**P**	**06 36 49.9**	**+0.5**
DLBC	**Dease Lake**	**89.23 30**	P	**P**	**06 36 48.9**	**-0.5**
	comp=Z,10nm,1.1s,baz=300,slow=4.8,SNR=5.1					
AMT	**Artemida-Makis**	**89.24 308**	P	**P**	**06 36 49.2**	**-0.6**
AMT	**Artemida-Makis**	**89.24 308**	*e*P	P	06 36 43.5	-6.3
RLS	**Riolos of Patr**	**89.29 309**	P	**P**	**06 36 49.5**	**-0.5**
RLS	**Riolos of Patr**	**89.29 309**	*e*P	**P**	**06 36 50.6**	**+0.6**
RLS	**Riolos of Patr**	**89.29 309**	P	**P**	**06 36 49.5**	**-0.5**
AXS	**Araxos**	**89.32 309**	P	**P**	**06 36 50.2**	**+0.1**
JAN	**Janina**	**89.33 310**	*e*P	**P**	**06 36 48.9**	**-1.3**
PLE	**Pljevlja**	**89.35 314**	⇑*i*P	**P**	**06 36 50.2**	**-0.2**
UPC	**Upice**	**89.36 322**	*e*P	**P**	**06 36 50.6**	**+0.5**
UPC			*e*		06 40 30.4	
UPC	**Upice**	**89.36 322**	*e*P	**P**	**06 36 50.6**	**+0.5**
UPC			*e*pP	**pP**	**06 36 56.5**	**-2.5**
UPC			*e*x	x	06 40 30.4	
PYL	**PYLOS**	**89.39 308**	P	**P**	**06 36 48.9**	**-1.6**
PYL	**PYLOS**	**89.39 308**	*e*P	**P**	**06 36 48.1**	**-2.4**
PYL	**PYLOS**	**89.39 308**	P	**P**	**06 36 48.9**	**-1.6**
VRAC	**Vranov**	**89.39 321**	P	**P**	**06 36 50.4**	**+0.2**
VRAC	**Vranov**	**89.39 321**	P	**P**	**06 36 50.4**	**+0.2**
	comp=Z,15nm,0.7s,baz=86,slow=3.7,SNR=36					
KONO	**Kongsberg**	**89.41 332**	*e*P	**P**	**06 36 49.2**	**-0.9**
KONO			*e*P	**PcP**	**06 36 54.5**	**+3.0**
KONO			AMS	AMS	07 23 58.8	
	comp=Z,19μm,17.0s					
KONO	**Kongsberg**	**89.41 332**	*e*P	**P**	**06 36 48.7**	**-1.4**
KONO			pmax	pmax		
	comp=Z,220nm,0.8s					
KONO			MLR	MLR		
	comp=Z,5μm,19.0s					
KONO	**Kongsberg**	**89.41 332**	*e*P	**P**	**06 36 48.7**	**-1.4**
	comp=Z,220nm,0.8s					
KONO			LR	LR		
	comp=Z,5μm,19.0s					
RGN	**Rugen**	**89.51 326**	*e*P	**P**	**06 36 51.3**	**+0.7**
	comp=Z,116nm,1.2s					
RGN			*e*pP	**pP**	**06 36 58.5**	**-1.1**
RGN	**Rugen**	**89.51 326**	*e*P	**P**	**06 36 50.8**	**+0.2**
	comp=Z,194nm,1.1s					
COP	**Copenhagen**	**89.57 327**	*e*P	**P**	**06 36 53.2**	**+2.3**
COP			MLR	MLR		
	comp=Z,2μm,16.0s					
COP	**Copenhagen**	**89.57 327**	*i* P	**P**	**06 36 53.2**	**+2.3**
COP						
	comp=Z,2μm,16.0s					
TIR	**Tirane**	**89.58 312**	*e*P	**P**	**06 36 52.2**	**+0.9**
TIR			pmax	pmax		
	comp=Z,233nm,1.4s					
TIR			MLR	MLR		
	comp=Z,4μm,22.0s					
TIR	**Tirane**	**89.58 312**	*e*P	**P**	**06 36 51.5**	**+0.2**
TIR	**Tirane**	**89.58 312**	*e*P	**P**	**06 36 52.2**	**+0.9**
	comp=Z,233nm,1.4s					
TIR			LR	LR		
	comp=Z,4μm,22.0s					
LKD2	**Lefkada island**	**89.70 310**	P	**P**	**06 36 51.0**	**-1.0**
LKD2	**Lefkada island**	**89.70 310**	*e*P	**P**	**06 36 50.3**	**-1.7**
LKD2	**Lefkada island**	**89.70 310**	P	**P**	**06 36 51.0**	**-1.0**
TTG	**Podgorica**	**89.71 313**	⇑*i*P	**P**	**06 36 52.2**	**+0.4**
UPM	**Unac-Piva**	**89.73 314**	⇑*i*P	**P**	**06 36 51.6**	**-0.6**
NKY	**Niksic**	**89.78 314**	⇑*i*P	**P**	**06 36 51.7**	**-0.7**
LLD	**Lille Linde**	**89.81 327**	*e*P	**P**	**06 36 53.2**	**+1.2**
LLD			pmax	pmax		
	comp=Z,30nm,0.9s					
LLD	**Lille Linde**	**89.81 327**	*i* P	**P**	**06 36 53.2**	**+1.2**
	comp=Z,30nm,0.8s					
NKME	**Niksic**	**89.82 314**	⇑*i*P	**P**	**06 36 53.1**	**+0.6**
DRME	**Dracevica, Mon**	**89.83 313**	*e*P	**P**	**06 36 53.1**	**+0.7**
ULC	**Ulcinj**	**89.85 313**	*e*P	**P**	**06 36 52.7**	**+0.1**
MBAR	**Mbarara**	**89.89 269**	PFAKE		06 37 00.0	+6.5
MBAR			LR	LR		
	comp=Z,807nm,21.0s					
VLS	**Valsamata**	**89.92 309**	P	**P**	**06 36 53.6**	**+0.6**
VLS	**Valsamata**	**89.92 309**	P	**P**	**06 36 53.6**	**+0.6**
VLS	**Valsamata**	**89.92 309**	*e*P	**P**	**06 36 53.2**	**+0.2**
VLS	**Valsamata**	**89.92 309**	P	**P**	**06 36 53.6**	**+0.6**
RUE	**Ruedersdorf**	**89.99 324**	*e*P	**P**	**06 36 52.8**	**-0.1**
	comp=Z,120nm,1.2s					
RUE			*e*pP	**pP**	**06 37 00.1**	**-1.8**
RUE	**Ruedersdorf**	**89.99 324**	*e*P	**P**	**06 36 53.8**	**+0.9**
	comp=Z,243nm,0.9s					
MAW	**Mawson**	**90.02 199**	LR	LR	07 16 31.9	
	comp=Z,2μm,19.3s,baz=163,slow=35					
BRY	**Bratogost**	**90.07 314**	*e*P	**P**	**06 36 53.2**	**-0.6**
TREC	**Trest**	**90.08 321**	*e*P	**P**	**06 36 53.9**	**+0.4**
TREC			MLR	MLR		
	comp=Z,4μm,20.1s					
TREC	**Trest**	**90.08 321**	*e*P	**P**	**06 36 53.9**	**+0.4**
TREC			AMS	AMS	07 17 10.0	
	comp=Z,4μm,20.1s					
KEK	**Kerkira**	**90.09 311**	P	**P**	**06 36 51.9**	**-1.8**
KEK	**Kerkira**	**90.09 311**	P	**P**	**06 36 51.9**	**-1.8**
BEHE	**Becsehely**	**90.18 318**	⇓*e*	**P**	**06 36 51.0**	**-3.0**
PVCC	**Panska Ves**	**90.22 322**	*e*P	**P**	**06 36 54.7**	**+0.6**
PVCC			MLR	MLR		
	comp=Z,5μm,18.7s					
PVCC	**Panska Ves**	**90.22 322**	*e*P	**P**	**06 36 54.7**	**+0.6**
PVCC			*e*pP	**pP**	**06 37 00.9**	**-2.2**
PVCC			AMS	AMS	07 18 20.0	
	comp=Z,5μm,18.7s					
HCY	**Herceg Novi**	**90.24 314**	⇑*i*P	**P**	**06 36 54.9**	**+0.5**
HYA	**Hoyanger**	**90.28 334**	*e*P	**P**	**06 36 53.6**	**-0.5**
HYA			AMB	AMB	06 37 03.1	
	comp=Z,118nm,1.0s					
HYA			*e*SKS	**SKSac**	**06 47 25.3**	**+2.0**
HYA			AMS	AMS	07 20 47.4	
	comp=Z,7μm,16.4s					
CONA	**Conrad Observa**	**90.30 319**	⇑*i*PcP	**P**	**06 36 54.7**	**+0.1**
	comp=Z,45nm,1.1s,SNR=23					
CONA			⇑*e*PP	**PP**	**06 40 28.8**	**+0.3**
	comp=Z,46nm,1.5s					
PRU	**Pruhonice**	**90.42 322**	*e*P	**P**	**06 36 55.6**	**+0.6**
PRU			*e*		06 40 32.9	
PRU			*e*		06 47 48.1	
PRU			MLR	MLR		
	comp=Z,5μm,19.0s					
PRU	**Pruhonice**	**90.42 322**	*e*P	**P**	**06 36 55.6**	**+0.6**
PRU			*e*pP	**pP**	**06 37 01.3**	**-2.7**
PRU			*e*PP	**PP**	**06 40 32.9**	**+3.7**
PRU			*e*SKS	**SKSac**	**06 47 28.4**	**+3.8**
PRU			*e*S	**S**	**06 47 48.1**	**-0.1**
PRU			AMS	AMS	07 18 30.0	
	comp=Z,5μm,19.0s					
PRA	**Prague**	**90.46 322**	P	**P**	**06 36 56.0**	**+0.8**
PRA			PP	**PP**	**06 40 34.0**	**+4.5**
PRA			SKS	**SKSac**	**06 47 30.0**	**+5.2**
BRG	**Berggiesshubel**	**90.47 323**	⇑*i*P	**P**	**06 36 55.4**	**+0.2**
	comp=Z,66nm,1.5s					
BRG			*i*		06 37 00.6	
	comp=Z,186nm,1.2s					
BRG			PP	**PP**	**06 40 25.0**	**-4.6**
BRG			SKS	**SKSac**	**06 47 29.0**	**+4.1**
BRG			S	**ScS**	**06 47 51.0**	**-1.2**
BRG			SS	**SS**	**06 53 45.0**	**-3.8**
BRG						
	comp=N,5μm,16.3s					
BRG						
	comp=E,3μm,18.4s					
BRG						
	comp=Z,5μm,17.9s					
BRG	**Berggiesshubel**	**90.47 323**	*e*P	**P**	**06 36 55.0**	**-0.2**
	comp=Z,178nm,1.9s					
BRG			*e*pP	**pP**	**06 37 02.2**	**-2.0**
BRG	**Berggiesshubel**	**90.47 323**	⇑*i*P	**P**	**06 36 55.4**	**+0.2**
BRG					06 40 25.0	
BRG			SS	SS	06 53 45.0	-3.8
BRG			pmax	pmax		
	comp=Z,66nm,1.5s					
BRG			pmax	pmax		
	comp=Z,186nm,1.2s					
BRG			MLR	MLR		
	comp=N,5μm,16.3s					
BRG			MLR	MLR		
	comp=E,3μm,18.4s					
BRG			MLR	MLR		
	comp=Z,5μm,17.9s					
KOGS	**Kog**	**90.53 318**	*e*P	**P**	**06 36 56.3**	**+0.7**
ODD1	**Odda**	**90.65 333**	*e*P	**P**	**06 36 55.8**	**-0.2**
ODD1			AMB	AMB	06 37 05.0	
	comp=Z,106nm,1.3s					
ODD1			AMS	AMS	07 22 47.6	
	comp=Z,8μm,26.3s					
ARSA	**Arzberg**	**90.73 319**	⇑*i*PcP	**P**	**06 36 56.4**	**-0.2**
	comp=Z,44nm,1.1s,SNR=18					
FBE	**Freiberg**	**90.80 323**	*e*P	**P**	**06 36 56.8**	**0.0**
	comp=Z,249nm,1.9s					
FBE			*e*pP	**pP**	**06 37 04.0**	**-1.8**
CLL	**Collm**	**90.87 323**	*e*P	**P**	**06 36 56.5**	**-0.6**
	comp=Z,175nm,2.1s					
CLL			*e*pP	**pP**	**06 37 03.7**	**-2.4**
CLL	**Collm**	**90.87 323**	⇑*i*P	**P**	**06 36 56.9**	**-0.2**
CLL			*e**SP	sP	06 37 25.0	+16
CLL			*e*S	**SKKSac**	**06 47 40.0**	**-1.8**
CLL			pmax	pmax		
	comp=Z,175nm,2.1s					
CLL	**Collm**	**90.87 323**	⇑*i*P	**P**	**06 36 56.9**	**-0.2**
	comp=Z,175nm,2.1s					
CLL			*i* sP	sP	06 37 03.1	-6.2
	comp=Z,120nm,1.1s					
CLL			*e*		06 37 25.0	
CLL			*e*PP	PP	06 40 38.0	+5.3
CLL			*e*SKKSac	**SKKSac**	**06 47 40.0**	**-1.8**
CLL			*e*S	**S**	**06 47 53.0**	**+0.8**
CLL			*e*SS	SS	06 53 42.0	-12
CLL			*e*SSS	SSS	06 57 24.0	
CLL			*e*SSSS		07 00 36.0	
CLL			LmH		07 26 00.0	
	comp=N,2μm,19.5s					
CLL			LmH		07 26 00.0	
	comp=E,4μm,19.7s					
MUD	**Monsted U'grnd**	**90.94 329**	*i* P	**P**	**06 36 57.3**	**0.0**
MUD			pmax	pmax		
	comp=Z,62nm,0.9s					
MUD			MLR	MLR		
	comp=Z,6μm,16.0s					
MUD	**Monsted U'grnd**	**90.94 329**	*i* P	**P**	**06 36 57.3**	**0.0**
	comp=Z,62nm,0.9s					
MUD						
	comp=Z,5μm,16.0s					
SUE	**Sulen**	**90.94 334**	AMS	AMS	07 22 16.7	
	comp=Z,9μm,17.1s					
BLS5	**Blasjo**	**90.95 332**	*e*P	**P**	**06 36 56.7**	**-0.7**
BER	**Bergen**	**91.01 333**	*e*P	**P**	**06 36 56.9**	**-0.6**
BER			AMS	AMS	07 21 01.2	
	comp=Z,10μm,18.7s					
SNART	**Snartemo**	**91.09 331**	*e*P	**P**	**06 36 59.0**	**+1.1**
SNART			AMB	AMB	06 37 06.6	
	comp=Z,58nm,1.4s					
EGD	**Espegrend**	**91.11 333**	*e*P	**P**	**06 36 57.3**	**-0.7**
PERS	**Pernice**	**91.20 318**	*i* P	**P**	**06 36 58.2**	**-0.6**
PERS			*i*		06 37 03.6	
PERS			*i* SKSac	**SKSac**	**06 47 32.6**	**+3.2**
PERS			*e*SS	SKKSdf	07 01 08.2	-19
SOKA	**Soboth**	**91.24 318**	⇑*i*PcP	**P**	**06 36 58.8**	**-0.3**
	comp=Z,78nm,1.7s,SNR=27					
SOKA			⇓*e*PP	**PP**	**06 40 31.1**	**-4.9**
	comp=Z,26nm,1.3s					
KHC	**Kasperske Hory**	**91.31 321**	*e*P	**P**	**06 36 59.0**	**-0.2**
KHC			*e*		06 40 41.9	
KHC			MLR	MLR		
	comp=Z,5μm,21.7s					
KHC	**Kasperske Hory**	**91.31 321**	*e*P	**P**	**06 36 59.0**	**-0.2**
KHC			*e*pP	**pP**	**06 37 05.7**	**-2.5**
KHC			*e*PP	PP	06 40 41.9	+5.6
KHC			*e*SKS	**SKSac**	**06 47 33.4**	**+3.5**
KHC			*e*S	**ScS**	**06 47 58.1**	**-1.3**
KHC			AMS	AMS	07 19 10.0	
	comp=Z,5μm,21.7s					
KHC	**Kasperske Hory**	**91.31 321**	*e*P	**P**	**06 36 58.8**	**-0.4**
	comp=Z,77nm,1.3s					
MOA	**Molln**	**91.33 320**	⇑*i*PcP	**P**	**06 36 59.6**	**+0.2**
	comp=Z,248nm,1.0s,SNR=53					
GEC2	**GERESS Array S**	**91.33 321**	*e*P	**P**	**06 36 59.2**	**-0.2**
	comp=Z,80nm,1.4s					
GEC2			*e*pP	**pP**	**06 37 06.2**	**-2.2**
GEC2	**GERESS Array S**	**91.33 321**	*e*P	**P**	**06 36 59.2**	**-0.2**
GEC2			pmax	pmax		
	comp=Z,80nm,1.4s					
GERES	**GERESS Array B**	**91.33 321**	P	**P**	**06 36 59.1**	**-0.4**
GERES			PP	**PP**	**06 40 39.2**	**+2.6**
GERES	**GERESS Array B**	**91.33 321**	P	**P**	**06 36 59.1**	**-0.4**
	comp=Z,13nm,0.9s,baz=76,slow=5.2,SNR=52					
GERES			PP	**PP**	**06 40 39.2**	**+2.6**
	comp=Z,4.0nm,0.9s,baz=60,slow=6.9,SNR=4.1					
GERES			LR	LR	07 23 47.0	
	comp=Z,3μm,19.7s,baz=66,slow=39					
BSEG	**Bad Segeberg**	**91.37 326**	*e*P	**P**	**06 36 58.9**	**-0.4**
	comp=Z,50nm,1.3s					
BSEG			*e*pP	**pP**	**06 37 06.1**	**-2.2**
BSEG	**Bad Segeberg**	**91.37 326**	*e*P	**P**	**06 36 58.9**	**-0.4**
BSEG			pmax	pmax		
	comp=Z,50nm,1.3s					
BOJS	**Bojanci**	**91.50 317**	*i* P	**P**	**06 36 60.0**	**-0.1**
BOJS			*i*		06 37 06.7	
BOJS			*e*		06 40 40.4	
BOJS			*e*SKSac	**SKSac**	**06 47 30.7**	**-0.3**
BOJS			*e*S	**S**	**06 47 58.2**	**+0.1**
TANN	**Tannenbergstha**	**91.51 323**	*e*P	**P**	**06 36 59.9**	**-0.3**
	comp=Z,158nm,2.1s					
TANN			*e*pP	**pP**	**06 37 07.0**	**-2.2**
NKC	**Novy Kostel**	**91.59 322**	*e*P	**P**	**06 37 00.5**	**0.0**
NKC			*e*		06 47 59.8	
NKC			MLR	MLR		
	comp=Z,3μm,19.3s					
NKC	**Novy Kostel**	**91.59 322**	*e*P	**P**	**06 37 00.5**	**0.0**
NKC			*e*pP	**pP**	**06 37 06.6**	**-2.9**
NKC			*e*S	**S**	**06 47 59.8**	**+0.9**
NKC			AMS	AMS	07 20 00.0	
	comp=Z,3μm,19.3s					
WERD	**Werda**	**91.59 323**	*e*P	**P**	**06 37 00.2**	**-0.3**
	comp=Z,135nm,1.9s					
WERD			*e*pP	**pP**	**06 37 07.3**	**-2.2**
KMY	**Karmoy**	**91.60 332**	*e*P	**P**	**06 37 00.1**	**-0.2**
KMY			AMB	AMB	06 37 06.6	
	comp=Z,119nm,1.3s					
KMY			AMS	AMS	07 24 18.8	
	comp=Z,5μm,14.9s					
GUNZ	**Gunzen**	**91.61 322**	*e*P	**P**	**06 37 00.3**	**-0.3**
	comp=Z,197nm,2.0s					
GUNZ			*e*pP	**pP**	**06 37 07.6**	**-2.0**
OBKA	**Obir**	**91.61 318**	⇑*i*PcP	**P**	**06 37 00.5**	**-0.3**
	comp=Z,30nm,1.0s,SNR=26					
OBKA			⇑PP	**PP**	**06 40 37.7**	**-1.3**
	comp=Z,31nm,1.3s					
NEUB	**Neuenburg**	**91.62 323**	*e*P	**P**	**06 37 00.2**	**-0.3**
	comp=Z,291nm,2.2s					
NEUB			*e*pP	**pP**	**06 37 07.4**	**-2.1**
VISS	**Visnje**	**91.67 318**	*i* P	**P**	**06 37 00.7**	**-0.3**
VISS			*i*		06 37 06.0	
WET	**Wettzell**	**91.73 321**	*e*P	**P**	**06 37 01.2**	**0.0**
	comp=Z,128nm,1.8s					
WET			*e*pP	**pP**	**06 37 08.3**	**-1.9**
WET	**Wettzell**	**91.73 321**	*e*P	**P**	**06 37 01.2**	**0.0**
WET			pmax	pmax		
	comp=Z,128nm,1.8s					
LJU	**Ljubljana**	**91.79 318**	*e*P	**P**	**06 37 00.0**	**-1.5**
MANZ	**Manzenberg**	**91.89 322**	*e*P	**P**	**06 37 02.0**	**+0.1**
	comp=Z,183nm,2.0s					
MANZ			*e*pP	**pP**	**06 37 09.0**	**-1.9**
ROTZ	**Rotzenmuhle**	**91.91 322**	*e*P	**P**	**06 37 02.2**	**+0.2**
	comp=Z,170nm,1.8s					
ROTZ			*e*pP	**pP**	**06 37 09.3**	**-1.7**
MOX	**Moxa**	**91.93 323**	*e*P	**P**	**06 37 01.8**	**-0.2**
	comp=Z,187nm,2.1s					
MOX			*e*pP	**pP**	**06 37 08.9**	**-2.1**
MOX	**Moxa**	**91.93 323**	*e*P	**P**	**06 37 01.8**	**-0.2**
MOX			pmax	pmax		
	comp=Z,187nm,2.1s					
NRDL	**Niedersach Rie**	**92.07 325**	*e*P	**P**	**06 37 02.7**	**+0.2**
	comp=Z,64nm,1.5s					
JAVS	**Javornik**	**92.14 318**	*i* P	**P**	**06 37 02.5**	**-0.8**
JAVS			*i*		06 37 07.1	
MYKA	**Terra Mystica**	**92.16 319**	⇑*e*P	**P**	**06 37 02.4**	**-0.9**
	comp=Z,70nm,1.7s,SNR=15					
CLZ	**Clausthal**	**92.18 324**	*e*P	**P**	**06 37 03.3**	**+0.1**
	comp=Z,77nm,1.5s					
CLZ			*e*pP	**pP**	**06 37 10.4**	**-1.8**
CLZ	**Clausthal**	**92.18 324**	*e*P	**P**	**06 37 03.3**	**+0.1**
CLZ			pmax	pmax		
	comp=Z,77nm,1.5s					
KBA	**Koelnbreinsper**	**92.19 319**	⇑*i*PcP	**P**	**06 37 02.7**	**-0.8**
	comp=

RETA	**Reutte**	**93.67 320**	⇑*i*PcP		**P**	**06 37 09.5**	**-0.7**
	comp=Z,73nm,1.2s,SNR=19						
RETA			⇑*e*PP		**PP**	**06 40 54.1**	**-0.8**
	comp=Z,74nm,2.1s						
PPT	**Papeete**	**93.67 107**	LR		LR	07 14 54.5	
	comp=Z,2μm,19.7s,baz=272,slow=33						
YKW3	**Yellowknife Ar**	**93.80 22**	*e*P		**P**	**06 37 09.9**	**-0.4**
	comp=Z,1.7nm,1.3s						
YKA	**Yellowknife Ar**	**93.84 22**	P		**P**	**06 37 09.9**	**-0.7**
YKA			PKKPbc		**PKKPbc**	**06 54 17.1**	**+0.8**
YKA	**Yellowknife Ar**	**93.84 22**	P		**P**	**06 37 09.9**	**-0.7**
	comp=Z,48nm,1.2s,baz=311,slow=4.4,SNR=28						
YKA			PKKPbc		**PKKPbc**	**06 54 17.0**	**+0.8**
	comp=Z,2.8nm,0.7s,baz=133,slow=2.9,SNR=6.4						
SUMG	**Summit**	**93.86 354**	*e*P		**P**	**06 37 11.1**	**+0.1**
SUMG			pmax		pmax		
	comp=Z,505nm,2.0s						
SUMG	**Summit**	**93.86 354**	*i* P		**P**	**06 37 11.6**	**+0.6**
	comp=Z,26nm,1.1s						
SUMG							
	comp=Z,4μm,25.0s						
SUMG	**Summit**	**93.86 354**	*e*P		**P**	**06 37 11.1**	**+0.1**
	comp=Z,505nm,2.0s						
FETA	**Feichten**	**93.87 320**	⇑*i*PcP		**P**	**06 37 10.9**	**-0.4**
	comp=Z,142nm,1.0s,SNR=37						
TNS	**Taunus Mts**	**93.95 323**	*e*P		**P**	**06 37 11.3**	**-0.1**
TNS			*e*pP		**pP**	**06 37 18.4**	**-2.0**
TNS	**Taunus Mts**	**93.95 323**	*e*P		**P**	**06 37 11.3**	**-0.1**
TNS			pmax		pmax		
	comp=Z,52nm,1.6s						
SBA	**Scott Base**	**93.97 171**	*e*P		**P**	**06 37 11.0**	**+0.3**
SBA			pmax		pmax		
	comp=Z,33nm,1.3s						
SBA			MLR		MLR		
	comp=Z,2μm,21.0s						
SBA	**Scott Base**	**93.97 171**	*e*P		**P**	**06 37 11.0**	**+0.3**
	comp=Z,33nm,1.3s						
SBA			LR		LR		
	comp=Z,2μm,21.0s						
BUG	**Bochum--Univer**	**94.10 325**	*e*P		**P**	**06 37 11.6**	**-0.4**
	comp=Z,55nm,1.3s						
STU	**Stuttgart**	**94.11 322**	*e*P		**P**	**06 37 11.9**	**-0.2**
	comp=Z,69nm,1.3s						
STU			*e*pP		**pP**	**06 37 19.0**	**-2.1**
STU	**Stuttgart**	**94.11 322**	*e*P		**P**	**06 37 10.9**	**-1.3**
STU			pmax		pmax		
	comp=Z,85nm,0.8s						
STU	**Stuttgart**	**94.11 322**	*e*P		**P**	**06 37 10.9**	**-1.3**
	comp=Z,85nm,0.8s						
WTSB	**Winterswijk**	**94.14 325**	*e*P		**P**	**06 37 11.8**	**-0.3**
	comp=Z,201nm,1.5s						
DAVA	**Damuels**	**94.30 320**	⇑*i*PcP		**P**	**06 37 12.8**	**-0.4**
	comp=Z,82nm,1.3s,SNR=19						
DAVA			⇑PP		**PP**	**06 41 01.5**	**+1.6**
	comp=Z,38nm,1.2s						
BFO	**Black Forest**	**94.82 322**	P		**P**	**06 37 15.5**	**+0.1**
	comp=Z,185nm,1.3s,SNR=7.0						
BFO	**Black Forest**	**94.82 322**	*e*P		**P**	**06 37 14.8**	**-0.6**
	comp=Z,37nm,1.8s						
BFO			*e*pP		**pP**	**06 37 21.8**	**-2.6**
BFO	**Black Forest**	**94.82 322**	*e*P		**P**	**06 37 14.8**	**-0.6**
BFO			pmax		pmax		
	comp=Z,37nm,1.8s						
BFO	**Black Forest**	**94.82 322**	*e*P		**P**	**06 37 15.7**	**+0.3**
	comp=Z,99nm,1.5s						
BFO			LR		LR		
	comp=Z,3μm,20.0s						
LANF	**Langenberg**	**94.86 322**	*e*P		**P**	**06 37 15.6**	**0.0**
TUE	**Stuetta**	**94.96 320**	*e*P		**P**	**06 37 16.6**	**+0.3**
	comp=Z,190nm,1.6s						
TUE			LR		LR		
	comp=Z,5μm,20.0s						
HGN	**Heimansgroeve**	**95.16 325**	*e*P		**P**	**06 37 16.5**	**-0.3**
	comp=Z,122nm,1.2s						
HGN			*e*PP		PP	06 41 14.0	+7.7
HGN			*e*S		**S**	**06 48 33.3**	**+3.0**
HGN			*e*SS		**SS**	**06 54 55.8**	**-0.1**
MEM	**Membach**	**95.19 324**	P		**P**	**06 37 16.9**	**-0.1**
	comp=Z,43nm,1.4s						
MEM			PP		**PP**	**06 41 10.2**	**+3.6**
VLC	**Villacollemand**	**95.21 317**	*e*P		**P**	**06 37 18.1**	**+0.8**
	comp=Z,54nm,1.1s						
VLC			LR		LR		
	comp=Z,3μm,20.0s						
BEBN	**Eben Emael**	**95.29 325**	P		**P**	**06 37 18.4**	**+0.9**
	comp=Z,32nm,2.6s						
WLS	**Welschbruch**	**95.37 322**	*e*P		**P**	**06 37 18.4**	**+0.4**
CDF	**Champ du Feu**	**95.42 322**	*e*P		**P**	**06 37 18.1**	**-0.2**
	comp=Z,230nm,1.3s						
CDF	**Champ du Feu**	**95.42 322**	*e*P		**P**	**06 37 18.1**	**-0.2**
CDF			pmax		pmax		
	comp=Z,230nm,1.3s						
CDF	**Champ du Feu**	**95.42 322**	*e*P		**P**	**06 37 18.1**	**-0.2**
	comp=Z,230nm,1.3s						
LSZ	**Lusaka**	**95.44 256**	*e*P		**P**	**06 37 19.9**	**+0.9**
	comp=Z,26nm,1.2s						
LSZ	**Lusaka**	**95.44 256**	LR		LR	07 16 44.1	
	comp=Z,3μm,20.6s,baz=138,slow=33						
WLF	**Walferdange**	**95.53 324**	P		**P**	**06 37 19.7**	**+1.1**
	comp=Z,68nm,1.6s						
WLF			AP		**pP**	**06 37 25.8**	**-1.8**
WLF	**Walferdange**	**95.53 324**	*e*P		**P**	**06 37 18.8**	**+0.2**
WLF	**Walferdange**	**95.53 324**	*e*P		**P**	**06 37 19.5**	**+0.9**
WLF			pmax		pmax		
	comp=Z,99nm,1.1s						
WLF			MLR		MLR		
	comp=Z,5μm,20.0s						
WLF	**Walferdange**	**95.53 324**	*e*P		**P**	**06 37 19.5**	**+0.9**
	comp=Z,99nm,1.1s						
WLF			LR		LR		
	comp=Z,5μm,20.0s						
ECH	**Echery**	**95.58 322**	*e*P		**P**	**06 37 18.3**	**-0.6**
ECH			pmax		pmax		
	comp=Z,38nm,1.1s						
ECH			MLR		MLR		
	comp=Z,4μm,19.0s						
ECH	**Echery**	**95.58 322**	*e*P		**P**	**06 37 18.3**	**-0.6**
	comp=Z,38nm,1.1s						
ECH			LR		LR		
	comp=Z,4μm,19.0s						
BCLA	**Clavier**	**95.67 324**	P		**P**	**06 37 19.6**	**+0.4**
	comp=Z,57nm,2.5s						
BCLA			AP		**pP**	**06 37 26.2**	**-2.0**
BCLA			PP		PP	06 41 17.7	+7.3
MOF	**Molkenrain**	**95.75 322**	*e*P		**P**	**06 37 19.1**	**-0.7**
HINF	**Hinteralfeld**	**95.94 322**	*e*P		**P**	**06 37 20.0**	**-0.6**
	comp=Z,126nm,1.2s						
HINF	**Hinteralfeld**	**95.94 322**	*e*P		**P**	**06 37 20.0**	**-0.6**
HINF			pmax		pmax		
	comp=Z,126nm,1.2s						
HINF	**Hinteralfeld**	**95.94 322**	*e*P		**P**	**06 37 20.0**	**-0.6**
	comp=Z,126nm,1.2s						
GIVF	**Givet**	**96.09 324**	*e*P		**P**	**06 37 21.4**	**+0.2**
	comp=Z,182nm,1.2s						
GIVF	**Givet**	**96.09 324**	*e*P		**P**	**06 37 21.4**	**+0.2**
GIVF			pmax		pmax		
	comp=Z,182nm,1.2s						
GIVF	**Givet**	**96.09 324**	*e*P		**P**	**06 37 21.4**	**+0.2**
	comp=Z,182nm,1.2s						
LOMF	**Lomont**	**96.16 321**	*e*P		**P**	**06 37 20.6**	**-1.0**
HAU	**Haudompre**	**96.16 322**	*e*P		**P**	**06 37 21.6**	**+0.1**
HAU			*e*R				
	comp=Z,5μm,19.0s						
HAU	**Haudompre**	**96.16 322**	*e*P		**P**	**06 37 21.6**	**+0.1**
HAU	**Haudompre**	**96.16 322**	*e*P		**P**	**06 37 21.6**	**+0.1**
SNF	**Seneffe**	**96.21 325**	P		**P**	**06 37 22.1**	**+0.5**
SNF			AP		**pP**	**06 37 28.8**	**-1.8**
DOU	**Dourbes**	**96.23 324**	P		**P**	**06 37 22.2**	**+0.5**
DOU			AP		**pP**	**06 37 27.2**	**-3.5**
PAGF	**Fort de Pagny**	**96.28 323**	*e*P		**P**	**06 37 22.1**	**0.0**
	comp=Z,31nm,1.2s						
PAGF	**Fort de Pagny**	**96.28 323**	*e*P		**P**	**06 37 22.1**	**0.0**
	comp=Z,31nm,1.2s						
BAIF	**Baives**	**96.47 324**	*e*P		**P**	**06 37 23.1**	**+0.3**
	comp=Z,113nm,1.2s						
BAIF	**Baives**	**96.47 324**	*e*P		**P**	**06 37 23.1**	**+0.3**
BAIF			pmax		pmax		
	comp=Z,113nm,1.2s						
BAIF	**Baives**	**96.47 324**	*e*P		**P**	**06 37 23.1**	**+0.3**
	comp=Z,113nm,1.2s						
MEZF	**Maizieres J'vi**	**96.70 323**	*e*P		**P**	**06 37 24.2**	**+0.2**
MEZF	**Maizieres J'vi**	**96.70 323**	*e*P		**P**	**06 37 24.2**	**+0.2**
PGF	**Pioggiola**	**96.78 316**	*e*P		**P**	**06 37 24.1**	**-0.5**
	comp=Z,72nm,0.9s						
PGF	**Pioggiola**	**96.78 316**	*e*P		**P**	**06 37 24.1**	**-0.5**
PGF			pmax		pmax		
	comp=Z,72nm,0.9s						
PGF	**Pioggiola**	**96.78 316**	*e*P		**P**	**06 37 24.1**	**-0.5**
	comp=Z,72nm,0.9s						
SFTF	**Sexfontaines**	**96.85 323**	*e*P		**P**	**06 37 24.4**	**-0.2**
	comp=Z,196nm,1.5s						
SFTF	**Sexfontaines**	**96.85 323**	*e*P		**P**	**06 37 24.4**	**-0.2**
	comp=Z,196nm,1.5s						
CABF	**La Chapelle**	**96.94 321**	*e*P		**P**	**06 37 24.9**	**-0.3**
	comp=Z,109nm,1.3s						
CABF	**La Chapelle**	**96.94 321**	*e*P		**P**	**06 37 24.9**	**-0.3**
CABF			pmax		pmax		
	comp=Z,109nm,1.3s						
CABF	**La Chapelle**	**96.94 321**	*e*P		**P**	**06 37 24.9**	**-0.3**
	comp=Z,109nm,1.3s						
PGC	**Sidney**	**96.99 37**	*e*P		**P**	**06 37 26.0**	**+0.8**
	comp=Z,1.9nm,1.1s						
OSPF	**L'Ospedale**	**97.00 315**	*e*P		**P**	**06 37 23.9**	**-1.7**
RSL	**Roselend**	**97.01 320**	*e*P		**P**	**06 37 25.0**	**-0.6**
LPG	**La Plagne**	**97.01 320**	*e*P		**P**	**06 37 25.8**	**0.0**
	comp=Z,147nm,1.1s						
LPG	**La Plagne**	**97.01 320**	*e*P		**P**	**06 37 25.8**	**0.0**
LPG			pmax		pmax		
	comp=Z,147nm,1.1s						
LPG	**La Plagne**	**97.01 320**	*e*P		**P**	**06 37 25.8**	**0.0**
	comp=Z,147nm,1.1s						
LPL	**La Plagne**	**97.02 320**	*e*P		**P**	**06 37 25.7**	**0.0**
	comp=Z,186nm,1.0s						
LPL	**La Plagne**	**97.02 320**	*e*P		**P**	**06 37 25.7**	**0.0**
LPL			pmax		pmax		
	comp=Z,186nm,1.0s						
LPL	**La Plagne**	**97.02 320**	*e*P		**P**	**06 37 25.7**	**0.0**
	comp=Z,186nm,1.0s						
SAOF	**Saorge**	**97.14 318**	*e*P		**P**	**06 37 24.9**	**-1.2**
BNI	**Bardonecchia**	**97.25 319**	*e*P		**P**	**06 37 25.7**	**-1.0**
BNI			pmax		pmax		
	comp=Z,34nm,0.9s						
BNI			MLR		MLR		
	comp=Z,6μm,22.0s						
BNI	**Bardonecchia**	**97.25 319**	*e*P		**P**	**06 37 25.7**	**-1.0**
	comp=Z,34nm,0.9s						
BNI			LR		LR		
	comp=Z,6μm,22.0s						
SBF	**Sospel**	**97.27 318**	*e*P		**P**	**06 37 25.9**	**-0.8**
	comp=Z,82nm,0.9s						
SBF	**Sospel**	**97.27 318**	*e*P		**P**	**06 37 25.9**	**-0.8**
SBF			pmax		pmax		
	comp=Z,82nm,0.9s						
SBF	**Sospel**	**97.27 318**	*e*P		**P**	**06 37 25.9**	**-0.8**
	comp=Z,82nm,0.9s						
NLWA	**Neilton Lookou**	**97.33 38**	PFAKE			06 37 40.0	+13
NLWA			LR		LR		
	comp=Z,1μm,20.0s						
TOUF	**Mont Tournerai**	**97.33 318**	*e*P		**P**	**06 37 27.1**	**-0.1**
MBDF	**Montbardon**	**97.33 319**	*e*P		**P**	**06 37 26.2**	**-0.9**
	comp=Z,50nm,1.0s						
MBDF	**Montbardon**	**97.33 319**	*e*P		**P**	**06 37 26.2**	**-0.9**
MBDF			pmax		pmax		
	comp=Z,50nm,1.0s						
MBDF	**Montbardon**	**97.33 319**	*e*P		**P**	**06 37 26.2**	**-0.9**
	comp=Z,50nm,1.0s						
MVIF	**Mont Vial**	**97.44 318**	*e*P		**P**	**06 37 27.1**	**-0.5**
EKA	**Eskdalemuir Ar**	**97.52 331**	P		**P**	**06 37 26.4**	**-1.1**
EKA			PP		**PP**	**06 41 23.9**	**-0.4**
EKA	**Eskdalemuir Ar**	**97.52 331**	P		**P**	**06 37 26.4**	**-1.1**
	comp=Z,13nm,1.0s,baz=57,slow=5.2,SNR=15						
EKA			PP		**PP**	**06 41 23.9**	**-0.4**
	comp=Z,18nm,1.1s,baz=54,slow=7.2,SNR=8.3						
ESK	**Eskdalemuir**	**97.55 331**	*e*P		**P**	**06 37 26.6**	**-1.0**
ESK			pmax		pmax		
	comp=Z,310nm,2.1s						
ESK			MLR		MLR		
	comp=Z,7μm,19.0s						
ESK	**Eskdalemuir**	**97.55 331**	*e*P		**P**	**06 37 26.6**	**-1.0**
	comp=Z,310nm,2.1s						
ESK			LR		LR		
	comp=Z,7μm,19.0s						
BORG	**Borgarnes**	**97.64 344**	PFAKE			06 37 40.0	+12
BORG			LR		LR		
	comp=Z,6μm,19.0s						
VSL	**Villasalto**	**97.73 313**	PFAKE			06 37 40.0	+11
VSL			LR		LR		
	comp=Z,2μm,19.0s						
ORIF	**Oris-en-Rattie**	**97.82 319**	*e*P		**P**	**06 37 28.8**	**-0.4**
	comp=Z,105nm,1.1s						
ORIF			*e*R				
	comp=Z,6μm,21.2s						
ORIF	**Oris-en-Rattie**	**97.82 319**	*e*P		**P**	**06 37 28.8**	**-0.4**
ORIF			pmax		pmax		
	comp=Z,105nm,1.1s						
ORIF	**Oris-en-Rattie**	**97.82 319**	*e*P		**P**	**06 37 28.8**	**-0.4**
	comp=Z,105nm,1.1s						
MBW	**Mount Baker**	**97.83 36**	P		Pdif	06 37 30.5	+1.2
FRF	**La Foret Royal**	**97.92 318**	*e*P		**P**	**06 37 29.0**	**-0.6**
	comp=Z,121nm,1.2s						
FRF	**La Foret Royal**	**97.92 318**	*e*P		**P**	**06 37 29.0**	**-0.6**
FRF			pmax		pmax		
	comp=Z,121nm,1.2s						
FRF	**La Foret Royal**	**97.92 318**	*e*P		**P**	**06 37 29.0**	**-0.6**
	comp=Z,121nm,1.2s						
LOR	**Lormes**	**97.99 322**	*e*P		**P**	**06 37 29.5**	**-0.3**
	comp=Z,173nm,1.6s						
LOR			*e*R				
	comp=Z,4μm,18.5s						
LOR	**Lormes**	**97.99 322**	*e*P		**P**	**06 37 29.5**	**-0.3**
	comp=Z,173nm,1.6s						
LMR	**La Mourre**	**98.11 318**	*e*P		**P**	**06 37 29.8**	**-0.6**
	comp=Z,81nm,1.2s						
LMR	**La Mourre**	**98.11 318**	*e*P		**P**	**06 37 29.8**	**-0.6**
LMR			pmax		pmax		
	comp=Z,81nm,1.2s						
LMR	**La Mourre**	**98.11 318**	*e*P		**P**	**06 37 29.8**	**-0.6**
	comp=Z,81nm,1.2s						
SMF	**Signal de Mont**	**98.30 322**	*e*P		**P**	**06 37 30.8**	**-0.4**
	comp=Z,72nm,1.1s						
SMF	**Signal de Mont**	**98.30 322**	*e*P		**P**	**06 37 30.8**	**-0.4**
SMF			pmax		pmax		
	comp=Z,72nm,1.1s						
SMF	**Signal de Mont**	**98.30 322**	*e*P		**P**	**06 37 30.8**	**-0.4**
	comp=Z,72nm,1.1s						
SSF	**Saint Saulge**	**98.30 322**	*e*P		**P**	**06 37 30.9**	**-0.3**
	comp=Z,44nm,1.1s						
SSF	**Saint Saulge**	**98.30 322**	*e*P		**P**	**06 37 30.9**	**-0.3**
SSF			pmax		pmax		
	comp=Z,44nm,1.1s						
SSF	**Saint Saulge**	**98.30 322**	*e*P		**P**	**06 37 30.9**	**-0.3**
	comp=Z,44nm,1.1s						
SMRF	**Simiane la Rot**	**98.44 319**	*e*P		**P**	**06 37 31.8**	**-0.1**
	comp=Z,59nm,1.2s						
SMRF	**Simiane la Rot**	**98.44 319**	*e*P		**P**	**06 37 31.8**	**-0.1**
	comp=Z,59nm,1.2s						
SSB	**Saint Sauveur**	**98.50 320**	*e*P		Pdif	06 37 33.0	+0.8
SSB			pmax		pmax		
	comp=Z,32nm,1.1s						
SSB			MLR		MLR		
	comp=Z,3μm,19.0s						
SSB	**Saint Sauveur**	**98.50 320**	*e*P		Pdif	06 37 33.0	+0.8
	comp=Z,32nm,1.1s						
SSB			LR		LR		
	comp=Z,3μm,19.0s						
AVF	**Avril sur Loir**	**98.52 322**	*e*P		**P**	**06 37 31.9**	**-0.3**
	comp=Z,65nm,1.1s						
AVF	**Avril sur Loir**	**98.52 322**	*e*P		**P**	**06 37 31.9**	**-0.3**
AVF			pmax		pmax		
	comp=Z,65nm,1.1s						
AVF	**Avril sur Loir**	**98.52 322**	*e*P		**P**	**06 37 31.9**	**-0.3**
	comp=Z,65nm,1.1s						
VIVF	**Saint-Julien-l**	**98.61 320**	*e*P		Pdif	06 37 32.9	+0.2
	comp=Z,84nm,1.0s						
VIVF	**Saint-Julien-l**	**98.61 320**	*e*P		Pdif	06 37 32.9	+0.2
VIVF			pmax		pmax		
	comp=Z,84nm,1.0s						
VIVF	**Saint-Julien-l**	**98.61 320**	*e*P		Pdif	06 37 32.9	+0.2
	comp=Z,84nm,1.0s						
FL2	**Flat Top 2**	**98.81 39**	P		Pdif	06 37 34.5	+0.8
BGF	**Bois d'Agland**	**98.94 322**	*e*P		**P**	**06 37 33.9**	**-0.2**
BGF	**Bois d'Agland**	**98.94 322**	*e*P		**P**	**06 37 33.9**	**-0.2**
BGF	**Bois d'Agland**	**98.94 322**	*e*P		**P**	**06 37 33.9**	**-0.2**
COR	**Corvallis**	**98.98 40**	*e*P		Pdif	06 37 35.8	+1.5
COR			pmax		pmax		
	comp=Z,65nm,1.1s						
COR	**Corvallis**	**98.98 40**	*e*P		Pdif	06 37 35.8	+1.5
	comp=Z,65nm,1.1s						
AGO	**Saint Agoulin**	**99.01 321**	*e*P		**Pdif**	**06 37 34.7**	**+0.3**
WPW	**White Pass**	**99.06 38**	P		**Pdif**	**06 37 35.5**	**+0.8**
KEST	**Kesra**	**99.22 310**	PP		PP	06 41 34.2	-4.1
KEST	**Kesra**	**99.22 310**	PP		PP	06 41 34.2	-4.1
	comp=Z,4.4nm,1.1s,baz=51,slow=9.7,SNR=3.6						
KEST			LR		LR	07 32 26.4	
	comp=Z,777nm,20.2s,baz=197,slow=41						
LBL	**Lubilhac**	**99.33 320**	*e*P		**Pdif**	**06 37 35.9**	**-0.1**
TCF	**Toulx Ste Croi**	**99.46 322**	*e*P		**Pdif**	**06 37 36.4**	**0.0**
	comp=Z,89nm,1.2s						
TCF	**Toulx Ste Croi**	**99.46 322**	*e*P		**Pdif**	**06 37 36.4**	**0.0**
TCF			pmax		pmax		
	comp=Z,89nm,1.2s						
TCF	**Toulx Ste Croi**	**99.46 322**	*e*P		**Pdif**	**06 37 36.4**	**0.0**
	comp=Z,89nm,1.2s						
VLL	**Laurance Lake**	**99.58 39**	P		**Pdif**	**06 37 38.6**	**+1.5**
LDF	**La Druitiere**	**99.65 325**	*e*P		**Pdif**	**06 37 37.1**	**-0.1**
	comp=Z,144nm,1.3s						
LDF	**La Druitiere**	**99.65 325**	*e*P		**Pdif**	**06 37 37.1**	**-0.1**
LDF			pmax		pmax		
	comp=Z,144nm,1.3s						
LDF	**La Druitiere**	**99.65 325**	*e*P		**Pdif**	**06 37 37.1**	**-0.1**
	comp=Z,144nm,1.3s						
FLN	**La Foliniere**	**99.77 325**	*e*P		**Pdif**	**06 37 37.6**	**-0.1**
	comp=Z,60nm,1.1s						
FLN			*e*R				
	comp=Z,7μm,20.2s						
FLN	**La Foliniere**	**99.77 325**	*e*P		**Pdif**	**06 37 37.6**	**-0.1**
FLN			pmax		pmax		
	comp=Z,60nm,1.1s						
FLN	**La Foliniere**	**99.77 325**	*e*P		**Pdif**	**06 37 37.6**	**-0.1**
	comp=Z,60nm,1.1s						
TRW	**Toppenish Ridg**	**99.86 38**	P		**Pdif**	**06 37 39.6**	**+1.4**
FRIS	**Frissel Point**	**99.91 40**	P		**Pdif**	**06 37 39.5**	**+0.9**
IRO	**Indian Ridge**	**99.91 41**	P		**Pdif**	**06 37 39.3**	**+0.6**
EDM	**Edmonton**	**99.95 30**	*e*P		**Pdif**	**06 37 39.2**	**+0.7**
EDM	**Edmonton**	**99.95 30**	*e*Pdif		**Pdif**	**06 37 39.2**	**+0.7**
HUMO	**Hull Mountain**	**100.11 42**	*e*Pdif		**Pdif**	**06 37 40.1**	**+0.7**
	comp=Z,25nm,1.5s						
GRR	**Gorron**	**100.18 325**	*e*P		**Pdif**	**06 37 39.7**	**+0.2**
GRR	**Gorron**	**100.18 325**	*e*P		**Pdif**	**06 37 39.7**	**+0.2**
GRR	**Gorron**	**100.18 325**	*e*P		**Pdif**	**06 37 39.7**	**+0.2**
CAF	**Calviac**	**100.21 321**	*e*P		**Pdif**	**06 37 39.8**	**0.0**
	comp=Z,55nm,1.3s						
CAF	**Calviac**	**100.21 321**	*e*P		**Pdif**	**06 37 39.8**	**0.0**
CAF			pmax		pmax		
	comp=Z,55nm,1.3s						
CAF	**Calviac**	**100.21 321**	*e*P		**Pdif**	**06 37 39.8**	**0.0**
	comp=Z,55nm,1.3s						
SFJD	**Kangerlussuaq**	**100.33 356**	PFAKE			06 37 50.0	+10
SFJD			LR		LR		
	comp=Z,3μm,19.0s						
RJF	**Les Rejaudoux**	**100.36 321**	*e*P		**Pdif**	**06 37 40.9**	**+0.4**
	comp=Z,88nm,1.3s						
RJF			*e*R				
	comp=Z,6μm,20.8s						
RJF	**Les Rejaudoux**	**100.36 321**	*e*P		**Pdif**	**06 37 40.9**	**+0.4**
RJF			pmax		pmax		
	comp=Z,88nm,1.3s						
RJF	**Les Rejaudoux**	**100.36 321**	*e*P		**Pdif**	**06 37 40.9**	**+0.4**
	comp=Z,88nm,1.3s						
HAWA	**Hanford**	**100.42 38**	PFAKE			06 37 50.0	+9.3
HAWA			LR		LR		
	comp=Z,2μm,22.0s						
BOSA	**Boshof**	**100.48 243**	P		**Pdif**	**06 37 42.9**	**+1.5**
BOSA	**Boshof**	**100.48 243**	P		**Pdif**	**06 37 42.9**	**+1.5**
	comp=Z,3.7nm,1.1s,baz=90,slow=4.0,SNR=2.0						
YBH	**Yreka Blue Hor**	**100.68 43**	P		**Pdif**	**06 37 41.9**	**-0.2**
YBH	**Yreka Blue Hor**	**100.68 43**	P		**Pdif**	**06 37 41.9**	**-0.2**
	comp=Z,6.1nm,1.1s,baz=232,slow=10,SNR=4.3						
NEW	**Newport**	**100.82 35**	*e*Pdif		**Pdif**	**06 37 43.0**	**+0.6**
	comp=Z,16nm,1.1s						
NEW			PP		**PP**	**06 41 54.1**	**+4.3**
NEW			LR		LR		
	comp=Z,2μm,19.0s						
NEW	**Newport**	**100.82 35**	P		**Pdif**	**06 37 42.8**	**+0.3**
	comp=Z,5.3nm,1.0s,baz=303,slow=3.5,SNR=9.2						
NEW			PP		**PP**	**06 41 54.1**	**+4.3**
	comp=Z,1.8nm,0.8s,baz=7.8,slow=4.0,SNR=4.4						
NEW	**Newport**	**100.82 35**	P		**Pdif**	**06 37 43.1**	**+0.6**
	baz=101						
LBCM	**Butte Creek Ri**	**102.01 43**	P		**Pdif**	**06 37 49.0**	**+0.9**
WALA	**Waterton Lakes**	**102.13 33**	*e*Pdif		**Pdif**	**06 37 48.7**	**+0.3**
	comp=Z,0.5nm,1.3s						
MOD	**Modoc**	**102.18 42**	*e*Pdif		**Pdif**	**06 37 48.7**	**-0.1**
	comp=Z,204nm,1.7s						
BSMT	**Bassoo Peak**	**102.35 35**	*e*Pdif		**Pdif**	**06 37 50.4**	**+0.9**
	comp=Z,17nm,1.5s						
BSMT			*e*PP		**PP**	**06 42 00.5**	**-1.0**
QSPA	**South Pole Qui**	**102.48 180**	*e*Pdif		**Pdif**	**06 37 50.5**	**+1.2**
	comp=Z,132nm,2.4s						
QSPA			PKKPbc		**PKKPbc**	**06 53 49.6**	**-3.8**
QSPA			LR		LR		
	comp=Z,3μm,21.0s						
QSPA	**South Pole Qui**	**102.48 180**	PKKPbc		PKKPbc	06 53 49.6	-3.8
	comp=Z,2.2nm,0.7s,baz=131,slow=3.5,SNR=5.6						
BMO	**Blue Mountains**	**102.55 38**	PFAKE			06 38 00.0	+10
BMO			LR		LR		
	comp=Z,1μm,21.0s						
WVOR	**Wild Horse Val**	**102.99 41**	*e*P		**Pdif**	**06 37 52.7**	**+0.3**
WVOR			pmax		pmax		
	comp=Z,16nm,1.2s						
WVOR			MLR		MLR		
	comp=Z,3μm,19.0s						
WVOR	**Wild Horse Val**	**102.99 41**	*e*Pdif		**Pdif**	**06 37 52.6**	**+0.3**
	comp=Z,16nm,1.2s						
WVOR			LR		LR		
	comp=Z,3μm,19.0s						
BEKR	**Beckworth**	**103.14 44**	*e*Pdif		**Pdif**	**06 37 53.8**	**+0.7**
	comp=Z,5.9nm,1.0s						
MSO	**Missoula**	**103.41 35**	P		**Pdif**	**06 37 54.4**	**+0.3**
	baz=103						
**PAHR

RLMT Red Lodge 107.04 34 PFAKE 06 42 30.0
RLMT LR LR
comp=Z,2μm,19.0s
PAB San Pablo 107.07 318 PFAKE 06 42 30.0
PAB LR LR
comp=Z,5μm,19.0s
TPAW Teton Pass 107.09 37 *e*Pdif **Pdif 06 38 11.5 +0.7**
comp=Z,3.5nm,1.1s
TAM Tamanrasset 107.26 299 PFAKE 06 42 30.0
TAM LR LR
comp=Z,2μm,20.0s
PBRG Braganca 107.30 321 *e*PP PP 06 42 41.2 +3.0
AHID Auburn Hatcher 107.44 37 PFAKE 06 42 30.0
AHID LR LR
comp=Z,2μm,19.0s
DGMT Dagmar 107.44 29 PFAKE 06 42 30.0
DGMT LR LR
comp=Z,2μm,20.0s
LAO LASA Array 107.65 32 PFAKE 06 42 30.0
LAO LR LR
comp=Z,2μm,20.0s
GSC Goldstone 107.84 46 *e*P **Pdif 06 38 14.7 +0.7**
GSC pmax pmax
comp=Z,12nm,1.1s
GSC Goldstone 107.84 46 *e*Pdif **Pdif 06 38 14.7 +0.7**
comp=Z,12nm,1.1s
HWUT Hardware Ranch 107.84 38 *e*Pdif **Pdif 06 38 14.6 +0.6**
comp=Z,3.2nm,0.9s
HWUT LR LR
comp=Z,2μm,19.0s
MVO Moncorvo 107.85 321 *e*PP PP 06 42 43.1 +0.9
MVO Moncorvo 107.85 321 *e*LR LR 07 16 51.4
comp=Z,4μm,20.0s
DUG Dugway 107.89 40 PFAKE 06 42 30.0
DUG LR LR
comp=Z,2μm,20.0s
PGAV Gavieira, Arco 108.13 322 *e*PP PP 06 42 50.8 +6.5
PGAV Gavieira, Arco 108.13 322 *e*LR LR 07 18 14.2
comp=Z,4μm,20.0s
BW06 Boulder Array 108.34 36 PFAKE 06 42 30.0
BW06 LR LR
comp=Z,2μm,20.0s
PDAR Pinedale Array 108.34 36 Pdif **Pdif 06 38 16.9 +0.6**
PDAR PKiKP **PKiKP 06 42 21.3 -1.1**
PDAR PKKPbc **PKKPbc 06 53 33.0 -1.2**
PDAR PKKP **PKKPdf 06 53 46.2 -1.7**
PDAR Pinedale Array 108.34 36 Pdiff **Pdif 06 38 16.9 +0.6**
comp=Z,1.0nm,1.0s,baz=180,slow=2.6,SNR=4.4
PDAR PKiKP **PKiKP 06 42 21.3 -1.1**
comp=Z,1.0nm,1.0s,baz=289,slow=2.8,SNR=2.8
PDAR PKKPbc **PKKPbc 06 53 33.0 -1.2**
comp=Z,0.7nm,0.8s,baz=113,slow=2.3,SNR=5.2
PDAR PKKP **PKKPdf 06 53 46.2 -1.7**
comp=Z,2.5nm,0.9s,baz=120,slow=5.3,SNR=13
SHPR Sheep Range 108.36 45 *e*Pdif **Pdif 06 38 18.6 +2.1**
comp=Z,28nm,1.9s
MTE Manteigas 108.61 321 *e*PP PP 06 42 49.6 +1.8
MTE Manteigas 108.61 321 *e*LR LR 07 19 10.6
comp=Z,4μm,18.0s
MTE Manteigas 108.61 321 PFAKE 06 42 30.0
MTE LR LR
comp=Z,5μm,19.0s
PVIS Viseu 108.64 321 *e*PP PP 06 42 54.4 +6.4
PCBR Castelo Branco 108.90 320 *e*PP PP 06 42 50.1 +0.3
PFO Pinyon Flat Ob 108.94 48 PFAKE 06 42 40.0
PFO LR LR
comp=Z,3μm,22.0s
PMRV Marv??o 109.08 320 *e*PP PP 06 42 57.4 +6.2
PMRV Marv??o 109.08 320 *e*LR LR 07 17 21.4
comp=Z,2μm,20.0s
MVU Marysvale 109.23 41 PFAKE 06 42 40.0
MVU LR LR
comp=Z,2μm,19.0s
PCAS Casmilo, Conde 109.41 321 *e*PP PP 06 43 00.4 +6.9
PESTR Estremoz 109.53 319 *e*PP PP 06 42 48.2 -6.3
PBAR Barrancos 109.58 318 *e*PP PP 06 42 55.1 +0.3
PMTG Montargil 109.82 320 *e*PP PP 06 43 01.7 +5.2
EVO Evora 110.00 319 *e*PP PP 06 43 03.7 +5.9
PBEJ Beja 110.19 319 *e*PP PP 06 43 01.4 +2.1
PVAQ Vaqueiros 110.46 318 *e*PP PP 06 43 03.3 +2.1
PVAQ Vaqueiros 110.46 318 *e*LR LR 07 18 08.5
comp=Z,2μm,20.0s
PCVE Castro Verde 110.53 318 *e*PP PP 06 43 08.1 +6.4
PMAFR Mafra 110.55 320 *e*PP PP 06 43 08.1 +6.3
PNCL Nicolau / Gran 110.57 319 *e*PP PP 06 43 07.3 +5.3
LIS Lisbon 110.61 320 *e*PP PP 06 43 01.7 -0.5
LIS AMS AMS 07 39 19.8
comp=Z,5μm,20.4s
LIS Lisbon 110.61 320 *e*PP PP 06 43 01.7 -0.5
LIS Lisbon 110.61 320 A A 07 39 19.8
comp=Z,5μm,20.4s
PMST Lisbon--Monsan 110.61 320 *e*PP PP 06 43 09.4 +7.1
PBDV Barranco-do-Ve 110.69 318 *e*PP PP 06 43 04.3 +1.4
PTEO Sao Teotonio 111.03 319 *e*PP PP 06 43 11.9 +6.6
MORF Marmelete 111.12 318 *e*PP PP 06 43 10.4 +4.4
AGMN Agassiz Nation 111.30 25 PFAKE 06 42 40.0
AGMN LR LR
comp=Z,4μm,22.0s
PFVI Vila Bisbo 111.33 318 *e*PP PP 06 43 03.8 -3.7
WUAZ Wupatki 111.47 44 PFAKE 06 42 40.0
WUAZ LR LR
comp=Z,2μm,20.0s
RTC Rabat Centre 111.79 315 PFAKE 06 42 40.0
RTC LR LR
comp=Z,1μm,21.0s
SNAA Sanae 112.07 197 *e*PKiKP **PKiKP 06 42 29.8 +1.5**
SNAA Sanae 112.07 197 *ep*PKiKP pPKiKP 06 42 45.3 +7.8
SNAA Sanae 112.07 197 PKiKP **PKiKP 06 42 27.3 -1.0**
SNAA PKKPbc **PKKPbc 06 53 19.2 -3.5**
SNAA Sanae 112.07 197 PKiKP **PKiKP 06 42 27.3 -1.0**
comp=Z,1.4nm,1.2s,baz=152,slow=3.3,SNR=3.7
SNAA PKKPbc **PKKPbc 06 53 19.2 -3.5**
comp=Z,0.7nm,0.9s,baz=0.0,slow=1.0,SNR=5.6
MVCO Mesa Verde 112.37 41 PFAKE 06 42 40.0
MVCO LR LR
comp=Z,3μm,20.0s
ISCO Idaho Springs 112.51 37 PFAKE 06 42 40.0
ISCO LR LR
comp=Z,2μm,19.0s
EYMN Ely 113.32 23 PFAKE 06 42 40.0
EYMN LR LR
comp=Z,3μm,21.0s
TUC Tucson 113.67 46 PFAKE 06 42 40.0
TUC LR LR
comp=Z,2μm,20.0s
VNA2 Neumayer--Watz 113.71 196 *e*PKiKP **PKiKP 06 42 32.4 +1.0**
VNA2 Neumayer--Watz 113.71 196 *ep*PKiKP pPKiKP 06 42 46.1 +5.5
OGNE Ogallala 113.78 34 PFAKE 06 42 40.0
OGNE LR LR
comp=Z,1μm,20.0s
SDCO Great Sand Dun 113.90 39 *e*PKPdf **PKiKP 06 42 33.7 +0.5**
SDCO *e*PP **PP 06 43 28.9 +2.8**
SDCO LR LR
comp=Z,2μm,19.0s
TORD Torodi Ar. Bea 114.14 291 PKP PKPdf 06 42 33.1 -0.7
TORD PKKPbc **PKKPab 06 53 19.9 -1.7**
TORD Torodi Ar. Bea 114.14 291 PKP PKPdf 06 42 33.1 -0.7
comp=Z,8.0nm,0.8s,baz=74,slow=1.2,SNR=20
TORD PKKPbc **PKKPab 06 53 19.9 -1.7**
comp=Z,3.3nm,1.1s,baz=265,slow=3.4,SNR=6.3
ECSD EROS Data Cent 114.50 29 PFAKE 06 42 50.0 +16
ECSD LR LR
comp=Z,3μm,20.0s
ANMO Albuquerque 115.06 42 PFAKE 06 42 50.0 +15
ANMO LR LR
comp=Z,3μm,19.0s
V25A Rancho No Teng 115.67 40 P **PKPdf 06 42 35.6 -0.9**
baz=116
COWI Conover 115.75 22 PFAKE 06 42 50.0 +14
COWI LR LR
comp=Z,2μm,21.0s
Z23A Rita Site, Whi 116.24 43 P **PKPdf 06 42 36.3 -1.3**
baz=116
SCIA State Center 117.49 28 PFAKE 06 42 50.0 +10
SCIA LR LR
comp=Z,3μm,22.0s
MNTX Cornudas Mount 117.76 44 *e*PKPdf **PKPdf 06 42 41.8 +1.4**
MNTX LR LR
comp=Z,2μm,22.0s
JFWS Jewell Farm 117.97 25 *e*PKiKP **PKPdf 06 42 41.9 +1.4**
JFWS MLR MLR
comp=Z,2μm,21.0s
JFWS Jewell Farm 117.97 25 *e*PKPdf **PKPdf 06 42 41.9 +1.4**
JFWS LR LR
comp=Z,2μm,21.0s

KSU1 Kansas State U 117.99 32 PFAKE 06 42 50.0 +9.4
KSU1 LR LR
comp=Z,2μm,21.0s
Z27A Tatum 118.17 41 P **PKPdf 06 42 40.4 -0.8**
baz=118
128A Castleberry Fa 119.09 41 P **PKPdf 06 42 42.0 -1.0**
baz=119
Z29A Hungry Hill Ra 119.17 40 P **PKPdf 06 42 41.9 -1.3**
baz=119
X31A McDonald Ranch 119.30 38 P **PKPdf 06 42 43.2 -0.1**
baz=119
PMOZ Porto Moniz, M 119.39 319 *e*LR LR 07 29 32.0
comp=Z,2μm,20.0s
Y31A Rekieta Farm, 119.59 39 P **PKPdf 06 42 44.1 +0.2**
baz=120
427A Hayter Ranch, 119.61 43 P **PKPdf 06 42 44.0 -0.1**
baz=120
526A Mary Lane Ranc 119.64 44 P **PKPdf 06 42 43.6 -0.6**
baz=120
WMOK Wichita Mounta 119.94 37 *e*PKIKP **PKPdf 06 42 45.3 +0.8**
WMOK MLR MLR
comp=Z,2μm,20.0s
WMOK Wichita Mounta 119.94 37 *e*PKPdf **PKPdf 06 42 45.3 +0.8**
WMOK LR LR
comp=Z,2μm,20.0s
428A Kincaid Ranch, 120.17 43 P **PKPdf 06 42 45.8 +0.7**
baz=120
TXAR Lajitas Array 120.37 45 PKP **PKPdf 06 42 46.1 +0.5**
TXAR PP **PP 06 44 09.4 -1.8**
TXAR PKKPbc **PKKPab 06 52 54.2 -0.6**
TXAR Lajitas Array 120.37 45 PKP **PKPdf 06 42 46.1 +0.5**
comp=Z,1.2nm,0.6s,baz=293,slow=0.7,SNR=13
TXAR PP **PP 06 44 09.4 -1.8**
comp=Z,3.0nm,0.9s,baz=290,slow=3.7,SNR=4.5
TXAR PKKPbc **PKKPab 06 52 54.2 -0.6**
comp=Z,1.1nm,0.9s,baz=157,slow=2.9,SNR=6.0
528A Cox Ranch, San 120.45 44 P **PKPdf 06 42 45.3 -0.5**
baz=120
627A Terlingua Ranc 120.49 45 P **PKPdf 06 42 45.9 +0.1**
baz=120
Z32A Haskell 120.51 39 P **PKPdf 06 42 45.6 -0.1**
baz=120
CMLA Cha da Macela 120.60 329 PFAKE 06 43 00.0 +14
CMLA LR LR
comp=Z,2μm,19.0s
429A Davenport Ranc 120.76 43 P **PKPdf 06 42 46.0 -0.2**
baz=121
628A Black Gap, Mar 120.81 44 P **PKPdf 06 42 46.2 -0.2**
baz=121
529A Stev Forest Ra 120.86 43 P **PKPdf 06 42 46.4 0.0**
baz=121
430A Baggett Ranch, 121.08 42 P **PKPdf 06 42 46.6 -0.3**
baz=121
331A San Angelo 121.27 41 P **PKPdf 06 42 46.9 -0.3**
baz=121
LONY Lake Ozonia 121.41 13 PFAKE 06 43 00.0 +13
LONY LR LR
comp=Z,2μm,22.0s
530A J-C Ranch, Com 121.43 43 P **PKPdf 06 42 47.5 0.0**
baz=121
431A Sonora 121.56 42 P **PKPdf 06 42 47.7 -0.1**
baz=121
332A Millersview 121.65 40 P **PKPdf 06 42 48.4 +0.5**
baz=122
PKME Peaks-Kenny Pk 121.71 8 PFAKE 06 43 00.0 +12
PKME LR LR
comp=Z,4μm,20.0s
NCB Newcomb 122.10 13 PFAKE 06 43 00.0 +12
NCB LR LR
comp=Z,2μm,20.0s
JCT Junction City 122.22 41 *e*PKIKP **PKPdf 06 42 50.1 +1.1**
JCT MLR MLR
comp=Z,2μm,20.0s
JCT Junction City 122.22 41 *e*PKPdf **PKPdf 06 42 50.1 +1.1**
JCT LR LR
comp=Z,2μm,20.0s
JCT Junction City 122.22 41 P **PKPdf 06 42 48.6 -0.5**
baz=122
LBNH Lisbon 122.29 11 PFAKE 06 43 00.0 +11
LBNH LR LR
comp=Z,4μm,20.0s
ERPA Erie 122.36 18 PFAKE 06 43 00.0 +11
ERPA LR LR
comp=Z,3μm,20.0s
532A Rocksprings 122.38 42 P **PKPdf 06 42 49.4 0.0**
baz=122
KIC Kosan Boka 122.40 286 *e*PKIKP **PKPdf 06 42 50.0 +0.3**
comp=Z,85nm,0.8s
DBIC Dimbokro 122.41 286 PKP **PKPdf 06 42 49.6 -0.1**
DBIC *e*PKPdf **PKiKP 06 42 49.8 -0.1**
DBIC PP **PP 06 44 29.1 +3.2**
DBIC Dimbokro 122.41 286 PKP **PKPdf 06 42 49.6 -0.1**
comp=Z,14nm,0.7s,baz=67,slow=3.0,SNR=18
DBIC PP **PP 06 44 29.1 +3.2**
comp=Z,20nm,1.3s,baz=73,slow=9.7,SNR=4.6
631A Perdido Creek 122.41 43 P **PKPdf 06 42 49.0 -0.4**
baz=122
TIC Toumodi 122.57 286 *e*PKIKP **PKPdf 06 42 50.6 +0.5**
comp=Z,59nm,0.8s
LIC Lamto 122.72 286 *e*PKIKP **PKPdf 06 42 50.0 -0.3**
comp=Z,62nm,0.8s
LIC *e*R
comp=Z,3μm,21.2s
LIC Lamto 122.72 286 *e*PKIKP **PKPdf 06 42 50.5 +0.2**
comp=Z,99nm,0.8s
LIC Lamto 122.72 286 *e*PKPdf **PKPdf 06 42 50.0 -0.3**
MIAR Mount Ida 123.02 33 *e*PKIKP **PKPdf 06 42 53.5 +3.1**
MIAR MLR MLR
comp=Z,2μm,22.0s
MIAR Mount Ida 123.02 33 *e*PKPdf **PKPdf 06 42 53.5 +3.1**
MIAR LR LR
comp=Z,2μm,22.0s
ACSO Alum Creek Sta 123.07 21 *e*PKPdf **PKPdf 06 42 51.0 +0.6**
ACSO LR LR
comp=Z,3μm,19.0s
BINY Binghamton 123.38 15 PFAKE 06 43 00.0 +9.1
BINY LR LR
comp=Z,3μm,21.0s
NATX Nacogdoches 124.48 37 PFAKE 06 43 00.0 +6.7
NATX LR LR
comp=Z,3μm,21.0s
WVT Waverly 124.62 28 *e*PKIKP **PKPdf 06 42 52.8 -0.6**
WVT Waverly 124.62 28 *e*PKPdf **PKPdf 06 42 52.8 -0.6**
MCWV Mont Chateau 124.65 19 PFAKE 06 43 00.0 +6.6
MCWV LR LR
comp=Z,3μm,21.0s
OXF Oxford 125.19 30 PFAKE 06 43 10.0 +15
OXF LR LR
comp=Z,3μm,22.0s
KVTX Kingsville 125.41 43 PFAKE 06 43 10.0 +15
KVTX LR LR
comp=Z,2μm,21.0s
VBMS Vicksburg 126.43 33 PFAKE 06 43 10.0 +13
VBMS LR LR
comp=Z,3μm,21.0s
BLA Blacksburg 126.67 21 PFAKE 06 43 10.0 +13
BLA LR LR
comp=Z,3μm,22.0s
CBN Corbin 126.74 18 PFAKE 06 43 10.0 +13
CBN LR LR
comp=Z,4μm,19.0s
LRAL Lakeview Retre 127.56 29 *e*PKPdf **PKPdf 06 43 03.5 +4.3**
LRAL LR LR
comp=Z,2μm,20.0s
PMSA Palmer Station 127.82 178 PFAKE 06 43 10.0 +11
PMSA LR LR
comp=Z,3μm,22.0s
SHEL Horse Pasture 127.91 260 PFAKE 06 43 10.0 +10
SHEL LR LR
comp=Z,3μm,20.0s
BRAL Brewton 129.18 31 PFAKE 06 43 10.0 +7.8
BRAL LR LR
comp=Z,2μm,20.0s
CNNC Cliffs of the 129.31 19 PFAKE 06 43 10.0 +7.6
CNNC LR LR
comp=Z,4μm,22.0s
BBSR BB Station 134.99 6 PFAKE 06 43 20.0 +6.8
BBSR LR LR
comp=Z,1μm,20.0s
SACV Santiago Islan 135.11 307 PFAKE 06 43 30.0 +16
SACV LR LR
comp=Z,2μm,20.0s
ASCN Ascension 135.38 271 PFAKE 06 43 30.0 +16
ASCN LR LR
comp=Z,630nm,19.0s
TEIG Tepich 136.79 41 PFAKE 06 43 30.0 +13
TEIG LR LR
comp=Z,2μm,19.0s
USHA Ushuaia 137.31 172 PKP **PKPdf 06 43 20.2 +3.5**
USHA Ushuaia 137.31 172 PKP **PKPdf 06 43 20.2 +3.5**
comp=Z,15nm,1.1s,baz=184,slow=1.9,SNR=3.7
EFI East Falkland 141.04 181 PFAKE 06 43 40.0 +16
EFI LR LR
comp=Z,1μm,22.0s
TGUH Tegucigalpa,Un 141.79 47 PFAKE 06 43 40.0 +14
TGUH LR LR
comp=Z,2μm,21.0s
GTBY Guantanamo Bay 144.19 26 PFAKE 06 43 40.0 +10
GTBY LR LR
comp=Z,2μm,20.0s
GRTK Grand Turk 144.21 19 PFAKE 06 43 40.0 +10
GRTK LR LR
comp=Z,2μm,21.0s
COYC Coyhaique 145.46 164 ⇓ *iP* **PKPbc 06 43 31.6 -0.1**
JTS JuntasAbangare 145.99 49 *e*PKPdf **PKPdf 06 43 33.7 +0.2**
JTS LR LR
comp=Z,2μm,20.0s
SDDR Presa de Saban 146.51 21 *e*PKPdf **PKPbc 06 43 35.2 -0.5**
SDDR LR LR
comp=Z,3μm,20.0s
PAYG Puerto Ayora 147.26 71 *e*PKPbc **PKPab 06 43 40.0 +0.2**
PAYG LR LR
comp=Z,2μm,20.0s
AGPR Aguadilla, PR 148.21 14 *e*PKPbc **PKPbc 06 43 39.9 -0.4**
LRS Lares 148.44 13 *e*PKPbc **PKPbc 06 43 40.9 -0.1**
LSP Las Mesas 148.49 14 *e*PKPbc **PKPbc 06 43 42.3 +1.1**
CRPR Cabo Rojo, PR 148.65 14 *e*PKPbc **PKPab 06 43 43.5 -1.4**
CELP Cerrillos 148.71 13 *e*PKPbc **PKPbc 06 43 41.2 -0.5**
OBIP Obispado Ponce 148.73 13 *e*PKPbc **PKPbc 06 43 41.3 -0.4**
STVI Saint Thomas 148.75 10 *e*PKPbc **PKPbc 06 43 41.0 -0.7**
MTP Monte Pirata 148.90 11 *e*PKPbc **PKPbc 06 43 41.3 -0.8**
ANWB Willy Bob 149.82 4 PFAKE 06 43 50.0 +0.4
ANWB LR LR
comp=Z,1μm,21.0s
PLCA Paso Flores 150.37 163 *e*PKPbc **PKPbc 06 43 45.1 -0.1**
PLCA Paso Flores 150.37 163 PKPbc **PKPbc 06 43 43.7 -1.5**
comp=Z,18nm,1.0s,baz=172,slow=2.0,SNR=11
BCIP Isla Barro Col 150.39 44 *e*PKPdf **PKPdf 06 43 41.5 +0.8**
BCIP LR LR
comp=Z,2μm,20.0s
MLG Mont-d'or 151.41 4 *e*P **PKPab 06 43 52.7 -3.7**
ECG Echelle 151.44 4 *e*P **PKPbc 06 43 49.4 +0.9**
DOG Dongo Capester 151.45 4 *e*P **PKPbc 06 43 49.4 +1.0**
HMG Houelmont 151.49 4 *e*P **PKPbc 06 43 47.6 -0.8**
BBGH Gun Hill 154.40 0 PFAKE 06 44 00.0 +5.1
BBGH LR LR
comp=Z,2μm,19.0s
TRQA Tornquist 154.58 175 *e*PKPdf **PKPdf 06 43 47.5 +1.3**
TRQA LR LR
comp=Z,2μm,19.0s
GRGR Grenville 155.31 5 PFAKE 06 44 00.0 +12
GRGR LR LR
comp=Z,1μm,22.0s
RCBR Riachuelo 155.76 284 PFAKE 06 44 00.0 +11
RCBR LR LR
comp=Z,2μm,20.0s
SDV Santo Domingo 155.94 28 *e*PKPdf **PKPdf 06 43 49.9 +0.9**
SDV LR LR
comp=Z,448nm,21.0s
ROSC El Rosal 157.22 41 PKP PKPdf 06 43 56.2 +5.3
ROSC El Rosal 157.22 41 PKP PKPdf 06 43 56.2 +5.3
comp=Z,3.1nm,0.5s,baz=328,slow=1.5,SNR=5.7
OTAV Otavalo 157.27 57 *e*PKPdf **PKPdf 06 43 53.0 +1.9**
OTAV *e*PKPab **PKPab 06 44 22.6 +0.6**
OTAV *e*PP **PP 06 47 59.1 -1.3**
OTAV LR LR
comp=Z,2μm,22.0s
CFAA Coronel Fontan 159.47 158 PKP **PKPdf 06 43 52.9 +0.3**
CFAA PKPab **PKPab 06 44 34.7 +4.3**
CFAA Coronel Fontan 159.47 158 PKP **PKPdf 06 43 52.9 +0.3**
comp=Z,0.5nm,0.9s,baz=254,slow=2.8,SNR=10
CFAA PKPab **PKPab 06 44 34.7 +4.3**
comp=Z,3.5nm,1.1s,baz=212,slow=3.8,SNR=7.9
ATAH Atahualpa 160.61 75 PKPab **PKPab 06 44 38.8 +2.3**
ATAH Atahualpa 160.61 75 PKPab **PKPab 06 44 38.8 +2.3**
comp=Z,7.4nm,0.9s,baz=261,slow=4.1,SNR=2.3
LCO Las Campanas 160.65 149 PFAKE 06 44 10.0 +16
LCO LR LR
comp=Z,3μm,21.0s
NNA Nana 163.05 90 PKPab PKPab 06 44 52.5 +5.8
NNA LR LR
comp=Z,2μm,20.0s
NNA Nana 163.05 90 PKPab PKPab 06 44 52.5 +5.8
comp=Z,27nm,0.9s,baz=243,slow=2.3,SNR=3.8
CPUP Villa Florida 166.21 188 *e*PKPdf **PKPdf 06 44 02.5 +3.2**
CPUP PKPab **PKPab 06 44 59.0 -0.8**
CPUP Villa Florida 166.21 188 PKP **PKPdf 06 44 02.5 +3.2**
comp=Z,1.3nm,0.7s,baz=94,slow=1.5,SNR=2.0
CPUP PKPab **PKPab 06 44 59.0 -0.8**
comp=Z,12nm,1.1s,baz=116,slow=3.7,SNR=2.6
BB16B Bebedouro 166.62 230 (P) **PKPdf 06 44 05.0 +5.2**
BB16B *i* 06 44 06.2
BB16B *i* 06 44 11.0
BB16B Bebedouro 166.62 230 (P) **PKPdf 06 44 05.0 +5.2**
BB16B *i* 06 44 06.2
BB16B *i* 06 44 11.0
LVC Limon Verde 166.62 139 PFAKE 06 44 10.0 +10
LVC LR LR
comp=Z,2μm,20.0s
BDFB Brasilia 168.46 254 PKP **PKPdf 06 44 01.4 +0.1**
BDFB PKPab **PKPab 06 45 09.3 -1.4**
BDFB Brasilia 168.46 254 PKP **PKPdf 06 44 01.4 +0.1**
comp=Z,12nm,1.1s,baz=135,slow=5.7,SNR=6.6
BDFB PKPab **PKPab 06 45 09.3 -1.4**
comp=Z,6.7nm,1.0s,baz=92,slow=6.3,SNR=2.3
LPAZ La Paz 170.89 115 *e*PKPdf **PKPdf 06 44 03.3 -0.1**
LPAZ PKP 06 44 03.7
LPAZ PKPab **PKPab 06 45 22.1 +0.1**
LPAZ PP PP 06 49 18.6 +6.1
LPAZ La Paz 170.89 115 PKP **PKPdf 06 44 03.7 +0.3**
comp=Z,2.3nm,1.0s,baz=162,slow=3.2,SNR=8.4
LPAZ PKPab **PKPab 06 45 22.1 +0.1**
comp=Z,3.2nm,1.1s,baz=238,slow=4.0,SNR=1.5
LPAZ PP PP 06 49 18.6 +6.1
comp=Z,3.9nm,1.1s,baz=225,slow=7.1,SNR=3.9
SAML Samuel 174.86 45 *e*PKPdf **PKPdf 06 44 04.3 0.0**
SAML *e*PKPab **PKPab 06 45 41.9 +3.2**
SAML *e*PP **PP 06 49 30.9 +0.4**
SAML LR LR
comp=Z,2μm,19.0s
SIV San Ignacio 176.32 156 PKP **PKPdf 06 44 04.5 -0.2**
SIV PKPab **PKPab 06 45 41.6 -3.4**
SIV PP PP 06 49 43.8 +7.2
SIV San Ignacio 176.32 156 PKP **PKPdf 06 44 04.5 -0.2**
comp=Z,3.5nm,0.9s,baz=180,slow=3.3,SNR=7.6
SIV PKPab **PKPab 06 45 41.6 -3.4**
comp=Z,2.3nm,0.9s,baz=227,slow=3.6,SNR=2.3
SIV PP PP 06 49 43.8 +7.2
comp=Z,1.8nm,0.9s,baz=158,slow=7.3,SNR=3.4

BJI ***18*** *06:36:25.4, 41.40N×141.80E, h33km, mb4.8/4*
ISCJB ***18*** *06:36:26.8±0.4, 41.61N±0.04×142.07E±0.04, h70km±3km, mb4.3/32, Error ellipse: s-maj=6.6km s-min=4.3km az=142.7*
JMA ***18*** *06:36:26.6±0.1, 41.55N×142.07E, h67km±3km, M4.2 Broadband fault plane solution: P waves. NP1: φs16.00000°, δ81.00000°, λ93.00000°. NP2:φs175.00000°, δ10.00000°, λ70.00000°. Principal axes: T Plg54.0000°, Azm290.0000°; N Plg3.0000°, Azm195.0000°; P Plg36.0000°, Azm103.0000°;*
JMA Felt II J1.
MOS ***18*** *06:36:27.4±1.1, 41.67N×142.07E, h73km, mb4.6/21 Error ellipse: s-maj=9.5km s-min=6.7km az=87.1*
IDC ***18*** *06:36:28.1±0.7, 41.62N×142.13E, h72km±5km, mb3.9/17, mb1 4.1/22, mb1mx4.0/28, mbtmp3.9/22, MS2.9/1, Ms1 2.9/1, ms1mx2.9/41, Error ellipse: s-maj=15.1km s-min=10.1km az=99.0*
NEIC ***18*** *06:36:29.1±0.7, 41.65N×142.12E, h76km±7km, mb4.6/7, Error ellipse: s-maj=10.5km s-min=6.6km az=135.0*
NEIC Recorded [2 JMA] in Aomori, Honshu. Also recorded [1 JMA] in southern Hokkaido.

ISC 18 06:36:28.0±0.6, 41.59N±0.05×142.08E±0.04, h66km±5km, n106, σ1.900/121, mb4.4/32, 6C-7D, Hokkaido region

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

JOT	**Ohata**	**0.80**	**256**	⇓P	**Pn**	**06 36 42.3**	**-1.6**
JKB	**Kayabe**	**0.84**	**291**	⇓P	**Pn**	**06 36 42.6**	**-1.7**
JKB				*e*S	**Sn**	**06 36 55.4**	**-1.0**
JNBK	**Urakawa-nobuka**	**0.85**	**36**	P	**Pn**	**06 36 43.1**	**-1.4**
JNBK				*e*S	**Sn**	**06 36 56.4**	**-0.2**
ERM	**Erimo**	**0.91**	**62**	*d iP*	**Pn**	**06 36 44.2**	**-1.0**
ERM	**Erimo**	**0.91**	**62**	*e*Pn	**Pn**	**06 36 44.2**	**-1.0**
JEM	**Erimo**	**0.91**	**62**	⇑P	**Pn**	**06 36 44.2**	**-1.0**
JEM				*e*S	**Sn**	**06 36 57.2**	**-0.6**
JANG	**Nango**	**1.29**	**200**	P	**Pn**	**06 36 48.5**	**-1.5**
JEW	**Eniwo**	**1.34**	**340**	⇓P	**Pn**	**06 36 50.0**	**-0.7**
JEW				*e*S	**Sn**	**06 37 06.8**	**-0.9**
JCH	**Churui**	**1.40**	**42**	P	**Pn**	**06 36 51.4**	**-0.1**
JCH				*e*S	**Sn**	**06 37 09.2**	**0.0**
JFR	**Furan**	**1.62**	**13**	⇓P	**Pn**	**06 36 53.8**	**-0.7**
JOSM	**Okushiri--Mats**	**2.01**	**285**	⇓P	**Pn**	**06 36 58.2**	**-1.5**
JAR	**Ashorobuto**	**2.12**	**36**	P	**Pn**	**06 37 00.8**	**-0.3**
JAR				*e*S	**Sn**	**06 37 25.9**	**-0.5**
JSK	**Shakotan**	**2.13**	**327**	P	**Pn**	**06 37 00.7**	**-0.6**
JOM	**Ohasama**	**2.20**	**196**	P	**Pn**	**06 37 01.7**	**-0.5**
ASAJ	**Asahikawa**	**2.56**	**8**	*e*Pn	**Pn**	**06 37 07.5**	**+0.3**
ASAJ				S	**Sn**	**06 37 36.3**	**-0.8**
ASAJ	**Asahikawa**	**2.56**	**8**	P	**Pn**	**06 37 07.7**	**+0.6**
	23nm,0.3s,baz=194,slow=10,SNR=28						
ASAJ				S	**Sn**	**06 37 36.3**	**-0.8**
	35nm,0.3s,baz=315,slow=20,SNR=5.2						
YUK	**Yuzh-Kuril'sk**	**3.70**	**47**	*i P*	**Pn**	**06 37 22.1**	**-0.6**
YUK				*i* S	**Sn**	**06 38 02.4**	**-2.7**
YUK				pmax	pmax		
	comp=N,71nm,0.5s						
YUK				pmax	pmax		
	comp=E,84nm,0.5s						
YUK				pmax	pmax		
	comp=Z,264nm,0.5s						
YUK				smax	smax		
	comp=N,913nm,0.6s						
YUK				smax	smax		
	comp=E,1μm,0.6s						
YUK				pmax	pmax		
	comp=E,2μm,2.0s						
YUK				pmax	pmax		
	comp=N,2μm,2.0s						
YSS	**Yuzh-Sakhalins**	**5.39**	**5**	⇑*e*P	**Pn**	**06 37 47.8**	**+2.1**
YSS				*i* S	**Sn**	**06 38 46.0**	**-0.4**
YSS				pmax	pmax		
	comp=Z,40nm,1.0s						
YSS				smax	smax		
	comp=N,70nm,1.0s						
KUR	**Kuril'sk**	**5.57**	**47**	*e*P	**Pn**	**06 37 48.7**	**+0.5**
KUR				*i* S	**Sn**	**06 38 49.0**	**-1.8**
KUR				pmax	pmax		
	comp=Z,380nm,1.0s						
KUR				smax	smax		
	comp=N,150nm,0.6s						
KUR				smax	smax		
	comp=E,8.0nm,0.4s						
MAJO	**Matsushiro**	**5.87**	**212**	*e*P	Pn	06 37 56.2	+3.8
MAJO	**Matsushiro**	**5.87**	**212**	*e*Pn	Pn	06 37 56.2	+3.8
MJAR	**Matsushiro Arr**	**5.87**	**212**	P	**Pn**	**06 37 54.3**	**+1.8**
MJAR	**Matsushiro Arr**	**5.87**	**212**	P	**Pn**	**06 37 54.3**	**+1.8**
	comp=E,1.4nm,0.3s,baz=33,slow=12,SNR=12						
USRK	**Ussuriysk Arra**	**7.85**	**293**	P	**Pn**	**06 38 20.9**	**+1.5**
	comp=E,0.3nm,0.3s,baz=103,slow=14,SNR=14						
HABR	**Khabarovsk**	**8.49**	**327**	*e*P	**Pn**	**06 38 28.7**	**+0.5**
HABR				*e*		06 39 55.3	
HABR				pmax	pmax		
	comp=Z,22nm,1.5s						
HABR				pmax	pmax		
	comp=Z,33nm,1.0s						
KLR	**Kul'dur**	**10.54**	**320**	*e*P	**Pn**	**06 38 54.2**	**-1.9**
KLR				pmax	pmax		
	comp=Z,50nm,1.6s						
KSRS	**Korea Array**	**11.69**	**254**	P	**Pn**	**06 39 14.7**	**+2.8**
	comp=Z,0.7nm,0.3s,baz=65,slow=13,SNR=12						
KSAR	**Wonju Array Be**	**11.72**	**254**	P	**Pn**	**06 39 14.7**	**+2.4**
PETK	**Petropavlovsk-**	**15.61**	**37**	P	**Pn**	**06 40 03.2**	**-0.6**
PETK	**Petropavlovsk-**	**15.61**	**37**	P	**Pn**	**06 40 03.2**	**-0.6**
PETK	**Petropavlovsk-**	**15.61**	**37**	P	**Pn**	**06 40 03.2**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=225,slow=5.9,SNR=3.1						
SEY	**Seymchan**	**22.23**	**12**	*e*P	**P**	**06 41 19.8**	**+0.9**
SONM	**Songino Array**	**25.95**	**296**	P	**P**	**06 41 53.3**	**-1.0**
SONM	**Songino Array**	**25.95**	**296**	P	**P**	**06 41 53.3**	**-1.0**
	comp=Z,3.8nm,0.9s,baz=86,slow=7.8,SNR=10						
ENH	**Enshi**	**28.55**	**257**	*e*P	**P**	**06 42 20.6**	**+3.0**
	comp=Z,7.2nm,0.4s						
GTA	**Gaotai**	**31.99**	**280**	P	**P**	**06 42 47.8**	**-0.2**
GTA				pmax	pmax		
	comp=Z,7.0nm,1.5s						
TGY	**Tagaytay City**	**32.97**	**220**	LR	LR	06 54 58.1	
	comp=Z,22nm,21.5s,baz=87,slow=34						
ZAA0	**Zalesovo Array**	**39.36**	**308**	*e*P	**P**	**06 43 50.5**	**-0.2**
ZALV	**Zalesovo Beam**	**39.36**	**308**	P	**P**	**06 43 50.0**	**-0.7**
ZALV						06 45 57.4	
ZALV				pmax	pmax		
	comp=Z,5.0nm,0.7s						
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ZALV	**Zalesovo Beam**	**39.36**	**308**	P	**P**	**06 43 50.0**	**-0.7**
ZALV				PcP	**PcP**	**06 45 57.4**	**-0.4**
ZALV	**Zalesovo Beam**	**39.36**	**308**	P	**P**	**06 43 50.0**	**-0.7**
	comp=Z,6.3nm,0.8s,baz=79,slow=7.8,SNR=13						
ZALV				PcP	**PcP**	**06 45 57.4**	**-0.4**
	comp=Z,2.2nm,0.6s,baz=107,slow=2.0,SNR=3.6						
MK31	**Makanchi Array**	**42.29**	**298**	*e*P	**P**	**06 44 14.3**	**-0.6**
MK31	**Makanchi Array**	**42.29**	**298**	*e*P	**P**	**06 44 14.3**	**-0.6**
MKAR	**Makanchi Array**	**42.29**	**298**	*ce*P	P	06 44 18.2	+3.2
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
MKAR	**Makanchi Array**	**42.29**	**298**	P	**P**	**06 44 14.2**	**-0.7**
MKAR	**Makanchi Array**	**42.29**	**298**	P	**P**	**06 44 14.2**	**-0.7**
	comp=Z,4.8nm,0.9s,baz=74,slow=7.8,SNR=9.2						
IMA2	**Indian Mountai**	**42.54**	**33**	*e*P	**P**	**06 44 17.0**	**+0.2**
CHTO	**Chiang Mai**	**43.07**	**252**	*e*P	**P**	**06 44 23.4**	**+1.8**
CHTO	**Chiang Mai**	**43.07**	**252**	*e*P	**P**	**06 44 23.4**	**+1.8**
KURK	**Kurchatov**	**43.66**	**305**	P	**P**	**06 44 25.7**	**-0.2**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KURK	**Kurchatov**	**43.66**	**305**	P	**P**	**06 44 25.7**	**-0.2**
BPAW	**Bear Paw Mtn.**	**43.68**	**36**	*e*P	**P**	**06 44 26.8**	**+0.8**
	comp=Z,5.7nm,0.9s						
KURBB	**Kurchatov Arra**	**43.73**	**304**	P	**P**	**06 44 25.7**	**-0.8**
	comp=Z,6.0nm,0.7s,baz=78,slow=8.7,SNR=31						
MCK	**McKinley**	**44.61**	**36**	*e*P	**P**	**06 44 34.1**	**+0.7**
MCK				pmax	pmax		
	comp=Z,12nm,1.2s						
MCK	**McKinley**	**44.61**	**36**	*e*P	**P**	**06 44 34.1**	**+0.7**
	comp=Z,12nm,1.2s						
COLA	**College**	**45.00**	**35**	*e*P	**P**	**06 44 37.1**	**+0.7**
COLA				pmax	pmax		
	comp=Z,61nm,1.0s						
COLA	**College**	**45.00**	**35**	*e*P	**P**	**06 44 37.1**	**+0.7**
	comp=Z,62nm,1.0s						
ILAR	**Eielson Array**	**45.42**	**35**	P	**P**	**06 44 39.8**	**0.0**
ILAR	**Eielson Array**	**45.42**	**35**	P	**P**	**06 44 39.8**	**0.0**
	comp=Z,6.5nm,0.9s,baz=275,slow=6.9,SNR=29						
BVAR	**Borovoye Array**	**47.99**	**309**	P	**P**	**06 45 00.0**	**0.0**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BVAR	**Borovoye Array**	**47.99**	**309**	P	**P**	**06 44 60.0**	**0.0**
BVAR	**Borovoye Array**	**47.99**	**309**	P	**P**	**06 44 60.0**	**0.0**
	comp=Z,1.2nm,0.3s,baz=69,slow=7.9,SNR=6.5						
BRVK	**Borovoye**	**48.04**	**310**	⇑*i P*	**P**	**06 45 00.2**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
TKM2	**Tokmak 2**	**48.05**	**295**	*e*P	**P**	**06 45 00.5**	**-0.4**
TKM2				pmax	pmax		
	comp=Z,8.0nm,0.8s						
TKM2	**Tokmak 2**	**48.05**	**295**	*e*P	**P**	**06 45 00.5**	**-0.4**
	comp=Z,8.2nm,0.8s						
AAK	**Ala-Archa**	**48.91**	**295**	⇑*i P*	**P**	**06 45 06.5**	**-0.9**
AAK				pmax	pmax		
	comp=Z,17nm,1.5s						
HYT	**Haines Junctio**	**50.38**	**39**	*e*P	**P**	**06 45 19.9**	**+1.7**
KKAR	**Karatay Array**	**51.40**	**297**	*e*P	**P**	**06 45 25.2**	**-0.9**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KKAR	**Karatay Array**	**51.40**	**297**	*e*P	**P**	**06 45 25.2**	**-0.9**
	comp=Z,1.5nm,0.6s						
ABKAR	**Akbulak array**	**55.48**	**308**	*e*P	**P**	**06 45 55.2**	**-0.6**
	comp=Z,3.6nm,0.7s						
ARCES	**ARCESS Array B**	**59.94**	**339**	P	P	06 46 30.6	+3.8
ARCES	**ARCESS Array B**	**59.94**	**339**	P	P	06 46 30.6	+3.8
	comp=Z,5.2nm,0.8s,baz=57,slow=6.6,SNR=2.5						
WRAB	**Tennant Creek**	**61.62**	**188**	*e*P	**P**	**06 46 38.3**	**-0.4**
WRAB	**Tennant Creek**	**61.62**	**188**	*e*P	**P**	**06 46 38.3**	**-0.4**
WRA	**Warramunga Arr**	**61.63**	**188**	P	**P**	**06 46 37.3**	**-1.5**
WRA	**Warramunga Arr**	**61.63**	**188**	P	**P**	**06 46 37.3**	**-1.5**
	comp=Z,1.9nm,0.4s,baz=5.7,slow=6.8,SNR=25						
JOF	**Joensuu**	**62.22**	**331**	*e*P	**P**	**06 46 42.1**	**-0.1**
JOF				pmax	pmax		
	comp=Z,1.0nm,0.4s						
JOF	**Joensuu**	**62.22**	**331**	*e*p	**P**	**06 46 42.1**	**-0.1**
	comp=Z,0.8nm,0.4s						
FINES	**FINESS Array B**	**65.05**	**332**	P	**P**	**06 47 00.0**	**-0.9**
FINES				pP	**pP**	**06 47 19.1**	**+0.7**
FINES	**FINESS Array B**	**65.05**	**332**	P	**P**	**06 47 00.0**	**-0.9**
	comp=Z,3.9nm,0.6s,baz=40,slow=7.6,SNR=7.5						
FINES				pP	**pP**	**06 47 19.1**	**+0.7**
	comp=Z,4.8nm,0.5s,baz=51,slow=8.1,SNR=5.1						
ASAR	**Alice Springs**	**65.36**	**188**	P	**P**	**06 47 02.8**	**-0.6**
ASAR	**Alice Springs**	**65.36**	**188**	P	**P**	**06 47 02.8**	**-0.6**
	comp=Z,1.8nm,0.9s,baz=5.2,slow=6.0,SNR=8.9						
SUMG	**Summit**	**66.14**	**0**	*i P*	**P**	**06 47 09.3**	**+1.0**
SUMG				*i*		06 47 26.0	
SUMG				pmax	pmax		
	comp=Z,7.0nm,0.9s						
SUMG	**Summit**	**66.14**	**0**	*i P*	**P**	**06 47 09.3**	**+1.0**
	comp=Z,6.6nm,0.9s						
SUMG				*i*		06 47 26.0	
KIV	**Kislovodsk**	**68.35**	**310**	*d iP*	**P**	**06 47 23.4**	**+1.0**
KIV				pmax	pmax		
	comp=Z,17nm,1.0s						
KBZ	**Khabaz**	**68.37**	**310**	P	**P**	**06 47 22.3**	**-0.1**
KBZ				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KBZ	**Khabaz**	**68.37**	**310**	P	**P**	**06 47 22.2**	**-0.1**
KBZ	**Khabaz**	**68.37**	**310**	P	**P**	**06 47 22.2**	**-0.1**
	comp=Z,2.6nm,0.8s,baz=3.2,slow=7.4,SNR=5.1						
HFS	**Hagfors**	**70.17**	**335**	P	**P**	**06 47 32.4**	**-0.8**
HFS	**Hagfors**	**70.17**	**335**	P	**P**	**06 47 32.4**	**-0.8**
	comp=Z,0.8nm,0.3s,baz=35,slow=5.7,SNR=10						
NB2	**NORSAR Subarra**	**70.20**	**337**	P	**P**	**06 47 32.7**	**-0.7**
	comp=Z,1.5nm,0.7s,baz=36,slow=6.5						
NOA	**NORSAR Array B**	**70.20**	**337**	P	**P**	**06 47 32.8**	**-0.7**
NOA				pP	**pP**	**06 47 51.8**	**+0.7**
NOA	**NORSAR Array B**	**70.20**	**337**	P	**P**	**06 47 32.8**	**-0.7**
	comp=Z,1.9nm,0.7s,baz=38,slow=6.2,SNR=7.1						
NOA				pP	**pP**	**06 47 51.8**	**+0.7**
	comp=Z,3.0nm,0.8s,baz=36,slow=6.4,SNR=5.8						
AKASG	**Malin Array Be**	**71.03**	**322**	*ce*P	**P**	**06 47 39.2**	**+0.6**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**71.03**	**322**	P	**P**	**06 47 37.6**	**-1.0**
AKASG	**Malin Array Be**	**71.03**	**322**	P	**P**	**06 47 37.6**	**-1.0**
	comp=Z,2.7nm,0.7s,baz=45,slow=6.3,SNR=7.4						
PDAR	**Pinedale Array**	**74.13**	**47**	P	**P**	**06 47 57.1**	**-0.4**
PDAR				pP	**pP**	**06 48 15.7**	**+0.3**
PDAR	**Pinedale Array**	**74.13**	**47**	P	**P**	**06 47 57.1**	**-0.4**
	comp=Z,0.7nm,0.6s,baz=316,slow=2.5,SNR=4.1						
PDAR				pP	**pP**	**06 48 15.7**	**+0.3**
	comp=Z,2.4nm,0.8s,baz=271,slow=1.4,SNR=8.1						
BRTR	**Keskin Array B**	**76.24**	**311**	P	**P**	**06 48 09.2**	**-0.4**
BRTR	**Keskin Array B**	**76.24**	**311**	P	**P**	**06 48 09.2**	**-0.4**
	comp=Z,1.4nm,0.8s,baz=57,slow=5.3,SNR=5.4						
GERES	**GERESS Array B**	**79.12**	**328**	P	**P**	**06 48 24.6**	**-0.7**
GERES	**GERESS Array B**	**79.12**	**328**	P	**P**	**06 48 24.6**	**-0.7**
	comp=Z,0.3nm,0.2s,baz=15,slow=8.1,SNR=3.6						
TXAR	**Lajitas Array**	**86.95**	**53**	P	**P**	**06 49 05.5**	**-0.6**
TXAR				pP	**pP**	**06 49 24.5**	**+0.2**
TXAR	**Lajitas Array**	**86.95**	**53**	P	**P**	**06 49 05.5**	**-0.6**
	comp=Z,0.9nm,1.1s,baz=300,slow=4.1,SNR=2.3						
TXAR				pP	**pP**	**06 49 24.5**	**+0.2**
	comp=Z,2.5nm,1.0s,baz=289,slow=4.0,SNR=6.3						
SNAA	**Sanae**	**145.24**	**199**	PKPbc	**PKPbc**	**06 55 55.5**	**-1.2**
SNAA	**Sanae**	**145.24**	**199**	PKPbc	**PKPbc**	**06 55 55.5**	**-1.2**
	comp=Z,1.0nm,0.7s,baz=130,slow=2.9,SNR=9.4						

*IDC **18** 06:53:47.4±0.4, 37.°65N×95.°72E, h0km, mb4.5/28, mb1 4.6/30, mb1mx4.6/35, mbtmp4.5/30, ML4.0/2, Error ellipse: s-maj=16.9km s-min=10.5km az=33.0*
*ISCJB **18** 06:53:48.1±0.1, 37.°70N±0.°02×95.°59E±0.°02, h10km, mb4.8/106, MS4.9/5, Error ellipse: s-maj=3.4km s-min=2.6km az=15.6*
*NEIC **18** 06:53:48.9±1.6, 37.°65N×95.°59E, h5km±10km, mb5.0/66, Error ellipse: s-maj=4.8km s-min=3.0km az=211.0*
*MOS **18** 06:53:49.9±0.7, 37.°67N×95.°66E, h25km, mb5.0/49, Error ellipse: s-maj=8.0km s-min=4.8km az=119.8*
*BJI **18** 06:53:50.1, 37.°66N×95.°66E, h6km, mB5.3/5, mb4.8/34, ML5.0/7, Ms4.9/25, Ms7 4.8/22*
*TEH **18** 06:53:50.0, 37.°72N×95.°59E, h10km, ML5.0*
ISC 18 06:53:49.9±0.3, 37.71N±0.°04×95.°56E±0.°03, h10km, n358, σ1°29/396, mb4.8/113, MS4.8/5, 15C-5D, Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
GTA	**Gaotai**	**3.74**	**62**	Op	**Pn**	**06 54 49.3**	**+1.5**
GTA				Pg	**Pb**	**06 54 57.9**	**+1.7**
GTA				Sn	**Sn**	**06 55 35.8**	**+3.8**
GTA				Sg	**Sg**	**06 55 48.6**	**-1.5**
GTA				smax	smax		
	comp=N,450nm,1.4s						
GTA				smax	smax		
	comp=E,500nm,1.0s						
GTA				LR	LR		
	comp=N,8μm,7.6s						
GTA				LR	LR		
	comp=E,8μm,8.8s						
GTA				LR	LR		
	comp=Z,5μm,9.7s						
LZH	**Lanzhou**	**6.84**	**101**	Pn	**Pn**	**06 55 29.9**	**-0.5**
LZH				Pg	**Pb**	**06 55 50.5**	**+1.6**
LZH				Sn	**Sn**	**06 56 48.0**	**-0.3**
LZH				Sg	Sb	06 57 17.3	+6.7
LZH				smax	smax		
	comp=N,860nm,1.1s						
LZH				smax	smax		
	comp=E,800nm,0.9s						
LZH				LR	LR		
	comp=N,4μm,8.4s						
LZH				LR	LR		
	comp=E,4μm,9.2s						
WMQ	**Urumqi**	**8.53**	**318**	P	**Pn**	**06 55 54.8**	**+1.3**
WMQ				pP	**sPn**	**06 55 57.8**	**+0.5**
WMQ				sP		06 56 00.8	
WMQ				S	**Sn**	**06 57 31.8**	**+2.0**
WMQ				pmax	pmax		
	comp=Z,120nm,0.7s						
WMQ				LR	LR		
	comp=N,5μm,18.0s						
WMQ				LR	LR		
	comp=E,4μm,17.5s						
WMQ				LR	LR		
	comp=Z,5μm,12.5s						
LSA	**Lhasa**	**8.79**	**206**	P	Pn	06 56 00.9	+3.4
LSA	**Lhasa**	**8.79**	**206**	*e*P	**Pn**	**06 56 00.5**	**+3.0**
LSA				pmax	pmax		
	comp=Z,22nm,0.8s						
LSA	**Lhasa**	**8.79**	**206**	*e*Pn	**Pn**	**06 56 00.5**	**+3.0**
	comp=Z,22nm,0.8s						
CD2	**Chengdu**	**9.59**	**133**	P	**Pn**	**06 56 10.0**	**+2.0**
CD2				pP		06 56 13.3	
CD2				sP		06 56 16.0	
CD2				PP	**PnPn**	**06 56 18.0**	**+2.4**
CD2				S	**Sn**	**06 57 59.1**	**+3.2**
CD2				sS		06 58 03.8	
CD2				SS	**SnSn**	**06 58 12.3**	**+4.8**
CD2				pmax	pmax		
	comp=Z,40nm,0.9s						
CD2				LR	LR		
	comp=N,5μm,11.6s						
CD2				LR	LR		
	comp=Z,5μm,14.3s						
XAN	**Xi'an**	**11.45**	**105**	P	Pn	06 56 29.3	-4.1
XAN				pmax	pmax		
	comp=Z,5.0nm,0.9s						
XAN				LR	LR		
	comp=N,2μm,11.6s						
XAN				LR	LR		
	comp=E,1μm,10.9s						
XAN				LR	LR		
	comp=Z,980nm,10.9s						
SHL	**Shillong**	**12.50**	**195**	*e*P	**Pn**	**06 56 48.9**	**+0.9**
SHL				AMB	AMB	06 56 50.7	
	comp=Z,9.8nm,2.4s						
GUN	**Gumba**	**12.71**	**223**	*e*P	**Pn**	**06 56 51.3**	**+0.3**
	comp=Z,36nm,0.8s						
JIRN	**Jiri**	**12.75**	**221**	*e*P	**Pn**	**06 56 51.8**	**+0.3**
	comp=Z,96nm,0.7s						
HHC	**Hu-ho-hao-te**	**12.79**	**71**	*e*P	**Pn**	**06 56 53.8**	**+1.9**
HHC				PP	**PnPn**	**06 57 04.6**	**+5.0**
HHC				S	**Sn**	**06 59 16.1**	**+1.7**
HHC				SS	**SnSn**	**06 59 31.3**	**+5.0**
HHC				PcP	**PcP**	**07 02 30.3**	**+2.6**
HHC				ScP	**ScP**	**07 06 02.3**	**+1.5**
HHC				PcS	**PcS**	**07 06 03.5**	**+1.4**
HHC				pmax	pmax		
	comp=Z,61nm,0.8s						
HHC				LR	LR		
	comp=N,3μm,16.1s						
HHC				LR	LR		
	comp=E,3μm,15.2s						
HHC				LR	LR		
	comp=Z,5μm,16.1s						
SONM	**Songino Array**	**12.86**	**35**	Pn	**Pn**	**06 56 53.8**	**+1.0**
SONM				Lg	Lg	07 00 40.4	
SONM	**Songino Array**	**12.86**	**35**	Pn	**Pn**	**06 56 53.8**	**+1.0**
	comp=Z,2.4nm,0.3s,baz=218,slow=15,SNR=71						
SONM				Lg	Lg	07 00 40.4	
	comp=Z,0.2nm,0.3s,baz=237,slow=24,SNR=4.8						
KKN	**Kakani**	**13.13**	**224**	*e*P	**Pn**	**06 56 58.4**	**+1.8**
ULN	**Ulaanbaatar**	**13.18**	**36**	*e*Pn	**Pn**	**06 56 58.8**	**+1.6**
	comp=Z,25nm,0.9s						
PKI	**Pulchoki**	**13.23**	**223**	*e*P	**Pn**	**06 56 57.7**	**-0.4**
	comp=Z,37nm,0.8s						
PKIN	**Phulchoki**	**13.23**	**223**	*e*P	**Pn**	**06 56 57.9**	**-0.2**
	comp=Z,26nm,0.8s						
MK31	**Makanchi Array**	**13.36**	**317**	*e*P	**Pn**	**06 56 58.6**	**-0.9**
MK31				*e*		06 59 27.8	
MK31	**Makanchi Array**	**13.36**	**317**	*e*Pn	**Pn**	**06 56 58.6**	**-0.9**
MK31				*e*Sn	**Sn**	**06 59 27.8**	**-0.2**
MKAR	**Makanchi Array**	**13.36**	**317**	P	**Pn**	**06 56 58.5**	**-1.0**
MKAR				pmax	pmax		
	comp=Z,9.0nm,0.3s						
MKAR	**Makanchi Array**	**13.36**	**317**	*e*Pn	**Pn**	**06 56 58.8**	**-0.7**
MKAR				Sn	**Sn**	**06 59 23.9**	**-4.1**
MKAR	**Makanchi Array**	**13.36**	**317**	Pn	**Pn**	**06 56 58.5**	**-1.0**
	comp=Z,8.7nm,0.3s,baz=125,slow=13,SNR=282						
MKAR				Sn	**Sn**	**06 59 23.9**	**-4.1**
	comp=Z,1.1nm,0.3s,baz=128,slow=25,SNR=15						
DMN	**Daman**	**13.37**	**224**	*e*P	**Pn**	**06 57 01.0**	**+1.1**
	comp=Z,45nm,0.9s						
HVS	**Khovu-Aksy**	**13.49**	**355**	*d iP*	**Pn**	**06 57 03.3**	**+2.1**
HVS				pmax	pmax		
	comp=Z,56nm,1.3s						
DANN	**Dangsing**	**13.59**	**230**	*e*P	Pn	06 57 06.9	+3.9
ENH	**Enshi**	**13.73**	**119**	*e*Pn	**Pn**	**06 57 02.0**	**-2.5**
	comp=Z,81nm,1.1s						
ZAK	**Zakamensk**	**13.82**	**21**	⇑*e*P	**Pn**	**06 57 08.7**	**+2.9**
ZAK				pmax	pmax		
	comp=Z,34nm,0.8s						
KMI	**Kunming**	**13.96**	**152**	P	**Pn**	**06 57 08.3**	**+0.3**
KMI				sP		06 57 13.9	
KMI				pmax	pmax		
	comp=Z,15nm,0.5s						
KOLN	**Koldanda**	**14.11**	**229**	*e*P	**Pn**	**06 57 12.2**	**+2.2**
	comp=Z,11nm,0.7s						
MOY	**Mondy**	**14.47**	**14**	*e*P	**P**	**06 57 23.3**	**+1.7**
MOY				pmax	pmax		
	comp=Z,62nm,2.0s						
GYA	**Guiyang**	**14.63**	**137**	⇓*i P*	**Pn**	**06 57 14.8**	**-2.3**
GYA				PP	**PnPn**	**06 57 26.0**	**+1.0**
GYA				S	**Sn**	**06 59 54.1**	**-5.3**
GYA				pmax	pmax		
	comp=Z,30nm,1.0s						
GYA				pmax	pmax		
	comp=Z,70nm,3.0s						
GYA				LR	LR		
	comp=N,3μm,19.3s						
GYA				LR	LR		
	comp=E,3μm,19.1s						
GYA				LR	LR		
	comp=Z,4μm,20.2s						
TLY	**Talaya**	**15.09**	**20**	*e*P	**P**	**06 57 32.3**	**+4.0**
TLY				pmax	pmax		
	comp=Z,27nm,1.4s						
TLY				MLR	MLR		
	comp=Z,4μm,12.0s						
KSH	**Kashi**	**15.42**	**283**	P	**P**	**06 57 30.1**	**-2.0**
KSH				sP	**sP**	**06 57 37.1**	**+0.8**
KSH				PP	PnPn	06 57 43.0	+7.4
KSH				S	**Sn**	**07 00 24.3**	**+5.9**
KSH				sS	**S**	**07 00 30.1**	**-4.5**
KSH				SS	SnSn	07 00 42.8	+12
KSH				pmax	pmax		
	comp=Z,2μm,9.2s						
KSH				LR	LR		
	comp=N,5μm,14.3s						
KSH				LR	LR		
	comp=E,5μm,13.3s						
KSH				LR	LR		
	comp=Z,5μm,15.1s						
IRK	**Irkutsk**	**15.77**	**20**	*e*P	**Pn**	**06 57 33.4**	**+1.5**
IRK				pmax	pmax		
	comp=Z,121nm,1.6s						
TKM2	**Tokmak 2**	**16.08**	**295**	*e*P	**Pn**	**06 57 35.3**	**-0.8**
TKM2				*e*		07 00 32.2	
TKM2				pmax	pmax		
	comp=Z,36nm,0.7s						
TKM2	**Tokmak 2**	**16.08**	**295**	*e*P	**Pn**	**06 57 35.3**	**-0.8**
	comp=Z,36nm,0.7s						
TKM2				*e*Sn	**Sn**	**07 00 32.1**	**-2.4**
BOK	**Bokaro**	**16.16**	**214**	*e*P	**Pn**	**06 57 36.6**	**-0.4**
BOK				AMB	AMB	06 57 40.5	
	comp=Z,14nm,0.3s						
BJT	**Baijiatuau**	**16.22**	**75**	*e*P	**P**	**06 57 39.9**	**-1.0**
	comp=Z,41nm,0.8s						
BJI	**Beijing**	**16.23**	**75**	P	**Pn**	**06 57 37.0**	**-0.8**
BJI				p

NVS pmax pmax
comp=Z,27nm,1.3s
NVS pmax pmax
comp=N,25nm,1.7s
NVS pmax pmax
comp=E,15nm,1.2s
CM31 Chiang Mai Arr 19.41 170 *eP* **P 06 58 16.4 +0.2**
comp=E,6.3nm,0.5s
NJ2 Nanjing 19.91 100 *eP* **P 06 58 22.0 +0.4**
NJ2 pP **pP 06 58 25.0 +0.6**
NJ2 sP **sP 06 58 27.0 +1.3**
NJ2 S **S 07 02 04.0 -1.6**
NJ2 sS **sS 07 02 09.0 -1.1**
NJ2 pmax pmax
comp=Z,13nm,0.8s
NJ2 LR LR
comp=N,1μm,19.0s
NJ2 LR LR
comp=E,1μm,18.0s
NJ2 LR LR
comp=Z,2μm,21.0s
DL2 Dalian 20.48 79 P **P 06 58 27.9 +0.2**
DL2 S Sn 07 02 19.8 -0.8
DL2 pmax pmax
comp=Z,79nm,0.9s
DL2 LR LR
comp=N,1μm,13.7s
DL2 LR LR
comp=E,2μm,9.4s
DL2 LR LR
comp=Z,2μm,12.8s
BHPL Bhopal 21.21 232 *eP* **P 06 58 35.1 -0.7**
BHPL AMB AMB 06 58 41.1
comp=Z,16nm,0.1s
KBL Kabul 21.62 270 *eP* **P 06 58 41.4 +1.0**
KBL pmax pmax
comp=Z,21nm,0.8s
KBL Kabul 21.62 270 *eP* **P 06 58 41.4 +1.0**
comp=Z,21nm,0.8s
NGP Nagpur 21.83 225 *eP* **P 06 58 42.3 -0.1**
NGP AMB AMB 06 58 48.6
comp=Z,12nm,0.2s
SNY Shenyang 21.88 70 ⇑P **P 06 58 41.8 -1.1**
SNY pmax pmax
comp=Z,53nm,1.1s
SNY pmax pmax
comp=Z,3μm,12.7s
SNY LR LR
comp=N,3μm,11.8s
SNY LR LR
comp=E,2μm,15.7s
SNY LR LR
comp=Z,3μm,12.3s
QIZ Qiongzhong 22.41 142 P **P 06 58 47.6 -1.1**
QIZ S **S 07 02 54.3 -0.6**
QIZ pmax pmax
comp=Z,22nm,0.8s
QIZ Qiongzhong 22.41 142 *eP* **P 06 58 47.3 -1.4**
comp=Z,14nm,0.8s
VOSK Vostochnaya 22.75 319 *eP* **P 06 58 52.4 +0.3**
VOSK Vostochnaya 22.75 319 *eP* **P 06 58 52.4 +0.3**
comp=Z,18nm,0.8s
BVAR Borovoye Array 23.22 319 P **P 06 58 56.7 -0.2**
BVAR pmax pmax
comp=Z,5.0nm,0.6s
BVAR Borovoye Array 23.22 319 P **P 06 58 56.7 -0.2**
BVAR Borovoye Array 23.22 319 P **P 06 58 56.7 -0.2**
comp=Z,4.5nm,0.6s,baz=123,slow=11,SNR=8.8
BRVK Borovoye 23.29 319 *ceP* **P 06 58 57.3 -0.3**
BRVK *e* 06 59 26.9
BRVK pmax pmax
comp=Z,8.0nm,0.6s
BRVK Borovoye 23.29 319 *eP* **P 06 58 57.5 -0.1**
comp=Z,17nm,0.9s
AKL Akola 23.36 229 *eP* **P 06 58 59.3 +0.7**
AKL AMB AMB 06 59 03.5
comp=Z,35nm,1.1s
CN2 Changchun 23.37 65 *eP* **P 06 58 58.3 -0.2**
CN2 pmax pmax
comp=Z,20nm,0.9s
CN2 pmax pmax
comp=Z,310nm,4.0s
CN2 LR LR
comp=N,2μm,11.0s
CN2 LR LR
comp=E,2μm,11.0s
CN2 LR LR
comp=Z,2μm,12.0s
HYB Hyderabad 25.14 221 *i P* **P 06 59 17.0 +1.8**
TJN Taejon 25.36 83 *i P* **P 06 59 14.9 -2.2**
LATR Latur 25.41 226 *eP* **P 06 59 15.4 -2.3**
LATR AMB AMB 06 59 17.2
comp=Z,16nm,1.5s
YHNB Yeheng 25.53 113 *eP* **P 06 59 17.5 -1.3**
comp=Z,12nm,0.6s
KSAR Wonju Array Be 25.56 81 P **P 06 59 17.4 -1.5**
KSRS Korea Array 25.59 81 P **P 06 59 17.4 -1.7**
comp=Z,18nm,0.9s,baz=277,slow=9.1,SNR=26
NACB Ninganchiao 25.99 114 *eP* **P 06 59 22.8 -0.1**
comp=Z,32nm,1.1s
MDJ Mudanjiang 26.40 64 P **P 06 59 26.5 +0.1**
MDJ pP **pP 06 59 29.9 +0.5**
MDJ S **S 07 03 57.1 -2.6**
MDJ ScS **ScS 07 10 19.8 -1.9**
MDJ pmax pmax
comp=Z,11nm,0.7s
MDJ LR LR
comp=N,1μm,19.3s
MDJ LR LR
comp=E,1μm,19.3s
MDJ LR LR
comp=Z,2μm,13.8s
TWG Pinlang 26.46 117 *eP* **P 06 59 27.2 +0.1**
comp=Z,189nm,1.0s
POO Poona 26.93 231 *eP* **P 06 59 32.1 +0.6**
POO AMB AMB 06 59 36.8
comp=Z,17nm,0.7s
ABKAR Akbulak array 28.04 306 *eP* **P 06 59 41.9 +0.7**
comp=Z,3.3nm,0.9s
USRK Ussuriysk Arra 28.10 65 P **P 06 59 38.9 -2.8**
comp=Z,3.6nm,0.8s,baz=254,slow=8.9,SNR=6.1
KLR Kul'dur 28.41 54 *eP* P 06 59 40.3 -4.1
AKTO Aktyubinsk 29.49 308 P **P 06 59 54.6 +0.6**
AKTO pmax pmax
comp=Z,7.0nm,0.7s
AKTO Aktyubinsk 29.49 308 P **P 06 59 54.5 +0.6**
AKTO Aktyubinsk 29.49 308 P **P 06 59 54.5 +0.6**
comp=Z,7.3nm,0.7s,baz=94,slow=8.4,SNR=13
ARU Arti 30.86 319 *d iP* **P 07 00 06.6 +0.5**
ARU S **S 07 05 11.5 +1.8**
ARU pmax pmax
comp=Z,15nm,0.7s
ASAJ Asahikawa 35.73 65 *eP* **P 07 00 48.3 -0.2**
comp=Z,6.7nm,0.7s
ASAJ Asahikawa 35.73 65 P **P 07 00 48.0 -0.6**
comp=Z,15nm,0.7s,baz=259,slow=5.2,SNR=9.3
IPAR Pars 35.95 270 *eP* **P 07 00 52.3 +1.3**
ISRV Sarvestan 36.09 269 *eP* **P 07 00 54.4 +2.2**
KKM Kota Kinabalu 36.70 144 *eP* **P 07 00 56.8 -0.5**
comp=Z,21nm,0.7s
IKAZ Kazeroun 36.93 271 *eP* **P 07 01 01.3 +1.8**
TIXI Tiksi 38.03 16 *ceP* **P 07 01 07.4 -0.4**
TIXI pmax pmax
comp=Z,13nm,1.0s
SBUM Sibu 38.28 152 *eP* **P 07 01 11.2 +0.7**
comp=Z,12nm,0.8s
VRHR Novokhopersk 39.90 307 *eP* **P 07 01 23.5 -0.2**
VRHR pmax pmax
comp=N,5.0nm,0.5s
VRHR pmax pmax
comp=Z,10.0nm,0.5s
VRHR pmax pmax
comp=E,30nm,1.5s
VORD Divnogorie 41.37 307 *eP* **P 07 01 36.1 +0.2**
VORD pmax pmax
comp=N,20nm,0.6s
VORD pmax pmax
comp=E,20nm,0.6s
VORD pmax pmax
comp=Z,10.0nm,0.6s
KLMR Klimovskoe 41.58 322 *eP* **P 07 01 36.9 -0.6**
KLMR pmax pmax
comp=Z,10.0nm,0.6s
SEY Seymchan 42.25 35 *eP* **P 07 01 43.4 +0.4**
OBN Obninsk 42.83 314 ⇑*iP* **P 07 01 49.1 +1.4**
OBN pmax pmax
comp=Z,9.0nm,0.6s
PETK Petropavlovsk- 44.81 49 P **P 07 02 02.6 -1.2**
PETK pmax pmax
comp=Z,2.0nm,0.8s
PETK Petropavlovsk- 44.81 49 P **P 07 02 02.6 -1.2**
PETK Petropavlovsk- 44.81 49 P **P 07 02 02.6 -1.2**
comp=Z,2.8nm,0.7s,baz=258,slow=6.6,SNR=5.3
APA Apatity 45.20 331 ⇓*eP* **P 07 02 05.0 -1.6**
APA MLR MLR
comp=Z,3μm,14.0s
JOF Joensuu 45.63 325 *eP* **P 07 02 09.9 -0.1**
JOF pmax pmax
comp=Z,2.0nm,0.4s
JOF Joensuu 45.63 325 *ep* **P 07 02 09.9 -0.1**
comp=Z,1.6nm,0.4s
BR131 Keskin Array S 47.49 293 *eP* **P 07 02 25.9 +0.6**
comp=Z,2.4nm,0.6s
BRTR Keskin Array B 47.49 293 P **P 07 02 25.9 +0.6**
BRTR Keskin Array B 47.49 293 P **P 07 02 25.9 +0.6**
comp=Z,3.4nm,0.6s,baz=90,slow=7.2,SNR=20
ASF Jabal al Asfar 47.73 282 P **P 07 02 28.6 +1.5**
ASF Jabal al Asfar 47.73 282 P **P 07 02 28.6 +1.5**
comp=Z,2.0nm,0.7s,baz=69,slow=6.3,SNR=4.2
AKASG Malin Array Be 47.73 308 *ceP* **P 07 02 27.0 +0.3**
AKASG pmax pmax
comp=Z,7.0nm,0.7s
AKASG Malin Array Be 47.73 308 P **P 07 02 26.7 -0.1**
AKASG PcP **PcP 07 03 55.3 -0.5**
AKASG Malin Array Be 47.73 308 P **P 07 02 26.7 -0.1**
comp=Z,3.4nm,0.7s,baz=65,slow=8.2,SNR=17
AKASG PcP **PcP 07 03 55.3 -0.5**
comp=Z,0.6nm,0.4s,baz=69,slow=3.1,SNR=4.4
KIEV Kiev 47.75 308 *eP* **P 07 02 27.0 +0.2**
KIEV pmax pmax
comp=Z,6.0nm,0.9s
KIEV Kiev 47.75 308 *eP* **P 07 02 27.0 +0.2**
comp=Z,5.9nm,0.9s
KAF Kangasniemi 47.95 324 *eP* **P 07 02 26.4 -1.9**
KAF pmax pmax
comp=Z,1.0nm,0.3s
KAF Kangasniemi 47.95 324 *ep* **P 07 02 26.4 -1.9**
comp=Z,0.7nm,0.3s
FINES FINESS Array B 48.10 323 P **P 07 02 29.1 -0.3**
FINES FINESS Array B 48.10 323 P **P 07 02 29.1 -0.3**
comp=Z,3.9nm,0.6s,baz=87,slow=7.5,SNR=9.8
ARCES ARCESS Array B 48.29 334 P **P 07 02 31.1 +0.3**
ARCES PcP **PcP 07 03 56.9 -0.6**
ARCES ARCESS Array B 48.29 334 P **P 07 02 31.1 +0.3**
comp=Z,4.2nm,0.7s,baz=92,slow=8.1,SNR=13
ARCES PcP **PcP 07 03 56.9 -0.6**
comp=Z,2.4nm,0.5s,baz=86,slow=3.7,SNR=10.0
MMAI Mount Meron Ar 48.55 284 PcP **PcP 07 04 00.1 +0.9**
MMAI Mount Meron Ar 48.55 284 PcP **PcP 07 04 00.1 +0.9**
comp=Z,1.0nm,0.4s,baz=315,slow=55,SNR=3.2
BUR08 Bucovina Ar. S 51.02 305 *eP* **P 07 02 53.0 +1.0**
LVV L'vov 51.18 308 *eP* **P 07 02 53.6 +0.5**
KWP Kalwaria Pacla 52.06 308 *eP* **P 07 03 00.6 +1.0**
KWP pmax pmax
comp=Z,33nm,1.0s
KWP Kalwaria Pacla 52.06 308 *eP* **P 07 03 00.6 +1.0**
comp=Z,33nm,1.0s
OJC Ojcow 53.69 309 *eP* **P 07 03 12.2 +0.5**
OJC pmax pmax
comp=Z,12nm,0.7s
OJC Ojcow 53.69 309 *eP* **P 07 03 12.2 +0.5**
comp=Z,12nm,0.7s
FX1 Attu Island--F 54.01 47 P **P 07 03 13.1 -0.9**
FX1 Attu Island--F 54.01 47 P **P 07 03 13.1 -0.9**
comp=Z,5.2nm,0.7s,baz=312,slow=8.6,SNR=5.4
HFS Hagfors 54.30 322 P **P 07 03 16.0 0.0**
HFS Hagfors 54.30 322 P **P 07 03 16.0 0.0**
comp=Z,3.7nm,0.7s,baz=108,slow=8.2,SNR=11
MORC Moravsky Berou 55.21 309 *eP* **P 07 03 23.7 +0.9**
MORC pmax pmax
comp=Z,7.0nm,1.0s
MORC Moravsky Berou 55.21 309 *eP* **P 07 03 23.7 +0.9**
comp=Z,7.1nm,1.0s
NB2 NORSAR Subarra 55.24 324 P **P 07 03 22.3 -0.5**
comp=Z,5.8nm,0.7s,baz=73,slow=7.4
NOA NORSAR Array B 55.24 324 P **P 07 03 22.6 -0.2**
NOA NORSAR Array B 55.24 324 P **P 07 03 22.6 -0.2**
comp=Z,4.7nm,0.6s,baz=74,slow=7.3,SNR=20
DPC Dobruska-Polom 55.76 310 *eP* **P 07 03 28.3 +1.5**
DPC pmax pmax
comp=Z,45nm,0.6s
DPC Dobruska-Polom 55.76 310 *eP* **P 07 03 28.3 +1.5**
comp=Z,45nm,0.6s
VRAC Vranov 55.95 309 P **P 07 03 29.3 +1.2**
VRAC Vranov 55.95 309 P **P 07 03 29.3 +1.2**
comp=Z,2.6nm,0.4s,baz=83,slow=7.3,SNR=2.9
CONA Conrad Observa 56.89 308 ⇑*isP* **P 07 03 36.3 +1.4**
comp=Z,5.2nm,0.7s
BRG Berggiesshubel 57.01 312 *eP* **P 07 03 36.4 +0.8**
comp=Z,5.6nm,0.9s
BRG Berggiesshubel 57.01 312 *eP* **P 07 03 36.4 +0.8**
BRG pmax pmax
comp=Z,6.0nm,0.9s
CLL Collm 57.41 312 *i P* **P 07 03 38.8 +0.4**
CLL pmax pmax
comp=Z,7.0nm,0.8s
CLL Collm 57.41 312 *i P* **P 07 03 38.8 +0.4**
comp=Z,7.0nm,0.8s
PERS Pernice 57.85 307 *i P* **P 07 03 42.3 +0.7**
SOKA Soboth 57.88 307 ⇑*ipP* **P 07 03 42.7 +0.8**
comp=Z,5.2nm,0.6s
GERES GERESS Array B 57.89 309 P **P 07 03 42.4 +0.5**
GERES GERESS Array B 57.89 309 P **P 07 03 42.4 +0.5**
comp=Z,1.8nm,0.7s,baz=57,slow=7.2,SNR=14
MOA Molln 57.92 308 ⇑*isP* **P 07 03 43.3 +1.2**
comp=Z,4.9nm,0.9s
BOJS Bojanci 58.20 305 *i P* **P 07 03 45.0 +0.9**
VISS Visnje 58.35 306 *i P* **P 07 03 45.3 +0.2**
WTTA Wattenberg 59.79 308 ⇑*isP* **P 07 03 56.0 +0.7**
comp=Z,11nm,0.9s
MOTA Moosalm 60.08 309 ⇑*ipP* **P 07 03 57.6 +0.3**
comp=Z,5.6nm,0.6s
CUC Castrocucco 60.10 299 *eP* **P 07 03 58.3 +0.9**
comp=Z,12nm,1.1s
RETA Reutte 60.24 309 ⇑*isP* **P 07 03 59.1 +0.9**
comp=Z,4.4nm,0.6s
FUORN Ofenpass-Fuorn 60.91 308 *eP* **P 07 04 03.8 +0.8**
comp=Z,7.4nm,0.8s
ATKA Atka Island 61.45 44 *eP* **P 07 04 07.7 +1.4**
comp=Z,20μm,0.9s
TUE Stuetta 61.54 308 *eP* **P 07 04 07.2 0.0**
comp=Z,6.4nm,0.6s
CDF Champ du Feu 61.96 311 *eP* **P 07 04 10.3 +0.4**
CDF Champ du Feu 61.96 311 *eP* **P 07 04 10.3 +0.4**
CDF Champ du Feu 61.96 311 *eP* **P 07 04 10.3 +0.4**
FITZ Fitzroy Crossi 62.32 147 *eP* **P 07 04 11.7 -0.7**
comp=Z,16nm,1.0s
FITZ Fitzroy Crossi 62.32 147 P **P 07 04 11.0 -1.4**
comp=Z,9.4nm,0.8s,baz=356,slow=7.9,SNR=13
HINF Hinteralfeld 62.48 311 *eP* **P 07 04 13.6 +0.3**
HINF Hinteralfeld 62.48 311 *eP* **P 07 04 13.6 +0.3**
HINF Hinteralfeld 62.48 311 *eP* **P 07 04 13.6 +0.3**
GIVF Givet 62.65 314 *eP* **P 07 04 15.1 +0.7**
GIVF Givet 62.65 314 *eP* **P 07 04 15.1 +0.7**
GIVF Givet 62.65 314 *eP* **P 07 04 15.1 +0.7**
HAU Haudompre 62.70 311 *eP* **P 07 04 15.0 +0.2**
HAU Haudompre 62.70 311 *eP* **P 07 04 15.0 +0.2**
HAU Haudompre 62.70 311 *eP* **P 07 04 15.0 +0.2**
PAGF Fort de Pagny 62.82 312 *eP* **P 07 04 16.6 +1.0**
comp=Z,5.0nm,0.8s
PAGF Fort de Pagny 62.82 312 *eP* **P 07 04 16.6 +1.0**
comp=Z,5.0nm,0.8s
MBWA Marble Bar 62.82 155 *eP* **P 07 04 15.2 -0.6**
comp=Z,23nm,0.9s
SENIN Lac Senin/Sane 62.86 309 *eP* **P 07 04 16.4 +0.3**
comp=Z,4.4nm,0.7s
BAIF Baives 63.02 314 *eP* **P 07 04 16.9 +0.1**
comp=Z,6.4nm,0.6s
BAIF Baives 63.02 314 *eP* **P 07 04 16.9 +0.1**
BAIF pmax pmax
comp=Z,6.0nm,0.6s
BAIF Baives 63.02 314 *eP* **P 07 04 16.9 +0.1**
comp=Z,6.4nm,0.6s
SFTF Sexfontaines 63.39 312 *eP* **P 07 04 19.6 +0.3**
comp=Z,6.5nm,0.5s
SFTF Sexfontaines 63.39 312 *eP* **P 07 04 19.6 +0.3**
comp=Z,6.5nm,0.5s
PGF Pioggiola 63.54 305 *eP* **P 07 04 21.3 +0.7**
PGF Pioggiola 63.54 305 *eP* **P 07 04 21.3 +0.7**
PGF Pioggiola 63.54 305 *eP* **P 07 04 21.3 +0.7**
LPG La Plagne 63.60 308 *eP* **P 07 04 22.1 +1.0**
comp=Z,21nm,0.8s
LPG La Plagne 63.60 308 *eP* **P 07 04 22.1 +1.0**
LPG pmax pmax
comp=Z,21nm,0.8s
LPG La Plagne 63.60 308 *eP* **P 07 04 22.1 +1.0**
comp=Z,21nm,0.8s
LPL La Plagne 63.60 308 *eP* **P 07 04 22.1 +1.0**
LPL La Plagne 63.60 308 *eP* **P 07 04 22.1 +1.0**
LPL La Plagne 63.60 308 *eP* **P 07 04 22.1 +1.0**
IMA2 Indian Mountai 63.80 25 *eP* **P 07 04 22.1 +0.2**
SBF Sospel 63.93 306 *eP* **P 07 04 23.5 +0.4**
comp=Z,43nm,0.9s
SBF Sospel 63.93 306 *eP* **P 07 04 23.5 +0.4**
SBF pmax pmax
comp=Z,43nm,0.9s
SBF Sospel 63.93 306 *eP* **P 07 04 23.5 +0.4**
comp=Z,43nm,0.9s
MBDF Montbardon 63.95 308 *eP* **P 07 04 23.1 -0.2**
MBDF Montbardon 63.95 308 *eP* **P 07 04 23.1 -0.2**
MBDF Montbardon 63.95 308 *eP* **P 07 04 23.1 -0.2**
COLD Coldfoot 64.26 23 *eP* **P 07 04 25.5 +0.7**
comp=Z,16nm,0.9s
ORIF Oris-en-Rattie 64.42 308 *eP* **P 07 04 26.6 +0.3**
comp=Z,16nm,0.8s
ORIF Oris-en-Rattie 64.42 308 *eP* **P 07 04 26.6 +0.3**
ORIF pmax pmax
comp=Z,16nm,0.8s
ORIF Oris-en-Rattie 64.42 308 *eP* **P 07 04 26.6 +0.3**
comp=Z,16nm,0.8s
LOR Lormes 64.53 311 *eP* **P 07 04 26.6 -0.3**
LOR Lormes 64.53 311 *eP* **P 07 04 26.6 -0.3**
FRF La Foret Royal 64.58 306 *eP* **P 07 04 27.4 +0.2**
FRF La Foret Royal 64.58 306 *eP* **P 07 04 27.4 +0.2**
FRF La Foret Royal 64.58 306 *eP* **P 07 04 27.4 +0.2**
LMR La Mourre 64.78 306 *eP* **P 07 04 28.8 +0.3**
LMR La Mourre 64.78 306 *eP* **P 07 04 28.8 +0.3**
LMR La Mourre 64.78 306 *eP* **P 07 04 28.8 +0.3**
SMF Signal de Mont 64.84 310 *eP* **P 07 04 29.1 +0.2**
comp=Z,26nm,0.9s
SMF Signal de Mont 64.84 310 *eP* **P 07 04 29.1 +0.2**
SMF pmax pmax
comp=Z,26nm,0.9s
SMF Signal de Mont 64.84 310 *eP* **P 07 04 29.1 +0.2**
comp=Z,26nm,0.9s
SSF Saint Saulge 64.84 311 *eP* **P 07 04 28.9 0.0**
comp=Z,5.5nm,0.8s
SSF Saint Saulge 64.84 311 *eP* **P 07 04 28.9 0.0**
SSF pmax pmax
comp=Z,6.0nm,0.8s
SSF Saint Saulge 64.84 311 *eP* **P 07 04 28.9 0.0**
comp=Z,5.5nm,0.8s
SMRF Simiane la Rot 65.06 307 *eP* **P 07 04 30.9 +0.5**
SMRF Simiane la Rot 65.06 307 *eP* **P 07 04 30.9 +0.5**
AVF Avril sur Loir 65.06 311 *eP* **P 07 04 30.5 +0.2**
comp=Z,7.6nm,0.7s
AVF Avril sur Loir 65.06 311 *eP* **P 07 04 30.5 +0.2**
AVF pmax pmax
comp=Z,8.0nm,0.7s
AVF Avril sur Loir 65.06 311 *eP* **P 07 04 30.5 +0.2**
comp=Z,7.6nm,0.7s
VIVF Saint-Julien-l 65.20 308 *eP* **P 07 04 31.8 +0.5**
VIVF Saint-Julien-l 65.20 308 *eP* **P 07 04 31.8 +0.5**
VIVF Saint-Julien-l 65.20 308 *eP* **P 07 04 31.8 +0.5**
BGF Bois d'Agland 65.48 311 *eP* **P 07 04 33.2 +0.1**
comp=Z,18nm,0.9s
BGF Bois d'Agland 65.48 311 *eP* **P 07 04 33.2 +0.1**
BGF pmax pmax
comp=Z,18nm,0.9s
BGF Bois d'Agland 65.48 311 *eP* **P 07 04 33.2 +0.1**
comp=Z,18nm,0.9s
SUMG Summit 65.49 346 *eP* **P 07 04 32.7 -0.5**
SUMG pmax pmax
comp=Z,7.0nm,0.8s
SUMG Summit 65.49 346 *eP* **P 07 04 32.7 -0.5**
comp=Z,6.9nm,0.8s
BPAW Bear Paw Mtn. 65.88 26 *eP* **P 07 04 35.7 +0.3**
comp=Z,18nm,1.1s
CAST Castle Rocks 65.90 27 *eP* **P 07 04 36.5 +0.9**
comp=Z,24nm,1.4s
SVW2 Sparrevohn 65.93 30 *eP* **P 07 04 35.8 0.0**
comp=Z,20nm,1.1s
TCF Toulx Ste Croi 66.00 311 *eP* **P 07 04 36.9 +0.5**
comp=Z,14nm,0.8s
TCF Toulx Ste Croi 66.00 311 *eP* **P 07 04 36.9 +0.5**
TCF pmax pmax
comp=Z,14nm,0.8s
TCF Toulx Ste Croi 66.00 311 *eP* **P 07 04 36.9 +0.5**
comp=Z,14nm,0.8s
LASF Ste Croix 66.09 308 *eP* **P 07 04 37.8 +0.7**
comp=Z,17nm,0.8s
LASF Ste Croix 66.09 308 *eP* **P 07 04 37.8 +0.7**
comp=Z,17nm,0.8s
PPLA Purkeypile 66.18 28 *eP* **P 07 04 38.5 +1.0**
comp=Z,25nm,1.0s
LDF La Druitiere 66.21 314 *eP* **P 07 04 37.7 0.0**
LDF La Druitiere 66.21 314 *eP* **P 07 04 37.7 0.0**
LDF La Druitiere 66.21 314 *eP* **P 07 04 37.7 0.0**
FLN La Foliniere 66.33 314 *eP* **P 07 04 38.7 +0.3**
FLN La Foliniere 66.33 314 *eP* **P 07 04 38.7 +0.3**
FLN La Foliniere 66.33 314 *eP* **P 07 04 38.7 +0.3**
COLA College 66.47 25 *eP* **P 07 04 39.2 +0.1**
COLA pmax pmax
comp=Z,64nm,0.9s
COLA College 66.47 25 *eP* **P 07 04 39.1 +0.1**
comp=Z,64nm,0.9s
GRR Gorron 66.73 314 *eP* **P 07 04 41.2 +0.1**
GRR Gorron 66.73 314 *eP* **P 07 04 41.2 +0.1**
GRR Gorron 66.73 314 *eP* **P 07 04 41.2 +0.1**
CAF Calviac 66.77 310 *eP* **P 07 04 42.3 +0.9**
CAF Calviac 66.77 310 *eP* **P 07 04 42.3 +0.9**
CAF Calviac 66.77 310 *eP* **P 07 04 42.3 +0.9**
ILAR Eielson Array 66.85 24 P **P 07 04 40.7 -0.9**
ILAR Eielson Array 66.85 24 P **P 07 04 40.7 -0.9**
comp=Z,5.9nm,0.8s,baz=294,slow=5.4,SNR=43
RJF Les Rejaudoux 66.91 310 *eP* **P 07 04 43.1 +0.8**
comp=Z,32nm,1.2s
RJF Les Rejaudoux 66.91 310 *eP* **P 07 04 43.1 +0.8**
RJF pmax pmax
comp=Z,32nm,1.2s
RJF Les Rejaudoux 66.91 310 *eP* **P 07 04 43.1 +0.8**
comp=Z,32nm,1.2s
MFF Saint Martin d 67.24 312 *eP* **P 07 04 44.7 +0.4**
comp=Z,9.2nm,0.7s
MFF Saint Martin d 67.24 312 *eP* **P 07 04 44.7 +0.4**
MFF pmax pmax
comp=Z,9.0nm,0.7s
MFF Saint Martin d 67.24 312 *eP* **P 07 04 44.7 +0.4**
comp=Z,9.2nm,0.7s
RSO Redoubt South 67.43 30 *eP* **P 07 04 45.6 +0.1**
MTLF Montolieu 67.49 308 *eP* **P 07 04 46.5 +0.5**
MTLF Montolieu 67.49 308 *eP* **P 07 04 46.5 +0.5**
MTLF Montolieu 67.49 308 *eP* **P 07 04 46.5 +0.5**
LFF La Frestale 67.57 310 *eP* **P 07 04 47.4 +1.0**
LFF La Frestale 67.57 310 *eP* **P 07 04 47.4 +1.0**
LFF La Frestale 67.57 310 *eP* **P 07 04 47.4 +1.0**
SGMF Saint Gilles 67.77 314 *eP* **P 07 04 48.4 +0.8**
comp=Z,8.5nm,0.5s
SGMF Saint Gilles 67.77 314 *eP* **P 07 04 48.4 +0.8**
SGMF pmax pmax
comp=Z,9.0nm,0.5s
SGMF Saint Gilles 67.77 314 *eP* **P 07 04 48.4 +0.8**
comp=Z,8.5nm,0.5s
WRAB Tennant Creek 67.97 141 *eP* **P 07 04 47.5 -1.7**
WRAB pmax pmax
comp=Z,9.0nm,0.8s
WRAB Tennant Creek 67.97 141 *eP* **P 07 04 47.5 -1.7**
comp=Z,9.2nm,0.8s
WRA Warramunga Arr 67.97 141 P **P 07 04 47.5 -1.7**
WRA Warramunga Arr 67.97 141 P **P 07 04 47.5 -1.7**
comp=Z,13nm,0.9s,baz=339,slow=6.4,SNR=44
PMR Palmer 68.11 28 *eP* **P 07 04 49.4 -0.1**
PMR pmax pmax
comp=Z,14nm,1.0s
PMR Palmer 68.11 28 *eP* **P 07 04 49.4 -0.1**
comp=Z,14nm,1.0s
ROSF Rostrenen 68.13 315 *eP* **P 07 04 50.3 +0.4**
ROSF Rostrenen 68.13 315 *eP* **P 07 04 50.3 +0.4**
ROSF Rostrenen 68.13 315 *eP* **P 07 04 50.3 +0.4**
QUIF Quistinic 68.30 314 *eP* **P 07 04 51.6 +0.7**
QUIF Quistinic 68.30 314 *eP* **P 07 04 51.6 +0.7**
QUIF Quistinic 68.30 314 *eP* **P 07 04 51.6 +0.7**
EGAK Eagle 68.66 23 *eP* **P 07 04 52.5 -0.4**
comp=Z,8.4nm,0.8s
EPF Esparros 68.82 308 *eP* **P 07 04 54.2 -0.2**
EPF Esparros 68.82 308 *eP* **P 07 04 54.2 -0.2**
EPF Esparros 68.82 308 *eP* **P 07 04 54.2 -0.2**

ETSF	**Etsaut**	**69.45**	**309**	*e*P		**P**	**07 04 59.1**	**+0.8**
	comp=Z,12nm,0.8s							
ETSF	**Etsaut**	**69.45**	**309**	*e*P		**P**	**07 04 59.1**	**+0.8**
ETSF				pmax	pmax			
	comp=Z,12nm,0.8s							
ETSF	**Etsaut**	**69.45**	**309**	*e*P		**P**	**07 04 59.1**	**+0.8**
	comp=Z,12nm,0.8s							
BMRM	**Bremner River**	**70.17**	**27**	*e*P		**P**	**07 05 02.4**	**0.0**
	comp=Z,21nm,0.9s							
AS31	**Alice Springs**	**70.90**	**143**	*e*P		**P**	**07 05 06.1**	**-1.1**
ASAR	**Alice Springs**	**70.91**	**143**	P		**P**	**07 05 05.8**	**-1.5**
ASAR	**Alice Springs**	**70.91**	**143**	P		**P**	**07 05 05.8**	**-1.5**
	comp=Z,5.4nm,0.7s,baz=334,slow=6.2,SNR=38							
HYT	**Haines Junctio**	**72.69**	**24**	*e*P		**P**	**07 05 18.3**	**+0.5**
ESDC	**Sonseca Array**	**73.38**	**307**	P		**P**	**07 05 22.5**	**+0.5**
ESDC	**Sonseca Array**	**73.38**	**307**	P		**P**	**07 05 22.5**	**+0.5**
	comp=Z,3.5nm,0.6s,baz=43,slow=6.0,SNR=17							
CTAO	**Charters Tower**	**74.68**	**131**	*e*P		**P**	**07 05 28.7**	**-1.1**
CTAO				pmax	pmax			
	comp=Z,22nm,1.3s							
CTAO	**Charters Tower**	**74.68**	**131**	*e*P		**P**	**07 05 28.7**	**-1.1**
	comp=Z,22nm,1.3s							
EVO	**Evora**	**76.59**	**308**	⇑*i*P		**P**	**07 05 42.0**	**+1.4**
	comp=Z,28nm,1.1s							
EVOP	**Sao Brissos**	**76.66**	**308**	⇑*i*P		**P**	**07 05 42.0**	**+1.0**
EVOP				pmax	pmax			
	comp=Z,28nm,1.1s							
EVOP	**Sao Brissos**	**76.66**	**308**	⇑*i*P		**P**	**07 05 42.0**	**+1.0**
	comp=Z,28nm,1.1s							
DLBC	**Dease Lake**	**76.93**	**23**	*e*P		**P**	**07 05 43.1**	**+0.8**
YKA	**Yellowknife Ar**	**77.22**	**14**	P		**P**	**07 05 42.7**	**-1.0**
YKA	**Yellowknife Ar**	**77.22**	**14**	P		**P**	**07 05 42.7**	**-1.0**
	comp=Z,3.2nm,0.8s,baz=341,slow=5.4,SNR=4.2							
MDT	**Midelt**	**77.84**	**302**	P		**P**	**07 05 47.7**	**-0.2**
MDT	**Midelt**	**77.84**	**302**	P		**P**	**07 05 47.7**	**-0.2**
	comp=Z,2.4nm,0.9s,baz=29,slow=8.7,SNR=4.1							
STKA	**Stephens Creek**	**81.47**	**142**	*e*P		**P**	**07 06 05.4**	**-1.7**
	comp=Z,2.5nm,0.8s							
STKA	**Stephens Creek**	**81.47**	**142**	P		**P**	**07 06 05.5**	**-1.7**
	comp=Z,12nm,0.8s,baz=329,slow=6.2,SNR=16							
EIDS	**Eidsvold**	**81.57**	**131**	*e*P		**P**	**07 06 07.0**	**-0.9**
	comp=Z,6.6nm,0.7s							
TORD	**Torodi Ar. Bea**	**85.09**	**283**	P		**P**	**07 06 25.5**	**-0.8**
TORD	**Torodi Ar. Bea**	**85.09**	**283**	P		**P**	**07 06 25.5**	**-0.8**
	comp=Z,2.2nm,0.9s,baz=44,slow=5.2,SNR=9.9							
EDM	**Edmonton**	**86.03**	**17**	*e*P		**P**	**07 06 30.0**	**-0.5**
EDM	**Edmonton**	**86.03**	**17**	*e*P		**P**	**07 06 29.9**	**-0.5**
SCHQ	**Schefferville**	**86.59**	**350**	*e*P		**P**	**07 06 32.6**	**-0.5**
	comp=Z,7.5nm,0.8s							
SCHQ	**Schefferville**	**86.59**	**350**	P		**P**	**07 06 32.2**	**-1.0**
	comp=Z,5.8nm,0.8s,baz=3.8,slow=6.2,SNR=4.5							
B08A	**Colville Reser**	**88.86**	**22**	*e*P		**P**	**07 06 44.4**	**+0.2**
	comp=Z,46nm,2.1s							
LON	**Longmire**	**89.49**	**25**	*e*P		**P**	**07 06 47.9**	**+0.7**
LON				pmax	pmax			
	comp=Z,3.0nm,0.7s							
LON	**Longmire**	**89.49**	**25**	*e*P		**P**	**07 06 47.9**	**+0.7**
	comp=Z,3.0nm,0.7s							
NEW	**Newport**	**89.59**	**21**	*e*P		**P**	**07 06 47.9**	**+0.3**
	comp=Z,4.5nm,0.9s							
C09A	**Chrisman Ranch**	**89.67**	**22**	*e*P		**P**	**07 06 49.0**	**+1.0**
	comp=Z,5.9nm,0.8s							
BLMT	**Blacktail Moun**	**90.58**	**20**	*e*P		**P**	**07 06 52.7**	**+0.2**
BSMT	**Bassoo Peak**	**90.62**	**20**	*e*P		**P**	**07 06 52.8**	**+0.2**
	comp=Z,10nm,1.4s							
JTMT	**Jette**	**90.85**	**20**	*e*P		**P**	**07 06 54.2**	**+0.6**
SLMT	**Seeley Lake**	**91.52**	**19**	*e*P		**P**	**07 06 56.0**	**-0.8**
	comp=Z,8.5nm,1.2s							
MSO	**Missoula**	**91.78**	**20**	*e*P		**P**	**07 06 58.4**	**+0.4**
	comp=Z,23nm,2.0s							
HRY	**Holter Researc**	**92.44**	**18**	*e*P		**P**	**07 07 01.3**	**+0.3**
J08A	**Circle Bar Ran**	**93.59**	**24**	*e*P		**P**	**07 07 07.4**	**+1.0**
	comp=Z,63nm,3.0s							
DBIC	**Dimbokro**	**94.13**	**282**	P		**P**	**07 07 08.5**	**-0.7**
DBIC	**Dimbokro**	**94.13**	**282**	P		**P**	**07 07 08.5**	**-0.7**
	comp=Z,2.8nm,0.8s,baz=58,slow=6.9,SNR=3.8							
IMW	**Indian Meadow**	**95.29**	**19**	*e*P		**P**	**07 07 15.1**	**+0.7**
	comp=Z,2.4nm,0.9s							
PDAR	**Pinedale Array**	**96.70**	**18**	P		**P**	**07 07 19.8**	**-1.0**
PDAR	**Pinedale Array**	**96.70**	**18**	P		**P**	**07 07 19.8**	**-1.0**
	comp=Z,0.5nm,0.8s,baz=357,slow=1.8,SNR=3.6							
GDL2	**Guadalupe Moun**	**108.01**	**18**	*e*Pdif		**Pdif**	**07 08 09.9**	**-1.3**
VNDA	**Vanda**	**121.68**	**166**	PKP		**PKPdf**	**07 12 40.9**	**-1.7**
VNDA	**Vanda**	**121.68**	**166**	PKP		**PKPdf**	**07 12 40.9**	**-1.7**
	comp=Z,1.0nm,0.7s,baz=329,slow=0.7,SNR=6.3							
QSPA	**South Pole Qui**	**127.48**	**180**	*e*PKPdf		**PKPdf**	**07 12 52.6**	**-1.4**
QSPA				PKP		**PKPdf**	**07 12 52.8**	**-1.3**
QSPA	**South Pole Qui**	**127.48**	**180**	PKP		**PKPdf**	**07 12 52.8**	**-1.3**
	comp=Z,5.8nm,1.1s,baz=296,slow=1.6,SNR=8.5							
SNAA	**Sanae**	**127.91**	**203**	*e*P		**PKPdf**	**07 12 54.6**	**-0.2**
SNAA	**Sanae**	**127.91**	**203**	PKP		**PKPdf**	**07 12 53.3**	**-1.4**
SNAA	**Sanae**	**127.91**	**203**	PKP		**PKPdf**	**07 12 53.3**	**-1.4**
	comp=Z,0.6nm,0.9s,baz=117,slow=2.3,SNR=5.5							
VNA2	**Neumayer--Watz**	**129.32**	**204**	*e*P		**PKPdf**	**07 12 57.6**	**+0.2**
SAML	**Samuel**	**145.52**	**321**	*e*PKPdf		**PKPdf**	**07 13 28.4**	**-0.5**
LPAZ	**La Paz**	**154.26**	**322**	*e*PKPbc		**PKPbc**	**07 13 50.5**	**-1.0**
CPUP	**Villa Florida**	**154.45**	**288**	PKPbc		**PKPbc**	**07 13 49.4**	**-1.4**
CPUP	**Villa Florida**	**154.45**	**288**	PKPbc		**PKPbc**	**07 13 49.4**	**-1.4**
	comp=Z,1.5nm,0.6s,baz=45,slow=2.9,SNR=5.4							
PLCA	**Paso Flores**	**168.81**	**250**	PKP		**PKPdf**	**07 13 57.1**	**+0.2**
PLCA	**Paso Flores**	**168.81**	**250**	PKP		**PKPdf**	**07 13 57.1**	**+0.2**
	comp=Z,2.3nm,1.0s,baz=270,slow=1.0,SNR=2.9							

IDC 18 06:57:24.2±1.4, 12°.50N×120°.58E, h0km, mb3.4/3, mb1 3.8/3, mb1mx3.5/25, mbtmp3.5/3, 1C, Error ellipse: s-maj=35.2km s-min=13.4km az=96.0, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**1.06**	**20**	⇑*i*P	Pb	06 57 45.8	+0.3
TGY	**Tagaytay City**	**1.63**	**12**	Pg	Pn	06 57 54.7	+0.4
	181nm,0.3s,baz=206,slow=0.9,SNR=12						
TGY				Lg	Lg	06 58 15.3	
	252nm,0.3s,baz=180,slow=12,SNR=12						
CMAR	**Chiang Mai Arr**	**21.66**	**289**	P	P	07 02 16.5	-0.1
	1.1nm,0.3s,baz=104,slow=7.5						
WRA	**Warramunga Arr**	**34.97**	**157**	P	P	07 04 17.7	-0.6
	0.3nm,0.6s,baz=337,slow=9.3,SNR=3.8						
ASAR	**Alice Springs**	**38.23**	**160**	P	P	07 04 46.4	+0.3
	0.3nm,0.7s,baz=335,slow=6.9,SNR=3.3						

*IDC **18** 07:02:10.5±0.4, 37°.68N×95°.74E, h0km, mb4.4/30, mb1 4.5/33, mb1mx4.5/39, mbtmp4.5/33, ML4.3/4, MS4.7/1, Ms1 4.7/1, ms1mx3.9/38, Error ellipse: s-maj=14.1km s-min=9.6km az=39.0*

*ISCJB **18** 07:02:10.9±0.1, 37°.63N±0°.02×95°.59E±0°.02, h10km, mb4.8/91, MS4.7/6, Error ellipse: s-maj=2.8km s-min=2.4km az=13.9*

*NEIC **18** 07:02:12.1±1.7, 37°.65N×95°.60E, h6km±10km, mb5.1/50, Error ellipse: s-maj=4.6km s-min=3.1km az=220.0*

*DJA **18** 07:02:13.4±0.6, 38°N±13°×9°6E±°, h10km, M5.2/14, mb5.2/14*

*BJI **18** 07:02:13.0, 37°.68N×95°.68E, h7km, mB5.4/12, mb4.8/41, ML5.2/7, Ms5.0/36, Ms7 4.8/35*

*MOS **18** 07:02:13.4±0.9, 37°.64N×95°.66E, h29km, mb4.8/37, Error ellipse: s-maj=7.3km s-min=5.4km az=104.9*

*BKK **18** 07:02:14.9±0.6, 38°N±13°×9°6E±°, h10km, M5.2/14, mb5.2/14*

ISC 18 07:02:13.2±0.6, 37°.70N±0°.03×95°.56E±0°.03, h14km±4km, n294, σ1§40/329, mb4.9/96, MS4.7/6, 14C-9D, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**3.75**	**62**	⇑Pn	**Pn**	**07 03 13.3**	**+2.6**
GTA				Pg	**Pg**	**07 03 22.6**	**-2.4**
GTA				Sn	**Sb**	**07 04 01.0**	**-3.5**
GTA				Sg	**Sg**	**07 04 15.5**	**+2.0**
GTA				smax	smax		
	comp=N,1μm,1.1s						
GTA				smax	smax		
	comp=E,770nm,1.3s						
GTA				LR	LR		
	comp=N,14μm,8.1s						
GTA				LR	LR		
	comp=E,11μm,6.9s						
GTA				LR	LR		
	comp=Z,7μm,6.8s						
LZH	**Lanzhou**	**6.83**	**101**	⇑Pn	**Pn**	**07 03 52.8**	**-0.3**
LZH				Pg	**Pb**	**07 04 13.6**	**+1.8**
LZH				Sn	**Sn**	**07 05 11.8**	**+1.0**
LZH				Sg	Sb	07 05 40.3	+7.0
LZH				smax	smax		
	comp=N,1μm,0.8s						
LZH				smax	smax		
	comp=E,1μm,0.8s						
LZH				LR	LR		
	comp=N,13μm,9.0s						
LZH				LR	LR		
	comp=E,6μm,8.7s						
LZH				LR	LR		
	comp=Z,7μm,8.4s						
WMQ	**Urumqi**	**8.54**	**318**	P	**Pn**	**07 04 17.8**	**+1.4**
WMQ				pP	**pPn**	**07 04 20.8**	**+1.0**
WMQ				sP		07 04 23.8	
WMQ				S	**Sn**	**07 05 55.8**	**+3.2**
WMQ				pmax	pmax		
	comp=Z,130nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,4μm,12.0s						
WMQ				LR	LR		
	comp=N,8μm,8.6s						
WMQ				LR	LR		
	comp=E,11μm,9.0s						
WMQ				LR	LR		
	comp=Z,12μm,10.7s						
LSA	**Lhasa**	**8.78**	**206**	P	Pn	07 04 23.8	+3.7
LSA	**Lhasa**	**8.78**	**206**	*e*P	**Pn**	**07 04 23.2**	**+3.1**
LSA				pmax	pmax		
	comp=Z,28nm,0.8s						
LSA	**Lhasa**	**8.78**	**206**	*e*Pn	**Pn**	**07 04 23.2**	**+3.1**
	comp=Z,28nm,0.8s						
CD2	**Chengdu**	**9.58**	**133**	P	**Pn**	**07 04 32.6**	**+1.9**
CD2				pP		07 04 35.4	
CD2				sP		07 04 38.3	
CD2				PP	**PnPn**	**07 04 40.1**	**+1.8**
CD2				S	**Sn**	**07 06 20.6**	**+2.4**
CD2				sS		07 06 25.3	
CD2				SS	**SnSn**	**07 06 33.8**	**+4.0**
CD2				pmax	pmax		
	comp=Z,60nm,1.1s						
CD2				LR	LR		
	comp=N,7μm,10.1s						
CD2				LR	LR		
	comp=Z,5μm,13.1s						
XAN	**Xi'an**	**11.44**	**105**	P	Pn	07 04 51.8	-4.3
XAN				pmax	pmax		
	comp=Z,6.0nm,0.8s						
XAN				LR	LR		
	comp=N,2μm,12.4s						
XAN				LR	LR		
	comp=E,580nm,12.4s						
XAN				LR	LR		
	comp=Z,690nm,13.8s						
BTO	**Baotou**	**11.60**	**71**	*e*P	**Pn**	**07 04 56.4**	**-1.9**
TAPN	**Taplejung**	**12.26**	**215**	*e*P	**Pn**	**07 05 08.6**	**+1.0**
	comp=Z,37nm,0.9s						
SHL	**Shillong**	**12.49**	**196**	*e*P	**Pn**	**07 05 09.1**	**-1.6**
SHL				AMB	AMB	07 05 13.8	
	comp=Z,13nm,1.5s						
GUN	**Gumba**	**12.70**	**223**	*e*P	**Pn**	**07 05 14.5**	**+0.8**
	comp=Z,101nm,1.1s						
JIRN	**Jiri**	**12.74**	**221**	*e*P	**Pn**	**07 05 14.5**	**+0.3**
	comp=Z,92nm,0.8s						
HHC	**Hu-ho-hao-te**	**12.80**	**71**	*e*P	**Pn**	**07 05 15.9**	**+1.2**
HHC				PP	**P**	**07 05 26.3**	**+0.6**
HHC				S	**Sn**	**07 07 39.5**	**+2.5**
HHC				SS	**SnSn**	**07 07 54.3**	**+5.4**
HHC				PcP	**PcP**	**07 10 51.8**	**+1.5**
HHC				ScS	**ScS**	**07 17 57.3**	**-2.0**
HHC				pmax	pmax		
	comp=Z,31nm,0.8s						
HHC				LR	LR		
	comp=N,3μm,7.2s						
HHC				LR	LR		
	comp=E,4μm,6.4s						
HHC				LR	LR		
	comp=Z,3μm,7.3s						
ODAN	**Odare**	**12.82**	**215**	*e*P	**Pn**	**07 05 15.6**	**+0.4**
SONM	**Songino Array**	**12.87**	**35**	Pn	**Pn**	**07 05 17.3**	**+1.6**
SONM				Lg	Lg	07 09 02.1	
SONM	**Songino Array**	**12.87**	**35**	Pn	**Pn**	**07 05 17.3**	**+1.6**
	comp=Z,1.7nm,0.3s,baz=219,slow=15,SNR=38						
SONM				Lg	Lg	07 09 02.1	
	comp=Z,0.2nm,0.3s,baz=232,slow=25,SNR=5.0						
SONM				LR	LR	07 10 36.2	
	comp=Z,3μm,18.6s,baz=182,slow=40						
RAMN	**Ramite**	**13.12**	**218**	*e*P	**Pn**	**07 05 18.6**	**-0.7**
KKN	**Kakani**	**13.12**	**224**	*e*P	**Pn**	**07 05 20.2**	**+0.9**
	comp=Z,26nm,0.7s						
ULN	**Ulaanbaatar**	**13.19**	**36**	*e*Pn	**Pn**	**07 05 21.3**	**+1.2**
	comp=Z,56nm,1.1s						
ULN				*e*Sn	Sn	07 07 53.6	+6.9
PKI	**Pulchoki**	**13.22**	**223**	*e*P	**Pn**	**07 05 20.4**	**-0.4**
PKIN	**Phulchoki**	**13.23**	**223**	*e*P	**Pn**	**07 05 20.7**	**-0.1**
DMN	**Daman**	**13.36**	**224**	*e*P	**Pn**	**07 05 22.3**	**-0.3**
	comp=Z,167nm,1.6s						
MK31	**Makanchi Array**	**13.37**	**317**	Pn	**Pn**	**07 05 21.7**	**-0.7**
	comp=Z,11nm,0.5s,baz=126,slow=13,SNR=293						
MK31				⇑Sn	**Sn**	**07 07 48.2**	**-2.6**
	comp=Z,48nm,0.8s,baz=124,slow=25,SNR=5.8						
MK31				⇓Lg	Lg	07 09 06.5	
	comp=Z,101nm,1.2s,baz=28,slow=12,SNR=12						
MK31	**Makanchi Array**	**13.37**	**317**	*e*P	**Pn**	**07 05 21.9**	**-0.5**
MK31	**Makanchi Array**	**13.37**	**317**	*e*Pn	**Pn**	**07 05 21.9**	**-0.5**
MKAR	**Makanchi Array**	**13.37**	**317**	P	**Pn**	**07 05 21.1**	**-1.3**
MKAR				pmax	pmax		
	comp=Z,9.0nm,0.3s						
MKAR	**Makanchi Array**	**13.37**	**317**	*e*Pn	**Pn**	**07 05 22.1**	**-0.3**
MKAR				Sn	**Sn**	**07 07 46.0**	**-4.7**
MKAR	**Makanchi Array**	**13.37**	**317**	Pn	**Pn**	**07 05 21.1**	**-1.3**
	comp=Z,8.9nm,0.3s,baz=124,slow=14,SNR=167						
MKAR				Sn	**Sn**	**07 07 46.0**	**-4.7**
	comp=Z,1.1nm,0.3s,baz=133,slow=19,SNR=3.5						
HVS	**Khovu-Aksy**	**13.50**	**355**	*e*P	**Pn**	**07 05 24.6**	**+0.4**
DANN	**Dangsing**	**13.59**	**230**	*e*P	**Pn**	**07 05 26.5**	**+0.8**
ENH	**Enshi**	**13.72**	**119**	*e*Pn	**Pn**	**07 05 25.2**	**-2.0**
	comp=Z,130nm,1.2s						
ZAK	**Zakamensk**	**13.83**	**21**	*e*P	**Pn**	**07 05 31.7**	**+2.9**
ZAK				*e*		07 08 07.5	
ZAK				pmax	pmax		
	comp=Z,30nm,1.4s						
KMI	**Kunming**	**13.95**	**152**	P	**Pn**	**07 05 28.4**	**-2.2**
KMI				pP	P	07 05 33.3	-5.4
KMI				sP		07 05 35.5	
KMI				PP	**PnPn**	**07 05 43.0**	**+4.4**
KMI				S	**Sn**	**07 08 07.8**	**+2.4**
KMI				pmax	pmax		
	comp=Z,18nm,0.9s						
KMI				pmax	pmax		
	comp=Z,1μm,9.9s						
KMI				LR	LR		
	comp=N,3μm,10.2s						
KMI				LR	LR		
	comp=E,2μm,10.8s						
KMI				LR	LR		
	comp=Z,2μm,8.4s						
KOLN	**Koldanda**	**14.11**	**229**	*e*P	**Pn**	**07 05 32.4**	**-0.3**
	comp=Z,28nm,0.9s						
MOY	**Mondy**	**14.48**	**14**	*e*P	**P**	**07 05 41.6**	**-2.8**
MOY				pmax	pmax		
	comp=Z,100nm,3.2s						
GYA	**Guiyang**	**14.62**	**137**	⇑*i*P	**Pn**	**07 05 37.3**	**-2.5**
GYA				PP	**PnPn**	**07 05 48.5**	**+0.8**
GYA				S	**Sn**	**07 08 16.6**	**-5.1**
GYA				pmax	pmax		
	comp=Z,40nm,1.0s						
GYA				pmax	pmax		
	comp=Z,90nm,4.4s						
GYA				LR	LR		
	comp=N,2μm,9.1s						
GYA				LR	LR		
	comp=E,2μm,9.7s						
GYA				LR	LR		
	comp=Z,4μm,13.1s						
TLY	**Talaya**	**15.10**	**20**	*e*P	**P**	**07 05 49.1**	**-2.1**
TLY				pmax	pmax		
	comp=Z,43nm,1.3s						
TLY				MLR	MLR		
	comp=Z,3μm,10.0s						
KSH	**Kashi**	**15.42**	**283**	P	**P**	**07 05 54.8**	**-0.1**
KSH				pP	**pP**	**07 05 58.3**	**-0.6**
KSH				PP	PP	07 06 07.3	
KSH				S	Sn	07 08 49.0	+8.0
KSH				SS	SS	07 09 07.3	
KSH				pmax	pmax		
	comp=Z,61nm,1.5s						
KSH				pmax	pmax		
	comp=Z,920nm,8.7s						
KSH				LR	LR		
	comp=N,750nm,3.8s						
KSH				LR	LR		
	comp=E,860nm,3.2s						
KSH				LR	LR		
	comp=Z,800nm,7.1s						
IRK	**Irkutsk**	**15.78**	**20**	*e*P	**Pn**	**07 05 56.6**	**+1.8**
IRK				pmax	pmax		
	comp=Z,193nm,1.6s						
TKM2	**Tokmak 2**	**16.08**	**295**	*e*P	**Pn**	**07 05 58.1**	**-0.9**
TKM2				*e*		07 08 53.9	
TKM2				pmax	pmax		
	comp=Z,37nm,0.8s						
TKM2	**Tokmak 2**	**16.08**	**295**	*e*P	**Pn**	**07 05 58.1**	**-0.9**
	comp=Z,37nm,0.8s						
TKM2				*e*Sn	**Sn**	**07 08 53.9**	**-3.3**
BOK	**Bokaro**	**16.15**	**214**	*e*P	**Pn**	**07 05 55.8**	**-3.9**
BJT	**Baijiatuau**	**16.22**	**75**	*e*P	**Pn**	**07 06 01.2**	**+0.7**
	comp=Z,124nm,0.9s						
BJT				*e*PcP	**PcP**	**07 10 53.3**	**-1.5**
BJI	**Beijing**	**16.23**	**75**	P	**Pn**	**07 06 00.3**	**-0.3**
BJI				S	**Sn**	**07 09 00.6**	**+0.3**
BJI				pmax	pmax		
	comp=Z,71nm,1.1s						
BJI				pmax	pmax		
	comp=Z,2μm,12.0s						
BJI				LR	LR		
	comp=N,3μm,11.9s						
BJI				LR	LR		
	comp=E,3μm,21.6s						
BJI				LR	LR		
	comp=Z,630nm,19.4s						
SMLA	**Simla**	**16.52**	**252**	*e*P	**Pn**	**07 06 04.3**	**-0.1**
SMLA				AMB	AMB	07 06 14.8	
	comp=Z,61nm,0.7s						
DHRM	**DHARAMSHALA**	**16.69**	**257**	*e*P	**Pn**	**07 06 07.0**	**+0.3**
DHRM				AMB	AMB	07 06 19.8	
	comp=Z,114nm,2.9s						
AAK	**Ala-Archa**	**16.82**	**294**	P	**P**	**07 06 10.0**	**-0.5**
	comp=Z,174nm,0.8s,SNR=7.5						
AAK	**Ala-Archa**	**16.82**	**294**	⇑*i*P	**Pn**	**07 06 09.5**	**+1.1**
AAK				pmax	pmax		
	comp=Z,89nm,1.3s						
AAK	**Ala-Archa**	**16.82**	**294**	*e*P	**Pn**	**07 06 09.5**	**+1.1**
	comp=Z,23nm,0.8s						
AAK	**Ala-Archa**	**16.82**	**294**	Pn	**P**	**07 06 09.8**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=106,slow=11,SNR=10.0						
WHN	**Wuhan**	**17.11**	**109**	P	**Pn**	**07 06 10.5**	**-1.3**
TIA	**Tai'an**	**17.30**	**88**	*e*P	**Pn**	**07 06 12.3**	**-2.0**
TIA				pmax	pmax		
	comp=Z,30nm,1.5s						
TIA				LR	LR		
	comp=N,5μm,14.2s						
TIA				LR	LR		
	comp=E,3μm,14.7s						
TIA				LR	LR		
	comp=Z,3μm,12.7s						
EKS2	**Erkin-Say**	**17.35**	**293**	*e*P	**P**	**07 06 15.9**	**-0.4**
EKS2				pmax	pmax		
	comp=Z,92nm,2.0s						
EKS2	**Erkin-Say**	**17.35**	**293**	*e*Pn	**P**	**07 06 15.9**	**-0.4**
	comp=Z,92nm,2.0s						
KURBB	**Kurchatov Arra**	**17.72**	**322**	⇓Pn	**P**	**07 06 19.9**	**-0.3**
	comp=Z,28nm,0.8s						
KURBB				⇑Sn	**Sn**	**07 09 30.8**	**-5.7**
	comp=Z,57nm,0.9s						
KURBB				⇓Lg	Lg	07 11 22.9	
	comp=Z,109nm,1.1s						
KURBB	**Kurchatov Arra**	**17.72**	**322**	P	**Pn**	**07 06 18.4**	**-0.9**
	comp=Z,1.0nm,0.3s,baz=131,slow=11,SNR=12						
KURBB				S	**Sn**	**07 09 35.5**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=124,slow=28,SNR=3.8						
KURBB				Lg	Lg	07 11 41.2	
	baz=129,slow=28,SNR=5.4						
KURK	**Kurchatov**	**17.74**	**323**	P	**Pn**	**07 06 18.4**	**-1.2**
KURK				S	**Sn**	**07 09 35.5**	**-1.4**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KURK	**Kurchatov**	**17.74**	**323**	P	**Pn**	**07 06 18.4**	**-1.2**
KURK				S	**Sn**	**07 09 35.5**	**-1.4**
KURK				Lg	Lg	07 11 41.2	
ZALV	**Zalesovo Beam**	**17.86**	**339**	P	**Pn**	**07 06 19.5**	**-1.5**
ZALV	**Zalesovo Beam**	**17.86**	**339**	P	**Pn**	**07 06 19.5**	**-1.5**
ZALV				Lg	Lg	07 11 48.6	
ZALV	**Zalesovo Beam**	**17.86**	**339**	P	**Pn**	**07 06 19.5**	**-1.5**
	comp=Z,0.4nm,0.3s,baz=154,slow=11,SNR=15						
ZALV				Lg	Lg	07 11 48.6	
	baz=135,slow=27,SNR=5.1						
CHCP	**Chirah Chowk**	**18.55**	**264**	P	**Pn**	**07 06 31.1**	**+1.5**
CHTO	**Chiang Mai**	**19.05**	**170**	*e*P	**P**	**07 06 35.2**	**+0.2**
CHTO				pmax	pmax		
	comp=Z,369nm,2.9s						
CHTO	**Chiang Mai**	**19.05**	**170**	*e*P	**P**	**07 06 35.2**	**+0.2**
	comp=Z,369nm,2.9s						
CHTO	**Chiang Mai**	**19.05**	**170**	P	**Pn**	**07 06 35.4**	**-0.4**
	comp=Z,33nm,1.2s						
CHTO	**Chiang Mai**	**19.05**	**170**	P	**Pn**	**07 06 35.4**	**-0.4**
	comp=Z,33nm,1.2s						
NVS	**Novosibirsk**	**19.09**	**338**	*e*P	**Pn**	**07 06 35.7**	**-0.3**
NVS				*e*S	**Sn**	**07 10 09.3**	**-0.2**
NVS				pmax	pmax		
	comp=N,58nm,1.6s						
NVS				pmax	pmax		
	comp=E,37nm,1.6s						
NVS				pmax	pmax		
	comp=Z,59nm,1.6s						
NVS				smax	smax		
	comp=E,60nm,2.1s						
NVS				smax	smax		
	comp=N,37nm,1.9s						
CIT	**Chita**	**19.10**	**36**	*e*P	**Pn**	**07 06 37.2**	**+1.0**
CM31	**Chiang Mai Arr**	**19.40**	**170**	*e*P	**Pn**	**07 06 39.5**	**-0.5**
	comp=N,18nm,0.8s						
CMAR	**Chiang Mai Arr**	**19.40**	**170**	P	**P**	**07 06 38.9**	**+0.1**
CMAR	**Chiang Mai Arr**	**19.40**	**170**	P	**P**	**07 06 38.9**	**+0.1**
	comp=N,0.5nm,0.3s,baz=342,slow=9.3,SNR=7.4						
CEP	**Cherat**	**19.56**	**266**	P	**Pn**	**07 06 42.7**	**+0.

comp=N,790nm,9.4s
QIZ LR LR
comp=Z,1μm,12.0s
QIZ Qiongzhong 22.40 142 *e*P **P 07 07 10.3 -0.9**
comp=Z,82nm,1.4s
VIS Vishakhapatnam 22.62 212 *e*P **P 07 07 13.7 +0.1**
VOSK Vostochnaya 22.76 319 *e*P **P 07 07 15.4 +0.5**
VOSK pmax pmax
comp=Z,149nm,1.8s
VOSK Vostochnaya 22.76 319 *e*P **P 07 07 15.4 +0.5**
comp=Z,149nm,1.8s
BVAR Borovoye Array 23.23 319 P **P 07 07 20.1 +0.4**
BVAR pmax pmax
comp=Z,6.0nm,0.7s
BVAR Borovoye Array 23.23 319 P **P 07 07 20.1 +0.4**
BVAR Borovoye Array 23.23 319 P **P 07 07 20.1 +0.4**
comp=Z,6.5nm,0.7s,baz=128,slow=11,SNR=12
BRVK Borovoye 23.30 319 *e*P **P 07 07 20.9 +0.5**
BRVK pmax pmax
comp=Z,20nm,0.9s
BRVK Borovoye 23.30 319 *e*P **P 07 07 20.9 +0.5**
comp=Z,20nm,0.9s
AKL Akola 23.36 229 *e*P **P 07 07 20.5 -0.7**
AKL AMB AMB 07 07 28.9
comp=Z,29nm,0.7s
QZH Quanzhou 23.36 116⇑ *i*P **P 07 07 17.4 -3.8**
QZH pmax pmax
comp=Z,300nm,1.7s
CN2 Changchun 23.37 65 *e*P **P 07 07 20.8 -0.4**
CN2 pmax pmax
comp=Z,30nm,0.8s
CN2 pmax pmax
comp=Z,230nm,5.0s
CN2 LR LR
comp=N,2μm,13.0s
CN2 LR LR
comp=E,2μm,13.0s
CN2 LR LR
comp=Z,2μm,12.0s
UBPT Khong Chiam 24.00 156 P **P 07 07 26.7 -0.7**
comp=Z,108nm,1.0s
UBPT Khong Chiam 24.00 156 P **P 07 07 26.7 -0.7**
comp=Z,108nm,1.0s
HYB Hyderabad 25.13 221 *i*P **P 07 07 40.0 +2.2**
TJN Taejon 25.36 83 *e*P **P 07 07 38.0 -1.8**
LATR Latur 25.41 226 *ex* P 07 07 35.0 -5.3
YHNB Yeheng 25.53 113 *e*P **P 07 07 40.8 -0.7**
comp=Z,18nm,0.6s
KSAR Wonju Array Be 25.56 81 P **P 07 07 40.3 -1.2**
KSRS Korea Array 25.59 81 P **P 07 07 40.3 -1.4**
comp=Z,25nm,0.9s,baz=274,slow=9.3,SNR=37
SSLB Suanglung 25.76 115 *e*P **P 07 07 43.5 0.0**
comp=Z,30nm,1.0s
NACB Ninganchiao 25.98 114 *e*P **P 07 07 46.1 +0.6**
comp=Z,40nm,0.8s
MDJ Mudanjiang 26.40 64 P **P 07 07 49.9 +0.8**
MDJ pP **pP 07 07 52.8 -0.6**
MDJ PcP **PcP 07 11 15.1 +0.8**
MDJ S **S 07 12 27.8 +5.8**
MDJ pmax pmax
comp=Z,7.0nm,0.6s
MDJ pmax pmax
comp=Z,1μm,9.2s
MDJ LR LR
comp=N,1μm,9.4s
MDJ LR LR
comp=E,840nm,9.7s
MDJ LR LR
comp=Z,1μm,13.7s
TWG Pinlang 26.45 117 *e*P **P 07 07 50.4 +0.6**
comp=Z,168nm,1.0s
POO Poona 26.93 231 *e*P **P 07 07 53.6 -0.5**
ABKAR Akbulak array 28.05 306 *e*P **P 07 08 05.3 +1.5**
comp=Z,2.3nm,0.9s
USRK Ussuriysk Arra 28.10 65 P **P 07 08 03.0 -1.4**
comp=Z,5.2nm,0.9s,baz=272,slow=4.2,SNR=7.1
KLR Kul'dur 28.42 54 *e*P P 07 08 02.9 -4.2
AKTO Aktyubinsk 29.50 308 P **P 07 08 17.4 +0.7**
AKTO pmax pmax
comp=Z,6.0nm,1.0s
AKTO Aktyubinsk 29.50 308 P **P 07 08 17.4 +0.7**
AKTO Aktyubinsk 29.50 308 P **P 07 08 17.4 +0.7**
comp=Z,6.4nm,1.0s,baz=104,slow=4.2,SNR=10
ARU Arti 30.88 319*c i*P **P 07 08 29.6 +0.8**
ARU S **S 07 13 34.9 +2.8**
ARU pmax pmax
comp=Z,18nm,1.7s
MJAR Matsushiro Arr 33.82 79 P **P 07 08 52.5 -2.3**
MJAR PcP **PcP 07 11 32.7 -1.1**
MJAR Matsushiro Arr 33.82 79 P **P 07 08 52.5 -2.3**
comp=Z,1.6nm,0.8s,baz=285,slow=9.5,SNR=4.7
MJAR PcP **PcP 07 11 32.7 -1.1**
comp=Z,1.6nm,0.8s,baz=298,slow=2.6,SNR=5.0
PSI Prapat 34.87 174 P **P 07 09 03.8 -0.4**
PSI Prapat 34.87 174 P **P 07 09 03.8 -0.4**
comp=Z,4.3nm,0.8s,baz=341,slow=15,SNR=4.6
ASAJ Asahikawa 35.73 65 *e*P **P 07 09 11.0 -0.2**
comp=Z,11nm,0.9s
ASAJ Asahikawa 35.73 65 P **P 07 09 09.8 -1.5**
comp=Z,19nm,0.8s,baz=270,slow=8.4,SNR=11
ERM Erimo 36.42 68 *i*P **P 07 09 18.1 +0.9**
KKM Kota Kinabalu 36.70 144 *e*P **P 07 09 19.4 -0.4**
comp=Z,55nm,1.0s
KKM Kota Kinabalu 36.70 144 P **P 07 09 20.1 +0.2**
comp=Z,60nm,1.1s
TIXI Tiksi 38.04 16⇑ *i*P **P 07 09 30.4 -0.2**
TIXI pmax pmax
comp=Z,8.0nm,1.0s
SBUM Sibu 38.27 152 *e*P **P 07 09 33.7 +0.6**
comp=Z,31nm,1.0s
SBUM Sibu 38.27 152 P **P 07 09 33.8 +0.6**
comp=Z,32nm,1.0s
KSM Kuching 38.52 156 *e*P **P 07 09 35.2 0.0**
comp=Z,17nm,0.7s
KSM Kuching 38.52 156 P **P 07 09 35.8 +0.6**
comp=Z,24nm,1.0s
MYLDM Lahad Datu 38.54 141 P **P 07 09 37.0 +1.6**
comp=Z,165nm,1.2s
VRHR Novokhopersk 39.91 307 *e*P **P 07 09 46.6 +0.2**
VRHR pmax pmax
comp=Z,10.0nm,0.6s
VRHR pmax pmax
comp=N,10.0nm,1.1s
VRHR pmax pmax
comp=E,20nm,1.6s
KIV Kislovodsk 39.92 296⇑ *i*P **P 07 09 49.4 +2.6**
KIV pmax pmax
comp=Z,13nm,1.0s
VORD Divnogorie 41.38 307 *e*P **P 07 09 59.1 +0.5**
VORD pmax pmax
comp=Z,8.0nm,0.7s
VORD pmax pmax
comp=N,10.0nm,0.8s
VORD pmax pmax
comp=E,10.0nm,1.0s
KLMR Klimovskoe 41.59 322 *e*P **P 07 10 00.7 +0.5**
KLMR pmax pmax
comp=Z,32nm,1.5s
MOS Moscow 42.24 315 *e*P **P 07 10 06.4 +0.8**
SEY Seymchan 42.26 35⇑ *e*P **P 07 10 06.1 +0.4**
OBN Obninsk 42.84 314⇑ *i*P P 07 10 14.0 +3.5
OBN pmax pmax
comp=Z,22nm,1.2s
PETK Petropavlovsk- 44.82 49 P **P 07 10 25.7 -0.8**
PETK pmax pmax
comp=Z,4.0nm,0.9s
PETK Petropavlovsk- 44.82 49 P **P 07 10 25.7 -0.8**
PETK Petropavlovsk- 44.82 49 P **P 07 10 25.7 -0.8**
comp=Z,3.6nm,0.9s,baz=242,slow=6.1,SNR=5.5
APA Apatity 45.21 331⇓ *e*P P 07 10 33.0 +3.7
APA MLR MLR
comp=Z,2μm,13.0s
BR131 Keskin Array S 47.50 293 *e*P **P 07 10 49.4 +1.5**
comp=Z,1.8nm,0.5s
BRTR Keskin Array B 47.50 293 P **P 07 10 48.7 +0.8**
BRTR Keskin Array B 47.50 293 P **P 07 10 48.7 +0.8**
comp=Z,2.3nm,0.6s,baz=96,slow=7.0,SNR=11
ASF Jabal al Asfar 47.73 282 P **P 07 10 50.5 +0.8**
ASF Jabal al Asfar 47.73 282 P **P 07 10 50.5 +0.8**
comp=Z,2.2nm,0.7s,baz=342,slow=3.2,SNR=4.0
AKASG Malin Array Be 47.74 308 P **P 07 10 49.6 +0.1**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 47.74 308 P **P 07 10 49.6 +0.1**
AKASG Malin Array Be 47.74 308 P **P 07 10 49.6 +0.1**
comp=Z,0.7nm,0.3s,baz=67,slow=7.6,SNR=9.2

KIEV Kiev 47.76 308 *e*P **P 07 10 50.1 +0.6**
KIEV pmax pmax
comp=Z,10.0nm,1.0s
KIEV Kiev 47.76 308 *e*P **P 07 10 50.1 +0.6**
comp=Z,9.6nm,1.0s
KAPI Kappang 48.09 147 P **P 07 10 51.3 -1.2**
KAPI Kappang 48.09 147 P **P 07 10 51.3 -1.2**
comp=Z,12nm,0.8s,baz=322,slow=6.3,SNR=4.2
FINES FINESS Array B 48.11 323 P **P 07 10 52.7 +0.6**
FINES FINESS Array B 48.11 323 P **P 07 10 52.7 +0.6**
comp=Z,5.3nm,1.1s,baz=67,slow=6.4,SNR=5.6
ARCES ARCESS Array B 48.30 334 P **P 07 10 53.7 +0.2**
ARCES PcP **PcP 07 12 19.7 -0.4**
ARCES ARCESS Array B 48.30 334 P **P 07 10 53.7 +0.2**
comp=Z,3.2nm,0.9s,baz=83,slow=7.4,SNR=4.3
ARCES PcP **PcP 07 12 19.7 -0.4**
comp=Z,2.9nm,0.7s,baz=86,slow=4.6,SNR=7.9
MMAI Mount Meron Ar 48.56 284 P **P 07 10 56.8 +0.7**
MMAI Mount Meron Ar 48.56 284 P **P 07 10 56.8 +0.7**
comp=Z,0.5nm,0.3s,baz=78,slow=7.8,SNR=3.6
BUR08 Bucovina Ar. S 51.03 305 *e*P **P 07 11 15.6 +0.8**
HFS Hagfors 54.31 322 P **P 07 11 39.2 +0.5**
HFS Hagfors 54.31 322 P **P 07 11 39.2 +0.5**
comp=Z,1.7nm,0.5s,baz=96,slow=5.8,SNR=7.3
MORC Moravsky Berou 55.22 309 *e*P **P 07 11 46.4 +0.9**
MORC pmax pmax
comp=Z,12nm,1.4s
MORC Moravsky Berou 55.22 309 *e*P **P 07 11 46.4 +0.9**
comp=Z,12nm,1.4s
NB2 NORSAR Subarra 55.25 324 P **P 07 11 45.3 -0.2**
comp=Z,11nm,0.6s,baz=71,slow=7.4
NOA NORSAR Array B 55.25 324 P **P 07 11 45.5 -0.1**
NOA NORSAR Array B 55.25 324 P **P 07 11 45.5 -0.1**
comp=Z,2.0nm,0.7s,baz=73,slow=7.1,SNR=7.5
IDI Anoyia 55.60 291 *e*P **P 07 11 49.0 +0.6**
comp=Z,11nm,0.9s
DPC Dobruska-Polom 55.77 310 *e*P **P 07 11 51.5 +2.0**
DPC pmax pmax
comp=Z,417nm,2.4s
DPC Dobruska-Polom 55.77 310 *e*P **P 07 11 51.5 +2.0**
comp=Z,417nm,2.4s
CONA Conrad Observa 56.90 308⇓ *is*P **P 07 11 59.5 +1.9**
comp=Z,5.2nm,0.9s
BRG Berggiesshubel 57.02 312 *e*P P 07 12 02.3 +4.1
comp=Z,15nm,1.6s
BRG Berggiesshubel 57.02 312 *e*P P 07 12 02.3 +4.1
BRG pmax pmax
comp=Z,15nm,1.6s
ARSA Arzberg 57.36 307⇓ *ip*P **P 07 12 02.2 +1.3**
comp=Z,5.6nm,1.2s
CLL Collm 57.41 312 *e*P **P 07 12 02.0 +0.9**
CLL pmax pmax
comp=Z,9.0nm,1.3s
CLL Collm 57.41 312 *e*P **P 07 12 02.0 +0.9**
comp=Z,9.0nm,1.3s
SOKA Soboth 57.89 307⇓ *i*P **P 07 12 04.4 -0.2**
comp=Z,11nm,1.2s
GERES GERESS Array B 57.90 309 P **P 07 12 05.6 +0.9**
GERES GERESS Array B 57.90 309 P **P 07 12 05.6 +0.9**
comp=Z,0.8nm,0.7s,baz=78,slow=6.3,SNR=8.9
BOJS Bojanci 58.21 305 *i*P **P 07 12 08.4 +1.7**
VISS Visnje 58.35 306 *i*P **P 07 12 08.9 +1.1**
JAVS Javornik 58.82 306 *i*P **P 07 12 10.2 -0.9**
WTTA Wattenberg 59.80 308⇑ *ip*P **P 07 12 19.3 +1.3**
comp=Z,16nm,1.3s
MOTA Moosalm 60.09 309⇓ *i*P **P 07 12 21.1 +1.1**
comp=Z,8.1nm,0.9s
RETA Reutte 60.24 309⇓ *e*pP **P 07 12 22.2 +1.3**
comp=Z,6.9nm,1.0s
CDF Champ du Feu 61.97 311 *e*P **P 07 12 33.1 +0.5**
CDF Champ du Feu 61.97 311 *e*P **P 07 12 33.1 +0.5**
CDF Champ du Feu 61.97 311 *e*P **P 07 12 33.1 +0.5**
CDF Champ du Feu 61.97 311 *e*P **P 07 12 33.1 +0.5**
FITZ Fitzoy Crossi 62.31 147 *e*P **P 07 12 34.1 -0.9**
comp=Z,26nm,1.0s
FITZ Fitzroy Crossi 62.31 147 P **P 07 12 34.0 -0.9**
comp=Z,18nm,1.0s,baz=338,slow=6.9,SNR=18
HAU Haudompre 62.70 311 *e*P **P 07 12 38.0 +0.5**
HAU Haudompre 62.70 311 *e*P **P 07 12 38.0 +0.5**
HAU Haudompre 62.70 311 *e*P **P 07 12 38.0 +0.5**
HAU Haudompre 62.70 311 *e*P **P 07 12 38.0 +0.5**
MBWA Marble Bar 62.81 155 *e*P **P 07 12 38.1 -0.2**
comp=Z,45nm,1.0s
LPG La Plagne 63.61 308 *e*P **P 07 12 45.0 +1.2**
comp=Z,20nm,0.9s
LPG La Plagne 63.61 308 *e*P **P 07 12 45.0 +1.2**
LPG pmax pmax
comp=Z,20nm,0.9s
LPG La Plagne 63.61 308 *e*P **P 07 12 45.0 +1.2**
comp=Z,20nm,0.9s
IMA2 Indian Mountai 63.81 25 *e*P **P 07 12 45.2 +0.6**
COLD Coldfoot 64.27 23 *e*P **P 07 12 48.5 +1.0**
comp=Z,16nm,1.0s
ORIF Oris-en-Rattie 64.42 308 *e*P **P 07 12 49.5 +0.5**
comp=Z,23nm,1.1s
ORIF Oris-en-Rattie 64.42 308 *e*P **P 07 12 49.5 +0.5**
ORIF pmax pmax
comp=Z,23nm,1.1s
ORIF Oris-en-Rattie 64.42 308 *e*P **P 07 12 49.5 +0.5**
comp=Z,23nm,1.1s
LOR Lormes 64.54 311 *e*P **P 07 12 49.6 0.0**
LOR Lormes 64.54 311 *e*P **P 07 12 49.6 0.0**
LOR Lormes 64.54 311 *e*P **P 07 12 49.6 0.0**
SMF Signal de Mont 64.85 310 *e*P **P 07 12 52.0 +0.4**
SMF Signal de Mont 64.85 310 *e*P **P 07 12 52.0 +0.4**
SMF Signal de Mont 64.85 310 *e*P **P 07 12 52.0 +0.4**
BPAW Bear Paw Mtn. 65.89 26 *e*P **P 07 12 59.0 +0.9**
comp=Z,16nm,1.0s
CAST Castle Rocks 65.91 27 *e*P **P 07 12 58.1 -0.1**
comp=Z,7.5nm,0.9s
SVW2 Sparrevohn 65.94 30 *e*P **P 07 12 59.0 +0.6**
comp=Z,21nm,1.1s
TCF Toulx Ste Croi 66.01 311 *e*P **P 07 12 59.8 +0.7**
comp=Z,24nm,1.0s
TCF Toulx Ste Croi 66.01 311 *e*P **P 07 12 59.8 +0.7**
TCF pmax pmax
comp=Z,24nm,1.0s
TCF Toulx Ste Croi 66.01 311 *e*P **P 07 12 59.8 +0.7**
comp=Z,24nm,1.0s
KMBO Kilima Mbogo 66.12 248 *e*P **P 07 13 01.7 +1.2**
comp=Z,6.0nm,1.3s
KMBO Kilima Mbogo 66.12 248 P **P 07 13 01.1 +0.5**
comp=Z,0.9nm,0.3s,baz=53,slow=11,SNR=4.3
PPLA Purkeypile 66.19 28 *e*P **P 07 13 00.8 +0.7**
comp=Z,72nm,1.5s
COLA College 66.48 25 *e*P **P 07 13 02.3 +0.6**
COLA pmax pmax
comp=Z,16nm,1.0s
COLA College 66.48 25 *e*P **P 07 13 02.3 +0.6**
comp=Z,16nm,1.0s
ILAR Eielson Array 66.86 24 P **P 07 13 03.7 -0.6**
ILAR Eielson Array 66.86 24 P **P 07 13 03.7 -0.6**
comp=Z,4.7nm,0.9s,baz=292,slow=6.1,SNR=31
PMG Port Moresby 67.22 123 P **P 07 13 05.9 -1.3**
PMG Port Moresby 67.22 123 P **P 07 13 05.9 -1.3**
comp=Z,30nm,1.1s,baz=334,slow=9.3,SNR=3.2
RSO Redoubt South 67.44 30 *e*P **P 07 13 09.0 +0.8**
WRAB Tennant Creek 67.96 141 P **P 07 13 10.5 -1.2**
comp=Z,191nm,1.2s,SNR=11
WRAB Tennant Creek 67.96 141 *e*P **P 07 13 10.6 -1.2**
WRAB pmax pmax
comp=Z,44nm,1.1s
WRAB Tennant Creek 67.96 141 *e*P **P 07 13 10.6 -1.2**
comp=Z,44nm,1.1s
WRA Warramunga Arr 67.96 141 P **P 07 13 10.5 -1.2**
WRA Warramunga Arr 67.96 141 P **P 07 13 10.5 -1.2**
comp=Z,22nm,0.9s,baz=340,slow=6.5,SNR=63
PMR Palmer 68.12 28 *e*P **P 07 13 12.5 +0.3**
PMR pmax pmax
comp=Z,19nm,1.0s
PMR Palmer 68.12 28 *e*P **P 07 13 12.5 +0.3**
comp=Z,19nm,1.0s
EGAK Eagle 68.67 23 *e*P **P 07 13 15.6 -0.1**
comp=Z,10nm,0.9s
DAWY Dawson 69.72 23 *e*P **P 07 13 22.0 -0.3**
BMRM Bremner River 70.18 27 *e*P **P 07 13 26.0 +0.9**
comp=Z,21nm,1.0s
AS31 Alice Springs 70.89 143 *e*P **P 07 13 29.2 -0.7**
ASAR Alice Springs 70.89 143 P **P 07 13 29.1 -0.7**
ASAR Alice Springs 70.89 143 P **P 07 13 29.1 -0.7**
comp=Z,11nm,0.9s,baz=333,slow=6.0,SNR=71
OPO Ambohidratompo 72.12 228 P **P 07 13 38.3 +0.8**
OPO Ambohidratompo 72.12 228 P **P 07 13 38.3 +0.8**
comp=Z,5.0nm,0.9s,baz=63,slow=4.5,SNR=4.1
HYT Haines Junctio 72.70 24 *e*P **P 07 13 41.5 +1.1**
ESDC Sonseca Array 73.38 307 P **P 07 13 45.6 +0.9**

ESDC Sonseca Array 73.38 307 P **P 07 13 45.6 +0.9**
comp=Z,0.6nm,0.4s,baz=50,slow=5.7,SNR=6.7
SKAG Skagway 74.45 24 *e*P **P 07 13 51.8 +1.2**
comp=Z,12nm,1.0s
FORT Forrest 74.59 151 *e*P **P 07 13 51.2 -0.4**
comp=Z,44nm,0.7s
CTAO Charters Tower 74.67 131 *e*P **P 07 13 51.9 -0.5**
CTAO pmax pmax
comp=Z,59nm,1.3s
CTAO Charters Tower 74.67 131 *e*P **P 07 13 51.9 -0.5**
comp=Z,59nm,1.3s
YKA Yellowknife Ar 77.24 14 P **P 07 14 05.8 -0.6**
YKA Yellowknife Ar 77.24 14 P **P 07 14 05.8 -0.6**
comp=Z,3.4nm,0.8s,baz=334,slow=5.4,SNR=4.7
STKA Stephens Creek 81.46 142 *e*P **P 07 14 29.1 -0.7**
comp=Z,4.2nm,1.0s
STKA Stephens Creek 81.46 142 P **P 07 14 28.3 -1.5**
comp=Z,20nm,1.0s,baz=338,slow=6.8,SNR=16
EIDS Eidsvold 81.56 131 *e*P **P 07 14 29.9 -0.5**
comp=Z,14nm,0.9s
LSZ Lusaka 82.23 244 P **P 07 14 34.3 0.0**
LSZ Lusaka 82.23 244 P **P 07 14 34.3 0.0**
comp=Z,2.1nm,0.8s,baz=31,slow=5.9,SNR=4.7
TORD Torodi Ar. Bea 85.09 283 P **P 07 14 48.6 -0.3**
TORD Torodi Ar. Bea 85.09 283 P **P 07 14 48.6 -0.3**
comp=Z,2.8nm,1.0s,baz=39,slow=4.6,SNR=12
EDM Edmonton 86.04 17 *e*P **P 07 14 52.9 -0.3**
EDM Edmonton 86.04 17 *e*P **P 07 14 52.9 -0.3**
B08A Colville Reser 88.87 22 *e*P **P 07 15 07.5 +0.6**
comp=Z,39nm,2.0s
NEW Newport 89.60 21 *e*P **P 07 15 11.0 +0.7**
comp=Z,8.2nm,1.3s
NEW Newport 89.60 21 P **P 07 15 10.7 +0.4**
baz=89
C09A Chrisman Ranch 89.68 22 *e*P **P 07 15 11.6 +0.9**
comp=Z,11nm,1.0s
BLMT Blacktail Moun 90.59 20 *e*P **P 07 15 16.5 +1.3**
BSMT Bassoo Peak 90.63 20 *e*P **P 07 15 16.3 +1.0**
comp=Z,13nm,1.6s
JTMT Jette 90.86 20 *e*P **P 07 15 17.0 +0.7**
SWMT Swartz Lake 91.15 20 *e*P **P 07 15 18.4 +0.7**
B19A Brinkman Farms 91.49 16 P **P 07 15 19.0 -0.1**
baz=91
SLMT Seeley Lake 91.53 19 *e*P **P 07 15 19.7 +0.2**
comp=Z,14nm,1.4s
F10A Beach Ranch, E 91.64 22 *e*P **P 07 15 21.0 +1.1**
comp=Z,85nm,2.7s
MSO Missoula 91.79 20 *e*P **P 07 15 21.4 +0.8**
comp=Z,28nm,1.8s
MSO Missoula 91.79 20 P **P 07 15 20.9 +0.3**
baz=92
B21A Ellsworth Farm 91.93 15 P **P 07 15 21.0 -0.1**
baz=92
A24A Westby 92.02 13 P **P 07 15 21.2 -0.3**
baz=92
A26A Wade Farm, Ken 92.37 12 P **P 07 15 23.4 +0.2**
baz=92
DGMT Dagmar 92.42 13 P **P 07 15 23.5 +0.1**
baz=92
A29A Manning Farm, 92.76 10 P **P 07 15 25.0 +0.1**
baz=92
D22A Cohagen 93.31 15 P **P 07 15 27.3 -0.3**
baz=93
E19A Rath Farm, Rou 93.41 17 P **P 07 15 27.6 -0.4**
baz=93
J08A Circle Bar Ran 93.60 24 *e*P **P 07 15 29.7 +0.6**
comp=Z,4.8nm,1.0s
F19A Roth Farm, Mol 93.95 17 P **P 07 15 30.5 -0.1**
baz=94
LIC Lamto 94.55 281 *e*P **P 07 15 32.4 -1.3**
LIC Lamto 94.55 281 *e*P **P 07 15 32.4 -1.3**
D30A Buchanan 94.60 10 P **P 07 15 33.0 -0.4**
baz=94
IMW Indian Meadow 95.30 19 *e*P **P 07 15 37.5 +0.5**
comp=Z,3.8nm,1.0s
VNDA Vanda 121.67 166 PKP **PKPdf 07 21 03.7 -1.5**
VNDA Vanda 121.67 166 PKP **PKPdf 07 21 03.7 -1.5**
comp=Z,1.4nm,0.8s,baz=309,slow=4.7,SNR=9.8
QSPA South Pole Qui 127.47 180 *e*PKPdf **PKPdf 07 21 15.0 -1.6**
QSPA PKP **PKPdf 07 21 15.4 -1.2**
QSPA South Pole Qui 127.47 180 PKP **PKPdf 07 21 15.4 -1.2**
comp=Z,8.9nm,1.1s,baz=292,slow=1.7,SNR=14
SNAA Sanae 127.90 203 *e*P **PKPdf 07 21 16.8 -0.5**
VNA2 Neumayer--Watz 129.31 204 *e*P **PKPdf 07 21 20.4 +0.5**
SAML Samuel 145.53 321 *e*PKPdf **PKPdf 07 21 51.3 -0.1**
LPAZ La Paz 154.27 322 *e*PKPdf **PKPdf 07 22 06.6 +0.8**

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*ISCJB **18** 07:07:28.1±0.9, 34°.41N±0°.04×32°.13E±0°.08, h24km±9km, Error ellipse: s-maj=12.3km s-min=6.0km az=20.3*
*NIC **18** 07:07:28.5±0.1, 34°.49N×32°.07E, h21km, ML2.8, MW3.1*
*CSEM **18** 07:07:29.0±0.2, 34°.47N×32°.14E, h20km, Mw3.1, Error ellipse: s-maj=5.2km s-min=2.9km az=106.0*
*ISK **18** 07:07:29.9, 34°.41N×32°.23E, h32km, MD3.2*
ISC 18 07:07:28.9±1.5, 34°.44N±0°.04×32°.19E±0°.07, h19km±4km, n29, σ0°62/40, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPCY	**Paphos**	**0.46**	**16**	P	**Pg**	**07 07 38.0**	**-0.4**
PPCY	**Paphos**	**0.46**	**16**	P	**Pg**	**07 07 38.0**	**-0.4**
AKMC	**Akamas**	**0.60**	**11**	P	**Pb**	**07 07 40.1**	**-0.6**
AKMC	**Akamas**	**0.60**	**11**	P	**Pb**	**07 07 40.1**	**-0.6**
SZAC	**Souni-Zanaja** 34nm,0.1s	**0.65**	**61**	P	**Pg**	**07 07 42.1**	**+0.2**
SZAC				S	**Sn**	**07 07 52.6**	**-0.4**
SZAC	**Souni-Zanaja** 34nm,0.1s	**0.65**	**61**	P	**Pg**	**07 07 42.1**	**+0.2**
SZAC				S	**Sn**	**07 07 52.6**	**-0.4**
ALFC	**Alevga** 24nm,0.2s	**0.79**	**25**	P	**Pb**	**07 07 43.2**	**-0.9**
ALFC				S	**Sb**	**07 07 54.5**	**+0.1**
ALFC	**Alevga** 24nm,0.2s	**0.79**	**25**	P	**Pb**	**07 07 43.2**	**-0.9**
ALFC				S	**Sb**	**07 07 54.5**	**+0.1**
LEF	**Lefka**	**0.89**	**40**	*e*PG	**Pb**	**07 07 45.9**	**+0.2**
LEF				*e*SG	**Sb**	**07 07 57.7**	**+0.5**
LEF	**Lefka**	**0.89**	**40**	*e*Pg	**Pb**	**07 07 45.9**	**+0.2**
LEF				*e*Sg	**Sb**	**07 07 57.7**	**+0.5**
CSS	**Prodhromos** 3.9nm,0.3s	**1.07**	**61**	P	**Pb**	**07 07 48.2**	**-0.7**
CSS				S	**Sn**	**07 08 03.3**	**0.0**
CSS	**Prodhromos** 3.9nm,0.3s	**1.07**	**61**	P	**Pb**	**07 07 48.2**	**-0.7**
CSS				S	**Sn**	**07 08 03.3**	**0.0**
MAMC	**Mammari**	**1.12**	**49**	P	**Pn**	**07 07 49.3**	**-0.2**
MAMC	**Mammari**	**1.12**	**49**	P	**Pn**	**07 07 49.3**	**-0.2**
LFK	**Lefkose**	**1.39**	**52**	*e*PN	**Pn**	**07 07 53.5**	**+0.3**
LFK				*e*SN	**Sn**	**07 08 10.9**	**-0.2**
LFK	**Lefkose**	**1.39**	**52**	*e*Pn	**Pn**	**07 07 53.5**	**+0.3**
LFK				*e*Sn	**Sn**	**07 08 10.9**	**-0.2**
PHNC	**Paralimni**	**1.62**	**69**	P	**Pn**	**07 07 56.9**	**+0.5**
PHNC	**Paralimni**	**1.62**	**69**	P	**Pn**	**07 07 56.9**	**+0.5**
IKL	**Isikli**	**2.17**	**34**	*e*PN	**Pn**	**07 08 04.7**	**+0.7**
IKL	**Isikli**	**2.17**	**34**	*e*Pn	**Pn**	**07 08 04.7**	**+0.7**
HDMB	**Hadim**	**2.53**	**5**	*e*PN	**Pn**	**07 08 10.6**	**+1.5**
HDMB	**Hadim**	**2.53**	**5**	*e*Pn	**Pn**	**07 08 10.6**	**+1.5**
RSH		**3.70**	**159**	P	**Pn**	**07 08 26.1**	**+1.1**
AMAG	**Maghara**	**3.88**	**167**	P	**Pn**	**07 08 27.8**	**+0.2**
SUZ		**4.62**	**173**	P	**Pn**	**07 08 38.3**	**+0.7**
HNKL	**Nakhl**	**4.75**	**161**	P	**Pn**	**07 08 40.4**	**+1.0**
HNKL				S	**Sn**	**07 09 33.4**	**-0.5**
GLL	**Jalalah**	**4.86**	**185**	P	**Pn**	**07 08 40.8**	**-0.3**
ZNM		**5.08**	**173**	P	**Pn**	**07 08 44.6**	**+0.6**
HKAT	**Jabal Katrina**	**6.09**	**165**	P	**Pn**	**07 08 58.8**	**+0.7**

IDC 18 07:38:52.5±5.1, 52°.83N×174°.79W, h215km±70km, mb2.7/2, mb1 3.3/5, mb1mx3.0/27, mbtmp3.1/5, Error ellipse: s-maj=79.0km s-min=28.4km az=152.0, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FX1	**Attu Island--F** 0.2nm,0.3s,baz=90,slow=19,SNR=5.6	**7.30**	**275**	P	Pn	07 40 37.4	+0.8
FX1				S	S	07 41 58.9	-0.7
KDAK	**Kodiak Island** 2.9nm,0.3s,baz=268,slow=9.9,SNR=16	**13.55**	**60**	P	Pn	07 41 55.8	-0.3
ILAR	**Eielson Array** 0.3nm,0.3s,baz=228,slow=11,SNR=18	**18.56**	**39**	P	P	07 42 53.0	+0.1
PDAR	**Pinedale Array** 0.4nm,0.5s,baz=302,slow=5.1,SNR=5.1	**43.53**	**76**	P	P	07 46 34.9	-0.2

TXAR	Lajitas Array	56.02	85	P		P	07 48 08.8	-0.2
	0.1nm,0.5s,baz=298,slow=5.9,SNR=3.0							

AUST 18 07:52:16.0±7.6, 1°.27N×96°.72E, h0km, Error ellipse: s-maj=2.1km s-min=1.6km az=247.0
IDC 18 07:52:17.7±0.8, 0°.87N×97°.55E, h0km, mb4.1/16, mb1 4.2/17, mb1mx4.1/29, mbtmp4.1/17, ML3.3/1, MS4.0/3, Ms1 4.0/3, ms1mx3.5/35, Error ellipse: s-maj=26.5km s-min=15.4km az=56.0
ISCJB 18 07:52:19.4±0.5, 0°.83N±0°.05×97°.35E±0°.05, h27km, mb4.2/19, MS4.0/3, Error ellipse: s-maj=8.2km s-min=6.8km az=147.7
NEIC 18 07:52:22.8±0.5, 0°.88N×97°.49E, h35km, mb4.4/5, Error ellipse: s-maj=10.2km s-min=8.6km az=54.0
DJA 18 07:52:23.7±0.7, 1°.1N±8°.×9°.8E±°, h10km, M4.5/5, mb4.4/1, mB4.7/1, MLv4.5/5, Mw(mB)4.0/1

ISC 18 07:52:21.8±0.6, 0°.91N±0°.05×97°.52E±0°.08, h27km, n71, σ1§26/66, mb4.2/19, MS3.9/3, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	Gunungsitoli	0.40	7	P	Pn	07 52 32.7	+0.9
GSI				S	Sn	07 52 38.3	-0.2
SNSI	Sinabang, Aceh	1.92	321	P	Pb	07 53 00.4	+4.4
PSI	Prapat	2.35	37	Pn	Pn	07 52 58.2	-0.5
PSI				Sn	Sn	07 53 24.9	-1.8
PSI	Prapat	2.35	37	Pn	Pn	07 52 58.2	-0.5
	7.8nm,0.3s,baz=193,slow=8.0,SNR=20						
PSI				Sn	Sn	07 53 24.9	-1.8
	38nm,0.3s,baz=159,slow=15,SNR=8.4						
PSI	Prapat	2.35	37	P	Pn	07 52 59.4	+0.7
	baz=2.6,SNR=12						
KCSI	Kotacane, Aceh	2.61	5	P	Pb	07 53 07.8	-0.1
PPI	Padang Panjang	3.17	115	P	Pn	07 53 11.8	+1.9
	baz=4.1,SNR=4.9						
PDSI	Padang	3.45	122	P	Pn	07 53 14.5	+0.7
FRIM	Kepong	4.71	60	P	Pn	07 53 33.9	+2.8
IPM	Ipoh	4.98	44	ePn	Pn	07 53 37.1	+2.2
	47nm,0.6s						
IPM	Ipoh	4.98	44	P	Pn	07 53 37.6	+2.7
IPM	Ipoh	4.98	44	P	Pn	07 53 38.0	+3.1
KULM	Kulim	5.36	36	ePn	Pn	07 53 41.2	+1.2
	54nm,0.9s						
KULM	Kulim	5.36	36	P	Pn	07 53 41.4	+1.4
KULM	Kulim	5.36	36	P	Pn	07 53 41.8	+1.8
KULM	Kulim	5.36	36	P	Pn	07 53 41.5	+1.4
KGM	Kluang	5.90	79	P	Pn	07 53 50.1	+2.7
KTGM	Kuala Trenggan	7.12	52	P	Pn	07 54 06.2	+1.9
MNAI	Manna	7.54	134	P	Pn	07 54 17.1	+7.1
	baz=8.4,SNR=8.5						
MNAI				S	Sn	07 55 32.5	-2.1
	baz=8.4,SNR=5.2						
PMBI	Palembang	8.18	118	S	Sb	07 56 44.1	+24
	baz=9.1,SNR=3.5						
SBUM	Sibu	14.77	84	P	P	07 55 52.4	-2.3
CHTO	Chiang Mai	17.85	4	eP	Pn	07 56 28.3	-0.1
	6.4nm,0.9s						
KKM	Kota Kinabalu	19.34	74	eP	Pn	07 56 48.0	+1.4
	50nm,1.1s						
KKM	Kota Kinabalu	19.34	74	P	Pn	07 56 48.0	+1.4
	baz=20,SNR=5.9						
SDKM	Sandakan	20.19	76	Pn	Pn	07 56 59.1	+2.4
QIZ	Qiongzhong	21.69	33	eP	P	07 57 10.1	-0.6
	26nm,1.7s						
KAPI	Kappang	22.97	105	LR	LR	08 06 15.3	
	comp=Z,375nm,18.7s,baz=102,slow=36						
SOEI	Soe	28.65	112	P	P	07 58 24.2	+7.5
	baz=30,SNR=3.3						
TLE	Tual	35.76	101	P	P	07 59 29.1	+10
	baz=37,SNR=3.6						
KDU	Kakadu	37.21	112	P	P	07 59 27.9	-3.3
	baz=38,SNR=5.8						
WRA	Warramunga Arr	41.60	122	P	P	08 00 07.0	-0.9
WRA	Warramunga Arr	41.60	122	P	P	08 00 07.0	-0.9
	3.6nm,0.9s,baz=304,slow=8.8,SNR=21						
WRA				LR	LR	08 21 29.1	
	comp=Z,167nm,19.5s,baz=285,slow=42						
WRAB	Tennant Creek	41.61	122	eP	P	08 00 08.0	+0.1
	10nm,1.0s						
ASAR	Alice Springs	42.96	127	P	P	08 00 18.4	-0.5
ASAR	Alice Springs	42.96	127	P	P	08 00 18.4	-0.5
	2.1nm,0.7s,baz=297,slow=8.2,SNR=19						
KSAR	Wonju Array Be	45.88	34	P	P	08 00 42.1	+0.2
KSRS	Korea Array	45.91	34	P	P	08 00 42.1	-0.1
	2.4nm,0.7s,baz=216,slow=8.3,SNR=6.9						
KSRS				LR	LR	08 22 57.3	
	comp=Z,211nm,18.4s,baz=310,slow=40						
AAK	Ala-Archa	46.40	337	P	P	08 00 47.4	+1.2
AAK	Ala-Archa	46.40	337	P	P	08 00 47.4	+1.2
	0.7nm,0.3s,baz=158,slow=5.4,SNR=3.9						
SONM	Songino Array	47.38	8	P	P	08 00 53.8	+0.1
SONM	Songino Array	47.38	8	P	P	08 00 53.8	+0.1
	1.4nm,0.7s,baz=185,slow=8.6,SNR=10.0						
MK31	Makanchi Array	47.60	346	eP	P	08 00 55.4	0.0
MKAR	Makanchi Array	47.60	346	P	P	08 00 55.5	+0.1
MKAR	Makanchi Array	47.60	346	P	P	08 00 55.5	+0.1
	2.3nm,0.5s,baz=153,slow=7.9,SNR=31						
MJAR	Matsushiro Arr	51.69	42	P	P	08 01 26.5	-0.2
MJAR	Matsushiro Arr	51.69	42	P	P	08 01 26.5	-0.2
	1.6nm,0.7s,baz=225,slow=4.8,SNR=4.4						
KURBB	Kurchatov Arra	52.10	345	P	P	08 01 29.4	+0.1
	0.5nm,0.3s,baz=169,slow=7.4,SNR=10						
KURK	Kurchatov	52.16	345	P	P	08 01 29.4	-0.4
USRK	Ussuriysk Arra	52.86	31	P	P	08 01 35.4	+0.2
	6.9nm,0.9s,baz=215,slow=6.8,SNR=8.6						
STKA	Stephens Creek	52.92	132	P	P	08 01 36.1	+0.2
STKA	Stephens Creek	52.92	132	P	P	08 01 36.1	+0.2
	4.1nm,0.9s,baz=326,slow=7.3,SNR=4.7						
ZAA0	Zalesovo Array	53.90	351	eP	P	08 01 42.0	-0.7
ZALV	Zalesovo Beam	53.90	351	P	P	08 01 42.5	-0.2
ZALV	Zalesovo Beam	53.90	351	P	P	08 01 42.5	-0.2
	3.2nm,0.5s,baz=169,slow=7.3,SNR=12						
CMSA	Cobar Meteorol	55.86	130	P	P	08 01 58.1	+0.9
	baz=57,SNR=6.5						
BVAR	Borovoye Array	56.63	341	P	P	08 02 04.4	+2.0
BVAR	Borovoye Array	56.63	341	P	P	08 02 04.4	+2.0
	0.4nm,0.5s,baz=124,slow=7.2,SNR=3.0						
ABKAR	Akbulak array	57.92	332	eP	P	08 02 10.7	-0.9
	1.7nm,0.7s						
LHI	Lord Howe Isla	66.50	125	P	P	08 03 18.6	+9.2
	baz=67,SNR=3.5						
BRTR	Keskin Array B	69.55	312	P	P	08 03 30.3	+1.7
BRTR	Keskin Array B	69.55	312	P	P	08 03 30.3	+1.7
	0.4nm,0.6s,baz=122,slow=6.3,SNR=2.8						
FINES	FINESS Array B	80.41	332	P	P	08 04 30.0	-0.6
FINES	FINESS Array B	80.41	332	P	P	08 04 30.0	-0.6
	1.4nm,0.6s,baz=144,slow=23,SNR=3.2						
ARCES	ARCESS Array B	82.92	340	P	P	08 04 43.6	-0.2
ARCES	ARCESS Array B	82.92	340	P	P	08 04 43.6	-0.2
	2.9nm,0.9s,baz=99,slow=5.6,SNR=3.6						
GERES	GERESS Array B	85.25	319	P	P	08 04 55.2	-1.1
GERES	GERESS Array B	85.25	319	P	P	08 04 55.2	-1.1
	0.4nm,0.2s,baz=106,slow=5.2,SNR=3.5						
TXAR	Lajitas Array	143.75	32	PKP	PKPdf	08 11 54.7	-0.6
TXAR	Lajitas Array	143.75	32	PKP	PKPdf	08 11 54.7	-0.6
	0.2nm,0.6s,baz=302,slow=1.7,SNR=3.0						
CPUP	Villa Florida	145.00	222	ePKPdf	PKPdf	08 11 57.5	0.0
CPUP	Villa Florida	145.00	222	PKPbc	PKPdf	08 11 57.2	-0.2
	2.1nm,0.8s,baz=190,slow=4.2,SNR=3.7						

MAN 18 07:59:07, 18°.87N×121°.23E, h1km, mb4.1, ML3.0, MS2.7, 2C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	Pasuquin	0.79	227	↑iP	Pg	07 59 22.3	+0.1
SGCP	Mt. Cagua	0.99	129	eP	Pb	07 59 27.5	+0.5
APYP	Conner	1.00	179	eP	Pg	07 59 22.8	-3.4
APYP				eS	Sn	07 59 49.1	+6.2
SIPP	Brgy, Tapao	1.19	218	↑iP	Pg	07 59 22.3	-7.6
CVP	Callao Caves	1.29	154	eP	Pn	07 59 33.0	+0.9
ABRA	Dolores	1.31	202	eP	Pn	07 59 32.5	+0.1
CAUP	Cauayan	2.00	163	eP	Pg	07 59 46.1	+0.8

ISCJB 18 08:01:37.4±0.7, 37°.90N±0°.08×95°.66E±0°.05, h10km, mb3.6/5, Error ellipse: s-maj=11.8km s-min=5.8km az=9.8
IDC 18 08:01:38.2±1.1, 37°.68N×95°.67E, h0km, mb3.6/5, mb1 3.8/8, mb1mx3.6/28, mbtmp3.7/8, ML4.0/3, MS3.7/1, Ms1 3.7/1, ms1mx2.9/35, Error ellipse: s-maj=38.2km s-min=20.4km az=32.0

BJI 18 08:01:39.0, 37°.30N×95°.55E, h10km, mB4.3/1, mb4.2/2, ML4.0/6, Ms3.8/3, Ms7 3.6/3

ISC 18 08:01:39.8±0.9, 37°.74N±0°.09×95°.53E±0°.06, h10km, n12, σ1§57/16, mb3.8/5, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	Gaotai	3.75	62	Pn	Pn	08 02 38.3	+0.5
GTA				Pg	Pb	08 02 46.8	+0.6
GTA				Sn	Sn	08 03 24.5	+2.4
GTA				Sg	Sg	08 03 37.4	-2.8
GTA				smax	smax		
	comp=N,76nm,1.1s						
GTA				smax	smax		
	comp=E,78nm,1.0s						
GTA				LR	LR		
	comp=N,720nm,5.7s						
GTA				LR	LR		
	comp=E,350nm,5.8s						
GTA				LR	LR		
	comp=Z,450nm,8.6s						
LZH	Lanzhou	6.86	101	ePg	Pb	08 03 40.1	+0.9
LZH				Sn	Sn	08 04 38.0	-0.8
LZH				Sg	Sb	08 05 07.6	+6.4
LZH				smax	smax		
	comp=N,81nm,0.9s						
LZH				smax	smax		
	comp=E,94nm,0.7s						
WMQ	Urumqi	8.50	318	Pn	Pn	08 03 43.9	+0.9
WMQ				smax	smax		
	comp=N,43nm,0.7s						
WMQ				smax	smax		
	comp=E,41nm,0.8s						
SONM	Songino Array	12.85	35	Pn	Pn	08 04 43.9	+1.4
	comp=E,0.3nm,0.3s,baz=220,slow=13,SNR=7.2						
MKAR	Makanchi Array	13.33	317	Pn	Pn	08 04 48.0	-1.0
	comp=E,1.7nm,0.3s,baz=122,slow=14,SNR=38						
MKAR				Sn	Sn	08 07 15.1	-2.1
	comp=E,0.4nm,0.3s,baz=134,slow=22,SNR=12						
AAK	Ala-Archa	16.79	294	LR	LR	08 12 55.9	
	comp=E,245nm,18.9s,baz=58,slow=40						
KURBB	Kurchatov Arra	17.68	322	P	Pn	08 05 45.3	-0.8
	comp=E,0.2nm,0.3s,baz=131,slow=12,SNR=2.6						
KSRS	Korea Array	25.60	81	P	P	08 07 07.4	-1.7
	comp=E,2.2nm,0.8s,baz=276,slow=11,SNR=5.8						
AKTO	Aktyubinsk	29.46	308	P	P	08 07 43.0	-0.7
	comp=E,0.5nm,0.5s,baz=79,slow=10,SNR=2.2						
BRTR	Keskin Array B	47.47	293	P	P	08 10 16.7	+1.8
	comp=E,0.5nm,0.6s,baz=69,slow=7.9,SNR=2.6						
WRA	Warramunga Arr	68.00	141	P	P	08 12 38.8	-0.5
	comp=E,0.7nm,0.9s,baz=335,slow=6.1,SNR=2.3						
ASAR	Alice Springs	70.94	143	P	P	08 12 56.7	-0.7
	comp=E,0.3nm,0.8s,baz=328,slow=5.6,SNR=2.8						

IDC 18 08:02:35.8±0.7, 12°.47N×120°.51E, h0km, mb4.1/13, mb1 4.3/13, mb1mx4.1/26, mbtmp4.1/13, MS3.9/1, Ms1 3.9/1, ms1mx3.3/29, Error ellipse: s-maj=30.5km s-min=14.0km az=73.0
NEIC 18 08:02:37.2±0.4, 12°.55N×120°.66E, h10km, mb4.2/3, Error ellipse: s-maj=14.3km s-min=6.7km az=73.0
ISCJB 18 08:02:38.4±0.3, 12°.48N±0°.03×120°.39E±0°.04, h23km, mb4.1/16, MS3.9/1, Error ellipse: s-maj=5.7km s-min=5.0km az=3.2
MAN 18 08:02:39, 12°.41N×120°.44E, h14km, mb4.6, ML3.5, MS3.4

ISC 18 08:02:38.9±0.5, 12°.44N±0°.04×120°.54E±0°.04, h23km, n52, σ0§94/51, mb4.2/16, 3C-2D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUSP	Coron	0.55	218	eP	Pb	08 02 48.7	-1.2
BUSP				eS	Sb	08 02 57.3	-0.1
SJMP	San Jose	0.56	88	eP	Pn	08 02 52.1	+0.6
PGP	Puerto Galera	1.13	21	↓iP	Pn	08 02 58.5	-0.9
OTRP	Odiongan	1.45	93	eP	Pb	08 03 06.4	+1.2
BOAC	Boac	1.62	51	eP	Pb	08 03 08.0	-0.3
ENPP	El Nido	1.64	222	eP	Pn	08 03 05.9	-0.5
CUYO	Cuyo Island	1.65	164	eP	Pn	08 03 06.9	+0.4
TGY	Tagaytay City	1.70	13	Pg	Pn	08 03 07.5	+0.2
TGY				Lg	Lg	08 03 30.7	
TGY	Tagaytay City	1.70	13	↑iP	Pb	08 03 09.4	-0.1
TGY	Tagaytay City	1.70	13	Pg	Pn	08 03 07.5	+0.2
	1μm,0.3s,baz=222,slow=2.2,SNR=52						
TGY				Lg	Lg	08 03 30.7	
	353nm,0.3s,baz=114,slow=20,SNR=6.3						
LQP	Lukban	1.93	30	↑eP	Pb	08 03 12.1	-1.4
AUQP	San Andres	2.26	67	eP	Pb	08 03 22.0	+2.9
RCP	Roxas	2.32	112	↓eP	Pb	08 03 18.7	-1.5
RCP				eS	Sb	08 03 47.9	-0.6
GQP	Guinayangan	2.36	52	↑eP	Pb	08 03 18.2	-2.6
GUIM	Jordan	2.69	132	eP	Pb	08 03 24.1	-2.4
SCZP	Santa Cruz	3.37	350	eP	Pn	08 03 33.4	+3.1
BALP	Baler	3.43	17	eP	Pb	08 03 35.4	-3.7
BATP	Bataraza	4.51	217	eP	Pn	08 03 46.2	+0.2
PAGZ	Pagadian	5.35	148	eP	Pn	08 04 01.6	+4.2
CMAR	Chiang Mai Arr	21.65	289	P	P	08 07 29.1	+1.0
CMAR	Chiang Mai Arr	21.65	289	P	P	08 07 29.1	+1.0
	baz=102,slow=8.6						
WRAB	Tennant Creek	34.92	157	eP	P	08 09 29.9	+0.8
	2.7nm,0.6s						
WRA	Warramunga Arr	34.92	157	P	P	08 09 29.7	+0.4
WRA	Warramunga Arr	34.92	157	P	P	08 09 29.7	+0.4
	2.1nm,0.6s,baz=336,slow=9.4,SNR=34						
SONM	Songino Array	37.22	344	P	P	08 09 47.9	-0.8
SONM	Songino Array	37.22	344	P	P	08 09 47.9	-0.8
	1.1nm,0.5s,baz=155,slow=7.9,SNR=5.1						
ASAR	Alice Springs	38.19	160	P	P	08 09 58.4	+1.4
ASAR	Alice Springs	38.19	160	P	P	08 09 58.4	+1.4
	1.5nm,0.6s,baz=339,slow=6.9,SNR=28						
MKAR	Makanchi Array	46.96	324	P	P	08 11 08.2	+0.1
MKAR				PcP	PcP	08 12 40.8	+0.5
MKAR	Makanchi Array	46.96	324	P	P	08 11 08.2	+0.1
	2.0nm,0.9s,baz=133,slow=8.4,SNR=3.7						
MKAR				PcP	PcP	08 12 40.8	+0.5
	1.3nm,0.7s,baz=108,slow=4.7,SNR=4.2						
STKA	Stephens Creek	48.46	156	P	P	08 11 20.2	+0.3
STKA	Stephens Creek	48.46	156	P	P	08 11 20.2	+0.3
	1.3nm,0.7s,baz=78,slow=19,SNR=2.1						
ZALV	Zalesovo Beam	50.10	333	P	P	08 11 31.8	-0.4
ZALV	Zalesovo Beam	50.10	333	P	P	08 11 31.8	-0.4
	0.9nm,0.4s,baz=128,slow=6.1,SNR=4.2						
PETK	Petropavlovsk-	50.20	28	LR	LR	08 34 35.3	
	comp=Z,127nm,19.4s,baz=77,slow=38						
KURBB	Kurchatov Arra	51.15	327	P	P	08 11 41.9	+1.9
	1.7nm,0.9s,baz=117,slow=9.2,SNR=3.4						
KURK	Kurchatov	51.15	327	P	P	08 11 41.9	+1.8
KKAR	Karatay Array	52.75	315	eP	P	08 11 52.6	+0.4
	3.3nm,0.9s						
ABKAR	Akbulak array	61.59	320	eP	P	08 12 54.2	-0.3
	0.8nm,0.5s						
AKTO	Aktyubinsk	63.08	320	P	P	08 13 03.9	-0.7
AKTO	Aktyubinsk	63.08	320	P	P	08 13 03.9	-0.7
	1.5nm,0.7s,baz=98,slow=7.1,SNR=3.4						
BRTR	Keskin Array B	79.81	309	P	P	08 14 46.3	+0.4
BRTR	Keskin Array B	79.81	309	P	P	08 14 46.3	+0.4
	0.2nm,0.3s,baz=54,slow=7.3,SNR=2.9						
ARCES	ARCESS Array B	80.20	339	P	P	08 14 47.2	0.0
ARCES	ARCESS Array B	80.20	339	P	P	08 14 47.2	0.0
	9.5nm,1.0s,baz=75,slow=6.8,SNR=4.1						
FINES	FINESS Array B	81.31	331	P	P	08 14 53.6	+0.3
FINES	FINESS Array B	81.31	331	P	P	08 14 53.6	+0.3
	1.0nm,0.5s,baz=53,slow=5.6,SNR=6.5						
NB2	NORSAR Subarra	88.30	333	P	P	08 15 27.4	-1.2
	comp=Z,1.9nm,0.7s,baz=68,slow=4.8						
NOA	NORSAR Array B	88.30	333	P	P	08 15 27.9	-0.6
NOA	NORSAR Array B	88.30	333	P	P	08 15 27.9	-0.6
	comp=Z,0.9nm,0.6s,baz=68,slow=4.8,SNR=4.9						
GERES	GERESS Array B	91.51	321	P	P	08 15 44.2	+0.3
GERES	GERESS Array B	91.51	321	P	P	08 15 44.2	+0.3
	comp=Z,0.4nm,0.2s,baz=73,slow=3.3,SNR=3.6						

KRSC 18 08:47:16.4±7.6, 49°.38N×156°.65E, h41km±41km, ML3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.35	345	eP	Pn	08 47 39.9	+1.2
SKR				i S	Sn	08 47 55.8	+0.4
PAU	Pauzhetka	2.09	3	eP	Pn	08 47 51.9	+3.0
PAU				i S	Sn	08 48 16.4	+2.7
ASAK	Asacha	3.11	14	eP	Pn	08 48 06.7	+3.7
ASAK				i S	Sn	08 48 41.8	+2.8
MTVR	Mutnovka	3.25	17	eP	Pn	08 48 08.8	+3.7
MTVR				i S	Sn	08 48 44.8	+2.1
RUS	Russkaya	3.28	20	eP	Pn	08 48 08.1	+2.9
RUS				i S	Sn	08 48 44.5	+1.6
UGLR	Uglovaya	4.07	19	eP	Pn	08 48 20.3	+4.1
KOK	Koryaka	4.11	17	eP	Pn	08 48 21.4	+4.6
KRER	Koryakskii	4.14	18	eP	Pn	08 48 21.5	+4.1
KRER				i S	Sn	08 49 09.2	+4.5
SDLR	Sedlovina	4.15	19	eP	Pn	08 48 20.6	+3.3
KRX	Arik	4.18	17	eP	Pn	08 48 21.8	+4.1
SPN	Mys Shipunski	4.28	28	eP	Pn	08 48 22.2	+3.2
SPN				i S	Sn	08 49 10.1	+2.4
GNL	Ganaly	4.40	10	eP	Pn	08 48 25.0	+4.3
MKZ	Mys Kozlova	6.06	29	eP	Pn	08 48 45.7	+2.4
KBTR	Krutoberegovo	7.79	26	eP	Pn	08 49 10.1	+3.0

ISCJB 18 08:59:48.9±0.6, 64°.78N±0°.02×30°.6E±0°.1, h0km, Error ellipse: s-maj=7.1km s-min=3.4km az=0.2
HEL 18 08:59:50.4±0.1, 64°.78N×30°.68E, h0km, ML1.9, Explosion
CSEM 18 08:59:50.9±0.3, 64°.82N×30°.38E, h2km, ML1.9/1, Error ellipse: s-maj=6.6km s-min=3.4km az=110.0, Mining explosion.
NAO 18 08:59:51.9±1.4, 64°.81N×30°.44E, ML2.5
IDC 18 08:59:51.1±2.0, 64°.73N×30°.90E, h0km, mb1 3.1/3, mb1mx2.9/25, mbtmp2.9/3, ML2.7/3, Error ellipse: s-maj=28.0km s-min=8.2km az=102.0
BER 18 08:59:52.2±3.7, 64°.80N×30°.47E, h0km, ML2.5(NAO), Suspected explosion

ISC 18 08:59:50.3±0.9, 64°.82N±0°.02×30°.46E±0°.05, h0km, n36, σ1§09/66, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KU6	Riekki	1.23	349	eP	Pg	09 00 13.5	-0.4
KU6				eS	Sg	09 00 30.0	+0.1
KU6				MSG		09 00 30.0	
	comp=Z,5.1nm,0.4s						
KU6				eRG	Rg	09 00 38.7	
KU6	Riekki	1.23	349	P	Pg	09 00 13.5	-0.4
KU6				S	Sg	09 00 30.0	+0.1
MSF	Maaselka	1.24	332	eP	Pg	09 00 14.1	-0.1
MSF				MSG	Sb	09 00 31.4	+0.2
	comp=Z,4.3nm,0.4s						
MSF				eSB	Sb	09 00 31.4	+0.2
MSF				eRG	Rg	09 00 41.3	
MSF	Maaselka	1.24	332	P	Pg	09 00 14.1	-0.1
MSF				Sb	Sb	09 00 31.4	+0.2
JOF	Joensuu	1.95	168	eP	Pn	09 00 23.0	-1.6
JOF				MSG	S	09 00 48.6	-1.2
	comp=Z,4.2nm,0.4s						
JOF				eS	S	09 00 48.6	-1.2
OUL	Oulu	1.96	280	ePB	Pb	09 00 26.9	+0.1
OUL				eSB	Sg	09 00 52.9	-0.3
OUL				MSG		09 00 52.9	
	comp=Z,4.6nm,0.2s						
OUL	Oulu	1.96	280	Pb	Pb	09 00 26.9	+0.1
OUL				Sb	Sg	09 00 52.8	-0.3
RNF	Rovaniemi	2.57	316	ePB	Pb	09 00 36.4	-0.8
RNF				MSG	Sb	09 01 10.3	+1.1
	comp=Z,6.2nm,0.4s						
RNF				eSB	Sb	09 01 10.3	+1.1
SUF	Sumiainen	2.85	224	ePB	Pb	09 00 40.0	-2.0
SUF				MSG	Sb	09 01 17.0	-0.3
	comp=Z,4.1nm,0.4s						
SUF				eSB	Sb	09 01 17.0	-0.3
VRF	Varrio	2.96	354	eP	Pn	09 00 40.0	+1.4
VRF				MSG	Sb	09 01 20.9	+0.4
	comp=Z,3.2nm,0.4s						
VRF				eSB	Sb	09 01 20.9	+0.4
VRF	Varrio	2.96	354	P	Pn	09 00 39.9	+1.4
APA0	Apatity Array	2.98	19	Pn	Pn	09 00 39.2	+0.4
	baz=198,slow=12						
APA0	Apatity Array	2.98	19	Pn	Pn	09 00 39.2	+0.4
	baz=198,slow=12						
APA0	Apatity Array	2.98	19	Pn	Pn	09 00 39.2	+0.4
	baz=198,slow=12,SNR=50						
SGF	Sodankyl	3.08	331	eP	Pn	09 00 41.1	+1.0
SGF				eSG	Sb	09 01 24.1	+0.2
SGF				MSG	Sb	09 01 24.1	+0.2
	comp=Z,3.0nm,0.4s						
SGF				eSB	Sb	09 01 24.1	+0.2
SGF				MSG		09 01 24.1	
	comp=Z,3.0nm,0.4s						
SGF	Sodankyl	3.08	331	P	Pn	09 00 41.1	+1.0
KAF	Kangasniemi	3.30	216	ePB	Pn	09 00 46.2	+3.1
VAF	Ylistaro	3.87	246	MSG	Sg	09 01 52.9	-1.7
	comp=Z,3.2nm,0.4s						
VAF				eSG	Sg	09 01 52.9	-1.7
VAF	Ylistaro	3.87	246	Sg	Sg	09 01 52.9	-1.7
FIA0	FINESS Array S	3.93	212	Pn	Pn	09 00 52.6	+0.8
	baz=32,slow=14						
FIA0				Pg	Pb	09 01 01.4	+1.0
	baz=31,slow=16						
FIA0				Sn	Sn	09 01 39.2	+0.6
	baz=35,slow=18						
FIA0				Lg	Lg	09 01 54.2	
	baz=21,slow=28						
FIA0				Rg	Rg	09 02 13.0	
	baz=35,slow=37						
FIA0	FINESS Array S	3.93	212	eSG	Sb	09 01 52.0	+3.6
FIA0				MSG		09 01 52.0	
	comp=Z,8.7nm,0.7s						
FIA0	FINESS Array S	3.93	212	Pn	Pn	09 00 52.6	+0.8
	baz=32,slow=13,SNR=50						
FIA0	FINESS Array S	3.93	212	Pg	Pb	09 01 01.4	+1.0
	baz=31,slow=14,SNR=90						
FIA0				Sn	Sn	09 01 39.2	+0.6
	baz=35,slow=17,SNR=50						
FIA0				Lg	Lg	09 01 54.2	
	baz=21,slow=27,SNR=2.0			

NB2	**NORSAR Subarra**	**9.54 255**	Pn	**Pn**		**09 02 09.6**	**+0.8**
	baz=55,slow=16						
NB2	**NORSAR Subarra**	**9.54 255**	Pn	**Pn**		**09 02 09.6**	**+0.8**
	baz=55,slow=16						
NB2	**NORSAR Subarra**	**9.54 255**	Pn	**Pn**		**09 02 09.6**	**+0.8**
	baz=55,slow=15,SNR=50						
NOA	**NORSAR Array B**	**9.54 255**	Pn	**Pn**		**09 02 09.2**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=55,slow=14,SNR=3.2						
NOA			Lg	Lg		09 04 54.5	
	comp=Z,0.2nm,0.3s,baz=12,slow=17,SNR=4.2						

*ISCJB **18** 09:36:22.0±0.6, 9°.44S±0°.06×161°.07E±0°.07, h78km, mb4.1/12, Error ellipse: s-maj=10.1km s-min=7.5km az=140.8*

*IDC **18** 09:36:23.4±1.6, 9°.51S×160°.97E, h77km±11km, mb4.0/11, mb1 4.2/11, mb1mx4.0/18, mbtmp4.0/11, MS4.2/2, Ms1 4.2/2, ms1mx3.2/27, Error ellipse: s-maj=20.8km s-min=14.4km az=79.0*

ISC 18 09:36:23.8±0.7, 9°.46S±0°.08×161°.00E±0°.09, h78km, n29, σ1§27/32, mb4.2/12, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.04**	**271**	P	**Pn**	**09 36 42.0**	**-1.3**
	2μm,0.3s,baz=137,slow=3.5,SNR=138						
HNR				S	**Sn**	**09 36 57.0**	**-0.9**
	4μm,0.3s,baz=17,slow=23,SNR=21						
DZM	**Mont Dzumac**	**13.59**	**158**	P	**Pn**	**09 39 35.2**	**+1.9**
	baz=315,slow=20,SNR=2.5						
DZM				S	**Sn**	**09 42 00.8**	**-1.9**
	0.6nm,0.3s,baz=77,slow=19,SNR=3.6						
CTA	**Charters Tower**	**17.73**	**232**	P	**Pn**	**09 40 27.7**	**+2.0**
	0.8nm,0.3s,baz=61,slow=12,SNR=14						
COEN	**Coen**	**18.02**	**254**	P	**Pn**	**09 40 31.9**	**+2.6**
	baz=14,SNR=4.1						
MTSU	**Mount Surprise**	**18.34**	**240**	P	**Pn**	**09 40 35.2**	**+2.1**
	baz=14,SNR=11						
EIDS	**Eidsvold**	**18.42**	**210**	P	**Pn**	**09 40 35.6**	**+1.7**
	baz=14,SNR=4.0						
RMQ	**Roma**	**20.53**	**213**	P	Pn	09 40 58.3	-0.6
	baz=16,SNR=14						
ARMA	**Armidale**	**22.61**	**201**	P	**P**	**09 41 18.7**	**+0.3**
	baz=19,SNR=5.5						
CMSA	**Cobar Meteorol**	**26.17**	**211**	P	**P**	**09 41 51.7**	**+0.6**
	baz=22,SNR=4.6						
WRA	**Warramunga Arr**	**27.77**	**245**	P	**P**	**09 42 04.7**	**-0.9**
	6.5nm,0.6s,baz=74,slow=9.7,SNR=81						
WRA				pP	**pP**	**09 42 22.7**	**-1.1**
	3.5nm,0.6s,baz=72,slow=9.7,SNR=4.5						
WRA				ScP	**ScP**	**09 48 53.8**	**-0.7**
	0.2nm,0.4s,baz=73,slow=3.6,SNR=6.4						
STKA	**Stephens Creek**	**28.66**	**216**	P	**P**	**09 42 13.0**	**-0.4**
	3.5nm,0.6s,baz=57,slow=14,SNR=18						
STKA	**Stephens Creek**	**28.66**	**216**	P	**P**	**09 42 14.3**	**+1.0**
	baz=24,SNR=10						
ASAR	**Alice Springs**	**29.49**	**238**	P	**P**	**09 42 19.3**	**-1.6**
	2.2nm,0.4s,baz=62,slow=10,SNR=78						
ASAR				ScP	**ScP**	**09 48 59.0**	**-0.9**
	0.4nm,0.8s,baz=64,slow=2.8,SNR=4.3						
ASAR				LR	LR	09 53 13.1	
	comp=Z,155nm,21.9s,baz=75,slow=34						
KNRA	**Kununurra**	**32.04**	**256**	P	**P**	**09 42 42.4**	**-0.9**
	baz=28,SNR=5.4						
URZ	**Urewera**	**32.13**	**156**	P	**P**	**09 42 43.2**	**-0.6**
	6.0nm,0.9s,baz=333,slow=2.3,SNR=2.6						
BBOO	**Buckleboo**	**32.72**	**221**	P	**P**	**09 42 49.2**	**+0.1**
	baz=28,SNR=14						
RPZ	**Rata Peaks**	**35.23**	**167**	P	**P**	**09 43 10.1**	**-0.7**
	12nm,0.9s,baz=347,slow=3.3,SNR=3.9						
FITZ	**Fitzroy Crossi**	**35.35**	**252**	P	**P**	**09 43 11.6**	**-0.5**
	baz=31,SNR=11						
RAR	**Rarotonga**	**39.48**	**112**	LR	LR	09 56 33.6	
	comp=Z,1μm,21.9s,baz=90,slow=31						
MEEK	**Meekatharra**	**43.53**	**241**	P	**P**	**09 44 19.8**	**-0.3**
	baz=39,SNR=20						
MORW	**Morawa**	**46.37**	**239**	P	**P**	**09 44 43.1**	**+0.5**
	baz=42,SNR=3.7						
KSRS	**Korea Array**	**56.02**	**328**	P	**P**	**09 45 57.1**	**+2.5**
	0.8nm,0.5s,baz=152,slow=7.9,SNR=3.7						
USRK	**Ussuriysk Arra**	**59.53**	**336**	P	**P**	**09 46 18.9**	**-0.2**
	1.9nm,0.8s,baz=94,slow=12,SNR=4.0						
PETK	**Petropavlovsk-**	**62.38**	**358**	P	**P**	**09 46 38.7**	**+0.4**
	2.9nm,1.0s,baz=155,slow=11,SNR=3.9						
VNDA	**Vanda**	**68.04**	**180**	P	**P**	**09 47 14.2**	**-0.3**
	3.7nm,0.6s,baz=342,slow=6.4,SNR=37						
SONM	**Songino Array**	**74.67**	**325**	P	**P**	**09 47 55.6**	**+0.5**
	0.8nm,0.5s,baz=141,slow=5.8,SNR=6.5						
ILAR	**Eielson Array**	**83.56**	**20**	P	**P**	**09 48 42.5**	**-0.5**
	0.8nm,0.5s,baz=232,slow=5.3,SNR=14						
MKAR	**Makanchi Array**	**89.20**	**318**	P	**P**	**09 49 10.8**	**-0.2**
	0.4nm,0.6s,baz=104,slow=6.4,SNR=3.3						
TORD	**Torodi Ar. Bea**	**159.39**	**282**	PKPab	**PKPab**	**09 56 50.9**	**-1.5**
	0.6nm,0.9s,baz=59,slow=3.3,SNR=3.9						

ISK 18 09:47:14.5, 37°.52N×35°.66E, h6km, MD2.5, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOZT	**Kozan**	**0.14**	**105**	PG	Pg	09 47 17.9	+0.6
KOZT				SG	Sg	09 47 20.2	+0.9
KARA	**Karaisali**	**0.55**	**242**	*e*PG	Pb	09 47 25.9	-0.6
KARA				*e*SG	Sg	09 47 33.4	+1.1
NIG	**Nigde**	**1.02**	**306**	*e*PG	Pg	09 47 34.1	-0.4

IDC 18 09:47:20.7±0.9, 0°.22N×126°.26E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.8/22, mbtmp3.8/6, Error ellipse: s-maj=63.1km s-min=18.3km az=73.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.55**	**159**	P	P	09 52 11.3	-0.5
	2.7nm,0.5s,baz=338,slow=10,SNR=27						
ASAR	**Alice Springs**	**24.88**	**163**	P	P	09 52 45.9	+0.6
	1.3nm,0.3s,baz=342,slow=9.8,SNR=100						
STKA	**Stephens Creek**	**35.07**	**157**	P	P	09 54 15.2	-0.3
	1.8nm,0.9s,baz=333,slow=12,SNR=3.0						
SONM	**Songino Array**	**50.47**	**343**	P	P	09 56 20.5	0.0
	0.3nm,0.5s,baz=140,slow=6.6,SNR=2.5						
PETK	**Petropavlovsk-**	**58.84**	**22**	P	P	09 57 20.9	-0.1
	0.9nm,0.5s,baz=198,slow=7.0,SNR=4.4						
MKAR	**Makanchi Array**	**60.18**	**327**	P	P	09 57 30.4	0.0
	0.4nm,0.4s,baz=117,slow=8.3,SNR=5.1						
TORD	**Torodi Ar. Bea**	**123.49**	**286**	PKP	PKPdf	10 06 20.6	-0.5
	0.3nm,0.8s,baz=157,slow=2.1,SNR=2.2						

*CSEM **18** 09:48:12.3, 37°.25N×28°.19E, h5km, MD2.1, After ISK*

ISK 18 09:48:12.3, 37°.25N×28°.19E, h5km, MD2.1, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.14**	**148**	*e*PG	Pg	09 48 15.7	+0.4
YER				*e*SG	Sg	09 48 18.3	+1.1
YER	**Yerkesik**	**0.14**	**148**	*e*Pg	Pg	09 48 15.7	+0.5
YER				*e*Sg	Sg	09 48 18.3	+1.1
DALY	**Dalyan (Mu¨la**	**0.57**	**139**	*e*PG	Pg	09 48 23.9	+0.6
DALY	**Dalyan (Mu¨la**	**0.57**	**139**	*e*Pg	Pg	09 48 23.9	+0.6
DAT	**Datca**	**0.72**	**223**	*e*PG	Pb	09 48 26.9	-0.5
DAT	**Datca**	**0.72**	**223**	*e*Pg	Pb	09 48 26.9	-0.6
BODT	**Bodrum**	**0.73**	**255**	*e*PG	Pg	09 48 26.4	0.0
BODT	**Bodrum**	**0.73**	**255**	*e*Pg	Pg	09 48 26.4	+0.1
FETY	**Fethiye**	**0.94**	**131**	*e*PG	Pg	09 48 30.6	+0.1
FETY	**Fethiye**	**0.94**	**131**	*e*Pg	Pg	09 48 30.6	+0.1
KULA	**Kula-Manisa**	**1.31**	**16**	*e*PN	Pg	09 48 38.6	+1.0
KULA	**Kula-Manisa**	**1.31**	**16**	*e*Pn	Pg	09 48 38.7	+1.1

IDC 18 09:50:18.6±1.7, 4°.20N×127°.54E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.6/24, mbtmp3.7/5, Error ellipse: s-maj=151.1km s-min=20.0km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.91**	**165**	P	P	09 55 44.2	+0.7
	1.0nm,0.7s,baz=345,slow=10,SNR=11						
ASAR	**Alice Springs**	**28.38**	**168**	P	P	09 56 13.5	-1.4
	0.3nm,0.7s,baz=351,slow=7.7,SNR=6.1						
STKA	**Stephens Creek**	**38.29**	**161**	P	P	09 57 41.3	+0.4
	2.5nm,0.8s,baz=353,slow=8.1,SNR=4.0						
MKAR	**Makanchi Array**	**57.63**	**325**	P	P	10 00 10.7	0.0
	0.5nm,0.4s,baz=122,slow=8.6,SNR=5.2						
KURBB	**Kurchatov Arra**	**61.78**	**327**	P	P	10 00 39.0	-0.1
	0.3nm,0.4s,baz=132,slow=5.3,SNR=5.3						

IDC 18 09:54:19.2±57.0, 17°.89S×177°.86W, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.5/16, mbtmp3.5/3, Error ellipse: s-maj=1050.0km s-min=167.7km az=79.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.10**	**241**	P	P	10 01 49.2	+0.8
	1.6nm,0.9s,baz=104,slow=12,SNR=3.7						
WRA	**Warramunga Arr**	**45.15**	**259**	P	P	10 02 37.9	-0.1
	0.2nm,0.4s,baz=97,slow=7.4,SNR=8.2						
ASAR	**Alice Springs**	**45.30**	**254**	P	P	10 02 38.4	-0.9
	0.3nm,0.6s,baz=91,slow=7.8,SNR=7.6						

IDC 18 10:07:55.4±1.0, 13°.90N×92°.89E, h39km±7km, mb3.5/9, mb1 3.6/9, mb1mx3.4/27, mbtmp3.5/9, MS2.9/1, Ms1 2.9/1, ms1mx2.5/35, Error ellipse: s-maj=39.0km s-min=15.0km az=58.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**7.37**	**51**	Sn	Sn	10 10 56.6	-6.4
	0.4nm,0.3s,baz=213,slow=26,SNR=3.5						
PSI	**Prapat**	**12.53**	**151**	LR	LR	10 15 59.5	
	comp=Z,58nm,19.2s,baz=226,slow=38						
MKAR	**Makanchi Array**	**33.98**	**347**	P	P	10 14 35.1	-0.1
	0.7nm,0.7s,baz=153,slow=8.2,SNR=4.5						
MKAR				pP	pP	10 14 46.2	+0.1
	0.6nm,0.6s,baz=171,slow=8.2,SNR=4.7						
SONM	**Songino Array**	**35.65**	**16**	P	P	10 14 49.7	-0.1
	0.3nm,0.5s,baz=211,slow=6.3,SNR=2.9						
KURBB	**Kurchatov Arra**	**38.44**	**345**	P	P	10 15 13.2	-0.1
	0.8nm,0.6s,baz=158,slow=8.4,SNR=6.7						
KURBB				pP	pP	10 15 24.7	+0.4
	0.8nm,0.7s,baz=159,slow=8.3,SNR=6.6						
ZALV	**Zalesovo Beam**	**40.46**	**353**	P	P	10 15 29.9	-0.1
	0.5nm,0.4s,baz=177,slow=12,SNR=4.8						
WRA	**Warramunga Arr**	**52.85**	**129**	P	P	10 17 07.6	+0.1
	1.0nm,0.8s,baz=308,slow=9.6,SNR=7.6						
ASAR	**Alice Springs**	**54.79**	**133**	P	P	10 17 21.6	-0.1
	0.5nm,0.4s,baz=310,slow=7.2,SNR=18						
ASAR				pP	pP	10 17 32.6	-0.5
	0.4nm,0.4s,baz=308,slow=7.0,SNR=4.7						
BRTR	**Keskin Array B**	**57.67**	**308**	P	P	10 17 41.4	-0.8
	0.6nm,0.7s,baz=131,slow=6.5,SNR=4.0						
FINES	**FINESS Array B**	**66.86**	**331**	P	P	10 18 42.4	-0.6
	1.8nm,0.8s,baz=137,slow=12,SNR=3.6						
TORD	**Torodi Ar. Bea**	**88.04**	**283**	P	P	10 20 43.1	+0.8
	0.3nm,0.7s,baz=56,slow=3.6,SNR=2.7						

IDC 18 10:17:10.1±2.7, 47°.03N×152°.62E, h80km±24km, mb3.3/9, mb1 3.6/13, mb1mx3.4/26, mbtmp3.4/13, MS2.7/1, Ms1 2.7/1, ms1mx2.2/27, Error ellipse: s-maj=25.1km s-min=17.0km az=155.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**6.91**	**26**	P	Pn	10 18 48.4	-0.2
	0.2nm,0.3s,baz=185,slow=14,SNR=2.5						
PETK				S	Sn	10 20 14.6	+8.9
	baz=191,slow=20,SNR=2.5						
ASAJ	**Asahikawa**	**7.61**	**251**	P	Pn	10 18 59.1	+0.8
	0.9nm,0.3s,baz=65,slow=20,SNR=7.3						
ASAJ				LR	LR	10 22 03.8	
	comp=Z,47nm,18.5s,baz=147,slow=39						
FX1	**Attu Island--F**	**14.44**	**59**	P	Pn	10 20 28.9	-1.4
	2.3nm,0.3s,baz=341,slow=22,SNR=7.6						
FX1				S	Sn	10 22 56.7	-12
	0.5nm,0.3s,baz=221,slow=20,SNR=3.4						
USRK	**Ussuriysk Arra**	**14.71**	**266**	P	Pn	10 20 33.8	-0.1
	0.2nm,0.3s,baz=83,slow=16,SNR=3.6						
ILAR	**Eielson Array**	**36.54**	**39**	P	P	10 24 07.5	-0.1
	0.2nm,0.5s,baz=262,slow=6.9,SNR=4.3						
MKAR	**Makanchi Array**	**46.52**	**297**	P	P	10 25 29.7	+0.4
	0.3nm,0.8s,baz=63,slow=6.6,SNR=2.5						
KURBB	**Kurchatov Arra**	**47.02**	**303**	P	P	10 25 32.5	-0.6
	baz=68,slow=8.4						
FINES	**FINESS Array B**	**63.65**	**334**	P	P	10 27 32.2	0.0
	2.0nm,0.9s,baz=28,slow=9.5,SNR=3.6						
PDAR	**Pinedale Array**	**64.86**	**54**	P	P	10 27 41.5	+0.7
	0.6nm,0.8s,baz=198,slow=0.9,SNR=4.4						
NOA	**NORSAR Array B**	**67.86**	**341**	P	P	10 27 59.4	0.0
	0.6nm,0.6s,baz=25,slow=6.3,SNR=4.6						
AKASG	**Malin Array Be**	**71.13**	**326**	P	P	10 28 19.5	-0.1
	1.0nm,0.4s,baz=32,slow=5.0,SNR=3.1						
ASAR	**Alice Springs**	**72.36**	**198**	P	P	10 28 27.0	-0.3
	0.3nm,0.7s,baz=23,slow=5.0,SNR=3.7						
TXAR	**Lajitas Array**	**77.65**	**60**	P	P	10 28 58.2	+0.2
	0.3nm,0.7s,baz=308,slow=4.4,SNR=3.9						
TXAR				pP	pP	10 29 14.4	-4.6
	0.4nm,0.7s,baz=304,slow=4.2,SNR=3.7						
BRTR	**Keskin Array B**	**77.96**	**316**	P	P	10 28 59.6	0.0
	0.4nm,0.6s,baz=20,slow=4.6,SNR=3.6						

*CSEM **18** 10:26:15.6, 41°.14N×14°.93E, h18km, MD2.1/9, After ROM*

ROM 18 10:26:15.6±0.1, 41°.14N×14°.93E, h18km±2km, Md2.1/9, MI1.6/6, Error ellipse: s-maj=1.2km s-min=0.7km az=40.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IPES	**Pescosannita**	**0.12**	**323**	Pg	Pg	10 26 19.8	+0.2
PSB1	**Pescosannita**	**0.13**	**315**	Pg	Pg	10 26 19.7	+0.1
PSB1				Sg	Sg	10 26 22.7	+0.3
	156nm,0.4s						
PSB1	**Pescosannita**	**0.13**	**315**	Pg	Pg	10 26 19.7	+0.1
PSB1				Sg	Sg	10 26 22.7	+0.3
	156nm,0.4s						
CAFE	**Carife**	**0.26**	**115**	Pg	Pg	10 26 21.5	-0.1
CAFE				Sg	Sb	10 26 26.1	+0.3
	154nm,0.3s						
CAFE	**Carife**	**0.26**	**115**	Pg	Pg	10 26 21.5	-0.1
CAFE				Sg	Sb	10 26 26.1	+0.3
	154nm,0.3s						
MOCO	**Biccari - m.te**	**0.29**	**36**	Pg	Pg	10 26 22.1	-0.1
MOCO				Sg	Sb	10 26 27.3	+0.3
	76nm,0.5s						
SNAL	**S. Angelo Dei**	**0.30**	**135**	Pg	Pg	10 26 22.2	0.0
SNAL				Sg	Sb	10 26 27.6	+0.5
SNAL	**S. Angelo Dei**	**0.30**	**135**	Pg	Pg	10 26 22.2	0.0
SNAL				Sg	Sb	10 26 27.6	+0.5
SACR	**S. Croce Del S**	**0.31**	**327**	Pg	Pb	10 26 22.8	0.0
	36nm,0.5s						
SACR	**S. Croce Del S**	**0.31**	**327**	Pg	Pb	10 26 22.8	0.0
	36nm,0.5s						
SGTA	**Sant Agata di**	**0.33**	**90**	Pg	Pg	10 26 22.7	-0.1
SGTA				Sg	Sb	10 26 28.3	+0.2
	49nm,0.4s						
SGTA	**Sant Agata di**	**0.33**	**90**	Pg	Pg	10 26 22.7	-0.1
SGTA				Sg	Sb	10 26 28.3	+0.2
	49nm,0.4s						
PTRJ	**Pietraroja**	**0.38**	**307**	Pg	Pg	10 26 23.8	+0.1
PTRJ				Sg	Sb	10 26 29.9	+0.2
PTRJ	**Pietraroja**	**0.38**	**307**	Pg	Pg	10 26 23.8	+0.1
PTRJ				Sg	Sb	10 26 29.9	+0.2
MCRV	**Calabrutti - M**	**0.40**	**153**	Pg	Pg	10 26 23.9	-0.1
MCRV				Sg	Sb	10 26 30.3	+0.1
	39nm,0.3s						
MCRV	**Calabrutti - M**	**0.40**	**153**	Pg	Pg	10 26 23.9	-0.1
MCRV				Sg	Sb	10 26 30.3	+0.1
	39nm,0.3s						

BUC 18 10:28:47.3±0.8, 45°.25N×25°.86E, h14km±6km, MD2.6/3, 20C, Error ellipse: s-maj=6.8km s-min=5.7km az=34.0, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MLR	**Muntele Rosu**	**0.25**	**14**	⇑*i*P	Pg	10 28 53.1	+0.2
MLR	**Muntele Rosu**	**0.25**	**14**	⇑*i*P	Pg	10 28 53.1	+0.2
MLR				*i* S	Sb	10 28 58.5	+0.3
SECR		**0.26**	**145**	⇑*i*P	Pg	10 28 53.2	+0.3
SECR				S	Sb	10 28 58.1	0.0
SECR		**0.26**	**145**	⇑*i*P	Pg	10 28 53.2	+0.3
SECR				*i* S	Sb	10 28 58.1	0.0
ISR	**Istrita**	**0.50**	**105**	⇑*i*P	Pb	10 28 59.0	+1.0
ISR	**Istrita**	**0.50**	**105**	⇑*i*P	Pb	10 28 59.0	+1.0
ISR				*i* S	Sb	10 29 04.9	-0.3
DOPR	**Dopca**	**0.79**	**336**	⇑*i*P	Pg	10 29 02.7	-0.1
DOPR	**Dopca**	**0.79**	**336**	⇑*i*P	Pg	10 29 02.7	-0.1
DOPR				*i* S	Sn	10 29 15.8	0.0
PLOR	**Plostina**	**0.82**	**42**	⇑*i*P	Pn	10 29 04.3	-0.2
PLOR	**Plostina**	**0.82**	**42**	⇑*i*P	Pn	10 29 04.3	-0.2
PLOR				*i* S	Sn	10 29 15.9	-0.6
VRI	**Vrincioaia**	**0.87**	**44**	⇑*i*P	Pg	10 29 04.5	+0.3
VRI	**Vrincioaia**	**0.87**	**44**	⇑*i*P	Pg	10 29 04.5	+0.3
VRI				*i* S	Sn	10 29 17.9	+0.2
ARR	**Arges**	**0.87**	**278**	⇑*i*P	Pn	10 29 04.8	-0.4
ARR	**Arges**	**0.87**	**278**	⇑*i*P	Pn	10 29 04.8	-0.4
ARR				*i* S	Sn	10 29 17.9	+0.1
HUMR	**Humele**	**0.95**	**221**	S	Sn	10 29 20.7	+1.1
HUMR	**Humele**	**0.95**	**221**	*i* S	Sn	10 29 20.7	+1.1
LOT	**Lotru**	**1.49**	**279**	⇑*i*P	Pb	10 29 15.4	+0.6
LOT	**Lotru**	**1.49**	**279**	S	Sg	10 29 36.3	+0.8
LOT	**Lotru**	**1.49**	**279**	⇑*i*P	Pb	10 29 15.4	+0.6
LOT				*i* S	Sg	10 29 36.3	+0.8
CFR	**Carcaliu**	**1.61**	**92**	⇑*i*P	Pb	10 29 17.2	+0.4
CFR	**Carcaliu**	**1.61**	**92**	⇑*i*P	Pb	10 29 17.2	+0.4
CFR				*i* S	Sb	10 29 36.9	-0.1
MSAB	**Monastry St. A**	**1.82**	**129**	⇑*i*P	Pn	10 29 18.5	+0.4
MSAB	**Monastry St. A**	**1.82**	**129**	⇑*i*P	Pn	10 29 18.5	+0.4
MSAB				*i* S	Sb	10 29 42.2	-0.7
TIRR	**Tirgusor**	**1.98**	**113**	S	Sb	10 29 47.2	-0.4
TIRR	**Tirgusor**	**1.98**	**113**	*i* S	Sb	10 29 47.2	-0.4

*NNC **18** 10:36:26.1±4.7, 37°.19N×70°.47E, h66km±90km, mb4.2, mpv4.4, Error ellipse: s-maj=34.2km s-min=30.7km az=3.0*

*IDC **18** 10:36:34.7±1.1, 38°.28N×70°.60E, h0km, mb3.8/10, mb1 4.0/15, mb1mx3.8/32, mbtmp3.9/15, ML3.9/5, MS2.9/3, Ms1 2.9/3, ms1mx2.5/40, Error ellipse: s-maj=20.8km s-min=14.3km az=156.0*

*ISCJB **18** 10:36:38.4±0.6, 38°.60N±0°.06×70°.34E±0°.06, h23km, mb3.7/10, MS3.1/1, Error ellipse: s-maj=8.1km s-min=7.0km az=15.2*

ISC 18 10:36:40.0±0.7, 38°.56N±0°.06×70°.44E±0°.08, h23km, n32, σ1§85/34, mb3.8/10, 4C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**4.35**	**34**	P	**Pn**	**10 37 46.5**	**+1.5**
	SNR=12						
KK31	**Karatay Array**	**4.54**	**1**	⇓P	**Pn**	**10 37 49.4**	**+2.1**
	8.3nm,0.3s,baz=177,slow=12,SNR=140						
KK31				⇑S	**Sb**	**10 38 58.7**	**+5.5**
	70nm,0.8s,baz=167,slow=26,SNR=6.5						
EKS2	**Erkin-Say**	**4.82**	**31**	P	Pn	10 37 56.7	+5.5
	SNR=6.3						
CEP	**Cherat**	**4.87**	**165**	P	**Pn**	**10 37 53.9**	**+1.9**
CEP				S	**Sb**	**10 39 06.0**	**+3.1**
KZA	**Kyzart**	**5.08**	**45**	P	**Pn**	**10 37 56.7**	**+1.5**
	SNR=9.9						
AAK	**Ala-Archa**	**5.11**	**36**	P	**Pn**	**10 37 53.0**	**-2.2**
	SNR=13						
AAK	**Ala-Archa**	**5.11**	**36**	Pn	**Pn**	**10 37 57.6**	**+2.4**
	4.3nm,0.3s,baz=192,slow=5.2,SNR=23						
AAK				Sn	**Sn**	**10 38 52.6**	**-0.9**
	2.0nm,0.3s,baz=355,slow=12,SNR=1.6						
AAK				Lg	Lg	10 39 21.1	
	2.3nm,0.3s,baz=143,slow=20,SNR=2.5						
AAK				LR	LR	10 40 16.5	
	comp=Z,76nm,20.6s,baz=185,slow=42						
KBK	**Karagaybulak**	**5.34**	**39**	P	**Pn**	**10 38 00.8**	**+2.4**
	SNR=33						
CHMS	**Chumysh**	**5.51**	**35**	P	**Pn**	**10 38 02.5**	**+1.9**
	SNR=17						
USP	**Ospenovka**	**5.62**	**32**	P	Pn	10 38 06.4	+4.3
	SNR=19						
ULHL	**Ulahol**	**5.76**	**48**	P	**Pn**	**10 38 05.2**	**+1.0**
	SNR=8.9						
TKM2	**Tokmak 2**	**5.86**	**40**	⇓P	**Pn**	**10 38 06.5**	**+0.9**
	36nm,0.8s						
TKM2				⇓S	Sn	10 39 22.5	+10
	22nm,0.8s						
TKM2	**Tokmak 2**	**5.86**	**40**	P	**Pn**	**10 38 06.7**	**+1.2**
	SNR=32						
MK31	**Makanchi Array**	**11.98**	**43**	⇑P	**Pn**	**10 39 29.8**	**+0.5**
	9.6nm,1.1s,baz=232,slow=12,SNR=32						
MKAR	**Makanchi Array**	**11.98**	**43**	Pn	**Pn**	**10 39 29.4**	**+0.1**
	0.3nm,0.3s,baz=232,slow=14,SNR=36						
MKAR				Lg	Lg	10 42 57.7	
	0.1nm,0.3s,baz=205,slow=24,SNR=2.5						
AB31	**Akbulak array**	**13.09**	**328**	⇑P	**Pn**	**10 39 43.8**	**-0.5**
	4.6nm,0.5s,baz=153,slow=9.6,SNR=68						
AB31				⇑S	**Sn**	**10 42 09.7**	**+0.7**
	3.3nm,0.6s,baz=148,slow=24,SNR=6.7						
KURBB	**Kurchatov Arra**	**13.36**	**23**	Pn	Pn	10 39 45.1	-2.9
	0.3nm,0.3s,baz=217,slow=12,SNR=10						
KURBB				Lg	Lg	10 43 40.5	
	0.1nm,0.3s,baz=213,slow=29,SNR=5.5						
BVA0	**

NNC 18 11:19:44.6±4.6, 50°.19N×73°.18E, h0km, mb3.6, mpv3.2, 5C-3D, Error ellipse: s-maj=61.0km s-min=13.2km az=28.0, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VOSK	**Vostochnaya** 5.1nm,0.5s	**2.89**	**332**	⇓Pn	Pn	11 20 29.8	-2.1
VOSK	23nm,0.8s			⇑Sn	Sn	11 21 05.3	-2.0
BVA0	**Borovoye Array** 2.9nm,0.6s,baz=132,slow=15,SNR=7.1	**3.33**	**330**	⇓Pn	Pn	11 20 39.1	+1.1
BVA0	20nm,0.7s,baz=125,slow=26,SNR=11			Sn	Sn	11 21 20.1	+1.9
BRVK	**Borovoye** 5.5nm,0.6s	**3.40**	**329**	⇑Pn	Pn	11 20 40.5	+1.7
BRVK	52nm,0.8s			⇑Sn	Sn	11 21 20.9	+1.1
KURBB	**Kurchatov Arra** 9.3nm,0.6s	**3.45**	**81**	⇑Pn	Pn	11 20 38.5	-1.2
KURBB	42nm,0.7s			⇓Sn	Sn	11 21 23.1	+1.9
MK31	**Makanchi Array** 4.2nm,0.7s,baz=315,slow=25,SNR=5.3	**6.94**	**116**	⇑Lg	Lg	11 23 28.5	

*IDC **18** 11:22:00.2±1.3, 16°.30N×122°.30E, h0km, mb3.6/4, mb1 3.9/5, mb1mx3.5/26, mbtmp3.7/5, ML4.3/1, MS3.2/1, Ms1 3.2/1, ms1mx2.7/31, Error ellipse: s-maj=30.2km s-min=22.4km az=105.0*

*ISCJB **18** 11:22:06.7±0.7, 16°.14N±0°.04×121°.89E±0°.07, h39km, mb3.6/4, MS3.0/1, Error ellipse: s-maj=10.5km s-min=5.2km az=17.5*

*MAN **18** 11:22:06, 16°.18N×121°.76E, h17km, mb4.5, ML3.4, MS3.3*

ISC 18 11:22:07.4±1.1, 16°.15N±0°.04×121°.85E±0°.07, h39km, n18, σ1§40/18, mb3.6/4, 3C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALP	**Baler**	**0.48**	**212**	*e*P	**Pn**	**11 22 16.3**	**-1.6**
BALP				*e*S	**Sn**	**11 22 24.5**	**-0.6**
CAUP	**Cauayan**	**0.79**	**358**	*e*P	**Pn**	**11 22 20.9**	**-1.2**
CAUP				*e*S	**Sn**	**11 22 33.1**	**+0.4**
PCPH	**Palayan**	**0.93**	**231**	⇓*i*P	**Pn**	**11 22 22.9**	**-1.0**
PCPH				*i* S	**Sn**	**11 22 37.4**	**+1.4**
PALP	**Palanan**	**1.06**	**31**	⇑*i*P	**Pn**	**11 22 26.8**	**+1.0**
BCPH	**Baguio City Da**	**1.23**	**281**	⇑*i*P	**Pn**	**11 22 27.2**	**-1.1**
CVP	**Caliao Caves**	**1.54**	**359**	*e*P	**Pn**	**11 22 31.8**	**-0.6**
APYP	**Conner**	**1.80**	**341**	*e*P	**Pn**	**11 22 35.9**	**0.0**
ABRA	**Dolores**	**1.84**	**324**	*e*P	**Pn**	**11 22 37.5**	**+1.0**
BOLP	**Bolinao**	**1.87**	**277**	*e*P	**Pn**	**11 22 38.3**	**+1.4**
SCZP	**Santa Cruz**	**1.90**	**259**	*e*P	**Pn**	**11 22 37.7**	**+0.4**
LQP	**Lukban**	**2.05**	**188**	*e*P	Pn	11 22 49.5	+10
TGY	**Tagaytay City** 66nm,0.3s,baz=21,slow=2.6,SNR=5.9	**2.22**	**203**	Pn	**Pn**	**11 22 43.5**	**+1.7**
TGY	61nm,0.3s,baz=53,slow=19,SNR=3.1			Sn	Sn	11 23 15.4	+7.5
GQP	**Guinayangan**	**2.31**	**165**	⇑*e*P	**Pn**	**11 22 44.3**	**+1.4**
CMAR	**Chiang Mai Arr** 0.6nm,0.5s,baz=88,slow=8.3,SNR=7.0	**21.98**	**279**	P	**P**	**11 27 00.4**	**+2.2**
USRK	**Ussuriysk Arra** comp=Z,39nm,18.5s,baz=8.4,slow=41	**29.25**	**15**	LR	LR	11 41 54.6	
WRA	**Warramunga Arr** 3.2nm,0.8s,baz=340,slow=9.3,SNR=14	**37.91**	**161**	P	**P**	**11 29 19.3**	**-1.8**
ASAR	**Alice Springs** 1.2nm,1.1s,baz=344,slow=7.4,SNR=5.7	**41.29**	**163**	P	**P**	**11 29 47.5**	**-1.8**
PETK	**Petropavlovsk-** 0.7nm,0.8s,baz=218,slow=8.8,SNR=2.2	**46.36**	**29**	P	P	11 30 25.2	-4.4

*ISCJB **18** 11:38:15.5±1.4, 15°.6S±0°.1×168°.0E±0°.2, h150km, mb4.2/5, Error ellipse: s-maj=25.9km s-min=13.7km az=143.3*

*IDC **18** 11:38:18.0±15.0, 15°.65S×167°.92E, h158km±140km, mb3.9/5, mb1 4.1/5, mb1mx3.6/19, mbtmp3.9/5, Error ellipse: s-maj=64.1km s-min=26.6km az=27.0*

*AUST **18** 11:39:01.7, 16°.94S×165°.84E, h450km*

ISC 18 11:38:16.4±1.4, 15°.6S±0°.2×168°.1E±0°.2, h150km, n24, σ1§00/24, mb4.2/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EIDS	**Eidsvold** baz=16,SNR=14	**18.66**	**236**	P	**Pn**	**11 42 25.2**	**+0.2**
RMQ	**Roma** baz=18,SNR=12	**21.03**	**236**	P	**P**	**11 42 50.4**	**+2.0**
ARMA	**Armidale** baz=19,SNR=13	**21.11**	**223**	P	**P**	**11 42 51.1**	**+1.8**
MTSU	**Mount Surprise** baz=20,SNR=10	**22.92**	**260**	P	**P**	**11 43 08.8**	**+1.1**
MTSU	baz=20,SNR=7.1			S	S	11 46 31.9	-34
URZ	**Urewera** 4.1nm,0.5s,baz=318,slow=16,SNR=4.6	**23.89**	**162**	P	**P**	**11 43 17.4**	**+1.2**
URZ	4.4nm,0.9s,baz=156,slow=20,SNR=2.0			S	**S**	**11 47 20.1**	**-1.5**
COEN	**Coen** baz=22,SNR=8.7	**24.18**	**271**	P	**P**	**11 43 19.6**	**+0.5**
PATS	**Pohnpei** baz=25,SNR=3.2	**24.35**	**336**	S	S	11 47 44.7	+16
CNB	**Canberra Magne** baz=24,SNR=4.8	**25.82**	**217**	P	**P**	**11 43 34.4**	**+0.6**
CMSA	**Cobar Meteorol** baz=23,SNR=16	**25.87**	**228**	P	**P**	**11 43 34.1**	**-0.2**
STKA	**Stephens Creek** 9.8nm,0.8s,baz=70,slow=9.1,SNR=15	**29.06**	**231**	P	**P**	**11 44 02.8**	**0.0**
STKA	**Stephens Creek** baz=26,SNR=11	**29.06**	**231**	P	**P**	**11 44 03.3**	**+0.5**
WRA	**Warramunga Arr** 1.0nm,0.4s,baz=85,slow=8.9,SNR=45	**32.42**	**257**	P	**P**	**11 44 30.7**	**-1.8**
ASAR	**Alice Springs** 6.8nm,0.4s,baz=79,slow=9.1,SNR=178	**33.14**	**251**	P	**P**	**11 44 38.1**	**-0.6**
BBOO	**Buckleboo** baz=31,SNR=26	**33.70**	**234**	P	**P**	**11 44 43.4**	**0.0**
KDU	**Kakadu** baz=32,SNR=5.6	**34.67**	**270**	P	**P**	**11 44 51.0**	**-0.9**
FAKI	**Fak Fak** baz=36,SNR=7.0	**37.51**	**286**	P	**P**	**11 45 16.4**	**+0.2**
KNRA	**Kununurra** baz=36,SNR=8.2	**37.87**	**264**	P	**P**	**11 45 18.1**	**-0.9**
FORT	**Forrest** baz=37,SNR=9.6	**39.56**	**240**	P	**P**	**11 45 32.7**	**-0.3**
FITZ	**Fitzroy Crossi** baz=38,SNR=9.0	**40.67**	**260**	P	**P**	**11 45 42.1**	**-0.2**
MEEK	**Meekatharra** baz=45,SNR=10	**47.21**	**248**	P	**P**	**11 46 33.8**	**-0.6**
MORW	**Morawa** baz=47,SNR=3.6	**49.63**	**245**	P	**P**	**11 46 51.9**	**-1.0**
SONM	**Songino Array** 0.4nm,0.4s,baz=114,slow=3.5,SNR=3.5	**83.71**	**323**	P	**P**	**11 50 29.3**	**+0.7**
ARCES	**ARCESS Array B** 4.8nm,0.9s,baz=66,slow=2.3,SNR=3.9	**121.33**	**346**	PKP	**PKPdf**	**11 56 51.2**	**+0.1**
TORD	**Torodi Ar. Bea** 0.3nm,0.5s,baz=86,slow=2.4,SNR=3.7	**166.62**	**261**	PKPab	**PKPab**	**11 59 07.3**	**-0.9**

*IDC **18** 11:53:46.1±0.3, 6°.50N×124°.69E, h0km, mb4.9/38, mb1 4.9/39, mb1mx4.9/41, mbtmp4.9/39, ML4.9/1, MS5.0/29, Ms1 5.0/29, ms1mx4.9/37, Error ellipse: s-maj=14.7km s-min=8.7km az=71.0*

*NEIC **18** 11:53:48.0±0.2, 6°.51N×124°.72E, h10km, mb5.4/30, MS5.2/134, MW5.7, Error ellipse: s-maj=6.3km s-min=4.5km az=75.0*

NEIC At least 91 people injured and 76 buildings damaged in South Cotabato and Sultan Kudarat. Felt [IV PIVS] at Isulan, Koronadal, Polomolok and Tacurong; [III PIVS] at Cotabato, Davao, Digos, General Santos and Kabacan; [II PIVS] at Kidapawan and Matan-ao. Also felt at Banga.

*ISCJB **18** 11:53:49.8±0.5, 6°.52N±0°.01×124°.73E±0°.02, h33km±3km, mb5.2/144, MS5.2/198, Error ellipse: s-maj=3.3km s-min=2.3km az=175.1*

*MOS **18** 11:53:49.4±1.2, 6°.53N×124°.72E, h33km, mb5.7/47, MS5.0/33, Error ellipse: s-maj=11.0km s-min=5.3km az=113.5*

*MAN **18** 11:53:49, 6°.50N×124°.70E, h74km, mb6.1, ML5.1, MS5.7*

MAN INTENSITY VI - NORALA & STO NINO SOUTH COTABATO; INTENSITY V - PALIMBANG SULTAN KUDARAT; TACURONG & ISULAN.

*BJI **18** 11:53:49.0, 6°.54N×124°.74E, h26km, mB5.6/60, mb5.3/68, Ms5.5/80, Ms7 5.2/72*

*BKK **18** 11:53:50.4±0.2, 7°.N±3°.×12°.5E±°, h10km, M5.5/36, mb5.3/36, mB5.9/33, MLv5.8/5, Mw(mB)5.4/33, Mwp5.7/6*

*GCMT **18** 11:53:51.8±0.1, 6°.53N×124°.65E, h16km, MW5.7, Moment Tensor Solution. s99,c173; s45,c54; Moment tensor: Scale 10^{17}Nm; M_{rr}-0.37±.05; $M_{\theta\theta}$3.44±.04; $M_{\phi\phi}$-3.06±.05; $M_{r\theta}$-0.20±.12; $M_{r\phi}$-1.77±.04; $M_{\theta r}$-1.25±.15; Best double couple: $M_0$3.90000×10^{17} NP1:ϕ_s328.00000°, δ78.00000°, λ-15.00000°. NP2:ϕ_s61.00000°, δ75.00000°, λ-167.00000°. Principal axes: T 3.8900, Plg2.0000°, Azm15.0000°; N 0.0700, Plg71.0000°, Azm109.0000°; P -3.9500, Plg19.0000°, Azm284.0000°; Data Used: II IU IC G CN. Surface waves: sta=113, comp=230, per= 50.*

*TEH **18** 11:53:51.0, 6°.51N×124°.70E, h27km, ML5.4*

*DJA **18** 11:53:53.0±0.7, 6°N±2°×12°.5E±°, h13km±6km, M5.6/93, mb5.5/93, mB6.0/75, MLv6.1/10, Mw(mB)5.6/75, Mwp5.7/15*

*AUST **18** 11:53:54.1, 6°.50N×124°.51E, h60km*

*NEIC **18** 11:54:00.1±0.0, 6°.26N×124°.86E, h10km, Moment Tensor Solution. s133 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.07; $M_{\theta\theta}$2.60; $M_{\phi\phi}$-2.53; $M_{r\theta}$-1.40; $M_{\theta\phi}$-1.08; $M_{\theta r}$-3.08; Best double couple: $M_0$4.10000×10^{17} NP1: ϕ_s317.00000°, δ45.00000°, λ-6.00000°. NP2:ϕ_s52.00000°, δ85.00000°, λ-133.00000°. Principal axes: T 3.2200, Plg26.0000°, Azm175.0000°; N 1.7800, Plg44.0000°, Azm56.0000°; P -4.9900, Plg34.0000°, Azm285.0000°;*

ISC 18 11:53:50.7±0.3, 6°.55N±0°.02×124°.72E±0°.03, h26km±1km, h26km:pP-P, n700, σ1§69/673, mb5.3/144, MS5.2/202, 17C-19D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**0.51**	**154**	⇓*i*P	**Pb**	**11 54 00.6**	**-0.7**
KCP	**Kidapawan**	**0.58**	**39**	⇓*i*P	**Pb**	**11 54 01.4**	**-1.0**
KCP				*i* S	**Sn**	**11 54 12.1**	**0.0**
CTBH	**Cotabato--PC H**	**0.82**	**325**	⇑*e*P	Pb	11 54 02.7	-3.6
CTBH				*i* S	**Sb**	**11 54 15.2**	**-1.8**
DMPH	**Davao City--Mi**	**0.94**	**56**	⇑*e*P	**Pb**	**11 54 08.5**	**+0.1**
DMPH				*e*S	**Sn**	**11 54 23.0**	**+2.1**
DAV	**Davao City (W)**	**0.99**	**59**	*e*Pn	**Pn**	**11 54 09.0**	**+0.1**
DAV				*e*Sn	**Sn**	**11 54 22.4**	**+0.3**
DAV	**Davao City (W)**	**0.99**	**59**	P	**Pn**	**11 54 08.7**	**-0.2**
BUKP	**Musuan**	**1.36**	**14**	*e*P	**Pn**	**11 54 13.3**	**-0.7**
MATI	**Mati**	**1.57**	**75**	*e*P	**Pn**	**11 54 17.2**	**+0.3**
MATI				*e*S	Sb	11 55 03.0	+24
PAGZ	**Pagadian**	**1.85**	**314**	*e*P	**Pn**	**11 54 19.4**	**-1.3**
PAGZ				*e*S	**Sn**	**11 54 43.8**	**+0.5**
CGP	**Cagayan de Oro**	**1.89**	**359**	⇑*e*P	**Pn**	**11 54 19.8**	**-1.5**
CGP				*i* S	**Sn**	**11 54 41.9**	**-2.5**
DCPH	**Dipolog City**	**2.44**	**326**	⇓*e*P	**Pn**	**11 54 29.2**	**+0.5**
DCPH				*e*S	**Sb**	**11 55 00.8**	**-2.6**
IPIL	**Ipil**	**2.46**	**300**	*e*P	**Pn**	**11 54 28.6**	**-0.6**
IPIL	**Ipil**	**2.46**	**300**	⇓*i*P	**Pb**	**11 54 32.6**	**-1.7**
BUTP	**Butuan**	**2.56**	**20**	*e*P	**Pn**	**11 54 32.7**	**+2.2**
ZMPH	**Zamboanga City**	**2.67**	**279**	⇓*i*P	**Pn**	**11 54 29.4**	**-2.6**
ZMPH				*i* S	**Sn**	**11 55 01.9**	**-1.6**
SGSI	**Sangihe**	**2.96**	**164**	P	**Pn**	**11 54 34.4**	**-1.5**
SNPH	**Sibulan**	**3.14**	**332**	⇑*i*P	Pn	11 54 26.1	-12
SNPH				*i* S	**Sn**	**11 55 16.7**	**+1.5**
TBP	**Tagbilaran**	**3.24**	**345**	*e*P	**Pn**	**11 54 40.5**	**+0.8**
SCPH	**Surigao**	**3.30**	**13**	*e*P	**Pn**	**11 54 39.9**	**-0.8**
SCPH				*e*S	**Sn**	**11 55 18.8**	**-0.3**
MSLP	**Maasin**	**3.56**	**2**	*e*P	**Pn**	**11 54 44.7**	**+0.4**
LLP	**Lapu-Lapu**	**3.82**	**349**	*e*P	**Pn**	**11 54 47.7**	**-0.1**
LLP				*e*S	**Sb**	**11 55 41.6**	**-1.6**
OCLP	**Ormoc**	**4.47**	**359**	*e*P	**Pn**	**11 54 57.7**	**+0.9**
GUIM	**Jordan**	**4.57**	**333**	*e*P	**Pn**	**11 54 58.4**	**+0.3**
PLP	**Palo**	**4.59**	**3**	⇓*e*P	**Pn**	**11 54 57.9**	**-0.5**
GTOI	**Gorontalo** 4μm,0.7s,37μm79μm13nm	**6.12**	**196**	P	Pn	11 55 15.0	-4.4
TNTI	**Ternate**	**6.32**	**155**	*e*Pn	**Pn**	**11 55 22.6**	**+0.5**
TNTI	**Ternate** 1μm,0.7s,15μm25μm4.9nm	**6.32**	**155**	P	**Pn**	**11 55 22.7**	**+0.5**
MYLDM	**Lahad Datu**	**6.34**	**258**	P	**Pn**	**11 55 23.2**	**+0.7**
MYLDM	**Lahad Datu** 652nm,1.3s,18μm40μm4.5nm	**6.34**	**258**	P	**Pn**	**11 55 21.9**	**-0.6**
MRSI	**Marisa** 2μm,0.5s,29μm10.0nm	**6.64**	**205**	P	Pn	11 55 23.1	-3.5
MRSI	2μm,0.5s,29μm10.0nm			S	Sn	11 56 31.2	-10
TOLI	**Toli-Toli** 1μm,0.6s,63μm49μm25nm	**6.67**	**216**	P	Pn	11 55 21.9	-5.1
TOLI	1μm,0.6s,63μm49μm25nm			S	Sn	11 56 34.5	-7.6
PPR	**Puerto Princes**	**6.74**	**299**	⇑*i*P	**Pn**	**11 55 27.8**	**-0.2**
TSM	**Tawau**	**7.18**	**252**	P	**Pn**	**11 55 33.2**	**-0.8**
SDKM	**Sandakan**	**7.54**	**264**	P	**Pn**	**11 55 37.5**	**-1.5**
LBMI	**Labuha**	**7.66**	**159**	P	**Pn**	**11 55 41.6**	**+1.0**
LBMI				S	**Sn**	**11 57 05.7**	**-0.9**
LUWI	**Luwuk** 4μm,0.7s,37μm51μm13nm	**7.79**	**195**	P	**Pn**	**11 55 43.1**	**+0.7**
LUWI	4μm,0.7s,37μm51μm13nm			S	**Sn**	**11 57 10.0**	**+0.2**
LUWI	**Luwuk** baz=7.7,SNR=205	**7.79**	**195**	P	**Pn**	**11 55 41.6**	**-0.8**
KDM	**Kudat**	**7.85**	**273**	P	**Pn**	**11 55 45.7**	**+2.6**
APSI	**Ampana** 1μm,0.6s,15μm35μm5.5nm	**8.02**	**203**	P	**Pn**	**11 55 46.6**	**+1.0**
TGY	**Tagaytay City**	**8.38**	**334**	Pn	Pn	11 55 54.0	+3.5
TGY	**Tagaytay City** 27nm,0.3s,baz=140,slow=20,SNR=7.3	**8.38**	**334**	Pn	Pn	11 55 54.0	+3.5
TGY	comp=Z,117nm,19.4s,baz=346,slow=42			LR	LR	11 59 36.5	
KKM	**Kota Kinabalu**	**8.47**	**267**	*e*Pn	**Pn**	**11 55 51.8**	**-0.1**
KKM	**Kota Kinabalu**	**8.47**	**267**	P	**Pn**	**11 55 53.1**	**+1.2**
KKM	**Kota Kinabalu** 135nm,1.8s,2μm	**8.47**	**267**	P	**Pn**	**11 55 51.9**	**0.0**
KKM	**Kota Kinabalu** baz=8.3,SNR=12	**8.47**	**267**	P	**Pn**	**11 55 52.8**	**+0.9**
PCI	**Palu** 279nm,0.9s,11μm1.5nm	**8.87**	**214**	P	**Pn**	**11 55 54.6**	**-2.6**
PCPH	**Palayan**	**9.64**	**339**	⇑*e*P	**Pn**	**11 56 10.7**	**+3.0**
SWI	**Sorong** 200nm,1.1s,3μm	**9.84**	**138**	P	**Pn**	**11 56 11.6**	**+1.1**
SWI	**Sorong** baz=10.0,SNR=5.0	**9.84**	**138**	P	**Pn**	**11 56 12.6**	**+2.1**
NLAI	**Namlea** 1μm,0.7s,12μm	**10.01**	**166**	P	**Pn**	**11 56 12.2**	**-0.6**
SMKI	**Samarinda** 1μm,1.1s	**10.22**	**227**	P	Pn	11 56 19.5	+3.7
MSAI	**Masohi** 78nm,1.0s,1μm3μm	**10.69**	**157**	P	Pn	11 56 25.4	+3.2
AAI	**Ambon** 614nm,1.0s,6μm	**10.74**	**161**	P	**Pn**	**11 56 23.1**	**+0.2**
AAI	**Ambon** baz=11,SNR=9.3	**10.74**	**161**	P	**Pn**	**11 56 23.1**	**+0.2**
MMSI	**Mamuju** 192nm,1.4s,2μm25μm	**10.86**	**212**	P	**Pn**	**11 56 23.0**	**-1.5**
MJSI	**Majene** 167nm,1.3s,3μm	**11.56**	**210**	P	Pn	11 56 28.5	-5.6
SPSI	**Sidrap Palu** 138nm,1.0s,2μm17μm	**11.56**	**205**	P	**Pn**	**11 56 32.7**	**-1.4**
BNSI	**Bone** 224nm,1.2s,4μm	**11.81**	**203**	P	**Pn**	**11 56 38.9**	**+1.3**
FAKI	**Fak Fak** 243nm,1.5s,4μm12μm	**12.04**	**141**	P	**Pn**	**11 56 42.2**	**+1.5**
FAKI	**Fak Fak** baz=12,SNR=12	**12.04**	**141**	P	**Pn**	**11 56 42.4**	**+1.8**
BTM	**Bintulu**	**12.06**	**255**	P	**Pn**	**11 56 42.8**	**+1.7**
BBSI	**Bau Bau** 229nm,1.0s,5μm	**12.15**	**190**	P	**Pn**	**11 56 43.3**	**+1.1**
BNDI	**Bandanaira** 722nm,1.4s,10μm	**12.15**	**155**	P	**Pn**	**11 56 44.1**	**+1.9**
BNDI	**Bandanaira** baz=12,SNR=4.6	**12.15**	**155**	P	Pn	11 56 45.8	+3.6
MTKI	**Muara Teweh, K** 90nm,1.6s,11μm	**12.31**	**233**	P	Pn	11 56 48.7	+4.3
RKPI	**Ransiki, Papua** 436nm,1.8s,6μm	**12.38**	**130**	P	Pn	11 56 50.8	+5.5
KAPI	**Kappang** SNR=12	**12.51**	**203**	Pn	**Pn**	**11 56 48.5**	**+1.3**
KAPI	**Kappang**	**12.51**	**203**	Pn	**Pn**	**11 56 45.8**	**-1.3**
KAPI	**Kappang** 127nm,1.0s,2μm15μm	**12.51**	**203**	P	**Pn**	**11 56 45.9**	**-1.3**
KAPI	**Kappang** 6.6nm,0.3s,baz=33,slow=4.9,SNR=27	**12.51**	**203**	Pn	**Pn**	**11 56 45.8**	**-1.3**
KAPI	comp=Z,9μm,20.0s,baz=198,slow=38			LR	LR	12 01 33.2	
BKSI	**Bulukumba** 115nm,1.2s,3μm	**12.65**	**201**	P	**Pn**	**11 56 49.7**	**+0.6**
SBUM	**Sibu**	**13.11**	**252**	*e*Pn	**Pn**	**11 56 56.2**	**+0.9**
SBUM	**Sibu**	**13.11**	**252**	P	**Pn**	**11 56 58.1**	**+2.7**
SBUM	**Sibu** 116nm,1.6s,2μm	**13.11**	**252**	P	**Pn**	**11 56 56.0**	**+0.7**
BAKI	**Biak**	**13.72**	**124**	P	Pn	11 57 07.1	+3.5
TLE	**Tual** 310nm,1.7s	**14.51**	**146**	P	**Pn**	**11 57 14.3**	**-0.1**
TLE	**Tual** baz=15,SNR=5.2	**14.51**	**146**	P	**P**	**11 57 19.8**	**-1.1**
STKI	**Sintang** 281nm,1.2s,28μm	**14.70**	**245**	P	**P**	**11 57 21.3**	**-1.7**
KSM	**Kuching** 759nm,1.9s	**15.23**	**251**	*e*Pn	**Pn**	**11 57 23.6**	**-0.5**
KSM	**Kuching**	**15.23**	**251**	P	**Pn**	**11 57 25.1**	**+0.9**
KSM	**Kuching** 169nm,2.3s,6μm	**15.23**	**251**	P	**Pn**	**11 57 24.5**	**+0.3**
KSM	**Kuching** baz=15,SNR=99	**15.23**	**251**	P	**Pn**	**11 57 24.9**	**+0.7**
KSM	baz=15,SNR=5.6			S	**S**	**12 00 34.5**	**+6.0**
MMRI	**Maumere**	**15.29**	**189**	*e*Pn	**Pn**	**11 57 25.3**	**+0.5**
MMRI	**Maumere** 480nm,1.3s,9μm	**15.29**	**189**	P	**Pn**	**11 57 25.4**	**+0.5**
LBFI	**Labuhan Bajo,** 472nm,1.8s,9μm	**15.69**	**198**	P	**Pn**	**11 57 30.5**	**+0.4**
PBKI	**Pangkalan Bun** 347nm,1.4s,5μm	**15.95**	**235**	P	**P**	**11 57 36.1**	**-0.7**
SOEI	**Soe** 417nm,2.5s,17μm	**16.20**	**182**	P	**P**	**11 57 38.4**	**-1.4**
SOEI	**Soe** baz=16,SNR=4.1	**16.20**	**182**	P	**P**	**11 57 43.0**	**+3.2**
SOEI	baz=16,SNR=5.1			S	**Sn**	**12 00 38.4**	**+2.5**
TWG	**Pinlang** 547nm,1.2s	**16.56**	**348**	*e*Pn	**Pn**	**11 57 42.1**	**+1.0**
TWG				*e*Sn	**S**	**12 00 51.0**	**-4.4**
WSI	**Waingapu** baz=17,SNR=5.0	**16.70**	**195**	S	**Sn**	**12 00 48.6**	**+0.7**
YULB	**Yu-li** 213nm,1.6s	**17.07**	**349**	*e*Pn	**P**	**11 57 48.8**	**-0.3**
TPUB	**Ta-pu** 362nm,1.3s	**17.11**	**347**	*e*Pn	**Pn**	**11 57 48.4**	**+0.2**
TPUB				*e*Pn	**P**	**11 57 48.9**	**-0.9**
KMMI	**Kalianget** 798nm,1.7s,19μm	**17.25**	**219**	P	**P**	**11 57 51.8**	**+0.5**
MTNI	**Mataram** 228nm,1.0s,4μm	**17.33**	**210**	P	**Pn**	**11 57 50.0**	**-0.9**
SRBI	**Singaraja** 174nm,2.0s,4μm	**17.36**	**213**	P	**P**	**11 57 54.0**	**+1.6**
SSLB	**Suanglung** 98nm,1.2s	**17.52**	**348**	*e*Pn	**Pn**	**11 57 51.9**	**-1.3**
SSLB				*e*Pn	**P**	**11 57 53.4**	**-0.8**
ABJI	**Asem Bagus** 168nm,2.3s,6μm	**17.68**	**216**	P	**Pn**	**11 57 53.2**	**-2.0**
NACB	**Ninganchiao** 196nm,1.5s	**17.78**	**351**	*e*Pn	**P**	**11 57 56.9**	**-0.2**
NACB				*e*Pn	**Pn**	**11 57 57.1**	**+0.7**
DNP	**Denpasar** 560nm,1.3s	**17.85**	**212**	P	P	11 58 03.4	+5.5
NBBI	**Negara** 417nm,1.3s,9μm	**17.92**	**214**	P	**P**	**11 58 00.8**	**+2.2**
IGBI	**Denpasar** 294nm,1.0s,5μm	**18.01**	**212**	P	**P**	**11 58 00.1**	**+0.5**
BLJI	**Banyuglugur** 212nm,1.8s,8μm	**18.02**	**218**	P	**P**	**11 58 01.3**	**+1.5**
GRJI	**Gresik** 217nm,1.6s,3μm	**18.11**	**223**	P	**P**	**11 58 03.9**	**+3.1**
JAGI	**Jajag, Banyuwa** 390nm,1.6s,6μm	**18.27**	**215**	P	**P**	**11 58 06.4**	**+3.9**
JAGI	**Jajag, Banyuwa** baz=18,SNR=6.4	**18.27**	**215**	P	**P**	**11 58 04.3**	**+1.8**
YHNB	**Yeheng** 431nm,1.4s	**18.30**	**350**	*e*P	**P**	**11 58 02.8**	**-0.1**
JAY	**Jayapura** baz=18,SNR=6.1	**18.32**	**119**	P	Pn	11 58 09.0	+5.8
GMJI	**Gumukmas** 716nm,1.1s,12μm	**18.53**	**218**	P	**Pn**	**11 58 09.9**	**+4.3**
HKC	**Hong Kong Obse**	**18.68**	**328**	⇓*i*P	**Pn**	**11 58 09.0**	**+1.6**
KRKI	**Karangkates** 904nm,1.9s,21μm	**19.06**	**220**	P	**Pn**	**11 58 16.1**	**+4.0**
QIZ	**Qiongzhong**	**19.07**	**312**	P	**Pn**	**11 58 12.3**	**+0.1**
QIZ				S	**S**	**12 01 46.4**	**+0.2**
QIZ	comp=Z,100nm,2.0s			pmax	pmax		
QIZ	comp=Z,4μm,6.5s			pmax	pmax		
QIZ	comp=N,7μm,18.0s			LR	LR		
QIZ	comp=Z,9μm,20.5s			LR	LR		
NGJI	**Ngawi** comp=Z,275nm,1.7s,comp=Z,11μm	**19.14**	**224**	P	**Pn**	**11 58 15.9**	**+2.9**
SJI	**Sawahan** comp=Z,657nm,1.8s,comp=Z,13μm	**19.19**	**223**	P	**Pn**	**11 58 14.8**	**+1.0**
QZH	**Quanzhou**	**19.21**	**343**	⇑*i*P	**P**	**11 58 11.3**	**-1.4**
QZH				S	**Sn**	**12 01 47.3**	**-1.2**
QZH	comp=Z,1μm,1.6s			pmax	pmax		
QZH	comp=Z,8μm,5.7s			pmax	pmax		
QZH	comp=N,9μm,17.5s			LR	LR		
QZH	comp=E,16μm,16.3s			LR	LR		
QZH	comp=Z,11μm,23.5s			LR	LR		
PWJI	**Pagerwojo** comp=Z,234nm,1.9s,comp=Z,6μm	**19.38**	**222**	P	**Pn**	**11 58 18.4**	**+2.5**
UGM	**Wanagama**	**20.17**	**225**	*e*Pn	Pn	11 58 27.2	+1.8
UGM	**Wanagama** comp=Z,524nm,2.2s,comp=Z,12μm	**20.17**	**225**	P	Pn	11 58 31.4	+6.0
UGM	**Wanagama** baz=20,SNR=10	**20.17**	**225**	P	Pn	11 58 26.7	+1.3
YOGI	**Yogyakarta**	**20.27**	**225**	P	Pn	11 58 37.9	+11
MTN	**Manton Dam** baz=20,SNR=56	**20.29**	**162**	P	**P**	**11 58 24.3**	**-0.3**
PPBI	**Pangkal Pinang** comp=Z,186nm,0.9s	**20.48**	**246**	P	**P**	**11 58 27.3**	**+0.6**
TGJI	**Tegal** comp=Z,283nm,1.2s,comp=Z,5μm	**20.49**	**230**	P	Pn	11 58 30.0	+0.9
KDU	**Kakadu** baz=21,SNR=122	**20.60**	**158**	P	**P**	**11 58 27.1**	**-0.9**
UBPT	**Khong Chiam** comp=Z,383nm,1.6s,comp=Z,8μm	**20.78**	**296**	P	**P**	**11 58 30.8**	**+0.8**
UBPT	**Khong Chiam** comp=Z,383nm,1.6s,comp=Z,8μm	**20.78**	**296**	P	**P**	**11 58 30.8**	**+0.8**
KPJI	**Karang Pucung** comp=Z,253nm,1.8s,comp=Z,7μm	**20.94**	**229**	P	Pn	11 58 35.6	+1.3
GUMO	**Guam**	**21.02**	**69**	PFAKE		11 58 40.0	+7.4
GUMO	comp=Z,5μm,22.0s			LR	LR		
CLJI	**Cilicap** comp=Z,265nm,1.3s,comp=Z,4μm	**21.13**	**228**	P	P	11 58 40.2	+6.5
MYKOM	**Kota Tinggi**	**21.34**	**258**	P	**P**	**11 58 37.1**	**+1.1**
MYKOM	**Kota Tinggi** comp=Z,88nm,2.2s,comp

comp=Z,439nm,0.9s
IPM Ipoh 23.68 266 *e*P **P 11 58 59.1 -1.3**
comp=Z,527nm,1.8s
IPM Ipoh 23.68 266 P **P 11 59 00.3 -0.1**
IPM Ipoh 23.68 266 P **P 11 58 59.5 -1.0**
comp=Z,148nm,2.0s,comp=Z,4μm
SKLT Songkhla 23.94 273 P **P 11 59 02.6 -0.3**
comp=Z,189nm,2.0s,comp=Z,3μm
SKLT Songkhla 23.94 273 P **P 11 59 02.6 -0.3**
comp=Z,189nm,2.0s,comp=Z,3μm
KULM Kulim 23.98 268 *e*P **P 11 59 02.5 -0.7**
comp=Z,769nm,1.9s
KULM LR LR
comp=Z,3μm,22.0s
KULM Kulim 23.98 268 P **P 11 59 02.8 -0.5**
KULM Kulim 23.98 268 P **P 11 59 02.9 -0.4**
comp=Z,182nm,1.7s,comp=Z,4μm
CHAI Chaiyaphum 24.14 295 P **P 11 59 05.1 +0.4**
comp=Z,32nm,1.3s,comp=Z,365nm
MNAI Manna 24.28 244 *e*P **P 11 59 06.0 -0.1**
comp=Z,683nm,1.1s
MNAI Manna 24.28 244 P P 11 59 13.8 +7.7
comp=Z,621nm,1.2s
MNAI Manna 24.28 244 P P 11 59 13.6 +7.4
baz=24,SNR=5.0
KSI Kapahiang 24.31 246 P P 11 59 16.0 +10
MASI Maura Aman, Be 24.43 247 P P 11 59 13.8 +6.3
comp=Z,312nm,1.1s,comp=Z,7μm
FITZ Fitzroy Crossi 24.51 178 P **P 11 59 06.1 -2.0**
FITZ Fitzroy Crossi 24.51 178 P **P 11 59 06.1 -2.0**
comp=Z,29nm,0.8s,baz=14,slow=8.5,SNR=37
FITZ Fitzroy Crossi 24.51 178 P **P 11 59 06.4 -1.7**
baz=25,SNR=86
SSE Sheshan 24.64 353 P **P 11 59 09.3 +0.1**
SSE pP **pP 11 59 18.3 +1.4**
SSE S **S 12 03 30.5 +1.4**
SSE pmax pmax
comp=Z,31nm,0.7s
SSE pmax pmax
comp=Z,640nm,2.8s
SSE LR LR
comp=N,5μm,18.2s
SSE LR LR
comp=E,3μm,18.2s
SSE LR LR
comp=Z,6μm,18.0s
PPI Padang Panjang 25.25 255 P **P 11 59 15.2 +0.3**
comp=Z,189nm,1.6s,comp=Z,3μm
PPI Padang Panjang 25.25 255 P **P 11 59 16.3 +1.4**
baz=25,SNR=4.5
PDSI Padang 25.32 254 P **P 11 59 19.5 +3.9**
comp=Z,199nm,2.0s,comp=Z,4μm
WHN Wuhan 25.78 339 ⇓P **P 11 59 20.8 +1.3**
WHN S **S 12 03 46.4 -0.9**
WHN pmax pmax
comp=Z,3μm,8.9s
WHN LR LR
comp=N,7μm,9.0s
WHN LR LR
comp=E,5μm,9.8s
WHN LR LR
comp=Z,13μm,18.5s
NJ2 Nanjing 25.96 349 *e*P **P 11 59 22.1 +1.0**
NJ2 pP **pP 11 59 30.9 +2.1**
NJ2 sP **sP 11 59 34.3 +2.2**
NJ2 S **S 12 03 53.8 +3.8**
NJ2 pmax pmax
comp=Z,81nm,1.2s
NJ2 LR LR
comp=N,5μm,15.2s
NJ2 LR LR
comp=E,11μm,16.0s
NJ2 LR LR
comp=Z,5μm,15.2s
PSI Prapat 25.98 263 P **P 11 59 20.9 -0.8**
PSI PcP **PcP 12 02 50.1 +0.2**
PSI Prapat 25.98 263 P **P 11 59 20.9 -0.8**
comp=Z,103nm,1.2s,baz=79,slow=5.9,SNR=27
PSI PcP **PcP 12 02 50.1 +0.2**
comp=Z,10nm,0.9s,baz=127,slow=5.1,SNR=3.3
PSI LR LR 12 11 39.4
comp=Z,4μm,19.9s,baz=80,slow=41
PSI Prapat 25.98 263 P **P 11 59 21.6 0.0**
baz=26,SNR=21
PKDT Phuket 26.21 275 P P 11 59 31.9 +8.3
GYA Guiyang 26.23 321 ⇑*i*P **P 11 59 25.8 +2.0**
GYA pP pP 11 59 37.3 +5.7
GYA PP **PnPn 12 00 06.3 +3.1**
GYA PcP **PcP 12 02 51.0 +0.7**
GYA S **S 12 03 52.1 -2.7**
GYA SS **SnSn 12 05 00.6 +5.4**
GYA ScP **ScP 12 06 27.8 -0.8**
GYA pmax pmax
comp=Z,50nm,0.8s
GYA pmax pmax
comp=Z,400nm,6.3s
GYA LR LR
comp=N,4μm,21.2s
GYA LR LR
comp=E,6μm,17.7s
GYA LR LR
comp=Z,7μm,21.8s
SUKH Sukhothai 26.80 296 P **P 11 59 30.7 +1.8**
comp=Z,16nm,1.2s,comp=Z,274nm
KCSI Kotacane, Aceh 27.01 265 P **P 11 59 30.5 -0.4**
comp=Z,82nm,1.4s,comp=Z,1μm
JNU Nakatsue 27.05 11 *e*P **P 11 59 31.0 0.0**
comp=Z,320nm,2.2s
JNU P **P 11 59 31.4 +0.4**
JNU Nakatsue 27.05 11 P **P 11 59 31.4 +0.4**
comp=Z,21nm,0.8s,baz=130,slow=3.2,SNR=9.1
JNU LR LR 12 09 59.8
comp=Z,1μm,21.9s,baz=304,slow=36
COEN Coen 27.39 138 *e*P **P 11 59 34.5 +0.3**
comp=Z,850nm,1.4s
COEN Coen 27.39 138 P **P 11 59 33.4 -0.8**
baz=28,SNR=12
PMG Port Moresby 27.41 125 *e*P **P 11 59 33.8 -0.5**
comp=Z,51nm,0.9s
PMG P **P 11 59 34.3 -0.1**
PMG Port Moresby 27.41 125 P P 11 59 44.2 +10
PMG Port Moresby 27.41 125 P **P 11 59 34.3 -0.1**
comp=Z,13nm,0.8s,baz=249,slow=4.8,SNR=3.1
PMG LR LR 12 11 55.3
comp=Z,2μm,19.4s,baz=140,slow=40
GSI Gunungsitoli 27.57 260 P **P 11 59 35.8 -0.1**
comp=Z,166nm,1.9s
CM31 Chiang Mai Arr 27.77 298 *e*P **P 11 59 39.8 +2.2**
comp=Z,29nm,1.0s
CHTO Chiang Mai 27.90 298 *e*P **P 11 59 38.1 -0.7**
CHTO pmax pmax
comp=Z,101nm,1.4s
CHTO MLR MLR
comp=Z,2μm,20.0s
CHTO Chiang Mai 27.90 298 P **P 11 59 38.9 +0.1**
SNR=36
CHTO Chiang Mai 27.90 298 *e*P **P 11 59 38.1 -0.7**
comp=Z,100nm,1.4s
CHTO LR LR
comp=Z,2μm,20.0s
CHTO Chiang Mai 27.90 298 P **P 11 59 38.7 -0.1**
comp=Z,70nm,1.7s,comp=Z,2μmcomp=Z,4μm
CHTO Chiang Mai 27.90 298 P **P 11 59 38.7 -0.1**
comp=Z,70nm,1.7s,comp=Z,2μm
MBWA Marble Bar 27.97 190 PFAKE 11 59 50.0 +11
MBWA LR LR
comp=Z,2μm,20.0s
WRAB Tennant Creek 27.97 160 *e*P **P 11 59 37.4 -1.9**
WRAB pmax pmax
comp=Z,64nm,0.9s
WRAB MLR MLR
comp=Z,3μm,21.0s
WRAB Tennant Creek 27.97 160 *e*P **P 11 59 37.4 -1.9**
comp=Z,64nm,0.9s
WRAB LR LR
comp=Z,3μm,21.0s
WRA Warramunga Arr 27.97 160 P **P 11 59 37.0 -2.4**
WRA Warramunga Arr 27.97 160 P **P 11 59 37.0 -2.4**
comp=Z,15nm,0.6s,baz=335,slow=10,SNR=83
KMI Kunming 27.99 314 P **P 11 59 40.8 +1.0**
KMI pP **pP 11 59 46.6 -1.0**
KMI sP **sP 11 59 49.6 -1.2**
KMI S **S 12 04 25.6 +2.8**
KMI pmax pmax
comp=Z,59nm,1.1s
KMI pmax pmax
comp=Z,1μm,6.9s
KMI LR LR
comp=N,4μm,18.9s
KMI LR LR
comp=E,4μm,20.5s
KMI LR LR
comp=Z,5μm,21.3s
CMAI Chiengmai2 28.25 301 P **P 11 59 44.1 +2.0**
comp=Z,116nm,1.6s,comp=Z,10μm
TIA Tai'an 30.33 348 *e*P **P 12 00 01.9 +1.7**
TIA S **S 12 05 02.9 +4.0**
TIA LR LR
comp=N,4μm,22.6s
TIA LR LR
comp=E,12μm,29.4s
TIA LR LR
comp=Z,5μm,33.3s
INCN Inchon 30.84 3 PFAKE 12 00 20.0 +15
INCN LR LR
comp=Z,4μm,22.0s
KSAR Wonju Array Be 30.89 5 P **P 12 00 05.0 +0.1**
KSRS Korea Array 30.90 5 P **P 12 00 05.0 -0.1**
comp=Z,8.2nm,1.0s,baz=182,slow=9.7,SNR=15
KSRS LR LR 12 13 55.6
comp=Z,3μm,19.0s,baz=310,slow=39
XAN Xi'an 31.02 334 P **P 12 00 06.3 0.0**
XAN pP **pP 12 00 13.8 -0.3**
XAN PP **PnPn 12 01 08.3 +0.4**
XAN S **S 12 05 08.0 -1.8**
XAN sS **sS 12 05 19.8 -2.9**
XAN SS **SnSn 12 06 51.5 -0.1**
XAN pmax pmax
comp=Z,100nm,5.7s
XAN LR LR
comp=N,4μm,18.9s
XAN LR LR
comp=E,2μm,18.0s
XAN LR LR
comp=Z,2μm,18.0s
CD2 Chengdu 31.20 324 P **P 12 00 08.4 +0.4**
CD2 pP **pP 12 00 16.3 +0.5**
CD2 sP **sP 12 00 20.0 +1.0**
CD2 PP **PnPn 12 01 12.0 +1.7**
CD2 PcP **PcP 12 03 02.3 -0.2**
CD2 S **S 12 05 13.1 +0.3**
CD2 sS **sS 12 05 25.8 +0.2**
CD2 SS **SnSn 12 06 59.8 +3.6**
CD2 pmax pmax
comp=Z,100nm,1.4s
CD2 pmax pmax
comp=Z,1μm,6.8s
CD2 LR LR
comp=N,6μm,20.2s
CD2 LR LR
comp=Z,4μm,19.0s
MTSU Mount Surprise 31.23 142 P **P 12 00 08.3 0.0**
baz=32,SNR=14
AS31 Alice Springs 31.34 164 *e*P **P 12 00 08.2 -1.0**
ASAR Alice Springs 31.34 164 P **P 12 00 07.4 -1.8**
ASAR Alice Springs 31.34 164 P **P 12 00 07.4 -1.8**
comp=Z,6.2nm,0.6s,baz=344,slow=7.6,SNR=43
MAJO Matsushiro 32.30 21 *e*P **P 12 00 17.1 -0.4**
MAJO pmax pmax
comp=Z,62nm,1.4s
MAJO MLR MLR
comp=Z,4μm,21.0s
MAJO Matsushiro 32.30 21 *e*P **P 12 00 17.1 -0.4**
comp=Z,62nm,1.4s
MAJO LR LR
comp=Z,4μm,21.0s
MAT Matsushiro 32.30 21 P **P 12 00 14.6 -2.9**
MAT S **S 12 05 32.2 +2.5**
MJAR Matsushiro Arr 32.30 21 P **P 12 00 15.8 -1.7**
MJAR PcP **PcP 12 03 05.8 +0.5**
MJAR Matsushiro Arr 32.30 21 P **P 12 00 15.8 -1.7**
comp=Z,4.7nm,0.8s,baz=198,slow=9.6,SNR=9.3
MJAR PcP **PcP 12 03 05.8 +0.5**
comp=Z,1.5nm,0.8s,baz=189,slow=4.4,SNR=2.9
MJAR LR LR 12 12 03.4
comp=Z,3μm,20.4s,baz=215,slow=34
DL2 Dalian 32.33 355 P **P 12 00 18.5 +0.8**
DL2 S **S 12 05 29.5 -0.6**
DL2 pmax pmax
comp=Z,86nm,1.5s
DL2 pmax pmax
comp=Z,370nm,4.7s
DL2 LR LR
comp=E,3μm,25.0s
DL2 LR LR
comp=Z,2μm,19.1s
TIY Taiyuan 32.97 342 *e*P **P 12 00 24.9 +1.4**
TIY S **S 12 05 41.8 +1.5**
TIY SS **SnSn 12 07 43.8 +4.7**
TIY pmax pmax
comp=Z,450nm,3.4s
TIY LR LR
comp=N,4μm,17.3s
TIY LR LR
comp=E,920nm,17.2s
TIY LR LR
comp=Z,4μm,16.9s
COCO West Island 33.40 236 PFAKE 12 00 40.0 +13
COCO LR LR
comp=Z,2μm,19.0s
MEEK Meekatharra 33.52 190 P **P 12 00 27.0 -1.3**
baz=34,SNR=7.2
CTA Charters Tower 33.90 142 P **P 12 00 32.3 +0.6**
CTA Charters Tower 33.90 142 P **P 12 00 32.3 +0.6**
comp=Z,11nm,0.7s,baz=317,slow=12,SNR=12
CTAO Charters Tower 33.90 142 PFAKE 12 00 40.0 +8.3
CTAO LR LR
comp=Z,2μm,22.0s
BJT Baijiatuau 34.20 348 PFAKE 12 00 50.0 +16
BJT LR LR
comp=Z,2μm,20.0s
BJI Beijing 34.22 348 P **P 12 00 34.6 +0.5**
BJI S **S 12 06 00.3 +1.0**
BJI pmax pmax
comp=Z,65nm,1.9s
BJI pmax pmax
comp=Z,610nm,4.2s
BJI LR LR
comp=N,3μm,28.0s
BJI LR LR
comp=E,7μm,24.4s
BJI LR LR
comp=Z,4μm,30.3s
LZH Lanzhou 35.08 330 ⇓P **P 12 00 43.4 +1.5**
LZH pP **pP 12 00 49.6 -0.1**
LZH sP **sP 12 00 53.5 +0.6**
LZH PP **PP 12 02 02.8 +1.1**
LZH S **S 12 06 14.0 +0.9**
LZH sS **sS 12 06 26.3 +0.3**
LZH SS **SnSn 12 08 33.1 +2.8**
LZH pmax pmax
comp=Z,370nm,1.6s
LZH pmax pmax
comp=Z,1μm,4.1s
LZH LR LR
comp=N,6μm,16.5s
LZH LR LR
comp=E,3μm,13.6s
LZH LR LR
comp=Z,7μm,15.8s
SNY Shenyang 35.15 359 ⇑P **P 12 00 42.3 +0.2**
SNY pmax pmax
comp=Z,42nm,2.0s
SNY pmax pmax
comp=Z,380nm,4.5s
SNY LR LR
comp=N,4μm,17.9s
SNY LR LR
comp=E,3μm,17.3s
SNY LR LR
comp=Z,5μm,18.8s
HHC Hu-ho-hao-te 36.12 343 *e*P **P 12 00 51.3 +0.6**
HHC PP **PP 12 02 14.8 +1.6**
HHC PcP **PcP 12 03 15.8 -0.5**
HHC S **S 12 06 29.9 +1.0**
HHC ScP **ScP 12 07 00.1 -1.0**
HHC SS **SnSn 12 08 54.8 -0.6**
HHC pmax pmax
comp=Z,140nm,1.2s
HHC pmax pmax
comp=Z,1μm,5.6s
HHC LR LR
comp=N,6μm,15.7s
HHC LR LR
comp=E,6μm,15.6s
HHC LR LR
comp=Z,6μm,15.4s
BTO Baotou 36.38 341 *e*P **P 12 00 52.3 -0.6**
MORW Morawa 36.38 193 P **P 12 00 51.7 -1.3**
baz=36,SNR=14
SHL Shillong 36.62 305 *i*P **P 12 00 55.5 +0.2**
SHL *e*S **S 12 06 39.5 +2.5**
VLA Vladivostok 36.97 9*c i*P **P 12 00 59.0 +1.3**
VLA *e* 12 02 23.1
VLA 12 03 18.1
VLA *e*S **S 12 06 42.7 +1.3**
VLA pmax pmax
comp=Z,253nm,1.9s
CN2 Changchun 37.11 1 *e*P **P 12 00 59.4 +0.5**
CN2 PP **PnPn 12 02 24.3 0.0**
CN2 *e*S **S 12 06 40.6 -3.0**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,320nm,5.0s
CN2 LR LR
comp=N,2μm,20.0s
CN2 LR LR
comp=E,3μm,20.0s
CN2 LR LR
comp=Z,2μm,21.0s
FORT Forrest 37.25 175 P **P 12 00 59.1 -1.1**
baz=37,SNR=23
BLDU Balliidu 37.74 191 P **P 12 01 06.0 +1.6**
baz=38,SNR=7.6
USRK Ussuriysk Arra 38.04 8 P **P 12 01 07.0 +0.2**
comp=Z,8.3nm,0.7s,baz=190,slow=5.8,SNR=16
USRK LR LR 12 17 27.7
comp=Z,3μm,21.3s,baz=191,slow=37
MDJ Mudanjiang 38.16 6 P **P 12 01 09.3 +1.5**
MDJ pP **pP 12 01 15.0 -0.7**
MDJ sP **sP 12 01 18.3 -0.6**
MDJ PP **PnPn 12 02 37.3 +0.4**
MDJ S **S 12 07 01.3 +1.8**
MDJ ScS **ScS 12 11 19.3 +1.4**
MDJ pmax pmax
comp=Z,27nm,1.2s
MDJ pmax pmax
comp=Z,290nm,4.9s
MDJ LR LR
comp=N,2μm,23.6s
MDJ LR LR
comp=E,5μm,30.8s
MDJ LR LR
comp=Z,3μm,20.6s
MDJ Mudanjiang 38.16 6 PFAKE 12 01 20.0 +12
MDJ LR LR
comp=Z,3μm,21.0s
KLBR Kellerberrin 38.51 190 P **P 12 01 10.2 -0.6**
baz=39,SNR=5.5
HNR Honiara 38.52 114 P **P 12 01 11.5 +0.2**
HNR Honiara 38.52 114 P **P 12 01 11.5 +0.2**
comp=Z,34nm,0.7s,baz=338,slow=18,SNR=2.4
HNR LR LR 12 17 30.7
comp=Z,885nm,18.3s,baz=108,slow=37
ERM Erimo 38.92 22*d i*P **P 12 01 15.2 +0.9**
ERM pmax pmax
comp=Z,84nm,1.7s
ERM MLR MLR
comp=Z,2μm,20.0s
ERM Erimo 38.92 22 *e*P **P 12 01 15.0 +0.8**
comp=Z,69nm,1.2s
ERM LR LR
comp=Z,2μm,19.0s
LSA Lhasa 39.10 310 P **P 12 01 17.1 +0.6**
LSA sP **sP 12 01 29.3 +1.7**
LSA S **ScP 12 07 09.6 -3.4**
LSA sS **sS 12 07 26.1 -1.9**
LSA LR LR
comp=N,2μm,27.5s
LSA LR LR
comp=E,2μm,25.3s
LSA LR LR
comp=Z,3μm,21.6s
LSA Lhasa 39.10 310 *e*P **P 12 01 17.7 +1.2**
LSA pmax pmax
comp=Z,213nm,1.4s
LSA MLR MLR
comp=Z,3μm,21.0s
LSA Lhasa 39.10 310 *e*P **P 12 01 17.7 +1.2**
comp=Z,213nm,1.4s
LSA LR LR
comp=Z,3μm,21.0s
GTA Gaotai 39.67 329 ⇑P **P 12 01 22.4 +1.7**
GTA pP **pP 12 01 30.0 +1.4**
GTA sP **sP 12 01 33.3 +1.5**
GTA PP **PnPn 12 02 58.9 +3.6**
GTA PcP **PcP 12 03 29.8 +2.5**
GTA S **S 12 07 26.1 +3.4**
GTA sS **sS 12 07 37.3 +1.6**
GTA SS **SS 12 10 14.8 -3.8**
GTA pmax pmax
comp=Z,80nm,1.7s
GTA pmax pmax
comp=Z,1μm,5.1s
GTA LR LR
comp=N,4μm,16.4s
GTA LR LR
comp=E,4μm,16.4s
GTA LR LR
comp=Z,5μm,14.7s
NWAO Narrogin (SRO) 39.90 190 P **P 12 01 21.8 -0.7**
NWAO Narrogin (SRO) 39.90 190 P **P 12 01 21.8 -0.7**
comp=Z,41nm,1.1s,baz=16,slow=5.3,SNR=4.2
NWAO LR LR 12 19 35.8
comp=Z,1μm,19.6s,baz=172,slow=39
RMQ Roma 40.27 146 P **P 12 01 25.9 +0.2**
baz=40,SNR=7.5
ASAJ Asahikawa 40.56 20 P **P 12 01 28.2 +0.3**
ASAJ Asahikawa 40.56 20 P **P 12 01 28.2 +0.3**
comp=Z,12nm,0.9s,baz=225,slow=9.3,SNR=7.0
BBOO Buckleboo 40.60 165 *e*P **P 12 01 27.1 -1.2**
comp=Z,2μm,1.0s
BBOO Buckleboo 40.60 165 P **P 12 01 26.9 -1.4**
baz=41,SNR=73
TAPN Taplejung 40.76 305 *e*P **P 12 01 30.6 +0.4**
EIDS Eidsvold 40.79 142 *e*P **P 12 01 29.8 -0.2**
comp=Z,32nm,0.8s
EIDS Eidsvold 40.79 142 P **P 12 01 29.6 -0.4**
baz=41,SNR=7.5
ODAN Odare 40.83 304 *e*P **P 12 01 30.9 +0.2**
comp=Z,223nm,0.9s
STKA Stephens Creek 41.47 158 *e*P **P 12 01 34.6 -0.8**
comp=Z,23nm,1.2s
STKA Stephens Creek 41.47 158 P **P 12 01 34.6 -0.8**
comp=Z,38nm,0.7s,baz=334,slow=7.4,SNR=44
STKA Stephens Creek 41.47 158 P **P 12 01 34.8 -0.6**
baz=42,SNR=53
STKA S **S 12 07 49.6 +0.3**
baz=42,SNR=6.4
RAMN Ramite 41.52 304 *e*P **P 12 01 36.6 +0.3**
comp=Z,429nm,1.2s
YUK Yuzh-Kuril'sk 41.68 23 *i*P P 12 01 29.1 -8.0
YUK *i* PPP PPP 12 03 46.7
YUK *i* S **S 12 07 50.0 -2.2**
YUK pmax pmax
comp=N,299nm,1.5s
YUK pmax pmax
comp=E,163nm,1.5s
YUK pmax pmax
comp=Z,806nm,1.5s
JIRN Jiri 42.12 305 *e*P **P 12 01 41.6 +0.2**
comp=Z,367nm,1.0s
GUN Gumba 42.47 305 *e*P **P 12 01 44.3 0.0**
comp=Z,411nm,0.8s
WAKE Wake Island 42.66 69 PFAKE 12 02 00.0 +15
WAKE LR LR
comp=Z,2μm,21.0s
HABR Khabarovsk 42.69 10*de*P **P 12 01 43.3 -1.9**
HABR *e**SP **sP 12 01 53.9 -2.5**
HABR 12 03 22.7
HABR *e* 12 03 34.6
HABR *e*PPP PPP 12 03 54.2
HABR *e*S **S 12 08 05.4 -1.6**
HABR *e**SS **sS 12 08 18.0 -2.1**
HABR *e*SS **SS 12 11 17.6 -0.4**
HABR *e* 12 11 42.3
HABR pmax pmax
comp=Z,105nm,1.7s

HABR			pmax	pmax		
	comp=E,42nm,1.7s					
HABR			pmax	pmax		
	comp=N,86nm,2.3s					
HABR			MLR	MLR		
	comp=E,1μm,13.0s					
HABR			MLR	MLR		
	comp=Z,2μm,21.0s					
HABR			MLR	MLR		
	comp=N,1μm,21.0s					
PKI	**Pulchoki**	**42.73 304**	*e*P	**P**	**12 01 46.2**	**-0.1**
PKIN	**Phulchoki**	**42.74 304**	*e*P	**P**	**12 01 45.9**	**-0.5**
	comp=N,204nm,1.2s					
HIA	**Hailar**	**42.78 355**	*e*P	P	12 01 49.9	+3.9
	comp=N,175nm,1.6s					
HIA			LR	LR		
	comp=Z,4μm,19.0s					
CMSA	**Cobar Meteorol**	**42.84 153**	P	**P**	**12 01 46.7**	**0.0**
	baz=43,SNR=20					
KKN	**Kakani**	**42.92 304**	*e*P	**P**	**12 01 47.6**	**-0.1**
	comp=Z,204nm,0.9s					
KLR	**Kul'dur**	**42.95 7**	*e*P	P	12 01 42.9	-4.4
KLR			*e*S	**S**	**12 08 07.5**	**-3.3**
KLR			*e*SS	**SS**	**12 11 21.5**	**-1.6**
KLR			MLR	MLR		
	comp=Z,1μm,19.0s					
DMN	**Daman**	**42.99 304**	*e*P	**P**	**12 01 48.2**	**-0.2**
	comp=Z,208nm,1.0s					
YSS	**Yuzh-Sakhalins**	**43.13 18⇑**	*e*P	**P**	**12 01 49.0**	**+0.1**
YSS			*e*		12 01 57.2	
YSS			*e*		12 03 29.0	
YSS			*e*S	**S**	**12 08 11.0**	**-2.6**
YSS			*e*SSS	SSS	12 11 50.0	
YSS			pmax	pmax		
	comp=Z,30nm,1.0s					
YSS			MLR	MLR		
	comp=Z,2μm,20.0s					
YSS			MLR	MLR		
	comp=N,2μm,19.0s					
YSS			MLR	MLR		
	comp=E,900nm,17.0s					
ULN	**Ulaanbaatar**	**43.84 343**	P	**P**	**12 01 55.9**	**+1.1**
	SNR=30					
ULN	**Ulaanbaatar**	**43.84 343**	*e*P	**P**	**12 01 54.9**	**+0.1**
	comp=E,95nm,1.4s					
ULN			LR	LR		
	comp=Z,3μm,22.0s					
ULN	**Ulaanbaatar**	**43.84 343**	P	**P**	**12 01 55.7**	**+0.9**
SONM	**Songino Array**	**44.01 342**	P	**P**	**12 01 56.1**	**0.0**
SONM	**Songino Array**	**44.01 342**	P	**P**	**12 01 56.1**	**0.0**
	comp=Z,8.7nm,1.1s,baz=161,slow=7.5,SNR=23					
SONM			LR	LR	12 23 06.0	
	comp=Z,4μm,18.3s,baz=155,slow=40					
KOLN	**Koldanda**	**44.30 303**	*e*P	**P**	**12 01 58.7**	**-0.1**
	comp=Z,153nm,0.8s					
DANN	**Dangsing**	**44.37 304**	*e*P	**P**	**12 01 59.2**	**-0.3**
	comp=Z,536nm,1.1s					
ARMA	**Armidale**	**44.91 146**	P	**P**	**12 02 03.2**	**-0.2**
	baz=45,SNR=5.4					
PYUN	**Piuthan**	**44.92 304**	*e*P	**P**	**12 02 03.0**	**-0.8**
	comp=Z,619nm,0.9s					
ARPS	**Mount Arapiles**	**45.98 161**	P	**P**	**12 02 12.2**	**+0.5**
	baz=46,SNR=13					
CIT	**Chita**	**46.26 350**	*e*P	**P**	**12 02 14.2**	**+0.4**
CIT			*e*		12 02 27.0	
CIT			*e*		12 04 01.1	
CIT			pmax	pmax		
	comp=Z,166nm,2.3s					
HYB	**Hyderabad**	**46.32 288**	*i* P	**P**	**12 02 14.0**	**-0.8**
HYB			*e*pP	**pP**	**12 02 18.0**	**-4.8**
HYB			*e*S	**S**	**12 09 02.0**	**+1.2**
YNG	**Young**	**46.39 153**	P	**P**	**12 02 15.2**	**+0.2**
	baz=47,SNR=11					
NGP	**Nagpur**	**46.47 293**	*e*P	**P**	**12 02 16.4**	**+0.5**
NGP			AMB	AMB	12 02 18.0	
	comp=Z,54nm,1.6s					
NGP			*e*4		12 09 12.6	
ZAK	**Zakamensk**	**47.23 341**	*e*P	P	12 02 15.4	-6.1
ZAK			pmax	pmax		
	comp=Z,11nm,1.6s					
CAN	**Canberra**	**47.51 153**	*e*P	**P**	**12 02 24.8**	**+1.0**
CAN			*e**PP	**pP**	**12 02 31.7**	**-0.2**
CAN			pmax	pmax		
	comp=Z,102nm,1.2s					
CAN			MLR	MLR		
	comp=Z,2μm,19.0s					
CAN	**Canberra**	**47.51 153**	*e*P	**P**	**12 02 24.8**	**+1.0**
	comp=Z,102nm,1.2s					
CAN			*e*pP	**pP**	**12 02 31.7**	**-0.2**
CAN			LR	LR		
	comp=Z,2μm,19.0s					
CNB	**Canberra Magne**	**47.67 153**	P	**P**	**12 02 26.5**	**+1.4**
	baz=48,SNR=7.9					
TOO	**Toolangi**	**47.98 158**	P	**P**	**12 02 28.5**	**+1.1**
	baz=48,SNR=24					
TLY	**Talaya**	**48.25 343**	*e*P	**P**	**12 02 29.1**	**-0.2**
TLY			*e*		12 04 26.7	
TLY			*e*PPP	PPP	12 05 12.4	
TLY			*e*S	**S**	**12 09 32.5**	**+5.2**
TLY			pmax	pmax		
	comp=Z,65nm,1.8s					
TLY			MLR	MLR		
	comp=Z,3μm,21.0s					
AKL	**Akola**	**48.26 292**	*e*P	**P**	**12 02 30.0**	**+0.2**
AKL			AMP		12 02 33.6	
	comp=Z,199nm,1.4s					
AKL			*i* 4		12 09 06.1	
TARA	**Tarawa**	**48.34 94**	PFAKE		12 02 40.0	+9.5
TARA			LR	LR		
	comp=Z,2μm,20.0s					
WMQ	**Urumqi**	**49.28 325**	P	**P**	**12 02 38.5**	**+1.1**
WMQ			pP	**pP**	**12 02 46.3**	**+0.8**
WMQ			sP	**sP**	**12 02 49.5**	**+0.8**
WMQ			PcP	**PcP**	**12 04 01.5**	**+1.4**
WMQ			PP	**PP**	**12 04 32.5**	**+1.0**
WMQ			S	**S**	**12 09 42.3**	**+0.1**
WMQ			sS	**sS**	**12 09 54.8**	**-0.7**
WMQ			ScS	**ScS**	**12 12 25.8**	**-2.1**
WMQ			SS	**SS**	**12 13 09.5**	**-4.5**
WMQ			pmax	pmax		
	comp=Z,71nm,1.2s					
WMQ			pmax	pmax		
	comp=Z,940nm,4.9s					
WMQ			LR	LR		
	comp=N,4μm,20.0s					
WMQ			LR	LR		
	comp=E,3μm,22.3s					
WMQ			LR	LR		
	comp=Z,2μm,20.8s					
DZM	**Mont Dzumac**	**49.79 126**	*e*P	**P**	**12 02 43.0**	**+1.3**
	comp=Z,33nm,0.8s					
DZM			*e*pP	**pP**	**12 02 48.2**	**-1.5**
NDI	**New Delhi**	**49.92 302**	*e*P	P	12 02 38.0	-4.5
CLNS	**Chul'man**	**50.16 0**	*e*P	**P**	**12 02 45.5**	**+1.7**
CLNS			*e**PP	**pP**	**12 02 54.9**	**+3.0**
CLNS			*e*		12 04 02.3	
CLNS			*e*		12 04 41.4	
CLNS			*e*PPP	PPP	12 05 38.7	
CLNS			*e*S	**S**	**12 09 59.0**	**+5.1**
CLNS			*e*		12 12 36.8	
CLNS			pmax	pmax		
	comp=Z,11nm,1.0s					
CLNS			pmax	pmax		
	comp=N,9.0nm,0.9s					
CLNS			pmax	pmax		
	comp=E,6.0nm,0.9s					
CLNS			pmax	pmax		
	comp=Z,11nm,1.0s					
CLNS			pmax	pmax		
	comp=E,5.0nm,0.7s					
CLNS			pmax	pmax		
	comp=N,10.0nm,1.1s					
CLNS			smax	smax		
	comp=N,440nm,12.0s					
CLNS			smax	smax		
	comp=E,436nm,11.6s					
CLNS			MLR	MLR		
	comp=N,1μm,18.0s					
CLNS			MLR	MLR		
	comp=Z,898nm,16.0s					
CLNS			MLR	MLR		
	comp=E,2μm,19.0s					
KAD	**Karad**	**50.45 287**	*e*P	**P**	**12 02 45.0**	**-1.7**
POO	**Poona**	**50.90 288⇑**	*i*P	**P**	**12 02 48.0**	**-2.1**
	comp=E,55nm,1.2s					
SDNR	**Sundarnagar**	**50.99 306**	*ex*	**P**	**12 02 51.0**	**+0.5**
SKR	**Severo-Kuril's**	**51.17 25**	*e*P	**P**	**12 02 50.0**	**-1.5**
SKR			pmax	pmax		
	comp=Z,1μm,10.0s					
SKR			pmax	pmax		
	comp=Z,90nm,1.0s					
SKR			pmax	pmax		
	comp=N,1μm,10.0s					
SKR			pmax	pmax		
	comp=E,3μm,14.0s					
SKR			MLR	MLR		
	comp=Z,2μm,18.0s					
SKR			MLR	MLR		
	comp=N,1μm,16.0s					
SKR			MLR	MLR		
	comp=E,1μm,16.0s					
HVS	**Khovu-Aksy**	**51.36 335**	*d i*P	**P**	**12 02 54.1**	**+1.1**
HVS			pmax	pmax		
	comp=Z,516nm,1.7s					
HVS			MLR	MLR		
	comp=Z,8μm,18.0s					
BHK	**Bhakra**	**51.41 305**	*e*P	**P**	**12 02 54.0**	**+0.3**
TAU	**Tasmania Unive**	**53.34 159**	PFAKE		12 03 20.0	+12
TAU			LR	LR		
	comp=Z,2μm,20.0s					
PEA0B	**Petropavlovsk-**	**53.64 24**	*e*P	**P**	**12 03 12.0**	**+2.3**
PETK	**Petropavlovsk-**	**53.64 24**	P	**P**	**12 03 10.1**	**+0.4**
PETK	**Petropavlovsk-**	**53.64 24**	P	**P**	**12 03 10.1**	**+0.4**
PETK	**Petropavlovsk-**	**53.64 24**	P	**P**	**12 03 10.1**	**+0.4**
	comp=Z,9.6nm,0.8s,baz=197,slow=4.7,SNR=15					
PETK			LR	LR	12 25 41.9	
	comp=Z,1μm,21.9s,baz=317,slow=36					
DGAR	**Diego Garcia**	**53.95 256**	PFAKE		12 03 20.0	+7.3
DGAR			LR	LR		
	comp=Z,1μm,19.0s					
PET	**Petropavlovsk**	**53.97 25**	*e*P	**P**	**12 03 12.9**	**+0.8**
PET			*e*S	**S**	**12 10 50.3**	**+4.2**
PET			pmax	pmax		
	comp=Z,400nm,6.7s					
PET			pmax	pmax		
	comp=Z,200nm,6.0s					
PET			pmax	pmax		
	comp=Z,87nm,1.4s					
PET			MLR	MLR		
	comp=Z,2μm,20.0s					
PET			MLR	MLR		
	comp=Z,1μm,16.0s					
MK31	**Makanchi Array**	**54.12 325**	*e*P	**P**	**12 03 13.5**	**+0.1**
MK31			pmax	pmax		
	comp=Z,367nm,2.0s					
MK31	**Makanchi Array**	**54.12 325**	*e*P	**P**	**12 03 14.2**	**+0.7**
MKAR	**Makanchi Array**	**54.12 325**	P	**P**	**12 03 14.0**	**+0.6**
MKAR			PcP	**PcP**	12 04 16.8	
MKAR	**Makanchi Array**	**54.12 325**	P	**P**	**12 03 14.0**	**+0.6**
MKAR			PcP	**PcP**	**12 04 16.8**	**-1.2**
MKAR	**Makanchi Array**	**54.12 325**	P	**P**	**12 03 14.0**	**+0.6**
	comp=Z,21nm,0.7s,baz=126,slow=7.8,SNR=58					
MKAR			PcP	**PcP**	**12 04 16.8**	**-1.2**
	comp=Z,8.1nm,0.8s,baz=133,slow=3.7,SNR=2.6					
MKAR			LR	LR	12 28 02.7	
	comp=Z,3μm,18.8s,baz=119,slow=38					
KSH	**Kashi**	**54.65 315**	P	**P**	**12 03 19.8**	**+2.2**
KSH			pP	**pP**	**12 03 27.4**	**+1.7**
KSH			PcS	**PcS**	**12 08 20.5**	**+0.4**
KSH			S	**S**	**12 10 56.3**	**+0.1**
KSH			sS	**sS**	**12 11 08.8**	**-0.8**
KSH			ScS	**ScS**	**12 13 03.9**	**-1.6**
KSH			pmax	pmax		
	comp=Z,49nm,1.2s					
KSH			pmax	pmax		
	comp=Z,750nm,6.7s					
KSH			LR	LR		
	comp=N,2μm,15.6s					
KSH			LR	LR		
	comp=E,3μm,16.1s					
KSH			LR	LR		
	comp=Z,3μm,16.3s					
YAK	**Yakutsk**	**55.49 3**	*e*P	**P**	**12 03 21.7**	**-1.3**
YAK			*e**PP	**pP**	**12 03 30.0**	**-1.1**
YAK			*e*		12 04 16.9	
YAK			*e*		12 05 26.5	
YAK			*e*S	**S**	**12 11 01.2**	**-5.1**
YAK			pmax	pmax		
	comp=N,7.0nm,1.4s					
YAK			pmax	pmax		
	comp=E,4.0nm,1.2s					
YAK			pmax	pmax		
	comp=Z,16nm,0.9s					
YAK			pmax	pmax		
	comp=Z,224nm,3.2s					
YAK			pmax	pmax		
	comp=N,220nm,3.3s					
YAK			pmax	pmax		
	comp=E,85nm,2.4s					
YAK			smax	smax		
	comp=N,473nm,13.1s					
YAK			smax	smax		
	comp=E,397nm,13.6s					
YAK			MLR	MLR		
	comp=Z,2μm,19.0s					
YAK			MLR	MLR		
	comp=N,1μm,17.0s					
ULHL	**Ulahol**	**55.60 318**	P	**P**	**12 03 25.9**	**+1.3**
	SNR=9.7					
KZA	**Kyzart**	**56.20 317**	P	**P**	**12 03 31.8**	**+2.7**
	SNR=9.5					
TKM2	**Tokmak 2**	**56.33 318**	P	**P**	**12 03 30.0**	**+0.3**
TKM2			pmax	pmax		
	comp=Z,71nm,1.6s					
TKM2	**Tokmak 2**	**56.33 318**	P	**P**	**12 03 31.9**	**+2.2**
	SNR=15					
FUNA	**Funafuti**	**56.33 105**	PFAKE		12 03 40.0	+10
FUNA			LR	LR		
	comp=Z,4μm,20.0s					
KBK	**Karagaybulak**	**56.65 318**	P	**P**	**12 03 34.4**	**+2.5**
	SNR=12					
AAK	**Ala-Archa**	**56.94 317**	*d i*P	**P**	**12 03 34.9**	**+0.9**
AAK			pmax	pmax		
	comp=Z,136nm,2.5s					
AAK			MLR	MLR		
	comp=Z,7μm,23.0s					
AAK	**Ala-Archa**	**56.94 317**	P	**P**	**12 03 34.9**	**+0.9**
	SNR=27					
AAK	**Ala-Archa**	**56.94 317**	P	**P**	**12 03 35.5**	**+1.5**
	SNR=7.3					
AAK	**Ala-Archa**	**56.94 317**	P	**P**	**12 03 33.8**	**-0.2**
AAK			LR	LR		
	comp=Z,3μm,20.0s					
AAK	**Ala-Archa**	**56.94 317**	P	**P**	**12 03 33.8**	**-0.2**
	comp=Z,4.3nm,0.8s,baz=114,slow=7.0,SNR=25					
FRU	**Bishkek**	**56.94 318**	*e*P	**P**	**12 03 34.0**	**+0.2**
FRU			pmax	pmax		
	comp=Z,80nm,2.0s					
ZAA0	**Zalesovo Array**	**57.19 333**	*e*P	**P**	**12 03 34.8**	**-0.5**
ZAA0			*e*pP	**pP**	**12 03 41.9**	**-1.6**
ZALV	**Zalesovo Beam**	**57.19 333**	P	**P**	**12 03 34.8**	**-0.5**
ZALV	**Zalesovo Beam**	**57.19 333**	P	**P**	**12 03 34.8**	**-0.5**
ZALV			P'P'ab	**P'P'ab**	**12 33 51.2**	**-3.5**
ZALV	**Zalesovo Beam**	**57.19 333**	P	**P**	**12 03 34.8**	**-0.5**
	comp=Z,11nm,0.7s,baz=127,slow=5.6,SNR=31					
ZALV			LR	LR	12 29 42.3	
	comp=Z,2μm,18.6s,baz=248,slow=38					
ZALV			PKP2ab		12 33 51.2	
	comp=Z,0.4nm,0.4s,baz=279,slow=3.8,SNR=4.1					
USP	**Ospenovka**	**57.20 318**	P	**P**	**12 03 37.7**	**+2.0**
	SNR=11					
AML	**Almayashu**	**57.28 317**	P	**P**	**12 03 37.7**	**+1.0**
	SNR=14					
EKS2	**Erkin-Say**	**57.44 317**	P	**P**	**12 03 38.2**	**+0.8**
	SNR=6.3					
EKS2	**Erkin-Say**	**57.44 317**	PFAKE		12 03 50.0	+13
EKS2			LR	LR		
	comp=Z,2μm,20.0s					
MSVF	**Nonsavu**	**57.91 116**	*e*P	**P**	**12 03 43.3**	**+2.2**
MSVF			pmax	pmax		
	comp=Z,59nm,1.1s					
MSVF			MLR	MLR		
	comp=Z,1μm,19.0s					
MSVF	**Nonsavu**	**57.91 116**	*e*P	**P**	**12 03 43.3**	**+2.2**
	comp=Z,60nm,1.1s					
MSVF			LR	LR		
	comp=Z,1μm,19.0s					
KBL	**Kabul**	**58.24 307**	P	**P**	**12 03 44.6**	**+1.3**
	baz=58,SNR=4.6					
KURBB	**Kurchatov Arra**	**58.30 327**	P	**P**	**12 03 43.4**	**+0.2**
	comp=Z,37nm,0.8s,baz=129,slow=6.0,SNR=100					
KURK	**Kurchatov**	**58.30 327**	*c i*P	**P**	**12 03 42.9**	**-0.3**
KURK			pmax	pmax		
	comp=Z,149nm,1.9s					
KURK			MLR	MLR		
	comp=Z,759nm,19.0s					
KURK	**Kurchatov**	**58.30 327**	P	**P**	**12 03 43.3**	**+0.1**
	SNR=105					
KURK	**Kurchatov**	**58.30 327**	P	**P**	**12 03 43.4**	**+0.1**
KURK			LR	LR		
	comp=Z,724nm,19.0s					
NVS	**Novosibirsk**	**58.47 333⇓**	*i*P	P	12 03 39.2	-5.1
NVS			*i*		12 04 32.5	
NVS			*i* S	**S**	**12 11 46.6**	**+0.7**
NVS			*i*		12 13 25.4	
NVS			pmax	pmax		
	comp=N,52nm,1.4s					
NVS			pmax	pmax		
	comp=E,53nm,1.4s					
NVS			pmax	pmax		
	comp=Z,110nm,1.4s					
NVS			pmax	pmax		
	comp=Z,35nm,1.7s					
NVS			pmax	pmax		
	comp=N,10.0nm,1.6s					
NVS			pmax	pmax		
	comp=E,19nm,1.6s					
NVS			smax	smax		
	comp=N,32nm,2.1s					
NVS			smax	smax		
	comp=E,78nm,2.1s					
MIDW	**Midway**	**58.73 61**	PFAKE		12 04 00.0	+13
MIDW			LR	LR		
	comp=Z,1μm,20.0s					
SEY	**Seymchan**	**59.78 14⇑**	*i*P	**P**	**12 03 53.8**	**+0.6**
KK31	**Karatay Array**	**59.82 317**	*i* P	**P**	**12 03 53.7**	**-0.2**
KK31			pmax	pmax		
	comp=Z,27nm,0.9s					
BVA0	**Borovoye Array**	**63.88 327**	*i* P	**P**	**12 04 20.6**	**-0.4**
BVA0			pmax	pmax		
	comp=Z,387nm,2.7s					
BVAR	**Borovoye Array**	**63.88 327**	P	**P**	**12 04 20.9**	**-0.2**
BVAR	**Borovoye Array**	**63.88 327**	P	**P**	**12 04 20.9**	**-0.2**
BVAR	**Borovoye Array**	**63.88 327**	P	**P**	**12 04 20.9**	**-0.2**
	comp=Z,11nm,0.7s,baz=133,slow=8.7,SNR=30					
BRVK	**Borovoye**	**63.95 327**	*c i*P	**P**	**12 04 21.1**	**-0.4**
BRVK			pmax	pmax		
	comp=Z,168nm,2.5s					
BRVK			MLR	MLR		
	comp=Z,1μm,19.0s					
BRVK	**Borovoye**	**63.95 327**	P	**P**	**12 04 21.9**	**+0.4**
	SNR=33					
BRVK	**Borovoye**	**63.95 327**	*e*P	**P**	**12 04 21.4**	**-0.1**
	comp=Z,146nm,1.2s					
TIXI	**Tiksi**	**65.08 1**	*d i*P	**P**	**12 04 27.0**	**-1.5**
TIXI			pmax	pmax		
	comp=Z,28nm,1.7s					
TIXI			MLR	MLR		
	comp=Z,2μm,22.0s					
RPZ	**Rata Peaks**	**65.20 145**	P	**P**	**12 04 28.7**	**-1.1**
RPZ			*e*P	pP	12 04 30.8	-7.3
RPZ	**Rata Peaks**	**65.20 145**	P	**P**	**12 04 28.7**	**-1.1**
	comp=Z,36nm,0.9s,baz=355,slow=4.7,SNR=7.0					
RPZ			LR	LR	12 32 38.4	
	comp=Z,1μm,18.7s,baz=305,slow=36					
IDAH	**Dahanechah**	**65.37 303**	*e*P	**P**	**12 04 31.0**	**-0.5**
RAO	**Raoul Island**	**65.59 126**	LR	LR	12 32 13.9	
	comp=Z,540nm,18.8s,baz=291,slow=35					
IMYA	**Miami**	**65.75 307**	*e*P	**P**	**12 04 33.2**	**-0.6**
ADK	**Adak**	**65.81 35**	PFAKE		12 04 50.0	+16
ADK			LR	LR		
	comp=Z,1μm,19.0s					
URZ	**Urewera**	**65.95 137**	P	**P**	**12 04 34.7**	**0.0**
URZ	**Urewera**	**65.95 137**	P	**P**	**12 04 34.7**	**0.0**
	comp=Z,18nm,0.7s,baz=330,slow=6.9,SNR=8.6					
SNZO	**South Karori**	**66.00 141**	PFAKE		12 04 50.0	+15
SNZO			LR	LR		
	comp=Z,1μm,22.0s					
IKOO	**Kooshah**	**66.05 302**	*e*P	**P**	**12 04 35.0**	**-0.9**
AFI	**Afiamalu**	**66.21 108**	LR	LR	12 31 03.1	
	comp=Z,993nm,18.7s,baz=275,slow=34					
ISRO	**Mashad**	**66.25 307**	*e*P	**P**	**12 04 36.1**	**-0.8**
IMOG	**Moghan**	**66.32 306**	*e*P	**P**	**12 04 37.1**	**-0.5**
IKRD	**Kardeh**	**67.09 307**	*e*P	P	12 04 36.0	-6.4
AB31	**Akbulak array**	**68.72 320**	P	**P**	**12 04 51.2**	**-0.9**
AB31			pmax	pmax		
	comp=Z,113nm,1.4s					
MSEY	**Mahe Island**	**70.02 263**	PFAKE		12 05 10.0	+9.1
MSEY			LR	LR		
	comp=Z,773nm,20.0s					
AKTO	**Aktyubinsk**	**70.22 321**	P	**P**	**12 05 00.4**	**-1.0**
AKTO			pmax	pmax		
	comp=Z,160nm,1.8s					
SVE	**Sverdlovsk**	**70.53 328**	*e*P	**P**	**12 05 02.6**	**-0.5**
SVE			pmax	pmax		
	comp=Z,96nm,1.2s					
IANJ	**Anjilo**	**70.61 305**	*e*P	**P**	**12 05 03.6**	**-0.7**
IGLO	**Ghaloghah**	**70.78 306**	*e*P	**P**	**12 05 06.0**	**+0.6**
ISRV	**Sarvestan**	**70.80 299**	*e*P	**P**	**12 05 04.0**	**-1.7**
IKIA	**Kiasar**	**70.87 306**	*e*P	**P**	**12 05 05.1**	**-0.8**
IPAR	**Pars**	**70.88 299**	*e*P	**P**	**12 05 04.1**	**-2.1**
ARU	**Arti**	**71.50 328**	*d i*P	**P**	**12 05 08.1**	**-0.9**
ARU					12 07 45.6	
ARU			S	**S**	**12 14 26.2**	**+0.1**
ARU			pmax	pmax		
	comp=Z,111nm,2.5s					
ARU			MLR	MLR		
	comp=Z,904nm,22.0s					
ARU	**Arti**	**71.50 328**	P	**P**	**12 05 08.7**	**-0.3**
	comp=Z,332nm,0.8s,SNR=7.8					
IZEF	**Zefreh**	**71.69 302**	*e*P	**P**	**12 05 09.9**	**-1.1**
ISFB	**Sefidab**	**71.88 304**	*e*P	**P**	**12 05 12.3**	**+0.4**
IKAZ	**Kazeroun**	**71.93 299**	*e*P	**P**	**12 05 10.5**	**-2.1**
IVRN	**Varamin**	**72.35 305**	*e*P	**P**	**12 05 12.0**	**-2.7**
IKLH	**Kolahrood**	**72.35 303**	*e*P	**P**	**12 05 15.0**	**0.0**
IPIR	**Pirpir**	**72.89 302**	*e*P	**P**	**12 05 17.0**	**-1.2**
IR3	**Iran Long-Peri**	**72.96 305**	*e*P	**P**	**12 05 17.1**	**-1.2**
IMHD	**Mahdasht**	**73.26 305**	*e*P	**P**	**12 05 19.9**	**-0.2**
SOKR	**Solikamsk**	**73.30 331**	*e*P	**P**	**12 05 19.5**	**-0.1**
SOKR			S	**SKiKP**	**12 14 49.6**	**+0.1**
SOKR			pmax	pmax		
	comp=Z,40nm,1.5s					
SOKR			MLR	MLR		
	comp=Z,2μm,20.0s					
IR5	**Iran Long-Peri**	**73.30 305**	*e*P	**P**	**12 05 19.7**	**-0.7**
CASY	**Casey**	**73.38 186**	PFAKE		12 05 30.0	+10
CASY			LR	LR		
	comp=Z,975nm,20.0s					
IRAZ	**Razeghan**	**73.85 305**	*e*P	**P**	**12 05 21.4**	**-2.3**
DRV	**Dumont d'Urvil**	**73.87 174**	P	**P**	**12 05 20.0**	**-2.8**
DRV			S	**SKiKP**	**12 14 43.0**	**-7.1**
DRV			SS	**SS**	**12 19 40.0**	**+2.8**
DRV			L	L	12 23 00.0	
DRV			R		12 28 00.0	
QRN	**Al-Qurain**	**75.32 298**	*e*P	**P**	**12 05 31.0**	**-1.1**
QRN			AMb	AMB	12 05 40.3	
	comp=Z,162nm,1.2s					
KBD	**Kabd**	**75.53 298**	*e*P	**P**	**12 05 32.1**	**-1.2**
NAY	**Al-Naaiem**	**75.92 298**	*e*P	**P**	**12 05 34.3**	**-1.2**
NAY			AMb	AMB	12 05 44.0	
	comp=Z,36nm,1.5s					
RST	**Umm Al-Ruwaisa**	**76.14 299**	*e*P	**P**	**12 05 35.1**	**-1.6**
MAK	**Makhachkala**	**76.21 313**	*e*P	P	12 05 29.0	-7.9
MAK			*e*		12 08 24.3	
MAK			*e*S	S	12 15 11.5	-8.2
MAK			*e*SS	**SS**	**12 20 08.3**	**-5.2**
MAK			pmax	pmax		
	comp=Z,159nm,1.4s					
IHRS	**Heris**	**76.31 308**	*e*P	**P**	**12 05 35.6**	**-2.3**
MIR	**Mirnyy**	**76.44 192**	*e*P	**P**	**12 05 39.0**	**+1.4**
MIR			pmax	pmax		
	comp=Z,91nm,2.0s					
MIR			MLR	MLR		
	comp=N,700nm,20.0s					
MIR			MLR	MLR		
	comp=Z,800nm,20.0s					
IAZR	**Azarshahr**	**77.12 307**	*e*P	**P**	**12 05 43.0**	**+0.5**
IMRD	**Marand**	**77.37 308**	*e*P	**P**	**12 05 43.1**	**-0.7**
GNI	**Garni**	**78.16 310**	P	**P**	**12 05 49.4**	**+1.3**
	SNR=10					
GNI	**Garni**	**78.16 310**	P	**P**	**12 05 48.7**	**+0.5**
GNI			LR	LR		
	comp=Z,919nm,21.0s					
GNI	**Garni**	**78.16 310**	P	**P**	**12 05 48.7**	**+0.5**
	comp=Z,3.6nm,0.4s,baz=158,slow=13,SNR=8.3					
ZEI	**Tsey**	**78.85 312**	*e*P	**P**	**12 05 49.7**	**-2.2**

ZEI pmax pmax
comp=Z,66nm,1.3s
RAR Rarotonga 78.97 113 LR LR 12 37 32.2
comp=Z,417nm,18.0s,baz=273,slow=33
KBZ Khabaz 79.60 313 P **P** **12 05 56.0 +0.3**
KBZ Khabaz 79.60 313 P **P** **12 05 56.0 +0.3**
KBZ Khabaz 79.60 313 P **P** **12 05 56.0 +0.3**
comp=Z,6.8nm,1.0s,baz=76,slow=7.9,SNR=11
KBZ LR LR 12 47 54.9
comp=Z,944nm,18.8s,baz=261,slow=41
KIV Kislovodsk 79.76 313 *d iP* **P** **12 05 56.4 -0.3**
KIV *i* 12 06 04.2
KIV *e*S **S** **12 16 01.2 +3.0**
KIV pmax pmax
comp=Z,34nm,1.6s
OPO Ambohidratompo 80.36 250 P **P** **12 06 00.5 0.0**
OPO Ambohidratompo 80.36 250 P **P** **12 06 00.5 0.0**
comp=Z,2.7nm,0.3s,baz=96,slow=5.2,SNR=6.3
ABPO Ambohimpanom 80.40 250 PFAKE 12 06 10.0 +9.3
ABPO LR LR
comp=Z,732nm,19.0s
IM04 Indian Mountai 80.59 24 *e*P **P** **12 06 00.8 +0.1**
KDAK Kodiak Island 80.60 33 LR LR 12 37 46.2
comp=Z,778nm,20.2s,baz=261,slow=33
VRHR Novokhopersk 80.61 321 *e*P **P** **12 06 00.2 -0.8**
VRHR *e*S **S** **12 16 02.5 -4.0**
VRHR pmax pmax
comp=N,20nm,1.4s
VRHR pmax pmax
comp=Z,50nm,1.4s
VRHR pmax pmax
comp=E,40nm,1.6s
VRHR smax smax
comp=E,420nm,5.4s
VRHR smax smax
comp=Z,460nm,4.7s
VRHR smax smax
comp=N,180nm,3.7s
VRHR MLR MLR
comp=Z,1μm,19.0s
VRHR MLR MLR
comp=N,250nm,22.0s
VRHR MLR MLR
comp=E,190nm,16.0s
IMA2 Indian Mountai 80.63 24 *e*P **P** **12 06 01.6 +0.6**
ATD Arta Tunnel 80.79 281 P **P** **12 06 02.5 -0.2**
ATD Arta Tunnel 80.79 281 P **P** **12 06 02.5 -0.2**
comp=E,15nm,0.7s,baz=65,slow=13,SNR=3.8
BPAW Bear Paw Mtn. 81.65 26 *e*P **P** **12 06 06.8 +0.4**
comp=E,46nm,1.1s
SOC Sochi 81.91 313 *e*P P 12 06 03.9 -4.2
SOC *e**SP sP 12 06 17.7 -2.0
SOC *e* 12 09 10.5
SOC *e*PPP PPP 12 11 03.4
SOC *e*S **S** **12 16 15.2 -5.2**
KLMR Klimovskoe 81.98 330 *e*P **P** **12 06 07.3 -0.8**
KLMR pmax pmax
comp=Z,155nm,1.6s
KLMR MLR MLR
comp=Z,2μm,17.0s
VORD Divnogorie 82.08 320 *e*P **P** **12 06 08.8 0.0**
VORD *e*S **S** **12 16 17.9 -3.9**
VORD pmax pmax
comp=N,40nm,0.6s
VORD pmax pmax
comp=E,60nm,0.6s
VORD pmax pmax
comp=Z,20nm,0.6s
VORD smax smax
comp=E,220nm,3.9s
VORD smax smax
comp=Z,270nm,4.8s
VORD smax smax
comp=N,160nm,3.2s
VORD MLR MLR
comp=Z,2μm,28.0s
VORD MLR MLR
comp=N,1μm,24.0s
VORD MLR MLR
comp=E,960nm,21.0s
TMCR Tamitsa 82.70 334 *e*P **P** **12 06 09.8 -2.0**
TMCR pmax pmax
comp=Z,16nm,0.9s
MOS Moscow 83.00 325 *e*P P 12 06 10.1 -3.4
MOS pmax pmax
comp=Z,45nm,1.3s
MOS MLR MLR
comp=Z,2μm,18.0s
COLA College 83.02 25 PFAKE 12 06 20.0 +6.6
COLA LR LR
comp=Z,719nm,22.0s
ILAR Eielson Array 83.43 26 P **P** **12 06 14.8 -0.8**
ILAR Eielson Array 83.43 26 P **P** **12 06 14.8 -0.8**
comp=Z,3.3nm,1.0s,baz=234,slow=5.3,SNR=27
ILAR LR LR 12 41 26.4
comp=Z,432nm,19.7s,baz=77,slow=34
ANN Anapa 83.51 314 *e*P **P** **12 06 14.9 -1.5**
ANN *e*S **S** **12 16 34.1 -2.5**
ANN pmax pmax
comp=Z,27nm,0.9s
OBN Obninsk 83.62 325 *c iP* **P** **12 06 16.7 0.0**
OBN *e* 12 06 22.0
OBN *e*S **S** **12 16 41.4 +4.1**
OBN *e*SS SS 12 22 11.0 +7.3
OBN pmax pmax
comp=Z,97nm,1.6s
OBN MLR MLR
comp=Z,2μm,23.0s
APA Apatity 84.50 337 *|| iP* **P** **12 06 21.9 +1.0**
APA *i* PS **PnS** **12 17 46.0 +4.3**
APA MLR MLR
comp=Z,3μm,16.0s
ASF Jabal al Asfar 84.72 302 P **P** **12 06 23.0 0.0**
ASF Jabal al Asfar 84.72 302 P **P** **12 06 23.0 0.0**
comp=Z,5.4nm,0.8s,baz=311,slow=0.3,SNR=10
MENT Mentasta 84.93 27 *e*P **P** **12 06 21.8 -1.5**
MAW Mawson 85.70 200 LR LR 12 39 01.4
comp=Z,504nm,21.2s,baz=59,slow=32
JOF Joensuu 85.77 333 *e*P **P** **12 06 30.1 +2.7**
JOF pmax pmax
comp=Z,2.0nm,0.4s
JOF Joensuu 85.77 333 *e*p **P** **12 06 30.1 +2.7**
comp=Z,1.7nm,0.4s
SIM Simferopol' 85.85 315 *de*P **P** **12 06 29.7 +1.5**
SIM 12 09 53.7
SIM S **S** **12 16 59.6 -0.4**
SIM pmax pmax
comp=Z,20nm,0.8s
EGAK Eagle 85.88 25 PFAKE 12 06 40.0 +12
EGAK LR LR
comp=Z,754nm,20.0s
VNDA Vanda 86.46 172 P **P** **12 06 29.5 -1.0**
VNDA *e*P **PcP** **12 06 29.6 -3.3**
VNDA Vanda 86.46 172 P **P** **12 06 29.5 -1.0**
comp=Z,1.6nm,0.7s,baz=270,slow=4.3,SNR=7.5
VNDA LR LR 12 42 08.3
comp=Z,659nm,21.1s,baz=336,slow=34
EIL Elat 86.60 299 P **P** **12 06 32.4 +0.1**
baz=86,SNR=4.2
BR131 Keskin Array S 86.70 309 *e*P **P** **12 06 32.3 -0.4**
comp=Z,13nm,1.2s
BRTR Keskin Array B 86.70 309 P **P** **12 06 31.7 -1.0**
BRTR PP **PP** **12 09 57.9 +2.9**
BRTR Keskin Array B 86.70 309 P **P** **12 06 31.7 -1.0**
comp=Z,2.4nm,0.9s,baz=112,slow=4.7,SNR=9.1
BRTR PP **PP** **12 09 57.9 +2.9**
comp=Z,3.8nm,1.1s,baz=107,slow=4.8,SNR=5.1
BRTR LR LR 12 52 31.4
comp=Z,447nm,21.9s,baz=245,slow=41
ARCES ARCESS Array B 87.13 340 P **P** **12 06 32.3 -1.7**
ARCES ARCESS Array B 87.13 340 P **P** **12 06 32.3 -1.7**
comp=Z,10nm,0.8s,baz=46,slow=5.2,SNR=7.6
ARCES LR LR 12 52 14.3
comp=Z,1μm,18.8s,baz=80,slow=40
ANTO Ankara 87.33 310 PFAKE 12 06 50.0 +14
ANTO LR LR
comp=Z,715nm,22.0s
SBA Scott Base 87.39 172 PFAKE 12 06 50.0 +15
SBA LR LR
comp=Z,613nm,19.0s
CSS Prodhromos 87.43 305 PFAKE 12 06 50.0 +14
CSS LR LR
comp=Z,564nm,20.0s
KMBO Kilima Mbogo 87.61 269 P **P** **12 06 39.5 +1.7**
SNR=20
KMBO Kilima Mbogo 87.61 269 P **P** **12 06 37.5 -0.3**
KMBO LR LR
comp=Z,446nm,19.0s
KMBO Kilima Mbogo 87.61 269 P **P** **12 06 37.5 -0.3**
comp=Z,5.8nm,0.9s,baz=52,slow=7.2,SNR=12
PPT Papeete 87.88 108 LR LR 12 38 43.8
comp=Z,781nm,21.0s,baz=266,slow=31
KBS Kingsbay 87.89 350 PFAKE 12 06 50.0 +13
KBS LR LR
comp=Z,3μm,22.0s
KAF Kangasniemi 88.19 332 *e*P **P** **12 06 41.5 +2.3**
KAF pmax pmax
comp=Z,2.0nm,0.4s
KAF Kangasniemi 88.19 332 *e*p **P** **12 06 41.5 +2.3**
comp=Z,2.1nm,0.4s
FIA1 FINESS Array S 88.42 332 *e*P P 12 06 36.1 -4.2
FINES FINESS Array B 88.42 332 P **P** **12 06 38.4 -1.9**
FINES FINESS Array B 88.42 332 P **P** **12 06 38.4 -1.9**
comp=Z,12nm,0.8s,baz=94,slow=5.7,SNR=14
FINES LR LR 12 49 58.3
comp=Z,2μm,19.4s,baz=90,slow=38
AKASG Malin Array Be 88.46 321 P **P** **12 06 38.8 -1.9**
AKASG 12 10 12.8
AKASG Malin Array Be 88.46 321 P **P** **12 06 38.8 -1.9**
AKASG PP **PP** **12 10 12.8 +4.2**
AKASG Malin Array Be 88.46 321 P **P** **12 06 38.8 -1.9**
comp=Z,2.8nm,0.6s,baz=71,slow=4.6,SNR=11
AKASG PP **PP** **12 10 12.8 +4.2**
comp=Z,0.2nm,0.3s,baz=66,slow=7.1,SNR=2.9
AKASG LR LR 12 50 05.3
comp=Z,866nm,20.1s,baz=80,slow=38
KIEV Kiev 88.47 321 *e*P **P** **12 06 41.7 +1.0**
KIEV pmax pmax
comp=Z,9.0nm,1.0s
KIEV MLR MLR
comp=Z,755nm,20.0s
KIEV Kiev 88.47 321 *e*P **P** **12 06 41.7 +1.0**
comp=Z,9.4nm,1.0s
KIEV LR LR
comp=Z,755nm,20.0s
VSU Vasula 88.64 329 *e*P **P** **12 06 39.3 -2.0**
VSU pmax pmax
comp=Z,409nm,5.1s
MICGM Minsk 88.68 325 *e*P P 12 06 38.0 -3.7
MNK Minsk 88.71 325 *e*P P 12 06 38.0 -3.8
NACGM Naroch 89.25 325 *e* **P** **12 06 43.0 -1.3**
KIS Kishinev 89.28 317 *e*P **P** **12 06 42.0 -2.6**
KIS *e*S **S** **12 17 28.0 -4.7**
KIS Kishinev 89.28 317 *e*PS PS 12 18 24.0 -17
KIS LRM MLR 12 51 20.0
comp=Z,1μm,22.0s
KIS Kishinev 89.28 317 *e*P **P** **12 06 42.0 -2.6**
KIS *e*S **S** **12 17 28.0 -4.7**
ISP Isparta 89.34 308 PFAKE 12 07 00.0 +15
ISP LR LR
comp=Z,723nm,21.0s
WRAK Wrangell Islan 91.68 33 PFAKE 12 07 10.0 +14
WRAK LR LR
comp=Z,751nm,22.0s
KWP Kalwaria Pacla 92.78 320 PFAKE 12 07 10.0 +9.1
KWP LR LR
comp=Z,1μm,21.0s
UZH Uzhgorod 93.27 320 *e*P **P** **12 07 01.1 -2.0**
UZH *i* 12 07 08.5
UZH *e* 12 12 51.0
UZH *e* 12 17 36.5
UZH *i* S **S** **12 18 03.1 -5.9**
UZH *e* 12 19 24.0
SANT Santorini 93.57 307 PFAKE 12 07 20.0 +15
SANT LR LR
comp=Z,368nm,19.0s
CRVS Cervenica-Dubn 93.74 320 *e*P **P** **12 07 04.3 -1.1**
CRVS pmax pmax
comp=Z,23nm,1.8s
CRVS Cervenica-Dubn 93.74 320 *e*P **P** **12 07 04.3 -1.1**
STHS Stebnicka Huta 93.75 320 *e*P **P** **12 07 05.9 +0.5**
STHS pmax pmax
comp=Z,2.0nm,0.9s
STHS Stebnicka Huta 93.75 320 *e*P **P** **12 07 05.9 +0.5**
KECS Kecovo 94.47 320 *e*P **P** **12 07 09.2 +0.5**
KECS pmax pmax
comp=Z,1.0nm,0.8s
KECS Kecovo 94.47 320 *e*P **P** **12 07 09.2 +0.5**
KECS *e*PP **PP** **12 10 58.7 +2.5**
PSZ Piszkesteto 95.00 319 PFAKE 12 07 20.0 +8.8
PSZ LR LR
comp=Z,1μm,20.0s
NB2 NORSAR Subarra 95.39 333 P **P** **12 07 10.7 -2.0**
comp=Z,0.6nm,0.7s,baz=71,slow=5.6
NOA NORSAR Array B 95.39 333 P **P** **12 07 10.5 -2.2**
NOA PP **PP** **12 11 03.1 +0.2**
NOA NORSAR Array B 95.39 333 P **P** **12 07 10.5 -2.2**
comp=Z,4.4nm,0.8s,baz=67,slow=4.7,SNR=13
NOA PP **PP** **12 11 03.1 +0.2**
comp=Z,2.2nm,0.8s,baz=66,slow=8.0,SNR=3.9
NOA LR LR 12 53 52.0
comp=Z,1μm,19.0s,baz=65,slow=38
VYHS Vyhne 95.53 320 *e*PP PP 12 11 07.5 +3.1
KSP Ksiaz 96.40 323 *e*P **P** **12 07 16.6 -0.8**
QSPA South Pole Qui 96.44 180 P **P** **12 07 17.0 -0.3**
QSPA LR LR
comp=Z,949nm,22.0s
QSPA South Pole Qui 96.44 180 P **P** **12 07 17.0 -0.3**
comp=Z,3.5nm,1.2s,baz=311,slow=1.7,SNR=3.9
KONO Kongsberg 96.70 332 PFAKE 12 07 30.0 +11
KONO LR LR
comp=Z,2μm,19.0s
TIR Tirane 96.73 313 PFAKE 12 07 30.0 +11
TIR LR LR
comp=Z,824nm,21.0s
YKA Yellowknife Ar 97.76 24 P **P** **12 07 22.9 -0.3**
YKA Yellowknife Ar 97.76 24 P **P** **12 07 22.9 -0.3**
comp=Z,2.0nm,0.9s,baz=304,slow=4.7,SNR=2.7
LSZ Lusaka 97.98 256 PFAKE 12 07 40.0 +15
LSZ LR LR
comp=Z,680nm,20.0s
CLL Collm 98.20 324 *e*P **P** **12 07 25.0 -0.5**
CLL pmax pmax
comp=Z,13nm,1.3s
CLL Collm 98.20 324 *e*Pdif **P** **12 07 25.0 -0.5**
comp=Z,13nm,1.3s
CLL *e* 12 07 44.0
CLL *e*PP **PP** **12 11 24.0 -0.8**
CLL *e* 12 11 46.0
CLL *e*SKSac **SKSac** **12 18 06.0 +4.3**
CLL *e*Sdif **S** **12 18 48.0 -3.5**
CLL *e*PS **PS** **12 20 15.0 -3.6**
CLL *e*SS **SS** **12 25 36.0 +1.9**
CLL *e*SSS SSS 12 29 18.0
CLL *e* 12 32 12.0
CLL *e*SSSS 12 32 42.0
GERES GERESS Array B 98.65 321 PP PP 12 11 28.6 +0.1
GERES GERESS Array B 98.65 321 PP PP 12 11 28.6 +0.1
comp=Z,0.3nm,0.2s,baz=103,slow=8.5,SNR=3.0
GERES LR LR 12 56 16.9
comp=Z,1μm,21.0s,baz=66,slow=38
NLWA Neilton Lookou 99.40 40 PFAKE 12 07 40.0 +8.9
NLWA LR LR
comp=Z,794nm,20.0s
CUC Castrocucco 100.07 312 PFAKE 12 07 50.0 +16
CUC LR LR
comp=Z,729nm,21.0s
CEL Celeste 100.52 311 PFAKE 12 07 50.0 +14
CEL LR LR
comp=Z,637nm,20.0s
BFO Black Forest 102.14 322 PFAKE 12 07 50.0 +6.8
BFO LR LR
comp=Z,1μm,19.0s
TUE Stuetta 102.26 320 PFAKE 12 08 00.0 +16
TUE LR LR
comp=Z,897nm,20.0s
VLC Villacollemand 102.48 318 PFAKE 12 08 00.0 +15
VLC LR LR
comp=Z,1μm,22.0s
HAWA Hanford 102.53 40 PFAKE 12 08 00.0 +15
HAWA LR LR
comp=Z,607nm,20.0s
WLF Walferdange 102.86 324 PFAKE 12 08 00.0 +14
WLF LR LR
comp=Z,805nm,19.0s
ECH Echery 102.90 323 PFAKE 12 08 00.0 +13
ECH LR LR
comp=Z,1μm,19.0s
NEW Newport 103.23 37 PFAKE 12 08 00.0 +12
NEW LR LR
comp=Z,685nm,21.0s
PGF Pioggiola 104.03 317 *e*PKIKP **PKiKP** **12 12 05.4 -3.8**
comp=Z,89nm,1.4s
LPG La Plagne 104.31 320 *e*PKIKP **PKiKP** **12 12 06.7 -3.2**
comp=Z,188nm,1.8s
LPL La Plagne 104.32 320 *e*PKIKP **PKiKP** **12 12 06.9 -2.9**
BNI Bardonecchia 104.55 320 PFAKE 12 08 10.0 +16
BNI LR LR
comp=Z,2μm,20.0s
BMO Blue Mountains 104.58 40 PFAKE 12 08 10.0 +16
BMO LR LR
comp=Z,566nm,20.0s
MBDF Montbardon 104.63 319 *e*PKIKP **PKiKP** **12 12 08.8 -1.5**
comp=Z,68nm,1.5s
WVOR Wild Horse Val 104.69 43 PFAKE 12 08 10.0 +15
WVOR LR LR
comp=Z,629nm,22.0s
ESK Eskdalemuir 104.84 332 PFAKE 12 08 10.0 +15
ESK LR LR
comp=Z,1μm,20.0s
VSL Villasalto 104.91 314 PFAKE 12 08 10.0 +14
VSL LR LR
comp=Z,492nm,20.0s
SUR Sutherland 105.22 238 PFAKE 12 12 20.0
SUR LR LR
comp=Z,760nm,22.0s
SSB Saint Sauveur 105.81 321 PFAKE 12 12 20.0
SSB LR LR
comp=Z,929nm,21.0s
VIVF Saint-Julien-l 105.92 320 *e*PKIKP **PKiKP** **12 12 09.5 -3.0**
comp=Z,120nm,1.8s
BMN Battle Mountai 106.47 45 PFAKE 12 12 30.0
BMN LR LR
comp=Z,694nm,20.0s
NVAR Mina Array Bea 106.49 47 Pdif **Pdif** **12 08 05.7 +2.7**
NVAR PP PP 12 12 21.5 -6.2
NVAR PKKPbc **PKKPbc** **12 23 36.5 +1.6**
NVAR Mina Array Bea 106.49 47 Pdiff **Pdif** **12 08 05.7 +2.7**
comp=Z,0.9nm,0.8s,baz=270,slow=3.6,SNR=3.3
NVAR PP PP 12 12 21.5 -6.2
comp=Z,0.5nm,0.8s,baz=255,slow=6.4,SNR=3.7
NVAR PKKPbc **PKKPbc** **12 23 36.5 +1.6**
comp=Z,0.2nm,0.5s,baz=111,slow=4.9,SNR=3.5
LASF Ste Croix 106.79 320 *e*PKIKP **PKiKP** **12 12 11.9 -2.2**
comp=Z,214nm,1.9s
HLID Hailey 107.02 41 PFAKE 12 12 30.0
HLID LR LR
comp=Z,623nm,22.0s
TPH Tonopah 107.41 47 PFAKE 12 12 30.0
TPH LR LR
comp=Z,765nm,22.0s
FFC Flin Flon 107.64 26 PFAKE 12 12 30.0
FFC LR LR
comp=Z,203nm,20.0s
EGMT Eagleton 107.67 35 PFAKE 12 12 30.0
EGMT LR LR
comp=Z,490nm,19.0s
BOZ Bozeman (W) 107.78 38 PFAKE 12 12 30.0
BOZ LR LR
comp=Z,541nm,22.0s
TSUM Tsumeb 108.29 252 PFAKE 12 12 30.0
TSUM LR LR
comp=Z,639nm,19.0s
LKWY Lake 109.08 38 PFAKE 12 12 30.0
LKWY LR LR
comp=Z,678nm,20.0s
RLMT Red Lodge 109.48 37 PFAKE 12 12 30.0
RLMT LR LR
comp=Z,500nm,20.0s
AHID Auburn Hatcher 109.53 40 PFAKE 12 12 30.0
AHID LR LR
comp=Z,588nm,22.0s
DUG Dugway 109.61 43 PFAKE 12 12 30.0
DUG LR LR
comp=Z,455nm,20.0s
PFO Pinyon Flat Ob 109.71 51 PFAKE 12 12 30.0
PFO LR LR
comp=Z,702nm,22.0s
HWUT Hardware Ranch 109.79 42 PFAKE 12 12 30.0
HWUT LR LR
comp=Z,635nm,22.0s
LAO LASA Array 110.41 35 PFAKE 12 12 30.0
LAO LR LR
comp=Z,424nm,20.0s
DGMT Dagmar 110.48 32 PFAKE 12 12 30.0
DGMT LR LR
comp=Z,579nm,21.0s
BW06 Boulder Array 110.52 40 PFAKE 12 12 30.0
BW06 LR LR
comp=Z,588nm,20.0s
PDAR Pinedale Array 110.52 40 PKiKP **PKiKP** **12 12 20.6 -0.8**
PDAR PKKPbc **PKKPab** **12 23 28.4 -4.5**
PDAR Pinedale Array 110.52 40 PKiKP **PKiKP** **12 12 20.6 -0.8**
comp=Z,1.0nm,1.0s,baz=46,slow=2.6,SNR=3.6
PDAR PKKPbc **PKKPab** **12 23 28.4 -4.5**
comp=Z,0.6nm,0.9s,baz=129,slow=5.9,SNR=4.0
MVU Marysvale 110.80 45 PFAKE 12 12 30.0
MVU LR LR
comp=Z,729nm,21.0s
MSKU Masuku 111.16 271 PFAKE 12 12 30.0
MSKU LR LR
comp=Z,2.0nm,21.0s
WUAZ Wupatki 112.74 47 PFAKE 12 12 40.0
WUAZ LR LR
comp=Z,563nm,21.0s
G27A Dupree 113.04 34 P **PKiKP** **12 12 26.1 +0.2**
baz=114
I25A Rochford 113.39 36 P **PKiKP** **12 12 26.2 -0.5**
baz=113
N23A Red Feather La 113.80 40 P **PKiKP** **12 12 27.1 -0.6**
baz=114
O22A Kremmling 113.80 41 P **PKiKP** **12 12 27.3 -0.6**
baz=114
TAM Tamanrasset 113.81 298 PFAKE 12 12 40.0
TAM LR LR
comp=Z,458nm,21.0s
H27A Howes 113.97 35 P **PKiKP** **12 12 27.0 -0.7**
baz=114
MVCO Mesa Verde 114.00 44 PFAKE 12 12 40.0
MVCO LR LR
comp=Z,526nm,20.0s
O23A Lake Granby, G 114.18 40 P PKPdf 12 12 27.7 -0.9
baz=114
S21A Coal Bank Pass 114.26 44 P PKPdf 12 12 28.8 0.0
baz=114
PAB San Pablo 114.35 319 PFAKE 12 12 40.0 +11
PAB LR LR
comp=Z,906nm,19.0s
TUC Tucson 114.59 50 PFAKE 12 12 40.0 +11
TUC LR LR
comp=Z,644nm,19.0s
ISCO Idaho Springs 114.60 41 PFAKE 12 12 40.0 +11
ISCO LR LR
comp=Z,707nm,21.0s
AGMN Agassiz Nation 114.80 29 PFAKE 12 12 40.0 +11
AGMN LR LR
comp=Z,635nm,22.0s
I28A Midland 114.87 35 P PKPdf 12 12 29.0 -0.5
baz=115
Q23A Hartsel 114.94 42 P PKPdf 12 12 29.9 -0.2
baz=115
U21A Nageezi 114.97 45 P PKPdf 12 12 30.4 +0.3
baz=115
T22A Edith 115.20 44 P **PKPdf** **12 12 29.9 -0.7**
baz=115
V22A San Miguel Ran 115.75 45 P **PKPdf** **12 12 30.5 -1.1**
baz=116
SDCO Great Sand Dun 115.77 43 PFAKE 12 12 40.0 +8.3
SDCO LR LR
comp=Z,443nm,21.0s
X21A Alamocita Cree 115.85 47 P **PKPdf** **12 12 33.0 +1.1**
baz=116
Z20A Nine Sixteen R 115.88 48 P **PKPdf** **12 12 31.4 -0.5**
baz=116
MTE Manteigas 115.92 321 PFAKE 12 12 40.0 +8.4
MTE LR LR
comp=Z,746nm,20.0s
P26A Davis Ranch, A 116.19 40 P **PKPdf** **12 12 32.1 -0.2**
baz=116
OGNE Ogallala 116.21 38 PFAKE 12 12 40.0 +7.8
OGNE LR LR
comp=Z,465nm,20.0s
Z21A St. Cloud Mine 116.47 48 P **PKPdf** **12 12 33.3 +0.2**
baz=116
S25A Robets Cordova 116.53 42 P **PKPdf** **12 12 33.1 +0.1**
baz=116
ANMO Albuquerque 116.55 46 PFAKE 12 12 40.0 +6.8

ANMO				LR	LR			
	comp=Z,466nm,20.0s							
T25A	**Trinidad**	**116.83**	**43**	P	**PKPdf**	**12 12 32.7**	**-1.0**	
	baz=117							
R26A	**Arlington**	**116.83**	**41**	P	**PKPdf**	**12 12 33.0**	**-0.5**	
	baz=117							
V24A	**Rampart Ranch,**	**116.99**	**44**	P	**PKPdf**	**12 12 33.5**	**-0.6**	
	baz=117							
Z22A	**Elephant Butte**	**117.02**	**48**	P	**PKPdf**	**12 12 33.8**	**-0.2**	
	baz=117							
EYMN	**Ely**	**117.07**	**26**	PFAKE		12 12 50.0	+16	
EYMN				LR	LR			
	comp=Z,820nm,20.0s							
W24A	**Lazy 6 Ranch,**	**117.16**	**45**	P	**PKPdf**	**12 12 33.4**	**-0.9**	
	baz=117							
R27A	**Eads**	**117.26**	**41**	P	**PKPdf**	**12 12 34.4**	**+0.1**	
	baz=117							
T26A	**Comanche Natio**	**117.36**	**42**	P	**PKPdf**	**12 12 34.0**	**-0.7**	
	baz=117							
V25A	**Rancho No Teng**	**117.39**	**44**	P	**PKPdf**	**12 12 34.4**	**-0.3**	
	baz=117							
ECSD	**EROS Data Cent**	**117.56**	**33**	PFAKE		12 12 50.0	+15	
ECSD				LR	LR			
	comp=Z,587nm,19.0s							
Y24A	**Capitan**	**117.80**	**46**	P	**PKPdf**	**12 12 35.2**	**-0.3**	
	baz=118							
W25A	**X Bar L Ranch,**	**117.82**	**44**	P	**PKPdf**	**12 12 34.8**	**-0.8**	
	baz=118							
R28A	**Tribune**	**117.87**	**40**	P	**PKPdf**	**12 12 35.1**	**-0.3**	
	baz=118							
V26A	**Tequesquite Ra**	**117.98**	**44**	P	**PKPdf**	**12 12 35.0**	**-0.8**	
	baz=118							
Q29A	**Oakley**	**118.08**	**39**	P	**PKPdf**	**12 12 34.9**	**-0.9**	
	baz=118							
Z24A	**Sheeppen Canyo**	**118.15**	**47**	P	**PKPdf**	**12 12 35.9**	**-0.4**	
	baz=118							
BGNE	**Belgrade**	**118.23**	**36**	P	**PKPdf**	**12 12 35.2**	**-0.8**	
	baz=118							
U27A	**Thompson Grove**	**118.29**	**43**	P	**PKPdf**	**12 12 36.0**	**-0.3**	
	baz=118							
Y25A	**Mesa, Roswell**	**118.33**	**46**	P	**PKPdf**	**12 12 35.9**	**-0.6**	
	baz=118							
T28A	**Walsh**	**118.37**	**42**	P	**PKPdf**	**12 12 35.3**	**-1.2**	
	baz=118							
X26A	**CR and CF Fran**	**118.62**	**45**	P	**PKPdf**	**12 12 36.0**	**-1.1**	
	baz=118							
P31A	**Stockton**	**118.69**	**38**	P	**PKPdf**	**12 12 36.4**	**-0.5**	
	baz=119							
W27A	**Bowe Ranch, En**	**118.87**	**44**	P	**PKPdf**	**12 12 37.5**	**0.0**	
	baz=119							
R30A	**Dighton**	**118.88**	**39**	P	**PKPdf**	**12 12 37.1**	**-0.3**	
	baz=119							
MNTX	**Cornudas Mount**	**118.94**	**48**	PFAKE		12 12 50.0	+12	
MNTX				LR	LR			
	comp=Z,316nm,20.0s							
324A	**Moseley Ranch,**	**118.99**	**49**	P	**PKPdf**	**12 12 37.6**	**-0.3**	
	baz=119							
125A	**Gardner Draw,**	**119.00**	**47**	P	**PKPdf**	**12 12 37.2**	**-0.6**	
	baz=119							
RTC	**Rabat Centre**	**119.00**	**315**	PFAKE		12 12 50.0	+12	
RTC				LR	LR			
	comp=Z,383nm,21.0s							
Z26A	**Caprock**	**119.17**	**46**	P	**PKPdf**	**12 12 37.7**	**-0.5**	
	baz=119							
226B	**Tecolote Peak,**	**119.65**	**47**	P	**PKPdf**	**12 12 38.3**	**-0.8**	
	baz=120							
425A	**Indio Mountain**	**119.68**	**49**	P	**PKPdf**	**12 12 38.1**	**-1.2**	
	baz=120							
Z27A	**Tatum**	**119.70**	**46**	P	**PKPdf**	**12 12 38.1**	**-1.1**	
	baz=120							
TORD	**Torodi Ar. Bea**	**120.13**	**289**	PKP	**PKPdf**	**12 12 38.2**	**-2.1**	
TORD				PP	**PP**	**12 14 01.0**	**-4.3**	
TORD	**Torodi Ar. Bea**	**120.13**	**289**	PKP	**PKPdf**	**12 12 38.2**	**-2.1**	
	comp=Z,1.7nm,0.8s,baz=36,slow=2.1,SNR=10							
TORD				PP	**PP**	**12 14 01.0**	**-4.3**	
	comp=Z,1.8nm,0.9s,baz=64,slow=5.9,SNR=4.0							
426A	**McDonald Obser**	**120.46**	**49**	P	**PKPdf**	**12 12 40.3**	**-0.5**	
	baz=120							
Y29A	**Porterfield Fa**	**120.49**	**44**	P	**PKPdf**	**12 12 39.9**	**-0.7**	
	baz=120							
KSU1	**Kansas State U**	**120.62**	**37**	PFAKE		12 12 50.0	+9.4	
KSU1				LR	LR			
	comp=Z,830nm,22.0s							
SCIA	**State Center**	**120.63**	**32**	PFAKE		12 12 50.0	+9.5	
SCIA				LR	LR			
	comp=Z,558nm,21.0s							
X30A	**Coker Ranch, T**	**120.71**	**43**	P	**PKPdf**	**12 12 39.7**	**-1.3**	
	baz=121							
526A	**Mary Lane Ranc**	**120.71**	**49**	P	**PKPdf**	**12 12 39.7**	**-1.5**	
	baz=121							
Z29A	**Hungry Hill Ra**	**120.79**	**45**	P	**PKPdf**	**12 12 40.3**	**-1.0**	
	baz=121							
427A	**Hayter Ranch,**	**120.83**	**48**	P	**PKPdf**	**12 12 40.8**	**-0.5**	
	baz=121							
W31A	**Holland Ranch,**	**120.92**	**42**	P	**PKPdf**	**12 12 40.3**	**-1.1**	
	baz=121							
328A	**Wristen Ranch,**	**121.00**	**47**	P	**PKPdf**	**12 12 40.8**	**-0.9**	
	baz=121							
527A	**Woodward Ranch**	**121.03**	**49**	P	**PKPdf**	**12 12 40.8**	**-1.0**	
	baz=121							
Z30A	**Sanderson Ranc**	**121.18**	**45**	P	**PKPdf**	**12 12 41.2**	**-0.7**	
	baz=121							
X31A	**McDonald Ranch**	**121.21**	**43**	P	**PKPdf**	**12 12 41.4**	**-0.5**	
	baz=121							
TXAR	**Lajitas Array**	**121.39**	**50**	PKP	**PKPdf**	**12 12 42.5**	**0.0**	
TXAR				PKKPab	**PKKPab**	**12 22 47.7**	**+2.9**	
TXAR	**Lajitas Array**	**121.39**	**50**	PKP	**PKPdf**	**12 12 42.5**	**0.0**	
	comp=Z,1.3nm,0.9s,baz=235,slow=1.3,SNR=8.5							
TXAR				PKKPab	**PKKPab**	**12 22 47.7**	**+2.9**	
	comp=Z,0.6nm,0.8s,baz=123,slow=6.1,SNR=3.8							
JFWS	**Jewell Farm**	**121.42**	**30**	PFAKE		12 12 50.0	+8.0	
JFWS				LR	LR			
	comp=Z,574nm,21.0s							
428A	**Kincaid Ranch,**	**121.43**	**48**	P	**PKPdf**	**12 12 42.9**	**+0.4**	
	baz=121							
627A	**Terlingua Ranc**	**121.54**	**50**	P	**PKPdf**	**12 12 42.5**	**-0.3**	
	baz=122							
PMSA	**Palmer Station**	**121.55**	**176**	PFAKE		12 12 50.0	+8.5	
PMSA				LR	LR			
	comp=Z,844nm,21.0s							
528A	**Cox Ranch, San**	**121.64**	**49**	P	**PKPdf**	**12 12 42.9**	**-0.1**	
	baz=122							
Z31A	**Sharp Cattle R**	**121.85**	**44**	P	**PKPdf**	**12 12 43.2**	**0.0**	
	baz=122							
628A	**Black Gap, Mar**	**121.90**	**49**	P	**PKPdf**	**12 12 42.9**	**-0.5**	
	baz=122							
WMOK	**Wichita Mounta**	**121.95**	**42**	PFAKE		12 12 50.0	+6.7	
WMOK				LR	LR			
	comp=Z,707nm,22.0s							
429A	**Davenport Ranc**	**122.06**	**48**	P	**PKPdf**	**12 12 43.3**	**-0.4**	
	baz=122							
529A	**Stev Forest Ra**	**122.08**	**48**	P	**PKPdf**	**12 12 43.0**	**-0.7**	
	baz=122							
Z32A	**Haskell**	**122.31**	**44**	P	**PKPdf**	**12 12 43.5**	**-0.5**	
	baz=122							
530A	**J-C Ranch, Com**	**122.72**	**48**	P	**PKPdf**	**12 12 44.9**	**0.0**	
	baz=123							
431A	**Sonora**	**122.97**	**47**	P	**PKPdf**	**12 12 44.8**	**-0.6**	
	baz=123							
232A	**Coleman**	**123.00**	**45**	P	**PKPdf**	**12 12 44.8**	**-0.7**	
	baz=123							
332A	**Millersview**	**123.21**	**46**	P	**PKPdf**	**12 12 45.2**	**-0.7**	
	baz=123							
531A	**Rocksprings**	**123.29**	**47**	P	**PKPdf**	**12 12 45.5**	**-0.5**	
	baz=123							
JCT	**Junction City**	**123.66**	**47**	PFAKE		12 13 00.0	+13	
JCT				LR	LR			
	comp=Z,579nm,22.0s							
JCT	**Junction City**	**123.66**	**47**	P	**PKPdf**	**12 12 46.1**	**-0.6**	
	baz=124							
631A	**Perdido Creek**	**123.67**	**48**	P	**PKPdf**	**12 12 46.5**	**-0.3**	
	baz=124							
532A	**Rocksprings**	**123.78**	**47**	P	**PKPdf**	**12 12 46.8**	**-0.2**	
	baz=124							
632A	**Uvalde**	**124.20**	**48**	P	**PKPdf**	**12 12 47.5**	**-0.3**	
	baz=124							
MIAR	**Mount Ida**	**125.43**	**39**	PFAKE		12 13 00.0	+10	
MIAR				LR	LR			
	comp=Z,757nm,22.0s							
LONY	**Lake Ozonia**	**126.18**	**17**	PFAKE		12 13 00.0	+8.9	
LONY				LR	LR			
	comp=Z,562nm,20.0s							
NATX	**Nacogdoches**	**126.50**	**42**	PFAKE		12 13 00.0	+7.9	
NATX				LR	LR			
	comp=Z,1μm,21.0s							
ERPA	**Erie**	**126.57**	**23**	PFAKE		12 13 00.0	+8.1	
ERPA				LR	LR			
	comp=Z,774nm,21.0s							
KVTX	**Kingsville**	**126.66**	**49**	PFAKE		12 13 00.0	+7.5	
KVTX				LR	LR			
	comp=Z,567nm,20.0s							
NCB	**Newcomb**	**126.88**	**17**	PFAKE		12 13 00.0	+7.5	
NCB				LR	LR			
	comp=Z,557nm,22.0s							
ACSO	**Alum Creek Sta**	**126.91**	**26**	PFAKE		12 13 00.0	+7.4	
ACSO				LR	LR			
	comp=Z,553nm,21.0s							
PKME	**Peaks-Kenny Pk**	**126.91**	**12**	PFAKE		12 13 00.0	+7.6	
PKME				LR	LR			
	comp=Z,808nm,21.0s							
LBNH	**Lisbon**	**127.26**	**15**	PFAKE		12 13 00.0	+6.8	
LBNH				LR	LR			
	comp=Z,898nm,20.0s							
CMLA	**Cha da Macela**	**127.92**	**330**	PFAKE		12 13 10.0	+15	
CMLA				LR	LR			
	comp=Z,862nm,21.0s							
BINY	**Binghamton**	**127.93**	**19**	PFAKE		12 13 10.0	+15	
BINY				LR	LR			
	comp=Z,589nm,19.0s							
KIC	**Kosan Boka**	**127.97**	**283**	*e*P	**PKPdf**	**12 12 56.8**	**+1.5**	
	comp=Z,57nm,1.3s							
OXF	**Oxford**	**127.97**	**36**	PFAKE		12 13 10.0	+15	
OXF				LR	LR			
	comp=Z,661nm,22.0s							
DBIC	**Dimbokro**	**128.01**	**284**	PKP	**PKPdf**	**12 12 57.2**	**+1.9**	
DBIC	**Dimbokro**	**128.01**	**284**	PKP	**PKPdf**	**12 12 57.2**	**+1.9**	
	comp=Z,6.5nm,1.0s,baz=68,slow=5.1,SNR=3.0							
TIC	**Toumodi**	**128.17**	**284**	*e*P	**PKPdf**	**12 12 58.8**	**+3.1**	
	comp=Z,4.9nm,0.2s							
LIC	**Lamto**	**128.28**	**283**	*e*P	**PKPdf**	**12 13 00.4**	**+4.5**	
	comp=Z,34nm,1.1s							
MCWV	**Mont Chateau**	**128.72**	**24**	PFAKE		12 13 10.0	+14	
MCWV				LR	LR			
	comp=Z,744nm,21.0s							
VBMS	**Vicksburg**	**128.88**	**39**	PFAKE		12 13 10.0	+13	
VBMS				LR	LR			
	comp=Z,671nm,21.0s							
BLA	**Blacksburg**	**130.53**	**27**	PFAKE		12 13 10.0	+10	
BLA				LR	LR			
	comp=Z,646nm,22.0s							
CBN	**Corbin**	**130.96**	**23**	PFAKE		12 13 10.0	+10	
CBN				LR	LR			
	comp=Z,938nm,20.0s							
BRAL	**Brewton**	**131.84**	**37**	PFAKE		12 13 10.0	+7.8	
BRAL				LR	LR			
	comp=Z,447nm,19.0s							
CNNC	**Cliffs of the**	**133.29**	**26**	PFAKE		12 13 20.0	+15	
CNNC				LR	LR			
	comp=Z,769nm,20.0s							
TEIG	**Tepich**	**138.04**	**50**	PFAKE		12 13 30.0	+16	
TEIG				LR	LR			
	comp=Z,399nm,22.0s							
SACV	**Santiago Islan**	**142.02**	**304**	PFAKE		12 13 30.0	+8.5	
SACV				LR	LR			
	comp=Z,532nm,19.0s							
TGUH	**Tegucigalpa,Un**	**142.22**	**57**	PFAKE		12 13 30.0	+8.2	
TGUH				LR	LR			
	comp=Z,455nm,22.0s							
PLCA	**Paso Flores**	**143.32**	**160**	PKP	**PKPdf**	**12 13 22.6**	**-0.5**	
PLCA	**Paso Flores**	**143.32**	**160**	PKP	**PKPdf**	**12 13 22.6**	**-0.5**	
	comp=Z,3.3nm,0.8s,baz=243,slow=4.5,SNR=6.4							
PAYG	**Puerto Ayora**	**144.59**	**82**	PFAKE		12 13 40.0	+14	
PAYG				LR	LR			
	comp=Z,582nm,20.0s							
JTS	**JuntasAbangare**	**146.04**	**61**	PFAKE		12 13 40.0	+10	
JTS				LR	LR			
	comp=Z,808nm,21.0s							
GTBY	**Guantanamo Bay**	**147.24**	**36**	PFAKE		12 13 40.0	+5.7	
GTBY				LR	LR			
	comp=Z,527nm,21.0s							
GRTK	**Grand Turk**	**148.07**	**29**	PFAKE		12 13 40.0	+2.5	
GRTK				LR	LR			
	comp=Z,860nm,22.0s							
SDDR	**Presa de Saban**	**150.12**	**32**	PFAKE		12 13 50.0	+4.0	
SDDR				LR	LR			
	comp=Z,558nm,20.0s							
BCIP	**Isla Barro Col**	**150.97**	**58**	PFAKE		12 13 50.0	+0.4	
BCIP				LR	LR			
	comp=Z,376nm,19.0s							
CFAA	**Coronel Fontan**	**152.28**	**156**	PKPbc	**PKPbc**	**12 13 44.2**	**-0.7**	
CFAA	**Coronel Fontan**	**152.28**	**156**	PKPbc	**PKPbc**	**12 13 44.2**	**-0.7**	
	comp=Z,0.8nm,0.6s,baz=210,slow=2.4,SNR=7.9							
ANWB	**Willy Bob**	**155.09**	**15**	PFAKE		12 13 50.0	+7.6	
ANWB				LR	LR			
	comp=Z,593nm,22.0s							
OTAV	**Otavalo**	**155.91**	**75**	PFAKE		12 14 00.0	-11	
OTAV				LR	LR			
	comp=Z,486nm,19.0s							
ATAH	**Atahualpa**	**157.04**	**93**	PKP	**PKPdf**	**12 13 48.6**	**+3.0**	
ATAH	**Atahualpa**	**157.04**	**93**	PKP	**PKPdf**	**12 13 48.6**	**+3.0**	
	comp=Z,2.5nm,0.6s,baz=238,slow=9.5,SNR=4.6							
SDV	**Santo Domingo**	**158.33**	**45**	PFAKE		12 14 00.0	+13	
SDV				LR	LR			
	comp=Z,3μm,22.0s							
BBGH	**Gun Hill**	**159.98**	**12**	PFAKE		12 14 00.0	+11	
BBGH				LR	LR			
	comp=Z,1μm,20.0s							
CPUP	**Villa Florida**	**160.23**	**175**	PKP	**PKPdf**	**12 13 45.9**	**-2.7**	
CPUP	**Villa Florida**	**160.23**	**175**	PKP	**PKPdf**	**12 13 45.9**	**-2.7**	
	comp=Z,0.4nm,0.4s,baz=58,slow=5.7,SNR=2.7							
GRGR	**Grenville**	**160.39**	**19**	PFAKE		12 14 00.0	+11	
GRGR				LR	LR			
	comp=Z,431nm,22.0s							
RCBR	**Riachuelo**	**160.72**	**271**	PFAKE		12 14 00.0	+10	
RCBR				LR	LR			
	comp=Z,799nm,20.0s							
LPAZ	**La Paz**	**164.12**	**129**	PKP	**PKPdf**	**12 13 54.2**	**+0.7**	
LPAZ	**La Paz**	**164.12**	**129**	PKP	**PKPdf**	**12 13 54.2**	**+0.7**	
	comp=Z,2.7nm,1.0s,baz=24,slow=2.4,SNR=6.5							
SIV	**San Ignacio**	**169.03**	**149**	PKP	**PKPdf**	**12 13 56.2**	**-0.3**	
SIV	**San Ignacio**	**169.03**	**149**	PKP	**PKPdf**	**12 13 56.2**	**-0.3**	
	comp=Z,1.1nm,0.9s,baz=207,slow=3.2,SNR=2.8							
SAML	**Samuel**	**171.81**	**107**	PFAKE		12 14 10.0	+12	
SAML				LR	LR			
	comp=Z,886nm,19.0s							

IDC 18 12:11:50.8±0.8, 16°.09S×172°.19W, h0km, mb3.8/7, mb1 4.1/9, mb1mx3.9/22, mbtmp3.9/9, Error ellipse: s-maj=28.8km s-min=19.9km az=115.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.21**	**10**	Pn	Pn	12 12 29.9	+1.1
	21nm,0.3s,baz=209,slow=2.8,SNR=30						
AFI				Sn	Sn	12 12 52.8	-4.2
	137nm,0.3s,baz=217,slow=23,SNR=17						
RAR	**Rarotonga**	**12.82**	**115**	Pn	Pn	12 14 52.4	-2.1
	4.4nm,0.3s,baz=270,slow=5.0,SNR=7.8						
URZ	**Urewera**	**24.01**	**201**	P	P	12 17 11.0	+3.7
	5.2nm,0.5s,baz=17,slow=5.1,SNR=5.5						
URZ				S	S	12 21 27.1	+1.8
	5.7nm,1.0s,baz=197,slow=20,SNR=2.0						
WRA	**Warramunga Arr**	**50.82**	**257**	P	P	12 20 53.0	-0.7
	0.6nm,0.7s,baz=92,slow=6.7,SNR=7.7						
ASAR	**Alice Springs**	**51.01**	**252**	P	P	12 20 55.1	+0.1
	1.0nm,0.5s,baz=86,slow=8.3,SNR=16						
VNDA	**Vanda**	**62.81**	**186**	P	P	12 22 18.6	+0.7
	0.9nm,0.9s,baz=28,slow=5.9,SNR=3.1						
PETK	**Petropavlovsk-**	**73.65**	**342**	P	P	12 23 25.1	-0.9
	1.6nm,0.8s,baz=119,slow=8.0,SNR=5.1						
QSPA	**South Pole Qui**	**73.96**	**180**	P	P	12 23 28.1	+0.1
	1.5nm,1.0s,baz=82,slow=2.8,SNR=5.8						
NVAR	**Mina Array Bea**	**74.07**	**41**	P	P	12 23 29.6	+0.5
	0.5nm,0.7s,baz=218,slow=10,SNR=5.5						
ILAR	**Eielson Array**	**82.90**	**11**	P	P	12 24 16.6	-0.5
	0.4nm,0.6s,baz=227,slow=6.0,SNR=13						
GERES	**GERESS Array B**	**146.98**	**353**	PKPbc	PKPbc	12 31 35.1	-0.5
	0.3nm,0.2s,baz=343,slow=9.6,SNR=4.2						
BRTR	**Keskin Array B**	**147.42**	**321**	PKPbc	PKPbc	12 31 37.0	-0.2
	0.9nm,0.6s,baz=119,slow=3.1,SNR=5.2						

IDC 18 12:23:18.0±8.9, 15°.34S×178°.75W, h385km±97km, mb3.4/10, mb1 3.6/10, mb1mx3.5/19, mbtmp3.4/10, Error ellipse: s-maj=29.0km s-min=21.6km az=2.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**23.13**	**188**	P	P	12 27 50.8	-1.0
	5.0nm,0.7s,baz=336,slow=19,SNR=3.4						
STKA	**Stephens Creek**	**39.63**	**238**	P	P	12 30 14.8	+0.4
	1.9nm,0.9s,baz=39,slow=6.5,SNR=2.5						
WRA	**Warramunga Arr**	**44.83**	**257**	P	P	12 30 55.7	-0.3
	0.7nm,0.5s,baz=91,slow=7.6,SNR=14						
ASAR	**Alice Springs**	**45.22**	**252**	P	P	12 30 59.5	+0.5
	5.5nm,0.5s,baz=83,slow=8.4,SNR=149						
MJAR	**Matsushiro Arr**	**65.66**	**323**	P	P	12 33 22.0	-0.5
	0.9nm,0.6s,baz=129,slow=7.8,SNR=4.1						
PETK	**Petropavlovsk-**	**71.12**	**345**	P	P	12 33 55.5	-0.2
	2.1nm,0.7s,baz=145,slow=10,SNR=8.2						
KDAK	**Kodiak Island**	**76.00**	**14**	P	P	12 34 23.2	-0.3
	8.0nm,0.8s,baz=153,slow=6.8,SNR=3.2						
NVAR	**Mina Array Bea**	**77.82**	**44**	P	P	12 34 35.1	+0.8
	0.1nm,0.3s,baz=222,slow=9.3,SNR=7.8						
ILAR	**Eielson Array**	**83.47**	**13**	P	P	12 35 02.2	-0.9
	1.7nm,0.8s,baz=240,slow=5.9,SNR=18						
TXAR	**Lajitas Array**	**84.91**	**58**	P	P	12 35 12.6	+1.4
	0.6nm,0.8s,baz=208,slow=4.9,SNR=4.0						
PDAR	**Pinedale Array**	**85.72**	**44**	P	P	12 35 15.3	+0.2
	0.6nm,0.6s,baz=216,slow=2.9,SNR=6.4						
BRTR	**Keskin Array B**	**142.71**	**317**	PKP	PKPdf	12 42 03.9	-2.7
	0.6nm,0.6s,baz=127,slow=3.0,SNR=4.3						
GERES	**GERESS Array B**	**145.05**	**346**	PKPbc	PKPdf	12 42 10.2	-0.1
	1.0nm,0.5s,baz=26,slow=3.4,SNR=5.6						

PGC 18 12:30:52.5±8.5, 48°.83N×129°.39W, h10km, ML2.9/7, Mw3.5, 5D, 251km southwest of Pt. Hardy, Bc Vancouver Island Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDB	**Eliza Dome**	**1.81**	**54**	⇓Pn	Pn	12 31 21.7	-2.0
EDB				⇓Sn	Sn	12 31 41.6	-5.1
MAYB	**Maynard**	**2.13**	**42**	⇑Pn	Pn	12 31 26.8	-1.5
PHC	**Port Hardy**	**2.26**	**33**	⇑Pn	Pn	12 31 29.1	-0.8
PHC				⇓Sn	Sn	12 31 54.0	-3.8
WOSB	**Woss**	**2.27**	**53**	⇑Pn	Pn	12 31 29.0	-1.1
GDR	**Gold River**	**2.39**	**65**	⇑Pn	Pn	12 31 29.9	-1.8
OZB	**Mount Ozzard**	**2.57**	**86**	⇑Pn	Pn	12 31 32.2	-2.0
BTB	**Buttle Lake**	**2.62**	**74**	⇓Pn	Pn	12 31 33.7	-1.3
BTB				⇑Sn	Sn	12 32 03.0	-4.0
YOUB	**Youbou, Lake C**	**3.38**	**87**	⇑Pn	Pn	12 31 44.0	-1.4
YOUB				⇑Sn	Sn	12 32 22.8	-2.8
BBB	**Bella Bella**	**3.45**	**13**	⇑Pn	Pn	12 31 46.2	0.0
BBB				⇓Sn	Sn	12 32 23.3	-3.8

ATH ***18*** *12:32:42.6, 40°.01N×19°.88E, h15km±1km, MD3.5/17*
CSEM ***18*** *12:32:44.3±0.1, 39°.96N×20°.02E, h2km, ML3.0/6, Error ellipse: s-maj=4.0km s-min=2.1km az=68.0*
PDG ***18*** *12:32:44.3±0.7, 40°.06N×20°.08E, h3km±1km, ML3.2/12, Error ellipse: s-maj=1.0km s-min=1.1km az=0.0*
THE ***18*** *12:32:44.2, 39°.95N×20°.00E, h0km±1km, ML3.0/6, Error ellipse: s-maj=1.6km s-min=0.6km az=256.0*
SKO ***18*** *12:32:44.7, 39°.95N×20°.14E, h0km, M2.7, ML3.2*
BEO ***18*** *12:32:45.2±0.7, 39°.92N×20°.04E, h0km, ML3.2/6*

ISC 18 12:32:44.0±0.9, 39°.95N±0°.02×19°.99E±0°.02, h4km±7km, n176, σ1§09/243, 10C-12D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRN	**Sarande**	**0.07**	**175**	P	**Pg**	**12 32 45.6**	**0.0**
SRN				S	**Sg**	**12 32 46.8**	**+0.1**
SRN	**Sarande**	**0.07**	**175**	P	**Pg**	**12 32 45.6**	**0.0**
SRN				S	**Sg**	**12 32 46.8**	**+0.1**
KEK	**Kerkira**	**0.28**	**212**	P	**Pg**	**12 32 49.0**	**-0.5**
KEK				S	**Sg**	**12 32 53.8**	**+0.6**
KEK	**Kerkira**	**0.28**	**212**	*e*PB	**Pg**	**12 32 49.2**	**-0.3**
KEK				*e*SB	**Sg**	**12 32 54.1**	**+0.9**
KEK	**Kerkira**	**0.28**	**212**	*e*Pb	**Pg**	**12 32 49.2**	**-0.3**
KEK				S	**Sg**	**12 32 53.8**	**+0.6**
KEK				*e*Sb	**Sg**	**12 32 54.1**	**+0.9**
IGT	**Igoumenitsa**	**0.50**	**148**	P	**Pg**	**12 32 53.0**	**-0.5**
IGT				S	**Sb**	**12 33 01.5**	**-1.3**
IGT	**Igoumenitsa**	**0.50**	**148**	P	**Pg**	**12 32 53.0**	**-0.5**
IGT				S	**Sb**	**12 33 01.5**	**-1.3**
JAN	**Janina**	**0.72**	**114**	P	**Pg**	**12 32 57.3**	**-0.6**
JAN				S	**Sg**	**12 33 08.1**	**+0.8**
JAN	**Janina**	**0.72**	**114**	*e*PN	**Pg**	**12 32 57.5**	**-0.4**
JAN				*e*SN	**Sb**	**12 33 09.3**	**-0.2**
JAN	**Janina**	**0.72**	**114**	P	**Pg**	**12 32 57.3**	**-0.6**
JAN				S	**Sg**	**12 33 08.1**	**+0.8**
JAN				*e*Sn	**Sb**	**12 33 09.3**	**-0.2**
KBN	**Korca**	**0.90**	**42**	P	**Pg**	**12 33 00.5**	**-0.9**
KBN				S	**Sb**	**12 33 14.8**	**+0.1**
KBN	**Korca**	**0.90**	**42**	P	**Pg**	**12 33 00.5**	**-0.9**
KBN				S	**Sb**	**12 33 14.8**	**+0.1**
NEST	**Nestorio**	**0.93**	**60**	P	**Pg**	**12 32 59.7**	**-2.2**
NEST	**Nestorio**	**0.93**	**60**	P	**Pg**	**12 32 59.7**	**-2.2**
LKD2	**Lefkada island**	**1.27**	**156**	P	**Pg**	**12 33 07.9**	**-0.5**
LKD2				S	**Sn**	**12 33 27.0**	**+0.9**
LKD2	**Lefkada island**	**1.27**	**156**	*e*PN	**Pg**	**12 33 08.3**	**-0.1**
LKD2				*e*SN	**Sn**	**12 33 27.6**	**+1.5**
LKD2	**Lefkada island**	**1.27**	**156**	P	**Pg**	**12 33 07.9**	**-0.5**
LKD2	**Lefkada island**	**1.27**	**156**	*e*Pn	**Pg**	**12 33 08.3**	**-0.1**
LKD2				S	**Sn**	**12 33 27.0**	**+0.9**
FNA	**Florina**	**1.

comp=N,126nm,0.6s
LAKA Lakka 2.31 137 P Pn 12 33 23.2 +0.4
LAKA Lakka 2.31 137 *e*PB Pn 12 33 23.5 +0.7
LAKA Lakka 2.31 137 P Pn 12 33 23.2 +0.4
LAKA Lakka 2.31 137 *e*PB Pn 12 33 23.5 +0.7
DRME Dracevica, Mon 2.31 345 ⇑*i*Pn Pn 12 33 22.1 -0.8
DRME *e*Sn Sb 12 33 53.8 -1.4
DRME Dracevica, Mon 2.31 345 ⇑*i*Pn Pn 12 33 22.1 -0.8
DRME *e*Sn Sb 12 33 53.8 -1.4
VAY Valandovo 2.39 54 *i*Pn Pn 12 33 24.0 +0.1
VAY *i*Sn Sn 12 33 52.8 -0.8
VAY *e*Lg Lg 12 33 59.3
comp=E,132nm,1.1s
VAY *e*Lg Lg 12 34 02.0
comp=N,141nm,0.9s
VAY Valandovo 2.39 54 *i*Pn Pn 12 33 23.4 -0.5
VAY *i*Sn Sn 12 33 52.3 -1.3
VAY *e*Lg Lg 12 34 05.4
comp=N,141nm,0.9s
HORT Hortiatis 2.46 74 P Pn 12 33 25.2 +0.2
HORT S Sn 12 33 56.4 +0.9
HORT Hortiatis 2.46 74 P Pn 12 33 25.2 +0.2
HORT S Sn 12 33 56.4 +0.9
BUM Brajici-Budva 2.49 341 ⇓*i*Pn Pn 12 33 24.9 -0.4
BUM *e*Sn Sn 12 33 57.8 +1.7
BUM Brajici-Budva 2.49 341 ⇓*i*Pn Pn 12 33 24.9 -0.4
BUM *e*Sn Sn 12 33 57.8 +1.7
KNT Kendrikon 2.52 60 P Pn 12 33 26.3 +0.6
KNT Kendrikon 2.52 60 P Pn 12 33 26.3 +0.6
PDG Podgorica 2.54 348 *e*Pg Pg 12 33 31.3 -1.3
PDG *e*Sg Sg 12 34 06.7 +1.2
PDG Podgorica 2.54 348 ⇓*i*Pn Pn 12 33 26.0 +0.1
PDG Podgorica 2.54 348 *e*Pg Pg 12 33 31.3 -1.3
PDG *e*Sn Sn 12 33 58.6 +1.4
PDG *e*Sg Sg 12 34 06.7 +1.2
TTG Podgorica 2.54 348 ⇓*i*Pn Pn 12 33 26.0 +0.1
TTG *e*Sn Sn 12 33 58.6 +1.4
KLV Kalavryta, Ach 2.54 138 P Pn 12 33 26.7 +0.6
KLV Kalavryta, Ach 2.54 138 *e*PN Pn 12 33 26.9 +0.8
KLV Kalavryta, Ach 2.54 138 P Pn 12 33 26.7 +0.6
PVY Plav 2.64 359 ⇑*i*Pn Pn 12 33 27.5 +0.1
PVY *e*Sn Sn 12 34 00.9 +1.0
PVY Plav 2.64 359 ⇑*i*Pn Pn 12 33 27.5 +0.1
PVY *e*Sn Sn 12 34 00.9 +1.0
LKR Lokris 2.67 118 P Pn 12 33 28.3 +0.5
LKR Lokris 2.67 118 P Pn 12 33 28.3 +0.5
PLG Polygyros 2.68 80 P Pn 12 33 27.7 -0.2
PLG Polygyros 2.68 80 *e*PN Pn 12 33 28.5 +0.6
PLG Polygyros 2.68 80 P Pn 12 33 27.7 -0.2
PLG Polygyros 2.68 80 *e*Pn Pn 12 33 28.5 +0.6
SOH Sokhos 2.71 70 P Pn 12 33 28.3 -0.1
SOH S Sn 12 34 02.3 +0.7
SOH Sokhos 2.71 70 *e*PB Pn 12 33 29.3 +0.9
SOH Sokhos 2.71 70 P Pn 12 33 28.3 -0.1
SOH Sokhos 2.71 70 *e*Pb Pn 12 33 29.3 +0.9
SOH S Sn 12 34 02.3 +0.7
GUR Goura 2.72 137 P Pn 12 33 29.4 +0.8
GUR Goura 2.72 137 *e*PN Pn 12 33 29.4 +0.8
GUR Goura 2.72 137 P Pn 12 33 29.4 +0.8
HCY Herceg Novi 2.74 336 ⇓*i*Pn Pn 12 33 27.5 -1.2
HCY *e*Sn Sn 12 34 03.5 +1.3
HCY Herceg Novi 2.74 336 ⇓*i*Pn Pn 12 33 27.5 -1.2
HCY *e*Sn Sn 12 34 03.5 +1.3
SKIA Skiathos 2.80 105 P Pn 12 33 28.9 -0.6
SKIA S Sn 12 34 04.4 +0.7
SKIA Skiathos 2.80 105 P Pn 12 33 28.9 -0.6
SKIA S Sn 12 34 04.4 +0.7
PAIG Paliouri 2.83 89 P Pn 12 33 29.5 -0.4
PAIG Paliouri 2.83 89 *e*PN Pn 12 33 29.6 -0.4
PAIG Paliouri 2.83 89 *e*Pn Pn 12 33 29.6 -0.4
BEY Berane 2.92 359 ⇓*i*Pn Pn 12 33 31.1 -0.1
BEY *e*Sn Sn 12 34 07.5 +0.8
IVA Berane 2.92 359 ⇓*i*Pn Pn 12 33 31.1 -0.1
IVA *e*Sn Sn 12 34 07.5 +0.8
NKME Niksic 2.92 345 ⇓*i*Pn Pn 12 33 31.1 -0.1
NKME *e*Sn Sn 12 34 07.8 +1.1
NKME Niksic 2.92 345 ⇓*i*Pn Pn 12 33 31.1 -0.1
NKME *e*Sn Sn 12 34 07.8 +1.1
NKY Niksic 2.95 346 ⇓*i*Pn Pn 12 33 31.7 -0.1
NKY *e*Sn Sn 12 34 09.0 +1.3
NKY Niksic 2.95 346 ⇓*i*Pn Pn 12 33 31.7 -0.1
NKY *e*Sn Sn 12 34 09.0 +1.3
SRS Serrai 2.98 66 P Pn 12 33 32.8 +0.8
SRS Serrai 2.98 66 P Pn 12 33 32.8 +0.8
LTK Loutraki 3.02 129 P Pn 12 33 32.7 +0.2
LTK Loutraki 3.02 129 *e*PN Pn 12 33 33.7 +1.2
LTK Loutraki 3.02 129 P Pn 12 33 32.7 +0.2
LTK Loutraki 3.02 129 *e*Pn Pn 12 33 33.7 +1.2
TREB Trebinje 3.02 336 *e*Pn Pn 12 33 35.4 +2.8
TREB Trebinje 3.02 336 *e*Pn Pn 12 33 35.4 +2.8
MRKA Markates 3.05 113 P Pn 12 33 33.6 +0.5
MRKA Markates 3.05 113 P Pn 12 33 33.6 +0.5
OUR Ouranopolis 3.08 82 P Pn 12 33 33.6 +0.2
OUR Ouranopolis 3.08 82 P Pn 12 33 33.6 +0.2
AOS Alonnisos 3.10 103 P Pn 12 33 34.3 +0.6
AOS S Sn 12 34 11.8 +0.6
AOS Alonnisos 3.10 103 *e*PN Pn 12 33 34.3 +0.6
AOS Alonnisos 3.10 103 P Pn 12 33 34.3 +0.6
AOS S Sn 12 34 11.8 +0.6
BRY Bratogost 3.14 340 *e*Pn Pn 12 33 35.0 +0.6
BRY *e*Sn Sn 12 34 13.1 +0.7
BRY Bratogost 3.14 340 *e*Pn Pn 12 33 35.0 +0.6
BRY *e*Sn Sn 12 34 13.1 +0.7
ITM Ithomi 3.16 151 P Pn 12 33 34.4 -0.1
ITM Ithomi 3.16 151 *e*PN Pn 12 33 34.9 +0.4
ITM Ithomi 3.16 151 P Pn 12 33 34.4 -0.1
ITM Ithomi 3.16 151 *e*Pn Pn 12 33 34.9 +0.4
BARS Barje 3.17 25 *e*Pn Pn 12 33 36.9 +2.2
BARS Barje 3.17 25 *e*Pn Pn 12 33 36.9 +2.2
SJES Sjenica 3.31 360 *e*Pn Pn 12 33 37.9 +1.3
SJES *e*Sg Sg 12 34 31.7 +1.5
SJES Sjenica 3.31 360 *e*Pn Pn 12 33 37.9 +1.3
SJES *e*Sg Sg 12 34 31.7 +1.5
ERET Eretria 3.33 116 P Pn 12 33 37.0 +0.2
ERET Eretria 3.33 116 P Pn 12 33 37.0 +0.2
PYL PYLOS 3.35 155 *e*PN Pn 12 33 36.4 -0.7
PYL PYLOS 3.35 155 *e*Pn Pn 12 33 36.4 -0.7
UPM Unac-Piva 3.35 346 ⇑*i*Pn Pn 12 33 37.4 +0.2
UPM *e*Sn Sn 12 34 18.1 +0.6
UPM Unac-Piva 3.35 346 ⇑*i*Pn Pn 12 33 37.4 +0.2
UPM *e*Sn Sn 12 34 18.1 +0.6
SELS Selova 3.37 14 *e*Pn Pn 12 33 38.7 +1.3
STON Ston 3.39 330 *i*Pn Pn 12 33 35.5 -2.0
STON Sn Sn 12 34 13.8 -4.3
PLE Pljevlja 3.40 353 ⇑*i*Pn Pn 12 33 38.1 +0.1
PLE *e*Sn Sn 12 34 19.6 +0.8
PLE Pljevlja 3.40 353 ⇑*i*Pn Pn 12 33 38.1 +0.1
PLE *e*Sn Sn 12 34 19.6 +0.8
DID Didima 3.52 133 P Pn 12 33 39.3 -0.2
DID Didima 3.52 133 *e*PN Pn 12 33 40.0 +0.5
DID Didima 3.52 133 P Pn 12 33 39.3 -0.2
DID Didima 3.52 133 *e*Pn Pn 12 33 40.0 +0.5
DIDY Didyma 3.53 133 P Pn 12 33 39.5 -0.2
DIDY Didyma 3.53 133 P Pn 12 33 39.5 -0.2
IVAS Ivanjica 3.62 2 *e*Pn Pn 12 33 41.6 +0.7
IVAS Ivanjica 3.62 2 *e*Pn Pn 12 33 41.6 +0.7
ZAPS Zavoj 3.86 30 *e*Pn Pn 12 33 45.7 +1.5
ZAPS Zavoj 3.86 30 *e*Pn Pn 12 33 45.7 +1.5
BBLS Lazići 3.93 354 *e*Pn Pn 12 33 46.7 +1.5
BBLS Lazići 3.93 354 *e*Pn Pn 12 33 46.7 +1.5
GRUS Gruza 3.97 8 *e*Pn Pn 12 33 47.7 +2.1
GRUS Gruza 3.97 8 *e*Pn Pn 12 33 47.7 +2.1
VLI Veliai 3.97 143 P Pn 12 33 45.8 +0.1
VLI Veliai 3.97 143 *e*PN Pn 12 33 45.8 +0.1
VLI Veliai 3.97 143 P Pn 12 33 45.8 +0.1
DIVS Divibare 4.14 360 *e*Pn Pn 12 33 50.8 +2.7
DIVS Divibare 4.14 360 *e*Pn Pn 12 33 50.8 +2.7
KYTH Kithira 4.38 146 P Pn 12 33 52.1 +0.8
KYTH Kithira 4.38 146 *e*PN Pn 12 33 52.2 +0.9
KYTH Kithira 4.38 146 P Pn 12 33 52.1 +0.8
TEKS Tekeris 4.61 356 *e*Pn Pn 12 33 56.6 +2.2
TEKS Tekeris 4.61 356 *e*Pn Pn 12 33 56.6 +2.2
ANKY Antikythira Is 4.85 146 P Pn 12 33 57.8 +0.1
ANKY Antikythira Is 4.85 146 *e*PN Pn 12 33 57.9 +0.2
ANKY Antikythira Is 4.85 146 *e*Pn Pn 12 33 57.9 +0.2
NVLJ Novalja 5.97 322 *e*Pn Pn 12 34 11.7 -1.4
NVLJ Sn Sn 12 35 16.5 -5.3

IDC 18 12:35:12.4±5.1, 4°82S×151°79E, h129km±41km, mb3.0/3, mb1 3.3/4, mb1mx3.0/19, mbtmp3.1/4, Error ellipse: s-maj=120.9km s-min=30.8km az=127.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.47**	**225**	P	Pn	12 36 47.1	+1.8
	0.8nm,0.3s,baz=14,slow=8.3,SNR=2.7						
PMG				S	Sn	12 37 58.8	+0.9
	1.9nm,0.3s,baz=254,slow=13,SNR=7.3						
WRA	**Warramunga Arr**	**22.69**	**227**	P	P	12 40 02.4	-0.8
	0.4nm,0.4s,baz=52,slow=9.7,SNR=7.7						
ASAR	**Alice Springs**	**25.47**	**221**	P	P	12 40 28.6	-0.1
	0.3nm,0.6s,baz=45,slow=9.5,SNR=6.2						
ASAR				pP	pP	12 40 53.3	-2.9
	0.5nm,0.7s,baz=58,slow=8.9,SNR=6.9						
ILAR	**Eielson Array**	**82.56**	**22**	P	P	12 47 20.4	-0.1
	0.3nm,0.6s,baz=249,slow=5.4,SNR=6.1						
TORD	**Torodi Ar. Bea**	**149.35**	**288**	PKPbc	PKPbc	12 54 46.9	-0.3
	0.2nm,0.6s,baz=67,slow=2.0,SNR=3.0						

*ISCJB **18** 12:42:53.2±0.6, 8°16S±0°09×108°70E±0°04, h122km±5km, mb4.0/9, Error ellipse: s-maj=15.0km s-min=5.1km az=18.7*
*AUST **18** 12:42:53.5±0.0, 8°49S×108°57E, h66km, Error ellipse: s-maj=1.0km s-min=0.7km az=7.0*
*DJA **18** 12:42:55.7±0.4, 8°3±7°×10°9E±°, h95km±6km, M4.5/23, mb4.7/7, mB5.2/3, MLv4.4/23, Mw(mB)4.7/3*
*IDC **18** 12:43:11.8±7.3, 8°17S×108°74E, h294km±76km, mb3.5/9, mb1 3.5/10, mb1mx3.3/23, mbtmp3.4/10, Error ellipse: s-maj=51.7km s-min=19.7km az=56.0*
ISC 18 12:42:54.0±0.8, 8°20S±0°09×108°67E±0°04, h114km±7km, n45, σ1°64/49, mb4.2/9, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLJI	**Cilicap**	**0.59**	**36**	P	**Pn**	**12 43 12.0**	**+0.1**
CLJI				S	**Sn**	**12 43 25.6**	**+0.3**
KPJI	**Karang Pucung**	**0.90**	**17**	P	**Pn**	**12 43 15.0**	**+0.5**
KPJI				S	**Sn**	**12 43 30.5**	**+0.5**
CISI	**Cisompet, Garu**	**1.06**	**307**	P	**Pn**	**12 43 15.0**	**-1.2**
CISI				S	**Sn**	**12 43 30.8**	**-2.1**
CISI	**Cisompet, Garu**	**1.06**	**307**	P	**Pn**	**12 43 14.5**	**-1.7**
	baz=1.2,SNR=122						
CISI				S	**Sn**	**12 43 30.8**	**-2.1**
	baz=1.2,SNR=21						
TGJI	**Tegal**	**1.40**	**19**	P	**Pn**	**12 43 19.4**	**-0.4**
TGJI				S	**Sn**	**12 43 37.7**	**-1.7**
LEM	**Lembang**	**1.71**	**323**	P	**Pn**	**12 43 25.4**	**+1.6**
LEM				S	**Sn**	**12 43 47.7**	**+1.2**
LEM	**Lembang**	**1.71**	**323**	P	**Pn**	**12 43 25.4**	**+1.6**
	baz=1.9,SNR=10.0						
LEM				S	**Sn**	**12 43 51.2**	**+4.8**
	baz=1.9,SNR=6.2						
UGM	**Wanagama**	**1.86**	**81**	P	**Pn**	**12 43 24.8**	**-0.7**
UGM				S	**Sn**	**12 43 47.7**	**-1.7**
UGM	**Wanagama**	**1.86**	**81**	P	**Pn**	**12 43 24.8**	**-0.7**
	baz=2.0,SNR=135						
UGM				S	**Sn**	**12 43 47.8**	**-1.6**
	baz=2.0,SNR=4.1						
DBJI	**Dramaga**	**2.51**	**311**	P	**Pn**	**12 43 34.7**	**+1.0**
NGJI	**Ngawi**	**2.89**	**74**	P	**Pn**	**12 43 40.6**	**+2.0**
SJI	**Sawahan**	**3.10**	**82**	P	**Pn**	**12 43 42.2**	**+0.6**
PWJI	**Pagerwojo**	**3.11**	**87**	P	**Pn**	**12 43 41.2**	**-0.4**
XMI	**Christmas Isla**	**3.69**	**232**	P	Pn	12 43 46.6	-2.7
	baz=3.5,SNR=6.4						
XMIS	**Christmas Isla**	**3.74**	**232**	P	Pn	12 43 46.9	-3.1
	baz=3.5,SNR=20						
KRKI	**Karangkates**	**3.75**	**90**	P	**Pn**	**12 43 51.2**	**+1.2**
GRJI	**Gresik**	**3.99**	**72**	P	**Pn**	**12 43 54.1**	**+0.8**
GMJI	**Gumukmas**	**4.73**	**91**	P	**Pn**	**12 44 03.4**	**+0.2**
BLJI	**Banyuglugur**	**4.90**	**85**	P	**Pn**	**12 44 05.9**	**+0.3**
KASI	**Kota Agung**	**4.92**	**302**	P	**Pn**	**12 44 06.6**	**+0.8**
KLI	**Kotabumi**	**5.03**	**311**	P	**Pn**	**12 44 09.0**	**+1.7**
	60nm,0.7s,0.4nm						
JAGI	**Jajag, Banyuwa**	**5.43**	**93**	P	**Pn**	**12 44 12.9**	**+0.1**
	79nm,0.9s,2μm0.5nm						
JAGI	**Jajag, Banyuwa**	**5.43**	**93**	P	**Pn**	**12 44 12.8**	**0.0**
	baz=5.5,SNR=17						
JAGI				S	**Sn**	**12 45 12.8**	**-1.3**
	baz=5.5,SNR=5.4						
ABJI	**Asem Bagus**	**5.53**	**86**	P	**Pn**	**12 44 14.2**	**+0.2**
	122nm,0.5s,0.6nm						
LWLI	**Liwa**	**5.56**	**304**	P	**Pn**	**12 44 16.9**	**+2.3**
	65nm,1.0s,5μm0.8nm						
MDSI	**Maura Dua**	**5.79**	**309**	P	**Pn**	**12 44 18.1**	**+0.6**
	15nm,0.8s,0.1nm						
IGBI	**Denpasar**	**6.44**	**96**	P	**Pn**	**12 44 25.5**	**-0.8**
MNAI	**Manna**	**6.84**	**304**	S	**Sn**	**12 45 44.8**	**-3.4**
	baz=6.9,SNR=4.9						
LUWI	**Luwuk**	**15.75**	**64**	P	Pn	12 46 24.0	-5.5
	baz=16,SNR=5.7						
FITZ	**Fitzroy Crossi**	**19.22**	**122**	P	**Pn**	**12 47 16.1**	**+4.7**
	0.1nm,0.3s,baz=324,slow=11,SNR=7.1						
FITZ				S	S	12 50 30.2	-11
	0.1nm,0.3s,baz=72,slow=20,SNR=3.9						
FITZ	**Fitzroy Crossi**	**19.22**	**122**	P	Pn	12 47 17.0	+5.6
	baz=19,SNR=5.8						
MEEK	**Meekatharra**	**20.63**	**154**	P	Pn	12 47 33.8	+6.0
	baz=20,SNR=9.0						
MEEK				S	**S**	**12 51 08.7**	**-0.2**
	baz=20,SNR=8.3						
KNRA	**Kununurra**	**21.01**	**113**	P	**P**	**12 47 29.7**	**+1.1**
	baz=21,SNR=4.5						
MTN	**Manton Dam**	**22.56**	**104**	P	P	12 47 51.2	+6.3
	baz=23,SNR=6.1						
WRA	**Warramunga Arr**	**27.45**	**118**	P	**P**	**12 48 29.6**	**0.0**
	0.7nm,0.9s,baz=290,slow=11,SNR=7.6						
ASAR	**Alice Springs**	**28.65**	**125**	P	**P**	**12 48 40.5**	**+0.3**
	0.7nm,0.7s,baz=303,slow=8.8,SNR=8.0						
STKA	**Stephens Creek**	**38.62**	**132**	P	**P**	**12 50 07.4**	**+1.1**
	3.4nm,0.4s,baz=307,slow=9.3,SNR=17						
STKA	**Stephens Creek**	**38.62**	**132**	P	**P**	**12 50 07.6**	**+1.3**
	baz=38,SNR=6.0						
SONM	**Songino Array**	**55.82**	**358**	P	**P**	**12 52 19.3**	**-0.2**
	1.3nm,0.4s,baz=177,slow=8.3,SNR=6.6						
MKAR	**Makanchi Array**	**59.57**	**339**	P	**P**	**12 52 44.4**	**-1.2**
	1.4nm,0.5s,baz=149,slow=7.7,SNR=15						
ZALV	**Zalesovo Beam**	**65.11**	**345**	P	**P**	**12 53 19.9**	**-2.4**
	1.2nm,0.4s,baz=152,slow=5.7,SNR=5.4						
PETK	**Petropavlovsk-**	**73.84**	**28**	P	**P**	**12 54 15.0**	**-1.1**
	0.7nm,0.6s,baz=193,slow=5.9,SNR=3.0						
BRTR	**Keskin Array B**	**83.85**	**311**	P	**P**	**12 55 10.3**	**-1.0**
	0.5nm,0.6s,baz=90,slow=2.9,SNR=4.1						
ARCES	**ARCESS Array B**	**95.23**	**339**	P	**P**	**12 56 03.3**	**-1.1**
	3.6nm,1.1s,baz=109,slow=5.0,SNR=3.6						
LPAZ	**La Paz**	**155.47**	**187**	PKPab	PKPab	13 02 55.5	-6.3
	0.6nm,0.4s,baz=202,slow=5.4,SNR=4.3						

MEX 18 12:51:28.1±0.7, 16°53N×99°58W, h11km±9km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.83**	**308**	*e*P	Pg	12 51 41.2	-2.9
CAIG				*i*S	Sg	12 51 52.6	-2.4
MEIG	**Mezcala**	**1.39**	**359**	*e*P	Pn	12 51 49.5	-4.1
MEIG				*i*S	Sn	12 52 06.0	-5.9
PNIG	**Pinotepa**	**1.40**	**96**	*e*P	Pn	12 51 50.3	-3.4
PNIG				*e*S	Sn	12 52 07.1	-5.2
PLIG	**Platanillo**	**1.85**	**2**	*e*P	Pn	12 51 56.7	-3.2
PLIG				*i*S	Sn	12 52 18.4	-5.1
ARIG	**Puente Sto Nin**	**1.88**	**337**	*i*P	Pn	12 51 57.4	-2.9
ARIG				*i*S	Sn	12 52 20.1	-4.1
ZIIG	**Zihuatanejo**	**2.09**	**301**	*i*P	Pn	12 52 00.8	-2.4
ZIIG				*i*S	Sn	12 52 23.9	-5.3
YAIG	**Yautepec**	**2.37**	**12**	*i*P	Pn	12 52 04.4	-2.7
YAIG				*e*S	Sn	12 52 31.8	-4.5
PPM	**Popocatepetl**	**2.68**	**20**	*e*P	Pn	12 52 08.3	-3.6
PPM				*i*S	Sn	12 52 39.5	-5.3
VHO	**Vista Hermosa**	**2.78**	**78**	*i*P	Pn	12 52 09.7	-3.2
VHO				*i*S	Sn	12 52 42.4	-4.3

*ISK **18** 13:04:44.7, 35°71N×27°15E, h8km, MD3.3*
*ATH **18** 13:04:45.6, 35°72N×27°10E, h28km±3km, MD3.0/4*
*ISCJB **18** 13:04:46.0±0.6, 35°76N±0°03×27°03E±0°03, h11km±4km, Error ellipse: s-maj=5.0km s-min=3.2km az=139.2*
*CSEM **18** 13:04:46.1±0.2, 35°75N×27°03E, h10km, ML2.9/1, Error ellipse: s-maj=5.1km s-min=3.2km az=148.0*
*THE **18** 13:04:47.3, 35°70N×27°13E, h18km±4km, ML2.9/1, Error ellipse: s-maj=7.1km s-min=0.8km az=105.0*
*DDA **18** 13:04:49.5, 35°84N×27°31E, h31km, MD3.1*
ISC 18 13:04:46.2±0.9, 35°68N±0°04×27°19E±0°03, h29km±6km, n57, σ0°77/83, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.13**	**192**	P	**Pb**	**13 04 51.4**	**-0.3**
KARP				S	**Sb**	**13 04 55.0**	**-0.4**
KARP	**Karpathos**	**0.13**	**192**	*e*PB	**Pb**	**13 04 51.6**	**-0.1**
KARP				*e*SB	**Sb**	**13 04 55.8**	**+0.4**
KARP	**Karpathos**	**0.13**	**192**	*e*Pb	**Pb**	**13 04 51.6**	**-0.1**
KARP				S	**Sb**	**13 04 55.0**	**-0.4**
ZKR	**Zakros**	**0.98**	**235**	P	**Pb**	**13 05 04.5**	**-0.1**
ZKR				S	**Sn**	**13 05 17.2**	**+0.3**
ZKR	**Zakros**	**0.98**	**235**	*e*PN	**Pb**	**13 05 04.4**	**-0.1**
ZKR				*e*SN	**Sn**	**13 05 17.2**	**+0.3**
ZKR	**Zakros**	**0.98**	**235**	*e*Pn	**Pb**	**13 05 04.4**	**-0.1**
ZKR				S	**Sn**	**13 05 17.2**	**+0.3**
DAT	**Datca**	**1.09**	**16**	*e*PG	**Pn**	**13 05 05.9**	**+0.1**
DAT				*e*SG	**Sn**	**13 05 21.1**	**+1.1**
DAT	**Datca**	**1.09**	**16**	*e*Pg	**Pn**	**13 05 05.9**	**+0.1**
DAT				*e*Sg	**Sn**	**13 05 21.1**	**+1.1**
NPS	**Neapolis**	**1.36**	**253**	P	**Pn**	**13 05 09.4**	**+0.2**
NPS				S	**Sn**	**13 05 25.8**	**-0.5**
NPS	**Neapolis**	**1.36**	**253**	*e*PN	**Pn**	**13 05 09.5**	**+0.2**
NPS	**Neapolis**	**1.36**	**253**	*e*Pn	**Pn**	**13 05 09.5**	**+0.2**
NPS				S	**Sn**	**13 05 25.8**	**-0.5**
BODT	**Bodrum**	**1.39**	**4**	*e*PN	**Pn**	**13 05 09.9**	**+0.2**
BODT	**Bodrum**	**1.39**	**4**	*e*Pn	**Pn**	**13 05 09.9**	**+0.2**
BDRM	**Kayabasi**	**1.40**	**8**	*e*P	**Pb**	**13 05 12.6**	**+0.9**
BDRM				*e*S	**Sb**	**13 05 29.7**	**+0.5**
BDRM	**Kayabasi**	**1.40**	**8**	*e*P	**Pb**	**13 05 12.6**	**+0.9**
BDRM				*e*S	**Sb**	**13 05 29.7**	**+0.5**
LAST	**Lasithi**	**1.49**	**250**	P	**Pn**	**13 05 11.8**	**+0.5**
LAST				S	**Sn**	**13 05 30.0**	**+0.2**
LAST	**Lasithi**	**1.49**	**250**	*e*PN	**Pn**	**13 05 11.7**	**+0.5**
LAST	**Lasithi**	**1.49**	**250**	*e*Pn	**Pn**	**13 05 11.7**	**+0.5**
LAST				S	**Sn**	**13 05 30.0**	**+0.2**
THR1	**Thera Island**	**1.57**	**297**	P	**Pn**	**13 05 12.2**	**0.0**
THR1	**Thera Island**	**1.57**	**297**	P	**Pn**	**13 05 12.2**	**0.0**
SANT	**Santorini**	**1.57**	**297**	P	**Pn**	**13 05 12.2**	**0.0**
SANT	**Santorini**	**1.57**	**297**	P	**Pn**	**13 05 12.2**	**0.0**
THR3	**Thira Island,**	**1.63**	**297**	P	**Pn**	**13 05 12.7**	**-0.2**
THR3	**Thira Island,**	**1.63**	**297**	P	**Pn**	**13 05 12.7**	**-0.2**
DALY	**Dalyan (Mu¨la**	**1.64**	**46**	*e*PN	**Pb**	**13 05 15.1**	**-0.7**
DALY	**Dalyan (Mu¨la**	**1.64**	**46**	*e*Pn	**Pb**	**13 05 15.1**	**-0.7**
TURN	**Turunc**	**1.65**	**43**	*i*P	**Pn**	**13 05 11.6**	**-1.6**
TURN				*i*S	Sn	13 05 28.7	-4.8
TURN	**Turunc**	**1.65**	**43**	*i*P	**Pn**	**13 05 11.6**	**-1.6**
YER	**Yerkesik**	**1.70**	**31**	*e*PN	**Pn**	**13 05 15.4**	**+1.4**
YER	**Yerkesik**	**1.70**	**31**	*e*Pn	**Pn**	**13 05 15.4**	**+1.4**
FETY	**Fethiye**	**1.80**	**57**	*e*PN	**Pn**	**13 05 16.7**	**+1.3**
FETY	**Fethiye**	**1.80**	**57**	*e*Pn	**Pn**	**13 05 16.7**	**+1.3**
IDI	**Anoyia**	**1.92**	**259**	*e*PN	**Pn**	**13 05 18.0**	**+1.0**
IDI	**Anoyia**	**1.92**	**259**	P	**Pn**	**13 05 17.0**	**-0.1**
IDI				S	**Sn**	**13 05 39.9**	**-0.4**
IDI	**Anoyia**	**1.92**	**259**	*e*PB	**Pn**	**13 05 17.2**	**+0.1**
IDI	**Anoyia**	**1.92**	**259**	*e*Pb	**Pn**	**13 05 17.2**	**+0.1**
IDI	**Anoyia**	**1.92**	**259**	*e*Pn	**Pn**	**13 05 18.0**	**+1.0**
IDI				S	**Sn**	**13 05 39.9**	**-0.4**
APE	**Apeiranthos**	**1.93**	**316**	*e*PN	**Pn**	**13 05 18.1**	**+0.9**
APE	**Apeiranthos**	**1.93**	**316**	P	**Pn**	**13 05 16.7**	**-0.5**
APE	**Apeiranthos**	**1.93**	**316**	P	**Pn**	**13 05 16.7**	**-0.5**
APE	**Apeiranthos**	**1.93**	**316**	*e*Pn	**Pn**	**13 05 18.1**	**+0.9**
AKAS	**Kas**	**2.03**	**73**	*i*P	**Pb**	**13 05 22.3**	**-0.3**
AKAS				*i*S	**Sb**	**13 05 48.3**	**+0.8**
AKAS	**Kas**	**2.03**	**73**	*i*P	**Pb**	**13 05 22.3**	**-0.3**
AKAS				*i*S	**Sb**	**13 05 48.3**	**+0.8**
AYDN	**Tasoluk**	**2.06**	**15**	*e*P	**Pn**	**13 05 20.0**	**+1.1**
AYDN				*e*S	**Sb**	**13 05 45.9**	**-2.2**
AYDN	**Tasoluk**	**2.06**	**15**	*e*P	**Pn**	**13 05 20.0**	**+1.1**
AYDN				*e*S	**Sb**	**13 05 45.9**	**-2.2**
GOLH	**Golhisar**	**2.46**	**50**	*i*P	**Pb**	**13 05 28.8**	**-1.1**
GOLH				*i*S	**Sb**	**13 05 58.5**	**-1.3**
GOLH	**Golhisar**	**2.46**	**50**	*i*P	**Pb**	**13 05 28.8**	**-1.1**
GOLH				*i*S	**Sb**	**13 05 58.5**	**-1.3**
KARN	**Karanos**	**2.69**	**265**	P	**Pn**	**13 05 26.9**	**-0.7**
KARN				S	**Sn**	**13 05 59.5**	**+0.4**
KARN	**Karanos**	**2.69**	**265**	*e*PN	**Pn**	**13 05 28.2**	**+0.6**
KARN	**Karanos**	**2.69**	**265**	P	**Pn**	**13 05 26.9**	**-0.7**
KARN	**Karanos**	**2.69**	**265**	*e*Pn	**Pn**	**13 05 28.2**	**+0.6**
KARN				S	**Sn**	**13 05 59.5**	**+0.4**
ANKY	**Antikythira Is**	**3.17**	**275**	P	**Pn**	**13 05 34.3**	**+0.1**
ANKY				S	**Sn**	**13 06 11.2**	**+0.1**
ANKY	**Antikythira Is**	**3.17**	**275**	P	**Pn**	**13 05 34.3**	**+0.1**
ANKY				S	**Sn**	**13 06 11.2**	**+0.1**
KYTH	**Kithira**	**3.42**	**281**	P	**Pn**	**13 05 38.2**	**+0.5**
KYTH	**Kithira**	**3.42**	**281**	P	**Pn**	**13 05 38.2**	**+0.5**
VLI	**Veliai**	**3.60**	**288**	P	**Pn**	**13 05 40.7**	**+0.7**
VLI	**Veliai**	**3.60**	**288**	P	**Pn**	**13 05 40.7**	**+0.7**

*ISCJB **18** 14:04:36.5±0.2, 55°99N±0°07×161°43W±0°09, h172km±4km, mb3.8/12, Error ellipse: s-maj=13.1km s-min=3.7km az=145.4*
*IDC **18** 14:04:38.0±3.0, 56°34N×161°58W, h159km±26km, mb3.5/11, mb1 3.7/14, mb1mx3.5/30, mbtmp3.5/14, MS3.2/2, Ms1 3.2/2, ms1mx2.7/39, Error ellipse: s-maj=25.2km s-min=15.0km az=20.0*
*NEIC **18** 14:04:38.6,

PPLA	Purkeypile	8.37	30	P	Pn	14 06 37.4	+2.0
PMR	Palmer	8.49	43	P	Pn	14 06 36.6	-0.2
GLI	Glacier Island	8.95	51	P	Pn	14 06 41.4	-1.6
FID	Port Fidalgo	9.16	52	P	Pn	14 06 44.1	-1.7
JPK	Jack Peak	9.25	50	P	Pn	14 06 46.2	-0.8
SCM	Sheep Creek Mo	9.33	45	P	Pn	14 06 47.6	-0.5
VLZ	Valdez	9.40	50	P	Pn	14 06 48.2	-0.6
EYAK	Cordova Ski Ar	9.41	54	P	Pn	14 06 48.1	-1.0
DIV	Divide	9.64	51	P	Pn	14 06 51.8	-0.4
SGAM	Sherman Glacie	9.64	55	P	Pn	14 06 51.8	-0.3
BPAW	Bear Paw Mtn.	9.65	28	P	Pn	14 06 53.5	+1.2
KLU	Klutina	9.74	49	P	Pn	14 06 52.5	-1.0
RND	Reindeer	9.76	35	P	Pn	14 06 54.1	+0.4
RAGM	Ragged Mountai	9.85	56	P	Pn	14 06 55.3	+0.3
GOAT	Goat Mountain	9.89	55	P	Pn	14 06 55.4	-0.1
ADK	Adak	9.91	252	P	Pn	14 06 54.6	-1.1
BMRM	Bremner River	10.09	53	eP	Pn	14 06 57.2	-0.9
PAX	Paxson	10.68	42	ePn	Pn	14 07 04.3	-1.5
IMA2	Indian Mountai	10.79	17	ePn	Pn	14 07 08.0	+0.9
ILAR	Eielson Array	11.34	33	P	Pn	14 07 11.2	-3.1
	0.2nm,0.3s,baz=229,slow=12,SNR=10						
ILAR				S	Sn	14 09 10.4	-9.3
	0.1nm,0.3s,baz=246,slow=17,SNR=2.8						
MENT	Mentasta	11.34	45	ePn	Pn	14 07 13.5	-0.9
EGAK	Eagle	13.27	40	ePn	Pn	14 07 39.4	+0.4
HYT	Haines Junctio	13.38	59	ePn	P	14 07 42.8	-1.5
DAWY	Dawson	13.59	44	ePn	Pn	14 07 42.4	-0.7
FX1	Attu Island--F	15.11	269	LR	LR	14 13 02.1	
	comp=Z,63nm,18.2s,baz=316,slow=34						
DLBC	Dease Lake	17.07	69	LR	LR	14 15 39.4	
	comp=Z,73nm,20.2s,baz=165,slow=39						
INK	Inuvik	17.73	35	P	P	14 08 31.4	-0.5
	0.7nm,0.3s,baz=237,slow=12,SNR=6.9						
PETK	Petropavlovsk-	23.68	280	P	P	14 09 33.5	+0.1
	1.0nm,0.8s,baz=76,slow=12,SNR=2.9						
YKA	Yellowknife Ar	24.32	55	P	P	14 09 40.2	+1.1
	4.1nm,0.6s,baz=280,slow=9.7,SNR=7.8						
NVAR	Mina Array Bea	33.43	103	P	P	14 11 03.1	+2.8
	0.8nm,0.6s,baz=297,slow=8.3,SNR=8.0						
PDAR	Pinedale Array	35.36	90	P	P	14 11 19.6	+2.7
	0.9nm,0.5s,baz=321,slow=1.2,SNR=6.8						
SUMG	Summit	45.85	21	*i* P	P	14 12 43.0	+0.4
	4.1nm,0.9s						
TXAR	Lajitas Array	48.28	99	P	P	14 13 03.9	+2.3
	1.5nm,0.7s,baz=318,slow=6.7,SNR=8.5						
FINES	FINESS Array B	62.78	356	P	P	14 14 43.1	-1.2
	3.3nm,0.9s,baz=12,slow=7.4,SNR=2.4						
NB2	NORSAR Subarra	63.19	4	P	P	14 14 45.9	-1.2
	comp=Z,2.3nm,0.8s,baz=357,slow=6.5						
NOA	NORSAR Array B	63.19	4	P	P	14 14 45.6	-1.4
	comp=Z,1.4nm,0.8s,baz=356,slow=6.7,SNR=5.9						
HFS	Hagfors	64.18	3	P	P	14 14 52.4	-1.1
	comp=Z,2.9nm,0.6s,baz=32,slow=5.6,SNR=12						
MKAR	Makanchi Array	64.57	317	P	P	14 14 55.8	-0.5
	comp=Z,0.3nm,0.6s,baz=41,slow=5.9,SNR=3.6						
AKASG	Malin Array Be	73.34	353	P	P	14 15 49.2	-1.0
	comp=Z,1.9nm,0.5s,baz=12,slow=6.6,SNR=5.8						
CMAR	Chiang Mai Arr	80.19	288	P	P	14 16 29.3	+0.1
	comp=Z,0.4nm,0.4s,baz=28,slow=4.3,SNR=2.5						

*IDC **18** 14:10:00.9±0.6, 50°.23N×178°.73E, h0km, mb4.2/24, mb1 4.4/26, mb1mx4.4/33, mbtmp4.2/26, ML3.4/2, MS3.6/3, Ms1 3.6/3, ms1mx2.9/47, Error ellipse: s-maj=17.8km s-min=10.8km az=9.0*

*ISCJB **18** 14:10:03.9±1.4, 50°.36N±0°.04×178°.79E±0°.04, h27km±9km, mb4.4/65, MS3.8/7, Error ellipse: s-maj=7.3km s-min=3.6km az=9.4*

*MOS **18** 14:10:04.9±1.3, 50°.52N×178°.88E, h33km, mb4.6/35, Error ellipse: s-maj=10.8km s-min=7.9km az=110.7*

*NEIC **18** 14:10:05.3±2.0, 50°.37N×178°.73E, h26km±13km, mb4.5/18, ML3.8(AEIC), Error ellipse: s-maj=10.3km s-min=4.7km az=182.0*

*BJI **18** 14:10:05.8, 50°.64N×178°.34E, h21km, mB5.0/11, mb4.6/18, Ms4.7/8, Ms7 4.3/8*

ISC 18 14:10:05.9±0.7, 50°.48N±0°.06×178°.72E±0°.04, h24km±4km, n343, σ1§11/350, mb4.5/66, MS3.7/7, 93C-97D, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	Amchitka	0.97	22	P	Pn	14 10 23.8	-0.2
AMKA				S	Sn	14 10 37.9	+0.9
LSSE	Little Sitkin	1.46	356	P	Pb	14 10 31.5	-0.8
LSSA	Little Sitkin	1.47	355	P	Pn	14 10 31.5	+0.6
LSPA	Little Sitkin	1.48	356	P	Pn	14 10 31.7	+0.7
LSPA				S	Sb	14 10 52.1	+1.0
LSNW	Little Sitkin	1.50	355	P	Pn	14 10 31.6	+0.4
CESW	Semis' Southwe	1.52	20	P	Pb	14 10 32.5	-0.8
CERAA	Semis' Rag'd T	1.55	23	P	Pn	14 10 32.9	+1.0
CETU	Semis' Tuman	1.56	18	P	Pb	14 10 33.4	-0.7
CEAP	Semis' Anvil P	1.61	19	P	Pb	14 10 34.0	-0.9
SMY	Shemya	3.66	310	P	Pn	14 10 59.6	-1.3
SMY				S	Sn	14 11 43.0	-0.2
SMY	Shemya	3.66	310	P	Pn	14 10 59.6	-1.3
SMY				S	Sn	14 11 43.0	-0.2
FX1	Attu Island--F	4.21	307	ePn	Pn	14 11 02.9	-5.6
FX1	Attu Island--F	4.21	307	Pn	Pn	14 11 08.3	-0.2
	3.5nm,0.3s,baz=129,slow=15,SNR=32						
FX1				Sn	Sn	14 11 55.9	-1.0
	17nm,0.3s,baz=214,slow=19,SNR=10						
NIKH	Nikolski High	8.11	67	P	Pn	14 12 01.6	-0.4
OKSO	Okmok South	8.60	65	P	Pn	14 12 08.6	-0.2
OKFG	Magazine Ridge	8.76	65	P	Pn	14 12 10.2	-0.7
SPIA	Saint Paul Isl	9.35	40	P	Pn	14 12 19.5	+0.6
MREP	Makushin Rep't	9.53	64	P	Pn	14 12 22.0	+0.4
AKUT	Akutan	10.17	63	ePn	Pn	14 12 30.6	+0.4
PET	Petropavlovsk	12.69	289	eP	Pn	14 13 07.3	+2.7
PEA0	Petropavlovsk-	13.27	290	ePn	Pn	14 13 15.2	+2.6
PEA0B	Petropavlovsk-	13.27	290	ePn	Pn	14 13 12.3	-0.3
PETK	Petropavlovsk-	13.27	290	P	Pn	14 13 13.4	+0.8
PETK						14 15 33.5	
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK	Petropavlovsk-	13.27	290	Pn	Pn	14 13 13.3	+0.8
PETK				Sn	Sn	14 15 33.5	-5.6
PETK	Petropavlovsk-	13.27	290	Pn	Pn	14 13 13.3	+0.8
	comp=Z,0.7nm,0.3s,baz=101,slow=18,SNR=17						
PETK				Sn	Sn	14 15 33.5	-5.6
	comp=Z,0.2nm,0.3s,baz=84,slow=26,SNR=4.5						
SVW2	Sparrevohn	17.80	44	eP	P	14 14 12.3	-0.1
	comp=Z,9.9nm,1.0s						
KDAK	Kodiak Island	18.22	55	P	Pn	14 14 11.9	-5.0
KDAK	Kodiak Island	18.22	55	P	Pn	14 14 11.9	-5.0
	comp=Z,1.1nm,0.3s,baz=303,slow=12,SNR=7.9						
SEY	Seymchan	18.91	321	eP	Pn	14 14 26.3	+1.1
SEW	Seward	20.32	50	eP	P	14 14 39.9	0.0
SML	Sawmill	21.31	45	eP	P	14 14 55.9	+5.3
SML				pmax	pmax		
	comp=Z,2.0nm,0.6s						
SML	Sawmill	21.31	45	eP	P	14 14 55.9	+5.3
	comp=Z,1.8nm,0.6s						
COLD	Coldfoot	22.83	31	eP	P	14 15 06.9	+0.1
ILAR	Eielson Array	22.92	38	P	P	14 15 04.3	-3.5
ILAR	Eielson Array	22.92	38	P	P	14 15 04.3	-3.5
	comp=Z,0.7nm,0.7s,baz=236,slow=7.8,SNR=9.7						
ASAJ	Asahikawa	25.13	269	P	P	14 15 31.3	+2.6
ASAJ	Asahikawa	25.13	269	P	P	14 15 31.3	+2.6
	comp=Z,6.9nm,0.8s,baz=40,slow=7.5,SNR=5.8						
EGAK	Eagle	25.25	40	eP	P	14 15 29.5	-0.2
	comp=Z,20nm,1.4s						
ERM	Erimo	25.81	265	*i* P	P	14 15 37.0	+2.1
DAWY	Dawson	25.83	42	eP	P	14 15 26.3	-8.7
HYT	Haines Junctio	26.27	50	eP	P	14 15 39.1	-0.1
INK	Inuvik	29.09	34	P	P	14 16 02.0	-2.1
INK	Inuvik	29.09	34	P	P	14 16 02.0	-2.1
	comp=Z,1.9nm,0.6s,baz=270,slow=9.1,SNR=2.6						
DLBC	Dease Lake	30.16	55	P	P	14 16 15.4	+1.7
DLBC	Dease Lake	30.16	55	P	P	14 16 15.4	+1.7
	comp=Z,2.4nm,0.5s,baz=248,slow=7.9,SNR=6.8						
TIXI	Tiksi	30.66	332	eP	P	14 16 17.4	-0.5
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.8s						
TIXI				MLR	MLR		
	comp=Z,48nm,16.0s						
MJAR	Matsushiro Arr	32.09	260	P	P	14 16 31.6	+0.7
MJAR	Matsushiro Arr	32.09	260	P	P	14 16 31.6	+0.7
	comp=Z,1.0nm,0.7s,baz=53,slow=7.5,SNR=3.2						
MDJ	Mudanjiang	33.17	279	P	P	14 16 40.9	+0.6
MDJ				pmax	pmax		
	comp=Z,4.0nm,1.4s						
MDJ				pmax	pmax		
	comp=Z,84nm,6.5s						
CN2	Changchun	36.17	280	eP	P	14 17 05.8	-0.4
YKA	Yellowknife Ar	36.98	45	P	P	14 17 12.8	-0.1
YKA	Yellowknife Ar	36.98	45	P	P	14 17 12.7	-0.1
	comp=Z,2.6nm,0.8s,baz=282,slow=8.3,SNR=3.6						
YBH	Yreka Blue Hor	40.57	79	P	P	14 17 43.8	+0.5
YBH	Yreka Blue Hor	40.57	79	P	P	14 17 43.8	+0.5
	comp=Z,3.2nm,1.0s,baz=248,slow=5.4,SNR=4.2						
EDM	Edmonton	40.62	59	eP	P	14 17 40.8	-2.7
EDM	Edmonton	40.62	59	eP	P	14 17 40.8	-2.7
NEW	Newport	40.67	67	eP	P	14 17 45.4	+1.4
	comp=Z,6.5nm,0.6s						
NEW	Newport	40.67	67	P	P	14 17 43.6	-0.4
	comp=Z,4.9nm,0.5s,baz=296,slow=8.4,SNR=7.8						
NEW	Newport	40.67	67	⇓P	P	14 17 43.7	-0.4
	baz=40,SNR=5.3						
E09A	Wood Farm, Sta	40.90	70	eP	P	14 17 45.6	-0.2
	comp=Z,65nm,2.6s						
F10A	Beach Ranch, E	41.73	70	eP	P	14 17 54.4	+1.6
	comp=Z,107nm,3.0s						
WALA	Waterton Lakes	42.17	65	eP	P	14 17 54.2	-2.1
	comp=Z,0.5nm,1.0s						
BSMT	Bassoo Peak	42.24	67	eP	P	14 17 54.3	-2.8
BLMT	Blacktail Moun	42.41	66	eP	P	14 17 58.6	+0.2
WVOR	Wild Horse Val	42.73	76	eP	P	14 18 01.2	+0.2
WVOR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
WVOR	Wild Horse Val	42.73	76	eP	P	14 18 01.2	+0.2
	comp=Z,3.0nm,0.8s						
MSO	Missoula	43.25	68	⇑P	P	14 18 04.6	-0.6
	baz=43						
CHMT	Chamberlain Mo	43.62	67	eP	P	14 18 09.2	+0.9
MFID	Camas Ranch	43.92	73	⇑P	P	14 18 11.0	+0.4
	baz=44						
HRY	Holter Researc	44.55	67	eP	P	14 18 15.2	-0.4
HLID	Hailey	44.70	72	⇓P	P	14 18 16.9	0.0
	baz=45						
MCMT	McKenzie Canyo	44.95	69	eP	P	14 18 16.6	-2.4
	comp=Z,2.5nm,0.7s						
EGMT	Eagleton	45.08	64	eP	P	14 18 12.7	-7.1
	comp=Z,8.7nm,0.8s						
EGMT	Eagleton	45.08	64	⇑P	P	14 18 19.5	-0.3
	baz=45						
A19A	Klindworth Far	45.19	62	⇓P	P	14 18 20.3	-0.3
	baz=45						
NV01	Mina Array Sit	45.23	80	eP	P	14 18 20.9	-0.4
NVAR	Mina Array Bea	45.23	80	P	P	14 18 20.6	-0.6
NVAR	Mina Array Bea	45.23	80	P	P	14 18 20.6	-0.6
	comp=Z,4.0nm,0.8s,baz=289,slow=8.0,SNR=26						
NVAR				PcP	PcP	14 20 00.2	-0.8
	comp=Z,0.4nm,0.6s,baz=316,slow=3.8,SNR=3.2						
BOZ	Bozeman (W)	45.24	68	eP	P	14 18 19.2	-1.9
BOZ				pmax	pmax		
	comp=Z,7.0nm,0.6s						
BOZ	Bozeman (W)	45.24	68	eP	P	14 18 19.2	-1.9
	comp=Z,6.6nm,0.6s						
B19A	Brinkman Farms	45.32	63	⇓P	P	14 18 21.3	-0.4
	baz=45						
C19A	Slack Wire Ran	45.63	64	⇑P	P	14 18 24.0	-0.1
	baz=46,SNR=12						
SONM	Songino Array	45.64	296	P	P	14 18 23.7	-0.6
SONM	Songino Array	45.64	296	P	P	14 18 23.7	-0.6
	comp=Z,2.1nm,1.0s,baz=76,slow=12,SNR=4.7						
A20A	Cobblestone Ra	45.68	62	⇓P	P	14 18 23.7	-0.8
	baz=46,SNR=6.0						
ELK	Elko	45.79	76	eP	P	14 18 24.5	-1.1
	comp=Z,2.7nm,0.8s						
B20A	Solberg Farm,	45.85	63	⇓P	P	14 18 25.1	-0.7
	baz=46						
D19A	Cripps Ranch,	46.03	65	⇓P	P	14 18 27.1	-0.3
	baz=46						
A21A	Bergtoll Ranch	46.18	62	⇑P	P	14 18 27.9	-0.5
	baz=46						
C20A	Veseth Ranch,	46.24	64	⇓P	P	14 18 28.6	-0.4
	baz=46,SNR=7.8						
HHC	Hu-ho-hao-te	46.42	285	eP	P	14 18 31.4	+0.9
HHC				PcP	PcP	14 20 07.1	+2.2
HHC				PP	PP	14 20 19.5	+0.1
HHC				ScP	ScP	14 23 57.3	+0.7
HHC				PcS	PcS	14 23 59.8	+0.1
HHC				S	S	14 25 15.8	-0.9
HHC				ScS	ScS	14 28 23.3	-0.6
HHC				SS	SS	14 28 33.6	-8.6
HHC				pmax	pmax		
	comp=Z,37nm,0.9s						
HHC				pmax	pmax		
	comp=Z,370nm,6.3s						
HHC				LR	LR		
	comp=N,320nm,16.4s						
HHC				LR	LR		
	comp=E,360nm,16.2s						
HHC				LR	LR		
	comp=Z,300nm,16.6s						
B21A	Ellsworth Farm	46.43	62	⇑P	P	14 18 30.0	-0.4
	baz=46						
E19A	Rath Farm, Rou	46.47	65	⇑P	P	14 18 30.1	-0.6
	baz=46						
D20A	Manuel Ranch,	46.50	64	⇑P	P	14 18 30.2	-0.7
	baz=46						
CWC	Cottonwood Cre	46.58	82	⇓P	P	14 18 32.0	+0.2
	baz=46						
IMW	Indian Meadow	46.61	70	eP	P	14 18 25.8	-6.4
	comp=Z,3.0nm,0.9s						
C21A	Desert Coulee	46.70	63	⇑P	P	14 18 32.4	-0.1
	baz=47						
F19A	Roth Farm, Mol	46.70	66	⇓P	P	14 18 32.1	-0.5
	baz=47						
A22A	Carney Farms,	46.75	61	⇑P	P	14 18 32.6	-0.3
	baz=47						
E20A	Meyer Farm, Mu	46.82	65	⇓P	P	14 18 33.1	-0.4
	baz=47						
TPAW	Teton Pass	46.83	70	eP	P	14 18 29.6	-4.3
H18A	Shoshone NF, C	46.93	68	⇓P	P	14 18 34.4	-0.1
	baz=47						
R11A	Troy Canyon, C	46.99	79	eP	P	14 18 33.9	-1.1
	comp=Z,2.7nm,0.8s						
R11A	Troy Canyon, C	46.99	79	⇓P	P	14 18 34.6	-0.5
	baz=47,SNR=7.5						
BGU	Big Grassy Mou	47.04	74	eP	P	14 18 32.6	-2.8
	comp=Z,2.2nm,0.9s						
B22A	Reddig Ranch S	47.07	62	⇓P	P	14 18 35.0	-0.4
	baz=47						
D21A	La Casta Ranch	47.17	64	⇓P	P	14 18 36.0	-0.3
	baz=47						
MPMC	Manual Prospec	47.19	82	⇓P	P	14 18 36.3	-0.4
	baz=47						
NJ2	Nanjing	47.27	271	eP	P	14 18 38.3	+1.3
NJ2				pmax	pmax		
	comp=Z,13nm,0.6s						
LRMC	Laurel Mountai	47.43	83	⇑P	P	14 18 37.8	-0.6
	baz=47						
G20A	Bridger	47.48	67	⇑P	P	14 18 38.1	-0.7
	baz=47						
D22A	Cohagen	47.59	63	⇓P	P	14 18 39.3	-0.1
	baz=47,SNR=6.8						
DUG	Dugway	47.61	75	eP	P	14 18 36.0	-3.8
DUG				pmax	pmax		
	comp=Z,8.0nm,1.1s						
DUG	Dugway	47.61	75	eP	P	14 18 36.0	-3.8
	comp=Z,7.9nm,1.1s						
DUG	Dugway	47.61	75	⇓P	P	14 18 39.7	-0.1
	baz=48						
EDW2	Edwards Air Fo	47.62	84	⇓P	P	14 18 39.5	-0.3
	baz=48						
C23A	Lambert	47.80	62	⇑P	P	14 18 41.0	0.0
	baz=48,SNR=6.0						
A24A	Westby	47.85	60	⇓P	P	14 18 41.1	-0.3
	baz=48						
G21A	Lodge Grass	48.07	66	⇑P	P	14 18 42.4	-0.9
	baz=48						
PDAR	Pinedale Array	48.08	70	P	P	14 18 42.9	-0.7
	comp=Z,6.0nm,0.6s,baz=301,slow=3.4,SNR=24						
PDAR				PcP	PcP	14 20 10.4	-0.6
	comp=Z,4.8nm,1.0s,baz=324,slow=4.5,SNR=7.2						
J19A	Crowheart	48.10	69	⇑P	P	14 18 43.4	-0.2
	baz=48						
GSC	Goldstone	48.10	83	⇓P	P	14 18 43.5	-0.1
	baz=48						
D23A	Lindsay	48.13	63	⇓P	P	14 18 43.5	-0.2
	baz=48						
M17A	Scullys Gap (B	48.17	72	⇑P	P	14 18 43.8	-0.4
	baz=48						
BFSC	Mount Baldy Ra	48.24	84	⇓P	P	14 18 44.7	0.0
	baz=48						
I20A	Worland	48.25	68	⇓P	P	14 18 44.5	-0.3
	baz=48						
L18A	Fontenelle, Gr	48.28	71	⇓P	P	14 18 44.5	-0.6
	baz=48						
F22A	Rosebud	48.31	65	⇑P	P	14 18 44.7	-0.4
	baz=48						
A25A	Svangstu Ranch	48.33	60	⇑P	P	14 18 44.9	-0.3
	baz=48						
K19A	Absolon Red Bu	48.47	70	⇓P	P	14 18 45.7	-0.8
	baz=48,SNR=8.4						
H21A	Big Horn, Sher	48.51	67	⇓P	P	14 18 46.0	-0.7
	baz=48						
TUQ	Turquoise Moun	48.58	82	⇑P	P	14 18 47.0	-0.3
	baz=48						
G22A	Birney	48.60	66	⇓P	P	14 18 46.7	-0.7
	baz=48						
J20A	Shoshoni	48.62	69	⇓P	P	14 18 47.6	0.0
	baz=48						
D24A	Glendive	48.66	62	⇓P	P	14 18 47.9	+0.1
	baz=48						
BBRC	Big Bear Solar	48.69	84	⇑P	P	14 18 48.2	-0.1
	baz=49						
HEC	Hector,Ludlow	48.70	83	⇓P	P	14 18 48.2	0.0
	baz=49						
I21A	Big Trails, Te	48.83	68	⇑P	P	14 18 48.4	-0.8
	baz=49						
F23A	Volborg	48.83	64	⇑P	P	14 18 48.3	-0.8
	baz=49						
K20A	Yellowstone Ra	48.87	69	⇓P	P	14 18 48.7	-0.9
	baz=49						
H22A	Clearmont	48.93	66	⇑P	P	14 18 49.4	-0.5
	baz=49						
A26A	Wade Farm, Ken	48.95	59	⇓P	P	14 18 49.1	-0.8
	baz=49						
E24A	Baker	48.99	63	⇓P	P	14 18 49.8	-0.4
	baz=49						
J21A	Lysite	49.01	68	⇑P	P	14 18 49.8	-0.8
	baz=49						
GMRC	Granite Mounta	49.16	82	⇑P	P	14 18 51.5	-0.3
	baz=49						
I22A	9 Mile Ranch,	49.26	67	⇑P	P	14 18 51.8	-0.7
	baz=49						
F24A	Ekalaka	49.31	64	⇓P	P	14 18 52.4	-0.4
	baz=49						
A27A	Ledoux Ranch,	49.35	59	⇑P	P	14 18 52.4	-0.5
	baz=49						
Q16A	Castle Valley	49.39	75	⇓P	P	14 18 52.9	-0.7
	baz=49						
PFO	Pinyon Flat Ob	49.41	84	P	P	14 18 52.3	-1.4
	comp=Z,3.1nm,0.7s,baz=345,slow=6.2,SNR=5.1						
PFO	Pinyon Flat Ob	49.41	84	⇓P	P	14 18 53.2	-0.5
	baz=49						
BELC	Belle Mtn. Jos	49.44	83	⇑P	P	14 18 53.2	-0.8
	baz=49						
C26A	Wahner Farm, P	49.52	60	⇓P	P	14 18 53.2	-1.0
	baz=49						
J22A	Midwest	49.54	68	⇑P	P	14 18 54.0	-0.7
	baz=49						
K21A	Alcova	49.54	69	⇓P	P	14 18 53.7	-1.0
	baz=49						
M20A	Sweetwater, Wa	49.66	71	⇓P	P	14 18 55.4	-0.2
	baz=50						
L21A	Rawlins	49.87	70	⇑P	P	14 18 56.4	-0.8
	baz=50						
IRM	Iron Mountain	49.88	83	⇑P	P	14 18 56.9	-0.2
	baz=50						
MONP	Monument Peak	49.90	85	⇓P	P	14 18 57.1	-0.4
	baz=50,SNR=5.3						
BC3	Big Chuckawall	50.01	83	⇑P	P	14 18 57.1	-1.2
	baz=50						
W13A	Hualapai Mount	50.08	81	⇑P	P	14 18 58.7	-0.2
	baz=50						
U15A	North Rim	50.24	78	⇑P	P	14 18 59.6	-0.6
	baz=50,SNR=9.4						
P19A	Cripple Cowboy	50.30	73	⇓P	P	14 19 00.5	0.0
	baz=50						
L22A	Ellis Ranch, M	50.38	69	⇑P	P	14 19 01.0	-0.1
	baz=50						
PDMCI	Parker Dam,Lak	50.43	82	⇑P	P	14 19 01.1	-0.1
	baz=50						
N21A	Black Mountain	50.50	71	⇓P	P	14 19 01.7	-0.3
	baz=50						
Y12C	Blythe	50.54	83	⇓P	P	14 19 01.9	-0.2
	baz=50						
J24A	Dixon Ranch, L	50.66	67	⇑P	P	14 19 02.7	-0.4
	baz=50						
M22A	Cedar Creek Ra	50.66	70	⇓P	P	14 19 03.1	-0.3
	baz=50						
F27A	Lemmon	50.68	63	⇑P	P	14 19 02.7	-0.4
	baz=50						
G26A	Maurine	50.69	63	⇑P	P	14 19 02.3	-0.9
	baz=50						
L23A	Garrett	50.77	68	⇓P	P	14 19 03.4	-0.6
	baz=51						
HVS	Khovu-Aksy	50.77	306	⇑*i* P	P	14 19 04.6	+0.8
HVS				pmax	pmax		
	comp=Z,30nm,1.4s						
I25A	Rochford	50.79	65	⇑P	P	14 19 03.7	-0.4
	baz=51						
GLA	Glamis	50.80	83	⇓P	P	14 19 04.2	0.0
	baz=51						
N22A	Wattenberg Ran	51.12	70	⇑P	P	14 19 06.7	0.0
	baz=51						
SPITS	Spitsbergen Ar	51.15	355	P	P	14 19 05.8	-0.3
SPITS	Spitsbergen Ar	51.15	355	P	P	14 19 05.8	-0.3
	comp=Z,2.7nm,0.5s,baz=22,slow=4.7,SNR=9.1						
B30A	Myrvik Farm, E	51.22	58	⇓P	P	14 19 07.1	0.0
	baz=51						
N23A	Red Feather La	51.37	70	⇓P	P	14 19 08.1	-0.5
	baz=51						
WUAZ	Wupatki	51.39	79	⇓P	P	14 19 08.4	-0.3
	baz=51						
O22A	Kremmling	51.45	71	⇑P	P	14 19 08.5	-0.8
	baz=51						
R20A	Redvale	51.56	74	⇓P	P	14 19 10.0	0.0
	baz=51						
S20A	Disappointment	51.80	74	⇑P	P	14 19 10.9	-0.9
	baz=52						
F29A	Eureka	51

comp=Z,5.7nm,0.9s
T25A Trinidad 54.65 73 ⇓P P 14 19 33.0 +0.1
baz=54
Z20A Nine Sixteen R 54.70 79 ⇓P P 14 19 33.1 0.0
baz=55
X22A Bernardo 54.77 77 ⇑P P 14 19 33.7 +0.1
baz=55
O29A 4D Ranch, Culb 54.91 68 ⇑P P 14 19 34.6 +0.2
baz=55
S26A Kim 54.91 72 ⇑P P 14 19 34.3 -0.3
baz=55
120A U Bar Ranch, L 55.05 80 ⇑P P 14 19 35.7 0.0
baz=55
T26A Comanche Natio 55.13 72 ⇓P P 14 19 35.4 -0.8
baz=55
U25A Circle Dot Ran 55.13 73 ⇑P P 14 19 36.0 -0.3
baz=55
Y22A Socorro 55.17 77 ⇓P P 14 19 36.2 -0.3
baz=55
W24A Lazy 6 Ranch, 55.30 75 ⇑P P 14 19 37.6 +0.1
baz=55
V25A Rancho No Teng 55.37 74 ⇑P P 14 19 37.8 -0.2
baz=55
319A Douglas 55.42 81 ⇓P P 14 19 38.1 -0.2
baz=55
U26A Atchley Ranch, 55.54 73 ⇓P P 14 19 39.2 -0.1
baz=55
220A Playas Peak, P 55.55 80 ⇓P P 14 19 38.4 -0.8
baz=55,SNR=6.1
121A Cookes Peak, D 55.59 79 ⇓P P 14 19 39.1 -0.5
baz=56
Z22A Elephant Butte 55.62 78 ⇑P P 14 19 39.3 -0.5
baz=56
Y23A Lovelace Mesa, 55.74 77 ⇑P P 14 19 40.7 0.0
baz=56
W25A X Bar L Ranch, 55.88 74 ⇑P P 14 19 41.0 -0.6
baz=56
S28A Manter 55.88 71 ⇓P P 14 19 41.4 -0.1
baz=56
320A Kipp Ranch, An 55.92 81 ⇑P P 14 19 41.7 -0.3
baz=56
Z23A Rita Site, Whi 56.08 77 ⇑P P 14 19 43.3 +0.3
baz=56
U27A Thompson Grove 56.09 72 ⇓P P 14 19 43.2 +0.1
baz=56
Y24A Capitan 56.13 76 ⇑P P 14 19 42.9 -0.6
baz=56,SNR=5.3
P31A Stockton 56.13 67 ⇓P P 14 19 42.8 -0.4
baz=56
R30A Dighton 56.40 69 ⇓P P 14 19 44.8 -0.4
baz=56
123A Bell Site, Whi 56.48 78 ⇑P P 14 19 45.9 +0.1
baz=56
Z24A Sheeppen Canyo 56.57 77 ⇑P P 14 19 46.5 -0.1
baz=56
Y25A Mesa, Roswell 56.59 76 ⇓P P 14 19 46.8 +0.1
baz=56
Y26A Elida 57.13 75 ⇑P P 14 19 50.1 -0.4
baz=57
224A Cornudas Mount 57.31 78 ⇑P P 14 19 51.5 -0.4
baz=57
125A Gardner Draw, 57.46 77 ⇑P P 14 19 52.5 -0.3
baz=57
Z26A Caprock 57.47 76 ⇓P P 14 19 52.4 -0.5
baz=57
T31A Randall Ranch, 57.54 70 ⇑P P 14 19 52.6 -0.7
baz=57
Y27A Causey 57.56 75 ⇓P P 14 19 53.0 -0.5
baz=57
CD2 Chengdu 57.61 281 P P 14 19 56.5 +2.7
CD2 pmax pmax
comp=Z,20nm,0.5s
225A Deer Hill, Car 57.73 77 ⇓P P 14 19 54.3 -0.5
baz=58
MSTX Muleshoe 57.74 74 ⇑P P 14 19 54.4 -0.4
baz=58
325A Bean Ranch, Si 58.13 78 ⇓P P 14 19 57.0 -0.6
baz=58,SNR=5.9
226B Tecolote Peak, 58.16 77 ⇓P P 14 19 57.0 -0.7
baz=58
KURK Kurchatov 58.49 313 *c iP* P 14 20 00.3 +0.7
KURK pmax pmax
comp=Z,5.0nm,1.2s
KURK Kurchatov 58.49 313 *eP* P 14 19 58.8 -0.9
comp=Z,4.9nm,1.2s
WMQ Urumqi 58.50 302 *eP* P 14 20 03.5 +3.6
WMQ pP pP 14 20 11.3 +3.8
WMQ sP sP 14 20 14.5 +4.1
WMQ PcP **PcP** **14 20 53.5 +3.3**
WMQ pmax pmax
comp=Z,7.0nm,0.7s
WMQ pmax pmax
comp=Z,81nm,4.2s
WMQ LR LR
comp=N,54nm,20.0s
WMQ LR LR
comp=Z,52nm,20.8s
ARCES ARCESS Array B 58.70 349 P P 14 20 00.2 -0.6
ARCES ARCESS Array B 58.70 349 P P 14 20 00.2 -0.6
comp=Z,1.6nm,0.6s,baz=14,slow=9.3,SNR=7.7
ARCES LR LR 14 48 56.5
comp=Z,40nm,18.6s,baz=322,slow=40
326A Caldwell Ranch 58.79 77 ⇓P P 14 20 01.6 -0.5
baz=59,SNR=5.4
128A Castleberry Fa 58.83 75 ⇓P P 14 20 01.9 -0.4
baz=59
GYA Guiyang 58.85 275 *eP* P 14 20 03.4 +0.8
GYA pmax pmax
comp=Z,10.0nm,1.0s
Z29A Hungry Hill Ra 58.88 74 ⇑P P 14 20 02.2 -0.5
baz=59
Y30A Stafford Cattl 58.96 73 ⇓P P 14 20 03.0 -0.2
baz=59
X31A McDonald Ranch 59.01 72 ⇑P P 14 20 03.2 -0.3
baz=59
JFWS Jewell Farm 59.10 59 *eP* P 14 20 03.5 -0.5
JFWS pmax pmax
comp=Z,24nm,0.6s
JFWS Jewell Farm 59.10 59 *eP* P 14 20 03.5 -0.5
comp=Z,24nm,0.6s
426A McDonald Obser 59.20 78 ⇓P P 14 20 04.4 -0.8
baz=59
Z30A Sanderson Ranc 59.22 74 ⇓P P 14 20 04.4 -0.6
baz=59
MKAR Makanchi Array 59.35 307 P P 14 20 05.3 -0.4
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR Makanchi Array 59.35 307 P P 14 20 05.2 -0.4
MKAR Makanchi Array 59.35 307 P P 14 20 05.2 -0.4
comp=Z,1.0nm,0.7s,baz=48,slow=7.3,SNR=7.5
427A Hayter Ranch, 59.47 77 ⇑P P 14 20 06.7 -0.1
baz=59
328A Wristen Ranch, 59.48 77 ⇓P P 14 20 06.5 -0.4
baz=59
Y32A R-V Farms, Ver 59.76 72 ⇑P P 14 20 08.3 -0.4
baz=60
527A Woodward Ranch 59.83 78 ⇓P P 14 20 08.3 -1.0
baz=60
626A Big Bend Ranch 59.91 79 ⇓P P 14 20 09.4 -0.4
baz=60,SNR=6.0
329A Wagon Wheel Ra 59.92 76 ⇑P P 14 20 09.2 -0.6
baz=60
428A Kincaid Ranch, 60.00 77 ⇓P P 14 20 10.1 -0.4
baz=60
230A Sterling City 60.18 75 ⇓P P 14 20 11.3 -0.4
baz=60
Z32A Haskell 60.21 73 ⇑P P 14 20 11.3 -0.5
baz=60
528A Cox Ranch, San 60.33 78 ⇓P P 14 20 12.4 -0.4
baz=60
TXAR Lajitas Array 60.35 79 P P 14 20 12.1 -0.8
comp=Z,2.5nm,0.6s,baz=304,slow=5.3,SNR=17
627A Terlingua Ranc 60.44 79 ⇑P P 14 20 13.0 -0.6
baz=60
330A Mertzon 60.47 75 ⇑P P 14 20 13.0 -0.6
baz=60
VOSK Vostochnaya 60.51 318 *eP* P 14 20 12.3 -1.3
VOSK pmax pmax
comp=Z,27nm,2.2s
VOSK Vostochnaya 60.51 318 *eP* P 14 20 12.3 -1.3
comp=Z,27nm,2.2s
BVAR Borovoye Array 60.55 319 LR LR 14 47 29.7
comp=Z,52nm,18.2s,baz=293,slow=37
429A Davenport Ranc 60.56 77 ⇑P P 14 20 13.2 -1.1
baz=60
BRVK Borovoye 60.57 319 *d iP* P 14 20 14.7 +0.8
BRVK pmax pmax
comp=Z,6.0nm,1.3s
ABTX Abilene, Hawle 60.58 73 ⇑P P 14 20 13.9 -0.4
baz=60
TUL1 Tulsa 60.65 68 ⇑P P 14 20 14.3 -0.5
baz=60
628A Black Gap, Mar 60.73 78 ⇑P P 14 20 14.8 -0.6
baz=61,SNR=5.6
430A Baggett Ranch, 60.86 76 ⇓P P 14 20 15.8 -0.5
baz=61
331A San Angelo 61.00 75 ⇑P P 14 20 16.6 -0.6
baz=61
232A Coleman 61.08 74 ⇓P P 14 20 16.9 -0.9
baz=61
530A J-C Ranch, Com 61.24 77 ⇑P P 14 20 18.1 -0.8
baz=61,SNR=7.8
431A Sonora 61.32 76 ⇓P P 14 20 18.5 -1.0
baz=61
332A Millersview 61.37 75 ⇑P P 14 20 19.3 -0.5
baz=61
SCHQ Schefferville 61.67 37 P P 14 20 21.3 0.0
SCHQ Schefferville 61.67 37 P P 14 20 21.3 0.0
comp=Z,6.1nm,0.7s,baz=303,slow=5.8,SNR=7.2
432A Menard 61.69 75 ⇑P P 14 20 21.0 -1.0
baz=62
531A Rocksprings 61.72 76 ⇓P P 14 20 21.2 -0.9
baz=62
532A Rocksprings 62.14 76 ⇑P P 14 20 23.9 -1.1
baz=62
631A Perdido Creek 62.23 77 ⇑P P 14 20 24.4 -1.1
baz=62
WHTX Lake Whitney 62.35 72 ⇑P P 14 20 26.5 +0.3
baz=62
ARU Arti 62.52 327 *d iP* P 14 20 28.1 +1.1
ARU S S 14 28 57.2 +4.5
ARU SS SS 14 32 52.5 -3.5
ARU pmax pmax
comp=Z,12nm,1.2s
SFIN Scholer Farm 62.55 59 ⇓P P 14 20 27.6 +0.1
baz=62
JOF Joensuu 64.05 344 *eP* P 14 20 35.8 -1.2
JOF pmax pmax
comp=Z,1.0nm,0.4s
JOF Joensuu 64.05 344 *ep* P 14 20 35.8 -1.2
comp=Z,1.3nm,0.4s
WVT Waverly 65.13 63 *eP* P 14 20 43.7 -0.8
WVT pmax pmax
comp=Z,62nm,2.6s
WVT Waverly 65.13 63 *eP* P 14 20 43.7 -0.8
comp=Z,62nm,2.6s
KAF Kangasniemi 65.62 346 *eP* P 14 20 36.4 -11
KAF pmax pmax
comp=Z,1.0nm,0.3s
KAF Kangasniemi 65.62 346 *ep* P 14 20 36.4 -11
comp=Z,1.3nm,0.3s
AAK Ala-Archa 66.22 309 ⇓ *iP* P 14 20 52.3 +0.6
AAK pmax pmax
comp=Z,5.0nm,0.7s
FINES FINESS Array B 66.29 346 P P 14 20 51.5 0.0
FINES FINESS Array B 66.29 346 P P 14 20 51.5 0.0
comp=Z,4.1nm,0.7s,baz=28,slow=8.6,SNR=9.2
ABKAR Akbulak array 67.69 322 *eP* P 14 21 01.6 +1.0
KSH Kashi 67.76 305 P P 14 21 06.3 +4.8
KSH sP sP 14 21 17.3 +5.3
KSH PcP **PcP** **14 21 32.4 +4.3**
KSH PP PP 14 23 38.3 +7.8
KSH S S **14 30 02.4 +4.6**
KSH sS sS 14 30 15.4 +5.0
KSH pmax pmax
comp=Z,130nm,6.1s
KSH LR LR
comp=N,76nm,5.5s
KSH LR LR
comp=E,110nm,5.0s
KSH LR LR
comp=Z,130nm,8.5s
NB2 NORSAR Subarra 68.38 353 P P 14 21 05.1 +0.2
comp=Z,2.2nm,0.8s,baz=6.6,slow=6.2
NOA NORSAR Array B 68.38 353 P P 14 21 04.8 -0.1
NOA NORSAR Array B 68.38 353 P P 14 21 04.8 -0.1
comp=Z,3.0nm,0.7s,baz=8.7,slow=6.4,SNR=10
HFS Hagfors 69.08 352 LR LR 14 54 52.6
comp=Z,39nm,19.1s,baz=244,slow=39
KMSC Kings Mountain 69.49 60 ⇓P P 14 21 12.3 +0.2
baz=69
CMAR Chiang Mai Arr 69.53 274 P P 14 21 11.9 -0.7
CMAR Chiang Mai Arr 69.53 274 P P 14 21 11.9 -0.7
comp=Z,0.5nm,0.3s,baz=30,slow=7.3,SNR=3.3
OBN Obninsk 70.13 338 ⇑ *eP* P 14 21 15.9 +0.2
OBN pmax pmax
comp=Z,9.0nm,1.4s
AKASG Malin Array Be 75.89 341 P P 14 21 49.6 -0.3
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG Malin Array Be 75.89 341 P P 14 21 49.6 -0.3
AKASG Malin Array Be 75.89 341 P P 14 21 49.6 -0.3
comp=Z,2.4nm,0.5s,baz=22,slow=6.1,SNR=7.0
CLL Collm 77.86 351 *eP* P 14 22 00.0 -1.0
CLL pmax pmax
comp=Z,3.0nm,0.6s
CLL Collm 77.86 351 *eP* P 14 22 00.0 -1.0
comp=Z,3.0nm,0.6s
KIV Kislovodsk 78.46 329 ⇑ *eP* P 14 22 06.1 +1.5
KIV pmax pmax
comp=Z,13nm,1.7s
KBZ Khabaz 78.59 329 P P 14 22 06.4 +1.2
KBZ pmax pmax
comp=Z,2.0nm,0.7s
KBZ Khabaz 78.59 329 P P 14 22 06.4 +1.2
KBZ Khabaz 78.59 329 P P 14 22 06.4 +1.2
comp=Z,2.2nm,0.7s,baz=99,slow=2.7,SNR=5.7
ZEI Tsey 79.09 328 *eP* P 14 22 08.4 +0.2
ZEI pmax pmax
comp=Z,5.0nm,0.6s
ANN Anapa 79.32 333 *eP* P 14 22 05.8 -3.3
ANN pmax pmax
comp=Z,45nm,1.1s
BUR04 Bucovina Ar. S 79.65 342 *eP* P 14 22 11.9 +0.9
GERES GERESS Array B 80.22 350 P P 14 22 14.5 +0.4
GERES GERESS Array B 80.22 350 P P 14 22 14.5 +0.4
comp=Z,0.8nm,0.7s,baz=356,slow=2.9,SNR=4.9
WRA Warramunga Arr 80.29 222 P P 14 22 11.8 -2.8
WRA Warramunga Arr 80.29 222 P P 14 22 11.8 -2.8
comp=Z,0.9nm,0.7s,baz=33,slow=6.2,SNR=7.6
FITZ Fitzroy Crossi 82.68 230 P P 14 22 25.8 -1.5
FITZ Fitzroy Crossi 82.68 230 P P 14 22 25.8 -1.5
comp=Z,2.2nm,0.7s,baz=352,slow=4.8,SNR=4.5
ASAR Alice Springs 83.78 221 P P 14 22 31.1 -1.8
ASAR Alice Springs 83.78 221 P P 14 22 31.1 -1.8
comp=Z,0.7nm,0.7s,baz=28,slow=5.0,SNR=11
BRTR Keskin Array B 85.08 334 P P 14 22 39.8 +0.1
BRTR Keskin Array B 85.08 334 P P 14 22 39.8 +0.1
comp=Z,2.2nm,0.7s,baz=53,slow=3.2,SNR=14
BR231 Keskin MP Arra 85.22 334 *eP* P 14 22 40.8 +0.6
TORD Torodi Ar. Bea 116.59 357 PKP **PKPdf** 14 28 46.4 -1.6
comp=Z,0.2nm,0.6s,baz=323,slow=1.0,SNR=4.1
BOSA Boshof 150.35 307 PKPbc **PKPbc** 14 29 54.2 -0.8
BOSA Boshof 150.35 307 PKPbc **PKPbc** 14 29 54.2 -0.8
comp=Z,3.9nm,0.9s,baz=6.5,slow=5.9,SNR=3.0

*NNC **18** 14:22:34.4±5.6, 37°.17N×70°.22E, h0km, mb4.2, mpv4.2,*
Error ellipse: s-maj=57.3km s-min=44.7km az=50.0
ISC 18 14:22:32.5±2.4, 37°.1N±0°.2×69°.2E±0°.1, h10km, n16,
σ1§14/11, 2C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.12**	**9**	P	**Pn**	**14 24 02.9**	**-0.1**
	8.3nm,0.5s,baz=173,slow=13,SNR=97						
KK31				⇓S	**Sn**	**14 25 13.7**	**+0.7**
	28nm,0.6s,baz=166,slow=27,SNR=10.0						
AML	**Almayashu**	**6.14**	**33**	P	**Pn**	**14 24 03.2**	**-0.4**
	SNR=21						
EKS2	**Erkin-Say**	**6.61**	**31**	P	**Pn**	**14 24 10.7**	**+0.8**
	SNR=15						
AAK	**Ala-Archa**	**6.90**	**35**	P	**Pn**	**14 24 11.5**	**-2.4**
	SNR=12						
KBK	**Karagaybulak**	**7.13**	**37**	P	**Pn**	**14 24 18.4**	**+1.4**
	SNR=16						
CHMS	**Chumysh**	**7.30**	**34**	P	**Pn**	**14 24 19.6**	**+0.4**
	SNR=8.0						
IMYA	**Miami**	**7.34**	**267**	*eP*	**Pg**	**14 24 53.4**	**+0.3**
USP	**Ospenovka**	**7.41**	**32**	P	**Pn**	**14 24 20.1**	**-0.7**
	SNR=16						
TKM2	**Tokmak 2**	**7.64**	**38**	⇑P	Pn	14 24 21.2	-2.9
	19nm,0.8s						
TKM2	**Tokmak 2**	**7.64**	**38**	P	**Pn**	**14 24 24.6**	**+0.6**
	SNR=20						
IAKL	**Akhelmad**	**8.38**	**270**	*eP*	Pg	14 25 06.6	-6.4
IEMG	**Emamgholi**	**8.42**	**276**	*eP*	Pb	14 25 03.0	+4.5
ISFR	**Sfrayin**	**8.95**	**273**	*eP*	Pg	14 25 14.0	-10
MK31	**Makanchi Array**	**13.75**	**41**	P	Pn	14 25 43.6	-3.9
	3.6nm,1.0s,baz=230,slow=14,SNR=13						
AB31	**Akbulak array**	**13.92**	**334**	⇑P	**P**	**14 25 57.3**	**-0.6**
	1.8nm,0.5s,baz=145,slow=12,SNR=42						
KURBB	**Kurchatov Arra**	**15.12**	**23**	⇓P	Pn	14 26 00.7	-5.4
	1.7nm,0.7s						

NNC 18 14:27:04.7±14.0, 37°.17N×69°.73E, h0km, mb3.9, mpv3.5,
1C-2D, Error ellipse: s-maj=192.0km s-min=116.7km
az=77.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.96**	**6**	⇑P	Pn	14 28 32.5	-1.8
	0.9nm,0.3s,baz=177,slow=12,SNR=15						
KK31				⇓S	Sn	14 29 44.6	+1.4
	7.8nm,0.6s,baz=163,slow=26,SNR=5.7						
TKM2	**Tokmak 2**	**7.30**	**36**	⇓P	Pn	14 28 53.8	+0.9
	2.7nm,0.5s						
AB31	**Akbulak array**	**14.02**	**333**	P	Pn	14 30 27.4	+2.9
	0.8nm,0.3s,baz=107,slow=29,SNR=7.3						

KRSC 18 14:58:28.1±7.8, 49°.31N×158°.91E, h41km±40km, ML3.8,
East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.27**	**308**	*eP*	Pn	14 59 03.7	+0.7
SKR				*eS*	Sn	14 59 29.7	0.0
PAU	**Pauzhetka**	**2.54**	**329**	*eP*	Pn	14 59 08.8	+2.0
PAU				*eS*	Sn	14 59 38.2	+1.7
RUS	**Russkaya**	**3.14**	**356**	*eP*	Pn	14 59 17.0	+2.0
RUS				*eS*	Sn	14 59 51.7	+0.6
ASAK	**Asacha**	**3.14**	**349**	P	Pn	14 59 17.8	+2.6
ASAK				*eS*	Sn	14 59 52.8	+1.3
MTVR	**Mutnovka**	**3.21**	**352**	*eP*	Pn	14 59 18.5	+2.3
MTVR				*eS*	Sn	14 59 54.2	+0.9
MIPR	**Malaya Ipel'ka**	**3.27**	**336**	*eP*	Pn	14 59 19.3	+2.5
MIPR				*eS*	Sn	14 59 56.6	+2.2
GRL	**Gorelyy**	**3.29**	**351**	*eP*	Pn	14 59 19.8	+2.6
GRL				*eS*	Sn	14 59 56.8	+1.6
PET	**Petropavlovsk**	**3.72**	**358**	*eP*	Pn	14 59 25.6	+2.6
PET				*eS*	Sn	15 00 06.7	+1.2
APC	**Apacha**	**3.78**	**344**	*eP*	Pn	14 59 26.7	+2.9
SPN	**Mys Shipunski**	**3.86**	**10**	*eP*	Pn	14 59 28.0	+3.1
SPN				*eS*	Sn	15 00 11.0	+2.1
NLC	**Nalytchevo**	**3.88**	**4**	S	Sn	15 00 13.4	+4.1
UGLR	**Uglovaya**	**3.91**	**359**	*eP*	Pn	14 59 28.7	+3.0
UGLR				*eS*	Sn	15 00 13.2	+2.9
SMAR	**Somma**	**3.96**	**359**	*eP*	Pn	14 59 29.5	+2.9
AVH	**Avacha**	**3.96**	**359**	*eP*	Pn	14 59 29.4	+3.0
AVH				*eS*	Sn	15 00 14.1	+2.4
SDLR	**Sedlovina**	**3.97**	**360**	*eP*	Pn	14 59 28.6	+2.0
SDLR				*eS*	Sn	15 00 12.4	+0.3
KOK	**Koryaka**	**3.99**	**358**	*eP*	Pn	14 59 30.6	+3.8
KOK				*eS*	Sn	15 00 16.0	+3.6
KRER	**Koryakskii**	**4.00**	**359**	P	Pn	14 59 30.2	+3.1
KRER				*eS*	Sn	15 00 14.8	+1.9
KRX	**Arik**	**4.06**	**358**	P	Pn	14 59 30.7	+2.9
KRX				*eS*	Sn	15 00 16.4	+2.2
GNL	**Ganaly**	**4.43**	**353**	*eP*	Pn	14 59 36.5	+3.6
GNL				*eS*	Sn	15 00 27.6	+4.3
KII	**Karymskiy**	**4.75**	**4**	*eP*	Pn	14 59 41.9	+4.7
KII				*eS*	Sn	15 00 35.8	+4.9
MKZ	**Mys Kozlova**	**5.54**	**17**	*eP*	Pn	14 59 49.7	+1.9
MKZ				*eS*	Sn	15 00 48.7	-1.4
KMNR	**Kamenistaya**	**6.51**	**7**	*eP*	Pn	15 00 06.9	+5.5
KBTR	**Krutoberegovo**	**7.30**	**17**	*eP*	Pn	15 00 15.4	+3.3
SMKR	**Semkarok**	**7.45**	**11**	*eP*	Pn	15 00 17.8	+3.6

IDC 18 15:01:09.1±5.2, 16°.70N×123°.24E, h0km, mb3.4/3,
mb1 3.7/3, mb1mx3.3/24, mbtmp3.4/3, Error ellipse:
s-maj=295.5km s-min=28.4km az=91.0, Philippine
Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.02**	**163**	P	P	15 08 28.9	-0.4
	0.4nm,0.5s,baz=342,slow=9.0,SNR=7.7						
ASAR	**Alice Springs**	**41.45**	**165**	P	P	15 08 57.9	+0.1
	0.2nm,0.4s,baz=350,slow=6.8,SNR=11						
ILAR	**Eielson Array**	**74.99**	**26**	P	P	15 12 52.1	+0.1
	0.3nm,0.8s,baz=278,slow=6.3,SNR=3.6						

MEX 18 15:58:13.3±0.8, 18°.26N×103°.40W, h5km, MD3.7, Near
coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.06**	**60**	*eP*	Pg	15 58 13.6	-1.3
MMIG				*i* S	Sg	15 58 16.2	+0.3
ZIIG	**Zihuatanejo**	**1.96**	**109**	*eP*	Pn	15 58 43.9	-3.3
ZIIG				*i* S	Sn	15 59 07.6	-4.5
CJM	**Chamela**	**1.98**	**309**	*eP*	Pn	15 58 44.4	-3.2
CJM				*i* S	Sn	15 59 08.7	-4.2
MOIG	**Morelia**	**2.53**	**56**	*i P*	Pn	15 58 51.9	-3.5
MOIG				*i* S	Sn	15 59 23.2	-3.6
ARIG	**Puente Sto Nin**	**2.91**	**89**	*i P*	Pn	15 58 58.2	-2.1
ARIG				*i* S	Sn	15 59 31.9	-3.7
ANIG	**Ahuacatlan**	**2.98**	**339**	*i P*	Pn	15 58 58.5	-2.9
ANIG				*i* S	Sn	15 59 33.3	-4.3

DJA 18 16:18:32.5±0.5, 7°S±3°×10°8E±°, h2km±3km, M3.5/6,
MLv3.5/6, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.31**	**118**	P	Pg	16 18 38.6	+0.1
CISI				S	Sg	16 18 43.2	+0.6
CISI	**Cisompet, Garu**	**0.31**	**118**	P	Pg	16 18 38.1	-0.4
	7μm,0.6s,617μm						
LEM	**Lembang**	**0.58**	**8**	P	Pg	16 18 42.8	-1.2
LEM				S	Sg	16 18 51.7	0.0
LEM	**Lembang**	**0.58**	**8**	P	Pg	16 18 43.2	-0.8
	373nm,0.7s,6μm						
SKJI	**Sukabumi**	**1.06**	**292**	P	Pg	16 18 51.4	-1.4
SKJI	**Sukabumi**	**1.06**	**292**	P	Pg	16 18 51.8	-1.0
	1μm,0.6s,14μm						
DBJI	**Dramaga**	**1.16**	**317**	P	Pg	16 18 54.3	-0.4
	168nm,0.8s,4μm						
CBJI	**Citeko**	**1.20**	**325**	P	Pg	16 18 50.1	-5.4
	1μm,0.6s,32μm						
KPJI	**Karang Pucung**	**1.38**	**87**	P	Pn	16 18 57.1	-1.7
CLJI	**Cilicap**	**1.49**	**102**	P	Pg	16 19 02.4	+1.2
TGJI	**Tegal**	**1.66**	**71**	P	Pn	16 19 02.2	-0.4
TGJI				S	Sb	16 19 25.2	0.0
UGM	**Wanagama**	**3.00**	**100**	S	Sn	16 19 58.3	+0.6

*IDC **18** 16:35:59.2±1.7, 24°.17N×123°.79E, h0km, mb3.7/7,*
mb1 3.8/7, mb1mx3.6/24, mbtmp3.7/7, MS3.3/2, Ms1 3.4/2,
ms1mx2.6/39, Error ellipse: s-maj=135.2km s-min=19.2km
az=65.0
*NIED **18** 16:36:00, 23°.90N×123°.60E, h35km, Mw3.9 Best double*
couple: M0 8.33000×10^14 NP1:φ0 48.00000°, δ 75.00000°,
λ 78.00000°. NP2:φ0 268.00000°, δ 20.00000°, λ 128.00000°.
*ISCJB **18** 16:36:03.1±1.0, 23°.90N±0°.08×123°.52E±0°.05, h32km±5km,*
mb3.6/7, MS3.3/2, Error ellipse: s-maj=12.9km
s-min=7.6km az=3.2
*JMA **18** 16:36:04.6±0.2, 23°.97N×123°.58E, h31km±2km, M3.9*
JMA Felt I J1.
ISC 18 16:36:04.4±1.7, 24°.0N±0°.1×123°.57E±0°.05, h32km±10km,
n17, σ0§92/22, mb3.6/7, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.24**	**68**	P	**Pn**	**16 36 11.0**	**-0.6**
HATJ				*eS*	Sn	16 36 15.8	-0.5
IRIF	**Iriomote-Funau**	**0.39**	**22**	P	**Pb**	**16 36 13.2**	**-0.1**
IRIF				*eS*	**Sb**	**16 36 19.4**	**0.0**
JKRS	**Kuro-shima**	**0.49**	**57**	P	**Pb**	**16 36 14.6**	**-0.1**
JKRS				*eS*	**Sb**	**16 36 21.8**	**0.0**
JIJ	**Ishigaki jima**	**0.66**	**53**	P	**Pn**	**16 36 16.9**	**-0.5**
JIJ				*eS*	**Sn**	**16 36 25.5**	**-1.2**

YOJ	**Yonaguni jima**	**0.70**	**314**	P	**Pn**	**16 36 18.3**	**+0.2**
YOJ				*e*S	**Sn**	**16 36 28.6**	**+0.8**
JTJ	**Tarama**	**1.23**	**57**	P	**Pn**	**16 36 26.4**	**+1.0**
JTJ				*e*S	**Sn**	**16 36 42.9**	**+2.0**
JMJ	**Miyako jima 2**	**1.79**	**62**	P	**Pb**	**16 36 36.3**	**-0.2**
JOGS	**Gusukube**	**1.85**	**65**	P	**Pb**	**16 36 36.9**	**-0.7**
JKE	**Kume jima 2**	**3.75**	**51**	P	**Pn**	**16 37 01.5**	**+1.6**
MKAR	**Makanchi Array**	**40.01**	**315**	P	**P**	**16 43 35.7**	**-0.6**
	0.3nm,0.4s,baz=100,slow=9.7,SNR=6.0						
MKAR				LR	LR	17 02 11.1	
	comp=Z,19nm,18.4s,baz=177,slow=39						
ZALV	**Zalesovo Beam**	**41.62**	**326**	P	**P**	**16 43 47.8**	**-1.5**
	0.6nm,0.5s,baz=130,slow=6.3,SNR=3.4						
WRA	**Warramunga Arr**	**44.89**	**166**	P	**P**	**16 44 16.3**	**+0.2**
	0.6nm,0.7s,baz=346,slow=8.7,SNR=8.2						
ASAR	**Alice Springs**	**48.40**	**167**	P	**P**	**16 44 44.5**	**+1.0**
	0.1nm,0.5s,baz=349,slow=6.5,SNR=11						
FINES	**FINESS Array B**	**72.72**	**330**	P	**P**	**16 47 28.8**	**-0.2**
	1.0nm,0.6s,baz=42,slow=6.5,SNR=3.4						
BRTR	**Keskin Array B**	**75.05**	**307**	P	**P**	**16 47 43.6**	**+0.4**
	0.5nm,0.6s,baz=83,slow=4.1,SNR=4.1						
NB2	**NORSAR Subarra**	**79.42**	**333**	P	**P**	**16 48 06.5**	**-0.7**
	comp=Z,0.6nm,0.5s,baz=54,slow=6.2						
NOA	**NORSAR Array B**	**79.42**	**333**	P	**P**	**16 48 06.7**	**-0.5**
	comp=Z,0.8nm,0.7s,baz=56,slow=5.7,SNR=4.0						
NOA				LR	LR	17 26 58.4	
	comp=Z,28nm,18.1s,baz=245,slow=39						

JMA 18 16:46:16.3, 35°.10N×135°.56E, h12km, M3.6, 3C-3D Broadband fault plane solution: P waves. NP1: ϕ_s=335.00000°, δ60.00000°, λ42.00000°. NP2: ϕ_s=221.00000°, δ55.00000°, λ142.00000°. Principal axes: T Plg50.0000°, Azm190.0000°; N Plg40.0000°, Azm4.0000°; P Plg3.0000°, Azm97.0000°; Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWT	**Wachi**	**0.22**	**325**	⇑P	Pg	16 46 21.3	+0.2
JWT				S	Sg	16 46 24.5	+0.1
JHE	**Heguri**	**0.46**	**167**	⇑P	Pg	16 46 25.1	-0.2
JHE				S	Sg	16 46 31.2	-0.2
JKS	**Kasai**	**0.60**	**259**	⇓P	Pg	16 46 27.7	-0.3
JKS				S	Sg	16 46 35.6	-0.3
JKY	**Yasaka**	**0.65**	**325**	⇓P	Pg	16 46 28.7	-0.2
JKY				S	Sg	16 46 37.5	0.0
JAJ2	**Tsuna**	**0.88**	**219**	P	Pg	16 46 32.6	-0.7
JAJ2				S	Sg	16 46 44.5	-0.2
JKSM	**Kasumi**	**0.88**	**304**	⇓P	Pg	16 46 32.8	-0.5
JKSM				S	Sg	16 46 44.5	-0.3
JWY	**Kouya**	**0.88**	**178**	⇑P	Pg	16 46 32.6	-0.8
JWY				S	Sg	16 46 44.3	-0.7
MAT	**Matsushiro**	**2.59**	**55**	P	Pn	16 46 59.2	+1.2
MAT				S	Sn	16 47 31.0	+1.5

IDC 18 17:27:55.2±3.1, 22°.39N×12°.48W, h0km, mb1 3.6/2, mb1mx3.2/26, mbtmp3.7/2, ML3.6/2 Error ellipse: s-maj=151.6km s-min=54.7km az=61.0, Mauritania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**16.32**	**122**	Pn	Pn	17 31 46.1	+0.2
	0.2nm,0.3s,baz=313,slow=11,SNR=6.2						
TORD				Sn	Sn	17 34 34.0	-14
	0.1nm,0.3s,baz=304,slow=23,SNR=3.1						
DBIC	**Dimbokro**	**17.27**	**154**	P	Pn	17 31 57.9	-0.1
	0.3nm,0.3s,baz=327,slow=14,SNR=3.5						
DBIC				Lg	Lg	17 36 50.3	
	0.2nm,0.3s,baz=13,slow=23,SNR=2.3						
WRA	**Warramunga Arr**	**148.99**	**92**	PKPbc	PKPbc	17 47 45.4	-0.7
	0.6nm,0.9s,baz=289,slow=2.6,SNR=3.8						
ASAR	**Alice Springs**	**149.07**	**99**	PKPbc	PKPbc	17 47 45.8	-0.4
	0.4nm,0.8s,baz=266,slow=2.4,SNR=5.5						

GUC 18 17:28:33.3±0.6, 31°.64S×71°.46W, h34km±3km, ML3.8, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.61**	**40**	*e*P	Pn	17 28 45.6	-0.1
CMCH				*e*S	Sn	17 28 54.6	+0.2
PACH	**Papudo**	**0.90**	**179**	*e*P	Pn	17 28 49.9	+0.3
PACH				*i* S	Sb	17 29 02.4	+0.1
JACH	**Jahuel**	**1.27**	**145**	*e*P	Pn	17 28 55.9	+1.0
JACH				*i* S	Sb	17 29 12.5	-0.7
IHA	**Instituto Hidr**	**1.39**	**186**	*e*P	Pn	17 28 57.2	+0.8
CLCH	**Cerro Calan**	**1.92**	**156**	*e*P	Pn	17 29 05.3	+1.6
CLCH				*e*S	Sb	17 29 29.3	-2.1
CLCH				AML	AML	17 29 32.5	
	comp=E,940nm,0.5s						
ANTU	**Antumapu**	**2.05**	**160**	AML	AML	17 29 38.6	
	comp=E,861nm,0.2s						
TACH	**Talagante**	**2.06**	**168**	*e*P	Pn	17 29 06.6	+1.0
TACH				*i* S	Sb	17 29 33.2	-2.1
PCH	**Pirque**	**2.13**	**158**	*e*P	Pn	17 29 07.8	+1.1
PCH				*i* S	Sn	17 29 34.8	+2.7
LMEL	**Las Melosas**	**2.44**	**155**	*e*P	Pn	17 29 12.5	+1.5
LMEL				*e*S	Sn	17 29 42.6	+2.6
LMEL				AML	AML	17 29 51.6	
	comp=N,841nm,0.1s						

IDC 18 17:47:49.8±1.5, 12°.63S×167°.67E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.6/18, mbtmp3.6/4, Error ellipse: s-maj=53.6km s-min=32.5km az=126.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**30.67**	**227**	P	P	17 54 08.1	+1.9
	3.0nm,1.0s,baz=75,slow=12,SNR=2.8						
ASAR	**Alice Springs**	**33.83**	**246**	P	P	17 54 32.6	-1.5
	0.1nm,0.8s,baz=74,slow=9.6,SNR=4.0						
VNDA	**Vanda**	**64.96**	**181**	P	P	17 58 30.4	-0.5
	0.2nm,0.6s,baz=1.9,slow=4.8,SNR=3.1						
ILAR	**Eielson Array**	**84.42**	**18**	P	P	18 00 24.1	+0.3
	0.3nm,0.4s,baz=236,slow=4.8,SNR=5.3						

*NSSC **18** 17:59:47.7±1.2, 39°.43N×41°.67E, h0km±182km, MD2.1, ML2.6*
*ISCJB **18** 17:59:50.3±0.4, 39°.21N±0°.02×41°.69E±0°.02, h3km±3km, Error ellipse: s-maj=2.9km s-min=2.5km az=42.2*
*CSEM **18** 17:59:50.4±0.2, 39°.23N×41°.70E, h0km±2km, ML3.7, Error ellipse: s-maj=2.6km s-min=2.4km az=164.0*
*ISK **18** 17:59:50.3, 39°.23N×41°.70E, h6km, ML3.7*
*DDA **18** 17:59:50.3, 39°.23N×41°.68E, h26km, ML3.5*

ISC 18 17:59:50.9±0.9, 39°.23N±0°.02×41°.70E±0°.02, h9km±8km, n97, σ0.9±94/146, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRTB	**Varto-Mus**	**0.20**	**250**	PG	**Pg**	**17 59 55.4**	**+0.2**
VRTB				SG	**Sg**	**17 59 58.7**	**+0.6**
VRTB	**Varto-Mus**	**0.20**	**250**	*i* Pg	**Pg**	**17 59 55.4**	**+0.2**
VRTB				*i* Sg	**Sg**	**17 59 58.7**	**+0.6**
BNGL	**BINGOL**	**0.51**	**237**	*i* P	**Pg**	**18 00 00.3**	**-0.7**
BNGL				*i* S	**Sg**	**18 00 08.3**	**+0.7**
EZM	**Erzurum**	**0.72**	**339**	*e*PG	**Pg**	**18 00 04.4**	**-0.5**
HOMI	**Horasan**	**0.83**	**11**	*i* P	**Pg**	**18 00 06.1**	**-0.8**
HOMI				*i* S	**Sb**	**18 00 19.5**	**+0.5**
BNGB	**Bing¶**	**0.83**	**254**	*e*PG	**Pg**	**18 00 05.0**	**-2.0**
BNGB				*e*SG	**Sg**	**18 00 17.5**	**-0.2**
TATV	**Tatvan**	**0.85**	**148**	*i* P	**Pg**	**18 00 06.4**	**-0.8**
TATV				*i* S	**Sg**	**18 00 18.0**	**-0.3**
TATV	**Tatvan**	**0.85**	**148**	*i* P	**Pg**	**18 00 06.4**	**-0.8**
TATV				*i* S	**Sg**	**18 00 18.0**	**-0.3**
TUTA	**Tutak**	**0.88**	**78**	*i* P	**Pg**	**18 00 07.4**	**-0.5**
TUTA				*i* S	**Sb**	**18 00 20.4**	**-0.1**
TUTA	**Tutak**	**0.88**	**78**	*i* P	**Pg**	**18 00 07.4**	**-0.5**
TUTA				*i* S	**Sb**	**18 00 20.4**	**-0.1**
BTMT	**Batman**	**1.05**	**189**	*e*PG	**Pg**	**18 00 10.9**	**-0.2**
BTMT	**Batman**	**1.05**	**189**	*e*Pg	**Pg**	**18 00 10.9**	**-0.2**
AGRB	**Hanur-Agry**	**1.06**	**71**	*e*PG	**Pg**	**18 00 10.5**	**-0.7**
AGRB				*e*SG	**Sb**	**18 00 26.4**	**+0.8**
AGRB	**Hanur-Agry**	**1.06**	**71**	*e*Pg	**Pg**	**18 00 10.5**	**-0.7**
AGRB				*e*Sg	**Sb**	**18 00 26.4**	**+0.8**
KOPT	**Kop Dagi**	**1.22**	**311**	*i* P	**Pg**	**18 00 13.4**	**-0.9**
KOPT				*i* S	**Sb**	**18 00 30.3**	**0.0**
KOPT	**Kop Dagi**	**1.22**	**311**	*i* P	**Pg**	**18 00 13.4**	**-0.9**
KOPT				*i* S	**Sb**	**18 00 30.3**	**0.0**
BEST	**Besiri**	**1.38**	**194**	*i* P	**Pb**	**18 00 16.8**	**-0.2**
BEST				*i* S	**Sb**	**18 00 32.5**	**-2.3**
GEVA	**Gevas**	**1.40**	**130**	*i* P	**Pn**	**18 00 16.1**	**-0.8**
GEVA				*i* S	**Sb**	**18 00 35.3**	**-0.2**
GEVA	**Gevas**	**1.40**	**130**	*i* P	**Pn**	**18 00 16.1**	**-0.8**
GEVA				*i* S	**Sb**	**18 00 35.3**	**-0.2**
DYDN	**Diyadin**	**1.57**	**78**	*i* P	**Pn**	**18 00 19.4**	**+0.2**
DYDN				*i* S	**Sn**	**18 00 39.4**	**-0.4**
DYDN	**Diyadin**	**1.57**	**78**	*i* P	**Pn**	**18 00 19.4**	**+0.2**
DYDN				*i* S	**Sn**	**18 00 39.4**	**-0.4**
ERZN	**Erzincan**	**1.57**	**284**	*e*PN	**Pn**	**18 00 19.6**	**+0.4**
EUZM	**Uzumlu**	**1.62**	**288**	*i* P	**Pn**	**18 00 19.1**	**-0.8**
EUZM				*i* S	**Sb**	**18 00 41.6**	**-0.2**
EUZM	**Uzumlu**	**1.62**	**288**	*i* P	**Pn**	**18 00 19.1**	**-0.8**
EUZM				*i* S	**Sb**	**18 00 41.6**	**-0.2**
DDEM	**Demirkent**	**1.66**	**1**	*i* P	**Pn**	**18 00 20.9**	**+0.5**
DDEM	**Demirkent**	**1.66**	**1**	*i* P	**Pn**	**18 00 20.9**	**+0.5**
CLDR	**Caldiran**	**1.72**	**92**	*e*PN	**Pn**	**18 00 21.4**	**+0.1**
CLDR	**Caldiran**	**1.72**	**92**	*e*Pn	**Pn**	**18 00 21.4**	**+0.1**
DIGO	**Kars**	**1.75**	**47**	*i* P	**Pb**	**18 00 22.6**	**-0.7**
DIGO				*i* S	**Sg**	**18 00 48.8**	**+1.7**
DIGO	**Kars**	**1.75**	**47**	*i* P	**Pb**	**18 00 22.6**	**-0.7**
DIGO				*i* S	**Sg**	**18 00 48.8**	**+1.7**
KARS	**Kars**	**1.75**	**37**	*e*PN	**Pn**	**18 00 22.4**	**+0.8**
KARS	**Kars**	**1.75**	**37**	*e*Pn	**Pn**	**18 00 22.4**	**+0.8**
DIY	**Diyarbakir**	**1.77**	**221**	*e*PN	**Pn**	**18 00 22.1**	**+0.3**
DIY	**Diyarbakir**	**1.77**	**221**	*e*Pn	**Pn**	**18 00 22.1**	**+0.3**
DBAD	**Bademkaya**	**1.79**	**360**	*i* P	**Pn**	**18 00 22.3**	**+0.2**
DBAD				*e*S	**Sb**	**18 00 46.9**	**+0.4**
DBAD	**Bademkaya**	**1.79**	**360**	*i* P	**Pn**	**18 00 22.3**	**+0.2**
DBAD				*e*S	**Sb**	**18 00 46.9**	**+0.4**
DIYA	**Diyarbakir**	**1.80**	**224**	*i* P	**Pn**	**18 00 22.5**	**+0.3**
DIYA				*i* S	**Sn**	**18 00 43.6**	**-1.7**
DIYA	**Diyarbakir**	**1.80**	**224**	*i* P	**Pn**	**18 00 22.5**	**+0.3**
DIYA				*i* S	**Sn**	**18 00 43.6**	**-1.7**
SIRN	**S¨–rnak**	**1.82**	**162**	*i* P	**Pb**	**18 00 24.1**	**-0.4**
SIRN				*i* S	**Sb**	**18 00 47.5**	**+0.1**
SIRN	**S¨–rnak**	**1.82**	**162**	*i* P	**Pb**	**18 00 24.1**	**-0.4**
SIRN				*i* S	**Sb**	**18 00 47.5**	**+0.1**
SIRT	**Sirnak**	**1.82**	**161**	*e*PN	**Pn**	**18 00 23.1**	**+0.5**
SIRT	**Sirnak**	**1.82**	**161**	*e*Pn	**Pn**	**18 00 23.1**	**+0.5**
PTK	**Pertek**	**1.83**	**260**	*e*PN	**Pn**	**18 00 22.2**	**-0.5**
PTK	**Pertek**	**1.83**	**260**	*e*Pn	**Pn**	**18 00 22.3**	**-0.5**
DAGI	**Agillar**	**1.85**	**5**	*i* P	**Pn**	**18 00 23.4**	**+0.3**
DAGI				*e*S	**Sn**	**18 00 44.2**	**-2.4**
EZC	**Erzincan**	**1.89**	**287**	*e*PN	**Pn**	**18 00 24.1**	**+0.6**
EZC	**Erzincan**	**1.89**	**287**	*e*Pn	**Pn**	**18 00 24.2**	**+0.6**
ARTV	**Artvin**	**1.96**	**5**	*i* P	**Pn**	**18 00 24.9**	**+0.3**
ARTV	**Artvin**	**1.96**	**5**	*i* P	**Pn**	**18 00 24.9**	**+0.3**
MAZI	**Mazidag**	**2.03**	**210**	*e*PN	**Pn**	**18 00 25.3**	**-0.1**
MAZI	**Mazidag**	**2.03**	**210**	*e*Pn	**Pn**	**18 00 25.3**	**-0.1**
MARD	**Mardin**	**2.05**	**201**	*i* P	**Pn**	**18 00 26.0**	**+0.3**
MARD				*i* S	**Sb**	**18 00 53.6**	**-0.4**
KELT	**Kelkit**	**2.10**	**297**	*i* P	**Pn**	**18 00 27.6**	**+1.1**
KELT				*i* S	**Sn**	**18 00 54.1**	**+1.3**
KELT	**Kelkit**	**2.10**	**297**	*i* P	**Pn**	**18 00 27.6**	**+1.1**
KELT				*i* S	**Sn**	**18 00 54.1**	**+1.3**
GUMT	**Gumushane**	**2.11**	**306**	*e*PN	**Pb**	**18 00 27.9**	**-1.5**
GUMT	**Gumushane**	**2.11**	**306**	*e*Pn	**Pb**	**18 00 27.9**	**-1.5**
DBOC	**Borcka**	**2.11**	**359**	*i* P	**Pn**	**18 00 26.8**	**+0.3**
DBOC				*i* S	**Sb**	**18 00 56.0**	**+0.2**
DBOC	**Borcka**	**2.11**	**359**	*i* P	**Pn**	**18 00 26.8**	**+0.3**
DBOC				*i* S	**Sb**	**18 00 56.0**	**+0.2**
BCA	**Borcka**	**2.21**	**358**	*e*PN	**Pn**	**18 00 27.8**	**-0.1**
BCA	**Borcka**	**2.21**	**358**	*e*Pn	**Pn**	**18 00 27.8**	**-0.1**
ELZG	**Elazig**	**2.25**	**252**	*i* P	**Pn**	**18 00 28.3**	**-0.1**
ELZG				*i* S	**Sb**	**18 01 00.6**	**+0.9**
ELZG	**Elazig**	**2.25**	**252**	*i* P	**Pn**	**18 00 28.3**	**-0.1**
ELZG				*i* S	**Sb**	**18 01 00.6**	**+0.9**
HAKT	**HAKKARI**	**2.30**	**136**	*i* P	**Pb**	**18 00 31.7**	**-1.0**
HAKT	**HAKKARI**	**2.30**	**136**	*i* P	**Pb**	**18 00 31.7**	**-1.0**
KBSD	**Kabsdagh**	**2.41**	**203**	*e*P	**Pn**	**18 00 31.0**	**+0.4**
KBSD				*e*S	**Sn**	**18 01 01.3**	**+1.1**
KBSD				AML	AML	18 01 13.7	
	comp=Z,0.3nm,0.0s						
KBSD	**Kabsdagh**	**2.41**	**203**	*e*P	**Pn**	**18 00 31.0**	**+0.4**
	SNR=45						
KBSD				*e*S	**Sn**	**18 01 01.3**	**+1.1**
	SNR=40						
ILIC	**ilic-Erzincan**	**2.44**	**276**	*e*PN	**Pn**	**18 00 32.1**	**+1.0**
ILIC	**ilic-Erzincan**	**2.44**	**276**	*e*Pn	**Pn**	**18 00 32.1**	**+1.0**
KEMA	**Kemaliye**	**2.49**	**272**	*i* P	**Pn**	**18 00 32.1**	**+0.3**
KEMA				*i* S	**Sg**	**18 01 09.2**	**-1.8**
KEMA	**Kemaliye**	**2.49**	**272**	*i* P	**Pn**	**18 00 32.1**	**+0.3**
GNI	**Garni**	**2.52**	**68**	*e*PN	**Pn**	**18 00 33.9**	**+1.7**
GNI	**Garni**	**2.52**	**68**	*e*Pn	**Pn**	**18 00 33.9**	**+1.7**
MALT	**Malatya**	**2.72**	**251**	*e*PN	**Pn**	**18 00 34.7**	**-0.2**
MALT	**Malatya**	**2.72**	**251**	*e*Pn	**Pn**	**18 00 34.7**	**-0.2**
ESPY	**Espiye-Giresun**	**2.84**	**307**	*e*PN	**Pn**	**18 00 37.3**	**+0.9**
ESPY	**Espiye-Giresun**	**2.84**	**307**	*e*Pn	**Pn**	**18 00 37.3**	**+0.9**
SUSE	**Susehri**	**2.87**	**291**	*i* P	**Pb**	**18 00 42.1**	**-0.3**
SUSE				*i* S	**Sb**	**18 01 18.3**	**+0.6**
SUSE	**Susehri**	**2.87**	**291**	*i* P	**Pb**	**18 00 42.1**	**-0.3**
URFA	**Urfa**	**2.89**	**233**	*e*PN	**Pn**	**18 00 37.3**	**+0.1**
URFA	**Urfa**	**2.89**	**233**	*e*Pn	**Pn**	**18 00 37.3**	**+0.1**
SFNV	**Sufian**	**3.08**	**205**	*e*P	**Pn**	**18 00 40.5**	**+0.7**
SFNV				*e*S	**Sn**	**18 01 18.2**	**+1.4**
SFNV				AML	AML	18 01 35.1	
	comp=Z,116nm,0.5s						
SFNV	**Sufian**	**3.08**	**205**	*e*P	**Pn**	**18 00 40.5**	**+0.7**
	SNR=45						
SFNV				*e*S	**Sn**	**18 01 18.2**	**+1.4**
	comp=Z,116nm,0.5s,SNR=40						
AKCD	**Akcadag**	**3.10**	**254**	*i* P	**Pn**	**18 00 40.3**	**+0.1**
AKCD				*i* S	**Sg**	**18 01 27.6**	**-2.9**
AKCD	**Akcadag**	**3.10**	**254**	*i* P	**Pn**	**18 00 40.3**	**+0.1**
MZRK	**Al-Mazaregh**	**3.50**	**194**	*e*P	**Pn**	**18 00 46.2**	**+0.6**
MZRK				*e*S	**Sn**	**18 01 29.2**	**+2.1**
MZRK				AML	AML	18 01 44.9	
	comp=Z,231nm,0.5s						
MZRK	**Al-Mazaregh**	**3.50**	**194**	*e*P	**Pn**	**18 00 46.2**	**+0.6**
	SNR=45						
MZRK				*e*S	**Sn**	**18 01 29.2**	**+2.1**
	comp=Z,231nm,0.5s,SNR=40						
SVSK	**Karacayir**	**3.70**	**282**	*e*PN	**Pn**	**18 00 49.9**	**+1.6**
SVSK	**Karacayir**	**3.70**	**282**	*e*Pn	**Pn**	**18 00 49.9**	**+1.6**
GZT	**Gaziantep**	**3.76**	**241**	*i* P	**Pb**	**18 00 58.8**	**+1.3**
MNKR	**ALMNKUR**	**3.81**	**211**	*e*P	**Pn**	**18 00 50.6**	**+0.8**
MNKR				*e*S	**Sn**	**18 01 36.1**	**+1.3**
MNKR				AML	AML	18 01 57.3	
	comp=Z,115nm,0.5s						
MNKR	**ALMNKUR**	**3.81**	**211**	*e*P	**Pn**	**18 00 50.6**	**+0.8**
	SNR=45						
MNKR				*e*S	**Sn**	**18 01 36.1**	**+1.3**
	comp=Z,115nm,0.5s,SNR=40						
KMRS	**Kahramanmaras**	**4.15**	**247**	*e*PN	**Pn**	**18 00 56.1**	**+1.6**
KMRS	**Kahramanmaras**	**4.15**	**247**	*e*Pn	**Pn**	**18 00 56.1**	**+1.6**
JHLN	**Al Jahlan**	**4.40**	**217**	*e*P	**Pn**	**18 00 57.7**	**-0.3**
JHLN				*e*S	**Sn**	**18 01 49.6**	**+0.2**
JHLN				AML	AML	18 02 10.0	
	comp=Z,60nm,0.6s						
JHLN	**Al Jahlan**	**4.40**	**217**	*e*P	**Pn**	**18 00 57.7**	**-0.3**
	SNR=45						
JHLN				*e*S	**Sn**	**18 01 49.6**	**+0.2**
	comp=Z,60nm,0.6s,SNR=40						
BNN	**Bunyan**	**4.58**	**267**	*e*PN	**Pn**	**18 01 02.8**	**+2.3**
BNN	**Bunyan**	**4.58**	**267**	*e*Pn	**Pn**	**18 01 02.8**	**+2.3**

MAN 18 18:14:44, 13°.37N×123°.33E, h59km, mb3.9, ML2.6, MS2.2, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUQP	**San Andres**	**0.64**	**266**	*e*P	Pn	18 14 59.5	+2.0
AUQP				*e*S	Sn	18 15 11.7	+4.5
PVCP	**Virac**	**0.84**	**74**	⇑P	Pn	18 15 02.0	+2.1
BOAC	**Boac**	**1.45**	**274**	*e*P	Pn	18 15 10.4	+2.4

*BJI **18** 18:34:17.7, 1°.39N×127°.43E, h93km, mB6.0/58, mb5.6/67*
*MOS **18** 18:34:21.5±0.9, 1°.80N×127°.16E, h98km, mb5.6/69, MS4.9/36, Error ellipse: s-maj=8.7km s-min=4.5km az=116.5*
*NEIC **18** 18:34:22.1±0.1, 1°.76N×127°.19E, mb5.7/76, MW5.7, MW5.8, Error ellipse: s-maj=4.5km s-min=3.3km az=71.0, Moment Tensor Solution. s34 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.52; $M_{\theta\theta}$3.20; $M_{\phi\phi}$-2.69; $M_{r\theta}$-4.18; $M_{\theta\phi}$0.17; $M_{\phi r}$-1.26; Best double couple: $M_0$5.30000×10^{17} NP1: ϕ_s=60.00000°, δ84.00000°, λ-118.00000°. NP2: ϕ_s=319.00000°, δ29.00000°, λ-12.00000°. Principal axes: T 6.0000, Plg33.0000°, Azm173.0000°; N -2.0200, Plg28.0000°, Azm62.0000°; P -3.9900, Plg43.0000°, Azm301.0000°;*
NEIC Felt [IV] on Pulau Ternate and [III] at Manado.
*TEH **18** 18:34:22.0, 1°.76N×127°.19E, h93km, ML5.8*
*ISCJB **18** 18:34:23.6±0.2, 1°.81N±0°.01×127°.21E±0°.02, h116km±2km, mb5.6/195, Error ellipse: s-maj=3.1km s-min=2.1km az=167.8*
*IDC **18** 18:34:23.4±1.0, 1°.73N×127°.16E, h100km±7km, mb5.1/30, mb1 5.2/33, mb1mx5.2/35, mbtmp5.1/33, MS4.8/14, Ms1 4.8/14, ms1mx4.6/41, Error ellipse: s-maj=12.4km s-min=6.8km az=70.0*
*AUST **18** 18:34:24.5±0.1, 1°.70N×127°.17E, h108km, Error ellipse: s-maj=0.6km s-min=0.4km az=26.0*
*DJA **18** 18:34:25.7±0.2, 2°.N±3°×12°.7E±°, h106km±2km, M5.8/107, mb6.0/107, mB6.1/105, MLv6.4/16, Mw(mB)5.8/105, Mwp5.8/12*
*BKK **18** 18:34:25.9±0.4, 2°.N±3°×12°.7E±°, h112km±3km, M5.7/54, mb5.6/54, mB6.0/50, MLv6.5/5, Mw(mB)5.6/50, Mwp5.7/6*
*GCMT **18** 18:34:26.8±0.1, 1°.76N×127°.12E, h117km, MW5.8, Moment Tensor Solution. s103, c229; s64, c78; Moment tensor: Scale 10^{17}Nm; M_{rr}-0.87±.07; $M_{\theta\theta}$3.80±.07; $M_{\phi\phi}$-2.93±.08; $M_{r\theta}$-5.28±.05; $M_{\theta\phi}$2.04±.07; $M_{\phi r}$-1.35±.05; Best double couple: $M_0$6.10000×10^{17} NP1: ϕ_s80.00000°, δ77.00000°, λ-84.00000°. NP2: ϕ_s234.00000°, δ14.00000°, λ-115.00000°. Principal axes: T 7.8000, Plg32.0000°, Azm165.0000°; N -3.4900, Plg6.0000°, Azm259.0000°; P -4.3100, Plg57.0000°, Azm358.0000°; Data Used: II IU IC G CN. Surface waves: sta=117, comp=244, per= 50.*
*NEIC **18** 18:34:31.7±0.0, 1°.37N×127°.29E, h93km, Moment Tensor Solution. s136 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.52; $M_{\theta\theta}$3.37; $M_{\phi\phi}$-2.86; $M_{r\theta}$-4.74; $M_{\theta\phi}$2.40; $M_{\phi r}$-1.95; Best double couple: $M_0$5.70000×10^{17} NP1: ϕ_s306.00000°, δ32.00000°, λ-8.00000°. NP2: ϕ_s44.00000°, δ85.00000°, λ-121.00000°. Principal axes: T 7.4700, Plg32.0000°, Azm160.0000°; N -3.4600, Plg31.0000°, Azm47.0000°; P -4.0100, Plg41.0000°, Azm284.0000°;*

ISC 18 18:34:22.9±0.2, 1°.81N±0°.02×127°.22E±0°.03, h100km±1km, h100km: pP-P, n1091, σ1.9±70/1178, mb5.7/195, 59C-68D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAMI	**Galela, Maluku**	**0.57**	**87**	P	Pn	18 34 43.5	+4.3
GAMI				S	**Sn**	**18 34 54.9**	**+3.5**
TNTI	**Ternate**	**1.04**	**172**	*e*Pn	**Pn**	**18 34 46.8**	**+3.1**
TNTI	**Ternate**	**1.04**	**172**	P	**Pn**	**18 34 46.9**	**+3.1**
TNTI				S	**Sn**	**18 35 04.7**	**+5.3**
SGSI	**Sangihe**	**2.52**	**318**	P	**Pn**	**18 35 03.5**	**+1.3**
SGSI				S	**Sn**	**18 35 33.9**	**+1.4**
GTOI	**Gorontalo**	**4.36**	**255**	P	**Pn**	**18 35 29.7**	**+2.7**
GSPH	**General Santos**	**4.82**	**332**	⇑*i*P	**Pn**	**18 35 33.7**	**+0.4**
GSPH				*i* S	**Sn**	**18 36 26.0**	**-2.0**
SWI	**Sorong**	**4.83**	**123**	P	Pn	18 35 37.0	+3.6
SWI	**Sorong**	**4.83**	**123**	P	Pn	18 35 37.2	+3.9
	baz=4.8,SNR=116						
NLAI	**Namlea**	**5.01**	**181**	P	**Pn**	**18 35 37.1**	**+1.3**
	3μm,0.7s,202μm55nm						
NLAI				S	**Sn**	**18 36 33.5**	**+1.0**
	3μm,0.7s,202μm55nm						
MATI	**Mati**	**5.20**	**349**	*e*P	**Pn**	**18 35 41.4**	**+3.1**
MATI				*e*S	Px	18 36 08.4	
LUWI	**Luwuk**	**5.27**	**238**	P	**Pn**	**18 35 39.8**	**+0.5**
	8μm,0.8s,342μm30μm110nm						
LUWI	**Luwuk**	**5.27**	**238**	P	**Pn**	**18 35 39.6**	**+0.3**
	baz=5.2,SNR=590						
MSAI	**Masohi**	**5.39**	**162**	P	Pn	18 35 45.7	+4.7
	526nm,1.2s,11μm17μm2.3nm						
MSAI				S	Sn	18 36 35.5	-6.4
	526nm,1.2s,11μm17μm2.3nm						
MRSI	**Marisa**	**5.44**	**256**	P	**Pn**	**18 35 43.7

GUIM **Jordan** 9.90 333 *eP* Pn 18 36 43.2 +1.0
BKSI **Bulukumba** 10.02 225 P Pn 18 36 46.0 +2.1
1µm,0.7s,27µm
BKSI S Px 18 37 00.1
27µm1µm,0.7s
KAPI **Kappang** 10.08 228⇓*e*Pn Pn 18 36 44.0 -0.7
KAPI *e*Sn Sn 18 38 11.3 -25
KAPI S Sn 18 38 29.5 -6.4
KAPI **Kappang** 10.08 228 P Pn 18 36 44.9 +0.2
KAPI **Kappang** 10.08 228 P Pn 18 36 44.3 -0.4
250nm,0.3s,baz=49,slow=4.7,SNR=441
KAPI S Sn 18 38 29.5 -6.4
225nm,0.3s,baz=103,slow=23,SNR=12
SAUI **Saumlaki** 10.54 157 P Pn 18 36 48.1 -2.9
2µm,1.0s,17µm37µm
RCP **Roxas** 10.66 336⇓*eP* Pn 18 36 54.3 +1.7
SDKM **Sandakan** 10.70 291 P Pn 18 36 54.8 +1.6
SDKM **Sandakan** 10.70 291 P Pn 18 36 55.2 +1.9
BKB **Balikpapan** 10.76 254 P Pn 18 36 55.0 +1.0
779nm,1.0s,8µm
MMRI **Maumere** 11.50 206 *e*Pn Pn 18 37 06.3 +2.3
MMRI **Maumere** 11.50 206 P Pn 18 37 07.6 +3.6
436nm,1.3s,10µm20µm
KDM **Kudat** 11.53 296 P Pn 18 37 08.8 +4.5
PPR **Puerto Princes** 11.57 314⇓*eP* Pn 18 37 08.2 +3.3
KKM **Kota Kinabalu** 11.76 291⇓*i*Pn Pn 18 37 08.5 +1.0
KKM *e*Sn Sn 18 39 11.0 -5.9
KKM **Kota Kinabalu** 11.76 291 P Pn 18 37 09.1 +1.6
KKM **Kota Kinabalu** 11.76 291 P Pn 18 37 09.6 +2.1
KKM **Kota Kinabalu** 11.76 291 P Pn 18 37 09.3 +1.8
541nm,0.8s,6µm24µm
KKM **Kota Kinabalu** 11.76 291 P Pn 18 37 08.9 +1.4
baz=12,SNR=32
SOEI **Soe** 11.85 194 P P 18 37 13.8 -3.8
2µm,1.1s,18µm
SOEI **Soe** 11.85 194 P P 18 37 13.5 -4.1
baz=12,SNR=68
PVCP **Virac** 12.10 346⇑*iP* Pn 18 37 14.2 +2.2
LBFI **Labuhan Bajo,** 12.56 215 P Pn 18 37 19.5 +1.4
767nm,0.7s,12µm
MTKI **Muara Teweh, K** 12.62 258 P Pn 18 37 19.9 +1.0
290nm,1.0s,6µm
GQP **Guinayangan** 12.91 339⇓*eP* Pn 18 37 24.7 +1.9
WSI **Waingapu** 13.32 211 P Pn 18 37 30.5 +2.4
2µm,0.8s,24µm
WSI **Waingapu** 13.32 211 P Pn 18 37 30.4 +2.4
baz=13,SNR=7.6
LQP **Lukban** 13.46 336⇑*eP* Pn 18 37 32.0 +2.0
TGY **Tagaytay City** 13.71 333 P Pn 18 37 34.7 +1.6
TGY **Tagaytay City** 13.71 333 P Pn 18 37 34.7 +1.6
22nm,0.3s,baz=181,slow=7.0,SNR=16
JAY **Jayapura** 14.15 108 P P 18 37 41.7 -1.6
305nm,0.8s
JAY **Jayapura** 14.15 108 P P 18 37 41.9 -1.4
baz=14,SNR=7.2
JAY S S 18 40 32.8 +3.8
baz=14,SNR=7.5
BTM **Bintulu** 14.19 276 P Pn 18 37 41.2 +1.8
PCPH **Palayan** 14.94 337⇓*eP* Pn 18 37 48.8 -0.2
SBUM **Sibu** 15.00 273 *e*Pn Pn 18 37 50.1 +0.4
SBUM **Sibu** 15.00 273 P P 18 37 51.5 -1.2
SBUM **Sibu** 15.00 273 P P 18 37 55.7 +2.9
SBUM **Sibu** 15.00 273 P P 18 37 51.8 -1.0
2µm,1.1s,12µm
MTN **Manton Dam** 15.06 165 P Pn 18 37 48.9 -1.6
baz=15,SNR=360
MTNI **Mataram** 15.13 227 P Pn 18 37 49.0 -2.3
1µm,0.6s,14µm
MTNI **Mataram** 15.13 227 P Pn 18 37 52.7 +1.4
759nm,0.9s,8µm
KDU **Kakadu** 15.31 160 P Pn 18 37 52.0 -1.7
baz=15,SNR=60
SRBI **Singaraja** 15.49 230 P P 18 37 59.0 +0.9
910nm,0.7s,9µm
STKI **Sintang** 15.83 264 P P 18 38 02.3 +0.3
626nm,1.4s,8µm
DNP **Denpasar** 15.87 229 P P 18 38 05.4 +3.1
3µm,0.9s,27µm
PALP **Palanan** 15.88 343⇑*iP* Pn 18 38 01.6 +0.8
KMMI **Kalianget** 15.88 236 P P 18 38 04.1 +1.6
3µm,1.0s,24µm
CAUP **Cauayan** 15.95 341 *eP* Pn 18 38 02.5 +0.8
IGBI **Denpasar** 16.00 229 P P 18 38 06.8 +2.9
2µm,0.8s,14µm
ABJI **Asem Bagus** 16.08 233 P P 18 38 07.6 +2.9
1µm,1.1s,12µm
NBBI **Negara** 16.12 231 P P 18 38 05.3 +0.1
2µm,0.8s,13µm
PBKI **Pangkalan Bun** 16.18 254 P P 18 38 05.7 -0.1
586nm,1.0s,4µm
BYJI **Banyuwangi** 16.23 232 P P 18 38 11.7 +5.3
2µm,1.2s,19µm
JAGI **Jajag, Banyuwa** 16.55 232 *eP* P 18 38 12.2 +2.2
650nm,0.8s
JAGI **Jajag, Banyuwa** 16.55 232 P P 18 38 12.3 +2.4
885nm,1.1s,10µm
JAGI **Jajag, Banyuwa** 16.55 232 P P 18 38 12.1 +2.2
baz=16,SNR=59
BLJI **Banyuglugur** 16.57 235 P P 18 38 13.9 +3.7
1µm,0.8s,12µm
MMPI **Merauke** 16.63 128 P P 18 38 13.0 +2.3
1µm,1.0s,28µm
MMPI **Merauke** 16.63 128 P P 18 38 13.6 +2.8
baz=17,SNR=13
KSM **Kuching** 16.91 269⇓*i*Pn Pn 18 38 13.2 -0.2
5µm,2.1s
KSM *e*ScP ScP 18 46 17.9 -3.0
KSM **Kuching** 16.91 269 P P 18 38 15.6 +1.8
KSM **Kuching** 16.91 269 P P 18 38 15.9 +2.0
908nm,1.5s,9µm
KSM **Kuching** 16.91 269 P P 18 38 14.2 +0.3
baz=17,SNR=77
KSM S S 18 41 27.9 +2.7
baz=17,SNR=4.0
ABRA **Dolores** 16.99 338 *eP* P 18 38 15.0 +0.3
GMJI **Gumukmas** 17.00 234 P P 18 38 17.7 +2.9
690nm,0.9s,8µm
APYP **Conner** 17.00 340 *eP* P 18 38 15.3 +0.4
GRJI **Gresik** 17.07 239 P P 18 38 19.0 +3.3
373nm,1.0s,4µm
SIPP **Brgy, Tapao** 17.34 338⇓*iP* Pn 18 38 22.8 +4.1
KNRA **Kununurra** 17.44 175 P P 18 38 19.4 -0.3
baz=17,SNR=726
KNRA S Sn 18 41 29.5 -4.6
baz=17,SNR=6.7
PIP **Pasuquin** 17.65 339⇓*iP* Pn 18 38 22.8 +0.4
KRKI **Karangkates** 17.74 236 P Pn 18 38 27.9 +4.3
2µm,1.0s,18µm
SJI **Sawahan** 18.09 238 P Pn 18 38 29.7 +1.8
956nm,1.0s,11µm
NGJI **Ngawi** 18.17 240 P Pn 18 38 32.0 +3.2
976nm,0.9s,8µm
PWJI **Pagerwojo** 18.21 237 P Pn 18 38 30.5 +1.2
816nm,1.0s,8µm
UGM **Wanagama** 19.25 240 *e*Pn Pn 18 38 42.6 +1.0
1µm,1.2s
UGM **Wanagama** 19.25 240 P Pn 18 38 42.4 +0.8
897nm,0.9s,10µm
UGM **Wanagama** 19.25 240 P Pn 18 38 42.2 +0.6
baz=19,SNR=52
UGM S Sn 18 42 23.4 +5.6
baz=19,SNR=7.1
YOGI **Yogyakarta** 19.40 240 P Pn 18 38 43.6 +0.3
3µm,0.8s,22µm
BJII **Banjamegara** 19.69 242 P Pn 18 38 47.7 +0.9
558nm,1.0s,7µm
FITZ **Fitzroy Crossi** 19.84 184⇑*eP* P 18 38 44.1 -1.9
FITZ *e*S S 18 42 18.7 -5.4
FITZ S S 18 42 18.9 -5.2
FITZ **Fitzroy Crossi** 19.84 184 P P 18 38 44.9 -1.0
16nm,0.3s,baz=17,slow=8.6,SNR=204
FITZ S S 18 42 18.9 -5.2
0.8nm,0.3s,baz=186,slow=16,SNR=4.4
FITZ LR LR 18 46 42.3
comp=Z,1µm,18.9s,baz=3.4,slow=37
FITZ **Fitzroy Crossi** 19.84 184 P P 18 38 44.9 -1.0
baz=20,SNR=334
FITZ S S 18 42 22.8 -1.3
baz=20,SNR=6.0
TGJI **Tegal** 20.01 244 P P 18 38 49.2 +1.3
541nm,0.9s,5µm
TPI **Tanjungpandan** 20.08 257 P Pn 18 38 50.1 -1.2
KPJI **Karang Pucung** 20.38 243 P P 18 38 53.0 +1.2
1µm,0.8s,8µm
CLJI **Cilicap** 20.48 242 P Pn 18 38 56.2 +0.3
303nm,1.0s,3µm

MANU **Manus Island** 20.50 101 P Pn 18 38 57.2 +0.9
baz=20,SNR=4.3
GUMO **Guam** 21.02 55 *eP* P 18 39 00.1 +1.3
163nm,0.8s
GUMO LR LR
comp=Z,2µm,19.0s
LEM **Lembang** 21.36 246 P P 18 39 04.4 +1.9
comp=Z,638nm,0.9s,comp=Z,4µm
LEM **Lembang** 21.36 246 P P 18 39 04.6 +2.1
baz=21,SNR=31
LEM S S 18 43 00.5 +6.1
baz=21,SNR=8.2
PPBI **Pangkal Pinang** 21.44 260 P P 18 39 03.5 +0.2
comp=Z,261nm,0.7s
CISI **Cisompet, Garu** 21.47 244 *eP* P 18 39 05.1 +1.5
comp=Z,372nm,0.7s
CISI *e*S Sn 18 43 05.9 -5.3
CISI **Cisompet, Garu** 21.47 244 P P 18 39 05.2 +1.5
comp=Z,549nm,0.9s,comp=Z,5µm
CISI **Cisompet, Garu** 21.47 244 P P 18 39 05.0 +1.5
baz=21,SNR=28
CISI S Sn 18 43 04.4 -6.7
baz=21,SNR=6.6
TWG **Pinlang** 21.73 345 *eP* P 18 39 04.3 -1.8
comp=Z,978nm,0.6s
TWG *e*S S 18 42 54.6 -6.2
CBJI **Citeko** 21.91 248 P P 18 39 11.7 +3.5
comp=Z,1µm,0.9s,comp=Z,11µm
DBJI **Dramaga** 22.05 248 P P 18 39 12.5 +2.7
comp=Z,491nm,1.1s,comp=Z,5µm
YULB **Yu-li** 22.21 345 *eP* P 18 39 09.5 -1.8
comp=Z,159nm,0.8s
YULB *e*S S 18 43 01.6 -8.0
YULB *e*ScP ScP 18 46 29.1 -3.8
COEN **Coen** 22.26 135 *eP* P 18 39 12.2 +0.3
comp=Z,2µm,1.1s
COEN *e*ScP ScP 18 46 31.6 -1.6
COEN **Coen** 22.26 135 P P 18 39 11.4 -0.5
baz=22,SNR=114
COEN S S 18 43 09.0 -1.4
baz=22,SNR=4.7
TPUB **Ta-pu** 22.30 344⇓*eP* P 18 39 11.0 -1.3
comp=Z,475nm,0.8s
TPUB *e*S S 18 43 05.3 -5.7
SKJI **Sukabumi** 22.40 247 P P 18 39 13.6 +0.2
comp=Z,726nm,1.0s,comp=Z,6µm
SSLB **Suanglung** 22.68 345 *eP* P 18 39 15.8 -0.4
comp=Z,230nm,0.8s
SSLB *e*S S 18 43 13.3 -3.9
WRAB **Tennant Creek** 22.71 162⇑*eP* P 18 39 15.3 -1.1
WRAB *e*S S 18 43 09.6 -8.0
WRAB pmax pmax
comp=Z,1µm,0.7s
WRAB **Tennant Creek** 22.71 162⇑*eP* P 18 39 15.3 -1.1
comp=Z,1µm,0.7s
WRAB *e*S S 18 43 09.6 -8.0
WRA **Warramunga Arr** 22.71 162 P P 18 39 15.2 -1.3
WRA S S 18 43 17.1 -0.7
WRA ScP ScP 18 46 32.5 -1.8
WRA ScS ScS 18 50 16.6 -3.5
WRA *e* 19 12 51.0
WRA **Warramunga Arr** 22.71 162 P P 18 39 15.2 -1.3
comp=Z,210nm,0.4s,baz=341,slow=11,SNR=1232
WRA S S 18 43 17.1 -0.7
comp=Z,28nm,0.8s,baz=345,slow=16,SNR=7.2
WRA ScP ScP 18 46 32.5 -1.8
comp=Z,20nm,0.8s,baz=338,slow=3.1,SNR=4.9
WRA ScS ScS 18 50 16.6 -3.5
comp=Z,6.3nm,0.8s,baz=272,slow=2.3,SNR=7.2
WRA P3KPbc 19 12 51.0
comp=Z,0.4nm,0.5s,baz=158,slow=4.0,SNR=6.0
PMG **Port Moresby** 22.77 120⇑*iP* P 18 39 16.4 -0.8
comp=Z,2µm,3.0s
PMG LR LR
comp=Z,6µm,21.0s
PMG **Port Moresby** 22.77 120 P P 18 39 17.9 +0.7
comp=Z,109nm,2.6s,comp=Z,5µm
PMG **Port Moresby** 22.77 120 P P 18 39 16.7 -0.4
comp=Z,40nm,0.7s,baz=333,slow=4.9,SNR=10
NACB **Ninganchiao** 22.89 347 *eP* P 18 39 17.9 -0.3
comp=Z,108nm,0.8s
NACB *e*S S 18 43 17.7 -2.7
PMBI **Palembang** 22.93 258 P P 18 39 21.0 +2.3
comp=Z,747nm,1.1s,comp=Z,5µm
PMBI **Palembang** 22.93 258 P P 18 39 26.0 +7.3
baz=23,SNR=3.6
BLSI **Bandar Lampung** 23.07 252 P P 18 39 23.1 +3.0
comp=Z,427nm,0.8s,comp=Z,4µm
KLI **Kotabumi** 23.30 253 P P 18 39 23.7 +1.5
comp=Z,530nm,0.7s,comp=Z,4µm
MYKOM **Kota Tinggi** 23.36 270 P P 18 39 22.9 +0.1
MYKOM **Kota Tinggi** 23.36 270 P P 18 39 23.5 +0.8
MYKOM **Kota Tinggi** 23.36 270 P P 18 39 23.4 +0.7
comp=Z,304nm,1.1s,comp=Z,4µm
YHNB **Yeheng** 23.42 347⇓*iP* P 18 39 22.9 -0.4
comp=Z,300nm,0.9s
YHNB *e*S S 18 43 29.7 +0.7
BTDF **Bukit Timah Da** 23.44 269 P P 18 39 24.2 +0.7
baz=23,SNR=51
BTDF P P 18 39 24.2 +0.7
baz=23,SNR=51
TATO **Taipei** 23.69 347 P P 18 39 27.1 +1.5
SNR=8.3
TATO **Taipei** 23.69 347⇓*iP* P 18 39 25.5 -0.1
comp=Z,268nm,1.0s
KASI **Kota Agung** 23.83 252 P P 18 39 28.8 +1.8
comp=Z,531nm,1.0s,comp=Z,4µm
MDSI **Maura Dua** 23.86 255 P P 18 39 28.3 +1.1
comp=Z,270nm,0.9s,comp=Z,3µm
KGM **Kluang** 23.89 271 P P 18 39 29.7 +2.1
MBWA **Marble Bar** 23.97 197 P P 18 39 29.1 +1.0
SNR=40
MBWA **Marble Bar** 23.97 197⇑*iP* P 18 39 26.9 -1.3
comp=Z,2µm,1.8s
MBWA LR LR
comp=Z,2µm,19.0s
HKC **Hong Kong Obse** 24.00 329⇓*iP* P 18 39 30.0 +1.6
HKC *i*S S 18 43 44.0 +5.7
LWLI **Liwa** 24.11 254 P P 18 39 30.6 +0.9
comp=Z,1µm,0.7s,comp=Z,9µm
QIZ **Qiongzhong** 24.14 316 P P 18 39 30.3 +0.6
QIZ S S 18 43 38.0 -2.7
QIZ pmax pmax
comp=Z,220nm,1.2s
QIZ pmax pmax
comp=Z,2µm,7.4s
QIZ LR LR
comp=N,8µm,14.7s
QIZ LR LR
comp=Z,4µm,18.1s
QIZ **Qiongzhong** 24.14 316⇓*eP* P 18 39 28.6 -1.1
comp=Z,329nm,1.2s
QIZ LR LR
comp=Z,3µm,20.0s
KTGM **Kuala Trenggan** 24.29 279 P P 18 39 31.6 +0.4
QZH **Quanzhou** 24.46 341⇓*iP* P 18 39 32.0 -0.6
QZH pP pP 18 39 58.3 +3.8
QZH S S 18 43 40.0 -5.7
QZH pmax pmax
comp=Z,190nm,0.7s
QZH pmax pmax
comp=Z,6µm,3.4s
QZH LR LR
comp=N,2µm,11.9s
QZH LR LR
comp=E,3µm,9.6s
QZH LR LR
comp=Z,8µm,24.0s
XMI **Christmas Isla** 24.64 240 P P 18 39 34.9 +0.5
baz=25,SNR=22
XMIS **Christmas Isla** 24.69 240 *eP* P 18 39 34.5 -0.3
comp=Z,3µm,0.8s
XMIS **Christmas Isla** 24.69 240 P P 18 39 35.0 +0.2
baz=25,SNR=34
JOW **Kunigami** 24.91 2⇓*iP* P 18 39 37.8 +1.2
comp=Z,799nm,1.3s
MNAI **Manna** 25.01 256 *eP* P 18 39 41.9 +4.2
comp=Z,1µm,1.2s
MNAI **Manna** 25.01 256 P P 18 39 39.2 +1.4
baz=25,SNR=19
GZH **Guangzhou** 25.07 329 P P 18 39 41.9 +3.7
GZH S S 18 44 07.1 +12
GZH pmax pmax
comp=Z,3µm,6.3s
KSI **Kapahiang** 25.20 258 P P 18 39 42.5 +2.9
UBPT **Khong Chiam** 25.29 303 P P 18 39 41.5 +1.3
comp=Z,254nm,1.4s,comp=Z,6µm

UBPT **Khong Chiam** 25.29 303 P P 18 39 41.1 +0.9
comp=Z,254nm,1.4s,comp=Z,6µm
MASI **Maura Aman, Be** 25.45 259 P P 18 39 48.3 +6.5
comp=Z,2µm,1.0s,comp=Z,14µm
FRIM **Kepong** 25.61 274 P P 18 39 44.9 +1.7
EGSI **Enggano, Bengk** 25.91 254 P P 18 39 46.6 +0.7
comp=Z,409nm,0.7s
MTSU **Mount Surprise** 26.00 140 P P 18 39 47.2 +0.5
baz=26,SNR=178
MTSU S S 18 44 21.1 +11
baz=26,SNR=5.1
AS31 **Alice Springs** 26.14 166 *eP* P 18 39 46.9 -1.0
AS31 *e*S S 18 44 13.3 +0.9
ASAR **Alice Springs** 26.14 166 P P 18 39 47.0 -0.9
ASAR S S 18 44 22.9 +10
ASAR ScP ScP 18 46 42.0 -1.7
ASAR ScS ScS 18 50 31.5 -2.4
ASAR *e* 19 12 31.4
ASAR **Alice Springs** 26.14 166 P P 18 39 47.0 -0.9
comp=Z,60nm,0.6s,baz=349,slow=7.3,SNR=750
ASAR S S 18 44 22.9 +10
comp=Z,263nm,1.2s,baz=342,slow=18,SNR=21
ASAR ScP ScP 18 46 42.0 -1.7
comp=Z,16nm,0.8s,baz=347,slow=2.3,SNR=6.7
ASAR ScS ScS 18 50 31.5 -2.4
comp=Z,1.5nm,0.7s,baz=327,slow=5.8,SNR=4.4
ASAR P3KPbc 19 12 31.4
comp=Z,0.5nm,0.8s,baz=150,slow=3.1,SNR=4.7
AS01 **Alice Springs** 26.15 166 *eP* P 18 39 46.4 -1.5
IPM **Ipoh** 26.29 276⇓*iP* P 18 39 48.9 -0.5
comp=Z,171nm,0.9s
IPM *e*ScP ScP 18 46 43.4 -0.9
IPM **Ipoh** 26.29 276 P P 18 39 49.4 +0.1
IPM **Ipoh** 26.29 276 P P 18 39 50.2 +0.9
IPM **Ipoh** 26.29 276 P P 18 39 49.4 +0.1
comp=Z,201nm,1.1s,comp=Z,2µm
KULM **Kulim** 26.74 278 *eP* P 18 39 52.6 -0.7
comp=Z,184nm,1.1s
KULM LR LR
comp=Z,2µm,19.0s
KULM **Kulim** 26.74 278 P P 18 39 53.0 -0.3
KULM **Kulim** 26.74 278 P P 18 39 54.3 +1.0
KULM **Kulim** 26.74 278 P P 18 39 53.7 +0.3
comp=Z,112nm,1.0s,comp=Z,2µm
PDSI **Padang** 26.89 264 P P 18 39 55.0 +0.2
comp=Z,338nm,0.7s,comp=Z,3µm
PPI **Padang Panjang** 26.91 265 P P 18 39 57.2 +2.3
PPI **Padang Panjang** 26.91 265 P P 18 39 57.9 +3.0
baz=27,SNR=4.8
CHBT **CHBT** 26.94 295 P P 18 39 55.7 +0.6
comp=Z,184nm,1.0s,comp=Z,3µm
CHBT **CHBT** 26.94 295 P P 18 39 55.3 +0.2
comp=Z,184nm,1.0s,comp=Z,3µm
SKLT **Songkhla** 27.04 282 P P 18 39 56.5 +0.5
comp=Z,104nm,1.0s,comp=Z,1µm
SKLT **Songkhla** 27.04 282 P P 18 39 57.2 +1.2
comp=Z,108nm,1.1s,comp=Z,1µm
SKNT **Sakolnakorn** 27.38 305 P P 18 39 59.7 +0.7
comp=Z,138nm,1.3s,comp=Z,3µm
PSI **Prapat** 28.29 273 P P 18 40 06.9 -0.4
PSI ScP ScP 18 46 48.7 -1.9
PSI PKKP PKKPdf 19 05 52.9 -2.3
PSI **Prapat** 28.29 273 P P 18 40 06.9 -0.4
comp=Z,92nm,0.7s,baz=94,slow=4.9,SNR=47
PSI ScP ScP 18 46 48.7 -1.9
comp=Z,3.1nm,0.4s,baz=190,slow=7.2,SNR=5.7
PSI PKKP PKKPdf 19 05 52.9 -2.3
comp=Z,43nm,1.0s,baz=172,slow=2.7,SNR=6.4
PSI **Prapat** 28.29 273 P P 18 40 06.8 -0.5
baz=28,SNR=40
CHAI **Chaiyaphum** 28.54 301 P P 18 40 09.1 -0.3
comp=Z,27nm,0.8s,comp=Z,330nm
KRAB **Krabi** 28.62 284 P P 18 40 10.6 +0.5
comp=Z,93nm,0.7s,comp=Z,1µm
CTA **Charters Tower** 28.67 140 P P 18 40 12.2 +1.7
CTA ScP ScP 18 46 51.5 +0.1
CTA **Charters Tower** 28.67 140 P P 18 40 12.2 +1.7
comp=Z,23nm,0.6s,baz=321,slow=12,SNR=20
CTA ScP ScP 18 46 51.5 +0.1
comp=Z,47nm,0.8s,baz=320,slow=4.8,SNR=9.2
CTAO **Charters Tower** 28.67 140⇑*iP* P 18 40 11.7 +1.2
CTAO pmax pmax
comp=Z,231nm,1.2s
CTAO MLR MLR
comp=Z,3µm,19.0s
CTAO **Charters Tower** 28.67 140⇑*iP* P 18 40 11.7 +1.2
comp=Z,232nm,1.2s
CTAO *e*ScP ScP 18 46 50.5 -1.0
CTAO LR LR
comp=Z,3µm,19.0s
CBIJ **Chichi jima** 28.96 28 LR LR 18 50 43.5
comp=Z,3µm,21.1s,baz=166,slow=34
PKDT **Phuket** 29.39 283 P P 18 40 18.1 +1.1
comp=Z,108nm,1.3s,comp=Z,1µm
PHET **Kaeng Krachan** 29.46 293 P P 18 40 18.2 +0.6
comp=Z,216nm,0.9s
KCSI **Kotacane, Aceh** 29.46 274 P P 18 40 17.0 -0.7
comp=Z,86nm,0.6s,comp=Z,1µm
MEEK **Meekatharra** 29.47 196 P P 18 40 16.9 -0.7
baz=30,SNR=310
GSI **Gunungsitoli** 29.64 269 P P 18 40 18.7 -0.5
comp=Z,325nm,0.8s
SSE **Sheshan** 29.69 350 P P 18 40 19.8 +0.5
SSE pP pP 18 40 40.8 -1.0
SSE sP sP 18 40 52.3 -1.1
SSE S S 18 45 10.6 +2.7
SSE sS sS 18 45 46.3 -0.6
SSE pmax pmax
comp=Z,28nm,0.7s
SSE pmax pmax
comp=Z,1µm,5.5s
SSE LR LR
comp=N,2µm,21.3s
SSE LR LR
comp=E,1µm,21.3s
SSE LR LR
comp=Z,2µm,32.9s
PBKT **Sadao Pong** 29.71 301 P P 18 40 20.0 +0.3
comp=Z,63nm,0.7s,comp=Z,2µm
PBKT **Sadao Pong** 29.71 301 P P 18 40 20.4 +0.7
comp=Z,62nm,1.2s,comp=Z,2µm
LOEI **Loei** 29.89 303 P P 18 40 18.8 -2.6
comp=Z,105nm,1.4s,comp=Z,3µm
LHMI **Lhok Sumawe** 30.40 277 P P 18 40 27.1 +1.2
baz=30,SNR=4.4
WHN **Wuhan** 31.08 338 ⇑P P 18 40 33.5 +1.9
WHN S S 18 45 33.3 +3.5
WHN pmax pmax
comp=Z,3µm,3.7s
WHN LR LR
comp=N,4µm,6.8s
WHN LR LR
comp=E,4µm,5.7s
WHN LR LR
comp=Z,10µm,29.5s
SUKH **Sukhothai** 31.26 302 P P 18 40 34.2 +0.8
comp=Z,20nm,0.6s,comp=Z,264nm
JNU **Nakatsue** 31.34 6 *eP* P 18 40 34.6 +0.6
comp=Z,153nm,0.9s
JNU *e* 18 40 51.6
PATS **Pohnpei** 31.40 80 P pP 18 40 55.4 -1.8
baz=32,SNR=3.8
GYA **Guiyang** 31.48 323⇓*iP* P 18 40 36.5 +1.1
GYA pP pP 18 40 58.4 +0.5
GYA sP sP 18 41 10.3 +0.8
GYA PP PnPn 18 41 43.8 +1.2
GYA PcP PcP 18 43 27.6 +1.2
GYA S S 18 45 36.8 +0.4
GYA sS sS 18 46 14.1 -1.4
GYA ScP ScP 18 47 00.5 -0.2
GYA PcS PcS 18 47 11.8 +0.7
GYA ScS ScS 18 50 56.9 -1.9
GYA pmax pmax
comp=Z,80nm,1.0s
GYA pmax pmax
comp=Z,730nm,7.1s
GYA LR LR
comp=N,2µm,16.2s
GYA LR LR
comp=E,3µm,13.4s
GYA LR LR
comp=Z,4µm,15.8s
PAYA **Payao** 31.95 305 P P 18 40 40.9 +1.4
comp=Z,22nm,1.2s,comp=Z,290nm
CM01 **Chiang Mai Arr** 32.26 303 *eP* P 18 40 42.4 +0.2
CM31 **Chiang Mai Arr** 32.29 303⇓*eP* P 18 40 42.0 -0.5

comp=Z,25nm,0.8s
CM31 eScP ScP 18 47 03.7 +0.3
CMAR Chiang Mai Arr 32.29 303 P P 18 40 43.1 +0.6
CMAR ScP ScP 18 47 03.9 +0.5
CMAR Chiang Mai Arr 32.29 303 P P 18 40 43.1 +0.6
comp=Z,12nm,0.9s,baz=128,slow=6.7,SNR=52
CMAR ScP ScP 18 47 03.9 +0.5
baz=113,slow=2.1
FORT Forrest 32.41 179⇑ eP P 18 40 42.1 -1.2
comp=Z,341nm,0.7s
FORT eScP ScP 18 47 02.2 -1.4
FORT Forrest 32.41 179 P P 18 40 42.7 -0.6
baz=32,SNR=164
CHTO Chiang Mai 32.45 303 eP P 18 40 44.4 +0.5
CHTO pmax pmax
comp=Z,171nm,1.5s
CHTO MLR MLR
comp=Z,1μm,20.0s
CHTO Chiang Mai 32.45 303 P P 18 40 45.0 +1.1
SNR=46
CHTO Chiang Mai 32.45 303 eP P 18 40 44.4 +0.5
comp=Z,171nm,1.5s
CHTO eScP ScP 18 47 03.4 -0.6
CHTO LR LR
comp=Z,1μm,20.0s
CHTO Chiang Mai 32.45 303 P P 18 40 44.6 +0.7
comp=Z,96nm,2.0s,comp=Z,2μm
CHTO Chiang Mai 32.45 303 P P 18 40 44.6 +0.7
comp=Z,99nm,1.6s,comp=Z,2μm
MORW Morawa 32.51 198 P P 18 40 43.8 -0.5
baz=33,SNR=224
CMAI Chiengmai2 32.91 305 P P 18 40 49.3 +1.3
comp=Z,82nm,1.1s
ENH Enshi 32.93 331 eP P 18 40 48.6 +0.6
comp=Z,98nm,0.7s
KMI Kunming 33.09 317 P P 18 40 51.5 +1.9
KMI PP PnPn 18 42 04.0 +1.0
KMI S S 18 46 01.5 -0.2
KMI pmax pmax
comp=Z,97nm,1.7s
KMI pmax pmax
comp=Z,960nm,7.1s
KMI LR LR
comp=N,2μm,12.1s
KMI LR LR
comp=E,2μm,12.7s
KMI LR LR
comp=Z,2μm,16.3s
COCO West Island 33.23 244 eP P 18 40 50.9 +0.2
COCO pmax pmax
comp=Z,80nm,0.6s
COCO MLR MLR
comp=Z,2μm,21.0s
COCO West Island 33.23 244 eP P 18 40 50.9 +0.2
comp=Z,80nm,0.6s
COCO LR LR
comp=Z,2μm,21.0s
CMBY CAMPBELL BAY 33.58 280 eP P 18 40 50.2 -3.6
BLDU Ballidu 33.76 196 P P 18 40 54.5 -0.6
baz=34,SNR=55
KLBR Kellerberrin 34.41 194 P P 18 41 00.3 -0.4
baz=34,SNR=63
RMQ Roma 34.98 145 P P 18 41 05.7 -0.1
baz=35,SNR=35
BBOO Buckleboo 35.43 167 eP P 18 41 08.8 -0.8
comp=Z,1μm,1.0s
BBOO eScP ScP 18 47 12.9 -1.3
BBOO Buckleboo 35.43 167 P P 18 41 08.7 -0.8
baz=36,SNR=161
KSAR Wonju Array Be 35.47 1 P P 18 41 11.1 +1.3
KSAR ScP ScP 18 47 14.6 +0.3
KSRS Korea Array 35.48 1 P P 18 41 11.1 +1.2
comp=Z,75nm,0.8s,baz=176,slow=9.5,SNR=131
KSRS ScP ScP 18 47 14.6 +0.3
comp=Z,2.6nm,0.9s,baz=187,slow=3.9,SNR=4.5
TIA Tai'an 35.49 346⇓ P P 18 41 11.1 +1.2
TIA S S 18 46 33.4 -4.6
TIA pmax pmax
comp=Z,100nm,0.9s
TIA pmax pmax
comp=Z,2μm,3.9s
TIA LR LR
comp=N,2μm,17.2s
TIA LR LR
comp=E,3μm,12.7s
TIA LR LR
comp=Z,2μm,13.7s
KS01 Wonju Array Si 35.50 1 eP P 18 41 10.6 +0.6
INCN Inchon 35.51 359⇓ eP P 18 41 11.1 +1.0
comp=Z,239nm,1.6s
INCN LR LR
comp=Z,3μm,22.0s
EIDS Eidsvold 35.55 141⇑ eP P 18 41 09.2 -1.5
comp=Z,314nm,1.3s
EIDS eS S 18 46 37.1 -2.1
EIDS Eidsvold 35.55 141 P P 18 41 10.6 0.0
baz=36,SNR=55
DGPR DIGLIPUR 35.76 290 eP P 18 41 11.5 -1.0
NWAO Narrogin (SRO) 35.81 194 P P 18 41 13.9 +1.2
SNR=7.4
NWAO Narrogin (SRO) 35.81 194 eP P 18 41 11.7 -1.0
comp=Z,146nm,0.6s
NWAO LR LR
comp=Z,2μm,21.0s
NWAO Narrogin (SRO) 35.81 194 P P 18 41 12.6 -0.2
comp=Z,164nm,0.6s,baz=17,slow=7.3,SNR=134
MAJO Matsushiro 36.03 15 eP P 18 41 13.6 -1.0
MAJO pmax pmax
comp=Z,293nm,1.4s
MAJO MLR MLR
comp=Z,2μm,20.0s
MAJO Matsushiro 36.03 15 eP P 18 41 13.6 -1.0
comp=Z,292nm,1.4s
MAJO eScP ScP 18 47 14.6 -1.8
MAJO LR LR
comp=Z,2μm,20.0s
MAT Matsushiro 36.03 15 P P 18 41 13.7 -0.9
MAT S S 18 46 47.0 +0.7
MJAR Matsushiro Arr 36.03 15 P P 18 41 14.2 -0.3
MJAR ScP ScP 18 47 15.5 -0.8
MJAR Matsushiro Arr 36.03 15 P P 18 41 14.2 -0.3
comp=Z,40nm,0.5s,baz=191,slow=9.0,SNR=114
MJAR ScP ScP 18 47 15.5 -0.8
comp=Z,9.2nm,0.9s,baz=188,slow=4.7,SNR=7.7
MJAR LR LR 18 54 10.4
comp=Z,2μm,21.1s,baz=180,slow=33
STKA Stephens Creek 36.17 159⇑ eP P 18 41 15.1 -0.7
comp=Z,52nm,0.8s
STKA eS S 18 46 48.4 -0.1
STKA eScP ScP 18 47 16.0 -0.9
STKA ScP ScP 18 47 16.5 -0.5
STKA Stephens Creek 36.17 159 P P 18 41 15.6 -0.2
comp=Z,232nm,0.6s,baz=332,slow=9.0,SNR=296
STKA ScP ScP 18 47 16.5 -0.4
comp=Z,28nm,0.9s,baz=328,slow=7.0,SNR=3.8
STKA Stephens Creek 36.17 159 P P 18 41 15.6 -0.2
baz=36,SNR=772
XAN Xi'an 36.35 334 P P 18 41 18.3 +1.0
XAN pP pP 18 41 40.8 +0.6
XAN sP sP 18 41 52.3 +0.6
XAN PP PP 18 42 41.5 -0.5
XAN S S 18 46 46.8 -4.4
XAN pmax pmax
comp=Z,36nm,1.5s
XAN pmax pmax
comp=Z,270nm,6.1s
XAN LR LR
comp=N,770nm,18.2s
XAN LR LR
comp=E,390nm,16.8s
XAN LR LR
comp=Z,510nm,16.1s
CD2 Chengdu 36.48 325 P P 18 41 19.6 +1.0
CD2 pP pP 18 41 41.4 0.0
CD2 PP PnPn 18 42 47.0 +2.6
CD2 PcP PcP 18 43 41.3 +0.8
CD2 S S 18 46 50.3 -3.1
CD2 sS sS 18 47 32.8 -0.1
CD2 SS SnSn 18 49 26.6 -6.1
CD2 pmax pmax
comp=Z,110nm,0.5s
CD2 pmax pmax
comp=Z,1μm,7.5s
CD2 LR LR
comp=N,3μm,10.7s
CD2 LR LR
comp=Z,2μm,14.9s
DL2 Dalian 37.28 353 P P 18 41 26.5 +1.4
DL2 S S 18 47 10.5 +5.4
DL2 pmax pmax
comp=Z,73nm,0.7s
DL2 pmax pmax
comp=Z,820nm,6.1s
DL2 LR LR
comp=N,2μm,14.5s
DL2 LR LR
comp=Z,2μm,15.3s
RKGY Rocky Gully 37.48 194 P P 18 41 27.7 +0.8
baz=38,SNR=47
CMSA Cobar Meteorol 37.52 154 P P 18 41 27.2 -0.1
baz=38,SNR=79
TIY Taiyuan 38.23 341 eP P 18 41 35.3 +2.0
TIY sP sP 18 42 08.6 +0.9
TIY PP PnPn 18 43 06.1 +0.7
TIY S S 18 47 21.9 +2.1
TIY SS SS 18 50 13.0 +0.9
TIY pmax pmax
comp=Z,140nm,0.6s
TIY pmax pmax
comp=Z,1μm,3.5s
TIY LR LR
comp=N,340nm,5.9s
TIY LR LR
comp=E,1μm,7.7s
TIY LR LR
comp=Z,2μm,26.5s
BJT Baijiatuau 39.34 347⇓ iP P 18 41 43.1 +0.8
comp=Z,266nm,0.8s
BJT LR LR
comp=Z,1μm,21.0s
BJI Beijing 39.36 347 P P 18 41 44.1 +1.6
BJI PP PnPn 18 43 16.9 -1.7
BJI S S 18 47 38.3 +1.8
BJI SS SnSn 18 50 38.4 -3.2
BJI pmax pmax
comp=Z,190nm,1.0s
BJI pmax pmax
comp=Z,2μm,4.4s
BJI LR LR
comp=N,1μm,14.1s
BJI LR LR
comp=E,1μm,16.7s
BJI LR LR
comp=Z,2μm,23.9s
ARMA Armidale 39.60 146⇑ eP P 18 41 45.2 +0.4
comp=Z,248nm,0.8s
ARMA Armidale 39.60 146 P P 18 41 46.0 +1.1
baz=40,SNR=183
SNY Shenyang 39.98 356⇓ P P 18 41 49.0 +1.4
SNY pmax pmax
comp=Z,72nm,0.8s
SNY pmax pmax
comp=Z,1μm,11.4s
SNY LR LR
comp=N,4μm,9.0s
SNY LR LR
comp=E,1μm,8.6s
SNY LR LR
comp=Z,4μm,20.6s
LZH Lanzhou 40.40 330 P P 18 41 53.8 +2.3
LZH pP pP 18 42 15.3 +0.7
LZH sP sP 18 42 26.8 +0.7
LZH PcP PcP 18 43 55.6 +2.8
LZH ScP ScP 18 47 33.4 +0.2
LZH S S 18 47 54.0 +1.4
LZH sS sS 18 48 32.0 -0.5
LZH SS SS 18 50 54.1 -1.5
LZH pmax pmax
comp=Z,380nm,1.4s
LZH pmax pmax
comp=Z,1μm,5.6s
LZH LR LR
comp=N,950nm,10.9s
LZH LR LR
comp=E,830nm,13.2s
LZH LR LR
comp=Z,2μm,15.2s
ARPS Mount Arapiles 40.72 162 P P 18 41 54.0 +0.2
baz=41,SNR=58
YNG Young 41.06 153 P P 18 41 57.4 +0.6
baz=41,SNR=72
VLA Vladivostok 41.35 5 *d* iP P 18 42 00.5 +1.7
VLA *i* 18 43 37.5
VLA *e* 18 43 54.8
VLA *e*S S 18 48 09.7 +3.8
VLA pmax pmax
comp=Z,135nm,1.1s
HHC Hu-ho-hao-te 41.37 342 eP P 18 42 00.1 +0.9
HHC sP sP 18 42 34.8 +0.9
HHC PP PnPn 18 43 40.3 -1.9
HHC ScP ScP 18 47 36.3 -0.5
HHC PcS PcS 18 47 46.6 -0.5
HHC S S 18 48 08.8 +2.2
HHC SS SS 18 51 10.4 -4.0
HHC ScS ScS 18 51 51.8 -1.3
HHC pmax pmax
comp=Z,190nm,1.0s
HHC pmax pmax
comp=Z,4μm,5.7s
HHC LR LR
comp=N,3μm,15.5s
HHC LR LR
comp=E,2μm,14.8s
HHC LR LR
comp=Z,4μm,14.7s
SHL Shillong 41.42 308 eP P 18 42 01.5 +1.5
SHL *e*x x 18 48 05.5
MGCD Mangrove Creek 41.49 149 P P 18 42 01.5 +1.3
baz=42,SNR=20
BTO Baotou 41.65 340 eP P 18 42 01.8 +0.3
CN2 Changchun 41.85 358 eP P 18 42 04.0 +1.1
CN2 *e*pP pP 18 42 26.6 +0.4
CN2 SS SS 18 51 20.3 -3.2
CN2 pmax pmax
comp=Z,30nm,1.2s
CN2 pmax pmax
comp=Z,860nm,7.0s
CN2 LR LR
comp=N,950nm,14.0s
CN2 LR LR
comp=E,580nm,14.0s
CN2 LR LR
comp=Z,1μm,14.0s
CAN Canberra 42.18 153⇑ iP P 18 42 06.7 +0.8
CAN *e**PP pP 18 42 27.5 -1.7
CAN *e**PP PP 18 43 44.8 -0.8
CAN pmax pmax
comp=Z,144nm,0.8s
CAN MLR MLR
comp=Z,3μm,19.0s
CAN Canberra 42.18 153⇑ iP P 18 42 06.7 +0.8
comp=Z,144nm,0.8s
CAN *e*pP pP 18 42 27.5 -1.7
CAN *e*pP PP 18 43 44.8 -0.8
CAN *e*ScP ScP 18 47 40.5 +0.4
CAN LR LR
comp=Z,3μm,19.0s
CNB Canberra Magne 42.34 153 P P 18 42 07.9 +0.6
baz=42,SNR=50
USRK Ussuriysk Arra 42.43 5 P P 18 42 08.7 +1.1
comp=Z,102nm,0.9s,baz=190,slow=6.9,SNR=95
ERM Erimo 42.52 18 *ce*P P 18 42 10.5 +2.1
ERM pmax pmax
comp=Z,105nm,1.7s
ERM Erimo 42.52 18⇑ iP P 18 42 09.9 +1.5
comp=Z,87nm,1.0s
ERM LR LR
comp=Z,1μm,20.0s
TOO Toolangi 42.68 158 P P 18 42 11.0 +1.2
baz=43,SNR=47
MDJ Mudanjiang 42.68 3 P P 18 42 11.5 +1.8
MDJ pP pP 18 42 33.0 -0.1
MDJ sP sP 18 42 43.3 -1.2
MDJ S S 18 48 30.3 +4.7
MDJ SS SS 18 51 43.0 +3.1
MDJ pmax pmax
comp=Z,120nm,0.9s
MDJ pmax pmax
comp=Z,700nm,5.3s
MDJ LR LR
comp=N,1μm,24.0s
MDJ LR LR
comp=E,670nm,24.0s
MDJ LR LR
comp=Z,1μm,25.9s
MDJ Mudanjiang 42.68 3⇓ iP P 18 42 10.6 +0.9
comp=Z,99nm,0.8s
MDJ LR LR
comp=Z,3μm,22.0s
MILA Mila 43.70 154 P P 18 42 19.7 +1.6
baz=44,SNR=24
LSA Lhasa 44.08 313 P P 18 42 23.8 +2.0
LSA S S 18 48 43.5 -4.0
LSA LR LR
comp=N,2μm,31.2s
LSA LR LR
comp=E,2μm,27.7s
LSA LR LR
comp=Z,3μm,41.6s
LSA Lhasa 44.08 313⇓ iP P 18 42 23.4 +1.6
LSA *e*S S 18 48 45.1 -2.4
LSA pmax pmax
comp=Z,72nm,0.6s
LSA MLR MLR
comp=Z,2μm,22.0s
LSA Lhasa 44.08 313⇓ iP P 18 42 23.4 +1.6
comp=Z,72nm,0.6s
LSA *e*ScP ScP 18 47 46.9 -1.6
LSA *e*S S 18 48 45.1 -2.4
LSA LR LR
comp=Z,2μm,22.0s
ASAJ Asahikawa 44.29 16⇓ iP P 18 42 24.2 +1.6
comp=Z,134nm,1.1s
ASAJ Asahikawa 44.29 16 LR LR 19 01 35.4
comp=Z,1μm,20.8s,baz=93,slow=37
GTA Gaotai 44.99 330 P P 18 42 29.9 +1.4
GTA pP pP 18 42 52.8 +0.8
GTA sP sP 18 43 04.1 +0.7
GTA PcP PcP 18 44 09.3 +1.3
GTA PP PP 18 44 18.5 +2.9
GTA ScP ScP 18 47 51.8 +0.2
GTA S S 18 49 02.6 +2.9
GTA sS sS 18 49 42.3 +2.1
GTA ScS ScS 18 52 14.1 -1.8
GTA SS SS 18 52 17.1 -6.9
GTA pmax pmax
comp=Z,87nm,1.6s
GTA pmax pmax
comp=Z,2μm,8.3s
GTA LR LR
comp=N,1μm,17.1s
GTA LR LR
comp=E,2μm,17.3s
GTA LR LR
comp=Z,2μm,18.3s
DZM Mont Dzumac 45.05 124 P P 18 42 30.2 +1.1
DZM Mont Dzumac 45.05 124 P P 18 42 30.2 +1.1
comp=Z,34nm,0.9s,baz=306,slow=4.6,SNR=44
YUK Yuzh-Kuril'sk 45.19 19 *i* P P 18 42 24.1 -5.7
YUK *i* PPP PPP 18 44 17.4
YUK *i* S S 18 48 58.1 -4.0
YUK *i* SS ScS 18 52 16.8 +0.2
YUK *i* SSS SSS 18 53 21.9
YUK pmax pmax
comp=E,414nm,1.3s
YUK pmax pmax
comp=N,531nm,1.3s
YUK pmax pmax
comp=Z,862nm,1.3s
TAPN Taplejung 45.55 308 eP P 18 42 34.1 +0.8
comp=Z,89nm,0.5s
BOK Bokaro 45.57 302 eP P 18 42 34.4 +1.2
ODAN Odare 45.59 307 eP P 18 42 34.4 +0.8
comp=Z,193nm,0.7s
VIS Vishakhapatnam 45.89 293 eP P 18 42 37.0 +1.3
VIS AMB AMB 18 42 37.8
comp=Z,88nm,0.4s
RAMN Ramite 46.26 306 eP P 18 42 39.9 +1.0
comp=Z,356nm,1.1s
PALK Pallekele 46.66 278 eP P 18 42 41.6 -0.3
comp=Z,45nm,0.8s
JIRN Jiri 46.90 307 eP P 18 42 44.8 +0.8
comp=Z,148nm,0.6s
YSS Yuzh-Sakhalins 46.96 15 *c* iP P 18 42 43.0 -0.6
YSS *i* *PP pP 18 43 06.0 -1.3
YSS *e**SP sP 18 43 14.0 -4.6
YSS *e* 18 44 34.0
YSS *e*PPP PPP 18 45 20.0
YSS *e*S S 18 49 29.0 +1.6
YSS *e*SS ScS 18 52 20.0 -8.0
YSS pmax pmax
comp=Z,1μm,3.0s
YSS pmax pmax
comp=Z,140nm,1.2s
YSS MLR MLR
comp=Z,500nm,17.0s
YSS MLR MLR
comp=N,700nm,16.0s
YSS MLR MLR
comp=E,400nm,18.0s
HABR Khabarovsk 46.98 7 *i* P P 18 42 44.6 +0.9
HABR *e**PP pP 18 43 04.2 -3.2
HABR *e**SP sP 18 43 14.7 -4.0
HABR *e* 18 44 13.6
HABR *e* 18 44 34.2
HABR *e*PPP PPP 18 45 20.7
HABR *e*S S 18 49 28.7 +1.2
HABR *e**SS sS 18 50 05.7 -2.6
HABR *e* 18 52 27.9
HABR *e*SSS SSS 18 54 04.8
HABR pmax pmax
comp=E,181nm,3.1s
HABR pmax pmax
comp=Z,347nm,1.7s
HABR pmax pmax
comp=N,121nm,1.7s
HABR MLR MLR
comp=E,898nm,17.0s
HABR MLR MLR
comp=N,622nm,19.0s
HABR MLR MLR
comp=Z,794nm,19.0s
GUN Gumba 47.26 307 eP P 18 42 46.9 +0.2
comp=Z,155nm,0.6s
KLR Kul'dur 47.41 4 eP P 18 42 43.7 -3.4
KLR pmax pmax
comp=N,34nm,1.2s
KLR pmax pmax
comp=Z,110nm,1.2s
KLR pmax pmax
comp=Z,1μm,7.5s
PKI Pulchoki 47.49 307 eP P 18 42 48.6 +0.1
PKIN Phulchoki 47.50 307 eP P 18 42 48.8 +0.3
MOO Moorlands 47.60 160 P P 18 42 50.4 +1.7
baz=48,SNR=4.0
KKN Kakani 47.68 307 eP P 18 42 50.3 +0.4
comp=Z,69nm,0.6s
HIA Hailar 47.72 353⇓ iP P 18 42 50.1 +0.6
comp=Z,151nm,1.3s
HIA LR LR
comp=Z,2μm,20.0s
DMN Daman 47.75 306 eP P 18 42 50.9 +0.5
TAU Tasmania Unive 48.06 160 P P 18 42 52.2 0.0
TAU MLR MLR
comp=Z,3μm,19.0s
TAU Tasmania Unive 48.06 160 P P 18 42 52.2 0.0
TAU LR LR
comp=Z,3μm,19.0s
KOLN Koldanda 49.03 306 eP P 18 43 00.8 +0.6
comp=Z,194nm,0.6s
ULN Ulaanbaatar 49.09 342 P P 18 43 02.0 +1.7
SNR=46
ULN Ulaanbaatar 49.09 342⇓ iP P 18 43 01.1 +0.9
comp=Z,96nm,0.8s
ULN eScP ScP 18 48 06.2 -2.4
ULN Ulaanbaatar 49.09 342 P P 18 43 01.6 +1.4
DANN Dangsing 49.14 307 eP P 18 43 01.4 +0.3
comp=Z,299nm,0.7s
SONM Songino Array 49.27 342 P P 18 43 02.9 +1.4
SONM Songino Array 49.27 342 P P 18 43 02.9 +1.4
comp=Z,25nm,0.5s,baz=158,slow=8.8,SNR=18
SONM LR LR 19 03 39.4
comp=Z,2μm,22.0s,baz=157,slow=36
NFK Norfolk Island 49.59 131 P P 18 43 06.5 +2.3
baz=50,SNR=3.1
PYUN Piuthan 49.65 306 eP P 18 43 05.4 +0.4
comp=Z,910nm,0.5s
HYB Hyderabad 50.24 291 *i* P P 18 43 09.0 -0.3

comp=Z,100nm,0.8s
HYB eS **S** **18 50 16.0 +1.5**
HYB Hyderabad 50.24 291 eP **P** **18 43 09.4 0.0**
TRD Trivandrum 50.46 279 eP **P** **18 43 10.0 -1.0**
TRD ⇑eP x 18 43 19.4
TRD eS S 18 50 25.4 +7.9
NGP Nagpur 50.69 296 eP **P** **18 43 13.3 +0.7**
NGP ⇓eS **S** **18 50 21.8 +1.2**
CIT Chita 51.34 349 eP **P** **18 43 18.4 +1.4**
CIT e 18 43 45.8
CIT e 18 44 25.0
CIT pmax pmax
comp=Z,357nm,1.7s
LATR Latur 52.31 292⇓ex P 18 43 18.8 -5.9
AKL Akola 52.41 295 eP **P** **18 43 25.9 +0.4**
AKL AMP 18 43 28.2
comp=Z,221nm,0.9s
AKL i x x 18 50 42.3
ZAK Zakamensk 52.49 341 eP **P** **18 43 26.3 +0.6**
ZAK pmax pmax
comp=Z,39nm,1.1s
BHPL Bhopal 52.72 298 eP **P** **18 43 28.4 +0.6**
TLY Talaya 53.50 342d iP **P** **18 43 34.2 +1.3**
TLY e 18 44 38.8
TLY e 18 45 36.8
TLY eS **S** **18 51 00.7 +2.6**
TLY e 18 53 14.6
TLY pmax pmax
comp=Z,64nm,2.3s
TLY MLR MLR
comp=Z,1μm,18.0s
TLY Talaya 53.50 342 P **P** **18 43 34.6 +1.7**
comp=Z,106nm,0.5s,SNR=5.3
MSVF Nonsavu 53.69 114⇑i iP **P** **18 43 36.7 +1.7**
MSVF e*PP **pP** **18 44 00.2 +1.0**
MSVF MLR MLR
comp=Z,1μm,20.0s
MSVF Nonsavu 53.69 114⇑i iP **P** **18 43 36.6 +1.7**
MSVF epP **pP** **18 44 00.2 +1.0**
MSVF LR LR
comp=Z,1μm,20.0s
IRK Irkutsk 53.80 343 eP **P** **18 43 35.6 +0.5**
IRK pmax pmax
comp=Z,114nm,2.0s
KAD Karad 54.31 290 eP **P** **18 43 39.0 -0.5**
GOA Goa 54.34 288 eP **P** **18 43 39.7 +0.1**
MOY Mondy 54.34 340 eP **P** **18 43 41.4 +2.2**
MOY pmax pmax
comp=Z,226nm,2.7s
DDI Dehra Dun 54.49 307 ex **P** **18 43 37.6 -3.0**
DDI AMB AMB 18 43 40.4
comp=Z,630nm,2.6s
DDI ex x 18 44 01.0
SKR Severo-Kuril's 54.49 22 eP **P** **18 43 38.5 -1.6**
SKR e 18 43 58.0
SKR e 18 44 50.0
SKR eS **S** **18 51 08.0 -3.4**
SKR pmax pmax
comp=Z,60μm,1.0s
SKR pmax pmax
comp=E,1μm,4.0s
SKR pmax pmax
comp=Z,1μm,4.0s
SKR smax smax
comp=E,1μm,8.0s
SKR MLR MLR
comp=E,1μm,18.0s
SKR MLR MLR
comp=Z,1μm,18.0s
SONA Sohna 54.55 304 eP **P** **18 43 40.7 -0.3**
WMQ Urumqi 54.57 326 P **P** **18 43 42.8 +1.8**
WMQ pP **pP** **18 44 06.4 +1.1**
WMQ sP **sP** **18 44 17.6 +1.2**
WMQ PcP **PcP** **18 44 44.4 +1.4**
WMQ PP **PP** **18 45 48.0 +3.6**
WMQ S **S** **18 51 13.0 +0.1**
WMQ sS **sS** **18 51 54.3 -0.3**
WMQ ScS **ScS** **18 53 18.8 -1.9**
WMQ SS **SS** **18 54 56.6 -0.5**
WMQ pmax pmax
comp=Z,190nm,1.0s
WMQ pmax pmax
comp=Z,2μm,3.5s
WMQ LR LR
comp=N,3μm,26.0s
WMQ LR LR
comp=E,2μm,24.6s
WMQ LR LR
comp=Z,2μm,22.0s
NDI New Delhi 54.59 304 ex P 18 43 48.0 +6.7
NDI ex pP 18 43 58.9 -6.7
NDI ex x 18 51 08.0
POO Poona 54.85 291 eP **P** **18 43 42.5 -0.8**
KUDL Kundal 55.01 303 eP **P** **18 43 44.0 -0.3**
DGAR Diego Garcia 55.40 260 i P **P** **18 43 47.7 +0.4**
DGAR Diego Garcia 55.40 260 eP **P** **18 43 47.4 0.0**
SMLA Simla 55.50 307 i P **P** **18 43 48.6 +0.9**
SMLA AMB AMB 18 43 50.2
comp=Z,322nm,1.0s
KHET Khetri 55.56 303 eP **P** **18 43 48.8 +0.5**
SDNR Sundarnagar 55.79 307 eP **P** **18 43 51.0 +1.1**
DHRM DHARAMSHALA 56.59 308 eP **P** **18 43 56.4 +0.6**
DHRM AMB AMB 18 43 58.4
comp=Z,354nm,1.1s
HVS Khovu-Aksy 56.68 335d iP **P** **18 43 57.1 +1.2**
HVS pmax pmax
comp=Z,578nm,1.2s
OUZ Omahuta 56.87 135 eP **P** **18 43 59.7 +2.4**
DLH Dalhousie 56.97 308 eP **P** **18 43 56.0 -2.5**
PEA0 Petropavlovsk- 57.02 21 eP **P** **18 43 59.0 +0.8**
PEA0B Petropavlovsk- 57.02 21⇓i iP **P** **18 43 59.5 +1.3**
PEA0B epP **pP** **18 44 25.8 +3.1**
PETK Petropavlovsk- 57.02 21 P **P** **18 43 59.3 +1.1**
PETK pmax pmax
comp=Z,24nm,0.6s
PETK Petropavlovsk- 57.02 21 P **P** **18 43 59.3 +1.1**
PETK Petropavlovsk- 57.02 21 P **P** **18 43 59.3 +1.1**
comp=Z,24nm,0.6s,baz=192,slow=6.3,SNR=40
THN Thein Dam 57.12 308 eP **P** **18 43 57.8 -1.5**
THN ex x 18 51 50.5
PET Petropavlovsk 57.31 22d iP **P** **18 44 01.7 +1.5**
PET i S **S** **18 51 50.2 +1.5**
PET pmax pmax
comp=Z,75nm,1.2s
PET pmax pmax
comp=Z,600nm,16.7s
PET MLR MLR
comp=Z,600nm,19.0s
MK31 Makanchi Array 59.41 326 eP **P** **18 44 15.7 +0.7**
MK31 eS **S** **18 52 17.5 +1.2**
MK31 Makanchi Array 59.41 326 eP **P** **18 44 15.7 +0.7**
MK31 eS **S** **18 52 17.5 +1.2**
MKAR Makanchi Array 59.41 326 P **P** **18 44 15.9 +0.9**
MKAR S **S** **18 52 18.4 +2.1**
MKAR pmax pmax
comp=Z,110nm,0.5s
MKAR smax smax
comp=N,3.0nm,0.9s
MKAR Makanchi Array 59.41 326 P **P** **18 44 15.9 +0.9**
MKAR S **S** **18 52 18.4 +2.1**
MKAR ⇑e 19 13 50.0
MKAR e 19 21 19.9
MKAR Makanchi Array 59.41 326 P **P** **18 44 15.9 +0.9**
comp=N,109nm,0.5s,baz=117,slow=7.8,SNR=660
MKAR S **S** **18 52 18.4 +2.1**
comp=N,2.8nm,0.9s,baz=139,slow=9.4,SNR=4.4
MKAR PKP2bc 19 13 50.0
comp=N,0.9nm,0.7s,baz=290,slow=3.4,SNR=5.0
MKAR P4KPbc 19 21 19.9
comp=N,0.4nm,0.6s,baz=107,slow=4.7,SNR=3.8
WHZ Wether Hill Ro 59.56 148 eP **P** **18 44 16.5 +0.5**
BHJ Bhuj 59.65 296 eP **P** **18 44 17.6 +0.6**
KSH Kashi 59.75 316 P **P** **18 44 19.8 +2.2**
KSH pP **pP** **18 44 42.9 +0.6**
KSH PP **PP** **18 46 34.5 +3.9**
KSH ScP **ScP** **18 48 55.0 -0.4**
KSH PcS **PcS** **18 49 05.3 -0.5**
KSH S **S** **18 52 22.3 +1.2**
KSH pmax pmax
comp=Z,1μm,3.5s
KSH LR LR
comp=N,780nm,13.6s
KSH LR LR
comp=E,580nm,12.0s
KSH LR LR
comp=Z,770nm,17.1s
RPZ Rata Peaks 59.92 145 eP **P** **18 44 18.5 0.0**
RPZ Rata Peaks 59.92 145 P **P** **18 44 19.0 +0.5**
comp=Z,46nm,0.6s,baz=13,slow=3.1,SNR=31
RPZ LR LR 19 06 58.5
comp=Z,1μm,21.6s,baz=267,slow=33
YAK Yakutsk 60.11 1 eP **P** **18 44 19.6 +0.2**
YAK e 18 45 05.4
YAK e 18 46 31.2
YAK eS **S** **18 52 23.1 -1.5**
YAK e*SS sS 18 52 51.0 -16
YAK e 18 53 56.8
YAK eSSS SSS 18 58 57.0
YAK pmax pmax
comp=N,69nm,1.1s
YAK pmax pmax
comp=E,12nm,1.2s
YAK pmax pmax
comp=Z,168nm,0.9s
YAK pmax pmax
comp=Z,129nm,2.0s
YAK pmax pmax
comp=N,130nm,2.0s
YAK pmax pmax
comp=E,19nm,0.8s
YAK smax smax
comp=E,128nm,2.7s
YAK smax smax
comp=N,377nm,3.2s
KHZ Kahutara 60.65 142 eP **P** **18 44 22.5 -1.0**
ULHL Ulahol 60.77 319 i P **P** **18 44 27.5 +2.9**
ULHL Ulahol 60.77 319 P **P** **18 44 27.5 +2.9**
SNR=16
AAA Alma-Ata 60.79 320 eP **P** **18 44 26.6 +2.1**
AAA eS **S** **18 52 34.5 +0.3**
AAA pmax pmax
comp=Z,2μm,5.0s
AAA smax smax
comp=N,800nm,12.4s
AAA MLR MLR
comp=Z,700nm,20.0s
URZ Urewera 60.82 136 eP **P** **18 44 24.5 -0.2**
URZ Urewera 60.82 136 P **P** **18 44 25.3 +0.7**
comp=Z,22nm,0.6s,baz=324,slow=5.8,SNR=17
URZ LR LR 19 05 54.7
comp=Z,1μm,21.4s,baz=99,slow=31
RAO Raoul Island 60.83 125 LR LR 19 09 13.7
comp=Z,625nm,18.1s,baz=176,slow=34
BKZ Black Stump Fm 60.84 138 eP **P** **18 44 24.9 -0.1**
KZA Kyzart 61.36 318 i P **P** **18 44 30.7 +1.8**
KZA Kyzart 61.36 318 P **P** **18 44 30.6 +1.8**
SNR=44
TKM2 Tokmak 2 61.51 319 P **P** **18 44 30.8 +1.2**
TKM2 pmax pmax
comp=Z,47nm,0.5s
TKM2 Tokmak 2 61.51 319 P **P** **18 44 30.8 +1.2**
SNR=54
TKM2 Tokmak 2 61.51 319 eP **P** **18 44 30.7 +1.1**
TKM2 LR LR
comp=Z,794nm,22.0s
KBK Karagaybulak 61.81 319 i P **P** **18 44 33.1 +1.5**
KBK Karagaybulak 61.81 319 P **P** **18 44 33.0 +1.5**
SNR=32
CHMS Chumysh 62.09 319 i P **P** **18 44 34.0 +0.7**
CHMS Chumysh 62.09 319 P **P** **18 44 34.0 +0.7**
SNR=36
AAK Ala-Archa 62.10 318d iP **P** **18 44 35.2 +1.7**
AAK pmax pmax
comp=Z,316nm,2.5s
AAK Ala-Archa 62.10 318 P **P** **18 44 35.4 +1.9**
SNR=48
AAK Ala-Archa 62.10 318 P **P** **18 44 35.4 +1.9**
SNR=28
AAK Ala-Archa 62.10 318⇓eP **P** **18 44 34.5 +1.0**
comp=Z,21nm,0.5s
AAK Ala-Archa 62.10 318 LR LR 19 13 43.6
comp=Z,593nm,19.7s,baz=96,slow=38
FRU Bishkek 62.11 319 eP **P** **18 44 34.0 +0.6**
FRU e 18 44 56.0
USP Ospenovka 62.38 319 i P **P** **18 44 35.9 +0.7**
USP Ospenovka 62.38 319 P **P** **18 44 36.0 +0.7**
SNR=67
AFI Afiamalu 62.42 107 LR LR 19 11 42.5
comp=Z,392nm,18.8s,baz=270,slow=36
AML Almayashu 62.42 318 i P **P** **18 44 37.4 +1.4**
AML Almayashu 62.42 318 P **P** **18 44 37.4 +1.4**
SNR=47
ZAA0 Zalesovo Array 62.51 333⇓iP **P** **18 44 34.6 -1.2**
ZALV Zalesovo Beam 62.51 333 P **P** **18 44 36.0 +0.2**
ZALV S **S** **18 52 57.6 +2.2**
ZALV pmax pmax
comp=Z,18nm,0.4s
ZALV smax smax
comp=N,3.0nm,0.9s
ZALV MLR MLR
comp=Z,474nm,20.0s
ZALV pmax pmax
comp=Z,1.0nm,0.6s
ZALV pmax pmax
comp=Z,5.0nm,1.0s
ZALV Zalesovo Beam 62.51 333 P **P** **18 44 36.0 +0.2**
ZALV S **S** **18 52 57.6 +2.2**
ZALV P'P' 19 13 33.8
ZALV ⇑e 19 13 46.2
ZALV Zalesovo Beam 62.51 333 P **P** **18 44 36.0 +0.2**
comp=Z,17nm,0.4s,baz=126,slow=5.8,SNR=60
ZALV S **S** **18 52 57.6 +2.2**
comp=Z,3.3nm,0.9s,baz=191,slow=1.5,SNR=4.1
ZALV LR LR 19 13 05.6
comp=Z,474nm,20.0s,baz=72,slow=37
ZALV PKPPKP P'P'df 19 13 33.8 -5.7
comp=Z,0.5nm,0.6s,baz=268,slow=4.2,SNR=4.7
ZALV PKP2bc 19 13 46.2
comp=Z,5.0nm,1.0s,baz=298,slow=3.2,SNR=12
EKS2 Erkin-Say 62.59 318⇓eP **P** **18 44 37.6 +0.8**
EKS2 MLR MLR
comp=Z,743nm,19.0s
EKS2 Erkin-Say 62.59 318 P **P** **18 44 37.9 +1.2**
SNR=106
EKS2 Erkin-Say 62.59 318⇓eP **P** **18 44 37.6 +0.8**
EKS2 LR LR
comp=Z,743nm,19.0s
KBL Kabul 63.08 308 eP **P** **18 44 40.4 +0.2**
KBL eS S 18 52 56.2 -7.5
KBL pmax pmax
comp=Z,45nm,0.5s
KBL Kabul 63.08 308 eP **P** **18 44 40.4 +0.2**
comp=Z,45nm,0.5s
KBL eS S 18 52 56.2 -7.5
KBL Kabul 63.08 308 P **P** **18 44 41.0 +0.7**
baz=63,SNR=45
FX1 Attu Island--F 63.51 29 P **P** **18 44 44.0 +1.6**
FX1 Attu Island--F 63.51 29 P **P** **18 44 44.0 +1.6**
comp=Z,26nm,0.4s,baz=244,slow=4.5,SNR=34
KURBB Kurchatov Arra 63.61 328 S **S** **18 53 09.2 0.0**
comp=Z,0.9nm,0.9s,baz=132,slow=9.8,SNR=6.5
KURBB PKKP PKKPdf 19 05 11.2 -10
comp=Z,0.9nm,1.0s,baz=5.4,slow=6.6,SNR=5.0
KURBB PKPPKP P'P'df 19 13 28.9 -9.0
comp=Z,0.6nm,0.9s,baz=265,slow=3.5,SNR=5.6
KURBB PKP2bc 19 13 40.6
comp=Z,1.2nm,0.8s,baz=302,slow=3.7,SNR=8.8
KURK Kurchatov 63.62 328⇓eP **P** **18 44 43.2 +0.1**
KURK eS **S** **18 53 08.1 -1.2**
KURK S S 18 53 09.2 0.0
KURK MLR MLR
comp=Z,270nm,22.0s
KURK Kurchatov 63.62 328 P **P** **18 44 43.9 +0.8**
SNR=65
KURK Kurchatov 63.62 328⇓eP **P** **18 44 43.2 +0.1**
KURK eS **S** **18 53 08.1 -1.2**
KURK S S 18 53 09.2 0.0
KURK PKKP PKKPdf 19 05 11.2 -10
KURK P'P' 19 13 28.9
KURK ⇑e 19 13 40.6
KURK LR LR
comp=Z,270nm,22.0s
SEY Seymchan 63.79 13d iP **P** **18 44 45.9 +1.8**
NVS Novosibirsk 63.80 333⇓iP **P** **18 44 44.1 -0.2**
NVS e 18 45 20.0
NVS i S **S** **18 53 08.4 -3.0**
NVS i PS PnS 18 53 32.7 -11
NVS pmax pmax
comp=N,81nm,1.9s
NVS pmax pmax
comp=E,108nm,1.9s
NVS pmax pmax
comp=Z,192nm,1.9s
NVS pmax pmax
comp=Z,53nm,1.8s
NVS pmax pmax
comp=N,62nm,2.2s
NVS pmax pmax
comp=E,48nm,2.2s
NVS smax smax
comp=N,38nm,1.7s
NVS smax smax
comp=E,37nm,1.6s
KK31 Karatay Array 64.97 317 i P **P** **18 44 52.4 +0.2**
KK31 pmax pmax
comp=Z,43nm,0.8s
AMKA Amchitka 65.84 33 eP **P** **18 44 59.0 +1.4**
ADK Adak 68.28 34 eP **P** **18 45 13.5 +0.5**
ADK MLR MLR
comp=Z,2μm,20.0s
ADK Adak 68.28 34 eP **P** **18 45 13.5 +0.5**
ADK LR LR
comp=Z,2μm,20.0s
VOSK Vostochnaya 68.73 327 P **P** **18 45 15.5 -0.4**
VOSK pmax pmax
comp=Z,33nm,0.6s
CASY Casey 68.98 187⇑i iP **P** **18 45 16.6 -0.5**
comp=Z,122nm,1.1s
CASY LR LR
comp=Z,708nm,19.0s
BVA0 Borovoye Array 69.19 327 i P **P** **18 45 18.5 -0.2**
BVA0 pmax pmax
comp=Z,269nm,1.5s
BRVK Borovoye 69.26 327d iP **P** **18 45 19.9 +0.8**
BRVK e*PP PcP 18 45 36.0 -6.1
BRVK pmax pmax
comp=Z,205nm,2.3s
BRVK Borovoye 69.26 327 P **P** **18 45 19.6 +0.5**
SNR=45
BRVK Borovoye 69.26 327⇓i iP **P** **18 45 18.8 -0.3**
comp=Z,157nm,0.9s
BRVK LR LR
comp=Z,753nm,21.0s
TIXI Tiksi 69.75 1d iP **P** **18 45 21.3 -0.4**
TIXI i *PP **PcP** **18 45 40.4 -3.4**
TIXI pmax pmax
comp=Z,68nm,1.2s
JMDO Jabal Madar 70.02 293 P **P** **18 45 25.6 +1.1**
SNR=9.3
IDAH Dahanechah 70.05 304 eP **P** **18 45 26.0 +1.3**
IMON Monand 70.30 305 eP **P** **18 45 27.0 +0.8**
IMYA Miami 70.59 308 eP **P** **18 45 28.0 +0.1**
HOQ Hoqain 70.88 294 P **P** **18 45 30.9 +1.2**
SNR=5.2
BSY Bisya 70.89 293 P **P** **18 45 30.8 +1.0**
SNR=11
IMOG Moghan 71.15 308 eP **P** **18 45 31.8 +0.4**
ARQ Araqi 71.58 294 P **P** **18 45 34.9 +1.1**
SNR=20
MRIV Mauritius Mete 71.68 248 eP **P** **18 45 34.5 +0.1**
IAKL Akhelmad 71.71 308 eP **P** **18 45 35.3 +0.6**
IKRD Kardeh 71.93 308 eP P 18 45 32.1 -3.9
IEMG Emamgholi 71.96 309 eP **P** **18 45 37.3 +1.1**
MSEY Mahe Island 71.96 265 PFAKE 18 45 50.0 +14
MSEY LR LR
comp=Z,396nm,20.0s
UOSS Wadi Hilu 72.04 296 P **P** **18 45 37.3 +0.7**
comp=Z,454nm,0.6s,SNR=20
ISFR Sfrayin 72.39 308 eP **P** **18 45 39.7 +0.9**
MIR Mirnyy 72.41 194 eP **P** **18 45 40.0 +2.1**
MIR i 18 45 56.0
MIR i 18 46 11.0
MIR pmax pmax
comp=Z,324nm,1.5s
MIR MLR MLR
comp=N,700nm,18.0s
MIR MLR MLR
comp=Z,700nm,18.0s
ASUD Al Ashush, Dub 72.80 295 P **P** **18 45 42.8 +1.7**
SNR=9.1
IBAF Bafgh 73.45 302 eP **P** **18 45 45.8 +0.8**
AB31 Akbulak array 73.94 321 i P **P** **18 45 47.4 +0.1**
AB31 pmax pmax
comp=Z,6.0nm,0.3s
ABKAR Akbulak array 73.94 321 eP **P** **18 45 46.6 -0.6**
comp=Z,52nm,0.8s
ABTO Aybut 74.12 287 P **P** **18 45 49.7 +0.7**
SNR=5.3
IMEH Mehriz 74.23 302 eP **P** **18 45 49.7 0.0**
ICHK Chekchek 74.52 303 eP **P** **18 45 51.5 +0.2**
ISAD Sadrabad 75.08 302 eP **P** **18 45 55.3 +0.7**
KIP Kipapa 75.17 68 PFAKE 18 46 10.0 +15
KIP LR LR
comp=Z,4μm,21.0s
IANJ Anjilo 75.38 306 eP **P** **18 45 56.3 +0.1**
AKTO Aktyubinsk 75.46 322 P **P** **18 45 56.2 +0.1**
AKTO pmax pmax
comp=Z,55nm,1.0s
IGLO Ghaloghah 75.59 307 eP **P** **18 45 58.1 +0.7**
IKIA Kiasar 75.67 307 eP **P** **18 45 58.7 +0.8**
SVE Sverdlovsk 75.85 329c iP **P** **18 45 58.4 +0.3**
SVE e 18 48 47.6
SVE eS S 18 55 22.0 -10
SVE pmax pmax
comp=Z,83nm,0.9s
SVE MLR MLR
comp=Z,795nm,17.0s
ISHM Shahmirzad 75.93 306 eP **P** **18 46 00.1 +0.7**
ILAS Lasjerd 76.14 306 eP **P** **18 46 01.1 +0.6**
ISFB Sefidab 76.59 305 eP **P** **18 46 03.0 +0.1**
IPRN Peran 76.75 307 eP **P** **18 46 03.9 +0.1**
ARU Arti 76.81 328d iP **P** **18 46 02.7 -0.9**
ARU *PP **pP** **18 46 25.8 -3.5**
ARU *SP **sP** **18 46 37.9 -2.2**
ARU 18 48 53.6
ARU PPP PPP 18 50 45.6
ARU S **S** **18 55 42.3 -0.6**
ARU *SS sS 18 56 20.8 -6.2
ARU SS **SS** **19 00 43.3 +2.3**
ARU SSS SSS 19 04 06.8
ARU pmax pmax
comp=Z,54nm,1.0s
ARU Arti 76.81 328 P **P** **18 46 03.5 -0.1**
comp=Z,255nm,0.7s,SNR=20
IVRN Varamin 77.09 305 ePg **P** **18 46 06.3 +0.6**
IMHD Mahdasht 78.03 306 eP **P** **18 46 11.3 +0.3**
MUKL Al Mukalla 78.11 284 eP **P** **18 46 12.7 +1.1**
SDPT Sand Point 78.51 34⇓eP **P** **18 46 13.4 +0.4**
comp=Z,206nm,0.7s
IRAZ Razeghan 78.60 306 eP **P** **18 46 14.9 +0.7**
SOKR Solikamsk 78.62 331d iP **P** **18 46 13.6 +0.1**
SOKR S **S** **18 55 57.9 -4.2**
SOKR pmax pmax
comp=Z,50nm,1.1s
SOKR MLR MLR
comp=Z,720nm,25.0s
QRN Al-Qurain 79.75 299 eP **P** **18 46 20.5 +0.1**
QRN AMb AMB 18 46 23.6
comp=Z,215nm,0.9s
CHGN Chignik 79.86 33 eP **P** **18 46 20.5 +0.2**
UMR Umm Al-Rimmam 79.98 300 eP **P** **18 46 21.5 -0.1**
UMR AMb AMB 18 46 26.3
comp=Z,105nm,0.8s
RDF Al-Radifah 80.08 299 eP **P** **18 46 22.2 +0.1**
RDF AMb AMB 18 46 25.7
comp=Z,78nm,0.8s
MIB Mutribah 80.32 300 eP **P** **18 46 23.2 -0.2**
MIB AMb AMB 18 46 25.6
comp=Z,130nm,0.7s
NAY Al-Naaiem 80.37 299 eP **P** **18 46 23.2 -0.5**
NAY AMb AMB 18 46 25.6
comp=Z,74nm,0.9s
RST Umm Al-Ruwaisa 80.60 299 eP **P** **18 46 24.2 -0.7**
RST AMb AMB 18 46 31.0
comp=Z,1μm,0.8s
ISRB Sarab 80.64 308 eP **P** **18 46 25.9 +0.7**
IVIS Veis 81.04 305 eP **P** **18 46 26.7 -0.6**
URKR Urkarakh 81.07 312 i P **P** **18 46 28.0 +0.7**
URKR pmax pmax
comp=Z,101nm,0.7s
OPO Ambohidratompo 81.13 251 P **P** **18 46 28.5 +0.4**
OPO Ambohidratompo 81.13 251 P **P** **18 46 28.5 +0.4**
comp=Z,29nm,0.8s,baz=73,slow=2.7,SNR=6.0
ABPO Ambohimpanom 81.13 251 eP **P** **18 46 28.1 0.0**

ABPO pmax pmax
comp=Z,48nm,0.7s
ABPO MLR MLR
comp=Z,482nm,22.0s
ABPO Ambohimpanom 81.13 251 *e*P **P 18 46 28.1 0.0**
comp=Z,48nm,0.7s
ABPO *e*pP pP 18 46 47.5 -6.6
ABPO LR LR
comp=Z,482nm,22.0s
IHRS Heris 81.17 308 *e*P **P 18 46 28.5 +0.4**
MAK Makhachkala 81.24 313 *e*P P 18 46 24.5 -3.5
MAK *e*PPP PPP 18 51 26.1
MAK *e*S S 18 56 24.3 -6.1
MAK pmax pmax
comp=Z,48nm,1.0s
MAK MLR MLR
comp=Z,925nm,25.0s
IGHG Ghaleghazi 81.26 304 *e*P **P 18 46 27.4 -1.2**
IDHR Dehrash 81.43 305 *e*P **P 18 46 28.1 -1.4**
VNDA Vanda 81.47 173‖ *e*P **P 18 46 25.8 -2.7**
comp=Z,27nm,0.6s
VNDA *e*pP **pP 18 46 51.2 -3.3**
VNDA Vanda 81.47 173 P **P 18 46 28.1 -0.4**
comp=Z,29nm,0.9s,baz=320,slow=6.0,SNR=125
VNDA LR LR 19 20 47.9
comp=Z,621nm,22.0s,baz=341,slow=34
XNZR Khunzakh 81.79 313 *e*P **P 18 46 32.0 +0.8**
XNZR *i*S **pP 18 46 54.0 -3.1**
MAW Mawson 82.13 200 LR LR 19 19 14.3
comp=Z,641nm,21.1s,baz=64,slow=33
SBA Scott Base 82.37 172 *e*P **P 18 46 33.8 +0.5**
SBA pmax pmax
comp=Z,37nm,0.9s
SBA Scott Base 82.37 172 *e*P **P 18 46 33.8 +0.5**
comp=Z,37nm,0.9s
OHAK Old Harbor 82.80 33 *e*P **P 18 46 36.7 +0.9**
comp=Z,57nm,0.8s
TRBA At Turbah 82.88 283 *e*P **P 18 46 38.9 +1.5**
GNI Garni 83.08 310 *e*P **P 18 46 36.5 -1.4**
GNI Garni 83.08 310 P **P 18 46 39.6 +1.6**
SNR=8.8
GNI Garni 83.08 310 *e*P **P 18 46 38.6 +0.6**
comp=Z,140nm,1.0s
GNI LR LR
comp=Z,255nm,20.0s
KDAK Kodiak Island 83.25 32 *e*P **P 18 46 39.4 +1.3**
comp=Z,54nm,0.8s
KDAK LR LR
comp=Z,2μm,21.0s
KDAK Kodiak Island 83.25 32 P **P 18 46 39.8 +1.6**
comp=Z,45nm,0.6s,baz=241,slow=5.2,SNR=40
RSO Redoubt South 83.52 29 *e*P **P 18 46 39.8 0.0**
comp=Z,199nm,0.9s
CLDR Caldiran 83.67 309 *e*P **P 18 46 42.6 +1.5**
HAKT HAKKARI 83.76 307 *i*P **P 18 46 42.6 +1.1**
CUKT Cukurca 83.82 307 *e*P **P 18 46 42.1 +0.3**
ZEI Tsey 83.87 313 *e*P **P 18 46 40.0 -2.0**
ZEI pmax pmax
comp=Z,20nm,0.6s
IM04 Indian Mountai 83.88 24 *e*P **P 18 46 42.3 +1.0**
IMA2 Indian Mountai 83.93 24 *e*P **P 18 46 43.1 +1.4**
PPLA Purkeypile 84.11 27 *e*P **P 18 46 43.1 +0.4**
comp=Z,58nm,1.0s
DIGO Kars 84.14 310 *i*P **P 18 46 45.0 +1.5**
GEVA Gevas 84.30 308 *i*P **P 18 46 45.2 +1.0**
KARS Kars 84.38 310 *e*P **P 18 46 46.3 +1.8**
AGRB Hanur-Agry 84.40 309 *e*P **P 18 46 46.3 +1.6**
TUTA Tutak 84.53 309 *i*P **P 18 46 47.3 +1.8**
GOF Gofitskoye 84.61 315 *e*P P 18 47 00.1 +15
GOF pmax pmax
comp=Z,70nm,0.8s
KBZ Khabaz 84.65 314 P **P 18 46 46.1 +0.5**
KBZ pmax pmax
comp=Z,13nm,0.9s
KBZ Khabaz 84.65 314 P **P 18 46 46.1 +0.5**
KBZ Khabaz 84.65 314 P **P 18 46 46.1 +0.5**
comp=Z,13nm,0.9s,baz=92,slow=4.1,SNR=29
SIRT Sirnak 84.76 307 *e*P **P 18 46 47.3 +0.9**
SIRN S¨–rnak 84.78 307 *i*P **P 18 46 47.5 +1.0**
BPAW Bear Paw Mtn. 84.79 26 *e*P **P 18 46 46.6 +0.7**
comp=Z,72nm,1.4s
KIV Kislovodsk 84.81 314⇑ *i*P **P 18 46 46.8 +0.2**
KIV *e* 18 50 06.3
KIV *i*S **S 18 57 03.5 -3.3**
KIV *e*SS **SS 19 02 46.7 +5.7**
KIV pmax pmax
comp=Z,33nm,1.1s
KIV MLR MLR
comp=Z,300nm,17.0s
KIV Kislovodsk 84.81 314 P **P 18 46 47.2 +0.6**
comp=Z,101nm,1.1s,SNR=7.4
SEW Seward 85.11 30 *e*P **P 18 46 48.4 +0.8**
comp=Z,97nm,1.0s
ARTV Artvin 85.27 311 *i*P **P 18 46 49.6 +0.6**
DAGI Agillar 85.28 311 *i*P **P 18 46 50.2 +1.3**
PMR Palmer 85.39 28 *e*P **P 18 46 49.5 +0.6**
PMR *e**PP **pP 18 47 12.6 -2.5**
PMR pmax pmax
comp=Z,74nm,1.0s
PMR Palmer 85.39 28 *e*P **P 18 46 49.5 +0.6**
comp=Z,74nm,1.0s
PMR *e*pP **pP 18 47 12.6 -2.5**
DDEM Demirkent 85.39 311 *i*P **P 18 46 51.2 +1.7**
COLD Coldfoot 85.47 23 *e*P **P 18 46 49.7 +0.5**
comp=Z,40nm,0.8s
DBOC Borcka 85.47 311 *i*P **P 18 46 50.8 +1.0**
MCK McKinley 85.66 26 *e*P **P 18 46 48.8 -1.4**
MCK pmax pmax
comp=Z,140nm,1.5s
MCK McKinley 85.66 26 *e*P **P 18 46 48.8 -1.4**
comp=Z,140nm,1.5s
ERZM Erzurum 85.66 310 *i*P **P 18 46 52.3 +1.2**
ERZM *i*S **pP 18 47 12.3 -5.0**
EZM Erzurum 85.67 310 *e*P **P 18 46 53.1 +2.0**
BEST Besiri 85.70 308 *i*P **P 18 46 50.9 -0.2**
BNGL BINGOL 85.81 309 *i*P **P 18 46 53.8 +2.0**
VRHR Novokhopersk 85.83 321 *e*P **P 18 46 50.7 -0.6**
VRHR *e*S **S 18 57 14.1 -2.1**
VRHR pmax pmax
comp=N,8.0nm,0.8s
VRHR pmax pmax
comp=Z,70nm,0.8s
VRHR pmax pmax
comp=E,70nm,1.8s
VRHR smax smax
comp=E,220nm,2.5s
VRHR smax smax
comp=N,140nm,3.1s
VRHR smax smax
comp=Z,130nm,3.1s
BNGB Bing ¶‖ 86.18 309 *e*P **P 18 46 55.1 +1.6**
COLA College 86.22 25 PFAKE 18 47 00.0 +7.1
COLA LR LR
comp=Z,1μm,21.0s
KBSD Kabsdagh 86.26 307 *e*P **P 18 46 53.6 -0.3**
KOPT Kop Dagi 86.33 310 *i*P **P 18 46 56.7 +2.3**
MAZI Mazidag 86.34 307 *e*P **P 18 46 55.1 +0.8**
ILAR Eielson Array 86.62 25 P **P 18 46 54.1 -0.8**
ILAR PP **PP 18 50 16.4 -1.7**
ILAR PKKP **PKKPbc 19 04 49.4 -3.6**
ILAR Eielson Array 86.62 25 P **P 18 46 54.1 -0.8**
comp=Z,4.8nm,0.9s,baz=275,slow=4.7,SNR=21
ILAR PP **PP 18 50 16.4 -1.7**
comp=Z,1.2nm,0.8s,baz=237,slow=5.8,SNR=4.1
ILAR PKKP **PKKPbc 19 04 49.4 -3.6**
comp=Z,1.0nm,0.7s,baz=67,slow=1.6,SNR=5.2
SOC Sochi 86.95 313*d* *i*P **P 18 46 56.0 -1.0**
SOC *e**PP **pP 18 47 19.7 -3.5**
SOC *e**SP **sP 18 47 29.2 -4.7**
SOC *e* 18 50 22.5
SOC *e*S **SKSac 18 57 13.1 -2.1**
SOC *e*SSS SSS 19 06 45.3
SOC pmax pmax
comp=Z,26nm,0.6s
SOC MLR MLR
comp=Z,414nm,18.0s
DIV Divide 86.98 29 *e*P **P 18 46 58.1 +1.3**
comp=Z,74nm,0.9s
GUMT Gumushane 87.11 310 *e*P P 18 46 50.2 -7.8
PAX Paxson 87.18 27 *e*P **P 18 46 58.6 +0.8**
PAX pmax pmax
comp=Z,19nm,0.9s
PAX Paxson 87.18 27 *e*P **P 18 46 58.6 +0.8**
comp=Z,19nm,0.9s
PAX *e*pP **pP 18 47 19.8 -4.2**

PTK Pertek 87.18 309 *e*P **P 18 46 59.8 +1.3**
EZC Erzincan 87.21 310 *e*P **P 18 46 58.3 -0.3**
KELT Kelkit 87.29 310 *i*P **P 18 47 00.1 +1.1**
KLMR Klimovskoe 87.31 331 *e*P **P 18 46 56.3 -2.0**
KLMR *e*S **SKSac 18 57 13.4 -3.2**
KLMR pmax pmax
comp=Z,141nm,1.5s
VOR Voronezh 87.36 322 P P 18 47 13.0 +14
VOR pmax pmax
comp=Z,500nm,1.4s
KSRV Kasrt alli 87.50 306 *e*P **P 18 47 00.4 +0.5**
BMRM Bremner River 87.55 29 *e*P **P 18 46 59.6 +0.1**
comp=Z,46nm,1.1s
URFA Urfa 87.64 307 *e*P **P 18 47 01.6 +1.1**
KEMA Kemaliye 87.88 309 *i*P **P 18 47 02.7 +1.0**
MALT Malatya 87.94 308 *e*P **P 18 47 03.3 +1.3**
MALT Malatya 87.94 308⇑ P **P 18 47 03.4 +1.4**
MALT Malatya 87.94 308⇑ *i*P **P 18 47 03.4 +1.4**
TMCR Tamitsa 88.03 334 *e*P **P 18 47 00.6 -1.1**
TMCR pmax pmax
comp=Z,40nm,0.8s
MOS Moscow 88.29 326 *e*P **P 18 47 01.3 -1.8**
MOS *e*S **SKSac 18 57 19.9 -2.8**
MOS *e* 18 57 46.6
MOS pmax pmax
comp=Z,73nm,0.8s
AKCD Akcadag 88.34 308 *i*P **P 18 47 05.0 +1.1**
ANN Anapa 88.59 315 *e*P **P 18 47 03.9 -0.8**
ANN *e**PP **pP 18 47 28.6 -2.5**
ANN *e*S **SKSac 18 57 21.6 -3.4**
ANN *i* 18 57 38.2
ANN pmax pmax
comp=Z,61nm,1.1s
GZT Gaziantep 88.64 307 *i*P **P 18 47 05.8 +0.4**
DARE Darende-Malaty 88.68 308 *e*P **P 18 47 06.2 +0.7**
RSDY Resadiye-TOKAT 88.76 310 *e*P **P 18 47 05.4 -0.3**
OBN Obninsk 88.91 325⇑ *i*P **P 18 47 05.3 -0.7**
OBN *i* *PP **pP 18 47 30.6 -1.7**
OBN *e* 18 50 39.3
OBN *i*S **SKSac 18 57 23.9 -2.5**
OBN pmax pmax
comp=Z,90nm,1.2s
OBN MLR MLR
comp=Z,400nm,17.0s
SCER sogukcermik 88.92 310 *i*P **P 18 47 07.8 +1.1**
ZALF Zalf 88.93 303 *e*P **P 18 47 04.5 -2.2**
ROOS tl_alroos 88.94 304 *e*P **P 18 47 07.5 +0.8**
SVSK Karacayir 89.02 310 *e*P **P 18 47 07.9 +1.1**
EGAK Eagle 89.08 25 *e*P **P 18 47 06.8 +0.2**
comp=Z,17nm,0.8s
EGAK LR LR
comp=Z,1μm,21.0s
KMRS Kahramanmaras 89.17 307 *e*P **P 18 47 08.4 +0.7**
ERBA Erbaa 89.19 310 *i*P **P 18 47 08.4 +0.6**
AYKD Aykdinkavak 89.24 307 *i*P **P 18 47 08.1 0.0**
DRWC Darouich 89.38 306 *e*P P 18 47 13.3 +4.5
SALA Sala 89.44 303 *e*P **P 18 47 07.7 -1.6**
PINB Pinarbasi 89.52 308 *i*P **P 18 47 10.3 +0.7**
BTCH Batrach 89.56 306 *e*P P 18 47 14.1 +4.5
MARH Ras Al Marh 89.61 304 *e*P **P 18 47 11.0 +0.8**
KVT Kavak 89.71 311 *e*P **P 18 47 09.2 -1.0**
APA Apatity 89.81 337⇓ *i*P P 18 47 29.2 +19
APA pmax pmax
comp=Z,32nm,1.2s
APA MLR MLR
comp=Z,1μm,18.0s
YAYL Yayladag 89.85 306 *i*P **P 18 47 11.8 +0.7**
KMBO Kilima Mbogo 90.00 269 P **P 18 47 13.9 +1.5**
SNR=8.0
KMBO Kilima Mbogo 90.00 269 *e*P **P 18 47 13.4 +1.0**
comp=Z,48nm,1.2s
KMBO LR LR
comp=Z,290nm,20.0s
KMBO Kilima Mbogo 90.00 269 P **P 18 47 13.6 +1.2**
comp=Z,7.3nm,0.6s,baz=76,slow=6.6,SNR=16
BRBR Barbar 90.08 303 *e*P **P 18 47 12.4 +0.1**
TCHB Talchebab 90.09 303 *e*P **P 18 47 11.8 -0.3**
AVNT Avonos 90.73 309 *i*P **P 18 47 15.3 +0.2**
SYO Syowa Base 90.82 201⇓ *e*P **P 18 47 12.4 -2.2**
SYO Syowa Base 90.82 201⇓ *i*P **P 18 47 15.5 +0.9**
GULE Gulek 90.86 307 *i*P **P 18 47 16.4 +0.6**
SIM Simferopol' 90.94 315*de*P **P 18 47 15.4 -0.3**
SIM *e**PP **pP 18 47 39.5 -2.6**
SIM 18 50 55.7
SIM *e*S **SKSac 18 57 36.8 -1.9**
SIM *SS **S 18 58 00.1 -4.7**
SIM pmax pmax
comp=Z,20nm,0.7s
HYT Haines Junctio 91.02 29 *e*P **P 18 47 16.9 +0.9**
JOF Joensuu 91.10 333 *e*P **P 18 47 16.9 +0.8**
JOF pmax pmax
comp=Z,4.0nm,0.4s
JOF Joensuu 91.10 333 *e*P **PKKPdf 19 04 34.5 -3.2**
JOF Joensuu 91.10 333 *e*p **P 18 47 16.9 +0.8**
comp=Z,3.5nm,0.4s
JOF Joensuu 91.10 333 *e*p **PKKPdf 19 04 34.5 -3.2**
comp=Z,0.4nm,0.4s
BR131 Keskin Array S 91.62 310 *e*P **P 18 47 17.8 -1.4**
comp=Z,12nm,0.8s
BR131 *e*pP **pP 18 47 44.2 -1.4**
BRTR Keskin Array B 91.62 310 P **P 18 47 18.6 -0.7**
BRTR PP **PP 18 51 00.8 +2.0**
BRTR PKKP **PKKPdf 19 04 34.2 -2.3**
BRTR Keskin Array B 91.62 310 P **P 18 47 18.6 -0.7**
comp=Z,4.4nm,0.8s,baz=123,slow=5.1,SNR=22
BRTR PP **PP 18 51 00.8 +2.0**
comp=Z,2.2nm,0.8s,baz=79,slow=7.5,SNR=3.1
BRTR PKKP **PKKPdf 19 04 34.2 -2.3**
comp=Z,0.6nm,0.9s,baz=325,slow=6.3,SNR=3.5
QSPA South Pole Qui 91.72 180‖ *e*P **P 18 47 18.6 -0.4**
comp=Z,133nm,1.5s
QSPA South Pole Qui 91.72 180 P **P 18 47 19.3 +0.3**
comp=Z,15nm,0.6s,baz=298,slow=1.4,SNR=54
QSPA LR LR 19 25 49.1
comp=Z,600nm,21.7s,baz=357,slow=34
CSS Prodhromos 92.17 305 *e*P **P 18 47 20.5 -1.2**
comp=Z,42nm,0.8s
CSS LR LR
comp=Z,240nm,21.0s
ANTO Ankara 92.26 310 PFAKE 18 47 30.0 +7.9
ANTO LR LR
comp=Z,296nm,22.0s
ARCES ARCESS Array B 92.41 340 P **P 18 47 21.1 -1.0**
ARCES PKiKP **PKiKP 18 52 13.0 +2.5**
ARCES PKKP **PKKPdf 19 04 35.4 -0.1**
ARCES ARCESS Array B 92.41 340 P **P 18 47 21.1 -1.0**
comp=Z,27nm,0.9s,baz=81,slow=6.4,SNR=58
ARCES PKiKP **PKiKP 18 52 13.0 +2.5**
comp=Z,6.5nm,0.9s,baz=128,slow=2.0,SNR=4.6
ARCES PKKP **PKKPdf 19 04 35.4 -0.1**
comp=Z,6.1nm,0.9s,baz=264,slow=2.7,SNR=7.4
ARE0 ARCESS Array S 92.41 340 *e*P **P 18 47 20.9 -1.2**
ARE0 *e*SKS **SKSac 18 57 43.9 -2.2**
ARE0 ARCESS Array S 92.41 340 *e*P **P 18 47 21.2 -0.8**
SPA0 Spitsbergen Ar 92.45 349 *e*P **P 18 47 22.7 +0.6**
SPA0 *e*SKS **SKSac 18 57 45.9 -0.2**
SPITS Spitsbergen Ar 92.45 349 PKKPbc PKKPbc 19 04 37.6 -1.1
SPITS Spitsbergen Ar 92.45 349 PKKPbc PKKPbc 19 04 37.6 -1.1
comp=Z,1.7nm,0.5s,baz=328,slow=9.0,SNR=6.3
KBS Kingsbay 92.97 350 PFAKE 18 47 40.0 +16
KBS LR LR
comp=Z,2μm,20.0s
KTK1 Kautokeino 93.31 340 *e*P **P 18 47 25.0 -1.2**
KAF Kangasniemi 93.52 332 *e*P **P 18 47 27.0 -0.2**
KAF Kangasniemi 93.52 332 *e*p **P 18 47 27.0 -0.2**
KAF Kangasniemi 93.52 332 *e*p **PKKPbc 19 04 32.7 -2.8**
comp=Z,0.5nm,0.3s
AKASG Malin Array Be 93.68 321 P **P 18 47 27.1 -1.2**
AKASG 18 51 18.9
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 93.68 321 P **P 18 47 27.1 -1.2**
AKASG PP **PP 18 51 18.9 +4.5**
AKASG Malin Array Be 93.68 321 P **P 18 47 27.1 -1.2**
comp=Z,2.4nm,0.6s,baz=68,slow=4.4,SNR=21
AKASG PP **PP 18 51 18.9 +4.5**
comp=Z,1.2nm,0.5s,baz=74,slow=7.1,SNR=4.4
KIEV Kiev 93.69 321 *e*P **P 18 47 26.9 -1.4**
KIEV pmax pmax
comp=Z,14nm,0.8s
KIEV MLR MLR
comp=Z,991nm,22.0s

KIEV Kiev 93.69 321 *e*P **P 18 47 26.9 -1.4**
comp=Z,14nm,0.8s
KIEV LR LR
comp=Z,991nm,22.0s
FIA1 FINESS Array S 93.75 332 *e*P **P 18 47 27.2 -1.1**
FINES FINESS Array B 93.75 332 P **P 18 47 27.4 -0.9**
FINES PKKPbc **PKKPbc 19 04 36.0 +1.1**
FINES FINESS Array B 93.75 332 P **P 18 47 27.4 -0.9**
comp=Z,5.9nm,0.5s,baz=78,slow=4.3,SNR=69
FINES PKKPbc **PKKPbc 19 04 36.0 +1.1**
comp=Z,4.5nm,1.1s,baz=338,slow=4.1,SNR=3.5
MICGM Minsk 93.97 325 *e* **P 18 47 27.0 -2.5**
MNK Minsk 93.99 325 *e*P **P 18 47 27.0 -2.6**
ISP Isparta 94.20 308 PFAKE 18 47 40.0 +8.9
ISP LR LR
comp=Z,271nm,22.0s
WRAK Wrangell Islan 94.28 33 *e*P **P 18 47 32.4 +1.5**
comp=Z,30nm,0.6s
KIS Kishinev 94.42 317 *e*P P 18 47 47.0 +15
KIS Kishinev 94.42 317 *i*PP PP 18 51 23.0 +2.7
comp=Z,900nm,4.0s
KIS *e*SKS **SKSac 18 57 52.0 -5.9**
KIS *e*SKKS **SKKSac 18 58 20.0 +0.4**
KIS LRM MLR 19 44 40.0
comp=Z,600nm,22.0s
KIS Kishinev 94.42 317 *e*P P 18 47 47.0 +15
KIS *i* 18 51 23.0
KIS *e* 18 57 52.0
KIS pmax pmax
comp=Z,900nm,4.0s
KIS MLR MLR
comp=Z,700nm,20.0s
KIS MLR MLR
comp=Z,600nm,22.0s
NACGM Naroch 94.53 325 *e* **P 18 47 34.0 +1.9**
TLCR 94.66 315⇑ *i*P **P 18 47 32.0 -0.8**
TLCR 94.66 315⇑ *i*P **P 18 47 32.0 -0.8**
LEOM Leova 94.88 317⇑ *i*P **P 18 47 33.7 -0.1**
LEOM Leova 94.88 317⇑ *i*P **P 18 47 33.7 -0.1**
TIRR Tirgusor 95.03 315⇓ *i*P **P 18 47 34.5 -0.1**
TIRR Tirgusor 95.03 315 *e*P **P 18 47 33.6 -1.0**
comp=Z,7.7nm,0.9s
TIRR Tirgusor 95.03 315⇓ *i*P **P 18 47 34.5 -0.1**
DLBC Dease Lake 95.13 31 *e*P **P 18 47 36.0 +1.1**
GHRR 95.52 316⇑ *i*P P 18 47 55.7 +19
VRI Vrincioaia 96.01 316⇑ *i*P **P 18 47 39.5 +0.4**
VRI Vrincioaia 96.01 316⇑ *i*P **P 18 47 39.5 +0.4**
PLOR Plostina 96.07 316⇓ P **P 18 47 39.4 0.0**
PLOR Plostina 96.07 316⇓ *i*P **P 18 47 39.4 0.0**
MBAR Mbarara 96.50 270 PFAKE 18 47 50.0 +7.8
MBAR LR LR
comp=Z,438nm,19.0s
MLR Muntele Rosu 96.61 316⇑ *i*P **P 18 47 41.5 -0.5**
BURAR Bucovina Array 96.75 318⇑ P **P 18 47 42.2 -0.3**
BURAR Bucovina Array 96.75 318⇑ *i*P **P 18 47 42.2 -0.3**
BUR08 Bucovina Ar. S 96.76 318 *e*P **P 18 47 41.8 -0.7**
SUW Suwalki 96.77 325 *e*P **P 18 47 41.2 -1.0**
SUW pmax pmax
comp=Z,16nm,0.3s
SUW Suwalki 96.77 325 *e*P **P 18 47 41.2 -1.0**
comp=Z,16nm,0.3s
SUW Suwalki 96.77 325 *e*P **P 18 47 41.7 -0.5**
ARCR ARCALIA 97.42 318⇑ *i*P **P 18 47 42.8 -2.6**
ARR Arges 97.55 316⇓ *i*P **P 18 47 45.7 -0.4**
KWP Kalwaria Pacla 97.99 321 PFAKE 18 48 00.0 +12
KWP LR LR
comp=Z,965nm,22.0s
KWP Kalwaria Pacla 97.99 321 *e*P **P 18 47 47.9 0.0**
LOT Lotru 98.13 316⇑ *i*P Pdif 18 47 48.9 +0.1
SANT Santorini 98.39 307 PFAKE 18 48 00.0 +10
SANT LR LR
comp=Z,303nm,22.0s
KOLS Kolonicke sedl 98.42 320 *e*P Pdif 18 47 49.9 0.0
KOLS *e* 18 51 46.4
KOLS Kolonicke sedl 98.42 320 PDIF Pdif 18 47 49.9 0.0
KOLS *e*PP **PP 18 51 46.4 -4.6**
UZH Uzhgorod 98.47 320 *e*P **P 18 47 49.9 -0.2**
UZH *i* 18 48 15.5
UZH *e* 18 48 25.5
UZH *e* 18 51 52.0
UZH *e* 18 58 19.2
UZH *e*S **S 18 59 05.9 -4.4**
UZH *e* 19 00 41.0
DRGR 98.59 318⇑ P P 18 47 43.4 -7.3
DRGR 98.59 318⇑ *i*P P 18 47 43.4 -7.3
GZR Gura Zlata 98.83 316⇑ P **P 18 47 49.5 -2.3**
GZR Gura Zlata 98.83 316⇑ *i*P **P 18 47 49.5 -2.3**
CRVS Cervenica-Dubn 98.95 320 *e*P **P 18 47 52.2 0.0**
CRVS *e* 18 51 52.0
CRVS Cervenica-Dubn 98.95 320 PDIF **P 18 47 52.2 0.0**
CRVS *e*PP **PP 18 51 52.0 -3.1**
CRVS Cervenica-Dubn 98.95 320 *e*PKP **PKiKP 18 52 19.9 -2.6**
STHS Stebnicka Huta 98.97 321 *e*P Pdif 18 47 53.2 +0.9
STHS *e* 18 51 52.0
STHS Stebnicka Huta 98.97 321 PDIF Pdif 18 47 53.2 +0.9
STHS *e*PP **PP 18 51 52.0 -3.2**
STHS Stebnicka Huta 98.97 321 *e*PKP 18 52 21.6
VTS Vitosha 99.07 313⇑ P **Pdif 18 47 52.4 -0.7**
VTS Vitosha 99.07 313⇑ *i*P **Pdif 18 47 52.4 -0.7**
LSZ Lusaka 99.18 255 PFAKE 18 48 10.0 +16
LSZ LR LR
comp=Z,498nm,20.0s
DAG Danmarks Havn 99.21 352 *i*P **Pdif 18 47 52.1 -0.7**
DAG pmax pmax
comp=Z,16nm,0.7s
DAG Danmarks Havn 99.21 352 *i*P **Pdif 18 47 52.1 -0.7**
comp=Z,23nm,0.7s
DAG Danmarks Havn 99.21 352 *i*P PP 18 51 48.7 -7.5
BZS Buzias 99.58 317⇓ P **Pdif 18 47 51.6 -3.5**
BZS Buzias 99.58 317⇓ *i*P **Pdif 18 47 51.6 -3.5**
KECS Kecovo 99.68 320 *e*P **Pdif 18 47 55.7 +0.2**
KECS *e* 18 51 55.8
KECS Kecovo 99.68 320 PDIF **Pdif 18 47 55.7 +0.2**
KECS *e*PP **PP 18 51 55.8 -4.8**
VAY Valandovo 99.78 312 *e*P **PP 18 52 01.0 -0.5**
MAIT Maitri 99.90 198 *e*P **Pdif 18 47 54.8 -1.2**
PSZ Piszkesteto 100.20 319 PFAKE 18 48 10.0 +12
PSZ LR LR
comp=Z,1μm,20.0s
SKO Skopje 100.48 313 *e*P **PP 18 52 11.6 +4.7**
NC602 NORSAR Array S 100.69 333 *e*SKS **SKSac 18 58 25.7 -3.8**
NB2 NORSAR Subarra 100.72 334 P **Pdif 18 47 58.3 -1.6**
comp=Z,7.7nm,0.8s,baz=67,slow=4.6
NB2 NORSAR Subarra 100.72 334 P **Pdif 18 47 58.3 -1.6**
baz=67,slow=4.6
NOA NORSAR Array B 100.72 334 P **Pdif 18 47 58.5 -1.3**
NOA PP **PP 18 52 09.2 +1.1**
NOA PKKPbc **PKKPdf 19 04 19.9 -0.5**
NOA NORSAR Array B 100.72 334 P **Pdif 18 47 58.5 -1.3**
comp=Z,5.0nm,0.7s,baz=67,slow=4.6,SNR=15
NOA PP **PP 18 52 09.2 +1.1**
comp=Z,2.5nm,1.0s,baz=73,slow=7.9,SNR=3.8
NOA PKKPbc **PKKPdf 19 04 19.9 -0.5**
comp=Z,1.2nm,0.8s,baz=276,slow=4.3,SNR=3.4
VYHS Vyhne 100.74 320 *e*P **Pdif 18 48 00.1 -0.1**
VYHS *e* 18 52 12.0
VYHS Vyhne 100.74 320 PDIF **Pdif 18 48 00.1 -0.1**
VYHS *e*PP **PP 18 52 12.0 +3.4**
VYHS Vyhne 100.74 320 *e*PKP **PKiKP 18 52 26.0 +0.3**
OKC Ostrava-Krasne 100.81 321 *e*P **Pdif 18 47 59.7 -0.8**
OKC *e* 18 58 30.0
OKC MLR MLR
comp=Z,800nm,21.9s
OKC Ostrava-Krasne 100.81 321 *e*PDIFF **Pdif 18 47 59.7 -0.8**
OKC *e*x x 18 48 20.3
OKC *e*SKS 18 58 30.0
OKC *e*x x 19 01 37.3
OKC AMS AMS 19 38 30.0
comp=Z,800nm,21.9s
BSD Bornholm Skovb 101.09 327 *i*P **Pdif 18 48 00.7 -0.8**
comp=Z,6.8nm,0.9s
BSD *i* 18 48 25.3
BSD Bornholm Skovb 101.09 327 *i*P **PP 18 52 12.2 +1.3**
LBTB Lobatse 101.29 245 *e*P **Pdif 18 48 03.4 +0.1**
NLWA Neilton Lookou 101.37 41 PFAKE 18 48 10.0 +6.9
NLWA LR LR
comp=Z,825nm,20.0s
KSP Ksiaz 101.66 323 *e*P **Pdif 18 48 04.8 +0.6**
KSP *e* 18 52 18.0
KSP *e* 18 58 34.0
KSP *e*SP SP 19 01 05.0 -4.0
KSP MLR MLR
comp=Z,3μm,19.0s

KSP Ksiaz 101.66 323 *e*P **Pdif** **18 48 04.9 +0.7**
TIR Tirane 101.76 313 PFAKE 18 48 20.0 +15
TIR LR LR
comp=Z,1µm,21.0s
DPC Dobruska-Polom 101.79 322 *e*P **Pdif** **18 48 04.6 -0.3**
DPC *e* 18 52 13.5
DPC Dobruska-Polom 101.79 322 *e*PDIFF **Pdif** **18 48 04.6 -0.3**
DPC *ex* x 18 48 22.9
DPC *e*pP pP 18 48 30.2 -1.4
DPC *e*PP **PP** **18 52 13.5 -3.0**
DPC AMS AMS 19 40 10.0
UPC Upice 101.93 323 *e*PP PP 18 52 20.4 +2.9
KONO Kongsberg 102.03 333 *e*SKS **SKSac** **18 58 34.5 -1.4**
KONO Kongsberg 102.03 333 PFAKE 18 48 20.0 +14
KONO LR LR
comp=Z,1µm,19.0s
COP Copenhagen 102.21 328 *i* P **PP** **18 52 20.2 +0.9**
LLD Lille Linde 102.46 328 *i* P **PP** **18 52 25.1 +3.9**
TREC Trest 102.63 321 *e*SKS **SKSac** **18 58 35.7 -3.5**
TREC AMS AMS 19 36 00.0
comp=Z,1µm,22.5s
PVCC Panska Ves 102.80 323 AMS AMS 19 43 00.0
comp=Z,1µm,18.6s
PRU Pruhonice 102.99 322 *e*P **Pdif** **18 48 10.3 +0.1**
PRU *e* 18 52 28.6
PRU *e* 18 58 37.7
PRU MLR MLR
comp=Z,1µm,15.9s
PRU Pruhonice 102.99 322 *e*PDIFF **Pdif** **18 48 10.3 +0.1**
PRU *ex* x 18 48 28.2
PRU *e*PP **PKiKP** **18 52 28.6 -1.2**
PRU *e*SKS 18 58 37.7
PRU *ex* x 19 01 56.3
PRU AMS AMS 19 44 20.0
comp=Z,1µm,15.9s
PRA Prague 103.03 322 PDIFF **Pdif** **18 48 12.0 +1.7**
PRA PP **PKiKP** **18 52 30.0 +0.2**
PRA SKS 18 58 39.0
BRG Berggiesshubel 103.06 323 *e*PDIF **Pdif** **18 48 10.5 0.0**
comp=Z,7.3nm,1.0s
BRG *e*pP 18 48 35.4
comp=Z,8.8nm,1.0s
BRG PP **PKiKP** **18 52 28.0 -1.9**
BRG SKS 18 58 40.0
BRG SDIFF **Sdif** **18 59 53.0 +4.4**
BRG
comp=N,457nm,14.3s
BRG
comp=E,588nm,15.2s
BRG
comp=Z,991nm,15.5s
BRG Berggiesshubel 103.06 323 *e*P **Pdif** **18 48 10.5 0.0**
BRG 18 52 28.0
BRG 18 58 40.0
BRG S **Sdif** **18 59 53.0 +4.4**
BRG pmax pmax
comp=Z,7.0nm,1.0s
BRG pmax pmax
comp=Z,9.0nm,1.0s
BRG MLR MLR
comp=N,457nm,14.3s
BRG MLR MLR
comp=E,588nm,15.2s
BRG MLR MLR
comp=Z,991nm,15.5s
FBE Freiberg 103.40 323 *e*PP PP 18 52 32.0 +3.6
CLL Collm 103.47 324 *e*P **Pdif** **18 48 12.0 -0.3**
CLL *e* 18 58 35.0
CLL *e*S **Sdif** **18 59 47.0 -5.0**
CLL Collm 103.47 324 *e*Pdif **Pdif** **18 48 12.0 -0.3**
CLL *e*pPdif **pPdif** **18 48 37.0 -1.7**
CLL *e* 18 49 01.0
CLL *e*PP **PKiKP** **18 52 31.0 +0.4**
comp=Z,44nm,1.6s
CLL *e*PPP PPP 18 54 48.0
CLL *e*SKSac SKSac 18 58 35.0 -8.0
CLL *e*Sdif **Sdif** **18 59 47.0 -5.0**
CLL *e*SP **SP** **19 01 25.0 -3.0**
CLL *e*PS **PS** **19 01 46.0 +5.1**
CLL *e*pPS 19 02 06.0
CLL *e*sPPS 19 02 54.0
CLL *e*SS **SS** **19 07 12.0 +6.3**
CLL *e*sSS 19 07 42.0
CLL *e* 19 08 12.0
CLL *e*SSS SSS 19 11 06.0
CLL *e* 19 12 24.0
CLL *e*sSSSS 19 15 18.0
CLL *e* 19 15 48.0
CLL LmH 19 41 00.0
comp=N,800nm,18.7s
CLL LmH 19 41 00.0
comp=E,800nm,21.4s
SNAA Sanae 103.48 194 *e*P **Pdif** **18 48 12.6 +0.6**
SNAA Sanae 103.48 194 *e*Pdif **Pdif** **18 48 12.2 +0.2**
comp=E,1.7nm,0.5s
SNAA Sanae 103.48 194 Pdiff **Pdif** **18 48 12.5 +0.5**
comp=E,0.7nm,0.5s,baz=176,slow=5.7,SNR=22
MUD Monsted U'grnd 103.58 330 *i* P **PKiKP** **18 52 35.3 +4.7**
BER Bergen 103.60 334 *e*SKS **SKSac** **18 58 41.9 -1.3**
KHC Kasperske Hory 103.87 322 *e*P **Pdif** **18 48 14.0 -0.1**
KHC *e* 18 52 33.5
KHC *e* 18 58 42.4
KHC MLR MLR
comp=Z,1µm,23.2s
KHC Kasperske Hory 103.87 322 *e*PDIFF **Pdif** **18 48 14.0 -0.1**
KHC *ex* x 18 48 31.3
KHC *ex* x 18 49 02.5
KHC *e*PP **PP** **18 52 33.5 +1.5**
KHC *e*SKS 18 58 42.4
KHC *ex* x 19 02 00.8
KHC AMS AMS 19 36 50.0
comp=Z,1µm,23.2s
GEC2 GERESS Array S 103.89 321 *e*PP PP 18 52 35.9 +3.6
GERES GERESS Array B 103.89 321 Pdif **Pdif** **18 48 12.5 -1.8**
GERES PKiKP **PP** **18 52 32.7 +0.5**
GERES GERESS Array B 103.89 321 Pdiff **Pdif** **18 48 12.5 -1.8**
comp=Z,0.8nm,0.9s,baz=72,slow=4.3,SNR=5.3
GERES PKiKP **PP** **18 52 32.7 +0.5**
comp=Z,0.8nm,0.6s,baz=50,slow=2.1,SNR=6.8
BOJS Bojanci 103.93 318 *i* P Pdif 18 48 43.8 +29
BSEG Bad Segeberg 104.01 327 *e*PP PP 18 52 36.7 +3.9
VISS Visnje 104.11 318 *i* P Pdif 18 48 40.4 +25
PLN Plauen 104.26 323 *e*PP PP 18 52 37.5 +2.6
WET Wettzell 104.30 322 *e*PP PP 18 52 37.8 +2.6
HAWA Hanford 104.51 41 PFAKE 18 48 30.0 +13
HAWA LR LR
comp=Z,894nm,19.0s
MOX Moxa 104.53 324 *e*PP PP 18 52 40.1 +3.3
JAVS Javornik 104.60 318 *i* P Pdif 18 48 41.7 +24
NRDL Niedersach Rie 104.70 326 *e*PP PP 18 52 41.1 +3.2
CLZ Clausthal 104.80 325 *e*PP PP 18 52 41.5 +2.6
RJOB Jochberg 104.83 321 *e*PP PP 18 52 42.8 +3.6
CUC Castrocucco 105.08 312 PFAKE 18 52 50.0
CUC LR LR
comp=Z,1µm,20.0s
VNA2 Neumayer--Watz 105.09 194 *e*P **Pdif** **18 48 20.3 +1.3**
VNA2 Neumayer--Watz 105.09 194 *e*I **PKiKP** **18 52 34.5 +1.5**
UBBA Unterbreizbach 105.41 324 *e*PP PP 18 52 45.6 +2.4
NEW Newport 105.42 39 PFAKE 18 52 50.0
NEW LR LR
comp=Z,582nm,20.0s
CEL Celeste 105.48 310 PFAKE 18 52 50.0
CEL LR LR
comp=Z,618nm,22.0s
FUR Furstenfeldbru 105.63 321 *e*PP PP 18 52 49.3 +4.2
BMO Blue Mountains 106.49 42 PFAKE 18 52 50.0
BMO LR LR
comp=Z,816nm,20.0s
BFO Black Forest 107.39 322 *e*PP PP 18 53 03.9 +5.9
BFO Black Forest 107.39 322 PFAKE 18 52 50.0
BFO LR LR
comp=Z,986nm,19.0s
TUE Stuetta 107.48 320 PFAKE 18 52 50.0
TUE LR LR
comp=Z,2µm,21.0s
NVAR Mina Array Bea 107.81 49 Pdif **Pdif** **18 48 33.4 +1.2**
NVAR Mina Array Bea 107.81 49 Pdiff **Pdif** **18 48 33.4 +1.2**
comp=Z,0.2nm,0.3s,baz=268,slow=6.4,SNR=4.0
BMN Battle Mountai 108.00 46 PFAKE 18 52 50.0
BMN LR LR
comp=Z,513nm,21.0s
CDF Champ du Feu 108.00 323 *e*PKIKP **PKiKP** **18 52 38.3 -0.9**
CDF Champ du Feu 108.00 323 *e*PKPdf **PKiKP** **18 52 38.3 -0.9**
WLF Walferdange 108.14 324 *e*PP PP 18 53 05.1 +1.8
ECH Echery 108.16 322 PFAKE 18 52 50.0
ECH LR LR
comp=Z,1µm,20.0s
HINF Hinterlalfeld 108.51 322 *e*PKIKP **PKiKP** **18 52 39.7 -0.4**
HINF Hinterlalfeld 108.51 322 *e*PKPdf **PKiKP** **18 52 39.7 -0.4**
TPH Tonopah 108.73 49 PFAKE 18 52 50.0
TPH LR LR
comp=Z,606nm,20.0s
HLID Hailey 108.89 43 PFAKE 18 52 50.0
HLID LR LR
comp=Z,586nm,19.0s
CABF La Chapelle 109.48 321 *e*PKIKP **PKiKP** **18 52 42.0 0.0**
comp=Z,12nm,0.7s
CABF La Chapelle 109.48 321 *e*PKPdf **PKiKP** **18 52 42.0 0.0**
LPG La Plagne 109.52 320 *e*PKIKP **PKiKP** **18 52 41.6 -0.8**
comp=Z,12nm,0.8s
LPG La Plagne 109.52 320 *e*PKPdf **PKiKP** **18 52 41.6 -0.8**
LPL La Plagne 109.53 320 *e*PKIKP **PKiKP** **18 52 42.1 -0.2**
comp=Z,6.6nm,0.7s
LPL La Plagne 109.53 320 *e*PKPdf **PKiKP** **18 52 42.1 -0.2**
BNI Bardonecchia 109.75 320 PFAKE 18 52 50.0
BNI LR LR
comp=Z,1µm,20.0s
MBDF Montbardon 109.82 319 *e*PKIKP **PKiKP** **18 52 42.7 -0.1**
comp=Z,8.6nm,0.7s
MBDF Montbardon 109.82 319 *e*PKPdf **PKiKP** **18 52 42.7 -0.1**
BOZ Bozeman (W) 109.90 40 PFAKE 18 52 50.0
BOZ LR LR
comp=Z,521nm,21.0s
EGMT Eagleton 110.03 37 PFAKE 18 52 50.0
EGMT LR LR
comp=Z,536nm,20.0s
ESK Eskdalemuir 110.17 332 PFAKE 18 52 50.0
ESK LR LR
comp=Z,2µm,19.0s
ORIF Oris-en-Rattie 110.32 320 *e*PKIKP **PKiKP** **18 52 43.3 -0.4**
comp=Z,14nm,0.9s
ORIF Oris-en-Rattie 110.32 320 *e*PKIKP **PKiKP** **18 52 43.3 -0.4**
ORIF Oris-en-Rattie 110.32 320 *e*PKPdf **PKiKP** **18 52 43.3 -0.4**
LOR Lormes 110.57 323 *e*PKIKP **PKiKP** **18 52 42.9 -1.1**
comp=Z,9.3nm,0.9s
LOR Lormes 110.57 323 *e*PKPdf **PKiKP** **18 52 42.9 -1.1**
PFO Pinyon Flat Ob 110.65 53 PFAKE 18 53 00.0
PFO LR LR
comp=Z,436nm,19.0s
FFC Flin Flon 110.70 28 PFAKE 18 53 00.0
FFC LR LR
comp=Z,424nm,20.0s
SSF Saint Saulge 110.88 323 *e*PKIKP **PKiKP** **18 52 44.3 -0.2**
comp=Z,9.2nm,0.9s
SSF Saint Saulge 110.88 323 *e*PKIKP **PKiKP** **18 52 44.3 -0.2**
SSF Saint Saulge 110.88 323 *e*PKPdf **PKiKP** **18 52 44.3 -0.2**
SSB Saint Sauveur 111.03 320 PFAKE 18 53 00.0
SSB LR LR
comp=Z,2µm,20.0s
AVF Avril sur Loir 111.10 322 *e*PKIKP **PKiKP** **18 52 44.3 -0.6**
AVF Avril sur Loir 111.10 322 *e*PKIKP **PKiKP** **18 52 44.3 -0.6**
AVF Avril sur Loir 111.10 322 *e*PKPdf **PKiKP** **18 52 44.3 -0.6**
VIVF Saint-Julien-l 111.13 320 *e*PKIKP **PKiKP** **18 52 45.0 -0.1**
VIVF Saint-Julien-l 111.13 320 *e*PKIKP **PKiKP** **18 52 45.0 -0.1**
VIVF Saint-Julien-l 111.13 320 *e*PKPdf **PKiKP** **18 52 45.0 -0.1**
LKWY Lake 111.15 40 PFAKE 18 53 00.0
LKWY LR LR
comp=Z,750nm,20.0s
KEST Kesra 111.22 310 PP PP 18 53 28.2 +1.9
KEST Kesra 111.22 310 PP PP 18 53 28.2 +1.9
comp=Z,1.2nm,0.6s,baz=330,slow=7.3,SNR=6.8
DUG Dugway 111.24 45 PFAKE 18 53 00.0
DUG LR LR
comp=Z,447nm,19.0s
SFJD Kangerlussuaq 111.33 359 *i* P **PKiKP** **18 52 45.6 +0.8**
AHID Auburn Hatcher 111.43 42 PFAKE 18 53 00.0
AHID LR LR
comp=Z,454nm,19.0s
HWUT Hardware Ranch 111.58 44 PFAKE 18 53 00.0
HWUT LR LR
comp=Z,784nm,19.0s
RLMT Red Lodge 111.63 39 PFAKE 18 53 00.0
RLMT LR LR
comp=Z,510nm,20.0s
LASF Ste Croix 111.99 320 *e*PKIKP **PKiKP** **18 52 47.2 +0.4**
LASF Ste Croix 111.99 320 *e*PKPdf **PKiKP** **18 52 47.2 +0.4**
TCF Toulx Ste Croi 112.03 322 *e*PKIKP **PKiKP** **18 52 46.4 -0.4**
TCF Toulx Ste Croi 112.03 322 *e*PKIKP **PKiKP** **18 52 46.4 -0.4**
TCF Toulx Ste Croi 112.03 322 *e*PKPdf **PKiKP** **18 52 46.4 -0.4**
MVU Marysvale 112.30 47 PFAKE 18 53 00.0
MVU LR LR
comp=Z,648nm,19.0s
BW06 Boulder Array 112.47 42 PFAKE 18 53 00.0
BW06 LR LR
comp=Z,867nm,19.0s
CAF Calviac 112.75 321 *e*PKIKP **PKiKP** **18 52 48.1 -0.1**
CAF Calviac 112.75 321 *e*PKIKP **PKiKP** **18 52 48.1 -0.1**
CAF Calviac 112.75 321 *e*PKPdf **PKiKP** **18 52 48.1 -0.1**
LAO LASA Array 112.78 37 PFAKE 18 53 00.0
LAO LR LR
comp=Z,407nm,20.0s
DGMT Dagmar 113.05 34 PFAKE 18 53 00.0
DGMT LR LR
comp=Z,716nm,19.0s
MFF Saint Martin d 113.30 323 *e*PKIKP **PKiKP** **18 52 48.8 -0.3**
MFF Saint Martin d 113.30 323 *e*PKIKP **PKiKP** **18 52 48.8 -0.3**
MFF Saint Martin d 113.30 323 *e*PKPdf **PKiKP** **18 52 48.8 -0.3**
MTLF Montolieu 113.38 319 *e*PKIKP **PKiKP** **18 52 49.1 -0.3**
comp=Z,15nm,1.0s
MTLF Montolieu 113.38 319 *e*PKIKP **PKiKP** **18 52 49.1 -0.3**
MTLF Montolieu 113.38 319 *e*PKPdf **PKiKP** **18 52 49.1 -0.3**
LFF La Frestale 113.58 321 *e*PKIKP **PKiKP** **18 52 49.2 -0.5**
LFF La Frestale 113.58 321 *e*PKIKP **PKiKP** **18 52 49.2 -0.5**
LFF La Frestale 113.58 321 *e*PKPdf **PKiKP** **18 52 49.2 -0.5**
MSKU Masuku 113.64 269 PFAKE 18 53 00.0
MSKU LR LR
comp=Z,2.0nm,20.0s
SGMF Saint Gilles 113.83 326 *e*PKIKP **PKiKP** **18 52 50.0 -0.1**
SGMF Saint Gilles 113.83 326 *e*PKIKP **PKiKP** **18 52 50.0 -0.1**
SGMF Saint Gilles 113.83 326 *e*PKPdf **PKiKP** **18 52 50.0 -0.1**
J22A Midwest 114.19 40 P PKPdf 18 52 51.0 -0.2
baz=114
QUIF Quistinic 114.36 326 *e*PKIKP PKPdf 18 52 50.6 -0.5
QUIF Quistinic 114.36 326 *e*PKIKP PKPdf 18 52 50.6 -0.5
QUIF Quistinic 114.36 326 *e*PKPdf PKPdf 18 52 50.6 -0.5
M21A Separation Pea 114.44 42 P PKPdf 18 52 51.9 +0.1
baz=114
EPF Esparros 114.74 320 *e*PKIKP PKPdf 18 52 52.0 -0.1
EPF Esparros 114.74 320 *e*PKIKP PKPdf 18 52 52.0 -0.1
EPF Esparros 114.74 320 *e*PKPdf PKPdf 18 52 52.0 -0.1
ETSF Etsaut 115.39 320 *e*PKIKP **PKPdf** **18 52 53.1 -0.3**
ETSF Etsaut 115.39 320 *e*PKIKP **PKPdf** **18 52 53.1 -0.3**
ETSF Etsaut 115.39 320 *e*PKPdf **PKPdf** **18 52 53.1 -0.3**
G27A Dupree 115.42 37 P **PKPdf** **18 52 54.8 +1.5**
baz=116
MVCO Mesa Verde 115.51 47 PFAKE 18 53 10.0 +16
MVCO LR LR
comp=Z,663nm,19.0s
I25A Rochford 115.63 38 P **PKPdf** **18 52 53.7 -0.2**
baz=116
J25A Sunshine Ranch 115.91 39 P **PKPdf** **18 52 54.3 -0.1**
baz=116
W20A Ramah 116.33 49 P **PKPdf** **18 52 55.9 +0.3**
baz=116
ISCO Idaho Springs 116.44 43 PFAKE 18 53 10.0 +14
ISCO LR LR
comp=Z,759nm,20.0s
U21A Nageezi 116.44 47 P **PKPdf** **18 52 57.4 +1.6**
baz=116
D30A Buchanan 116.85 33 P **PKPdf** **18 52 56.3 +0.3**
baz=117
I28A Midland 117.22 37 P **PKPdf** **18 52 56.8 0.0**
baz=117
SDCO Great Sand Dun 117.44 45 PFAKE 18 53 10.0 +12
SDCO LR LR
comp=Z,580nm,20.0s
P25A Willow Gulch B 117.56 43 P **PKPdf** **18 52 58.3 +0.5**
baz=118
AGMN Agassiz Nation 117.66 31 PFAKE 18 53 10.0 +13
AGMN LR LR
comp=Z,658nm,19.0s
G30A Faulkton 117.79 35 P **PKPdf** **18 52 58.9 +1.1**
baz=118
ANMO Albuquerque 117.94 49 PFAKE 18 53 10.0 +11
ANMO LR LR
comp=Z,625nm,21.0s
P26A Davis Ranch, A 118.10 43 P **PKPdf** **18 52 59.4 +0.6**
baz=118
TAM Tamanrasset 118.20 297 PFAKE 18 53 10.0 +11
TAM LR LR
comp=Z,768nm,21.0s
Z22A Elephant Butte 118.23 50 P **PKPdf** **18 52 59.7 +0.5**
baz=118
OGNE Ogallala 118.28 41 PFAKE 18 53 10.0 +11
OGNE LR LR
comp=Z,690nm,22.0s
X23A Hourglass Bar 118.29 49 P **PKPdf** **18 53 00.2 +0.8**
baz=118
122A Conniff Cattle 118.42 51 P **PKPdf** **18 52 59.3 -0.3**
baz=118
T25A Trinidad 118.49 45 P **PKPdf** **18 53 00.3 +0.6**
baz=118
222A Williams Famil 118.57 52 P **PKPdf** **18 53 00.5 +0.6**
baz=118
U25A Circle Dot Ran 118.82 46 P **PKPdf** **18 53 01.4 +1.1**
baz=119
V25A Rancho No Teng 118.92 47 P **PKPdf** **18 53 01.7 +1.1**
baz=119
T26A Comanche Natio 119.05 45 P **PKPdf** **18 53 01.6 +0.8**
baz=119
Y24A Capitan 119.13 49 P **PKPdf** **18 53 02.0 +0.9**
baz=119
ESDC Sonseca Array 119.21 318 PKP **PKPdf** **18 53 01.3 +0.5**
ESDC PP PP 18 54 27.4 +5.4
ESDC Sonseca Array 119.21 318 PKP **PKPdf** **18 53 01.3 +0.5**
comp=Z,0.8nm,0.5s,baz=19,slow=3.3,SNR=6.0
ESDC PP PP 18 54 27.4 +5.4
comp=Z,1.2nm,0.7s,baz=61,slow=7.6,SNR=5.2
U26A Atchley Ranch, 119.31 46 P **PKPdf** **18 53 01.6 +0.3**
baz=119
W25A X Bar L Ranch, 119.31 47 P **PKPdf** **18 53 01.8 +0.6**
baz=119
PAB San Pablo 119.53 318 PFAKE 18 53 10.0 +8.5
PAB LR LR
comp=Z,1µm,22.0s
V26A Tequesquite Ra 119.55 47 P **PKPdf** **18 53 01.9 +0.3**
baz=120
Y25A Mesa, Roswell 119.69 49 P **PKPdf** **18 53 02.7 +0.7**
baz=120
PBRG Braganca 119.86 322 PKPdf **PKPdf** **18 53 03.8 +1.8**
PBRG Braganca 119.86 322 *e*PP PP 18 54 28.5 +2.1
W26A Owens Ranch, T 119.88 47 P **PKPdf** **18 53 03.1 +0.8**
baz=120
Z25A Roswell 119.94 50 P **PKPdf** **18 53 03.2 +0.7**
baz=120
U27A Thompson Grove 119.95 46 P **PKPdf** **18 53 03.0 +0.6**
baz=120
Q29A Oakley 120.03 42 P **PKPdf** **18 53 02.8 +0.4**
baz=120
ECSD EROS Data Cent 120.07 35 PFAKE 18 53 10.0 +7.7
ECSD LR LR
comp=Z,457nm,19.0s
MNTX Cornudas Mount 120.07 51 PFAKE 18 53 10.0 +7.4
MNTX LR LR
comp=Z,405nm,21.0s
EYMN Ely 120.08 29 PFAKE 18 53 10.0 +7.8
EYMN LR LR
comp=Z,664nm,21.0s
X26A CR and CF Fran 120.08 48 P **PKPdf** **18 53 02.9 +0.1**
baz=120
324A Moseley Ranch, 120.10 52 P **PKPdf** **18 53 03.2 +0.4**
baz=120
T28A Walsh 120.12 45 P **PKPdf** **18 53 03.1 +0.4**
baz=120
125A Gardner Draw, 120.25 50 P **PKPdf** **18 53 03.4 +0.3**
baz=120
Y26A Elida 120.34 49 P **PKPdf** **18 53 03.9 +0.6**
baz=120
U28A Mallet 120.40 45 P **PKPdf** **18 53 03.2 0.0**
baz=120
MVO Moncorvo 120.40 321 *e*PKPdf **PKPdf** **18 53 04.4 +1.3**
MVO Moncorvo 120.40 321 *e*PP PP 18 54 32.0 +1.9
BGNE Belgrade 120.50 38 P **PKPdf** **18 53 03.1 -0.1**
baz=120
Z26A Caprock 120.51 49 P **PKPdf** **18 53 02.7 -0.8**
baz=120
PCAB Cabril 120.71 322 *e*PKPdf **PKPdf** **18 53 05.6 +2.0**
PCAB Cabril 120.71 322 *e*PP PP 18 54 35.9 +3.8
PGAV Gavieira, Arco 120.71 323 *e*PKPdf **PKPdf** **18 53 04.5 +0.8**
PGAV Gavieira, Arco 120.71 323 *e*PP PP 18 54 35.0 +2.8
PGAV Gavieira, Arco 120.71 323 *e*SS SS 19 11 03.2 +8.4
126A Clayton Basin, 120.74 50 P **PKPdf** **18 53 04.5 +0.5**
baz=121
POLO Lamas de Olo 120.76 322 *e*PKPdf **PKPdf** **18 53 05.2 +1.4**
POLO Lamas de Olo 120.76 322 *e*PP PP 18 54 34.3 +1.7
PVRL Vila Real 120.77 322 *e*PKPdf **PKPdf** **18 53 05.1 +1.4**
PVRL Vila Real 120.77 322 *e*PP PP 18 54 36.4 +3.9
R30A Dighton 120.81 42 P **PKPdf** **18 53 04.4 +0.5**
baz=121
Y27A Causey 120.86 48 P **PKPdf** **18 53 05.2 +0.9**
baz=121
226B Tecolote Peak, 120.87 51 P **PKPdf** **18 53 05.0 +0.7**
baz=121
Z27A Tatum 121.07 49 P **PKPdf** **18 53 05.5 +0.9**
baz=121
MSTX Muleshoe 121.11 48 P **PKPdf** **18 53 04.6 -0.1**
baz=121
MTE Manteigas 121.15 321 *e*PKPdf **PKPdf** **18 53 05.8 +1.3**
MTE Manteigas 121.15 321 *e*PP PP 18 54 34.5 -0.7
MTE Manteigas 121.15 321 PFAKE 18 53 20.0 +15
MTE LR LR
comp=Z,631nm,19.0s
PVIS Viseu 121.19 321 *e*PKPdf **PKPdf** **18 53 05.6 +1.0**
SPMN St. Paul 121.25 32 P **PKPdf** **18 53 04.4 -0.1**
baz=121
T30A Plains 121.26 44 P **PKPdf** **18 53 04.7 -0.2**
baz=121
326A Caldwell Ranch 121.32 51 P **PKPdf** **18 53 05.0 -0.2**
baz=121
PCBR Castelo Branco 121.42 320 *e*PKPdf **PKPdf** **18 53 06.1 +1.2**
PMRV Marv??o 121.59 320 *e*PKPdf **PKPdf** **18 53 06.5 +1.2**
PMRV Marv??o 121.59 320 *e*PP PP 18 54 43.4 +5.2
T31A Randall Ranch, 121.82 43 P **PKPdf** **18 53 06.2 +0.3**
baz=122
128A Castleberry Fa 121.92 49 P **PKPdf** **18 53 06.5 +0.2**
baz=122
PCAS Casmilo, Conde 121.95 321 *e*PKPdf **PKPdf** **18 53 07.0 +1.0**
PCAS Casmilo, Conde 121.95 321 *e*PP PP 18 54 45.8 +5.2
PCAS Casmilo, Conde 121.95 321 A A 19 38 02.5
comp=Z,650nm,18.0s
427A Hayter Ranch, 121.97 52 P **PKPdf** **18 53 06.9 +0.5**
baz=122
PESTR Estremoz 122.03 319 *e*PKPdf **PKPdf** **18 53 07.6 +1.4**
PESTR Estremoz 122.03 319 *e*PP PP 18 54 46.5 +5.3
PBAR Barrancos 122.04 318 *e*PKPdf **PKPdf** **18 53 07.1 +0.9**
PBAR Barrancos 122.04 318 *e*PP PP 18 54 47.8 +6.5
PBAR Barrancos 122.04 318 A A 19 38 00.9
comp=Z,811nm,20.0s
527A Woodward Ranch 122.09 52 P **PKPdf** **18 53 07.2 +0.5**
baz=122
328A Wristen Ranch, 122.21 51 P **PKPdf** **18 53 07.5 +0.7**
baz=122
Z29A Hungry Hill Ra 122.22 48 P **PKPdf** **18 53 07.3 +0.5**
baz=122
PMTG Montargil 122.33 320 *e*PKPdf **PKPdf** **18 53 08.9 +2.2**
PMTG Montargil 122.33 320 *e*PP PP 18 54 41.9 -1.3
TXAR Lajitas Array 122.37 53 PKP **PKPdf** **18 53 08.3 +1.1**
TXAR PKKPbc **PKKPab** **19 03 04.6 +1.1**
TXAR Lajitas Array 122.37 53 PKP **PKPdf** **18 53 08.3 +1.1**
comp=Z,5.9nm,0.6s,baz=190,slow=1.6,SNR=11
TXAR PKKPbc **PKKPab** **19 03 04.6 +1.1**
comp=Z,0.9nm,0.7s,baz=131,slow=5.1,SNR=6.0
SCHQ Schefferville 122.38 10 PKP **PKPdf** **18 53 07.2 +0.8**
SCHQ PKKPbc **PKKPab** **19 03 00.4 -2.7**
SCHQ Schefferville 122.38 10 PKP **PKPdf** **18 53 07.2 +0.8**
comp=Z,6.5nm,0.6s,baz=30,slow=3.6,SNR=10
SCHQ PKKPbc **PKKPab** **19 03 00.4 -2.7**
comp=Z,3.6nm,0.7s,baz=229,slow=6.6,SNR=3.8
129A Stewart Farms, 122.38 49 P **PKPdf** **18 53 07.6 +0.5**
baz=122
EVO Evora 122.49 319 *e*PKIKP **PKPdf** **18 53 06.0 -1.1**
comp=Z,21nm,0.9s
EVO Evora 122.49 319 *e*PKPdf **PKPdf** **18 53 07.8 +0.7**
COWI Conover 122.52 29 PFAKE 18 53 20.0 +13
COWI LR LR
comp=Z,729nm,22.0s
Y30A Stafford Cattl 122.53 47 P **PKPdf** **18 53 08.3 +0.9**
baz=122
627A Terlingua Ranc 122.54 53 P **PKPdf** **18 53 08.7 +1.1**
baz=122
EVOP Sao Brissos 122.56 319 *e*PKIKP **PKPdf** **18 53 06.0 -1.2**
EVOP Sao Brissos 122.56 319 *e*PKPdf **PKPdf** **18 53 06.0 -1.2**
428A Kincaid Ranch, 122.58 51 P **PKPdf** **18 53 08.2 +0.6**

baz=123
W31A Holland Ranch, 122.60 45 P **PKPdf 18 53 08.2 +0.7**
baz=123
Z30A Sanderson Ranc 122.64 48 P **PKPdf 18 53 08.3 +0.7**
baz=123
PBEJ Beja 122.67 319 *e*PKPdf **PKPdf 18 53 08.9 +1.5**
528A Cox Ranch, San 122.73 52 P **PKPdf 18 53 08.6 +0.7**
baz=123
KSU1 Kansas State U 122.78 40 PFAKE 18 53 20.0 +12
KSU1 LR LR
comp=Z,687nm,20.0s
329A Wagon Wheel Ra 122.80 50 P **PKPdf 18 53 08.4 +0.5**
baz=123
X31A McDonald Ranch 122.84 46 P **PKPdf 18 53 08.8 +0.9**
baz=123
PVAQ Vaqueiros 122.91 318 *e*PKPdf **PKPdf 18 53 08.9 +1.0**
PVAQ Vaqueiros 122.91 318 *e*PP PP 18 54 43.2 -3.9
PVAQ Vaqueiros 122.91 318 A A 19 35 57.2
comp=Z,540nm,20.0s
Y31A Rekieta Farm, 122.96 47 P **PKPdf 18 53 08.5 +0.4**
baz=123
PCVE Castro Verde 123.00 318 *e*PKPdf **PKPdf 18 53 09.5 +1.4**
PCVE Castro Verde 123.00 318 *e*PP PP 18 54 52.0 +4.2
PNCL Nicolau / Gran 123.06 319 *e*PKPdf **PKPdf 18 53 09.8 +1.7**
PNCL Nicolau / Gran 123.06 319 *e*PP PP 18 54 52.0 +3.9
PMAFR Mafra 123.07 320 *e*PP PP 18 54 52.5 +4.3
PBDV Barranco-do-Ve 123.14 318 *e*PP PP 18 54 51.9 +3.2
529A Stev Forest Ra 123.19 52 P **PKPdf 18 53 09.4 +0.6**
baz=123
429A Davenport Ranc 123.24 51 P **PKPdf 18 53 09.5 +0.7**
baz=123
MORF Marmelete 123.58 318 *e*PKPdf **PKPdf 18 53 11.1 +1.8**
MORF Marmelete 123.58 318 *e*PP PP 18 54 54.1 +2.3
430A Baggett Ranch, 123.68 51 P **PKPdf 18 53 10.6 +0.9**
baz=124
PFVI Vila Bisbo 123.80 318 *e*PKPdf **PKPdf 18 53 11.3 +1.7**
Z32A Haskell 123.85 47 P **PKPdf 18 53 10.7 +0.9**
baz=124
231A Bronte 123.87 49 P **PKPdf 18 53 10.3 +0.3**
baz=124
TOA0 Torodi Ar. Sit 123.96 287 *e*PKPdf **PKPdf 18 53 10.2 -0.3**
TORD Torodi Ar. Bea 123.96 287 PKP **PKPdf 18 53 10.5 0.0**
TORD PKKPbc **PKKPab 19 02 57.5 +0.8**
TORD Torodi Ar. Bea 123.96 287 PKP **PKPdf 18 53 10.5 0.0**
comp=Z,19nm,0.8s,baz=47,slow=2.0,SNR=55
TORD PKKPbc **PKKPab 19 02 57.5 +0.8**
comp=Z,3.0nm,0.6s,baz=278,slow=2.2,SNR=16
ABTX Abilene, Hawle 124.05 48 P **PKPdf 18 53 11.3 +1.0**
baz=124
331A San Angelo 124.07 50 P **PKPdf 18 53 11.4 +1.0**
baz=124
RTC Rabat Centre 124.07 314 PFAKE 18 53 20.0 +10
RTC LR LR
comp=Z,550nm,20.0s
JFWS Jewell Farm 124.17 33 PFAKE 18 53 20.0 +10
JFWS LR LR
comp=Z,673nm,20.0s
431A Sonora 124.21 51 P **PKPdf 18 53 11.7 +1.1**
baz=124
232A Coleman 124.39 49 P **PKPdf 18 53 11.8 +0.9**
baz=124
531A Rocksprings 124.49 51 P **PKPdf 18 53 12.5 +1.3**
baz=124
332A Millersview 124.56 49 P **PKPdf 18 53 12.3 +1.0**
baz=124
631A Perdido Creek 124.79 52 P **PKPdf 18 53 12.3 +0.6**
baz=125
JCT Junction City 124.92 50 *e*PKIKP **PKPdf 18 53 12.6 +0.6**
JCT MLR MLR
comp=Z,483nm,21.0s
JCT Junction City 124.92 50 *e*PKPdf **PKPdf 18 53 12.6 +0.6**
JCT LR LR
comp=Z,483nm,21.0s
JCT Junction City 124.92 50 P **PKPdf 18 53 13.1 +1.1**
baz=125
632A Uvalde 125.37 51 P **PKPdf 18 53 14.3 +1.4**
baz=125
HDIL Hopedale 126.29 34 PFAKE 18 53 30.0 +16
HDIL LR LR
comp=Z,520nm,19.0s
MIAR Mount Ida 127.37 43 PFAKE 18 53 30.0 +13
MIAR LR LR
comp=Z,802nm,22.0s
NATX Nacogdoches 128.14 46 PFAKE 18 53 30.0 +12
NATX LR LR
comp=Z,808nm,19.0s
ERPA Erie 129.83 26 PFAKE 18 53 30.0 +9.0
ERPA LR LR
comp=Z,581nm,19.0s
LONY Lake Ozonia 129.85 20 PFAKE 18 53 30.0 +9.0
LONY LR LR
comp=Z,572nm,20.0s
ACSO Alum Creek Sta 129.88 30 PFAKE 18 53 30.0 +8.9
ACSO LR LR
comp=Z,505nm,21.0s
OXF Oxford 130.15 40 PFAKE 18 53 30.0 +8.2
OXF LR LR
comp=Z,440nm,21.0s
NCB Newcomb 130.55 20 PFAKE 18 53 30.0 +7.7
NCB LR LR
comp=Z,712nm,20.0s
VBMS Vicksburg 130.80 43 PFAKE 18 53 30.0 +6.9
VBMS LR LR
comp=Z,708nm,20.0s
PKME Peaks-Kenny Pk 130.89 15 PFAKE 18 53 30.0 +7.1
PKME LR LR
comp=Z,553nm,19.0s
LBNH Lisbon 131.07 18 PFAKE 18 53 40.0 +17
LBNH LR LR
comp=Z,369nm,19.0s
KIC Kosan Boka 131.36 280 *e*PKIKP **PKPdf 18 53 25.9 +1.2**
comp=Z,26nm,0.7s
KIC Kosan Boka 131.36 280 *e*PKP1 **SKPbc 18 56 39.5 -1.4**
comp=Z,802nm,2.2s
BINY Binghamton 131.43 23 PFAKE 18 53 40.0 +16
BINY LR LR
comp=Z,567nm,21.0s
DBIC Dimbokro 131.43 280 *e*PKPdf **PKPdf 18 53 25.2 +0.4**
DBIC PKP **PKPdf 18 53 26.3 +1.5**
DBIC SKPbc **SKPbc 18 56 40.4 -0.8**
DBIC Dimbokro 131.43 280 PKP **PKPdf 18 53 26.3 +1.5**
comp=Z,9.4nm,0.7s,baz=52,slow=1.5,SNR=19
DBIC SKPbc **SKPbc 18 56 40.4 -0.8**
comp=Z,23nm,1.0s,baz=75,slow=3.2,SNR=12
TIC Toumodi 131.59 280 *e*PKIKP **PKPdf 18 53 26.0 +0.9**
comp=Z,50nm,1.1s
TIC Toumodi 131.59 280 *e*PKP1 **SKPbc 18 56 40.2 -1.6**
comp=Z,703nm,2.4s
LIC Lamto 131.66 280 *e*PKIKP **PKPdf 18 53 23.9 -1.3**
comp=Z,27nm,0.6s
LIC Lamto 131.66 280 *e*PKIKP **PKPdf 18 53 26.3 +1.1**
comp=Z,46nm,0.6s
LIC Lamto 131.66 280 *e*PKP1 **SKPbc 18 56 40.5 -1.5**
comp=Z,122nm,1.5s
LIC Lamto 131.66 280 *e*PKPdf **PKPdf 18 53 23.9 -1.3**
MCWV Mont Chateau 131.85 28 PFAKE 18 53 40.0 +15
MCWV LR LR
comp=Z,643nm,21.0s
PMOZ Porto Moniz, M 131.88 319 *e*PP PP 18 55 48.9 +2.5
LRAL Lakeview Retre 132.63 40 PFAKE 18 53 40.0 +13
LRAL LR LR
comp=Z,675nm,22.0s
CMLA Cha da Macela 133.24 330 PFAKE 18 53 40.0 +12
CMLA LR LR
comp=Z,601nm,19.0s
BLA Blacksburg 133.48 31 PFAKE 18 53 40.0 +12
BLA LR LR
comp=Z,512nm,22.0s
CBN Corbin 134.17 27 PFAKE 18 53 40.0 +11
CBN LR LR
comp=Z,701nm,22.0s
JSRW J. Sargeant Re 134.34 28 *e*PKPdf **PKPdf 18 53 30.2 +0.6**
CMIG Matias Romero 134.44 64 PKP **PKPdf 18 53 32.2 +1.9**
CMIG SKPbc **SKPbc 18 56 51.0 -0.3**
CMIG Matias Romero 134.44 64 PKP **PKPdf 18 53 32.2 +1.9**
comp=Z,4.7nm,0.8s,baz=350,slow=6.1,SNR=4.2
CMIG SKPbc **SKPbc 18 56 51.0 -0.3**
comp=Z,11nm,0.9s,baz=299,slow=4.3,SNR=7.6
KMSC Kings Mountain 134.56 33 P **PKPdf 18 53 30.3 +0.2**
baz=134
CNNC Cliffs of the 136.29 30 PFAKE 18 53 50.0 +17
CNNC LR LR
comp=Z,501nm,20.0s
PLCA Paso Flores 138.04 160 PKP **PKPdf 18 53 38.5 +1.9**
PLCA SKPbc **SKPbc 18 57 01.9 +0.2**
PLCA Paso Flores 138.04 160 PKP **PKPdf 18 53 38.5 +1.9**
comp=Z,14nm,0.7s,baz=236,slow=0.9,SNR=19
PLCA SKPbc **SKPbc 18 57 01.9 +0.2**
comp=Z,22nm,1.0s,baz=191,slow=5.1,SNR=11
TEIG Tepich 138.89 56 SKPbc **SKPbc 18 57 03.1 -1.5**
TEIG Tepich 138.89 56 SKPbc **SKPbc 18 57 03.1 -1.5**
comp=Z,8.8nm,0.8s,baz=316,slow=5.7,SNR=4.8
APG El Apazote 139.14 65 PKP **PKPdf 18 53 40.5 +1.1**
APG SKPbc **SKPbc 18 57 04.9 -0.8**
APG El Apazote 139.14 65 PKP **PKPdf 18 53 40.5 +1.1**
comp=Z,4.2nm,0.6s,baz=354,slow=4.0,SNR=5.5
APG SKPbc **SKPbc 18 57 04.9 -0.8**
comp=Z,4.8nm,0.5s,baz=280,slow=6.7,SNR=4.8
TRQA Tornquist 142.95 168 *e*PKPdf **PKPdf 18 53 41.7 -3.7**
BBSR BB Station 144.19 17 PFAKE 18 54 00.0 +12
BBSR LR LR
comp=Z,599nm,21.0s
JTS JuntasAbangare 145.80 69 PFAKE 18 54 00.0 +7.9
JTS LR LR
comp=Z,620nm,19.0s
SACV Santiago Islan 146.66 301 *e*PKPdf **PKPdf 18 53 52.9 +0.5**
LCO Las Campanas 148.01 149 *e*PKPbc **PKPbc 18 53 57.1 -0.7**
LCO LR LR
comp=Z,288nm,19.0s
GTBY Guantanamo Bay 149.24 44 *e*PKPbc **PKPbc 18 54 01.6 +0.8**
GTBY LR LR
comp=Z,291nm,19.0s
GRTK Grand Turk 150.69 37 *e*PKPbc **PKPbc 18 54 05.0 +0.7**
GRTK LR LR
comp=Z,365nm,19.0s
BCIP Isla Barro Col 150.92 68 *e*PKPbc **PKPbc 18 54 05.2 +0.1**
BCIP LR LR
comp=Z,333nm,19.0s
OTAV Otavalo 154.25 86 PFAKE 18 54 20.0 +6.9
OTAV LR LR
comp=Z,534nm,21.0s
CPUP Villa Florida 155.23 170 PKP **PKPdf 18 54 06.4 +1.2**
CPUP *e*PKPdf **PKPdf 18 54 06.5 +1.3**
CPUP *e*PKPbc PKPbc 18 54 14.0
CPUP Villa Florida 155.23 170 PKP **PKPdf 18 54 06.4 +1.2**
comp=Z,3.3nm,0.7s,baz=249,slow=1.8,SNR=5.7
ROSC El Rosal 157.48 73 PKP **PKPdf 18 54 09.5 +0.5**
ROSC El Rosal 157.48 73 PKP **PKPdf 18 54 09.5 +0.5**
comp=Z,6.9nm,0.5s,baz=233,slow=22,SNR=3.6
ANWB Willy Bob 158.71 24 PFAKE 18 54 20.0 +10
ANWB LR LR
comp=Z,360nm,22.0s
LPAZ La Paz 159.13 134 *e*PKPdf **PKPdf 18 54 12.0 +0.8**
LPAZ PKP **PKPdf 18 54 12.9 +1.7**
LPAZ La Paz 159.13 134 PKP **PKPdf 18 54 12.9 +1.7**
comp=Z,8.8nm,1.0s,baz=312,slow=0.5,SNR=18
GRGR Grenville 163.59 32 PFAKE 18 54 30.0 +15
GRGR LR LR
comp=Z,292nm,20.0s
BBGH Gun Hill 163.70 24 PFAKE 18 54 30.0 +15
BBGH LR LR
comp=Z,598nm,21.0s
SIV San Ignacio 163.71 150 PKP **PKPdf 18 54 16.4 +1.2**
SIV San Ignacio 163.71 150 PKP **PKPdf 18 54 16.4 +1.2**
comp=Z,6.6nm,0.8s,baz=144,slow=1.0,SNR=19
BDFB Brasilia 165.47 199 PKP **PKPdf 18 54 18.2 +1.3**
BDFB PKPab **PKPab 18 55 16.2 +0.9**
BDFB Brasilia 165.47 199 PKP **PKPdf 18 54 18.2 +1.3**
comp=Z,9.0nm,0.9s,baz=163,slow=8.0,SNR=5.6
BDFB PKPab **PKPab 18 55 16.2 +0.9**
comp=Z,10nm,0.7s,baz=146,slow=3.6,SNR=5.1
SAML Samuel 167.45 125 *e*PKPdf **PKPdf 18 54 18.8 +0.5**

ISCJB ***18*** *18:46:04.8±0.3, 19°.04N±0°.03×108°.48W±0°.02, h10km, mb5.1/120, MS5.2/29, Error ellipse: s-maj=4.4km s-min=2.9km az=12.8*
IDC ***18*** *18:46:07.4±0.7, 19°.36N×108°.66W, h0km, mb4.5/17, mb1 4.7/23, mb1mx4.6/30, mbtmp4.5/23, ML3.9/7, MS5.1/27, Ms1 5.2/27, ms1mx5.0/39, Error ellipse: s-maj=25.3km s-min=12.3km az=51.0*
MEX ***18*** *18:46:07.1±0.3, 19°.20N×108°.53W, h10km, MD5.6*
MOS ***18*** *18:46:07.5±1.1, 19°.39N×108°.47W, h10km, mb5.3/26, Error ellipse: s-maj=9.8km s-min=4.7km az=94.5*
NEIC ***18*** *18:46:08.3±0.3, 19°.27N×108°.48W, h10km, mb5.2/125, MW5.6, Error ellipse: s-maj=5.5km s-min=3.0km az=32.0, Moment Tensor Solution. s17 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.15; $M_{\theta\theta}$-1.66; $M_{\phi\phi}$1.81; $M_{r\theta}$-0.06; $M_{\theta\phi}$-1.84; $M_{\phi r}$-1.07; Best double couple: $M_0$2.70000×10^{17} NP1:ϕ_s111.00000°, δ69.00000°, λ176.00000°. NP2: ϕ_s202.00000°, δ86.00000°, λ21.00000°. Principal axes: T 2.9100, Plg17.0000°, Azm68.0000°; N -0.3500, Plg68.0000°, Azm211.0000°; P -2.5600, Plg12.0000°, Azm334.0000°;*
BJI ***18*** *18:46:08.0, 19°.20N×108°.50W, h10km, mB6.1/10, mb5.4/7, Ms5.6/17, Ms7 5.2/17*
GCMT ***18*** *18:46:10.9±0.2, 19°.38N×108°.49W, h15km, MW5.6, Moment Tensor Solution. s85,c133; s55,c64; Moment tensor: Scale 10^{17}Nm; M_{rr}0.09±.05; $M_{\theta\theta}$-2.96±.05; $M_{\phi\phi}$2.87±.05; $M_{r\theta}$-0.28±.15; $M_{\theta\phi}$-1.85±.04; $M_{\phi r}$0.43±.15; Best double couple: $M_0$3.50000×10^{17} NP1:ϕ_s299.00000°, δ86.00000°, λ173.00000°. NP2:ϕ_s29.00000°, δ83.00000°, λ4.00000°. Principal axes: T 3.4800, Plg8.0000°, Azm254.0000°; N 0.0300, Plg81.0000°, Azm90.0000°; P -3.5000, Plg2.0000°, Azm344.0000°; Data Used: II IU CN IC G. Surface waves: sta=102, comp=193, per= 50.*

ISC 18 18:46:10.6±0.4, 19°.39N±0°.05×108°.44W±0°.05, h22km, n750, σ1$34/715, mb5.2/115, MS5.1/30, 248C-241D, Revilla Gigedo Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CJM	**Chamela**	**3.21**	**88**	*e*P	Pn	18 46 56.0	-3.7
CJM				*i* S	**Sn**	**18 47 34.6**	**-2.6**
CJM	**Chamela**	**3.21**	**88**	*e*P	Pn	18 46 56.0	-3.7
CJM				*i* S	**Sn**	**18 47 34.6**	**-2.6**
ANIG	**Ahuacatlan**	**4.03**	**65**	*e*P	**Pn**	**18 47 09.6**	**-1.6**
ANIG				*i* S	**Sn**	**18 47 57.7**	**-0.1**
ANIG	**Ahuacatlan**	**4.03**	**65**	*e*P	**Pn**	**18 47 09.6**	**-1.6**
ANIG				*i* S	**Sn**	**18 47 57.7**	**-0.1**
MAIG	**Mazatlaan**	**4.22**	**26**	*i* P	**Pn**	**18 47 11.1**	**-2.5**
MAIG				⇑*i* S	**Sn**	**18 48 01.2**	**-1.0**
MAIG	**Mazatlaan**	**4.22**	**26**	*i* P	**Pn**	**18 47 11.1**	**-2.5**
MAIG				*i* S	**Sn**	**18 48 01.2**	**-1.0**
LPIG	**La Paz**	**5.00**	**340**	Pn	**Pn**	**18 47 23.1**	**-1.2**
LPIG				Sn	Sb	18 48 30.7	-6.4
LPIG	**La Paz**	**5.00**	**340**	Pn	**Pn**	**18 47 23.1**	**-1.2**
2.8nm,0.3s,baz=316,slow=2.2,SNR=7.8							
LPIG				Sn	Sb	18 48 30.7	-6.4
4.8nm,0.3s,baz=242,slow=9.3,SNR=1.0							
LPIG				LR	LR	18 49 10.0	
comp=Z,53μm,19.0s,baz=159,slow=37							
ZAIG	**Zacatecas**	**6.43**	**57**	*e*P	**Pn**	**18 47 42.5**	**-1.8**
ZAIG				*i* S	**Sn**	**18 48 56.1**	**-1.0**
ZAIG	**Zacatecas**	**6.43**	**57**	*e*P	**Pn**	**18 47 42.5**	**-1.8**
ZAIG				*i* S	**Sn**	**18 48 56.1**	**-1.0**
IGIG	**Irapuato, Guan**	**6.82**	**77**	*e*P	**Pn**	**18 47 48.0**	**-1.6**
IGIG				*e*S	**Sn**	**18 49 04.8**	**-1.8**
MOIG	**Morelia**	**6.84**	**86**	*i* P	**Pn**	**18 47 48.0**	**-1.9**
MOIG				*i* S	**Sn**	**18 49 04.4**	**-2.9**
MOIG	**Morelia**	**6.84**	**86**	*i* P	**Pn**	**18 47 48.0**	**-1.9**
MOIG				*i* S	**Sn**	**18 49 04.4**	**-2.9**
TXAR	**Lajitas Array**	**10.81**	**23**	Pn	**Pn**	**18 48 45.4**	**+1.2**
TXAR				Lg	Lg	18 51 56.4	
TXAR	**Lajitas Array**	**10.81**	**23**	Pn	**Pn**	**18 48 45.4**	**+1.2**
1.1nm,0.3s,baz=208,slow=14,SNR=34							
TXAR				Lg	Lg	18 51 56.4	
baz=253,slow=22,SNR=2.0							
TXAR				LR	LR	18 52 30.2	
comp=Z,9μm,20.5s,baz=100,slow=35							
626A	**Big Bend Ranch**	**10.85**	**20**	⇑P	**Pn**	**18 48 47.0**	**+2.3**
baz=11,SNR=36							
626A				⇑S	**Sn**	**18 50 47.7**	**+2.2**
baz=11							
627A	**Terlingua Ranc**	**11.02**	**24**	⇑P	**Pn**	**18 48 49.0**	**+1.9**
baz=11,SNR=43							
628A	**Black Gap, Mar**	**11.25**	**26**	⇑P	**Pn**	**18 48 52.4**	**+2.3**
baz=11,SNR=29							
526A	**Mary Lane Ranc**	**11.33**	**20**	⇓P	**Pn**	**18 48 53.9**	**+2.5**
baz=12,SNR=40							
527A	**Woodward Ranch**	**11.57**	**21**	⇓P	**Pn**	**18 48 57.7**	**+3.1**
baz=12,SNR=94							
425A	**Indio Mountain**	**11.77**	**15**	⇑P	**Pn**	**18 49 00.2**	**+2.9**
baz=12							
528A	**Cox Ranch, San**	**11.88**	**24**	⇑P	**Pn**	**18 49 01.7**	**+2.8**
baz=12,SNR=9.7							
320A	**Kipp Ranch, An**	**11.89**	**360**	⇓P	**Pn**	**18 49 02.2**	**+3.1**
baz=12,SNR=19							
426A	**McDonald Obser**	**11.92**	**19**	⇓P	**Pn**	**18 49 02.1**	**+2.7**
baz=12,SNR=54							
319A	**Douglas**	**11.96**	**357**	⇓P	**Pn**	**18 49 03.0**	**+3.1**
baz=12,SNR=42							
529A	**Stev Forest Ra**	**12.08**	**27**	⇓P	Pn	18 49 04.8	+3.2
baz=12,SNR=19							
732A	**Laxson Ranch,**	**12.09**	**38**	⇑P	**Pn**	**18 49 04.3**	**+2.8**
baz=12,SNR=15							
631A	**Perdido Creek**	**12.28**	**34**	⇓P	**Pn**	**18 49 06.2**	**+2.0**
baz=12							
427A	**Hayter Ranch,**	**12.28**	**21**	⇑P	**Pn**	**18 49 07.3**	**+2.9**
baz=12,SNR=17							
324A	**Moseley Ranch,**	**12.29**	**12**	⇑P	**Pn**	**18 49 07.6**	**+3.1**
baz=12,SNR=28							
325A	**Bean Ranch, Si**	**12.33**	**14**	⇓P	**Pn**	**18 49 07.9**	**+2.9**
baz=12,SNR=44							
428A	**Kincaid Ranch,**	**12.43**	**24**	⇑P	Pn	18 49 09.9	+3.5
baz=13,SNR=12							
220A	**Playas Peak, P**	**12.46**	**360**	⇑P	**Pn**	**18 49 09.9**	**+3.1**
baz=13,SNR=73							
530A	**J-C Ranch, Com**	**12.50**	**30**	⇑P	Pn	18 49 11.4	+4.1
baz=13,SNR=28							
326A	**Caldwell Ranch**	**12.54**	**18**	⇓P	**Pn**	**18 49 10.7**	**+2.9**
baz=13,SNR=58							
MNTX	**Cornudas Mount**	**12.56**	**12**	⇓*e*Pn	**Pn**	**18 49 10.8**	**+2.8**
MNTX				*e*Sn	Sn	18 51 37.7	+10
221A	**Mesquite Ranch**	**12.58**	**3**	⇑P	Pn	18 49 11.8	+3.4
baz=13							
429A	**Davenport Ranc**	**12.65**	**27**	⇓P	Pn	18 49 13.9	+4.5
baz=13,SNR=12							
223A	**Chaparral, Ant**	**12.69**	**8**	⇑P	Pn	18 49 13.4	+3.4
baz=13							
222A	**Williams Famil**	**12.72**	**5**	⇑P	**Pn**	**18 49 13.3**	**+3.0**
baz=13,SNR=22							
327A	**Balmorhea Ranc**	**12.73**	**20**	⇓P	**Pn**	**18 49 13.2**	**+2.7**
baz=13							
632A	**Uvalde**	**12.78**	**36**	⇑P	**Pn**	**18 49 14.0**	**+3.0**
baz=13,SNR=21							
531A	**Rocksprings**	**12.89**	**32**	⇑P	**Pn**	**18 49 15.0**	**+2.4**
baz=13							
224A	**Cornudas Mount**	**12.90**	**11**	⇑P	**Pn**	**18 49 15.7**	**+2.9**
baz=13,SNR=36							
328A	**Wristen Ranch,**	**12.97**	**22**	⇓P	**Pn**	**18 49 16.1**	**+2.3**
baz=13,SNR=17							
TUC	**Tucson**	**13.04**	**351**	⇓*e*Pn	**Pn**	**18 49 14.5**	**-0.1**
133nm,1.7s							
225A	**Deer Hill, Car**	**13.07**	**14**	⇑P	**Pn**	**18 49 18.4**	**+3.1**
baz=13,SNR=15							
CMIG	**Matias Romero**	**13.08**	**98**	Pn	**Pn**	**18 49 16.7**	**+1.5**
CMIG	**Matias Romero**	**13.08**	**98**	Pn	**Pn**	**18 49 16.7**	**+1.5**
2.4nm,0.3s,baz=284,slow=10,SNR=32							
CMIG				LR	LR	18 54 00.4	
comp=Z,6μm,21.1s,baz=271,slow=36							
430A	**Baggett Ranch,**	**13.08**	**28**	⇓P	Pn	18 49 18.5	+3.3
baz=13,SNR=23							
121A	**Cookes Peak, D**	**13.10**	**2**	⇑P	Pn	18 49 18.9	+3.3
baz=13,SNR=25							
120A	**U Bar Ranch, L**	**13.10**	**359**	⇑P	**Pn**	**18 49 18.3**	**+2.7**
baz=13,SNR=32							
214A	**Organ Pipe Nat**	**13.12**	**343**	⇓P	**Pn**	**18 49 18.0**	**+2.3**
baz=13,SNR=21							
532A	**Rocksprings**	**13.20**	**34**	⇓P	Pn	18 49 20.0	+3.2
baz=13,SNR=114							
226B	**Tecolote Peak,**	**13.20**	**16**	⇓P	Pn	18 49 20.1	+3.2
baz=13,SNR=41							
GDL2	**Guadalupe Moun**	**13.27**	**15**	*e*Pn	**Pn**	**18 49 19.7**	**+1.9**
431A	**Sonora**	**13.29**	**31**	⇑P	Pn	18 49 21.3	+3.3
baz=13,SNR=29							
122A	**Conniff Cattle**	**13.31**	**5**	⇓P	Pn	18 49 22.7	+4.2
baz=14							
123A	**Bell Site, Whi**	**13.33**	**8**	⇓P	Pn	18 49 22.4	+3.7
baz=14							
329A	**Wagon Wheel Ra**	**13.38**	**25**	⇑P	Pn	18 49 22.7	+3.5
baz=14,SNR=11							
227A	**Bennet, Jal**	**13.39**	**19**	⇑P	**Pn**	**18 49 22.6**	**+3.1**
baz=14							
CLNB	**Carlsbad**	**13.46**	**17**	*e*Pn	**Pn**	**18 49 22.7**	**+2.3**
124A	**Stringfield Ra**	**13.52**	**11**	⇓P	Pn	18 49 25.0	+3.6
baz=14							
JCT	**Junction City**	**13.53**	**34**	⇑*e*P	**Pn**	**18 49 23.6**	**+2.3**
JCT				pmax	pmax		
comp=Z,414nm,1.6s							
JCT	**Junction City**	**13.53**	**34**	⇑*e*Pn	**Pn**	**18 49 23.6**	**+2.3**
comp=Z,414nm,1.6s							
JCT	**Junction City**	**13.53**	**34**	⇓P	Pn	18 49 24.6	+3.3
baz=14,SNR=28							
330A	**Mertzon**	**13.64**	**27**	⇓P	Pn	18 49 27.1	+4.2
baz=14,SNR=16							
125A	**Gardner Draw,**	**13.64**	**14**	⇓P	Pn	18 49 26.3	+3.4
baz=14,SNR=34							
Z20A	**Nine Sixteen R**	**13.67**	**359**	⇑P	Pn	18 49 26.6	+3.3
baz=14,SNR=39							
228A	**UT Block 9, Go**	**13.72**	**21**	⇓P	**Pn**	**18 49 26.5**	**+2.5**
baz=14,SNR=15							
126A	**Clayton Basin,**	**13.78**	**16**	⇓P	**Pn**	**18 49 27.8**	**+3.0**
baz=14,SNR=13							
432A	**Menard**	**13.85**	**33**	⇓P	**Pn**	**18 49 28.6**	**+2.9**
baz=14,SNR=43							
Z22A	**Elephant Butte**	**13.87**	**5**	⇑P	Pn	18 49 29.4	+3.4
baz=14,SNR=43							
Z21A	**St. Cloud Mine**	**13.88**	**3**	⇓P	**Pn**	**18 49 29.2**	**+3.0**
baz=14,SNR=8.9							
331A	**San Angelo**	**13.89**	**30**	⇓P	Pn	18 49 29.8	+3.5
baz=14,SNR=20							
Z23A	**Rita Site, Whi**	**13.95**	**8**	⇑P	Pn	18 49 30.5	+3.3
baz=14,SNR=30							
127A	**Arkansas Junct**	**13.99**	**18**	⇑P	**Pn**	**18 49 29.9**	**+2.2**
baz=14							
230A	**Sterling City**	**14.08**	**26**	⇓P	Pn	18 49 32.3	+3.5
baz=14							
Z24A	**Sheeppen Canyo**	**14.15**	**11**	⇑P	**Pn**	**18 49 32.8**	**+2.9**
baz=14,SNR=9.8							
113A	**Mohawk Valley,**	**14.15**	**341**	⇓P	**Pn**	**18 49 31.8**	**+2.1**
baz=14,SNR=5.6							
128A	**Castleberry Fa**	**14.21**	**21**	⇑P	**Pn**	**18 49 33.1**	**+2.3**
baz=14,SNR=19							
Z25A	**Roswell**	**14.22**	**13**	⇓P	**Pn**	**18 49 33.9**	**+2.9**
baz=14,SNR=18							
332A	**Millersview**	**14.28**	**32**	⇑P	**Pn**	**18 49 34.3**	**+2.7**
baz=14,SNR=20							
Z26A	**Caprock**	**14.39**	**15**	⇓P	**Pn**	**18 49 35.5**	**+2.4**
baz=15,SNR=18							
129A	**Stewart Farms,**	**14.44**	**23**	⇓P	**Pn**	**18 49 36.7**	**+2.9**
baz=15,SNR=8.1							
Y20A	**Horse Springs,**	**14.46**	**0**	⇓P	**Pn**	**18 49 37.0**	**+2.8**
baz=15,SNR=20							
231A	**Bronte**	**14.47**	**29**	⇓P	**P**	**18 49 37.7**	**-3.0**
baz=15,SNR=7.8							
Z14A	**Wintersburg**	**14.48**	**345**	⇓P	**Pn**	**18 49 36.4**	**+2.1**
baz=15							
Y22A	**Socorro**	**14.55**	**5**	⇓P	**Pn**	**18 49 38.2**	**+2.9**
baz=15,SNR=13							
Y21A	**Point of Rocks**	**14.57**	**3**	⇑P	**Pn**	**18 49 38.9**	**+3.1**
baz=15,SNR=26							
Z27A	**Tatum**	**14.63**	**18**	⇑P	**Pn**	**18 49 38.4**	**+1.9**
baz=15,SNR=44							
Y23A	**Lovelace Mesa,**	**14.64**	**8**	⇑P	**P**	**18 49 39.9**	**-2.8**
baz=15,SNR=62							
Y22D	**IRIS PASSCAL I**	**14.69**	**5**	⇑P	**Pn**	**18 49 40.1**	**+2.8**
baz=15							
Y24A	**Capitan**	**14.72**	**10**	⇓P	**Pn**	**18 49 40.2**	**+2.5**
baz=15,SNR=21							
232A	**Coleman**	**14.74**	**31**	⇓P	**Pn**	**18 49 39.4**	**+1.4**
baz=15,SNR=32							
GLA	**Glamis**	**14.76**	**338**	⇓*i*P	**Pn**	**18 49 39.1**	**+1.0**
GLA				pmax	pmax		
comp=Z,232nm,1.5s							
GLA	**Glamis**	**14.76**	**338**	⇓*i*Pn	**Pn**	**18 49 39.1**	**+1.0**
comp=Z,232nm,1.5s							
GLA	**Glamis**	**14.76**	**338**	⇓P	**Pn**	**18 49 39.5**	**+1.4**
baz=15,SNR=13							
130A	**Snyder**	**14.76**	**26**	⇓P	**Pn**	**18 49 41.0**	**+2.9**
baz=15,SNR=8.2							
LENM	**Lemitar**	**14.77**	**5**	*e*Pn	**Pn**	**18 49 38.4**	**-0.1**
BNM	**Barren Site**	**14.79**	**6

baz=15,SNR=78
SWSC **Sam W. Stewart** 15.01 335 ⇑P Pn 18 49 42.6 +1.1
baz=15
Y26A **Elida** 15.04 15 ⇑P Pn 18 49 43.8 +1.7
baz=15,SNR=28
Y14A **Wickenburg** 15.05 345 ⇑P Pn 18 49 43.8 +1.8
baz=15,SNR=23
Z29A **Hungry Hill Ra** 15.06 22 ⇑P Pn 18 49 44.7 +2.5
baz=15,SNR=11
131A **Roby** 15.07 27 ⇓P P 18 49 45.1 -2.2
baz=15,SNR=22
X20A **Quemado** 15.09 360 ⇓P P 18 49 45.5 -2.4
baz=15,SNR=17
X22A **Bernardo** 15.11 5 ⇑P P 18 49 45.8 -2.2
baz=15,SNR=9.5
X18A **Snowflake** 15.14 355 ⇑P Pn 18 49 45.5 +2.2
baz=15,SNR=31
BAR **Barrett** 15.15 332⇓*e*Pn Pn 18 49 43.6 +0.3
comp=Z,108nm,1.6s
Y27A **Causey** 15.18 17 ⇑P Pn 18 49 45.7 +1.8
baz=15,SNR=22
X16A **Lo Mia Camp, P** 15.20 350 ⇓P Pn 18 49 46.2 +2.0
baz=15,SNR=22
MONP **Monument Peak** 15.22 334 ⇑P Pn 18 49 45.2 +0.7
baz=15,SNR=15
X23A **Hourglass Bar** 15.26 7 ⇓P Pn 18 49 47.3 +2.4
baz=15,SNR=12
Y12C **Blythe** 15.29 340 ⇑P Pn 18 49 46.9 +1.7
baz=15,SNR=8.2
Z30A **Sanderson Ranc** 15.30 24 ⇑P P 18 49 47.8 -2.2
baz=16,SNR=18
X24A **Lazy VL Ranch,** 15.35 9 ⇓P P 18 49 48.7 -2.0
baz=16
ABTX **Abilene, Hawle** 15.36 29⇑*e*Pn Pn 18 49 46.3 +0.3
ABTX *e*Sn Sn 18 52 39.4 +3.9
ABTX **Abilene, Hawle** 15.36 29 ⇑P Pn 18 49 46.9 +0.8
baz=16,SNR=30
MSTX **Muleshoe** 15.37 18 *e*Pn Pn 18 49 46.1 -0.2
MSTX **Muleshoe** 15.37 18 ⇑P Pn 18 49 47.9 +1.6
baz=16,SNR=18
X25A **Clemmons Ranch** 15.44 12 ⇓P Pn 18 49 49.3 +2.0
baz=16
Y28A **McKinney Farm,** 15.47 20 ⇑P Pn 18 49 48.8 +1.1
baz=16
BC3 **Big Chuckawall** 15.52 338 ⇓P Pn 18 49 49.4 +1.1
baz=16,SNR=39
HKT **Hockley** 15.53 45⇑*i*P Pn 18 49 47.8 -0.5
HKT pmax pmax
comp=Z,314nm,1.7s
HKT **Hockley** 15.53 45⇑*i*Pn Pn 18 49 47.8 -0.5
comp=Z,314nm,1.7s
ANMO **Albuquerque** 15.59 6 Pn Pn 18 49 50.3 +1.0
ANMO **Albuquerque** 15.59 6 Pn Pn 18 49 50.3 +1.0
comp=Z,0.1nm,0.3s,baz=191,slow=11,SNR=13
Y29A **Porterfield Fa** 15.62 21 ⇓P Pn 18 49 51.6 +2.0
baz=16
X26A **CR and CF Fran** 15.65 14 ⇓P Pn 18 49 51.7 +1.7
baz=16,SNR=17
W20A **Ramah** 15.67 360 ⇑P P 18 49 53.1 -1.2
baz=16,SNR=30
W21A **San Fidel** 15.68 2 ⇑P P 18 49 52.7 -1.6
baz=16
W22A **Albuquerque** 15.68 5 ⇓P P 18 49 52.8 -1.6
baz=16
PDMCI **Parker Dam,Lak** 15.69 342 ⇓P Pn 18 49 52.1 +1.8
baz=16,SNR=22
W18A **Petrified Fore** 15.71 356⇓*e*Pn Pn 18 49 52.4 +1.7
W18A **Petrified Fore** 15.71 356 ⇑P Pn 18 49 52.7 +2.0
baz=16,SNR=25
Z31A **Sharp Cattle R** 15.72 26 ⇓P P 18 49 53.4 -1.3
baz=16,SNR=28
W23A **Werner Place,** 15.84 7 ⇑P P 18 49 55.0 -1.2
baz=16,SNR=24
PFO **Pinyon Flat Ob** 15.86 335 *e*Pn Pn 18 49 52.9 +0.2
comp=Z,50nm,1.2s
PFO **Pinyon Flat Ob** 15.86 335 Pn Pn 18 49 53.1 +0.4
comp=Z,0.2nm,0.3s,baz=169,slow=11,SNR=9.5
PFO LR LR 18 55 06.2
comp=Z,27μm,21.5s,baz=162,slow=34
PFO **Pinyon Flat Ob** 15.86 335 ⇑P Pn 18 49 53.6 +0.8
baz=16
IRM **Iron Mountain** 15.88 339 ⇓P Pn 18 49 54.0 +1.3
baz=16,SNR=40
Y30A **Stafford Cattl** 15.91 23 ⇓P P 18 49 55.5 -1.3
baz=16,SNR=18
X27A **F and S Farms,** 15.92 16 ⇑P Pn 18 49 54.9 +1.5
baz=16
WHTX **Lake Whitney** 15.96 36⇑*e*Pn Pn 18 49 54.3 +0.4
WHTX **Lake Whitney** 15.96 36 ⇓P Pn 18 49 55.3 +1.4
baz=16
W24A **Lazy 6 Ranch,** 15.98 9 ⇑P P 18 49 56.6 -1.1
baz=16,SNR=31
Z32A **Haskell** 16.00 28 ⇑P P 18 49 56.7 -1.1
baz=16,SNR=57
BELC **Belle Mtn. Jos** 16.03 337 ⇓P Pn 18 49 56.5 +1.6
baz=16,SNR=20
X28A **Dimmitt** 16.05 19 ⇓P Pn 18 49 56.4 +1.3
baz=16
X29A **Tulia** 16.14 20 ⇑P Pn 18 49 57.7 +1.4
baz=16
W25A **X Bar L Ranch,** 16.15 12 ⇑P Pn 18 49 57.9 +1.5
baz=16,SNR=21
MURC **Murrieta** 16.16 333 ⇓P Pn 18 49 57.6 +1.1
baz=16,SNR=7.9
W26A **Owens Ranch, T** 16.17 14 ⇑P P 18 49 58.4 -1.4
baz=16,SNR=8.1
Y31A **Rekieta Farm,** 16.23 25 ⇑P P 18 49 59.9 -0.5
baz=16,SNR=31
WUAZ **Wupatki** 16.27 351⇓*e*Pn P 18 49 59.8 -1.1
comp=Z,191nm,1.4s
WUAZ **Wupatki** 16.27 351 ⇓P P 18 50 00.0 -0.8
baz=16,SNR=34
SCI **San Clemente I** 16.28 328 ⇓P Pn 18 49 59.0 +1.1
baz=16,SNR=5.3
W27A **Bowe Ranch, En** 16.32 16 ⇓P Pn 18 49 59.7 +1.2
baz=16,SNR=6.5
V20A **Brimhall** 16.34 360 ⇑P P 18 50 01.7 -0.1
baz=16,SNR=7.8
V21A **Milan** 16.37 2 ⇑P P 18 50 02.1 +0.1
baz=17
W13A **Hualapai Mount** 16.37 344 ⇓P P 18 50 01.4 -0.7
baz=16
V23A **Ortiz Mt. (NFS** 16.41 7 ⇑P P 18 50 02.7 +0.2
baz=17,SNR=15
X30A **Coker Ranch, T** 16.43 23 ⇑P P 18 50 02.8 +0.3
baz=17,SNR=12
V24A **Rampart Ranch,** 16.51 9 ⇑P P 18 50 03.8 +0.2
baz=17,SNR=24
V22A **San Miguel Ran** 16.51 4 ⇓P P 18 50 03.9 +0.2
baz=17,SNR=30
CIS **Catalina Islan** 16.55 329 ⇑P Pn 18 50 02.5 +1.0
baz=17
Y32A **R-V Farms, Ver** 16.61 27 ⇓P P 18 50 04.3 -0.2
baz=17,SNR=20
GMRC **Granite Mounta** 16.61 339 ⇓P P 18 50 04.1 -0.6
baz=17,SNR=20
BBRC **Big Bear Solar** 16.62 335 ⇓P P 18 50 04.9 +0.1
baz=17
V25A **Rancho No Teng** 16.73 11 ⇓P P 18 50 05.9 -0.1
baz=17,SNR=44
W28A **Vega** 16.74 18 ⇑P Pn 18 50 04.7 +0.8
baz=17
FMP **Fort Macarthur** 16.75 330 ⇑P Pn 18 50 04.7 +0.8
baz=17
W29A **Amraillo** 16.78 20 ⇑P Pn 18 50 05.4 +1.1
baz=17
V26A **Tequesquite Ra** 16.85 13 ⇑P P 18 50 06.8 -0.4
baz=17,SNR=7.2
HEC **Hector,Ludlow** 16.89 337 ⇑P P 18 50 07.6 -0.1
baz=17,SNR=22
BFSC **Mount Baldy Ra** 16.91 333 ⇓P P 18 50 07.4 -0.5
baz=17,SNR=20
U20A **Newcomb** 16.92 360 ⇓P P 18 50 08.6 +0.5
baz=17,SNR=13
X31A **McDonald Ranch** 16.93 25 ⇓P P 18 50 08.1 0.0
baz=17,SNR=10.0
U22A **Llaves** 16.98 4 ⇓P P 18 50 09.6 +0.8
baz=17,SNR=16
U21A **Nageezi** 16.99 2 ⇓P P 18 50 09.5 +0.6
baz=17,SNR=29
U23A **El Rito** 16.99 6 ⇓P P 18 50 09.2 +0.3
baz=17,SNR=9.7
V27A **Dan Oppiter Fa** 17.04 16 ⇓P P 18 50 09.0 -0.3
baz=17
MWC **Mount Wilson** 17.07 332⇓*e*P P 18 50 09.2 -0.6
MWC pmax pmax
comp=Z,94nm,1.3s
MWC **Mount Wilson** 17.07 332⇓*e*Pn P 18 50 09.2 -0.6
comp=Z,94nm,1.3s
PASC **Pasadena Art C** 17.08 331 *e*P P 18 50 09.2 -0.5
comp=Z,160nm,1.7s
U24A **Moreno Valley** 17.18 9 ⇓P P 18 50 12.0 +0.9
baz=17
RRX **Edison Barstow** 17.19 336 ⇑P P 18 50 11.3 +0.4
baz=17
V28A **Channing** 17.19 17 ⇑P P 18 50 10.6 -0.4
baz=17
W30A **Crocket Farms** 17.20 22 ⇑P P 18 50 10.8 -0.3
baz=17
DECC **Green Verdugo** 17.21 331 ⇓P P 18 50 11.0 -0.2
baz=17
TUQ **Turquoise Moun** 17.30 339 ⇓P P 18 50 13.0 +0.8
baz=18,SNR=18
U15A **North Rim** 17.31 350 ⇑P P 18 50 13.9 +1.4
baz=18
U25A **Circle Dot Ran** 17.31 11 ⇑P P 18 50 13.3 +0.8
baz=18,SNR=37
U26A **Atchley Ranch,** 17.43 13 ⇑P P 18 50 14.2 +0.4
baz=18,SNR=13
W31A **Holland Ranch,** 17.44 24 ⇓P P 18 50 14.8 +1.2
baz=18,SNR=7.2
BLG **Laguna Peak** 17.44 329 ⇑P Pn 18 50 13.2 +0.7
baz=18
NATX **Nacogdoches** 17.47 42⇑*e*Pn P 18 50 14.0 0.0
comp=Z,651nm,1.6s
GSC **Goldstone** 17.49 337⇑*i*P P 18 50 14.9 +0.6
GSC pmax pmax
comp=Z,405nm,2.0s
GSC **Goldstone** 17.49 337⇑*i*Pn P 18 50 14.9 +0.6
comp=Z,406nm,2.0s
GSC **Goldstone** 17.49 337 ⇓P P 18 50 14.9 +0.6
baz=18,SNR=15
V29A **Stinnett** 17.51 19 ⇓P P 18 50 15.0 +0.4
baz=18
WMOK **Wichita Mounta** 17.52 27⇑*e*P Pn 18 50 13.6 0.0
WMOK pmax pmax
comp=Z,179nm,1.5s
WMOK **Wichita Mounta** 17.52 27⇑*e*P Pn 18 50 13.6 0.0
comp=Z,179nm,1.5s
T21A **Navajo Lake** 17.55 2 ⇑P P 18 50 16.6 +1.5
baz=18,SNR=9.7
EDW2 **Edwards Air Fo** 17.60 333 ⇓P P 18 50 15.9 +0.4
baz=18,SNR=9.6
T22A **Edith** 17.61 4 ⇑P P 18 50 17.1 +1.3
baz=18,SNR=27
U27A **Thompson Grove** 17.67 15 ⇓P P 18 50 16.7 +0.4
baz=18,SNR=9.7
V30A **Spur Ranch, Mi** 17.68 21 ⇑P P 18 50 17.2 +0.8
baz=18
OSI **Osito Adit** 17.70 331⇓*i*Pn P 18 50 17.2 +0.6
comp=Z,215nm,1.6s
OSI **Osito Adit** 17.70 331 ⇑P P 18 50 17.7 +1.1
baz=18
T23A **Casias Ranch,** 17.70 6 ⇓P P 18 50 18.8 +1.9
baz=18
APG **El Apazote** 17.71 101 P P 18 50 18.6 +1.5
APG **El Apazote** 17.71 101 P P 18 50 18.6 +1.5
comp=Z,0.2nm,0.3s,baz=307,slow=10,SNR=18
MVCO **Mesa Verde** 17.75 360⇓*i*Pn P 18 50 18.4 +1.1
comp=Z,242nm,1.6s
MVCO **Mesa Verde** 17.75 360 ⇑P P 18 50 18.4 +1.1
baz=18,SNR=15
U28A **Mallet** 17.78 17 ⇓P P 18 50 18.3 +0.8
baz=18
T24B **San Luis** 17.81 8 ⇑P P 18 50 19.7 +1.7
baz=18,SNR=20
SHOC **Shoshone** 17.84 339 ⇑P P 18 50 19.1 +1.1
baz=18
LRMC **Laurel Mountai** 17.99 335 ⇑P P 18 50 20.8 +0.9
baz=18,SNR=14
V31A **Spring Creek L** 17.99 23 ⇑P P 18 50 22.0 +2.2
baz=18,SNR=8.5
SBC **Santa Barbara** 18.03 329 ⇑P P 18 50 21.2 +1.1
baz=18
T25A **Trinidad** 18.03 10 ⇑P P 18 50 21.8 +1.4
baz=18,SNR=14
SHPR **Sheep Range** 18.04 342 *e*Pn P 18 50 21.5 +1.0
comp=Z,334nm,2.1s
U29A **Oasis Ranch, S** 18.12 19 ⇑P P 18 50 21.9 +0.6
baz=18
ARVC **Arvin** 18.17 332 ⇓P P 18 50 22.3 +0.6
baz=18
S21A **Coal Bank Pass** 18.21 2 ⇑P P 18 50 24.3 +1.8
baz=18,SNR=30
T26A **Comanche Natio** 18.22 12 ⇑P P 18 50 23.7 +1.3
baz=18
T27A **Campo** 18.30 15 ⇓P P 18 50 24.6 +1.3
baz=18
S22A **4UR Ranch, Cre** 18.34 4 ⇓P Pn 18 50 26.2 +2.2
baz=18,SNR=18
S23A **Nye Farm, Mont** 18.37 6 ⇓P Pn 18 50 25.8 +1.6
baz=19
S20A **Disappointment** 18.37 0 ⇑P Pn 18 50 26.2 +1.9
baz=19,SNR=16
U30A **WK&E Inc. Balk** 18.39 20 ⇑P Pn 18 50 25.7 +1.3
baz=19
S24A **Houchin Ranch,** 18.40 8 ⇓P Pn 18 50 26.6 +2.0
baz=19,SNR=11
MPMC **Maual Prospec** 18.42 336 ⇓P Pn 18 50 26.0 +1.3
baz=19,SNR=21
PKM **Peak Mountain** 18.44 329 ⇑P Pn 18 50 26.2 +1.1
baz=19,SNR=27
SDCO **Great Sand Dun** 18.47 7⇓*i*P Pn 18 50 26.8 +1.4
comp=Z,214nm,1.8s
ISA **Isabella** 18.47 333⇓*e*P Pn 18 50 25.6 +0.3
ISA pmax pmax
comp=Z,65nm,1.4s
ISA **Isabella** 18.47 333⇓*e*P Pn 18 50 25.6 +0.3
comp=Z,65nm,1.4s
ISA **Isabella** 18.47 333 ⇓P Pn 18 50 25.9 +0.7
baz=19,SNR=10.0
T28A **Walsh** 18.51 16 ⇓P Pn 18 50 27.1 +1.3
baz=19
U31A **Nine Bar Ranch** 18.52 22 ⇓P Pn 18 50 27.4 +1.6
baz=19
S25A **Robets Cordova** 18.54 10 ⇑P Pn 18 50 27.5 +1.3
baz=19
FURC **Furnace Creek,** 18.55 338 ⇑P Pn 18 50 27.2 +1.0
baz=19,SNR=6.8
CCUT **Cedar City** 18.60 348⇓*e*P Pn 18 50 28.1 +1.2
comp=Z,150nm,1.7s
S26A **Kim** 18.67 12 ⇓P Pn 18 50 29.3 +1.5
baz=19,SNR=13
R20A **Redvale** 18.73 0 ⇓P Pn 18 50 30.1 +1.6
baz=19
T29A **Hugoton** 18.77 18 ⇓P Pn 18 50 29.2 +0.3
baz=19
R22A **Saguache, Gunn** 18.83 4 ⇓P Pn 18 50 31.6 +1.8
baz=19,SNR=34
S27A **Las Animas** 18.86 14 ⇓P Pn 18 50 31.2 +1.1
baz=19
SMMC **Simmler** 18.86 330 ⇑P Pn 18 50 30.8 +0.8
baz=19,SNR=5.3
R23A **Moffat** 18.87 6 ⇓P Pn 18 50 31.9 +1.6
baz=19,SNR=27
VES **Vestal, Richgr** 18.88 332 ⇓P Pn 18 50 30.4 +0.2
baz=19,SNR=19
T30A **Plains** 18.91 20 ⇑P Pn 18 50 30.8 +0.3
baz=19
R21A **Cimarron** 18.93 2 ⇑P Pn 18 50 32.3 +1.3
baz=19,SNR=16
CWC **Cottonwood Cre** 18.98 335 ⇑P Pn 18 50 31.4 -0.2
baz=19
TEIG **Tepich** 18.99 84⇑*e*P P 18 50 29.8 -1.0
comp=Z,114nm,1.6s
TEIG **Tepich** 18.99 84 P Pn 18 50 31.9 +0.3
comp=Z,0.8nm,0.3s,baz=270,slow=14,SNR=7.2
TEIG LR LR 18 58 06.6
comp=Z,8μm,21.5s,baz=275,slow=38
R24A **Sanders Place,** 19.00 8 ⇑P Pn 18 50 33.1 +1.4
baz=19,SNR=6.9
S28A **Manter** 19.01 16 ⇑P Pn 18 50 32.5 +0.6
baz=19
R25A **Fountain Ranch** 19.04 10 ⇓P Pn 18 50 33.0 +0.8
baz=19,SNR=33
GRAC **Grapevine Rang** 19.21 338 ⇓P Pn 18 50 35.0 +0.8
baz=19,SNR=17
T31A **Randall Ranch,** 19.24 22 ⇓P Pn 18 50 35.8 +1.3
baz=19,SNR=21
S29A **Ulysses** 19.25 18 ⇑P Pn 18 50 34.9 +0.1
baz=19
MVU **Marysvale** 19.32 351⇓*e*P Pn 18 50 36.5 +0.8
comp=Z,152nm,1.8s
R26A **Arlington** 19.34 12 ⇑P Pn 18 50 35.7 -0.1
baz=20,SNR=14
RCTC **Rector, Farmer** 19.35 333 ⇑P Pn 18 50 35.4 -0.4
baz=20
Q21A **Lamborn Mesa,** 19.39 2 ⇓P Pn 18 50 37.3 +0.8
baz=20,SNR=7.7
Q22A **Crested Butte,** 19.45 4 ⇑P Pn 18 50 37.4 +0.1
baz=20,SNR=6.0
R27A **Eads** 19.45 13 ⇑P Pn 18 50 37.7 +0.6
baz=20,SNR=22
S30A **Montezuma** 19.47 19 ⇓P Pn 18 50 37.1 -0.2
baz=20
Q20A **Ridgley Place,** 19.49 0 ⇓P Pn 18 50 37.9 +0.2
baz=20,SNR=9.9
Q23A **Hartsel** 19.57 6 ⇑P Pn 18 50 39.2 +0.4
baz=20,SNR=18
TIN **Tinemaha** 19.57 336 ⇑P Pn 18 50 38.5 -0.1
baz=20
Q16A **Castle Valley** 19.60 354⇓*e*P Pn 18 50 38.5 -0.6
Q16A **Castle Valley** 19.60 354 ⇓P Pn 18 50 39.0 0.0
baz=20,SNR=9.9
Q24A **Divide** 19.71 8 ⇑P Pn 18 50 40.6 +0.2
baz=20,SNR=5.3
R28A **Tribune** 19.74 16 ⇑P Pn 18 50 40.6 +0.1
baz=20,SNR=6.0
SMCO **Snowmass** 19.76 3⇓*e*P Pn 18 50 40.8 -0.3
comp=Z,263nm,1.8s
S31A **Mullinville** 19.77 21 ⇓P Pn 18 50 40.6 -0.3
baz=20
Q25A **Bedland, Calha** 19.79 10 ⇑P Pn 18 50 41.6 +0.4
baz=20
TUL1 **Tulsa** 19.87 32 *e*P P 18 50 40.8 +0.4
TUL1 **Tulsa** 19.87 32 ⇑P Pn 18 50 42.5 +0.5
baz=20,SNR=8.6
R11A **Troy Canyon, C** 19.89 343⇓*i*P Pn 18 50 41.9 -0.5
R11A **Troy Canyon, C** 19.89 343 ⇑P Pn 18 50 42.0 -0.3
baz=20,SNR=48
Q26A **Hugo** 19.92 11 ⇓P Pn 18 50 42.4 -0.4
baz=20
TMUT **Trail Mountain** 19.98 354 *e*P Pn 18 50 43.2 -0.4
comp=Z,206nm,1.6s
R29A **Marienthal** 20.00 17 ⇓P P 18 50 42.8 +1.0
baz=20
P20A **De Beque** 20.04 0 ⇑P Pn 18 50 43.7 -0.6
baz=20,SNR=9.8
P23A **Jefferson** 20.04 6 ⇓P Pn 18 50 44.9 +0.4
baz=20,SNR=23
MIAR **Mount Ida** 20.05 38⇑*i*P P 18 50 42.3 +0.1
MIAR pmax pmax
comp=Z,41nm,1.1s
MIAR **Mount Ida** 20.05 38⇑*i*P P 18 50 42.3 +0.1
comp=Z,41nm,1.1s
P21A **Newcastle** 20.08 2 ⇑P Pn 18 50 44.9 +0.1
baz=20,SNR=11
R30A **Dighton** 20.12 19 ⇓P P 18 50 43.7 +0.6
baz=20
P19A **Cripple Cowboy** 20.18 359 ⇓P Pn 18 50 45.4 -0.5
baz=20,SNR=10
P22A **Eagle** 20.19 4 ⇓P Pn 18 50 45.3 -0.7
baz=20
KSCO **Kaye Shedlock'** 20.19 13 *e*P Pn 18 50 45.7 -0.3
KSCO **Kaye Shedlock'** 20.19 13 ⇑P Pn 18 50 45.1 -0.8
baz=20
P24A **Kohler Place,** 20.28 8 ⇑P Pn 18 50 46.7 -0.5
baz=20
MLAC **Mammoth Lakes** 20.31 336 ⇓P Pn 18 50 46.9 -0.6
baz=20
R31A **Burdett** 20.36 21 ⇓P Pn 18 50 47.3 -0.5
baz=20
P25A **Willow Gulch B** 20.39 10 ⇑P Pn 18 50 47.7 -0.6
baz=21,SNR=12
Q28A **Sharon Springs** 20.42 15 ⇑P P 18 50 47.5 +1.1
baz=21
Q29A **Oakley** 20.48 17 ⇑P P 18 50 48.0 +1.0
baz=21
ISCO **Idaho Springs** 20.48 6⇓*i*P Pn 18 50 48.6 -1.0
ISCO pmax pmax
comp=Z,112nm,1.5s
ISCO **Idaho Springs** 20.48 6⇓*i*P P 18 50 48.6 +1.3
comp=Z,112nm,1.5s
ISCO **Idaho Springs** 20.48 6 ⇑P Pn 18 50 49.0 -0.7
baz=21,SNR=14
VBMS **Vicksburg** 20.54 48⇑*i*P P 18 50 48.1 +0.4
comp=Z,286nm,1.2s
P26A **Davis Ranch, A** 20.57 11 ⇓P Pn 18 50 49.4 -1.1
baz=21
O20A **White River Ci** 20.67 0⇓*i*P P 18 50 50.3 +1.0
O20A **White River Ci** 20.67 0 ⇑P Pn 18 50 50.7 -1.0
baz=21
P27A **Ficken Ranch,** 20.72 13 ⇑P Pn 18 50 51.3 -0.9
baz=21
SAO **San Andreas Ge** 20.73 329 *e*P P 18 50 49.8 +0.1
SAO pmax pmax
comp=Z,122nm,1.6s
SAO **San Andreas Ge** 20.73 329 *e*P P 18 50 49.8 +0.1
comp=Z,122nm,1.6s
NLU **North Lily Min** 20.73 352⇓*i*P P 18 50 51.1 +1.2
comp=Z,95nm,1.4s
MPU **Maple Canyon** 20.74 353⇓*i*P P 18 50 51.2 +1.2
comp=Z,345nm,1.8s
O22A **Kremmling** 20.76 4 ⇑P Pn 18 50 52.0 -0.9
baz=21,SNR=17
NV11 **Mina Array Sit** 20.77 338⇓*i*P P 18 50 51.1 +0.8
O21A **Pagoda** 20.77 2 ⇑P Pn 18 50 51.9 -1.0
baz=21
Q30A **Quinter** 20.77 18 ⇑P P 18 50 50.6 +0.4
baz=21
NVAR **Mina Array Bea** 20.82 338 P P 18 50 52.0 +1.1
NVAR **Mina Array Bea** 20.82 338 P P 18 50 52.0 +1.1
comp=Z,10nm,0.9s,baz=167,slow=11,SNR=47
NVAR LR LR 18 58 04.2
comp=Z,10μm,22.0s,baz=205,slow=35
O19A **Miners Draw (B** 20.84 359 ⇓P Pn 18 50 52.5 -1.1
baz=21,SNR=26
O23A **Lake Granby, G** 20.86 5 ⇑P P 18 50 52.8 +1.4
baz=21
O24A **Longmont** 20.86 7 ⇑P P 18 50 52.6 +1.3
baz=21
P28A **Saint Francis** 20.92 15 ⇓P P 18 50 53.2 +1.3
baz=21
UALR **University of** 20.93 40⇑*i*P P 18 50 52.2 +0.3
comp=Z,172nm,1.3s
TGUH **Tegucigalpa,Un** 20.95 101⇑*i*P Pn 18 50 53.9 -0.9
comp=Z,410nm,1.4s
O25A **Wiggins** 20.98 9 ⇓P Pn 18 50 54.2 -1.0
baz=21
Q31A **Ellis** 21.05 20 ⇑P P 18 50 54.2 +0.9
baz=21
DUG **Dugway** 21.07 351⇓*i*P P 18 50 54.9 +1.4
DUG pmax pmax
comp=Z,152nm,1.3s
DUG **Dugway** 21.07 351⇓*i*P P 18 50 54.9 +1.4
comp=Z,152nm,1.3s
DUG **Dugway** 21.07 351 ⇓P P 18 50 55.2 +1.7
baz=21,SNR=56
DAU **Daniels Canyon** 21.09 354 *e*P P 18 50 55.1 +1.2
DAU pmax pmax
comp=Z,197nm,1.4s
DAU **Daniels Canyon** 21.09 354 *e*P P 18 50 55.1 +1.2
comp=Z,197nm,1.4s
P29A **Atwood** 21.16 16 ⇓P P 18 50 55.3 +0.9
baz=21
O26A **Horse Wrangler** 21.24 11 ⇑P P 18 50 56.8 +1.5
baz=21
CMB **Columbia Colle** 21.29 333⇓*i*P P 18 50 55.7 -0.1
CMB pmax pmax
comp=Z,57nm,1.1s
CMB **Columbia Colle** 21.29 333⇓*i*P P 18 50 55.7 -0.1
comp=Z,57nm,1.1s
P30A **Selden** 21.29 18 ⇓P P 18 50 56.3 +0.5
baz=22
JLU **Jordanelle** 21.30 354⇓*i*P P 18 50 56.8 +0.7
comp=Z,290nm,1.6s
WAKR **Walker** 21.30 336 *e*P P 18 50 57.2 +1.1
comp=Z,168nm,1.1s
N21A **Black Mountain** 21.31 2 ⇑P P 18 50 57.5 +1.3
baz=22,SNR=8.4
O27A **Beecher Island** 21.35 13 ⇓P P 18 50 58.0 +1.5
baz=22
N20A **Spence Gulch,** 21.37 0 ⇑P P 18 50 58.0 +1.1
baz=22,SNR=15
N22A **Wattenberg Ran** 21.41 4 ⇓P P 18 50 59.0 +1.8
baz=22,SNR=33
CTU **Camp Tracy** 21.42 353 *e*P P 18 50 58.5 +1.2
comp=Z,293nm,1.9s
O28A **Krutsinger Ran** 21.44 14 ⇑P P 18 50 58.6 +1.1
baz=22
P31A **Stockton** 21.53 19 ⇓P P 18 50 58.5 +0.1
baz=22
N23A **Red Feather La** 21.54 5 ⇑P P 18 50 59.9 +1.3
baz=22,SNR=15

N24A	Carr	21.58	7	⇓P	P	18 51 00.7 +1.7
	baz=22					
N25A	Grover	21.67	9	⇑P	P	18 51 01.4 +1.4
	baz=22					
O29A	4D Ranch, Culb	21.68	16	⇓P	P	18 51 00.9 +1.0
	baz=22					
BGU	Big Grassy Mou	21.82	351	⇓iP	P	18 51 02.3 +0.8
	comp=Z,142nm,1.7s					
N26A	Koester Ranch,	21.83	11	⇓P	P	18 51 02.7 +1.1
	baz=22					
N27A	Anderson Farm,	21.93	12	⇑P	P	18 51 03.2 +0.5
	baz=22					
O30A	MW Ranch, Wils	21.93	17	⇑P	P	18 51 02.7 0.0
	baz=22					
PHWY	Pilot Hill	21.99	6	eP	P	18 51 04.5 +1.1
	comp=Z,165nm,1.7s					
M22A	Cedar Creek Ra	22.00	4	⇑P	P	18 51 04.4 +0.9
	baz=22,SNR=6.7					
M20A	Sweetwater, Wa	22.03	1	⇓P	P	18 51 04.4 +0.5
	baz=22,SNR=6.9					
N28A	Pribbeno Ranch	22.03	14	⇓P	P	18 51 04.5 +0.8
	baz=22					
M19A	Rock Springs	22.05	359	⇑P	P	18 51 04.4 +0.3
	baz=22					
ELK	Elko	22.07	346	eP	P	18 51 04.8 +0.5
	comp=Z,89nm,1.5s					
M17A	Scullys Gap (B	22.09	356	⇑P	P	18 51 05.3 +0.8
	baz=22,SNR=9.4					
SPUT	South Promonto	22.11	352	eP	P	18 51 06.0 +1.3
	comp=Z,313nm,1.8s					
M23A	Laramie	22.13	5	⇓P	P	18 51 05.9 +1.0
	baz=22					
KSU1	Kansas State U	22.15	25	eP	P	18 51 05.1 +0.2
	comp=Z,124nm,1.2s					
M21A	Separation Pea	22.16	2	⇓P	P	18 51 05.8 +0.5
	baz=22					
OGNE	Ogallala	22.17	13	eP	P	18 51 05.9 +0.7
	comp=Z,339nm,1.5s					
OGNE	Ogallala	22.17	13	⇑P	P	18 51 06.2 +1.0
	baz=22					
M24A	Cheyenne	22.22	7	⇓P	P	18 51 07.0 +1.1
	baz=22					
RWWY	Rawlins	22.25	2	eP	P	18 51 06.4 +0.1
	comp=Z,170nm,1.5s					
BMN	Battle Mountai	22.28	342	eP	P	18 51 07.2 +0.7
BMN				pmax	pmax	
	comp=Z,57nm,1.1s					
BMN	Battle Mountai	22.28	342	eP	P	18 51 07.2 +0.7
	comp=Z,57nm,1.1s					
M25A	Palm-Egli Farm	22.29	9	⇑P	P	18 51 07.0 +0.4
	baz=22					
HWUT	Hardware Ranch	22.30	354	eP	P	18 51 07.7 +0.9
	comp=Z,209nm,1.7s					
PAHR	Pah Rah Range	22.34	337	eP	P	18 51 08.2 +1.1
	comp=Z,119nm,1.2s					
N29A	Votaw Ranch, W	22.38	16	⇓P	P	18 51 07.9 +0.5
	baz=23					
M26A	McRoberts Ranc	22.46	10	⇓P	P	18 51 09.2 +0.8
	baz=23					
HBAR	Harrisburg	22.48	41	eP	P	18 51 09.4 +0.9
N30A	Hueftle Ranch,	22.50	17	⇑P	P	18 51 09.3 +0.6
	baz=23					
BRAL	Brewton	22.50	55	eP	P	18 51 10.8 +2.1
	comp=Z,198nm,1.1s					
L18A	Fontenelle, Gr	22.50	357	⇓P	P	18 51 09.2 +0.3
	baz=23,SNR=19					
L21A	Rawlins	22.52	2	⇑P	P	18 51 08.8 -0.3
	baz=23,SNR=18					
L20A	Wamsutter	22.54	0	⇑P	P	18 51 09.6 +0.2
	baz=23,SNR=24					
HVU	Hansel Valley	22.62	352	eP	P	18 51 10.8 +0.7
HVU				pmax	pmax	
	comp=Z,253nm,1.8s					
HVU	Hansel Valley	22.62	352	eP	P	18 51 10.8 +0.7
	comp=Z,253nm,1.8s					
OXF	Oxford	22.62	44	eP	P	18 51 09.8 -0.2
OXF				pmax	pmax	
	comp=Z,160nm,1.3s					
OXF	Oxford	22.62	44	eP	P	18 51 09.8 -0.2
	comp=Z,160nm,1.3s					
L22A	Ellis Ranch, M	22.63	4	⇑P	P	18 51 11.6 +1.3
	baz=23,SNR=8.1					
L19A	Farson	22.65	358	P	P	18 51 10.7 +0.2
	baz=23					
M27A	Reverse DX Ran	22.66	12	⇑P	P	18 51 11.2 +0.7
	baz=23					
M28A	Bar X Bar Ranc	22.75	14	⇑P	P	18 51 12.1 +0.7
	baz=23					
L23A	Garrett	22.77	5	⇓P	P	18 51 12.3 +0.5
	baz=23,SNR=8.2					
L24A	Wheatland	22.77	7	⇑P	P	18 51 12.2 +0.4
	baz=23					
BEKR	Beckworth	22.84	336	eP	P	18 51 13.6 +1.1
	comp=Z,108nm,1.7s					
M29A	Burnside Ranch	22.95	15	⇑P	P	18 51 13.9 +0.4
	baz=23					
N32A	Stulken Farm,	23.00	20	⇓P	P	18 51 14.5 +0.5
	baz=23					
L25A	Engebretsen Ra	23.01	9	⇑P	P	18 51 14.7 +0.6
	baz=23					
L26A	Underwood Farm	23.03	10	⇑P	P	18 51 14.8 +0.5
	baz=23					
GNAR	Gosnell	23.14	41	eP	P	18 51 16.0 +0.6
	comp=Z,5µm,1.5s					
K21A	Alcova	23.19	2	⇑P	P	18 51 15.9 -0.2
	baz=23,SNR=11					
K20A	Yellowstone Ra	23.19	0	⇓P	P	18 51 16.3 +0.2
	baz=23					
L27A	T5 Ranch, Ells	23.21	12	⇓P	P	18 51 17.0 +0.8
	baz=23					
K22A	Casper	23.24	4	⇓P	P	18 51 17.3 +0.7
	baz=23,SNR=29					
M30A	Dale-Ortello V	23.25	16	⇓P	P	18 51 16.9 +0.4
	baz=23					
HOPS	Hopland	23.28	330	eP	P	18 51 17.1 +0.3
L28A	Connealy Angus	23.30	13	⇑P	P	18 51 17.7 +0.6
	baz=24					
BW06	Boulder Array	23.32	358	eP	P	18 51 17.5 0.0
	comp=Z,172nm,2.0s					
PDAR	Pinedale Array	23.32	358	P	P	18 51 18.0 +0.6
PDAR	Pinedale Array	23.32	358	P	P	18 51 18.0 +0.6
	comp=Z,5.0nm,0.7s,baz=161,slow=9.6,SNR=21					
K19A	Absolon Red Bu	23.36	359	⇑P	P	18 51 17.8 0.0
	baz=24,SNR=5.9					
K23A	Bowen Ranch, D	23.41	5	⇓P	P	18 51 18.6 +0.4
	baz=24					
K24A	Anderson Ranch	23.46	7	⇓P	P	18 51 19.3 +0.6
	baz=24					
K25A	Mack Ranch, Ha	23.47	8	⇑P	P	18 51 19.6 +0.9
	baz=24					
LRAL	Lakeview Retre	23.49	50	eP	P	18 51 19.1 +0.2
	comp=Z,167nm,1.4s					
HALT	Halls	23.53	42	eP	P	18 51 21.0 +1.7
L29A	Maesberg Ranch	23.59	15	⇓P	P	18 51 19.9 0.0
	baz=24					
BGNE	Belgrade	23.63	20	P	P	18 51 23.4 +3.1
BGNE	Belgrade	23.63	20	⇑P	P	18 51 20.5 +0.2
	baz=24					
K26A	Motz Farm, Whi	23.66	10	⇑P	P	18 51 21.3 +0.7
	baz=24,SNR=8.2					
L30A	Spencer Herefo	23.68	16	⇓P	P	18 51 21.1 +0.4
	baz=24					
PARMO	Parma	23.76	40	eP	P	18 51 21.4 -0.1
GLAT	Glass	23.79	41	eP	P	18 51 22.6 +0.9
J19A	Crowheart	23.81	359	⇑P	P	18 51 22.5 +0.4
	baz=24,SNR=17					
K27A	Flueckinger Fa	23.82	11	⇓P	P	18 51 22.5 +0.4
	baz=24					
J20A	Shoshoni	23.89	1	⇑P	P	18 51 23.4 +0.6
	baz=24,SNR=7.0					
J21A	Lysite	23.90	2	⇑P	P	18 51 23.6 +0.7
	baz=24,SNR=6.7					
REDW	Red Top Meadow	23.98	356	eP	P	18 51 24.0 +0.2
	comp=Z,188nm,1.5s					
J22A	Midwest	24.00	4	⇓P	P	18 51 24.1 +0.2
	baz=24,SNR=10					
K28A	Ten Mile Ranch	24.01	13	⇓P	P	18 51 24.4 +0.6
	baz=24					
RRI2	Red Ridge	24.01	355	eP	P	18 51 24.3 +0.2
	comp=Z,156nm,1.4s					
LBCM	Butte Creek Ri	24.06	335	P	P	18 51 25.2 +0.8
J23A	Dilts Ranch, B	24.06	5	⇑P	P	18 51 24.8 +0.4
	baz=24					
J24A	Dixon Ranch, L	24.08	7	⇓P	P	18 51 24.8 +0.3
	baz=24					
SNOW	Snow King Moun	24.08	356	eP	P	18 51 25.5 +0.7
	comp=Z,299nm,1.6s					
TPAW	Teton Pass	24.12	356	eP	P	18 51 25.7 +0.6
	comp=Z,199nm,1.6s					
KIPM	Iron Peak	24.12	331	eP	P	18 51 26.1 +1.1
	comp=Z,106nm,1.3s					
L31A	Butterfield Fa	24.13	18	⇑P	P	18 51 24.6 -0.3
	baz=24					
J25A	Sunshine Ranch	24.24	8	⇓P	P	18 51 26.4 +0.4
	baz=24					
I18A	Diamond G Ranc	24.27	358	⇓P	P	18 51 26.4 -0.1
	baz=24					
J26A	Sides Ranch, S	24.27	10	⇑P	P	18 51 26.8 +0.4
	baz=24,SNR=14					
K29A	Lazy Trails An	24.29	15	⇑P	P	18 51 27.1 +0.7
	baz=24					
WDC	Whiskeytown Da	24.33	333	eP	P	18 51 24.5 -2.3
WDC				pmax	pmax	
	comp=Z,33nm,1.1s					
WDC	Whiskeytown Da	24.33	333	eP	P	18 51 24.5 -2.3
	comp=Z,33nm,1.1s					
MOOW	Moose Ponds	24.36	356	eP	P	18 51 27.5 +0.2
	comp=Z,85nm,1.5s					
I21A	Big Trails, Te	24.37	2	⇑P	P	18 51 27.8 +0.5
	baz=25,SNR=10.0					
J27A	Elkhorn Farm,	24.40	11	⇑P	P	18 51 27.7 +0.3
	baz=25					
LTIM	Timbered Crate	24.41	336	P	P	18 51 28.4 +0.8
JTS	JuntasAbangare	24.41	108	eP	P	18 51 26.7 -1.1
	comp=Z,1µm,1.6s					
I22A	9 Mile Ranch,	24.48	3	⇑P	P	18 51 29.1 +0.8
	baz=25,SNR=9.0					
I20A	Worland	24.49	1	⇓P	P	18 51 29.2 +0.9
	baz=25,SNR=27					
I17A	Pilgrim Ck.	24.52	356	⇑P	P	18 51 29.4 +0.7
	baz=25					
IMW	Indian Meadow	24.52	356	eP	P	18 51 29.4 +0.5
	comp=Z,119nm,1.4s					
WVOR	Wild Horse Val	24.54	342	eP	P	18 51 28.8 0.0
WVOR				pmax	pmax	
	comp=Z,96nm,1.1s					
WVOR	Wild Horse Val	24.54	342	eP	P	18 51 28.8 0.0
	comp=Z,96nm,1.1s					
I19A	Meeteetse	24.58	359	⇑P	P	18 51 29.9 +0.7
	baz=25,SNR=18					
MOD	Modoc	24.60	338	eP	P	18 51 30.1 +0.6
	comp=Z,442nm,1.1s					
I24A	Kuemmerle Ranc	24.60	7	⇓P	P	18 51 30.0 +0.6
	baz=25					
HLID	Hailey	24.62	350	eP	P	18 51 30.0 +0.5
	comp=Z,32nm,1.1s					
HLID	Hailey	24.62	350	⇑P	P	18 51 30.7 +1.2
	baz=25,SNR=19					
I23A	Meade Ranch, G	24.62	5	⇑P	P	18 51 30.3 +0.7
	baz=25					
WVT	Waverly	24.63	43	eP	P	18 51 30.3 +0.8
WVT				pmax	pmax	
	comp=Z,105nm,1.5s					
WVT	Waverly	24.63	43	eP	P	18 51 30.3 +0.8
	comp=Z,105nm,1.5s					
FLWY	Flagg Ranch	24.69	356	eP	P	18 51 31.1 +0.9
	comp=Z,286nm,1.8s					
J28A	Allard Ranch,	24.71	13	⇓P	P	18 51 31.7 +1.4
	baz=25					
MFID	Camas Ranch	24.75	347	⇑P	P	18 51 31.3 +0.7
	baz=25,SNR=11					
SIUC	Southern Illin	24.78	39	eP	P	18 51 31.9 +1.1
	comp=Z,165nm,1.4s					
SLM	Saint Louis	24.84	36	eP	P	18 51 32.6 +1.2
SLM				pmax	pmax	
	comp=Z,144nm,1.3s					
SLM	Saint Louis	24.84	36	eP	P	18 51 32.6 +1.2
	comp=Z,144nm,1.3s					
I25A	Rochford	24.87	8	⇓P	P	18 51 32.9 +1.1
	baz=25,SNR=7.1					
RSSD	Black Hills	24.93	8	eP	P	18 51 34.0 +1.5
RSSD				pmax	pmax	
	comp=Z,67nm,0.9s					
RSSD	Black Hills	24.93	8	eP	P	18 51 34.0 +1.5
	comp=Z,67nm,0.9s					
H17A	Grant Village	25.00	356	eP	P	18 51 35.0 +2.0
I26A	New Underwood	25.01	10	⇑P	P	18 51 33.8 +0.8
	baz=25					
H20A	Greybull	25.02	1	⇓P	P	18 51 33.7 +0.5
	baz=25,SNR=16					
YFT	Old Faithful	25.07	356	eP	P	18 51 35.3 +1.6
	comp=Z,158nm,1.7s					
KHMM	Horse Mountain	25.09	332	eP	P	18 51 34.5 +0.6
	comp=Z,56nm,1.1s					
LKWY	Lake	25.15	357	eP	P	18 51 36.1 +1.6
LKWY				pmax	pmax	
	comp=Z,177nm,1.6s					
LKWY	Lake	25.15	357	eP	P	18 51 36.1 +1.6
	comp=Z,177nm,1.6s					
I27A	Quinn	25.18	11	⇓P	P	18 51 34.7 +0.2
	baz=25					
H21A	Big Horn, Sher	25.19	2	⇑P	P	18 51 35.8 +1.1
	baz=25,SNR=5.3					
H22A	Clearmont	25.19	4	⇑P	P	18 51 35.4 +0.8
	baz=25					
H19A	Powell	25.21	359	⇑P	P	18 51 35.5 +0.6
	baz=25					
H23A	Clabaugh Cattl	25.23	5	⇓P	P	18 51 34.9 -0.1
	baz=25					
H18A	Shoshone NF, C	25.23	358	⇓P	P	18 51 35.4 +0.2
	baz=25,SNR=8.1					
I28A	Midland	25.28	12	⇑P	P	18 51 35.1 -0.2
	baz=26					
YMR	Madison River	25.29	356	eP	P	18 51 37.2 +1.5
	comp=Z,291nm,1.8s					
YNR	Norris Junctio	25.32	356	P	P	18 51 36.7 +0.7
	comp=Z,138nm,1.7s					
J08A	Circle Bar Ran	25.34	343	P	P	18 51 36.5 +0.5
YBH	Yreka Blue Hor	25.36	334	eP	P	18 51 35.2 -1.0
	comp=Z,14nm,1.0s					
YBH	Yreka Blue Hor	25.36	334	P	P	18 51 35.7 -0.5
	comp=Z,5.5nm,0.9s,baz=129,slow=2.7,SNR=7.5					
YBH				LR	LR	19 01 07.5
	comp=Z,5µm,21.7s,baz=157,slow=36					
SWET	Sewanee	25.37	47	eP	P	18 51 36.5 +0.1
	comp=Z,82nm,1.3s					
TIGA	Tifton	25.38	57	eP	P	18 51 36.7 +0.3
TIGA	Tifton	25.38	57	⇑P	P	18 51 35.8 -0.6
	baz=26					
H25A	Fruitdale	25.48	8	⇓P	P	18 51 37.6 +0.4
	baz=26					
I29A	Vivian Onida	25.48	14	⇑P	P	18 51 36.9 -0.4
	baz=26					
QLMT	Earthquake Lak	25.49	355	eP	P	18 51 38.4 +0.9
	comp=Z,9.3nm,1.5s					
H24A	Dirks Ranch, A	25.49	6	⇑P	P	18 51 37.4 +0.1
	baz=26					
H26A	Fairpoint	25.59	9	⇑P	P	18 51 37.9 -0.4
	baz=26					
MCMT	Mcenzie Canyo	25.63	353	eP	P	18 51 40.3 +1.6
	comp=Z,21nm,1.3s					
RLMT	Red Lodge	25.67	359	eP	P	18 51 37.2 -1.9
	comp=Z,6.1nm,0.6s					
KRMB	Red Mountain	25.70	332	P	P	18 51 39.6 +0.3
	comp=Z,60nm,1.5s					
H27A	Howes	25.72	11	⇑P	P	18 51 38.4 -1.0
	baz=26					
G20A	Bridger	25.76	0	⇓P	P	18 51 39.8 -0.1
	baz=26,SNR=13					
G21A	Lodge Grass	25.78	2	⇑P	P	18 51 40.1 +0.1
	baz=26					
KTRM	Thompson Ridge	25.79	334	P	P	18 51 40.7 +0.6
G22A	Birney	25.82	3	⇓P	P	18 51 40.7 +0.4
	baz=26,SNR=9.3					
G23A	Biddle	25.86	5	⇓P	P	18 51 40.5 -0.2
	baz=26					
USIN	University of	25.87	40	eP	P	18 51 41.7 +1.0
	comp=Z,446nm,1.4s					
H28A	Mission Ridge	25.96	12	⇓P	P	18 51 41.9 +0.4
	baz=26					
G25A	Newell	26.07	8	⇑P	P	18 51 43.4 +0.9
	baz=26					
G24A	Alzada	26.08	6	⇑P	P	18 51 43.1 +0.4
	baz=26					
H29A	Onida	26.08	13	⇑P	P	18 51 43.0 +0.4
	baz=26					
OLIL	Olney	26.11	38	eP	P	18 51 44.0 +1.0
	comp=Z,162nm,1.3s					
DLMT	Dillon	26.13	353	eP	P	18 51 44.2 +1.0
	comp=Z,83nm,1.5s					
DWPF	Disney	26.15	66	eP	P	18 51 44.4 +1.0
	comp=Z,134nm,1.3s					
HUMO	Hull Mountain	26.20	335	P	P	18 51 39.4 -4.3
	comp=Z,28nm,1.6s					
BRSD	Miller	26.20	15	⇓P	P	18 51 44.4 +0.6
	baz=26					
ECSD	EROS Data Cent	26.22	20	P	P	18 51 44.0 +0.1
	comp=Z,43nm,1.4s					
G26A	Maurine	26.28	9	⇓P	P	18 51 45.2 +0.7
	baz=26,SNR=6.0					
G27A	Dupree	26.31	9	⇑P	P	18 51 46.6 +1.8
	baz=27,SNR=9.8					
BOZ	Bozeman (W)	26.32	355	eP	P	18 51 45.5 +0.6
BOZ				pmax	pmax	
	comp=Z,24nm,1.3s					
BOZ	Bozeman (W)	26.32	355	eP	P	18 51 45.5 +0.6
	comp=Z,24nm,1.3s					
F20A	Billings	26.34	0	⇓P	P	18 51 45.5 +0.4
	baz=26					
GCMT	Greycliff	26.35	358	eP	P	18 51 45.8 +0.6
	comp=Z,40nm,1.4s					
G28A	Parade	26.36	12	⇑P	P	18 51 45.3 +0.1
	baz=27					
F23A	Volborg	26.38	5	⇑P	P	18 51 45.3 0.0
	baz=27					
F22A	Rosebud	26.38	3	⇑P	P	18 51 45.0 -0.4
	baz=27					
F21A	Absaloka Mine,	26.38	2	⇑P	P	18 51 45.2 -0.2
	baz=27					
F19A	Roth Farm, Mol	26.39	359	⇑P	P	18 51 45.4 -0.1
	baz=27					
BMO	Blue Mountains	26.44	346	eP	P	18 51 45.8 -0.2
	comp=Z,40nm,1.5s					
CPCT	Cooper Cave	26.48	48	eP	P	18 51 46.1 -0.2
LRM	Limekiln Ridge	26.57	354	eP	P	18 51 47.8 +0.5
	comp=Z,220nm,1.2s					
F24A	Ekalaka	26.59	6	⇓P	P	18 51 47.5 +0.2
	baz=27					
F25A	Bowman	26.78	8	⇑P	P	18 51 49.8 +0.9
	baz=27					
G30A	Faulkton	26.80	15	⇓P	P	18 51 49.4 +0.3
	baz=27					
F26A	Lodgepole	26.81	9	⇓P	P	18 51 49.5 +0.2
	baz=27					
WCI	Wyandotte Cave	26.88	41	eP	P	18 51 51.0 +1.1
WCI				pmax	pmax	
	comp=Z,119nm,1.5s					
WCI	Wyandotte Cave	26.88	41	eP	P	18 51 51.0 +1.1
	comp=Z,119nm,1.5s					
F27A	Lemmon	26.94	10	⇑P	P	18 51 50.4 0.0
	baz=27					
KEBM	Edson Butte	26.98	334	P	P	18 51 50.5 -0.3
	comp=Z,234nm,1.3s					
E19A	Rath Farm, Rou	27.00	359	⇓P	P	18 51 51.4 +0.5
	baz=27,SNR=12					
E20A	Meyer Farm, Mu	27.04	0	⇓P	P	18 51 51.7 +0.4
	baz=27,SNR=6.0					
E22A	Miles City	27.05	4	⇓P	P	18 51 51.4 0.0
	baz=27					
E21A	Keefer Ranch,	27.10	2	⇑P	P	18 51 52.2 +0.4
	baz=27					
F28A	McLaughlin	27.13	12	⇓P	P	18 51 52.5 +0.4
	baz=27					
LAO	LASA Array	27.29	3	eP	P	18 51 53.3 -0.2
	comp=Z,100nm,1.6s					
E24A	Baker	27.31	6	⇓P	P	18 51 54.2 +0.5
	baz=28					
F29A	Eureka	27.31	13	⇑P	P	18 51 54.0 +0.3
	baz=28					
BLO	Bloomington	27.33	39	eP	P	18 51 54.1 +0.2
BLO				pmax	pmax	
	comp=Z,226nm,1.7s					
BLO	Bloomington	27.33	39	eP	P	18 51 54.1 +0.2
	comp=Z,226nm,1.7s					
E25A	Miller Ranch,	27.35	8	⇓P	P	18 51 54.9 +0.7
	baz=28					
HRY	Holter Researc	27.39	355	eP	P	18 51 55.4 +0.9
	comp=Z,38nm,1.0s					
BROR	Big Rock Looko	27.43	338	P	P	18 51 55.2 +0.4
F30A	Leola	27.50	14	⇓P	P	18 51 56.4 +1.0
	baz=28					
E27A	Carson	27.55	10	⇑P	P	18 51 56.5 +0.6
	baz=28					
RNO	Roman Nose	27.61	336	P	P	18 51 57.1 +0.7
VTHM	Trough	27.62	341	P	P	18 51 57.7 +1.2
D21A	La Casta Ranch	27.63	2	⇓P	P	18 51 56.9 +0.3
	baz=28,SNR=6.5					
D20A	Manuel Ranch,	27.63	0	⇓P	P	18 51 56.6 0.0
	baz=28,SNR=8.2					
D19A	Cripps Ranch,	27.70	359	⇑P	P	18 51 57.5 +0.2
	baz=28,SNR=13					
CHMT	Chamberlain Mo	27.73	353	eP	P	18 51 57.5 -0.2
	comp=Z,94nm,1.7s					
MSO	Missoula	27.73	352	⇑P	P	18 51 57.8 +0.2
	baz=28					
D22A	Cohagen	27.75	3	⇑P	P	18 51 57.8 +0.2
	baz=28,SNR=6.5					
SFIN	Scholer Farm	27.79	37	eP	P	18 51 58.8 +0.7
SFIN	Scholer Farm	27.79	37	⇓P	P	18 51 59.3 +1.2
	baz=28					
E28A	Huff	27.85	11	⇑P	P	18 51 58.3 -0.2
	baz=28					
D24A	Glendive	27.86	6	⇑P	P	18 51 58.2 -0.4
	baz=28					
D26A	Manning	28.00	9	⇓P	P	18 51 59.7 -0.2
	baz=28					
D25A	Fairfield	28.00	7	⇑P	P	18 52 00.2 +0.2
	baz=28					
JFWS	Jewell Farm	28.02	29	eP	P	18 52 00.5 +0.4
JFWS				pmax	pmax	
	comp=Z,70nm,1.4s					
JFWS	Jewell Farm	28.02	29	eP	P	18 52 00.5 +0.4
	comp=Z,70nm,1.4s					
E29A	Napoleon	28.05	13	⇓P	P	18 52 00.3 0.0
	baz=28					
SLMT	Seeley Lake	28.08	353	eP	P	18 52 00.9 +0.1
	comp=Z,171nm,1.6s					
E30A	Jud	28.15	14	⇓P	P	18 52 00.9 -0.3
	baz=28					
D27A	Center	28.22	10	⇑P	P	18 52 02.0 +0.1
	baz=28					
VLL	Laurance Lake	28.22	340	P	P	18 52 03.1 +1.2
C20A	Veseth Ranch,	28.25	1	⇑P	P	18 52 02.7 +0.6
	baz=28					
C24A	Savage	28.26	6	⇓P	P	18 52 02.4 +0.3
	baz=28					
C19A	Slack Wire Ran	28.27	359	⇑P	P	18 52 02.4 +0.1
	baz=28					
C22A	Vida	28.36	4	⇑P	P	18 52 03.5 +0.4
	baz=29					
C21A	Desert Coulee	28.38	2	⇑P	P	18 52 03.7 +0.4
	baz=29					
SWMT	Swartz Lake	28.41	352	eP	P	18 52 03.6 0.0
	comp=Z,22nm,1.2s					
HAWA	Hanford	28.43	344	eP	P	18 52 03.0 -0.7
	comp=Z,8.0nm,0.9s					
C23A	Lambert	28.46	5	⇓P	P	18 52 04.4 +0.4
	baz=29					
D28A	Regan	28.47	11	⇓P	P	18 52 04.5 +0.5
	baz=29					
D29A	Pettibone, Tap	28.53	13	⇓P	P	18 52 05.1 +0.5
	baz=29					
C25A	Freed Ranch, W	28.56	7	⇓P	P	18 52 05.4 +0.5
	baz=29					
EGMT	Eagleton	28.58	358	eP	P	18 52 05.4 +0.3
	comp=Z,36nm,1.3s					
EGMT	Eagleton	28.58	358	⇓P	P	18 52 05.3 +0.2
	baz=29					
TRW	Toppenish Ridg	28.62	342	P	P	18 52 07.1 +1.6
KMSC	Kings Mountain	28.62	51	eP	P	18 52 05.7 +0.1
KMSC	Kings Mountain	28.62	51	⇓P	P	18 52 05.2 -0.4
	baz=29					
D30A	Buchanan	28.76	14	⇑P	P	18 52 06.5 -0.1
	baz=29					
C26A	Wahner Farm, P	28.83	9	⇑P	P	18 52 07.6 +0.4
	baz=29					
SPMN	St. Paul	28.84	23	eP	P	18 52 07.9 +0.6
SPMN	St. Paul	28.84	23	⇓P	P	18 52 08.1 +0.7
	baz=29					
B22A	Reddig Ranch S	28.91	3	⇓P	P	18 52 08.3 +0.4
	baz=29					
B20A	Solberg Farm,	28.98	1	⇓P	P	18 52 08.8 +0.2
	baz=29					
B21A	Ellsworth Farm	28.99	2	⇓P	P	18 52 09.0 +0.

comp=Z,23nm,1.1s
DGMT Dagmar 29.21 6 ⇓P P 18 52 10.6 0.0
baz=29
MDND Maddock 29.28 12 ⇓P P 18 52 11.1 -0.1
baz=30
B26A Jensen Ranch, 29.35 8 ⇓P P 18 52 12.5 +0.6
baz=30
C30A Mose, Pekin 29.38 14 ⇓P P 18 52 12.8 +0.6
baz=30
LON Longmire 29.41 341 *eP* **P 18 52 12.9 +0.4**
LON pmax pmax
comp=Z,24nm,1.3s
LON Longmire 29.41 341 *eP* **P 18 52 12.9 +0.4**
comp=Z,24nm,1.3s
A20A Cobblestone Ra 29.42 1 ⇓P P 18 52 13.1 +0.6
baz=30
A19A Klindworth Far 29.47 360 ⇑P P 18 52 13.1 +0.2
baz=30
B27A Peters Farms, 29.52 10 ⇓P P 18 52 14.1 +0.8
baz=30
A21A Bergtoll Ranch 29.55 2 ⇓P P 18 52 14.1 +0.4
baz=30
A22A Carney Farms, 29.60 3 ⇑P P 18 52 14.6 +0.5
baz=30
A23A Redstone 29.64 5 ⇓P P 18 52 14.7 +0.3
baz=30
NEW Newport 29.65 348 *eP* **P 18 52 12.8 -1.8**
comp=Z,46nm,1.5s
NEW PcP **PcP 18 55 18.8 +0.1**
NEW Newport 29.65 348 P **P 18 52 14.6 0.0**
comp=Z,2.3nm,0.6s,baz=160,slow=9.5,SNR=9.7
NEW PcP **PcP 18 55 18.8 +0.1**
comp=Z,4.0nm,0.7s,baz=195,slow=2.9,SNR=4.7
NEW LR LR 19 04 45.7
comp=Z,3μm,18.4s,baz=166,slow=38
NEW Newport 29.65 348 ⇓P P 18 52 14.8 +0.2
baz=30
A24A Westby 29.68 6 ⇓P P 18 52 14.2 -0.6
baz=30
B28A Dugan Ranch, T 29.71 11 ⇑P P 18 52 15.1 +0.1
baz=30
A25A Svangstu Ranch 29.79 7 ⇑P P 18 52 15.4 -0.3
baz=30
B29A Wagenman Farm, 29.92 12 ⇓P P 18 52 16.4 -0.5
baz=30
WALA Waterton Lakes 29.92 353 *eP* **P 18 52 17.4 +0.3**
comp=Z,0.6nm,1.1s
A27A Ledoux Ranch, 30.06 9 ⇑P P 18 52 17.3 -0.8
baz=30
B30A Myrvik Farm, E 30.12 13 ⇑P P 18 52 18.3 -0.3
baz=30
ACSO Alum Creek Sta 30.13 41 *eP* **P 18 52 19.9 +1.0**
comp=Z,146nm,1.6s
A28A Rude Farm, Bot 30.18 11 ⇓P P 18 52 18.9 -0.2
baz=30
A29A Manning Farm, 30.38 12 ⇑P P 18 52 20.7 -0.2
baz=31
A30A Hoffart Farm, 30.59 13 ⇑P P 18 52 22.3 -0.5
baz=31
COWI Conover 31.02 27 *eP* **P 18 52 25.1 -1.6**
comp=Z,42nm,1.1s
EYMN Ely 31.63 22 *eP* **P 18 52 31.6 -0.4**
comp=Z,56nm,1.6s
ALLY Alegheny Colle 32.71 41 *eP* **P 18 52 40.1 -1.4**
comp=Z,119nm,1.4s
CBN Corbin 32.83 49 *eP* **P 18 52 42.6 0.0**
SSPA Standing Stone 33.62 44 *eP* **P 18 52 49.4 0.0**
comp=Z,30nm,1.1s
EDM Edmonton 33.98 355 *eP* **P 18 52 51.7 -0.8**
EDM Edmonton 33.98 355 *eP* **P 18 52 51.7 -0.8**
OTAV Otavalo 35.02 119 *eP* **P 18 53 04.1 +1.7**
comp=Z,68nm,1.2s
SDDR Presa de Saban 35.05 84 *eP* **P 18 53 03.0 +0.9**
comp=Z,42nm,1.0s
SADO Sadowa 35.11 37 LR LR 19 07 37.4
comp=Z,2μm,21.5s,baz=244,slow=37
FFC Flin Flon 35.62 6 *eP* **P 18 53 06.7 +0.2**
FFC Flin Flon 35.62 6 *eP* **P 18 53 06.1 -0.4**
comp=Z,200nm,1.6s
BBB Bella Bella 36.16 339 LR LR 19 08 12.8
comp=Z,3μm,19.8s,baz=167,slow=37
ROSC El Rosal 36.24 109 P **P 18 53 14.0 +1.1**
ROSC El Rosal 36.24 109 P **P 18 53 15.6 +2.8**
comp=Z,3.3nm,0.3s,baz=99,slow=20,SNR=5.9
NCB Newcomb 37.63 42 *eP* **P 18 53 23.2 -0.7**
comp=Z,50nm,1.4s
SDV Santo Domingo 38.03 101 *eP* **P 18 53 29.4 +1.5**
comp=Z,32nm,0.9s
LRS Lares 39.31 85 P **P 18 53 39.3 +0.9**
OBIP Obispado Ponce 39.57 85 *eP* **P 18 53 40.8 +0.3**
comp=Z,118nm,1.4s
CELP Cerrillos 39.59 85 *eP* **P 18 53 41.0 +0.3**
ATAH Atahualpa 39.63 129 P **P 18 53 44.1 +2.7**
ATAH Atahualpa 39.63 129 P **P 18 53 44.1 +2.7**
comp=Z,8.3nm,1.1s,baz=335,slow=4.5,SNR=2.4
ATAH LR LR 19 06 53.8
comp=Z,4μm,19.8s,baz=107,slow=31
CBYP Canovanas 40.24 84 *eP* **P 18 53 45.3 -0.8**
comp=Z,35nm,0.9s
MTP Monte Pirata 40.56 85 *eP* **P 18 53 48.5 -0.2**
comp=Z,137nm,1.3s
CRAG Craig 40.56 339 P **P 18 53 47.1 -1.1**
comp=Z,128nm,1.6s
WRAK Wrangell Islan 41.07 340 *eP* **P 18 53 52.4 +0.1**
comp=Z,21nm,1.0s
STVI Saint Thomas 41.08 84 *eP* **P 18 53 52.3 -0.7**
comp=Z,68nm,1.1s
DLBC Dease Lake 42.06 343 *eP* **P 18 54 01.9 +1.3**
DLBC Dease Lake 42.06 343 LR LR 19 12 23.5
comp=Z,6μm,19.1s,baz=157,slow=38
YKA Yellowknife Ar 43.28 356 P **P 18 54 09.9 -0.3**
YKA Yellowknife Ar 43.28 356 P **P 18 54 09.9 -0.3**
comp=Z,3.0nm,0.8s,baz=168,slow=7.5,SNR=3.5
NNA Nana 44.06 133 LR LR 19 08 39.5
comp=Z,3μm,21.8s,baz=317,slow=31
HYT Haines Junctio 46.21 341 *eP* **P 18 54 32.8 -1.1**
SCHQ Schefferville 47.34 31 *eP* **P 18 54 42.7 0.0**
comp=Z,49nm,1.3s
SCHQ Schefferville 47.34 31 P **P 18 54 44.0 +1.2**
comp=Z,9.1nm,0.8s,baz=237,slow=0.7,SNR=4.6
SCHQ LR LR 19 15 52.2
comp=Z,2μm,21.8s,baz=67,slow=38
DAWY Dawson 49.28 343 *eP* **P 18 54 58.1 +0.6**
KDAK Kodiak Island 50.09 331 P **P 18 55 04.1 +0.4**
KDAK Kodiak Island 50.09 331 P **P 18 55 04.1 +0.4**
comp=Z,12nm,0.9s,baz=8.8,slow=6.2,SNR=5.3
EGAK Eagle 50.32 342 *eP* **P 18 55 04.6 -0.8**
EGAK *e* 18 55 13.6
PAX Paxson 50.37 339 *eP* **P 18 55 05.8 -0.1**
PAX pmax pmax
comp=Z,15nm,0.9s
PAX Paxson 50.37 339 *eP* **P 18 55 05.8 -0.1**
comp=Z,15nm,0.9s
RSO Redoubt South 51.59 334 *eP* **P 18 55 15.3 +0.1**
ILAR Eielson Array 52.05 340 P **P 18 55 18.1 -0.3**
ILAR Eielson Array 52.05 340 P **P 18 55 18.1 -0.3**
comp=Z,5.7nm,0.6s,baz=146,slow=6.9,SNR=41
ILAR LR LR 19 19 51.4
comp=Z,1μm,18.8s,baz=347,slow=39
MCK McKinley 52.05 339 *eP* **P 18 55 17.7 -0.7**
MCK *e* 18 55 26.5
MCK pmax pmax
comp=Z,37nm,1.0s
MCK McKinley 52.05 339 *eP* **P 18 55 17.7 -0.7**
comp=Z,37nm,1.0s
MCK *e* 18 55 26.5
PPLA Purkeypile 52.72 337 *eP* **P 18 55 23.0 -0.5**
comp=Z,118nm,1.4s
PPLA *e* 18 55 31.6
BPAW Bear Paw Mtn. 52.99 338 *eP* **P 18 55 25.0 -0.4**
comp=Z,8.4nm,0.8s
LPAZ La Paz 53.18 129 P **P 18 55 31.1 +3.0**
LPAZ La Paz 53.18 129 P **P 18 55 31.1 +3.0**
comp=Z,9.5nm,0.8s,baz=270,slow=11,SNR=3.6
LPAZ LR LR 19 15 06.6
comp=Z,2μm,19.0s,baz=63,slow=33
PPT Papeete 54.61 230 LR LR 19 12 48.0
comp=Z,2μm,18.4s,baz=45,slow=29
COLD Coldfoot 54.68 341 *eP* **P 18 55 38.2 +0.5**
comp=Z,25nm,1.1s
IM04 Indian Mountai 55.06 339 *eP* **P 18 55 39.3 -1.1**
IM04 *e* 18 55 47.2
IMA2 Indian Mountai 55.08 339 *eP* **P 18 55 39.8 -0.9**
IMA2 *e* 18 55 47.6
SIV San Ignacio 58.36 124 P **P 18 56 03.6 -1.0**
SIV San Ignacio 58.36 124 P **P 18 56 03.6 -1.0**
comp=Z,16nm,1.0s,baz=304,slow=7.2,SNR=5.5

SUMG Summit 65.67 18 *eP* **P 18 56 52.4 -1.0**
SUMG pmax pmax
comp=Z,30nm,1.1s
SUMG Summit 65.67 18 *eP* **P 18 56 52.4 -1.0**
comp=Z,30nm,1.1s
CPUP Villa Florida 67.28 131 P **P 18 57 04.2 +0.4**
CPUP Villa Florida 67.28 131 P **P 18 57 04.2 +0.4**
comp=Z,10nm,0.8s,baz=292,slow=9.2,SNR=3.7
CPUP LR LR 19 24 16.9
comp=Z,878nm,18.5s,baz=304,slow=34
BDFB Brasília 68.87 116 P **P 18 57 15.2 +1.0**
BDFB Brasília 68.87 116 P **P 18 57 15.2 +1.0**
comp=Z,17nm,1.1s,baz=299,slow=10,SNR=3.8
PLCA Paso Flores 69.42 150 LR LR 19 21 08.9
comp=Z,4μm,19.7s,baz=311,slow=30
BB16B Bebedouro 71.03 121 (P) **P 18 57 28.1 +0.9**
BB16B *i* 18 57 35.3
BB16B Bebedouro 71.03 121 (P) **P 18 57 28.1 +0.9**
BB16B *i* 18 57 35.3
PET Petropavlovsk 76.46 322 *eP* **P 18 57 59.2 +0.6**
PETK Petropavlovsk- 77.00 322 P **P 18 58 02.2 +0.5**
PETK Petropavlovsk- 77.00 322 P **P 18 58 02.2 +0.5**
PETK Petropavlovsk- 77.00 322 P **P 18 58 02.2 +0.5**
comp=Z,1.9nm,0.7s,baz=83,slow=12,SNR=3.1
PETK LR LR 19 24 50.6
comp=Z,599nm,21.7s,baz=271,slow=30
SEY Seymchan 77.02 332 ⇑*i*P **P 18 58 02.1 +0.5**
PMOZ Porto Moniz, M 80.74 59 *e*LR LR 19 24 27.7
comp=Z,363nm,18.0s
TIXI Tiksi 81.28 344 ⇑*i*P **P 18 58 24.3 -0.4**
TIXI pmax pmax
comp=Z,15nm,1.7s
USHA Ushuaia 81.42 158 LR LR 19 28 06.0
comp=Z,1μm,19.3s,baz=118,slow=31
KWAJ Kwajalein Atol 81.46 276 *i*P **P 18 58 29.2 +2.5**
PGAV Gavieira, Arco 84.51 48 *e*LQ LQ 19 21 06.9
PGAV *e*LR LR 19 26 28.1
comp=Z,618nm,20.0s
ARCES ARCESS Array B 85.49 15 P **P 18 58 45.8 -0.7**
ARCES ARCESS Array B 85.49 15 P **P 18 58 45.8 -0.7**
comp=Z,7.2nm,0.9s,baz=16,slow=11,SNR=3.8
ARCES LR LR 19 39 51.5
comp=Z,1μm,18.1s,baz=35,slow=38
PMTG Montargil 85.59 50 *eP* P 18 58 56.6 +9.0
MTE Manteigas 85.59 49 *e*LR LR 19 27 05.1
comp=Z,542nm,18.0s
MVO Moncorvo 85.67 48 *e*LQ LQ 19 21 52.5
MVO *e*LR LR 19 26 47.8
comp=Z,746nm,20.0s
PMRV Marv??o 86.06 50 *e*LR LR 19 27 45.2
comp=Z,657nm,18.0s
PCVE Castro Verde 86.25 51 *eP* **P 18 58 53.3 +2.4**
NB2 NORSAR Subarra 86.50 25 P P 18 58 58.7 +7.0
comp=Z,0.8nm,0.7s,baz=302,slow=4.6
NOA NORSAR Array B 86.50 25 P **P 18 58 52.4 +0.8**
NOA NORSAR Array B 86.50 25 P **P 18 58 52.4 +0.8**
comp=Z,1.2nm,1.0s,baz=331,slow=9.0,SNR=2.3
PVAQ Vaqueiros 86.57 52 *eP* **P 18 58 53.2 +0.8**
PVAQ Vaqueiros 86.57 52 *e*LQ LQ 19 21 55.3
PVAQ *e*LR LR 19 27 43.2
comp=Z,540nm,20.0s
YUK Yuzh-Kuril'sk 87.46 316 P P 18 59 11.8 +15
YUK *e*S **S 19 09 38.8 +2.4**
ESDC Sonseca Array 88.41 48 LR LR 19 40 27.0
comp=Z,508nm,18.7s,baz=290,slow=37
APA Apatity 88.86 14⇑*e*P **P 18 59 04.0 +1.2**
APA MLR MLR
comp=Z,2μm,22.0s
HNR Honiara 94.59 262 LR LR 19 32 40.4
comp=Z,1μm,21.6s,baz=70,slow=30
GERES GERESS Array B 94.82 34 LR LR 19 41 08.5
comp=Z,996nm,20.6s,baz=322,slow=35
MJAR Matsushiro Arr 96.07 312 P **P 18 59 36.8 +0.1**
MJAR Matsushiro Arr 96.07 312 P **P 18 59 36.8 +0.1**
comp=Z,0.6nm,0.7s,baz=52,slow=2.8,SNR=2.9
MJAR LR LR 19 35 31.9
comp=Z,744nm,20.2s,baz=60,slow=31
MDJ Mudanjiang 97.23 322 P **P 18 59 40.3 -1.6**
MDJ S S 19 10 57.6 -6.8
MDJ pmax pmax
comp=Z,4.0nm,1.5s
MDJ pmax pmax
comp=Z,590nm,8.6s
MDJ LR LR
comp=N,160nm,13.0s
MDJ LR LR
comp=E,340nm,16.6s
MDJ LR LR
comp=Z,380nm,15.4s
KEST Kesra 99.56 47 LR LR 19 45 26.1
comp=Z,221nm,20.8s,baz=295,slow=36
CN2 Changchun 100.09 324 *eP* **Pdif 18 59 51.3 -3.4**
HHC Hu-ho-hao-te 109.48 329 *e*Pdif **Pdif 19 00 33.6 -3.1**
HHC PP **PP 19 05 10.4 +1.2**
HHC S **Sdif 19 12 42.1 -5.3**
HHC AMB AMB
comp=Z,860nm,8.4s
HHC LR LR
comp=N,720nm,18.4s
HHC LR LR
comp=E,520nm,19.2s
HHC LR LR
comp=Z,490nm,19.6s
LZH Lanzhou 116.93 331 *e*PKP **PKPdf 19 04 50.6 -3.7**
LZH sPKP 19 04 55.8
ENH Enshi 118.60 323 *e*Pdif **Pdif 19 01 17.1 -0.2**
CD2 Chengdu 121.19 328 PKP **PKPdf 19 05 02.3 -0.2**
CD2 PP **PP 19 06 35.3 +3.7**
CD2 PKS **PKSdf 19 08 37.4 -1.9**
CD2 SKS **SKSdf 19 12 11.6 -2.0**
CD2 SKKS **SKKSac 19 13 26.1 -5.2**
CD2 SS **SS 19 23 04.3 +1.0**
CD2 LR LR
comp=N,560nm,8.3s
CD2 LR LR
comp=Z,580nm,19.0s
WRA Warramunga Arr 121.21 258 PKP **PKPdf 19 05 02.3 -0.4**
WRA Warramunga Arr 121.21 258 PKP **PKPdf 19 05 02.3 -0.4**
comp=Z,1.2nm,0.8s,baz=80,slow=2.4,SNR=8.8
KSH Kashi 121.25 356 *e*PKP **PKPdf 19 05 01.3 -1.2**
KSH PKS **PKSdf 19 08 36.5 -2.8**
KSH SKS **SKSdf 19 12 12.1 -1.4**
KSH AMB AMB
comp=Z,130nm,4.8s
KSH LR LR
comp=N,240nm,11.8s
KSH LR LR
comp=E,470nm,15.1s
KSH LR LR
comp=Z,590nm,25.8s
ASAR Alice Springs 122.24 254 PKP **PKPdf 19 05 02.6 -2.0**
ASAR Alice Springs 122.24 254 PKP **PKPdf 19 05 02.6 -2.0**
comp=Z,1.0nm,0.8s,baz=83,slow=2.7,SNR=8.2
GYA Guiyang 123.10 322 Pdif **Pdif 19 01 35.4 -2.1**
GYA PKP **PKPdf 19 05 04.1 -2.2**
GYA PP **PP 19 06 47.8 +2.9**
GYA PKS **PKSdf 19 08 40.9 -2.4**
GYA Guiyang 123.10 322 PKP **PKPdf 19 05 04.1 -2.2**
GYA PP **PP 19 06 47.8 +2.9**
GYA PKS **PKSdf 19 08 40.9 -2.4**
GYA SKKS 19 13 39.3
GYA SS **SS 19 23 28.8 +0.7**
GYA LR LR
comp=N,440nm,23.8s
GYA LR LR
comp=E,260nm,24.5s
GYA LR LR
comp=Z,380nm,23.7s
KMI Kunming 126.35 324 PKP **PKPdf 19 05 10.5 -2.2**
KMI sPKP 19 05 17.6
KMI PP **PP 19 07 09.8 +3.1**
KMI SS SS 19 24 06.8 -2.4
KMI AMB AMB
comp=Z,310nm,14.7s
KMI LR LR
comp=N,340nm,22.1s
KMI LR LR
comp=E,420nm,19.9s
KMI LR LR
comp=Z,470nm,17.7s
QIZ Qiongzhong 126.44 313 PKP PKPdf 19 05 06.8 -5.9
QIZ SS SS 19 24 08.9 -1.8
QIZ AMB AMB
comp=Z,450nm,15.2s
QIZ LR LR
comp=N,230nm,16.9s
QIZ LR LR
comp=Z,370nm,26.4s
BOSA Boshof 136.94 111 PKP **PKPdf 19 05 32.0 -0.4**
BOSA Boshof 136.94 111 PKP **PKPdf 19 05 32.0 -0.4**
comp=Z,4.1nm,0.9s,baz=0.0,slow=1.0,SNR=3.6

ISCJB ***18*** *18:54:18.4±0.4,45°.77N±0°.05×152°.00E±0°.06,h30km, mb3.9/15,MS4.2/1,Error ellipse: s-maj=8.9km s-min=3.7km az=146.7*
MOS ***18*** *18:54:20.6±1.0,45°.93N×151°.92E,h45km,mb4.2/12,Error ellipse: s-maj=10.9km s-min=8.1km az=55.2*
JMA ***18*** *18:54:21.5±0.7,45°.86N×151°.90E,h30km,M4.8*
SKHL ***18*** *18:54:21.5±0.6,45°.90N×151°.95E,h58km±7km,mb5.1/3*
IDC ***18*** *18:54:24.8±2.8,45°.97N×151°.71E,h62km±24km,mb3.7/14, mb1 3.9/19,mb1mx3.8/30,mbtmp3.7/19,ML3.6/5,MS4.2/2, Ms1 4.2/2,ms1mx3.4/41,Error ellipse: s-maj=19.9km s-min=15.1km az=109.0*

ISC 18 18:54:20.3±0.6,45°.61N±0°.08×152°.07E±0°.07,h30km,n94, σ1§65/98,mb4.0/15,3C,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.98**	**264**	⇑*i*PN	**Pn**	**18 55 05.3**	**-0.2**
KUR				*i* S	**Sn**	**18 55 40.0**	**-0.3**
KUR				pmax	pmax		
	comp=Z,520nm,0.7s						
KUR				pmax	pmax		
	comp=N,180nm,0.3s						
KUR				smax	smax		
	comp=N,2μm,0.5s						
KUR				smax	smax		
	comp=E,3μm,0.9s						
KUR				smax	smax		
	comp=N,5μm,1.8s						
KUR				smax	smax		
	comp=E,4μm,1.7s						
KUR	**Kuril'sk**	**2.98**	**264**	*i* P	**Pn**	**18 55 05.3**	**-0.2**
KUR				AMB	AMB	18 55 09.2	
	comp=E,180nm,0.7s						
KUR				AMB	AMB	18 55 09.2	
	comp=E,520nm,0.7s						
KUR				*i* S	**Sn**	**18 55 40.0**	**-0.3**
KUR				A	A	18 55 43.6	
	comp=E,5μm,1.8s						
KUR				A	A	18 55 43.6	
	comp=E,4μm,1.8s						
KUR				A	A	18 55 45.5	
	comp=E,2μm,0.5s						
KUR				A	A	18 55 45.5	
	comp=E,3μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**4.69**	**253**	*i* PN	**Pn**	**18 55 31.3**	**+2.3**
YUK				*i* S	**Sn**	**18 56 23.1**	**+0.8**
YUK				pmax	pmax		
	comp=E,52nm,0.3s						
YUK				pmax	pmax		
	comp=Z,198nm,0.3s						
YUK				pmax	pmax		
	comp=N,26nm,0.3s						
YUK				smax	smax		
	comp=N,118nm,0.6s						
YUK				smax	smax		
	comp=E,475nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**4.69**	**253**	*i* P	**Pn**	**18 55 31.3**	**+2.3**
YUK				AMB	AMB	18 55 38.6	
	comp=E,26nm,0.3s						
YUK				AMB	AMB	18 55 38.6	
	comp=E,52nm,0.3s						
YUK				AMB	AMB	18 55 38.6	
	comp=E,198nm,0.3s						
YUK				*i* S	**Sn**	**18 56 23.1**	**+0.8**
YUK				A	A	18 56 30.7	
	comp=E,118nm,0.6s						
YUK				A	A	18 56 30.7	
	comp=E,175nm,0.6s						
NEM2	**Nemuro 2**	**5.05**	**246**	P	**Pn**	**18 55 34.2**	**+0.3**
NEM2				*e*S	**Sn**	**18 56 28.8**	**-2.5**
JRA	**Rausu**	**5.22**	**254**	P	**Pn**	**18 55 38.6**	**+2.3**
JRA				*e*S	**Sn**	**18 56 37.5**	**+2.1**
JNK	**Nakash**	**5.63**	**252**	P	**Pn**	**18 55 43.3**	**+1.5**
JNK				*e*S	**Sn**	**18 56 44.0**	**-1.4**
SKR	**Severo-Kuril's**	**5.75**	**27**	*e*PN	Pn	18 55 40.0	-3.6
SKR				pmax	pmax		
	comp=Z,50nm,0.4s						
SKR				pmax	pmax		
	comp=N,120nm,0.5s						
SKR	**Severo-Kuril's**	**5.75**	**27**	*e*P	Pn	18 55 40.0	-3.6
SKR				AMB	AMB	18 55 42.5	
	comp=N,120nm,0.4s						
SKR				AMB	AMB	18 55 42.5	
	comp=N,50nm,0.4s						
SKR				*e*S	Sn	18 56 39.0	-9.5
SKR				A	A	18 56 55.8	
	comp=N,40nm,0.7s						
SKR				A	A	18 56 55.8	
	comp=N,60nm,0.7s						
JAK	**Akkeshi**	**5.90**	**246**	P	**Pn**	**18 55 46.0**	**+0.4**
JAK				*e*S	**Sn**	**18 56 49.8**	**-2.4**
JTKR	**Abashiri--Toko**	**6.04**	**257**	P	**Pn**	**18 55 50.0**	**+2.6**
JAR	**Ashorobuto**	**6.38**	**252**	P	**Pn**	**18 55 54.1**	**+2.0**
JAR				*e*S	**Sn**	**18 57 03.2**	**-0.7**
JMP	**Maruseppu**	**6.40**	**259**	P	**Pn**	**18 55 55.0**	**+2.5**
JOB	**Onbets**	**6.50**	**248**	P	**Pn**	**18 55 55.4**	**+1.5**
JOB				*e*S	**Sn**	**18 57 04.8**	**-2.2**
YSS	**Yuzh-Sakhalins**	**6.60**	**285**	*e*PN	**Pn**	**18 55 57.0**	**+1.9**
YSS				*e*S	**Sn**	**18 57 09.0**	**-0.3**
YSS	**Yuzh-Sakhalins**	**6.60**	**285**	*e*P	**Pn**	**18 55 57.0**	**+1.9**
YSS				AMB	AMB	18 55 58.0	
	comp=N,20nm,0.7s						
YSS				*e*S	**Sn**	**18 57 09.0**	**-0.3**
YSS				A	A	18 57 10.7	
	comp=N,30nm,0.7s						
JKK2	**Kamakawa 2**	**6.86**	**259**	P	**Pn**	**18 56 01.9**	**+3.1**
ASAJ	**Asahikawa**	**6.90**	**261**	P	**Pn**	**18 56 02.3**	**+3.0**
ASAJ	**Asahikawa**	**6.90**	**261**	P	**Pn**	**18 56 02.3**	**+3.0**
	comp=N,3.1nm,0.3s,baz=84,slow=21,SNR=26						
ASAJ				S	**Sn**	**18 57 20.1**	**+3.5**
	baz=76,slow=19,SNR=1.7						
JCH	**Churui**	**6.95**	**248**	P	**Pn**	**18 56 00.4**	**+0.4**
JCH				*e*S	**Sn**	**18 57 14.0**	**-3.9**
JWK2	**Keihoku**	**7.16**	**271**	P	Pn	18 56 07.8	+4.9
JFR	**Furan**	**7.22**	**254**	P	**Pn**	**18 56 05.5**	**+1.8**
JAB	**Ashibetsu**	**7.34**	**257**	P	Pn	18 56 08.9	+3.5
ERM	**Erimo**	**7.38**	**244**	*c* PN	**Pn**	**18 56 08.7**	**+2.8**
ERM	**Erimo**	**7.38**	**244**	*e*P	**Pn**	**18 56 08.7**	**+2.8**
JEM	**Erimo**	**7.38**	**244**	P	**Pn**	**18 56 08.0**	**+2.1**
JNBK	**Urakawa-nobuka**	**7.50**	**247**	P	**Pn**	**18 56 07.7**	**+0.1**
JBT2	**Biratori 2**	**7.53**	**251**	P	**Pn**	**18 56 08.8**	**+0.9**
PETK	**Petropavlovsk-**	**8.36**	**24**	PN	**Pn**	**18 56 19.1**	**-0.2**
PETK	**Petropavlovsk-**	**8.36**	**24**	P	**Pn**	**18 56 19.1**	**-0.2**
	comp=N,0.3nm,0.3s,baz=180,slow=13,SNR=12						
JNB	**Noboribetsu**	**8.54**	**252**	P	**Pn**	**18 56 22.6**	**+0.7**
JNB				*e*S	**Sn**	**18 57 53.8**	**-3.4**
PET	**Petropavlovsk**	**8.57**	**28**	*i* PN	**Pn**	**18 56 21.7**	**-0.5**
PET	**Petropavlovsk**	**8.57**	**28**	*e*P	**Pn**	**18 56 21.6**	**-0.6**
JKB	**Kayabe**	**8.81**	**249**	P	**Pn**	**18 56 25.7**	**+0.2**
JKB				*e*S	Sn	18 57 56.8	-7.0
JSH	**Shimam**	**9.14**	**255**	P	**Pn**	**18 56 31.4**	**+1.3**
JYM2	**Yakumo 2**	**9.14**	**252**	P	**Pn**	**18 56 30.0**	**-0.1**
JANG	**Nango**	**9.34**	**240**	P	**Pn**	**18 56 31.1**	**-1.6**
JANG				*e*S	Sn	18 58 06.7	-10
JTM	**Tenmabayashi**	**9.37**	**243**	P	**Pn**	**18 56 32.8**	**-0.4**
JTM				*e*S	Sn	18 58 09.2	-8.2
JSR	**Shiriuchi**	**9.39**	**248**	P	**Pn**	**18 56 34.3**	**+0.9**
JSR				*e*S	Sn	18 58 11.7	-6.2
JTH	**Tanohata**	**9.40**	**237**	P	**Pn**	**18 56 33.0**	**-0.6**
JTH				*e*S	Sn	18 58 07.9	-10
JOSM	**Okushiri--Mats**	**9.76**	**253**	P	**Pn**	**18 56 38.8**	**+0.3**
JRG	**Rokugo**	**10.47**	**238**	P	**Pn**	**18 56 48.3**	**0.0**
JIO	**Ouri**	**10.70**	**232**	P	**Pn**	**18 56 50.8**	**-0.6**
JIO				*e*S	Sn	18 58 41.4	-8.8
JFY	**Yanaizu**	**12.36**	**233**	P	**Pn**	**18 57 14.2**	**0.0**
MJA0	**Matsu Arr-Jizo**	**13.79**	**234**	*e*P	**Pn**	**18 57 36.4**	**+2.6**
MJAR	**Matsushiro Arr**	**13.82**	**234**	*e*P	**Pn**	**18 57 36.4**	**+2.4**
MJAR	**Matsushiro Arr**	**13.82**	**234**	P	**Pn**	**18 57 36.5**	**+2.4**
	comp=N,0.2nm,0.3s,baz=29,slow=13,SNR=5.7						
MAJO	**Matsushiro**	**13.82**	**234**	*e*P	**Pn**	**18 57 36.6**	**+2.6**
KLR	**Kul'dur**	**14.22**	**292**	*e*P	**Pn**	**18 57 37.0**	**-2.5**
USRK	**Ussuriysk Arra**	**14.30**	**272**	P	**Pn**	**18 57 40.4**	**-0.3**
	comp=N,0.5nm,0.3s,baz=76,slow=13,SNR=8.9						
VLA	**Vladivostok**	**14.65**	**267**	*i* P	**Pn**	**18 57 45.8**	**+0.5**
VLA				pmax	pmax		

comp=Z,26nm,1.4s
VLA Vladivostok 14.65 267 *e*P **Pn 18 57 45.8 +0.5**
FX1 Attu Island--F 15.54 54 P **Pn 18 57 56.9 -0.2**
comp=Z,1.0nm,0.3s,baz=58,slow=23,SNR=5.9
FX1 S Sn 19 00 33.8 -14
comp=Z,0.3nm,0.3s,baz=190,slow=19,SNR=2.0
KSRS Korea Array 19.78 254 P **P 18 58 49.4 +1.5**
comp=Z,0.2nm,0.3s,baz=58,slow=9.5,SNR=6.0
KSRS LR LR 19 05 39.1
comp=Z,391nm,19.2s,baz=192,slow=34
CBIJ Chichi jima 20.09 206 LR LR 19 06 34.9
comp=Z,915nm,18.1s,baz=75,slow=36
YAK Yakutsk 20.92 330 *e*P **P 18 58 59.2 -0.9**
YAK pmax pmax
comp=E,20nm,1.0s
YAK pmax pmax
comp=Z,44nm,1.0s
YAK pmax pmax
comp=N,13nm,1.0s
COLA College 37.48 37 *e*P **P 19 01 29.2 -1.5**
MKAR Makanchi Array 46.83 298 P **P 19 02 45.5 -1.7**
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 46.83 298 *e*P **P 19 02 45.4 -1.7**
MKAR Makanchi Array 46.83 298 P **P 19 02 45.5 -1.7**
comp=Z,1.1nm,0.6s,baz=67,slow=6.1,SNR=14
KURK Kurchatov 47.40 304 *i*P **P 19 02 49.8 -1.7**
KURK Kurchatov 47.40 304 *e*P **P 19 02 49.8 -1.7**
KURBB Kurchatov Arra 47.49 304 P P 19 02 48.3 -3.9
comp=Z,0.5nm,0.5s,baz=72,slow=8.7,SNR=4.4
BVAR Borovoye Array 51.03 310 P **P 19 03 18.6 -0.6**
BVAR Borovoye Array 51.03 310 P **P 19 03 18.6 -0.6**
comp=Z,0.4nm,0.5s,baz=17,slow=6.5,SNR=4.1
BRVK Borovoye 51.07 310 ⇑*i*P **P 19 03 18.0 -1.5**
BRVK pmax pmax
comp=Z,1.0nm,1.3s
BRVK Borovoye 51.07 310 *e*P **P 19 03 18.0 -1.5**
YKA Yellowknife Ar 52.27 36 P **P 19 03 29.6 +1.3**
comp=Z,1.3nm,0.8s,baz=133,slow=47,SNR=2.6
ODAN Odare 53.97 273 *e*P **P 19 03 41.3 -0.3**
JIRN Jiri 54.32 275 *e*P **P 19 03 45.0 +0.7**
comp=Z,13nm,0.4s
RAMN Ramite 54.47 274 *e*P **P 19 03 44.7 -0.6**
comp=Z,18nm,0.5s
KKN Kakani 54.87 275 *e*P **P 19 03 47.8 -0.4**
comp=Z,7.4nm,0.7s
PKIN Phulchoki 54.92 275 *e*P **P 19 03 47.6 -1.0**
DMN Daman 55.11 275 *e*P **P 19 03 50.1 +0.2**
DANN Dangsing 55.59 277 *e*P **P 19 03 53.3 -0.2**
KOLN Koldanda 56.06 276 *e*P **P 19 03 55.8 -0.9**
comp=Z,6.0nm,0.6s
FINES FINESS Array B 64.76 335 P P 19 04 52.2 -3.1
comp=Z,2.4nm,0.6s,baz=29,slow=4.4,SNR=12
WRA Warramunga Arr 67.20 198 P **P 19 05 13.5 +2.0**
comp=Z,1.1nm,0.7s,baz=72,slow=2.1,SNR=7.5
FITZ Fitzroy Crossi 67.80 207 P **P 19 05 17.4 +2.2**
comp=Z,4.2nm,0.9s,baz=54,slow=5.6,SNR=4.3
NB2 NORSAR Subarrsk 69.07 341 P P 19 05 20.8 -2.1
comp=Z,0.5nm,0.3s,baz=30,slow=6.5
NOA NORSAR Array B 69.07 341 *e*P P 19 05 20.7 -2.1
NOA NORSAR Array B 69.07 341 P P 19 05 20.8 -2.1
comp=Z,0.5nm,0.3s,baz=30,slow=6.4,SNR=8.5
ASAR Alice Springs 70.90 198 P **P 19 05 36.9 +2.5**
comp=Z,0.5nm,0.6s,baz=12,slow=6.3,SNR=12
KBZ Khabaz 71.13 314 P **P 19 05 35.0 -0.7**
KBZ pmax pmax
comp=Z,2.0nm,0.9s
KBZ Khabaz 71.13 314 P **P 19 05 35.0 -0.7**
comp=Z,2.0nm,0.9s,baz=119,slow=4.0,SNR=5.6
AKASG Malin Array Be 72.09 326 *e*P P 19 05 39.2 -2.1
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 72.09 326 P P 19 05 38.7 -2.6
comp=Z,1.0nm,0.4s,baz=35,slow=5.1,SNR=4.8
CLL Collm 77.20 335 *i*P **P 19 06 09.3 -1.7**
CLL *e* 19 06 23.0
CLL Collm 77.20 335 *i*P **P 19 06 09.3 -1.7**
CLL *ep*P **PcP 19 06 23.0 +1.4**
TXAR Lajitas Array 78.69 60 P **P 19 06 20.7 +0.9**
comp=Z,7.0nm,0.7s,baz=289,slow=3.8,SNR=4.4
BRTR Keskin Array B 78.72 316 P **P 19 06 19.4 -0.5**
comp=Z,1.0nm,0.8s,baz=72,slow=5.3,SNR=4.7
GERES GERESS Array B 79.16 333 P **P 19 06 20.4 -1.6**
comp=Z,0.5nm,0.5s,baz=46,slow=7.6,SNR=4.2
PLCA Paso Flores 148.81 96 PKPbc **PKPbc 19 14 05.2 +0.8**
comp=Z,1.0nm,0.6s,baz=75,slow=18,SNR=3.6
CPUP Villa Florida 149.66 61 PKPbc **PKPbc 19 14 07.2 +0.3**
comp=Z,0.3nm,0.3s,baz=270,slow=20,SNR=3.0

DJA 18 19:02:16.0±0.4, 1°N±3°×10°0E±°, h10km, M4.0/5, MLv4.0/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PPI	**Padang Panjang**	**1.05**	**159**	P		P	Pg	19 02 34.4	-1.8
PDSI	**Padang**	**1.50**	**163**	P		Pn	Pn	19 02 42.5	-0.5
PDSI				S		Sg	Sg	19 03 04.6	+0.2
RGRI	**Rengat**	**2.47**	**111**	P		Pb	Pb	19 03 00.9	+0.3
GSI	**Gunungsitoli**	**2.56**	**287**	P		Pn	Pn	19 02 58.5	+0.9
FRIM	**Kepong**	**3.13**	**31**	P		Pn	Pn	19 03 03.3	-2.2
KGM	**Kluang**	**3.61**	**66**	P		Pn	Pn	19 03 12.8	+0.7
KCSI	**Kotacane, Aceh**	**3.73**	**323**	P		Pn	Pn	19 03 15.6	+1.9
MYKOM	**Kota Tinggi**	**4.03**	**72**	P		Pn	Pn	19 03 18.7	+0.9
MYKOM	**Kota Tinggi**	**4.03**	**72**	P		Pn	Pn	19 03 19.8	+2.0
IPM	**Ipoh**	**4.05**	**14**	P		Pn	Pn	19 03 18.8	+0.7
IPM	**Ipoh**	**4.05**	**14**	P		Pn	Pn	19 03 17.6	-0.5
KULM	**Kulim**	**4.77**	**8**	P		Pn	Pn	19 03 27.5	-0.5
KULM	**Kulim**	**4.77**	**8**	P		Pn	Pn	19 03 25.7	-2.3
KTGM	**Kuala Trenggan**	**5.69**	**33**	P		Pn	Pn	19 03 39.3	-1.4

IDC 18 19:03:04.6±62.0, 21°87S×176°32W, h0km, mb4.1/3, mb1 4.2/3, mb1mx3.8/18, mbtmp4.1/3, Error ellipse: s-maj=1156.0km s-min=180.1km az=85.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.64**	**246**	P		P	P	19 10 28.6	-1.3
	1.2nm,0.8s,baz=81,slow=13,SNR=2.9								
ASAR	**Alice Springs**	**45.75**	**258**	P		P	P	19 11 28.1	-0.1
	0.9nm,0.5s,baz=98,slow=7.0,SNR=33								
WRA	**Warramunga Arr**	**45.98**	**263**	P		P	P	19 11 30.4	+0.5
	1.0nm,0.3s,baz=95,slow=8.3,SNR=88								

*ISCJB **18** 19:26:37.5±0.6, 9°54S±0°05×119°48E±0°05, h50km, mb3.8/1, Error ellipse: s-maj=7.8km s-min=7.0km az=149.9*
*DJA **18** 19:26:41.4±0.5, 9°S±5°×11°9E±°, h61km±9km, M4.0/10, mb4.1/1, MLv4.0/10*
*IDC **18** 19:26:42.4±3.2, 9°07S×120°52E, h42km±41km, mb3.7/1, mb1 3.7/5, mb1mx3.4/22, mbtmp3.6/5, ML3.6/4, Error ellipse: s-maj=76.0km s-min=13.8km az=67.0*
ISC 18 19:26:39.2±1.0, 9°51S±0°07×119°52E±0°07, h50km, n18, σ1§21/18, Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**0.79**	**101**	P		Pn	Pn	19 26 59.2	+5.1
WSI				S		Sn	Sn	19 27 13.4	+8.4
LBFI	**Labuhan Bajo,**	**1.09**	**20**	P		**Pn**	**Pn**	**19 26 58.3**	**+0.1**
LBFI				S		**Sn**	**Sn**	**19 27 12.6**	**+0.3**
MMRI	**Maumere**	**2.83**	**72**	P		Pn	Pn	19 27 26.0	+4.1
MTNI	**Mataram**	**3.42**	**285**	P		**Pn**	**Pn**	**19 27 29.5**	**-0.6**
BKSI	**Bulukumba**	**4.21**	**8**	P		**Pn**	**Pn**	**19 27 40.6**	**-0.3**
IGBI	**Denpasar**	**4.37**	**279**	P		**Pn**	**Pn**	**19 27 43.8**	**+0.7**
KAPI	**Kappang**	**4.48**	**3**	P		**Pn**	**Pn**	**19 27 41.8**	**-2.8**
KAPI	**Kappang**	**4.48**	**3**	P		**Pn**	**Pn**	**19 27 43.7**	**-0.9**
	4.6nm,0.3s,baz=157,slow=8.7,SNR=30								
KAPI				S		Sn	Sn	19 28 29.3	-6.1
	6.3nm,0.3s,baz=222,slow=23,SNR=14								
SRBI	**Singaraja**	**4.48**	**288**	P		**Pn**	**Pn**	**19 27 43.6**	**-1.1**
SOEI	**Soe**	**4.69**	**93**	P		**Pn**	**Pn**	**19 27 47.8**	**+0.1**
BBSI	**Bau Bau**	**5.02**	**37**	P		**Pn**	**Pn**	**19 27 51.2**	**-0.8**
BNSI	**Bone**	**5.11**	**7**	P		**Pn**	**Pn**	**19 27 54.6**	**+1.3**
JAGI	**Jajag, Banyuwa**	**5.40**	**281**	P		**Pn**	**Pn**	**19 27 56.3**	**-1.0**
SPSI	**Sidrap Palu**	**5.52**	**3**	P		**Pn**	**Pn**	**19 28 00.1**	**+1.2**
FITZ	**Fitzroy Crossi**	**10.40**	**146**	P		**Pn**	**Pn**	**19 29 07.3**	**+1.5**
	0.3nm,0.3s,baz=329,slow=13,SNR=22								
FITZ				S		**Sn**	**Sn**	**19 30 59.1**	**-2.0**
	0.5nm,0.3s,baz=179,slow=22,SNR=10								
WRA	**Warramunga Arr**	**17.68**	**128**	P		**Pn**	**Pn**	**19 30 41.5**	**-0.5**
	0.1nm,0.3s,baz=303,slow=12,SNR=13								
WRA				S		Sn	Sn	19 33 50.3	-8.0
	0.1nm,0.3s,baz=306,slow=25,SNR=4.0								
ASAR	**Alice Springs**	**19.68**	**137**	P		**Pn**	**Pn**	**19 31 06.2**	**+0.1**
	0.3nm,0.3s,baz=330,slow=15,SNR=38								
STKA	**Stephens Creek**	**30.23**	**141**	P		**P**	**P**	**19 32 45.7**	**+0.3**
	1.3nm,0.7s,baz=339,slow=14,SNR=4.5								

*NNC **18** 20:14:21.6±12.0, 36°49N×71°35E, h132km±162km, mb3.2, mpv3.7, Error ellipse: s-maj=98.7km s-min=83.9km az=6.0*
*IDC **18** 20:14:22.4±6.1, 36°31N×70°94E, h157km±56km, mb3.2/5, mb1 3.3/9, mb1mx3.1/29, mbtmp3.1/9, Error ellipse: s-maj=43.9km s-min=21.5km az=23.0*
*ISCJB **18** 20:14:24.7±0.6, 36°51N±0°06×70°9E±0°1, h188km, mb3.4/4, Error ellipse: s-maj=12.5km s-min=6.0km az=153.3*
ISC 18 20:14:25.6±0.8, 36°62N±0°08×71°1E±0°1, h188km, n21, σ1§40/22, mb3.4/4, 3C, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.49**	**356**	P		**Pn**	**Pn**	**20 16 00.3**	**+1.3**
	3.2nm,0.6s,baz=182,slow=12,SNR=46								
KK31				⇑S		**Sn**	**Sn**	**20 17 09.7**	**-3.2**
	17nm,0.5s,baz=186,slow=22,SNR=8.2								
AAK	**Ala-Archa**	**6.56**	**23**	P		Pn	Pn	20 16 02.6	+2.5
	0.9nm,0.3s,baz=192,slow=7.9,SNR=9.1								
AAK				S		**Sn**	**Sn**	**20 17 15.7**	**+0.9**
	0.6nm,0.3s,baz=146,slow=24,SNR=9.1								
TKM2	**Tokmak 2**	**7.19**	**28**	⇑P		Pn	Pn	20 16 00.3	-8.1
	3.1nm,0.5s								
TKM2				⇑S		**Sn**	**Sn**	**20 17 27.5**	**-2.2**
	6.4nm,0.9s								
MKAR	**Makanchi Array**	**13.16**	**36**	P		**P**	**P**	**20 17 28.8**	**+0.1**
	0.0nm,0.3s,baz=219,slow=13,SNR=2.8								
DANN	**Dangsing**	**13.50**	**124**	*e*P		**Pn**	**Pn**	**20 17 30.1**	**0.0**
	14nm,0.6s								
KOLN	**Koldanda**	**13.78**	**126**	*e*P		**Pn**	**Pn**	**20 17 33.1**	**-0.5**
	5.1nm,0.4s								
DMN	**Daman**	**14.89**	**123**	*e*P		**P**	**P**	**20 17 47.8**	**-0.5**
	7.9nm,0.5s								
KKN	**Kakani**	**14.89**	**122**	*e*P		**Pn**	**Pn**	**20 17 47.3**	**+0.1**
	9.2nm,0.5s								
AB31	**Akbulak array**	**15.01**	**331**	P		**P**	**P**	**20 17 48.4**	**-0.8**
	3.2nm,0.7s,baz=145,slow=12,SNR=35								
PKIN	**Phulchoki**	**15.10**	**123**	*e*P		**P**	**P**	**20 17 50.7**	**0.0**
	11nm,0.5s								
JIRN	**Jiri**	**15.60**	**121**	*e*P		**P**	**P**	**20 17 57.0**	**+0.7**
	17nm,0.5s								
RAMN	**Ramite**	**16.32**	**122**	*e*P		**Pn**	**Pn**	**20 18 05.4**	**+0.7**
	13nm,0.5s								
BVA0	**Borovoye Array**	**16.41**	**359**	P		**Pn**	**Pn**	**20 18 06.7**	**+1.4**
	2.2nm,1.0s,baz=168,slow=10,SNR=9.8								
BVAR	**Borovoye Array**	**16.41**	**359**	P		**Pn**	**Pn**	**20 18 07.8**	**+2.6**
	0.3nm,0.3s,baz=169,slow=10,SNR=9.9								
AKTO	**Aktyubinsk**	**16.71**	**330**	P		**Pn**	**Pn**	**20 18 10.3**	**+1.5**
	0.7nm,0.3s,baz=144,slow=10,SNR=12								
ODAN	**Odare**	**16.93**	**120**	*e*P		**Pn**	**Pn**	**20 18 13.3**	**+1.4**
	5.2nm,0.4s								
ZALV	**Zalesovo Beam**	**19.78**	**25**	P		**Pn**	**Pn**	**20 18 44.0**	**-1.1**
	1.0nm,0.6s,baz=221,slow=12,SNR=6.3								
NOA	**NORSAR Array B**	**44.32**	**323**	P		**P**	**P**	**20 22 17.8**	**+1.2**
	0.7nm,0.8s,baz=123,slow=5.6,SNR=2.9								
TORD	**Torodi Ar. Bea**	**65.78**	**269**	P		**P**	**P**	**20 24 49.5**	**-1.3**
	0.3nm,0.5s,baz=53,slow=5.9,SNR=5.9								
WRA	**Warramunga Arr**	**82.00**	**122**	P		**P**	**P**	**20 26 24.8**	**0.0**
	0.4nm,0.5s,baz=324,slow=4.9,SNR=8.0								
ASAR	**Alice Springs**	**84.27**	**125**	P		**P**	**P**	**20 26 36.0**	**-0.4**
	0.4nm,0.6s,baz=309,slow=4.9,SNR=6.0								

IDC 18 20:29:44.9±9.2, 14°64S×167°24E, h144km±65km, mb3.7/5, mb1 3.8/6, mb1mx3.5/21, mbtmp3.7/6, Error ellipse: s-maj=113.4km s-min=53.6km az=69.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.43**	**186**	P		Pn	Pn	20 31 31.6	+0.9
	0.6nm,0.3s,baz=90,slow=23,SNR=7.7								
DZM				S		Sn	Sn	20 32 52.2	-1.6
	0.4nm,0.3s,baz=311,slow=19,SNR=1.8								
CTA	**Charters Tower**	**20.75**	**252**	P		P	P	20 34 15.8	+1.4
	2.8nm,0.6s,baz=70,slow=13,SNR=4.8								
STKA	**Stephens Creek**	**29.03**	**229**	P		P	P	20 35 32.3	+0.8
	1.8nm,0.4s,baz=49,slow=8.6,SNR=18								
WRA	**Warramunga Arr**	**31.82**	**256**	P		P	P	20 35 55.3	-0.9
	0.6nm,0.3s,baz=83,slow=8.5,SNR=32								
ASAR	**Alice Springs**	**32.68**	**249**	P		P	P	20 36 02.9	-0.8
	1.9nm,0.5s,baz=79,slow=9.2,SNR=56								
FITZ	**Fitzroy Crossi**	**40.01**	**259**	P		P	P	20 37 06.0	0.0
	1.5nm,0.4s,baz=97,slow=10,SNR=13								

*IDC **18** 21:05:25.2±0.9, 51°05N×166°36W, h0km, mb4.1/17, mb1 4.3/17, mb1mx4.2/28, mbtmp4.1/17, MS3.5/4, Ms1 3.5/4, ms1mx3.0/44, Error ellipse: s-maj=28.2km s-min=15.3km az=9.0*
*NEIC **18** 21:05:27.9±1.5, 51°20N×166°31W, h16km±8km, mb4.5/14, Error ellipse: s-maj=7.8km s-min=4.2km az=173.0*
*ISCJB **18** 21:05:28.4±0.2, 51°20N±0°03×166°33W±0°04, h33km, mb4.2/28, MS3.4/2, Error ellipse: s-maj=4.5km s-min=2.9km az=135.1*
ISC 18 21:05:30.5±0.5, 51°19N±0°06×166°39W±0°05, h35km, n216, σ1§30/228, mb4.2/29, 57C-52D, South of Aleutian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**2.35**	**321**	P		**Pn**	**Pn**	**21 06 05.0**	**-1.6**
NIKH				S		**Sn**	**Sn**	**21 06 33.7**	**-0.4**
OKFG	**Magazine Ridge**	**2.42**	**338**	P		**Pn**	**Pn**	**21 06 06.2**	**-1.3**
OKFG				S		**Sn**	**Sn**	**21 06 36.3**	**+0.5**
OKTU	**Okmok Mt. Tuli**	**2.42**	**336**	P		**Pn**	**Pn**	**21 06 06.9**	**-0.7**
OKSO	**Okmok South**	**2.43**	**334**	P		**Pn**	**Pn**	**21 06 06.2**	**-1.5**
OKCE	**Okmok Cone E**	**2.50**	**335**	P		**Pn**	**Pn**	**21 06 07.8**	**-0.8**
MREP	**Makushin Rep't**	**2.64**	**355**	P		**Pn**	**Pn**	**21 06 09.4**	**-1.1**
MSW	**Makushin Switc**	**2.74**	**355**	P		**Pn**	**Pn**	**21 06 10.5**	**-1.5**
MSW				S		**Sn**	**Sn**	**21 06 44.7**	**+0.8**
MCIR	**Makushin Cirqu**	**2.79**	**354**	P		**Pn**	**Pn**	**21 06 11.7**	**-1.0**
MTBL	**Makushin Table**	**2.79**	**356**	P		**Pn**	**Pn**	**21 06 11.7**	**-1.1**
AKRB	**Akutan Reef Bi**	**2.96**	**4**	P		**Pn**	**Pn**	**21 06 13.0**	**-1.9**
AKRB				S		**Sn**	**Sn**	**21 06 49.1**	**+0.1**
AKUT	**Akutan**	**2.98**	**7**	*e*Pn		**Pn**	**Pn**	**21 06 13.3**	**-1.8**
AKUT				*e*Sn		**Sn**	**Sn**	**21 06 44.3**	**-5.3**
WESE	**West Dahl East**	**3.47**	**18**	P		**Pn**	**Pn**	**21 06 20.8**	**-1.2**
WESN	**West Dahl Nort**	**3.56**	**17**	P		**Pn**	**Pn**	**21 06 22.7**	**-0.5**
SSLW	**Shishaldin Wes**	**3.84**	**20**	P		**Pn**	**Pn**	**21 06 26.0**	**-1.1**
FALS	**False Pass**	**4.09**	**25**	P		**Pn**	**Pn**	**21 06 28.6**	**-1.9**
FALS				S		**Sn**	**Sn**	**21 07 17.1**	**0.0**
DRIA	**Deer Island**	**4.53**	**32**	P		**Pn**	**Pn**	**21 06 34.5**	**-2.1**
DT1	**Dutton Round H**	**4.64**	**31**	P		**Pn**	**Pn**	**21 06 36.0**	**-2.0**
DTNA	**Dutton South F**	**4.68**	**30**	P		**Pn**	**Pn**	**21 06 37.1**	**-1.6**
PS4A	**Pavlof South-4**	**4.97**	**31**	P		**Pn**	**Pn**	**21 06 41.4**	**-1.2**
SDPT	**Sand Point**	**5.47**	**38**	P		**Pn**	**Pn**	**21 06 47.7**	**-1.8**
SPIA	**Saint Paul Isl**	**6.42**	**341**	P		**Pn**	**Pn**	**21 07 02.7**	**+0.3**
ADK	**Adak**	**6.46**	**280**	P		**Pn**	**Pn**	**21 07 02.5**	**-0.6**
CHGN	**Chignik**	**6.97**	**40**	*e*Pn		**Pn**	**Pn**	**21 07 08.6**	**-1.4**
CHGN				*e*Sn		**Sn**	**Sn**	**21 08 25.0**	**-2.8**
CERAA	**Semis' Rag'd T**	**8.71**	**280**	P		**Pn**	**Pn**	**21 07 33.1**	**-0.8**
AMKA	**Amchitka**	**8.98**	**277**	*e*Pn		**Pn**	**Pn**	**21 07 35.8**	**-1.7**
AMKA				*e*Sn		**Sn**	**Sn**	**21 09 12.3**	**-5.0**
KJL	**Kejulik**	**9.30**	**38**	P		**Pn**	**Pn**	**21 07 41.0**	**-1.0**
OHAK	**Old Harbor**	**9.76**	**47**	*e*Pn		**Pn**	**Pn**	**21 07 45.0**	**-3.2**
KDAK	**Kodiak Island**	**10.39**	**45**	*e*Pn		**Pn**	**Pn**	**21 07 53.7**	**-3.0**
KDAK	**Kodiak Island**	**10.39**	**45**	Pn		**Pn**	**Pn**	**21 07 54.3**	**-2.4**
	3.0nm,0.3s,baz=234,slow=9.5,SNR=56								
KDAK				Sn		Sn	Sn	21 09 42.6	-9.1
	0.2nm,0.3s,baz=101,slow=5.2,SNR=5.1								
KDAK				LR		LR	LR	21 12 12.7	
	comp=Z,240nm,18.9s,baz=229,slow=39								
SVW2	**Sparrevohn**	**11.60**	**27**	*e*Pn		**Pn**	**Pn**	**21 08 12.7**	**-0.6**
FX1	**Attu Island--F**	**12.70**	**286**	*e*Pn		**Pn**	**Pn**	**21 08 30.1**	**+1.7**
FX1				Sn		Sn	Sn	21 10 39.1	-9.4
FX1	**Attu Island--F**	**12.70**	**286**	Pn		**Pn**	**Pn**	**21 08 27.4**	**-1.1**
	1.5nm,0.3s,baz=262,slow=16,SNR=5.1								
FX1				Sn		Sn	Sn	21 10 39.1	-9.4
	0.5nm,0.3s,baz=95,slow=18,SNR=4.7								
PPLA	**Purkeypile**	**14.01**	**28**	*e*Pn		**Pn**	**Pn**	**21 08 47.0**	**+0.6**
CAST	**Castle Rocks**	**14.44**	**26**	*e*Pn		**Pn**	**Pn**	**21 08 52.0**	**-0.2**
SML	**Sawmill**	**14.52**	**36**	*e*Pn		**Pn**	**Pn**	**21 08 54.4**	**+1.2**
RAGM	**Ragged Mountai**	**15.22**	**44**	*e*Pn		**Pn**	**Pn**	**21 08 59.7**	**-2.9**
	43nm,1.4s								
BMRM	**Bremner River**	**15.53**	**43**	*e*Pn		**Pn**	**Pn**	**21 09 02.4**	**-4.3**
	51nm,1.7s								
PAX	**Paxson**	**16.29**	**36**	*e*Pn		**Pn**	**Pn**	**21 09 13.7**	**-2.6**
	7.9nm,0.7s								
MENT	**Mentasta**	**16.92**	**37**	*e*Pn		**Pn**	**Pn**	**21 09 21.9**	**-2.4**
IL1	**Eielson Array**	**16.98**	**29**	*e*Pn		**Pn**	**Pn**	**21 09 21.7**	**-3.3**
ILAR	**Eielson Array**	**16.98**	**29**	P		**Pn**	**Pn**	**21 09 20.4**	**-4.5**
ILAR				S		**Sn**	**Sn**	**21 12 32.2**	**-0.2**
ILAR	**Eielson Array**	**16.98**	**29**	P		**Pn**	**Pn**	**21 09 20.4**	**-4.5**
	0.1nm,0.3s,baz=229,slow=12,SNR=6.0								
ILAR				S		**Sn**	**Sn**	**21 12 32.2**	**-0.2**
	0.2nm,0.3s,baz=233,slow=28,SNR=4.0								
ILAR				LR		LR	LR	21 16 12.3	
	comp=Z,121nm,18.6s,baz=146,slow=38								
COLD	**Coldfoot**	**17.99**	**21**	*e*Pn		**P**	**P**	**21 09 37.0**	**-0.6**
	76nm,2.7s								
HYT	**Haines Junctio**	**18.66**	**48**	*e*Pn		**Pn**	**Pn**	**21 09 47.2**	**+1.5**
EGAK	**Eagle**	**18.89**	**34**	*e*Pn		**Pn**	**Pn**	**21 09 50.2**	**+1.8**
	8.6nm,0.8s								
DAWY	**Dawson**	**19.17**	**37**	*e*P		**Pn**	**Pn**	**21 09 53.6**	**+1.8**
DLBC	**Dease Lake**	**21.95**	**57**	P		**P**	**P**	**21 10 23.7**	**+2.9**
DLBC	**Dease Lake**	**21.95**	**57**	P		**P**	**P**	**21 10 23.7**	**+2.9**
	2.5nm,0.6s,baz=238,slow=14,SNR=6.5								
PEA0	**Petropavlovsk-**	**21.98**	**289**	*e*P		**P**	**P**	**21 10 21.2**	**+0.1**
PETK	**Petropavlovsk-**	**21.98**	**289**	P		**P**	**P**	**21 10 21.3**	**+0.2**
PETK	**Petropavlovsk-**	**21.98**	**289**	P		**P**	**P**	**21 10 21.3**	**+0.2**
	4.8nm,0.6s,baz=94,slow=14,SNR=15								
INK	**Inuvik**	**23.37**	**31**	P		**P**	**P**	**21 10 35.5**	**0.0**
INK	**Inuvik**	**23.37**	**31**	P		**P**	**P**	**21 10 35.5**	**0.0**
	5.6nm,0.7s,baz=232,slow=9.7,SNR=8.1								
INK				LR		LR	LR	21 20 54.2	
	comp=Z,141nm,18.5s,baz=284,slow=40								
SEA	**Seattle**	**28.56**	**80**	*e*ScP		**ScP**	**ScP**	**21 18 11.2**	**-0.3**
NEW	**Newport**	**31.50**	**76**	⇓P		**P**	**P**	**21 11 49.0**	**+0.2**
	baz=31								
I07A	**Izee**	**31.92**	**84**	*e*P		**P**	**P**	**21 11 52.1**	**-0.6**
	24nm,2.1s								
BSMT	**Bassoo Peak**	**33.10**	**75**	*e*P		**P**	**P**	**21 12 02.8**	**-0.2**
HLID	**Hailey**	**35.36**	**82**	⇑P		**P**	**P**	**21 12 22.8**	**+0.1**
	baz=35								
MCMT	**McKenzie Canyo**	**35.69**	**79**	*e*P		**P**	**P**	**21 12 25.3**	**-0.2**
NVAR	**Mina Array Bea**	**35.78**	**92**	P		**P**	**P**	**21 12 26.8**	**+0.4**
NVAR	**Mina Array Bea**	**35.78**	**92**	P		**P**	**P**	**21 12 26.8**	**+0.4**
	0.8nm,0.8s,baz=297,slow=9.9,SNR=5.0								
C19A	**Slack Wire Ran**	**36.62**	**72**	⇓P		**P**	**P**	**21 12 33.9**	**+0.7**
	baz=36								
IMW	**Indian Meadow**	**37.35**	**79**	*e*P		**P**	**P**	**21 12 39.9**	**+0.2**
	2.7nm,0.8s								
IMW				*e*ScP		**ScP**	**ScP**	**21 18 46.3**	**+3.9**
E19A	**Rath Farm, Rou**	**37.38**	**74**	⇑P		**P**	**P**	**21 12 41.9**	**+2.2**
	baz=37								
ISA	**Isabella**	**37.39**	**96**	⇓P		**P**	**P**	**21 12 39.9**	**0.0**
	baz=37								
RRI2	**Red Ridge**	**37.40**	**80**	*e*P		**P**	**P**	**21 12 40.6**	**+0.4**
	12nm,1.5s								
R11A	**Troy Canyon, C**	**37.54**	**90**	⇓P		**P**	**P**	**21 12 41.5**	**+0.2**
	baz=37								
H18A	**Shoshone NF, C**	**37.73**	**77**	⇑P		**P**	**P**	**21 12 41.1**	**-1.8**
	baz=38								
BSC	**Santa Cruz Isl**	**37.74**	**99**	⇑P		**P**	**P**	**21 12 40.3**	**-2.6**
	baz=38								
DUG	**Dugway**	**38.20**	**85**	⇓P		**P**	**P**	**21 12 46.8**	**0.0**
	baz=38								
G20A	**Bridger**	**38.34**	**75**	⇑P		**P**	**P**	**21 12 47.3**	**-0.5**
	baz=38								
BW06	**Boulder Array**	**38.80**	**80**	*e*P		**P**	**P**	**21 12 50.8**	**-1.1**
PDAR	**Pinedale Array**	**38.80**	**80**	P		**P**	**P

baz=46
320A Kipp Ranch, An 46.47 92 ⇓P P 21 13 54.1 -0.1
baz=46
W25A X Bar L Ranch, 46.48 85 ⇑P P 21 13 54.0 -0.2
baz=46
V26A Tequesquite Ra 46.53 84 ⇑P P 21 13 54.6 0.0
baz=46,SNR=7.1
Y24A Capitan 46.70 87 ⇑P P 21 13 55.1 -0.9
baz=46
U27A Thompson Grove 46.73 83 ⇑P P 21 13 55.4 -0.8
baz=46
N32A Stulken Farm, 46.86 75 ⇓P P 21 13 56.6 -0.4
baz=47
U28A Mallet 47.13 82 ⇓P P 21 13 58.3 -0.9
baz=47
Y25A Mesa, Roswell 47.17 87 ⇑P P 21 13 58.7 -0.9
baz=47
X26A CR and CF Fran 47.31 85 ⇓P P 21 14 00.4 -0.3
baz=47
224A Cornudas Mount 47.87 89 ⇑P P 21 14 05.0 0.0
baz=48
Z26A Caprock 48.04 87 ⇑P P 21 14 05.8 -0.5
baz=48
Y27A Causey 48.16 86 ⇑P P 21 14 07.2 0.0
baz=48
MNTX Cornudas Mount 48.21 89 *e*P P 21 14 07.3 -0.2
43nm,3.0s
324A Moseley Ranch, 48.32 90 ⇓P P 21 14 07.8 -0.7
baz=48
MSTX Muleshoe 48.34 85 ⇓P P 21 14 07.9 -0.7
baz=48
126A Clayton Basin, 48.43 87 ⇓P P 21 14 08.6 -0.8
baz=48
Z27A Tatum 48.50 86 ⇑P P 21 14 09.2 -0.6
baz=48
325A Bean Ranch, Si 48.69 89 ⇓P P 21 14 11.1 -0.4
baz=48
Y28A McKinney Farm, 48.71 85 ⇑P P 21 14 11.2 -0.3
baz=48
226B Tecolote Peak, 48.72 88 ⇓P P 21 14 10.9 -0.6
baz=49
Z28A Tucker Farm, M 49.03 86 ⇑P P 21 14 12.9 -1.0
baz=49
425A Indio Mountain 49.08 90 ⇑P P 21 14 13.8 -0.6
baz=49
326A Caldwell Ranch 49.35 89 ⇓P P 21 14 15.8 -0.6
baz=49
128A Castleberry Fa 49.41 86 ⇑P P 21 14 16.4 -0.4
baz=49
Y30A Stafford Cattl 49.58 84 ⇓P P 21 14 17.7 -0.3
baz=49
426A McDonald Obser 49.76 89 ⇓P P 21 14 18.5 -1.2
baz=50
Z30A Sanderson Ranc 49.82 85 ⇓P P 21 14 19.3 -0.6
baz=50
328A Wristen Ranch, 50.04 88 ⇓P P 21 14 20.9 -0.6
baz=50
526A Mary Lane Ranc 50.14 90 ⇓P P 21 14 21.9 -0.5
baz=50
527A Woodward Ranch 50.38 90 ⇓P P 21 14 22.7 -1.5
baz=50
Z31A Sharp Cattle R 50.42 84 ⇑P P 21 14 23.3 -1.1
baz=50
626A Big Bend Ranch 50.46 90 ⇑P P 21 14 23.7 -1.0
baz=50
329A Wagon Wheel Ra 50.49 87 ⇑P P 21 14 24.3 -0.7
baz=50
428A Kincaid Ranch, 50.56 88 ⇓P P 21 14 25.1 -0.5
baz=50,SNR=6.2
230A Sterling City 50.77 86 ⇓P P 21 14 26.0 -1.1
baz=51
Z32A Haskell 50.84 83 ⇑P P 21 14 26.9 -0.7
baz=51
528A Cox Ranch, San 50.89 89 ⇓P P 21 14 27.4 -0.7
baz=51
TX31 Lajitas Ar. Si 50.90 90 *e*P P 21 14 26.8 -1.3
TXAR Lajitas Array 50.90 90 P P 21 14 27.5 -0.7
TXAR Lajitas Array 50.90 90 P P 21 14 27.5 -0.7
2.2nm,0.8s,baz=302,slow=5.4,SNR=15
627A Terlingua Ranc 50.99 90 ⇑P P 21 14 28.5 -0.4
baz=51
330A Mertzon 51.05 86 ⇓P P 21 14 28.8 -0.5
baz=51
429A Davenport Ranc 51.13 88 ⇓P P 21 14 29.1 -0.7
baz=51
529A Stev Forest Ra 51.27 88 ⇑P P 21 14 29.7 -1.2
baz=51
628A Black Gap, Mar 51.29 90 ⇑P P 21 14 30.4 -0.5
baz=51,SNR=9.0
430A Baggett Ranch, 51.44 87 ⇓P P 21 14 31.5 -0.6
baz=51
331A San Angelo 51.59 86 ⇓P P 21 14 32.6 -0.6
baz=51
232A Coleman 51.69 85 ⇓P P 21 14 33.3 -0.6
baz=52
530A J-C Ranch, Com 51.81 88 ⇓P P 21 14 33.9 -0.9
baz=52,SNR=6.2
431A Sonora 51.90 87 ⇓P P 21 14 34.4 -1.2
baz=52,SNR=7.2
332A Millersview 51.97 85 ⇓P P 21 14 34.9 -1.1
baz=52
432A Menard 52.28 86 ⇓P P 21 14 37.3 -1.1
baz=52
531A Rocksprings 52.29 87 ⇓P P 21 14 37.0 -1.5
baz=52
JCT Junction City 52.55 86 ⇓P P 21 14 39.7 -0.6
baz=52
532A Rocksprings 52.72 87 ⇑P P 21 14 40.1 -1.6
baz=52
631A Perdido Creek 52.79 88 ⇑P P 21 14 40.9 -1.2
baz=53
632A Uvalde 53.22 87 ⇑P P 21 14 44.5 -0.9
baz=53
SONM Songino Array 53.50 303 P P 21 14 48.3 +1.0
SONM Songino Array 53.50 303 P P 21 14 48.3 +1.0
1.9nm,1.0s,baz=104,slow=6.3,SNR=4.5
732A Laxson Ranch, 53.65 88 ⇑P P 21 14 47.3 -1.1
baz=54
SIUC Southern Illin 54.25 72 *e*ScP ScP 21 19 54.6 +2.8
ARCES ARCESS Array B 59.28 355 P P 21 15 28.6 +0.7
ARCES ARCESS Array B 59.28 355 P P 21 15 28.6 +0.7
3.7nm,0.8s,baz=20,slow=8.2,SNR=6.7
ZAA0 Zalesovo Array 59.54 320 *e*P P 21 15 29.7 -0.2
ZAA0 *e*PcP PcP 21 16 17.4 +0.4
ZALV Zalesovo Beam 59.54 320 P P 21 15 30.9 +1.1
ZALV Zalesovo Beam 59.54 320 P P 21 15 30.9 +1.1
1.1nm,0.6s,baz=35,slow=5.4,SNR=6.2
ZALV LR LR 21 42 22.5
comp=Z,28nm,21.0s,baz=159,slow=37
KURK Kurchatov 64.48 320 *e*P P 21 16 03.4 +0.3
2.6nm,0.8s
JOF Joensuu 65.38 351 *e*p P 21 16 10.2 +1.4
0.5nm,0.4s
BVAR Borovoye Array 65.73 326 P P 21 16 12.7 +1.5
BVAR Borovoye Array 65.73 326 P P 21 16 12.7 +1.5
4.2nm,0.6s,baz=46,slow=6.4,SNR=15
VOSK Vostochnaya 65.77 326 *e*P P 21 16 12.3 +0.8
6.0nm,1.1s
MKAR Makanchi Array 65.96 316 P P 21 16 13.2 +0.4
MKAR Makanchi Array 65.96 316 P P 21 16 13.2 +0.4
1.5nm,0.6s,baz=52,slow=6.7,SNR=16
MK01 Makanchi Array 65.97 315 *e*P P 21 16 12.5 -0.4
KAF Kangasniemi 66.60 354 *e*p P 21 16 17.0 +0.4
0.5nm,0.4s
FINES FINESS Array B 67.28 354 P P 21 16 21.5 +0.6
FINES FINESS Array B 67.28 354 P P 21 16 21.5 +0.6
3.2nm,0.8s,baz=10,slow=12,SNR=10.0
NB2 NORSAR Subarra 68.11 1 P P 21 16 27.3 +1.1
comp=Z,0.5nm,0.6s,baz=0.1,slow=6.5
NOA NORSAR Array B 68.11 1 P P 21 16 27.2 +0.9
NOA NORSAR Array B 68.11 1 P P 21 16 27.2 +0.9
comp=Z,1.5nm,0.8s,baz=359,slow=6.2,SNR=3.8
ABKAR Akbulak array 72.40 330 *e*P P 21 16 53.2 +0.6
AAK Ala-Archa 72.64 318 *e*P P 21 16 56.0 +1.7
comp=Z,3.6nm,0.7s
EKS2 Erkin-Say 72.92 318 *e*P P 21 16 57.2 +1.2
comp=Z,3.7nm,0.6s
AKASG Malin Array Be 77.62 350 P P 21 17 23.0 +0.3
AKASG Malin Array Be 77.62 350 P P 21 17 23.0 +0.3
comp=Z,1.7nm,0.5s,baz=13,slow=5.8,SNR=8.2
CM01 Chiang Mai Arr 78.72 285 *e*P P 21 17 29.0 -0.3
GERES GERESS Array B 80.35 360 P P 21 17 39.4 +1.6
GERES GERESS Array B 80.35 360 P P 21 17 39.4 +1.6
comp=Z,0.7nm,0.7s,baz=350,slow=5.4,SNR=4.2
BRTR Keskin Array B 87.78 345 P P 21 18 16.8 +0.9
BRTR Keskin Array B 87.78 345 P P 21 18 16.8 +0.9
comp=Z,1.0nm,0.6s,baz=21,slow=3.2,SNR=7.4

ASAR Alice Springs 91.10 232 P P 21 18 30.3 -1.0
ASAR Alice Springs 91.10 232 P P 21 18 30.3 -1.0
comp=Z,0.8nm,0.8s,baz=33,slow=4.8,SNR=8.0

IDC 18 21:27:10.1±4.2,3°.07S×149°.72E,h0km,mb3.6/2, mb1 3.9/2,mb1mx3.4/17,mbtmp3.6/2,MS3.7/2,Ms1 3.7/2, ms1mx3.2/14,Error ellipse: s-maj=172.1km s-min=46.2km az=110.0,Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**11.96**	**122**	LR	LR	21 33 04.6	
comp=Z,34nm,20.7s,baz=269,slow=30							
WRA	**Warramunga Arr**	**22.51**	**221**	P	P	21 32 11.9	+0.2
1.2nm,0.8s,baz=43,slow=10,SNR=14							
ASAR	**Alice Springs**	**25.56**	**215**	P	P	21 32 40.5	-0.5
1.6nm,0.9s,baz=54,slow=7.8,SNR=13							
SONM	**Songino Array**	**63.25**	**329**	LR	LR	22 06 10.1	
comp=Z,45nm,18.1s,baz=43,slow=37							
MAW	**Mawson**	**85.98**	**203**	LR	LR	22 15 27.2	
comp=Z,53nm,19.6s,baz=163,slow=34							
TORD	**Torodi Ar. Bea**	**146.85**	**289**	PKPbc	PKPbc	21 46 55.0	-0.6
0.5nm,1.0s,baz=56,slow=3.4,SNR=2.6							

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*MEX **18** 21:35:25.6±0.6, 15°.60N×97°.50W, h16km±7km, MD4.7*
*ISCJB **18** 21:35:26.6±0.7, 15°.93N±0°.03×97°.21W±0°.02, h21km±4km, mb4.8/130, MS4.0/14, Error ellipse: s-maj=5.6km s-min=2.4km az=32.7*
*IDC **18** 21:35:26.5±0.8, 16°.21N×97°.15W, h0km, mb4.4/15, mb1 4.6/19, mb1mx4.5/29, mbtmp4.5/19, ML4.0/4, MS3.9/14, Ms1 3.9/14, ms1mx3.8/21, Error ellipse: s-maj=24.9km s-min=12.7km az=43.0*
*NEIC **18** 21:35:30.4±0.6, 16°.02N×97°.15W, h43km±4km, mb4.9/113, MD4.6(MEX), Error ellipse: s-maj=7.2km s-min=3.4km az=207.0*
NEIC Felt at Puerto Escondido.
*BJI **18** 21:35:33.3, 16°.00N×97°.20W, h59km, mB5.1/4, Ms5.0/2, Ms7 4.9/3*
ISC 18 21:35:27.3±1.3,15°.79N±0°.05×97°.41W±0°.03,h27km±8km, n717,σ1§58/711,mb4.9/131,MS4.0/14,188C-202D,Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PANG	**Puerto Angel**	**0.91**	**97**	*i*P	**Pn**	**21 35 41.2**	**-3.0**
PANG				*i*S	**Sb**	**21 35 53.0**	**-3.1**
PNIG	**Pinotepa**	**0.92**	**311**	*e*P	Pn	21 35 41.1	-3.4
PNIG				*i*S	**Sb**	**21 35 52.5**	**-4.0**
HUIG	**Huatulco**	**1.25**	**91**	*e*P	Pn	21 35 45.6	-3.4
HUIG				*i*S	**Sn**	**21 36 01.9**	**-3.0**
HUIG	**Huatulco**	**1.25**	**91**	*e*Pn	Pn	21 35 45.6	-3.4
HUIG				*e*Sn	**Sn**	**21 36 01.9**	**-3.0**
OXBJ	**Oaxaca**	**1.43**	**27**	*e*P	**Pn**	**21 35 50.8**	**-0.9**
OXBJ				*i*S	**Sn**	**21 36 10.3**	**+0.5**
VHO	**Vista Hermosa**	**1.43**	**27**	*e*P	**Pn**	**21 35 50.7**	**-1.0**
VHO				*e*S	**Sn**	**21 36 09.2**	**-0.6**
VHO	**Vista Hermosa**	**1.43**	**27**	*e*Pn	**Pn**	**21 35 50.7**	**-1.0**
VHO				*e*Sn	**Sn**	**21 36 09.2**	**-0.6**
HMTT	**Tlapaneco**	**2.29**	**331**	*e*P	**Pn**	**21 36 01.4**	**-1.9**
HMTT				*i*S	**Sn**	**21 36 30.2**	**-0.5**
TPIG	**Tehuac#an**	**2.62**	**1**	*e*P	**Pn**	**21 36 08.1**	**0.0**
TPIG				*i*S	**Sn**	**21 36 39.4**	**+0.4**
CMIG	**Matias Romero**	**2.75**	**61**	*e*Pn	**Pn**	**21 36 07.6**	**-2.0**
CMIG	**Matias Romero**	**2.75**	**61**	Pn	**Pn**	**21 36 07.6**	**-2.0**
45nm,0.3s,baz=243,slow=11,SNR=66							
CMIG				Lg	Lg	21 36 55.8	
413nm,0.3s,baz=330,slow=12,SNR=10							
MEIG	**Mezcala**	**3.00**	**315**	*e*P	**Pn**	**21 36 11.8**	**-1.5**
MEIG				*i*S	**Sn**	**21 36 46.8**	**-1.6**
CAIG	**El Cayaco**	**3.02**	**295**	*e*P	**Pn**	**21 36 10.7**	**-2.7**
CAIG				*i*S	**Sn**	**21 36 45.0**	**-3.6**
PLIG	**Platanillo**	**3.28**	**323**	*e*P	**Pn**	**21 36 15.3**	**-1.7**
PLIG				*i*S	**Sn**	**21 36 54.2**	**-1.0**
PLIG	**Platanillo**	**3.28**	**323**	*e*Pn	**Pn**	**21 36 15.3**	**-1.7**
PLIG				*e*Sn	**Sn**	**21 36 54.2**	**-1.0**
YAIG	**Yautepec**	**3.45**	**333**	*e*P	**Pn**	**21 36 18.4**	**-1.0**
YAIG				*i*S	**Sn**	**21 36 59.2**	**-0.3**
YAIG	**Yautepec**	**3.45**	**333**	*e*Pn	**Pn**	**21 36 18.4**	**-1.0**
YAIG				*e*Sn	**Sn**	**21 36 59.2**	**-0.3**
PPM	**Popocatepetl**	**3.46**	**341**	*e*P	**Pn**	**21 36 18.5**	**-1.5**
PPM				*i*S	**Sn**	**21 37 00.2**	**-0.2**
PPM	**Popocatepetl**	**3.46**	**341**	*e*Pn	**Pn**	**21 36 18.5**	**-1.5**
PPM				*e*Sn	**Sn**	**21 37 00.2**	**-0.2**
AMVM	**AMECAMECA**	**3.58**	**339**	*e*P	**Pn**	**21 36 20.4**	**-0.9**
AMVM				*i*S	**Sn**	**21 37 02.6**	**-0.3**
ARIG	**Puente Sto Nin**	**3.75**	**312**	*i*P	**Pn**	**21 36 20.7**	**-2.8**
ARIG				*i*S	**Sn**	**21 37 04.1**	**-2.6**
MZVM		**3.81**	**333**	*i*P	**Pn**	**21 36 23.0**	**-1.2**
UNM	**Universidad Na**	**3.91**	**335**	*i*P	**Pn**	**21 36 23.9**	**-1.9**
UNM				*i*S	**Sn**	**21 37 11.2**	**+0.2**
SZVM	**Salazar**	**3.99**	**332**	*i*P	**Pn**	**21 36 26.0**	**-1.1**
SZVM				*i*S	**Sn**	**21 37 13.2**	**-0.1**
SZVM	**Salazar**	**3.99**	**332**	*e*Pn	**Pn**	**21 36 26.0**	**-1.1**
SZVM				*e*Sn	**Sn**	**21 37 13.2**	**-0.1**
LVIG	**Laguna Verde**	**4.03**	**13**	*e*P	Pn	21 36 25.3	-1.9
LVIG				*i*S	**Sn**	**21 37 13.3**	**-0.2**
LVIG	**Laguna Verde**	**4.03**	**13**	*e*Pn	Pn	21 36 25.3	-1.9
LVIG				*e*Sn	**Sn**	**21 37 13.3**	**-0.2**
PCIG		**4.03**	**91**	*e*P	**Pn**	**21 36 25.9**	**-1.4**
PCIG				*i*S	**Sn**	**21 37 12.1**	**-1.6**
TOVM	**TOLUCA**	**4.10**	**328**	*e*P	**Pn**	**21 36 27.0**	**-1.5**
TGIG		**4.23**	**76**	*i*P	**Pn**	**21 36 29.4**	**-0.7**
TGIG				*i*S	**Sn**	**21 37 19.1**	**+0.5**
ZIIG	**Zihuatanejo**	**4.29**	**296**	*i*P	Pn	21 36 27.3	-3.5
ZIIG				*i*S	**Sn**	**21 37 16.4**	**-3.6**
ZIIG	**Zihuatanejo**	**4.29**	**296**	*e*Sn	**Sn**	**21 37 16.4**	**-3.6**
DEIG	**Demacu**	**4.75**	**341**	*i*P	**Pn**	**21 36 36.8**	**-0.6**
DEIG				*i*S	**Sn**	**21 37 32.3**	**+0.6**
CCIG	**Comitan**	**5.09**	**84**	*i*P	**Pn**	**21 36 40.8**	**-1.2**
CCIG				*i*S	**Sn**	**21 37 39.1**	**-1.0**
CCIG	**Comitan**	**5.09**	**84**	*e*Pn	**Pn**	**21 36 40.8**	**-1.2**
CCIG				*e*Sn	**Sn**	**21 37 39.1**	**-1.0**
MOIG	**Morelia**	**5.29**	**318**	*i*P	**Pn**	**21 36 43.0**	**-1.8**
MOIG				*i*S	**Sn**	**21 37 42.8**	**-2.2**
MOIG	**Morelia**	**5.29**	**318**	*e*Pn	**Pn**	**21 36 43.0**	**-1.8**
MOIG				*e*Sn	**Sn**	**21 37 42.8**	**-2.2**
IGIG	**Irapuato, Guan**	**6.19**	**324**	*i*P	**Pn**	**21 36 56.6**	**-0.5**
IGIG				*i*S	**Sn**	**21 38 06.8**	**-0.4**
MMIG	**Aquila**	**6.20**	**294**	*i*P	**Pn**	**21 36 56.6**	**-0.6**
APG	**El Apazote**	**6.74**	**96**	Pn	**Pn**	**21 37 04.2**	**-0.5**
1.3nm,0.3s,baz=309,slow=13,SNR=18							
APG				Sn	**Sn**	**21 38 22.8**	**+2.0**
4.3nm,0.3s,baz=82,slow=23,SNR=3.6							
APG				LR	LR	21 40 01.2	
comp=Z,1μm,19.3s,baz=108,slow=42							
EZ5V		**6.96**	**303**	*e*P	**Pn**	**21 37 10.0**	**+2.3**
R15V		**7.12**	**299**	*e*P	**Pn**	**21 37 11.4**	**+1.6**
ZAIG	**Zacatecas**	**8.48**	**326**	*i*P	**Pn**	**21 37 29.2**	**+0.5**
ZAIG				*i*S	**Sn**	**21 39 04.1**	**+0.3**
ZAIG	**Zacatecas**	**8.48**	**326**	*e*Pn	**Pn**	**21 37 29.2**	**+0.5**
ZAIG				*e*Sn	**Sn**	**21 39 04.1**	**+0.3**
ANIG	**Ahuacatlan**	**8.55**	**309**	*e*P	**Pn**	**21 37 27.4**	**-2.1**
LNIG	**Linares**	**9.27**	**348**	*e*P	**Pn**	**21 37 38.8**	**-0.5**
TEIG	**Tepich**	**9.74**	**62**	*e*Pn	Pn	21 37 43.0	-2.7
TEIG				*e*Sn	Sn	21 39 28.8	-5.5
TEIG	**Tepich**	**9.74**	**62**	Pn	Pn	21 37 43.2	-2.5
11nm,0.3s,baz=252,slow=9.1,SNR=34							
TEIG				Sn	Sn	21 39 30.8	-3.5
27nm,0.3s,baz=110,slow=23,SNR=8.8							
TGUH	**Tegucigalpa,Un**	**9.94**	**99**	*e*Pn	**Pn**	**21 37 49.4**	**+0.9**
732A	**Laxson Ranch,**	**13.10**	**350**	⇑P	**Pn**	**21 38 32.5**	**+0.9**
baz=13							
JTS	**JuntasAbangare**	**13.30**	**113**	*e*Pn	Pn	21 38 37.7	+3.2
632A	**Uvalde**	**13.83**	**351**	⇑P	**Pn**	**21 38 41.9**	**+0.2**
baz=14,SNR=7.5							
631A	**Perdido Creek**	**13.87**	**348**	⇑P	**Pn**	**21 38 42.5**	**+0.3**
baz=14,SNR=7.3							
HKT	**Hockley**	**14.17**	**6**	*e*Pn	**Pn**	**21 38 48.0**	**+1.8**
532A	**Rocksprings**	**14.46**	**351**	⇓P	**Pn**	**21 38 51.6**	**+1.4**
baz=14,SNR=11							
628A	**Black Gap, Mar**	**14.54**	**341**	⇓P	**Pn**	**21 38 52.7**	**+1.3**
baz=14,SNR=26							
531A	**Rocksprings**	**14.60**	**349**	⇓P	**Pn**	**21 38 52.8**	**+0.7**
baz=14,SNR=8.7							
LTX	**Lajitas**	**14.67**	**338**	*e*Pn	**Pn**	**21 38 54.0**	**+0.9**
TX31	**Lajitas Ar. Si**	**14.67**	**338**	*e*Pn	**Pn**	**21 38 53.7**	**+0.6**
TXAR	**Lajitas Array**	**14.67**	**338**	Pn	**Pn**	**21 38 54.0**	**+0.9**
0.1nm,0.3s,baz=150,slow=13,SNR=15							
TXAR				LR	LR	21 44 45.7	
comp=Z,1μm,18.0s,baz=55,slow=39							
627A	**Terlingua Ranc**	**14.68**	**339**	⇑P	**Pn**	**21 38 54.6**	**+1.3**
baz=15,SNR=10							
530A	**J-C Ranch, Com**	**14.74**	**347**	⇓P	**Pn**	**21 38 55.4**	**+1.2**
baz=15,SNR=10							
JCT	**Junction City**	**14.79**	**352**	*e*Pn	**Pn**	**21 38 55.3**	**+0.5**
JCT	**Junction City**	**14.79**	**352**	⇑P	**Pn**	**21 38 55.6**	**+0.8**
baz=15,SNR=8.2							
529A	**Stev Forest Ra**	**14.94**	**344**	⇑P	**Pn**	**21 38 58.3**	**+1.5**
baz=15,SNR=7.8							
626A	**Big Bend Ranch**	**15.04**	**337**	⇑P	**Pn**	**21 38 59.8**	**+1.6**
baz=15,SNR=10							
431A	**Sonora**	**15.12**	**349**	⇓P	**Pn**	**21 39 00.2**	**+1.1**
baz=15,SNR=13							
528A	**Cox Ranch, San**	**15.14**	**342**	⇑P	**Pn**	**21 39 00.9**	**+1.5**
baz=15,SNR=8.4							
432A	**Menard**	**15.18**	**352**	⇑P	**Pn**	**21 39 00.7**	**+0.8**
baz=15,SNR=8.6							
429A	**Davenport Ranc**	**15.33**	**345**	⇑P	**Pn**	**21 39 03.2**	**+1.2**
baz=15,SNR=12							
430A	**Baggett Ranch,**	**15.34**	**347**	⇑P	**Pn**	**21 39 02.8**	**+0.7**
baz=15,SNR=17							
527A	**Woodward Ranch**	**15.39**	**339**	⇓P	**Pn**	**21 39 04.4**	**+1.6**
baz=15,SNR=11							
526A	**Mary Lane Ranc**	**15.48**	**338**	⇓P	**Pn**	**21 39 05.4**	**+1.4**
baz=15,SNR=15							
428A	**Kincaid Ranch,**	**15.64**	**343**	⇓P	**Pn**	**21 39 07.3**	**+1.4**
baz=16,SNR=47							
332A	**Millersview**	**15.67**	**353**	⇓P	**Pn**	**21 39 06.7**	**+0.3**
baz=16,SNR=12							
331A	**San Angelo**	**15.70**	**350**	⇓P	**Pn**	**21 39 08.1**	**+1.4**
baz=16,SNR=18							
330A	**Mertzon**	**15.93**	**348**	⇑P	**Pn**	**21 39 10.8**	**+1.1**
baz=16,SNR=34							
427A	**Hayter Ranch,**	**15.97**	**341**	⇓P	**Pn**	**21 39 11.6**	**+1.4**
baz=16,SNR=12							
426A	**McDonald Obser**	**16.01**	**339**	⇓P	**Pn**	**21 39 12.2**	**+1.4**
baz=16,SNR=21							
WHTX	**Lake Whitney**	**16.13**	**360**	*e*Pn	**Pn**	**21 39 10.8**	**-1.5**
WHTX	**Lake Whitney**	**16.13**	**360**	⇓P	**Pn**	**21 39 11.6**	**-0.6**
baz=16,SNR=5.8							
232A	**Coleman**	**16.16**	**353**	⇓P	**Pn**	**21 39 12.9**	**+0.2**
baz=16,SNR=30							
329A	**Wagon Wheel Ra**	**16.18**	**346**	⇑P	**Pn**	**21 39 12.6**	**-0.3**
baz=16							
328A	**Wristen Ranch,**	**16.29**	**343**	⇑P	**Pn**	**21 39 14.6**	**+0.3**
baz=16							
231A	**Bronte**	**16.29**	**351**	⇓P	**Pn**	**21 39 14.5**	**+0.2**
baz=16,SNR=10.0							
230A	**Sterling City**	**16.38**	**349**	⇓P	**Pn**	**21 39 15.8**	**+0.3**
baz=16,SNR=14							
425A	**Indio Mountain**	**16.46**	**336**	⇓P	**Pn**	**21 39 17.2**	**+0.6**
baz=16,SNR=21							
327A	**Balmorhea Ranc**	**16.48**	**341**	⇑P	**Pn**	**21 39 17.2**	**+0.5**
baz=16							
326A	**Caldwell Ranch**	**16.59**	**340**	⇑P	**Pn**	**21 39 18.8**	**+0.7**
baz=16,SNR=33							
ABTX	**Abilene, Hawle**	**16.89**	**353**	*e*Pn	**Pn**	**21 39 20.8**	**-1.0**
ABTX	**Abilene, Hawle**	**16.89**	**353**	⇑P	**Pn**	**21 39 21.5**	**-0.3**
baz=17,SNR=15							
228A	**UT Block 9, Go**	**16.93**	**345**	⇑P	**Pn**	**21 39 22.4**	**0.0**
baz=17							
325A	**Bean Ranch, Si**	**16.98**	**337**	⇓P	**Pn**	**21 39 23.9**	**+0.7**
baz=17,SNR=28							
227A	**Bennet, Jal**	**17.02**	**343**	⇓P	**Pn**	**21 39 23.7**	**+0.2**
baz=17,SNR=7.4							
131A	**Roby**	**17.03**	**351**	⇑P	**Pn**	**21 39 23.0**	**-0.6**
baz=17							
130A	**Snyder**	**17.05**	**350**	⇓P	**Pn**	**21 39 23.3**	**-0.6**
baz=17							
324A	**Moseley Ranch,**	**17.24**	**336**	⇓P	**Pn**	**21 39 27.0**	**+0.6**
baz=17,SNR=66							
129A	**Stewart Farms,**	**17.25**	**347**	⇑P	**Pn**	**21 39 26.9**	**+0.5**
baz=17,SNR=9.1							
226B	**Tecolote Peak,**	**17.35**	**340**	⇑P	**P**	**21 39 28.8**	**-0.1**
baz=17,SNR=15							
128A	**Castleberry Fa**	**17.38**	**346**	⇓P	**Pn**	**21 39 28.5**	**+0.4**
baz=17,SNR=11							
MNTX	**Cornudas Mount**	**17.43**	**337**	*e*Pn	**Pn**	**21 39 29.0**	**+0.4**
18nm,1.0s							
CGIG		**17.45**	**328**	*e*P	**P**	**21 39 30.9**	**+0.8**
VBMS	**Vicksburg**	**17.52**	**20**	*e*Pn	**Pn**	**21 39 28.0**	**-1.7**
55nm,1.1s							
Z32A	**Haskell**	**17.55**	**354**	⇑P	**Pn**	**21 39 29.6**	**-0.4**
baz=17,SNR=25							
225A	**Deer Hill, Car**	**17.60**	**339**	⇓P	**P**	**21 39 31.5**	**-0.2**
baz=18,SNR=28							
Z31A	**Sharp Cattle R**	**17.63**	**352**	⇓P	**Pn**	**21 39 30.6**	**-0.5**
baz=18,SNR=6.9							
127A	**Arkansas Junct**	**17.66**	**343**	⇑P	**Pn**	**21 39 31.8**	**+0.2**
baz=18							
Z30A	**Sanderson Ranc**	**17.75**	**350**	⇑P	**Pn**	**21 39 32.2**	**-0.4**
baz=18,SNR=16							
224A	**Cornudas Mount**	**17.82**	**337**	⇓P	**P**	**21 39 34.1**	**0.0**
baz=18,SNR=20							
126A	**Clayton Basin,**	**17.83**	**341**	⇑P	**Pn**	**21 39 33.9**	**+0.3**
baz=18							
Z29A	**Hungry Hill Ra**	**17.83**	**348**	⇑P	**Pn**	**21 39 33.7**	**+0.1**
baz=18,SNR=38							
Z28A	**Tucker Farm, M**	**18.00**	**346**	⇓P	**Pn**	**21 39 35.9**	**+0.2**
baz=18,SNR=24							
125A	**Gardner Draw,**	**18.04**	**340**	⇑P	**P**	**21 39 36.9**	**+0.3**
baz=18,SNR=34							
HSIG		**18.15**	**319**	*i*P	**P**	**21 39 39.5**	**+1.9**
Z27A	**Tatum**	**18.23**	**344**	⇓P	**Pn**	**21 39 38.6**	**+0.1**
baz=18,SNR=31							
Y32A	**R-V Farms, Ver**	**18.23**	**355**	⇑P	**Pn**	**21 39 37.6**	**-0.8**
baz=18,SNR=6.6							
Y31A	**Rekieta Farm,**	**18.28**	**352**	⇓P	**P**	**21 39 38.4**	**-0.7**
baz=18							
Y30A	**Stafford Cattl**	**18.29**	**351**	⇑P	**P**	**21 39 38.9**	**-0.3**
baz=18							
124A	**Stringfield Ra**	**18.36**	**338**	⇓P	**Pn**	**21 39 41.1**	**+0.9**
baz=18,SNR=29							
BCIP	**Isla Barro Col**	**18.36**	**109**	*e*P	**Pn**	**21 39 41.0**	**+0.8**
27nm,1.1s							
Z26A	**Caprock**	**18.40**	**342**	⇑P	**P**	**21 39 40.4**	**0.0**
baz=18,SNR=18							
Y29A	**Porterfield Fa**	**18.40**	**349**	⇓P	**Pn**	**21 39 40.8**	**+0.1**
baz=18							
222A	**Williams Famil**	**18.49**	**333**	⇑P	**Pn**	**21 39 42.4**	**+0.7**
baz=18							
320A	**Kipp Ranch, An**	**18.51**	**329**	⇓P	**Pn**	**21 39 43.2**	**+1.2**
baz=18,SNR=14							
Y28A	**McKinney Farm,**	**18.57**	**347**	⇑P	**P**	**21 39 42.4**	**+0.1**
baz=18,SNR=18							
123A	**B

	baz=19,SNR=32					
UALR	University of	19.45	13	eP	P	21 39 50.6 -1.2
	29nm,0.9s					
W31A	Holland Ranch,	19.45	354	⇑P	P	21 39 52.6 +0.6
	baz=19					
Y24A	Capitan	19.46	340	⇓P	Pn	21 39 54.3 +0.8
	baz=19,SNR=82					
X27A	F and S Farms,	19.47	346	⇓P	Pn	21 39 53.3 -0.2
	baz=19					
W30A	Crocket Farms	19.52	352	⇓P	P	21 39 53.5 +0.8
	baz=19					
X26A	CR and CF Fran	19.55	344	⇓P	Pn	21 39 54.5 0.0
	baz=20,SNR=15					
120A	U Bar Ranch, L	19.55	331	⇑P	Pn	21 39 55.9 +1.3
	baz=20,SNR=22					
LRAL	Lakeview Retre	19.59	27	eP	P	21 39 51.2 -2.2
	15nm,0.6s					
W29A	Amraillo	19.63	350	⇓P	Pn	21 39 55.2 -0.1
	baz=20					
Y23A	Lovelace Mesa,	19.68	338	⇓P	Pn	21 39 56.5 +0.4
	baz=20,SNR=33					
Z21A	St. Cloud Mine	19.76	334	⇑P	Pn	21 39 58.1 +0.9
	baz=20,SNR=21					
X25A	Clemmons Ranch	19.77	342	⇓P	Pn	21 39 57.2 +0.1
	baz=20,SNR=12					
W27A	Bowe Ranch, En	19.86	346	⇓P	P	21 39 57.3 +0.8
	baz=20,SNR=18					
W28A	Vega	19.86	348	⇑P	Pn	21 39 58.0 -0.2
	baz=20					
OXF	Oxford	19.98	20	eP	P	21 39 55.9 -1.8
	41nm,1.0s					
Z20A	Nine Sixteen R	20.01	332	⇑P	Pn	21 40 00.3 +0.3
	baz=20,SNR=36					
V31A	Spring Creek L	20.02	354	⇓P	Pn	21 39 59.4 -0.6
	baz=20,SNR=8.6					
Y22A	Socorro	20.02	336	⇑P	Pn	21 40 00.7 +0.5
	baz=20,SNR=27					
TIGA	Tifton	20.04	37	eP	P	21 39 56.7 -1.6
TIGA	Tifton	20.04	37	⇓P	P	21 39 57.8 -0.6
	baz=20					
X24A	Lazy VL Ranch,	20.05	340	⇓P	Pn	21 40 00.4 -0.1
	baz=20,SNR=5.3					
W26A	Owens Ranch, T	20.05	345	⇑P	Pn	21 39 59.8 -0.6
	baz=20,SNR=7.5					
BNM	Barren Site	20.09	337	eP	Pn	21 40 01.2 +0.2
TUL1	Tulsa	20.09	4	eP	P	21 39 57.5 -1.4
TUL1	Tulsa	20.09	4	⇓P	P	21 39 59.2 +0.3
	baz=20					
V30A	Spur Ranch, Mi	20.11	352	⇑P	P	21 40 00.0 +0.9
	baz=20					
LENM	Lemitar	20.23	337	eP	Pn	21 40 02.6 -0.1
LPM	Los Pinos Moun	20.23	337	eP	Pn	21 40 02.0 -0.6
X23A	Hourglass Bar	20.31	339	⇓P	Pn	21 40 04.1 +0.4
	baz=20,SNR=73					
V29A	Stinnett	20.34	350	⇓P	P	21 40 02.6 +1.0
	baz=20					
V28A	Channing	20.34	349	⇓P	Pn	21 40 03.7 -0.1
	baz=20,SNR=5.4					
W25A	X Bar L Ranch,	20.36	343	⇑P	Pn	21 40 03.4 -0.6
	baz=20,SNR=21					
Y21A	Point of Rocks	20.37	335	⇑P	Pn	21 40 05.2 +0.9
	baz=20,SNR=11					
TUC	Tucson	20.46	326	eP	Pn	21 40 04.3 -0.9
	17nm,1.0s					
V27A	Dan Oppiter Fa	20.47	347	⇑P	P	21 40 04.3 +1.2
	baz=20					
LAZ	Ladron	20.50	336	eP	P	21 40 03.3 -0.3
X22A	Bernardo	20.55	337	⇑P	Pn	21 40 06.7 +0.4
	baz=20,SNR=10.0					
Y20A	Horse Springs,	20.58	333	⇓P	Pn	21 40 07.3 +0.5
	baz=20,SNR=27					
HBAR	Harrisburg	20.59	16	eP	P	21 40 04.3 +0.1
U31A	Nine Bar Ranch	20.62	354	⇓P	P	21 40 05.4 +0.8
	baz=20					
W24A	Lazy 6 Ranch,	20.63	341	⇓P	Pn	21 40 07.0 -0.4
	baz=21,SNR=33					
V26A	Tequesquite Ra	20.73	345	⇑P	Pn	21 40 08.1 -0.3
	baz=21,SNR=54					
ANMO	Albuquerque	20.74	339	eP	P	21 40 06.7 +0.7
	27nm,1.0s					
ANMO	Albuquerque	20.74	339	P	Pn	21 40 07.5 -1.0
	18nm,0.8s,baz=152,slow=12,SNR=38					
X21A	Alamocita Cree	20.80	335	⇑P	Pn	21 40 09.5 +0.1
	baz=21,SNR=35					
W23A	Werner Place,	20.83	339	⇑P	Pn	21 40 08.9 -0.7
	baz=21,SNR=37					
U30A	WK&E Inc. Balk	20.86	353	⇓P	P	21 40 08.3 +1.0
	baz=21					
U29A	Oasis Ranch, S	20.87	351	⇓P	P	21 40 08.2 +0.8
	baz=21					
PLAL	Pickwick Lake	20.87	22	eP	P	21 40 03.5 -3.8
	42nm,1.1s					
U28A	Mallet	20.95	349	⇑P	P	21 40 09.7 +1.4
	baz=21,SNR=14					
V25A	Rancho No Teng	20.98	343	⇑P	Pn	21 40 10.3 -1.1
	baz=21,SNR=44					
W22A	Albuquerque	21.00	338	⇓P	P	21 40 11.5 +2.6
	baz=21					
V24A	Rampart Ranch,	21.07	342	⇑P	P	21 40 11.6 +2.0
	baz=21,SNR=39					
U27A	Thompson Grove	21.11	348	⇑P	P	21 40 11.8 +1.8
	baz=21,SNR=22					
GNAR	Gosnell	21.15	17	eP	P	21 40 09.1 -1.2
X20A	Quemado	21.17	334	⇓P	P	21 40 13.7 +2.9
	baz=21,SNR=44					
U26A	Atchley Ranch,	21.29	346	⇑P	P	21 40 14.5 +2.5
	baz=21,SNR=59					
HALT	Halls	21.30	18	eP	P	21 40 11.6 -0.2
T31A	Randall Ranch,	21.32	355	⇑P	P	21 40 13.2 +1.0
	baz=21,SNR=12					
214A	Organ Pipe Nat	21.35	322	⇑P	P	21 40 14.9 +2.4
	baz=21,SNR=14					
T30A	Plains	21.36	353	⇑P	P	21 40 13.9 +1.3
	baz=21,SNR=8.1					
V23A	Ortiz Mt. (NFS	21.37	340	⇑P	P	21 40 15.2 +2.3
	baz=21,SNR=24					
U25A	Circle Dot Ran	21.46	344	⇑P	P	21 40 15.5 +1.7
	baz=21,SNR=44					
T29A	Hugoton	21.56	352	⇓P	P	21 40 15.3 +0.4
	baz=22					
GTBY	Guantanamo Bay	21.61	76	eP	P	21 40 15.6 +0.2
	53nm,0.8s					
GLAT	Glass	21.64	18	eP	P	21 40 17.2 +1.7
T28A	Walsh	21.66	350	⇑P	P	21 40 16.9 +1.1
	baz=22,SNR=9.1					
PVMO	Portageville	21.66	17	eP	P	21 40 16.4 +0.7
	703nm,0.2s					
W20A	Ramah	21.68	335	⇓P	P	21 40 18.6 +2.3
	baz=22,SNR=19					
U24A	Moreno Valley	21.70	343	⇓P	P	21 40 18.2 +1.6
	baz=22					
T27A	Campo	21.71	348	⇓P	P	21 40 17.7 +1.2
	baz=22,SNR=7.7					
V22A	San Miguel Ran	21.77	339	⇑P	P	21 40 18.9 +1.7
	baz=22,SNR=22					
PBMO	Poplar Bluff	21.81	15	eP	P	21 40 17.5 +0.2
	122nm,0.8s					
X18A	Snowflake	21.81	331	⇓P	P	21 40 20.0 +2.4
	baz=22,SNR=16					
S31A	Mullinville	21.82	356	⇑P	P	21 40 17.9 +0.3
	baz=22					
PARMO	Parma	21.88	17	eP	P	21 40 15.8 -2.3
U23A	El Rito	21.91	341	⇓P	P	21 40 20.7 +2.0
	baz=22,SNR=12					
SWET	Sewanee	21.91	26	eP	P	21 40 17.6 -0.9
	170nm,0.8s					
V21A	Milan	21.93	337	⇑P	P	21 40 20.6 +1.6
	baz=22					
S30A	Montezuma	21.94	353	⇓P	P	21 40 19.2 +0.4
	baz=22					
WVT	Waverly	21.99	21	eP	P	21 40 18.0 -1.3
	56nm,0.8s					
S29A	Ulysses	22.00	352	⇓P	P	21 40 20.1 +0.7
	baz=22					
T26A	Comanche Natio	22.00	347	⇓P	P	21 40 20.7 +1.1
	baz=22,SNR=13					
S28A	Manter	22.08	350	⇓P	P	21 40 21.1 +0.7
	baz=22,SNR=6.8					
T25A	Trinidad	22.16	345	⇓P	P	21 40 23.7 +2.3
	baz=22,SNR=57					
U22A	Llaves	22.17	339	⇓P	P	21 40 23.3 +1.8
	baz=22,SNR=9.7					
W18A	Petrified Fore	22.20	332	eP	P	21 40 23.6 +1.8
W18A	Petrified Fore	22.20	332	⇑P	P	21 40 24.0 +2.2
	baz=22					
V20A	Brimhall	22.25	336	⇓P	P	21 40 24.2 +1.9
	baz=22,SNR=11					
T24B	San Luis	22.34	343	⇓P	P	21 40 25.0 +1.6
	baz=22,SNR=36					
S27A	Las Animas	22.35	348	⇓P	P	21 40 24.3 +1.0
	baz=22					
S26A	Kim	22.40	347	⇓P	P	21 40 25.1 +1.2
	baz=22,SNR=26					
X16A	Lo Mia Camp, P	22.44	328	⇑P	P	21 40 26.8 +2.4
	baz=22,SNR=54					
Z14A	Wintersburg	22.44	324	⇓P	P	21 40 26.4 +2.2
	baz=22					
113A	Mohawk Valley,	22.49	322	⇑P	P	21 40 27.1 +2.3
	baz=22,SNR=8.3					
R31A	Burdett	22.49	356	⇑P	P	21 40 24.9 +0.1
	baz=22					
U21A	Nageezi	22.49	338	⇑P	P	21 40 26.7 +1.7
	baz=22,SNR=45					
T23A	Casias Ranch,	22.51	342	⇑P	P	21 40 26.7 +1.5
	baz=22,SNR=9.1					
R30A	Dighton	22.55	354	⇓P	P	21 40 26.1 +0.7
	baz=22,SNR=13					
CPCT	Cooper Cave	22.72	28	eP	P	21 40 25.5 -1.7
T22A	Edith	22.76	340	⇓P	P	21 40 29.7 +1.8
	baz=23,SNR=40					
U20A	Newcomb	22.77	336	⇑P	P	21 40 29.8 +1.9
	baz=23					
R29A	Marienthal	22.79	352	⇓P	P	21 40 28.9 +1.0
	baz=23					
R28A	Tribune	22.80	351	⇓P	P	21 40 29.2 +1.1
	baz=23					
S24A	Houchin Ranch,	22.84	344	⇓P	P	21 40 30.5 +1.8
	baz=23,SNR=19					
Y14A	Wickenburg	22.90	325	⇓P	P	21 40 31.4 +2.3
	baz=23,SNR=12					
R27A	Eads	22.91	349	⇑P	P	21 40 30.2 +0.9
	baz=23,SNR=11					
T21A	Navajo Lake	22.95	339	⇓P	P	21 40 31.5 +1.7
	baz=23					
SIUC	Southern Illin	23.01	17	eP	P	21 40 29.0 -1.2
	100nm,0.9s					
SDCO	Great Sand Dun	23.02	343	eP	P	21 40 31.0 +0.5
	30nm,1.0s					
R26A	Arlington	23.05	348	⇓P	P	21 40 32.7 +2.0
	baz=23,SNR=36					
R25A	Fountain Ranch	23.09	346	⇑P	P	21 40 33.1 +2.0
	baz=23,SNR=30					
Q31A	Ellis	23.20	356	⇓P	P	21 40 33.7 +1.6
	baz=23,SNR=8.8					
Q30A	Quinter	23.23	354	⇓P	P	21 40 33.5 +1.0
	baz=23					
KSU1	Kansas State U	23.24	2	eP	P	21 40 32.1 -0.3
	71nm,1.1s					
WUAZ	Wupatki	23.29	330	eP	P	21 40 35.1 +2.0
	331nm,2.3s					
WUAZ	Wupatki	23.29	330	⇓P	P	21 40 35.6 +2.4
	baz=23,SNR=26					
GLA	Glamis	23.33	321	eP	P	21 40 34.8 +1.3
	36nm,1.3s					
GLA	Glamis	23.33	321	⇓P	P	21 40 35.9 +2.4
	baz=23,SNR=6.2					
R24A	Sanders Place,	23.37	345	⇓P	P	21 40 35.9 +1.9
	baz=23,SNR=33					
S22A	4UR Ranch, Cre	23.41	341	⇑P	P	21 40 35.9 +1.4
	baz=23,SNR=28					
MVCO	Mesa Verde	23.50	337	eP	P	21 40 36.3 +1.0
	348nm,2.1s					
MVCO	Mesa Verde	23.50	337	⇑P	P	21 40 36.9 +1.6
	baz=24,SNR=23					
Q28A	Sharon Springs	23.51	351	⇑P	P	21 40 36.5 +1.3
	baz=23					
R23A	Moffat	23.52	343	⇓P	P	21 40 37.3 +1.8
	baz=24,SNR=25					
KSCO	Kaye Shedlock'	23.59	350	eP	P	21 40 34.6 -1.4
KSCO	Kaye Shedlock'	23.59	350	⇑P	P	21 40 37.0 +1.0
	baz=24					
SLM	Saint Louis	23.62	14	eP	P	21 40 34.4 -1.7
	65nm,1.2s					
Y12C	Blythe	23.63	322	⇑P	P	21 40 38.2 +1.9
	baz=24,SNR=7.9					
S21A	Coal Bank Pass	23.65	339	⇑P	P	21 40 38.9 +2.1
	baz=24,SNR=7.6					
Q26A	Hugo	23.67	348	⇑P	P	21 40 38.5 +1.7
	baz=24,SNR=11					
USIN	University of	23.71	19	eP	P	21 40 36.0 -1.1
	164nm,0.9s					
P31A	Stockton	23.71	356	⇓P	P	21 40 38.2 +1.1
	baz=24,SNR=12					
P30A	Selden	23.80	355	⇑P	P	21 40 38.5 +0.6
	baz=24,SNR=7.8					
PDMCI	Parker Dam,Lak	23.80	324	⇓P	P	21 40 40.0 +2.0
	baz=24,SNR=9.4					
Q25A	Bedland, Calha	23.81	347	⇓P	P	21 40 39.8 +1.5
	baz=24,SNR=8.9					
R22A	Saguache, Gunn	23.83	342	⇑P	P	21 40 40.4 +1.9
	baz=24,SNR=22					
SWSC	Sam W. Stewart	23.86	319	⇓P	P	21 40 40.9 +2.4
	baz=24					
DVTC	Desert V Tower	23.87	318	⇑P	P	21 40 41.2 +2.5
	baz=24					
P29A	Atwood	23.93	353	⇑P	P	21 40 40.5 +1.3
	baz=24					
S20A	Disappointment	24.00	338	⇑P	P	21 40 41.2 +1.1
	baz=24,SNR=15					
P28A	Saint Francis	24.00	352	⇓P	P	21 40 41.1 +1.2
	baz=24					
KMSC	Kings Mountain	24.06	34	eP	P	21 40 38.8 -1.6
KMSC	Kings Mountain	24.06	34	⇑P	P	21 40 40.2 -0.2
	baz=24,SNR=14					
Q24A	Divide	24.07	345	⇓P	P	21 40 42.6 +1.8
	baz=24,SNR=7.4					
TZTN	Tazewell	24.07	28	eP	P	21 40 39.1 -1.4
	60nm,0.9s					
P27A	Ficken Ranch,	24.11	350	⇓P	P	21 40 42.3 +1.3
	baz=24					
BC3	Big Chuckawall	24.12	321	⇑P	P	21 40 43.6 +2.5
	baz=24,SNR=14					
Q23A	Hartsel	24.19	344	⇓P	P	21 40 43.8 +1.9
	baz=24,SNR=30					
R21A	Cimarron	24.21	340	⇑P	P	21 40 44.6 +2.6
	baz=24,SNR=20					
MONP	Monument Peak	24.22	318	⇑P	P	21 40 44.6 +2.4
	baz=24,SNR=8.0					
P26A	Davis Ranch, A	24.25	349	⇑P	P	21 40 44.4 +2.2
	baz=24,SNR=5.4					
W13A	Hualapai Mount	24.25	326	⇓P	P	21 40 44.9 +2.5
	baz=24					
OTAV	Otavalo	24.26	128	eP	P	21 40 45.0 +2.1
	158nm,2.9s					
OLIL	Olney	24.28	18	eP	P	21 40 40.7 -1.6
	63nm,1.0s					
IRM	Iron Mountain	24.29	322	⇓P	P	21 40 45.1 +2.5
	baz=24,SNR=24					
R20A	Redvale	24.32	339	⇓P	P	21 40 45.8 +2.8
	baz=24,SNR=24					
O31A	Woolen Ranch,	24.33	356	⇑P	P	21 40 43.9 +1.0
	baz=24					
P25A	Willow Gulch B	24.37	347	⇓P	P	21 40 45.5 +2.1
	baz=24,SNR=10					
O32A	Brockman Farm,	24.40	358	⇓P	P	21 40 44.2 +0.8
	baz=24					
WCI	Wyandotte Cave	24.41	22	eP	P	21 40 42.8 -0.7
	83nm,0.9s					
O30A	MW Ranch, Wils	24.41	355	⇑P	P	21 40 45.4 +1.7
	baz=24					
O29A	4D Ranch, Culb	24.43	354	⇑P	P	21 40 44.4 +0.7
	baz=24					
Q22A	Crested Butte,	24.46	342	⇑P	P	21 40 46.8 +2.5
	baz=24,SNR=9.8					
U15A	North Rim	24.46	330	⇓P	P	21 40 46.8 +2.4
	baz=24					
EML	El Monte Cty P	24.50	318	eP	P	21 40 42.4 -2.0
EML				eScP	ScP	21 47 59.9 +0.2
P24A	Kohler Place,	24.54	346	⇑P	P	21 40 46.3 +1.4
	baz=24					
O28A	Krutsinger Ran	24.55	352	⇑P	P	21 40 46.2 +1.3
	baz=24					
P23A	Jefferson	24.63	344	⇓P	P	21 40 48.8 +2.9
	baz=25,SNR=34					
Q21A	Lamborn Mesa,	24.64	341	⇓P	P	21 40 49.0 +3.1
	baz=25,SNR=13					
109C	Camp Elliot, M	24.67	317	⇓P	P	21 40 49.1 +3.2
	baz=25					
BELC	Belle Mtn. Jos	24.69	321	⇓P	P	21 40 48.9 +2.6
	baz=25,SNR=16					
PFO	Pinyon Flat Ob	24.71	319	esP	sP	21 41 18.0 +20
PFO	Pinyon Flat Ob	24.71	319	P	P	21 40 49.8 +3.3
	5.5nm,0.7s,baz=122,slow=3.4,SNR=8.7					
PFO				LR	LR	21 50 01.9
	comp=Z,169nm,20.2s,baz=82,slow=36					
PFO	Pinyon Flat Ob	24.71	319	⇑P	P	21 40 48.9 +2.4
	baz=25					
O27A	Beecher Island	24.71	351	⇓P	P	21 40 48.5 +2.1
	baz=25,SNR=6.2					
SMCO	Snowmass	24.77	342	eP	P	21 40 48.6 +1.3
	85nm,1.5s					
N32A	Stulken Farm,	24.90	358	⇑P	P	21 40 49.3 +1.3
	baz=25					
O26A	Horse Wrangler	24.91	349	⇑P	P	21 40 50.0 +1.9
	baz=25,SNR=10.0					
O25A	Wiggins	24.93	348	⇓P	P	21 40 50.1 +1.6
	baz=25					
ISCO	Idaho Springs	24.98	345	eP	P	21 40 50.4 +1.4
	45nm,0.9s					
ISCO	Idaho Springs	24.98	345	⇑P	P	21 40 51.7 +2.7
	baz=25,SNR=41					
Q20A	Ridgley Place,	24.98	340	⇓P	P	21 40 51.5 +2.6
	baz=25,SNR=15					
N31A	Bailey Ranch,	24.98	357	⇓P	P	21 40 50.2 +1.5
	baz=25					
GMRC	Granite Mounta	25.02	322	epP	pP	21 41 03.9 +6.6
GMRC				esP	sP	21 41 17.7 +17
GMRC				eS	S	21 45 08.0 -4.0
GMRC				eScP	ScP	21 48 01.8 +0.5
GMRC				ePcS	PcS	21 48 06.9 +2.6
GMRC	Granite Mounta	25.02	322	⇓P	P	21 40 51.8 +2.5
	baz=25,SNR=11					
N30A	Hueftle Ranch,	25.03	355	⇓P	P	21 40 50.9 +1.6
	baz=25					
N28A	Pribbeno Ranch	25.07	353	⇓P	P	21 40 50.9 +1.3
	baz=25					
P22A	Eagle	25.09	343	⇑P	P	21 40 52.7 +2.7
	baz=25,SNR=20					
N29A	Votaw Ranch, W	25.10	354	⇑P	P	21 40 51.1 +1.3
	baz=25					
SDDR	Presa de Saban	25.12	79	eP	P	21 40 47.9 -2.3
	18nm,0.9s					
ROSC	El Rosal	25.13	113	eP	P	21 40 51.1 +0.4
O24A	Longmont	25.15	346	⇓P	P	21 40 53.0 +2.6
	baz=25					
BLO	Bloomington	25.18	20	eP	P	21 40 48.1 -2.3
	43nm,0.8s					
MURC	Murrieta	25.18	318	⇓P	P	21 40 53.7 +3.1
	baz=25					
P21A	Newcastle	25.23	342	⇓P	P	21 40 54.1 +2.9
	baz=25,SNR=14					
N27A	Anderson Farm,	25.32	351	⇑P	P	21 40 54.1 +2.1
	baz=25,SNR=15					
OGNE	Ogallala	25.39	352	⇑P	P	21 40 55.2 +2.7
	baz=25,SNR=6.4					
O23A	Lake Granby, G	25.44	345	⇑P	P	21 40 56.0 +2.8
	baz=25,SNR=18					
HEC	Hector,Ludlow	25.46	322	⇓P	P	21 40 55.8 +2.7
	baz=26,SNR=16					
N26A	Koester Ranch,	25.46	350	⇑P	P	21 40 55.5 +2.4
	baz=25					
P20A	De Beque	25.51	340	⇑P	P	21 40 56.0 +2.3
	baz=26					
BGNE	Belgrade	25.54	359	eP	P	21 40 53.3 -0.4
	30nm,0.9s					
O22A	Kremmling	25.56	344	⇑P	P	21 40 56.3 +2.0
	baz=26,SNR=18					
N25A	Grover	25.60	348	⇓P	P	21 40 56.8 +2.3
	baz=26					
TUQ	Turquoise Moun	25.64	323	⇑P	P	21 40 57.4 +2.5
	baz=26,SNR=13					
HDIL	Hopedale	25.67	14	eP	P	21 40 54.4 -0.5
	140nm,0.8s					
M29A	Burnside Ranch	25.73	354	⇑P	P	21 40 57.3 +1.8
	baz=26,SNR=6.7					
M28A	Bar X Bar Ranc	25.75	353	⇑P	P	21 40 57.6 +1.8
	baz=26					
N24A	Carr	25.78	347	⇓P	P	21 40 58.3 +2.1
	baz=26,SNR=12					
P19A	Cripple Cowboy	25.82	339	⇑P	P	21 40 59.3 +2.7
	baz=26,SNR=11					
CIS	Catalina Islan	25.84	317	⇑P	P	21 40 60.0 +3.3
	baz=26					
CCUT	Cedar City	25.87	330	eP	P	21 40 59.4 +2.3
	14nm,0.8s					
O21A	Pagoda	25.87	342	⇑P	P	21 40 59.6 +2.5
	baz=26					
BFSC	Mount Baldy Ra	25.88	319	esP	sP	21 41 25.6 +17
BFSC	Mount Baldy Ra	25.88	319	⇑P	P	21 41 00.1 +3.0
	baz=26					
SRU	San Rafael	25.93	336	eP	P	21 40 57.7 +0.1
	19nm,0.9s					
SHPR	Sheep Range	25.99	326	eP	P	21 40 59.2 +1.2
M27A	Reverse DX Ran	26.01	351	⇓P	P	21 41 00.6 +2.5
	baz=26					
Q16A	Castle Valley	26.02	335	eP	P	21 41 00.5 +2.1
Q16A	Castle Valley	26.02	335	⇓P	P	21 41 01.2 +2.8
	baz=26					
O20A	White River Ci	26.03	341	eP	P	21 40 58.2 -0.3
	23nm,1.0s					
O20A	White River Ci	26.03	341	⇓P	P	21 41 00.8 +2.3
	baz=26					
GSC	Goldstone	26.06	322	eP	P	21 41 00.1 +1.4
	11nm,1.0s					
GSC	Goldstone	26.06	322	⇑P	P	21 41 01.6 +2.9
	baz=26					
M26A	McRoberts Ranc	26.07	350	⇓P	P	21 41 01.2 +2.5
	baz=26					
CNNC	Cliffs of the	26.09	38	eP	P	21 40 56.8 -2.0
	33nm,0.6s					
N23A	Red Feather La	26.09	345	⇑P	P	21 41 01.3 +2.2
	baz=26,SNR=14					
SFIN	Scholer Farm	26.09	18	eP	P	21 40 58.1 -0.7
SFIN	Scholer Farm	26.09	18	⇓P	P	21 40 59.1 +0.3
	baz=26,SNR=18					
MVU	Marysvale	26.11	333	eP	P	21 41 00.7 +1.4
	19nm,1.3s					
BLA	Blacksburg	26.11	32	eP	P	21 40 58.5 -0.6
	80nm,0.8s					
N22A	Wattenberg Ran	26.14	344	⇑P	P	21 41 01.5 +2.0
	baz=26,SNR=8.0					
L30A	Spencer Herefo	26.15	356	⇑P	P	21 41 01.5 +2.1
	baz=26					
SHOC	Shoshone	26.17	323	⇓P	P	21 41 02.1 +2.5
	baz=26					
PASC	Pasadena Art C	26.17	318	eP	P	21 41 02.8 +3.1
PASC				epP	pP	21 41 14.3 +6.8
PASC				eS	S	21 45 28.6 -1.4
M25A	Palm-Egli Farm	26.20	349	⇑P	P	21 41 02.4 +2.5
	baz=26					
SCIA	State Center	26.28	7	eP	P	21 41 00.1 -0.3
	64nm,0.7s					
L29A	Maesberg Ranch	26.32	355	⇑P	P	21 41 03.1 +2.2
	baz=26					
TMUT	Trail Mountain	26.36	335	eP	P	21 41 01.1 -0.5
	13nm,1.1s					
PHWY	Pilot Hill	26.36	346	eP	P	21 41 01.9 +0.3
	182nm,3.0s					
VWCC	Virginia Weste	26.37	33	eP	P	21 40 58.0 -3.4
L28A	Connealy Angus	26.37	353	⇓P	P	21 41 03.3 +1.9
	baz=26					
M24A	Cheyenne	26.38	347	⇓P	P	21 41 03.7 +2.1
	baz=26,SNR=5.9					
N21A	Black Mountain	26.39	343	⇓P	P	21 41 03.9 +2.2
	baz=26,SNR=15					
O19A	Miners Draw (B	26.47	340	⇓P	P	21 41 04.4 +2.0
	baz=26,SNR=6.4					
EDW2	Edwards Air Fo	26.50	320	⇑P	P	21 41 05.1 +2.5
	baz=26					
L27A	T5 Ranch, Ells	26.55	352	⇓P	P	21 41 04.7 +1.7
	baz=26					
N20A	Spence Gulch,	26.68	341	⇑P	P	21 41 06.7 +2.3
	baz=27,SNR=8.5					
BLG	Laguna Pe

M20A	Sweetwater, Wa baz=27	27.26 342	⇑P	P	21 41 11.8 +2.2
NLU	North Lily Min 8.3nm,0.6s	27.27 335	eP	P	21 41 11.1 +1.4
K26A	Motz Farm, Whi baz=27	27.28 351	⇓P	P	21 41 11.7 +2.1
L22A	Ellis Ranch, M baz=27,SNR=6.3	27.29 345	⇑P	P	21 41 11.7 +1.9
K25A	Mack Ranch, Ha baz=27,SNR=7.6	27.30 350	⇑P	P	21 41 11.7 +1.9
ISA	Isabella baz=27	27.32 320	⇑P	P	21 41 12.8 +2.9
DAU	Daniels Canyon	27.34 337	eP	P	21 41 11.7 +1.3
ACSO	Alum Creek Sta 78nm,1.4s	27.41 24	eP	P	21 41 08.2 -2.4
WASM	Alta Sierra Ca	27.41 320	eSP	sP	21 41 44.1 +22
WASM			eS	S	21 45 52.7 +2.8
WASM			eScP	ScP	21 48 01.1 -7.3
L21A	Rawlins baz=27	27.46 344	⇓P	P	21 41 13.6 +2.2
M19A	Rock Springs baz=28	27.57 341	⇓P	P	21 41 14.4 +2.1
GRAC	Grapevine Rang baz=28	27.57 324	⇓P	P	21 41 14.9 +2.7
K24A	Anderson Ranch baz=28	27.59 348	⇑P	P	21 41 14.4 +2.0
R11A	Troy Canyon, C	27.59 328	eP	P	21 41 14.4 +1.8
R11A	Troy Canyon, C baz=28,SNR=24	27.59 328	⇓P	P	21 41 14.8 +2.2
CWC	Cottonwood Cre baz=28	27.59 322	⇑P	P	21 41 15.4 +2.9
PKM	Peak Mountain baz=28	27.68 318	⇑P	P	21 41 15.3 +2.0
JFWS	Jewell Farm 24nm,0.8s	27.72 11	eP	P	21 41 11.0 -2.4
J28A	Allard Ranch, baz=28	27.74 354	⇓P	P	21 41 15.6 +1.9
L20A	Wamsutter baz=28	27.78 342	⇓P	P	21 41 16.5 +2.3
DUG	Dugway 52nm,2.1s	27.78 334	eP	P	21 41 14.3 +0.2
DUG	Dugway baz=28,SNR=6.7	27.78 334	⇓P	P	21 41 16.1 +2.0
K23A	Bowen Ranch, D baz=28	27.79 347	⇓P	P	21 41 16.0 +1.8
VES	Vestal, Richgr baz=28	27.81 320	⇑P	P	21 41 17.2 +3.0
JSRW	J. Sargeant Re	27.82 35	eP	P	21 41 11.3 -3.0
J26A	Sides Ranch, S baz=28,SNR=6.3	27.86 351	⇑P	P	21 41 16.7 +2.0
ECSD	EROS Data Cent 8.3nm,0.8s	27.86 1	eP	P	21 41 12.4 -2.3
K22A	Casper baz=28	27.89 346	⇑P	P	21 41 17.1 +1.9
URVA	University of	27.92 35	eP	P	21 41 12.1 -3.2
M17A	Scullys Gap (B baz=28	28.05 338	⇑P	P	21 41 18.7 +2.0
J25A	Sunshine Ranch baz=28,SNR=9.6	28.05 350	⇑P	P	21 41 18.1 +1.6
SMMC	Simmler baz=28	28.05 318	⇓P	P	21 41 18.7 +2.2
K21A	Alcova baz=28	28.06 344	⇓P	P	21 41 18.6 +1.9
TIN	Tinemaha	28.10 323	ePcP	PcP	21 44 29.6 -1.5
J24A	Dixon Ranch, L baz=28	28.14 349	⇓P	P	21 41 19.5 +2.1
L18A	Fontenelle, Gr baz=28	28.23 340	⇓P	P	21 41 20.1 +1.9
I29A	Vivian Onida baz=28	28.25 356	⇑P	P	21 41 19.7 +1.6
I28A	Midland baz=28	28.30 354	⇓P	P	21 41 20.5 +1.8
MCWV	Mont Chateau 42nm,0.9s	28.30 29	eP	P	21 41 16.3 -2.4
K20A	Yellowstone Ra baz=28	28.38 343	⇓P	P	21 41 21.4 +1.9
I27A	Quinn baz=28	28.47 353	⇓P	P	21 41 22.2 +2.1
BGU	Big Grassy Mou 38nm,2.2s	28.48 335	eP	P	21 41 21.4 +0.9
HWUT	Hardware Ranch 6.5nm,1.1s	28.49 337	eP	P	21 41 19.3 -1.2
J22A	Midwest baz=28	28.60 346	⇓P	P	21 41 23.6 +2.2
I24A	Kuemmerle Ranc baz=29	28.65 349	⇑P	P	21 41 24.0 +2.1
I25A	Rochford baz=29	28.65 350	⇓P	P	21 41 23.9 +2.0
K19A	Absolon Red Bu baz=29	28.68 342	⇓P	P	21 41 23.8 +1.6
J21A	Lysite baz=29,SNR=12	28.78 345	⇑P	P	21 41 25.1 +2.0
RSSD	Black Hills 27nm,0.8s	28.80 350	eP	P	21 41 22.7 -0.6
BW06	Boulder Array	28.84 341	eP	P	21 41 23.7 0.0
PD31	Pinedale Array	28.84 341	eP	P	21 41 25.2 +1.6
PDAR	Pinedale Array 1.7nm,0.7s,baz=137,slow=11,SNR=19	28.84 341	P	P	21 41 25.2 +1.6
PDAR			LR	LR	21 53 26.6
	comp=Z,281nm,18.7s,baz=351,slow=38				
J20A	Shoshoni baz=29,SNR=6.4	28.95 344	⇓P	P	21 41 26.5 +2.0
H28A	Mission Ridge baz=29	28.96 355	⇑P	P	21 41 26.5 +2.1
H27A	Howes baz=29	29.03 353	⇑P	P	21 41 27.1 +2.0
I22A	9 Mile Ranch, baz=29	29.06 346	⇓P	P	21 41 27.6 +2.1
HVU	Hansel Valley 6.8nm,0.8s	29.10 336	eP	P	21 41 25.6 -0.3
NV01	Mina Array Sit	29.10 325	eP	P	21 41 27.6 +1.5
J19A	Crowheart baz=29	29.14 342	⇓P	P	21 41 28.1 +1.9
I21A	Big Trails, Te baz=29,SNR=8.1	29.18 345	⇓P	P	21 41 28.4 +1.8
H25A	Fruitdale baz=29,SNR=7.7	29.22 351	⇓P	P	21 41 28.7 +1.9
ELK	Elko 8.7nm,1.0s	29.29 332	eP	P	21 41 28.1 +0.4
H24A	Dirks Ranch, A baz=29,SNR=18	29.50 350	⇓P	P	21 41 31.0 +1.7
I20A	Worland baz=29	29.52 344	⇓P	P	21 41 31.5 +2.0
SPMN	St. Paul	29.60 7	eP	P	21 41 29.0 -1.1
SPMN	St. Paul baz=29	29.60 7	⇑P	P	21 41 31.1 +1.0
H22A	Clearmont baz=30,SNR=5.0	29.70 347	⇑P	P	21 41 32.6 +1.5
G26A	Maurine baz=30,SNR=5.5	29.74 353	⇑P	P	21 41 32.9 +1.5
G25A	Newell baz=30	29.75 351	⇓P	P	21 41 33.4 +1.9
REDW	Red Top Meadow 31nm,1.5s	29.79 340	eP	P	21 41 31.4 -0.7
WAKR	Walker	29.79 324	eP	P	21 41 32.1 0.0
I19A	Meeteetse baz=30	29.83 343	⇓P	P	21 41 34.5 +2.1
SNOW	Snow King Moun 10nm,0.6s	29.84 340	eP	P	21 41 33.5 +0.9
G27A	Dupree baz=30,SNR=5.1	29.87 352	⇑P	P	21 41 32.9 +0.4
H21A	Big Horn, Sher baz=30,SNR=6.5	29.89 346	⇓P	P	21 41 34.1 +1.3
LOHW	Long Hollow 12nm,0.6s	29.93 341	eP	P	21 41 33.9 +0.5
RRI2	Red Ridge 13nm,1.4s	29.93 339	eP	P	21 41 32.2 -1.2
TPAW	Teton Pass 10nm,1.0s	29.93 340	eP	P	21 41 32.5 -0.9
H20A	Greybull baz=30,SNR=8.0	29.98 345	⇑P	P	21 41 35.2 +1.5
BMN	Battle Mountai 24nm,0.9s	30.00 329	eP	P	21 41 35.4 +1.5
SSPA	Standing Stone 34nm,1.1s	30.01 31	eP	P	21 41 32.2 -1.5
G24A	Alzada baz=30	30.04 350	⇑P	P	21 41 35.2 +1.1
G23A	Biddle baz=30,SNR=10	30.09 349	⇑P	P	21 41 35.7 +1.2
MOOW	Moose Ponds 4.5nm,0.9s	30.10 341	eP	P	21 41 34.7 -0.1
I17A	Pilgrim Ck. baz=30	30.20 341	⇓P	P	21 41 36.9 +1.2
F27A	Lemmon baz=30	30.24 354	⇓P	P	21 41 37.7 +1.8
G22A	Birney baz=30,SNR=23	30.28 347	⇑P	P	21 41 37.6 +1.3
IMW	Indian Meadow 8.4nm,1.3s	30.29 340	eP	P	21 41 36.6 0.0
F26A	Lodgepole baz=30,SNR=22	30.30 353	⇑P	P	21 41 37.9 +1.6
MVL	Millersville 22nm,1.0s	30.31 33	eP	P	21 41 33.3 -3.2
H19A	Powell baz=30,SNR=14	30.41 344	⇑P	P	21 41 39.4 +1.9
F25A	Bowman baz=30	30.47 352	⇑P	P	21 41 39.7 +1.8
G21A	Lodge Grass baz=30	30.49 346	⇑P	P	21 41 40.1 +2.0
F24A	Ekalaka baz=30	30.54 350	⇓P	P	21 41 40.4 +1.9
F23A	Volborg baz=30,SNR=6.2	30.59 349	⇑P	P	21 41 40.3 +1.3
H18A	Shoshone NF, C baz=30,SNR=5.7	30.61 343	⇑P	P	21 41 40.5 +1.2
E30A	Jud baz=30	30.65 358	⇓P	P	21 41 40.4 +1.0
G20A	Bridger baz=31,SNR=8.3	30.72 345	⇑P	P	21 41 41.1 +0.9
E27A	Carson baz=31	30.75 354	⇑P	P	21 41 41.7 +1.5
F22A	Rosebud baz=31	30.81 348	⇑P	P	21 41 42.4 +1.5
E28A	Huff baz=31	30.82 356	⇓P	P	21 41 42.1 +1.2
RLMT	Red Lodge 9.4nm,0.8s	30.91 344	eP	P	21 41 41.8 -0.1
YMR	Madison River 20nm,0.4s	30.99 341	eP	P	21 41 45.0 +2.3
COWI	Conover 11nm,0.9s	31.01 11	eP	P	21 41 41.0 -1.5
E25A	Miller Ranch, baz=31	31.03 352	⇓P	P	21 41 44.8 +2.0
E24A	Baker baz=31	31.22 351	⇓P	P	21 41 46.1 +1.6
BEKR	Beckworth 6.8nm,1.0s	31.25 325	eP	P	21 41 47.9 +2.9
HLID	Hailey 6.3nm,0.8s	31.25 336	eP	P	21 41 45.9 +1.0
HLID	Hailey baz=31,SNR=11	31.25 336	⇑P	P	21 41 46.6 +1.6
D30A	Buchanan baz=31	31.25 358	⇓P	P	21 41 45.9 +1.2
F20A	Billings baz=31	31.25 345	⇓P	P	21 41 46.6 +1.7
QLMT	Earthquake Lak	31.28 341	eP	P	21 41 47.4 +2.2
E22A	Miles City baz=31,SNR=8.8	31.38 349	⇑P	P	21 41 46.8 +0.9
D27A	Center baz=31	31.42 355	⇓P	P	21 41 47.8 +1.6
D28A	Regan baz=31	31.43 356	⇑P	P	21 41 47.8 +1.5
F19A	Roth Farm, Mol baz=31,SNR=5.2	31.50 344	⇓P	P	21 41 48.4 +1.4
MMNY	Mt. Morris Dam 122nm,1.1s	31.63 28	eP	P	21 41 46.1 -2.0
GCMT	Greycliff	31.63 344	eP	P	21 41 48.6 +0.3
D25A	Fairfield baz=32	31.66 352	⇓P	P	21 41 50.0 +1.7
LAO	LASA Array 19nm,1.0s	31.68 348	eP	P	21 41 48.7 +0.2
MFID	Camas Ranch baz=32	31.71 334	⇓P	P	21 41 50.6 +1.7
E21A	Keefer Ranch, baz=32,SNR=6.9	31.71 347	⇓P	P	21 41 50.0 +1.2
MCMT	McKenzie Canyo	31.75 339	eP	P	21 41 51.4 +1.9
D24A	Glendive baz=32,SNR=8.7	31.76 351	⇑P	P	21 41 50.6 +1.4
C30A	Mose, Pekin baz=32	31.84 359	⇑P	P	21 41 51.2 +1.3
E20A	Meyer Farm, Mu baz=32,SNR=14	31.91 346	⇓P	P	21 41 52.1 +1.5
C28A	Hausauer Farms baz=32	31.93 356	⇓P	P	21 41 52.3 +1.7
MDND	Maddock	32.02 357	eP	P	21 41 49.9 -1.6
MDND	Maddock baz=32	32.02 357	⇑P	P	21 41 52.2 +0.8
E19A	Rath Farm, Rou baz=32,SNR=12	32.03 345	⇓P	P	21 41 53.0 +1.4
BOZ	Bozeman (W) 7.7nm,0.9s	32.08 341	eP	P	21 41 51.9 -0.2
D22A	Cohagen baz=32,SNR=27	32.11 349	⇓P	P	21 41 53.9 +1.6
BINY	Binghamton 36nm,1.1s	32.12 31	eP	P	21 41 51.4 -1.1
DLMT	Dillon 24nm,0.8s	32.14 340	eP	P	21 41 53.3 +0.6
C24A	Savage baz=32	32.18 351	⇓P	P	21 41 54.7 +1.8
C26A	Wahner Farm, P baz=32	32.18 354	⇓P	P	21 41 54.5 +1.6
D21A	La Casta Ranch baz=32,SNR=13	32.19 348	⇓P	P	21 41 54.7 +1.7
WVOR	Wild Horse Val 24nm,0.9s	32.21 330	eP	P	21 41 53.8 +0.4
AGMN	Agassiz Nation 12nm,0.9s	32.45 2	eP	P	21 41 54.2 -0.9
D20A	Manuel Ranch, baz=32,SNR=7.4	32.46 346	⇓P	P	21 41 56.8 +1.4
LRM	Limekiln Ridge	32.50 340	eP	P	21 41 56.2 +0.3
C23A	Lambert baz=32,SNR=19	32.57 350	⇓P	P	21 41 57.9 +1.7
B29A	Wagenman Farm, baz=32	32.63 358	⇓P	P	21 41 58.2 +1.5
C22A	Vida baz=32,SNR=26	32.63 349	⇓P	P	21 41 58.3 +1.4
MOD	Modoc 55nm,0.8s	32.65 327	eP	P	21 41 58.3 +1.1
B28A	Dugan Ranch, T baz=32	32.66 356	⇑P	P	21 41 58.7 +1.7
D19A	Cripps Ranch, baz=33,SNR=12	32.71 345	⇓P	P	21 41 58.8 +1.2
B25A	Knox Farm, Ray baz=33	32.74 353	⇑P	P	21 41 58.7 +1.0
B26A	Jensen Ranch, baz=33	32.74 354	⇓P	P	21 41 59.0 +1.2
J08A	Circle Bar Ran 142nm,2.1s	32.84 331	eP	P	21 41 59.9 +1.1
C21A	Desert Coulee baz=33,SNR=14	32.94 348	⇓P	P	21 42 01.0 +1.5
C20A	Veseth Ranch, baz=33,SNR=10	33.02 347	⇑P	P	21 42 01.5 +1.2
DGMT	Dagmar 24nm,0.9s	33.07 352	eP	P	21 41 59.8 -0.9
DGMT	Dagmar baz=33	33.07 352	⇓P	P	21 42 02.0 +1.4
A30A	Hoffart Farm, baz=33	33.07 359	⇑P	P	21 42 01.7 +1.1
A29A	Manning Farm, baz=33	33.08 358	⇑P	P	21 42 01.8 +1.1
HRY	Holter Researc	33.09 342	eP	P	21 42 02.4 +1.4
A28A	Rude Farm, Bot baz=33,SNR=5.8	33.12 357	⇑P	P	21 42 01.8 +0.7
B23A	Brockton baz=33	33.18 351	⇓P	P	21 42 03.0 +1.4
B22A	Reddig Ranch S baz=33	33.19 350	⇓P	P	21 42 03.4 +1.6
C19A	Slack Wire Ran baz=33,SNR=17	33.28 346	⇑P	P	21 42 04.0 +1.5
A25A	Svangstu Ranch baz=33,SNR=6.5	33.39 353	⇑P	P	21 42 04.5 +1.1
A24A	Westby baz=33,SNR=5.7	33.49 352	⇑P	P	21 42 05.6 +1.3
BMO	Blue Mountains 52nm,2.1s	33.49 334	eP	P	21 42 03.5 -1.0
B21A	Ellsworth Farm baz=33	33.50 348	⇑P	P	21 42 06.2 +1.8
K05A	Summer Lake 16nm,1.2s	33.55 328	eP	P	21 42 04.5 -0.6
A23A	Redstone baz=34	33.64 351	⇑P	P	21 42 07.3 +1.6
CHMT	Chamberlain Mo	33.72 340	eP	P	21 42 07.4 +0.8
EGMT	Eagleton 27nm,1.3s	33.72 345	eP	P	21 42 06.8 +0.4
EGMT	Eagleton baz=34	33.72 345	⇑P	P	21 42 08.1 +1.7
YBH	Yreka Blue Hor 46nm,2.4s	33.82 325	eP	P	21 42 08.1 +0.7
YBH	Yreka Blue Hor 2.9nm,0.7s,baz=90,slow=6.3,SNR=7.0	33.82 325	P	P	21 42 07.9 +0.5
A22A	Carney Farms, baz=34	33.84 350	⇓P	P	21 42 08.9 +1.5
I07A	Izee 7.2nm,1.1s	33.87 331	eP	P	21 42 06.4 -1.4
MSO	Missoula 8.3nm,0.8s	33.87 339	eP	P	21 42 08.1 +0.3
MSO	Missoula baz=34,SNR=7.3	33.87 339	⇑P	P	21 42 09.1 +1.3
B19A	Brinkman Farms baz=34,SNR=14	33.93 346	⇑P	P	21 42 09.7 +1.5
A21A	Bergtoll Ranch baz=34,SNR=13	34.02 349	⇑P	P	21 42 10.5 +1.5
SLMT	Seeley Lake	34.09 340	eP	P	21 42 08.3 -1.4
A20A	Cobblestone Ra baz=34	34.11 348	⇑P	P	21 42 11.4 +1.7
NCB	Newcomb 30nm,0.9s	34.30 30	eP	P	21 42 07.8 -3.6
PINOR	Pine Mountain 6.9nm,0.9s	34.33 329	eP	P	21 42 11.2 -0.4
A19A	Klindworth Far baz=34	34.33 347	⇑P	P	21 42 13.5 +1.8
F10A	Beach Ranch, E 18nm,0.8s	34.37 335	eP	P	21 42 12.5 +0.5
SWMT	Swartz Lake	34.49 340	eP	P	21 42 13.4 +0.3
G08A	Pilot Rock 9.7nm,1.0s	34.55 333	eP	P	21 42 14.5 +0.8
LONY	Lake Ozonia 42nm,1.3s	34.62 29	eP	P	21 42 11.6 -2.5
JTMT	Jette	34.79 340	eP	P	21 42 15.7 -0.1
YBMT	Yellow Bay	34.80 340	eP	P	21 42 16.6 +0.8
MDV	Middlebury	34.84 31	eP	P	21 42 14.3 -1.7
BLMT	Blacktail Moun	35.05 340	eP	P	21 42 17.0 -1.1
BSMT	Bassoo Peak	35.05 339	eP	P	21 42 18.3 +0.2
E09A	Wood Farm, Sta 7.6nm,0.8s	35.18 335	eP	P	21 42 19.0 +0.1
EUO	Eugene	35.59 328	epP	pP	21 42 43.2 +13
H04A	Detroit Lake 17nm,0.8s	35.61 329	eP	P	21 42 23.5 +0.8
WALA	Waterton Lakes	35.82 341	eP	P	21 42 24.8 +0.2
NEW	Newport	36.22 338	eP	P	21 42 27.9 0.0
NEW	Newport 6.7nm,0.8s,baz=157,slow=7.3,SNR=8.3	36.22 338	P	P	21 42 29.3 +1.4
NEW	Newport baz=36,SNR=5.2	36.22 338	⇓P	P	21 42 29.2 +1.2
C09A	Chrisman Ranch 67nm,2.0s	36.28 336	eP	P	21 42 28.5 +0.2
LTY	Liberty 244nm,2.7s	36.83 333	eP	P	21 42 33.6 +0.4
LON	Longmire 20nm,0.8s	36.95 332	eP	P	21 42 35.4 +1.3
B08A	Colville Reser 47nm,2.0s	37.15 336	eP	P	21 42 36.3 +0.5
D05A	Enumclaw 33nm,0.9s	37.36 332	eP	P	21 42 38.5 +1.0
E03A	Lebam 41nm,1.0s	37.62 330	eP	P	21 42 40.5 +0.8
B06A	Marblemount 12nm,0.8s	38.15 334	eP	P	21 42 43.9 -0.4
SWID	South Whidbey	38.17 333	ePP	PP	21 44 27.6 +16
FFC	Flin Flon 63nm,0.9s	39.02 356	eP	P	21 42 51.0 -0.5
EDM	Edmonton	39.41 345	eP	P	21 42 54.0 -0.7
SAML	Samuel 5.8nm,0.9s	41.86 124	eP	P	21 43 16.0 +0.6
LPAZ	La Paz	43.02 136	eP	P	21 43 31.2 +5.7
LPAZ	La Paz 3.7nm,0.9s,baz=226,slow=10,SNR=8.1	43.02 136	P	P	21 43 31.2 +5.7
SCHQ	Schefferville 21nm,0.9s	45.56 24	eP	P	21 43 42.2 -2.6
SCHQ	Schefferville 19nm,0.9s,baz=215,slow=6.2,SNR=11	45.56 24	P	P	21 43 44.8 0.0
SCHQ			LR	LR	22 05 46.9
	comp=Z,108nm,19.9s,baz=260,slow=40				
SIV	San Ignacio	47.78 130	eP	P	21 44 06.9 +4.2
SIV	San Ignacio 6.1nm,0.7s,baz=306,slow=7.9,SNR=12	47.78 130	P	P	21 44 06.9 +4.2
YKA	Yellowknife Ar 3.7nm,0.7s,baz=155,slow=7.0,SNR=6.6	48.20 349	P	P	21 44 04.6 -0.6
DLBC	Dease Lake	48.97 338	eP	P	21 44 12.0 +0.7
HYT	Haines Junctio	53.38 337	eP	P	21 44 45.0 +0.6
BMRM	Bremner River 90nm,2.1s	56.28 335	eP	P	21 45 06.5 +1.2
EGAK	Eagle 10nm,0.8s	57.16 339	eP	P	21 45 11.9 +0.4
CPUP	Villa Florida comp=Z,75nm,18.5s,baz=194,slow=34	57.19 137	LR	LR	22 07 37.6
INK	Inuvik 20nm,0.8s	57.31 345	eP	P	21 45 12.5 +0.1
INK	Inuvik 18nm,0.8s,baz=121,slow=6.9,SNR=14	57.31 345	P	P	21 45 12.9 +0.5
PAX	Paxson 9.5nm,1.0s	57.69 336	eP	P	21 45 15.4 +0.1
BDFB	Brasilia 2.7nm,0.6s,baz=295,slow=8.5,SNR=4.1	57.91 120	P	P	21 45 19.8 +2.2
BDFB			LR	LR	22 09 24.3
	comp=Z,76nm,18.4s,baz=222,slow=35				
IL1	Eielson Array	59.18 338	eP	P	21 45 25.2 -0.4
ILAR	Eielson Array 5.7nm,0.8s,baz=134,slow=5.2,SNR=36	59.18 338	P	P	21 45 26.4 +0.8
ILB	Eielson Array	59.18 338	eP	P	21 45 26.4 +0.8
SPU	Mount Spurr	59.58 333	eP	P	21 45 28.3 -0.2
COLA	College 12nm,0.8s	59.59 338	eP	P	21 45 27.8 -0.6
CAST	Castle Rocks 17nm,0.8s	60.54 335	eP	P	21 45 35.1 +0.1
SVW2	Sparrevohn 9.7nm,0.8s	61.12 332	eP	P	21 45 39.1 +0.1
PPT	Papeete comp=Z,125nm,21.3s,baz=198,slow=29	61.17 239	LR	LR	22 04 58.5
PLCA	Paso Flores comp=Z,217nm,19.6s,baz=327,slow=31	61.51 157	LR	LR	22 07 03.2
SUMG	Summit 6.5nm,0.9s	65.96 16	iP	P	21 46 12.2 +1.0
PCAS	Casmilo, Conde 29nm,1.7s	79.20 51	eP	P	21 47 28.2 -1.9
PCAS	Casmilo, Conde	79.20 51	ePcP	PcP	21 47 36.7 -1.7
PTEO	Sao Teotonio	79.53 54	eP	P	21 47 32.0 0.0
PMTG	Montargil 19nm,1.0s	79.61 52	eP	P	21 47 32.2 -0.1
PMTG	Montargil	79.61 52	ePcP	PcP	21 47 38.4 -1.8
MTE	Manteigas 35nm,1.9s	79.84 51	eP	P	21 47 31.8 -1.9
MTE	Manteigas	79.84 51	ePcP	PcP	21 47 39.7 -1.6
EVO	Evora 20nm,1.0s	79.88 53	eP	P	21 47 33.7 -0.1
EVO			eR		
	130nm,22.8s				
PCBR	Castelo Branco 26nm,1.8s	80.01 51	eP	P	21 47 33.7 -0.8
PCBR	Castelo Branco	80.01 51	ePcP	PcP	21 47 40.7 -1.2
MVO	Moncorvo 20nm,2.0s	80.07 50	eP	P	21 47 35.1 +0.2
MVO	Moncorvo	80.07 50	ePcP	PcP	21 47 40.9 -1.4
PBRG	Braganca	80.14 49	ePcP	PcP	21 47 41.8 -0.8
PMRV	Marv??o 28nm,1.7s	80.16 52	eP	P	21 47 35.7 +0.3
PMRV	Marv??o	80.16 52	ePcP	PcP	21 47 41.3 -1.4
PBAR	Barrancos	80.70 53	eP	P	21 47 39.2 +0.9
PBAR	Barrancos	80.70 53	ePcP	PcP	21 47 44.4 -0.6
ROSF	Rostrenen 11nm,0.9s	81.08 42	eP	P	21 47 38.9 -1.2
ROSF	Rostrenen	81.08 42	eP	P	21 47 38.9 -1.2
GRR	Gorron	82.62 42	eP	P	21 47 47.4 -0.8
GRR	Gorron	82.62 42	eP	P	21 47 47.4 -0.8
ESDC	Sonseca Array	82.69 51	eP	P	21 47 48.6 -0.2
ESDC	Sonseca Array 2.1nm,0.7s,baz=294,slow=5.0,SNR=16	82.69 51	P	P	21 47 48.6 -0.2
ES19	SONSECA Array	82.73 51	eP	P	21 47 47.3 -1.7
LDF	La Druitiere 62nm,1.3s	83.04 42	eP	P	21 47 49.8 -0.6
LDF	La Druitiere	83.04 42	eP	P	21 47 49.8 -0.6
ETSF	Etsaut 17nm,1.1s	84.32 47	eP	P	21 47 56.0 -1.2
ETSF	Etsaut	84.32 47	eP	P	21 47 56.0 -1.2
LFF	La Frestale 13nm,0.9s	84.64 45	eP	P	21 47 57.9 -0.7
LFF	La Frestale	84.64 45	eP	P	21 47 57.9 -0.7
NB2	NORSAR Subarra comp=Z,7.2nm,1.1s,baz=299,slow=4.6	85.03 28	P	P	21 47 59.6 -0.7
NB200	NORSAR Array S	85.03 28	eP	P	21 48 00.4 +0.1
NOA	NORSAR Array B comp=Z,2.0nm,0.9s,baz=300,slow=4.6,SNR=5.2	85.03 28	P	P	21 48 00.4 +0.1
NOA			LR	LR	22 25 16.1
	comp=Z,40nm,21.4s,baz=305,slow=35				
TCF	Toulx Ste Croi	85.22 43	eP	P	21 48 00.8 -0.8
TCF	Toulx Ste Croi	85.22 43	eP	P	21 48 00.8 -0.8
BAIF	Baives comp=Z,23nm,1.3s	85.31 39	eP	P	21 48 01.5 -0.4
BAIF	Baives	85.31 39	eP	P	21 48 01.5 -0.4
AVF	Avril sur Loir	85.82 43	eP	P	21 48 03.2 -1.3
AVF	Avril sur Loir	85.82 43	eP	P	21 48 03.2 -1.3
SSF	Saint Saulge	85.83 42	eP	P	21 48 03.6 -1.0

comp=Z,26nm,1.3s
SSF Saint Saulge 85.83 42 *e*P **P 21 48 03.6 -1.0**
LOR Lormes 85.99 42 *e*P **P 21 48 04.6 -0.8**
comp=Z,35nm,1.2s
LOR *e*R
comp=Z,93nm,20.0s
LOR Lormes 85.99 42 *e*P **P 21 48 04.6 -0.8**
ARCES ARCESS Array B 86.04 17 LR LR 22 32 12.6
comp=Z,38nm,18.9s,baz=341,slow=40
MEZF Maizieres J'vi 86.34 41 *e*P **P 21 48 06.4 -0.6**
comp=Z,17nm,0.9s
MEZF Maizieres J'vi 86.34 41 *e*P **P 21 48 06.4 -0.6**
SFTF Sexfontaines 86.44 41 *e*P **P 21 48 06.8 -0.7**
SFTF Sexfontaines 86.44 41 *e*P **P 21 48 06.8 -0.7**
HAU Haudompre 87.33 41 *e*P **P 21 48 11.1 -0.8**
HAU *e*R
comp=Z,70nm,17.5s
HAU Haudompre 87.33 41 *e*P **P 21 48 11.1 -0.8**
HINF Hinteralfeld 87.71 41 *e*P **P 21 48 12.6 -1.2**
HINF Hinteralfeld 87.71 41 *e*P **P 21 48 12.6 -1.2**
CLL Collm 90.02 36 *e*P **P 21 48 25.0 +0.5**
comp=Z,9.0nm,1.7s
CLL *e* 21 48 30.0
FINES FINESS Array B 91.04 24 LR LR 22 30 41.8
comp=Z,64nm,18.1s,baz=270,slow=37
KHC Kasperske Hory 91.30 38 *e*P **P 21 48 31.1 +0.5**
KHC *e*x x 21 48 36.3
PRU Pruhonice 91.48 37 *e*P **P 21 48 31.9 +0.6**
PRU *e*x x 21 48 37.2
GERES GERESS Array B 91.49 38 P **P 21 48 31.4 -0.1**
comp=Z,0.9nm,0.7s,baz=328,slow=4.7,SNR=6.2
GERES LR LR 22 31 08.0
comp=Z,78nm,18.8s,baz=290,slow=37
DPC Dobruska-Polom 92.33 36 *e*P **P 21 48 36.2 +0.9**
KRLC Kraliky 92.72 36 *e*P **P 21 48 38.7 +1.6**
TOA0 Torodi Ar. Sit 95.00 75 *e*P **P 21 48 47.3 -1.0**
TORD Torodi Ar. Bea 95.00 75 P **P 21 48 47.3 -1.0**
comp=Z,0.6nm,0.9s,baz=300,slow=5.4,SNR=2.9
AKASG Malin Array Be 99.01 31 LR LR 22 37 10.4
comp=Z,61nm,18.4s,baz=55,slow=38
HHC Hu-ho-hao-te 117.57 336 *e*PKP **PKPdf 21 54 09.8 -1.5**
HHC PP **PP 21 55 25.0 +2.5**
HHC PKS **PKSdf 21 57 45.1 -2.9**
HHC SKS **SKSdf 22 01 17.6 -4.2**
HHC SKKS SKKSac 22 02 13.9 -8.8
HHC SS **SS 22 11 28.3 -3.5**
HHC AMB AMB
comp=Z,240nm,9.5s
HHC LR LR
comp=N,330nm,20.4s
HHC LR LR
comp=E,420nm,20.8s
HHC LR LR
comp=Z,320nm,20.3s
WMQ Urumqi 120.50 356 *e*PKP **PKPdf 21 54 17.6 +0.8**
WMQ LR LR
comp=N,73nm,21.4s
WMQ LR LR
comp=Z,51nm,20.0s
GTA Gaotai 122.78 344 PKP **PKPdf 21 54 20.9 -0.5**
LZH Lanzhou 124.63 339 *e*PKP **PKPdf 21 54 29.6 +4.6**
LZH sPKP 21 54 52.3
KSH Kashi 124.64 6 PKP **PKPdf 21 54 25.0 +0.1**
KSH PKS **PKSdf 21 58 00.5 -1.2**
KSH SKS **SKSdf 22 01 31.9 -3.5**
KSH AMB AMB
comp=Z,63nm,6.4s
KSH LR LR
comp=Z,120nm,7.7s
BOSA Boshof 125.85 114 PKP **PKPdf 21 54 31.8 +4.3**
comp=Z,6.2nm,0.9s,baz=335,slow=5.7,SNR=4.2
CD2 Chengdu 129.31 336 PKP **PKPdf 21 54 34.3 +0.3**
WRA Warramunga Arr 130.73 257 PKhKP PKPpre 21 54 35.6
comp=Z,0.9nm,1.0s,baz=92,slow=2.0,SNR=3.7
ASAR Alice Springs 131.28 252 PKP **PKPdf 21 54 41.6 +3.8**
comp=Z,0.9nm,1.0s,baz=142,slow=3.0,SNR=4.5
GYA Guiyang 131.93 331 *e*Pdif **Pdif 21 51 31.3 -1.5**
GYA PKP **PKPdf 21 54 39.0 -0.1**
GYA sPKP 21 55 03.8
GYA PP **PP 21 57 02.9 +4.1**
GYA AMB AMB
comp=Z,90nm,7.8s
CMAR Chiang Mai Arr 142.36 334 PKhKP PKPpre 21 54 53.0
comp=Z,0.3nm,0.6s,baz=318,slow=1.2,SNR=3.6
CMAR PKP **PKiKP 21 55 00.6 -0.8**
comp=Z,1.0nm,0.9s,baz=305,slow=0.7,SNR=7.0
HYB Hyderabad 146.77 7 *i* PKP **PKPdf 21 55 06.0 -0.1**

IDC 18 21:36:33.3±2.2, 7°.89S×127°.30E, h0km, mb3.7/1, mb1 3.4/3, mb1mx3.2/19, mbtmp3.3/3, ML3.2/2, Error ellipse: s-maj=269.9km s-min=32.8km az=63.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.79**	**151**	Pn	Pn	21 39 49.0	-1.2
	0.2nm,0.3s,baz=329,slow=14,SNR=14						
WRA				Sn	Sn	21 42 10.3	-14
	0.4nm,0.3s,baz=332,slow=24,SNR=7.8						
ASAR	**Alice Springs**	**16.92**	**159**	Pn	Pn	21 40 32.7	+1.0
	0.1nm,0.3s,baz=333,slow=9.4,SNR=2.7						
ASAR				Sn	Sn	21 43 27.9	-13
	0.1nm,0.3s,baz=346,slow=27,SNR=2.8						
MKAR	**Makanchi Array**	**67.54**	**328**	P	P	21 47 31.5	0.0
	0.5nm,0.6s,baz=131,slow=7.2,SNR=4.2						

IDC 18 21:52:38.9±7.7, 5°.26S×150°.87E, h86km±57km, mb3.7/3, mb1 3.9/5, mb1mx3.4/19, mbtmp3.7/5, ML3.6/2, Error ellipse: s-maj=78.4km s-min=52.8km az=130.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.52**	**222**	P	Pn	21 53 58.5	-0.2
	5.8nm,0.3s,baz=75,slow=2.8,SNR=12						
PMG				S	Sn	21 55 01.0	+0.2
	5.4nm,0.3s,baz=282,slow=23,SNR=7.4						
CTA	**Charters Tower**	**15.41**	**197**	P	Pn	21 56 12.7	+1.2
	0.4nm,0.3s,baz=326,slow=3.6,SNR=2.6						
WRA	**Warramunga Arr**	**21.72**	**226**	P	P	21 57 24.4	+1.2
	2.9nm,0.5s,baz=52,slow=9.9,SNR=31						
ASAR	**Alice Springs**	**24.54**	**220**	P	P	21 57 50.4	-0.3
	1.2nm,0.6s,baz=55,slow=8.9,SNR=13						
FITZ	**Fitzroy Crossi**	**27.76**	**241**	P	P	21 58 19.5	-0.2
	2.7nm,0.6s,baz=69,slow=7.1,SNR=11						
TORD	**Torodi Ar. Bea**	**148.61**	**287**	PKPbc	PKPbc	22 12 16.3	-0.8
	2.1nm,0.7s,baz=96,slow=2.5,SNR=17						

ISCJB ***18*** *22:19:55.0±0.5, 34°.70N±0°.09×135°.42E±0°.07, h402km±5km, mb3.2/5, Error ellipse: s-maj=14.5km s-min=9.3km az=170.0*
IDC ***18*** *22:19:55.9±0.8, 34°.63N×135°.42E, h392km±12km, mb3.0/5, mb1 3.1/9, mb1mx2.9/27, mbtmp3.0/9, Error ellipse: s-maj=20.8km s-min=14.9km az=62.0*
JMA ***18*** *22:19:56.1±0.2, 34°.76N×135°.31E, h392km±2km, M2.7*
ISC 18 22:19:55.8±0.8, 34°.7N±0°.1×135°.40E±0°.07, h393km±8km, n23, σ1°.45/30, mb3.1/5, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWT	**Wachi**	**0.56**	**1**	P	**Pn**	**22 20 45.3**	**+0.4**
JWT				*e*S	**S**	**22 21 23.9**	**-0.6**
JKN2	**Miekihoku**	**0.87**	**123**	P	**Pn**	**22 20 46.4**	**+0.6**
JIE	**Ise**	**1.13**	**106**	P	**Pn**	**22 20 47.6**	**+0.9**
JGM	**Miyama**	**1.46**	**48**	P	**Pn**	**22 20 48.8**	**+0.7**
JKG	**Kaga**	**1.73**	**26**	P	**Pn**	**22 20 49.9**	**+0.5**
TK02	**Tokai 2**	**2.10**	**111**	P	**Pn**	**22 20 52.9**	**+1.4**
JNY	**Yasuok**	**2.12**	**72**	P	**Pn**	**22 20 52.5**	**+0.6**
MAT	**Matsushiro**	**2.92**	**51**	P	**Pn**	**22 20 58.3**	**+0.5**
MAT				*e*S	**S**	**22 21 47.4**	**-0.6**
MJAR	**Matsushiro Arr**	**2.92**	**51**	P	**Pn**	**22 20 58.9**	**+1.1**
	1.2nm,0.3s,baz=230,slow=8.0,SNR=25						
MJAR				S	**S**	**22 21 49.1**	**+1.2**
	0.4nm,0.3s,baz=233,slow=19,SNR=4.1						
JHU	**Hanno**	**3.37**	**69**	*e*S	**S**	**22 21 54.9**	**0.0**
JAG	**Ashikaga**	**3.72**	**62**	P	**Pn**	**22 21 05.6**	**+0.9**
JAG				S	**S**	**22 21 59.2**	**-1.4**
BSO4	**Boso 4**	**4.07**	**85**	P	**Pn**	**22 21 10.1**	**+2.1**
BSO4				*e*S	**S**	**22 22 06.4**	**-0.2**
JNU	**Nakatsue**	**4.08**	**248**	P	**Pn**	**22 21 07.2**	**-1.2**
	0.8nm,0.3s,baz=273,slow=18,SNR=5.0						
JYT	**Yasato**	**4.20**	**68**	P	**Pn**	**22 21 09.6**	**+0.3**
JYT				*e*S	**S**	**22 22 04.4**	**-4.4**
BSO3	**Boso 3**	**4.21**	**87**	*e*S	**S**	**22 22 08.1**	**-0.6**
JHO	**Hitachi**	**4.62**	**64**	P	**Pn**	**22 21 12.9**	**-0.6**
JHO				*e*S	**S**	**22 22 12.7**	**-3.8**
KSRS	**Korea Array**	**6.64**	**296**	P	**P**	**22 21 36.0**	**+0.2**
	0.6nm,0.3s,baz=114,slow=11,SNR=9.6						
ASAJ	**Asahikawa**	**10.91**	**29**	P	**P**	**22 22 23.3**	**-0.1**
	1.5nm,0.3s,baz=232,slow=11,SNR=10.0						
SONM	**Songino Array**	**25.26**	**310**	P	**P**	**22 24 49.6**	**+1.3**
	0.6nm,0.7s,baz=126,slow=7.5,SNR=4.8						
MKAR	**Makanchi Array**	**41.26**	**304**	P	**P**	**22 27 05.1**	**+0.7**
	0.4nm,0.3s,baz=83,slow=10,SNR=13						
WRA	**Warramunga Arr**	**54.37**	**181**	P	**P**	**22 28 43.2**	**-0.6**
	0.6nm,0.3s,baz=360,slow=7.6,SNR=17						
ASAR	**Alice Springs**	**58.08**	**182**	P	**P**	**22 29 09.2**	**-0.5**
	0.3nm,0.5s,baz=23,slow=5.0,SNR=6.3						
FINES	**FINESS Array B**	**68.51**	**331**	P	**P**	**22 30 16.7**	**-0.1**
	1.8nm,0.9s,baz=111,slow=9.2,SNR=4.3						

IDC 18 22:30:20.6±11.0, 17°.53S×178°.75W, h581km±145km, mb3.0/6, mb1 3.3/6, mb1mx3.1/16, mbtmp3.0/6, Error ellipse: s-maj=100.3km s-min=40.6km az=166.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.53**	**241**	P	P	22 36 53.9	-0.7
	1.1nm,0.6s,baz=110,slow=14,SNR=3.6						
WRA	**Warramunga Arr**	**44.38**	**259**	P	P	22 37 40.7	-0.2
	1.3nm,0.7s,baz=96,slow=6.9,SNR=41						
ASAR	**Alice Springs**	**44.58**	**254**	P	P	22 37 42.5	+0.1
	5.3nm,0.7s,baz=87,slow=8.8,SNR=85						
ILAR	**Eielson Array**	**85.60**	**13**	P	P	22 41 57.7	-0.2
	0.5nm,0.6s,baz=218,slow=5.6,SNR=3.0						
TXAR	**Lajitas Array**	**86.07**	**58**	P	P	22 42 01.4	+0.3
	0.5nm,0.7s,baz=221,slow=6.3,SNR=7.9						
PDAR	**Pinedale Array**	**87.30**	**44**	P	P	22 42 06.4	-0.4
	0.4nm,0.6s,baz=218,slow=5.7,SNR=3.4						
GERES	**GERESS Array B**	**147.17**	**345**	PKPbc	PKPbc	22 48 58.6	-0.7
	0.3nm,0.5s,baz=308,slow=4.8,SNR=2.3						

IDC ***18*** *22:34:26.7±3.8, 19°.58N×95°.29E, h95km±32km, mb3.7/11, mb1 3.8/12, mb1mx3.5/29, mbtmp3.7/12, Error ellipse: s-maj=44.6km s-min=13.9km az=53.0*
BKK ***18*** *22:34:37.8±3.8, 19°.N±12°.×9°.6E±2°.7, h18km±47km, M3.8/4, MLv3.8/4*
ISC 18 22:34:20.9±1.0, 19°.3N±0°.1×94°.9E±0°.1, h35km, n31, σ2°.03/31, mb3.9/13, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHTO	**Chiang Mai**	**3.89**	**97**	P	**Pn**	**22 35 20.4**	**+2.2**
CMAR	**Chiang Mai Arr**	**3.96**	**102**	P	**Pn**	**22 35 21.5**	**+2.4**
	5.8nm,0.3s,baz=279,slow=14,SNR=212						
CMAR				S	**Sn**	**22 36 02.9**	**-1.4**
	12nm,0.3s,baz=267,slow=20,SNR=8.1						
CMAI	**Chiengmai2**	**3.98**	**81**	P	**Pn**	**22 35 22.1**	**+2.5**
PAYA	**Payao**	**4.72**	**89**	P	**Pn**	**22 35 31.8**	**+2.2**
SUKH	**Sukhothai**	**4.88**	**112**	P	**Pn**	**22 35 34.3**	**+2.4**
PBKT	**Sadao Pong**	**6.43**	**114**	P	**Pn**	**22 35 55.9**	**+2.8**
ODAN	**Odare**	**10.16**	**319**	*e*P	**Pn**	**22 36 47.5**	**+2.9**
	44nm,0.3s						
TAPN	**Taplejung**	**10.33**	**322**	*e*P	**Pn**	**22 36 49.3**	**+2.4**
	65nm,0.5s						
RAMN	**Ramite**	**10.73**	**316**	*e*P	**Pn**	**22 36 54.9**	**+2.6**
	43nm,0.3s						
JIRN	**Jiri**	**11.48**	**318**	*e*P	**Pn**	**22 37 05.4**	**+2.7**
	53nm,0.3s						
GUN	**Gumba**	**11.85**	**318**	*e*P	**Pn**	**22 37 10.2**	**+2.4**
	71nm,0.4s						
PKI	**Pulchoki**	**11.93**	**315**	*e*P	**Pn**	**22 37 10.9**	**+2.1**
	73nm,0.5s						
PKIN	**Phulchoki**	**11.94**	**315**	*e*P	**Pn**	**22 37 10.9**	**+2.0**
	51nm,0.3s						
DMN	**Daman**	**12.16**	**314**	*e*P	**Pn**	**22 37 13.9**	**+2.0**
	37nm,0.5s						
KKN	**Kakani**	**12.16**	**316**	*e*P	**Pn**	**22 37 14.1**	**+2.2**
	22nm,0.4s						
KOLN	**Koldanda**	**13.30**	**311**	*e*P	**Pn**	**22 37 29.3**	**+1.8**
	65nm,0.4s						
DANN	**Dangsing**	**13.54**	**314**	*e*P	**Pn**	**22 37 31.9**	**+1.0**
	71nm,0.5s						
PYUN	**Piuthan**	**13.93**	**311**	*e*P	**Pn**	**22 37 37.2**	**+1.1**
	221nm,0.4s						
AAK	**Ala-Archa**	**28.91**	**328**	P	**P**	**22 40 17.3**	**+0.6**
	0.7nm,0.4s,baz=268,slow=13,SNR=5.3						
MKAR	**Makanchi Array**	**29.26**	**342**	P	**P**	**22 40 18.9**	**-0.7**
	1.0nm,0.6s,baz=156,slow=8.6,SNR=11						
SONM	**Songino Array**	**29.93**	**16**	P	**P**	**22 40 24.0**	**-1.7**
	0.6nm,0.4s,baz=201,slow=12,SNR=4.8						
ZALV	**Zalesovo Beam**	**35.40**	**350**	P	**P**	**22 41 11.9**	**-1.3**
	1.8nm,0.4s,baz=169,slow=8.4,SNR=12						
AKTO	**Aktyubinsk**	**42.58**	**325**	P	**P**	**22 42 13.3**	**0.0**
	0.9nm,0.3s,baz=108,slow=5.7,SNR=5.8						
WRA	**Warramunga Arr**	**54.96**	**133**	P	**P**	**22 43 47.6**	**-1.2**
	0.3nm,0.3s,baz=316,slow=8.0,SNR=17						
ASAR	**Alice Springs**	**57.24**	**137**	P	**P**	**22 44 04.1**	**-1.0**
	0.3nm,0.4s,baz=318,slow=7.4,SNR=4.4						
JOF	**Joensuu**	**60.98**	**332**	*ep*	**P**	**22 44 28.3**	**-2.0**
	0.3nm,0.3s						
FINES	**FINESS Array B**	**63.07**	**330**	P	**P**	**22 44 43.2**	**-1.2**
	0.5nm,0.5s,baz=107,slow=6.6,SNR=7.3						
KAF	**Kangasniemi**	**63.07**	**331**	*ep*	**P**	**22 44 42.9**	**-1.5**
	0.3nm,0.3s						
ARCES	**ARCESS Array B**	**64.83**	**339**	P	**P**	**22 44 54.3**	**-1.6**
	6.9nm,1.0s,baz=105,slow=6.7,SNR=8.0						
NOA	**NORSAR Array B**	**70.22**	**329**	P	**P**	**22 45 28.5**	**-1.6**
	0.6nm,0.8s,baz=70,slow=5.2,SNR=3.5						
ILAR	**Eielson Array**	**83.92**	**22**	P	P	22 46 43.4	-3.6
	1.6nm,0.8s,baz=280,slow=4.5,SNR=8.8						

AUST 18 22:43:57.9±0.0, 8°.47S×107°.89E, h60km, Error ellipse: s-maj=1.3km s-min=0.8km az=309.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.91**	**355**	P	Pn	22 44 15.2	+0.3
	baz=0.9,SNR=676						
CISI				S	Sn	22 44 26.0	-1.4
	baz=0.9,SNR=12						
LEM	**Lembang**	**1.66**	**351**	P	Pn	22 44 25.4	+0.5
	baz=1.7,SNR=34						
UGM	**Wanagama**	**2.67**	**78**	P	Pn	22 44 50.3	+12
	baz=2.7,SNR=5.3						
XMI	**Christmas Isla**	**2.93**	**228**	P	Pn	22 44 44.0	+1.9
	baz=2.9,SNR=9.3						
XMI				S	Sn	22 45 13.3	-2.8
	baz=2.9,SNR=4.3						
XMIS	**Christmas Isla**	**2.98**	**228**	P	Pn	22 44 44.2	+1.5
	baz=3.0,SNR=26						
XMIS				S	Sn	22 45 13.8	-3.5
	baz=3.0,SNR=8.1						
JAGI	**Jajag, Banyuwa**	**6.20**	**90**	P	Pn	22 45 41.8	+15
	baz=6.2,SNR=13						
MNAI	**Manna**	**6.38**	**309**	P	Pn	22 45 36.8	+7.4
	baz=6.4,SNR=3.2						
WSI	**Waingapu**	**12.31**	**97**	P	Pn	22 46 49.6	-0.8
	baz=12,SNR=3.1						
MTN	**Manton Dam**	**23.25**	**103**	P	P	22 49 01.5	+1.3
	baz=23,SNR=3.2						
SWI	**Sorong**	**24.47**	**73**	P	P	22 49 11.8	+0.4
	baz=24,SNR=4.6						

MOS ***18*** *23:06:52.4±1.0, 9°.03S×115°.60E, h41km, mb6.1/76, MS5.0/29, Error ellipse: s-maj=7.5km s-min=4.4km az=121.2*
AUST ***18*** *23:06:57.2±0.1, 9°.39S×115°.53E, h62km, Error ellipse: s-maj=0.5km s-min=0.3km az=25.0*
ISCJB ***18*** *23:06:57.8±0.3, 9°.18S±0°.02×115°.55E±0°.02, h89km±2km, mb5.8/204, Error ellipse: s-maj=3.3km s-min=2.5km az=25.4*
NEIC ***18*** *23:06:57.7±0.6, 9°.14S×115°.59E, h79km±4km, mb6.0/81, MW5.7, MW5.7, Error ellipse: s-maj=5.2km s-min=3.8km az=220.0, Moment Tensor Solution. s48 Moment tensor: Scale 10^{17}Nm; M_{rr}4.42; $M_{\theta\theta}$-0.03; $M_{\phi\phi}$-4.40; $M_{r\theta}$-2.50; $M_{\theta\phi}$-1.45; $M_{\phi r}$0.20; Best double couple: $M_0$5.30000×10^{17} NP1:ϕ_s354.00000°, δ47.00000°, λ55.00000°. NP2: ϕ_s220.00000°, δ54.00000°, λ122.00000°. Principal axes: T 5.6000, Plg64.0000°, Azm190.0000°; N -0.7400, Plg25.0000°, Azm20.0000°; P -4.8700, Plg3.0000°, Azm288.0000°;*
NEIC At least seven people injured and several buildings damaged in the Denpasar area. Felt [VI] at Denpasar; [V] at Klungkung; [IV] at Kuta and Ubud; [III] at Tabanan; [II] at Singaraja. Also felt at Karangasem. Felt [IV] at Ampenan and Mataram, Lombok. Felt [III] at Banyuwangi and [II] at Tretes, Java. Felt at Sumbawa, Sumbawa.
BJI ***18*** *23:06:57.7, 9°.20S×115°.60E, h74km, mB5.5/46, mb5.6/66, Ms5.3/75, Ms7 5.1/64*
TEH ***18*** *23:06:57.0, 9°.27S×115°.57E, h72km, ML5.8*
BKK ***18*** *23:06:58.5±0.3, 9°.S±3°.×11°.5E±°, h74km±3km, M5.9/60, mb5.9/60, mB6.2/56, MLv6.7/6, Mw(mB)5.9/56, Mwp5.7/5*
DJA ***18*** *23:06:58.0±0.2, 10°.S±2°.×11°.5E±°, h59km±2km, M6.0/122, mb6.1/122, mB6.3/111, MLv6.6/37, Mw(mB)6.0/111, Mwp5.8/16*
GCMT ***18*** *23:06:58.2±0.1, 9°.42S×115°.56E, h70km, MW5.7, Moment Tensor Solution. s102, c199; s48, c58; Moment tensor: Scale 10^{17}Nm; M_{rr}4.30±.05; $M_{\theta\theta}$-1.29±.04; $M_{\phi\phi}$-3.01±.05; $M_{r\theta}$-1.71±.04; $M_{\theta\phi}$-2.72±.04; $M_{\phi r}$0.11±.04; Best double couple: $M_0$5.00000×10^{17} NP1:ϕ_s234.00000°, δ54.00000°, λ114.00000°. NP2:ϕ_s18.00000°, δ42.00000°, λ62.00000°. Principal axes: T 4.8800, Plg70.0000°, Azm201.0000°; N 0.2100, Plg19.0000°, Azm40.0000°; P -5.1000, Plg6.0000°, Azm308.0000°; Data Used: II IU IC G CN. Surface waves: sta=114, comp=235, per= 50.*
IDC ***18*** *23:07:00.3±0.9, 9°.00S×115°.50E, h90km±7km, mb5.6/38, mb1 5.6/39, mb1mx5.6/39, mbtmp5.5/39, MS5.0/31, Ms1 5.0/31, ms1mx4.8/45 Error ellipse: s-maj=9.4km s-min=7.3km az=87.0*
NEIC ***18*** *23:07:10.4±0.0, 9°.45S×115°.73E, h55km, Moment Tensor Solution. s123 Moment tensor: Scale 10^{17}Nm; M_{rr}4.37; $M_{\theta\theta}$-1.45; $M_{\phi\phi}$-2.92; $M_{r\theta}$-2.20; $M_{\theta\phi}$-2.72; $M_{\phi r}$0.13; Best double couple: $M_0$5.20000×10^{17} NP1:ϕ_s238.00000°, δ56.00000°, λ116.00000°. NP2:ϕ_s17.00000°, δ41.00000°, λ57.00000°. Principal axes: T 5.2400, Plg67.0000°, Azm200.0000°; N -0.0700, Plg20.0000°, Azm42.0000°; P -5.1700, Plg7.0000°, Azm309.0000°;*
ISC 18 23:06:57.5±0.2, 9°.14S±0°.03×115°.58E±0°.03, h78km±1km, h77km:pP-P, n1898, σ1°.45/2242, mb6.0/202, 332C-256D, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGBI	**Denpasar**	**0.54**	**307**	P	**Pn**	**23 07 12.1**	**+0.7**
DNP	**Denpasar**	**0.59**	**321**	P	**Pn**	**23 07 13.9**	**+2.0**
MTNI	**Mataram**	**0.77**	**49**	P	Pn	23 07 17.3	+3.5
SRBI	**Singaraja**	**1.11**	**341**	P	Pn	23 07 21.1	+3.2
BYJI	**Banyuwangi**	**1.52**	**307**	P	**Pn**	**23 07 26.1**	**+3.0**
JAGI	**Jajag, Banyuwa**	**1.56**	**295**	*e*Pn	**Pn**	**23 07 24.9**	**+1.3**
JAGI				*e*Sn	**Sn**	**23 07 44.2**	**+0.8**
JAGI	**Jajag, Banyuwa**	**1.56**	**295**	P	**Pn**	**23 07 24.2**	**+0.6**
JAGI	**Jajag, Banyuwa**	**1.56**	**295**	P	**Pn**	**23 07 24.3**	**+0.6**
	baz=1.6,SNR=1000						
JAGI				S	**Sn**	**23 07 45.1**	**+1.7**
	baz=1.6,SNR=5.2						
ABJI	**Asem Bagus**	**1.89**	**315**	P	**Pn**	**23 07 31.0**	**+3.1**
GMJI	**Gumukmas**	**2.28**	**292**	P	**Pn**	**23 07 34.1**	**+0.9**
BLJI	**Banyuglugur**	**2.41**	**305**	P	**Pn**	**23 07 37.3**	**+2.4**
KMMI	**Kalianget**	**2.62**	**322**	P	Pn	23 07 42.0	+4.2
KRKI	**Karangkates**	**3.25**	**287**	P	**Pn**	**23 07 47.5**	**+1.3**
GRJI	**Gresik**	**3.79**	**306**	P	**Pn**	**23 07 56.6**	**+3.0**
PWJI	**Pagerwojo**	**3.90**	**286**	P	**Pn**	**23 07 55.6**	**+0.5**
SJI	**Sawahan**	**4.03**	**290**	P	**Pn**	**23 07 57.7**	**+0.8**
LBFI	**Labuhan Bajo,**	**4.31**	**82**	P	**Pn**	**23 08 02.0**	**+1.3**
NGJI	**Ngawi**	**4.45**	**293**	P	**Pn**	**23 08 05.2**	**+2.7**
WSI	**Waingapu**	**4.68**	**97**	P	**Pn**	**23 08 03.8**	**-2.0**
WSI	**Waingapu**	**4.68**	**97**	P	**Pn**	**23 08 03.9**	**-1.9**
	baz=4.7,SNR=12						
UGM	**Wanagama**	**5.15**	**283**	*e*Pn	**Pn**	**23 08 13.1**	**+0.9**
UGM				*e*Sn	**Sn**	**23 09 10.4**	**0.0**
UGM	**Wanagama**	**5.15**	**283**	P	**Pn**	**23 08 13.5**	**+1.3**
	23μm,1.1s,392μm149μm117nm						
UGM	**Wanagama**	**5.15**	**283**	P	**Pn**	**23 08 12.8**	**+0.5**
	baz=5.2,SNR=1000						
YOGI	**Yogyakarta**	**5.39**	**284**	P	**Pn**	**23 08 18.0**	**+2.5**
	19μm,1.1s,304μm108nm						
KAPI	**Kappang**	**5.83**	**46**	Pn	**Pn**	**23 08 24.1**	**+2.7**
	8μm,0.4s						
KAPI	**Kappang**	**5.83**	**46**	*e*Pn	**Pn**	**23 08 23.8**	**+2.4**
KAPI				*e*Sn	Sn	23 09 15.0	-12
KAPI	**Kappang**	**5.83**	**46**	P	**Pn**	**23 08 23.9**	**+2.5**
	1μm,1.1s,29μm27μm9.5nm						
KAPI	**Kappang**	**5.83**	**46**	P	**Pn**	**23 08 23.8**	**+2.5**
	105nm,0.3s,baz=221,slow=6.9,SNR=276						
KAPI				S	**Sn**	**23 09 29.6**	**+2.8**
	213nm,0.3s,baz=241,slow=23,SNR=15						
KAPI				LR	LR	23 10 57.9	
	comp=Z,28μm,21.6s,baz=246,slow=41						
BKSI	**Bulukumba**	**5.89**	**50**	P	**Pn**	**23 08 25.4**	**+3.1**
	2μm,0.6s,20μm19μm6.9nm						
BJII	**Banjamegara**	**6.08**	**287**	P	**Pn**	**23 08 27.0**	**+2.0**
	6μm,1.0s,67μm94μm25nm						
MJSI	**Majene**	**6.50**	**31**	P	Pn	23 08 36.1	+5.5
	2μm,0.5s,24μm6.9nm						
BNSI	**Bone**	**6.51**	**44**	P	Pn	23 08 36.1	+5.4
	1μm,0.6s,22μm9.9nm						
MMRI	**Maumere**	**6.59**	**86**	*e*Pn	**Pn**	**23 08 30.9**	**-1.0**
MMRI	**Maumere**	**6.59**	**86**	P	**Pn**	**23 08 31.5**	**-0.4**
	8μm,1.4s,106μm63μm24nm						
SPSI	**Sidrap Palu**	**6.61**	**39**	P	Pn	23 08 36.8	+4.6
	332nm,0.5s,11μm16μm4.1nm						
CLJI	**Cilicap**	**6.65**	**282**	P	**Pn**	**23 08 31.3**	**-1.4**
	6μm,1.2s,57μm19nm						
TGJI	**Tegal**	**6.79**	**289**	P	**Pn**	**23 08 35.0**	**+0.5**
	3μm,1.2s,37μm18nm						
KPJI	**Karang Pucung**	**6.83**	**285**	P	**Pn**	**23 08 36.2**	**+1.1**
	6μm,1.1s,52μm20nm						
MMSI	**Mamuju**	**7.21**	**27**	P	Pn	23 08 45.7	+5.3
	468nm,1.5s,8μm25μm3.6nm						
PBKI	**Pangkalan Bun**	**7.49**	**328**	P	Pn	23 08 48.6	+4.5
	8μm,1.0s,80μm36μm26nm						
BBSI	**Bau Bau**	**7.82**	**63**	P	Pn	23 08 53.9	+5.2
	2μm,1.5s,23μm8.2nm						
CISI	**Cisompet, Garu**	**7.85**	**281**	*e*Pn	**Pn**	**23 08 48.6**	**-0.5**
CISI				*e*Sn	**Sn**	**23 10 16.9**	**+0.4**
**C

baz=11,SNR=9.0
BLSI Bandar Lampung 10.92 289 P **Pn 23 09 32.1 +1.1**
1µm,1.1s,12µm
TOLI Toli-Toli 11.44 27 P Pn 23 09 49.3 +11
1µm,0.7s,11µm13µm
KLI Kotabumi 11.46 291 P **Pn 23 09 38.6 +0.2**
1µm,0.8s,14µm
MRSI Marisa 11.46 34 P Pn 23 09 45.8 +7.4
357nm,0.7s,4µm
KASI Kota Agung 11.57 287 P **Pn 23 09 38.9 -0.9**
2µm,0.9s,14µm
PPBI Pangkal Pinang 11.68 306 P **Pn 23 09 42.6 +1.3**
1µm,1.1s,14µm
KSM Kuching 11.78 333 *e*Pn Pn 23 09 46.5 +3.8
KSM *e*ScP **ScP 23 18 50.6 -1.0**
KSM Kuching 11.78 333 P Pn 23 09 47.7 +4.9
KSM Kuching 11.78 333 P Pn 23 09 47.9 +5.2
2µm,1.1s,21µm
KSM Kuching 11.78 333 P Pn 23 09 47.1 +4.4
baz=12,SNR=131
SBUM Sibu 11.99 344 *e*Pn Pn 23 09 51.2 +5.6
SBUM *e*ScP **ScP 23 18 50.6 -1.4**
SBUM Sibu 11.99 344 P Pn 23 09 51.8 +6.2
SBUM Sibu 11.99 344 P Pn 23 09 51.6 +6.0
13µm490nm,1.8s
LWLI Liwa 12.15 289 P **Pn 23 09 47.3 -0.5**
3µm,0.7s,23µm
GTOI Gorontalo 12.21 38 P **P 23 09 58.7 +0.7**
743nm,0.8s,12µm
MDSI Maura Dua 12.23 291 P **Pn 23 09 48.3 -0.5**
600nm,1.1s,7µm18µm
PMBI Palembang 12.39 299 P **Pn 23 09 53.6 +2.5**
4µm,1.1s,29µm
PMBI Palembang 12.39 299 P **P 23 09 57.7 -2.3**
baz=12,SNR=18
BTM Bintulu 12.51 348 P **P 23 10 00.1 -1.2**
MBWA Marble Bar 12.60 162 *e*Pn Pn 23 09 46.0 -7.8
MBWA *e*Sn Sn 23 11 49.9 -22
NLAI Namlea 12.86 64 P **P 23 10 05.6 +0.4**
613nm,1.5s,16µm
FITZ Fitzroy Crossi 13.22 133 *e*Pn Pn 23 09 56.2 -5.9
FITZ *e*Sn Sn 23 12 14.3 -13
FITZ Fitzroy Crossi 13.22 133 P Pn 23 09 56.7 -5.4
157nm,0.3s,baz=321,slow=8.5,SNR=742
FITZ S Sn 23 12 14.2 -13
79nm,0.3s,baz=196,slow=18,SNR=7.4
FITZ LR LR 23 15 25.6
comp=Z,8µm,18.5s,baz=308,slow=38
FITZ Fitzroy Crossi 13.22 133 P Pn 23 09 56.0 -6.1
baz=13,SNR=1000
FITZ S Sn 23 12 13.6 -14
baz=13,SNR=6.6
MNAI Manna 13.41 290 *e*Pn **Pn 23 10 02.0 -2.7**
MNAI Manna 13.41 290 P **Pn 23 10 03.3 -1.4**
3µm,0.6s,39µm
MNAI Manna 13.41 290 P **Pn 23 10 02.8 -1.9**
baz=14,SNR=14
TSM Tawau 13.54 10 P **P 23 10 15.0 +2.2**
AAI Ambon 13.65 67 P **P 23 10 13.1 -0.9**
518nm,1.3s,8µm
AAI Ambon 13.65 67 P **P 23 10 15.2 +1.2**
baz=14,SNR=6.8
KSI Kapahiang 14.01 292 P **Pn 23 10 10.7 -1.9**
4µm,0.8s,30µm
KNRA Kununurra 14.41 118 P Pn 23 10 13.1 -4.7
baz=14,SNR=452
MSAI Masohi 14.46 67 P **P 23 10 23.9 +0.9**
64nm,0.8s,2µm5µm
MYLDM Lahad Datu 14.52 12 *e*Pn **P 23 10 26.5 +2.9**
MYLDM *e*ScP **ScP 23 18 56.5 +0.5**
MYLDM Lahad Datu 14.52 12 P P 23 10 28.2 +4.5
MYLDM Lahad Datu 14.52 12 P P 23 10 27.4 +3.7
786nm,1.3s,16µm
MASI Maura Aman, Be 14.54 293 P **Pn 23 10 18.2 -1.3**
3µm,1.3s,29µm
SDKM Sandakan 14.77 6 P P 23 10 29.9 +3.4
BNDI Bandanaira 14.94 73 P P 23 10 32.4 +4.1
3µm,1.1s,27µm
BNDI Bandanaira 14.94 73 P **P 23 10 31.5 +3.1**
baz=15,SNR=4.3
KKM Kota Kinabalu 15.10 2 *e*P **P 23 10 30.8 +0.6**
1µm,1.1s
KKM *e*ScP **ScP 23 18 56.9 -0.3**
KKM Kota Kinabalu 15.10 2 P **P 23 10 32.7 +2.5**
KKM Kota Kinabalu 15.10 2 P **P 23 10 32.3 +2.1**
703nm,1.1s,10µm
KKM Kota Kinabalu 15.10 2 P **P 23 10 31.1 +0.8**
baz=16,SNR=18
TNTI Ternate 15.32 51 *e*P **P 23 10 33.2 +0.6**
2µm,1.5s
TNTI Ternate 15.32 51 P **P 23 10 37.0 +4.4**
665nm,1.9s,12µm13µm
SAUI Saumlaki 15.59 87 P **Pn 23 10 33.5 +0.6**
1µm,1.2s,21µm
MTN Manton Dam 15.70 105 P **Pn 23 10 29.7 -4.6**
baz=16,SNR=63
MTN S Sn 23 13 15.1 -13
baz=16,SNR=4.3
BTDF Bukit Timah Da 15.73 311 P **P 23 10 39.4 +2.3**
baz=16,SNR=9.1
BTDF P **P 23 10 39.4 +2.3**
baz=16,SNR=9.1
RGRI Rengat 15.82 303 P P 23 10 48.7 +11
MYKOM Kota Tinggi 15.96 312 *e*Pn **Pn 23 10 37.1 -0.4**
358nm,1.0s
MYKOM *e*ScP **ScP 23 18 58.0 -0.7**
MYKOM Kota Tinggi 15.96 312 P **Pn 23 10 37.7 +0.1**
MYKOM Kota Tinggi 15.96 312 P **Pn 23 10 38.3 +0.8**
181nm,1.3s,6µm
KDM Kudat 16.00 5 P **P 23 10 44.5 +4.3**
SGSI Sangihe 16.14 38 P P 23 10 46.6 +4.9
2µm,1.1s,21µm
KGM Kluang 16.50 312 P **P 23 10 45.2 -0.4**
KDU Kakadu 16.95 104 P **Pn 23 10 45.9 -4.0**
baz=17,SNR=98
PDSI Padang 17.13 298 P **Pn 23 10 51.4 -0.7**
1µm,0.9s,11µm
BKNI Bangkinang 17.27 302 P **P 23 10 55.8 +1.6**
349nm,1.2s,13µm18µm
BKNI Bangkinang 17.27 302 P **P 23 10 56.1 +1.9**
baz=17,SNR=11
TLE Tual 17.36 80 P **Pn 23 10 54.6 -0.4**
305nm,0.9s,6µm
TLE Tual 17.36 80 P **Pn 23 10 53.4 -1.6**
baz=18,SNR=9.8
TLE S Sn 23 13 58.9 -9.0
baz=18,SNR=5.9
PPI Padang Panjang 17.41 299 P **Pn 23 10 54.6 -0.9**
439nm,0.9s,5µm
PPI Padang Panjang 17.41 299 P **Pn 23 10 55.0 -0.5**
baz=18,SNR=18
MEEK Meekatharra 17.64 171 P **P 23 10 54.3 -3.9**
baz=18,SNR=1000
MEEK S Sn 23 13 52.0 -22
baz=18,SNR=20
SWI Sorong 17.64 63 P **Pn 23 11 00.0 +1.7**
620nm,1.2s,7µm
SWI Sorong 17.64 63 P **Pn 23 10 59.8 +1.4**
baz=18,SNR=19
SWI S **Sn 23 14 14.8 +0.2**
baz=18,SNR=8.5
FAKI Fak Fak 17.68 71 P **P 23 10 58.6 -0.1**
334nm,0.9s,5µm15µm
FAKI Fak Fak 17.68 71 P **P 23 10 56.5 -2.2**
baz=18,SNR=32
FAKI S Sn 23 14 07.6 -8.0
baz=18,SNR=9.8
GSPH General Santos 17.78 32 ||*i*P Pn 23 11 09.7 +10
IPIL Ipil 18.20 23 *e*P Pn 23 11 10.6 +5.4
IPIL *e*S Px 23 11 18.8
CTBH Cotabato--PC H 18.41 28⇑*e*P **Pn 23 11 11.6 +4.0**
FRIM Kepong 18.57 311 P **Pn 23 11 12.2 +2.7**
PAGZ Pagadian 18.58 25 *e*P **Pn 23 11 14.2 +4.5**
COCO West Island 18.67 259 *e*P **P 23 11 09.3 -0.3**
COCO pmax pmax
comp=Z,649nm,1.1s
COCO West Island 18.67 259 *e*P **P 23 11 09.3 -0.3**
comp=Z,649nm,1.1s
COCO West Island 18.67 259 P Pn 23 11 16.7 +5.9
KMPI Kaimana, Papua 18.81 74 P **Pn 23 11 14.2 +1.8**
comp=Z,819nm,1.0s,comp=Z,9µm
DAV Davao City (W) 18.94 32 P **Pn 23 11 17.5 +3.6**
SNR=9.1
DAV Davao City (W) 18.94 32 *e*P **P 23 11 11.5 -1.0**
comp=Z,1µm,1.3s
DAV Davao City (W) 18.94 32 P Pn 23 11 21.2 +7.2
comp=Z,800nm,1.3s,comp=Z,18µm

KTGM Kuala Trenggan 18.99 319 P **Pn 23 11 16.7 +2.2**
PPR Puerto Princes 19.05 10⇑*i*P **Pn 23 11 19.4 +4.1**
DCPH Dipolog City 19.23 24||*e*P **Pn 23 11 21.6 +4.1**
BUKP Musuan 19.37 29 *e*P **Pn 23 11 22.4 +3.3**
BUKP *e*S Sx 23 11 47.5
CGP Cagayan de Oro 19.70 28 *e*P **Pn 23 11 25.5 +2.6**
MORW Morawa 19.83 179 P **P 23 11 20.8 -1.3**
baz=20,SNR=530
MORW S S 23 14 42.8 -19
baz=20,SNR=6.0
IPM Ipoh 19.84 312 *e*P **Pn 23 11 23.9 -0.8**
comp=Z,439nm,1.0s
IPM *e*S **S 23 15 00.8 -1.1**
IPM Ipoh 19.84 312 P **Pn 23 11 24.5 -0.2**
IPM Ipoh 19.84 312 P **Pn 23 11 24.8 +0.1**
comp=Z,344nm,0.9s,comp=Z,5µm
RKPI Ransiki, Papua 19.99 69 P **Pn 23 11 25.6 -0.8**
comp=Z,930nm,0.9s,comp=Z,24µm
PSI Prapat 20.41 305 *e*P **P 23 11 28.3 -0.4**
PSI *e*S **S 23 15 10.5 -2.7**
PSI *e*ScS **ScS 23 22 47.5 -4.3**
PSI Prapat 20.41 305 P **P 23 11 28.3 -0.4**
comp=Z,83nm,0.9s,baz=169,slow=15,SNR=28
PSI S **S 23 15 10.5 -2.7**
comp=Z,38nm,1.0s,baz=148,slow=16,SNR=4.1
PSI LR LR 23 21 41.5
comp=Z,6µm,18.4s,baz=130,slow=44
PSI ScS **ScS 23 22 47.5 -4.3**
comp=Z,6.1nm,0.8s,baz=268,slow=23,SNR=5.9
PSI Prapat 20.41 305 P **P 23 11 27.9 -0.7**
baz=20,SNR=30
PSI S **S 23 15 15.8 +2.6**
baz=20,SNR=14
TBP Tagbilaran 20.44 24 *e*P Pn 23 11 32.4 +0.8
KULM Kulim 20.67 313 *e*P **P 23 11 30.5 -0.8**
comp=Z,302nm,1.1s
KULM *e*S **S 23 15 12.1 -6.0**
KULM Kulim 20.67 313 P **P 23 11 32.3 +1.0**
KULM Kulim 20.67 313 P **P 23 11 32.4 +1.1**
comp=Z,220nm,1.2s,comp=Z,3µm
GSI Gunungsitoli 20.73 299 P Pn 23 11 36.6 +1.6
comp=Z,225nm,0.6s,comp=Z,4µm
GUIM Jordan 20.84 20 *e*P Pn 23 11 37.5 +1.2
LLP Lapu-Lapu 21.05 24 *e*P **P 23 11 38.8 +3.3**
WRA Warramunga Arr 21.07 123 *e*P **P 23 11 34.7 -0.9**
WRA *e*S **S 23 15 21.5 -4.5**
WRA Warramunga Arr 21.07 123 P **P 23 11 34.7 -0.9**
comp=Z,148nm,0.7s,baz=298,slow=12,SNR=265
WRA S **S 23 15 21.5 -4.5**
comp=Z,159nm,1.1s,baz=295,slow=27,SNR=7.7
WRA LR LR 23 20 08.9
comp=Z,7µm,20.3s,baz=300,slow=37
WRA P3KPbc 23 45 36.8
comp=Z,3.4nm,0.9s,baz=120,slow=4.2,SNR=12
WRA P3KP 23 46 19.6
comp=Z,5.0nm,1.0s,baz=205,slow=3.4,SNR=8.4
WRAB Tennant Creek 21.07 123 P **P 23 11 35.0 -0.6**
comp=Z,5µm,1.0s,SNR=78
WRAB Tennant Creek 21.07 123 *e*P **P 23 11 34.4 -1.2**
WRAB *e*S **S 23 15 21.2 -4.9**
WRAB pmax pmax
comp=Z,849nm,1.0s
WRAB Tennant Creek 21.07 123 *e*P **P 23 11 34.4 -1.2**
comp=Z,849nm,1.0s
WRAB *e*S **S 23 15 21.2 -4.9**
MSLP Maasin 21.26 26 *e*P **P 23 11 40.9 +3.2**
BLDU Ballidu 21.39 177 P **P 23 11 37.8 -1.1**
baz=21,SNR=113
BLDU S S 23 15 23.8 -8.4
baz=21,SNR=8.0
KCSI Kotacane, Aceh 21.76 305 P **P 23 11 43.0 0.0**
comp=Z,405nm,1.2s,comp=Z,5µm
RCP Roxas 21.77 19||*e*P **P 23 11 47.6 +4.6**
SRPI Serui, Papua 21.78 72 P **P 23 11 44.6 +1.4**
comp=Z,669nm,1.1s,comp=Z,9µm
BAKI Biak 21.90 70 P **P 23 11 48.6 +4.1**
comp=Z,459nm,1.1s,comp=Z,10µm
SKLT Songkhla 22.02 317 P **P 23 11 47.4 +1.6**
comp=Z,408nm,1.2s,comp=Z,4µm
SKLT Songkhla 22.02 317 P **P 23 11 47.4 +1.6**
comp=Z,408nm,1.2s,comp=Z,4µm
PLP Palo 22.23 25||*e*P **P 23 11 49.6 +1.5**
SNSI Sinabang, Aceh 22.36 300 P **P 23 11 51.6 +2.1**
comp=Z,1µm,1.2s,comp=Z,13µm
KLBR Kellerberrin 22.43 175 P **P 23 11 48.6 -1.5**
baz=22,SNR=61
AS12 Alice Springs 22.70 132 *e*P **P 23 11 52.0 -1.2**
AS12 *e*PcP **PcP 23 15 44.0 +1.2**
AS12 *e*S **S 23 16 00.8 +4.9**
AS12 *e*ScS **ScS 23 22 56.3 -3.4**
ASAR Alice Springs 22.70 132 P **P 23 11 52.0 -1.2**
comp=Z,152nm,0.7s,baz=307,slow=9.5,SNR=462
ASAR PcP **PcP 23 15 44.0 +1.2**
comp=Z,71nm,0.6s,baz=324,slow=1.8,SNR=8.4
ASAR S **S 23 16 00.8 +4.9**
comp=Z,187nm,0.7s,baz=300,slow=22,SNR=9.5
ASAR LR LR 23 20 40.5
comp=Z,4µm,21.9s,baz=261,slow=36
ASAR ScS **ScS 23 22 56.3 -3.4**
comp=Z,19nm,0.8s,baz=320,slow=5.1,SNR=5.1
ASAR P3KPbc 23 45 30.6
comp=Z,1.5nm,0.9s,baz=120,slow=3.9,SNR=6.4
ASAR P3KP 23 46 03.4
comp=Z,3.0nm,1.0s,baz=70,slow=2.9,SNR=7.3
AS01 Alice Springs 22.74 132 *e*P **P 23 11 52.1 -1.4**
AS01 *e*PcP **PcP 23 15 42.0 -0.9**
AS01 *e*S **S 23 15 57.2 +0.7**
LHMI Lhok Sumawe 23.43 307 P **P 23 12 00.9 +0.8**
comp=Z,3µm,1.1s,comp=Z,26µm
LHMI Lhok Sumawe 23.43 307 P **P 23 12 01.4 +1.2**
baz=24,SNR=27
LHMI S **S 23 16 05.9 -1.8**
baz=24,SNR=34
WAMI Wamena 23.56 79 P **P 23 12 04.9 +3.6**
comp=Z,382nm,0.8s
TGY Tagaytay City 23.70 13 *e*P **P 23 12 04.4 +1.8**
TGY Tagaytay City 23.70 13 P **P 23 12 04.4 +1.8**
comp=Z,2µm,0.8s,baz=184,slow=4.2,SNR=66
NWAO Narrogin (SRO) 23.72 177 P **P 23 12 01.9 -0.6**
SNR=18
NWAO Narrogin (SRO) 23.72 177 *e*P **P 23 12 01.4 -1.1**
comp=Z,453nm,0.9s
NWAO *e*S **S 23 16 11.1 -0.9**
NWAO Narrogin (SRO) 23.72 177 P **P 23 12 01.6 -1.0**
comp=Z,224nm,0.8s,baz=354,slow=11,SNR=43
NWAO S **S 23 16 14.8 +2.8**
comp=Z,818nm,0.9s,baz=267,slow=23,SNR=9.6
KRAB Krabi 23.75 316 P **P 23 12 04.0 +1.0**
comp=Z,1µm,0.9s,comp=Z,8µm
LQP Lukban 23.85 14⇑*e*P **P 23 12 05.7 +1.6**
PKDT Phuket 24.12 314 P **P 23 12 07.2 +0.9**
comp=Z,613nm,1.1s,comp=Z,7µm
FORT Forrest 24.47 153 *e*P **P 23 12 08.9 -0.5**
comp=Z,1µm,0.8s
FORT Forrest 24.47 153 P **P 23 12 08.8 -0.5**
baz=24,SNR=70
FORT S S 23 16 32.5 +8.3
baz=24,SNR=5.0
MMPI Merauke 24.52 90 S **S 23 16 22.6 -2.6**
baz=25,SNR=8.4
PCPH Palayan 25.14 13||*e*P **P 23 12 17.1 +1.5**
RKGY Rocky Gully 25.38 177 P **P 23 12 18.0 +0.4**
baz=25,SNR=39
JAY Jayapura 25.83 77 P **P 23 12 25.7 +3.7**
comp=Z,127nm,1.4s,comp=Z,6µm
JAY Jayapura 25.83 77 P **P 23 12 23.3 +1.3**
baz=26,SNR=13
UBPT Khong Chiam 26.25 337 P **P 23 12 29.7 +4.1**
comp=Z,94nm,1.1s,comp=Z,2µm
UBPT Khong Chiam 26.25 337 P **P 23 12 29.7 +4.1**
comp=Z,94nm,1.1s,comp=Z,2µm
CMBY CAMPBELL BAY 26.89 306 *e*P **P 23 12 31.6 +0.1**
CMBY AMB AMB 23 12 38.0
comp=Z,572nm,1.5s
PHET Kaeng Krachan 27.04 324 P **P 23 12 34.5 +1.8**
comp=Z,478nm,1.0s,comp=Z,4µm
COEN Coen 27.44 103 *e*P **P 23 12 36.7 +0.2**
comp=Z,9µm,1.8s
COEN Coen 27.44 103 P **P 23 12 37.2 +0.8**
baz=27,SNR=59
COEN S **S 23 17 11.2 -0.4**
baz=27,SNR=6.7
CHAI Chaiyaphum 28.29 331 P **P 23 12 45.6 +1.7**
comp=Z,67nm,0.9s,comp=Z,609nm
SKNT Sakolnakorn 28.37 336 P **P 23 12 45.7 +1.1**
comp=Z,147nm,0.9s,comp=Z,2µm

QIZ Qiongzhong 28.56 349 P **P 23 12 48.8 +2.5**
QIZ sP **sP 23 13 13.5 0.0**
QIZ S **S 23 17 29.3 +0.3**
QIZ sS **sS 23 18 03.6 +3.4**
QIZ pmax pmax
comp=Z,38nm,0.8s
QIZ LR LR
comp=N,2µm,18.1s
QIZ LR LR
comp=Z,4µm,20.3s
QIZ Qiongzhong 28.56 349 *e*P **P 23 12 47.7 +1.4**
comp=Z,68nm,0.9s
MTSU Mount Surprise 29.28 111 P **P 23 12 54.0 +1.2**
baz=29,SNR=87
PBKT Sadao Pong 29.36 330 P **P 23 12 54.6 +1.3**
comp=Z,124nm,1.0s,comp=Z,2µm
PBKT Sadao Pong 29.36 330 P **P 23 12 54.6 +1.3**
comp=Z,124nm,1.0s,comp=Z,2µm
LOEI Loei 30.02 332 P **P 23 12 58.6 -0.7**
comp=Z,50nm,1.2s,comp=Z,5µm
BBOO Buckleboo 30.21 144 *e*P **P 23 12 59.4 -1.5**
comp=Z,2µm,0.8s
BBOO Buckleboo 30.21 144 P **P 23 13 00.2 -0.6**
baz=30,SNR=116
PBA Port Blair 30.70 312 *e*P P 23 13 05.3 0.0
SUKH Sukhothai 30.80 329 P **P 23 13 08.0 +1.9**
comp=Z,41nm,0.7s,comp=Z,314nm
PMG Port Moresby 31.16 93 *e*ScP **ScP 23 19 39.5 +0.2**
HKC Hong Kong Obse 31.28 357 P **P 23 13 10.0 -0.3**
CTAO Charters Tower 31.55 114 *e*P **P 23 13 13.3 +0.5**
CTAO *e* 23 16 05.2
CTAO pmax pmax
comp=Z,111nm,0.7s
CTAO Charters Tower 31.55 114 *e*P **P 23 13 13.3 +0.5**
comp=Z,111nm,0.7s
CTAO *e*PcP **PcP 23 16 05.2 +1.2**
CTAO *e*ScP **ScP 23 19 39.8 -0.7**
DGPR DIGLIPUR 31.59 314 *e*P **P 23 13 12.3 -0.8**
DGPR AMB AMB 23 13 16.6
comp=Z,420nm,0.3s
CM01 Chiang Mai Arr 31.93 329 *e*P **P 23 13 18.1 +2.0**
CM01 *e*PcP **PcP 23 16 06.9 +2.0**
CM01 *e*ScP **ScP 23 19 42.6 +0.9**
CM31 Chiang Mai Arr 31.97 329 *e*P **P 23 13 18.3 +1.9**
CM31 *e*S **S 23 18 23.3 +0.9**
CM31 *e*ScP **ScP 23 19 42.5 +0.7**
CMAR Chiang Mai Arr 31.97 329 P **P 23 13 18.3 +1.9**
comp=Z,68nm,0.8s,baz=159,slow=7.4
CMAR S **S 23 18 23.3 +0.9**
comp=Z,1.8nm,0.3s,baz=149,slow=11,SNR=3.7
CMAR ScP **ScP 23 19 42.5 +0.7**
comp=Z,26nm,0.8s,baz=178,slow=3.3,SNR=19
CMAR P3KPbc 23 44 48.2
comp=Z,2.1nm,0.3s,baz=316,slow=5.9,SNR=18
CMAR PKPPKP P'P'df 23 46 41.6 -14
comp=Z,1.6nm,0.6s,baz=284,slow=3.8,SNR=5.1
TWG Pinlang 32.22 10 *e*P **P 23 13 19.2 +0.7**
comp=Z,234nm,1.1s
TWG *e*S **S 23 18 27.0 +0.8**
TWG *e*ScP **ScP 23 19 39.4 -3.2**
CHTO Chiang Mai 32.27 329 *e*P **P 23 13 20.3 +1.3**
CHTO *e* 23 16 07.8
CHTO pmax pmax
comp=Z,71nm,0.9s
CHTO Chiang Mai 32.27 329 P **P 23 13 20.9 +1.9**
SNR=32
CHTO Chiang Mai 32.27 329 *e*P **P 23 13 20.3 +1.3**
comp=Z,71nm,0.9s
CHTO *e*PcP **PcP 23 16 07.8 +2.0**
CHTO *e*ScP **ScP 23 19 43.9 +1.0**
CHTO Chiang Mai 32.27 329 P **P 23 13 20.3 +1.3**
comp=Z,72nm,1.0s,comp=Z,1µm
CHTO Chiang Mai 32.27 329 P **P 23 13 20.3 +1.3**
comp=Z,72nm,1.0s,comp=Z,1µm
PAYA Payao 32.28 331 P **P 23 13 20.9 +1.7**
comp=Z,34nm,0.9s,comp=Z,366nm
TPUB Ta-pu 32.62 9 *e*P **P 23 13 22.6 +0.6**
comp=Z,164nm,1.2s
TPUB *e*PcP **PcP 23 16 06.5 -0.3**
TPUB *e*S **S 23 18 33.9 +1.5**
TPUB *e*ScP **ScP 23 19 39.9 -4.1**
TPUB *e*ScS **ScS 23 23 42.6 -1.3**
YULB Yu-li 32.81 10 *e*P **P 23 13 24.0 +0.2**
comp=Z,64nm,1.0s
YULB *e*PcP **PcP 23 16 07.2 -0.1**
YULB *e*S **S 23 18 31.0 -4.5**
YULB *e*ScP **ScP 23 19 44.3 -0.4**
YULB *e*ScS **ScS 23 23 39.7 -5.2**
STKA Stephens Creek 33.08 137 *e*P **P 23 13 26.1 +0.1**
comp=Z,96nm,1.0s
STKA *e*PcP **PcP 23 16 09.0 +1.0**
STKA *e*ScP **ScP 23 19 46.1 +0.6**
STKA *e*PKKPdf PKKPdf 23 38 35.8 +6.0
STKA Stephens Creek 33.08 137 P **P 23 13 26.3 +0.3**
comp=Z,81nm,0.7s,baz=310,slow=8.7,SNR=233
STKA PcP **PcP 23 16 09.0 +1.0**
comp=Z,322nm,0.8s,baz=318,slow=5.5,SNR=6.0
STKA LR LR 23 27 09.5
comp=Z,5µm,21.0s,baz=296,slow=36
STKA PKKP PKKPdf 23 38 35.8 +6.0
comp=Z,1.6nm,0.8s,baz=357,slow=5.8,SNR=2.9
STKA Stephens Creek 33.08 137 P **P 23 13 26.3 +0.3**
baz=33,SNR=160
SSLB Suanglung 33.15 9 *e*P **P 23 13 27.8 +1.1**
comp=Z,113nm,1.1s
SSLB *e*PcP **PcP 23 16 09.0 +0.8**
SSLB *e*S **S 23 18 39.8 -0.9**
SSLB *e*ScP **ScP 23 19 45.8 0.0**
SSLB *e*ScS **ScS 23 23 46.2 -0.4**
NACB Ninganchiao 33.63 10 *e*P **P 23 13 28.7 -2.1**
comp=Z,480nm,1.4s
NACB *e*PcP **PcP 23 16 10.4 +0.9**
NACB *e*S **S 23 18 42.3 -5.7**
NACB *e*ScP **ScP 23 19 48.5 +1.0**
QZH Quanzhou 34.01 5 P P 23 13 41.3 +7.2
QZH S S 23 19 02.6 +8.8
QZH LR LR
comp=N,3µm,16.6s
QZH LR LR
comp=E,3µm,16.9s
QZH LR LR
comp=Z,5µm,17.9s
YHNB Yeheng 34.08 9 *e*P **P 23 13 36.2 +1.4**
comp=Z,453nm,1.5s
YHNB *e*S **S 23 18 53.0 -2.1**
TATO Taipei 34.40 10 P **P 23 13 39.5 +2.1**
SNR=8.4
TATO Taipei 34.40 10 *e*P **P 23 13 37.7 +0.3**
comp=Z,595nm,1.1s
TATO *e*S **S 23 18 58.6 -1.3**
CMSA Cobar Meteorol 35.75 133 P **P 23 13 49.9 +0.8**
baz=36,SNR=47
RMQ Roma 35.83 123 P **P 23 13 51.6 +1.8**
baz=36,SNR=104
KMI Kunming 36.28 340 P **P 23 13 56.3 +2.3**
KMI pP **pP 23 14 12.8 +0.4**
KMI sP **sP 23 14 21.0 -0.4**
KMI PP **PnPn 23 15 25.1 +6.8**
KMI PcP **PcP 23 16 19.3 +1.7**
KMI S **S 23 19 31.1 +1.8**
KMI sS **sS 23 19 59.3 -1.7**
KMI ScS **ScS 23 24 05.3 +1.5**
KMI pmax pmax
comp=Z,120nm,1.0s
KMI pmax pmax
comp=Z,720nm,6.5s
KMI LR LR
comp=N,2µm,21.5s
KMI LR LR
comp=E,2µm,19.9s
KMI LR LR
comp=Z,6µm,27.6s
ARPS Mount Arapiles 36.37 143 P **P 23 13 54.9 +0.6**
baz=36,SNR=77
GYA Guiyang 36.43 346 P **P 23 13 56.4 +1.3**
GYA pP **pP 23 14 14.6 +1.1**
GYA sP **sP 23 14 23.6 +1.1**
GYA PP **PnPn 23 15 23.0 +3.1**
GYA PcP **PcP 23 16 19.1 +1.3**
GYA S **S 23 19 30.3 -1.1**
GYA ScP **ScP 23 19 59.1 +1.4**
GYA sS **sS 23 20 04.3 +1.2**
GYA ScS **ScS 23 24 05.3 +0.9**
GYA pmax pmax
comp=Z,60nm,0.9s

GYA				pmax	pmax	
	comp=Z,290nm,4.8s					
GYA				LR	LR	
	comp=N,3μm,20.9s					
GYA				LR	LR	
	comp=E,1μm,17.7s					
GYA				LR	LR	
	comp=Z,4μm,20.6s					
GUMO	**Guam**	**36.81**	**53**	*e*P	**P**	**23 13 55.2 -3.1**
	comp=Z,412nm,1.0s					
EIDS	**Eidsvold**	**37.39**	**120**	*e*P	**P**	**23 14 03.9 +0.7**
	comp=Z,90nm,1.0s					
EIDS				*e*ScP	**ScP**	**23 20 00.1 -1.1**
EIDS	**Eidsvold**	**37.39**	**120**	P	**P**	**23 14 04.3 +1.2**
	baz=37,SNR=28					
JOW	**Kunigami**	**37.82**	**19**	*e*P	**P**	**23 14 05.2 -1.5**
	comp=Z,143nm,1.2s					
JOW				*e*PcP	**PcP**	**23 16 23.6 +1.7**
PALK	**Pallekele**	**38.39**	**294**	P	**P**	**23 14 12.8 +1.0**
	comp=Z,1μm,0.9s,SNR=14					
PALK	**Pallekele**	**38.39**	**294**	P	**P**	**23 14 13.1 +1.3**
	SNR=11					
PALK	**Pallekele**	**38.39**	**294**	*e*P	**P**	**23 14 12.1 +0.3**
	comp=Z,309nm,1.1s					
PALK				*e*PcP	**PcP**	**23 16 22.9 -1.2**
PALK				*e*S	**S**	**23 19 58.1 -3.2**
PALK	**Pallekele**	**38.39**	**294**	P	**P**	**23 14 12.7 +1.0**
	comp=Z,264nm,1.1s,comp=Z,3μm					
TOO	**Toolangi**	**39.11**	**141**	P	**P**	**23 14 19.2 +1.7**
	baz=39,SNR=81					
YNG	**Young**	**39.14**	**135**	P	**P**	**23 14 19.0 +1.2**
	baz=39,SNR=49					
YNG				S	S	23 19 49.4 -23
	baz=39,SNR=28					
WHN	**Wuhan**	**39.48**	**358**	⇓P	**P**	**23 14 22.1 +1.6**
WHN				pP	**pP**	**23 14 39.6 +0.5**
WHN				PcP	**PcP**	**23 16 27.8 +0.8**
WHN				ScP	**ScP**	**23 20 08.9 0.0**
WHN				S	**S**	**23 20 16.8 -0.2**
WHN				LR	LR	
	comp=Z,5μm,19.7s					
ENH	**Enshi**	**39.62**	**352**	*e*P	**P**	**23 14 22.8 +1.0**
	comp=Z,113nm,0.9s					
ENH				*e*PcP	**PcP**	**23 16 28.1 +0.6**
ENH				*e*ScP	**ScP**	**23 20 10.4 +0.8**
ENH				*e*ScS	**ScS**	**23 24 21.4 -0.9**
ARMA	**Armidale**	**39.72**	**127**	P	**P**	**23 14 25.0 +2.3**
	baz=40,SNR=47					
CNB	**Canberra Magne**	**40.35**	**135**	P	**P**	**23 14 28.8 +1.0**
	baz=40,SNR=42					
SSE	**Sheshan**	**40.37**	**7**	P	**P**	**23 14 29.6 +1.8**
SSE				pP	**pP**	**23 14 46.3 -0.3**
SSE				sP	**sP**	**23 14 53.9 -1.6**
SSE				PP	**PnPn**	**23 16 05.1 -1.6**
SSE				S	**S**	**23 20 35.1 +4.8**
SSE				pmax	pmax	
	comp=Z,37nm,0.7s					
SSE				pmax	pmax	
	comp=Z,220nm,4.8s					
SSE				LR	LR	
	comp=N,1μm,19.5s					
SSE				LR	LR	
	comp=E,470nm,19.5s					
SSE				LR	LR	
	comp=Z,2μm,19.9s					
MGCD	**Mangrove Creek**	**40.55**	**131**	P	**P**	**23 14 31.6 +2.1**
	baz=40,SNR=28					
NJ2	**Nanjing**	**41.08**	**4**	*e*P	**P**	**23 14 35.8 +2.1**
NJ2				pP	**pP**	**23 14 52.8 +0.3**
NJ2				sP	**sP**	**23 15 03.3 +1.9**
NJ2				S	S	23 20 48.9 +8.0
NJ2				sS	**sS**	**23 21 17.1 +4.1**
NJ2				pmax	pmax	
	comp=Z,58nm,1.0s					
NJ2				pmax	pmax	
	comp=Z,1μm,8.7s					
NJ2				LR	LR	
	comp=N,5μm,24.9s					
NJ2				LR	LR	
	comp=E,3μm,14.1s					
NJ2				LR	LR	
	comp=Z,2μm,14.6s					
MILA	**Mila**	**41.16**	**138**	P	**P**	**23 14 35.7 +1.2**
	baz=41,SNR=14					
CD2	**Chengdu**	**41.41**	**345**	P	**P**	**23 14 37.3 +0.8**
CD2				pP	**pP**	**23 14 55.0 -0.3**
CD2				sP	**sP**	**23 15 03.5 -0.7**
CD2				PP	**PnPn**	**23 16 18.0 -0.9**
CD2				PcP	**PcP**	**23 16 33.0 -0.3**
CD2				PcS	**PcS**	**23 20 23.3 -1.5**
CD2				S	**S**	**23 20 43.0 -2.9**
CD2				sS	**sS**	**23 21 19.3 +1.3**
CD2				SS	**SS**	**23 23 51.4 -1.6**
CD2				pmax	pmax	
	comp=Z,240nm,1.0s					
CD2				pmax	pmax	
	comp=Z,880nm,8.8s					
CD2				LR	LR	
	comp=N,2μm,17.8s					
CD2				LR	LR	
	comp=Z,2μm,19.0s					
MDRS	**Chennai**	**41.45**	**302**	*e*P	**P**	**23 14 37.7 +0.6**
SHL	**Shillong**	**41.50**	**327**	*e*P	**P**	**23 14 38.6 +1.1**
SHL				*i* P	**P**	**23 14 39.5 +2.0**
SHL				AMB	AMB	23 14 39.5
	comp=Z,291nm,1.2s					
SHL				*e*x	x	23 20 44.5
VIS	**Vishakhapatnam**	**41.57**	**310**	*e*P	**P**	**23 14 38.5 +0.6**
VIS				AMB	AMB	23 14 41.2
	comp=Z,179nm,0.0s					
TRD	**Trivandrum**	**42.28**	**293**	*e*P	**P**	**23 14 45.4 +1.6**
TRD				⇑*e*x	x	23 15 04.4
TRD				*e*x	x	23 20 52.4
DGAR	**Diego Garcia**	**42.70**	**269**	*e*P	**P**	**23 14 48.0 +0.7**
MOO	**Moorlands**	**43.23**	**145**	P	**P**	**23 14 53.1 +1.9**
	baz=43,SNR=8.8					
XAN	**Xi'an**	**43.41**	**352**	P	**P**	**23 14 53.0 +0.3**
XAN				pP	**pP**	**23 15 11.4 -0.2**
XAN				sP	**sP**	**23 15 20.4 0.0**
XAN				PP	**PP**	**23 16 36.0 +0.9**
XAN				S	**S**	**23 21 11.6 -3.6**
XAN				pmax	pmax	
	comp=Z,16nm,0.6s					
XAN				LR	LR	
	comp=N,1μm,16.7s					
XAN				LR	LR	
	comp=E,380nm,15.0s					
XAN				LR	LR	
	comp=Z,800nm,17.4s					
KAAM	**Kaadhehdhoo**	**43.48**	**280**	P	P	23 14 57.5 +3.9
	comp=Z,309nm,1.4s					
KAAM	**Kaadhehdhoo**	**43.48**	**280**	P	**P**	**23 14 54.8 +1.2**
	baz=44,SNR=3.8					
TAU	**Tasmania Unive**	**43.61**	**146**	P	**P**	**23 14 55.4 +1.2**
	comp=Z,911nm,1.1s,SNR=6.3					
TAU	**Tasmania Unive**	**43.61**	**146**	*e*P	**P**	**23 14 54.0 -0.2**
TAU				pmax	pmax	
	comp=Z,201nm,1.1s					
TAU	**Tasmania Unive**	**43.61**	**146**	*e*P	**P**	**23 14 54.0 -0.2**
	comp=Z,201nm,1.1s					
TAU				*e*ScP	**ScP**	**23 20 25.1 -0.2**
BOK	**Bokaro**	**43.75**	**319**	*e*P	**P**	**23 14 56.6 +1.0**
HNR	**Honiara**	**43.76**	**94**	*e*P	**P**	**23 14 55.8 0.0**
	comp=Z,3μm,1.5s					
HNR				*e*S	**S**	**23 21 19.6 -1.4**
HNR	**Honiara**	**43.76**	**94**	LR	LR	23 35 04.3
	comp=Z,1μm,20.9s,baz=279,slow=38					
JNU	**Nakatsue**	**44.48**	**18**	*e*P	**P**	**23 14 59.3 -2.0**
	comp=Z,130nm,1.2s					
ODAN	**Odare**	**45.05**	**323**	*e*P	**P**	**23 15 07.0 +0.9**
	comp=Z,714nm,0.8s					
HYB	**Hyderabad**	**45.12**	**306**	⇓*i*P	**P**	**23 15 06.0 -0.6**
	comp=Z,200nm,1.0s					
HYB				*e*S	**S**	**23 21 40.0 -0.6**
HYB	**Hyderabad**	**45.12**	**306**	*e*P	**P**	**23 15 06.6 0.0**
HYB				AMB	AMB	23 15 09.0
	comp=Z,131nm,0.5s					
TIA	**Tai'an**	**45.13**	**2**	⇓P	P	23 15 24.9 +19
TIA				S	**S**	**23 21 35.3 -4.9**
TIA				SS	SS	23 25 16.3 +12
TIA				LR	LR	
	comp=N,2μm,32.4s					
TIA				LR	LR	
	comp=E,2μm,25.0s					
TIA				LR	LR	
	comp=Z,3μm,27.0s					
LSA	**Lhasa**	**45.22**	**330**	P	**P**	**23 15 09.4 +1.7**
LSA				pmax	pmax	
	comp=Z,170nm,1.1s					
LSA				LR	LR	
	comp=N,1μm,31.7s					
LSA				LR	LR	
	comp=E,1μm,26.1s					
LSA				LR	LR	
	comp=Z,2μm,30.3s					
LSA	**Lhasa**	**45.22**	**330**	*e*P	**P**	**23 15 09.4 +1.7**
LSA				*e*S	**S**	**23 21 41.6 -0.9**
LSA				*e*		23 24 50.6
LSA				pmax	pmax	
	comp=Z,586nm,1.7s					
LSA	**Lhasa**	**45.22**	**330**	*e*P	**P**	**23 15 09.4 +1.7**
	comp=Z,586nm,1.7s					
LSA				*e*S	**S**	**23 21 41.6 -0.9**
LSA				*e*ScS	ScS	23 24 50.5 -7.3
TAPN	**Taplejung**	**45.23**	**324**	*e*P	**P**	**23 15 08.8 +1.2**
	comp=Z,601nm,0.9s					
RAMN	**Ramite**	**45.58**	**323**	*e*P	**P**	**23 15 11.3 +0.9**
	comp=Z,421nm,1.0s					
MNCY	**Minicoy**	**45.78**	**291**	*e*x	P	23 15 06.0 -5.8
MNCY				*e*x	x	23 17 02.0
MNGI	**Mangalore**	**46.05**	**298**	*i* x	**ScP**	**23 20 29.1 -6.7**
MNGI				*i* x	x	23 26 13.3
LHI	**Lord Howe Isla**	**46.05**	**125**	P	**P**	**23 15 15.7 +2.0**
	baz=46,SNR=4.3					
LZH	**Lanzhou**	**46.33**	**347**	⇑P	**P**	**23 15 17.8 +1.8**
LZH				pP	**pP**	**23 15 34.0 -1.1**
LZH				sP	**sP**	**23 15 42.8 -1.1**
LZH				PcP	**PcP**	**23 16 52.5 +2.4**
LZH				ScP	**ScP**	**23 20 38.8 +2.1**
LZH				PcS	**PcS**	**23 20 45.9 +1.0**
LZH				S	**S**	**23 21 59.0 +1.4**
LZH				sS	**sS**	**23 22 31.3 +1.1**
LZH				ScS	**ScS**	**23 25 05.4 +1.3**
LZH				pmax	pmax	
	comp=Z,150nm,1.3s					
LZH				LR	LR	
	comp=N,2μm,15.8s					
LZH				LR	LR	
	comp=E,1μm,13.0s					
LZH				LR	LR	
	comp=Z,3μm,16.0s					
JIRN	**Jiri**	**46.35**	**323**	*e*P	**P**	**23 15 17.3 +0.7**
	comp=Z,681nm,0.6s					
TJN	**Taejon**	**46.61**	**13**	*e*P	**P**	**23 15 18.9 +0.9**
GUN	**Gumba**	**46.72**	**323**	*e*P	**P**	**23 15 20.2 +0.8**
	comp=Z,924nm,0.7s					
PKI	**Pulchoki**	**46.75**	**322**	*e*P	**P**	**23 15 20.0 +0.3**
	comp=Z,299nm,0.9s					
PKIN	**Phulchoki**	**46.77**	**322**	*e*P	**P**	**23 15 19.9 +0.2**
	comp=Z,185nm,0.8s					
NGP	**Nagpur**	**46.84**	**310**	*e*P	**P**	**23 15 20.4 +0.4**
NGP				AMP		23 15 23.6
	comp=Z,462nm,1.1s					
NGP				*e*x	x	23 22 00.3
DMN	**Daman**	**46.97**	**322**	*e*P	**P**	**23 15 21.7 +0.5**
	comp=Z,687nm,1.0s					
KKN	**Kakani**	**46.99**	**322**	*e*P	**P**	**23 15 21.9 +0.5**
	comp=Z,343nm,0.8s					
LATR	**Latur**	**47.25**	**306**	⇑*e*x	P	23 15 17.1 -6.1
KS15	**Wonju Array Si**	**47.75**	**13**	*e*P	**P**	**23 15 28.2 +1.4**
KS15				*e*PcP	**PcP**	**23 16 55.7 +0.8**
KS15				*e*ScP	**ScP**	**23 20 42.8 +0.4**
KSRS	**Korea Array**	**47.77**	**13**	P	**P**	**23 15 28.2 +1.3**
	comp=Z,106nm,1.0s,baz=192,slow=7.7,SNR=101					
KSRS				PcP	**PcP**	**23 16 55.7 +0.8**
	comp=Z,40nm,1.0s,baz=188,slow=5.1,SNR=4.6					
KSRS				ScP	**ScP**	**23 20 42.8 +0.3**
	comp=Z,19nm,0.9s,baz=191,slow=4.4,SNR=11					
KSRS				LR	LR	23 39 05.2
	comp=Z,598nm,18.5s,baz=202,slow=40					
KS01	**Wonju Array Si**	**47.79**	**13**	*e*P	**P**	**23 15 27.7 +0.6**
KS01				*e*PcP	**PcP**	**23 16 55.9 +0.9**
KS01				*e*ScP	**ScP**	**23 20 42.4 -0.2**
KOLN	**Koldanda**	**48.01**	**321**	*e*P	**P**	**23 15 29.6 +0.3**
	comp=Z,442nm,0.7s					
GOA	**Goa**	**48.06**	**300**	*e*P	**P**	**23 15 30.4 +0.8**
GOA				AMB	AMB	23 15 32.5
	comp=Z,196nm,0.0s					
DL2	**Dalian**	**48.13**	**6**	P	**P**	**23 15 30.0 +0.3**
DL2				S	**S**	**23 22 18.5 -4.3**
DL2				pmax	pmax	
	comp=Z,320nm,7.0s					
DL2				LR	LR	
	comp=N,730nm,17.1s					
DL2				LR	LR	
	comp=Z,780nm,20.6s					
AKL	**Akola**	**48.14**	**308**	*e*P	**P**	**23 15 30.1 0.0**
AKL				*i* x	x	23 22 17.9
DANN	**Dangsing**	**48.32**	**322**	*e*P	**P**	**23 15 32.1 +0.3**
	comp=Z,634nm,0.7s					
PYUN	**Piuthan**	**48.62**	**321**	*e*P	**P**	**23 15 34.2 +0.2**
	comp=Z,932nm,0.6s					
KAD	**Karad**	**48.63**	**303**	*e*P	**P**	**23 15 34.5 +0.5**
BJT	**Baijiatuau**	**48.91**	**1**	*e*P	**P**	**23 15 35.5 -0.2**
BJT				*e*PcP	**PcP**	**23 16 58.8 -0.2**
BJT				*e*ScP	**ScP**	**23 20 47.8 +0.5**
BJI	**Beijing**	**48.94**	**1**	P	**P**	**23 15 36.1 +0.2**
BJI				S	**S**	**23 22 29.3 -4.8**
BJI				pmax	pmax	
	comp=Z,84nm,0.8s					
BJI				pmax	pmax	
	comp=Z,220nm,3.8s					
BJI				LR	LR	
	comp=N,2μm,30.8s					
BJI				LR	LR	
	comp=E,1μm,25.2s					
BJI				LR	LR	
	comp=Z,3μm,30.2s					
BHPL	**Bhopal**	**49.29**	**311**	*e*P	**P**	**23 15 38.8 -0.2**
POO	**Poona**	**49.51**	**304**	*e*P	**P**	**23 15 41.3 +0.5**
BTO	**Baotou**	**49.76**	**354**	*e*P	**P**	**23 15 42.3 0.0**
HHC	**Hu-ho-hao-te**	**49.88**	**356**	*e*P	**P**	**23 15 43.6 +0.4**
HHC				PcP	**PcP**	**23 17 01.8 -0.9**
HHC				PP	**PP**	**23 17 41.0 +2.2**
HHC				ScP	**ScP**	**23 20 49.5 -2.1**
HHC				PcS	**PcS**	**23 20 57.6 -2.1**
HHC				S	**S**	**23 22 47.8 +0.2**
HHC				ScS	**ScS**	**23 25 23.8 -3.6**
HHC				SS	**SS**	**23 26 18.8 -2.7**
HHC				pmax	pmax	
	comp=Z,86nm,0.8s					
HHC				pmax	pmax	
	comp=Z,400nm,6.5s					
HHC				LR	LR	
	comp=N,2μm,17.2s					
HHC				LR	LR	
	comp=E,1μm,16.4s					
HHC				LR	LR	
	comp=Z,3μm,16.5s					
MAJO	**Matsushiro**	**50.17**	**24**	*e*P	**P**	**23 15 44.3 -1.1**
MAJO				*e*		23 17 03.3
MAJO				pmax	pmax	
	comp=Z,338nm,1.5s					
MAJO	**Matsushiro**	**50.17**	**24**	*e*P	**P**	**23 15 44.3 -1.1**
	comp=Z,338nm,1.5s					
MAJO				*e*PcP	**PcP**	**23 17 03.2 -0.5**
MAJO				*e*ScP	**ScP**	**23 20 52.6 -0.2**
MJAR	**Matsushiro Arr**	**50.17**	**24**	P	**P**	**23 15 44.6 -0.8**
	comp=Z,57nm,0.8s,baz=200,slow=8.2,SNR=94					
MJAR				ScP	**ScP**	**23 20 52.7 -0.1**
	comp=Z,10nm,0.9s,baz=194,slow=4.4,SNR=6.5					
MJAR				LR	LR	23 35 19.2
	comp=Z,903nm,21.9s,baz=215,slow=34					
MJAR				PKPPKP	**P'P'df**	**23 46 33.9 -0.2**
	comp=Z,2.9nm,1.0s,baz=277,slow=0.4,SNR=5.0					
DZM	**Mont Dzumac**	**50.42**	**111**	LR	LR	23 37 50.0
	comp=Z,2μm,20.0s,baz=3.9,slow=37					
GTA	**Gaotai**	**50.48**	**344**	⇑P	**P**	**23 15 49.5 +1.7**
GTA				pP	**pP**	**23 16 05.1 -2.0**
GTA				PcP	**PcP**	**23 17 06.6 +1.7**
GTA				ScP	**ScP**	**23 20 54.9 +0.7**
GTA				PcS	**PcS**	**23 21 01.5 -0.8**
GTA				S	**S**	**23 22 59.1 +3.1**
GTA				sS	**sS**	**23 23 26.4 -2.5**
GTA				ScS	**ScS**	**23 25 30.5 -1.1**
GTA				SS	**SS**	**23 26 32.6 +1.5**
GTA				pmax	pmax	
	comp=Z,61nm,1.0s					
GTA				pmax	pmax	
	comp=Z,240nm,5.1s					
GTA				LR	LR	
	comp=N,1μm,22.3s					
GTA				LR	LR	
	comp=E,2μm,20.9s					
GTA				LR	LR	
	comp=Z,2μm,23.0s					
SNY	**Shenyang**	**51.25**	**8**	⇑P	**P**	**23 15 52.3 -1.0**
SNY				pmax	pmax	
	comp=Z,55nm,0.9s					
SNY				pmax	pmax	
	comp=Z,370nm,7.6s					
SNY				LR	LR	
	comp=N,640nm,25.8s					
SNY				LR	LR	
	comp=E,550nm,33.5s					
SNY				LR	LR	
	comp=Z,1μm,37.3s					
NDI	**New Delhi**	**52.78**	**317**	*e*x	P	23 16 01.5 -3.5
NDI				*e*x	x	23 23 16.5
NFK	**Norfolk Island**	**52.82**	**120**	P	**P**	**23 16 07.8 +2.4**
	baz=53,SNR=3.4					
DDI	**Dehra Dun**	**53.28**	**319**	*e*x	P	23 16 04.8 -4.0
DDI				AMB	AMB	23 16 20.1
	comp=Z,287nm,5.3s					
CN2	**Changchun**	**53.45**	**9**	*e*P	**P**	**23 16 09.3 -0.3**
CN2				pmax	pmax	
	comp=Z,40nm,1.0s					
CN2				pmax	pmax	
	comp=Z,290nm,6.0s					
CN2				LR	LR	
	comp=N,1μm,19.0s					
CN2				LR	LR	
	comp=E,890nm,19.0s					
CN2				LR	LR	
	comp=Z,2μm,19.0s					
VLA	**Vladivostok**	**54.09**	**15**	⇑*i*P	**P**	**23 16 14.5 +0.2**
VLA				*e*		23 17 17.2
VLA				*e*		23 18 14.3
VLA				*e*S	**S**	**23 23 44.5 -0.5**
VLA				pmax	pmax	
	comp=Z,105nm,1.9s					
SMLA	**Simla**	**54.39**	**319**	*i* P	**P**	**23 16 16.4 -0.4**
SMLA				AMB	AMB	23 16 18.4
	comp=Z,176nm,0.0s					
SDNR	**Sundarnagar**	**54.76**	**319**	*e*P	**P**	**23 16 20.0 +0.5**
SDNR				*e*x	x	23 23 49.0
MDJ	**Mudanjiang**	**54.99**	**12**	P	**P**	**23 16 21.1 +0.3**
MDJ				pP	**pP**	**23 16 39.0 -1.4**
MDJ				sP	**sP**	**23 16 46.8 -2.3**
MDJ				PcP	**PcP**	**23 17 21.9 +0.2**
MDJ				PP	**PP**	**23 18 25.4 +0.6**
MDJ				S	**S**	**23 23 54.1 -2.9**
MDJ				sS	**sS**	**23 24 28.4 -1.9**
MDJ				ScS	**ScS**	**23 26 00.9 -1.8**
MDJ				SS	**SS**	**23 27 46.3 +4.4**
MDJ				pmax	pmax	
	comp=Z,90nm,1.1s					
MDJ				pmax	pmax	
	comp=Z,520nm,7.8s					
MDJ				LR	LR	
	comp=N,910nm,28.4s					
MDJ				LR	LR	
	comp=E,620nm,28.4s					
MDJ	**Mudanjiang**	**54.99**	**12**	*e*P	**P**	**23 16 20.9 +0.1**
	comp=E,316nm,1.4s					
MDJ				*e*ScP	**ScP**	**23 21 10.8 -2.8**
BHK	**Bhakra**	**55.06**	**319**	*e*P	**P**	**23 16 21.0 -0.7**
BHK				*e*x	x	23 17 22.8
USRK	**Ussuriysk Arra**	**55.13**	**14**	P	**P**	**23 16 22.4 +0.6**
	comp=E,60nm,0.8s,baz=200,slow=6.0,SNR=65					
USRK				S	**S**	**23 23 57.4 -1.5**
	comp=E,2.0nm,0.7s,baz=197,slow=18,SNR=4.8					
USRK				LR	LR	23 42 24.2
	comp=E,546nm,19.8s,baz=188,slow=39					
USRK				PKPPKP	P'P'df	23 46 19.2 -7.4
	comp=E,4.6nm,1.0s,baz=316,slow=5.3,SNR=5.0					
BHJ	**Bhuj**	**55.27**	**306**	*e*P	**P**	**23 16 24.1 +0.9**
DHRM	**DHARAMSHALA**	**55.68**	**319**	*e*P	**P**	**23 16 25.7 -0.6**
DLH	**Dalhousie**	**56.08**	**320**	*e*x	**P**	**23 16 26.0 -3.2**
THN	**Thein Dam**	**56.17**	**319**	*e*x	**P**	**23 16 26.7 -2.8**
THN				*e*x	x	23 24 07.8
ERM	**Erimo**	**56.84**	**24**	*c i*P	**P**	**23 16 34.5 +0.5**
ERM				pmax	pmax	
	comp=Z,39nm,0.7s					
ERM	**Erimo**	**56.84**	**24**	*e*P	**P**	**23 16 32.5 -1.6**
	comp=Z,108nm,1.1s					
MCQ	**Macquarie Isla**	**56.84**	**151**	P	**P**	**23 16 35.9 +2.0**
	baz=57,SNR=3.9					
MRIV	**Mauritius Mete**	**57.02**	**252**	*e*P	**P**	**23 16 36.6 +0.7**
MRIV				*e*PcP	**PcP**	**23 17 31.7 +1.5**
DCZ	**Deep Cove**	**57.04**	**139**	*e*P	**P**	**23 16 36.7 +1.2**
	comp=Z,406nm,1.1s					
CASY	**Casey**	**57.16**	**182**	*e*P	**P**	**23 16 35.2 -0.8**
	comp=Z,149nm,1.0s					
CASY				*e*ScP	**ScP**	**23 21 21.8 -0.9**
ULN	**Ulaanbaatar**	**57.26**	**353**	P	**P**	**23 16 38.1 +0.9**
	SNR=30					
ULN	**Ulaanbaatar**	**57.26**	**353**	*e*P	**P**	**23 16 37.5 +0.4**
ULN				*e*PcP	**PcP**	**23 17 31.2 +0.5**
ULN				*e*ScP	**ScP**	**23 21 24.3 +0.7**
SONA0	**Songino Array**	**57.31**	**353**	*e*P	**P**	**23 16 37.7 +0.2**
SONA0				*e*PcP	**PcP**	**23 17 31.0 +0.2**
SONA0				*e*ScP	**ScP**	**23 21 24.4 +0.6**
SONM	**Songino Array**	**57.31**	**353**	P	**P**	**23 16 37.7 +0.2**
	comp=Z,76nm,0.9s,baz=171,slow=9.2,SNR=295					
SONM				PcP	**PcP**	**23 17 31.0 +0.2**
	comp=Z,38nm,0.9s,baz=183,slow=4.4,SNR=14					
SONM				ScP	**ScP**	**23 21 24.4 +0.6**
	comp=Z,19nm,0.9s,baz=169,slow=3.8,SNR=8.4					
SONM				LR	LR	23 44 16.4
	comp=Z,2μm,20.8s,baz=179,slow=39					
SONM				PKPPKP	**P'P'df**	**23 46 26.2 +2.8**
	comp=Z,2.8nm,0.9s,baz=17,slow=1.5,SNR=4.8					
SONA1	**Songino Array**	**57.32**	**353**	*e*P	**P**	**23 16 38.0 +0.5**
SONA1				*e*PcP	**PcP**	**23 17 30.2 -0.7**
SONA1				*e*ScP	**ScP**	**23 21 24.4 +0.5**
WHZ	**Wether Hill Ro**	**57.72**	**139**	*e*P	**P**	**23 16 41.1 +0.8**
	comp=Z,378nm,1.1s					
HIA	**Hailar**	**58.27**	**3**	*e*P	**P**	**23 16 43.6 -0.5**
HIA				*e*PcP	**PcP**	**23 17 33.3 -1.1**
HIA				*e*ScP	**ScP**	**23 21 28.4 +0.5**
ASAJ	**Asahikawa**	**58.39**	**23**	*e*P	**P**	**23 16 44.5 -0.5**
	comp=Z,111nm,1.0s					
ASAJ				*e*ScP	**ScP**	**23 21 26.8 -1.8**
ASAJ	**Asahikawa**	**58.39**	**23**	P	**P**	**23 16 45.5 +0.5**
	comp=Z,90nm,1.0s,baz=247,slow=13,SNR=24					
ASAJ				LR	LR	23 43 13.4
	comp=Z,558nm,21.6s,baz=211,slow=37					
ASAJ				PKPPKP	**P'P'df**	**23 46 23.8 +1.7**
	comp=Z,12nm,1.0s,baz=240,slow=9.5,SNR=3.9					
WMQ	**Urumqi**	**58.48**	**337**	P	**P**	**23 16 48.4 +2.8**
WMQ				pP	**pP**	**23 17 07.8 +2.4**
WMQ				sP	**sP**	**23 17 16.4 +2.3**
WMQ				PcP	**PcP**	**23 17 37.6 +2.1**
WMQ				PP	**PP**	**23 19 00.5 +4.5**
WMQ				S	**S**	**23 24 44.9 +1.7**
WMQ				sS	**sS**	**23 25 18.1 +1.2**
WMQ				ScS	**ScS**	**23 26 27.3 -1.0**
WMQ				SS	**SS**	**23 28 40.3 +3.2**
WMQ				pmax	pmax	
	comp=Z,140nm,1.0s					
WMQ				pmax	pmax	
	comp=Z,520nm,4.0s					
WMQ				LR	LR	
	comp=N,2μm,28.0s					
WMQ				LR	LR	
	comp=E,2μm,30.0s					
WMQ				LR	LR	
	comp=Z,2μm,26.0s					
OUZ	**Omahuta**	**58.74**	**126**	*e*P	**P**	**23 16 49.1 +1.4**
	comp=Z,176nm,1.2s					
RPZ	**Rata Peaks**	**59.03**	**136**	*e*P	**P**	**23 16 49.6 +0.1**
	comp=Z,714nm,1.0s					
RPZ	**Rata Peaks**	**59.03**	**136**	LR	LR	23 42 36.1
	comp=Z,4μm,19.8s,baz=288,slow=36					
ODZ	**Otahua Downs**	**59.19**	**137**	*e*P	**P**	**23 16 50.0 -0.5**
	comp=Z,294nm,1.6s					
MIR	**Mirnyy**	**59.37**	**190**	⇑*i*P	**P**	**23 16 52.0 +0.7**
MIR				pmax	pmax	
	comp=Z,270nm,1.5s					
MIR				pmax	pmax	
	comp=Z,1μm,2.0s					
YUK	**Yuzh-Kuril'sk**	**59.62**	**25**	*c i*P	P	23 17 06.2 +13
YUK				*e*		23 19 02.8
YUK				MLR	MLR	

comp=E,814nm,22.0s
YUK MLR MLR
comp=Z,618nm,22.0s
MSEY Mahe Island 59.78 270 P **P** **23 16 56.7 +1.5**
comp=Z,353nm,0.7s,SNR=5.0
DRV Dumont d'Urvil 59.80 169 PP PP 23 19 03.0 -4.0
DRV S **S** **23 25 00.0 +0.4**
DRV SS **SS** **23 28 58.0 +1.3**
DRV L L 23 31 00.0
DRV R 23 34 00.0
KLR Kul'dur 59.83 12 *e*P P 23 16 50.2 -4.6
KLR *e* 23 17 11.5
KLR *e* 23 19 07.2
KLR *e* 23 26 34.0
KLR *e*SS SS 23 29 02.5 +4.5
KLR pmax pmax
comp=Z,70nm,1.8s
HABR Khabarovsk 59.88 15*de*P **P** **23 16 53.9 -1.2**
HABR *e**PP **pP** **23 17 12.5 -2.5**
HABR *e* 23 17 38.9
HABR *e* 23 19 05.9
HABR *e*S **S** **23 24 59.8 -1.2**
HABR *e* 23 25 21.4
HABR *e* 23 26 36.3
HABR *e*SS **SS** **23 28 57.8 -1.0**
HABR pmax pmax
comp=N,50nm,1.5s
HABR pmax pmax
comp=Z,134nm,1.2s
HABR pmax pmax
comp=E,68nm,2.3s
HABR pmax pmax
comp=Z,430nm,3.0s
HABR MLR MLR
comp=Z,629nm,22.0s
ZAK Zakamensk 60.24 351 *e*P **P** **23 16 57.8 +0.1**
ZAK *e* 23 25 04.7
ZAK pmax pmax
comp=Z,42nm,1.2s
KHZ Kahutara 60.39 134 *e*P **P** **23 16 58.5 -0.3**
comp=Z,309nm,1.2s
KSH Kashi 60.76 326 P **P** **23 17 01.6 +0.1**
KSH sP **sP** **23 17 28.9 -1.1**
KSH PP **PP** **23 19 17.6 +1.2**
KSH PcS **PcS** **23 21 46.4 -1.1**
KSH S **S** **23 25 09.5 -3.4**
KSH ScS SKKSac 23 26 41.6 -3.9
KSH pmax pmax
comp=Z,98nm,0.7s
KSH pmax pmax
comp=Z,340nm,3.5s
KSH LR LR
comp=N,690nm,17.8s
KSH LR LR
comp=E,900nm,18.4s
KSH LR LR
comp=Z,2μm,25.0s
YSS Yuzh-Sakhalins 60.87 21⇓*i*P **P** **23 17 02.4 +0.5**
YSS *e* 23 17 18.7
YSS *e*S **S** **23 25 10.0 -3.7**
YSS pmax pmax
comp=Z,140nm,1.1s
YSS pmax pmax
comp=E,70μm,1.1s
YSS MLR MLR
comp=Z,400nm,17.0s
CIT Chita 60.94 359 *e*P **P** **23 17 03.1 +0.7**
CIT *e* 23 17 17.4
CIT *e* 23 17 45.2
CIT pmax pmax
comp=Z,161nm,1.4s
MSVF Nonsavu 61.13 105 P **P** **23 17 06.0 +1.6**
comp=Z,939nm,0.7s,SNR=30
MSVF Nonsavu 61.13 105 *e*P **P** **23 17 04.8 +0.4**
MSVF pmax pmax
comp=Z,358nm,1.4s
MSVF Nonsavu 61.13 105 *e*P **P** **23 17 04.8 +0.4**
comp=Z,358nm,1.4s
TLY Talaya 61.45 352*c i*P **P** **23 17 06.4 +0.6**
TLY *e* 23 17 22.1
TLY *e*S **S** **23 25 18.7 -2.2**
TLY *e*SS **SS** **23 29 22.9 -0.4**
TLY pmax pmax
comp=Z,42nm,1.5s
TLY MLR MLR
comp=Z,2μm,20.0s
BKZ Black Stump Fm 61.80 130 *e*P **P** **23 17 08.3 -0.2**
comp=Z,448nm,1.0s
MOY Mondy 61.86 350 *e*P **P** **23 17 09.4 +0.8**
MOY pmax pmax
comp=Z,87nm,2.3s
KBL Kabul 61.86 317 *e*P **P** **23 17 08.0 -1.1**
KBL pmax pmax
comp=Z,103nm,0.9s
KBL Kabul 61.86 317 *e*P **P** **23 17 08.0 -1.1**
comp=Z,102nm,0.9s
KBL Kabul 61.86 317 P **P** **23 17 08.4 -0.7**
baz=62,SNR=58
IRK Irkutsk 61.91 352 *e*P **P** **23 17 08.8 0.0**
IRK pmax pmax
comp=Z,73nm,1.4s
BFZ Birch Farm 61.94 131 *e*P **P** **23 17 09.2 -0.1**
comp=Z,448nm,1.6s
URZ Urewera 62.10 128 *e*P **P** **23 17 09.2 -1.2**
comp=Z,110nm,0.9s
URZ Urewera 62.10 128 LR LR 23 46 14.8
comp=Z,3μm,20.1s,baz=293,slow=38
ULHL Ulahol 62.53 328 *i* P **P** **23 17 14.2 +0.7**
ULHL Ulahol 62.53 328 P **P** **23 17 14.2 +0.7**
SNR=20
AAA Alma-Ata 62.90 329 *e*P **P** **23 17 16.4 +0.7**
AAA *e*S **S** **23 25 37.5 -2.1**
AAA pmax pmax
comp=Z,400nm,4.0s
AAA smax smax
comp=E,2μm,7.0s
AAA MLR MLR
comp=Z,2μm,27.0s
KZA Kyzart 62.94 327 *i* P **P** **23 17 16.9 +0.5**
KZA Kyzart 62.94 327 P **P** **23 17 17.0 +0.5**
SNR=43
HVS Khovu-Aksy 62.95 345*c i*P **P** **23 17 15.9 0.0**
MK01 Makanchi Array 63.08 335 *e*P **P** **23 17 15.9 -0.9**
MK01 *e*PcP **PcP** **23 17 54.6 +0.7**
MK32 Makanchi Array 63.10 335 *e*P **P** **23 17 17.0 +0.1**
MK32 *e*PcP **PcP** **23 17 55.1 +1.1**
MK32 *e*S **S** **23 25 40.6 -1.4**
MK32 ⇑*e* 23 46 18.8
MKAR Makanchi Array 63.10 335 P **P** **23 17 17.0 +0.1**
MKAR 23 17 55.1
MKAR S **S** **23 25 40.6 -1.4**
MKAR pmax pmax
comp=Z,43nm,0.6s
MKAR pmax pmax
comp=Z,52nm,0.7s
MKAR smax smax
comp=N,12nm,1.1s
MKAR pmax pmax
comp=Z,7.0nm,1.0s
MKAR MLR MLR
comp=Z,404nm,19.1s
MKAR Makanchi Array 63.10 335 *e*P **P** **23 17 17.2 +0.3**
MKAR *e*PcP **PcP** **23 17 54.3 +0.4**
MKAR Makanchi Array 63.10 335 P **P** **23 17 17.0 +0.1**
comp=Z,43nm,0.6s,baz=151,slow=6.9,SNR=404
MKAR PcP **PcP** **23 17 55.1 +1.1**
comp=Z,52nm,0.7s,baz=139,slow=6.3,SNR=8.4
MKAR S **S** **23 25 40.6 -1.4**
comp=Z,12nm,1.1s,baz=157,slow=11,SNR=6.0
MKAR PKPPKP **P'P'df** **23 46 18.8 +4.0**
comp=Z,6.6nm,1.0s,baz=318,slow=3.4,SNR=9.8
MKAR LR LR 23 51 51.2
comp=Z,404nm,19.1s,baz=145,slow=43
TKM2 Tokmak 2 63.34 328 *i* P **P** **23 17 19.2 +0.4**
TKM2 Tokmak 2 63.34 328 P **P** **23 17 19.2 +0.4**
SNR=60
TKM2 Tokmak 2 63.34 328 *e*P **P** **23 17 18.7 -0.1**
comp=Z,90nm,0.9s
KBK Karagaybulak 63.50 328 *i* P **P** **23 17 20.9 +1.1**
KBK Karagaybulak 63.50 328 P **P** **23 17 20.9 +1.1**
SNR=59
AAK Ala-Archa 63.72 327 P **P** **23 17 22.0 +0.7**
comp=Z,633nm,0.9s,SNR=77
AAK Ala-Archa 63.72 327*d i*P **P** **23 17 22.1 +0.7**
AAK pmax pmax
comp=Z,252nm,0.9s
AAK Ala-Archa 63.72 327 P **P** **23 17 22.7 +1.4**
SNR=56
AAK Ala-Archa 63.72 327 P **P** **23 17 22.3 +1.0**
SNR=86
AAK Ala-Archa 63.72 327 *e*P **P** **23 17 22.0 +0.7**
comp=Z,91nm,0.8s
AAK *e*S **S** **23 25 47.4 -2.8**
AAK Ala-Archa 63.72 327 S **S** **23 25 47.4 -2.8**
comp=Z,0.9nm,0.4s,baz=261,slow=19,SNR=8.1
AAK LR LR 23 50 05.9
comp=Z,844nm,20.8s,baz=141,slow=41
WBK Wadi Bani Khal 63.78 301 P **P** **23 17 22.7 +0.8**
SNR=16
FRU Bishkek 63.80 327 *e*P **P** **23 17 21.0 -0.6**
FRU *e* 23 17 36.0
FRU *e* 23 25 46.0
FRU pmax pmax
comp=Z,200nm,2.0s
AML Almayashu 63.81 326 *i* P **P** **23 17 23.4 +1.2**
AML Almayashu 63.81 326 P **P** **23 17 23.4 +1.2**
SNR=6.3
CHMS Chumysh 63.84 328 *i* P **P** **23 17 22.3 +0.4**
CHMS Chumysh 63.84 328 P **P** **23 17 22.3 +0.4**
SNR=19
EKS2 Erkin-Say 64.13 327 *e*P **P** **23 17 23.7 -0.2**
EKS2 pmax pmax
comp=Z,123nm,0.8s
EKS2 Erkin-Say 64.13 327 P **P** **23 17 24.9 +1.0**
SNR=216
EKS2 Erkin-Say 64.13 327 *e*P **P** **23 17 23.7 -0.2**
comp=Z,123nm,0.8s
USP Ospenovka 64.16 328 *i* P **P** **23 17 24.3 +0.3**
USP Ospenovka 64.16 328 P **P** **23 17 24.2 +0.3**
SNR=88
JMDO Jabal Madar 64.43 300 P **P** **23 17 26.6 +0.5**
SNR=24
SMDO Samad 64.74 301 P **P** **23 17 28.8 +0.6**
SNR=33
BSY Bisya 65.34 300 P **P** **23 17 32.4 +0.3**
SNR=32
HOQ Hoqain 65.57 301 P **P** **23 17 34.2 +0.7**
SNR=48
ARQ Araqi 66.14 300 P **P** **23 17 37.4 +0.1**
SNR=35
RBK Rabkut 66.16 294 P **P** **23 17 38.1 +0.6**
SNR=13
KKAR Karatay Array 66.22 325 *e*P **P** **23 17 37.2 -0.1**
KKAR Karatay Array 66.22 325 *e*P **P** **23 17 37.2 -0.1**
ABPO Ambohimpanom 66.69 253 P **P** **23 17 42.2 +1.2**
comp=Z,190nm,0.8s,SNR=7.7
ABPO Ambohimpanom 66.69 253 *e*P **P** **23 17 42.0 +1.0**
ABPO pmax pmax
comp=Z,277nm,1.0s
ABPO Ambohimpanom 66.69 253 *e*P **P** **23 17 42.0 +1.0**
comp=Z,277nm,1.0s
OPO Ambohidratompo 66.74 254 *e*P **P** **23 17 42.8 +1.5**
OPO Ambohidratompo 66.74 254 P **P** **23 17 42.8 +1.5**
comp=Z,146nm,1.0s,baz=86,slow=4.5,SNR=89
ABTO Aybut 66.94 293 P **P** **23 17 43.0 +0.6**
SNR=25
UOSS Wadi Hilu 67.02 302 P **P** **23 17 42.2 -0.6**
comp=Z,523nm,1.3s,SNR=8.0
HATD Hatta, Dubai 67.04 302 P **P** **23 17 43.3 +0.4**
SNR=13
ASHO Ashiyiah 67.04 302 P **P** **23 17 43.8 +0.8**
SNR=16
IDAH Dahanechah 67.43 311 *e*P **P** **23 17 45.0 -0.5**
NAZ Nazwa, Dubai 67.49 302 P **P** **23 17 46.3 +0.6**
SNR=18
ASUD Al Ashush, Dub 67.64 301 P **P** **23 17 47.5 +0.8**
SNR=25
KURBB Kurchatov Arra 67.65 335 P **P** **23 17 46.4 +0.2**
comp=Z,59nm,1.0s,baz=148,slow=5.1,SNR=289
KURBB S **S** **23 26 34.9 -2.3**
comp=Z,0.4nm,0.3s,baz=110,slow=15,SNR=6.0
KURBB PKPPKP **P'P'df** **23 46 07.3 +0.2**
comp=Z,4.7nm,1.1s,baz=309,slow=3.6,SNR=7.6
KURK Kurchatov 67.68 336 P **P** **23 17 46.2 -0.2**
comp=Z,382nm,0.8s,SNR=68
KURK Kurchatov 67.68 336 P **P** **23 17 46.4 0.0**
KURK S **S** **23 26 34.9 -2.7**
KURK pmax pmax
comp=Z,63nm,1.0s
KURK pmax pmax
comp=Z,5.0nm,1.1s
KURK Kurchatov 67.68 336 P **P** **23 17 47.0 +0.7**
SNR=44
KURK Kurchatov 67.68 336 *e*P **P** **23 17 46.6 +0.2**
comp=Z,54nm,0.9s
KURK *e*S **S** **23 26 34.9 -2.7**
IMON Monand 67.79 311 *e*P **P** **23 17 47.4 -0.4**
MAW Mawson 67.97 199 *e*P **P** **23 17 46.4 -1.6**
comp=Z,131nm,1.6s
MAW Mawson 67.97 199 P **P** **23 17 48.0 0.0**
comp=Z,104nm,0.8s,baz=310,slow=23,SNR=9.4
MAW LR LR 23 41 27.7
comp=Z,1μm,21.6s,baz=48,slow=30
ZAA0 Zalesovo Array 68.02 341 *e*P **P** **23 17 47.9 -0.6**
ZALV Zalesovo Beam 68.02 341 P **P** **23 17 47.6 -0.8**
ZALV S **S** **23 26 36.9 -4.7**
ZALV pmax pmax
comp=Z,83nm,0.7s
ZALV smax smax
comp=N,7.0nm,1.0s
ZALV pmax pmax
comp=Z,10.0nm,1.1s
ZALV MLR MLR
comp=Z,1μm,21.2s
ZALV Zalesovo Beam 68.02 341 P **P** **23 17 47.6 -0.8**
comp=Z,83nm,0.7s,baz=142,slow=4.4,SNR=328
ZALV S **S** **23 26 36.9 -4.7**
comp=Z,7.0nm,1.0s,baz=125,slow=7.4,SNR=4.0
ZALV PKPPKP **P'P'df** **23 46 07.0 +0.8**
comp=Z,10nm,1.1s,baz=294,slow=1.5,SNR=5.8
ZALV LR LR 23 50 16.3
comp=Z,1μm,21.2s,baz=72,slow=38
ITEG Tejag 68.34 311 *e*P **P** **23 17 50.2 -0.9**
IMYA Miami 68.98 315 *e*P **P** **23 17 54.3 -0.8**
SKR Severo-Kuril's 69.17 26 *e*P **P** **23 17 53.5 -2.1**
SKR *e* 23 18 12.0
SKR *e* 23 20 26.0
SKR *e*S **S** **23 26 52.0 -3.3**
SKR pmax pmax
comp=Z,80nm,0.5s
SKR smax smax
comp=N,1μm,8.0s
SKR smax smax
comp=E,1μm,8.0s
SKR MLR MLR
comp=N,1μm,20.0s
SKR MLR MLR
comp=E,1μm,20.0s
SKR MLR MLR
comp=Z,1μm,20.0s
NVS Novosibirsk 69.28 341⇑*i*P **P** **23 17 55.5 -0.7**
NVS *e* 23 18 14.1
NVS *i*S **S** **23 26 50.8 -5.7**
NVS *i* 23 27 42.3
NVS pmax pmax
comp=Z,112nm,1.1s
NVS pmax pmax
comp=N,49nm,1.0s
NVS pmax pmax
comp=E,46nm,1.2s
NVS smax smax
comp=N,25nm,1.7s
NVS smax smax
comp=E,33nm,1.3s
IMOG Moghan 69.41 314 *e*P **P** **23 17 57.8 -0.1**
ISRO Mashad 69.41 314 *e*P **P** **23 17 57.0 -0.6**
MUKL Al Mukalla 70.03 289 *e*P **P** **23 18 01.2 -0.5**
IAKL Akhelmad 70.06 314 *e*P **P** **23 18 01.7 -0.1**
IKRD Kardeh 70.31 314 *e*P P 23 17 59.5 -3.8
IEMG Emamgholi 70.52 315 *e*P **P** **23 18 05.3 +0.7**
ISFR Sfrayin 70.81 314 *e*P **P** **23 18 06.8 +0.4**
AFI Afiamalu 71.11 102 *e*P **P** **23 18 09.7 +1.3**
comp=E,313nm,1.1s
PEA0 Petropavlovsk- 71.60 25 *e*P **P** **23 18 11.0 +0.6**
PETK Petropavlovsk- 71.60 25 P **P** **23 18 10.8 +0.4**
PETK pmax pmax
comp=Z,75nm,0.7s
PETK pmax pmax
comp=Z,2.0nm,0.9s
PETK MLR MLR
comp=Z,246nm,21.6s
PETK Petropavlovsk- 71.60 25 P **P** **23 18 10.8 +0.4**
comp=Z,75nm,0.7s,baz=197,slow=4.5,SNR=120
PETK PKPPKP **P'P'df** **23 45 57.5 -2.9**
comp=Z,2.2nm,0.9s,baz=64,slow=10,SNR=4.3
PETK LR LR 23 51 01.9
comp=Z,246nm,21.6s,baz=215,slow=37
PET Petropavlovsk 71.94 26α*i*P **P** **23 18 12.8 +0.3**
PET *e**PP **PcP** **23 18 31.6 +0.9**
PET *e* 23 20 55.8
PET *i*S **S** **23 27 27.5 0.0**
PET *e**SS **sS** **23 28 00.0 -2.2**
PET *e*SS **SS** **23 32 02.5 -3.3**
PET pmax pmax
comp=Z,400nm,2.3s
PET pmax pmax
comp=Z,147nm,0.7s
PET pmax pmax
comp=Z,300nm,13.5s
PET pmax pmax
comp=Z,400nm,13.9s
VNDA Vanda 72.39 171 *e*P **P** **23 18 15.3 +0.4**
comp=Z,308nm,1.1s
VNDA Vanda 72.39 171 P **P** **23 18 15.2 +0.4**
comp=Z,115nm,1.0s,baz=310,slow=5.8,SNR=401
VNDA PKPPKP P'P'df 23 45 54.5 -5.9
comp=Z,2.2nm,1.1s,baz=124,slow=2.1,SNR=4.8
VNDA LR LR 23 46 33.1
comp=Z,3μm,21.9s,baz=321,slow=33
VOSK Vostochnaya 72.40 333 *e*P **P** **23 18 15.1 -0.2**
VOSK pmax pmax
comp=Z,91nm,0.8s
VOSK Vostochnaya 72.40 333 *e*P **P** **23 18 15.1 -0.2**
comp=Z,91nm,0.8s
NIUE Niue 72.48 107 P **P** **23 18 19.0 +2.5**
baz=72,SNR=4.2
KNTN Kanton 72.49 90 *e*P **P** **23 18 18.6 +2.0**
comp=Z,651nm,1.4s
BVAR Borovoye Array 72.87 333 P **P** **23 18 18.4 +0.4**
BVAR S **S** **23 27 34.4 -3.8**
BVAR pmax pmax
comp=Z,108nm,0.7s
BVAR smax smax
comp=N,3.0nm,1.0s
BVAR pmax pmax
comp=Z,1.0nm,0.7s
BVAR MLR MLR
comp=Z,913nm,22.0s
BVAR Borovoye Array 72.87 333 P **P** **23 18 18.4 +0.4**
comp=Z,108nm,0.7s,baz=142,slow=7.5,SNR=481
BVAR S **S** **23 27 34.4 -3.8**
comp=Z,2.9nm,1.0s,baz=104,slow=9.1,SNR=4.0
BVAR PKP2bc 23 45 50.4
comp=Z,0.8nm,0.7s,baz=180,slow=0.9,SNR=3.5
BVAR LR LR 23 53 35.7
comp=Z,913nm,21.9s,baz=128,slow=38
BRVK Borovoye 72.94 333 P **P** **23 18 18.8 +0.4**
comp=Z,824nm,0.8s,SNR=63
BRVK Borovoye 72.94 333*c i*P **P** **23 18 18.8 +0.4**
BRVK pmax pmax
comp=Z,168nm,1.0s
BRVK Borovoye 72.94 333 P **P** **23 18 19.1 +0.7**
SNR=71
BRVK Borovoye 72.94 333 *e*P **P** **23 18 19.0 +0.6**
comp=Z,148nm,1.0s
IANJ Anjilo 73.06 311 *e*P **P** **23 18 19.5 -0.4**
IZEF Zefreh 73.23 308 *e*P **P** **23 18 19.2 -1.7**
IGAR Gharneh 73.26 308 *e*P **P** **23 18 20.5 -0.6**
SBA Scott Base 73.42 170 *e*P **P** **23 18 21.2 +0.3**
SBA pmax pmax
comp=Z,133nm,0.9s
SBA Scott Base 73.42 170 *e*P **P** **23 18 21.2 +0.3**
comp=Z,133nm,0.9s
ISHM Shahmirzad 73.66 311 *e*P **P** **23 18 23.7 +0.3**
ILAS Lasjerd 73.74 311 *e*P **P** **23 18 24.1 +0.3**
ISFB Sefidab 73.87 310 *e*P **P** **23 18 24.0 -0.4**
IKLH Kolahrood 73.97 308 *e*P **P** **23 18 25.0 -0.3**
IFIR Firoozkooh 74.00 311 *e*P **P** **23 18 25.5 +0.1**
TRBA At Turbah 74.35 286 *e*P **P** **23 18 28.8 +1.1**
DAMY Dhamar 74.41 288 *e*P **P** **23 18 29.8 +1.6**
DAMY Dhamar 74.41 288 P **P** **23 18 30.4 +2.2**
baz=74,SNR=12
IDMV Damavand 74.51 311 *e*P **P** **23 18 28.1 -0.3**
IVRN Varamin 74.51 310 *e*P **P** **23 18 28.3 +0.2**
MIDW Midway 74.60 57 *e*P **P** **23 18 29.1 +0.5**
comp=Z,164nm,1.2s
ATD Arta Tunnel 75.17 284 LR LR 23 47 03.9
comp=Z,441nm,20.4s,baz=94,slow=32
IR3 Iran Long-Peri 75.22 310 *e*P **P** **23 18 31.9 -0.4**
QRN Al-Qurain 75.29 303 *e*P **P** **23 18 32.0 -0.6**
QRN AMb AMB 23 18 33.6
comp=Z,392nm,1.3s
IMHD Mahdasht 75.57 310 *e*P **P** **23 18 34.9 +0.6**
KBD Kabd 75.61 303 *e*P **P** **23 18 33.8 -0.7**
KBD AMb AMB 23 18 35.6
comp=Z,200nm,1.2s
RDF Al-Radifah 75.65 303 *e*P **P** **23 18 34.3 -0.4**
RDF AMb AMB 23 18 36.0
comp=Z,394nm,1.2s
UMR Umm Al-Rimmam 75.72 304 *e*P **P** **23 18 34.8 -0.3**
UMR AMb AMB 23 18 38.0
comp=Z,279nm,0.7s
RAYN Ar Rayn 75.75 297 P **P** **23 18 35.0 -0.5**
comp=Z,1μm,0.9s
RAYN Ar Rayn 75.75 297 *e*P **P** **23 18 35.5 0.0**
comp=Z,191nm,0.9s
ABKAR Akbulak array 75.77 326 *e*P **P** **23 18 34.7 -0.2**
NAY Al-Naaiem 76.01 303 *e*P **P** **23 18 36.2 -0.6**
NAY AMb AMB 23 18 37.6
comp=Z,158nm,0.8s
IRAZ Razeghan 76.03 310 *e*P **P** **23 18 36.9 -0.1**
RST Umm Al-Ruwaisa 76.29 303 *e*P **P** **23 18 38.2 -0.1**
RST AMb AMB 23 18 39.1
comp=Z,5μm,0.8s
SYO Syowa Base 76.50 201⇓*i*P **P** **23 18 37.5 -1.3**
SYO Syowa Base 76.50 201⇓*i*X P 23 18 45.4 +6.6
SEY Seymchan 77.21 16*c i*P **P** **23 18 42.9 +0.1**
AKTO Aktyubinsk 77.45 326 P **P** **23 18 44.9 +0.5**
AKTO S **S** **23 28 25.2 -3.8**
AKTO pmax pmax
comp=Z,86nm,0.8s
AKTO smax smax
comp=N,3.0nm,0.8s
AKTO Aktyubinsk 77.45 326 P **P** **23 18 44.9 +0.5**
comp=N,86nm,0.8s,baz=124,slow=5.8,SNR=171
AKTO S **S** **23 28 25.2 -3.8**
comp=N,2.7nm,0.8s,baz=280,slow=22,SNR=12
KMBO Kilima Mbogo 78.30 271⇑*i*P **P** **23 18 51.7 +1.5**
KMBO Kilima Mbogo 78.30 271 P **P** **23 18 52.0 +1.7**
SNR=46
KMBO Kilima Mbogo 78.30 271 *e*P **P** **23 18 51.2 +0.9**
comp=N,114nm,1.1s
KMBO Kilima Mbogo 78.30 271 P **P** **23 18 51.8 +1.5**
comp=N,70nm,1.0s,baz=67,slow=7.3,SNR=173
KMBO LR LR 23 47 18.2
comp=N,1μm,21.8s,baz=92,slow=31
KMBO Kilima Mbogo 78.30 271 P **P** **23 18 51.7 +1.5**
baz=78,SNR=39
ISRB Sarab 78.60 312 *e*P **P** **23 18 51.5 +0.1**
FURI Furi 78.65 281 *e*P **P** **23 18 53.9 +1.7**
comp=N,2μm,0.5s
FURI *e*S **S** **23 28 46.3 +2.3**
FX1 Attu Island--F 78.74 31 *e*P **P** **23 18 51.8 +0.3**
FX1 Attu Island--F 78.74 31 P **P** **23 18 51.8 +0.3**
comp=N,17nm,0.6s,baz=279,slow=4.0,SNR=16
FX1 LR LR 23 51 41.6
comp=N,204nm,19.5s,baz=261,slow=34
IHRS Heris 79.24 312 *e*P **P** **23 18 53.8 -1.1**
IFTB Fath-abad 79.61 311 *e*P **P** **23 18 57.0 +0.1**
SVE Sverdlovsk 79.64 333*d i*P **P** **23 18 56.6 +0.3**
SVE *e* 23 19 13.7
SVE *e*S **S** **23 28 47.6 -4.5**
SVE pmax pmax
comp=Z,229nm,1.0s
SVE MLR MLR
comp=Z,2μm,23.0s
ITBZ Tabriz 79.87 311 *e*P **P** **23 18 58.4 +0.2**
ARU Arti 80.37 332*c i*P **P** **23 19 00.0 -0.2**
ARU *PP **pP** **23 19 19.0 -2.0**
ARU S **S** **23 28 58.4 -1.4**
ARU pmax pmax
comp=Z,164nm,1.0s
ARU MLR MLR
comp=Z,1μm,24.0s
ARU Arti 80.37 332 P **P** **23 19 00.2 0.0**
comp=Z,731nm,1.1s,SNR=77

POGA Pongola 80.54 244⇑*i*P P 23 19 03.1 +1.2
POGA AMB AMB 23 19 03.8
comp=Z,421nm,1.0s
MAK Makhachkala 80.59 316 *e*P P 23 19 03.0 +1.3
MAK *e*S **S** 23 29 00.1 -2.6
MAK *e*SS **SS** 23 34 22.8 +5.7
MAK pmax pmax
comp=Z,110nm,1.0s
MAK MLR MLR
comp=Z,2μm,30.0s
QSPA South Pole Qui 80.86 180 *e*P P 23 19 02.8 -0.2
comp=Z,361nm,1.2s
QSPA *e*PP **PP** 23 22 11.7 +3.8
QSPA *e*PKKPdf **PKKPbc** 23 37 41.0 -3.2
QSPA *e*P'P'df P'P'df 23 45 37.7 -8.0
QSPA South Pole Qui 80.86 180 P **P 23 19 03.0 +0.1**
comp=Z,201nm,1.0s,baz=320,slow=2.1,SNR=314
QSPA PP **PP** 23 22 12.3 +4.5
comp=Z,21nm,1.0s,baz=303,slow=8.0,SNR=3.2
QSPA PKKP **PKKPbc** 23 37 40.9 -3.2
comp=Z,9.8nm,1.0s,baz=161,slow=1.5,SNR=12
QSPA PKP2bc 23 45 37.7
comp=Z,6.3nm,1.1s,baz=163,slow=2.7,SNR=4.5
QSPA LR LR 23 52 14.7
comp=Z,1μm,19.6s,baz=152,slow=34
TIXI Tiksi 81.10 4*c i*P P 23 19 02.6 -1.2
TIXI pmax pmax
comp=Z,67nm,0.8s
AMKA Amchitka 81.31 35 *e*P P 23 19 05.2 -0.1
CUKT Cukurca 81.45 310 *e*P P 23 19 06.8 +0.2
HAKT HAKKARI 81.47 310 *i* P P 23 19 07.5 +0.6
GNI Garni 81.55 313 P **P 23 19 08.7 +1.6**
SNR=23
GNI Garni 81.55 313 *e*P P 23 19 07.6 +0.5
comp=Z,125nm,1.1s
GNI *e*PP **PP** 23 22 13.0 -1.6
GNI *e*S **S** 23 29 11.1 -2.1
GNI Garni 81.55 313 P **P 23 19 08.2 +1.1**
comp=Z,69nm,1.1s,baz=25,slow=3.8,SNR=40
GNI S **S** 23 29 11.1 -2.1
comp=Z,24nm,1.1s,baz=267,slow=23,SNR=13
GNI PKKP **PKKPbc** 23 37 42.2 +0.7
comp=Z,4.5nm,0.7s,baz=190,slow=4.3,SNR=5.0
RAR Rarotonga 81.79 110 *e*P P 23 19 07.9 -0.7
comp=Z,259nm,1.4s
CLDR Caldiran 81.82 312 *e*P P 23 19 09.7 +1.0
DYDN Diyadin 82.11 312 *i* P P 23 19 12.1 +1.9
KSD Kokstad 82.14 240⇑*i*P P 23 19 12.3 +1.8
KSD AMB AMB 23 19 12.9
comp=Z,475nm,1.0s
GEVA Gevas 82.19 311 *i* P P 23 19 11.9 +1.4
SIRT Sirnak 82.41 310 *e*P P 23 19 11.8 +0.2
SIRN S¨–rnak 82.43 310 *i* P P 23 19 12.8 +1.1
MSNA Messina 82.50 249⇑*i*P P 23 19 13.6 +1.2
MSNA AMB AMB 23 19 14.4
comp=Z,207nm,1.3s
DIGO Kars 82.62 313 *i* P P 23 19 14.6 +1.8
AGRB Hanur-Agry 82.64 312 *e*P P 23 19 14.4 +1.5
TUTA Tutak 82.71 312 *i* P P 23 19 15.0 +1.7
SOKR Solikamsk 82.86 334*c i*P P 23 19 13.0 -0.2
SOKR S S 23 29 18.1 -7.2
SOKR pmax pmax
comp=Z,80nm,1.1s
SOKR MLR MLR
comp=Z,850nm,27.0s
KARS Kars 82.90 313 *e*P P 23 19 14.8 +0.7
ZEI Tsey 83.01 315 *e*P P 23 19 13.8 -1.0
ZEI pmax pmax
comp=Z,247nm,1.1s
BTMT Batman 83.34 310 *e*P P 23 19 17.2 +0.8
BEST Besiri 83.41 310 *i* P P 23 19 18.3 +1.5
HOMI Horasan 83.58 312 *i* P P 23 19 19.8 +2.1
MARD Mardin 83.62 309 *i* P P 23 19 19.5 +1.6
VRTB Varto-Mus 83.64 311 *e*P P 23 19 19.9 +1.9
SLR Silverton 83.68 245⇑*i*P P 23 19 19.8 +1.2
SLR AMB AMB 23 19 20.4
comp=Z,360nm,1.0s
ADK Adak 83.80 35 *e*P P 23 19 15.0 -3.2
ADK pmax pmax
comp=Z,188nm,1.4s
ADK Adak 83.80 35 *e*P P 23 19 15.0 -3.2
comp=Z,188nm,1.4s
BNGL BINGOL 83.81 311 *i* P P 23 19 21.3 +2.4
SFNV Sufian 83.89 308 *e*P P 23 19 21.1 +1.9
MAZI Mazidag 83.92 309 *e*P P 23 19 20.4 +1.0
ERZM Erzurum 83.93 312 *i* P P 23 19 21.6 +2.0
EZM Erzurum 83.93 312 *e*P P 23 19 22.2 +2.6
SEK Senekal 83.94 242⇑*i*P P 23 19 20.6 +0.7
SEK AMB AMB 23 19 21.7
comp=Z,262nm,1.1s
DDEM Demirkent 83.94 313 *i* P P 23 19 20.9 +1.5
KBZ Khabaz 84.01 316 P **P 23 19 20.8 +1.3**
KBZ S **SKSac** 23 29 35.5 -0.5
KBZ pmax pmax
comp=Z,84nm,1.0s
KBZ smax smax
comp=N,7.0nm,1.1s
KBZ pmax pmax
comp=Z,10.0nm,0.8s
KBZ pmax pmax
comp=Z,4.0nm,1.0s
KBZ Khabaz 84.01 316 *e*P P 23 19 20.8 +1.3
KBZ *e*SKSac **SKSac** 23 29 35.5 -0.5
KBZ *e*PKKPdf **PKKPbc** 23 37 32.0 -3.7
KBZ *e*P'P'df **P'P'df** 23 45 40.7 +1.3
KBZ Khabaz 84.01 316 P **P 23 19 20.8 +1.3**
comp=Z,84nm,1.0s,baz=94,slow=4.0,SNR=87
KBZ S **SKSac** 23 29 35.5 -0.5
comp=Z,6.9nm,1.1s,baz=226,slow=23,SNR=18
KBZ PKKP **PKKPbc** 23 37 32.0 -3.7
comp=Z,10nm,0.8s,baz=183,slow=2.8,SNR=3.8
KBZ PKPPKP **P'P'df** 23 45 40.7 +1.3
comp=Z,4.2nm,0.9s,baz=229,slow=2.2,SNR=7.2
BLWY Bulawayo 84.09 251 *i* P **P 23 19 21.6 +0.9**
BLWY *i* 23 19 21.6
baz=1.5,slow=28
BNGB Bing¨¶l 84.17 311 *e*P P 23 19 21.6 +1.0
BCA Borcka 84.20 313 *e*P P 23 19 18.0 -2.6
KLOF Kloof 84.20 244 *e*P P 23 19 22.5 +1.2
KLOF AMB AMB 23 19 23.0
comp=Z,226nm,1.0s
DIY Diyarbakir 84.21 310 *e*P P 23 19 22.8 +1.9
KIV Kislovodsk 84.23 316*c i*P P 23 19 21.6 +0.8
KIV *i* 23 19 36.0
KIV *i* S **S** 23 29 37.6 -2.5
KIV *e*SS **SS** 23 35 09.8 -1.5
KIV pmax pmax
comp=Z,212nm,1.2s
GRM Grahamstown 84.28 237⇑*i*P P 23 19 23.2 +1.8
GRM AMB AMB 23 19 24.5
comp=Z,444nm,1.5s
DIYA Diyarbakir 84.30 310 *i* P P 23 19 22.8 +1.6
GOF Gofitskoye 84.34 317 *e*P P 23 19 23.1 +1.9
GOF *e*S **S** 23 29 37.1 -3.8
GOF pmax pmax
comp=Z,230nm,1.0s
GOF smax smax
comp=N,230nm,1.3s
GOF smax smax
comp=E,350nm,1.3s
PRYS Parys 84.35 244⇑*i*P P 23 19 22.9 +1.0
PRYS AMB AMB 23 19 23.6
comp=Z,192nm,1.0s
KOPT Kop Dagi 84.60 312 *i* P P 23 19 25.8 +2.7
MBAR Mbarara 84.82 270⇑*i*P P 23 19 25.0 +0.4
MBAR Mbarara 84.82 270 P **P 23 19 25.5 +1.0**
comp=Z,160nm,0.8s,SNR=13
MBAR Mbarara 84.82 270 *e*P P 23 19 24.5 -0.1
comp=Z,458nm,1.8s
KSR Koster 84.90 245 *e*P P 23 19 26.5 +1.7
KSR AMB AMB 23 19 37.0
comp=Z,44nm,3.1s
JHLN Al Jahlan 84.99 307 *e*P P 23 19 26.5 +1.7
ERZN Erzincan 85.06 311 *e*P P 23 19 27.6 +2.5
PTK Pertek 85.11 310 *e*P P 23 19 26.6 +1.1
LSZ Lusaka 85.14 255⇑*i*P P 23 19 27.4 +1.3
LSZ Lusaka 85.14 255 P **P 23 19 27.4 +1.3**
comp=Z,311nm,0.7s,baz=73,slow=7.2,SNR=697
SOE Somerset East 85.15 238 *e*P P 23 19 27.3 +1.6
SOE AMB AMB 23 19 28.9
comp=Z,311nm,2.1s
URFA Urfa 85.16 309 *e*P P 23 19 26.7 +1.1
KIG Kigali 85.27 269 *e*P P 23 19 28.8 +2.0
KIG AMB AMB 23 19 29.2
comp=Z,96nm,1.1s
EZC Erzincan 85.37 311 *e*P P 23 19 27.6 +0.9
ASF Jabal al Asfar 85.38 303 *e*P P 23 19 28.9 +2.1
ASF *e*PKKPdf **PKKPbc** 23 37 34.0 +1.9
ASF *e*P'P'df **P'P'df** 23 45 40.4 +2.3
ASF Jabal al Asfar 85.38 303 P **P 23 19 28.9 +2.1**
comp=Z,63nm,0.9s,baz=77,slow=2.4,SNR=140
ASF PKKP **PKKPbc** 23 37 34.0 +1.9
comp=Z,7.5nm,0.9s,baz=217,slow=1.8,SNR=17
ASF PKPPKP **P'P'df** 23 45 40.4 +2.3
comp=Z,1.5nm,1.0s,baz=244,slow=2.8,SNR=4.6
GUMT Gumushane 85.47 312 *e*P P 23 19 28.8 +1.6
HVD Gariep Dam 85.49 240⇑*i*P P 23 19 29.1 +1.5
HVD AMB AMB 23 19 29.7
comp=Z,233nm,1.3s
KELT Kelkit 85.55 312 *i* P P 23 19 29.9 +2.2
BUFB Buffelsbos 85.63 236 *e*P P 23 19 29.8 +1.8
BUFB AMB AMB 23 19 30.2
comp=Z,362nm,1.4s
MALT Malatya 85.69 310 *e*P P 23 19 29.1 +0.9
MALT Malatya 85.69 310 ⇑*i*P P 23 19 29.9 +1.6
MALT Malatya 85.69 310⇑*i*P P 23 19 29.9 +1.6
MALT Malatya 85.69 310⇑*i*P PKKPbc 23 37 31.9 +0.2
ILIC ilic-Erzincan 85.88 311 *e*P P 23 19 31.1 +1.9
KEMA Kemaliye 85.89 311 *i* P P 23 19 31.4 +2.2
MAIT Maitri 85.95 199 *e*P P 23 19 27.6 -1.1
MAIT *e* 23 19 49.9
BOSA Boshof 85.97 242⇑*i*P P 23 19 31.2 +1.3
BOSA AMB AMB 23 19 31.9
comp=Z,387nm,1.1s
BOSA Boshof 85.97 242 *e*P P 23 19 31.0 +1.0
comp=Z,377nm,0.9s
BOSA *e*PKKPdf **PKKPbc** 23 37 31.9 +1.6
BOSA Boshof 85.97 242 P **P 23 19 31.1 +1.1**
comp=Z,316nm,0.9s,baz=102,slow=4.9,SNR=228
BOSA PKKP **PKKPbc** 23 37 31.9 +1.6
comp=Z,3.5nm,0.9s,baz=268,slow=17,SNR=3.6
BOSA LR LR 23 51 17.2
comp=Z,1μm,20.8s,baz=99,slow=31
AKCD Akcadag 86.06 310 *i* P P 23 19 31.9 +1.7
GZT Gaziantep 86.10 309 *i* P P 23 19 32.1 +1.7
SWZ Schweizer 86.11 243⇑*i*P P 23 19 32.0 +1.3
SWZ AMB AMB 23 19 32.7
comp=Z,455nm,1.2s
ESPY Espiye-Giresun 86.15 312 *e*P P 23 19 30.0 -0.4
SOC Sochi 86.17 315*c i*P P 23 19 30.6 +0.2
SOC *e**PP **pP** 23 19 48.6 -2.8
SOC *e* 23 22 54.3
SOC *e*PPP PPP 23 24 41.9
SOC *e*S **SKSac** 23 29 48.1 -1.6
SOC *e*SS **SS** 23 35 40.4 +0.8
SOC *e*SSS SSS 23 39 05.1
SOC pmax pmax
comp=Z,315nm,0.9s
SOC MLR MLR
comp=Z,509nm,22.0s
LBTB Lobatse 86.18 245⇑*i*P P 23 19 32.2 +1.1
LBTB AMB AMB 23 19 33.1
comp=Z,295nm,1.2s
LBTB Lobatse 86.18 245 *e*P P 23 19 32.3 +1.2
comp=Z,378nm,1.2s
LBTB Lobatse 86.18 245 P **P 23 19 32.5 +1.4**
comp=Z,168nm,0.9s,baz=129,slow=5.2,SNR=113
FKH Fakeheh 86.26 305 *e*P P 23 19 33.1 +1.9
KUZU Kuzuini 86.34 308 *i* P P 23 19 33.1 +1.6
SUSE Susehri 86.35 312 *i* P P 23 19 30.7 -0.8
EIL Elat 86.44 301 *e*P P 23 19 33.4 +1.3
EIL Elat 86.44 301 P **P 23 19 33.4 +1.3**
comp=Z,93nm,1.0s,baz=101,slow=1.9,SNR=90
EIL Elat 86.44 301 P **P 23 19 33.4 +1.3**
baz=87,SNR=51
BRBR Barbar 86.44 304 *e*P P 23 19 34.2 +2.0
GRSN GIRESUNGRSN 86.49 312 *i* P P 23 19 32.8 +0.7
RCY Rachaya 86.55 305 *e*P P 23 19 34.8 +2.1
HWQ Hawqa 86.64 305 *e*P P 23 19 34.5 +1.5
KMRS Kahramanmaras 86.65 309 *e*P P 23 19 33.6 +0.6
AYKD Aykdinkavak 86.70 309 *i* P P 23 19 34.7 +1.5
BHL Bhannes 86.79 305 *e*P P 23 19 35.6 +1.8
MMAI Mount Meron Ar 86.80 304 P **P 23 19 36.0 +2.3**
comp=Z,182nm,0.9s,baz=97,slow=6.8,SNR=235
MMAI PKKP **PKKPbc** 23 37 30.1 +1.3
comp=Z,1.8nm,0.5s,baz=60,slow=2.6,SNR=13
MMAI PKPPKP **P'P'df** 23 45 38.9 +3.5
comp=Z,3.9nm,1.1s,baz=335,slow=5.8,SNR=3.6
HTY Hatay 86.92 307 *e*P P 23 19 34.3 +0.1
COBT Iskenderun 86.92 308 *i* P P 23 19 36.0 +1.5
YAYL Yayladag 86.92 307 *i* P P 23 19 35.9 +1.5
ARNB Al Arnab 86.99 307 *e*P P 23 19 31.3 -3.4
RSDY Resadiye-TOKAT 87.04 312 *e*P P 23 19 36.3 +1.5
SCER sogukcermik 87.06 311 *i* P P 23 19 37.1 +2.1
ANDN Andirin 87.10 309 *i* P P 23 19 36.9 +1.7
VRHR Novokhopersk 87.16 323 *e*P P 23 19 35.2 +0.2
VRHR *e* 23 29 52.8
VRHR *e*S **S** 23 30 12.9 +4.7
VRHR pmax pmax
comp=Z,390nm,0.8s
VRHR pmax pmax
comp=N,50nm,0.6s
VRHR pmax pmax
comp=E,470nm,1.2s
VRHR smax smax
comp=N,240nm,1.1s
VRHR smax smax
comp=Z,120nm,3.0s
VRHR smax smax
comp=E,210nm,1.3s
SVSK Karacayir 87.17 311 *e*P P 23 19 37.2 +2.0
PINB Pinarbasi 87.31 310 *i* P P 23 19 37.8 +1.4
XMAS Kiritimati 87.33 88 *e*P P 23 19 38.0 +1.3
comp=E,313nm,1.1s
YURE YUREGIR 87.47 308 *i* P P 23 19 38.6 +1.7
ERBA Erbaa 87.54 312 *i* P P 23 19 38.8 +1.7
TOKT Tokat 87.60 311 *e*P P 23 19 38.6 +1.1
TOKA Tokat 87.65 311 *i* P P 23 19 39.5 +1.8
ANN Anapa 88.08 316*c i*P P 23 19 39.3 -0.2
ANN *e**PP **pP** 23 19 59.6 -1.0
ANN *e*S **SKSac** 23 29 58.9 -2.4
ANN pmax pmax
comp=Z,416nm,1.2s
KVT Kavak 88.15 312 *e*P P 23 19 41.4 +1.3
GULE Gulek 88.25 308 *i* P P 23 19 42.1 +1.4
PHNC Paralimni 88.34 306 P **P 23 19 42.6 +1.6**
comp=Z,1.8nm,0.8s
HAVZ Havza 88.39 312 *i* P P 23 19 42.9 +1.7
AVNT Avonos 88.52 309 *i* P P 23 19 43.1 +1.1
VORD Divnogorie 88.53 322 *e*P P 23 19 41.3 -0.2
VORD *e* 23 30 00.8
VORD *e*S **S** 23 30 19.9 -1.3
VORD pmax pmax
comp=Z,260nm,0.9s
VORD pmax pmax
comp=N,120nm,1.0s
VORD pmax pmax
comp=E,260nm,1.0s
VORD smax smax
comp=N,270nm,2.0s
VORD smax smax
comp=Z,180nm,1.9s
VORD smax smax
comp=E,150nm,1.2s
KIZK Mersin 88.57 307 *i* P P 23 19 42.7 +0.7
VOR Voronezh 88.80 323 *e*P P 23 19 43.0 +0.2
VOR *e* 23 30 03.0
VOR pmax pmax
comp=Z,740nm,1.2s
CSS Prodhromos 88.89 306 P **P 23 19 44.6 +0.9**
comp=Z,1.1nm,0.7s
CSS Prodhromos 88.89 306 P **P 23 19 44.6 +0.9**
CSS Prodhromos 88.89 306 *e*P P 23 19 44.5 +0.9
CSS Prodhromos 88.89 306 *e*P P 23 19 44.3 +0.6
comp=Z,146nm,1.0s
CTKT Corum 88.98 311 *i* P P 23 19 44.9 +0.8
MAMC Manmari 89.03 306 P **P 23 19 45.4 +1.1**
CDAG Cicekdag 89.07 310 *i* P P 23 19 45.3 +0.8
SUR Sutherland 89.16 237⇑*i*P P 23 19 47.3 +2.0
SUR AMB AMB 23 19 48.0
comp=Z,121nm,1.3s
SUR Sutherland 89.16 237 P **P 23 19 47.2 +1.9**
comp=Z,917nm,1.1s,SNR=12
SUR Sutherland 89.16 237 *e*P P 23 19 45.9 +0.6
comp=Z,209nm,1.1s
SUR Sutherland 89.16 237 P **P 23 19 47.2 +1.9**
comp=Z,117nm,1.0s,baz=105,slow=5.9,SNR=23
SZAC Souni-Zanaja 89.21 305 P **P 23 19 46.2 +1.0**
comp=Z,1.5nm,0.8s
ALFC Alevga 89.52 306 P **P 23 19 46.8 +0.2**
comp=Z,1.1nm,0.8s
ERMK Ermenek 89.57 307 *i* P P 23 19 48.2 +1.2
BR101 Keskin Array S 89.64 310 *e*P P 23 19 47.5 +0.2
BR101 *e*PKKPdf **PKKPbc** 23 37 22.4 +0.2
BR101 *e*P'P'df **P'P'df** 23 45 27.7 -2.0
BRTR Keskin Array B 89.64 310 P **P 23 19 47.5 +0.2**
comp=Z,75nm,1.0s,baz=126,slow=5.2,SNR=272
BRTR PKKP **PKKPbc** 23 37 22.4 +0.2
comp=Z,6.3nm,0.9s,baz=269,slow=1.7,SNR=19
BRTR PKPPKP **P'P'df** 23 45 27.7 -2.0
comp=Z,1.4nm,0.9s,baz=186,slow=1.1,SNR=6.8
BRTR LR LR 00 06 41.8
comp=Z,298nm,21.9s,baz=98,slow=40
PPCY Paphos 89.67 305 P **P 23 19 47.6 +0.3**
AKMC Akamas 89.71 305 P **P 23 19 47.4 -0.1**
ILGA Ilgaz 89.86 312 *i* P P 23 19 49.6 +1.3
SNAA Sanae 89.94 196 *e*P P 23 19 49.0 +1.1
SNAA Sanae 89.94 196 *e*sP sP 23 20 18.2 +0.8
SNAA Sanae 89.94 196⇑*i*P P 23 19 49.1 +1.1
SNAA Sanae 89.94 196 *e*P P 23 19 48.9 +0.9
comp=Z,662nm,1.7s
SNAA *e*PKKPdf **PKKPdf** 23 37 18.8 +2.0
SNAA *e*P'P'df **P'P'df** 23 45 25.6 -3.3
SNAA Sanae 89.94 196 P **P 23 19 49.0 +1.1**
comp=Z,26nm,0.7s,baz=138,slow=4.4,SNR=376
SNAA PKKP **PKKPdf** 23 37 18.8 +2.0
comp=Z,2.4nm,0.5s,baz=270,slow=4.6,SNR=79
SNAA PKPPKP **P'P'df** 23 45 25.6 -3.3
comp=Z,2.1nm,1.1s,baz=329,slow=3.1,SNR=5.8
GAZI Gazipasa 89.96 307 *i* P P 23 19 48.4 -0.2
ELDT Eldivan 89.96 311 *i* P P 23 19 49.2 +0.5
HON Honolulu 89.97 69 *e*P P 23 19 49.4 +0.4
HON Honolulu 89.97 69 *e*P P 23 19 49.4 +0.4
HON *e*PcP **PcP** 23 19 49.6 -0.6
KIP Kipapa 89.98 68*c i*P P 23 19 51.6 +2.6
KIP pmax pmax
comp=Z,301nm,2.0s
KIP Kipapa 89.98 68 *e*P P 23 19 50.9 +1.9
KIP *e*PcP **PcP** 23 19 51.4 +1.3
BBAL Bala 90.00 310 *i* P P 23 19 49.8 +0.9
CVNA Calvinia 90.20 238⇑*i*P P 23 19 51.6 +1.6
CVNA AMB AMB 23 19 52.7
comp=Z,190nm,1.3s
ANTO Ankara 90.31 310 ⇑P P 23 19 50.2 -0.1
ANTO Ankara 90.31 310 P **P 23 19 51.3 +1.0**
SNR=23
ANTO Ankara 90.31 310 *e*P P 23 19 50.1 -0.1
comp=Z,72nm,1.1s
ANTO Ankara 90.31 310⇑*i*P P 23 19 50.2 -0.1
BR231 Keskin MP Arra 90.32 310 *e*P P 23 19 48.2 -2.2
SIM Simferopol' 90.41 315*c e*P P 23 19 51.5 +1.0
SIM *PP **pP** 23 20 07.9 -3.7
SIM S **SKSac** 23 30 13.9 -1.1
SIM *e**SS **S** 23 30 34.9 -4.2
SIM pmax pmax
comp=Z,121nm,0.9s
KDHN Kadinhani 90.56 309 *i* P P 23 19 50.2 -1.3
MOS Moscow 90.78 326 *e*P P 23 19 51.0 -0.9
MOS *e**PP pP 23 20 07.5 -5.6
MOS *e* 23 23 27.5
MOS *i* S **SKSac** 23 30 15.1 -1.6
MOS *i* 23 30 37.2
MOS pmax pmax
comp=Z,160nm,1.3s
MOS pmax pmax
comp=Z,400nm,2.2s
OBN Obninsk 91.21 326*c i*P P 23 19 54.0 +0.1
OBN *i* 23 20 07.5
OBN *i* *PP **pP** 23 20 13.9 -1.1
OBN *i* S **SKSac** 23 30 18.3 -0.8
OBN *e*SS **SS** 23 36 57.9 +5.7
OBN pmax pmax
comp=Z,217nm,1.2s
OBN Obninsk 91.21 326 P **P 23 19 54.6 +0.7**
comp=Z,763nm,1.0s,SNR=18
KLMR Klimovskoe 91.22 332 *e*P P 23 19 51.0 -2.8
KLMR *e*S **SKSac** 23 30 15.9 -3.0
KLMR pmax pmax
comp=Z,151nm,1.6s
KLMR pmax pmax
comp=Z,165nm,1.0s
BOLV Bolvadin 91.49 309 *i* P P 23 19 56.5 +0.6
VNA2 Neumayer--Watz 91.58 196 *e*P P 23 19 56.5 +1.0
VNA2 Neumayer--Watz 91.58 196 *e*sP sP 23 20 20.3 -4.7
KORT Korkueli 91.66 307 *i* P P 23 19 56.4 -0.2
ISP Isparta 91.67 308 *e*P P 23 19 55.8 -0.9
ISP Isparta 91.67 308 *e*P P 23 19 55.8 -0.9
SEYT Eskypehyr 91.72 310 *i* P P 23 19 57.4 +0.6
PPT Papeete 91.84 108 *e*P P 23 19 58.4 +0.6
PPT Papeete 91.84 108 P **P 23 20 00.8 +3.0**
comp=Z,127nm,1.0s,baz=326,slow=5.6,SNR=5.4
VNA1 Neumayer--Stat 91.98 196 *e*P P 23 19 58.8 +1.5
VNA1 Neumayer--Stat 91.98 196 *e*sP sP 23 20 22.5 -4.3
GOLH Golhisar 92.32 307 *i* P P 23 19 59.2 -0.4
KHAL Karahalli 92.56 308 *i* P P 23 20 00.3 -0.5
GDZ Gediz 92.69 309 *i* P P 23 20 01.6 +0.2
RUDU RUNDU 92.74 251 *e*P P 23 20 03.9 +1.9
RUDU AMB AMB 23 20 04.4
comp=Z,97nm,1.1s
TMCR Tamitsa 92.79 335 *e*P P 23 20 00.8 -0.2
TMCR pmax pmax
comp=Z,63nm,0.8s
TURN Turunc 93.02 307 *i* P P 23 20 05.1 +2.4
ULDT Uludag 93.12 310 *i* P P 23 20 04.0 +0.6
DEMI Demirci 93.27 309 *i* P P 23 20 04.2 +0.2
ARG Arkhangelos 93.29 306 *e*P P 23 20 07.3 +3.3
MANT Manisa 93.30 308 *i* P P 23 20 05.2 +0.8
DURS Dursunbey 93.54 309 *i* P P 23 20 05.1 -0.1
KARP Karpathos 93.97 305 *e*P P 23 20 08.5 +1.3
SDPT Sand Point 94.02 35 *e*P P 23 20 05.9 -1.0
comp=Z,172nm,0.9s
TLCR 94.14 315 ⇓P P 23 20 08.2 +0.5
TLCR 94.14 315⇓*i*P P 23 20 08.1 +0.4
TLCR 94.14 315⇓*i*P PKKPbc 23 37 08.6 -2.0
BALY Balya 94.21 309 *i* P P 23 20 08.1 -0.1
WIN Windhoek 94.27 246⇑*i*P P 23 20 11.0 +1.8
WIN AMB AMB 23 20 12.1
comp=Z,31nm,1.0s
TIRR Tirgusor 94.32 314 ⇑P P 23 20 08.3 -0.2
TIRR Tirgusor 94.32 314 *e*P P 23 20 08.2 -0.3
comp=Z,48nm,1.0s
TIRR Tirgusor 94.32 314⇑*i*P P 23 20 08.3 -0.2
TIRR Tirgusor 94.32 314⇑*i*P PKKPbc 23 37 09.9 -0.2
KIS Kishinev 94.41 317 *e*P P 23 20 05.0 -3.9
KIS Kishinev 94.41 317 *e*PP PP 23 24 10.0 +13
KIS Kishinev 94.41 317 *e*PS PS 23 32 18.0 -22
KIS LRM MLR 00 05 36.0
comp=Z,600nm,24.0s
KIS Kishinev 94.41 317 *e*P P 23 20 05.0 -3.9
KIS *i* 23 30 32.0
KIS MLR MLR
comp=Z,600nm,22.0s
KIS MLR MLR
comp=Z,600nm,24.0s
TSUM Tsumeb 94.49 250⇑*i*P P 23 20 11.7 +1.6
TSUM Tsumeb 94.49 250 *e*P P 23 20 11.5 +1.3
comp=Z,106nm,1.0s
TSUM Tsumeb 94.49 250 P **P 23 20 11.6 +1.4**
comp=Z,84nm,1.0s,baz=97,slow=4.4,SNR=49
ZKR Zakros 94.67 305 *e*P P 23 20 18.1 +7.7
HARR Harsova 94.69 314 ⇓P P 23 20 11.1 +0.8
HARR Harsova 94.69 314⇓*i*P P 23 20 11.1 +0.8
AKASG Malin Array Be 94.70 320 P **P 23 20 09.5 -0.7**
AKASG pmax pmax
comp=Z,53nm,0.9s
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKASG Malin Array Be 94.70 320 P **P 23 20 09.5 -0.7**
comp=Z,53nm,0.9s,baz=78,slow=4.9,SNR=147
AKASG PKKP **PKKPdf** 23 37 07.8 -1.2
comp=Z,2.8nm,0.6s,baz=279,slow=3.4,SNR=10
AKASG PKPPKP **P'P'df** 23 45 18.1 -1.1
comp=Z,0.2nm,0.3s,baz=285,slow=2.6,SNR=5.5
AKASG LR LR 00 07 18.3
comp=Z,404nm,21.6s,baz=145,slow=38
AKBB Malin Array Si 94.70 320 *e*P P 23 20 09.5 -0.7
AKBB Malin Array Si 94.70 320 *e*P P 23 20 09.5 -0.7
AKBB *e*PKKPdf **PKKPdf** 23 37 07.8 -1.2
AKBB *e*P'P'df **P'P'df** 23 45 18.1 -1.1
LEOM Leova 94.72 316 ⇑P P 23 20 10.3 -0.1
LEOM Leova 94.72 316⇑*i*P P 23 20 10.3 -0.1

PRK	**Paraskevi**	**95.18 309**	P	**P**	23 20 12.9	+0.3
PRK	**Paraskevi**	**95.18 309**	*e*P	**P**	23 20 12.9	+0.3
PRK	**Paraskevi**	**95.18 309**	*e*P	**P**	23 20 12.7	+0.1
PRK	**Paraskevi**	**95.18 309**	*e*P	**P**	23 20 12.9	+0.3
NPS	**Neapolis**	**95.18 305**	*e*P	**P**	23 20 13.7	+0.9
CHOS	**Chios island**	**95.23 308**	*e*P	**P**	23 20 13.6	+0.6
GHRR		**95.24 316⇑**	*i*P	**P**	23 20 14.2	+1.4
GHRR		**95.24 316⇑**	*i*P	**PKKPbc**	23 37 06.6	-1.2
LAST	**Lasithi**	**95.28 305**	*e*P	P	23 20 09.7	-3.6
CHGN	**Chignik**	**95.32 34**	*e*P	**P**	23 20 11.6	-1.2
JMB	**Yambol**	**95.36 312**	P	**P**	23 20 14.0	+0.6
JMB	**Yambol**	**95.36 312**	*e*P	**P**	23 20 14.0	+0.6
JMB	**Yambol**	**95.36 312**	*e*P	**P**	23 20 14.0	+0.6
APA	**Apatity**	**95.41 336⇓**	*i*P	P	23 20 24.4	+11
APA			*i*		23 30 42.0	
APA			*i*		23 31 16.0	
APA			*i* PS	PS	23 32 40.0	-10
APA			MLR	MLR		
	comp=Z,2μm,27.0s					
GRER		**95.46 315⇑**	*i*P	**P**	23 20 15.8	+2.0
JOF	**Joensuu**	**95.47 333**	*e*P	**P**	23 20 13.3	-0.1
JOF			pmax	pmax		
	comp=Z,1.0nm,0.4s					
JOF	**Joensuu**	**95.47 333**	*e*p	**P**	23 20 13.3	-0.1
	comp=Z,1.0nm,0.4s					
ALN	**Alexandroupoli**	**95.56 310**	*e*P	**P**	23 20 14.8	+0.5
VRI	**Vrincioaia**	**95.69 315⇑**	P	**P**	23 20 15.1	+0.3
VRI	**Vrincioaia**	**95.69 315⇑**	P	**P**	23 20 15.1	+0.3
VRI	**Vrincioaia**	**95.69 315⇑**	*i*P	PKKPbc	23 37 01.0	-5.6
PLOR	**Plostina**	**95.74 315⇑**	P	**P**	23 20 15.3	+0.2
PLOR	**Plostina**	**95.74 315⇑**	*i*P	**P**	23 20 15.3	+0.2
IDI	**Anoyia**	**95.77 305**	*e*P	**P**	23 20 16.8	+1.3
IDI	**Anoyia**	**95.77 305**	P	**P**	23 20 16.1	+0.6
	comp=Z,15nm,1.0s,baz=68,slow=6.6,SNR=8.8					
SIVA	**Sivas**	**95.80 304**	*e*P	**P**	23 20 15.7	+0.1
SMTH	**Samothraki Isl**	**95.90 310**	*e*P	P	23 20 28.7	+13
SZH	**Strazhica**	**95.94 313**	*i*P	**P**	23 20 16.0	0.0
RDO	**Rodhopi**	**95.97 311**	P	**P**	23 20 15.9	-0.3
RDO	**Rodhopi**	**95.97 311**	*e*P	**P**	23 20 16.1	-0.1
RDO	**Rodhopi**	**95.97 311**	*e*P	**P**	23 20 15.9	-0.3
MICGM	**Minsk**	**96.03 324**	*e*P	**P**	23 20 15.0	-1.2
MNK	**Minsk**	**96.06 324**	*e*P	**P**	23 20 15.0	-1.3
MNK			pmax	pmax		
	comp=Z,160nm,1.0s					
MLR	**Muntele Rosu**	**96.19 315⇑**	*i*P	**P**	23 20 16.8	-0.5
MLR	**Muntele Rosu**	**96.19 315⇓**	*i*P	**PKKPbc**	23 37 04.6	-0.8
KARN	**Karanos**	**96.57 305**	*e*P	**P**	23 20 20.2	+1.1
RZN	**Rozhen**	**96.65 311**	*i*P	**P**	23 20 19.0	-0.5
PLD	**Plovdiv**	**96.70 311**	P	**P**	23 20 19.1	-0.4
PLD	**Plovdiv**	**96.70 311**	*e*P	**P**	23 20 19.1	-0.4
PLD	**Plovdiv**	**96.70 311**	*e*P	**P**	23 20 19.1	-0.4
NACGM	**Naroch**	**96.72 324**	*e*	**P**	23 20 18.0	-1.2
KAVA	**Kavala**	**96.72 310**	P	**P**	23 20 19.5	-0.1
HUMR	**Humele**	**96.76 314⇑**	*i*P	**P**	23 20 19.5	-0.2
GOLR		**96.81 314⇑**	*i*P	**P**	23 20 19.6	-0.3
PTL	**Penteli**	**96.91 307**	P	**P**	23 20 19.9	-0.7
PTL	**Penteli**	**96.91 307**	*e*P	**P**	23 20 20.1	-0.5
PTL	**Penteli**	**96.91 307**	*e*P	**P**	23 20 19.9	-0.7
BURAR	**Bucovina Array**	**96.92 317⇑**	P	**P**	23 20 20.7	+0.2
BURAR	**Bucovina Array**	**96.92 317⇑**	*i*P	**P**	23 20 20.7	+0.2
BURAR	**Bucovina Array**	**96.92 317⇑**	*i*P	**PKKPbc**	23 37 04.1	+0.7
BUR04	**Bucovina Ar. S**	**96.92 317**	*e*P	**P**	23 20 20.7	+0.1
ARR	**Arges**	**97.09 315⇑**	*i*P	**P**	23 20 20.6	-0.7
ARR	**Arges**	**97.09 315⇑**	*i*P	**PKKPbc**	23 37 02.8	0.0
VSU	**Vasula**	**97.11 328***c*	*i*P	**P**	23 20 20.9	0.0
VSU			pmax	pmax		
	comp=Z,243nm,1.1s					
ANKY	**Antikythira Is**	**97.12 305**	*e*P	Pdif	23 20 22.8	+1.2
NAIG	**Nisos Aigina**	**97.17 307**	*e*P	**P**	23 20 19.9	-1.8
PAIG	**Paliouri**	**97.25 309**	P	**P**	23 20 21.1	-0.9
PAIG	**Paliouri**	**97.25 309**	*e*P	**P**	23 20 21.1	-0.9
PAIG	**Paliouri**	**97.25 309**	*e*P	**P**	23 20 21.4	-0.6
PAIG	**Paliouri**	**97.25 309**	*e*P	**P**	23 20 21.1	-0.9
NVR	**Nevrokopi**	**97.25 311**	P	**P**	23 20 21.4	-0.7
NVR	**Nevrokopi**	**97.25 311**	*e*P	**P**	23 20 21.7	-0.4
NVR	**Nevrokopi**	**97.25 311**	*e*P	**P**	23 20 21.4	-0.7
DID	**Didima**	**97.35 307**	*e*P	**P**	23 20 21.0	-1.6
MMB	**Musomiste**	**97.38 311**	*i*P	**P**	23 20 22.0	-0.6
SRS	**Serrai**	**97.43 310**	P	**P**	23 20 22.0	-0.8
SRS	**Serrai**	**97.43 310**	*e*P	**P**	23 20 22.0	-0.8
SRS	**Serrai**	**97.43 310**	*e*P	**P**	23 20 22.0	-0.8
PLG	**Polygyros**	**97.47 310**	P	**P**	23 20 22.2	-0.9
PLG	**Polygyros**	**97.47 310**	*e*P	**P**	23 20 22.2	-0.9
PLG	**Polygyros**	**97.47 310**	*e*P	**P**	23 20 22.0	-1.1
PLG	**Polygyros**	**97.47 310**	*e*P	**P**	23 20 22.2	-0.9
VLI	**Velíai**	**97.50 306**	*e*P	**P**	23 20 22.4	-0.9
MPEP	**Malo Peshtene**	**97.54 313**	*i*P	Pdif	23 20 24.0	+0.7
SOH	**Sokhos**	**97.58 310**	*e*P	**P**	23 20 22.4	-1.2
LTK	**Loutraki**	**97.61 307**	*e*P	**P**	23 20 22.1	-1.6
LKR	**Lokris**	**97.64 308**	*e*P	**P**	23 20 22.8	-1.0
KAF	**Kangasniemi**	**97.67 332**	*e*P	**P**	23 20 23.0	-0.4
KAF			pmax	pmax		
	comp=Z,1.0nm,0.4s					
KAF	**Kangasniemi**	**97.67 332**	*e*p	**P**	23 20 23.0	-0.4
	comp=Z,1.3nm,0.4s					
FIA0	**FINESS Array S**	**97.72 331**	*e*P	Pdif	23 20 23.7	0.0
FIA0			*e*		23 24 21.1	
FIA0	**FINESS Array S**	**97.72 331**	*e*P	Pdif	23 20 23.7	0.0
FIA0			*e*PP	**PP**	23 24 21.1	-1.3
FIA0			*e*PKiKP	**PKiKP**	23 24 58.6	+1.4
FIA0			*e*PKKPdf	**PKKPbc**	23 36 60.0	-1.6
FINES	**FINESS Array B**	**97.72 331**	P	Pdif	23 20 23.7	0.0
	comp=Z,47nm,0.9s,baz=95,slow=6.5,SNR=76					
FINES			PP	**PP**	23 24 21.1	-1.3
	comp=Z,6.8nm,0.8s,baz=108,slow=12,SNR=4.2					
FINES			PKiKP	**PKiKP**	23 24 58.6	+1.4
	comp=Z,5.3nm,0.8s,baz=104,slow=3.8,SNR=5.1					
FINES			PKKP	**PKKPbc**	23 36 60.0	-1.6
	comp=Z,1.4nm,0.4s,baz=297,slow=1.0,SNR=14					
FINES			LR	LR	00 09 23.1	
	comp=Z,1μm,21.1s,baz=90,slow=38					
VTS	**Vitosha**	**97.85 312**	P	**P**	23 20 24.5	-0.4
VTS	**Vitosha**	**97.85 312**	*e*P	**P**	23 20 24.5	-0.4
VTS	**Vitosha**	**97.85 312**	*e*P	**P**	23 20 24.5	-0.4
VTS	**Vitosha**	**97.85 312**	*i*P	**P**	23 20 24.0	-0.9
KKB	**Krupnik**	**97.88 311**	*i*P	**P**	23 20 24.0	-0.9
LVV	**L'vov**	**97.91 319**	*i*P	Pdif	23 20 24.8	0.0
LVV			*e*S	S	23 31 36.8	-7.9
KNT	**Kendrikon**	**97.96 310**	P	**P**	23 20 24.4	-0.8
KNT	**Kendrikon**	**97.96 310**	*e*P	**P**	23 20 24.4	-0.8
KNT	**Kendrikon**	**97.96 310**	*e*P	**P**	23 20 24.4	-0.8
VLX	**Vlachokerasia**	**98.01 307**	*e*P	**P**	23 20 24.9	-0.8
GUR	**Goura**	**98.09 307**	*e*P	**P**	23 20 23.8	-2.2
AGG	**Agios Georgios**	**98.20 308**	*e*P	**P**	23 20 24.7	-1.7
VAY	**Valandovo**	**98.22 311**	*e*P	**P**	23 20 24.6	-1.7
KLV	**Kalavryta, Ach**	**98.25 307**	P	**P**	23 20 26.3	-0.4
KLV	**Kalavryta, Ach**	**98.25 307**	*e*P	**P**	23 20 26.5	-0.2
KALE	**Kalithea**	**98.29 308**	*e*P	**P**	23 20 25.4	-1.5
TRIZ	**Trizonia**	**98.34 308**	*e*P	Pdif	23 20 27.4	+0.4
ITM	**Ithomi**	**98.35 306**	*e*P	**P**	23 20 25.8	-1.3
LAKA	**Lakka**	**98.41 307**	*e*P	**P**	23 20 26.9	-0.4
PYL	**PYLOS**	**98.48 306**	*e*P	**P**	23 20 24.8	-2.8
EFP	**Efpalio**	**98.48 308**	*e*P	Pdif	23 20 28.1	+0.5
THL	**Klokotos Trika**	**98.49 309**	*e*P	**P**	23 20 26.8	-0.8
ARA0	**ARCESS Array S**	**98.53 339**	*e*P	**P**	23 20 24.7	-2.4
ARA0			*e*PKiKP	**PKiKP**	23 24 59.2	+0.7
ARCES	**ARCESS Array B**	**98.53 339**	P	**P**	23 20 26.6	-0.4
	comp=Z,16nm,0.8s,baz=90,slow=7.7,SNR=19					
ARCES			PKiKP	**PKiKP**	23 24 59.2	+0.7
	comp=Z,5.0nm,0.9s,baz=141,slow=1.6,SNR=6.6					
ARCES			LR	LR	00 10 36.8	
	comp=Z,711nm,21.9s,baz=108,slow=39					
ARE0	**ARCESS Array S**	**98.53 339**	*e*SKS	**SKSac**	23 30 55.9	-1.9
DRGR		**98.55 316⇑**	P	**P**	23 20 27.7	-0.1
DRGR		**98.55 316⇑**	P	**P**	23 20 27.7	-0.1
DRGR		**98.55 316⇓**	*i*P	**PKKPbc**	23 36 58.8	0.0
EVR	**Evrytania**	**98.60 308**	P	**P**	23 20 28.1	-0.1
EVR	**Evrytania**	**98.60 308**	*e*P	**P**	23 20 27.5	-0.7
EVR	**Evrytania**	**98.60 308**	*e*P	**P**	23 20 28.1	-0.1
KDAK	**Kodiak Island**	**98.64 33**	P	**P**	23 20 27.2	-0.5
	comp=Z,18nm,1.1s,baz=323,slow=2.7,SNR=3.9					
SUW	**Suwalki**	**98.73 323**	*e*P	**P**	23 20 27.6	-0.7
SUW			pmax	pmax		
	comp=Z,121nm,1.1s					
SUW	**Suwalki**	**98.73 323**	*e*P	**P**	23 20 27.6	-0.7
	comp=Z,121nm,1.1s					
SUW	**Suwalki**	**98.73 323**	*e*P	**P**	23 20 27.9	-0.4
SUW			LMZ	LR	00 06 15.4	
KWP	**Kalwaria Pacla**	**98.75 319**	⇓P	Pdif	23 20 28.8	+0.2
KWP	**Kalwaria Pacla**	**98.75 319**	*e*P	**P**	23 20 27.3	-1.2
	comp=Z,71nm,1.1s					
KWP	**Kalwaria Pacla**	**98.75 319**	⇓*i*P	Pdif	23 20 28.8	+0.2
KWP	**Kalwaria Pacla**	**98.75 319**	⇓*i*P	**PKKPbc**	23 36 57.8	-0.5
KWP	**Kalwaria Pacla**	**98.75 319**	*e*P	Pdif	23 20 29.0	+0.4
KWP			*e*SKSac	**SKSac**	23 31 02.7	+2.9
KWP			LMZ	LR	00 03 09.7	
TRPA	**Tarpa**	**98.76 317⇑**	*i*P	Pdif	23 20 29.3	+0.7
TRPA	**Tarpa**	**98.76 317⇑**	*i*P	**PKKPbc**	23 36 57.7	-0.5
RLS	**Riolos of Patr**	**98.79 307**	*e*P	**P**	23 20 27.9	-1.1
UZH	**Uzhgorod**	**98.96 318**	⇓*i*P	**P**	23 20 29.3	-0.2
UZH			*e*		23 20 46.0	
UZH			*e*		23 24 30.0	
UZH			*e*S	**S**	23 31 49.7	-3.9
UZH			*e*		23 34 10.0	
UZH			*e*		23 42 31.0	
KOLS	**Kolonicke sedl**	**98.99 318**	*e*P	Pdif	23 20 30.6	+0.9
KOLS			*e*		23 24 34.5	
KOLS	**Kolonicke sedl**	**98.99 318**	PDIF	Pdif	23 20 30.5	+0.8
KOLS			*e*PP	**PP**	23 24 34.5	+1.9
FNA	**Florina**	**99.08 310**	*e*P	**Pdif**	23 20 29.0	-1.3
SPU	**Mount Spurr**	**99.08 29**	*e*P	**Pdif**	23 20 28.7	-1.1
SKO	**Skopje**	**99.11 311**	*e*P	**Pdif**	23 20 29.4	-1.0
CAST	**Castle Rocks**	**99.15 27**	*e*P	**Pdif**	23 20 27.9	-2.2
	comp=Z,28nm,1.5s					
BZS	**Buzias**	**99.23 315**	⇑P	**Pdif**	23 20 29.7	-1.1
BZS	**Buzias**	**99.23 315**	⇑*i*P	**Pdif**	23 20 29.7	-1.1
BZS	**Buzias**	**99.23 315**	⇓*i*P	**PKKPdf**	23 36 57.3	-3.3
JAN	**Janina**	**99.39 309**	*e*P	**Pdif**	23 20 32.1	+0.4
CRVS	**Cervenica-Dubn**	**99.52 318**	*e*P	**Pdif**	23 20 32.7	+0.7
CRVS			*e*		23 24 37.8	
CRVS	**Cervenica-Dubn**	**99.52 318**	PDIF	**Pdif**	23 20 32.7	+0.7
CRVS			*e*PP	**PP**	23 24 37.8	+1.2
CRVS	**Cervenica-Dubn**	**99.52 318**	*e*PKP		23 25 03.7	
STHS	**Stebnicka Huta**	**99.69 319**	*e*P	**Pdif**	23 20 33.7	+0.9
STHS			*e*		23 24 38.7	
STHS	**Stebnicka Huta**	**99.69 319**	PDIF	**Pdif**	23 20 33.7	+0.9
STHS			*e*PP	**PP**	23 24 38.7	+0.8
COLD	**Coldfoot**	**100.00 23**	*e*Pdif	**Pdif**	23 20 34.3	+0.6
	comp=Z,17nm,1.0s					
BEL	**Belsk**	**100.08 321**	*e*P	**Pdif**	23 20 34.8	+0.4
BEL			*e*SKSac	**SKSac**	23 31 06.3	+0.1
BEL			LMZ	LR	00 04 14.6	
KECS	**Kecovo**	**100.15 318**	*e*P	**Pdif**	23 20 34.9	+0.1
KECS			*e*		23 24 39.2	
KECS	**Kecovo**	**100.15 318**	PDIF	**Pdif**	23 20 34.9	+0.1
KECS			*e*PP	**PP**	23 24 39.2	-2.2
TIR	**Tirane**	**100.25 310**	*e*P	**Pdif**	23 20 35.0	-0.5
TIR	**Tirane**	**100.25 310**	*e*P	**Pdif**	23 20 35.7	+0.3
TIR	**Tirane**	**100.25 310**	*e*Pdif	**Pdif**	23 20 35.0	-0.5
NIE	**Niedzica**	**100.30 319**	*e*P	**Pdif**	23 20 36.2	+0.7
NIE			*e*		23 31 08.3	
NIE	**Niedzica**	**100.30 319**	*e*P	**Pdif**	23 20 36.2	+0.7
NIE			*e*SKSac	**SKSac**	23 31 08.3	+0.8
SEW	**Seward**	**100.34 30**	*e*Pdif	**Pdif**	23 20 34.0	-1.3
PMR	**Palmer**	**100.49 29**	*e*P	**Pdif**	23 20 34.1	-1.9
PMR	**Palmer**	**100.49 29**	*e*Pdif	**Pdif**	23 20 34.1	-1.9
PSZ	**Piszkesteto**	**100.52 317**	⇑P	**Pdif**	23 20 36.5	-0.1
PSZ	**Piszkesteto**	**100.52 317**	*e*Pdif	**Pdif**	23 20 35.7	-0.9
PSZ	**Piszkesteto**	**100.52 317**	⇑*i*P	**Pdif**	23 20 36.5	-0.1
PSZ	**Piszkesteto**	**100.52 317**	⇓*e*Pdiff	**Pdif**	23 20 36.8	+0.2
MCK	**McKinley**	**100.56 27**	*e*P	**Pdif**	23 20 34.4	-1.9
MCK	**McKinley**	**100.56 27**	*e*Pdif	**Pdif**	23 20 34.4	-1.9
OJC	**Ojcow**	**100.66 319**	*e*P	**Pdif**	23 20 37.7	+0.7
OJC			*e*		23 24 46.4	
OJC	**Ojcow**	**100.66 319**	*e*Pdif	**Pdif**	23 20 36.0	-1.1
OJC	**Ojcow**	**100.66 319**	*e*P	**Pdif**	23 20 37.7	+0.7
OJC			*e*PP	**PP**	23 24 46.4	+1.2
SPA0	**Spitsbergen Ar**	**100.78 348**	*e*SKS		23 31 08.4	
SPA0	**Spitsbergen Ar**	**100.78 348**	*e*Pdif	**Pdif**	23 20 36.7	-0.3
SPITS	**Spitsbergen Ar**	**100.78 348**	P	**Pdif**	23 20 36.7	-0.3
	comp=Z,36nm,0.8s,baz=106,slow=8.8,SNR=19					
PKS2	**Kecel**	**100.94 316**	⇓*e*PKKPbc	PKKPbc	23 36 51.8	-0.1
PKS7	**Kunszentmiklos**	**100.99 316**	⇓*e*Pdiff	**Pdif**	23 20 39.3	+0.7
COLA	**College**	**101.01 26**	*e*P	**Pdif**	23 20 34.9	-3.3
COLA	**College**	**101.01 26**	*e*Pdif	**Pdif**	23 20 34.9	-3.3
VYHS	**Vyhne**	**101.25 318**	*e*P	**Pdif**	23 20 39.9	+0.2
VYHS			*e*		23 24 49.9	
VYHS	**Vyhne**	**101.25 318**	PDIF	**Pdif**	23 20 39.9	+0.2
VYHS			*e*PP	**PP**	23 24 49.9	+0.2
VYHS	**Vyhne**	**101.25 318**	*e*PKP		23 25 02.7	
PKSM	**Moragy**	**101.33 315**	⇓P	**Pdif**	23 20 39.3	-0.8
PKSM	**Moragy**	**101.33 315**	⇓*i*P	**Pdif**	23 20 39.3	-0.8
PKSM	**Moragy**	**101.33 315**	⇑*i*P	**PKKPbc**	23 36 50.7	-0.1
PKSM	**Moragy**	**101.33 315**	⇓*e*Pdiff	**Pdif**	23 20 40.1	0.0
PKSM	**Moragy**	**101.33 315**	⇓*e*PKKPbc	PKKPbc	23 36 51.1	+0.3
ILAR	**Eielson Array**	**101.42 26**	P	**Pdif**	23 20 38.8	-1.3
	comp=Z,1.1nm,0.8s,baz=288,slow=3.9,SNR=7.9					
ILAR			PP	**PP**	23 24 53.4	+2.9
	comp=Z,1.1nm,0.9s,baz=270,slow=6.4,SNR=4.1					
ILAR			SKiKP	**SKiKP**	23 28 34.6	+2.4
	comp=Z,1.7nm,0.8s,baz=309,slow=2.8,SNR=4.4					
ILAR			SKKPab	SKKPbc	23 41 05.5	+39
	comp=Z,2.0nm,1.0s,baz=91,slow=2.9,SNR=4.9					
ILAR			PKPPKP	**P'P'df**	23 45 06.2	+0.5
	comp=Z,2.4nm,1.1s,baz=29,slow=1.3,SNR=6.4					
ILB	**Eielson Array**	**101.42 26**	*e*Pdif	**Pdif**	23 20 38.8	-1.3
ILB			*e*PP	**PP**	23 24 53.4	+2.9
ILB			*e*P'P'df	**P'P'df**	23 45 06.2	+0.5
IL1	**Eielson Array**	**101.42 26**	*e*Pdif	**Pdif**	23 20 37.4	-2.7
PKSG		**101.53 317**	⇓*e*Pdiff	**Pdif**	23 20 41.4	+0.5
PKSG		**101.53 317**	⇓*e*PKKPbc	PKKPbc	23 36 49.9	-0.3
PKS9	**Tamasi**	**101.59 316**	⇓*e*PKKPbc	PKKPbc	23 36 50.3	+0.3
OKC	**Ostrava-Krasne**	**101.72 319**	*e*PDIFF	**Pdif**	23 20 42.1	+0.4
OKC			*e*pP	pP	23 20 59.1	-4.1
OKC			*e*PP	**PP**	23 24 52.7	-0.4
OKC			*e*SKS		23 31 14.3	
OKC			*e*SDIF	**Sdif**	23 32 16.4	-0.2
OKC			*e*SS	**SS**	23 39 22.6	+1.7
OKC			AMS	AMS	00 13 10.0	
	comp=Z,400nm,19.1s					
PKST	**T''s**	**101.77 316**	⇓*e*PKKPbc	PKKPbc	23 36 49.3	-0.3
MORC	**Moravsky Berou**	**102.11 319**	*e*P	**Pdif**	23 20 41.8	-1.7
MORC	**Moravsky Berou**	**102.11 319**	*e*Pdif	**Pdif**	23 20 41.8	-1.7
DIV	**Divide**	**102.12 29**	*e*Pdif	**Pdif**	23 20 41.9	-1.4
PAX	**Paxson**	**102.16 27**	*e*P	**Pdif**	23 20 42.1	-1.4
PAX	**Paxson**	**102.16 27**	*e*Pdif	**Pdif**	23 20 42.1	-1.4
GKP	**Gorka Klasztor**	**102.26 323**	*e*P	**Pdif**	23 20 44.0	0.0
GKP			*e*SKSac	**SKSac**	23 31 21.4	+4.8
GKP			LMZ	LR	00 08 16.0	
KRLC	**Kraliky**	**102.60 319**	*e*P	**Pdif**	23 20 46.4	+0.7
KRLC	**Kraliky**	**102.60 319**	*e*PDIFF	**Pdif**	23 20 46.4	+0.7
KRLC			*e*pP		23 21 03.1	
BEHE	**Becsehely**	**102.63 316**	⇓*e*Pdiff	**Pdif**	23 20 45.5	-0.4
BEHE	**Becsehely**	**102.63 316**	⇓*e*PKKPbc	PKKPbc	23 36 47.7	+0.7
BMRM	**Bremner River**	**102.70 30**	*e*Pdif	**Pdif**	23 20 45.4	-0.6
RAGM	**Ragged Mountai**	**102.71 30**	*e*Pdif	**Pdif**	23 20 45.1	-0.8
VRAC	**Vranov**	**102.73 318**	*e*Pdif	**Pdif**	23 20 46.7	+0.4
VRAC			*e*PP	**PP**	23 25 00.5	-0.3
VRAC	**Vranov**	**102.73 318**	P	**Pdif**	23 20 46.7	+0.4
	comp=Z,4.1nm,0.9s,baz=140,slow=4.6,SNR=7.5					
VRAC			PP	**PP**	23 25 00.5	-0.3
	comp=Z,10nm,1.1s,baz=103,slow=9.3,SNR=7.1					
DPC	**Dobruska-Polom**	**102.89 320**	*e*P	**Pdif**	23 20 45.6	-1.4
DPC	**Dobruska-Polom**	**102.89 320**	*e*PDIF	**Pdif**	23 20 48.1	+1.1
DPC			*e*pP		23 21 11.0	
DPC			*e*PP	**PP**	23 25 01.7	-0.3
DPC			*e*SKS		23 31 15.5	
DPC			*e*SDIF	**Sdif**	23 32 23.0	-3.5
DPC			AMS	AMS	00 14 10.0	
DPC	**Dobruska-Polom**	**102.89 320**	*e*Pdif	**Pdif**	23 20 45.6	-1.4
KSP	**Ksiaz**	**102.89 320**	*e*P	**Pdif**	23 20 47.7	+0.7
KSP			*e*		23 31 15.5	
KSP			*e*SS	SS	23 39 32.0	-5.1
KSP			MLR	MLR		
	comp=Z,2μm,25.6s					
KSP	**Ksiaz**	**102.89 320**	*e*P	**Pdif**	23 20 47.6	+0.6
KSP			*e*SKSac	**SKSac**	23 31 19.2	-0.6
KSP			LMZ	LR	00 08 58.6	
MENT	**Mentasta**	**102.96 27**	*e*Pdif	**Pdif**	23 20 46.3	-0.7
UPC	**Upice**	**103.08 320**	*e*P	**Pdif**	23 20 49.2	+1.4
UPC	**Upice**	**103.08 320**	*e*PDIFF	**Pdif**	23 20 49.2	+1.4
UPC			*e*PP	PP	23 24 56.8	-6.6
UPC			*e*x	x	23 25 14.4	
CONA	**Conrad Observa**	**103.24 317**	⇑*i*PKKPbc	PKKPbc	23 36 44.9	-0.5
	comp=Z,22nm,1.4s,SNR=8.0					
TREC	**Trest**	**103.45 318**	*e*PDIFF	**Pdif**	23 20 50.1	+0.6
TREC			*e*PP	**PP**	23 25 03.9	-2.3
TREC			*e*SKS		23 31 21.9	
TREC			*e*SDIF	**Sdif**	23 32 29.7	-1.6
TREC			*e*x	x	23 33 59.8	
TREC			AMS	AMS	00 14 50.0	
	comp=Z,600nm,24.3s					
ARSA	**Arzberg**	**103.48 316**	⇑*i*PKKPbc	PKKPbc	23 36 44.0	-0.6
	comp=Z,10nm,1.1s,SNR=6.0					
BSD	**Bornholm Skovb**	**103.55 324**	*i*P	**PP**	23 25 09.5	+2.9
	comp=Z,11nm,0.9s					
BOJS	**Bojanci**	**103.70 315**	*i* Pdiff	**Pdif**	23 20 50.4	-0.2
BOJS			*i* PP	**PP**	23 25 05.5	-2.5
BOJS			*i* SKSac	**SKSac**	23 31 23.8	+0.1
PERS	**Pernice**	**103.77 316**	*i* Pdiff	**Pdif**	23 20 52.7	+1.7
PERS			*i* PP	**PP**	23 25 07.7	-1.0
HFS	**Hagfors**	**103.80 330**	Pdiff	**Pdif**	23 20 51.0	+0.3
	comp=Z,27nm,0.9s,baz=85,slow=4.9,SNR=28					
SOKA	**Soboth**	**103.83 316**	⇑*e*PKKPbc	PKKPbc	23 36 43.2	-0.4
	comp=Z,7.6nm,1.3s					
VISS	**Visnje**	**103.98 315**	*i* Pdiff	**Pdif**	23 20 51.4	-0.5
VISS			*i* PP	**PKiKP**	23 25 04.8	-4.3
VISS			*e*SKSac	**SKSac**	23 31 24.0	-1.0
VISS			*e*Sdiff	**SKKSac**	23 32 04.0	-4.1
PVCC	**Panska Ves**	**104.00 320**	*e*P	**Pdif**	23 20 52.6	+0.7
PVCC			*e*		23 31 24.4	
PVCC	**Panska Ves**	**104.00 320**	*e*PDIFF	**Pdif**	23 20 52.6	+0.7
PVCC			*e*SKS		23 31 24.4	
PRU	**Pruhonice**	**104.04 319**	*e*PDIFF	**Pdif**	23 20 52.9	+0.8
PRU			*e*x	x	23 21 09.5	
PRU			*e*PP	**PKiKP**	23 25 07.7	-1.3
PRU			*e*SKS		23 31 24.6	
PRU			*e*SDIF	**Sdif**	23 32 34.4	-1.7
PRU			*e*SP	**SP**	23 34 06.6	-6.9
PRU			*e*x	x	23 39 45.4	
PRU			AMS	AMS	00 09 20.0	
	comp=Z,500nm,23.8s					
PRA	**Prague**	**104.11 319**	PDIFF	**Pdif**	23 20 54.0	+1.6
PRA			PP	**PKiKP**	23 25 08.0	-1.1
PRA			SKS		23 31 26.0	
OBKA	**Obir**	**104.16 316**	⇑*e*PKiKP	**PKiKP**	23 25 09.0	-0.5
	comp=Z,32nm,1.1s					
OBKA	**Obir**	**104.16 316**	⇑*i*PKKPbc	PKKPbc	23 36 42.3	-0.3
	comp=Z,12nm,1.3s					

MANZ Manzenberg 105.61 319 ePdiff Pdif 23 21 00.4 +1.3
MANZ ePKKPbc PKKPbc 23 36 38.5 +0.3
NEUB Neuenburg 105.72 321 ePdiff Pdif 23 21 00.3 +0.8
NEUB ePKiKP PKiKP 23 25 13.9 +1.8
NEUB ePKKPbc PKKPbc 23 36 38.1 +0.3
MOX Moxa 105.87 320 ePdiff Pdif 23 21 01.1 +0.9
MOX ePKKPbc PKKPbc 23 36 37.7 +0.3
MOX Moxa 105.87 320 eP Pdif 23 21 01.1 +0.9
KONO Kongsberg 105.91 329 eSKS SKSac 23 31 31.5 -1.5
INK Inuvik 106.11 21 PKiKP PKiKP 23 25 12.8 +0.6
comp=Z,8.7nm,0.9s,baz=316,slow=4.7,SNR=4.7
WTTA Wattenberg 106.12 317⇑iPKKPbc PKKPbc 23 36 37.0 +0.2
comp=Z,21nm,1.2s,SNR=5.7
GRF Grafenberg Arr 106.21 319 ePKKPbc PKKPbc 23 36 37.4 +1.0
FUR Furstenfeldbru 106.30 317 ePKiKP PKiKP 23 25 14.1 +0.8
FUR ePKKPbc PKKPbc 23 36 36.6 +0.6
BSEG Bad Segeberg 106.32 324 ePdiff Pdif 23 21 03.3 +1.2
BSEG ePKiKP PKiKP 23 25 14.6 +1.5
BSEG ePKKPbc PKKPbc 23 36 36.5 +0.4
BSEG Bad Segeberg 106.32 324 eP Pdif 23 21 03.3 +1.2
MOTA Moosalm 106.48 317 i Pdiff Pdif 23 21 03.0 -0.2
SNR=6.4
CLZ Clausthal 106.53 321 ePdiff Pdif 23 21 04.2 +1.0
CLZ ePKiKP PKiKP 23 25 14.9 +1.3
CLZ ePKKPbc PKKPbc 23 36 36.1 +0.6
CLZ Clausthal 106.53 321 eP Pdif 23 21 04.2 +1.0
NRDL Niedersach Rie 106.62 322 ePdiff Pdif 23 21 04.7 +1.3
NRDL ePKKPbc PKKPbc 23 36 35.5 +0.5
MUD Monsted U'grnd 106.63 326 i P PKKPbc 23 36 34.4 -0.8
comp=Z,5.7nm,0.8s
MUD i 23 36 50.5
RETA Reutte 106.70 317⇑iPKKPbc PKKPbc 23 36 34.7 -0.1
comp=Z,4.8nm,1.3s
FETA Feichten 106.76 316⇑iPKKPbc PKKPbc 23 36 35.0 +0.2
comp=Z,16nm,1.2s
DAVA Damuels 107.31 317 i PKiKP PKiKP 23 25 16.4 +1.0
SNR=5.2
DAVA Damuels 107.31 317⇑iPKKPbc PKKPbc 23 36 33.4 +0.4
comp=Z,14nm,1.2s
DAVOX Davos/Dischmat 107.36 316 ePdif Pdif 23 21 07.2 0.0
DAVOX ePKiKP PKiKP 23 25 16.0 +0.5
DAVOX ePKKPbc PKKPbc 23 36 33.2 +0.3
DAVOX Davos/Dischmat 107.36 316 Pdiff Pdif 23 21 07.2 0.0
comp=Z,3.8nm,0.9s,baz=93,slow=4.1,SNR=5.3
DAVOX PKiKP PKiKP 23 25 16.0 +0.5
comp=Z,3.6nm,0.7s,baz=58,slow=19,SNR=4.3
DAVOX PKKPbc PKKPbc 23 36 33.2 +0.3
comp=Z,6.4nm,0.7s,baz=277,slow=4.5,SNR=9.7
STU Stuttgart 107.62 318 ePKKPbc PKKPbc 23 36 32.4 +0.5
TNS Taunus Mts 107.93 320 ePdiff Pdif 23 21 10.6 +1.2
TNS ePKiKP PKiKP 23 25 17.3 +1.0
TNS Taunus Mts 107.93 320 eP Pdif 23 21 10.6 +1.2
IBBN Ibbenburen 108.07 322 ePKiKP PKiKP 23 25 17.5 +1.1
BFO Black Forest 108.24 318 ePKKPbc PKKPbc 23 36 30.1 +0.1
BUG Bochum--Univer 108.50 321 ePKiKP PKiKP 23 25 18.1 +0.9
LANF Langenberg 108.50 319 eP PKiKP 23 25 18.3 +0.9
CDF Champ du Feu 108.93 318 eP Pdif 23 21 14.0 0.0
comp=Z,21nm,1.4s
ECH Echery 109.03 318 eP PKiKP 23 25 18.5 +0.1
LOMF Lomont 109.37 317 eP PKiKP 23 25 18.4 -0.7
MEM Membach 109.42 320 PKP PKiKP 23 25 19.3 +0.3
WLF Walferdange 109.48 319 PKP PKiKP 23 25 21.1 +1.9
WLF Walferdange 109.48 319 ePKKPbc PKKPbc 23 36 26.6 +0.6
HAU Haudompre 109.60 318 eP Pdif 23 21 16.9 0.0
comp=Z,39nm,1.5s
LPL La Plagne 109.67 315 eP Pdif 23 21 18.6 +1.1
RSL Roselend 109.72 315 eP PP 23 25 43.3 -9.2
THEF They Montfort 109.81 318 eP PKiKP 23 25 20.1 +0.3
BCLA Clavier 109.89 320 PKP PKiKP 23 25 20.6 +0.7
CABF La Chapelle 109.97 316 eP Pdif 23 21 19.0 +0.3
MEZF Maizieres J'vi 110.38 318 eP Pdif 23 21 20.5 +0.2
DOU Dourbes 110.40 320 P Pdif 23 21 20.7 +0.4
DOU Dourbes 110.40 320 PKP PKiKP 23 25 21.9 +1.1
DLBC Dease Lake 110.41 31 ePKiKP PKiKP 23 25 20.2 -0.6
DLBC Dease Lake 110.41 31 PKiKP PKiKP 23 25 21.4 +0.6
comp=Z,7.0nm,0.9s,baz=289,slow=3.6,SNR=6.9
SFTF Sexfontaines 110.44 318 eP Pdif 23 21 20.8 +0.2
comp=Z,28nm,1.1s
SNF Seneffe 110.52 321 PKP PKiKP 23 25 21.9 +0.9
BAIF Baives 110.65 320 eP Pdif 23 21 22.1 +0.7
comp=Z,23nm,1.2s
LOR Lormes 111.38 317 eP Pdif 23 21 26.1 +1.3
comp=Z,18nm,1.2s
PLDF La Plantade 111.76 316 eP PKiKP 23 25 23.4 -0.3
AVF Avril sur Loir 111.80 317 eP Pdif 23 21 26.9 +0.3
AGO Saint Agoulin 112.08 316 eP PKiKP 23 25 24.5 +0.3
RES Resolute Bay 112.23 8 PKiKP PKiKP 23 25 23.8 +0.2
comp=Z,15nm,0.8s,baz=294,slow=8.0,SNR=4.1
TCF Toulx Ste Croi 112.67 316 eP Pdif 23 21 32.2 +1.6
SUMG Summit 114.71 352 i PKIKP PKPdf 23 25 29.7 +0.7
SUMG pmax pmax
comp=Z,14nm,1.0s
SUMG Summit 114.71 352 i P PKPdf 23 25 29.7 +0.7
comp=Z,14nm,1.0s
SUMG Summit 114.71 352 i P PS 23 36 07.4 -0.1
comp=Z,13nm,1.0s
SUMG i 23 36 30.0
SUMG Summit 114.71 352 ePKiKP PKiKP 23 25 28.4 -0.6
TOA0 Torodi Ar. Sit 115.16 280 ePKPdf PKPdf 23 25 29.4 -1.6
TOA0 eSP SP 23 36 05.7 +1.8
TORD Torodi Ar. Bea 115.16 280 PKP PKPdf 23 25 31.0 +0.1
comp=Z,21nm,0.8s,baz=50,slow=1.9,SNR=195
TORD PKKPbc PKKPbc 23 36 05.7 -0.4
comp=Z,2.9nm,0.8s,baz=295,slow=3.6,SNR=19
YKA Yellowknife Ar 115.68 23 PKP PKPdf 23 25 30.8 +0.3
comp=Z,12nm,0.6s,baz=309,slow=2.0,SNR=41
YKA PKKPbc PKKPbc 23 36 03.6 -2.1
comp=Z,5.1nm,0.8s,baz=101,slow=3.7,SNR=9.2
YKB5 Yellowknife Ar 115.68 23 ePKPdf PKPdf 23 25 29.9 -0.6
YKB5 epPKPdf PKiKP 23 25 47.2 +17
YKB5 eSP SP 23 36 03.6 -2.0
USHA Ushuaia 116.18 177 ePKPdf PKPdf 23 25 33.2 +1.4
USHA Ushuaia 116.18 177 PKP PKPdf 23 25 33.2 +1.4
comp=Z,54nm,0.9s,baz=227,slow=0.6,SNR=12
SHEL Horse Pasture 116.79 247 ePKIKP PKPdf 23 25 30.1 -4.0
SHEL Horse Pasture 116.79 247 ePKPdf PKPdf 23 25 30.1 -4.0
NLWA Neilton Lookou 117.18 41 ePKPdf PKPdf 23 25 33.7 -0.3
E03A Lebam 117.63 42 ePKPdf PKPdf 23 25 33.6 -1.2
A05A Maple Falls 117.81 39 ePKPdf PKPdf 23 25 35.4 +0.4
B06A Marblemount 118.35 39 ePKPdf PKPdf 23 25 36.8 +0.6
ES19 SONSECA Array 118.38 310 ePKPdf PKPdf 23 25 37.0 +0.5
ESDC Sonseca Array 118.44 310 ePKPdf PKPdf 23 25 37.4 +0.8
ESDC ePKKPab PKKPab 23 35 56.1 -0.7
ESDC eSP SP 23 36 18.7 -14
ESDC Sonseca Array 118.44 310 PKP PKPdf 23 25 37.4 +0.8
comp=Z,12nm,0.9s,baz=35,slow=2.5,SNR=44
ESDC PKKPbc PKKPab 23 35 56.1 -0.7
comp=Z,2.6nm,0.7s,baz=276,slow=3.9,SNR=12
ESDC PKKP PKKPdf 23 36 18.7 -5.9
comp=Z,5.8nm,1.0s,baz=275,slow=3.9,SNR=7.9
ESDC SKKPbc SKKPbc 23 39 21.7 -15
comp=Z,2.6nm,1.1s,baz=243,slow=4.2,SNR=5.8
D05A Enumclaw 118.46 41 ePKPdf PKPdf 23 25 37.7 +1.3
F04A Amboy 118.57 42 ePKPdf PKPdf 23 25 36.3 -0.3
LON Longmire 118.72 41 ePKIKP PKPdf 23 25 37.5 +0.5
LON Longmire 118.72 41 ePKPdf PKPdf 23 25 37.5 +0.5
PAB San Pablo 118.75 310 ePKIKP PKPdf 23 25 38.2 +0.9
PAB San Pablo 118.75 310 ePKPdf PKPdf 23 25 38.2 +0.9
KHMM Horse Mountain 119.02 48 ePKPdf PKPdf 23 25 39.4 +1.6
H04A Detroit Lake 119.10 44 ePKPdf PKPdf 23 25 38.1 +0.3
HUMO Hull Mountain 119.14 46 ePKPdf PKPdf 23 25 38.9 +1.0
EFI East Falkland 119.18 185 ePKIKP PKPdf 23 25 38.4 +0.7
EFI East Falkland 119.18 185 ePKPdf PKPdf 23 25 38.4 +0.7
LTY Liberty 119.29 40 ePKPdf PKPdf 23 25 38.3 +0.2
YBH Yreka Blue Hor 119.55 47 ePKPdf PKPdf 23 25 39.5 +0.7
YBH ePKKPbc PKKPbc 23 35 50.3 -1.0
YBH Yreka Blue Hor 119.55 47 PKP PKPdf 23 25 39.8 +1.0
comp=Z,12nm,0.9s,baz=144,slow=3.6,SNR=13
YBH PKKPbc PKKPbc 23 35 50.3 -1.0
comp=Z,6.7nm,1.0s,baz=106,slow=4.7,SNR=7.0
B08A Colville Reser 119.75 39 ePKPdf PKPdf 23 25 39.2 +0.3
B08A epPKPdf pPKPdf 23 25 57.9 -3.0
WDC Whiskeytown Da 119.96 48 ePKIKP PKPdf 23 25 38.8 -0.7
WDC Whiskeytown Da 119.96 48 ePKPdf PKPdf 23 25 38.8 -0.7
PBRG Braganca 119.97 313 ePKP PKPdf 23 25 40.4 +0.8
PBRG Braganca 119.97 313 i P SP 23 36 44.8 -1.0
MDT Midelt 120.22 303 ePKPdf PKPdf 23 25 41.4 +1.0
MDT ePKKPab PKKPab 23 35 50.7 +1.4
MDT Midelt 120.22 303 PKP PKPdf 23 25 41.4 +1.0
comp=Z,23nm,1.0s,baz=84,slow=2.1,SNR=30
MDT PKKPbc PKKPab 23 35 50.7 +1.4
comp=Z,8.2nm,1.0s,baz=252,slow=2.4,SNR=11
PINOR Pine Mountain 120.26 44 ePKPdf PKPdf 23 25 41.7 +1.8

HAWA Hanford 120.32 41 ePKPdf PKPdf 23 25 41.0 +1.0
HAWA epPKPdf pPKPdf 23 25 58.5 -3.4
MVO Moncorvo 120.35 313 ePKP PKPdf 23 25 41.4 +1.1
MVO Moncorvo 120.35 313 i P SP 23 36 50.9 +1.6
MVO Moncorvo 120.35 313 eLQ LQ 00 01 41.1
MVO eLR LR 00 09 25.2
comp=Z,250nm,20.0s
D08A Wollman Farm, 120.48 40 ePKPdf PKPdf 23 25 40.9 +0.6
D08A epPKPdf pPKPdf 23 25 59.7 -2.6
K05A Summer Lake 120.57 46 ePKPdf PKPdf 23 25 42.0 +1.1
C09A Chrisman Ranch 120.61 39 ePKPdf PKPdf 23 25 40.8 +0.3
C09A epPKPdf pPKPdf 23 25 59.3 -3.2
PVRL Vila Real 120.82 313 ePKP PKPdf 23 25 42.6 +1.4
POLO Lamas de Olo 120.85 313 ePKP PKPdf 23 25 42.6 +1.3
POLO Lamas de Olo 120.85 313 i P SP 23 36 52.0 -1.7
KIC Kosan Boka 120.86 272 ePKIKP PKPdf 23 25 42.0 0.0
comp=Z,143nm,1.0s
KIC Kosan Boka 120.86 272 ePKP2 PKKPab 23 35 47.8 +0.7
comp=Z,92nm,1.2s
PCAB Cabril 120.92 313 ePKP PKPdf 23 25 42.5 +1.1
MTE Manteigas 120.93 312 ePKP PKPdf 23 25 42.4 +0.9
MTE Manteigas 120.93 312 i P SP 23 36 50.6 -3.9
MTE Manteigas 120.93 312 eLR LR 00 08 55.1
comp=Z,232nm,20.0s
MTE Manteigas 120.93 312 ePKPdf PKPdf 23 25 42.2 +0.7
MTE epPKPdf pPKPdf 23 25 57.8 -5.6
DBIC Dimbokro 121.01 272⇑iP PKPdf 23 25 42.8 +0.5
DBIC Dimbokro 121.01 272 ePKPdf PKPdf 23 25 41.1 -1.2
DBIC epPKPdf pPKPdf 23 26 00.8 -3.4
DBIC ePKKPab PKKPab 23 35 47.8 +1.3
DBIC Dimbokro 121.01 272 PKP PKPdf 23 25 42.6 +0.3
comp=Z,41nm,0.7s,baz=89,slow=2.6,SNR=68
DBIC PKKPbc PKKPab 23 35 47.8 +1.3
comp=Z,8.7nm,0.6s,baz=280,slow=3.5,SNR=18
PGAV Gavieira, Arco 121.02 314 ePKP PKPdf 23 25 42.6 +1.0
PGAV Gavieira, Arco 121.02 314 i P SP 23 36 52.1 -3.1
PGAV Gavieira, Arco 121.02 314 eLR LR 00 08 16.1
comp=Z,287nm,20.0s
PCBR Castelo Branco 121.03 311 ePKP PKPdf 23 25 42.6 +1.0
PMRV Marv??o 121.07 311 ePKP PKPdf 23 25 42.3 +0.6
PMRV Marv??o 121.07 311 i P SP 23 36 56.1 +0.4
PMRV Marv??o 121.07 311 eLR LR 00 08 16.4
comp=Z,261nm,20.0s
G08A Pilot Rock 121.08 42 ePKPdf PKPdf 23 25 42.5 +0.9
G08A epPKPdf pPKPdf 23 26 00.6 -3.1
EDM Edmonton 121.08 32 ePKIKP PKPdf 23 25 41.2 -0.1
EDM e 23 25 58.9
EDM Edmonton 121.08 32 ePKPdf PKPdf 23 25 41.2 -0.1
EDM epPKPdf pPKPdf 23 25 58.9 -4.4
PVIS Viseu 121.11 312 ePKP PKPdf 23 25 43.0 +1.2
I07A Izee 121.11 44 ePKPdf PKPdf 23 25 42.4 +0.7
PBAR Barrancos 121.11 309 ePKP PKPdf 23 25 43.1 +1.3
PBAR Barrancos 121.11 309 i P SP 23 36 55.9 -0.2
LIC Lamto 121.12 272⇑iPKIKP PKPdf 23 25 42.6 +0.1
comp=Z,65nm,0.5s
LIC Lamto 121.12 272 ePKIKP PKPdf 23 25 42.5 +0.1
comp=Z,236nm,0.8s
LIC Lamto 121.12 272 ePKP2 PKKPab 23 35 46.8 +0.8
comp=Z,72nm,1.0s
NEW Newport 121.15 38 ePKPdf PKPdf 23 25 39.8 -1.8
NEW epPKPdf pPKPdf 23 26 00.5 -3.1
NEW Newport 121.15 38 PKP PKPdf 23 25 42.3 +0.7
comp=Z,18nm,0.9s,baz=216,slow=1.1,SNR=18
NEW Newport 121.15 38⇑PKIKP PKPdf 23 25 42.3 +0.7
baz=121
TIC Toumodi 121.17 272 ePKIKP PKPdf 23 25 42.6 0.0
comp=Z,83nm,0.6s
TIC Toumodi 121.17 272 ePKP2 PKKPab 23 35 46.5 +0.7
comp=Z,37nm,1.1s
E09A Wood Farm, Sta 121.17 41 ePKPdf PKPdf 23 25 42.2 +0.5
MOD Modoc 121.23 46 ePKPdf PKPdf 23 25 43.1 +1.0
PESTR Estremoz 121.36 310 ePKP PKPdf 23 25 43.4 +1.1
PESTR Estremoz 121.36 310 i P SP 23 36 56.5 -1.8
SFJD Kangerlussuaq 121.47 354 i P PKPdf 23 25 41.6 0.0
comp=Z,17nm,0.9s
SFJD Kangerlussuaq 121.47 354 ePKPdf PKPdf 23 25 41.1 -0.5
SFJD Kangerlussuaq 121.47 354 PKP PKPdf 23 25 41.2 -0.4
comp=Z,27nm,1.0s,baz=78,slow=2.0,SNR=5.4
PTO Porto 121.50 313 ePKP PKPdf 23 25 43.7 +1.3
PCAS Casmilo, Conde 121.73 312 ePKP PKPdf 23 25 44.1 +1.2
PCAS Casmilo, Conde 121.73 312 i P SP 23 37 03.7 +2.2
BEKR Beckworth 121.76 49 ePKPdf PKPdf 23 25 44.0 +0.7
EVO Evora 121.77 310⇑iPKIKP PKPdf 23 25 44.3 +1.3
comp=Z,104nm,1.2s
EVO Evora 121.77 310 ePKP PKPdf 23 25 44.1 +1.1
PBEJ Beja 121.78 309 ePKP PKPdf 23 25 44.4 +1.3
PTOM Tomar 121.78 311 ePKP PKPdf 23 25 44.1 +1.1
PMTG Montargil 121.79 310 ePKP PKPdf 23 25 43.7 +0.7
PMTG Montargil 121.79 310 i P SP 23 37 04.0 +1.9
PVAQ Vaqueiros 121.82 308 ePKP PKPdf 23 25 44.7 +1.5
PVAQ Vaqueiros 121.82 308 i P SP 23 37 03.6 +1.1
PVAQ Vaqueiros 121.82 308 eLR LR 00 08 03.6
comp=Z,192nm,20.0s
F10A Beach Ranch, E 121.96 41 ePKPdf PKPdf 23 25 44.2 +0.9
F10A epPKPdf pPKPdf 23 26 02.9 -2.4
PCVE Castro Verde 122.01 309 ePKP PKPdf 23 25 44.7 +1.2
PCVE Castro Verde 122.01 309 i P SP 23 37 05.0 +0.8
PBDV Barranco-do-Ve 122.02 308 ePKP PKPdf 23 25 45.1 +1.5
PBDV Barranco-do-Ve 122.02 308 i P SP 23 37 00.8 -3.5
J08A Circle Bar Ran 122.06 44 ePKPdf PKPdf 23 25 44.7 +1.1
J08A epPKPdf pPKPdf 23 26 02.3 -3.3
CMB Columbia Colle 122.22 51 ePKIKP PKPdf 23 25 44.4 +0.4
CMB Columbia Colle 122.22 51 ePKPdf PKPdf 23 25 44.4 +0.4
WVOR Wild Horse Val 122.24 45 ePKIKP PKPdf 23 25 45.1 +1.1
WVOR e 23 26 00.7
WVOR Wild Horse Val 122.24 45 ePKPdf PKPdf 23 25 45.1 +1.1
WVOR epPKPdf pPKPdf 23 26 00.7 -5.3
PNCL Nicolau / Gran 122.27 309 ePKP PKPdf 23 25 45.0 +1.0
PNCL Nicolau / Gran 122.27 309 i P SP 23 37 04.8 -1.6
BMO Blue Mountains 122.33 42 ePKIKP PKPdf 23 25 44.0 -0.1
BMO Blue Mountains 122.33 42 ePKPdf PKPdf 23 25 44.0 -0.1
PACT Alcochete 122.33 310 ePKP PKPdf 23 25 45.6 +1.5
PAHR Pah Rah Range 122.53 49 ePKPpre PKPpre 23 25 36.1
PAHR ePKPdf PKiKP 23 25 46.2 +1.4
PTEO Sao Teotonio 122.56 309 ePKP PKPdf 23 25 46.1 +1.5
MORF Marmelete 122.56 309 ePKP PKPdf 23 25 45.9 +1.2
PMAFR Mafra 122.61 311 ePKP PKPdf 23 25 46.1 +1.4
PMAFR Mafra 122.61 311 i P SP 23 37 10.5 +1.1
WALA Waterton Lakes 122.74 36 ePKPdf PKPdf 23 25 45.3 +0.6
WALA epPKPdf pPKPdf 23 26 02.2 -4.5
PFVI Vila Bisbo 122.74 308 ePKP PKPdf 23 25 46.4 +1.5
PFVI Vila Bisbo 122.74 308 i P SP 23 37 14.9 +4.2
BSMT Bassoo Peak 122.74 38 ePKPdf PKPdf 23 25 45.3 +0.4
BSMT epPKPdf pPKPdf 23 26 03.7 -3.1
WAKR Walker 122.82 50 ePKPdf PKPdf 23 25 46.8 +1.4
WAKR epPKPdf pPKPdf 23 26 03.1 -4.2
WAKR ePP PP 23 27 18.5 -5.9
BLMT Blacktail Moun 122.93 38 ePKPdf PKPdf 23 25 43.3 -2.0
BLMT epPKPdf pPKPdf 23 26 03.9 -3.4
PTRM Twissleman Ran 122.94 53 ePKPdf PKPdf 23 25 45.1 -0.3
JTMT Jette 123.10 38 ePKPdf PKPdf 23 25 43.7 -1.8
JTMT epPKPdf pPKPdf 23 26 06.2 -1.3
SMMC Simmler 123.18 54 ⇑PKiKP PKiKP 23 25 46.6 +0.4
baz=123
YBMT Yellow Bay 123.21 38 ePKPdf PKPdf 23 25 44.8 -0.9
YBMT epPKPdf pPKPdf 23 26 04.1 -3.6
SWMT Swartz Lake 123.37 38 ePKPdf PKPdf 23 25 46.0 0.0
SWMT epPKPdf pPKPdf 23 26 03.0 -5.0
PKM Peak Mountain 123.42 54 ⇓PKiKP PKiKP 23 25 48.1 +1.3
baz=123
CHRN Cochrane 123.47 173⇑iP PKPdf 23 25 47.6 +1.5
MLAC Mammoth Lakes 123.51 51 ⇑PKiKP PKiKP 23 25 47.3 +0.3
baz=124
RCTC Rector, Farmer 123.54 52 ⇓PKiKP PKiKP 23 25 47.1 +0.4
baz=124
SBC Santa Barbara 123.61 55 ⇓PKiKP PKiKP 23 25 47.2 +0.3
baz=124
NV01 Mina Array Sit 123.70 50 ePKPpre PKPpre 23 25 37.1
NV01 ePKPdf PKiKP 23 25 47.2 -0.1
NV01 epPKPdf pPKPdf 23 26 06.3 -2.7
MSO Missoula 123.70 39 ePKPdf PKPdf 23 25 46.7 0.0
MSO epPKPdf pPKPdf 23 26 04.8 -3.8
MSO Missoula 123.70 39 ⇑PKiKP PKiKP 23 25 47.3 +0.4
baz=124
BSC Santa Cruz Isl 123.77 55 ⇓PKiKP PKPdf 23 25 47.2 +0.1
baz=124
VES Vestal, Richgr 123.78 53 ⇓PKiKP PKiKP 23 25 47.6 +0.3
baz=124
SLMT Seeley Lake 123.80 38 ePKPdf PKPdf 23 25 46.9 0.0
MFID Camas Ranch 123.84 43 ⇓PKiKP PKiKP 23 25 48.4 +1.1
baz=124
BMN Battle Mountai 123.89 47 ePKIKP PKPdf 23 25 47.8 +0.5

BMN Battle Mountai 123.89 47 ePKPdf PKPdf 23 25 47.8 +0.5
CHMT Chamberlain Mo 124.09 39 ePKPdf PKPdf 23 25 48.0 +0.5
TIN Tinemaha 124.14 51 ⇓PKiKP PKiKP 23 25 48.5 +0.4
baz=124
ARVC Arvin 124.16 54 ⇓PKiKP PKiKP 23 25 49.4 +1.4
baz=124
BLG Laguna Peak 124.21 55 ⇑PKiKP PKiKP 23 25 48.5 +0.3
baz=124
ISA Isabella 124.31 53 ePKIKP PKPdf 23 25 48.6 +0.5
ISA Isabella 124.31 53 ePKPdf PKPdf 23 25 48.6 +0.5
ISA Isabella 124.31 53 ⇑PKiKP PKiKP 23 25 49.2 +0.8
baz=124
OSI Osito Adit 124.36 54 ⇓PKiKP PKiKP 23 25 48.9 +0.4
baz=124
CWC Cottonwood Cre 124.41 52 ⇓PKiKP PKiKP 23 25 49.9 +1.2
baz=124
HLID Hailey 124.74 43 ePKPdf PKPdf 23 25 50.0 +1.1
HLID Hailey 124.74 43 ⇓PKiKP PKiKP 23 25 50.4 +1.2
baz=125
DECC Green Verdugo 124.77 55 ⇑PKiKP PKiKP 23 25 49.9 +0.6
baz=125
GRAC Grapevine Rang 124.81 51 ⇓PKiKP PKiKP 23 25 50.5 +1.2
baz=125
SCI San Clemente I 124.88 56 ⇓PKiKP PKiKP 23 25 49.8 +0.3
baz=125
EDW2 Edwards Air Fo 124.88 54 ⇑PKiKP PKiKP 23 25 50.8 +1.2
baz=125
PASC Pasadena Art C 124.90 55 ePKPpre PKPpre 23 25 49.1
PASC ePKPdf PKiKP 23 25 50.0 +0.5
PASC epPKPdf pPKPdf 23 26 07.5 -3.7
CIS Catalina Islan 124.90 56 ⇑PKiKP PKiKP 23 25 50.6 +1.0
baz=125
FMP Fort Macarthur 124.92 55 ⇓PKiKP PKiKP 23 25 50.2 +0.7
baz=125
LRMC Laurel Mountai 124.97 53 ⇑PKiKP PKiKP 23 25 51.0 +1.2
baz=125
MPMC Manual Prospec 124.97 52 ⇑PKiKP PKiKP 23 25 51.1 +1.2
baz=125
MWC Mount Wilson 124.99 55 ePKIKP PKPdf 23 25 50.3 +0.7
MWC Mount Wilson 124.99 55 ePKPdf PKPdf 23 25 50.3 +0.7
HRY Holter Researc 125.05 38 ePKPdf PKPdf 23 25 46.8 -2.5
LRM Limekiln Ridge 125.07 39 ePKPdf PKPdf 23 25 50.0 +0.5
COYC Coyhaique 125.10 173 eP PKPdf 23 25 50.5 +1.3
DLMT Dillon 125.18 40 ePKPdf PKPdf 23 25 50.4 +0.8
ELK Elko 125.21 46 ePKPdf PKPdf 23 25 50.5 +0.5
ELK epPKPdf pPKPdf 23 26 09.7 -2.2
MCMT McKenzie Canyo 125.25 41 ePKPdf PKPdf 23 25 48.9 -1.0
MCMT epPKPdf pPKPdf 23 26 08.9 -2.9
BFSC Mount Baldy Ra 125.31 54 ⇓PKiKP PKiKP 23 25 51.5 +1.0
baz=125
FURC Furnace Creek, 125.35 52 ⇓PKiKP PKiKP 23 25 51.7 +1.4
baz=125
FCC Fort Churchill 125.58 18 ePKIKP PKPdf 23 25 48.9 -0.8
FCC Fort Churchill 125.58 18 ePKPdf PKPdf 23 25 48.9 -0.8
FFC Flin Flon 125.64 26 ePKIKP PKPdf 23 25 50.1 +0.1
FFC e 23 26 07.4
FFC Flin Flon 125.64 26 ePKPdf PKPdf 23 25 50.1 +0.1
FFC epPKPdf pPKPdf 23 26 07.4 -4.5
EGMT Eagleton 125.66 36 ePKPdf PKPdf 23 25 51.0 +0.7
EGMT epPKPdf pPKPdf 23 26 08.1 -4.2
EGMT Eagleton 125.66 36 ⇑PKiKP PKiKP 23 25 51.2 +0.5
baz=126
BOZ Bozeman (W) 125.66 39 ePKIKP PKPdf 23 25 51.5 +1.0
BOZ Bozeman (W) 125.66 39 ePKPdf PKPdf 23 25 51.5 +1.0
RRX Edison Barstow 125.67 53 ⇑PKiKP PKiKP 23 25 52.2 +1.1
baz=126
GSC Goldstone 125.71 53 ePKIKP PKPdf 23 25 50.4 -0.4
GSC e 23 26 10.0
GSC Goldstone 125.71 53 ePKPdf PKPdf 23 25 50.4 -0.4
GSC epPKPdf pPKPdf 23 26 10.0 -2.8
GSC Goldstone 125.71 53 ⇑PKiKP PKiKP 23 25 52.6 +1.4
baz=126
R11A Troy Canyon, C 125.76 49 ePKPdf PKPdf 23 25 51.1 +0.2
R11A Troy Canyon, C 125.76 49 ⇓PKiKP PKiKP 23 25 52.6 +1.2
baz=126
A19A Klindworth Far 125.77 35 ⇓PKiKP PKiKP 23 25 51.2 +0.3
baz=126
MURC Murrieta 125.83 55 ⇓PKiKP PKiKP 23 25 52.0 +0.5
baz=126
BBRC Big Bear Solar 125.89 54 ⇓PKiKP PKiKP 23 25 52.6 +0.8
baz=126
B19A Brinkman Farms 125.90 35 ⇓PKiKP PKiKP 23 25 51.7 +0.6
baz=126
SHOC Shoshone 125.96 52 ⇑PKiKP PKiKP 23 25 53.0 +1.4
baz=126
109C Camp Elliot, M 126.08 56 ⇓PKiKP PKiKP 23 25 52.6 +0.7
baz=126
QLMT Earthquake Lak 126.16 40 ePKPdf PKPdf 23 25 53.1 +1.5
NRS Narsarsuaq 126.21 349 i PKIKP PKPdf 23 25 51.3 +0.5
NRS pmax pmax
comp=Z,100nm,1.0s
C19A Slack Wire Ran 126.22 36 ⇓PKiKP PKiKP 23 25 52.4 +0.6
baz=126
HEC Hector,Ludlow 126.22 53 ⇑PKiKP PKiKP 23 25 53.4 +1.2
baz=126
A20A Cobblestone Ra 126.25 34 ⇓PKiKP PKiKP 23 25 52.1 +0.3
baz=126
TUQ Turquoise Moun 126.37 53 ⇑PKiKP PKiKP 23 25 53.7 +1.1
baz=126
PFO Pinyon Flat Ob 126.43 55 ePKPpre PKPpre 23 25 52.8
PFO ePKPdf PKiKP 23 25 53.6 +0.8
PFO Pinyon Flat Ob 126.43 55 PKP PKPdf 23 25 53.9 +1.5
comp=Z,69nm,1.2s,baz=271,slow=1.1,SNR=40
PFO Pinyon Flat Ob 126.43 55 ⇓PKiKP PKiKP 23 25 53.5 +0.7
baz=126
B20A Solberg Farm, 126.44 35 ⇑PKiKP PKiKP 23 25 52.7 +0.5
baz=126
BAR Barrett 126.48 56 ePKPdf PKPdf 23 25 53.3 +1.0
YMR Madison River 126.53 40 ePKPdf PKPdf 23 25 53.4 +1.1
HVU Hansel Valley 126.55 44 ePKIKP PKPdf 23 25 53.5 +1.2
HVU Hansel Valley 126.55 44 ePKPdf PKPdf 23 25 53.5 +1.2
D19A Cripps Ranch, 126.60 37 ⇑PKiKP PKiKP 23 25 52.9 +0.3
baz=126
MONP Monument Peak 126.64 56 ⇓PKiKP PKiKP 23 25 54.6 +1.3
baz=127
SHPR Sheep Range 126.65 51 ePKPdf PKPdf 23 25 53.1 +0.4
YNR Norris Junctio 126.69 40 ePKPpre PKPpre 23 25 41.3
YNR ePKPdf PKiKP 23 25 54.4 +1.3
BELC Belle Mtn. Jos 126.70 54 ⇑PKiKP PKiKP 23 25 54.6 +1.3
baz=127
BGU Big Grassy Mou 126.70 45 ePKPdf PKPdf 23 25 53.9 +1.2
YFT Old Faithful 126.70 40 ePKPdf PKPdf 23 25 54.4 +1.7
A21A Bergtoll Ranch 126.74 34 ⇑PKiKP PKiKP 23 25 52.9 +0.1
baz=127
GMRC Granite Mounta 126.76 53 ⇓PKiKP PKiKP 23 25 54.6 +1.2
baz=127
GCMT Greycliff 126.81 38 ePKPdf PKPdf 23 25 53.0 +0.4
C20A Veseth Ranch, 126.83 36 ⇑PKiKP PKiKP 23 25 53.6 +0.6
baz=127
RRI2 Red Ridge 126.88 42 ePKPdf PKPdf 23 25 53.4 +0.3
IMW Indian Meadow 126.89 41 ePKPdf PKPdf 23 25 54.1 +1.1
H17A Grant Village 126.90 40 ePKPdf PKPdf 23 25 54.5 +1.5
LKWY Lake 126.93 40 ePKIKP PKPdf 23 25 53.2 +0.1
LKWY Lake 126.93 40 ePKPdf PKPdf 23 25 53.2 +0.1
DVTC Desert V Tower 126.96 56 ⇑PKiKP PKiKP 23 25 54.7 +1.0
baz=127
FLWY Flagg Ranch 126.96 41 ePKPdf PKPdf 23 25 50.2 -2.9
SPUT South Promonto 126.96 45 ePKPdf PKPdf 23 25 53.7 +0.6
B21A Ellsworth Farm 127.00 34 ⇑PKiKP PKiKP 23 25 53.5 +0.2
baz=127
E19A Rath Farm, Rou 127.02 37 ⇓PKiKP PKiKP 23 25 53.8 +0.3
baz=127
TPAW Teton Pass 127.06 41 ePKPdf PKPdf 23 25 54.6 +1.2
D20A Manuel Ranch, 127.08 36 ⇓PKiKP PKiKP 23 25 53.9 +0.4
baz=127
MOOW Moose Ponds 127.08 41 ePKPdf PKPdf 23 25 53.7 +0.3
I17A Pilgrim Ck. 127.11 41 ⇑PKiKP PKiKP 23 25 55.1 +1.2
baz=127
DUG Dugway 127.14 46 ePKIKP PKPdf 23 25 54.5 +1.0
DUG Dugway 127.14 46 ePKPdf PKPdf 23 25 54.5 +1.0
DUG Dugway 127.14 46 ⇓PKiKP PKiKP 23 25 54.9 +0.9
baz=127
SWSC Sam W. Stewart 127.14 55 ⇓PKiKP PKiKP 23 25 54.7 +0.7
baz=127
REDW Red Top Meadow 127.18 42 ePKPdf PKPdf 23 25 54.5 +0.9
SNOW Snow King Moun 127.20 41 ePKPdf PKPdf 23 25 54.8 +1.2
SNOW epPKPdf pPKPdf 23 26 13.1 -2.5
F19A Roth Farm, Mol 127.22 38 ⇑PKiKP PKiKP 23 25 54.2 +0.3
baz=127
BC3 Big Chuckawall 127.23 55 ⇑PKiKP PKiKP 23 25 55.1 +0.7
baz=127
LOHW Long Hollow 127.23 41 ePKPdf PKPdf 23 25 54.6 +0.9
AHID Auburn Hatcher 127.28 42 ePKPdf

A22A	Carney Farms,	127.29	33	⇓PKiKP	PKiKP	23 25 54.2	+0.3
	baz=127						
ASCN	Ascension	127.33	253	ePKPdf	PKPdf	23 25 54.8	+0.4
IRM	Iron Mountain	127.34	54	⇓PKiKP	PKiKP	23 25 55.3	+0.9
	baz=127						
H18A	Shoshone NF, C	127.34	40	⇑PKiKP	PKiKP	23 25 55.2	+0.8
	baz=127						
RLMT	Red Lodge	127.38	39	ePKPpre	PKPpre	23 25 49.5	
E20A	Meyer Farm, Mu	127.38	37	⇓PKiKP	PKiKP	23 25 54.1	-0.1
	baz=127						
HWUT	Hardware Ranch	127.45	44	ePKPdf	PKPdf	23 25 52.6	-1.5
B22A	Reddig Ranch S	127.64	34	⇓PKiKP	PKiKP	23 25 55.1	+0.5
	baz=128						
CCUT	Cedar City	127.68	49	ePKPdf	PKPdf	23 25 55.0	+0.3
CTU	Camp Tracy	127.69	45	ePKPdf	PKPdf	23 25 52.4	-2.1
F20A	Billings	127.73	38	⇑PKiKP	PKiKP	23 25 55.0	+0.1
	baz=128						
NLU	North Lily Min	127.75	46	ePKPdf	PKPdf	23 25 54.9	+0.1
D21A	La Casta Ranch	127.75	36	⇓PKiKP	PKiKP	23 25 55.3	+0.4
	baz=128						
H19A	Powell	127.77	39	⇓PKiKP	PKiKP	23 25 56.0	+0.9
	baz=128						
A23A	Redstone	127.87	33	⇑PKiKP	PKiKP	23 25 55.2	+0.1
	baz=128						
GLA	Glamis	127.89	55	ePKIKP	PKPdf	23 25 56.7	+1.7
GLA	Glamis	127.89	55	ePKPdf	PKPdf	23 25 56.7	+1.7
GLA	Glamis	127.89	55	⇑PKiKP	PKiKP	23 25 56.4	+0.8
	baz=128						
JLU	Jordanelle	127.94	45	ePKPdf	PKPdf	23 25 55.7	+0.6
Y12C	Blythe	127.95	54	⇓PKiKP	PKiKP	23 25 56.3	+0.7
	baz=128						
G20A	Bridger	127.98	38	⇑PKiKP	PKiKP	23 25 56.0	+0.5
	baz=128						
E21A	Keefer Ranch,	127.99	36	⇑PKiKP	PKiKP	23 25 55.9	+0.5
	baz=128						
C22A	Vida	128.01	35	⇓PKiKP	PKiKP	23 25 55.6	+0.2
	baz=128						
MPU	Maple Canyon	128.04	46	ePKPdf	PKPdf	23 25 56.7	+1.4
W13A	Hualapai Mount	128.06	52	⇓PKiKP	PKiKP	23 25 57.1	+1.0
	baz=128						
I19A	Meeteetse	128.07	40	⇑PKiKP	PKiKP	23 25 56.3	+0.5
	baz=128						
B23A	Brockton	128.10	33	⇑PKiKP	PKiKP	23 25 55.9	+0.3
	baz=128						
PDMCI	Parker Dam,Lak	128.10	53	⇓PKiKP	PKiKP	23 25 56.8	+0.9
	baz=128						
M17A	Scullys Gap (B	128.12	44	⇑PKiKP	PKiKP	23 25 56.2	+0.1
	baz=128						
DAU	Daniels Canyon	128.15	45	ePKIKP	PKPdf	23 25 57.1	+1.5
DAU	Daniels Canyon	128.15	45	ePKPdf	PKPdf	23 25 57.1	+1.5
D22A	Cohagen	128.18	35	⇓PKiKP	PKiKP	23 25 56.3	+0.5
	baz=128						
MVU	Marysvale	128.19	48	ePKPdf	PKPdf	23 25 56.8	+1.1
BW06	Boulder Array	128.29	42	ePKPdf	PKPdf	23 25 56.6	+0.9
PD31	Pinedale Array	128.29	42	ePKPpre	PKPpre	23 25 50.0	
PD31				ePKPdf	PKiKP	23 25 56.8	+0.4
PDAR	Pinedale Array	128.29	42	PKhKP	PKPpre	23 25 50.0	
	comp=Z,1.0nm,0.8s,baz=243,slow=0.3,SNR=5.1						
PDAR				PKP	PKiKP	23 25 56.8	+0.4
	comp=Z,56nm,1.2s,baz=221,slow=1.6,SNR=72						
PDAR				SKKPbc	SKKPbc	23 38 53.0	-11
	comp=Z,3.4nm,1.0s,baz=117,slow=5.6,SNR=6.6						
F21A	Absaloka Mine,	128.33	37	⇑PKiKP	PKiKP	23 25 56.4	+0.3
	baz=128						
L18A	Fontenelle, Gr	128.35	43	⇑PKiKP	PKiKP	23 25 56.8	+0.4
	baz=128						
A24A	Westby	128.36	32	⇓PKiKP	PKiKP	23 25 56.2	+0.2
	baz=128						
C23A	Lambert	128.37	34	⇓PKiKP	PKiKP	23 25 56.6	+0.5
	baz=128						
J19A	Crowheart	128.40	41	⇓PKiKP	PKiKP	23 25 56.6	+0.1
	baz=128						
LAO	LASA Array	128.40	36	ePKPdf	PKPdf	23 25 57.1	+1.5
H20A	Greybull	128.48	39	⇓PKiKP	PKiKP	23 25 56.6	+0.1
	baz=128						
DGMT	Dagmar	128.53	33	ePKPdf	PKPdf	23 25 54.1	-1.6
DGMT	Dagmar	128.53	33	⇑PKiKP	PKiKP	23 25 56.4	0.0
	baz=128						
G21A	Lodge Grass	128.59	38	⇓PKiKP	PKiKP	23 25 57.0	+0.3
	baz=128						
TMUT	Trail Mountain	128.62	46	ePKPdf	PKPdf	23 25 57.4	+0.8
I20A	Worland	128.66	40	⇑PKiKP	PKiKP	23 25 57.2	+0.3
	baz=129						
E22A	Miles City	128.70	36	⇑PKiKP	PKiKP	23 25 57.2	+0.4
	baz=129						
D23A	Lindsay	128.72	35	⇑PKiKP	PKiKP	23 25 57.5	+0.7
	baz=129						
L19A	Farson	128.73	42	PKiKP	PKiKP	23 25 57.7	+0.4
	baz=129						
K19A	Absolon Red Bu	128.73	41	⇓PKiKP	PKiKP	23 25 56.9	-0.2
	baz=129						
Q16A	Castle Valley	128.79	47	ePKPdf	PKPdf	23 25 56.9	+0.1
Q16A	Castle Valley	128.79	47	⇑PKiKP	PKiKP	23 25 57.9	+0.5
	baz=129						
A25A	Svangstu Ranch	128.82	32	⇑PKiKP	PKiKP	23 25 57.6	+0.7
	baz=129						
113A	Mohawk Valley,	128.83	55	⇓PKiKP	PKiKP	23 25 58.3	+0.9
	baz=129						
U15A	North Rim	128.87	50	⇓PKiKP	PKiKP	23 25 58.9	+1.2
	baz=129						
F22A	Rosebud	128.87	37	⇓PKiKP	PKiKP	23 25 57.6	+0.4
	baz=129						
C24A	Savage	128.95	34	⇓PKiKP	PKiKP	23 25 58.0	+0.7
	baz=129						
J20A	Shoshoni	128.98	40	⇑PKiKP	PKiKP	23 25 58.1	+0.6
	baz=129						
H21A	Big Horn, Sher	129.00	38	⇑PKiKP	PKiKP	23 25 57.7	+0.1
	baz=129						
Y14A	Wickenburg	129.10	53	⇑PKiKP	PKiKP	23 25 58.3	+0.3
	baz=129						
M19A	Rock Springs	129.13	43	⇑PKiKP	PKiKP	23 25 58.4	+0.4
	baz=129						
K20A	Yellowstone Ra	129.14	41	⇓PKiKP	PKiKP	23 25 57.8	-0.1
	baz=129						
G22A	Birney	129.15	37	⇑PKiKP	PKiKP	23 25 58.0	+0.1
	baz=129						
SRU	San Rafael	129.18	46	ePKIKP	PKPdf	23 25 57.6	+0.1
SRU	San Rafael	129.18	46	ePKPdf	PKPdf	23 25 57.6	+0.1
B25A	Knox Farm, Ray	129.20	33	⇓PKiKP	PKiKP	23 25 57.9	+0.2
	baz=129						
D24A	Glendive	129.24	34	⇓PKiKP	PKiKP	23 25 58.6	+0.8
	baz=129						
I21A	Big Trails, Te	129.25	40	⇑PKiKP	PKiKP	23 25 57.9	-0.2
	baz=129						
Z14A	Wintersburg	129.32	54	⇑PKiKP	PKiKP	23 25 59.2	+0.8
	baz=129						
J21A	Lysite	129.39	40	⇑PKiKP	PKiKP	23 25 58.3	-0.2
	baz=129						
A26A	Wade Farm, Ken	129.40	31	⇑PKiKP	PKiKP	23 25 58.1	0.0
	baz=129						
F23A	Volborg	129.41	36	⇑PKiKP	PKiKP	23 25 58.3	0.0
	baz=129						
H22A	Clearmont	129.44	38	⇑PKiKP	PKiKP	23 25 58.4	0.0
	baz=129						
L20A	Wamsutter	129.44	42	⇓PKiKP	PKiKP	23 25 58.8	+0.1
	baz=129						
C25A	Freed Ranch, W	129.48	33	⇓PKiKP	PKiKP	23 25 58.9	+0.6
	baz=129						
E24A	Baker	129.57	35	⇓PKiKP	PKiKP	23 25 59.1	+0.6
	baz=130						
B26A	Jensen Ranch,	129.62	32	⇑PKiKP	PKiKP	23 25 58.7	+0.1
	baz=130						
O19A	Miners Draw (B	129.68	44	⇑PKiKP	PKiKP	23 25 59.2	+0.1
	baz=130						
G23A	Biddle	129.70	37	⇓PKiKP	PKiKP	23 25 58.9	0.0
	baz=130						
I22A	9 Mile Ranch,	129.72	39	⇑PKiKP	PKiKP	23 25 59.0	0.0
	baz=130						
PMPS	Porto Santo	129.77	306	ePKP	PKPdf	23 26 00.5	+2.0
A27A	Ledoux Ranch,	129.77	31	⇑PKiKP	PKiKP	23 25 59.1	+0.3
	baz=130						
D25A	Fairfield	129.78	34	⇓PKiKP	PKiKP	23 25 59.4	+0.4
	baz=130						
M20A	Sweetwater, Wa	129.78	43	⇑PKiKP	PKiKP	23 25 59.5	+0.2
	baz=130						
214A	Organ Pipe Nat	129.83	56	⇑PKiKP	PKiKP	23 26 00.0	+0.5
	baz=130						
K21A	Alcova	129.86	41	⇑PKiKP	PKiKP	23 25 59.3	-0.2
	baz=130						
WUAZ	Wupatki	129.88	51	ePKPpre	PKPpre	23 25 50.9	
WUAZ				ePKPdf	PKiKP	23 26 00.7	+1.1
WUAZ	Wupatki	129.88	51	⇑PKiKP	PKiKP	23 26 00.3	+0.7
	baz=130						
F24A	Ekalaka	129.90	36	⇑PKiKP	PKiKP	23 25 59.1	-0.2
	baz=130						
J22A	Midwest	129.97	40	⇑PKiKP	PKPdf	23 25 59.0	+0.2
	baz=130						
N20A	Spence Gulch,	130.03	43	⇓PKiKP	PKiKP	23 26 00.4	+0.5
	baz=130						
H23A	Clabaugh Cattl	130.03	38	⇓PKiKP	PKiKP	23 25 59.3	-0.4
	baz=130						
C26A	Wahner Farm, P	130.04	33	⇑PKiKP	PKiKP	23 25 59.7	+0.3
	baz=130						
PLCA	Paso Flores	130.05	174	ePKPdf	PKPdf	23 26 00.3	+1.3
PLCA	Paso Flores	130.05	174	PKP	PKPdf	23 26 00.5	+1.5
	comp=Z,109nm,1.3s,baz=182,slow=2.8,SNR=39						
PLCA				SKPbc	SKPbc	23 29 15.8	+0.8
	comp=Z,19nm,1.1s,baz=184,slow=5.9,SNR=3.7						
P19A	Cripple Cowboy	130.06	45	⇑PKiKP	PKiKP	23 26 00.4	+0.5
	baz=130						
L21A	Rawlins	130.10	42	⇑PKiKP	PKiKP	23 25 59.8	-0.2
	baz=130						
B27A	Peters Farms,	130.11	31	⇑PKiKP	PKiKP	23 25 59.5	0.0
	baz=130						
E25A	Miller Ranch,	130.12	35	⇑PKiKP	PKiKP	23 25 59.8	+0.1
	baz=130						
X16A	Lo Mia Camp, P	130.19	52	⇓PKiKP	PKiKP	23 26 00.9	+0.6
	baz=130						
G24A	Alzada	130.20	36	⇑PKiKP	PKPdf	23 25 59.2	+0.1
	baz=130						
A28A	Rude Farm, Bot	130.29	30	⇑PKiKP	PKiKP	23 25 59.6	-0.3
	baz=130						
I23A	Meade Ranch, G	130.31	38	⇑PKiKP	PKPdf	23 25 59.3	-0.1
	baz=130						
K22A	Casper	130.32	40	ePKPdf	PKPdf	23 25 59.2	-0.3
K22A				eSKPbc	SKPab	23 29 13.6	-2.3
K22A	Casper	130.32	40	⇑PKiKP	PKiKP	23 25 59.9	-0.4
	baz=130						
PMAR	Madeira	130.33	305	ePKP	PKPdf	23 26 02.2	+2.4
PMAR				i P	SKPbc	23 29 17.9	+1.5
D26A	Manning	130.34	34	⇑PKiKP	PKiKP	23 25 59.8	-0.2
	baz=130						
RWWY	Rawlins	130.34	42	ePKPdf	PKPdf	23 25 58.6	-1.1
RWWY				eSKPbc	SKPab	23 29 15.4	-0.7
O20A	White River Ci	130.35	44	ePKPdf	PKPdf	23 26 00.4	+0.7
O20A				eSKPbc	SKPab	23 29 16.1	-0.1
O20A	White River Ci	130.35	44	⇑PKiKP	PKiKP	23 26 00.9	+0.3
	baz=130						
C27A	Sayler Ranch,	130.42	32	⇓PKiKP	PKiKP	23 26 00.5	+0.3
	baz=130						
F25A	Bowman	130.42	35	⇑PKiKP	PKiKP	23 26 00.5	+0.2
	baz=130						
H24A	Dirks Ranch, A	130.44	37	⇓PKiKP	PKPdf	23 25 59.8	+0.2
	baz=130						
P20A	De Beque	130.53	45	⇓PKiKP	PKiKP	23 26 00.9	+0.1
	baz=130						
PMOZ	Porto Moniz, M	130.53	306	ePKP	PKPdf	23 26 03.0	+2.9
PMOZ				i P	SKPbc	23 29 17.8	+0.8
PMOZ				i P	PKSbc	23 29 21.6	-3.7
B28A	Dugan Ranch, T	130.54	31	⇑PKiKP	PKiKP	23 26 00.4	+0.1
	baz=130						
J23A	Dilts Ranch, B	130.55	39	⇑PKiKP	PKPdf	23 26 00.1	+0.3
	baz=130						
N21A	Black Mountain	130.57	43	⇓PKiKP	PKiKP	23 26 01.1	+0.1
	baz=130						
E26A	Carlson Angus	130.66	34	⇓PKiKP	PKiKP	23 26 00.9	+0.1
	baz=131						
L22A	Ellis Ranch, M	130.68	41	⇓PKiKP	PKiKP	23 26 01.1	0.0
	baz=131						
D27A	Center	130.78	33	⇓PKiKP	PKiKP	23 26 01.0	+0.1
	baz=131						
A29A	Manning Farm,	130.80	30	⇓PKiKP	PKiKP	23 26 00.9	0.0
	baz=131						
Q20A	Ridgley Place,	130.83	46	⇑PKiKP	PKiKP	23 26 01.9	+0.4
	baz=131						
K23A	Bowen Ranch, D	130.84	40	⇓PKiKP	PKiKP	23 26 01.0	-0.3
	baz=131						
O21A	Pagoda	130.85	44	⇓PKiKP	PKiKP	23 26 01.5	-0.1
	baz=131						
G25A	Newell	130.86	36	⇑PKiKP	PKPdf	23 26 00.3	0.0
	baz=131						
M22A	Cedar Creek Ra	130.88	42	⇓PKiKP	PKiKP	23 26 01.5	-0.1
	baz=131						
I24A	Kuemmerle Ranc	130.88	38	⇑PKiKP	PKPdf	23 26 00.4	-0.1
	baz=131						
F26A	Lodgepole	130.91	35	⇑PKiKP	PKiKP	23 26 00.9	-0.4
	baz=131						
C28A	Hausauer Farms	131.00	32	⇑PKiKP	PKiKP	23 26 01.1	-0.3
	baz=131						
G27A	Dupree	131.04	36	⇑PKiKP	PKiKP	23 26 02.1	+0.5
	baz=132						
B29A	Wagenman Farm,	131.04	30	⇑PKiKP	PKiKP	23 26 01.0	-0.4
	baz=131						
R20A	Redvale	131.09	47	⇓PKiKP	PKiKP	23 26 02.3	+0.2
	baz=131						
RSSD	Black Hills	131.10	38	eSKPbc	SKPbc	23 29 17.6	-1.3
L23A	Garrett	131.11	41	⇓PKiKP	PKPdf	23 26 01.4	+0.3
	baz=131						
J24A	Dixon Ranch, L	131.14	39	⇓PKiKP	PKPdf	23 26 01.2	+0.2
	baz=131						
P21A	Newcastle	131.17	45	⇑PKiKP	PKiKP	23 26 02.0	-0.2
	baz=131						
E27A	Carson	131.18	34	⇓PKiKP	PKiKP	23 26 01.6	-0.1
	baz=131						
D28A	Regan	131.24	32	⇑PKiKP	PKPdf	23 26 01.4	+0.5
	baz=131						
S20A	Disappointment	131.25	47	⇑PKiKP	PKiKP	23 26 02.2	-0.3
	baz=131						
N22A	Wattenberg Ran	131.26	43	⇓PKiKP	PKPdf	23 26 01.8	+0.3
	baz=131						
F27A	Lemmon	131.26	35	⇓PKiKP	PKPdf	23 26 01.3	+0.3
	baz=131						
W18A	Petrified Fore	131.27	51	ePKPdf	PKPdf	23 26 02.8	+1.2
W18A				eSKPbc	SKPbc	23 29 18.3	-1.5
W18A	Petrified Fore	131.27	51	⇓PKiKP	PKiKP	23 26 02.2	-0.3
	baz=131						
G26A	Maurine	131.28	35	⇓PKiKP	PKPdf	23 26 01.3	+0.3
	baz=131						
X18A	Snowflake	131.31	52	⇑PKiKP	PKiKP	23 26 02.4	-0.2
	baz=131						
MDND	Maddock	131.32	31	ePKPdf	PKPdf	23 26 02.4	+1.4
MDND				eSKPbc	SKPbc	23 29 19.0	-0.3
MDND	Maddock	131.32	31	⇓PKiKP	PKPdf	23 26 01.4	+0.4
	baz=131						
I25A	Rochford	131.34	38	⇑PKiKP	PKPdf	23 26 01.4	0.0
	baz=131						
K24A	Anderson Ranch	131.37	40	⇓PKiKP	PKPdf	23 26 01.6	+0.2
	baz=131						
TUC	Tucson	131.37	55	ePKIKP	PKPdf	23 26 03.5	+1.8
TUC	Tucson	131.37	55	ePKPdf	PKPdf	23 26 03.5	+1.8
TUC				eSKPbc	SKPbc	23 29 19.5	-0.6
Q21A	Lamborn Mesa,	131.39	45	⇑PKiKP	PKiKP	23 26 02.8	+0.2
	baz=131						
MVCO	Mesa Verde	131.40	48	ePKPpre	PKPpre	23 25 52.1	
MVCO				ePKPdf	PKiKP	23 26 02.6	-0.2
MVCO				eSKPbc	SKPbc	23 29 19.8	-0.5
MVCO	Mesa Verde	131.40	48	⇑PKiKP	PKiKP	23 26 02.5	-0.3
	baz=131						
O22A	Kremmling	131.50	43	⇓PKiKP	PKPdf	23 26 02.3	+0.3
	baz=131						
N23A	Red Feather La	131.56	42	⇑PKiKP	PKPdf	23 26 02.5	+0.5
	baz=132						
B30A	Myrvik Farm, E	131.56	30	⇑PKiKP	PKPdf	23 26 01.7	+0.3
	baz=132						
E28A	Huff	131.56	33	⇓PKiKP	PKiKP	23 26 02.1	-0.4
	baz=132						
H26A	Fairpoint	131.57	36	⇑PKiKP	PKPdf	23 26 01.6	0.0
	baz=132						
R21A	Cimarron	131.61	46	⇑PKiKP	PKiKP	23 26 03.0	-0.2
	baz=132						
P22A	Eagle	131.62	44	⇓PKiKP	PKiKP	23 26 03.1	0.0
	baz=132						
J25A	Sunshine Ranch	131.64	38	⇓PKiKP	PKPdf	23 26 02.4	+0.5
	baz=132						
L24A	Wheatland	131.64	40	⇑PKiKP	PKiKP	23 26 02.6	-0.4
	baz=132						
SMCO	Snowmass	131.66	45	ePKPdf	PKPdf	23 26 03.8	+1.4
SMCO				eSKPbc	SKPbc	23 29 21.3	0.0
PHWY	Pilot Hill	131.68	41	ePKPdf	PKPdf	23 26 01.6	-0.7
PHWY				eSKPbc	SKPbc	23 29 20.1	-1.1
U20A	Newcomb	131.72	49	⇓PKiKP	PKiKP	23 26 03.7	+0.3
	baz=132						
S21A	Coal Bank Pass	131.73	47	⇑PKiKP	PKiKP	23 26 04.0	+0.4
	baz=132						
D29A	Pettibone, Tap	131.84	32	⇓PKiKP	PKiKP	23 26 02.7	-0.4
	baz=132						
Q22A	Crested Butte,	131.84	45	⇓PKiKP	PKiKP	23 26 03.7	0.0
	baz=132						
I26A	New Underwood	131.85	37	⇑PKiKP	PKiKP	23 26 02.9	-0.4
	baz=132						
O23A	Lake Granby, G	131.90	43	⇓PKiKP	PKiKP	23 26 03.8	0.0
	baz=132						
F28A	McLaughlin	131.95	34	⇓PKiKP	PKiKP	23 26 03.0	-0.3
	baz=132						
H27A	Howes	131.96	36	⇓PKiKP	PKPdf	23 26 02.8	+0.4
	baz=132						
V20A	Brimhall	131.98	49	⇓PKiKP	PKiKP	23 26 03.8	-0.2
	baz=132						
C30A	Mose, Pekin	131.99	31	⇑PKiKP	PKPdf	23 26 02.7	+0.5
	baz=132						
M24A	Cheyenne	132.01	41	⇓PKiKP	PKiKP	23 26 03.5	-0.3
	baz=132						
K25A	Mack Ranch, Ha	132.02	39	⇑PKiKP	PKiKP	23 26 03.2	-0.5
	baz=132						
J26A	Sides Ranch, S	132.12	38	⇑PKiKP	PKPdf	23 26 03.3	+0.5
	baz=132						
E29A	Napoleon	132.13	32	⇑PKiKP	PKPdf	23 26 02.7	+0.1
	baz=132						
T21A	Navajo Lake	132.20	48	⇑PKiKP	PKiKP	23 26 04.9	+0.5
	baz=132						
L25A	Engebretsen Ra	132.20	40	⇓PKiKP	PKiKP	23 26 03.7	-0.4
	baz=132						
W20A	Ramah	132.21	50	⇑PKiKP	PKiKP	23 26 04.8	+0.3
	baz=132						
R22A	Saguache, Gunn	132.23	46	⇓PKiKP	PKiKP	23 26 05.1	+0.6
	baz=132						
D30A	Buchanan	132.24	31	⇑PKiKP	PKPdf	23 26 03.2	+0.4
	baz=132						
N24A	Carr	132.29	42	⇓PKiKP	PKiKP	23 26 04.0	-0.4
	baz=132						
ISCO	Idaho Springs	132.30	43	ePKIKP	PKPdf	23 26 04.3	+0.7
ISCO	Idaho Springs	132.30	43	ePKPdf	PKPdf	23 26 04.3	+0.7
ISCO				eSKPbc	SKPbc	23 29 23.6	+0.1
ISCO	Idaho Springs	132.30	43	⇓PKiKP	PKPdf	23 26 04.3	+0.7
	baz=132						
I27A	Quinn	132.31	37	⇓PKiKP	PKiKP	23 26 03.6	-0.5
	baz=132						
U21A	Nageezi	132.34	48	⇓PKiKP	PKiKP	23 26 05.2	+0.6
	baz=132						
P23A	Jefferson	132.35	44	⇑PKiKP	PKPdf	23 26 03.8	+0.1
	baz=132						
G28A	Parade	132.36	35	⇓PKiKP	PKPdf	23 26 03.6	+0.5
	baz=132						
S22A	4UR Ranch, Cre	132.39	46	⇓PKiKP	PKiKP	23 26 05.5	+0.7
	baz=132						
K26A	Motz Farm, Whi	132.40	39	⇑PKiKP	PKPdf	23 26 03.6	+0.3
	baz=132						
X20A	Quemado	132.43	51	⇑PKiKP	PKiKP	23 26 05.4	+0.5
	baz=132						
F29A	Eureka	132.50	33	⇑PKiKP	PKiKP	23 26 03.9	-0.5
	baz=132						
O24A	Longmont	132.51	43	⇓PKiKP	PKiKP	23 26 04.5	-0.3
	baz=132						
M25A	Palm-Egli Farm	132.52	41	⇑PKiKP	PKiKP	23 26 04.3	-0.5
	baz=132						
H28A	Mission Ridge	132.54	35	⇓PKiKP	PKiKP	23 26 04.1	-0.5
	baz=132						
E30A	Jud	132.56	32	⇓PKiKP	PKPdf	23 26 03.9	+0.5
	baz=132						
Q23A	Hartsel	132.57	44	⇓PKiKP	PKiKP	23 26 05.0	-0.2
	baz=132						
V21A	Milan	132.60	49	⇑PKiKP	PKiKP	23 26 05.3	+0.1
	baz=132						
T22A	Edith	132.65	47	⇓PKiKP	PKiKP	23 26 05.3	0.0
	baz=133						
Y20A	Horse Springs,	132.75	52	⇑PKiKP	PKiKP	23 26 06.1	+0.5
	baz=133						
J27A	Elkhorn Farm,	132.80	37	⇑PKiKP	PKPdf	23 26 04.6	+0.6
	baz=133						
N25A	Grover	132.82	41	⇑PKiKP	PKPdf	23 26 04.7	+0.4
	baz=133						
L26A	Underwood Farm	132.82	39	⇑PKiKP	PKPdf	23 26 04.7	+0.5
	baz=133						
G29A	Hoven	132.84	34	⇑PKiKP	PKPdf	23 26 04.0	0.0
	baz=133						
AGMN	Agassiz Nation	132.85	28	ePKPdf	PKPdf	23 26 04.0	+0.1
AGMN				eSKPbc	SKPbc	23 29 23.1	-1.6
W21A	San Fidel	132.86	50	⇑PKiKP	PKiKP	23 26 06.3	+0.6
	baz=133						
Z20A	Nine Sixteen R	132.86	53	⇑PKiKP	PKiKP	23 26 06.1	+0.3
	baz=133						
I28A	Midland	132.86	36	⇓PKiKP	PKPdf	23 26 04.5	+0.4
	baz=133						
319A	Douglas	132.88	55	⇓PKiKP	PKiKP	23 26 05.5	-0.3
	baz=133						
BBTS	Babate	132.89	281	SKPbc	SKPbc	23 29 25.8	0.0
	comp=Z,88nm,1.0s,baz=242,slow=0.7,SNR=10						
R23A	Moffat	132.90	45	⇑PKiKP	PKiKP	23 26 05.6	-0.2
	baz=133						
P24A	Kohler Place,	132.92	43	⇓PKiKP	PKPdf	23 26 05.1	+0.6
	baz=133						
F30A	Leola	132.93	33	⇓PKiKP	PKPdf	23 26 04.7	+0.5
	baz=133						
U22A	Llaves	132.95	48	⇓PKiKP	PKiKP	23 26 06.2	+0.3
	baz=133						
K27A	Fluecknger Fa	132.97	38	⇓PKiKP	PKPdf	23 26 04.6	+0.2
	baz=133						
TRQA	Tornquist	132.99	183	ePKPdf	PKPdf	23 26 05.3	+0.7
TRQA				eSKPbc	SKPbc	23

LPIG La Paz 133.80 65 PKP PKPdf 23 26 09.1 +2.8
comp=Z,56nm,0.3s,baz=124,slow=3.4,SNR=5.5
LPIG SKPbc SKPbc 23 29 28.8 +0.2
comp=Z,26nm,0.3s,baz=79,slow=0.2,SNR=9.2
L28A Connealy Angus 133.80 39 ⇓PKiKP PKPdf 23 26 06.1 0.0
baz=134
Y22D IRIS PASSCAL I 133.81 51 ⇓PKiKP PKPdf 23 26 06.3 0.0
baz=134
ANMO Albuquerque 133.82 50 ePKPpre PKPpre 23 25 55.2
ANMO ePKPdf PKiKP 23 26 07.3 -0.4
ANMO eSKPbc SKPbc 23 29 27.8 -0.9
ANMO Albuquerque 133.82 50 PKhKP PKPpre 23 25 58.3
comp=Z,116nm,1.1s,baz=232,slow=3.0,SNR=14
ANMO PKP PKiKP 23 26 07.9 +0.2
comp=Z,28nm,1.0s,baz=233,slow=2.5,SNR=26
ANMO SKPbc SKPbc 23 29 28.4 -0.3
comp=Z,25nm,0.9s,baz=284,slow=3.9,SNR=15
N27A Anderson Farm, 133.82 41 ⇑PKiKP PKPdf 23 26 06.4 +0.3
baz=134
Y22A Socorro 133.83 51 ⇓PKiKP PKiKP 23 26 07.2 -0.5
baz=134
BRSD Miller 133.85 34 ePKPdf PKPdf 23 26 05.9 0.0
BRSD eSKPbc SKPbc 23 29 27.5 -0.8
BRSD Miller 133.85 34 ⇓PKiKP PKPdf 23 26 06.2 +0.3
baz=134
221A Mesquite Ranch 133.88 54 ⇓PKiKP PKPdf 23 26 06.5 0.0
baz=134
I30A Oacoma 133.92 35 ⇑PKiKP PKPdf 23 26 06.5 +0.4
baz=134
LPM Los Pinos Moun 133.94 51 ePKPpre PKPpre 23 25 55.0
LPM ePKPdf PKiKP 23 26 07.3 -0.6
LPM epPKPdf pPKPdf 23 26 26.3 -2.3
LPM eSKPbc SKPbc 23 29 29.5 +0.4
P26A Davis Ranch, A 133.94 42 ⇑PKiKP PKiKP 23 26 07.4 -0.3
baz=134
W23A Werner Place, 133.97 49 ⇓PKiKP PKiKP 23 26 07.7 -0.3
baz=134
R25A Fountain Ranch 134.00 45 ⇓PKiKP PKPdf 23 26 07.1 +0.6
baz=134
BNM Barren Site 134.01 51 ePKPpre PKPpre 23 25 53.8
BNM ePKPdf PKiKP 23 26 07.5 -0.6
BNM eSKPbc SKPbc 23 29 29.4 +0.1
OGNE Ogallala 134.07 40 ⇓PKiKP PKPdf 23 26 06.7 +0.1
baz=134
U24A Moreno Valley 134.09 47 ⇑PKiKP PKiKP 23 26 08.3 0.0
baz=134
Z22A Elephant Butte 134.09 52 ⇑PKiKP PKiKP 23 26 07.9 -0.3
baz=134
K29A Lazy Trails An 134.09 37 ⇓PKiKP PKPdf 23 26 06.8 +0.3
baz=134
S25A Robets Cordova 134.12 45 ⇑PKiKP PKiKP 23 26 07.8 -0.4
baz=134
Q26A Hugo 134.15 43 ⇑PKiKP PKiKP 23 26 07.7 -0.5
baz=134
X23A Hourglass Bar 134.17 50 ⇑PKiKP PKPdf 23 26 07.8 +0.7
baz=134
O27A Beecher Island 134.19 41 ⇓PKiKP PKiKP 23 26 07.5 -0.6
baz=134
M28A Bar X Bar Ranc 134.24 39 ⇓PKiKP PKPdf 23 26 07.2 +0.4
baz=134
122A Conniff Cattle 134.26 53 ⇑PKiKP PKiKP 23 26 08.3 -0.3
baz=134
T25A Trinidad 134.38 46 ⇑PKiKP PKiKP 23 26 08.4 -0.4
baz=134
V24A Rampart Ranch, 134.38 48 ⇑PKiKP PKiKP 23 26 08.8 -0.1
baz=134
222A Williams Famil 134.39 54 ⇑PKiKP PKiKP 23 26 08.6 -0.2
baz=134
SCHQ Schefferville 134.39 2 ePKPdf PKPdf 23 26 06.3 -0.3
SCHQ eSKPbc SKPbc 23 29 28.5 -1.2
SCHQ Schefferville 134.39 2 PKP PKPdf 23 26 07.5 +0.9
comp=Z,41nm,1.0s,baz=44,slow=1.9,SNR=14
SCHQ SKPbc SKPbc 23 29 28.8 -0.8
comp=Z,81nm,1.0s,baz=39,slow=3.6,SNR=16
L29A Maesberg Ranch 134.41 38 ⇑PKiKP PKiKP 23 26 08.6 +0.1
baz=134
P27A Ficken Ranch, 134.46 42 ⇑PKiKP PKiKP 23 26 08.2 -0.6
baz=134
W24A Lazy 6 Ranch, 134.50 49 ⇓PKiKP PKiKP 23 26 08.9 -0.2
baz=134
R26A Arlington 134.50 44 ⇑PKiKP PKiKP 23 26 08.5 -0.4
baz=134
N28A Pribbeno Ranch 134.53 40 ⇑PKiKP PKPdf 23 26 07.5 +0.1
baz=134
Y23A Lovelace Mesa, 134.53 51 ⇑PKiKP PKiKP 23 26 09.0 -0.2
baz=134
M29A Burnside Ranch 134.64 39 ⇑PKiKP PKPdf 23 26 07.8 +0.3
baz=135
Z23A Rita Site, Whi 134.65 52 ⇑PKiKP PKiKP 23 26 09.3 0.0
baz=135
O28A Krutsinger Ran 134.68 41 ⇓PKiKP PKPdf 23 26 08.2 +0.5
baz=135
KSCO Kaye Shedlock' 134.70 43 ePKPdf PKPdf 23 26 06.2 -1.6
KSCO eSKPbc SKPbc 23 29 32.6 +1.3
KSCO Kaye Shedlock' 134.70 43 ⇑PKiKP PKPdf 23 26 08.5 +0.6
baz=135
U25A Circle Dot Ran 134.72 47 ⇑PKiKP PKiKP 23 26 08.9 -0.6
baz=135
X24A Lazy VL Ranch, 134.75 50 ⇓PKiKP PKiKP 23 26 09.2 -0.4
baz=135
S26A Kim 134.82 45 ⇑PKiKP PKiKP 23 26 09.1 -0.5
baz=135
V25A Rancho No Teng 134.82 48 ⇑PKiKP PKiKP 23 26 09.7 0.0
baz=135
123A Bell Site, Whi 134.86 53 ⇓PKiKP PKiKP 23 26 09.7 -0.1
baz=135
L30A Spencer Herefo 134.93 38 ⇓PKiKP PKiKP 23 26 09.8 +0.2
baz=135
T26A Comanche Natio 134.94 45 ⇑PKiKP PKiKP 23 26 09.3 -0.6
baz=135
R27A Eads 134.96 44 ⇓PKiKP PKiKP 23 26 09.3 -0.5
baz=135
223A Chaparral, Ant 134.96 53 ⇑PKiKP PKiKP 23 26 09.8 -0.1
baz=135
P28A Saint Francis 134.99 42 ⇑PKiKP PKPdf 23 26 08.8 +0.4
baz=135
Y24A Capitan 135.00 51 ⇓PKiKP PKiKP 23 26 09.9 -0.2
baz=135
N29A Votaw Ranch, W 135.03 39 ⇑PKiKP PKPdf 23 26 08.7 +0.4
baz=135
EYMN Ely 135.07 26 ePKPdf PKPdf 23 26 08.5 +0.4
EYMN epPKPdf pPKPdf 23 26 25.6 -4.5
EYMN eSKPbc SKPbc 23 29 30.1 -1.9
M30A Dale-Ortello V 135.08 38 ⇑PKiKP PKPdf 23 26 08.8 +0.4
baz=135
S27A Las Animas 135.18 44 ⇓PKiKP PKiKP 23 26 09.8 -0.5
baz=135
U26A Atchley Ranch, 135.20 47 ⇓PKiKP PKiKP 23 26 09.8 -0.6
baz=135
W25A X Bar L Ranch, 135.20 48 ⇑PKiKP PKiKP 23 26 09.9 -0.5
baz=135
Q28A Sharon Springs 135.21 42 ⇑PKiKP PKiKP 23 26 09.8 -0.4
baz=135
Z24A Sheeppen Canyo 135.29 51 ⇑PKiKP PKiKP 23 26 10.6 -0.2
baz=135
O29A 4D Ranch, Culb 135.31 40 ⇓PKiKP PKPdf 23 26 09.5 +0.6
baz=135
L31A Butterfield Fa 135.32 37 ⇑PKiKP PKPdf 23 26 09.1 +0.3
baz=135
X25A Clemmons Ranch 135.34 49 ⇓PKiKP PKiKP 23 26 10.0 -0.7
baz=135
N30A Hueftle Ranch, 135.37 39 ⇑PKiKP PKPdf 23 26 09.4 +0.5
baz=135
V26A Tequesquite Ra 135.44 47 ⇑PKiKP PKPdf 23 26 09.9 +0.5
baz=135
124A Stringfield Ra 135.47 52 ⇑PKiKP PKiKP 23 26 10.6 -0.5
baz=135
P29A Atwood 135.51 41 ⇑PKiKP PKPdf 23 26 10.0 +0.7
baz=135
Y25A Mesa, Roswell 135.57 50 ⇓PKiKP PKiKP 23 26 10.6 -0.6
baz=136
R28A Tribune 135.59 43 ⇓PKiKP PKiKP 23 26 10.5 -0.5
baz=136
ECSD EROS Data Cent 135.60 34 ePKPpre PKPpre 23 25 58.2
ECSD ePKPdf PKPdf 23 26 08.0 -1.2
ECSD epPKPdf pPKPdf 23 26 27.2 -3.9
ECSD eSKPbc SKPbc 23 29 33.1 -0.7
T27A Campo 135.61 45 ⇑PKiKP PKiKP 23 26 10.7 -0.4
baz=136
224A Cornudas Mount 135.65 53 ⇓PKiKP PKiKP 23 26 11.1 -0.3
baz=136
M31A Lambtecht Ranc 135.74 38 ⇑PKiKP PKPdf 23 26 09.5 -0.1
baz=136
O30A MW Ranch, Wils 135.75 40 ⇓PKiKP PKiKP 23 26 10.5 -0.7
baz=136
W26A Owens Ranch, T 135.77 48 ⇓PKiKP PKiKP 23 26 10.8 -0.8
baz=136
Z25A Roswell 135.81 51 ⇑PKiKP PKPdf 23 26 10.8 +0.7
baz=136
U27A Thompson Grove 135.84 46 ⇓PKiKP PKiKP 23 26 10.9 -0.7
baz=136
Q29A Oakley 135.86 42 ⇓PKiKP PKPdf 23 26 10.6 +0.6
baz=136
MNTX Cornudas Mount 135.90 53 ePKPpre PKPpre 23 25 56.9
MNTX ePKPdf PKPdf 23 26 09.8 -0.3
MNTX epPKPdf pPKPdf 23 26 30.1 -2.0
MNTX ePP PP 23 28 48.2 -1.3
MNTX eSKPbc SKPbc 23 29 34.7 -0.4
324A Moseley Ranch, 135.91 54 ⇓PKiKP PKiKP 23 26 11.3 -0.7
baz=136
S28A Manter 135.92 44 ⇓PKiKP PKiKP 23 26 10.9 -0.8
baz=136
X26A CR and CF Fran 135.97 49 ⇑PKiKP PKPdf 23 26 11.1 +0.7
baz=136
P30A Selden 135.98 41 ⇓PKiKP PKPdf 23 26 10.8 +0.7
baz=136
R29A Marienthal 136.00 43 ⇓PKiKP PKiKP 23 26 11.1 -0.7
baz=136
T28A Walsh 136.00 45 ⇓PKiKP PKPdf 23 26 11.1 +0.8
baz=136
N31A Bailey Ranch, 136.06 38 ⇑PKiKP PKPdf 23 26 10.4 +0.2
baz=136
125A Gardner Draw, 136.10 52 ⇓PKiKP PKiKP 23 26 11.6 -0.7
baz=136
V27A Dan Oppiter Fa 136.15 47 ⇑PKiKP PKPdf 23 26 11.1 +0.5
baz=136
225A Deer Hill, Car 136.19 53 ⇓PKiKP PKiKP 23 26 12.1 -0.5
baz=136
BGNE Belgrade 136.20 37 ePKPpre PKPpre 23 25 59.2
BGNE ePKPdf PKPdf 23 26 09.3 -1.1
BGNE epPKPdf pPKPdf 23 26 27.3 -5.1
BGNE eSKPbc SKPbc 23 29 34.8 -0.9
BGNE Belgrade 136.20 37 ⇓PKiKP PKiKP 23 26 11.3 -0.8
baz=136
O31A Woolen Ranch, 136.22 39 ⇑PKiKP PKPdf 23 26 10.8 +0.3
baz=136
Y26A Elida 136.23 50 ⇑PKiKP PKiKP 23 26 11.8 -0.7
baz=136
U28A Mallet 136.29 46 ⇑PKiKP PKPdf 23 26 11.4 +0.6
baz=136
W27A Bowe Ranch, En 136.30 48 ⇓PKiKP PKPdf 23 26 11.8 +0.8
baz=136
Q30A Quinter 136.31 41 ⇓PKiKP PKPdf 23 26 11.3 +0.6
baz=136
325A Bean Ranch, Si 136.34 54 ⇓PKiKP PKiKP 23 26 12.2 -0.7
baz=136
Z26A Caprock 136.38 51 ⇑PKiKP PKPdf 23 26 11.3 +0.2
baz=136
S29A Ulysses 136.44 44 ⇑PKiKP PKiKP 23 26 12.0 -0.8
baz=136
X27A F and S Farms, 136.46 48 ⇓PKiKP PKPdf 23 26 12.0 +0.7
baz=136
N32A Stulken Farm, 136.50 38 ⇓PKiKP PKiKP 23 26 12.2 -0.5
baz=136
SPMN St. Paul 136.52 29 ePKPpre PKPpre 23 25 57.8
SPMN ePKPdf PKPdf 23 26 09.0 -1.8
SPMN eSKPbc SKPbc 23 29 35.8 -0.8
SPMN St. Paul 136.52 29 ⇓PKiKP PKPdf 23 26 11.4 +0.6
baz=136
425A Indio Mountain 136.54 54 ⇑PKiKP PKiKP 23 26 12.4 -0.8
baz=136
P31A Stockton 136.55 40 ⇑PKiKP PKPdf 23 26 12.0 +0.9
baz=136
T29A Hugoton 136.55 44 ⇓PKiKP PKPdf 23 26 12.1 +0.8
baz=136
V28A Channing 136.59 47 ⇑PKiKP PKiKP 23 26 12.3 -0.8
baz=136
126A Clayton Basin, 136.60 52 ⇑PKiKP PKPdf 23 26 12.2 +0.7
baz=136
R30A Dighton 136.65 42 ⇓PKiKP PKPdf 23 26 12.3 +0.9
baz=137
226B Tecolote Peak, 136.71 52 ⇑PKiKP PKPdf 23 26 12.5 +0.8
baz=137
Y27A Causey 136.74 49 ⇓PKiKP PKiKP 23 26 12.8 -0.8
baz=137
O32A Brockman Farm, 136.81 39 ⇓PKiKP PKiKP 23 26 12.5 -0.8
baz=137
Q31A Ellis 136.83 41 ⇓PKiKP PKPdf 23 26 12.1 +0.5
baz=137
W28A Vega 136.83 47 ⇓PKiKP PKiKP 23 26 13.0 -0.7
baz=137
S30A Montezuma 136.87 43 ⇓PKiKP PKiKP 23 26 13.1 -0.5
baz=137
U29A Oasis Ranch, S 136.92 45 ⇑PKiKP PKiKP 23 26 13.2 -0.6
baz=137
Z27A Tatum 136.95 50 ⇑PKiKP PKPdf 23 26 13.0 +0.9
baz=137
MSTX Muleshoe 137.00 49 ePKPpre PKPpre 23 26 00.1
MSTX ePKPdf PKPdf 23 26 10.3 -1.9
MSTX epPKPdf pPKPdf 23 26 28.2 -6.0
MSTX eSKPbc SKPbc 23 29 37.2 -1.4
MSTX Muleshoe 137.00 49 ⇓PKiKP PKPdf 23 26 13.0 +0.8
baz=137
V29A Stinnett 137.03 46 ⇑PKiKP PKPdf 23 26 12.9 +0.7
baz=137
127A Arkansas Junct 137.10 51 ⇑PKiKP PKPdf 23 26 13.3 +0.8
baz=137
T30A Plains 137.13 44 ⇓PKiKP PKiKP 23 26 13.5 -0.7
baz=137
R31A Burdett 137.14 42 ⇑PKiKP PKPdf 23 26 12.8 +0.5
baz=137
326A Caldwell Ranch 137.15 53 ⇑PKiKP PKPdf 23 26 13.2 +0.7
baz=137
X28A Dimmitt 137.18 48 ⇑PKiKP PKPdf 23 26 13.3 +0.7
baz=137
W29A Amraillo 137.30 47 ⇓PKiKP PKPdf 23 26 13.5 +0.8
baz=137
U30A WK&E Inc. Balk 137.31 45 ⇓PKiKP PKPdf 23 26 13.5 +0.8
baz=137
426A McDonald Obser 137.35 54 ⇓PKiKP PKPdf 23 26 14.0 +0.9
baz=137
Y28A McKinney Farm, 137.41 49 ⇓PKiKP PKiKP 23 26 14.2 -0.7
baz=137
227A Bennet, Jal 137.42 52 ⇓PKiKP PKPdf 23 26 13.9 +0.8
baz=137
327A Balmorhea Ranc 137.52 53 ⇑PKiKP PKiKP 23 26 14.3 -0.8
baz=138
COWI Conover 137.52 26 ePKPdf PKPdf 23 26 12.5 -0.2
COWI eSKPbc SKPbc 23 29 38.7 -0.8
526A Mary Lane Ranc 137.53 55 ⇓PKiKP PKiKP 23 26 14.4 -0.9
baz=138
S31A Mullinville 137.54 43 ⇑PKiKP PKPdf 23 26 13.8 +0.8
baz=138
X29A Tulia 137.58 48 ⇑PKiKP PKPdf 23 26 14.2 +1.0
baz=138
Z28A Tucker Farm, M 137.58 50 ⇓PKiKP PKPdf 23 26 13.8 +0.5
baz=138
626A Big Bend Ranch 137.67 56 ⇓PKiKP PKPdf 23 26 14.3 +0.8
baz=138
V30A Spur Ranch, Mi 137.67 46 ⇑PKiKP PKPdf 23 26 14.3 +0.9
baz=138
T31A Randall Ranch, 137.69 43 ⇓PKiKP PKPdf 23 26 14.3 +1.0
baz=138
427A Hayter Ranch, 137.79 54 ⇑PKiKP PKPdf 23 26 14.7 +1.0
baz=138
128A Castleberry Fa 137.79 51 ⇑PKiKP PKPdf 23 26 14.4 +0.7
baz=138
Y29A Porterfield Fa 137.87 49 ⇓PKiKP PKiKP 23 26 14.9 -0.9
baz=138
527A Woodward Ranch 137.88 55 ⇑PKiKP PKPdf 23 26 14.9 +0.9
baz=138
228A UT Block 9, Go 137.92 52 ⇑PKiKP PKPdf 23 26 14.8 +0.8
baz=138
U31A Nine Bar Ranch 137.95 44 ⇑PKiKP PKiKP 23 26 14.9 -0.9
baz=138
W30A Crocket Farms 138.04 46 ⇓PKiKP PKPdf 23 26 15.0 +0.9
baz=138
328A Wristen Ranch, 138.05 53 ⇑PKiKP PKPdf 23 26 15.2 +1.0
baz=138
Z29A Hungry Hill Ra 138.11 49 ⇓PKiKP PKPdf 23 26 15.0 +0.7
baz=138
TX31 Lajitas Ar. Si 138.13 56 ePKPpre PKPpre 23 26 00.7
TX31 ePKPdf PKPdf 23 26 11.4 -3.0
TX31 eSKPbc SKPbc 23 29 41.0 -1.0
LTX Lajitas 138.13 56 ePKHKP PKPpre 23 26 04.4
LTX Lajitas 138.13 56 ePKPpre PKPpre 23 26 04.4
LTX eSKPbc SKPbc 23 29 41.6 -0.3
TXAR Lajitas Array 138.13 56 PKhKP PKPpre 23 26 04.4
comp=Z,9.7nm,0.9s,baz=252,slow=3.3,SNR=36
TXAR SKPbc SKPbc 23 29 41.6 -0.3
comp=Z,13nm,0.9s,baz=251,slow=2.2,SNR=9.2
TXAR SKKPbc SKKPbc 23 38 01.4 -26
comp=Z,2.3nm,1.0s,baz=123,slow=6.1,SNR=3.7
X30A Coker Ranch, T 138.18 47 ⇓PKiKP PKPdf 23 26 15.1 +0.8
baz=138
129A Stewart Farms, 138.26 50 ⇑PKiKP PKPdf 23 26 15.3 +0.7
baz=138
V31A Spring Creek L 138.26 45 ⇓PKiKP PKiKP 23 26 15.8 -0.7
baz=138
627A Terlingua Ranc 138.31 56 ⇓PKiKP PKPdf 23 26 15.7 +0.9
baz=138
428A Kincaid Ranch, 138.41 53 ⇓PKiKP PKiKP 23 26 16.1 -0.9
baz=138
Y30A Stafford Cattl 138.43 48 ⇓PKiKP PKPdf 23 26 15.5 +0.7
baz=138
W31A Holland Ranch, 138.49 46 ⇑PKiKP PKiKP 23 26 15.9 -1.0
baz=138
Z30A Sanderson Ranc 138.53 49 ⇑PKiKP PKPdf 23 26 15.6 +0.6
baz=138
KSU1 Kansas State U 138.54 39 ePKPpre PKPpre 23 26 03.9
KSU1 ePKPdf PKPdf 23 26 15.4 +0.7
KSU1 eSKPbc SKPbc 23 29 41.8 -0.9
528A Cox Ranch, San 138.54 54 ⇓PKiKP PKPdf 23 26 15.8 +0.6
baz=138
329A Wagon Wheel Ra 138.66 52 ⇑PKiKP PKPdf 23 26 16.3 +1.0
baz=139
SCIA State Center 138.67 33 ePKPpre PKPpre 23 26 06.7
SCIA ePKPdf PKPdf 23 26 14.6 -0.3
SCIA eSKPbc SKPbc 23 29 42.0 -0.9
628A Black Gap, Mar 138.71 55 ⇑PKiKP PKPdf 23 26 16.4 +0.9
baz=139
X31A McDonald Ranch 138.74 47 ⇑PKiKP PKPdf 23 26 16.1 +0.8
baz=139
Y31A Rekieta Farm, 138.86 48 ⇓PKiKP PKiKP 23 26 16.7 -1.0
baz=139
130A Snyder 138.96 50 ⇑PKiKP PKPdf 23 26 16.7 +0.9
baz=139
529A Stev Forest Ra 139.01 54 ⇓PKiKP PKPdf 23 26 17.0 +1.0
baz=139
429A Davenport Ranc 139.07 53 ⇑PKiKP PKPdf 23 26 17.1 +1.0
baz=139
230A Sterling City 139.16 51 ⇓PKiKP PKPdf 23 26 17.2 +1.0
baz=139
Z31A Sharp Cattle R 139.25 48 ⇓PKiKP PKiKP 23 26 17.6 -1.0
baz=139
330A Mertzon 139.31 52 ⇑PKiKP PKPdf 23 26 16.9 +0.4
baz=139
CFAA Coronel Fontan 139.32 175 ePKPpre PKPpre 23 26 07.7
CFAA eSKPbc SKPbc 23 29 45.2 0.0
CFAA Coronel Fontan 139.32 175 PKhKP PKPpre 23 26 07.7
comp=Z,1.1nm,0.5s,baz=197,slow=3.1,SNR=21
CFAA SKPbc SKPbc 23 29 45.2 0.0
comp=Z,3.8nm,0.9s,baz=191,slow=1.6,SNR=6.8
131A Roby 139.36 50 ⇓PKiKP PKPdf 23 26 17.5 +0.9
baz=139
Y32A R-V Farms, Ver 139.43 47 ⇑PKiKP PKPdf 23 26 17.3 +0.8
baz=139
JFWS Jewell Farm 139.47 30 ePKHKP PKPpre 23 26 07.3
JFWS e 23 26 15.5
JFWS Jewell Farm 139.47 30 ePKPpre PKPpre 23 26 07.3
JFWS ePKPdf PKPdf 23 26 15.5 -0.9
JFWS eSKPdf SKPdf 23 29 43.4 -1.1
430A Baggett Ranch, 139.52 53 ⇓PKiKP PKPdf 23 26 17.9 +1.1
baz=140
WMOK Wichita Mounta 139.54 46 ePKHKP PKPpre 23 26 07.9
WMOK Wichita Mounta 139.54 46 ePKPpre PKPpre 23 26 07.8
WMOK eSKPbc SKPbc 23 29 44.6 -1.0
530A J-C Ranch, Com 139.70 54 ⇓PKiKP PKPdf 23 26 18.2 +1.0
baz=140
SACV Santiago Islan 139.72 282 ePKPpre PKPpre 23 26 13.2
SACV ePKPdf PKPdf 23 26 14.1 -3.4
SACV eSKPbc SKPbc 23 29 46.2 -0.4
Z32A Haskell 139.74 48 ⇑PKiKP PKPdf 23 26 18.3 +1.1
baz=140
231A Bronte 139.75 50 ⇑PKiKP PKPdf 23 26 18.0 +0.8
baz=140
331A San Angelo 139.94 51 ⇓PKiKP PKPdf 23 26 18.4 +0.8
baz=140
ABTX Abilene, Hawle 139.94 49 ePKPpre PKPpre 23 26 11.9
ABTX eSKPbc SKPbc 23 29 46.1 -0.6
ABTX Abilene, Hawle 139.94 49 ⇑PKiKP PKPdf 23 26 18.6 +1.0
baz=140
431A Sonora 140.06 52 ⇑PKiKP PKPdf 23 26 18.8 +0.9
baz=140
232A Coleman 140.28 50 ⇑PKiKP PKPdf 23 26 19.1 +0.9
baz=140
531A Rocksprings 140.32 53 ⇑PKiKP PKPdf 23 26 19.3 +0.9
baz=140
332A Millersview 140.43 51 ⇑PKiKP PKPdf 23 26 19.4 +1.0
baz=140
631A Perdido Creek 140.60 54 ⇑PKiKP PKPdf 23 26 20.0 +1.2
baz=140
432A Menard 140.61 52 ⇑PKiKP PKPdf 23 26 19.8 +0.9
baz=140
JCT Junction City 140.77 52 ePKHKP PKPpre 23 26 12.9
JCT Junction City 140.77 52 ePKPpre PKPpre 23 26 12.9
JCT eSKPdf SKPdf 23 29 47.2 0.0
JCT Junction City 140.77 52 ⇑PKiKP PKPdf 23 26 20.1 +1.0
baz=141
532A Rocksprings 140.84 53 ⇑PKiKP PKPdf 23 26 20.1 +0.8
baz=141
TUL1 Tulsa 140.95 42 ePKPpre PKPpre 23 26 13.5
TUL1 Tulsa 140.95 42 ⇓PKiKP PKPdf 23 26 20.2 +1.0
baz=141
632A Uvalde 141.19 54 ⇑PKiKP PKiKP 23 26 21.3 -1.3
baz=141
732A Laxson Ranch, 141.36 55 ⇑PKiKP PKPdf 23 26 21.5 +1.4
baz=141
LCO Las Campanas 141.59 171 ePKPpre PKPpre 23 26 16.8
LCO epPKPdf pPKPdf 23 26 44.5 +1.5
HDIL Hopedale 141.70 31 ePKPpre PKPpre 23 26 14.5
HDIL eSKPbc SKPbc 23 29 49.6 -1.4
WHTX Lake Whitney 141.87 49 ePKPpre PKPpre 23 26 16.5
WHTX eSKPbc SKPbc 23 29 51.5 -0.2
WHTX Lake Whitney 141.87 49 ⇓PKiKP PKPdf 23 26 22.4 +1.4
baz=142
SADO Sadowa 142.28 17 ePKPpre PKPpre 23 26 18.3
SADO eSKPbc SKPbc 23 29 51.6 -0.7
SADO Sadowa 142.28 17 PKhKP PKPpre 23 26 18.3
comp=Z,40nm,1.0s,baz=320,slow=3.5,SNR=12
SADO SKPbc SKPbc 23 29 51.6 -0.7
comp=Z,27nm,1.0s,baz=71,slow=3.6,SNR=3.3
PQI Presque Isle 142.48 4 ePKPpre PKPpre 23 26 18.2
PQI eSKPdf SKPdf 23 29 48.6 -0.9
SLM Saint Louis 142.59 34 ePKIKP PKPdf 23 26 18.5 -3.6
SLM Saint Louis 142.59 34 ePKPpre PKPpre 23 26 18.5
SFIN Scholer Farm 142.93 29 ⇓PKiKP PKiKP 23 26 25.6 -0.2
baz=143
MIAR Mount Ida 143.22 42 ePKIKP PKPbc 23 26 20.7 +0.2
MIAR Mount Ida 143.22 42 ePKPdf PKPbc 23 26 20.7 +0.2
KVTX Kingsville 143.51 55 ePKPdf PKPdf 23 26 23.6 -0.4
PTN Potsdam (NY) 143.53 13 ePKPpre PKPpre 23 26 20.1
LONY Lake Ozonia 143.57 12 ePKPpre PKPpre 23 26 20.7
OLIL Olney 143.67 32 ePKPdf PKPbc 23 26 21.7 +0.1
PBMO Poplar Bluff 143.76 37 ePKPpre PKPpre 23 26 21.5
SIUC Southern Illin 143.81 34 ePKPpre PKPpre 23 26 21.8
UALR University of 143.88 41 ePKPdf PKPbc 23 26 22.2 -0.1
UALR eSKPbc SKPbc 23 29 54.9 -1.7
NATX Nacogdoches 144.03 47 ePKPdf PKPbc 23 26 23.7 +0.8
NATX eSKPbc SKPbc 23 29 56.5 -0.5
CPUP Villa Florida 144.07 191 ePKPdf PKPbc 23 26 23.3 +0.1
CPUP Villa Florida 144.07 191 PKP PKPbc 23 26 23.8 +0.7
comp=Z,174nm,1.1s,baz=153,slow=2.7,SNR=49
HKT Hockley 144.08 50 ePKIKP PKPdf 23 26 24.4 -0.5
HKT Hockley 144.08 50 ePKPdf PKPdf 23 26 24.4 -0.5
BLO Bloomington 144.14 30 ePKIKP PKPbc 23 26 23.1 +0.1
BLO Bloomington 144.14 30 ePKPdf PKPbc 23 26 23.1 +0.1
PARMO Parma 144.24 36 ePKPdf PKPbc 23 26 23.3 0.0
NCB Newcomb 144.27 12 ePKPdf PKPbc 23 26 23.7 +0.4
ERPA Erie 144.41 20 ePKPdf PKPbc 23 26 23.7 0.0
WVL Waterville 144.42 6 ePKPdf PKPbc 23 26 24.2 +0.6
WVL eSKPbc SKPbc 23 29 55.6 -1.9
LBNH Lisbon 144.43 9 ePKIKP PKPdf 23 26 24.7 -0.5
LBNH Lisbon 144.43 9 ePKPdf PKPdf 23 26 24.7 -0.5
PVMO Portageville 144.44 36 ePKPdf PKPab 23 26 22.6 -1.2
HBAR Harrisburg 144.45 38 ePKPdf PKPbc 23 26 24.4 +0.3
MDV Middlebury 144.45 11 ePKPdf PKPbc 23 26 24.3 +0.5
MDV eSKPbc SKPbc 23 29 57.3 -0.3
EMMW East Machias 144.47 4 ePKPdf PKPbc 23 26 24.2 +0.4
USIN University of 144.47 32 ePKPdf PKPbc 23 26 24.1 0.0
MMNY Mt. Morris Dam 144.51 17 ePKPdf PKPab 23 26 23.6 -0.2
GNAR Gosnell 144.56 37 ePKPdf PKPbc 23 26 24.5 +0.1
ALLY Alegheny Colle 144.77 21 ePKPdf PKPbc 23 26 24.9 0.0
GLAT Glass 144.78 36 ePKPdf PKPdf 23 26 25.7 -0.3
HNH Hanover 144.89 10 ePKPdf PKPdf 23 26 26.4 +0.5
ACSO Alum Creek Sta 144.90 25 ePKPab PKPab 23 26 25.3 -0.1
ACCN Adirondack Com 144.94 12 ePKPbc PKPdf 23 26 25.8 -0.2
WCI Wyandotte Cave 144.98 31 ePKIKP PKPab 23 26 25.8 +0.1

WCI	**Wyandotte Cave**	**144.98**	**31**	*e*PKPab	**PKPab**	**23 26 25.8**	**+0.1**
HALT	**Halls**	**145.00**	**37**	*e*PKPab	**PKPab**	**23 26 25.9**	**+0.1**
FFD	**Franklin Falls**	**145.22**	**9**	*e*PKPdf	**PKPdf**	**23 26 27.6**	**+1.0**
BINY	**Binghamton**	**145.53**	**15**	*e*PKPdf	**PKPbc**	**23 26 27.3**	**0.0**
WVT	**Waverly**	**145.72**	**35**	*e*PKP2	**PKPab**	**23 26 28.4**	**-0.1**
WVT	**Waverly**	**145.72**	**35**	*e*PKPdf	**PKPab**	**23 26 28.4**	**-0.1**
OXF	**Oxford**	**145.90**	**38**	*e*PKP2	**PKPbc**	**23 26 28.6**	**-0.1**
OXF	**Oxford**	**145.90**	**38**	*e*PKPdf	**PKPbc**	**23 26 28.6**	**-0.1**
HRV	**Adam Dziewonsk**	**146.18**	**10**	*e*PKP2	**PKPbc**	**23 26 29.3**	**0.0**
HRV	**Adam Dziewonsk**	**146.18**	**10**	*e*PKPdf	**PKPbc**	**23 26 29.3**	**0.0**
BB16B	**Bebedouro**	**146.22**	**207** ⇑	*i*P	**PKPbc**	**23 26 30.2**	**+0.1**
BB16B				*i*		23 26 52.9	
BB16B	**Bebedouro**	**146.22**	**207** ⇓	*i*P	**PKPbc**	**23 26 30.2**	**+0.1**
BB16B				*i*		23 26 52.9	
QUA2	**Belchertown**	**146.26**	**11**	*e*PKPdf	**PKPbc**	**23 26 29.4**	**-0.1**
WES	**Weston**	**146.34**	**9**	*e*PKP2	**PKPbc**	**23 26 29.4**	**-0.3**
WES	**Weston**	**146.34**	**9**	*e*PKPdf	**PKPbc**	**23 26 29.4**	**-0.3**
PLAL	**Pickwick Lake**	**146.38**	**37**	*e*PKPdf	**PKPdf**	**23 26 28.4**	**-0.4**
PLAL				*e*PKPbc	**PKPbc**	**23 26 28.6**	**-1.5**
SSPA	**Standing Stone**	**146.43**	**19**	*e*PKPdf	**PKPbc**	**23 26 29.6**	**-0.5**
MCWV	**Mont Chateau**	**146.63**	**22**	*e*PKPdf	**PKPdf**	**23 26 29.7**	**+0.7**
VBMS	**Vicksburg**	**146.66**	**43**	*e*PKPdf	**PKPbc**	**23 26 30.4**	**-0.6**
BRYW	**Bryant College**	**146.76**	**10**	*e*PKPdf	**PKPbc**	**23 26 30.2**	**-0.8**
YLE	**Yale**	**147.08**	**12**	*e*PKPdf	**PKPdf**	**23 26 30.4**	**+0.6**
PAL	**Palisades**	**147.17**	**13**	*e*PKP2	**PKPbc**	**23 26 31.3**	**-0.9**
PAL	**Palisades**	**147.17**	**13**	*e*PKPdf	**PKPbc**	**23 26 31.3**	**-0.9**
CEN1	**Los Morros**	**147.18**	**170** ⇓	*i*P	**PKPbc**	**23 26 33.0**	**+0.1**
BRNJ	**Basking Ridge**	**147.32**	**14**	*e*PKPdf	**PKPbc**	**23 26 32.3**	**-0.2**
CPNY	**Central Park**	**147.36**	**13**	*e*PKPdf	**PKPdf**	**23 26 31.2**	**+1.0**
SWET	**Sewanee**	**147.44**	**34**	*e*PKPdf	**PKPdf**	**23 26 30.4**	**-0.2**
MVL	**Millersville**	**147.48**	**17**	*e*PKPdf	**PKPdf**	**23 26 31.1**	**+0.7**
TZTN	**Tazewell**	**147.66**	**30**	*e*PKPdf	**PKPdf**	**23 26 31.7**	**+0.8**
SDMD	**Soldier's Deli**	**147.88**	**18**	*e*PKPdf	**PKPdf**	**23 26 31.8**	**+0.7**
RCBR	**Riachuelo**	**147.92**	**243**	*e*PKPdf	**PKPdf**	**23 26 32.8**	**+0.8**
CPCT	**Cooper Cave**	**148.02**	**32**	*e*PKPdf	**PKPdf**	**23 26 31.9**	**+0.4**
LVC	**Limon Verde**	**148.14**	**172**	*e*PKPdf	**PKPbc**	**23 26 35.4**	**-0.3**
LRAL	**Lakeview Retre**	**148.38**	**38**	*e*PKPdf	**PKPdf**	**23 26 32.0**	**-0.1**
BLA	**Blacksburg**	**148.52**	**25**	*e*PKIKP	**PKPdf**	**23 26 31.9**	**-0.4**
BLA	**Blacksburg**	**148.52**	**25**	*e*PKPdf	**PKPdf**	**23 26 31.9**	**-0.4**
VWCC	**Virginia Weste**	**148.68**	**24**	*e*PKPdf	**PKPdf**	**23 26 32.2**	**-0.3**
VWCC				*e*PKPbc	**PKPbc**	**23 26 36.7**	**+0.4**
CBN	**Corbin**	**148.80**	**20**	*e*PKPdf	**PKPdf**	**23 26 33.2**	**+0.5**
CBN				*e*PKPbc	**PKPbc**	**23 26 37.1**	**+0.6**
JSRW	**J. Sargeant Re**	**149.08**	**21**	*e*PKPdf	**PKPdf**	**23 26 33.6**	**+0.5**
JSRW				*e*PKPbc	**PKPbc**	**23 26 37.9**	**+0.6**
URVA	**University of**	**149.31**	**21**	*e*PKPdf	**PKPdf**	**23 26 33.8**	**+0.3**
URVA				*e*PKPbc	**PKiKP**	**23 26 38.6**	**-0.4**
CMIG	**Matias Romero**	**149.33**	**72**	*e*PKPdf	**PKPdf**	**23 26 35.1**	**+1.0**
CMIG				*e*PKPbc	**PKiKP**	**23 26 39.5**	**-0.1**
CMIG	**Matias Romero**	**149.33**	**72**	PKP	**PKPdf**	**23 26 35.1**	**+1.0**
	comp=Z,50nm,0.8s,baz=280,slow=2.6,SNR=55						
CMIG				PKPbc	**PKiKP**	**23 26 39.5**	**-0.1**
	comp=Z,50nm,0.8s,baz=304,slow=3.4,SNR=32						
BRAL	**Brewton**	**149.70**	**41**	*e*PKPdf	**PKPdf**	**23 26 35.3**	**+0.9**
BRAL				*e*PKPbc	**PKiKP**	**23 26 40.3**	**+0.3**
KMSC	**Kings Mountain**	**149.85**	**28**	*e*PKPdf	**PKPdf**	**23 26 35.2**	**+0.7**
KMSC				*e*PKPbc	**PKiKP**	**23 26 40.2**	**0.0**
KMSC	**Kings Mountain**	**149.85**	**28**	⇓PKiKP	**PKiKP**	**23 26 40.1**	**-0.2**
	baz=150						
BDFB	**Brasilia**	**150.50**	**214**	*e*PKPdf	**PKPdf**	**23 26 37.0**	**+0.9**
BDFB				*e*PKPbc	**PKiKP**	**23 26 42.8**	**+0.6**
BDFB				*ep*PKPab	**pPKPab**	**23 27 05.0**	**-4.5**
BDFB	**Brasilia**	**150.50**	**214**	PKP	**PKPdf**	**23 26 37.4**	**+1.2**
	comp=Z,52nm,1.0s,baz=122,slow=1.1,SNR=53						
BDFB				PKPbc	**PKiKP**	**23 26 43.4**	**+1.1**
	comp=Z,575nm,0.9s,baz=148,slow=3.7,SNR=300						
CNNC	**Cliffs of the**	**151.25**	**23**	*e*PKPdf	**PKPdf**	**23 26 37.4**	**+0.8**
CNNC				*e*PKPbc	**PKiKP**	**23 26 43.1**	**0.0**
TIGA	**Tifton**	**151.54**	**36**	*e*PKPdf	**PKPdf**	**23 26 38.3**	**+1.2**
TIGA				*e*PKPbc	**PKiKP**	**23 26 44.5**	**+0.7**
TIGA				*ep*PKPbc	**pPKPbc**	**23 27 02.4**	**-2.9**
TIGA	**Tifton**	**151.54**	**36**	⇓PKiKP	**PKiKP**	**23 26 44.2**	**+0.4**
	baz=151						
PAYG	**Puerto Ayora**	**152.45**	**109**	*e*PKPdf	**PKPdf**	**23 26 35.8**	**-3.3**
PAYG				*e*PKPbc	**PKiKP**	**23 26 49.1**	**+2.9**
TEIG	**Tepich**	**154.46**	**62**	*e*PKPdf	**PKPdf**	**23 26 41.5**	**-0.2**
TEIG				*e*PKPbc	PKPbc	23 26 42.0	-8.2
TEIG				*ep*PKPdf	**PKiKP**	**23 26 50.0**	**-0.2**
TEIG				*e*PKPab	**PKPab**	**23 27 04.2**	**-0.5**
TEIG	**Tepich**	**154.46**	**62**	PKP	**PKPdf**	**23 26 42.5**	**+0.8**
	comp=Z,23nm,1.0s,baz=344,slow=6.5,SNR=12						
TEIG				PKPab	**PKPab**	**23 27 06.0**	**+1.3**
	comp=Z,70nm,1.0s,baz=320,slow=9.1,SNR=13						
LPAZ	**La Paz**	**154.47**	**172**	*e*PKPdf	**PKPdf**	**23 26 44.1**	**+1.5**
LPAZ				*e*PKPbc	**PKiKP**	**23 26 52.8**	**+1.7**
LPAZ				*e*PKPab	**PKPab**	**23 27 06.6**	**+1.3**
LPAZ	**La Paz**	**154.47**	**172**	PKP	**PKPdf**	**23 26 43.8**	**+1.1**
	comp=Z,47nm,1.1s,baz=94,slow=0.8,SNR=78						
LPAZ				PKPbc	**PKiKP**	**23 26 52.8**	**+1.7**
	comp=Z,96nm,0.9s,baz=244,slow=2.6,SNR=33						
LPAZ				PKPab	**PKPab**	**23 27 06.6**	**+1.3**
	comp=Z,68nm,0.9s,baz=144,slow=18,SNR=7.7						
SIV	**San Ignacio**	**154.81**	**188**	*e*PKPdf	**PKPdf**	**23 26 43.6**	**+1.3**
SIV				*e*PKPbc	**PKiKP**	**23 26 52.3**	**+1.3**
SIV				*e*PKPab	**PKPab**	**23 27 06.1**	**+0.1**
SIV	**San Ignacio**	**154.81**	**188**	PKP	**PKPdf**	**23 26 43.6**	**+1.3**
	comp=Z,43nm,1.0s,baz=186,slow=1.5,SNR=72						
SIV				PKPbc	**PKiKP**	**23 26 52.3**	**+1.3**
	comp=Z,47nm,0.9s,baz=190,slow=2.1,SNR=25						
SIV				PKPab	**PKPab**	**23 27 06.1**	**+0.1**
	comp=Z,39nm,0.8s,baz=191,slow=5.0,SNR=11						
DWPF	**Disney**	**155.24**	**38**	*e*PKPdf	**PKPdf**	**23 26 41.1**	**-1.4**
NNA	**Nana**	**155.64**	**149**	*e*PKPdf	**PKPdf**	**23 26 44.4**	**+0.9**
NNA				*e*PKPdif	**PKPdf**	**23 26 44.8**	**+1.3**
NNA				*ep*PKPdf	pPKPdf	23 26 54.3	-11
NNA	**Nana**	**155.64**	**149**	PKP	**PKPdf**	**23 26 45.3**	**+1.8**
	comp=Z,56nm,1.1s,baz=277,slow=3.2,SNR=7.0						
TGUH	**Tegucigalpa,Un**	**157.09**	**76**	*e*PKPdf	**PKPdf**	**23 26 45.0**	**-0.3**
ATAH	**Atahualpa**	**158.66**	**139**	PKP	**PKPdf**	**23 26 50.3**	**+2.4**
	comp=Z,73nm,1.1s,baz=215,slow=1.4,SNR=33						
JTS	**JuntasAbangare**	**159.73**	**85**	*e*PKPdf	**PKPdf**	**23 26 47.5**	**-1.1**
SAML	**Samuel**	**161.99**	**184**	*e*PKPdf	**PKPdf**	**23 26 51.4**	**+0.4**
SAML				*ep*PKPdf	**pPKPdf**	**23 27 13.9**	**+0.8**
OTAV	**Otavalo**	**163.46**	**122**	*e*PKPdf	**PKPdf**	**23 26 53.6**	**+0.5**
OTAV				*ep*PKPdf	**pPKPdf**	**23 27 15.9**	**+0.7**
BCIP	**Isla Barro Col**	**164.77**	**89**	*e*PKPdf	**PKPdf**	**23 26 53.2**	**-0.4**
BCIP				*e*PKPab	**PKPab**	**23 27 51.8**	**+2.0**
GTBY	**Guantanamo Bay**	**165.11**	**43**	*e*PKPdf	**PKPdf**	**23 26 53.6**	**-0.2**
SDDR	**Presa de Saban**	**168.17**	**34**	*e*PKPdf	**PKPdf**	**23 26 53.8**	**-2.4**
ROSC	**El Rosal**	**169.28**	**113**	*e*PKPdf	**PKPdf**	**23 26 57.6**	**+0.1**
ROSC	**El Rosal**	**169.28**	**113**	PKP	**PKPdf**	**23 26 58.5**	**+1.0**
	comp=Z,6.6nm,0.5s,baz=83,slow=16,SNR=25						
ROSC				PKPab	**PKPab**	**23 28 12.0**	**+1.9**
	comp=Z,20nm,0.7s,baz=284,slow=18,SNR=3.9						
LRS	**Lares**	**170.60**	**14**	*e*PKPdf	**PKPdf**	**23 26 56.6**	**-1.1**
LSP	**Las Mesas**	**170.65**	**16**	*e*PKPdf	**PKPdf**	**23 26 55.6**	**-2.1**
CRPR	**Cabo Rojo, PR**	**170.81**	**16**	*e*PKPdf	**PKPdf**	**23 26 55.6**	**-2.1**
CBYP	**Canovanas**	**170.82**	**9**	*e*PKPdf	**PKPdf**	**23 26 55.8**	**-1.9**
CBYP				*e*PKPab	**PKPab**	**23 28 12.8**	**-3.2**
STVI	**Saint Thomas**	**170.83**	**3**	*e*PKPdf	**PKPdf**	**23 26 54.6**	**-3.1**
STVI				*e*PKPab	**PKPab**	**23 28 12.9**	**-3.1**
CELP	**Cerrillos**	**170.88**	**13**	*e*PKPdf	**PKPdf**	**23 26 55.6**	**-2.1**
OBIP	**Obispado Ponce**	**170.90**	**13**	*e*PKPdf	**PKPdf**	**23 26 57.0**	**-0.7**
HUMP	**Col San Antoni**	**170.95**	**9**	*e*PKPdf	**PKPdf**	**23 26 54.2**	**-3.5**
MTP	**Monte Pirata**	**171.03**	**7**	*e*PKPdf	**PKPdf**	**23 26 57.0**	**-0.8**
MTP				*e*PKPab	**PKPab**	**23 28 16.2**	**-0.6**
CPD	**Cerro la Pandu**	**171.04**	**9**	*e*PKIKP	**PKPdf**	**23 26 56.7**	**-1.2**
CPD				*e*		23 28 16.3	
CPD	**Cerro la Pandu**	**171.04**	**9**	*e*PKPdf	**PKPdf**	**23 26 56.7**	**-1.2**
CPD				*e*PKPab	**PKPab**	**23 28 16.3**	**-0.6**
CDVI	**St. Croix**	**171.44**	**2**	*e*PKPdf	**PKPdf**	**23 26 57.2**	**-0.8**
CDVI				*e*PKPab	**PKPab**	**23 28 16.9**	**-1.7**
SDV	**Santo Domingo**	**173.85**	**92**	*e*PKPdf	**PKPdf**	**23 26 56.0**	**-3.5**
SDV				*e*PKPab	**PKPab**	**23 28 30.8**	**+0.5**

DJA 18 23:21:17.8±0.8, 9°S.5′×11°5E.°, h30km±6km, M3.7/8, MLv3.7/8, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGBI	**Denpasar**	**0.72**	**336**	P	Pb	23 21 31.6	-0.3
IGBI				S	Sn	23 21 42.0	+0.1
DNP	**Denpasar**	**0.83**	**344**	P	Pn	23 21 33.5	0.0
DNP				S	Sn	23 21 45.7	+1.0
MTNI	**Mataram**	**1.11**	**41**	S	Sn	23 21 51.7	+0.2
SRBI	**Singaraja**	**1.40**	**351**	P	Pn	23 21 40.9	-0.5
SRBI				S	Sn	23 21 58.8	-0.1
JAGI	**Jajag, Banyuwa**	**1.62**	**308**	P	Pn	23 21 45.2	+0.8
JAGI				S	Sn	23 22 03.6	-0.7
BYJI	**Banyuwangi**	**1.65**	**319**	P	Pn	23 21 46.0	+1.2
BYJI				S	Sb	23 22 08.6	+0.5

GMJI	**Gumukmas**	**2.31**	**301**	P	Pn	23 21 54.1	+0.3
GMJI				S	Sn	23 22 22.3	+1.1
BLJI	**Banyuglugur**	**2.51**	**313**	P	Pn	23 21 56.7	+0.1
BLJI				S	Sn	23 22 27.1	+0.9

IDC 18 23:25:00.3±14.0, 22°.33N×144°.11E, h266km±98km, mb3.0/6, mb1 3.1/6, mb1mx2.9/23, mbtmp3.0/6, MS4.2/1, Ms1 4.2/1, ms1mx3.2/9, Error ellipse: s-maj=250.7km s-min=18.8km az=76.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.06**	**340**	LR	LR	23 27 56.3	
	comp=Z,3μm,19.9s,baz=231,slow=35						
KSRS	**Korea Array**	**20.55**	**321**	P	P	23 29 19.1	+0.1
	1.8nm,0.7s,baz=145,slow=8.6,SNR=6.5						
SONM	**Songino Array**	**39.41**	**320**	P	P	23 32 04.6	-0.2
	0.3nm,0.5s,baz=127,slow=6.7,SNR=2.9						
WRA	**Warramunga Arr**	**43.09**	**194**	P	P	23 32 34.5	-0.1
	0.7nm,0.8s,baz=15,slow=9.1,SNR=3.3						
ZALV	**Zalesovo Beam**	**54.26**	**321**	P	P	23 33 58.8	-0.1
	0.5nm,0.4s,baz=101,slow=7.5,SNR=2.3						
MKAR	**Makanchi Array**	**54.91**	**312**	P	P	23 34 03.9	+0.1
	0.4nm,0.6s,baz=88,slow=8.9,SNR=6.4						
KURBB	**Kurchatov Arra**	**57.66**	**317**	P	P	23 34 22.8	-0.2
	0.9nm,0.6s,baz=94,slow=7.5,SNR=8.5						

IDC 18 23:35:46.8±7.0, 24°.23S×179°.77W, h535km±52km, mb3.4/5, mb1 3.5/7, mb1mx3.2/20, mbtmp3.3/7, Error ellipse: s-maj=89.7km s-min=28.1km az=46.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.86**	**277**	P	P	23 38 35.8	+1.3
	0.3nm,0.3s,baz=132,slow=11,SNR=3.8						
URZ	**Urewera**	**14.24**	**190**	P	P	23 38 47.6	-0.8
	1.4nm,0.3s,baz=161,slow=2.9,SNR=7.3						
URZ				S	S	23 41 17.8	-0.2
	0.4nm,0.3s,baz=179,slow=8.7,SNR=5.3						
CTA	**Charters Tower**	**31.69**	**271**	P	P	23 41 27.1	+0.3
	5.2nm,0.3s,baz=92,slow=12,SNR=9.8						
STKA	**Stephens Creek**	**34.79**	**249**	P	P	23 41 52.4	-0.4
	1.0nm,0.5s,baz=100,slow=6.1,SNR=3.4						
ASAR	**Alice Springs**	**42.19**	**261**	P	P	23 42 52.9	-0.1
	1.5nm,0.5s,baz=99,slow=7.0,SNR=22						
WRA	**Warramunga Arr**	**42.59**	**266**	P	P	23 42 55.4	-0.7
	4.3nm,0.5s,baz=96,slow=8.5,SNR=152						
FITZ	**Fitzroy Crossi**	**51.01**	**266**	P	P	23 43 59.8	+0.1
	1.4nm,0.4s,baz=114,slow=7.6,SNR=6.8						
TORD	**Torodi Ar. Bea**	**168.89**	**187**	PKPab	PKPab	23 56 07.5	-0.1
	0.3nm,0.8s,baz=164,slow=3.2,SNR=2.6						

*BJI **18** 23:42:56.9, 54°.84N×159°.17W, h10km, mB5.0/3, mb4.8/4, Ms4.9/3, Ms7 4.7/3*
*IDC **18** 23:42:58.0±1.8, 54°.73N×159°.81W, h0km, mb4.1/19, mb1 4.2/23, mb1mx4.2/33, mbtmp4.1/23, ML3.9/4, MS4.1/3, Ms1 4.1/3, ms1mx3.4/41, Error ellipse: s-maj=45.9km s-min=14.3km az=149.0*
*ISCJB **18** 23:43:02.0±0.5, 54°.74N±0°.06×159°.63W±0°.05, h33km, mb4.2/23, MS4.5/3, Error ellipse: s-maj=8.9km s-min=3.1km az=159.6*
*NEIC **18** 23:43:02.2, 54°.73N×159°.71W, h16km, mb4.6/1, ML4.0(AEIC), After AEIC.*

ISC 18 23:43:04.5±0.5, 54°.90N±0°.06×159°.80W±0°.03, h35km, n109, σ1°42/111, mb4.2/23, MS4.7/3, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDPT	**Sand Point**	**0.60**	**319**	P	**Pn**	**23 43 16.9**	**+0.4**
SDPT				S	**Sn**	**23 43 27.2**	**+2.3**
DOL	**Dolgoi Island**	**1.22**	**283**	P	**Pn**	**23 43 24.9**	**-0.1**
PVV	**Pavlof Volcano**	**1.24**	**293**	P	**Pn**	**23 43 26.0**	**+0.8**
PS4A	**Pavlof South-4**	**1.27**	**292**	P	**Pn**	**23 43 26.4**	**+0.8**
DRIA	**Deer Island**	**1.43**	**274**	P	**Pn**	**23 43 27.1**	**-0.7**
DRIA				S	**Sn**	**23 43 47.1**	**+1.8**
DTNA	**Dutton South F**	**1.44**	**281**	P	**Pn**	**23 43 28.3**	**+0.3**
DT1	**Dutton Round H**	**1.45**	**279**	P	**Pn**	**23 43 28.1**	**0.0**
CHGN	**Chignik**	**1.61**	**29**	P	**Pn**	**23 43 32.0**	**+1.7**
FALS	**False Pass**	**2.09**	**270**	P	**Pn**	**23 43 38.1**	**+1.1**
FALS				S	**Sn**	**23 44 02.8**	**+1.1**
BRPK	**Brown Peak**	**2.30**	**265**	P	**Pn**	**23 43 41.0**	**+1.2**
ISNN	**Isanotski Nort**	**2.30**	**270**	P	**Pn**	**23 43 41.2**	**+1.3**
SSLW	**Shishaldin Wes**	**2.51**	**269**	P	**Pn**	**23 43 43.7**	**+1.0**
SSBA	**Shishaldin**	**2.51**	**269**	P	**Pn**	**23 43 43.5**	**+0.8**
WESE	**West Dahl East**	**2.81**	**263**	P	**Pn**	**23 43 48.3**	**+1.3**
AKSA	**Akutan Strait**	**3.52**	**260**	P	**Pn**	**23 43 57.4**	**+0.8**
AKUT	**Akutan**	**3.57**	**260**	*e*Pn	Pn	23 43 49.5	-7.7
SII	**Sitkinak Islan**	**3.58**	**60**	P	**Pn**	**23 43 58.0**	**+0.5**
KJL	**Kejulik**	**3.93**	**35**	P	**Pn**	**23 44 04.3**	**+1.9**
CAHL	**Cahill**	**4.03**	**36**	P	**Pn**	**23 44 05.2**	**+1.6**
MTBL	**Makushin Table**	**4.13**	**260**	P	**Pn**	**23 44 06.0**	**+1.0**
KELA	**Mount Kelaz**	**4.20**	**31**	P	**Pn**	**23 44 07.9**	**+2.0**
KABR	**Katmai Barrier**	**4.20**	**38**	P	**Pn**	**23 44 07.4**	**+1.4**
KAKN	**Katmai Knife C**	**4.29**	**36**	P	**Pn**	**23 44 09.8**	**+2.4**
OHAK	**Old Harbor**	**4.33**	**55**	P	**Pn**	**23 44 07.5**	**-0.1**
KDAK	**Kodiak Island**	**4.94**	**51**	Pn	**Pn**	**23 44 15.8**	**-0.3**
KDAK				Sn	**Sn**	**23 45 10.1**	**-1.9**
KDAK				Lg	Lg	23 45 35.1	
KDAK	**Kodiak Island**	**4.94**	**51**	Pn	**Pn**	**23 44 15.8**	**-0.3**
	4.1nm,0.3s,baz=219,slow=5.6,SNR=26						
KDAK				Sn	**Sn**	**23 45 10.1**	**-1.9**
	1.8nm,0.3s,baz=242,slow=16,SNR=3.2						
KDAK				Lg	Lg	23 45 35.1	
	4.7nm,0.3s,baz=26,slow=15,SNR=4.0						
MCNL	**McNeil River**	**5.23**	**33**	P	**Pn**	**23 44 21.8**	**+1.8**
SPIA	**Saint Paul Isl**	**6.29**	**296**	*e*Pn	**Pn**	**23 44 37.3**	**+2.8**
SVW2	**Sparrevohn**	**6.61**	**18**	P	**Pn**	**23 44 41.7**	**+2.7**
RSO	**Redoubt South**	**6.73**	**31**	*e*Pn	**Pn**	**23 44 42.1**	**+1.2**
SPU	**Mount Spurr**	**7.52**	**30**	*e*Pn	Pn	23 44 54.9	+3.4
RC01	**Rabbit Creek A**	**8.18**	**37**	*e*Pn	**Pn**	**23 45 02.5**	**+2.0**
SKT	**Skwentna**	**8.31**	**28**	P	**Pn**	**23 45 05.4**	**+3.0**
PMR	**Palmer**	**8.74**	**36**	*e*Pn	**Pn**	**23 45 08.7**	**+0.5**
PPLA	**Purkeypile**	**8.93**	**23**	P	Pn	23 45 14.1	+3.2
SML	**Sawmill**	**9.17**	**36**	*e*Pn	Pn	23 45 26.4	+12
CAST	**Castle Rocks**	**9.41**	**22**	*e*Pn	**Pn**	**23 45 18.6**	**+1.3**
DIV	**Divide**	**9.70**	**44**	*e*Pn	**Pn**	**23 45 22.7**	**+1.3**
RAGM	**Ragged Mountai**	**9.78**	**52**	*e*Pn	**Pn**	**23 45 22.8**	**+0.3**
BMRM	**Bremner River**	**10.10**	**47**	*e*Pn	**Pn**	**23 45 26.5**	**-0.3**
MCK	**McKinley**	**10.44**	**28**	*e*Pn	**Pn**	**23 45 31.9**	**+0.5**
ADK	**Adak**	**10.53**	**260**	*e*Pn	**Pn**	**23 45 32.2**	**-0.5**
PAX	**Paxson**	**10.94**	**37**	*e*Pn	**Pn**	**23 45 38.4**	**0.0**
IL1	**Eielson Array**	**11.81**	**28**	*e*Pn	**Pn**	**23 45 47.8**	**-2.3**
ILAR	**Eielson Array**	**11.81**	**28**	Pn	Pn	23 45 45.5	-4.7
ILAR				Sn	**Sn**	**23 47 59.2**	**-1.3**
ILAR	**Eielson Array**	**11.81**	**28**	Pn	Pn	23 45 45.5	-4.7
	0.1nm,0.3s,baz=222,slow=13,SNR=3.6						
ILAR				Sn	**Sn**	**23 47 59.2**	**-1.3**
	baz=190,slow=15,SNR=3.9						
AMKA	**Amchitka**	**13.02**	**263**	*e*Pn	**Pn**	**23 46 04.8**	**-1.9**
COLD	**Coldfoot**	**13.19**	**17**	*e*Pn	P	23 46 14.6	-3.9
EGAK	**Eagle**	**13.57**	**36**	*e*Pn	**Pn**	**23 46 14.9**	**+0.8**
DAWY	**Dawson**	**13.78**	**40**	*e*Pn	**Pn**	**23 46 19.2**	**+2.1**
FX1	**Attu Island--F**	**16.03**	**274**	*e*Pn	**Pn**	**23 46 47.4**	**+0.5**
FX1	**Attu Island--F**	**16.03**	**274**	Pn	**Pn**	**23 46 47.0**	**0.0**
	1.1nm,0.3s,baz=285,slow=17,SNR=9.2						
INK	**Inuvik**	**18.13**	**32**	*e*Pn	**Pn**	**23 47 12.6**	**-0.4**
	127nm,2.6s						
INK	**Inuvik**	**18.13**	**32**	P	**Pn**	**23 47 12.3**	**-0.8**
	1.1nm,0.3s,baz=209,slow=12,SNR=12						
INK				LR	LR	23 54 05.7	
	comp=Z,181nm,21.2s,baz=97,slow=36						
A05A	**Maple Falls**	**23.76**	**89**	*e*PcP	**PcP**	**23 51 58.3**	**+2.2**
PEA0	**Petropavlovsk-**	**24.77**	**284**	*e*P	**P**	**23 48 22.4**	**-0.1**
PETK	**Petropavlovsk-**	**24.77**	**284**	P	**P**	**23 48 22.1**	**-0.5**
PETK	**Petropavlovsk-**	**24.77**	**284**	P	**P**	**23 48 22.1**	**-0.5**
	6.5nm,0.4s,baz=90,slow=12,SNR=33						
BSMT	**Bassoo Peak**	**28.55**	**85**	*e*ScS	ScS	23 59 44.7	+5.8
SXM	**Sixmile**	**31.53**	**86**	*e*S	**S**	**23 54 29.1**	**0.0**
RVCM	**Rose Valley Ce**	**34.27**	**106**	*ep*P	**pP**	**23 49 57.2**	**-0.1**
RVCM				*e*PP	**PP**	**23 51 03.9**	**-1.1**
RVCM				*e*S	**S**	**23 55 14.4**	**+2.6**
RVCM				*e*ScP	**ScP**	**23 56 09.6**	**+4.7**
WWPM	**Walker Pass**	**34.36**	**106**	*e*P	**P**	**23 49 50.3**	**+2.3**
WWPM				*e*PP	**PP**	**23 51 05.2**	**-0.8**
PASC	**Pasadena Art C**	**35.47**	**108**	*e*P	P	23 50 00.1	+2.8
PASC				*ep*P	pP	23 50 05.5	-2.0
GMRC	**Granite Mounta**	**36.41**	**105**	*ep*P	**pP**	**23 50 14.6**	**-1.1**
GMRC				*e*PP	**PP**	**23 51 27.9**	**-0.7**
EML	**El Monte Cty P**	**37.16**	**108**	*e*S	**S**	**23 55 57.1**	**+1.2**
MJAR	**Matsushiro Arr**	**45.38**	**273**	P	**P**	**23 51 18.6**	**-0.7**
MJAR	**Matsushiro Arr**	**45.38**	**273**	P	**P**	**23 51 18.6**	**-0.7**
	1.9nm,0.6s,baz=33,slow=7.5,SNR=4.4						
SPITS	**Spitsbergen Ar**	**47.16**	**1**	P	**P**	**23 51 31.0**	**-1.7**
SPITS	**Spitsbergen Ar**	**47.16**	**1**	P	**P**	**23 51 31.0**	**-1.7**
	1.0nm,0.3s,baz=30,slow=6.8,SNR=14						
KSRS	**Korea Array**	**50.64**	**281**	P	**P**	**23 51 59.8**	**-0.1**
	1.3nm,0.8s,baz=60,slow=7.4,SNR=4.2						
KSAR	**Wonju Array Be**	**50.67**	**281**	P	**P**	**23 51 59.8**	**-0.3**
SONM	**Songino Array**	**54.73**	**305**	P	**P**	**23 52 29.7**	**-0.5**
SONM	**Songino Array**	**54.73**	**305**	P	**P**	**23 52 29.7**	**-0.5**
	2.0nm,0.7s,baz=51,slow=6.6,SNR=7.9						
ARCES	**ARCESS Array B**	**55.81**	**358**	P	**P**	**23 52 37.0**	**-0.5**
ARCES	**ARCESS Array B**	**55.81**	**358**	P	**P**	**23 52 37.0**	**-0.5**
	4.3nm,0.9s,baz=22,slow=6.8,SNR=11						
HHC	**Hu-ho-hao-te**	**57.16**	**295**	*e*P	**P**	**23 52 50.1**	**+2.5**
HHC				pP	**pP**	**23 52 54.4**	**-3.8**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.29**	**19**	*e*PB	**Pb**	**00 08 40.8**	**+0.5**
GVD				S	**Sb**	**00 08 43.9**	**-1.2**
GVD	**Gavdhos**	**0.29**	**19**	*e*PB	**Pb**	**00 08 40.8**	**+0.5**
GVD				*e*SB	**Sb**	**00 08 44.9**	**-0.2**
GVD	**Gavdhos**	**0.29**	**19**	P	**Pb**	**00 08 40.8**	**+0.5**
GVD				S	**Sb**	**00 08 43.9**	**-1.2**
GVD				*e*Sb	Sb	00 08 44.9	-0.2
SIVA	**Sivas**	**0.83**	**56**	P	**Pb**	**00 08 50.1**	**+1.0**
SIVA				S	**Sb**	**00 09 00.9**	**+1.1**
SIVA	**Sivas**	**0.83**	**56**	*e*PN	**Pb**	**00 08 50.4**	**+1.3**
SIVA	**Sivas**	**0.83**	**56**	P	**Pb**	**00 08 50.1**	**+1.0**
SIVA	**Sivas**	**0.83**	**56**	*e*Pn	**Pb**	**00 08 50.4**	**+1.3**
SIVA				S	**Sb**	**00 09 00.9**	**+1.1**
KARN	**Karanos**	**0.84**	**357**	P	Pb	00 08 48.8	-0.6
KARN	**Karanos**	**0.84**	**357**	*e*PN	**Pb**	**00 08 49.3**	**-0.1**
KARN	**Karanos**	**0.84**	**357**	P	Pb	00 08 48.8	-0.6
KARN	**Karanos**	**0.84**	**357**	*e*Pn	**Pb**	**00 08 49.3**	**-0.1**
IDI	**Anoyia**	**1.05**	**46**	P	**Pn**	**00 08 52.7**	**+0.2**
IDI	**Anoyia**	**1.05**	**46**	*e*PN	**Pn**	**00 08 52.8**	**+0.2**
IDI	**Anoyia**	**1.05**	**46**	Pn	**Pn**	**00 08 53.0**	**+0.5**
	14nm,0.3s,baz=226,slow=15,SNR=152						
IDI				Sn	**Sb**	**00 09 08.7**	**+2.6**
	20nm,0.3s,baz=127,slow=20,SNR=15						
IDI	**Anoyia**	**1.05**	**46**	P	**Pn**	**00 08 52.7**	**+0.2**
LAST	**Lasithi**	**1.38**	**64**	P	**Pb**	**00 09 00.0**	**+1.6**
LAST	**Lasithi**	**1.38**	**64**	*e*PN	**Pb**	**00 09 00.1**	**+1.6**
LAST	**Lasithi**	**1.38**	**64**	P	**Pb**	**00 09 00.0**	**+1.6**
ANKY	**Antikythira Is**	**1.42**	**337**	P	**Pn**	**00 08 59.7**	**+2.3**
ANKY	**Antikythira Is**	**1.42**	**337**	*e*PN	**Pn**	**00 08 59.8**	**+2.3**
ANKY	**Antikythira Is**	**1.42**	**337**	*e*Pn	**Pn**	**00 08 59.8**	**+2.3**
NPS	**Neapolis**	**1.52**	**62**	P	**Pb**	**00 09 02.2**	**+1.3**
NPS	**Neapolis**	**1.52**	**62**	*e*PN	**Pn**	**00 09 01.7**	**+2.8**
NPS	**Neapolis**	**1.52**	**62**	*e*Pn	**Pn**	**00 09 01.7**	**+2.8**
NPS	**Neapolis**	**1.52**	**62**	P	**Pb**	**00 09 02.2**	**+1.3**
KYTH	**Kithira**	**1.88**	**336**	P	**Pn**	**00 09 06.0**	**+2.1**
KYTH	**Kithira**	**1.88**	**336**	*e*PN	**Pn**	**00 09 06.1**	**+2.1**
KYTH	**Kithira**	**1.88**	**336**	*e*Pn	**Pn**	**00 09 06.1**	**+2.1**
THR3	**Thira Island,**	**2.18**	**32**	P	**Pn**	**00 09 09.6**	**+1.6**
THR3	**Thira Island,**	**2.18**	**32**	P	**Pn**	**00 09 09.6**	**+1.6**
VLI	**Veliai**	**2.31**	**339**	P	**Pn**	**00 09 12.4**	**+2.6**
VLI	**Veliai**	**2.31**	**339**	*e*PB	**Pn**	**00 09 12.2**	**+2.4**
VLI	**Veliai**	**2.31**	**339**	*e*Pb	**Pn**	**00 09 12.2**	**+2.4**
KARP	**Karpathos**	**2.79**	**68**	*e*PN	Pn	00 09 19.7	+3.2
KARP	**Karpathos**	**2.79**	**68**	*e*Pn	Pn	00 09 19.7	+3.2
APE	**Apeiranthos**	**2.81**	**26**	P	**Pn**	**00 09 17.4**	**+0.7**
APE				S	**Sn**	**00 09 47.4**	**-2.3**
APE	**Apeiranthos**	**2.81**	**26**	*e*PN	**Pn**	**00 09 18.5**	**+1.8**
APE	**Apeiranthos**	**2.81**	**26**	P	**Pn**	**00 09 17.4**	**+0.7**
APE	**Apeiranthos**	**2.81**	**26**	*e*Pn	**Pn**	**00 09 18.5**	**+1.8**
APE				S	**Sn**	**00 09 47.4**	**-2.3**
DID	**Didima**	**3.00**	**349**	P	**Pn**	**00 09 19.6**	**+0.3**
DID	**Didima**	**3.00**	**349**	*e*PN	**Pn**	**00 09 21.5**	**+2.2**
DID	**Didima**	**3.00**	**349**	P	**Pn**	**00 09 19.6**	**+0.3**
DID	**Didima**	**3.00**	**349**	*e*Pn	**Pn**	**00 09 21.5**	**+2.2**
VLX	**Vlachokerasia**	**3.09**	**336**	P	**Pn**	**00 09 22.4**	**+1.8**
VLX	**Vlachokerasia**	**3.09**	**336**	*e*PN	Pn	00 09 23.3	+2.7
VLX	**Vlachokerasia**	**3.09**	**336**	P	**Pn**	**00 09 22.4**	**+1.8**
VLX	**Vlachokerasia**	**3.09**	**336**	*e*Pn	Pn	00 09 23.3	+2.7
ITM	**Ithomi**	**3.10**	**328**	*e*PN	Pn	00 09 23.8	+3.1
ITM	**Ithomi**	**3.10**	**328**	*e*Pn	Pn	00 09 23.8	+3.1
ATH	**Athens Observa**	**3.41**	**357**	*e*PN	**Pn**	**00 09 26.5**	**+1.6**
ATH	**Athens Observa**	**3.41**	**357**	*e*Pn	**Pn**	**00 09 26.5**	**+1.6**
PTL	**Penteli**	**3.48**	**359**	*e*PN	**Pn**	**00 09 27.3**	**+1.3**
PTL	**Penteli**	**3.48**	**359**	*e*Pn	**Pn**	**00 09 27.3**	**+1.3**
LTK	**Loutraki**	**3.55**	**347**	P	**Pn**	**00 09 27.5**	**+0.6**
LTK	**Loutraki**	**3.55**	**347**	*e*PN	**Pn**	**00 09 28.8**	**+1.9**
LTK	**Loutraki**	**3.55**	**347**	P	**Pn**	**00 09 27.5**	**+0.6**
LTK	**Loutraki**	**3.55**	**347**	*e*Pn	**Pn**	**00 09 28.8**	**+1.9**
GUR	**Goura**	**3.62**	**339**	P	**Pn**	**00 09 29.2**	**+1.3**
GUR	**Goura**	**3.62**	**339**	*e*PN	**Pn**	**00 09 30.0**	**+2.1**
GUR	**Goura**	**3.62**	**339**	P	**Pn**	**00 09 29.2**	**+1.3**
GUR	**Goura**	**3.62**	**339**	*e*Pn	**Pn**	**00 09 30.0**	**+2.1**
ARG	**Arkhangelos**	**3.77**	**63**	*e*PN	Pn	00 09 33.2	+3.3
ARG	**Arkhangelos**	**3.77**	**63**	*e*Pn	Pn	00 09 33.2	+3.3
LAKA	**Lakka**	**4.01**	**337**	*e*PN	Pn	00 09 35.9	+2.7
LAKA	**Lakka**	**4.01**	**337**	*e*Pn	Pn	00 09 35.9	+2.7
TRIZ	**Trizonia**	**4.09**	**339**	*e*PN	**Pn**	**00 09 36.3**	**+2.0**
TRIZ	**Trizonia**	**4.09**	**339**	*e*Pn	**Pn**	**00 09 36.3**	**+2.0**
KALE	**Kalithea**	**4.10**	**339**	*e*PN	Pn	00 09 37.2	+2.7
KALE	**Kalithea**	**4.10**	**339**	*e*Pn	Pn	00 09 37.2	+2.7
LKR	**Lokris**	**4.16**	**349**	*e*PN	**Pn**	**00 09 37.6**	**+2.4**
LKR	**Lokris**	**4.16**	**349**	*e*Pn	**Pn**	**00 09 37.6**	**+2.4**
EFP	**Efpalio**	**4.20**	**337**	*e*PN	Pn	00 09 38.9	+3.1
EFP	**Efpalio**	**4.20**	**337**	*e*Pn	Pn	00 09 38.9	+3.1
AGG	**Agios Georgios**	**4.64**	**344**	*e*PN	Pn	00 09 44.7	+2.8
AGG	**Agios Georgios**	**4.64**	**344**	*e*Pn	Pn	00 09 44.7	+2.8
EVR	**Evrytania**	**4.68**	**339**	*e*PN	**Pn**	**00 09 44.7**	**+2.2**
EVR	**Evrytania**	**4.68**	**339**	*e*Pn	**Pn**	**00 09 44.7**	**+2.2**
THL	**Klokotos Trika**	**5.23**	**343**	*e*PN	**Pn**	**00 09 52.2**	**+2.2**
THL	**Klokotos Trika**	**5.23**	**343**	*e*Pn	**Pn**	**00 09 52.2**	**+2.2**
SWA2		**5.45**	**166**	AMP		00 10 00.0	
	comp=N,20μm,0.5s,logA/T=4.6,baz=168						
SWA2		**5.45**	**166**	P	Pn	00 09 54.8	+1.8
GLL	**Jalalah**	**8.23**	**125**	P	**Pn**	**00 10 30.7**	**-0.5**
	baz=127						
GLL				S	**Sn**	**00 11 59.2**	**-4.2**
	baz=127						
GLL	**Jalalah**	**8.23**	**125**	P	**Pn**	**00 10 30.7**	**-0.5**
AMAG	**Maghara**	**8.71**	**114**	P	**Pn**	**00 10 36.5**	**-1.4**
	baz=116						
AMAG	**Maghara**	**8.71**	**114**	P	**Pn**	**00 10 36.5**	**-1.4**
RSH		**8.96**	**111**	P	**Pn**	**00 10 40.2**	**-1.0**
	baz=113						
RSH		**8.96**	**111**	P	**Pn**	**00 10 40.2**	**-1.0**
STON	**Ston**	**9.63**	**331**	*e*Pn	Pn	00 10 49.8	-0.6
STON				Sn	Sn	00 12 27.0	-11
MMAI	**Mount Meron Ar**	**9.64**	**96**	Pn	**Pn**	**00 10 49.0**	**-1.6**
	comp=N,0.4nm,0.3s,baz=301,slow=12,SNR=7.2						
MMAI				Sn	Sn	00 12 32.0	-6.0
	comp=N,1.0nm,0.3s,baz=275,slow=17,SNR=6.3						
EIL	**Elat**	**10.51**	**115**	Pn	**Pn**	**00 11 00.9**	**-1.5**
	comp=N,0.2nm,0.3s,baz=359,slow=15,SNR=5.0						
EIL				Sn	Sn	00 12 51.3	-7.9
	comp=N,0.5nm,0.3s,baz=336,slow=8.3,SNR=6.3						
UDBI	**Udbina**	**11.79**	**330**	*e*Pn	Pn	00 11 17.9	-2.1
UDBI				Sn	Sn	00 13 20.2	-10
NVLJ	**Novalja**	**12.20**	**328**	*e*Pn	Pn	00 11 22.6	-2.8
NVLJ				Sn	Sn	00 13 26.6	-14
HFS	**Hagfors**	**26.45**	**348**	P	**P**	**00 14 07.0**	**-1.0**
	comp=N,0.8nm,0.7s,baz=142,slow=12,SNR=5.4						
TORD	**Torodi Ar. Bea**	**29.36**	**229**	P	**P**	**00 14 35.9**	**+1.5**
	comp=N,0.5nm,0.6s,baz=36,slow=9.1,SNR=8.8						
ARCES	**ARCESS Array B**	**35.04**	**1**	P	P	00 15 22.1	-1.6
	comp=N,2.2nm,0.8s,baz=185,slow=9.8,SNR=2.6						
MKAR	**Makanchi Array**	**44.92**	**56**	P	**P**	**00 16 46.0**	**+0.1**
	comp=N,0.4nm,0.5s,baz=268,slow=7.8,SNR=5.8						

*IDC **19** 00:15:00.4±0.7, 11°.34S×161°.40E, h0km, mb4.3/14, mb1 4.3/17, mb1mx4.3/23, mbtmp4.3/17, ML3.9/3, MS4.1/2, Ms1 4.0/2, ms1mx3.2/25, Error ellipse: s-maj=22.7km s-min=14.8km az=91.0*

*ISCJB **19** 00:15:03.7±0.5, 11°.38S±0°.06×161°.38E±0°.09, h33km, mb4.3/18, MS4.1/2, Error ellipse: s-maj=12.8km s-min=8.3km az=165.5*

*NEIC **19** 00:15:05.4±0.4, 11°.39S×161°.43E, h35km, mb4.4/5, Error ellipse: s-maj=12.0km s-min=8.8km az=93.0*

ISC 19 00:15:05.1±0.5,**11°.44S**±0°.07×**161°.4E**±0°.1,**h35**km,**n45,** σ1§**22**/48,**mb4.3**/18,**Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.47**	**324**	Pn	**Pn**	**00 15 41.2**	**-1.8**
HNR				Sn	**Sn**	**00 16 10.0**	**-1.9**
HNR	**Honiara**	**2.47**	**324**	Pn	**Pn**	**00 15 41.2**	**-1.8**
	118nm,0.3s,baz=167,slow=7.5,SNR=11						
HNR				Sn	**Sn**	**00 16 10.0**	**-1.9**
	344nm,0.3s,baz=200,slow=23,SNR=19						
DZM	**Mont Dzumac**	**11.61**	**156**	*e*Pn	**Pn**	**00 17 47.3**	**-1.2**
DZM				Sn	**Sn**	**00 19 53.3**	**-3.7**
DZM	**Mont Dzumac**	**11.61**	**156**	Pn	**Pn**	**00 17 49.3**	**+0.7**
	0.2nm,0.3s,baz=338,slow=19,SNR=3.8						
DZM				Sn	**Sn**	**00 19 53.3**	**-3.7**
	0.2nm,0.3s,baz=236,slow=18,SNR=2.6						
CTA	**Charters Tower**	**16.94**	**238**	Pn	**P**	**00 19 01.0**	**-0.2**
CTA	**Charters Tower**	**16.94**	**238**	Pn	**P**	**00 19 01.0**	**-0.2**
	0.4nm,0.3s,baz=69,slow=17,SNR=4.7						
STKA	**Stephens Creek**	**27.36**	**219**	*e*P	**P**	**00 20 48.7**	**+1.6**
	1.3nm,1.1s						
STKA	**Stephens Creek**	**27.36**	**219**	P	**P**	**00 20 47.9**	**+0.8**
	2.2nm,0.7s,baz=302,slow=3.7,SNR=3.3						
STKA				LR	LR	00 31 08.6	
	comp=Z,191nm,21.1s,baz=23,slow=35						
WRAB	**Tennant Creek**	**27.37**	**249**	*e*P	**P**	**00 20 47.2**	**-0.3**
	1.9nm,0.6s						
WRA	**Warramunga Arr**	**27.39**	**249**	P	**P**	**00 20 47.9**	**+0.3**
WRA	**Warramunga Arr**	**27.39**	**249**	P	**P**	**00 20 47.9**	**+0.3**
	1.7nm,0.5s,baz=78,slow=9.5,SNR=26						
ASAR	**Alice Springs**	**28.86**	**241**	P	**P**	**00 21 00.1**	**-0.6**
ASAR	**Alice Springs**	**28.86**	**241**	P	**P**	**00 21 00.1**	**-0.6**
	0.5nm,0.4s,baz=66,slow=10.0,SNR=10						
KSRS	**Korea Array**	**57.91**	**329**	P	**P**	**00 24 54.1**	**+0.3**
	1.9nm,0.8s,baz=147,slow=7.0,SNR=4.3						
KSAR	**Wonju Array Be**	**57.92**	**329**	P	**P**	**00 24 54.1**	**+0.2**
USRK	**Ussuriysk Arra**	**61.49**	**336**	P	**P**	**00 25 18.9**	**+0.6**
	5.8nm,0.9s,baz=143,slow=8.0,SNR=6.9						
PETK	**Petropavlovsk-**	**64.36**	**358**	P	**P**	**00 25 36.9**	**-0.4**
PETK	**Petropavlovsk-**	**64.36**	**358**	P	**P**	**00 25 36.9**	**-0.4**
	1.4nm,0.8s,baz=165,slow=6.2,SNR=3.6						
VNDA	**Vanda**	**66.07**	**180**	P	**P**	**00 25 49.7**	**+1.6**
VNDA	**Vanda**	**66.07**	**180**	P	**P**	**00 25 49.7**	**+1.6**
	1.8nm,0.9s,baz=356,slow=7.4,SNR=9.3						
CHTO	**Chiang Mai**	**68.54**	**295**	*e*P	**P**	**00 26 05.9**	**+1.2**
	1.8nm,0.6s						
ULN	**Ulaanbaatar**	**76.18**	**326**	*e*P	**P**	**00 26 49.7**	**-0.2**
	8.0nm,0.8s						
SONM	**Songino Array**	**76.53**	**325**	P	**P**	**00 26 52.9**	**+1.0**
SONM	**Songino Array**	**76.53**	**325**	P	**P**	**00 26 52.9**	**+1.0**
	7.3nm,0.6s,baz=143,slow=5.6,SNR=33						
KDAK	**Kodiak Island**	**78.55**	**23**	P	**P**	**00 27 03.2**	**+0.5**
KDAK	**Kodiak Island**	**78.55**	**23**	P	**P**	**00 27 03.2**	**+0.5**
	8.1nm,0.9s,baz=229,slow=9.3,SNR=3.8						
QSPA	**South Pole Qui**	**78.57**	**180**	P	**P**	**00 27 04.4**	**+1.4**
QSPA	**South Pole Qui**	**78.57**	**180**	P	**P**	**00 27 04.4**	**+1.4**
	2.1nm,0.7s,baz=331,slow=4.0,SNR=13						
ILAR	**Eielson Array**	**85.27**	**20**	P	**P**	**00 27 37.5**	**-0.4**
ILAR	**Eielson Array**	**85.27**	**20**	P	**P**	**00 27 37.5**	**-0.4**
	0.4nm,0.4s,baz=239,slow=5.5,SNR=7.8						
EGAK	**Eagle**	**87.23**	**21**	*e*P	**P**	**00 27 49.0**	**+1.4**
	11nm,1.1s						
MK31	**Makanchi Array**	**90.93**	**318**	*e*P	**P**	**00 28 05.4**	**-0.1**
MKAR	**Makanchi Array**	**90.93**	**318**	P	**P**	**00 28 05.7**	**+0.2**
MKAR	**Makanchi Array**	**90.93**	**318**	P	**P**	**00 28 05.7**	**+0.2**
	2.3nm,0.6s,baz=95,slow=5.5,SNR=23						
ZALV	**Zalesovo Beam**	**91.42**	**325**	P	**P**	**00 28 06.5**	**-1.1**
ZALV	**Zalesovo Beam**	**91.42**	**325**	P	**P**	**00 28 06.5**	**-1.1**
	0.6nm,0.5s,baz=111,slow=3.3,SNR=3.6						
NEW	**Newport**	**92.82**	**41**	P	**P**	**00 28 14.6**	**+0.4**
NEW	**Newport**	**92.82**	**41**	P	**P**	**00 28 14.6**	**+0.4**
	0.9nm,0.4s,baz=179,slow=6.3,SNR=1.8						
PDAR	**Pinedale Array**	**96.94**	**48**	LR	LR	01 08 33.9	
	comp=Z,148nm,19.1s,baz=112,slow=33						
KEST	**Kesra**	**145.02**	**318**	PKP	**PKPdf**	**00 34 39.6**	**+0.3**
KEST	**Kesra**	**145.02**	**318**	PKP	**PKPdf**	**00 34 39.6**	**+0.3**
	0.7nm,0.6s,baz=150,slow=8.1,SNR=5.6						
ESDC	**Sonseca Array**	**149.03**	**338**	PKPbc	**PKPbc**	**00 34 50.4**	**+0.3**
ESDC	**Sonseca Array**	**149.03**	**338**	PKPbc	**PKPbc**	**00 34 50.4**	**+0.3**
	0.3nm,0.6s,baz=22,slow=2.0,SNR=3.7						
TORD	**Torodi Ar. Bea**	**160.13**	**277**	PKP	**PKPdf**	**00 35 01.6**	**-0.3**
TORD	**Torodi Ar. Bea**	**160.13**	**277**	PKP	**PKPdf**	**00 35 01.6**	**-0.3**
	0.6nm,1.0s,baz=58,slow=1.1,SNR=3.6						

WEL 19 00:26:28.8±0.1,**45°.12S**×**167°.55E**,**h5**km,**ML3.8**/14,**3C-4D, Error ellipse: s-maj=1.4km s-min=1.2km az=90.0,South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.46**	**218**	PG	Pb	00 26 39.5	+0.2
DCZ				AML	AML	00 26 46.7	
DCZ				AML	AML	00 26 46.7	
DCZ				AML	AML	00 26 46.7	
DCZ				AML	AML	00 26 46.8	
MLZ	**Mavora Lakes**	**0.49**	**118**	⇓PG	Pg	00 26 38.3	-0.1
MLZ				SG	Sg	00 26 44.2	-0.6
MLZ				AML	AML	00 26 44.5	
MSZ	**Milford Sound**	**0.52**	**31**	⇑PG	Pg	00 26 39.4	+0.6
MSZ				SG	Sg	00 26 45.9	+0.4
MSZ				AML	AML	00 26 46.5	
MSZ				AML	AML	00 26 46.9	
MSZ				AML	AML	00 26 47.0	
WHZ	**Wether Hill Ro**	**0.82**	**161**	⇑P*	Pg	00 26 44.7	+0.1
WHZ				AML	AML	00 26 56.0	
WHZ				AML	AML	00 26 57.7	
WKZ	**Wanaka**	**1.08**	**75**	⇓P*	Pg	00 26 49.1	-0.4
WKZ				AML	AML	00 27 03.8	
WKZ				AML	AML	00 27 03.8	
WKZ				AML	AML	00 27 03.9	
WKZ				AML	AML	00 27 03.9	
PYZ	**Puysegur Point**	**1.22**	**210**	⇑P*	Pg	00 26 51.6	-0.5
EAZ	**Earnscleugh**	**1.25**	**96**	⇓P*	Pg	00 26 51.4	-1.3
EAZ				AML	AML	00 27 09.2	
EAZ				AML	AML	00 27 09.2	
EAZ				AML	AML	00 27 10.6	
EAZ				AML	AML	00 27 10.7	
JCZ	**Jackson Bay**	**1.35**	**40**	PN	Pn	00 26 53.6	-0.8
JCZ				AML	AML	00 27 12.5	
JCZ				AML	AML	00 27 16.5	
TUZ	**Tuapeka**	**1.68**	**121**	PN	Pn	00 26 58.5	-0.3
TUZ				AML	AML	00 27 19.5	
TUZ				AML	AML	00 27 22.1	
APZ	**The Paps**	**1.74**	**170**	PN	Pn	00 26 59.5	-0.3
SYZ	**Scrubby Hill**	**1.80**	**143**	⇓PN	Pn	00 27 00.4	-0.1
LBZ	**Lake Benmore**	**2.01**	**70**	PN	Pn	00 27 03.1	-0.2
LBZ				AML	AML	00 27 32.1	
LBZ				AML	AML	00 27 32.5	
LBZ				AML	AML	00 27 34.5	
FOZ	**Fox Glacier**	**2.18**	**45**	*e*PN	Pb	00 27 07.9	-0.8
FOZ				AML	AML	00 27 45.6	
FOZ				AML	AML	00 27 45.7	
FOZ				AML	AML	00 27 45.7	
ODZ	**Otahua Downs**	**2.19**	**89**	PN	Pn	00 27 05.4	-0.4
HHSZ	**Highcliff Hill**	**2.27**	**111**	PN	Pn	00 27 07.0	0.0
RPZ	**Rata Peaks**	**2.87**	**62**	PN	Pn	00 27 14.5	-0.7
RPZ				AML	AML	00 27 48.9	
RPZ				AML	AML	00 28 01.8	
WVZ	**Waitaha Valley**	**3.07**	**49**	PN	Pn	00 27 18.8	+1.0
OXZ	**Oxford**	**3.69**	**63**	PN	Pn	00 27 24.8	-1.6
MQZ	**McQueen's Vall**	**3.92**	**71**	PN	Pn	00 27 27.9	-1.5
LTZ	**Lake Taylor**	**4.13**	**57**	PN	Pn	00 27 31.1	-1.4
THZ	**Tophouse**	**5.14**	**51**	*e*PN	Pn	00 27 48.5	+2.0
THZ				AML	AML	00 28 46.0	
QRZ	**Quartz Range**	**5.63**	**42**	*e*PN	Pn	00 27 54.0	+0.9

*ISCJB **19** 00:42:20.0±0.6, 21°.22S±0°.05×68°.52W±0°.09, h113km±12km, mb3.3/1, Error ellipse: s-maj=14.8km s-min=7.8km az=10.2*

*GUC **19** 00:42:21.5±0.3, 21°.26S×68°.98W, h121km±2km, ML3.7*

*IDC **19** 00:42:25.0±9.3, 21°.03S×68°.49W, h152km±63km, mb3.4/2, mb1 3.3/4, mb1mx3.1/16, mbtmp3.2/4, Error ellipse: s-maj=108.7km s-min=34.6km az=11.0*

ISC 19 00:42:20.4±0.9,**21°.21S**±0°.06×**68°.61W**±0°.10, **h116**km±11km,**n13,**σ1§**83**/15,**1C-1D,Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**Plate Boundary**	**0.83**	**225**	*i* P	**Pn**	**00 42 40.8**	**+0.1**
PB09				*i* S	**Sn**	**00 42 55.4**	**-0.5**
PB09				AML	AML	00 42 57.9	
	comp=N,3μm,0.2s						
PB04	**Plate Boundary**	**1.33**	**218**	⇑*i* P	Pn	00 42 50.3	+4.7
PB04				*i* S	Sn	00 43 12.0	+7.3
PB04				AML	AML	00 43 14.0	
	comp=E,795nm,0.2s						
MACH	**Maria Elena**	**1.45**	**227**	⇓*i* P	**Pn**	**00 42 46.4**	**-0.9**
MACH				*i* S	**Sn**	**00 43 05.3**	**-2.3**
PSGC	**Pisagua**	**2.14**	**318**	*i* P	**Pn**	**00 42 55.5**	**-0.1**
PSGC				*i* S	**Sn**	**00 43 21.3**	**-1.2**
MNMC	**Minimini**	**2.27**	**336**	*e*P	**Pn**	**00 42 59.4**	**+2.0**
MNMC				*i* S	**Sn**	**00 43 27.8**	**+2.2**
MNMC				AML	AML	00 43 36.1	
	comp=N,356nm,0.2s						
CEN1	**Los Morros**	**2.62**	**214**	*e*P	**Pn**	**00 43 03.7**	**+1.9**
CEN1				*i* S	**Sn**	**00 43 36.0**	**+2.4**
CEN1				AML	AML	00 43 37.4	
	comp=N,146nm,0.1s						
PB10	**Plate Boundary**	**2.92**	**218**	AML	AML	00 43 37.4	
	comp=N,505nm,0.1s						
ANCH	**Antofagasta**	**2.97**	**214**	AML	AML	00 43 39.7	
	comp=E,454nm,0.1s						
LPAZ	**La Paz**	**4.92**	**5**	P	Pn	00 43 37.0	+4.1
	comp=E,0.7nm,0.3s,baz=202,slow=4.8,SNR=18						
SIV	**San Ignacio**	**8.83**	**55**	P	**Pn**	**00 44 25.6**	**+0.3**
	comp=E,0.9nm,0.3s,baz=257,slow=11,SNR=14						
SIV				S	**Sn**	**00 46 02.6**	**-0.5**
	comp=E,0.1nm,0.3s,baz=330,slow=20,SNR=3.3						
BDFB	**Brasilia**	**20.30**	**78**	P	**P**	**00 46 47.7**	**+0.2**
	comp=E,2.8nm,0.4s,baz=236,slow=7.2,SNR=2.8						
TORD	**Torodi Ar. Bea**	**76.99**	**70**	P	**P**	**00 54 01.5**	**+0.5**
	comp=E,0.4nm,0.7s,baz=252,slow=5.2,SNR=15						
MKAR	**Makanchi Array**	**145.24**	**36**	PKPbc	**PKPbc**	**01 01 41.2**	**-3.1**
	comp=E,2.0nm,1.1s,baz=284,slow=3.9,SNR=2.7						

*ISCJB **19** 01:27:09.3±0.8, 37°.6N±0°.1×94°.7E±0°.1, h10km, mb3.7/10, MS2.7/1, Error ellipse: s-maj=20.4km s-min=9.2km az=28.4*

*IDC **19** 01:27:10.0±1.1, 37°.57N×94°.64E, h0km, mb3.7/6, mb1 3.8/9, mb1mx3.6/28, mbtmp3.7/9, ML3.8/3, MS2.7/2, Ms1 2.7/2, ms1mx2.6/50, Error ellipse: s-maj=33.8km s-min=22.2km az=48.0*

*BJI **19** 01:27:12.4, 37°.41N×94°.56E, h15km, ML4.1/8, Ms3.7/5, Ms7 3.5/3*

*NNC **19** 01:27:16.2±4.5, 39°.62N×96°.15E, h0km, mb3.9, Error ellipse: s-maj=177.0km s-min=54.5km az=47.0*

ISC 19 01:27:12.2±0.9,**37°.8N**±0°.1×**94°.57E**±0°.06,**h10**km,**n20,** σ1§**89**/20,**mb3.8**/10,**3C-4D,Qinghai**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**4.43**	**66**	Pg	**Pb**	**01 28 28.8**	**-1.5**
GTA				Sn	**Sb**	**01 29 24.5**	**+0.6**
GTA				smax	smax		
	comp=N,22nm,1.3s						
GTA				smax	smax		
	comp=E,30nm,1.2s						
GTA				LR	LR		
	comp=N,240nm,9.7s						
GTA				LR	LR		
	comp=E,470nm,9.5s						
GTA				LR	LR		
	comp=Z,490nm,9.7s						
LZH	**Lanzhou**	**7.61**	**100**	*e*Pg	**Pg**	**01 29 37.4**	**-0.6**
LZH				Sg	Sb	01 31 04.1	+8.8
LZH				smax	smax		
	comp=N,43nm,1.0s						
LZH				smax	smax		
	comp=E,66nm,0.8s						
LZH				LR	LR		
	comp=N,460nm,8.3s						
LZH				LR	LR		
	comp=E,460nm,9.2s						
LZH				LR	LR		
	comp=Z,470nm,9.8s						
WMQ	**Urumqi**	**8.00**	**322**	P	Pn	01 29 15.6	+7.0
WMQ				smax	smax		
	comp=N,58nm,0.8s						
WMQ				smax	smax		
	comp=E,46nm,0.8s						
MK31	**Makanchi Array**	**12.81**	**319**	⇓Pn	**Pn**	**01 30 15.0**	**+0.7**
	comp=E,6.2nm,0.8s,baz=125,slow=14,SNR=5.2						
MK31				⇓Sn	**Sn**	**01 32 33.2**	**-3.7**
	comp=E,5.3nm,0.7s,baz=134,slow=25,SNR=3.1						
MKAR	**Makanchi Array**	**12.81**	**319**	Pn	**Pn**	**01 30 15.5**	**+1.2**
	comp=E,0.9nm,0.3s,baz=125,slow=14,SNR=32						
MKAR				Sn	**Sn**	**01 32 34.1**	**-2.9**
	comp=E,0.4nm,0.3s,baz=136,slow

BUTP	**Butuan**	2.64	20	*e*P	**Pn**	**01 42 11.5 -1.2**
SGSI	**Sangihe**	2.88	164	P	**Pn**	**01 42 13.7 -2.2**
SGSI				S	**Sn**	**01 42 48.3 -1.0**
TBP	**Tagbilaran**	3.32	345	*e*P	**Pn**	**01 42 21.7 -0.2**
SCPH	**Surigao**	3.38	13⇓	*e*P	**Pn**	**01 42 21.3 -1.5**
MSLP	**Maasin**	3.65	2	*e*P	Pn	01 42 31.2 +4.8
GUIM	**Jordan**	4.64	333	*e*P	**Pn**	**01 42 41.8 +1.7**
PLP	**Palo**	4.68	3⇓	*e*P	**Pn**	**01 42 39.2 -1.5**
RCP	**Roxas**	5.42	339⇑	*e*P	**Pn**	**01 42 52.7 +1.8**
GTOI	**Gorontalo**	6.04	196	P	Pn	01 42 54.3 -5.0
	2μm,0.8s,23μm5.3nm					
TNTI	**Ternate**	6.24	155	*e*Pn	**Pn**	**01 43 01.0 -1.2**
TNTI	**Ternate**	6.24	155	P	**Pn**	**01 43 01.8 -0.3**
	681nm,0.9s,8μm2.4nm					
TNTI				S	**Sn**	**01 44 12.6 +0.4**
	681nm,0.9s,8μm2.4nm					
MYLDM	**Lahad Datu**	6.32	259	P	**Pn**	**01 43 01.9 -1.3**
	158nm,1.1s,3μm0.7nm					
MRSI	**Marisa**	6.56	205	P	Pn	01 43 01.3 -5.2
MRSI				S	Sn	01 44 11.4 -8.7
TOLI	**Toli-Toli**	6.60	217	P	Pn	01 43 00.4 -6.6
TOLI				S	Sn	01 44 13.3 -7.7
SJMP	**San Jose**	6.94	329	*e*P	**Pn**	**01 43 11.7 +0.1**
ENPP	**El Nido**	7.04	312	*e*P	**Pn**	**01 43 10.8 -2.3**
LUWI	**Luwuk**	7.71	195	P	**Pn**	**01 43 20.5 -1.7**
	1μm,0.9s,11μm4.3nm					
LUWI				S	**Sn**	**01 44 43.7 -4.6**
	1μm,0.9s,11μm4.3nm					
LUWI	**Luwuk**	7.71	195	P	**Pn**	**01 43 21.0 -1.3**
	baz=7.7,SNR=42					
LUWI				S	**Sn**	**01 44 52.5 +4.2**
	baz=7.7,SNR=5.4					
APSI	**Ampana**	7.94	203	P	**Pn**	**01 43 24.9 -0.6**
	418nm,0.6s,6μm2.3nm					
APSI				S	**Sn**	**01 44 52.3 -1.8**
	418nm,0.6s,6μm2.3nm					
KKM	**Kota Kinabalu**	8.47	268	*e*Pn	**Pn**	**01 43 32.7 -0.1**
SWI	**Sorong**	9.78	138	P	**Pn**	**01 43 50.9 +0.3**
	72nm,1.1s					
NLAI	**Namlea**	9.93	166	P	**Pn**	**01 43 51.0 -1.7**
	396nm,0.7s,4μm					
AAI	**Ambon**	10.66	161	P	**Pn**	**01 44 02.0 -0.8**
	178nm,0.4s,3μm					
AAI	**Ambon**	10.66	161	P	**Pn**	**01 44 01.7 -1.1**
	baz=11,SNR=8.1					
KKSI	**Kolaka, Sulawe**	11.00	196	P	Pn	01 44 03.5 -3.9
	104nm,0.7s,2μm					
SPSI	**Sidrap Palu**	11.48	206	P	**Pn**	**01 44 15.0 +1.1**
	38nm,1.1s,2μm					
BNSI	**Bone**	11.74	203	P	**Pn**	**01 44 18.3 +0.9**
	79nm,1.1s,1μm					
FAKI	**Fak Fak**	11.97	141	P	**Pn**	**01 44 21.2 +0.5**
	98nm,0.9s,1μm					
FAKI	**Fak Fak**	11.97	141	P	**Pn**	**01 44 21.4 +0.7**
	baz=12,SNR=8.3					
BBSI	**Bau Bau**	12.07	190	P	**Pn**	**01 44 22.0 +0.1**
	66nm,1.0s,1μm					
RKPI	**Ransiki, Papua**	12.32	130	P	**Pn**	**01 44 26.7 +1.2**
	88nm,1.3s					
KAPI	**Kappang**	12.44	204	*e*Pn	**Pn**	**01 44 26.2 -0.8**
KAPI	**Kappang**	12.44	204	P	**Pn**	**01 44 25.8 -1.2**
	43nm,1.2s					
KAPI	**Kappang**	12.44	204	P	**Pn**	**01 44 25.0 -2.0**
	2.0nm,0.3s,baz=31,slow=3.7,SNR=13					
BKSI	**Bulukumba**	12.58	202	P	**Pn**	**01 44 26.1 -2.8**
	23nm,1.1s,498nm					
SBUM	**Sibu**	13.08	253	*e*Pn	**Pn**	**01 44 37.2 +1.3**
SBUM	**Sibu**	13.08	253	P	**Pn**	**01 44 36.5 +0.6**
	29nm,1.2s					
MMRI	**Maumere**	15.21	189	P	**Pn**	**01 45 03.9 -0.4**
	152nm,1.4s,2μm					
KSM	**Kuching**	15.21	252	*e*Pn	**P**	**01 45 06.8 -1.8**
	36nm,0.9s					
KSM	**Kuching**	15.21	252	P	**Pn**	**01 45 06.4 +2.1**
	52nm,1.1s,865nm					
KSM	**Kuching**	15.21	252	P	**P**	**01 45 07.9 -0.7**
	baz=15,SNR=4.2					
LBFI	**Labuhan Bajo,**	15.61	198	P	**Pn**	**01 45 07.9 -1.6**
	128nm,1.4s,3μm					
SOEI	**Soe**	16.12	182	P	**Pn**	**01 45 16.0 -0.2**
	181nm,1.2s,4μm					
SOEI	**Soe**	16.12	182	P	P	01 45 30.5 +12
	baz=16,SNR=3.9					
WSI	**Waingapu**	16.62	195	S	Sn	01 48 15.8 -10
	baz=17,SNR=3.6					
KMMI	**Kalianget**	17.19	219	P	P	01 45 38.1 +7.6
MTNI	**Mataram**	17.25	210	P	**Pn**	**01 45 28.1 -2.2**
	64nm,1.1s					
NACB	**Ninganchiao**	17.86	351	*e*Pn	**P**	**01 45 41.8 +3.8**
	36nm,0.5s					
JAGI	**Jajag, Banyuwa**	18.20	216	P	Pn	01 45 50.7 +8.8
JAY	**Jayapura**	18.28	119	P	**Pn**	**01 45 43.9 +0.9**
	167nm,0.7s,39μm					
YHNB	**Yeheng**	18.38	350	*e*P	Pn	01 45 49.6 +5.4
	25nm,0.7s					
NGJI	**Ngawi**	19.07	224	P	**Pn**	**01 45 53.2 +0.7**
	105nm,1.0s					
QIZ	**Qiongzhong**	19.12	312	P	**P**	**01 45 52.1 +0.2**
QIZ				sP	**sP**	**01 46 07.0 -1.5**
QIZ				pmax	pmax	
	comp=Z,18nm,1.5s					
QIZ				pmax	pmax	
	comp=Z,780nm,7.2s					
QIZ				LR	LR	
	comp=N,2μm,18.8s					
QIZ				LR	LR	
	comp=Z,2μm,15.4s					
QIZ	**Qiongzhong**	19.12	312	*e*P	**P**	**01 45 52.1 +0.2**
	comp=Z,27nm,1.0s					
SJI	**Sawahan**	19.13	223	P	**Pn**	**01 45 53.0 -0.2**
	comp=Z,73nm,1.6s					
QZH	**Quanzhou**	19.29	343	P	**P**	**01 45 54.0 +0.4**
QZH				LR	LR	
	comp=N,4μm,18.6s					
QZH				LR	LR	
	comp=E,6μm,22.9s					
QZH				LR	LR	
	comp=Z,2μm,15.5s					
PWJI	**Pagerwojo**	19.32	222	P	**P**	**01 45 52.7 -1.3**
	comp=Z,57nm,1.5s					
TPI	**Tanjungpandan**	19.35	242	P	Pn	01 46 05.1 +9.3
UGM	**Wanagama**	20.11	225	P	Pn	01 46 05.3 +0.4
	baz=20,SNR=3.7					
MTN	**Manton Dam**	20.21	162	P	**P**	**01 46 03.5 -0.2**
	baz=20,SNR=10					
BJII	**Banjamegara**	20.30	228	P	Pn	01 46 09.4 +2.2
	comp=Z,102nm,1.1s					
PPBI	**Pangkal Pinang**	20.44	246	P	Pn	01 46 11.3 +2.6
	comp=Z,31nm,1.2s,comp=Z,5μm					
TGJI	**Tegal**	20.44	230	P	Pn	01 46 12.9 +4.2
KDU	**Kakadu**	20.53	158	P	**P**	**01 46 06.1 -1.0**
	baz=20,SNR=30					
UBPT	**Khong Chiam**	20.82	296	P	Pn	01 46 15.0 +1.8
	comp=Z,37nm,1.8s					
UBPT	**Khong Chiam**	20.82	296	P	Pn	01 46 15.0 +1.8
	comp=Z,37nm,1.8s					
KPJI	**Karang Pucung**	20.88	229	P	Pn	01 46 17.8 +3.8
MYKOM	**Kota Tinggi**	21.32	258	P	P	01 46 20.8 +5.0
	comp=Z,28nm,1.1s,comp=Z,606nm					
KNRA	**Kununurra**	22.36	170	P	**P**	**01 46 26.7 -0.2**
	baz=22,SNR=46					
SKNT	**Sakolnakorn**	22.81	299	P	**P**	**01 46 31.8 +0.1**
	comp=Z,57nm,1.9s					
MDSI	**Maura Dua**	23.22	243	P	P	01 46 40.7 +4.9
	comp=Z,62nm,0.8s					
IPM	**Ipoh**	23.67	266	*e*P	**P**	**01 46 39.3 -0.9**
	comp=Z,50nm,1.3s					
IPM	**Ipoh**	23.67	266	P	**P**	**01 46 40.3 +0.1**
KULM	**Kulim**	23.97	268	*e*P	**P**	**01 46 42.5 -0.5**
	comp=Z,64nm,1.4s					
KULM	**Kulim**	23.97	268	P	**P**	**01 46 43.6 +0.6**
CHAI	**Chaiyaphum**	24.17	295	P	**P**	**01 46 48.0 +3.3**
	comp=Z,4.9nm,1.1s,comp=Z,406nm					
NAYO	**Nakonayok**	24.28	291	P	**P**	**01 46 47.3 +1.5**
	comp=Z,34nm,1.7s,comp=Z,1μm					
BKNI	**Bangkinang**	24.40	256	P	P	01 46 52.6 +5.7
	comp=Z,95nm,1.0s,comp=Z,1μm					
FITZ	**Fitzroy Crossi**	24.43	178	P	**P**	**01 46 46.2 -0.8**
FITZ	**Fitzroy Crossi**	24.43	178	P	**P**	**01 46 46.2 -0.8**
	comp=Z,6.9nm,0.6s,baz=17,slow=9.8,SNR=25					
FITZ	**Fitzroy Crossi**	24.43	178	P	**P**	**01 46 46.7 -0.3**
	baz=24,SNR=9.1					
SSE	**Sheshan**	24.73	353	P	**P**	**01 46 47.3 -2.3**
SSE				pmax	pmax	
	comp=Z,18nm,0.7s					
SSE				pmax	pmax	
	comp=Z,180nm,5.3s					
SSE				LR	LR	
	comp=N,830nm,32.7s					
SSE				LR	LR	
	comp=E,1μm,32.6s					
SSE				LR	LR	
	comp=Z,880nm,29.0s					
PPI	**Padang Panjang**	25.23	255	P	**P**	**01 46 57.8 +3.4**
	comp=Z,44nm,1.3s					
PDSI	**Padang**	25.30	254	P	P	01 47 01.0 +5.9
	comp=Z,56nm,1.2s,comp=Z,2μm					
PBKT	**Sadao Pong**	25.32	295	P	**P**	**01 46 57.4 +2.3**
PBKT	**Sadao Pong**	25.32	295	P	**P**	**01 46 57.4 +2.3**
	comp=Z,32nm,0.8s					
LOEI	**Loei**	25.40	298	P	**P**	**01 46 54.9 -1.0**
	comp=Z,192nm,1.6s,comp=Z,9μm					
PSI	**Prapat**	25.96	263	P	**P**	**01 47 01.2 0.0**
PSI	**Prapat**	25.96	263	P	**P**	**01 47 01.2 0.0**
	comp=Z,13nm,0.8s,baz=83,slow=7.8,SNR=7.3					
PSI				LR	LR	01 59 49.8
	comp=Z,307nm,19.5s,baz=83,slow=42					
PSI	**Prapat**	25.96	263	P	**P**	**01 47 01.8 +0.6**
	baz=26,SNR=6.5					
NJ2	**Nanjing**	26.04	349	*e*P	**P**	**01 47 02.3 +0.8**
NJ2				pmax	pmax	
	comp=Z,40nm,1.0s					
GYA	**Guiyang**	26.30	321	*e*P	**P**	**01 47 06.8 +2.7**
GYA				pP	**pP**	**01 47 16.5 +0.4**
GYA				sP	**sP**	**01 47 22.0 +0.4**
GYA				PcP	**PcP**	**01 50 31.8 +2.2**
GYA				S	**S**	**01 51 32.6 -1.3**
GYA				pmax	pmax	
	comp=Z,20nm,0.7s					
GYA				pmax	pmax	
	comp=Z,110nm,5.7s					
GYA				LR	LR	
	comp=N,2μm,16.0s					
GYA				LR	LR	
	comp=E,850nm,15.2s					
GYA				LR	LR	
	comp=Z,2μm,14.6s					
NANT	**Nan**	26.41	300	P	P	01 47 16.2 +11
SUKH	**Sukhothai**	26.84	296	P	P	01 47 18.2 +9.3
COEN	**Coen**	27.34	138	*e*P	**P**	**01 47 13.8 +0.4**
COEN	**Coen**	27.34	138	P	P	01 47 18.8 +5.5
	baz=27,SNR=4.5					
PMG	**Port Moresby**	27.36	125	*e*P	**P**	**01 47 13.3 -0.3**
	comp=Z,25nm,0.8s					
PMG	**Port Moresby**	27.36	125	P	**P**	**01 47 17.6 +4.0**
	comp=Z,22nm,0.9s,baz=299,slow=15,SNR=3.1					
PMG				LR	LR	01 59 33.1
	comp=Z,425nm,18.4s,baz=153,slow=40					
ENH	**Enshi**	27.68	331	*e*P	**P**	**01 47 16.3 -0.1**
	comp=Z,9.6nm,0.8s					
MBWA	**Marble Bar**	27.89	190	*e*P	**P**	**01 47 20.0 +1.8**
	comp=Z,17nm,0.8s					
WRAB	**Tennant Creek**	27.89	160	*e*P	**P**	**01 47 17.4 -0.9**
	comp=Z,13nm,0.6s					
WRA	**Warramunga Arr**	27.90	160	P	**P**	**01 47 16.1 -2.3**
WRA	**Warramunga Arr**	27.90	160	P	**P**	**01 47 16.1 -2.3**
	comp=Z,3.9nm,0.6s,baz=332,slow=10,SNR=48					
CHTO	**Chiang Mai**	27.94	298	*e*P	**P**	**01 47 18.3 -0.5**
	comp=Z,8.2nm,1.1s					
CHTO	**Chiang Mai**	27.94	298	P	P	01 47 24.6 +5.8
	comp=Z,7.7nm,1.4s					
CHTO	**Chiang Mai**	27.94	298	P	P	01 47 24.6 +5.8
	comp=Z,7.7nm,1.4s					
KMI	**Kunming**	28.05	314	P	**P**	**01 47 22.1 +2.1**
KMI				pP	**pP**	**01 47 33.9 +1.8**
KMI				sP	**sP**	**01 47 39.5 +2.0**
KMI				PP	**PnPn**	**01 48 13.8 +4.8**
KMI				S	**S**	**01 52 05.9 +4.1**
KMI				pmax	pmax	
	comp=Z,9.0nm,1.1s					
KMI				pmax	pmax	
	comp=Z,310nm,7.6s					
KMI				LR	LR	
	comp=N,620nm,21.6s					
KMI				LR	LR	
	comp=E,860nm,21.1s					
KMI				LR	LR	
	comp=Z,1μm,20.2s					
KSAR	**Wonju Array Be**	30.97	5	P	**P**	**01 47 45.5 +0.1**
KSRS	**Korea Array**	30.98	5	P	**P**	**01 47 45.5 0.0**
	comp=Z,1.6nm,0.6s,baz=186,slow=9.8,SNR=7.4					
KSRS				LR	LR	02 01 45.7
	comp=Z,639nm,18.1s,baz=306,slow=39					
XAN	**Xi'an**	31.09	334	P	**P**	**01 47 44.8 -1.8**
XAN				pP	**pP**	**01 47 56.3 -2.5**
XAN				PP	**PnPn**	**01 48 46.8 -2.6**
XAN				S	S	01 52 43.3 -5.7
XAN				pmax	pmax	
	comp=Z,40nm,7.9s					
XAN				LR	LR	
	comp=N,700nm,19.1s					
XAN				LR	LR	
	comp=E,400nm,20.7s					
XAN				LR	LR	
	comp=Z,380nm,19.1s					
MTSU	**Mount Surprise**	31.17	142	P	**P**	**01 47 48.5 +1.1**
	baz=31,SNR=4.9					
AS31	**Alice Springs**	31.26	164	*e*P	**P**	**01 47 48.0 -0.2**
ASAR	**Alice Springs**	31.26	164	P	**P**	**01 47 46.4 -1.8**
ASAR	**Alice Springs**	31.26	164	P	**P**	**01 47 46.4 -1.8**
	comp=Z,3.1nm,0.6s,baz=350,slow=7.2,SNR=27					
CD2	**Chengdu**	31.27	324	P	**P**	**01 47 48.3 +0.1**
CD2				pP	**pP**	**01 47 59.4 -1.0**
CD2				sP	**sP**	**01 48 04.3 -1.5**
CD2				PP	**PnPn**	**01 48 52.8 +1.1**
CD2				S	**S**	**01 52 52.3 +0.4**
CD2				sS	**sS**	**01 53 10.4 -1.9**
CD2				pmax	pmax	
	comp=Z,20nm,0.9s					
CD2				pmax	pmax	
	comp=Z,140nm,6.9s					
CD2				LR	LR	
	comp=N,1μm,17.8s					
CD2				LR	LR	
	comp=Z,650nm,19.0s					
MJAR	**Matsushiro Arr**	32.38	21	LR	LR	01 58 56.2
	comp=Z,354nm,19.4s,baz=215,slow=32					
PATS	**Pohnpei**	33.36	87	P	**P**	**01 48 04.4 -2.4**
	baz=33,SNR=3.9					
MEEK	**Meekatharra**	33.44	190	P	**P**	**01 48 08.6 +1.4**
	baz=34,SNR=4.8					
CTA	**Charters Tower**	33.84	142	P	**P**	**01 48 10.1 -0.6**
CTA	**Charters Tower**	33.84	142	P	**P**	**01 48 10.1 -0.6**
	comp=Z,2.0nm,0.3s,baz=323,slow=12,SNR=3.2					
CTAO	**Charters Tower**	33.84	142	*e*P	**P**	**01 48 12.3 +1.6**
	comp=Z,21nm,1.1s					
BJI	**Beijing**	34.30	348	P	**P**	**01 48 13.9 -0.6**
BJI				pmax	pmax	
	comp=Z,21nm,1.3s					
BJI				pmax	pmax	
	comp=Z,130nm,3.7s					
BJI				LR	LR	
	comp=N,690nm,15.3s					
BJI				LR	LR	
	comp=E,1μm,23.0s					
BJI				LR	LR	
	comp=Z,650nm,36.8s					
LZH	**Lanzhou**	35.15	330	⇓P	**P**	**01 48 23.4 +1.3**
LZH				pP	**pP**	**01 48 36.5 +2.1**
LZH				sP	**sP**	**01 48 40.6 +0.8**
LZH				S	**S**	**01 53 52.6 +0.4**
LZH				pmax	pmax	
	comp=Z,23nm,1.1s					
LZH				pmax	pmax	
	comp=Z,300nm,5.1s					
LZH				LR	LR	
	comp=N,6μm,16.5s					
LZH				LR	LR	
	comp=E,3μm,13.6s					
LZH				LR	LR	
	comp=Z,7μm,15.8s					
SNY	**Shenyang**	35.23	359	⇑P	**P**	**01 48 23.9 +1.4**
SNY				pmax	pmax	
	comp=Z,15nm,1.7s					
SNY				pmax	pmax	
	comp=Z,360nm,5.7s					
SNY				LR	LR	
	comp=N,970nm,16.7s					
SNY				LR	LR	
	comp=E,890nm,16.0s					
SNY				LR	LR	
	comp=Z,1μm,17.9s					
HHC	**Hu-ho-hao-te**	36.20	343	*e*P	**P**	**01 48 31.5 +0.5**
HHC				pP	**pP**	**01 48 43.6 +0.3**
HHC				sP	**sP**	**01 48 48.1 -0.6**
HHC				PP	**PP**	**01 49 55.3 +1.3**
HHC				S	**S**	**01 54 08.4 +0.3**
HHC				sS	**sS**	**01 54 28.5 -0.2**
HHC				ScP	**ScP**	**01 54 38.0 -0.6**
HHC				SS	**SnSn**	**01 56 33.9 -3.6**
HHC				pmax	pmax	
	comp=Z,71nm,0.6s					
HHC				pmax	pmax	
	comp=Z,180nm,5.3s					
HHC				LR	LR	
	comp=N,2μm,14.8s					
HHC				LR	LR	
	comp=E,1μm,14.1s					
HHC				LR	LR	
	comp=Z,1μm,14.4s					
MORW	**Morawa**	36.30	193	P	P	01 48 35.9 +4.0
	baz=36,SNR=6.2					
SHL	**Shillong**	36.67	305	*e*P	**P**	**01 48 34.0 -1.3**
FORT	**Forrest**	37.17	175	*e*P	**P**	**01 48 37.9 -1.3**
	comp=Z,50nm,0.8s					
CN2	**Changchun**	37.19	1	*e*P	**P**	**01 48 39.0 -0.3**
CN2				*e*PP	**PnPn**	**01 50 07.6 +2.1**
CN2				*e*S	**S**	**01 54 22.9 0.0**
CN2				*e*SS	**SnSn**	**01 56 56.1 -5.0**
CN2				LR	LR	
	comp=N,360nm,12.0s					
CN2				LR	LR	
	comp=E,910nm,12.0s					
CN2				LR	LR	
	comp=Z,630nm,14.0s					
USRK	**Ussuriysk Arra**	38.12	8	P	**P**	**01 48 47.0 -0.1**
	comp=Z,3.0nm,0.7s,baz=184,slow=7.4,SNR=7.3					
USRK				LR	LR	02 05 08.1
	comp=Z,532nm,20.7s,baz=191,slow=37					
MDJ	**Mudanjiang**	38.24	6	P	**P**	**01 48 50.3 +2.2**
MDJ				pP	**pP**	**01 49 01.3 +0.9**
MDJ				sP	**sP**	**01 49 06.3 +0.4**
MDJ				PP	**PnPn**	**01 50 18.6 +0.4**
MDJ				S	**S**	**01 54 41.5 +2.8**
MDJ				sS	**sS**	**01 55 02.8 +3.4**
MDJ				pmax	pmax	
	comp=Z,7.0nm,0.7s					
MDJ				pmax	pmax	
	comp=Z,190nm,5.5s					
MDJ				LR	LR	
	comp=N,510nm,20.7s					
MDJ				LR	LR	
	comp=E,980nm,27.8s					
MDJ				LR	LR	
	comp=Z,600nm,16.4s					
HNR	**Honiara**	38.49	114	LR	LR	02 02 28.4
	comp=Z,235nm,20.9s,baz=122,slow=33					
LSA	**Lhasa**	39.15	310	P	**P**	**01 48 56.5 -0.1**
LSA	**Lhasa**	39.15	310	*e*P	**P**	**01 48 56.4 -0.1**
	comp=Z,37nm,1.4s					
GTA	**Gaotai**	39.74	329	⇓P	**P**	**01 49 01.6 +0.7**
GTA				S	**S**	**01 55 02.9 +1.2**
GTA				pmax	pmax	
	comp=Z,11nm,0.9s					
GTA				pmax	pmax	
	comp=Z,200nm,5.0s					
GTA				LR	LR	
	comp=N,960nm,19.5s					
GTA				LR	LR	
	comp=E,690nm,15.9s					
GTA				LR	LR	
	comp=Z,890nm,17.1s					
BBOO	**Buckleboo**	40.52	165	*e*P	**P**	**01 49 06.3 -1.0**
	comp=Z,254nm,0.6s					
BBOO	**Buckleboo**	40.52	165	P	**P**	**01 49 08.5 +1.2**
	baz=41,SNR=9.3					
STKA	**Stephens Creek**	41.39	158	*e*P	**P**	**01 49 13.4 -1.0**
	comp=Z,3.0nm,0.8s					
STKA	**Stephens Creek**	41.39	158	P	**P**	**01 49 13.2 -1.2**
	comp=Z,6.8nm,0.7s,baz=336,slow=7.4,SNR=20					
STKA	**Stephens Creek**	41.39	158	P	**P**	**01 49 13.7 -0.8**
	baz=42,SNR=12					
ULN	**Ulaanbaatar**	43.92	343	*e*P	**P**	**01 49 35.0 0.0**
	comp=Z,5.5nm,1.0s					
ULN	**Ulaanbaatar**	43.92	343	P	**P**	**01 49 36.5 +1.5**
SONM	**Songino Array**	44.09	342	P	**P**	**01 49 35.4 -0.9**
SONM	**Songino Array**	44.09	342	P	**P**	**01 49 35.4 -0.9**
	comp=Z,1.7nm,0.9s,baz=157,slow=8.0,SNR=6.4					
SONM				LR	LR	02 10 18.0
	comp=Z,702nm,19.8s,baz=151,slow=39					
ARMA	**Armidale**	44.84	146	*e*P	**P**	**01 49 42.9 +0.5**
	comp=Z,10nm,0.8s					
ARMA	**Armidale**	44.84	146	P	P	01 49 49.9 +7.4
	baz=45,SNR=5.0					
ARPS	**Mount Arapiles**	45.90	161	P	P	01 49 58.6 +8.0
	baz=46,SNR=4.7					
YNG	**Young**	46.31	153	P	**P**	**01 49 54.2 +0.3**
	baz=46,SNR=8.1					
HYB	**Hyderabad**	46.34	288	*i* P	**P**	**01 49 54.0 -0.5**
CAN	**Canberra**	47.44	153	*e*P	**P**	**01 50 03.3 +0.5**
	comp=Z,21nm,0.9s					
TOO	**Toolangi**	47.91	158	P	**P**	**01 50 06.8 +0.4**
	baz=48,SNR=4.7					
MILA	**Mila**	48.95	154	P	P	01 50 26.2 +12
	baz=49,SNR=5.8					
WMQ	**Urumqi**	49.35	325	P	**P**	**01 50 18.3 +0.8**
WMQ				pP	**pP**	**01 50 30.8 +0.6**
WMQ				sP	**sP**	**01 50 35.9 +0.4**
WMQ				PcP	**PcP**	**01 51 40.3 +0.8**
WMQ				PP	**PP**	**01 52 13.0 +1.2**
WMQ				S	**S**	**01 57 20.8 -0.2**
WMQ				sS	**sS**	**01 57 41.8 -0.4**
WMQ				ScS	**ScS**	**02 00 02.8 -2.8**
WMQ				SS	**SS**	**02 00 48.8 -4.4**
WMQ				pmax	pmax	
	comp=Z,15nm,1.0s					
WMQ				pmax	pmax	
	comp=Z,200nm,4.5s					
WMQ				LR	LR	
	comp=N,830nm,21.5s					
WMQ				LR	LR	
	comp=E,520nm,22.3s					
WMQ				LR	LR	
	comp=Z,570nm,21.4s					
PETK	**Petropavlovsk-**	53.71	24	P	**P**	**01 50 50.8 +0.9**
PETK	**Petropavlovsk-**	53.71	24	P	**P**	**01 50 50.8 +0.9**
	comp=Z,3.4nm,0.7s,baz=214,slow=5.0,SNR=4.8					
PETK				LR	LR	02 13 33.6
	comp=Z,223nm,21.5s,baz=313,slow=36					
MK31	**Makanchi Array**	54.18	325	*e*P	**P**	**01 50 53.4 0.0**
MKAR	**Makanchi Array**	54.18	325	P	**P**	**01 50 53.9 +0.5**
MKAR				PcP	**PcP**	**01 51 57.8 +0.3**
MKAR	**Makanchi Array**	54.18	325	P	**P**	**01 50 53.9 +0.5**
	comp=Z,6.6nm,0.9s,baz=128,slow=8.5,SNR=15					
MKAR				PcP	**PcP**	**01 51 57.8 +0.3**
	comp=Z,2.9nm,0.8s,baz=126,slow=5.2,SNR=2.5					
MKAR				LR	LR	02 15 43.5
	comp=Z,566nm,18.7s,baz=348,slow=38					
KSH	**Kashi**	54.71	315	*e*P	**P**	**01 50 58.8 +1.3**
KSH				pP	**pP**	**01 51 08.9 -1.4**
KSH				PP	**PP**	**01 53 02.6 +2.1**
KSH				PcS	**PcS**	**01 55 59.9 +0.3**
KSH				S	**S**	**01 58 33.8 -1.0**
KSH				ScS	**ScS**	**02 00 41.9 -1.3**
KSH				pmax	pmax	
	comp=Z,96nm,3.9s					
KSH				LR	LR	
	comp=N,220nm,13.3s					
KSH				LR	LR	
	comp=E,610nm,16.3s					
KSH				LR	LR	
	comp=Z,570nm,17.6s					
TKM2	**Tokmak 2**	56.39	318	*e*P	**P**	**01 51 11.7 +2.2**
	comp=Z,5.1nm,0.9s					
AAK	**Ala-Archa**	57.00	317	*e*P	**P**	**01 51 16.1 +2.2**
	comp=Z,3.7nm,0.9s					
ZAA0	**Zalesovo Array**	57.26	333	*e*P	**P**	**01 51 14.3 -1.0**
ZALV	**Zalesovo Beam**	57.26	333	P	**P**	**01 51 14.5 -0.8**
ZALV	**Zalesovo Beam**	57.26	333	P	**P**	**01 51 14.5 -0.8**
	comp=Z,2.5nm,0.6s,baz=110,slow=6.6,SNR=9.7					
ZALV				LR	LR	02 17 22.8
	comp=Z,442nm,18.4s,baz=68,slow=38					

BVAR	Borovoye Array	63.95	327	P	P	01 52 00.4	-0.5
	comp=Z,1.9nm,0.7s,baz=138,slow=9.3,SNR=11						
BRVK	Borovoye	64.02	327	*eP*	P	01 52 00.4	-0.9
	comp=Z,14nm,1.0s						
IMYA	Miami	65.80	307	*eP*	P	01 52 12.3	-1.2
URZ	Urewera	65.89	137	P	P	01 52 12.6	-1.1
URZ	Urewera	65.89	137	P	P	01 52 12.6	-1.1
	comp=Z,7.7nm,0.8s,baz=301,slow=13,SNR=2.6						
ISRO	Mashad	66.30	307	*eP*	P	01 52 19.1	+2.5
IEMG	Emamgholi	67.13	308	*eP*	P	01 52 20.7	-1.4
IKRD	Kardeh	67.13	307	*eP*	P	01 52 16.8	-5.3
ABKAR	Akbulak array	68.78	321	*eP*	P	01 52 31.0	-0.9
	comp=Z,3.7nm,0.7s						
AKTO	Aktyubinsk	70.29	321	P	P	01 52 40.1	-1.1
AKTO	Aktyubinsk	70.29	321	P	P	01 52 40.1	-1.1
	comp=Z,3.1nm,0.8s,baz=78,slow=5.4,SNR=6.6						
RAR	Rarotonga	78.94	113	LR	LR	02 24 46.4	
	comp=Z,103nm,18.9s,baz=277,slow=33						
KBZ	Khabaz	79.66	313	P	P	01 53 35.8	+0.4
KBZ	Khabaz	79.66	313	P	P	01 53 35.8	+0.4
	comp=Z,4.5nm,1.1s,baz=72,slow=10,SNR=3.9						
KBZ				LR	LR	02 35 34.5	
	comp=Z,198nm,18.7s,baz=261,slow=41						
KDAK	Kodiak Island	80.67	33	LR	LR	02 34 03.4	
	comp=Z,144nm,18.3s,baz=264,slow=39						
IMA2	Indian Mountai	80.71	24	*eP*	P	01 53 40.3	-0.4
RSO	Redoubt South	80.72	30	*eP*	P	01 53 39.9	-1.2
	comp=Z,14nm,0.9s						
BPAW	Bear Paw Mtn.	81.73	26	*eP*	P	01 53 47.0	+0.9
	comp=Z,33nm,1.5s						
PMR	Palmer	82.52	29	*eP*	P	01 53 50.4	+0.3
	comp=Z,8.1nm,1.0s						
MCK	McKinley	82.62	27	*eP*	P	01 53 49.7	-1.1
	comp=Z,13nm,1.4s						
SML	Sawmill	82.90	29	*eP*	P	01 53 51.3	-1.0
	comp=Z,6.9nm,1.5s						
COLA	College	83.10	25	*eP*	P	01 53 52.4	-0.7
	comp=Z,23nm,0.9s						
ILAR	Eielson Array	83.51	26	P	P	01 53 54.8	-0.6
ILAR	Eielson Array	83.51	26	P	P	01 53 54.8	-0.6
	comp=Z,0.7nm,0.8s,baz=256,slow=5.4,SNR=5.9						
ILAR				LR	LR	02 29 25.5	
	comp=Z,112nm,19.3s,baz=292,slow=34						
PAX	Paxson	84.20	27	*eP*	P	01 53 57.7	-1.3
	comp=Z,24nm,1.4s						
MAW	Mawson	85.62	200	LR	LR	02 26 17.0	
	comp=Z,134nm,20.2s,baz=233,slow=31						
JOF	Joensuu	85.85	333	*ep*	P	01 54 06.1	-1.0
VNDA	Vanda	86.38	172	*eP*	P	01 54 10.4	+1.1
	comp=Z,1.8nm,0.7s						
VNDA	Vanda	86.38	172	P	P	01 54 10.5	+1.1
	comp=Z,1.0nm,0.9s,baz=327,slow=8.4,SNR=2.2						
VNDA				LR	LR	02 28 17.3	
	comp=Z,122nm,21.4s,baz=337,slow=32						
BR131	Keskin Array S	86.75	309	*eP*	P	01 54 11.6	-0.7
	comp=Z,1.9nm,0.9s						
BRTR	Keskin Array B	86.75	309	P	P	01 54 11.2	-1.1
BRTR	Keskin Array B	86.75	309	P	P	01 54 11.2	-1.1
	comp=Z,0.5nm,0.9s,baz=101,slow=11,SNR=3.5						
BRTR				LR	LR	02 42 03.5	
	comp=Z,72nm,18.9s,baz=248,slow=42						
ARCES	ARCESS Array B	87.21	340	LR	LR	02 37 41.3	
	comp=Z,212nm,19.2s,baz=80,slow=39						
KMBO	Kilima Mbogo	87.61	269	*eP*	P	01 54 17.7	+0.7
	comp=Z,13nm,1.3s						
KMBO	Kilima Mbogo	87.61	269	P	P	01 54 20.8	+3.8
	comp=Z,3.7nm,0.8s,baz=42,slow=5.8,SNR=8.2						
PPT	Papeete	87.85	108	LR	LR	02 27 22.7	
	comp=Z,165nm,18.8s,baz=1.6,slow=31						
KAF	Kangasniemi	88.26	332	*ep*	P	01 54 16.8	-2.0
	comp=Z,5.0nm,0.8s						
FINES	FINESS Array B	88.49	332	P	P	01 54 18.0	-1.9
FINES	FINESS Array B	88.49	332	P	P	01 54 18.0	-1.9
	comp=Z,2.4nm,0.7s,baz=57,slow=4.6,SNR=13						
FINES				LR	LR	02 37 38.5	
	comp=Z,380nm,18.8s,baz=90,slow=38						
AKASG	Malin Array Be	88.52	321	P	P	01 54 18.1	-2.1
AKASG	Malin Array Be	88.52	321	P	P	01 54 18.1	-2.1
	comp=Z,0.1nm,0.3s,baz=62,slow=4.9,SNR=4.7						
AKASG				LR	LR	02 38 52.6	
	comp=Z,171nm,18.2s,baz=70,slow=39						
KIEV	Kiev	88.53	321	*eP*	P	01 54 20.3	0.0
	comp=Z,3.3nm,0.8s						
SUW	Suwalki	91.55	325	*eP*	P	01 54 33.8	-0.6
	comp=Z,31nm,1.1s						
NB2	NORSAR Subarra	95.46	333	P	P	01 54 49.2	-3.1
	comp=Z,2.2nm,0.8s,baz=67,slow=4.6						
NB2	NORSAR Subarra	95.46	333	P	P	01 54 49.2	-3.1
	comp=Z,2.2nm,0.8s,baz=68,slow=4.6						
NOA	NORSAR Array B	95.46	333	P	P	01 54 49.6	-2.7
NOA	NORSAR Array B	95.46	333	P	P	01 54 49.6	-2.7
	comp=Z,0.8nm,0.7s,baz=66,slow=4.6,SNR=4.5						
NOA				LR	LR	02 41 32.3	
	comp=Z,258nm,18.4s,baz=60,slow=38						
BRG	Berggiesshubel	97.86	323	*e*(P)	Pdif	01 55 08.8	+5.5
	comp=Z,3.6nm,1.1s						
GERES	GERESS Array B	98.71	321	LR	LR	02 43 56.7	
	comp=Z,251nm,20.8s,baz=327,slow=38						
TORD	Torodi Ar. Bea	120.15	289	PKP	PKPdf	02 00 19.9	+0.4
TORD	Torodi Ar. Bea	120.15	289	PKP	PKPdf	02 00 19.9	+0.4
	comp=Z,0.8nm,0.8s,baz=39,slow=2.1,SNR=6.1						
TXAR	Lajitas Array	121.45	50	PKP	PKPdf	02 00 20.8	-0.9
TXAR	Lajitas Array	121.45	50	PKP	PKPdf	02 00 20.8	-0.9
	comp=Z,0.2nm,0.7s,baz=176,slow=1.4,SNR=3.2						
JCT	Junction City	123.72	47	*e*PKPdf	PKPdf	02 00 25.8	-0.3
WCI	Wyandotte Cave	127.00	31	*e*PKPdf	PKPdf	02 00 32.4	+0.4
WVT	Waverly	127.77	33	*e*PKPdf	PKPdf	02 00 33.3	-0.2
TRQA	Tornquist	147.97	170	*e*PKPbc	PKPbc	02 01 12.0	-1.3
BCIP	Isla Barro Col	151.01	58	*e*PKPdf	PKPdf	02 01 15.8	+0.1
BCIP				*e*PKPbc	PKPbc	02 01 20.8	-0.7

IDC 19 01:45:19.6±37.0, 21°.63S×178°.58W, h606km±387km, mb3.0/3, mb1 3.2/3, mb1mx2.9/17, mbtmp3.0/3, Error ellipse: s-maj=330.4km s-min=229.0km az=166.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	43.75	258	P	P	01 52 33.4	+0.1
	1.8nm,0.5s,baz=94,slow=7.6,SNR=12						
WRA	Warramunga Arr	43.92	263	P	P	01 52 34.0	-0.7
	0.8nm,0.3s,baz=97,slow=6.9,SNR=7.7						
FITZ	Fitzroy Crossi	52.35	263	P	P	01 53 37.4	+0.3
	0.6nm,0.4s,baz=79,slow=5.2,SNR=5.5						
FINES	FINESS Array B	136.70	343	PKP	PKPdf	02 03 35.1	+1.5
	1.1nm,0.8s,baz=90,slow=4.3,SNR=3.1						
HFS	Hagfors	140.56	350	PKhKP	PKPpre	02 03 34.9	
	1.6nm,0.9s,baz=20,slow=4.7,SNR=6.3						
AKASG	Malin Array Be	143.73	330	PKP	PKPbc	02 03 44.4	-1.3
	1.8nm,0.4s,baz=43,slow=4.0,SNR=11						
BRTR	Keskin Array B	147.18	311	PKPbc	PKPbc	02 03 55.6	-0.7
	0.4nm,0.6s,baz=156,slow=3.9,SNR=3.5						
GERES	GERESS Array B	151.13	343	PKPbc	PKPbc	02 04 05.6	+0.2
	0.4nm,0.8s,baz=39,slow=3.8,SNR=3.6						

MAN 19 01:48:54, 12°.41N×120°.47E, h16km, mb4.7, ML3.6, MS3.5, Mindoro

*IDC **19** 02:04:00.8±1.6, 0°.54N×100°.42E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.6/25, mbtmp3.7/6, ML4.1/1, Error ellipse: s-maj=92.3km s-min=17.6km az=49.0*
*DJA **19** 02:04:03.5±0.5, 1°N±3°×10°0E±°, h10km, M4.6/6, MLv4.6/6*
*ISCJB **19** 02:04:05.7±0.6, 0°.61N±0°.05×100°.02E±0°.06, h33km, mb3.6/5, Error ellipse: s-maj=9.6km s-min=6.0km az=153.7*

ISC 19 02:04:06.5±0.9, 0°.52N±0°.05×100°.06E±0°.06, h35km, n17, σ1°.90/19, mb3.7/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKNI	Bangkinang	1.00	101	P	Pn	02 04 23.3	-0.7
BKNI				S	Sn	02 04 38.0	+1.1
PPI	Padang Panjang	1.02	161	P	Pn	02 04 23.5	-0.8
PDSI	Padang	1.47	164	P	Pn	02 04 31.4	+0.8
PDSI				S	Sn	02 04 52.6	+3.9
SDSI	Sungai Dareh	1.99	136	P	Pn	02 04 40.2	+2.6
SDSI				S	Sn	02 05 08.6	+7.3
RGRI	Rengat	2.43	111	P	Pn	02 04 49.4	+5.7
PSI	Prapat	2.54	333	Pn	Pn	02 04 46.5	+1.2
	32nm,0.3s,baz=134,slow=6.7,SNR=102						
PSI				Sn	Sn	02 05 17.9	+2.8
	58nm,0.3s,baz=78,slow=22,SNR=15						
GSI	Gunungsitoli	2.60	288	P	Pn	02 04 45.1	-1.0
FRIM	Kepong	3.12	30	P	Pn	02 04 53.9	+0.6
IPM	Ipoh	4.05	14	P	Pn	02 05 08.2	+2.1
IPM	Ipoh	4.05	14	P	Pn	02 05 06.5	+0.4
KULM	Kulim	4.78	7	P	Pn	02 05 15.6	-0.5
KTGM	Kuala Trenggan	5.68	33	P	Pn	02 05 28.6	+0.1
WRA	Warramunga Arr	39.26	123	P	P	02 11 29.6	-2.5
	0.8nm,0.9s,baz=302,slow=9.2,SNR=3.0						
ASAR	Alice Springs	40.72	128	P	P	02 11 41.2	-3.0
	0.1nm,0.4s,baz=290,slow=6.7,SNR=2.9						
MKAR	Makanchi Array	48.64	344	P	P	02 12 46.2	-0.7
	0.7nm,0.6s,baz=146,slow=5.0,SNR=2.9						
ZALV	Zalesovo Beam	54.73	349	P	P	02 13 32.0	-0.2
	0.9nm,0.4s,baz=178,slow=8.4,SNR=5.9						
BRTR	Keskin Array B	71.69	312	P	P	02 15 26.1	+0.9
	0.6nm,0.8s,baz=113,slow=4.7,SNR=5.3						

*IDC **19** 02:05:47.2±0.5, 0°.56N×100°.24E, h0km, mb4.1/16, mb1 4.2/16, mb1mx4.1/24, mbtmp4.1/16, MS3.7/1, Ms1 3.7/1, ms1mx2.8/35, Error ellipse: s-maj=26.7km s-min=14.1km az=54.0*
*DJA **19** 02:05:50.2±0.5, 1°N±3°×10°0E±°, h10km, M4.7/6, MLv4.7/6*
*ISCJB **19** 02:05:54.0±0.5, 0°.48N±0°.04×99°.99E±0°.07, h59km±6km, mb4.2/26, MS3.7/1, Error ellipse: s-maj=12.1km s-min=5.5km az=153.3*
*NEIC **19** 02:05:53.0±1.5, 0°.54N×100°.29E, h38km±12km, mb4.4/13, Error ellipse: s-maj=14.7km s-min=8.5km az=45.0*
*BKK **19** 02:05:57.6±0.8, 0°S±9°×9°9E±°, h150km±8km, M4.6/6, mb4.3/6, MLv4.8/3*

ISC 19 02:05:54.2±1.1, 0°.51N±0°.04×100°.16E±0°.06, h46km±10km, n79, σ1°.24/80, mb4.3/26, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKNI	Bangkinang	0.90	102	P	Pn	02 06 08.9	-1.6
PPI	Padang Panjang	0.99	166	P	Pn	02 06 09.4	-2.3
PPI				S	Sn	02 06 24.9	+0.3
PDSI	Padang	1.45	168	P	Pn	02 06 17.4	-0.6
PDSI				S	Sn	02 06 38.6	+2.8
SDSI	Sungai Dareh	1.92	139	P	Pn	02 06 25.8	+1.4
SDSI				S	Sn	02 06 53.8	+6.5
RGRI	Rengat	2.34	112	P	Pn	02 06 35.7	+5.6
PSI	Prapat	2.59	331	Pn	Pn	02 06 33.4	-0.3
PSI				Sn	Sn	02 07 04.0	+0.1
PSI	Prapat	2.59	331	Pn	Pn	02 06 33.4	-0.3
	76nm,0.3s,baz=136,slow=10,SNR=12						
PSI				Sn	Sn	02 07 04.0	+0.1
	75nm,0.3s,baz=294,slow=20,SNR=4.7						
GSI	Gunungsitoli	2.70	287	P	Pn	02 06 33.4	-1.8
IPM	Ipoh	4.03	12	*e*Pn	Pn	02 06 51.5	-2.0
IPM				*e*Pg		02 07 05.9	
IPM				*e*Sg	Sn	02 07 59.0	+19
IPM	Ipoh	4.03	12	P	Pn	02 06 52.4	-1.1
KULM	Kulim	4.77	6	*e*Pn	Pn	02 07 01.4	-2.2
KULM				*e*Pg		02 07 18.8	
KULM				*e*Sn	Sn	02 07 59.9	+2.3
KULM				*e*Sg		02 08 20.0	
MDSI	Maura Dua	6.39	141	P	Pn	02 07 30.2	+4.4
KRAB	Krabi	7.72	353	P	Pn	02 08 03.4	+19
SRIT	Nakonsritamara	8.05	356	P	Pn	02 07 59.8	+11
	128nm,1.1s						
CHBT	CHBT	12.35	10	P	P	02 09 01.1	+2.7
CHAI	Chaiyaphum	15.40	7	P	P	02 09 34.3	+1.9
	3.3nm,0.8s						
UBPT	Khong Chiam	15.58	19	P	P	02 09 39.3	+4.9
	19nm,0.8s						
KMMI	Kalianget	15.69	119	P	P	02 09 37.5	+1.9
SKNT	Sakolnakorn	16.78	13	P	P	02 09 48.6	+0.8
	14nm,1.7s						
LOEI	Loei	16.92	4	P	P	02 09 50.8	+1.5
CHTO	Chiang Mai	18.23	356	*eP*	P	02 10 02.7	-1.0
	4.4nm,0.9s						
KAPI	Kappang	20.32	106	*eP*	P	02 10 25.8	-0.9
	16nm,1.3s						
KAPI	Kappang	20.32	106	P	Pn	02 10 31.9	+2.8
	11nm,0.6s,baz=280,slow=12,SNR=7.8						
PALK	Pallekele	20.53	290	*eP*	P	02 10 29.0	0.0
	23nm,1.0s						
KMI	Kunming	24.59	6	P	P	02 11 00.0	-10
KMI				pmax	pmax		
	comp=Z,19nm,1.1s						
WRA	Warramunga Arr	39.17	123	P	P	02 13 17.0	-1.0
WRA				PcP	PcP	02 15 26.0	-0.8
WRA	Warramunga Arr	39.17	123	P	P	02 13 17.0	-1.0
	comp=Z,1.8nm,0.7s,baz=301,slow=9.2,SNR=7.8						
WRA				PcP	PcP	02 15 26.0	-0.8
	comp=Z,0.4nm,0.5s,baz=310,slow=2.5,SNR=4.4						
ASAR	Alice Springs	40.64	129	P	P	02 13 29.6	-0.6
ASAR				PcP	PcP	02 15 31.1	-0.4
ASAR	Alice Springs	40.64	129	P	P	02 13 29.6	-0.6
	comp=Z,0.5nm,0.6s,baz=302,slow=7.8,SNR=8.8						
ASAR				PcP	PcP	02 15 31.1	-0.4
	comp=Z,1.0nm,0.6s,baz=309,slow=2.4,SNR=12						
KSAR	Wonju Array Be	44.77	32	P	P	02 14 04.8	+1.4
KSRS	Korea Array	44.80	32	P	P	02 14 04.8	+1.2
	comp=Z,2.2nm,0.6s,baz=223,slow=8.4,SNR=6.1						
SONM	Songino Array	47.44	6	P	P	02 14 25.2	+0.8
SONM	Songino Array	47.44	6	P	P	02 14 25.2	+0.8
	comp=Z,1.1nm,0.5s,baz=206,slow=9.6,SNR=3.6						
TKM2	Tokmak 2	47.62	336	*eP*	P	02 14 26.7	+0.8
	comp=Z,3.0nm,0.8s						
PMG	Port Moresby	47.82	103	*eP*	P	02 14 25.4	-2.3
	comp=Z,23nm,0.9s						
AAK	Ala-Archa	47.84	334	*eP*	P	02 14 29.6	+1.9
	comp=Z,3.8nm,0.9s						
EKS2	Erkin-Say	48.18	334	*eP*	P	02 14 30.1	-0.1
	comp=Z,3.9nm,0.8s						
MK31	Makanchi Array	48.67	344	*eP*	P	02 14 34.2	+0.4
MKAR	Makanchi Array	48.67	344	P	P	02 14 32.9	-0.9
MKAR	Makanchi Array	48.67	344	P	P	02 14 32.9	-0.9
	comp=Z,3.3nm,0.7s,baz=156,slow=8.6,SNR=13						
KKAR	Karatay Array	50.02	332	*eP*	P	02 14 46.8	+2.7
	comp=Z,2.1nm,0.8s						
STKA	Stephens Creek	50.72	133	P	P	02 14 48.2	-1.4
STKA	Stephens Creek	50.72	133	P	P	02 14 48.2	-1.4
	comp=Z,1.7nm,0.8s,baz=317,slow=12,SNR=2.2						
USRK	Ussuriysk Arra	51.89	29	LR	LR	02 36 51.7	
	comp=Z,71nm,20.0s,baz=204,slow=36						
KURK	Kurchatov	53.26	343	*eP*	P	02 15 06.9	-1.3
	comp=Z,3.0nm,1.1s						
ZAA0	Zalesovo Array	54.75	349	*eP*	P	02 15 17.3	-1.6
ZALV	Zalesovo Beam	54.75	349	P	P	02 15 17.6	-1.3
ZALV	Zalesovo Beam	54.75	349	P	P	02 15 17.6	-1.3
	comp=Z,3.3nm,0.6s,baz=176,slow=6.3,SNR=11						
VOSK	Vostochnaya	57.45	339	*eP*	P	02 15 38.2	-0.1
	comp=Z,4.2nm,0.6s						
BRVK	Borovoye	57.96	339	*eP*	P	02 15 41.6	-0.3
	comp=Z,4.0nm,0.6s						
ABKAR	Akbulak array	59.53	331	*eP*	P	02 15 51.5	-1.3
KMBO	Kilima Mbogo	62.93	268	*eP*	P	02 16 19.0	+2.1
	comp=Z,4.3nm,1.1s						
KMBO	Kilima Mbogo	62.93	268	P	P	02 16 17.8	+1.0
	comp=Z,0.8nm,0.3s,baz=235,slow=23,SNR=6.8						
KBZ	Khabaz	66.54	318	P	P	02 16 39.8	+0.3
KBZ	Khabaz	66.54	318	P	P	02 16 39.8	+0.3
	comp=Z,2.6nm,0.8s,baz=108,slow=6.0,SNR=6.5						
BR131	Keskin Array S	71.77	312	*eP*	P	02 17 11.5	-0.8
	comp=Z,2.3nm,0.7s						
BRTR	Keskin Array B	71.77	312	P	P	02 17 11.4	-0.8
BRTR	Keskin Array B	71.77	312	P	P	02 17 11.4	-0.8
	comp=Z,2.4nm,0.8s,baz=134,slow=6.8,SNR=17						
BOSA	Boshof	77.01	241	P	P	02 17 43.8	+0.9
BOSA	Boshof	77.01	241	P	P	02 17 43.8	+0.9
	comp=Z,4.0nm,0.9s,baz=117,slow=6.0,SNR=5.1						
AKASG	Malin Array Be	77.61	322	P	P	02 17 44.3	-1.3
AKASG	Malin Array Be	77.61	322	P	P	02 17 44.3	-1.3
	comp=Z,0.4nm,0.4s,baz=84,slow=5.3,SNR=5.0						
BUR08	Bucovina Ar. S	79.51	318	*eP*	P	02 17 56.1	-0.2
FINES	FINESS Array B	81.98	332	P	P	02 18 08.0	-1.0
FINES	FINESS Array B	81.98	332	P	P	02 18 08.0	-1.0
	comp=Z,1.4nm,0.7s,baz=106,slow=6.3,SNR=12						
ARCES	ARCESS Array B	84.18	340	P	P	02 18 19.4	-0.9
ARCES	ARCESS Array B	84.18	340	P	P	02 18 19.4	-0.9
	comp=Z,0.9nm,0.4s,baz=99,slow=5.3,SNR=19						
VNDA	Vanda	84.58	169	P	P	02 18 21.1	-1.1
VNDA	Vanda	84.58	169	P	P	02 18 21.1	-1.1
	comp=Z,0.1nm,0.4s,baz=306,slow=8.7,SNR=3.3						
GERES	GERESS Array B	87.28	319	P	P	02 18 36.1	-0.1
GERES	GERESS Array B	87.28	319	P	P	02 18 36.1	-0.1
	comp=Z,0.2nm,0.4s,baz=134,slow=7.0,SNR=4.2						
HFS	Hagfors	87.79	330	P	P	02 18 39.2	+1.0
HFS	Hagfors	87.79	330	P	P	02 18 39.2	+1.0
	comp=Z,1.7nm,0.8s,baz=99,slow=8.9,SNR=6.8						
TXAR	Lajitas Array	142.60	36	PKP	PKPdf	02 25 23.8	+0.6
TXAR	Lajitas Array	142.60	36	PKP	PKPdf	02 25 23.8	+0.6
	comp=Z,0.3nm,0.6s,baz=19,slow=0.2,SNR=4.9						
BDFB	Brasilia	145.18	243	PKPbc	PKPdf	02 25 28.0	0.0
BDFB	Brasilia	145.18	243	PKPbc	PKPdf	02 25 28.0	0.0
	comp=Z,2.7nm,0.7s,baz=89,slow=2.8,SNR=3.8						
CPUP	Villa Florida	146.40	218	PKPbc	PKPbc	02 25 31.0	0.0
CPUP	Villa Florida	146.40	218	PKPbc	PKPbc	02 25 31.0	0.0
	comp=Z,3.5nm,0.8s,baz=310,slow=6.7,SNR=5.0						

*IDC **19** 02:40:01.3±0.5, 9°.12S×115°.53E, h0km, mb4.3/18, mb1 4.4/19, mb1mx4.3/25, mbtmp4.3/19, ML4.3/1, MS3.2/2, Ms1 3.2/2, ms1mx2.7/35, Error ellipse: s-maj=20.8km s-min=12.7km az=64.0*
*BJI **19** 02:40:06.5, 10°.04S×115°.17E, h82km, mB5.1/4, mb4.7/10, Ms4.8/3, Ms7 4.6/3*
*AUST **19** 02:40:07.1±1.7, 9°.59S×115°.58E, h8km, Error ellipse: s-maj=0.8km s-min=0.6km az=24.0*
*ISCJB **19** 02:40:10.8±0.4, 9°.40S±0°.04×115°.56E±0°.03, h83km±3km, mb4.4/32, Error ellipse: s-maj=6.2km s-min=4.2km az=11.1*
*DJA **19** 02:40:11.5±0.9, 9°S±5°×11°6E±°, h31km±8km, M4.7/26, mb4.9/10, mB5.1/6, MLv4.8/26, Mw(mB)4.5/6*
*NEIC **19** 02:40:12.1±0.7, 9°.21S×115°.69E, h84km±6km, mb4.2/14, Error ellipse: s-maj=8.9km s-min=5.4km az=217.0*
NEIC Felt [IV] at Denpasar and Kuta. Also felt at Ubud. Felt at Mataram, Lombok.

ISC 19 02:40:11.7±0.4, 9°.34S±0°.04×115°.58E±0°.04, h77km±3km, h77km:pP-P, n149, σ1°.65/174, mb4.3/32, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGBI	Denpasar	0.68	320	P	Pn	02 40 26.5	-0.4
IGBI				S	Sn	02 40 35.6	-2.6
DNP	Denpasar	0.76	331	P	Pn	02 40 28.0	+0.2
DNP				S	Sn	02 40 38.8	-0.9
MTNI	Mataram	0.91	40	P	Pn	02 40 31.6	+2.0
MTNI				S	Sn	02 40 46.2	+3.3
SRBI	Singaraja	1.30	344	P	Pn	02 40 35.3	+0.9
BYJI	Banyuwangi	1.65	313	P	Pn	02 40 40.6	+1.7
JAGI	Jajag, Banyuwa	1.66	301	*e*Pn	Pn	02 40 38.5	-0.6
JAGI				*e*Sn	Sn	02 41 00.5	+0.8
JAGI	Jajag, Banyuwa	1.66	301	P	Pn	02 40 38.3	-0.7
JAGI	Jajag, Banyuwa	1.66	301	P	Pn	02 40 38.6	-0.4
	baz=1.8,SNR=337						
JAGI				S	Sn	02 40 57.0	-2.7
	baz=1.8,SNR=9.0						
ABJI	Asem Bagus	2.03	319	P	Pn	02 40 45.2	+1.2
GMJI	Gumukmas	2.36	297	P	Pn	02 40 48.6	+0.1
BLJI	Banyuglugur	2.52	309	P	Pn	02 40 51.5	+0.9
KMMI	Kalianget	2.78	325	P	Pn	02 40 56.5	+2.4
KRKI	Karangkates	3.31	291	P	Pn	02 41 05.6	+4.3
GRJI	Gresik	3.91	308	P	Pn	02 41 10.8	+1.4
PWJI	Pagerwojo	3.96	289	P	Pn	02 41 10.3	+0.2
SJI	Sawahan	4.10	293	P	Pn	02 41 12.8	+0.7
LBFI	Labuhan Bajo,	4.34	79	P	Pn	02 41 15.9	+0.5
NGJI	Ngawi	4.52	295	P	Pn	02 41 18.6	+0.8
UGM	Wanagama	5.20	285	*e*Pn	Pn	02 41 29.1	+2.0
UGM	Wanagama	5.20	285	P	Pn	02 41 27.0	-0.1
	265nm,1.9s,1.4nm						
UGM	Wanagama	5.20	285	P	Pn	02 41 27.5	+0.4
	baz=5.3,SNR=6.1						
KAPI	Kappang	5.97	44	*e*Pn	Pn	02 41 37.2	-0.3
KAPI				Sn	Sn	02 42 42.9	-1.6
KAPI	Kappang	5.97	44	P	Pn	02 41 37.1	-0.4
	69nm,0.7s,906nm0.3nm						
KAPI	Kappang	5.97	44	Pn	Pn	02 41 37.6	0.0
	11nm,0.3s,baz=214,slow=6.1,SNR=62						
KAPI				Sn	Sn	02 42 42.9	-1.6
	16nm,0.3s,baz=55,slow=21,SNR=14						
KAPI				LR	LR	02 44 10.4	
	comp=Z,340nm,20.8s,baz=241,slow=43						
BKSI	Bulukumba	6.02	49	P	Pn	02 41 38.8	+0.5
	116nm,0.5s,1μm0.4nm						
BJII	Banjamegara	6.14	289	P	Pn	02 41 40.5	+0.5
	66nm,1.0s,0.3nm						
MMRI	Maumere	6.61	84	*e*Pn	Pn	02 41 45.8	-0.6
MMRI	Maumere	6.61	84	P	Pn	02 41 51.5	+5.1
BNSI	Bone	6.65	43	P	Pn	02 41 49.6	+2.7
	60nm,1.1s,948nm0.4nm						
MJSI	Majene	6.67	31	P	Pn	02 41 50.4	+3.2

baz=22,SNR=7.7
ASAR Alice Springs 22.57 131 P P 02 45 05.2 -0.7
ASAR PcP **PcP 02 48 57.4 +0.5**
ASAR S **S 02 49 10.9 +2.8**
ASAR Alice Springs 22.57 131 P P 02 45 05.2 -0.7
4.1nm,0.5s,baz=304,slow=8.3,SNR=82
ASAR PcP **PcP 02 48 57.4 +0.5**
1.4nm,0.5s,baz=305,slow=1.8,SNR=6.9
ASAR S **S 02 49 10.9 +2.8**
0.9nm,0.8s,baz=325,slow=26,SNR=4.2
AS31 Alice Springs 22.58 131 *eP* **P 02 45 05.5 -0.5**
AS31 *eS* **S 02 49 12.9 +4.8**
AS01 Alice Springs 22.61 131 *eP* **P 02 45 05.0 -1.3**
AS01 *e*PcP **PcP 02 48 57.2 +0.3**
NWAO Narrogin (SRO) 23.52 177 P **P 02 45 15.1 0.0**
NWAO S **S 02 49 27.2 +4.1**
NWAO Narrogin (SRO) 23.52 177 P **P 02 45 15.1 0.0**
15nm,0.9s,baz=351,slow=10,SNR=3.4
NWAO S **S 02 49 27.2 +4.1**
10nm,0.5s,baz=271,slow=22,SNR=7.0
TGY Tagaytay City 23.89 13 P **P 02 45 20.3 +1.7**
TGY Tagaytay City 23.89 13 P **P 02 45 20.3 +1.7**
111nm,0.3s,baz=310,slow=24,SNR=7.1
FORT Forrest 24.30 153 *eP* **P 02 45 22.7 +0.6**
513nm,2.8s
FORT Forrest 24.30 153 P **P 02 45 22.6 +0.6**
baz=24,SNR=12
COEN Coen 27.40 102 P P 02 45 58.0 +7.7
baz=27,SNR=4.3
MTSU Mount Surprise 29.21 110 P **P 02 46 07.2 +0.7**
baz=29,SNR=8.0
BBOO Buckleboo 30.05 144 P **P 02 46 13.5 -0.2**
baz=30,SNR=5.2
PMG Port Moresby 31.15 93 *eP* **P 02 46 23.1 -0.5**
14nm,0.9s
CTA Charters Tower 31.47 113 P **P 02 46 26.8 +0.4**
CTA Charters Tower 31.47 113 P **P 02 46 26.8 +0.4**
4.1nm,0.8s,baz=296,slow=7.4,SNR=3.7
CHTO Chiang Mai 32.44 330 *eP* **P 02 46 34.9 +0.2**
STKA Stephens Creek 32.93 137 *eP* **P 02 46 38.7 -0.3**
1.1nm,0.7s
STKA *e*PcP **PcP 02 49 21.9 +0.2**
STKA PcP PcP 02 49 22.2 +0.4
STKA Stephens Creek 32.93 137 P **P 02 46 39.4 +0.4**
4.9nm,0.7s,baz=303,slow=9.2,SNR=13
STKA PcP **PcP 02 49 22.2 +0.4**
5.7nm,0.6s,baz=348,slow=3.4,SNR=6.7
STKA Stephens Creek 32.93 137 P **P 02 46 39.7 +0.7**
baz=33,SNR=6.6
GYA Guiyang 36.62 347 *eP* **P 02 47 12.3 +1.4**
GYA pmax pmax
comp=Z,10.0nm,0.8s
YNG Young 39.00 135 P **P 02 47 32.6 +1.8**
baz=39,SNR=6.1
CD2 Chengdu 41.60 345 P **P 02 47 54.8 +2.5**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
LZH Lanzhou 46.52 347 *eP* **P 02 48 33.1 +1.4**
LZH pP **pP 02 48 50.6 -0.1**
LZH sP **sP 02 49 00.8 +1.3**
LZH PP **PP 02 50 22.3 0.0**
LZH *e*S **S 02 55 17.0 +2.3**
LZH sS sS 02 55 55.6 +8.5
LZH pmax pmax
comp=Z,36nm,1.1s
LZH pmax pmax
comp=Z,180nm,4.9s
LZH LR LR
comp=N,1μm,15.9s
LZH LR LR
comp=E,910nm,17.2s
LZH LR LR
comp=Z,2μm,17.6s
KSAR Wonju Array Be 47.95 13 P **P 02 48 41.4 -1.2**
KSRS Korea Array 47.97 13 P **P 02 48 41.4 -1.3**
comp=Z,2.2nm,0.8s,baz=193,slow=7.7,SNR=5.3
HHC Hu-ho-hao-te 50.08 356 *eP* **P 02 49 01.4 +2.4**
HHC sP **sP 02 49 29.0 +2.1**
HHC PcP **PcP 02 50 19.8 +2.2**
HHC ScP **ScP 02 54 07.3 +0.6**
HHC S **S 02 56 06.3 +1.7**
HHC sS **sS 02 56 38.9 +1.5**
HHC SS **SS 02 59 37.3 -1.6**
HHC pmax pmax
comp=Z,40nm,0.6s
HHC pmax pmax
comp=Z,140nm,5.3s
HHC LR LR
comp=N,320nm,15.8s
HHC LR LR
comp=E,380nm,15.3s
HHC LR LR
comp=Z,410nm,15.1s
MJAR Matsushiro Arr 50.36 24 P **P 02 48 58.0 -3.0**
MJAR Matsushiro Arr 50.36 24 P **P 02 48 58.0 -3.0**
comp=Z,1.9nm,0.6s,baz=186,slow=9.5,SNR=6.2
SONM Songino Array 57.51 353 P **P 02 49 50.9 -2.2**
SONM PP **PP 02 52 02.5 +0.9**
SONM Songino Array 57.51 353 P **P 02 49 50.9 -2.2**
comp=Z,2.0nm,0.7s,baz=173,slow=8.2,SNR=3.5
SONM PP **PP 02 52 02.5 +0.9**
comp=Z,1.3nm,0.3s,baz=162,slow=6.2,SNR=3.9
WMQ Urumqi 58.66 337 *eP* **P 02 50 03.4 +2.3**
WMQ pP **pP 02 50 22.8 +1.9**
WMQ sP **sP 02 50 31.4 +1.9**
WMQ pmax pmax
comp=Z,4.0nm,1.0s
WMQ pmax pmax
comp=Z,35nm,4.1s
KSH Kashi 60.93 326 *eP* **P 02 50 14.5 -2.4**
KSH pP **pP 02 50 33.8 -2.9**
KSH PP **PP 02 52 29.8 -2.2**
KSH PcS **PcS 02 55 00.0 -2.5**
KSH S S 02 58 20.4 -8.9
KSH pmax pmax
comp=Z,120nm,5.4s
KSH LR LR
comp=N,65nm,4.9s
KSH LR LR
comp=E,110nm,5.3s
KSH LR LR
comp=Z,160nm,8.3s
MKAR Makanchi Array 63.28 335 P **P 02 50 30.6 -1.7**
MKAR Makanchi Array 63.28 335 P **P 02 50 30.6 -1.7**
comp=Z,1.1nm,0.3s,baz=148,slow=7.2,SNR=16
TKM2 Tokmak 2 63.51 328 *eP* **P 02 50 31.5 -2.7**
comp=Z,3.0nm,1.0s
AAK Ala-Archa 63.89 327 *eP* **P 02 50 35.4 -1.2**
comp=Z,1.7nm,0.6s
EKS2 Erkin-Say 64.29 327 *eP* **P 02 50 38.3 -0.9**
comp=Z,3.0nm,0.9s
OPO Ambohidratompo 66.69 254 P **P 02 50 56.0 +0.8**
OPO Ambohidratompo 66.69 254 P **P 02 50 56.0 +0.8**
comp=Z,1.9nm,0.6s,baz=115,slow=14,SNR=2.9
KURK Kurchatov 67.86 336 *eP* **P 02 51 00.6 -1.1**
comp=Z,1.1nm,0.8s
ZALV Zalesovo Beam 68.21 341 P **P 02 51 01.2 -2.6**
ZALV Zalesovo Beam 68.21 341 P **P 02 51 01.2 -2.6**
comp=Z,1.1nm,0.5s,baz=145,slow=6.4,SNR=5.0
PETK Petropavlovsk- 71.78 25 P **P 02 51 24.4 -1.3**
PETK Petropavlovsk- 71.78 25 P **P 02 51 24.4 -1.3**
comp=Z,2.0nm,0.6s,baz=202,slow=3.7,SNR=8.6
VNDA Vanda 72.19 170 *eP* **P 02 51 28.2 +0.3**
comp=Z,2.6nm,0.9s
VNDA Vanda 72.19 170 P **P 02 51 28.0 +0.1**
comp=Z,1.7nm,0.8s,baz=303,slow=6.3,SNR=14
BVAR Borovoye Array 73.05 333 P **P 02 51 32.2 -1.1**
BVAR Borovoye Array 73.05 333 P **P 02 51 32.2 -1.1**
comp=Z,1.8nm,0.6s,baz=140,slow=7.7,SNR=9.0
RAYN Ar Rayn 75.84 297 *eP* **P 02 51 49.2 -1.0**
RAYN *e*pP **pP 02 52 10.5 -0.2**
ABKAR Akbulak array 75.93 326 *eP* **P 02 51 48.8 -1.3**
comp=Z,2.2nm,0.5s
QSPA South Pole Qui 80.66 180 *eP* **P 02 52 16.5 +0.4**
comp=Z,4.2nm,1.1s
KBZ Khabaz 84.15 316 P **P 02 52 32.9 -1.6**
KBZ Khabaz 84.15 316 P **P 02 52 32.9 -1.6**
comp=Z,1.7nm,0.8s,baz=303,slow=1.9,SNR=4.2
BOSA Boshof 85.88 242 *eP* **P 02 52 44.1 +0.4**
comp=Z,4.8nm,0.8s
BOSA Boshof 85.88 242 P **P 02 52 44.1 +0.4**
comp=Z,4.2nm,0.7s,baz=276,slow=16,SNR=8.5
LBTB Lobatse 86.10 245 *eP* **P 02 52 45.7 +0.8**
SNAA Sanae 89.75 196 *eP* **P 02 53 02.6 +1.3**
SNAA Sanae 89.75 196 *eP* **P 02 53 02.2 +0.9**
comp=Z,2.0nm,0.7s

BR131 Keskin Array S 89.77 310 *eP* **P 02 53 00.3 -1.8**
comp=Z,1.0nm,0.8s
BRTR Keskin Array B 89.77 310 P **P 02 53 00.7 -1.4**
BRTR Keskin Array B 89.77 310 P **P 02 53 00.7 -1.4**
comp=Z,0.8nm,0.8s,baz=108,slow=4.9,SNR=5.9
VNA2 Neumayer--Watz 91.39 196 *eP* **P 02 53 10.4 +1.5**
FINES FINESS Array B 97.89 331 P **P 02 53 37.6 -1.0**
FINES FINESS Array B 97.89 331 P **P 02 53 37.6 -1.0**
comp=Z,2.4nm,1.0s,baz=64,slow=4.4,SNR=3.6
TORD Torodi Ar. Bea 115.20 280 PKP **PKPdf 02 58 44.5 -0.7**
TORD Torodi Ar. Bea 115.20 280 PKP **PKPdf 02 58 44.5 -0.7**
comp=Z,0.4nm,0.4s,baz=42,slow=1.9,SNR=14
DBIC Dimbokro 121.01 272 PKP **PKPdf 02 58 55.9 -0.6**
DBIC Dimbokro 121.01 272 PKP **PKPdf 02 58 55.9 -0.6**
comp=Z,1.6nm,0.6s,baz=299,slow=12,SNR=4.2
HLID Hailey 124.89 43 *e*PKPdf **PKPdf 02 59 04.5 +1.1**
TPAW Teton Pass 127.21 42 *e*PKPdf **PKPdf 02 59 08.1 +0.2**
TXAR Lajitas Array 138.24 56 PKPpre PKPpre 02 59 19.3
TXAR SKPbc **SKPbc 03 02 55.5 -1.0**
TXAR Lajitas Array 138.24 56 PKhKP PKPpre 02 59 19.3
comp=Z,0.2nm,0.8s,baz=240,slow=3.0,SNR=3.0
TXAR SKPbc **SKPbc 03 02 55.5 -1.0**
comp=Z,0.2nm,0.6s,baz=252,slow=2.4,SNR=4.7
CPUP Villa Florida 143.88 191 PKP **PKPdf 02 59 41.2 +2.3**
CPUP Villa Florida 143.88 191 PKP **PKPdf 02 59 41.2 +2.3**
comp=Z,0.6nm,0.5s,baz=90,slow=4.0,SNR=3.6
WCI Wyandotte Cave 145.15 31 *e*PKPbc **PKPbc 02 59 39.5 -1.0**
WVT Waverly 145.88 35 *e*PKPbc **PKPdf 02 59 42.3 +0.2**
OXF Oxford 146.06 39 *e*PKPbc **PKPdf 02 59 42.7 +0.2**
LVC Limon Verde 147.94 172 *e*PKPbc **PKPab 02 59 50.8 -1.2**
BDFB Brasilia 150.33 213 PKPbc **PKPbc 02 59 56.5 +1.1**
BDFB Brasilia 150.33 213 PKPbc **PKPbc 02 59 56.5 +1.1**
comp=Z,10.0nm,0.5s,baz=144,slow=2.4,SNR=21
LPAZ La Paz 154.27 172 *e*PKPbc **PKPbc 03 00 03.6 -1.3**
LPAZ PKPab **PKPab 03 00 20.0 +1.3**
LPAZ La Paz 154.27 172 PKPbc **PKPbc 03 00 06.0 +1.2**
comp=Z,1.3nm,0.8s,baz=90,slow=8.1,SNR=4.1
LPAZ PKPab **PKPab 03 00 20.0 +1.3**
comp=Z,0.9nm,0.5s,baz=136,slow=4.2,SNR=5.2

DJA 19 02:47:53.2±0.6, 1°N±5°×10°0E±°, h10km, M3.5/4, MLv3.5/4, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKNI	**Bangkinang**	**1.04**	**103**	P	Pg	02 48 12.4	-0.8
BKNI				S	Sb	02 48 27.4	+0.5
PPI	**Padang Panjang**	**1.07**	**160**	P	Pg	02 48 12.7	-1.2
PDSI	**Padang**	**1.52**	**164**	P	Pn	02 48 21.0	+0.4
KCSI	**Kotacane, Aceh**	**3.71**	**323**	P	Pn	02 48 51.5	+0.9

IDC 19 03:00:06.2±9.6, 17°10S×173°48W, h45km±62km, mb3.4/3, mb1 3.8/4, mb1mx3.5/18, mbtmp3.6/4, ML2.3/1, MS3.4/2, Ms1 3.4/2, ms1mx3.1/13, Error ellipse: s-maj=212.2km s-min=25.6km az=147.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.58**	**28**	P	Pn	03 00 59.2	-0.1
	16nm,0.3s,baz=196,slow=2.4,SNR=9.4						
AFI				S	Sn	03 01 30.2	-10
	72nm,0.3s,baz=86,slow=23,SNR=14						
RAO	**Raoul Island**	**12.76**	**198**	LR	LR	03 06 42.4	
	comp=Z,216nm,20.1s,baz=138,slow=31						
RPZ	**Rata Peaks**	**29.59**	**203**	LR	LR	03 17 37.8	
	comp=Z,57nm,18.5s,baz=350,slow=36						
WRA	**Warramunga Arr**	**49.40**	**258**	P	P	03 08 52.0	+0.1
	0.4nm,0.8s,baz=90,slow=6.8,SNR=4.5						
ASAR	**Alice Springs**	**49.53**	**253**	P	P	03 08 52.6	-0.3
	1.6nm,0.8s,baz=87,slow=8.2,SNR=24						
PDAR	**Pinedale Array**	**83.58**	**42**	P	P	03 12 30.0	-0.1
	0.3nm,0.5s,baz=205,slow=3.7,SNR=3.3						
BRTR	**Keskin Array B**	**147.40**	**319**	PKPbc	PKPbc	03 19 44.6	-1.0
	0.5nm,0.6s,baz=81,slow=1.8,SNR=4.4						
GERES	**GERESS Array B**	**147.80**	**351**	PKPbc	PKPbc	03 19 45.9	-0.5
	0.2nm,0.4s,baz=29,slow=2.2,SNR=5.1						

DJA 19 03:11:30.1±0.7, 1°N±6°×12°2E±°, h56km±8km, M3.8/5, MLv3.8/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.27**	**235**	P	Pn	03 11 42.1	+2.6
MRSI				S	Sn	03 11 48.9	+2.6
GTOI	**Gorontalo**	**0.85**	**90**	P	Pn	03 11 45.2	-0.8
TOLI	**Toli-Toli**	**1.45**	**290**	P	Pn	03 11 53.9	-0.1
TOLI				S	Sn	03 12 12.8	+0.8
APSI	**Ampana**	**1.61**	**198**	P	Pn	03 11 56.2	-0.1
LUWI	**Luwuk**	**1.77**	**160**	P	Pn	03 11 58.2	-0.2
MYLDM	**Lahad Datu**	**5.81**	**321**	P	Pn	03 12 57.1	+3.3

KRSC 19 03:11:49.9±0.7, 50°31N×157°16E, h1km, ML3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.76**	**300**	*eP*	Pb	03 12 05.8	-0.2
SKR				*i* S	Sg	03 12 14.5	+0.1
PAU	**Pauzhetka**	**1.18**	**349**	*eP*	Pn	03 12 13.8	+0.3
PAU				*i* S	Sb	03 12 28.6	-0.2
MIPR	**Malaya Ipel'ka**	**1.98**	**353**	*eP*	Pn	03 12 24.7	+0.1
ASAK	**Asacha**	**2.13**	**12**	*eP*	Pb	03 12 28.8	-0.6
ASAK				*i* S	Sb	03 12 55.8	-0.5
MTVR	**Mutnovka**	**2.27**	**16**	*eP*	Pb	03 12 30.5	-1.3
MTVR				*i* S	Sn	03 12 57.5	+0.1
RUS	**Russkaya**	**2.29**	**21**	*eP*	Pn	03 12 29.9	+1.1
RUS				*i* S	Sn	03 12 57.4	-0.2
GRL	**Gorelyy**	**2.32**	**14**	*eP*	Pb	03 12 31.5	-1.1
GRL				*i* S	Sn	03 13 00.1	+1.5
APC	**Apacha**	**2.62**	**360**	*eP*	Pn	03 12 35.1	+1.8
PET	**Petropavlovsk**	**2.87**	**18**	*eP*	Pn	03 12 39.1	+2.3
PET				*i* S	Sn	03 13 11.6	-0.3
KOK	**Koryaka**	**3.12**	**16**	*eP*	Pb	03 12 44.1	-2.3
KOK				*i* S	Sn	03 13 21.6	+3.2
SMAR	**Somma**	**3.13**	**18**	*eP*	Pb	03 12 43.6	-3.0
SMAR				*i* S	Sb	03 13 22.2	-3.2
KRER	**Koryakskii**	**3.16**	**18**	*eP*	Pn	03 12 44.0	+3.0
KRER				*i* S	Sn	03 13 21.7	+2.2
NLC	**Nalytchevo**	**3.17**	**25**	*eP*	Pn	03 12 41.8	+0.9
NLC				*i* S	Sn	03 13 18.1	-1.2
KRX	**Arik**	**3.19**	**16**	*eP*	Pn	03 12 44.4	+3.0
KRX				*i* S	Sn	03 13 23.0	+2.8
SPN	**Mys Shipunski**	**3.31**	**31**	*eP*	Pn	03 12 45.3	+2.5
SPN				*i* S	Sn	03 13 23.5	+0.7
GNL	**Ganaly**	**3.42**	**8**	*eP*	Pn	03 12 46.5	+1.9
GNL				*i* S	Sn	03 13 26.3	+0.4
MKZ	**Mys Kozlova**	**5.09**	**32**	*eP*	Pn	03 13 09.0	+1.8
MKZ				*i* S	Sn	03 14 06.5	0.0
KBTR	**Krutoberegovo**	**6.81**	**28**	*eP*	Pn	03 13 33.2	+2.3

ISCJB ***19*** *03:18:15.9±0.8, 46°0S±0°1×95°9E±0°2, h12km, mb4.1/10, MS4.2/10, Error ellipse: s-maj=24.1km s-min=11.9km az=41.2*
IDC ***19*** *03:18:15.1±2.2, 45°84S×95°66E, h0km, mb4.0/7, mb1 4.1/7, mb1mx4.0/18, mbtmp4.0/7, MS4.2/10, Ms1 4.2/10, ms1mx4.0/25, Error ellipse: s-maj=72.9km s-min=18.8km az=126.0*
NEIC ***19*** *03:18:17.5±0.7, 45°96S×95°91E, h10km, mb4.5/6, Error ellipse: s-maj=19.6km s-min=10.9km az=127.0*
ISC 19 03:18:17.9±1.0, 46°0S±0°2×95°9E±0°2, h12km, n29, σ0°61/20, mb4.1/10, MS4.2/10, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**20.92**	**59**	LR	LR	03 29 20.3	
	comp=Z,725nm,19.3s,baz=213,slow=32						
CASY	**Casey**	**21.82**	**164**	*eP*	P	**03 23 10.5**	**+0.8**
	21nm,1.6s						
FITZ	**Fitzroy Crossi**	**37.13**	**51**	P	P	**03 25 28.1**	**-0.3**
FITZ	**Fitzroy Crossi**	**37.13**	**51**	P	P	**03 25 28.1**	**-0.3**
	1.8nm,0.8s,baz=204,slow=12,SNR=4.1						
STKA	**Stephens Creek**	**37.72**	**84**	P	P	**03 25 33.9**	**+0.6**
STKA	**Stephens Creek**	**37.72**	**84**	P	P	**03 25 33.9**	**+0.6**
	2.1nm,0.7s,baz=229,slow=9.5,SNR=3.2						
STKA				LR	LR	03 38 08.8	
	comp=Z,529nm,19.2s,baz=208,slow=32						
ASAR	**Alice Springs**	**37.82**	**67**	P	P	**03 25 34.2**	**-0.1**
ASAR	**Alice Springs**	**37.82**	**67**	P	P	**03 25 34.2**	**-0.1**
	0.9nm,0.8s,baz=227,slow=7.8,SNR=11						
ASAR				LR	LR	03 38 59.1	
	comp=Z,353nm,20.1s,baz=231,slow=33						
VNDA	**Vanda**	**40.42**	**162**	*eP*	P	**03 25 55.6**	**+0.2**
	1.6nm,0.9s						
VNDA	**Vanda**	**40.42**	**162**	P	P	**03 25 55.9**	**+0.5**
	0.9nm,0.9s,baz=282,slow=7.8,SNR=6.5						
VNDA				LR	LR	03 41 03.2	
	comp=Z,424nm,19.2s,baz=268,slow=34						
WRA	**Warramunga Arr**	**40.81**	**64**	P	P	**03 25 58.5**	**-0.8**
WRA	**Warramunga Arr**	**40.81**	**64**	P	P	**03 25 58.5**	**-0.8**
	2.4nm,0.8s,baz=224,slow=8.3,SNR=14						
WRAB	**Tennant Creek**	**40.82**	**64**	*eP*	P	**03 25 59.0**	**-0.4**
	18nm,1.5s						
QSPA	**South Pole Qui**	**44.17**	**180**	*eP*	P	**03 26 25.4**	**-0.9**
	7.1nm,1.1s						
QSPA	**South Pole Qui**	**44.17**	**180**	P	P	**03 26 25.7**	**-0.6**
	3.0nm,1.0s,baz=301,slow=4.4,SNR=5.5						
OPO	**Ambohidratompo**	**48.44**	**288**	LR	LR	03 42 37.3	
	comp=Z,165nm,21.2s,baz=156,slow=30						
PSI	**Prapat**	**48.63**	**4**	LR	LR	03 43 45.1	
	comp=Z,228nm,18.4s,baz=188,slow=32						
SNAA	**Sanae**	**49.74**	**204**	*eP*	P	**03 27 09.2**	**-0.4**
SNAA	**Sanae**	**49.74**	**204**	*el*		03 27 20.3	
SNAA	**Sanae**	**49.74**	**204**	*eP*	P	**03 27 09.0**	**-0.6**
	14nm,1.2s						
SNAA	**Sanae**	**49.74**	**204**	P	P	**03 27 09.2**	**-0.4**
	2.1nm,0.9s,baz=137,slow=8.5,SNR=22						
VNA2	**Neumayer--Watz**	**51.38**	**204**	*eP*	P	**03 27 21.9**	**0.0**
	baz=112,slow=6.0						
VNA2	**Neumayer--Watz**	**51.38**	**204**	*el*		03 27 31.7	
	baz=112,slow=6.0						
VNA1	**Neumayer--Stat**	**51.77**	**204**	*eP*	P	**03 27 24.0**	**-0.8**
PMG	**Port Moresby**	**56.84**	**67**	LR	LR	03 49 39.7	
	comp=Z,235nm,20.7s,baz=227,slow=33						
BOSA	**Boshof**	**57.00**	**262**	LR	LR	03 46 14.9	
	comp=Z,232nm,20.3s,baz=158,slow=30						
URZ	**Urewera**	**58.28**	**114**	LR	LR	03 47 22.1	
	comp=Z,112nm,20.8s,baz=65,slow=30						
LSZ	**Lusaka**	**63.71**	**275**	*eP*	P	**03 28 50.3**	**+0.7**
	6.7nm,1.1s						
AFI	**Afiamalu**	**81.74**	**101**	LR	LR	03 58 57.7	
	comp=Z,89nm,21.2s,baz=201,slow=30						

IDC 19 03:20:33.8±5.2, 17°26S×178°97W, h578km±61km, mb3.1/7, mb1 3.4/8, mb1mx3.2/18, mbtmp3.2/8, Error ellipse: s-maj=74.9km s-min=24.9km az=151.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.54**	**248**	P	P	03 23 38.8	+0.4
	0.5nm,0.3s,baz=58,slow=16,SNR=6.1						
STKA	**Stephens Creek**	**38.48**	**240**	P	P	03 27 07.0	-0.5
	3.8nm,0.5s,baz=94,slow=9.4,SNR=12						
WRA	**Warramunga Arr**	**44.22**	**259**	P	P	03 27 52.8	-0.3
	1.9nm,0.7s,baz=94,slow=7.0,SNR=22						
ASAR	**Alice Springs**	**44.45**	**254**	P	P	03 27 54.6	-0.1
	16nm,0.6s,baz=88,slow=8.3,SNR=81						
ASAR				PcP	PcP	03 29 24.8	-0.8
	0.4nm,0.5s,baz=104,slow=4.0,SNR=4.3						
FITZ	**Fitzroy Crossi**	**52.61**	**260**	P	P	03 28 55.5	+0.4
	1.3nm,0.7s,baz=105,slow=2.0,SNR=6.1						
ILAR	**Eielson Array**	**85.38**	**13**	P	P	03 32 09.6	-0.7
	0.2nm,0.4s,baz=223,slow=6.0,SNR=3.6						
TXAR	**Lajitas Array**	**86.11**	**58**	P	P	03 32 15.1	+0.4
	0.3nm,0.6s,baz=222,slow=6.6,SNR=6.7						
PDAR	**Pinedale Array**	**87.25**	**44**	P	P	03 32 19.8	-0.2
	0.3nm,0.5s,baz=209,slow=5.2,SNR=3.3						
BRTR	**Keskin Array B**	**143.95**	**315**	PKP	PKPdf	03 39 04.9	+0.3
	0.3nm,0.7s,baz=62,slow=2.9,SNR=3.1						

IDC 19 03:22:43.7±2.3, 45°92S×95°92E, h0km, mb3.9/6, mb1 4.1/6, mb1mx4.0/17, mbtmp3.9/6, MS3.8/2, Ms1 3.8/2, ms1mx3.5/20, Error ellipse: s-maj=80.3km s-min=19.5km az=124.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAW	**Mawson**	**27.68**	**207**	LR	LR	03 36 59.4	
	comp=Z,142nm,18.8s,baz=95,slow=31						
FITZ	**Fitzroy Crossi**	**37.08**	**51**	P	P	03 29 55.8	+0.1
	2.1nm,1.0s,baz=207,slow=9.0,SNR=4.3						
FITZ				LR	LR	03 43 03.8	
	comp=Z,204nm,19.5s,baz=225,slow=33						
STKA	**Stephens Creek**	**37.70**	**84**	P	P	03 30 04.7	+3.9
	4.0nm,0.8s,baz=275,slow=3.2,SNR=6.1						
ASAR	**Alice Springs**	**37.79**	**67**	P	P	03 30 01.8	+0.1
	1.7nm,1.0s,baz=226,slow=6.8,SNR=3.6						
VNDA	**Vanda**	**40.47**	**162**	P	P	03 30 22.9	-0.5
	1.2nm,0.8s,baz=272,slow=8.8,SNR=8.0						
WRA	**Warramunga Arr**	**40.77**	**64**	P	P	03 30 26.1	-0.6
	1.6nm,0.9s,baz=223,slow=8.0,SNR=5.4						
QSPA	**South Pole Qui**	**44.23**	**180**	P	P	03 30 54.8	+0.4
	3.1nm,0.9s,baz=327,slow=3.4,SNR=7.5						
SNAA	**Sanae**	**49.79**	**204**	*eP*	P	03 31 37.4	-0.3
SNAA	**Sanae**	**49.79**	**204**	P	P	03 31 37.4	-0.2
	0.9nm,0.7s,baz=138,slow=9.5,SNR=17						
VNA2	**Neumayer--Watz**	**51.44**	**204**	*eP*	P	03 31 50.0	0.0
	baz=110,slow=6.6						

SZGRF ***19*** *04:17:31.9, 35°88N×71°94E, h33km, mb5.0, Pakistan*
BJI ***19*** *04:17:54.8, 36°59N×70°66E, h193km, mB5.1/30, mb5.1/50*
ISCJB ***19*** *04:17:55.1±0.2, 36°47N±0°02×70°72E±0°02, h194km±2km, mb4.8/296, Error ellipse: s-maj=2.5km s-min=2.0km az=23.9*
MOS ***19*** *04:17:55.5±0.9, 36°48N×70°75E, h199km, mb5.0/90, Error ellipse: s-maj=4.9km s-min=3.1km az=114.3*
BGS ***19*** *04:17:56.8±1.6, 36°33N×70°53E, h200km, mb4.6*
BKK ***19*** *04:17:56.8±0.6, 36°N±5°×7°1E±°, h182km±6km, M5.3/29, mB5.4/8, mb5.1/29, MLv6.1/1, Mw(mB)4.8/8*
NEIC ***19*** *04:17:56.8±0.6, 36°48N×70°74E, h200km±5km, mb5.0/116, Error ellipse: s-maj=4.4km s-min=2.9km az=192.0*
NEIC Felt at Kabul.
IDC ***19*** *04:17:57.3±0.5, 36°46N×70°82E, h206km±4km, mb4.6/28, mb1 4.8/33, mb1mx4.8/33, mbtmp5.2/33, Error ellipse: s-maj=8.7km s-min=6.4km az=163.0*
TEH ***19*** *04:17:57.0, 36°53N×70°75E, h194km, ML5.1*
DJA ***19*** *04:17:57.2±0.6, 36°N±5°×7°1E±°, h186km±7km, M6.0/21, mB5.7/4, mb5.2/21, MLv6.7/1, Mw(mB)5.2/4*
GCMT ***19*** *04:17:58.7±0.3, 36°46N×70°61E, h197km±2km, MW5.1, Moment Tensor Solution. s28,c34; s84,c127; Moment tensor: Scale 10¹⁶Nm; Mrr3.02±.16; Mθθ-2.67±.21; Mφφ-0.35±.20; Mrθ4.03±.15; Mθφ0.87±.20; Mφr-1.33±.14; Best double couple: M0 5.20000×10¹⁶ NP1:φ8 108.00000°, δ72.00000°, λ90.00000°. NP2:φ289.00000°, δ18.00000°, λ90.00000°. Principal axes: T 5.2200, Plg63.0000°, Azm18.0000°; N -0.0600, Plg0.0000°, Azm108.0000°; P -5.1600, Plg27.0000°, Azm198.0000°; Data Used: IU II IC G CN.*
NNC ***19*** *04:18:01.5±3.6, 37°00N×70°59E, h196km±31km, mb4.8, mpv5.9 Error ellipse: s-maj=30.2km s-min=21.1km az=20.0*
ISC 19 04:17:56.8±0.2, 36°50N±0°03×70°77E±0°03, h201km±2km, h201km: pP-P, n866, σ1°29/1099, mb4.9/296, 151C-61D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.83**	**160**	⇓P	**Pn**	**04 18 44.4**	**-0.3**
CEP				S	**S**	**04 19 20.0**	**-1.4**
CHCP	**Chirah Chowk**	**3.50**	**143**	⇓P	**Pn**	**04 18 52.8**	**+0.3**
THW	**Thamme Wali**	**3.78**	**167**	⇑P	**Pn**	**04 18 55.5**	**-0.5**
SARP	**Sargodha**	**4.83**	**160**	⇑P	**Pn**	**04 19 09.2**	**+0.1**
JMU	**Jammu**	**5.08**	**137**	*eP*	**Pn**	**04 19 12.5**	**+0.2**
JMU				*e*4	**S**	**04 20 05.5**	**-5.8**
THN	**Thein Dam**	**5.76**	**133**	*eP*	**Pn**	**04 19 18.5**	**-2.4**
THN				*e*4		04 20 13.5	
DLH	**Dalhousie**	**5.83**	**131**

KZA	**Kyzart**	**6.56**	**31**	P	**Pn**	**04 19 30.9**	**-0.8**
	SNR=107						
EKS2	**Erkin-Say**	**6.58**	**20**	*e*PN	**Pn**	**04 19 31.3**	**-0.2**
EKS2				*e*		04 20 44.6	
EKS2				pmax	pmax		
	comp=Z,29nm,0.6s						
EKS2	**Erkin-Say**	**6.58**	**20**	P	**Pn**	**04 19 31.4**	**-0.2**
	SNR=344						
EKS2	**Erkin-Say**	**6.58**	**20**	*e*Pn	**Pn**	**04 19 31.3**	**-0.2**
	comp=Z,30nm,0.6s						
EKS2				*e*Sn	**S**	**04 20 44.6**	**-1.9**
KK02	**Karatay Array**	**6.60**	**358**	⇓P	**Pn**	**04 19 30.9**	**-0.8**
	comp=Z,636nm,0.5s						
KK02				⇑S	S	04 20 40.7	-6.2
	comp=Z,679nm,0.6s						
KK31	**Karatay Array**	**6.60**	**358**	PN	**Pn**	**04 19 30.8**	**-0.9**
KK31				pmax	pmax		
	comp=Z,1μm,0.6s						
AAK	**Ala-Archa**	**6.77**	**24**	Pn	**Pn**	**04 19 34.0**	**0.0**
	comp=Z,8μm,0.4s						
AAK	**Ala-Archa**	**6.77**	**24**	*d i*PN	**Pn**	**04 19 34.1**	**0.0**
AAK				pmax	pmax		
	comp=Z,2μm,0.7s						
AAK	**Ala-Archa**	**6.77**	**24**	Pn	**Pn**	**04 19 34.2**	**+0.2**
	SNR=310						
AAK	**Ala-Archa**	**6.77**	**24**	P	**Pn**	**04 19 34.0**	**0.0**
	SNR=950						
AAK	**Ala-Archa**	**6.77**	**24**	*e*Pn	**Pn**	**04 19 33.9**	**0.0**
AAK				*e*Sn	**S**	**04 20 49.8**	**-1.3**
AAK	**Ala-Archa**	**6.77**	**24**	P	**Pn**	**04 19 34.0**	**0.0**
	comp=Z,199nm,0.3s,baz=173,slow=5.5,SNR=1128						
AAK				S	**S**	**04 20 49.6**	**-1.4**
	comp=Z,152nm,0.3s,baz=304,slow=22,SNR=35						
BHK	**Bhakra**	**6.91**	**136**	*e*P	**Pn**	**04 19 34.0**	**-1.9**
BHK				*e*x	x	04 20 46.0	
KBK	**Karagaybulak**	**6.94**	**26**	*i* PN	**Pn**	**04 19 36.5**	**+0.2**
KBK	**Karagaybulak**	**6.94**	**26**	P	**Pn**	**04 19 36.5**	**+0.2**
	SNR=160						
FRU	**Bishkek**	**6.99**	**24**	⇓*i*PN	**Pn**	**04 19 36.5**	**-0.3**
FRU				pmax	pmax		
	comp=Z,3μm,0.9s						
ULHL	**Ulahol**	**7.13**	**35**	*i* PN	**Pn**	**04 19 38.2**	**-0.7**
ULHL	**Ulahol**	**7.13**	**35**	P	**Pn**	**04 19 38.1**	**-0.7**
	SNR=270						
SDNR	**Sundarnagar**	**7.17**	**132**	*e*P	**Pn**	**04 19 37.6**	**-1.7**
SDNR				*e*4		04 20 38.0	
CHMS	**Chumysh**	**7.18**	**24**	*i* PN	**Pn**	**04 19 38.7**	**-0.5**
CHMS	**Chumysh**	**7.18**	**24**	P	**Pn**	**04 19 38.7**	**-0.5**
	SNR=119						
USP	**Ospenovka**	**7.34**	**22**	*i* PN	**Pn**	**04 19 40.6**	**-0.8**
USP	**Ospenovka**	**7.34**	**22**	P	**Pn**	**04 19 40.6**	**-0.8**
	SNR=191						
TKM2	**Tokmak 2**	**7.41**	**29**	⇓S	**S**	**04 21 00.7**	**-5.7**
	comp=Z,418nm,0.8s						
TKM2	**Tokmak 2**	**7.41**	**29**	*e*PN	**Pn**	**04 19 42.1**	**-0.4**
TKM2				pmax	pmax		
	comp=Z,83nm,1.0s						
TKM2	**Tokmak 2**	**7.41**	**29**	P	**Pn**	**04 19 42.3**	**-0.1**
	SNR=593						
TKM2	**Tokmak 2**	**7.41**	**29**	*e*Pn	**Pn**	**04 19 42.1**	**-0.4**
	comp=Z,83nm,1.0s						
TKM2				*e*Sn	**S**	**04 21 01.6**	**-4.8**
SMLA	**Simla**	**7.55**	**133**	*i* P	**Pn**	**04 19 42.9**	**-1.3**
SMLA				AMB	AMB	04 19 47.3	
	comp=Z,177nm,0.5s						
SMLA				*i* S	**S**	**04 21 04.2**	**-5.3**
KNDC	**Almaty**	**8.23**	**33**	⇓P	**Pn**	**04 19 53.8**	**+0.9**
KNDC				⇑S	**S**	**04 21 25.6**	**0.0**
IMYA	**Miami**	**8.60**	**272**	*e*P	Pn	04 19 54.7	-3.3
DDI	**Dehra Dun**	**8.66**	**133**	*e*P	**Pn**	**04 19 56.3**	**-2.4**
DDI				*e*x	x	04 21 25.3	
ISRO	**Mashad**	**9.11**	**272**	*e*P	Pn	04 20 01.1	-3.5
IMOG	**Moghan**	**9.23**	**271**	*e*P	Pn	04 20 02.7	-3.6
NDI	**New Delhi**	**9.50**	**143**	*e*P	P	04 20 29.6	+11
NDI				*e*x	x	04 21 35.0	
NDI				*e*S	S	04 22 08.4	+12
IAKL	**Akhelmad**	**9.67**	**274**	*e*P	**Pn**	**04 20 09.2**	**-2.7**
IMON	**Monand**	**9.70**	**253**	*e*P	**Pn**	**04 20 11.6**	**-0.8**
IDAH	**Dahanechah**	**9.73**	**250**	*e*P	**Pn**	**04 20 11.6**	**-1.2**
IEMG	**Emamgholi**	**9.74**	**279**	*e*P	**Pn**	**04 20 10.6**	**-2.3**
ISFR	**Sfrayin**	**10.26**	**277**	*e*P	**Pn**	**04 20 18.4**	**-1.2**
ISHV	**Shirvan**	**10.50**	**280**	*e*P	**Pn**	**04 20 20.9**	**-1.7**
ITEG	**Tejag**	**10.53**	**254**	*e*P	**Pn**	**04 20 21.6**	**-1.4**
PTH	**Pithoragarh**	**10.53**	**128**	*e*P	Pn	04 20 14.3	-8.7
PTH				*e*S	S	04 22 09.2	-12
LGTI	**Lohaghat**	**10.62**	**129**	*e*P	**Pn**	**04 20 25.1**	**+1.2**
LGTI				*e*x	x	04 22 19.7	
BHJ	**Bhuj**	**13.24**	**184**	*e*x	Pn	04 20 50.7	-6.5
BHJ				AMB	AMB	04 20 55.6	
	comp=Z,574nm,1.8s						
PYUN	**Piuthan**	**13.29**	**126**	*e*P	**Pn**	**04 20 56.3**	**-1.8**
MK31	**Makanchi Array**	**13.40**	**36**	P	**Pn**	**04 20 58.5**	**-0.6**
	comp=Z,269nm,0.8s,baz=214,slow=12,SNR=531						
MK31	**Makanchi Array**	**13.40**	**36**	*e*P	**Pn**	**04 20 58.5**	**-0.6**
MK31				pmax	pmax		
	comp=Z,334nm,0.8s						
MK31	**Makanchi Array**	**13.40**	**36**	*e*Pn	**Pn**	**04 20 58.4**	**-0.6**
MKAR	**Makanchi Array**	**13.40**	**36**	*e*P	**Pn**	**04 20 58.9**	**-0.2**
MKAR				S	**S**	**04 23 27.3**	**-0.9**
MKAR	**Makanchi Array**	**13.40**	**36**	*e*Pn	**Pn**	**04 20 58.9**	**-0.2**
MKAR				S	**S**	**04 23 27.3**	**-0.9**
MKAR				ScP	**ScP**	**04 29 23.2**	**-1.6**
MKAR	**Makanchi Array**	**13.40**	**36**	P	**Pn**	**04 20 59.9**	**+0.8**
	comp=Z,6.3nm,0.3s,baz=224,slow=16,SNR=155						
MKAR				S	**S**	**04 23 27.3**	**-0.9**
	baz=232,slow=16,SNR=1.8						
MKAR				ScP	**ScP**	**04 29 23.2**	**-1.6**
	comp=Z,0.4nm,0.3s,baz=249,slow=0.9,SNR=4.8						
IGLO	**Ghaloghah**	**13.63**	**275**	*e*P	**Pn**	**04 21 02.5**	**+0.2**
DANN	**Dangsing**	**13.64**	**123**	*e*P	**Pn**	**04 21 01.1**	**-1.5**
	comp=Z,245nm,0.5s						
IKIA	**Kiasar**	**13.78**	**274**	*e*P	**Pn**	**04 21 04.7**	**+0.6**
KOLN	**Koldanda**	**13.92**	**125**	*e*P	**Pn**	**04 21 04.3**	**-1.6**
	comp=Z,189nm,0.6s						
BHPL	**Bhopal**	**14.41**	**155**	*e*P	**Pn**	**04 21 09.4**	**-2.5**
BHPL				AMB	AMB	04 21 14.9	
	comp=Z,786nm,2.1s						
BHPL				*e*x	x	04 23 40.1	
IFIR	**Firoozkooh**	**14.60**	**272**	*e*P	**Pn**	**04 21 14.4**	**+0.1**
WMQ	**Urumqi**	**14.85**	**55**	P	**Pn**	**04 21 17.3**	**+0.2**
WMQ				sP		04 22 06.5	
WMQ				S	**S**	**04 23 56.3**	**-5.6**
WMQ				PcP	**PcP**	**04 26 15.8**	**+3.0**
WMQ				ScP	**ScP**	**04 29 30.3**	**+2.8**
WMQ				ScS	**ScS**	**04 33 07.0**	**+1.6**
WMQ				pmax	pmax		
	comp=Z,200nm,0.8s						
AB31	**Akbulak array**	**14.99**	**332**	P	**Pn**	**04 21 17.5**	**-1.2**
	comp=Z,61nm,0.5s,baz=143,slow=12,SNR=1126						
AB31				⇓S	S	04 23 54.1	-11
	comp=Z,46nm,0.7s,baz=161,slow=22,SNR=3.3						
AB31	**Akbulak array**	**14.99**	**332**	*i* P	**Pn**	**04 21 17.5**	**-1.2**
AB31				S	S	04 23 56.8	-8.1
AB31				pmax	pmax		
	comp=Z,64nm,0.4s						
AB31				smax	smax		
	comp=N,80nm,0.8s						
ABKAR	**Akbulak array**	**14.99**	**332**	*e*Pn	**Pn**	**04 21 17.0**	**-1.7**
ABKAR				*e*S	S	04 23 58.3	-6.7
DMN	**Daman**	**15.03**	**122**	*e*P	**Pn**	**04 21 19.0**	**-0.6**
	comp=N,220nm,0.6s						
DMN				*e*S	S	04 23 55.4	-11
KKN	**Kakani**	**15.04**	**121**	*e*P	**Pn**	**04 21 19.0**	**-0.6**
	comp=N,368nm,0.5s						
KKN				*e*S	S	04 23 54.3	-13
KURBB	**Kurchatov Arra**	**15.18**	**19**	⇓P	**Pn**	**04 21 19.0**	**-1.9**
	comp=N,107nm,0.5s						
KURBB	**Kurchatov Arra**	**15.18**	**19**	P	**Pn**	**04 21 19.8**	**-1.1**
	comp=N,15nm,0.3s,baz=212,slow=9.1,SNR=92						
KURBB				S	**S**	**04 24 08.7**	**-0.6**
	baz=198,slow=18,SNR=7.3						
KURBB				PKiKP	**PKiKP**	**04 34 06.1**	**-1.4**
	comp=N,0.2nm,0.3s,baz=232,slow=0.7,SNR=6.9						
IDMV	**Damavand**	**15.19**	**272**	*e*P	**Pn**	**04 21 21.7**	**+0.2**
PKIN	**Phulchoki**	**15.25**	**122**	*e*P	**Pn**	**04 21 21.4**	**-0.9**
	comp=N,270nm,0.5s						
PKIN				*e*S	S	04 24 00.4	-12
ISFB	**Sefidab**	**15.26**	**267**	*e*P	**Pn**	**04 21 21.4**	**-0.7**
PKI	**Pulchoki**	**15.26**	**122**	*e*P	**Pn**	**04 21 21.8**	**-0.7**
	comp=N,485nm,0.8s						
KURK	**Kurchatov**	**15.29**	**19**	⇓P	**Pn**	**04 21 21.0**	**-1.2**
	comp=N,70nm,0.8s						
KURK	**Kurchatov**	**15.29**	**19**	Pn	**Pn**	**04 21 21.4**	**-0.8**
	comp=N,586nm,0.8s,SNR=64						
KURK	**Kurchatov**	**15.29**	**19**	*e*P	**Pn**	**04 21 20.8**	**-1.4**
KURK				S	**S**	**04 24 08.7**	**-3.1**
KURK				pmax	pmax		
	comp=Z,69nm,0.8s						
KURK	**Kurchatov**	**15.29**	**19**	Pn	**Pn**	**04 21 21.4**	**-0.8**
	SNR=70						
KURK	**Kurchatov**	**15.29**	**19**	*e*P	**Pn**	**04 21 20.8**	**-1.4**
	comp=Z,69nm,0.8s						
KURK				S	**S**	**04 24 08.7**	**-3.1**
KURK				PKiKP	**PKiKP**	**04 34 06.1**	**-1.4**
GUN	**Gumba**	**15.38**	**120**	*e*P	**Pn**	**04 21 23.7**	**-0.2**
	comp=Z,467nm,0.6s						
IVRN	**Varamin**	**15.54**	**270**	*e*P	**Pn**	**04 21 25.1**	**-0.4**
IZEF	**Zefreh**	**15.59**	**262**	*e*P	**Pn**	**04 21 26.7**	**+0.4**
JIRN	**Jiri**	**15.75**	**120**	*e*P	**P**	**04 21 28.4**	**+0.1**
	comp=Z,364nm,0.4s						
IR3	**Iran Long-Peri**	**16.02**	**272**	*e*P	**P**	**04 21 30.6**	**-0.3**
IKLH	**Kolahrood**	**16.06**	**264**	*e*P	**P**	**04 21 31.2**	**-0.3**
VOSK	**Vostochnaya**	**16.22**	**0**	⇑P	**P**	**04 21 33.0**	**+0.1**
	comp=Z,76nm,0.4s						
VOSK	**Vostochnaya**	**16.22**	**0**	P	**P**	**04 21 32.9**	**+0.1**
VOSK				pmax	pmax		
	comp=Z,77nm,0.4s						
VOSK	**Vostochnaya**	**16.22**	**0**	*e*P	**P**	**04 21 32.9**	**+0.1**
	comp=Z,193nm,0.9s						
RAMN	**Ramite**	**16.48**	**121**	*e*P	**Pn**	**04 21 36.7**	**-0.3**
	comp=Z,299nm,0.5s						
BVA0	**Borovoye Array**	**16.52**	**359**	⇑P	**Pn**	**04 21 37.0**	**-0.1**
	comp=Z,62nm,0.5s,baz=173,slow=13,SNR=532						
BVA0				⇑S	**S**	**04 24 37.5**	**-1.1**
	comp=Z,210nm,1.4s,baz=171,slow=22,SNR=12						
BVA0	**Borovoye Array**	**16.52**	**359**	*i* P	**Pn**	**04 21 37.0**	**-0.1**
BVA0				pmax	pmax		
	comp=Z,113nm,0.7s						
BVAR	**Borovoye Array**	**16.52**	**359**	P	**Pn**	**04 21 37.1**	**0.0**
BVAR				S	**S**	**04 24 34.7**	**-3.9**
BVAR				pmax	pmax		
	comp=Z,41nm,0.3s						
BVAR				smax	smax		
	comp=N,1.0nm,0.3s						
BVAR	**Borovoye Array**	**16.52**	**359**	P	**Pn**	**04 21 37.1**	**0.0**
BVAR				S	**S**	**04 24 34.7**	**-3.9**
BVAR	**Borovoye Array**	**16.52**	**359**	P	**Pn**	**04 21 37.1**	**0.0**
	comp=N,41nm,0.3s,baz=156,slow=8.7,SNR=346						
BVAR				S	**S**	**04 24 34.7**	**-3.9**
	comp=N,0.7nm,0.3s,baz=171,slow=20,SNR=2.8						
BRVK	**Borovoye**	**16.56**	**359**	Pn	**Pn**	**04 21 37.2**	**-0.3**
	comp=N,2μm,0.7s						
BRVK	**Borovoye**	**16.56**	**359**	*e*P	**Pn**	**04 21 37.4**	**-0.1**
BRVK				*e*S	**S**	**04 24 35.5**	**-3.8**
BRVK				pmax	pmax		
	comp=Z,219nm,0.8s						
BRVK	**Borovoye**	**16.56**	**359**	P	**Pn**	**04 21 37.5**	**-0.1**
	SNR=142						
BRVK	**Borovoye**	**16.56**	**359**	*e*P	**Pn**	**04 21 37.4**	**-0.1**
	comp=Z,219nm,0.8s						
BRVK				*e*S	**S**	**04 24 35.5**	**-3.8**
AKL	**Akola**	**16.66**	**159**	*e*P	**P**	**04 21 38.2**	**+0.3**
AKL				AMP		04 21 41.7	
	comp=Z,237nm,0.9s						
AKL				*i* x	x	04 24 34.2	
AKTO	**Aktyubinsk**	**16.69**	**331**	⇑P	**P**	**04 21 38.4**	**+0.4**
	comp=Z,590nm,0.8s						
AKTO				⇓S	**S**	**04 24 37.3**	**-4.6**
	comp=Z,94nm,1.4s						
AKTO	**Aktyubinsk**	**16.69**	**331**	P	**Pn**	**04 21 38.8**	**-0.2**
AKTO				S	**S**	**04 24 38.3**	**-3.6**
AKTO				pmax	pmax		
	comp=Z,48nm,0.3s						
AKTO				smax	smax		
	comp=N,1.0nm,0.3s						
AKTO	**Aktyubinsk**	**16.69**	**331**	P	**Pn**	**04 21 38.8**	**-0.2**
AKTO				S	**S**	**04 24 38.3**	**-3.6**
AKTO	**Aktyubinsk**	**16.69**	**331**	P	**Pn**	**04 21 38.8**	**-0.2**
	comp=N,48nm,0.3s,baz=142,slow=10,SNR=1005						
AKTO				S	**S**	**04 24 38.3**	**-3.6**
	comp=N,0.5nm,0.3s,baz=349,slow=16,SNR=4.0						
IRAZ	**Razeghan**	**16.91**	**272**	*e*P	**Pn**	**04 21 42.8**	**+0.7**
NGP	**Nagpur**	**16.92**	**152**	*e*P	**Pn**	**04 21 42.1**	**+0.1**
NGP				*e*x	x	04 21 42.8	
	comp=Z,174nm,0.5s						
NGP				*e*x	x	04 24 39.0	
UOSS	**Wadi Hilu**	**16.99**	**231**	P	**P**	**04 21 39.1**	**-2.4**
	comp=Z,2μm,0.7s,SNR=21						
TAPN	**Taplejung**	**17.01**	**118**	*e*P	**Pn**	**04 21 44.3**	**+0.8**
	comp=Z,224nm,0.6s						
ODAN	**Odare**	**17.08**	**120**	*e*P	**Pn**	**04 21 44.9**	**+0.7**
	comp=Z,277nm,0.6s						
HATD	**Hatta, Dubai**	**17.12**	**231**	P	**P**	**04 21 43.1**	**+0.1**
	SNR=12						
WBK	**Wadi Bani Khal**	**17.21**	**220**	P	**Pn**	**04 21 45.1**	**-0.5**
	SNR=36						
ASHO	**Ashiyiah**	**17.27**	**231**	P	**P**	**04 21 45.2**	**+0.5**
	SNR=53						
NAZ	**Nazwa, Dubai**	**17.30**	**233**	P	**Pn**	**04 21 47.5**	**+0.9**
	SNR=28						
SMDO	**Samad**	**17.34**	**223**	P	**P**	**04 21 46.1**	**+0.7**
	SNR=22						
HOQ	**Hoqain**	**17.34**	**226**	P	**P**	**04 21 44.7**	**-0.7**
	SNR=18						
ASUD	**Al Ashush, Dub**	**17.77**	**233**	P	**P**	**04 21 51.0**	**+1.0**
	SNR=13						
JMDO	**Jabal Madar**	**17.86**	**221**	P	**Pn**	**04 21 52.5**	**-0.7**
	SNR=24						
ARQ	**Araqi**	**17.99**	**227**	P	**P**	**04 21 53.2**	**+0.7**
	SNR=30						
BSY	**Bisya**	**18.06**	**224**	P	**P**	**04 21 54.3**	**+1.1**
	SNR=74						
POO	**Poona**	**18.11**	**171**	*e*P	**P**	**04 21 54.0**	**+0.2**
POO				AMB	AMB	04 21 57.8	
	comp=Z,165nm,2.2s						
BOK	**Bokaro**	**18.17**	**130**	*e*P	**P**	**04 21 54.6**	**+0.2**
BOK				*e*x	x	04 25 04.1	
LSA	**Lhasa**	**18.36**	**106**	P	**Pn**	**04 21 59.8**	**+0.4**
LSA				pmax	pmax		
	comp=Z,50nm,1.6s						
LSA	**Lhasa**	**18.36**	**106**	*e*P	**Pn**	**04 21 59.8**	**+0.4**
LSA				*e*S	**S**	**04 25 18.8**	**+2.4**
LSA				pmax	pmax		
	comp=Z,127nm,0.9s						
LSA	**Lhasa**	**18.36**	**106**	*e*P	**Pn**	**04 21 59.8**	**+0.4**
	comp=Z,127nm,0.9s						
LSA				*e*S	**S**	**04 25 18.8**	**+2.4**
LSA				*e*PcP	**PcP**	**04 26 19.7**	**+0.8**
LSA				*e*ScP	**ScP**	**04 29 35.0**	**-0.2**
LATR	**Latur**	**18.73**	**163**	⇓*e*x	P	04 21 55.0	-5.4
LATR				*e*x	x	04 21 58.2	
	comp=Z,255nm,0.9s						
LATR				*e*x	x	04 25 14.0	
MAK	**Makhachkala**	**18.99**	**297**	*e*P	**P**	**04 22 03.3**	**+0.2**
MAK				*e*S	**S**	**04 25 28.7**	**+0.9**
MAK				pmax	pmax		
	comp=Z,45nm,0.9s						
MAK				MLR	MLR		
	comp=Z,330nm,18.0s						
KAD	**Karad**	**19.36**	**170**	*e*P	**P**	**04 22 08.1**	**+0.8**
KAD				*e*x	x	04 25 44.8	
ZAA0	**Zalesovo Array**	**19.99**	**25**	*e*P	**P**	**04 22 14.1**	**+0.4**
ZAA0				*e*S	**S**	**04 25 43.3**	**-3.9**
ZALV	**Zalesovo Beam**	**19.99**	**25**	P	**P**	**04 22 14.3**	**+0.6**
ZALV				S	**S**	**04 25 46.0**	**-1.2**
ZALV				pmax	pmax		
	comp=Z,184nm,0.3s						
ZALV				smax	smax		
	comp=N,40nm,0.8s						
ZALV	**Zalesovo Beam**	**19.99**	**25**	P	**P**	**04 22 14.3**	**+0.6**
ZALV				S	**S**	**04 25 46.0**	**-1.2**
ZALV	**Zalesovo Beam**	**19.99**	**25**	P	**P**	**04 22 14.3**	**+0.6**
	comp=N,188nm,0.3s,baz=221,slow=11,SNR=1046						
ZALV				S	**S**	**04 25 46.0**	**-1.2**
	comp=N,40nm,0.8s,baz=216,slow=20,SNR=6.5						
HYB	**Hyderabad**	**20.22**	**158**	*i* P	**P**	**04 22 16.0**	**-0.5**
	comp=N,260nm,1.0s						
HYB				*e*S	**S**	**04 25 56.0**	**+3.7**
HYB	**Hyderabad**	**20.22**	**158**	*e*P	**P**	**04 22 17.1**	**+0.6**
NVS	**Novosibirsk**	**20.25**	**21**	⇑*i*P	**P**	**04 22 17.0**	**+0.6**
NVS				*e**PP	pP	04 22 44.0	-5.8
NVS				*i* S	**S**	**04 25 52.0**	**-0.1**
NVS				*e*		04 26 24.3	
NVS				pmax	pmax		
	comp=Z,502nm,1.4s						
NVS				pmax	pmax		
	comp=N,476nm,1.7s						
NVS				pmax	pmax		
	comp=E,166nm,1.8s						
NVS				smax	smax		
	comp=N,340nm,2.4s						
NVS				smax	smax		
	comp=E,346nm,1.4s						
UMR	**Umm Al-Rimmam**	**20.51**	**257**	*e*P	**P**	**04 22 19.1**	**-0.4**
IBDR	**Badra**	**20.66**	**268**	*e*Pn	Px	04 23 28.4	
IBDR				*e*Sn	**S**	**04 25 56.1**	**-4.3**
KBD	**Kabd**	**20.69**	**256**	*e*P	**P**	**04 22 21.3**	**-0.1**
KBD				AMb	AMB	04 22 24.7	
	comp=Z,226nm,0.7s						
MIB	**Mutribah**	**20.70**	**258**	*e*P	**P**	**04 22 21.8**	**+0.3**
MIB				AMb	AMB	04 22 27.7	
	comp=Z,327nm,0.7s						
QRN	**Al-Qurain**	**20.71**	**255**	*e*P	**P**	**04 22 21.4**	**-0.2**
QRN				AMb	AMB	04 22 26.7	
	comp=Z,356nm,0.7s						
GNI	**Garni**	**20.72**	**288**	P	**P**	**04 22 24.0**	**+2.2**
	SNR=25						
GNI	**Garni**	**20.72**	**288**	*e*P	**P**	**04 22 24.0**	**+2.2**
GNI	**Garni**	**20.72**	**288**	P	**P**	**04 22 23.2**	**+1.4**
	comp=Z,12nm,0.5s,baz=350,slow=3.0,SNR=22						
RDF	**Al-Radifah**	**20.91**	**255**	*e*P	**P**	**04 22 23.6**	**-0.2**
RDF				AMb	AMB	04 22 27.0	
	comp=Z,233nm,0.6s						
NAY	**Al-Naaiem**	**21.01**	**257**	*e*P	**P**	**04 22 24.1**	**-0.7**
NAY				AMb	AMB	04 22 28.6	
	comp=Z,100nm,0.6s						
SHL	**Shillong**	**21.08**	**115**	*i* P	**P**	**04 22 26.0**	**+0.3**
SHL				AMB	AMB	04 22 28.8	
	comp=Z,153nm,0.4s						
SHL				*e*S	**S**	**04 26 08.5**	**+0.1**
GOA	**Goa**	**21.10**	**172**	*e*P	**P**	**04 22 26.6**	**+0.8**
NSR	**Nassriya**	**21.17**	**262**	*e*Pn	Px	04 23 07.8	
NSR				*e*SN4	Sx	04 25 14.9	
SVE	**Sverdlovsk**	**21.44**	**345**	⇓*i*P	**P**	**04 22 29.5**	**+0.5**
SVE				*e*S	**S**	**04 26 17.5**	**+3.9**
SVE				pmax	pmax		
	comp=Z,193nm,0.9s						
ZEI	**Tsey**	**21.57**	**295**	*e*P	**P**	**04 22 32.0**	**+1.3**
ZEI				pmax	pmax		
	comp=Z,17nm,0.6s						
ARU	**Arti**	**21.57**	**341**	*c i*P	**P**	**04 22 30.6**	**+0.3**
ARU						04 23 12.2	
ARU				S	**S**	**04 26 17.7**	**+2.1**
ARU				pmax	pmax		
	comp=Z,366nm,1.2s						
ARU	**Arti**	**21.57**	**341**	P	**P**	**04 22 30.0**	**-0.3**
	comp=Z,1μm,0.8s,SNR=44						
VIS	**Vishakhapatnam**	**21.75**	**146**	*e*P	**P**	**04 22 32.5**	**0.0**
BHD	**Baghdad**	**21.86**	**269**	*e*PN4	Px	04 23 42.3	
BHD				*e*SN4	**S**	**04 26 20.4**	**-0.3**
HVS	**Khovu-Aksy**	**21.96**	**41**	*c i*P	**P**	**04 22 35.9**	**+1.5**
HVS				pmax	pmax		
	comp=Z,519nm,0.6s						
KBZ	**Khabaz**	**22.43**	**297**	P	**P**	**04 22 39.2**	**+0.4**
KBZ				pmax	pmax		
	comp=Z,17nm,0.9s						
KBZ	**Khabaz**	**22.43**	**297**	P	**P**	**04 22 39.2**	**+0.4**
KBZ	**Khabaz**	**22.43**	**297**	P	**P**	**04 22 39.2**	**+0.4**
	comp=Z,17nm,0.9s,baz=124,slow=8.3,SNR=33						
GOF	**Gofitskoye**	**22.58**	**301**	⇓*i*P	**P**	**04 22 41.9**	**+1.8**
GOF				pmax	pmax		
	comp=Z,200nm,1.1s						
KIV	**Kislovodsk**	**22.62**	**298**	*c i*P	**P**	**04 22 40.9**	**+0.3**
KIV				*i*		04 23 14.5	
KIV				*e*S	**S**	**04 26 38.1**	**+5.1**
KIV				pmax	pmax		
	comp=Z,68nm,1.7s						
KIV				MLR	MLR		
	comp=Z,100nm,18.0s						
GTA	**Gaotai**	**23.04**	**74**	⇑P	**P**	**04 22 46.8**	**+2.3**
GTA				pP	**pP**	**04 23 23.0**	**+2.2**
GTA				sP	**sP**	**04 23 46.0**	**0.0**
GTA				S	**S**	**04 26 41.3**	**+1.3**
GTA				SS	SS	04 27 47.3	-37
GTA				ScP	**ScP**	**04 29 50.8**	**+4.8**
GTA				ScS	**ScS**	**04 33 29.9**	**-2.4**
GTA				pmax	pmax		
	comp=Z,120nm,0.7s						
GTA				pmax	pmax		
	comp=Z,380nm,5.0s						
GTA				LR	LR		
	comp=N,150nm,15.4s						
GTA				LR	LR		
	comp=E,160nm,14.0s						
GTA				LR	LR		
	comp=Z,99nm,15.7s						
RBK	**Rabkut**	**23.93**	**222**	P	**P**	**04 22 52.5**	**-0.1**
	SNR=13						
ABTO	**Aybut**	**24.55**	**224**	P	**P**	**04 23 00.5**	**+2.3**
	SNR=19						
SOC	**Sochi**	**24.70**	**296**	*e*P	**P**	**04 22 58.3**	**-1.0**
SOC				*e**PP	**pP**	**04 23 38.8**	**+0.3**
SOC				*e*S	**S**	**04 27 09.0**	**+3.0**
SOC				pmax	pmax		
	comp=Z,48nm,1.0s						
SOKR	**Solikamsk**	**24.82**	**343**	*c i*P	**P**	**04 23 01.6**	**+1.5**
SOKR				pmax	pmax		
	comp=Z,120nm,1.3s						
RAYN	**Ar Rayn**	**25.33**	**246**	P	**P**	**04 23 05.5**	**+0.3**
	comp=Z,474nm,0.6s,SNR=43						
RAYN	**Ar Rayn**	**25.33**	**246**	*e*P	**P**	**04 23 05.0**	**-0.2**
	comp=Z,62nm,0.9s						
VRHR	**Novokhopersk**	**25.39**

SONM ScP **ScP** **04 30 01.9 +0.3**
comp=Z,2.6nm,0.7s,baz=234,slow=4.6,SNR=4.1
ULN Ulaanbaatar 28.93 55 P **P** **04 23 39.0 +1.8**
SNR=12
ULN Ulaanbaatar 28.93 55 *e*P **P** **04 23 38.2 +1.0**
comp=Z,32nm,0.8s
ULN Ulaanbaatar 28.93 55 P **P** **04 23 38.5 +1.3**
comp=Z,51nm,0.9s,comp=Z,588nm
MMAI Mount Meron Ar 29.16 274 P **P** **04 23 41.0 +1.6**
MMAI PcP **PcP** **04 26 42.2 +0.7**
MMAI ScP **ScP** **04 30 03.9 -0.1**
MMAI Mount Meron Ar 29.16 274 P **P** **04 23 41.0 +1.6**
comp=Z,0.7nm,0.5s,baz=65,slow=6.8,SNR=4.3
MMAI PcP **PcP** **04 26 42.2 +0.7**
comp=Z,4.8nm,0.5s,baz=74,slow=6.2,SNR=12
MMAI ScP **ScP** **04 30 03.9 -0.1**
comp=Z,9.0nm,0.6s,baz=60,slow=5.0,SNR=20
BR131 Keskin Array S 29.26 288 *e*P **P** **04 23 40.9 +0.7**
comp=Z,3.9nm,0.6s
BR131 *e*PcP **PcP** **04 26 41.5 -0.3**
BR131 *e*ScP **ScP** **04 30 02.7 -1.6**
BRTR Keskin Array B 29.26 288 P **P** **04 23 40.7 +0.5**
BRTR pP **pP** **04 24 22.3 +1.3**
BRTR PcP **PcP** **04 26 41.3 -0.5**
BRTR ScP **ScP** **04 30 02.5 -1.7**
BRTR Keskin Array B 29.26 288 P **P** **04 23 40.7 +0.5**
comp=Z,4.3nm,0.6s,baz=105,slow=8.9,SNR=28
BRTR pP **pP** **04 24 22.3 +1.3**
comp=Z,4.4nm,0.7s,baz=97,slow=10,SNR=3.0
BRTR PcP **PcP** **04 26 41.3 -0.5**
comp=Z,2.5nm,0.7s,baz=135,slow=3.0,SNR=3.8
BRTR ScP **ScP** **04 30 02.5 -1.7**
comp=Z,2.0nm,0.9s,baz=130,slow=4.4,SNR=5.5
MOS Moscow 29.54 321 *e*P **P** **04 23 41.6 -0.7**
MOS *e* 04 24 46.4
MOS *e* 04 28 19.4
MOS pmax pmax
comp=Z,219nm,1.0s
MOS pmax pmax
comp=Z,300nm,1.3s
KMI Kunming 29.58 103 P **P** **04 23 43.6 +0.4**
KMI pP **pP** **04 24 27.5 +3.3**
KMI sP **sP** **04 24 49.1 +1.8**
KMI S **S** **04 28 24.8 +1.3**
KMI sS **sS** **04 29 35.9 -0.5**
KMI SS ScP 04 30 15.8 +10
KMI pmax pmax
comp=Z,13nm,0.9s
KMI LR LR
comp=N,170nm,14.3s
KMI LR LR
comp=E,220nm,15.3s
KMI LR LR
comp=Z,38nm,21.8s
OBN Obninsk 29.82 319*c i*P **P** **04 23 45.6 +0.9**
OBN *e* 04 24 29.7
OBN *i* 04 24 54.3
OBN pmax pmax
comp=Z,331nm,1.4s
CHTO Chiang Mai 30.39 118 *e*P **P** **04 23 51.0 +0.9**
CHTO *e* 04 26 44.3
CHTO pmax pmax
comp=Z,11nm,0.7s
CHTO Chiang Mai 30.39 118 *e*P **P** **04 23 51.0 +0.9**
comp=Z,11nm,0.7s
CHTO *e*PcP **PcP** **04 26 44.3 -0.6**
CHTO Chiang Mai 30.39 118 P **P** **04 23 52.0 +1.9**
comp=Z,20nm,0.7s
CHTO Chiang Mai 30.39 118 P **P** **04 23 51.7 +1.6**
comp=Z,20nm,0.7s
PALK Pallekele 30.48 160 *e*P **P** **04 23 52.4 +1.4**
comp=Z,51nm,1.0s
PALK Pallekele 30.48 160 P **P** **04 23 52.3 +1.4**
comp=Z,62nm,1.3s
CRAI Chiangrai 30.52 114 P **P** **04 23 50.4 -0.9**
comp=Z,21nm,0.8s,comp=Z,1μm
CM31 Chiang Mai Arr 30.62 118 *e*P **P** **04 23 52.7 +0.5**
comp=Z,6.3nm,0.5s
PAYA Payao 30.70 116 P **P** **04 23 53.8 +0.9**
comp=Z,8.0nm,0.8s,comp=Z,81nm
XAN Xi'an 31.11 83 P **P** **04 23 57.3 +0.8**
XAN pP **pP** **04 24 36.4 -1.1**
XAN S **S** **04 28 45.3 -1.7**
XAN sS sS 04 29 54.8 -5.3
XAN pmax pmax
comp=Z,25nm,1.0s
XAN pmax pmax
comp=Z,32nm,5.4s
KLMR Klimovskoe 31.39 331 *e*P **P** **04 23 57.0 -1.4**
KLMR pmax pmax
comp=Z,159nm,1.0s
NANT Nan 31.66 116 P **P** **04 24 01.0 -0.3**
comp=Z,82nm,0.8s
HHC Hu-ho-hao-te 31.94 70 *e*P **P** **04 24 04.4 +0.7**
HHC pP **pP** **04 24 43.8 -1.0**
HHC PP **PnPn** **04 25 18.3 +0.9**
HHC S **S** **04 29 00.0 +0.2**
HHC ScP **ScP** **04 30 14.4 +1.3**
HHC SS SS 04 31 07.8 -18
HHC ScS **ScS** **04 34 11.6 -0.5**
HHC pmax pmax
comp=Z,33nm,0.6s
HHC pmax pmax
comp=Z,270nm,5.3s
HHC LR LR
comp=N,530nm,13.5s
HHC LR LR
comp=E,900nm,13.6s
HHC LR LR
comp=Z,520nm,13.7s
GYA Guiyang 32.05 98⇑*i*P **P** **04 24 06.1 +1.3**
GYA pP **pP** **04 24 45.5 -0.5**
GYA sP **sP** **04 25 07.5 -1.6**
GYA PP **PP** **04 25 20.3 -1.1**
GYA PcP **PcP** **04 26 49.0 -0.4**
GYA S **S** **04 29 05.6 +3.8**
GYA sS **ScP** **04 30 11.9 -1.8**
GYA SS SS 04 31 10.8 -17
GYA ScS **ScS** **04 34 09.1 -4.0**
GYA pmax pmax
comp=Z,40nm,1.0s
GYA pmax pmax
comp=Z,210nm,5.6s
ENH Enshi 32.76 90 *e*P **P** **04 24 12.5 +1.6**
comp=Z,65nm,1.0s
ENH *e*PcP **PcP** **04 26 50.7 -0.5**
ENH *e*ScP **ScP** **04 30 14.5 -1.4**
AKASG Malin Array Be 32.80 309 P **P** **04 24 10.8 -0.1**
AKASG *PP **pP** **04 24 51.7 -0.4**
AKASG 04 25 27.8
AKASG 04 26 53.2
AKASG pmax pmax
comp=Z,31nm,0.6s
AKASG pmax pmax
comp=Z,8.0nm,0.6s
AKASG pmax pmax
comp=Z,13nm,0.7s
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG pmax pmax
comp=N,9.0nm,0.7s
AKASG Malin Array Be 32.80 309 P **P** **04 24 10.8 -0.1**
AKASG pP **pP** **04 24 51.7 -0.4**
AKASG PP **PnPn** **04 25 27.8 0.0**
AKASG PcP **PcP** **04 26 53.2 +2.3**
AKASG ScP **ScP** **04 30 14.3 -1.4**
AKASG Malin Array Be 32.80 309 P **P** **04 24 10.8 -0.1**
comp=N,31nm,0.6s,baz=80,slow=7.3,SNR=126
AKASG pP **pP** **04 24 51.7 -0.4**
comp=N,8.3nm,0.6s,baz=85,slow=7.1,SNR=2.6
AKASG PP **PnPn** **04 25 27.8 0.0**
comp=N,13nm,0.7s,baz=83,slow=10.0,SNR=7.7
AKASG PcP **PcP** **04 26 53.2 +2.3**
comp=N,0.8nm,0.5s,baz=68,slow=4.7,SNR=2.1
AKASG ScP **ScP** **04 30 14.3 -1.4**
comp=N,8.6nm,0.7s,baz=72,slow=4.2,SNR=14
KIEV Kiev 32.81 309 *e*P **P** **04 24 11.0 +0.1**
KIEV *e* 04 25 29.0
KIEV pmax pmax
comp=Z,32nm,0.6s
KIEV Kiev 32.81 309 *e*P **P** **04 24 11.0 +0.1**
comp=Z,32nm,0.6s
KIEV *e*PP **PP** **04 25 29.0 -0.3**
KIEV *e*ScP **ScP** **04 30 14.0 -1.7**
LOEI Loei 32.90 117 P **P** **04 24 14.7 +2.6**
comp=Z,53nm,0.8s
UTHA Uthaitani 32.94 122 P **P** **04 24 14.3 +1.8**
comp=Z,9.6nm,0.7s
PBKT Sadao Pong 33.31 119 P **P** **04 24 17.3 +1.6**
comp=Z,28nm,0.9s
PBKT Sadao Pong 33.31 119 P **P** **04 24 17.1 +1.4**
comp=Z,28nm,0.9s
CIT Chita 33.79 49 *e*P **P** **04 24 21.1 +1.6**
CIT *e* 04 25 04.9
CIT *e* 04 25 25.6
CIT pmax pmax
comp=Z,200nm,1.4s
TMCR Tamitsa 33.97 335 *e*P **P** **04 24 22.2 +1.5**
TMCR *e* 04 25 43.3
TMCR pmax pmax
comp=Z,186nm,1.3s
VRI Vrincioaia 34.06 300⇑P **P** **04 24 23.5 +1.6**
VRI Vrincioaia 34.06 300⇑*i*P **P** **04 24 23.5 +1.6**
PLOR Plostina 34.12 300⇑P **P** **04 24 24.1 +1.7**
PLOR Plostina 34.12 300⇑*i*P **P** **04 24 24.1 +1.7**
MICGM Minsk 34.37 315⇓*e*P **P** **04 24 24.0 -0.4**
MNK Minsk 34.40 315⇓*e*P **P** **04 24 24.0 -0.6**
MNK pmax pmax
comp=Z,320nm,1.0s
CHAI Chaiyaphum 34.48 118 P **P** **04 24 27.2 +1.5**
comp=Z,9.8nm,1.0s,comp=Z,147nm
MLR Muntele Rosu 34.62 299⇑*i*P **P** **04 24 28.9 +2.1**
PUL Pulkovo 34.80 325 *e*P **P** **04 24 28.3 +0.3**
PUL pmax pmax
comp=Z,172nm,0.5s
PHET Kaeng Krachan 34.96 125 P **P** **04 24 31.9 +2.0**
comp=Z,158nm,0.6s
PHET Kaeng Krachan 34.96 125 P **P** **04 24 31.8 +1.9**
comp=Z,158nm,0.6s
NACGM Naroch 35.08 316 *e* **P** **04 24 29.0 -1.5**
BURAR Bucovina Array 35.13 303⇓P **P** **04 24 32.3 +1.2**
BURAR Bucovina Array 35.13 303⇓*i*P **P** **04 24 32.3 +1.2**
BUR08 Bucovina Ar. S 35.14 303 *e*P **P** **04 24 31.6 +0.4**
SKNT Sakolnakorn 35.22 115 P **P** **04 24 32.6 +0.5**
comp=Z,56nm,1.1s,comp=Z,4μm
BJI Beijing 35.53 70 P **P** **04 24 35.6 +1.1**
BJI pmax pmax
comp=Z,26nm,0.9s
ARR Arges 35.54 299⇓*i*P **P** **04 24 35.9 +1.3**
JOF Joensuu 35.77 330 *e*P **P** **04 24 37.7 +1.5**
JOF pmax pmax
comp=Z,91nm,0.4s
JOF Joensuu 35.77 330 *e*p **P** **04 24 37.7 +1.5**
comp=Z,91nm,0.4s
LVV L'vov 36.01 307 *e*P **P** **04 24 39.1 +0.7**
LVV *e* 04 25 20.0
LVV *e* 04 26 05.8
VSU Vasula 36.07 322*c i*P **P** **04 24 39.3 +0.5**
VSU pmax pmax
comp=Z,532nm,1.0s
WHN Wuhan 36.58 86⇓P **P** **04 24 45.3 +1.8**
WHN ScP **ScP** **04 30 28.0 -1.6**
WHN pmax pmax
comp=Z,200nm,1.4s
VTS Vitosha 36.79 294⇑P P 04 24 49.5 +4.2
VTS Vitosha 36.79 294⇑*i*P P 04 24 49.5 +4.2
DRGR 36.84 302⇓P **P** **04 24 47.0 +1.4**
DRGR 36.84 302⇓*i*P **P** **04 24 47.0 +1.4**
KWP Kalwaria Pacla 36.86 306⇓P **P** **04 24 47.1 +1.4**
KWP Kalwaria Pacla 36.86 306 *e*P **P** **04 24 46.1 +0.5**
comp=Z,26nm,0.8s
KWP *e*PP **PP** **04 26 15.0 +1.2**
KWP Kalwaria Pacla 36.86 306⇓*i*P **P** **04 24 47.0 +1.4**
KWP Kalwaria Pacla 36.86 306 *e*P **P** **04 24 46.7 +1.1**
SUW Suwalki 36.98 314 *e*P **P** **04 24 46.6 +0.1**
UZH Uzhgorod 37.10 305 *e*P **P** **04 24 47.4 -0.3**
UZH *e* 04 25 31.6
UZH *e*S **S** **04 30 17.4 -1.1**
KOLS Kolonicke sedl 37.12 305 *e*P **P** **04 24 48.9 +1.0**
KOLS pmax pmax
comp=Z,10.0nm,1.0s
KOLS Kolonicke sedl 37.12 305 *e*P **P** **04 24 48.9 +1.0**
KOLS *e*pP **pP** **04 25 30.8 +1.0**
KOLS *e*PP **PP** **04 26 14.8 -2.0**
FIA1 FINESS Array S 37.38 326 *e*P **P** **04 24 50.3 +0.5**
FINES FINESS Array B 37.38 326 P **P** **04 24 50.5 +0.7**
FINES FINESS Array B 37.38 326 P **P** **04 24 50.5 +0.7**
comp=Z,82nm,0.6s,baz=117,slow=9.8,SNR=361
LVZ Lovozero 37.39 338*c i*P **P** **04 24 50.6 +0.7**
LVZ pmax pmax
comp=Z,148nm,1.1s
LVZ Lovozero 37.39 338 P **P** **04 24 50.8 +0.9**
comp=Z,675nm,0.8s,SNR=5.9
UBPT Khong Chiam 37.40 115 P **P** **04 24 52.7 +2.2**
comp=Z,20nm,0.9s
HIA Hailar 37.44 54 *e*P **P** **04 24 52.1 +1.5**
comp=Z,18nm,0.8s
KAF Kangasniemi 37.52 327 *e*P **P** **04 24 51.9 +0.9**
KAF pmax pmax
comp=Z,38nm,0.5s
KAF Kangasniemi 37.52 327 *e*p **P** **04 24 51.9 +0.9**
comp=Z,38nm,0.5s
APA Apatity 37.56 338⇑*i*P **P** **04 24 52.2 +0.9**
APA *i* *PP **pP** **04 25 35.8 +2.5**
APA pmax pmax
comp=Z,72nm,1.2s
APA MLR MLR
comp=Z,700nm,10.0s
BZS Buzias 37.65 300⇓P **P** **04 24 53.9 +1.6**
BZS Buzias 37.65 300⇓*i*P **P** **04 24 53.9 +1.6**
CRVS Cervenica-Dubn 37.66 305 *e*P **P** **04 24 53.0 +0.6**
CRVS pmax pmax
comp=Z,4.0nm,0.7s
CRVS Cervenica-Dubn 37.66 305 *e*P **P** **04 24 53.0 +0.6**
CRVS *e*PP **PnPn** **04 26 25.8 -0.4**
GVD Gavdhos 37.67 282 *e*P **P** **04 24 51.7 -0.9**
STHS Stebnicka Huta 37.81 306 *e*P **P** **04 24 53.8 +0.2**
STHS pmax pmax
comp=Z,6.0nm,0.7s
STHS Stebnicka Huta 37.81 306 *e*P **P** **04 24 53.8 +0.2**
STHS *e*PP **PP** **04 26 19.2 -5.0**
KRAB Krabi 38.23 130 P P 04 25 01.2 +3.7
comp=Z,32nm,0.6s
KECS Kecovo 38.31 304 *e*P **P** **04 24 58.9 +1.1**
KECS pmax pmax
comp=Z,4.0nm,0.7s
KECS Kecovo 38.31 304 *e*P **P** **04 24 58.9 +1.1**
KECS *e*PP **PP** **04 26 27.7 -1.9**
QIZ Qiongzhong 38.40 106 P **P** **04 24 59.9 +1.0**
QIZ S **S** **04 30 34.8 -3.8**
QIZ pmax pmax
comp=Z,13nm,1.2s
QIZ pmax pmax
comp=Z,150nm,7.8s
NIE Niedzica 38.41 306⇑*e*P **P** **04 25 00.2 +1.5**
NIE Niedzica 38.41 306 *e*P **P** **04 25 00.2 +1.5**
PSZ Piszkesteto 38.72 303⇓P **P** **04 25 02.7 +1.4**
PSZ Piszkesteto 38.72 303 *e*P **P** **04 25 01.4 +0.1**
comp=Z,9.3nm,0.8s
PSZ *e*PP **PP** **04 26 33.7 -0.5**
PSZ Piszkesteto 38.72 303⇓*i*P **P** **04 25 02.7 +1.4**
OJC Ojcow 38.75 307⇑*e*P **P** **04 25 01.8 +0.3**
OJC Ojcow 38.75 307 *e*P **P** **04 25 01.8 +0.3**
VYHS Vyhne 39.40 304 *e*P **P** **04 25 08.0 +1.1**
VYHS pmax pmax
comp=Z,3.0nm,0.9s
VYHS Vyhne 39.40 304 *e*P **P** **04 25 07.9 +1.1**
VYHS *e*pP **pP** **04 25 52.7 +3.4**
VYHS *e*sP **sP** **04 26 08.2 -3.9**
VYHS *e*PP **PP** **04 26 40.4 -1.1**
NJ2 Nanjing 39.66 82 *e*P **P** **04 25 10.1 +0.9**
NJ2 pmax pmax
comp=Z,20nm,0.6s
PKSM Moragy 39.68 301⇓P **P** **04 25 10.1 +1.0**
PKSM Moragy 39.68 301⇓*i*P **P** **04 25 10.1 +1.0**
OKC Ostrava-Krasne 39.82 307 *e*P **P** **04 25 11.3 +1.0**
OKC Ostrava-Krasne 39.82 307⇑*e*P **P** **04 25 11.3 +1.0**
OKC *e*SCP **ScP** **04 30 41.6 -0.1**
MORC Moravsky Berou 40.21 306 *e*P **P** **04 25 14.5 +1.0**
MORC *e* 04 26 46.5
MORC pmax pmax
comp=Z,14nm,0.6s
MORC Moravsky Berou 40.21 306 *e*P **P** **04 25 14.5 +1.0**
comp=Z,14nm,0.6s
MORC *e*PP **PP** **04 26 46.5 -3.8**
MORC *e*ScP **ScP** **04 30 42.8 -0.5**
SMOL Smolenice 40.34 305 *e*P **P** **04 25 15.0 +0.5**
SMOL Smolenice 40.34 305 *e*P **P** **04 25 15.0 +0.5**
GKP Gorka Klasztor 40.43 312 *e*P **P** **04 25 15.8 +0.6**
KRLC Kraliky 40.70 307 *e*P **P** **04 25 18.2 +0.7**
KRLC Kraliky 40.70 307⇑*e*P **P** **04 25 18.2 +0.7**
KRLC *e*SCP **ScP** **04 30 44.1 -1.1**
DPC Dobruska-Polom 40.98 307⇑*i*P **P** **04 25 20.8 +1.0**
DPC *e* 04 26 06.0
DPC *e* 04 27 01.3
DPC Dobruska-Polom 40.98 307⇑*i*P **P** **04 25 20.8 +1.0**
DPC *e*pP **pP** **04 26 06.0 +3.5**
DPC *e*PP **PP** **04 27 01.3 +2.7**
DPC *e*SCP **ScP** **04 30 46.1 -0.2**
DPC Dobruska-Polom 40.98 307 *e*P **P** **04 25 20.8 +1.0**
comp=Z,99nm,0.6s
KSP Ksiaz 40.99 308 *e*P **P** **04 25 20.5 +0.7**
KSP *e* 04 26 59.2
KSP Ksiaz 40.99 308 *e*P **P** **04 25 20.6 +0.7**
CLNS Chul'man 41.04 43 *e*P **P** **04 25 22.0 +1.8**
CLNS pmax pmax
comp=Z,45nm,0.9s
CLNS pmax pmax
comp=N,9.0nm,0.8s
CLNS pmax pmax
comp=E,31nm,1.1s
ARCES ARCESS Array B 41.07 338 P **P** **04 25 21.4 +1.1**
ARCES ARCESS Array B 41.07 338 P **P** **04 25 21.4 +1.1**
comp=E,82nm,0.7s,baz=108,slow=7.5,SNR=219
ARE0 ARCESS Array S 41.07 338 *e*P **P** **04 25 21.6 +1.4**
ARE0 ARCESS Array S 41.07 338 *e*P **P** **04 25 21.3 +1.0**
UPC Upice 41.18 308 *e*P **P** **04 25 22.3 +0.9**
UPC Upice 41.18 308⇑*e*P **P** **04 25 22.3 +0.9**
KOGS Kog 41.30 301 *i* P **P** **04 25 23.0 +0.6**
KOGS *i* pP **pP** **04 26 07.5 +2.4**
KOGS *i* 04 30 46.9
KULM Kulim 41.41 131 *e*P **P** **04 25 24.2 +0.5**
comp=E,36nm,1.3s
CONA Conrad Observa 41.42 304⇓*i*P **P** **04 25 24.2 +0.7**
comp=E,26nm,0.8s,SNR=21
CONA ⇓*e*PP **PP** **04 27 01.2 -2.1**
comp=E,24nm,1.3s
KTK1 Kautokeino 41.54 336 *e*P **P** **04 25 24.8 +0.7**
KTK1 AMB AMB 04 25 25.8
comp=Z,231nm,0.4s
TREC Trest 41.57 306 *e*P **P** **04 25 25.6 +1.0**
TREC Trest 41.57 306⇑*e*P **P** **04 25 25.6 +1.0**
TREC *e*SCP **ScP** **04 30 47.8 -0.8**
ARSA Arzberg 41.71 303⇑*i*P **P** **04 25 26.3 +0.5**
comp=Z,7.3nm,0.9s
CN2 Changchun 41.77 62 *e*P **P** **04 25 26.6 +0.3**
CN2 *e*PP **PP** **04 27 09.1 +2.0**
CN2 *e*S **S** **04 31 28.6 +0.4**
GOLS Golise 41.78 301 *e*P **P** **04 25 26.9 +0.5**
BSD Bornholm Skovb 41.88 315 *i* P **P** **04 25 26.7 -0.2**
BSD pmax pmax
comp=Z,35nm,1.0s
BSD Bornholm Skovb 41.88 315 *i* P **P** **04 25 26.7 -0.2**
comp=Z,35nm,0.9s
PERS Pernice 42.06 302 *e*P **P** **04 25 29.1 +0.5**
PERS *e*pP **pP** **04 26 13.8 +2.3**
PVCC Panska Ves 42.10 308⇑*e*PP PP 04 27 09.7 -0.7
PVCC *e*SCP **ScP** **04 30 47.9 -2.8**
BOJS Bojanci 42.11 300 *i* P **P** **04 25 29.6 +0.6**
BOJS *i* 04 30 50.4
SOKA Soboth 42.11 302⇑*i*P **P** **04 25 29.7 +0.6**
comp=Z,25nm,0.8s,SNR=22
PRU Pruhonice 42.14 307⇑*i*P **P** **04 25 30.0 +0.8**
PRU *e* 04 26 14.6
PRU *e* 04 27 10.5
PRU Pruhonice 42.14 307⇑*i*P **P** **04 25 30.0 +0.8**
PRU *e*pP **pP** **04 26 14.6 +2.5**
PRU *e*PP **PP** **04 27 10.5 -0.4**
PRU *e*SCP **ScP** **04 30 50.2 -0.7**
PRA Prague 42.21 307⇑P **P** **04 25 31.0 +1.3**
PDKS Podkum 42.21 301 *e*P **P** **04 25 30.1 +0.2**
PDKS *e*PcP **PP** **04 27 13.4 +1.6**
IPM Ipoh 42.28 132 *e*P **P** **04 25 31.2 +0.5**
comp=Z,28nm,0.7s
IPM *e*PP **PP** **04 27 13.0 -0.1**
IPM *e*PcP **PcP** **04 27 20.3 -0.3**
IPM *e*ScP **ScP** **04 30 49.2 -2.8**
IPM Ipoh 42.28 132 P **P** **04 25 31.4 +0.7**
comp=Z,39nm,0.8s
OBKA Obir 42.46 302⇑*i*P **P** **04 25 32.8 +0.9**
comp=Z,11nm,0.8s
BRG Berggiesshubel 42.48 308 *i* P **P** **04 25 32.8 +0.9**
comp=Z,19nm,0.7s
BRG *e*pP **pP** **04 26 15.3 +0.5**
comp=Z,11nm,1.0s
BRG *e*PP **PP** **04 27 14.7 +0.2**
comp=Z,11nm,1.4s
BRG *e*SCP **ScP** **04 30 51.5 -0.7**
comp=Z,8.7nm,0.8s
BRG S **S** **04 31 40.0 +1.7**
BRG Berggiesshubel 42.48 308 *e*P **P** **04 25 33.2 +1.3**
comp=Z,19nm,0.7s
BRG Berggiesshubel 42.48 308 *i* P **P** **04 25 32.8 +0.9**
BRG *e**PP **pP** **04 26 15.3 +0.5**
BRG *e* 04 27 14.7
BRG S **S** **04 31 40.0 +1.7**
BRG pmax pmax
comp=Z,19nm,0.7s
BRG pmax pmax
comp=Z,11nm,1.0s
BRG pmax pmax
comp=Z,11nm,1.4s
BRG pmax pmax
comp=N,9.0nm,0.8s
MOA Molln 42.50 304⇑*i*P **P** **04 25 32.5 +0.4**
comp=N,18nm,0.8s,SNR=14
RUE Ruedersdorf 42.52 311 *e*P **P** **04 25 32.9 +0.8**
comp=Z,19nm,0.7s
LJU Ljubljana 42.54 301 *i* P **P** **04 25 33.3 +0.8**
LJU *e*PP **PcP** **04 27 19.4 -1.6**
LJU *i* 04 30 52.3
CUC Castrocucco 42.73 292 *e*P **P** **04 25 34.6 +0.5**
comp=Z,32nm,0.8s
GEC2 GERESS Array S 42.78 305 *e*P **P** **04 25 35.3 +0.8**
comp=Z,6.0nm,1.0s
GEC2 GERESS Array S 42.78 305 *e*P **P** **04 25 35.3 +0.8**
GEC2 pmax pmax
comp=Z,6.0nm,1.0s
GEC2 GERESS Array S 42.78 305 *e*P **P** **04 25 35.2 +0.8**
GERES GERESS Array B 42.78 305 P **P** **04 25 34.6 +0.2**
GERES PP **PP** **04 27 16.2 -1.6**
GERES ScP **ScP** **04 30 52.5 -1.1**
GERES GERESS Array B 42.78 305 P **P** **04 25 34.6 +0.2**
comp=Z,2.9nm,0.7s,baz=80,slow=7.3,SNR=36
GERES PP **PP** **04 27 16.2 -1.6**
comp=Z,2.9nm,0.7s,baz=69,slow=8.9,SNR=6.3
GERES ScP **ScP** **04 30 52.5 -1.1**
comp=Z,2.5nm,0.7s,baz=99,slow=4.2,SNR=14
RGN Rugen 42.78 314 *e*P **P** **04 25 35.9 +1.7**
comp=Z,139nm,1.2s
KHC Kasperske Hory 42.83 306⇑*i*P **P** **04 25 35.0 +0.2**
KHC *e* 04 27 15.5
KHC Kasperske Hory 42.83 306⇑*i*P **P** **04 25 35.0 +0.2**
KHC *e*x x 04 27 08.5
KHC *e*PP **PP** **04 27 15.5 -2.8**
KHC *e*SCP **ScP** **04 30 52.4 -1.3**
KHC Kasperske Hory 42.83 306 *e*P **P** **04 25 35.2 +0.4**
comp=Z,15nm,1.6s
KHC *e*PP **PP** **04 27 16.3 -2.1**
KHC *e*ScP **ScP** **04 30 52.5 -1.2**
FBE Freiberg 42.85 308 *e*P **P** **04 25 36.4 +1.6**
comp=Z,18nm,0.8s
GSI Gunungsitoli 42.91 139 P **P** **04 25 37.8 +2.0**
comp=Z,119nm,0.7s
HFS Hagfors 42.95 322 P **P** **04 25 35.9 +0.3**
HFS Hagfors 42.95 322 P **P** **04 25 35.9 +0.3**
comp=Z,99nm,0.7s,baz=104,slow=9.7,SNR=236
VOY Vojsko 42.98 301 *e*P **P** **04 25 36.2 +0.1**
VOY *e* 04 25 45.2
CLL Collm 43.05 309 *e*P **P** **04 25 37.2 +0.8**
comp=Z,12nm,0.8s
CLL Collm 43.05 309⇑*i*P **P** **04 25 36.4 0.0**
CLL pmax pmax
comp=Z,13nm,0.9s
CLL Collm 43.05 309⇑*i*P **P** **04 25 36.4 0.0**
comp=Z,13nm,0.9s
CLL *e*pP **pP** **04 26 20.0 +0.5**
CLL *e*PP **PcP** **04 27 22.0 -0.6**
CLL *i* ScP **ScP** **04 30 53.6 -0.9**
comp=Z,6.0nm,1.1s
CADS Cadrg 43.06 301 *i* P **P** **04 25 36.9 +0.2**
MYKA Terra Mystica 43.07 302⇑*i*P **P** **04 25 37.3 +0.5**

comp=Z,9.1nm,0.8s
TRI Trieste 43.11 301 *e*P **P 04 25 37.0 0.0**
TRI Trieste 43.11 301 *e*P **P 04 25 37.0 0.0**
TRO Tromso 43.19 336 *e*P **P 04 25 39.9 +2.6**
KBA Koelnbreinsper 43.21 303⇑*i*P **P 04 25 38.4 +0.3**
comp=Z,14nm,1.1s,SNR=7.3
KBA ⇑*e*PcP **PP 04 27 22.7 +0.2**
comp=Z,20nm,1.7s
WET Wettzell 43.29 306 *e*P **P 04 25 39.5 +1.0**
comp=Z,8.0nm,1.4s
WET Wettzell 43.29 306 *e*P **P 04 25 39.5 +1.0**
WET pmax pmax
comp=Z,8.0nm,1.4s
COP Copenhagen 43.31 315 *i* P **P 04 25 39.9 +1.5**
COP pmax pmax
comp=Z,26nm,0.9s
COP Copenhagen 43.31 315 *i* P **P 04 25 39.9 +1.5**
comp=Z,26nm,0.9s
TANN Tannenbergstha 43.45 308 *e*P **P 04 25 41.0 +1.3**
comp=Z,10.0nm,0.9s
NKC Novy Kostel 43.47 307 *e*P **P 04 25 41.1 +1.2**
NKC Novy Kostel 43.47 307⇑*e*P **P 04 25 41.1 +1.2**
GUNZ Gunzen 43.53 308 *e*P **P 04 25 41.7 +1.3**
comp=Z,13nm,0.9s
WERD Werda 43.54 308 *e*P **P 04 25 41.6 +1.1**
comp=Z,9.0nm,0.8s
ROTZ Rotzenmuhle 43.67 307 *e*P **P 04 25 43.3 +1.9**
comp=Z,20nm,1.3s
MANZ Manzenberg 43.71 307 *e*P **P 04 25 43.4 +1.6**
comp=Z,10.0nm,0.9s
MOR8 Moi Rana 43.72 331⇑*i*P **P 04 25 41.5 -0.2**
MOR8 AMB AMB 04 25 42.8
comp=Z,246nm,0.6s
ABTA Abfaltersbach 43.82 302⇑*i*P **P 04 25 42.4 -0.4**
comp=Z,8.5nm,0.8s,SNR=7.2
NEUB Neuenburg 43.82 309 *e*P **P 04 25 43.7 +1.1**
comp=Z,25nm,0.8s
STEI Steigen 43.89 333 *e*P **P 04 25 43.9 +1.0**
STEI AMB AMB 04 25 44.9
comp=Z,108nm,0.8s
MOX Moxa 43.97 308 *e*P **P 04 25 45.0 +1.2**
comp=Z,11nm,0.8s
MOX Moxa 43.97 308 *e*P **P 04 25 45.0 +1.2**
MOX pmax pmax
comp=Z,11nm,0.8s
NC602 NORSAR Array S 44.08 323 *e*P **P 04 25 44.5 0.0**
FLOS Flostrand 44.19 331 *e*P **P 04 25 46.1 +0.8**
FLOS AMB AMB 04 25 47.2
comp=Z,198nm,1.7s
NB2 NORSAR Subarra 44.27 323 P **P 04 25 46.1 0.0**
comp=Z,142nm,0.9s,baz=96,slow=7.9
NB2 NORSAR Subarra 44.27 323 P **P 04 25 46.1 0.0**
baz=96,slow=7.9
NOA NORSAR Array B 44.27 323 P **P 04 25 45.9 -0.2**
NOA PP **PP 04 27 31.1 -2.2**
NOA NORSAR Array B 44.27 323 P **P 04 25 45.9 -0.2**
comp=Z,69nm,0.7s,baz=97,slow=7.8,SNR=306
NOA PP **PP 04 27 31.1 -2.2**
comp=Z,12nm,0.8s,baz=95,slow=9.7,SNR=3.8
GRF Grafenberg Arr 44.31 307 *e*P **P 04 25 48.4 +1.8**
comp=Z,13nm,0.8s
GRF Grafenberg Arr 44.31 307 *e*P **P 04 25 48.4 +1.8**
GRF pmax pmax
comp=Z,13nm,0.8s
GRFO Grafenberg 44.31 307 *e*P **P 04 25 48.0 +1.5**
GRFO Grafenberg 44.31 307 *e*P **P 04 25 48.0 +1.5**
STOK Stokkvaagen 44.32 331 *e*P **P 04 25 47.1 +0.8**
WTTA Wattenberg 44.34 303⇑*i*P **P 04 25 46.5 -0.5**
comp=Z,23nm,1.0s,SNR=9.7
NSS Namsos 44.40 328 *e*P **P 04 25 47.6 +0.7**
NSS AMB AMB 04 25 48.3
comp=Z,37nm,0.9s
NAO01 NORSAR Array S 44.41 323 *e*P **P 04 25 47.0 -0.1**
comp=Z,41nm,0.8s
NAO01 *e*PcP **PcP 04 27 26.9 -0.2**
NAO01 *e*PP **PP 04 27 33.2 -1.6**
OSL Oslo 44.42 321 *e*P **P 04 25 47.1 -0.1**
FUR Furstenfeldbru 44.46 305 *e*P **P 04 25 48.9 +1.2**
comp=Z,17nm,0.9s
FUR Furstenfeldbru 44.46 305 *e*P **P 04 25 48.9 +1.2**
FUR pmax pmax
comp=Z,17nm,0.9s
BSEG Bad Segeberg 44.55 313 *e*P **P 04 25 49.9 +1.6**
comp=Z,26nm,0.8s
BSEG Bad Segeberg 44.55 313 *e*P **P 04 25 49.9 +1.6**
BSEG pmax pmax
comp=Z,26nm,0.8s
LOF Lofoten 44.56 333 *e*P **P 04 25 48.6 +0.4**
LOF AMB AMB 04 25 49.5
comp=Z,85nm,1.1s
MDJ Mudanjiang 44.57 61 P **P 04 25 49.4 +0.8**
MDJ pmax pmax
comp=Z,8.0nm,0.6s
MDJ pmax pmax
comp=Z,350nm,6.3s
CLZ Clausthal 44.65 310 *e*P **P 04 25 50.4 +1.2**
comp=Z,14nm,0.9s
CLZ Clausthal 44.65 310 *e*P **P 04 25 50.4 +1.2**
CLZ pmax pmax
comp=Z,14nm,0.9s
MOTA Moosalm 44.69 303⇑*i*P **P 04 25 49.1 -0.6**
comp=Z,19nm,0.8s,SNR=18
SSLB Suanglung 44.75 92 *e*P **P 04 25 52.6 +2.2**
comp=Z,61nm,0.9s
NRDL Niedersach Rie 44.76 311 *e*P **P 04 25 51.4 +1.5**
comp=Z,18nm,0.8s
RETA Reutte 44.89 304⇑*i*P **P 04 25 51.0 -0.3**
comp=Z,6.8nm,0.7s
TBLU Trondheim 44.96 326 *e*P **P 04 25 51.6 +0.2**
TBLU AMB AMB 04 25 52.6
comp=Z,73nm,1.4s
KONO Kongsberg 44.97 321⇑*i*P **P 04 25 51.7 +0.2**
KONO AMB AMB 04 25 52.9
comp=Z,48nm,3.0s
KONO Kongsberg 44.97 321 *e*P **P 04 25 51.4 -0.1**
KONO *e* 04 27 28.8
KONO *e* 04 27 39.4
KONO pmax pmax
comp=Z,233nm,1.0s
KONO Kongsberg 44.97 321 *e*P **P 04 25 51.4 -0.1**
comp=Z,233nm,1.0s
KONO *e*PcP **PcP 04 27 28.8 -0.2**
KONO *e*PP **PP 04 27 39.4 -1.3**
UBBA Unterbreizbach 44.97 308 *e*P **P 04 25 52.6 +1.0**
comp=Z,8.0nm,0.6s
FETA Feichten 44.99 303⇑*i*P **P 04 25 51.5 -0.6**
comp=Z,12nm,0.7s,SNR=10
FETA ⇓*e*PcP **PcP 04 27 29.5 -0.2**
comp=Z,5.8nm,0.6s
KSAR Wonju Array Be 45.03 71 P **P 04 25 52.8 +0.4**
KSAR PcP **PcP 04 27 29.6 -0.1**
KSAR ScP **ScP 04 31 01.1 -1.7**
KSRS Korea Array 45.06 71 P **P 04 25 52.8 +0.2**
comp=Z,7.2nm,0.6s,baz=273,slow=6.9,SNR=23
KSRS PcP **PcP 04 27 29.6 -0.2**
comp=Z,8.6nm,0.9s,baz=290,slow=2.9,SNR=9.8
KSRS ScP **ScP 04 31 01.1 -1.8**
comp=Z,1.8nm,0.5s,baz=288,slow=3.8,SNR=4.8
MUD Monsted U'grnd 45.14 316⇓*i*P **P 04 25 54.5 +1.6**
MUD pmax pmax
comp=Z,16nm,1.1s
MUD Monsted U'grnd 45.14 316⇓*i*P **P 04 25 54.5 +1.6**
comp=Z,16nm,1.0s
YULB Yu-li 45.22 92 *e*P **P 04 25 55.8 +1.7**
comp=Z,39nm,0.8s
KLR Kul'dur 45.29 54 *e*P **P 04 25 51.6 -2.7**
KLR pmax pmax
comp=E,30nm,1.2s
KLR pmax pmax
comp=Z,43nm,1.2s
TWG Pinlang 45.31 93 *e*P **P 04 25 56.5 +1.7**
comp=Z,334nm,0.7s
HOMB Homborsund 45.49 319 *e*P **P 04 25 56.0 +0.3**
HOMB AMB AMB 04 25 57.2
comp=Z,69nm,1.4s
DAVA Damuels 45.52 304⇑*i*P **P 04 25 56.0 -0.3**
comp=Z,66nm,0.9s,SNR=21
BKNI Bangkinang 45.63 135 P **P 04 25 57.9 +0.6**
comp=Z,70nm,0.8s
STU Stuttgart 45.74 306 *e*P **P 04 25 58.9 +1.0**
comp=Z,14nm,0.8s
STU Stuttgart 45.74 306 *e*P **P 04 25 58.8 +1.0**
STU pmax pmax
comp=Z,15nm,0.7s
STU Stuttgart 45.74 306 *e*P **P 04 25 58.8 +1.0**
comp=Z,15nm,0.7s
VLC Villacollemand 45.75 299 *e*P **P 04 25 58.4 +0.4**
TIXI Tiksi 45.84 22*c i*P **P 04 25 59.1 +0.9**
TIXI pmax pmax
comp=Z,237nm,0.9s
TUE Stuetta 46.02 302 *e*P **P 04 25 59.2 -1.1**
comp=Z,8.9nm,0.6s
TNS Taunus Mts 46.03 308 *e*P **P 04 26 01.2 +1.1**
comp=Z,6.0nm,0.9s
TNS Taunus Mts 46.03 308 *e*P **P 04 26 01.2 +1.1**
TNS pmax pmax
comp=Z,6.0nm,0.9s
MYKOM Kota Tinggi 46.12 131 P **P 04 26 02.3 +1.2**
comp=Z,22nm,0.9s
MOL Molde 46.13 325 *e*P **P 04 26 00.6 +0.1**
SNART Snartemo 46.18 319 *e*P **P 04 26 02.0 +1.0**
IBBN Ibbenburen 46.21 311 *e*P **P 04 26 02.6 +1.2**
comp=Z,44nm,1.2s
PDSI Padang 46.33 137 P **P 04 26 03.2 +0.4**
comp=Z,153nm,0.7s
USRK Ussuriysk Arra 46.33 61 P **P 04 26 02.6 +0.2**
comp=Z,4.4nm,0.5s,baz=284,slow=7.7,SNR=14
BFO Black Forest 46.38 305 *e*P **P 04 26 02.2 -0.6**
BFO pmax pmax
comp=Z,7.0nm,0.9s
BFO Black Forest 46.38 305 *e*P **P 04 26 02.2 -0.6**
comp=Z,6.7nm,0.9s
ODD1 Odda 46.48 321 *e*P **P 04 26 04.4 +1.0**
ODD1 AMB AMB 04 26 07.1
comp=Z,65nm,1.3s
VLA Vladivostok 46.50 62*c i*P **P 04 26 04.6 +0.8**
VLA pmax pmax
comp=Z,71nm,1.5s
BLS5 Blasjo 46.56 321 *e*P **P 04 26 05.1 +1.1**
BLS5 AMB AMB 04 26 07.7
comp=Z,40nm,1.4s
BUG Bochum--Univer 46.61 310 *e*P **P 04 26 05.6 +1.1**
comp=Z,17nm,0.9s
LANF Langenberg 46.62 306 *e*P **P 04 26 05.2 +0.5**
HYA Hoyanger 46.71 323 *e*P **P 04 26 05.9 +0.8**
CDF Champ du Feu 47.06 305 *e*P **P 04 26 07.8 -0.4**
comp=Z,14nm,0.8s
CDF Champ du Feu 47.06 305 *e*P **P 04 26 07.8 -0.4**
CDF pmax pmax
comp=Z,14nm,0.8s
CDF Champ du Feu 47.06 305 *e*P **P 04 26 07.8 -0.4**
comp=Z,14nm,0.8s
PGF Pioggiola 47.10 297 *e*P **P 04 26 08.0 -0.6**
comp=Z,32nm,0.7s
PGF Pioggiola 47.10 297 *e*P **P 04 26 08.0 -0.6**
PGF pmax pmax
comp=Z,32nm,0.7s
PGF Pioggiola 47.10 297 *e*P **P 04 26 08.0 -0.6**
comp=Z,32nm,0.7s
RUND Rundenannen 47.11 322 *e*P **P 04 26 08.2 -0.1**
RUND AMB AMB 04 26 09.3
comp=Z,113nm,1.1s
BER Bergen 47.12 322 *e*P **P 04 26 09.0 +0.7**
ECH Echery 47.17 305 *e*P **P 04 26 08.8 -0.1**
ECH pmax pmax
comp=Z,6.0nm,0.9s
ECH Echery 47.17 305 *e*P **P 04 26 09.6 +0.6**
ECH Echery 47.17 305 *e*P **P 04 26 08.8 -0.1**
comp=Z,5.7nm,0.9s
EGD Espegrend 47.18 322 *e*P **P 04 26 08.6 -0.2**
EGD AMB AMB 04 26 09.6
comp=Z,121nm,1.4s
KMY Karmoy 47.19 320 *e*P **P 04 26 09.8 +1.0**
KMY AMB AMB 04 26 12.0
comp=Z,59nm,1.1s
ASK Askoy 47.19 322 *e*P **P 04 26 08.6 -0.2**
MOF Molkenrain 47.25 305 *e*P **P 04 26 09.3 -0.4**
SENIN Lac Senin/Sane 47.43 303 *e*P **P 04 26 10.8 -0.4**
HINF Hinteralfeld 47.44 305⇑*i*P **P 04 26 10.9 -0.2**
comp=Z,23nm,0.8s
HINF Hinteralfeld 47.44 305⇑*i*P **P 04 26 10.9 -0.2**
HINF pmax pmax
comp=Z,23nm,0.8s
HINF Hinteralfeld 47.44 305⇑*i*P **P 04 26 10.9 -0.2**
comp=Z,23nm,0.8s
SPA0 Spitsbergen Ar 47.45 347 *e*P **P 04 26 12.7 +2.0**
MEM Membach 47.52 309 P **P 04 26 11.7 +0.1**
comp=Z,8.7nm,1.1s
HABR Khabarovsk 47.57 54 *e*P **P 04 26 11.3 -0.6**
HABR *e**PP **pP 04 26 54.9 -0.9**
HABR *e* 04 27 37.6
HABR *e* 04 28 04.5
HABR *e*S **S 04 32 51.2 -0.2**
HABR *e**SS **sS 04 34 08.6 +0.3**
HABR *e*SS **SS 04 36 23.0 +1.3**
HABR pmax pmax
comp=Z,67nm,2.3s
HABR MLR MLR
comp=Z,80nm,17.0s
WLF Walferdange 47.58 307 P **P 04 26 12.4 +0.4**
comp=Z,16nm,1.7s
WLF Walferdange 47.58 307 *e*P **P 04 26 13.5 +1.5**
comp=Z,23nm,0.9s
WLF Walferdange 47.58 307 *e*P **P 04 26 12.8 +0.8**
WLF pmax pmax
comp=Z,26nm,0.9s
WLF Walferdange 47.58 307 *e*P **P 04 26 12.8 +0.8**
comp=Z,26nm,0.9s
HAU Haudompre 47.74 305⇑*i*P **P 04 26 13.3 -0.1**
comp=Z,16nm,0.6s
HAU Haudompre 47.74 305⇑*i*P **P 04 26 13.3 -0.1**
HAU pmax pmax
comp=Z,16nm,0.6s
HAU Haudompre 47.74 305⇑*i*P **P 04 26 13.3 -0.1**
comp=Z,16nm,0.6s
SAOF Saorge 47.78 300 *e*P **P 04 26 10.9 -2.8**
AUTN L'Aution 47.87 300 *e*P **P 04 26 14.8 +0.2**
SBF Sospel 47.89 299 *e*P **P 04 26 14.7 +0.1**
comp=Z,64nm,0.9s
SBF Sospel 47.89 299 *e*P **P 04 26 14.7 +0.1**
SBF pmax pmax
comp=Z,64nm,0.9s
SBF Sospel 47.89 299 *e*P **P 04 26 14.7 +0.1**
comp=Z,64nm,0.9s
THEF They Montfort 47.94 305 *e*P **P 04 26 14.7 -0.1**
LUCF Luceram 47.95 299 *e*P **P 04 26 15.0 -0.1**
TOUF Mont Tournerai 47.99 300 *e*P **P 04 26 15.2 -0.3**
LPG La Plagne 47.99 302⇑*i*P **P 04 26 15.7 +0.1**
comp=Z,37nm,0.6s
LPG La Plagne 47.99 302⇑*i*P **P 04 26 15.7 +0.1**
LPG pmax pmax
comp=Z,37nm,0.6s
LPG La Plagne 47.99 302⇑*i*P **P 04 26 15.7 +0.1**
comp=Z,37nm,0.6s
BCLA Clavier 47.99 308 P **P 04 26 16.2 +1.1**
LPL La Plagne 48.00 302⇑*i*P **P 04 26 15.8 +0.2**
comp=Z,29nm,0.7s
LPL La Plagne 48.00 302⇑*i*P **P 04 26 15.8 +0.2**
LPL pmax pmax
comp=Z,29nm,0.6s
LPL La Plagne 48.00 302⇑*i*P **P 04 26 15.8 +0.2**
comp=Z,29nm,0.6s
RSL Roselend 48.03 302 *e*P **P 04 26 15.8 0.0**
PAGF Fort de Pagny 48.05 306⇑*i*P **P 04 26 16.3 +0.6**
comp=Z,12nm,0.8s
PAGF Fort de Pagny 48.05 306⇑*i*P **P 04 26 16.3 +0.6**
comp=Z,12nm,0.8s
MVIF Mont Vial 48.08 300 *e*P **P 04 26 16.1 -0.1**
BNI Bardonecchia 48.14 301 *e*P **P 04 26 16.4 -0.2**
BNI pmax pmax
comp=Z,9.0nm,0.8s
BNI Bardonecchia 48.14 301 *e*P **P 04 26 16.4 -0.2**
comp=Z,9.4nm,0.8s
MBDF Montbardon 48.15 301 *e*P **P 04 26 16.3 -0.4**
comp=Z,33nm,0.7s
MBDF Montbardon 48.15 301 *e*P **P 04 26 16.3 -0.4**
MBDF pmax pmax
comp=Z,33nm,0.7s
MBDF Montbardon 48.15 301 *e*P **P 04 26 16.3 -0.4**
comp=Z,33nm,0.7s
CABF La Chapelle 48.20 303 *e*P **P 04 26 17.0 +0.1**
comp=Z,30nm,0.7s
CABF La Chapelle 48.20 303 *e*P **P 04 26 17.0 +0.1**
CABF pmax pmax
comp=Z,30nm,0.7s
CABF La Chapelle 48.20 303 *e*P **P 04 26 17.0 +0.1**
comp=Z,30nm,0.7s
GIVF Givet 48.35 308 *e*P **P 04 26 18.7 +0.8**
GIVF Givet 48.35 308 *e*P **P 04 26 18.7 +0.8**
GIVF Givet 48.35 308 *e*P **P 04 26 18.7 +0.8**
DOU Dourbes 48.49 308 P **P 04 26 19.6 +0.6**
MEZF Maizieres J'vi 48.50 306⇑*i*P **P 04 26 19.6 +0.5**
comp=Z,24nm,0.7s,baz=74
MEZF *e*pP **pP 04 27 05.2 +2.1**
MEZF Maizieres J'vi 48.50 306⇑*i*P **P 04 26 19.6 +0.5**
comp=Z,24nm,0.7s
MEZF *e*pP **pP 04 27 05.2 +2.1**
UCC Uccle 48.52 309 P **P 04 26 18.8 -0.3**
FRF La Foret Royal 48.52 299⇑*i*P **P 04 26 19.0 -0.3**
comp=Z,55nm,1.1s
FRF La Foret Royal 48.52 299⇑*i*P **P 04 26 19.0 -0.3**
FRF pmax pmax
comp=Z,55nm,1.1s
FRF La Foret Royal 48.52 299⇑*i*P **P 04 26 19.0 -0.3**
comp=Z,55nm,1.1s
SFTF Sexfontaines 48.56 306 *e*P **P 04 26 19.7 +0.1**
comp=Z,23nm,0.8s,baz=96
SFTF *e*pP **pP 04 27 05.5 +1.8**
SFTF Sexfontaines 48.56 306 *e*P **P 04 26 19.7 +0.1**
comp=Z,23nm,0.8s
SFTF *e*pP **pP 04 27 05.5 +1.8**
KBS Kingsbay 48.57 347⇑*i*P **P 04 26 20.7 +1.5**
KBS AMB AMB 04 26 22.1
comp=Z,187nm,1.2s
KBS Kingsbay 48.57 347*c i*P **P 04 26 20.8 +1.6**
KBS pmax pmax
comp=Z,154nm,1.1s
KBS Kingsbay 48.57 347 *e*P **P 04 26 19.7 +0.5**
comp=Z,108nm,0.9s
SNF Seneffe 48.62 309 P **P 04 26 20.5 +0.5**
KMBO Kilima Mbogo 48.69 227 *e*P **P 04 26 21.9 +0.6**
comp=Z,13nm,0.7s
KMBO Kilima Mbogo 48.69 227 P **P 04 26 22.3 +1.0**
comp=Z,12nm,0.6s,baz=36,slow=12,SNR=43
ORIF Oris-en-Rattie 48.72 301⇑*i*P **P 04 26 20.6 -0.4**
comp=Z,8.8nm,0.7s
ORIF Oris-en-Rattie 48.72 301⇑*i*P **P 04 26 20.6 -0.4**
ORIF pmax pmax
comp=Z,9.0nm,0.7s
ORIF Oris-en-Rattie 48.72 301⇑*i*P **P 04 26 20.6 -0.4**
comp=Z,8.8nm,0.7s
BAIF Baives 48.75 308⇑*i*P **P 04 26 21.8 +0.9**
comp=Z,30nm,0.8s
BAIF Baives 48.75 308⇑*i*P **P 04 26 21.8 +0.9**
BAIF pmax pmax
comp=Z,30nm,0.8s
BAIF Baives 48.75 308⇑*i*P **P 04 26 21.8 +0.9**
comp=Z,30nm,0.8s
KEST Kesra 48.86 288 P **P 04 26 22.6 +0.5**
KEST Kesra 48.86 288 P **P 04 26 22.6 +0.5**
comp=Z,5.4nm,0.7s,baz=298,slow=1.4,SNR=34
LOR Lormes 49.54 305⇑*i*P **P 04 26 26.6 -0.5**
comp=Z,4.3nm,0.6s
LOR Lormes 49.54 305⇑*i*P **P 04 26 26.6 -0.5**
comp=Z,4.3nm,0.6s
SSB Saint Sauveur 49.55 302 *e*P **P 04 26 26.8 -0.4**
SSB pmax pmax
comp=Z,13nm,0.7s
SSB Saint Sauveur 49.55 302 *e*P **P 04 26 26.8 -0.4**
comp=Z,13nm,0.7s
VIVF Saint-Julien-I 49.57 301⇑*i*P **P 04 26 27.3 0.0**
comp=Z,28nm,0.8s
VIVF Saint-Julien-I 49.57 301⇑*i*P **P 04 26 27.3 0.0**
VIVF pmax pmax
comp=Z,28nm,0.8s
VIVF Saint-Julien-I 49.57 301⇑*i*P **P 04 26 27.3 0.0**
comp=Z,28nm,0.8s
SMF Signal de Mont 49.70 304⇑*i*P **P 04 26 28.1 -0.1**
comp=Z,41nm,0.8s
SMF *e*pP **pP 04 27 14.0 +1.5**
SMF Signal de Mont 49.70 304⇑*i*P **P 04 26 28.1 -0.1**
SMF *e**PP **pP 04 27 14.0 +1.5**
SMF pmax pmax
comp=Z,41nm,0.8s
SMF Signal de Mont 49.70 304⇑*i*P **P 04 26 28.1 -0.1**
comp=Z,41nm,0.8s
SMF *e*pP **pP 04 27 14.0 +1.5**
SSF Saint Saulge 49.82 304⇑*i*P **P 04 26 28.8 -0.4**
comp=Z,3.9nm,0.6s
SSF Saint Saulge 49.82 304⇑*i*P **P 04 26 28.8 -0.4**
SSF pmax pmax
comp=Z,4.0nm,0.6s
SSF Saint Saulge 49.82 304⇑*i*P **P 04 26 28.8 -0.4**
comp=Z,3.9nm,0.6s
AVF Avril sur Loir 49.99 304⇑*i*P **P 04 26 30.2 -0.2**
comp=Z,43nm,0.8s
AVF *e*pP **pP 04 27 16.1 +1.4**
AVF Avril sur Loir 49.99 304⇑*i*P **P 04 26 30.2 -0.2**
AVF *e**PP **pP 04 27 16.1 +1.4**
AVF pmax pmax
comp=Z,43nm,0.8s
AVF Avril sur Loir 49.99 304⇑*i*P **P 04 26 30.2 -0.2**
comp=Z,43nm,0.8s
AVF *e*pP **pP 04 27 16.1 +1.4**
PLDF La Plantade 50.01 303 *e*P **P 04 26 30.1 -0.6**
AGO Saint Agoulin 50.32 303 *e*P **P 04 26 32.8 -0.1**
LASF Ste Croix 50.34 301⇑*i*P **P 04 26 33.3 +0.2**
comp=Z,42nm,0.9s
LASF *e*pP **pP 04 27 19.2 +1.8**
LASF Ste Croix 50.34 301⇑*i*P **P 04 26 33.3 +0.2**
comp=Z,42nm,0.9s
LASF *e*pP **pP 04 27 19.2 +1.8**
HYF Humbligny 50.35 305 *e*P **P 04 26 33.4 +0.3**
HYF Humbligny 50.35 305 *e*P **P 04 26 33.4 +0.3**
LRW Lerwick 50.38 322 *e*P **P 04 26 33.3 +0.3**
BGF Bois d'Agland 50.38 304 *e*P **P 04 26 33.1 -0.3**
BGF Bois d'Agland 50.38 304 *e*P **P 04 26 33.1 -0.3**
BGF Bois d'Agland 50.38 304 *e*P **P 04 26 33.1 -0.3**
KSM Kuching 50.48 124 *e*P **P 04 26 35.4 +1.0**
comp=Z,6.2nm,0.7s
TCF Toulx Ste Croi 50.88 304⇑*i*P **P 04 26 37.3 +0.2**
comp=Z,30nm,0.8s
TCF *e*pP **pP 04 27 23.3 +1.8**
TCF Toulx Ste Croi 50.88 304⇑*i*P **P 04 26 37.3 +0.2**
TCF *e**PP **pP 04 27 23.3 +1.8**
TCF pmax pmax
comp=Z,30nm,0.8s
TCF Toulx Ste Croi 50.88 304⇑*i*P **P 04 26 37.3 +0.2**
comp=Z,30nm,0.8s
TCF *e*pP **pP 04 27 23.3 +1.8**
SBUM Sibu 51.06 122 P **P 04 26 40.4 +1.6**
comp=Z,15nm,0.8s
CAF Calviac 51.34 302⇑*i*P **P 04 26 40.9 +0.3**
comp=Z,30nm,0.8s
CAF *e*pP **pP 04 27 26.9 +1.8**
CAF Calviac 51.34 302⇑*i*P **P 04 26 40.9 +0.3**
CAF *e**PP **pP 04 27 26.9 +1.8**
CAF pmax pmax
comp=Z,30nm,0.8s
CAF Calviac 51.34 302⇑*i*P **P 04 26 40.9 +0.3**
comp=Z,30nm,0.8s
CAF *e*pP **pP 04 27 26.9 +1.8**
KKM Kota Kinabalu 51.38 115 *e*P **P 04 26 41.7 +0.4**
comp=Z,78nm,1.3s
HPK Haverah Park 51.55 314 *e*P **P 04 26 41.9 0.0**
HPK AMB AMB 04 26 45.8
comp=Z,41nm,2.0s
RJF Les Rejaudoux 51.61 303⇑*i*P **P 04 26 42.9 +0.4**
comp=Z,12nm,0.7s
RJF Les Rejaudoux 51.61 303⇑*i*P **P 04 26 42.9 +0.4**
RJF pmax pmax
comp=Z,12nm,0.7s
RJF Les Rejaudoux 51.61 303⇑*i*P **P 04 26 42.9 +0.4**
comp=Z,12nm,0.7s
MTLF Montolieu 51.68 300⇑*i*P **P 04 26 43.1 0.0**
comp=Z,16nm,0.9s
MTLF Montolieu 51.68 300⇑*i*P **P 04 26 43.1 0.0**
MTLF pmax pmax
comp=Z,16nm,0.9s
MTLF Montolieu 51.68 300⇑*i*P **P 04 26 43.1 0.0**
comp=Z,16nm,0.9s
ESY Stoneypath 51.74 317 *e*P **P 04 26 43.2 -0.1**
MCD Coleburn Disti 51.80 319 *e*P **P 04 26 44.1 +0.4**
LDF La Druitiere 51.83 307 *e*P **P 04 26 43.8 -0.3**
LDF La Druitiere 51.83 307 *e*P **P 04 26 43.8 -0.3**
LDF La Druitiere 51.83 307 *e*P **P 04 26 43.8 -0.3**
FLN La Foliniere 52.02 307 *e*P **P 04 26 45.0 -0.4**
comp=Z,32nm,0.9s,baz=71
FLN La Foliniere 52.02 307 *e*P **P 04 26 45.0 -0.4**
FLN pmax pmax
comp=Z,32nm,0.9s
FLN La Foliniere 52.02 307 *e*P **P 04 26 45.0 -0.4**
comp=Z,32nm,0.9s
ECK Cauldkaine Hil 52.17 316 *e*P **P 04 26 46.3 -0.2**
ESK Eskdalemuir 52.19 316 *e*P **P 04 26 46.2 -0.4**
ESK AMB AMB 04 26 46.3

comp=Z,74nm,2.6s
ESK Eskdalemuir 52.19 316 *i* P **P 04 26 48.7 +2.1**
ESK Eskdalemuir 52.19 316 *e*P **P 04 26 46.4 -0.1**
comp=Z,19nm,1.0s
MVH1 Achvaich 52.23 319 *e*P **P 04 26 46.8 0.0**
LFF La Frestale 52.24 302 *e*P **P 04 26 47.4 +0.3**
comp=Z,17nm,0.6s
LFF *e*pP **pP 04 27 33.5 +1.7**
LFF La Frestale 52.24 302 *e*P **P 04 26 47.4 +0.3**
LFF *e**PP **pP 04 27 33.5 +1.7**
LFF pmax pmax
comp=Z,17nm,0.6s
LFF La Frestale 52.24 302 *e*P **P 04 26 47.4 +0.3**
comp=Z,17nm,0.6s
LFF *e*pP **pP 04 27 33.5 +1.7**
KESW Keswick, Cumbr 52.28 315 *e*P **P 04 26 47.4 +0.2**
KESW AMB AMB 04 26 51.3
comp=Z,63nm,3.8s
GRR Gorron 52.35 307⇑ *i*P **P 04 26 47.4 -0.5**
comp=Z,29nm,0.8s
GRR Gorron 52.35 307⇑ *i*P **P 04 26 47.4 -0.5**
GRR pmax pmax
comp=Z,29nm,0.8s
GRR Gorron 52.35 307⇑ *i*P **P 04 26 47.4 -0.5**
comp=Z,29nm,0.8s
MBAR Mbarara 52.36 234 P **P 04 26 47.4 -1.2**
comp=Z,78nm,0.6s,SNR=6.9
MFF Saint Martin d 52.37 305 *e*P **P 04 26 47.5 -0.5**
MFF *e*pP **pP 04 27 33.8 +1.1**
MFF Saint Martin d 52.37 305 *e*P **P 04 26 47.5 -0.5**
MFF *e**PP **pP 04 27 33.8 +1.1**
MFF Saint Martin d 52.37 305 *e*P **P 04 26 47.5 -0.5**
MFF *e*pP **pP 04 27 33.8 +1.1**
MDO Dochfour 52.41 319 *e*P **P 04 26 48.2 0.0**
HLM1 Long Mynd 52.60 312 *e*P **P 04 26 49.5 -0.2**
HLM1 AMB AMB 04 26 49.9
comp=Z,39nm,2.2s
EAB Aberfoyle 52.64 317 *e*P **P 04 26 49.9 0.0**
FOEL Foel Wylfa 52.70 313 *e*P **P 04 26 50.3 -0.2**
FOEL AMB AMB 04 26 52.7
comp=Z,35nm,2.2s
MCH1 Michaelchurch 52.79 312 *e*P **P 04 26 49.0 -2.1**
MCH1 AMB AMB 04 26 50.0
comp=Z,48nm,1.1s
PGBU Glenifferbraes 52.80 317 *e*P **P 04 26 50.7 -0.3**
PGBU AMB AMB 04 26 53.0
comp=Z,40nm,1.9s
KAC Achnashellach 52.90 319 *e*P **P 04 26 51.9 +0.1**
YSS Yuzh-Sakhalins 52.98 55⇓ *i*P **P 04 26 53.5 +1.0**
YSS pmax pmax
comp=Z,40nm,0.5s
WPM1 Penmaenmawr 53.03 314 *e*P **P 04 26 52.9 0.0**
EPF Esparros 53.09 300 *e*P **P 04 26 52.4 -1.1**
comp=Z,12nm,0.7s
EPF Esparros 53.09 300 *e*P **P 04 26 52.4 -1.1**
EPF pmax pmax
comp=Z,12nm,0.7s
EPF Esparros 53.09 300 *e*P **P 04 26 52.4 -1.1**
comp=Z,12nm,0.7s
KPL Plockton 53.12 319 *e*P **P 04 26 53.4 +0.1**
KPL AMB AMB 04 26 57.0
comp=Z,57nm,2.0s
MAJO Matsushiro 53.12 68 *e*P **P 04 26 52.7 -1.1**
MAJO pmax pmax
comp=Z,12nm,0.7s
MAJO Matsushiro 53.12 68 *e*P **P 04 26 52.7 -1.1**
comp=Z,12nm,0.7s
MAT Matsushiro 53.12 68 P **P 04 26 53.5 -0.3**
MJAR Matsushiro Arr 53.13 68 P **P 04 26 54.5 +0.7**
MJAR ScP **ScP 04 31 36.2 -1.2**
MJAR Matsushiro Arr 53.13 68 P **P 04 26 54.5 +0.7**
comp=Z,12nm,1.1s,baz=284,slow=10,SNR=14
MJAR ScP **ScP 04 31 36.2 -1.2**
comp=Z,1.8nm,0.7s,baz=268,slow=3.8,SNR=4.7
YRE Yr Eifl 53.40 313 *e*P **P 04 26 55.3 -0.2**
LPW Lampeter 53.40 312 *e*P **P 04 26 55.5 0.0**
LPW AMB AMB 04 26 58.6
comp=Z,210nm,2.4s
YRC Rhoscolyn 53.42 314 *e*P **P 04 26 55.8 +0.2**
SGMF Saint Gilles 53.48 307⇑ *i*P **P 04 26 56.1 -0.1**
SGMF Saint Gilles 53.48 307⇑ *i*P **P 04 26 56.1 -0.1**
SGMF Saint Gilles 53.48 307⇑ *i*P **P 04 26 56.1 -0.1**
MYLDM Lahad Datu 53.64 114 P **P 04 27 00.2 +2.5**
comp=Z,36nm,0.9s
ETSF Etsaut 53.75 300⇑ *i*P **P 04 26 58.5 +0.2**
comp=Z,23nm,0.5s
ETSF Etsaut 53.75 300⇑ *i*P **P 04 26 58.5 +0.2**
ETSF pmax pmax
comp=Z,23nm,0.5s
ETSF Etsaut 53.75 300⇑ *i*P **P 04 26 58.5 +0.2**
comp=Z,23nm,0.5s
ROSF Rostrenen 53.92 307⇑ *i*P **P 04 26 58.9 -0.4**
ROSF Rostrenen 53.92 307⇑ *i*P **P 04 26 58.9 -0.4**
ROSF Rostrenen 53.92 307⇑ *i*P **P 04 26 58.9 -0.4**
QUIF Quistinic 53.97 307 *e*P **P 04 26 59.1 -0.6**
comp=Z,27nm,1.0s
QUIF Quistinic 53.97 307 *e*P **P 04 26 59.1 -0.6**
QUIF pmax pmax
comp=Z,27nm,1.0s
QUIF Quistinic 53.97 307 *e*P **P 04 26 59.1 -0.6**
comp=Z,27nm,1.0s
SJPF Ste Jean 54.15 301⇑ *i*P **P 04 27 01.3 +0.2**
SJPF Ste Jean 54.15 301⇑ *i*P **P 04 27 01.3 +0.2**
SJPF Ste Jean 54.15 301⇑ *i*P **P 04 27 01.3 +0.2**
SEY Seymchan 54.52 34*c i*P **P 04 27 05.0 +1.6**
DAG Danmarks Havn 54.68 344⇑ *i*P **P 04 27 05.1 +0.8**
DAG pmax pmax
comp=Z,44nm,0.9s
DAG Danmarks Havn 54.68 344⇑ *i*P **P 04 27 05.1 +0.8**
comp=Z,53nm,0.9s
ERM Erimo 54.79 60⇑ *i*P **P 04 27 06.7 +1.0**
ERM pmax pmax
comp=Z,29nm,1.7s
ESDC Sonseca Array 57.29 298 P **P 04 27 23.1 -0.4**
ESDC pP **pP 04 28 09.2 +0.1**
ESDC ScP **ScP 04 31 54.8 -0.9**
ESDC Sonseca Array 57.29 298 P **P 04 27 23.1 -0.4**
comp=Z,5.5nm,0.6s,baz=59,slow=7.6,SNR=51
ESDC pP **pP 04 28 09.2 +0.1**
comp=Z,3.5nm,0.8s,baz=59,slow=7.7,SNR=2.2
ESDC ScP **ScP 04 31 54.8 -0.9**
comp=Z,0.2nm,0.4s,baz=30,slow=3.7,SNR=4.3
TAM Tamanrasset 57.35 276 *e*P **P 04 27 23.6 -0.7**
TAM pmax pmax
comp=Z,5.0nm,0.8s
TAM Tamanrasset 57.35 276 *e*P **P 04 27 23.6 -0.7**
comp=Z,4.8nm,0.8s
PAB San Pablo 57.62 298 *e*P **P 04 27 26.0 +0.2**
PAB pmax pmax
comp=Z,378nm,1.8s
PAB San Pablo 57.62 298 *e*P **P 04 27 26.0 +0.2**
comp=Z,378nm,1.8s
BORG Borgarnes 58.51 330 *e*P **P 04 27 33.6 +2.1**
comp=Z,134nm,1.4s
MVO Moncorvo 58.87 300 *e*P **P 04 27 35.3 +0.8**
comp=Z,17nm,2.0s
MRSI Marisa 59.33 115 P **P 04 27 38.9 +1.0**
comp=Z,118nm,1.0s,comp=Z,2μm
MMSI Mamuju 59.37 120 P **P 04 27 39.4 +1.2**
comp=Z,85nm,0.7s
PGAV Gavieira, Arco 59.41 302 *e*P **P 04 27 38.7 +0.5**
comp=Z,24nm,1.4s
ABPO Ambohimpanom 59.53 206 *e*P **P 04 27 40.0 +0.7**
ABPO pmax pmax
comp=Z,13nm,0.6s
ABPO Ambohimpanom 59.53 206 *e*P **P 04 27 40.0 +0.7**
comp=Z,13nm,0.6s
MTE Manteigas 59.54 300 *e*P **P 04 27 39.6 +0.5**
comp=Z,23nm,1.1s
MTE *i*P x 04 28 01.3
PVIS Viseu 59.65 300 *e*P **P 04 27 40.4 +0.6**
comp=Z,15nm,1.4s
PCBR Castelo Branco 59.72 299 *e*P **P 04 27 40.8 +0.6**
comp=Z,20nm,1.5s
PCBR *i*P x 04 28 01.1
PMRV Marv??o 59.82 299 *e*P **P 04 27 41.5 +0.5**
comp=Z,14nm,1.8s
PBAR Barrancos 60.09 297 *e*P **P 04 27 43.0 +0.2**
comp=Z,27nm,1.0s
PEA0B Petropavlovsk- 60.10 44 *e*P **P 04 27 42.3 -0.2**
PETK Petropavlovsk- 60.10 44 P **P 04 27 42.6 0.0**
PETK pmax pmax
comp=Z,6.0nm,0.5s
PETK Petropavlovsk- 60.10 44 P **P 04 27 42.6 0.0**
PETK Petropavlovsk- 60.10 44 P **P 04 27 42.6 0.0**
comp=Z,4.9nm,0.6s,baz=256,slow=5.0,SNR=18
PESTR Estremoz 60.19 298 *e*P **P 04 27 43.5 0.0**
comp=Z,18nm,1.0s
PCAS Casmilo, Conde 60.34 300 *e*P **P 04 27 44.1 -0.4**
comp=Z,12nm,1.3s
PTOM Tomar 60.46 299 *e*P **P 04 27 45.8 +0.5**
comp=Z,36nm,1.1s
EVO Evora 60.63 298 *e*P **P 04 27 46.7 +0.2**
comp=Z,35nm,1.2s
EVO Evora 60.63 298 *e*P **P 04 27 46.7 +0.2**
comp=Z,29nm,1.2s
EVOP Sao Brissos 60.72 298 *e*P **P 04 27 46.7 -0.3**
EVOP pmax pmax
comp=Z,35nm,1.2s
EVOP Sao Brissos 60.72 298 *e*P **P 04 27 46.7 -0.3**
comp=Z,35nm,1.2s
PBEJ Beja 60.74 297 *e*P **P 04 27 48.0 +0.8**
comp=Z,15nm,0.8s
PVAQ Vaqueiros 60.90 297 *e*P **P 04 27 48.9 +0.6**
comp=Z,29nm,0.8s
SUMG Summit 61.00 341 *e*P **P 04 27 49.6 +0.7**
SUMG *e* 04 30 04.3
SUMG pmax pmax
comp=Z,102nm,1.1s
SUMG Summit 61.00 341⇑ *i*P **P 04 27 50.3 +1.5**
SUMG pmax pmax
comp=Z,50nm,0.9s
SUMG Summit 61.00 341⇑ *i*P **P 04 27 50.3 +1.5**
comp=Z,50nm,0.9s
SUMG Summit 61.00 341 *e*P **P 04 27 49.6 +0.7**
comp=Z,102nm,1.1s
SUMG *e*PP **PP 04 30 04.3 -0.9**
PBDV Barranco-do-Ve 61.12 297 *e*P **P 04 27 49.6 -0.2**
comp=Z,46nm,1.9s
PNCL Nicolau / Gran 61.18 298 *e*P **P 04 27 51.0 +0.9**
comp=Z,22nm,1.6s
PNCL *i*P x 04 28 00.1
PTEO Sao Teotonio 61.56 297 *e*P **P 04 27 53.7 +1.0**
KAPI Kappang 61.62 121 *e*P **P 04 27 53.0 -0.2**
comp=Z,23nm,1.2s
PFVI Vila Bisbo 61.82 297 *e*P **P 04 27 55.1 +0.7**
comp=Z,46nm,1.4s
TNTI Ternate 63.16 111 P **P 04 28 04.3 +0.7**
LSZ Lusaka 65.32 226 *e*P **P 04 28 18.0 +0.4**
comp=Z,8.6nm,0.8s
TORD Torodi Ar. Bea 65.53 268 P **P 04 28 17.6 -1.3**
TORD pP **pP 04 29 05.3 -0.4**
TORD Torodi Ar. Bea 65.53 268 P **P 04 28 17.6 -1.3**
comp=Z,72nm,0.6s,baz=49,slow=5.8,SNR=510
TORD pP **pP 04 29 05.3 -0.4**
comp=Z,3.9nm,0.5s,baz=48,slow=5.9,SNR=1.3
ILULI Ilulissat 66.34 341⇑ *i*P **P 04 28 24.2 +1.0**
ILULI pmax pmax
comp=Z,28nm,0.9s
SFJD Kangerlussuaq 67.69 339 *i*P **P 04 28 32.2 +0.4**
comp=Z,8.7nm,1.0s
FX1 Attu Island--F 68.51 40 *e*P **P 04 28 37.0 -0.2**
RES Resolute Bay 68.69 356 *e*P **P 04 28 36.3 -1.5**
comp=Z,34nm,1.3s
PMAR Madeira 69.75 296 *e*P **P 04 28 45.6 +0.2**
comp=Z,72nm,1.7s
NRS Narsarsuaq 69.78 332 *i*P **P 04 28 45.7 +0.9**
NRS pmax pmax
comp=Z,25nm,0.8s
PMOZ Porto Moniz, M 69.90 296 *e*P **P 04 28 47.5 +1.3**
comp=Z,80nm,1.9s
COLD Coldfoot 72.02 16 *e*P **P 04 28 59.0 +0.8**
comp=Z,79nm,1.0s
IMA2 Indian Mountai 72.17 17 *e*P **P 04 28 59.4 +0.1**
IMA2 *e*PcP **PcP 04 29 16.3 0.0**
IMA2 *e*PP **PP 04 31 39.8 -2.0**
IM04 Indian Mountai 72.23 18 *e*P **P 04 28 59.3 -0.2**
AMKA Amchitka 72.48 39 *e*P **P 04 29 01.4 +0.2**
comp=Z,69nm,0.6s
MBWA Marble Bar 73.67 133 *e*P **P 04 29 08.1 -0.4**
comp=Z,14nm,0.9s
INK Inuvik 73.93 9 *e*P **P 04 29 10.3 +0.9**
comp=Z,67nm,0.6s
BPAW Bear Paw Mtn. 74.45 18 *e*P **P 04 29 12.7 +0.2**
comp=Z,66nm,1.1s
DBIC Dimbokro 74.51 267 *e*P **P 04 29 12.2 -1.4**
comp=Z,21nm,0.8s
DBIC *e*pP **pP 04 30 01.6 +0.2**
DBIC PKKP **PKKPdf 04 48 20.9 -2.7**
DBIC Dimbokro 74.51 267 P **P 04 29 12.3 -1.2**
comp=Z,17nm,0.7s,baz=37,slow=7.3,SNR=30
DBIC pP **pP 04 30 02.2 +0.7**
comp=Z,5.4nm,0.6s,baz=34,slow=8.0,SNR=2.9
DBIC PKKP **PKKPdf 04 48 20.9 -2.7**
comp=Z,2.8nm,0.9s,baz=226,slow=7.5,SNR=3.0
COLA College 74.53 16 *e*P **P 04 29 13.3 +0.5**
COLA pmax pmax
comp=Z,497nm,1.1s
COLA College 74.53 16 *e*P **P 04 29 13.3 +0.5**
comp=Z,497nm,1.1s
LBTB Lobatse 74.55 222 *e*P **P 04 29 13.9 +0.2**
comp=Z,14nm,0.6s
KIC Kosan Boka 74.60 267 *e*P **P 04 29 12.7 -1.4**
comp=Z,51nm,0.8s
TIC Toumodi 74.66 267 *e*P **P 04 29 12.8 -1.7**
comp=Z,21nm,0.3s
TSUM Tsumeb 74.77 232 *e*P **P 04 29 15.1 +0.1**
comp=Z,17nm,0.7s
ILAR Eielson Array 74.83 16 P **P 04 29 14.6 0.0**
ILAR pP **pP 04 30 03.5 +1.0**
ILAR PP **PP 04 32 03.0 -1.1**
ILAR Eielson Array 74.83 16 P **P 04 29 14.6 0.0**
comp=Z,25nm,0.9s,baz=317,slow=4.5,SNR=139
ILAR pP **pP 04 30 03.5 +1.0**
comp=Z,2.8nm,0.9s,baz=339,slow=4.8,SNR=1.6
ILAR PP **PP 04 32 03.0 -1.1**
comp=Z,1.8nm,0.7s,baz=312,slow=5.8,SNR=3.4
LIC Lamto 74.91 267 *e*P **P 04 29 14.4 -1.5**
comp=Z,37nm,0.6s,baz=53
LIC Lamto 74.91 267 *e*P **P 04 29 14.1 -1.8**
comp=Z,64nm,0.6s
LIC Lamto 74.91 267 *e*P **P 04 29 14.4 -1.5**
comp=Z,37nm,0.6s
FITZ Fitzroy Crossi 75.04 126 *e*P **P 04 29 16.1 -0.4**
comp=Z,36nm,1.1s
PPLA Purkeypile 75.14 19 *e*P **P 04 29 16.8 +0.2**
comp=Z,30nm,0.7s
MCK McKinley 75.25 17 *e*P **P 04 29 16.8 -0.3**
MCK *e* 04 29 29.6
MCK *e* 04 32 04.4
MCK pmax pmax
comp=Z,20nm,0.6s
MCK McKinley 75.25 17 *e*P **P 04 29 16.8 -0.3**
comp=Z,20nm,0.6s
MCK *e*PcP **PcP 04 29 29.6 +0.1**
MCK *e*PP **PP 04 32 04.4 -3.3**
EGAK Eagle 75.99 14 *e*P **P 04 29 21.1 -0.1**
comp=Z,56nm,1.2s
PAX Paxson 76.71 16 *e*P **P 04 29 25.4 0.0**
PAX *e* 04 32 19.0
PAX pmax pmax
comp=Z,99nm,1.1s
PAX Paxson 76.71 16 *e*P **P 04 29 25.4 0.0**
comp=Z,99nm,1.1s
PAX *e*PP **PP 04 32 19.0 -1.0**
DAWY Dawson 76.96 13 *e*P **P 04 29 27.1 +0.4**
DAWY *e*PP **PP 04 32 21.6 -0.5**
RSO Redoubt South 77.00 20 *e*P **P 04 29 27.8 +0.6**
comp=Z,95nm,1.0s
PMR Palmer 77.03 18 *e*P **P 04 29 26.6 -0.4**
PMR pmax pmax
comp=Z,39nm,1.0s
PMR Palmer 77.03 18 *e*P **P 04 29 26.6 -0.4**
comp=Z,40nm,1.0s
MENT Mentasta 77.12 15 *e*P **P 04 29 27.9 +0.3**
BOSA Boshof 77.63 220 *e*P **P 04 29 30.9 0.0**
comp=Z,17nm,0.8s
BOSA pP **pP 04 30 20.6 +1.4**
BOSA Boshof 77.63 220 P **P 04 29 31.1 +0.2**
comp=Z,14nm,0.6s,baz=50,slow=5.4,SNR=25
BOSA pP **pP 04 30 20.6 +1.4**
comp=Z,8.1nm,0.8s,baz=32,slow=9.1,SNR=2.4
SEW Seward 78.21 19 *e*P **P 04 29 33.5 0.0**
comp=Z,67nm,1.3s
SEW *e*PP **PP 04 32 31.0 -1.3**
DIV Divide 78.25 17 *e*P **P 04 29 34.8 +0.9**
comp=Z,64nm,0.9s
CHGN Chignik 78.57 25 *e*P **P 04 29 35.4 -0.2**
BMRM Bremner River 78.67 17 *e*P **P 04 29 37.3 +1.1**
comp=Z,23nm,0.8s
BMRM *e*PP **PP 04 32 37.0 +0.8**
KDAK Kodiak Island 79.27 22 P **P 04 29 40.9 +1.5**
comp=Z,708nm,0.7s,SNR=22
KDAK Kodiak Island 79.27 22 *e*P **P 04 29 39.8 +0.4**
comp=Z,120nm,0.9s
OHAK Old Harbor 79.52 23 *e*P **P 04 29 41.5 +0.8**
comp=Z,129nm,1.1s
OHAK *e*PP **PP 04 32 42.5 -0.8**
HYT Haines Junctio 80.30 14 *e*P **P 04 29 46.0 +0.9**
HYT *e*PP **PP 04 32 49.2 -0.5**
YKW3 Yellowknife Ar 81.19 3 *e*P **P 04 29 49.5 -0.1**
comp=Z,1.6nm,1.2s
YKA Yellowknife Ar 81.25 3 P **P 04 29 50.5 +0.5**
YKA pP **pP 04 30 41.1 +2.6**
YKA PP **PP 04 32 56.4 -1.0**
YKA Yellowknife Ar 81.25 3 P **P 04 29 50.4 +0.5**
comp=Z,20nm,0.5s,baz=350,slow=5.3,SNR=85
YKA pP **pP 04 30 41.1 +2.6**
comp=Z,6.2nm,0.6s,baz=350,slow=5.6,SNR=2.9
YKA PP **PP 04 32 56.4 -1.0**
comp=Z,6.3nm,1.0s,baz=355,slow=7.6,SNR=4.5
SKAG Skagway 81.97 13 *e*P **P 04 29 55.3 +1.6**
comp=Z,26nm,0.8s
SCHQ Schefferville 82.02 337 P **P 04 29 54.3 +0.2**
SCHQ Schefferville 82.02 337 P **P 04 29 54.3 +0.2**
comp=Z,14nm,0.8s,baz=48,slow=4.1,SNR=9.6
WRA Warramunga Arr 82.15 122 P **P 04 29 54.2 -1.0**
WRA Warramunga Arr 82.15 122 P **P 04 29 54.2 -1.0**
comp=Z,32nm,0.7s,baz=320,slow=5.0,SNR=309
WRAB Tennant Creek 82.15 122 P **P 04 29 54.0 -1.2**
comp=Z,328nm,0.7s,SNR=58
WRAB Tennant Creek 82.15 122 *e*P **P 04 29 54.0 -1.2**
WRAB pmax pmax
comp=Z,42nm,0.8s
WRAB Tennant Creek 82.15 122 *e*P **P 04 29 54.0 -1.2**
comp=Z,42nm,0.8s
SUR Sutherland 82.94 221 *e*P **P 04 30 00.0 +0.8**
comp=Z,25nm,0.8s
DLBC Dease Lake 83.83 11 *e*P **P 04 30 04.2 +0.8**
FCC Fort Churchill 84.25 352 *e*P **P 04 30 05.8 +0.4**
FCC pmax pmax
comp=Z,1.0nm,0.9s
FCC Fort Churchill 84.25 352 *e*P **P 04 30 05.8 +0.4**
comp=Z,1.0nm,0.9s
AS31 Alice Springs 84.41 125 *e*P **P 04 30 05.5 -1.2**
ASAR Alice Springs 84.41 125 P **P 04 30 05.8 -0.9**
ASAR S S 04 40 04.8 -11
ASAR Alice Springs 84.41 125 P **P 04 30 05.8 -0.9**
comp=Z,23nm,0.7s,baz=310,slow=5.1,SNR=363
ASAR S S 04 40 04.8 -11
comp=Z,1.2nm,0.7s,baz=317,slow=6.8,SNR=13
COEN Coen 84.58 112 *e*P **P 04 30 06.7 -1.0**
comp=Z,103nm,0.6s
PMG Port Moresby 84.78 106 *e*P **P 04 30 08.3 -0.5**
comp=Z,63nm,1.2s
PMG Port Moresby 84.78 106 P **P 04 30 08.6 -0.2**
comp=Z,29nm,1.0s,baz=326,slow=7.8,SNR=4.0
WRAK Wrangell Islan 85.38 13 *e*P **P 04 30 12.5 +1.4**
comp=Z,39nm,0.8s
FORT Forrest 85.80 133 *e*P **P 04 30 12.1 -1.4**
comp=Z,22nm,0.6s
FFC Flin Flon 88.92 356 P **P 04 30 28.9 +0.8**
comp=Z,200nm,0.8s,SNR=6.7
FFC Flin Flon 88.92 356 *e*P **P 04 30 28.7 +0.6**
FFC pmax pmax
comp=Z,131nm,1.3s
FFC Flin Flon 88.92 356 *e*P **P 04 30 28.7 +0.6**
comp=Z,131nm,1.3s
EDM Edmonton 90.58 2 *e*P **P 04 30 36.6 +0.7**
EDM Edmonton 90.58 2 *e*P **P 04 30 36.6 +0.7**
CTAO Charters Tower 90.71 114 *e*P **P 04 30 35.9 -1.0**
CTAO *e**PP **pP 04 31 26.0 -0.5**
CTAO pmax pmax
comp=Z,25nm,0.8s
CTAO Charters Tower 90.71 114 *e*P **P 04 30 35.9 -1.0**
comp=Z,25nm,0.8s
CTAO *e*pP **pP 04 31 26.0 -0.5**
MCW Mount Constitu 94.33 9 P **P 04 30 54.6 +1.3**
MCW Mount Constitu 94.33 9 P **P 04 30 54.6 +1.3**
A29A Manning Farm, 94.49 353⇑ P **P 04 30 54.2 +0.2**
baz=94
A27A Ledoux Ranch, 94.62 355⇓ P **P 04 30 55.1 +0.5**
baz=94
WALA Waterton Lakes 94.71 3 *e*P **P 04 30 55.0 -0.1**
comp=Z,0.6nm,0.8s
RPW Rockport 94.72 8 P **P 04 30 55.6 +0.5**
AGMN Agassiz Nation 94.74 351 *e*P **P 04 30 55.0 -0.1**
comp=Z,15nm,1.2s
OBC Olympics--Boni 94.80 10 P **P 04 30 57.6 +2.1**
A24A Westby 94.82 357⇑ P **P 04 30 56.7 +1.1**
baz=94
A23A Redstone 94.83 357⇓ P **P 04 30 56.7 +1.1**
baz=94
A22A Carney Farms, 94.83 358⇑ P **P 04 30 56.6 +1.0**
baz=94
A21A Bergtoll Ranch 94.86 358⇑ P **P 04 30 56.8 +1.1**
baz=94,SNR=7.4
B30A Myrvik Farm, E 94.87 353⇓ P **P 04 30 55.9 +0.2**
baz=94
JCW Jim Creek 94.92 8 P **P 04 30 57.0 +1.0**
STKA Stephens Creek 94.94 126 P **P 04 30 54.9 -1.2**
STKA Stephens Creek 94.94 126 P **P 04 30 54.9 -1.2**
comp=Z,2.5nm,0.5s,baz=10,slow=3.7,SNR=9.3
A19A Klindworth Far 94.94 360⇓ P **P 04 30 57.0 +0.8**
baz=95,SNR=6.5
B29A Wagenman Farm, 94.95 353⇓ P **P 04 30 56.5 +0.4**
baz=95
B27A Peters Farms, 95.17 355⇓ P **P 04 30 58.2 +1.1**
baz=95
B26A Jensen Ranch, 95.27 355⇑ P **P 04 30 58.8 +1.2**
baz=95
NEW Newport 95.32 5 *e*P **P 04 30 58.3 +0.5**
comp=Z,14nm,1.0s
NEW Newport 95.32 5⇑ P **P 04 30 58.6 +0.8**
baz=95,SNR=13
HDW Hoodsport 95.32 9 P **P 04 30 59.6 +1.7**
B23A Brockton 95.33 357⇑ P **P 04 30 59.1 +1.2**
baz=95,SNR=6.2
B19A Brinkman Farms 95.42 360⇓ P **P 04 30 59.1 +0.8**
baz=95,SNR=10
B21A Ellsworth Farm 95.42 359⇓ P **P 04 30 59.3 +1.0**
baz=95,SNR=10
B20A Solberg Farm, 95.43 359⇓ P **P 04 30 59.5 +1.1**
baz=95,SNR=13
B22A Reddig Ranch S 95.52 358⇑ P **P 04 31 00.2 +1.5**
baz=95
C26A Wahner Farm, P 95.81 355⇓ P **P 04 31 01.2 +1.2**
baz=96
EGMT Eagleton 95.85 0 *e*P **P 04 31 00.7 +0.4**
comp=Z,15nm,1.0s
EGMT Eagleton 95.85 0⇑ P **P 04 31 00.6 +0.4**
baz=96,SNR=7.4
C27A Sayler Ranch, 95.88 355⇓ P **P 04 31 01.3 +0.9**
baz=96
BSMT Bassoo Peak 95.88 4 *e*P **P 04 31 01.2 +0.6**
comp=Z,24nm,1.3s
C23A Lambert 95.99 357⇓ P **P 04 31 02.5 +1.6**
baz=96,SNR=5.8
JTMT Jette 96.01 3 *e*P **P 04 31 01.7 +0.6**
comp=Z,3.0nm,0.7s
C21A Desert Coulee 96.03 359⇓ P **P 04 31 02.5 +1.5**
baz=96,SNR=16
C22A Vida 96.08 358⇓ P **P 04 31 02.8 +1.5**
baz=96,SNR=10
C19A Slack Wire Ran 96.14 360⇑ P **P 04 31 02.5 +0.9**
baz=96,SNR=5.8
RVC Mount Rainier- 96.15 9 P **P 04 31 02.9 +1.2**
C20A Veseth Ranch, 96.15 359⇓ P **P 04 31 02.6 +0.9**
baz=96,SNR=10.0
D30A Buchanan 96.24 353⇑ P **P 04 31 02.4 +0.5**
baz=96
SWMT Swartz Lake 96.26 3 *e*P **P 04 31 02.3 +0.1**
comp=Z,3.2nm,0.9s
LON Longmire 96.36 9 *e*P **P 04 31 03.4 +0.8**
LON pmax pmax
comp=Z,8.0nm,0.8s
LON Longmire 96.36 9 *e*P **P 04 31 03.4 +0.8**
comp=Z,7.8nm,0.8s
WPW White Pass 96.44 8 P **P 04 31 04.1 +1.1**
SLMT Seeley Lake 96.55 3 *e*P **P 04 31 03.8 +0.2**
comp=Z,9.7nm,0.7s
D23A Lindsay 96.62 357⇓ P **P 04 31 05.4 +1.6**
baz=96
D22A Cohagen 96.68 358⇓ P **P 04 31 05.9 +1.8**
baz=96,SNR=7.2
TDL Tradedollar La 96.70 9 P **P 04 31 05.2 +1.0**
D19A Cripps Ranch, 96.71 360⇓ P **P 04 31 05.0 +0.8**
baz=96,SNR=8.1

D20A	Manuel Ranch, baz=96	96.78	359	⇓P		P	04 31 04.6 +0.2
D21A	La Casta Ranch baz=96,SNR=8.7	96.78	358	⇓P		P	04 31 05.4 +0.9
FL2	Flat Top 2	96.83	9	P		P	04 31 06.3 +1.4
CHMT	Chamberlain Mo comp=Z,4.4nm,0.6s	96.88	3	*e*P		P	04 31 05.4 +0.3
E28A	Huff baz=97,SNR=5.8	96.94	354	⇑P		P	04 31 06.2 +1.0
LVP	Lakeview Peak	96.95	9	P		P	04 31 06.7 +1.3
HRY	Holter Researc comp=Z,11nm,0.8s	97.13	2	*e*P	Pdif		04 31 06.7 +0.5
E20A	Meyer Farm, Mu baz=97,SNR=5.0	97.37	359	⇓P	Pdif		04 31 08.1 +0.9
E19A	Rath Farm, Rou baz=97,SNR=5.4	97.41	360	⇓P	Pdif		04 31 08.4 +1.0
F19A	Roth Farm, Mol baz=98,SNR=8.0	98.02	360	⇓P	Pdif		04 31 11.3 +1.1
BOZ	Bozeman (W)	98.20	2	*e*P	Pdif		04 31 11.5 +0.5
BOZ	comp=Z,3.0nm,1.0s			pmax	pmax		
BOZ	Bozeman (W) comp=Z,2.6nm,1.0s	98.20	2	*e*P	Pdif		04 31 11.5 +0.5
RSSD	Black Hills	99.62	356	*e*P	Pdif		04 31 20.2 +2.7
RSSD	Black Hills	99.62	356	*e*Pdif	Pdif		04 31 20.2 +2.7
HLID	Hailey	100.17	4	*e*Pdif	Pdif		04 31 20.8 +0.9
WVOR	Wild Horse Val	100.97	7	*e*P	Pdif		04 31 24.7 +1.3
WVOR	Wild Horse Val	100.97	7	*e*Pdif	Pdif		04 31 24.7 +1.3
BW06	Boulder Array	101.11	0	*e*Pdif	Pdif		04 31 25.8 +1.7
PDAR	Pinedale Array	101.11	0	P	Pdif		04 31 24.8 +0.7
PDAR				PP	PP		04 35 29.6 -4.5
PDAR				PKiKP	PKiKP		04 35 47.2 -0.8
PDAR				PKKPbc	PKKPbc		04 47 31.9 -2.0
PDAR	Pinedale Array comp=Z,1.0nm,0.8s,baz=21,slow=3.4,SNR=9.9	101.11	0	P	Pdif		04 31 24.8 +0.7
PDAR				PP	PP		04 35 29.6 -4.5
PDAR	comp=Z,1.9nm,1.1s,baz=338,slow=3.2,SNR=4.9			PKiKP	PKiKP		04 35 47.2 -0.8
PDAR	comp=Z,0.8nm,1.0s,baz=76,slow=3.8,SNR=4.7			PKKPbc	PKKPbc		04 47 31.9 -2.0
PDAR	comp=Z,0.4nm,0.7s,baz=119,slow=5.2,SNR=3.8			PKKPbc	PKKPbc		04 47 31.9 -2.0
HVU	Hansel Valley	102.03	3	*e*P	Pdif		04 31 28.9 +0.7
HVU	Hansel Valley	102.03	3	*e*Pdif	Pdif		04 31 28.9 +0.7
HWUT	Hardware Ranch comp=Z,2.6nm,0.8s	102.24	2	*e*Pdif	Pdif		04 31 30.5 +1.4
ELK	Elko	102.93	5	*e*Pdif	Pdif		04 31 34.0 +1.7
DUG	Dugway	103.61	3	*e*P	Pdif		04 31 36.4 +1.2
DUG	comp=Z,1.0nm,0.7s			pmax	pmax		
DUG	Dugway comp=Z,1.2nm,0.7s	103.61	3	*e*Pdif	Pdif		04 31 36.4 +1.2
WMOK	Wichita Mounta	108.46	351	*e*PKP	PKiKP		04 36 02.4 +0.9
TUC	Tucson	111.53	1	*e*PKiKP	PKiKP		04 36 08.2 +0.8
TUC	Tucson	111.53	1	*e*PKP	PKiKP		04 36 08.2 +0.8
TXAR	Lajitas Array	114.31	355	PKP	PKPdf		04 36 12.7 -0.1
TXAR				PKKPbc	PKKPbc		04 46 51.2 -1.3
TXAR	Lajitas Array comp=Z,0.3nm,0.6s,baz=73,slow=2.0,SNR=6.0	114.31	355	PKP	PKPdf		04 36 12.7 -0.1
TXAR	comp=Z,1.0nm,0.9s,baz=182,slow=6.4,SNR=11			PKKPbc	PKKPbc		04 46 51.2 -1.3
MAIT	Maitri	114.93	198	*e*P	PKPdf		04 36 09.6 -2.8
SNAA	Sanae	119.33	200	*e*P	PKPdf		04 36 19.9 -1.1
SNAA	Sanae	119.33	200	*e*P	PKKPbc		04 46 34.1 -1.4
SNAA	Sanae	119.33	200	*e*PKPdf	PKPdf		04 36 19.9 -1.1
VNA2	Neumayer--Watz baz=9.7,slow=3.9	120.33	202	*e*P	PKPdf		04 36 22.4 -0.4
VNA2	Neumayer--Watz baz=283,slow=5.6	120.33	202	*e*P	PKKPbc		04 46 31.0 -0.7
BDFB	Brasilia	122.17	274	PKP	PKPdf		04 36 28.3 +0.2
BDFB	Brasilia comp=Z,0.8nm,0.4s,baz=339,slow=8.6,SNR=3.2	122.17	274	PKP	PKPdf		04 36 28.3 +0.2
URZ	Urewera	122.94	116	PKP	PKPdf		04 36 26.3 -2.4
URZ	Urewera comp=Z,18nm,0.6s,baz=35,slow=1.2,SNR=14	122.94	116	PKP	PKPdf		04 36 26.3 -2.4
VNDA	Vanda	125.55	164	*e*PKPdf	PKPdf		04 36 31.8 -0.9
VNDA				PKP	PKPdf		04 36 31.9 -0.7
VNDA	Vanda comp=Z,1.2nm,0.5s,baz=306,slow=5.5,SNR=6.8	125.55	164	PKP	PKPdf		04 36 31.9 -0.7
QSPA	South Pole Qui	126.30	180	*e*PKPdf	PKPdf		04 36 33.4 -1.0
BCIP	Isla Barro Col	126.83	323	*e*PKPdf	PKPdf		04 36 36.0 -1.1
ROSC	El Rosal	127.49	314	*e*PKPdf	PKPdf		04 36 39.2 +0.3
ROSC				PKP	PKPdf		04 36 39.3 +0.5
ROSC	El Rosal comp=Z,10nm,0.8s,baz=273,slow=19,SNR=9.3	127.49	314	PKP	PKPdf		04 36 39.3 +0.5
SAML	Samuel	130.09	292	*e*PKPdf	PKPdf		04 36 43.0 -0.2
SAML				*e*SKPbc	SKPbc		04 39 47.0 0.0
SAML				*e*SKPdf	SKPdf		04 39 57.9 -1.4
OTAV	Otavalo	133.61	315	*e*PKPdf	PKPdf		04 36 50.3 -0.2
CPUP	Villa Florida	135.03	268	*e*PKPdf	PKPdf		04 36 51.2 -0.8
CPUP				*e*SKPbc	SKPbc		04 40 02.3 -1.3
CPUP	Villa Florida comp=Z,11nm,0.8s,baz=47,slow=2.7,SNR=20	135.03	268	PKP	PKPdf		04 36 51.1 -1.0
CPUP	comp=Z,8.4nm,0.9s,baz=77,slow=4.4,SNR=6.5			SKPbc	SKPbc		04 40 02.5 -1.2
LPAZ	La Paz	138.43	288	*e*PKPdf	PKPdf		04 36 58.8 -0.7
LPAZ				*e*PP	PP		04 39 49.6 -2.1
LPAZ				*e*SKP			04 40 13.0
LPAZ	La Paz comp=Z,2.9nm,0.8s,baz=39,slow=2.2,SNR=11	138.43	288	PKP	PKPdf		04 36 59.1 -0.4
LPAZ	comp=Z,2.6nm,0.9s,baz=63,slow=4.4,SNR=7.0			SKPbc	SKPbc		04 40 13.3 -1.6
NNA	Nana	142.00	302	*e*PKPdf	PKPdf		04 37 05.2 0.0
LVC	Limon Verde	142.57	280	*e*PKPpre	PKPpre		04 37 00.6
LVC				*e*PKPdf	PKPdf		04 37 06.0 -0.3
TRQA	Tornquist	142.68	253	*e*PKPpre	PKPpre		04 37 01.6
TRQA				*e*PKPdf	PKPdf		04 37 06.4 +0.6
TRQA				*e*SKP			04 40 23.2
LCO	Las Campanas	146.91	272	*e*PKPbc	PKPdf		04 37 13.7 0.0
PLCA	Paso Flores	149.65	250	*e*PKPdf	PKPdf		04 37 18.6 +1.1
PLCA				*e*PKPbc	PKPbc		04 37 22.6 +0.1
PLCA	Paso Flores comp=Z,32nm,0.9s,baz=90,slow=3.6,SNR=12	149.65	250	PKP	PKPdf		04 37 19.1 +1.5
PLCA	comp=Z,32nm,0.9s,baz=130,slow=1.6,SNR=10			PKPbc	PKiKP		04 37 22.9 -0.4

*ISK **19** 04:22:56.6, 37°.86N×29°.08E, h20km, MD2.6*
*CSEM **19** 04:22:57.9±0.2, 37°.84N×29°.09E, h10km, MD2.6, Error ellipse: s-maj=7.2km s-min=4.0km az=118.0*

DDA 19 04:22:58.6, 37°.88N×29°.03E, h7km, MD2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	Denizli	0.13	180	*e*PG	Pg	04 23 01.0	-0.4
DENT				*e*SG	Sg	04 23 03.8	+0.5
DENT	Denizli	0.13	180	*e*Pg	Pg	04 23 01.0	-0.4
DENT				*e*Sg	Sg	04 23 03.8	+0.5
DNZL	Cakiroluk	0.19	177	*i* P	Pg	04 23 02.5	-0.3
DNZL				*i* S	Sg	04 23 05.9	+0.4
DNZL	Cakiroluk	0.19	177	*i* P	Pg	04 23 02.5	-0.2
DNZL				*i* S	Sg	04 23 05.9	+0.4
KHL	Karahalli	0.59	41	*e*PG	Pg	04 23 08.7	-1.4
KHL	Karahalli	0.59	41	*e*Pg	Pg	04 23 08.7	-1.4
KHAL	Karahalli	0.61	36	*i* P	Pg	04 23 09.5	-1.0
KHAL				*i* S	Sg	04 23 19.0	+0.5
KHAL	Karahalli	0.61	36	*i* P	Pg	04 23 09.5	-1.0
KHAL				*i* S	Sg	04 23 19.0	+0.4
KULA	Kula-Manisa	0.70	335	*e*PG	Pg	04 23 12.4	+0.3
KULA				*e*SG	Sg	04 23 21.9	+0.5
KULA	Kula-Manisa	0.70	335	*e*Pg	Pg	04 23 12.4	+0.2
KULA				*e*Sg	Sg	04 23 21.9	+0.6
MANT	Manisa	0.71	329	*i* P	Pb	04 23 13.3	-0.3
MANT				*i* S	Sb	04 23 24.1	+0.2
MANT	Manisa	0.71	329	*i* P	Pb	04 23 13.3	-0.4
AYDN	Tasoluk	0.94	257	*i* P	Pg	04 23 16.9	+0.2
AYDN				*i* S	Sg	04 23 29.1	+0.1
AYDN	Tasoluk	0.94	257	*i* P	Pg	04 23 16.9	+0.2
AYDN				*i* S	Sg	04 23 29.1	+0.1
YER	Yerkesik	0.95	219	*e*PG	Pg	04 23 15.3	-1.8
YER	Yerkesik	0.95	219	*e*Pg	Pg	04 23 15.3	-1.7
GDZ	Gediz	1.26	16	*i* P	Pg	04 23 23.1	+0.2
GDZ				*i* S	Sb	04 23 39.2	-0.1
GDZ	Gediz	1.26	16	*i* P	Pg	04 23 23.1	+0.2

MAN 19 04:41:01, 12°.56N×120°.31E, h16km, mb4.3, ML3.2, MS3.0, 4C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUSP	Coron	0.56	191	*e*P	Pb	04 41 12.9	+0.4
BUSP				*e*S	Sn	04 41 22.5	-0.8
SJMP	San Jose	0.80	97	*e*P	Pg	04 41 16.6	0.0
PGP	Puerto Galera	1.13	34	⇑*e*P	Pn	04 41 21.8	-0.5
LUBP	Lubang	1.17	357	*e*P	Pn	04 41 22.2	-0.5
ENPP	El Nido	1.60	213	*e*P	Pn	04 41 29.2	+0.6
TGY	Tagaytay City	1.65	22	⇑*e*P	Pg	04 41 33.3	+0.3
BOAC	Boac	1.75	59	*e*P	Pn	04 41 31.3	+0.7
CUYO	Cuyo Island	1.83	158	*e*P	Pg	04 41 36.3	0.0
LQP	Lukban	1.96	38	⇑*e*P	Pb	04 41 36.3	-0.3
RCP	Roxas	2.58	112	⇑*e*P	Pn	04 41 42.8	+0.6
GUIM	Jordan	2.95	130	*e*P	Pn	04 41 48.4	+1.2

IDC 19 04:47:15.2±5.6, 21°.12S×176°.75W, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/18, mbtmp3.7/4, Error ellipse: s-maj=272.8km s-min=57.2km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	34.60	265	P	P	04 54 07.8	+1.6
	2.8nm,0.9s,baz=96,slow=10,SNR=3.1						
ASAR	Alice Springs	45.52	257	P	P	04 55 36.4	-0.5
	0.2nm,0.4s,baz=97,slow=7.8,SNR=2.6						
WRA	Warramunga Arr	45.68	262	P	P	04 55 37.4	-0.8
	0.2nm,0.3s,baz=96,slow=8.5,SNR=16						
FITZ	Fitzroy Crossi	54.11	262	P	P	04 56 41.8	-0.5
	1.7nm,1.0s,baz=117,slow=4.5,SNR=5.5						
BRTR	Keskin Array B	148.12	312	PKPbc	PKPbc	05 07 02.9	-0.5
	0.3nm,0.6s,baz=105,slow=4.2,SNR=2.8						

IDC 19 05:34:02.2±27.0, 22°.98S×179°.51E, h190km±244km, mb3.8/3, mb1 3.9/4, mb1mx3.5/18, mbtmp3.8/4, ML4.5/1, MS2.7/1, Ms1 2.7/1, ms1mx2.2/24, Error ellipse: s-maj=173.5km s-min=45.6km az=16.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	6.66	160	LR	LR	05 37 21.9	
	comp=Z,63nm,18.3s,baz=224,slow=30						
URZ	Urewera	15.37	187	P	P	05 37 29.6	0.0
	1.8nm,0.3s,baz=358,slow=5.7,SNR=8.9						
STKA	Stephens Creek	34.66	247	P	P	05 40 32.2	-1.4
	1.1nm,0.4s,baz=98,slow=7.1,SNR=3.6						
ASAR	Alice Springs	41.75	260	P	P	05 41 32.8	-0.2
	1.2nm,0.3s,baz=96,slow=7.2,SNR=33						
WRA	Warramunga Arr	42.03	265	P	P	05 41 35.8	+0.5
	4.4nm,0.5s,baz=97,slow=8.5,SNR=144						
AKASG	Malin Array Be	143.96	328	PKP	PKPbc	05 53 13.4	+0.4
	0.8nm,0.5s,baz=43,slow=4.7,SNR=6.2						
BRTR	Keskin Array B	146.66	308	PKPbc	PKPbc	05 53 21.1	-0.7
	0.6nm,0.7s,baz=66,slow=3.5,SNR=3.0						

*ISCJB **19** 05:46:17.0±0.4, 1°.77N±0°.04×127°.19E±0°.04, h103km, mb4.4/17, Error ellipse: s-maj=5.5km s-min=4.6km az=45.0*
*NEIC **19** 05:46:18.0±2.1, 1°.71N×127°.32E, h96km±19km, mb4.8/6, Error ellipse: s-maj=18.9km s-min=6.5km az=66.0*
*IDC **19** 05:46:19.3±2.9, 1°.67N×127°.17E, h108km±26km, mb4.1/11, mb1 4.1/13, mb1mx3.9/26, mbtmp4.1/13, Error ellipse: s-maj=28.6km s-min=11.2km az=73.0*
*DJA **19** 05:46:20.0±0.5, 2°N±3°×12°7E±°, h87km±9km, M4.8/5, mb4.9/4, mB5.3/2, MLv4.8/5, Mw(mB)4.7/2*
*AUST **19** 05:46:27.1, 1°.50N×127°.00E, h200km*

ISC 19 05:46:19.0±0.6, 1°.75N±0°.05×127°.16E±0°.06, h103km, n63, σ1s50/70, mb4.4/17, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	0.99	168	P	Pn	05 46 41.0	+1.5
TNTI				S	Sn	05 46 55.0	0.0
LBMI	Labuha	2.39	172	S	Sn	05 47 27.3	+1.5
SGSI	Sangihe	2.52	320	P	Pn	05 46 57.7	-0.8
SGSI				S	Sn	05 47 27.3	-1.5
GTOI	Gorontalo	4.29	255	P	Pn	05 47 23.8	+1.6
GTOI				S	Sn	05 48 11.9	+0.7
NLAI	Namlea	4.95	181	P	Pn	05 47 31.0	-0.1
NLAI				S	Sn	05 48 31.8	+4.6
LUWI	Luwuk	5.19	238	P	Sn	05 48 37.9	+4.9
LUWI	Luwuk baz=4.9,SNR=6.0	5.19	238	P	Pn	05 47 37.1	+2.8
MRSI	Marisa 102nm,0.6s,4μm	5.37	256	P	Pn	05 47 36.6	-0.1
MRSI				S	Sn	05 48 35.7	-1.6
APSI	Ampana 90nm,0.8s,3μm1.0nm	6.11	244	P	Pn	05 47 47.9	+1.1
APSI				S	Sn	05 48 55.0	-0.4
FAKI	Fak Fak baz=6.9,SNR=5.6	6.88	132	S	Sn	05 49 33.1	+19
PCI	Palu	7.78	250	P	Sn	05 49 10.3	-26
SPSI	Sidrap Palu 51nm,0.7s	9.31	232	P	Pn	05 48 30.0	-0.4
SPSI				S	Sn	05 50 15.0	+1.6
KAPI	Kappang 16nm,0.7s	9.99	228	*e*Pn	Pn	05 48 40.2	+0.6
KAPI				S	Sn	05 50 26.3	-3.6
KAPI	Kappang 4.4nm,0.3s,baz=72,slow=8.6,SNR=6.0	9.99	228	P	Pn	05 48 40.3	+0.7
KAPI	5.5nm,0.3s,baz=289,slow=23,SNR=8.7			S	Sn	05 50 26.3	-3.6
WSI	Waingapu baz=13,SNR=3.6	13.24	211	P	P	05 49 36.0	+6.9
SBUM	Sibu	14.95	273	P	P	05 49 49.8	+1.8
MTN	Manton Dam baz=15,SNR=6.1	15.02	165	P	Pn	05 49 44.4	-1.5
MTNI	Mataram	15.05	227	P	Pn	05 49 44.2	-2.1
KDU	Kakadu baz=15,SNR=4.2	15.28	160	P	P	05 49 52.9	+1.2
KNRA	Kununurra baz=17,SNR=13	17.38	175	P	P	05 50 14.4	-0.6
FITZ	Fitzroy Crossi	19.78	184	P	P	05 50 40.7	-0.5
FITZ	Fitzroy Crossi 1.0nm,0.3s,baz=15,slow=8.7,SNR=35	19.78	184	P	P	05 50 40.7	-0.5
FITZ	Fitzroy Crossi baz=20,SNR=6.2	19.78	184	P	P	05 50 40.7	-0.5
MANU	Manus Island baz=21,SNR=3.4	20.55	100	P	P	05 50 35.9	-14
MANU				S	S	05 54 25.4	-8.5
COEN	Coen baz=22,SNR=3.9	22.26	135	P	P	05 51 09.3	+1.6
WRAB	Tennant Creek 45nm,0.8s	22.67	162	*e*P	P	05 51 10.1	-1.8
WRA	Warramunga Arr	22.68	162	P	P	05 51 10.6	-1.3
WRA	Warramunga Arr 11nm,0.4s,baz=341,slow=11,SNR=152	22.68	162	P	P	05 51 10.6	-1.3
MBWA	Marble Bar 10nm,0.8s	23.90	197	*e*P	P	05 51 23.1	-0.3
MTSU	Mount Surprise baz=26,SNR=6.3	25.99	140	P	P	05 51 44.6	+2.2
AS31	Alice Springs	26.10	166	*e*P	P	05 51 42.2	-1.1
ASAR	Alice Springs	26.10	166	P	P	05 51 42.1	-1.2
ASAR				ScP	ScP	05 58 37.1	-2.0
ASAR	Alice Springs 2.1nm,0.5s,baz=349,slow=7.6,SNR=42	26.10	166	P	P	05 51 42.1	-1.2
ASAR	0.4nm,0.6s,baz=347,slow=2.6,SNR=6.4			ScP	ScP	05 58 37.1	-2.0
MEEK	Meekatharra baz=29,SNR=14	29.40	196	P	P	05 52 12.1	-0.6
FORT	Forrest 17nm,0.7s	32.36	179	*e*P	P	05 52 37.6	-1.1
MORW	Morawa baz=32,SNR=9.0	32.44	198	P	P	05 52 38.8	-0.7
BLDU	Ballidu baz=34,SNR=8.7	33.69	196	P	P	05 52 49.6	-0.6
KLBR	Kellerberrin baz=34,SNR=18	34.34	194	P	P	05 52 55.4	-0.6
BBOO	Buckleboo baz=35,SNR=5.8	35.38	167	P	P	05 53 03.9	-1.0
KSAR	Wonju Array Be	35.53	1	P	P	05 53 06.0	-0.1
KSRS	Korea Array 2.6nm,0.7s,baz=172,slow=9.3,SNR=6.3	35.54	1	P	P	05 53 06.0	-0.2
EIDS	Eidsvold 85nm,2.0s	35.54	141	*e*P	P	05 53 05.7	-0.6
NWAO	Narrogin (SRO)	35.74	194	P	P	05 53 07.7	-0.2
NWAO	Narrogin (SRO) 7.3nm,0.6s,baz=48,slow=8.6,SNR=8.5	35.74	194	P	P	05 53 07.7	-0.2
STKA	Stephens Creek 1.6nm,0.7s	36.14	159	*e*P	P	05 53 10.6	-0.8
STKA	Stephens Creek	36.14	159	P	P	05 53 10.5	-0.8
	7.8nm,0.7s,baz=334,slow=9.1,SNR=25						
STKA	Stephens Creek baz=36,SNR=18	36.14	159	P	P	05 53 10.8	-0.6
RKGY	Rocky Gully baz=37,SNR=5.5	37.41	194	P	P	05 53 22.8	+0.8
ARMA	Armidale baz=40,SNR=10.0	39.59	146	P	P	05 53 41.3	+0.8
SONM	Songino Array	49.30	342	P	P	05 54 58.1	+0.5
SONM	Songino Array 1.2nm,0.6s,baz=157,slow=7.8,SNR=3.1	49.30	342	P	P	05 54 58.1	+0.5
MKAR	Makanchi Array	59.42	326	P	P	05 56 11.0	+0.2
MKAR	Makanchi Array 3.3nm,0.5s,baz=118,slow=8.0,SNR=40	59.42	326	P	P	05 56 11.0	+0.2
RPZ	Rata Peaks	59.91	144	P	P	05 56 13.3	-0.9
RPZ	Rata Peaks 7.2nm,0.5s,baz=310,slow=7.7,SNR=3.0	59.91	144	P	P	05 56 13.3	-0.9
AAK	Ala-Archa	62.11	318	P	P	05 56 30.1	+0.8
AAK	Ala-Archa 1.5nm,0.6s,baz=151,slow=13,SNR=3.8	62.11	318	P	P	05 56 30.1	+0.8
ZALV	Zalesovo Beam	62.54	333	P	P	05 56 31.6	-0.1
ZALV	Zalesovo Beam 2.0nm,0.7s,baz=111,slow=8.1,SNR=6.0	62.54	333	P	P	05 56 31.6	-0.1
KURK	Kurchatov 7.0nm,0.6s	63.63	328	*e*P	P	05 56 38.6	-0.5
ABKAR	Akbulak array 0.3nm,0.4s	73.95	321	*e*P	P	05 57 45.5	+2.4
VNDA	Vanda	81.42	173	P	P	05 58 23.3	-0.7
VNDA	Vanda 1.5nm,0.8s,baz=306,slow=6.2,SNR=10.0	81.42	173	P	P	05 58 23.3	-0.7

IDC 19 05:56:53.2±2.5, 21°.69N×44°.76W, h0km, mb3.5/4, mb1 3.9/4, mb1mx3.5/25, mbtmp3.5/4, MS3.4/4, Ms1 3.4/4, ms1mx3.0/22, Error ellipse: s-maj=120.6km s-min=28.4km az=18.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBTS	Babate	27.68	100	LR	LR	06 10 57.5	
	comp=Z,78nm,20.5s,baz=344,slow=30						
DBIC	Dimbokro	41.31	105	LR	LR	06 18 08.9	
	comp=Z,46nm,20.9s,baz=163,slow=31						
TORD	Torodi Ar. Bea	44.99	93	P	P	06 05 10.6	-0.2
	0.6nm,0.9s,baz=290,slow=6.0,SNR=2.5						
TORD				LR	LR	06 20 24.7	
	comp=Z,42nm,20.0s,baz=265,slow=31						
TXAR	Lajitas Array	53.24	291	P	P	06 06 14.4	+0.4
	0.2nm,0.7s,baz=101,slow=6.7,SNR=3.9						
NOA	NORSAR Array B	54.95	30	LR	LR	06 24 56.1	
	comp=Z,29nm,18.2s,baz=15,slow=31						
PDAR	Pinedale Array	57.30	308	P	P	06 06 42.4	-0.9
	0.8nm,1.0s,baz=96,slow=8.3,SNR=3.5						
ILAR	Eielson Array	75.63	334	P	P	06 08 40.1	+0.2
	0.9nm,0.8s,baz=76,slow=4.3,SNR=10.0						

IDC 19 06:00:51.9±1.6, 13°.48N×93°.45E, h0km, mb3.6/5, mb1 3.9/5, mb1mx3.6/27, mbtmp3.6/5, Error ellipse: s-maj=117.5km s-min=21.4km az=54.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	34.51	346	P	P	06 07 41.3	-0.5
	0.3nm,0.6s,baz=153,slow=6.9,SNR=2.6						
FITZ	Fitzroy Crossi	44.64	134	P	P	06 09 06.7	+0.1
	0.6nm,0.3s,baz=319,slow=9.8,SNR=9.7						
WRA	Warramunga Arr	52.17	129	P	P	06 10 04.2	-0.5
	0.1nm,0.3s,baz=306,slow=9.6,SNR=11						
ASAR	Alice Springs	54.11	133	P	P	06 10 19.1	+0.2
	0.5nm,0.4s,baz=310,slow=6.8,SNR=13						
GERES	GERESS Array B	73.25	317	P	P	06 12 25.5	+0.3
	1.0nm,1.0s,baz=80,slow=5.4,SNR=3.5						

IDC 19 06:09:10.0±1.5, 0°.50N×126°.20E, h0km, mb3.7/4, mb1 3.9/6, mb1mx3.7/24, mbtmp3.8/6, ML3.7/2, Error ellipse: s-maj=51.5km s-min=22.5km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	Kappang 1.5nm,0.3s,baz=80,slow=18,SNR=5.1	8.46	230	Pn	Pn	06 11 14.2	+0.3
FITZ	Fitzroy Crossi	18.50	182	Pn	P	06 13 27.7	-0.2
	0.1nm,0.3s,baz=14,slow=10.0,SNR=5.3						
WRA	Warramunga Arr	21.83	159	P	P	06 14 03.7	-0.5
	3.1nm,0.8s,baz=337,slow=11,SNR=21						
ASAR	Alice Springs	25.16	163	P	P	06 14 37.9	+0.6
	1.0nm,0.3s,baz=346,slow=12,SNR=16						
STKA	Stephens Creek	35.35	157	P	P	06 16 06.9	-0.4
	1.2nm,0.8s,baz=330,slow=14,SNR=2.8						
MKAR	Makanchi Array	59.91	327	P	P	06 19 17.9	-0.1
	0.4nm,0.5s,baz=127,slow=8.5,SNR=4.1						

*NEIC **19** 06:33:46.8±1.4, 13°.85N×92°.63E, h24km±9km, mb4.3/6, Error ellipse: s-maj=21.6km s-min=12.7km az=51.0*
*IDC **19** 06:33:47.6±0.6, 14°.06N×92°.94E, h28km±3km, mb4.0/15, mb1 4.1/15, mb1mx3.9/27, mbtmp4.0/15, MS3.4/6, Ms1 3.4/6, ms1mx3.0/43, Error ellipse: s-maj=25.7km s-min=12.5km az=58.0*

ISC 19 06:33:47.4±0.7, 14°.0N±0°.1×92°.9E±0°.1, h27km±4km, h27km:pP-P, n46, σ0s70/55, mb4.2/18, MS3.4/5, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHTO	Chiang Mai 11nm,0.8s	7.50	50	*e*Pn	Pn	06 35 42.5	+7.4
VIS	Vishakhapatnam	9.89	293	*i* P	Pn	06 36 06.7	-1.3
VIS				*i* S	Sn	06 37 44.6	-14
VIS				*i* S	Sn	06 37 45.1	-13
VIS	comp=N,35nm,0.2s			*ex*	x	06 37 50.9	
VIS	comp=E,52nm,0.5s			*ex*	x	06 37 52.6	
PSI	Prapat comp=E,173nm,19.3s,baz=346,slow=39	12.66	151	LR	LR	06 42 00.7	
AAK	Ala-Archa comp=E,87nm,18.3s,baz=100,slow=41	32.61	334	LR	LR	06 55 58.7	
MKAR	Makanchi Array	33.84	347	P	P	06 40 28.1	+0.6
MKAR				pP	pP	06 40 37.0	+1.5
MKAR	Makanchi Array comp=E,2.4nm,0.8s,baz=161,slow=9.1,SNR=12

comp=E,1.0nm,0.9s,baz=328,slow=3.2,SNR=5.1
BR131 Keskin Array S 57.57 308 *e*P **P 06 43 34.5 -0.6**
comp=E,0.4nm,0.4s
BRTR Keskin Array B 57.57 308 P **P 06 43 34.8 -0.3**
BRTR Keskin Array B 57.57 308 P **P 06 43 34.8 -0.3**
comp=E,2.1nm,0.8s,baz=111,slow=8.7,SNR=13
STKA Stephens Creek 65.28 135 *e*P **P 06 44 27.4 +0.2**
comp=E,24nm,2.6s
STKA Stephens Creek 65.28 135 P **P 06 44 27.3 +0.2**
comp=E,0.8nm,0.4s,baz=302,slow=8.9,SNR=4.0
FINES FINESS Array B 66.73 331 P **P 06 44 35.8 -0.1**
FINES pP **pP 06 44 43.9 -0.6**
FINES FINESS Array B 66.73 331 P **P 06 44 35.8 -0.1**
comp=E,2.5nm,0.7s,baz=96,slow=7.7,SNR=7.0
FINES pP **pP 06 44 43.9 -0.6**
comp=E,1.2nm,0.6s,baz=108,slow=6.2,SNR=2.6
ARCES ARCESS Array B 69.08 340 P **P 06 44 50.9 +0.3**
ARCES pP **pP 06 44 58.6 -0.6**
ARCES ARCESS Array B 69.08 340 P **P 06 44 50.9 +0.3**
comp=E,2.8nm,0.8s,baz=77,slow=8.1,SNR=7.6
ARCES pP **pP 06 44 58.6 -0.6**
comp=E,4.1nm,0.9s,baz=79,slow=6.5,SNR=2.3
ARCES LR LR 07 19 47.6
comp=E,40nm,18.4s,baz=39,slow=40
GERES GERESS Array B 72.46 317 P **P 06 45 11.9 +0.2**
GERES pP **pP 06 45 20.9 +0.5**
GERES GERESS Array B 72.46 317 P **P 06 45 11.9 +0.2**
comp=E,1.4nm,0.7s,baz=90,slow=5.3,SNR=11
GERES pP **pP 06 45 20.9 +0.5**
comp=E,1.4nm,0.7s,baz=93,slow=5.6,SNR=6.3
NB2 NORSAR Subarra 73.80 330 P **P 06 45 18.5 -0.8**
comp=Z,0.8nm,0.7s,baz=88,slow=6.2
NOA NORSAR Array B 73.80 330 P **P 06 45 18.6 -0.6**
NOA pP **pP 06 45 27.3 -0.6**
NOA NORSAR Array B 73.80 330 P **P 06 45 18.6 -0.6**
comp=Z,1.1nm,0.7s,baz=90,slow=5.9,SNR=4.2
NOA pP **pP 06 45 27.3 -0.6**
comp=Z,1.4nm,0.8s,baz=89,slow=5.8,SNR=3.1
NOA LR LR 07 20 48.0
comp=Z,20nm,18.4s,baz=275,slow=38
KEST Kesra 76.76 304 LR LR 07 19 19.7
comp=Z,20nm,21.0s,baz=237,slow=36
BOSA Boshof 77.88 236 *e*P **P 06 45 44.3 +1.1**
comp=Z,122nm,2.3s
BOSA Boshof 77.88 236 P **P 06 45 44.6 +1.3**
comp=Z,2.7nm,1.1s,baz=83,slow=8.1,SNR=3.7
BOSA pP **PcP 06 45 53.5 +0.5**
comp=Z,4.9nm,1.0s,baz=77,slow=2.7,SNR=2.6
TORD Torodi Ar. Bea 88.00 283 P **P 06 46 36.0 +0.2**
TORD Torodi Ar. Bea 88.00 283 P **P 06 46 36.0 +0.2**
comp=Z,1.6nm,1.1s,baz=100,slow=2.8,SNR=6.2
ILAR Eielson Array 89.52 22 P **P 06 46 41.6 -0.4**
ILAR pP **pP 06 46 50.4 -0.4**
ILAR Eielson Array 89.52 22 P **P 06 46 41.6 -0.4**
comp=Z,0.3nm,0.8s,baz=306,slow=5.4,SNR=3.8
ILAR pP **pP 06 46 50.4 -0.4**
comp=Z,0.8nm,0.8s,baz=299,slow=4.4,SNR=7.4
PDAR Pinedale Array 119.83 19 pPKP pPKPdf 06 52 44.8 -0.2
PDAR Pinedale Array 119.83 19 pPKP pPKPdf 06 52 44.8 -0.2
comp=Z,0.3nm,0.7s,baz=242,slow=1.9,SNR=2.5
TXAR Lajitas Array 134.01 20 pPKP pPKPdf 06 53 13.3 +1.1
TXAR Lajitas Array 134.01 20 pPKP pPKPdf 06 53 13.3 +1.1
comp=Z,0.4nm,0.8s,baz=222,slow=2.4,SNR=3.7

GUC 19 06:50:35.6±0.4,30°.42S×69°.54W,h3km±2km,MD3.5, ML3.2,4C-1D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TLL	**Tololo Astrono**	**1.12**	**283**	⇑*i*P	Pg	06 50 57.3	-0.3
TLL				*i* S	Sb	06 51 13.5	+0.1
TLL				AML	AML	06 51 16.4	
	comp=E,427nm,0.6s						
CMCH	**Combarbala**	**1.47**	**239**	⇓*i*P	Pn	06 51 02.1	-1.0
CMCH				*i* S	Sb	06 51 22.6	-0.3
CMCH				AML	AML	06 51 24.0	
	comp=N,2μm,0.4s						
LCO	**Las Campanas**	**1.73**	**324**	⇑*i*P	Pn	06 51 06.8	-0.2
LCO				*i* S	Sb	06 51 30.4	-0.4
LCO				AML	AML	06 51 31.2	
	comp=E,364nm,0.4s						
VACH	**Vallenar**	**2.12**	**330**	*i* P	Pn	06 51 12.4	+0.4
VACH				*e*S	Sb	06 51 40.7	-0.9
ROCH	**El Roble**	**2.84**	**206**	⇑*i*P	Pn	06 51 22.7	+0.5
ROCH				*i* S	Sn	06 51 58.9	+1.8
ROCH				AML	AML	06 52 03.0	
	comp=N,146nm,0.4s						
PEL	**Peldehue**	**2.89**	**200**	*i* P	Pn	06 51 23.6	+0.9
PEL				⇑*e*S	Sn	06 52 00.3	+2.4
PEL				AML	AML	06 52 07.0	
	comp=N,99nm,0.7s						

*MDD **19** 07:23:56.7±0.7,35°.87N×4°.83W,h69km±6km,mb3.7/29, Error ellipse: s-maj=6.2km s-min=3.7km az=178.0, PRXIMO*
*INMG **19** 07:23:57.3±2.0,35°.95N×4°.78W,h62km±7km,ML2.8,Error ellipse: s-maj=5.9km s-min=4.5km az=178.0*
*CSEM **19** 07:23:57.5±0.3,36°.01N×4°.90W,h60km,mb3.7*
*SFS **19** 07:23:57.0,35°.92N×4°.80W,h0km,ML3.9*
ISC 19 07:23:51.9±0.8,35°.78N±0°.04×4°.88W±0°.02,h10km,n151, σ2°.28/226,1C-4D,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ECEU	**Ceuta**	**0.42**	**286**	P	Pn	07 24 08.8	+4.8
	49nm,0.1s,SNR=82						
ECEU				S	Sb	07 24 18.0	+10
	39nm,0.1s,SNR=7.0						
ECEU	**Ceuta**	**0.42**	**286**	P	Pn	07 24 08.8	+4.8
	49nm,0.1s,SNR=82						
ECEU				S	Sb	07 24 18.0	+10
	39nm,0.1s,SNR=7.0						
REAL	**Reales**	**0.75**	**339**	P	**Pn**	**07 24 11.5**	**+2.8**
REAL				S	**Sn**	**07 24 22.9**	**+2.7**
REAL	**Reales**	**0.75**	**339**	P	**Pn**	**07 24 11.5**	**+2.8**
REAL				*e*S	**Sn**	**07 24 22.9**	**+2.7**
EMIJ	**Mijas**	**0.78**	**6**	⇓P	**Pn**	**07 24 10.1**	**+1.0**
	3.3nm,0.1s,SNR=18						
EMIJ				S	**Sb**	**07 24 20.3**	**+1.9**
	71nm,0.2s,SNR=24						
EMIJ	**Mijas**	**0.78**	**6**	P	**Pn**	**07 24 10.1**	**+1.0**
	3.3nm,0.1s,SNR=18						
EMIJ				S	**Sb**	**07 24 20.3**	**+1.9**
	71nm,0.2s,SNR=24						
EMAL	**Malaga-Limoner**	**1.04**	**20**	P	**Pb**	**07 24 13.3**	**+1.3**
EMAL				S	**Sb**	**07 24 26.2**	**+0.4**
EMAL	**Malaga-Limoner**	**1.04**	**20**	P	**Pb**	**07 24 13.3**	**+1.3**
EMAL				S	**Sb**	**07 24 26.2**	**+0.4**
LIJA	**Lijar**	**1.20**	**339**	⇓P	**Pn**	**07 24 17.7**	**+2.9**
LIJA				S	**Sn**	**07 24 33.3**	**+2.1**
LIJA	**Lijar**	**1.20**	**339**	P	**Pn**	**07 24 17.7**	**+2.9**
LIJA				S	**Sn**	**07 24 33.3**	**+2.1**
ESPR	**Espera**	**1.34**	**324**	P	**Pg**	**07 24 19.0**	**+1.4**
	3.4nm,0.2s,SNR=11						
ESPR				S	**Sb**	**07 24 34.2**	**-0.1**
	55nm,0.2s,SNR=12						
ESPR	**Espera**	**1.34**	**324**	P	**Pg**	**07 24 19.0**	**+1.4**
	3.4nm,0.2s,SNR=11						
ESPR				S	**Sb**	**07 24 34.2**	**-0.1**
	55nm,0.2s,SNR=12						
EGUA	**Guajares**	**1.49**	**45**	P	**Pn**	**07 24 18.7**	**-0.1**
	27nm,0.2s,SNR=7.9						
EGUA				S	**Sn**	**07 24 35.9**	**-2.4**
	SNR=7.9						
EGUA	**Guajares**	**1.49**	**45**	P	**Pn**	**07 24 18.7**	**-0.1**
	27nm,0.2s,SNR=7.9						
EGUA				S	**Sn**	**07 24 35.9**	**-2.4**
	SNR=7.9						
EALB	**Alboran**	**1.51**	**84**	P	**Pn**	**07 24 20.6**	**+1.7**
	4.7nm,0.1s,SNR=4.0						
EALB				S	**Sn**	**07 24 36.2**	**-2.4**
	36nm,0.2s,SNR=7.9						
EALB	**Alboran**	**1.51**	**84**	P	**Pn**	**07 24 20.6**	**+1.7**
	4.7nm,0.1s,SNR=4.0						
EALB				S	**Sn**	**07 24 36.2**	**-2.4**
	36nm,0.2s,SNR=7.9						
MELI	**Melilla**	**1.66**	**107**	S	**Sn**	**07 24 41.4**	**-1.0**
	12nm,0.1s,SNR=7.9						
MELI	**Melilla**	**1.66**	**107**	S	**Sn**	**07 24 41.4**	**-1.0**
	12nm,0.1s,SNR=7.9						
EQUE	**Quentar**	**1.83**	**39**	P	**Pn**	**07 24 23.6**	**+0.1**
	0.7nm,0.1s,SNR=7.9						
EQUE				S	**Sn**	**07 24 47.6**	**+0.7**
	1.5nm,0.1s,SNR=4.0						
EQUE	**Quentar**	**1.83**	**39**	P	**Pn**	**07 24 23.6**	**+0.1**
	0.7nm,0.1s,SNR=7.9						
EQUE				S	**Sn**	**07 24 47.6**	**+0.7**
	1.5nm,0.1s,SNR=4.0						
ELUQ	**Luque**	**1.84**	**15**	P	**Pn**	**07 24 25.0**	**+1.4**
	9.1nm,0.2s,SNR=7.9						
ELUQ				S	**Sn**	**07 24 47.8**	**+0.8**
	7.7nm,0.2s,SNR=4.0						
ELUQ	**Luque**	**1.84**	**15**	P	**Pn**	**07 24 25.0**	**+1.4**
	9.1nm,0.2s,SNR=7.9						
ELUQ				S	**Sn**	**07 24 47.8**	**+0.8**
	7.7nm,0.2s,SNR=4.0						
EBER	**Berja**	**1.95**	**55**	P	**Pn**	**07 24 25.5**	**+0.2**
	7.7nm,0.2s,SNR=22						
EBER				S	**Sn**	**07 24 46.8**	**-3.2**
	22nm,0.3s,SNR=72						
EBER	**Berja**	**1.95**	**55**	P	**Pn**	**07 24 25.5**	**+0.2**
	7.7nm,0.2s,SNR=22						
EBER				S	**Sn**	**07 24 46.8**	**-3.2**
	22nm,0.3s,SNR=72						
ECAB	**El Cabril**	**2.33**	**349**	⇓P	**Pn**	**07 24 30.8**	**+0.5**
	3.9nm,0.1s,SNR=18						
ECAB				S	**Sn**	**07 24 55.7**	**-3.3**
	28nm,0.1s,SNR=50						
ECAB	**El Cabril**	**2.33**	**349**	P	**Pn**	**07 24 30.8**	**+0.5**
	3.9nm,0.1s,SNR=18						
ECAB				S	**Sn**	**07 24 55.7**	**-3.3**
	28nm,0.1s,SNR=50						
EADA	**Adamuz**	**2.39**	**6**	⇓P	**Pn**	**07 24 32.1**	**+0.9**
	4.8nm,0.1s,SNR=18						
EADA				S	**Sn**	**07 24 58.1**	**-2.5**
	14nm,0.1s						
EADA	**Adamuz**	**2.39**	**6**	P	**Pn**	**07 24 32.1**	**+0.9**
	4.8nm,0.1s,SNR=18						
EADA				S	**Sn**	**07 24 58.1**	**-2.5**
	14nm,0.1s						
EMIN	**Mina Concepcio**	**2.45**	**325**	P	**Pn**	**07 24 32.8**	**+0.9**
	2.3nm,0.1s,SNR=42						
EMIN				S	**Sn**	**07 24 59.1**	**-2.8**
	8.0nm,0.0s,SNR=11						
EMIN	**Mina Concepcio**	**2.45**	**325**	P	**Pn**	**07 24 32.8**	**+0.9**
	2.3nm,0.1s,SNR=42						
EMIN				S	**Sn**	**07 24 59.1**	**-2.8**
	8.0nm,0.0s,SNR=11						
ENIJ	**Nijar**	**2.46**	**60**	S	**Sn**	**07 24 59.4**	**-2.9**
	6.0nm,0.2s,SNR=7.9						
ENIJ	**Nijar**	**2.46**	**60**	S	**Sn**	**07 24 59.4**	**-2.9**
	6.0nm,0.2s,SNR=7.9						
EQES	**Quesada**	**2.48**	**35**	P	**Pn**	**07 24 33.7**	**+1.2**
	1.3nm,0.1s,SNR=21						
EQES				S	**Sn**	**07 25 01.4**	**-1.6**
	3.0nm,0.1s						
EQES	**Quesada**	**2.48**	**35**	P	**Pn**	**07 24 33.7**	**+1.2**
	1.3nm,0.1s,SNR=21						
EQES				S	**Sn**	**07 25 01.4**	**-1.6**
	3.0nm,0.1s						
EBAN	**Banos Encina**	**2.53**	**20**	P	**Pn**	**07 24 33.7**	**+0.6**
	8.6nm,0.1s,SNR=10						
EBAN				S	**Sn**	**07 25 01.2**	**-2.8**
	5.2nm,0.1s						
EBAN	**Banos Encina**	**2.53**	**20**	P	**Pn**	**07 24 33.7**	**+0.6**
	8.6nm,0.1s,SNR=10						
EBAN				S	**Sn**	**07 25 01.2**	**-2.8**
	5.2nm,0.1s						
EGRO	**El Granado**	**2.73**	**311**	⇑P	**Pn**	**07 24 36.7**	**+0.9**
	6.5nm,0.2s,SNR=18						
EGRO				S	**Sn**	**07 25 05.5**	**-3.3**
	35nm,0.2s						
EGRO	**El Granado**	**2.73**	**311**	P	**Pn**	**07 24 36.7**	**+0.9**
	6.5nm,0.2s,SNR=18						
EGRO				S	**Sn**	**07 25 05.5**	**-3.3**
	35nm,0.2s						
EHUE	**Huescar**	**2.73**	**41**	P	**Pn**	**07 24 37.6**	**+1.7**
	1.4nm,0.1s,SNR=7.9						
EHUE				S	**Sn**	**07 25 07.4**	**-1.7**
	3.1nm,0.2s,SNR=7.9						
EHUE	**Huescar**	**2.73**	**41**	P	**Pn**	**07 24 37.6**	**+1.7**
	1.4nm,0.1s,SNR=7.9						
EHUE				S	**Sn**	**07 25 07.4**	**-1.7**
	3.1nm,0.2s,SNR=7.9						
PVAQ	**Vaqueiros**	**2.80**	**306**	*e*P	**Pn**	**07 24 37.5**	**+0.8**
PVAQ				*e*S	**Sn**	**07 25 08.4**	**-2.1**
PVAQ				A	A	07 25 09.6	
	41nm,0.4s						
PVAQ	**Vaqueiros**	**2.80**	**306**	P	**Pn**	**07 24 37.5**	**+0.8**
PVAQ				S	**Sn**	**07 25 08.4**	**-2.1**
	41nm,0.4s						
PVAQ	**Vaqueiros**	**2.80**	**306**	P	**Pn**	**07 24 37.5**	**+0.8**
PVAQ				*e*S	**Sn**	**07 25 08.4**	**-2.1**
	41nm,0.4s						
PBDV	**Barranco-do-Ve**	**2.86**	**302**	*e*P	**Pn**	**07 24 38.5**	**+0.9**
PBDV				*e*S	**Sn**	**07 25 09.7**	**-2.4**
PBDV				A	A	07 25 11.3	
	19nm,0.2s						
PBDV	**Barranco-do-Ve**	**2.86**	**302**	P	**Pn**	**07 24 38.5**	**+0.9**
PBDV				S	**Sn**	**07 25 09.7**	**-2.4**
	19nm,0.2s						
PBDV	**Barranco-do-Ve**	**2.86**	**302**	P	**Pn**	**07 24 38.5**	**+0.9**
PBDV				*e*S	**Sn**	**07 25 09.7**	**-2.4**
	19nm,0.2s						
PBAR	**Barrancos**	**2.95**	**325**	*e*P	**Pn**	**07 24 39.8**	**+1.0**
PBAR				*e*S	**Sn**	**07 25 11.1**	**-3.1**
PBAR				A	A	07 25 13.1	
	28nm,0.2s						
PBAR	**Barrancos**	**2.95**	**325**	P	**Pn**	**07 24 39.8**	**+1.0**
PBAR				S	**Sn**	**07 25 11.1**	**-3.1**
	28nm,0.2s						
PBAR	**Barrancos**	**2.95**	**325**	P	**Pn**	**07 24 39.8**	**+1.0**
PBAR				*e*S	**Sn**	**07 25 11.1**	**-3.1**
	28nm,0.2s						
PCVE	**Castro Verde**	**3.14**	**307**	*e*P	**Pn**	**07 24 42.2**	**+0.8**
PCVE				*e*S	**Sn**	**07 25 16.7**	**-2.2**
PCVE				A	A	07 25 19.8	
	12nm,0.4s						
PCVE	**Castro Verde**	**3.14**	**307**	P	**Pn**	**07 24 42.2**	**+0.8**
PCVE				S	**Sn**	**07 25 16.7**	**-2.2**
	12nm,0.4s						
PCVE	**Castro Verde**	**3.14**	**307**	P	**Pn**	**07 24 42.2**	**+0.8**
PCVE				*e*S	**Sn**	**07 25 16.7**	**-2.2**
	12nm,0.4s						
PBEJ	**Beja**	**3.28**	**314**	*e*S	**Sn**	**07 25 19.3**	**-3.1**
PBEJ				A	A	07 25 22.6	
	16nm,0.3s						
PBEJ	**Beja**	**3.28**	**314**	S	**Sn**	**07 25 19.3**	**-3.1**
	7.8nm,0.3s						
PBEJ	**Beja**	**3.28**	**314**	*e*S	**Sn**	**07 25 19.3**	**-3.1**
	16nm,0.3s						
MORF	**Marmelete**	**3.40**	**298**	*e*P	**Pn**	**07 24 45.5**	**+0.5**
MORF				*e*S	**Sn**	**07 25 23.0**	**-2.4**
MORF				A	A	07 25 25.1	
	28nm,0.1s						
MORF	**Marmelete**	**3.40**	**298**	P	**Pn**	**07 24 45.5**	**+0.5**
MORF				S	**Sn**	**07 25 23.0**	**-2.4**
	28nm,0.1s						
MORF	**Marmelete**	**3.40**	**298**	P	**Pn**	**07 24 45.5**	**+0.5**
MORF				*e*S	**Sn**	**07 25 23.0**	**-2.4**
	28nm,0.1s						
EBAD	**Badajoz**	**3.42**	**331**	P	**Pn**	**07 24 46.1**	**+0.8**
	1.5nm,0.1s,SNR=20						
EBAD				S	**Sn**	**07 25 22.5**	**-3.4**
	21nm,0.1s,SNR=5.8						
EBAD	**Badajoz**	**3.42**	**331**	P	**Pn**	**07 24 46.1**	**+0.8**
	1.5nm,0.1s,SNR=20						
EBAD				S	**Sn**	**07 25 22.5**	**-3.4**
	21nm,0.1s,SNR=5.8						
EVIA	**Vianos**	**3.42**	**33**	P	**Pn**	**07 24 46.1**	**+0.7**
	4.5nm,0.1s,SNR=4.0						
EVIA	**Vianos**	**3.42**	**33**	P	**Pn**	**07 24 46.1**	**+0.7**
	4.5nm,0.1s,SNR=4.0						
PFVI	**Vila Bisbo**	**3.46**	**294**	*e*P	**Pn**	**07 24 46.7**	**+0.9**
PFVI				*e*S	**Sn**	**07 25 24.4**	**-2.3**
PFVI				A	A	07 25 32.2	
	12nm,0.6s						
PFVI	**Vila Bisbo**	**3.46**	**294**	P	**Pn**	**07 24 46.5**	**+0.7**
	3.3nm,0.1s,SNR=18						
PFVI				S	**Sn**	**07 25 23.8**	**-3.0**
	19nm,0.2s,SNR=10						
PFVI	**Vila Bisbo**	**3.46**	**294**	*e*P	**Pn**	**07 24 46.7**	**+0.9**
PFVI				*e*S	**Sn**	**07 25 24.4**	**-2.3**
	12nm,0.6s						
PTEO	**Sao Teotonio**	**3.56**	**301**	*e*P	**Pn**	**07 24 48.3**	**+1.2**
PTEO				*e*S	**Sn**	**07 25 26.4**	**-2.8**
PTEO				A	A	07 25 28.9	
	16nm,0.3s						
PTEO	**Sao Teotonio**	**3.56**	**301**	P	**Pn**	**07 24 48.3**	**+1.2**
PTEO				S	**Sn**	**07 25 26.4**	**-2.8**
	8.2nm,0.3s						
PTEO	**Sao Teotonio**	**3.56**	**301**	P	**Pn**	**07 24 48.3**	**+1.2**
PTEO				*e*S	**Sn**	**07 25 26.4**	**-2.8**
	16nm,0.3s						
EMUR	**La Murta**	**3.57**	**54**	P	**Pn**	**07 24 47.2**	**-0.2**
	0.9nm,0.2s,SNR=4.0						
EMUR	**La Murta**	**3.57**	**54**	P	**Pn**	**07 24 47.2**	**-0.2**
	0.9nm,0.2s,SNR=4.0						
EVO	**Evora**	**3.71**	**319**	*e*P	**Pn**	**07 24 50.2**	**+0.9**
EVO				*e*S	**Sn**	**07 25 30.1**	**-3.0**
EVO				A	A	07 25 31.9	
	26nm,0.1s						
EVO	**Evora**	**3.71**	**319**	P	**Pn**	**07 24 50.2**	**+0.9**
EVO				S	**Sn**	**07 25 30.1**	**-3.0**
	26nm,0.1s						
EVO	**Evora**	**3.71**	**319**	P	**Pn**	**07 24 50.2**	**+0.9**
EVO				*e*S	**Sn**	**07 25 30.1**	**-3.0**
	26nm,0.1s						
PNCL	**Nicolau / Gran**	**3.73**	**310**	*e*P	**Pn**	**07 24 50.3**	**+0.7**
PNCL				*e*S	**Sn**	**07 25 30.2**	**-3.4**
PNCL				A	A	07 25 31.2	
	11nm,0.1s						
PNCL	**Nicolau / Gran**	**3.73**	**310**	*e*P	**Pn**	**07 24 50.3**	**+0.7**
PNCL				*e*S	**Sn**	**07 25 30.2**	**-3.4**
	11nm,0.1s						
PESTR	**Estremoz**	**3.76**	**326**	*e*P	**Pn**	**07 24 50.8**	**+0.8**
PESTR				*e*S	**Sn**	**07 25 30.8**	**-3.5**
PESTR				A	A	07 25 33.0	
	16nm,0.3s						
PESTR	**Estremoz**	**3.76**	**326**	P	**Pn**	**07 24 50.8**	**+0.8**
PESTR				S	**Sn**	**07 25 30.8**	**-3.5**
	16nm,0.3s						
PESTR	**Estremoz**	**3.76**	**326**	P	**Pn**	**07 24 50.8**	**+0.8**
PESTR				*e*S	**Sn**	**07 25 30.8**	**-3.5**
	16nm,0.3s						
MOE	**Montemor**	**3.89**	**316**	*e*S	**Sn**	**07 25 35.0**	**-2.6**
MOE	**Montemor**	**3.89**	**316**	S	**Sn**	**07 25 35.0**	**-2.6**
MOE	**Montemor**	**3.89**	**316**	S	**Sn**	**07 25 35.0**	**-2.6**
ETOB	**Tobarra**	**3.90**	**42**	P	**Pn**	**07 24 52.5**	**+0.6**
	2.9nm,0.2s,SNR=5.7						
ETOB				S	**Sn**	**07 25 33.2**	**-4.7**
	4.0nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**3.90**	**42**	P	**Pn**	**07 24 52.5**	**+0.6**
	2.9nm,0.2s,SNR=5.7						
ETOB				S	**Sn**	**07 25 33.2**	**-4.7**
	4.0nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**3.95**	**10**	P	**Pn**	**07 24 52.9**	**+0.3**
	1.8nm,0.1s,baz=192,slow=12,SNR=14						
ESDC				S	**Sn**	**07 25 34.3**	**-4.8**
	2.7nm,0.2s,baz=192,slow=23,SNR=7.9						
ESDC	**Sonseca Array**	**3.95**	**10**	P	**Pn**	**07 24 52.9**	**+0.3**
	1.8nm,0.1s,slow=12,SNR=14						
ESDC				S	**Sn**	**07 25 34.3**	**-4.8**
	2.7nm,0.2s,baz=192,slow=23,SNR=7.9						
PMRV	**Marv??o**	**4.15**	**332**	*e*P	**Pn**	**07 24 56.2**	**+0.9**
PMRV				*e*S	**Sn**	**07 25 39.9**	**-4.0**
PMRV				A	A	07 25 52.0	
	11nm,0.4s						
PMRV	**Marv??o**	**4.15**	**332**	P	**Pn**	**07 24 56.2**	**+0.9**
PMRV				S	**Sn**	**07 25 39.9**	**-4.0**
	11nm,0.4s						
PMRV	**Marv??o**	**4.15**	**332**	P	**Pn**	**07 24 56.2**	**+0.9**
PMRV				*e*S	**Sn**	**07 25 39.9**	**-4.0**
	11nm,0.4s						
PMTG	**Montargil**	**4.22**	**322**	*e*P	**Pn**	**07 24 57.6**	**+1.3**
PMTG				*e*S	**Sn**	**07 25 41.6**	**-4.1**
PMTG				A	A	07 25 43.8	
	9.0nm,0.2s						
PMTG	**Montargil**	**4.22**	**322**	*e*P	**Pn**	**07 24 57.6**	**+1.3**
PMTG				*e*S	**Sn**	**07 25 41.6**	**-4.1**
	9.0nm,0.2s						
EPLA	**Plasencia**	**4.38**	**348**	P	**Pn**	**07 24 59.1**	**+0.6**
	3.1nm,0.1s,SNR=25						
EPLA				S	Sn	07 25 44.5	-5.1
	18nm,0.1s,SNR=17						
EPLA	**Plasencia**	**4.38**	**348**	P	**Pn**	**07 24 59.1**	**+0.6**
	3.1nm,0.1s,SNR=25						
EPLA				S	Sn	07 25 44.5	-5.1
	18nm,0.1s,SNR=17						
PCBR	**Castelo Branco**	**4.54**	**334**	*e*P	**Pn**	**07 25 01.6**	**+0.9**
PCBR				*e*S	**Sn**	**07 25 49.0**	**-4.5**
PCBR				A	A	07 25 49.4	
	13nm,0.2s						
PCBR	**Castelo Branco**	**4.54**	**334**	P	**Pn**	**07 25 01.6**	**+0.9**
PCBR				S	**Sn**	**07 25 49.0**	**-4.5**
	6.5nm,0.2s						
PCBR	**Castelo Branco**	**4.54**	**334**	P	**Pn**	**07 25 01.6**	**+0.9**
PCBR				*e*S	**Sn**	**07 25 49.0**	**-4.5**
	13nm,0.2s						
PMAFR	**Mafra**	**4.72**	**313**	*e*P	**Pn**	**07 25 04.5**	**+1.3**
PMAFR				*e*S	**Sn**	**07 25 54.1**	**-4.0**
PMAFR	**Mafra**	**4.72**	**313**	P	**Pn**	**07 25 04.9**	**+1.7**
	3.6nm,0.2s,SNR=4.0						
PMAFR				S	**Sn**	**07 25 53.8**	**-4.3**
	15nm,0.2s,SNR=9.1						
PMAFR	**Mafra**	**4.72**	**313**	P	**Pn**	**07 25 04.9**	**+1.7**
	3.6nm,0.2s,SNR=4.0						
PMAFR				S	**Sn**	**07 25 53.8**	**-4.3**
	15nm,0.2s,SNR=9.1						
PTOM	**Tomar**	**4.74**	**325**	*e*S	**Sn**	**07 25 53.8**	**-4.7**
PTOM				A	A	07 25 56.6	
	13nm,0.1s						
PTOM	**Tomar**	**4.74**	**325**	S	**Sn**	**07 25 53.8**	**-4.7**
	6.7nm,0.1s						
PTOM	**Tomar**	**4.74**	**325**	*e*S	**Sn**	**07 25 53.8**	**-4.7**
	13nm,0.1s						
GUD	**Guadarrama**	**4.88**	**6**	P	**Pn**	**07 25 05.9**	**+0.3**
	2.8nm,0.2s,SNR=14						
GUD				S	Sn	07 25 56.5	-5.7
	1.5nm,0.3s						
GUD	**Guadarrama**	**4.88**	**6**	P	**Pn**	**07 25 05.9**	**+0.3**
	2.8nm,0.2s,SNR=14						
GUD				S	Sn	07 25 56.5	-5.7
	1.5nm,0.3s						
MTE	**Manteigas**	**5.07**	**336**	*e*S	**Sn**	**07 26 02.5**	**-4.0**
MTE				A	A	07 26 05.4	
	11nm,0.7s						
MTE	**Manteigas**	**5.07**	**336**	S	**Sn**	**07 26 02.5**	**-4.0**
	5.3nm,0.7s						
MTE	**Manteigas**	**5.07**	**336**	*e*S	**Sn**	**07 26 02.5**	**-4.0**
	11nm,0.7s						
PCAS	**Casmilo, Conde**	**5.13**	**327**	*e*S	Sn	07 26 03.3	-4.8
PCAS	

POLO eS Sn 07 26 25.1 -5.3
PBRG Braganca 6.19 347 eP **Pn 07 25 24.3 +1.0**
PBRG eS **Sn 07 26 29.3 -4.8**
PBRG A A 07 26 31.2
5.1nm,0.2s
PBRG Braganca 6.19 347 P **Pn 07 25 24.3 +1.0**
PBRG S **Sn 07 26 29.3 -4.8**
2.6nm,0.2s
PBRG Braganca 6.19 347 P **Pn 07 25 24.3 +1.0**
PBRG eS **Sn 07 26 29.3 -4.8**
5.1nm,0.2s
ECAL Calabor 6.32 347 P **Pn 07 25 26.0 +0.9**
2.3nm,0.1s,SNR=9.8
ECAL S Sn 07 26 30.5 -6.9
6.4nm,0.3s
ECAL Calabor 6.32 347 P **Pn 07 25 26.0 +0.9**
2.3nm,0.1s,SNR=9.8
ECAL S Sn 07 26 30.5 -6.9
6.4nm,0.3s
PCAB Cabril 6.41 338 eP **Pn 07 25 27.3 +0.9**
PCAB eS Sn 07 26 33.7 -5.9
PCAB A A 07 26 38.0
4.9nm,0.1s
PCAB Cabril 6.41 338 P **Pn 07 25 27.3 +0.9**
PCAB S Sn 07 26 33.7 -5.9
2.5nm,0.1s
PCAB Cabril 6.41 338 P **Pn 07 25 27.3 +0.9**
PCAB eS Sn 07 26 33.7 -5.9
4.9nm,0.1s
ELOB Lobios 6.56 339 P **Pn 07 25 29.1 +0.6**
0.7nm,0.1s,SNR=24
ELOB S Sn 07 26 36.8 -6.6
1.4nm,0.1s,SNR=5.6
ELOB Lobios 6.56 339 P **Pn 07 25 29.1 +0.6**
0.7nm,0.1s,SNR=24
ELOB S Sn 07 26 36.8 -6.6
1.4nm,0.1s,SNR=5.6
PGAV Gavieira, Arco 6.71 338 eS Sn 07 26 40.6 -6.6
PGAV A A 07 26 42.8
5.2nm,0.5s
PGAV Gavieira, Arco 6.71 338 eS Sn 07 26 40.6 -6.6
5.2nm,0.5s
IUNC Unciti 7.44 20 P **Pn 07 25 42.4 +1.9**
2.1nm,0.3s,SNR=7.9
IUNC Unciti 7.44 20 P **Pn 07 25 42.4 +1.9**
2.1nm,0.3s,SNR=7.9
ELAN Lanestosa 7.52 8 P **Pn 07 25 42.7 +1.1**
2.2nm,0.2s,SNR=6.4
ELAN Lanestosa 7.52 8 P **Pn 07 25 42.7 +1.1**
2.2nm,0.2s,SNR=6.4
IEPA Eparoz 7.53 21 P **Pn 07 25 43.4 +1.7**
1.5nm,0.2s,SNR=7.9
IEPA Eparoz 7.53 21 P **Pn 07 25 43.4 +1.7**
1.5nm,0.2s,SNR=7.9
IELO Elcoad 7.59 21 P **Pn 07 25 43.0 +0.4**
1.7nm,0.2s,SNR=7.9
IELO Elcoad 7.59 21 P **Pn 07 25 43.0 +0.4**
1.7nm,0.2s,SNR=7.9
IUSE Utxeti 7.60 19 P **Pn 07 25 43.4 +0.6**
1.5nm,0.2s,SNR=7.9
IUSE Utxeti 7.60 19 P **Pn 07 25 43.4 +0.6**
1.5nm,0.2s,SNR=7.9
EPON Pontenova 7.74 348 S Sn 07 27 05.4 -6.8
SNR=7.9
EPON Pontenova 7.74 348 S Sn 07 27 05.4 -6.8
SNR=7.9
ELIZ Elizondo 7.81 18 P **Pn 07 25 46.5 +0.9**
3.4nm,0.2s,SNR=8.6
ELIZ Elizondo 7.81 18 P **Pn 07 25 46.5 +0.9**
3.4nm,0.2s,SNR=8.6
EALK Alkurruntz 7.87 18 P **Pn 07 25 48.3 +2.0**
1.4nm,0.1s,SNR=6.0
EALK Alkurruntz 7.87 18 P **Pn 07 25 48.3 +2.0**
1.4nm,0.1s,SNR=6.0
EBIE Bielsa 7.92 28 P **Pn 07 25 48.6 +1.4**
0.3nm,0.1s,SNR=7.9
EBIE Bielsa 7.92 28 P **Pn 07 25 48.6 +1.4**
0.3nm,0.1s,SNR=7.9

DJA 19 07:32:23.2±2.5,5°S±21'×10°2E±1°6,h20km±12km,M3.6/3, MLv3.6/3,Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGSI	**Enggano, Bengk**	**0.44**	**96**	P	Pb	07 32 32.8	+0.6
EGSI				S	Sn	07 32 40.3	-1.4
MNAI	**Manna**	**1.46**	**50**	P	Pn	07 32 47.8	-0.6
MDSI	**Maura Dua**	**2.47**	**71**	P	Pn	07 33 02.5	+0.2

CSEM 19 07:48:08.7,34°77N×2°42W,h25km,mb4.3/4,After MDD
MDD 19 07:48:08.7±1.5,34°77N×2°42W,h25km±8km,mb4.3/4, Error ellipse: s-maj=24.4km s-min=11.4km az=41.0, PRXIMO,Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAI	**Zaio**	**0.34**	**307**	P	Pb	07 48 16.0	-0.4
ZAI				S	Sb	07 48 21.0	-0.7
ZAI	**Zaio**	**0.34**	**307**	P	Pb	07 48 16.0	-0.4
ZAI				S	Sb	07 48 21.0	-0.7
MELI	**Melilla**	**0.68**	**321**	P	Pb	07 48 21.4	-0.5
MELI	79nm,0.2s,SNR=7.9			S	Sb	07 48 31.1	+0.2
	226nm,0.2s,SNR=7.9						
MELI	**Melilla**	**0.68**	**321**	P	Pb	07 48 21.4	-0.5
MELI	79nm,0.2s,SNR=7.9			S	Sb	07 48 31.1	+0.2
	226nm,0.2s,SNR=7.9						
EMLI	**Melilla**	**0.69**	**321**	P	Pb	07 48 22.2	+0.1
EMLI	174nm,0.2s,SNR=10			S	Sb	07 48 30.8	-0.4
	338nm,0.2s,SNR=7.2						
EMEL	**Melilla**	**0.69**	**320**	P	Pb	07 48 22.2	0.0
EMEL	174nm,0.2s,SNR=10			S	Sb	07 48 30.8	-0.5
	338nm,0.2s,SNR=7.2						
EALB	**Alboran**	**1.27**	**337**	S	Sn	07 48 43.2	-4.2
	14nm,0.2s,SNR=7.9						
EALB	**Alboran**	**1.27**	**337**	S	Sn	07 48 43.2	-4.1
	14nm,0.2s,SNR=7.9						
EBER	**Berja**	**2.16**	**350**	P	Pn	07 48 41.5	-2.0
EBER	1.9nm,0.3s,SNR=5.0			S	Sn	07 49 02.7	-6.9
	14nm,0.3s,SNR=13						
EBER	**Berja**	**2.16**	**350**	P	Pn	07 48 41.5	-2.0
EBER	1.9nm,0.3s,SNR=5.0			S	Sn	07 49 02.7	-7.0
	14nm,0.3s,SNR=13						
EGUA	**Guajares**	**2.27**	**336**	P	Pn	07 48 42.5	-2.2
EGUA	15nm,0.4s,SNR=7.9			S	Sn	07 49 05.1	-6.7
	5.8nm,0.2s,SNR=7.9						
EGUA	**Guajares**	**2.27**	**336**	P	Pn	07 48 42.5	-2.2
EGUA	15nm,0.4s,SNR=7.9			S	Sn	07 49 05.1	-6.7
	5.8nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**2.63**	**314**	P	Pn	07 48 48.0	-1.6
EMIJ	0.5nm,0.2s,SNR=7.9			S	Sn	07 49 17.2	-3.6
	1.6nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**2.63**	**314**	P	Pn	07 48 48.0	-1.6
EMIJ	0.5nm,0.2s,SNR=7.9			S	Sn	07 49 17.2	-3.6
	1.6nm,0.2s,SNR=7.9						
EQES	**Quesada**	**3.08**	**350**	P	Pn	07 48 55.4	-0.5
EQES	0.3nm,0.1s,SNR=7.9			S	Sn	07 49 29.9	-2.2
	5.6nm,0.3s,SNR=7.9						
EQES	**Quesada**	**3.08**	**350**	P	Pn	07 48 55.4	-0.5
EQES	0.3nm,0.1s,SNR=7.9			S	Sn	07 49 29.9	-2.2
	5.6nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**3.81**	**333**	P	Pn	07 49 05.3	-0.7
EADA	0.1nm,0.1s,SNR=7.9			S	Sn	07 49 46.1	-4.0
	0.8nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**3.81**	**333**	P	Pn	07 49 05.3	-0.7
EADA	0.1nm,0.1s,SNR=7.9			S	Sn	07 49 46.1	-4.0
	0.8nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**3.93**	**10**	P	Pn	07 49 06.1	-1.6
	0.6nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**3.93**	**10**	P	Pn	07 49 06.1	-1.6
	0.6nm,0.2s,SNR=7.9						
ECAB	**El Cabril**	**4.09**	**325**	P	Pn	07 49 10.4	+0.6
	0.2nm,0.2s,SNR=7.9						
ECAB				S	Sn	07 49 53.1	-3.9
	0.1nm,0.2s,SNR=7.9						
ECAB	**El Cabril**	**4.09**	**325**	P	Pn	07 49 10.4	+0.6
	0.2nm,0.2s,SNR=7.9						
ECAB				S	Sn	07 49 53.1	-3.9
	0.1nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.56**	**312**	P	Pn	07 49 15.5	-0.7
	0.3nm,0.1s,SNR=7.9						
EMIN				S	Sn	07 50 04.6	-3.8
	0.3nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.56**	**312**	P	Pn	07 49 15.5	-0.7
	0.3nm,0.1s,SNR=7.9						
EMIN				S	Sn	07 50 04.6	-3.8
	0.3nm,0.2s,SNR=7.9						

BKK 19 07:49:19.5±0.5,4°N±7°×12°7E±°,h10km,M5.1/17,mB5.1/5, mb4.9/17,MLv5.5/1,Mw(mB)4.5/5
BJI 19 07:49:20.1,3°80N×127°01E,h35km,mB5.1/24,mb4.8/29, Ms4.8/18,Ms7 4.5/19
ISCJB 19 07:49:22.8±0.2,3°89N±0°03×126°70E±0°03,h45km, mb4.7/61,MS4.0/31,Error ellipse: s-maj=4.7km s-min=3.4km az=153.1
DJA 19 07:49:25.6±1.2,4°N±7°×12°7E±°,h38km±17km,M5.3/9, mb5.2/8,mB5.6/6,MLv5.4/9,Mw(mB)5.1/6
NEIC 19 07:49:27.1±1.2,3°87N×126°58E,h76km±11km,mb4.7/25, Error ellipse: s-maj=11.7km s-min=5.8km az=63.0
NEIC Felt in the Kepulauan Talaud.
IDC 19 07:49:28.8±2.9,3°81N×126°39E,h93km±27km,mb4.1/22, mb1 4.2/23,mb1mx4.2/29,mbtmp4.1/23,MS3.9/25, Ms1 3.9/25,ms1mx3.8/37,Error ellipse: s-maj=20.8km s-min=8.6km az=78.0
AUST 19 07:49:31.1,3°50N×126°50E,h100km
ISC 19 07:49:24.5±0.3,3°84N±0°04×126°65E±0°05,h45km,n167, σ2°06/199,mb4.7/61,MS4.0/31,1C-1D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.13**	**262**	P	**Pn**	**07 49 43.2**	**-0.7**
SGSI				S	**Sn**	**07 49 59.1**	**+0.8**
GSPH	**General Santos**	**2.80**	**323**	‖iP	**Pn**	**07 50 06.0**	**-0.9**
TNTI	**Ternate**	**3.13**	**167**	ePn	**Pn**	**07 50 12.7**	**+1.3**
TNTI	**Ternate**	**3.13**	**167**	P	**Pn**	**07 50 13.1**	**+1.7**
TNTI				S	**Sn**	**07 50 52.2**	**+4.6**
CTBH	**Cotabato--PC H**	**4.12**	**325**	⇑iP	**Pn**	**07 50 28.2**	**+3.2**
GTOI	**Gorontalo**	**4.83**	**229**	P	**Pn**	**07 50 35.9**	**+1.1**
MRSI	**Marisa**	**5.77**	**235**	P	**Pn**	**07 50 50.2**	**+2.5**
	336nm,0.8s,5μm2.3nm						
MRSI				S	**Sn**	**07 51 53.4**	**+0.8**
	336nm,0.8s,5μm2.3nm						
LUWI	**Luwuk**	**6.21**	**219**	P	Pn	07 50 57.6	+3.9
	986nm,1.1s,8μm3.5nm						
LUWI	**Luwuk**	**6.21**	**219**	P	Pn	07 50 59.2	+5.6
	baz=5.9,SNR=7.1						
TOLI	**Toli-Toli**	**6.44**	**245**	P	**Pn**	**07 50 57.4**	**+0.5**
	358nm,1.0s,7μm2.4nm						
TOLI				S	**Sn**	**07 52 06.4**	**-2.8**
	358nm,1.0s,7μm2.4nm						
SWI	**Sorong**	**6.56**	**135**	P	**Pn**	**07 51 00.5**	**+2.0**
	107nm,0.9s,1μm0.3nm						
SWI				S	**Sn**	**07 52 13.7**	**+1.6**
	107nm,0.9s,1μm0.3nm						
SWI	**Sorong**	**6.56**	**135**	P	**Pn**	**07 51 01.1**	**+2.5**
	baz=6.5,SNR=5.0						
SWI				S	**Sn**	**07 52 14.1**	**+2.0**
	baz=6.5,SNR=6.0						
APSI	**Ampana**	**6.87**	**227**	P	Pn	07 51 06.4	+3.6
	395nm,1.2s,4μm1.8nm						
APSI				S	Sn	07 52 27.4	+7.6
	395nm,1.2s,4μm1.8nm						
NLAI	**Namlea**	**7.05**	**176**	P	**Pn**	**07 51 06.9**	**+1.7**
	103nm,0.7s,4μm1.0nm						
NLAI				S	**Sn**	**07 52 21.7**	**-2.3**
	103nm,0.7s,4μm1.0nm						
MSAI	**Masohi**	**7.49**	**162**	P	Pn	07 51 17.2	+5.9
MYLDM	**Lahad Datu**	**8.23**	**280**	P	**Pn**	**07 51 24.6**	**+3.2**
MYLDM	**Lahad Datu**	**8.23**	**280**	P	**Pn**	**07 51 20.3**	**-1.1**
	105nm,0.8s						
FAKI	**Fak Fak**	**8.74**	**140**	P	**Pn**	**07 51 30.1**	**+1.7**
FAKI	**Fak Fak**	**8.74**	**140**	P	**Pn**	**07 51 30.6**	**+2.1**
	baz=8.6,SNR=18						
TSM	**Tawau**	**8.77**	**273**	P	**Pn**	**07 51 29.0**	**+0.2**
SDKM	**Sandakan**	**9.59**	**281**	P	**Pn**	**07 51 41.0**	**+0.9**
KKM	**Kota Kinabalu**	**10.62**	**282**	ePn	Pn	07 51 57.9	+3.5
KAPI	**Kappang**	**11.17**	**218**	ePn	**Pn**	**07 52 03.5**	**+1.7**
KAPI	**Kappang**	**11.17**	**218**	P	**Pn**	**07 52 04.0**	**+2.2**
	0.9nm,0.3s,baz=25,slow=8.9,SNR=4.1						
KAPI				LR	LR	07 56 55.2	
	comp=Z,750nm,19.6s,baz=214,slow=41						
SBUM	**Sibu**	**14.47**	**265**	ePn	**Pn**	**07 52 49.3**	**+2.5**
SBUM	**Sibu**	**14.47**	**265**	P	**P**	**07 52 50.1**	**-2.4**
KSM	**Kuching**	**16.49**	**262**	eP	**Pn**	**07 53 13.6**	**+0.7**
	32nm,0.8s						
KSM	**Kuching**	**16.49**	**262**	P	**P**	**07 53 15.3**	**+0.3**
KSM	**Kuching**	**16.49**	**262**	P	**P**	**07 53 16.6**	**+1.7**
	baz=16,SNR=6.3						
MTN	**Manton Dam**	**17.16**	**165**	P	**Pn**	**07 53 18.6**	**-2.7**
	baz=17,SNR=52						
KDU	**Kakadu**	**17.41**	**161**	P	**Pn**	**07 53 21.4**	**-2.9**
	baz=17,SNR=18						
KNRA	**Kununurra**	**19.50**	**174**	P	**P**	**07 53 48.0**	**-0.1**
	baz=19,SNR=14						
SSLB	**Suanglung**	**20.58**	**345**	eP	**P**	**07 53 57.6**	**-2.2**
	11nm,0.6s						
FITZ	**Fitzroy Crossi**	**21.83**	**183**	eP	**P**	**07 54 11.9**	**-1.2**
	20nm,0.8s						
FITZ				S	**S**	**07 58 07.8**	**-4.3**
FITZ	**Fitzroy Crossi**	**21.83**	**183**	P	**P**	**07 54 12.1**	**-1.1**
	16nm,0.7s,baz=19,slow=11,SNR=30						
FITZ				S	**S**	**07 58 07.8**	**-4.3**
	7.1nm,1.0s,baz=200,slow=17,SNR=3.8						
FITZ	**Fitzroy Crossi**	**21.83**	**183**	P	**P**	**07 54 12.2**	**-0.9**
	baz=22,SNR=36						
CISI	**Cisompet, Garu**	**21.94**	**239**	S	S	07 58 03.8	-11
	baz=22,SNR=11						
QIZ	**Qiongzhong**	**22.30**	**314**	P	**P**	**07 54 18.1**	**-0.3**
QIZ				S	**S**	**07 58 24.3**	**+3.2**
QIZ				pmax	pmax		
	comp=Z,7.0nm,0.8s						
QIZ				LR	LR		
	comp=N,270nm,8.5s						
QIZ				LR	LR		
	comp=Z,320nm,16.8s						
KTGM	**Kuala Trenggan**	**23.49**	**275**	P	**P**	**07 54 33.3**	**+2.8**
UBPT	**Khong Chiam**	**23.75**	**300**	P	**P**	**07 54 31.9**	**-1.0**
	comp=Z,4.0nm,1.1s						
PMG	**Port Moresby**	**24.31**	**123**	LR	LR	08 05 11.7	
	comp=Z,222nm,18.4s,baz=46,slow=38						
WRAB	**Tennant Creek**	**24.81**	**163**	eP	**P**	**07 54 42.7**	**+0.1**
	comp=Z,27nm,0.7s						
WRA	**Warramunga Arr**	**24.81**	**163**	P	**P**	**07 54 41.5**	**-1.2**
WRA				S	**S**	**07 59 05.1**	**+2.7**
WRA	**Warramunga Arr**	**24.81**	**163**	P	**P**	**07 54 41.5**	**-1.2**
	comp=Z,17nm,0.8s,baz=342,slow=10,SNR=96						
WRA				S	**S**	**07 59 05.1**	**+2.7**
	comp=Z,1.8nm,0.7s,baz=341,slow=18,SNR=4.2						
FRIM	**Kepong**	**24.98**	**269**	P	**P**	**07 54 48.7**	**+4.4**
IPM	**Ipoh**	**25.56**	**272**	eP	**P**	**07 54 52.6**	**+3.0**
	comp=Z,32nm,1.1s						
IPM	**Ipoh**	**25.56**	**272**	P	**P**	**07 54 52.9**	**+3.3**
MBWA	**Marble Bar**	**25.75**	**195**	eP	**P**	**07 54 51.1**	**0.0**
	comp=Z,25nm,0.7s						
KULM	**Kulim**	**25.96**	**274**	eP	**P**	**07 54 55.7**	**+2.6**
	comp=Z,28nm,1.3s						
CHAI	**Chaiyaphum**	**27.05**	**298**	P	**P**	**07 55 05.4**	**+2.5**
	comp=Z,5.3nm,1.1s,comp=Z,178nm						
PSI	**Prapat**	**27.70**	**269**	P	**P**	**07 55 07.3**	**-1.6**
PSI	**Prapat**	**27.70**	**269**	P	**P**	**07 55 07.3**	**-1.6**
	comp=Z,2.8nm,0.7s,baz=84,slow=9.2,SNR=3.3						
PSI				LR	LR	08 08 10.3	
	comp=Z,284nm,18.9s,baz=270,slow=41						
MTSU	**Mount Surprise**	**27.93**	**142**	P	**P**	**07 55 13.0**	**+2.2**
	baz=28,SNR=6.7						
PBKT	**Sadao Pong**	**28.21**	**298**	P	**P**	**07 55 14.5**	**+1.2**
	comp=Z,15nm,0.8s						
AS31	**Alice Springs**	**28.24**	**166**	eP	**P**	**07 55 13.1**	**-0.4**
ASAR	**Alice Springs**	**28.24**	**166**	P	**P**	**07 55 13.3**	**-0.2**
ASAR				S	**S**	**07 59 59.6**	**+3.1**
ASAR	**Alice Springs**	**28.24**	**166**	P	**P**	**07 55 13.3**	**-0.2**
	comp=Z,5.3nm,0.7s,baz=339,slow=6.5,SNR=70						
ASAR				S	**S**	**07 59 59.6**	**+3.1**
	comp=Z,1.1nm,0.9s,baz=358,slow=24,SNR=4.1						
LOEI	**Loei**	**28.35**	**301**	P	P	07 55 10.5	-4.0
	comp=Z,22nm,0.9s,comp=Z,368nm						
NJ2	**Nanjing**	**29.00**	**346**	eP	**P**	**07 55 21.3**	**+1.2**
NJ2				pmax	pmax		
	comp=Z,60nm,0.8s						
JNU	**Nakatsue**	**29.40**	**7**	LR	LR	08 06 41.6	
	comp=Z,137nm,21.9s,baz=344,slow=35						
NANT	**Nan**	**29.40**	**302**	P	P	07 55 27.9	+4.0
	comp=Z,35nm,0.9s						
GYA	**Guiyang**	**29.53**	**322**	eP	**P**	**07 55 26.4**	**+1.3**
GYA				pP	**pP**	**07 55 36.8**	**-0.3**
GYA				PP	**PnPn**	**07 56 24.3**	**+3.2**
GYA				PcP	**PcP**	**07 58 30.0**	**+0.3**
GYA				S	**S**	**08 00 19.4**	**+2.4**
GYA				sS	**sS**	**08 00 35.3**	**-1.8**
GYA				SS	**SnSn**	**08 01 54.3**	**+6.3**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				LR	LR		
	comp=N,470nm,16.8s						
GYA				LR	LR		
	comp=E,350nm,15.6s						
GYA				LR	LR		
	comp=Z,420nm,14.9s						
SUKH	**Sukhothai**	**29.75**	**299**	P	P	07 55 36.8	+10
PAYA	**Payao**	**30.35**	**303**	P	P	07 55 36.5	+4.2
	comp=Z,5.1nm,0.8s,comp=Z,1μm						
CTA	**Charters Tower**	**30.60**	**142**	P	**P**	**07 55 35.5**	**+1.0**
CTA	**Charters Tower**	**30.60**	**142**	P	**P**	**07 55 35.5**	**+1.0**
	comp=Z,7.3nm,0.8s,baz=326,slow=14,SNR=9.9						
CTAO	**Charters Tower**	**30.60**	**142**	eP	**P**	**07 55 35.7**	**+1.2**
	comp=Z,9.1nm,0.9s						
KMI	**Kunming**	**31.25**	**315**	P	**P**	**07 55 42.8**	**+2.4**
KMI				pP	**pP**	**07 55 52.0**	**-0.4**
KMI				sP	**sP**	**07 55 56.5**	**-1.2**
KMI				S	**S**	**08 00 46.6**	**+2.5**
KMI				sS	**sS**	**08 01 04.3**	**+0.1**
KMI				SS	**SnSn**	**08 02 38.3**	**+8.5**
KMI				pmax	pmax		
	comp=Z,10.0nm,0.6s						
KMI				pmax	pmax		
	comp=Z,56nm,4.0s						
KMI				LR	LR		
	comp=N,190nm,18.1s						
KMI				LR	LR		
	comp=E,280nm,18.9s						
KMI				LR	LR		
	comp=Z,300nm,23.6s						
MEEK	**Meekatharra**	**31.28**	**194**	P	**P**	**07 55 40.1**	**-0.3**
	baz=31,SNR=17						
KSAR	**Wonju Array Be**	**33.46**	**2**	P	**P**	**07 55 58.9**	**-0.5**
KSRS	**Korea Array**	**33.47**	**2**	P	**P**	**07 55 58.9**	**-0.6**
	comp=Z,1.6nm,0.5s,baz=181,slow=9.9,SNR=6.7						
KSRS				LR	LR	08 08 00.4	
	comp=Z,187nm,20.0s,baz=186,slow=33						
MJAR	**Matsushiro Arr**	**34.24**	**17**	LR	LR	08 09 58.7	
	comp=Z,167nm,18.0s,baz=220,slow=36						
MORW	**Morawa**	**34.27**	**197**	P	**P**	**07 56 06.1**	**-0.4**
	baz=34,SNR=6.0						
XAN	**Xi'an**	**34.28**	**333**	P	**P**	**07 56 03.8**	**-2.8**
XAN				pmax	pmax		
	comp=Z,2.0nm,0.7s						
XAN				pmax	pmax		
	comp=Z,62nm,6.7s						
FORT	**Forrest**	**34.45**	**178**	eP	**P**	**07 56 07.3**	**-0.7**
	comp=Z,32nm,0.8s						
CD2	**Chengdu**	**34.51**	**324**	P	**P**	**07 56 11.3**	**+2.7**
CD2				pP	**pP**	**07 56 21.3**	**+0.6**
CD2				sP	**sP**	**07 56 25.5**	**-0.5**
CD2				PP	**PP**	**07 57 28.4**	**+0.9**
CD2				S	**S**	**08 01 37.5**	**+3.1**
CD2				sS	**sS**	**08 01 54.3**	**-0.3**
CD2				SS	**SnSn**	**08 03 50.9**	**+2.3**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				pmax	pmax		
	comp=Z,350nm,6.9s						
CD2				LR	LR		
	comp=N,650nm,7.1s						
CD2				LR	LR		
	comp=Z,560nm,8.3s						
BLDU	**Ballidu**	**35.55**	**195**	P	**P**	**07 56 17.1**	**-0.5**
	baz=35,SNR=8.1						
HNR	**Honiara**	**35.71**	**112**	LR	LR	08 09 28.7	
	comp=Z,189nm,20.6s,baz=304,slow=33						
KLBR	**Kellerberrin**	**36.24**	**193**	P	**P**	**07 56 23.1**	**-0.3**
	baz=36,SNR=13						
BJI	**Beijing**	**37.26**	**347**	P	**P**	**07 56 31.4**	**-0.6**
BJI				S	**S**	**08 02 16.0**	**-0.1**
BJI				pmax	pmax		
	comp=Z,33nm,0.6s						
BJI				pmax	pmax		
	comp=Z,250nm,6.6s						
BJI				LR	LR		
	comp=Z,110nm,31.2s						
EIDS	**Eidsvold**	**37.49**	**142**	eP	**P**	**07 56 34.3**	**+0.2**
	comp=Z,36nm,1.0s						
EIDS	**Eidsvold**	**37.49**	**142**	P	**P**	**07 56 34.6**	**+0.5**
	baz=37,SNR=12						
BBOO	**Buckleboo**	**37.53**	**167**	eP	**P**	**07 56 34.1**	**-0.2**
	comp=Z,466nm,1.0s						
BBOO	**Buckleboo**	**37.53**	**167**	P	**P**	**07 56 34.4**	**+0.1**
	baz=37,SNR=29						
NWAO	**Narrogin (SRO)**	**37.64**	**193**	P	**P**	**07 56 35.1**	**-0.2**
NWAO	**Narrogin (SRO)**	**37.64**	**193**	P	**P**	**07 56 35.1**	**-0.2**
	comp=Z,7.7nm,0.6s,baz=346,slow=8.3,SNR=7.7						
STKA	**Stephens Creek**	**38.26**	**159**	eP	**P**	**07 56 40.9**	**+0.3**
	comp=Z,11nm,1.0s						
STKA	**Stephens Creek**	**38.26**	**159**	P	**P**	**07 56 41.1**	**+0.6**
	comp=Z,41nm,0.8s,baz=335,slow=7.8,SNR=46						
STKA	**Stephens Creek**	**38.26**	**159**	P	**P**	**07 56 41.1**	**+0.6**
	baz=38,SNR=22						
LZH	**Lanzhou**	**38.37**	**330**	eP	**P**	**07 56 42.3**	**+0.7**
LZH				sP	sP	07 56 51.9	-7.2
LZH				PP	**PnPn**	**07 58 12.4**	**+0.3**
LZH				eS	**S**	**08 02 36.0**	**+2.6**
LZH				sS	**sS**	**08 02 52.8**	**-1.0**
LZH				SS	**SnSn**	**08 05 16.3**	**-5.7**
LZH				pmax	pmax		
	comp=Z,19nm,1.0s						
LZH				pmax	pmax		
	comp=Z,180nm,4.3s						
LZH				LR	LR		
	comp=N,630nm,15.0s						
LZH				LR	LR		
	comp=E,700nm,13.4s						
LZH				LR	LR		
	comp=Z,740nm,15.6s						
HHC	**Hu-ho-hao-te**	**39.27**	**342**	eP	**P**	**07 56 51.3**	**+2.3**
HHC				pP	**pP**	**07 57 02.1**	**+0.9**
HHC				sP	**sP**	**07 57 05.8**	**-0.8**
HHC				PP	**PnPn**	**07 58 26.6**	**+3.9**
HHC				PcP	**PcP**	**07 58 59.3**	**+2.0**
HHC				S	**S**	**08 02 51.8**	**+5.1**
HHC				sS	**sS**	**08 03 06.1**	**-1.1**
HHC				SS	**SS**	**08 05 37.1**	**-4.5**
HHC				ScS	**ScS**	**08 06 55.6**	**+1.4**
HHC				pmax	pmax		
	comp=Z,38nm,0.8s						
HHC				pmax	pmax		
	comp=Z,510nm,6.1s						
HHC				LR	LR		
	comp=N,670nm,14.3s						
HHC				LR	LR		
	comp=E,900nm,15.5s						
HHC				LR	LR		
	comp=Z,490nm,16.7s						
CMSA	**Cobar Meteorol**	**39.58**	**154**	P	**P**	**07 56 52.4**	**+0.8**
	baz=40,SNR=7.2						
CN2	**Changchun**	**39.81**	**359**	eP	**P**	**07 56 52.4**	**-0.9**
CN2				esP	**sP**	**07 57 06.3**	**-4.6**
CN2				eS	**S**	**08 02 54.4**	**-0.1**
USRK	**Ussuriysk Arra**	**40.47**	**6**	P	**P**	**07 56 58.5**	**-0.3**
	comp=Z,2.8nm,0.8s,baz=181,slow=7.3,SNR=4.7						
USRK				LR	LR	08 11 59.4	
	comp=Z,140nm,21.6s,baz=72,slow=33						
MDJ	**Mudanjiang**	**40.69**	**3

ARPS	**Mount Arapiles**	**42.82 162**	P	**P**	**07 57 19.1 +1.0**
	baz=43,SNR=11				
GTA	**Gaotai**	**42.96 329**	*e*P	P	07 57 30.4 +11
GTA			pP	pP	07 57 37.6 +5.8
GTA			sP	sP	07 57 41.6 +4.5
GTA			pmax	pmax	
	comp=Z,5.0nm,1.8s				
YNG	**Young**	**43.12 153**	P	**P**	**07 57 21.9 +1.3**
	baz=43,SNR=9.6				
CAN	**Canberra**	**44.25 154**	*e*P	**P**	**07 57 31.1 +1.4**
	comp=Z,60nm,1.3s				
CNB	**Canberra Magne**	**44.40 153**	P	**P**	**07 57 32.6 +1.6**
	baz=44,SNR=8.2				
TOO	**Toolangi**	**44.77 159**	P	**P**	**07 57 35.8 +1.9**
	baz=45,SNR=3.6				
SONM	**Songino Array**	**47.17 341**	P	**P**	**07 57 52.8 +0.1**
SONM	**Songino Array**	**47.17 341**	P	**P**	**07 57 52.8 +0.1**
	comp=Z,1.6nm,0.5s,baz=141,slow=5.5,SNR=3.2				
SONM			LR	LR	08 18 17.6
	comp=Z,156nm,21.3s,baz=45,slow=37				
HYB	**Hyderabad**	**49.00 290**	*i* P	**P**	**07 58 05.0 -2.3**
WMQ	**Urumqi**	**52.59 325**	*e*P	**P**	**07 58 35.8 +1.9**
WMQ			pP	**pP**	**07 58 45.8 -0.7**
WMQ			sP	**sP**	**07 58 49.8 -1.9**
WMQ			PcP	**PcP**	**07 59 45.6 +2.0**
WMQ			pmax	pmax	
	comp=Z,11nm,0.8s				
WMQ			pmax	pmax	
	comp=Z,100nm,4.0s				
WMQ			LR	LR	
	comp=E,260nm,20.5s				
WMQ			LR	LR	
	comp=Z,180nm,20.3s				
PETK	**Petropavlovsk-**	**55.36 22**	P	**P**	**07 58 53.8 0.0**
PETK	**Petropavlovsk-**	**55.36 22**	P	**P**	**07 58 53.8 0.0**
	comp=Z,2.1nm,0.6s,baz=185,slow=8.9,SNR=4.8				
PETK			LR	LR	08 22 47.3
	comp=Z,55nm,20.0s,baz=27,slow=36				
MK31	**Makanchi Array**	**57.42 325**	*e*P	**P**	**07 59 06.8 -1.8**
MKAR	**Makanchi Array**	**57.42 325**	P	**P**	**07 59 06.5 -2.2**
MKAR	**Makanchi Array**	**57.42 325**	P	**P**	**07 59 06.5 -2.2**
	comp=Z,2.1nm,0.5s,baz=118,slow=8.0,SNR=24				
MKAR			LR	LR	08 25 30.9
	comp=Z,179nm,18.0s,baz=174,slow=38				
KSH	**Kashi**	**57.91 315**	*e*P	**P**	**07 59 15.1 +2.7**
KSH			pP	**pP**	**07 59 25.0 -0.2**
KSH			PP	**PP**	**08 01 25.1 +4.0**
KSH			PcS	**PcS**	**08 04 06.5 +0.7**
KSH			S	**S**	**08 07 11.3 +1.9**
KSH			ScS	**ScS**	**08 08 58.3 -0.3**
KSH			pmax	pmax	
	comp=Z,170nm,7.0s				
KSH			LR	LR	
	comp=N,150nm,7.3s				
KSH			LR	LR	
	comp=E,240nm,7.1s				
KSH			LR	LR	
	comp=Z,190nm,7.1s				
ZALV	**Zalesovo Beam**	**60.45 333**	P	**P**	**07 59 26.8 -2.8**
ZALV	**Zalesovo Beam**	**60.45 333**	P	**P**	**07 59 26.8 -2.8**
	comp=Z,0.8nm,0.4s,baz=101,slow=7.5,SNR=3.3				
ZALV			LR	LR	08 28 07.5
	comp=Z,78nm,19.0s,baz=159,slow=38				
EKS2	**Erkin-Say**	**60.71 318**	*e*P	**P**	**07 59 31.2 -0.5**
	comp=Z,2.8nm,0.7s				
KURBB	**Kurchatov Arra**	**61.60 327**	P	**P**	**07 59 35.0 -2.4**
	comp=Z,1.6nm,0.6s,baz=129,slow=6.5,SNR=27				
KURK	**Kurchatov**	**61.60 328**	*e*P	**P**	**07 59 35.5 -1.9**
	comp=Z,5.8nm,0.8s				
RPZ	**Rata Peaks**	**61.90 145**	LR	LR	08 25 53.9
	comp=Z,146nm,18.2s,baz=70,slow=35				
URZ	**Urewera**	**62.68 137**	LR	LR	08 26 43.2
	comp=Z,145nm,18.6s,baz=263,slow=36				
AFI	**Afiamalu**	**63.56 107**	LR	LR	08 23 21.1
	comp=Z,104nm,19.6s,baz=291,slow=32				
BVAR	**Borovoye Array**	**67.18 327**	P	**P**	**08 00 12.5 -1.3**
BVAR	**Borovoye Array**	**67.18 327**	P	**P**	**08 00 12.5 -1.3**
	comp=Z,1.4nm,0.6s,baz=119,slow=8.8,SNR=11				
BRVK	**Borovoye**	**67.25 327**	*e*P	**P**	**08 00 12.0 -2.3**
	comp=Z,4.4nm,0.6s				
CASY	**Casey**	**70.92 187**	*e*P	**P**	**08 00 36.4 -0.2**
	comp=Z,4.0nm,0.5s				
ABKAR	**Akbulak array**	**72.01 321**	*e*P	**P**	**08 00 41.2 -2.5**
	comp=Z,3.7nm,0.8s				
RAR	**Rarotonga**	**76.16 113**	LR	LR	08 31 20.4
	comp=Z,69nm,19.0s,baz=265,slow=33				
IMA2	**Indian Mountai**	**82.31 24**	*e*P	**P**	**08 01 41.5 +0.2**
KBZ	**Khabaz**	**82.84 313**	LR	LR	08 42 42.0
	comp=Z,44nm,19.1s,baz=300,slow=39				
BPAW	**Bear Paw Mtn.**	**83.22 26**	*e*P	**P**	**08 01 46.1 +0.1**
	comp=Z,29nm,1.7s				
VNDA	**Vanda**	**83.55 173**	*e*P	**P**	**08 01 47.1 -0.1**
	comp=Z,3.9nm,1.0s				
VNDA	**Vanda**	**83.55 173**	P	**P**	**08 01 47.4 +0.1**
	comp=Z,4.0nm,0.9s,baz=318,slow=6.1,SNR=22				
VNDA			LR	LR	08 39 23.9
	comp=Z,61nm,18.6s,baz=324,slow=36				
COLD	**Coldfoot**	**83.82 23**	*e*P	**P**	**08 01 49.7 +0.8**
	comp=Z,8.3nm,1.1s				
PMR	**Palmer**	**83.89 29**	*e*P	**P**	**08 01 46.2 -3.1**
	comp=Z,16nm,1.3s				
MCK	**McKinley**	**84.10 26**	*e*P	**P**	**08 01 49.7 -0.8**
	comp=Z,32nm,1.5s				
ILAR	**Eielson Array**	**85.04 25**	P	**P**	**08 01 54.1 -1.0**
ILAR	**Eielson Array**	**85.04 25**	P	**P**	**08 01 54.1 -1.0**
	comp=Z,0.5nm,0.5s,baz=254,slow=5.6,SNR=7.5				
ILAR			LR	LR	08 37 44.3
	comp=Z,52nm,19.0s,baz=257,slow=34				
PPT	**Papeete**	**85.22 108**	LR	LR	08 34 53.6
	comp=Z,74nm,20.5s,baz=267,slow=32				
JOF	**Joensuu**	**89.04 333**	*e*p	**P**	**08 02 12.6 -2.0**
	comp=Z,2.4nm,0.5s				
BRTR	**Keskin Array B**	**89.89 310**	P	**P**	**08 02 16.6 -2.6**
BRTR	**Keskin Array B**	**89.89 310**	P	**P**	**08 02 16.6 -2.6**
	comp=Z,1.3nm,0.9s,baz=60,slow=3.0,SNR=4.1				
BRTR			LR	LR	08 51 53.0
	comp=Z,34nm,18.6s,baz=190,slow=42				
ARCES	**ARCESS Array B**	**90.32 340**	P	**P**	**08 02 18.8 -1.6**
ARCES	**ARCESS Array B**	**90.32 340**	P	**P**	**08 02 18.8 -1.6**
	comp=Z,2.9nm,0.8s,baz=91,slow=6.8,SNR=7.7				
ARCES			LR	LR	08 46 04.0
	comp=Z,64nm,21.4s,baz=160,slow=38				
FINES	**FINESS Array B**	**91.70 332**	P	**P**	**08 02 25.2 -1.8**
FINES	**FINESS Array B**	**91.70 332**	P	**P**	**08 02 25.2 -1.8**
	comp=Z,3.2nm,0.8s,baz=50,slow=3.0,SNR=9.5				
FINES			LR	LR	08 46 47.0
	comp=Z,86nm,19.6s,baz=90,slow=38				
AKASG	**Malin Array Be**	**91.76 321**	P	**P**	**08 02 24.7 -2.8**
AKASG	**Malin Array Be**	**91.76 321**	P	**P**	**08 02 24.7 -2.8**
	comp=Z,1.4nm,0.7s,baz=66,slow=4.5,SNR=6.9				
AKASG			LR	LR	08 45 54.7
	comp=Z,69nm,20.7s,baz=115,slow=37				
QSPA	**South Pole Qui**	**93.75 180**	*e*P	**P**	**08 02 36.6 +0.2**
	comp=Z,7.0nm,1.3s				
CRVS	**Cervenica-Dubn**	**97.04 320**	*e*P	**P**	**08 02 51.0 -0.8**
STHS	**Stebnicka Huta**	**97.05 321**	*e*P	**P**	**08 02 51.1 -0.7**
KECS	**Kecovo**	**97.77 320**	*e*P	**P**	**08 02 54.2 -0.8**
NB2	**NORSAR Subarra**	**98.65 334**	P	**P**	**08 02 55.9 -2.9**
	comp=Z,2.1nm,1.0s,baz=68,slow=4.6				
NOA	**NORSAR Array B**	**98.65 334**	P	**P**	**08 02 56.3 -2.5**
NOA	**NORSAR Array B**	**98.65 334**	P	**P**	**08 02 56.3 -2.5**
	comp=Z,0.8nm,0.7s,baz=68,slow=4.5,SNR=4.1				
NOA			LR	LR	08 51 47.9
	comp=Z,90nm,18.2s,baz=55,slow=38				
GERES	**GERESS Array B**	**101.95 322**	P	**Pdif**	**08 03 12.7 -1.1**
GERES	**GERESS Array B**	**101.95 322**	P	**Pdif**	**08 03 12.7 -1.1**
	comp=Z,0.4nm,0.8s,baz=52,slow=6.4,SNR=3.8				
PDAR	**Pinedale Array**	**111.33 41**	PKKPab	PKKPab	08 18 57.9 -2.6
PDAR	**Pinedale Array**	**111.33 41**	PKKPab	PKKPab	08 18 57.9 -2.6
	comp=Z,0.3nm,0.8s,baz=111,slow=4.9,SNR=3.6				
TXAR	**Lajitas Array**	**121.59 52**	PKP	**PKPdf**	**08 08 14.6 +0.4**
TXAR			PP	PP	08 09 40.4 -6.0
TXAR	**Lajitas Array**	**121.59 52**	PKP	**PKPdf**	**08 08 14.6 +0.4**
	comp=Z,0.5nm,0.8s,baz=270,slow=1.3,SNR=4.3				
TXAR			PP	PP	08 09 40.4 -6.0
	comp=Z,0.5nm,1.0s,baz=202,slow=2.7,SNR=3.5				
TORD	**Torodi Ar. Bea**	**122.81 288**	PKP	**PKPdf**	**08 08 15.1 -1.6**
TORD	**Torodi Ar. Bea**	**122.81 288**	PKP	**PKPdf**	**08 08 15.1 -1.6**
	comp=Z,0.5nm,0.7s,baz=101,slow=2.6,SNR=3.9				
JCT	**Junction City**	**124.05 49**	*e*PKPdf	**PKPdf**	**08 08 18.9 +0.1**
MIAR	**Mount Ida**	**126.25 41**	*e*PKPdf	**PKPdf**	**08 08 22.6 -0.2**
LPAZ	**La Paz**	**160.92 131**	*e*PKPdf	**PKPdf**	**08 09 19.9 -1.7**
LPAZ			PKP	**PKPdf**	**08 09 20.6 -1.1**
LPAZ	**La Paz**	**160.92 131**	PKP	**PKPdf**	**08 09 20.6 -1.1**
	comp=Z,1.0nm,0.9s,baz=270,slow=2.0,SNR=4.4				

NEIC ***19*** *07:58:42.1, 17°.87N×63°.65W, h111km, MD3.6(RSPR), After RSPR.*

RSPR 19 07:58:42.1, 17°.87N×63°.65W, h111km±4km, MD3.6/5, 16C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**1.07**	**301⇑**	*e*P	Pn	07 59 03.5	-0.5
TBVI				*e*S	Sn	07 59 20.2	-0.4
TBVI	**Tortola**	**1.07**	**301⇑**	*e*P	Pn	07 59 03.5	-0.5
TBVI				*e*S	Sn	07 59 20.2	-0.4
CDVI	**St. Croix**	**1.07**	**264⇑**	*e*P	Pn	07 59 03.8	-0.2
CDVI	**St. Croix**	**1.07**	**264⇑**	*e*P	Pn	07 59 03.8	-0.2
ABV	**Anegada**	**1.07**	**323**	*e*S	Sn	07 59 20.9	+0.2
ABV	**Anegada**	**1.07**	**323⇑**	*e*P	Pn	07 59 04.2	+0.1
ABVI	**Anegada Island**	**1.07**	**323⇑**	*e*P	Pn	07 59 04.2	+0.1
ABVI				*e*S	Sn	07 59 20.9	+0.2
STVI	**Saint Thomas**	**1.33**	**291⇑**	*e*P	Pn	07 59 06.7	-0.2
STVI	**Saint Thomas**	**1.33**	**291⇑**	*e*P	Pn	07 59 06.7	-0.2
STVI				*e*S	Sn	07 59 25.8	+0.1
MTP	**Monte Pirata**	**1.82**	**277⇑**	*e*P	Pn	07 59 12.6	-0.2
MTP	**Monte Pirata**	**1.82**	**277⇑**	*e*P	Pn	07 59 12.6	-0.2
MTP				*e*S	Sn	07 59 36.6	+0.3
HUMP	**Col San Antoni**	**2.11**	**278⇑**	*e*P	Pn	07 59 16.2	-0.3
HUMP	**Col San Antoni**	**2.11**	**278⇑**	*e*P	Pn	07 59 16.2	-0.3
CBYP	**Canovanas**	**2.13**	**281⇑**	*e*P	Pn	07 59 16.4	-0.5
CBYP	**Canovanas**	**2.13**	**281⇑**	*e*P	Pn	07 59 16.4	-0.5
CBYP				*e*S	Sn	07 59 43.3	-0.3
CPD	**Cerro la Pandu**	**2.16**	**275⇑**	*e*P	Pn	07 59 17.1	0.0
CPD	**Cerro la Pandu**	**2.16**	**275⇑**	*e*P	Pn	07 59 17.1	0.0
CPD				*e*S	Sn	07 59 44.6	+0.5

ISCJB ***19*** *08:00:11.4±1.4, 5°.2S±0°.2×151°.6E±0°.3, h45km, mb3.7/5, Error ellipse: s-maj=54.0km s-min=11.9km az=38.2*
IDC ***19*** *08:00:15.1±5.5, 5°.31S×151°.58E, h70km±45km, mb3.5/5, mb1 3.8/6, mb1mx3.6/17, mbtmp3.6/6, ML3.4/1, Error ellipse: s-maj=73.2km s-min=29.5km az=125.0*
AUST ***19*** *08:01:03.9±5.3, 6°.66S×149°.14E, h319km, Error ellipse: s-maj=5.1km s-min=1.4km az=352.0*

ISC 19 08:00:12.1±1.6, 5°.3S±0°.3×151°.9E±0°.4, h45km, n15, σ1§54/15, mb3.7/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.19**	**228**	P	**Pn**	**08 01 42.0**	**+1.0**
	6.0nm,0.3s,baz=13,slow=9.8,SNR=13						
PMG				S	**Sn**	**08 02 49.2**	**-1.3**
	7.6nm,0.3s,baz=184,slow=21,SNR=7.7						
COEN	**Coen**	**12.13**	**224**	S	Sn	08 05 00.0	-16
	baz=9.4,SNR=6.2						
KDU	**Kakadu**	**20.48**	**248**	P	**P**	**08 04 45.2**	**-1.2**
	baz=18,SNR=15						
KDU				S	S	08 07 33.9	-60
	baz=18,SNR=4.2						
MTN	**Manton Dam**	**21.77**	**248**	P	**P**	**08 05 01.6**	**+1.4**
	baz=19,SNR=4.3						
WRA	**Warramunga Arr**	**22.41**	**228**	P	**P**	**08 05 05.3**	**-1.8**
	1.8nm,0.6s,baz=51,slow=10,SNR=17						
KNRA	**Kununurra**	**24.90**	**244**	P	**P**	**08 05 32.7**	**+1.6**
	baz=22,SNR=14						
ASAR	**Alice Springs**	**25.15**	**222**	P	**P**	**08 05 32.5**	**-0.8**
	1.8nm,0.7s,baz=55,slow=8.8,SNR=18						
FITZ	**Fitzroy Crossi**	**28.59**	**241**	P	**P**	**08 06 02.1**	**-2.2**
	1.3nm,0.3s,baz=35,slow=19,SNR=14						
FITZ	**Fitzroy Crossi**	**28.59**	**241**	P	**P**	**08 06 02.3**	**-2.0**
	baz=26,SNR=10						
MEEK	**Meekatharra**	**38.15**	**233**	P	**P**	**08 07 29.2**	**+1.8**
	baz=35,SNR=5.1						
MORW	**Morawa**	**41.30**	**231**	P	**P**	**08 07 55.3**	**+1.8**
	baz=38,SNR=4.5						
MKAR	**Makanchi Array**	**80.07**	**319**	P	**P**	**08 12 16.7**	**-0.6**
	0.2nm,0.5s,baz=107,slow=7.1,SNR=3.5						
ILAR	**Eielson Array**	**82.97**	**22**	P	**P**	**08 12 32.3**	**+0.1**
	0.4nm,0.6s,baz=247,slow=5.5,SNR=8.1						
GERES	**GERESS Array B**	**123.97**	**328**	PKP	**PKPdf**	**08 19 05.6**	**-0.2**
	0.4nm,0.5s,baz=49,slow=3.3,SNR=3.6						
TORD	**Torodi Ar. Bea**	**149.55**	**287**	PKPbc	**PKPbc**	**08 19 57.1**	**-0.6**
	0.7nm,0.4s,baz=79,slow=2.2,SNR=13						

NIED ***19*** *08:21:00, 36°.60N×141°.40E, h38km, Mw3.8 Best double couple: M0=6.16000×10^14 NP1:φ=20.00000°, δ=88.00000°, λ=82.00000°. NP2:φ=276.00000°, δ=8.00000°, λ=166.00000°.*
IDC ***19*** *08:21:08.9±1.0, 36°.44N×141°.54E, h0km, mb3.6/6, mb1 3.7/8, mb1mx3.6/24, mbtmp3.6/8, ML3.8/2, Error ellipse: s-maj=25.5km s-min=22.3km az=77.0*
ISCJB ***19*** *08:21:12.4±1.6, 36°.59N±0°.06×141°.5E±0°.1, h39km±14km, mb3.5/6, Error ellipse: s-maj=16.0km s-min=8.5km az=29.4*
JMA ***19*** *08:21:13.4±0.1, 36°.59N×141°.38E, h48km±2km, M3.7*
JMA Felt I J1.

ISC 19 08:21:13.1±2.5, 36°.56N±0°.09×141°.35E±0°.09, h26km±16km, n16, σ1§17/20, mb3.6/6, 3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.63**	**275**	‖P	**Pn**	**08 21 26.3**	**-0.1**
JHO				S	**Sn**	**08 21 35.1**	**-0.6**
ONAJ	**Iwakimizuishiy**	**0.70**	**321**	‖P	**Pb**	**08 21 26.8**	**0.0**
ONAJ				S	**Sb**	**08 21 36.6**	**+0.5**
JFK	**Kawauchi**	**0.89**	**335**	‖P	**Pn**	**08 21 29.3**	**-0.8**
JFK				S	**Sb**	**08 21 40.9**	**-0.7**
JYT	**Yasato**	**0.99**	**251**	P	**Pn**	**08 21 31.7**	**+0.4**
MJAR	**Matsushiro Arr**	**2.53**	**271**	Pn	**Pn**	**08 21 54.5**	**+1.9**
	38nm,0.3s,baz=86,slow=8.5,SNR=272						
MJAR				Sn	**Sb**	**08 22 27.3**	**-1.2**
	22nm,0.3s,baz=107,slow=10,SNR=8.7						
MAT	**Matsushiro**	**2.53**	**271**	P	**Pn**	**08 21 54.7**	**+2.1**
MAT				S	**Sn**	**08 22 21.8**	**-0.8**
ASAJ	**Asahikawa**	**7.61**	**7**	Pn	**Pn**	**08 23 03.9**	**+1.5**
	1.0nm,0.3s,baz=234,slow=8.7,SNR=3.8						
ASAJ				Sn	**Sn**	**08 24 27.4**	**-0.3**
	0.4nm,0.3s,baz=36,slow=8.7,SNR=2.0						
USRK	**Ussuriysk Arra**	**10.45**	**320**	Pn	Pn	08 23 47.4	+6.2
	0.2nm,0.3s,baz=131,slow=14,SNR=6.3						
KSRS	**Korea Array**	**10.78**	**279**	Pn	Pn	08 23 53.1	+7.4
	0.3nm,0.3s,baz=92,slow=14,SNR=2.7						
ZALV	**Zalesovo Beam**	**42.20**	**313**	P	**P**	**08 29 03.1**	**-0.5**
	1.2nm,0.3s,baz=93,slow=5.1,SNR=1.6						
MKAR	**Makanchi Array**	**44.33**	**303**	P	**P**	**08 29 21.1**	**+0.1**
	0.6nm,0.6s,baz=84,slow=10.0,SNR=4.1						
ILAR	**Eielson Array**	**49.92**	**32**	P	**P**	**08 30 03.7**	**-0.6**
	0.2nm,0.7s,baz=268,slow=7.4,SNR=2.6						
WRA	**Warramunga Arr**	**56.58**	**188**	P	**P**	**08 30 52.5**	**-1.2**
	0.5nm,0.6s,baz=5.9,slow=7.2,SNR=10						
ASAR	**Alice Springs**	**60.31**	**188**	P	**P**	**08 31 18.9**	**-0.8**
	0.3nm,0.8s,baz=4.6,slow=5.9,SNR=4.1						
BRTR	**Keskin Array B**	**79.13**	**312**	P	**P**	**08 33 17.8**	**+2.1**
	0.5nm,0.9s,baz=282,slow=40,SNR=3.1						
LPAZ	**La Paz**	**146.98**	**60**	PKPbc	**PKPbc**	**08 40 54.1**	**-0.6**
	0.9nm,0.8s,baz=42,slow=4.1,SNR=4.0						

IDC 19 08:23:17.4±1.2, 60°.73S×25°.41W, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.8/14, mbtmp3.7/4, MS3.3/1, Ms1 3.3/1, ms1mx2.9/16, Error ellipse: s-maj=49.7km s-min=30.6km az=82.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPUP	**Villa Florida**	**40.66**	**313**	P	P	08 31 05.3	+6.2
	0.8nm,0.3s,baz=126,slow=8.7,SNR=5.9						
CPUP				LR	LR	08 47 02.8	
	comp=Z,35nm,18.7s,baz=34,slow=35						
VNDA	**Vanda**	**41.93**	**182**	P	P	08 31 09.8	+0.8
	0.5nm,0.7s,baz=197,slow=9.7,SNR=3.9						
LPAZ	**La Paz**	**53.88**	**306**	P	P	08 32 42.7	-0.3
	0.6nm,0.4s,baz=207,slow=8.8,SNR=7.8						
TORD	**Torodi Ar. Bea**	**76.74**	**27**	P	P	08 35 10.7	+0.3
	1.0nm,0.6s,baz=200,slow=6.2,SNR=9.1						
ASAR	**Alice Springs**	**94.24**	**161**	P	P	08 36 36.9	-1.5
	0.3nm,0.9s,baz=186,slow=4.1,SNR=4.1						

IDC 19 08:25:02.0±2.1, 16°.77S×172°.52W, h170km±27km, mb3.4/3, mb1 3.4/4, mb1mx3.2/21, mbtmp3.4/4, MS3.1/1, Ms1 3.1/1, ms1mx2.7/16, Error ellipse: s-maj=53.1km s-min=26.8km az=104.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.93**	**14**	P	Pn	08 25 49.0	-0.5
	4.4nm,0.3s,baz=82,slow=22,SNR=16						
AFI				S	Sn	08 26 26.9	+0.5
	23nm,0.3s,baz=208,slow=22,SNR=11						
RAO	**Raoul Island**	**13.38**	**201**	LR	LR	08 32 21.0	
	comp=Z,82nm,21.5s,baz=312,slow=33						
URZ	**Urewera**	**23.27**	**201**	P	P	08 29 54.4	+0.1
	7.5nm,0.5s,baz=18,slow=3.2,SNR=11						
WRA	**Warramunga Arr**	**50.37**	**258**	P	P	08 33 41.6	-0.5
	0.3nm,0.7s,baz=98,slow=7.7,SNR=5.4						
ASAR	**Alice Springs**	**50.50**	**253**	P	P	08 33 43.4	+0.2
	0.6nm,0.6s,baz=90,slow=8.2,SNR=15						
BRTR	**Keskin Array B**	**147.75**	**320**	PKPbc	PKPbc	08 44 26.3	-0.9
	0.2nm,0.4s,baz=84,slow=4.2,SNR=2.2						

NSSC ***19*** *08:53:42.2±2.9, 28°.50N×108°.75E, h0km±999km*
BJI ***19*** *08:54:13.8, 32°.90N×105°.56E, h8km, mB5.1/25, mb5.3/39, ML5.2/21, Ms5.2/61, Ms7 4.9/59*
ISCJB ***19*** *08:54:14.5±0.1, 32°.84N±0°.02×105°.55E±0°.02, h10km, mb5.4/312, MS4.6/133, Error ellipse: s-maj=2.2km s-min=1.9km az=178.9*
IDC ***19*** *08:54:14.3±0.3, 32°.80N×105°.62E, h0km, mb5.2/48, mb1 5.2/50, mb1mx5.2/50, mbtmp5.2/50, ML4.5/2, MS4.3/26, Ms1 4.3/26, ms1mx4.2/39, Error ellipse: s-maj=10.3km s-min=6.8km az=49.0*
GCMT ***19*** *08:54:16.8±0.2, 32°.87N×105°.61E, h12km, MW4.9, Moment Tensor Solution. s23,c26; s75,c118; Moment tensor: Scale 10^16Nm; Mrr=2.97±.08; Mθθ=0.31±.08; Mφφ=-3.28±.07; Mrθ=-0.19±.32; Mrφ=0.32±.07; Mθφ=-0.57±.27; Best double couple: M0=3.20000×10^16 NP1:φ=180.00000°, δ=50.00000°, λ=96.00000°. NP2:φ=350.00000°, δ=40.00000°, λ=82.00000°. Principal axes: T 3.0400, Plg=83.0000°, Azm=130.0000°; N 0.3200, Plg=5.0000°, Azm=356.0000°; P -3.3600, Plg=5.0000°, Azm=265.0000°; Data Used: IU G II IC CN.*
TEH ***19*** *08:54:16.0, 32°.84N×105°.56E, h10km, ML5.4*
NEIC ***19*** *08:54:16.8±1.5, 32°.84N×105°.52E, h14km±9km, mb5.5/159, MS4.6/83, Error ellipse: s-maj=3.4km s-min=2.7km az=210.0*
NEIC Felt at Chengdu, Hanzhong and Xi'an.
BKK ***19*** *08:54:17.4±0.3, 33°N±3°×10°E±°, h10km, M5.0/41, mB5.4/20, mb5.3/41, Mw(mB)4.9/20*
MOS ***19*** *08:54:17.7±0.9, 32°.86N×105°.62E, h33km, mb5.6/139, MS4.5/51, Error ellipse: s-maj=5.9km s-min=3.3km az=123.7*
DJA ***19*** *08:54:20.0±2.5, 33°N±5°×10°E±1°0, h34km±22km, M5.4/17, mB5.8/8, mb5.4/17, Mw(mB)5.4/8*
SZGRF ***19*** *08:54:22.7, 32°.93N×105°.33E, h33km, mb5.7, MS4.7, Sichuan, China*
BGS ***19*** *08:54:30.2±1.7, 34°.64N×103°.81E, h15km, mb5.4*

ISC 19 08:54:16.7±0.4, 32°.80N±0°.02×105°.61E±0°.02, h15km±2km, h15km:pP-P, n1187, σ1§06/1247, mb5.5/312, MS4.6/134, 203C-74D, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**2.45**	**220**	Pn	**Pn**	**08 54 57.1**	**+0.9**
CD2				Pg	**Pb**	**08 55 01.8**	**+1.3**
CD2				Sn	**Sb**	**08 55 29.8**	**-0.8**
CD2				Sg	**Sg**	**08 55 33.3**	**-2.3**
CD2				smax	smax		
	comp=N,59μm,0.8s						
CD2				smax	smax		
	comp=E,50μm,0.7s						
XAN	**Xi'an**	**3.04**	**65**	Pn	**Pn**	**08 55 04.8**	**+0.5**
XAN				Pg	**Pb**	**08 55 10.5**	**0.0**
XAN				Sn	**Sn**	**08 55 40.3**	**-0.1**
XAN				Sg	**Sb**	**08 55 49.1**	**+1.7**
XAN				smax	smax		
	comp=N,9μm,1.0s						
XAN				smax	smax		
	comp=E,4μm,0.8s						
XAN				LR	LR		
	comp=N,17μm,9.6s						
XAN				LR	LR		
	comp=E,11μm,9.9s						
XAN				LR	LR		
	comp=Z,11μm,9.2s						
LZH	**Lanzhou**	**3.59**	**337**	⇑Pn	**Pn**	**08 55 13.3**	**+1.3**
LZH				Sn	**Sn**	**08 55 55.8**	**+1.7**
LZH				Sg	**Sb**	**08 56 06.5**	**+3.1**
LZH				smax	smax		
	comp=N,10μm,0.6s						
LZH				smax	smax		
	comp=E,14μm,0.6s						
LZH				LR	LR		
	comp=N,29μm,5.4s						
LZH				LR	LR		
	comp=E,26μm,6.2s						
LZH				LR	LR		
	comp=Z,30μm,7.1s						
ENH	**Enshi**	**4.16**	**126**	*e*Pn	**Pn**	**08 55 21.4**	**+1.6**
ENH				*e*Sn	**Sn**	**08 56 12.5**	**+4.4**
GYA	**Guiyang**	**6.38**	**171**	Pn	**Pn**	**08 55 51.3**	**+0.9**
GYA				Sn	**Sn**	**08 57 05.3**	**+2.2**
GYA				Sg	**Sg**	**08 57 36.6**	**-5.1**
GYA				smax	smax		
	comp=N,1μm,1.0s						
GYA				smax	smax		
	comp=E,2μm,1.2s						
GYA				LR	LR		
	comp=N,6μm,7.4s						
GYA				LR	LR		
	comp=E,7μm,7.9s						
GYA				LR	LR		
	comp=Z,9μm,6.5s						
TIY	**Taiyuan**	**7.43**	**47**	Pn	**Pn**	**08 56 04.0**	**-0.7**
TIY				Sg	Sg	08 58 05.8	-9.4
TIY				smax	smax		
	com

HHC				pmax	pmax		
	comp=Z,630nm,5.4s						
HHC				LR	LR		
	comp=N,12μm,10.6s						
HHC				LR	LR		
	comp=E,12μm,10.4s						
HHC				LR	LR		
	comp=Z,10μm,11.0s						
TIA	**Tai'an**	**10.10**	**47**	*e*P	**Pn**	**08 56 40.9**	**-0.2**
TIA				LR	LR		
	comp=N,5μm,14.2s						
TIA				LR	LR		
	comp=E,8μm,11.5s						
TIA				LR	LR		
	comp=Z,12μm,11.9s						
BJT	**Baijiatuau**	**11.14**	**47**	*e*Pn	**Pn**	**08 56 54.0**	**-1.4**
	comp=Z,55nm,0.6s						
BJI	**Beijing**	**11.16**	**47**	P	**Pn**	**08 56 55.3**	**-0.4**
BJI				pmax	pmax		
	comp=Z,34nm,0.6s						
BJI				pmax	pmax		
	comp=Z,370nm,5.5s						
BJI				LR	LR		
	comp=N,7μm,10.2s						
BJI				LR	LR		
	comp=E,5μm,10.6s						
BJI				LR	LR		
	comp=Z,2μm,16.2s						
NJ2	**Nanjing**	**11.22**	**90**	*e*P	**Pn**	**08 56 56.8**	**+0.2**
NJ2				pP		08 57 01.1	
NJ2				sP		08 57 04.1	
NJ2				PP	**PnPn**	**08 57 05.4**	**+1.2**
NJ2				S	**Sn**	**08 59 03.0**	**+1.3**
NJ2				sS		08 59 09.0	
NJ2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
NJ2				pmax	pmax		
	comp=Z,40nm,3.8s						
NJ2				LR	LR		
	comp=Z,6μm,11.6s						
GZH	**Guangzhou**	**11.84**	**143**	P	Pn	08 57 00.0	-5.1
GZH				S	Sn	08 59 08.1	-8.9
GZH				LR	LR		
	comp=N,12μm,7.5s						
GZH				LR	LR		
	comp=E,14μm,8.0s						
LSA	**Lhasa**	**12.75**	**260**	P	**Pn**	**08 57 18.4**	**+0.5**
LSA				LR	LR		
	comp=E,3μm,12.0s						
LSA				LR	LR		
	comp=Z,5μm,11.3s						
LSA	**Lhasa**	**12.75**	**260**	*e*P	**Pn**	**08 57 18.7**	**+0.8**
LSA				pmax	pmax		
	comp=Z,34nm,0.8s						
LSA	**Lhasa**	**12.75**	**260**	*e*Pn	**Pn**	**08 57 18.7**	**+0.8**
	comp=Z,34nm,0.8s						
SSE	**Sheshan**	**13.34**	**93**	P	**Pn**	**08 57 22.5**	**-3.0**
SSE				pmax	pmax		
	comp=Z,41nm,0.7s						
SSE				pmax	pmax		
	comp=Z,370nm,6.1s						
SSE				LR	LR		
	comp=N,4μm,10.4s						
SSE				LR	LR		
	comp=E,7μm,10.4s						
SSE				LR	LR		
	comp=Z,10μm,11.6s						
QZH	**Quanzhou**	**13.80**	**121**	P	**Pn**	**08 57 30.8**	**-1.0**
QZH				S	**Sn**	**09 00 04.5**	**-0.4**
QZH				LR	LR		
	comp=N,12μm,14.6s						
QZH				LR	LR		
	comp=E,6μm,11.9s						
QZH				LR	LR		
	comp=Z,10μm,13.6s						
SHL	**Shillong**	**13.98**	**242**	*i* P	**Pn**	**08 57 33.0**	**-1.4**
SHL				*ex*	x	09 01 50.0	
CMAI	**Chiengmai2**	**14.09**	**206**	P	P	08 57 48.6	+4.9
QIZ	**Qiongzhong**	**14.23**	**163**	P	**Pn**	**08 57 35.8**	**-1.9**
QIZ				pmax	pmax		
	comp=Z,36nm,0.8s						
QIZ				LR	LR		
	comp=N,3μm,7.3s						
QIZ				LR	LR		
	comp=Z,3μm,9.6s						
QIZ	**Qiongzhong**	**14.23**	**163**	*e*Pn	**Pn**	**08 57 35.4**	**-2.4**
	comp=Z,27nm,0.7s						
PAYA	**Payao**	**14.34**	**202**	P	**Pn**	**08 57 40.4**	**+1.2**
	comp=Z,34nm,1.1s,comp=Z,310nm						
DL2	**Dalian**	**14.35**	**60**	P	Pn	08 57 42.6	+3.4
DL2				S	Sn	09 00 25.3	+7.3
DL2				pmax	pmax		
	comp=Z,100nm,1.1s						
DL2				pmax	pmax		
	comp=Z,770nm,4.9s						
DL2				LR	LR		
	comp=N,2μm,15.7s						
DL2				LR	LR		
	comp=E,3μm,15.0s						
DL2				LR	LR		
	comp=Z,4μm,15.3s						
SONM	**Songino Array**	**15.03**	**2**	Pn	**Pn**	**08 57 46.5**	**-2.1**
SONM				Lg	Lg	09 02 09.2	
SONM	**Songino Array**	**15.03**	**2**	Pn	**Pn**	**08 57 46.5**	**-2.1**
	comp=Z,1.4nm,0.3s,baz=184,slow=11,SNR=26						
SONM				Lg	Lg	09 02 09.2	
	comp=Z,0.5nm,0.3s,baz=197,slow=29,SNR=2.4						
SONM				LR	LR	09 04 20.9	
	comp=Z,703nm,21.1s,baz=96,slow=40						
ULN	**Ulaanbaatar**	**15.09**	**4**	Pn	**Pn**	**08 57 47.2**	**-2.2**
	SNR=51						
ULN	**Ulaanbaatar**	**15.09**	**4**	*e*P	**Pn**	**08 57 48.1**	**-1.4**
ULN	**Ulaanbaatar**	**15.09**	**4**	P	**Pn**	**08 57 46.7**	**-2.7**
	comp=Z,99nm,1.2s,comp=Z,994nm						
CM31	**Chiang Mai Arr**	**15.48**	**204**	*e*P	**Pn**	**08 57 54.2**	**-0.4**
	comp=Z,53nm,0.9s						
LOEI	**Loei**	**15.72**	**195**	P	**Pn**	**08 57 57.1**	**-0.6**
	comp=Z,28nm,1.1s,comp=Z,758nm						
SKNT	**Sakolnakorn**	**15.82**	**186**	P	**Pn**	**08 58 00.1**	**+1.1**
	comp=Z,67nm,1.1s						
TATO	**Taipei**	**15.93**	**115**	*e*P	**P**	**08 58 05.0**	**+1.1**
	comp=Z,184nm,1.3s						
YHNB	**Yeheng**	**16.02**	**116**	*e*P	**P**	**08 58 04.7**	**-0.3**
	comp=Z,137nm,1.0s						
SUKH	**Sukhothai**	**16.18**	**201**	P	**Pn**	**08 58 03.7**	**+0.2**
	comp=Z,14nm,0.8s,comp=Z,122nm						
SSLB	**Suanglung**	**16.21**	**120**	*e*P	**P**	**08 58 08.2**	**+1.1**
	comp=Z,130nm,1.0s						
TPUB	**Ta-pu**	**16.28**	**122**	*e*P	**Pn**	**08 58 05.2**	**+0.4**
	comp=Z,70nm,1.0s						
TAPN	**Taplejung**	**16.41**	**255**	*e*P	**Pn**	**08 58 05.9**	**-0.9**
	comp=Z,278nm,0.8s						
NACB	**Ninganchiao**	**16.46**	**117**	*e*P	**P**	**08 58 11.9**	**+2.1**
	comp=Z,107nm,1.1s						
PBKT	**Sadao Pong**	**16.69**	**196**	P	**Pn**	**08 58 10.7**	**+0.6**
	comp=Z,76nm,1.0s						
PBKT	**Sadao Pong**	**16.69**	**196**	P	**P**	**08 58 11.8**	**-0.6**
	comp=Z,76nm,1.0s						
YULB	**Yu-li**	**16.70**	**120**	*e*P	**P**	**08 58 12.7**	**+0.1**
	comp=Z,43nm,1.0s						
ODAN	**Odare**	**16.87**	**254**	*e*P	**Pn**	**08 58 11.6**	**-1.0**
	comp=Z,298nm,0.7s						
SNY	**Shenyang**	**16.88**	**53**	⇓P	**Pn**	**08 58 12.4**	**+0.1**
SNY				S	**Sn**	**09 01 19.8**	**+0.3**
SNY				pmax	pmax		
	comp=Z,45nm,2.1s						
SNY				pmax	pmax		
	comp=Z,620nm,8.4s						
SNY				LR	LR		
	comp=N,2μm,16.7s						
SNY				LR	LR		
	comp=E,2μm,19.6s						
SNY				LR	LR		
	comp=Z,3μm,15.7s						
TWG	**Pinlang**	**16.89**	**122**	*e*P	**P**	**08 58 18.2**	**+3.6**
UBPT	**Khong Chiam**	**17.44**	**180**	P	**P**	**08 58 22.6**	**+1.9**
	comp=Z,73nm,1.7s,comp=Z,924nm						
UBPT	**Khong Chiam**	**17.44**	**180**	P	**P**	**08 58 22.8**	**+2.1**
	comp=Z,73nm,1.3s,comp=Z,924nm						
RAMN	**Ramite**	**17.47**	**255**	*e*P	**Pn**	**08 58 18.9**	**-1.3**
	comp=Z,286nm,0.8s						
JIRN	**Jiri**	**17.54**	**258**	*e*P	**Pn**	**08 58 20.7**	**-0.3**
	comp=Z,154nm,0.8s						
ZAK	**Zakamensk**	**17.65**	**355**	⇓*i*P	**Pn**	**08 58 21.1**	**-1.0**
ZAK				pmax	pmax		
	comp=Z,34nm,1.3s						
GUN	**Gumba**	**17.70**	**259**	*e*P	**Pn**	**08 58 22.8**	**-0.3**
	comp=Z,478nm,0.8s						
WMQ	**Urumqi**	**17.81**	**313**	P	**Pn**	**08 58 22.9**	**-1.1**
WMQ				pP	**P**	**08 58 26.5**	**+1.8**
WMQ				sP	**sP**	**08 58 29.9**	**-1.1**
WMQ				PP	**PnPn**	**08 58 37.8**	**+3.1**
WMQ				S	**Sn**	**09 01 38.9**	**-3.4**
WMQ				sS	**S**	**09 01 44.6**	**-4.4**
WMQ				SS	**SnSn**	**09 02 01.4**	**+5.6**
WMQ				PcP	**PcP**	**09 03 00.8**	**0.0**
WMQ				pmax	pmax		
	comp=Z,94nm,1.0s						
WMQ				LR	LR		
	comp=N,6μm,13.2s						
WMQ				LR	LR		
	comp=E,3μm,12.3s						
WMQ				LR	LR		
	comp=Z,4μm,15.0s						
INCN	**Inchon**	**17.81**	**69**	*e*P	**P**	**08 58 25.2**	**+0.5**
	comp=Z,59nm,0.9s						
UTHA	**Uthaitani**	**18.05**	**199**	P	**P**	**08 58 28.1**	**+0.7**
	comp=Z,22nm,0.6s,comp=Z,197nm						
PKI	**Pulchoki**	**18.21**	**259**	*e*P	**Pn**	**08 58 27.8**	**-1.5**
	comp=Z,471nm,0.9s						
PKIN	**Phulchoki**	**18.22**	**259**	*e*P	**Pn**	**08 58 27.7**	**-1.7**
	comp=Z,184nm,0.7s						
KKN	**Kakani**	**18.24**	**259**	*e*P	**Pn**	**08 58 27.9**	**-1.7**
	comp=Z,218nm,0.8s						
TJN	**Taejon**	**18.26**	**73**	*i* P	**P**	**08 58 30.1**	**+0.4**
DMN	**Daman**	**18.45**	**259**	*e*P	**P**	**08 58 30.7**	**-1.4**
	comp=Z,307nm,1.0s						
KSAR	**Wonju Array Be**	**18.79**	**70**	P	**Pn**	**08 58 35.9**	**-0.1**
KSAR				Lg	Lg	09 04 13.1	
KSRS	**Korea Array**	**18.82**	**69**	P	**P**	**08 58 35.9**	**+0.1**
	comp=Z,1.9nm,0.3s,baz=259,slow=11,SNR=121						
KSRS				Lg	Lg	09 04 13.1	
	comp=Z,0.1nm,0.3s,baz=257,slow=30,SNR=4.2						
KSRS				LR	LR	09 06 22.1	
	comp=Z,2μm,20.0s,baz=267,slow=39						
TLY	**Talaya**	**18.92**	**356***c*	*i* P	**P**	**08 58 36.8**	**-0.1**
TLY				pmax	pmax		
	comp=Z,80nm,1.6s						
TLY				MLR	MLR		
	comp=Z,702nm,11.0s						
TLY	**Talaya**	**18.92**	**356**	P	**P**	**08 58 36.5**	**-0.4**
	comp=Z,201nm,1.7s,SNR=6.3						
CN2	**Changchun**	**19.01**	**49**	*e*P	**Pn**	**08 58 38.8**	**+0.2**
CN2				*e*PP	**PnPn**	**08 58 55.3**	**+4.2**
CN2				*e*S	**Sn**	**09 02 07.3**	**-3.8**
CN2				pmax	pmax		
	comp=Z,220nm,0.9s						
CN2				LR	LR		
	comp=N,2μm,12.0s						
CN2				LR	LR		
	comp=E,2μm,12.0s						
CN2				LR	LR		
	comp=Z,2μm,14.0s						
MOY	**Mondy**	**19.16**	**351**	*e*P	**Pn**	**08 58 40.3**	**-0.1**
DANN	**Dangsing**	**19.32**	**262**	*e*P	**P**	**08 58 40.8**	**-0.8**
	comp=Z,380nm,0.9s						
HIA	**Hailar**	**19.55**	**29**	*e*P	**P**	**08 58 44.3**	**+0.5**
	comp=Z,211nm,1.2s						
KOLN	**Koldanda**	**19.64**	**261**	*e*P	**P**	**08 58 44.8**	**-0.3**
	comp=Z,172nm,0.7s						
PYUN	**Piuthan**	**20.04**	**262**	*e*P	**P**	**08 58 49.2**	**-0.3**
	comp=Z,737nm,0.5s						
CIT	**Chita**	**20.06**	**14**	*e*P	**P**	**08 58 50.1**	**+0.8**
CIT				pmax	pmax		
	comp=Z,151nm,1.3s						
HVS	**Khovu-Aksy**	**20.30**	**338***c*	*i* P	Pn	08 58 52.9	-1.1
HVS				pmax	pmax		
	comp=Z,1μm,0.9s						
PHET	**Kaeng Krachan**	**20.54**	**197**	P	Pn	08 58 56.5	-0.4
	comp=Z,254nm,0.8s						
JNU	**Nakatsue**	**21.20**	**82**	*e*P	**P**	**08 59 01.7**	**-0.1**
	comp=Z,28nm,1.0s						
JNU				PcP	**PcP**	**09 03 06.4**	**-0.6**
JNU	**Nakatsue**	**21.20**	**82**	P	**P**	**08 59 01.9**	**+0.1**
	comp=Z,36nm,0.9s,baz=353,slow=6.6,SNR=7.5						
JNU				PcP	**PcP**	**09 03 06.4**	**-0.6**
	comp=Z,17nm,0.7s,baz=192,slow=1.8,SNR=6.2						
JNU				LR	LR	09 08 01.0	
	comp=Z,2μm,19.8s,baz=284,slow=39						
MDJ	**Mudanjiang**	**22.04**	**51**	P	**P**	**08 59 11.3**	**+0.6**
MDJ				pP	**pP**	**08 59 13.9**	**-1.1**
MDJ				sP	**sP**	**08 59 15.6**	**-1.4**
MDJ				S	**S**	**09 03 15.8**	**+2.5**
MDJ				sS	**sS**	**09 03 19.9**	**-0.4**
MDJ				ScP	**ScP**	**09 06 45.6**	**+0.5**
MDJ				PcS	**PcS**	**09 06 46.8**	**0.0**
MDJ				pmax	pmax		
	comp=Z,75nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,290nm,4.2s						
MDJ				LR	LR		
	comp=N,1μm,11.2s						
MDJ				LR	LR		
	comp=E,1μm,12.9s						
MDJ				LR	LR		
	comp=Z,2μm,11.2s						
MDJ	**Mudanjiang**	**22.04**	**51**	*e*P	**P**	**08 59 12.9**	**+2.2**
	comp=Z,95nm,1.1s						
MDJ				LR	LR		
	comp=Z,1μm,20.0s						
MK31	**Makanchi Array**	**22.61**	**315**	*i* P	**P**	**08 59 16.1**	**-0.7**
MK31				pmax	pmax		
	comp=Z,192nm,1.0s						
MK31	**Makanchi Array**	**22.61**	**315**	*e*P	**P**	**08 59 16.5**	**-0.3**
MKAR	**Makanchi Array**	**22.61**	**315**	*e*P	**P**	**08 59 16.7**	**-0.1**
MKAR						09 03 09.3	
MKAR				S	**S**	**09 03 28.0**	**+4.0**
MKAR	**Makanchi Array**	**22.61**	**315**	*e*P	**P**	**08 59 16.7**	**-0.1**
MKAR				PcP	**PcP**	**09 03 09.2**	**-0.3**
MKAR				S	**S**	**09 03 27.9**	**+4.0**
MKAR	**Makanchi Array**	**22.61**	**315**	P	**P**	**08 59 17.1**	**+0.3**
	comp=Z,120nm,0.9s,baz=113,slow=11,SNR=100						
MKAR				PcP	**PcP**	**09 03 09.3**	**-0.3**
	comp=Z,13nm,0.9s,baz=118,slow=6.9,SNR=6.3						
MKAR				S	**S**	**09 03 27.9**	**+4.0**
	comp=Z,2.5nm,0.9s,baz=131,slow=23,SNR=2.6						
MKAR				LR	LR	09 07 33.2	
	comp=Z,728nm,19.3s,baz=103,slow=35						
VLA	**Vladivostok**	**23.05**	**56**	*i* P	**P**	**08 59 21.0**	**-0.4**
VLA				pmax	pmax		
	comp=Z,83nm,1.6s						
TGY	**Tagaytay City**	**23.27**	**140**	P	**P**	**08 59 23.7**	**-0.3**
TGY	**Tagaytay City**	**23.27**	**140**	P	**P**	**08 59 23.7**	**-0.3**
	comp=Z,95nm,0.3s,baz=323,slow=20,SNR=3.8						
USRK	**Ussuriysk Arra**	**23.48**	**53**	P	**P**	**08 59 25.6**	**-0.1**
	comp=Z,22nm,0.9s,baz=250,slow=8.8,SNR=36						
USRK				PcP	**PcP**	**09 03 12.1**	**+0.8**
	comp=Z,3.4nm,0.7s,baz=248,slow=3.5,SNR=5.1						
USRK				LR	LR	09 09 12.2	
	comp=Z,1μm,18.5s,baz=238,slow=38						
SMLA	**Simla**	**24.16**	**274**	*i* P	**P**	**08 59 32.7**	**+0.4**
SURA	**Surathani**	**24.16**	**195**	P	**P**	**08 59 33.3**	**+0.9**
	comp=Z,75nm,0.9s,comp=Z,4μm						
KKR	**Kurukshetra**	**24.70**	**271**	*e*P	**P**	**08 59 37.9**	**+0.5**
NDI	**New Delhi**	**24.71**	**268**	*e*P	**P**	**08 59 35.0**	**-2.4**
SRIT	**Nakonsritamara**	**24.72**	**194**	P	**P**	**08 59 38.5**	**+1.0**
	comp=Z,89nm,1.0s						
BHK	**Bhakra**	**24.73**	**275**	*e*P	**P**	**08 59 38.0**	**+0.4**
AAA	**Alma-Ata**	**24.77**	**303**	*e*P	**P**	**08 59 39.1**	**+1.3**
KSH	**Kashi**	**24.77**	**294**	P	**P**	**08 59 41.8**	**+3.8**
KSH				pP	**pP**	**08 59 45.3**	**+2.7**
KSH				PP	PnPn	09 00 19.8	+10
KSH				PcP	**PcP**	**09 03 17.8**	**+3.4**
KSH				S	**S**	**09 04 03.3**	**+3.4**
KSH				sS	**sS**	**09 04 10.3**	**+2.8**
KSH				pmax	pmax		
	comp=Z,120nm,1.1s						
KSH				pmax	pmax		
	comp=Z,200nm,4.4s						
KSH				LR	LR		
	comp=N,1μm,9.9s						
KSH				LR	LR		
	comp=E,2μm,11.9s						
KSH				LR	LR		
	comp=Z,3μm,13.2s						
AYAN	**Aya Nagar**	**24.84**	**268**	*e*P	**P**	**08 59 38.3**	**-0.2**
AYAN				AMB	AMB	08 59 39.7	
	comp=Z,93nm,0.8s						
DLH	**Dalhousie**	**24.92**	**278**	*e*P	**P**	**08 59 40.0**	**+0.5**
BHGR	**Bahadurgarh**	**24.94**	**268**	*e*P	**P**	**08 59 39.8**	**+0.4**
SONA	**Sohna**	**24.95**	**267**	*e*P	**P**	**08 59 39.8**	**+0.3**
SONA				AMB	AMB	08 59 41.0	
	comp=Z,74nm,1.3s						
ULHL	**Ulahol**	**25.02**	**301**	*i* P	**P**	**08 59 41.4**	**+1.1**
ULHL	**Ulahol**	**25.02**	**301**	P	**P**	**08 59 41.4**	**+1.1**
	SNR=83						
THN	**Thein Dam**	**25.14**	**277**	*e*P	**P**	**08 59 39.5**	**-1.7**
KRAB	**Krabi**	**25.17**	**195**	P	**P**	**08 59 42.5**	**+1.0**
	comp=Z,106nm,0.8s,comp=Z,1μm						
RTK	**Rohtak**	**25.29**	**269**	*e*P	**P**	**08 59 43.3**	**+0.7**
KLR	**Kul'dur**	**25.48**	**42**⇑	*i* P	**P**	**08 59 41.0**	**-3.1**
KLR				pmax	pmax		
	comp=N,70nm,1.2s						
KLR				pmax	pmax		
	comp=E,270nm,1.2s						
KLR				pmax	pmax		
	comp=Z,330nm,1.2s						
KLR				MLR	MLR		
	comp=N,4μm,11.5s						
KLR				MLR	MLR		
	comp=E,3μm,11.5s						
KLR				MLR	MLR		
	comp=Z,8μm,11.5s						
KUDL	**Kundal**	**25.48**	**267**	*e*P	**P**	**08 59 44.1**	**-0.2**
KUDL				AMB	AMB	08 59 45.5	
	comp=Z,108nm,0.6s						
TKM2	**Tokmak 2**	**25.64**	**302**	*e*P	**P**	**08 59 46.4**	**+0.5**
TKM2				pmax	pmax		
	comp=Z,89nm,1.1s						
TKM2				MLR	MLR		
	comp=Z,2μm,21.0s						
TKM2	**Tokmak 2**	**25.64**	**302**	P	**P**	**08 59 46.7**	**+0.8**
	SNR=61						
TKM2	**Tokmak 2**	**25.64**	**302**	*e*P	**P**	**08 59 46.4**	**+0.5**
	comp=Z,89nm,1.1s						
TKM2				LR	LR		
	comp=Z,2μm,21.0s						
PKDT	**Phuket**	**25.68**	**197**	P	**P**	**08 59 46.9**	**+0.7**
	comp=Z,98nm,0.7s,comp=Z,14μm						
KZA	**Kyzart**	**25.71**	**300**	*i* P	**P**	**08 59 48.3**	**+1.5**
KZA	**Kyzart**	**25.71**	**300**	P	**P**	**08 59 48.3**	**+1.5**
	SNR=62						
ZAA0	**Zalesovo Array**	**25.80**	**331**	*e*P	**P**	**08 59 46.3**	**-0.7**
ZALV	**Zalesovo Beam**	**25.80**	**331**	P	**P**	**08 59 46.6**	**-0.4**
ZALV						09 03 16.3	
ZALV				pmax	pmax		
	comp=Z,40nm,1.0s						
ZALV				MLR	MLR		
	comp=Z,380nm,18.2s						
ZALV	**Zalesovo Beam**	**25.80**	**331**	P	**P**	**08 59 46.6**	**-0.4**
ZALV				PcP	**PcP**	**09 03 16.3**	**+0.1**
ZALV	**Zalesovo Beam**	**25.80**	**331**	P	**P**	**08 59 46.6**	**-0.4**
	comp=Z,40nm,1.0s,baz=123,slow=5.5,SNR=62						
ZALV				PcP	**PcP**	**09 03 16.3**	**+0.1**
	comp=Z,7.3nm,0.6s,baz=165,slow=3.1,SNR=5.7						
ZALV				LR	LR	09 10 54.1	
	comp=Z,380nm,18.2s,baz=248,slow=39						
SKLT	**Songkhla**	**25.92**	**191**	P	**P**	**08 59 48.5**	**+0.2**
	comp=Z,102nm,0.9s,comp=Z,968nm						
SKLT	**Songkhla**	**25.92**	**191**	P	**P**	**08 59 49.2**	**+0.9**
	comp=Z,102nm,0.9s,comp=Z,964nm						
KBK	**Karagaybulak**	**26.05**	**301**	*i* P	**P**	**08 59 51.3**	**+1.7**
KBK	**Karagaybulak**	**26.05**	**301**	P	**P**	**08 59 51.3**	**+1.7**
	SNR=59						
KHET	**Khetri**	**26.07**	**268**	*e*P	**P**	**08 59 49.9**	**+0.1**
KHET				AMB	AMB	08 59 51.8	
	comp=Z,142nm,0.8s						
CHMS	**Chumysh**	**26.26**	**302**	*i* P	**P**	**08 59 52.3**	**+1.0**
CHMS	**Chumysh**	**26.26**	**302**	P	**P**	**08 59 52.3**	**+1.0**
	SNR=15						
NGP	**Nagpur**	**26.28**	**250**	*e*P	**P**	**08 59 52.4**	**+0.7**
NGP				*ex*	x	08 59 56.0	
	comp=Z,122nm,1.2s						
NGP				*e*S	**S**	**09 04 27.4**	**+3.5**
FRU	**Bishkek**	**26.32**	**301**⇓	*i* P	**P**	**08 59 52.0**	**+0.1**
FRU				pmax	pmax		
	comp=Z,160nm,2.0s						
FRU				MLR	MLR		
	comp=Z,1μm,17.0s						
AAK	**Ala-Archa**	**26.37**	**301**	P	**P**	**08 59 53.5**	**+1.0**
	comp=Z,287nm,1.0s,SNR=12						
AAK	**Ala-Archa**	**26.37**	**301***c*	*i* P	**P**	**08 59 53.2**	**+0.7**
AAK				pmax	pmax		
	comp=Z,155nm,1.4s						
AAK				MLR	MLR		
	comp=Z,4μm,17.0s						
AAK	**Ala-Archa**	**26.37**	**301**	P	**P**	**08 59 53.7**	**+1.2**
	SNR=34						
AAK	**Ala-Archa**	**26.37**	**301**	P	**P**	**08 59 53.8**	**+1.4**
	SNR=21						
AAK	**Ala-Archa**	**26.37**	**301**	*e*P	**P**	**08 59 53.4**	**+0.9**
	comp=Z,46nm,0.9s						
AAK				PcP	**PcP**	**09 03 18.0**	**0.0**
AAK	**Ala-Archa**	**26.37**	**301**	P	**P**	**08 59 53.5**	**+1.0**
	comp=Z,27nm,0.9s,baz=90,slow=7.8,SNR=21						
AAK				PcP	**PcP**	**09 03 18.0**	**0.0**
	comp=Z,8.9nm,0.7s,baz=226,slow=4.9,SNR=4.4						
AAK				LR	LR	09 12 16.8	
	comp=Z,2μm,18.8s,baz=65,slow=41						
USP	**Ospenovka**	**26.50**	**302**	*i* P	**P**	**08 59 54.3**	**+0.8**
USP	**Ospenovka**	**26.50**	**302**	P	**P**	**08 59 54.3**	**+0.8**
	SNR=73						
KURBB	**Kurchatov Arra**	**26.71**	**320**	P	**P**	**08 59 55.4**	**+0.1**
	comp=Z,69nm,1.0s,baz=128,slow=9.3,SNR=212						
KURBB				PcP	**PcP**	**09 03 18.3**	**-0.1**
	comp=Z,17nm,0.7s,baz=117,slow=2.2,SNR=28						
KURK	**Kurchatov**	**26.71**	**320**	P	**P**	**08 59 55.0**	**-0.2**
	comp=Z,304nm,1.1s,SNR=44						
KURK	**Kurchatov**	**26.71**	**320***c*	*i* P	**P**	**08 59 55.1**	**-0.2**
KURK				pmax	pmax		
	comp=Z,77nm,1.2s						
KURK				MLR	MLR		
	comp=Z,482nm,17.0s						
KURK	**Kurchatov**	**26.71**	**320**	P	**P**	**08 59 55.5**	**+0.2**
	SNR=49						
KURK	**Kurchatov**	**26.71**	**320**	*e*P	**P**	**08 59 55.1**	**-0.1**
	comp=Z,52nm,1.0s						
KURK				PcP	**PcP**	**09 03 18.3**	**-0.1**
AML	**Almayashu**	**26.86**	**300**	*i* P	**P**	**08 59 58.5**	**+1.3**
AML	**Almayashu**	**26.86**	**300**	P	**P**	**08 59 58.5**	**+1.3**
	SNR=22						
EKS2	**Erkin-Say**	**26.89**	**301**	*e*P	**P**	**08 59 57.7**	**+0.5**
EKS2				pmax	pmax		
	comp=Z,32nm,0.9s						
EKS2				MLR	MLR		
	comp=Z,2μm,19.0s						
EKS2	**Erkin-Say**	**26.89**	**301**	P	**P**	**08 59 58.0**	**+0.8**
	SNR=10						
EKS2	**Erkin-Say**	**26.89**	**301**	*e*P	**P**	**08 59 57.7**	**+0.5**
	comp=Z,32nm,0.9s						
EKS2				LR	LR		
	comp=Z,2μm,19.0s						
MAJO	**Matsushiro**	**27.00**	**73**	*e*P	**P**	**08 59 55.2**	**-2.9**
MAJO				pmax	pmax		
	comp=Z,34nm,0.9s						
MAJO	**Matsushiro**	**27.00**	**73**	*e*P	**P**	**08 59 55.2**	**-2.9**
	comp=Z,34nm,0.9s						
MAT	**Matsushiro**	**27.00**	**73**	⇑P	**P**	**08 59 55.1**	**-3.0**
MJAR	**Matsushiro Arr**	**27.00**	**73**	P	**P**	**08 59 57.3**	**-0.7**
MJAR				PcP	**PcP**	**09 03 19.6**	**+0.2**
MJAR	**Matsushiro Arr**	**27.00**	**73**	P	**P**	**08 59 57.3**	**-0.7**
	comp=Z,7.3nm,0.4s,baz=348,slow=17,SNR=75						
MJAR				PcP	**PcP**	**09 03 19.6**	**+0.2**
	comp=Z,4.8nm,0.7s,baz=238,slow=1.2,SNR=10						
MJAR

CLNS	**Chul'man**	**27.46 23**	*e*P	**P**	**09 00 02.8 +0.8**
CLNS			pmax	pmax	
	comp=N,20nm,1.4s				
CLNS			pmax	pmax	
	comp=Z,28nm,1.1s				
CLNS			pmax	pmax	
	comp=E,19nm,1.3s				
CLNS			pmax	pmax	
	comp=N,1μm,13.0s				
CLNS			pmax	pmax	
	comp=E,1μm,12.0s				
CLNS			MLR	MLR	
	comp=Z,1μm,11.0s				
CLNS			MLR	MLR	
	comp=N,858nm,10.0s				
CLNS			MLR	MLR	
	comp=E,825nm,13.0s				
KULM	**Kulim**	**27.76 191**	*e*P	**P**	**09 00 05.2 +0.3**
	comp=E,35nm,1.1s				
KULM	**Kulim**	**27.76 191**	P	**P**	**09 00 06.6 +1.7**
KULM	**Kulim**	**27.76 191**	P	**P**	**09 00 06.3 +1.4**
	comp=E,30nm,1.3s				
KKM	**Kota Kinabalu**	**28.40 157**	*e*P	**P**	**09 00 11.3 +0.6**
	comp=E,38nm,0.8s				
KKM			LR	LR	
	comp=Z,486nm,20.0s				
KKM	**Kota Kinabalu**	**28.40 157**	P	**P**	**09 00 09.7 -1.0**
KKM	**Kota Kinabalu**	**28.40 157**	P	**P**	**09 00 11.6 +0.9**
	comp=Z,58nm,1.1s				
IPM	**Ipoh**	**28.50 190**	*e*P	**P**	**09 00 11.0 -0.6**
	comp=Z,25nm,0.7s				
IPM	**Ipoh**	**28.50 190**	P	**P**	**09 00 11.9 +0.3**
IPM	**Ipoh**	**28.50 190**	P	**P**	**09 00 11.5 0.0**
	comp=Z,44nm,0.8s				
HYB	**Hyderabad**	**28.78 244**⇓	*i*P	**P**	**09 00 13.5 -0.6**
SDKM	**Sandakan**	**29.10 156**	P	**P**	**09 00 18.0 +1.1**
SDKM	**Sandakan**	**29.10 156**	P	**P**	**09 00 18.2 +1.2**
KK31	**Karatay Array**	**29.33 301**	*i* P	**P**	**09 00 18.8 0.0**
KK31			pmax	pmax	
	comp=Z,45nm,1.2s				
KKAR	**Karatay Array**	**29.33 301**	*e*P	**P**	**09 00 19.2 +0.4**
KKAR			pmax	pmax	
	comp=Z,26nm,1.0s				
KKAR	**Karatay Array**	**29.33 301**	*e*P	**P**	**09 00 19.2 +0.4**
	comp=Z,26nm,1.0s				
FRIM	**Kepong**	**29.64 188**	P	**P**	**09 00 23.3 +1.6**
FRIM	**Kepong**	**29.64 188**	P	**P**	**09 00 23.4 +1.7**
MYLDM	**Lahad Datu**	**30.00 154**	P	**P**	**09 00 27.6 +2.7**
KCSI	**Kotacane, Aceh**	**30.04 196**	P	**P**	**09 00 24.5 -0.7**
	comp=Z,37nm,1.0s				
BTM	**Bintulu**	**30.27 165**	P	**P**	**09 00 26.5 -0.8**
KBL	**Kabul**	**30.38 283**	*e*P	**P**	**09 00 29.1 +0.7**
KBL			pmax	pmax	
	comp=Z,57nm,0.8s				
KBL	**Kabul**	**30.38 283**	*e*P	**P**	**09 00 29.1 +0.7**
	comp=Z,57nm,0.8s				
PSI	**Prapat**	**30.49 193**	P	**P**	**09 00 30.4 +1.0**
PSI			PcP	**PcP**	**09 03 29.1 +0.5**
PSI	**Prapat**	**30.49 193**	P	**P**	**09 00 30.4 +1.0**
	comp=Z,80nm,1.0s,baz=342,slow=8.1,SNR=39				
PSI			PcP	**PcP**	**09 03 29.1 +0.5**
	comp=Z,25nm,0.7s,baz=220,slow=4.2,SNR=13				
SBUM	**Sibu**	**30.82 167**	*e*P	**P**	**09 00 33.8 +1.6**
SBUM	**Sibu**	**30.82 167**	P	**P**	**09 00 34.1 +2.0**
SBUM	**Sibu**	**30.82 167**	P	**P**	**09 00 34.2 +2.0**
SBUM	**Sibu**	**30.82 167**	P	**P**	**09 00 33.2 +1.1**
	comp=Z,86nm,1.0s,comp=Z,667nm				
ASAJ	**Asahikawa**	**30.85 58**	P	**P**	**09 00 32.4 +0.2**
ASAJ	**Asahikawa**	**30.85 58**	P	**P**	**09 00 32.4 +0.2**
	comp=Z,5.5nm,0.5s,baz=285,slow=7.0,SNR=8.5				
MYKOM	**Kota Tinggi**	**30.89 183**	P	**P**	**09 00 34.4 +1.7**
MYKOM	**Kota Tinggi**	**30.89 183**	P	**P**	**09 00 33.6 +0.9**
	comp=Z,67nm,0.9s				
ERM	**Erimo**	**31.01 62**	PFAKE		09 00 50.0 +16
ERM			LR	LR	
	comp=Z,1μm,19.0s				
SNSI	**Sinabang, Aceh**	**31.46 198**	P	**P**	**09 00 37.2 -0.5**
	comp=Z,125nm,0.7s				
KSM	**Kuching**	**31.47 171**	*e*P	**P**	**09 00 38.9 +1.1**
	comp=Z,19nm,0.8s				
YSS	**Yuzh-Sakhalins**	**31.50 52**⇑	*e*P	**P**	**09 00 38.5 +0.6**
YSS			*e*		09 00 57.5
YSS			*e*		09 03 29.6
YSS			pmax	pmax	
	comp=Z,70nm,1.1s				
YSS			MLR	MLR	
	comp=N,2μm,18.0s				
YSS			MLR	MLR	
	comp=E,2μm,16.0s				
YSS			MLR	MLR	
	comp=Z,2μm,16.0s				
POO	**Poona**	**31.81 251**	*e*P	**P**	**09 00 40.0 -0.9**
VOSK	**Vostochnaya**	**31.85 319**	P	**P**	**09 00 40.5 -0.4**
VOSK			pmax	pmax	
	comp=Z,34nm,0.9s				
VOSK	**Vostochnaya**	**31.85 319**	*e*P	**P**	**09 00 40.8 -0.1**
	comp=Z,48nm,1.1s				
KAD	**Karad**	**32.22 249**	*e*P	**P**	**09 00 44.6 +0.1**
BVA0	**Borovoye Array**	**32.30 319**	P	**P**	**09 00 44.7 -0.1**
BVA0			pmax	pmax	
	comp=Z,28nm,1.1s				
BVAR	**Borovoye Array**	**32.30 319**	P	**P**	**09 00 45.0 +0.2**
BVAR					09 03 32.7
BVAR			pmax	pmax	
	comp=Z,18nm,0.8s				
BVAR			MLR	MLR	
	comp=Z,764nm,18.4s				
BVAR	**Borovoye Array**	**32.30 319**	P	**P**	**09 00 45.0 +0.2**
BVAR			PcP	**PcP**	**09 03 32.7 0.0**
BVAR			ScP	**ScP**	**09 07 16.2 +0.4**
BVAR	**Borovoye Array**	**32.30 319**	P	**P**	**09 00 45.0 +0.2**
	comp=Z,18nm,0.8s,baz=116,slow=10,SNR=36				
BVAR			PcP	**PcP**	**09 03 32.7 0.0**
	comp=Z,12nm,0.7s,baz=132,slow=2.2,SNR=13				
BVAR			ScP	**ScP**	**09 07 16.2 +0.4**
	comp=Z,2.5nm,0.8s,baz=117,slow=5.2,SNR=5.2				
BVAR			LR	LR	09 14 48.9
	comp=Z,764nm,18.4s,baz=228,slow=38				
BRVK	**Borovoye**	**32.37 319**	P	**P**	**09 00 45.2 -0.2**
	comp=Z,243nm,1.2s,SNR=11				
BRVK	**Borovoye**	**32.37 319**	*c i*P	**P**	**09 00 45.5 +0.1**
BRVK			pmax	pmax	
	comp=Z,42nm,1.0s				
BRVK			MLR	MLR	
	comp=Z,818nm,20.0s				
BRVK	**Borovoye**	**32.37 319**	P	**P**	**09 00 45.9 +0.5**
	SNR=14				
BRVK	**Borovoye**	**32.37 319**	*e*P	**P**	**09 00 45.6 +0.1**
	comp=Z,45nm,1.1s				
BRVK			LR	LR	
	comp=Z,687nm,20.0s				
BKNI	**Bangkinang**	**32.59 188**	P	**P**	**09 00 48.8 +1.2**
	comp=Z,113nm,0.9s				
STKI	**Sintang**	**33.03 169**	P	**P**	**09 00 53.7 +2.2**
	comp=Z,61nm,0.9s,comp=Z,12μm				
YUK	**Yuzh-Kuril'sk**	**33.17 58**	P	**P**	**09 00 50.5 -2.0**
YUK			S	**S**	**09 06 16.3 +4.8**
YUK			MLR	MLR	
	comp=E,538nm,16.0s				
YUK			MLR	MLR	
	comp=Z,717nm,16.0s				
PALK	**Pallekele**	**34.34 228**	*e*P	**P**	**09 01 04.4 +1.3**
	comp=Z,38nm,0.8s				
PALK	**Pallekele**	**34.34 228**	P	**P**	**09 01 04.9 +1.8**
	comp=Z,59nm,0.9s				
MTKI	**Muara Teweh, K**	**34.69 164**	P	**P**	**09 01 08.7 +2.8**
	comp=Z,85nm,0.7s,comp=Z,17μm				
PPBI	**Pangkal Pinang**	**34.77 179**	P	**P**	**09 01 09.0 +2.3**
IMYA	**Miami**	**37.37 288**	*e*P	**P**	**09 01 29.8 +0.7**
AB31	**Akbulak array**	**37.54 310**	P	**P**	**09 01 30.3 +0.2**
AB31			pmax	pmax	
	comp=Z,29nm,1.1s				
ABKAR	**Akbulak array**	**37.54 310**	*e*P	**P**	**09 01 30.4 +0.4**
	comp=Z,35nm,1.1s				
ISRO	**Mashad**	**37.88 288**	*e*P	**P**	**09 01 34.1 +0.8**
IDAH	**Dahanechah**	**38.22 283**	*e*P	**P**	**09 01 37.0 +0.6**
IMON	**Monand**	**38.29 283**	*e*P	**P**	**09 01 37.7 +0.8**
IMON			*e*P	**P**	**09 01 37.8 +0.8**
IAKL	**Akhelmad**	**38.41 289**	*e*P	**P**	**09 01 39.4 +1.5**
SVE	**Sverdlovsk**	**38.93 322**⇓	*e*P	**P**	**09 01 41.8 +0.1**
SVE			pmax	pmax	
	comp=Z,100nm,1.1s				
AKTO	**Aktyubinsk**	**38.95 311**	P	**P**	**09 01 42.1 +0.2**
AKTO					09 03 51.8
AKTO			pmax	pmax	
	comp=Z,36nm,1.3s				
AKTO	**Aktyubinsk**	**38.95 311**	P	**P**	**09 01 42.1 +0.2**
AKTO			PcP	**PcP**	**09 03 51.8 -0.5**
AKTO	**Aktyubinsk**	**38.95 311**	P	**P**	**09 01 42.1 +0.2**
	comp=Z,36nm,1.3s,baz=96,slow=8.9,SNR=30				
AKTO			PcP	**PcP**	**09 03 51.8 -0.5**
	comp=Z,6.2nm,0.6s,baz=70,slow=6.5,SNR=4.3				
ISHV	**Shirvan**	**39.11 291**	*e*P	**P**	**09 01 45.5 +1.8**
ARU	**Arti**	**39.91 321**	*c i*P	**P**	**09 01 49.8 0.0**
ARU					09 03 21.5
ARU					09 03 54.7
ARU			S	**S**	**09 07 55.5 +1.5**
ARU			SS	**SS**	**09 10 49.9 -0.5**
ARU			pmax	pmax	
	comp=Z,139nm,1.0s				
ARU	**Arti**	**39.91 321**	P	**P**	**09 01 49.5 -0.3**
	comp=Z,679nm,1.2s,SNR=24				
KAPI	**Kappang**	**39.93 158**	P	**P**	**09 01 50.4 -0.1**
	comp=Z,547nm,1.0s,SNR=6.7				
KAPI	**Kappang**	**39.93 158**	*e*P	**P**	**09 01 50.4 -0.1**
	comp=Z,133nm,1.1s				
KAPI	**Kappang**	**39.93 158**	P	**P**	**09 01 50.3 -0.1**
	comp=Z,72nm,0.9s,baz=335,slow=8.5,SNR=20				
KAPI			LR	LR	09 17 59.2
	comp=Z,138nm,18.5s,baz=348,slow=36				
TIXI	**Tiksi**	**40.85 11**	*i* P	**P**	**09 01 56.7 -0.7**
TIXI			pmax	pmax	
	comp=Z,89nm,1.1s				
TIXI			MLR	MLR	
	comp=Z,631nm,18.0s				
SOKR	**Solikamsk**	**41.73 325**	*c i*P	**P**	**09 02 04.0 -0.8**
SOKR			pmax	pmax	
	comp=Z,120nm,1.4s				
SOKR			MLR	MLR	
	comp=Z,280nm,13.0s				
SEY	**Seymchan**	**41.99 30**	*c e*P	**P**	**09 02 07.5 +0.6**
IBAF	**Bafgh**	**42.04 282**	*e*P	**P**	**09 02 08.0 +0.1**
PEA0B	**Petropavlovsk-**	**42.09 45**	*e*P	**P**	**09 02 08.1 +0.2**
PETK	**Petropavlovsk-**	**42.09 45**	P	**P**	**09 02 08.3 +0.4**
PETK					09 03 47.8
PETK					09 04 02.1
PETK			pmax	pmax	
	comp=Z,26nm,1.0s				
PETK			pmax	pmax	
	comp=Z,9.0nm,0.9s				
PETK			MLR	MLR	
	comp=Z,906nm,19.3s				
PETK	**Petropavlovsk-**	**42.09 45**	P	**P**	**09 02 08.3 +0.4**
PETK			PP	**PP**	**09 03 47.8 +2.6**
PETK			PcP	**PcP**	**09 04 02.1 -0.3**
PETK	**Petropavlovsk-**	**42.09 45**	P	**P**	**09 02 08.3 +0.4**
	comp=Z,26nm,1.0s,baz=213,slow=5.1,SNR=23				
PETK			PP	**PP**	**09 03 47.8 +2.6**
	comp=Z,9.4nm,0.9s,baz=258,slow=5.7,SNR=3.7				
PETK			PcP	**PcP**	**09 04 02.1 -0.3**
	comp=Z,3.6nm,0.7s,baz=260,slow=4.2,SNR=4.0				
PETK			LR	LR	09 21 06.8
	comp=Z,906nm,19.3s,baz=254,slow=38				
IANJ	**Anjilo**	**42.47 288**	*e*P	**P**	**09 02 12.3 +0.8**
PET	**Petropavlovsk**	**42.65 45**⇑	*i*P	**P**	**09 02 12.4 0.0**
PET			*e*S	**S**	**09 08 29.0 -5.8**
PET			pmax	pmax	
	comp=Z,30nm,0.8s				
PET			MLR	MLR	
	comp=Z,1μm,18.0s				
SMDO	**Samad**	**42.82 269**	P	**P**	**09 02 15.7 +1.4**
	SNR=8.4				
ISHM	**Shahmirzad**	**42.90 289**	*e*P	**P**	**09 02 16.0 +1.0**
IFIR	**Firoozkooh**	**43.36 289**	*e*P	**P**	**09 02 19.7 +0.9**
ISAD	**Sadrabad**	**43.50 283**	*e*P	**P**	**09 02 19.9 0.0**
BSY	**Bisya**	**43.66 269**	P	**P**	**09 02 22.6 +1.5**
	SNR=12				
ASHO	**Ashiyiah**	**43.86 273**	P	**P**	**09 02 24.9 +2.3**
	SNR=5.6				
IDMV	**Damavand**	**43.95 289**	*e*P	**P**	**09 02 23.9 +0.4**
ARQ	**Araqi**	**44.00 271**	P	**P**	**09 02 25.4 +1.7**
	SNR=6.2				
ISFB	**Sefidab**	**44.06 287**	*e*P	**P**	**09 02 24.6 +0.4**
MMRI	**Maumere**	**44.15 156**	*e*P	**P**	**09 02 24.9 0.0**
	comp=Z,112nm,0.6s				
IZEF	**Zefreh**	**44.35 285**	*e*P	**P**	**09 02 26.7 0.0**
ISRV	**Sarvestan**	**44.71 280**	*e*P	**P**	**09 02 29.2 -0.5**
IR3	**Iran Long-Peri**	**44.77 289**	*e*P	**P**	**09 02 30.4 +0.5**
IKLH	**Kolahrood**	**44.85 286**	*e*P	**P**	**09 02 31.1 +0.4**
IKAZ	**Kazeroun**	**45.64 281**	*e*P	**P**	**09 02 36.4 -0.7**
IRAZ	**Razeghan**	**45.66 289**	*e*P	**P**	**09 02 37.3 +0.2**
MAK	**Makhachkala**	**46.15 300**	*e*P	P	09 02 51.7 +11
MAK			MLR	MLR	
	comp=Z,1μm,13.0s				
RBK	**Rabkut**	**48.50 265**	P	**P**	**09 03 00.1 +0.8**
	SNR=5.5				
IGHG	**Ghaleghazi**	**48.60 289**	*e*P	**P**	**09 02 59.5 -0.6**
GNI	**Garni**	**48.66 297**	P	**P**	**09 03 01.4 +1.1**
	SNR=10				
GNI	**Garni**	**48.66 297**	*e*P	**P**	**09 03 01.0 +0.7**
	comp=Z,39nm,1.1s				
GNI			LR	LR	
	comp=Z,431nm,20.0s				
GNI	**Garni**	**48.66 297**	P	**P**	**09 03 01.0 +0.7**
	comp=Z,6.1nm,0.4s,baz=151,slow=9.2,SNR=7.5				
ZEI	**Tsey**	**48.79 301**	*e*P	**P**	**09 02 58.9 -2.5**
ZEI			pmax	pmax	
	comp=Z,27nm,1.0s				
GOF	**Gofitskoye**	**49.05 304**	*e*P	**P**	**09 03 04.2 +1.1**
GOF			pmax	pmax	
	comp=Z,200nm,1.0s				
UMR	**Umm Al-Rimmam**	**49.11 282**	*e*P	**P**	**09 03 03.9 +0.1**
UMR			AMb	AMB	09 03 05.3
	comp=Z,200nm,1.0s				
QRN	**Al-Qurain**	**49.21 281**	*e*P	**P**	**09 03 04.5 -0.1**
QRN			AMb	AMB	09 03 07.2
	comp=Z,133nm,0.8s				
KBD	**Kabd**	**49.25 282**	*e*P	**P**	**09 03 04.5 -0.4**
KBD			AMb	AMB	09 03 06.4
	comp=Z,107nm,1.1s				
ABTO	**Aybut**	**49.34 265**	P	**P**	**09 03 05.7 0.0**
	SNR=5.4				
VRHR	**Novokhopersk**	**49.35 312**	*e*P	**P**	**09 03 04.7 -0.6**
VRHR			pmax	pmax	
	comp=Z,140nm,1.2s				
VRHR			pmax	pmax	
	comp=N,50nm,1.5s				
VRHR			pmax	pmax	
	comp=E,160nm,1.1s				
KBZ	**Khabaz**	**49.36 302**	P	**P**	**09 03 05.9 +0.5**
KBZ			pmax	pmax	
	comp=Z,25nm,0.9s				
KBZ			MLR	MLR	
	comp=Z,757nm,18.5s				
KBZ	**Khabaz**	**49.36 302**	P	**P**	**09 03 05.9 +0.5**
KBZ	**Khabaz**	**49.36 302**	P	**P**	**09 03 05.9 +0.5**
	comp=Z,24nm,0.9s,baz=89,slow=6.8,SNR=42				
KBZ			LR	LR	09 26 28.1
	comp=Z,757nm,18.5s,baz=262,slow=39				
RDF	**Al-Radifah**	**49.45 282**	*e*P	**P**	**09 03 06.4 0.0**
RDF			AMb	AMB	09 03 08.1
	comp=Z,442nm,0.9s				
KIV	**Kislovodsk**	**49.47 302**⇓	*i*P	**P**	**09 03 06.8 +0.4**
KIV			*i*		09 03 14.5
KIV			*e*		09 05 00.2
KIV			*e*S	**S**	**09 10 17.7 +4.4**
KIV			pmax	pmax	
	comp=Z,96nm,0.9s				
KIV			MLR	MLR	
	comp=Z,800nm,18.0s				
KIV	**Kislovodsk**	**49.47 302**	P	**P**	**09 03 07.6 +1.2**
	comp=Z,497nm,1.0s,SNR=10				
NAY	**Al-Naaiem**	**49.60 282**	*e*P	**P**	**09 03 06.9 -0.6**
NAY			AMb	AMB	09 03 09.0
	comp=Z,435nm,0.8s				
RST	**Umm Al-Ruwaisa**	**49.72 283**	*e*P	**P**	**09 03 07.8 -0.5**
RST			AMb	AMB	09 03 09.8
	comp=Z,3μm,1.0s				
HAKT	**HAKKARI**	**50.02 294**	*i* P	**P**	**09 03 11.8 +0.9**
KLMR	**Klimovskoe**	**50.41 325**	*c i*P	**P**	**09 03 12.7 -0.5**
KLMR			pmax	pmax	
	comp=Z,276nm,1.1s				
KLMR			MLR	MLR	
	comp=Z,602nm,12.0s				
DAGI	**Agillar**	**50.57 299**	*i* P	**P**	**09 03 15.2 +0.3**
DBAD	**Bademkaya**	**50.75 299**	*i* P	**P**	**09 03 17.2 +1.0**
VORD	**Divnogorie**	**50.83 312**	*e*P	**P**	**09 03 16.0 -0.5**
VORD			pmax	pmax	
	comp=Z,50nm,1.0s				
VORD			pmax	pmax	
	comp=N,30nm,0.7s				
VORD			pmax	pmax	
	comp=E,90nm,0.9s				
TMCR	**Tamitsa**	**51.29 329**	*e*P	**P**	**09 03 19.5 -0.2**
TMCR			pmax	pmax	
	comp=Z,147nm,1.2s				
FX1	**Attu Island--F**	**51.41 46**	*e*P	**P**	**09 03 21.6 +0.8**
FX1			PcP	**PcP**	**09 04 36.3 +1.1**
FX1	**Attu Island--F**	**51.41 46**	P	**P**	**09 03 21.5 +0.6**
	comp=Z,50nm,0.7s,baz=262,slow=2.6,SNR=24				
FX1			PcP	**PcP**	**09 04 36.3 +1.1**
	comp=Z,7.5nm,0.5s,baz=270,slow=3.0,SNR=2.9				
MOS	**Moscow**	**51.45 318**	*e*P	**P**	**09 03 20.3 -0.7**
MOS			pmax	pmax	
	comp=Z,300nm,1.2s				
MOS			pmax	pmax	
	comp=Z,227nm,1.1s				
SOC	**Sochi**	**51.66 302**	*e*P	**P**	**09 03 21.5 -1.3**
SOC			*e**PP	**pP**	**09 03 27.1 -0.5**
SOC			*e*		09 05 19.0
SOC			*e*S	**S**	**09 10 39.3 -4.2**
SOC			*e*SS	**SS**	**09 14 19.4 -0.1**
SOC			*e*SSS	SSS	09 15 56.7
SOC			pmax	pmax	
	comp=Z,63nm,1.1s				
SOC			MLR	MLR	
	comp=Z,635nm,16.0s				
SMY	**Shemya**	**51.99 46**	*e*P	**P**	**09 03 26.0 +0.9**
SMY			pmax	pmax	
	comp=Z,309nm,1.0s				
SMY	**Shemya**	**51.99 46**	*e*P	**P**	**09 03 26.0 +0.9**
	comp=Z,309nm,1.0s				
OBN	**Obninsk**	**52.09 317**⇓	*i*P	**P**	**09 03 25.7 -0.1**
OBN			*e*		09 05 20.8
OBN			*e*S	**S**	**09 10 54.2 +5.1**
OBN			pmax	pmax	
	comp=Z,126nm,1.2s				
OBN			MLR	MLR	
	comp=Z,600nm,16.0s				
MARD	**Mardin**	**52.34 294**	*i* P	**P**	**09 03 29.0 +0.9**
KELT	**Kelkit**	**52.76 298**	*i* P	**P**	**09 03 31.6 +0.3**
MZRK	**Al-Mazaregh**	**52.85 293**	*e*P	**P**	**09 03 30.3 -1.5**
ANN	**Anapa**	**53.02 304**	*e*P	P	09 03 27.5 -5.4
ANN			*e**PP	pP	09 03 33.2 -4.5
ANN			*e*		09 04 37.9
ANN			*e*S	S	09 10 53.8 -8.3
ANN			pmax	pmax	
	comp=Z,20nm,1.1s				
ANN			MLR	MLR	
	comp=Z,432nm,16.0s				
SFNV	**Sufian**	**53.10 293**	*e*P	P	09 03 30.0 -3.7
RAYN	**Ar Rayn**	**53.18 276**	P	**P**	**09 03 33.5 -1.0**
	comp=Z,201nm,0.8s,SNR=14				
APA	**Apatity**	**53.37 333**⇓	*i*P	**P**	**09 03 35.0 -0.1**
APA			MLR	MLR	
	comp=Z,700nm,18.0s				
SUSE	**Susehri**	**53.52 298**	*i* P	**P**	**09 03 37.0 +0.1**
KEMA	**Kemaliye**	**53.55 297**	*i* P	**P**	**09 03 37.1 +0.1**
URFA	**Urfa**	**53.80 295**	*e*P	**P**	**09 03 39.3 +0.4**
MALT	**Malatya**	**53.85 296**⇑	*i*P	**P**	**09 03 40.9 +1.6**
MNKR	**ALMNKUR**	**53.89 293**	*e*P	**P**	**09 03 40.4 +0.9**
KSRV	**Kasrt alli**	**54.12 293**	*e*P	**P**	**09 03 41.6 +0.5**
FITZ	**Fitzroy Crossi**	**54.12 156**	*e*P	**P**	**09 03 41.3 +0.2**
	comp=Z,19nm,0.8s				
FITZ	**Fitzroy Crossi**	**54.12 156**	P	**P**	**09 03 41.1 0.0**
	comp=Z,21nm,0.7s,baz=351,slow=6.1,SNR=38				
FITZ			LR	LR	09 25 13.6
	comp=Z,90nm,21.7s,baz=116,slow=34				
AKCD	**Akcadag**	**54.24 296**	*i* P	**P**	**09 03 42.9 +0.7**
JOF	**Joensuu**	**54.29 327**	*e*P	**P**	**09 03 41.7 -0.2**
JOF			pmax	pmax	
	comp=Z,49nm,0.9s				
JOF	**Joensuu**	**54.29 327**	*e*p	**P**	**09 03 41.7 -0.2**
	comp=Z,49nm,0.9s				
SVSK	**Karacayir**	**54.49 298**	*e*P	**P**	**09 03 44.2 +0.5**
GZT	**Gaziantep**	**54.78 295**	*i* P	**P**	**09 03 46.9 +0.8**
KVT	**Kavak**	**54.88 300**	*e*P	**P**	**09 03 46.5 -0.2**
PINB	**Pinarbasi**	**55.28 297**	*i* P	**P**	**09 03 50.3 +0.5**
SIM	**Simferopol'**	**55.29 305**	*c e*P	**P**	**09 03 49.7 +0.3**
SIM			pmax	pmax	
	comp=Z,86nm,0.8s				
MBWA	**Marble Bar**	**55.33 164**	*e*P	**P**	**09 03 50.6 +0.7**
	comp=Z,15nm,0.6s				
AYKD	**Aykdinkavak**	**55.34 296**	*i* P	**P**	**09 03 50.0 0.0**
AMKA	**Amchitka**	**55.37 47**	*e*P	**P**	**09 03 49.3 -0.6**
	comp=Z,129nm,0.6s				
DRWC	**Darouich**	**55.69 295**	*e*P	**P**	**09 03 50.8 -1.8**
CTKT	**Corum**	**55.92 300**	*i* P	**P**	**09 03 55.2 +0.9**
ROOS	**tl_alroos**	**55.98 292**	*e*P	**P**	**09 03 52.7 -2.1**
COBT	**Iskenderun**	**56.03 295**	*i* P	**P**	**09 03 56.2 +1.0**
KOZT	**Kozan**	**56.06 296**	*e*P	**P**	**09 03 56.5 +1.3**
BZK	**Bozkurt**	**56.12 302**	*e*P	**P**	**09 03 56.1 +0.7**
CORM	**Corum**	**56.16 299**	*e*P	**P**	**09 03 55.8 -0.2**
ARCES	**ARCESS Array B**	**56.25 335**	P	**P**	**09 03 55.5 -0.5**
ARCES			PcP	**PcP**	**09 04 54.2 +0.8**
ARCES	**ARCESS Array B**	**56.25 335**	P	**P**	**09 03 55.5 -0.5**
	comp=Z,10nm,0.6s,baz=79,slow=7.6,SNR=34				
ARCES			PcP	**PcP**	**09 04 54.2 +0.8**
	comp=Z,12nm,0.8s,baz=91,slow=4.9,SNR=7.5				
ARCES			LR	LR	09 30 31.8
	comp=Z,253nm,21.6s,baz=269,slow=39				
TOS	**Tosya**	**56.37 300**	*e*P	**P**	**09 03 58.4 +1.0**
ZALF	**Zalf**	**56.37 290**	*e*P	P	09 03 53.9 -3.5
AVNT	**Avonos**	**56.41 298**	*i* P	**P**	**09 03 57.5 -0.2**
ARNB	**Al Arnab**	**56.46 294**	*e*P	**P**	**09 03 56.2 -1.9**
CDAG	**Cicekdag**	**56.52 299**	*i* P	**P**	**09 03 57.5 -1.0**
ILGA	**Ilgaz**	**56.58 301**	*i* P	**P**	**09 03 59.6 +0.5**
KAF	**Kangasniemi**	**56.68 326**	*e*P	**P**	**09 03 58.7 -0.4**
KAF			pmax	pmax	
	comp=Z,15nm,0.6s				
KAF	**Kangasniemi**	**56.68 326**	*e*p	**P**	**09 03 58.7 -0.4**
	comp=Z,15nm,0.6s				
KARA	**Karaisali**	**56.72 296**	*e*P	**P**	**09 03 59.9 0.0**
NIG	**Nigde**	**56.79 297**	*e*P	**P**	**09 04 01.7 +1.1**
FIA1	**FINESS Array S**	**56.88 326**	*e*P	**P**	**09 04 00.1 -0.5**
FINES	**FINESS Array B**	**56.88 326**	P	**P**	**09 04 00.1 -0.5**
FINES			PcP	**PcP**	**09 04 55.6 -0.4**
FINES	**FINESS Array B**	**56.88 326**	P	**P**	**09 04 00.1 -0.5**
	comp=Z,50nm,0.8s,baz=90,slow=7.6,SNR=77				
FINES			PcP	**PcP**	**09 04 55.6 -0.4**
	comp=Z,13nm,0.7s,baz=77,slow=5.5,SNR=5.6				
GULE	**Gulek**	**56.92 296**	*i* P	**P**	**09 04 02.5 +1.0**
ELDT	**Eldivan**	**56.95 300**	*i* P	**P**	**09 04 02.0 +0.3**
ASF	**Jabal al Asfar**	**56.97 290**	LR	LR	09 31 17.7
	comp=Z,153nm,18.6s,baz=178,slow=39				
BR131	**Keskin Array S**	**57.02 299**	*e*P	**P**	**09 04 01.5 -0.6**
	comp=Z,14nm,0.8s				
BRTR	**Keskin Array B**	**57.02 299**	P	**P**	**09 04 01.9 -0.3**
BRTR	**Keskin Array B**	**57.02 299**	P	**P**	**09 04 01.9 -0.3**
	comp=Z,22nm,0.9s,baz=105,slow=6.1,SNR=83				
BRTR			LR	LR	09 33 26.4
	comp=Z,180nm,18.4s,baz=63,slow=41				
VSU	**Vasula**	**57.04 322**	*c i*P	**P**	**09 04 01.6 -0.1**
MICGM	**Minsk**	**57.16 317**⇑	*e*P	**P**	**09 04 01.0 -1.6**
AKASG	**Malin Array Be**	**57.17 313**	P	**P**	**09 04 02.1 -0.7**
AKASG			pmax	pmax	
	comp=Z,78nm,0.9s				
AKASG	**Malin Array Be**	**57.17 313**	P	**P**	**09 04 02.1 -0.7**
AKASG	**Malin Array Be**

PMG Port Moresby 57.70 129 P **P** 09 04 06.8 -0.2
PMG Port Moresby 57.70 129 P **P** 09 04 06.8 -0.2
comp=Z,12nm,0.7s,baz=330,slow=8.1,SNR=3.7
PMG LR LR 09 26 40.7
comp=Z,152nm,19.9s,baz=205,slow=34
ADK Adak 57.71 46 PFAKE 09 04 20.0 +13
ADK LR LR
comp=Z,522nm,19.0s
MMAI Mount Meron Ar 57.86 291 LR LR 09 33 03.0
comp=Z,165nm,18.4s,baz=95,slow=40
KDHN Kadinhani 58.52 298 *i* P **P** 09 04 11.7 -1.0
KONT Konya--Tatoy 58.53 297 *e*P **P** 09 04 11.4 -1.2
ERMK Ermenek 58.54 296 *i* P **P** 09 04 12.6 -0.4
MDUB Mudurnu 58.58 301 *e*P **P** 09 04 12.9 -0.2
KIZT Kizilcal 58.58 299 *e*P **P** 09 04 12.1 -0.9
COEN Coen 58.74 136 *e*P **P** 09 04 14.7 +0.5
comp=Z,68nm,0.5s
HDMB Hadim 58.76 296 *e*P **P** 09 04 12.9 -1.6
CSS Prodhromos 58.79 294 P **P** 09 04 13.9 -0.6
CSS Prodhromos 58.79 294 *e*P **P** 09 04 13.5 -1.0
comp=Z,34nm,0.8s
CSS LR LR
comp=Z,240nm,22.0s
TLCR 58.85 306⇑*i*P **P** 09 04 14.9 +0.3
LEOM Leova 58.87 308⇑⇑P **P** 09 04 15.1 +0.4
LEOM Leova 58.87 308⇑⇑*i*P **P** 09 04 15.1 +0.4
GAZI Gazipasa 59.13 296 *i* P P 09 04 12.7 -4.1
SEYT Eskypehyr 59.14 300 *i* P **P** 09 04 16.4 -0.5
WRAB Tennant Creek 59.20 148 P **P** 09 04 17.9 +0.6
comp=Z,580nm,0.7s,SNR=50
WRAB Tennant Creek 59.20 148 *e*P **P** 09 04 17.0 -0.3
WRAB pmax pmax
comp=Z,60nm,0.7s
WRAB Tennant Creek 59.20 148 *e*P **P** 09 04 17.0 -0.3
comp=Z,60nm,0.7s
WRA Warramunga Arr 59.20 148 P **P** 09 04 17.2 -0.1
WRA S **S** 09 12 24.7 +0.1
WRA P'P'
WRA ⇑*e* 09 33 44.4
WRA 09 33 57.0
WRA Warramunga Arr 59.20 148 P **P** 09 04 17.2 -0.1
comp=Z,41nm,0.7s,baz=340,slow=7.0,SNR=232
WRA S **S** 09 12 24.7 +0.1
comp=Z,1.9nm,0.9s,baz=318,slow=16,SNR=7.7
WRA PKPPKP **P'P'df** 09 33 44.4 +0.6
comp=Z,0.7nm,0.8s,baz=135,slow=2.0,SNR=5.9
WRA PKP2bc 09 33 57.0
comp=Z,3.1nm,0.8s,baz=145,slow=2.2,SNR=16
TIRR Tirgusor 59.34 306⇑*i*P **P** 09 04 17.6 -0.4
SUTC Sutluce-Ispart 59.70 297 *e*P **P** 09 04 20.7 -0.2
ISP Isparta 59.94 298 *e*P **P** 09 04 21.4 -1.1
ISP Isparta 59.94 298 P **P** 09 04 21.6 -0.9
ISP Isparta 59.94 298⇑⇑P **P** 09 04 21.7 -0.8
ISP Isparta 59.94 298 *e*P **P** 09 04 21.4 -1.1
comp=Z,77nm,0.8s
ISP LR LR
comp=Z,246nm,19.0s
ISP Isparta 59.94 298⇑*i*P **P** 09 04 21.7 -0.8
SUW Suwalki 59.95 317 *e*P **P** 09 04 21.5 -0.6
SUW *e* 09 05 07.5
SUW Suwalki 59.95 317 *e*P **P** 09 04 21.5 -0.6
SUW *e*PcP **PcP** 09 05 07.5 -0.7
SUW Suwalki 59.95 317 *e*P **P** 09 04 21.6 -0.6
VRI Vrincioaia 60.05 308⇑⇑P **P** 09 04 24.4 +1.4
VRI Vrincioaia 60.05 308⇑⇑*i*P **P** 09 04 24.4 +1.4
GDZ Gediz 60.28 300 *i* P **P** 09 04 24.4 -0.4
MSEY Mahe Island 60.36 242 PFAKE 09 04 40.0 +14
MSEY LR LR
comp=Z,208nm,19.0s
PRD Provadia 60.42 305 P **P** 09 04 26.3 +0.8
KHL Karahalli 60.51 299 *e*P **P** 09 04 25.9 -0.5
KHAL Karahalli 60.52 299 *i* P **P** 09 04 25.5 -0.9
BURAR Bucovina Array 60.52 310⇑⇑P **P** 09 04 26.5 +0.2
BURAR Bucovina Array 60.52 310⇑⇑*i*P **P** 09 04 26.5 +0.2
LVV L'vov 60.62 313⇓*i*P **P** 09 04 26.6 -0.1
MLR Muntele Rosu 60.69 307⇑⇑*i*P **P** 09 04 28.9 +1.4
SECR 60.75 307⇑⇑*i*P **P** 09 04 29.4 +1.6
DOPR Dopca 60.91 308⇑⇑*i*P **P** 09 04 30.1 +1.2
ATD Arta Tunnel 60.99 265 P **P** 09 04 31.1 +1.2
ATD Arta Tunnel 60.99 265 P **P** 09 04 31.1 +1.2
comp=Z,124nm,0.9s,baz=4.5,slow=3.1,SNR=45
DENT Denizli 61.07 298 *e*P **P** 09 04 28.9 -1.3
KULA Kula-Manisa 61.08 299 P **P** 09 04 28.8 -1.4
KULA Kula-Manisa 61.08 299 P **P** 09 04 28.8 -1.4
DNZL Cakiroluk 61.08 298 *i* P **P** 09 04 29.6 -0.8
MANT Manisa 61.16 299 *i* P **P** 09 04 30.2 -0.7
JMB Yambol 61.23 304 P **P** 09 04 31.7 +0.7
JMB Yambol 61.23 304 P **P** 09 04 31.7 +0.7
JMB Yambol 61.23 304 P **P** 09 04 31.7 +0.7
JMB Yambol 61.23 304 P **P** 09 04 32.2 +1.2
GONE Gonen-Balikesi 61.26 301 *e*P **P** 09 04 31.1 -0.2
SZH Strazhica 61.41 305 P **P** 09 04 32.4 +0.1
BALY Balya 61.41 301 *i* P **P** 09 04 32.2 -0.2
KWP Kalwaria Pacla 61.49 313⇑⇑P **P** 09 04 33.3 +0.6
KWP Kalwaria Pacla 61.49 313 *e*P **P** 09 04 32.9 +0.2
comp=Z,270nm,1.0s
KWP LR LR
comp=Z,327nm,19.0s
KWP Kalwaria Pacla 61.49 313⇑⇑*i*P **P** 09 04 33.3 +0.6
KWP Kalwaria Pacla 61.49 313 *e*P **P** 09 04 33.1 +0.4
ARR Arges 61.60 308⇑⇑*i*P **P** 09 04 34.0 +0.4
HUMR Humele 61.65 307⇑⇑*i*P **P** 09 04 34.5 +0.7
AYDN Tasoluk 61.96 299 *i* P **P** 09 04 36.0 -0.1
BEL Belsk 61.96 316 *e*P **P** 09 04 36.5 +0.7
KOLS Kolonicke sedl 61.98 312 *e*P **P** 09 04 36.3 +0.3
KOLS pmax pmax
comp=Z,26nm,0.9s
KOLS Kolonicke sedl 61.98 312 *e*P **P** 09 04 36.3 +0.3
UZH Uzhgorod 62.06 312 *e*P **P** 09 04 34.5 -2.1
UZH *e* 09 05 17.7
UZH *e*S **S** 09 12 55.1 -5.6
UZH MLR MLR
comp=N,450nm,18.0s
UZH MLR MLR
comp=E,450nm,18.0s
UZH MLR MLR
comp=Z,190nm,18.0s
TRPA Tarpa 62.07 311⇑⇑*i*P **P** 09 04 38.0 +1.4
IZM Izmir 62.15 299 *e*P **P** 09 04 36.7 -0.7
LOT Lotru 62.15 308⇓⇓*i*P **P** 09 04 39.0 +1.6
AS31 Alice Springs 62.31 151 *e*P **P** 09 04 38.7 +0.3
ASAR Alice Springs 62.31 151 P **P** 09 04 38.6 +0.2
ASAR S **S** 09 13 05.7 +1.4
ASAR P'P'
ASAR ⇑*e* 09 33 51.0
ASAR Alice Springs 62.31 151 P **P** 09 04 38.6 +0.2
comp=Z,23nm,0.6s,baz=337,slow=7.0,SNR=227
ASAR S **S** 09 13 05.7 +1.4
comp=Z,1.3nm,1.0s,baz=330,slow=12,SNR=9.4
ASAR PKPPKP **P'P'df** 09 33 37.9 -0.8
comp=Z,1.4nm,1.1s,baz=114,slow=3.7,SNR=5.8
ASAR PKP2bc 09 33 51.0
comp=Z,2.6nm,0.9s,baz=140,slow=2.7,SNR=9.9
KDZ Kurdzhali 62.32 304 P **P** 09 04 39.0 +0.6
DRGR 62.40 310⇓⇓*i*P **P** 09 04 39.7 +0.7
RDO Rodhopi 62.41 303 P **P** 09 04 38.8 -0.2
RDO Rodhopi 62.41 303 P **P** 09 04 38.8 -0.2
STHS Stebnicka Huta 62.46 313 *e*P **P** 09 04 39.8 +0.5
STHS pmax pmax
comp=Z,30nm,1.0s
STHS Stebnicka Huta 62.46 313 *e*P **P** 09 04 39.8 +0.5
CRVS Cervenica-Dubn 62.50 312 *e*P **P** 09 04 39.7 +0.2
CRVS pmax pmax
comp=Z,16nm,1.2s
CRVS Cervenica-Dubn 62.50 312 *e*P **P** 09 04 39.7 +0.2
CRVS *e*PCP **PcP** 09 05 20.2 +1.5
BDRM Kayabasi 62.50 298 *i* P **P** 09 04 39.9 +0.2
SMTH Samothraki Isl 62.66 302 P **P** 09 04 39.8 -0.9
SMTH Samothraki Isl 62.66 302 P **P** 09 04 39.8 -0.9
PLD Plovdiv 62.66 304 P **P** 09 04 40.5 -0.2
PLD Plovdiv 62.66 304 P **P** 09 04 40.5 -0.2
PLD Plovdiv 62.66 304 P **P** 09 04 40.5 -0.2
PLD Plovdiv 62.66 304 P **P** 09 04 41.1 +0.4
SMG Samos 62.71 299 P **P** 09 04 41.0 -0.1
SMG Samos 62.71 299 P **P** 09 04 41.0 -0.1
RZN Rozhen 62.80 304 P **P** 09 04 42.3 +0.4
PGB Panagyurishte 62.88 305 P **P** 09 04 42.3 +0.1
MPEP Malo Peshtene 62.89 306 P **P** 09 04 42.9 +0.7
NIE Niedzica 63.04 313 *e*P **P** 09 04 43.9 +0.8
NIE Niedzica 63.04 313 *e*P **P** 09 04 43.9 +0.8
OJC Ojcow 63.08 314 *e*P **P** 09 04 43.4 +0.1
OJC Ojcow 63.08 314 *e*P **P** 09 04 43.4 +0.1
KAVA Kavala 63.19 303 P **P** 09 04 43.9 -0.3
KAVA Kavala 63.19 303 P **P** 09 04 43.9 -0.3
KECS Kecovo 63.25 312 *e*P **P** 09 04 45.4 +0.9
KECS pmax pmax
comp=Z,13nm,0.9s
KECS Kecovo 63.25 312 *e*P **P** 09 04 45.4 +0.9
KECS *e*PCP **PcP** 09 05 20.8 -0.9
BZS Buzias 63.52 309⇑⇑P **P** 09 04 46.1 -0.2
BZS Buzias 63.52 309⇑⇑*i*P **P** 09 04 46.1 -0.2
NVR Nevrokopi 63.52 304 P **P** 09 04 45.8 -0.7
NVR Nevrokopi 63.52 304 P **P** 09 04 45.8 -0.7
VTS Vitosha 63.52 305 *e*P **P** 09 04 46.8 +0.2
VTS Vitosha 63.52 305 P **P** 09 04 46.8 +0.2
VTS Vitosha 63.52 305⇑⇑P **P** 09 04 47.8 +1.2
VTS Vitosha 63.52 305 P **P** 09 04 46.8 +0.2
VTS Vitosha 63.52 305⇑⇑*i*P **P** 09 04 47.8 +1.2
VTS Vitosha 63.52 305 P **P** 09 04 46.7 +0.1
MMB Musomiste 63.53 304 P **P** 09 04 46.2 -0.3
GKP Gorka Klasztor 63.55 318 *e*P **P** 09 04 46.4 +0.1
SRS Serrai 63.79 303 P **P** 09 04 47.2 -1.0
SRS Serrai 63.79 303 P **P** 09 04 47.2 -1.0
SRS Serrai 63.79 303 P **P** 09 04 47.2 -1.0
PSZ Piszkesteto 63.81 312⇑⇑P **P** 09 04 49.5 +1.2
PSZ Piszkesteto 63.81 312 *e*P **P** 09 04 49.0 +0.7
comp=Z,50nm,1.2s
PSZ LR LR
comp=Z,342nm,21.0s
PSZ Piszkesteto 63.81 312⇑⇑*i*P **P** 09 04 49.5 +1.2
PSZ Piszkesteto 63.81 312⇓⇓*e*P **P** 09 04 49.2 +0.9
KKB Krupnik 63.87 304 P **P** 09 04 49.0 +0.2
NC602 NORSAR Array S 63.88 327 *e*P **P** 09 04 46.8 -1.7
NB2 NORSAR Subarra 63.92 327 P **P** 09 04 47.7 -1.1
comp=Z,68nm,1.0s,baz=68,slow=6.9
NB2 NORSAR Subarra 63.92 327 P **P** 09 04 47.7 -1.1
baz=68,slow=6.9
NOA NORSAR Array B 63.92 327 P **P** 09 04 47.5 -1.2
NOA NORSAR Array B 63.92 327 P **P** 09 04 47.5 -1.2
comp=Z,46nm,0.9s,baz=70,slow=6.6,SNR=76
NOA LR LR 09 34 29.5
comp=Z,304nm,18.0s,baz=80,slow=38
NAO01 NORSAR Array S 64.14 327 *e*P **P** 09 04 48.7 -1.5
comp=Z,32nm,0.9s
PLG Polygyros 64.17 303 P **P** 09 04 50.1 -0.7
PLG Polygyros 64.17 303 P **P** 09 04 50.1 -0.7
PLG Polygyros 64.17 303 P **P** 09 04 50.1 -0.7
PAIG Paliouri 64.17 302 P **P** 09 04 50.1 -0.6
PAIG Paliouri 64.17 302 P **P** 09 04 50.1 -0.6
PAIG Paliouri 64.17 302 P **P** 09 04 50.1 -0.6
BSD Bornholm Skovb 64.19 320⇑⇑*i*P **P** 09 04 49.7 -0.8
BSD pmax pmax
comp=Z,41nm,0.9s
BSD Bornholm Skovb 64.19 320⇑⇑*i*P **P** 09 04 49.7 -0.8
comp=Z,41nm,0.9s
OKC Ostrava-Krasne 64.21 314 *e*P **P** 09 04 50.9 +0.1
OKC MLR MLR
comp=Z,300nm,14.3s
OKC Ostrava-Krasne 64.21 314⇑⇑*e*P **P** 09 04 50.9 +0.1
OKC AMS AMS 09 33 10.0
comp=Z,300nm,14.3s
SANT Santorini 64.24 298 PFAKE 09 05 00.0 +8.7
SANT LR LR
comp=Z,260nm,20.0s
KNT Kendrikon 64.26 304 P **P** 09 04 50.3 -1.0
KNT Kendrikon 64.26 304 P **P** 09 04 50.3 -1.0
KNT Kendrikon 64.26 304 P **P** 09 04 50.3 -1.0
VYHS Vyhne 64.27 313 *e*P **P** 09 04 51.9 +0.7
VYHS pmax pmax
comp=Z,37nm,1.1s
VYHS Vyhne 64.27 313 *e*P **P** 09 04 51.9 +0.7
VYHS *e*PCP **PcP** 09 05 25.7 -0.2
HORT Hortiatis 64.33 303 P **P** 09 04 50.5 -1.4
HORT Hortiatis 64.33 303 P **P** 09 04 50.5 -1.4
VAY Valandovo 64.43 304 *e*P **P** 09 04 51.9 -0.5
BUD Budapest 64.52 311 *e*P **P** 09 04 53.7 +0.9
OSL Oslo 64.55 326 *e*P **P** 09 04 51.9 -0.9
MORC Moravsky Berou 64.60 314 *e*P **P** 09 04 53.4 0.0
MORC pmax pmax
comp=Z,62nm,1.0s
MORC Moravsky Berou 64.60 314 *e*P **P** 09 04 53.4 0.0
comp=Z,62nm,1.0s
IMA2 Indian Mountai 64.64 26 *e*P **P** 09 04 53.0 -0.5
IM04 Indian Mountai 64.64 26 *e*P **P** 09 04 52.7 -0.6
MRKA Markates 64.71 301 P **P** 09 04 52.6 -1.7
XOR Xorichti 64.74 302 P **P** 09 04 53.3 -1.2
XOR Xorichti 64.74 302 P **P** 09 04 53.3 -1.2
ALE Alert 64.77 358 P **P** 09 04 54.6 +0.6
comp=Z,152nm,1.0s,SNR=6.2
SMIA Simia 64.91 301 P **P** 09 04 54.7 -0.9
KRLC Kraliky 64.95 315 *e*P **P** 09 04 55.6 -0.1
KRLC Kraliky 64.95 315⇓⇓*e*P **P** 09 04 55.6 -0.1
PKSG 64.95 311⇓⇓*e*P **P** 09 04 56.2 +0.5
KSP Ksiaz 64.95 316⇓⇓*e*P **P** 09 04 55.7 +0.1
KSP Ksiaz 64.95 316 *e*P **P** 09 04 55.6 -0.1
SKO Skopje 64.97 305 P **P** 09 04 56.0 +0.1
SKO Skopje 64.97 305 P **P** 09 04 56.0 +0.1
SKO Skopje 64.97 305 P **P** 09 04 56.0 +0.1
SKO Skopje 64.97 305 *e*P **P** 09 04 57.8 +1.9
IDI Anoyia 65.09 297 *e*P **P** 09 04 55.6 -1.3
comp=Z,44nm,0.8s
IDI Anoyia 65.09 297 P **P** 09 04 55.6 -1.3
comp=Z,40nm,0.8s,baz=62,slow=8.9,SNR=4.9
DPC Dobruska-Polom 65.12 315⇑⇑*i*P **P** 09 04 57.3 +0.5
DPC Dobruska-Polom 65.12 315⇑⇑*i*P **P** 09 04 57.3 +0.5
DPC AMS AMS 09 34 30.0
SMOL Smolenice 65.13 313 *e*P **P** 09 04 58.2 +1.3
SMOL Smolenice 65.13 313 *e*P **P** 09 04 58.2 +1.3
DIVS Divibare 65.15 308 P **P** 09 04 56.6 -0.5
LKR Lokris 65.15 301 P **P** 09 04 55.5 -1.6
LKR Lokris 65.15 301 P **P** 09 04 55.5 -1.6
KONO Kongsberg 65.19 326 *e*P **P** 09 04 56.0 -1.0
KONO Kongsberg 65.19 326 *e*P **P** 09 04 55.8 -1.2
KONO pmax pmax
comp=Z,183nm,1.0s
KONO Kongsberg 65.19 326 *e*P **P** 09 04 55.8 -1.2
comp=Z,183nm,1.0s
PKST T''s 65.23 311⇓⇓*e*P **P** 09 04 57.6 +0.1
PKSM Moragy 65.23 310⇓⇓*e*P **P** 09 04 57.4 -0.1
UPC Upice 65.25 315 *e*P **P** 09 04 58.0 +0.4
UPC *e* 09 05 03.9
UPC Upice 65.25 315⇓⇓*e*P **P** 09 04 58.0 +0.4
UPC *e*pP **pP** 09 05 03.9 +1.4
RGN Rugen 65.25 320 *e*P **P** 09 04 58.7 +1.3
COP Copenhagen 65.30 322⇑⇑*i*P **P** 09 04 57.9 +0.2
COP pmax pmax
comp=Z,59nm,0.8s
COP Copenhagen 65.30 322⇑⇑*i*P **P** 09 04 57.9 +0.2
comp=Z,59nm,0.8s
PKS9 Tamasi 65.32 311⇓⇓*e*P **P** 09 04 56.8 -1.3
KZN Kozani 65.38 303 P **P** 09 04 57.5 -1.2
KZN Kozani 65.38 303 P **P** 09 04 57.5 -1.2
KZN Kozani 65.38 303 P **P** 09 04 57.5 -1.2
CTA Charters Tower 65.38 138 P **P** 09 04 58.5 -0.2
CTA Charters Tower 65.38 138 P **P** 09 04 58.5 -0.2
comp=Z,4.6nm,0.7s,baz=317,slow=11,SNR=6.3
CTAO Charters Tower 65.38 138 *e*P **P** 09 04 58.6 -0.2
CTAO pmax pmax
comp=Z,22nm,1.4s
CTAO Charters Tower 65.38 138 *e*P **P** 09 04 58.6 -0.2
comp=Z,22nm,1.4s
COLD Coldfoot 65.41 25 *e*P **P** 09 04 58.1 -0.2
comp=Z,64nm,1.1s
LTK Loutraki 65.42 301 P **P** 09 04 56.5 -2.4
LTK Loutraki 65.42 301 P **P** 09 04 56.5 -2.4
DAG Danmarks Havn 65.45 348 *e*P **P** 09 04 57.6 -0.8
DAG *e* 09 05 30.4
DAG pmax pmax
comp=Z,10.0nm,1.0s
DAG Danmarks Havn 65.45 348 *i* P **P** 09 04 57.6 -0.8
comp=Z,10.0nm,1.0s
DAG *e* 09 05 30.4
AGG Agios Georgios 65.49 302 P **P** 09 04 57.6 -1.8
AGG Agios Georgios 65.49 302 P **P** 09 04 57.6 -1.8
AGG Agios Georgios 65.49 302 P **P** 09 04 57.6 -1.8
THL Klokotos Trika 65.50 302 P **P** 09 04 57.6 -1.8
LLD Lille Linde 65.54 321 *i* P **P** 09 05 00.4 +1.1
LLD pmax pmax
comp=Z,82nm,0.9s
LLD Lille Linde 65.54 321 *i* P **P** 09 05 00.4 +1.1
comp=Z,82nm,0.8s
MAKR Makrakomi, Fth 65.63 302 P **P** 09 04 58.8 -1.5
MAKR Makrakomi, Fth 65.63 302 P **P** 09 04 58.8 -1.5
IVA Berane 65.68 306 *e*P **P** 09 05 00.5 -0.1
PVY Plav 65.75 306 *e*P **P** 09 05 00.2 -0.9
PHP Peshkopia 65.77 305 P **P** 09 04 59.8 -1.4
PHP Peshkopia 65.77 305 P **P** 09 04 59.8 -1.4
PHP Peshkopia 65.77 305 P **P** 09 04 59.8 -1.4
RUE Ruedersdorf 65.79 318 *e*P **P** 09 05 01.6 +0.6
comp=Z,84nm,1.0s
RUE Ruedersdorf 65.79 318 *e*P **P** 09 05 01.3 +0.3
comp=Z,78nm,1.0s
PLE Pljevlja 65.85 307 *e*P **P** 09 05 01.4 -0.3
NEST Nestorio 65.85 304 P **P** 09 05 00.3 -1.4
EVR Evrytania 65.90 302 P **P** 09 05 00.6 -1.5
EVR Evrytania 65.90 302 P **P** 09 05 00.6 -1.5
SOP Sopron 65.99 312⇓⇓*e*P **P** 09 05 03.0 +0.6
TREC Trest 66.02 314 *e*P **P** 09 05 03.3 +0.7
TREC MLR MLR
comp=Z,300nm,15.3s
TREC Trest 66.02 314⇑⇑*e*P **P** 09 05 03.3 +0.7
TREC AMS AMS 09 34 00.0
comp=Z,300nm,15.3s
EFP Efpalio 66.03 301 P **P** 09 05 03.5 +0.7
LAKA Lakka 66.05 301 P **P** 09 05 00.7 -2.3
LAKA Lakka 66.05 301 P **P** 09 05 00.7 -2.3
PVCC Panska Ves 66.09 316⇑⇑*i*P **P** 09 05 03.3 +0.3
PVCC MLR MLR
comp=Z,400nm,13.6s
PVCC Panska Ves 66.09 316⇑⇑*i*P **P** 09 05 03.3 +0.3
PVCC AMS AMS 09 35 00.0
comp=Z,400nm,13.6s
HYA Hoyanger 66.13 328 *e*P **P** 09 05 02.6 -0.3
HYA IAmb IAmb 09 05 04.0
comp=Z,34nm,0.8s
HYA AMB AMB 09 05 09.6
comp=Z,73nm,1.3s
UPM Unac-Piva 66.22 307 *e*P **P** 09 05 03.2 -1.0
HOMB Homborsund 66.25 325 *e* P **P** 09 05 04.0 +0.2
NWAO Narrogin (SRO) 66.29 169 *e*P **P** 09 05 04.9 +0.6
comp=Z,23nm,0.5s
NWAO Narrogin (SRO) 66.29 169 P **P** 09 05 05.2 +0.9
comp=Z,30nm,0.6s,baz=343,slow=6.2,SNR=15
TTG Podgorica 66.29 306 *e*P **P** 09 05 04.1 -0.3
TIR Tirane 66.30 305 PFAKE 09 05 20.0 +15
TIR LR LR
comp=Z,295nm,21.0s
NKY Niksic 66.32 307⇑⇑*i*P **P** 09 05 04.5 -0.2
PRU Pruhonice 66.32 315⇑⇑*i*P **P** 09 05 04.7 +0.2
PRU *e* 09 05 09.8
PRU MLR MLR
comp=Z,400nm,12.4s
PRU Pruhonice 66.32 315⇑⇑*i*P **P** 09 05 04.7 +0.2
PRU *e*pP **pP** 09 05 09.8 +0.4
PRU AMS AMS 09 34 50.0
comp=Z,400nm,12.4s
BRG Berggiesshubel 66.32 316 *i* P **P** 09 05 04.4 -0.1
comp=Z,39nm,1.0s
BRG *e*PP **PP** 09 07 30.3 +0.2
comp=Z,6.1nm,1.0s
BRG
comp=N,300nm,11.3s
BRG
BRG
comp=Z,522nm,17.1s
BRG Berggiesshubel 66.32 316 *e*P **P** 09 05 04.8 +0.3
comp=Z,39nm,1.0s
BRG Berggiesshubel 66.32 316 *i* P **P** 09 05 04.4 -0.1
BRG *e* 09 07 30.3
BRG pmax pmax
comp=Z,39nm,1.0s
BRG pmax pmax
comp=Z,6.0nm,1.0s
BRG MLR MLR
comp=N,300nm,11.3s
BRG MLR MLR
comp=Z,522nm,17.1s
BEHE Becsehely 66.33 311 *e*P **P** 09 05 05.3 +0.7
CONA Conrad Observa 66.33 313⇑⇑*i*P **P** 09 05 05.0 +0.4
comp=Z,46nm,1.1s,SNR=23
NKME Niksic 66.36 307⇑⇑*i*P **P** 09 05 04.6 -0.3
DRME Dracevica, Mon 66.44 306 *e*P **P** 09 05 05.0 -0.4
ODD1 Odda 66.45 327 *e*P **P** 09 05 03.8 -1.4
ODD1 AMB AMB 09 05 10.1
comp=Z,74nm,2.1s
ULC Ulcinj 66.48 306⇑⇑*i*P **P** 09 05 04.8 -0.9
CHGN Chignik 66.50 37 *e*P **P** 09 05 04.1 -1.4
BPAW Bear Paw Mtn. 66.51 28 *e*P **P** 09 05 05.3 -0.2
comp=Z,104nm,1.1s
PPLA Purkeypile 66.57 29 *e*P **P** 09 05 06.1 +0.1
comp=Z,464nm,1.5s
BRY Bratogost 66.59 307 *e*P **P** 09 05 05.7 -0.8
BUM Brajici-Budva 66.59 306⇑⇑*i*P **P** 09 05 04.8 -1.6
FBE Freiberg 66.64 316 *e*P **P** 09 05 07.2 +0.7
comp=Z,44nm,1.1s
KOGS Kog 66.67 311 *i* P **P** 09 05 06.6 -0.1
MUD Monsted U'grnd 66.67 323⇑⇑*i*P **P** 09 05 06.6 +0.1
MUD pmax pmax
comp=Z,80nm,1.0s
MUD Monsted U'grnd 66.67 323⇑⇑*i*P **P** 09 05 06.6 +0.1
comp=Z,80nm,1.0s
CLL Collm 66.69 317 *e*P **P** 09 05 07.0 +0.2
comp=Z,48nm,1.1s
CLL Collm 66.69 317⇑⇑*i*P **P** 09 05 06.6 -0.2
CLL *e*PP **pP** 09 05 12.0 +0.2
CLL pmax pmax
comp=Z,53nm,1.1s
CLL MLR MLR
comp=Z,400nm,18.7s
CLL Collm 66.69 317⇑⇑*i*P **P** 09 05 06.6 -0.2
comp=Z,53nm,1.1s
CLL *e*pP **pP** 09 05 12.0 +0.2
CLL *e* 09 07 22.0
CLL *e*PP **PP** 09 07 30.0 -3.3
CLL LmV 09 35 00.0
comp=Z,400nm,18.7s
FORT Forrest 66.71 159 *e*P **P** 09 05 07.8 +0.8
comp=Z,77nm,0.6s
BLS5 Blasjo 66.74 327 *e*P **P** 09 05 06.5 -0.6
BLS5 AMB AMB 09 05 07.9
comp=Z,36nm,1.0s
PYL PYLOS 66.77 300 P **P** 09 05 05.3 -2.3
PYL PYLOS 66.77 300 P **P** 09 05 05.3 -2.3
HCY Herceg Novi 66.80 306⇑⇑*i*P **P** 09 05 06.7 -1.0
ARSA Arzberg 66.81 312⇑⇑*i*P **P** 09 05 07.5 -0.2
comp=Z,28nm,1.0s,SNR=15
RUND Rundenannen 66.81 328 *e*P **P** 09 05 05.6 -1.9
RUND AMB AMB 09 05 08.5
comp=Z,102nm,1.1s
SNART Snartemo 66.85 325 *e*P **P** 09 05 07.2 -0.5
SNART AMB AMB 09 05 09.8
comp=Z,110nm,1.2s
BSEG Bad Segeberg 67.11 320 *e*P **P** 09 05 10.5 +1.1
comp=Z,106nm,1.0s
BSEG Bad Segeberg 67.11 320 *e*P **P** 09 05 10.5 +1.1
BSEG pmax pmax
comp=Z,106nm,1.0s
KHC Kasperske Hory 67.23 315⇑⇑*i*P **P** 09 05 10.2 -0.2
KHC *e* 09 05 21.0
KHC MLR MLR
comp=Z,400nm,15.9s
KHC Kasperske Hory 67.23 315⇑⇑*i*P **P** 09 05 10.2 -0.2
KHC *e*pP **pP** 09 05 17.1 +1.8
KHC *ex* x 09 05 21.0
KHC AMS AMS 09 34 50.0
comp=Z,400nm,15.9s
KHC Kasperske Hory 67.23 315 *e*P **P** 09 05 10.3 -0.2
comp=Z,29nm,1.3s
GEC2 GERESS Array S 67.28 314 *e*P **P** 09 05 11.3 +0.6
comp=Z,47nm,1.1s
GEC2 GERESS Array S 67.28 314 *e*P **P** 09 05 11.3 +0.6
GEC2 pmax pmax
comp=Z,47nm,1.1s
GERES GERESS Array B 67.28 314 P **P** 09 05 10.7 0.0
GERES GERESS Array B 67.28 314 P **P** 09 05 10.7 0.0
comp=Z,24nm,0.9s,baz=64,slow=6.1,SNR=112
GERES LR LR 09 40 21.4
comp=Z,248nm,18.1s,baz=68,slow=41
PERS Pernice 67.31 312 *i* P **P** 09 05 10.6 -0.3
MOA Molln 67.34 313⇑⇑*e*P **P** 09 05 11.2 +0.2
comp=Z,49nm,1.1s,SNR=27
SOKA Soboth 67.34 312⇑⇑*i*P **P** 09 05 11.0 -0.2
comp=Z,63nm,1.1s,SNR=43
COLA College 67.35 26 *e*P **P** 09 05 10.5 -0.3
COLA MLR MLR
comp=Z,239nm,22.0s
COLA College 67.35 26 *e*P **P** 09 05 10.4 -0.3
comp=Z,832nm,1.3s
COLA LR LR
comp=Z,239nm,22.0s
TANN Tannenbergstha 67.37 316 *e*P **P** 09 05 11.6 +0.4

comp=Z,34nm,1.1s
RSO Redoubt South 67.41 32 eP P 09 05 11.5 0.0
comp=Z,195nm,0.9s
NEUB Neuenburg 67.44 317 eP P 09 05 12.0 +0.5
comp=Z,92nm,1.1s
WERD Werda 67.44 316 eP P 09 05 12.1 +0.4
comp=Z,33nm,1.1s
GUNZ Gunzen 67.47 316 eP P 09 05 12.3 +0.5
comp=Z,53nm,1.1s
MCK McKinley 67.49 28 eP P 09 05 11.2 -0.5
MCK pmax pmax
comp=Z,32nm,0.8s
MCK McKinley 67.49 28 eP P 09 05 11.2 -0.5
comp=Z,32nm,0.8s
WET Wettzell 67.65 315 eP P 09 05 13.8 +0.8
comp=Z,41nm,1.2s
WET Wettzell 67.65 315 eP P 09 05 13.8 +0.8
WET pmax pmax
comp=Z,41nm,1.2s
BOJS Bojanci 67.69 311 i P P 09 05 13.4 +0.2
OBKA Obir 67.72 312⇑ iP P 09 05 13.3 -0.2
comp=Z,31nm,1.1s,SNR=12
MANZ Manzenberg 67.75 316 eP P 09 05 14.3 +0.7
comp=Z,30nm,1.2s
ILAR Eielson Array 67.76 26 P P 09 05 12.1 -1.3
ILAR ⇑e 09 33 36.1
ILAR Eielson Array 67.76 26 P P 09 05 12.1 -1.3
comp=Z,13nm,0.6s,baz=283,slow=5.7,SNR=109
ILAR PKP2bc 09 33 36.1
comp=Z,0.6nm,0.9s,baz=108,slow=2.7,SNR=5.4
ILAR LR LR 09 37 04.3
comp=Z,474nm,18.8s,baz=133,slow=38
MOX Moxa 67.76 317 eP P 09 05 14.2 +0.5
comp=Z,35nm,1.2s
MOX Moxa 67.76 317 eP P 09 05 14.2 +0.5
MOX pmax pmax
comp=Z,35nm,1.2s
ROTZ Rotzenmuhle 67.79 316 eP P 09 05 14.9 +1.1
comp=Z,64nm,1.1s
NRDL Niedersach Rie 67.83 319 eP P 09 05 15.0 +1.1
comp=Z,94nm,1.1s
MOZS Mozjanca 67.88 312 eP P 09 05 13.8 -0.7
LJU Ljubljana 67.93 311 i P P 09 05 14.6 -0.2
CLZ Clausthal 67.97 318 eP P 09 05 15.8 +0.9
comp=Z,88nm,1.0s
CLZ Clausthal 67.97 318 eP P 09 05 15.8 +0.9
CLZ pmax pmax
comp=Z,88nm,1.0s
KBA Koelnbreinsper 68.23 313⇑ iP P 09 05 16.8 -0.1
comp=Z,27nm,0.8s,SNR=21
RJOB Jochberg 68.29 313 eP P 09 05 17.9 +0.8
comp=Z,22nm,0.9s
VOY Vojsko 68.33 311 eP P 09 05 16.7 -0.7
VOY e 09 05 25.4
CADS Cadrg 68.35 312 i P P 09 05 16.6 -0.9
GRF Grafenberg Arr 68.40 316 eP P 09 05 18.6 +0.9
comp=Z,81nm,1.0s
GRF eL L 09 36 54.3
comp=Z,420nm,18.7s
GRF Grafenberg Arr 68.40 316 eP P 09 05 18.6 +0.9
GRF pmax pmax
comp=Z,81nm,1.0s
GRF MLR MLR
comp=Z,400nm,18.7s
GRFO Grafenberg 68.40 316 eP P 09 05 18.1 +0.4
GRFO pmax pmax
comp=Z,81nm,1.1s
GRFO Grafenberg 68.40 316 eP P 09 05 18.1 +0.4
comp=Z,81nm,1.1s
PMR Palmer 68.44 30 eP P 09 05 16.8 -0.9
PMR pmax pmax
comp=Z,65nm,0.7s
PMR Palmer 68.44 30 eP P 09 05 16.8 -0.9
comp=Z,65nm,0.7s
TRI Trieste 68.55 311 eP P 09 05 18.3 -0.3
TRI pmax pmax
comp=Z,61nm,1.0s
TRI Trieste 68.55 311 eP P 09 05 18.3 -0.3
comp=Z,61nm,1.0s
UBBA Unterbreizbach 68.62 317 eP P 09 05 19.1 +0.2
comp=Z,28nm,1.3s
OHAK Old Harbor 68.65 35 eP P 09 05 18.8 -0.2
comp=Z,117nm,1.2s
KDAK Kodiak Island 68.72 34 P P 09 05 19.9 +0.4
comp=Z,477nm,0.8s,SNR=9.1
KDAK Kodiak Island 68.72 34 eP P 09 05 19.9 +0.4
comp=Z,150nm,1.3s
KDAK LR LR
comp=Z,602nm,19.0s
ABTA Abfaltersbach 68.89 313⇑ iP P 09 05 19.8 -1.1
comp=Z,23nm,1.0s,SNR=12
FUR Furstenfeldbru 69.03 314 eP P 09 05 22.8 +1.2
comp=Z,140nm,1.1s
FUR Furstenfeldbru 69.03 314 eP P 09 05 22.8 +1.2
FUR pmax pmax
comp=Z,140nm,1.1s
SEW Seward 69.04 31 eP P 09 05 20.7 -0.6
comp=Z,90nm,1.1s
WTTA Wattenberg 69.20 313⇑ iP P 09 05 22.6 -0.3
comp=Z,65nm,0.9s,SNR=24
IBBN Ibbenburen 69.21 319 eP P 09 05 23.3 +0.7
comp=Z,64nm,1.0s
PAX Paxson 69.22 28 eP P 09 05 21.9 -0.8
PAX pmax pmax
comp=Z,25nm,1.0s
PAX Paxson 69.22 28 eP P 09 05 21.9 -0.8
comp=Z,25nm,1.0s
MOTA Moosalm 69.49 314⇑ iP P 09 05 24.1 -0.6
comp=Z,56nm,1.0s,SNR=22
RETA Reutte 69.64 314⇑ iP P 09 05 25.2 -0.3
comp=Z,20nm,1.0s,SNR=10
CUC Castrocucco 69.67 305 eP P 09 05 25.0 -0.8
comp=Z,34nm,0.9s
CUC LR LR
comp=Z,196nm,21.0s
TNS Taunus Mts 69.77 317 eP P 09 05 26.7 +0.5
comp=Z,26nm,1.1s
TNS Taunus Mts 69.77 317 eP P 09 05 26.7 +0.5
TNS pmax pmax
comp=Z,26nm,1.1s
LRW Lerwick 69.82 329 eP P 09 05 24.6 -1.6
LRW AMB AMB 09 05 25.3
comp=Z,138nm,3.3s
EGAK Eagle 69.83 25 eP P 09 05 25.6 -0.7
comp=Z,30nm,1.3s
EGAK LR LR
comp=Z,476nm,20.0s
FETA Feichten 69.87 313⇑ iP P 09 05 26.6 -0.4
comp=Z,60nm,1.0s,SNR=35
BUG Bochum--Univer 69.88 319 eP P 09 05 27.5 +0.8
comp=Z,75nm,1.0s
STU Stuttgart 70.00 316 eP P 09 05 28.0 +0.4
comp=Z,54nm,1.2s
STU Stuttgart 70.00 316 eP P 09 05 28.0 +0.4
STU pmax pmax
comp=Z,34nm,0.9s
STU Stuttgart 70.00 316 eP P 09 05 28.0 +0.4
comp=Z,34nm,0.9s
DIV Divide 70.07 29 eP P 09 05 28.4 +0.5
comp=Z,120nm,1.3s
INK Inuvik 70.14 20 eP P 09 05 27.8 -0.3
comp=Z,92nm,0.9s
DAVA Damuels 70.26 314⇑ iP P 09 05 28.7 -0.8
comp=Z,20nm,0.9s,SNR=7.9
CEL Celeste 70.38 303 eP P 09 05 30.0 -0.2
comp=Z,78nm,0.9s
CEL LR LR
comp=Z,162nm,21.0s
DAVOX Davos/Dischmat 70.50 313 P P 09 05 30.7 -0.2
DAVOX Davos/Dischmat 70.50 313 P P 09 05 30.7 -0.2
comp=Z,53nm,1.0s,baz=82,slow=6.6
BMRM Bremner River 70.64 29 eP P 09 05 31.1 -0.3
comp=Z,118nm,1.1s
BFO Black Forest 70.71 315 P P 09 05 31.1 -0.9
comp=Z,156nm,1.1s,SNR=13
BFO Black Forest 70.71 315 eP P 09 05 32.1 +0.1
comp=Z,40nm,1.2s
BFO Black Forest 70.71 315 eP P 09 05 31.8 -0.2
BFO pmax pmax
comp=Z,38nm,1.1s
BFO MLR MLR
comp=Z,264nm,19.0s
BFO Black Forest 70.71 315 eP P 09 05 31.8 -0.2
comp=Z,38nm,1.1s
BFO LR LR
comp=Z,264nm,19.0s
LANF Langenberg 70.71 316 eP P 09 05 31.9 -0.1

DAWY Dawson 70.87 25 eP P 09 05 31.7 -1.0
TUE Stuetta 70.96 313 eP P 09 05 33.5 -0.2
comp=Z,26nm,0.9s
TUE LR LR
comp=Z,374nm,19.0s
MEM Membach 70.97 318 P P 09 05 33.5 0.0
comp=Z,16nm,1.4s
BEBN Eben Emael 71.06 319 P P 09 05 33.9 -0.1
CDF Champ du Feu 71.29 316⇑ iP P 09 05 35.2 -0.4
comp=Z,103nm,1.2s
CDF Champ du Feu 71.29 316⇑ iP P 09 05 35.2 -0.4
CDF pmax pmax
comp=Z,103nm,1.2s
CDF Champ du Feu 71.29 316⇑ iP P 09 05 35.2 -0.4
comp=Z,103nm,1.2s
WLF Walferdange 71.34 317 P P 09 05 36.3 +0.6
comp=Z,94nm,1.3s
WLF Walferdange 71.34 317 eP P 09 05 36.8 +1.0
comp=Z,147nm,1.1s
WLF Walferdange 71.34 317 eP P 09 05 36.7 +1.0
WLF pmax pmax
comp=Z,129nm,1.0s
WLF MLR MLR
comp=Z,448nm,21.0s
WLF Walferdange 71.34 317 eP P 09 05 36.7 +0.9
comp=Z,129nm,1.0s
WLF LR LR
comp=Z,448nm,21.0s
VLC Villacollemand 71.39 311 eP P 09 05 36.8 +0.6
comp=Z,56nm,1.0s
VLC LR LR
comp=Z,335nm,22.0s
ECH Echery 71.45 316 eP P 09 05 36.2 -0.3
ECH pmax pmax
comp=Z,27nm,1.0s
ECH MLR MLR
comp=Z,416nm,19.0s
ECH Echery 71.45 316 eP P 09 05 36.0 -0.5
ECH Echery 71.45 316 eP P 09 05 36.2 -0.3
comp=Z,27nm,1.0s
ECH LR LR
comp=Z,416nm,19.0s
BCLA Clavier 71.46 318 P P 09 05 36.4 -0.1
comp=Z,23nm,1.2s
MOF Molkenrain 71.64 315 eP P 09 05 37.3 -0.4
HINF Hinteralfeld 71.83 315⇑ iP P 09 05 38.1 -0.7
comp=Z,51nm,1.0s
HINF Hinteralfeld 71.83 315⇑ iP P 09 05 38.1 -0.7
HINF pmax pmax
comp=Z,51nm,1.0s
HINF Hinteralfeld 71.83 315⇑ iP P 09 05 38.1 -0.7
comp=Z,51nm,1.0s
GIVF Givet 71.88 318 eP P 09 05 38.9 -0.1
comp=Z,68nm,1.0s
GIVF Givet 71.88 318 eP P 09 05 38.9 -0.1
GIVF pmax pmax
comp=Z,68nm,1.0s
GIVF Givet 71.88 318 eP P 09 05 38.9 -0.1
comp=Z,68nm,1.0s
RES Resolute Bay 71.94 6 eP P 09 05 39.3 +0.4
comp=Z,55nm,1.1s
RES Resolute Bay 71.94 6 P P 09 05 39.2 +0.4
comp=Z,38nm,1.0s,baz=12,slow=7.1,SNR=5.8
SNF Seneffe 71.98 319 P P 09 05 39.5 0.0
DOU Dourbes 72.01 318 P P 09 05 39.7 0.0
comp=Z,15nm,1.3s
SUMG Summit 72.02 349 eP P 09 05 39.3 -0.6
SUMG pmax pmax
comp=Z,42nm,1.1s
SUMG Summit 72.02 349 i P P 09 05 39.9 -0.1
comp=Z,21nm,0.9s
SUMG Summit 72.02 349 eP P 09 05 39.3 -0.6
comp=Z,42nm,1.1s
HAU Haudompre 72.03 316 eP P 09 05 39.4 -0.6
comp=Z,72nm,1.2s
HAU eR
comp=Z,418nm,17.8s
HAU Haudompre 72.03 316 eP P 09 05 39.4 -0.6
HAU pmax pmax
comp=Z,72nm,1.2s
HAU Haudompre 72.03 316 eP P 09 05 39.4 -0.6
comp=Z,72nm,1.2s
LOMF Lomont 72.07 315 eP P 09 05 39.6 -0.7
MCD Coleburn Disti 72.09 328⇑ eP P 09 05 39.8 -0.3
DRUM Mains of Drumt 72.10 327 eP P 09 05 39.5 -0.6
DRUM AMB AMB 09 05 41.5
comp=Z,77nm,1.1s
MME1 Meikle Cairn 72.10 327⇑ eP P 09 05 39.5 -0.7
PAGF Fort de Pagny 72.13 317 eP P 09 05 40.6 +0.1
comp=Z,29nm,1.1s
PAGF Fort de Pagny 72.13 317 eP P 09 05 40.6 +0.1
comp=Z,29nm,1.0s
THEF They Montfort 72.14 316 eP P 09 05 40.1 -0.5
BAIF Baives 72.25 318 eP P 09 05 41.2 0.0
comp=Z,79nm,1.1s
BAIF Baives 72.25 318 eP P 09 05 41.2 0.0
BAIF pmax pmax
comp=Z,79nm,1.1s
BAIF Baives 72.25 318 eP P 09 05 41.2 0.0
comp=Z,79nm,1.1s
EIDS Eidsvold 72.27 137 eP P 09 05 42.4 +0.8
comp=Z,19nm,1.1s
KULLO Kullorsuaq 72.29 355 eP P 09 05 41.6 +0.6
KULLO pmax pmax
comp=Z,36nm,0.8s
KMBO Kilima Mbogo 72.54 257 eP P 09 05 44.3 +0.5
comp=Z,39nm,1.1s
KMBO LR LR
comp=Z,203nm,19.0s
KMBO Kilima Mbogo 72.54 257 P P 09 05 44.8 +1.0
comp=Z,23nm,1.0s,baz=43,slow=9.5,SNR=39
MEZF Maizieres J'vi 72.54 317 eP P 09 05 42.9 -0.1
comp=Z,84nm,1.2s
MEZF Maizieres J'vi 72.54 317 eP P 09 05 42.9 -0.1
comp=Z,84nm,1.2s
MDO Dochfour 72.66 328 eP P 09 05 42.8 -0.8
SFTF Sexfontaines 72.70 316 eP P 09 05 43.5 -0.4
comp=Z,84nm,1.1s
SFTF Sexfontaines 72.70 316 eP P 09 05 43.5 -0.4
comp=Z,84nm,1.1s
ESY Stoneypath 72.70 326 eP P 09 05 43.1 -0.7
STKA Stephens Creek 72.76 148 eP P 09 05 44.2 -0.1
comp=Z,5.4nm,1.3s
STKA Stephens Creek 72.76 148 P P 09 05 44.5 +0.2
comp=Z,9.4nm,0.7s,baz=329,slow=7.0,SNR=23
STKA LR LR 09 40 18.6
comp=Z,149nm,19.3s,baz=21,slow=38
CABF La Chapelle 72.87 315⇑ iP P 09 05 44.6 -0.5
comp=Z,76nm,1.1s
CABF La Chapelle 72.87 315⇑ iP P 09 05 44.6 -0.5
CABF pmax pmax
comp=Z,76nm,1.1s
CABF La Chapelle 72.87 315⇑ iP P 09 05 44.6 -0.5
comp=Z,76nm,1.1s
EBL Broad Law 72.98 326⇑ eP P 09 05 45.0 -0.4
RSL Roselend 73.00 314 eP P 09 05 45.5 -0.5
LPG La Plagne 73.02 313⇑ iP P 09 05 46.4 +0.2
comp=Z,216nm,1.0s
LPG La Plagne 73.02 313⇑ iP P 09 05 46.4 +0.2
LPG pmax pmax
comp=Z,216nm,1.0s
LPG La Plagne 73.02 313⇑ iP P 09 05 46.4 +0.2
comp=Z,216nm,1.0s
LPL La Plagne 73.02 313⇑ iP P 09 05 46.3 +0.1
comp=Z,216nm,1.0s
LPL La Plagne 73.02 313⇑ iP P 09 05 46.3 +0.1
LPL pmax pmax
comp=Z,216nm,1.0s
LPL La Plagne 73.02 313⇑ iP P 09 05 46.3 +0.1
comp=Z,216nm,1.0s
PGF Pioggiola 73.04 310 eP P 09 05 46.3 +0.1
comp=Z,198nm,1.0s
PGF Pioggiola 73.04 310 eP P 09 05 46.3 +0.1
PGF pmax pmax
comp=Z,198nm,1.0s
PGF Pioggiola 73.04 310 eP P 09 05 46.3 +0.1
comp=Z,198nm,1.0s
MENF Mencas 73.13 320 eP P 09 05 46.4 0.0
SAOF Saorge 73.26 312 eP P 09 05 45.5 -1.9
BNI Bardonecchia 73.28 313 eP P 09 05 46.8 -0.8
BNI pmax pmax
comp=Z,37nm,1.0s
BNI Bardonecchia 73.28 313 eP P 09 05 46.8 -0.8
comp=Z,37nm,1.0s
HPK Haverah Park 73.29 324 eP P 09 05 46.6 -0.7
HPK AMB AMB 09 05 48.6
comp=Z,52nm,1.2s

ESK Eskdalemuir 73.31 326⇑ eP P 09 05 46.8 -0.6
ESK AMB AMB 09 05 48.7
comp=Z,33nm,1.2s
ESK Eskdalemuir 73.31 326 eP P 09 05 47.1 -0.3
ESK pmax pmax
comp=Z,26nm,1.0s
ESK Eskdalemuir 73.31 326 eP P 09 05 47.1 -0.3
comp=Z,26nm,1.0s
AUTN L'Aution 73.34 312 eP P 09 05 47.9 -0.2
ECK Cauldkaine Hil 73.35 325⇑ eP P 09 05 47.0 -0.6
MBDF Montbardon 73.39 313 eP P 09 05 47.4 -0.9
comp=Z,51nm,0.9s
MBDF Montbardon 73.39 313 eP P 09 05 47.4 -0.9
MBDF pmax pmax
comp=Z,51nm,0.9s
MBDF Montbardon 73.39 313 eP P 09 05 47.4 -0.9
comp=Z,51nm,0.9s
SBF Sospel 73.40 312⇑ iP P 09 05 47.9 -0.3
comp=Z,198nm,1.0s
SBF Sospel 73.40 312⇑ iP P 09 05 47.9 -0.3
SBF pmax pmax
comp=Z,198nm,1.0s
SBF Sospel 73.40 312⇑ iP P 09 05 47.9 -0.3
comp=Z,198nm,1.0s
TOUF Mont Tournerai 73.44 312 eP P 09 05 47.2 -1.4
OG35 Corcelles 73.46 314 eP P 09 05 48.2 -0.4
REVF Revere 73.50 312 eP P 09 05 48.1 -0.7
HYT Haines Junctio 73.54 27 eP P 09 05 48.9 0.0
PGBU Glenifferbraes 73.64 326 eP P 09 05 49.0 -0.3
PGBU AMB AMB 09 05 50.3
comp=Z,90nm,1.2s
ORIF Oris-en-Rattie 73.84 313⇑ iP P 09 05 50.6 -0.2
comp=Z,87nm,0.9s
ORIF eR
comp=Z,424nm,17.5s
ORIF Oris-en-Rattie 73.84 313⇑ iP P 09 05 50.6 -0.2
ORIF pmax pmax
comp=Z,87nm,0.9s
ORIF Oris-en-Rattie 73.84 313⇑ iP P 09 05 50.6 -0.2
comp=Z,87nm,0.9s
LOR Lormes 73.86 316⇑ iP P 09 05 49.9 -0.9
comp=Z,75nm,1.3s,baz=62
LOR eR
comp=Z,312nm,18.8s
LOR Lormes 73.86 316⇑ iP P 09 05 49.9 -0.9
comp=Z,75nm,1.3s
GCD Castle Douglas 73.92 325⇑ eP P 09 05 50.4 -0.5
FRF La Foret Royal 74.05 312 eP P 09 05 51.4 -0.5
comp=Z,61nm,1.1s
FRF La Foret Royal 74.05 312 eP P 09 05 51.4 -0.5
FRF pmax pmax
comp=Z,61nm,1.1s
FRF La Foret Royal 74.05 312 eP P 09 05 51.4 -0.5
comp=Z,61nm,1.1s
SSF Saint Saulge 74.17 316 eP P 09 05 52.0 -0.6
comp=Z,56nm,1.2s
SSF Saint Saulge 74.17 316 eP P 09 05 52.0 -0.6
SSF pmax pmax
comp=Z,56nm,1.2s
SSF Saint Saulge 74.17 316 eP P 09 05 52.0 -0.6
comp=Z,56nm,1.2s
SMF Signal de Mont 74.19 315⇑ iP P 09 05 52.2 -0.6
comp=Z,130nm,1.1s
SMF Signal de Mont 74.19 315⇑ iP P 09 05 52.2 -0.6
SMF pmax pmax
comp=Z,130nm,1.1s
SMF Signal de Mont 74.19 315⇑ iP P 09 05 52.2 -0.6
comp=Z,130nm,1.1s
LMR La Mourre 74.25 312 eP P 09 05 52.8 -0.3
comp=Z,191nm,1.4s
LMR La Mourre 74.25 312 eP P 09 05 52.8 -0.3
LMR pmax pmax
comp=Z,191nm,1.4s
LMR La Mourre 74.25 312 eP P 09 05 52.8 -0.3
comp=Z,191nm,1.4s
VSL Villasalto 74.29 307 eP P 09 05 53.5 0.0
comp=Z,38nm,0.9s
VSL LR LR
comp=Z,217nm,21.0s
AVF Avril sur Loir 74.40 316⇑ iP P 09 05 53.4 -0.5
comp=Z,92nm,1.1s
AVF Avril sur Loir 74.40 316⇑ iP P 09 05 53.4 -0.5
AVF pmax pmax
comp=Z,92nm,1.1s
AVF Avril sur Loir 74.40 316⇑ iP P 09 05 53.4 -0.5
comp=Z,92nm,1.1s
SMRF Simiane la Rot 74.51 312 eP P 09 05 54.5 -0.2
comp=Z,112nm,1.6s
SMRF Simiane la Rot 74.51 312 eP P 09 05 54.5 -0.2
comp=Z,112nm,1.6s
HYF Humbligny 74.57 316 eP P 09 05 54.9 0.0
HYF Humbligny 74.57 316 eP P 09 05 54.9 0.0
VIVF Saint-Julien-l 74.61 314⇑ iP P 09 05 54.8 -0.5
comp=Z,63nm,1.0s
VIVF Saint-Julien-l 74.61 314⇑ iP P 09 05 54.8 -0.5
VIVF pmax pmax
comp=Z,63nm,1.0s
VIVF Saint-Julien-l 74.61 314⇑ iP P 09 05 54.8 -0.5
comp=Z,63nm,1.0s
HLM1 Long Mynd 74.72 323 eP P 09 05 55.2 -0.5
HLM1 AMB AMB 09 05 56.5
comp=Z,54nm,1.3s
WPM1 Penmaenmawr 74.81 324 eP P 09 05 56.4 +0.2
BGF Bois d'Agland 74.82 316 eP P 09 05 55.9 -0.5
comp=Z,62nm,1.3s
BGF Bois d'Agland 74.82 316 eP P 09 05 55.9 -0.5
BGF pmax pmax
comp=Z,62nm,1.3s
BGF Bois d'Agland 74.82 316 eP P 09 05 55.9 -0.5
comp=Z,62nm,1.3s
YLL Llanberis 75.01 324 eP P 09 05 56.3 -1.0
WLF1 Llynfaes 75.04 324 eP P 09 05 56.7 -0.8
WLF1 AMB AMB 09 05 58.9
comp=Z,47nm,1.1s
MCH1 Michaelchurch 75.07 323⇑ eP P 09 05 54.8 -2.9
MCH1 AMB AMB 09 06 02.0
comp=Z,35nm,2.1s
YRC Rhoscolyn 75.15 324 eP P 09 05 58.5 +0.4
YRE Yr Eifl 75.23 324 eP P 09 05 58.5 -0.1
GMM Mts of Mourne 75.24 326 eP P 09 05 58.1 -0.5
SKAG Skagway 75.25 27 eP P 09 05 59.0 +0.4
comp=Z,27nm,0.6s
TCF Toulx Ste Croi 75.34 316⇑ iP P 09 05 59.2 -0.2
comp=Z,81nm,1.1s
TCF Toulx Ste Croi 75.34 316⇑ iP P 09 05 59.2 -0.2
TCF pmax pmax
comp=Z,81nm,1.1s
TCF Toulx Ste Croi 75.34 316⇑ iP P 09 05 59.2 -0.2
comp=Z,81nm,1.1s
LDF La Druitiere 75.43 319 eP P 09 05 59.4 -0.4
comp=Z,57nm,1.1s
LDF La Druitiere 75.43 319 eP P 09 05 59.4 -0.4
LDF pmax pmax
comp=Z,57nm,1.1s
LDF La Druitiere 75.43 319 eP P 09 05 59.4 -0.4
comp=Z,57nm,1.1s
LASF Ste Croix 75.52 313⇑ iP P 09 06 00.5 0.0
comp=Z,62nm,1.0s
LASF Ste Croix 75.52 313⇑ iP P 09 06 00.5 0.0
comp=Z,62nm,1.0s
FLN La Foliniere 75.53 319 eP P 09 06 00.0 -0.5
comp=Z,85nm,1.2s,baz=55
FLN eR
comp=Z,541nm,19.0s
FLN La Foliniere 75.53 319 eP P 09 06 00.0 -0.5
FLN pmax pmax
comp=Z,85nm,1.2s
FLN La Foliniere 75.53 319 eP P 09 06 00.0 -0.5
comp=Z,85nm,1.2s
LPW Lampeter 75.55 323 eP P 09 05 59.9 -0.5
LPW AMB AMB 09 06 00.6
comp=Z,273nm,1.3s
OPO Ambohidratompo 75.66 237 P P 09 06 02.2 +0.5
OPO Ambohidratompo 75.66 237 P P 09 06 02.2 +0.5
comp=Z,30nm,1.1s,baz=43,slow=5.8,SNR=13
ABPO Ambohimpanom 75.93 236 eP P 09 06 03.6 +0.3
ABPO pmax pmax
comp=Z,29nm,1.3s
ABPO Ambohimpanom 75.93 236 eP P 09 06 03.6 +0.3
comp=Z,29nm,1.3s
GRR Gorron 75.95 319⇑ iP P 09 06 02.5 -0.3
comp=Z,119nm,1.2s
GRR Gorron 75.95 319⇑ iP P 09 06 02.5 -0.3
GRR pmax pmax
comp=Z,119nm,1.2s
GRR Gorron 75.95 319⇑ iP P 09 06 02.5 -0.3

comp=Z,119nm,1.2s
CAF Calviac 76.15 315 *e*P **P 09 06 04.3 +0.2**
comp=Z,43nm,1.1s
CAF Calviac 76.15 315 *e*P **P 09 06 04.3 +0.2**
CAF pmax pmax
comp=Z,43nm,1.1s
CAF Calviac 76.15 315 *e*P **P 09 06 04.3 +0.2**
comp=Z,43nm,1.1s
KEST Kesra 76.19 304 *e*P **P 09 06 04.8 +0.3**
KEST Kesra 76.19 304 P **P 09 06 05.0 +0.4**
comp=Z,7.7nm,1.1s,baz=24,slow=1.6,SNR=8.7
KEST LR LR 09 42 35.7
comp=Z,82nm,22.0s,baz=3.9,slow=38
RJF Les Rejaudoux 76.27 315⇑*i*P **P 09 06 05.0 +0.2**
comp=Z,57nm,1.1s
RJF *e*R
comp=Z,358nm,18.5s
RJF Les Rejaudoux 76.27 315⇑*i*P **P 09 06 05.0 +0.2**
RJF pmax pmax
comp=Z,57nm,1.1s
RJF Les Rejaudoux 76.27 315⇑*i*P **P 09 06 05.0 +0.2**
comp=Z,57nm,1.1s
MFF Saint Martin d 76.53 317 *e*P **P 09 06 06.3 +0.1**
comp=Z,152nm,1.2s
MFF Saint Martin d 76.53 317 *e*P **P 09 06 06.3 +0.1**
MFF pmax pmax
comp=Z,152nm,1.2s
MFF Saint Martin d 76.53 317 *e*P **P 09 06 06.3 +0.1**
comp=Z,152nm,1.2s
ILULI Ilulissat 76.86 352 *e*P **P 09 06 06.4 -1.2**
ILULI pmax pmax
comp=Z,14nm,0.8s
MTLF Montolieu 76.91 313 *e*P **P 09 06 08.3 -0.1**
comp=Z,32nm,1.1s
MTLF Montolieu 76.91 313 *e*P **P 09 06 08.3 -0.1**
MTLF pmax pmax
comp=Z,32nm,1.1s
MTLF Montolieu 76.91 313 *e*P **P 09 06 08.3 -0.1**
comp=Z,32nm,1.1s
LFF La Frestale 76.93 315 *e*P **P 09 06 08.8 +0.3**
comp=Z,56nm,1.1s
LFF La Frestale 76.93 315 *e*P **P 09 06 08.8 +0.3**
LFF pmax pmax
comp=Z,56nm,1.1s
LFF La Frestale 76.93 315 *e*P **P 09 06 08.8 +0.3**
comp=Z,56nm,1.1s
SGMF Saint Gilles 76.96 319⇑*i*P **P 09 06 08.7 +0.1**
comp=Z,82nm,1.1s
SGMF Saint Gilles 76.96 319⇑*i*P **P 09 06 08.7 +0.1**
SGMF pmax pmax
comp=Z,82nm,1.1s
SGMF Saint Gilles 76.96 319⇑*i*P **P 09 06 08.7 +0.1**
comp=Z,82nm,1.1s
ROSF Rostrenen 77.31 320 *e*P **P 09 06 10.5 0.0**
ROSF Rostrenen 77.31 320 *e*P **P 09 06 10.5 0.0**
ROSF pmax pmax
comp=Z,13nm,0.8s
ROSF Rostrenen 77.31 320 *e*P **P 09 06 10.5 0.0**
comp=Z,13nm,0.8s
QUIF Quistinic 77.49 319 *e*P **P 09 06 11.4 -0.1**
comp=Z,137nm,1.3s
QUIF Quistinic 77.49 319 *e*P **P 09 06 11.4 -0.1**
QUIF pmax pmax
comp=Z,137nm,1.3s
QUIF Quistinic 77.49 319 *e*P **P 09 06 11.4 -0.1**
comp=Z,137nm,1.3s
VALF Valcebollere 77.55 312 *e*P **P 09 06 12.2 0.0**
MBAR Mbarara 77.63 261 PFAKE 09 06 20.0 +6.9
MBAR LR LR
comp=Z,923nm,21.0s
MLS Moulis 77.81 313 *e*P **P 09 06 13.1 -0.4**
DLBC Dease Lake 77.97 26 *e*P **P 09 06 15.2 +1.0**
EPF Esparros 78.23 314 *e*P **P 09 06 15.3 -0.6**
comp=Z,20nm,0.9s
EPF Esparros 78.23 314 *e*P **P 09 06 15.3 -0.6**
EPF pmax pmax
comp=Z,20nm,0.9s
EPF Esparros 78.23 314 *e*P **P 09 06 15.3 -0.6**
comp=Z,20nm,0.9s
RESF Ens 78.36 314 *e*P **P 09 06 17.2 +0.6**
WRAK Wrangell Islan 78.47 29 PFAKE 09 06 30.0 +13
WRAK LR LR
comp=Z,293nm,19.0s
VIEF Viey 78.51 314 *e*P **P 09 06 17.5 +0.1**
VAL Valentia 78.69 325 *e*P **P 09 06 17.6 -0.5**
ETSF Etsaut 78.85 314⇑*i*P **P 09 06 19.7 +0.4**
comp=Z,24nm,0.9s
ETSF Etsaut 78.85 314⇑*i*P **P 09 06 19.7 +0.4**
ETSF pmax pmax
comp=Z,24nm,0.9s
ETSF Etsaut 78.85 314⇑*i*P **P 09 06 19.7 +0.4**
comp=Z,24nm,0.9s
SFJD Kangerlussuaq 78.88 351 *i* P **P 09 06 18.6 -0.3**
comp=Z,17nm,0.8s
SFJD Kangerlussuaq 78.88 351 *e*P **P 09 06 18.6 -0.3**
comp=Z,66nm,1.4s
SJPF Ste Jean 79.13 314 *e*P **P 09 06 21.4 +0.6**
comp=Z,74nm,1.2s
SJPF Ste Jean 79.13 314 *e*P **P 09 06 21.4 +0.6**
SJPF pmax pmax
comp=Z,74nm,1.2s
SJPF Ste Jean 79.13 314 *e*P **P 09 06 21.4 +0.6**
comp=Z,74nm,1.2s
YKW3 Yellowknife Ar 79.64 18 *e*P **P 09 06 23.1 0.0**
comp=Z,0.7nm,1.0s
DZM Mont Dzumac 79.67 125 *e*P **P 09 06 25.6 +1.6**
comp=Z,54nm,0.8s
DZM Mont Dzumac 79.67 125 P **P 09 06 25.4 +1.4**
comp=Z,44nm,0.8s,baz=3.4,slow=6.1,SNR=26
YKA Yellowknife Ar 79.70 18 P **P 09 06 23.3 -0.1**
YKA Yellowknife Ar 79.70 18 P **P 09 06 23.3 -0.1**
comp=Z,7.6nm,0.5s,baz=326,slow=5.0,SNR=32
ESDC Sonseca Array 82.81 313 P **P 09 06 40.5 0.0**
ESDC Sonseca Array 82.81 313 P **P 09 06 40.5 0.0**
comp=Z,4.5nm,0.8s,baz=45,slow=5.6,SNR=16
ESLA Sonseca Array 82.81 313 *e*P **P 09 06 40.6 +0.1**
comp=Z,2.8nm,1.0s
PAB San Pablo 83.13 313 PFAKE 09 06 50.0 +7.8
PAB LR LR
comp=Z,169nm,20.0s
MVO Moncorvo 83.75 315 *e*P **P 09 06 46.2 +0.8**
comp=Z,28nm,1.2s
POLO Lamas de Olo 84.07 316 *e*P **P 09 06 48.2 +1.2**
MTE Manteigas 84.54 315 *e*P **P 09 06 51.0 +1.6**
comp=Z,30nm,1.1s
MTE Manteigas 84.54 315 PFAKE 09 07 00.0 +11
MTE LR LR
comp=Z,204nm,21.0s
PMRV Marv??o 85.06 314 *e*P **P 09 06 52.1 +0.2**
comp=Z,21nm,1.6s
PTOM Tomar 85.55 315 *e*P **P 09 06 55.9 +1.6**
PBAR Barrancos 85.63 313 *e*P **P 09 06 54.9 +0.1**
comp=Z,19nm,1.2s
PMTG Montargil 85.78 314 *e*P **P 09 06 56.0 +0.5**
comp=Z,19nm,1.2s
TAM Tamanrasset 85.89 294 *e*P **P 09 06 57.4 +0.8**
TAM pmax pmax
comp=Z,11nm,1.0s
TAM MLR MLR
comp=Z,127nm,19.0s
TAM Tamanrasset 85.89 294 *e*P **P 09 06 57.4 +0.8**
comp=Z,12nm,1.0s
TAM LR LR
comp=Z,127nm,19.0s
EVO Evora 86.00 314 *e*P **P 09 06 57.5 +0.9**
comp=Z,19nm,1.1s
EVO *e*R
comp=Z,195nm,20.5s
EVO Evora 86.00 314 *e*P **P 09 06 57.8 +1.2**
comp=Z,26nm,1.3s
EVOP Sao Brissos 86.07 314 *e*P **P 09 06 57.5 +0.6**
EVOP pmax pmax
comp=Z,19nm,1.1s
EVOP Sao Brissos 86.07 314 *e*P **P 09 06 57.5 +0.6**
comp=Z,19nm,1.1s
PBEJ Beja 86.23 313 *e*P **P 09 06 59.1 +1.3**
comp=Z,22nm,1.6s
PVAQ Vaqueiros 86.53 313 *e*P **P 09 07 00.4 +1.2**
PNCL Nicolau / Gran 86.58 314 *e*P **P 09 07 00.3 +0.9**
comp=Z,28nm,1.4s
PCVE Castro Verde 86.58 313 *e*P **P 09 07 00.4 +0.9**
MORF Marmelete 87.16 313 *e*P **P 09 07 03.5 +1.1**
comp=Z,34nm,1.1s
FCC Fort Churchill 87.31 10 *e*P **P 09 07 02.7 +0.1**
FCC pmax pmax
comp=Z,3.0nm,1.5s
FCC Fort Churchill 87.31 10 *e*P **P 09 07 02.7 +0.1**
comp=Z,3.0nm,1.5s
MDT Midelt 87.38 308 P **P 09 07 03.1 -0.5**
MDT Midelt 87.38 308 P **P 09 07 03.1 -0.5**
comp=Z,7.0nm,1.0s,baz=80,slow=5.5,SNR=9.0
PFVI Vila Bisbo 87.38 313 *e*P **P 09 07 04.9 +1.5**
EDM Edmonton 87.88 22 *e*P **P 09 07 05.7 +0.1**
EDM Edmonton 87.88 22 *e*P **P 09 07 05.7 +0.1**
LSZ Lusaka 87.94 250 *e*P **P 09 07 06.8 +0.4**
comp=Z,39nm,1.1s
RTC Rabat Centre 88.13 310 PFAKE 09 07 20.0 +13
RTC LR LR
comp=Z,79nm,19.0s
MBW Mount Baker 88.39 29 P **P 09 07 08.7 +0.5**
NLWA Neilton Lookou 88.64 31 PFAKE 09 07 20.0 +11
NLWA LR LR
comp=Z,233nm,20.0s
JCW Jim Creek 88.84 30 P **P 09 07 11.1 +0.9**
FFC Flin Flon 89.65 16 *e*P **P 09 07 12.8 -1.0**
FFC pmax pmax
comp=Z,92nm,1.1s
FFC MLR MLR
comp=Z,110nm,19.0s
FFC Flin Flon 89.65 16 *e*P **P 09 07 12.8 -1.0**
comp=Z,92nm,1.1s
FFC LR LR
comp=Z,110nm,19.0s
FMW Mount Fremont 89.94 30 P **P 09 07 16.5 +0.9**
TWW Teanaway 90.12 30 P **P 09 07 17.6 +1.4**
WPW White Pass 90.18 30 P **P 09 07 17.9 +1.3**
NEW Newport 90.70 27 *e*P **P 09 07 19.2 +0.3**
comp=Z,26nm,1.0s
NEW LR LR
comp=Z,181nm,21.0s
NEW Newport 90.70 27 P **P 09 07 19.7 +0.8**
comp=Z,16nm,0.9s,baz=320,slow=4.4,SNR=42
NEW Newport 90.70 27⇑P **P 09 07 19.7 +0.8**
baz=90,SNR=28
TRW Toppenish Ridg 90.92 30 P **P 09 07 21.4 +1.4**
COR Corvallis 91.06 33 *e*P **P 09 07 22.8 +2.3**
COR pmax pmax
comp=Z,40nm,0.8s
COR Corvallis 91.06 33 *e*P **P 09 07 22.8 +2.3**
comp=Z,40nm,0.8s
WALA Waterton Lakes 91.22 25 *e*P **P 09 07 22.2 +0.8**
comp=Z,0.8nm,1.1s
HAWA Hanford 91.27 29 *e*P **P 09 07 22.4 +0.9**
comp=Z,27nm,0.9s
VFP Flag Point 91.30 31 P **P 09 07 23.4 +1.4**
RNO Roman Nose 91.37 33 P **P 09 07 24.2 +2.1**
BSMT Bassoo Peak 91.92 26 *e*P **P 09 07 25.9 +1.1**
BLMT Blacktail Moun 91.94 26 *e*P **P 09 07 26.5 +1.6**
comp=Z,11nm,0.7s
IRO Indian Ridge 91.98 32 P **P 09 07 26.8 +1.7**
BKCOR Black Crater 92.00 32 P **P 09 07 27.1 +2.0**
JTMT Jette 92.20 26 *e*P **P 09 07 26.9 +1.0**
comp=Z,11nm,1.1s
YBMT Yellow Bay 92.20 25 *e*P **P 09 07 27.6 +1.7**
comp=Z,13nm,1.2s
SCHQ Schefferville 92.48 356 *e*P **P 09 07 26.5 -0.5**
comp=Z,76nm,1.7s
SCHQ Schefferville 92.48 356 P **P 09 07 27.4 +0.5**
comp=Z,20nm,1.0s,baz=42,slow=8.9,SNR=8.1
SWMT Swartz Lake 92.50 26 *e*P **P 09 07 28.5 +1.2**
comp=Z,16nm,1.5s
HUMO Hull Mountain 92.74 34 *e*P **P 09 07 30.2 +1.8**
comp=Z,12nm,0.8s
SLMT Seeley Lake 92.91 25 *e*P **P 09 07 29.7 +0.4**
comp=Z,15nm,1.0s
A19A Klindworth Far 93.06 22⇓P **P 09 07 30.0 +0.1**
baz=93,SNR=8.1
MSO Missoula 93.09 26⇓P **P 09 07 30.1 0.0**
baz=93,SNR=8.3
CHMT Chamberlain Mo 93.27 26 *e*P **P 09 07 31.7 +0.7**
comp=Z,4.8nm,0.9s
A20A Cobblestone Ra 93.36 21⇓P **P 09 07 31.4 +0.2**
baz=93,SNR=9.9
B19A Brinkman Farms 93.41 22⇓P **P 09 07 31.4 0.0**
baz=93,SNR=5.2
BMO Blue Mountains 93.43 29 *e*P **P 09 07 32.1 +0.4**
BMO pmax pmax
comp=Z,5.0nm,1.1s
BMO MLR MLR
comp=Z,184nm,19.0s
BMO Blue Mountains 93.43 29 *e*P **P 09 07 32.1 +0.4**
comp=Z,5.0nm,1.1s
BMO LR LR
comp=Z,184nm,19.0s
EGMT Eagleton 93.53 23 *e*P **P 09 07 32.2 +0.2**
comp=Z,8.7nm,0.9s
EGMT LR LR
comp=Z,192nm,20.0s
EGMT Eagleton 93.53 23⇑P **P 09 07 32.1 +0.2**
baz=93
YBH Yreka Blue Hor 93.54 34 *e*P **P 09 07 33.5 +1.3**
comp=Z,6.2nm,1.2s
YBH Yreka Blue Hor 93.54 34 P **P 09 07 33.0 +0.8**
comp=Z,2.3nm,0.7s,baz=330,slow=12,SNR=5.4
A21A Bergtoll Ranch 93.56 21⇓P **P 09 07 32.5 +0.4**
baz=93
B20A Solberg Farm, 93.72 22⇓P **P 09 07 32.9 +0.1**
baz=93,SNR=5.0
A22A Carney Farms, 93.86 20⇓P **P 09 07 33.6 +0.1**
baz=94
HRY Holter Researc 93.96 25 *e*P **P 09 07 35.1 +1.1**
comp=Z,12nm,0.9s
C19A Slack Wire Ran 94.01 23⇑P **P 09 07 34.6 +0.4**
baz=94,SNR=9.5
B21A Ellsworth Farm 94.03 21⇓P **P 09 07 34.4 +0.2**
baz=94
A23A Redstone 94.18 20⇓P **P 09 07 35.1 +0.1**
baz=94
TOA0 Torodi Ar. Sit 94.32 289 *e*P **P 09 07 35.2 -0.9**
TORD Torodi Ar. Bea 94.32 289 P **P 09 07 35.8 -0.3**
TORD PP **PP 09 11 22.8 -0.3**
TORD Torodi Ar. Bea 94.32 289 P **P 09 07 35.8 -0.3**
comp=Z,4.1nm,0.8s,baz=42,slow=4.4,SNR=23
TORD PP **PP 09 11 22.8 -0.3**
comp=Z,2.5nm,0.9s,baz=57,slow=8.5,SNR=4.3
TORD LR LR 09 55 32.1
comp=Z,164nm,19.6s,baz=115,slow=39
C20A Veseth Ranch, 94.36 22⇑P **P 09 07 35.9 +0.1**
baz=94
B22A Reddig Ranch S 94.45 21⇑P **P 09 07 36.6 +0.3**
baz=94
A24A Westby 94.46 19⇑P **P 09 07 36.7 +0.4**
baz=94
LRM Limekiln Ridge 94.50 26 *e*P **P 09 07 37.1 +0.4**
comp=Z,43nm,0.9s
MOD Modoc 94.52 33 *e*P **P 09 07 37.5 +0.7**
comp=Z,40nm,1.2s
D19A Cripps Ranch, 94.56 23⇑P **P 09 07 36.8 0.0**
baz=94,SNR=12
B23A Brockton 94.60 20⇓P **P 09 07 37.4 +0.5**
baz=94,SNR=6.0
DGMT Dagmar 94.82 19 *e*P **P 09 07 38.2 +0.4**
comp=Z,19nm,0.9s
DGMT LR LR
comp=Z,308nm,19.0s
DGMT Dagmar 94.82 19⇑P **P 09 07 38.3 +0.4**
baz=94,SNR=6.9
WVOR Wild Horse Val 94.83 31 *e*P **P 09 07 39.0 +0.8**
WVOR pmax pmax
comp=Z,6.0nm,0.9s
WVOR MLR MLR
comp=Z,87nm,19.0s
WVOR Wild Horse Val 94.83 31 *e*P **P 09 07 39.0 +0.8**
comp=Z,5.5nm,0.9s
WVOR LR LR
comp=Z,87nm,19.0s
DLMT Dillon 94.83 26 *e*P **P 09 07 38.8 +0.6**
comp=Z,5.6nm,0.9s
D20A Manuel Ranch, 94.87 22⇑P **P 09 07 38.2 0.0**
baz=94
BOZ Bozeman (W) 94.94 25 *e*P **P 09 07 39.1 +0.4**
BOZ pmax pmax
comp=Z,7.0nm,1.4s
BOZ MLR MLR
comp=Z,232nm,19.0s
BOZ Bozeman (W) 94.94 25 *e*P **P 09 07 39.0 +0.4**
comp=Z,7.3nm,1.4s
BOZ LR LR
comp=Z,232nm,19.0s
C22A Vida 94.98 21⇑P **P 09 07 39.0 +0.3**
baz=95
A26A Wade Farm, Ken 95.01 18⇑P **P 09 07 39.1 +0.4**
baz=95,SNR=9.8
C23A Lambert 95.14 20⇑P **P 09 07 39.9 +0.5**
baz=95,SNR=7.6
A27A Ledoux Ranch, 95.16 17⇓P **P 09 07 40.2 +0.8**
baz=95,SNR=7.0
MCMT McKenzie Canyo 95.20 26 *e*P **P 09 07 40.8 +0.8**
comp=Z,3.9nm,1.0s
E19A Rath Farm, Rou 95.22 23⇓P **P 09 07 40.3 +0.5**
baz=95,SNR=5.1
D21A La Casta Ranch 95.25 22⇓P **P 09 07 39.8 -0.1**
baz=95,SNR=6.5
B25A Knox Farm, Ray 95.28 19⇓P **P 09 07 40.2 +0.2**
baz=95
E20A Meyer Farm, Mu 95.39 23⇑P **P 09 07 40.7 +0.1**
baz=95
D22A Cohagen 95.43 21⇑P **P 09 07 41.1 +0.4**
baz=95,SNR=6.1
A28A Rude Farm, Bot 95.44 17⇑P **P 09 07 41.3 +0.6**
baz=95,SNR=7.0
GCMT Greycliff 95.50 24 *e*P **P 09 07 41.9 +0.7**
comp=Z,1.7nm,0.7s
C24A Savage 95.61 20⇓P **P 09 07 42.5 +1.0**
baz=95
HLID Hailey 95.66 28 *e*P **P 09 07 42.7 +0.7**
comp=Z,12nm,1.3s
HLID LR LR
comp=Z,240nm,19.0s
HLID Hailey 95.66 28⇓P **P 09 07 42.5 +0.5**
baz=95
A29A Manning Farm, 95.68 16⇓P **P 09 07 41.6 -0.2**
baz=95,SNR=12
F19A Roth Farm, Mol 95.69 23⇑P **P 09 07 42.2 +0.2**
baz=95
E21A Keefer Ranch, 95.70 22⇑P **P 09 07 41.9 0.0**
baz=95
D23A Lindsay 95.70 21⇓P **P 09 07 42.3 +0.3**
baz=95,SNR=6.8
LAO LASA Array 95.83 21 *e*P **P 09 07 41.9 -0.6**
comp=Z,2.9nm,0.4s
LAO LR LR
comp=Z,181nm,21.0s
B28A Dugan Ranch, T 95.85 17⇓P **P 09 07 43.0 +0.5**
baz=96,SNR=5.2
A30A Hoffart Farm, 95.88 16⇓P **P 09 07 43.0 +0.4**
baz=96
C26A Wahner Farm, P 95.98 18⇓P **P 09 07 43.7 +0.5**
baz=96
F20A Billings 96.01 23⇓P **P 09 07 42.8 -0.7**
baz=96
D24A Glendive 96.01 20⇓P **P 09 07 44.0 +0.6**
baz=96,SNR=5.3
E22A Miles City 96.14 21⇓P **P 09 07 43.8 -0.1**
baz=96,SNR=6.4
RLMT Red Lodge 96.23 24 PFAKE 09 08 00.0 +15
RLMT LR LR
comp=Z,408nm,21.0s
C27A Sayler Ranch, 96.24 18⇑P **P 09 07 43.8 -0.5**
baz=96
LKWY Lake 96.32 25 PFAKE 09 08 00.0 +15
LKWY LR LR
comp=Z,351nm,19.0s
B30A Myrvik Farm, E 96.33 16⇓P **P 09 07 44.3 -0.4**
baz=96
H17A Grant Village 96.40 25 *e*P **P 09 07 48.0 +2.5**
H18A Shoshone NF, C 96.48 24⇑P **P 09 07 45.8 0.0**
baz=96
G20A Bridger 96.50 23⇓P **P 09 07 45.1 -0.6**
baz=96
F22A Rosebud 96.63 22⇑P **P 09 07 45.9 -0.3**
baz=96
IMW Indian Meadow 96.70 26 *e*P **P 09 07 48.0 +1.1**
comp=Z,5.9nm,1.3s
E25A Miller Ranch, 96.83 20⇑P **P 09 07 46.7 -0.4**
baz=96
F23A Volborg 96.95 21⇑P **P 09 07 46.7 -1.0**
baz=97
AGMN Agassiz Nation 97.01 14 PFAKE 09 08 00.0 +12
AGMN LR LR
comp=Z,245nm,19.0s
BMN Battle Mountai 97.08 32 PFAKE 09 08 00.0 +11
BMN LR LR
comp=Z,227nm,21.0s
F24A Ekalaka 97.13 21⇓P **P 09 07 48.2 -0.3**
baz=97
H21A Big Horn, Sher 97.41 23⇑P **P 09 07 49.7 -0.2**
baz=97
G23A Biddle 97.42 22⇑P **P 09 07 49.7 -0.1**
baz=97
D30A Buchanan 97.49 17⇑P **P 09 07 49.7 -0.3**
baz=97
CMB Columbia Colle 97.54 35 *e*P Pdif 09 07 51.4 +0.9
CMB pmax pmax
comp=Z,2.0nm,0.8s
CMB Columbia Colle 97.54 35 *e*P Pdif 09 07 51.4 +0.9
comp=Z,2.0nm,0.8s
G24A Alzada 97.60 21⇑P **P 09 07 50.3 -0.4**
baz=97
AHID Auburn Hatcher 97.61 26 PFAKE 09 08 00.0 +9.0
AHID LR LR
comp=Z,313nm,19.0s
BOSA Boshof 97.63 241 P **P 09 07 49.5 -1.4**
BOSA Boshof 97.63 241 P **P 09 07 49.5 -1.4**
comp=Z,4.2nm,0.7s,baz=127,slow=3.5,SNR=4.6
BOSA LR LR 09 48 12.8
comp=Z,140nm,21.8s,baz=238,slow=33
F26A Lodgepole 97.64 20⇑P Pdif 09 07 50.8 0.0
baz=97
I20A Worland 97.65 24⇑P **P 09 07 50.9 0.0**
baz=97
H22A Clearmont 97.66 22⇑P **P 09 07 50.8 -0.2**
baz=97
F27A Lemmon 97.80 19⇓P **P 09 07 51.4 0.0**
baz=97
G25A Newell 98.02 20⇑P **P 09 07 52.3 -0.2**
baz=98
I21A Big Trails, Te 98.05 23⇑P **P 09 07 52.5 -0.2**
baz=98
H24A Dirks Ranch, A 98.09 21⇓P **P 09 07 52.2 -0.7**
baz=98
F28A McLaughlin 98.15 18⇓P **P 09 07 52.9 -0.1**
baz=98
G26A Maurine 98.17 20⇓P **P 09 07 52.9 -0.2**
baz=98
EYMN Ely 98.17 12 PFAKE 09 08 00.0 +6.9
EYMN LR LR
comp=Z,207nm,19.0s
BW06 Boulder Array 98.18 25 PFAKE 09 08 00.0 +6.5
BW06 LR LR
comp=Z,261nm,21.0s
PDAR Pinedale Array 98.18 25 P **P 09 07 53.3 -0.2**
PDAR PP **PP 09 11 51.0 -0.8**
PDAR PKKPbc **PKKPbc 09 24 23.1 -2.3**
PDAR Pinedale Array 98.18 25 P **P 09 07 53.3 -0.2**
comp=Z,0.7nm,0.8s,baz=30,slow=4.1,SNR=5.6
PDAR PP **PP 09 11 51.0 -0.8**
comp=Z,1.3nm,0.9s,baz=329,slow=2.6,SNR=5.6
PDAR PKKPbc **PKKPbc 09 24 23.1 -2.3**
comp=Z,0.6nm,0.7s,baz=153,slow=6.3,SNR=5.3
PDAR LR LR 09 55 21.4
comp=Z,152nm,19.9s,baz=333,slow=37
J20A Shoshoni 98.19 24⇓P **P 09 07 53.2 -0.1**
baz=98
I22A 9 Mile Ranch, 98.25 23⇓P **P 09 07 53.5 -0.1**
baz=98
F29A Eureka 98.41 18⇑P **P 09 07 53.7 -0.5**
baz=98
HWUT Hardware Ranch 98.43 27 PFAKE 09 08 10.0 +15
HWUT LR LR
comp=Z,194nm,20.0s
H25A Fruitdale 98.49 21⇑P **P 09 07 54.0 -0.6**
baz=98
TSUM Tsumeb 98.56 253 PFAKE 09 08 10.0 +15
TSUM LR LR
comp=Z,238nm,21.0s
J22A Midwest 98.67 23⇓P **P 09 07 55.2 -0.4**
baz=98
RSSD Black Hills 98.81 21 *e*P **P 09 07 56.2 -0.1**
RSSD pmax pmax
comp=Z,32nm,0.9s
RSSD Black Hills 98.81 21 *e*P **P 09 07 56.2 -0.1**
comp=Z,32nm,0.9s
G28A Parade 98.83 19⇓P **P 09 07 55.7 -0.4**
baz=98
L19A Farson 98.83 26⇑P **P 09 07 56.3 -0.1**
baz=98
CASY Casey 98.83 178 PFAKE 09 08 10.0 +15
CASY LR LR
comp=Z,198nm,22.0s

G29A	Hoven	98.99	18	⇓P		P	09 07 56.7	-0.1
	baz=99							
I25A	Rochford	99.00	21	⇑P		P	09 07 56.3	-0.8
	baz=99							
TPH	Tonopah	99.00	33	PFAKE			09 08 10.0	+13
TPH				LR	LR			
	comp=Z,213nm,21.0s							
DUG	Dugway	99.14	29	PFAKE			09 08 10.0	+12
DUG				LR	LR			
	comp=Z,133nm,21.0s							
DUG	Dugway	99.14	29	⇑P		Pdif	09 07 57.1	-0.6
	baz=99							
G30A	Faulkton	99.25	17	⇑P		Pdif	09 07 57.1	-0.8
	baz=99							
H29A	Onida	99.44	18	⇑P		Pdif	09 07 58.7	-0.1
	baz=99							
I27A	Quinn	99.44	20	⇓P		Pdif	09 07 58.7	-0.1
	baz=99							
R11A	Troy Canyon, C	99.51	32	eP		Pdif	09 08 00.5	+1.0
R11A	Troy Canyon, C	99.51	32	⇓P		Pdif	09 07 59.1	-0.3
	baz=99							
J28A	Allard Ranch,	100.27	20	⇑P		Pdif	09 08 02.1	-0.5
	baz=100							
N20A	Spence Gulch,	100.34	25	⇓P		Pdif	09 08 01.9	-1.3
	baz=100							
MVU	Marysvale	100.82	29	PFAKE			09 08 20.0	+15
MVU				LR	LR			
	comp=Z,209nm,21.0s							
ECSD	EROS Data Cent	101.17	16	PFAKE			09 08 20.0	+13
ECSD				LR	LR			
	comp=Z,280nm,19.0s							
ISCO	Idaho Springs	102.19	24	PFAKE			09 08 20.0	+8.5
ISCO				LR	LR			
	comp=Z,279nm,19.0s							
OGNE	Ogallala	102.31	21	PFAKE			09 08 20.0	+8.2
OGNE				LR	LR			
	comp=Z,255nm,21.0s							
DBIC	Dimbokro	103.31	287	PP	PP		09 12 30.4	-1.4
DBIC	Dimbokro	103.31	287	PP	PP		09 12 30.4	-1.4
	comp=Z,11nm,1.1s,baz=50,slow=5.0,SNR=4.8							
WUAZ	Wupatki	103.71	30	PFAKE			09 08 30.0	+12
WUAZ				LR	LR			
	comp=Z,178nm,19.0s							
SDCO	Great Sand Dun	104.06	25	PFAKE			09 08 30.0	+10
SDCO				LR	LR			
	comp=Z,179nm,19.0s							
ERPA	Erie	105.27	4	PFAKE			09 12 50.0	
ERPA				LR	LR			
	comp=Z,159nm,22.0s							
KSU1	Kansas State U	105.55	18	PFAKE			09 12 50.0	
KSU1				LR	LR			
	comp=Z,351nm,20.0s							
ANMO	Albuquerque	106.20	27	PKKPbc	PKKPbc		09 24 00.6	-1.3
ANMO				LR	LR			
	comp=Z,155nm,22.0s							
ANMO	Albuquerque	106.20	27	PKKPbc	PKKPbc		09 24 00.6	-1.3
	comp=Z,1.2nm,0.8s,baz=160,slow=7.3,SNR=7.1							
Y25A	Mesa, Roswell	107.77	26	⇓P		PKiKP	09 12 44.0	+0.2
	baz=108							
Z24A	Sheeppen Canyo	108.05	27	⇓P		PKiKP	09 12 44.5	+0.1
	baz=108							
Y27A	Causey	108.36	25	⇓P		PKiKP	09 12 44.6	-0.3
	baz=108							
MSTX	Muleshoe	108.42	25	⇑P		PKiKP	09 12 45.1	+0.1
	baz=108							
Z26A	Caprock	108.62	26	⇑P		PKiKP	09 12 45.3	0.0
	baz=108							
Z27A	Tatum	108.86	25	⇓P		PKiKP	09 12 46.0	+0.1
	baz=108							
WMOK	Wichita Mounta	109.02	21	PFAKE			09 13 00.0	
WMOK				LR	LR			
	comp=Z,178nm,19.0s							
CBN	Corbin	109.30	2	PFAKE			09 13 00.0	
CBN				LR	LR			
	comp=Z,129nm,22.0s							
Z29A	Hungry Hill Ra	109.44	24	⇑P		PKiKP	09 12 46.5	-0.4
	baz=109							
MNTX	Cornudas Mount	109.48	28	PFAKE			09 13 00.0	
MNTX				LR	LR			
	comp=Z,201nm,22.0s							
226B	Tecolote Peak,	109.61	27	⇓P		PKiKP	09 12 46.8	-0.4
	baz=109							
Z31A	Sharp Cattle R	109.91	23	⇑P		PKiKP	09 12 47.5	-0.2
	baz=110							
325A	Bean Ranch, Si	109.94	28	⇓P		PKiKP	09 12 47.5	-0.5
	baz=110							
Z32A	Haskell	110.13	22	⇑P		PKiKP	09 12 48.5	+0.4
	baz=110							
131A	Roby	110.42	23	⇑P		PKiKP	09 12 49.1	+0.4
	baz=110							
MIAR	Mount Ida	110.63	17	PFAKE			09 13 00.0	
MIAR				LR	LR			
	comp=Z,197nm,20.0s							
ABTX	Abilene, Hawle	110.71	23	⇓P		PKiKP	09 12 49.5	+0.3
	baz=110							
230A	Sterling City	110.89	24	⇓P		PKiKP	09 12 49.9	+0.3
	baz=111							
426A	McDonald Obser	110.92	27	⇓P		PKiKP	09 12 49.2	-0.7
	baz=111							
427A	Hayter Ranch,	111.00	27	⇓P		PKiKP	09 12 49.5	-0.4
	baz=111							
330A	Mertzon	111.31	24	⇓P		PKiKP	09 12 50.2	-0.2
	baz=111							
428A	Kincaid Ranch,	111.38	26	⇑P		PKiKP	09 12 50.6	0.0
	baz=111							
527A	Woodward Ranch	111.55	27	⇓P		PKiKP	09 12 51.1	+0.1
	baz=111							
OXF	Oxford	111.57	13	PFAKE			09 13 00.0	
OXF				LR	LR			
	comp=Z,232nm,20.0s							
331A	San Angelo	111.65	24	⇑P		PKiKP	09 12 51.1	+0.1
	baz=111							
429A	Davenport Ranc	111.76	25	⇑P		PKiKP	09 12 51.1	-0.2
	baz=111							
332A	Millersview	111.81	23	⇑P		PKiKP	09 12 51.3	-0.1
	baz=112							
430A	Baggett Ranch,	111.85	25	⇑P		PKiKP	09 12 51.1	-0.4
	baz=112							
626A	Big Bend Ranch	111.88	28	⇑P		PKiKP	09 12 51.4	-0.2
	baz=112							
529A	Stev Forest Ra	112.09	26	⇓P		PKiKP	09 12 51.9	0.0
	baz=112							
SACV	Santiago Islan	112.10	306	PFAKE			09 13 00.0	
SACV				LR	LR			
	comp=Z,745nm,19.0s							
431A	Sonora	112.16	24	⇑P		PKiKP	09 12 52.0	-0.1
	baz=112							
CNNC	Cliffs of the	112.24	3	PFAKE			09 13 00.0	
CNNC				LR	LR			
	comp=Z,380nm,19.0s							
TXAR	Lajitas Array	112.26	27	PKiKP		PKiKP	09 12 52.1	-0.2
TXAR				PKKPbc		PKKPbc	09 23 42.3	-0.1
TXAR	Lajitas Array	112.26	27	PKiKP		PKiKP	09 12 52.1	-0.2
	comp=Z,0.8nm,0.6s,baz=180,slow=0.3,SNR=18							
TXAR				PKKPbc		PKKPbc	09 23 42.3	-0.1
	comp=Z,4.4nm,0.8s,baz=157,slow=6.7,SNR=33							
627A	Terlingua Ranc	112.26	27	⇓P		PKiKP	09 12 52.2	-0.1
	baz=112							
SYO	Syowa Base	112.30	201	⇓eP	KiKP	PKiKP	09 12 50.0	-0.8
SYO	Syowa Base	112.30	201	⇑eP		PKKPbc	09 23 33.4	-10
530A	J-C Ranch, Com	112.39	25	⇑P		PKiKP	09 12 52.5	0.0
	baz=112							
628A	Black Gap, Mar	112.42	27	⇓P		PKiKP	09 12 52.4	-0.2
	baz=112							
JCT	Junction City	112.62	24	eP	KiKP	PKiKP	09 12 52.8	-0.1
JCT				MLR	MLR			
	comp=Z,216nm,19.0s							
JCT	Junction City	112.62	24	eP		PKiKP	09 12 52.8	-0.1
JCT				LR	LR			
	comp=Z,216nm,19.0s							
JCT	Junction City	112.62	24	⇑P		PKiKP	09 12 52.8	-0.1
	baz=112							
531A	Rocksprings	112.66	24	⇓P		PKiKP	09 12 52.6	-0.4
	baz=112							
532A	Rocksprings	112.91	24	⇑P		PKiKP	09 12 53.0	-0.5
	baz=113							
NATX	Nacogdoches	112.99	19	PFAKE			09 13 10.0	
NATX				LR	LR			
	comp=Z,530nm,19.0s							
631A	Perdido Creek	113.33	25	⇓P		PKiKP	09 12 53.9	-0.4
	baz=113							
632A	Uvalde	113.52	24	⇓P		PKiKP	09 12 54.8	+0.2
	baz=113							
VBMS	Vicksburg	113.56	15	ePKPdf		PKiKP	09 12 56.4	+1.8
VBMS				LR	LR			
	comp=Z,430nm,19.0s							
732A	Laxson Ranch,	114.17	25	⇑P		PKPdf	09 12 56.0	+0.1
	baz=114							
VNDA	Vanda	115.11	168	eP		PKPdf	09 12 55.8	-0.3
VNDA				PKKPbc		PKKPbc	09 23 32.4	-0.7
VNDA	Vanda	115.11	168	PKP		PKPdf	09 12 55.6	-0.5
	comp=Z,3.2nm,0.6s,baz=306,slow=4.7,SNR=49							
VNDA				PKKPbc		PKKPbc	09 23 32.4	-1.2
	comp=Z,1.2nm,1.0s,baz=306,slow=2.8,SNR=4.6							
BRAL	Brewton	115.41	12	PFAKE			09 13 10.0	+12
BRAL				LR	LR			
	comp=Z,192nm,20.0s							
SBA	Scott Base	116.16	168	ePKIKP		PKPdf	09 12 58.3	+0.2
SBA				MLR	MLR			
	comp=Z,159nm,21.0s							
SBA	Scott Base	116.16	168	ePKPdf		PKPdf	09 12 58.3	+0.2
SBA				LR	LR			
	comp=Z,159nm,21.0s							
QSPA	South Pole Qui	122.57	180	ePKPdf		PKPdf	09 13 09.9	-0.8
TEIG	Tepich	125.63	16	PFAKE			09 13 30.0	+12
TEIG				LR	LR			
	comp=Z,225nm,21.0s							
SNAA	Sanae	126.56	202	eP		PKPdf	09 13 18.2	-0.1
SNAA	Sanae	126.56	202	ePKPdf		PKPdf	09 13 18.3	-0.1
GTBY	Guantanamo Bay	127.57	1	PFAKE			09 13 30.0	+8.2
GTBY				LR	LR			
	comp=Z,255nm,19.0s							
VNA2	Neumayer--Watz	128.12	203	eP		PKPdf	09 13 22.3	+1.1
SDDR	Presa de Saban	128.43	356	PFAKE			09 13 40.0	+16
SDDR				LR	LR			
	comp=Z,159nm,19.0s							
VNA1	Neumayer--Stat	128.45	203	eP		PKPdf	09 13 23.1	+1.3
CELP	Cerrillos	128.87	350	ePKPdf		PKPdf	09 13 23.9	-0.4
APG	El Apazote	130.04	20	PKP		PKPdf	09 13 25.8	-1.1
APG	El Apazote	130.04	20	PKP		PKPdf	09 13 25.8	-1.1
	comp=Z,2.5nm,0.5s,baz=101,slow=3.7,SNR=11							
TGUH	Tegucigalpa,Un	131.81	17	PFAKE			09 13 40.0	+10
TGUH				LR	LR			
	comp=Z,205nm,22.0s							
BCIP	Isla Barro Col	137.95	8	PFAKE			09 13 50.0	+8.6
BCIP				LR	LR			
	comp=Z,284nm,22.0s							
ROSC	El Rosal	142.55	360	ePKPdf		PKPdf	09 13 47.7	-2.6
ROSC				PKP		PKPdf	09 13 48.7	-1.6
ROSC	El Rosal	142.55	360	PKP		PKPdf	09 13 48.7	-1.6
	comp=Z,16nm,0.6s,baz=103,slow=2.1,SNR=20							
OTAV	Otavalo	146.92	7	ePKPdf		PKPbc	09 13 59.2	-0.6
BDFB	Brasilia	150.62	299	PKPbc		PKPbc	09 14 08.5	-0.3
BDFB	Brasilia	150.62	299	PKPbc		PKPbc	09 14 08.5	-0.3
	comp=Z,9.2nm,0.6s,baz=20,slow=4.5,SNR=12							
SAML	Samuel	154.10	334	ePKPdf		PKPdf	09 14 08.4	0.0
SAML				ePKPbc		PKPbc	09 14 16.1	-0.5
SAML				ePKPab		PKPab	09 14 30.1	+0.2
ATAH	Atahualpa	154.19	9	PKPbc		PKPbc	09 14 18.4	+1.1
ATAH				PKPab		PKPab	09 14 32.1	+1.2
ATAH	Atahualpa	154.19	9	PKPbc		PKPbc	09 14 18.4	+1.1
	comp=Z,15nm,0.9s,baz=0.0,slow=2.6,SNR=4.9							
ATAH				PKPab		PKPab	09 14 32.1	+1.2
	comp=Z,31nm,1.1s,baz=21,slow=3.1,SNR=4.2							
BB16B	Bebedouro	154.25	291	eP		PKPbc	09 14 16.8	+0.1
BB16B				i			09 14 17.2	
BB16B				i			09 14 20.5	
BB16B				i			09 14 25.1	
BB16B	Bebedouro	154.25	291	eP		PKPbc	09 14 16.8	+0.1
BB16B				i			09 14 17.2	
BB16B				i			09 14 20.5	
BB16B				i			09 14 25.1	
LPAZ	La Paz	162.61	339	ePKPdf		PKPdf	09 14 19.6	+0.2
LPAZ				PKP		PKPdf	09 14 19.8	+0.4
LPAZ				PKPab		PKPab	09 15 06.1	-1.3
LPAZ				ePKPab		PKPab	09 15 06.3	-1.1
LPAZ	La Paz	162.61	339	PKP		PKPdf	09 14 19.8	+0.4
	comp=Z,5.9nm,0.9s,baz=49,slow=4.1,SNR=20							
LPAZ				PKPab		PKPab	09 15 06.1	-1.3
	comp=Z,5.6nm,1.1s,baz=39,slow=4.1,SNR=4.8							
CPUP	Villa Florida	163.82	289	PKP		PKPdf	09 14 19.8	+0.3
CPUP				PKPab		PKPab	09 15 10.2	-1.8
CPUP	Villa Florida	163.82	289	PKP		PKPdf	09 14 19.8	+0.3
	comp=Z,3.0nm,0.9s,baz=323,slow=5.1,SNR=3.2							
CPUP				PKPab		PKPab	09 15 10.2	-1.8
	comp=Z,1.9nm,0.6s,baz=97,slow=4.4,SNR=5.6							
PLCA	Paso Flores	171.50	200	PKP		PKPdf	09 14 25.7	+1.1
PLCA				PKPab		PKPab	09 15 44.9	-0.5
PLCA	Paso Flores	171.50	200	PKP		PKPdf	09 14 25.7	+1.1
	comp=Z,7.9nm,1.1s,baz=174,slow=1.2,SNR=8.8							
PLCA				PKPab		PKPab	09 15 44.9	-0.5
	comp=Z,2.6nm,0.8s,baz=106,slow=3.6,SNR=4.8							

*ISCJB **19** 09:03:41.9±1.3, 10°.50N±0°.07×60°.62W±0°.09, h81km±7km, Error ellipse: s-maj=17.2km s-min=6.4km az=34.5*
*TRN **19** 09:03:41.8, 10°.47N×60°.37W, h26km, MD3.5*
*FUNV **19** 09:03:43.0, 10°.92N×60°.64W, h89km, MW2.9*

ISC 19 09:03:42.4±2.6, 10°.5N±0°.1×60°.7W±0°.1, h77km±11km, n18, σ1°89/29, 1C, Trinidad

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBH	Brigand Hill	0.41	270	eP	Pn	09 03 55.0	-0.2
TBH				eS	Sn	09 04 06.2	+1.5
BOT	Bacolet	0.68	354	eP	Pn	09 03 56.2	-1.5
BOT				eS	Sn	09 04 07.5	-1.5
TPR	Prospect	0.71	350	eP	Pn	09 03 58.0	0.0
TPR				eS	Sn	09 04 09.0	-0.6
TPP	Pointe-a-Pierr	0.81	258	eP	Pn	09 04 01.5	+2.4
TOSP	Speyside	0.82	8	eP	Pn	09 03 58.4	-0.7
TOSP				eS	Sn	09 04 10.8	-0.8
TCE	Chacachacare	1.11	281	eP	Pn	09 04 04.9	+2.2
GUIV	Guiria	1.56	276	eP	Pn	09 04 09.5	+1.1
GUIV				eS	Sn	09 04 28.2	+0.2
GRW	Mount Saint Ca	1.94	329	eP	Pn	09 04 15.9	+2.4
GUNV	Guanoco	2.28	262	⇑P	Pn	09 04 20.1	+2.0
GUNV				eS	Sn	09 04 47.7	+2.5
CRUV	Carupano	2.55	275	eP	Pn	09 04 21.8	+0.1
CRUV				eS	Sn	09 04 48.9	-2.9
SVB	Belmont	2.83	348	eP	Pn	09 04 27.3	+1.7
SVB				eS	Sn	09 05 00.6	+1.9
ORIV	Oritupano	3.06	243	eP	Pn	09 04 30.7	+2.1
MCLT	Moule a Chique	3.22	355	eP	Pn	09 04 32.1	+1.3
MCLT				eS	Sn	09 05 08.0	0.0
PCRV	Puerto La Cruz	3.94	266	eP	Pn	09 04 40.0	-0.6
CUPV	Cepira	5.08	266	eP	Pn	09 04 56.6	+0.5
BIRV	Birongo	5.53	270	eP	Pn	09 05 02.3	+0.1
BIRV				eS	Sn	09 05 59.6	-4.9
MERV	Las Mercedes	5.70	258	eP	Pn	09 05 04.8	+0.2
MERV				eS	Sn	09 06 06.3	-2.4
BAUV	El Baul	7.45	259	eP	Pn	09 05 27.4	-1.1

*NEIC **19** 09:14:30.3±0.5, 15°.12N×91°.21W, h10km, mb4.2/10, Error ellipse: s-maj=11.7km s-min=4.6km az=45.0*
NEIC Felt at Guatemala, Mixco, San Cristobal Verapaz and Tactic.
*CASC **19** 09:14:30.9±1.8, 15°.37N×91°.33W, h14km±13km, MD4.1, ML4.2, mb4.3(NEIC)*
*ISCJB **19** 09:14:31.6±0.7, 15°.39N±0°.04×91°.19W±0°.03, h17km±7km, mb4.0/10, MS4.7/3, Error ellipse: s-maj=7.4km s-min=4.1km az=38.3*
*MEX **19** 09:14:31.0±0.7, 15°.38N×90°.95W, h17km±61km, MD4.5*
*IDC **19** 09:14:32.1±1.4, 15°.40N×91°.11W, h0km, mb3.5/3, mb1 3.9/4, mb1mx3.6/21, mbtmp3.5/4, ML4.2/2, MS3.6/1, Ms1 3.6/1, ms1mx2.6/16, Error ellipse: s-maj=24.6km s-min=8.8km az=44.0*

ISC 19 09:14:32.0±0.5, 15°.38N±0°.04×91°.18W±0°.04, h20km±5km, n89, σ1°89/92, mb4.1/10, MS5.0/3, 29C-10D, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APG	El Apazote	0.78	118	Pg	Pb	09 14 45.0	-2.0
	724nm,0.3s,baz=308,slow=14						
APG				Lg	Lg	09 14 57.8	
	5μm,0.3s,baz=54,slow=19,SNR=84						
FUG	Fuego 3	0.98	161	⇑eP	Pb	09 14 49.6	-0.8
PCG	Pacaya	1.12	150	⇑eP	Pn	09 14 52.8	0.0
PCG				eS	Sn	09 15 08.7	+0.9
NBG	Las Nubes	1.12	134	⇑eP	Pn	09 14 52.8	0.0
NBG				eS	Sn	09 15 10.5	+2.8
JAT	Jato	1.14	203	⇓eP	Pn	09 14 52.5	-0.4
CCIG	Comitan	1.29	314	eP	Pn	09 14 52.9	-2.1
CCIG				i S	Sn	09 15 10.2	-1.6
RBDL	Robledal	1.91	131	eP	Pn	09 15 04.3	+0.7
PCIG		2.00	280	eP	Pn	09 15 03.7	-0.9
PCIG				eS	Sn	09 15 30.3	+1.4
RTR	El Retiro	2.09	135	eP	Pn	09 15 06.3	+0.3
SNJE	San Jose	2.13	134	eP	Pn	09 15 07.0	+0.3
SNJE				eS	Sb	09 15 36.9	+0.6
SBLS	San Blas	2.14	135	eP	Pn	09 15 06.5	-0.4
TGIG		2.33	307	eP	Pn	09 15 09.0	-0.3
TGIG				i S	Sn	09 15 37.8	+0.4
SNET	Serv Nac Est T	2.52	131	AML	AML	09 16 02.7	
	comp=Z,2μm,0.3s						
SCIG	Sabancuy	3.57	360	eP	Pn	09 15 24.1	-2.2
SCIG				i S	Sn	09 16 03.6	-4.2
TGUH	Tegucigalpa,Un	4.00	109	eP	Pn	09 15 34.8	+2.6
TGUH				eS	Sb	09 16 28.2	-1.5
TGUH	Tegucigalpa,Un	4.00	109	ePn	Pn	09 15 31.2	-0.9
TEIG	Tepich	5.56	29	ePn	Pn	09 15 54.8	+1.1
TEIG	Tepich	5.56	29	Pn	Pn	09 15 54.5	+0.9
	comp=Z,33nm,0.3s,baz=218,slow=2.3,SNR=32						
TEIG				Sn	Sn	09 16 57.7	+0.7
	comp=Z,38nm,0.3s,baz=50,slow=23,SNR=9.8						
TEIG				Lg	Lg	09 17 28.5	
	comp=Z,26nm,0.3s,baz=122,slow=23,SNR=7.8						
VHO	Vista Hermosa	5.60	288	eP	Pn	09 15 54.4	+0.1
VHO				i S	Sn	09 16 60.0	+1.8
JTS	JuntasAbangare	7.90	129	ePn	Pn	09 16 23.4	-2.4
BCIP	Isla Barro Col	12.68	118	ePn	Pn	09 17 29.6	-1.7
HKT	Hockley	15.13	344	ePn	Pn	09 18 06.7	+2.2
	comp=Z,0.7nm,0.8s						
JCT	Junction City	16.99	334	ePn	P	09 18 31.4	+1.1
	comp=Z,39nm,2.1s						
432A	Menard	17.33	334	⇑P	P	09 18 36.3	+2.2
	baz=18,SNR=6.0						
530A	J-C Ranch, Com	17.42	329	⇑P	P	09 18 36.9	+1.8
	baz=18						
WHTX	Lake Whitney	17.50	342	eP	P	09 18 37.7	+1.8
431A	Sonora	17.52	332	⇑P	P	09 18 37.1	+0.9
	baz=18						
628A	Black Gap, Mar	17.71	324	⇑P	P	09 18 40.0	+1.6
	baz=18,SNR=6.2						
332A	Millersview	17.75	335	⇓P	P	09 18 40.4	+1.7
	baz=18,SNR=5.4						
529A	Stev Forest Ra	17.85	327	⇓P	P	09 18 41.7	+1.9
	baz=18						
430A	Baggett Ranch,	17.90	331	⇑P	P	09 18 42.2	+1.8
	baz=18						
627A	Terlingua Ranc	17.97	323	⇑P	P	09 18 43.3	+2.0
	baz=18,SNR=9.3						
331A	San Angelo	17.98	334	⇑P	P	09 18 44.2	+3.0
	baz=18,SNR=6.3						
LRAL	Lakeview Retre	17.99	11	ePn	P	09 18 43.5	+2.3
LRAL				eS	Sn	09 21 47.1	-14
TXAR	Lajitas Array	18.05	322	P	P	09 18 43.8	+1.7
	comp=Z,0.1nm,0.3s,baz=143,slow=11,SNR=14						
TX31	Lajitas Ar. Si	18.05	322	ePn	P	09 18 43.3	+1.2
429A	Davenport Ranc	18.08	329	⇑P	P	09 18 45.0	+2.6
	baz=18,SNR=6.9						
232A	Coleman	18.16	336	⇓P	P	09 18 46.0	+2.7
	baz=18						
330A	Mertzon	18.39	332	⇑P	Pn	09 18 48.5	+2.6
	baz=19,SNR=7.6						
626A	Big Bend Ranch	18.48	322	⇑P	Pn	09 18 49.1	+2.0
	baz=19,SNR=5.5						
527A	Woodward Ranch	18.62	324	⇑P	Pn	09 18 50.5	+1.7
	baz=19						
ABTX	Abilene, Hawle	18.82	337	eP	Pn	09 18 54.2	+3.2
OXF	Oxford	19.12	4	eP	Pn	09 18 56.1	+1.5
	comp=Z,3.6nm,0.5s						
328A	Wristen Ranch,	19.16	328	⇑P	Pn	09 18 56.6	+1.4
	baz=19						
426A	McDonald Obser	19.25	324	⇑P	Pn	09 18 56.7	+0.2
	baz=20,SNR=5.4						
ROSC	El Rosal	19.59	121	P	P	09 18 58.4	-1.0
OTAV	Otavalo	19.60	139	P	Pn	09 19 02.3	+1.3
	comp=Z,1.1nm,0.5s						
Z31A	Sharp Cattle R	19.62	337	⇓P	P	09 19 00.2	+0.9
	baz=20						
129A	Stewart Farms,	19.73	332	⇑P	Pn	09 19 02.1	0.0
	baz=20						
Z30A	Sanderson Ranc	19.98	335	⇑P	Pn	09 19 07.8	+2.7
	baz=20						
Y32A	R-V Farms, Ver	19.99	340	⇓P	P	09 19 04.4	+1.1
	baz=20						
Y31A	Rekieta Farm,	20.24	338	⇓P	P	09 19 07.0	+1.0
	baz=20,SNR=7.0						
SWET	Sewanee	20.31	12	eP	Pn	09 19 09.4	+0.6
	comp=Z,7.2nm,1.0s						
226B	Tecolote Peak,	20.41	327	⇑P	P	09 19 08.5	+0.6
	baz=21						
WMOK	Wichita Mounta	20.46	342	eP	Pn	09 19 12.4	+1.8
	comp=Z,4.3nm,0.8s						
GDL2	Guadalupe Moun	20.61	327	eP	Pn	09 19 12.9	+0.4
	comp=Z,4.4nm,0.8s						
Y29A	Porterfield Fa	20.70	335	⇑P	P	09 19 11.7	+0.6
	baz=21						
225A	Deer Hill, Car	20.79	326	⇓P	P	09 19 12.7	+0.6
	baz=21						
MNTX	Cornudas Mount	20.79	324	eP	P	09 19 13.3	+1.3
	comp=Z,23nm,2.2s						
CPCT	Cooper Cave	20.86	15	eP	Pn	09 19 14.9	-0.4
X30A	Coker Ranch, T	20.90	337	⇑P	Pn	09 19 15.4	-0.4
	baz=21,SNR=5.9						
SDV	Santo Domingo	21.09	105	eP	P	09 19 15.4	-0.1
	comp=Z,4.5nm,0.6s						
224A	Cornudas Mount	21.15	324	⇑P	P	09 19 16.4	+0.4
	baz=21						
X29A	Tulia	21.22	335	⇑P	P	09 19 18.3	+1.6
	baz=22						
Z26A	Caprock	21.26	329	⇑P	P	09 19 17.9	+0.7
	baz=22						
MSTX	Muleshoe	21.27	333	eP	P	09 19 18.8	+1.6
Z24A	Sheeppen Canyo	22.02	327	⇑P	P	09 19 27.5	+2.1
	baz=22						
Y25A	Mesa, Roswell	22.14	329	⇑P	P	09 19 28.8	+2.2
	baz=22						
TZTN	Tazewell	22.15	16

comp=E,230nm,18.0s
LZH LR LR
comp=Z,330nm,19.2s
CD2 Chengdu 131.79 343 PKP **PKPdf 09 33 44.0 -0.4**

MEX 19 09:40:15.0±1.1, 16°.37N×95°.12W, h125km±18km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.12**	**238**	*i* P	Pn	09 40 36.6	-2.1
HUIG				*i* S	Sn	09 40 55.5	-1.1
VHO	**Vista Hermosa**	**1.70**	**295**	*i* P	Pn	09 40 44.6	-0.7
VHO				*i* S	Sn	09 41 06.0	-2.4
PCIG		**1.94**	**109**	*i* P	Pn	09 40 47.2	-0.8
PCIG				*i* S	Sn	09 41 11.6	-1.6
PNIG	**Pinotepa**	**2.89**	**271**	*i* P	Pn	09 40 59.0	-1.0
PNIG				*e*S	Sn	09 41 32.9	-1.8

IDC 19 09:53:51.0±1.6, 15°.99S×176°.39W, h0km, mb3.7/3, mb1 4.1/5, mb1mx3.8/17, mbtmp4.1/5, Error ellipse: s-maj=87.4km s-min=25.9km az=167.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.91**	**66**	Pn	Pn	09 55 06.5	+0.3
	14nm,0.3s,baz=256,slow=17,SNR=26						
AFI				Sn	Sn	09 55 51.3	-13
	26nm,0.3s,baz=29,slow=21,SNR=12						
RAR	**Rarotonga**	**16.58**	**111**	Pn	Pn	09 57 44.5	-0.5
	5.9nm,0.3s,baz=267,slow=0.0,SNR=5.6						
STKA	**Stephens Creek**	**41.26**	**240**	P	P	10 01 38.3	+0.2
	1.4nm,0.7s,baz=84,slow=13,SNR=5.3						
WRA	**Warramunga Arr**	**46.91**	**257**	P	P	10 02 23.8	+0.1
	0.4nm,0.6s,baz=91,slow=7.2,SNR=6.5						
ASAR	**Alice Springs**	**47.19**	**252**	P	P	10 02 25.3	-0.6
	0.9nm,0.5s,baz=87,slow=7.9,SNR=24						

*IDC **19** 09:57:27.4±2.6, 23°.56N×121°.87E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.5/23, mbtmp3.7/4, MS3.3/1, Ms1 3.3/1, ms1mx2.7/41, Error ellipse: s-maj=305.0km s-min=25.0km az=65.0*
*TAP **19** 09:57:30.1, 23°.44N×120°.76E, h10km, ML4.1, B*
*NEIC **19** 09:57:30.4±0.8, 23°.45N×120°.76E, h9km±12km, ML4.5(TAP), Error ellipse: s-maj=11.7km s-min=7.0km az=110.0*
NEIC Recorded [4 TAP] in Chia-i; [3 TAP] in Yun-lin; [2 TAP] in Kao-hsiung, Nan-t'ou, T'ai-nan and T'ai-tung.
*ISCJB **19** 09:57:31.1±0.2, 23°.44N±0°.01×120°.76E±0°.02, h7km±2km, mb3.7/4, MS3.2/1, Error ellipse: s-maj=2.5km s-min=1.7km az=23.4*

ISC 19 09:57:30.0±0.8, 23°.45N±0°.01×120°.74E±0°.02, h17km±4km, n73, σ0s97/117, mb3.6/4, 12C-16D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALS	**Alishan**	**0.09**	**45**	*e*P	**Pg**	**09 57 33.5**	**-0.2**
	baz=37						
ALS				*e*S	**Sg**	**09 57 35.6**	**-0.6**
	baz=37						
CHN5	**Tsauling**	**0.16**	**340**	⇓*i*P	**Pg**	**09 57 34.4**	**+0.1**
	baz=335						
CHN4	**Tsaushan**	**0.16**	**234**	⇑*i*P	**Pb**	**09 57 34.6**	**0.0**
	baz=240						
TPUB	**Ta-pu**	**0.18**	**214**	*e*Pg	**Pg**	**09 57 34.4**	**-0.1**
TPUB				*e*Sg	**Sg**	**09 57 37.5**	**0.0**
WTP	**Ta-pu**	**0.23**	**210**	⇑*i*P	**Pg**	**09 57 35.6**	**+0.3**
	baz=218						
WTP				*e*S	**Sg**	**09 57 39.3**	**+0.4**
	baz=218						
WGK	**Gukeng**	**0.29**	**326**	⇓*i*P	**Pb**	**09 57 37.5**	**+0.8**
	baz=325						
WGK				S	**Sb**	**09 57 43.1**	**+1.9**
	baz=325						
CHY	**Chiayi**	**0.29**	**280**	⇑*i*P	**Pb**	**09 57 37.4**	**+0.6**
	baz=281						
CHN1	**Nanshi**	**0.33**	**216**	⇑*i*P	**Pb**	**09 57 37.4**	**0.0**
	baz=220						
CHN1				*e*S	**Sb**	**09 57 43.1**	**+0.8**
	baz=220						
ELDTW	**Lidau**	**0.36**	**135**	⇑*e*P	**Pg**	**09 57 37.7**	**+0.1**
	baz=128						
SGST	**Jiashian**	**0.39**	**201**	⇓*i*P	**Pb**	**09 57 38.7**	**+0.2**
	baz=203						
SGST				*i* S	**Sb**	**09 57 45.1**	**+0.8**
	baz=203						
SSLB	**Suanglung**	**0.39**	**30**	*e*Pg	**Pg**	**09 57 37.8**	**-0.2**
SSLB				*e*Sg	**Sg**	**09 57 43.1**	**-0.4**
WNT	**Mingjian**	**0.43**	**353**	⇓*i*P	**Pb**	**09 57 40.2**	**+1.0**
	baz=352						
WNT				S	**Sb**	**09 57 47.1**	**+1.7**
	baz=352						
SMLT	**Sun Moon Lake**	**0.46**	**19**	⇓*i*P	**Pb**	**09 57 40.2**	**+0.5**
	baz=24						
SMLT				S	**Sb**	**09 57 47.3**	**+1.0**
	baz=24						
TYC	**Yuchr**	**0.47**	**14**	⇓*i*P	**Pb**	**09 57 40.5**	**+0.7**
	baz=13						
TYC				S	**Sb**	**09 57 48.0**	**+1.5**
	baz=13						
CHN3	**Shinhua**	**0.50**	**223**	*e*P	**Pn**	**09 57 41.8**	**-0.7**
	baz=225						
CHN3				*e*S	**Sn**	**09 57 51.2**	**+0.4**
	baz=225						
WSF	**Szhu**	**0.51**	**292**	*e*P	**Pb**	**09 57 41.2**	**+0.7**
	baz=292						
WSF				S	**Sn**	**09 57 50.1**	**-0.8**
	baz=292						
YULB	**Yu-li**	**0.52**	**96**	*e*Pg	**Pg**	**09 57 40.3**	**0.0**
YULB				*e*Sg	**Sb**	**09 57 47.4**	**-0.5**
TWF1	**Yuli**	**0.52**	**100**	⇑*i*P	**Pb**	**09 57 41.0**	**+0.2**
	baz=106						
TWF1				*e*S	**Sb**	**09 57 47.6**	**-0.4**
	baz=106						
EHY	**Hungye**	**0.54**	**84**	⇑*i*P	**Pb**	**09 57 41.3**	**+0.2**
	baz=86						
EHY				S	**Sb**	**09 57 48.5**	**-0.1**
	baz=86						
SCLT	**Jiali**	**0.57**	**242**	*e*P	**Pb**	**09 57 42.2**	**+0.7**
	baz=243						
SCLT				*e*S	**Sn**	**09 57 52.3**	**0.0**
	baz=243						
WTCT	**Ta-ch'eng**	**0.59**	**315**	P	**Pb**	**09 57 42.6**	**+0.8**
	baz=315						
WTCT				*e*S	**Sn**	**09 57 51.9**	**-0.9**
	baz=315						
TAI1	**Yung-k'ang**	**0.62**	**229**	*e*P	**Pn**	**09 57 44.0**	**0.0**
	baz=242						
TAI1				*e*S	**Sn**	**09 57 54.3**	**+0.7**
	baz=242						
CHKT	**Chengkung**	**0.67**	**121**	*e*P	**Pn**	**09 57 44.4**	**-0.4**
	baz=121						
CHKT				*e*S	**Sn**	**09 57 54.4**	**-0.5**
	baz=121						
TWM1	**Shoushan**	**0.69**	**205**	⇓*e*P	**Pn**	**09 57 45.5**	**+0.5**
	baz=206						
TWG	**Pinlang**	**0.70**	**154**	⇓P	**Pb**	**09 57 44.0**	**+0.3**
	baz=154						
TWG				S	**Sb**	**09 57 54.0**	**+1.0**
	baz=154						
TWG	**Pinlang**	**0.70**	**154**	*e*Pg	**Pb**	**09 57 43.7**	**0.0**
TWG				*e*Sg	**Sb**	**09 57 53.6**	**+0.6**
TCU	**Taichung**	**0.70**	**355**	*e*P	**Pn**	**09 57 44.9**	**-0.2**
	baz=355						
TCU				S	**Sn**	**09 57 55.7**	**+0.1**
	baz=355						
ESL	**Shilin**	**0.73**	**60**	⇑*i*P	**Pb**	**09 57 44.8**	**+0.4**
	baz=68						
SGLT	**Jiouru**	**0.76**	**198**	*e*P	**Pn**	**09 57 46.8**	**+0.9**
	baz=199						
TTN	**Taitung**	**0.79**	**151**	*e*P	**Pn**	**09 57 46.2**	**-0.1**
	baz=152						
ESF	**Shoufeng Towns**	**0.82**	**59**	*e*P	**Pn**	**09 57 46.5**	**-0.3**
	baz=65						
WHF	**Hehuan Shan**	**0.85**	**35**	⇑*i*P	**Pb**	**09 57 46.9**	**+0.3**
	baz=34						
WHF				S	**Sn**	**09 57 59.5**	**-0.4**
	baz=34						
ECL	**Taimali**	**0.87**	**167**	⇓*e*P	**Pg**	**09 57 47.0**	**+0.1**
	baz=159						
TWQ1	**Liyutan**	**0.90**	**2**	⇓*i*P	**Pn**	**09 57 48.5**	**+0.6**
	baz=2.0						
TWQ1				*e*S	**Sn**	**09 58 01.5**	**+1.0**
	baz=2.0						
TWT	**Tachien**	**0.90**	**26**	*e*P	**Pg**	**09 57 47.6**	**+0.1**
	baz=25						
TWT				S	**Sg**	**09 58 00.0**	**+0.7**
	baz=25						
HWA	**Hwalien**	**0.95**	**56**	⇑*e*P	**Pn**	**09 57 49.0**	**+0.4**
	baz=61						
HWA				*e*S	**Sn**	**09 58 03.4**	**+1.6**
	baz=61						
KAU	**Kaohsiung**	**0.96**	**204**	*e*P	**Pn**	**09 57 49.9**	**+1.2**
	baz=222						
NSY	**Sanyi**	**0.96**	**1**	⇓*e*P	**Pn**	**09 57 49.9**	**+1.1**
	baz=1.0						
NSY				*e*S	**Sn**	**09 58 04.0**	**+1.8**
	baz=1.0						
TWD	**Chiawan**	**1.01**	**51**	*i* P	**Pn**	**09 57 49.3**	**-0.1**
	baz=60						
TWD				*e*S	**Sn**	**09 58 04.1**	**+0.9**
	baz=60						
WDGT	**Dungji**	**1.01**	**260**	⇑*i*P	**Pb**	**09 57 48.9**	**-0.1**
	baz=260						
WDGT				*e*S	**Sb**	**09 58 02.6**	**+0.6**
	baz=260						
EAST	**Anshuo**	**1.06**	**174**	⇓*i*P	**Pg**	**09 57 51.1**	**+0.5**
	baz=166						
EAST				*e*S	**Sn**	**09 58 06.5**	**+1.8**
	baz=166						
NACB	**Ninganchiao**	**1.07**	**47**	*e*Pg	**Pn**	**09 57 50.1**	**-0.1**
NACB				*e*Sn	**Sn**	**09 58 06.0**	**+1.3**
PNG	**Penghu**	**1.09**	**276**	⇑*i*P	**Pb**	**09 57 50.2**	**-0.2**
	baz=277						
PNG				*e*S	**Sb**	**09 58 05.1**	**+0.7**
	baz=277						
TAW	**Tawu**	**1.09**	**172**	⇓*i*P	**Pg**	**09 57 51.6**	**+0.5**
	baz=164						
TAW				*e*S	**Sg**	**09 58 08.2**	**+2.7**
	baz=164						
NNS	**Nan Shan**	**1.15**	**30**	*e*P	**Pg**	**09 57 52.0**	**-0.2**
	baz=30						
NNS				*e*S	**Sg**	**09 58 07.2**	**0.0**
	baz=30						
TWP	**Hsiaoliuchiu**	**1.15**	**198**	*e*P	**Pg**	**09 57 52.8**	**+0.5**
	baz=199						
NSTT	**Nanjuang**	**1.20**	**11**	⇓P	**Pg**	**09 57 53.4**	**+0.2**
	baz=11						
NSTT				*e*S	**Sg**	**09 58 10.6**	**+1.7**
	baz=11						
ENA	**Nanau**	**1.34**	**43**	*e*P	**Pg**	**09 57 55.6**	**-0.2**
	baz=31						
NSK	**Sanguang**	**1.35**	**25**	⇓*i*P	**Pg**	**09 57 55.7**	**-0.3**
	baz=25						
NSK				*e*S	**Sg**	**09 58 15.4**	**+1.8**
	baz=25						
YHNB	**Yeheng**	**1.35**	**25**	*e*Pn	**Pb**	**09 57 55.4**	**+0.5**
YHNB				*e*Sn	**Sb**	**09 58 12.3**	**+0.4**
ENTT	**Nioudou**	**1.41**	**32**	*e*P	**Pb**	**09 57 56.5**	**+0.6**
	baz=32						
ENTT				*e*S	**Sg**	**09 58 17.4**	**+2.0**
	baz=32						
HEN	**Hengchun**	**1.44**	**180**	*e*P	**Pg**	**09 57 57.3**	**-0.3**
	baz=181						
HEN				*e*S	**Sg**	**09 58 18.8**	**+2.4**
	baz=181						
TWK1	**Hengchun**	**1.50**	**178**	*e*P	**Pb**	**09 57 57.4**	**0.0**
	baz=178						
TWE	**Neicheng**	**1.53**	**34**	⇓P	**Pg**	**09 57 59.2**	**-0.1**
	baz=34						
TWE				*e*S	**Sg**	**09 58 20.5**	**+1.3**
	baz=34						
TWC	**Suao**	**1.54**	**41**	P	**Pg**	**09 57 59.0**	**-0.6**
	baz=41						
TWC				S	**Sg**	**09 58 20.0**	**+0.3**
	baz=41						
TSEB	**Hengchuen, Pin**	**1.55**	**174**	*e*P	**Pg**	**09 57 59.1**	**-0.7**
	baz=195						
TSEB				*e*S	**Sg**	**09 58 21.4**	**+1.4**
	baz=195						
NCU	**National Centr**	**1.57**	**15**	*e*P	**Pg**	**09 58 01.1**	**+0.9**
	baz=356						
LAY	**Lan-yu**	**1.59**	**152**	*e*P	**Pn**	**09 57 58.1**	**+0.7**
	baz=152						
TATO	**Taipei**	**1.67**	**24**	*e*Pg	**Pg**	**09 58 02.9**	**+0.9**
TATO				*e*Sg	**Sg**	**09 58 24.8**	**+1.0**
TWA	**Mucha**	**1.71**	**27**	*e*P	**Pg**	**09 58 02.5**	**-0.4**
	baz=36						
TWA				*e*S	**Sg**	**09 58 24.1**	**-1.0**
	baz=36						
TAP1	**Taipei**	**1.74**	**24**	*e*P	**Pb**	**09 58 02.0**	**+0.5**
	baz=29						
TWS1	**Kuangyinshan**	**1.76**	**21**	*e*P	**Pb**	**09 58 01.3**	**-0.5**
	baz=20						
NWF	**Wu-fen Shan**	**1.88**	**30**	*e*P	**Pg**	**09 58 05.1**	**-0.9**
	baz=30						
TWB1	**Santiao Chiao**	**1.93**	**36**	*e*P	**Pb**	**09 58 05.5**	**+0.8**
	baz=36						
TWB1				*e*S	**Sg**	**09 58 32.0**	**-0.1**
	baz=36						
TWY	**Chenhua**	**1.98**	**23**	*e*P	**Pb**	**09 58 05.6**	**0.0**
	baz=23						
YOJ	**Yonaguni jima**	**2.31**	**64**	*e*P	**Pn**	**09 58 09.1**	**+1.8**
	baz=63						
KNM	**Kinmen**	**2.32**	**295**	*e*P	**Pn**	**09 58 09.1**	**+1.7**
	baz=293						
QZH	**Quanzhou**	**2.46**	**308**	Pn	**Pn**	**09 58 07.0**	**-2.4**
QZH				Sn	**Sn**	**09 58 35.8**	**-3.3**
QZH				smax	smax		
	comp=N,590nm,0.8s						
QZH				smax	smax		
	comp=E,560nm,0.5s						
SONM	**Songino Array**	**26.89**	**338**	LR	LR	10 13 44.2	
	comp=E,68nm,19.4s,baz=33,slow=36						
ZALV	**Zalesovo Beam**	**40.64**	**328**	P	P	10 05 12.8	+3.7
	comp=E,0.5nm,0.4s,baz=113,slow=6.7,SNR=3.3						
WRA	**Warramunga Arr**	**45.12**	**162**	P	**P**	**10 05 43.9**	**-1.8**
	comp=E,0.3nm,0.5s,baz=344,slow=8.6,SNR=6.6						
ASAR	**Alice Springs**	**48.55**	**164**	P	**P**	**10 06 11.6**	**-0.9**
	comp=E,0.2nm,0.3s,baz=339,slow=7.4,SNR=4.5						
STKA	**Stephens Creek**	**58.52**	**159**	P	**P**	**10 07 23.6**	**-1.9**
	comp=E,3.1nm,1.0s,baz=339,slow=8.6,SNR=2.7						

IDC 19 10:01:40.3±5.1, 14°.70S×173°.66W, h100km±67km, mb4.0/2, mb1 4.3/2, mb1mx3.5/16, mbtmp4.0/2, Error ellipse: s-maj=214.1km s-min=25.7km az=172.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.99**	**67**	P	Pn	10 02 14.3	+1.4
	61nm,0.3s,baz=106,slow=1.4,SNR=210						
AFI				S	Sn	10 02 37.9	+0.2
	90nm,0.3s,baz=62,slow=19,SNR=14						
WRA	**Warramunga Arr**	**49.76**	**256**	P	P	10 10 23.0	-0.1
	1.0nm,0.5s,baz=93,slow=7.5,SNR=32						
ASAR	**Alice Springs**	**50.09**	**251**	P	P	10 10 25.0	-0.5
	6.1nm,0.6s,baz=88,slow=7.9,SNR=113						
TORD	**Torodi Ar. Bea**	**175.24**	**108**	PKPab	PKPab	10 23 15.9	-0.2
	0.4nm,0.8s,baz=243,slow=5.4,SNR=2.4						

IDC 19 10:27:41.4±17.0, 22°.75S×174°.79W, h0km, mb4.1/5, mb1 4.2/5, mb1mx3.8/18, mbtmp4.1/5, Error ellipse: s-maj=324.5km s-min=146.8km az=82.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**36.29**	**267**	P	P	10 34 48.0	+1.1
	3.0nm,0.3s,baz=94,slow=8.8,SNR=9.5						
STKA	**Stephens Creek**	**39.58**	**247**	P	P	10 35 13.7	-1.0
	1.9nm,0.9s,baz=84,slow=10,SNR=4.4						
ASAR	**Alice Springs**	**46.95**	**258**	P	P	10 36 13.5	-0.8
	0.4nm,0.3s,baz=93,slow=6.4,SNR=20						
WRA	**Warramunga Arr**	**47.28**	**263**	P	P	10 36 16.2	-0.7
	1.3nm,0.4s,baz=97,slow=8.5,SNR=56						
FITZ	**Fitzroy Crossi**	**55.70**	**263**	P	P	10 37 20.9	+0.8
	1.2nm,0.6s,baz=117,slow=7.3,SNR=5.8						

*BJI **19** 10:50:36.2, 0°.09N×99°.66E, h10km, mB5.0/25, mb4.8/33, Ms5.1/30, Ms7 4.8/29*
*AUST **19** 10:50:40.7±0.4, 0°.64N×100°.02E, h0km, Error ellipse: s-maj=1.1km s-min=0.6km az=232.0*
*IDC **19** 10:50:41.9±2.4, 0°.64N×100°.15E, h17km±14km, mb4.5/31, mb1 4.6/32, mb1mx4.5/35, mbtmp4.5/32, ML3.7/1, MS4.3/30, Ms1 4.3/30, ms1mx4.2/43, Error ellipse: s-maj=16.9km s-min=10.0km az=50.0*
*GCMT **19** 10:50:41.5±0.2, 0°.49N×99°.90E, h22km±1km, MW5.1, Moment Tensor Solution. s44,c59; s83,c119; Moment tensor: Scale 10^16^Nm; M_{rr}0.65±.18; $M_{\theta\theta}$-1.37±.16; $M_{\phi\phi}$0.72±.18; $M_{r\theta}$0.42±.24; $M_{\theta\phi}$5.38±.15; $M_{\phi r}$-0.27±.27; Best double couple: $M_0$5.50000×10^16^ NP1:ϕ_s264.00000°, δ87.00000°, λ-4.00000°. NP2:ϕ_s355.00000°, δ86.00000°, λ-177.00000°. Principal axes: T 5.1600, Plg1.0000°, Azm310.0000°; N 0.6800, Plg86.0000°, Azm50.0000°; P -5.8400, Plg4.0000°, Azm219.0000°; Data Used: IU IC G CN II.*
*TEH **19** 10:50:42.0, 0°.61N×99°.79E, h10km, ML4.8*
*ISCJB **19** 10:50:43.9±0.9, 0°.57N±0°.03×99°.90E±0°.03, h33km±6km, mb4.9/107, MS4.5/43, Error ellipse: s-maj=5.6km s-min=3.4km az=146.0*
*BKK **19** 10:50:43.2±0.3, 0°.N±3°×10°.0E±°, h10km, M4.9/29, mB5.3/13, mb4.7/29, MLv5.5/12, Mw(mB)4.7/13*
*SZGRF **19** 10:50:44.5, 0°.57N×98°.90E, h33km, mb5.0, MS4.5, Northern Sumatera, Indonesia*
*NEIC **19** 10:50:44.9±1.0, 0°.53N×99°.97E, h38km±9km, mb4.8/25, Error ellipse: s-maj=8.6km s-min=5.3km az=224.0*
NEIC Felt [IV] at Rau, [III] at Lubuksikaping and [II] at Padangpanjang and Payakumbuh.
*DJA **19** 10:50:44.9±0.2, 1°.N±2°×10°.0E±°, h10km, M5.2/41, mB5.6/29, mb5.0/41, MLv5.5/15, Mw(mB)5.1/29, Mwp6.2/2*

ISC 19 10:50:42.0±0.4, 0°.46N±0°.03×99°.95E±0°.03, h16km±1km, h16km:pP-P, n348, σ1s53/371, mb4.9/105, MS4.5/43, 8C-1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	**Padang Panjang**	**1.02**	**154**	P	**Pb**	**10 51 00.9**	**-0.3**
PPI	**Padang Panjang**	**1.02**	**154**	P	**Pb**	**10 51 01.0**	**-0.3**
	baz=1.2,SNR=821						
BKNI	**Bangkinang**	**1.10**	**97**	P	**Pb**	**10 51 01.3**	**-1.3**
BKNI				S	**Sb**	**10 51 16.4**	**-0.2**
BKNI	**Bangkinang**	**1.10**	**97**	P	**Pb**	**10 51 00.6**	**-1.9**
	baz=1.1,SNR=1000						
BKNI				S	**Sb**	**10 51 15.8**	**-0.9**
	baz=1.1,SNR=7.7						
PDSI	**Padang**	**1.46**	**160**	P	**Pb**	**10 51 08.5**	**-0.3**
PDSI				S	**Sn**	**10 51 23.7**	**-2.8**
RGRI	**Rengat**	**2.52**	**109**	P	**Pn**	**10 51 22.2**	**0.0**
RGRI				S	**Sg**	**10 52 00.9**	**-2.0**
GSI	**Gunungsitoli**	**2.52**	**289**	P	**Pn**	**10 51 23.3**	**+1.0**
PSI	**Prapat**	**2.54**	**336**	Pn	**Pn**	**10 51 21.3**	**-1.3**
PSI				Pg	**Pb**	**10 51 25.1**	**-2.1**
PSI				Lg	Lg	10 51 56.6	
PSI	**Prapat**	**2.54**	**336**	Pn	**Pn**	**10 51 21.3**	**-1.3**
	18nm,0.3s,baz=147,slow=13,SNR=140						
PSI				Pg	**Pb**	**10 51 25.2**	**-2.1**
	186nm,0.3s,baz=121,slow=17,SNR=202						
PSI				Lg	Lg	10 51 56.6	
	169nm,0.3s,baz=309,slow=22,SNR=4.2						
PSI	**Prapat**	**2.54**	**336**	P	**Pn**	**10 51 20.5**	**-2.2**
	baz=2.3,SNR=34						
FRIM	**Kepong**	**3.22**	**31**	P	**Pn**	**10 51 31.3**	**-0.6**
KGM	**Kluang**	**3.70**	**65**	P	**Pn**	**10 51 38.6**	**+0.1**
KCSI	**Kotacane, Aceh**	**3.74**	**324**	P	**Pn**	**10 51 39.4**	**+0.3**
KCSI				S	**Sn**	**10 52 21.7**	**-1.1**
BTDF	**Bukit Timah Da**	**3.92**	**77**	P	**Pn**	**10 51 40.7**	**-0.9**
	baz=3.8,SNR=4.8						
BTDF				P	**Pn**	**10 51 40.7**	**-0.9**
	baz=3.8,SNR=4.8						
BTDF				S	**Sb**	**10 52 42.0**	**+3.9**
	baz=3.8,SNR=5.4						
BTDF				S	**Sb**	**10 52 42.0**	**+3.9**
	baz=3.8,SNR=5.4						
SNSI	**Sinabang, Aceh**	**4.11**	**298**	P	**Pn**	**10 51 45.9**	**+1.8**
MYKOM	**Kota Tinggi**	**4.11**	**71**	P	**Pn**	**10 51 44.6**	**+0.4**
MYKOM	**Kota Tinggi**	**4.11**	**71**	P	**Pn**	**10 51 42.8**	**-1.4**
IPM	**Ipoh**	**4.13**	**15**	*e*Pn	**Pn**	**10 51 44.2**	**-0.3**
IPM	**Ipoh**	**4.13**	**15**	P	**Pn**	**10 51 45.8**	**+1.3**
IPM	**Ipoh**	**4.13**	**15**	P	**Pn**	**10 51 44.2**	**-0.3**
MASI	**Maura Aman, Be**	**4.25**	**147**	P	Pn	10 51 51.2	+5.1
KULM	**Kulim**	**4.84**	**8**	*e*Pn	**Pn**	**10 51 52.8**	**-1.5**
KULM	**Kulim**	**4.84**	**8**	P	**Pn**	**10 51 55.8**	**+1.5**
KULM	**Kulim**	**4.84**	**8**	P	**Pn**	**10 51 52.8**	**-1.5**
KSI	**Kapahiang**	**4.87**	**147**	P	Pn	10 51 59.6	+5.0
	1μm,0.8s,22μm8.0nm						
LHMI	**Lhok Sumawe**	**5.60**	**328**	P	**Pn**	**10 52 04.9**	**+0.2**
	406nm,1.1s,8μm6.2nm						
LHMI	**Lhok Sumawe**	**5.60**	**328**	P	**Pn**	**10 52 07.3**	**+2.6**
	baz=5.5,SNR=3.9						
MNAI	**Manna**	**5.65**	**148**	P	Pn	10 52 10.2	+4.8
	baz=5.8,SNR=6.9						
KTGM	**Kuala Trenggan**	**5.78**	**33**	P	**Pn**	**10 52 06.7**	**-0.5**
PMBI	**Palembang**	**5.88**	**125**	S	**Sg**	**10 53 48.5**	**-2.3**
	baz=5.9,SNR=5.3						
EGSI	**Enggano, Bengk**	**6.23**	**158**	P	**Pn**	**10 52 15.4**	**+2.1**
	396nm,1.2s,1.4nm						
MDSI	**Maura Dua**	**6.48**	**139**	P	Pn	10 52 21.4	+4.6
	617nm,1.0s,4μm1.8nm						
MDSI				S	**Sg**	**10 54 05.2**	**-4.9**
	617nm,1.0s,4μm1.8nm						
SKLT	**Songkhla**	**6.70**	**6**	P	**Pn**	**10 52 18.5**	**-1.2**
	79nm,1.1s,3μm3.4nm						
SKLT	**Songkhla**	**6.70**	**6**	P	**Pn**	**10 52 21.2**	**+1.5**
	79nm,1.1s,3μm3.4nm						
LWLI	**Liwa**	**6.82**	**143**	P	Pn	10 52 29.7	+8.2
	597nm,0.8s,6μm2.1nm						
KLI	**Kotabumi**	**7.21**	**137**	P	Pn	10 52 34.4	+7.6
	198nm,0.9s,6μm3.0nm						
KASI	**Kota Agung**	**7.48**	**143**	P	Pn	10 52 36.8	+6.3
	220nm,1.0s,2μm0.7nm						
PKDT	**Phuket**	**7.55**	**348**	P	Pn	10 52 35.2	+3.7
	147nm,1.0s,2.2nm						
KRAB	**Krabi**	**7.74**	**354**	P	**Pn**	**10 52 35.0**	**+0.9**
	100nm,0.9s,2μm1.7nm						
BLSI	**Bandar Lampung**	**7.84**	**138**	P	Pn	10 52 44.3	+8.8
	208nm,1.0s,3μm1.0nm						
SRIT	**Nakonsritamara**	**8.09**	**358**	P	**Pn**	**10 52 39.4**	**+0.6**
	186nm,1.0s,6μm0.9nm						
SURA	**Surathani**	**8.65**	**358**	P	**Pn**	**10 52 48.0**	**+1.4**
	66nm,0.9s,0.4nm						
CMBY	**CAMPBELL BAY**	**8.86**	**317**	*e*P	**Pn**	**10 52 51.1**	**+1.7**
CMBY				AMB	AMB	10 53 14.2	
	comp=Z,151nm,1.8s						
SBJI	**Serang**	**8.99**	**137**	P	Pn	10 52 57.5	+6.3
	comp=Z,246nm,1.4s,comp=Z,7μm						
DBJI	**Dramaga**	**9.73**	**136**	P	Pn	10 53 08.3	+6.9
	comp=Z,134nm,1.9s,comp=Z,5μm						
LEM	**Lembang**	**10.53**	**134**	P	Pn	10 53 18.5	+5.9
	comp=Z,121nm,2.0s,comp=Z,2μm						
CISI	**Cisompet, Garu**	**11.18**	**136**	P	Pn	10 53 27.3	+6.0
	comp=Z,138nm,1.7s,comp=Z,2μm						
CISI	**Cisompet, Garu**	**11.18**	**136**	P	Pn	10 53 26.2	+4.9
	baz=11,SNR=3.7						
TGJI	**Tegal**	**11.69**	**129**	P	Pn	10 53

comp=Z,5.4nm,1.0s,comp=Z,71nm
CHAI Chaiyaphum 15.47 7 P **P 10 54 23.2 -0.9**
comp=Z,9.6nm,1.4s,comp=Z,233nm
UBPT Khong Chiam 15.70 20 P **Pn 10 54 24.5 +1.9**
comp=Z,99nm,1.2s,comp=Z,2μm
UBPT Khong Chiam 15.70 20 P **P 10 54 26.2 -0.4**
comp=Z,99nm,1.2s,comp=Z,2μm
KMMI Kalianget 15.85 118 P **P 10 54 31.1 +2.8**
comp=Z,127nm,1.1s,comp=Z,2μm
BLJI Banyuglugur 15.86 121 P **P 10 54 30.4 +2.0**
comp=Z,154nm,0.6s,comp=Z,29μmcomp=Z,171μm
PBKT Sadao Pong 16.04 4 P **P 10 54 29.7 -0.6**
comp=Z,38nm,1.4s
PBKT Sadao Pong 16.04 4 P **P 10 54 29.7 -0.6**
comp=Z,38nm,1.4s
SKNT Sakolnakorn 16.88 13 P **P 10 54 40.3 +0.6**
comp=Z,157nm,1.2s
SUKH Sukhothai 16.91 359 P **P 10 54 40.7 +0.6**
comp=Z,9.7nm,1.0s,comp=Z,106nm
LOEI Loei 16.99 4 P **P 10 54 41.1 +0.2**
comp=Z,29nm,1.3s,comp=Z,660nm
KKM Kota Kinabalu 17.15 71 *e*P **P 10 54 43.9 +1.0**
comp=Z,18nm,0.8s
SRBI Singaraja 17.42 119 P P 10 54 51.2 +5.5
comp=Z,146nm,2.1s,comp=Z,4μm
CM31 Chiang Mai Arr 17.91 357 *e*Pn **Pn 10 54 50.5 0.0**
comp=Z,50nm,1.2s
LAMP Lampang 17.95 359 P **P 10 54 54.1 +2.6**
comp=Z,8.3nm,1.2s
SDKM Sandakan 17.96 73 P **P 10 54 53.3 +1.5**
CMAI Chiengmai2 19.37 357 P **Pn 10 55 12.7 +4.2**
comp=Z,18nm,0.9s,comp=Z,1μm
CRAI Chiangrai 19.65 1 P **P 10 55 08.5 -1.7**
comp=Z,15nm,1.6s
SPSI Sidrap Palu 20.29 103 P Pn 10 55 30.4 +11
PALK Pallekele 20.35 290 P **P 10 55 18.8 +0.8**
comp=Z,42nm,1.0s
PALK Pallekele 20.35 290 P Pn 10 55 22.4 +2.3
comp=Z,56nm,2.0s
KAPI Kappang 20.51 106 P Pn 10 55 22.1 +0.2
KAPI *e*Pn pP 10 55 23.9 -0.3
KAPI Kappang 20.51 106 P Pn 10 55 26.0 +4.1
comp=Z,53nm,1.3s,comp=Z,814nm
KAPI Kappang 20.51 106 P Pn 10 55 22.1 +0.2
comp=Z,27nm,0.9s,baz=277,slow=13,SNR=6.2
KAPI LR LR 11 04 33.6
comp=Z,1μm,18.7s,baz=292,slow=41
BNSI Bone 20.71 104 P Pn 10 55 26.6 +2.4
comp=Z,54nm,1.1s,comp=Z,1μm
QIZ Qiongzhong 20.85 27 P Pn 10 55 25.1 -0.7
QIZ sP sP 10 55 29.0 -0.9
QIZ S **S 10 59 17.0 +1.6**
QIZ pmax pmax
comp=Z,31nm,1.6s
QIZ LR LR
comp=N,2μm,11.4s
QIZ LR LR
comp=Z,2μm,14.7s
QIZ Qiongzhong 20.85 27 *e*P Pn 10 55 25.5 -0.2
comp=Z,45nm,1.1s
BKSI Bulukumba 20.95 106 P Pn 10 55 27.7 +0.7
comp=Z,54nm,1.4s,comp=Z,700nm
APSI Ampana 21.74 94 P P 10 55 37.8 +4.9
comp=Z,56nm,1.4s,comp=Z,993nm
MRSI Marisa 21.99 90 P P 10 55 41.2 +5.6
comp=Z,39nm,0.7s
WSI Waingapu 22.62 117 P P 10 55 55.5 +13
LUWI Luwuk 22.87 94 P P 10 55 54.3 +9.3
GTOI Gorontalo 23.06 89 P **P 10 55 50.8 +3.8**
comp=Z,63nm,0.9s
MDRS Chennai 23.20 303 *e*P **P 10 55 48.3 0.0**
MDRS AMB AMB 10 55 51.3
comp=Z,63nm,2.4s
VIS Vishakhapatnam 23.69 317 *e*P **P 10 55 53.6 +0.4**
VIS AMB AMB 10 55 55.8
comp=Z,30nm,0.3s
TRD Trivandrum 24.26 290⇑ *e*P P 10 56 07.4 +8.8
TRD *e*S S 11 00 29.4 +12
KMI Kunming 24.66 6 P **P 10 56 04.5 +2.1**
KMI pP **pP 10 56 07.3 0.0**
KMI sP **sP 10 56 08.8 -0.5**
KMI PP **PnPn 10 56 40.9 +6.6**
KMI S **S 11 00 23.3 -0.4**
KMI pmax pmax
comp=Z,13nm,0.8s
KMI pmax pmax
comp=Z,100nm,6.0s
KMI LR LR
comp=N,2μm,12.8s
KMI LR LR
comp=E,5μm,14.1s
KMI LR LR
comp=Z,2μm,12.2s
SHL Shillong 26.14 343 *e*P **P 10 56 14.2 -1.6**
SHL AMB AMB 10 56 20.1
comp=Z,25nm,0.7s
SHL *e*S **S 11 00 43.0 -4.2**
GYA Guiyang 26.64 14 *e*P **P 10 56 20.4 +0.2**
GYA PP **PnPn 10 57 05.0 +3.8**
GYA PcP **PcP 10 59 46.8 +2.6**
GYA S **S 11 01 01.8 +6.9**
GYA SS **SnSn 11 02 07.0 +8.9**
GYA ScP **ScP 11 03 25.3 +1.5**
GYA pmax pmax
comp=Z,10.0nm,0.7s
GYA pmax pmax
comp=Z,100nm,6.6s
GYA LR LR
comp=N,790nm,12.2s
GYA LR LR
comp=E,610nm,11.6s
GYA LR LR
comp=Z,1μm,16.6s
BOK Bokaro 26.91 331 *e*P **P 10 56 21.6 -1.0**
BOK AMB AMB 10 56 26.5
comp=Z,44nm,1.3s
HYB Hyderabad 26.97 310 *i* P **P 10 56 23.0 -0.2**
HYB Hyderabad 26.97 310 *e*P **P 10 56 21.4 -1.8**
HYB AMB AMB 10 56 25.0
comp=Z,17nm,1.4s
NGP Nagpur 28.97 317 *e*P **P 10 56 40.7 -0.3**
NGP AMB AMB 10 56 45.1
comp=Z,12nm,5.5s
LATR Latur 29.09 309 *e*P **P 10 56 41.6 -0.5**
LATR AMB AMB 10 56 48.2
comp=Z,9.9nm,0.5s
MSAI Masohi 29.21 98 P P 10 56 47.9 +4.7
comp=Z,20nm,0.6s,comp=Z,3μm
GOA Goa 29.81 301 *e*P **P 10 56 47.6 -0.9**
GOA AMB AMB 10 57 12.8
comp=Z,30nm,2.2s
TPUB Ta-pu 30.31 40 *e*P **P 10 56 54.0 +1.2**
CD2 Chengdu 30.49 6 P **P 10 56 56.8 +2.4**
CD2 pP **pP 10 57 01.3 +2.0**
CD2 sP **sP 10 57 03.8 +2.5**
CD2 PP **PnPn 10 57 56.8 +3.3**
CD2 S **S 11 01 57.3 +2.0**
CD2 sS **sS 11 02 04.0 +0.6**
CD2 SS **ScP 11 03 37.5 +1.8**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,350nm,8.0s
CD2 LR LR
comp=N,5μm,17.8s
CD2 LR LR
comp=Z,3μm,13.1s
YULB Yu-li 30.81 41 P **P 10 56 57.0 -0.2**
comp=Z,22nm,0.8s
SSLB Suanglung 30.86 40 *e*P **P 10 56 59.0 +1.3**
comp=Z,33nm,0.8s
ENH Enshi 31.00 16 *e*P **P 10 56 58.5 -0.4**
comp=Z,5.2nm,0.6s
FITZ Fitzroy Crossi 31.28 127 P **P 10 57 01.4 -0.1**
baz=31,SNR=3.8
BHPL Bhopal 31.49 318 *e*P **P 10 57 02.8 -0.5**
BHPL AMB AMB 10 57 03.7
comp=Z,14nm,1.4s
MEEK Meekatharra 32.39 148 P P 10 57 14.6 +3.4
baz=33,SNR=5.0
WHN Wuhan 32.89 23 P **P 10 57 16.4 +0.9**
MTN Manton Dam 33.63 114 S S 11 02 58.4 +14
baz=34,SNR=3.3
XAN Xi'an 34.44 13 P **P 10 57 27.4 -1.6**
XAN pP **pP 10 57 31.4 -2.5**
XAN S **S 11 02 51.1 -5.6**
XAN pmax pmax
comp=Z,3.0nm,1.2s
XAN pmax pmax
comp=Z,51nm,6.2s
XAN LR LR
comp=N,950nm,17.8s
XAN LR LR
comp=E,2μm,16.5s
XAN LR LR
comp=Z,880nm,12.7s
KDU Kakadu 34.80 113 S S 11 03 12.7 +10
baz=35,SNR=5.5
LZH Lanzhou 35.63 5 *e*P **P 10 57 40.5 +1.2**
LZH pP **pP 10 57 43.8 -0.5**
LZH sP **sP 10 57 46.5 +0.2**
LZH PP **PP 10 59 01.6 +1.2**
LZH SS **SnSn 11 05 36.3 -0.3**
LZH pmax pmax
comp=Z,18nm,1.0s
LZH pmax pmax
comp=Z,90nm,4.3s
LZH LR LR
comp=N,620nm,13.0s
LZH LR LR
comp=E,510nm,12.6s
LZH LR LR
comp=Z,730nm,15.0s
NJ2 Nanjing 36.14 28 *e*P **P 10 57 45.8 +2.2**
NJ2 pP **pP 10 57 48.0 -0.5**
NJ2 sP **sP 10 57 49.0 -1.5**
NJ2 PP **PP 10 59 07.0 +1.1**
NJ2 S **S 11 03 25.0 +2.3**
NJ2 pmax pmax
comp=Z,60nm,0.8s
NJ2 pmax pmax
comp=Z,100nm,3.5s
NJ2 LR LR
comp=N,1μm,14.4s
NJ2 LR LR
comp=E,1μm,15.8s
NJ2 LR LR
comp=Z,3μm,16.6s
DDI Dehra Dun 36.26 327 *e*P **P 10 57 41.8 -2.9**
DDI AMB AMB 10 57 44.5
comp=Z,74nm,1.8s
SSE Sheshan 36.52 31 P **P 10 57 44.8 -2.0**
SSE pmax pmax
comp=Z,31nm,0.7s
SSE pmax pmax
comp=Z,120nm,3.7s
SSE LR LR
comp=N,2μm,15.3s
SSE LR LR
comp=E,2μm,15.3s
SSE LR LR
comp=Z,1μm,10.3s
NWAO Narrogin (SRO) 37.00 155 P **P 10 57 52.0 +1.1**
NWAO Narrogin (SRO) 37.00 155 P **P 10 57 52.0 +1.1**
comp=Z,12nm,0.9s,baz=316,slow=6.5,SNR=5.2
SMLA Simla 37.37 327 *ex* P 10 57 49.5 -4.6
SMLA AMB AMB 10 57 56.1
comp=Z,24nm,3.8s
DHRM DHARAMSHALA 38.70 327 *e*P **P 10 58 05.1 -0.5**
DHRM AMB AMB 10 58 07.2
comp=Z,31nm,1.9s
GTA Gaotai 38.76 360 *e*P **P 10 58 06.5 +0.6**
GTA pP **pP 10 58 10.9 +0.1**
GTA sP **sP 10 58 13.5 +0.7**
GTA PcP **PcP 11 00 18.4 +1.0**
GTA S **ScP 11 04 04.6 -0.5**
GTA sS **sS 11 04 12.0 +1.1**
GTA SS **SnSn 11 06 48.1 -4.1**
GTA pmax pmax
comp=Z,4.0nm,0.8s
GTA pmax pmax
comp=Z,200nm,5.3s
GTA LR LR
comp=N,730nm,16.6s
GTA LR LR
comp=E,4μm,14.5s
GTA LR LR
comp=Z,1μm,19.2s
WRA Warramunga Arr 39.32 123 P **P 10 58 08.7 -2.0**
WRA PcP **PcP 11 00 18.5 -0.9**
WRA ScP **ScP 11 04 05.8 -1.7**
WRA Warramunga Arr 39.32 123 P **P 10 58 08.7 -2.0**
comp=Z,2.2nm,0.5s,baz=302,slow=9.0,SNR=35
WRA PcP **PcP 11 00 18.5 -0.9**
comp=Z,2.4nm,0.6s,baz=312,slow=2.6,SNR=11
WRA ScP **ScP 11 04 05.9 -1.7**
comp=Z,0.9nm,1.0s,baz=289,slow=2.6,SNR=3.9
WRA LR LR 11 13 58.4
comp=Z,406nm,21.5s,baz=310,slow=36
WRAB Tennant Creek 39.33 123 *e*P **P 10 58 09.2 -1.5**
comp=Z,11nm,1.0s
AS31 Alice Springs 40.77 128 *e*P **P 10 58 21.5 -1.2**
ASAR Alice Springs 40.77 128 P **P 10 58 20.9 -1.8**
ASAR PcP **PcP 11 00 23.9 0.0**
ASAR ScP **ScP 11 04 11.5 -1.7**
ASAR Alice Springs 40.77 128 P **P 10 58 20.9 -1.8**
comp=Z,1.2nm,0.6s,baz=303,slow=7.4,SNR=17
ASAR PcP **PcP 11 00 23.9 0.0**
comp=Z,3.1nm,0.6s,baz=312,slow=2.7,SNR=14
ASAR ScP **ScP 11 04 11.5 -1.7**
comp=Z,1.3nm,0.9s,baz=296,slow=3.1,SNR=5.3
ASAR LR LR 11 18 42.6
comp=Z,576nm,18.5s,baz=299,slow=41
FORT Forrest 40.97 142 *e*P **P 10 58 24.3 +0.1**
comp=Z,26nm,0.8s
HHC Hu-ho-hao-te 41.56 13 *e*P **P 10 58 29.0 0.0**
HHC sP **sP 10 58 36.0 0.0**
HHC PP **PP 11 00 06.3 +1.1**
HHC ScP **ScP 11 04 19.4 +3.4**
HHC S **S 11 04 44.6 +0.1**
HHC ScS **ScS 11 08 32.3 -0.1**
HHC pmax pmax
comp=Z,22nm,0.5s
HHC pmax pmax
comp=Z,300nm,5.9s
HHC LR LR
comp=N,820nm,14.7s
HHC LR LR
comp=E,830nm,14.7s
HHC LR LR
comp=Z,810nm,14.1s
BJI Beijing 42.07 19 P **P 10 58 33.9 +0.8**
BJI PP **PP 11 00 11.5 +0.8**
BJI S S 11 04 58.8 +6.9
BJI pmax pmax
comp=Z,17nm,1.1s
BJI pmax pmax
comp=Z,330nm,5.7s
BJI LR LR
comp=N,780nm,18.0s
BJI LR LR
comp=E,990nm,16.6s
BJI LR LR
comp=Z,500nm,20.0s
WMQ Urumqi 44.53 347 P **P 10 58 52.8 -0.2**
WMQ pP **pP 10 58 57.3 -0.7**
WMQ sP **sP 10 58 59.8 -0.2**
WMQ PP **PP 11 00 37.8 +0.7**
WMQ S **S 11 05 26.5 -1.5**
WMQ ScS **SS 11 08 48.1 +0.1**
WMQ pmax pmax
comp=Z,25nm,0.8s
WMQ LR LR
comp=N,440nm,23.2s
WMQ LR LR
comp=E,480nm,24.1s
WMQ LR LR
comp=Z,350nm,22.3s
KBL Kabul 44.54 323 *e*P **P 10 58 52.6 -0.8**
comp=Z,18nm,1.1s
KSH Kashi 44.62 333 P **P 10 58 52.1 -1.7**
KSH pP **pP 10 58 56.8 -2.0**
KSH PP **PcP 11 00 36.8 +0.2**
KSH PcS **PcS 11 04 29.3 -0.8**
KSH S **S 11 05 24.6 -4.9**
KSH pmax pmax
comp=Z,15nm,0.7s
KSH pmax pmax
comp=Z,86nm,3.6s
KSH LR LR
comp=N,560nm,12.7s
KSH LR LR
comp=E,410nm,13.7s
KSH LR LR
comp=Z,320nm,17.1s
KSAR Wonju Array Be 44.92 32 P **P 10 58 55.1 -1.0**
KSRS Korea Array 44.95 32 P **P 10 58 55.1 -1.3**
comp=Z,5.9nm,0.6s,baz=224,slow=8.2,SNR=30
KSRS LR LR 11 19 56.1
comp=Z,363nm,18.0s,baz=216,slow=39
ULHL Ulahol 46.75 336 P **P 10 59 10.8 0.0**
SNR=5.4
KZA Kyzart 47.02 335 P **P 10 59 13.4 +0.2**
SNR=5.6
MANU Manus Island 47.47 93 P P 10 59 26.1 +10
baz=47,SNR=5.7
SONM Songino Array 47.51 6 P **P 10 59 15.5 -1.0**
SONM Songino Array 47.51 6 P **P 10 59 15.5 -1.0**
comp=Z,8.5nm,0.9s,baz=197,slow=7.7,SNR=6.8
TKM2 Tokmak 2 47.57 336 P **P 10 59 16.9 -0.3**
SNR=9.9
TKM2 Tokmak 2 47.57 336 *e*P **P 10 59 16.9 -0.3**
comp=Z,19nm,1.0s
ULN Ulaanbaatar 47.62 6 *e*P **P 10 59 17.8 +0.4**
ULN Ulaanbaatar 47.62 6 P **P 10 59 18.4 +1.0**
comp=Z,13nm,0.9s,comp=Z,693nm
AAK Ala-Archa 47.80 335 *e*P **P 10 59 19.2 +0.3**
EKS2 Erkin-Say 48.13 334 P **P 10 59 21.9 +0.4**
SNR=15
EKS2 Erkin-Say 48.13 334 *e*P **P 10 59 21.9 +0.4**
comp=Z,14nm,0.8s
USP Ospenovka 48.31 335 P **P 10 59 22.6 -0.1**
SNR=6.3
MK31 Makanchi Array 48.66 344 *e*P **P 10 59 24.5 -0.8**
MKAR Makanchi Array 48.66 344 P **P 10 59 24.4 -0.9**
MKAR Makanchi Array 48.66 344 P **P 10 59 24.5 -0.9**
comp=Z,12nm,0.7s,baz=147,slow=7.2,SNR=37
MKAR LR LR 11 22 39.1
comp=Z,321nm,19.4s,baz=161,slow=40
CN2 Changchun 48.77 24 *e*P **P 10 59 26.0 -0.2**
CTA Charters Tower 49.72 117 P **P 10 59 32.9 -1.0**
CTA PcP **PcP 11 00 54.5 -0.5**
CTA Charters Tower 49.72 117 P **P 10 59 32.9 -1.0**
comp=Z,3.8nm,0.9s,baz=268,slow=2.9,SNR=3.7
CTA PcP **PcP 11 00 54.5 -0.5**
comp=Z,2.1nm,0.5s,baz=321,slow=6.5,SNR=3.0
KKAR Karatay Array 49.96 332 *e*P **P 10 59 34.6 -0.7**
comp=Z,6.4nm,0.8s
STKA Stephens Creek 50.84 133 P **P 10 59 40.6 -1.5**
STKA Stephens Creek 50.84 133 P **P 10 59 40.6 -1.5**
comp=Z,3.5nm,1.0s,baz=320,slow=9.6,SNR=7.7
STKA LR LR 11 21 09.2
comp=Z,522nm,21.7s,baz=292,slow=36
STKA Stephens Creek 50.84 133 P **P 10 59 43.4 +1.3**
baz=51,SNR=4.5
IMYA Miami 51.35 319 *e*P **P 10 59 44.0 -2.1**
ISRO Mashad 51.75 318 *e*P **P 10 59 46.0 -3.0**
USRK Ussuriysk Arra 52.03 29 P **P 10 59 50.2 -0.5**
comp=Z,4.5nm,0.8s,baz=227,slow=6.4,SNR=9.8
USRK LR LR 11 23 44.2
comp=Z,433nm,18.4s,baz=212,slow=38
IBAF Bafgh 52.12 311 *e*P **P 10 59 50.5 -1.4**
IEMG Emamgholi 52.91 319 *e*P **P 10 59 57.0 -0.9**
KURK Kurchatov 53.25 343 *e*P **P 10 59 59.0 -0.7**
comp=Z,7.6nm,0.9s
ZAA0 Zalesovo Array 54.76 349 *e*P **P 11 00 09.4 -1.2**
ZALV Zalesovo Beam 54.76 349 P **P 11 00 09.3 -1.4**
ZALV Zalesovo Beam 54.76 349 P **P 11 00 09.3 -1.4**
comp=Z,19nm,0.8s,baz=173,slow=6.2,SNR=59
ZALV LR LR 11 25 16.4
comp=Z,254nm,20.2s,baz=257,slow=38
IANJ Anjilo 55.16 314 *e*P **P 11 00 12.2 -2.1**
DAMY Dhamar 56.66 287 P **P 11 00 27.8 +2.3**
baz=57,SNR=5.6
ATD Arta Tunnel 57.73 283 P **P 11 00 34.6 +1.8**
ATD Arta Tunnel 57.73 283 P **P 11 00 34.6 +1.8**
comp=Z,4.0nm,0.4s,baz=270,slow=18,SNR=3.8
NAY Al-Naaiem 57.77 305 *e*P **P 11 00 31.9 -0.7**
NAY AMb AMB 11 00 32.8
comp=Z,48nm,0.8s
MIB Mutribah 57.88 305 *e*P **P 11 00 32.9 -0.6**
MIB AMb AMB 11 00 34.3
comp=Z,132nm,0.9s
BRVK Borovoye 57.94 339 *e*P **P 11 00 31.7 -1.7**
comp=Z,7.8nm,0.8s
IRAZ Razeghan 58.03 312 *e*P **P 11 00 33.5 -1.2**
RST Umm Al-Ruwaisa 58.05 305 *e*P **P 11 00 33.7 -0.9**
ABKAR Akbulak array 59.48 331 *e*P **P 11 00 42.5 -1.7**
comp=Z,3.1nm,0.5s
AKTO Aktyubinsk 61.19 331 P **P 11 00 54.0 -1.9**
AKTO PcP **PcP 11 01 37.6 -0.9**
AKTO Aktyubinsk 61.19 331 P **P 11 00 54.0 -1.9**
comp=Z,4.8nm,1.0s,baz=122,slow=4.9,SNR=7.8
AKTO PcP **PcP 11 01 37.6 -0.9**
comp=Z,4.6nm,0.7s,baz=101,slow=5.2,SNR=3.2
AKTO LR LR 11 30 13.2
comp=Z,254nm,20.1s,baz=122,slow=39
KMBO Kilima Mbogo 62.72 269 *e*P **P 11 01 06.7 -0.5**
comp=Z,5.8nm,0.9s
KMBO Kilima Mbogo 62.72 269 P **P 11 01 09.1 +2.0**
comp=Z,4.2nm,0.6s,baz=53,slow=11,SNR=10
GNI Garni 63.74 315 P **P 11 01 13.3 -0.1**
GNI Garni 63.74 315 P **P 11 01 13.3 -0.1**
comp=Z,3.7nm,0.4s,baz=180,slow=22,SNR=4.6
DAGI Agillar 66.08 315 *i* P **P 11 01 28.8 +0.2**
ARTV Artvin 66.11 316 *i* P **P 11 01 29.7 +0.8**
DBAD Bademkaya 66.21 315 *i* P **P 11 01 29.0 -0.4**
KBZ Khabaz 66.44 318 P **P 11 01 30.0 -0.6**
KBZ Khabaz 66.44 318 P **P 11 01 30.0 -0.6**
comp=Z,12nm,1.0s,baz=114,slow=5.1,SNR=18
KBZ LR LR 11 34 02.9
comp=Z,150nm,21.1s,baz=270,slow=39
CASY Casey 67.03 175 *e*P **P 11 01 35.0 +1.1**
comp=Z,46nm,1.9s
ASF Jabal al Asfar 67.14 305 P **P 11 01 35.9 +0.5**
ASF Jabal al Asfar 67.14 305 P **P 11 01 35.9 +0.5**
comp=Z,13nm,1.1s,baz=335,slow=1.2,SNR=9.0
ASF LR LR 11 32 13.9
comp=Z,187nm,18.2s,baz=44,slow=37
KEMA Kemaliye 67.92 313 *i* P **P 11 01 40.4 +0.1**
GZT Gaziantep 68.03 310 *i* P **P 11 01 41.5 +0.5**
EIL Elat 68.18 302 P **P 11 01 42.2 +0.3**
EIL Elat 68.18 302 P **P 11 01 42.2 +0.3**
comp=Z,19nm,1.0s,baz=121,slow=6.7,SNR=8.4
EIL LR LR 11 32 18.3
comp=Z,248nm,18.4s,baz=274,slow=37
EIL Elat 68.18 302 P **P 11 01 42.5 +0.5**
baz=68,SNR=6.9
MMAI Mount Meron Ar 68.57 305 P **P 11 01 45.1 +0.7**
MMAI Mount Meron Ar 68.57 305 P **P 11 01 45.1 +0.7**
comp=Z,9.7nm,0.9s,baz=99,slow=8.5,SNR=7.4
MMAI LR LR 11 33 13.2
comp=Z,172nm,18.6s,baz=95,slow=37
AYKD Aykdinkavak 68.62 310 *i* P **P 11 01 44.2 -0.5**
YAYL Yayladag 68.78 309 *i* P **P 11 01 45.8 +0.1**
ANDN Andirin 69.02 310 *i* P **P 11 01 47.6 +0.3**
GULE Gulek 70.14 310 *i* P **P 11 01 54.2 0.0**
AVNT Avonos 70.48 311 *i* P **P 11 01 55.5 -0.7**
PETK Petropavlovsk- 70.84 33 LR LR 11 37 39.0
comp=Z,149nm,18.1s,baz=259,slow=40
BR131 Keskin Array S 71.64 312 *e*P **P 11 02 02.0 -1.3**
comp=Z,7.0nm,0.8s
BRTR Keskin Array B 71.64 312 P **P 11 02 01.7 -1.6**
BRTR Keskin Array B 71.64 312 P **P 11 02 01.7 -1.6**
comp=Z,6.8nm,0.8s,baz=130,slow=7.4,SNR=47
BRTR LR LR 11 35 34.1
comp=Z,164nm,20.6s,baz=303,slow=38
LSZ Lusaka 72.55 254 *e*P **P 11 02 10.4 +1.3**
comp=Z,7.3nm,1.1s
MAW Mawson 72.65 194 LR LR 11 28 10.2
comp=Z,313nm,20.5s,baz=32,slow=31
BOSA Boshof 76.81 241 *e*P **P 11 02 34.7 +1.1**
comp=Z,11nm,1.0s
BOSA Boshof 76.81 241 P **P 11 02 35.1 +1.5**
comp=Z,6.5nm,0.9s,baz=93,slow=8.8,SNR=8.4
BOSA LR LR 11 29 09.7
comp=Z,233nm,21.2s,baz=90,slow=30
AKASG Malin Array Be 77.52 322 P **P 11 02 35.2 -1.8**
AKASG Malin Array Be 77.52 322 P **P 11 02 35.2 -1.8**
comp=Z,2.6nm,0.6s,baz=91,slow=5.1,SNR=14
AKASG LR LR 11 42 36.7
comp=Z,135nm,18.1s,baz=55,slow=40
IDI Anoyia 77.56 306 LR LR 11 43 41.0
comp=Z,63nm,19.3s,baz=254,slow=41
VRI Vrincioaia 78.03 317⇑ *i* P **P 11 02 39.8 -0.1**
PLOR Plostina 78.08 317⇑ *i* P **P 11 02 40.1 -0.2**
MLR Muntele Rosu 78.49 316⇑ *i* P **P 11 02 42.4 -0.3**
BURAR Bucovina Array 79.39 318⇑ *i* P **P 11 02 47.9 +0.4**

VTS Vitosha 79.94 313⇑ *i*P P 11 02 49.7 -1.0
JOF Joensuu 79.99 334 *e*p P 11 02 49.3 -1.0
comp=Z,7.6nm,0.8s
SYO Syowa Base 80.17 199⇑ *e*P P 11 02 52.0 +0.9
DRGR 80.93 317⇑ *i*P P 11 02 55.7 -0.1
KOLS Kolonicke sedl 81.56 319 *e*P P 11 02 59.3 +0.3
KOLS *e*PCP **PcP 11 03 06.5 +1.6**
SUW Suwalki 81.86 325 *e*P P 11 02 59.5 -0.9
comp=Z,47nm,1.0s
FINES FINESS Array B 81.92 332 P P 11 02 59.7 -0.9
FINES FINESS Array B 81.92 332 P P 11 02 59.7 -0.9
comp=Z,3.9nm,0.6s,baz=111,slow=5.5,SNR=14
FINES LR LR 11 44 22.1
comp=Z,243nm,18.8s,baz=90,slow=39
KAF Kangasniemi 81.98 333 *e*p P 11 02 59.9 -1.0
comp=Z,6.8nm,0.6s
CRVS Cervenica-Dubn 82.08 319 *e*P P 11 03 02.7 +0.9
STHS Stebnicka Huta 82.30 320 *e*P P 11 03 03.5 +0.6
STHS *e*PCP **pP 11 03 09.0 +0.8**
KECS Kecovo 82.67 319 *e*P P 11 03 05.3 +0.5
TSUM Tsumeb 82.94 251 *e*P P 11 03 07.5 +0.5
comp=Z,9.0nm,0.9s
PKSM Moragy 83.64 316⇓ *i*P P 11 03 09.1 -0.8
VYHS Vyhne 83.76 319 *e*P P 11 03 09.9 -0.6
ARCES ARCESS Array B 84.16 340 P P 11 03 10.9 -1.1
ARCES ARCESS Array B 84.16 340 P P 11 03 10.9 -1.1
comp=Z,2.4nm,0.4s,baz=101,slow=4.4,SNR=41
ARCES LR LR 11 43 56.2
comp=Z,485nm,18.8s,baz=113,slow=38
VNDA Vanda 84.57 169 P P 11 03 14.0 0.0
VNDA Vanda 84.57 169 P P 11 03 14.0 0.0
comp=Z,0.6nm,0.6s,baz=298,slow=6.1,SNR=7.1
VNDA LR LR 11 35 23.5
comp=Z,180nm,21.1s,baz=308,slow=32
DPC Dobruska-Polom 85.57 320 *e*P P 11 03 19.7 +0.1
BOJS Bojanci 85.95 315 *i*P P 11 03 21.2 -0.4
PERS Pernice 86.11 317 *i*P P 11 03 22.0 -0.4
LJU Ljubljana 86.48 316 *e*P P 11 03 24.1 -0.2
PRU Pruhonice 86.69 320 AMS AMS 11 48 10.0
comp=Z,200nm,18.9s
BRG Berggiesshubel 87.12 321 *e*P P 11 03 28.0 +0.8
comp=Z,13nm,1.4s
BRG
comp=N,169nm,16.6s
BRG
comp=E,150nm,20.5s
BRG
comp=Z,227nm,11.2s
BRG Berggiesshubel 87.12 321 *e*P P 11 03 27.4 +0.2
comp=Z,13nm,1.4s
GEC2 GERESS Array S 87.18 319 *e*P P 11 03 27.7 0.0
comp=Z,15nm,1.5s
GERES GERESS Array B 87.18 319 P P 11 03 27.1 -0.6
GERES GERESS Array B 87.18 319 P P 11 03 27.1 -0.6
comp=Z,2.6nm,0.9s,baz=90,slow=4.0,SNR=18
GERES LR LR 11 48 04.8
comp=Z,170nm,18.9s,baz=188,slow=40
KHC Kasperske Hory 87.27 319 *e*P P 11 03 27.3 -0.7
KHC AMS AMS 11 47 10.0
comp=Z,200nm,20.1s
KHC Kasperske Hory 87.27 319 *e*P P 11 03 27.4 -0.7
comp=Z,2.0nm,0.7s
RUE Ruedersdorf 87.30 322 *e*P P 11 03 28.5 +0.6
comp=Z,38nm,1.3s
RUE Ruedersdorf 87.30 322 *e*P P 11 03 27.9 0.0
CLL Collm 87.73 321 *e*P P 11 03 30.0 -0.1
comp=Z,8.0nm,1.4s
CLL Collm 87.73 321 *e*P P 11 03 29.0 -1.1
comp=Z,7.0nm,1.4s
CLL LmV 11 47 00.0
comp=Z,100nm,21.6s
HFS Hagfors 87.73 330 P P 11 03 29.3 -0.6
HFS Hagfors 87.73 330 P P 11 03 29.3 -0.6
comp=Z,13nm,1.0s,baz=85,slow=3.1,SNR=11
WET Wettzell 87.73 319 *e*P P 11 03 30.4 +0.2
comp=Z,7.0nm,1.0s
WERD Werda 88.14 320 *e*P P 11 03 32.3 +0.2
comp=Z,20nm,2.1s
ROTZ Rotzenmuhle 88.19 320 *e*P P 11 03 33.1 +0.7
comp=Z,6.0nm,0.9s
SPITS Spitsbergen Ar 88.23 348 P P 11 03 30.0 -2.0
SPITS Spitsbergen Ar 88.23 348 P P 11 03 30.0 -2.0
comp=Z,9.0nm,0.9s,baz=145,slow=5.3,SNR=5.8
SPITS LR LR 11 48 26.9
comp=Z,361nm,18.0s,baz=125,slow=39
MANZ Manzenberg 88.26 320 *e*P P 11 03 33.4 +0.7
comp=Z,12nm,1.1s
MOX Moxa 88.59 320 *e*P P 11 03 34.5 +0.3
comp=Z,7.0nm,1.0s
GRF Grafenberg Arr 88.83 320 *e*P P 11 03 36.0 +0.6
comp=Z,18nm,1.3s
GRF *e*L L 11 48 06.2
comp=Z,168nm,19.3s
NB2 NORSAR Subarra 88.98 331 P P 11 03 34.6 -1.3
comp=Z,12nm,1.4s,baz=92,slow=5.3
NOA NORSAR Array B 88.98 331 P P 11 03 34.6 -1.3
NOA NORSAR Array B 88.98 331 P P 11 03 34.7 -1.3
comp=Z,4.0nm,1.0s,baz=95,slow=5.0,SNR=5.0
NOA LR LR 11 47 50.9
comp=Z,202nm,19.1s,baz=75,slow=39
CLZ Clausthal 89.38 322 *e*P P 11 03 38.5 +0.5
comp=Z,11nm,0.9s
BSEG Bad Segeberg 89.41 324 *e*P P 11 03 38.7 +0.7
comp=Z,13nm,1.1s
NRDL Niedersach Rie 89.54 322 *e*P P 11 03 39.3 +0.8
comp=Z,23nm,1.4s
UBBA Unterbreizbach 89.61 321 *e*P P 11 03 39.3 +0.4
comp=Z,13nm,1.6s
DAVOX Davos/Dischmat 89.72 317 P P 11 03 39.7 -0.1
DAVOX Davos/Dischmat 89.72 317 P P 11 03 39.7 -0.1
comp=Z,7.0nm,0.6s,baz=85,slow=13,SNR=11
DAVOX LR LR 11 43 40.0
comp=Z,44nm,21.3s,baz=261,slow=35
KEST Kesra 90.22 306 P P 11 03 42.9 +0.5
KEST Kesra 90.22 306 P P 11 03 42.9 +0.5
comp=Z,3.4nm,1.0s,baz=28,slow=4.1,SNR=5.2
KEST LR LR 11 47 24.4
comp=Z,61nm,18.3s,baz=90,slow=38
PGF Pioggiola 90.39 312 *e*P P 11 03 42.7 -0.3
PGF Pioggiola 90.39 312 *e*P P 11 03 42.7 -0.3
TNS Taunus Mts 90.61 320 *e*P P 11 03 44.4 +0.6
comp=Z,20nm,1.3s
BFO Black Forest 90.74 318 *e*P P 11 03 44.2 -0.2
comp=Z,10.0nm,1.5s
CDF Champ du Feu 91.44 318 *e*P P 11 03 47.1 -0.6
comp=Z,7.7nm,0.9s
CDF Champ du Feu 91.44 318 *e*P P 11 03 47.1 -0.6
comp=Z,7.7nm,0.9s
SBF Sospel 91.50 314 *e*P P 11 03 47.6 -0.5
SBF Sospel 91.50 314 *e*P P 11 03 47.6 -0.5
ECH Echery 91.53 318 *e*P P 11 03 47.6 -0.4
comp=Z,6.9nm,1.0s
LPG La Plagne 91.92 315 *e*P P 11 03 50.0 -0.3
comp=Z,19nm,1.0s
LPG La Plagne 91.92 315 *e*P P 11 03 50.0 -0.3
comp=Z,19nm,1.0s
LPL La Plagne 91.94 315 *e*P P 11 03 50.0 -0.2
comp=Z,28nm,1.1s
LPL La Plagne 91.94 315 *e*P P 11 03 50.0 -0.2
comp=Z,28nm,1.1s
HAU Haudompre 92.08 318 *e*P P 11 03 50.0 -0.6
comp=Z,22nm,1.1s
HAU *e*R
comp=Z,157nm,19.8s
HAU Haudompre 92.08 318 *e*P P 11 03 50.0 -0.6
comp=Z,22nm,1.1s
FRF La Foret Royal 92.08 313 *e*P P 11 03 50.4 -0.3
FRF La Foret Royal 92.08 313 *e*P P 11 03 50.4 -0.3
WLF Walferdange 92.12 320 *e*P P 11 03 51.3 +0.6
comp=Z,20nm,1.7s
CABF La Chapelle 92.33 316 *e*P P 11 03 51.8 -0.1
CABF La Chapelle 92.33 316 *e*P P 11 03 51.8 -0.1
SFTF Sexfontaines 92.94 318 *e*P P 11 03 54.3 -0.3
comp=Z,36nm,1.1s
SFTF Sexfontaines 92.94 318 *e*P P 11 03 54.3 -0.3
comp=Z,36nm,1.0s
BAIF Baives 93.35 320 *e*P P 11 03 56.3 0.0
BAIF Baives 93.35 320 *e*P P 11 03 56.3 0.0
LOR Lormes 93.81 317 *e*P P 11 03 58.0 -0.6
comp=Z,23nm,1.2s
LOR *e*R
comp=Z,139nm,19.0s
LOR Lormes 93.81 317 *e*P P 11 03 58.0 -0.6
comp=Z,23nm,1.2s
SMF Signal de Mont 93.87 317 *e*P P 11 03 58.3 -0.6
comp=Z,8.0nm,0.7s
SMF Signal de Mont 93.87 317 *e*P P 11 03 58.3 -0.6
comp=Z,8.0nm,0.7s
AVF Avril sur Loir 94.19 317 *e*P P 11 04 00.0 -0.3
comp=Z,20nm,1.3s
AVF Avril sur Loir 94.19 317 *e*P P 11 04 00.0 -0.3
comp=Z,20nm,1.3s
TCF Toulx Ste Croi 95.03 316 *e*P P 11 04 04.2 0.0
TCF Toulx Ste Croi 95.03 316 *e*P P 11 04 04.2 0.0
JMIC Jan Mayen 95.52 342 LR LR 11 49 16.4
comp=Z,203nm,19.4s,baz=72,slow=37
RJF Les Rejaudoux 95.61 315 *e*P P 11 04 06.5 -0.4
RJF *e*R
comp=Z,166nm,18.0s
RJF Les Rejaudoux 95.61 315 *e*P P 11 04 06.5 -0.4
EKA Eskdalemuir Ar 97.07 326 P Pdif 11 04 15.7 +2.4
EKA Eskdalemuir Ar 97.07 326 P Pdif 11 04 15.7 +2.4
comp=Z,2.2nm,0.9s,baz=108,slow=4.6,SNR=3.6
TORD Torodi Ar. Bea 97.94 283 P P **11 04 17.8 -0.2**
TORD PKiKP **PKiKP 11 08 51.6 -0.2**
TORD Torodi Ar. Bea 97.94 283 P P **11 04 17.8 -0.2**
comp=Z,1.3nm,1.0s,baz=96,slow=4.7,SNR=5.8
TORD PKiKP **PKiKP 11 08 51.6 -0.2**
comp=Z,0.3nm,0.7s,baz=106,slow=2.6,SNR=2.6
TORD LR LR 11 43 39.4
comp=Z,94nm,18.3s,baz=180,slow=32
QUIF Quistinic 98.44 319 *e*P P 11 04 19.3 -0.2
comp=Z,35nm,1.2s
QUIF Quistinic 98.44 319 *e*P P 11 04 19.3 -0.2
comp=Z,35nm,1.3s
ILAR Eielson Array 99.28 24 LR LR 11 52 12.6
comp=Z,225nm,18.2s,baz=318,slow=37
BSMT Bassoo Peak 123.20 27 *e*PKPdf PKPdf 11 09 37.4 -1.1
DLMT Dillon 126.05 28 *e*PKPdf PKPdf 11 09 43.5 -0.5
SNOW Snow King Moun 128.35 28 *e*PKPdf PKPdf 11 09 49.1 +0.5
REDW Red Top Meadow 128.38 28 *e*PKPdf PKPdf 11 09 48.3 -0.3
R11A Troy Canyon, C 129.41 36 *e*PKPdf PKPdf 11 09 50.6 0.0
PDAR Pinedale Array 129.45 28 PKP **PKPdf 11 09 48.7 -2.0**
PDAR Pinedale Array 129.45 28 PKP **PKPdf 11 09 48.7 -2.0**
comp=Z,1.6nm,1.2s,baz=76,slow=0.6,SNR=5.0
DUG Dugway 129.71 33 *e*PKPdf PKPdf 11 09 51.3 +0.2
PLCA Paso Flores 139.00 191 PKP **PKPdf 11 10 10.9 +2.5**
PLCA Paso Flores 139.00 191 PKP **PKPdf 11 10 10.9 +2.5**
comp=Z,2.3nm,0.9s,baz=180,slow=2.0,SNR=3.6
TXAR Lajitas Array 142.76 35 PKPpre PKPpre 11 10 10.9
TXAR PKP **PKPdf 11 10 15.2 -0.3**
TXAR Lajitas Array 142.76 35 PKhKP PKPpre 11 10 10.9
comp=Z,0.3nm,0.4s,baz=236,slow=0.4,SNR=8.0
TXAR PKP **PKPdf 11 10 15.2 -0.3**
comp=Z,1.4nm,0.8s,baz=259,slow=1.8,SNR=11
MIAR Mount Ida 142.94 19 *e*PKPdf PKPdf 11 10 10.5 -5.0
JCT Junction City 143.94 30 PKPdf PKPab 11 10 14.0 -0.7
BDFB Brasilia 144.97 243 PKPbc **PKPdf 11 10 19.9 +0.2**
BDFB Brasilia 144.97 243 PKPbc **PKPdf 11 10 19.9 +0.2**
comp=Z,19nm,1.0s,baz=136,slow=3.2,SNR=15
LRAL Lakeview Retre 146.04 10 *e*PKPbc PKPdf 11 10 19.5 -1.5
CPUP Villa Florida 146.24 219 PKPbc **PKPbc 11 10 22.7 +0.2**
CPUP Villa Florida 146.24 219 PKPbc **PKPbc 11 10 22.7 +0.2**
comp=Z,10.0nm,0.7s,baz=91,slow=3.8,SNR=15
LPAZ La Paz 160.37 216 PKP **PKPdf 11 10 42.5 -0.3**
LPAZ PKPab **PKPab 11 11 24.0 +0.7**
LPAZ La Paz 160.37 216 PKP **PKPdf 11 10 42.5 -0.3**
comp=Z,2.4nm,1.1s,baz=42,slow=3.1,SNR=5.2
LPAZ PKPab **PKPab 11 11 24.0 +0.7**
comp=Z,2.9nm,0.8s,baz=98,slow=2.8,SNR=8.5

IDC 19 10:52:37.1±1.2, 12°.53N×58°.40E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/24, mbtmp3.7/5, Error ellipse: s-maj=56.7km s-min=25.2km az=40.0, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBZ	**Khabaz**	**33.84**	**340**	P	P	10 59 21.3	+0.1
0.7nm,0.4s,baz=163,slow=11,SNR=3.2							
BRTR	**Keskin Array B**	**34.81**	**326**	P	P	10 59 29.7	-0.2
0.7nm,1.0s,baz=150,slow=12,SNR=3.0							
TORD	**Torodi Ar. Bea**	**55.19**	**277**	P	P	11 02 12.2	0.0
0.8nm,0.8s,baz=90,slow=6.4,SNR=5.6							
WRA	**Warramunga Arr**	**81.37**	**113**	P	P	11 04 56.7	+0.4
0.5nm,0.7s,baz=298,slow=4.7,SNR=4.5							
ASAR	**Alice Springs**	**82.06**	**116**	P	P	11 04 59.7	-0.3
0.6nm,0.7s,baz=295,slow=5.0,SNR=4.8							

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*IDC **19** 11:13:42.6±1.6, 0°.36N×99°.97E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.7/23, mbtmp3.8/7, Error ellipse: s-maj=97.0km s-min=22.8km az=49.0*
*ISCJB **19** 11:13:46.7±0.5, 0°.57N±0°.05×100°.08E±0°.05, h33km, mb3.8/7, Error ellipse: s-maj=9.0km s-min=6.3km az=138.2*
*DJA **19** 11:13:46.2±0.3, 1°.N±4°.×10°.0E±°., h10km, M4.3/10, MLv4.3/10*
ISC 19 11:13:48.3±0.8, 0°.54N±0°.05×100°.10E±0°.06, h35km, n25, σ1§20/23, mb4.1/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNSI	**Mandailing Nat**	**0.58**	**296**	P	Pn	11 13 53.3	-6.9
BKNI	**Bangkinang**	**0.96**	**103**	P	**Pn**	**11 14 03.5**	**-1.8**
BKNI				S	**Sn**	**11 14 18.3**	**+0.5**
PPI	**Padang Panjang**	**1.03**	**163**	P	**Pn**	**11 14 04.5**	**-1.8**
PDSI	**Padang**	**1.48**	**166**	P	**Pn**	**11 14 11.6**	**-1.0**
RGRI	**Rengat**	**2.40**	**112**	P	Pn	11 14 30.2	+5.1
RGRI				S	Sn	11 15 03.4	+10
FRIM	**Kepong**	**3.08**	**30**	P	**Pn**	**11 14 33.7**	**-0.8**
KGM	**Kluang**	**3.54**	**65**	P	**Pn**	**11 14 40.8**	**0.0**
KCSI	**Kotacane, Aceh**	**3.77**	**322**	P	**Pn**	**11 14 44.7**	**+0.6**
MYKOM	**Kota Tinggi**	**3.95**	**72**	P	**Pn**	**11 14 46.2**	**-0.3**
MYKOM	**Kota Tinggi**	**3.95**	**72**	P	**Pn**	**11 14 48.0**	**+1.5**
IPM	**Ipoh**	**4.02**	**13**	P	**Pn**	**11 14 48.2**	**+0.6**
IPM	**Ipoh**	**4.02**	**13**	P	**Pn**	**11 14 47.1**	**-0.4**
SNSI	**Sinabang, Aceh**	**4.21**	**296**	P	**Pn**	**11 14 49.6**	**-0.5**
MASI	**Maura Aman, Be**	**4.23**	**150**	P	**Pn**	**11 14 52.9**	**+2.5**
KULM	**Kulim**	**4.75**	**7**	P	**Pn**	**11 14 55.9**	**-1.7**
KULM	**Kulim**	**4.75**	**7**	P	**Pn**	**11 14 56.5**	**-1.1**
KTGM	**Kuala Trenggan**	**5.64**	**32**	P	**Pn**	**11 15 09.7**	**-0.1**
TGJI	**Tegal**	**11.62**	**129**	P	Pn	11 16 26.7	-5.1
WRA	**Warramunga Arr**	**39.23**	**123**	P	**P**	**11 21 11.6**	**-2.1**
0.5nm,0.9s,baz=305,slow=9.0,SNR=3.5							
ASAR	**Alice Springs**	**40.70**	**129**	P	**P**	**11 21 26.8**	**+0.9**
0.3nm,0.8s,baz=300,slow=7.3,SNR=2.7							
MKAR	**Makanchi Array**	**48.63**	**344**	P	**P**	**11 22 29.3**	**+0.5**
1.1nm,0.6s,baz=151,slow=7.5,SNR=7.6							
ZALV	**Zalesovo Beam**	**54.71**	**349**	P	**P**	**11 23 14.7**	**+0.6**
0.8nm,0.3s,baz=158,slow=4.7,SNR=6.1							
BRTR	**Keskin Array B**	**71.71**	**312**	P	**P**	**11 25 06.9**	**-0.3**
0.5nm,0.7s,baz=132,slow=3.7,SNR=3.7							
FINES	**FINESS Array B**	**81.93**	**332**	P	**P**	**11 26 04.2**	**0.0**
1.6nm,0.8s,baz=90,slow=4.6,SNR=4.0							
ARCES	**ARCESS Array B**	**84.14**	**340**	P	**P**	**11 26 16.1**	**+0.6**
1.9nm,0.8s,baz=109,slow=5.0,SNR=3.7							

IDC 19 11:17:59.2±4.0, 56°.36S×25°.45W, h0km, mb3.9/2, mb1 4.0/2, mb1mx3.7/16, mbtmp3.9/2, Error ellipse: s-maj=136.4km s-min=49.5km az=169.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**51.35**	**304**	P	P	11 27 05.9	-0.2
1.3nm,0.7s,baz=157,slow=7.7,SNR=5.8							
TORD	**Torodi Ar. Bea**	**72.86**	**28**	P	P	11 29 29.7	0.0
0.5nm,0.4s,baz=203,slow=6.4,SNR=7.7							
ILAR	**Eielson Array**	**151.05**	**311**	PKPbc	PKPbc	11 37 52.2	-0.3
0.5nm,0.8s,baz=116,slow=2.1,SNR=5.4							

GUC 19 11:25:23.8±0.4, 34°.89S×70°.97W, h105km±2km, MD3.3, ML3.5, 10C-3D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.24**	**241**	⇑*i*P	Pn	11 25 38.2	-0.5
NICH				*i* S	Sn	11 25 49.0	-0.9
NICH				AML	AML	11 25 50.0	
comp=N,5μm,0.1s							
TALC	**Talca**	**0.74**	**226**	⇑*i*P	Pn	11 25 32.6	-9.4
TALC				*i* S	Sn	11 25 46.0	-10
TALC				AML	AML	11 25 47.4	
comp=E,5μm,0.1s							
CACH	**El Canelo**	**0.83**	**22**	⇑*i*P	Pn	11 25 42.7	-0.3
CACH				*i* S	Sn	11 25 57.4	-0.1
CHCH	**Chadas Angostu**	**0.99**	**16**	⇑*i*P	Pn	11 25 44.3	-0.3
CHCH				*i* S	Sn	11 25 59.9	-0.3
LNV	**Longovilo**	**1.00**	**339**	⇑*i*P	Pn	11 25 44.1	-0.5
LNV				*i* S	Sn	11 25 59.9	-0.3
LNCH	**Linares**	**1.09**	**208**	⇑*i*P	Pn	11 25 45.4	-0.1
LNCH				*i* S	Sn	11 26 01.5	-0.5
LNCH				AML	AML	11 26 02.7	
comp=E,719nm,0.3s							
LMEL	**Las Melosas**	**1.22**	**32**	⇑*i*P	Pn	11 25 47.4	+0.1
LMEL				*i* S	Sn	11 26 05.0	+0.1
LMEL				AML	AML	11 26 09.3	
comp=N,865nm,0.5s							
PCH	**Pirque**	**1.32**	**17**	⇓*i*P	Pn	11 25 48.2	-0.1
PCH				*i* S	Sn	11 26 06.6	-0.2
ANTU	**Antumapu**	**1.34**	**12**	*i*P	Pn	11 25 48.5	0.0
ANTU				*i* S	Sn	11 26 07.2	-0.1
ANTU				AML	AML	11 26 08.7	
comp=N,624nm,0.3s							
SAN	**Santiago**	**1.45**	**10**	⇓*i*P	Pn	11 25 49.6	-0.2
SAN				*i* S	Sn	11 26 09.1	-0.5
CLCH	**Cerro Calan**	**1.53**	**14**	⇑*i*P	Pn	11 25 50.8	0.0
CLCH				*i* S	Sn	11 26 11.2	-0.1
CLCH				AML	AML	11 26 13.0	
comp=E,557nm,0.2s							
CLCH				AML	AML	11 26 13.0	
comp=E,710nm,0.3s							
PEL	**Peldehue**	**1.75**	**8**	⇓*i*P	Pn	11 25 53.6	0.0
PEL				*i* S	Sn	11 26 16.3	+0.1
PEL				AML	AML	11 26 21.6	
comp=N,663nm,0.5s							
ROCH	**El Roble**	**1.91**	**359**	*i*P	Pn	11 25 55.5	-0.3
ROCH				*i* S	Sn	11 26 20.1	0.0
ROCH				AML	AML	11 26 23.4	
comp=Z,401nm,0.5s							
IHA	**Instituto Hidr**	**1.94**	**343**	⇑*i*P	Pn	11 25 55.8	0.0
IHA				*i* S	Sn	11 26 20.1	0.0
PACH	**Papudo**	**2.37**	**351**	⇑*i*P	Pn	11 26 01.7	+0.2
PACH				*i* S	Sn	11 26 30.3	-0.2

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*ISCJB **19** 11:38:49.4±1.3, 41°.28N±0°.05×142°.78E±0°.06, h5km±9km, mb3.7/6, Error ellipse: s-maj=9.5km s-min=5.9km az=136.7*
*JMA **19** 11:38:51.3±0.2, 41°.34N×142°.74E, h14km±4km, M3.4*
*IDC **19** 11:38:58.2±3.5, 41°.40N×143°.10E, h71km±41km, mb3.4/6, mb1 3.5/7, mb1mx3.3/24, mbtmp3.4/7, ML3.5/1, Error ellipse: s-maj=73.1km s-min=22.0km az=70.0*
ISC 19 11:38:50.8±1.7, 41°.37N±0°.05×142°.68E±0°.06, h6km±12km, n19, σ0§66/24, mb3.6/6, 2C-1D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**0.74**	**28**	P	**Pg**	**11 39 05.2**	**+0.2**
JEM				*e*S	**Sg**	**11 39 15.0**	**+0.4**
JNBK	**Urakawa-nobuka**	**0.92**	**3**	⇓P	**Pb**	**11 39 08.9**	**-0.1**
JOT	**Ohata**	**1.23**	**271**	⇑P	**Pn**	**11 39 14.2**	**-0.2**
JOT				*e*S	**Sb**	**11 39 31.0**	**+0.5**
JANG	**Nango**	**1.33**	**222**	P	**Pn**	**11 39 14.9**	**-0.9**
JKB	**Kayabe**	**1.34**	**293**	P	**Pn**	**11 39 15.7**	**-0.3**
JKB				*e*S	**Sn**	**11 39 33.9**	**-0.2**
JCH	**Churui**	**1.35**	**22**	⇑P	**Pn**	**11 39 15.7**	**-0.3**
JTM	**Tenmabayashi**	**1.35**	**245**	P	**Pb**	**11 39 16.2**	**-0.2**
JTM				*e*S	**Sb**	**11 39 34.2**	**+0.3**
JBT2	**Biratori 2**	**1.43**	**351**	P	**Pb**	**11 39 18.1**	**+0.3**
JNB	**Noboribetsu**	**1.65**	**312**	P	**Pn**	**11 39 20.2**	**0.0**
JSR	**Shiriuchi**	**1.71**	**276**	P	**Pb**	**11 39 22.1**	**-0.5**
JSR				*e*S	**Sb**	**11 39 44.3**	**0.0**
JEW	**Eniwo**	**1.74**	**328**	P	**Pb**	**11 39 22.4**	**-0.6**
JOB	**Onbets**	**1.76**	**29**	P	**Pn**	**11 39 22.0**	**+0.3**
ASAJ	**Asahikawa**	**2.75**	**359**	P	**Pb**	**11 39 39.2**	**-1.1**
5.1nm,0.3s,baz=203,slow=11,SNR=31							
ASAJ				S	**Sb**	**11 40 12.9**	**-1.3**
0.6nm,0.3s,baz=209,slow=34,SNR=1.7							
ZALV	**Zalesovo Beam**	**39.85**	**309**	P	P	11 46 27.5	+2.8
1.1nm,0.5s,baz=91,slow=5.8,SNR=4.4							
MKAR	**Makanchi Array**	**42.79**	**298**	P	**P**	**11 46 50.5**	**+1.4**
0.7nm,0.7s,baz=61,slow=8.5,SNR=3.7							
KURBB	**Kurchatov Arra**	**44.23**	**305**	P	**P**	**11 47 01.2**	**+0.7**
1.2nm,0.5s,baz=77,slow=8.7,SNR=7.1							
WRA	**Warramunga Arr**	**61.48**	**189**	P	**P**	**11 49 07.6**	**-0.6**
0.2nm,0.5s,baz=5.6,slow=6.8,SNR=6.8							
ASAR	**Alice Springs**	**65.21**	**189**	P	**P**	**11 49 33.4**	**+0.5**
0.2nm,0.7s,baz=16,slow=7.2,SNR=3.2							
FINES	**FINESS Array B**	**65.46**	**332**	P	**P**	**11 49 33.6**	**-0.4**
2.2nm,0.9s,baz=69,slow=6.3,SNR=6.4							

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*IDC **19** 11:48:54.0±2.8, 16°.98S×168°.88E, h262km±24km, mb3.6/9, mb1 3.7/10, mb1mx3.5/19, mbtmp3.5/10, Error ellipse: s-maj=21.7km s-min=17.4km az=28.0*
*ISCJB **19** 11:48:56.6±0.9, 17°.13S±0°.09×168°.9E±0°.1, h300km, mb3.8/9, Error ellipse: s-maj=17.0km s-min=12.2km az=11.3*
*AUST **19** 11:49:00.0±3.8, 17°.18S×169°.27E, h346km, Error ellipse: s-maj=2.5km s-min=1.6km az=32.0*
ISC 19 11:48:57.8±0.9, 17°.2S±0°.1×168°.9E±0°.2, h300km, n25, σ1§45/29, mb3.9/9, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**5.35**	**205**	P	**Pn**	**11 50 17.4**	**-2.1**
0.5nm,0.3s,baz=108,slow=23,SNR=14							
DZM				S	**S**	**11 51 22.1**	**-3.0**
0.8nm,0.3s,baz=172,slow=23,SNR=2.2							
EIDS	**Eidsvold**	**18.46**	**241**	P	**P**	**11 52 53.8**	**+1.3**
baz=19,SNR=5.7							
ARMA	**Armidale**	**20.51**	**227**	P	**P**	**11 53 15.5**	**+1.4**
baz=21,SNR=8.6							
RMQ	**Roma**	**20.82**	**240**	P	**P**	**11 53 18.2**	**+1.2**
baz=21,SNR=6.8							
CTA	**Charters Tower**	**21.65**	**259**	P	**P**	**11 53 25.2**	**+0.4**
3.2nm,0.4s,baz=89,slow=14,SNR=5.5							
URZ	**Urewera**	**22.15**	**163**	P	**P**	**11 53 31.5**	**+2.4**
2.1nm,0.3s,baz=315,slow=19,SNR=5.5							
MGCD	**Mangrove Creek**	**22.58**	**222**	P	**P**	**11 53 35.9**	**+2.8**
baz=23,SNR=7.6							
MTSU	**Mount Surprise**	**23.44**	**264**	P	**P**	**11 53 43.7**	**+2.6**
baz=24,SNR=10							
CNB	**Canberra Magne**	**25.05**	**220**	P	**P**	**11 53 57.2**	**+1.7**
baz=25,SNR=6.9							
CMSA	**Cobar Meteorol**	**25.42**	**232**	P	**P**	**11 53 59.7**	**+0.9**
baz=26,SNR=6.6							
STKA	**Stephens Creek**	**28.70**	**234**	P	**P**	**11 54 28.9**	**+1.0**
6.6nm,0.5s,baz=68,slow=7.9,SNR=23							
STKA	**Stephens Creek**	**28.70**	**234**	P	**P**	**11 54 29.1**	**+1.2**
baz=29,SNR=17							
WRA	**Warramunga Arr**	**32.84**	**260**	P	**P**	**11 55 02.9**	**-1.4**
1.2nm,0.8s,baz=90,slow=8.4,SNR=23							
WRA				PcP	**PcP**	**11 57 41.9**	**+0.5**
0.2nm,0.5s,baz=90,slow=3.1,SNR=4.8							
ASAR	**Alice Springs**	**33.36**	**253**	P	**P**	**11 55 08.2**	**-0.5**
8.3nm,0.5s,baz=80,slow=9.1,SNR=235							
ASAR				PcP	**PcP**	**11 57 42.8**	**0.0**
0.3nm,0.6s,baz=96,slow=2.9,SNR=4.4							
BBOO	**Buckleboo**	**33.40**	**236**	P	**P**	**11 55 09.5**	**+0.6**
baz=34,SNR=15							
MTN	**Manton Dam**	**36.70**	**272**	P	**P**	**11 55 37.0**	**-0.1**
baz=37,SNR=6.5							
KNRA	**Kununurra**	**38.48**	**266**	P	**P**	**11 55 51.2**	**-0.7**
baz=39,SNR=9.9							
FITZ	**Fitzroy Crossi**	**41.17**	**262**	P	**P**	**11 56 13.7**	**-0.1**
5.8nm,0.7s,baz=112,slow=6.4,SNR=16		

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIRV	**Villa del Rosa**	**0.88**	**135**	*eP*	Pb	11 51 05.6	-0.4
VIRV				*eS*	Sn	11 51 18.1	-0.4
DABV	**Dabajuro**	**2.37**	**95**	*eP*	Pn	11 51 26.5	-0.3
DABV				*eS*	Sn	11 51 52.9	-2.3
QARV	**Quebrada Arrib**	**2.64**	**110**	*eP*	Pn	11 51 29.9	-0.7
QARV				*eS*	Sn	11 52 00.1	-1.9
VIGV	**El Vigia**	**2.81**	**144**	*eP*	Pn	11 51 31.9	-1.0
VIGV				*eS*	Sn	11 52 03.4	-2.8
MONV	**Montecano**	**3.12**	**74**	*eP*	Pn	11 51 35.6	-1.5
MONV				*eS*	Sn	11 52 11.2	-2.5
SIQV	**Siquisique**	**3.21**	**98**	*eP*	Pn	11 51 37.7	-0.8
SIQV				*eS*	Sn	11 52 14.0	-2.1
CURV	**Curarigua**	**3.23**	**110**	*eP*	Pn	11 51 37.8	-0.9
CURV				*eS*	Sn	11 52 13.0	-3.5
SOCV	**Socops**	**3.55**	**143**	*eP*	Pn	11 51 42.3	-0.9
SOCV				*eS*	Sn	11 52 21.7	-2.9
TEPV	**Terepaima**	**3.96**	**107**	*eP*	Pn	11 51 47.9	-0.8
TEPV				*eS*	Sn	11 52 30.0	-4.6
JACV	**Jacura**	**4.13**	**90**	*eS*	Sn	11 52 35.0	-3.9
BAUV	**El Baul**	**5.38**	**113**	*eP*	Pn	11 52 06.9	-1.4
BAUV				*eS*	Sn	11 53 04.3	-5.3

IDC 19 12:12:28.0±4.9, 11°.70S×166°.05E, h62km±34km, mb3.7/3, mb1 3.9/5, ms1mx3.5/18, mbtmp3.9/5, ML4.0/2, MS3.4/2, Ms1 3.4/2, ms1mx2.9/28, Error ellipse: s-maj=51.1km s-min=25.4km az=49.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.41**	**290**	P	Pn	12 13 59.4	-0.4
HNR	10nm,0.3s,baz=190,slow=12,SNR=2.5			S	Sn	12 15 13.0	+1.3
DZM	**Mont Dzumac**	**10.32**	**178**	P	Pn	12 14 53.5	+0.1
DZM	2.7nm,0.3s,baz=208,slow=23,SNR=1.9 0.3nm,0.3s,baz=51,slow=22,SNR=7.4			S	Sn	12 16 40.5	-7.1
AFI	**Afiamalu**	**21.73**	**98**	LR	LR	12 23 31.2	
STKA	**Stephens Creek**	**30.18**	**224**	LR	LR	12 30 18.4	
WRA	**Warramunga Arr**	**31.55**	**251**	P	P	12 18 44.8	+0.1
WRA	comp=Z,114nm,19.9s,baz=25,slow=36 0.5nm,0.6s,baz=84,slow=9.3,SNR=7.5			PcP	PcP	12 21 36.6	+0.3
ASAR	**Alice Springs**	**32.77**	**244**	P	P	12 18 55.1	-0.4
ASAR	0.3nm,0.8s,baz=72,slow=1.9,SNR=4.5 0.7nm,0.7s,baz=68,slow=9.5,SNR=14			PcP	PcP	12 21 39.5	-0.1
MKAR	**Makanchi Array**	**94.20**	**317**	P	P	12 25 39.7	-0.6
	0.5nm,1.0s,baz=84,slow=2.5,SNR=4.2 1.5nm,0.7s,baz=87,slow=6.5,SNR=7.1						

*ISCJB **19** 12:16:38.8±0.6, 30°.47N±0°.04×102°.79E±0°.06, h10km, mb3.7/10, Error ellipse: s-maj=8.1km s-min=5.9km az=177.5*
*IDC **19** 12:16:38.9±0.8, 30°.39N×102°.77E, h0km, mb3.7/10, mb1 3.9/10, mb1mx3.7/24, mbtmp3.7/10, MS3.3/1, Ms1 3.3/1, ms1mx2.4/34, Error ellipse: s-maj=33.5km s-min=16.4km az=51.0*
*BJI **19** 12:16:40.0, 30°.48N×102°.65E, h10km, ML3.6/16, Ms3.5/3, Ms7 3.6/1*
ISC 19 12:16:41.2±0.7, 30°.51N±0°.05×102°.75E±0°.06, h10km, n16, σ2§46/20, mb3.7/10, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**0.96**	**65**	Pg	**Pg**	**12 16 58.9**	**-0.8**
CD2				Sg	**Sg**	**12 17 13.8**	**+1.6**
CD2	comp=N,3μm,0.8s			smax	smax		
CD2	comp=N,4μm,4.8s			LR	LR		
CD2	comp=Z,2μm,4.7s			LR	LR		
GYA	**Guiyang**	**5.31**	**139**	Pn	Pn	12 18 04.5	+3.8
GYA				Sn	**Sn**	**12 19 00.4**	**-1.6**
GYA				Sg	**Sb**	**12 19 22.5**	**+4.5**
GYA	comp=N,120nm,0.9s			smax	smax		
GYA	comp=E,130nm,0.9s			smax	smax		
KMI	**Kunming**	**5.37**	**180**	Pn	**Pn**	**12 18 02.8**	**+1.2**
KMI				smax	smax		
KMI	comp=N,69nm,0.8s			smax	smax		
KMI	comp=E,57nm,0.8s			LR	LR		
KMI	comp=N,290nm,6.2s			LR	LR		
KMI	comp=E,170nm,6.5s						
LZH	**Lanzhou**	**5.64**	**9**	Pn	Pn	12 18 10.4	+5.2
LZH				Pg	**Pg**	**12 18 30.5**	**+1.3**
LZH				Sn	**Sb**	**12 19 22.3**	**-5.2**
LZH				Sg	**Sg**	**12 19 48.0**	**+5.7**
LZH	comp=N,42nm,1.1s			smax	smax		
LZH	comp=E,46nm,0.8s			smax	smax		
LZH	comp=N,330nm,9.1s			LR	LR		
LZH	comp=E,310nm,8.8s			LR	LR		
LZH	comp=Z,340nm,9.8s			LR	LR		
XAN	**Xi'an**	**6.30**	**54**	Pn	**Pn**	**12 18 13.6**	**-0.7**
XAN				Pg	Pb	12 18 34.8	+3.7
XAN				Sn	**Sn**	**12 19 26.5**	**+0.1**
XAN				Sg	Sg	12 19 56.8	-6.8
XAN	comp=N,120nm,0.9s			smax	smax		
XAN	comp=E,49nm,1.0s			smax	smax		
SONM	**Songino Array**	**17.53**	**8**	LR	LR	12 28 12.6	
	comp=E,105nm,19.9s,baz=16,slow=39						
KSRS	**Korea Array**	**21.96**	**65**	P	**P**	**12 21 35.3**	**+0.2**
	comp=E,4.1nm,0.9s,baz=251,slow=9.4,SNR=7.2						
MKAR	**Makanchi Array**	**22.69**	**322**	P	**P**	**12 21 44.9**	**+2.0**
	comp=E,1.0nm,0.8s,baz=115,slow=12,SNR=6.0						
ZALV	**Zalesovo Beam**	**26.77**	**336**	P	**P**	**12 22 21.7**	**+0.7**
	comp=E,0.8nm,0.5s,baz=103,slow=6.2,SNR=3.4						
KURBB	**Kurchatov Arra**	**27.03**	**325**	P	**P**	**12 22 23.8**	**+0.4**
	comp=E,0.7nm,0.8s,baz=130,slow=10.0,SNR=7.5						
BRTR	**Keskin Array B**	**56.02**	**300**	P	**P**	**12 26 18.9**	**-1.4**
	comp=E,0.3nm,0.5s,baz=125,slow=5.9,SNR=2.4						
ARCES	**ARCESS Array B**	**57.32**	**336**	P	**P**	**12 26 28.9**	**-0.1**
	comp=E,1.5nm,0.8s,baz=88,slow=8.2,SNR=4.1						
FINES	**FINESS Array B**	**57.41**	**326**	P	**P**	**12 26 30.0**	**+0.4**
	comp=E,1.9nm,0.9s,baz=101,slow=9.9,SNR=6.4						
WRA	**Warramunga Arr**	**58.65**	**145**	P	**P**	**12 26 37.5**	**-1.4**
	comp=E,1.1nm,0.4s,baz=337,slow=7.5,SNR=13						
ASAR	**Alice Springs**	**61.61**	**147**	P	**P**	**12 26 57.8**	**-1.3**
	comp=E,0.5nm,0.4s,baz=331,slow=7.8,SNR=9.4						
ILAR	**Eielson Array**	**70.87**	**25**	P	**P**	**12 27 56.5**	**-1.6**
	comp=E,0.1nm,0.4s,baz=284,slow=4.5,SNR=4.3						

IDC 19 12:21:51.1±2.5, 5°.59S×148°.88E, h210km±26km, mb3.5/4, mb1 3.7/5, mb1mx3.3/16, mbtmp3.5/5, Error ellipse: s-maj=75.6km s-min=17.3km az=129.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.16**	**204**	P	Pn	12 22 55.8	+0.6
PMG	1.5nm,0.3s,baz=36,slow=14,SNR=5.2			S	S	12 23 45.1	-0.2
WRA	**Warramunga Arr**	**20.09**	**223**	P	P	12 26 09.3	+0.3
WRA	3.1nm,0.3s,baz=129,slow=10,SNR=1.8 1.6nm,0.3s,baz=50,slow=10,SNR=47			S	S	12 29 42.6	-0.5
ASAR	**Alice Springs**	**23.04**	**217**	P	P	12 26 39.2	+1.0
	0.8nm,1.0s,baz=22,slow=18,SNR=3.0 0.7nm,0.3s,baz=48,slow=8.7,SNR=34						
FITZ	**Fitzroy Crossi**	**25.88**	**239**	P	P	12 27 03.8	-0.1
	5.1nm,0.6s,baz=71,slow=9.0,SNR=50						
ILAR	**Eielson Array**	**84.38**	**23**	P	P	12 33 58.8	-0.7
	0.8nm,0.6s,baz=247,slow=4.8,SNR=15						

IDC 19 12:27:53.9±0.9, 23°.44N×143°.14E, h0km, mb3.9/7, mb1 4.0/8, mb1mx3.8/23, mbtmp3.8/8, ML3.2/1, MS3.3/1, Ms1 3.3/1, ms1mx2.5/31, Error ellipse: s-maj=35.1km s-min=20.3km az=84.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**19.12**	**320**	P	P	12 32 18.1	-0.4
	0.1nm,0.3s,baz=141,slow=12,SNR=4.3						
ASAJ	**Asahikawa**	**20.63**	**359**	LR	LR	12 40 09.0	
	comp=Z,84nm,21.7s,baz=167,slow=36						
WRA	**Warramunga Arr**	**43.97**	**192**	P	P	12 36 03.2	+0.2
	0.5nm,0.5s,baz=19,slow=8.4,SNR=11						
ASAR	**Alice Springs**	**47.68**	**191**	P	P	12 36 32.2	-0.1
	0.3nm,0.6s,baz=13,slow=8.9,SNR=9.2						
MKAR	**Makanchi Array**	**53.50**	**312**	P	P	12 37 15.2	-1.0
	0.4nm,0.7s,baz=84,slow=6.9,SNR=4.6						
KURBB	**Kurchatov Arra**	**56.23**	**316**	P	P	12 37 34.8	-1.1
	0.8nm,0.6s,baz=92,slow=7.8,SNR=6.2						
ILAR	**Eielson Array**	**60.51**	**28**	P	P	12 38 05.9	+0.4
	1.6nm,0.8s,baz=255,slow=5.8,SNR=16						
KBZ	**Khabaz**	**81.14**	**314**	P	P	12 40 12.9	+1.6
	2.5nm,0.9s,baz=105,slow=5.5,SNR=4.8						
FINES	**FINESS Array B**	**81.60**	**334**	P	P	12 40 14.4	+1.0
	2.3nm,1.0s,baz=99,slow=7.2,SNR=4.6						
LPAZ	**La Paz**	**149.79**	**82**	PKPbc	PKPbc	12 47 45.5	-1.9
	0.9nm,0.9s,baz=265,slow=12,SNR=3.1						

*ISCJB **19** 13:09:06.9±1.7, 22°.64S±0°.03×70°.62W±0°.09, h10km±10km, mb4.2/1, MS3.9/1, Error ellipse: s-maj=14.9km s-min=4.2km az=10.7*
*GUC **19** 13:09:08.6±0.5, 22°.68S×70°.46W, h35km±2km, ML4.2*
*IDC **19** 13:09:13.1±3.3, 22°.76S×70°.16W, h59km±25km, mb4.0/1, mb1 3.7/5, mb1mx3.4/19, mbtmp3.6/5, ML4.0/3, MS3.4/2, Ms1 3.4/2, ms1mx2.8/18, Error ellipse: s-maj=53.5km s-min=22.0km az=112.0*
ISC 19 13:09:06.0±2.2, 22°.64S±0°.04×70°.5W±0°.1, h9km±12km, n19, σ0§96/22, 3C-3D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEN1	**Los Morros**	**0.80**	**158**	⇑*iP*	**Pn**	**13 09 23.7**	**+0.1**
CEN1				*i S*	**Sn**	**13 09 36.0**	**+0.3**
PB10	**Plate Boundary**	**0.86**	**182**	⇑*iP*	**Pn**	**13 09 23.7**	**-0.8**
PB10				*i S*	**Sb**	**13 09 35.0**	**0.0**
PB10	comp=N,20μm,0.5s			AML	AML	13 09 36.6	
PB04	**Plate Boundary**	**1.03**	**69**	⇓*iP*	Pg	13 09 18.6	-7.3
PB04				*i S*	Sg	13 09 25.6	-14
PB04	comp=E,14μm,0.6s			AML	AML	13 09 26.5	
ANCH	**Antofagasta**	**1.04**	**174**	⇓*iP*	**Pn**	**13 09 26.8**	**0.0**
ANCH				*i S*	**Sb**	**13 09 40.3**	**+0.4**
PB07	**Plate Boundary**	**1.09**	**33**	⇓*iP*	**Pn**	**13 09 28.4**	**+0.8**
PB07				*i S*	**Sn**	**13 09 43.0**	**+0.1**
PB07	comp=N,7μm,0.4s			AML	AML	13 09 48.5	
PB09	**Plate Boundary**	**1.46**	**55**	*i P*	**Pg**	**13 09 33.9**	**-0.1**
PB09				*i S*	**Sg**	**13 09 52.8**	**-0.2**
PB09	comp=E,9μm,0.5s			AML	AML	13 09 57.8	
PB01	**Plate Boundary**	**1.86**	**31**	⇑*iP*	**Pb**	**13 09 40.0**	**-0.3**
PB01				*i S*	**Sb**	**13 10 04.2**	**+0.4**
PB01	comp=E,3μm,0.7s			AML	AML	13 10 07.5	
SPCH	**San Pedro de A**	**2.16**	**97**	AML	AML	13 10 24.4	
	comp=E,4μm,0.8s						
HMBC	**Humberstone**	**2.43**	**14**	*eP*	**Pn**	**13 09 47.6**	**+1.5**
HMBC				*i S*	**Sn**	**13 10 17.9**	**+1.9**
HMBC	comp=N,2μm,0.5s			AML	AML	13 10 31.5	
PSGC	**Pisagua**	**3.06**	**7**	AML	AML	13 10 48.8	
	comp=N,487nm,0.6s						
LPAZ	**La Paz**	**6.71**	**20**	P	Pn	13 10 49.6	+4.2
	comp=N,1.4nm,0.3s,baz=187,slow=19,SNR=38						
CFAA	**Coronel Fontan**	**9.15**	**168**	P	**Pn**	**13 11 20.8**	**+2.4**
	comp=N,0.0nm,0.3s,baz=307,slow=10,SNR=2.1						
CFAA				S	Sn	13 13 08.7	+7.1
	comp=N,0.1nm,0.3s,baz=5.6,slow=22,SNR=1.4						
SIV	**San Ignacio**	**11.11**	**55**	P	**Pn**	**13 11 45.2**	**+0.1**
	comp=N,1.3nm,0.3s,baz=254,slow=14,SNR=12						
SIV				S	**Sn**	**13 13 49.9**	**+0.4**
	comp=N,0.1nm,0.3s,baz=322,slow=21,SNR=1.9						
SIV				LR	LR	13 16 50.1	
	comp=N,80nm,20.7s,slow=42						
PLCA	**Paso Flores**	**18.04**	**180**	P	**P**	**13 13 17.9**	**+0.5**
	comp=N,0.1nm,0.3s,baz=344,slow=14,SNR=3.4						
TORD	**Torodi Ar. Bea**	**79.15**	**71**	P	**P**	**13 21 10.2**	**-1.5**
	comp=N,1.3nm,0.5s,baz=256,slow=5.2,SNR=29						
URZ	**Urewera**	**92.33**	**227**	LR	LR	13 54 56.7	
	comp=N,36nm,18.2s,baz=133,slow=30						
WRA	**Warramunga Arr**	**131.21**	**212**	PKP	**PKPdf**	**13 28 19.1**	**-0.3**
	comp=N,0.5nm,0.9s,baz=155,slow=1.9,SNR=3.0						
ZALV	**Zalesovo Beam**	**143.62**	**25**	PKP	**PKPdf**	**13 28 40.5**	**-0.6**
	comp=N,0.5nm,0.5s,baz=309,slow=5.0,SNR=2.9						
MKAR	**Makanchi Array**	**147.43**	**36**	PKPbc	**PKPbc**	**13 28 50.0**	**-0.4**
	comp=N,1.2nm,0.8s,baz=328,slow=2.5,SNR=6.9						

*IDC **19** 13:50:33.3±2.3, 19°.97N×120°.39E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.5/22, mbtmp3.6/5, Error ellipse: s-maj=245.3km s-min=20.0km az=63.0*
*MAN **19** 13:50:37, 19°.84N×120°.52E, h12km, mb4.4, ML3.2, MS3.0*
ISC 19 13:50:36.7±1.3, 19°.8N±0°.1×120°.4E±0°.3, h28km, n10, σ1§28/10, mb3.6/5, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**1.48**	**171**	⇑*iP*	**Pb**	**13 51 03.6**	**+0.1**
SIPP	**Brgy, Tapao**	**1.86**	**178**	⇓*iP*	**Pn**	**13 51 05.6**	**-1.1**
APYP	**Conner**	**2.09**	**157**	*eP*	**Pb**	**13 51 13.1**	**-0.8**
APYP				*eS*	Sn	13 51 23.5	-11
ABRA	**Dolores**	**2.15**	**172**	*eP*	**Pb**	**13 51 14.8**	**-0.3**
CAUP	**Cauayan**	**3.15**	**154**	*eP*	**Pb**	**13 51 31.2**	**-0.8**
MKAR	**Makanchi Array**	**41.08**	**320**	P	**P**	**13 58 17.1**	**-0.9**
	0.4nm,0.8s,baz=131,slow=7.3,SNR=3.5						
WRA	**Warramunga Arr**	**41.79**	**160**	P	**P**	**13 58 25.6**	**+1.5**
	0.7nm,0.8s,baz=341,slow=9.0,SNR=5.0						
ZALV	**Zalesovo Beam**	**43.59**	**330**	P	**P**	**13 58 38.0**	**-0.2**
	0.5nm,0.4s,baz=113,slow=6.7,SNR=2.4						
KURBB	**Kurchatov Arra**	**45.07**	**323**	P	**P**	**13 58 49.8**	**-0.4**
	0.5nm,0.2s,baz=121,slow=7.8,SNR=4.3						
ASAR	**Alice Springs**	**45.16**	**162**	P	**P**	**13 58 53.5**	**+2.3**
	0.3nm,0.3s,baz=345,slow=7.0,SNR=12						

MEX 19 13:54:41.6±0.7, 16°.91N×99°.87W, h7km±7km, MD4.1, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.41**	**290**	*i P*	Pg	13 54 49.3	-0.2
CAIG				*i S*	Sg	13 54 55.1	+0.2
MEIG	**Mezcala**	**1.04**	**13**	*eP*	Pg	13 54 58.8	-2.9
MEIG				*i S*	Sg	13 55 12.4	-2.9
ARIG	**Puente Sto Nin**	**1.44**	**342**	*eP*	Pn	13 55 04.6	-3.6
ARIG				*i S*	Sn	13 55 22.5	-4.9
PLIG	**Platanillo**	**1.52**	**13**	*eP*	Pn	13 55 06.1	-3.3
PLIG				*i S*	Sn	13 55 24.9	-4.6
ZIIG	**Zihuatanejo**	**1.68**	**295**	*eP*	Pn	13 55 07.5	-3.9
ZIIG				*i S*	Sn	13 55 28.1	-5.1
PNIG	**Pinotepa**	**1.75**	**107**	*eP*	Pn	13 55 09.1	-3.3
PNIG				*i S*	Sn	13 55 29.5	-5.4
YAIG	**Yautepec**	**2.09**	**21**	*eP*	Pn	13 55 13.2	-4.1
YAIG				*i S*	Sn	13 55 38.8	-4.9
PPM	**Popocatepetl**	**2.45**	**29**	*eP*	Pn	13 55 18.9	-3.9
PPM				*i S*	Sn	13 55 49.2	-4.2
VHO	**Vista Hermosa**	**3.00**	**86**	*i P*	Pn	13 55 27.6	-2.4
VHO				*i S*	Sn	13 56 01.9	-4.5
MOIG	**Morelia**	**3.03**	**336**	*i P*	Pn	13 55 26.5	-3.8
MOIG				*i S*	Sn	13 56 03.8	-3.2
MMIG	**Aquila**	**3.59**	**293**	*eP*	Pn	13 55 34.9	-2.8
MMIG				*i S*	Sn	13 56 16.9	-3.6

*IDC **19** 14:28:10.7±0.8, 1°.30N×96°.95E, h0km, mb4.2/17, mb1 4.3/19, mb1mx4.2/27, mbtmp4.2/19, ML4.0/2, MS3.2/1, Ms1 3.2/1, ms1mx2.5/30, Error ellipse: s-maj=25.8km s-min=14.2km az=49.0*
*ISCJB **19** 14:28:13.7±0.4, 1°.38N±0°.05×97°.02E±0°.04, h28km, mb4.2/22, Error ellipse: s-maj=8.1km s-min=4.3km az=43.7*
*DJA **19** 14:28:14.6±0.7, 1°.N±5°.×9°.7E±°, h28km±5km, M4.5/7, mb4.6/5, mB4.8/2, MLv4.5/7, Mw(mB)4.0/2*
*NEIC **19** 14:28:16.0±3.0, 1°.42N×97°.01E, h36km±24km, mb4.2/6, Error ellipse: s-maj=29.0km s-min=10.2km az=54.0*
NEIC Felt [II] at Gunungsitoli.
*BKK **19** 14:28:16.5±1.4, 1°.N±9°.×9°.7E±1°.3, h10km, M4.4/10, mB4.7/2, mb4.3/10, MLv4.4/6, Mw(mB)4.0/2*
*AUST **19** 14:28:32.4±1.0, 1°.95N×98°.64E, h121km, Error ellipse: s-maj=2.2km s-min=1.0km az=242.0*
ISC 19 14:28:15.1±0.5, 1°.37N±0°.06×96°.96E±0°.06, h28km, n95, σ1§21/96, mb4.2/22, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**0.62**	**96**	P	**Pb**	**14 28 26.6**	**-0.9**
GSI				S	**Sn**	**14 28 36.5**	**-0.7**
SNSI	**Sinabang, Aceh**	**1.21**	**329**	P	**Pn**	**14 28 36.5**	**+0.4**
SNSI				S	**Sn**	**14 28 50.4**	**-1.1**
KCSI	**Kotacane, Aceh**	**2.29**	**21**	P	**Pn**	**14 28 50.5**	**-0.5**
KCSI				S	**Sb**	**14 29 26.4**	**+2.8**
PSI	**Prapat**	**2.43**	**54**	Pn	**Pn**	**14 28 52.0**	**-1.0**
PSI	**Prapat**	**2.43**	**54**	Pn	**Pn**	**14 28 52.0**	**-1.0**
PSI	9.5nm,0.3s,baz=245,slow=9.8,SNR=67			LR	LR	14 29 42.8	
	comp=Z,476nm,20.3s,baz=297,slow=38						
PSI	**Prapat**	**2.43**	**54**	P	**Pn**	**14 28 52.0**	**-1.0**
	baz=0.8,SNR=43						
PSI				S	Sn	14 29 05.1	-17
	baz=0.8,SNR=7.4						
LHMI	**Lhok Sumawe**	**3.83**	**360**	P	**Pn**	**14 29 10.7**	**-1.5**
PPI	**Padang Panjang**	**3.89**	**118**	P	**Pn**	**14 29 13.8**	**+0.8**
PPI	**Padang Panjang**	**3.89**	**118**	P	**Pn**	**14 29 13.6**	**+0.5**
	baz=3.0,SNR=17						
PDSI	**Padang**	**4.18**	**123**	P	**Pn**	**14 29 16.7**	**-0.3**
BKNI	**Bangkinang**	**4.21**	**104**	P	**Pn**	**14 29 16.5**	**-1.0**
BKNI	**Bangkinang**	**4.21**	**104**	P	**Pn**	**14 29 18.6**	**+1.1**
	baz=2.9,SNR=4.4						
BKNI				S	Sn	14 29 39.6	-26
	baz=2.9,SNR=3.2						
FRIM	**Kepong**	**5.02**	**68**	P	**Pn**	**14 29 28.8**	**+0.3**
IPM	**Ipoh**	**5.11**	**53**	*e*Pn	**Pn**	**14 29 29.7**	**-0.1**
	46nm,0.8s						
IPM	**Ipoh**	**5.11**	**53**	P	**Pn**	**14 29 30.4**	**+0.6**
IPM	**Ipoh**	**5.11**	**53**	P	**Pn**	**14 29 29.4**	**-0.4**
	39nm,0.7s						
KULM	**Kulim**	**5.36**	**43**	*e*Pn	**Pn**	**14 29 33.1**	**-0.2**
	757nm,1.4s						
KULM	**Kulim**	**5.36**	**43**	P	**Pn**	**14 29 33.4**	**+0.1**
KULM	**Kulim**	**5.36**	**43**	P	**Pn**	**14 29 32.8**	**-0.5**
	77nm,0.9s,868nm						
KGM	**Kluang**	**6.39**	**84**	P	**Pn**	**14 29 47.7**	**+0.3**
KGM	**Kluang**	**6.39**	**84**	P	**Pn**	**14 29 47.7**	**+0.3**
SKLT	**Songkhla**	**6.82**	**32**	P	**Pn**	**14 29 52.5**	**-0.8**
	68nm,0.7s,640nm						
SKLT	**Songkhla**	**6.82**	**32**	P	**Pn**	**14 29 54.2**	**+0.9**
	68nm,0.7s,654nm0.2nm						
MYKOM	**Kota Tinggi**	**6.91**	**86**	P	**Pn**	**14 29 55.3**	**+0.8**
MYKOM	**Kota Tinggi**	**6.91**	**86**	P	**Pn**	**14 29 53.7**	**-0.8**
	24nm,0.8s						
KTGM	**Kuala Trenggan**	**7.31**	**57**	P	**Pn**	**14 29 59.9**	**-0.2**
MNAI	**Manna**	**8.27**	**134**	P	**Pn**	**14 30 13.3**	**0.0**
	baz=7.6,SNR=3.1						
MNAI				S	Sn	14 31 38.6	-7.2
	baz=7.6,SNR=5.9						
PMBI	**Palembang**	**8.90**	**119**	P	**Pn**	**14 30 24.5**	**+2.6**
	baz=7.8,SNR=4.7						
MDSI	**Maura Dua**	**9.27**	**129**	P	**Pn**	**14 30 25.2**	**-1.8**
UTHA	**Uthaitani**	**14.31**	**10**	P	**P**	**14 31 45.0**	**+2.2**
CHAI	**Chaiyaphum**	**15.27**	**19**	P	**P**	**14 31 54.9**	**+1.5**
	5.7nm,0.9s						
PBKT	**Sadao Pong**	**15.61**	**14**	P	**Pn**	**14 31 54.9**	**+1.6**
	14nm,0.7s						
SUKH	**Sukhothai**	**16.22**	**9**	P	**P**	**14 32 04.9**	**+0.9**
	4.6nm,0.9s						
LOEI	**Loei**	**16.59**	**15**	P	**Pn**	**14 32 06.2**	**+0.4**
	13nm,1.1s						
SKNT	**Sakolnakorn**	**16.98**	**24**	P	**P**	**14 32 11.9**	**-0.5**
	9.9nm,1.3s						
CM31	**Chiang Mai Arr**	**17.09**	**6**	*e*Pn	**Pn**	**14 32 11.5**	**-0.6**
	5.4nm,0.7s						
CMAR	**Chiang Mai Arr**	**17.09**	**6**	Pn	**Pn**	**14 32 11.2**	**-1.0**
CMAR	**Chiang Mai Arr**	**17.09**	**6**	Pn	**Pn**	**14 32 11.2**	**-1.0**
	0.6nm,0.3s,baz=195,slow=14,SNR=13						
CRAI	**Chiangrai**	**19.04**	**10**	P	**P**	**14 32 34.2**	**-0.9**
SDKM	**Sandakan**	**20.64**	**78**	P	**P**	**14 32 52.5**	**-0.2**
LUWI	**Luwuk**	**25.93**	**95**	P	P	14 33 37.4	-7.9
	baz=24,SNR=8.0						
ODAN	**Odare**	**26.96**	**341**	*e*P	**P**	**14 33 56.6**	**+2.0**
	27nm,0.8s						
RAMN	**Ramite**	**27.31**	**340**	*e*P	**P**	**14 34 00.5**	**+2.7**
TAPN	**Taplejung**	**27.31**	**342**	*e*P	**P**	**14 33 59.8**	**+1.9**
	61nm,1.0s						
JIRN	**Jiri**	**28.10**	**339**	*e*P	**P**	**14 34 07.0**	**+2.0**
	22nm,0.7s						
PKIN	**Phulchoki**	**28.31**	**338**	*e*P	**P**	**14 34 08.5**	**+1.7**
	7.3nm,0.7s						
GUN	**Gumba**	**28.44**	**339**	*e*P	**P**	**14 34 10.0**	**+2.0**
	28nm,0.8s						
DMN	**Daman**	**28.45**	**338**	*e*P	**P**	**14 34 09.9**	**+1.8**
KKN	**Kakani**	**28.55**	**338**	*e*P	**P**	**14 34 10.7**	**+1.8**
LSA	**Lhasa**	**28.71**	**349**	*e*P	P	14 34 06.8	-3.7
	4.5nm,0.6s						
KOLN	**Koldanda**	**29.20**	**335**	*e*P	**P**	**14 34 16.9**	**+2.3**
	21nm,0.7s						
DANN	**Dangsing**	**29.64**	**336**	*e*P	**P**	**14 34 19.6**	**+0.9**
	12nm,0.5s						
ENH	**Enshi**	**31.11**	**21**	*e*P	**P**	**14 34 29.2**	**-2.1**
	15nm,0.7s						
FITZ	**Fitzroy Crossi**	**34.23**	**126**	P	**P**	**14 34 57.2**	**-1.5**
FITZ	**Fitzroy Crossi**	**34.23**	**126**	P	**P**	**14 34 57.2**	**-1.5**
	1.4nm,0.6s,baz=298,slow=7.6,SNR=5.8						
FITZ	**Fitzroy Crossi**	**34.23**	**126**	P	**P**	**14 34 57.5**	**-1.2**
	baz=33,SNR=3.4						
WRA	**Warramunga Arr**	**42.33**	**122**	P	**P**	**14 36 06.3**	**-0.7**
WRA	**Warramunga

ARCES	**ARCESS Array B**	**82.29 340**	P	**P**	**14 40 34.4**	**+0.7**
ARCES	**ARCESS Array B**	**82.29 340**	P	**P**	**14 40 34.4**	**+0.7**
	0.8nm,0.5s,baz=93,slow=5.0,SNR=11					
GERES	**GERESS Array B**	**84.52 319**	P	**P**	**14 40 46.9**	**+1.1**
GERES	**GERESS Array B**	**84.52 319**	P	**P**	**14 40 46.9**	**+1.1**
	0.5nm,0.7s,baz=120,slow=5.8,SNR=4.5					
NOA	**NORSAR Array B**	**86.74 331**	P	**P**	**14 40 56.4**	**-0.1**
NOA	**NORSAR Array B**	**86.74 331**	P	**P**	**14 40 56.4**	**-0.1**
	1.4nm,0.9s,baz=97,slow=5.3,SNR=3.3					

IDC 19 14:41:35.2±2.9, 31°57S×179°26W, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.6/16, mbtmp3.6/3, ML3.4/1, MS3.2/1, Ms1 3.2/1, ms1mx2.4/16, Error ellipse: s-maj=66.5km s-min=45.8km az=112.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.31**	**203**	Pn	Pn	14 43 23.4	+0.1
	0.6nm,0.3s,baz=22,slow=16,SNR=6.0						
URZ				Sn	Sn	14 44 41.4	-5.7
	0.1nm,0.3s,baz=137,slow=9.8,SNR=3.5						
DZM	**Mont Dzumac**	**15.87**	**303**	LR	LR	14 49 48.3	
	comp=Z,84nm,19.3s,baz=349,slow=31						
ASAR	**Alice Springs**	**41.99**	**269**	P	P	14 49 28.1	-0.2
	0.4nm,0.5s,baz=104,slow=7.3,SNR=5.3						
WRA	**Warramunga Arr**	**43.08**	**274**	P	P	14 49 37.1	-0.1
	0.6nm,0.6s,baz=116,slow=7.1,SNR=6.9						
FINES	**FINESS Array B**	**145.85**	**339**	PKPbc	PKPdf	15 01 14.9	-0.2
	2.3nm,1.0s,baz=0.0,slow=2.8,SNR=2.6						

*NEIC **19** 14:43:53.1±1.5, 11°.39N×125°.29E, h58km±13km, mb4.8/32, Error ellipse: s-maj=9.2km s-min=6.1km az=78.0*
NEIC Felt [III PIVS] at Borongan, Maydolong and San Julian; [II PIVS] at Can-Avid and Dolores. Also felt [II PIVS] at Tacloban, Leyte.
*MAN **19** 14:43:53, 11°.60N×125°.44E, h52km, mb5.1, ML4.0, MS4.1*
MAN INTENSITY III - BORONGAN MAYDULONG & SAN JULIAN E. SAMAR.
*ISCJB **19** 14:43:54.1±0.5, 11°.49N±0°.03×125°.49E±0°.04, h76km±4km, mb4.7/80, Error ellipse: s-maj=6.4km s-min=4.7km az=155.1*
*BJI **19** 14:43:55.4, 11°.30N×125°.45E, h98km, mB5.0/29, mb4.9/50*
*IDC **19** 14:43:57.0±1.9, 11°.41N×125°.35E, h84km±16km, mb4.5/25, mb1 4.6/27, mb1mx4.6/29, mbtmp4.5/27, MS3.7/10, Ms1 3.7/10, ms1mx3.4/29, Error ellipse: s-maj=16.8km s-min=8.5km az=71.0*
*TEH **19** 14:43:58.0, 11°.39N×125°.34E, h97km, ML4.8*
*DJA **19** 14:43:58.4±3.4, 12°N±15°×12°5E±2°4, h41km±19km, M4.8/11, mB5.3/4, mb4.8/11, Mw(mB)4.7/4*
*BKK **19** 14:44:00.5±2.0, 12°N±7°×12°6E±1°1, h113km±16km, M4.5/25, mB5.0/5, mb4.6/25, Mw(mB)4.2/5*
ISC 19 14:43:55.0±0.7, 11°.50N±0°.03×125°.45E±0°.05, h69km±5km, n242, σ1°50/257, mb4.8/85, 16C-12D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**0.56**	**234**	‖ *i* P	Pn	14 44 05.2	-3.2
PLP				*i* S	**Sn**	**14 44 13.3**	**-4.9**
OCLP	**Ormoc**	**0.93**	**242**	*e*P	**Pn**	**14 44 11.5**	**-1.1**
OCLP				*e*S	Sn	14 44 30.0	+4.3
MSLP	**Maasin**	**1.47**	**203**	*e*P	**Pn**	**14 44 19.7**	**+0.1**
MSLP				*e*S	**Sn**	**14 44 40.7**	**+2.6**
SCPH	**Surigao**	**1.71**	**179**	⇑ *e*P	**Pn**	**14 44 21.6**	**-1.1**
LLP	**Lapu-Lapu**	**1.87**	**231**	‖ *e*P	**Pn**	**14 44 23.6**	**-1.3**
LLP				*e*S	Sn	14 44 53.9	+6.3
TBP	**Tagbilaran**	**2.38**	**221**	*e*P	**Pn**	**14 44 31.6**	**-0.2**
PVCP	**Virac**	**2.44**	**329**	⇑ *i*P	**Pn**	**14 44 32.0**	**-0.6**
BUTP	**Butuan**	**2.52**	**176**	*e*P	Pn	14 44 35.1	+1.4
RCP	**Roxas**	**2.65**	**272**	‖ *e*P	**Pn**	**14 44 35.5**	**0.0**
GUIM	**Jordan**	**2.93**	**253**	*e*P	**Pn**	**14 44 39.2**	**-0.1**
KALP	**Kalibo**	**3.05**	**274**	‖ *e*P	**Pn**	**14 44 39.8**	**-1.1**
SNPH	**Sibulan**	**3.05**	**226**	⇑ *i*P	Pn	14 44 25.8	-15
SNPH				*i* S	Sn	14 44 59.4	-17
DCPH	**Dipolog City**	**3.55**	**216**	‖ *i*P	**Pn**	**14 44 47.5**	**-0.3**
BUKP	**Musuan**	**3.62**	**186**	*e*P	Pn	14 44 50.5	+1.8
GQP	**Guinayangan**	**3.78**	**310**	⇑ *e*P	**Pn**	**14 44 51.0**	**+0.1**
PAGZ	**Pagadian**	**4.16**	**209**	*e*P	**Pn**	**14 44 56.2**	**+0.2**
CTBH	**Cotabato--PC H**	**4.41**	**196**	⇑ *i*P	Pn	14 45 02.5	+3.0
MATI	**Mati**	**4.59**	**170**	*e*P	Pn	14 45 03.6	+1.6
LQP	**Lukban**	**4.61**	**305**	⇑ *e*P	Pn	14 45 05.2	+2.8
IPIL	**Ipil**	**4.65**	**218**	*e*P	**Pn**	**14 45 03.3**	**+0.6**
TGY	**Tagaytay City**	**5.10**	**301**	P	Pn	14 45 12.4	+3.4
TGY	**Tagaytay City**	**5.10**	**301**	P	Pn	14 45 12.4	+3.4
	51nm,0.3s,baz=111,slow=8.6,SNR=6.5						
PCPH	**Palayan**	**5.85**	**314**	‖ *e*P	Pn	14 45 21.1	+2.0
PALP	**Palanan**	**6.26**	**332**	⇑ *i*P	Pn	14 45 22.1	-2.7
MYLDM	**Lahad Datu**	**9.30**	**228**	P	**Pn**	**14 46 07.9**	**+1.5**
MYLDM	**Lahad Datu**	**9.30**	**228**	P	Pn	14 46 08.5	+2.0
	50nm,1.3s						
SDKM	**Sandakan**	**10.02**	**235**	P	Pn	14 46 20.4	+4.1
KKM	**Kota Kinabalu**	**10.61**	**240**	*e*Pn	Pn	14 46 26.3	+1.9
YULB	**Yu-li**	**12.47**	**342**	*e*P	Pn	14 46 45.9	-3.8
TPUB	**Ta-pu**	**12.60**	**339**	*e*P	**Pn**	**14 46 50.0**	**-1.5**
LUWI	**Luwuk**	**12.74**	**192**	P	P	14 47 16.5	+15
APSI	**Ampana**	**12.89**	**197**	P	P	14 47 00.0	-3.6
	40nm,1.1s,728nm						
SSLB	**Suanglung**	**12.95**	**341**	*e*Pn	Pn	14 46 52.0	-4.2
JOW	**Kunigami**	**15.49**	**10**	*e*Pn	**P**	**14 47 31.5**	**-0.9**
	24nm,1.2s						
SBUM	**Sibu**	**15.90**	**237**	*e*Pn	**P**	**14 47 35.7**	**-1.4**
	34nm,0.8s						
SBUM	**Sibu**	**15.90**	**237**	P	**P**	**14 47 38.2**	**+1.1**
SBUM	**Sibu**	**15.90**	**237**	P	**P**	**14 47 38.0**	**+0.9**
	46nm,0.8s						
BNSI	**Bone**	**16.66**	**199**	P	P	14 47 51.2	+5.7
	39nm,1.3s						
QIZ	**Qiongzhong**	**16.80**	**298**	P	**P**	**14 47 46.8**	**-0.3**
QIZ				sP	sP	14 48 16.1	+6.1
QIZ				S	**Sn**	**14 50 51.8**	**-0.3**
QIZ				pmax	pmax		
	comp=Z,8.0nm,1.2s						
QIZ				LR	LR		
	comp=N,160nm,15.6s						
QIZ				LR	LR		
	comp=Z,410nm,16.7s						
KAPI	**Kappang**	**17.35**	**199**	*e*Pn	**Pn**	**14 47 50.7**	**-2.0**
	comp=Z,31nm,1.1s						
KAPI	**Kappang**	**17.35**	**199**	P	**Pn**	**14 47 53.2**	**+0.4**
	baz=20,slow=15						
KSM	**Kuching**	**18.02**	**238**	*e*Pn	P	14 47 54.8	-5.8
	comp=Z,17nm,0.9s						
UBPT	**Khong Chiam**	**19.79**	**283**	P	**Pn**	**14 48 21.4**	**-0.6**
	comp=Z,74nm,1.3s,comp=Z,874nm						
UBPT	**Khong Chiam**	**19.79**	**283**	P	**Pn**	**14 48 25.2**	**+3.2**
	comp=Z,74nm,1.3s,comp=Z,870nm						
NJ2	**Nanjing**	**21.34**	**344**	*e*P	**P**	**14 48 39.1**	**+2.6**
NJ2				pmax	pmax		
	comp=Z,30nm,0.6s						
SKNT	**Sakolnakorn**	**21.50**	**287**	P	**P**	**14 48 40.3**	**+2.0**
	comp=Z,22nm,1.1s						
WHN	**Wuhan**	**21.57**	**333**	‖ P	**P**	**14 48 40.8**	**+1.9**
WHN				pmax	pmax		
	comp=Z,90nm,1.3s						
JNU	**Nakatsue**	**22.09**	**12**	LR	LR	14 55 55.1	
	comp=Z,212nm,19.2s,baz=342,slow=32						
CHBT	**CHBT**	**22.63**	**276**	P	**P**	**14 48 51.0**	**+0.5**
	comp=Z,19nm,1.4s						
CHBT	**CHBT**	**22.63**	**276**	P	**P**	**14 48 51.0**	**+0.5**
	comp=Z,19nm,1.4s						
KTGM	**Kuala Trenggan**	**22.90**	**256**	P	**P**	**14 48 54.9**	**+1.7**
GYA	**Guiyang**	**23.12**	**313**	P	**P**	**14 48 55.8**	**+0.3**
GYA				pP	pP	14 49 16.8	+6.4
GYA				sP	sP	14 49 28.5	+9.5
GYA				PP	PnPn	14 49 30.3	+6.4
GYA				PcP	**PcP**	**14 52 44.3**	**+2.0**
GYA				S	**S**	**14 53 02.0**	**+0.3**
GYA				sS	sS	14 53 30.9	+2.1
GYA				SS	**SnSn**	**14 53 47.3**	**+5.9**
GYA				ScP	**ScP**	**14 56 10.5**	**-3.9**
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,100nm,5.3s						
GYA				LR	LR		
	comp=N,490nm,16.2s						
GYA				LR	LR		
	comp=E,310nm,17.6s						
GYA				LR	LR		
	comp=Z,470nm,16.6s						
CHAI	**Chaiyaphum**	**23.20**	**284**	P	**P**	**14 48 54.9**	**-1.4**
	comp=Z,12nm,0.7s						
SJI	**Sawahan**	**23.46**	**216**	P	P	14 49 08.9	+10
	comp=Z,29nm,0.9s,comp=Z,3μm						
MYKOM	**Kota Tinggi**	**23.49**	**247**	P	**P**	**14 49 01.1**	**+2.2**
ENH	**Enshi**	**23.85**	**324**	*e*P	**P**	**14 48 58.7**	**-3.3**
	comp=Z,15nm,0.8s						
KGM	**Kluang**	**23.88**	**248**	P	**P**	**14 49 05.2**	**+2.7**
LOEI	**Loei**	**24.15**	**287**	P	**P**	**14 49 01.5**	**-3.4**
	comp=Z,58nm,1.2s						
PBKT	**Sadao Pong**	**24.26**	**285**	P	**P**	**14 49 06.3**	**+0.4**
	comp=Z,47nm,0.8s						
PBKT	**Sadao Pong**	**24.26**	**285**	P	**P**	**14 49 06.3**	**+0.4**
	comp=Z,47nm,0.8s						
BJII	**Banjamegara**	**24.39**	**221**	P	P	14 49 27.4	+20
FRIM	**Kepong**	**24.99**	**253**	P	**P**	**14 49 13.8**	**+1.3**
IPM	**Ipoh**	**25.15**	**256**	*e*P	**P**	**14 49 11.1**	**-3.0**
	comp=Z,34nm,0.8s						
IPM	**Ipoh**	**25.15**	**256**	P	**P**	**14 49 15.0**	**+1.0**
IPM	**Ipoh**	**25.15**	**256**	P	**P**	**14 49 15.1**	**+1.0**
	comp=Z,47nm,0.8s						
KULM	**Kulim**	**25.28**	**258**	*e*P	**P**	**14 49 10.8**	**-4.4**
	comp=Z,18nm,0.7s						
KULM	**Kulim**	**25.28**	**258**	P	**P**	**14 49 17.2**	**+2.0**
KULM	**Kulim**	**25.28**	**258**	P	**P**	**14 49 15.8**	**+0.6**
	comp=Z,27nm,0.8s,comp=Z,1μm						
KMI	**Kunming**	**25.41**	**305**	P	**P**	**14 49 17.5**	**+1.0**
KMI				pP	pP	14 49 37.3	+4.5
KMI				sP	sP	14 49 48.3	+7.3
KMI				S	**S**	**14 53 37.1**	**-1.5**
KMI				sS	sS	14 54 12.6	+5.9
KMI				SS	SnSn	14 54 46.0	+8.6
KMI				pmax	pmax		
	comp=Z,13nm,0.8s						
KMI				pmax	pmax		
	comp=Z,130nm,5.6s						
KMI				LR	LR		
	comp=N,210nm,16.1s						
KMI				LR	LR		
	comp=E,210nm,15.4s						
KMI				LR	LR		
	comp=Z,220nm,13.4s						
LEM	**Lembang**	**25.42**	**225**	P	**P**	**14 49 19.3**	**+2.7**
UTHA	**Uthaitani**	**25.59**	**282**	P	**P**	**14 49 18.4**	**+0.4**
	comp=Z,4.8nm,0.8s						
CRAI	**Chiangrai**	**25.60**	**293**	P	**P**	**14 49 16.8**	**-1.3**
	comp=Z,37nm,1.2s						
SUKH	**Sukhothai**	**25.68**	**286**	P	**P**	**14 49 19.3**	**+0.6**
	comp=Z,17nm,0.8s,comp=Z,122nm						
PAYA	**Payao**	**25.84**	**291**	P	**P**	**14 49 20.9**	**+0.6**
	comp=Z,22nm,0.8s,comp=Z,162nm						
LAMP	**Lampang**	**25.87**	**289**	P	**P**	**14 49 21.2**	**+0.7**
	comp=Z,9.1nm,0.7s						
KSAR	**Wonju Array Be**	**25.93**	**4**	P	**P**	**14 49 22.1**	**+1.3**
KSRS	**Korea Array**	**25.94**	**5**	P	**P**	**14 49 22.1**	**+1.2**
	comp=Z,16nm,1.1s,baz=184,slow=9.6,SNR=26						
KSRS				LR	LR	14 59 37.8	
	comp=Z,127nm,19.2s,baz=182,slow=36						
KRAB	**Krabi**	**26.06**	**265**	P	P	14 49 36.3	+14
CM31	**Chiang Mai Arr**	**26.50**	**288**	*e*P	**P**	**14 49 23.7**	**-2.5**
	comp=Z,20nm,0.8s						
CHTO	**Chiang Mai**	**26.57**	**289**	*e*P	**P**	**14 49 24.6**	**-2.2**
	comp=Z,38nm,0.8s						
CMAI	**Chiengmai2**	**26.73**	**292**	P	**P**	**14 49 29.3**	**+0.8**
	comp=Z,201nm,1.0s						
XAN	**Xi'an**	**27.04**	**329**	P	**P**	**14 49 31.0**	**0.0**
XAN				pmax	pmax		
	comp=Z,8.0nm,0.7s						
XAN				pmax	pmax		
	comp=Z,31nm,9.6s						
PSI	**Prapat**	**27.67**	**254**	P	**P**	**14 49 37.5**	**+0.6**
PSI	**Prapat**	**27.67**	**254**	P	**P**	**14 49 37.5**	**+0.6**
	comp=Z,8.2nm,0.6s,baz=88,slow=5.6,SNR=15						
PSI				LR	LR	15 01 50.7	
	comp=Z,168nm,18.5s,baz=278,slow=39						
CD2	**Chengdu**	**27.86**	**317**	P	**P**	**14 49 38.6**	**+0.2**
CD2				pP	pP	14 50 00.3	+5.5
CD2				sP	sP	14 50 12.1	+9.1
CD2				PP	**PnPn**	**14 50 32.0**	**+3.5**
CD2				S	**S**	**14 54 13.6**	**-3.3**
CD2				sS	sS	14 54 51.6	+6.3
CD2				SS	**SnSn**	**14 55 42.1**	**+5.2**
CD2				pmax	pmax		
	comp=Z,30nm,0.8s						
CD2				pmax	pmax		
	comp=Z,90nm,5.7s						
CD2				LR	LR		
	comp=N,300nm,6.5s						
CD2				LR	LR		
	comp=Z,280nm,10.1s						
FITZ	**Fitzroy Crossi**	**29.41**	**180**	*e*P	P	14 49 49.0	-3.1
	comp=Z,178nm,2.7s						
FITZ				PcP	**PcP**	**14 52 56.5**	**-0.3**
FITZ	**Fitzroy Crossi**	**29.41**	**180**	P	**P**	**14 49 51.5**	**-0.6**
	comp=Z,8.1nm,0.8s,baz=16,slow=7.1,SNR=16						
FITZ				PcP	**PcP**	**14 52 56.5**	**-0.3**
	comp=Z,2.1nm,0.9s,baz=353,slow=8.1,SNR=2.5						
BJI	**Beijing**	**29.59**	**345**	P	**P**	**14 49 54.4**	**+0.9**
BJI				pmax	pmax		
	comp=Z,22nm,1.6s						
LZH	**Lanzhou**	**31.31**	**325**	*e*P	P	14 50 11.3	+2.3
LZH				pP	pP	14 50 32.8	+7.2
LZH				sP	sP	14 50 46.3	+13
LZH				PP	**PP**	**14 51 16.6**	**-4.2**
LZH				*e*S	**S**	**14 55 09.6**	**-1.6**
LZH				SS	**SnSn**	**14 57 04.1**	**+3.3**
LZH				pmax	pmax		
	comp=Z,16nm,1.0s						
LZH				pmax	pmax		
	comp=Z,120nm,4.9s						
LZH				LR	LR		
	comp=N,400nm,12.6s						
LZH				LR	LR		
	comp=E,390nm,13.2s						
LZH				LR	LR		
	comp=Z,470nm,16.0s						
CN2	**Changchun**	**32.19**	**0**	*e*P	**P**	**14 50 16.9**	**+0.6**
CN2				*e*pP	pP	14 50 39.0	+6.0
CN2				*e*PP	**PP**	**14 51 28.3**	**-1.9**
CN2				*e*S	**S**	**14 55 23.0**	**-1.3**
CN2				*e*SS	**SnSn**	**14 57 24.5**	**+2.9**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CN2				LR	LR		
	comp=N,280nm,12.0s						
CN2				LR	LR		
	comp=E,220nm,12.0s						
CN2				LR	LR		
	comp=Z,210nm,13.0s						
WRAB	**Tennant Creek**	**32.44**	**164**	*e*P	**P**	**14 50 16.4**	**-2.4**
	comp=Z,140nm,3.0s						
WRA	**Warramunga Arr**	**32.45**	**164**	P	**P**	**14 50 17.0**	**-1.9**
WRA				PcP	**PcP**	**14 53 04.7**	**-0.1**
WRA				ScP	**ScP**	**14 56 40.8**	**-1.9**
WRA	**Warramunga Arr**	**32.45**	**164**	P	**P**	**14 50 17.0**	**-1.9**
	comp=Z,2.5nm,0.6s,baz=343,slow=9.5,SNR=31						
WRA				PcP	**PcP**	**14 53 04.7**	**-0.1**
	comp=Z,6.5nm,0.6s,baz=339,slow=3.1,SNR=24						
WRA				ScP	**ScP**	**14 56 40.8**	**-1.9**
	comp=Z,1.3nm,0.8s,baz=342,slow=3.8,SNR=6.3						
USRK	**Ussuriysk Arra**	**33.07**	**9**	P	**P**	**14 50 25.5**	**+1.5**
	comp=Z,13nm,0.7s,baz=191,slow=8.2,SNR=31						
USRK				PcP	**PcP**	**14 53 06.2**	**+0.1**
	comp=Z,1.7nm,0.6s,baz=236,slow=5.3,SNR=5.0						
MDJ	**Mudanjiang**	**33.19**	**5**	P	**P**	**14 50 26.6**	**+1.5**
MDJ				pmax	pmax		
	comp=Z,16nm,0.7s						
MDJ				pmax	pmax		
	comp=Z,190nm,5.9s						
MDJ	**Mudanjiang**	**33.19**	**5**	*e*P	P	14 50 20.8	-4.3
	comp=Z,12nm,0.6s						
AS31	**Alice Springs**	**35.91**	**167**	*e*P	P	14 50 46.1	-2.8
ASAR	**Alice Springs**	**35.91**	**167**	P	**P**	**14 50 48.0**	**-0.8**
ASAR				PcP	**PcP**	**14 53 14.7**	**-0.1**
ASAR				ScP	**ScP**	**14 56 53.5**	**-1.6**
ASAR	**Alice Springs**	**35.91**	**167**	P	**P**	**14 50 48.0**	**-0.8**
	comp=Z,4.6nm,0.6s,baz=347,slow=7.2,SNR=62						
ASAR				PcP	**PcP**	**14 53 14.7**	**-0.1**
	comp=Z,5.1nm,0.7s,baz=352,slow=2.7,SNR=19						
ASAR				ScP	**ScP**	**14 56 53.5**	**-1.6**
	comp=Z,1.1nm,0.8s,baz=335,slow=3.0,SNR=7.4						
GTA	**Gaotai**	**35.92**	**325**	P	**P**	**14 50 50.3**	**+1.4**
GTA				pP	pP	14 51 12.8	+7.1
GTA				sP	sP	14 51 24.3	+11
GTA				PcP	**PcP**	**14 53 15.4**	**+0.7**
GTA				S	**S**	**14 56 21.9**	**-0.4**
GTA				sS	**ScP**	**14 57 00.4**	**+5.4**
GTA				SS	**SnSn**	**14 58 50.6**	**-1.6**
GTA				pmax	pmax		
	comp=Z,18nm,1.1s						
GTA				pmax	pmax		
	comp=Z,120nm,6.7s						
GTA				LR	LR		
	comp=N,130nm,15.0s						
GTA				LR	LR		
	comp=E,81nm,16.6s						
GTA				LR	LR		
	comp=Z,230nm,16.9s						
LSA	**Lhasa**	**36.66**	**305**	*e*P	**P**	**14 50 53.8**	**-2.0**
	comp=Z,8.3nm,0.6s						
CTA	**Charters Tower**	**37.48**	**147**	P	**P**	**14 51 02.2**	**0.0**
CTA				PcP	**PcP**	**14 53 20.2**	**+0.7**
CTA	**Charters Tower**	**37.48**	**147**	P	**P**	**14 51 02.2**	**0.0**
	comp=Z,2.9nm,0.5s,baz=327,slow=9.8,SNR=9.7						
CTA				PcP	**PcP**	**14 53 20.2**	**+0.7**
	comp=Z,2.5nm,0.9s,baz=305,slow=1.5,SNR=4.3						
TAPN	**Taplejung**	**38.74**	**300**	*e*P	**P**	**14 51 13.6**	**+0.4**
	comp=Z,28nm,0.5s						
ODAN	**Odare**	**38.88**	**299**	*e*P	**P**	**14 51 14.5**	**+0.3**
	comp=Z,77nm,0.7s						
ULN	**Ulaanbaatar**	**39.40**	**340**	*e*P	**P**	**14 51 17.6**	**-0.6**
	comp=Z,33nm,0.8s						
RAMN	**Ramite**	**39.58**	**299**	*e*P	**P**	**14 51 20.6**	**+0.5**
	comp=Z,57nm,0.7s						
SONM	**Songino Array**	**39.59**	**340**	P	**P**	**14 51 20.8**	**+1.0**
SONM	**Songino Array**	**39.59**	**340**	P	**P**	**14 51 20.8**	**+1.0**
	comp=Z,23nm,0.9s,baz=158,slow=8.8,SNR=14						
HNR	**Honiara**	**40.11**	**120**	LR	LR	15 05 34.5	
	comp=Z,106nm,21.3s,baz=290,slow=32						
JIRN	**Jiri**	**40.12**	**299**	*e*P	**P**	**14 51 25.2**	**+0.4**
	comp=Z,83nm,0.6s						
GUN	**Gumba**	**40.45**	**300**	*e*P	**P**	**14 51 27.6**	**+0.1**
	comp=Z,104nm,0.9s						
PKI	**Pulchoki**	**40.77**	**299**	*e*P	**P**	**14 51 29.7**	**-0.3**
	comp=Z,13nm,0.5s						
PKIN	**Phulchoki**	**40.78**	**299**	*e*P	**P**	**14 51 29.7**	**-0.4**
	comp=Z,16nm,0.6s						
KKN	**Kakani**	**40.93**	**299**	*e*P	**P**	**14 51 31.0**	**-0.3**
	comp=Z,46nm,1.0s						
DMN	**Daman**	**41.04**	**299**	*e*P	**P**	**14 51 32.0**	**-0.2**
	comp=Z,44nm,0.9s						
FORT	**Forrest**	**42.11**	**177**	*e*P	P	14 51 37.1	-3.3
	comp=Z,39nm,0.6s						
KOLN	**Koldanda**	**42.37**	**299**	*e*P	**P**	**14 51 43.0**	**0.0**
	comp=Z,49nm,0.8s						
DANN	**Dangsing**	**42.38**	**300**	*e*P	**P**	**14 51 43.0**	**-0.1**
	comp=Z,42nm,0.6s						
PYUN	**Piuthan**	**42.97**	**299**	*e*P	**P**	**14 51 48.2**	**+0.3**
HYB	**Hyderabad**	**45.70**	**283**	*i* P	**P**	**14 52 09.0**	**-0.6**
WMQ	**Urumqi**	**45.76**	**322**	P	**P**	**14 52 11.8**	**+2.0**
WMQ				pP	pP	14 52 34.8	+7.7
WMQ				sP	sP	14 52 46.1	+11
WMQ				PcP	**PcP**	**14 53 48.1**	**+1.7**
WMQ				PP	**PP**	**14 54 01.5**	**+3.4**
WMQ				pmax	pmax		
	comp=Z,11nm,1.0s						
WMQ				pmax	pmax		
	comp=Z,96nm,3.8s						
WMQ				LR	LR		
	comp=N,130nm,26.0s						
WMQ				LR	LR		
	comp=E,85nm,20.6s						
WMQ				LR	LR		
	comp=Z,73nm,18.3s						
STKA	**Stephens Creek**	**45.82**	**161**	*e*P	**P**	**14 52 08.4**	**-1.7**
	comp=Z,3.6nm,0.7s						
STKA	**Stephens Creek**	**45.82**	**161**	P	**P**	**14 52 10.3**	**+0.2**
	comp=Z,17nm,0.6s,baz=334,slow=7.8,SNR=58						
PETK	**Petropavlovsk-**	**48.87**	**25**	P	**P**	**14 52 35.7**	**+2.0**
PETK				PcP	**PcP**	**14 53 57.8**	**+0.6**
PETK	**Petropavlovsk-**	**48.87**	**25**	P	**P**	**14 52 35.7**	**+2.0**
	comp=Z,3.2nm,0.5s,baz=214,slow=4.1,SNR=29						
PETK				PcP	**PcP**	**14 53 57.8**	**+0.6**
	comp=Z,2.4nm,0.6s,baz=210,slow=5.2,SNR=4.9						
PETK				LR	LR	15 11 53.1	
	comp=Z,35nm,20.0s,baz=30,slow=34						
MK31	**Makanchi Array**	**50.57**	**323**	*e*P	**P**	**14 52 45.2**	**-1.5**
MKAR	**Makanchi Array**	**50.57**	**323**	*e*P	**P**	**14 52 47.7**	**+1.0**
MKAR				PcP	**PcP**	**14 54 03.6**	**+0.1**
MKAR	**Makanchi Array**	**50.57**	**323**	P	**P**	**14 52 47.7**	**+1.0**
	comp=Z,15nm,0.7s,baz=121,slow=8.3,SNR=83						
MKAR				PcP	**PcP**	**14 54 03.6**	**+0.1**
	comp=Z,4.0nm,0.6s,baz=105,slow=5.6,SNR=5.9						
MKAR				LR	LR	15 15 31.5	
	comp=Z,73nm,20.9s,baz=358,slow=38						
KSH	**Kashi**	**51.81**	**312**	P	P	14 52 58.8	+2.5
KSH				pP	pP	14 53 22.1	+8.2
KSH				PP	PP	14 54 58.8	+4.2
KSH				PcS	**PcS**	**14 58 06.9**	**+0.1**
KSH				S	**S**	**15 00 12.4**	**-1.3**
KSH				ScS	**ScS**	**15 02 35.8**	**-4.6**
KSH				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KSH				pmax	pmax		
	comp=Z,79nm,4.3s						
KSH				LR	LR		
	comp=N,130nm,5.3s						
KSH				LR	LR		
	comp=E,160nm,5.7s						
KSH				LR	LR		
	comp=Z,170nm,7.1s						
DZM	**Mont Dzumac**	**52.25**	**130**	P	**P**	**14 52 59.8**	**+0.1**
DZM	**Mont Dzumac**	**52.25**	**130**	P	**P**	**14 52 59.8**	**+0.1**
	comp=Z,4.2nm,1.0s,baz=269,slow=23,SNR=7.2						
ZAA0	**Zalesovo Array**	**53.17**	**331**	*e*P	**P**	**14 53 04.5**	**-1.3**
ZALV	**Zalesovo Beam**	**53.17**	**331**	P	**P**	**14 53 06.2**	**+0.4**
ZALV				PcP	**PcP**	**14 54 12.3**	**-0.8**
ZALV	**Zalesovo Beam**	**53.17**	**331**	P	**P**	**14 53 06.2**	**+0.4**

KBZ	**Khabaz**	**76.79 312**	P	**P**	**14 55 39.3**	**0.0**	
	comp=Z,14nm,0.9s,baz=100,slow=3.7,SNR=23						
BPAW	**Bear Paw Mtn.**	**76.93 27**	*eP*	**P**	**14 55 39.7**	**-0.1**	
COLD	**Coldfoot**	**77.29 23**	*eP*	**P**	**14 55 41.4**	**-0.4**	
PMR	**Palmer**	**77.80 29**	*eP*	**P**	**14 55 44.4**	**-0.2**	
	comp=Z,12nm,0.7s						
MCK	**McKinley**	**77.84 27**	*eP*	**P**	**14 55 42.5**	**-2.3**	
	comp=Z,23nm,0.7s						
CASY	**Casey**	**78.34 186**	*eP*	**P**	**14 55 46.9**	**-0.5**	
	comp=Z,5.4nm,0.7s						
ILAR	**Eielson Array**	**78.70 26**	P	**P**	**14 55 49.2**	**-0.4**	
ILAR	**Eielson Array**	**78.70 26**	P	**P**	**14 55 49.2**	**-0.4**	
	comp=Z,4.1nm,0.7s,baz=239,slow=4.6,SNR=65						
MENT	**Mentasta**	**80.24 28**	*eP*	**P**	**14 55 56.9**	**-1.1**	
MALT	**Malatya**	**80.66 307**⇑	*iP*	**P**	**14 56 02.0**	**+1.1**	
EGAK	**Eagle**	**81.14 26**	*eP*	**P**	**14 56 01.7**	**-1.0**	
	comp=Z,14nm,1.5s						
JOF	**Joensuu**	**81.74 333**	*ep*	**P**	**14 56 05.9**	**0.0**	
	comp=Z,13nm,0.6s						
ARCES	**ARCESS Array B**	**82.77 340**	P	**P**	**14 56 11.8**	**+0.6**	
ARCES	**ARCESS Array B**	**82.77 340**	P	**P**	**14 56 11.8**	**+0.6**	
	comp=Z,14nm,0.7s,baz=76,slow=6.6,SNR=50						
HYT	**Haines Junctio**	**83.47 29**	*eP*	**P**	**14 56 15.2**	**0.0**	
BR131	**Keskin Array S**	**84.13 309**	*eP*	**P**	**14 56 17.4**	**-1.7**	
	comp=Z,3.3nm,0.7s						
BRTR	**Keskin Array B**	**84.13 309**	P	**P**	**14 56 18.2**	**-0.8**	
BRTR	**Keskin Array B**	**84.13 309**	P	**P**	**14 56 18.2**	**-0.8**	
	comp=Z,4.5nm,0.8s,baz=112,slow=4.4,SNR=34						
KAF	**Kangasniemi**	**84.17 332**	*ep*	**P**	**14 56 18.5**	**0.0**	
	comp=Z,18nm,0.8s						
FINES	**FINESS Array B**	**84.43 332**	P	**P**	**14 56 20.0**	**+0.1**	
FINES	**FINESS Array B**	**84.43 332**	P	**P**	**14 56 20.0**	**+0.1**	
	comp=Z,12nm,0.8s,baz=68,slow=4.9,SNR=59						
SKAG	**Skagway**	**84.84 30**	*eP*	**P**	**14 56 19.7**	**-2.2**	
	comp=Z,8.6nm,0.7s						
AKASG	**Malin Array Be**	**85.11 321**	P	**P**	**14 56 22.8**	**-0.7**	
AKASG	**Malin Array Be**	**85.11 321**	P	**P**	**14 56 22.8**	**-0.7**	
	comp=Z,26nm,0.8s,baz=65,slow=5.1,SNR=53						
KIEV	**Kiev**	**85.12 321**	*eP*	**P**	**14 56 21.3**	**-2.2**	
	comp=Z,18nm,0.8s						
CSS	**Prodhromos**	**85.22 305**	*eP*	**P**	**14 56 23.9**	**-0.6**	
	comp=Z,16nm,0.6s						
TLCR		**86.56 315**⇑	*iP*	**P**	**14 56 29.8**	**-1.0**	
TIRR	**Tirgusor**	**87.00 315**⇓	*iP*	**P**	**14 56 30.5**	**-2.4**	
SUW	**Suwalki**	**87.88 325**	*eP*	**P**	**14 56 37.3**	**+0.3**	
	comp=Z,26nm,0.8s						
SUW	**Suwalki**	**87.88 325**	*eP*	**P**	**14 56 37.3**	**+0.3**	
BURAR	**Bucovina Array**	**88.39 318**⇑	*iP*	**P**	**14 56 39.8**	**+0.1**	
KMBO	**Kilima Mbogo**	**88.45 269**	P	**P**	**14 56 40.9**	**+0.1**	
KMBO	**Kilima Mbogo**	**88.45 269**	P	**P**	**14 56 40.9**	**+0.1**	
	comp=Z,0.7nm,0.2s,baz=55,slow=15,SNR=4.1						
MLR	**Muntele Rosu**	**88.45 316**⇓	*iP*	**P**	**14 56 40.3**	**+0.2**	
KWP	**Kalwaria Pacla**	**89.43 321**⇑	*iP*	**P**	**14 56 45.1**	**+0.7**	
KWP	**Kalwaria Pacla**	**89.43 321**	*eP*	**P**	**14 56 44.6**	**+0.2**	
KOLS	**Kolonicke sedl**	**89.91 320**	*eP*	**P**	**14 56 46.7**	**0.0**	
DRGR		**90.26 318**⇑	*iP*	**P**	**14 56 48.0**	**-0.4**	
STHS	**Stebnicka Huta**	**90.41 321**	*eP*	**P**	**14 56 49.2**	**+0.2**	
CRVS	**Cervenica-Dubn**	**90.43 320**	*eP*	**P**	**14 56 49.4**	**+0.3**	
KECS	**Kecovo**	**91.17 320**	*eP*	**P**	**14 56 52.5**	**0.0**	
VNDA	**Vanda**	**91.24 173**	P	**P**	**14 56 52.3**	**+0.2**	
VNDA	**Vanda**	**91.24 173**	P	**P**	**14 56 52.3**	**+0.2**	
	comp=Z,5.4nm,0.9s,baz=309,slow=5.5,SNR=14						
VNDA			LR	LR	15 34 13.8		
	comp=Z,48nm,19.2s,baz=320,slow=33						
NB2	**NORSAR Subarra**	**91.31 334**	P	**P**	**14 56 51.5**	**-1.4**	
	comp=Z,1.4nm,0.7s,baz=64,slow=4.6						
NOA	**NORSAR Array B**	**91.31 334**	P	**P**	**14 56 51.9**	**-1.0**	
NOA	**NORSAR Array B**	**91.31 334**	P	**P**	**14 56 51.9**	**-1.0**	
	comp=Z,1.9nm,0.8s,baz=64,slow=4.7,SNR=8.9						
NOA			LR	LR	15 39 01.1		
	comp=Z,33nm,20.4s,baz=0.0,slow=36						
YKA	**Yellowknife Ar**	**92.97 24**	P	**P**	**14 57 01.1**	**+0.6**	
YKA	**Yellowknife Ar**	**92.97 24**	P	**P**	**14 57 01.1**	**+0.6**	
	comp=Z,2.1nm,0.7s,baz=302,slow=5.2,SNR=5.3						
GERES	**GERESS Array B**	**95.23 322**	P	**P**	**14 57 10.9**	**-0.4**	
GERES	**GERESS Array B**	**95.23 322**	P	**P**	**14 57 11.0**	**-0.4**	
	comp=Z,1.1nm,0.7s,baz=69,slow=4.9,SNR=12						
GERES			LR	LR	15 44 37.2		
	comp=Z,53nm,18.4s,baz=285,slow=38						
SOKA	**Soboth**	**95.27 320**⇑	*iPcP*	**P**	**14 57 11.0**	**-0.5**	
	comp=Z,2.6nm,0.7s						
MOA	**Molln**	**95.29 321**⇓	*iPcP*	**PcP**	**14 57 11.4**	**-0.3**	
	comp=Z,9.0nm,0.9s						
OBKA	**Obir**	**95.64 320**⇑	*iPcP*	**PcP**	**14 57 13.3**	**-0.2**	
	comp=Z,5.1nm,0.9s						
VISS	**Visnje**	**95.73 319**	*eP*	**P**	**14 57 13.0**	**-0.5**	
KBA	**Koelnbreinsper**	**96.17 320**⇑	*iPcP*	**P**	**14 57 14.8**	**-1.0**	
	comp=Z,4.1nm,0.8s						
ROBS	**Robic**	**96.40 320**	*eP*	**P**	**14 57 15.4**	**-1.2**	
ABTA	**Abfaltersbach**	**96.83 320**⇓	*iPcP*	**P**	**14 57 17.6**	**-1.0**	
	comp=Z,2.9nm,0.8s						
WTTA	**Wattenberg**	**97.15 321**⇑	*iPcP*	**P**	**14 57 19.5**	**-0.7**	
	comp=Z,4.6nm,0.5s						
FETA	**Feichten**	**97.81 321**⇓	*iPcP*	Pdif	14 57 23.0	-0.2	
	comp=Z,5.0nm,1.1s						
TXAR	**Lajitas Array**	**117.63 48**	PKP	**PKPdf**	**15 02 34.3**	**+0.3**	
TXAR	**Lajitas Array**	**117.63 48**	PKP	**PKPdf**	**15 02 34.3**	**+0.3**	
	comp=Z,0.8nm,0.6s,baz=264,slow=2.5,SNR=5.6						
TORD	**Torodi Ar. Bea**	**119.06 292**	PKP	**PKPdf**	**15 02 36.0**	**-1.0**	
TORD	**Torodi Ar. Bea**	**119.06 292**	PKP	**PKPdf**	**15 02 36.0**	**-1.0**	
	comp=Z,1.1nm,0.5s,baz=72,slow=2.2,SNR=15						
JCT	**Junction City**	**119.72 45**	*e*PKPdf	**PKPdf**	**15 02 38.7**	**+0.8**	
DBIC	**Dimbokro**	**127.37 288**	PKP	**PKPdf**	**15 02 52.4**	**-0.5**	
DBIC	**Dimbokro**	**127.37 288**	PKP	**PKPdf**	**15 02 52.4**	**-0.5**	
	comp=Z,2.7nm,0.7s,baz=45,slow=5.7,SNR=3.9						
SDDR	**Presa de Saban**	**145.51 29**	*e*PKPdf	**PKPab**	**15 03 27.2**	**+0.6**	
PLCA	**Paso Flores**	**147.65 157**	*e*PKPbc	**PKPbc**	**15 03 32.7**	**+0.6**	
PLCA	**Paso Flores**	**147.65 157**	PKPbc	**PKPbc**	**15 03 32.6**	**+0.6**	
	comp=Z,13nm,0.8s,baz=195,slow=2.2,SNR=37						
CPUP	**Villa Florida**	**165.01 170**	PKPab	**PKPab**	**15 04 48.8**	**+0.2**	
CPUP	**Villa Florida**	**165.01 170**	PKPab	**PKPab**	**15 04 48.8**	**+0.2**	
	comp=Z,2.7nm,0.6s,baz=152,slow=2.3,SNR=5.8						
LPAZ	**La Paz**	**165.99 111**	PKP	**PKPdf**	**15 03 54.5**	**+0.6**	
LPAZ			PKPab	**PKPab**	**15 04 56.6**	**+2.3**	
LPAZ	**La Paz**	**165.99 111**	PKP	**PKPdf**	**15 03 54.5**	**+0.6**	
	comp=Z,2.0nm,0.8s,baz=128,slow=2.3,SNR=6.9						
LPAZ			PKPab	**PKPab**	**15 04 56.6**	**+2.3**	
	comp=Z,1.7nm,0.8s,baz=303,slow=5.3,SNR=4.5						

MAN 19 15:01:52.6 ± 46.46N × 124.68E, h1 km, mb4.0, ML2.8, MS2.5, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**0.46**	**144**⇓	*eP*	Pn	15 02 05.5	-0.4
GSPH				*i* S	Sb	15 02 16.8	+6.3
CTBH	**Cotabato--PC H**	**0.87**	**331**⇑	*eP*	Pg	15 02 08.9	+0.2
CTBH				*i* S	Sb	15 02 22.3	+0.2
BUKP	**Musuan**	**1.46**	**15**	*eP*	Pn	15 02 19.8	+0.2
BUKP				*e*S	Sg	15 02 29.1	-10
PAGZ	**Pagadian**	**1.89**	**317**	*eP*	Pn	15 02 26.0	+0.6
PAGZ				*e*S	Sn	15 02 39.8	-10
IPIL	**Ipil**	**2.47**	**302**	*eP*	Pn	15 02 34.6	+1.2

IDC 19 15:13:29.2 ± 6.9, 6.13N × 94.55E, h0 km, mb3.5/3, mb1 3.7/3, mb1mx3.4/25, mbtmp3.5/3, Error ellipse: s-maj=353.9km s-min=28.2km az=58.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**41.87**	**347**	P	P	15 21 20.9	-0.2
	0.3nm,0.4s,baz=156,slow=9.8,SNR=5.8						
WRA	**Warramunga Arr**	**46.93**	**125**	P	P	15 22 01.7	-0.4
	0.6nm,0.9s,baz=301,slow=9.6,SNR=7.2						
ASAR	**Alice Springs**	**48.50**	**129**	P	P	15 22 14.3	+0.1
	0.3nm,0.5s,baz=304,slow=7.6,SNR=14						

AUST 19 15:33:40.6, 6.49S × 128.53E, h300 km, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TLE	**Tual**	**4.27**	**79**	P	Pn	15 34 53.5	+3.6
	baz=4.3,SNR=5.7						
TLE				S	S	15 35 40.4	-5.0
	baz=4.3,SNR=7.5						
FAKI	**Fak Fak**	**5.13**	**46**	P	Pn	15 35 02.1	+2.4
	baz=5.1,SNR=42						
FAKI				S	S	15 36 02.4	-0.9
	baz=5.1,SNR=8.5						
SOEI	**Soe**	**5.32**	**232**	P	Pn	15 35 02.4	+0.4
	baz=5.3,SNR=28						
SOEI				S	S	15 35 59.1	-8.4
	baz=5.3,SNR=3.7						
SWI	**Sorong**	**6.22**	**26**	P	Pn	15 35 16.1	+3.5
	baz=6.2,SNR=3.6						
SWI				S	S	15 36 24.8	-2.0
	baz=6.2,SNR=4.3						
MTN	**Manton Dam**	**6.82**	**158**	P	Pn	15 35 20.2	+0.4
	baz=6.9,SNR=38						
KDU	**Kakadu**	**7.28**	**148**	P	Pn	15 35 26.1	+0.7
	baz=7.3,SNR=23						
KNRA	**Kununurra**	**9.13**	**179**	P	Pn	15 35 49.1	+1.0
	baz=9.2,SNR=10						
KNRA				S	S	15 37 28.1	-3.8
	baz=9.2,SNR=3.9						
FITZ	**Fitzroy Crossi**	**11.88**	**193**	P	P	15 36 24.6	+1.4
	baz=12,SNR=14						

IDC 19 15:35:48.9 ± 1.4, 15.37S × 173.32W, h0 km, mb4.1/4, mb1 4.2/5, mb1mx3.8/20, mbtmp4.1/5, ML2.4/1, MS2.9/1, Ms1 2.9/1, ms1mx2.5/30, Error ellipse: s-maj=55.4km s-min=24.0km az=137.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.08**	**46**	Pn	Pn	15 36 24.2	-1.0
	69nm,0.3s,baz=239,slow=12,SNR=245						
AFI				Sn	Sn	15 36 44.8	-7.1
	224nm,0.3s,baz=30,slow=22,SNR=53						
PPT	**Papeete**	**22.88**	**99**	LR	LR	15 47 14.5	
	comp=Z,26nm,19.5s,baz=30,slow=30						
URZ	**Urewera**	**24.32**	**199**	P	P	15 41 08.4	+0.1
	4.9nm,0.7s,baz=356,slow=7.6,SNR=5.6						
STKA	**Stephens Creek**	**44.12**	**240**	P	P	15 43 59.1	-0.1
	2.2nm,0.7s,baz=101,slow=9.0,SNR=6.4						
WRA	**Warramunga Arr**	**49.92**	**257**	P	P	15 44 44.4	-0.4
	0.6nm,0.6s,baz=92,slow=6.4,SNR=7.2						
ASAR	**Alice Springs**	**50.19**	**252**	P	P	15 44 46.1	-0.7
	3.4nm,0.7s,baz=86,slow=8.2,SNR=53						
BRTR	**Keskin Array B**	**146.18**	**321**	PKPbc	PKPab	15 55 32.3	0.0
	1.2nm,0.6s,baz=59,slow=1.1,SNR=6.8						

*IDC **19** 15:50:39.6 ± 0.8, 51.03N × 178.29E, h0 km, mb4.0/20, mb1 4.2/22, mb1mx4.1/31, mbtmp4.0/22, ML2.5/1, Error ellipse: s-maj=20.5km s-min=11.5km az=7.0*
*BJI **19** 15:50:42.5, 51.13N × 178.23E, h17 km, mB5.0/10, mb4.7/15, Ms4.7/7, Ms7 4.4/7*
*ISCJB **19** 15:50:45.5 ± 0.9, 51.15N ± 0.07 × 178.26E ± 0.05, h47 km ± 6 km, mb4.2/34, MS4.2/3, Error ellipse: s-maj=11.7km s-min=4.9km az=179.7*
*NEIC **19** 15:50:45.1, 51.11N × 178.33E, h5 km, mb4.4/6, ML3.7(AEIC), After AEIC.*
ISC 19 15:50:46.1 ± 0.6, 51.18N ± 0.07 × 178.36E ± 0.03, h35 km ± 2 km, n83, σ 19.37/106, mb4.2/34, MS4.5/3, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AMKA	**Amchitka**	**0.63**	**71**	*e*Pg	**Pn**	**15 50 58.1**	**-0.4**
AMKA				*e*Sg	**Sn**	**15 51 05.1**	**-2.2**
LSSE	**Little Sitkin**	**0.76**	**10**	P	**Pb**	**15 51 01.1**	**0.0**
LSSA	**Little Sitkin**	**0.77**	**7**	P	**Pn**	**15 51 00.9**	**+0.4**
LSPA	**Little Sitkin**	**0.79**	**10**	P	**Pb**	**15 51 01.3**	**-0.2**
LSPA				S	**Sb**	**15 51 12.1**	**+0.2**
LSNW	**Little Sitkin**	**0.80**	**7**	P	**Pn**	**15 51 01.0**	**+0.2**
CESW	**Semis' Southwe**	**1.04**	**46**	P	**Pb**	**15 51 05.5**	**-0.2**
CETU	**Semis' Tuman**	**1.06**	**42**	P	**Pb**	**15 51 06.1**	**+0.1**
CERAA	**Semis' Rag'd T**	**1.10**	**48**	P	**Pb**	**15 51 06.4**	**-0.4**
CEAP	**Semis' Anvil P**	**1.12**	**42**	P	**Pb**	**15 51 07.1**	**+0.1**
CEAP				S	**Sb**	**15 51 21.6**	**+0.3**
SMY	**Shemya**	**3.06**	**302**	P	**Pn**	**15 51 32.3**	**+0.4**
SMY				*e*Pn	Pb	15 51 33.9	-5.9
SMY				S	**Sn**	**15 52 07.5**	**+0.4**
ADK	**Adak**	**3.18**	**75**	P	**Pn**	**15 51 34.5**	**+0.9**
ADK				*e*Pn	Pb	15 51 34.9	-6.9
ADK				S	**Sn**	**15 52 13.6**	**+3.5**
FX1	**Attu Island--F**	**3.63**	**300**	*e*Pn	**Pn**	**15 51 41.9**	**+2.1**
FX1				*e*Pn	Pb	15 51 42.2	-7.3
FX1				Sn	**Sn**	**15 52 19.6**	**-1.7**
FX1	**Attu Island--F**	**3.63**	**300**	Pn	Pn	15 51 36.4	-3.4
	1.2nm,0.3s,baz=127,slow=19,SNR=9.9						
FX1				Sn	**Sn**	**15 52 19.6**	**-1.7**
	6.4nm,0.3s,baz=158,slow=19,SNR=2.5						
NIKH	**Nikolski High**	**8.08**	**72**	P	**Pn**	**15 52 39.9**	**-1.0**
PETK	**Petropavlovsk-**	**12.83**	**287**	Pn	**Pn**	**15 53 45.7**	**-0.1**
PETK				Sn	Sn	15 55 59.1	-8.1
PETK	**Petropavlovsk-**	**12.83**	**287**	Pn	**Pn**	**15 53 45.7**	**-0.1**
	0.0nm,0.3s,baz=92,slow=18,SNR=2.6						
PETK				Sn	Sn	15 55 59.1	-8.1
	0.1nm,0.3s,baz=249,slow=12,SNR=2.6						
OHAK	**Old Harbor**	**17.57**	**59**	*e*Pn	**Pn**	**15 54 46.1**	**-1.9**
KDAK	**Kodiak Island**	**18.03**	**57**	P	**Pn**	**15 54 51.2**	**-2.4**
KDAK	**Kodiak Island**	**18.03**	**57**	P	**Pn**	**15 54 51.2**	**-2.4**
	1.8nm,0.3s,baz=267,slow=4.2,SNR=18						
SPU	**Mount Spurr**	**19.10**	**47**	*e*Pn	**P**	**15 55 04.0**	**-1.6**
PPLA	**Purkeypile**	**19.64**	**42**	*e*P	**Pn**	**15 55 13.9**	**+0.7**
	46nm,1.6s						
CAST	**Castle Rocks**	**19.90**	**41**	*e*P	**P**	**15 55 14.7**	**+0.4**
IM04	**Indian Mountai**	**20.48**	**33**	*e*P	Pn	15 55 23.0	+0.1
IMA2	**Indian Mountai**	**20.57**	**33**	*e*P	**P**	**15 55 22.3**	**+0.7**
BPAW	**Bear Paw Mtn.**	**20.62**	**39**	*e*P	**P**	**15 55 23.2**	**+1.0**
	5.6nm,0.7s						
ILAR	**Eielson Array**	**22.52**	**40**	P	**P**	**15 55 40.9**	**-1.6**
ILAR	**Eielson Array**	**22.52**	**40**	P	**P**	**15 55 40.9**	**-1.6**
	1.6nm,0.6s,baz=236,slow=8.6,SNR=26						
BMRM	**Bremner River**	**22.57**	**50**	*e*P	**P**	**15 55 44.6**	**+1.5**
	16nm,1.3s						
PAX	**Paxson**	**22.58**	**45**	*e*P	**P**	**15 55 44.1**	**+0.9**
	64nm,2.4s						
EGAK	**Eagle**	**24.87**	**41**	*e*P	**P**	**15 56 05.2**	**+0.1**
ASAJ	**Asahikawa**	**24.91**	**268**	P	**P**	**15 56 02.6**	**-3.0**
	5.7nm,0.8s,baz=27,slow=11,SNR=1.8						
DAWY	**Dawson**	**25.47**	**43**	*e*P	**P**	**15 56 13.4**	**+2.8**
HYT	**Haines Junctio**	**26.01**	**51**	*e*P	**P**	**15 56 19.5**	**+3.9**
INK	**Inuvik**	**28.65**	**35**	P	**P**	**15 56 38.0**	**-0.9**
INK	**Inuvik**	**28.65**	**35**	P	**P**	**15 56 38.0**	**-0.9**
	5.1nm,0.9s,baz=269,slow=7.7,SNR=3.3						
CN2	**Changchun**	**35.82**	**279**	*e*P	**P**	**15 57 41.0**	**-1.0**
CN2				*e*SP	**sP**	**15 57 54.6**	**-1.7**
YKA	**Yellowknife Ar**	**36.66**	**46**	P	**P**	**15 57 48.3**	**-0.6**
YKA	**Yellowknife Ar**	**36.66**	**46**	P	**P**	**15 57 48.3**	**-0.6**
	1.0nm,0.6s,baz=284,slow=7.8,SNR=3.8						
YBH	**Yreka Blue Hor**	**40.67**	**80**	P	**P**	**15 58 24.5**	**+1.6**
YBH	**Yreka Blue Hor**	**40.67**	**80**	P	**P**	**15 58 24.5**	**+1.6**
	0.7nm,0.5s,baz=10,slow=3.4,SNR=4.3						
WVOR	**Wild Horse Val**	**42.79**	**76**	*e*P	**P**	**15 58 41.2**	**+1.0**
	41nm,2.4s						
BJI	**Beijing**	**43.66**	**280**	P	**P**	**15 58 46.6**	**-0.5**
BJI				pmax	pmax		
	comp=Z,11nm,0.8s						
HLID	**Hailey**	**44.71**	**72**	*e*P	**P**	**15 58 57.0**	**+1.2**
	comp=Z,2.9nm,0.9s						
NV01	**Mina Array Sit**	**45.35**	**81**	*e*P	**P**	**15 59 00.6**	**-0.3**
NVAR	**Mina Array Bea**	**45.35**	**81**	P	**P**	**15 59 01.7**	**+0.8**
NVAR	**Mina Array Bea**	**45.35**	**81**	P	**P**	**15 59 01.7**	**+0.8**
	comp=Z,0.8nm,0.5s,baz=302,slow=7.4,SNR=8.4						
HHC	**Hu-ho-hao-te**	**46.02**	**284**	*e*P	**P**	**15 59 07.0**	**+0.9**
HHC				sP	**sP**	**15 59 20.8**	**+0.3**
HHC				PcP	**PcP**	**16 00 42.8**	**+0.7**
HHC				PP	**PP**	**16 00 54.9**	**+0.9**
HHC				S	**S**	**16 05 49.0**	**+0.2**
HHC				sS	**sS**	**16 06 05.4**	**-0.3**
HHC				ScS	**ScS**	**16 08 57.3**	**-1.5**
HHC				pmax	pmax		
	comp=Z,30nm,0.5s						
HHC				pmax	pmax		
	comp=Z,330nm,5.7s						
HHC				LR	LR		
	comp=N,300nm,14.9s						
HHC				LR	LR		
	comp=E,520nm,14.5s						
HHC				LR	LR		
	comp=Z,300nm,14.9s						
RRI2	**Red Ridge**	**46.68**	**71**	*e*P	**P**	**15 59 11.4**	**0.0**
NJ2	**Nanjing**	**47.03**	**270**	*e*P	**P**	**15 59 14.1**	**+0.2**
NJ2				pmax	pmax		
	comp=Z,50nm,0.8s						
PDAR	**Pinedale Array**	**48.06**	**70**	P	**P**	**15 59 22.2**	**0.0**
PDAR	**Pinedale Array**	**48.06**	**70**	P	**P**	**15 59 22.2**	**0.0**
	comp=Z,2.8nm,0.7s,baz=301,slow=3.6,SNR=26						
SPITS	**Spitsbergen Ar**	**50.43**	**355**	P	**P**	**15 59 39.0**	**-0.5**
SPITS	**Spitsbergen Ar**	**50.43**	**355**	P	**P**	**15 59 39.0**	**-0.5**
	comp=Z,3.4nm,0.6s,baz=29,slow=6.0,SNR=13						
ZALV	**Zalesovo Beam**	**52.85**	**312**	P	**P**	**15 59 56.6**	**-1.3**
ZALV	**Zalesovo Beam**	**52.85**	**312**	P	**P**	**15 59 56.6**	**-1.3**
	comp=Z,0.5nm,0.4s,baz=32,slow=6.8,SNR=2.3						
LZH	**Lanzhou**	**53.71**	**284**	*e*P	**P**	**16 00 06.5**	**+1.9**
LZH				pP	**pP**	**16 00 15.6**	**+0.5**
LZH				sP	**sP**	**16 00 20.5**	**+1.3**
LZH				PP	**PP**	**16 02 05.0**	**-0.5**
LZH				*e*S	**S**	**16 07 35.6**	**-0.8**
LZH				sS	sS	16 07 47.3	-6.3
LZH				pmax	pmax		
	comp=Z,14nm,1.0s						
LZH				pmax	pmax		
	comp=Z,140nm,4.3s						
LZH				LR	LR		
	comp=N,460nm,14.3s						
LZH				LR	LR		
	comp=E,360nm,15.0s						
LZH				LR	LR		
	comp=Z,690nm,16.2s						
CD2	**Chengdu**	**57.26**	**280**	P	**P**	**16 00 32.3**	**+2.3**
CD2				pP	**pP**	**16 00 42.3**	**+1.7**
CD2				sP	**sP**	**16 00 46.0**	**+1.3**
CD2				PP	**PP**	**16 02 40.9**	**+3.8**
CD2				S	**S**	**16 08 23.8**	**+0.3**
CD2				sS	**sS**	**16 08 40.3**	**-0.6**
CD2				SS	**SS**	**16 12 14.3**	**+1.7**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,280nm,5.9s						
CD2				LR	LR		
	comp=N,420nm,7.7s						
CD2				LR	LR		
	comp=Z,340nm,7.7s						
WMQ	**Urumqi**	**57.93**	**301**	P	P	16 00 37.8	+3.1
WMQ				pP	pP	16 00 47.9	+2.7
WMQ				sP	sP	16 00 51.8	+2.5
WMQ				PcP	**PcP**	**16 01 29.4**	**+2.8**
WMQ				pmax	pmax		
	comp=Z,8.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,220nm,6.0s						
WMQ				LR	LR		
	comp=E,59nm,20.0s						
WMQ				LR	LR		
	comp=Z,29nm,20.0s						
ARCES	**ARCESS Array B**	**57.96**	**349**	P	**P**	**16 00 33.9**	**-0.5**
ARCES	**ARCESS Array B**	**57.96**	**349**	P	**P**	**16 00 33.9**	**-0.5**
	comp=Z,5.4nm,0.9s,baz=30,slow=8.4,SNR=9.4						
GYA	**Guiyang**	**58.56**	**274**	*e*P	**P**	**16 00 40.8**	**+1.5**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
MKAR	**Makanchi Array**	**58.74**	**307**	P	**P**	**16 00 38.6**	**-1.6**
	comp=Z,1.0nm,0.7s,baz=50,slow=5.0,SNR=6.4						
TXAR	**Lajitas Array**	**60.45**	**79**	P	**P**	**16 00 52.0**	**-0.3**
TXAR	**Lajitas Array**	**60.45**	**79**	P	**P**	**16 00 52.0**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=318,slow=2.6,SNR=5.0						
KMI	**Kunming**	**61.98**	**276**	P	**P**	**16 01 04.3**	**+1.5**
KMI				pmax	pmax		
	comp=Z,5.0nm,1.0s						
JOF	**Joensuu**	**63.31**	**344**	*ep*	**P**	**16 01 10.6**	**-0.2**
	comp=Z,2.5nm,0.6s						
KAF	**Kangasniemi**	**64.89**	**346**	*ep*	**P**	**16 01 21.0**	**-0.2**
FINES	**FINESS Array B**	**65.56**	**346**	P	**P**	**16 01 24.9**	**-0.6**
FINES	**FINESS Array B**	**65.56**	**346**	P	**P**	**16 01 24.9**	**-0.6**
	comp=Z,1.6nm,0.7s,baz=12,slow=6.2,SNR=12						
KSH	**Kashi**	**67.17**	**305**	P	P	16 01 40.3	+3.9
KSH				sP	sP	16 01 54.5	+3.3
KSH				PP	PP	16 04 10.6	+6.5
KSH				PcS		16 06 10.9	
KSH				S	**S**	**16 10 32.0**	**+3.7**
KSH				ScS	**ScS**	**16 11 31.9**	**+0.5**
KSH				pmax	pmax		
	comp=Z,77nm,5.1s						
KSH				LR	LR		
	comp=N,95nm,8.3s						
KSH				LR	LR		
	comp=E,85nm,7.7s						
KSH				LR	LR		
	comp=Z,200nm,6.0s						
NOA	**NORSAR Array B**	**67.65**	**353**	P	**P**	**16 01 38.6**	**-0.4**
NOA	**NORSAR Array B**	**67.65**	**353**	P	**P**	**16 01 38.6**	**-0.4**
	comp=Z,0.6nm,0.4s,baz=11,slow=6.6,SNR=10

JIE eS **S** **16 14 02.2 -0.6**
JWZ Kozaga 2.14 297 P **Pn** **16 13 20.6 -0.6**
JWY Kouya 2.59 310 P **Pn** **16 13 24.9 +0.1**
JOD2 Odawara 2 2.83 18 P **Pn** **16 13 26.3 -0.3**
JOD2 eS **S** **16 14 12.3 -0.9**
JYN Shimob 2.94 9 P **Pn** **16 13 27.9 +0.2**
JYN eS **S** **16 14 15.3 +0.1**
JAI Aioi 3.21 293 P **Pn** **16 13 29.6 -0.5**
BSO1 Boso 1 3.23 49 P **Pn** **16 13 27.6 -2.1**
BSO1 eS **S** **16 14 14.9 -3.9**
JGM Miyama 3.29 341 P **Pn** **16 13 31.0 +0.2**
JWT Wachi 3.45 322 P **Pn** **16 13 32.4 0.0**
JRY Ryogami san 3.51 12 P **Pn** **16 13 32.8 -0.1**
MAT Matsushiro 3.96 2 P **Pn** **16 13 36.8 -0.5**
MAT S **S** **16 14 30.1 -2.6**
JTO Tosashimizu 4.39 275 P **Pn** **16 13 41.4 -0.5**
JNU Nakatsue 6.02 277 P **Pn** **16 13 59.9 0.0**
4.9nm,0.3s,baz=82,slow=6.9,SNR=35
KSRS Korea Array 9.59 303 P **Pn** **16 14 42.2 +0.5**
0.6nm,0.3s,baz=116,slow=12,SNR=32
KSRS S S 16 16 36.4 +5.8
baz=101,slow=19,SNR=4.6
ERM Erimo 10.27 22 *i* P **Pn** **16 14 49.1 -0.7**
ASAJ Asahikawa 12.07 16 P **P** **16 15 10.3 -0.6**
2.3nm,0.3s,baz=215,slow=12,SNR=30
USRK Ussuriysk Arra 12.51 340 P **P** **16 15 15.5 -0.2**
4.3nm,0.3s,baz=146,slow=10,SNR=63
YSS Yuzh-Sakhalins 14.81 13⇑*i*P **Pn** **16 15 43.3 +0.2**
YSS pmax pmax
comp=Z,40nm,0.7s
YSS pmax pmax
comp=N,100nm,0.5s
YSS pmax pmax
comp=Z,120nm,0.5s
WHN Wuhan 20.25 271 ⇑P **P** **16 16 37.5 -1.5**
WHN pmax pmax
comp=Z,38nm,0.6s
XAN Xi'an 24.31 281 P **P** **16 17 14.5 -1.3**
XAN pmax pmax
comp=Z,3.0nm,0.8s
XAN pmax pmax
comp=Z,29nm,6.5s
PETK Petropavlovsk- 24.94 29 P **P** **16 17 22.6 +1.5**
PETK pmax pmax
comp=Z,4.0nm,1.0s
PETK Petropavlovsk- 24.94 29 P **P** **16 17 22.6 +1.5**
comp=Z,3.3nm,1.0s,baz=250,slow=11,SNR=4.7
SONM Songino Array 28.30 312 P **P** **16 17 51.1 -0.1**
comp=Z,6.6nm,0.8s,baz=90,slow=9.3,SNR=3.9
GTA Gaotai 31.46 293 *eP* **P** **16 18 18.5 -0.5**
GTA pmax pmax
comp=Z,6.0nm,1.1s
HVS Khovu-Aksy 37.17 313*d iP* **P** **16 19 07.8 +0.6**
HVS pmax pmax
comp=Z,93nm,1.0s
CMAR Chiang Mai Arr 37.73 258 P **P** **16 19 11.1 -1.1**
comp=Z,0.3nm,0.3s,baz=46,slow=8.3,SNR=6.4
ZALV Zalesovo Beam 43.00 316 P **P** **16 19 54.2 -0.3**
ZALV 16 21 37.7
ZALV pmax pmax
comp=Z,2.0nm,0.4s
ZALV pmax pmax
comp=Z,1.0nm,0.5s
ZALV Zalesovo Beam 43.00 316 P **P** **16 19 54.2 -0.3**
comp=Z,2.0nm,0.3s,baz=76,slow=7.6,SNR=12
ZALV PcP **PcP** **16 21 37.7 +0.2**
comp=Z,1.0nm,0.5s,baz=106,slow=3.4,SNR=4.7
TAPN Taplejung 43.56 277 *eP* **P** **16 19 59.5 -0.1**
comp=Z,15nm,0.4s
ODAN Odare 43.99 276 *eP* **P** **16 20 02.4 -0.6**
comp=Z,23nm,0.5s
NVS Novosibirsk 44.04 317⇓*iP* **P** **16 20 02.6 0.0**
NVS pmax pmax
comp=E,4.0nm,0.6s
NVS pmax pmax
comp=Z,5.0nm,0.6s
MKAR Makanchi Array 44.26 306 *i* P **P** **16 20 04.5 -0.1**
MKAR pmax pmax
comp=Z,4.0nm,0.5s
MKAR Makanchi Array 44.26 306 P **P** **16 20 04.3 -0.3**
comp=Z,4.0nm,0.5s,baz=84,slow=9.7,SNR=31
MKAR PcP **PcP** **16 21 42.4 +0.4**
comp=Z,0.3nm,0.3s,baz=72,slow=4.4,SNR=3.3
RAMN Ramite 44.62 277 *eP* **P** **16 20 07.5 -0.5**
comp=Z,61nm,0.8s
JIRN Jiri 44.73 278 *eP* **P** **16 20 08.8 -0.1**
comp=Z,77nm,0.5s
GUN Gumba 44.90 278 *eP* **P** **16 20 10.4 +0.1**
comp=Z,54nm,0.7s
PKI Pulchoki 45.41 278 *eP* **P** **16 20 13.6 -0.6**
comp=Z,22nm,0.7s
PKIN Phulchoki 45.42 278 *eP* **P** **16 20 13.4 -0.8**
comp=Z,16nm,0.6s
KKN Kakani 45.44 278 *eP* **P** **16 20 13.9 -0.4**
comp=Z,36nm,0.8s
DMN Daman 45.65 278 *eP* **P** **16 20 15.5 -0.5**
DANN Dangsing 46.53 280 *eP* **P** **16 20 22.9 +0.1**
comp=Z,27nm,0.3s
KURK Kurchatov 46.60 311⇑*iP* **P** **16 20 21.9 -0.7**
KURK pmax pmax
comp=Z,10.0nm,0.8s
KOLN Koldanda 46.85 279 *eP* **P** **16 20 25.0 -0.2**
comp=Z,15nm,0.5s
PYUN Piuthan 47.25 280 *eP* **P** **16 20 28.3 +0.1**
comp=Z,670nm,0.5s
AAK Ala-Archa 50.24 301⇓*iP* **P** **16 20 50.3 -0.2**
AAK pmax pmax
comp=Z,9.0nm,0.7s
BRVK Borovoye 51.65 315*ceP* **P** **16 21 00.1 -0.3**
BRVK pmax pmax
comp=Z,7.0nm,0.9s
FITZ Fitzroy Crossi 51.77 195 P **P** **16 21 01.7 0.0**
comp=Z,1.6nm,0.9s,baz=7.8,slow=5.2,SNR=3.1
KDAK Kodiak Island 52.30 39 P **P** **16 21 06.0 +1.0**
comp=Z,3.8nm,0.8s,baz=280,slow=6.1,SNR=4.8
WRA Warramunga Arr 52.34 184 P **P** **16 21 05.3 -0.5**
comp=Z,1.0nm,0.3s,baz=0.2,slow=7.7,SNR=32
ILAR Eielson Array 54.75 30 P **P** **16 21 23.4 +0.8**
comp=Z,0.7nm,0.9s,baz=268,slow=6.1,SNR=6.4
ASAR Alice Springs 56.07 185 P **P** **16 21 32.0 -0.4**
comp=Z,0.6nm,0.8s,baz=358,slow=5.3,SNR=14
SVE Sverdlovsk 56.69 320 *eP* **P** **16 21 36.5 +0.1**
SVE pmax pmax
comp=Z,9.0nm,0.7s
ARU Arti 57.89 320*d iP* **P** **16 21 44.6 -0.1**
ARU 16 23 56.1
ARU S **S** **16 29 18.4 +2.3**
ARU SS **SS** **16 33 12.2 -0.6**
ARU pmax pmax
comp=Z,7.0nm,0.6s
STKA Stephens Creek 64.20 177 P **P** **16 22 27.3 +0.4**
comp=Z,1.5nm,0.7s,baz=338,slow=9.1,SNR=4.7
ARCES ARCESS Array B 67.17 339 P **P** **16 22 45.9 +0.6**
comp=Z,1.5nm,0.5s,baz=68,slow=8.9,SNR=15
JOF Joensuu 68.56 332 *eP* **P** **16 22 53.8 -0.1**
JOF pmax pmax
comp=Z,2.0nm,0.5s
JOF Joensuu 68.56 332 *ep* **P** **16 22 53.8 -0.1**
comp=Z,2.2nm,0.5s
YKA Yellowknife Ar 69.06 28 P **P** **16 22 57.9 +0.9**
comp=Z,0.5nm,0.5s,baz=309,slow=5.9,SNR=3.3
KAF Kangasniemi 70.96 332 *eP* **P** **16 23 07.7 -0.8**
KAF Kangasniemi 70.96 332 *ep* **P** **16 23 07.7 -0.8**
FINES FINESS Array B 71.43 332 P **P** **16 23 11.1 -0.2**
comp=Z,1.5nm,0.5s,baz=65,slow=5.7,SNR=18
KBZ Khabaz 71.66 310 P **P** **16 23 13.2 +0.3**
KBZ pmax pmax
comp=Z,8.0nm,0.8s
KBZ Khabaz 71.66 310 P **P** **16 23 13.2 +0.3**
comp=Z,7.8nm,0.8s,baz=102,slow=4.3,SNR=24
KIV Kislovodsk 71.69 311⇑*iP* **P** **16 23 14.8 +1.5**
KIV pmax pmax
comp=Z,16nm,1.2s
AKASG Malin Array Be 76.07 322*ceP* **P** **16 23 38.2 0.0**
AKASG pmax pmax
comp=Z,3.0nm,0.5s
AKASG Malin Array Be 76.07 322 P **P** **16 23 37.8 -0.4**
comp=Z,2.9nm,0.5s,baz=51,slow=5.8,SNR=14
NB2 NORSAR Subarra 77.17 336 P **P** **16 23 44.1 0.0**
comp=Z,1.1nm,0.6s,baz=44,slow=5.6
NOA NORSAR Array B 77.17 336 P **P** **16 23 44.2 0.0**
comp=Z,1.5nm,0.6s,baz=45,slow=5.5,SNR=7.7
BRTR Keskin Array B 79.65 311 P **P** **16 23 58.5 +0.4**
comp=Z,3.7nm,0.8s,baz=113,slow=4.2,SNR=26
BRG Berggiesshubel 83.39 328 *eP* **P** **16 24 17.7 +0.5**
comp=Z,1.9nm,0.7s
BRG Berggiesshubel 83.39 328 *eP* **P** **16 24 17.7 +0.5**
BRG pmax pmax
comp=Z,2.0nm,0.7s
CLL Collm 83.50 329 *eP* **P** **16 24 17.0 -0.7**
CLL Collm 83.50 329 *eP* **P** **16 24 17.0 -0.7**
GERES GERESS Array B 84.95 327 P **P** **16 24 25.0 -0.1**
comp=Z,0.4nm,0.6s,baz=61,slow=6.3,SNR=4.6
TXAR Lajitas Array 95.09 50 P **P** **16 25 13.5 +0.7**
comp=Z,0.1nm,0.3s,baz=316,slow=3.8,SNR=2.6
TORD Torodi Ar. Bea 118.26 310 PKP **PKPdf** **16 30 34.6 -0.6**
comp=Z,0.1nm,0.4s,baz=48,slow=2.0,SNR=3.1

*IDC **19** 16:38:00.2±1.4, 51°.15N×178°.41E, h0km, mb3.9/16, mb1 4.1/19, mb1mx4.0/29, mbtmp3.9/19, ML3.9/3, MS3.4/1, Ms1 3.4/1, ms1mx2.5/48, Error ellipse: s-maj=37.5km s-min=11.5km az=10.0*
*NEIC **19** 16:38:02.3, 50°.89N×178°.23E, h26km, mb4.1/3, ML3.6(AEIC), After AEIC.*
ISC 19 16:38:05.0±0.9, **51°.14N**±0°.09×**178°.28E**±0°.04, **h28**km±4km, **n62**, σ1§**39**/69, **mb4.0**/21, **Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.69**	**69**	*eP*g	**Pb**	**16 38 17.9**	**-0.5**
AMKA				eSg	**Sb**	**16 38 26.6**	**-0.9**
LSSE	**Little Sitkin**	**0.82**	**13**	P	**Pn**	**16 38 20.9**	**+0.3**
LSSA	**Little Sitkin**	**0.83**	**10**	P	**Pn**	**16 38 20.6**	**-0.1**
LSNW	**Little Sitkin**	**0.85**	**10**	P	**Pn**	**16 38 21.2**	**+0.2**
CESW	**Semis' Southwe**	**1.11**	**46**	P	**Pb**	**16 38 25.6**	**+0.1**
CETU	**Semis' Tuman**	**1.12**	**42**	P	**Pb**	**16 38 25.7**	**-0.1**
CERAA	**Semis' Rag'd T**	**1.17**	**48**	P	**Pb**	**16 38 26.4**	**-0.2**
CEAP	**Semis' Anvil P**	**1.19**	**43**	P	**Pb**	**16 38 26.6**	**-0.2**
CEAP				S	**Sb**	**16 38 44.6**	**+2.8**
SMY	**Shemya**	**3.04**	**303**	P	**Pn**	**16 38 52.0**	**+0.8**
SMY				S	**Sn**	**16 39 28.2**	**+1.7**
ADK	**Adak**	**3.23**	**75**	P	**Pn**	**16 38 53.3**	**-0.5**
ADK				S	**Sn**	**16 39 33.4**	**+2.1**
FX1	**Attu Island--F**	**3.61**	**301**	Pn	**Pn**	**16 38 57.6**	**-1.4**
FX1				Sn	**Sn**	**16 39 39.4**	**-1.2**
FX1	**Attu Island--F**	**3.61**	**301**	Pn	**Pn**	**16 38 57.6**	**-1.4**
	41nm,0.3s,baz=151,slow=13,SNR=56						
FX1				Sn	**Sn**	**16 39 39.4**	**-1.2**
	baz=143,slow=20,SNR=2.6						
PETK	**Petropavlovsk-**	**12.80**	**287**	Pn	**Pn**	**16 41 04.0**	**-0.8**
PETK				Sn	Sn	16 43 19.1	-7.0
PETK	**Petropavlovsk-**	**12.80**	**287**	Pn	**Pn**	**16 41 04.0**	**-0.8**
	0.1nm,0.3s,baz=96,slow=17,SNR=3.5						
PETK				Sn	Sn	16 43 19.1	-7.0
	0.2nm,0.3s,baz=84,slow=19,SNR=5.2						
KDAK	**Kodiak Island**	**18.09**	**57**	P	**Pn**	**16 42 10.3**	**-3.6**
KDAK	**Kodiak Island**	**18.09**	**57**	P	**Pn**	**16 42 10.3**	**-3.6**
	1.4nm,0.3s,baz=253,slow=4.9,SNR=5.4						
PPLA	**Purkeypile**	**19.71**	**42**	*e*Pn	**Pn**	**16 42 34.2**	**+0.6**
	66nm,2.2s						
CAST	**Castle Rocks**	**19.96**	**41**	*eP*	**Pn**	**16 42 36.2**	**-0.2**
IMA2	**Indian Mountai**	**20.63**	**33**	*eP*	Pn	16 42 42.8	-1.6
BPAW	**Bear Paw Mtn.**	**20.69**	**39**	*eP*	Pn	16 42 43.8	-1.2
	4.1nm,0.8s						
ILAR	**Eielson Array**	**22.59**	**40**	P	**P**	**16 43 00.5**	**-2.4**
ILAR	**Eielson Array**	**22.59**	**40**	P	**P**	**16 43 00.5**	**-2.4**
	1.4nm,0.5s,baz=233,slow=8.8,SNR=15						
PAX	**Paxson**	**22.64**	**45**	*eP*	**P**	**16 43 04.0**	**+0.5**
	5.0nm,1.0s						
EGAK	**Eagle**	**24.94**	**41**	*eP*	**P**	**16 43 24.8**	**-0.6**
DAWY	**Dawson**	**25.54**	**43**	*eP*	**P**	**16 43 32.9**	**+2.0**
DLBC	**Dease Lake**	**30.02**	**56**	LR	LR	16 55 10.6	
	comp=Z,61nm,18.4s,baz=328,slow=34						
YKA	**Yellowknife Ar**	**36.72**	**46**	P	**P**	**16 45 08.3**	**-0.9**
YKA	**Yellowknife Ar**	**36.72**	**46**	P	**P**	**16 45 08.3**	**-0.9**
	1.0nm,0.7s,baz=284,slow=7.7,SNR=3.0						
KRMB	**Red Mountain**	**40.10**	**81**	*eP*	**P**	**16 45 40.1**	**+2.1**
YBH	**Yreka Blue Hor**	**40.73**	**80**	P	**P**	**16 45 42.5**	**-0.7**
YBH	**Yreka Blue Hor**	**40.73**	**80**	P	**P**	**16 45 42.5**	**-0.7**
	0.9nm,0.5s,baz=280,slow=11,SNR=3.3						
HHC	**Hu-ho-hao-te**	**45.98**	**284**	*eP*	**P**	**16 46 28.4**	**+2.9**
HHC				sP	**sP**	**16 46 39.3**	**+1.8**
HHC				PcP	**PcP**	**16 48 05.5**	**+3.6**
HHC				ScP	**ScP**	**16 51 55.4**	**+2.7**
HHC				S	**S**	**16 53 10.6**	**+2.0**
HHC				sS	**sS**	**16 53 22.6**	**-0.1**
HHC				ScS	**ScS**	**16 56 20.0**	**+1.0**
HHC				pmax	pmax		
	comp=Z,29nm,0.6s						
HHC				pmax	pmax		
	comp=Z,290nm,5.2s						
HHC				LR	LR		
	comp=N,250nm,14.0s						
HHC				LR	LR		
	comp=E,270nm,14.4s						
HHC				LR	LR		
	comp=Z,180nm,14.5s						
PDAR	**Pinedale Array**	**48.12**	**70**	P	**P**	**16 46 42.1**	**-0.2**
PDAR	**Pinedale Array**	**48.12**	**70**	P	**P**	**16 46 42.1**	**-0.2**
	comp=Z,3.0nm,0.7s,baz=297,slow=4.2,SNR=20						
ZALV	**Zalesovo Beam**	**52.85**	**312**	P	**P**	**16 47 16.2**	**-1.4**
ZALV	**Zalesovo Beam**	**52.85**	**312**	P	**P**	**16 47 16.2**	**-1.4**
	comp=Z,0.5nm,0.4s,baz=63,slow=6.6,SNR=2.7						
CD2	**Chengdu**	**57.22**	**280**	P	P	16 47 53.6	+4.1
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
WMQ	**Urumqi**	**57.92**	**301**	*eP*	P	16 47 59.3	+5.0
ARCES	**ARCESS Array B**	**58.00**	**349**	P	**P**	**16 47 54.0**	**-0.4**
ARCES	**ARCESS Array B**	**58.00**	**349**	P	**P**	**16 47 54.0**	**-0.4**
	comp=Z,1.6nm,0.8s,baz=30,slow=8.0,SNR=12						
MKAR	**Makanchi Array**	**58.73**	**307**	P	**P**	**16 47 58.6**	**-1.3**
MKAR	**Makanchi Array**	**58.73**	**307**	P	**P**	**16 47 58.6**	**-1.3**
	comp=Z,0.6nm,0.6s,baz=46,slow=6.2,SNR=4.2						
BVAR	**Borovoye Array**	**59.87**	**318**	P	**P**	**16 48 07.3**	**-0.3**
BVAR	**Borovoye Array**	**59.87**	**318**	P	**P**	**16 48 07.3**	**-0.3**
	comp=Z,1.0nm,0.4s,baz=40,slow=7.8,SNR=7.2						
TXAR	**Lajitas Array**	**60.50**	**79**	P	**P**	**16 48 12.5**	**+0.1**
TXAR	**Lajitas Array**	**60.50**	**79**	P	**P**	**16 48 12.5**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=306,slow=5.9,SNR=5.6						
JOF	**Joensuu**	**63.34**	**344**	*ep*	**P**	**16 48 30.5**	**-0.3**
	comp=Z,1.7nm,0.5s						
KAF	**Kangasniemi**	**64.92**	**346**	*ep*	**P**	**16 48 40.8**	**-0.4**
	comp=Z,1.1nm,0.5s						
FINES	**FINESS Array B**	**65.59**	**346**	P	**P**	**16 48 44.9**	**-0.7**
FINES	**FINESS Array B**	**65.59**	**346**	P	**P**	**16 48 44.9**	**-0.7**
	comp=Z,1.2nm,0.6s,baz=19,slow=6.1,SNR=12						
NOA	**NORSAR Array B**	**67.69**	**353**	P	**P**	**16 48 58.8**	**-0.2**
NOA	**NORSAR Array B**	**67.69**	**353**	P	**P**	**16 48 58.8**	**-0.2**
	comp=Z,0.3nm,0.4s,baz=1.9,slow=5.3,SNR=8.4						
CMAR	**Chiang Mai Arr**	**69.20**	**274**	P	**P**	**16 49 08.2**	**-0.8**
CMAR	**Chiang Mai Arr**	**69.20**	**274**	P	**P**	**16 49 08.2**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=39,slow=7.3,SNR=4.4						
AKASG	**Malin Array Be**	**75.18**	**340**	P	**P**	**16 49 44.0**	**-0.4**
AKASG	**Malin Array Be**	**75.18**	**340**	P	**P**	**16 49 44.0**	**-0.4**
	comp=Z,1.9nm,0.5s,baz=20,slow=6.5,SNR=8.5						
KBZ	**Khabaz**	**77.89**	**329**	P	**P**	**16 50 00.3**	**+0.6**
KBZ	**Khabaz**	**77.89**	**329**	P	**P**	**16 50 00.3**	**+0.6**
	comp=Z,0.7nm,0.5s,baz=333,slow=6.8,SNR=3.1						
GERES	**GERESS Array B**	**79.53**	**350**	P	**P**	**16 50 07.7**	**-1.1**
GERES	**GERESS Array B**	**79.53**	**350**	P	**P**	**16 50 07.7**	**-1.1**
	comp=Z,0.2nm,0.5s,baz=16,slow=7.5,SNR=3.3						
BRTR	**Keskin Array B**	**84.37**	**333**	P	**P**	**16 50 34.9**	**+0.3**
BRTR	**Keskin Array B**	**84.37**	**333**	P	**P**	**16 50 34.9**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=30,slow=3.4,SNR=4.1						

*ISCJB **19** 17:56:06.3±0.5, 9°.48N±0°.08×40°.10E±0°.06, h10km, mb3.9/11, MS3.6/16, Error ellipse: s-maj=12.4km s-min=6.6km az=146.3*
*IDC **19** 17:56:07.9±1.4, 9°.64N×40°.17E, h0km, mb3.8/9, mb1 4.0/10, mb1mx3.8/26, mbtmp3.8/10, ML4.4/1, MS3.6/17, Ms1 3.6/17, ms1mx3.3/48, Error ellipse: s-maj=30.6km s-min=19.0km az=167.0*
*NEIC **19** 17:56:09.2±0.6, 9°.56N×40°.18E, h10km, mb4.5/3, Error ellipse: s-maj=14.5km s-min=10.3km az=95.0*
ISC 19 17:56:08.3±0.7, **9°.52N**±0°.09×**40°.12E**±0°.09, **h10**km, **n40**, σ1§**45**/25, **mb3.8**/10, **MS3.5**/16, **Ethiopia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FURI	**Furi**	**1.55**	**246**	P	Pn	17 56 32.7	-3.6
FURI				S	**Sn**	**17 56 52.7**	**-3.9**
ATD	**Arta Tunnel**	**3.34**	**53**	Pn	**Pn**	**17 56 59.8**	**-0.9**
ATD				Lg	Lg	17 57 49.6	
ATD	**Arta Tunnel**	**3.34**	**53**	Pn	**Pn**	**17 56 59.8**	**-0.9**
	43nm,0.3s,baz=233,slow=11,SNR=74						
ATD				Lg	Lg	17 57 49.6	
	47nm,0.3s,baz=255,slow=20,SNR=5.6						
TRBA	**At Turbah**	**5.38**	**46**	*i* P	**Pn**	**17 57 27.7**	**-1.1**
TRBA				*e*		17 57 27.9	
	baz=224,slow=10						
TRBA				AML	AML	17 57 43.0	
	comp=N,254nm,0.6s						
TRBA				*i* S	**Sb**	**17 58 44.2**	**-3.1**
KMBO	**Kilima Mbogo**	**10.96**	**195**	Pn	**Pn**	**17 58 46.1**	**+0.6**
MBAR	**Mbarara**	**13.73**	**223**	LR	LR	18 04 47.0	
	comp=N,239nm,21.2s,baz=8.9,slow=38						
MSEY	**Mahe Island**	**20.82**	**132**	*eP*	**P**	**18 00 50.6**	**+0.4**
	comp=N,22nm,0.9s						
ASF	**Jabal al Asfar**	**22.73**	**353**	P	**P**	**18 01 12.0**	**+1.3**
ASF	**Jabal al Asfar**	**22.73**	**353**	P	**P**	**18 01 12.0**	**+1.3**
	comp=N,2.8nm,0.9s,baz=28,slow=11,SNR=2.6						
ASF				LR	LR	18 08 46.9	
	comp=N,63nm,19.4s,baz=128,slow=34						
IDI	**Anoyia**	**29.17**	**334**	LR	LR	18 14 34.3	
	comp=N,112nm,21.1s,baz=341,slow=38						
BR131	**Keskin Array S**	**30.63**	**350**	P	**P**	**18 02 24.8**	**+2.0**
BRTR	**Keskin Array B**	**30.63**	**350**	P	**P**	**18 02 23.2**	**+0.3**
BRTR	**Keskin Array B**	**30.63**	**350**	P	**P**	**18 02 23.2**	**+0.3**
	comp=N,1.7nm,1.2s,baz=177,slow=7.1,SNR=4.1						
GNI	**Garni**	**30.78**	**7**	P	**P**	**18 02 24.9**	**+0.7**
	comp=N,6.2nm,1.0s						
TORD	**Torodi Ar. Bea**	**37.82**	**279**	P	**P**	**18 03 24.9**	**-0.5**
TORD	**Torodi Ar. Bea**	**37.82**	**279**	P	**P**	**18 03 24.9**	**-0.5**
	comp=N,0.7nm,0.9s,baz=88,slow=7.1,SNR=3.6						
TORD				LR	LR	18 18 50.3	
	comp=N,104nm,18.5s,baz=240,slow=36						
KEST	**Kesra**	**38.27**	**318**	LR	LR	18 20 07.5	
	comp=N,55nm,21.6s,baz=261,slow=38						
BOSA	**Boshof**	**40.54**	**200**	P	P	18 03 51.3	+3.2
	comp=N,12nm,1.3s						
BOSA	**Boshof**	**40.54**	**200**	LR	LR	18 22 22.1	
	comp=N,62nm,18.0s,baz=346,slow=39						
AKTO	**Aktyubinsk**	**43.39**	**17**	LR	LR	18 24 17.7	
	comp=N,45nm,20.8s,baz=30,slow=39						
VRAC	**Vranov**	**44.26**	**338**	LR	LR	18 22 51.6	
	comp=N,54nm,19.7s,baz=64,slow=36						
AAK	**Ala-Archa**	**44.62**	**36**	LR	LR	18 25 39.9	
	comp=N,116nm,18.1s,baz=38,slow=40						
GERES	**GERESS Array B**	**45.01**	**335**	P	**P**	**18 04 25.3**	**+1.2**
GERES	**GERESS Array B**	**45.01**	**335**	P	**P**	**18 04 25.3**	**+1.2**
	comp=N,1.0nm,0.9s,baz=152,slow=9.1,SNR=6.5						
DAVOX	**Davos/Dischmat**	**45.17**	**331**	LR	LR	18 24 40.7	
	comp=N,32nm,19.4s,baz=188,slow=38						
MDT	**Midelt**	**47.26**	**306**	LR	LR	18 27 08.0	
	comp=N,87nm,21.6s,baz=320,slow=39						
ESDC	**Sonseca Array**	**49.35**	**315**	LR	LR	18 26 46.9	
	comp=N,57nm,20.3s,baz=350,slow=37						
MKAR	**Makanchi Array**	**51.56**	**36**	P	**P**	**18 05 14.2**	**-0.4**
MKAR	**Makanchi Array**	**51.56**	**36**	P	**P**	**18 05 14.2**	**-0.4**
	comp=N,1.1nm,0.8s,baz=224,slow=9.6,SNR=3.6						
HFS	**Hagfors**	**54.24**	**344**	LR	LR	18 32 28.6	
	comp=N,71nm,18.5s,baz=151,slow=40						
BBTS	**Babate**	**55.52**	**281**	LR	LR	18 30 49.3	
	comp=N,73nm,20.3s,baz=277,slow=38						
NOA	**NORSAR Array B**	**55.68**	**343**	P	**P**	**18 05 45.6**	**+1.1**
NOA	**NORSAR Array B**	**55.68**	**343**	P	**P**	**18 05 45.6**	**+1.1**
	comp=N,1.3nm,0.8s,baz=142,slow=7.3,SNR=4.0						
NOA				LR	LR	18 30 50.9	
	comp=N,42nm,19.4s,baz=5.0,slow=38						
ZALV	**Zalesovo Beam**	**56.84**	**30**	P	**P**	**18 05 51.9**	**-1.0**
ZALV	**Zalesovo Beam**	**56.84**	**30**	P	**P**	**18 05 51.9**	**-1.0**
	comp=N,1.3nm,0.7s,baz=224,slow=6.2,SNR=5.4						
ZALV				LR	LR	18 33 30.0	
	comp=N,38nm,19.4s,baz=248,slow=40						
CMAR	**Chiang Mai Arr**	**57.56**	**74**	P	**P**	**18 05 59.7**	**+1.0**
CMAR	**Chiang Mai Arr**	**57.56**	**74**	P	**P**	**18 05 59.7**	**+1.0**
	comp=N,0.5nm,1.0s,baz=273,slow=8.4,SNR=4.1						
WRA	**Warramunga Arr**	**97.12**	**109**	P	Pdif	18 09 43.8	+2.1
WRA	**Warramunga Arr**	**97.12**	**109**	P	Pdif	18 09 43.8	+2.1
	comp=N,1.0nm,1.2s,baz=262,slow=4.7,SNR=3.1						
ASAR	**Alice Springs**	**97.20**	**113**	LR	LR	18 46 49.5	
	comp=N,108nm,21.3s,baz=277,slow=31						

*IDC **19** 18:20:32.0±0.9, 29°.79N×80°.52E, h0km, mb3.7/13, mb1 3.9/14, mb1mx3.7/30, mbtmp3.8/14, ML4.3/1, Error ellipse: s-maj=28.5km s-min=15.7km az=51.0*
*DMN **19** 18:20:34.2±0.5, 30°.05N×80°.39E, h10km, Ml4.6/7, Error ellipse: s-maj=22.9km s-min=8.9km az=30.0*
*NDI **19** 18:20:35.5±6.0, 28°.77N×79°.80E, h10km, ML3.8*
ISC 19 18:20:34.0±1.4, **29°.78N**±0°.06×**80°.40E**±0°.05, **h16**km±9km, **n47**, σ1§**63**/59, **mb3.9**/13, **Nepal-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTH	**Pithoragarh**	**0.28**	**215**	*eP*	Pg	18 20 34.8	-5.4
PTH				*eS*	**Sg**	**18 20 45.1**	**+0.7**
LGTI	**Lohaghat**	**0.36**	**203**	*eP*	Pn	18 20 50.7	+6.1
LGTI				*eS*	Sb	18 20 59.1	+12
DDI	**Dehra Dun**	**2.11**	**285**	*eP*	**Pb**	**18 21 11.8**	**-0.1**
DDI				*eS*	**Sb**	**18 21 39.5**	**+1.7**
PYUN	**Piuthan**	**2.82**	**126**	*e*Pn	**Pn**	**18 21 19.6**	**+0.9**
NDI	**New Delhi**	**2.99**	**249**	*e*4	**Pn**	**18 21 23.0**	**+2.1**
SMLA	**Simla**	**3.10**	**296**	*eP*	**Pb**	**18 21 26.8**	**-2.0**
SMLA				*eS*	**Sb**	**18 22 05.1**	**-1.3**
SMLA				AML	AML	18 22 19.1	
	comp=N,878nm,0.7s						
SMLA				AML	AML	18 22 21.9	
	comp=E,728nm,0.3s						
DANN	**Dangsing**	**3.27**	**115**	*e*Pn	**Pn**	**18 21 25.8**	**+0.9**
DANN				*e*Sn	**Sn**	**18 22 04.5**	**+0.9**
	comp=E,824nm,0.6s						
SDNR	**Sundarnagar**	**3.42**	**301**	*eP*	**Pb**	**18 21 31.6**	**-2.7**
SDNR				*e*4	**Sg**	**18 22 26.6**	**+2.7**
KOLN	**Koldanda**	**3.45**	**125**	*e*Pn	**Pn**	**18 21 29.3**	**+2.0**
KOLN				*e*Sn	**Sn**	**18 22 08.9**	**+0.9**
	comp=E,577nm,0.6s						
BHK	**Bhakra**	**3.80**	**296**	*eP*	**Pg**	**18 21 45.8**	**-1.1**
BHK				*eS*	**Sg**	**18 22 38.5**	**+2.3**
GKN	**Gorkha**	**4.11**	**114**	*e*Pn	**Pn**	**18 21 36.6**	**+0.2**
GKN				*e*Sn	**Sn**	**18 22 23.4**	**-0.9**
	comp=E,344nm,0.3s						
DHRM	**DHARAMSHALA**	**4.30**	**306**	*eP*	Pn	18 21 42.5	+3.5
DHRM				*eS

comp=N,1.5nm,0.6s,baz=155,slow=10,SNR=12
ZALV Zalesovo Beam 24.36 6 P P 18 25 50.5 -0.7
comp=N,2.8nm,0.6s,baz=188,slow=9.0,SNR=16
AKTO Aktyubinsk 26.62 327 P P 18 26 12.5 +0.8
comp=N,1.7nm,0.6s,baz=116,slow=12,SNR=7.5
SONM Songino Array 26.92 41 P P 18 26 15.5 +1.0
comp=N,2.4nm,0.8s,baz=218,slow=9.1,SNR=3.0
AKASG Malin Array Be 43.28 314 P P 18 28 36.1 +1.3
comp=N,0.1nm,0.3s,baz=113,slow=9.1,SNR=4.2
JOF Joensuu 45.58 331 *ep* **P 18 28 53.8 +0.8**
comp=N,0.8nm,0.4s
FINES FINESS Array B 47.39 328 P P 18 29 08.2 +1.0
comp=N,1.6nm,0.5s,baz=118,slow=8.1,SNR=26
ARCES ARCESS Array B 50.33 338 P P 18 29 30.7 +1.0
comp=N,2.1nm,0.7s,baz=106,slow=7.7,SNR=8.3
NOA NORSAR Array B 54.41 326 P P 18 30 01.5 +1.4
comp=N,0.4nm,0.7s,baz=96,slow=7.7,SNR=3.3
LPG La Plagne 58.44 308 *eP* **P 18 30 29.6 +0.2**
comp=N,2.6nm,0.6s
LPL La Plagne 58.45 308 *eP* **P 18 30 29.6 +0.2**
WRA Warramunga Arr 71.70 127 P P 18 31 54.9 -0.6
comp=N,0.5nm,0.8s,baz=318,slow=5.8,SNR=7.3
TORD Torodi Ar. Bea 73.89 276 P P 18 32 09.6 +0.9
comp=N,0.3nm,0.6s,baz=51,slow=5.8,SNR=5.7
ASAR Alice Springs 73.93 130 P P 18 32 09.4 +0.7
comp=N,0.3nm,0.7s,baz=316,slow=6.1,SNR=6.9

*IDC **19** 18:23:21.7±2.6, 51°.23N×178°.20E, h0km, mb3.4/5, mb1 3.8/5, mb1mx3.5/27, mbtmp3.4/5, Error ellipse: s-maj=76.6km s-min=29.1km az=15.0*
*ISCJB **19** 18:23:23.7±1.0, 50°.99N±0°.09×178°.1E±0°.1, h33km, mb3.4/5, Error ellipse: s-maj=13.2km s-min=9.1km az=162.4*
*NEIC **19** 18:23:25.7, 51°.04N×178°.16E, h27km, ML3.2(AEIC), After AEIC.*
ISC 19 18:23:25.9±1.2, 51°.1N±0°.1×178°.21E±0°.06, h33km, n12, σ0°80/15, mb3.4/5, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.74**	**67**	P	**Pn**	**18 23 38.3**	**-1.7**
AMKA				S	**Sn**	**18 23 49.7**	**-0.4**
LSPA	**Little Sitkin**	**0.89**	**15**	P	**Pn**	**18 23 41.4**	**-0.7**
LSPA				S	**Sb**	**18 23 54.1**	**-0.3**
CESW	**Semis' Southwe**	**1.17**	**46**	P	**Pn**	**18 23 46.0**	**+0.2**
CETU	**Semis' Tuman**	**1.18**	**42**	P	**Pn**	**18 23 46.6**	**+0.6**
CERAA	**Semis' Rag'd T**	**1.23**	**48**	P	**Pn**	**18 23 46.8**	**+0.1**
CERAA				S	**Sb**	**18 24 04.7**	**+0.7**
ADK	**Adak**	**3.29**	**74**	P	**Pn**	**18 24 14.7**	**-0.3**
FX1	**Attu Island--F**	**3.59**	**302**	P	**Pn**	**18 24 18.8**	**-0.4**
ILAR	**Eielson Array**	**22.65**	**40**	P	**P**	**18 28 22.9**	**-0.8**
	0.4nm,0.7s,baz=229,slow=8.8,SNR=4.0						
NVAR	**Mina Array Bea**	**45.45**	**80**	P	**P**	**18 31 43.2**	**+1.4**
	0.2nm,0.4s,baz=294,slow=6.5,SNR=2.9						
PDAR	**Pinedale Array**	**48.18**	**70**	P	**P**	**18 32 03.3**	**+0.2**
	0.9nm,0.7s,baz=282,slow=3.3,SNR=7.9						
BVAR	**Borovoye Array**	**59.87**	**318**	P	**P**	**18 33 28.0**	**+0.1**
	0.4nm,0.5s,baz=35,slow=5.3,SNR=3.2						
TXAR	**Lajitas Array**	**60.55**	**79**	P	**P**	**18 33 33.1**	**0.0**
	0.1nm,0.5s,baz=317,slow=5.2,SNR=2.8						

*IDC **19** 18:24:00.5±1.0, 17°.46S×173°.11W, h0km, mb4.1/9, mb1 4.3/10, mb1mx4.1/21, mbtmp4.1/10, ML2.1/1, MS3.5/2, Ms1 3.5/2, ms1mx3.0/28, Error ellipse: s-maj=39.6km s-min=18.1km az=136.0*
*ISCJB **19** 18:24:06.0±0.8, 17°.4S±0°.2×173°.2W±0°.2, h52km, mb4.1/9, MS3.5/2, Error ellipse: s-maj=31.8km s-min=15.5km az=43.8*
*SZGRF **19** 18:24:19.8, 16°.07S×171°.49W, h33km, Samoa Islands region*
ISC 19 18:24:07.8±0.9, 17°.6S±0°.2×173°.1W±0°.2, h52km, n32, σ0°79/30, mb4.2/9, 1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.86**	**20**	Pn	Pn	18 24 57.9	-7.0
	7.6nm,0.3s,baz=208,slow=17,SNR=5.3						
AFI				Sn	Sn	18 25 34.1	-15
	6.5nm,0.3s,baz=225,slow=23,SNR=3.6						
URZ	**Urewera**	**22.32**	**201**	P	**P**	**18 29 01.4**	**+0.3**
	11nm,0.9s,baz=66,slow=10.0,SNR=5.2						
HNR	**Honiara**	**27.39**	**284**	LR	LR	18 38 48.2	
	comp=Z,68nm,21.3s,baz=121,slow=32						
CTA	**Charters Tower**	**38.48**	**260**	P	**P**	**18 31 24.6**	**-0.6**
	2.0nm,0.6s,baz=75,slow=12,SNR=3.6						
WRA	**Warramunga Arr**	**49.66**	**259**	P	**P**	**18 32 53.3**	**-1.4**
	1.4nm,0.6s,baz=96,slow=8.8,SNR=25						
ASAR	**Alice Springs**	**49.74**	**254**	P	**P**	**18 32 54.4**	**-1.0**
	6.9nm,0.7s,baz=88,slow=8.5,SNR=116						
ASAR				PcP	**PcP**	**18 34 17.0**	**+1.1**
	0.9nm,0.7s,baz=112,slow=3.4,SNR=5.2						
FITZ	**Fitzroy Crossi**	**58.06**	**259**	LR	LR	18 57 37.0	
	comp=Z,76nm,19.3s,baz=154,slow=35						
PETK	**Petropavlovsk-**	**74.78**	**342**	P	**P**	**18 35 42.7**	**+0.5**
	3.3nm,0.9s,baz=176,slow=9.4,SNR=3.3						
TXAR	**Lajitas Array**	**81.59**	**56**	P	**P**	**18 36 20.2**	**-0.4**
	0.6nm,1.0s,baz=247,slow=4.6,SNR=4.5						
PDAR	**Pinedale Array**	**83.69**	**42**	P	**P**	**18 36 30.7**	**-0.7**
	0.3nm,0.6s,baz=210,slow=8.9,SNR=2.6						
ILAR	**Eielson Array**	**84.51**	**11**	P	**P**	**18 36 34.1**	**-0.7**
	0.8nm,1.0s,baz=219,slow=5.8,SNR=3.9						
CMAR	**Chiang Mai Arr**	**93.56**	**288**	P	**P**	**18 37 20.7**	**+1.9**
	0.9nm,0.9s,baz=99,slow=2.4,SNR=7.9						
NRDL	**Niedersach Rie**	**145.06**	**357**	*e*PKPbc	**PKPdf**	**18 43 39.8**	**+0.6**
CLZ	**Clausthal**	**145.70**	**356**	*e*PKPbc	**PKPab**	**18 43 42.1**	**+0.9**
CLL	**Collm**	**146.00**	**353**	*e*PKPbc	**PKPab**	**18 43 42.7**	**+0.4**
CLL	**Collm**	**146.00**	**353**	∥*i*PKP	**PKPab**	**18 43 42.6**	**+0.3**
	comp=Z,13nm,0.9s						
NEUB	**Neuenburg**	**146.22**	**354**	*e*PKPbc	**PKPab**	**18 43 43.7**	**+0.6**
BRG	**Berggiesshubel**	**146.31**	**352**	*e*P	**PKPbc**	**18 43 43.1**	**+0.4**
	comp=Z,6.8nm,1.0s						
BRG	**Berggiesshubel**	**146.31**	**352**	*e*PKPbc	**PKPab**	**18 43 44.0**	**+0.5**
FBE	**Freiberg**	**146.33**	**353**	*e*PKPbc	**PKPab**	**18 43 44.4**	**+0.8**
MOX	**Moxa**	**146.79**	**355**	*e*PKPbc	**PKPab**	**18 43 45.3**	**-0.1**
PLN	**Plauen**	**146.90**	**354**	*e*PKPbc	**PKPab**	**18 43 45.9**	**+0.1**
WERD	**Werda**	**146.92**	**354**	*e*PKPbc	**PKPab**	**18 43 45.9**	**0.0**
TANN	**Tannenbergstha**	**146.94**	**353**	*e*PKPbc	**PKPab**	**18 43 46.0**	**0.0**
GUNZ	**Gunzen**	**147.00**	**354**	*e*PKPbc	**PKPab**	**18 43 46.4**	**+0.2**
MANZ	**Manzenberg**	**147.40**	**354**	*e*PKPbc	**PKPab**	**18 43 47.3**	**-0.5**
ROTZ	**Rotzenmuhle**	**147.60**	**354**	*e*PKPbc	**PKPab**	**18 43 48.2**	**-0.4**
GRF	**Grafenberg Arr**	**147.77**	**355**	*e*PKPbc	**PKPab**	**18 43 48.3**	**-1.0**
WLF	**Walferdange**	**147.98**	**1**	*e*PKPbc	**PKPab**	**18 43 49.2**	**-0.9**
BRTR	**Keskin Array B**	**148.00**	**319**	*e*PKPbc	**PKPbc**	**18 43 47.8**	**-0.2**
	comp=Z,1.6nm,0.9s,baz=64,slow=2.9,SNR=7.3						
GERES	**GERESS Array B**	**148.32**	**351**	PKPbc	**PKPbc**	**18 43 48.1**	**-0.4**
	comp=Z,1.8nm,1.1s,baz=42,slow=2.2,SNR=8.9						
BFO	**Black Forest**	**149.30**	**358**	*e*PKPbc	**PKPbc**	**18 43 52.1**	**+1.2**

*BJI **19** 18:35:18.4, 0°.28S×99°.24E, h100km, mB4.9/24, mb4.8/34*
*TEH **19** 18:35:26.0, 0°.48N×99°.02E, h96km, ML4.6*
*AUST **19** 18:35:27.0, 0°.54N×99°.00E, h100km*
*ISCJB **19** 18:35:28.4±0.3, 0°.70N±0°.03×99°.20E±0°.03, h121km±2km, mb4.5/58, Error ellipse: s-maj=5.7km s-min=2.9km az=141.1*
*IDC **19** 18:35:29.7±0.9, 0°.77N×99°.43E, h117km±7km, mb4.2/33, mb1 4.2/34, mb1mx4.1/41, mbtmp4.2/34, Error ellipse: s-maj=12.3km s-min=6.6km az=58.0*
*NEIC **19** 18:35:29.1±0.3, 0°.73N×99°.39E, mb4.5/24, Error ellipse: s-maj=9.8km s-min=5.9km az=64.0*
NEIC Felt [III] at Lubuksikaping and Rau.
*BKK **19** 18:35:29.9±0.4, 1°.N±4°×9°.9E±°, h104km±4km, M4.3/15, mB4.7/6, mb4.6/15, MLv4.5/7, Mw(mB)3.9/6*
*DJA **19** 18:35:29.9±0.2, 1°.N±3°×9°.9E±°, h77km±9km, M4.9/18, mb4.8/12, mB5.6/4, MLv4.8/18, Mw(mB)5.1/4*
ISC 19 18:35:28.5±0.4, 0°.70N±0°.03×99°.19E±0°.04, h106km±2km, h106km:pP-P, n228, σ1°60/282, mb4.5/57, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	**Padang Panjang**	**1.67**	**134**	P	**Pn**	**18 35 59.4**	**+2.3**
PPI	**Padang Panjang**	**1.67**	**134**	P	**Pn**	**18 35 59.5**	**+2.3**
	baz=1.7,SNR=292						
GSI	**Gunungsitoli**	**1.72**	**290**	P	**Pn**	**18 35 59.8**	**+2.0**
GSI				S	**Sn**	**18 36 20.8**	**+0.7**
BKNI	**Bangkinang**	**1.89**	**101**	P	**Pn**	**18 36 02.0**	**+2.2**
BKNI				S	**Sn**	**18 36 25.4**	**+1.6**
BKNI	**Bangkinang**	**1.89**	**101**	P	**Pn**	**18 36 01.6**	**+1.8**
	baz=2.0,SNR=500						
SISI	**Saibi**	**2.02**	**183**	P	Pn	18 36 11.6	+10
PDSI	**Padang**	**2.05**	**142**	P	**Pn**	**18 36 04.1**	**+2.2**
PDSI				S	**Sn**	**18 36 29.2**	**+1.7**
PSI	**Prapat**	**2.10**	**353**	P	**Pn**	**18 36 02.9**	**+0.2**
PSI				S	**Sn**	**18 36 28.1**	**-0.8**
PSI	**Prapat**	**2.10**	**353**	P	**Pn**	**18 36 02.9**	**+0.2**
	107nm,0.3s,baz=171,slow=12,SNR=238						
PSI				S	**Sn**	**18 36 28.1**	**-0.8**
	57nm,0.3s,baz=152,slow=17,SNR=16						
PSI	**Prapat**	**2.10**	**353**	P	**Pn**	**18 36 02.9**	**+0.2**
	baz=2.2,SNR=154						
PSI				S	**Sn**	**18 36 28.5**	**-0.3**
	baz=2.2,SNR=6.5						
KCSI	**Kotacane, Aceh**	**3.14**	**333**	P	**Pn**	**18 36 16.6**	**+0.3**
KCSI				S	**Sn**	**18 36 50.3**	**-2.8**
RGRI	**Rengat**	**3.31**	**108**	P	**Pn**	**18 36 20.8**	**+2.3**
RGRI				S	**Sn**	**18 36 59.7**	**+2.5**
SNSI	**Sinabang, Aceh**	**3.33**	**301**	P	**Pn**	**18 36 20.0**	**+1.3**
SNSI				S	**Sn**	**18 36 54.4**	**-3.2**
FRIM	**Kepong**	**3.50**	**44**	P	**Pn**	**18 36 22.8**	**+1.8**
IPM	**Ipoh**	**4.17**	**26**	*e*Pn	**Pn**	**18 36 32.0**	**+1.8**
IPM	**Ipoh**	**4.17**	**26**	P	**Pn**	**18 36 32.6**	**+2.4**
IPM	**Ipoh**	**4.17**	**26**	P	**Pn**	**18 36 32.2**	**+2.1**
KGM	**Kluang**	**4.33**	**72**	P	**Pn**	**18 36 33.7**	**+1.5**
BTDF	**Bukit Timah Da**	**4.63**	**82**	P	**Pn**	**18 36 37.7**	**+1.5**
	baz=4.8,SNR=13						
BTDF				P	**Pn**	**18 36 37.7**	**+1.5**
	baz=4.8,SNR=13						
MYKOM	**Kota Tinggi**	**4.78**	**77**	P	**Pn**	**18 36 39.8**	**+1.5**
MYKOM	**Kota Tinggi**	**4.78**	**77**	P	**Pn**	**18 36 39.7**	**+1.5**
KULM	**Kulim**	**4.78**	**18**	*e*Pn	**Pn**	**18 36 39.3**	**+1.0**
KULM				*e*Sn	**Sn**	**18 37 32.9**	**+0.2**
KULM	**Kulim**	**4.78**	**18**	P	**Pn**	**18 36 39.7**	**+1.3**
KULM	**Kulim**	**4.78**	**18**	P	**Pn**	**18 36 39.4**	**+1.0**
MASI	**Maura Aman, Be**	**4.89**	**141**	P	**Pn**	**18 36 41.6**	**+1.8**
LHMI	**Lhok Sumawe**	**5.02**	**334**	P	**Pn**	**18 36 42.3**	**+0.7**
LHMI	**Lhok Sumawe**	**5.02**	**334**	P	**Pn**	**18 36 42.1**	**+0.5**
	baz=5.1,SNR=16						
KSI	**Kapahiang**	**5.50**	**142**	P	**Pn**	**18 36 49.5**	**+1.4**
	182nm,0.8s,9μm2.2nm						
KTGM	**Kuala Trenggan**	**6.05**	**41**	P	**Pn**	**18 36 56.7**	**+1.2**
MNAI	**Manna**	**6.28**	**143**	P	**Pn**	**18 36 58.9**	**+0.2**
	501nm,2.0s,24μm4.5nm						
MNAI	**Manna**	**6.28**	**143**	P	**Pn**	**18 36 58.9**	**+0.2**
	baz=6.3,SNR=28						
MNAI				S	**Sn**	**18 38 08.6**	**-0.5**
	baz=6.3,SNR=10						
SKLT	**Songkhla**	**6.58**	**12**	P	**Pn**	**18 37 02.8**	**+0.1**
	35nm,0.7s,622nm0.2nm						
SKLT	**Songkhla**	**6.58**	**12**	P	**Pn**	**18 37 02.9**	**+0.2**
	35nm,0.7s,622nm0.2nm						
MDSI	**Maura Dua**	**7.17**	**136**	P	**Pn**	**18 37 11.9**	**+1.2**
	55nm,0.7s,0.2nm						
MDSI				S	**Sn**	**18 38 30.1**	**-0.6**
	55nm,0.7s,0.2nm						
LWLI	**Liwa**	**7.48**	**140**	P	**Pn**	**18 37 16.6**	**+1.6**
	68nm,0.6s,4μm1.3nm						
PPBI	**Pangkal Pinang**	**7.50**	**112**	P	**Pn**	**18 37 18.0**	**+2.7**
	21nm,0.9s,0.1nm						
KASI	**Kota Agung**	**8.14**	**139**	P	**Pn**	**18 37 23.9**	**-0.1**
	55nm,1.3s						
CMBY	**CAMPBELL BAY**	**8.18**	**320**	*e*P	**Pn**	**18 37 23.8**	**-0.6**
CMBY				*e*S	**Sn**	**18 38 58.0**	**+2.9**
KSM	**Kuching**	**11.14**	**86**	P	**Pn**	**18 38 07.4**	**+2.7**
KSM	**Kuching**	**11.14**	**86**	P	**Pn**	**18 38 07.4**	**+2.7**
CISI	**Cisompet, Garu**	**11.89**	**134**	P	Pn	18 38 11.3	-3.3
	baz=12,SNR=6.1						
CISI				S	**Sn**	**18 40 20.3**	**-5.2**
	baz=12,SNR=3.6						
STKI	**Sintang**	**12.30**	**93**	P	**P**	**18 38 30.6**	**+2.7**
CHBT	**CHBT**	**12.37**	**14**	P	**Pn**	**18 38 23.8**	**+2.9**
	14nm,0.5s						
CHBT	**CHBT**	**12.37**	**14**	P	**P**	**18 38 26.8**	**-1.8**
PBA	**Port Blair**	**12.62**	**330**	*e*P	Pn	18 38 21.2	-3.1
XMI	**Christmas Isla**	**12.83**	**150**	S	Sn	18 40 34.5	-14
	baz=13,SNR=3.7						
XMIS	**Christmas Isla**	**12.84**	**150**	P	Pn	18 38 22.5	-4.7
	baz=13,SNR=3.0						
XMIS				S	Sn	18 40 31.9	-17
	baz=13,SNR=5.4						
PBKI	**Pangkalan Bun**	**12.93**	**105**	P	**Pn**	**18 38 31.0**	**+2.7**
	72nm,1.2s						
SBUM	**Sibu**	**13.14**	**82**	P	**P**	**18 38 34.3**	**-2.9**
SBUM	**Sibu**	**13.14**	**82**	P	**Pn**	**18 38 33.7**	**+2.6**
	43nm,0.8s						
BTM	**Bintulu**	**14.10**	**80**	P	**P**	**18 38 47.3**	**-0.6**
UGM	**Wanagama**	**14.17**	**127**	P	**Pn**	**18 38 42.3**	**-2.3**
	baz=14,SNR=7.0						
UTHA	**Uthaitani**	**14.76**	**1**	P	**Pn**	**18 38 53.6**	**+1.6**
	4.0nm,0.8s,46nm						
MTKI	**Muara Teweh, K**	**15.79**	**96**	P	**P**	**18 39 09.5**	**+2.8**
PBKT	**Sadao Pong**	**15.86**	**6**	P	**Pn**	**18 39 04.6**	**-1.2**
	11nm,1.3s						
PBKT	**Sadao Pong**	**15.86**	**6**	P	**P**	**18 39 07.6**	**+0.2**
	11nm,1.3s						
SUKH	**Sukhothai**	**16.68**	**1**	P	**P**	**18 39 17.1**	**+0.7**
	4.9nm,0.7s,56nm						
JAGI	**Jajag, Banyuwa**	**17.48**	**122**	P	**Pn**	**18 39 27.9**	**+2.3**
	baz=18,SNR=5.5						
JAGI				S	**Sn**	**18 42 34.6**	**-5.9**
	baz=18,SNR=3.3						
CM31	**Chiang Mai Arr**	**17.64**	**359**	*e*P	**P**	**18 39 26.4**	**-0.8**
	7.6nm,0.7s						
CMAR	**Chiang Mai Arr**	**17.64**	**359**	P	**P**	**18 39 27.3**	**+0.2**
CMAR				S	**S**	**18 42 45.4**	**+0.3**
CMAR				PcP	**PcP**	**18 44 01.7**	**+0.8**
CMAR	**Chiang Mai Arr**	**17.64**	**359**	P	**P**	**18 39 27.3**	**+0.2**
	0.6nm,0.3s,baz=189,slow=11,SNR=6.5						
CMAR				S	**S**	**18 42 45.4**	**+0.3**
	0.0nm,0.3s,baz=184,slow=18,SNR=2.8						
CMAR				PcP	**PcP**	**18 44 01.7**	**+0.8**
	0.1nm,0.3s,baz=226,slow=2.0,SNR=5.1						
KKM	**Kota Kinabalu**	**17.80**	**72**	*e*P	**Pn**	**18 39 30.6**	**+1.0**
	69nm,0.9s						
KKM	**Kota Kinabalu**	**17.80**	**72**	P	**Pn**	**18 39 32.4**	**+2.7**
KKM	**Kota Kinabalu**	**17.80**	**72**	P	**Pn**	**18 39 32.5**	**+2.8**
	baz=18,SNR=14						
CHTO	**Chiang Mai**	**18.00**	**359**	*e*P	**P**	**18 39 30.9**	**-0.1**
	20nm,0.8s						
PAYA	**Payao**	**18.55**	**2**	P	Pn	18 39 46.5	+8.0
SDKM	**Sandakan**	**18.63**	**74**	P	**Pn**	**18 39 40.3**	**+0.8**
TSM	**Tawau**	**19.00**	**79**	P	**Pn**	**18 39 43.3**	**-0.5**
CRAI	**Chiangrai**	**19.44**	**3**	P	**P**	**18 39 47.3**	**+0.6**
	244nm,0.8s						
MYLDM	**Lahad Datu**	**19.78**	**77**	P	**Pn**	**18 39 53.3**	**+0.3**
QIZ	**Qiongzhong**	**21.00**	**29**	P	**P**	**18 40 05.1**	**+1.6**
QIZ				S	**S**	**18 43 57.0**	**+5.4**
QIZ				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KAPI	**Kappang**	**21.31**	**106**	*e*P	**P**	**18 40 06.7**	**-0.2**
	comp=Z,16nm,0.6s						
KAPI	**Kappang**	**21.31**	**106**	P	**P**	**18 40 07.0**	**0.0**
	comp=Z,14nm,0.5s,baz=298,slow=8.1,SNR=15						
MDRS	**Chennai**	**22.43**	**304**	*e*P	**P**	**18 40 21.6**	**+2.8**
VIS	**Vishakhapatnam**	**23.01**	**318**	*e*P	**P**	**18 40 25.0**	**+0.6**
LUWI	**Luwuk**	**23.64**	**94**	P	**P**	**18 40 30.9**	**+0.5**
	baz=24,SNR=11						
KMI	**Kunming**	**24.52**	**8**	P	**P**	**18 40 40.1**	**+1.7**
KMI				pP	**pP**	**18 41 00.4**	**-1.0**
KMI				sP	**sP**	**18 41 14.8**	**+0.7**
KMI				pmax	pmax		
	comp=Z,11nm,0.8s						
KMI				pmax	pmax		
	comp=Z,110nm,4.2s						
SHL	**Shillong**	**25.70**	**345**	*e*P	**P**	**18 40 48.0**	**-1.1**
SHL				*e*S	S	18 45 19.5	+9.2
HYB	**Hyderabad**	**26.23**	**310**	*e*P	**P**	**18 40 54.7**	**+0.9**
GYA	**Guiyang**	**26.60**	**15**	*e*P	**P**	**18 41 00.3**	**+3.2**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ODAN	**Odare**	**28.37**	**337**	*e*P	**P**	**18 41 14.2**	**+1.1**
	comp=Z,16nm,0.4s						
TAPN	**Taplejung**	**28.70**	**338**	*e*P	**P**	**18 41 17.7**	**+1.7**
	comp=Z,22nm,0.4s						
RAMN	**Ramite**	**28.77**	**336**	*e*P	**P**	**18 41 18.2**	**+1.6**
	comp=Z,6.6nm,0.4s						
AAI	**Ambon**	**29.31**	**99**	P	**P**	**18 41 20.8**	**-0.5**
	baz=30,SNR=4.4						
JIRN	**Jiri**	**29.56**	**336**	*e*P	**P**	**18 41 25.0**	**+1.2**
	comp=Z,10nm,0.3s						
PKIN	**Phulchoki**	**29.82**	**335**	*e*P	**P**	**18 41 26.6**	**+0.7**
	comp=Z,4.1nm,0.5s						
LSA	**Lhasa**	**29.84**	**346**	P	**P**	**18 41 27.1**	**+0.8**
LSA	**Lhasa**	**29.84**	**346**	*e*P	**P**	**18 41 27.1**	**+0.8**
	comp=Z,11nm,0.6s						
GUN	**Gumba**	**29.91**	**336**	*e*P	**P**	**18 41 27.5**	**+0.7**
	comp=Z,24nm,0.4s						
KKN	**Kakani**	**30.05**	**335**	*e*P	**P**	**18 41 28.7**	**+0.8**
	comp=Z,4.4nm,0.3s						
CD2	**Chengdu**	**30.35**	**8**	P	**P**	**18 41 33.3**	**+3.0**
CD2				pP	**pP**	**18 41 55.3**	**+1.4**
CD2				sP	**sP**	**18 42 07.1**	**+0.9**
CD2				PP	**PP**	**18 42 37.8**	**-3.1**
CD2				S	**S**	**18 46 27.9**	**+4.8**
CD2				sS	**sS**	**18 47 06.4**	**+2.3**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				pmax	pmax		
	comp=Z,90nm,7.8s						
CD2				LR	LR		
	comp=N,450nm,7.1s						
CD2				LR	LR		
	comp=Z,210nm,7.7s						
KOLN	**Koldanda**	**30.79**	**332**	*e*P	**P**	**18 41 35.6**	**+1.2**
	comp=Z,4.7nm,0.2s						
ENH	**Enshi**	**30.99**	**17**	*e*P	**P**	**18 41 33.5**	**-2.5**
	comp=Z,22nm,0.5s						
DANN	**Dangsing**	**31.20**	**333**	*e*P	**P**	**18 41 39.5**	**+1.3**
	comp=Z,14nm,0.4s						
FITZ	**Fitzroy Crossi**	**32.03**	**127**	P	**P**	**18 41 42.6**	**-2.5**
FITZ	**Fitzroy Crossi**	**32.03**	**127**	P	**P**	**18 41 42.6**	**-2.5**
	comp=Z,3.5nm,0.6s,baz=277,slow=4.2,SNR=15						
FITZ	**Fitzroy Crossi**	**32.03**	**127**	P	**P**	**18 41 42.7**	**-2.5**
	baz=32,SNR=9.8						
MEEK	**Meekatharra**	**33.01**	**147**	P	**P**	**18 41 54.5**	**+0.9**
	baz=33,SNR=4.7						
FAKI	**Fak Fak**	**33.24**	**96**	P	**P**	**18 41 55.0**	**-0.9**
	baz=33,SNR=18						
KNRA	**Kununurra**	**33.44**	**120**	P	**P**	**18 41 55.2**	**-2.4**
	baz=34,SNR=8.0						
MORW	**Morawa**	**33.71**	**153**	P	**P**	**18 42 01.5**	**+1.8**
	baz=34,SNR=4.0						
TLE	**Tual**	**34.08**	**101**	P	**P**	**18 42 02.4**	**-0.8**
	baz=34,SNR=6.8						
XAN	**Xi'an**	**34.39**	**14**	P	**P**	**18 42 04.3**	**-1.3**
XAN				pmax	pmax		
	comp=Z,11nm,0.7s						
XAN				pmax	pmax		
	comp=Z,20nm,6.7s						
MTN	**Manton Dam**	**34.42**	**114**	P	**P**	**18 42 03.6**	**-2.4**
	baz=35,SNR=14						
LZH	**Lanzhou**	**35.47**	**7**	*e*P	**P**	**18 42 16.0**	**+1.0**
LZH				*e*S	**S**	**18 47 43.4**	**+0.9**
LZH				SS	**SS**	**18 50 24.0**	**+2.9**
LZH				pmax	pmax		
	comp=Z,15nm,1.0s						
LZH				pmax	pmax		
	comp=Z,130nm,5.0s						
LZH				LR	LR		
	comp=N,290nm,12.9s						
LZH				LR	LR		
	comp=E,360nm,15.3s						
LZH				LR	LR		
	comp=Z,650nm,16.0s						
KDU	**Kakadu**	**35.60**	**113**	P	**P**	**18 42 13.7**	**-2.4**
	baz=36,SNR=9.6						
NJ2	**Nanjing**	**36.29**	**29**	*e*P	**P**	**18 42 24.1**	**+2.3**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
SMLA	**Simla**	**36.76**	**327**	*e*P	**P**	**18 42 26.6**	**+0.8**
NWAO	**Narrogin (SRO)**	**37.53**	**155**	*e*P	**P**	**18 42 33.5**	**+1.1**
NWAO	**Narrogin (SRO)**	**37.53**	**155**	P	**P**	**18 42 33.9**	**+1.5**
	comp=Z,7.6nm,0.9s,baz=323,slow=9.3,SNR=4.3						
DHRM	**DHARAMSHALA**	**38.09**	**328**	*e*P	**P**	**18 42 37.7**	**+0.3**
GTA	**Gaotai**	**38.53**	**1**	P	**P**	**18 42 41.1**	**+0.3**
GTA				pP	**pP**	**18 43 03.8**	**-1.2**
GTA				sP	**sP**	**18 43 14.3**	**-2.8**
GTA				ScP	**S**	**18 48 27.9**	**-0.9**
GTA				S	**ScP**	**18 48 30.8**	**+0.7**
GTA				pmax	pmax		
	comp=Z,15nm,1.4s						
GTA				pmax	pmax		
	comp=Z,77nm,6.4s						
WRA	**Warramunga Arr**	**40.09**	**123**	P	**P**	**18 42 52.1**	**-1.8**
WRA				PcP	**PcP**	**18 44 56.4**	**-0.4**
WRA				ScP	**ScP**	**18 48 33.5**	**-2.9**
WRA	**Warramunga Arr**	**40.09**	**123**	P	**P**	**18 42 52.1**	**-1.8**
	comp=Z,14nm,0.6s,baz=301,slow=9.1,SNR=166						
WRA				PcP	**PcP**	**18 44 56.4**	**-0.4**
	comp=Z,2.0nm,0.6s,baz=309,slow=2.6,SNR=5.7						
WRA				ScP	**ScP**	**18 48 33.5**	**-2.9**
	comp=Z,0.8nm,0.7s,baz=309,slow=3.1,SNR=5.

AAK	Ala-Archa	47.26	335	P		P	18 43 49.1 -2.1
	comp=Z,1.9nm,0.4s						
AAK	Ala-Archa	47.26	335	P		P	18 43 52.6 +1.3
	comp=Z,2.1nm,0.5s,baz=150,slow=5.7,SNR=5.8						
SONM	Songino Array	47.36	7	P		P	18 43 52.8 +0.9
SONM				PcP		PcP	18 45 21.0 0.0
SONM	Songino Array	47.36	7	P		P	18 43 52.8 +0.9
	comp=Z,40nm,0.8s,baz=189,slow=8.9,SNR=42						
SONM				PcP		PcP	18 45 21.0 0.0
	comp=Z,2.2nm,0.3s,baz=203,slow=3.7,SNR=4.6						
ULN	Ulaanbaatar	47.47	7	eP		P	18 43 52.9 +0.2
	comp=Z,30nm,0.7s						
EKS2	Erkin-Say	47.59	335	P		P	18 43 55.5 +1.8
	SNR=8.5						
EKS2	Erkin-Say	47.59	335	eP		P	18 43 54.9 +1.1
	comp=Z,3.7nm,0.5s						
USP	Ospenovka	47.78	336	P		P	18 43 56.8 +1.7
	SNR=5.7						
MTSU	Mount Surprise	48.15	115	P		P	18 43 57.6 -0.7
	baz=48,SNR=14						
BBOO	Buckleboo	48.16	137	P		P	18 43 57.2 -0.9
	baz=48,SNR=21						
MK31	Makanchi Array	48.23	344	eP		P	18 43 58.2 -0.3
MKAR	Makanchi Array	48.23	344	P		P	18 43 58.7 +0.3
MKAR				ScP		ScP	18 49 08.0 -1.0
MKAR	Makanchi Array	48.23	344	P		P	18 43 58.7 +0.3
	comp=Z,7.1nm,0.3s,baz=158,slow=8.1,SNR=204						
MKAR				ScP		ScP	18 49 08.0 -1.0
	comp=Z,0.5nm,0.6s,baz=153,slow=4.8,SNR=4.1						
PMG	Port Moresby	48.80	103	P		P	18 44 01.3 -2.1
PMG	Port Moresby	48.80	103	P		P	18 44 02.4 -1.0
	comp=Z,6.0nm,0.7s,baz=337,slow=14,SNR=3.4						
CN2	Changchun	48.87	25	eP		P	18 44 03.1 -0.3
CN2				ePP		PP	18 45 58.8 +1.0
CN2				eS		S	18 51 00.0 +1.0
KKAR	Karatay Array	49.40	332	eP		P	18 44 07.5 0.0
	comp=Z,0.8nm,0.3s						
ITEG	Tejag	49.70	314	eP		P	18 44 04.5 -5.6
CTA	Charters Tower	50.50	117	P		P	18 44 15.6 -0.7
CTA				PcP		PcP	18 45 33.2 +0.3
CTA	Charters Tower	50.50	117	P		P	18 44 15.6 -0.7
	comp=Z,8.5nm,0.8s,baz=290,slow=11,SNR=11						
CTA				PcP		PcP	18 45 33.2 +0.3
	comp=Z,3.6nm,0.4s,baz=316,slow=5.1,SNR=6.5						
CTAO	Charters Tower	50.50	117	eP		P	18 44 14.9 -1.3
	comp=Z,10.0nm,0.8s						
MAJO	Matsushiro	50.73	41	eP		P	18 44 15.5 -2.2
	comp=Z,6.4nm,0.7s						
IMOG	Moghan	51.04	318	eP		P	18 44 17.8 -2.5
STKA	Stephens Creek	51.55	133	eP		P	18 44 22.6 -1.3
	comp=Z,1.4nm,0.7s						
STKA	Stephens Creek	51.55	133	P		P	18 44 23.0 -0.9
	comp=Z,5.1nm,0.6s,baz=306,slow=6.8,SNR=22						
STKA	Stephens Creek	51.55	133	P		P	18 44 23.0 -0.9
	baz=52,SNR=21						
IKRD	Kardeh	51.97	318	eP		P	18 44 21.8 -5.4
USRK	Ussuriysk Arra	52.19	30	P		P	18 44 27.6 -0.7
	comp=Z,6.2nm,0.6s,baz=227,slow=4.0,SNR=14						
KURBB	Kurchatov Arra	52.74	344	P		P	18 44 32.4 +0.1
	comp=Z,3.3nm,0.6s,baz=163,slow=7.2,SNR=37						
KURBB				ScP		ScP	18 49 27.1 -1.2
	comp=Z,0.8nm,0.7s,baz=163,slow=3.4,SNR=7.1						
KURK	Kurchatov	52.80	344	P		P	18 44 32.4 -0.3
KURK				epP		pP	18 45 00.3 +2.1
KURK				ScP		ScP	18 49 27.1 -1.5
ZAA0	Zalesovo Array	54.38	350	eP		P	18 44 43.7 -0.5
ZALV	Zalesovo Beam	54.38	350	P		P	18 44 44.1 -0.1
ZALV				S		S	18 52 12.8 -1.5
ZALV	Zalesovo Beam	54.38	350	P		P	18 44 44.1 -0.1
	comp=Z,19nm,0.4s,baz=165,slow=6.9,SNR=116						
ZALV				S		S	18 52 12.8 -1.5
	comp=Z,0.9nm,0.6s,baz=162,slow=12,SNR=5.7						
CMSA	Cobar Meteorol	54.45	130	P		P	18 44 44.6 -0.6
	baz=55,SNR=26						
OPO	Ambohidratompo	54.55	247	P		P	18 44 48.3 +2.0
OPO	Ambohidratompo	54.55	247	P		P	18 44 48.3 +2.0
	comp=Z,4.1nm,0.9s,baz=80,slow=12,SNR=4.0						
RMQ	Roma	54.84	123	P		P	18 44 48.2 +0.1
	baz=55,SNR=6.4						
EIDS	Eidsvold	56.42	121	P		P	18 44 58.8 -0.6
	baz=56,SNR=5.0						
BVAR	Borovoye Array	57.38	340	P		P	18 45 05.2 -0.5
BVAR	Borovoye Array	57.38	340	P		P	18 45 05.2 -0.5
	comp=Z,2.2nm,0.5s,baz=146,slow=8.7,SNR=20						
BRVK	Borovoye	57.45	340	eP		P	18 45 05.4 -0.7
	comp=Z,2.7nm,0.5s						
BRVK				epP		pP	18 45 33.6 +1.7
ASAJ	Asahikawa	57.88	36	P		P	18 45 08.4 -0.9
ASAJ	Asahikawa	57.88	36	P		P	18 45 08.4 -0.9
	comp=Z,3.1nm,0.5s,baz=237,slow=12,SNR=10						
ARMA	Armidale	58.64	127	P		P	18 45 15.8 +0.7
	baz=59,SNR=6.4						
ABKAR	Akbulak array	58.90	331	eP		P	18 45 15.2 -1.0
	comp=Z,1.7nm,0.5s						
AKTO	Aktyubinsk	60.61	331	P		P	18 45 27.9 -0.2
AKTO	Aktyubinsk	60.61	331	P		P	18 45 27.9 -0.2
	comp=Z,0.7nm,0.3s,baz=124,slow=9.8,SNR=5.8						
KBZ	Khabaz	65.75	319	P		P	18 46 02.0 -0.1
KBZ	Khabaz	65.75	319	P		P	18 46 02.0 -0.1
	comp=Z,2.7nm,0.8s,baz=159,slow=4.1,SNR=6.6						
EIL	Elat	67.41	302	P		P	18 46 14.1 +1.2
	baz=67,SNR=4.1						
BR131	Keskin Array S	70.92	312	eP		P	18 46 33.4 -1.3
	comp=Z,2.2nm,0.6s						
BR131				epP		pP	18 47 02.3 +1.0
BRTR	Keskin Array B	70.92	312	P		P	18 46 33.9 -0.8
BRTR	Keskin Array B	70.92	312	P		P	18 46 33.9 -0.8
	comp=Z,2.6nm,0.6s,baz=134,slow=6.9,SNR=22						
PETK	Petropavlovsk-	71.06	33	P		P	18 46 34.0 -1.0
PETK	Petropavlovsk-	71.06	33	P		P	18 46 34.0 -1.0
	comp=Z,2.5nm,0.6s,baz=248,slow=8.1,SNR=18						
LBTB	Lobatse	75.46	244	eP		P	18 47 02.5 +0.9
	comp=Z,5.8nm,0.9s						
BOSA	Boshof	76.26	240	eP		P	18 47 07.0 +0.8
	comp=Z,5.7nm,0.7s						
BOSA	Boshof	76.26	240	P		P	18 47 07.3 +1.2
	comp=Z,5.2nm,0.7s,baz=70,slow=5.5,SNR=12						
IDI	Anoyia	76.80	306	P		P	18 47 09.2 +0.3
IDI	Anoyia	76.80	306	P		P	18 47 09.2 +0.3
	comp=Z,3.0nm,0.4s,baz=103,slow=17,SNR=6.2						
RPZ	Rata Peaks	77.45	135	P		P	18 47 12.3 -0.1
RPZ	Rata Peaks	77.45	135	P		P	18 47 12.3 -0.1
	comp=Z,8.1nm,0.8s,baz=245,slow=7.9,SNR=7.6						
JOF	Joensuu	79.44	334	ep		P	18 47 23.9 +1.1
	comp=Z,0.4nm,0.2s						
FX1	Attu Island--F	79.80	36	P		P	18 47 24.6 -0.4
FX1	Attu Island--F	79.80	36	P		P	18 47 24.6 -0.4
	comp=Z,7.0nm,0.6s,baz=280,slow=6.1,SNR=3.7						
URZ	Urewera	80.95	129	P		P	18 47 30.0 -1.5
URZ	Urewera	80.95	129	P		P	18 47 30.0 -1.5
	comp=Z,19nm,1.2s,baz=280,slow=6.1,SNR=5.9						
FINES	FINESS Array B	81.36	332	P		P	18 47 33.1 0.0
FINES	FINESS Array B	81.36	332	P		P	18 47 33.1 0.0
	comp=Z,1.2nm,0.4s,baz=120,slow=6.3,SNR=9.6						
KAF	Kanganiemi	81.42	333	ep		P	18 47 33.6 +0.1
ARCES	ARCESS Array B	83.67	340	P		P	18 47 45.0 0.0
ARCES	ARCESS Array B	83.67	340	P		P	18 47 45.0 0.0
	comp=Z,1.0nm,0.4s,baz=97,slow=5.1,SNR=17						
VNDA	Vanda	84.95	169	eP		P	18 47 51.6 +0.2
	comp=Z,4.1nm,1.5s						
VNDA	Vanda	84.95	169	P		P	18 47 52.4 +1.1
	comp=Z,0.3nm,0.5s,baz=301,slow=10,SNR=7.7						
SBA	Scott Base	86.05	169	eP		P	18 47 58.1 +1.4
	comp=Z,0.8nm,0.7s						
BRG	Berggiesshubel	86.45	321	eP		P	18 48 01.1 +1.8
	comp=Z,7.3nm,1.6s						
CLL	Collm	87.06	321	eP		P	18 48 01.0 -1.2
KEST	Kesra	89.47	306	P		P	18 48 15.6 +1.5
KEST	Kesra	89.47	306	P		P	18 48 15.6 +1.5
	comp=Z,1.9nm,1.0s,baz=83,slow=8.1,SNR=2.5						
TORD	Torodi Ar. Bea	97.14	283	P		Pdif	18 48 51.4 +1.6
TORD	Torodi Ar. Bea	97.14	283	P		Pdif	18 48 51.4 +1.6
	comp=Z,0.2nm,0.9s,baz=85,slow=5.8,SNR=3.3						
BPAW	Bear Paw Mtn.	97.93	25	eP		P	18 48 51.3 -1.0
	comp=Z,1.6nm,0.6s						
SCHQ	Schefferville	123.47	350	PKP		PKPdf	18 54 13.0 -0.3
SCHQ	Schefferville	123.47	350	PKP		PKPdf	18 54 13.0 -0.3
	comp=Z,5.2nm,0.9s,baz=270,slow=2.0,SNR=3.2						
PDAR	Pinedale Array	129.59	27	PKP		PKPdf	18 54 25.3 -0.4
PDAR	Pinedale Array	129.59	27	PKP		PKPdf	18 54 25.3 -0.4
	comp=Z,0.4nm,0.5s,baz=169,slow=1.5,SNR=3.9						
MIAR	Mount Ida	142.95	18	ePKPpre		PKPpre	18 54 45.5
TXAR	Lajitas Array	143.00	34	PKPpre		PKPpre	18 54 47.3
TXAR	Lajitas Array	143.00	34	PKhKP		PKPpre	18 54 47.3
	comp=Z,0.6nm,0.5s,baz=216,slow=0.7,SNR=23						
JCT	Junction City	144.10	29	ePKPdf		PKPab	18 54 49.5 -0.7
KMSC	Kings Mountain	144.34	1	ePKPdf		PKPab	18 54 49.5 -1.4
BDFB	Brasilia	144.40	244	PKP		PKPdf	18 54 53.0 -0.4
BDFB	Brasilia	144.40	244	PKP		PKPdf	18 54 53.0 -0.4
	comp=Z,5.8nm,0.8s,baz=109,slow=4.0,SNR=7.1						
CPUP	Villa Florida	145.94	220	PKPbc		PKPdf	18 54 55.5 -0.2
CPUP	Villa Florida	145.94	220	PKPbc		PKPdf	18 54 55.5 -0.2
	comp=Z,0.6nm,0.5s,baz=177,slow=4.1,SNR=4.0						

IDC 19 18:35:33.4±8.9, 20.77S×178.24W, h449km±87km, mb3.3/7, mb1 3.5/8, mb1mx3.3/19, mbtmp3.3/8, Error ellipse: s-maj=61.6km s-min=22.2km az=39.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	17.89	192	P	P	18 39 13.7	-1.1
	1.4nm,0.3s,baz=18,slow=16,SNR=7.7						
CTA	Charters Tower	33.24	265	P	P	18 41 32.9	+0.9
	4.1nm,0.4s,baz=104,slow=13,SNR=16						
STKA	Stephens Creek	37.47	244	P	P	18 42 07.4	+0.2
	1.0nm,0.4s,baz=92,slow=12,SNR=5.5						
ASAR	Alice Springs	44.23	257	P	P	18 42 59.9	-1.8
	5.0nm,0.8s,baz=93,slow=7.9,SNR=130						
WRA	Warramunga Arr	44.34	262	P	P	18 43 02.3	-0.2
	1.8nm,0.5s,baz=96,slow=7.1,SNR=18						
FITZ	Fitzroy Crossi	52.77	263	P	P	18 44 05.4	-0.2
	1.4nm,0.5s,baz=100,slow=7.0,SNR=6.5						
VNDA	Vanda	57.62	185	P	P	18 44 39.2	+0.5
	0.2nm,0.5s,baz=10,slow=6.1,SNR=3.1						
CMAR	Chiang Mai Arr	89.99	290	P	P	18 47 44.2	-0.2
	1.0nm,0.9s,baz=133,slow=3.3,SNR=6.6						
ARCES	ARCESS Array B	129.14	349	PKP	PKPdf	18 53 47.6	-1.2
	2.1nm,0.8s,baz=54,slow=6.2,SNR=4.5						
FINES	FINESS Array B	135.97	343	PKP	PKPdf	18 54 03.1	+1.3
	2.6nm,1.0s,baz=99,slow=6.0,SNR=3.4						
AKASG	Malin Array Be	143.14	331	PKP	PKPbc	18 54 12.9	-0.1
	3.0nm,0.5s,baz=42,slow=4.4,SNR=9.1						
BRTR	Keskin Array B	146.85	312	PKPbc	PKPbc	18 54 24.1	-0.6
	0.5nm,0.6s,baz=142,slow=6.0,SNR=4.4						
GERES	GERESS Array B	150.40	344	PKPbc	PKPbc	18 54 33.3	+0.1
	0.5nm,0.6s,baz=18,slow=1.7,SNR=6.5						

*ISCJB **19** 18:36:37.5±1.0, 50.88N±0.10×178.18E±0.07, h33km, mb3.6/6, Error ellipse: s-maj=14.0km s-min=6.1km az=178.6*
*NEIC **19** 18:36:38.3, 50.88N×178.10E, h25km, ML3.5(AEIC), After AEIC.*
*IDC **19** 18:36:43.5±4.1, 51.46N×178.45E, h43km±29km, mb3.4/6, mb1 3.7/8, mb1mx3.4/27, mbtmp3.5/8, ML3.7/2, Error ellipse: s-maj=67.7km s-min=17.9km az=10.0*

ISC 19 18:36:39.4±1.1, 51.0N±0.1×178.18E±0.05, h33km, n21, σ1§40/24, mb3.6/6, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	Amchitka	0.80	62	P	Pn	18 36 53.2	-1.1
AMKA				S	Sn	18 37 04.3	-0.8
LSSE	Little Sitkin	0.96	15	P	Pn	18 36 56.4	-0.2
LSPA	Little Sitkin	0.98	14	P	Pn	18 36 55.6	-1.2
LSNW	Little Sitkin	0.99	12	P	Pn	18 36 55.7	-1.2
CESW	Semis' Southwe	1.25	44	P	Pn	18 37 00.8	+0.3
CETU	Semis' Tuman	1.27	40	P	Pn	18 37 01.4	+0.6
CERAA	Semis' Rag'd T	1.30	46	P	Pn	18 37 01.6	+0.3
CERAA				S	Sn	18 37 19.5	+2.0
CEAP	Semis' Anvil P	1.33	41	P	Pn	18 37 02.2	+0.6
SMY	Shemya	3.06	306	P	Pn	18 37 22.5	-2.9
ADK	Adak	3.33	73	P	Pn	18 37 29.7	+0.6
ADK				S	Sn	18 38 08.4	+0.8
FX1	Attu Island--F	3.63	303	P	Pn	18 37 33.7	+0.6
FX1	Attu Island--F	3.63	303	P	Pn	18 37 36.2	+3.1
	12nm,0.3s,baz=129,slow=6.5,SNR=38						
FX1				S	Sn	18 38 16.9	+2.2
	4.3nm,0.3s,baz=106,slow=20,SNR=2.8						
NIKH	Nikolski High	8.25	71	P	Pn	18 38 34.5	-2.0
PETK	Petropavlovsk-	12.77	287	P	P	18 39 46.7	-2.4
	0.2nm,0.3s,baz=96,slow=15,SNR=6.2						
KDAK	Kodiak Island	18.22	57	P	P	18 40 47.9	-1.4
	1.0nm,0.3s,baz=265,slow=8.9,SNR=12						
ILAR	Eielson Array	22.73	39	P	P	18 41 36.6	-1.6
	0.6nm,0.5s,baz=231,slow=9.5,SNR=5.8						
PDAR	Pinedale Array	48.23	70	P	P	18 45 17.5	+0.6
	1.0nm,0.6s,baz=308,slow=3.8,SNR=8.1						
TXAR	Lajitas Array	60.59	79	P	P	18 46 47.8	+1.0
	0.2nm,0.5s,baz=308,slow=5.0,SNR=4.8						
FINES	FINESS Array B	65.70	346	P	P	18 47 20.4	+0.4
	0.6nm,0.8s,baz=38,slow=9.6,SNR=4.2						
AKASG	Malin Array Be	75.28	340	P	P	18 48 19.5	+0.9
	0.8nm,0.5s,baz=19,slow=6.0,SNR=2.8						
GERES	GERESS Array B	79.64	350	P	P	18 48 43.8	+0.6
	0.3nm,0.6s,baz=4.3,slow=3.9,SNR=2.1						

IDC 19 18:45:57.0±2.7, 30.58N×139.60E, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.5/22, mbtmp3.5/4, MS3.0/1, Ms1 3.0/1, ms1mx2.0/32, Error ellipse: s-maj=76.6km s-min=28.5km az=64.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	Asahikawa	13.72	9	LR	LR	18 54 04.0	
	comp=Z,59nm,19.1s,baz=349,slow=36						
CMAR	Chiang Mai Arr	38.71	261	P	P	18 53 22.8	-0.2
	1.0nm,0.7s,baz=49,slow=7.5,SNR=12						
ZALV	Zalesovo Beam	45.39	317	P	P	18 54 17.1	0.0
	0.6nm,0.6s,baz=101,slow=7.5,SNR=3.2						
WRA	Warramunga Arr	50.48	186	P	P	18 54 56.9	0.0
	1.1nm,0.9s,baz=4.1,slow=7.4,SNR=4.5						
ASAR	Alice Springs	54.21	186	P	P	18 55 24.3	-0.2
	0.2nm,0.8s,baz=16,slow=14,SNR=3.5						

IDC 19 18:49:32.6±5.9, 5.55N×94.27E, h79km±49km, mb3.2/6, mb1 3.4/8, mb1mx3.2/27, mbtmp3.2/8, ML3.5/2, Error ellipse: s-maj=82.8km s-min=17.2km az=55.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	5.38	120	P	Pn	18 50 50.7	+0.1
	1.1nm,0.3s,baz=322,slow=15,SNR=10						
PSI				S	Sn	18 51 53.6	+2.3
	0.5nm,0.3s,baz=182,slow=17,SNR=3.1						
CMAR	Chiang Mai Arr	13.62	19	P	Pn	18 52 42.8	+0.3
	0.1nm,0.3s,baz=205,slow=14,SNR=6.1						
MKAR	Makanchi Array	42.38	348	P	P	18 57 18.8	-0.3
	0.2nm,0.4s,baz=158,slow=8.7,SNR=2.5						
MKAR				PP	PP	18 58 56.3	-2.4
	0.7nm,0.6s,baz=154,slow=8.8,SNR=6.0						
WRA	Warramunga Arr	46.84	124	P	P	18 57 54.4	-0.5
	0.3nm,0.6s,baz=304,slow=8.9,SNR=4.2						
ASAR	Alice Springs	48.35	128	P	P	18 58 06.8	+0.1
	0.2nm,0.4s,baz=300,slow=8.1,SNR=10						
FINES	FINESS Array B	74.82	332	P	P	19 01 04.2	0.0
	0.4nm,0.4s,baz=92,slow=5.7,SNR=9.8						
ARCES	ARCESS Array B	77.49	340	P	P	19 01 19.2	0.0
	2.0nm,0.9s,baz=97,slow=5.7,SNR=6.6						
GERES	GERESS Array B	79.64	319	P	P	19 01 31.9	+0.3
	0.2nm,0.6s,baz=74,slow=4.2,SNR=3.1						

*MAN **19** 18:53:21, 13.18N×125.79E, h78km, mb5.0, ML3.9, MS4.0*
*ISCJB **19** 18:53:22.9±0.4, 13.17N±0.04×125.70E±0.05, h40km, mb4.1/18, MS3.2/1, Error ellipse: s-maj=7.4km s-min=5.5km az=168.8*
*IDC **19** 18:53:24.3±0.6, 13.13N×125.89E, h37km±4km, mb3.9/18, mb1 4.0/20, mb1mx4.0/27, mbtmp4.0/20, ML4.4/2, MS3.2/1, Ms1 3.2/1, ms1mx2.3/32, Error ellipse: s-maj=17.1km s-min=8.9km az=90.0*
*AUST **19** 18:53:56.5±0.0, 9.45N×126.93E, h64km, Error ellipse: s-maj=2.5km s-min=1.1km az=257.0*

ISC 19 18:53:24.7±0.5, 13.14N±0.04×125.77E±0.07, h40km, n44, σ1§53/56, mb4.1/18, 3C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVCP	Virac	1.64	286	eP	Pn	18 53 48.8	-2.3
PVCP				eS	Sn	18 54 01.9	-9.0
PLP	Palo	2.11	202	‖eP	Pn	18 53 56.9	-0.7
PLP				eS	Sn	18 54 17.1	-5.5
AUQP	San Andres	3.02	274	eP	Pn	18 54 10.7	+0.7
LLP	Lapu-Lapu	3.32	212	eP	Pn	18 54 12.6	-1.5
LLP				eS	Sn	18 54 51.2	-1.1
GQP	Guinayangan	3.33	284	‖eP	Pn	18 54 12.3	-1.9
RCP	Roxas	3.35	242	‖eP	Pn	18 54 14.3	-0.3
BOAC	Boac	3.84	275	eP	Pn	18 54 20.6	-0.7
SJMP	San Jose	4.59	262	eP	Pn	18 54 32.5	+0.9
TGY	Tagaytay City	4.80	282	Pn	Pn	18 54 36.3	+1.7
	20nm,0.3s,baz=197,slow=9.9,SNR=2.8						
TGY				Sn	Sn	18 55 31.4	+2.5
	13nm,0.3s,baz=224,slow=16,SNR=2.4						
BALP	Baler	4.82	303	eP	Pn	18 54 30.6	-4.1
PALP	Palanan	5.07	321	eP	Pn	18 54 35.2	-3.0
PCPH	Palayan	5.13	299	‖eP	Pn	18 54 35.1	-4.0
CAUP	Cauayan	5.37	315	eP	Pn	18 54 40.0	-2.4
SCZP	Santa Cruz	6.25	295	eP	Pn	18 54 52.2	-2.2
APYP	Conner	6.41	318	eP	Pn	18 54 55.5	-1.1
ABRA	Dolores	6.63	313	eP	Pn	18 54 58.2	-1.4
KAPI	Kappang	19.00	199	P	P	18 57 41.7	-1.4
	0.8nm,0.3s,baz=201,slow=20,SNR=7.1						
KAPI				S	S	19 01 18.1	+1.2
	0.9nm,0.3s,baz=230,slow=13,SNR=6.9						
KSRS	Korea Array	24.29	4	P	P	18 58 37.7	-0.6
	4.4nm,0.9s,baz=180,slow=10,SNR=12						
KSRS				pP	pP	18 58 48.5	-0.8
	3.5nm,1.1s,baz=177,slow=10.0,SNR=3.5						
CMAR	Chiang Mai Arr	26.34	285	P	P	18 58 57.6	+0.4
	4.1nm,0.7s,baz=97,slow=7.7,SNR=43						
CMAR				pP	pP	18 59 07.7	-0.4
	4.3nm,0.8s,baz=95,slow=7.5,SNR=11						
KDU	Kakadu	26.51	165	P	P	18 59 05.5	+6.9
	baz=23,SNR=3.4						
FITZ	Fitzroy Crossi	31.05	180	P	P	18 59 38.9	0.0
	2.3nm,0.7s,baz=359,slow=9.6,SNR=20						
FITZ	Fitzroy Crossi	31.05	180	P	P	18 59 41.7	+2.7
	baz=28,SNR=7.2						
USRK	Ussuriysk Arra	31.41	9	P	P	18 59 41.2	-0.8
	0.8nm,0.6s,baz=193,slow=12,SNR=4.2						
PATS	Pohnpei	32.63	98	S	S	19 05 10.5	+4.0
	baz=31,SNR=4.5						
WRA	Warramunga Arr	33.94	165	P	P	19 00 02.6	-1.7
	1.1nm,0.8s,baz=346,slow=9.3,SNR=5.9						
WRA				PcP	PcP	19 02 41.1	-1.1
	0.5nm,0.7s,baz=340,slow=3.5,SNR=3.7						
ASAJ	Asahikawa	34.07	22	LR	LR	19 13 22.4	
	comp=Z,42nm,19.5s,baz=100,slow=35						
ASAR	Alice Springs	37.44	168	P	P	19 00 33.2	-1.2
	0.9nm,0.7s,baz=348,slow=6.5,SNR=23						
ASAR				PcP	PcP	19 02 52.9	+0.4
	0.2nm,0.6s,baz=351,slow=3.1,SNR=4.2						
SONM	Songino Array	38.18	339	P	P	19 00 40.6	+0.1
	4.8nm,1.1s,baz=160,slow=9.0,SNR=2.9						
MEEK	Meekatharra	40.15	190	P	P	19 00 58.3	+1.3
	baz=37,SNR=3.1						
RMQ	Roma	45.29	150	P	P	19 01 40.0	+1.4
	baz=42,SNR=11						
BBOO	Buckleboo	46.74	168	P	P	19 01 50.5	+0.5
	baz=43,SNR=6.1						
PETK	Petropavlovsk-	47.26	26	P	P	19 01 54.3	+0.5
	3.9nm,0.8s,baz=232,slow=7.1,SNR=3.3						
STKA	Stephens Creek	47.26	162	P	P	19 01 54.4	+0.3
	4.5nm,0.8s,baz=339,slow=7.1,SNR=10						
STKA	Stephens Creek	47.26	162	P	P	19 01 54.6	+0.5
	baz=44,SNR=4.6						
CMSA	Cobar Meteorol	48.36	157	P	P	19 02 03.8	+1.2
	baz=45,SNR=6.7						
MKAR	Makanchi Array	49.48	322	P	P	19 02 12.1	+1.0
	4.6nm,0.7s,baz=112,slow=9.0,SNR=28						
MKAR				pP	pP	19 02 22.6	0.0
	4.2nm,0.8s,baz=107,slow=9.1,SNR=10						
MKAR				sP	sP	19 02 28.9	+1.6
	1.0nm,0.7s,baz=120,slow=7.2,SNR=2.3						
MKAR				PcP	PcP	19 03 33.4	+0.6
	0.7nm,0.8s,baz=117,slow=3.2,SNR=1.6						
ZALV	Zalesovo Beam	51.90	331	P	P	19 02 29.1	-0.1
	0.9nm,0.5s,baz=108,slow=8.3,SNR=4.6						
KURBB	Kurchatov Arra	53.46	324	P	P	19 02 41.4	+0.6
	1.7nm,0.4s,baz=121,slow=7.7,SNR=40						
KURBB				pP	pP	19 02 52.0	-0.3
	4.8nm,0.9s,baz=122,slow=7.3,SNR=14						
KURBB				sP	sP	19 02 57.1	+0.1
	4.3nm,1.0s,baz=120,slow=7.3,SNR=5.4						
ILAR	Eielson Array	77.09	26	P	P	19 05 13.6	0.0
	1.1nm,0.7s,baz=241,slow=6.1,SNR=7.4						
ILAR

MMSI	Mamuju	5.34	7	P	Pn	19 24 59.9	-0.3
	42nm,1.1s,1μm0.4nm						
MMSI				S	Sn	19 26 00.7	+0.1
	42nm,1.1s,1μm0.4nm						
SOEI	Soe	6.20	107	P	Pn	19 25 17.8	+5.8
SOEI	Soe	6.20	107	P	Pn	19 25 13.1	+1.1
	baz=6.5,SNR=5.3						
PWJI	Pagerwojo	6.37	270	P	Pn	19 25 14.8	+0.5
UGM	Wanagama	7.64	270	P	Pn	19 25 36.1	+4.3
	baz=7.4,SNR=4.4						
FITZ	Fitzroy Crossi	12.33	145	Pn	Pn	19 26 34.8	-1.2
	0.5nm,0.3s,baz=306,slow=18,SNR=15						
FITZ				Sn	Sn	19 28 43.9	-8.4
	0.2nm,0.3s,baz=49,slow=19,SNR=2.6						
FITZ				LR	LR	19 31 00.3	
	comp=Z,178nm,20.7s,baz=324,slow=36						
FITZ	Fitzroy Crossi	12.33	145	P	Pn	19 26 36.6	+0.6
	baz=13,SNR=12						
KNRA	Kununurra	12.79	127	P	Pn	19 26 40.3	-2.0
	baz=13,SNR=9.2						
MTN	Manton Dam	13.55	112	P	Pn	19 26 53.6	+0.9
	baz=14,SNR=4.3						
MTN				S	Sn	19 29 15.0	-7.0
	baz=14,SNR=3.4						
KDU	Kakadu	14.74	109	P	P	19 27 15.5	+1.2
	baz=15,SNR=4.4						
FAKI	Fak Fak	14.84	71	P	P	19 27 13.8	-1.6
	baz=15,SNR=7.2						
MEEK	Meekatharra	18.51	179	P	P	19 27 55.9	-0.1
	baz=19,SNR=8.6						
MEEK				S	Sn	19 31 00.3	-22
	baz=19,SNR=5.9						
WRA	Warramunga Arr	19.58	129	P	P	19 28 05.8	-2.0
	0.6nm,0.3s,baz=301,slow=12,SNR=20						
WRA				S	S	19 31 37.1	-10
	0.1nm,0.3s,baz=294,slow=27,SNR=2.6						
WRA				LR	LR	19 36 27.5	
	comp=Z,139nm,18.0s,baz=310,slow=40						
MORW	Morawa	21.03	185	P	P	19 28 26.1	+2.7
	baz=21,SNR=4.3						
MORW				S	S	19 32 14.6	-1.0
	baz=21,SNR=3.8						
ASAR	Alice Springs	21.62	138	P	P	19 28 28.5	-1.4
	4.3nm,0.6s,baz=310,slow=8.5,SNR=38						
ASAR				S	S	19 32 25.6	-1.7
	1.1nm,1.1s,baz=319,slow=20,SNR=4.1						
NWAO	Narrogin (SRO)	24.79	182	LR	LR	19 36 53.7	
	comp=Z,172nm,20.6s,baz=87,slow=32						
COEN	Coen	25.16	106	P	P	19 29 08.4	+3.5
	baz=25,SNR=5.7						
MTSU	Mount Surprise	27.28	114	P	P	19 29 23.7	-0.3
	baz=28,SNR=6.9						
PMG	Port Moresby	28.61	95	LR	LR	19 40 58.7	
	comp=Z,51nm,21.6s,baz=120,slow=36						
STKA	Stephens Creek	32.17	141	P	P	19 30 06.7	-0.5
	1.6nm,0.4s,baz=301,slow=6.1,SNR=11						
STKA				LR	LR	19 43 13.5	
	comp=Z,143nm,19.2s,baz=222,slow=37						
STKA	Stephens Creek	32.17	141	P	P	19 30 07.0	-0.2
	baz=32,SNR=8.4						
CMAR	Chiang Mai Arr	32.48	324	P	P	19 30 12.1	+2.1
	0.3nm,0.7s,baz=139,slow=7.2,SNR=3.8						
CMAR				LR	LR	19 44 29.5	
	comp=Z,78nm,19.2s,baz=140,slow=38						
KSRS	Korea Array	46.14	11	P	P	19 32 02.9	-0.7
	1.3nm,0.8s,baz=200,slow=5.2,SNR=4.8						
USRK	Ussuriysk Arra	53.45	12	P	P	19 32 59.2	+0.1
	1.0nm,0.6s,baz=187,slow=7.3,SNR=3.6						
URZ	Urewera	60.75	129	LR	LR	19 59 10.4	
	comp=Z,86nm,20.4s,baz=355,slow=35						
MKAR	Makanchi Array	63.26	333	P	P	19 34 07.8	+0.3
	1.3nm,0.8s,baz=151,slow=6.3,SNR=5.9						
MKAR				LR	LR	20 01 06.8	
	comp=Z,45nm,20.6s,baz=173,slow=36						
ZALV	Zalesovo Beam	67.87	339	P	P	19 34 36.7	-0.4
	1.7nm,0.6s,baz=148,slow=4.0,SNR=12						
VNDA	Vanda	73.06	171	P	P	19 35 07.8	-0.7
	0.3nm,0.7s,baz=339,slow=6.8,SNR=2.3						
BVAR	Borovoye Array	73.09	332	LR	LR	20 12 32.7	
	comp=Z,34nm,20.6s,baz=288,slow=40						

NIED ***19*** *19:35:00,25.°00N×125.°60E,h53km,Mw4.0 Best double couple: M0 9.56000×10^14 NP1:φ=249.00000°,δ=54.00000°, λ=124.00000°. NP2:φ=20.00000°,δ=48.00000°,λ=53.00000°.*

IDC ***19*** *19:35:23.6±0.9,26.°03N×125.°31E,h0km,mb3.9/14, mb1 4.1/14,mb1mx4.0/25,mbtmp3.9/14,Error ellipse: s-maj=32.5km s-min=19.6km az=68.0*

ISCJB ***19*** *19:35:24.0±0.4,25.°1N±0.°1×125.°57E±0.°09,h53km±7km, mb3.9/14,Error ellipse: s-maj=24.5km s-min=3.9km az=146.4*

JMA ***19*** *19:35:24.2,25.°02N×125.°63E,h52km±1km,M3.7*

ISC 19 19:35:24.6±0.9,25.°1N±0.°1×125.°56E±0.°09,h44km±12km, n31,σ=0.°74/38,mb3.9/14,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	Gusukube	0.37	203	P	Pn	19 35 33.7	-0.3
JOGS				S	Sn	19 35 40.7	0.0
JMJ	Miyako jima 2	0.38	220	P	Pn	19 35 34.2	+0.1
JMJ				S	Sn	19 35 41.3	+0.5
JTJ	Tarama	0.91	240	P	Pn	19 35 41.1	+0.1
JTJ				eS	Sn	19 35 53.6	+0.6
JIJ	Ishigaki jima	1.49	240	P	Pn	19 35 49.0	+0.1
JIJ				eS	Sn	19 36 07.8	+0.6
JKE	Kume jima 2	1.64	42	P	Pn	19 35 51.4	+0.4
JKE				eS	Sn	19 36 11.8	+0.9
JKRS	Kuro-shima	1.66	239	P	Pn	19 35 51.7	+0.5
JKRS				eS	Sn	19 36 12.6	+1.3
IRIF	Iriomote-Funau	1.84	246	P	Pn	19 35 54.0	+0.3
IRIF				eS	Sn	19 36 16.3	+0.6
HATJ	Hateruma jima	1.91	237	P	Pn	19 35 56.1	+1.4
HATJ				eS	Sn	19 36 18.4	+0.8
JAGN	Aguni-jima	2.11	45	P	Pn	19 35 58.7	+1.2
JAGN				eS	Sn	19 36 22.6	+0.1
JJT2	Tamagusuku 2	2.22	62	P	Pn	19 35 59.6	+0.6
YOJ	Yonaguni jima	2.41	255	P	Pn	19 36 02.0	+0.5
YOJ				eS	Sn	19 36 29.7	-0.1
JIH	Iheya	2.89	48	P	Pn	19 36 09.1	+0.9
JOW	Kunigami	2.98	54	P	Pn	19 36 10.3	+0.8
JTK	Tokunoshima	4.04	48	P	Pn	19 36 23.6	-0.4
JAMN	Amaminishikomi	4.49	45	P	Pn	19 36 30.9	+0.7
JAM	Amami Oshima	4.89	47	P	Pn	19 36 35.0	-0.6
ASAJ	Asahikawa	23.50	32	P	P	19 40 29.0	-1.4
	3.1nm,0.7s,baz=238,slow=19,SNR=4.7						
MKAR	Makanchi Array	40.52	314	P	P	19 42 58.9	-0.5
	0.3nm,0.4s,baz=102,slow=10,SNR=7.8						
ZALV	Zalesovo Beam	41.72	325	P	P	19 43 07.7	-1.4
	1.5nm,0.6s,baz=112,slow=7.8,SNR=9.3						
KURBB	Kurchatov Arra	44.04	318	P	P	19 43 27.4	-0.5
	1.7nm,0.2s,baz=107,slow=9.6,SNR=4.1						
WRA	Warramunga Arr	45.59	168	P	P	19 43 52.8	+12
	1.7nm,0.8s,baz=349,slow=8.4,SNR=7.0						
ASAR	Alice Springs	49.15	170	P	P	19 44 21.6	+13
	0.5nm,0.9s,baz=353,slow=6.8,SNR=3.7						
ILAR	Eielson Array	66.56	28	P	P	19 46 10.6	+0.8
	0.2nm,0.6s,baz=284,slow=7.3,SNR=2.9						
KBZ	Khabaz	68.00	309	P	P	19 46 20.2	+0.9
	1.3nm,0.7s,baz=36,slow=5.1,SNR=4.1						
ARCES	ARCESS Array B	70.16	338	P	P	19 46 31.6	-0.7
	2.8nm,0.9s,baz=52,slow=4.8,SNR=5.2						
FINES	FINESS Array B	72.65	330	P	P	19 46 47.3	-0.1
	0.6nm,0.4s,baz=48,slow=5.5,SNR=11						
AKASG	Malin Array Be	74.81	319	P	P	19 46 59.6	-0.6
	0.6nm,0.3s,baz=62,slow=7.0,SNR=3.8						
BRTR	Keskin Array B	75.81	307	P	P	19 47 06.8	+0.4
	1.9nm,0.8s,baz=89,slow=6.1,SNR=10						
NB2	NORSAR Subarra	79.24	333	PKP		20 06 45.9	
	comp=Z,15nm,1.4s,baz=16,slow=3.2						
NOA	NORSAR Array B	79.24	333	P	P	19 47 25.0	0.0
	comp=Z,0.8nm,0.8s,baz=53,slow=7.9,SNR=2.9						
GERES	GERESS Array B	84.62	322	P	P	19 47 54.0	+0.4
	comp=Z,0.5nm,0.7s,baz=40,slow=5.2,SNR=7.9						

AUST ***19*** *19:44:08.3±20.0,13.°01S×168.°12E,h0km±2km,Error ellipse: s-maj=3.4km s-min=1.5km az=239.0*

ISCJB ***19*** *19:44:34.6±0.5,14.°77S±0.°05×167.°36E±0.°07,h129km, mb4.3/23,Error ellipse: s-maj=10.6km s-min=6.1km az=162.9*

NEIC ***19*** *19:44:35.7±1.0,14.°81S×167.°35E,h122km±7km,mb4.6/11, Error ellipse: s-maj=10.5km s-min=6.6km az=69.0*

IDC ***19*** *19:44:35.7±2.2,14.°82S×167.°32E,h120km±18km, mb4.0/18,mb1 4.1/20,mb1mx4.0/26,mbtmp4.1/20,MS3.4/4, Ms1 3.4/4,ms1mx3.1/20,Error ellipse: s-maj=18.6km s-min=11.2km az=74.0*

ISC 19 19:44:36.6±0.6,14.°84S±0.°06×167.°31E±0.°09,h129km,n80, σ=1.°16/81,mb4.4/22,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	7.24	186	ePn	Pn	19 46 19.4	-0.5
	84nm,0.3s						
DZM				P	Pn	19 46 19.9	0.0
DZM				eSn	Sn	19 47 35.2	-5.6
DZM				S	Sn	19 47 41.5	+0.8
DZM	Mont Dzumac	7.24	186	P	Pn	19 46 19.9	0.0
	21nm,0.3s,baz=36,slow=17,SNR=237						
DZM				S	Sn	19 47 41.5	+0.8
	28nm,0.3s,baz=306,slow=22,SNR=11						
HNR	Honiara	8.98	306	P	Pn	19 46 44.1	+0.7
HNR				S	Sn	19 48 21.3	-1.6
HNR	Honiara	8.98	306	P	Pn	19 46 44.1	+0.7
	13nm,0.3s,baz=135,slow=2.9,SNR=5.1						
HNR				S	Sn	19 48 21.3	-1.6
	28nm,0.3s,baz=47,slow=23,SNR=7.9						
EIDS	Eidsvold	18.48	233	ePn	Pn	19 48 44.6	+0.3
	21nm,0.9s						
EIDS	Eidsvold	18.48	233	P	Pn	19 48 45.0	+0.7
	baz=20,SNR=9.1						
RAO	Raoul Island	19.80	139	LR	LR	19 54 57.0	
	comp=Z,206nm,20.9s,baz=195,slow=31						
PMG	Port Moresby	20.42	283	P	P	19 49 04.8	+1.0
PMG	Port Moresby	20.42	283	P	P	19 49 04.8	+1.0
	10nm,0.8s,baz=97,slow=16,SNR=3.2						
CTA	Charters Tower	20.75	252	P	P	19 49 07.7	+0.4
CTA	Charters Tower	20.75	252	P	P	19 49 07.7	+0.4
	2.8nm,0.4s,baz=87,slow=13,SNR=6.6						
CTAO	Charters Tower	20.75	252	eP	P	19 49 08.1	+0.8
	6.5nm,0.7s						
RMQ	Roma	20.84	233	P	Pn	19 49 10.2	-1.8
	baz=23,SNR=6.1						
ARMA	Armidale	21.17	220	eP	P	19 49 13.3	+1.5
	31nm,1.1s						
ARMA	Armidale	21.17	220	P	P	19 49 14.0	+2.2
	baz=23,SNR=9.1						
MGCD	Mangrove Creek	23.47	216	P	P	19 49 36.6	+2.1
	baz=26,SNR=5.6						
URZ	Urewera	24.89	161	P	P	19 49 46.1	-1.3
URZ	Urewera	24.89	161	P	P	19 49 46.1	-1.3
	11nm,0.7s,baz=359,slow=4.1,SNR=6.5						
CMSA	Cobar Meteorol	25.83	226	P	P	19 49 57.0	+1.0
	baz=28,SNR=8.5						
MMPI	Merauke	27.11	280	S	S	19 54 22.4	-14
	baz=28,SNR=3.5						
SNZO	South Karori	27.15	168	P	P	19 50 08.4	+0.8
	88nm,1.2s						
STKA	Stephens Creek	28.95	230	eP	P	19 50 25.0	+1.1
	4.9nm,1.0s						
STKA	Stephens Creek	28.95	230	P	P	19 50 25.2	+1.3
	19nm,0.7s,baz=53,slow=7.8,SNR=43						
STKA				LR	LR	20 01 52.8	
	comp=Z,70nm,18.5s,baz=24,slow=36						
STKA	Stephens Creek	28.95	230	P	P	19 50 25.2	+1.3
	baz=31,SNR=36						
RPZ	Rata Peaks	28.96	174	P	P	19 50 24.2	+0.4
RPZ	Rata Peaks	28.96	174	P	P	19 50 24.2	+0.4
	6.5nm,0.7s,baz=19,slow=7.0,SNR=4.3						
RPZ				LR	LR	20 00 50.9	
	comp=Z,62nm,21.2s,baz=354,slow=34						
WRA	Warramunga Arr	31.84	256	P	P	19 50 48.1	-1.3
WRA	Warramunga Arr	31.84	256	P	P	19 50 48.1	-1.3
	1.2nm,0.7s,baz=86,slow=9.1,SNR=12						
AS31	Alice Springs	32.67	249	eP	P	19 50 55.8	-1.0
ASAR	Alice Springs	32.67	249	P	P	19 50 56.0	-0.8
ASAR				ScP	ScP	19 57 14.0	+2.1
ASAR	Alice Springs	32.67	249	P	P	19 50 56.0	-0.8
	3.3nm,0.7s,baz=76,slow=9.2,SNR=33						
ASAR				ScP	ScP	19 57 14.0	+2.1
	2.0nm,1.2s,baz=99,slow=2.9,SNR=4.8						
BBOO	Buckleboo	33.54	232	P	P	19 51 05.1	+0.9
	baz=35,SNR=7.6						
KDU	Kakadu	33.89	269	S	S	19 56 53.0	+30
	baz=35,SNR=4.9						
KNRA	Kununurra	37.17	264	P	P	19 51 34.8	-0.6
	baz=38,SNR=5.1						
FITZ	Fitzroy Crossi	40.03	259	P	P	19 51 58.2	-1.1
FITZ	Fitzroy Crossi	40.03	259	P	P	19 51 58.2	-1.1
	1.7nm,0.6s,baz=94,slow=12,SNR=13						
FITZ	Fitzroy Crossi	40.03	259	P	P	19 51 59.0	-0.3
	baz=41,SNR=6.4						
SOEI	Soe	42.31	272	S	S	19 58 38.4	+8.6
	baz=43,SNR=3.3						
MBWA	Marble Bar	45.55	255	P	P	19 52 43.6	-0.2
	15nm,1.1s						
MEEK	Meekatharra	46.78	247	P	P	19 52 53.3	-0.1
	baz=48,SNR=7.3						
KKM	Kota Kinabalu	54.73	289	P	P	19 53 52.2	-1.0
MAJO	Matsushiro	58.02	332	P	P	19 54 15.9	-0.1
KSM	Kuching	58.67	281	P	P	19 54 19.5	-1.5
JNU	Nakatsue	59.03	324	P	P	19 54 22.0	-1.1
JNU	Nakatsue	59.03	324	P	P	19 54 22.0	-1.1
	10nm,1.0s,baz=126,slow=19,SNR=3.8						
VNDA	Vanda	62.75	181	eP	P	19 54 47.8	+0.2
	10.0nm,1.1s						
VNDA	Vanda	62.75	181	P	P	19 54 48.0	+0.4
	3.7nm,0.8s,baz=358,slow=6.8,SNR=27						
ASAJ	Asahikawa	62.86	340	P	P	19 54 48.5	-0.1
ASAJ	Asahikawa	62.86	340	P	P	19 54 48.5	-0.1
	9.2nm,0.9s,baz=238,slow=19,SNR=5.8						
SBA	Scott Base	63.03	180	eP	P	19 54 50.5	+1.1
	21nm,1.0s						
CASY	Casey	63.44	202	eP	P	19 54 52.5	+0.2
KSRS	Korea Array	63.85	326	P	P	19 54 55.4	+0.1
	1.6nm,1.0s,baz=144,slow=11,SNR=4.4						
KSAR	Wonju Array Be	63.87	326	P	P	19 54 55.4	0.0
USRK	Ussuriysk Arra	67.00	333	P	P	19 55 16.8	+1.3
	1.9nm,0.8s,baz=149,slow=4.0,SNR=5.2						
PETK	Petropavlovsk-	68.17	354	P	P	19 55 23.0	+0.3
PETK	Petropavlovsk-	68.17	354	P	P	19 55 23.0	+0.3
	5.7nm,0.9s,baz=176,slow=7.0,SNR=4.4						
PETK				LR	LR	20 21 50.4	
	comp=Z,23nm,18.9s,baz=348,slow=33						
ENH	Enshi	71.47	309	P	P	19 55 43.1	-0.3
	1.9nm,0.6s						
CMAR	Chiang Mai Arr	75.03	294	P	P	19 56 05.2	+0.7
CMAR	Chiang Mai Arr	75.03	294	P	P	19 56 05.2	+0.7
	0.9nm,0.8s,baz=116,slow=4.1,SNR=6.6						
CHTO	Chiang Mai	75.16	294	P	P	19 56 06.1	+0.8
QSPA	South Pole Qui	75.19	180	eP	P	19 56 04.6	-0.2
	16nm,1.1s						
ILAR	Eielson Array	86.62	18	P	P	19 57 04.2	-0.9
ILAR	Eielson Array	86.62	18	P	P	19 57 04.2	-0.9
	0.9nm,0.7s,baz=229,slow=7.0,SNR=8.1						
SNAA	Sanae	93.44	183	eP	P	19 57 36.0	-1.1
	5.2nm,1.1s						
MKAR	Makanchi Array	97.31	316	P	Pdif	19 57 55.2	+0.1
MKAR	Makanchi Array	97.31	316	P	Pdif	19 57 55.2	+0.1
	0.5nm,0.6s,baz=82,slow=6.6,SNR=7.9						
ZAA0	Zalesovo Array	97.50	324	P	P	19 57 54.9	-0.8
ZALV	Zalesovo Beam	97.50	324	P	P	19 57 55.2	-0.6
ZALV	Zalesovo Beam	97.50	324	P	P	19 57 55.2	-0.6
	0.2nm,0.3s,baz=95,slow=6.7,SNR=3.0						
ARCES	ARCESS Array B	120.37	345	PKP	PKPdf	20 03 11.5	-0.6
ARCES	ARCESS Array B	120.37	345	PKP	PKPdf	20 03 11.5	-0.6
	1.0nm,0.6s,baz=80,slow=2.3,SNR=9.4						
FINES	FINESS Array B	125.84	338	PKP	PKPdf	20 03 23.8	+1.1
FINES	FINESS Array B	125.84	338	PKP	PKPdf	20 03 23.8	+1.1
	3.5nm,1.1s,baz=22,slow=4.5,SNR=4.5						
NOA	NORSAR Array B	130.74	345	SKPbc	SKPab	20 06 45.4	+0.9
NOA	NORSAR Array B	130.74	345	SKPbc	SKPab	20 06 45.4	+0.9
	6.4nm,1.2s,baz=30,slow=3.1,SNR=4.5						
AKASG	Malin Array Be	130.85	326	SKPbc	SKPab	20 06 46.6	+1.4
AKASG	Malin Array Be	130.85	326	SKPbc	SKPab	20 06 46.6	+1.4
	0.2nm,0.3s,baz=44,slow=4.7,SNR=5.1						
BNI	Bardonecchia	145.71	335	ePKPdf	PKPbc	20 04 00.7	0.0
TORD	Torodi Ar. Bea	165.94	265	PKPab	PKPab	20 05 27.7	-0.1
TORD	Torodi Ar. Bea	165.94	265	PKPab	PKPab	20 05 27.7	-0.1
	0.5nm,0.8s,baz=82,slow=3.7,SNR=2.7						

WEL 19 19:45:27.2±0.3,41.°56S×178.°92W,h33km,ML3.6/6,1C, Error ellipse: s-maj=5.1km s-min=3.9km az=90.0,East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTZ	Chatham Island	2.76	143	PN	Pn	19 46 08.4	-0.7
CTZ				SN	Sn	19 46 39.1	-2.2
PXZ	Pawanui	3.54	294	PN	Pn	19 46 19.3	-0.7
PXZ				SN	Sn	19 46 58.0	-2.6
KAHZ	Kahuranaki	3.65	297	PN	Pn	19 46 21.0	-0.4
PNHZ	Pukenui	4.05	292	PN	Pn	19 46 26.5	-0.5
PNHZ				SN	Sn	19 47 10.5	-2.9
NMHZ	Naumai	4.09	306	PN	Pn	19 46 27.2	-0.3
MWZ	Matawai	4.22	319	↑PN	Pn	19 46 28.0	-1.3
MWZ				SN	Sn	19 47 13.4	-4.1
BKZ	Black Stump Fm	4.24	303	PN	Pn	19 46 28.9	-0.6
MRZ	Mangatainoka R	4.25	280	PN	Pn	19 46 28.4	-1.2
MRZ				SN	Sn	19 47 13.8	-4.4
URZ	Urewera	4.49	316	PN	Pn	19 46 31.9	-1.0
OGWZ	Otaki Gorge	4.52	277	PN	Pn	19 46 32.0	-1.3
KIW	Kapiti Island	4.71	276	PN	Pn	19 46 34.5	-1.4
TUVZ	Tukino	4.73	297	PN	Pn	19 46 37.1	+0.6
WNVZ	Wahianoa	4.74	296	PN	Pn	19 46 37.0	+0.4
QRZ	Quartz Range	6.49	274	ePN	Pn	19 46 59.7	-0.8

IDC 19 19:47:27.5±53.0,16.°58S×179.°22W,h0km,mb3.7/3, mb1 3.8/3,mb1mx3.6/16,mbtmp3.7/3,Error ellipse: s-maj=970.2km s-min=169.5km az=77.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	38.61	239	P	P	19 54 52.4	-0.2
	0.9nm,0.7s,baz=95,slow=11,SNR=2.9						
WRA	Warramunga Arr	44.13	258	P	P	19 55 38.1	0.0
	0.1nm,0.3s,baz=91,slow=8.0,SNR=6.5						
ASAR	Alice Springs	44.42	253	P	P	19 55 40.2	-0.2
	1.3nm,0.5s,baz=88,slow=8.3,SNR=18						

MEX 19 19:48:36.6±0.4,16.°96N×100.°32W,h5km,MD3.5,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	El Cayaco	0.10	28	i P	Pg	19 48 38.2	-0.5
CAIG				i S	Sg	19 48 39.9	-0.3
ARIG	Puente Sto Nin	1.32	359	eP	Pn	19 48 57.7	-4.0
ARIG				i S	Sg	19 49 14.6	-4.4
PLIG	Platanillo	1.62	28	i P	Pn	19 49 03.1	-3.0
PLIG				i S	Sn	19 49 23.5	-4.0
PNIG	Pinotepa	2.17	105	i P	Pn	19 49 10.8	-2.7
PNIG				i S	Sn	19 49 37.0	-3.8

IDC 19 20:15:01.7±1.9,13.°73N×93.°67E,h0km,mb3.4/3, mb1 3.5/4,mb1mx3.3/26,mbtmp3.2/4,ML3.0/1,Error ellipse: s-maj=45.9km s-min=26.2km az=73.0,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	6.92	46	Pn	Pn	20 16 44.2	-0.2
	0.1nm,0.3s,baz=238,slow=15,SNR=3.5						
CMAR				Sn	Sn	20 18 03.8	-0.2
	0.1nm,0.3s,baz=237,slow=27,SNR=3.7						
MKAR	Makanchi Array	34.32	346	P	P	20 21 51.1	+1.1
	0.5nm,0.7s,baz=162,slow=7.5,SNR=4.1						
WRA	Warramunga Arr	52.16	129	P	P	20 24 14.2	-0.2
	0.2nm,0.6s,baz=305,slow=6.9,SNR=7.1						
ASAR	Alice Springs	54.12	133	P	P	20 24 28.3	-0.6
	0.2nm,0.4s,baz=313,slow=6.6,SNR=8.4						

BKK ***19*** *20:21:50.8±2.3,77.°N±11.°×±4.°3,h10km,M5.0/14,mB5.8/1, mb5.0/14,Mw(mB)5.3/1*

BJI ***19*** *20:21:52.4,76.°30N×6.°20E,h10km,mB5.1/29,mb4.8/45, Ms4.9/26,Ms7 4.5/27*

ISCJB ***19*** *20:21:54.0±1.3,76.°33N±0.°02×6.°15E±0.°08,h3km±8km, mb4.8/203,MS4.1/42,Error ellipse: s-maj=4.0km s-min=2.0km az=42.3*

MOS ***19*** *20:21:55.2±0.8,76.°28N×5.°97E,h11km,mb5.0/89,Error ellipse: s-maj=22.6km s-min=3.4km az=94.1*

IDC ***19*** *20:21:55.2±0.5,76.°31N×6.°54E,h0km,mb4.5/19, mb1 4.6/24,mb1mx4.5/31,mbtmp4.5/24,ML3.4/4,MS3.9/29, Ms1 3.9/29,ms1mx3.8/37,Error ellipse: s-maj=13.1km s-min=9.7km az=69.0*

CSEM ***19*** *20:21:56.1±0.1,76.°33N×6.°16E,h10km,mb4.8/99,Ms3.4, Mw4.9,Error ellipse: s-maj=4.4km s-min=2.4km az=52.0*

NEIC ***19*** *20:21:56.4±0.1,76.°30N×6.°30E,h10km,mb4.9/109,Error ellipse: s-maj=4.6km s-min=2.6km az=60.0*

GCMT ***19*** *20:21:56.7±0.3,76.°44N×6.°18E,h12km,MW4.9,Moment Tensor Solution. s17,c19; s69,c96; Moment tensor: Scale 10^16Nm; Mrr2.22±.07; Mθθ-0.14±.08; Mφφ-2.08±.07; Mrθ0.00±.33; Mθφ-0.66±.08; Mφr1.54±.31; Best double couple: M0 2.70000×10^16 NP1:φ=7.00000°,δ=62.00000°, λ=81.00000°. NP2:φ=206.00000°,δ=29.00000°,λ=107.00000°. Principal axes: T 2.7300, Plg71.0000°, Azm257.0000°; N 0.0000, Plg8.0000°, Azm12.0000°; P -2.7300, Plg17.0000°, Azm104.0000°; Data Used: II IU G IC CN.*

TEH ***19*** *20:21:57.0,76.°30N×6.°48E,h10km,ML4.9*

NAO ***19*** *20:21:57.2±2.6,76.°33N×7.°92E,ML4.1*

BER ***19*** *20:21:58.4±3.2,76.°32N×7.°08E,h21km±54km,MD3.0, ML2.9,ML4.1(NAO)*

ISC 19 20:21:55.5±1.0,76.°41N±0.°04×6.°40E±0.°03,h3km±5km, n987,σ=1.°20/1007,mb4.8/203,MS4.0/42,152C-122D, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSP	Hornsund	2.20	70	eP	Pn	20 22 29.4	-3.3
HSP				eS	Sn	20 22 50.8	-10
KBS	Kingsbay	2.79	23	Pn	Pn	20 22 38.9

ARA0 ARCESS Array S 8.83 131 Pn **Pn 20 24 00.6 -3.2**
baz=329,slow=12
ARA0 Sn Sn 20 25 31.1 -12
baz=335,slow=28
ARA0 ARCESS Array S 8.83 131 Pn **Pn 20 24 00.6 -3.2**
baz=329,slow=12,SNR=1.1
ARCES ARCESS Array B 8.83 131 Pn Pn 20 24 00.2 -3.6
ARCES Sn Sn 20 25 30.2 -13
ARCES ARCESS Array B 8.83 131 Pn Pn 20 24 00.2 -3.6
comp=Z,1.0nm,0.3s,baz=341,slow=12,SNR=30
ARCES Sn Sn 20 25 30.2 -13
comp=Z,3.8nm,0.3s,baz=338,slow=22,SNR=13
ARCES LR LR 20 27 24.3
comp=Z,748nm,20.2s,baz=333,slow=38
KTK1 Kautokeino 8.91 138 *e*Pn **Pn 20 24 03.3 -1.5**
KTK1 Kautokeino 8.91 138 *e*Pn **Pn 20 24 03.3 -1.5**
SNR=55
SCO Scoresbysund 9.92 248 *i* P Pn 20 24 14.8 -3.7
SCO Scoresbysund 9.92 248 *i* P Pn 20 24 14.8 -3.7
SCO *i* S Sn 20 25 58.8 -11
APA0 Apatity Array 11.90 124 Pn **Pn 20 24 44.8 -0.9**
baz=332,slow=9.3
APA0 Apatity Array 11.90 124 Pn **Pn 20 24 44.8 -0.9**
baz=332,slow=9.3
APA0 Apatity Array 11.90 124 Pn **Pn 20 24 44.8 -0.9**
baz=332,slow=9.0,SNR=3.7
LVZ Lovozero 11.98 120 *i* P **Pn 20 24 48.1 +1.2**
LVZ Lovozero 11.98 120 *i* P **Pn 20 24 48.1 +1.2**
APA Apatity 12.01 123⇑*i*P **Pn 20 24 46.6 -0.6**
APA *i* 20 26 56.0
APA MLR MLR
comp=Z,1μm,15.0s
APA Apatity 12.01 123 *i* P **Pn 20 24 46.6 -0.6**
comp=Z,1μm,15.0s
SUMG Summit 12.31 275 *e*P Pn 20 24 48.9 -2.8
SUMG Summit 12.31 275 *i* P **Pn 20 24 49.4 -2.3**
SUMG Summit 12.31 275 *e*Pn Pn 20 24 48.9 -2.8
SUMG *e*Sn Sn 20 26 58.4 -11
SUMG Summit 12.31 275 *e*Pn Pn 20 24 48.9 -2.8
BORG Borgarnes 14.65 232 LR LR 20 29 19.9
comp=Z,843nm,21.1s,baz=238,slow=30
NB2 NORSAR Subarra 15.53 171 P **Pn 20 25 35.2 +0.1**
NB2 NORSAR Subarra 15.53 171 P **Pn 20 25 36.0 +0.9**
comp=Z,27nm,1.4s,baz=357,slow=11
NB2 NORSAR Subarra 15.53 171 Pn **Pn 20 25 35.2 +0.1**
NB2 NORSAR Subarra 15.53 171 Pn **Pn 20 25 35.2 +0.1**
SNR=55
NOA NORSAR Array B 15.53 171 Pn **Pn 20 25 35.3 +0.3**
NOA NORSAR Array B 15.53 171 Pn **Pn 20 25 35.3 +0.3**
comp=Z,0.1nm,0.3s,baz=353,slow=13,SNR=4.9
NOA LR LR 20 31 06.1
comp=Z,250nm,18.0s,baz=355,slow=36
NOA NORSAR Array B 15.53 171 Pn **Pn 20 25 35.3 +0.3**
NAO01 NORSAR Array S 15.72 172 *e*Pn **P 20 25 38.7 -2.8**
comp=Z,17nm,1.1s
NAO01 NORSAR Array S 15.72 172 *e*Pn **P 20 25 38.7 -2.8**
comp=Z,17nm,1.1s
KAF Kangasniemi 15.83 144 *e*P **Pn 20 25 35.9 -3.0**
KAF Kangasniemi 15.83 144 *e*p **Pn 20 25 35.9 -3.0**
JOF Joensuu 15.83 135 *e*P Pn 20 25 33.9 -5.0
JOF Joensuu 15.83 135 *e*p Pn 20 25 33.9 -5.0
TMCR Tamitsa 15.93 123 *e*P **P 20 25 42.9 -0.9**
TMCR *e* 20 28 39.9
TMCR pmax pmax
comp=Z,78nm,1.4s
TMCR Tamitsa 15.93 123 *e*P **P 20 25 42.9 -0.9**
comp=Z,78nm,1.4s
FIA0 FINESS Array S 16.44 145 P **Pn 20 25 43.8 -2.9**
baz=354,slow=14
FIA0 FINESS Array S 16.44 145 Pn **Pn 20 25 43.8 -2.9**
baz=354,slow=14
FIA0 FINESS Array S 16.44 145 Pn **Pn 20 25 43.8 -2.9**
baz=354,slow=13,SNR=55
FIA1 FINESS Array S 16.44 145 *e*Pn **Pn 20 25 43.6 -3.1**
FIA1 FINESS Array S 16.44 145 *e*Pn **Pn 20 25 43.6 -3.1**
FINES FINESS Array B 16.44 145 Pn **Pn 20 25 43.9 -2.8**
FINES Sn Sn 20 28 36.6 -13
FINES FINESS Array B 16.44 145 Pn **Pn 20 25 43.9 -2.8**
comp=Z,0.2nm,0.3s,baz=3.0,slow=12,SNR=12
FINES Sn Sn 20 28 36.6 -13
comp=Z,0.1nm,0.3s,baz=353,slow=21,SNR=2.9
FINES LR LR 20 32 04.2
comp=Z,594nm,19.7s,baz=270,slow=37
FINES FINESS Array B 16.44 145 Pn **Pn 20 25 43.9 -2.8**
HFS Hagfors 16.55 167 P **P 20 25 50.1 -0.6**
baz=353,slow=12
HFS Hagfors 16.55 167 Pn **P 20 25 50.1 -0.6**
baz=353,slow=12
HFS Hagfors 16.55 167 Pn **P 20 25 48.2 -2.6**
HFS Hagfors 16.55 167 Pn **P 20 25 48.2 -2.6**
comp=Z,0.3nm,0.3s,baz=359,slow=13,SNR=31
HFS LR LR 20 31 19.5
comp=Z,362nm,19.9s,baz=348,slow=34
HFS Hagfors 16.55 167 Pn **P 20 25 48.2 -2.6**
HFS Hagfors 16.55 167 P **P 20 25 50.1 -0.6**
baz=353,slow=12,SNR=5.1
KONO Kongsberg 16.88 174 *e*P **Pn 20 25 51.5 -0.7**
KONO pmax pmax
comp=Z,132nm,1.2s
KONO Kongsberg 16.88 174 *e*Pn **Pn 20 25 51.5 -0.7**
comp=Z,132nm,1.2s
KONO Kongsberg 16.88 174 *e*Pn **Pn 20 25 51.5 -0.7**
comp=Z,132nm,1.2s
KLMR Klimovskoe 19.23 126 *e*P **P 20 26 19.6 -0.7**
KLMR pmax pmax
comp=Z,69nm,1.2s
KLMR Klimovskoe 19.23 126 *e*P **P 20 26 19.6 -0.7**
comp=Z,69nm,1.2s
SFJD Kangerlussuaq 19.26 272 P **P 20 26 18.0 -2.5**
comp=Z,26nm,1.2s
SFJD Kangerlussuaq 19.26 272 LR LR 20 34 51.9
comp=Z,321nm,18.6s,baz=39,slow=40
SFJD Kangerlussuaq 19.26 272 P **P 20 26 18.0 -2.5**
comp=Z,26nm,1.2s
VSU Vasula 19.41 147 *i* P **P 20 26 20.5 -1.8**
VSU pmax pmax
comp=Z,109nm,1.1s
VSU MLR MLR
comp=Z,1μm,23.0s
VSU Vasula 19.41 147 *i* P **P 20 26 20.5 -1.8**
comp=Z,1μm,23.0s
EKA Eskdalemuir Ar 21.46 195 P **P 20 26 43.9 -0.7**
EKA Eskdalemuir Ar 21.46 195 P **P 20 26 43.9 -0.7**
comp=Z,3.7nm,1.0s,baz=11,slow=9.4,SNR=4.8
EKA Eskdalemuir Ar 21.46 195 P **P 20 26 43.8 -0.7**
RES Resolute Bay 22.42 317 LR LR 20 35 29.5
comp=Z,297nm,19.9s,baz=28,slow=36
BSEG Bad Segeberg 22.62 174 *e*P **P 20 26 56.6 -0.3**
comp=Z,73nm,1.4s
BSEG Bad Segeberg 22.62 174 *e*P **P 20 26 56.6 -0.3**
BSEG pmax pmax
comp=Z,73nm,1.4s
BSEG Bad Segeberg 22.62 174 *e*P **P 20 26 56.6 -0.3**
comp=Z,73nm,1.4s
NACGM Naroch 22.90 149 *e* **P 20 26 56.0 -3.8**
SUW Suwalki 23.37 155 *e*P **P 20 27 03.9 -0.7**
SUW pmax pmax
comp=Z,109nm,1.2s
SUW Suwalki 23.37 155 *e*P **P 20 27 03.9 -0.7**
comp=Z,109nm,1.2s
SUW Suwalki 23.37 155 *e*P **P 20 27 02.7 -1.9**
SUW Suwalki 23.37 155 *e*P **P 20 27 03.9 -0.7**
comp=Z,109nm,1.2s
MNK Minsk 23.42 148⇑*e*P **P 20 27 04.0 -1.2**
MNK pmax pmax
comp=Z,120nm,1.0s
MNK Minsk 23.42 148 *e*P **P 20 27 04.0 -1.2**
comp=Z,120nm,1.0s
MICGM Minsk 23.43 148⇑*e*P **P 20 27 04.0 -1.2**
GKP Gorka Klasztor 23.60 164 *e*P **P 20 27 07.1 +0.1**
GKP Gorka Klasztor 23.60 164 *e*P **P 20 27 07.1 +0.1**
MOS Moscow 23.70 133 *e*P **P 20 27 06.6 -1.3**
MOS pmax pmax
comp=Z,57nm,1.2s
MOS Moscow 23.70 133 *e*P **P 20 27 06.6 -1.3**
comp=Z,57nm,1.2s
SOKR Solikamsk 24.04 106*c i*P **P 20 27 11.1 0.0**
SOKR pmax pmax
comp=Z,70nm,0.9s
SOKR Solikamsk 24.04 106 *i* P **P 20 27 11.1 0.0**
comp=Z,70nm,0.9s
NRDL Niedersach Rie 24.06 174 *e*P **P 20 27 10.7 -0.6**
comp=Z,167nm,2.1s
OBN Obninsk 24.11 135⇑*i*P **P 20 27 11.3 -0.6**
OBN *i* S **S 20 31 30.6 +0.9**
OBN pmax pmax
comp=Z,58nm,1.4s
OBN MLR MLR
comp=Z,400nm,20.0s
OBN Obninsk 24.11 135 *i* P **P 20 27 11.3 -0.6**
comp=Z,400nm,20.0s
RUE Ruedersdorf 24.20 169 P **P 20 27 09.1 -3.5**
comp=Z,51nm,1.5s
CLZ Clausthal 24.72 174 *e*P **P 20 27 18.4 +0.9**
comp=Z,21nm,1.1s
CLZ Clausthal 24.72 174 *e*P **P 20 27 18.4 +0.9**
CLZ pmax pmax
comp=Z,21nm,1.1s
CLZ Clausthal 24.72 174 *e*P **P 20 27 18.4 +0.9**
comp=Z,21nm,1.1s
BUG Bochum--Univer 25.07 179 *e*P **P 20 27 21.7 +1.1**
comp=Z,57nm,1.3s
BEL Belsk 25.30 159 *e*P **P 20 27 23.0 +0.4**
BEL Belsk 25.30 159 *e*P **P 20 27 23.1 +0.4**
CLL Collm 25.33 170 *e*P **P 20 27 22.5 -0.5**
comp=Z,12nm,1.3s
CLL Collm 25.33 170 *i* P **P 20 27 22.3 -0.7**
CLL *i* 20 27 27.0
CLL pmax pmax
comp=Z,12nm,1.3s
CLL MLR MLR
comp=Z,300nm,19.3s
CLL Collm 25.33 170 *i* P **P 20 27 22.3 -0.7**
comp=Z,12nm,1.3s
CLL *i* sP sP 20 27 27.0 +2.6
CLL *i* 20 27 39.1
CLL Lm MLR 20 36 00.0
comp=Z,300nm,19.3s
CLL Collm 25.33 170 *i* P **P 20 27 22.3 -0.7**
comp=Z,12nm,1.3s
NEUB Neuenburg 25.39 172 *e*P **P 20 27 23.4 -0.1**
comp=Z,37nm,1.0s
BEBN Eben Emael 25.72 181 P **P 20 27 27.1 +0.6**
UBBA Unterbreizbach 25.73 175 *e*P **P 20 27 27.3 +0.8**
comp=Z,34nm,1.7s
FBE Freiberg 25.73 170 *e*P **P 20 27 26.6 0.0**
comp=Z,48nm,1.5s
BRG Berggiesshubel 25.81 169 *e*P **P 20 27 27.0 -0.3**
comp=Z,22nm,1.4s
BRG S **S 20 31 59.0 +2.1**
BRG Berggiesshubel 25.81 169 *e*P **P 20 27 27.0 -0.3**
comp=Z,22nm,1.4s
BRG Berggiesshubel 25.81 169 *e*P **P 20 27 27.0 -0.3**
BRG S **S 20 31 59.0 +2.1**
BRG pmax pmax
comp=Z,22nm,1.4s
BRG Berggiesshubel 25.81 169 *e*P **P 20 27 27.0 -0.3**
comp=Z,22nm,1.4s
MEM Membach 25.90 181 P **P 20 27 27.0 -1.1**
comp=Z,8.8nm,2.0s
MOX Moxa 25.95 172 *e*P **P 20 27 28.8 +0.2**
comp=Z,28nm,1.3s
MOX Moxa 25.95 172 *e*P **P 20 27 28.8 +0.2**
MOX pmax pmax
comp=Z,28nm,1.3s
KSP Ksiaz 25.96 166 *e*P **P 20 27 28.2 -0.4**
KSP Ksiaz 25.96 166 *e*P **P 20 27 28.3 -0.4**
SNF Seneffe 26.02 183 P **P 20 27 28.0 -1.1**
BCLA Clavier 26.09 182 P **P 20 27 30.1 +0.2**
WERD Werda 26.17 171 *e*P **P 20 27 30.7 +0.1**
comp=Z,34nm,1.9s
PVCC Panska Ves 26.18 168 *e*P **P 20 27 30.4 -0.3**
PVCC Panska Ves 26.18 168 *e*P **P 20 27 30.4 -0.3**
TANN Tannenbergstha 26.21 171 *e*P **P 20 27 31.2 +0.2**
comp=Z,23nm,1.5s
GUNZ Gunzen 26.25 171 *e*P **P 20 27 31.5 +0.1**
comp=Z,25nm,1.3s
UPC Upice 26.28 166 *e*P **P 20 27 30.8 -0.8**
UPC Upice 26.28 166 *e*P **P 20 27 30.8 -0.8**
TNS Taunus Mts 26.30 177 *e*P **P 20 27 32.7 +0.9**
comp=Z,13nm,1.2s
TNS Taunus Mts 26.30 177 *e*P **P 20 27 32.7 +0.9**
TNS pmax pmax
comp=Z,13nm,1.2s
DOU Dourbes 26.43 183 P **P 20 27 32.8 0.0**
DPC Dobruska-Polom 26.45 166 *e*P **P 20 27 32.3 -0.9**
DPC Dobruska-Polom 26.45 166 *e*P **P 20 27 32.3 -0.9**
DPC AMS AMS 20 37 20.0
BAIF Baives 26.47 183 *e*P **P 20 27 32.8 -0.4**
comp=Z,57nm,1.3s
BAIF Baives 26.47 183 *e*P **P 20 27 32.8 -0.4**
BAIF pmax pmax
comp=Z,57nm,1.3s
BAIF Baives 26.47 183 *e*P **P 20 27 32.8 -0.4**
comp=Z,57nm,1.3s
BAIF Baives 26.47 183 *e*P **P 20 27 32.8 -0.4**
comp=Z,28nm,1.3s
PRU Pruhonice 26.72 168 *e*P **P 20 27 35.3 -0.2**
PRU MLR MLR
comp=Z,200nm,14.6s
PRU Pruhonice 26.72 168 *e*P **P 20 27 35.3 -0.2**
PRU AMS AMS 20 36 50.0
comp=Z,200nm,14.6s
KRLC Kraliky 26.75 165 *e*P **P 20 27 35.5 -0.4**
KRLC Kraliky 26.75 165 *e*P **P 20 27 35.5 -0.4**
OJC Ojcow 26.82 161 *e*P **P 20 27 36.1 -0.4**
OJC Ojcow 26.82 161 *e*P **P 20 27 36.1 -0.4**
ROTZ Rotzenmuhle 26.84 172 *e*P **P 20 27 37.2 +0.5**
comp=Z,23nm,1.6s
GRF Grafenberg Arr 26.89 173 *e*P **P 20 27 37.4 +0.3**
comp=Z,75nm,2.2s
GRF Grafenberg Arr 26.89 173 *e*P **P 20 27 37.4 +0.3**
GRF pmax pmax
comp=Z,75nm,2.2s
GRFO Grafenberg 26.89 173 *e*P **P 20 27 36.7 -0.4**
GRFO pmax pmax
comp=Z,14nm,1.2s
GRFO Grafenberg 26.89 173 *e*P **P 20 27 36.7 -0.4**
comp=Z,14nm,1.2s
GRFO Grafenberg 26.89 173 *e*P **P 20 27 36.7 -0.4**
comp=Z,14nm,1.2s
OKC Ostrava-Krasne 27.08 163 *e*P **P 20 27 38.3 -0.5**
OKC Ostrava-Krasne 27.08 163 *e*P **P 20 27 38.3 -0.5**
MORC Moravsky Berou 27.10 164 *e*P **P 20 27 38.4 -0.6**
MORC pmax pmax
comp=Z,8.0nm,1.0s
MORC Moravsky Berou 27.10 164 *e*P **P 20 27 38.4 -0.6**
comp=Z,8.5nm,1.0s
MORC Moravsky Berou 27.10 164 *e*P **P 20 27 38.4 -0.6**
comp=Z,8.5nm,1.0s
ARU Arti 27.32 107*d i*P **P 20 27 41.1 +0.3**
ARU 20 28 24.3
ARU S **S 20 32 21.3 +0.7**
ARU pmax pmax
comp=Z,50nm,1.2s
AKASG Malin Array Be 27.32 147 *i* P **P 20 27 39.7 -1.2**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG Malin Array Be 27.32 147 P **P 20 27 39.5 -1.4**
AKASG Malin Array Be 27.32 147 P **P 20 27 39.5 -1.4**
comp=Z,2.0nm,0.5s,baz=344,slow=9.3,SNR=15
AKASG LR LR 20 38 22.8
comp=Z,353nm,21.8s,baz=350,slow=36
AKASG Malin Array Be 27.32 147 P **P 20 27 39.5 -1.4**
KIEV Kiev 27.32 148 *e*P **P 20 27 37.8 -3.1**
KIEV pmax pmax
comp=Z,61nm,1.6s
KIEV Kiev 27.32 148 *e*P **P 20 27 37.8 -3.1**
comp=Z,61nm,1.6s
KIEV Kiev 27.32 148 *e*P **P 20 27 37.8 -3.1**
comp=Z,61nm,1.6s
SVE Sverdlovsk 27.43 104⇑*i*P **P 20 27 42.7 +0.9**
SVE *e*S S 20 32 30.8 +8.5
SVE pmax pmax
comp=Z,26nm,1.3s
SVE MLR MLR
comp=Z,482nm,12.0s
TREC Trest 27.46 167 *e*P **P 20 27 42.4 +0.2**
TREC MLR MLR
comp=Z,200nm,16.6s
TREC Trest 27.46 167 *e*P **P 20 27 42.4 +0.2**
TREC AMS AMS 20 38 20.0
comp=Z,200nm,16.6s
WET Wettzell 27.49 171 *e*P **P 20 27 43.3 +0.8**
comp=Z,22nm,1.6s
WET Wettzell 27.49 171 *e*P **P 20 27 43.3 +0.8**
WET pmax pmax
comp=Z,22nm,1.6s
VRAC Vranov 27.51 165 P **P 20 27 42.6 0.0**
VRAC Vranov 27.51 165 P **P 20 27 42.6 0.0**
comp=Z,7.9nm,0.9s,baz=0.2,slow=10.0,SNR=15
VRAC LR LR 20 38 46.8
comp=Z,204nm,18.5s,baz=356,slow=37
VRAC Vranov 27.51 165 P **P 20 27 42.6 0.0**
KHC Kasperske Hory 27.53 170 *e*P **P 20 27 43.2 +0.3**
KHC MLR MLR
comp=Z,300nm,21.0s
KHC Kasperske Hory 27.53 170 *e*P **P 20 27 43.2 +0.3**
KHC AMS AMS 20 38 20.0
comp=Z,300nm,21.0s
KHC Kasperske Hory 27.53 170 *e*P **P 20 27 42.5 -0.4**
comp=Z,11nm,1.3s
KHC Kasperske Hory 27.53 170 *e*P **P 20 27 42.5 -0.4**
comp=Z,11nm,1.3s
LVV L'vov 27.60 155 *e*P **P 20 27 42.4 -1.0**
KWP Kalwaria Pacla 27.65 157⇑P **P 20 27 43.8 -0.2**
KWP Kalwaria Pacla 27.65 157 *e*P **P 20 27 43.5 -0.5**
comp=Z,18nm,0.9s
KWP Kalwaria Pacla 27.65 157⇑*i*P **P 20 27 43.8 -0.2**
KWP Kalwaria Pacla 27.65 157 *e*P **P 20 27 43.7 -0.2**
KWP Kalwaria Pacla 27.65 157⇑*i*P **P 20 27 43.8 -0.2**
NIE Niedzica 27.66 160 *e*P **P 20 27 44.0 0.0**
NIE Niedzica 27.66 160 *e*P **P 20 27 44.0 0.0**
STHS Stebnicka Huta 27.74 159 *e*P **P 20 27 45.3 +0.6**
STHS pmax pmax
comp=Z,11nm,1.0s
STHS Stebnicka Huta 27.74 159 *e*P **P 20 27 45.3 +0.6**
STU Stuttgart 27.76 176 *e*P **P 20 27 42.8 -2.1**
STU pmax pmax
comp=Z,19nm,1.3s
STU Stuttgart 27.76 176 *e*P **P 20 27 42.8 -2.1**
comp=Z,19nm,1.3s
STU Stuttgart 27.76 176 *e*P **P 20 27 42.8 -2.1**
comp=Z,19nm,1.3s
GEC2 GERESS Array S 27.82 170 *e*P **P 20 27 46.5 +0.9**
comp=Z,27nm,1.5s
GEC2 GERESS Array S 27.82 170 *e*P **P 20 27 46.5 +0.9**
GEC2 pmax pmax
comp=Z,27nm,1.5s
GERES GERESS Array B 27.82 170 P **P 20 27 45.6 0.0**
GERES GERESS Array B 27.82 170 P **P 20 27 45.6 0.0**
comp=Z,3.6nm,1.1s,baz=358,slow=7.2,SNR=16
GERES LR LR 20 38 54.3
comp=Z,229nm,18.2s,baz=359,slow=37
GERES GERESS Array B 27.82 170 P **P 20 27 45.6 0.0**
FLN La Foliniere 27.89 190 *e*P **P 20 27 45.1 -0.9**
comp=Z,89nm,1.7s
FLN *e*R
comp=Z,90nm,17.2s
FLN La Foliniere 27.89 190 *e*P **P 20 27 45.1 -0.9**
FLN pmax pmax
comp=Z,89nm,1.7s
FLN La Foliniere 27.89 190 *e*P **P 20 27 45.1 -0.9**
comp=Z,89nm,1.7s
FLN La Foliniere 27.89 190 *e*P **P 20 27 45.1 -0.9**
comp=Z,44nm,1.7s
PAGF Fort de Pagny 27.96 181 *e*P **P 20 27 45.4 -1.3**
comp=Z,9.4nm,1.2s
PAGF Fort de Pagny 27.96 181 *e*P **P 20 27 45.4 -1.3**
comp=Z,9.4nm,1.2s
PAGF Fort de Pagny 27.96 181 *e*P **P 20 27 45.4 -1.3**
comp=Z,4.7nm,1.2s
MEZF Maizieres J'vi 28.02 182 *e*P **P 20 27 47.0 -0.2**
comp=Z,61nm,1.5s
MEZF Maizieres J'vi 28.02 182 *e*P **P 20 27 47.0 -0.2**
comp=Z,61nm,1.5s
MEZF Maizieres J'vi 28.02 182 *e*P **P 20 27 47.0 -0.2**
comp=Z,30nm,1.5s
LDF La Druitiere 28.04 189 *e*P **P 20 27 46.1 -1.3**
LDF La Druitiere 28.04 189 *e*P **P 20 27 46.1 -1.3**
LDF La Druitiere 28.04 189 *e*P **P 20 27 46.1 -1.3**
LDF La Druitiere 28.04 189 *e*P **P 20 27 46.1 -1.3**
CDF Champ du Feu 28.10 179 *e*P **P 20 27 47.5 -0.6**
comp=Z,50nm,1.8s
CDF Champ du Feu 28.10 179 *e*P **P 20 27 47.5 -0.6**
CDF pmax pmax
comp=Z,50nm,1.8s
CDF Champ du Feu 28.10 179 *e*P **P 20 27 47.5 -0.6**
comp=Z,50nm,1.8s
CDF Champ du Feu 28.10 179 *e*P **P 20 27 47.5 -0.6**
comp=Z,25nm,1.8s
TIXI Tiksi 28.19 34⇑*i*P P 20 27 51.9 +3.4
TIXI pmax pmax
comp=Z,18nm,1.4s
BFO Black Forest 28.19 177 P P 20 27 45.5 -3.3
BFO pmax pmax
comp=Z,8.0nm,1.0s
BFO Black Forest 28.19 177 P P 20 27 45.5 -3.3
comp=Z,7.7nm,1.0s
BFO Black Forest 28.19 177 P P 20 27 45.5 -3.3
comp=Z,7.7nm,1.0s
CRVS Cervenica-Dubn 28.27 159 *e*P P 20 27 52.8 +3.4
CRVS pmax pmax
comp=Z,22nm,1.6s
CRVS Cervenica-Dubn 28.27 159 *e*P P 20 27 52.8 +3.4
KOLS Kolonicke sedl 28.31 158 *e*P **P 20 27 49.8 0.0**
KOLS pmax pmax
comp=Z,10.0nm,1.0s
KOLS Kolonicke sedl 28.31 158 *e*P **P 20 27 49.8 0.0**
SFTF Sexfontaines 28.31 182 *e*P **P 20 27 49.1 -0.7**
SFTF Sexfontaines 28.31 182 *e*P **P 20 27 49.1 -0.7**
SFTF Sexfontaines 28.31 182 *e*P **P 20 27 49.1 -0.7**
SMOL Smolenice 28.35 164 *e*P **P 20 27 51.1 +0.9**
SMOL Smolenice 28.35 164 *e*P **P 20 27 51.1 +0.9**
ROSF Rostrenen 28.45 194 *e*P **P 20 27 50.2 -0.8**
comp=Z,29nm,1.2s
ROSF Rostrenen 28.45 194 *e*P **P 20 27 50.2 -0.8**
ROSF pmax pmax
comp=Z,29nm,1.2s
ROSF Rostrenen 28.45 194 *e*P **P 20 27 50.2 -0.8**
comp=Z,29nm,1.2s
ROSF Rostrenen 28.45 194 *e*P **P 20 27 50.2 -0.8**
comp=Z,14nm,1.2s
VYHS Vyhne 28.47 163 *e*P **P 20 27 50.5 -0.7**
VYHS pmax pmax
comp=Z,12nm,1.8s
VYHS Vyhne 28.47 163 *e*P **P 20 27 50.5 -0.7**
HAU Haudompre 28.51 180 *e*P **P 20 27 50.3 -1.3**
comp=Z,17nm,1.1s
HAU *e*R
comp=Z,196nm,18.2s
HAU Haudompre 28.51 180 *e*P **P 20 27 50.3 -1.3**
HAU pmax pmax
comp=Z,17nm,1.1s
HAU Haudompre 28.51 180 *e*P **P 20 27 50.3 -1.3**
comp=Z,17nm,1.1s
HAU Haudompre 28.51 180 *e*P **P 20 27 50.3 -1.3**
comp=Z,8.6nm,1.1s
VORD Divnogorie 28.56 134 *e*P **P 20 27 50.7 -1.3**
VORD pmax pmax
comp=N,20nm,0.9s
VORD pmax pmax
comp=Z,10.0nm,0.9s
VORD pmax pmax
comp=E,20nm,1.0s
KECS Kecovo 28.60 160 *e*P **P 20 27 51.4 -1.0**
KECS pmax pmax
comp=Z,4.0nm,1.1s
KECS Kecovo 28.60 160 *e*P **P 20 27 51.4 -1.0**
UZH Uzhgorod 28.61 158 *e*P **P 20 27 50.8 -1.6**
UZH *e* 20 27 56.2
UZH *e*S S 20 32 34.6 -6.5
HINF Hinteralfeld 28.70 179 *e*P **P 20 27 52.6 -0.7**
comp=Z,70nm,1.9s
HINF Hinteralfeld 28.70 179 *e*P **P 20 27 52.6 -0.7**
HINF pmax pmax
comp=Z,70nm,1.9s
HINF Hinteralfeld 28.70 179 *e*P **P 20 27 52.6 -0.7**
comp=Z,70nm,1.9s
HINF Hinteralfeld 28.70 179 *e*P **P 20 27 52.6 -0.7**
comp=Z,35nm,1.9s
MOA Molln 28.84 169⇑*e*P **P 20 27 53.7 -0.9**
comp=Z,6.0nm,1.2s
MOA Molln 28.84 169 P **P 20 27 53.7 -0.9**
comp=Z,6.0nm,1.2s
CONA Conrad Observa 28.84 167⇑*i*pP **P 20 27 54.7 0.0**
comp=Z,13nm,1.1s
CONA Conrad Observa 28.84 167 P **P 20 27 54.7 0.0**
comp=Z,13nm,1.1s
VRHR Novokhopersk 28.84 131 *e*P **P 20 27 53.2 -1.3**
VRHR pmax pmax
comp=N,50nm,0.8s
VRHR pmax pmax
comp=Z,30nm,0.8s
VRHR pmax pmax
comp=E,20nm,1.2s
PSZ Piszkesteto 29.12 161 *e*P **P 20 27 57.2 +0.2**
PSZ pmax pmax

comp=Z,28nm,1.5s
PSZ Piszkesteto 29.12 161 *e*P **P 20 27 57.2 +0.2**
comp=Z,28nm,1.5s
PSZ Piszkesteto 29.12 161 *e*P **P 20 27 57.2 +0.2**
comp=Z,28nm,1.5s
TRPA Tarpa 29.13 158⇑ *i*P **P 20 27 57.4 +0.4**
MOTA Moosalm 29.23 173⇑ *e*pP **P 20 27 58.8 +0.6**
comp=Z,4.9nm,1.2s
MOTA Moosalm 29.23 173 P **P 20 27 58.8 +0.6**
comp=Z,4.9nm,1.2s
LOR Lormes 29.26 184 *e*P **P 20 27 57.2 -1.1**
comp=Z,27nm,1.4s
LOR *e*R
comp=Z,106nm,21.0s
LOR Lormes 29.26 184 *e*P **P 20 27 57.2 -1.1**
comp=Z,27nm,1.4s
LOR Lormes 29.26 184 *e*P **P 20 27 57.2 -1.1**
comp=Z,14nm,1.4s
SSF Saint Saulge 29.48 184 *e*P **P 20 27 59.2 -1.0**
comp=Z,24nm,1.3s
SSF Saint Saulge 29.48 184 *e*P **P 20 27 59.2 -1.0**
SSF pmax pmax
comp=Z,24nm,1.3s
SSF Saint Saulge 29.48 184 *e*P **P 20 27 59.2 -1.0**
comp=Z,24nm,1.3s
SSF Saint Saulge 29.48 184 *e*P **P 20 27 59.2 -1.0**
comp=Z,12nm,1.3s
ARSA Arzberg 29.50 167⇓ *i*pP **P 20 28 01.1 +0.7**
comp=Z,5.0nm,1.2s
ARSA Arzberg 29.50 167 P **P 20 28 01.1 +0.7**
comp=Z,5.0nm,1.2s
KBA Koelnbreinsper 29.57 170⇑ *e*pP **P 20 28 01.6 +0.4**
comp=Z,5.1nm,1.2s
KBA Koelnbreinsper 29.57 170 P **P 20 28 01.6 +0.4**
comp=Z,5.1nm,1.2s
AVF Avril sur Loir 29.75 184 *e*P **P 20 28 01.0 -1.6**
comp=Z,54nm,1.7s
AVF Avril sur Loir 29.75 184 *e*P **P 20 28 01.0 -1.6**
AVF pmax pmax
comp=Z,54nm,1.7s
AVF Avril sur Loir 29.75 184 *e*P **P 20 28 01.0 -1.6**
comp=Z,54nm,1.7s
AVF Avril sur Loir 29.75 184 *e*P **P 20 28 01.0 -1.6**
comp=Z,27nm,1.7s
DAVOX Davos/Dischmat 29.77 175 LR LR 20 39 07.4
comp=Z,109nm,20.8s,baz=85,slow=35
BURAR Bucovina Array 29.90 154 ⇑P **P 20 28 03.4 -0.6**
BURAR Bucovina Array 29.90 154⇑ *i*P **P 20 28 03.4 -0.6**
CABF La Chapelle 29.90 180 *e*P **P 20 28 03.5 -0.6**
comp=Z,33nm,1.3s
CABF La Chapelle 29.90 180 *e*P **P 20 28 03.5 -0.6**
CABF pmax pmax
comp=Z,33nm,1.3s
CABF La Chapelle 29.90 180 *e*P **P 20 28 03.5 -0.6**
comp=Z,33nm,1.3s
CABF La Chapelle 29.90 180 *e*P **P 20 28 03.5 -0.6**
comp=Z,17nm,1.3s
BGF Bois d'Agland 29.99 185 *e*P **P 20 28 04.1 -0.6**
comp=Z,37nm,1.2s
BGF Bois d'Agland 29.99 185 *e*P **P 20 28 04.1 -0.6**
BGF pmax pmax
comp=Z,37nm,1.3s
BGF Bois d'Agland 29.99 185 *e*P **P 20 28 04.1 -0.6**
comp=Z,37nm,1.3s
BGF Bois d'Agland 29.99 185 *e*P **P 20 28 04.1 -0.6**
comp=Z,18nm,1.2s
SOKA Soboth 30.05 168⇑ *e*pP **P 20 28 05.4 +0.1**
comp=Z,7.2nm,1.6s
SOKA Soboth 30.05 168 P **P 20 28 05.4 +0.1**
comp=Z,7.2nm,1.6s
PERS Pernice 30.09 168 *e*P **P 20 28 05.6 -0.1**
TCF Toulx Ste Croi 30.28 186 *e*P **P 20 28 06.2 -1.1**
comp=Z,31nm,1.3s
TCF Toulx Ste Croi 30.28 186 *e*P **P 20 28 06.2 -1.1**
TCF pmax pmax
comp=Z,31nm,1.3s
TCF Toulx Ste Croi 30.28 186 *e*P **P 20 28 06.2 -1.1**
comp=Z,31nm,1.3s
TCF Toulx Ste Croi 30.28 186 *e*P **P 20 28 06.2 -1.1**
comp=Z,16nm,1.3s
GORS Gorjuse 30.36 170 *e*P **P 20 28 08.0 -0.1**
DRGR 30.47 158 ⇓P **P 20 28 09.3 +0.3**
DRGR 30.47 158⇓ *i*P **P 20 28 09.3 +0.3**
PKSM Moragy 30.72 163 ⇑P **P 20 28 11.8 +0.6**
PKSM Moragy 30.72 163⇑ *i*P **P 20 28 11.8 +0.6**
SIRR Siria 30.90 159⇓ *i*P **P 20 28 13.4 +0.6**
VISS Visnje 30.91 168 *e*P **P 20 28 12.2 -0.6**
LPL La Plagne 31.00 180 *e*P **P 20 28 12.8 -1.1**
comp=Z,35nm,1.4s
LPL La Plagne 31.00 180 *e*P **P 20 28 12.8 -1.1**
LPL pmax pmax
comp=Z,35nm,1.4s
LPL La Plagne 31.00 180 *e*P **P 20 28 12.8 -1.1**
comp=Z,35nm,1.4s
LPL La Plagne 31.00 180 *e*P **P 20 28 12.8 -1.1**
comp=Z,18nm,1.4s
LPG La Plagne 31.02 180 *e*P **P 20 28 12.8 -1.3**
LPG La Plagne 31.02 180 *e*P **P 20 28 12.8 -1.3**
LPG La Plagne 31.02 180 *e*P **P 20 28 12.8 -1.3**
LPG La Plagne 31.02 180 *e*P **P 20 28 12.8 -1.3**
BZS Buzias 31.54 159 ⇓P **P 20 28 18.9 +0.5**
BZS Buzias 31.54 159⇓ *i*P **P 20 28 18.9 +0.5**
ORIF Oris-en-Rattie 31.60 181 *e*P **P 20 28 18.1 -0.9**
ORIF *e*R
comp=Z,175nm,23.0s
ORIF Oris-en-Rattie 31.60 181 *e*P **P 20 28 18.1 -0.9**
ORIF Oris-en-Rattie 31.60 181 *e*P **P 20 28 18.1 -0.9**
ORIF Oris-en-Rattie 31.60 181 *e*P **P 20 28 18.1 -0.9**
VIVF Saint-Julien-l 31.67 182 *e*P **P 20 28 18.2 -1.4**
VIVF Saint-Julien-l 31.67 182 *e*P **P 20 28 18.2 -1.4**
VIVF Saint-Julien-l 31.67 182 *e*P **P 20 28 18.2 -1.4**
VIVF Saint-Julien-l 31.67 182 *e*P **P 20 28 18.2 -1.4**
MBDF Montbardon 31.79 179 *e*P **P 20 28 19.5 -1.3**
comp=Z,33nm,1.4s
MBDF Montbardon 31.79 179 *e*P **P 20 28 19.5 -1.3**
MBDF pmax pmax
comp=Z,33nm,1.4s
MBDF Montbardon 31.79 179 *e*P **P 20 28 19.5 -1.3**
comp=Z,33nm,1.4s
MBDF Montbardon 31.79 179 *e*P **P 20 28 19.5 -1.3**
comp=Z,16nm,1.4s
ARR Arges 32.06 155⇑ *i*P **P 20 28 23.5 +0.4**
MLR Muntele Rosu 32.07 154⇑ *i*P **P 20 28 23.1 -0.1**
SBF Sospel 32.65 179 *e*P **P 20 28 26.6 -1.7**
comp=Z,32nm,1.0s
SBF Sospel 32.65 179 *e*P **P 20 28 26.6 -1.7**
SBF pmax pmax
comp=Z,32nm,1.0s
SBF Sospel 32.65 179 *e*P **P 20 28 26.6 -1.7**
comp=Z,32nm,1.0s
SBF Sospel 32.65 179 *e*P **P 20 28 26.6 -1.7**
comp=Z,16nm,1.0s
BRVK Borovoye 33.12 97 *ce*P **P 20 28 33.0 +0.8**
BRVK pmax pmax
comp=Z,24nm,1.2s
BRVK Borovoye 33.12 97 *e*P **P 20 28 32.9 +0.7**
comp=Z,17nm,0.9s
BRVK Borovoye 33.12 97 *e*P **P 20 28 32.9 +0.7**
comp=Z,17nm,0.9s
BVAR Borovoye Array 33.18 97 P **P 20 28 33.3 +0.6**
BVAR pmax pmax
comp=Z,9.0nm,0.8s
BVAR MLR MLR
comp=Z,541nm,18.8s
BVAR Borovoye Array 33.18 97 P **P 20 28 33.3 +0.6**
BVAR Borovoye Array 33.18 97 P **P 20 28 33.3 +0.6**
comp=Z,9.3nm,0.8s,baz=330,slow=8.6,SNR=21
BVAR LR LR 20 44 50.1
comp=Z,541nm,18.8s,baz=291,slow=42
BVAR Borovoye Array 33.18 97 P **P 20 28 33.3 +0.6**
INK Inuvik 33.41 334 *e*P **P 20 28 35.7 +1.1**
comp=Z,29nm,1.1s
INK Inuvik 33.41 334 *e*P **P 20 28 35.7 +1.1**
comp=Z,29nm,1.1s
EPF Esparros 33.58 188 *e*P **P 20 28 35.3 -1.1**
comp=Z,18nm,1.1s
EPF Esparros 33.58 188 *e*P **P 20 28 35.3 -1.1**
EPF pmax pmax
comp=Z,18nm,1.1s
EPF Esparros 33.58 188 *e*P **P 20 28 35.3 -1.1**
comp=Z,18nm,1.1s
EPF Esparros 33.58 188 *e*P **P 20 28 35.3 -1.1**
comp=Z,9.0nm,1.1s
SIM Simferopol' 33.62 143 P **P 20 28 38.6 +2.0**
SIM MLR MLR
comp=Z,100nm,10.0s

SCHQ Schefferville 33.70 273 LR LR 20 41 29.1
comp=Z,265nm,19.1s,baz=321,slow=35
ABKAR Akbulak array 34.30 111⇑ *i*P **P 20 28 42.5 0.0**
comp=Z,13nm,0.9s
ABKAR *e*PP **PP 20 29 58.4 -1.4**
ABKAR *e*PcP **PcP 20 31 18.8 +0.4**
ABKAR Akbulak array 34.30 111⇑ *i*P **P 20 28 42.5 0.0**
comp=Z,13nm,0.9s
NVS Novosibirsk 34.54 83⇓ *i*P **P 20 28 46.2 +1.7**
NVS *i* 20 30 06.5
NVS pmax pmax
comp=N,11nm,1.6s
NVS pmax pmax
comp=Z,22nm,1.6s
NVS pmax pmax
comp=E,5.0nm,1.4s
VTS Vitosha 34.68 158 ⇑P **P 20 28 45.5 -0.5**
VTS Vitosha 34.68 158⇑ *i*P **P 20 28 45.5 -0.5**
VTS Vitosha 34.68 158 P **P 20 28 45.5 -0.5**
GOF Gofitskoye 34.92 132 *e*P **P 20 28 48.2 +0.3**
GOF pmax pmax
comp=Z,60nm,1.1s
GOF Gofitskoye 34.92 132 *e*P **P 20 28 48.2 +0.3**
comp=Z,60nm,1.1s
ZAA0 Zalesovo Array 35.73 83 *e*P **P 20 28 54.7 0.0**
ZAA0 *e*PcP **PcP 20 31 22.0 -0.4**
ZAA0 Zalesovo Array 35.73 83 *e*P **P 20 28 54.7 0.0**
ZALV Zalesovo Beam 35.73 83 P **P 20 28 54.9 +0.2**
ZALV 20 31 22.0
ZALV pmax pmax
comp=Z,5.0nm,0.9s
ZALV pmax pmax
comp=Z,2.0nm,0.7s
ZALV MLR MLR
comp=Z,338nm,18.4s
ZALV Zalesovo Beam 35.73 83 P **P 20 28 54.9 +0.2**
ZALV PcP **PcP 20 31 21.9 -0.5**
ZALV Zalesovo Beam 35.73 83 P **P 20 28 54.9 +0.2**
comp=Z,5.0nm,0.9s,baz=333,slow=8.8,SNR=19
ZALV PcP **PcP 20 31 21.9 -0.5**
comp=Z,1.6nm,0.7s,baz=308,slow=4.6,SNR=4.9
ZALV LR LR 20 47 28.1
comp=Z,338nm,18.4s,baz=67,slow=43
ZALV Zalesovo Beam 35.73 83 P **P 20 28 54.9 +0.2**
comp=Z,5.0nm,0.9s
ZALV Zalesovo Beam 35.73 83 PcP **PcP 20 31 22.0 -0.5**
SOC Sochi 35.80 137 *e*P **P 20 28 54.5 -0.9**
SOC *e**PP 20 28 59.4
SOC *e*S **S 20 34 28.8 -4.2**
SOC *e*SS **SnSn 20 36 56.3 +1.7**
SOC pmax pmax
comp=Z,12nm,1.0s
SOC MLR MLR
comp=Z,345nm,20.0s
SOC Sochi 35.80 137 *e*P **P 20 28 54.5 -0.9**
comp=Z,12nm,1.0s
MVO Moncorvo 35.83 197 *e*P **P 20 28 55.7 -0.1**
comp=Z,18nm,1.5s
MVO Moncorvo 35.83 197 *e*P **P 20 28 55.7 -0.1**
comp=Z,18nm,1.5s
COLD Coldfoot 35.85 345⇑ *i*P **P 20 28 56.9 +1.2**
comp=Z,9.2nm,0.9s
COLD Coldfoot 35.85 345⇑ *i*P **P 20 28 56.9 +1.2**
comp=Z,9.2nm,0.9s
KIV Kislovodsk 35.93 133⇓ *e*P **P 20 28 56.5 -0.2**
KIV *e* 20 30 15.9
KIV pmax pmax
comp=Z,18nm,1.0s
KIV MLR MLR
comp=Z,200nm,18.0s
KIV Kislovodsk 35.93 133 *e*P **P 20 28 56.5 -0.2**
comp=Z,18nm,1.0s
KBZ Khabaz 36.19 133 P **P 20 29 00.2 +1.5**
KBZ pmax pmax
comp=Z,13nm,0.9s
KBZ MLR MLR
comp=Z,278nm,19.0s
KBZ Khabaz 36.19 133 P **P 20 29 00.2 +1.5**
KBZ Khabaz 36.19 133 P **P 20 29 00.2 +1.5**
comp=Z,13nm,0.9s,baz=325,slow=3.9,SNR=31
KBZ LR LR 20 44 19.0
comp=Z,278nm,19.0s,baz=338,slow=37
KBZ Khabaz 36.19 133 P **P 20 29 00.2 +1.5**
FCC Fort Churchill 36.21 300 P **P 20 28 58.6 -0.2**
FCC Fort Churchill 36.21 300 P **P 20 28 58.6 -0.2**
FCC Fort Churchill 36.21 300 P **P 20 28 58.6 -0.2**
YKA Yellowknife Ar 36.49 318 P **P 20 29 02.6 +1.6**
YKA Yellowknife Ar 36.49 318 P **P 20 29 02.7 +1.6**
comp=Z,7.0nm,1.0s,baz=10,slow=8.4,SNR=7.8
YKA Yellowknife Ar 36.49 318 P **P 20 29 02.7 +1.6**
ESDC Sonseca Array 37.12 193 P **P 20 29 06.6 -0.2**
ESDC Sonseca Array 37.12 193 P **P 20 29 06.6 -0.2**
comp=Z,3.8nm,1.0s,baz=359,slow=9.1,SNR=15
ESDC Sonseca Array 37.12 193 P **P 20 29 06.6 -0.2**
ESLA Sonseca Array 37.12 193 *e*P **P 20 29 04.8 -2.0**
comp=Z,3.6nm,1.3s
ESLA Sonseca Array 37.12 193 *e*P **P 20 29 04.8 -2.0**
comp=Z,3.6nm,1.3s
IMA2 Indian Mountai 37.21 347 *e*P **P 20 29 08.8 +1.4**
IMA2 Indian Mountai 37.21 347 *e*P **P 20 29 08.8 +1.4**
KURK Kurchatov 37.26 91⇑ *e*P **P 20 29 08.1 +0.3**
KURK pmax pmax
comp=Z,19nm,1.2s
KURK Kurchatov 37.26 91⇑ *e*P **P 20 29 08.1 +0.3**
comp=Z,19nm,1.2s
KURK Kurchatov 37.26 91⇑ *e*P **P 20 29 08.1 +0.3**
comp=Z,19nm,1.2s
ZEI Tsey 37.27 132 *e*P **P 20 29 08.0 -0.3**
ZEI pmax pmax
comp=Z,18nm,1.2s
IM04 Indian Mountai 37.31 347 *e*P **P 20 29 08.9 +0.8**
IM04 Indian Mountai 37.31 347 *e*P **P 20 29 08.9 +0.8**
PTOM Tomar 37.47 199 *e*P **P 20 29 09.9 +0.2**
comp=Z,20nm,1.5s
PMRV Marv??o 37.58 198 *e*P **P 20 29 10.9 +0.2**
comp=Z,31nm,1.5s
EGAK Eagle 37.59 338 *e*P **P 20 29 11.2 +0.8**
comp=Z,19nm,1.0s
EGAK Eagle 37.59 338 *e*P **P 20 29 11.2 +0.8**
comp=Z,19nm,1.0s
MAK Makhachkala 37.76 128 *e*P **P 20 29 09.3 -2.8**
MAK *e*S **S 20 34 58.3 -4.6**
MAK *e*SS **SnSn 20 37 37.1 -4.8**
MAK pmax pmax
comp=Z,118nm,1.5s
MAK MLR MLR
comp=Z,349nm,17.0s
PMTG Montargil 38.00 199 *e*P **P 20 29 14.3 +0.1**
comp=Z,15nm,1.5s
COLA College 38.03 342 *e*P **P 20 29 16.5 +2.3**
COLA pmax pmax
comp=Z,50nm,1.0s
COLA College 38.03 342 *e*P **P 20 29 16.5 +2.3**
comp=Z,50nm,1.0s
COLA College 38.03 342 *e*P **P 20 29 16.5 +2.3**
comp=Z,50nm,1.0s
ILAR Eielson Array 38.06 342 P **P 20 29 16.4 +1.9**
ILAR Eielson Array 38.06 342 P **P 20 29 16.4 +1.9**
comp=Z,8.2nm,0.9s,baz=2.1,slow=6.6,SNR=57
ILAR Eielson Array 38.06 342 P **P 20 29 16.4 +1.9**
DAWY Dawson 38.12 336 *e*P **P 20 29 15.0 -0.1**
DAWY Dawson 38.12 336 *e*P **P 20 29 15.0 -0.1**
PESTR Estremoz 38.15 198 *e*P **P 20 29 15.2 -0.3**
comp=Z,22nm,1.4s
BR131 Keskin Array S 38.68 146 *e*P **P 20 29 20.3 +0.2**
comp=Z,5.4nm,0.8s
BR131 Keskin Array S 38.68 146 *e*P **P 20 29 20.3 +0.2**
comp=Z,5.4nm,0.8s
BRTR Keskin Array B 38.68 146 P **P 20 29 20.5 +0.4**
BRTR Keskin Array B 38.68 146 P **P 20 29 20.5 +0.4**
comp=Z,6.3nm,0.8s,baz=352,slow=6.6,SNR=31
BRTR LR LR 20 46 28.9
comp=Z,121nm,21.9s,baz=203,slow=38
BRTR Keskin Array B 38.68 146 P **P 20 29 20.5 +0.4**
PBAR Barrancos 38.80 197 *e*P **P 20 29 20.9 0.0**
comp=Z,24nm,1.6s
BPAW Bear Paw Mtn. 39.01 344 *e*P **P 20 29 23.8 +1.3**
comp=Z,13nm,1.2s
BPAW Bear Paw Mtn. 39.01 344 *e*P **P 20 29 23.8 +1.3**
comp=Z,13nm,1.2s
PBEJ Beja 39.01 198 *e*P **P 20 29 22.7 0.0**
comp=Z,26nm,1.6s
MCK McKinley 39.24 343 *e*P **P 20 29 26.3 +1.9**
MCK pmax pmax
comp=Z,33nm,1.7s
MCK McKinley 39.24 343 *e*P **P 20 29 26.3 +1.9**

comp=Z,33nm,1.7s
MCK McKinley 39.24 343 *e*P **P 20 29 26.3 +1.9**
comp=Z,33nm,1.7s
SEY Seymchan 39.25 24⇓ *i*P **P 20 29 25.4 +0.9**
PCVE Castro Verde 39.41 198 *e*P **P 20 29 26.6 +0.5**
comp=Z,14nm,1.3s
MENT Mentasta 39.62 339 *e*P **P 20 29 29.8 +2.2**
MENT Mentasta 39.62 339 *e*P **P 20 29 29.8 +2.2**
PAX Paxson 39.73 340 *e*P **P 20 29 29.7 +1.1**
PAX pmax pmax
comp=Z,21nm,1.1s
PAX Paxson 39.73 340 *e*P **P 20 29 29.7 +1.1**
comp=Z,21nm,1.1s
PAX Paxson 39.73 340 *e*P **P 20 29 29.7 +1.1**
comp=Z,21nm,1.1s
GNI Garni 39.99 132 *e*P **P 20 29 30.1 -0.9**
comp=Z,32nm,1.4s
GNI Garni 39.99 132 *e*P **P 20 29 30.1 -0.9**
comp=Z,32nm,1.4s
PPLA Purkeypile 40.28 345 *e*P **P 20 29 35.4 +2.2**
comp=Z,18nm,1.2s
PPLA Purkeypile 40.28 345 *e*P **P 20 29 35.4 +2.2**
comp=Z,18nm,1.2s
HVS Khovu-Aksy 40.40 76 *c i*P **P 20 29 35.8 +1.6**
HVS pmax pmax
comp=Z,179nm,1.2s
MALT Malatya 40.75 140 ⇑P **P 20 29 38.0 +0.7**
MALT Malatya 40.75 140⇑ *i*P **P 20 29 38.0 +0.7**
KEST Kesra 40.80 176 LR LR 20 44 32.5
comp=Z,36nm,21.3s,baz=245,slow=33
HYT Haines Junctio 41.12 334 *e*P **P 20 29 41.3 +1.2**
HYT *e*PcP **PcP 20 31 39.8 +0.6**
HYT Haines Junctio 41.12 334 *e*P **P 20 29 41.3 +1.2**
PMR Palmer 41.37 343 *e*P **P 20 29 41.3 -0.7**
PMR pmax pmax
comp=Z,10.0nm,1.0s
PMR Palmer 41.37 343 *e*P **P 20 29 41.3 -0.7**
comp=Z,10nm,1.0s
PMR Palmer 41.37 343 *e*P **P 20 29 41.3 -0.7**
comp=Z,10nm,1.0s
MOY Mondy 41.55 69 *e*P **P 20 29 46.0 +2.3**
FFC Flin Flon 41.56 304 *e*P **P 20 29 44.4 +0.7**
FFC pmax pmax
comp=Z,54nm,1.1s
FFC Flin Flon 41.56 304 *e*P **P 20 29 44.4 +0.7**
comp=Z,54nm,1.1s
FFC Flin Flon 41.56 304 *e*P **P 20 29 44.4 +0.7**
comp=Z,54nm,1.1s
BMRM Bremner River 41.64 339 *e*P **P 20 29 45.1 +0.8**
comp=Z,18nm,1.0s
BMRM Bremner River 41.64 339 *e*P **P 20 29 45.1 +0.8**
comp=Z,18nm,1.0s
MK31 Makanchi Array 41.79 89 *e*P **P 20 29 46.3 +0.7**
MK31 Makanchi Array 41.79 89 *e*P **P 20 29 46.3 +0.7**
MK31 Makanchi Array 41.79 89 *e*P **P 20 29 46.3 +0.7**
MKAR Makanchi Array 41.79 89 *i*P **P 20 29 46.7 +1.0**
MKAR pmax pmax
comp=Z,6.0nm,0.8s
MKAR Makanchi Array 41.79 89 P **P 20 29 46.5 +0.9**
MKAR Makanchi Array 41.79 89 P **P 20 29 46.5 +0.9**
comp=Z,5.6nm,0.8s,baz=356,slow=5.6,SNR=25
MKAR LR LR 20 50 21.2
comp=Z,518nm,18.5s,baz=340,slow=41
MKAR Makanchi Array 41.79 89 P **P 20 29 46.5 +0.9**
TLY Talaya 42.12 67 *e*P **P 20 29 49.7 +1.4**
TLY pmax pmax
comp=Z,9.0nm,1.2s
TLY MLR MLR
comp=Z,239nm,17.0s
IHRS Heris 42.17 130 *e*P **P 20 29 49.1 0.0**
IHRS Heris 42.17 130 *e*P **P 20 29 49.1 0.0**
KKAR Karatay Array 42.51 103 *e*P **P 20 29 52.6 +1.1**
KKAR pmax pmax
comp=Z,8.0nm,0.8s
KKAR Karatay Array 42.51 103 *e*P **P 20 29 52.6 +1.1**
comp=Z,8.2nm,0.8s
KKAR Karatay Array 42.51 103 *e*P **P 20 29 52.6 +1.1**
comp=Z,8.2nm,0.8s
RSO Redoubt South 42.74 345 *e*P **P 20 29 52.4 -1.0**
comp=Z,46nm,0.9s
RSO Redoubt South 42.74 345 *e*P **P 20 29 52.4 -1.0**
comp=Z,46nm,0.9s
ISRB Sarab 42.77 130 *e*P **P 20 29 54.7 +0.8**
ISRB Sarab 42.77 130 *e*P **P 20 29 54.7 +0.8**
SFNV Sufian 42.86 139 *e*P **P 20 29 54.5 -0.1**
SEW Seward 42.88 342 *e*P **P 20 29 55.0 +0.8**
comp=Z,25nm,1.1s
SEW Seward 42.88 342 *e*P **P 20 29 55.0 +0.8**
comp=Z,25nm,1.1s
MNKR ALMNKUR 43.20 140 *e*P P 20 29 52.9 -4.3
KSRV Kasrt alli 43.23 140 *e*P P 20 29 52.0 -5.5
ZAK Zakamensk 43.26 68 *e*P **P 20 29 58.8 +1.2**
ZAK pmax pmax
comp=Z,4.0nm,1.2s
USP Ospenovka 43.28 99 P **P 20 29 59.3 +1.5**
SNR=15
CHMS Chumysh 43.59 99 *i*P **P 20 30 02.2 +1.8**
CHMS Chumysh 43.59 99 P **P 20 30 02.2 +1.8**
SNR=16
EKS2 Erkin-Say 43.69 100 *e*P **P 20 30 02.4 +1.2**
EKS2 *e* 20 31 44.2
EKS2 pmax pmax
comp=Z,16nm,0.9s
EKS2 Erkin-Say 43.69 100 P **P 20 30 02.7 +1.5**
SNR=25
EKS2 Erkin-Say 43.69 100 *e*P **P 20 30 02.4 +1.2**
comp=Z,16nm,0.9s
EKS2 *e*PP **PP 20 31 44.2 +1.8**
EKS2 Erkin-Say 43.69 100 *e*P **P 20 30 02.4 +1.2**
comp=Z,16nm,0.9s
FRU Bishkek 43.72 99 *e*P **P 20 30 02.0 +0.7**
TKM2 Tokmak 2 43.86 98 *e*P **P 20 30 04.3 +1.6**
TKM2 *e* 20 31 43.9
TKM2 pmax pmax
comp=Z,16nm,1.1s
TKM2 Tokmak 2 43.86 98 P **P 20 30 05.1 +2.4**
SNR=18
TKM2 Tokmak 2 43.86 98 *e*P **P 20 30 04.3 +1.6**
comp=Z,16nm,1.1s
TKM2 *e*PP **PP 20 31 43.9 -0.6**
TKM2 Tokmak 2 43.86 98 *e*P **P 20 30 04.3 +1.6**
comp=Z,16nm,1.1s
AAK Ala-Archa 43.88 99 *e*P **P 20 30 04.0 +1.2**
AAK *e* 20 31 42.3
AAK pmax pmax
comp=Z,11nm,1.0s
AAK Ala-Archa 43.88 99 P P 20 30 06.6 +3.8
SNR=6.3
AAK Ala-Archa 43.88 99 *e*P **P 20 30 04.0 +1.2**
comp=Z,11nm,1.0s
AAK *e*PP **PP 20 31 42.3 -2.2**
AAK Ala-Archa 43.88 99 *e*P **P 20 30 04.0 +1.2**
comp=Z,11nm,1.0s
KBK Karagaybulak 43.96 98 *i*P P 20 30 06.9 +3.4
KBK Karagaybulak 43.96 98 P P 20 30 06.9 +3.4
SNR=7.0
AML Almayashu 44.17 100 *i*P **P 20 30 07.6 +2.2**
AML Almayashu 44.17 100 P **P 20 30 07.6 +2.2**
SNR=14
IGLO Ghaloghah 45.22 123 *e*P **P 20 30 15.1 +1.5**
KDAK Kodiak Island 45.40 344 *e*P **P 20 30 15.6 +1.2**
comp=Z,37nm,1.0s
KDAK Kodiak Island 45.40 344 P **P 20 30 16.1 +1.6**
comp=Z,24nm,0.9s,baz=33,slow=6.8,SNR=18
KDAK Kodiak Island 45.40 344 *e*P **P 20 30 15.6 +1.2**
comp=Z,37nm,1.0s
IMHD Mahdasht 45.40 127 *e*P **P 20 30 15.9 +0.9**
IMHD Mahdasht 45.40 127 *e*P **P 20 30 15.9 +0.9**
IKIA Kiasar 45.48 124 *e*P **P 20 30 17.9 +2.2**
IKIA Kiasar 45.48 124 *e*P **P 20 30 17.9 +2.2**
IRAZ Razeghan 45.54 128 *e*P **P 20 30 18.1 +2.0**
IRAZ Razeghan 45.54 128 *e*P **P 20 30 18.1 +2.0**
IDHR Dehrash 45.58 132 *e*P **P 20 30 16.4 -0.1**
IDHR Dehrash 45.58 132 *e*P **P 20 30 16.4 -0.1**
IR3 Iran Long-Peri 45.67 127 *e*P **P 20 30 18.9 +1.8**
IR3 Iran Long-Peri 45.67 127 *e*P **P 20 30 18.9 +1.8**
IDMV Damavand 45.77 126 *e*P **P 20 30 19.5 +1.4**
IDMV Damavand 45.77 126 *e*P **P 20 30 19.5 +1.4**
EYMN Ely 45.78 292 *e*P **P 20 30 16.6 -1.1**
comp=Z,21nm,1.0s
EYMN Ely 45.78 292 *e*P **P 20 30 16.6 -1.1**
comp=Z,21nm,1.0s
ISHM Shahmirzad 45.79 124 *e*P **P 20 30 20.0 +1.8**
ISHM Shahmirzad 45.79 124 *e*P **P 20 30 20.0 +1.8**
WMQ Urumqi 45.87 85 P **P 20 30 20.8 +2.3**

WMQ			pP	pP	20 30 25.3 +5.8
WMQ			sP	sP	20 30 27.8 +7.9
WMQ			PcP	**PcP**	**20 31 58.8 +3.3**
WMQ			PP	**PP**	**20 32 08.8 +3.3**
WMQ			S	**S**	**20 37 04.0 +1.1**
WMQ			sS	sS	20 37 11.4 +6.8
WMQ			SS	**ScS**	**20 40 19.8 +5.1**
WMQ			pmax	pmax	
comp=Z,16nm,1.2s					
WMQ			pmax	pmax	
comp=Z,310nm,6.0s					
WMQ			LR	LR	
comp=N,440nm,18.9s					
WMQ			LR	LR	
comp=E,240nm,18.1s					
WMQ			LR	LR	
comp=Z,450nm,18.1s					
ZALF	**Zalf**	**45.88 143**	*e*P	P	20 30 14.4 -4.3
IKRD	**Kardeh**	**45.91 118**	*e*P	**P**	**20 30 21.6 +2.5**
IKRD	**Kardeh**	**45.91 118**	*e*P	**P**	**20 30 21.6 +2.5**
OHAK	**Old Harbor**	**46.00 345**	*e*P	**P**	**20 30 20.4 +1.2**
comp=Z,60nm,1.3s					
OHAK	**Old Harbor**	**46.00 345**	*e*P	**P**	**20 30 20.4 +1.2**
comp=Z,60nm,1.3s					
IVRN	**Varamin**	**46.27 126**	*e*P	**P**	**20 30 23.2 +1.4**
IVRN	**Varamin**	**46.27 126**	*e*P	**P**	**20 30 23.2 +1.4**
IKOM	**Komasi**	**46.29 131**	*e*P	**P**	**20 30 22.2 +0.2**
IKOM	**Komasi**	**46.29 131**	*e*P	**P**	**20 30 22.2 +0.2**
SONM	**Songino Array**	**46.34 67**	P	**P**	**20 30 22.9 +0.6**
SONM	**Songino Array**	**46.34 67**	P	**P**	**20 30 22.9 +0.6**
comp=Z,4.2nm,0.8s,baz=336,slow=6.8,SNR=5.9					
SONM			LR	LR	20 53 42.7
comp=Z,173nm,18.1s,baz=65,slow=41					
SONM	**Songino Array**	**46.34 67**	P	**P**	**20 30 22.9 +0.6**
AGMN	**Agassiz Nation**	**46.39 296**	*e*P	**P**	**20 30 22.7 +0.2**
comp=Z,20nm,1.1s					
AGMN	**Agassiz Nation**	**46.39 296**	*e*P	**P**	**20 30 22.7 +0.2**
comp=Z,20nm,1.1s					
ULN	**Ulaanbaatar**	**46.45 66**	*e*P	**P**	**20 30 24.2 +1.0**
comp=Z,11nm,0.9s					
ULN	**Ulaanbaatar**	**46.45 66**	*e*P	**P**	**20 30 24.2 +1.0**
comp=Z,11nm,0.9s					
ISRO	**Mashad**	**46.56 117**	*e*P	**P**	**20 30 25.3 +1.2**
ISRO	**Mashad**	**46.56 117**	*e*P	**P**	**20 30 25.3 +1.2**
IMYA	**Miami**	**46.66 117**	*e*P	**P**	**20 30 25.6 +0.6**
IMYA	**Miami**	**46.66 117**	*e*P	**P**	**20 30 25.6 +0.6**
IMOG	**Moghan**	**46.73 117**	*e*P	**P**	**20 30 27.2 +1.6**
IMOG	**Moghan**	**46.73 117**	*e*P	**P**	**20 30 27.2 +1.6**
ISFB	**Sefidab**	**46.99 126**	*e*P	**P**	**20 30 28.2 +0.7**
ISFB	**Sefidab**	**46.99 126**	*e*P	**P**	**20 30 28.2 +0.7**
KSH	**Kashi**	**47.19 99**	P	P	20 30 33.3 +4.3
KSH			pP	pP	20 30 37.8 +7.8
KSH			PP	**PP**	**20 32 24.1 +4.7**
KSH			ScP	**ScP**	**20 35 56.0 +1.5**
KSH			S	**S**	**20 37 26.8 +4.8**
KSH			ScS	**ScS**	**20 40 24.3 +0.7**
KSH			pmax	pmax	
comp=Z,19nm,1.4s					
KSH			pmax	pmax	
comp=Z,140nm,4.4s					
KSH			LR	LR	
comp=N,250nm,10.4s					
KSH			LR	LR	
comp=E,190nm,6.0s					
KSH			LR	LR	
comp=Z,390nm,14.7s					
IKLH	**Kolahrood**	**47.87 127**	*e*P	**P**	**20 30 35.8 +1.3**
IKLH	**Kolahrood**	**47.87 127**	*e*P	**P**	**20 30 35.8 +1.3**
A19A	**Klindworth Far**	**48.38 307**	⇓P	**P**	**20 30 39.0 +0.9**
baz=48,SNR=24					
IZEF	**Zefreh**	**48.43 126**	*e*P	**P**	**20 30 39.7 +0.9**
IZEF			*e*		20 30 45.4
comp=Z,94nm,0.4s					
IZEF	**Zefreh**	**48.43 126**	*e*P	**P**	**20 30 39.7 +0.9**
B22A	**Reddig Ranch S**	**48.46 304**	⇓P	**P**	**20 30 39.6 +1.0**
baz=48					
C25A	**Freed Ranch, W**	**48.48 302**	⇑P	**P**	**20 30 39.9 +1.2**
baz=48					
SPMN	**St. Paul**	**48.65 292**	*e*P	**P**	**20 30 40.3 +0.3**
SPMN	**St. Paul**	**48.65 292**	*e*P	**P**	**20 30 40.3 +0.3**
B20A	**Solberg Farm,**	**48.72 306**	⇓P	**P**	**20 30 41.2 +0.6**
baz=48					
C23A	**Lambert**	**48.78 304**	⇓P	**P**	**20 30 42.8 +1.7**
baz=49,SNR=9.0					
B19A	**Brinkman Farms**	**48.88 307**	⇓P	**P**	**20 30 42.7 +0.9**
baz=49					
C22A	**Vida**	**48.97 304**	⇑P	**P**	**20 30 43.4 +0.9**
baz=49,SNR=9.0					
C21A	**Desert Coulee**	**49.13 305**	⇓P	**P**	**20 30 45.2 +1.5**
baz=49					
WALA	**Waterton Lakes**	**49.21 311**	*e*P	**P**	**20 30 43.8 -0.7**
comp=Z,0.6nm,1.0s					
WALA	**Waterton Lakes**	**49.21 311**	*e*P	**P**	**20 30 43.8 -0.7**
comp=Z,0.6nm,1.0s					
E27A	**Carson**	**49.36 300**	⇑P	**P**	**20 30 46.8 +1.2**
baz=49					
D23A	**Lindsay**	**49.38 303**	⇑P	**P**	**20 30 47.3 +1.5**
baz=49					
C20A	**Veseth Ranch,**	**49.41 306**	⇑P	**P**	**20 30 46.3 +0.3**
baz=49,SNR=9.8					
EGMT	**Eagleton**	**49.44 308**	*e*P	**P**	**20 30 46.0 -0.2**
comp=Z,38nm,1.4s					
EGMT	**Eagleton**	**49.44 308**	*e*P	**P**	**20 30 46.0 -0.2**
comp=Z,38nm,1.4s					
PETK	**Petropavlovsk-**	**49.45 22**	LR	LR	20 50 58.8
comp=Z,40nm,18.6s,baz=225,slow=35					
C19A	**Slack Wire Ran**	**49.59 307**	⇓P	**P**	**20 30 48.0 +0.7**
baz=49,SNR=24					
D22A	**Cohagen**	**49.60 304**	⇓P	**P**	**20 30 48.4 +1.0**
baz=49					
ISAD	**Sadrabad**	**49.64 125**	*e*P	**P**	**20 30 50.2 +2.1**
ISAD	**Sadrabad**	**49.64 125**	*e*P	**P**	**20 30 50.2 +2.1**
ITEG	**Tejag**	**49.70 119**	*e*P	**P**	**20 30 50.1 +1.6**
ITEG	**Tejag**	**49.70 119**	*e*P	**P**	**20 30 50.1 +1.6**
F28A	**McLaughlin**	**49.76 299**	⇓P	**P**	**20 30 49.0 +0.4**
baz=50					
D21A	**La Casta Ranch**	**49.84 305**	⇓P	**P**	**20 30 50.0 +0.8**
baz=50,SNR=9.7					
F27A	**Lemmon**	**49.99 300**	⇑P	**P**	**20 30 51.6 +1.2**
baz=50,SNR=9.2					
D20A	**Manuel Ranch,**	**50.03 306**	⇑P	**P**	**20 30 51.6 +0.9**
baz=50,SNR=12					
LAO	**LASA Array**	**50.05 304**	*e*P	**P**	**20 30 51.2 +0.4**
LAO	**LASA Array**	**50.05 304**	*e*P	**P**	**20 30 51.2 +0.4**
IDAH	**Dahanechah**	**50.09 118**	*e*P	**P**	**20 30 53.0 +1.5**
IDAH	**Dahanechah**	**50.09 118**	*e*P	**P**	**20 30 53.0 +1.5**
D19A	**Cripps Ranch,**	**50.10 306**	⇑P	**P**	**20 30 52.1 +0.8**
baz=50,SNR=8.0					
F26A	**Lodgepole**	**50.14 301**	⇓P	**P**	**20 30 52.7 +1.2**
baz=50					
E22A	**Miles City**	**50.23 304**	⇑P	**P**	**20 30 53.4 +1.2**
baz=50					
IMEH	**Mehriz**	**50.33 124**	*e*P	**P**	**20 30 54.2 +0.9**
IMEH	**Mehriz**	**50.33 124**	*e*P	**P**	**20 30 54.2 +0.9**
YBMT	**Yellow Bay**	**50.38 311**	*e*P	**P**	**20 30 52.8 -0.6**
comp=Z,8.8nm,1.0s					
YBMT	**Yellow Bay**	**50.38 311**	*e*P	**P**	**20 30 52.8 -0.6**
comp=Z,8.8nm,1.0s					
G28A	**Parade**	**50.52 299**	⇑P	**P**	**20 30 55.6 +1.2**
baz=50					
BSMT	**Bassoo Peak**	**50.53 312**	*e*P	**P**	**20 30 54.5 -0.1**
comp=Z,15nm,0.9s					
BSMT	**Bassoo Peak**	**50.53 312**	*e*P	**P**	**20 30 54.5 -0.1**
comp=Z,15nm,0.9s					
NEW	**Newport**	**50.53 314**	*e*P	**P**	**20 30 53.6 -0.9**
comp=Z,12nm,1.2s					
NEW	**Newport**	**50.53 314**	*e*P	**P**	**20 30 53.6 -0.9**
comp=Z,12nm,1.2s					
NEW	**Newport**	**50.53 314**	⇓P	**P**	**20 30 55.2 +0.7**
baz=50					
JTMT	**Jette**	**50.54 311**	*e*P	**P**	**20 30 54.1 -0.5**
comp=Z,9.2nm,1.0s					
JTMT	**Jette**	**50.54 311**	*e*P	**P**	**20 30 54.1 -0.5**
comp=Z,9.2nm,1.0s					
E20A	**Meyer Farm, Mu**	**50.60 306**	⇓P	**P**	**20 30 55.8 +0.8**
baz=50,SNR=8.0					
G26A	**Maurine**	**50.66 300**	⇓P	**P**	**20 30 56.1 +0.6**
baz=50					
BRSD	**Miller**	**50.72 297**	*e*P	**P**	**20 30 56.5 +0.7**
BRSD	**Miller**	**50.72 297**	*e*P	**P**	**20 30 56.5 +0.7**
BRSD	**Miller**	**50.72 297**	⇑P	**P**	**20 30 56.6 +0.7**
baz=50					
SWMT	**Swartz Lake**	**50.72 311**	*e*P	**P**	**20 30 55.9 -0.1**
comp=Z,13nm,1.1s					
SWMT	**Swartz Lake**	**50.72 311**	*e*P	**P**	**20 30 55.8 -0.1**
comp=Z,13nm,1.1s					
E19A	**Rath Farm, Rou**	**50.76 306**	⇓P	**P**	**20 30 57.4 +1.2**
baz=51,SNR=5.7					
F23A	**Volborg**	**50.81 303**	⇓P	**P**	**20 30 57.5 +0.9**
baz=51,SNR=9.7					
SLMT	**Seeley Lake**	**50.88 310**	*e*P	**P**	**20 30 56.9 -0.4**
comp=Z,13nm,0.9s					
SLMT	**Seeley Lake**	**50.88 310**	*e*P	**P**	**20 30 56.9 -0.4**
comp=Z,13nm,0.9s					
ECSD	**EROS Data Cent**	**50.90 294**	*e*P	**P**	**20 30 57.3 +0.1**
comp=Z,24nm,1.0s					
ECSD	**EROS Data Cent**	**50.90 294**	*e*P	**P**	**20 30 57.3 +0.1**
comp=Z,24nm,1.0s					
G25A	**Newell**	**50.92 301**	⇑P	**P**	**20 30 58.2 +0.7**
baz=51					
F22A	**Rosebud**	**50.93 304**	⇓P	**P**	**20 30 58.2 +0.7**
baz=51					
HRY	**Holter Researc**	**51.09 309**	*e*P	**P**	**20 30 58.0 -0.8**
HRY	**Holter Researc**	**51.09 309**	*e*P	**P**	**20 30 58.0 -0.8**
CHMT	**Chamberlain Mo**	**51.16 310**	*e*P	**P**	**20 30 58.7 -0.7**
comp=Z,11nm,1.0s					
CHMT	**Chamberlain Mo**	**51.16 310**	*e*P	**P**	**20 30 58.7 -0.7**
comp=Z,11nm,1.0s					
G23A	**Biddle**	**51.31 303**	⇑P	**P**	**20 31 00.9 +0.6**
baz=51,SNR=7.6					
IKAZ	**Kazeroun**	**51.36 128**	*e*P	**P**	**20 31 01.3 +0.1**
IKAZ	**Kazeroun**	**51.36 128**	*e*P	**P**	**20 31 01.3 +0.1**
MSO	**Missoula**	**51.36 311**	⇑P	**P**	**20 31 01.1 +0.3**
baz=51,SNR=29					
F19A	**Roth Farm, Mol**	**51.38 306**	⇓P	**P**	**20 31 01.9 +1.0**
baz=51,SNR=18					
G22A	**Birney**	**51.47 304**	⇑P	**P**	**20 31 02.1 +0.5**
baz=51					
H25A	**Fruitdale**	**51.51 301**	⇓P	**P**	**20 31 02.5 +0.6**
baz=51					
IPAR	**Pars**	**51.53 126**	*e*P	**P**	**20 31 02.7 +0.2**
IPAR	**Pars**	**51.53 126**	*e*P	**P**	**20 31 02.7 +0.2**
GCMT	**Greycliff**	**51.58 307**	*e*P	**P**	**20 31 03.6 +1.2**
GCMT	**Greycliff**	**51.58 307**	*e*P	**P**	**20 31 03.6 +1.2**
H24A	**Dirks Ranch, A**	**51.58 302**	⇑P	**P**	**20 31 03.0 +0.5**
baz=51					
I28A	**Midland**	**51.60 299**	⇓P	**P**	**20 31 03.2 +0.7**
baz=51,SNR=12					
G21A	**Lodge Grass**	**51.65 304**	⇑P	**P**	**20 31 03.2 +0.3**
baz=52					
I27A	**Quinn**	**51.72 299**	⇓P	**P**	**20 31 03.6 +0.1**
baz=52					
G20A	**Bridger**	**51.85 305**	⇑P	**P**	**20 31 05.0 +0.5**
baz=52,SNR=15					
ISRV	**Sarvestan**	**51.99 126**	*e*P	**P**	**20 31 06.7 +0.8**
ISRV	**Sarvestan**	**51.99 126**	*e*P	**P**	**20 31 06.7 +0.8**
LRM	**Limekiln Ridge**	**52.06 309**	*e*P	**P**	**20 31 06.3 +0.1**
comp=Z,203nm,1.1s					
LRM	**Limekiln Ridge**	**52.06 309**	*e*P	**P**	**20 31 06.3 +0.1**
comp=Z,203nm,1.1s					
RSSD	**Black Hills**	**52.08 301**	*e*P	**P**	**20 31 07.1 +0.8**
RSSD			pmax	pmax	
comp=Z,112nm,1.5s					
RSSD	**Black Hills**	**52.08 301**	*e*P	**P**	**20 31 07.1 +0.8**
comp=Z,112nm,1.5s					
RSSD	**Black Hills**	**52.08 301**	*e*P	**P**	**20 31 07.1 +0.8**
comp=Z,112nm,1.5s					
H22A	**Clearmont**	**52.08 303**	⇓P	**P**	**20 31 06.7 +0.5**
baz=52					
I25A	**Rochford**	**52.11 301**	⇓P	**P**	**20 31 07.3 +0.8**
baz=52,SNR=6.9					
RLMT	**Red Lodge**	**52.14 306**	*e*P	**P**	**20 31 07.2 +0.4**
RLMT	**Red Lodge**	**52.14 306**	*e*P	**P**	**20 31 07.2 +0.4**
J28A	**Allard Ranch,**	**52.17 298**	⇑P	**P**	**20 31 07.5 +0.7**
baz=52					
H21A	**Big Horn, Sher**	**52.19 304**	⇓P	**P**	**20 31 07.3 +0.3**
baz=52					
H20A	**Greybull**	**52.51 305**	⇑P	**P**	**20 31 09.5 +0.1**
baz=52					
H19A	**Powell**	**52.52 306**	⇓P	**P**	**20 31 10.4 +0.9**
baz=52,SNR=6.0					
DLMT	**Dillon**	**52.53 309**	*e*P	**P**	**20 31 09.6 0.0**
comp=Z,8.4nm,1.0s					
DLMT	**Dillon**	**52.53 309**	*e*P	**P**	**20 31 09.6 0.0**
comp=Z,8.4nm,1.0s					
H18A	**Shoshone NF, C**	**52.65 306**	⇑P	**P**	**20 31 10.7 +0.2**
baz=52,SNR=9.4					
J26A	**Sides Ranch, S**	**52.66 300**	⇓P	**P**	**20 31 10.8 +0.4**
baz=52					
J25A	**Sunshine Ranch**	**52.73 301**	⇑P	**P**	**20 31 11.4 +0.4**
baz=52					
HAWA	**Hanford**	**52.75 315**	*e*P	**P**	**20 31 12.3 +1.3**
comp=Z,7.3nm,0.9s					
HAWA	**Hanford**	**52.75 315**	*e*P	**P**	**20 31 12.3 +1.3**
comp=Z,7.3nm,0.9s					
I22A	**9 Mile Ranch,**	**52.78 303**	⇓P	**P**	**20 31 11.8 +0.3**
baz=53					
GTA	**Gaotai**	**52.88 76**	P	**P**	**20 31 13.4 +1.2**
GTA			pP	pP	20 31 18.0 +4.8
GTA			sP	sP	20 31 20.5 +6.9
GTA			S	**S**	**20 38 41.5 +0.1**
GTA			sS	sS	20 38 50.1 +7.0
GTA			SS	**SS**	**20 42 20.3 +0.8**
GTA			pmax	pmax	
comp=Z,18nm,1.2s					
GTA			pmax	pmax	
comp=Z,130nm,4.3s					
GTA			LR	LR	
comp=N,170nm,17.8s					
GTA			LR	LR	
comp=E,190nm,18.1s					
GTA			LR	LR	
comp=Z,170nm,18.5s					
J24A	**Dixon Ranch, L**	**52.96 301**	⇑P	**P**	**20 31 13.4 +0.7**
baz=53					
I21A	**Big Trails, Te**	**53.02 304**	⇑P	**P**	**20 31 13.3 +0.1**
baz=53,SNR=28					
I20A	**Worland**	**53.05 305**	⇑P	**P**	**20 31 14.3 +0.9**
baz=53					
H17A	**Grant Village**	**53.09 307**	*e*P	**P**	**20 31 16.5 +2.7**
MCMT	**McKenzie Canyo**	**53.10 309**	*e*P	**P**	**20 31 13.9 0.0**
comp=Z,9.6nm,1.1s					
MCMT	**McKenzie Canyo**	**53.10 309**	*e*P	**P**	**20 31 13.9 0.0**
comp=Z,9.6nm,1.1s					
I19A	**Meeteetse**	**53.14 305**	⇑P	**P**	**20 31 14.8 +0.7**
baz=53,SNR=19					
J22A	**Midwest**	**53.24 303**	⇑P	**P**	**20 31 14.7 -0.2**
baz=53,SNR=27					
K26A	**Motz Farm, Whi**	**53.26 300**	⇑P	**P**	**20 31 15.0 0.0**
baz=53					
FLWY	**Flagg Ranch**	**53.42 307**	*e*P	**P**	**20 31 17.9 +1.7**
comp=Z,81nm,1.6s					
FLWY	**Flagg Ranch**	**53.42 307**	*e*P	**P**	**20 31 17.9 +1.7**
comp=Z,81nm,1.6s					
J21A	**Lysite**	**53.50 304**	⇓P	**P**	**20 31 17.1 +0.3**
baz=53,SNR=11					
J20A	**Shoshoni**	**53.62 304**	⇓P	**P**	**20 31 18.4 +0.9**
baz=53,SNR=28					
IMW	**Indian Meadow**	**53.64 307**	*e*P	**P**	**20 31 19.0 +1.1**
comp=Z,34nm,1.0s					
IMW	**Indian Meadow**	**53.64 307**	*e*P	**P**	**20 31 19.0 +1.1**
comp=Z,34nm,1.0s					
TAM	**Tamanrasset**	**53.67 181**	*e*P	**P**	**20 31 18.6 +0.4**
TAM			pmax	pmax	
comp=Z,6.0nm,1.1s					
TAM	**Tamanrasset**	**53.67 181**	*e*P	**P**	**20 31 18.6 +0.4**
comp=Z,6.3nm,1.1s					
TAM	**Tamanrasset**	**53.67 181**	*e*P	**P**	**20 31 18.6 +0.4**
comp=Z,6.3nm,1.1s					
LOHW	**Long Hollow**	**53.85 307**	*e*P	**P**	**20 31 19.8 +0.4**
comp=Z,27nm,1.6s					
LOHW	**Long Hollow**	**53.85 307**	*e*P	**P**	**20 31 19.8 +0.4**
comp=Z,27nm,1.6s					
BMO	**Blue Mountains**	**53.87 313**	*e*P	**P**	**20 31 18.3 -1.1**
comp=Z,17nm,1.1s					
BMO	**Blue Mountains**	**53.87 313**	*e*P	**P**	**20 31 18.3 -1.1**
comp=Z,17nm,1.1s					
J19A	**Crowheart**	**53.89 305**	⇑P	**P**	**20 31 20.7 +1.1**
baz=54,SNR=46					
K22A	**Casper**	**53.99 303**	⇑P	**P**	**20 31 20.2 -0.1**
baz=54,SNR=19					
TPAW	**Teton Pass**	**54.04 307**	*e*P	**P**	**20 31 21.2 +0.4**
comp=Z,15nm,1.0s					
TPAW	**Teton Pass**	**54.04 307**	*e*P	**P**	**20 31 21.2 +0.4**
comp=Z,15nm,1.0s					
CN2	**Changchun**	**54.05 51**	*e*P	**P**	**20 31 20.8 +0.2**
CN2			*e*sP	sP	20 31 27.8 +5.8
CN2			*e*PP	**PP**	**20 33 23.4 +1.9**
CN2			*e*S	**S**	**20 38 53.4 -3.5**
CN2			*e*SS	**SKiKP**	**20 42 33.8 +0.9**
CN2			pmax	pmax	
comp=Z,10.0nm,1.0s					
CN2			LR	LR	
comp=N,310nm,20.0s					
CN2			LR	LR	
comp=E,280nm,20.0s					
CN2			LR	LR	
comp=Z,250nm,21.0s					
HHC	**Hu-ho-hao-te**	**54.12 65**	*e*P	**P**	**20 31 21.1 -0.1**
HHC			pP	pP	20 31 25.8 +3.6
HHC			sP	sP	20 31 28.1 +5.5
HHC			PcP	**PcP**	**20 32 26.4 +0.6**
HHC			PP	**PP**	**20 33 23.9 +1.6**
HHC			PcS	**PcS**	**20 36 24.3 -1.0**
HHC			S	**S**	**20 38 53.3 -4.8**
HHC			ScS	**ScS**	**20 41 06.6 -4.4**
HHC			pmax	pmax	
comp=Z,25nm,0.5s					
HHC			pmax	pmax	
comp=Z,220nm,5.4s					
HHC			LR	LR	
comp=N,290nm,15.4s					
HHC			LR	LR	
comp=E,440nm,15.8s					
HHC			LR	LR	
comp=Z,220nm,15.6s					
REDW	**Red Top Meadow**	**54.14 307**	*e*P	**P**	**20 31 21.9 +0.4**
comp=Z,18nm,1.1s					
REDW	**Red Top Meadow**	**54.14 307**	*e*P	**P**	**20 31 21.9 +0.4**
comp=Z,18nm,1.1s					
K21A	**Alcova**	**54.15 303**	⇑P	**P**	**20 31 21.4 -0.1**
baz=54,SNR=8.1					
RRI2	**Red Ridge**	**54.24 307**	*e*P	**P**	**20 31 23.6 +1.3**
comp=Z,30nm,1.5s					
RRI2	**Red Ridge**	**54.24 307**	*e*P	**P**	**20 31 23.6 +1.3**
comp=Z,30nm,1.5s					
K19A	**Absolon Red Bu**	**54.28 305**	⇓P	**P**	**20 31 22.4 -0.1**
baz=54,SNR=9.5					
K20A	**Yellowstone Ra**	**54.34 304**	⇓P	**P**	**20 31 22.6 -0.3**
baz=54,SNR=17					
L23A	**Garrett**	**54.34 302**	⇑P	**P**	**20 31 22.5 -0.4**
baz=54,SNR=7.1					
BW06	**Boulder Array**	**54.47 306**	*e*P	**P**	**20 31 23.3 -0.6**
BW06	**Boulder Array**	**54.47 306**	*e*P	**P**	**20 31 23.3 -0.6**
PDAR	**Pinedale Array**	**54.47 306**	P	**P**	**20 31 24.2 +0.3**
PDAR	**Pinedale Array**	**54.47 306**	P	**P**	**20 31 24.2 +0.3**
comp=Z,11nm,1.1s,baz=36,slow=3.8,SNR=32					
PDAR			LR	LR	20 55 11.2
comp=Z,371nm,18.6s,baz=18,slow=37					
PDAR	**Pinedale Array**	**54.47 306**	P	**P**	**20 31 24.2 +0.3**
L22A	**Ellis Ranch, M**	**54.57 303**	⇑P	**P**	**20 31 25.0 +0.4**
baz=54,SNR=15					
HLID	**Hailey**	**54.61 310**	*e*P	**P**	**20 31 24.9 +0.1**
comp=Z,11nm,1.1s					
HLID	**Hailey**	**54.61 310**	*e*P	**P**	**20 31 24.9 +0.1**
comp=Z,11nm,1.1s					
HLID	**Hailey**	**54.61 310**	⇓P	**P**	**20 31 25.2 +0.4**
baz=54,SNR=14					
L21A	**Rawlins**	**54.82 303**	⇓P	**P**	**20 31 26.4 -0.1**
baz=55,SNR=14					
USRK	**Ussuriysk Arra**	**54.83 46**	P	**P**	**20 31 26.5 +0.3**
comp=Z,2.2nm,0.7s,baz=347,slow=6.5,SNR=8.0					
USRK			PcP	**PcP**	**20 32 28.4 +0.1**
comp=Z,0.9nm,0.7s,baz=326,slow=6.1,SNR=4.1					
USRK			LR	LR	20 58 55.2
comp=Z,122nm,18.1s,baz=250,slow=40					
N27A	**Anderson Farm,**	**54.95 299**	⇑P	**P**	**20 31 27.5 +0.2**
baz=55					
L20A	**Wamsutter**	**54.97 304**	⇑P	**P**	**20 31 28.1 +0.6**
baz=55,SNR=14					
MFID	**Camas Ranch**	**55.00 311**	⇓P	**P**	**20 31 28.0 +0.3**
baz=55					
RWWY	**Rawlins**	**55.05 303**	*e*P	**P**	**20 31 28.6 +0.4**
comp=Z,48nm,1.2s					
RWWY	**Rawlins**	**55.05 303**	*e*P	**P**	**20 31 28.5 +0.4**
comp=Z,48nm,1.2s					
L19A	**Farson**	**55.07 305**	⇑P	**P**	**20 31 28.7 +0.4**
baz=55					
PHWY	**Pilot Hill**	**55.07 301**	*e*P	**P**	**20 31 28.6 +0.2**
comp=Z,28nm,1.2s					
PHWY	**Pilot Hill**	**55.07 301**	*e*P	**P**	**20 31 28.6 +0.2**
comp=Z,28nm,1.2s					
M21A	**Separation Pea**	**55.16 303**	⇓P	**P**	**20 31 29.1 +0.1**
baz=55					
M22A	**Cedar Creek Ra**	**55.20 303**	⇓P	**P**	**20 31 29.5 +0.2**
baz=55,SNR=6.4					
O29A	**4D Ranch, Culb**	**55.24 297**	⇑P	**P**	**20 31 29.4 +0.1**
baz=55					
L18A	**Fontenelle, Gr**	**55.37 306**	⇓P	**P**	**20 31 30.9 +0.5**
baz=55					
M20A	**Sweetwater, Wa**	**55.43 304**	⇑P	**P**	**20 31 31.2 +0.3**
baz=55,SNR=14					
P31A	**Stockton**	**55.52 295**	⇓P	**P**	**20 31 31.3 0.0**
baz=55,SNR=7.3					
N23A	**Red Feather La**	**55.56 302**	⇓P	**P**	**20 31 32.7 +0.8**
baz=55,SNR=17					
N22A	**Wattenberg Ran**	**55.75 302**	⇑P	**P**	**20 31 34.0 +0.8**
baz=56,SNR=13					
BJI	**Beijing**	**55.86 61**	P	**P**	**20 31 33.8 +0.1**
BJI			S	**S**	**20 39 21.8 +0.6**
BJI			SS	**SS**	**20 43 08.1 +2.0**
BJI			pmax	pmax	
comp=Z,11nm,1.3s					
BJI			LR	LR	
comp=N,460nm,17.7s					
BJI			LR	LR	
comp=E,350nm,11.8s					
BJI			LR	LR	
comp=Z,280nm,21.7s					
M17A	**Scullys Gap (B**	**55.93 306**	⇓P	**P**	**20 31 34.8 +0.3**
baz=56,SNR=9.1					
HWUT	**Hardware Ranch**	**55.97 307**	*e*P	**P**	**20 31 35.5 +0.8**
comp=Z,17nm,1.3s					
HWUT	**Hardware Ranch**	**55.97 307**	*e*P	**P**	**20 31 35.5 +0.8**
comp=Z,17nm,1.3s					
N20A	**Spence Gulch,**	**56.08 304**	⇑P	**P**	**20 31 36.5 +0.9**
baz=56,SNR=48					
O24A	**Longmont**	**56.13 301**	⇑P	**P**	**20 31 36.6 +0.8**
baz=56					
O23A	**Lake Granby, G**	**56.22 302**	⇑P	**P**	**20 31 37.7 +1.1**
baz=56,SNR=13					
O22A	**Kremmling**	**56.39 302**	⇑P	**P**	**20 31 38.5 +0.6**
baz=56,SNR=20					
SPUT	**South Promonto**	**56.43 308**	*e*P	**P**	**20 31 35.8 -2.1**
comp=Z,17nm,1.1s					
SPUT	**South Promonto**	**56.43 308**	*e*P	**P**	**20 31 35.8 -2.1**
comp=Z,17nm,1.1s					
O21A	**Pagoda**	**56.52 303**	⇓P	**P**	**20 31 40.0 +1.2**
baz=56,SNR=8.3					
P25A	**Willow Gulch B**	**56.53 300**	⇓P	**P**	**20 31 39.3 +0.6**
baz=56,SNR=10					
ISCO	**Idaho Springs**	**56.55 301**	*e*P	**P**	**20 31 39.7 +0.7**
ISCO			pmax	pmax	
comp=Z,18nm,1.0s					
ISCO	**Idaho Springs**	**56.55 301**	*e*P	**P**	**20 31 39.7 +0.7**
comp

baz=57
DAU Daniels Canyon 57.07 306 *eP* **P 20 31 43.3 +0.6**
DAU pmax pmax
comp=Z,10.0nm,0.9s
DAU Daniels Canyon 57.07 306 *eP* **P 20 31 43.3 +0.6**
comp=Z,10nm,0.9s
DAU Daniels Canyon 57.07 306 *eP* **P 20 31 43.3 +0.6**
comp=Z,10nm,0.9s
Q25A Bedland, Calha 57.12 300 ⇓P **P 20 31 43.1 +0.1**
baz=57
P21A Newcastle 57.19 303 ⇑P **P 20 31 44.7 +1.3**
baz=57,SNR=8.3
Q24A Divide 57.26 300 ⇓P **P 20 31 44.4 +0.3**
baz=57,SNR=18
P19A Cripple Cowboy 57.38 304 ⇓P **P 20 31 45.7 +0.9**
baz=57,SNR=31
P20A De Beque 57.40 304 ⇑P **P 20 31 45.7 +0.8**
baz=57
SMCO Snowmass 57.42 302 *eP* **P 20 31 46.1 +0.8**
comp=Z,30nm,1.1s
SMCO Snowmass 57.42 302 *eP* **P 20 31 46.1 +0.8**
comp=Z,30nm,1.1s
R27A Eads 57.43 298 ⇓P **P 20 31 45.1 +0.1**
baz=57
Q23A Hartsel 57.46 301 ⇑P **P 20 31 46.0 +0.6**
baz=57,SNR=14
ELK Elko 57.49 310 *eP* **P 20 31 45.4 -0.1**
comp=Z,10nm,1.1s
ELK Elko 57.49 310 *eP* **P 20 31 45.4 -0.1**
comp=Z,10nm,1.1s
R26A Arlington 57.55 299 ⇓P **P 20 31 45.9 0.0**
baz=57
S30A Montezuma 57.56 296 ⇑P **P 20 31 46.0 +0.1**
baz=57
DUG Dugway 57.57 308 *eP* **P 20 31 46.1 +0.1**
DUG pmax pmax
comp=Z,7.0nm,1.0s
DUG Dugway 57.57 308 *eP* **P 20 31 46.1 +0.1**
comp=Z,6.9nm,1.0s
DUG Dugway 57.57 308 *eP* **P 20 31 46.1 +0.1**
comp=Z,6.9nm,1.0s
DUG Dugway 57.57 308 ⇓P **P 20 31 46.4 +0.4**
baz=57
Q22A Crested Butte, 57.72 302 ⇑P **P 20 31 48.3 +1.0**
baz=58,SNR=14
R25A Fountain Ranch 57.87 299 ⇓P **P 20 31 48.5 +0.3**
baz=58
Q21A Lamborn Mesa, 57.88 303 ⇑P **P 20 31 49.4 +1.2**
baz=58,SNR=8.0
Q20A Ridgley Place, 57.90 303 ⇓P **P 20 31 49.1 +0.7**
baz=58,SNR=8.8
S28A Manter 57.91 297 ⇓P **P 20 31 49.0 +0.6**
baz=58
T31A Randall Ranch, 57.91 295 ⇓P **P 20 31 48.4 0.0**
baz=58
R24A Sanders Place, 57.96 300 ⇓P **P 20 31 49.1 +0.3**
baz=58
S27A Las Animas 58.03 298 ⇓P **P 20 31 49.7 +0.4**
baz=58,SNR=10
TMUT Trail Mountain 58.14 306 *eP* **P 20 31 51.2 +1.0**
comp=Z,31nm,1.0s
TMUT Trail Mountain 58.14 306 *eP* **P 20 31 51.2 +1.0**
comp=Z,31nm,1.0s
R23A Moffat 58.15 301 ⇓P **P 20 31 50.8 +0.5**
baz=58,SNR=21
SRU San Rafael 58.19 305 *eP* **P 20 31 50.6 +0.1**
SRU pmax pmax
comp=Z,12nm,1.0s
SRU San Rafael 58.19 305 *eP* **P 20 31 50.5 +0.1**
comp=Z,12nm,1.0s
SRU San Rafael 58.19 305 *eP* **P 20 31 50.5 +0.1**
comp=Z,12nm,1.0s
S26A Kim 58.21 299 ⇑P **P 20 31 50.3 -0.3**
baz=58
R22A Saguache, Gunn 58.30 302 ⇓P **P 20 31 52.6 +1.2**
baz=58,SNR=20
R21A Cimarron 58.32 302 ⇑P **P 20 31 52.6 +1.1**
baz=58,SNR=21
S25A Robets Cordova 58.37 299 ⇑P **P 20 31 52.1 +0.4**
baz=58,SNR=29
T28A Walsh 58.41 297 ⇑P **P 20 31 52.2 +0.3**
baz=58
Q16A Castle Valley 58.50 306 *eP* **P 20 31 53.4 +0.7**
Q16A Castle Valley 58.50 306 *eP* **P 20 31 53.3 +0.7**
Q16A Castle Valley 58.50 306 ⇑P **P 20 31 53.5 +0.9**
baz=58,SNR=13
SDCO Great Sand Dun 58.51 300 *eP* **P 20 31 52.7 -0.1**
comp=Z,158nm,1.1s
SDCO Great Sand Dun 58.51 300 *eP* **P 20 31 52.7 -0.1**
comp=Z,158nm,1.1s
T27A Campo 58.59 298 ⇑P **P 20 31 53.8 +0.5**
baz=58
R20A Redvale 58.66 303 ⇑P **P 20 31 54.7 +1.0**
baz=58,SNR=16
T26A Comanche Natio 58.67 299 ⇑P **P 20 31 54.7 +0.9**
baz=58
S22A 4UR Ranch, Cre 58.78 302 ⇓P **P 20 31 55.8 +1.1**
baz=59,SNR=8.0
T25A Trinidad 58.87 299 ⇑P **P 20 31 55.7 +0.4**
baz=59
S20A Disappointment 59.00 303 ⇑P **P 20 31 57.2 +1.0**
baz=59,SNR=13
MIAR Mount Ida 59.02 289 *eP* **P 20 31 55.4 -0.7**
MIAR pmax pmax
comp=Z,29nm,1.4s
MIAR Mount Ida 59.02 289 *eP* **P 20 31 55.4 -0.7**
comp=Z,29nm,1.4s
MIAR Mount Ida 59.02 289 *eP* **P 20 31 55.4 -0.7**
comp=Z,29nm,1.4s
S21A Coal Bank Pass 59.05 302 ⇑P **P 20 31 57.6 +1.0**
baz=59,SNR=18
MVU Marysvale 59.10 307 *eP* **P 20 31 57.9 +1.1**
comp=Z,20nm,1.1s
MVU Marysvale 59.10 307 *eP* **P 20 31 57.9 +1.1**
comp=Z,20nm,1.1s
T24B San Luis 59.14 300 ⇓P **P 20 31 57.9 +0.6**
baz=59
U28A Mallet 59.15 297 ⇑P **P 20 31 57.3 +0.3**
baz=59
V31A Spring Creek L 59.22 295 ⇑P **P 20 31 58.3 +0.8**
baz=59
PAHR Pah Rah Range 59.23 313 *eP* **P 20 31 57.6 0.0**
comp=Z,18nm,1.3s
PAHR Pah Rah Range 59.23 313 *eP* **P 20 31 57.6 0.0**
comp=Z,18nm,1.3s
U27A Thompson Grove 59.23 298 ⇑P **P 20 31 58.0 +0.4**
baz=59
U26A Atchley Ranch, 59.45 298 ⇓P **P 20 31 59.8 +0.5**
baz=59,SNR=10.0
T22A Edith 59.50 301 ⇓P **P 20 32 00.7 +1.1**
baz=59,SNR=19
U25A Circle Dot Ran 59.58 299 ⇑P **P 20 32 01.2 +1.0**
baz=59,SNR=8.3
MVCO Mesa Verde 59.63 303 *eP* **P 20 32 01.0 +0.5**
comp=Z,34nm,1.2s
MVCO Mesa Verde 59.63 303 *eP* **P 20 32 01.0 +0.5**
comp=Z,34nm,1.2s
MVCO Mesa Verde 59.63 303 ⇑P **P 20 32 01.5 +1.0**
baz=59,SNR=14
T21A Navajo Lake 59.65 302 ⇓P **P 20 32 02.3 +1.7**
baz=60,SNR=8.1
DANN Dangsing 59.70 95 *eP* **P 20 32 01.7 +0.6**
comp=Z,46nm,0.8s
PYUN Piuthan 59.75 96 *eP* **P 20 32 02.0 +0.6**
comp=Z,163nm,0.6s
R11A Troy Canyon, C 59.88 310 *eP* **P 20 32 01.8 -0.3**
R11A Troy Canyon, C 59.88 310 *eP* **P 20 32 01.8 -0.3**
R11A Troy Canyon, C 59.88 310 ⇓P **P 20 32 02.5 +0.4**
baz=60,SNR=19
WMOK Wichita Mounta 59.99 293 *eP* **P 20 32 02.7 -0.1**
WMOK pmax pmax
comp=Z,15nm,1.0s
WMOK Wichita Mounta 59.99 293 *eP* **P 20 32 02.7 -0.1**
comp=Z,15nm,1.0s
WMOK Wichita Mounta 59.99 293 *eP* **P 20 32 02.7 -0.1**
comp=Z,15nm,1.0s
V26A Tequesquite Ra 60.03 298 ⇓P **P 20 32 03.0 -0.2**
baz=60
XAN Xi'an 60.08 69 P **P 20 32 03.3 -0.1**
XAN pmax pmax
comp=Z,2.0nm,1.2s
XAN pmax pmax
comp=Z,22nm,5.9s
LSA Lhasa 60.15 87 P **P 20 32 05.9 +1.5**
LSA pmax pmax
comp=Z,10.0nm,1.2s
V25A Rancho No Teng 60.17 299 ⇓P **P 20 32 04.6 +0.4**
baz=60,SNR=15

KOLN Koldanda 60.21 95 *eP* **P 20 32 04.7 +0.1**
comp=Z,18nm,0.9s
U21A Nageezi 60.22 302 ⇑P **P 20 32 04.9 +0.4**
baz=60,SNR=19
NV11 Mina Array Sit 60.26 312 *eP* **P 20 32 04.3 -0.4**
NV11 Mina Array Sit 60.26 312 *eP* **P 20 32 04.3 -0.4**
X31A McDonald Ranch 60.35 294 ⇓P **P 20 32 05.6 +0.3**
baz=60
WAKR Walker 60.41 313 *eP* **P 20 32 06.8 +1.0**
comp=Z,4.1nm,1.0s
WAKR Walker 60.41 313 *eP* **P 20 32 06.8 +1.0**
comp=Z,4.1nm,1.0s
V24A Rampart Ranch, 60.41 300 ⇑P **P 20 32 06.0 +0.1**
baz=60,SNR=9.7
V22A San Miguel Ran 60.56 301 ⇓P **P 20 32 07.5 +0.6**
baz=60,SNR=7.4
V23A Ortiz Mt. (NFS 60.58 300 ⇑P **P 20 32 08.4 +1.4**
baz=60,SNR=8.0
KKN Kakani 60.59 94 *eP* **P 20 32 07.5 +0.3**
comp=Z,20nm,0.7s
W27A Bowe Ranch, En 60.59 297 ⇓P **P 20 32 07.4 +0.4**
baz=60,SNR=11
GUN Gumba 60.62 93 *eP* **P 20 32 07.9 +0.4**
comp=Z,51nm,1.1s
KSRS Korea Array 60.66 51 LR LR 20 58 40.8
comp=Z,101nm,20.1s,baz=247,slow=36
X30A Coker Ranch, T 60.72 295 ⇑P **P 20 32 08.8 +1.0**
baz=60,SNR=6.9
DMN Daman 60.72 94 *eP* **P 20 32 08.6 +0.5**
comp=Z,23nm,1.0s
V21A Milan 60.81 302 ⇓P **P 20 32 09.4 +0.7**
baz=61,SNR=7.6
PKIN Phulchoki 60.82 94 *eP* **P 20 32 08.9 +0.1**
PKI Pulchoki 60.83 94 *eP* **P 20 32 09.3 +0.3**
X29A Tulia 60.90 296 ⇓P **P 20 32 09.8 +0.8**
baz=61
JIRN Jiri 60.93 93 *eP* **P 20 32 10.6 +0.9**
comp=Z,25nm,0.8s
W24A Lazy 6 Ranch, 60.94 300 ⇑P **P 20 32 10.0 +0.5**
baz=61,SNR=12
V20A Brimhall 60.99 302 ⇑P **P 20 32 10.2 +0.4**
baz=61,SNR=9.8
Y31A Rekieta Farm, 61.06 295 ⇓P **P 20 32 10.5 +0.4**
baz=61
U15A North Rim 61.12 306 ⇑P **P 20 32 11.2 +0.4**
baz=61,SNR=9.1
X26A CR and CF Fran 61.24 298 ⇓P **P 20 32 12.4 +0.9**
baz=61
ANMO Albuquerque 61.41 300 *eP* **P 20 32 12.6 0.0**
comp=Z,8.5nm,1.1s
ANMO Albuquerque 61.41 300 *eP* **P 20 32 12.6 0.0**
comp=Z,8.5nm,1.1s
W21A San Fidel 61.48 302 ⇓P **P 20 32 14.1 +1.0**
baz=61
Z32A Haskell 61.52 294 ⇓P **P 20 32 13.7 +0.5**
baz=61,SNR=13
Y28A McKinney Farm, 61.53 296 ⇑P **P 20 32 14.0 +0.7**
baz=61
MSTX Muleshoe 61.59 297 *eP* **P 20 32 13.6 -0.2**
MSTX Muleshoe 61.59 297 *eP* **P 20 32 13.6 -0.2**
MSTX Muleshoe 61.59 297 ⇑P **P 20 32 14.1 +0.4**
baz=61,SNR=9.9
TAPN Taplejung 61.59 91 *eP* **P 20 32 14.4 +0.3**
comp=Z,40nm,1.2s
SHPR Sheep Range 61.59 309 *eP* **P 20 32 14.5 +0.7**
comp=Z,12nm,1.2s
SHPR Sheep Range 61.59 309 *eP* **P 20 32 14.5 +0.7**
comp=Z,12nm,1.2s
W20A Ramah 61.65 302 ⇑P **P 20 32 14.4 +0.2**
baz=62
Z31A Sharp Cattle R 61.65 294 ⇑P **P 20 32 14.3 +0.2**
baz=62
RAMN Ramite 61.71 93 *eP* **P 20 32 15.0 +0.2**
comp=Z,29nm,1.0s
Y27A Causey 61.75 297 ⇓P **P 20 32 15.7 +0.8**
baz=62,SNR=22
WUAZ Wupatki 61.83 305 *eP* **P 20 32 15.9 +0.4**
comp=Z,21nm,1.1s
WUAZ Wupatki 61.83 305 *eP* **P 20 32 15.9 +0.4**
comp=Z,21nm,1.1s
WUAZ Wupatki 61.83 305 ⇓P **P 20 32 16.2 +0.8**
baz=62,SNR=14
Y26A Elida 61.85 298 ⇓P **P 20 32 16.2 +0.7**
baz=62
CD2 Chengdu 61.92 75 P **P 20 32 18.0 +2.0**
CD2 pP pP 20 32 22.6 +5.6
CD2 sP sP 20 32 25.0 +7.6
CD2 PP **PP 20 34 36.3 +4.5**
CD2 S **S 20 40 39.3 -1.0**
CD2 sS sS 20 40 46.5 +4.5
CD2 SS **SS 20 44 42.5 +0.8**
CD2 pmax pmax
comp=Z,20nm,1.0s
CD2 pmax pmax
comp=Z,180nm,5.5s
CD2 LR LR
comp=N,330nm,7.1s
CD2 LR LR
comp=Z,270nm,8.3s
ODAN Odare 61.98 92 *eP* **P 20 32 17.4 +0.8**
comp=Z,44nm,1.0s
Y25A Mesa, Roswell 62.03 299 ⇓P **P 20 32 17.8 +1.0**
baz=62,SNR=14
Z29A Hungry Hill Ra 62.04 296 ⇑P **P 20 32 17.3 +0.5**
baz=62,SNR=28
LAZ Ladron 62.07 301 *eP* **P 20 32 17.7 +0.6**
comp=Z,6.3nm,1.3s
LAZ Ladron 62.07 301 *eP* **P 20 32 17.7 +0.6**
comp=Z,6.3nm,1.3s
Z28A Tucker Farm, M 62.16 296 ⇑P **P 20 32 18.1 +0.5**
baz=62
Y24A Capitan 62.18 299 ⇑P **P 20 32 18.6 +0.7**
baz=62,SNR=18
X20A Quemado 62.21 302 ⇓P **P 20 32 18.3 +0.2**
baz=62,SNR=11
BNM Barren Site 62.21 300 *eP* **P 20 32 18.8 +0.7**
comp=Z,19nm,1.8s
BNM Barren Site 62.21 300 *eP* **P 20 32 18.8 +0.7**
comp=Z,19nm,1.8s
ABTX Abilene, Hawle 62.21 294 *eP* **P 20 32 17.4 -0.5**
ABTX Abilene, Hawle 62.21 294 *eP* **P 20 32 17.4 -0.5**
ABTX Abilene, Hawle 62.21 294 ⇑P **P 20 32 18.2 +0.3**
baz=62,SNR=7.0
Y23A Lovelace Mesa, 62.30 300 ⇓P **P 20 32 19.4 +0.7**
baz=62,SNR=7.9
Z27A Tatum 62.31 297 ⇑P **P 20 32 19.0 +0.4**
baz=62,SNR=18
WHTX Lake Whitney 62.34 291 ⇓P **P 20 32 19.2 +0.5**
baz=62
MPMC Manual Prospec 62.45 311 ⇓P **P 20 32 21.0 +1.4**
baz=62,SNR=19
Y22A Socorro 62.49 301 ⇓P **P 20 32 20.8 +0.9**
baz=62
Z26A Caprock 62.51 298 ⇓P **P 20 32 20.3 +0.3**
baz=62,SNR=9.5
130A Snyder 62.52 295 ⇑P **P 20 32 20.3 +0.3**
baz=62
Z25A Roswell 62.66 298 ⇑P **P 20 32 21.5 +0.5**
baz=62
Z24A Sheeppen Canyo 62.74 299 ⇑P **P 20 32 22.7 +1.0**
baz=63,SNR=9.5
128A Castleberry Fa 62.83 296 ⇑P **P 20 32 22.3 +0.3**
baz=63
X16A Lo Mia Camp, P 62.91 305 ⇑P **P 20 32 22.6 -0.1**
baz=63
232A Coleman 62.92 293 ⇑P **P 20 32 22.4 -0.2**
baz=63
127A Arkansas Junct 62.96 297 ⇑P **P 20 32 23.2 +0.2**
baz=63
Z23A Rita Site, Whi 62.99 300 ⇑P **P 20 32 24.0 +0.8**
baz=63
ISA Isabella 63.01 311 *eP* **P 20 32 24.6 +1.4**
ISA pmax pmax
comp=Z,21nm,1.4s
ISA Isabella 63.01 311 *eP* **P 20 32 24.6 +1.4**
comp=Z,21nm,1.4s
ISA Isabella 63.01 311 *eP* **P 20 32 24.6 +1.4**
comp=Z,21nm,1.4s
ISA Isabella 63.01 311 ⇓P **P 20 32 24.6 +1.4**
baz=63,SNR=6.6
231A Bronte 63.02 294 ⇓P **P 20 32 23.9 +0.6**
baz=63
GSC Goldstone 63.06 310 ⇓P **P 20 32 24.6 +1.0**
baz=63
126A Clayton Basin, 63.12 298 ⇑P **P 20 32 24.8 +0.7**
baz=63
Z22A Elephant Butte 63.15 300 ⇓P **P 20 32 25.4 +1.2**
baz=63

230A Sterling City 63.24 295 ⇑P **P 20 32 24.6 -0.1**
baz=63,SNR=13
125A Gardner Draw, 63.25 298 ⇑P **P 20 32 24.9 0.0**
baz=63,SNR=12
TOA0 Torodi Ar. Sit 63.31 185 *eP* **P 20 32 24.1 -1.2**
TOA0 Torodi Ar. Sit 63.31 185 *eP* **P 20 32 24.1 -1.2**
TORD Torodi Ar. Bea 63.31 185 P **P 20 32 24.4 -0.9**
TORD Torodi Ar. Bea 63.31 185 P **P 20 32 24.4 -0.9**
comp=Z,6.0nm,1.0s,baz=351,slow=6.4,SNR=28
TORD LR LR 20 58 12.5
comp=Z,43nm,19.6s,baz=125,slow=34
TORD Torodi Ar. Bea 63.31 185 P **P 20 32 24.4 -0.9**
GMRC Granite Mounta 63.36 309 ⇑P **P 20 32 26.6 +1.0**
baz=63,SNR=10
124A Stringfield Ra 63.37 299 ⇓P **P 20 32 26.2 +0.4**
baz=63,SNR=12
332A Millersview 63.43 293 ⇑P **P 20 32 26.2 +0.2**
baz=63,SNR=15
123A Bell Site, Whi 63.60 300 ⇑P **P 20 32 27.8 +0.5**
baz=63
GDL2 Guadalupe Moun 63.63 298 *eP* **P 20 32 27.7 +0.3**
comp=Z,8.6nm,1.0s
GDL2 Guadalupe Moun 63.63 298 *eP* **P 20 32 27.7 +0.3**
comp=Z,8.6nm,1.0s
331A San Angelo 63.65 294 ⇓P **P 20 32 27.8 +0.3**
baz=64,SNR=12
EDW2 Edwards Air Fo 63.68 311 ⇑P **P 20 32 28.3 +0.6**
baz=64
226B Tecolote Peak, 63.70 298 ⇓P **P 20 32 28.1 +0.2**
baz=64
225A Deer Hill, Car 63.81 298 ⇓P **P 20 32 28.4 -0.3**
baz=64
329A Wagon Wheel Ra 63.81 295 ⇓P **P 20 32 28.1 -0.4**
baz=64
432A Menard 63.93 293 ⇑P **P 20 32 29.7 +0.4**
baz=64
121A Cookes Peak, D 64.01 301 ⇑P **P 20 32 30.2 +0.2**
baz=64
328A Wristen Ranch, 64.09 296 ⇓P **P 20 32 30.4 0.0**
baz=64,SNR=16
NJ2 Nanjing 64.12 61 *eP* **P 20 32 31.1 +0.6**
NJ2 pmax pmax
comp=Z,20nm,1.0s
120A U Bar Ranch, L 64.17 302 ⇑P **P 20 32 31.7 +0.7**
baz=64,SNR=20
BELC Belle Mtn. Jos 64.18 309 ⇓P **P 20 32 32.1 +1.1**
baz=64,SNR=9.8
222A Williams Famil 64.29 300 ⇓P **P 20 32 32.3 +0.6**
baz=64
431A Sonora 64.29 294 ⇓P **P 20 32 32.2 +0.5**
baz=64,SNR=25
JCT Junction City 64.31 293 *eP* **P 20 32 32.1 +0.2**
JCT pmax pmax
comp=Z,24nm,1.2s
JCT Junction City 64.31 293 *eP* **P 20 32 32.1 +0.2**
comp=Z,24nm,1.2s
JCT Junction City 64.31 293 *eP* **P 20 32 32.1 +0.2**
comp=Z,24nm,1.2s
JCT Junction City 64.31 293 ⇑P **P 20 32 31.9 +0.1**
baz=64
MNTX Cornudas Mount 64.33 299 *eP* **P 20 32 32.0 +0.2**
comp=Z,4.0nm,0.9s
MNTX Cornudas Mount 64.33 299 *eP* **P 20 32 32.0 +0.2**
comp=Z,4.0nm,0.9s
430A Baggett Ranch, 64.33 295 ⇓P **P 20 32 32.7 +0.8**
baz=64,SNR=9.3
326A Caldwell Ranch 64.40 297 ⇓P **P 20 32 33.1 +0.6**
baz=64,SNR=9.2
324A Moseley Ranch, 64.59 299 ⇓P **P 20 32 33.6 -0.2**
baz=64
429A Davenport Ranc 64.63 295 ⇑P **P 20 32 33.7 -0.2**
baz=64
532A Rocksprings 64.68 293 ⇓P **P 20 32 34.2 0.0**
baz=64
428A Kincaid Ranch, 64.70 296 ⇓P **P 20 32 35.6 +1.2**
baz=64,SNR=17
427A Hayter Ranch, 64.73 297 ⇓P **P 20 32 34.9 +0.3**
baz=65,SNR=12
220A Playas Peak, P 64.77 302 ⇓P **P 20 32 35.6 +0.7**
baz=65,SNR=9.5
531A Rocksprings 64.78 294 ⇓P **P 20 32 35.4 +0.5**
baz=65,SNR=6.6
TUC Tucson 64.83 304 *eP* **P 20 32 35.7 +0.5**
TUC pmax pmax
comp=Z,16nm,1.1s
TUC Tucson 64.83 304 *eP* **P 20 32 35.7 +0.5**
comp=Z,16nm,1.1s
TUC Tucson 64.83 304 *eP* **P 20 32 35.7 +0.5**
comp=Z,16nm,1.1s
BSC Santa Cruz Isl 64.84 312 ⇑P **P 20 32 35.0 -0.1**
baz=65
530A J-C Ranch, Com 64.97 294 ⇑P **P 20 32 36.5 +0.4**
baz=65,SNR=18
426A McDonald Obser 65.04 297 ⇑P **P 20 32 37.3 +0.5**
baz=65,SNR=14
425A Indio Mountain 65.12 298 ⇓P **P 20 32 37.5 +0.3**
baz=65,SNR=34
529A Stev Forest Ra 65.18 295 ⇑P **P 20 32 37.6 +0.1**
baz=65
632A Uvalde 65.25 293 ⇑P **P 20 32 38.4 +0.5**
baz=65
528A Cox Ranch, San 65.27 296 ⇑P **P 20 32 38.7 +0.6**
baz=65
527A Woodward Ranch 65.45 297 ⇑P **P 20 32 39.8 +0.4**
baz=65,SNR=29
526A Mary Lane Ranc 65.64 297 ⇓P **P 20 32 40.5 -0.1**
baz=66,SNR=18
628A Black Gap, Mar 65.94 296 ⇑P **P 20 32 42.3 -0.1**
baz=66,SNR=9.3
732A Laxson Ranch, 66.04 293 ⇑P **P 20 32 43.1 +0.1**
baz=66,SNR=7.7
627A Terlingua Ranc 66.08 296 ⇑P **P 20 32 43.5 +0.1**
baz=66,SNR=24
626A Big Bend Ranch 66.14 297 ⇑P **P 20 32 44.0 +0.2**
baz=66,SNR=27
TXAR Lajitas Array 66.25 296 P **P 20 32 44.5 0.0**
TXAR Lajitas Array 66.25 296 P **P 20 32 44.5 0.0**
comp=Z,7.4nm,0.8s,baz=42,slow=4.4,SNR=43
TXAR LR LR 21 02 45.9
comp=Z,254nm,18.3s,baz=225,slow=37
TXAR Lajitas Array 66.25 296 P **P 20 32 44.5 0.0**
comp=Z,254nm,18.3s
GYA Guiyang 66.87 74 *eP* **P 20 32 48.6 +0.1**
GYA PP **PP 20 35 18.8 +3.5**
GYA ScP 20 37 20.3
GYA S **S 20 41 39.8 -1.9**
GYA SKS **SKSac 20 42 42.3 -3.8**
GYA SS **SS 20 45 58.9 -0.1**
GYA pmax pmax
comp=Z,10.0nm,1.0s
GYA pmax pmax
comp=Z,150nm,5.9s
GYA LR LR
comp=N,390nm,19.2s
GYA LR LR
comp=E,210nm,20.6s
GYA LR LR
comp=Z,470nm,19.0s
KMI Kunming 67.26 78 P **P 20 32 52.8 +1.7**
KMI pP pP 20 32 56.1 +4.0
KMI sP sP 20 32 57.3 +4.8
KMI PP **PP 20 35 22.5 +3.7**
KMI S **S 20 41 43.9 -2.7**
KMI SS **SS 20 46 06.6 +1.3**
KMI pmax pmax
comp=Z,6.0nm,1.0s
KMI pmax pmax
comp=Z,130nm,4.2s
KMI LR LR
comp=N,250nm,19.1s
KMI LR LR
comp=E,200nm,19.1s
KMI LR LR
comp=Z,230nm,19.6s
DBIC Dimbokro 69.97 192 P **P 20 33 08.2 +0.4**
DBIC Dimbokro 69.97 192 P **P 20 33 08.2 +0.4**
comp=Z,5.3nm,1.2s,baz=68,slow=5.4,SNR=2.3
DBIC LR LR 21 02 26.2
comp=Z,35nm,19.1s,baz=53,slow=35
DBIC Dimbokro 69.97 192 P **P 20 33 08.2 +0.4**
comp=Z,35nm,19.1s
CMAI Chiengmai2 71.40 83 P **P 20 33 18.2 +1.5**
comp=Z,38nm,1.0s
CRAI Chiangrai 71.42 81 P **P 20 33 14.4 -2.3**
comp=Z,152nm,1.8s
PAYA Payao 72.14 82 P **P 20 33 21.1 +0.1**
comp=Z,5.9nm,1.1s

CHTO	**Chiang Mai**	**72.45**	**83**	*e*P	**P**	**20 33 22.1**	**-0.8**
CHTO				pmax	pmax		
	comp=Z,95nm,1.4s						
CHTO	**Chiang Mai**	**72.45**	**83**	*e*P	**P**	**20 33 22.1**	**-0.8**
	comp=Z,95nm,1.4s						
CHTO	**Chiang Mai**	**72.45**	**83**	*e*P	**P**	**20 33 22.0**	**-0.8**
	comp=Z,95nm,1.4s						
CM31	**Chiang Mai Arr**	**72.79**	**83**	*e*P	**P**	**20 33 24.9**	**0.0**
CM31	**Chiang Mai Arr**	**72.79**	**83**	*e*P	**P**	**20 33 24.9**	**0.0**
CMAR	**Chiang Mai Arr**	**72.79**	**83**	P	**P**	**20 33 24.9**	**0.0**
CMAR	**Chiang Mai Arr**	**72.79**	**83**	P	**P**	**20 33 24.9**	**0.0**
	baz=337,slow=6.6						
CMAR	**Chiang Mai Arr**	**72.79**	**83**	P	**P**	**20 33 24.9**	**0.0**
SUKH	**Sukhothai**	**73.89**	**83**	P	**P**	**20 33 31.5**	**+0.2**
	comp=Z,6.1nm,0.9s						
LOEI	**Loei**	**74.25**	**81**	P	**P**	**20 33 33.2**	**-0.3**
	comp=Z,36nm,0.9s						
QIZ	**Qiongzhong**	**74.76**	**72**	P	**P**	**20 33 35.4**	**-1.0**
QIZ				S	**S**	**20 43 10.8**	**-2.5**
QIZ				LR	LR		
	comp=Z,190nm,21.6s						
PBKT	**Sadao Pong**	**75.09**	**82**	P	**P**	**20 33 38.6**	**+0.3**
	comp=Z,14nm,1.3s						
SKNT	**Sakolnakorn**	**75.40**	**79**	P	**P**	**20 33 39.9**	**-0.2**
	comp=Z,20nm,1.0s						
UTHA	**Uthaitani**	**75.71**	**83**	P	**P**	**20 33 42.1**	**+0.2**
	comp=Z,7.9nm,0.9s						
CHAI	**Chaiyaphum**	**75.97**	**81**	P	**P**	**20 33 43.4**	**0.0**
OTAV	**Otavalo**	**88.56**	**265**	*e*P	**P**	**20 34 50.3**	**+0.6**
	comp=Z,16nm,1.3s						
OTAV	**Otavalo**	**88.56**	**265**	*e*P	**P**	**20 34 50.3**	**+0.6**
	comp=Z,16nm,1.3s						
BDFB	**Brasilia**	**97.34**	**232**	LR	LR	21 10 46.1	
	comp=Z,82nm,18.5s,baz=9.4,slow=30						
WRA	**Warramunga Arr**	**117.79**	**57**	PKP	**PKPdf**	**20 40 41.1**	**-1.4**
WRA	**Warramunga Arr**	**117.79**	**57**	PKP	**PKPdf**	**20 40 41.1**	**-1.4**
	comp=Z,1.1nm,1.0s,baz=346,slow=2.3,SNR=4.8						
WRA	**Warramunga Arr**	**117.79**	**57**	PKIKP	**PKPdf**	**20 40 41.1**	**-1.4**
ASAR	**Alice Springs**	**121.32**	**58**	PKP	**PKPdf**	**20 40 48.0**	**-1.2**
ASAR	**Alice Springs**	**121.32**	**58**	PKP	**PKPdf**	**20 40 48.0**	**-1.2**
	comp=Z,1.2nm,0.7s,baz=355,slow=1.7,SNR=18						
ASAR	**Alice Springs**	**121.32**	**58**	PKIKP	**PKPdf**	**20 40 48.0**	**-1.2**
SYO	**Syowa Base**	**146.62**	**159**⇑	*e*P	**PKPdf**	**20 41 34.2**	**-0.3**
SYO	**Syowa Base**	**146.62**	**159**⇓	*e*P	PKPab	20 41 48.2	+11
VNA2	**Neumayer--Watz**	**147.37**	**188**	*e*PKP	**PKPbc**	**20 41 37.5**	**-0.8**
SNAA	**Sanae**	**147.98**	**185**	*e*PKP	**PKPbc**	**20 41 39.6**	**-0.4**
SNAA	**Sanae**	**147.98**	**185**	*e*PKPbc	**PKPbc**	**20 41 39.2**	**-0.8**
SNAA	**Sanae**	**147.98**	**185**	*e*PKPbc	**PKPbc**	**20 41 39.2**	**-0.8**

MAN 19 20:27:45,15°.50N×120°.38E,h25km,mb3.7,ML2.4,MS1.9,
1D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCZP	**Santa Cruz**	**0.53**	**302**	*e*P	Pn	20 27 57.7	+0.7
SCZP				*e*S	Sn	20 28 07.0	+1.9
PCPH	**Palayan**	**0.69**	**85**⇓	*e*P	Pn	20 27 59.0	-0.2
BALP	**Baler**	**1.18**	**78**	*e*P	Pb	20 28 07.2	+0.5
BALP				*e*S	Sb	20 28 22.3	+0.7

*ISCJB **19** 20:27:46.5±0.6, 18°.4S±0°.1×177°.8W±0°.1, h600km, mb3.8/9, Error ellipse: s-maj=17.5km s-min=10.1km az=147.9*
*AUST **19** 20:27:46.2, 18°.46S×177°.38W, h600km*
*IDC **19** 20:27:48.4±1.3, 18°.36S×177°.75W, h617km±16km, mb3.3/10, mb1 3.6/12, mb1mx3.4/19, mbtmp3.3/12, Error ellipse: s-maj=21.5km s-min=12.0km az=137.0*
ISC 19 20:27:47.2±0.6,18°.4S±0°.1×177°.70W±0°.09,h600km,n47,
σ1⇑26/48,mb3.9/9,4C-3D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.26**	**52**	P	**P**	**20 29 41.6**	**+1.9**
	6.1nm,0.3s,baz=308,slow=0.5,SNR=5.3						
AFI				S	**S**	**20 31 13.9**	**+2.2**
	3.7nm,0.3s,baz=49,slow=19,SNR=2.5						
DZM	**Mont Dzumac**	**15.31**	**254**	P	**P**	**20 30 59.8**	**+1.5**
	0.3nm,0.3s,baz=88,slow=17,SNR=4.8						
URZ	**Urewera**	**20.26**	**192**	P	**P**	**20 31 42.6**	**-0.5**
	2.7nm,0.3s,baz=8.1,slow=7.1,SNR=5.9						
ARMA	**Armidale**	**30.26**	**241**	P	**P**	**20 33 12.7**	**+1.4**
	baz=30,SNR=8.6						
RMQ	**Roma**	**31.94**	**249**	P	**P**	**20 33 27.4**	**+1.8**
	baz=32,SNR=5.7						
CNB	**Canberra Magne**	**33.64**	**233**	P	**P**	**20 33 41.3**	**+1.6**
	baz=34,SNR=18						
PATS	**Pohnpei**	**34.51**	**315**	S	S	20 38 09.7	-25
	baz=35,SNR=3.6						
CMSA	**Cobar Meteorol**	**35.48**	**241**	P	**P**	**20 33 56.1**	**+1.1**
	baz=36,SNR=11						
MTSU	**Mount Surprise**	**36.02**	**264**	P	**P**	**20 34 00.1**	**+0.4**
	baz=36,SNR=7.2						
COEN	**Coen**	**37.78**	**271**	P	**P**	**20 34 15.0**	**+0.9**
	baz=38,SNR=46						
MANU	**Manus Island**	**37.92**	**291**	S	**S**	**20 39 28.7**	**+3.2**
	baz=38,SNR=4.8						
STKA	**Stephens Creek**	**38.97**	**242**	P	**P**	**20 34 24.4**	**+0.9**
	7.7nm,0.8s,baz=91,slow=8.9,SNR=12						
STKA	**Stephens Creek**	**38.97**	**242**	P	**P**	**20 34 24.9**	**+1.5**
	baz=39,SNR=10.0						
BBOO	**Buckleboo**	**43.74**	**242**	P	**P**	**20 35 01.3**	**+0.4**
	baz=44,SNR=11						
WRA	**Warramunga Arr**	**45.20**	**260**	P	**P**	**20 35 11.9**	**-0.4**
	7.3nm,0.4s,baz=97,slow=7.1,SNR=360						
WRA				PcP	**PcP**	**20 36 39.1**	**-0.4**
	1.5nm,0.8s,baz=92,slow=3.8,SNR=4.0						
ASAR	**Alice Springs**	**45.30**	**255**	P	**P**	**20 35 12.9**	**-0.1**
	11nm,0.5s,baz=89,slow=8.0,SNR=195						
ASAR				PcP	**PcP**	**20 36 39.1**	**-0.7**
	1.0nm,0.5s,baz=105,slow=3.8,SNR=7.3						
KDU	**Kakadu**	**48.22**	**269**	P	**P**	**20 35 34.5**	**-0.5**
	baz=48,SNR=8.3						
MTN	**Manton Dam**	**49.46**	**269**	P	**P**	**20 35 43.7**	**-0.5**
	baz=50,SNR=8.1						
KNRA	**Kununurra**	**51.10**	**264**	P	**P**	**20 35 55.9**	**-0.2**
	baz=51,SNR=6.5						
SWI	**Sorong**	**53.02**	**283**	P	**P**	**20 36 09.9**	**0.0**
	baz=53,SNR=4.7						
FITZ	**Fitzroy Crossi**	**53.60**	**261**	P	**P**	**20 36 14.0**	**+0.1**
	baz=54,SNR=4.7						
SOEI	**Soe**	**56.74**	**270**	P	**P**	**20 36 37.1**	**+1.2**
	baz=57,SNR=6.7						
MEEK	**Meekatharra**	**58.88**	**250**	P	**P**	**20 36 49.3**	**-0.7**
	baz=59,SNR=5.1						
VNDA	**Vanda**	**59.97**	**185**	P	**P**	**20 36 57.6**	**+1.2**
	0.7nm,0.7s,baz=336,slow=5.1,SNR=9.1						
JAGI	**Jajag, Banyuwa**	**66.70**	**269**	P	**P**	**20 37 38.8**	**-1.6**
	baz=67,SNR=4.6						
UGM	**Wanagama**	**70.30**	**268**	P	**P**	**20 38 00.6**	**-1.5**
	baz=71,SNR=4.8						
PETK	**Petropavlovsk-**	**74.36**	**345**	P	**P**	**20 38 23.9**	**-0.6**
	3.5nm,0.7s,baz=130,slow=7.8,SNR=3.0						
TXAR	**Lajitas Array**	**85.71**	**57**	P	**P**	**20 39 25.8**	**+1.6**
	0.4nm,0.6s,baz=224,slow=5.2,SNR=5.9						
ILAR	**Eielson Array**	**86.25**	**13**	P	**P**	**20 39 24.6**	**-1.2**
	0.6nm,0.5s,baz=220,slow=5.0,SNR=9.6						
PDAR	**Pinedale Array**	**87.28**	**43**	P	**P**	**20 39 31.3**	**-0.1**
	0.4nm,0.7s,baz=270,slow=1.5,SNR=3.7						
CMAR	**Chiang Mai Arr**	**89.69**	**289**	P	**P**	**20 39 42.6**	**-0.3**
	1.4nm,0.9s,baz=94,slow=2.7,SNR=9.8						
MKAR	**Makanchi Array**	**109.99**	**314**	PKiKP	**PKiKP**	**20 45 09.7**	**-1.6**
	0.2nm,0.5s,baz=253,slow=0.9,SNR=5.4						
ARCES	**ARCESS Array B**	**126.95**	**350**	PKP	**PKPdf**	**20 45 41.4**	**-1.8**
	1.9nm,0.8s,baz=328,slow=1.6,SNR=9.2						
FINES	**FINESS Array B**	**133.88**	**344**	PKP	**PKPdf**	**20 45 54.7**	**-1.8**
	3.0nm,1.1s,baz=138,slow=2.3,SNR=10						
AKASG	**Malin Array Be**	**141.34**	**333**	PKhKP	PKPpre	20 46 04.3	
	0.4nm,0.3s,baz=45,slow=4.0,SNR=5.0						
EKA	**Eskdalemuir Ar**	**142.94**	**5**	PKP	**PKPdf**	**20 46 09.8**	**-3.4**
	0.7nm,0.6s,baz=347,slow=2.4,SNR=6.1						
BURAR	**Bucovina Array**	**145.40**	**332**⇑	*i*P	**PKPab**	**20 46 20.0**	**-0.7**
BRTR	**Keskin Array B**	**145.63**	**315**	PKPbc	**PKPdf**	**20 46 18.1**	**-0.4**
	1.8nm,0.7s,baz=114,slow=3.5,SNR=10						
TRPA	**Tarpa**	**146.11**	**335**⇑	*i*P	**PKPbc**	**20 46 20.9**	**-0.1**
BRG	**Berggiesshubel**	**146.34**	**347**	*i* (P)	**PKPbc**	**20 46 20.9**	**-0.7**
	3.0nm,0.6s						
MLR	**Muntele Rosu**	**146.63**	**329**⇓	*i*P	**PKPbc**	**20 46 21.7**	**-1.0**
ARR	**Arges**	**147.35**	**330**⇑	*i*P	**PKPbc**	**20 46 24.8**	**+0.3**
SIRR	**Siria**	**147.97**	**334**⇓	*i*P	**PKPbc**	**20 46 25.7**	**-0.3**
GERES	**GERESS Array B**	**148.29**	**346**	PKPbc	**PKPbc**	**20 46 26.4**	**-0.5**
	1.2nm,0.8s,baz=27,slow=3.3,SNR=15						
BZS	**Buzias**	**148.51**	**334**⇑	*i*P	**PKPbc**	**20 46 26.7**	**-0.6**
PKSM	**Moragy**	**149.18**	**338**⇓	*i*P	**PKPbc**	**20 46 29.0**	**+0.1**
DAVOX	**Davos/Dischmat**	**151.06**	**349**	PKPbc	**PKPbc**	**20 46 33.0**	**-0.5**
	2.6nm,0.3s,baz=318,slow=2.8,SNR=12						

MAN 19 20:48:54,12°.41N×120°.47E,h16km,mb4.7,ML3.6,MS3.5,
1C-1D,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUSP	**Coron**	**0.48**	**213**	*e*P	Pb	20 49 04.9	+0.8
BUSP				*e*S	Sn	20 49 13.3	-1.0
SJMP	**San Jose**	**0.64**	**85**	*e*P	Pn	20 49 08.2	-0.2
PGP	**Puerto Galera**	**1.19**	**24**⇓	*e*P	Pn	20 49 14.9	-1.1
ENPP	**El Nido**	**1.57**	**221**	*e*P	Pn	20 49 21.8	+0.6
CUYO	**Cuyo Island**	**1.64**	**161**	*e*P	Pn	20 49 23.0	+0.7
BOAC	**Boac**	**1.70**	**52**	*e*P	Pb	20 49 24.3	-0.6
RCP	**Roxas**	**2.38**	**110**⇑	*e*P	Pb	20 49 34.7	-1.9

*ISCJB **19** 20:53:36.2±0.4, 43°.17N±0°.03×0°.79W±0°.03, h14km±4km, Error ellipse: s-maj=4.4km s-min=3.3km az=173.6*
*CSEM **19** 20:53:37.4±0.1, 43°.10N×0°.80W, h5km, ML1.6/7, Error ellipse: s-maj=2.6km s-min=1.7km az=178.0*
*LDG **19** 20:53:37.0±0.1, 43°.09N×0°.82W, h2km, Md2.0/2, Ml1.5/3, Error ellipse: s-maj=1.3km s-min=0.9km az=177.0*
*STR **19** 20:53:37.4±0.1, 43°.05N×0°.82W, h5km, Ml1.5, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*MDD **19** 20:53:38.4±0.2, 43°.08N×0°.82W, h0km, mbLg1.4/12, Error ellipse: s-maj=2.6km s-min=1.5km az=10.0, PRXIMO*
ISC 19 20:53:37.8±0.9,43°.11N±0°.02×0°.80W±0°.02,h11km±5km,
n59,σ0°.73/77,2C,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATE	**Arette**	**0.08**	**109**	Pg	**Pg**	**20 53 40.1**	**-0.3**
ATE				Sg	**Sg**	**20 53 41.8**	**-0.4**
ATE	**Arette**	**0.08**	**109**	Pg	**Pg**	**20 53 40.1**	**-0.3**
ATE				Sg	**Sg**	**20 53 41.8**	**-0.4**
ORDF	**Ordiarp**	**0.14**	**317**	Pg	**Pg**	**20 53 41.3**	**+0.1**
ORDF	**Ordiarp**	**0.14**	**317**	Pg	**Pg**	**20 53 41.3**	**+0.1**
ORDF				Lg	Lg	20 53 44.1	
LARF	**Larrau**	**0.15**	**241**	Pg	**Pg**	**20 53 40.3**	**-1.1**
LARF	**Larrau**	**0.15**	**241**	Pg	**Pg**	**20 53 40.3**	**-1.1**
LARF				Lg	Lg	20 53 42.5	
ETSF	**Etsaut**	**0.28**	**140**	*e*Pg	**Pg**	**20 53 43.0**	**-0.6**
ETSF				*e*Sg	**Sg**	**20 53 47.0**	**-0.4**
	43nm,0.3s						
ETSF	**Etsaut**	**0.28**	**140**	Pg	**Pg**	**20 53 43.0**	**-0.6**
ETSF				*e*Sg	**Sg**	**20 53 47.0**	**-0.4**
	22nm,0.3s						
REYF	**Montagne du Re**	**0.30**	**98**	Pg	**Pg**	**20 53 43.9**	**-0.1**
REYF				Sg	**Sg**	**20 53 48.4**	**+0.2**
REYF	**Montagne du Re**	**0.30**	**98**	Pg	**Pg**	**20 53 43.9**	**-0.1**
REYF				Sg	**Sg**	**20 53 48.4**	**+0.2**
SJPF	**Ste Jean**	**0.31**	**270**	*e*Pg	**Pg**	**20 53 44.0**	**-0.1**
SJPF				*e*Sg	**Sg**	**20 53 48.4**	**+0.1**
	15nm,0.3s						
SJPF	**Ste Jean**	**0.31**	**270**	Pg	**Pg**	**20 53 44.0**	**-0.1**
SJPF				*e*Sg	**Sg**	**20 53 48.4**	**+0.1**
	7.7nm,0.3s						
FDAF	**Les Forges d'A**	**0.34**	**149**	Pg	**Pg**	**20 53 44.0**	**-0.7**
FDAF				Lg	Lg	20 53 48.5	
IELO	**Elcoad**	**0.42**	**230**	⇑Pg	**Pg**	**20 53 45.4**	**-0.7**
	0.5nm,0.1s,SNR=18						
IELO				Lg	Lg	20 53 51.4	
	22nm,0.1s,SNR=7.9						
IELO	**Elcoad**	**0.42**	**230**	Pg	**Pg**	**20 53 45.4**	**-0.7**
	0.5nm,0.1s,SNR=18						
IELO				Lg	Lg	20 53 51.4	
	22nm,0.1s,SNR=7.9						
IEPA	**Eparoz**	**0.47**	**226**	Pg	**Pg**	**20 53 46.6**	**-0.6**
	1.8nm,0.1s,SNR=7.9						
IEPA				Lg	Lg	20 53 53.1	
	11nm,0.1s,SNR=7.9						
IEPA	**Eparoz**	**0.47**	**226**	Pg	**Pg**	**20 53 46.6**	**-0.6**
	1.8nm,0.1s,SNR=7.9						
IEPA				Lg	Lg	20 53 53.1	
	11nm,0.1s,SNR=7.9						
EALK	**Alkurruntz**	**0.53**	**282**	Pg	**Pg**	**20 53 48.0**	**-0.1**
	1.1nm,0.1s,SNR=7.8						
EALK				Lg	Lg	20 53 55.1	
	3.9nm,0.1s,SNR=14						
EALK	**Alkurruntz**	**0.53**	**282**	Pg	**Pg**	**20 53 48.0**	**-0.1**
	1.1nm,0.1s,SNR=7.8						
EALK				Lg	Lg	20 53 55.1	
	3.9nm,0.1s,SNR=14						
ELIZ	**Elizondo**	**0.53**	**276**	Pg	**Pg**	**20 53 47.9**	**-0.3**
	1.3nm,0.2s,SNR=12						
ELIZ				Lg	Lg	20 53 55.0	
	3.4nm,0.1s,SNR=8.6						
ELIZ	**Elizondo**	**0.53**	**276**	Pg	**Pg**	**20 53 47.9**	**-0.3**
	1.3nm,0.2s,SNR=12						
ELIZ				Lg	Lg	20 53 55.0	
	3.4nm,0.1s,SNR=8.6						
IUSE	**Utxeti**	**0.57**	**253**	Pg	**Pg**	**20 53 48.3**	**-0.7**
	0.5nm,0.1s,SNR=7.9						
IUSE				Lg	Lg	20 53 56.3	
	3.0nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**0.57**	**253**	Pg	**Pg**	**20 53 48.3**	**-0.7**
	0.5nm,0.1s,SNR=7.9						
IUSE				Lg	Lg	20 53 56.3	
	3.0nm,0.1s,SNR=7.9						
IUNC	**Unciti**	**0.62**	**235**	Pg	**Pg**	**20 53 49.6**	**-0.4**
	0.6nm,0.1s,SNR=7.9						
IUNC				Lg	Lg	20 53 57.7	
	3.4nm,0.2s,SNR=7.9						
IUNC	**Unciti**	**0.62**	**235**	Pg	**Pg**	**20 53 49.6**	**-0.4**
	0.6nm,0.1s,SNR=7.9						
IUNC				Lg	Lg	20 53 57.7	
	3.4nm,0.2s,SNR=7.9						
VIEF	**Viey**	**0.65**	**110**	Pg	**Pg**	**20 53 50.0**	**-0.4**
VIEF				Sg	**Sg**	**20 53 58.3**	**-0.7**
VIEF	**Viey**	**0.65**	**110**	Pg	**Pg**	**20 53 50.0**	**-0.4**
VIEF				Sg	**Sg**	**20 53 58.3**	**-0.7**
EARA	**Aranguren**	**0.66**	**240**	Pg	**Pg**	**20 53 50.0**	**-0.7**
	0.6nm,0.1s,SNR=7.9						
EARA				Lg	Lg	20 53 59.4	
	2.0nm,0.1s,SNR=7.9						
EARA	**Aranguren**	**0.66**	**240**	Pg	**Pg**	**20 53 50.0**	**-0.7**
	0.6nm,0.1s,SNR=7.9						
EARA				Lg	Lg	20 53 59.4	
	2.0nm,0.1s,SNR=7.9						
EBIE	**Bielsa**	**0.81**	**121**	⇑Pg	**Pg**	**20 53 53.0**	**-0.6**
	0.3nm,0.1s,SNR=18						
EBIE				Lg	Lg	20 54 03.8	
	2.7nm,0.1s,SNR=15						
EBIE	**Bielsa**	**0.81**	**121**	Pg	**Pg**	**20 53 53.0**	**-0.6**
	0.3nm,0.1s,SNR=18						
EBIE				Lg	Lg	20 54 03.8	
	2.7nm,0.1s,SNR=15						
EPF	**Esparros**	**0.84**	**95**	*e*Pg	**Pb**	**20 53 54.4**	**-0.1**
EPF				*e*Sg	**Sg**	**20 54 05.5**	**+0.4**
	3.9nm,0.3s						
EPF	**Esparros**	**0.84**	**95**	Pg	**Pb**	**20 53 54.4**	**-0.1**
EPF				*e*Sg	**Sg**	**20 54 05.5**	**+0.4**
	2.0nm,0.3s						
ESAC	**San Caprasio**	**1.41**	**170**	Pg	**Pg**	**20 54 04.1**	**-0.8**
	0.9nm,0.1s,SNR=4.9						
ESAC				Lg	Lg	20 54 23.3	
	4.2nm,0.1s,SNR=8.8						
ESAC	**San Caprasio**	**1.41**	**170**	Pg	**Pg**	**20 54 04.1**	**-0.8**
	0.9nm,0.1s,SNR=4.9						
ESAC				Lg	Lg	20 54 23.3	
	4.2nm,0.1s,SNR=8.8						
CSOR	**Sort**	**1.61**	**117**	Pg	**Pb**	**20 54 08.0**	**+0.4**
	0.1nm,0.1s,SNR=13						
CSOR				Lg	Lg	20 54 30.1	
	0.8nm,0.2s,SNR=6.9						
CSOR	**Sort**	**1.61**	**117**	Pg	**Pb**	**20 54 08.0**	**+0.4**
	0.1nm,0.1s,SNR=13						
CSOR				Lg	Lg	20 54 30.1	
	0.8nm,0.2s,SNR=6.9						
ELAN	**Lanestosa**	**1.93**	**274**	Pg	**Pb**	**20 54 12.5**	**-0.5**
	0.1nm,0.1s,SNR=7.9						
ELAN				Lg	Lg	20 54 38.9	
	0.3nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**1.93**	**274**	Pg	**Pb**	**20 54 12.5**	**-0.5**
	0.1nm,0.1s,SNR=7.9						
ELAN				Lg	Lg	20 54 38.9	
	0.3nm,0.2s,SNR=7.9						
EMIR	**Miracle**	**2.10**	**124**	Pg	**Pb**	**20 54 16.2**	**+0.3**
	0.1nm,0.0s,SNR=7.9						
EMIR				Lg	Lg	20 54 45.1	
	0.1nm,0.1s,SNR=7.9						
EMIR	**Miracle**	**2.10**	**124**	Pg	**Pb**	**20 54 16.2**	**+0.3**
	0.1nm,0.0s,SNR=7.9						
EMIR				Lg	Lg	20 54 45.1	
	0.1nm,0.1s,SNR=7.9						
CLLI	**Llivia**	**2.14**	**106**	Pg	**Pg**	**20 54 18.5**	**-0.4**
	0.1nm,0.1s,SNR=6.3						
CLLI				Lg	Lg	20 54 47.9	
	0.1nm,0.1s,SNR=9.9						
CLLI	**Llivia**	**2.14**	**106**	Pg	**Pg**	**20 54 18.5**	**-0.4**
	0.1nm,0.1s,SNR=6.3						
CLLI				Lg	Lg	20 54 47.9	
	0.1nm,0.1s,SNR=9.9						
LFF	**La Frestale**	**2.14**	**31**	*e*Pg	**Pg**	**20 54 18.4**	**-0.5**
LFF				*e*Sg	**Sg**	**20 54 46.0**	**-0.6**
	0.7nm,0.2s						
LFF	**La Frestale**	**2.14**	**31**	Pg	**Pg**	**20 54 18.4**	**-0.5**
LFF				*e*Sg	**Sg**	**20 54 46.0**	**-0.6**
	0.3nm,0.2s						
MTLF	**Montolieu**	**2.22**	**83**	*e*Pg	**Pg**	**20 54 19.4**	**-1.0**
MTLF	**Montolieu**	**2.22**	**83**	Pg	**Pg**	**20 54 19.4**	**-1.0**
EPOB	**Poblet**	**2.25**	**141**	Pg	**Pb**	**20 54 19.3**	**+0.8**
	0.0nm,0.1s,SNR=4.0						
EPOB				Sn	**Sn**	**20 54 43.0**	**+0.2**
	0.1nm,0.1s,SNR=7.9						
EPOB				Lg	Lg	20 54 49.5	
	0.2nm,0.1s,SNR=7.9						
EPOB	**Poblet**	**2.25**	**141**	Pg	**Pb**	**20 54 19.3**	**+0.8**
	SNR=4.0						
EPOB				Sn	**Sn**	**20 54 43.0**	**+0.2**
	0.1nm,0.1s,SNR=7.9						
EPOB				Lg	Lg	20 54 49.5	
	0.2nm,0.1s,SNR=7.9						
ERTA	**Horta de San J**	**2.31**	**158**	Lg	Lg	20 54 50.5	
	0.2nm,0.1s,SNR=7.9						
ERTA	**Horta de San J**	**2.31**	**158**	Lg	Lg	20 54 50.5	
	0.2nm,0.1s,SNR=7.9						
CAF	**Calviac**	**2.75**	**48**	*e*Pn	**Pn**	**20 54 21.8**	**-0.1**
CAF				*e*Sg	**Sg**	**20 55 05.1**	**-1.1**
	0.4nm,0.2s						
CAF	**Calviac**	**2.75**	**48**	Pn	**Pn**	**20 54 21.8**	**-0.1**
CAF				*e*Sg	**Sg**	**20 55 05.1**	**-1.1**
	0.2nm,0.2s						
CFON	**Fontmartina**	**2.75**	**118**	Pn	**Pn**	**20 54 22.6**	**+0.6**
	0.0nm,0.0s,SNR=4.0						
CFON				Lg	Lg	20 55 04.9	
	0.6nm,0.1s,SNR=7.9						
CFON	**Fontmartina**	**2.75**	**118**	Pn	**Pn**	**20 54 22.6**	**+0.6**
	SNR=4.0						
CFON				Lg	Lg	20 55 04.9	
	0.6nm,0.1s,SNR=7.9						
RJF	**Les Rejaudoux**	**2.75**	**36**	*e*P	**Pn**	**20 54 24.2**	**+2.2**
RJF	**Les Rejaudoux**	**2.75**	**36**	*e*Pg	**Pg**	**20 54 29.5**	**-1.1**
RJF				*e*Sg	**Sg**	**20 55 04.8**	**-1.5**
	0.4nm,0.2s						
RJF	**Les Rejaudoux**	**2.75**	**36**	*e*P	**Pn**	**20 54 24.2**	**+2.2**
RJF	**Les Rejaudoux**	**2.75**	**36**	Pg	**Pg**	**20 54 29.5**	**-1.1**
RJF				*e*Sg	**Sg**	**20 55 04.8**	**-1.5**
	0.2nm,0.2s						

*MDD **19** 20:55:09.5±3.1, 38°.29N×13°.26W, h0km, mb3.4/5, Error ellipse: s-maj=30.3km s-min=23.3km az=174.0, PRXIMO*
ISC 19 20:55:09.0±4.1,38°.36N±0°.08×13°.2W±0°.2,h10km,n38,
σ1⇑32/44,Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMAFR	**Mafra**	**3.13**	**78**	*e*Sn	**Sn**	**20 56 37.6**	**+1.8**
PMAFR				A	A	20 56 41.0	
	7.0nm,0.6s						
PMAFR	**Mafra**	**3.13**	**78**	P	**Pn**	**20 55 59.5**	**+1.2**
	1.0nm,0.1s,SNR=4.0						
PMAFR				S	**Sn**	**20 56 36.5**	**+0.7**
	2.5nm,0.1s,SNR=5.6						
PTEO	**Sao Teotonio**	**3.63**	**102**	*e*Sn	**Sn**	**20 56 46.8**	**-1.4**
PTEO	**Sao Teotonio**	**3.63**	**102**	S	**Sn**	**20 56 46.8**	**-1.4**
PFVI	**Vila Bisbo**	**3.68**	**108**	S	**Sn**	**20 56 46.2**	**-3.2**
	2.7nm,0.2s,SNR=7.9						
PNCL	**Nicolau / Gran**	**3.69**	**92**	*e*Pn	**Pn**	**20 56 06.7**	**+0.6**
PNCL				*e*Sn	**Sn**	**20 56 49.3**	**-0.3**
PNCL				A	A	20 56 56.6	
	1.1nm,0.4s						
PMTG	**Montargil**	**3.96**	**78**	*e*Sn	**Sn**	**20 56 56.2**	**0.0**
PMTG				A	A	20 57 01.1	
	0.8nm,0.5s						
PCAS	**Casmilo, Con

MSLP	Maasin	1.45	255	*e*P	Pn	21 16 54.8	-0.5
MSLP				*e*S	Sn	21 17 12.6	-0.5
BUTP	Butuan	1.67	203	*e*P	Pn	21 16 58.6	+0.3
OCLP	Ormoc	1.73	288	*e*P	Pn	21 17 01.0	+1.8
LLP	Lapu-Lapu	2.28	265	*e*P	Pn	21 17 07.3	+0.5
LLP				*e*S	Sn	21 17 35.1	+1.3
TBP	Tagbilaran	2.52	251	*e*P	Pn	21 17 11.1	+1.0
TBP				*e*S	Sn	21 17 39.6	+0.1
BUKP	Musuan	2.88	205	*e*P	Pn	21 17 17.1	+2.1
SNPH	Sibulan	3.21	249⇑	*i*P	Pn	21 17 06.0	-14
SNPH				*i* S	Sn	21 17 41.5	-15
DCPH	Dipolog City	3.47	237⇑	*e*P	Pn	21 17 23.4	+0.4
DCPH				*e*S	Sn	21 18 02.7	-0.2
MATI	Mati	3.54	180	*e*P	Pn	21 17 25.8	+1.6
RCP	Roxas	3.62	287⇑	*e*P	Pn	21 17 27.1	+1.9
GUIM	Jordan	3.63	272	*e*P	Pn	21 17 26.8	+1.5
CTBH	Cotabato--PC H	3.84	212⇑	*i*P	Pn	21 17 30.1	+1.9
PAGZ	Pagadian	3.90	227	*e*P	Pn	21 17 30.5	+1.5
IPIL	Ipil	4.55	234	*e*P	Pn	21 17 39.5	+1.5
FITZ	Fitzroy Crossi	28.44	181	P	P	21 22 20.1	-2.2
	0.8nm,0.5s,baz=354,slow=9.2,SNR=3.5						
WRA	Warramunga Arr	31.29	165	P	P	21 22 47.3	-0.3
	0.3nm,0.4s,baz=342,slow=8.9,SNR=10						
ASAR	Alice Springs	34.78	168	P	P	21 23 18.4	+0.3
	0.6nm,0.3s,baz=350,slow=7.0,SNR=24						
STKA	Stephens Creek	44.63	161	P	P	21 24 39.7	-0.1
	0.4nm,0.3s,baz=342,slow=13,SNR=2.6						
MKAR	Makanchi Array	51.84	323	P	P	21 25 35.0	-0.3
	0.7nm,0.8s,baz=122,slow=8.2,SNR=4.3						
ZALV	Zalesovo Beam	54.42	331	P	P	21 25 56.1	+2.0
	0.2nm,0.3s,baz=118,slow=5.7,SNR=2.4						
FINES	FINESS Array B	85.68	332	P	P	21 29 04.8	-0.7
	1.2nm,0.9s,baz=92,slow=5.1,SNR=3.6						
TORD	Torodi Ar. Bea	120.19	292	PKP	PKPdf	21 35 18.9	+0.1
	1.0nm,1.2s,baz=51,slow=2.2,SNR=2.9						

KRSC 19 21:19:18.5±3.0, 55°.23N×162°.51E, h5km±5km, ML3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	Mys Kozlova	0.81	214	*e*P	Pn	21 19 35.8	-0.7
MKZ				*i* S	Sb	21 19 47.1	+0.8
KBTR	Krutoberegovo	1.00	10	*e*P	Pn	21 19 38.8	-0.3
KBTR				*i* S	Sn	21 19 54.3	+0.7
LGNR	Loginova	1.34	310	*e*P	Pg	21 19 44.6	0.0
LGNR				*i* S	Sb	21 20 02.2	0.0
KMNR	Kamenistaya	1.40	293	*e*P	Pg	21 19 46.1	+0.7
KMNR				*i* S	Sn	21 20 04.9	+1.2
SPN	Mys Shipunski	2.59	215	*e*P	Pn	21 20 00.7	-0.3
SPN				*i* S	Sn	21 20 30.8	-2.0
SDLR	Sedlovina	2.89	229	*e*P	Pn	21 20 06.6	+1.3
SDLR				*i* S	Sn	21 20 42.6	+2.1
KRER	Koryakskii	2.93	230	*e*P	Pn	21 20 07.1	+1.1
KRER				*i* S	Sn	21 20 43.8	+2.1
SMAR	Somma	2.94	229	*e*P	Pn	21 20 07.4	+1.3
SMAR				*i* S	Sn	21 20 44.2	+2.3
KRX	Arik	2.94	232	*e*P	Pn	21 20 07.5	+1.5
KRX				*i* S	Sn	21 20 42.2	+0.4
AVH	Avacha	2.96	230	*e*P	Pn	21 20 08.0	+1.7
AVH				*i* S	Sn	21 20 44.7	+2.5
UGLR	Uglovaya	2.96	228	*e*P	Pn	21 20 08.6	+2.3
UGLR				*i* S	Sn	21 20 44.5	+2.2
KOK	Koryaka	2.99	231	*e*P	Pn	21 20 08.4	+1.8
GNL	Ganaly	3.08	242	*e*P	Pn	21 20 09.1	+1.2
RUS	Russkaya	3.67	222	*e*P	Pn	21 20 17.8	+2.0
RUS				*i* S	Sn	21 21 02.3	+2.9

*NEIC **19** 22:24:28.9, 59°.10N×135°.39W, h4km, ML3.1(AEIC), After AEIC.*
*ISCJB **19** 22:24:29.4±0.5, 59°.14N±0°.03×134°.96W±0°.08, h10km, Error ellipse: s-maj=6.5km s-min=3.5km az=159.2*
*PGC **19** 22:24:30.8±4.3, 59°.15N×135°.22W, h1km, ML3.4/4, 4km Nne of Haines, Ak Southeastern Alaska*

ISC 19 22:24:29.1±0.9, 59°.11N±0°.03×135°.38W±0°.05, h10km, n14, σ1§93/23, 4D, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKAG	Skagway	0.36	4	P	Pg	22 24 36.1	0.0
SKAG				S	Sg	22 24 41.0	+0.1
BESE	Bessie Mountai	0.59	152	P	Pg	22 24 40.0	-0.7
BESE				S	Sg	22 24 47.8	-0.6
WHY	Whitehorse	1.58	9	P	Pn	22 24 58.0	+0.7
WHY				S	Sb	22 25 18.6	+0.1
WHY	Whitehorse	1.58	9	⇑Pn	Pn	22 24 58.0	+0.7
WHY				⇑Sg	Sb	22 25 18.8	+0.3
HYT	Haines Junctio	2.03	329	P	Pn	22 25 05.6	+2.1
HYT	Haines Junctio	2.03	329	⇑Pn	Pn	22 25 05.3	+1.9
HYT				⇓Sn	Sb	22 25 33.3	+1.8
SIT	Sitka	2.06	179	P	Pn	22 25 04.8	+1.2
SIT				S	Sb	22 25 33.0	+1.0
DLBC	Dease Lake	2.87	101	P	Pn	22 25 15.7	+0.8
DLBC	Dease Lake	2.87	101	⇓Pn	Pn	22 25 15.9	+1.0
DLBC				⇑Pg	Pb	22 25 20.8	+0.4
DLBC				⇑Sg	Sb	22 25 56.8	+1.4
BAGL	Bagley Icefiel	3.66	295	P	Pn	22 25 27.3	+1.6
BARK	Barkley Ridge	3.83	293	P	Pn	22 25 27.3	-0.8
DAWY	Dawson	5.33	341	⇑Sg	Sg	22 27 15.5	-4.6
RUBB	Prince Rupert	5.56	147	⇑Pn	Pn	22 25 54.6	+2.9
RUBB				⇑Sg	Sg	22 27 23.0	-4.4
FNBB	Fort Nelson	6.40	87	⇓Pn	Pn	22 26 04.8	+1.5
FNBB				⇓Sg	Sb	22 27 44.6	+7.7

MAN 19 22:26:19, 16°.21N×120°.71E, h42km, mb4.1, ML2.9, MS2.6, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCPH	Baguio City Da	0.21	325⇑	*i*P	Pn	22 26 28.8	+1.9
BALP	Baler	0.95	119	*e*P	Pn	22 26 37.7	+1.7
BALP				*e*S	Sn	22 26 46.4	-2.0
CAUP	Cauayan	1.30	55	*e*P	Pn	22 26 41.0	+0.3
APYP	Conner	1.72	17	*e*P	Pn	22 26 50.9	+4.3

*ISCJB **19** 22:33:11.8±1.8, 8°.36S±0°.06×118°.1E±0°.2, h10km, mb4.2/4, MS3.5/1, Error ellipse: s-maj=30.9km s-min=7.6km az=175.1*
*IDC **19** 22:33:13.8±2.9, 8°.33S×118°.26E, h0km, mb3.8/2, mb1 3.9/5, mb1mx3.6/23, mbtmp3.7/5, ML3.6/3, MS3.3/2, Ms1 3.3/2, ms1mx2.7/32, Error ellipse: s-maj=47.0km s-min=20.6km az=70.0*
*NEIC **19** 22:33:17.4±2.8, 8°.28S×118°.19E, h35km, mb4.5/3, Error ellipse: s-maj=64.3km s-min=11.7km az=80.0*

ISC 19 22:33:14.3±2.0, 8°.30S±0°.07×118°.2E±0°.2, h10km, n14, σ0§71/16, mb4.3/4, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	Kappang	3.63	26	*e*Pn	Pn	22 34 10.7	0.0
KAPI				*e*Sn	Sn	22 34 52.4	-1.3
KAPI	Kappang	3.63	26	Pn	Pn	22 34 10.7	0.0
	4.3nm,0.3s,baz=204,slow=13,SNR=44						
KAPI				Sn	Sn	22 34 55.4	+1.7
	7.9nm,0.3s,baz=242,slow=14,SNR=12						
FITZ	Fitzroy Crossi	12.16	144	Pn	Pn	22 36 07.6	-0.2
FITZ				Sn	Sn	22 38 23.5	0.0
FITZ	Fitzroy Crossi	12.16	144	Pn	Pn	22 36 07.6	-0.2
	0.1nm,0.3s,baz=317,slow=15,SNR=4.7						
FITZ				Sn	Sn	22 38 23.5	0.0
	0.2nm,0.3s,baz=303,slow=12,SNR=4.9						
FITZ				LR	LR	22 41 10.9	
	comp=Z,63nm,19.4s,baz=325,slow=40						
WRA	Warramunga Arr	19.48	128	P	P	22 37 41.9	+0.2
WRA				S	Sn	22 41 21.4	-0.3
WRA	Warramunga Arr	19.48	128	P	P	22 37 41.9	+0.2
	0.3nm,0.3s,baz=301,slow=12,SNR=12						
WRA				S	Sn	22 41 21.4	-0.3
	0.0nm,0.3s,baz=302,slow=24,SNR=3.1						
WRAB	Tennant Creek	19.48	128	*e*P	P	22 37 41.9	+0.3
	1.8nm,0.5s						
ASAR	Alice Springs	21.48	137	P	P	22 38 04.2	+0.9
ASAR	Alice Springs	21.48	137	P	P	22 38 04.2	+0.9
	1.8nm,0.4s,baz=313,slow=8.7,SNR=29						
NWAO	Narrogin (SRO)	24.52	182	LR	LR	22 46 19.3	
	comp=Z,157nm,20.5s,baz=296,slow=32						
STKA	Stephens Creek	32.02	140	P	P	22 39 40.3	-0.9
STKA	Stephens Creek	32.02	140	P	P	22 39 40.3	-0.9
	0.9nm,0.6s,baz=309,slow=15,SNR=2.6						
DZM	Mont Dzumac	48.37	112	*e*P	P	22 41 54.7	-2.2
	4.7nm,0.7s						
ASAJ	Asahikawa	56.68	21	*e*P	P	22 42 57.5	-0.4
	6.9nm,0.9s						

*BJI **19** 22:55:13.2, 31°.53N×115°.73W, h10km, mB5.5/13, mb4.9/9, Ms5.4/14, Ms7 4.9/15*
*ISCJB **19** 22:55:15.8±0.3, 32°.36N±0°.02×115°.24W±0°.01, h0km±2km, mb4.8/47, MS4.7/39, Error ellipse: s-maj=2.8km s-min=1.6km az=14.1*
*MEX **19** 22:55:16.4±0.9, 32°.59N×115°.06W, h11km±17km, MD5.1*
*IDC **19** 22:55:18.8±0.8, 32°.55N×115°.40W, h0km, mb4.2/8, mb1 4.3/12, mb1mx4.1/27, mbtmp4.2/12, ML4.2/4, MS4.7/37, Ms1 4.7/37, ms1mx4.6/46, Error ellipse: s-maj=20.9km s-min=12.2km az=53.0*
*NEIC **19** 22:55:18.5, 32°.38N×115°.27W, h3km, mb4.8/55, MD5.1(ECX), MW5.1(PAS), After ECX.*
NEIC Felt [IV] at Mexicali and [II] at San Felipe. Also felt at Delta, Ejido Hermosillo, Ensenada and Maneadero. Felt [II] at San Luis Rio Colorado, Sonora. Felt [III] at Brawley, Calexico, El Centro, Heber, Holtville, Imperial and Winterhaven; [II] at Campo, Chula Vista, Del Mar, El Cajon, Encinitas, La Jolla, La Mesa, Lemon Grove, San Diego and Spring Valley, California. Felt throughout Imperial County and in parts of Orange, Riverside and San Diego Counties. Felt [II] at Somerton and Yuma, Arizona. Also felt at Fort McDowell and Phoenix.
*ECX **19** 22:55:18.6±0.8, 32°.39N×115°.27W, h2km±2km, MD5.0, ML5.3*
*GCMT **19** 22:55:21.6±0.2, 32°.37N×115°.31W, h12km, MW5.2, Moment Tensor Solution. s47,c61; s95,c168; Moment tensor: Scale 10^{16}Nm; M_{rr}0.14±.14; $M_{\theta\theta}$-6.28±.13; $M_{\phi\phi}$6.15±.13; $M_{r\theta}$-2.40±.35; $M_{\theta\phi}$-2.56±.13; $M_{\phi r}$-1.32±.38; Best double couple: $M_0$7.20000×10^{16} NP1:ϕ_s33.00000°, δ82.00000°, λ-19.00000°. NP2:ϕ_s125.00000°, δ71.00000°, λ-172.00000°. Principal axes: T 6.7700, Plg8.0000°, Azm80.0000°; N 0.9000, Plg70.0000°, Azm192.0000°; P -7.6700, Plg19.0000°, Azm348.0000°; Data Used: II IU G CN IC.*

ISC 19 22:55:18.9±0.6, 32°.40N±0°.02×115°.28W±0°.02, h11km±3km, n472, σ1§80/453, mb4.8/47, MS4.7/40, 9C-9D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	Cerro Prieto	0.03	322⇓	*e*P	Pg	22 55 19.4	-1.5
CPBX	Cerro Prieto	0.03	322⇓	*e*P	Pg	22 55 19.4	-1.5
MBIG	Mexicali	0.07	80	*e*P	Pg	22 55 20.0	-1.3
MBIG				*i* S	Sg	22 55 24.1	+1.1
DELX	Delta	0.09	116⇓	*e*P	Pg	22 55 20.5	-1.0
DELX				*e*S	Sg	22 55 24.1	+0.8
CHIX	Chihuahua	0.10	20⇑	*e*P	Pg	22 55 21.0	-0.6
CHIX				*e*S	Sg	22 55 25.0	+1.5
EMSC	East Mesa	0.43	36	*e*Pg	Pg	22 55 26.9	-0.4
SGL	Mount Signal	0.45	304	⇓*i*P	Pg	22 55 26.8	-1.0
ERPC	Ernies Place	0.47	317	*e*Pg	Pg	22 55 27.8	-0.5
COA	Coachella	0.49	16	*e*Pg	Pg	22 55 27.9	-0.6
COA	Coachella	0.49	16	⇑*i*P	Pg	22 55 27.9	-0.6
SLX	San Luis R^>o	0.49	83⇑	*e*P	Pg	22 55 27.0	-1.6
SLX				*e*S	Sg	22 55 34.4	-0.7
COK	Cook Ranch	0.59	321	⇓*i*P	Pg	22 55 29.5	-0.9
YUH	Yuha Desert	0.60	295	*e*Pg	Pg	22 55 29.3	-1.2
YUH	Yuha Desert	0.60	295	⇓*i*P	Pg	22 55 29.3	-1.2
BTCC	Brunts Corner	0.62	5	*e*Pg	Pg	22 55 29.8	-1.1
SWSC	Sam W. Stewart	0.70	322	*e*Pg	Pg	22 55 30.8	-1.6
SWSC	Sam W. Stewart	0.70	322	P	Pg	22 55 30.8	-1.6
	baz=0.7						
SWSC				S	Sg	22 55 41.0	-0.5
	baz=0.7						
RMX	La Rumorosa	0.70	287	*e*P	Pg	22 55 31.4	-1.2
RMX				*e*S	Sg	22 55 41.5	-0.3
RMX	La Rumorosa	0.70	287	*e*P	Pg	22 55 31.4	-1.2
RMX				*e*S	Sg	22 55 41.5	-0.3
RMX				*i* S	Sb	22 55 42.1	-1.0
RDX	Rancho Dawling	0.73	230⇑	*e*P	Pg	22 55 31.6	-1.4
RDX	Rancho Dawling	0.73	230⇑	*e*P	Pg	22 55 31.6	-1.4
DVTC	Desert V Tower	0.74	291	P	Pg	22 55 32.2	-1.1
	baz=0.8						
DVTC				S	Sg	22 55 42.4	-0.5
	baz=0.8						
CRR	Carrizo Plain	0.76	310	*e*Pg	Pg	22 55 32.0	-1.6
GLA	Glamis	0.76	30	*e*Pg	Pg	22 55 31.8	-1.8
GLA				*e*Sg	Sg	22 55 40.3	-3.3
GLA	Glamis	0.76	30	P	Pg	22 55 31.7	-1.9
	baz=0.8						
GLA				S	Sg	22 55 41.9	-1.7
	baz=0.8						
CLIC	Calipatria	0.77	345	*e*Pg	Pg	22 55 32.3	-1.6
ERRC	Elmore Ranch	0.85	328	*e*Pg	Pg	22 55 33.7	-1.7
CBKC	Canebrake	0.96	302	*e*Pg	Pg	22 55 35.4	-2.0
MONP	Monument Peak	1.08	298	P	Pb	22 55 37.2	-2.6
	baz=1.1						
MONP				S	Sb	22 55 52.2	-1.8
	baz=1.1						
BATC	Bat Cave Butte	1.16	336	*e*Pg	Pb	22 55 37.4	-3.6
CBX	Cerro Bola	1.17	266⇑	*e*P	Pb	22 55 39.6	-1.7
CBX				*e*S	Sb	22 55 55.4	-1.1
BAR	Barrett	1.21	284	*e*Pg	Pn	22 55 39.9	-1.9
BAR				*e*Sn	Sb	22 55 56.2	-1.3
ZAX	El Zacaton	1.22	224⇑	*e*P	Pn	22 55 40.0	-2.0
ZAX				*i* S	Sb	22 55 56.6	-1.2
BC3	Big Chuckawall	1.27	354	P	Pn	22 55 39.5	-3.2
	baz=1.3						
113A	Mohawk Valley,	1.33	73	P	Pn	22 55 40.3	-3.1
	baz=1.3						
113A				S	Sb	22 55 57.4	-3.7
	baz=1.3						
ECNX	Esteban Cantu	1.34	237⇑	*e*P	Pn	22 55 42.2	-1.5
SPIG	San Pedro Mart	1.35	187	*e*P	Pn	22 55 41.6	-2.5
SPIG				*i* S	Sb	22 55 59.9	-2.1
SPIG	San Pedro Mart	1.35	187	*e*P	Pn	22 55 41.6	-2.5
SPIG				*i* S	Sb	22 55 59.9	-2.1
SPX	San Pedro Mart	1.35	187⇓	*e*P	Pn	22 55 41.4	-2.7
SPX				⇓*e*		22 56 01.9	
	comp=E,31μm,0.8s						
SPX				⇓*e*		22 56 05.2	
	comp=N,25μm,0.7s						
CTW	Cottonwood Mou	1.37	339	*e*Pg	Pn	22 55 40.4	-3.6
PBX	Punta Banda	1.39	242⇑	*e*P	Pn	22 55 42.8	-1.5
EML	El Monte Cty P	1.41	291	*e*Pn	Pn	22 55 42.1	-2.4
BLYC	Blythe	1.50	25	*e*Pn	Pn	22 55 45.7	0.0
Y12C	Blythe	1.50	25	P	Pn	22 55 42.6	-3.1
	baz=1.5						
DPP	Dos Picos Cty	1.52	294	*e*Pn	Pn	22 55 44.4	-1.8
FRD	Ford Ranch	1.56	315	*e*Pn	Pn	22 55 43.7	-3.0
PFO	Pinyon Flat Ob	1.56	321	*e*Pn	Pn	22 55 43.7	-3.1
PFO				*e*Sn	Sn	22 56 01.0	-6.1
PFO				Lg	Lg	22 56 04.0	
PFO	Pinyon Flat Ob	1.56	321	Pg	Pn	22 55 43.7	-3.1
	comp=N,105nm,0.3s,baz=140,slow=12,SNR=909						
PFO				Lg	Lg	22 56 04.0	
	comp=N,803nm,0.3s,baz=167,slow=6.8,SNR=16						
PFO	Pinyon Flat Ob	1.56	321	P	Pn	22 55 43.5	-3.3
	baz=1.6						
SNDA	J Saunders Pla	1.61	316	*e*Pn	Pn	22 55 44.5	-2.9
109C	Camp Elliot, M	1.61	288	P	Pn	22 55 45.2	-2.2
	baz=1.6						
109C				Sb	Sn	22 56 08.4	+0.2
	baz=1.6						
DNR	Dunn Ranch,Anz	1.63	316	*e*Pn	Pn	22 55 44.9	-2.8
PLM	Palomar	1.64	306	*e*Pn	Pn	22 55 45.1	-2.7
CRY	Cary Ranch	1.69	314	*e*Pn	Pn	22 55 45.7	-2.9
BELC	Belle Mtn. Jos	1.71	340	P	Pn	22 55 45.6	-3.2
	baz=1.7						
IRM	Iron Mountain	1.76	4	P	Pn	22 55 46.6	-2.9
	baz=1.8						
TPC	Twentynine Pal	1.82	340	*e*Pn	Pn	22 55 47.4	-2.9
BACC	Bachelor Mtn.	1.91	310	*e*Pn	Pn	22 55 48.7	-2.8
BACC				*e*Pg	Pb	22 55 54.7	+0.9
DGR	Domenigoni Val	1.92	311	*e*Pn	Pn	22 55 48.9	-2.7
MURC	Murrieta	2.01	307	P	Pn	22 55 50.2	-2.7
	baz=2.0						
PDMCI	Parker Dam,Lak	2.13	26	P	Pn	22 55 51.9	-2.6
	baz=2.1						
PDMCI				Sb	Sb	22 56 23.2	-0.7
	baz=2.1						
214A	Organ Pipe Nat	2.14	101	P	Pn	22 55 50.9	-3.7
	baz=2.1						
Z14A	Wintersburg	2.19	63	P	Pn	22 55 52.5	-2.8
	baz=2.2						
GMRC	Granite Mounta	2.40	353	*e*Pn	Pn	22 55 55.8	-2.5
GMRC	Granite Mounta	2.40	353	P	Pn	22 55 55.6	-2.7
	baz=2.4						
Y14A	Wickenburg	2.45	51	P	Pn	22 55 56.8	-2.2
	baz=2.5						
HEC	Hector,Ludlow	2.58	340	P	Pn	22 55 58.0	-2.8
	baz=2.6						
BFSC	Mount Baldy Ra	2.71	313	P	Pn	22 56 00.2	-2.3
	baz=2.7						
SSK	Sunset Peak	2.71	313	*e*Pn	Pn	22 56 00.7	-2.0
CIS	Catalina Islan	2.81	292	Sb	Sb	22 56 43.9	+0.3
	baz=2.8						
FMP	Fort Macarthur	2.85	298	Pb	Pb	22 56 08.1	-1.7
	baz=2.9						
FMP				Sb	Sb	22 56 44.5	-0.2
	baz=2.9						
MWC	Mount Wilson	2.96	309	*e*Pn	Pn	22 56 06.1	+0.1
MWC				*e*Pg	Pb	22 56 11.4	-0.3
PASC	Pasadena Art C	3.01	307	*e*Pn	Pn	22 56 04.8	-1.8
PASC				*e*Sn	Sn	22 56 43.8	+1.1
TUQ	Turquoise Moun	3.08	350	P	Pn	22 56 05.1	-2.6
	baz=3.1						
DECC	Green Verdugo	3.15	307	Sb	Sb	22 56 55.2	+1.8
	baz=3.2						
GSC	Goldstone	3.17	337	*e*Pn	Pn	22 56 06.6	-2.2
GSC				*e*Pg	Pg	22 56 18.2	-1.3
EDW2	Edwards Air Fo	3.35	318	Pb	Pb	22 56 16.1	-2.4
	baz=3.4						
SHOC	Shoshone	3.59	347	P	Pn	22 56 12.1	-2.5
	baz=3.6						
X16A	Lo Mia Camp, P	3.79	57	P	Pn	22 56 16.0	-1.6
	baz=3.8						
TUC	Tucson	3.81	90	*e*Pn	Pn	22 56 13.8	-3.9
ARVC	Arvin	4.02	314	P	Pn	22 56 18.6	-1.8
	baz=4.0						
MPMC	Manual Prospec	4.09	334	P	Pn	22 56 19.0	-2.6
	baz=4.1						
SHPR	Sheep Range	4.10	1	*e*Pn	Pn	22 56 20.1	-1.7
SHPR				*e*Pg	Pg	22 56 36.4	-1.1
WORM	Onyx Ranch	4.11	324	*e*Pn	Pn	22 56 19.7	-2.1
WORM				*e*Pb	Pb	22 56 28.7	-2.6
ISA	Isabella	4.20	322	*e*Pn	Pn	22 56 21.1	-1.9
ISA	Isabella	4.20	322	P	Pn	22 56 20.8	-2.2
	baz=4.2						
WUAZ	Wupatki	4.50	45	*e*Pn	Pn	22 56 26.7	-0.5
PKM	Peak Mountain	4.53	305	P	Pn	22 56 26.7	-1.0
	baz=4.5						
U15A	North Rim	4.72	31	P	Pn	22 56 29.6	-0.8
	baz=4.7						
X18A	Snowflake	4.94	63	P	Pn	22 56 31.9	-1.4
	baz=4.9						
HSIG		5.02	131	*i* P	Pn	22 56 28.9	-5.4
HSIG				*i* S	Sn	22 57 25.4	-6.9
HSIG		5.02	131	*i* P	Pn	22 56 28.9	-5.4
319A	Douglas	5.21	100	P	Pn	22 56 34.2	-2.6
	baz=5.2						
PTRM	Twissleman Ran	5.23	310	*e*Pn	Pn	22 56 35.8	-1.2
PTRM				*e*Pb	Pb	22 56 53.0	+2.6
PTRM				*e*Sb	Sb	22 57 52.7	-0.5
PTRM				*e*ScS	ScS	23 10 57.5	+3.3
W18A	Petrified Fore	5.36	58	*e*Pn	Pn	22 56 39.0	-0.1
W18A	Petrified Fore	5.36	58	P	Pn	22 56 38.6	-0.4
	baz=5.4						
CCUT	Cedar City	5.38	16	*e*Pn	Pn	22 56 36.3	-1.3
CCUT				*e*ScS	ScS	23 11 04.4	+10
120A	U Bar Ranch, L	5.62	87	P	Pn	22 56 40.7	-1.9
	baz=5.6						
Z20A	Nine Sixteen R	5.68	81	P	Pn	22 56 41.6	-1.8
	baz=5.7						
SRIG	Santa Rosalia	5.71	152	*i* P	Pn	22 56 40.2	-3.4
SRIG				*i* S	Sn	22 57 46.0	-3.1
SRIG	Santa Rosalia	5.71	152	*i* P	Pn	22 56 40.2	-3.4
220A	Playas Peak, P	5.75	93	P	Pn	22 56 42.1	-2.3
	baz=5.7						
320A	Kipp Ranch, An	5.84	99	P	Pn	22 56 43.6	-2.0
	baz=5.8						
R11A	Troy Canyon, C	5.95	358	*e*Pn	Pn	22 56 46.6	-0.5
R11A	Troy Canyon, C	5.95	358	P	Pn	22 56 46.1	-1.0
	baz=6.0						
Y20A	Horse Springs,	5.99	74	P	Pn	22 56 46.6	-1.1
	baz=6.0						
W20A	Ramah	6.27	62	P	Pn	22 56 50.8	-0.8
	baz=6.3						
121A	Cookes Peak, D	6.34	87	*e*Pn	Pn	22 56 50.5	-2.0
121A	Cookes Peak, D	6.34	87	P	Pn	22 56 50.8	-1.7
	baz=6.3						
Z21A	St. Cloud Mine	6.47	80	P	Pn	22 56 53.2	-1.1
	baz=6.4						
CGIG		6.56	106	*i* P	Pn	22 56 50.5	-5.1
CGIG				*i* S	Sn	22 58 02.1	-8.5
CGIG		6.56	106	*i* P	Pn	22 56 50.5	-5.1
Y21A	Point of Rocks	6.58	74	P	Pn	22 56 55.2	-0.6
	baz=6.6						
MVU	Marysvale	6.59	21	*e*Pn	Pn	22 56 58.5	+2.5
X21A	Alamocita Cree	6.59	70	P	Pn	22 56 55.5	-0.6
	baz=6.6						
V20A	Brimhall	6.59	57	P	Pn	22 56 55.9	-0.2
	baz=6.6						
SAO	San Andreas Ge	6.70	312	*e*Pn	Pn	22 56 55.7	-1.5
U20A	Newcomb	6.86	53	P	Pn	22 57 00.3	+0.7
	baz=6.9						
222A	Williams Famil	6.94	90	P	Pn	22 56 58.5	-2.2
	baz=6.9						
WAKR	Walker	6.97	332	*e*Pn	Pn	22 57 01.5	+0.3
122A	Conniff Cattle	7.00	85	P	Pn	22 56 60.0	-1.

324A	Moseley Ranch,	8.38	94	P		Pn	22 57 18.7 -1.9
	baz=8.3						
Y24A	Capitan	8.40	77	P		Pn	22 57 19.4 -1.4
	baz=8.4						
Z24A	Sheeppen Canyo	8.40	81	P		Pn	22 57 19.3 -1.5
	baz=8.4						
MNTX	Cornudas Mount	8.43	92	ePn		Pn	22 57 19.2 -1.9
U23A	El Rito	8.48	60	P		Pn	22 57 22.1 +0.2
	baz=8.5						
X24A	Lazy VL Ranch,	8.51	73	P		Pn	22 57 21.7 -0.6
	baz=8.5						
DAU	Daniels Canyon	8.63	21	ePn		Pn	22 57 26.9 +2.9
Q20A	Ridgley Place,	8.67	39	P		Pn	22 57 25.9 +1.5
	baz=8.7						
R21A	Cimarron	8.68	44	P		Pn	22 57 26.3 +1.6
	baz=8.7						
W24A	Lazy 6 Ranch,	8.68	68	P		Pn	22 57 24.3 -0.4
	baz=8.7						
BGU	Big Grassy Mou	8.70	11	ePn		Pn	22 57 24.6 -0.4
S22A	4UR Ranch, Cre	8.74	50	P		Pn	22 57 26.4 +0.8
	baz=8.7						
JLU	Jordanelle	8.75	20	ePn		Pn	22 57 22.4 -3.3
325A	Bean Ranch, Si	8.83	94	P		Pn	22 57 25.1 -1.5
	baz=8.8						
P19A	Cripple Cowboy	8.84	33	P		Pn	22 57 27.8 +1.0
	baz=8.9						
225A	Deer Hill, Car	8.86	89	P		Pn	22 57 26.1 -1.1
	baz=8.8						
425A	Indio Mountain	8.93	98	P		Pn	22 57 27.2 -0.8
	baz=8.9						
Z25A	Roswell	8.93	81	P		Pn	22 57 27.3 -0.8
	baz=8.9						
V24A	Rampart Ranch,	8.95	65	P		Pn	22 57 29.5 +1.2
	baz=8.9						
125A	Gardner Draw,	8.98	85	P		Pn	22 57 28.2 -0.4
	baz=8.9						
Q21A	Lamborn Mesa,	8.98	42	P		Pn	22 57 30.5 +1.8
	baz=9.0						
Y25A	Mesa, Roswell	9.01	77	P		Pn	22 57 28.4 -0.7
	baz=9.0						
P20A	De Beque	9.02	36	P		Pn	22 57 30.7 +1.4
	baz=9.0						
R22A	Saguache, Gunn	9.08	48	P		Pn	22 57 31.0 +0.9
	baz=9.1						
X25A	Clemmons Ranch	9.12	74	P		Pn	22 57 30.5 -0.2
	baz=9.1						
SPUT	South Promonto	9.18	13	ePn		Pn	22 57 29.9 -1.6
GDL2	Guadalupe Moun	9.24	88	ePn		Pn	22 57 32.7 +0.3
LPIG	La Paz	9.35	151	eP		Pn	22 57 35.1 +1.5
LPIG	La Paz	9.35	151	ePn		Pn	22 57 35.8 +2.2
LPIG	La Paz	9.35	151	Pn		Pn	22 57 35.8 +2.2
	comp=N,16nm,0.3s,baz=275,slow=0.9,SNR=8.8						
LPIG				Lg		Lg	23 00 21.6
	comp=N,4.4nm,0.3s,baz=17,slow=20,SNR=2.2						
LPIG				LR		LR	23 00 59.7
	comp=N,4µm,21.2s,baz=336,slow=36						
Q22A	Crested Butte,	9.38	44	P		Pn	22 57 35.5 +1.1
	baz=9.4						
226B	Tecolote Peak,	9.42	89	P		Pn	22 57 35.0 +0.3
	baz=9.4						
W25A	X Bar L Ranch,	9.43	70	P		Pn	22 57 34.8 -0.1
	baz=9.4						
P21A	Newcastle	9.53	40	P		Pn	22 57 38.1 +1.8
	baz=9.5						
Z26A	Caprock	9.55	82	P		Pn	22 57 36.6 +0.1
	baz=9.5						
SMCO	Snowmass	9.55	43	ePn		Pn	22 57 36.3 -0.5
HVU	Hansel Valley	9.58	11	ePn		Pn	22 57 31.8 -5.1
O20A	White River Či	9.59	34	ePn		Pn	22 57 39.6 +2.6
SDCO	Great Sand Dun	9.63	54	ePn		Pn	22 57 39.7 +1.9
CLNB	Carlsbad	9.65	88	ePn		Pn	22 57 37.8 -0.1
HWUT	Hardware Ranch	9.66	17	ePn		Pn	22 57 35.7 -2.4
326A	Caldwell Ranch	9.67	93	P		Pn	22 57 37.9 -0.3
	baz=9.6						
426A	McDonald Obser	9.76	97	P		Pn	22 57 39.0 -0.4
	baz=9.7						
X26A	CR and CF Fran	9.82	74	P		Pn	22 57 40.1 -0.2
	baz=9.8						
526A	Mary Lane Ranc	9.86	101	P		Pn	22 57 40.8 0.0
	baz=9.8						
P22A	Eagle	9.96	41	P		Pn	22 57 43.4 +1.1
	baz=10.0						
HPIG		9.98	121	*i* P		Pn	22 57 38.8 -3.6
HPIG				*i* S		Sn	22 59 28.4 -6.1
HPIG		9.98	121	*i* P		Pn	22 57 38.8 -3.6
626A	Big Bend Ranch	9.98	104	P		Pn	22 57 42.2 -0.1
	baz=9.9						
Q23A	Hartsel	10.06	47	P		Pn	22 57 44.4 +0.7
	baz=10						
127A	Arkansas Junct	10.07	85	P		Pn	22 57 43.2 -0.5
	baz=10.0						
N20A	Spence Gulch,	10.13	32	P		Pn	22 57 45.7 +1.1
	baz=10						
527A	Woodward Ranch	10.24	100	P		Pn	22 57 45.1 -0.9
	baz=10						
427A	Hayter Ranch,	10.25	96	P		Pn	22 57 45.8 -0.3
	baz=10						
MOD	Modoc	10.30	339	ePn		Pn	22 57 47.0 +0.2
P23A	Jefferson	10.35	45	P		Pn	22 57 49.4 +1.7
	baz=10						
N21A	Black Mountain	10.42	35	P		Pn	22 57 50.4 +1.9
	baz=10						
TX31	Lajitas Ar. Si	10.44	104	ePn		Pn	22 57 48.5 -0.1
LTX	Lajitas	10.44	104	ePn		Pn	22 57 48.5 -0.1
TXAR	Lajitas Array	10.44	104	Pn		Pn	22 57 48.5 -0.1
TXAR	Lajitas Array	10.44	104	Pn		Pn	22 57 48.5 -0.1
	comp=N,1.7nm,0.3s,baz=286,slow=14,SNR=52						
TXAR				Lg		Lg	23 00 47.5
	comp=N,0.9nm,0.3s,baz=281,slow=28,SNR=5.2						
TXAR				LR		LR	23 02 13.8
	comp=N,5µm,18.1s,baz=325,slow=39						
Q22A	Kremmling	10.47	40	P		Pn	22 57 49.9 +0.6
	baz=10						
W27A	Bowe Ranch, En	10.52	72	P		Pn	22 57 49.7 -0.1
	baz=10						
MSTX	Muleshoe	10.60	78	ePn		Pn	22 57 52.2 +1.4
MSTX	Muleshoe	10.60	78	P		Pn	22 57 51.4 +0.5
	baz=11						
627A	Terlingua Ranc	10.63	103	P		Pn	22 57 51.1 -0.2
	baz=11						
328A	Wristen Ranch,	10.65	92	P		Pn	22 57 54.2 +2.6
	baz=11						
T26A	Comanche Natio	10.73	60	P		Pn	22 57 54.7 +2.0
	baz=11						
ISCO	Idaho Springs	10.76	44	ePn		Pn	22 57 55.9 +2.7
ISCO	Idaho Springs	10.76	44	P		Pn	22 57 55.2 +2.1
	baz=11						
128A	Castleberry Fa	10.81	85	P		Pn	22 57 53.9 +0.2
	baz=11						
AHID	Auburn Hatcher	10.87	17	ePn		Pn	22 57 57.5 +2.8
428A	Kincaid Ranch,	10.88	95	P		Pn	22 57 54.8 +0.2
	baz=11						
MFID	Camas Ranch	11.01	358	P		Pn	22 57 58.1 +1.7
	baz=11						
628A	Black Gap, Mar	11.03	102	P		Pn	22 57 56.4 -0.3
	baz=11						
Y28A	McKinney Farm,	11.03	79	P		Pn	22 57 56.9 +0.1
	baz=11						
YBH	Yreka Blue Hor	11.04	330	ePn		Pn	22 57 56.6 -0.3
YBH	Yreka Blue Hor	11.04	330	Pn		Pn	22 58 01.6 +4.7
	comp=N,0.1nm,0.3s,baz=151,slow=6.9,SNR=13						
YBH				Lg		Lg	23 01 13.4
	comp=N,0.0nm,0.3s,baz=127,slow=10,SNR=2.9						
YBH				LR		LR	23 02 33.2
	comp=N,3µm,20.6s,baz=160,slow=40						
BW06	Boulder Array	11.30	22	ePn		Pn	22 58 03.5 +3.0
PD31	Pinedale Array	11.30	22	ePn		Pn	22 58 03.5 +2.9
PDAR	Pinedale Array	11.30	22	Pn		Pn	22 58 03.5 +2.9
PDAR	Pinedale Array	11.30	22	Pn		Pn	22 58 03.5 +2.9
	comp=N,0.1nm,0.3s,baz=194,slow=12,SNR=8.7						
PDAR				Lg		Lg	23 01 14.5
	comp=N,0.1nm,0.3s,baz=198,slow=26,SNR=2.6						
N23A	Red Feather La	11.32	39	P		Pn	22 58 01.6 +0.8
	baz=11						
Z29A	Hungry Hill Ra	11.46	82	P		Pn	22 58 04.0 +1.4
	baz=11						
REDW	Red Top Meadow	11.49	16	ePn		Pn	22 58 05.7 +2.5
429A	Davenport Ranc	11.56	95	P		Pn	22 58 04.2 +0.2
	baz=12						
TPAW	Teton Pass	11.59	16	ePn		Pn	22 58 07.2 +2.7
SNOW	Snow King Moun	11.61	17	ePn		Pn	22 58 07.9 +3.1
K20A	Yellowstone Ra	11.63	26	P		Pn	22 58 06.4 +1.5
	baz=12						
W29A	Amraillo	11.67	73	P		Pn	22 58 05.1 -0.4
	baz=12						
FXWY	Fox Creek	11.71	15	ePn		Pn	22 58 09.5 +3.3
MOOW	Moose Ponds	11.88	16	ePn		Pn	22 58 11.5 +3.0
J19A	Crowheart	11.91	23	P		Pn	22 58 11.3 +2.4
	baz=12						
Z30A	Sanderson Ranc	11.94	82	P		Pn	22 58 10.1 +1.0
	baz=12						
IMW	Indian Meadow	11.98	15	ePn		Pn	22 58 13.2 +3.4
330A	Mertzon	12.03	91	P		Pn	22 58 11.3 +0.9
	baz=12						
K21A	Alcova	12.04	30	P		Pn	22 58 12.6 +2.0
	baz=12						
430A	Baggett Ranch,	12.08	94	P		Pn	22 58 12.6 +1.4
	baz=12						
530A	J-C Ranch, Com	12.14	97	P		Pn	22 58 12.6 +0.7
	baz=12						
Y30A	Stafford Cattl	12.15	79	P		Pn	22 58 13.3 +1.3
	baz=12						
FLWY	Flagg Ranch	12.21	16	ePn		Pn	22 58 12.4 -0.5
X30A	Coker Ranch, T	12.21	76	P		Pn	22 58 13.9 +1.0
	baz=12						
KSCO	Kaye Shedlock'	12.22	54	ePn		Pn	22 58 12.5 -0.5
YFT	Old Faithful	12.53	15	ePn		Pn	22 58 20.0 +2.6
BMO	Blue Mountains	12.54	353	ePn		Pn	22 58 15.6 -1.8
131A	Roby	12.57	85	P		Pn	22 58 19.2 +1.4
	baz=12						
431A	Sonora	12.63	94	P		Pn	22 58 20.6 +2.0
	baz=13						
331A	San Angelo	12.68	91	P		Pn	22 58 20.1 +0.9
	baz=13						
Y31A	Rekieta Farm,	12.68	79	P		Pn	22 58 21.0 +1.7
	baz=13						
YMR	Mason River	12.71	14	ePn		Pn	22 58 22.6 +2.8
531A	Rocksprings	12.80	96	P		Pn	22 58 23.5 +2.5
	baz=13						
YNR	Norris Junctio	12.81	15	ePn		Pn	22 58 19.9 -1.4
I20A	Worland	12.83	24	P		Pn	22 58 25.2 +3.9
	baz=13						
X31A	McDonald Ranch	12.96	76	P		Pn	22 58 24.1 +0.9
	baz=13						
631A	Perdido Creek	12.97	99	P		Pn	22 58 25.1 +1.8
	baz=13						
DLMT	Dillon	13.12	8	ePn		Pn	22 58 26.3 +1.1
ABTX	Abilene, Hawle	13.20	85	ePn		Pn	22 58 25.0 -1.4
ABTX	Abilene, Hawle	13.20	85	P		Pn	22 58 28.2 +1.8
	baz=13						
332A	Millersview	13.25	90	P		Pn	22 58 27.8 +0.9
	baz=13						
432A	Menard	13.29	92	P		Pn	22 58 28.9 +1.3
	baz=13						
Z32A	Haskell	13.32	82	P		Pn	22 58 29.2 +1.2
	baz=13						
H20A	Greybull	13.35	23	P		Pn	22 58 30.7 +2.4
	baz=13						
532A	Rocksprings	13.35	96	P		Pn	22 58 30.9 +2.4
	baz=13						
JCT	Junction City	13.36	94	ePn		Pn	22 58 31.1 +2.5
JCT	Junction City	13.36	94	P		Pn	22 58 30.5 +2.0
	baz=13						
Y32A	R-V Farms, Ver	13.36	79	P		Pn	22 58 29.9 +1.3
	baz=13						
I22A	9 Mile Ranch,	13.39	29	P		Pn	22 58 31.7 +2.7
	baz=13						
RLMT	Red Lodge	13.54	18	ePn		Pn	22 58 33.3 +2.2
LRM	Limekiln Ridge	13.59	8	ePn		Pn	22 58 31.3 -0.4
632A	Uvalde	13.61	98	P		Pn	22 58 33.5 +1.6
	baz=14						
F10A	Beach Ranch, E	13.64	354	ePn		Pn	22 58 34.7 +2.3
T31A	Randall Ranch,	13.66	66	P		Pn	22 58 33.9 +1.3
	baz=14						
732A	Laxson Ranch,	13.69	101	P		Pn	22 58 34.4 +1.4
	baz=14						
G20A	Bridger	13.93	21	P		Pn	22 58 40.1 +3.7
	baz=14						
WMOK	Wichita Mounta	13.96	76	ePn		Pn	22 58 37.0 +0.3
GCMT	Greycliff	14.06	16	ePn		Pn	22 58 38.1 -0.1
HAWA	Hanford	14.36	348	ePn		Pn	22 58 41.0 -1.1
MSO	Missoula	14.45	4	ePn		Pn	22 58 45.5 +2.0
MSO	Missoula	14.45	4	P		P	22 58 47.1 -3.2
	baz=14						
CHMT	Chamberlain Mo	14.59	6	ePn		Pn	22 58 43.6 -1.8
F04A	Amboy	14.60	340	ePn		Pn	22 58 47.1 +1.7
RSSD	Black Hills	14.65	34	ePn		Pn	22 58 45.7 -0.6
SLMT	Seeley Lake	14.89	5	ePn		Pn	22 58 52.1 +2.6
D08A	Wollman Farm,	14.91	350	ePn		Pn	22 58 49.5 0.0
E19A	Rath Farm, Rou	14.91	18	P		Pn	22 58 51.6 +2.0
	baz=15						
G23A	Biddle	14.92	28	P		Pn	22 58 52.2 +2.4
	baz=15						
WHTX	Lake Whitney	15.10	87	ePn		Pn	22 58 52.2 -0.1
WHTX	Lake Whitney	15.10	87	P		Pn	22 58 53.1 +0.8
	baz=15						
SWMT	Swartz Lake	15.13	3	ePn		Pn	22 58 51.4 -1.3
SWMT				ePcP		PcP	23 04 01.5 +1.9
LON	Longmire	15.19	343	ePn		Pn	22 58 54.2 +0.9
	comp=N,31nm,1.1s						
F23A	Volborg	15.34	27	P		Pn	22 58 57.8 +2.4
	baz=15						
LTY	Liberty	15.40	346	ePn		Pn	22 58 57.7 +1.4
	comp=N,198nm,2.6s						
BSMT	Bassoo Peak	15.44	1	ePn		P	22 58 59.9 -1.5
E03A	Lebam	15.50	338	ePn		Pn	22 58 57.6 +0.3
	comp=N,78nm,1.0s						
D19A	Cripps Ranch,	15.54	16	P		P	22 59 00.5 -1.8
	baz=16						
C09A	Chrisman Ranch	15.55	352	ePn		Pn	22 58 58.9 +0.8
	comp=N,24nm,1.2s						
BLMT	Blacktail Moun	15.61	2	ePn		P	22 59 01.9 -1.4
D05A	Enumclaw	15.64	343	ePn		P	22 59 02.6 -0.8
	comp=N,102nm,1.4s						
D20A	Manuel Ranch,	15.66	18	P		P	22 59 01.9 -1.8
	baz=16						
LAO	LASA Array	15.88	23	ePn		Pn	22 59 02.7 +0.3
	comp=N,172nm,2.0s						
NEW	Newport	15.91	356	ePn		P	22 59 05.3 -1.2
	comp=N,199nm,2.1s						
NEW	Newport	15.91	356	Pn		P	22 59 05.3 -1.2
	comp=N,0.5nm,0.3s,baz=179,slow=12,SNR=24						
NEW				Lg		Lg	23 03 43.5
	comp=N,0.2nm,0.3s,baz=46,slow=20,SNR=2.9						
NEW				LR		LR	23 05 28.9
	comp=N,4µm,19.4s,baz=183,slow=39						
NEW	Newport	15.91	356	P		P	22 59 04.9 -1.6
	baz=16						
D21A	La Casta Ranch	15.96	21	P		P	22 59 06.6 -0.4
	baz=16						
EGMT	Eagleton	16.16	13	ePn		Pn	22 59 03.1 -3.0
	comp=N,122nm,2.0s						
NLWA	Neilton Lookou	16.35	339	ePn		Pn	22 59 08.5 +0.2
	comp=N,75nm,1.5s						
BGNE	Belgrade	16.37	52	ePn		Pn	22 59 06.5 -2.2
TUL1	Tulsa	16.51	72	ePn		Pn	22 59 11.2 +0.8
KSU1	Kansas State U	16.56	61	ePn		P	22 59 12.5 -1.2
	comp=N,71nm,1.3s						
WALA	Waterton Lakes	16.68	3	ePn		Pn	22 59 11.8 -0.8
B06A	Marblemount	16.77	346	ePn		P	22 59 16.1 +0.2
	comp=N,28nm,1.1s						
HKT	Hockley	16.82	93	ePn		Pn	22 59 14.7 +0.3
	comp=N,89nm,1.6s						
A05A	Maple Falls	17.36	345	ePn		Pn	22 59 21.6 +0.5
	comp=N,48nm,1.5s						
PGC	Sidney	17.37	342	ePn		P	22 59 21.9 -0.6
NATX	Nacogdoches	17.49	87	ePn		Pn	22 59 22.6 -0.3
	comp=N,220nm,1.8s						
DGMT	Dagmar	18.11	24	ePn		Pn	22 59 28.2 -2.1
	comp=N,54nm,1.3s						
MIAR	Mount Ida	18.24	77	ePn		P	22 59 33.3 +1.0
	comp=N,242nm,2.5s						
ECSD	EROS Data Cent	18.51	47	ePn		Pn	22 59 36.5 +1.2
MDND	Maddock	19.49	33	eP		Pn	22 59 48.4 +1.4
	comp=N,58nm,1.3s						
SCIA	State Center	19.94	55	eP		P	22 59 50.0 -0.8
	comp=N,99nm,0.9s						
EDM	Edmonton	20.86	3	eP		P	23 00 01.0 +0.2
PBMO	Poplar Bluff	20.90	71	eP		P	23 00 02.3 +1.0
	comp=N,80nm,1.9s						
VBMS	Vicksburg	20.93	84	eP		P	23 00 02.5 +1.0
	comp=N,111nm,1.1s						
SLM	Saint Louis	21.28	66	eP		P	23 00 05.9 +0.5
	comp=N,57nm,1.3s						
SPMN	St. Paul	21.61	47	eP		P	23 00 11.3 +2.4
AGMN	Agassiz Nation	21.62	37	eP		P	23 00 09.3 +0.4
	comp=N,31nm,0.9s						
OXF	Oxford	21.68	77	eP		P	23 00 07.7 -1.9
	comp=N,89nm,1.5s						
BBB	Bella Bella	21.87	338	LR		LR	23 09 18.4
	comp=N,4µm,19.5s,baz=159,slow=39						
SIUC	Southern Illin	21.95	69	eP		P	23 00 10.0 -2.6
	comp=N,22nm,1.0s						
JFWS	Jewell Farm	22.35	55	eP		P	23 00 15.4 -1.5
	comp=N,13nm,0.8s						
HDIL	Hopedale	22.37	61	eP		P	23 00 16.4 -0.7
	comp=N,44nm,1.3s						
PLAL	Pickwick Lake	22.76	76	eP		P	23 00 22.0 +0.7
	comp=N,184nm,2.5s						
OLIL	Olney	22.95	66	eP		P	23 00 24.2 +1.0
	comp=N,29nm,1.0s						
WVT	Waverly	22.96	73	eP		P	23 00 24.5 +1.2
	comp=N,84nm,2.1s						
USIN	University of	23.20	68	eP		P	23 00 25.5 -0.3
	comp=N,24nm,1.1s						
LRAL	Lakeview Retre	23.78	81	eP		P	23 00 32.5 +0.9
	comp=N,245nm,2.8s						
SFIN	Scholer Farm	23.98	63	eP		P	23 00 36.1 +2.7
	comp=N,33nm,1.4s						
BRAL	Brewton	24.03	86	eP		P	23 00 36.2 +2.2
	comp=N,99nm,1.1s						
BLO	Bloomington	24.23	66	eP		P	23 00 36.6 +0.9
	comp=N,13nm,0.7s						
COWI	Conover	24.30	48	eP		P	23 00 37.0 +0.6
	comp=N,16nm,0.8s						
CPCT	Cooper Cave	25.66	75	eP		P	23 00 51.1 +2.3
TEIG	Tepich	26.99	110	LR		LR	23 15 02.0
	comp=N,1µm,18.4s,baz=283,slow=44						
DLBC	Dease Lake	27.90	343	LR		LR	23 13 08.6
	comp=N,3µm,18.9s,baz=155,slow=39						
APG	El Apazote	28.45	122	LR		LR	23 12 29.3
	comp=N,2µm,21.8s,baz=180,slow=36						
SADO	Sadowa	30.59	56	LR		LR	23 12 46.2
	comp=N,919nm,20.4s,baz=273,slow=34						
DAWY	Dawson	35.07	342	eP		P	23 02 11.2 -0.5
KDAK	Kodiak Island	35.83	326	eP		P	23 02 21.1 +2.9
	comp=N,16nm,1.0s						
KDAK	Kodiak Island	35.83	326	P		P	23 02 21.1 +2.9
	comp=N,12nm,0.9s,baz=114,slow=8.8,SNR=6.4						
KDAK				LR		LR	23 15 35.3
	comp=N,1µm,19.0s,baz=131,slow=34						
EGAK	Eagle	36.11	341	eP		P	23 02 23.3 +2.8
	comp=N,147nm,2.7s						
RC01	Rabbit Creek A	36.39	332	eP		P	23 02 26.2 +3.1
	comp=N,53nm,2.0s						
PMR	Palmer	36.46	333	eP		P	23 02 26.9 +3.4
	comp=N,20nm,1.3s						
RSO	Redoubt South	37.27	330	eP		P	23 02 33.9 +3.2
SPU	Mount Spurr	37.37	331	eP		P	23 02 34.2 +2.9
MCK	McKinley	37.74	336	eP		P	23 02 37.6 +3.1
	comp=N,13nm,1.1s						
IL1	Eielson Array	37.76	338	eP		P	23 02 36.2 +1.6
ILAR	Eielson Array	37.76	338	P		P	23 02 35.5 +0.9
ILAR	Eielson Array	37.76	338	P		P	23 02 35.5 +0.9
	comp=N,2.9nm,0.9s,baz=149,slow=7.0,SNR=23						
ILAR				LR		LR	23 18 30.8
	comp=N,996nm,18.4s,baz=151,slow=37						
ILB	Eielson Array	37.76	338	eP		P	23 02 35.5 +0.9
PPLA	Purkeypile	38.39	334	eP		P	23 02 42.7 +2.6
	comp=N,19nm,1.1s						
CAST	Castle Rocks	38.65	334	eP		P	23 02 44.6 +2.4
	comp=N,38nm,2.1s						
BPAW	Bear Paw Mtn.	38.67	336	eP		P	23 02 39.5 -2.8
	comp=N,12nm,1.1s						
SVW2	Sparrevohn	38.78	330	eP		P	23 02 45.0 +1.7
	comp=N,40nm,1.9s						
SCHQ	Schefferville	40.58	42	LR		LR	23 20 40.5
	comp=N,579nm,19.8s,baz=81,slow=38						
IM04	Indian Mountai	40.75	337	eP		P	23 03 01.1 +1.4
IMA2	Indian Mountai	40.78	337	eP		P	23 02 59.3 -0.7
FRB	Frobisher Bay	42.66	29	LR		LR	23 19 44.5
	comp=N,806nm,21.3s,baz=62,slow=34						
ROSC	El Rosal	47.04	117	LR		LR	23 25 33.9
	comp=N,454nm,18.9s,baz=13,slow=38						
OTAV	Otavalo	47.21	125	eP		P	23 03 54.0 +1.4
	comp=N,60nm,2.0s						
SUMG	Summit	55.49	21	*i* P		P	23 04 54.5 +0.6
	comp=N,5.8nm,0.8s						
SUMG							
	comp=Z,2µm,13.0s						
NNA	Nana	57.43	134	LR		LR	23 26 23.3
	comp=Z,566nm,18.1s,baz=324,slow=32						
PPT	Papeete	59.55	219	LR		LR	23 26 28.0
	comp=Z,390nm,18.2s,baz=10,slow=31						
PETK	Petropavlovsk-	63.13	318	LR		LR	23 27 28.1
	comp=Z,80nm,20.9s,baz=260,slow=31						
JMIC	Jan Mayen	64.93	20	LR		LR	23 35 20.4
	comp=Z,616nm,18.5s,baz=274,slow=37						
SPITS	Spitsbergen Ar	66.06	10	LR		LR	23 34 29.4
	comp=Z,1µm,19.9s,baz=305,slow=36						
RAR	Rarotonga	68.20	225	LR		LR	23 28 11.7
	comp=Z,378nm,19.8s,baz=89,slow=29						
AFI	Afiamalu	70.97	239	LR		LR	23 30 59.9
	comp=Z,429nm,18.6s,baz=71,slow=30						
ARCES	ARCESS Array B	74.42	13	LR		LR	23 40 05.5
	comp=Z,675nm,20.9s,baz=329,slow=36						
ASAJ	Asahikawa	76.00	313	LR		LR	23 35 42.1
	comp=Z,106nm,20.8s,baz=22,slow=32						
NOA	NORSAR Array B	77.24	24	P		P	23 07 17.4 +4.5
	comp=Z,2.3nm,1.1s,baz=317,slow=5.8,SNR=3.0						
NOA				LR		LR	23 40 54.7
	comp=Z,405nm,21.2s,baz=320,slow=36						
BDFB	Brasilia	80.09	116	LR		LR	23 48 43.7
	comp=Z,397nm,18.0s,baz=113,slow=40						
CPUP	Villa Florida	80.35	130	LR		LR	23 45 09.8
	comp=Z,190nm,19.2s,baz=80,slow=37						
FLN	La Foliniere	80.50	38	eP		P	23 07 29.6 -1.4
	comp=Z,66nm,1.4s						
FLN	La Foliniere	80.50	38	eP		P	23 07 29.6 -1.4
	comp=Z,66nm,1.4s						
FIA0	FINESS Array S	81.37	18	eP		P	23 07 35.5 +0.2
FINES	FINESS Array B	81.37	18	P		P	23 07 35.5 +0.2
FINES	FINESS Array B	81.37	18	P		P	23 07 35.5 +0.2
	comp=Z,3.7nm,0.9s,baz=129,slow=1.2,SNR=5.1						
FINES				LR		LR	23 46 40.9
	comp=Z,589nm,18.6s,baz=270,slow=38						
EVOP	Sao Brissos	82.

comp=N,700nm,20.9s
CLL LmH 23 43 00.0
comp=E,600nm,19.8s
CLL LmV 23 44 00.0
comp=Z,600nm,18.2s
CABF La Chapelle 85.26 36 *e*P **P 23 07 56.1 +0.3**
comp=Z,15nm,1.1s
CABF La Chapelle 85.26 36 *e*P **P 23 07 56.1 +0.3**
comp=Z,15nm,1.1s
NKC Novy Kostel 85.63 31 AMS AMS 23 47 40.0
comp=Z,400nm,18.7s
BRG Berggiesshubel 85.78 29 *e*(P) **P 23 08 01.3 +3.1**
comp=Z,2.2nm,0.7s
PVCC Panska Ves 86.30 29 AMS AMS 23 41 40.0
comp=Z,500nm,20.2s
PRU Pruhonice 86.70 30 AMS AMS 23 45 00.0
comp=Z,400nm,18.3s
KHC Kasperske Hory 86.94 31 AMS AMS 23 45 30.0
comp=Z,700nm,16.5s
DPC Dobruska-Polom 87.16 29 AMS AMS 23 46 10.0
GERES GERESS Array B 87.21 31 LR LR 23 51 30.8
comp=Z,660nm,18.2s,baz=324,slow=39
TREC Trest 87.63 30 AMS AMS 23 51 20.0
comp=Z,500nm,16.4s
MDT Midelt 87.93 52 LR LR 23 46 23.0
comp=Z,772nm,19.0s,baz=316,slow=35
OKC Ostrava-Krasne 88.30 28 AMS AMS 23 49 50.0
comp=Z,500nm,14.2s
AKASG Malin Array Be 91.52 22 P **P 23 08 27.3 +1.8**
AKASG Malin Array Be 91.52 22 P **P 23 08 27.3 +1.8**
comp=Z,0.2nm,0.3s,baz=311,slow=3.9,SNR=6.8
AKASG LR LR 23 49 14.1
comp=Z,557nm,19.8s,baz=320,slow=35
AKBB Malin Array Si 91.52 22 *e*P **P 23 08 27.3 +1.8**
SONM Songino Array 91.82 333 LR LR 23 55 30.6
comp=Z,659nm,18.1s,baz=45,slow=39
ZAA0 Zalesovo Array 92.27 348 *e*P **P 23 08 30.2 +1.4**
ZALV Zalesovo Beam 92.27 348 P **P 23 08 30.6 +1.7**
ZALV Zalesovo Beam 92.27 348 P **P 23 08 30.6 +1.7**
comp=Z,0.4nm,0.4s,baz=5.0,slow=3.3,SNR=3.3
ZALV LR LR 23 52 37.3
comp=Z,179nm,20.1s,baz=250,slow=37
BJI Beijing 93.61 323 P P 23 08 31.5 -3.8
BJI S **S 23 19 44.0 -0.1**
BJI pmax pmax
comp=Z,8.0nm,0.6s
BJI pmax pmax
comp=Z,82nm,4.1s
BJI LR LR
comp=N,270nm,17.8s
BJI LR LR
comp=E,370nm,15.3s
BJI LR LR
comp=Z,210nm,21.4s
KEST Kesra 94.65 42 LR LR 23 49 56.9
comp=Z,157nm,19.4s,baz=274,slow=35
BVAR Borovoye Array 94.80 357 P **P 23 08 43.3 +2.8**
BVAR Borovoye Array 94.80 357 P **P 23 08 43.3 +2.8**
comp=Z,0.2nm,0.4s,baz=356,slow=4.5,SNR=3.9
HHC Hu-ho-hao-te 95.25 326 *e*P **P 23 08 40.3 -2.7**
HHC sP **sP 23 08 46.8 -1.2**
HHC PP **PP 23 12 30.9 -1.3**
HHC SKS **SKSac 23 19 14.4 -4.7**
HHC S SKKSac 23 19 50.3 +8.3
HHC pmax pmax
comp=Z,220nm,6.0s
HHC LR LR
comp=N,560nm,17.8s
HHC LR LR
comp=E,690nm,17.8s
HHC LR LR
comp=Z,670nm,17.8s
KURK Kurchatov 96.34 351 *e*P **P 23 08 49.3 +1.7**
KURBB Kurchatov Arra 96.45 351 P **P 23 08 49.3 +1.2**
comp=Z,0.2nm,0.3s,baz=351,slow=4.4,SNR=3.3
NJ2 Nanjing 98.01 316 *e*P P 23 08 52.1 -3.4
MKAR Makanchi Array 99.60 348 LR LR 00 02 27.0
comp=Z,249nm,18.3s,baz=358,slow=40
WMQ Urumqi 101.30 343 P **Pdif 23 09 09.0 -1.1**
WMQ pP pP 23 09 13.8 -0.1
WMQ pmax pmax
comp=Z,6.0nm,0.7s
WMQ pmax pmax
comp=Z,78nm,4.6s
WMQ LR LR
comp=E,280nm,25.0s
WMQ LR LR
comp=Z,300nm,26.0s
LZH Lanzhou 102.65 328 *e*P **Pdif 23 09 12.1 -4.3**
LZH pP 23 09 16.4
LZH sP 23 09 19.5
LZH LR LR
comp=N,350nm,15.9s
LZH LR LR
comp=E,410nm,14.6s
LZH LR LR
comp=Z,520nm,16.5s
CD2 Chengdu 106.99 326 Pdif **Pdif 23 09 33.6 -2.0**
CD2 PP **PP 23 14 02.4 +1.5**
CD2 S **Sdif 23 21 30.8 -7.0**
CD2 AMB AMB
comp=Z,250nm,6.5s
CD2 LR LR
comp=N,350nm,7.4s
CD2 LR LR
comp=Z,300nm,7.7s
KSH Kashi 107.69 351 Pdif **Pdif 23 09 36.9 -1.8**
KSH S **Sdif 23 21 36.6 -6.9**
KSH LR LR
comp=N,130nm,5.3s
KSH LR LR
comp=E,160nm,7.2s
KSH LR LR
comp=Z,180nm,14.0s
GYA Guiyang 109.14 321 *e*Pdif **Pdif 23 09 42.3 -3.0**
GYA PKP **PKiKP 23 13 44.5 -5.0**
GYA PKS PKSdf 23 17 20.0 -6.3
GYA AMB AMB
comp=Z,120nm,7.7s
GYA LR LR
comp=N,120nm,21.8s
GYA LR LR
comp=E,110nm,22.3s
GYA LR LR
comp=Z,140nm,20.0s
KMI Kunming 112.27 323 PKP **PKiKP 23 13 51.8 -3.8**
KMI sPKP 23 13 56.8
KMI PP **PP 23 14 40.3 +0.8**
KMI AMB AMB
comp=Z,130nm,4.5s
KMI LR LR
comp=N,170nm,24.0s
KMI LR LR
comp=E,220nm,17.8s
KMI LR LR
comp=Z,240nm,16.2s
QIZ Qiongzhong 113.07 313 Pdif **Pdif 23 09 57.3 -5.5**
QIZ S **Sdif 23 22 21.4 -7.3**
QIZ LR LR
comp=Z,190nm,23.4s
WRA Warramunga Arr 117.25 263 *e*PKPdf **PKPdf 23 14 07.5 +2.6**
WRA Warramunga Arr 117.25 263 PKP **PKPdf 23 14 07.4 +2.6**
comp=Z,0.4nm,0.8s,baz=48,slow=1.6,SNR=2.9
AS12 Alice Springs 119.24 259 *e*PKPdf **PKPdf 23 14 11.2 +2.5**
ASAR Alice Springs 119.24 259 PKP **PKPdf 23 14 11.2 +2.5**
ASAR Alice Springs 119.24 259 PKP **PKPdf 23 14 11.2 +2.5**
comp=Z,0.3nm,0.7s,baz=90,slow=1.9,SNR=4.1
MAW Mawson 144.74 179 *e*PKPdf **PKPdf 23 14 56.2 +1.4**
MAW Mawson 144.74 179 PKP **PKPdf 23 14 56.2 +1.4**
comp=Z,3.6nm,0.8s,baz=218,slow=8.5,SNR=5.0
LBTB Lobatse 145.06 88 *e*PKPbc **PKPdf 23 14 57.3 +0.4**
BOSA Boshof 145.92 94 *e*PKPdf **PKPab 23 15 00.1 +0.6**
BOSA Boshof 145.92 94 PKPbc **PKPab 23 15 00.1 +0.6**
comp=Z,4.8nm,0.9s,baz=219,slow=1.9,SNR=5.9

NEIC 19 22:57:30.0, 32°.41N×115°.30W, h10km, ML3.5(PAS), 2C-1D, After PAS., California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DREC	**Desert Rsrch C**	**0.41**	**343**	↓*i*P	Pg	22 57 38.4	+0.3
EMSC	**East Mesa**	**0.42**	**39**	↑*i*P	Pg	22 57 37.9	-0.5
SGL	**Mount Signal**	**0.43**	**304**	*e*P	Pg	22 57 38.1	-0.3
ERPC	**Ernies Place**	**0.45**	**318**	*e*P	Pb	22 57 39.5	-0.6
YUH	**Yuha Desert**	**0.58**	**295**	↑*i*P	Pg	22 57 40.4	-0.8
GLA	**Glamis**	**0.76**	**32**	*e*Pg	Pg	22 57 42.8	-1.9
GLA				*e*Sg	Sg	22 57 53.4	-1.3
BAR	**Barrett**	**1.19**	**284**	P	Pb	22 57 50.8	-1.9
BAR				*e*S	Sb	22 58 06.6	-1.6

IDC 19 23:07:26.1±1.3, 29°.40S×178°.79W, h334km±18km, mb3.2/2, mb1 3.4/3, mb1mx3.1/16, mbtmp3.2/3, Error ellipse: s-maj=51.1km s-min=36.6km az=131.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.77**	**79**	P	Pn	23 08 09.4	+0.2
	84nm,0.3s,baz=85,slow=23,SNR=6.3						
URZ	**Urewera**	**9.47**	**200**	P	Pn	23 09 37.1	-0.4
	0.6nm,0.3s,baz=69,slow=14,SNR=4.5						
URZ				S	S	23 11 15.9	-9.2
	1.1nm,0.3s,baz=230,slow=16,SNR=5.8						
ASAR	**Alice Springs**	**42.49**	**266**	P	P	23 14 49.6	-0.1
	0.6nm,0.5s,baz=104,slow=7.1,SNR=13						
WRA	**Warramunga Arr**	**43.38**	**272**	P	P	23 14 56.8	-0.2
	1.1nm,0.4s,baz=110,slow=7.9,SNR=21						
FINES	**FINESS Array B**	**143.98**	**340**	PKP	PKPbc	23 26 20.6	+0.4
	0.9nm,0.5s,baz=51,slow=3.0,SNR=17						

*ISCJB **19** 23:10:00.3±0.2, 10°.69N±0°.02×62°.58W±0°.02, h89km±1km, mb4.4/65, Error ellipse: s-maj=3.1km s-min=2.3km az=155.1*
*BJI **19** 23:10:01.2, 10°.70N×62°.60W, h80km, mB5.2/3, Ms5.4/4, Ms7 5.1/4*
*LDG **19** 23:10:02.2±0.3, 10°.88N×62°.81W, h110km, Mb4.3/17, Error ellipse: s-maj=20.6km s-min=8.8km az=101.0*
*IDC **19** 23:10:02.4±0.6, 10°.78N×62°.65W, h93km±4km, mb4.0/30, mb1 4.1/31, mb1mx4.1/35, mbtmp4.3/31, Error ellipse: s-maj=11.6km s-min=7.6km az=112.0*
*NEIC **19** 23:10:02.1±0.1, 10°.71N×62°.61W, mb4.8/32, MW4.4(CAR), Error ellipse: s-maj=3.0km s-min=2.9km az=138.0*
NEIC Felt at Caracas, Chacao and El Hatillo. Also felt at Port-of-Spain, Trinidad.
*TRN **19** 23:10:03.0, 10°.77N×62°.48W, h28km, MD4.3*
TRN Felt in Trinidad. MMI II.
*FUNV **19** 23:10:03.3, 10°.62N×62°.54W, h74km, MW4.4*

ISC 19 23:10:01.9±0.4, 10°.68N±0°.03×62°.57W±0°.03, h94km±3km, n361, σ1°.33/437, mb4.5/66, 77C-50D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.34**	**96**	↑*i*P	Pn	23 10 14.6	-1.3
GUIV				*e*S	Sn	23 10 22.9	-3.5
GUIV	**Guiria**	**0.34**	**96**	↑*i*P	Pn	23 10 14.6	-1.3
GUIV				*e*S	Sn	23 10 22.9	-3.5
GUNV	**Guanoco**	**0.64**	**216**	*i*P	Pn	23 10 18.5	+0.4
GUNV				*e*S	Sn	23 10 28.0	-2.3
GUNV	**Guanoco**	**0.64**	**216**	*i*P	Pn	23 10 18.3	+0.2
GUNV				*e*S	Sn	23 10 28.8	-1.5
CRUV	**Carupano**	**0.66**	**269**	↑*i*P	Pn	23 10 18.3	0.0
CRUV				*e*S	Sn	23 10 27.4	-3.2
CRUV	**Carupano**	**0.66**	**269**	↑*i*P	Pn	23 10 18.3	0.0
CRUV				*e*S	Sn	23 10 27.9	-2.7
TCE	**Chacachacare**	**0.80**	**89**	*e*P	Pn	23 10 17.8	-1.9
TCE				*e*S	Sn	23 10 27.6	-5.4
ALNG	**Atlantic LNG**	**1.00**	**120**	*e*P	Pn	23 10 22.0	+0.2
ALNG	**Atlantic LNG**	**1.00**	**120**	*e*	Pn	23 10 26.5	+4.8
ALNG				*e*S	Sn	23 10 33.4	-3.3
TPP	**Pointe-a-Pierr**	**1.16**	**108**	↑*i*P	Pn	23 10 23.2	-0.4
TPP				*e*S	Sn	23 10 37.7	-2.3
SIPA	**Siparia**	**1.17**	**117**	*e*P	Pn	23 10 23.8	0.0
SIPA	**Siparia**	**1.17**	**117**	*e*	Pn	23 10 24.7	+0.9
SIPA				*e*S	Sn	23 10 38.9	-1.5
TBH	**Brigand Hill**	**1.49**	**97**	*e*P	Pn	23 10 26.8	-0.8
TBH				*e*S	Sn	23 10 45.1	-2.1
GRGR	**Grenville**	**1.70**	**32**	*e*Pn	Pn	23 10 29.6	-0.7
GRGR				*e*Sn	Sn	23 10 50.0	-1.9
GRW	**Mount Saint Ca**	**1.72**	**31**	*e*P	Pn	23 10 30.3	-0.4
GRW				*e*S	Sn	23 10 49.0	-3.5
ORIV	**Oritupano**	**1.81**	**207**	*e*P	Pn	23 10 32.2	+0.5
ORIV				*e*S	Sn	23 10 52.0	-2.4
ORIV	**Oritupano**	**1.81**	**207**	↓*i*P	Pn	23 10 32.0	+0.3
ORIV				*e*S	Sn	23 10 52.0	-2.4
TPR	**Prospect**	**1.83**	**74**	*e*P	Pn	23 10 31.3	-0.7
TPR				*e*S	Sn	23 10 51.6	-3.3
BOT	**Bacolet**	**1.88**	**75**	↑*e*P	Pn	23 10 31.7	-0.9
BOT				*e*S	Sn	23 10 53.7	-2.3
TOSP	**Speyside**	**2.09**	**73**	*e*P	Pn	23 10 34.4	-0.9
TOSP				*e*S	Sn	23 10 57.9	-2.9
PCRV	**Puerto La Cruz**	**2.10**	**256**	*e*P	Pn	23 10 35.7	+0.1
PCRV				*e*S	Sn	23 10 58.7	-2.5
PCRV	**Puerto La Cruz**	**2.10**	**256**	↓*e*P	Pn	23 10 36.0	+0.5
PCRV				*e*S	Sn	23 10 58.7	-2.5
RIOV	**Rio Grande**	**2.70**	**164**	↓*e*P	Pn	23 10 42.7	-0.8
FCV	**Fort Charlotte**	**2.78**	**28**	*e*S	Sn	23 11 15.5	-1.9
SVB	**Belmont**	**2.88**	**26**	*e*P	Pn	23 10 45.7	-0.2
SVB				*e*S	Sn	23 11 17.6	-2.2
SVV	**Soufriere Volc**	**2.93**	**27**	*e*P	Pn	23 10 47.3	+0.7
SVV				*e*S	Sn	23 11 19.3	-1.8
GURV	**El Guri**	**2.95**	**190**	*e*P	Pn	23 10 45.8	-1.0
GURV	**El Guri**	**2.95**	**190**	↓*i*P	Pn	23 10 45.9	-1.0
SSV	**Crater Summit**	**2.95**	**27**	*e*P	Pn	23 10 47.7	+0.8
SSV				*e*S	Sn	23 11 19.5	-2.1
BHS	**Barnard House**	**2.96**	**28**	*e*P	Pn	23 10 47.7	+0.8
BHS				*e*S	Sn	23 11 19.3	-2.2
CUPV	**Cœpira**	**3.23**	**259**	*e*P	Pn	23 10 50.8	+0.2
CUPV				*e*S	Sn	23 11 25.8	-2.5
CUPV	**Cœpira**	**3.23**	**259**	*e*P	Pn	23 10 51.9	+1.2
CUPV				*e*S	Sn	23 11 25.8	-2.5
MCLT	**Moule a Chique**	**3.40**	**28**	*e*P	Pn	23 10 53.0	0.0
MCLT				*e*S	Sn	23 11 29.7	-2.7
SLB	**Belfond**	**3.46**	**25**	*e*P	Pn	23 10 54.7	+0.9
SLB				*e*S	Sn	23 11 32.2	-1.6
BIRV	**Birongo**	**3.65**	**267**	*e*P	Pn	23 10 56.4	+0.2
BIRV				*e*S	Sn	23 11 35.7	-2.6
BIRV	**Birongo**	**3.65**	**267**	*e*P	Pn	23 10 57.2	+1.0
BIRV				*e*S	Sn	23 11 35.7	-2.6
SLW	**Petit Monier**	**3.68**	**25**	*e*P	Pn	23 10 57.7	+1.0
SLW				*e*S	Sn	23 11 37.5	-1.6
ORCV	**Isla La Orchil**	**3.73**	**288**	*e*P	Pn	23 10 58.1	+0.8
ORCV				*e*S	Sn	23 11 38.4	-1.9
MERV	**Las Mercedes**	**3.94**	**249**	*e*P	Pn	23 11 00.0	-0.2
MERV				*e*S	Sn	23 11 42.2	-3.2
MERV	**Las Mercedes**	**3.94**	**249**	*e*P	Pn	23 11 00.2	0.0
MERV				*e*S	Sn	23 11 42.2	-3.2
LUEV	**Luepa**	**4.93**	**167**	*e*P	Pn	23 11 11.8	-2.0
TURV	**Turiamo**	**5.19**	**268**	*e*P	Pn	23 11 16.9	-0.3
TURV				*e*S	Sn	23 12 11.6	-4.2
HMG	**Houelmont**	**5.33**	**9**	*e*P	Pn	23 11 19.6	+0.5
MGG	**Marie-Galante**	**5.34**	**13**	*e*P	Pn	23 11 21.3	+2.0
PHG	**Guadaloupe-2**	**5.38**	**10**	*e*P	Pn	23 11 20.9	+1.1
SCG	**Saint Claude**	**5.38**	**9**	*e*P	Pn	23 11 21.1	+1.3
DOG	**Dongo Capester**	**5.40**	**10**	*e*P	Pn	23 11 20.8	+0.8
ECG	**Echelle**	**5.40**	**9**	*e*P	Pn	23 11 21.2	+1.1
MLG	**Mont-d'or**	**5.41**	**9**	*e*P	Pn	23 11 21.0	+0.8
FNG	**Fond-Bernard**	**5.41**	**9**	*e*P	Pn	23 11 21.2	+0.9
BCG	**Bois Riant Cap**	**5.45**	**10**	*e*P	Pn	23 11 22.5	+1.8
LZG	**Guadaloupe-1**	**5.48**	**8**	*e*P	Pn	23 11 22.0	+0.9
BAUV	**El Baul**	**5.67**	**253**	*e*P	Pn	23 11 23.3	-0.4
SEG	**Port Louis**	**5.78**	**10**	*e*P	Pn	23 11 26.4	+1.2
TEPV	**Terepaima**	**6.56**	**264**	*e*P	Pn	23 11 34.9	-1.0
TEPV				*e*S	Sn	23 12 43.5	-5.7
SKI	**Saint Kitts**	**6.61**	**359**	*e*P	Pn	23 11 38.1	+1.6
SKI				*e*S	Sn	23 12 48.9	-1.6
SANV	**Sanarito**	**6.96**	**261**	*e*P	Pn	23 11 41.1	-0.3
SIQV	**Siquisique**	**7.12**	**270**	*e*P	Pn	23 11 43.1	-0.3
PAYV	**Puerto Ayacuch**	**7.26**	**224**	*e*P	Pn	23 11 44.4	-1.0
CURV	**Curarigua**	**7.31**	**265**	*e*P	Pn	23 11 46.2	+0.2
CDVI	**St. Croix**	**7.34**	**343**	*e*Pn	Pn	23 11 46.2	-0.3
MONV	**Montecano**	**7.37**	**281**	*e*P	Pn	23 11 47.0	+0.2
MTP	**Monte Pirata**	**7.92**	**339**	*e*Pn	Pn	23 11 53.2	-1.1
DABV	**Dabajuro**	**7.93**	**272**	*e*P	Pn	23 11 54.2	-0.3
CPD	**Cerro la Pandu**	**8.00**	**336**	*e*Pn	Pn	23 11 54.9	-0.5
HUMP	**Col San Antoni**	**8.07**	**337**	*e*Pn	Pn	23 11 56.2	-0.1
HUMP				*e*Sn	Sn	23 13 19.2	-6.7
SDV	**Santo Domingo**	**8.15**	**258**	*e*Pn	Pn	23 11 56.8	-0.9
SDV				*e*Sn	Sn	23 13 24.7	-3.5
CBYP	**Canovanas**	**8.19**	**337**	*e*Pn	Pn	23 11 58.3	+0.3
CBYP				*e*Sn	Sn	23 13 22.3	-6.7
OBIP	**Obispado Ponce**	**8.30**	**332**	*e*Pn	Pn	23 11 59.5	0.0
CELP	**Cerrillos**	**8.31**	**333**	*e*Pn	Pn	23 11 59.4	-0.2
CRPR	**Cabo Rojo, PR**	**8.51**	**329**	*e*Pn	Pn	23 12 02.3	0.0
SOCV	**Socops**	**8.52**	**254**	↓*i*P	Pn	23 12 01.0	-1.5
LRS	**Lares**	**8.62**	**332**	*e*Pn	Pn	23 12 03.9	0.0
LSP	**Las Mesas**	**8.64**	**330**	*e*Pn	Pn	23 12 05.2	+1.0
MPR	**Mayaguez**	**8.70**	**330**	*e*Pn	Pn	23 12 03.8	-1.1
VIGV	**El Vigia**	**8.86**	**259**	*e*P	Pn	23 12 06.8	-0.4
AGP	**Aguadilla**	**8.86**	**331**	*e*Pn	Pn	23 12 08.9	+1.8
VIRV	**Villa del Rosa**	**9.68**	**270**	*e*P	Pn	23 12 16.5	-1.8
SDDR	**Presa de Saban**	**11.79**	**315**	*e*Pn	Pn	23 12 46.3	-0.7
ROSC	**El Rosal**	**13.01**	**244**	P	Pn	23 13 05.2	+1.6
ROSC	**El Rosal**	**13.01**	**244**	P	Pn	23 13 05.2	+1.6
	0.9nm,0.3s,baz=84,slow=16,SNR=2.5						
GRTK	**Grand Turk**	**13.55**	**324**	*e*Pn	Pn	23 13 10.2	0.0
OTAV	**Otavalo**	**18.89**	**238**	*e*P	Pn	23 14 17.1	-0.1
	4.4nm,0.6s						
SAML	**Samuel**	**19.51**	**182**	*e*P	P	23 14 21.9	+0.1
	4.6nm,0.9s						
TEIG	**Tepich**	**26.50**	**294**	*e*P	P	23 15 31.6	+0.9
	26nm,1.8s						
TEIG	**Tepich**	**26.50**	**294**	P	P	23 15 31.6	+0.9
	2.3nm,0.4s,baz=69,slow=3.2,SNR=7.3						
SIV	**San Ignacio**	**26.54**	**177**	*e*P	P	23 15 33.0	+1.9
SIV	**San Ignacio**	**26.54**	**177**	P	P	23 15 33.0	+1.9
	2.5nm,0.6s,baz=5.2,slow=7.7,SNR=10						
NNA	**Nana**	**26.62**	**213**	*e*P	P	23 15 33.1	+1.3
NNA	**Nana**	**26.62**	**213**	P	P	23 15 33.1	+1.3
	6.6nm,0.6s,baz=331,slow=8.3,SNR=3.7						
LPAZ	**La Paz**	**27.36**	**192**	*e*P	P	23 15 40.2	+1.1
LPAZ				*e*pP	pP	23 16 01.5	+1.4
LPAZ	**La Paz**	**27.36**	**192**	P	P	23 15 40.2	+1.1
	0.9nm,0.7s,baz=359,slow=9.0,SNR=3.5						
LPAZ				pP	pP	23 16 01.5	+1.4
	2.4nm,0.7s,baz=23,slow=7.7,SNR=4.9						
LRAL	**Lakeview Retre**	**31.61**	**318**	*e*P	P	23 16 15.3	-0.6
PLAL	**Pickwick Lake**	**33.54**	**320**	*e*P	P	23 16 32.7	-0.1
	6.6nm,0.5s						
LVC	**Limon Verde**	**33.67**	**191**	*e*P	P	23 16 35.0	+0.8
	128nm,2.7s						
OXF	**Oxford**	**34.10**	**318**	*e*P	P	23 16 37.3	-0.3
	16nm,1.0s						
WVT	**Waverly**	**34.13**	**322**	*e*P	P	23 16 38.4	+0.5
	80nm,2.5s						
CPUP	**Villa Florida**	**37.14**	**172**	*e*P	P	23 17 04.0	+0.3
CPUP				*e*PcP	PcP	23 19 23.0	+0.8
CPUP	**Villa Florida**	**37.14**	**172**	P	P	23 17 04.0	+0.3
	1.0nm,0.4s,baz=334,slow=5.9,SNR=4.5						
CPUP				PcP	PcP	23 19 23.0	+0.8
	1.3nm,0.6s,baz=282,slow=3.5,SNR=4.2						
WHTX	**Lake Whitney**	**38.54**	**309**	*e*P	P	23 17 15.8	+0.3
WHTX	**Lake Whitney**	**38.54**	**309**	↓P	P	23 17 15.8	+0.3
	baz=38						
DRLN	**Deer Lake**	**38.68**	**5**	*e*P	P	23 17 16.2	-0.2
	398nm,2.3s						
TUL1	**Tulsa**	**39.20**	**315**	↑P	P	23 17 20.9	0.0
	baz=39						
532A	**Rockspringsbaz=40,SNR=6.5**	**39.73**	**305**	↑P	P	23 17 26.2	+0.6
JCT	**Junction City**	**39.78**	**305**	*e*P	P	23 17 26.2	+0.3
	7.1nm,0.6s						
JCT	**Junction City**	**39.78**	**305**	↓P	P	23 17 26.0	+0.1
	baz=40						
432A	**Menard**	**39.92**	**306**	↓P	P	23 17 27.1	+0.1
	baz=40						
631A	**Perdido Creek**	**40.03**	**303**	↑P	P	23 17 28.0	0.0
	baz=40						
332A	**Millersview**	**40.07**	**307**	↑P	P	23 17 28.4	+0.1
	baz=40,SNR=5.7						
JFWS	**Jewell Farm**	**40.15**	**328**	*e*P	P	23 17 29.5	+0.8
	7.6nm,0.8s						
531A	**Rockspringsbaz=40**	**40.27**	**304**	↑P	P	23 17 30.2	+0.2
ABTX	**Abilene, Hawle**	**40.49**	**308**	*e*P	P	23 17 31.0	-0.7
ABTX	**Abilene, Hawle**	**40.49**	**308**	↑P	P	23 17 31.7	0.0
	baz=40,SNR=5.1						
431A	**Sonora**	**40.50**	**305**	↓P	P	23 17 32.1	+0.2
	baz=40,SNR=5.5						
Z32A	**Haskell**	**40.64**	**309**	↓P	P	23 17 33.1	+0.1
	baz=41						
231A	**Bronte**	**40.74**	**307**	↓P	P	23 17 33.9	+0.1
	baz=41						
WMOK	**Wichita Mounta**	**40.75**	**312**	*e*P	P	23 17 33.1	-0.8
	30nm,2.1s						
530A	**J-C Ranch, Com**	**40.91**	**304**	↓P	P	23 17 35.5	+0.3
	baz=41						
Y32A	**R-V Farms, Ver**	**40.91**	**310**	↓P	P	23 17 35.1	0.0
	baz=41						
430A	**Baggett Ranch,**	**41.04**	**305**	↑P	P	23 17 36.5	+0.1
	baz=41						
131A	**Roby**	**41.08**	**308**	↑P	P	23 17 36.9	+0.3
	baz=41						
Z31A	**Sharp Cattle R**	**41.16**	**309**	↓P	P	23 17 37.5	+0.3
	baz=41,SNR=5.8						
330A	**Mertzon**	**41.22**	**306**	↑P	P	23 17 37.7	0.0
	baz=41						
230A	**Sterling City**	**41.34**	**307**	↓P	P	23 17 39.1	+0.3
	baz=41						
130A	**Snyder**	**41.50**	**308**	↓P	P	23 17 40.6	+0.6
	baz=42						
Y31A	**Rekieta Farm,**	**41.51**	**310**	↓P	P	23 17 39.6	-0.5
	baz=42						
429A	**Davenport Ranc**	**41.52**	**304**	↓P	P	23 17 40.2	0.0
	baz=42						
X31A	**McDonald Ranch**	**41.59**	**311**	↑P	P	23 17 40.0	-0.7
	baz=42						
529A	**Stev Forest Ra**	**41.62**	**304**	↓P	P	23 17 41.1	0.0
	baz=42						
329A	**Wagon Wheel Ra**	**41.89**	**306**	↑P	P	23 17 43.4	+0.1
	baz=42						
Z30A	**Sanderson Ranc**	**41.90**	**309**	↓P	P	23 17 43.4	+0.1
	baz=42,SNR=6.5						
Y30A	**Stafford Cattl**	**41.96**	**309**	↑P	P	23 17 44.0	+0.2
	baz=42						
628A	**Black Gap, Mar**	**41.97**	**302**	↓P	P	23 17 44.3	+0.4
	baz=42,SNR=5.9						
528A	**Cox Ranch, San**	**42.09**	**303**	↑P	P	23 17 45.7	+0.7
	baz=42,SNR=12						
428A	**Kincaid Ranch,**	**42.19**	**304**	↓P	P	23 17 46.4	+0.7
	baz=42,SNR=9.4						
129A	**Stewart Farms,**	**42.22**	**307**	↓P	P	23 17 46.2	+0.3
	baz=42						
Z29A	**Hungry Hill Ra**	**42.33**	**308**	↑P	P	23 17 47.0	+0.2
	baz=42						
CFAA	**Coronel Fontan**	**42.40**	**187**	*e*P	P	23 17 47.5	+0.3
CFAA				*e*PcP	PcP	23 19 39.9	+1.0
CFAA	**Coronel Fontan**	**42.40**	**187**	P	P	23 17 47.5	+0.3
	0.2nm,0.5s,baz=0.0,slow=3.0,SNR=2.9						
CFAA				PcP	PcP	23 19 39.9	+1.0
	0.2nm,0.6s,baz=329,slow=12,SNR=2.9						
T31A	**Randall Ranch,**	**42.50**	**314**	↑P	P	23 17 48.3	+0.2
	baz=42						
328A	**Wristen Ranch,**	**42.52**	**305**	↑P	P	23 17 48.4	0.0
	baz=42						
Y29A	**Porterfield Fa**	**42.54**	**309**	↑P	P	23 17 48.6	0.0
	baz=42						
LTX	**Lajitas**	**42.57**	**302**	*e*P	P	23 17 49.4	+0.6
LTX				*e*PcP	PcP	23 19 39.8	0.0
TX31	**Lajitas Ar. Si**	**42.57**	**302**	*e*P	P	23 17 48.8	0.0
TX31				*e*PcP	PcP	23 19 39.9	+0.1
TXAR	**Lajitas Array**	**42.57**	**302**	P	P	23 17 49.4	+0.6
TXAR				PcP	PcP	23 19

baz=44
126A Clayton Basin, 43.91 306 ⇑P **P 23 17 59.7 +0.1**
baz=44
X27A F and S Farms, 43.94 309 ⇑P **P 23 18 00.3 +0.4**
baz=44
W27A Bowe Ranch, En 44.07 310 ⇓P **P 23 18 01.1 +0.3**
baz=44
Z26A Caprock 44.10 307 ⇑P **P 23 18 01.1 -0.1**
baz=44
SCHQ Schefferville 44.17 356 *eP* **P 23 18 01.5 +0.4**
125nm,1.9s
SCHQ Schefferville 44.17 356 P **P 23 18 01.6 +0.4**
4.4nm,0.5s,baz=162,slow=7.1,SNR=16
ECSD EROS Data Cent 44.18 324 *eP* **P 23 18 00.5 -0.9**
48nm,2.3s
T28A Walsh 44.24 313 ⇓P **P 23 18 02.2 +0.1**
baz=44
325A Bean Ranch, Si 44.26 304 ⇑P **P 23 18 03.0 +0.5**
baz=44,SNR=5.3
225A Deer Hill, Car 44.38 305 ⇓P **P 23 18 04.1 +0.7**
baz=44,SNR=6.7
125A Gardner Draw, 44.42 306 ⇓P **P 23 18 04.0 +0.3**
baz=44
U27A Thompson Grove 44.45 312 ⇑P **P 23 18 03.9 0.0**
baz=44
Z25A Roswell 44.68 307 ⇓P **P 23 18 06.4 +0.6**
baz=45
MNTX Cornudas Mount 44.69 305 *eP* **P 23 18 05.3 -0.4**
MNTX *ePcP* **PcP 23 19 45.4 -1.4**
Y25A Mesa, Roswell 44.89 308 ⇑P **P 23 18 08.1 +0.7**
baz=45
V26A Tequesquite Ra 44.91 311 ⇓P **P 23 18 08.0 +0.4**
baz=45
224A Cornudas Mount 44.93 305 ⇑P **P 23 18 08.2 +0.4**
baz=45
X25A Clemmons Ranch 45.08 309 ⇓P **P 23 18 09.6 +0.6**
baz=45
U26A Atchley Ranch, 45.11 311 ⇑P **P 23 18 09.5 +0.3**
baz=45
W25A X Bar L Ranch, 45.19 310 ⇓P **P 23 18 10.5 +0.7**
baz=45
Z24A Sheeppen Canyo 45.21 307 ⇓P **P 23 18 11.0 +0.9**
baz=45,SNR=5.4
V25A Rancho No Teng 45.54 310 ⇓P **P 23 18 13.3 +0.7**
baz=46,SNR=5.5
U25A Circle Dot Ran 45.61 311 ⇓P **P 23 18 13.6 +0.4**
baz=46
W24A Lazy 6 Ranch, 45.91 309 ⇓P **P 23 18 16.2 +0.7**
baz=46
Y23A Lovelace Mesa, 45.95 307 ⇑P **P 23 18 16.6 +0.7**
baz=46
SDCO Great Sand Dun 46.94 312 *eP* **P 23 18 23.9 +0.1**
71nm,3.0s
PMOZ Porto Moniz, M 47.10 55 *eP* **P 23 18 26.6 +1.9**
42nm,1.4s
PMOZ Porto Moniz, M 47.10 55 *eLR* LR 23 35 41.3
706nm,18.0s
E30A Jud 47.15 326 ⇓P **P 23 18 25.3 +0.5**
baz=47
D30A Buchanan 47.44 327 ⇑P **P 23 18 27.4 +0.3**
baz=48
C27A Sayler Ranch, 49.30 326 ⇑P **P 23 18 41.9 +0.5**
baz=49
C25A Freed Ranch, W 50.27 325 ⇓P **P 23 18 49.8 +1.0**
baz=50
K20A Yellowstone Ra 50.95 317 ⇑P **P 23 18 54.1 0.0**
baz=51
J20A Shoshoni 51.07 318 ⇓P **P 23 18 54.9 -0.1**
baz=51
DGMT Dagmar 51.22 325 ⇓P **P 23 18 56.9 +1.1**
baz=51
G21A Lodge Grass 51.35 321 ⇑P **P 23 18 56.6 -0.4**
baz=51
K19A Absolon Red Bu 51.35 317 ⇓P **P 23 18 56.6 -0.6**
baz=51
A24A Westby 51.36 326 ⇑P **P 23 18 57.7 +0.8**
baz=51
PLCA Paso Flores 51.69 188 *eP* **P 23 18 59.5 +0.2**
PLCA *ePcP* **PcP 23 20 12.2 +0.5**
PLCA PcP **PcP 23 20 12.9 +1.2**
PLCA Paso Flores 51.69 188 P **P 23 19 00.3 +0.9**
2.9nm,0.7s,baz=20,slow=4.1,SNR=7.6
PLCA PcP **PcP 23 20 12.9 +1.2**
1.6nm,0.5s,baz=3.3,slow=6.8,SNR=3.9
PD31 Pinedale Array 51.81 317 *eP* **P 23 18 59.9 -0.7**
PD31 *epP* **pP 23 19 23.9 +0.5**
PD31 *ePcP* **PcP 23 20 11.3 -1.2**
PDAR Pinedale Array 51.81 317 P **P 23 18 59.9 -0.7**
PDAR pP **pP 23 19 23.9 +0.5**
PDAR PcP **PcP 23 20 11.3 -1.2**
PDAR Pinedale Array 51.81 317 P **P 23 18 59.9 -0.7**
1.1nm,0.5s,baz=113,slow=9.4,SNR=6.9
PDAR pP **pP 23 19 23.9 +0.5**
1.0nm,0.7s,baz=105,slow=10,SNR=3.1
PDAR PcP **PcP 23 20 11.3 -1.2**
0.7nm,0.6s,baz=108,slow=5.8,SNR=2.6
D21A La Casta Ranch 52.10 323 ⇓P **P 23 19 03.1 +0.6**
baz=52
CCCA Chr Cany lake 55.34 306 *eP* **P 23 19 27.0 +0.7**
EVOP Sao Brissos 55.77 51 *eP* **P 23 19 30.8 +1.6**
PVAQ Vaqueiros 55.80 52 *eLR* LR 23 35 40.1
896nm,20.0s
PMTG Montargil 55.83 50 *eP* **P 23 19 31.4 +1.7**
12nm,1.7s
PTOM Tomar 55.84 49 *eP* **P 23 19 30.9 +1.2**
22nm,1.6s
EVO Evora 55.85 51 *eP* **P 23 19 30.8 +1.0**
PCAS Casmilo, Conde 55.89 49 *eP* **P 23 19 32.1 +2.0**
23nm,1.9s
PMRV Marv??o 56.55 50 *eLR* LR 23 35 50.1
614nm,18.0s
PGAV Gavieira, Arco 56.60 47 *eLR* LR 23 35 13.3
420nm,16.0s
MTE Manteigas 56.69 48 *eLR* LR 23 34 51.0
605nm,18.0s
LIC Lamto 57.02 89 *eP* **P 23 19 39.1 +0.6**
3.9nm,0.3s,baz=260
LIC Lamto 57.02 89 *eP* **P 23 19 39.1 +0.6**
3.9nm,0.3s
DBIC Dimbokro 57.12 89 *eP* **P 23 19 39.3 +0.1**
28nm,1.8s
DBIC Dimbokro 57.12 89 P **P 23 19 40.2 +0.9**
1.8nm,0.4s,baz=280,slow=9.9,SNR=9.8
MVO Moncorvo 57.27 48 *eLR* LR 23 34 46.9
510nm,18.0s
MDT Midelt 57.42 58 *eP* **P 23 19 42.2 +1.0**
MDT Midelt 57.42 58 P **P 23 19 42.2 +1.0**
2.8nm,0.8s,baz=265,slow=8.3,SNR=9.3
EDM Edmonton 58.61 327 *eP* **P 23 19 48.6 -0.4**
EDM *ePcP* PcP 23 20 32.0 -6.2
ESDC Sonseca Array 59.18 50 *eP* **P 23 19 54.6 +1.3**
ESDC *epP* **pP 23 20 17.3 +0.7**
ESDC *ePcP* **PcP 23 20 42.0 +1.1**
ESDC Sonseca Array 59.18 50 P **P 23 19 54.6 +1.3**
1.5nm,0.8s,baz=263,slow=6.7,SNR=14
ESDC pP **pP 23 20 17.3 +0.7**
0.8nm,0.7s,baz=262,slow=7.8,SNR=4.1
ESDC PcP **PcP 23 20 42.0 +1.1**
0.8nm,0.6s,baz=277,slow=3.6,SNR=8.4
ES19 SONSECA Array 59.24 50 *eP* **P 23 19 54.0 +0.3**
ES19 *ePcP* **PcP 23 20 40.9 -0.2**
QUIF Quistinic 61.78 41 *eP* **P 23 20 11.8 +1.1**
QUIF Quistinic 61.78 41 *eP* **P 23 20 11.8 +1.1**
ROSF Rostrenen 61.83 41 ⇑*iP* **P 23 20 12.2 +1.1**
6.2nm,0.5s
ROSF Rostrenen 61.83 41 ⇑*iP* **P 23 20 12.2 +1.1**
6.2nm,0.5s
SJPF Ste Jean 61.93 47 *eP* **P 23 20 12.9 +1.1**
SJPF Ste Jean 61.93 47 *eP* **P 23 20 12.9 +1.1**
ETSF Etsaut 62.36 47 *eP* **P 23 20 15.9 +1.1**
ETSF Etsaut 62.36 47 *eP* **P 23 20 15.9 +1.1**
BLN Blyn Mountain 62.46 319 *eP* **P 23 20 14.5 -0.8**
TOA0 Torodi Ar. Sit 62.78 81 *eP* **P 23 20 17.8 -0.2**
TORD Torodi Ar. Bea 62.78 81 P **P 23 20 18.6 +0.7**
TORD Torodi Ar. Bea 62.78 81 P **P 23 20 18.6 +0.7**
3.6nm,0.5s,baz=292,slow=6.8,SNR=23
EPF Esparros 63.03 47 ⇑*iP* **P 23 20 21.0 +1.7**
7.7nm,0.6s
EPF Esparros 63.03 47 ⇑*iP* **P 23 20 21.0 +1.7**
7.7nm,0.6s
GRR Gorron 63.40 41 ⇑*iP* **P 23 20 22.5 +1.0**
7.4nm,0.6s
GRR Gorron 63.40 41 ⇑*iP* **P 23 20 22.5 +1.0**
7.4nm,0.6s
MFF Saint Martin d 63.44 43 *eP* **P 23 20 22.4 +0.6**
MFF Saint Martin d 63.44 43 *eP* **P 23 20 22.4 +0.6**
SUMG Summit 63.52 8 *iP* **P 23 20 22.5 +0.2**
6.2nm,0.8s
SUMG Summit 63.52 8 *eP* **P 23 20 22.3 0.0**
9.9nm,0.9s
YKA Yellowknife Ar 63.65 336 P **P 23 20 21.3 -1.5**
YKA Yellowknife Ar 63.65 336 P **P 23 20 21.3 -1.5**
1.4nm,0.4s,baz=110,slow=7.2,SNR=9.9
LFF La Frestale 63.69 45 *eP* **P 23 20 24.9 +1.4**
LFF La Frestale 63.69 45 *eP* **P 23 20 24.9 +1.4**
FLN La Foliniere 63.73 41 ⇑*iP* **P 23 20 24.7 +1.0**
17nm,0.6s
FLN La Foliniere 63.73 41 ⇑*iP* **P 23 20 24.7 +1.0**
17nm,0.6s
LDF La Druitiere 63.92 41 ⇑*iP* **P 23 20 25.7 +0.8**
11nm,0.8s
LDF La Druitiere 63.92 41 ⇑*iP* **P 23 20 25.7 +0.8**
11nm,0.8s
EKA Eskdalemuir Ar 64.09 33 *eP* **P 23 20 26.4 +0.5**
EKA Eskdalemuir Ar 64.09 33 P **P 23 20 26.4 +0.5**
0.5nm,0.4s,baz=268,slow=4.9,SNR=10
MTLF Montolieu 64.44 47 ⇑*iP* **P 23 20 29.4 +1.0**
4.3nm,0.7s
MTLF Montolieu 64.44 47 ⇑*iP* **P 23 20 29.4 +1.0**
4.3nm,0.7s
CAF Calviac 64.61 45 ⇑*iP* **P 23 20 30.4 +0.9**
4.8nm,0.6s
CAF Calviac 64.61 45 ⇑*iP* **P 23 20 30.4 +0.9**
4.8nm,0.6s
TCF Toulx Ste Croi 64.97 44 ⇑*iP* **P 23 20 32.5 +0.7**
3.3nm,0.5s
TCF Toulx Ste Croi 64.97 44 ⇑*iP* **P 23 20 32.5 +0.7**
3.3nm,0.5s
BGF Bois d'Agland 65.45 44 *eP* **P 23 20 35.6 +0.7**
BGF Bois d'Agland 65.45 44 *eP* **P 23 20 35.6 +0.7**
AVF Avril sur Loir 65.83 43 ⇑*iP* **P 23 20 37.9 +0.5**
3.9nm,0.6s
AVF Avril sur Loir 65.83 43 ⇑*iP* **P 23 20 37.9 +0.5**
3.9nm,0.6s
SSF Saint Saulge 65.99 43 *eP* **P 23 20 39.0 +0.6**
SSF Saint Saulge 65.99 43 *eP* **P 23 20 39.0 +0.6**
SMF Signal de Mont 66.14 44 *eP* **P 23 20 40.2 +0.8**
1.7nm,0.4s
SMF Signal de Mont 66.14 44 *eP* **P 23 20 40.2 +0.8**
1.7nm,0.4s
LOR Lormes 66.26 43 ⇑*iP* **P 23 20 40.5 +0.4**
2.2nm,0.5s
LOR Lormes 66.26 43 ⇑*iP* **P 23 20 40.5 +0.4**
2.2nm,0.4s
BAIF Baives 67.01 40 *eP* **P 23 20 45.1 +0.3**
BAIF Baives 67.01 40 *eP* **P 23 20 45.1 +0.3**
MEZF Maizieres J'vi 67.27 42 ⇑*iP* **P 23 20 47.2 +0.8**
14nm,0.7s
MEZF Maizieres J'vi 67.27 42 ⇑*iP* **P 23 20 47.2 +0.8**
14nm,0.7s
GIVF Givet 67.40 40 *eP* **P 23 20 47.8 +0.5**
GIVF Givet 67.40 40 *eP* **P 23 20 47.8 +0.5**
CABF La Chapelle 67.66 44 *eP* **P 23 20 49.1 0.0**
CABF La Chapelle 67.66 44 *eP* **P 23 20 49.1 0.0**
PAGF Fort de Pagny 67.72 42 ⇑*iP* **P 23 20 49.9 +0.6**
PAGF Fort de Pagny 67.72 42 ⇑*iP* **P 23 20 49.9 +0.6**
HINF Hinteralfeld 68.35 43 ⇑*iP* **P 23 20 53.4 0.0**
6.4nm,0.7s
HINF Hinteralfeld 68.35 43 ⇑*iP* **P 23 20 53.4 0.0**
6.4nm,0.7s
CDF Champ du Feu 68.72 42 ⇑*iP* **P 23 20 56.0 +0.3**
CDF Champ du Feu 68.72 42 ⇑*iP* **P 23 20 56.0 +0.3**
KEST Kesra 69.18 56 P **P 23 21 00.1 +1.3**
KEST Kesra 69.18 56 P **P 23 21 00.1 +1.3**
2.7nm,1.2s,baz=266,slow=12,SNR=4.1
DLBC Dease Lake 69.22 329 *eP* **P 23 20 58.5 -0.1**
DLBC Dease Lake 69.22 329 P **P 23 20 58.9 +0.4**
4.4nm,0.8s,baz=107,slow=4.8,SNR=7.3
DAVOX Davos/Dischmat 70.27 44 *eP* **P 23 21 06.6 +1.2**
DAVOX Davos/Dischmat 70.27 44 P **P 23 21 06.6 +1.2**
2.9nm,0.8s,baz=192,slow=3.7,SNR=4.2
CLL Collm 72.72 40 *iP* **P 23 21 19.7 0.0**
comp=Z,6.0nm,1.2s
NB2 NORSAR Subarra 72.87 29 P **P 23 21 21.7 +1.1**
comp=Z,1.9nm,0.9s,baz=260,slow=6.2
NB200 NORSAR Array S 72.87 29 *eP* **P 23 21 21.7 +1.1**
NB200 *epP* **pP 23 21 45.0 +0.3**
NOA NORSAR Array B 72.87 29 P **P 23 21 21.7 +1.1**
NOA pP **pP 23 21 45.0 +0.3**
NOA NORSAR Array B 72.87 29 P **P 23 21 21.7 +1.1**
comp=Z,2.7nm,0.8s,baz=261,slow=5.9,SNR=6.7
NOA pP **pP 23 21 45.0 +0.3**
comp=Z,1.7nm,0.8s,baz=262,slow=6.2,SNR=4.0
GEC2 GERESS Array S 73.00 42 *eP* **P 23 21 21.8 +0.2**
GERES GERESS Array B 73.00 42 P **P 23 21 22.1 +0.5**
GERES GERESS Array B 73.00 42 P **P 23 21 22.1 +0.5**
comp=Z,2.0nm,0.7s,baz=260,slow=5.2,SNR=28
LJU Ljubljana 73.44 45 *iP* **P 23 21 25.1 +1.0**
HFS Hagfors 73.96 30 P **P 23 21 27.6 +0.7**
HFS pP **pP 23 21 50.7 -0.3**
HFS Hagfors 73.96 30 P **P 23 21 27.6 +0.7**
comp=Z,4.3nm,0.6s,baz=240,slow=2.9,SNR=25
HFS pP **pP 23 21 50.7 -0.3**
comp=Z,2.6nm,0.6s,baz=235,slow=5.2,SNR=3.7
EGAK Eagle 75.54 334 *eP* **P 23 21 35.1 -0.8**
comp=Z,5.0nm,0.7s
PKSM Moragy 76.30 45 ⇑*iP* **P 23 21 42.0 +1.4**
SPA0 Spitsbergen Ar 77.34 12 *eP* **P 23 21 46.0 +0.1**
SPITS Spitsbergen Ar 77.34 12 P **P 23 21 46.0 +0.1**
SPITS Spitsbergen Ar 77.34 12 P **P 23 21 46.0 +0.1**
comp=Z,6.7nm,0.8s,baz=219,slow=0.9,SNR=6.9
IL1 Eielson Array 77.99 334 *eP* **P 23 21 48.0 -1.7**
ILAR Eielson Array 77.99 334 P **P 23 21 48.6 -1.1**
ILAR Eielson Array 77.99 334 P **P 23 21 48.6 -1.1**
comp=Z,1.8nm,0.6s,baz=95,slow=4.7,SNR=16
ILB Eielson Array 77.99 334 *eP* **P 23 21 48.6 -1.1**
SIRR Siria 78.39 45 ⇓*iP* **P 23 21 54.1 +1.8**
BZS Buzias 78.40 45 ⇑*iP* **P 23 21 53.8 +1.5**
KWP Kalwaria Pacla 78.90 41 ⇑*iP* **P 23 21 57.2 +2.2**
DRGR 79.08 44 ⇑*iP* **P 23 21 57.3 +1.1**
ARA0 ARCESS Array S 79.39 21 *eP* **P 23 21 57.5 +0.1**
ARCES ARCESS Array B 79.39 21 P **P 23 21 57.5 +0.1**
ARCES ARCESS Array B 79.39 21 P **P 23 21 57.5 +0.1**
comp=Z,1.5nm,0.6s,baz=278,slow=6.9,SNR=8.7
VTS Vitosha 79.77 48 ⇑*iP* **P 23 22 02.0 +1.9**
LOT Lotru 79.92 46 ⇓*iP* **P 23 22 01.7 +0.9**
FIA0 FINESS Array S 80.06 29 *eP* **P 23 22 01.5 +0.5**
FINES FINESS Array B 80.06 29 P **P 23 22 01.5 +0.5**
FINES FINESS Array B 80.06 29 P **P 23 22 01.5 +0.5**
comp=Z,1.9nm,0.3s,baz=272,slow=4.0,SNR=50
KAF Kangasniemi 80.12 29 *ep* **P 23 22 02.0 +0.7**
comp=Z,0.8nm,0.3s
ARR Arges 80.53 46 ⇓*iP* **P 23 22 05.4 +1.4**
BUR04 Bucovina Ar. S 80.71 43 *eP* **P 23 22 06.1 +1.1**
BURAR Bucovina Array 80.72 43 ⇑*iP* **P 23 22 07.0 +2.0**
RSO Redoubt South 80.89 330 *eP* **P 23 22 04.7 -1.1**
KDAK Kodiak Island 81.06 327 *eP* **P 23 22 05.1 -1.4**
comp=Z,28nm,1.4s
KDAK Kodiak Island 81.06 327 P **P 23 22 06.2 -0.2**
comp=Z,6.9nm,0.7s,baz=2.2,slow=2.9,SNR=6.8
MLR Muntele Rosu 81.44 45 *eP* **P 23 22 10.2 +1.3**
MLR Muntele Rosu 81.44 45 ⇑*iP* **P 23 22 10.5 +1.6**
MLR Muntele Rosu 81.44 45 P **P 23 22 10.2 +1.3**
comp=Z,1.3nm,0.8s,baz=212,slow=4.8,SNR=7.9
SVW2 Sparrevohn 82.19 331 *eP* **P 23 22 12.0 -0.4**
comp=Z,8.0nm,0.5s
JOF Joensuu 82.34 27 *ep* **P 23 22 14.6 +1.5**
comp=Z,0.7nm,0.4s
AKASG Malin Array Be 82.96 40 P **P 23 22 16.9 +0.4**
AKASG Malin Array Be 82.96 40 P **P 23 22 16.9 +0.4**
comp=Z,1.4nm,0.5s,baz=283,slow=3.9,SNR=11
AKBB Malin Array Si 82.96 40 *eP* **P 23 22 16.9 +0.4**
BR231 Keskin MP Arra 87.30 50 *eP* **P 23 22 38.6 -0.1**
BR101 Keskin Array S 87.98 50 *eP* **P 23 22 42.8 +0.9**
BR101 *epP* **pP 23 23 06.8 +0.1**
BRTR Keskin Array B 87.98 50 P **P 23 22 42.8 +0.9**
BRTR pP **pP 23 23 06.8 +0.1**
BRTR Keskin Array B 87.98 50 P **P 23 22 42.8 +0.9**
comp=Z,1.9nm,0.7s,baz=257,slow=4.7,SNR=13
BRTR pP **pP 23 23 06.9 +0.1**
comp=Z,1.5nm,0.8s,baz=290,slow=4.9,SNR=4.4
MALT Malatya 91.93 51 ⇑*iP* **P 23 23 02.1 +1.7**
BOSA Boshof 93.15 118 *eP* **P 23 23 07.5 +1.3**
BOSA Boshof 93.15 118 P **P 23 23 07.5 +1.3**
comp=Z,3.1nm,0.8s,baz=7.8,slow=21,SNR=3.8
KSH Kashi 116.94 35 PKP **PKPdf 23 28 33.5 -2.8**
KSH sPKP 23 29 10.8
KSH PKS **PKSdf 23 32 09.0 -4.1**
KSH SKS **SKSdf 23 35 34.4 -5.9**
KSH AMB AMB
comp=Z,89nm,4.6s
KSH LR LR
comp=N,120nm,5.7s
KSH LR LR
comp=E,130nm,5.8s
KSH LR LR
comp=Z,230nm,7.4s
WMQ Urumqi 119.39 24 PKP **PKPdf 23 28 39.3 -1.5**
WMQ LR LR
comp=N,300nm,18.6s
WMQ LR LR
comp=E,170nm,20.0s
WMQ LR LR
comp=Z,210nm,22.3s
GTA Gaotai 127.54 17 *e*PKP **PKPdf 23 28 56.8 +0.2**
GTA sPKP 23 29 33.9
HHC Hu-ho-hao-te 128.44 6 *e*PKP **PKPdf 23 28 56.3 -2.0**
HHC sPKP 23 29 31.9
HHC PP **PP 23 31 05.8 +3.1**
HHC SKS **SKSdf 23 35 56.0 -5.8**
HHC SKKS **SKKSac 23 37 46.6 -6.1**
HHC AMB AMB
comp=Z,200nm,10.7s
HHC LR LR
comp=N,270nm,19.0s
HHC LR LR
comp=E,330nm,19.0s
HHC LR LR
comp=Z,270nm,20.2s
LZH Lanzhou 131.75 15 *e*PKP **PKPdf 23 29 01.4 -3.4**
LZH sPKP 23 29 34.0
LZH PKS PKSdf 23 32 35.3 -6.1
LZH LR LR
comp=N,310nm,17.4s
LZH LR LR
comp=E,210nm,15.0s
LZH LR LR
comp=Z,420nm,17.8s
CD2 Chengdu 136.61 17 PKP **PKPdf 23 29 13.5 -0.4**
HNR Honiara 138.15 268 *e*PKPdf **PKPdf 23 29 16.4 -0.7**
HNR Honiara 138.15 268 PKP **PKPdf 23 29 16.3 -0.7**
comp=Z,41nm,0.5s,baz=18,slow=20,SNR=4.7
GYA Guiyang 141.63 16 PKP **PKPdf 23 29 21.8 -1.4**
GYA sPKP 23 29 53.0
GYA PP **PP 23 32 29.4 +3.3**
GYA AMB AMB
comp=Z,110nm,7.9s
CM31 Chiang Mai Arr 145.78 32 *e*PKPdf **PKPdf 23 29 30.8 +0.3**
CMAR Chiang Mai Arr 145.78 32 PKPbc **PKPdf 23 29 30.8 +0.3**
CMAR Chiang Mai Arr 145.78 32 PKPbc **PKPdf 23 29 30.8 +0.3**
comp=Z,1.5nm,0.6s,baz=314,slow=5.4,SNR=10
STKA Stephens Creek 149.29 223 *e*PKPdf **PKPdf 23 29 36.3 +0.3**
STKA Stephens Creek 149.29 223 PKP **PKPdf 23 29 36.3 +0.3**
comp=Z,2.8nm,0.7s,baz=120,slow=8.1,SNR=3.1
STKA PKPbc **PKPbc 23 29 40.1 -0.2**
comp=Z,2.8nm,0.7s,baz=162,slow=3.2,SNR=4.0
AS12 Alice Springs 159.68 228 *e*PKPdf **PKPdf 23 29 50.0 -0.6**
AS12 *e*PKPab **PKPab 23 30 27.4 -2.1**
ASAR Alice Springs 159.68 228 PKP **PKPdf 23 29 50.0 -0.6**
ASAR PKPab **PKPab 23 30 27.4 -2.1**
ASAR Alice Springs 159.68 228 PKP **PKPdf 23 29 50.0 -0.6**
comp=Z,0.4nm,0.9s,baz=127,slow=1.4,SNR=5.0
ASAR PKPab **PKPab 23 30 27.4 -2.1**
comp=Z,0.4nm,0.8s,baz=116,slow=3.6,SNR=4.1
WRA Warramunga Arr 161.29 239 *e*PKPdf **PKPdf 23 29 51.5 -0.9**
WRA *e*PKPab **PKPab 23 30 35.2 -1.5**
WRA Warramunga Arr 161.29 239 PKP **PKPdf 23 29 51.5 -0.9**
comp=Z,0.2nm,0.3s,baz=155,slow=0.3,SNR=9.4
WRA PKPab **PKPab 23 30 35.2 -1.5**
comp=Z,0.9nm,0.9s,baz=113,slow=4.5,SNR=5.6

IDC 19 23:22:10.9±0.9, 13°92N×120°90E, h119km±5km, mb3.3/6, mb1 3.4/6, mb1mx3.2/26, mbtmp3.3/6, 2C, Error ellipse: s-maj=33.1km s-min=15.9km az=44.0, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.19**	**13**	⇑*iP*	Pn	23 22 29.3	+1.8
TGY	**Tagaytay City**	**0.19**	**13**	P	Pn	23 22 29.0	+1.5
	80nm,0.3s,baz=204,slow=6.3,SNR=8.2						
TGY				S	Sn	23 22 41.2	+1.3
	501nm,0.3s,baz=198,slow=19,SNR=49						
PGP	**Puerto Galera**	**0.42**	**172**	⇑*iP*	Pn	23 22 27.9	-0.4
WRA	**Warramunga Arr**	**36.16**	**158**	P	P	23 29 01.5	-0.5
	0.3nm,0.8s,baz=337,slow=9.1,SNR=10						
MKAR	**Makanchi Array**	**45.97**	**323**	P	P	23 30 23.2	+1.1
	0.4nm,0.5s,baz=120,slow=8.7,SNR=4.1						
ZALV	**Zalesovo Beam**	**48.95**	**333**	P	P	23 30 44.3	-0.7
	0.5nm,0.3s,baz=127,slow=7.2,SNR=4.0						
KURBB	**Kurchatov Arra**	**50.11**	**326**	P	P	23 30 53.1	-0.8
	0.6nm,0.4s,baz=110,slow=7.5,SNR=9.0						
BVAR	**Borovoye Array**	**55.70**	**326**	P	P	23 31 35.3	+0.4
	0.2nm,0.5s,baz=117,slow=8.3,SNR=3.3						
ARCES	**ARCESS Array B**	**78.95**	**339**	P	P	23 34 00.7	-0.4
	3.1nm,1.1s,baz=73,slow=8.1,SNR=3.6						

DJA 19 23:43:25.4±1.6, 9°S±33°×11°8E±°, h30km, M3.8/3, MLv3.8/3, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTNI	**Mataram**	**1.50**	**295**	P	Pb	23 43 51.7	-1.0
DNP	**Denpasar**	**2.38**	**284**	P	Pb	23 44 11.1	+3.4
IGBI	**Denpasar**	**2.42**	**281**	P	Pn	23 44 03.2	+0.3
IGBI				S	Sn	23 44 32.0	+0.5
LBFI	**Labuhan Bajo,**	**2.44**	**71**	P	Pn	23 44 03.7	+0.4
LBFI				S	Sn	23 44 33.5	+1.4

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*IDC **20** 00:11:36.8±1.4, 12°95N×123°64E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.5/24, mbtmp3.7/5, ML4.5/1, Error ellipse: s-maj=47.0km s-min=16.2km az=45.0*
*ISCJB **20** 00:11:37.3±0.8, 12°84N±0°05×123°58E±0°07, h13km, mb3.6/4, Error ellipse: s-maj=10.1km s-min=7.0km az=176.1*

ISC 20 00:11:38.2±1.0, 12°85N±0°06×123°56E±0°09, h13km, n9, σ1°06/11, mb3.7/4, 2C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVCP	**Virac**	**0.94**	**38**	⇑*iP*	**Pg**	**00 11 55.8**	**-0.6**
RCP	**Roxas**	**1.51**	**212**	⇓*eP*	**Pn**	**00 12 03.7**	**-1.3**
RCP				*eS*	**Sn**	**00 12 23.9**	**-0.5**
GQP	**Guinayangan**	**1.51**	**314**	⇑*eP*	**Pn**	**00 12 03.5**	**-1.6**
GQP				*eS*	**Sb**	**00 12 24.6**	**-0.7**
LQP	**Lukban**	**2.34**	**303**	*eP*	**Pn**	**00 12 17.1**	**+0.5**
TGY	**Tagaytay City**	**2.84**	**296**	Pn	**Pn**	**00 12 24.2**	**+0.8**
	70nm,0.3s,baz=160,slow=15,SNR=6.6						
TGY				Lg	Lg	00 13 07.8	
	22nm,0.3s,baz=180,slow=19,SNR=1.9						
WRA	**Warramunga Arr**	**34.26**	**162**	P	**P**	**00 18 25.7**	**+1.5**
	0.4nm,0.5s,baz=344,slow=9.4,SNR=5.3						
ASAR	**Alice Springs**	**37.67**	**164**	P	**P**	**00 18 54.2**	**+0.8**
	0.4nm,0.5s,baz=340,slow=6.4,SNR=4.8						
MKAR	**Makanchi Array**	**48.38**	**323**	P	**P**	**00 20 20.2**	**+0.3**
	1.0nm,0.8s,baz=127,slow=8.3,SNR=5.6						
KURBB	**Kurchatov Arra**	**52.46**	**325**	P	**P**	**00 20 51.0**	**+0.3**
	1.0nm,0.9s,baz=120,slow=7.6,SNR=7.7						

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*ISCJB **20** 00:17:34.9±0.3, 33°48N±0°04×67°90E±0°04, h10km, mb4.0/21, MS3.4/6, Error ellipse: s-maj=5.8km s-min=3.6km az=34.0*
*IDC **20** 00:17:35.8±0.9, 33°56N×67°84E, h0km, mb3.9/14, mb1 4.1/20, mb1mx4.0/30, mbtmp4.0/20, ML4.0/5, MS3.4/10, Ms1 3.5/10, ms1mx3.2/35, Error ellipse: s-maj=20.0km s-min=16.5km az=5.0*
*NEIC **20** 00:17:37.0±0.5, 33°55N×67°90E, h10km, mb4.4/9, Error ellipse: s-maj=9.2km s-min=5.8km az=161.0*
*MOS **20** 00:17:39.0±1.2, 33°60N×67°92E, h33km, mb4.6/8, Error ellipse: s-maj=10.3km s-min=5.6km az=87.4*

ISC 20 00:17:36.9±0.5, 33°57N±0°06×67°94E±0°05, h10km, n129, σ1°08/119, mb4.1/21, MS3.4/6, 1D, Southeastern Afghanistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**1.33**	**43**	*eP*	**Pn**	**00 18 01.5**	**-0.4**
KBL				*e*		00 18 20.1	
KBL	**Kabul**	**1.33**	**43**	*e*Pn	**Pn**	**00 18 01.5**	**-0.4**
KBL				*e*Sn	**Sn**	**00 18 20.1**	**+0.3**
THW	**Thamme Wali**	**3.28**	**103**	⇓P	**Pb**	**00 18 33.4**	**-1.9**
CEP	**Cherat**	**3.32**	**85**	P	**Pb**	**00 18 34.5**	**-1.5**

CEP S Sg 00 19 35.0 +11
CHCP Chirah Chowk 4.45 87 P Pb 00 18 49.4 -5.7
THN Thein Dam 6.63 98 *e*P Pn 00 19 19.0 +4.5
DLH Dalhousie 6.82 96 *e*P Pn 00 19 22.0 +4.8
DLH *e*S **Sn 00 20 39.0 +3.9**
BHK Bhakra 7.48 104 *e*P Pn 00 19 30.5 +4.4
SDNR Sundarnagar 7.90 103 *e*P Pn 00 19 35.8 +3.9
SMLA Simla 8.18 105 *i* P Pn 00 19 39.8 +4.1
SMLA *i* S **Sn 00 21 08.7 +0.5**
SMLA AML AML 00 21 16.3
comp=N,479nm,0.4s
SMLA AML AML 00 21 18.1
comp=E,576nm,0.6s
KHET Khetri 8.70 127 *e*P **Pn 00 19 43.4 +0.4**
KHET *e*S Sn 00 21 12.3 -8.8
KHET AML AML 00 22 43.3
comp=N,46nm,0.7s
KHET AML AML 00 22 49.7
comp=E,61nm,0.2s
KUDL Kundal 9.12 124 *e*P **Pn 00 19 48.1 -0.6**
KUDL *e*S Sn 00 21 22.1 -9.3
SONA Sohna 9.48 122 *e*P **Pn 00 19 52.7 -0.8**
SONA *ex* x 00 21 26.8
AML Almayashu 9.68 26 P **Pn 00 19 58.9 +2.3**
SNR=25
KK31 Karatay Array 9.73 11 P **Pn 00 19 58.0 +1.0**
KK31 pmax pmax
comp=Z,11nm,0.9s
KKAR Karatay Array 9.73 11 *e*P **Pn 00 19 58.2 +1.3**
KKAR pmax pmax
comp=Z,11nm,0.8s
KKAR Karatay Array 9.73 11 *e*Pn **Pn 00 19 58.2 +1.3**
comp=Z,11nm,0.8s
EKS2 Erkin-Say 10.17 25 *e*P **Pn 00 20 05.4 +2.3**
EKS2 *e* 00 21 55.4
EKS2 pmax pmax
comp=Z,7.0nm,0.6s
EKS2 Erkin-Say 10.17 25 P Pn 00 20 07.2 +4.0
SNR=9.1
EKS2 Erkin-Say 10.17 25 *e*Pn **Pn 00 20 05.3 +2.3**
comp=Z,7.0nm,0.6s
EKS2 *e*Sn **Sn 00 21 55.4 -1.8**
AAK Ala-Archa 10.41 28 P Pn 00 20 09.5 +3.0
AAK 00 22 02.6
AAK pmax pmax
comp=Z,2.0nm,0.3s
AAK MLR MLR
comp=Z,265nm,18.2s
AAK Ala-Archa 10.41 28 P Pn 00 20 11.0 +4.5
SNR=21
AAK Ala-Archa 10.41 28 *e*Pn **Pn 00 20 06.6 +0.1**
comp=Z,26nm,0.8s
AAK Sn **Sn 00 22 02.6 -0.7**
AAK Ala-Archa 10.41 28 Pn Pn 00 20 09.5 +3.0
comp=Z,1.9nm,0.3s,baz=205,slow=8.8,SNR=73
AAK Sn **Sn 00 22 02.6 -0.7**
baz=159,slow=17,SNR=2.1
AAK LR LR 00 25 01.3
comp=Z,265nm,18.2s,baz=207,slow=43
KBK Karagaybulak 10.61 29 P Pn 00 20 12.4 +3.2
SNR=9.6
FRU Bishkek 10.63 28 *e*P Pn 00 20 13.0 +3.7
FRU *e*S **Sn 00 22 08.0 -0.4**
FRU pmax pmax
comp=N,140nm,2.0s
AGRA Agra 10.70 124 *e*P **Pn 00 20 11.4 +1.2**
AGRA *e*S Sn 00 21 58.9 -11
AGRA AML AML 00 22 38.5
comp=N,63nm,0.5s
AGRA AML AML 00 22 39.2
comp=E,77nm,0.4s
CHMS Chumysh 10.82 28 P Pn 00 20 15.4 +3.4
SNR=17
USP Ospenovka 10.96 26 P **Pn 00 20 15.8 +2.0**
SNR=20
TKM2 Tokmak 2 11.10 31 P **Pn 00 20 18.4 +2.5**
TKM2 pmax pmax
comp=Z,16nm,0.9s
TKM2 Tokmak 2 11.10 31 P **Pn 00 20 18.6 +2.6**
SNR=21
TKM2 Tokmak 2 11.10 31 *e*Pn **Pn 00 20 16.5 +0.6**
comp=Z,15nm,0.6s
PYUN Piuthan 14.03 109 *e*P **Pn 00 20 56.5 +0.5**
comp=Z,224nm,0.5s
DANN Dangsing 14.54 107 *e*P **Pn 00 21 03.2 +0.2**
comp=Z,45nm,0.8s
KOLN Koldanda 14.66 109 *e*P **Pn 00 21 04.5 -0.1**
comp=Z,20nm,0.6s
DMN Daman 15.93 107 *e*P **Pn 00 21 20.0 -1.4**
comp=Z,59nm,1.0s
KKN Kakani 15.99 107 *e*P **Pn 00 21 21.2 -1.0**
comp=Z,61nm,0.6s
PKIN Phulchoki 16.17 107 *e*P **Pn 00 21 23.4 -1.2**
comp=Z,39nm,0.6s
PKI Pulchoki 16.18 107 *e*P **Pn 00 21 23.6 -1.2**
comp=Z,49nm,0.6s
GUN Gumba 16.42 105 *e*P **Pn 00 21 26.1 -1.7**
comp=Z,81nm,0.9s
AB31 Akbulak array 16.76 342 P **P 00 21 35.2 +1.3**
AB31 pmax pmax
comp=Z,5.0nm,0.7s
ABKAR Akbulak array 16.76 342 *e*Pn **Pn 00 21 31.0 -0.7**
comp=Z,6.5nm,0.8s
JIRN Jiri 16.77 106 *e*P **Pn 00 21 32.1 -0.3**
comp=Z,56nm,0.7s
MK31 Makanchi Array 17.13 35 *e*P **Pn 00 21 36.1 -0.3**
MK31 Makanchi Array 17.13 35 *e*Pn **Pn 00 21 36.1 -0.3**
MKAR Makanchi Array 17.13 35 P **Pn 00 21 36.5 +0.1**
MKAR Makanchi Array 17.13 35 P **Pn 00 21 36.5 +0.1**
MKAR Makanchi Array 17.13 35 P **Pn 00 21 36.5 +0.1**
comp=Z,0.3nm,0.3s,baz=219,slow=9.4,SNR=25
MKAR LR LR 00 28 24.2
comp=Z,95nm,21.8s,baz=112,slow=38
RAMN Ramite 17.41 107 *e*P **Pn 00 21 38.8 -1.4**
comp=Z,20nm,0.5s
ODAN Odare 18.08 107 *e*P **P 00 21 48.2 -0.7**
comp=Z,39nm,0.9s
TAPN Taplejung 18.13 105 *e*P **Pn 00 21 48.4 -0.8**
comp=Z,32nm,0.7s
AKTO Aktyubinsk 18.36 340 P **P 00 21 51.5 -0.1**
AKTO Aktyubinsk 18.36 340 P **P 00 21 51.5 -0.1**
AKTO Aktyubinsk 18.36 340 P **P 00 21 51.5 -0.1**
comp=Z,0.3nm,0.3s,baz=159,slow=12,SNR=22
KURBB Kurchatov Arra 18.73 21 P **P 00 21 55.1 -0.5**
comp=Z,0.2nm,0.3s,baz=204,slow=11,SNR=16
KURK Kurchatov 18.84 21 *e*P **Pn 00 21 57.4 0.0**
KURK pmax pmax
comp=Z,3.0nm,0.8s
KURK Kurchatov 18.84 21 *e*P **Pn 00 21 57.4 0.0**
comp=Z,2.9nm,0.8s
VOSK Vostochnaya 19.27 6 P **P 00 22 01.4 -0.2**
VOSK pmax pmax
comp=Z,16nm,1.4s
BVA0 Borovoye Array 19.52 4 P **Pn 00 22 04.9 -0.7**
BVA0 pmax pmax
comp=Z,24nm,1.6s
BVAR Borovoye Array 19.52 4 P **Pn 00 22 05.4 -0.2**
BVAR Borovoye Array 19.52 4 P **Pn 00 22 05.4 -0.2**
BVAR Borovoye Array 19.52 4 P **Pn 00 22 05.4 -0.2**
comp=Z,0.3nm,0.3s,baz=163,slow=11,SNR=14
BVAR LR LR 00 30 31.2
comp=Z,194nm,19.0s,baz=68,slow=40
BRVK Borovoye 19.55 4 *e*P **Pn 00 22 04.9 -1.0**
BRVK pmax pmax
comp=Z,33nm,1.4s
BRVK Borovoye 19.55 4 *e*P **Pn 00 22 04.8 -1.0**
comp=Z,33nm,1.4s
GNI Garni 19.66 296 *e*P **P 00 22 04.8 -1.3**
comp=Z,18nm,1.1s
GNI Garni 19.66 296 P **Pn 00 22 07.3 -0.2**
comp=Z,0.2nm,0.3s,baz=168,slow=5.8,SNR=8.8
GNI LR LR 00 31 32.1
comp=Z,93nm,19.4s,baz=212,slow=43
LSA Lhasa 20.13 95 *e*P **P 00 22 10.6 -1.0**
LSA pmax pmax
comp=Z,6.0nm,0.4s
LSA Lhasa 20.13 95 *e*P **P 00 22 10.6 -1.0**
comp=Z,6.4nm,0.4s
KBZ Khabaz 21.95 305 P **P 00 22 30.9 +0.2**
KBZ Khabaz 21.95 305 P **P 00 22 30.9 +0.2**
KBZ Khabaz 21.95 305 P **P 00 22 30.9 +0.2**
comp=Z,2.4nm,0.8s,baz=108,slow=11,SNR=5.4
ZAA0 Zalesovo Array 23.62 25 *e*P **P 00 22 47.7 -0.3**
ZALV Zalesovo Beam 23.62 25 P **P 00 22 47.7 -0.3**
ZALV Zalesovo Beam 23.62 25 P **P 00 22 47.7 -0.3**
ZALV Zalesovo Beam 23.62 25 P **P 00 22 47.7 -0.3**
comp=Z,3.5nm,0.7s,baz=224,slow=10,SNR=13
ZALV LR LR 00 33 00.8
comp=Z,147nm,20.2s,baz=249,slow=39
ARU Arti 23.75 347 P **P 00 22 51.2 +2.0**
NVS Novosibirsk 23.82 22 *e*P P 00 22 54.4 +4.5
NVS pmax pmax
comp=Z,11nm,1.4s
NVS pmax pmax
comp=N,8.0nm,1.6s
NVS pmax pmax
comp=E,3.0nm,1.6s
ASF Jabal al Asfar 26.06 276 LR LR 00 35 15.0
comp=E,78nm,18.2s,baz=223,slow=41
MMAI Mount Meron Ar 27.14 278 LR LR 00 34 12.2
comp=E,72nm,20.1s,baz=70,slow=37
BRTR Keskin Array B 28.08 293 P **P 00 23 28.5 -0.4**
BRTR Keskin Array B 28.08 293 P **P 00 23 28.5 -0.4**
comp=E,0.5nm,0.7s,baz=104,slow=8.2,SNR=3.8
EIL Elat 28.29 271 LR LR 00 36 06.7
comp=E,102nm,19.3s,baz=265,slow=39
AKASG Malin Array Be 32.96 313 P **P 00 24 12.3 +0.7**
AKASG Malin Array Be 32.96 313 P **P 00 24 12.3 +0.7**
AKASG Malin Array Be 32.96 313 P **P 00 24 12.3 +0.7**
comp=E,2.3nm,0.6s,baz=99,slow=7.4,SNR=12
JOF Joensuu 37.25 333 *e*P **P 00 24 50.5 +2.1**
JOF pmax pmax
comp=Z,5.0nm,0.8s
JOF Joensuu 37.25 333 *ep* **P 00 24 50.5 +2.1**
comp=Z,5.0nm,0.8s
FINES FINESS Array B 38.60 329 P **P 00 25 00.8 +0.9**
FINES FINESS Array B 38.60 329 P **P 00 25 00.8 +0.9**
comp=Z,1.3nm,0.6s,baz=116,slow=8.7,SNR=8.1
KAF Kangasniemi 38.81 330 *e*P **P 00 25 03.1 +1.4**
KAF pmax pmax
comp=Z,4.0nm,0.7s
KAF Kangasniemi 38.81 330 *ep* **P 00 25 03.1 +1.4**
comp=Z,3.7nm,0.7s
GERES GERESS Array B 42.65 308 P **P 00 25 33.4 -0.2**
GERES GERESS Array B 42.65 308 P **P 00 25 33.4 -0.2**
comp=Z,0.9nm,0.9s,baz=77,slow=6.0,SNR=7.5
GERES LR LR 00 45 57.4
comp=Z,37nm,20.5s,baz=226,slow=40
ARCES ARCESS Array B 42.95 340 P **P 00 25 36.8 +1.1**
ARCES ARCESS Array B 42.95 340 P **P 00 25 36.8 +1.1**
comp=Z,3.0nm,0.7s,baz=119,slow=7.1,SNR=7.9
NB2 NORSAR Subarra 45.27 325 P **P 00 25 54.5 +0.1**
comp=Z,1.1nm,0.7s,baz=102,slow=7.9
NOA NORSAR Array B 45.27 325 P **P 00 25 54.6 +0.2**
NOA NORSAR Array B 45.27 325 P **P 00 25 54.6 +0.2**
comp=Z,2.6nm,0.9s,baz=103,slow=7.9,SNR=5.7
NOA LR LR 00 47 25.7
comp=Z,50nm,18.7s,baz=105,slow=40
CDF Champ du Feu 46.92 307 *e*P **P 00 26 07.2 -0.5**
comp=Z,3.2nm,0.8s
CDF Champ du Feu 46.92 307 *e*P **P 00 26 07.2 -0.5**
CDF pmax pmax
comp=Z,3.0nm,0.8s
CDF Champ du Feu 46.92 307 *e*P **P 00 26 07.2 -0.5**
comp=Z,3.2nm,0.8s
HAU Haudompre 47.58 307 *e*P **P 00 26 12.5 -0.2**
comp=Z,5.5nm,0.8s
HAU Haudompre 47.58 307 *e*P **P 00 26 12.5 -0.2**
HAU pmax pmax
comp=Z,6.0nm,0.8s
HAU Haudompre 47.58 307 *e*P **P 00 26 12.5 -0.2**
comp=Z,5.5nm,0.8s
KEST Kesra 47.62 290 P **P 00 26 12.9 -0.4**
KEST Kesra 47.62 290 P **P 00 26 12.9 -0.4**
comp=Z,1.3nm,0.8s,baz=3.5,slow=22,SNR=4.8
BAIF Baives 48.78 310 *e*P **P 00 26 23.1 +1.2**
comp=Z,7.6nm,0.8s
BAIF Baives 48.78 310 *e*P **P 00 26 23.1 +1.2**
BAIF pmax pmax
comp=Z,8.0nm,0.8s
BAIF Baives 48.78 310 *e*P **P 00 26 23.1 +1.2**
comp=Z,7.6nm,0.8s
SMF Signal de Mont 49.44 305 *e*P **P 00 26 26.9 -0.2**
comp=Z,9.5nm,0.9s
SMF Signal de Mont 49.44 305 *e*P **P 00 26 26.9 -0.2**
SMF pmax pmax
comp=Z,10.0nm,0.9s
SMF Signal de Mont 49.44 305 *e*P **P 00 26 26.9 -0.2**
comp=Z,9.5nm,0.9s
SSF Saint Saulge 49.61 306 *e*P **P 00 26 28.7 +0.4**
SSF Saint Saulge 49.61 306 *e*P **P 00 26 28.7 +0.4**
SSF Saint Saulge 49.61 306 *e*P **P 00 26 28.7 +0.4**
LDF La Druitiere 51.78 308 *e*P **P 00 26 45.0 +0.3**
LDF La Druitiere 51.78 308 *e*P **P 00 26 45.0 +0.3**
LDF La Druitiere 51.78 308 *e*P **P 00 26 45.0 +0.3**
ESDC Sonseca Array 56.62 299 P **P 00 27 19.4 -0.8**
ESDC Sonseca Array 56.62 299 P **P 00 27 19.4 -0.8**
comp=Z,0.3nm,0.5s,baz=74,slow=7.3,SNR=4.3
TORD Torodi Ar. Bea 63.12 268 P **P 00 28 03.5 -1.7**
TORD Torodi Ar. Bea 63.12 268 P **P 00 28 03.5 -1.7**
comp=Z,0.8nm,0.7s,baz=59,slow=5.6,SNR=7.3
IMA2 Indian Mountai 75.64 16 *e*P **P 00 29 22.4 +0.4**
ILAR Eielson Array 78.26 14 P **P 00 29 36.5 0.0**
ILAR Eielson Array 78.26 14 P **P 00 29 36.5 0.0**
comp=Z,1.5nm,1.0s,baz=324,slow=4.5,SNR=7.7
WRA Warramunga Arr 82.66 120 P **P 00 30 02.1 +1.2**
WRA Warramunga Arr 82.66 120 P **P 00 30 02.1 +1.2**
comp=Z,0.9nm,0.6s,baz=320,slow=4.7,SNR=8.8
ASAR Alice Springs 84.72 123 P **P 00 30 13.2 +1.8**
ASAR Alice Springs 84.72 123 P **P 00 30 13.2 +1.8**
comp=Z,1.7nm,0.9s,baz=315,slow=4.6,SNR=16

MEX 20 00:33:35.0±0.4, 15°.55N×97°.52W, h16km±7km, MD3.9,
Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**1.02**	**325**	*e*P	Pb	00 33 50.9	-3.5
PNIG				*i* S	Sb	00 34 03.0	-4.5
HUIG	**Huatulco**	**1.38**	**81**	*e*P	Pn	00 33 55.8	-3.8
HUIG				*i* S	Sn	00 34 12.1	-5.5
VHO	**Vista Hermosa**	**1.69**	**26**	*i* P	Pn	00 34 00.8	-3.3
VHO				*i* S	Sn	00 34 20.0	-5.8
PCIG		**4.15**	**87**	*i* P	Pn	00 34 35.4	-2.3
PCIG				*i* S	Sn	00 35 22.5	-3.4

*IDC **20** 00:36:13.8±1.8, 32°.00N×115°.59W, h0km, mb3.8/2, mb1 4.0/6, mb1mx3.8/26, mbtmp3.7/6, ML3.8/4, MS3.7/13, Ms1 3.6/13, ms1mx3.4/42, Error ellipse: s-maj=28.3km s-min=10.7km az=36.0*
*ISCJB **20** 00:36:16.9±0.2, 32°.38N±0°.02×115°.24W±0°.01, h22km±2km, mb3.7/2, MS3.8/8, Error ellipse: s-maj=3.0km s-min=1.8km az=15.0*
*MEX **20** 00:36:16.8±0.7, 32°.54N×115°.31W, h8km±9km, MD4.3*
*ECX **20** 00:36:18.3±0.9, 32°.37N×115°.29W, h2km±3km, MD4.3, ML4.4*
*NEIC **20** 00:36:18.3, 32°.38N×115°.29W, h3km, mb4.0/2, ML4.2(PAS), ML4.4(ECX), After ECX.*
NEIC Felt at Mexicali. Also felt at San Luis Rio Colorado, Sonora. Felt [III] at Imperial and [II] at Calexico and El Centro, California. Also felt at Brawley, Chula Vista, Heber, Holtville, San Diego, San Ysidro and Santee. Felt [II] at Yuma, Arizona.

ISC 20 00:36:17.8±0.7, 32°.39N±0°.02×115°.29W±0°.02, h13km±4km, n228, σ1§48/244, MS3.9/8, 8C-7D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.03**	**344**	*i* P	**Pg**	**00 36 19.0**	**-1.2**
MBIG	**Mexicali**	**0.08**	**77**	*e*P	**Pg**	**00 36 19.6**	**-1.0**
MBIG				*i* S	**Sg**	**00 36 22.7**	**+0.1**
DELX	**Delta**	**0.10**	**110**	⇓*e*P	**Pg**	**00 36 20.0**	**-0.8**
DELX				*e*S	**Sg**	**00 36 23.6**	**+0.8**
CHIX	**Chihuahua**	**0.11**	**24**	⇓*e*P	**Pg**	**00 36 21.0**	**+0.1**
CHIX				*e*S	**Sb**	**00 36 24.9**	**+0.5**
DREC	**Desert Rsrch C**	**0.43**	**343**	*e*Pg	**Pb**	**00 36 27.2**	**-0.1**
EMSC	**East Mesa**	**0.44**	**37**	*e*Pg	**Pg**	**00 36 26.7**	**+0.2**
ERPC	**Ernies Place**	**0.47**	**319**	*e*Pg	**Pg**	**00 36 27.4**	**+0.3**
COA	**Coachella**	**0.49**	**17**	*e*Pg	**Pg**	**00 36 27.8**	**+0.2**
COA				*e*ScS	ScS	00 51 55.9	+5.8
COA	**Coachella**	**0.49**	**17**	⇑*e*P	**Pg**	**00 36 27.8**	**+0.2**
SLX	**San Luis R`>o**	**0.50**	**82**	*e*P	**Pg**	**00 36 26.9**	**-0.8**
SLX				*e*S	**Sg**	**00 36 34.7**	**+0.3**
COK	**Cook Ranch**	**0.59**	**322**	⇓*e*P	**Pg**	**00 36 29.2**	**-0.1**
YUH	**Yuha Desert**	**0.59**	**296**	*e*Pg	**Pg**	**00 36 29.1**	**-0.3**
YUH	**Yuha Desert**	**0.59**	**296**	⇓*e*P	**Pg**	**00 36 29.1**	**-0.3**
SWSC	**Sam W. Stewart**	**0.69**	**323**	*e*Pg	**Pg**	**00 36 30.5**	**-0.8**
SWSC	**Sam W. Stewart**	**0.69**	**323**	P	**Pg**	**00 36 30.5**	**-0.8**
	baz=0.7						
RMX	**La Rumorosa**	**0.70**	**288**	⇑*e*P	**Pg**	**00 36 31.0**	**-0.4**
RMX				*i* S	**Sg**	**00 36 40.8**	**+0.2**
RMX				⇓*e*		00 36 43.5	
	comp=N,25μm,0.4s						
RMX				⇑*e*		00 36 43.8	
	comp=E,14μm,0.6s						
RDX	**Rancho Dawling**	**0.72**	**230**	⇑*e*P	**Pg**	**00 36 31.2**	**-0.6**
RDX				*i* S	**Sg**	**00 36 41.1**	**-0.1**
DVTC	**Desert V Tower**	**0.73**	**292**	P	**Pg**	**00 36 31.7**	**-0.3**
	baz=0.7						
DVTC				S	**Sg**	**00 36 41.7**	**0.0**
	baz=0.7						
CRR	**Carrizo Plain**	**0.76**	**311**	*e*Pg	**Pg**	**00 36 31.8**	**-0.7**
GLA	**Glamis**	**0.77**	**31**	*e*Pg	**Pg**	**00 36 31.5**	**-1.3**
GLA				*e*Pn	Pn	00 36 37.8	+3.3
GLA				*e*Sg	**Sg**	**00 36 42.0**	**-0.9**
GLA	**Glamis**	**0.77**	**31**	P	**Pg**	**00 36 31.5**	**-1.3**
	baz=0.8						
GLA				S	**Sg**	**00 36 42.3**	**-0.6**
	baz=0.8						
CLIC	**Calipatria**	**0.78**	**345**	*e*Pg	**Pg**	**00 36 32.0**	**-0.8**
ERRC	**Elmore Ranch**	**0.85**	**329**	*e*Pg	**Pg**	**00 36 33.5**	**-0.9**
CBKC	**Canebrake**	**0.95**	**302**	*e*Pg	**Pb**	**00 36 35.1**	**-1.2**
MONP	**Monument Peak**	**1.07**	**298**	P	**Pb**	**00 36 36.9**	**-1.5**
	baz=1.1						
MONP				S	**Sb**	**00 36 52.2**	**-0.3**
	baz=1.1						
BATC	**Bat Cave Butte**	**1.16**	**337**	*e*Pg	**Pb**	**00 36 37.2**	**-2.6**
CBX	**Cerro Bola**	**1.16**	**267**	⇑*e*P	**Pb**	**00 36 39.1**	**-0.7**
CBX				*e*S	**Sb**	**00 36 54.8**	**-0.1**
BAR	**Barrett**	**1.20**	**284**	*e*Pg	**Pn**	**00 36 39.3**	**-1.1**
BAR				*e*Sg	**Sb**	**00 36 54.9**	**-1.0**
ZAX	**El Zacaton**	**1.21**	**224**	⇑*e*P	**Pn**	**00 36 39.4**	**-1.1**
BC3	**Big Chuckawall**	**1.27**	**354**	P	**Pn**	**00 36 39.3**	**-2.1**
	baz=1.3						
BC3				S	**Sb**	**00 36 54.6**	**-3.4**
	baz=1.3						
BORC	**Borrego Spring**	**1.29**	**313**	*e*Pn	**Pn**	**00 36 39.4**	**-2.2**
ECNX	**Esteban Cantu**	**1.33**	**237**	⇑*e*P	**Pn**	**00 36 41.6**	**-0.6**
113A	**Mohawk Valley,**	**1.34**	**73**	P	**Pn**	**00 36 40.0**	**-2.3**
	baz=1.3						
113A				S	**Sb**	**00 36 57.3**	**-2.7**
	baz=1.3						
SPIG	**San Pedro Mart**	**1.35**	**186**	*e*P	**Pn**	**00 36 41.1**	**-1.6**
SPIG				*i* S	**Sb**	**00 36 58.5**	**-2.0**
SPIG	**San Pedro Mart**	**1.35**	**186**	*e*P	**Pn**	**00 36 41.1**	**-1.6**
SPIG				*i* S	**Sb**	**00 36 58.5**	**-2.0**
SPX	**San Pedro Mart**	**1.35**	**186**	⇓*e*P	**Pn**	**00 36 41.1**	**-1.5**
SPX				*e*S	**Sb**	**00 37 00.0**	**-0.4**
CTW	**Cottonwood Mou**	**1.37**	**339**	*e*Pn	**Pg**	**00 36 45.7**	**+1.5**
PBX	**Punta Banda**	**1.38**	**242**	⇑*e*P	**Pn**	**00 36 42.2**	**-0.5**
CTCC	**Cactus City**	**1.39**	**335**	*e*Pn	**Pg**	**00 36 46.1**	**+1.5**
EML	**El Monte Cty P**	**1.40**	**291**	*e*Pn	**Pb**	**00 36 43.5**	**-0.3**
BLYC	**Blythe**	**1.50**	**25**	*e*Pn	**Pb**	**00 36 45.5**	**-0.1**
Y12C	**Blythe**	**1.50**	**25**	P	**Pn**	**00 36 42.3**	**-2.2**
	baz=1.5						
DPP	**Dos Picos Cty**	**1.52**	**294**	*e*Pn	**Pb**	**00 36 45.4**	**-0.4**
FRD	**Ford Ranch**	**1.56**	**315**	*e*Pn	**Pn**	**00 36 43.4**	**-1.9**
PFO	**Pinyon Flat Ob**	**1.56**	**322**	*e*Pn	**Pn**	**00 36 43.2**	**-2.2**
PFO				Sn	**Sn**	**00 37 03.6**	**-2.0**
PFO	**Pinyon Flat Ob**	**1.56**	**322**	Pn	**Pn**	**00 36 43.3**	**-2.2**
	comp=E,50nm,0.3s,baz=154,slow=13,SNR=447						
PFO				Sn	**Sn**	**00 37 03.6**	**-2.0**
	comp=E,147nm,0.3s,baz=164,slow=19,SNR=6.0						
PFO				LR	LR	00 37 13.0	
	comp=E,695nm,18.2s,baz=170,slow=34						
PFO	**Pinyon Flat Ob**	**1.56**	**322**	P	**Pn**	**00 36 43.3**	**-2.2**
	baz=1.6						
SNDA	**J Saunders Pla**	**1.60**	**317**	*e*Pn	**Pn**	**00 36 44.2**	**-1.8**
109C	**Camp Elliot, M**	**1.61**	**289**	P	**Pn**	**00 36 44.9**	**-1.1**
	baz=1.6						
109C				S	**Sn**	**00 37 06.4**	**-0.2**
	baz=1.6						
DNR	**Dunn Ranch,Anz**	**1.62**	**317**	*e*Pn	**Pn**	**00 36 44.6**	**-1.7**
PLM	**Palomar**	**1.63**	**307**	*e*Pn	**Pn**	**00 36 44.9**	**-1.6**
BELC	**Belle Mtn. Jos**	**1.71**	**340**	P	**Pn**	**00 36 45.3**	**-2.2**
	baz=1.7						
IRM	**Iron Mountain**	**1.77**	**4**	P	**Pn**	**00 36 46.4**	**-1.8**
	baz=1.8						
TPC	**Twentynine Pal**	**1.83**	**340**	*e*Pn	**Pn**	**00 36 47.1**	**-1.9**
BACC	**Bachelor Mtn.**	**1.91**	**310**	*e*Pn	**Pn**	**00 36 48.4**	**-1.7**
DGR	**Domenigoni Val**	**1.91**	**312**	*e*Pn	**Pn**	**00 36 48.6**	**-1.6**
MURC	**Murrieta**	**2.01**	**308**	P	**Pn**	**00 36 49.8**	**-1.7**
	baz=2.0						
MURC				Sb	**Sb**	**00 37 19.1**	**0.0**
	baz=2.0						
214A	**Organ Pipe Nat**	**2.15**	**101**	P	**Pn**	**00 36 50.7**	**-2.7**
	baz=2.1						
Z14A	**Wintersburg**	**2.20**	**63**	P	**Pn**	**00 36 52.2**	**-2.0**
	baz=2.2						
GMRC	**Granite Mounta**	**2.40**	**353**	P	**Pn**	**00 36 55.4**	**-1.6**
	baz=2.4						
Y14A	**Wickenburg**	**2.46**	**51**	P	**Pn**	**00 36 56.1**	**-1.6**
	baz=2.5						
BFSC	**Mount Baldy Ra**	**2.71**	**314**	P	**Pn**	**00 36 60.0**	**-1.2**
	baz=2.7						
SSK	**Sunset Peak**	**2.71**	**313**	*e*Pn	**Pn**	**00 37 00.3**	**-0.9**
CIS	**Catalina Islan**	**2.81**	**292**	Pb	**Pb**	**00 37 06.9**	**-0.9**
	baz=2.8						
CIS				Sb	**Sb**	**00 37 43.4**	**+1.3**
	baz=2.8						
FMP	**Fort Macarthur**	**2.84**	**298**	Pb	**Pb**	**00 37 07.9**	**-0.5**
	baz=2.9						
FMP				Sb	**Sb**	**00 37 44.7**	**+1.5**
	baz=2.9						
MWC	**Mount Wilson**	**2.95**	**309**	*e*Pn	**Pn**	**00 37 04.0**	**-0.6**
MWC				*e*Pn	**Pb**	**00 37 09.2**	**-1.2**
PASC	**Pasadena Art C**	**3.00**	**307**	*e*Pn	**Pn**	**00 37 07.8**	**+2.6**
PASC				*e*Pb	**Pb**	**00 37 10.8**	**-0.4**
PASC				*e*Sn	**Sn**	**00 37 40.9**	**-0.1**
TUQ	**Turquoise Moun**	**3.08**	**350**	P	**Pn**	**00 37 04.8**	**-1.6**
	baz=3.1						
DECC	**Green Verdugo**	**3.15**	**307**	Pb	**Pb**	**00 37 13.3**	**-0.4**
	baz=3.2						
GSC	**Goldstone**	**3.17**	**337**	*e*Pn	**Pn**	**00 37 07.3**	**-0.1**
EDW2	**Edwards Air Fo**	**3.35**	**319**	P	**Pn**	**00 37 09.1**	**-0.8**
	baz=3.4						
X16A	**Lo Mia Camp, P**	**3.81**	**57**	P	**Pn**	**00 37 15.9**	**-0.5**
	baz=3.8						
TUC	**Tucson**	**3.82**	**90**	*e*Pn	**Pn**	**00 37 14.4**	**-2.0**
TUC				*e*Sn	**Sn**	**00 37 58.6**	**-2.7**
TUC				*e*Sg	**Sb**	**00 38 15.1**	**+3.8**
ARVC	**Arvin**	**4.02**	**314**	P	**Pn**	**00 37 18.2**	**-0.9**
	baz=4.0						
WORM	**Onyx Ranch**	**4.11**	**324**	*e*Pn	**Pn**	**00 37 19.4**	**-1.0**
WORM				*e*Pb	Pb	00 37 24.5	-5.6
WORM				*e*Sn	**Sb**	**00 38 14.1**	**-5.5**
WORM				*e*Sg	**Sg**	**00 38 30.6**	**+0.8**
WORM				*e*ScS	**ScS**	**00 51 57.2**	**+5.5**
SHPR	**Sheep Range**	**4.11**	**2**	*e*Pn	**Pn**	**00 37 20.0**	**-0.4**
ISA	**Isabella**	**4.20**	**322**	*e*Pn	**Pn**	**00 37 21.1**	**-0.6**
ISA	**Isabella**	**4.20**	**322**	P	**Pn**	**00 37 20.4**	**-1.3**
	baz=4.2						
WUAZ	**Wupatki**	**4.51**	**45**	*e*Pn	**Pn**	**00 37 26.7**	**+0.7**
WUAZ	**Wupatki**	**4.51**	**45**	P	**Pn**	**00 37 26.7**	**+0.7**
	baz=4.5						
PKM	**Peak Mountain**	**4.53**	**305**	P	**Pn**	**00 37 25.8**	**-0.5**
	baz=4.5						
U15A	**North Rim**	**4.73**	**31**	P	**Pn**	**00 37 29.4**	**+0.2**
	baz=4.7						
X18A	**Snowflake**	**4.95**	**63**	P	**Pn**	**00 37 31.2**	**-0.9**
	baz=4.9						
HSIG		**5.03**	**131**	*e*P	**Pn**	**00 37 32.3**	**-0.7**
HSIG				*i* S	**Sn**	**00 38 30.2**	**-0.8**
HSIG		**5.03**	**131**	*e*P	**Pn**	**00 37 32.3**	**-0.7**
HSIG				*i* S	**Sn**	**00 38 30.2**	**-0.8**
319A	**Douglas**	**5.21**	**100**	P	**Pn**	**00 37 34.2**	**-1.4**
	baz=5.2						
PTRM	**Twissleman Ran**	**5.22**	**310**	*e*Pn	**Pn**	**00 37 38.2**	**+2.5**
W18A	**Petrified Fore**	**5.37**	**58**	*e*Pn	**Pn**	**00 37 38.5**	**+0.6**
W18A	**Petrified Fore**	**5.37**	**58**	P	**Pn**	**00 37 38.3**	**+0.5**
	baz=5.4						
CCUT	**Cedar City**	**5.39**	**17**	*e*Pn	**Pn**	**00 37 38.9**

220A	Playas Peak, P	5.76	93	P		Pn	00 37 42.6 -0.6
	baz=5.7						
320A	Kipp Ranch, An	5.85	99	P		Pn	00 37 43.8 -0.7
	baz=5.8						
R11A	Troy Canyon, C	5.95	358	*e*Pn		Pn	00 37 46.9 +1.1
R11A	Troy Canyon, C	5.95	358	P		Pn	00 37 45.4 -0.5
	baz=6.0						
Y20A	Horse Springs,	6.00	73	P		Pn	00 37 46.3 -0.2
	baz=6.0						
X20A	Quemado	6.07	67	P		Pn	00 37 47.8 +0.3
	baz=6.1						
W20A	Ramah	6.28	62	P		Pn	00 37 50.1 -0.3
	baz=6.3						
121A	Cookes Peak, D	6.35	87	P		Pn	00 37 50.2 -1.1
	baz=6.3						
Z21A	St. Cloud Mine	6.48	80	P		Pn	00 37 52.8 -0.3
	baz=6.5						
NV01	Mina Array Sit	6.51	339	*e*Pn		Pn	00 37 55.6 +2.1
NV01				*e*Pn		Pb	00 37 60.0 -11
CGIG		6.57	106	*i* P		Pn	00 37 53.5 -0.8
CGIG				*i* S		Sn	00 39 06.7 -2.7
CGIG		6.57	106	*i* P		Pn	00 37 53.5 -0.8
CGIG				*i* S		Sn	00 39 06.7 -2.7
Y21A	Point of Rocks	6.59	74	P		Pn	00 37 54.8 +0.2
	baz=6.6						
MVU	Marysvale	6.60	22	*e*Pn		Pn	00 37 54.9 +0.2
X21A	Alamocita Cree	6.60	70	P		Pn	00 37 55.5 +0.6
	baz=6.6						
V20A	Brimhall	6.61	57	P		Pn	00 37 55.6 +0.7
	baz=6.6						
U20A	Newcomb	6.87	53	P		Pn	00 37 59.5 +1.1
	baz=6.9						
WAKR	Walker	6.97	332	*e*Pn		Pn	00 37 57.0 -2.9
CMB	Columbia Colle	7.01	325	*e*Pn		Pn	00 38 02.3 +2.1
122A	Conniff Cattle	7.01	85	P		Pn	00 38 00.3 0.0
	baz=7.0						
Z22A	Elephant Butte	7.07	81	P		Pn	00 38 00.5 -0.6
	baz=7.0						
LAZ	Ladron	7.11	71	*e*Pn		Pn	00 38 02.3 +0.5
Y22A	Socorro	7.15	75	P		Pn	00 38 02.0 -0.3
	baz=7.1						
LENM	Lemitar	7.19	73	*e*Pn		Pn	00 38 03.0 +0.2
Y22D	IRIS PASSCAL I	7.21	74	P		Pn	00 38 02.8 -0.3
	baz=7.2						
X22A	Bernardo	7.24	71	P		Pn	00 38 04.4 +0.9
	baz=7.2						
Q16A	Castle Valley	7.33	26	*e*Pn		Pn	00 38 07.8 +3.1
MVCO	Mesa Verde	7.37	47	*e*Pn		Pn	00 38 07.5 +2.1
MVCO	Mesa Verde	7.37	47	P		Pn	00 38 07.0 +1.6
	baz=7.4						
BNM	Barren Site	7.47	74	*e*Pn		Pn	00 38 06.6 -0.1
U21A	Nageezi	7.49	55	P		Pn	00 38 07.9 +1.0
	baz=7.5						
LPM	Los Pinos Moun	7.50	73	*e*Pn		Pn	00 38 06.8 -0.3
TMUT	Trail Mountain	7.65	25	*e*Pn		Pn	00 38 13.8 +4.5
Z23A	Rita Site, Whi	7.68	81	P		Pn	00 38 09.3 -0.2
	baz=7.7						
SRU	San Rafael	7.75	29	*e*Pn		Pn	00 38 15.0 +4.6
WCN	Washoe City	7.79	334	*e*Pn		Pn	00 38 12.1 +1.0
ANMO	Albuquerque	7.79	69	*e*Pn		Pn	00 38 12.2 +1.0
ANMO				Lg		Lg	00 40 24.0
ANMO	Albuquerque	7.79	69	Pn		Pn	00 38 12.4 +1.3
	comp=E,0.2nm,0.3s,baz=248,slow=14,SNR=9.9						
ANMO				Lg		Lg	00 40 24.0
	comp=E,0.2nm,0.3s,baz=0.0,slow=20,SNR=2.7						
ANMO				LR		LR	00 41 06.9
	comp=E,352nm,19.3s,baz=247,slow=36						
Y23A	Lovelace Mesa,	7.90	76	P		Pn	00 38 11.8 -0.7
	baz=7.9						
NLU	North Lily Min	7.99	18	*e*Pn		Pn	00 38 18.3 +4.5
U22A	Llaves	8.03	58	P		Pn	00 38 15.5 +1.1
	baz=8.0						
DUG	Dugway	8.04	14	*e*Pn		Pn	00 38 13.9 -0.6
R20A	Redvale	8.09	42	P		Pn	00 38 16.7 +1.5
	baz=8.1						
S21A	Coal Bank Pass	8.09	47	P		Pn	00 38 16.5 +1.1
	baz=8.1						
W23A	Werner Place,	8.10	68	P		Pn	00 38 15.9 +0.6
	baz=8.1						
MPU	Maple Canyon	8.16	20	*e*Pn		Pn	00 38 21.1 +4.9
224A	Cornudas Mount	8.28	90	P		Pn	00 38 17.1 -0.8
	baz=8.3						
124A	Stringfield Ra	8.31	85	P		Pn	00 38 17.3 -1.1
	baz=8.3						
ELK	Elko	8.34	0	*e*Pn		Pn	00 38 17.3 -1.3
Z24A	Sheeppen Canyo	8.41	81	P		Pn	00 38 18.7 -0.9
	baz=8.4						
Y24A	Capitan	8.41	77	P		Pn	00 38 18.8 -0.7
	baz=8.4						
MNTX	Cornudas Mount	8.44	92	*e*Pn		Pn	00 38 18.9 -1.0
U23A	El Rito	8.49	60	P		Pn	00 38 21.2 +0.5
	baz=8.5						
BEKR	Beckworth	8.51	333	*e*Pn		Pn	00 38 18.5 -2.4
X24A	Lazy VL Ranch,	8.52	73	P		Pn	00 38 21.3 +0.2
	baz=8.5						
DAU	Daniels Canyon	8.64	21	*e*Pn		Pn	00 38 19.9 -3.0
W24A	Lazy 6 Ranch,	8.70	68	P		Pn	00 38 23.5 -0.1
	baz=8.7						
BGU	Big Grassy Mou	8.71	11	*e*Pn		Pn	00 38 20.2 -3.5
JLU	Jordanelle	8.76	20	*e*Pn		Pn	00 38 24.7 +0.3
325A	Bean Ranch, Si	8.84	94	P		Pn	00 38 25.1 -0.4
	baz=8.8						
225A	Deer Hill, Car	8.87	89	P		Pn	00 38 26.4 +0.5
	baz=8.8						
425A	Indio Mountain	8.94	98	P		Pn	00 38 27.2 +0.4
	baz=8.9						
Z25A	Roswell	8.95	81	P		Pn	00 38 27.4 +0.6
	baz=8.9						
125A	Gardner Draw,	8.99	85	P		Pn	00 38 27.8 +0.3
	baz=9.0						
Y25A	Mesa, Roswell	9.02	77	P		Pn	00 38 27.9 0.0
	baz=9.0						
X25A	Clemmons Ranch	9.14	74	P		Pn	00 38 30.2 +0.7
	baz=9.1						
SPUT	South Promonto	9.19	14	*e*Pn		Pn	00 38 26.6 -3.7
GDL2	Guadalupe Moun	9.26	88	*e*Pn		Pn	00 38 29.9 -1.2
LPIG	La Paz	9.35	151	LR		LR	00 41 47.7
	comp=E,457nm,21.8s,baz=156,slow=36						
Q22A	Crested Butte,	9.39	44	P		Pn	00 38 34.9 +1.7
	baz=9.4						
W25A	X Bar L Ranch,	9.45	70	P		Pn	00 38 34.9 +1.1
	baz=9.4						
SMCO	Snowmass	9.56	43	*e*Pn		Pn	00 38 37.8 +2.2
HVU	Hansel Valley	9.59	11	*e*Pn		Pn	00 38 37.0 +1.4
O20A	White River Ci	9.60	34	*e*Pn		Pn	00 38 38.2 +2.3
SDCO	Great Sand Dun	9.64	54	*e*Pn		Pn	00 38 35.3 -1.3
CLNB	Carlsbad	9.66	88	*e*Pn		Pn	00 38 36.0 -0.7
HWUT	Hardware Ranch	9.67	17	*e*Pn		Pn	00 38 36.1 -0.7
426A	McDonald Obser	9.77	97	P		Pn	00 38 39.0 +0.8
	baz=9.7						
HPIG		9.98	121	*i* P		Pn	00 38 42.3 +1.1
HPIG				*i* S		Sn	00 40 31.8 -1.4
HPIG		9.98	121	*i* P		Pn	00 38 42.3 +1.1
HPIG				*i* S		Sn	00 40 31.8 -1.4
626A	Big Bend Ranch	9.99	104	P		Pn	00 38 41.6 +0.5
	baz=10.0						
527A	Woodward Ranch	10.24	100	P		Pn	00 38 45.5 +0.8
	baz=10						
LTX	Lajitas	10.45	104	*e*Pn		Pn	00 38 48.0 +0.5
LTX				*e*Sn		Sn	00 40 46.3 +1.9
TXAR	Lajitas Array	10.45	104	Pn		Pn	00 38 48.0 +0.5
TXAR				Sn		Sn	00 40 46.3 +1.9
TXAR				Lg		Lg	00 41 48.3
TXAR	Lajitas Array	10.45	104	Pn		Pn	00 38 48.0 +0.5
	comp=E,0.4nm,0.3s,baz=287,slow=13,SNR=26						
TXAR				Sn		Sn	00 40 46.3 +1.9
	comp=E,0.1nm,0.3s,baz=278,slow=25,SNR=2.6						
TXAR				Lg		Lg	00 41 48.3
	comp=E,0.4nm,0.3s,baz=282,slow=29,SNR=5.9						
TXAR				LR		LR	00 42 23.6
	comp=E,92nm,21.6s,baz=0.0,slow=35						
MSTX	Muleshoe	10.61	78	*e*Pn		Pn	00 38 49.0 -0.7
ISCO	Idaho Springs	10.77	44	*e*Pn		Pn	00 38 53.8 +1.9
YBH	Yreka Blue Hor	11.04	330	LR		LR	00 43 31.4
	comp=E,183nm,20.0s,baz=172,slow=39						
J08A	Circle Bar Ran	11.23	348	*e*Pn		Pn	00 38 59.5 +1.4
BW06	Boulder Array	11.31	22	*e*Pn		Pn	00 38 55.6 -3.8
PD31	Pinedale Array	11.31	22	*e*Pn		Pn	00 39 07.5 +8.2
PDAR	Pinedale Array	11.31	22	Pn		Pn	00 39 07.5 +8.2
PDAR				Lg		Lg	00 42 23.5
PDAR	Pinedale Array	11.31	22	Pn		Pn	00 39 07.5 +8.2
	comp=E,0.1nm,0.3s,baz=200,slow=14,SNR=5.8						
PDAR				Lg		Lg	00 42 23.5
	comp=E,0.1nm,0.3s,baz=200,slow=31,SNR=3.2						
RRI2	Red Ridge	11.38	15	*e*Pn		Pn	00 38 58.0 -2.3
REDW	Red Top Meadow	11.50	16	*e*Pn		Pn	00 39 00.5 -1.5
TPAW	Teton Pass	11.60	16	*e*Pn		Pn	00 39 00.3 -3.0
SNOW	Snow King Moun	11.62	17	*e*Pn		Pn	00 39 06.0 +2.4
LOHW	Long Hollow	11.80	17	*e*Pn		Pn	00 39 11.3 +5.4
PHWY	Pilot Hill	11.88	39	*e*Pn		Pn	00 39 05.3 -1.8
IMW	Indian Meadow	11.99	15	*e*Pn		Pn	00 39 13.3 +4.6
MCMT	McKenzie Canyo	12.57	8	*e*Pn		Pn	00 39 17.2 +0.7
531A	Rocksprings	12.81	96	P		Pn	00 39 24.1 +4.4
	baz=13						
DLMT	Dillon	13.12	8	*e*Pn		Pn	00 39 29.1 +5.1
532A	Rocksprings	13.36	96	P		Pn	00 39 30.7 +3.5
	baz=13						
JCT	Junction City	13.37	94	*e*Pn		Pn	00 39 30.4 +3.1
H04A	Detroit Lake	13.40	338	*e*Pn		Pn	00 39 26.1 -1.7
RLMT	Red Lodge	13.55	18	*e*Pn		Pn	00 39 34.4 +4.5
632A	Uvalde	13.62	98	P		Pn	00 39 33.5 +2.8
	baz=14						
G23A	Biddle	14.93	28	P		Pn	00 39 51.2 +2.6
	baz=15						
WHTX	Lake Whitney	15.11	87	*e*Pn		Pn	00 39 49.8 -1.2
NEW	Newport	15.92	356	*e*Pn		Pn	00 40 02.2 +0.6
	comp=E,12nm,1.2s						
NEW	Newport	15.92	356	Pn		P	00 40 07.2 +2.0
	comp=E,0.2nm,0.3s,baz=169,slow=12,SNR=7.4						
NEW				LR		LR	00 46 27.6
	comp=E,185nm,21.4s,baz=181,slow=38						
HKT	Hockley	16.83	93	*e*Pn		Pn	00 40 12.7 -0.5
	comp=E,21nm,1.5s						
EDM	Edmonton	20.87	3	*e*P		P	00 40 57.5 -2.0
GLST	Glass	21.80	73	*e*P		P	00 41 11.0 +1.4
BBB	Bella Bella	21.88	338	LR		LR	00 49 29.0
	comp=E,210nm,21.5s,baz=127,slow=36						
DLBC	Dease Lake	27.90	343	LR		LR	00 54 07.0
	comp=E,243nm,20.7s,baz=169,slow=38						
ILAR	Eielson Array	37.77	338	P		P	00 43 35.2 +1.9
ILAR	Eielson Array	37.77	338	P		P	00 43 35.2 +1.9
	comp=E,0.7nm,0.7s,baz=138,slow=8.6,SNR=5.9						
ILAR				LR		LR	00 58 29.6
	comp=E,24nm,21.5s,baz=149,slow=35						
ILB	Eielson Array	37.77	338	*e*P		P	00 43 35.2 +1.9
SCHQ	Schefferville	40.59	42	LR		LR	01 01 38.7
	comp=E,60nm,21.1s,baz=174,slow=37						
LPAZ	La Paz	66.18	130	LR		LR	01 12 47.8
	comp=E,96nm,19.4s,baz=96,slow=33						
FIA0	FINESS Array S	81.38	18	*e*P		P	00 48 35.6 +1.6
FINES	FINESS Array B	81.38	18	P		P	00 48 35.6 +1.6
FINES	FINESS Array B	81.38	18	P		P	00 48 35.6 +1.6
	comp=E,1.2nm,0.8s,baz=308,slow=4.9,SNR=4.0						
CN2	Changchun	86.08	321	*e*P		P	00 48 59.3 +0.9
GERES	GERESS Array B	87.22	31	LR		LR	01 28 08.9
	comp=E,56nm,18.0s,baz=97,slow=36						
KSRS	Korea Array	88.89	315	LR		LR	01 31 17.7
	comp=E,89nm,18.4s,baz=360,slow=37						
JNU	Nakatsue	89.82	310	LR		LR	01 31 26.6
	comp=E,131nm,18.1s,baz=210,slow=37						
HHC	Hu-ho-hao-te	95.25	326	*e*P		P	00 49 40.8 -0.8
HHC				PP		PP	00 53 32.0 +1.2
HHC	Hu-ho-hao-te	95.25	326	SKS		SKSac	01 00 16.1 -1.4
HHC	Hu-ho-hao-te	95.25	326	S		S	01 00 53.3 -3.8
HHC	Hu-ho-hao-te	95.25	326	ScS		S	01 00 54.3 -2.8
HHC	Hu-ho-hao-te	95.25	326	SS		SS	01 07 22.0 -0.1
HHC				pmax		pmax	
	comp=Z,42nm,1.2s						
HHC				pmax		pmax	
	comp=Z,290nm,5.4s						
HHC				LR		LR	
	comp=N,220nm,17.3s						
HHC				LR		LR	
	comp=E,250nm,17.3s						
HHC				LR		LR	
	comp=Z,220nm,18.6s						

IDC ***20*** *00:51:21.6±0.7, 12°.83S×166°.11E, h0km, mb4.6/12, mb1 4.6/15, mb1mx4.5/22, mbtmp4.6/15, ML3.4/2, MS3.9/13, Ms1 3.9/13, ms1mx3.6/35, Error ellipse: s-maj=23.2km s-min=15.5km az=98.0*

ISCJB ***20*** *00:51:24.7±0.3, 12°.87S±0°.04×166°.14E±0°.06, h33km, mb4.9/36, MS4.2/16, Error ellipse: s-maj=8.6km s-min=5.5km az=174.4*

NEIC ***20*** *00:51:27.8±3.0, 12°.84S×165°.98E, h46km±4km, mb4.9/21, Error ellipse: s-maj=17.0km s-min=14.2km az=78.0*

BJI ***20*** *00:51:30.2, 12°.94S×166°.29E, h81km, mB5.2/28, mb4.8/36, Ms5.2/12, Ms7 4.9/12*

DJA ***20*** *00:51:36.6±5.3, 13°S±19°×16°6E±2°1, h127km±42km, M4.7/13, mb4.7/13*

AUST ***20*** *00:52:13.3, 12°.90S×164°.41E, h450km*

ISC 20 00:51:28.2±0.9, 12°.83S±0°.06×166°.00E±0°.06, h49km±7km, n162, σ1§66/162, mb5.0/36, MS4.1/16, 13C-4D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	6.83	299	*e*Pn	Pn	00 53 04.7	-1.2
HNR				*e*Sn	Sn	00 54 21.7	-0.7
HNR	Honiara	6.83	299	Pn	Pn	00 53 04.9	-1.0
	57nm,0.3s,baz=148,slow=2.7,SNR=10						
HNR				Sn	Sn	00 54 21.7	-0.7
	25nm,0.3s,baz=9.0,slow=19,SNR=3.6						
DZM	Mont Dzumac	9.20	177	Pn	Pn	00 53 37.2	-1.2
	0.5nm,0.3s,baz=12,slow=15,SNR=3.8						
DZM				Sn	Sn	00 55 19.5	-1.1
	baz=127,slow=20,SNR=2.3						
DZM				LR	LR	00 56 36.1	
	comp=Z,352nm,20.2s,baz=25,slow=34						
MSVF	Nonsavu	12.60	114	*e*Pn	Pn	00 54 22.0	-2.9
TARA	Tarawa	15.68	26	*e*Pn	Pn	00 55 03.7	-2.2
	199nm,1.3s						
RABL	Rabaul	16.14	301	P	P	00 55 28.6	+14
	baz=15,SNR=6.0						
PMG	Port Moresby	18.80	279	*e*P	Pn	00 55 44.8	+0.1
	33nm,0.9s						
PMG	Port Moresby	18.80	279	P	Pn	00 55 45.6	+1.0
	0.3nm,0.3s,baz=115,slow=4.5,SNR=4.8						
PMG				LR	LR	01 00 51.0	
	comp=Z,193nm,19.6s,baz=85,slow=30						
EIDS	Eidsvold	18.80	226	*e*P	P	00 55 42.2	-1.5
	347nm,2.6s						
EIDS	Eidsvold	18.80	226	P	Pn	00 55 48.1	+3.5
	baz=18,SNR=4.8						
CTA	Charters Tower	20.26	247	*e*P	Pn	00 56 01.1	-0.9
CTA	Charters Tower	20.26	247	P	Pn	00 56 01.1	-0.9
	43nm,1.1s,baz=73,slow=14,SNR=24						
CTAO	Charters Tower	20.26	247	*e*P	Pn	00 56 01.1	-0.9
	59nm,1.1s						
PATS	Pohnpei	20.98	338	P	P	00 56 18.9	+11
	baz=21,SNR=3.3						
RMQ	Roma	21.14	227	P	P	00 56 12.1	+3.0
	baz=20,SNR=42						
MTSU	Mount Surprise	21.55	253	P	P	00 56 15.2	+1.6
	baz=20,SNR=9.7						
AFI	Afiamalu	21.64	95	LR	LR	01 01 44.5	
	comp=Z,252nm,19.0s,baz=194,slow=29						
ARMA	Armidale	21.98	215	*e*P	P	00 56 14.6	-3.6
	99nm,1.4s						
ARMA	Armidale	21.98	215	P	P	00 56 20.3	+2.1
	baz=21,SNR=16						
COEN	Coen	22.23	264	*e*P	P	00 56 21.7	+0.7
	173nm,0.9s						
COEN	Coen	22.23	264	P	P	00 56 21.9	+0.9
	baz=21,SNR=5.6						
MGCD	Mangrove Creek	24.43	211	P	P	00 56 46.0	+3.7
	baz=24,SNR=10						
CMSA	Cobar Meteorol	26.38	222	P	P	00 57 01.4	+1.4
	baz=25,SNR=13						
YNG	Young	26.70	214	P	P	00 57 05.0	+2.1
	baz=26,SNR=15						
CNB	Canberra Magne	26.97	211	P	P	00 57 07.3	+1.9
	baz=26,SNR=6.8						
STKA	Stephens Creek	29.36	226	*e*P	P	00 57 27.2	+0.6
	7.0nm,1.0s						
STKA	Stephens Creek	29.36	226	P	P	00 57 28.0	+1.4
	18nm,0.9s,baz=23,slow=7.3,SNR=26						
STKA				LR	LR	01 09 11.9	
	comp=Z,304nm,19.7s,baz=27,slow=36						
STKA	Stephens Creek	29.36	226	P	P	00 57 28.4	+1.8
	baz=28,SNR=25						
KHZ	Kahutara	30.20	169	*e*P	P	00 57 34.0	+0.1
	137nm,1.7s						
TOO	Toolangi	30.70	213	P	P	00 57 40.5	+2.0
	baz=30,SNR=3.9						
RPZ	Rata Peaks	31.09	173	*e*P	P	00 57 42.0	+0.3
	78nm,1.3s						
RPZ	Rata Peaks	31.09	173	P	P	00 57 41.5	-0.2
	14nm,0.7s,baz=290,slow=1.3,SNR=3.8						
WRA	Warramunga Arr	31.15	253	*e*P	P	00 57 41.9	-0.8
WRA	Warramunga Arr	31.15	253	P	P	00 57 41.9	-0.8
	5.3nm,1.0s,baz=82,slow=9.0,SNR=19						
WRA				LR	LR	01 09 14.7	
	comp=Z,170nm,20.8s,baz=65,slow=34						
AS01	Alice Springs	32.22	246	*e*P	P	00 57 50.4	-1.6
AS12	Alice Springs	32.26	246	*e*P	P	00 57 52.0	-0.4
AS12				*e*PcP	PcP	01 00 41.0	+1.0
ASAR	Alice Springs	32.26	246	P	P	00 57 52.0	-0.4
	6.6nm,0.8s,baz=74,slow=9.4,SNR=65						
ASAR				PcP	PcP	01 00 41.0	+1.0
	1.1nm,0.8s,baz=94,slow=3.9,SNR=4.1						
ASAR				LR	LR	01 09 14.5	
	comp=Z,282nm,19.5s,baz=72,slow=33						
ODZ	Otahua Downs	32.35	174	*e*P	P	00 57 53.0	+0.1
	92nm,1.6s						
BBOO	Buckleboo	33.83	229	*e*P	P	00 58 06.6	+0.6
	255nm,1.0s						
BBOO	Buckleboo	33.83	229	P	P	00 58 07.0	+1.1
	baz=33,SNR=5.6						
KNRA	Kununurra	36.18	261	P	P	00 58 26.5	+0.1
	baz=35,SNR=5.4						
PALU	Palau	37.19	301	S	S	01 03 36.9	-42
	baz=36,SNR=4.9						
FITZ	Fitzroy Crossi	39.20	257	*e*P	P	00 58 51.4	-0.5
	31nm,1.1s						
FITZ	Fitzroy Crossi	39.20	257	P	P	00 58 52.1	+0.3
	baz=38,SNR=8.2						
FORT	Forrest	39.26	237	*e*P	P	00 58 50.9	-1.3
	43nm,1.0s						
PPT	Papeete	43.05	102	LR	LR	01 12 00.2	
	comp=Z,128nm,21.3s,baz=303,slow=29						
MEEK	Meekatharra	46.42	245	P	P	00 59 51.4	+1.1
	baz=45,SNR=5.6						
KLBR	Kellerberrin	47.99	239	P	P	01 00 03.4	+0.9
	baz=47,SNR=5.1						
MORW	Morawa	49.01	243	P	P	01 00 11.4	+1.1
	baz=48,SNR=3.7						
JNU	Nakatsue	56.67	325	LR	LR	01 21 49.2	
	comp=Z,87nm,19.0s,baz=226,slow=32						
ASAJ	Asahikawa	60.55	341	*e*P	P	01 01 33.4	-0.1
	31nm,0.8s						
ASAJ	Asahikawa	60.55	341	P	P	01 01 34.1	+0.7
	16nm,0.9s,baz=185,slow=9.1,SNR=13						
KSRS	Korea Array	61.48	326	P	P	01 01 40.6	+0.7
	1.5nm,0.9s,baz=132,slow=7.4,SNR=4.8						
KS15	Wonju Array Si	61.50	326	*e*P	P	01 01 40.6	+0.6
KS01	Wonju Array Si	61.52	326	*e*P	P	01 01 41.2	+1.1
NJ2	Nanjing	63.46	316	*e*P	P	01 01 57.9	+4.6
NJ2				pmax	pmax		
	comp=Z,18nm,1.0s						
QIZ	Qiongzhong	63.75	299	P	P	01 01 57.3	+1.9
QIZ				sP	sP	01 02 24.8	+10
QIZ				S	S	01 10 24.3	-2.7
QIZ				pmax	pmax		
	comp=Z,7.0nm,1.4s						
QIZ				pmax	pmax		
	comp=Z,86nm,7.4s						
USRK	Ussuriysk Arra	64.65	334	P	P	01 02 02.3	+1.5
	comp=Z,15nm,1.1s,baz=159,slow=5.7,SNR=21						
VNDA	Vanda	64.72	181	*e*P	P	01 02 01.9	+1.0
VNDA	Vanda	64.72	181	P	P	01 02 01.9	+1.0
	comp=Z,1.2nm,0.9s,baz=13,slow=5.2,SNR=4.9						
VNDA				LR	LR	01 28 06.8	
	comp=Z,118nm,18.8s,baz=341,slow=34						
CASY	Casey	64.82	202	*e*P	P	01 02 01.6	-0.1
	comp=Z,20nm,1.2s						
SBA	Scott Base	65.03	180	*e*P	P	01 02 03.2	+0.4
	comp=Z,44nm,1.8s						
WHN	Wuhan	65.76	312	P	P	01 02 13.6	+5.3
MDJ	Mudanjiang	66.04	332	P	P	01 02 13.3	+3.5
MDJ				pP	PcP	01 02 37.8	-2.2
MDJ				PP	PP	01 04 40.3	+4.5
MDJ				S	S	01 10 46.4	-7.8
MDJ				pmax	pmax		
	comp=Z,15nm,1.8s						
MDJ				pmax	pmax		
	comp=Z,160nm,4.9s						
PETK	Petropavlovsk-	66.06	355	P	P	01 02 10.9	+1.2
	comp=Z,2.7nm,0.8s,baz=164,slow=7.5,SNR=3.5						
CN2	Changchun	67.39	329	*e*P	P	01 02 21.5	+3.1
CN2				*es*P	sP	01 02 53.0	+15
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CN2				pmax	pmax		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,200nm,18.0s						
CN2				LR	LR		
	comp=E,200nm,18.0s						
CN2				LR	LR		
	comp=Z,300nm,19.0s						
ENH	Enshi	69.22	309	*e*P	P	01 02 30.3	+0.1
	comp=Z,15nm,1.1s						
GYA	Guiyang	69.63	305	*e*P	P	01 02 35.8	+2.9
GYA				pP	PcP	01 02 58.3	+2.6
GYA				sP	sP	01 03 07.5	+15
GYA				PP	PP	01 05 11.9	+4.3
GYA				S	S	01 11 36.0	-2.1
GYA				sS	SKiKP	01 12 13.6	-3.7
GYA				SKS	SKSac	01 12 24.4	-5.6
GYA				SS	SS	01 16 05.3	-1.9
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,120nm,5.4s						
GYA				LR	LR		
	comp=N,520nm,18.8s						
GYA				LR	LR		
	comp=E,410nm,19.3s						
GYA				LR	LR		
	comp=Z,540nm,18.0s						
BJI	Beijing	70.02	321	P	P	01 02 34.6	-0.3
BJI				pmax	pmax		
	comp=Z,6.0nm,0.7s						
XAN	Xi'an	71.50	313	P	P	01 02 44.3	+0.2
XAN		

LZH			pP	pP	01 03 32.5	+7.0
LZH			sP	sP	01 03 40.0	+9.0
LZH			PP	PP	01 06 11.0	+8.0
LZH			eS	**S**	**01 12 52.1**	**+0.2**
LZH			sS	**ScS**	**01 13 27.4**	**+4.7**
LZH			pmax	pmax		
	comp=Z,22nm,1.1s					
LZH			pmax	pmax		
	comp=Z,110nm,4.6s					
LZH			LR	LR		
	comp=N,420nm,16.9s					
LZH			LR	LR		
	comp=E,340nm,15.3s					
LZH			LR	LR		
	comp=Z,620nm,17.4s					
QSPA	**South Pole Qui**	**77.19 180**	*e*P	**P**	**01 03 16.1**	**-0.6**
	comp=Z,22nm,1.2s					
KDAK	**Kodiak Island**	**78.14 21**	LR	LR	01 33 27.0	
	comp=Z,178nm,18.4s,baz=282,slow=32					
ULN	**Ulaanbaatar**	**79.88 324**	*e*P	**P**	**01 03 30.0**	**-1.9**
GTA	**Gaotai**	**80.47 314**	*e*P	**P**	**01 03 37.3**	**+2.1**
GTA			pP	pP	01 03 57.9	+8.5
GTA			sP	sP	01 04 06.3	+11
GTA			S	**S**	**01 13 37.1**	**-1.1**
GTA			sS	sS	01 14 11.8	+10
GTA			SS	**SS**	**01 18 53.5**	**+2.0**
GTA			pmax	pmax		
	comp=Z,9.0nm,1.5s					
GTA			pmax	pmax		
	comp=Z,100nm,6.9s					
GTA			LR	LR		
	comp=N,91nm,17.1s					
GTA			LR	LR		
	comp=E,180nm,15.9s					
IL1	**Eielson Array**	**85.11 18**	*e*P	**P**	**01 03 58.1**	**-0.5**
ILAR	**Eielson Array**	**85.11 18**	LR	LR	01 36 36.2	
	comp=E,77nm,19.9s,baz=204,slow=32					
BBB	**Bella Bella**	**85.90 34**	LR	LR	01 32 48.5	
	comp=E,53nm,21.8s,baz=247,slow=29					
DPP	**Dos Picos Cty**	**86.33 55**	*e*PcP	**PcP**	**01 04 11.4**	**+3.6**
SYO	**Syowa Base**	**90.16 197⇑**	*e*P	**P**	**01 04 22.0**	**-0.8**
SYO	**Syowa Base**	**90.16 197⇑**	*e*X	pP	01 04 42.0	+4.8
WMQ	**Urumqi**	**90.53 315**	P	**P**	**01 04 27.3**	**+2.2**
WMQ			pP	pP	01 04 48.0	+8.5
WMQ			sP	sP	01 04 56.3	+11
WMQ			pmax	pmax		
	comp=Z,13nm,1.2s					
WMQ			pmax	pmax		
	comp=Z,150nm,4.7s					
CTU	**Camp Tracy**	**92.48 49**	*e*PKiKP	**PKiKP**	**01 09 26.3**	**+3.2**
	comp=Z,13nm,0.5s					
MK01	**Makanchi Array**	**94.97 317**	*e*P	**P**	**01 04 45.6**	**+0.1**
MK32	**Makanchi Array**	**94.99 317**	*e*P	**P**	**01 04 46.1**	**+0.5**
MKAR	**Makanchi Array**	**94.99 317**	P	**P**	**01 04 46.1**	**+0.5**
	comp=Z,1.1nm,0.7s,baz=93,slow=7.0,SNR=8.2					
ZAA0	**Zalesovo Array**	**95.14 324**	*e*P	**P**	**01 04 45.2**	**-0.8**
ZALV	**Zalesovo Beam**	**95.14 324**	P	**P**	**01 04 45.6**	**-0.4**
	comp=Z,1.2nm,0.7s,baz=126,slow=4.6,SNR=7.3					
SNAA	**Sanae**	**95.36 184**	*e*P	**P**	**01 04 45.2**	**-1.7**
	comp=Z,9.4nm,1.3s					
TXAR	**Lajitas Array**	**96.46 61**	LR	LR	01 42 31.6	
	comp=Z,59nm,18.1s,baz=120,slow=32					
KSH	**Kashi**	**98.06 309**	*e*P	Pdif	01 05 02.5	+2.6
KSH			pP	pP	01 05 23.3	+9.0
KSH			PP	PP	01 09 04.5	+5.0
KSH			SKS	**SKSac**	**01 15 32.1**	**-1.7**
KSH			S	**S**	**01 16 18.9**	**-4.4**
KSH			SS	**SS**	**01 23 05.6**	**-1.1**
KSH			pmax	pmax		
	comp=Z,130nm,6.1s					
KSH			LR	LR		
	comp=N,140nm,5.0s					
KSH			LR	LR		
	comp=E,110nm,5.0s					
KSH			LR	LR		
	comp=Z,210nm,5.4s					
ARA0	**ARCESS Array S**	**118.11 345**	*e*PKPdf	**PKPdf**	**01 10 09.1**	**-0.1**
ARCES	**ARCESS Array B**	**118.11 345**	PKP	**PKPdf**	**01 10 09.1**	**-0.1**
	comp=Z,3.8nm,0.9s,baz=72,slow=2.4,SNR=9.1					
KBZ	**Khabaz**	**122.56 314**	*e*PKPdf	**PKPdf**	**01 10 19.1**	**+0.6**
KBZ	**Khabaz**	**122.56 314**	PKP	**PKPdf**	**01 10 19.1**	**+0.6**
	comp=Z,1.9nm,0.8s,baz=89,slow=3.1,SNR=4.3					
FIA0	**FINESS Array S**	**123.51 338**	*e*PKPdf	**PKPdf**	**01 10 19.9**	**+0.1**
FINES	**FINESS Array B**	**123.51 338**	PKP	**PKPdf**	**01 10 19.9**	**+0.1**
	comp=Z,2.5nm,0.9s,baz=90,slow=9.5,SNR=4.7					
MALT	**Malatya**	**127.16 309⇑**	*i*P	**PKPdf**	**01 10 29.7**	**+2.1**
NB200	**NORSAR Array S**	**128.48 345**	*e*PKPdf	**PKPdf**	**01 10 29.1**	**-0.2**
NOA	**NORSAR Array B**	**128.48 345**	PKP	**PKPdf**	**01 10 29.1**	**-0.2**
	comp=Z,1.2nm,0.8s,baz=31,slow=2.1,SNR=3.8					
AKASG	**Malin Array Be**	**128.48 326**	PKP	**PKPdf**	**01 10 30.1**	**+0.5**
	comp=Z,0.8nm,0.6s,baz=49,slow=1.9,SNR=11					
AKBB	**Malin Array Si**	**128.48 326**	*e*PKPdf	**PKPdf**	**01 10 30.1**	**+0.5**
BR101	**Keskin Array S**	**130.34 312**	*e*PKPdf	**PKPdf**	**01 10 34.8**	**+1.1**
BRTR	**Keskin Array B**	**130.34 312**	PKP	**PKPdf**	**01 10 34.8**	**+1.1**
	comp=Z,1.0nm,0.8s,baz=146,slow=2.7,SNR=4.9					
TLCR		**131.45 320⇓**	*i*P	**PKPdf**	**01 10 37.5**	**+2.1**
TIRR	**Tirgusor**	**132.04 319⇑**	*i*P	**PKPdf**	**01 10 38.2**	**+1.7**
BURAR	**Bucovina Array**	**132.36 325⇑**	*i*P	**PKPdf**	**01 10 38.6**	**+1.4**
VRI	**Vrincioaia**	**132.40 322⇓**	*i*P	**PKPdf**	**01 10 39.1**	**+1.9**
KWP	**Kalwaria Pacla**	**132.54 322⇑**	*i*P	**PKPdf**	**01 10 38.5**	**+1.1**
MLR	**Muntele Rosu**	**133.06 322⇑**	PKPdf		01 10 47.0	+6.4
KOLS	**Kolonicke sedl**	**133.19 328**	*e*PKP	**PKPdf**	**01 10 40.5**	**+1.9**
STHS	**Stebnicka Huta**	**133.42 329**	*e*PKP	**PKPdf**	**01 10 41.8**	**+2.8**
CRVS	**Cervenica-Dubn**	**133.63 328**	*e*PKP	**PKPdf**	**01 10 41.8**	**+2.4**
ARR	**Arges**	**133.92 322⇑**	*i*P	**PKPdf**	**01 10 42.0**	**+1.8**
DRGR		**134.23 325⇑**	*i*P	**PKPdf**	**01 10 42.9**	**+2.2**
KECS	**Kecovo**	**134.40 328**	*e*PKP	**PKPdf**	**01 10 42.9**	**+2.0**
OKC	**Ostrava-Krasne**	**134.66 331**	*e*PKPdf	**PKPdf**	**01 10 45.0**	**+3.7**
KRLC	**Kraliky**	**135.12 332**	*e*PKPdf	**PKPdf**	**01 10 45.7**	**+3.5**
KRLC			*e*SKP		01 14 17.6	
DPC	**Dobruska-Polom**	**135.14 333**	*e*PKPdf	**PKPdf**	**01 10 46.3**	**+4.0**
DPC			*e*SKP		01 14 17.2	
VYHS	**Vyhne**	**135.23 329**	*e*PKP	**PKPdf**	**01 10 43.2**	**+0.8**
BZS	**Buzias**	**135.53 324⇓**	*i*P	**PKPdf**	**01 10 43.8**	**+0.7**
BRG	**Berggiesshubel**	**135.78 335**	*e*PKP	**PKPdf**	**01 10 46.0**	**+2.6**
	comp=Z,10nm,1.5s					
CLL	**Collm**	**135.83 336**	*e*(PKiKP)		01 10 48.0	
CLL			*e*PKSab	**PKSab**	**01 14 23.0**	**+1.8**
	comp=Z,4.0nm,1.3s					
PRU	**Pruhonice**	**136.19 334**	*e*PKPdf	**PKPdf**	**01 10 45.2**	**+1.1**
PRU			*e*SKP		01 14 19.7	
VTS	**Vitosha**	**136.26 320⇓**	*i*P	**PKPdf**	**01 10 47.5**	**+2.8**
TREC	**Trest**	**136.27 332**	*e*PKPdf	**PKPdf**	**01 10 45.9**	**+1.5**
PKSM	**Moragy**	**136.81 327⇑**	*i*P	**PKPdf**	**01 10 46.1**	**+0.7**
CONA	**Conrad Observa**	**137.07 331⇑**	*e*PKiKP	**PKiKP**	**01 10 48.9**	**+1.1**
	comp=Z,5.5nm,1.0s					
KHC	**Kasperske Hory**	**137.24 333**	*e*PKPdf	**PKPdf**	**01 10 47.4**	**+1.2**
KHC			*e*SKP		01 14 24.3	
KHC	**Kasperske Hory**	**137.24 333**	*e*PKPdf	**PKPdf**	**01 10 45.8**	**-0.4**
GEC2	**GERESS Array S**	**137.40 333**	*e*PKPdf	**PKPdf**	**01 10 46.0**	**-0.6**
GERES	**GERESS Array B**	**137.40 333**	PKP	**PKPdf**	**01 10 47.4**	**+0.8**
	comp=Z,1.8nm,0.8s,baz=95,slow=1.5,SNR=20					
GERES			SKP		01 14 23.8	
	comp=Z,0.3nm,0.6s,baz=0.0,slow=1.0,SNR=5.3					
SOKA	**Soboth**	**138.35 330⇑**	*e*PKiKP	**PKiKP**	**01 10 49.1**	**-1.4**
	comp=Z,4.9nm,1.1s					
WTTA	**Wattenberg**	**139.50 333⇑**	*e*PKiKP	**PKiKP**	**01 10 53.3**	**+0.4**
	comp=Z,13nm,1.7s					
TUE	**Stuetta**	**141.11 334**	*e*PKPdf	**PKPdf**	**01 10 53.3**	**-0.3**
BNI	**Bardonecchia**	**143.37 335**	*e*PKPdf	**PKPdf**	**01 10 55.5**	**-2.0**
KEST	**Kesra**	**148.97 321**	PKPbc	**PKPbc**	**01 11 12.3**	**+1.1**
	comp=Z,4.3nm,1.0s,baz=86,slow=4.2,SNR=11					
POLO	**Lamas de Olo**	**151.05 350**	*e*PKPbc	**PKPbc**	**01 11 17.0**	**+0.8**
MVO	**Moncorvo**	**151.12 349**	*e*PKPbc	**PKPbc**	**01 11 17.6**	**+1.3**
PVRL	**Vila Real**	**151.13 350**	*e*PKPbc	**PKPbc**	**01 11 17.4**	**+1.1**
PTO	**Porto**	**151.40 351**	*e*PKPbc	**PKPbc**	**01 11 17.5**	**+0.7**
ES19	**SONSECA Array**	**151.79 343**	*e*PKPbc	**PKPbc**	**01 11 17.8**	**0.0**
ESDC	**Sonseca Array**	**151.83 343**	*e*PKPbc	**PKPbc**	**01 11 18.5**	**+0.5**
ESDC	**Sonseca Array**	**151.83 343**	PKPbc	**PKPbc**	**01 11 18.5**	**+0.5**
	comp=Z,3.5nm,0.8s,baz=16,slow=2.1,SNR=20					
MTE	**Manteigas**	**151.96 349**	*e*PKPbc	**PKPbc**	**01 11 19.2**	**+0.9**
MTE	**Manteigas**	**151.96 349**	*e*PKPbc	**PKPbc**	**01 11 17.2**	**-1.0**
PCAS	**Casmilo, Conde**	**152.45 351**	*e*PKPbc	**PKPbc**	**01 11 20.8**	**+1.5**
PCAS	**Casmilo, Conde**	**152.45 351**	*e*PKPab	**PKPab**	**01 11 30.6**	**+1.1**
PCBR	**Castelo Branco**	**152.49 349**	*e*PKPbc	**PKPbc**	**01 11 20.0**	**+0.6**
PTOM	**Tomar**	**152.86 351**	*e*PKPbc	**PKPbc**	**01 11 21.6**	**+1.4**
PMRV	**Marv??o**	**152.87 349**	*e*PKPbc	**PKPbc**	**01 11 21.0**	**+0.7**
PMTG	**Montargil**	**153.37 350**	*e*PKPbc	**PKPbc**	**01 11 21.8**	**+0.5**
PMAFR	**Mafra**	**153.64 352**	*e*PKPbc	**PKPbc**	**01 11 22.8**	**+0.8**
PBEJ	**Beja**	**154.32 349**	*e*PKPbc	**PKPbc**	**01 11 24.5**	**+1.1**
TOA0	**Torodi Ar. Sit**	**164.70 273**	*e*PKPdf	**PKPdf**	**01 11 27.5**	**-0.1**
TOA0			*e*PKPab	**PKPab**	**01 12 23.1**	**-0.3**
TORD	**Torodi Ar. Bea**	**164.70 273**	PKP	**PKPdf**	**01 11 27.5**	**-0.1**
	comp=Z,0.4nm,0.8s,baz=337,slow=1.9,SNR=2.6					
TORD			PKPab	**PKPab**	**01 12 24.1**	**+0.7**
	comp=Z,1.9nm,0.9s,baz=80,slow=5.8,SNR=8.7					

IDC 20 00:52:23.8±14.0, 17°.64S×178°.85W, h660km±197km, mb3.2/7, mb1 3.5/7, mb1mx3.2/17, mbtmp3.2/7, Error ellipse: s-maj=77.2km s-min=65.9km az=168.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.07**	**260**	P	P	00 58 08.8	+0.2
	1.7nm,0.3s,baz=90,slow=13,SNR=4.1						
STKA	**Stephens Creek**	**38.39**	**241**	P	P	00 58 51.6	-0.3
	4.5nm,0.9s,baz=84,slow=10,SNR=2.4						
WRA	**Warramunga Arr**	**44.26**	**259**	P	P	00 59 37.9	-0.1
	1.5nm,0.5s,baz=95,slow=6.9,SNR=33						
ASAR	**Alice Springs**	**44.45**	**254**	P	P	00 59 39.9	+0.4
	8.9nm,0.6s,baz=87,slow=9.1,SNR=34						
ILAR	**Eielson Array**	**85.73**	**13**	P	P	01 03 54.5	-0.1
	1.5nm,0.7s,baz=226,slow=4.9,SNR=10						
TXAR	**Lajitas Array**	**86.21**	**58**	P	P	01 03 58.3	+0.3
	0.9nm,0.7s,baz=228,slow=6.7,SNR=11						
PDAR	**Pinedale Array**	**87.45**	**44**	P	P	01 04 03.5	-0.1
	0.7nm,0.6s,baz=224,slow=2.5,SNR=4.2						

*IDC **20** 01:00:32.2±1.1, 32°.26S×72°.09W, h0km, mb4.2/5, mb1 4.0/10, mb1mx3.9/18, mbtmp4.0/10, ML4.0/5, MS3.4/3, Ms1 3.3/3, ms1mx3.0/22, Error ellipse: s-maj=41.3km s-min=19.4km az=117.0*

*NEIC **20** 01:00:36.5±2.7, 32°.30S×72°.08W, h28km±18km, mb4.0/8, ML4.2(GUC), Error ellipse: s-maj=14.9km s-min=7.5km az=87.0*

NEIC Felt [II] at Papudo, Puchuncavi and Valparaiso.

*GUC **20** 01:00:37.7±0.6, 32°.40S×71°.79W, h25km±2km, MD4.3, ML4.2*

ISC 20 01:00:36.3±2.5, 32°.37S±0°.03×71°.94W±0°.06, h24km±17km, n58, σ1°.19/77, mb4.1/11, 7C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCH	**El Roble**	**0.99**	**128**	⇓*i*P	**Pn**	**01 00 53.7**	**-1.1**
ROCH				*i* S	**Sn**	**01 01 06.4**	**-1.7**
ROCH				AML	AML	01 01 08.5	
	comp=N,13μm,0.5s						
LCCH	**Las Cruces**	**1.15**	**164**	⇑*i*P	**Pn**	**01 00 57.1**	**+0.2**
LCCH				*i* S	**Sn**	**01 01 11.2**	**-0.6**
JACH	**Jahuel**	**1.18**	**106**	⇑*i*P	**Pn**	**01 00 56.3**	**-1.0**
PEL	**Peldehue**	**1.31**	**127**	⇑*i*P	**Pn**	**01 00 58.9**	**-0.2**
PEL				*i* S	**Sn**	**01 01 14.4**	**-1.4**
PEL				AML	AML	01 01 15.9	
	comp=E,12μm,0.4s						
CMCH	**Combarbala**	**1.43**	**34**	⇑*i*P	**Pn**	**01 01 00.7**	**-0.1**
CMCH				*i* S	**Sn**	**01 01 19.2**	**+0.2**
CMCH				AML	AML	01 01 25.8	
	comp=E,10μm,0.9s						
SAN	**Santiago**	**1.52**	**136**	*i* P	**Pn**	**01 01 02.2**	**+0.2**
SAN				*i* S	**Sn**	**01 01 20.9**	**-0.2**
SAN				AML	AML	01 01 26.9	
	comp=N,3μm,0.4s						
TACH	**Talagante**	**1.53**	**147**	*i* P	**Pn**	**01 01 02.6**	**+0.4**
TACH				*i* S	**Sn**	**01 01 21.2**	**-0.1**
ANTU	**Antumapu**	**1.62**	**138**	*i* P	**Pn**	**01 01 03.9**	**+0.5**
ANTU				*i* S	**Sn**	**01 01 23.8**	**+0.1**
ANTU				AML	AML	01 01 29.6	
	comp=E,4μm,0.3s						
LNV	**Longovilo**	**1.65**	**165**	⇑*i*P	**Pn**	**01 01 03.7**	**0.0**
LNV				*i* S	**Sn**	**01 01 24.3**	**+0.2**
PCH	**Pirque**	**1.73**	**137**	⇑*i*P	**Pn**	**01 01 05.6**	**+0.7**
PCH				*i* S	**Sn**	**01 01 26.5**	**+0.2**
LMEL	**Las Melosas**	**2.07**	**136**	*e*P	**Pn**	**01 01 11.2**	**+1.4**
LMEL				*i* S	**Sn**	**01 01 36.5**	**+1.6**
LMEL				AML	AML	01 01 42.1	
	comp=N,2μm,0.4s						
CACH	**El Canelo**	**2.07**	**148**	*i* P	**Pn**	**01 01 11.5**	**+1.8**
CACH				*i* S	**Sn**	**01 01 37.9**	**+3.1**
TLL	**Tololo Astrono**	**2.40**	**24**	⇑*i*P	**Pn**	**01 01 15.2**	**+1.0**
TLL				*i* S	**Sn**	**01 01 44.9**	**+1.9**
TLL				AML	AML	01 01 53.8	
	comp=E,1μm,0.5s						
NICH	**Los Niches**	**2.69**	**168**	*i* P	**Pn**	**01 01 19.9**	**+1.8**
NICH				*i* S	**Sn**	**01 01 51.9**	**+2.0**
NICH				AML	AML	01 02 03.0	
	comp=N,3μm,0.4s						
TALC	**Talca**	**3.03**	**175**	AML	AML	01 02 07.8	
	comp=N,1μm,0.4s						
CFAA	**Coronel Fontan**	**3.24**	**77**	Pn	**Pn**	**01 01 28.0**	**+2.4**
CFAA				Sn	**Sb**	**01 02 10.5**	**-1.5**
CFAA	**Coronel Fontan**	**3.24**	**77**	Pn	**Pn**	**01 01 28.0**	**+2.4**
	comp=N,2.5nm,0.3s,baz=251,slow=11,SNR=352						
CFAA				Sn	**Sb**	**01 02 10.5**	**-1.5**
	comp=N,1.9nm,0.3s,baz=19,slow=17,SNR=8.9						
LCO	**Las Campanas**	**3.51**	**18**	*e*Pn	**Pn**	**01 01 29.8**	**+0.2**
LCO				*e*Sn	**Sn**	**01 02 11.2**	**+0.7**
PLCA	**Paso Flores**	**8.42**	**173**	Pn	**Pn**	**01 02 38.2**	**+1.4**
PLCA				Lg	Lg	01 04 56.5	
PLCA	**Paso Flores**	**8.42**	**173**	Pn	**Pn**	**01 02 38.2**	**+1.4**
	comp=N,0.6nm,0.3s,baz=324,slow=9.9,SNR=14						
PLCA				Lg	Lg	01 04 56.5	
	baz=294,slow=20,SNR=1.9						
PLCA				LR	LR	01 05 54.4	
	comp=N,86nm,19.6s,baz=323,slow=38						
TRQA	**Tornquist**	**9.93**	**128**	*e*Pn	**Pn**	**01 02 58.1**	**+0.6**
LVC	**Limon Verde**	**10.08**	**16**	*e*Pn	**Pn**	**01 02 57.4**	**-2.4**
CPUP	**Villa Florida**	**14.08**	**68**	*e*Pn	**Pn**	**01 03 55.6**	**+1.4**
CPUP				Sn	**Sn**	**01 06 32.1**	**+2.3**
CPUP	**Villa Florida**	**14.08**	**68**	Pn	**Pn**	**01 03 54.7**	**+0.5**
	comp=N,0.2nm,0.3s,baz=227,slow=18,SNR=2.2						
CPUP				Sn	**Sn**	**01 06 32.1**	**+2.3**
	comp=N,0.2nm,0.3s,baz=132,slow=15,SNR=3.1						
CPUP				LR	LR	01 09 42.3	
	comp=N,106nm,20.3s,baz=149,slow=39						
LPAZ	**La Paz**	**16.38**	**13**	*e*Pn	**Pn**	**01 04 25.7**	**+0.5**
	comp=N,4.6nm,0.7s						
LPAZ	**La Paz**	**16.38**	**13**	Pn	**Pn**	**01 04 25.3**	**+0.1**
	comp=N,0.2nm,0.3s,baz=166,slow=4.0,SNR=12						
SIV	**San Ignacio**	**19.06**	**34**	P	**P**	**01 04 56.9**	**0.0**
SIV	**San Ignacio**	**19.06**	**34**	P	**P**	**01 04 56.9**	**0.0**
	comp=N,0.3nm,0.3s,baz=237,slow=13,SNR=5.2						
SAML	**Samuel**	**24.68**	**21**	*e*P	**P**	**01 05 55.5**	**+0.2**
	comp=N,2.0nm,0.7s						
BDFB	**Brasilia**	**27.38**	**58**	P	**P**	**01 06 18.4**	**-1.5**
BDFB	**Brasilia**	**27.38**	**58**	P	**P**	**01 06 18.4**	**-1.5**
	comp=N,1.3nm,0.3s,baz=231,slow=7.5,SNR=3.8						
SNAA	**Sanae**	**53.06**	**158**	*e*P	**P**	**01 09 51.9**	**+0.8**
	comp=N,1.5nm,0.8s						
QSPA	**South Pole Qui**	**57.86**	**180**	P	**P**	**01 10 27.2**	**+1.4**
QSPA	**South Pole Qui**	**57.86**	**180**	P	**P**	**01 10 27.2**	**+1.4**
	comp=N,1.9nm,0.8s,baz=117,slow=4.0,SNR=8.5						
WVT	**Waverly**	**69.75**	**346**	*e*P	**P**	**01 11 44.0**	**-0.1**
	comp=N,1.2nm,0.6s						
MNTX	**Cornudas Mount**	**71.14**	**330**	*e*P	**P**	**01 11 51.5**	**-1.3**
	comp=N,0.7nm,0.9s						
ANMO	**Albuquerque**	**74.40**	**331**	*e*P	**P**	**01 12 11.8**	**-0.5**
	comp=N,0.6nm,0.6s						
DBIC	**Dimbokro**	**74.58**	**72**	*e*P	**P**	**01 12 14.0**	**+0.5**
	comp=N,3.7nm,0.8s						
DBIC	**Dimbokro**	**74.58**	**72**	P	**P**	**01 12 13.3**	**-0.3**
	comp=N,4.2nm,0.9s,baz=211,slow=5.9,SNR=4.8						
MAW	**Mawson**	**74.72**	**164**	P	**P**	**01 12 13.6**	**+0.1**
MAW	**Mawson**	**74.72**	**164**	P	**P**	**01 12 13.6**	**+0.1**
	comp=N,0.9nm,0.5s,baz=270,slow=5.1,SNR=2.6						
TORD	**Torodi Ar. Bea**	**83.58**	**70**	P	**P**	**01 13 02.8**	**0.0**
TORD	**Torodi Ar. Bea**	**83.58**	**70**	P	**P**	**01 13 02.8**	**0.0**
	comp=N,1.3nm,0.9s,baz=248,slow=6.3,SNR=8.4						
RPZ	**Rata Peaks**	**84.94**	**220**	LR	LR	01 44 22.5	
	comp=N,68nm,19.9s,baz=288,slow=31						
WVOR	**Wild Horse Val**	**85.90**	**327**	*e*P	**P**	**01 13 12.1**	**-1.9**
	comp=N,1.0nm,0.5s						
WRA	**Warramunga Arr**	**122.22**	**209**	PKP	**PKPdf**	**01 19 29.4**	**-0.3**
WRA	**Warramunga Arr**	**122.22**	**209**	PKP	**PKPdf**	**01 19 29.4**	**-0.3**
	comp=N,0.2nm,0.5s,baz=166,slow=1.7,SNR=7.6						
WRAB	**Tennant Creek**	**122.23**	**210**	*e*PKPdf	**PKPdf**	**01 19 29.4**	**-0.2**
PMG	**Port Moresby**	**124.16**	**229**	*e*PKPdf	**PKPdf**	**01 19 30.6**	**-2.8**
BRVK	**Borovoye**	**145.94**	**41**	*e*PKPdf	**PKPab**	**01 20 13.8**	**0.0**
EKS2	**Erkin-Say**	**151.10**	**59**	*e*PKPdf	**PKPdf**	**01 20 20.6**	**-0.8**
EKS2				*e*PKPbc	**PKPbc**	**01 20 26.7**	**-0.6**
IPM	**Ipoh**	**151.48**	**165**	*e*PKPdf	**PKPdf**	**01 20 23.0**	**+0.3**
IPM				*e*PKPbc	**PKiKP**	**01 20 28.8**	**-0.6**
KURK	**Kurchatov**	**151.62**	**41**	*e*PKPbc	**PKPbc**	**01 20 28.3**	**+0.3**
AAK	**Ala-Archa**	**151.63**	**59**	*e*PKPdf	**PKPdf**	**01 20 21.9**	**-0.3**
AAK				*e*PKPbc	**PKiKP**	**01 20 29.9**	**+0.9**
ZALV	**Zalesovo Beam**	**152.79**	**31**	PKPbc	**PKPbc**	**01 20 30.9**	**+0.3**
ZALV	**Zalesovo Beam**	**152.79**	**31**	PKPbc	**PKPbc**	**01 20 30.9**	**+0.3**
	comp=N,1.7nm,0.5s,baz=301,slow=3.4,SNR=8.6						
MKAR	**Makanchi Array**	**155.60**	**46**	PKPab	**PKPab**	**01 20 53.6**	**-0.2**
MKAR	**Makanchi Array**	**155.60**	**46**	PKPab	**PKPab**	**01 20 53.6**	**-0.2**
	comp=N,0.6nm,0.8s,baz=321,slow=3.7,SNR=2.7						

*NEIC **20** 01:01:07.8, 32°.37N×115°.27W, h5km, ML3.2(PAS), ML3.2(ECX), After ECX.*

NEIC Felt [II] at Yuma, Arizona. Felt at El Centro, California.

*ECX **20** 01:01:07.8±0.7, 32°.37N×115°.27W, h5km, MD3.2, ML3.4*

ISC 20 01:01:06.7±0.9, 32°.38N±0°.02×115°.29W±0°.02, h12km±6km, n41, σ1°.38/63, 4C-2D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.04**	**348**	⇑*i*P	**Pg**	**01 01 08.6**	**-0.4**
CPBX				*e*S	**Sg**	**01 01 10.5**	**-0.2**
CPBX				*e*		01 01 12.1	
	comp=E,127μm,0.6s						
COA	**Coachella**	**0.51**	**17**	*e*P	**Pg**	**01 01 16.9**	**+0.3**
COA	**Coachella**	**0.51**	**17**	⇓*e*P	**Pg**	**01 01 16.9**	**+0.3**
COK	**Cook Ranch**	**0.60**	**322**	*e*P	**Pg**	**01 01 18.6**	**+0.3**
COK	**Cook Ranch**	**0.60**	**322**	⇓*e*P	**Pg**	**01 01 18.6**	**+0.3**
YUH	**Yuha Desert**	**0.60**	**297**	*e*P	**Pg**	**01 01 18.4**	**+0.1**
YUH	**Yuha Desert**	**0.60**	**297**	⇑*e*P	**Pg**	**01 01 18.4**	**+0.1**
RMX	**La Rumorosa**	**0.70**	**289**	*i* P	**Pg**	**01 01 20.3**	**0.0**
RMX	**La Rumorosa**	**0.70**	**289**	⇑*i*P	**Pg**	**01 01 20.3**	**0.0**
RMX				*e*		01 01 33.1	
	comp=N,1μm,0.3s						
SWSC	**Sam W. Stewart**	**0.70**	**323**	P	**Pg**	**01 01 19.8**	**-0.6**
	baz=0.7						
SWSC				S	**Sg**	**01 01 30.3**	**+0.7**
	baz=0.7						
RDX	**Rancho Dawling**	**0.71**	**231**	*e*P	**Pg**	**01 01 20.6**	**+0.1**
RDX				*i* S	**Sg**	**01 01 30.1**	**+0.3**
RDX	**Rancho Dawling**	**0.71**	**231**	*e*P	**Pg**	**01 01 20.6**	**+0.1**
RDX				*e*S	**Sg**	**01 01 30.3**	**+0.5**
DVTC	**Desert V Tower**	**0.74**	**293**	P	**Pg**	**01 01 21.1**	**+0.1**
	baz=0.8						
DVTC				S	**Sg**	**01 01 31.5**	**+0.8**
	baz=0.8						
GLA	**Glamis**	**0.78**	**30**	*e*Pg	**Pg**	**01 01 20.7**	**-1.2**
GLA				*e*Sg	**Sg**	**01 01 31.5**	**-0.5**
GLA	**Glamis**	**0.78**	**30**	P	**Pg**	**01 01 20.6**	**-1.2**
	baz=0.8						
GLA				S	**Sg**	**01 01 31.3**	**-0.7**
	baz=0.8						
MONP	**Monument Peak**	**1.08**	**299**	P	**Pb**	**01 01 26.2**	**-1.1**
	baz=1.1						
MONP				S	**Sb**	**01 01 41.6**	**0.0**
	baz=1.1						
CBX	**Cerro Bola**	**1.16**	**267**	*e*P	**Pb**	**01 01 28.3**	**-0.4**
CBX				*e*S	**Sb**	**01 01 44.0**	**+0.3**
CBX	**Cerro Bola**	**1.16**	**267**	*e*P	**Pb**	**01 01 28.3**	**-0.4**
CBX				*e*S	**Sb**	**01 01 44.0**	**+0.3**
ZAX	**El Zacaton**	**1.20**	**224**	⇑*e*P	**Pb**	**01 01 28.7**	**-0.6**

HOM	Homer	1.68 215	P	Pn	01 15 09.2 +1.0
HOM			S	Sn	01 15 29.7 +1.0
CNPM	China Poot	1.69 207	P	Pn	01 15 09.1 +0.6
ILIM	Iliamna	1.86 240	P	Pn	01 15 11.3 +0.5
KLU	Klutina	1.90 74	P	Pn	01 15 11.9 +0.5
KLU			S	Sn	01 15 34.7 +0.5
DIV	Divide	1.93 86	P	Pn	01 15 12.3 +0.5
ILW	Iliamna West	1.94 241	P	Pn	01 15 12.7 +0.6
EYAK	Cordova Ski Ar	2.02 102	P	Pn	01 15 13.0 +0.1
PPLA	Purkeypile	2.19 329	P	Pn	01 15 15.5 +0.1
OPT	Oil Point	2.22 233	P	Pn	01 15 16.7 +1.0
SGAM	Sherman Glacie	2.29 102	P	Pn	01 15 16.4 -0.2
DHY	Denali Highway	2.33 28	P	Pn	01 15 17.9 +0.6
MID	Middleton Isla	2.34 132	P	Pn	01 15 17.5 +0.2
MID			S	Sn	01 15 45.2 +0.4
RND	Reindeer	2.41 10	P	Pn	01 15 18.7 +0.3
AUE	Augustine Isla	2.48 229	P	Pn	01 15 20.1 +0.9
AUL	Augustine Lava	2.48 230	P	Pn	01 15 20.3 +1.1
GOAT	Goat Mountain	2.50 98	P	Pn	01 15 19.6 0.0
BMRM	Bremner River	2.50 89	P	Pn	01 15 19.7 +0.1
AUW	Augustine West	2.50 230	P	Pn	01 15 20.7 +1.2
AUI	Augustine Isla	2.51 229	P	Pn	01 15 20.6 +0.9
RAGM	Ragged Mountai	2.57 103	P	Pn	01 15 20.2 -0.3
HARP	HAARP	2.58 56	P	Pn	01 15 21.6 +1.0
KTH	Kantishna Hill	2.58 348	P	Pn	01 15 21.0 +0.3
KTH			S	Sn	01 15 50.2 -0.7
CAST	Castle Rocks	2.63 336	P	Pn	01 15 21.5 +0.2
MCK	McKinley	2.73 8	P	Pn	01 15 23.6 +0.9
PAX	Paxson	2.79 44	P	Pn	01 15 24.7 +1.1
SVW2	Sparrevohn	2.84 274	P	Pn	01 15 24.1 -0.1
NICHA	Nichawak Mount	2.96 103	P	Pn	01 15 25.1 -0.7
MCNL	McNeil River	2.96 233	P	Pn	01 15 26.1 +0.3
VRDI	Verde Repeater	3.06 84	P	Pn	01 15 27.6 +0.3
CHUM	Lake Minchumin	3.10 338	P	Pn	01 15 27.5 -0.1
BPAW	Bear Paw Mtn.	3.13 350	P	Pn	01 15 27.8 -0.3
BPAW			S	Sn	01 16 01.6 -2.6
BWN	Browne	3.15 2	P	Pn	01 15 29.2 +0.9
KHIT	Khitrov Hills	3.24 98	P	Pn	01 15 29.2 -0.5
GRIN	Grindle Hills	3.25 101	P	Pn	01 15 29.3 -0.5
MCARA	McCarthy VSAT	3.27 81	P	Pn	01 15 30.6 +0.6
DDM	Donnelly Dome	3.29 31	P	Pn	01 15 32.6 +2.2
KAPH	Katmai Pasha	3.38 226	P	Pn	01 15 32.3 +0.7
TT01	Tatalina	3.51 305	P	Pn	01 15 33.1 -0.2
WRH	Wood River Hil	3.53 12	P	Pn	01 15 34.0 +0.5
PTPK	Patty Peak	3.53 84	P	Pn	01 15 34.6 +0.8
NEA	Nenana	3.56 5	P	Pn	01 15 34.6 +0.6
KDAK	Kodiak Island	3.58 205	P	Pn	01 15 33.9 -0.3
KDAK			S	Sn	01 16 11.4 -3.7
KDAK	Kodiak Island	3.58 205	P	Pn	01 15 33.7 -0.5
	22nm,0.3s,baz=44,slow=8.4,SNR=174				
KDAK			S	Sn	01 16 11.4 -3.7
	13nm,0.3s,baz=23,slow=14,SNR=3.8				
BALM	Baldy	3.60 87	P	Pn	01 15 35.0 +0.4
KIAG	Kiagna River	3.60 89	P	Pn	01 15 34.9 +0.2
HDA	Harding Lake	3.62 20	P	Pn	01 15 36.2 +1.5
BARK	Barkley Ridge	3.62 97	P	Pn	01 15 34.8 -0.1
ISLE	Juniper Island	3.65 94	P	Pn	01 15 35.1 -0.3
CCB	Clear Creek Bu	3.73 13	P	Pn	01 15 36.5 +0.2
BAGL	Bagley Icefiel	3.79 95	P	Pn	01 15 37.1 -0.1
KAKN	Katmai Knife C	3.85 227	P	Pn	01 15 38.4 +0.3
GRNC	Granite Creek	3.92 91	P	Pn	01 15 39.3 +0.2
BARN	Barnard Glacie	3.93 86	P	Pn	01 15 39.8 +0.6
COLA	College	3.94 12	P	Pn	01 15 40.2 +1.0
KABR	Katmai Barrier	3.95 225	P	Pn	01 15 39.7 +0.4
ILAR	Eielson Array	3.97 18	P	Pn	01 15 40.5 +1.0
ILAR			S	Sn	01 16 24.6 -0.1
ILAR	Eielson Array	3.97 18	P	Pn	01 15 40.5 +1.0
	5.3nm,0.3s,baz=198,slow=14,SNR=122				
ILAR			S	Sn	01 16 24.6 -0.1
	9.1nm,0.3s,baz=192,slow=18,SNR=5.7				
IL1	Eielson Array	3.97 18	P	Pn	01 15 40.3 +0.8
SCRK	Sand Creek	3.98 40	P	Pn	01 15 40.0 +0.2
MLY	Manley	4.03 354	P	Pn	01 15 40.3 -0.2
CAHL	Cahill	4.12 226	P	Pn	01 15 42.5 +0.8
OHAK	Old Harbor	4.24 207	P	Pn	01 15 42.5 -0.8
BCA3	Beaver Creek A	4.26 58	P	Pn	01 15 44.2 +0.6
TABL	Table Mountain	4.26 94	P	Pn	01 15 43.7 -0.1
GCSA	Galena City Sc	4.95 322	P	Pn	01 15 52.9 -0.1
IM04	Indian Mountai	5.27 342	ePn	Pn	01 15 57.8 +0.3
IM3	Indian Mountai	5.28 342	P	Pn	01 15 57.3 -0.1
IMA2	Indian Mountai	5.35 342	ePn	Pn	01 15 58.3 -0.3
EGAK	Eagle	5.42 43	P	Pn	01 15 59.7 +0.3
DAWY	Dawson	5.67 53	P	Pn	01 16 03.6 +0.7
HYT	Haines Junctio	5.97 87	P	Pn	01 16 07.7 +0.6
COLD	Coldfoot	6.22 358	P	Pn	01 16 11.1 +0.8
BM3	Burnt Mountain	6.78 17	P	Pn	01 16 19.1 +1.0
WHY	Whitehorse	7.27 86	P	Pn	01 16 25.2 +0.3
DLBC	Dease Lake	10.28 96	P	Pn	01 17 07.2 +1.3
DLBC	Dease Lake	10.28 96	P	Pn	01 17 07.2 +1.3
	0.3nm,0.3s,baz=249,slow=8.6,SNR=3.8				
DLBC			LR	LR	01 20 53.0
	comp=Z,33nm,21.3s,baz=193,slow=36				
FX1	Attu Island--F	21.54 265	P	P	01 19 25.8 +0.3
FX1	Attu Island--F	21.54 265	P	P	01 19 25.8 +0.3
	11nm,0.7s,baz=16,slow=5.9,SNR=14				
NEW	Newport	22.50 110	eP	P	01 19 35.8 -0.2
	1.8nm,0.8s				
RES	Resolute Bay	23.56 33	eP	P	01 19 46.7 +0.6
	16nm,1.0s				
BOZ	Bozeman (W)	26.97 107	eP	P	01 20 18.3 +0.7
	0.9nm,0.7s				
TPAW	Teton Pass	28.93 110	eP	P	01 20 36.9 +1.8
	1.5nm,0.8s				
ANMO	Albuquerque	37.89 114	eP	P	01 21 51.7 -1.2
	0.4nm,0.6s				
TUC	Tucson	38.26 121	eP	P	01 21 57.8 +1.9
	0.6nm,0.7s				
ARCES	ARCESS Array B	49.67 2	P	P	01 23 26.1 -0.6
ARCES	ARCESS Array B	49.67 2	P	P	01 23 26.1 -0.6
	2.7nm,0.9s,baz=353,slow=9.0,SNR=5.0				
KSRS	Korea Array	54.51 284	P	P	01 24 03.0 0.0
	1.6nm,0.5s,baz=36,slow=6.6,SNR=9.5				
KSAR	Wonju Array Be	54.53 284	P	P	01 24 03.0 -0.2
SONM	Songino Array	55.46 307	P	P	01 24 10.4 +0.5
SONM	Songino Array	55.46 307	P	P	01 24 10.4 +0.5
	3.3nm,0.7s,baz=32,slow=9.1,SNR=4.1				
ZALV	Zalesovo Beam	57.47 325	P	P	01 24 22.9 -1.0
ZALV	Zalesovo Beam	57.47 325	P	P	01 24 22.9 -1.0
	2.1nm,0.5s,baz=25,slow=7.6,SNR=11				
FINES	FINESS Array B	57.80 2	P	P	01 24 26.0 -0.1
FINES	FINESS Array B	57.80 2	P	P	01 24 26.0 -0.1
	1.0nm,0.4s,baz=359,slow=8.3,SNR=28				
MKAR	Makanchi Array	64.60 323	P	P	01 25 10.9 -1.4
MKAR	Makanchi Array	64.60 323	P	P	01 25 10.9 -1.4
	0.8nm,0.4s,baz=31,slow=6.8,SNR=16				
AKASG	Malin Array Be	68.61 1	P	P	01 25 37.5 -0.3
AKASG			pP	pP	01 25 52.6 -0.6
AKASG			sP	sP	01 25 59.5 0.0
AKASG	Malin Array Be	68.61 1	P	P	01 25 37.5 -0.3
	0.2nm,0.3s,baz=2.6,slow=6.5,SNR=4.7				
AKASG			pP	pP	01 25 52.6 -0.6
	0.9nm,0.4s,baz=0.8,slow=6.2,SNR=5.1				
AKASG			sP	sP	01 25 59.5 0.0
	0.6nm,0.4s,baz=359,slow=5.6,SNR=3.4				
CMAR	Chiang Mai Arr	83.86 297	P	P	01 27 04.3 -0.5
CMAR	Chiang Mai Arr	83.86 297	P	P	01 27 04.3 -0.5
	0.7nm,0.4s,baz=8.9,slow=6.4,SNR=4.6				

IDC 20 01:16:17.0±3.2, 19°.08N×146°.78E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/23, mbtmp3.8/4, Error ellipse: s-maj=124.1km s-min=26.2km az=88.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	40.65	198	P	P	01 23 59.6	+0.5
	0.6nm,0.3s,baz=20,slow=8.9,SNR=20						
FITZ	Fitzroy Crossi	42.38	211	P	P	01 24 12.6	-0.8
	0.6nm,0.3s,baz=30,slow=11,SNR=15						
MKAR	Makanchi Array	58.94	314	P	P	01 26 18.4	+0.2
	0.2nm,0.6s,baz=97,slow=5.7,SNR=2.6						
FINES	FINESS Array B	86.96	336	P	P	01 29 03.6	-0.3
	1.6nm,0.9s,baz=73,slow=4.7,SNR=7.0						

*IDC **20** 01:28:31.9±0.8, 28°.54S×176°.73W, h0km, mb4.1/7, mb1 4.3/8, mb1mx4.1/15, mbtmp4.1/8, ML3.7/1, MS3.7/3, Ms1 3.7/3, ms1mx3.2/21, Error ellipse: s-maj=33.5km s-min=17.0km az=141.0*
*NEIC **20** 01:28:38.1±2.1, 28°.66S×176°.82W, h46km±17km, mb4.6/10, Error ellipse: s-maj=18.8km s-min=14.7km az=221.0*

ISC 20 01:28:36.9±0.6, 28°.86S±0°.09×176°.64W±0°.09, h36km, n42, σ1§69/49, mb4.4/17, MS3.6/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.18	251	Pn	Pn	01 28 58.0	+1.1
RAO				Sn	Sn	01 29 14.8	+3.0
RAO	Raoul Island	1.18	251	Pn	Pn	01 28 58.0	+1.1
	375nm,0.3s,baz=76,slow=20,SNR=22						
RAO				Sn	Sn	01 29 14.8	+3.0
	638nm,0.3s,baz=253,slow=19,SNR=8.4						
URZ	Urewera	10.72	207	Pn	Pn	01 31 09.7	+1.9
URZ				Sn	Sn	01 33 01.1	-5.4
URZ	Urewera	10.72	207	Pn	Pn	01 31 09.7	+1.9
	0.5nm,0.3s,baz=52,slow=17,SNR=2.9						
URZ				Sn	Sn	01 33 01.1	-5.4
	1.2nm,0.3s,baz=172,slow=14,SNR=3.1						
DZM	Mont Dzumac	16.70	290	ePn	Pn	01 32 26.9	-1.3
CTAO	Charters Tower	34.77	276	eP	P	01 35 24.4	+0.4
	11nm,1.4s						
STKA	Stephens Creek	36.00	255	P	P	01 35 35.1	+0.5
STKA	Stephens Creek	36.00	255	P	P	01 35 35.1	+0.5
	2.3nm,0.7s,baz=110,slow=10.0,SNR=4.3						
STKA				LR	LR	01 49 10.4	
	comp=Z,116nm,20.3s,baz=27,slow=34						
PMG	Port Moresby	39.07	292	eP	P	01 35 56.7	-4.0
	15nm,0.8s						
ASAR	Alice Springs	44.40	265	P	P	01 36 43.6	-0.7
ASAR				PcP	PcP	01 38 28.2	+0.5
ASAR	Alice Springs	44.40	265	P	P	01 36 43.6	-0.7
	1.1nm,0.6s,baz=98,slow=6.8,SNR=16						
ASAR				PcP	PcP	01 38 28.2	+0.5
	0.8nm,0.9s,baz=127,slow=3.7,SNR=3.3						
ASAR				LR	LR	01 55 45.0	
	comp=Z,127nm,18.3s,baz=4.3,slow=37						
WRAB	Tennant Creek	45.25	270	eP	P	01 36 50.0	-1.1
	6.1nm,1.1s						
WRA	Warramunga Arr	45.25	270	P	P	01 36 50.0	-1.0
WRA				PcP	PcP	01 38 31.7	+1.0
WRA	Warramunga Arr	45.25	270	P	P	01 36 50.0	-1.0
	1.5nm,0.8s,baz=107,slow=7.9,SNR=12						
WRA				PcP	PcP	01 38 31.7	+1.0
	1.7nm,0.9s,baz=120,slow=3.4,SNR=5.9						
WRA				LR	LR	01 55 45.9	
	comp=Z,76nm,19.4s,baz=280,slow=36						
FORT	Forrest	47.60	253	eP	P	01 37 08.0	-1.4
	5.7nm,0.7s						
MBWA	Marble Bar	57.59	262	eP	P	01 38 20.6	-2.8
	6.5nm,0.9s						
KAPI	Kappang	64.53	279	eP	P	01 39 10.4	-0.2
	4.2nm,0.8s						
MAW	Mawson	74.16	200	P	P	01 40 11.7	+2.5
MAW	Mawson	74.16	200	P	P	01 40 11.7	+2.5
	2.6nm,0.7s,baz=124,slow=8.4,SNR=5.7						
MAJO	Matsushiro	77.67	324	eP	P	01 40 27.9	-1.7
	6.4nm,0.9s						
SNAA	Sanae	79.65	178	eP	P	01 40 41.1	+0.9
	3.7nm,1.2s						
PETK	Petropavlovsk-	84.63	345	P	P	01 41 05.3	-0.9
PETK	Petropavlovsk-	84.63	345	P	P	01 41 05.3	-0.9
	1.9nm,0.7s,baz=152,slow=6.5,SNR=5.9						
IPM	Ipoh	85.45	278	eP	P	01 41 11.7	+0.4
	4.7nm,0.8s						
KULM	Kulim	86.17	278	eP	P	01 41 14.5	-0.4
	9.1nm,1.2s						
TXAR	Lajitas Array	90.56	57	P	P	01 41 37.2	+1.7
TXAR	Lajitas Array	90.56	57	P	P	01 41 37.2	+1.7
	0.3nm,0.7s,baz=203,slow=6.7,SNR=3.6						
PDAR	Pinedale Array	94.21	43	P	P	01 41 51.3	-1.0
PDAR	Pinedale Array	94.21	43	P	P	01 41 51.3	-1.0
	0.2nm,0.3s,baz=224,slow=3.8,SNR=3.5						
MK31	Makanchi Array	117.69	310	ePKPdf	PKPdf	01 47 18.7	-0.3
EKS2	Erkin-Say	122.76	304	ePKPdf	PKPdf	01 47 29.2	+0.3
FINES	FINESS Array B	144.09	342	PKP	PKPab	01 48 05.3	-0.2
FINES	FINESS Array B	144.09	342	PKP	PKPab	01 48 05.3	-0.2
	2.3nm,0.8s,baz=101,slow=1.9,SNR=7.5						
NB2	NORSAR Subarra	147.40	353	PKP	PKPbc	01 48 15.9	-0.3
	comp=Z,0.8nm,0.6s,baz=9.5,slow=2.9						
NOA	NORSAR Array B	147.40	353	PKPbc	PKPbc	01 48 15.8	-0.3
NOA	NORSAR Array B	147.40	353	PKPbc	PKPbc	01 48 15.8	-0.3
	comp=Z,1.0nm,0.7s,baz=12,slow=4.4,SNR=3.4						
AKASG	Malin Array Be	150.75	325	PKPbc	PKPbc	01 48 24.6	-0.3
AKASG	Malin Array Be	150.75	325	PKPbc	PKPbc	01 48 24.6	-0.3
	comp=Z,2.2nm,0.8s,baz=46,slow=3.3,SNR=9.3						
BRTR	Keskin Array B	152.86	302	PKPbc	PKPbc	01 48 30.5	+0.2
BRTR	Keskin Array B	152.86	302	PKPbc	PKPbc	01 48 30.5	+0.2
	comp=Z,0.8nm,1.0s,baz=305,slow=5.1,SNR=3.3						
TORD	Torodi Ar. Bea	164.29	174	PKPab	PKPab	01 49 31.7	+0.7
TORD	Torodi Ar. Bea	164.29	174	PKPab	PKPab	01 49 31.7	+0.7
	comp=Z,0.4nm,0.8s,baz=176,slow=3.4,SNR=2.7						

*ISCJB **20** 01:32:11.8±0.3, 45°.15N±0°.06×142°.18E±0°.07, h301km±3km, mb3.6/18, Error ellipse: s-maj=9.4km s-min=7.5km az=7.6*
*JMA **20** 01:32:12.5±0.2, 45°.25N×142°.14E, h294km±2km, M3.6*
*IDC **20** 01:32:12.9±1.1, 45°.44N×142°.03E, h287km±17km, mb3.4/18, mb1 3.6/20, mb1mx3.4/29, mbtmp3.4/20, Error ellipse: s-maj=38.5km s-min=11.6km az=177.0*

ISC 20 01:32:12.4±0.6, 45°.11N±0°.07×142°.16E±0°.06, h297km±5km, n42, σ1§06/56, mb3.6/18, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWK2	Keihoku	0.28	319	P	Pn	01 32 49.9	-0.2
JWK2				eS	S	01 33 18.9	-1.2
JSE	Soyaes	0.34	116	P	Pn	01 32 50.2	-0.1
JSE				eS	S	01 33 19.3	-1.1
JRR	Rishiri	0.60	273	P	Pn	01 32 50.8	-0.1
JRR				eS	S	01 33 21.0	-0.4
JSS	Shosan	0.74	197	P	Pn	01 32 52.0	+0.5
JYG	Yagishiri	0.86	218	P	Pn	01 32 52.2	+0.3
ASAJ	Asahikawa	1.04	162	P	Pn	01 32 53.3	+0.6
ASAJ				eS	S	01 33 25.8	+1.1
ASAJ	Asahikawa	1.04	162	P	Pn	01 32 53.4	+0.7
	40nm,0.3s,baz=303,slow=6.0,SNR=205						
ASAJ				S	S	01 33 25.3	+0.6
	1.9nm,0.3s,baz=37,slow=32,SNR=7.4						
JKK2	Kamakawa 2	1.30	161	P	Pn	01 32 55.0	+0.8
JKK2				eS	S	01 33 28.8	+1.5
JMP	Maruseppu	1.40	142	P	Pn	01 32 55.2	+0.5
JMP				eS	S	01 33 29.2	+0.9
JHR	Hokuryu	1.40	193	P	Pn	01 32 55.6	+0.9
JAB	Ashibetsu	1.60	178	P	Pn	01 32 56.9	+0.9
JTKR	Abashiri--Toko	1.69	132	P	Pn	01 32 57.4	+0.8
JTKR				eS	S	01 33 32.6	+0.9
JFR	Furan	1.97	171	P	Pn	01 32 59.4	+0.7
JSK	Shakotan	2.13	215	P	Pn	01 33 00.8	+0.8
JAR	Ashorobuto	2.15	147	P	Pn	01 33 01.3	+1.1
JAR				eS	S	01 33 38.9	+0.7
JEW	Eniwo	2.32	193	P	Pn	01 33 02.9	+1.2
JCH	Churui	2.64	160	P	Pn	01 33 03.9	-0.6
JCH				eS	S	01 33 43.1	-3.0
JAK	Akkeshi	2.79	138	eS	S	01 33 46.4	-2.2
JNBK	Urakawa-nobuka	2.86	171	P	Pn	01 33 07.3	+0.7
JNBK				eS	S	01 33 50.0	+0.1
NEM2	Nemuro 2	3.11	123	P	Pn	01 33 08.8	-0.2
NEM2				eS	S	01 33 51.5	-2.7
JKB	Kayabe	3.32	195	P	Pn	01 33 11.3	+0.1
JKB				eS	S	01 33 56.3	-1.9
USRK	Ussuriysk Arra	7.30	266	P	Pn	01 33 57.6	+0.3
	1.5nm,0.3s,baz=71,slow=13,SNR=48						
USRK				S	S	01 35 23.0	+0.8
	0.0nm,0.3s,baz=78,slow=14,SNR=2.0						
MAT	Matsushiro	9.06	201	P	Pn	01 34 19.3	+0.2
PETK	Petropavlovsk-	12.93	46	P	Pn	01 35 06.5	+0.5
	0.2nm,0.3s,baz=222,slow=9.1,SNR=2.8						
FX1	Attu Island--F	21.65	58	P	P	01 36 40.4	+1.2
	8.2nm,0.7s,baz=292,slow=5.4,SNR=3.6						
MKAR	Makanchi Array	40.78	295	P	P	01 39 25.2	+0.1
	0.6nm,0.7s,baz=81,slow=15,SNR=4.0						
KDAK	Kodiak Island	40.98	48	P	P	01 39 27.0	+0.5
	3.5nm,0.5s,baz=265,slow=6.0,SNR=4.0						
ILAR	Eielson Array	42.53	37	P	P	01 39 37.9	-1.0
	1.9nm,0.6s,baz=278,slow=9.5,SNR=17						
BVAR	Borovoye Array	45.85	307	P	P	01 40 04.1	-1.1
	0.4nm,0.5s,baz=64,slow=9.8,SNR=2.7						
INK	Inuvik	47.04	30	P	P	01 40 13.2	-0.9
	2.5nm,0.5s						
YKA	Yellowknife Ar	56.63	33	P	P	01 41 24.4	-0.1
	0.7nm,0.7s,baz=306,slow=6.3,SNR=4.6						
ARCES	ARCESS Array B	56.69	338	P	P	01 41 24.6	-0.3
	5.3nm,1.1s,baz=50,slow=9.8,SNR=4.0						
FINES	FINESS Array B	61.99	331	P	P	01 41 59.3	-1.7
	1.5nm,0.9s,baz=47,slow=7.6,SNR=11						
KBZ	Khabaz	66.19	309	P	P	01 42 29.6	+1.1
	1.3nm,0.9s,baz=53,slow=5.1,SNR=3.5						
NOA	NORSAR Array B	66.99	336	P	P	01 42 32.0	-1.3
	0.5nm,0.7s,baz=36,slow=6.5,SNR=3.5						
AKASG	Malin Array Be	68.32	321	P	P	01 42 40.6	-0.9
	0.5nm,0.4s,baz=43,slow=6.5,SNR=6.5						
PDAR	Pinedale Array	71.69	47	P	P	01 43 03.4	+0.9
	1.4nm,0.6s,baz=287,slow=1.3,SNR=12						
PFO	Pinyon Flat Ob	74.20	58	P	P	01 43 17.4	+0.2
	2.2nm,0.2s,baz=236,slow=15,SNR=14						
GERES	GERESS Array B	76.17	328	P	P	01 43 28.0	+0.1
	0.5nm,0.5s,baz=46,slow=7.6,SNR=6.4						
SCHQ	Schefferville	77.44	17	P	P	01 43 34.6	-0.2
	3.6nm,1.0s,baz=342,slow=6.4,SNR=3.3						
TXAR	Lajitas Array	84.78	53	P	P	01 44 15.4	+1.6
	0.2nm,0.5s,baz=289,slow=4.2,SNR=5.9						
ESDC	Sonseca Array	90.28	335	P	P	01 44 39.9	+0.1
	0.1nm,0.3s,baz=18,slow=4.5,SNR=2.9						

*AUST **20** 01:31:49.8, 16°.57S×173°.37W, h60km*
*ISCJB **20** 01:33:08.0±0.6, 17°.6S±0°.1×178°.5W±0°.1, h547km, mb4.0/8, Error ellipse: s-maj=18.5km s-min=10.6km az=151.9*
*IDC **20** 01:33:07.8±1.5, 17°.43S×178°.67W, h522km±17km, mb3.4/7, mb1 3.7/9, mb1mx3.4/17, mbtmp4.4/9, Error ellipse: s-maj=26.5km s-min=13.6km az=152.0*

ISC 20 01:33:09.1±0.7, 17°.6S±0°.1×178°.5W±0°.1, h547km, n32, σ1§14/33, mb4.0/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.46	61	P	P	01 34 59.6	-2.0
	7.6nm,0.3s,baz=67,slow=4.6,SNR=11						
DZM	Mont Dzumac	14.83	250	P	P	01 36 15.8	-1.1
	1.2nm,0.3s,baz=72,slow=16,SNR=18						
URZ	Urewera	20.91	190	P	P	01 37 11.0	-2.4
	4.8nm,0.8s,baz=23,slow=7.7,SNR=3.4						
ARMA	Armidale	30.00	239	P	P	01 38 34.6	+0.7
	baz=35,SNR=11						
RMQ	Roma	31.52	248	P	P	01 38 47.5	+0.7
	baz=36,SNR=5.5						
CNB	Canberra Magne	33.52	232	P	P	01 39 04.5	+0.8
	baz=38,SNR=13						
PMG	Port Moresby	34.32	279	P	P	01 39 09.5	-1.1
	23nm,0.9s,baz=69,slow=8.6,SNR=4.7						
CMSA	Cobar Meteorol	35.20	240	P	P	01 39 18.1	+0.3
	baz=40,SNR=8.3						
COEN	Coen	37.01	270	P	P	01 39 33.4	+0.5
	baz=42,SNR=6.3						
TOO	Toolangi	37.27	230	P	P	01 39 35.1	+0.3
	baz=42,SNR=4.7						
STKA	Stephens Creek	38.68	241	P	P	01 39 46.8	+0.5
	5.8nm,0.5s,baz=90,slow=9.2,SNR=22						
STKA	Stephens Creek	38.68	241	P	P	01 39 47.0	+0.6
	baz=44,SNR=11						
JAY	Jayapura	42.74	286	P	P	01 40 19.7	+0.8
	baz=47,SNR=5.1						
BBOO	Buckleboo	43.46	241	P	P	01 40 24.3	+0.1
	baz=48,SNR=19						
WRA	Warramunga Arr	44.59	259	P	P	01 40 32.0	-1.1
	4.4nm,0.5s,baz=92,slow=6.7,SNR=72						
WRA				ScP	ScP	01 45 06.5	+1.9
	0.7nm,0.7s,baz=90,slow=3.8,SNR=5.1						
ASAR	Alice Springs	44.77	254	P	P	01 40 34.2	-0.3
	41nm,0.6s,baz=88,slow=8.2,SNR=508						
ASAR				ScP	ScP	01 45 08.2	+2.8
	0.7nm,0.8s,baz=99,slow=4.6,SNR=4.8						
KDU	Kakadu	47.47	269	P	P	01 40 54.8	-0.2
	baz=52,SNR=8.9						
MTN	Manton Dam	48.71	268	P	P	01 41 03.8	-0.5
	baz=54,SNR=5.3						
FORT	Forrest	50.04	244	P	P	01 41 13.2	-0.7
	baz=55,SNR=11						
KNRA	Kununurra	50.42	264	P	P	01 41 16.5	-0.3
	baz=55,SNR=5.5						
FAKI	Fak Fak	50.43	281	P	P	01 41 16.9	-0.1
	baz=55,SNR=3.8						
FITZ	Fitzroy Crossi	52.98	260	P	P	01 41 35.5	+0.2
	baz=58,SNR=10						
MEEK	Meekatharra	58.44	249	P	P	01 42 12.2	-0.8
	baz=63,SNR=4.7						
VNDA	Vanda	60.71	185	P	P	01 42 28.8	+1.5
	0.3nm,0.6s,baz=5.0,slow=7.8,SNR=3.2						
UGM	Wanagama	69.56	268	P	P	01 43 23.7	-0.3
	baz=74,SNR=6.0						
KSM	Kuching	72.55	277	P	P	01 43 42.6	+1.1
	baz=77,SNR=3.7						
BTDF	Bukit Timah Da	78.71	275	P	P	01 44 08.0	-7.7
	baz=84,SNR=22						
BTDF				P	P	01 44 08.0	-7.7
	baz=84,SNR=22						
ILAR	Eielson Array	85.64	13	P	P	01 44 48.9

OPO	**Ambohidratompo**	**23.39 238**	LR	LR	03 00 37.7		
	comp=Z,127nm,19.4s,baz=175,slow=33						
ATD	**Arta Tunnel**	**30.97 306**	LR	LR	03 03 41.8		
	comp=Z,40nm,20.0s,baz=126,slow=31						
PSI	**Prapat**	**32.31 74**	LR	LR	03 04 37.5		
	comp=Z,134nm,18.9s,baz=193,slow=32						
MKAR	**Makanchi Array**	**54.87 12**	P	P	02 57 09.0	0.0	
	0.4nm,0.7s,baz=212,slow=6.8,SNR=3.1						
MAW	**Mawson**	**60.79 182**	LR	LR	03 17 46.1		
	comp=Z,44nm,18.6s,baz=67,slow=30						
ZALV	**Zalesovo Beam**	**62.18 11**	LR	LR	03 24 12.2		
	comp=Z,24nm,18.5s,baz=340,slow=35						
ASAR	**Alice Springs**	**65.23 113**	P	P	02 58 21.6	+0.8	
	0.5nm,0.9s,baz=280,slow=5.5,SNR=4.1						
WRA	**Warramunga Arr**	**65.48 109**	P	P	02 58 21.6	-0.8	
	0.9nm,0.9s,baz=278,slow=5.8,SNR=5.4						
TORD	**Torodi Ar. Bea**	**68.78 287**	P	P	02 58 43.4	0.0	
	0.3nm,1.0s,baz=105,slow=5.3,SNR=2.6						
DBIC	**Dimbokro**	**73.92 279**	LR	LR	03 33 50.7		
	comp=Z,41nm,18.0s,baz=233,slow=38						

*CSEM **20** 02:54:48.5, 40°.77N×29°.29W, h10km, ML3.1, After PDA*

PDA 20 02:54:48.5±0.9, 40°.77N×29°.29W, h10km, MD4.2, ML3.1, Error ellipse: s-maj=7.6km s-min=5.1km az=86.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGRA	**Graciosa**	**2.01 149**		*e*P	Pn	02 55 17.6	-4.9
PGRA	**Graciosa**	**2.01 149**		*e*P	Pn	02 55 17.6	-4.9
ROSA	**Rosais**	**2.20 158**		*e*S	Sn	02 55 44.6	-7.8
ROSA				A	A	02 55 46.6	
	8.5nm,0.2s						
ROSA	**Rosais**	**2.20 158**		*e*S	Sn	02 55 44.6	-7.8
CALA	**Caldeira**	**2.23 168**		*e*S	Sn	02 55 45.3	-8.1
CALA	**Caldeira**	**2.23 168**		*e*S	Sn	02 55 45.3	-8.1
PMAN	**Manadas**	**2.33 156**		*e*P	Pn	02 55 21.9	-4.9
PMAN				*e*S	Sn	02 55 47.5	-8.0
PMAN				A	A	02 55 49.5	
	17nm,0.3s						
PMAN	**Manadas**	**2.33 156**		*e*P	Pn	02 55 21.9	-4.9
PMAN				*e*S	Sn	02 55 47.5	-8.0
PICO	**Pico**	**2.36 163**		*e*P	Pn	02 55 23.0	-4.4
PICO	**Pico**	**2.36 163**		*e*P	Pn	02 55 23.0	-4.4
PCAN	**Candelaria**	**2.39 165**		*e*P	Pn	02 55 23.6	-4.1
PCAN				*e*S	Sn	02 55 49.3	-7.7
PCAN				A	A	02 55 52.5	
	25nm,0.3s						
PCAN	**Candelaria**	**2.39 165**		*e*P	Pn	02 55 23.6	-4.1
PCAN				*e*S	Sn	02 55 49.3	-7.7
ADH	**Angra Heroismo**	**2.64 142**		*e*P	Pn	02 55 26.3	-4.8
ADH				*e*S	Sn	02 55 55.3	-7.9
ADH				A	A	02 55 56.7	
	10nm,0.1s						
ADH	**Angra Heroismo**	**2.64 142**		*e*P	Pn	02 55 26.3	-4.8
ADH				*e*S	Sn	02 55 55.3	-7.9
CMLA	**Cha da Macela**	**4.19 135**		*e*P	Pn	02 55 48.2	-4.3
CMLA				*e*S	Sn	02 56 33.3	-8.2
CMLA				A	A	02 56 34.9	
	8.1nm,0.3s						
CMLA	**Cha da Macela**	**4.19 135**		*e*P	Pn	02 55 48.2	-4.3
CMLA				*e*S	Sn	02 56 33.3	-8.2
BART	**Pico Bartolome**	**4.38 132**		*e*P	Pn	02 55 51.1	-4.1
BART				*e*S	Sn	02 56 37.5	-8.8
BART				A	A	02 56 40.6	
	10nm,0.5s						
BART	**Pico Bartolome**	**4.38 132**		*e*P	Pn	02 55 51.1	-4.1
BART				*e*S	Sn	02 56 37.5	-8.8

*ISCJB **20** 02:56:15.5±0.5, 32°.40N±0°.02×115°.22W±0°.03, h5km±4km, Error ellipse: s-maj=4.4km s-min=3.3km az=147.0*

*NEIC **20** 02:56:18.1, 32°.38N×115°.27W, h3km, ML3.2(PAS), ML3.5(ECX), After ECX.*

NEIC Felt [III] at Yuma, Arizona.

*ECX **20** 02:56:18.1±0.4, 32°.38N×115°.28W, h3km, MD3.3, ML3.5*

ISC 20 02:56:17.5±1.0, 32°.36N±0°.02×115°.28W±0°.02, h5km±7km, n47, σ1°51/66, 7D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.06 343**		⇓*i*P	Pg	02 56 18.9	0.0
CPBX				*e*S	Sg	02 56 20.2	+0.3
COA	**Coachella**	**0.52 15**		*e*P	Pg	02 56 27.4	-0.1
COA	**Coachella**	**0.52 15**		⇓*e*P	Pg	02 56 27.4	-0.1
YUH	**Yuha Desert**	**0.61 298**		*e*P	Pg	02 56 28.8	-0.5
YUH	**Yuha Desert**	**0.61 298**		⇓*e*P	Pg	02 56 28.8	-0.5
COK	**Cook Ranch**	**0.62 323**		*e*P	Pg	02 56 28.9	-0.5
COK	**Cook Ranch**	**0.62 323**		⇓*e*P	Pg	02 56 28.9	-0.5
RDX	**Rancho Dawling**	**0.71 233**		*e*P	Pg	02 56 31.0	-0.1
RDX				*e*S	Sg	02 56 40.8	+0.6
RDX	**Rancho Dawling**	**0.71 233**		*e*P	Pg	02 56 31.0	-0.1
RDX				*e*S	Sg	02 56 40.8	+0.6
RDX				⇓*e*		02 56 42.7	
	comp=N,2μm,0.4s						
RMX	**La Rumorosa**	**0.71 290**		*e*P	Pg	02 56 30.9	-0.4
RMX	**La Rumorosa**	**0.71 290**		*e*P	Pg	02 56 30.9	-0.4
RMX				⇓*e*		02 56 44.0	
	comp=N,2μm,0.5s						
SWSC	**Sam W. Stewart**	**0.72 323**		P	Pg	02 56 30.2	-1.2
	baz=0.7						
DVTC	**Desert V Tower**	**0.75 294**		P	Pg	02 56 31.5	-0.4
	baz=0.7						
DVTC				S	Sg	02 56 41.4	-0.4
	baz=0.7						
CRR	**Carrizo Plain**	**0.78 312**		*e*P	Pg	02 56 31.5	-1.0
CRR	**Carrizo Plain**	**0.78 312**		⇓*e*P	Pg	02 56 31.5	-1.0
GLA	**Glamis**	**0.79 29**		*e*Pg	Pg	02 56 31.3	-1.4
GLA				*e*Sg	Sg	02 56 41.6	-1.3
GLA	**Glamis**	**0.79 29**		P	Pg	02 56 31.0	-1.6
	baz=0.8						
GLA				S	Sg	02 56 41.6	-1.3
	baz=0.8						
MONP	**Monument Peak**	**1.10 299**		P	Pg	02 56 36.6	-2.0
	baz=1.1						
MONP				S	Sg	02 56 51.9	-0.8
	baz=1.1						
CBX	**Cerro Bola**	**1.17 268**		*e*P	Pg	02 56 38.8	-1.1
CBX				*e*S	Sg	02 56 54.6	-0.5
CBX	**Cerro Bola**	**1.17 268**		*e*P	Pg	02 56 38.8	-1.1
CBX				*e*S	Sg	02 56 54.6	-0.5
ZAX	**El Zacaton**	**1.19 225**		*e*P	Pg	02 56 39.2	-1.2
ZAX				*e*S	Sg	02 56 55.8	0.0
BAR	**Barrett**	**1.22 286**		*e*Pg	Pg	02 56 39.5	-1.3
BAR				*e*Sg	Sg	02 56 55.1	-1.5
BC3	**Big Chuckawall**	**1.30 354**		P	Pg	02 56 38.9	-3.6
	baz=1.3						
BC3				S	Sg	02 56 54.9	-4.4
	baz=1.3						
ECNX	**Esteban Cantu**	**1.32 238**		*e*P	Pn	02 56 41.2	-1.5
ECNX				*e*S	Sg	02 56 59.3	-0.6
ECNX				*i*S	Sb	02 56 59.8	-0.4
SPX	**San Pedro Mart**	**1.32 187**		*e*P	Pn	02 56 41.4	-1.6
SPX	**San Pedro Mart**	**1.32 187**		*e*P	Pn	02 56 41.4	-1.6
SPX				*e*S	Sg	02 56 59.7	-0.2
113A	**Mohawk Valley,**	**1.34 72**		P	Pn	02 56 39.7	-3.3
	baz=1.3						
PBX	**Punta Banda**	**1.37 244**		*e*P	Pn	02 56 41.9	-1.5
PBX	**Punta Banda**	**1.37 244**		*e*P	Pn	02 56 41.9	-1.5
Y12C	**Blythe**	**1.53 24**		P	Pn	02 56 45.3	-0.2
	baz=1.5						
PFO	**Pinyon Flat Ob**	**1.59 322**		*e*Pn	Pn	02 56 42.7	-3.8
PFO	**Pinyon Flat Ob**	**1.59 322**		P	Pn	02 56 42.9	-3.6
	baz=1.6						
109C	**Camp Elliot, M**	**1.63 289**		P	Pn	02 56 44.5	-2.4
	baz=1.6						
109C				Sb	Sn	02 57 07.2	-1.0
	baz=1.6						
MURC	**Murrieta**	**2.03 308**		Sb	Sn	02 57 19.5	+1.2
	baz=2.0						
214A	**Organ Pipe Nat**	**2.13 100**		P	Pn	02 56 50.2	-3.7
	baz=2.1						
CIS	**Catalina Islan**	**2.83 293**		Sb	Sb	02 57 43.3	-0.1
	baz=2.8						
MWC	**Mount Wilson**	**2.98 309**		*e*Pn	Pn	02 57 07.3	+1.7
MWC				*e*Sg	Sb	02 57 50.1	+2.2
GSC	**Goldstone**	**3.20 337**		*e*Pg	Pb	02 57 15.9	+1.0
TUC	**Tucson**	**3.81 90**		*e*Pn	Pn	02 57 15.4	-1.6
TUC				*e*Pg	Pb	02 57 26.9	+1.6
TUC				*e*Sg	Sb	02 58 14.0	+2.3
X16A	**Lo Mia Camp, P**	**3.81 56**		P	Pn	02 57 15.6	-1.5
	baz=3.8						
SHPR	**Sheep Range**	**4.14 1**		*e*Pn	Pn	02 57 24.7	+3.1
SHPR				*e*Pg	Pg	02 57 37.3	+0.5
SHPR				*e*Sg	Sb	02 58 23.8	+2.4
ISA	**Isabella**	**4.23 322**		*e*Pn	Pn	02 57 21.1	-1.6
ISA				*e*Pg	Pg	02 57 36.8	-1.7
ISA				*e*Sg	Sb	02 58 28.1	+4.3
WUAZ	**Wupatki**	**4.53 45**		*e*Pn	Pn	02 57 26.5	-0.4
WUAZ				*e*Pg	Pg	02 57 41.5	-2.8
CCUT	**Cedar City**	**5.41 16**		*e*Pn	Pn	02 57 39.0	-0.2
	comp=N,6.8nm,0.9s						
CCUT				*e*Pg	Pg	02 57 58.0	-3.2
R11A	**Troy Canyon, C**	**5.98 358**		*e*Pn	Pn	02 57 47.7	+0.8
R11A				*e*Pg	Pg	02 58 11.7	-0.4
MVU	**Marysvale**	**6.62 21**		*e*Pg	Pb	02 58 19.0	+5.6
	comp=N,3.2nm,0.7s						
WVOR	**Wild Horse Val**	**10.40 346**		*e*Pn	Pn	02 58 45.2	-2.3
	comp=N,6.8nm,0.9s						

IDC 20 02:59:28.3±1.6, 45°.31N×137°.14E, h346km±15km, mb2.9/3, mb1 3.0/5, mb1mx2.7/24, mbtmp2.9/5, Error ellipse: s-maj=33.3km s-min=24.7km az=51.0, Primorye

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USRK	**Ussuriysk Arra**	**3.83 255**		P	Pn	03 00 35.4	+0.2
	1.2nm,0.3s,baz=63,slow=10,SNR=14						
ASAJ	**Asahikawa**	**4.07 105**		P	Pn	03 00 37.5	-0.1
	1.9nm,0.3s,baz=293,slow=7.7,SNR=12						
FINES	**FINESS Array B**	**60.03 329**		P	P	03 08 59.0	-0.1
	0.9nm,0.7s,baz=57,slow=10,SNR=3.6						
WRA	**Warramunga Arr**	**64.99 183**		P	P	03 09 31.6	-0.4
	0.9nm,1.1s,baz=0.7,slow=6.9,SNR=3.8						
ASAR	**Alice Springs**	**68.70 183**		P	P	03 09 55.8	+0.5
	0.2nm,0.4s,baz=356,slow=6.1,SNR=5.1						

IDC 20 03:26:13.7±7.5, 32°.81S×179°.74E, h418km±92km, mb2.9/2, mb1 3.2/3, mb1mx2.9/15, mbtmp2.9/3, Error ellipse: s-maj=112.6km s-min=38.9km az=5.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**5.85 201**		P	P	03 27 46.0	+1.1
	2.0nm,0.3s,baz=289,slow=1.7,SNR=18						
URZ				S	S	03 28 59.2	-0.5
	2.6nm,0.3s,baz=266,slow=23,SNR=14						
ASAR	**Alice Springs**	**41.13 271**		P	P	03 33 19.8	+0.1
	0.3nm,0.5s,baz=105,slow=7.3,SNR=11						
WRA	**Warramunga Arr**	**42.34 276**		P	P	03 33 28.9	-0.4
	0.8nm,0.3s,baz=115,slow=7.6,SNR=50						
FINES	**FINESS Array B**	**146.68 337**		PKPbc	PKPbc	03 45 05.6	-0.9
	0.9nm,0.6s,baz=46,slow=4.0,SNR=9.6						

IDC 20 03:40:58.1±1.4, 3°.71N×126°.75E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.6/23, mbtmp3.7/6, Error ellipse: s-maj=104.2km s-min=18.2km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.70 183**		P	P	03 45 50.9	+0.1
	1.4nm,1.0s,baz=349,slow=10,SNR=4.8						
WRA	**Warramunga Arr**	**24.66 163**		P	P	03 46 19.8	-1.0
	1.4nm,0.7s,baz=343,slow=10,SNR=7.4						
ASAR	**Alice Springs**	**28.09 166**		P	P	03 46 51.8	0.0
	0.2nm,0.4s,baz=340,slow=9.0,SNR=6.4						
STKA	**Stephens Creek**	**38.11 159**		P	P	03 48 19.5	+0.6
	2.6nm,1.1s,baz=338,slow=11,SNR=2.8						
MKAR	**Makanchi Array**	**57.58 325**		P	P	03 50 50.0	+0.2
	0.5nm,0.5s,baz=117,slow=8.0,SNR=4.9						
KURBB	**Kurchatov Arra**	**61.76 327**		P	P	03 51 18.2	-0.2
	1.1nm,0.7s,baz=129,slow=6.2,SNR=19						

*IDC **20** 03:44:05.5±0.7, 0°.11S×125°.45E, h0km, mb4.0/13, mb1 4.1/15, mb1mx4.0/25, mbtmp4.0/15, ML3.6/2, MS3.5/2, Ms1 3.5/2, ms1mx2.7/34, Error ellipse: s-maj=32.5km s-min=14.5km az=70.0*

*ISCJB **20** 03:44:10.0±0.8, 0°.21S±0°.06×125°.42E±0°.05, h45km±9km, mb4.0/15, MS3.9/1, Error ellipse: s-maj=10.4km s-min=6.8km az=32.4*

*DJA **20** 03:44:10.0±0.8, 0°N±6°×132°6E±°, h114km±15km, M4.5/11, mb4.5/2, mB4.8/1, MLv4.5/11, Mw(mB)4.0/1*

*AUST **20** 03:44:11.8±4.9, 0°.52S×125°.45E, h0km, Error ellipse: s-maj=2.4km s-min=0.8km az=18.0*

ISC 20 03:44:10.2±1.8, 0°.14S±0°.06×125°.40E±0°.06, h28km±14km, n36, σ1°33/40, mb4.2/15, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.17 65**		P	Pn	03 44 43.1	-1.4
GTOI	**Gorontalo**	**2.51 288**		P	Pb	03 44 53.6	-1.0
GTOI				S	Sb	03 45 26.5	+1.4
LUWI	**Luwuk**	**2.77 251**		P	Pn	03 44 57.4	+4.5
LUWI				S	Sb	03 45 32.5	-0.2
LUWI	**Luwuk**	**2.77 251**		P	Pb	03 44 57.7	-1.4
	baz=2.7,SNR=9.5						
MRSI	**Marisa**	**3.51 280**		P	Pn	03 45 02.3	-0.7
NLAI	**Namlea**	**3.52 151**		P	Pn	03 45 02.6	-0.5
NLAI				S	Sn	03 45 40.6	-3.2
APSI	**Ampana**	**3.83 258**		P	Pn	03 45 08.8	+1.5
APSI				S	Sb	03 46 05.0	+2.0
AAI	**Ambon**	**4.50 142**		P	Pn	03 45 17.1	+0.5
AAI	**Ambon**	**4.50 142**		P	Pn	03 45 18.3	+1.7
	baz=4.2,SNR=3.5						
MSAI	**Masohi**	**4.75 132**		P	Pn	03 45 21.6	+1.5
MSAI				S	Sn	03 46 15.7	+1.4
BNSI	**Bone**	**6.77 231**		P	Pn	03 45 49.2	+1.4
	24nm,0.6s,0.1nm						
SPSI	**Sidrap Palu**	**6.79 236**		P	Pn	03 45 49.3	+1.2
FAKI	**Fak Fak**	**7.38 112**		P	Pn	03 45 56.8	+0.5
	baz=7.2,SNR=13						
KAPI	**Kappang**	**7.43 229**		Pn	Pn	03 45 57.5	+0.6
	2.1nm,0.3s,baz=224,slow=7.2,SNR=9.7						
KAPI				Sn	Sn	03 47 14.5	-5.9
	1.3nm,0.3s,baz=307,slow=20,SNR=3.2						
MTN	**Manton Dam**	**13.84 156**		P	Pn	03 47 25.1	+0.4
	baz=14,SNR=4.9						
KDU	**Kakadu**	**14.30 151**		P	Pn	03 47 30.0	-1.0
	baz=14,SNR=3.6						
KSM	**Kuching**	**15.17 276**		P	P	03 47 48.8	+1.2
	baz=15,SNR=5.6						
FITZ	**Fitzroy Crossi**	**17.85 179**		P	Pn	03 48 16.1	-0.6
	0.1nm,0.3s,baz=338,slow=5.4,SNR=2.9						
FITZ				LR	LR	03 55 54.8	
	comp=Z,73nm,19.5s,baz=52,slow=40						
WRA	**Warramunga Arr**	**21.54 157**		P	P	03 48 55.3	-2.3
	1.9nm,0.6s,baz=331,slow=12,SNR=10						
COEN	**Coen**	**22.32 129**		P	P	03 49 08.9	+3.0
	baz=22,SNR=5.7						
ASAR	**Alice Springs**	**24.80 161**		P	P	03 49 29.1	-1.1
	0.9nm,0.5s,baz=338,slow=8.6,SNR=11						
ASAR				PcP	PcP	03 53 06.5	+0.1
	0.4nm,0.6s,baz=351,slow=2.0,SNR=4.4						
STKA	**Stephens Creek**	**35.09 156**		P	P	03 51 01.3	+0.1
	2.4nm,0.8s,baz=332,slow=13,SNR=5.6						
KSRS	**Korea Array**	**37.48 3**		P	P	03 51 23.2	+1.6
	0.9nm,0.9s,baz=186,slow=9.6,SNR=3.1						
USRK	**Ussuriysk Arra**	**44.54 7**		P	P	03 52 21.0	+1.5
	1.0nm,0.5s,baz=169,slow=8.7,SNR=2.9						
LHI	**Lord Howe Isla**	**44.60 138**		P	P	03 52 30.1	+10
	baz=44,SNR=3.8						
PETK	**Petropavlovsk-**	**59.49 22**		P	P	03 54 10.9	+0.1
	4.6nm,0.8s,baz=203,slow=7.0,SNR=4.3						
MKAR	**Makanchi Array**	**60.01 327**		P	P	03 54 13.5	-1.0
	1.5nm,0.5s,baz=121,slow=8.2,SNR=14						
MKAR				LR	LR	04 22 13.0	
	comp=Z,82nm,18.9s,baz=173,slow=38						
AAK	**Ala-Archa**	**62.37 320**		P	P	03 54 31.4	+0.6
	0.7nm,0.4s,baz=157,slow=7.7,SNR=3.2						
ZALV	**Zalesovo Beam**	**63.45 335**		P	P	03 54 36.7	-0.8
	0.5nm,0.4s,baz=113,slow=3.3,SNR=3.6						
KURBB	**Kurchatov Arra**	**64.30 329**		P	P	03 54 42.5	-0.7
	1.2nm,0.6s,baz=131,slow=6.3,SNR=20						
BVAR	**Borovoye Array**	**69.85 328**		P	P	03 55 17.9	-0.5
	0.7nm,0.6s,baz=142,slow=7.3,SNR=3.5						
AKTO	**Aktyubinsk**	**75.87 323**		P	P	03 55 53.4	-0.8
	2.8nm,0.6s,baz=110,slow=6.0,SNR=8.1						
KMBO	**Kilima Mbogo**	**88.14 269**		P	P	03 57 00.3	+0.7
	0.6nm,0.3s,baz=78,slow=9.3,SNR=3.9						
ILAR	**Eielson Array**	**89.15 25**		P	P	03 57 02.8	-0.2
	0.2nm,0.5s,baz=254,slow=4.2,SNR=5.1						
BRTR	**Keskin Array B**	**91.45 310**		P	P	03 57 13.5	-1.0
	1.1nm,0.9s,baz=163,slow=3.4,SNR=3.2						
TORD	**Torodi Ar. Bea**	**122.76 285**		PKP	PKPdf	04 03 04.0	-0.7
	0.5nm,0.7s,baz=116,slow=1.5,SNR=3.7						

*IDC **20** 03:50:11.6±0.6, 43°.41N×13°.29E, h0km, mb4.2/17, mb1 4.3/29, mb1mx4.2/40, mbtmp4.2/29, ML4.3/10, MS3.4/17, Ms1 3.4/17, ms1mx3.2/40, Error ellipse: s-maj=11.5km s-min=10.6km az=123.0*

*MOS **20** 03:50:12.2±0.9, 43°.50N×13°.38E, h11km, mb4.6/25, Error ellipse: s-maj=3.3km s-min=2.6km az=101.0*

*BJI **20** 03:50:14.7, 43°.50N×13°.40E, h25km, mB4.9/6, mb4.7/9, Ms4.6/5, Ms7 4.5/4*

*ISCJB **20** 03:50:15.7±0.1, 43°.493N±0°.009×13°.46E±0°.01, h45km±2km, mb4.4/60, MS3.6/14, Error ellipse: s-maj=1.6km s-min=1.4km az=14.8*

*LDG **20** 03:50:15.8±0.1, 43°.45N×13°.51E, h30km, Ml4.8/30, Error ellipse: s-maj=2.1km s-min=1.4km az=52.0*

*PDG **20** 03:50:16.3±0.5, 43°.44N×13°.40E, h53km±2km, MD4.7/10, ML4.8/9, Error ellipse: s-maj=0.4km s-min=0.7km az=0.0*

*CSEM **20** 03:50:17.1±0.1, 43°.46N×13°.41E, h40km, mb4.4/34, ML5.4/14, Mw4.7, Error ellipse: s-maj=1.8km s-min=1.3km az=15.0*

*ROM **20** 03:50:17.3±0.1, 43°.40N×13°.42E, h38km, Ml4.6/49, Error ellipse: s-maj=2.0km s-min=1.1km az=52.0*

*PRU **20** 03:50:17.1, 43°.44N×13°.13E, h47km, M4.6*

*NEIC **20** 03:50:17.0, 43°.41N×13°.39E, h38km, mb4.3/31, MW4.7(ROM), After ROM.*

NEIC Felt [V] at Appignano, Montecassiano, Montefano, Morrovalle, Ostra, Pergola and San Severino Marche; [IV] at Ancona, Ascoli Piceno, Camerino, Castelfidardo, Castelraimondo, Civitanova Marche, Chiaravalle, Fabriano, Fano, Falconara Marittima, Fermo, Foligno, Jesi, Loreto, Macerata, Osimo, Pesaro, Recanati, Sant'Elpidio al Mare, Senigallia and Tolentino; [III] at Gubbio, Perugia, Rieti and Teramo. Felt throughout Marche, in much of Abruzzo, Lazio and Umbria and in parts of Emilia-Romagna and Tuscany. Also felt in San Marino.

*BEO **20** 03:50:18.7±1.3, 43°.49N×13°.45E, h43km±7km, ML4.6/1*

*GEN **20** 03:50:19.1, 43°.40N×13°.08E, h4km, ML4.6*

*THE **20** 03:50:23.9, 43°.15N×14°.22E, h26km±37km, ML5.0/5, Error ellipse: s-maj=44.5km s-min=3.1km az=290.0*

*STR **20** 03:50:27.1±0.4, 44°.02N×12°.29E, h10km, Ml4.9, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 20 03:50:16.4±0.5, 43°.42N±0°.02×13°.44E±0°.02, h34km±1km, n1048, σ1°56/1247, mb4.4/60, MS3.7/14, 79C-54D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOI	**Ancona**	**0.17 43**		Pg	Pb	03 50 24.8	+1.8
AOI				Sg	Sb	03 50 30.5	+3.1
	106μm,0.5s						
AOI	**Ancona**	**0.17 43**		P	Pb	03 50 24.8	+1.8
AOI				S	Sb	03 50 30.5	+3.1
AOI	**Ancona**	**0.17 43**		P	Pb	03 50 24.8	+1.8
AOI				S	Sb	03 50 30.5	+3.1
CING	**Cingoli**	**0.18 255**		⇑*i*Pg	Pb	03 50 24.2	+1.1
CING				Sg	Sb	03 50 29.4	+1.8
	87μm,0.3s						
CING	**Cingoli**	**0.18 255**		P	Pb	03 50 24.1	+1.1
CING				S	Sb	03 50 29.4	+1.8
CING	**Cingoli**	**0.18 255**		⇑*i*Pg	Pb	03 50 24.2	+1.1
CING				Sg	Sb	03 50 29.4	+1.8
	87μm,0.3s						
SENI	**Senigallia**	**0.32 332**		⇓*e*Pg	Pn	03 50 26.2	+1.6
SENI				Sg	Sb	03 50 33.4	+3.3
	39μm,0.5s						
SENI	**Senigallia**	**0.32 332**		⇓*e*Pg	Pn	03 50 26.2	+1.6
SENI				Sg	Sb	03 50 33.4	+3.3
	39μm,0.5s						
ARVD	**Arcevia**	**0.37 282**		⇑*i*Pg	Pn	03 50 26.0	+0.5
ARVD				Sg	Sn	03 50 32.8	+1.6
	100μm,0.5s						
ARVD	**Arcevia**	**0.37 282**		⇑*i*Pg	Pn	03 50 26.0	+0.5
ARVD				Sg	Sn	03 50 32.8	+1.6
	100μm,0.5s						
SNTG	**Esanatoglia**	**0.40 245**		⇑*i*Pg	Pn	03 50 26.4	+0.4
SNTG	**Esanatoglia**	**0.40 245**		P	Pn	03 50 26.4	+0.4
SNTG	**Esanatoglia**	**0.40 245**		⇑*i*Pg	Pn	03 50 26.4	+0.4
FDMO	**Fiordimonte**	**0.47 214**		Pg	Pn	03 50 27.2	+0.4
FDMO				Sg	Sn	03 50 34.9	+1.1
	91μm,0.4s						
FDMO	**Fiordimonte**	**0.47 214**		Pg	Pn	03 50 27.2	+0.4
FDMO				Sg	Sn	03 50 34.9	+1.1
	91μm,0.4s						
GUMA	**Gualdo di Mace**	**0.51 135**		Pg	Pb	03 50 26.4	-0.9
GUMA				Sg	Sb	03 50 33.8	-1.0
GUMA	**Gualdo di Mace**	**0.51 135**		Pg	Pb	03 50 26.4	-0.9
GUMA				Sg	Sb	03 50 33.8	-1.0
OFFI	**Offida**	**0.52 160**		⇓*i*Pg	Pn	03 50 29.4	+2.0
	92μm,0.7s						
OFFI	**Offida**	**0.52 160**		⇓*i*Pg	Pn	03 50 29.4	+2.0
	92μm,0.7s						
FSSB	**Fossombrone**	**0.55 299**		⇓*i*Pg	Pn	03 50 28.7	+0.8
FSSB				Sg	Sn	03 50 37.4	+1.5
	161μm,0.4s						
FSSB	**Fossombrone**	**0.55 299**		⇓*i*Pg	Pn	03 50 28.7	+0.8
FSSB				Sg	Sn	03 50 37.4	+1.5
	161μm,0.4s						
CESI	**CESI - Serrava**	**0.57 223**		⇑*i*Pg	Pb	03 50 28.8	+0.5
CESI				Sg	Sn	03 50 37.9	+1.4
	50μm,0.7s						
CESI	**CESI - Serrava**	**0.57 223**		⇑*i*Pg	Pb	03 50 28.8	+0.5
CESI				Sg	Sn	03 50 37.9	+1.4
	50μm,0.7s						
NRCA	**Norcia**	**0.64 202**		⇓*i*Pg	Pb	03 50 29.8	+0.5
NRCA	**Norcia**	**0.64 202**		⇓*i*Pg	Pb	03 50 29.8	+0.5
PIEI	**Pieia**	**0.67 280**		⇑Pg	Pb	03 50 30.0	+0.1
PIEI				Sg	Sb	03 50 40.0	+1.0
	31μm,0.2s						
PIEI	**Pieia**	**0.67 280**	

CESX	Cesi	1.03 218	Pg	Pb	03 50 35.3	-0.5
CESX			Sg	Sb	03 50 48.8	-0.3
36µm,0.7s						
CESX	Cesi	1.03 218	Pg	Pb	03 50 35.3	-0.5
CESX			Sg	Sb	03 50 48.8	-0.3
36µm,0.7s						
CAFI	Castiglion Fio	1.08 265	Pg	Pb	03 50 36.5	-0.2
CAFI			Sg	Sb	03 50 50.5	0.0
19µm,0.9s						
CAFI	Castiglion Fio	1.08 265	Pg	Pb	03 50 36.5	-0.2
CAFI			Sg	Sb	03 50 50.5	0.0
19µm,0.9s						
MGAB	Montegabbione	1.10 243 ⇑	iPg	Pb	03 50 36.7	-0.3
19µm,0.5s						
MGAB	Montegabbione	1.10 243 ⇑	iPg	Pb	03 50 36.7	-0.3
19µm,0.5s						
CRE	Caprese Michel	1.10 281	Pg	Pb	03 50 37.0	-0.1
CRE			Sg	Sb	03 50 51.6	+0.4
CRE	Caprese Michel	1.10 281	Pg	Pb	03 50 37.0	-0.1
CRE			Sg	Sb	03 50 51.6	+0.4
FAGN	Fagnano	1.16 175	Pg	Pn	03 50 37.3	+1.0
21µm,0.5s						
FAGN	Fagnano	1.16 175	Pg	Pn	03 50 37.3	+1.0
21µm,0.5s						
FIAM	Fiamignano	1.18 192	Pg	Pb	03 50 37.8	-0.6
FIAM			Sg	Sb	03 50 52.9	-0.5
13µm,0.7s						
FIAM	Fiamignano	1.18 192	Pg	Pb	03 50 37.8	-0.6
FIAM			Sg	Sb	03 50 52.9	-0.5
13µm,0.7s						
MNS	Montasola	1.18 209	Pg	Pb	03 50 37.6	-0.7
22µm,0.9s						
MNS	Montasola	1.18 209	Pg	Pb	03 50 37.6	-0.7
22µm,0.9s						
SFI	Santa Sofia	1.25 293	Pg	Pb	03 50 39.2	-0.4
7µm,0.9s						
SFI	Santa Sofia	1.25 293	Pg	Pb	03 50 39.2	-0.4
7µm,0.9s						
ASQU	Asqua	1.26 288	Pg	Pb	03 50 39.3	-0.4
9µm,0.8s						
ASQU	Asqua	1.26 288	Pg	Pb	03 50 39.3	-0.4
9µm,0.8s						
SACS	San Casciano d	1.26 243 ⇑	Pg	Pn	03 50 38.4	+0.7
9µm,0.7s						
CAFR	Castel Frentan	1.37 151	Pg	Pb	03 50 40.6	-0.9
CAFR	Castel Frentan	1.37 151	Pg	Pb	03 50 40.6	-0.9
PTQR	Pietraquaria	1.40 181	Pg	Pb	03 50 41.1	-1.0
PTQR	Pietraquaria	1.40 181	Pg	Pb	03 50 41.1	-1.0
LATE	Laterza	1.45 237	Pg	Pn	03 50 40.7	+0.5
LATE	Laterza	1.45 237	Pg	Pn	03 50 40.7	+0.5
INTR	Introdacqua	1.45 166	Pg	Pn	03 50 40.6	+0.3
19µm,0.8s						
INTR	Introdacqua	1.45 166	Pg	Pn	03 50 40.6	+0.3
19µm,0.8s						
LPEL	Lama dei Pelig	1.48 158	Pg	Pn	03 50 41.4	+0.7
6µm,0.8s						
LPEL	Lama dei Pelig	1.48 158	Pg	Pn	03 50 41.4	+0.7
6µm,0.8s						
MTCE	Montecelio	1.49 200	Pg	Pn	03 50 41.2	+0.4
5µm,0.6s						
MTCE	Montecelio	1.49 200	Pg	Pn	03 50 41.2	+0.4
5µm,0.6s						
CERT	Cerreto	1.51 193	Pg	Pn	03 50 41.7	+0.6
10µm,0.8s						
CERT	Cerreto	1.51 193	Pg	Pn	03 50 41.7	+0.6
10µm,0.8s						
NVLJ	Novalja	1.54 42 ⇑	iPg	Pn	03 50 42.3	+0.9
NVLJ			Sg	Sn	03 51 00.5	+0.4
ARCI	Arcidosso	1.55 249	Pg	Pn	03 50 42.3	+0.6
2µm,0.8s						
ARCI	Arcidosso	1.55 249	Pg	Pn	03 50 42.3	+0.6
2µm,0.8s						
VVLD	Villa Vallelon	1.56 175	Pg	Pn	03 50 42.6	+0.8
5µm,0.7s						
VVLD	Villa Vallelon	1.56 175	Pg	Pn	03 50 42.6	+0.8
5µm,0.7s						
GUAR	Guarcino	1.63 183	Pg	Pn	03 50 43.7	+0.9
6µm,0.8s						
GUAR	Guarcino	1.63 183	Pg	Pn	03 50 43.7	+0.9
6µm,0.8s						
CMPO	Campotto Po	1.65 315	Pg	Pb	03 50 44.6	-1.7
14µm,1.0s						
CMPO	Campotto Po	1.65 315	Pg	Pb	03 50 44.6	-1.7
14µm,1.0s						
RMP	Rome, Mte Porz	1.70 199	Pg	Pn	03 50 43.9	+0.2
10µm,1.0s						
RMP	Rome, Mte Porz	1.70 199	Pg	Pn	03 50 43.9	+0.2
10µm,1.0s						
FRES	Fresagrandinar	1.71 148	Pg	Pn	03 50 44.5	+0.7
4µm,0.7s						
FRES	Fresagrandinar	1.71 148	Pg	Pn	03 50 44.5	+0.7
4µm,0.7s						
POFI	Posta Fibreno	1.72 173	Pg	Pn	03 50 44.5	+0.5
4µm,0.9s						
POFI	Posta Fibreno	1.72 173	Pg	Pn	03 50 44.5	+0.5
4µm,0.9s						
TOLF	Tolfa	1.72 218	Pg	Pn	03 50 44.2	+0.2
TOLF	Tolfa	1.72 218	Pg	Pn	03 50 44.2	+0.2
SDI	San Donato	1.73 171	Pg	Pn	03 50 44.5	+0.3
SDI	San Donato	1.73 171	Pg	Pn	03 50 44.5	+0.3
RDP	Rocca di Papa	1.75 198	Pg	Pn	03 50 44.7	+0.3
12µm,0.6s						
RDP	Rocca di Papa	1.75 198	Pg	Pn	03 50 44.7	+0.3
12µm,0.6s						
SAMA	S.Maria delle	1.76 201	Pg	Pn	03 50 44.8	+0.4
9µm,1.1s						
SAMA	S.Maria delle	1.76 201	Pg	Pn	03 50 44.8	+0.4
9µm,1.1s						
RNI2	Rionero Sannit	1.80 163	Pg	Pn	03 50 45.9	+0.8
8µm,1.1s						
RNI2	Rionero Sannit	1.80 163	Pg	Pn	03 50 45.9	+0.8
8µm,1.1s						
CRMI	Carmignano	1.83 282	Pg	Pn	03 50 46.2	+0.7
CRMI	Carmignano	1.83 282	Pg	Pn	03 50 46.2	+0.7
CERA	Filignano	1.87 167	Pg	Pn	03 50 46.5	+0.4
6µm,0.9s						
CERA	Filignano	1.87 167	Pg	Pn	03 50 46.5	+0.4
6µm,0.9s						
MIDA	Miranda	1.88 161	Pg	Pn	03 50 46.7	+0.5
4µm,1.0s						
MIDA	Miranda	1.88 161	Pg	Pn	03 50 46.7	+0.5
4µm,1.0s						
MAON	Monte Argentar	1.97 240	Pg	Pn	03 50 47.1	-0.2
3µm,1.1s						
MAON	Monte Argentar	1.97 240	Pg	Pn	03 50 47.1	-0.2
3µm,1.1s						
CASP	Castiglione de	1.99 252	Pg	Pn	03 50 47.3	-0.4
897nm,0.7s						
CASP	Castiglione de	1.99 252	Pg	Pn	03 50 47.3	-0.4
897nm,0.7s						
UDBI	Udbina	2.01 56	iPn	Pb	03 50 50.1	-2.2
UDBI			Sn	Sb	03 51 14.3	-2.7
BSSO	Busso	2.06 155	Pg	Pn	03 50 49.5	+0.8
2µm,0.7s						
BSSO	Busso	2.06 155	Pg	Pn	03 50 49.5	+0.8
2µm,0.7s						
CIGN	Sant'Elia a Pi	2.07 148	Pg	Pn	03 50 49.6	+0.8
4µm,1.1s						
CIGN	Sant'Elia a Pi	2.07 148	Pg	Pn	03 50 49.6	+0.8
4µm,1.1s						
MELA	Melanico ??? S	2.12 143	Pg	Pn	03 50 50.1	+0.7
8µm,0.8s						
MELA	Melanico ??? S	2.12 143	Pg	Pn	03 50 50.1	+0.7
8µm,0.8s						
SKDS	Skadanscina	2.16 11	iPn	Pn	03 50 50.3	+0.2
SKDS			iSn	Sn	03 51 14.8	-0.8
SKDS						
comp=Z,2µm,0.1s						
KNDS	Knezji Dol	2.21 17	iPn	Pn	03 50 51.6	+0.8
KNDS			iSn	Sn	03 51 17.6	+0.7
KNDS						
comp=Z,3µm,0.3s						
TRI	Trieste	2.30 6	ePn	Pn	03 50 51.8	-0.1
TRI			e		03 51 17.4	
TRI	Trieste	2.30 6	ePn	Pn	03 50 51.8	-0.1
TRI			eSn	Sn	03 51 17.4	-1.5
TRI	Trieste	2.30 6	ePn	Pn	03 50 51.8	-0.1
TRI			eSn	Sn	03 51 17.4	-1.5
VLC	Villacollemand	2.33 289	ePn	Pn	03 50 52.8	+0.4
VLC			eSn	Sn	03 51 18.0	-1.8
VLC	Villacollemand	2.33 289	ePn	Pn	03 50 52.8	+0.4
VLC			eSn	Sn	03 51 18.0	-1.8
CEY	Cerknica	2.42 17	iPn	Pn	03 50 54.1	+0.5
CEY			iSn	Sn	03 51 21.8	-0.2
CEY						
comp=Z,2µm,0.2s						
CEY	Cerknica	2.42 17	ePn	Pn	03 50 54.5	+0.9
CEY	Cerknica	2.42 17	ePn	Pn	03 50 54.5	+0.9
BOJS	Bojanci	2.45 31	iPn	Pn	03 50 54.8	+0.8
BOJS			iSn	Sn	03 51 22.8	0.0
BOJS						
comp=Z,845nm,0.2s						
BOJS	Bojanci	2.45 31	ePn	Pn	03 50 55.1	+1.1
BOJS	Bojanci	2.45 31	ePn	Pn	03 50 55.1	+1.1
VOJS	Vojsko	2.63 7	iPn	Pn	03 50 56.6	+0.1
VOJS			iSn	Sn	03 51 25.8	-1.4
VOJS						
comp=Z,576nm,0.1s						
GRAM	Graiana	2.66 295	P	Pn	03 50 59.1	+2.2
LJU	Ljubljana	2.73 16	iPn	Pn	03 50 59.1	+1.2
LJU			iSn	Sn	03 51 29.8	+0.1
LJU						
comp=Z,2µm,0.3s						
LJU	Ljubljana	2.73 16	ePn	Pn	03 50 59.5	+1.6
LJU	Ljubljana	2.73 16	ePn	Pn	03 50 59.5	+1.6
CODM	Codolo	2.77 292	P	Pn	03 51 00.1	+1.7
CODM			S	Sn	03 51 28.2	-2.5
CADS	Cadrg	2.81 4	iPn	Pn	03 50 59.2	+0.2
CADS			iSn	Sn	03 51 29.9	-1.9
CADS						
comp=Z,601nm,0.1s						
ROBS	Robic	2.82 1	iPn	Pn	03 50 59.3	+0.2
ROBS			iSn	Sn	03 51 30.0	-1.8
ROBS						
comp=Z,1µm,0.2s						
VNDS	Vrh nad Dolski	2.82 18	iPn	Pn	03 51 00.3	+1.1
VNDS			iSn	Sn	03 51 31.8	-0.3
VNDS						
comp=Z,1µm,0.2s						
PDKS	Podkum	2.86 22	iPn	Pn	03 51 00.8	+1.2
PDKS			iSn	Sn	03 51 32.7	-0.3
PDKS						
comp=Z,483nm,0.2s						
GORS	Gorjuse	2.92 8	iPn	Pn	03 51 00.8	+0.3
GORS			iSn	Sn	03 51 33.5	-1.0
GORS						
comp=Z,823nm,0.2s						
SISC	Sisak	2.93 45 ⇑	iPn	Pn	03 51 01.9	+1.4
SISC			Sn	Sn	03 51 35.6	+1.0
SC2M	Scurtabo	2.99 290	P	Pn	03 51 03.2	+1.8
SC2M			S	Sn	03 51 32.1	-4.0
BLY	Banja Luka	3.00 63	ePn	Pn	03 51 03.3	+1.7
BLY	Banja Luka	3.00 63	ePn	Pn	03 51 03.3	+1.7
STON	Ston	3.17 99	ePn	Pn	03 51 04.9	+1.1
STON			eSn	Sn	03 51 40.0	-0.3
STON	Ston	3.17 99 ⇑	iPn	Pn	03 51 04.8	+1.0
STON			Sn	Sn	03 51 40.2	-0.1
STON	Ston	3.17 99	ePn	Pn	03 51 04.9	+1.1
STON			eSn	Sn	03 51 40.0	-0.3
OBKA	Obir	3.18 14 ⇑	iPn	Pn	03 51 04.9	+0.7
comp=Z,60nm,0.2s,SNR=52						
OBKA			⇓eSn	Sn	03 51 42.1	+1.1
comp=Z,780nm,0.3s						
MYKA	Terra Mystica	3.21 2	⇓iPn	Pn	03 51 05.4	+0.9
comp=Z,140nm,0.2s,SNR=129						
MYKA			⇑iSn	Sn	03 51 41.6	+0.1
comp=Z,619nm,0.3s						
GROS	Grobnik	3.37 25	iPn	Pn	03 51 07.2	+0.5
GROS			iSn	Sn	03 51 43.5	-2.1
GROS						
comp=Z,515nm,0.3s						
PGF	Pioggiola	3.37 256	ePn	Pn	03 51 07.6	+0.8
PGF			eSn	Sn	03 51 43.2	-2.5
comp=Z,292nm,0.6s,SNR=1.0						
PGF	Pioggiola	3.37 256	eP	Pn	03 51 07.6	+0.8
PGF			e		03 51 43.2	
PGF	Pioggiola	3.37 256	ePn	Pn	03 51 07.6	+0.8
PGF			eSn	Sn	03 51 43.2	-2.5
PGF	Pioggiola	3.37 256	ePn	Pn	03 51 07.6	+0.8
PGF			eSn	Sn	03 51 43.2	-2.5
GENL	Genova Univers	3.38 288	P	Pn	03 51 07.6	+0.9
ABTA	Abfaltersbach	3.39 349 ⇓	iPn	Pn	03 51 08.0	+1.1
comp=Z,586nm,0.1s,SNR=1035						
ABTA			⇓eSn	Sn	03 51 44.7	-1.3
comp=Z,458nm,0.3s						
SOKA	Soboth	3.44 19 ⇑	iPn	Pn	03 51 08.7	+1.0
comp=Z,12nm,0.1s,SNR=43						
SOKA			⇓iSn	Sn	03 51 46.4	-1.0
comp=Z,309nm,0.3s						
KBA	Koelnbreinsper	3.66 359 ⇓	iPn	Pn	03 51 11.8	+1.1
comp=Z,83nm,0.1s,SNR=277						
KBA			⇑iSn	Sn	03 51 50.9	-1.8
comp=Z,778nm,0.3s						
TREB	Trebinje	3.67 99	ePn	Pn	03 51 12.0	+1.3
TREB			eSn	Sn	03 51 52.8	+0.1
TREB	Trebinje	3.67 99	ePn	Pn	03 51 12.0	+1.3
TREB			eSn	Sn	03 51 52.8	+0.1
PCP	Piancastagn	3.71 289	P	Pn	03 51 11.6	+0.3
BRY	Bratogost	3.77 96 ⇑	iPn	Pn	03 51 13.6	+1.4
BRY			eSn	Sn	03 51 55.7	+0.3
BRY	Bratogost	3.77 96 ⇑	iPn	Pn	03 51 13.6	+1.4
BRY			eSn	Sn	03 51 55.7	+0.3
HCY	Herceg Novi	3.84 103 ⇓	iPn	Pn	03 51 14.1	+1.1
HCY			eSn	Sn	03 51 57.9	+1.0
HCY	Herceg Novi	3.84 103 ⇓	iPn	Pn	03 51 14.1	+1.1
HCY			eSn	Sn	03 51 57.9	+1.0
BEHE	Becsehely	3.86 37 ⇑	ePn	Pn	03 51 13.8	+0.5
BEHE			eSn	Sn	03 51 55.8	-1.6
CUC	Castrocucco	3.86 152	ePn	Pn	03 51 14.7	+1.3
CUC	Castrocucco	3.86 152	ePn	Pn	03 51 14.7	+1.3
UPM	Unac-Piva	3.99 91 ⇓	iPn	Pn	03 51 17.1	+1.7
UPM			eSn	Sn	03 52 01.9	+0.8
UPM	Unac-Piva	3.99 91 ⇓	iPn	Pn	03 51 17.1	+1.7
UPM			eSn	Sn	03 52 01.9	+0.8
WTTA	Wattenberg	4.05 342 ⇓	iPn	Pn	03 51 17.4	+1.3
comp=Z,365nm,0.3s,SNR=215						
WTTA			⇑eSn	Sn	03 52 02.8	+0.5
comp=Z,195nm,0.3s						
FETA	Feichten	4.08 333 ⇓	iPn	Pn	03 51 17.2	+0.8
comp=Z,217nm,0.3s,SNR=445						
ARSA	Arzberg	4.10 20 ⇑	iPn	Pn	03 51 17.3	+0.6
comp=Z,38nm,0.2s,SNR=64						
ARSA			⇓iSn	Sn	03 52 00.7	-2.7
comp=Z,362nm,0.3s						
ARSA	Arzberg	4.10 20	ePn	Pn	03 51 17.4	+0.7
ARSA			eSn	Sn	03 52 00.5	-2.9
ARSA	Arzberg	4.10 20	ePn	Pn	03 51 17.4	+0.7
ARSA			eSn	Sn	03 52 00.5	-2.9
NKY	Niksic	4.11 97 ⇓	iPn	Pn	03 51 18.1	+1.2
NKY			eSn	Sn	03 52 04.4	+0.6
NKY	Niksic	4.11 97 ⇓	iPn	Pn	03 51 18.1	+1.2
NKY			eSn	Sn	03 52 04.4	+0.6
BUM	Brajici-Budva	4.16 104 ⇓	iPn	Pn	03 51 18.7	+1.1
BUM			eSn	Sn	03 52 05.1	0.0
BUM	Brajici-Budva	4.16 104 ⇓	iPn	Pn	03 51 18.7	+1.1
BUM			eSn	Sn	03 52 05.1	0.0
DAVOX	Davos/Dischmat	4.20 324	Pn	Pn	03 51 19.6	+1.4
DAVOX			Sn	Sn	03 52 04.8	-1.3
DAVOX	Davos/Dischmat	4.20 324	Pn	Pn	03 51 19.6	+1.4
baz=156,slow=18						
DAVOX			Sn	Sn	03 52 04.8	-1.3
comp=Z,15nm,0.3s,baz=344,slow=21,SNR=3.1						
DAVOX	Davos/Dischmat	4.20 324	Pn	Pn	03 51 19.6	+1.4
DAVOX			Sn	Sn	03 52 04.8	-1.3
TUE	Stuetta	4.21 318	ePn	Pn	03 51 18.7	+0.3
TUE	Stuetta	4.21 318	ePn	Pn	03 51 18.7	+0.3
MOTA	Moosalm	4.25 338 ⇓	iPn	Pn	03 51 20.5	+1.6
comp=Z,142nm,0.2s,SNR=532						
MOTA			⇓iSn	Sn	03 52 08.0	+0.6
comp=Z,124nm,0.2s						
SAOF	Saorge	4.30 280	P	Pn	03 51 19.9	+0.4
SAOF			S	Sn	03 52 04.6	-3.9
SAOF	Saorge	4.30 280	P	Pn	03 51 19.9	+0.4
SAOF			S	Sn	03 52 04.6	-3.9
PLE	Pljevlja	4.34 89 ⇓	iPn	Pn	03 51 21.6	+1.6
PLE			eSn	Sn	03 52 09.5	+0.1
PLE	Pljevlja	4.34 89 ⇓	iPn	Pn	03 51 21.6	+1.6
PLE			eSn	Sn	03 52 09.5	+0.1
BBLS	Lazići	4.35 82 ⇑	iPn	Pn	03 51 21.9	+1.7
BBLS	Lazići	4.35 82 ⇑	iPn	Pn	03 51 21.9	+1.7
SBF	Sospel	4.38 278	ePn	Pn	03 51 21.4	+0.8
SNR=1.0						
SBF			eSn	Sn	03 52 07.1	-3.3
comp=Z,331nm,0.2s						
SBF	Sospel	4.38 278	eP	Pn	03 51 21.4	+0.8
SBF			e		03 52 07.1	
SBF	Sospel	4.38 278	ePn	Pn	03 51 21.4	+0.8
SBF			eSn	Sn	03 52 07.1	-3.3
SBF	Sospel	4.38 278	ePn	Pn	03 51 21.4	+0.8
SBF			eSn	Sn	03 52 07.1	-3.3
PDG	Podgorica	4.38 101 ⇑	iPn	Pn	03 51 21.8	+1.3
PDG			eSn	Sn	03 52 11.2	+0.8
TTG	Podgorica	4.38 101 ⇑	iPn	Pn	03 51 21.8	+1.3
TTG			eSn	Sn	03 52 11.2	+0.8
AUTN	L'Aution	4.40 280	P	Pn	03 51 21.3	+0.4
AUTN	L'Aution	4.40 280	P	Pn	03 51 21.3	+0.4
REVF	Revere	4.42 276	P	Pn	03 51 21.3	+0.1
REVF			S	Sn	03 52 08.3	-3.2
REVF	Revere	4.42 276	P	Pn	03 51 21.3	+0.1
REVF			S	Sn	03 52 08.3	-3.2
LUCF	Luceram	4.45 278	P	Pn	03 51 21.9	+0.4
LUCF			S	Sn	03 52 07.3	-4.8
LUCF	Luceram	4.45 278	P	Pn	03 51 21.9	+0.4
LUCF			S	Sn	03 52 07.3	-4.8
MOA	Molln	4.46 7 ⇑	iPn	Pn	03 51 22.7	+1.0
comp=Z,42nm,0.2s,SNR=77						
MOA			⇑iSn	Sn	03 52 11.3	-1.1
comp=Z,436nm,0.3s						
RETA	Reutte	4.48 336 ⇓	iPn	Pn	03 51 23.5	+1.5
comp=Z,142nm,0.2s,SNR=201						
RETA			⇑eSn	Sn	03 52 13.0	+0.1
comp=Z,154nm,0.3s						
ULC	Ulcinj	4.52 107 ⇓	iPn	Pn	03 51 23.4	+0.9
ULC			eSn	Sn	03 52 13.4	-0.4
ULC	Ulcinj	4.52 107 ⇓	iPn	Pn	03 51 23.4	+0.9
ULC			eSn	Sn	03 52 13.4	-0.4
TOUF	Mont Tournerai	4.53 280	P	Pn	03 51 23.7	+1.0
TOUF	Mont Tournerai	4.53 280	P	Pn	03 51 23.7	+1.0
TEKS	Tekeris	4.54 74 ⇑	iPn	Pn	03 51 24.6	+1.9
TEKS	Tekeris	4.54 74 ⇑	iPn	Pn	03 51 24.6	+1.9
MVIF	Mont Vial	4.59 278	P	Pn	03 51 24.1	+0.6
MVIF			S	Sn	03 52 11.8	-3.8
MVIF	Mont Vial	4.59 278	P	Pn	03 51 24.1	+0.6
MVIF			S	Sn	03 52 11.8	-3.8
DAVA	Damuels	4.61 328 ⇓	iPn	Pn	03 51 25.3	+1.6
comp=Z,71nm,0.2s,SNR=132						
DAVA			⇑eSn	Sn	03 52 16.7	+0.6
comp=Z,260nm,0.3s						
PKSM	Moragy	4.63 51	⇓P	Pn	03 51 23.8	-0.2
PKSM	Moragy	4.63 51	⇓iP	Pn	03 51 23.8	-0.2
PKSM	Moragy	4.63 51	ePn	Pn	03 51 23.7	-0.2
PKSM	Moragy	4.63 51 ⇑	ePn	Pn	03 51 23.9	0.0
PKSM			eSn	Sn	03 52 13.0	-3.5
PKSM	Moragy	4.63 51	P	Pn	03 51 23.8	-0.2
PKS9	Tamasi	4.67 46 ⇑	ePn	Pn	03 51 24.2	-0.2
BEY	Berane	4.75 94 ⇓	iPn	Pn	03 51 27.9	+2.2
BEY			eSn	Sn	03 52 19.7	0.0
IVA	Berane	4.75 94 ⇓	iPn	Pn	03 51 27.9	+2.2
IVA			eSn	Sn	03 52 19.7	0.0
SJES	Sjenica	4.77 90	ePn	Pn	03 51 27.1	+1.2
SJES			eSn	Sn	03 52 19.1	-0.9
CALN	Calern	4.77 276	P	Pn	03 51 26.8	+0.8
CALN			S	Sn	03 52 16.7	-3.4
CALN	Calern	4.77 276	P	Pn	03 51 26.8	+0.8
CALN			S	Sn	03 52 16.7	-3.4
SOP	Sopron	4.79 26 ⇑	ePn	Pn	03 51 26.8	+0.7
SOP			eSn	Sn	03 52 16.8	-3.6
DIVS	Divibare	4.79 80	P	Pn	03 51 27.2	+0.9
DIVS	Divibare	4.79 80 ⇑	iPn	Pn	03 51 27.2	+0.9
DIVS	Divibare	4.79 80	P	Pn	03 51 27.2	+0.9
CONA	Conrad Observa	4.81 20 ⇑	iPn	Pn	03 51 27.4	+0.8
comp=Z,42nm,0.1s,SNR=80						
CONA			⇓iSn	Sn	03 52 18.8	-2.3
comp=Z,281nm,0.3s						
PVY	Plav	4.85 98	ePn	Pn	03 51 29.3	+2.2
PVY			eSn	Sn	03 52 22.9	+0.8
PVY	Plav	4.85 98	ePn	Pn	03 51 29.3	+2.2
PVY			eSn	Sn	03 52 22.9	+0.8
IVAS	Ivanjica	4.88 86	ePn	Pn	03 51 29.0	+1.5
IVAS			eSn	Sn	03 52 21.5	-1.4
IVAS	Ivanjica	4.88 86	ePn	Pn	03 51 29.0	+1.5
IVAS			eSn	Sn	03 52 21.5	-1.4
FGSL	Fruska Gora	4.89 67 ⇑	iPn	Pn	03 51 28.6	+1.1
FRGS	Fruska Gora	4.89 67 ⇑	iPn	Pn	03 51 28.6	+1.1
SURF	Saint Ours	4.90 285	P	Pn	03 51 28.6	+0.8
SURF	Saint Ours	4.90 285	P	Pn	03 51 28.6	+0.8
FRF	La Foret Royal	4.95 274	ePn	Pn	03 51 28.6	+0.3
SNR=1.0						
FRF			eSn	Sn	03 52 20.7	-3.5
comp=Z,277nm,0.3s						
FRF	La Foret Royal	4.95 274	eP	Pn	03 51 28.6	+0.3
FRF			e		03 52 20.7	
FRF	La Foret Royal	4.95 274	ePn	Pn	03 51 28.6	+0.3
FRF			eSn	Sn	03 52 20.7	-3.5
FRF	La Foret Royal	4.95 274	ePn	Pn	03 51 28.6	+0.3
FRF			eSn	Sn	03 52 20.7	-3.5
VSL	Villasalto	4.97 219	ePn	Pn	03 51 29.7	+1.0
VSL			eSn	Sn	03 52 24.6	-0.4
VSL	Villasalto	4.97 219	ePn	Pn	03 51 29.7	+1.0
VSL			eSn	Sn	03 52 24.5	-0.4
FUR	Furstenfeldbru	4.98 343	eP	Pn	03 51 29.2	+0.5
FUR	Furstenfeldbru	4.98 343	eP	Pn	03 51 29.2	+0.5
MBDF	Montbardon	4.98 287	ePn	Pn	03 51 28.6	-0.3
SNR=1.0						
MBDF			eSn	Sn	03 52 21.0	-4.3
comp=Z,229nm,0.3s,SNR=1.0						
MBDF	Montbardon	4.98 287	eP	Pn	03 51 28.6	-0.3
MBDF			e		03 52 21.0	
MBDF	Montbardon	4.98 287	ePn	Pn	03 51 28.6	-0.3
MBDF			eSn	Sn	03 52 21.0	-4.3
MBDF	Montbardon	4.98 287	ePn	Pn	03 51 28.6	-0.3
MBDF			eSn	Sn	03 52 21.0	-4.3
PKST	T''s	5.02 39 ⇓	ePn	Pn	03 51 29.6	+0.3
PKST			eSn	Sn	03 52 22.8	-3.3
LMR	La Mourre	5.05 271	ePn	Pn	03 51 30.0	+0.3
SNR=1.0						
LMR			eSn	Sn	03 52 23.0	-3.9
comp=Z,157nm,0.2s						
LMR	La Mourre	5.05 271	eP	Pn	03 51 30.0	+0.3
LMR			e		03 52 23.0	
LMR	La Mourre	5.05 271	ePn	Pn	03 51 30.0	+0.3
LMR			eSn	Sn	03 52 23.0	-3.9
LMR	La Mourre	5.05 271	ePn	Pn	03 51 30.0	+0.3
LMR			eSn	Sn	03 52 23.0	-3.9
TRUS	Trudelj	5.10 79 ⇑	iPn	Pn	03 51 30.4	0.0
TRUS	Trudelj	5.10 79 ⇑	iPn	Pn	03 51 30.4	0.0

ZST	**Bratislava**	**5.42**	**27**	*eP*	**Pn**	**03 51 34.3**	**-0.4**
ZST				*e*		03 52 31.0	
ZST	**Bratislava**	**5.42**	**27**	*ePN*	**Pn**	**03 51 34.3**	**-0.4**
ZST				*eSN*	**Sn**	**03 52 31.0**	**-4.8**
ZST	**Bratislava**	**5.42**	**27**	*eP*	**Pn**	**03 51 34.3**	**-0.4**
ZST				*eS*	**Sn**	**03 52 31.0**	**-4.8**
GEC2	**GERESS Array S**	**5.43**	**2**	*eP*	**Pn**	**03 51 34.9**	**-0.1**
GEC2				*e*		03 52 32.4	
GEC2	**GERESS Array S**	**5.43**	**2**	*ePn*	**Pn**	**03 51 34.9**	**-0.1**
GEC2	**GERESS Array S**	**5.43**	**2**	*ePn*	**Pn**	**03 51 34.9**	**-0.1**
GEC2				*eS*	**Sn**	**03 52 32.4**	**-3.8**
GERES	**GERESS Array B**	**5.43**	**2**	Pn	**Pn**	**03 51 34.9**	**-0.1**
GERES				Sn	**Sn**	**03 52 32.6**	**-3.6**
GERES				Lg	Lg	03 53 08.5	
GERES	**GERESS Array B**	**5.43**	**2**	Pn	**Pn**	**03 51 34.9**	**-0.1**
	comp=Z,29nm,0.3s,baz=177,slow=13,SNR=1033						
GERES				Sn	**Sn**	**03 52 32.6**	**-3.6**
	comp=Z,112nm,0.3s,baz=173,slow=24,SNR=20						
GERES				Lg	Lg	03 53 08.5	
	baz=179,slow=26,SNR=2.5						
GERES				LR	LR	03 54 08.6	
	comp=Z,168nm,18.9s,baz=181,slow=44						
GERES	**GERESS Array B**	**5.43**	**2**	Pn	**Pn**	**03 51 34.9**	**-0.1**
GERES				Sn	**Sn**	**03 52 32.6**	**-3.6**
PKS7	**Kunszentmiklos**	**5.43**	**46⇓**	*ePn*	**Pn**	**03 51 33.5**	**-1.3**
PHP	**Peshkopia**	**5.45**	**106**	P	**Pn**	**03 51 37.1**	**+1.8**
PHP	**Peshkopia**	**5.45**	**106**	P	**Pn**	**03 51 37.1**	**+1.8**
PHP	**Peshkopia**	**5.45**	**106**	P	**Pn**	**03 51 37.1**	**+1.8**
PHP	**Peshkopia**	**5.45**	**106**	P	**Pn**	**03 51 37.1**	**+1.8**
CEL	**Celeste**	**5.48**	**159**	*ePn*	**Pn**	**03 51 36.8**	**+1.1**
CEL	**Celeste**	**5.48**	**159**	*ePn*	**Pn**	**03 51 36.8**	**+1.1**
SELS	**Selova**	**5.61**	**89⇓**	*iPn*	**Pn**	**03 51 38.4**	**+1.0**
SELS	**Selova**	**5.61**	**89⇓**	*iPn*	**Pn**	**03 51 38.4**	**+1.0**
OG01	**Vacheresse**	**5.61**	**304**	P	**Pn**	**03 51 38.1**	**+0.6**
OG01	**Vacheresse**	**5.61**	**304**	P	**Pn**	**03 51 38.1**	**+0.6**
ORIF	**Oris-en-Rattie**	**5.64**	**288**	*ePn*	**Pn**	**03 51 38.8**	**+0.9**
	SNR=1.0						
ORIF				*eSn*	**Sn**	**03 52 37.0**	**-4.5**
	comp=Z,217nm,0.3s						
ORIF	**Oris-en-Rattie**	**5.64**	**288**	*eP*	**Pn**	**03 51 38.8**	**+0.9**
ORIF				*e*		03 52 37.0	
ORIF	**Oris-en-Rattie**	**5.64**	**288**	*ePn*	**Pn**	**03 51 38.8**	**+0.9**
ORIF				*eSn*	**Sn**	**03 52 37.0**	**-4.5**
ORIF	**Oris-en-Rattie**	**5.64**	**288**	*ePn*	**Pn**	**03 51 38.8**	**+0.9**
ORIF				*eSn*	**Sn**	**03 52 37.0**	**-4.5**
BUD	**Budapest**	**5.65**	**42**	*eSn*	**Sn**	**03 52 37.8**	**-3.7**
SVIS	**Svilajnac**	**5.69**	**79⇑**	*iPn*	**Pn**	**03 51 39.1**	**+0.7**
SVIS	**Svilajnac**	**5.69**	**79⇑**	*iPn*	**Pn**	**03 51 39.1**	**+0.7**
SPAK	**Spaichingen-Ko**	**5.70**	**327**	P	**Pn**	**03 51 38.3**	**-0.4**
KHC	**Kasperske Hory**	**5.71**	**1**	*eP*	**Pn**	**03 51 38.7**	**-0.1**
KHC				*e*		03 52 38.6	
KHC				MLR	MLR		
	comp=Z,400nm,15.3s						
KHC	**Kasperske Hory**	**5.71**	**1**	*ePN*	**Pn**	**03 51 38.7**	**-0.1**
KHC				*ex*	x	03 51 48.0	
KHC				*ex*	x	03 52 27.0	
KHC				*eSN*	**Sn**	**03 52 38.6**	**-4.5**
KHC				AMS	AMS	03 55 00.0	
	comp=Z,400nm,15.3s						
KHC	**Kasperske Hory**	**5.71**	**1**	*ePn*	**Pn**	**03 51 38.7**	**-0.1**
KHC	**Kasperske Hory**	**5.71**	**1**	*ePn*	**Pn**	**03 51 38.7**	**-0.1**
KHC				*eS*	**Sn**	**03 52 38.6**	**-4.5**
PKSN	**Nyarlorinc**	**5.72**	**50⇑**	*ePn*	**Pn**	**03 51 39.6**	**+0.7**
PKSN				*eSn*	**Sn**	**03 52 40.6**	**-2.6**
SMRF	**Simiane la Rot**	**5.73**	**278**	*eP*	**Pn**	**03 51 41.0**	**+1.9**
	SNR=1.0						
SMRF				*eSn*	**Sn**	**03 52 39.0**	**-4.6**
	comp=Z,38nm,0.3s						
SMRF	**Simiane la Rot**	**5.73**	**278**	*eP*	**Pn**	**03 51 41.0**	**+1.9**
SMRF				*eSn*	**Sn**	**03 52 39.0**	**-4.6**
SMRF	**Simiane la Rot**	**5.73**	**278**	*eP*	**Pn**	**03 51 41.0**	**+1.9**
SMRF				*eSn*	**Sn**	**03 52 39.0**	**-4.6**
WET	**Wettzell**	**5.74**	**356**	*eP*	**Pn**	**03 51 38.7**	**-0.4**
WET				*e*		03 52 38.6	
WET	**Wettzell**	**5.74**	**356**	*eP*	**Pn**	**03 51 38.7**	**-0.4**
WET				*eS*	Sn	03 52 38.6	-5.1
SMOL	**Smolenice**	**5.80**	**27**	*eP*	**Pn**	**03 51 40.2**	**+0.2**
SMOL				*e*		03 52 43.0	
SMOL	**Smolenice**	**5.80**	**27**	*ePN*	**Pn**	**03 51 40.2**	**+0.2**
SMOL				*eSN*	**Sn**	**03 52 43.0**	**-2.3**
SMOL	**Smolenice**	**5.80**	**27**	*eP*	**Pn**	**03 51 40.2**	**+0.2**
SMOL				*eS*	**Sn**	**03 52 43.0**	**-2.3**
BBS	**Basel-Blauen**	**5.81**	**316**	P	**Pn**	**03 51 39.8**	**-0.3**
BBS				S	Sn	03 52 38.4	-7.1
GRN	**Grenoble**	**5.81**	**291**	P	**Pn**	**03 51 41.4**	**+1.2**
GRN	**Grenoble**	**5.81**	**291**	P	**Pn**	**03 51 41.4**	**+1.2**
FELD	**Feldberg im Sc**	**5.86**	**321**	P	**Pn**	**03 51 40.6**	**-0.4**
OG26	**St.-Nazaire-De**	**5.98**	**284**	P	**Pn**	**03 51 43.9**	**+1.3**
OG26	**St.-Nazaire-De**	**5.98**	**284**	P	**Pn**	**03 51 43.9**	**+1.3**
KEK	**Kerkira**	**6.04**	**126**	P	**Pn**	**03 51 44.0**	**+0.7**
KEK	**Kerkira**	**6.04**	**126**	P	**Pn**	**03 51 44.0**	**+0.7**
KEK	**Kerkira**	**6.04**	**126**	P	**Pn**	**03 51 44.0**	**+0.7**
TREC	**Trest**	**6.04**	**13**	*eP*	**Pn**	**03 51 43.2**	**-0.1**
TREC	**Trest**	**6.04**	**13**	*ePN*	**Pn**	**03 51 43.2**	**-0.1**
TREC	**Trest**	**6.04**	**13**	*eP*	**Pn**	**03 51 43.2**	**-0.1**
BFO	**Black Forest**	**6.07**	**326**	*eP*	**Pn**	**03 51 43.4**	**-0.3**
BFO	**Black Forest**	**6.07**	**326**	*ePn*	**Pn**	**03 51 43.4**	**-0.3**
BFO	**Black Forest**	**6.07**	**326**	*ePn*	**Pn**	**03 51 43.4**	**-0.3**
SKO	**Skopje**	**6.07**	**101**	P	**Pn**	**03 51 46.0**	**+2.3**
SKO	**Skopje**	**6.07**	**101**	P	**Pn**	**03 51 46.0**	**+2.3**
SKO	**Skopje**	**6.07**	**101**	P	**Pn**	**03 51 46.0**	**+2.3**
SKO	**Skopje**	**6.07**	**101**	*ePn*	**Pn**	**03 51 46.2**	**+2.5**
SKO				*eSn*	**Sn**	**03 52 52.0**	**0.0**
SKO	**Skopje**	**6.07**	**101**	*i* Pn	Pn	03 51 47.1	+3.4
SKO				*i* Sn	**Sn**	**03 52 51.7**	**-0.2**
SKO				*eLg*	Lg	03 52 57.6	
	comp=N,302nm,0.8s						
SKO				*eLg*	Lg	03 53 01.9	
	comp=E,238nm,0.8s						
SKO	**Skopje**	**6.07**	**101**	P	**Pn**	**03 51 46.0**	**+2.3**
SKO				*eSn*	**Sn**	**03 52 52.0**	**0.0**
LOMF	**Lomont**	**6.09**	**312**	P	**Pn**	**03 51 43.7**	**-0.4**
LOMF				S	Sn	03 52 45.6	-7.0
LOMF	**Lomont**	**6.09**	**312**	P	**Pn**	**03 51 43.7**	**-0.4**
LOMF				S	Sn	03 52 45.6	-7.0
CABF	**La Chapelle**	**6.11**	**304**	*ePn*	**Pn**	**03 51 44.2**	**-0.1**
	SNR=1.0						
CABF				*eSn*	**Sn**	**03 52 47.9**	**-5.1**
	comp=E,189nm,0.4s						
CABF	**La Chapelle**	**6.11**	**304**	*eP*	**Pn**	**03 51 44.2**	**-0.1**
CABF				*e*		03 52 47.9	
CABF	**La Chapelle**	**6.11**	**304**	*ePn*	**Pn**	**03 51 44.2**	**-0.1**
CABF				*eSn*	**Sn**	**03 52 47.9**	**-5.1**
CABF	**La Chapelle**	**6.11**	**304**	*ePn*	**Pn**	**03 51 44.2**	**-0.1**
CABF				*eSn*	**Sn**	**03 52 47.9**	**-5.1**
STU	**Stuttgart**	**6.11**	**333**	*eP*	**Pn**	**03 51 43.7**	**-0.5**
STU	**Stuttgart**	**6.11**	**333**	*ePn*	**Pn**	**03 51 43.8**	**-0.5**
STU	**Stuttgart**	**6.11**	**333**	*eP*	**Pn**	**03 51 43.7**	**-0.5**
KBN	**Korca**	**6.14**	**115**	P	**Pn**	**03 51 46.1**	**+1.3**
KBN	**Korca**	**6.14**	**115**	P	**Pn**	**03 51 46.1**	**+1.3**
KBN	**Korca**	**6.14**	**115**	P	**Pn**	**03 51 46.1**	**+1.3**
KBN	**Korca**	**6.14**	**115**	P	**Pn**	**03 51 46.1**	**+1.3**
BARS	**Barje**	**6.16**	**93**	*eSn*	**Sn**	**03 52 50.5**	**-3.7**
BARS	**Barje**	**6.16**	**93**	*eSn*	**Sn**	**03 52 50.5**	**-3.7**
BOLS	**Boljevac**	**6.19**	**83**	*ePn*	**Pn**	**03 51 45.0**	**-0.4**
BOLS	**Boljevac**	**6.19**	**83**	*ePn*	**Pn**	**03 51 45.0**	**-0.4**
BZS	**Buzias**	**6.24**	**67**	⇑P	**Pn**	**03 51 47.4**	**+1.3**
BZS	**Buzias**	**6.24**	**67**	⇑*iP*	**Pn**	**03 51 47.4**	**+1.3**
BZS	**Buzias**	**6.24**	**67**	*ePn*	**Pn**	**03 51 47.0**	**+0.9**
BZS	**Buzias**	**6.24**	**67**	*ePn*	**Pn**	**03 51 47.0**	**+0.9**
BZS	**Buzias**	**6.24**	**67**	P	**Pn**	**03 51 47.4**	**+1.3**
LIBD	**Limburg**	**6.24**	**321**	P	**Pn**	**03 51 45.0**	**-1.1**
LIBD				S	Sn	03 52 50.4	-5.8
MOF	**Molkenrain**	**6.26**	**317**	P	**Pn**	**03 51 46.0**	**-0.4**
MOF				S	Sn	**03 52 51.6**	**-5.1**
MOF	**Molkenrain**	**6.26**	**317**	P	**Pn**	**03 51 46.0**	**-0.4**
MOF				S	**Sn**	**03 52 51.6**	**-5.1**
VRAC	**Vranov**	**6.28**	**19**	Pn	**Pn**	**03 51 46.9**	**+0.4**
VRAC				Sn	**Sn**	**03 52 52.7**	**-4.3**
VRAC	**Vranov**	**6.28**	**19**	Pn	**Pn**	**03 51 46.9**	**+0.4**
	comp=E,3.8nm,0.3s,baz=212,slow=13,SNR=38						
VRAC				Sn	**Sn**	**03 52 52.7**	**-4.3**
	comp=E,9.5nm,0.3s,baz=292,slow=22,SNR=3.9						
VRAC	**Vranov**	**6.28**	**19**	Pn	**Pn**	**03 51 46.9**	**+0.4**
VRAC				Sn	**Sn**	**03 52 52.7**	**-4.3**
VYHS	**Vyhne**	**6.31**	**35**	*eP*	**Pn**	**03 51 47.0**	**0.0**
VYHS				*e*		03 52 53.4	
VYHS	**Vyhne**	**6.31**	**35**	*ePn*	**Pn**	**03 51 47.1**	**0.0**
VYHS	**Vyhne**	**6.31**	**35**	*ePN*	**Pn**	**03 51 47.0**	**0.0**
VYHS				*eSN*	**Sn**	**03 52 53.4**	**-4.5**
VYHS	**Vyhne**	**6.31**	**35**	*eP*	**Pn**	**03 51 47.0**	**0.0**
VYHS				*eS*	**Sn**	**03 52 53.4**	**-4.5**
BIA	**Bitola**	**6.33**	**110**	P	**Pn**	**03 51 48.2**	**+0.9**
BIA				S	**Sn**	**03 52 54.3**	**-4.1**
BIA	**Bitola**	**6.33**	**110**	P	**Pn**	**03 51 48.2**	**+0.9**
BIA				S	**Sn**	**03 52 54.3**	**-4.1**
BIA	**Bitola**	**6.33**	**110**	⇓*iPn*	**Pn**	**03 51 48.9**	**+1.6**
BIA				*i* Sn	**Sn**	**03 52 55.2**	**-3.2**
BIA	**Bitola**	**6.33**	**110**	P	**Pn**	**03 51 48.2**	**+0.9**
BIA				S	**Sn**	**03 52 54.3**	**-4.1**
HINF	**Hinteralfeld**	**6.37**	**316**	*ePn*	**Pn**	**03 51 47.3**	**-0.6**
HINF				*eSn*	Sn	03 52 53.2	-6.3
	comp=E,215nm,0.2s						
HINF	**Hinteralfeld**	**6.37**	**316**	*eP*	**Pn**	**03 51 47.3**	**-0.6**
HINF				*e*		03 52 53.2	
HINF	**Hinteralfeld**	**6.37**	**316**	*ePn*	**Pn**	**03 51 47.3**	**-0.6**
HINF				*eSn*	Sn	03 52 53.2	-6.3
HINF	**Hinteralfeld**	**6.37**	**316**	*ePn*	**Pn**	**03 51 47.3**	**-0.6**
HINF				*eSn*	Sn	03 52 53.2	-6.3
PSZ	**Piszkesteto**	**6.37**	**43**	⇑P	**Pn**	**03 51 47.8**	**-0.2**
PSZ	**Piszkesteto**	**6.37**	**43**	*ePn*	**Pn**	**03 51 48.9**	**+1.0**
PSZ	**Piszkesteto**	**6.37**	**43**	⇑*iP*	**Pn**	**03 51 47.8**	**-0.2**
PSZ	**Piszkesteto**	**6.37**	**43**	⇓*ePn*	**Pn**	**03 51 47.6**	**-0.4**
PSZ				*eSn*	**Sn**	**03 52 56.0**	**-3.5**
PSZ	**Piszkesteto**	**6.37**	**43**	P	**Pn**	**03 51 47.8**	**-0.2**
PSZ	**Piszkesteto**	**6.37**	**43**	*ePn*	**Pn**	**03 51 48.9**	**+1.0**
NEST	**Nestorio**	**6.42**	**115**	P	**Pn**	**03 51 50.0**	**+1.4**
NEST				S	**Sn**	**03 52 57.6**	**-3.2**
NEST	**Nestorio**	**6.42**	**115**	P	**Pn**	**03 51 50.0**	**+1.4**
NEST				S	**Sn**	**03 52 57.6**	**-3.2**
GRFO	**Grafenberg**	**6.45**	**347**	*eP*	**Pn**	**03 51 47.6**	**-1.4**
GRFO	**Grafenberg**	**6.45**	**347**	*ePn*	**Pn**	**03 51 47.6**	**-1.4**
GRFO	**Grafenberg**	**6.45**	**347**	*ePn*	**Pn**	**03 51 47.6**	**-1.4**
GRA1	**Grafenberg Arr**	**6.45**	**347**	*eP*	**Pn**	**03 51 47.7**	**-1.3**
GRF	**Grafenberg Arr**	**6.45**	**347**	*eP*	**Pn**	**03 51 47.7**	**-1.3**
FNA	**Florina**	**6.46**	**111**	P	**Pn**	**03 51 50.1**	**+0.9**
FNA	**Florina**	**6.46**	**111**	P	**Pn**	**03 51 50.1**	**+0.9**
FNA	**Florina**	**6.46**	**111**	P	**Pn**	**03 51 50.1**	**+0.9**
FNA	**Florina**	**6.46**	**111**	P	**Pn**	**03 51 50.1**	**+0.9**
VIVF	**Saint-Julien-l**	**6.47**	**286**	*ePn*	**Pn**	**03 51 48.9**	**-0.3**
	SNR=1.0						
VIVF				*eSn*	Sn	03 52 55.5	-6.3
	comp=E,51nm,0.2s						
VIVF	**Saint-Julien-l**	**6.47**	**286**	*eP*	**Pn**	**03 51 48.9**	**-0.3**
VIVF				*e*		03 52 55.5	
VIVF	**Saint-Julien-l**	**6.47**	**286**	*ePn*	**Pn**	**03 51 48.9**	**-0.3**
VIVF				*eSn*	Sn	03 52 55.5	-6.3
VIVF	**Saint-Julien-l**	**6.47**	**286**	*ePn*	**Pn**	**03 51 48.9**	**-0.3**
VIVF				*eSn*	Sn	03 52 55.5	-6.3
IGT	**Igoumenitsa**	**6.47**	**125**	P	**Pn**	**03 51 50.0**	**+0.7**
IGT	**Igoumenitsa**	**6.47**	**125**	P	**Pn**	**03 51 50.0**	**+0.7**
IGT	**Igoumenitsa**	**6.47**	**125**	P	**Pn**	**03 51 50.0**	**+0.7**
IGT	**Igoumenitsa**	**6.47**	**125**	P	**Pn**	**03 51 50.0**	**+0.7**
SIRR	**Siria**	**6.50**	**61**	⇓*iP*	**Pn**	**03 51 50.4**	**+0.8**
ECH	**Echery**	**6.50**	**320**	*eP*	**Pn**	**03 51 48.9**	**-0.7**
ECH				*e*		03 52 53.2	
ECH				pmax	pmax		
	comp=Z,502nm,0.3s						
ECH	**Echery**	**6.50**	**320**	P	**Pn**	**03 51 49.6**	**0.0**
ECH				S	**Sn**	**03 52 57.1**	**-5.4**
ECH	**Echery**	**6.50**	**320**	*ePn*	**Pn**	**03 51 48.9**	**-0.7**
	comp=Z,502nm,0.3s						
ECH				*eSn*	Sn	03 52 53.2	-9.3
ECH	**Echery**	**6.50**	**320**	*ePn*	**Pn**	**03 51 48.9**	**-0.7**
	comp=Z,502nm,0.3s						
ECH	**Echery**	**6.50**	**320**	P	**Pn**	**03 51 49.6**	**0.0**
ECH				*eSn*	Sn	03 52 53.2	-9.3
ECH				S	**Sn**	**03 52 57.1**	**-5.4**
CDF	**Champ du Feu**	**6.58**	**321**	*ePn*	**Pn**	**03 51 50.6**	**-0.2**
CDF				*eSn*	Sn	03 52 58.6	-6.1
	comp=Z,231nm,0.4s						
CDF	**Champ du Feu**	**6.58**	**321**	*eP*	**Pn**	**03 51 50.6**	**-0.2**
CDF				*e*		03 52 58.6	
CDF	**Champ du Feu**	**6.58**	**321**	*ePn*	**Pn**	**03 51 50.6**	**-0.2**
CDF				*eSn*	Sn	03 52 58.6	-6.1
CDF	**Champ du Feu**	**6.58**	**321**	*ePn*	**Pn**	**03 51 50.6**	**-0.2**
CDF				*eSn*	Sn	03 52 58.6	-6.1
PRU	**Pruhonice**	**6.61**	**6**	*eP*	**Pn**	**03 51 50.4**	**-0.7**
PRU				*e*		03 52 59.5	
PRU				MLR	MLR		
	comp=Z,500nm,7.3s						
PRU	**Pruhonice**	**6.61**	**6**	*ePN*	**Pn**	**03 51 50.4**	**-0.7**
PRU				*eSN*	Sn	03 52 59.5	-5.7
PRU				AMS	AMS	03 55 30.0	
	comp=Z,500nm,7.3s						
PRU	**Pruhonice**	**6.61**	**6**	*eP*	**Pn**	**03 51 50.4**	**-0.7**
	comp=Z,500nm,7.3s						
PRU				*eS*	Sn	03 52 59.5	-5.7
SSB	**Saint Sauveur**	**6.64**	**289**	*eP*	**Pn**	**03 51 50.6**	**-1.0**
SSB				*e*		03 53 00.0	
SSB				pmax	pmax		
	comp=Z,36nm,0.7s						
SSB	**Saint Sauveur**	**6.64**	**289**	P	**Pn**	**03 51 50.9**	**-0.7**
SSB	**Saint Sauveur**	**6.64**	**289**	*ePn*	**Pn**	**03 51 50.6**	**-1.0**
	comp=Z,36nm,0.7s						
SSB				*eSn*	Sn	03 52 60.0	-6.2
SSB	**Saint Sauveur**	**6.64**	**289**	*ePn*	**Pn**	**03 51 50.6**	**-1.0**
	comp=Z,36nm,0.7s						
SSB	**Saint Sauveur**	**6.64**	**289**	P	**Pn**	**03 51 50.9**	**-0.7**
SSB				*eSn*	Sn	03 53 00.0	-6.2
DJES	**Djerdap**	**6.66**	**76⇑**	*iPn*	**Pn**	**03 51 53.1**	**+1.3**
DJES	**Djerdap**	**6.66**	**76⇑**	*iPn*	**Pn**	**03 51 53.1**	**+1.3**
PRA	**Prague**	**6.68**	**6**	PN	**Pn**	**03 51 51.0**	**-1.1**
ZAPS	**Zavoj**	**6.70**	**88⇑**	*iPn*	**Pn**	**03 51 54.5**	**+2.0**
JAN	**Janina**	**6.71**	**122**	P	**Pn**	**03 51 54.2**	**+1.6**
JAN	**Janina**	**6.71**	**122**	P	**Pn**	**03 51 54.2**	**+1.6**
JAN	**Janina**	**6.71**	**122**	P	**Pn**	**03 51 54.2**	**+1.6**
JAN	**Janina**	**6.71**	**122**	P	**Pn**	**03 51 54.2**	**+1.6**
HAU	**Haudompre**	**6.75**	**315**	*ePn*	**Pn**	**03 51 52.5**	**-0.6**
HAU				*eSn*	Sn	03 53 02.4	-6.4
	comp=Z,422nm,0.2s						
HAU	**Haudompre**	**6.75**	**315**	*eP*	**Pn**	**03 51 52.5**	**-0.6**
HAU				*e*		03 53 02.4	
HAU	**Haudompre**	**6.75**	**315**	*ePn*	**Pn**	**03 51 52.5**	**-0.6**
HAU				*eSn*	Sn	03 53 02.4	-6.4
HAU	**Haudompre**	**6.75**	**315**	*ePn*	**Pn**	**03 51 52.5**	**-0.6**
HAU				*eSn*	Sn	03 53 02.4	-6.4
LANF	**Langenberg**	**6.79**	**327**	P	**Pn**	**03 51 53.4**	**-0.3**
LANF	**Langenberg**	**6.79**	**327**	P	**Pn**	**03 51 53.4**	**-0.3**
NKC	**Novy Kostel**	**6.85**	**355**	*eP*	**Pn**	**03 51 53.7**	**-0.7**
NKC				*e*		03 53 05.3	
NKC	**Novy Kostel**	**6.85**	**355**	*ePN*	**Pn**	**03 51 53.7**	**-0.7**
NKC				*eSN*	Sn	03 53 05.3	-5.7
NKC	**Novy Kostel**	**6.85**	**355**	*eP*	**Pn**	**03 51 53.7**	**-0.7**
NKC				*eS*	Sn	03 53 05.3	-5.7
KZN	**Kozani**	**6.95**	**114**	P	Pn	03 52 00.0	+4.1
KZN	**Kozani**	**6.95**	**114**	P	Pn	03 52 00.0	+4.1
KZN	**Kozani**	**6.95**	**114**	P	Pn	03 52 00.0	+4.1
KZN	**Kozani**	**6.95**	**114**	P	Pn	03 52 00.0	+4.1
MORC	**Moravsky Berou**	**6.95**	**23**	*eP*	**Pn**	**03 51 56.3**	**+0.4**
MORC				*e*		03 53 09.9	
MORC	**Moravsky Berou**	**6.95**	**23**	*ePn*	**Pn**	**03 51 56.3**	**+0.4**
MORC				*eSn*	**Sn**	**03 53 09.8**	**-3.9**
MORC	**Moravsky Berou**	**6.95**	**23**	*ePn*	**Pn**	**03 51 56.3**	**+0.4**
MORC				*eSn*	**Sn**	**03 53 09.9**	**-3.9**
TOD	**Tromm**	**6.96**	**334**	P	**Pn**	**03 51 55.4**	**-0.5**
KTD	**Kalmit**	**6.96**	**330**	P	**Pn**	**03 51 56.4**	**+0.4**
LASF	**Ste Croix**	**6.97**	**279**	*ePn*	**Pn**	**03 51 56.0**	**-0.1**
	SNR=1.0						
LASF				*eSn*	**Sn**	**03 53 09.3**	**-4.9**
	comp=Z,29nm,0.3s						
LASF	**Ste Croix**	**6.97**	**279**	*ePn*	**Pn**	**03 51 56.0**	**-0.1**
LASF				*eSn*	**Sn**	**03 53 09.3**	**-4.9**
LASF	**Ste Croix**	**6.97**	**279**	*ePn*	**Pn**	**03 51 56.0**	**-0.1**
LASF				*eSn*	**Sn**	**03 53 09.3**	**-4.9**
KRLC	**Kraliky**	**7.04**	**18**	*eP*	**Pn**	**03 51 57.7**	**+0.7**
KRLC				*e*		03 53 12.1	
KRLC	**Kraliky**	**7.04**	**18**	*ePN*	**Pn**	**03 51 57.7**	**+0.7**
KRLC				*eSN*	**Sn**	**03 53 12.1**	**-3.7**
KRLC	**Kraliky**	**7.04**	**18**	*eP*	**Pn**	**03 51 57.7**	**+0.7**
KRLC				*eS*	**Sn**	**03 53 12.1**	**-3.7**
KECS	**Kecovo**	**7.05**	**42**	*eP*	**Pn**	**03 51 57.7**	**+0.6**
KECS				*e*		03 53 12.7	
KECS	**Kecovo**	**7.05**	**42**	*ePN*	**Pn**	**03 51 57.6**	**+0.5**
KECS				*eSN*	**Sn**	**03 53 12.7**	**-3.3**
KECS	**Kecovo**	**7.05**	**42**	*eP*	**Pn**	**03 51 57.7**	**+0.6**
KECS				*eS*	**Sn**	**03 53 12.7**	**-3.3**
VAY	**Valandovo**	**7.08**	**104**	P	**Pn**	**03 51 57.1**	**-0.5**
VAY	**Valandovo**	**7.08**	**104**	P	**Pn**	**03 51 57.1**	**-0.5**
VAY	**Valandovo**	**7.08**	**104**	P	**Pn**	**03 51 57.1**	**-0.5**
VAY	**Valandovo**	**7.08**	**104**	*ePn*	**Pn**	**03 51 57.4**	**-0.2**
VAY	**Valandovo**	**7.08**	**104**	*i* Pn	**Pn**	**03 51 57.9**	**+0.3**
VAY				*i* Sn	**Sn**	**03 53 12.3**	**-4.5**
VAY				*eLg*	Lg	03 53 13.9	
	comp=E,134nm,0.6s						
VAY				*eLg*	Lg	03 53 14.2	
	comp=N,75nm,0.5s						
VAY	**Valandovo**	**7.08**	**104**	P	**Pn**	**03 51 57.1**	**-0.5**
VAY	**Valandovo**	**7.08**	**104**	*ePn*	**Pn**	**03 51 57.4**	**-0.2**
THEF	**They Montfort**	**7.08**	**315**	P	**Pn**	**03 51 57.1**	**-0.5**
THEF	**They Montfort**	**7.08**	**315**	P	**Pn**	**03 51 57.1**	**-0.5**
GRG	**Griva**	**7.10**	**107**	P	**Pn**	**03 51 58.5**	**+0.7**
GRG	**Griva**	**7.10**	**107**	P	**Pn**	**03 51 58.5**	**+0.7**
GRG	**Griva**	**7.10**	**107**	P	**Pn**	**03 51 58.5**	**+0.7**
GRG	**Griva**	**7.10**	**107**	P	**Pn**	**03 51 58.5**	**+0.7**
LKD2	**Lefkada island**	**7.15**	**128**	P	**Pn**	**03 51 59.5**	**+0.9**
LKD2				S	Sn	03 53 12.8	-5.8
LKD2	**Lefkada island**	**7.15**	**128**	P	**Pn**	**03 51 59.5**	**+0.9**
LKD2				S	Sn	03 53 12.8	-5.8
LKD2	**Lefkada island**	**7.15**	**128**	P	**Pn**	**03 51 59.5**	**+0.9**
LKD2				S	Sn	03 53 12.8	-5.8
PVCC	**Panska Ves**	**7.15**	**6**	*eP*	**Pn**	**03 51 57.9**	**-0.6**
PVCC	**Panska Ves**	**7.15**	**6**	*ePN*	**Pn**	**03 51 57.9**	**-0.6**
PVCC	**Panska Ves**	**7.15**	**6**	*eP*	**Pn**	**03 51 57.9**	**-0.6**
DEV	**Deva**	**7.18**	**67**	⇓P	**Pn**	**03 52 00.5**	**+1.5**
DEV	**Deva**	**7.18**	**67**	⇓*iP*	**Pn**	**03 52 00.5**	**+1.5**
DEV	**Deva**	**7.18**	**67**	P	**Pn**	**03 52 00.5**	**+1.5**
OKC	**Ostrava-Krasne**	**7.19**	**25**	*eP*	Pb	03 52 10.3	-10
OKC				MLR	MLR		
	comp=Z,500nm,7.3s						
OKC	**Ostrava-Krasne**	**7.19**	**25**	*ex*	Pn	03 52 10.3	+11
OKC				AMS	AMS	03 54 40.0	
	comp=Z,500nm,7.3s						
OKC	**Ostrava-Krasne**	**7.19**	**25**	*eP*	Pb	03 52 10.3	-10
	comp=Z,500nm,7.3s						
DPC	**Dobruska-Polom**	**7.21**	**15**	*eP*	**Pn**	**03 51 58.5**	**-0.8**
DPC	**Dobruska-Polom**	**7.21**	**15**	*eP*	**Pn**	**03 51 58.8**	**-0.5**
DPC	**Dobruska-Polom**	**7.21**	**15**	*ePN*	**Pn**	**03 51 58.8

CRVS				*e*SN	**Sn**	03 53 32.0	-2.7
CRVS	**Cervenica-Dubn**	**7.81**	**43**	*e*P	**Pn**	**03 52 09.0**	**+1.5**
CRVS				*e*S	**Sn**	03 53 32.0	-2.7
SOH	**Sokhos**	**7.81**	**106**	P	**Pn**	**03 52 08.6**	**+0.9**
SOH	**Sokhos**	**7.81**	**106**	P	**Pn**	**03 52 08.6**	**+0.9**
SOH	**Sokhos**	**7.81**	**106**	P	**Pn**	**03 52 08.6**	**+0.9**
SOH	**Sokhos**	**7.81**	**106**	P	**Pn**	**03 52 08.6**	**+0.9**
SRS	**Serrai**	**7.87**	**104**	P	**Pn**	**03 52 09.5**	**+1.0**
SRS	**Serrai**	**7.87**	**104**	P	**Pn**	**03 52 09.5**	**+1.0**
SRS	**Serrai**	**7.87**	**104**	P	**Pn**	**03 52 09.5**	**+1.0**
SRS	**Serrai**	**7.87**	**104**	P	**Pn**	**03 52 09.5**	**+1.0**
AVF	**Avril sur Loir**	**7.89**	**299**	*e*Pn	**Pn**	**03 52 07.1**	**-1.6**
	SNR=1.0						
AVF				*e*Sn	Sn	03 53 28.5	-8.2
	comp=Z,97nm,0.4s						
AVF	**Avril sur Loir**	**7.89**	**299**	*e*P	**Pn**	**03 52 07.1**	**-1.6**
AVF				*e*		03 53 28.5	
AVF	**Avril sur Loir**	**7.89**	**299**	*e*Pn	**Pn**	**03 52 07.1**	**-1.6**
AVF				*e*Sn	Sn	03 53 28.5	-8.2
AVF	**Avril sur Loir**	**7.89**	**299**	*e*Pn	**Pn**	**03 52 07.1**	**-1.6**
AVF				*e*Sn	Sn	03 53 28.5	-8.2
CLL	**Collm**	**7.89**	**358**	*i* P	**Pn**	**03 52 07.8**	**-0.9**
CLL	**Collm**	**7.89**	**358**	*i* Pn	**Pn**	**03 52 07.8**	**-0.9**
CLL				*e*		03 52 18.0	
CLL				*e*Sn	Sn	03 53 25.0	-12
CLL				*e*Sb	Sb	03 54 06.0	+0.2
CLL				*e*Sg		03 54 22.0	
CLL				*e*Sglp		03 54 29.0	
	comp=N,100nm,26.6s						
CLL				*e*Sglp		03 54 29.0	
	comp=E,900nm,20.8s						
CLL	**Collm**	**7.89**	**358**	*i* P	**Pn**	**03 52 07.8**	**-0.9**
SSF	**Saint Saulge**	**7.90**	**301**	*e*Pn	**Pn**	**03 52 07.6**	**-1.2**
	SNR=1.0						
SSF				*e*Sn	Sn	03 53 28.2	-8.7
	comp=E,268nm,0.5s						
SSF	**Saint Saulge**	**7.90**	**301**	*e*P	**Pn**	**03 52 07.6**	**-1.2**
SSF	**Saint Saulge**	**7.90**	**301**	*e*Pn	**Pn**	**03 52 07.6**	**-1.2**
SSF				*e*Sn	Sn	03 53 28.2	-8.7
SSF	**Saint Saulge**	**7.90**	**301**	*e*Pn	**Pn**	**03 52 07.6**	**-1.2**
SSF				*e*Sn	Sn	03 53 28.2	-8.7
TRPA	**Tarpa**	**7.91**	**50**	⇑*i*P	**Pn**	**03 52 09.2**	**+0.3**
NVR	**Nevrokopi**	**7.99**	**101**	P	**Pn**	**03 52 11.5**	**+1.4**
NVR	**Nevrokopi**	**7.99**	**101**	P	**Pn**	**03 52 11.5**	**+1.4**
NVR	**Nevrokopi**	**7.99**	**101**	P	**Pn**	**03 52 11.5**	**+1.4**
WLF	**Walferdange**	**8.01**	**324**	PN	**Pn**	**03 52 10.5**	**+0.2**
WLF				SN	**Sn**	**03 53 38.4**	**-1.3**
	comp=E,37nm,0.0s						
WLF	**Walferdange**	**8.01**	**324**	*e*P	**Pn**	**03 52 10.7**	**+0.4**
WLF				pmax	pmax		
	comp=Z,36nm,0.6s						
WLF	**Walferdange**	**8.01**	**324**	*e*Pn	**Pn**	**03 52 10.7**	**+0.4**
	comp=Z,36nm,0.6s						
WLF	**Walferdange**	**8.01**	**324**	*e*Pn	**Pn**	**03 52 10.7**	**+0.4**
	comp=Z,36nm,0.6s						
AGG	**Agios Georgios**	**8.01**	**120**	P	**Pn**	**03 52 11.7**	**+1.3**
AGG	**Agios Georgios**	**8.01**	**120**	P	**Pn**	**03 52 11.7**	**+1.3**
AGG	**Agios Georgios**	**8.01**	**120**	P	**Pn**	**03 52 11.7**	**+1.3**
AGG	**Agios Georgios**	**8.01**	**120**	P	**Pn**	**03 52 11.7**	**+1.3**
STHS	**Stebnicka Huta**	**8.06**	**39**	*e*P	**Pn**	**03 52 13.3**	**+2.3**
STHS				*e*		03 53 38.9	
STHS	**Stebnicka Huta**	**8.06**	**39**	*e*PN	**Pn**	**03 52 13.3**	**+2.3**
STHS				*e*SN	**Sn**	**03 53 38.9**	**-2.0**
STHS	**Stebnicka Huta**	**8.06**	**39**	*e*P	**Pn**	**03 52 13.3**	**+2.3**
STHS				*e*S	**Sn**	**03 53 38.9**	**-2.0**
PLG	**Polygyros**	**8.06**	**109**	P	**Pn**	**03 52 11.6**	**+0.5**
PLG	**Polygyros**	**8.06**	**109**	P	**Pn**	**03 52 11.6**	**+0.5**
PLG	**Polygyros**	**8.06**	**109**	P	**Pn**	**03 52 11.6**	**+0.5**
PLG	**Polygyros**	**8.06**	**109**	P	**Pn**	**03 52 11.6**	**+0.5**
UZH	**Uzhgorod**	**8.06**	**47**	*e*P	**Pn**	**03 52 12.0**	**+1.0**
UZH				*i* S	**Sn**	**03 53 42.8**	**+1.9**
UZH				MLR	MLR		
	comp=N,700nm,8.0s						
UZH				MLR	MLR		
	comp=E,600nm,8.0s						
UZH				MLR	MLR		
	comp=Z,220nm,8.0s						
UZH	**Uzhgorod**	**8.06**	**47**	*e*P	**Pn**	**03 52 12.0**	**+1.0**
UZH				*i* S	**Sn**	**03 53 42.8**	**+1.9**
OJC	**Ojcow**	**8.07**	**30**	*e*P	**Pn**	**03 52 11.8**	**+0.6**
OJC				*e*		03 53 35.8	
OJC	**Ojcow**	**8.07**	**30**	*e*Pn	**Pn**	**03 52 11.8**	**+0.6**
OJC				*e*Sn	Sn	03 53 35.8	-5.4
OJC	**Ojcow**	**8.07**	**30**	*e*P	**Pn**	**03 52 11.8**	**+0.6**
OJC				*e*S	Sn	03 53 35.8	-5.4
RLS	**Riolos of Patr**	**8.11**	**129**	P	**Pn**	**03 52 13.2**	**+1.5**
RLS	**Riolos of Patr**	**8.11**	**129**	P	**Pn**	**03 52 13.2**	**+1.5**
RLS	**Riolos of Patr**	**8.11**	**129**	P	**Pn**	**03 52 13.2**	**+1.5**
EFP	**Efpalio**	**8.12**	**125**	P	**Pn**	**03 52 13.7**	**+1.8**
EFP				S	Sn	03 53 37.2	-5.2
EFP	**Efpalio**	**8.12**	**125**	P	**Pn**	**03 52 13.7**	**+1.8**
EFP				S	Sn	03 53 37.2	-5.2
BGF	**Bois d'Agland**	**8.14**	**296**	*e*Pn	**Pn**	**03 52 10.9**	**-1.2**
	SNR=1.0						
BGF				*e*Sn	Sn	03 53 34.7	-8.1
	comp=Z,490nm,0.4s						
BGF	**Bois d'Agland**	**8.14**	**296**	*e*P	**Pn**	**03 52 10.9**	**-1.2**
BGF				*e*		03 53 34.7	
BGF	**Bois d'Agland**	**8.14**	**296**	*e*Pn	**Pn**	**03 52 10.9**	**-1.2**
BGF				*e*Sn	Sn	03 53 34.7	-8.1
BGF	**Bois d'Agland**	**8.14**	**296**	*e*Pn	**Pn**	**03 52 10.9**	**-1.2**
BGF				*e*Sn	Sn	03 53 34.7	-8.1
MTLF	**Montolieu**	**8.18**	**273**	*e*Pn	**Pn**	**03 52 13.4**	**+0.8**
	SNR=1.0						
MTLF				*e*Sn	Sn	03 53 38.1	-5.7
	comp=Z,8.2nm,0.3s						
MTLF	**Montolieu**	**8.18**	**273**	*e*P	**Pn**	**03 52 13.4**	**+0.8**
MTLF				*e*		03 53 38.1	
MTLF	**Montolieu**	**8.18**	**273**	*e*Pn	**Pn**	**03 52 13.4**	**+0.8**
MTLF				*e*Sn	Sn	03 53 38.1	-5.7
MTLF	**Montolieu**	**8.18**	**273**	*e*Pn	**Pn**	**03 52 13.4**	**+0.8**
MTLF				*e*Sn	Sn	03 53 38.1	-5.7
KOLS	**Kolonicke sedl**	**8.24**	**45**	*e*P	**Pn**	**03 52 15.8**	**+2.3**
KOLS				*e*		03 53 41.7	
KOLS	**Kolonicke sedl**	**8.24**	**45**	*e*PN	**Pn**	**03 52 15.8**	**+2.3**
KOLS				*e*SN	**Sn**	**03 53 41.7**	**-3.6**
KOLS	**Kolonicke sedl**	**8.24**	**45**	*e*P	**Pn**	**03 52 15.8**	**+2.3**
KOLS				*e*S	**Sn**	**03 53 41.7**	**-3.6**
ARR	**Arges**	**8.25**	**73**	⇑*i*P	Pn	03 52 16.9	+3.2
KALE	**Kalithea**	**8.28**	**124**	P	**Pn**	**03 52 15.4**	**+1.2**
KALE	**Kalithea**	**8.28**	**124**	P	**Pn**	**03 52 15.4**	**+1.2**
KALE	**Kalithea**	**8.28**	**124**	P	**Pn**	**03 52 15.4**	**+1.2**
KEST	**Kesra**	**8.30**	**204**	*e*Pn	Pn	03 52 19.0	+4.5
KEST				Sn	**Sn**	**03 53 47.5**	**+0.4**
KEST	**Kesra**	**8.30**	**204**	Pn	Pn	03 52 18.2	+3.7
	comp=Z,1.7nm,0.3s,baz=309,slow=4.2,SNR=77						
KEST				Sn	**Sn**	**03 53 47.5**	**+0.4**
	baz=22,slow=18,SNR=1.6						
KEST				LR	LR	03 55 42.5	
	comp=Z,100nm,19.9s,baz=329,slow=40						
KEST	**Kesra**	**8.30**	**204**	*e*Pn	Pn	03 52 19.0	+4.5
KEST				Sn	**Sn**	**03 53 47.5**	**+0.4**
CAF	**Calviac**	**8.31**	**284**	*e*Pn	**Pn**	**03 52 14.8**	**+0.2**
	SNR=1.0						
CAF	**Calviac**	**8.31**	**284**	*e*P	**Pn**	**03 52 14.8**	**+0.2**
CAF	**Calviac**	**8.31**	**284**	*e*Pn	**Pn**	**03 52 14.8**	**+0.2**
CAF	**Calviac**	**8.31**	**284**	*e*Pn	**Pn**	**03 52 14.8**	**+0.2**
XOR	**Xorichti**	**8.37**	**116**	P	**Pn**	**03 52 15.4**	**0.0**
XOR	**Xorichti**	**8.37**	**116**	P	**Pn**	**03 52 15.4**	**0.0**
XOR	**Xorichti**	**8.37**	**116**	P	**Pn**	**03 52 15.4**	**0.0**
PLD	**Plovdiv**	**8.39**	**95**	P	**Pn**	**03 52 17.3**	**+1.7**
PLD	**Plovdiv**	**8.39**	**95**	P	**Pn**	**03 52 17.3**	**+1.7**
PLD	**Plovdiv**	**8.39**	**95**	P	**Pn**	**03 52 17.3**	**+1.7**
PLD	**Plovdiv**	**8.39**	**95**	*e*Pn	**Pn**	**03 52 17.5**	**+1.9**
PLD	**Plovdiv**	**8.39**	**95**	P	**Pn**	**03 52 17.3**	**+1.7**
HUMR	**Humele**	**8.40**	**78**	⇓*i*P	**Pn**	**03 52 17.8**	**+2.2**
TCF	**Toulx Ste Croi**	**8.48**	**294**	*e*Pn	**Pn**	**03 52 15.6**	**-1.2**
	SNR=1.0						
TCF				*e*Sn	Sn	03 53 44.1	-7.1
	comp=Z,90nm,0.2s						
TCF	**Toulx Ste Croi**	**8.48**	**294**	*e*P	**Pn**	**03 52 15.6**	**-1.2**
TCF				*e*		03 53 44.1	
TCF	**Toulx Ste Croi**	**8.48**	**294**	*e*Pn	**Pn**	**03 52 15.6**	**-1.2**
TCF				*e*Sn	Sn	03 53 44.1	-7.1
TCF	**Toulx Ste Croi**	**8.48**	**294**	*e*Pn	**Pn**	**03 52 15.6**	**-1.2**
TCF				*e*Sn	Sn	03 53 44.1	-7.1
KLV	**Kalavryta, Ach**	**8.52**	**126**	P	**Pn**	**03 52 18.2**	**+0.8**
KLV	**Kalavryta, Ach**	**8.52**	**126**	P	**Pn**	**03 52 18.2**	**+0.8**
KLV	**Kalavryta, Ach**	**8.52**	**126**	P	**Pn**	**03 52 18.2**	**+0.8**
HYF	**Humbligny**	**8.52**	**301**	*e*Pn	**Pn**	**03 52 16.5**	**-0.9**
HYF	**Humbligny**	**8.52**	**301**	*e*Pn	**Pn**	**03 52 16.5**	**-0.9**
HYF	**Humbligny**	**8.52**	**301**	*e*Pn	**Pn**	**03 52 16.5**	**-0.9**
KAVA	**Kavala**	**8.57**	**103**	P	**Pn**	**03 52 18.9**	**+0.9**
KAVA	**Kavala**	**8.57**	**103**	P	**Pn**	**03 52 18.9**	**+0.9**
KAVA	**Kavala**	**8.57**	**103**	P	**Pn**	**03 52 18.9**	**+0.9**
CLZ	**Clausthal**	**8.67**	**347**	*e*P	**Pn**	**03 52 17.8**	**-1.6**
CLZ	**Clausthal**	**8.67**	**347**	*e*P	**Pn**	**03 52 17.8**	**-1.6**
GUR	**Goura**	**8.70**	**126**	P	**Pn**	**03 52 20.4**	**+0.5**
GUR	**Goura**	**8.70**	**126**	P	**Pn**	**03 52 20.4**	**+0.5**
GUR	**Goura**	**8.70**	**126**	P	**Pn**	**03 52 20.4**	**+0.5**
RJF	**Les Rejaudoux**	**8.75**	**287**	*e*Pn	**Pn**	**03 52 21.1**	**+0.6**
	SNR=1.0						
RJF				*e*Sn	Sn	03 53 50.9	-6.9
	comp=Z,46nm,0.6s						
RJF	**Les Rejaudoux**	**8.75**	**287**	*e*P	**Pn**	**03 52 21.1**	**+0.6**
RJF				*e*		03 53 50.9	
RJF	**Les Rejaudoux**	**8.75**	**287**	*e*Pn	**Pn**	**03 52 21.1**	**+0.6**
RJF				*e*Sn	Sn	03 53 50.9	-6.9
RJF	**Les Rejaudoux**	**8.75**	**287**	*e*Pn	**Pn**	**03 52 21.1**	**+0.6**
RJF				*e*Sn	Sn	03 53 50.9	-6.9
MEM	**Membach**	**8.80**	**327**	PN	**Pn**	**03 52 21.8**	**+0.7**
MEM				SN	Sn	03 53 52.5	-6.4
	comp=E,23nm,0.0s						
DOPR	**Dopca**	**8.88**	**69**	⇑*i*P	**Pn**	**03 52 24.3**	**+2.0**
KWP	**Kalwaria Pacla**	**8.90**	**43**	*e*P	**Pn**	**03 52 25.3**	**+2.7**
KWP				pmax	pmax		
	comp=Z,39nm,0.8s						
KWP	**Kalwaria Pacla**	**8.90**	**43**	*e*Pn	**Pn**	**03 52 25.3**	**+2.7**
	comp=Z,39nm,0.8s						
KWP	**Kalwaria Pacla**	**8.90**	**43**	⇑*i*P	**Pn**	**03 52 25.5**	**+2.9**
KWP	**Kalwaria Pacla**	**8.90**	**43**	*e*P	Pn	03 52 25.7	+3.1
KWP				*e*Sn	**Sn**	**03 53 59.3**	**-2.3**
KWP	**Kalwaria Pacla**	**8.90**	**43**	*e*Pn	**Pn**	**03 52 25.3**	**+2.7**
	comp=Z,39nm,0.8s						
GIVF	**Givet**	**8.92**	**322**	*e*P	**Pn**	**03 52 23.7**	**+1.0**
	SNR=1.0						
GIVF	**Givet**	**8.92**	**322**	*e*P	**Pn**	**03 52 23.7**	**+1.0**
GIVF	**Givet**	**8.92**	**322**	*e*P	**Pn**	**03 52 23.7**	**+1.0**
GIVF	**Givet**	**8.92**	**322**	*e*P	**Pn**	**03 52 23.7**	**+1.0**
BCLA	**Clavier**	**8.94**	**324**	PN	**Pn**	**03 52 24.0**	**+1.0**
BCLA				SN	Sn	03 53 54.9	-7.6
	comp=E,17nm,0.0s						
HGN	**Heimansgroeve**	**8.95**	**328**	*e*Pn	**Pn**	**03 52 24.1**	**+1.0**
	comp=E,19nm,0.2s						
HGN				*e*X		03 52 34.6	
DOU	**Dourbes**	**9.02**	**321**	PN	**Pn**	**03 52 24.1**	**0.0**
DOU				SN	Sn	03 53 55.1	-9.3
	comp=E,25nm,0.0s						
MLS	**Moulis**	**9.03**	**271**	P	**Pn**	**03 52 25.4**	**+1.0**
MLS	**Moulis**	**9.03**	**271**	P	**Pn**	**03 52 25.4**	**+1.0**
BUG	**Bochum--Univer**	**9.04**	**335**	*e*P	**Pn**	**03 52 25.0**	**+0.6**
BUG	**Bochum--Univer**	**9.04**	**335**	*e*P	**Pn**	**03 52 25.0**	**+0.6**
BEBN	**Eben Emael**	**9.07**	**327**	PN	**Pn**	**03 52 26.1**	**+1.2**
PYL	**PYLOS**	**9.10**	**133**	P	**Pn**	**03 52 25.3**	**0.0**
PYL	**PYLOS**	**9.10**	**133**	P	**Pn**	**03 52 25.3**	**0.0**
PYL	**PYLOS**	**9.10**	**133**	P	**Pn**	**03 52 25.3**	**0.0**
BAIF	**Baives**	**9.17**	**320**	*e*Pn	**Pn**	**03 52 25.6**	**-0.6**
BAIF	**Baives**	**9.17**	**320**	*e*P	**Pn**	**03 52 27.9**	**+1.7**
	SNR=1.0						
BAIF	**Baives**	**9.17**	**320**	*e*P	**Pn**	**03 52 25.6**	**-0.6**
BAIF	**Baives**	**9.17**	**320**	*e*Pn	**Pn**	**03 52 25.6**	**-0.6**
BAIF	**Baives**	**9.17**	**320**	*e*Pn	**Pn**	**03 52 25.6**	**-0.6**
BAIF	**Baives**	**9.17**	**320**	*e*P	**Pn**	**03 52 27.9**	**+1.7**
	SNR=1.0						
MLR	**Muntele Rosu**	**9.18**	**73**	Pn	**Pn**	**03 52 28.5**	**+2.0**
MLR	**Muntele Rosu**	**9.18**	**73**	⇓*i*P	**Pn**	**03 52 29.4**	**+2.9**
MLR	**Muntele Rosu**	**9.18**	**73**	Pn	**Pn**	**03 52 28.5**	**+2.0**
	baz=212,slow=19						
MLR	**Muntele Rosu**	**9.18**	**73**	Pn	**Pn**	**03 52 28.5**	**+2.0**
MLR	**Muntele Rosu**	**9.18**	**73**	P	**Pn**	**03 52 29.4**	**+2.9**
RDO	**Rodhopi**	**9.25**	**100**	P	**Pn**	**03 52 28.4**	**+1.1**
RDO	**Rodhopi**	**9.25**	**100**	P	**Pn**	**03 52 28.4**	**+1.1**
RDO	**Rodhopi**	**9.25**	**100**	P	**Pn**	**03 52 28.4**	**+1.1**
LFF	**La Frestale**	**9.25**	**284**	*e*Pn	**Pn**	**03 52 28.3**	**+1.0**
LFF	**La Frestale**	**9.25**	**284**	*e*P	**Pn**	**03 52 28.3**	**+1.0**
LFF	**La Frestale**	**9.25**	**284**	*e*Pn	**Pn**	**03 52 28.3**	**+1.0**
LFF	**La Frestale**	**9.25**	**284**	*e*Pn	**Pn**	**03 52 28.3**	**+1.0**
BURAR	**Bucovina Array**	**9.27**	**59**	⇓P	**Pn**	**03 52 28.6**	**+1.0**
BURAR	**Bucovina Array**	**9.27**	**59**	⇓*i*P	**Pn**	**03 52 28.6**	**+1.0**
SNF	**Seneffe**	**9.45**	**322**	PN	**Pn**	**03 52 31.6**	**+1.6**
DID	**Didima**	**9.52**	**125**	P	**Pn**	**03 52 31.5**	**+0.4**
DID	**Didima**	**9.52**	**125**	P	**Pn**	**03 52 31.5**	**+0.4**
DID	**Didima**	**9.52**	**125**	P	**Pn**	**03 52 31.5**	**+0.4**
EPF	**Esparros**	**9.57**	**272**	*e*Pn	**Pn**	**03 52 32.1**	**+0.3**
	SNR=1.0						
EPF	**Esparros**	**9.57**	**272**	*e*P	**Pn**	**03 52 32.1**	**+0.3**
EPF	**Esparros**	**9.57**	**272**	*e*Pn	**Pn**	**03 52 32.1**	**+0.3**
EPF	**Esparros**	**9.57**	**272**	*e*Pn	**Pn**	**03 52 32.1**	**+0.3**
WTSB	**Winterswijk**	**9.64**	**335**	*e*Pn	**Pn**	**03 52 32.8**	**+0.1**
	comp=E,17nm,0.6s						
WTSB				*e*X		03 52 40.1	
LVV	**L'vov**	**9.69**	**45**	*e*P	Pn	03 52 37.0	+3.7
LVV				*e*S	Sn	03 54 27.0	+6.1
LVV				MLR	MLR		
	comp=N,200nm,9.0s						
LVV				MLR	MLR		
	comp=E,50nm,9.0s						
LVV				MLR	MLR		
	comp=Z,200nm,9.0s						
LVV	**L'vov**	**9.69**	**45**	*e*P	Pn	03 52 37.0	+3.7
LVV				*e*S	Sn	03 54 27.0	+6.1
ALN	**Alexandroupoli**	**9.70**	**101**	P	**Pn**	**03 52 34.8**	**+1.4**
ALN	**Alexandroupoli**	**9.70**	**101**	P	**Pn**	**03 52 34.8**	**+1.4**
ALN	**Alexandroupoli**	**9.70**	**101**	P	**Pn**	**03 52 34.8**	**+1.4**
ALN	**Alexandroupoli**	**9.70**	**101**	P	**Pn**	**03 52 34.8**	**+1.4**
VRI	**Vrincioaia**	**9.78**	**71**	⇑⇑P	**Pn**	**03 52 36.9**	**+2.3**
VRI	**Vrincioaia**	**9.78**	**71**	⇑*i*P	**Pn**	**03 52 36.9**	**+2.3**
VRI	**Vrincioaia**	**9.78**	**71**	P	**Pn**	**03 52 36.9**	**+2.3**
MFF	**Saint Martin d**	**10.13**	**293**	*e*Pn	**Pn**	**03 52 38.6**	**-0.8**
	SNR=1.0						
MFF				*e*Sn	Sn	03 54 23.4	-8.3
	comp=Z,18nm,0.2s						
MFF	**Saint Martin d**	**10.13**	**293**	*e*P	**Pn**	**03 52 38.6**	**-0.8**
MFF	**Saint Martin d**	**10.13**	**293**	*e*Pn	**Pn**	**03 52 38.6**	**-0.8**
MFF				*e*Sn	Sn	03 54 23.4	-8.3
MFF	**Saint Martin d**	**10.13**	**293**	*e*Pn	**Pn**	**03 52 38.6**	**-0.8**
MFF				*e*Sn	Sn	03 54 23.4	-8.3
ETSF	**Etsaut**	**10.24**	**272**	*e*P	Pn	03 52 44.7	+3.7
	SNR=1.0						
ETSF	**Etsaut**	**10.24**	**272**	*e*P	Pn	03 52 44.7	+3.7
ETSF	**Etsaut**	**10.24**	**272**	*e*P	Pn	03 52 44.7	+3.7
ETSF	**Etsaut**	**10.24**	**272**	*e*P	Pn	03 52 44.7	+3.7
SJPF	**Ste Jean**	**10.70**	**273**	*e*P	**Pn**	**03 52 49.2**	**+2.0**
	SNR=1.0						
SJPF	**Ste Jean**	**10.70**	**273**	*e*P	**Pn**	**03 52 49.2**	**+2.0**
SJPF	**Ste Jean**	**10.70**	**273**	*e*P	**Pn**	**03 52 49.2**	**+2.0**
SJPF	**Ste Jean**	**10.70**	**273**	*e*P	**Pn**	**03 52 49.2**	**+2.0**
BSEG	**Bad Segeberg**	**10.72**	**350**	*e*P	**Pn**	**03 52 45.5**	**-1.9**
BSEG	**Bad Segeberg**	**10.72**	**350**	*e*P	**Pn**	**03 52 45.5**	**-1.9**
LDF	**La Druitiere**	**10.75**	**303**	*e*Pn	**Pn**	**03 52 46.4**	**-1.5**
	SNR=1.0						
LDF	**La Druitiere**	**10.75**	**303**	*e*P	**Pn**	**03 52 46.4**	**-1.5**
LDF	**La Druitiere**	**10.75**	**303**	*e*Pn	**Pn**	**03 52 46.4**	**-1.5**
LDF	**La Druitiere**	**10.75**	**303**	*e*Pn	**Pn**	**03 52 46.4**	**-1.5**
TIRR	**Tirgusor**	**10.85**	**79**	⇑⇑P	**Pn**	**03 52 51.6**	**+2.4**
TIRR	**Tirgusor**	**10.85**	**79**	⇑*i*P	**Pn**	**03 52 51.6**	**+2.4**
TIRR	**Tirgusor**	**10.85**	**79**	P	**Pn**	**03 52 51.6**	**+2.4**
FLN	**La Foliniere**	**11.04**	**304**	*e*Pn	**Pn**	**03 52 52.1**	**+0.3**
	baz=118,SNR=1.0						
FLN				*e*Sn	Sn	03 54 44.8	-9.1
	comp=Z,25nm,0.3s						
FLN	**La Foliniere**	**11.04**	**304**	*e*P	**Pn**	**03 52 52.1**	**+0.3**
FLN	**La Foliniere**	**11.04**	**304**	*e*Pn	**Pn**	**03 52 52.1**	**+0.3**
FLN				*e*Sn	Sn	03 54 44.8	-9.1
FLN	**La Foliniere**	**11.04**	**304**	*e*Pn	**Pn**	**03 52 52.1**	**+0.3**
FLN				*e*Sn	Sn	03 54 44.8	-9.1
GRR	**Gorron**	**11.13**	**301**	*e*Pn	**Pn**	**03 52 51.1**	**-1.9**
	SNR=1.0						
GRR	**Gorron**	**11.13**	**301**	*e*P	**Pn**	**03 52 51.1**	**-1.9**
GRR	**Gorron**	**11.13**	**301**	*e*Pn	**Pn**	**03 52 51.1**	**-1.9**
GRR	**Gorron**	**11.13**	**301**	*e*Pn	**Pn**	**03 52 51.1**	**-1.9**
TLCR		**11.16**	**76**	⇑⇑P	**Pn**	**03 52 54.7**	**+1.3**
TLCR		**11.16**	**76**	⇑*i*P	**Pn**	**03 52 54.7**	**+1.3**
TLCR		**11.16**	**76**	P	**Pn**	**03 52 54.7**	**+1.3**
BSD	**Bornholm Skovb**	**11.74**	**4**	*i* P	**Pn**	**03 52 59.8**	**-1.5**
BSD				*i* S	Sn	03 55 02.0	-9.0
BSD	**Bornholm Skovb**	**11.74**	**4**	*i* P	**Pn**	**03 52 59.8**	**-1.5**
IDI	**Anoyia**	**12.01**	**129**	Pn	**Pn**	**03 53 04.0**	**-1.2**
IDI				Sn	Sn	03 55 06.3	-12
IDI	**Anoyia**	**12.01**	**129**	Pn	**Pn**	**03 53 04.0**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=256,slow=20,SNR=14						
IDI				Sn	Sn	03 55 06.3	-12
	comp=Z,4.2nm,0.3s,baz=326,slow=21,SNR=9.8						
IDI	**Anoyia**	**12.01**	**129**	Pn	**Pn**	**03 53 04.0**	**-1.2**
IDI				Sn	Sn	03 55 06.3	-12
SGMF	**Saint Gilles**	**12.15**	**299**	*e*Pn	**Pn**	**03 53 05.4**	**-1.6**
	SNR=1.0						
SGMF				*e*Sn	Sn	03 55 10.6	-11
	comp=Z,9.5nm,0.3s						
SGMF	**Saint Gilles**	**12.15**	**299**	*e*P	**Pn**	**03 53 05.4**	**-1.6**
SGMF	**Saint Gilles**	**12.15**	**299**	*e*Pn	**Pn**	**03 53 05.4**	**-1.6**
SGMF				*e*Sn	Sn	03 55 10.6	-11
SGMF	**Saint Gilles**	**12.15**	**299**	*e*Pn	**Pn**	**03 53 05.4**	**-1.6**
SGMF				*e*Sn	Sn	03 55 10.6	-11
QUIF	**Quistinic**	**12.45**	**297**	*e*Pn	**Pn**	**03 53 10.2**	**-0.9**
	SNR=1.0						
QUIF	**Quistinic**	**12.45**	**297**	*e*P	**Pn**	**03 53 10.2**	**-0.9**
QUIF	**Quistinic**	**12.45**	**297**	*e*Pn	**Pn**	**03 53 10.2**	**-0.9**
QUIF	**Quistinic**	**12.45**	**297**	*e*Pn	**Pn**	**03 53 10.2**	**-0.9**
ROSF	**Rostrenen**	**12.63**	**299**	*e*Pn	**Pn**	**03 53 10.8**	**-2.8**
	SNR=1.0						
ROSF				*e*Sn	Sn	03 55 21.8	-11
	comp=Z,20nm,0.4s						
ROSF	**Rostrenen**	**12.63**	**299**	*e*P	**Pn**	**03 53 10.8**	**-2.8**
ROSF	**Rostrenen**	**12.63**	**299**	*e*Pn	**Pn**	**03 53 10.8**	**-2.8**
ROSF				*e*Sn	Sn	03 55 21.8	-11
ROSF	**Rostrenen**	**12.63**	**299**	*e*Pn	**Pn**	**03 53 10.8**	**-2.8**
ROSF				*e*Sn	Sn	03 55 21.8	-11
KIEV	**Kiev**	**12.96**	**50**	*e*P	**Pn**	**03 53 19.2**	**+1.2**
KIEV	**Kiev**	**12.96**	**50**	*e*Pn	**Pn**	**03 53 19.2**	**+1.2**
KIEV	**Kiev**	**12.96**	**50**	*e*Pn	**Pn**	**03 53 19.2**	**+1.2**
AKASG	**Malin Array Be**	**12.97**	**50**	P	**Pn**	**03 53 17.3**	**-0.9**
AKASG	**Malin Array Be**	**12.97**	**50**	Pn	**Pn**	**03 53 17.2**	**-0.9**
AKASG	**Malin Array Be**	**12.97**	**50**	Pn	**Pn**	**03 53 17.2**	**-0.9**
	comp=Z,1.3nm,0.3s,baz=238,slow=12,SNR=21						
AKASG	**Malin Array Be**	**12.97**	**50**	P	**Pn**	**03 53 17.3**	**-0.9**
MUD	**Monsted U'grnd**	**13.33**	**350**	*e*P	**P

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NAO01 NORSAR Array S 17.52 356 ePn      Pn      03 54 17.1 -0.6
NAO01 NORSAR Array S 17.52 356 ePn      Pn      03 54 17.1 -0.6
MDT   Midelt         17.68 239 P        Pn      03 54 19.7 -0.4
MDT   Midelt         17.68 239 P        Pn      03 54 19.7 -0.4
      comp=Z,0.1nm,0.3s,baz=78,slow=11,SNR=10.0
MDT                            LR       LR      03 59 50.3
      comp=Z,54nm,18.6s,baz=185,slow=33
MDT   Midelt         17.68 239 P        Pn      03 54 19.7 -0.4
NB2   NORSAR Subarra 17.70 356 P        Pn      03 54 19.0 -0.9
      comp=Z,12nm,0.8s,baz=172,slow=12
NB2   NORSAR Subarra 17.70 356 P        Pn      03 54 19.0 -0.9
      comp=Z,12nm,0.8s,SNR=5.3
NOA   NORSAR Array B 17.70 356 P        Pn      03 54 19.1 -0.9
NOA   NORSAR Array B 17.70 356 P        Pn      03 54 19.1 -0.9
      comp=Z,0.5nm,0.3s,baz=172,slow=12,SNR=19
NOA                            LR       LR      04 02 11.6
      comp=Z,52nm,20.2s,baz=175,slow=41
NOA   NORSAR Array B 17.70 356 P        Pn      03 54 19.1 -0.9
OBN   Obninsk        18.99  44 i P      P       03 54 33.4 -1.4
OBN                            pmax     pmax
      comp=Z,24nm,1.0s
OBN                            MLR      MLR
      comp=Z,100nm,19.0s
OBN   Obninsk        18.99  44 i P      P       03 54 33.4 -1.4
      comp=Z,100nm,19.0s
VORD  Divnogorie     19.05  58 eP       P       03 54 35.3 -0.2
VORD                           pmax     pmax
      comp=Z,10.0nm,1.1s
VORD                           pmax     pmax
      comp=N,10.0nm,0.6s
VORD                           pmax     pmax
      comp=E,40nm,0.9s
VORD  Divnogorie     19.05  58 eP       P       03 54 35.3 -0.2
      comp=E,10.0nm,0.6s
FINES FINESS Array B 19.56  18 P        P       03 54 40.7 -0.3
FINES FINESS Array B 19.56  18 P        P       03 54 40.7 -0.3
      comp=E,0.8nm,0.3s,baz=200,slow=9.2,SNR=38
FINES                          LR       LR      04 03 08.0
      comp=E,190nm,18.9s,baz=270,slow=40
FINES FINESS Array B 19.56  18 P        P       03 54 40.7 -0.3
MOS   Moscow         19.82  43 eP       P       03 54 43.1 -0.7
MOS                            pmax     pmax
      comp=Z,49nm,1.0s
MOS   Moscow         19.82  43 eP       P       03 54 43.1 -0.7
      comp=Z,49nm,1.0s
MMAI  Mount Meron Ar 20.09 114 P        Pn      03 54 49.2 +0.2
MMAI  Mount Meron Ar 20.09 114 P        Pn      03 54 49.2 +0.2
      comp=Z,7.5nm,0.8s,baz=322,slow=12,SNR=4.3
MMAI  Mount Meron Ar 20.09 114 P        Pn      03 54 49.2 +0.2
KAF   Kangasniemi    20.20  18 eP       P       03 54 48.3 +0.3
KAF                            pmax     pmax
      comp=Z,6.0nm,0.5s
KAF   Kangasniemi    20.20  18 ep       P       03 54 48.3 +0.3
      comp=Z,6.2nm,0.5s
KAF   Kangasniemi    20.20  18 eP       P       03 54 48.3 +0.3
      comp=Z,6.0nm,0.5s
VRHR  Novokhopersk   20.52  58 eP       Pn      03 54 54.5 +0.7
VRHR                           pmax     pmax
      comp=Z,10.0nm,0.5s
VRHR                           pmax     pmax
      comp=N,50nm,1.5s
VRHR                           pmax     pmax
      comp=E,50nm,1.1s
VRHR  Novokhopersk   20.52  58 eP       Pn      03 54 54.5 +0.7
      comp=E,50nm,1.5s
KIV   Kislovodsk     21.11  78 eP       P       03 54 59.5 +1.4
KIV                            eS       S       03 58 54.6 +3.5
KIV                            pmax     pmax
      comp=Z,68nm,1.1s
KIV                            MLR      MLR
      comp=Z,32nm,14.0s
KIV   Kislovodsk     21.11  78 eP       P       03 54 59.5 +1.4
      comp=Z,68nm,1.1s
KIV                            eS       S       03 58 54.6 +3.5
      comp=Z,32nm,14.0s
KBZ   Khabaz         21.30  79 P        P       03 55 01.9 +1.9
KBZ   Khabaz         21.30  79 P        P       03 55 01.9 +1.9
KBZ   Khabaz         21.30  79 P        P       03 55 01.9 +1.9
      comp=Z,29nm,0.9s,baz=278,slow=8.5,SNR=64
KBZ   Khabaz         21.30  79 P        P       03 55 01.9 +1.9
TAM   Tamanrasset    21.60 200 eP       P       03 55 04.3 +0.8
TAM                            pmax     pmax
      comp=Z,7.0nm,0.8s
TAM   Tamanrasset    21.60 200 eP       P       03 55 04.3 +0.8
      comp=Z,7.1nm,0.8s
TAM   Tamanrasset    21.60 200 eP       P       03 55 04.3 +0.8
      comp=Z,7.1nm,0.8s
ASF   Jabal al Asfar 21.60 114 P        P       03 55 07.7 +4.3
ASF   Jabal al Asfar 21.60 114 P        P       03 55 07.7 +4.3
      comp=Z,2.9nm,0.9s,baz=236,slow=13,SNR=3.6
EIL   Elat           21.99 122 P        P       03 55 08.9 +1.5
EIL   Elat           21.99 122 P        P       03 55 08.9 +1.5
      comp=Z,8.9nm,0.9s,baz=322,slow=9.9,SNR=7.9
EIL   Elat           21.99 122 P        P       03 55 08.9 +1.5
JOF   Joensuu        22.12  22 eP       P       03 55 07.9 -0.7
JOF                            pmax     pmax
      comp=Z,4.0nm,0.5s
JOF   Joensuu        22.12  22 ep       P       03 55 07.9 -0.7
      comp=Z,3.9nm,0.5s
JOF   Joensuu        22.12  22 eP       P       03 55 07.9 -0.7
      comp=Z,4.0nm,0.5s
KLMR  Klimovskoe     23.42  33 eP       P       03 55 20.7 -1.4
KLMR                           pmax     pmax
      comp=Z,19nm,0.9s
KLMR  Klimovskoe     23.42  33 eP       P       03 55 20.7 -1.4
      comp=Z,19nm,0.9s
GNI   Garni          23.50  87 eP       P       03 55 25.5 +2.2
      comp=Z,11nm,0.8s
GNI   Garni          23.50  87 P        P       03 55 26.1 +2.8
      comp=Z,8.5nm,0.7s,baz=46,slow=4.6,SNR=7.4
GNI   Garni          23.50  87 eP       P       03 55 25.5 +2.2
      comp=Z,11nm,0.8s
PMAR  Madeira        26.04 256 eP       P       03 55 48.6 +2.0
      comp=Z,53nm,1.6s
PMAR  Madeira        26.04 256 eP       P       03 55 48.6 +2.0
      comp=Z,53nm,1.6s
PMOZ  Porto Moniz, M 26.19 256 eP       P       03 55 49.2 +1.3
      comp=Z,46nm,1.6s
PMOZ  Porto Moniz, M 26.19 256 eP       P       03 55 49.2 +1.3
      comp=Z,46nm,1.6s
ARCES ARCESS Array B 26.90   9 P        P       03 55 53.3 -0.5
ARCES ARCESS Array B 26.90   9 P        P       03 55 53.3 -0.5
      comp=Z,1.2nm,0.7s,baz=193,slow=8.7,SNR=10
ARCES                          LR       LR      04 08 39.3
      comp=Z,58nm,19.7s,baz=200,slow=41
ARCES ARCESS Array B 26.90   9 P        P       03 55 53.3 -0.5
ARU   Arti           31.23  49c iP      P       03 56 32.3 -0.1
ARU                                     03 57 32.9
ARU                            S        S       04 01 38.2 +2.0
ARU                            SS       SnSn    04 03 18.3 -1.7
ARU                            pmax     pmax
      comp=Z,22nm,1.0s
ARU   Arti           31.23  49 i P      P       03 56 32.3 -0.1
      comp=Z,22nm,1.0s
TORD  Torodi Ar. Bea 31.82 202 P        P       03 56 37.0 -0.9
TORD  Torodi Ar. Bea 31.82 202 P        P       03 56 37.0 -0.9
      comp=Z,5.0nm,0.5s,baz=16,slow=8.8,SNR=128
TORD                           LR       LR      04 10 18.6
      comp=Z,63nm,19.6s,baz=0.0,slow=38
TORD  Torodi Ar. Bea 31.82 202 P        P       03 56 37.0 -0.9
ABKAR Akbulak array  32.22  63 eP       P       03 56 40.8 -0.3
      comp=Z,1.2nm,0.6s
ABKAR Akbulak array  32.22  63 eP       P       03 56 40.8 -0.3
      comp=Z,1.2nm,0.6s
SVE   Sverdlovsk     32.40  49 eP       P       03 56 43.2 +0.5
SVE                            pmax     pmax
      comp=Z,15nm,0.9s
SVE   Sverdlovsk     32.40  49 eP       P       03 56 43.2 +0.5
      comp=Z,15nm,0.9s
BRVK  Borovoye       38.13  55ceP       P       03 57 33.0 +1.0
BRVK                           pmax     pmax
      comp=Z,8.0nm,0.8s
BRVK  Borovoye       38.13  55 eP       P       03 57 32.9 +1.0
      comp=Z,7.7nm,0.7s
BRVK  Borovoye       38.13  55 eP       P       03 57 33.0 +1.0
      comp=Z,8.0nm,0.8s
BVAR  Borovoye Array 38.20  55 P        P       03 57 33.6 +1.1
BVAR  Borovoye Array 38.20  55 P        P       03 57 33.6 +1.1
BVAR  Borovoye Array 38.20  55 P        P       03 57 33.6 +1.1
      comp=Z,3.0nm,0.7s,baz=265,slow=7.2,SNR=13
BVAR                           LR       LR      04 13 36.5
      comp=Z,82nm,20.5s,baz=99,slow=37
BVAR  Borovoye Array 38.20  55 P        P       03 57 33.6 +1.1
DBIC  Dimbokro       39.99 209 eP       P       03 57 46.1 -1.8
      comp=Z,4.4nm,0.7s
DBIC  Dimbokro       39.99 209 P        P       03 57 46.5 -1.3
      comp=Z,3.0nm,0.6s,baz=8.2,slow=9.3,SNR=14
DBIC                           LR       LR      04 15 40.1
      comp=Z,66nm,21.9s,baz=359,slow=38
DBIC  Dimbokro       39.99 209 eP       P       03 57 46.1 -1.8
      comp=Z,4.4nm,0.7s
TIC   Toumodi        40.07 209 eP       P       03 57 47.0 -1.6
      comp=Z,32nm,1.3s
KIC   Kosan Boka     40.24 209 eP       P       03 57 48.5 -1.4
      comp=Z,83nm,1.8s
LIC   Lamto          40.46 209 eP       P       03 57 50.5 -1.3
      comp=Z,37nm,0.5s
KKAR  Karatay Array  40.85  70 eP       P       03 57 55.5 +0.7
KKAR                           pmax     pmax
      comp=Z,6.0nm,0.8s
KKAR  Karatay Array  40.85  70 eP       P       03 57 55.5 +0.7
      comp=Z,6.1nm,0.8s
KKAR  Karatay Array  40.85  70 eP       P       03 57 55.5 +0.7
      comp=Z,6.1nm,0.8s
KURBB Kurchatov Arra 43.66  57 P        P       03 58 17.7 +0.2
      comp=Z,1.6nm,1.0s,baz=296,slow=10.0,SNR=12
KURK  Kurchatov      43.68  57ceP       P       03 58 18.1 +0.4
KURK                           pmax     pmax
      comp=Z,2.0nm,1.0s
KURK  Kurchatov      43.68  57 eP       P       03 58 17.4 -0.3
      comp=Z,1.9nm,0.8s
KURK  Kurchatov      43.68  57 eP       P       03 58 18.1 +0.4
      comp=Z,2.0nm,1.0s
AAK   Ala-Archa      43.74  69ceP       P       03 58 19.6 +1.1
AAK                            pmax     pmax
      comp=Z,15nm,1.7s
AAK   Ala-Archa      43.74  69 eP       P       03 58 20.0 +1.5
      comp=Z,2.6nm,0.9s
AAK   Ala-Archa      43.74  69 P        P       03 58 19.4 +0.9
      comp=Z,1.4nm,0.4s,baz=242,slow=3.4,SNR=4.9
AAK                            LR       LR      04 19 37.1
      comp=Z,88nm,18.2s,baz=278,slow=40
AAK   Ala-Archa      43.74  69 eP       P       03 58 19.6 +1.1
      comp=Z,15nm,1.7s
NVS   Novosibirsk    45.23  50⇑iP       P       03 58 42.1 +12
NVS                            pmax     pmax
      comp=Z,23nm,1.8s
NVS                            pmax     pmax
      comp=N,4.0nm,2.0s
NVS                            pmax     pmax
      comp=E,9.0nm,2.0s
KSH   Kashi          46.05  72 P        P       03 58 38.3 +1.4
KSH                            pP       pP      03 58 45.8 -1.2
KSH                            PP       PP      04 00 26.1 +1.1
KSH                            PcS      PcS     04 04 08.5 +1.1
KSH                            S        S       04 05 20.4 +0.4
KSH                            ScS      ScS     04 08 29.9 +0.1
KSH                            pmax     pmax
      comp=Z,9.0nm,0.9s
KSH                            pmax     pmax
      comp=Z,130nm,6.5s
KSH                            LR       LR
      comp=N,81nm,4.5s
KSH                            LR       LR
      comp=E,110nm,5.7s
KSH                            LR       LR
      comp=Z,170nm,5.7s
ZALV  Zalesovo Beam  46.37  51 i P      P       03 58 38.5 -0.5
ZALV                           pmax     pmax
      comp=Z,1.0nm,0.3s
ZALV  Zalesovo Beam  46.37  51 P        P       03 58 39.3 +0.3
ZALV  Zalesovo Beam  46.37  51 P        P       03 58 39.3 +0.3
      comp=Z,1.0nm,0.3s,baz=292,slow=7.8,SNR=4.1
ZALV                           LR       LR      04 19 25.1
      comp=Z,48nm,18.4s,baz=339,slow=38
ZALV  Zalesovo Beam  46.37  51 P        P       03 58 39.3 +0.3
MK31  Makanchi Array 47.29  61 eP       P       03 58 47.0 +0.6
MK31  Makanchi Array 47.29  61 eP       P       03 58 47.0 +0.6
MK31  Makanchi Array 47.29  61 eP       P       03 58 47.0 +0.6
MKAR  Makanchi Array 47.29  61ceP       P       03 58 47.0 +0.6
MKAR                           pmax     pmax
      comp=Z,3.0nm,0.8s
MKAR  Makanchi Array 47.29  61 P        P       03 58 46.7 +0.3
MKAR  Makanchi Array 47.29  61 P        P       03 58 46.7 +0.3
      comp=Z,2.5nm,0.8s,baz=297,slow=6.2,SNR=13
MKAR  Makanchi Array 47.29  61 P        P       03 58 46.7 +0.3
SCHQ  Schefferville  50.96 313 P        P       03 59 13.8 -0.5
SCHQ  Schefferville  50.96 313 P        P       03 59 13.8 -0.5
      comp=Z,3.9nm,0.7s,baz=71,slow=11,SNR=3.6
SCHQ  Schefferville  50.96 313 P        P       03 59 13.8 -0.5
WMQ   Urumqi         52.00  62 eP       P       03 59 25.4 +3.1
WMQ                            pP       pP      03 59 32.9 +0.3
WMQ                            sP       sP      03 59 36.3 -0.3
WMQ                            pmax     pmax
      comp=Z,4.0nm,1.0s
WMQ                            pmax     pmax
      comp=Z,32nm,3.6s
WMQ                            LR       LR
      comp=E,81nm,19.0s
WMQ                            LR       LR
      comp=Z,69nm,20.0s
YKA   Yellowknife Ar 66.54 337 P        P       04 01 02.5 +0.1
YKA   Yellowknife Ar 66.54 337 P        P       04 01 02.5 +0.1
      comp=Z,1.3nm,0.6s,baz=38,slow=6.2,SNR=4.7
YKA   Yellowknife Ar 66.54 337 P        P       04 01 02.5 +0.1
LZH   Lanzhou        66.58  62 eP       P       04 01 09.6 +6.3
LZH                            pP       pP      04 01 15.8 +1.9
LZH                            sP       sP      04 01 18.3 +0.4
LZH                            pmax     pmax
      comp=Z,13nm,1.0s
FFC   Flin Flon      67.88 326 eP       P       04 01 10.5 -0.6
FFC                            pmax     pmax
      comp=Z,8.0nm,0.9s
FFC   Flin Flon      67.88 326 eP       P       04 01 10.5 -0.6
      comp=Z,7.8nm,0.9s
FFC   Flin Flon      67.88 326 eP       P       04 01 10.5 -0.6
      comp=Z,7.8nm,0.9s
HHC   Hu-ho-hao-te   68.40  54 eP       P       04 01 14.0 -0.7
HHC                            pP       pP      04 01 21.8 -3.4
HHC                            sP       sP      04 01 25.0 -4.2
HHC                            PP       PP      04 03 46.6 +1.2
HHC                            PcS              04 05 43.4
HHC                            S        S       04 10 11.4 -2.3
HHC                            ScS      SKiKP   04 11 07.9 +2.2
HHC                            SS       SS      04 14 35.8 -1.0
HHC                            pmax     pmax
      comp=Z,35nm,1.0s
HHC                            pmax     pmax
      comp=Z,180nm,5.3s
HHC                            LR       LR
      comp=N,290nm,17.6s
HHC                            LR       LR
      comp=E,340nm,17.1s
HHC                            LR       LR
      comp=Z,210nm,18.4s
CD2   Chengdu        69.72  66 P        P       04 01 24.8 +1.9
CD2                            pP       pP      04 01 32.3 -1.2
CD2                            sP       sP      04 01 35.5 -2.0
CD2                            PP       PP      04 04 00.8 +3.8
CD2                            S        S       04 10 29.8 +0.3
CD2                            sS       sS      04 10 42.3 -4.7
CD2                            SS       SS      04 14 59.3 +1.7
CD2                            pmax     pmax
      comp=Z,10.0nm,0.5s
CD2                            pmax     pmax
      comp=Z,80nm,5.1s
CD2                            LR       LR
      comp=N,310nm,6.5s
CD2                            LR       LR
      comp=Z,270nm,6.5s
WCI   Wyandotte Cave 71.03 305 eP       P       04 01 30.6 -0.2
WCI                            pmax     pmax
      comp=Z,4.0nm,0.8s
WCI   Wyandotte Cave 71.03 305 eP       P       04 01 30.6 -0.2
      comp=Z,4.3nm,0.8s
WCI   Wyandotte Cave 71.03 305 eP       P       04 01 30.6 -0.2
      comp=Z,4.3nm,0.8s
ILAR  Eielson Array  71.05 351 P        P       04 01 31.6 +1.2
ILAR  Eielson Array  71.05 351 P        P       04 01 31.6 +1.2
      comp=Z,0.7nm,0.7s,baz=5.3,slow=6.7,SNR=14
ILAR  Eielson Array  71.05 351 P        P       04 01 31.7 +1.2
COLA  College        71.05 352 eP       P       04 01 31.0 +0.6
COLA  College        71.05 352 eP       P       04 01 31.0 +0.6
COLA  College        71.05 352 eP       P       04 01 31.0 +0.6
MCK   McKinley       72.28 352 eP       P       04 01 38.9 +1.0
MCK                            pmax     pmax
      comp=Z,17nm,1.5s
MCK   McKinley       72.28 352 eP       P       04 01 38.9 +1.0
      comp=Z,17nm,1.5s
MCK   McKinley       72.28 352 eP       P       04 01 38.9 +1.0
      comp=Z,17nm,1.5s
BOSA  Boshof         72.50 169 LR       LR      04 34 24.2
      comp=Z,45nm,19.1s,baz=350,slow=37
KMI   Kunming        72.71  72 P        P       04 01 43.9 +2.6
KMI                            pP       pP      04 01 50.5 -1.5
KMI                            sP       sP      04 01 52.6 -3.3
KMI                            pmax     pmax
      comp=Z,9.0nm,0.7s
WVT   Waverly        73.33 304 eP       P       04 01 43.6 -1.0
WVT                            pmax     pmax
      comp=Z,2.0nm,0.6s
WVT   Waverly        73.33 304 eP       P       04 01 43.6 -1.0
      comp=Z,1.9nm,0.6s
WVT   Waverly        73.33 304 eP       P       04 01 43.6 -1.0
      comp=Z,1.9nm,0.6s
PPLA  Purkeypile     73.41 353 eP       P       04 01 45.4 +0.7
      comp=Z,5.0nm,0.8s
PPLA  Purkeypile     73.41 353 eP       P       04 01 45.4 +0.7
      comp=Z,5.0nm,0.8s
CN2   Changchun      74.05  44 eP       P       04 01 50.0 +1.3
GYA   Guiyang        74.53  68 eP       P       04 01 52.4 +0.5
GYA                            pmax     pmax
      comp=Z,10.0nm,1.0s
MDJ   Mudanjiang     75.52  41 P        P       04 01 56.8 -0.3
MDJ                            SS       SS      04 16 24.4 -0.8
MDJ                            pmax     pmax
      comp=Z,4.0nm,0.8s
MDJ                            pmax     pmax
      comp=Z,130nm,5.7s
MDJ                            LR       LR
      comp=N,75nm,28.8s
MDJ                            LR       LR
      comp=E,96nm,26.2s
RSSD  Black Hills    76.52 319 eP       P       04 02 02.9 -0.3
RSSD                           pmax     pmax
      comp=Z,11nm,0.9s
RSSD  Black Hills    76.52 319 eP       P       04 02 02.9 -0.3
      comp=Z,11nm,0.9s
RSSD  Black Hills    76.52 319 eP       P       04 02 02.9 -0.3
      comp=Z,11nm,0.9s
BOZ   Bozeman (W)    78.78 324 eP       P       04 02 17.1 +1.4
BOZ                            pmax     pmax
      comp=Z,3.0nm,1.2s
BOZ   Bozeman (W)    78.78 324 eP       P       04 02 17.1 +1.4
      comp=Z,3.4nm,1.2s
BOZ   Bozeman (W)    78.78 324 eP       P       04 02 17.1 +1.4
      comp=Z,3.4nm,1.2s
MOOW  Moose Ponds    79.90 322 eP       P       04 02 23.6 +1.6
      comp=Z,2.3nm,0.9s
MOOW  Moose Ponds    79.90 322 eP       P       04 02 23.5 +1.6
      comp=Z,2.3nm,0.9s
LOHW  Long Hollow    79.95 322 eP       P       04 02 23.2 +1.1
LOHW  Long Hollow    79.95 322 eP       P       04 02 23.2 +1.1
KSRS  Korea Array    79.95  47 LR       LR      04 42 50.1
      comp=Z,41nm,19.0s,baz=315,slow=40
BW06  Boulder Array  80.14 321 eP       P       04 02 22.8 -0.4
      comp=Z,1.1nm,0.7s
BW06  Boulder Array  80.14 321 eP       P       04 02 22.8 -0.4
      comp=Z,1.1nm,0.7s
PDAR  Pinedale Array 80.14 321 P        P       04 02 23.4 +0.2
PDAR  Pinedale Array 80.14 321 P        P       04 02 23.4 +0.2
      comp=Z,1.4nm,0.7s,baz=60,slow=5.8,SNR=13
PDAR                           LR       LR      04 35 01.0
      comp=Z,38nm,19.9s,baz=250,slow=34
PDAR  Pinedale Array 80.14 321 P        P       04 02 23.4 +0.2
TPAW  Teton Pass     80.20 322 eP       P       04 02 25.3 +1.7
      comp=Z,2.1nm,0.8s
TPAW  Teton Pass     80.20 322 eP       P       04 02 25.3 +1.7
      comp=Z,2.1nm,0.8s
RRI2  Red Ridge      80.48 323 eP       P       04 02 26.9 +1.8
      comp=Z,2.4nm,0.8s
RRI2  Red Ridge      80.48 323 eP       P       04 02 26.9 +1.8
      comp=Z,2.4nm,0.8s
WMOK  Wichita Mounta 80.70 309 eP       P       04 02 26.7 +0.6
WMOK                           pmax     pmax
      comp=Z,4.0nm,1.0s
WMOK  Wichita Mounta 80.70 309 eP       P       04 02 26.7 +0.6
      comp=Z,4.4nm,1.0s
WMOK  Wichita Mounta 80.70 309 eP       P       04 02 26.7 +0.6
      comp=Z,4.4nm,1.0s
BMO   Blue Mountains 81.77 327 eP       P       04 02 32.0 +0.4
BMO                            pmax     pmax
      comp=Z,5.0nm,0.9s
BMO   Blue Mountains 81.77 327 eP       P       04 02 32.0 +0.4
      comp=Z,5.1nm,0.9s
BMO   Blue Mountains 81.77 327 eP       P       04 02 32.0 +0.4
      comp=Z,5.1nm,0.9s
HWUT  Hardware Ranch 81.97 322 eP       P       04 02 33.8 +0.9
      comp=Z,4.5nm,1.0s
HWUT  Hardware Ranch 81.97 322 eP       P       04 02 33.8 +0.9
      comp=Z,4.5nm,1.0s
SDCO  Great Sand Dun 82.07 316 eP       P       04 02 34.5 +0.9
      comp=Z,2.8nm,1.0s
SDCO  Great Sand Dun 82.07 316 eP       P       04 02 34.5 +0.9
      comp=Z,2.8nm,1.0s
DUG   Dugway         83.67 322 eP       P       04 02 42.4 +0.7
DUG                            pmax     pmax
      comp=Z,3.0nm,0.9s
DUG   Dugway         83.67 322 eP       P       04 02 42.4 +0.7
      comp=Z,3.1nm,0.9s
DUG   Dugway         83.67 322 eP       P       04 02 42.4 +0.7
      comp=Z,3.1nm,0.9s
ELK   Elko           84.30 323 eP       P       04 02 46.0 +1.0
ELK   Elko           84.30 323 eP       P       04 02 46.0 +1.0
WVOR  Wild Horse Val 84.32 326 eP       P       04 02 44.3 -0.6
WVOR                           pmax     pmax
      comp=Z,2.0nm,0.7s
WVOR  Wild Horse Val 84.32 326 eP       P       04 02 44.2 -0.6
      comp=Z,1.7nm,0.7s
WVOR  Wild Horse Val 84.32 326 eP       P       04 02 44.3 -0.6
      comp=Z,2.0nm,0.7s
ANMO  Albuquerque    84.71 314 eP       P       04 02 48.1 +1.0
      comp=Z,2.1nm,1.0s
ANMO  Albuquerque    84.71 314 eP       P       04 02 48.1 +1.0
      comp=Z,2.1nm,1.0s
SAML  Samuel         86.52 254 eP       P       04 02 55.8 -0.2
      comp=Z,1.5nm,0.8s
SAML  Samuel         86.52 254 eP       P       04 02 55.8 -0.2
      comp=Z,1.5nm,0.8s
TXAR  Lajitas Array  87.48 309 P        P       04 03 01.9 +1.1
TXAR  Lajitas Array  87.48 309 P        P       04 03 01.9 +1.1
      comp=Z,0.3nm,0.5s,baz=63,slow=4.8,SNR=7.4
TXAR  Lajitas Array  87.48 309 P        P       04 03 01.9 +1.1
TUC   Tucson         89.01 316 eP       P       04 03 09.1 +1.2
TUC   Tucson         89.01 316 eP       P       04 03 09.1 +1.2
TUC   Tucson         89.01 316 eP       P       04 03 09.1 +1.2
CPUP  Villa Florida  94.98 238 LR       LR      04 49 07.0
      comp=Z,56nm,18.9s,baz=181,slow=37
ASAR  Alice Springs 127.74  88 PKP      PKPdf   04 09 18.1 -0.2
ASAR  Alice Springs 127.74  88 PKP      PKPdf   04 09 18.1 -0.2
      comp=Z,0.2nm,0.3s,baz=319,slow=1.6,SNR=6.5
```

CSEM ***20*** *04:00:14.8, 38.°68N×29.°36W, h1km, ML2.6, After PDA*

PDA 20 04:00:14.8±0.9, 38.°68N×29.°36W, h1km±10km, MD3.6, ML2.6, Error ellipse: s-maj=13.5km s-min=6.0km az=86.0, Azores Islands

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Code  Station Name    Δ°   AZ°   Phase ID        Time      Res
                                Op    ISC       h m  s    ISC
PCED  Cedros         0.52  96   eP    Pg        04 00 24.1 -0.7
PCED                            eS    Sg        04 00 30.9 -0.6
PCED                             A    A         04 00 33.1
      138nm,0.4s
PCED  Cedros         0.52  96   eP    Pg        04 00 24.1 -0.7
PCED                            eS    Sg        04 00 30.9 -0.6
CALA  Caldeira       0.53 101   eP    Pg        04 00 24.6 -0.4
CALA                            eS    Sg        04 00 31.6 -0.3
CALA  Caldeira       0.53 101   eP    Pg        04 00 24.6 -0.4
CALA                            eS    Sg        04 00 31.6 -0.3
HOR   Horta          0.59 105   eP    Pg        04 00 25.2 -1.0
HOR                             eS    Sg        04 00 32.9 -1.0
HOR   Horta          0.59 105   eP    Pg        04 00 25.2 -1.0
HOR                             eS    Sg        04 00 32.9 -1.0
PCAN  Candelaria     0.72 107   i P   Pg        04 00 26.8 -1.9
PCAN                            eS    Sg        04 00 36.6 -1.5
PCAN                             A    A         04 00 41.6
      83nm,0.2s
PICO  Pico           0.76 104   i P   Pg        04 00 27.9 -1.5
PICO                            eS    Sg        04 00 37.5 -1.8
ROSA  Rosais         0.88  87   eP    Pg        04 00 29.4 -2.3
ROSA                            eS    Sg        04 00 40.1 -3.0
ROSA                             A    A         04 00 46.6
      148nm,0.5s
ROSA  Rosais         0.88  87   eP    Pg        04 00 29.4 -2.3
ROSA                            eS    Sg        04 00 40.1 -3.0
PPNO  Prainha do Nor 0.89 104   eP    Pg        04 00 29.7 -2.2
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PPNO				*e*S	Sg	04 00 40.8	-2.7
PPNO				A	A	04 00 45.0	
	100nm,0.2s						
PPNO	**Prainha do Nor**	**0.89**	**104**	*e*P	Pg	04 00 29.7	-2.2
PPNO				*e*S	Sg	04 00 40.8	-2.7
PMAN	**Manadas**	**1.00**	**93**	*e*P	Pg	04 00 30.9	-3.0
PMAN				*e*S	Sg	04 00 43.3	-3.6
PMAN				A	A	04 00 44.0	
	84nm,0.4s						
PMAN	**Manadas**	**1.00**	**93**	*e*P	Pg	04 00 30.9	-3.0
PMAN				*e*S	Sg	04 00 43.3	-3.6
PID	**Ribeirinha**	**1.00**	**104**	*e*S	Sg	04 00 43.4	-3.7
PID	**Ribeirinha**	**1.00**	**104**	*e*S	Sg	04 00 43.4	-3.7
PGRA	**Graciosa**	**1.13**	**72**	*e*P	Pg	04 00 32.9	-3.6
PGRA				*e*S	Sg	04 00 46.2	-5.0
PGRA				A	A	04 00 58.2	
	22nm,0.4s						
PGRA	**Graciosa**	**1.13**	**72**	*e*P	Pg	04 00 32.9	-3.6
PGRA				*e*S	Sg	04 00 46.2	-5.0
ADH	**Angra Heroismo**	**1.66**	**90**	*e*P	Pn	04 00 40.4	-4.7
ADH				A	A	04 01 06.1	
	16nm,0.3s						
ADH	**Angra Heroismo**	**1.66**	**90**	*e*P	Pn	04 00 40.4	-4.7
PSET	**Sete Cidades**	**2.99**	**106**	*e*P	Pn	04 00 59.2	-4.2
PSET	**Sete Cidades**	**2.99**	**106**	*e*P	Pn	04 00 59.2	-4.2
PDA	**Ponta Delgada**	**3.06**	**107**	*e*P	Pn	04 01 00.1	-4.2
PDA	**Ponta Delgada**	**3.06**	**107**	*e*P	Pn	04 01 00.1	-4.2
BART	**Pico Bartolome**	**3.42**	**104**	*e*P	Pn	04 01 04.8	-4.6
BART	**Pico Bartolome**	**3.42**	**104**	*e*P	Pn	04 01 04.8	-4.6
PSMA	**Santa Maria**	**3.75**	**115**	*e*P	Pn	04 01 08.8	-5.0
PSMN	**Pico do Norte,**	**3.79**	**115**	*e*P	Pn	04 01 09.4	-5.0
PSMN	**Pico do Norte,**	**3.79**	**115**	*e*P	Pn	04 01 09.4	-5.0

IDC 20 04:06:52.4±2.9, 33°.83N×25°.24E, h0km, mb3.6/3, mb1 3.6/8, mb1mx3.4/28, mbtmp3.5/8, ML3.5/4, Error ellipse: s-maj=47.7km s-min=20.0km az=42.0, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDI	**Anoyia**	**1.49**	**349**	Pn	Pg	04 07 21.1	+0.1
	2.3nm,0.3s,baz=168,slow=23,SNR=12						
IDI				Sn	Sn	04 07 40.7	-0.1
	3.0nm,0.3s,baz=262,slow=18,SNR=7.3						
MMAI	**Mount Meron Ar**	**8.53**	**93**	Pn	Pn	04 08 56.3	-1.1
	0.6nm,0.3s,baz=277,slow=12,SNR=2.0						
MMAI				Sn	Sn	04 10 27.8	-6.7
	0.8nm,0.3s,baz=258,slow=20,SNR=2.9						
BRTR	**Keskin Array B**	**8.94**	**46**	Pn	Pn	04 09 03.8	+0.7
	0.0nm,0.3s,baz=215,slow=12,SNR=3.5						
EIL	**Elat**	**9.25**	**114**	Pn	Pn	04 09 07.3	+0.3
	0.2nm,0.3s,baz=311,slow=20,SNR=4.9						
EIL				Sn	Sn	04 10 44.9	-6.9
	0.5nm,0.3s,baz=266,slow=13,SNR=4.0						
AKASG	**Malin Array Be**	**17.11**	**9**	Pn	Pn	04 10 53.1	+0.2
	0.7nm,0.3s,baz=198,slow=11,SNR=4.4						
GERES	**GERESS Array B**	**17.30**	**334**	Pn	P	04 10 58.1	+1.2
	0.1nm,0.3s,baz=151,slow=12,SNR=9.9						
FINES	**FINESS Array B**	**27.64**	**1**	P	P	04 12 40.4	-1.1
	3.8nm,1.1s,baz=182,slow=17,SNR=3.6						
KURBB	**Kurchatov Arra**	**41.92**	**50**	P	P	04 14 44.6	+0.1
	0.2nm,0.5s,baz=271,slow=8.5,SNR=3.5						
MKAR	**Makanchi Array**	**44.46**	**55**	P	P	04 15 05.4	+0.1
	0.3nm,0.6s,baz=282,slow=7.2,SNR=3.0						

WEL 20 05:15:41.8±0.2, 38°.49S×175°.89E, h160km±1km, ML4.2/19, 36C-5D, Error ellipse: s-maj=1.6km s-min=1.4km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHTZ	**Whakaora**	**0.19**	**163**	⇑PN	Pn	05 16 03.5	+0.2
WATZ	**Wairara**	**0.25**	**208**	PN	Pn	05 16 03.5	+0.1
ALRZ	**Allen Road**	**0.37**	**102**	⇓PN	Pn	05 16 03.6	-0.1
ALRZ				SN	Sn	05 16 20.8	+0.3
RATZ	**Rangitukua**	**0.39**	**193**	⇑PN	Pn	05 16 03.8	-0.1
PRRZ	**Plateau Road**	**0.40**	**92**	PN	Pn	05 16 03.5	-0.4
PRRZ				SN	Sn	05 16 20.8	+0.1
HATZ	**Hinemaiaia**	**0.44**	**158**	⇑PN	Pn	05 16 03.9	-0.1
HATZ				SN	Sn	05 16 20.3	-0.8
RITZ	**Rihia Road**	**0.49**	**182**	PN	Pn	05 16 04.6	+0.3
KATZ	**Kakaramea**	**0.51**	**197**	PN	Pn	05 16 04.5	0.0
TARZ	**Mount Tarawera**	**0.55**	**63**	PN	Pn	05 16 04.5	-0.2
KRVZ	**Karewarewa**	**0.64**	**197**	PN	Pn	05 16 05.0	-0.1
WTVZ	**West Tongariro**	**0.67**	**200**	⇑PN	Pn	05 16 05.2	-0.1
TWVZ	**Taurewa**	**0.68**	**211**	⇑PN	Pn	05 16 05.4	0.0
OTVZ	**Oturere**	**0.70**	**194**	PN	Pn	05 16 05.5	-0.1
NGZ	**Ngauruhoe**	**0.72**	**198**	⇑PN	Pn	05 16 05.5	-0.2
WPVZ	**Whakapapa**	**0.77**	**200**	⇑PN	Pn	05 16 06.0	+0.1
TUVZ	**Tukino**	**0.80**	**193**	⇑PN	Pn	05 16 06.3	+0.1
FWVZ	**Far West T-bar**	**0.81**	**199**	PN	Pn	05 16 06.0	-0.4
DRZ	**Dome Shelter**	**0.83**	**198**	PN	Pn	05 16 06.3	-0.3
WHVZ	**Whangaehu Hut**	**0.83**	**196**	PN	Pn	05 16 06.2	-0.3
BKZ	**Black Stump Fm**	**0.83**	**145**	⇑PN	Pn	05 16 06.3	0.0
BKZ				SN	Sn	05 16 24.0	-1.1
BKZ				AML	AML	05 16 24.2	
OPRZ	**Ohinepanea**	**0.83**	**40**	PN	Pn	05 16 05.8	-0.4
OPRZ				SN	Sn	05 16 24.5	-0.4
TRVZ	**Turoa**	**0.85**	**198**	PN	Pn	05 16 06.5	-0.2
WNVZ	**Wahianoa**	**0.87**	**195**	⇑PN	Pn	05 16 06.7	0.0
PKVZ	**Pokaka**	**0.91**	**208**	⇑PN	Pn	05 16 06.8	0.0
MOVZ	**Moawhango**	**0.93**	**186**	⇑PN	Pn	05 16 06.8	-0.2
NMHZ	**Naumai**	**0.94**	**131**	⇑PN	Pn	05 16 08.0	+0.9
MTVZ	**Mangateitei**	**0.95**	**200**	PN	Pn	05 16 07.2	-0.1
URZ	**Urewera**	**0.99**	**77**	⇓PN	Pn	05 16 06.8	-0.6
URZ				AML	AML	05 16 25.6	
URZ				AML	AML	05 16 27.4	
BHHZ	**Black Hill Sta**	**1.01**	**172**	⇑PN	Pn	05 16 07.5	-0.2
RAHZ	**Arahi**	**1.03**	**115**	PN	Pn	05 16 08.3	+0.5
VRZ	**Vera Road**	**1.09**	**234**	⇑PN	Pn	05 16 08.2	0.0
MCHZ	**McNeill Hill**	**1.15**	**147**	⇑PN	Pn	05 16 09.6	+0.9
MWZ	**Matawai**	**1.30**	**84**	⇓PN	Pn	05 16 09.7	-0.5
MWZ				AML	AML	05 16 30.6	
MWZ				AML	AML	05 16 30.7	
MWZ				AML	AML	05 16 31.2	
MWZ				AML	AML	05 16 31.2	
PNHZ	**Pukenui**	**1.45**	**170**	⇑PN	Pn	05 16 11.4	-0.2
WAZ	**Wanganui**	**1.45**	**209**	⇑PN	Pn	05 16 11.3	-0.3
MKAZ	**Moumakai**	**1.49**	**337**	⇓PN	Pn	05 16 11.6	-0.4
CKHZ	**Cape Kidnapper**	**1.49**	**142**	⇑PN	Pn	05 16 12.5	+0.5
KNZ	**Kokohu**	**1.50**	**111**	PN	Pn	05 16 12.2	+0.2
KAHZ	**Kahuranaki**	**1.52**	**150**	⇑PN	Pn	05 16 12.7	+0.4
TSZ	**Takapari Road**	**1.57**	**178**	PN	Pn	05 16 12.5	-0.3
TSZ				AML	AML	05 16 12.8	
TSZ				AML	AML	05 16 13.6	
NEZ	**North Egmont**	**1.60**	**240**	PN	Pn	05 16 13.6	+0.3
PRGZ	**Paritu Road**	**1.62**	**106**	PN	Pn	05 16 12.8	-0.6
DFE	**Dawson Falls**	**1.62**	**238**	PN	Pn	05 16 13.5	+0.1
WPHZ	**Waipukurau**	**1.64**	**165**	⇑PN	Pn	05 16 13.4	-0.1
PKE	**Pukeiti**	**1.64**	**244**	PN	Pn	05 16 13.4	-0.2
KHEZ	**Kahui Hut**	**1.67**	**241**	PN	Pn	05 16 13.9	-0.1
MHGZ	**Mahia Peninsul**	**1.71**	**114**	⇑PN	Pn	05 16 14.7	+0.4
PXZ	**Pawanui**	**1.72**	**154**	⇑PN	Pn	05 16 14.3	-0.1
PXZ				AML	AML	05 16 39.7	
PXZ				AML	AML	05 16 39.7	
PXZ				AML	AML	05 16 40.5	
PXZ				AML	AML	05 16 40.6	
CNGZ	**Carnagh Statio**	**1.82**	**91**	PN	Pn	05 16 15.7	+0.2
DVHZ	**Dannevirke**	**1.82**	**173**	⇑PN	Pn	05 16 14.9	-0.7
PRHZ	**Porangahau**	**1.87**	**162**	⇑PN	Pn	05 16 15.8	-0.3
POWZ	**Post Office Ro**	**1.91**	**183**	⇑PN	Pn	05 16 15.6	-0.8
PUZ	**Puketiti**	**1.91**	**78**	PN	Pn	05 16 15.7	-0.8
PUZ				AML	AML	05 16 41.7	
PUZ				AML	AML	05 16 42.6	
ANWZ	**Angora Road**	**2.02**	**167**	⇑PN	Pn	05 16 17.4	-0.4
PRWZ	**Pori Road**	**2.07**	**178**	PN	Pn	05 16 17.6	-0.7
MXZ	**Matakaoa Point**	**2.12**	**65**	⇓PN	Pn	05 16 18.3	-0.6
MXZ				AML	AML	05 16 48.2	
MXZ				AML	AML	05 16 48.2	
MXZ				AML	AML	05 16 48.8	
MRZ	**Mangatainoka R**	**2.19**	**186**	PN	Pn	05 16 18.3	-1.3
MRZ				AML	AML	05 16 48.6	
MRZ				AML	AML	05 16 48.6	
BFZ	**Birch Farm**	**2.21**	**173**	PN	Pn	05 16 18.9	-1.0
TIWZ	**Tintock**	**2.29**	**180**	PN	Pn	05 16 19.5	-1.3
OGWZ	**Otaki Gorge**	**2.39**	**193**	PN	Pn	05 16 20.9	-1.2
HOWZ	**Holdsworth Sta**	**2.43**	**187**	⇑PN	Pn	05 16 20.8	-1.7
CPWZ	**Castlepoint**	**2.43**	**174**	⇑PN	Pn	05 16 21.8	-0.7
KIW	**Kapiti Island**	**2.49**	**197**	⇑PN	Pn	05 16 21.4	-1.9
KIW				AML	AML	05 16 53.7	
KIW				AML	AML	05 16 54.7	
TMWZ	**Te Maipa**	**2.62**	**180**	PN	Pn	05 16 23.1	-1.8
MTW	**Mount Morrison**	**2.69**	**186**	⇑PN	Pn	05 16 23.6	-2.1
MTW				AML	AML	05 16 58.2	
MTW				AML	AML	05 16 58.2	
CAW	**Cannon Point**	**2.69**	**193**	PN	Pn	05 16 23.7	-2.0
CAW				AML	AML	05 16 58.6	
CAW				AML	AML	05 16 59.1	
DUWZ	**D'Urville Isla**	**2.77**	**213**	PN	Pn	05 16 24.5	-2.2
PAWZ	**Paruwai Farm**	**2.91**	**187**	⇑PN	Pn	05 16 26.1	-2.3
PAWZ				AML	AML	05 17 02.7	
PAWZ				AML	AML	05 17 03.3	
TRWZ	**Traveller**	**2.91**	**183**	⇑PN	Pn	05 16 26.3	-2.1
TRWZ				AML	AML	05 17 01.7	
TRWZ				AML	AML	05 17 05.7	
WEL	**Wellington**	**2.92**	**197**	PN	Pn	05 16 26.3	-2.3
SNZO	**South Karori**	**2.96**	**197**	PN	Pn	05 16 26.5	-2.4
SNZO				AML	AML	05 17 02.8	
SNZO				AML	AML	05 17 04.0	
MSWZ	**Moikau Station**	**2.97**	**189**	⇑PN	Pn	05 16 26.7	-2.4
MSWZ				AML	AML	05 16 27.6	
MSWZ				AML	AML	05 17 04.3	
TCW	**Tory Channel**	**2.99**	**204**	PN	Pn	05 16 27.0	-2.4
TCW				AML	AML	05 17 04.2	
TCW				AML	AML	05 17 04.2	
BHW	**Baring Head**	**3.02**	**195**	PN	Pn	05 16 27.3	-2.5
BHW				AML	AML	05 17 04.2	
BHW				AML	AML	05 17 06.0	
PLWZ	**Palliser**	**3.12**	**189**	⇑PN	Pn	05 16 28.3	-2.7
NNZ	**Nelson**	**3.34**	**214**	⇑PN	Pn	05 16 30.9	-2.9
QRZ	**Quartz Range**	**3.49**	**227**	PN	Pn	05 16 32.3	-3.3
BSWZ	**Blackbirch Sta**	**3.57**	**205**	PN	Pn	05 16 33.9	-2.9
BSWZ				AML	AML	05 17 18.0	
BSWZ				AML	AML	05 17 18.5	
THZ	**Tophouse**	**3.99**	**214**	PN	Pn	05 16 38.8	-3.5
KHZ	**Kahutara**	**4.32**	**204**	PN	Pn	05 16 43.2	-3.1
KHZ				AML	AML	05 17 33.6	
KHZ				AML	AML	05 17 34.9	
DSZ	**Denniston Nort**	**4.52**	**223**	PN	Pn	05 16 44.9	-4.1
LTZ	**Lake Taylor**	**5.10**	**212**	PN	Pn	05 16 52.6	-4.1
OXZ	**Oxford**	**5.64**	**210**	PN	Pn	05 16 59.0	-4.8
CRLZ	**Canterbury Las**	**5.65**	**205**	PN	Pn	05 16 59.1	-4.7
MQZ	**McQueen's Vall**	**5.76**	**204**	PN	Pn	05 17 00.1	-5.2
RPZ	**Rata Peaks**	**6.37**	**213**	PN	Pn	05 17 09.4	-4.1
FOZ	**Fox Glacier**	**6.90**	**221**	PN	Pn	05 17 14.2	-6.3
LBZ	**Lake Benmore**	**7.29**	**214**	PN	Pn	05 17 20.8	-4.8
ODZ	**Otahua Downs**	**7.63**	**209**	PN	Pn	05 17 25.4	-4.8
CTZ	**Chatham Island**	**7.71**	**135**	PN	Pn	05 17 37.0	+5.7

IDC 20 06:03:09.0±1.4, 6°.27S×147°.16E, h0km, mb3.5/4, mb1 3.8/7, mb1mx3.6/17, mbtmp3.6/7, ML3.2/3, MS3.3/1, Ms1 3.3/1, ms1mx2.5/27, Error ellipse: s-maj=45.8km s-min=24.0km az=109.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.12**	**180**	Pn	Pn	06 04 00.5	+1.0
	12nm,0.3s,baz=357,slow=5.6,SNR=31						
PMG				Sn	Sb	06 04 44.9	+0.9
	7.7nm,0.3s,baz=226,slow=21,SNR=2.9						
CTA	**Charters Tower**	**13.77**	**184**	Pn	Pn	06 06 26.3	+0.6
	0.2nm,0.3s,baz=0.0,slow=5.1,SNR=3.1						
WRA	**Warramunga Arr**	**18.43**	**221**	P	Pn	06 07 24.3	-2.0
	0.1nm,0.3s,baz=45,slow=12,SNR=8.5						
WRA				LR	LR	06 15 40.5	
	comp=Z,94nm,18.0s,baz=30,slow=41						
ASAR	**Alice Springs**	**21.49**	**215**	P	P	06 07 58.2	-1.4
	0.4nm,0.8s,baz=43,slow=10,SNR=4.7						
FITZ	**Fitzroy Crossi**	**24.06**	**239**	P	P	06 08 26.9	+0.6
	1.8nm,0.8s,baz=41,slow=9.3,SNR=11						
STKA	**Stephens Creek**	**26.00**	**191**	P	P	06 08 43.8	0.0
	1.3nm,0.6s,baz=22,slow=11,SNR=3.0						
ILAR	**Eielson Array**	**85.66**	**23**	P	P	06 15 48.4	-1.1
	0.4nm,0.7s,baz=256,slow=4.8,SNR=5.2						
TORD	**Torodi Ar. Bea**	**145.31**	**284**	PKPbc	PKPdf	06 22 50.3	+0.3
	1.6nm,0.6s,baz=73,slow=3.6,SNR=12						

IDC 20 06:09:23.6±1.6, 7°.80S×123°.75E, h0km, mb3.4/1, mb1 3.5/4, mb1mx3.4/20, mbtmp3.3/4, ML3.1/3, MS3.3/1, Ms1 3.3/1, ms1mx2.4/22, Error ellipse: s-maj=122.0km s-min=25.8km az=63.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.41**	**170**	Pn	Pn	06 11 52.8	-1.5
	0.2nm,0.3s,baz=0.9,slow=13,SNR=5.8						
FITZ				Sn	Sn	06 13 42.5	-9.2
	0.2nm,0.3s,baz=186,slow=8.0,SNR=7.1						
WRA	**Warramunga Arr**	**15.85**	**141**	Pn	Pn	06 13 08.2	-0.1
	0.0nm,0.3s,baz=316,slow=12,SNR=2.8						
ASAR	**Alice Springs**	**18.55**	**149**	P	Pn	06 13 43.1	+0.9
	0.1nm,0.3s,baz=329,slow=12,SNR=6.9						
HNR	**Honiara**	**35.82**	**95**	LR	LR	06 29 19.4	
	comp=Z,49nm,20.2s,baz=15,slow=33						
MKAR	**Makanchi Array**	**65.65**	**330**	P	P	06 20 09.7	0.0
	0.3nm,0.7s,baz=143,slow=8.3,SNR=3.4						

IDC 20 06:22:39.8±1.8, 7°.84S×123°.82E, h0km, mb3.7/1, mb1 3.6/4, mb1mx3.5/20, mbtmp3.5/4, ML3.2/3, Error ellipse: s-maj=122.1km s-min=27.2km az=64.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.36**	**170**	Pn	Pn	06 25 08.4	-1.3
	0.2nm,0.3s,baz=2.7,slow=13,SNR=6.1						
FITZ				Sn	Sn	06 26 58.5	-8.1
	0.3nm,0.3s,baz=203,slow=10.0,SNR=8.7						
WRA	**Warramunga Arr**	**15.77**	**141**	Pn	Pn	06 26 23.0	-0.4
	0.1nm,0.3s,baz=316,slow=13,SNR=5.1						
WRA				Sn	Sn	06 29 13.4	-5.7
	baz=305,slow=22,SNR=3.2						
ASAR	**Alice Springs**	**18.47**	**150**	P	Pn	06 26 58.5	+1.0
	0.1nm,0.3s,baz=331,slow=14,SNR=10						
MKAR	**Makanchi Array**	**65.72**	**330**	P	P	06 33 26.3	-0.1
	0.6nm,0.8s,baz=134,slow=7.7,SNR=4.4						

AUST ***20*** *06:24:20.0, 11°.47S×166°.98E, h60km*
ISCJB ***20*** *06:24:31.0±0.5, 11°.89S±0°.05×166°.50E±0°.10, h150km, mb4.4/27, Error ellipse: s-maj=13.4km s-min=7.0km az=175.8*
IDC ***20*** *06:24:34.6±3.3, 11°.95S×166°.46E, h167km±29km, mb4.0/18, mb1 4.1/19, mb1mx4.0/24, mbtmp4.0/19, Error ellipse: s-maj=18.6km s-min=13.4km az=75.0*
NEIC ***20*** *06:24:35.8±1.8, 11°.92S×166°.45E, h180km±15km, mb4.5/13, Error ellipse: s-maj=10.5km s-min=8.2km az=60.0*

ISC 20 06:24:32.8±0.6, 11°.92S±0°.06×166°.6E±0°.1, h150km, n90, σ1§02/92, mb4.4/27, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.10**	**181**	P	**Pn**	**06 26 55.9**	**+1.7**
DZM				S	**Sn**	**06 28 43.9**	**-2.2**
DZM	**Mont Dzumac**	**10.10**	**181**	P	**Pn**	**06 26 55.9**	**+1.7**
	2.4nm,0.3s,baz=271,slow=18,SNR=29						
DZM				S	**Sn**	**06 28 43.9**	**-2.2**
	1.1nm,0.3s,baz=135,slow=20,SNR=3.2						
PMG	**Port Moresby**	**19.22**	**276**	*e*P	P	06 28 41.2	-4.3
	18nm,0.9s						
EIDS	**Eidsvold**	**19.82**	**225**	*e*P	**P**	**06 28 53.3**	**+1.4**
	0.9nm,0.7s						
EIDS	**Eidsvold**	**19.82**	**225**	P	**P**	**06 28 53.9**	**+2.0**
	baz=20,SNR=3.4						
CTA	**Charters Tower**	**21.12**	**245**	P	**P**	**06 29 05.3**	**-0.5**
CTA	**Charters Tower**	**21.12**	**245**	P	**P**	**06 29 05.3**	**-0.5**
	5.8nm,0.7s,baz=83,slow=11,SNR=7.8						
CTAO	**Charters Tower**	**21.12**	**245**	*e*P	**P**	**06 29 06.4**	**+0.5**
	14nm,1.1s						
MANU	**Manus Island**	**21.40**	**296**	S	**S**	**06 32 58.2**	**+0.6**
	baz=22,SNR=14						
MTSU	**Mount Surprise**	**22.34**	**251**	P	**P**	**06 29 20.4**	**+1.8**
	baz=23,SNR=5.9						
COEN	**Coen**	**22.88**	**262**	P	**P**	**06 29 21.5**	**-2.1**
ARMA	**Armidale**	**23.03**	**215**	*e*P	**P**	**06 29 25.2**	**+0.2**
ARMA	**Armidale**	**23.03**	**215**	P	**P**	**06 29 25.8**	**+0.8**
	baz=24,SNR=8.5						
URZ	**Urewera**	**27.88**	**162**	P	**P**	**06 30 09.9**	**+1.5**
URZ	**Urewera**	**27.88**	**162**	P	**P**	**06 30 09.9**	**+1.5**
	5.2nm,0.7s,baz=7.1,slow=8.1,SNR=3.6						
STKA	**Stephens Creek**	**30.38**	**225**	P	**P**	**06 30 30.7**	**0.0**
STKA	**Stephens Creek**	**30.38**	**225**	P	**P**	**06 30 30.7**	**0.0**
	4.2nm,0.7s,baz=52,slow=9.6,SNR=7.8						
STKA	**Stephens Creek**	**30.38**	**225**	P	**P**	**06 30 31.1**	**+0.3**
	baz=31,SNR=5.6						
TOO	**Toolangi**	**31.76**	**213**	P	**P**	**06 30 43.1**	**+0.3**
	baz=32,SNR=4.7						
WRAB	**Tennant Creek**	**31.93**	**251**	*e*P	**P**	**06 30 43.6**	**-0.9**
	4.6nm,0.9s						
WRA	**Warramunga Arr**	**31.95**	**251**	P	**P**	**06 30 43.4**	**-1.2**
WRA				pP	**pP**	**06 31 18.2**	**+1.6**
WRA				PcP	**PcP**	**06 33 30.9**	**-0.5**
WRA	**Warramunga Arr**	**31.95**	**251**	P	**P**	**06 30 43.4**	**-1.2**
	3.5nm,0.9s,baz=83,slow=8.6,SNR=12						
WRA				pP	**pP**	**06 31 18.2**	**+1.6**
	1.3nm,0.8s,baz=82,slow=8.9,SNR=3.7						
WRA				PcP	**PcP**	**06 33 30.9**	**-0.5**
	1.9nm,0.8s,baz=81,slow=3.0,SNR=11						
AS31	**Alice Springs**	**33.13**	**245**	*e*P	**P**	**06 30 53.7**	**-1.2**
AS31				*e*PcP	**PcP**	**06 33 33.7**	**-1.0**
ASAR	**Alice Springs**	**33.13**	**245**	P	**P**	**06 30 53.8**	**-1.2**
ASAR				pP	**pP**	**06 31 28.6**	**+1.7**
ASAR				PcP	**PcP**	**06 33 34.0**	**-0.7**
ASAR	**Alice Springs**	**33.13**	**245**	P	**P**	**06 30 53.8**	**-1.2**
	5.4nm,0.7s,baz=69,slow=9.6,SNR=47						
ASAR				pP	**pP**	**06 31 28.6**	**+1.7**
	2.1nm,0.7s,baz=72,slow=9.8,SNR=4.9						
ASAR				PcP	**PcP**	**06 33 34.0**	**-0.7**
	2.7nm,0.8s,baz=74,slow=2.6,SNR=18						
KDU	**Kakadu**	**33.30**	**265**	P	**P**	**06 30 56.1**	**-0.3**
	baz=34,SNR=7.6						
MTN	**Manton Dam**	**34.60**	**265**	S	S	06 36 40.7	+15
	baz=35,SNR=5.0						
BBOO	**Buckleboo**	**34.83**	**228**	P	**P**	**06 31 09.3**	**-0.2**
	baz=36,SNR=7.7						
KNRA	**Kununurra**	**36.86**	**260**	P	**P**	**06 31 26.8**	**-0.1**
	baz=37,SNR=6.4						
FITZ	**Fitzroy Crossi**	**39.93**	**256**	P	**P**	**06 31 52.3**	**-0.4**
	9.1nm,0.9s						
FITZ	**Fitzroy Crossi**	**39.93**	**256**	P	**P**	**06 31 52.3**	**-0.4**
	9.0nm,0.9s,baz=101,slow=5.7,SNR=14						
FITZ	**Fitzroy Crossi**	**39.93**	**256**	P	**P**	**06 31 52.5**	**-0.1**
	baz=40,SNR=7.9						
FORT	**Forrest**	**40.21**	**236**	*e*P	**P**	**06 31 54.7**	**0.0**
	29nm,0.8s						
KAPI	**Kappang**	**46.75**	**274**	*e*P	**P**	**06 32 47.0**	**-0.4**
KAPI	**Kappang**	**46.75**	**274**	P	**P**	**06 32 46.8**	**-0.5**
	5.0nm,0.7s,baz=105,slow=2.4,SNR=5.2						
MEEK	**Meekatharra**	**47.29**	**245**	P	**P**	**06 32 51.3**	**-0.2**
	baz=48,SNR=8.8						
JNU	**Nakatsue**	**56.25**	**324**	P	**P**	**06 33 57.8**	**+0.1**
JNU	**Nakatsue**	**56.25**	**324**	P	**P**	**06 33 57.8**	**+0.1**
	4.4nm,0.6s,baz=108,slow=6.6,SNR=4.8						
ASAJ	**Asahikawa**	**59.87**	**340**	P	**P**	**06 34 23.2**	**+0.7**
ASAJ	**Asahikawa**	**59.87**	**340**	P	**P**	**06 34 23.2**	**+0.7**
	6.9nm,0.7s,baz=223,slow=12,SNR=5.9						
KSRS	**Korea Array**	**61.04**	**325**	P	**P**	**06 34 30.9**	**+0.3**
	1.7nm,0.6s,baz=138,slow=7.8,SNR=7.3						
KSAR	**Wonju Array Be**	**61.05**	**325**	P	**P**	**06 34 30.9**	**+0.2**
USRK	**Ussuriysk Arra**	**64.08**	**333**	P	**P**	**06 34 51.3**	**+0.6**
	3.0nm,0.8s,baz=130,slow=6.4,SNR=8.3						
VNDA	**Vanda**	**65.64**	**181**	*e*P	**P**	**06 34 59.3**	**-1.0**
	8.6nm,1.5s						
VNDA	**Vanda**	**65.64**	**181**	P	**P**	**06 35 00.3**	**0.0**
	1.3nm,0.5s,baz=348,slow=6.7,SNR=24						
CASY	**Casey**	**65.86**	**202**	*e*P	**P**	**06 35 01.0**	**-0.9**
	28nm,2.3s						
SBA	**Scott Base**	**65.93**	**180**	*e*P	**P**	**06 35 02.9**	**+0.7**
	79nm,2.8s						
PSI	**Prapat**	**68.77**	**278**	P	P	06 35 19.6	-1.8
PSI	**Prapat**	**68.77**	**278**	P	P	06 35 19.6	-1.8
	4.6nm,0.8s,baz=277,slow=2.3,SNR=5.4						
PSI	**Prapat

KNRA	Kununurra	12.79 176	P	Pn	06 39 38.1	+3.6
	baz=13,SNR=5.0					
FITZ	Fitzroy Crossi	15.34 188	Pn	P	06 40 14.0	+0.7
	0.3nm,0.3s,baz=12,slow=16,SNR=9.3					
FITZ	Fitzroy Crossi	15.34 188	P	P	06 40 14.3	+1.1
	baz=15,SNR=6.8					
WRA	Warramunga Arr	18.12 160	P	Pn	06 40 43.0	-1.0
	1.5nm,0.3s,baz=340,slow=11,SNR=67					
WRA			S	Sn	06 44 02.6	-2.6
	0.1nm,0.3s,baz=355,slow=21,SNR=3.1					
COEN	Coen	18.67 127	P	P	06 40 50.0	-0.1
	baz=18,SNR=4.1					
ASAR	Alice Springs	21.50 165	P	P	06 41 20.4	-0.5
	17nm,0.8s,baz=345,slow=11,SNR=114					
ASAR			S	S	06 45 16.2	-1.2
	1.8nm,0.9s,baz=349,slow=20,SNR=12					
MEEK	Meekatharra	25.31 200	P	P	06 41 57.9	-0.5
	baz=25,SNR=3.2					
STKA	Stephens Creek	31.62 157	P	P	06 42 54.5	-0.2
	1.8nm,0.5s,baz=332,slow=8.8,SNR=7.3					
STKA	Stephens Creek	31.62 157	P	P	06 42 55.5	+0.9
	baz=32,SNR=5.5					
RAO	Raoul Island	57.64 123	LR	LR	07 05 53.5	
	comp=Z,2μm,21.6s,baz=316,slow=31					
MKAR	Makanchi Array	63.64 327	P	P	06 47 01.6	-0.8
	0.4nm,0.7s,baz=120,slow=7.2,SNR=4.0					
AKTO	Aktyubinsk	79.55 322	LR	LR	07 24 58.8	
	comp=Z,23nm,18.3s,baz=345,slow=36					

ISCJB ***20*** *06:44:57.0±0.6, 32°.39N±0°.03×115°.26W±0°.04, h11km±4km, Error ellipse: s-maj=6.8km s-min=4.3km az=44.3*
NEIC ***20*** *06:44:58.1, 32°.36N×115°.27W, h3km, ML2.9(PAS), ML3.2(ECX), After ECX.*
NEIC Felt at Mexicali.
ECX ***20*** *06:44:58.1±0.5, 32°.36N×115°.27W, h3km, MD3.0, ML3.2*

ISC 20 06:44:57.3±1.2, 32°.32N±0°.03×115°.31W±0°.03, h3km±11km, n24, σ1§33/36, 3C-6D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	Cerro Prieto	0.10	3	⇓eP	Pg	06 44 59.0	-0.2
CPBX				eS	Sg	06 45 00.7	+0.1
CPBX	Cerro Prieto	0.10	3	⇓eP	Pg	06 44 59.0	-0.2
CPBX				eS	Sg	06 45 00.7	+0.1
ERPC	Ernies Place	0.52	325	⇓eP	Pg	06 45 07.4	+0.2
COA	Coachella	0.56	16	⇓eP	Pg	06 45 07.7	-0.4
COA	Coachella	0.56	16	⇓eP	Pg	06 45 07.7	-0.4
YUH	Yuha Desert	0.61	302	⇓eP	Pg	06 45 09.1	0.0
COK	Cook Ranch	0.63	326	⇓eP	Pg	06 45 09.2	-0.3
RDX	Rancho Dawling	0.67	234	⇓eP	Pg	06 45 11.0	+1.0
RDX				eS	Sb	06 45 20.6	-0.8
RDX				e		06 45 24.5	
	comp=N,739nm,0.3s						
RMX	La Rumorosa	0.71	293	eP	Pg	06 45 10.9	0.0
RMX				eS	Sg	06 45 21.3	+1.2
RMX				⇓e		06 45 22.1	
	comp=E,652nm,0.2s						
GLA	Glamis	0.83	29	ePg	Pg	06 45 11.6	-1.8
GLA				eSg	Sg	06 45 22.5	-1.6
CBX	Cerro Bola	1.15	270	eP	Pb	06 45 19.1	-0.8
CBX				eS	Sg	06 45 34.9	+0.7
ZAX	El Zacaton	1.15	226	eP	Pb	06 45 19.3	-0.6
ZAX				eS	Sn	06 45 35.6	-1.1
BAR	Barrett	1.21	288	ePn	Pb	06 45 19.7	-1.1
ECNX	Esteban Cantu	1.28	239	eP	Pn	06 45 21.5	-0.8
ECNX				eS	Sg	06 45 39.5	+1.1
SPX	San Pedro Mart	1.28	186	eP	Pn	06 45 21.0	-1.5
SPX				eS	Sb	06 45 39.1	-0.1
PBX	Punta Banda	1.33	245	eP	Pn	06 45 22.3	-0.6
PBX				eS	Sg	06 45 40.8	+0.6
MWC	Mount Wilson	2.98	310	ePg	Pb	06 45 50.8	-0.4
MWC				eSg	Sb	06 46 29.9	+1.7
GSC	Goldstone	3.22	338	ePg	Pg	06 46 00.2	+1.1
TUC	Tucson	3.83	89	ePn	Pn	06 45 59.1	+1.7
TUC				eSg	Sb	06 46 56.2	+3.7
SHPR	Sheep Range	4.17	2	ePn	Pn	06 46 01.2	-0.9
SHPR				eSn	Sb	06 47 06.0	+3.6
ISA	Isabella	4.24	323	ePn	Pn	06 45 58.4	-4.5
WUAZ	Wupatki	4.57	45	ePn	Pn	06 46 07.5	0.0
CCUT	Cedar City	5.46	16	Pn	Pn	06 46 17.9	-1.9
	comp=E,4.0nm,0.9s						
MVCO	Mesa Verde	7.43	47	ePn	Pn	06 46 46.3	-0.5

IDC ***20*** *06:58:02.2±0.7, 0°.97N×27°.77W, h0km, mb4.1/14, mb1 4.3/14, mb1mx4.1/22, mbtmp4.1/14, MS4.0/21, Ms1 4.0/21, ms1mx3.9/28, Error ellipse: s-maj=27.8km s-min=16.9km az=149.0*
ISCJB ***20*** *06:58:03.1±0.3, 1°.05N±0°.2×27°.8W±0°.1, h12km, mb4.2/20, MS4.0/20, Error ellipse: s-maj=24.8km s-min=11.2km az=150.3*
NEIC ***20*** *06:58:03.8±0.5, 0°.86N×27°.75W, h10km, mb4.8/6, Error ellipse: s-maj=18.9km s-min=10.8km az=147.0*
GCMT ***20*** *06:58:09.1±0.3, 1°.05N×27°.74W, h12km, MW4.8, Moment Tensor Solution. s14,c14; s63,c86; Moment tensor: Scale 10^16Nm; Mrr=1.85±.08; Mθθ=0.01±.08; Mφφ=1.87±.07; Mrθ=0.25±.40; Mrφ=-0.42±.06; Mθφ=0.56±.22; Best double couple: M=2.00000×10^16 NP1:φs=179.00000°, δ53.00000°, λ=77.00000°. NP2:φs=337.00000°, δ39.00000°, λ=107.00000°. Principal axes: T 2.0300, Plg7.0000°, Azm259.0000°; N -0.0400, Plg11.0000°, Azm351.0000°; P -1.9800, Plg77.0000°, Azm135.0000°; Data Used: II IU G IC CN.*

ISC 20 06:58:04.2±0.6, 0°.9N±0°.1×27°.7W±0°.1, h12km, n58, σ1§13/52, mb4.3/20, MS4.0/20, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBTS	Babate	17.61	38	P	P	07 02 12.0	+1.3
BBTS	Babate	17.61	38	P	P	07 02 12.0	+1.3
	baz=222,slow=4.8,SNR=3.4						
BBTS				LR	LR	07 07 18.2	
	comp=Z,360nm,21.0s,baz=53,slow=32						
DBIC	Dimbokro	23.53	75	eP	P	07 03 14.3	-0.4
DBIC	Dimbokro	23.53	75	P	P	07 03 14.2	-0.4
	11nm,0.9s,baz=241,slow=14,SNR=11						
DBIC				LR	LR	07 10 45.4	
	comp=Z,764nm,18.3s,baz=186,slow=32						
BDFB	Brasilia	25.90	230	LR	LR	07 12 37.9	
	comp=Z,684nm,20.4s,baz=46,slow=34						
TORD	Torodi Ar. Bea	31.60	66	P	P	07 04 25.6	-1.7
TORD	Torodi Ar. Bea	31.60	66	P	P	07 04 25.6	-1.7
	4.6nm,1.1s,baz=256,slow=7.0,SNR=10						
TORD				LR	LR	07 15 18.7	
	comp=Z,452nm,21.6s,baz=240,slow=33						
CPUP	Villa Florida	39.33	224	P	P	07 05 35.5	+2.0
CPUP	Villa Florida	39.33	224	P	P	07 05 35.5	+2.0
	1.3nm,0.6s,baz=36,slow=9.9,SNR=3.0						
CPUP				LR	LR	07 21 22.7	
	comp=Z,486nm,18.8s,baz=35,slow=36						
LPAZ	La Paz	43.36	245	P	P	07 06 07.5	0.0
LPAZ	La Paz	43.36	245	P	P	07 06 07.5	0.0
	1.6nm,0.9s,baz=72,slow=9.4,SNR=4.8						
LPAZ				LR	LR	07 23 42.6	
	comp=Z,600nm,19.7s,baz=54,slow=36						
ESDC	Sonseca Array	44.28	26	P	P	07 06 14.7	+0.7
ESDC	Sonseca Array	44.28	26	P	P	07 06 14.7	+0.7
	0.1nm,0.3s,baz=205,slow=7.5,SNR=5.0						
ROSC	El Rosal	46.69	276	LR	LR	07 25 07.0	
	comp=Z,320nm,18.7s,baz=182,slow=35						
CFAA	Coronel Fontan	50.15	226	LR	LR	07 28 27.6	
	comp=Z,66nm,18.8s,baz=34,slow=36						
NNA	Nana	50.41	254	LR	LR	07 29 11.3	
	comp=Z,102nm,21.9s,baz=154,slow=37						
PLCA	Paso Flores	56.80	218	LR	LR	07 31 49.6	
	comp=Z,166nm,20.3s,baz=135,slow=36						
BOSA	Boshof	58.54	125	LR	LR	07 28 12.1	
	comp=Z,127nm,20.1s,baz=101,slow=31						
GERES	GERESS Array B	59.56	30	P	P	07 08 07.3	-0.6
GERES	GERESS Array B	59.56	30	P	P	07 08 07.3	-0.6
	1.3nm,0.9s,baz=235,slow=6.3,SNR=12						
GERES				LR	LR	07 32 57.1	
	comp=Z,44nm,20.4s,baz=236,slow=35						
KHC	Kasperske Hory	59.69	30	eP	P	07 08 10.7	+2.1
KHC				ex	x	07 08 16.4	
TREC	Trest	60.76	31	eP	P	07 08 18.0	+2.0
CLL	Collm	60.83	28	eP	P	07 08 17.0	+0.6
CLL				e(sP)	sP	07 08 23.0	+1.3
PVCC	Panska Ves	61.08	29	eP	P	07 08 20.2	+2.2
UPC	Upice	61.78	30	eP	P	07 08 25.5	+2.7
DPC	Dobruska-Polom	61.84	30	eP	P	07 08 23.9	+0.6
DPC				ex	x	07 08 31.4	
PSZ	Piszkesteto	62.32	34	eP	P	07 08 27.5	+0.9
	4.1nm,0.8s						
SCHQ	Schefferville	62.53	336	P	P	07 08 27.3	-0.5
SCHQ	Schefferville	62.53	336	P	P	07 08 27.3	-0.5
	3.7nm,0.9s,baz=121,slow=12,SNR=3.2						
USHA	Ushuaia	64.77	205	LR	LR	07 34 18.8	
	comp=Z,155nm,19.9s,baz=38,slow=34						
NOA	NORSAR Array B	66.94	19	P	P	07 08 55.9	-0.6
NOA	NORSAR Array B	66.94	19	P	P	07 08 55.9	-0.6
	1.3nm,1.0s,baz=307,slow=16,SNR=2.4						
NOA				LR	LR	07 37 05.4	
	comp=Z,49nm,18.4s,baz=245,slow=35						
BRTR	Keskin Array B	67.72	47	P	P	07 09 02.6	+0.6
BRTR	Keskin Array B	67.72	47	P	P	07 09 02.6	+0.6
	1.0nm,0.8s,baz=224,slow=7.2,SNR=3.8						
KIEV	Kiev	68.99	35	eP	P	07 09 09.6	+0.1
	12nm,1.2s						
AKASG	Malin Array Be	69.00	35	P	P	07 09 09.3	-0.3
AKASG	Malin Array Be	69.00	35	P	P	07 09 09.3	-0.3
	3.9nm,0.8s,baz=244,slow=5.9,SNR=17						
AKASG				LR	LR	07 41 09.1	
	comp=Z,31nm,19.8s,baz=320,slow=38						
SUMG	Summit	71.91	357	i P	P	07 09 27.8	+0.3
	8.7nm,0.9s						
SUMG	Summit	71.91	357	eP	P	07 09 27.3	-0.2
	18nm,1.1s						
FINES	FINESS Array B	72.72	24	P	P	07 09 32.0	0.0
FINES	FINESS Array B	72.72	24	P	P	07 09 32.0	0.0
	3.5nm,0.9s,baz=293,slow=9.9,SNR=4.7						
KBZ	Khabaz	75.47	45	P	P	07 09 48.7	+0.3
KBZ	Khabaz	75.47	45	P	P	07 09 48.7	+0.3
	3.5nm,1.0s,baz=81,slow=2.3,SNR=3.9						
KBZ				LR	LR	07 42 56.5	
	comp=Z,56nm,18.5s,baz=96,slow=36						
ARCES	ARCESS Array B	77.02	17	LR	LR	07 37 35.8	
	comp=Z,85nm,20.7s,baz=335,slow=31						
TXAR	Lajitas Array	77.31	300	P	P	07 09 58.0	-1.4
TXAR	Lajitas Array	77.31	300	P	P	07 09 58.0	-1.4
	0.6nm,0.9s,baz=120,slow=7.4,SNR=6.3						
TXAR				LR	LR	07 43 02.8	
	comp=Z,39nm,19.4s,baz=40,slow=35						
PDAR	Pinedale Array	83.40	313	P	P	07 10 29.9	-2.1
PDAR	Pinedale Array	83.40	313	P	P	07 10 29.9	-2.1
	0.8nm,0.8s,baz=123,slow=5.5,SNR=5.8						
PDAR				LR	LR	07 41 57.6	
	comp=Z,96nm,20.8s,baz=89,slow=32						
LRM	Limekiln Ridge	85.69 316	eP	P	07 10 43.8	+0.3
	37nm,1.3s						
MCMT	McKenzie Canyo	85.91 315	eP	P	07 10 44.7	0.0
	2.7nm,1.2s						
HLID	Hailey	86.99 313	eP	P	07 10 50.3	+0.4
	4.6nm,1.1s						
NEW	Newport	88.94 318	LR	LR	07 44 33.9	
	comp=Z,49nm,20.6s,baz=98,slow=31						
YBH	Yreka Blue Hor	93.14 312	LR	LR	07 48 00.6	
	comp=Z,5nm,20.4s,baz=87,slow=32						
FITZ	Fitzroy Crossi	148.74 125	PKPbc	PKPbc	07 17 52.3	-0.3
FITZ	Fitzroy Crossi	148.74 125	PKPbc	PKPbc	07 17 52.3	-0.3
	2.8nm,1.0s,baz=240,slow=2.2,SNR=4.8						
ASAR	Alice Springs	151.18 143	PKP	PKPdf	07 17 51.9	-0.8
ASAR			PKPbc	PKPbc	07 17 57.5	-1.0
ASAR	Alice Springs	151.18 143	PKP	PKPdf	07 17 51.9	-0.8
	2.0nm,1.0s,baz=217,slow=2.9,SNR=4.9						
ASAR			PKPbc	PKPbc	07 17 57.5	-1.0
	2.0nm,0.8s,baz=208,slow=2.0,SNR=15						
AS31	Alice Springs	151.19 143	ePKPbc	PKPbc	07 17 57.6	-0.9
AS31			ePKPab	PKPab	07 18 06.5	+0.3

IDC ***20*** *07:20:54.1±1.4, 0°.33S×119°.92E, h0km, mb3.3/3, mb1 3.6/5, mb1mx3.5/24, mbtmp3.5/5, ML3.4/2, MS3.5/1, Ms1 3.5/1, ms1mx2.3/15, Error ellipse: s-maj=86.3km s-min=22.7km az=65.0*
DJA ***20*** *07:21:00.5±2.4, 0°.S±4°.×12°.0E±°, h37km±31km, M4.0/8, MLv4.0/8*

ISC 20 07:20:55.3±1.9, 0°.34S±0°.05×119°.94E±0°.07, h6km±13km, n13, σ2§13/19, mb3.3/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOLI	Toli-Toli	1.68	31	P	Pg	07 21 30.1	+2.5
TOLI				S	Sg	07 21 52.2	+2.8
APSI	Ampana	1.80	108	P	Pg	07 21 32.1	+2.2
APSI				S	Sg	07 21 58.8	+5.5
MRSI	Marisa	2.16	68	P	Pg	07 21 36.3	-0.4
MRSI				S	Sg	07 22 08.4	+3.7
MMSI	Mamuju	2.56	204	P	Pb	07 21 39.7	-1.9
MMSI				S	Sn	07 22 08.7	-0.2
LUWI	Luwuk	2.92	104	P	Pg	07 21 49.8	-1.5
LUWI				S	Sg	07 22 26.7	-2.4
GTOI	Gorontalo	3.22	73	P	Pb	07 21 51.2	-1.8
GTOI				S	Sb	07 22 31.8	-0.7
SPSI	Sidrap Palu	3.61	183	P	Pn	07 21 51.5	-0.4
SPSI				S	Sn	07 22 38.5	+3.7
BNSI	Bone	4.04	178	P	Pn	07 22 00.6	+2.8
BNSI				S	Sn	07 22 48.2	+2.7
KAPI	Kappang	4.65	182	Pn	Pn	07 22 05.8	-0.4
	1.6nm,0.3s,baz=2.6,slow=14,SNR=7.5						
KAPI				Sn	Sb	07 23 15.4	+1.7
	0.6nm,0.3s,baz=37,slow=20,SNR=2.3						
FITZ	Fitzroy Crossi	18.52 163	P	Pn	07 25 12.8	0.0
	0.1nm,0.3s,baz=0.0,slow=12,SNR=4.0						
WRA	Warramunga Arr	24.05 145	P	P	07 26 10.2	-1.4
	0.9nm,0.8s,baz=323,slow=10,SNR=7.1						
ASAR	Alice Springs	26.86 151	P	P	07 26 37.7	+0.6
	0.3nm,0.6s,baz=314,slow=7.9,SNR=6.0						
MKAR	Makanchi Array	57.33 330	P	P	07 30 43.8	-0.5
	0.2nm,0.6s,baz=146,slow=6.4,SNR=3.2						
MKAR				LR	LR	07 58 22.2	
	comp=Z,39nm,20.7s,baz=348,slow=39						

ISCJB ***20*** *07:26:45.5±1.1, 28°.24S±0°.03×71°.0W±0°.2, h52km±9km, mb3.6/1, Error ellipse: s-maj=23.4km s-min=5.7km az=179.6*
GUC ***20*** *07:26:45.4±0.8, 28°.27S×70°.93W, h51km±7km, ML3.7*
IDC ***20*** *07:26:47.7±4.7, 27°.97S×70°.48W, h46km±31km, mb3.5/1, mb1 3.6/4, mb1mx3.3/17, mbtmp3.4/4, ML3.7/3, Error ellipse: s-maj=79.5km s-min=20.6km az=81.0*

ISC 20 07:26:45.5±1.7, 28°.23S±0°.04×71°.1W±0°.2, h43km±15km, n11, σ1§07/13, 3C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	Vallenar	0.45	139	⇑iP	Pn	07 26 55.6	-0.2
VACH				i S	Sn	07 27 02.6	-0.4
LCO	Las Campanas	0.85	156	⇑iP	Pn	07 27 00.7	-0.6
LCO				i S	Sn	07 27 11.9	-0.8
LCO				AML	AML	07 27 12.7	
	comp=E,4μm,0.3s						
CPCH	Copiapo	1.09	37	⇑iP	Pn	07 27 04.4	+0.1
CPCH				i S	Sn	07 27 18.3	+0.1
CDCH	Caldera	1.19	12	eP	Pn	07 27 06.0	+0.4
CDCH				i S	Sn	07 27 21.6	+1.1
CDCH				AML	AML	07 27 25.2	
	comp=E,2μm,0.3s						
TLL	Tololo Astrono	1.94	173	eP	Pn	07 27 17.0	+0.7
TLL				i S	Sn	07 27 40.1	+0.5
TLL				AML	AML	07 27 44.5	
	comp=E,1μm,0.5s						
CFAA	Coronel Fontan	4.17	144	P	Pn	07 27 48.8	+2.0
	comp=E,1.5nm,0.3s,baz=318,slow=12,SNR=24						
CFAA				S	Sn	07 28 35.5	+1.2
	comp=E,2.0nm,0.3s,baz=31,slow=22,SNR=9.6						
LPAZ	La Paz	12.20	14	P	Pn	07 29 34.4	-2.9
	comp=E,0.2nm,0.3s,baz=216,slow=12,SNR=5.6						
CPUP	Villa Florida	12.39	84	P	Pn	07 29 32.9	-6.3
	comp=E,0.4nm,0.3s,baz=236,slow=11,SNR=3.8						
TORD	Torodi Ar. Bea	81.49	70	P	P	07 38 57.5	-1.3
	comp=E,0.6nm,0.8s,baz=258,slow=4.8,SNR=4.9						
ZALV	Zalessvo Beam	148.84	28	pPKPbc	pPKPbc	07 46 45.1	+3.8
	comp=E,0.6nm,0.3s,baz=270,slow=2.9,SNR=1.4						
MKAR	Makanchi Array	152.12	41	pPKPbc	pPKPbc	07 46 50.1	+0.6
	comp=E,0.3nm,0.6s,baz=315,slow=0.4,SNR=2.0						

ISCJB ***20*** *08:25:16.3±0.4, 10°.81N±0°.03×62°.16W±0°.03, h95km±5km, Error ellipse: s-maj=5.4km s-min=3.2km az=42.6*
FUNV ***20*** *08:25:18.7, 10°.80N×62°.13W, h90km, MW3.6*

TRN ***20*** *08:25:20.2, 10°.86N×62°.00W, h76km, MD3.8*

ISC 20 08:25:16.2±1.2, 10°.80N±0°.04×62°.14W±0°.04, h100km±8km, n34, σ1§50/54, 5C-4D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	Guiria	0.17	208	⇓iP	Pn	08 25 31.3	+0.9
GUIV				eS	Sn	08 25 40.2	-0.7
TCE	Chacachacare	0.40	104	⇓iP	Pn	08 25 32.3	+1.0
TCE				eS	Sn	08 25 41.1	-1.6
TPP	Pointe-a-Pierr	0.83	125	⇑iP	Pn	08 25 37.1	+2.2
TPP				eS	Sn	08 25 47.7	-1.2
GUNV	Guanoco	1.01	231	⇑eP	Pn	08 25 39.1	+2.3
GUNV				eS	Sn	08 25 53.0	+0.7
CRUV	Carupano	1.08	264	⇑eP	Pn	08 25 38.8	+1.3
CRUV				eS	Sn	08 25 53.3	-0.3
TBH	Brigand Hill	1.10	106	⇓iP	Pn	08 25 39.4	+1.6
TBH				eS	Sn	08 25 53.3	-0.8
TPR	Prospect	1.40	74	⇑iP	Pn	08 25 42.3	+1.1
TPR				eS	Sn	08 25 58.2	-2.0
GRW	Mount Saint Ca	1.44	19	eP	Pn	08 25 42.7	+0.9
GRW				eS	Sn	08 25 60.0	-1.2
BOT	Bacolet	1.45	75	⇓iP	Pn	08 25 42.7	+0.8
BOT				eS	Sn	08 25 59.7	-1.6
TOSP	Speyside	1.66	72	eP	Pn	08 25 44.8	+0.4
TOSP				eS	Sn	08 26 04.5	-1.4
ORIV	Oritupano	2.12	216	eP	Pn	08 25 52.6	+2.2
ORIV				eS	Sn	08 26 16.6	+0.1
PCRV	Puerto La Cruz	2.53	256	eP	Pn	08 25 57.6	+1.9
PCRV				eS	Sn	08 26 24.9	-1.2
SVB	Belmont	2.61	19	eP	Pn	08 25 58.9	+2.0
SVB				eS	Sn	08 26 28.2	+0.1
SVV	Soufriere Volc	2.67	20	eP	Pn	08 26 00.3	+2.7
SVV				eS	Sn	08 26 28.4	-1.0
BHS	Barnard House	2.68	22	eP	Pn	08 26 01.1	+3.4
BHS				eS	Sn	08 26 29.8	+0.2
SSV	Crater Summit	2.68	20	eP	Pn	08 26 00.1	+2.2
SSV				eS	Sn	08 26 28.2	-1.6
RIOV	Rio Grande	2.73	173	eP	Pn	08 25 59.9	+1.5
RIOV				eS	Sn	08 26 30.5	-0.3
MCLT	Moule a Chique	3.13	22	eP	Pn	08 26 05.5	+1.8
MCLT				eS	Sn	08 26 39.4	-0.9
GURV	El Guri	3.16	197	⇑eP	Pn	08 26 05.8	+1.7
SLB	Belfond	3.20	20	eP	Pn	08 26 07.7	+2.9
SLB				eS	Sn	08 26 42.6	+0.4
CUPV	Cœpira	3.66	259	eS	Sn	08 26 51.9	-1.4
BIRV	Birongo	4.07	266	eP	Pn	08 26 16.8	+0.4
BIRV				eS	Sn	08 27 01.0	-2.1
MERV	Las Mercedes	4.37	250	eP	Pn	08 26 20.8	+0.4
MERV				eS	Sn	08 27 08.3	-2.0
LUEV	Luepa	4.97	172	eP	Pn	08 26 28.9	+0.2
HMG	Houelmont	5.17	5	eP	Pn	08 26 32.9	+1.5
PHG	Guadaloupe-2	5.21	5	eP	Pn	08 26 33.3	+1.3
SCG	Saint Claude	5.22	5	eP	Pn	08 26 32.6	+0.6
MLG	Mont-d'or	5.25	5	eP	Pn	08 26 35.4	+3.0
LZG	Guadalouepe-1	5.33	4	eP	Pn	08 26 35.7	+2.3
TURV	Turiamo	5.61	267	eP	Pn	08 26 38.0	+0.8
BAUV	El Baul	6.10	253	eP	Pn	08 26 44.2	+0.3
SKI	Saint Kitts	6.53	355	eP	Pn	08 26 53.5	+3.8
SKI				eS	Sn	08 28 02.3	-0.4
MONV	Montecano	7.76	279	eP	Pn	08 27 07.3	+0.7
SOCV	Socops	8.95	255	eP	Pn	08 27 21.7	-1.0

DJA 20 08:31:08.6±0.7, 8°.S±3°.×10°.7E±°, h34km±8km, M3.6/11, MLv3.6/11, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	Cisompet, Garu	0.81	39	P	Pn	08 31 23.3	-0.4
CISI				S	Sn	08 31 34.7	+0.1
SKJI	Sukabumi	1.39	328	P	Pn	08 31 31.2	-0.4
SKJI				S	Sn	08 31 48.5	-0.3
LEM	Lembang	1.39	13	P	Pn	08 31 32.6	+0.8
DBJI	Dramaga	1.71	341	P	Pn	08 31 36.8	+0.7
DBJI				S	Sn	08 31 58.1	+1.2
KPJI	Karang Pucung	1.83	62	P	Pb	08 31 40.1	-1.3
KPJI				S	Sn	08 32 00.8	+1.2
TGJI	Tegal	2.23	54	P	Pn	08 31 44.7	+1.5
TGJI				S	Sn	08 32 10.7	+1.1
BJII	Banjamegara	2.54	71	P	Pn	08 31 47.9	+0.4
BJII				S	Sn	08 32 18.9	+1.6
UGM	Wanagama	3.20	85	P	Pn	08 31 59.4	+2.8
UGM				S	Sn	08 32 35.2	+1.5
PWJI	Pagerwojo	4.46	88	P	Pn	08 32 14.7	+0.8
PWJI				S	Sn	08 33 05.3	+0.6

NIED ***20*** *09:08:00.44°.10N×148°.20E, h92km, Mw4.0 Best double couple: M0=1.21000×10^15 NP1:φs=202.00000°, δ79.00000°, λ=-65.00000°. NP2:φs=315.00000°, δ27.00000°, λ=-155.00000°.*
BJI ***20*** *09:08:22.6, 44°.69N×148°.44E, h91km, mB5.0/19, mb4.8/32*
ISCJB ***20*** *09:08:25.0±0.5, 44°.47N±0°.05×148°.17E±0°.05, h103km±3km, mb4.4/50, Error ellipse: s-maj=8.9km s-min=4.4km az=145.3*
MOS ***20*** *09:08:25.3±1.1, 44°.58N×148°.17E, h106km, mb4.8/15, Error ellipse: s-maj=10.0km s-min=7.6km az=106.8*
JMA ***20*** *09:08:26.9±0.3, 44°.08N×148°.22E, h91km, M4.4*
NEIC ***20*** *09:08:26.9±0.7, 44°.59N×148°.10E, h102km±6km, mb4.6/13, Error ellipse: s-maj=11.1km s-min=5.1km az=153.0*
SKHL ***20*** *09:08:26.8±0.7, 44°.62N×148°.17E, h105km±5km, mb5.0/3, msh5.6/3*
IDC ***20*** *09:08:27.0±2.3, 44°.55N×148°.10E, h105km±20km, mb3.9/18, mb1 4.1/22, mb1mx4.0/28, mbtmp3.9/22, MS3.2/1, Ms1 3.2/1, ms1mx2.4/39, Error ellipse: s-maj=16.8km s-min=12.9km az=147.0*

ISC 20 09:08:26.2±0.5, 44°.46N±0°.05×148°.15E±0°.05, h97km±2km, n150, σ1§55/209, mb4.5/50, 5C-8D, Kuril Islands

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

YUK				AMB	AMB	09 08 56.2	
	comp=N,115nm,0.2s						
YUK				AMB	AMB	09 08 56.2	
	comp=N,102nm,0.2s						
YUK				AMB	AMB	09 08 56.2	
	comp=N,384nm,0.2s						
YUK				*i* S	**Sn**	**09 09 16.3**	**0.0**
YUK				A	A	09 09 18.1	
	comp=N,1μm,0.7s						
YUK				A	A	09 09 18.1	
	comp=N,2μm,0.7s						
NEM2	**Nemuro 2**	**2.05 239**		P	**Pn**	**09 08 58.5**	**-0.8**
NEM2				*e*S	**Sn**	**09 09 22.6**	**-1.9**
JRA	**Rausu**	**2.23 258**		P	**Pn**	**09 09 02.9**	**+1.2**
JRA				*e*S	**Sn**	**09 09 30.1**	**+1.3**
JNK	**Nakash**	**2.62 252**		P	**Pn**	**09 09 07.5**	**+0.7**
JNK				*e*S	**Sn**	**09 09 38.6**	**+0.7**
JAK	**Akkeshi**	**2.89 241**		P	**Pn**	**09 09 09.8**	**-0.6**
JAK				*e*S	**Sn**	**09 09 42.6**	**-1.8**
JTKR	**Abashiri--Toko**	**3.08 262**		P	**Pn**	**09 09 13.9**	**+1.0**
JTKR				*e*S	**Sn**	**09 09 51.1**	**+2.1**
JAR	**Ashorobuto**	**3.37 251**		P	**Pn**	**09 09 17.8**	**+1.0**
JAR				*e*S	**Sn**	**09 09 56.2**	**+0.3**
JKK2	**Kamakawa 2**	**3.93 263**		P	**Pn**	**09 09 25.8**	**+1.5**
JCH	**Churui**	**3.93 244**		P	**Pn**	**09 09 24.0**	**-0.4**
JCH				*e*S	**Sn**	**09 10 07.7**	**-1.8**
JSE	**Soyaes**	**4.00 279**		P	**Pn**	**09 09 26.2**	**+1.0**
ASAJ	**Asahikawa**	**4.00 267**		*e*Pn	**Pn**	**09 09 26.8**	**+1.6**
ASAJ				*e*Sn	**Sn**	**09 10 06.6**	**-4.5**
ASAJ	**Asahikawa**	**4.00 267**		P	**Pn**	**09 09 26.9**	**+1.7**
	comp=N,7.3nm,0.3s,baz=74,slow=20,SNR=43						
JFR	**Furan**	**4.22 254**		P	**Pn**	**09 09 29.4**	**+1.1**
JFR				*e*S	**Sn**	**09 10 17.3**	**+0.8**
ERM	**Erimo**	**4.38 238**		⇓*i*PN	**Pn**	**09 09 32.8**	**+2.3**
ERM				pmax	pmax		
	comp=Z,174nm,1.7s						
ERM	**Erimo**	**4.38 238**		*e*P	**Pn**	**09 09 32.8**	**+2.3**
ERM	**Erimo**	**4.38 238**		*e*Pn	**Pn**	**09 09 32.3**	**+1.8**
JNBK	**Urakawa-nobuka**	**4.49 243**		P	**Pn**	**09 09 31.3**	**-0.6**
JNBK				*e*S	**Sn**	**09 10 20.0**	**-3.0**
JWK2	**Keihoku**	**4.52 283**		P	**Pn**	**09 09 35.1**	**+2.8**
YSS	**Yuzh-Sakhalins**	**4.53 305**		⇑*e*PN	**Pn**	**09 09 33.8**	**+1.4**
YSS				*e*S	**Sn**	**09 10 24.0**	**+0.2**
YSS				pmax	pmax		
	comp=Z,30nm,0.9s						
YSS				smax	smax		
	comp=N,110nm,0.9s						
YSS				smax	smax		
	comp=E,130nm,1.0s						
YSS	**Yuzh-Sakhalins**	**4.53 305**		*e*P	**Pn**	**09 09 33.8**	**+1.4**
YSS				AMB	AMB	09 09 36.9	
	comp=E,30nm,0.9s						
YSS				*e*S	**Sn**	**09 10 24.0**	**+0.2**
YSS				A	A	09 10 26.0	
	comp=E,110nm,1.0s						
YSS				A	A	09 10 26.0	
	comp=E,130nm,1.0s						
JHR	**Hokuryu**	**4.68 263**		P	**Pn**	**09 09 36.6**	**+2.1**
JEW	**Eniwo**	**5.12 254**		*e*S	**Sn**	**09 10 39.5**	**+1.2**
JKB	**Kayabe**	**5.80 246**		P	**Pn**	**09 09 49.4**	**-0.3**
JKB				*e*S	**Sn**	**09 10 50.5**	**-4.3**
JOT	**Ohata**	**6.05 242**		P	**Pn**	**09 09 51.9**	**-1.1**
JOT				*e*S	**Sn**	**09 10 54.9**	**-5.9**
PEA0B	**Petropavlovsk-**	**10.70**	**33**	*e*Pn	**Pn**	**09 10 54.8**	**-1.4**
PETK	**Petropavlovsk-**	**10.70**	**33**	PN	**Pn**	**09 10 54.4**	**-1.9**
PETK	**Petropavlovsk-**	**10.70**	**33**	P	**Pn**	**09 10 54.4**	**-1.9**
PETK	**Petropavlovsk-**	**10.70**	**33**	P	**Pn**	**09 10 54.4**	**-1.9**
	comp=E,0.5nm,0.3s,baz=197,slow=13,SNR=6.8						
PET	**Petropavlovsk**	**11.02**	**35**	*e*PN	Pn	09 10 50.8	-10
USRK	**Ussuriysk Arra**	**11.58 274**		P	**Pn**	**09 11 08.2**	**0.0**
	comp=E,0.9nm,0.3s,baz=89,slow=13,SNR=36						
KLR	**Kul'dur**	**12.19 299**		*e*PN	**Pn**	**09 11 19.3**	**+3.0**
MDJ	**Mudanjiang**	**13.24 277**		P	**Pn**	**09 11 28.3**	**-1.9**
MDJ				S	**Sn**	**09 13 50.4**	**-5.3**
MDJ				PcS	**PcS**	**09 20 28.6**	**+1.7**
MDJ				pmax	pmax		
	comp=Z,6.0nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,95nm,5.5s						
CN2	**Changchun**	**16.30 276**		⇓P	**Pn**	**09 12 09.3**	**+0.1**
CN2				*e*sP	sP	09 12 35.1	-5.8
CN2				*e*S	**Sn**	**09 15 03.3**	**-6.4**
CN2				pmax	pmax		
	comp=Z,20nm,0.6s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
KSRS	**Korea Array**	**16.78 252**		P	**P**	**09 12 15.7**	**0.0**
	comp=Z,0.2nm,0.3s,baz=56,slow=11,SNR=6.4						
KSAR	**Wonju Array Be**	**16.81 252**		P	**Pn**	**09 12 15.7**	**+0.2**
SEY	**Seymchan**	**18.67**	**6**	⇑*i*P	**P**	**09 12 33.6**	**-2.7**
SEY	**Seymchan**	**18.67**	**6**	*e*P	**P**	**09 12 33.6**	**-2.7**
BJI	**Beijing**	**23.98 271**		P	**P**	**09 13 31.9**	**+0.3**
BJI				pmax	pmax		
	comp=Z,18nm,0.7s						
HHC	**Hu-ho-hao-te**	**27.00 275**		*e*P	**P**	**09 13 58.0**	**-1.0**
HHC				pP	**pP**	**09 14 19.5**	**-1.1**
HHC				sP	**sP**	**09 14 31.3**	**-0.6**
HHC				PP	**PnPn**	**09 14 46.6**	**-0.5**
HHC				S	**S**	**09 18 24.4**	**-4.9**
HHC				PcS	**PcS**	**09 20 59.8**	**+0.2**
HHC				ScS	**ScS**	**09 24 39.8**	**-0.6**
HHC				pmax	pmax		
	comp=Z,52nm,1.1s						
HHC				pmax	pmax		
	comp=Z,230nm,5.0s						
HHC				LR	LR		
	comp=N,330nm,14.3s						
HHC				LR	LR		
	comp=E,1μm,13.7s						
HHC				LR	LR		
	comp=Z,200nm,13.5s						
ULN	**Ulaanbaatar**	**28.43 292**		*e*P	**P**	**09 14 11.7**	**0.0**
ULN	**Ulaanbaatar**	**28.43 292**		*e*P	**P**	**09 14 11.2**	**-0.4**
	comp=Z,8.3nm,0.7s						
TIXI	**Tiksi**	**28.82 347**		⇑*e*P	P	09 14 10.8	-3.9
TIXI				pmax	pmax		
	comp=Z,15nm,1.3s						
SONM	**Songino Array**	**28.87 292**		P	**P**	**09 14 15.7**	**+0.1**
SONM	**Songino Array**	**28.87 292**		P	**P**	**09 14 15.7**	**+0.1**
	comp=Z,4.8nm,0.6s,baz=75,slow=8.5,SNR=19						
WHN	**Wuhan**	**29.96 254**		P	**P**	**09 14 25.5**	**+0.3**
LZH	**Lanzhou**	**34.47 272**		*e*P	**P**	**09 15 06.1**	**+1.3**
LZH				pP	**pP**	**09 15 26.3**	**-0.5**
LZH				sP	**sP**	**09 15 38.0**	**0.0**
LZH				PP	**PP**	**09 16 28.6**	**+4.1**
LZH				*e*S	**S**	**09 20 25.1**	**-1.0**
LZH				pmax	pmax		
	comp=Z,19nm,1.0s						
LZH				pmax	pmax		
	comp=Z,100nm,5.3s						
LZH				LR	LR		
	comp=N,390nm,12.5s						
LZH				LR	LR		
	comp=E,430nm,12.3s						
LZH				LR	LR		
	comp=Z,550nm,14.0s						
GTA	**Gaotai**	**35.89 279**		*e*P	**P**	**09 15 17.8**	**+0.9**
GTA				pP	**pP**	**09 15 39.6**	**+0.6**
GTA				sP	**sP**	**09 15 50.3**	**+0.1**
GTA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
HVS	**Khovu-Aksy**	**36.45 300**		⇑*i*P	**P**	**09 15 22.0**	**+0.5**
HVS				pmax	pmax		
	comp=Z,33nm,0.9s						
CD2	**Chengdu**	**37.19 264**		P	**P**	**09 15 30.0**	**+2.1**
CD2				pP	**pP**	**09 15 51.5**	**+1.3**
CD2				sP	**sP**	**09 16 02.5**	**+1.1**
CD2				PP	**PnPn**	**09 16 58.9**	**+2.8**
CD2				S	**S**	**09 21 07.9**	**+0.3**
CD2				sS	**sS**	**09 21 45.0**	**-1.1**
CD2				SS	SnSn	09 23 41.8	-11
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,170nm,7.7s						
CD2				LR	LR		
	comp=N,280nm,7.7s						
CD2				LR	LR		
	comp=Z,200nm,6.5s						
IM04	**Indian Mountai**	**37.64**	**35**	*e*P	**P**	**09 15 30.7**	**-0.6**
IMA2	**Indian Mountai**	**37.69**	**35**	*e*P	**P**	**09 15 30.8**	**-1.0**
GYA	**Guiyang**	**37.79 256**		*e*P	**P**	**09 15 34.3**	**+1.2**
GYA				pP	**pP**	**09 15 56.4**	**+1.0**
GYA				sP	**sP**	**09 16 07.3**	**+0.7**
GYA				PP	**PnPn**	**09 17 05.0**	**+1.6**
GYA				PcP	**PcP**	**09 17 50.8**	**+2.9**
GYA				S	**S**	**09 21 17.6**	**+0.7**
GYA				ScP	**ScP**	**09 21 27.8**	**+1.4**
GYA				ScS	**ScS**	**09 25 36.0**	**+0.3**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CAST	**Castle Rocks**	**38.23**	**39**	*e*P	**P**	**09 15 37.1**	**+0.9**
MCK	**McKinley**	**39.64**	**38**	P	**P**	**09 15 47.5**	**-0.5**
MCK	**McKinley**	**39.64**	**38**	P	**P**	**09 15 47.5**	**-0.5**
COLA	**College**	**40.08**	**37**	*e*P	**P**	**09 15 51.6**	**0.0**
COLA				pmax	pmax		
	comp=Z,16nm,1.2s						
COLA	**College**	**40.08**	**37**	*e*P	**P**	**09 15 51.6**	**0.0**
	comp=Z,16nm,1.2s						
ILAR	**Eielson Array**	**40.49**	**37**	P	**P**	**09 15 54.5**	**-0.5**
ILAR	**Eielson Array**	**40.49**	**37**	P	**P**	**09 15 54.5**	**-0.5**
	comp=Z,1.5nm,0.5s,baz=269,slow=8.4,SNR=30						
QIZ	**Qiongzhong**	**40.72 244**		P	**P**	**09 15 59.9**	**+2.5**
QIZ				sP	**sP**	**09 16 30.8**	**-0.2**
QIZ				S	**S**	**09 22 03.3**	**+2.6**
QIZ				pmax	pmax		
	comp=Z,8.0nm,1.3s						
QIZ				LR	LR		
	comp=Z,100nm,9.7s						
ZALV	**Zalesovo Beam**	**41.15 307**		P	**P**	**09 16 00.3**	**-0.3**
ZALV						09 17 57.5	
ZALV	**Zalesovo Beam**	**41.15 307**		P	**P**	**09 16 00.3**	**-0.3**
ZALV				PcP	**PcP**	**09 17 57.5**	**-0.5**
ZALV	**Zalesovo Beam**	**41.15 307**		P	**P**	**09 16 00.3**	**-0.3**
	comp=Z,1.8nm,0.4s,baz=77,slow=6.4,SNR=1.8						
ZALV				PcP	**PcP**	**09 17 57.5**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=113,slow=3.4,SNR=3.7						
KMI	**Kunming**	**41.37 258**		P	**P**	**09 16 05.1**	**+2.2**
KMI				pP	**pP**	**09 16 26.6**	**+1.0**
KMI				sP	**sP**	**09 16 37.3**	**+0.7**
KMI				pmax	pmax		
	comp=Z,12nm,0.6s						
WMQ	**Urumqi**	**42.50 291**		P	**P**	**09 16 11.9**	**+0.1**
WMQ				pP	**pP**	**09 16 34.5**	**0.0**
WMQ				sP	**sP**	**09 16 46.3**	**+0.7**
WMQ				PP	**PP**	**09 17 53.8**	**+1.9**
WMQ				pmax	pmax		
	comp=Z,16nm,1.0s						
WMQ				pmax	pmax		
	comp=Z,140nm,4.3s						
WMQ				LR	LR		
	comp=E,28nm,18.2s						
WMQ				LR	LR		
	comp=Z,23nm,21.0s						
EGAK	**Eagle**	**42.94**	**36**	*e*P	**P**	**09 16 14.6**	**-0.3**
	comp=Z,4.7nm,0.8s						
MK31	**Makanchi Array**	**44.90 297**		*e*P	**P**	**09 16 30.4**	**-0.5**
MK31	**Makanchi Array**	**44.90 297**		*e*P	**P**	**09 16 30.4**	**-0.5**
MKAR	**Makanchi Array**	**44.90 297**		P	**P**	**09 16 30.8**	**-0.1**
MKAR						09 18 10.4	
MKAR	**Makanchi Array**	**44.90 297**		P	**P**	**09 16 30.8**	**-0.1**
MKAR				PcP	**PcP**	**09 18 10.4**	**-0.4**
MKAR	**Makanchi Array**	**44.90 297**		P	**P**	**09 16 30.8**	**-0.1**
	comp=Z,18nm,0.7s,baz=77,slow=8.5,SNR=131						
MKAR				PcP	**PcP**	**09 18 10.4**	**-0.4**
	comp=Z,0.8nm,0.8s,baz=125,slow=2.3,SNR=2.3						
MKAR				LR	LR	09 35 33.7	
	comp=Z,27nm,18.5s,baz=168,slow=36						
HYT	**Haines Junctio**	**45.33**	**42**	*e*P	**P**	**09 16 35.6**	**+1.4**
INK	**Inuvik**	**45.43**	**31**	P	**P**	**09 16 34.7**	**0.0**
INK	**Inuvik**	**45.43**	**31**	P	**P**	**09 16 34.7**	**0.0**
	comp=Z,3.6nm,0.5s,baz=316,slow=6.3,SNR=20						
KURK	**Kurchatov**	**45.73 304**		⇓*i*P	**P**	**09 16 37.2**	**-0.1**
KURK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
KURK	**Kurchatov**	**45.73 304**		*e*P	**P**	**09 16 37.2**	**-0.1**
KURK	**Kurchatov**	**45.73 304**		*e*P	**P**	**09 16 35.9**	**-1.4**
	comp=Z,2.1nm,0.6s						
VOSK	**Vostochnaya**	**49.40 309**		*e*P	**P**	**09 17 04.6**	**-1.1**
VOSK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
VOSK	**Vostochnaya**	**49.40 309**		*e*P	**P**	**09 17 04.6**	**-1.1**
	comp=Z,2.8nm,0.9s						
BRVK	**Borovoye**	**49.66 309**		⇓*i*P	**P**	**09 17 07.4**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BRVK	**Borovoye**	**49.66 309**		*e*P	**P**	**09 17 07.4**	**-0.2**
BRVK	**Borovoye**	**49.66 309**		P	**P**	**09 17 07.5**	**-0.1**
TKM2	**Tokmak 2**	**50.85 295**		*e*P	**P**	**09 17 17.1**	**0.0**
TKM2				pmax	pmax		
	comp=Z,15nm,1.2s						
TKM2	**Tokmak 2**	**50.85 295**		*e*P	**P**	**09 17 17.1**	**0.0**
	comp=Z,14nm,1.2s						
AAK	**Ala-Archa**	**51.70 296**		⇓*i*P	**P**	**09 17 23.8**	**+0.4**
AAK				pmax	pmax		
	comp=Z,16nm,1.2s						
AAK	**Ala-Archa**	**51.70 296**		*e*P	**P**	**09 17 23.8**	**+0.4**
AAK	**Ala-Archa**	**51.70 296**		*e*P	**P**	**09 17 23.6**	**+0.2**
	comp=Z,4.8nm,0.9s						
KSH	**Kashi**	**52.27 291**		*e*P	P	09 17 31.1	+3.5
KSH				pP	pP	09 17 54.6	+3.5
KSH				PP	**PP**	**09 19 31.8**	**+5.1**
KSH				PcS	**PcS**	**09 22 38.3**	**+2.1**
KSH				S	**S**	**09 24 46.4**	**+1.1**
KSH				ScS	**ScS**	**09 27 08.0**	**0.0**
KSH				pmax	pmax		
	comp=Z,140nm,5.6s						
KSH				LR	LR		
	comp=N,190nm,6.8s						
KSH				LR	LR		
	comp=E,190nm,9.2s						
KSH				LR	LR		
	comp=Z,170nm,5.9s						
SVE	**Sverdlovsk**	**53.12 317**		*e*P	**P**	**09 17 30.9**	**-2.5**
SVE				pmax	pmax		
	comp=Z,10.0nm,0.9s						
KKAR	**Karatay Array**	**54.02 298**		*e*P	**P**	**09 17 39.8**	**-0.4**
KKAR				pmax	pmax		
	comp=Z,7.0nm,0.7s						
KKAR	**Karatay Array**	**54.02 298**		*e*P	**P**	**09 17 39.8**	**-0.4**
	comp=Z,7.3nm,0.7s						
ARU	**Arti**	**54.32 317**		*d*iP	**P**	**09 17 40.2**	**-1.9**
ARU						09 19 41.6	
ARU				S	**S**	**09 25 12.1**	**-0.2**
ARU				SS	**SS**	**09 28 52.2**	**-2.8**
ARU				pmax	pmax		
	comp=Z,12nm,1.2s						
ARU	**Arti**	**54.32 317**		*e*P	**P**	**09 17 40.3**	**-1.9**
YKA	**Yellowknife Ar**	**54.82**	**34**	P	**P**	**09 17 45.5**	**-0.1**
YKA	**Yellowknife Ar**	**54.82**	**34**	P	**P**	**09 17 45.5**	**-0.1**
	comp=Z,1.7nm,0.8s,baz=297,slow=6.8,SNR=3.3						
ABKAR	**Akbulak array**	**57.18 309**		*e*P	**P**	**09 18 02.0**	**-0.7**
	comp=Z,4.1nm,0.5s						
ARCES	**ARCESS Array B**	**58.83 340**		P	**P**	**09 18 11.9**	**-2.1**
ARCES	**ARCESS Array B**	**58.83 340**		P	**P**	**09 18 11.9**	**-2.1**
	comp=Z,1.9nm,0.8s,baz=42,slow=7.0,SNR=14						
KBL	**Kabul**	**59.62 290**		*e*P	**P**	**09 18 19.0**	**-1.2**
KBL				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KBL	**Kabul**	**59.62 290**		*e*P	**P**	**09 18 19.0**	**-1.2**
	comp=Z,6.4nm,0.8s						
JOF	**Joensuu**	**61.80 332**		*e*P	**P**	**09 18 32.5**	**-1.7**
JOF				pmax	pmax		
	comp=Z,7.0nm,0.7s						
JOF	**Joensuu**	**61.80 332**		*e*p	**P**	**09 18 32.5**	**-1.7**
	comp=Z,6.5nm,0.7s						
KAF	**Kangasniemi**	**64.00 334**		*e*P	**P**	**09 18 46.9**	**-1.9**
KAF				pmax	pmax		
	comp=Z,4.0nm,0.5s						
KAF	**Kangasniemi**	**64.00 334**		*e*p	**P**	**09 18 46.9**	**-1.9**
	comp=Z,4.1nm,0.5s						
FINES	**FINESS Array B**	**64.57 333**		P	**P**	**09 18 50.7**	**-1.8**
FINES	**FINESS Array B**	**64.57 333**		P	**P**	**09 18 50.7**	**-1.8**
	comp=Z,9.9nm,0.6s,baz=40,slow=7.8,SNR=82						
WRA	**Warramunga Arr**	**65.32 194**		P	**P**	**09 18 57.0**	**-0.8**
WRA	**Warramunga Arr**	**65.32 194**		P	**P**	**09 18 57.0**	**-0.8**
	comp=Z,1.1nm,0.8s,baz=8.6,slow=6.8,SNR=6.1						
PDAR	**Pinedale Array**	**68.91**	**50**	P	**P**	**09 19 22.3**	**+1.5**
PDAR	**Pinedale Array**	**68.91**	**50**	P	**P**	**09 19 22.3**	**+1.5**
	comp=Z,0.2nm,0.6s,baz=338,slow=1.9,SNR=3.6						
ASAR	**Alice Springs**	**69.03 194**		P	**P**	**09 19 21.8**	**+0.5**
ASAR	**Alice Springs**	**69.03 194**		P	**P**	**09 19 21.8**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=12,slow=5.7,SNR=10						
NB2	**NORSAR Subarra**	**69.20 339**		P	**P**	**09 19 21.0**	**-1.0**
	comp=Z,2.0nm,0.5s,baz=30,slow=6.5						
NOA	**NORSAR Array B**	**69.20 339**		P	**P**	**09 19 20.9**	**-1.1**
NOA	**NORSAR Array B**	**69.20 339**		P	**P**	**09 19 20.9**	**-1.1**
	comp=Z,3.4nm,0.4s,baz=31,slow=6.4,SNR=24						
HFS	**Hagfors**	**69.31 338**		P	**P**	**09 19 21.5**	**-1.1**
HFS	**Hagfors**	**69.31 338**		P	**P**	**09 19 21.5**	**-1.1**
	comp=Z,3.6nm,0.4s,baz=53,slow=5.7,SNR=29						
KIV	**Kislovodsk**	**69.82 312**		*e*P	**P**	**09 19 26.6**	**+0.4**
KIV				pmax	pmax		
	comp=Z,19nm,0.8s						
KBZ	**Khabaz**	**69.86 312**		P	**P**	**09 19 26.9**	**+0.7**
KBZ	**Khabaz**	**69.86 312**		P	**P**	**09 19 26.9**	**+0.7**
KBZ	**Khabaz**	**69.86 312**		P	**P**	**09 19 26.9**	**+0.7**
	comp=Z,7.5nm,0.8s,baz=75,slow=4.8,SNR=18						
AKASG	**Malin Array Be**	**71.43 324**		*c*eP	**P**	**09 19 34.7**	**-0.9**
AKASG				pmax	pmax		
	comp=Z,6.0nm,0.6s						
AKASG	**Malin Array Be**	**71.43 324**		P	**P**	**09 19 34.8**	**-0.9**
AKASG	**Malin Array Be**	**71.43 324**		P	**P**	**09 19 34.8**	**-0.9**
	comp=Z,6.4nm,0.6s,baz=37,slow=6.3,SNR=28						
SMCO	**Snowmass**	**72.77**	**52**	*e*P	**P**	**09 19 44.5**	**+0.1**
	comp=Z,7.5nm,0.6s						
LVV	**L'vov**	**74.24 326**		*e*P	**P**	**09 19 51.0**	**-1.3**
OKC	**Ostrava-Krasne**	**76.48 329**		*e*P	**P**	**09 20 05.6**	**+0.5**
OKC	**Ostrava-Krasne**	**76.48 329**		*e*P	**P**	**09 20 05.6**	**+0.5**
DPC	**Dobruska-Polom**	**76.70 331**		*e*P	**P**	**09 20 06.7**	**+0.3**
DPC	**Dobruska-Polom**	**76.70 331**		*e*P	**P**	**09 20 06.7**	**+0.3**
MORC	**Moravsky Berou**	**76.75 330**		*e*P	**P**	**09 20 05.4**	**-1.3**
MORC				pmax	pmax		
	comp=Z,10.0nm,1.6s						
MORC	**Moravsky Berou**	**76.75 330**		*e*P	**P**	**09 20 05.4**	**-1.3**
	comp=Z,10nm,1.6s						
CLL	**Collm**	**77.02 333**		⇓*i*P	**P**	**09 20 07.4**	**-0.7**
CLL				pmax	pmax		
	comp=Z,8.0nm,0.6s						
CLL	**Collm**	**77.02 333**		⇓*i*P	**P**	**09 20 07.4**	**-0.7**
	comp=Z,8.0nm,0.6s						
BRG	**Berggiesshubel**	**77.08 332**		*e*P	**P**	**09 20 08.2**	**-0.2**
	comp=Z,1.3nm,0.6s						
BRG	**Berggiesshubel**	**77.08 332**		*e*P	**P**	**09 20 08.2**	**-0.2**
BRG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRTR	**Keskin Array B**	**77.57 314**		P	**P**	**09 20 11.7**	**+0.1**
BRTR	**Keskin Array B**	**77.57 314**		P	**P**	**09 20 11.7**	**+0.1**
	comp=Z,1.5nm,0.7s,baz=111,slow=2.6,SNR=8.4						
PRU	**Pruhonice**	**77.63 331**		*e*P	**P**	**09 20 11.4**	**-0.1**
PRU	**Pruhonice**	**77.63 331**		*e*P	**P**	**09 20 11.4**	**-0.1**
KHC	**Kasperske Hory**	**78.69 331**		*e*P	**P**	**09 20 17.4**	**-0.1**
KHC	**Kasperske Hory**	**78.69 331**		*e*P	**P**	**09 20 17.4**	**-0.1**
KHC	**Kasperske Hory**	**78.69 331**		*e*P	**P**	**09 20 17.4**	**-0.1**
	comp=Z,2.2nm,0.6s						
GERES	**GERESS Array B**	**78.89 331**		P	**P**	**09 20 18.0**	**-0.7**
GERES	**GERESS Array B**	**78.89 331**		P	**P**	**09 20 18.0**	**-0.7**
	comp=Z,0.8nm,0.5s,baz=36,slow=5.6,SNR=12						
TXAR	**Lajitas Array**	**81.66**	**57**	P	**P**	**09 20 33.5**	**-0.4**
TXAR	**Lajitas Array**	**81.66**	**57**	P	**P**	**09 20 33.5**	**-0.4**
	comp=Z,0.1nm,0.6s,baz=271,slow=2.2,SNR=4.5						

IDC 20 10:08:49.2±3.6, 48°.86N×152°.93E, h176km±39km, mb2.8/5, mb1 3.1/6, mb1mx2.9/24, mbtmp2.8/6, Error ellipse: s-maj=67.7km s-min=17.1km az=137.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**5.21**	**33**	P	Pn	10 10 05.9	+0.1
	0.3nm,0.3s,baz=182,slow=11,SNR=4.9						
KSRS	**Korea Array**	**21.41**	**247**	P	P	10 13 23.6	+0.5
	0.3nm,0.4s,baz=53,slow=9.5,SNR=4.1						
ILAR	**Eielson Array**	**35.00**	**40**	P	P	10 15 23.8	-0.5
	0.3nm,0.6s,baz=261,slow=5.9,SNR=9.7						
WRA	**Warramunga Arr**	**70.47**	**199**	P	P	10 19 43.9	-0.5
	0.6nm,1.0s,baz=23,slow=7.1,SNR=4.6						
ASAR	**Alice Springs**	**74.17**	**198**	P	P	10 20 06.6	+0.3
	0.1nm,0.4s,baz=13,slow=5.4,SNR=6.9						
TXAR	**Lajitas Array**	**76.57**	**61**	P	P	10 20 20.9	+0.6
	0.1nm,0.4s,baz=293,slow=4.7,SNR=4.5						

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*ISCJB **20** 10:10:26.1±0.5, 22°.72S±0°.05×68°.68W±0°.06, h107km, mb3.5/2, Error ellipse: s-maj=8.2km s-min=6.7km az=12.5*
*IDC **20** 10:10:26.9±2.5, 22°.84S×68°.47W, h80km±23km, mb3.4/3, mb1 3.4/7, mb1mx3.3/19, mbtmp3.3/7, Error ellipse: s-maj=54.1km s-min=16.7km az=105.0*
*GUC **20** 10:10:28.1±0.7, 22°.59S×68°.99W, h114km±11km, ML3.9*

ISC 20 10:10:27.4±0.8, 22°.66S±0°.06×68°.68W±0°.09, h107km, n14, σ1§54/18, 2C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**Plate Boundary**	**1.00 329**		⇑*i*P	**Pn**	**10 10 48.6**	**+0.1**
PB09				*i* S	**Sn**	**10 11 04.0**	**-0.5**
CEN1	**Los Morros**	**1.58 242**		⇓*i*P	**Pn**	**10 10 56.8**	**+1.8**
CEN1				*e*S	**Sn**	**10 11 19.0**	**+2.9**
CEN1				AML	AML	10 11 23.9	
	comp=N,777nm,0.4s						
PB01	**Plate Boundary**	**1.77 335**		*e*P	**Pn**	**10 10 57.1**	**-0.4**
PB01				*i* S	**Sn**	**10 11 19.3**	**-1.0**
PB01				AML	AML	10 11 21.9	
	comp=E,3μm,0.3s						
ANCH	**Antofagasta**	**1.89 237**		⇑*i*P	**Pn**	**10 10 58.2**	**-0.5**
ANCH				*i* S	**Sn**	**10 11 20.5**	**-2.3**
ANCH				AML	AML	10 11 26.3	
	comp=E,1μm,0.1s						
PB10

VNDA Vanda 73.19 190 P P 10 58 57.1 +0.5
comp=E,0.6nm,0.9s,baz=41,slow=4.7,SNR=4.6
PDAR Pinedale Array 76.34 332 P P 10 59 15.9 +4.0
comp=E,0.4nm,0.8s,baz=104,slow=6.3,SNR=3.5
TORD Torodi Ar. Bea 80.00 70 P P 10 59 36.3 +0.1
comp=E,3.2nm,0.7s,baz=263,slow=5.2,SNR=29
ASAR Alice Springs 126.13 208 PKP PKPdf 11 06 28.1 -1.3
comp=E,0.5nm,0.6s,baz=121,slow=1.7,SNR=15
WRA Warramunga Arr 129.19 211 PKP PKPdf 11 06 34.1 -1.1
comp=E,0.7nm,0.6s,baz=158,slow=1.8,SNR=11
ZALV Zalesovo Beam 145.74 26 PKPbc PKPbc 11 07 04.7 -0.1
comp=E,3.0nm,0.6s,baz=304,slow=3.3,SNR=7.3
MKAR Makanchi Array 149.33 38 PKPbc PKPbc 11 07 15.1 0.0
comp=E,2.0nm,0.5s,baz=300,slow=2.7,SNR=6.5

*BJI **20** 10:56:35.5, 49.°16N×87.°96E, h10km, mb4.3/1, ML4.2/7, Ms3.9/1*
*IDC **20** 10:56:36.4±0.9, 48.°96N×88.°20E, h0km, mb3.7/8, mb1 4.0/14, mb1mx3.8/30, mbtmp3.9/14, ML4.2/6, MS3.1/1, Ms1 3.1/1, ms1mx2.3/47, Error ellipse: s-maj=16.1km s-min=11.6km az=15.0*
*MOS **20** 10:56:37.1±1.5, 48.°97N×88.°00E, h12km, mb4.2/5, Error ellipse: s-maj=12.3km s-min=9.5km az=112.7*
*ISCJB **20** 10:56:37.4±0.4, 49.°16N±0.°03×87.°98E±0.°05, h10km, mb3.8/9, MS2.8/1, Error ellipse: s-maj=4.8km s-min=4.1km az=11.7*
*NNC **20** 10:56:38.6±3.9, 49.°01N×87.°68E, h0km, mb4.5, mpv4.3, Error ellipse: s-maj=31.7km s-min=19.9km az=82.0*
*ASRS **20** 10:56:40.3±0.8, 49.°08N×87.°92E, h15km, Ms3.4/5*
ISC 20 10:56:39.8±0.6, 49.°00N±0.°04×87.°91E±0.°04, h10km, n49, σ1§94/59, mb3.8/9, 14C-14D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKAR	**Aktash**	**1.33**	**352**	*i* PG	**Pn**	**10 57 03.1**	**-1.5**
AKAR				*i*		10 57 20.3	
AKAR	**Aktash**	**1.33**	**352**	*i* Pg	**Pn**	**10 57 03.1**	**-1.5**
AKAR				*i* Sg	**Sb**	**10 57 20.3**	**-1.8**
ARTR	**Artybash**	**2.83**	**352**	*e*PN	**Pb**	**10 57 29.8**	**-0.6**
ARTR				*e*		10 58 05.9	
ARTR	**Artybash**	**2.83**	**352**	*e*Pg	**Pb**	**10 57 29.8**	**-0.6**
ARTR				*e*Sg	**Sb**	**10 58 05.9**	**+0.9**
TASR	**Tashtagol**	**3.76**	**360**	*i* PN	**Pb**	**10 57 47.0**	**+0.7**
TASR				*e*		10 58 36.1	
TASR	**Tashtagol**	**3.76**	**360**	*i* Pg	**Pb**	**10 57 47.0**	**+0.7**
TASR				*e*Sg	**Sb**	**10 58 36.1**	**+4.2**
HVS	**Khovu-Aksy**	**4.30**	**58**	⇓*i*PN	**Pn**	**10 57 44.4**	**-0.9**
MK31	**Makanchi Array**	**4.38**	**242**	⇑Pn	**Pn**	**10 57 48.7**	**+2.3**
	4.9nm,0.5s,baz=74,slow=18,SNR=712						
MK31				⇑Pg	Pb	10 58 00.5	+3.6
	74nm,0.5s,baz=46,slow=17,SNR=47						
MK31				⇓Sn	**Sn**	**10 58 41.1**	**+3.6**
	57nm,0.5s						
MK31				⇓Lg	Lg	10 58 54.3	
	286nm,0.8s,baz=56,slow=23,SNR=6.5						
MKAR	**Makanchi Array**	**4.38**	**242**	PN	**Pn**	**10 57 48.7**	**+2.3**
MKAR						10 58 00.8	
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
MKAR				pmax	pmax		
	comp=Z,34nm,0.3s						
MKAR	**Makanchi Array**	**4.38**	**242**	Pn	**Pn**	**10 57 48.6**	**+2.3**
	comp=Z,3.3nm,0.3s,baz=73,slow=18,SNR=117						
MKAR				Pg	Pb	10 58 00.8	+3.9
	comp=Z,34nm,0.3s,baz=58,slow=17,SNR=63						
MKAR				Lg	Lg	10 58 58.2	
	comp=Z,38nm,0.3s,baz=83,slow=20,SNR=8.3						
CERR	**Cheremushki**	**4.45**	**29**	*i* PN	Pb	10 58 01.4	+3.5
CERR				*i*		10 58 55.6	
CERR	**Cheremushki**	**4.45**	**29**	*i* Pg	Pb	10 58 01.4	+3.5
CERR				*i* Sg	**Sb**	**10 58 55.6**	**+4.1**
KZLR	**Kyzyl**	**4.98**	**55**	*e*PN	**Pn**	**10 57 54.7**	**0.0**
WMQ	**Urumqi**	**5.19**	**182**	Pn	**Pn**	**10 57 59.1**	**+1.6**
WMQ				smax	smax		
	comp=N,180nm,0.7s						
WMQ				smax	smax		
	comp=E,290nm,0.8s						
ZALV	**Zalesovo Beam**	**5.32**	**340**	⇓*i*PN	**Pn**	**10 57 59.2**	**+0.1**
ZALV				pmax	pmax		
	comp=Z,70nm,0.5s						
ZALV	**Zalesovo Beam**	**5.32**	**340**	Pn	**Pn**	**10 57 59.2**	**+0.1**
	comp=Z,8.4nm,0.3s,baz=157,slow=14,SNR=74						
ZALV				Lg	Lg	10 59 22.0	
	comp=Z,22nm,0.3s,baz=165,slow=24,SNR=7.3						
KURK	**Kurchatov**	**6.25**	**289**	⇑Pn	**Pn**	**10 58 11.8**	**-0.2**
	comp=Z,16nm,0.6s						
KURK				⇑Sn	**Sn**	**10 59 23.5**	**+0.1**
	comp=Z,35nm,0.8s						
KURK				⇓Lg	Lg	10 59 51.8	
	comp=Z,207nm,1.0s						
KURK	**Kurchatov**	**6.25**	**289**	*d i*PN	**Pn**	**10 58 12.2**	**+0.2**
KURBB	**Kurchatov Arra**	**6.29**	**288**	⇑Pn	**Pn**	**10 58 12.9**	**+0.4**
	comp=Z,51nm,0.5s						
KURBB				⇓Sn	**Sn**	**10 59 24.5**	**+0.2**
	comp=Z,172nm,0.6s						
KURBB				⇑Lg	Lg	10 59 56.1	
	comp=Z,538nm,0.6s						
KURBB	**Kurchatov Arra**	**6.29**	**288**	Pn	**Pn**	**10 58 13.0**	**+0.5**
	comp=Z,12nm,0.3s,baz=96,slow=14,SNR=288						
KURBB				Sn	**Sn**	**10 59 25.3**	**+1.0**
	comp=Z,8.6nm,0.3s,baz=94,slow=26,SNR=9.0						
KURBB				Lg	Lg	10 59 55.9	
	comp=Z,20nm,0.3s,baz=69,slow=38,SNR=5.5						
NVS	**Novosibirsk**	**6.52**	**335**	*e*PN	**Pn**	**10 58 15.6**	**-0.1**
NVS				*i*		10 58 37.2	
NVS	**Novosibirsk**	**6.52**	**335**	*e*Pn	**Pn**	**10 58 15.6**	**-0.1**
NVS				*i* Pg	Pb	10 58 37.2	+4.0
NVS				*i* Sn	**Sn**	**10 59 29.0**	**-1.1**
NVS				*i* Sg	Sg	11 00 01.7	-7.3
AAK	**Ala-Archa**	**11.32**	**241**	⇓*e*P	**Pn**	**10 59 24.1**	**+2.5**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
AAK	**Ala-Archa**	**11.32**	**241**	Pn	**Pn**	**10 59 22.5**	**+0.9**
	comp=Z,0.7nm,0.3s,baz=109,slow=8.3,SNR=4.3						
VOSK	**Vostochnaya**	**11.33**	**296**	⇓Pn	**Pn**	**10 59 19.7**	**-1.9**
	comp=Z,3.7nm,0.7s						
VOSK				⇓Sn	**Sn**	**11 01 25.4**	**-2.7**
	comp=Z,9.7nm,0.6s						
VOSK				⇓Lg	Lg	11 02 35.0	
	comp=Z,47nm,0.9s						
BVA0	**Borovoye Array**	**11.74**	**297**	⇓Pn	**Pn**	**10 59 26.2**	**-1.1**
	comp=Z,7.2nm,0.9s						
BVA0				Sn	**Sn**	**11 01 34.3**	**-4.0**
	comp=Z,8.5nm,0.6s,baz=95,slow=21,SNR=6.5						
BVA0				⇑Lg	Lg	11 02 49.7	
	comp=Z,26nm,0.8s,baz=107,slow=27,SNR=3.7						
BVAR	**Borovoye Array**	**11.74**	**297**	P	**Pn**	**10 59 26.9**	**-0.4**
BVAR						11 01 34.0	
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
BVAR				smax	smax		
	comp=N,3.0nm,0.3s						
BVAR	**Borovoye Array**	**11.74**	**297**	Pn	**Pn**	**10 59 26.9**	**-0.4**
	comp=N,1.9nm,0.3s,baz=96,slow=15,SNR=16						
BVAR				Sn	**Sn**	**11 01 34.0**	**-4.3**
	comp=N,2.5nm,0.3s,baz=104,slow=23,SNR=7.5						
BRVK	**Borovoye**	**11.81**	**297**	⇑Pn	**Pn**	**10 59 27.0**	**-1.2**
	comp=N,9.6nm,0.7s						
BRVK				⇑Sn	**Sn**	**11 01 35.4**	**-4.6**
	comp=N,13nm,0.7s						
BRVK				⇑Lg	Lg	11 02 49.7	
	comp=N,88nm,1.9s						
BRVK	**Borovoye**	**11.81**	**297**	⇑*i*P	**Pn**	**10 59 28.2**	**0.0**
BRVK				pmax	pmax		
	comp=Z,7.0nm,1.1s						
SONM	**Songino Array**	**12.34**	**88**	Pn	**Pn**	**10 59 34.7**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=289,slow=14,SNR=5.8						
SONM				Lg	Lg	11 03 00.9	
	comp=Z,0.3nm,0.3s,baz=277,slow=30,SNR=5.4						
SONM				LR	LR	11 04 16.3	
	comp=Z,76nm,18.8s,baz=245,slow=38						
KK31	**Karatay Array**	**13.44**	**250**	⇑Pn	Pn	10 59 47.5	-2.9
	comp=Z,3.7nm,0.8s						
KK31				⇑Sn	**Sn**	**11 02 16.4**	**-3.4**
	comp=Z,3.5nm,0.7s						
KK31				⇓Lg	Lg	11 03 33.4	
	comp=Z,8.6nm,0.7s,baz=33,slow=38,SNR=4.3						
LZH	**Lanzhou**	**17.40**	**132**	*e*P	**Pn**	**11 00 40.5**	**-2.2**
LZH				pP	**P**	**11 00 44.3**	**+0.3**
LZH				sP	**sP**	**11 00 46.5**	**-1.7**
LZH				pmax	pmax		
	comp=Z,13nm,1.0s						
AB31	**Akbulak array**	**18.27**	**281**	⇑P	**Pn**	**11 00 51.3**	**-2.0**
	comp=Z,1.4nm,0.6s						
ARU	**Arti**	**19.16**	**304**	*d i*P	**P**	**11 01 04.3**	**+1.2**
ARU				S	**S**	**11 04 43.6**	**+3.6**
ARU				pmax	pmax		
	comp=Z,14nm,2.5s						
AKTO	**Aktyubinsk**	**19.33**	**286**	P	**P**	**11 01 04.2**	**-0.8**
AKTO	**Aktyubinsk**	**19.33**	**286**	P	**P**	**11 01 04.2**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=80,slow=14,SNR=5.9						
SOKR	**Solikamsk**	**20.82**	**312**	*e*P	Pn	11 01 26.5	+2.9
SOKR						11 02 00.3	
SOKR				pmax	pmax		
	comp=Z,7.0nm,0.5s						
WHN	**Wuhan**	**27.22**	**123**	P	**P**	**11 02 24.8**	**+1.1**
KIV	**Kislovodsk**	**31.19**	**278**	*e*P	**P**	**11 03 01.3**	**+2.3**
KIV				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KIV				MLR	MLR		
	comp=Z,16nm,15.0s						
FINES	**FINESS Array B**	**35.97**	**314**	P	**P**	**11 03 41.6**	**+1.4**
	comp=Z,1.7nm,0.9s,baz=77,slow=7.3,SNR=3.6						
BRTR	**Keskin Array B**	**39.14**	**277**	P	**P**	**11 04 07.5**	**0.0**
	comp=Z,0.9nm,0.4s,baz=70,slow=4.5,SNR=18						
NB2	**NORSAR Subarra**	**43.02**	**316**	P	P	11 04 37.0	-2.1
	comp=Z,1.7nm,0.7s,baz=66,slow=7.9						
NOA	**NORSAR Array B**	**43.02**	**316**	P	**P**	**11 04 37.4**	**-1.7**
	comp=Z,0.9nm,0.8s,baz=65,slow=7.8,SNR=3.1						
ILAR	**Eielson Array**	**58.85**	**24**	P	**P**	**11 06 37.1**	**-0.9**
	comp=Z,0.3nm,0.6s,baz=322,slow=5.6,SNR=2.5						
ESDC	**Sonseca Array**	**62.49**	**300**	P	**P**	**11 07 02.2**	**-1.1**
	comp=Z,0.5nm,0.6s,baz=43,slow=7.3,SNR=5.4						
TORD	**Torodi Ar. Bea**	**77.74**	**276**	P	**P**	**11 08 35.5**	**-1.6**
	comp=Z,0.6nm,0.8s,baz=41,slow=4.0,SNR=5.5						
WRA	**Warramunga Arr**	**80.10**	**136**	P	P	11 08 45.9	-3.9
	comp=Z,0.3nm,0.5s,baz=341,slow=6.2,SNR=5.6						
ASAR	**Alice Springs**	**83.16**	**138**	P	P	11 09 02.9	-3.0
	comp=Z,0.5nm,0.7s,baz=333,slow=5.6,SNR=8.9						

WEL 20 11:08:56.6±0.7, 37.°57S×179.°93E, h33km, ML3.5/13, 2C, Error ellipse: s-maj=5.5km s-min=4.3km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.29**	**270**	PN	Pn	11 09 17.7	-0.6
MXZ				SN	Sn	11 09 32.8	-1.6
PUZ	**Puketiti**	**1.41**	**249**	⇑PN	Pn	11 09 19.2	-0.9
PUZ				SN	Sn	11 09 36.0	-1.6
PUZ				AML	AML	11 09 36.8	
CNGZ	**Carnagh Statio**	**1.63**	**236**	PN	Pn	11 09 22.8	-0.3
MWZ	**Matawai**	**2.04**	**247**	PN	Pn	11 09 27.5	-1.3
MWZ				AML	AML	11 09 52.6	
PRGZ	**Paritu Road**	**2.10**	**229**	PN	Pn	11 09 28.7	-0.9
MHGZ	**Mahia Peninsul**	**2.24**	**225**	PN	Pn	11 09 30.6	-0.8
MHGZ				SN	Sn	11 09 57.6	-0.3
KNZ	**Kokohu**	**2.29**	**230**	PN	Pn	11 09 30.8	-1.2
URZ	**Urewera**	**2.33**	**252**	PN	Pn	11 09 32.7	+0.1
URZ				AML	AML	11 10 00.1	
RAHZ	**Arahi**	**2.61**	**238**	⇑PN	Pn	11 09 36.1	-0.4
TARZ	**Mount Tarawera**	**2.78**	**255**	PN	Pn	11 09 38.9	-0.1
NMHZ	**Naumai**	**2.89**	**237**	PN	Pn	11 09 39.8	-0.6
BKZ	**Black Stump Fm**	**3.13**	**238**	PN	Pn	11 09 42.9	-0.8
MCHZ	**McNeill Hill**	**3.15**	**233**	PN	Pn	11 09 43.2	-0.7
KAHZ	**Kahuranaki**	**3.26**	**226**	PN	Pn	11 09 44.2	-1.3
PXZ	**Pawanui**	**3.43**	**223**	PN	Pn	11 09 46.0	-1.7
KUZ	**Kuaotunu**	**3.46**	**283**	PN	Pn	11 09 47.7	-0.4
BHHZ	**Black Hill Sta**	**3.58**	**237**	PN	Pn	11 09 48.8	-1.2
MKAZ	**Moumakai**	**3.82**	**275**	PN	Pn	11 09 53.0	-0.1
WNVZ	**Wahianoa**	**3.82**	**241**	PN	Pn	11 09 51.8	-1.6
TSZ	**Takapari Road**	**3.97**	**230**	PN	Pn	11 09 52.7	-2.5
DVHZ	**Dannevirke**	**4.00**	**226**	PN	Pn	11 09 53.0	-2.7
BFZ	**Birch Farm**	**4.22**	**222**	PN	Pn	11 09 55.1	-3.5
PRWZ	**Pori Road**	**4.28**	**225**	PN	Pn	11 09 57.7	-1.8
MRZ	**Mangatainoka R**	**4.58**	**226**	PN	Pn	11 10 00.6	-2.9
HOWZ	**Holdsworth Sta**	**4.77**	**225**	PN	Pn	11 10 02.9	-3.3
QRZ	**Quartz Range**	**6.60**	**238**	PN	Pn	11 10 28.2	-3.1
CTZ	**Chatham Island**	**6.69**	**158**	PN	Pn	11 10 34.7	+2.2
THZ	**Tophouse**	**6.84**	**230**	PN	Pn	11 10 30.9	-3.9
LTZ	**Lake Taylor**	**7.83**	**226**	AML	AML	11 12 08.4	

*ISCJB **20** 11:13:57.5±0.4, 35.°12N±0.°02×2.°49W±0.°03, h15km, Error ellipse: s-maj=4.1km s-min=2.8km az=42.1*
*MDD **20** 11:13:57.2±0.9, 34.°87N×2.°33W, h19km±4km, mb4.2/15, Error ellipse: s-maj=8.1km s-min=5.9km az=164.0, PRXIMO*
*CSEM **20** 11:13:58.4±0.2, 35.°08N×2.°47W, h10km, MD3.5, Error ellipse: s-maj=5.4km s-min=3.7km az=128.0*
*LDG **20** 11:13:58.6±0.3, 35.°09N×2.°42W, h30km, Ml3.0/4, Error ellipse: s-maj=6.1km s-min=4.3km az=158.0*
*INMG **20** 11:13:59.1±1.4, 35.°07N×2.°35W, h18km±7km, ML2.6, Error ellipse: s-maj=5.6km s-min=4.6km az=131.0*
*CNRM **20** 11:14:02.3, 34.°85N×2.°63W, h4km, MD3.5*
*CRAAG **20** 11:14:28.3, 35.°54N×0.°19E, Ml3.0*
ISC 20 11:13:57.1±0.8, 35.°02N±0.°03×2.°42W±0.°03, h15km, n148, σ1§61/239, 4C-4D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAI	**Zaio**	**0.28**	**260**	P	**Pb**	**11 14 04.0**	**+0.1**
ZAI				S	**Sg**	**11 14 07.0**	**-0.1**
ZAI	**Zaio**	**0.28**	**260**	*i* P	**Pb**	**11 14 04.0**	**+0.1**
ZAI				S	**Sg**	**11 14 07.0**	**-0.1**
MELI	**Melilla**	**0.51**	**303**	⇓P	**Pn**	**11 14 09.0**	**-0.9**
	567nm,0.2s,SNR=18						
MELI				S	**Sn**	**11 14 18.6**	**+0.3**
	1μm,0.1s,SNR=7.9						
MELI	**Melilla**	**0.51**	**303**	P	**Pn**	**11 14 09.0**	**-0.9**
	567nm,0.2s,SNR=18						
MELI				S	**Sn**	**11 14 18.6**	**+0.3**
	1μm,0.1s,SNR=7.9						
EMLI	**Melilla**	**0.52**	**303**	P	**Pn**	**11 14 09.5**	**-0.5**
	2μm,0.2s,SNR=18						
EMLI				S	**Sn**	**11 14 19.2**	**+0.6**
	2μm,0.1s,SNR=16						
EMEL	**Melilla**	**0.53**	**302**	⇓P	**Pn**	**11 14 09.5**	**-0.6**
	2μm,0.2s,SNR=18						
EMEL				S	**Sn**	**11 14 19.2**	**+0.4**
	2μm,0.1s,SNR=16						
EALB	**Alboran**	**1.05**	**331**	⇓P	**Pb**	**11 14 17.3**	**+0.3**
	13nm,0.1s,SNR=18						
EALB				S	**Sn**	**11 14 31.6**	**-0.1**
	78nm,0.2s,SNR=7.8						
EALB	**Alboran**	**1.05**	**331**	P	**Pb**	**11 14 17.3**	**+0.3**
	13nm,0.1s,SNR=18						
EALB				S	**Sn**	**11 14 31.6**	**-0.1**
	78nm,0.2s,SNR=7.8						
TOU	**Touzarine**	**1.10**	**267**	P	**Pg**	**11 14 20.0**	**+1.6**
TOU				S	**Sb**	**11 14 31.0**	**-1.2**
TOU	**Touzarine**	**1.10**	**267**	*i* P	**Pg**	**11 14 20.0**	**+1.6**
TOU				*i* S	**Sb**	**11 14 31.0**	**-1.2**
USTO	**Oran**	**1.68**	**64**	P	Pg	11 14 33.0	+3.5
TZK	**Tazeka**	**1.73**	**238**	P	**Pb**	**11 14 29.0**	**+0.2**
TZK				S	**Sn**	**11 14 47.0**	**-1.8**
TZK	**Tazeka**	**1.73**	**238**	*i* P	**Pb**	**11 14 29.0**	**+0.2**
TZK				*i* S	**Sn**	**11 14 47.0**	**-1.8**
ODJA	**Bouhanifia**	**1.88**	**80**	P	**Pg**	**11 14 35.0**	**+1.7**
ODJA	**Bouhanifia**	**1.88**	**80**	P	**Pg**	**11 14 35.0**	**+1.7**
EBER	**Berja**	**1.91**	**349**	P	**Pn**	**11 14 29.0**	**-0.4**
	3.0nm,0.2s,SNR=30						
EBER				S	**Sn**	**11 14 50.8**	**-2.5**
	216nm,0.4s						
EBER	**Berja**	**1.91**	**349**	P	**Pn**	**11 14 29.0**	**-0.4**
	3.0nm,0.2s,SNR=30						
EBER				S	**Sn**	**11 14 50.8**	**-2.5**
	216nm,0.4s						
ENIJ	**Nijar**	**1.96**	**5**	⇑P	**Pn**	**11 14 28.9**	**-0.9**
	4.7nm,0.1s,SNR=18						
ENIJ				S	**Sn**	**11 14 51.0**	**-3.1**
	50nm,0.2s,SNR=7.9						
ENIJ	**Nijar**	**1.96**	**5**	P	**Pn**	**11 14 28.9**	**-0.9**
	4.7nm,0.1s,SNR=18						
ENIJ				S	**Sn**	**11 14 51.0**	**-3.1**
	50nm,0.2s,SNR=7.9						
EGUA	**Guajares**	**2.04**	**333**	⇓P	**Pn**	**11 14 30.4**	**-0.6**
	31nm,0.3s,SNR=18						
EGUA				S	**Sn**	**11 14 54.5**	**-1.6**
	72nm,0.2s,SNR=7.9						
EGUA	**Guajares**	**2.04**	**333**	P	**Pn**	**11 14 30.4**	**-0.6**
	31nm,0.3s,SNR=18						
EGUA				S	**Sn**	**11 14 54.5**	**-1.6**
	72nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**2.33**	**339**	P	**Pn**	**11 14 36.1**	**+1.0**
	18nm,0.4s,SNR=14						
EQUE				S	**Sn**	**11 15 04.2**	**+0.6**
	26nm,0.3s						
EQUE	**Quentar**	**2.33**	**339**	P	**Pn**	**11 14 36.1**	**+1.0**
	18nm,0.4s,SNR=14						
EQUE				S	**Sn**	**11 15 04.2**	**+0.6**
	26nm,0.3s						
TGT	**Taghat**	**2.38**	**247**	P	**Pn**	**11 14 38.0**	**+2.4**
TGT				S	**Sn**	**11 15 04.0**	**-0.6**
TGT	**Taghat**	**2.38**	**247**	*e*P	**Pn**	**11 14 38.0**	**+2.4**
TGT				*i* S	**Sn**	**11 15 04.0**	**-0.6**
EMIJ	**Mijas**	**2.46**	**309**	P	**Pn**	**11 14 36.2**	**-0.6**
	3.9nm,0.1s,SNR=18						
EMIJ				S	**Sn**	**11 15 05.6**	**-1.0**
	8.8nm,0.2s						
EMIJ	**Mijas**	**2.46**	**309**	P	**Pn**	**11 14 36.2**	**-0.6**
	3.9nm,0.1s,SNR=18						
EMIJ				S	**Sn**	**11 15 05.6**	**-1.0**
	8.8nm,0.2s						
EHUE	**Huescar**	**2.79**	**357**	P	**Pn**	**11 14 42.9**	**+1.5**
	4.5nm,0.2s,SNR=7.9						
EHUE				S	**Sn**	**11 15 15.3**	**+0.4**
	14nm,0.3s,SNR=7.9						
EHUE	**Huescar**	**2.79**	**357**	P	**Pn**	**11 14 42.9**	**+1.5**
	4.5nm,0.2s,SNR=7.9						
EHUE				S	**Sn**	**11 15 15.3**	**+0.4**
	14nm,0.3s,SNR=7.9						
EQES	**Quesada**	**2.83**	**349**	P	**Pn**	**11 14 43.9**	**+2.0**
	4.3nm,0.1s,SNR=37						
EQES				S	**Sn**	**11 15 17.1**	**+1.3**
	56nm,0.2s,SNR=8.7						
EQES	**Quesada**	**2.83**	**349**	P	**Pn**	**11 14 43.9**	**+2.0**
	4.3nm,0.1s,SNR=37						
EQES				S	**Sn**	**11 15 17.1**	**+1.3**
	56nm,0.2s,SNR=8.7						
EJIF	**Jimena Fronter**	**2.87**	**301**	P	**Pn**	**11 14 42.5**	**+0.2**
	1.5nm,0.2s,SNR=7.9						
EJIF				S	**Sn**	**11 15 17.2**	**+0.7**
	7.4nm,0.4s,SNR=7.9						
EJIF	**Jimena Fronter**	**2.87**	**301**	P	**Pn**	**11 14 42.5**	**+0.2**
	1.5nm,0.2s,SNR=7.9						
EJIF				S	**Sn**	**11 15 17.2**	**+0.7**
	7.4nm,0.4s,SNR=7.9						
ELUQ	**Luque**	**2.94**	**330**	P	**Pn**	**11 14 45.1**	**+1.6**
	7.1nm,0.2s,SNR=7.9						
ELUQ				S	**Sn**	**11 15 21.2**	**+2.6**
	12nm,0.2s,SNR=7.9						
ELUQ	**Luque**	**2.94**	**330**	P	**Pn**	**11 14 45.1**	**+1.6**
	7.1nm,0.2s,SNR=7.9						
ELUQ				S	**Sn**	**11 15 21.2**	**+2.6**
	12nm,0.2s,SNR=7.9						
EMUR	**La Murta**	**2.97**	**18**	⇑P	**Pn**	**11 14 43.0**	**-0.8**
	16nm,0.3s,SNR=18						
EMUR				S	**Sn**	**11 15 17.8**	**-1.4**
	15nm,0.3s						
EMUR	**La Murta**	**2.97**	**18**	P	**Pn**	**11 14 43.0**	**-0.8**
	16nm,0.3s,SNR=18						
EMUR				S	**Sn**	**11 15 17.8**	**-1.4**
	15nm,0.3s						
EANR	**'Ain N'Sour**	**3.02**	**71**	P	**Pn**	**11 14 43.4**	**-1.0**
EANR	**'Ain N'Sour**	**3.02**	**71**	P	**Pn**	**11 14 43.4**	**-1.0**
ETRT	**Tiaret**	**3.06**	**82**	P	Pn	11 14 42.0	-3.2
ETRT	**Tiaret**	**3.06**	**82**	P	Pn	11 14 42.0	-3.2
EBAN	**Banos Encina**	**3.33**	**341**	P	**Pn**	**11 14 50.8**	**+2.1**
	2.1nm,0.2s,SNR=7.9						
EBAN				S	**Sn**	**11 15 30.0**	**+2.0**
	16nm,0.4s,SNR=7.1						
EBAN	**Banos Encina**	**3.33**	**341**	P	**Pn**	**11 14 50.8**	**+2.1**
	2.1nm,0.2s,SNR=7.9						
EBAN				S	**Sn**	**11 15 30.0**	**+2.0**
	16nm,0.4s,SNR=7.1						
ESPR	**Espera**	**3.35**	**304**	S	**Sb**	**11 15 32.4**	**-4.3**
	11nm,0.4s,SNR=7.9						
ESPR	**Espera**	**3.35**	**304**	S	**Sb**	**11 15 32.4**	**-4.3**
	11nm,0.4s,SNR=7.9						
ZFT	**Errachidia**	**3.39**	**209**	P	**Pn**	**11 14 51.0**	**+1.3**
ZFT				S	**Sn**	**11 15 28.0**	**-1.7**
ZFT	**Errachidia**	**3.39**	**209**	*i* P	**Pn**	**11 14 51.0**	**+1.3**
ZFT				S	**Sn**	**11 15 28.0**	**-1.7**
EADA	**Adamuz**	**3.59**	**332**	⇑P	**Pn**	**11 14 53.5**	**+1.2**
	1.3nm,0.1s,SNR=18						
EADA				S	**Sn**	**11 15 33.4**	**-1.1**
	4.1nm,0.3s,SNR=8.9						
EADA	**Adamuz**	**3.59**	**332**	P	**Pn**	**11 14 53.5**	**+1.2**
	1.3nm,0.1s,SNR=18						
EADA				S	**Sn**	**11 15 33.4**	**-1.1**
	4.1nm,0.3s,SNR=8.9						
EVIA	**Vianos**	**3.61**	**359**	P	**Pn**	**11 14 54.7**	**+2.0**
	5.6nm,0.2s,SNR=7.4						
EVIA				S	**Sn**	**11 15 35.8**	**+0.7**
	42nm,0.4s,SNR=8.1						
EVIA	**Vianos**	**3.61**	**359**	P	**Pn**	**11 14 54.7**	**+2.0**
	5.6nm,0.2s,SNR=7.4						
EVIA				S	**Sn**	**11 15 35.8**	**+0.7**
	42nm,0.4s,SNR=8.1						
ETOB	**Tobar

5.0nm,0.6s
PBDV Barranco-do-Ve 4.99 298 *e*Pn **Pn 11 15 12.5 +1.0**
PBDV *e*Sn **Sn 11 16 08.0 -0.9**
PBDV A A 11 16 21.8
5.6nm,0.6s
PBDV Barranco-do-Ve 4.99 298 P **Pn 11 15 12.5 +1.0**
PBDV S **Sn 11 16 08.0 -0.9**
5.6nm,0.6s
PBDV Barranco-do-Ve 4.99 298 P **Pn 11 15 12.5 +1.0**
PBDV S **Sn 11 16 08.0 -0.9**
5.6nm,0.6s
PCVE Castro Verde 5.24 302 *e*Pn **Pn 11 15 15.4 +0.5**
PCVE *e*Sn **Sn 11 16 14.5 -0.5**
PCVE A A 11 16 22.1
4.7nm,0.7s
PCVE Castro Verde 5.24 302 P **Pn 11 15 15.4 +0.5**
PCVE S **Sn 11 16 14.5 -0.5**
4.7nm,0.7s
PCVE Castro Verde 5.24 302 P **Pn 11 15 15.4 +0.5**
PCVE S **Sn 11 16 14.5 -0.5**
4.7nm,0.7s
EBAD Badajoz 5.24 317 P **Pn 11 15 16.1 +1.1**
2.4nm,0.1s,SNR=5.6
EBAD S **Sn 11 16 13.7 -1.4**
7.2nm,0.2s,SNR=14
EBAD Badajoz 5.24 317 P **Pn 11 15 16.1 +1.1**
2.4nm,0.1s,SNR=5.6
EBAD S **Sn 11 16 13.7 -1.4**
7.2nm,0.2s,SNR=14
PBEJ Beja 5.32 306 *e*Pn **Pn 11 15 17.0 +1.0**
PBEJ Beja 5.32 306 P **Pn 11 15 17.0 +1.0**
PBEJ Beja 5.32 306 P **Pn 11 15 17.0 +1.0**
MORF Marmelete 5.54 296 *e*Pn **Pn 11 15 20.8 +1.7**
MORF Marmelete 5.54 296 P **Pn 11 15 20.8 +1.7**
MORF Marmelete 5.54 296 P **Pn 11 15 20.8 +1.7**
EMOS Mosqueruela 5.55 16 P **Pn 11 15 21.2 +1.8**
0.1nm,0.1s,SNR=7.4
EMOS Mosqueruela 5.55 16 P **Pn 11 15 21.2 +1.8**
0.1nm,0.1s,SNR=7.4
PESTR Estremoz 5.65 314 *e*Pn **Pn 11 15 21.9 +1.3**
PESTR *e*Sn **Sn 11 16 23.5 -1.7**
PESTR A A 11 16 41.6
4.6nm,0.5s
PESTR Estremoz 5.65 314 P **Pn 11 15 21.9 +1.3**
PESTR S **Sn 11 16 23.5 -1.7**
4.6nm,0.5s
PESTR Estremoz 5.65 314 P **Pn 11 15 21.9 +1.3**
PESTR S **Sn 11 16 23.5 -1.7**
4.6nm,0.5s
EVO Evora 5.70 310 *e*Pn **Pn 11 15 23.0 +1.8**
EVO *e*Sn **Sn 11 16 20.5 -5.9**
6.0nm,0.4s
EVO Evora 5.70 310 *e*Pn **Pn 11 15 22.4 +1.2**
EVO *e*Sn **Sn 11 16 25.8 -0.6**
EVO A A 11 16 28.7
5.1nm,0.4s
EVO Evora 5.70 310 P **Pn 11 15 22.4 +1.2**
EVO S **Sn 11 16 25.8 -0.6**
5.1nm,0.4s
EVO Evora 5.70 310 P **Pn 11 15 22.4 +1.2**
EVO S **Sn 11 16 25.8 -0.6**
5.1nm,0.4s
EVOP Sao Brissos 5.77 309 *e*Pn **Pn 11 15 23.0 +0.8**
GUD Guadarrama 5.78 347 P **Pn 11 15 23.3 +0.8**
1.0nm,0.2s,SNR=7.9
GUD S **Sn 11 16 27.5 -1.1**
2.7nm,0.4s,SNR=5.6
GUD Guadarrama 5.78 347 P **Pn 11 15 23.3 +0.8**
1.0nm,0.2s,SNR=7.9
GUD S **Sn 11 16 27.5 -1.1**
2.7nm,0.4s,SNR=5.6
PNCL Nicolau / Gran 5.81 304 *e*Pn **Pn 11 15 23.4 +0.7**
PNCL *e*Sn **Sn 11 16 27.7 -1.4**
PNCL A A 11 16 33.1
3.7nm,0.4s
PNCL Nicolau / Gran 5.81 304 *e*Pn **Pn 11 15 23.4 +0.7**
PNCL *e*Sn **Sn 11 16 27.7 -1.4**
3.7nm,0.4s
EPLA Plasencia 5.82 331 P **Pn 11 15 24.2 +1.3**
1.5nm,0.2s,SNR=12
EPLA S **Sn 11 16 25.9 -3.5**
0.9nm,0.1s,SNR=5.0
EPLA Plasencia 5.82 331 P **Pn 11 15 24.2 +1.3**
1.5nm,0.2s,SNR=12
PMRV Marv??o 5.93 319 *e*Pn **Pn 11 15 25.4 +1.0**
PMRV Marv??o 5.93 319 P **Pn 11 15 25.4 +1.0**
PMRV Marv??o 5.93 319 P **Pn 11 15 25.4 +1.0**
PMTG Montargil 6.16 313 *e*Pn **Pn 11 15 28.4 +0.9**
PMTG *e*Sn **Sn 11 16 36.8 -0.9**
PMTG A A 11 16 37.9
3.2nm,0.6s
PMTG Montargil 6.16 313 *e*Pn **Pn 11 15 28.4 +0.9**
PMTG *e*Sn **Sn 11 16 36.8 -0.9**
3.2nm,0.6s
PCBR Castelo Branco 6.28 322 *e*Pn **Pn 11 15 30.0 +0.9**
PCBR *e*Sn **Sn 11 16 37.4 -3.2**
PCBR A A 11 16 41.2
3.7nm,0.5s
PCBR Castelo Branco 6.28 322 P **Pn 11 15 30.0 +0.9**
PCBR S **Sn 11 16 37.4 -3.2**
1.9nm,0.5s
PCBR Castelo Branco 6.28 322 P **Pn 11 15 30.0 +0.9**
ETOS Mallorca 6.31 40 P **Pn 11 15 29.8 +0.2**
0.1nm,0.1s,SNR=6.2
ERTA Horta de San J 6.31 19 P **Pn 11 15 30.2 +0.5**
0.2nm,0.1s,SNR=6.4
ERTA Horta de San J 6.31 19 P **Pn 11 15 30.2 +0.5**
0.2nm,0.1s,SNR=6.4
PTOM Tomar 6.62 316 *e*Pn **Pn 11 15 35.2 +1.3**
PTOM A A 11 17 23.5
16nm,0.1s
PTOM Tomar 6.62 316 P **Pn 11 15 35.2 +1.3**
PTOM Tomar 6.62 316 P **Pn 11 15 35.2 +1.3**
MTE Manteigas 6.74 324 *e*Pn **Pn 11 15 36.8 +1.3**
MTE *e*Sn **Sn 11 16 49.1 -2.9**
MTE A A 11 16 53.5
3.0nm,0.1s
MTE Manteigas 6.74 324 P **Pn 11 15 36.8 +1.3**
MTE S **Sn 11 16 49.1 -2.9**
1.5nm,0.1s
MTE Manteigas 6.74 324 P **Pn 11 15 36.8 +1.3**
MTE S **Sn 11 16 49.1 -2.9**
1.5nm,0.1s
PMAFR Mafra 6.75 308 *e*Pn **Pn 11 15 37.7 +1.9**
PMAFR Mafra 6.75 308 *e*Pn **Pn 11 15 37.7 +1.9**
PCAS Casmilo, Conde 6.97 318 *e*Pn **Pn 11 15 39.9 +1.2**
PCAS *e*Sn **Sn 11 16 54.6 -3.1**
PCAS A A 11 16 56.8
1.1nm,0.1s
PCAS Casmilo, Conde 6.97 318 *e*Pn **Pn 11 15 39.9 +1.2**
PCAS *e*Sn **Sn 11 16 54.6 -3.1**
1.1nm,0.1s
MVO Moncorvo 7.13 331 *e*Pn **Pn 11 15 41.9 +0.9**
MVO *e*Sn **Sn 11 16 58.4 -3.4**
MVO A A 11 17 01.9
3.0nm,0.4s
MVO Moncorvo 7.13 331 P **Pn 11 15 42.1 +1.1**
1.9nm,0.2s,SNR=9.4
MVO S **Sn 11 16 57.5 -4.3**
6.8nm,0.5s,SNR=7.9
MVO Moncorvo 7.13 331 P **Pn 11 15 42.1 +1.1**
1.9nm,0.2s,SNR=9.4
PVIS Viseu 7.15 324 *e*Pn **Pn 11 15 42.4 +1.2**
PVIS *e*Sn **Sn 11 16 58.6 -3.6**
PVIS A A 11 17 01.7
2.3nm,0.2s
PVIS Viseu 7.15 324 P **Pn 11 15 42.4 +1.2**
PVIS S **Sn 11 16 58.6 -3.6**
1.2nm,0.2s
PVIS Viseu 7.15 324 P **Pn 11 15 42.4 +1.2**
PBRG Braganca 7.58 335 *e*Pn **Pn 11 15 48.7 +1.6**
PBRG Braganca 7.58 335 P **Pn 11 15 48.7 +1.6**
PBRG Braganca 7.58 335 P **Pn 11 15 48.7 +1.6**
POLO Lamas de Olo 7.63 328 *e*Pn **Pn 11 15 49.1 +1.3**
POLO Lamas de Olo 7.63 328 *e*Pn **Pn 11 15 49.1 +1.3**
ECAL Calabor 7.70 335 P **Pn 11 15 50.3 +1.6**
2.3nm,0.3s,SNR=5.7
ECAL Calabor 7.70 335 P **Pn 11 15 50.3 +1.6**
2.3nm,0.3s,SNR=5.7
ETSF Etsaut 8.00 10 *e*Pn Pn 11 15 48.9 -4.0
ETSF Etsaut 8.00 10 *e*P **Pn 11 15 54.8 +1.9**
ETSF *e*Sn Sn 11 17 11.9 -11
1.2nm,0.5s
ETSF Etsaut 8.00 10 *e*P **Pn 11 15 54.8 +1.9**
SJPF Ste Jean 8.14 6 *e*P **Pn 11 15 57.2 +2.5**
SJPF *e*Sn Sn 11 17 15.8 -11
3.2nm,0.7s
SJPF Ste Jean 8.14 6 *e*P **Pn 11 15 57.2 +2.5**
EPF Esparros 8.28 14 *e*P **Pn 11 15 58.9 +2.2**
EPF *e*Sn Sn 11 17 19.2 -11
1.3nm,0.5s
EPF Esparros 8.28 14 *e*P **Pn 11 15 58.9 +2.2**
PGAV Gavieira, Arco 8.31 328 *e*Pn **Pn 11 15 58.6 +1.4**
PGAV Gavieira, Arco 8.31 328 *e*Pn **Pn 11 15 58.6 +1.4**
CAF Calviac 10.47 18 *e*P **Pn 11 16 28.7 +2.0**
CAF Calviac 10.47 18 *e*P **Pn 11 16 28.7 +2.0**

IDC 20 11:47:34.6±2.8, 18°01'S×177°62'W, h0km, mb3.6/3, mb1 4.0/3, mb1mx3.6/17, mbtmp3.6/3, Error ellipse: s-maj=316.9km s-min=33.7km az=159.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.36**	**260**	P	P	11 55 54.7	-0.4
	0.3nm,0.5s,baz=97,slow=7.1,SNR=11						
ASAR	**Alice Springs**	**45.49**	**254**	P	P	11 55 56.2	+0.1
	1.4nm,0.5s,baz=87,slow=8.9,SNR=31						
TXAR	**Lajitas Array**	**85.41**	**57**	P	P	12 00 14.5	0.0
	0.2nm,0.7s,baz=234,slow=4.2,SNR=4.0						

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*IDC **20** 11:48:41.7±1.6, 10°88S×118°34E, h0km, mb3.9/2, mb1 3.7/5, mb1mx3.5/20, mbtmp3.6/5, ML3.3/3, Error ellipse: s-maj=55.7km s-min=24.6km az=57.0*
*ISCJB **20** 11:48:42.8±0.7, 11°17S±0°06×118°12E±0°08, h33km, mb4.0/2, Error ellipse: s-maj=11.7km s-min=8.0km az=167.2*
*AUST **20** 11:48:44.3±0.0, 11°03S×118°33E, h77km, Error ellipse: s-maj=1.8km s-min=1.1km az=19.0*
ISC 20 11:48:45.9±0.8, 11°17S±0°08×118°07E±0°09, h35km, n13, σ1§83/13, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**6.33**	**15**	Sn	**Sn**	**11 51 27.6**	**-0.4**
	2.5nm,0.3s,baz=287,slow=22,SNR=8.3						
UGM	**Wanagama**	**8.11**	**293**	P	**Pn**	**11 50 42.3**	**+1.0**
	baz=8.3,SNR=3.3						
UGM				S	**Sn**	**11 52 10.2**	**-1.6**
	baz=8.3,SNR=4.4						
FITZ	**Fitzroy Crossi**	**10.06**	**134**	Pn	**Pn**	**11 51 06.5**	**-1.5**
	0.4nm,0.3s,baz=334,slow=3.5,SNR=31						
FITZ				Sn	Sn	11 52 50.2	-9.3
	0.4nm,0.3s,baz=193,slow=22,SNR=6.5						
FITZ	**Fitzroy Crossi**	**10.06**	**134**	P	**Pn**	**11 51 06.6**	**-1.3**
	baz=10.0,SNR=11						
KNRA	**Kununurra**	**11.33**	**114**	P	**Pn**	**11 51 25.1**	**-0.2**
	baz=11,SNR=3.2						
KDU	**Kakadu**	**14.18**	**98**	P	Pn	11 51 53.7	-11
	baz=14,SNR=3.4						
MEEK	**Meekatharra**	**15.40**	**178**	P	**Pn**	**11 52 18.8**	**-1.8**
	baz=16,SNR=6.4						
MORW	**Morawa**	**17.91**	**186**	P	**Pn**	**11 52 50.0**	**-2.3**
	baz=18,SNR=4.9						
WRA	**Warramunga Arr**	**17.93**	**121**	P	**Pn**	**11 52 50.6**	**-2.0**
	0.1nm,0.3s,baz=295,slow=14,SNR=8.1						
BLDU	**Ballidu**	**19.39**	**184**	P	**Pn**	**11 53 09.6**	**-0.6**
	baz=20,SNR=8.3						
ASAR	**Alice Springs**	**19.54**	**132**	P	**Pn**	**11 53 12.9**	**+0.8**
	0.1nm,0.3s,baz=309,slow=12,SNR=15						
NWAO	**Narrogin (SRO)**	**21.67**	**182**	P	**P**	**11 53 37.1**	**+3.6**
	10.0nm,1.1s,baz=3.6,slow=13,SNR=7.3						
MKAR	**Makanchi Array**	**65.97**	**334**	P	**P**	**11 59 28.8**	**+0.2**
	0.3nm,0.3s,baz=142,slow=8.2,SNR=4.9						

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*ISCJB **20** 11:57:38.2±0.2, 63°67N±0°02×149°92W±0°04, h143km±2km, mb4.0/23, Error ellipse: s-maj=3.2km s-min=2.8km az=17.0*
*NEIC **20** 11:57:39.5, 63°65N×149°90W, h144km, MG4.1(AEIC), After AEIC.*
*IDC **20** 11:57:40.5±1.5, 63°88N×150°00W, h138km±11km, mb3.7/19, mb1 3.8/22, mb1mx3.8/30, mbtmp3.7/22, Error ellipse: s-maj=18.7km s-min=11.1km az=47.0*
ISC 20 11:57:39.5±0.5, 63°66N±0°03×149°96W±0°03, h139km±4km, n147, σ1§21/179, mb4.2/23, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTH	**Kantishna Hill**	**0.44**	**257**	P	**Pn**	**11 58 00.0**	**+0.6**
KTH				S	**Sn**	**11 58 14.7**	**+0.3**
MCK	**McKinley**	**0.47**	**80**	P	**Pn**	**11 57 59.8**	**+0.4**
MCK				S	**Sn**	**11 58 14.4**	**-0.2**
RND	**Reindeer**	**0.56**	**116**	P	**Pn**	**11 58 00.1**	**0.0**
RND				S	**Sn**	**11 58 15.3**	**-0.3**
BWN	**Browne**	**0.56**	**23**	P	**Pn**	**11 58 00.7**	**+0.8**
BWN				S	**Sn**	**11 58 16.0**	**+0.5**
BPAW	**Bear Paw Mtn.**	**0.64**	**315**	P	**Pn**	**11 58 00.7**	**+0.3**
BPAW				S	**Sn**	**11 58 15.7**	**-0.7**
HUR	**Hurricane**	**0.70**	**168**	P	**Pn**	**11 58 01.0**	**+0.2**
CAST	**Castle Rocks**	**0.98**	**257**	P	**Pn**	**11 58 03.5**	**+0.5**
CAST				S	**Sn**	**11 58 20.8**	**-0.1**
NEA	**Nenana**	**1.00**	**22**	P	**Pn**	**11 58 03.2**	**0.0**
CHUM	**Lake Minchumin**	**1.07**	**283**	P	**Pn**	**11 58 04.4**	**+0.6**
CHUM				S	**Sn**	**11 58 22.4**	**+0.1**
WRH	**Wood River Hil**	**1.16**	**44**	P	**Pn**	**11 58 04.7**	**0.0**
WRH				S	**Sn**	**11 58 22.9**	**-1.0**
PPLA	**Purkeypile**	**1.26**	**234**	P	**Pn**	**11 58 06.6**	**+0.7**
PPLA				S	**Sn**	**11 58 26.5**	**+0.6**
CUT	**Chulitna**	**1.26**	**186**	P	**Pn**	**11 58 06.0**	**+0.2**
DHY	**Denali Highway**	**1.30**	**115**	P	**Pn**	**11 58 06.5**	**+0.1**
DHY				S	**Sn**	**11 58 26.4**	**-0.3**
CCB	**Clear Creek Bu**	**1.37**	**43**	P	**Pn**	**11 58 06.8**	**0.0**
CCB				S	**Sn**	**11 58 26.7**	**-1.0**
MLY	**Manley**	**1.42**	**347**	P	**Pn**	**11 58 07.5**	**+0.1**
MLY				S	**Sn**	**11 58 27.9**	**-0.8**
HDA	**Harding Lake**	**1.52**	**59**	P	**Pn**	**11 58 08.3**	**-0.2**
HDA				S	**Sn**	**11 58 28.9**	**-1.7**
COLA	**College**	**1.53**	**36**	P	**Pn**	**11 58 08.4**	**-0.1**
COLA				S	**Sn**	**11 58 29.8**	**-0.9**
GLM	**Gilmore Dome**	**1.75**	**39**	P	**Pn**	**11 58 11.0**	**0.0**
IL1	**Eielson Array**	**1.75**	**49**	P	**Pn**	**11 58 10.7**	**-0.3**
ILAR	**Eielson Array**	**1.75**	**49**	P	**Pn**	**11 58 10.6**	**-0.4**
ILAR				S	**Sn**	**11 58 33.5**	**-1.6**
ILAR	**Eielson Array**	**1.75**	**49**	P	**Pn**	**11 58 10.6**	**-0.4**
	40nm,0.3s,baz=229,slow=11,SNR=2.709						
ILAR				S	**Sn**	**11 58 33.5**	**-1.6**
	57nm,0.3s,baz=238,slow=19,SNR=35						
SKT	**Skwentna**	**1.83**	**204**	P	**Pn**	**11 58 11.8**	**-0.1**
SKT				S	**Sn**	**11 58 36.6**	**-0.1**
DDM	**Donnelly Dome**	**1.83**	**84**	P	**Pn**	**11 58 12.1**	**+0.1**
DDM				S	**Sn**	**11 58 35.9**	**-0.9**
PMR	**Palmer**	**2.11**	**169**	P	**Pn**	**11 58 14.7**	**-0.5**
PMR				S	**Sn**	**11 58 41.6**	**-0.9**
PAX	**Paxson**	**2.14**	**107**	P	**Pn**	**11 58 15.4**	**-0.4**
SCM	**Sheep Creek Mo**	**2.19**	**145**	P	**Pn**	**11 58 15.7**	**-0.7**
SCM				S	**Sn**	**11 58 44.2**	**-0.5**
SUA	**Susitna One**	**2.23**	**190**	P	**Pn**	**11 58 16.9**	**0.0**
SUA				S	**Sn**	**11 58 44.8**	**-0.7**
RIDG	**Independ'e Rid**	**2.28**	**86**	P	**Pn**	**11 58 17.4**	**0.0**
STLK	**Strandline Lak**	**2.33**	**203**	P	**Pn**	**11 58 18.0**	**-0.1**
HARP	**HAARP**	**2.52**	**118**	P	**Pn**	**11 58 20.1**	**-0.2**
SPBG	**Spurr Blockage**	**2.65**	**206**	P	**Pn**	**11 58 22.8**	**+0.7**
BGL	**Barrier Glacie**	**2.65**	**206**	P	**Pn**	**11 58 22.8**	**+0.7**
SPU	**Mount Spurr**	**2.67**	**202**	P	**Pn**	**11 58 22.4**	**+0.2**
SCRK	**Sand Creek**	**2.67**	**80**	P	**Pn**	**11 58 21.8**	**-0.5**
SCRK				S	**Sn**	**11 58 52.8**	**-2.5**
CKL	**Chakachamna La**	**2.70**	**205**	P	**Pn**	**11 58 22.7**	**-0.1**
PTE	**Portage**	**2.84**	**171**	P	**Pn**	**11 58 23.7**	**-0.5**
TT01	**Tatalina**	**2.84**	**257**	P	**Pn**	**11 58 24.4**	**+0.1**
IM3	**Indian Mountai**	**2.84**	**327**	P	**Pn**	**11 58 24.6**	**+0.2**
IM04	**Indian Mountai**	**2.84**	**327**	*e*P	**Pn**	**11 58 24.5**	**+0.2**
IM04				*e*Sn	**Sn**	**11 58 56.9**	**-2.1**
KLU	**Klutina**	**2.87**	**137**	P	**Pn**	**11 58 23.9**	**-0.8**
IMA2	**Indian Mountai**	**2.90**	**328**	P	**Pn**	**11 58 25.2**	**+0.1**
MENT	**Mentasta**	**2.91**	**102**	*e*Pn	**Pn**	**11 58 24.9**	**-0.4**
MENT				*e*Sn	**Sn**	**11 58 59.5**	**-1.1**
VLZ	**Valdez**	**3.05**	**145**	P	**Pn**	**11 58 25.8**	**-1.2**
GLI	**Glacier Island**	**3.09**	**153**	P	**Pn**	**11 58 26.6**	**-1.0**
SLKM	**Skilak Lake**	**3.16**	**182**	P	**Pn**	**11 58 28.4**	**-0.1**
WASW	**Wrangell South**	**3.17**	**120**	P	**Pn**	**11 58 28.4**	**-0.5**
DIV	**Divide**	**3.20**	**141**	P	**Pn**	**11 58 27.6**	**-1.4**
GCSA	**Galena City Sc**	**3.22**	**293**	P	**Pn**	**11 58 29.6**	**+0.5**
RDT	**Redoubt**	**3.30**	**201**	P	**Pn**	**11 58 30.6**	**+0.2**
DFR	**Drift River**	**3.33**	**204**	P	**Pn**	**11 58 30.6**	**-0.1**
NCT	**North Crescent**	**3.40**	**206**	P	**Pn**	**11 58 31.8**	**+0.1**
RSO	**Redoubt South**	**3.46**	**204**	*e*Pn	**Pn**	**11 58 32.4**	**-0.2**
FYU	**Fort Yukon**	**3.54**	**32**	P	**Pn**	**11 58 33.0**	**-0.3**
SEW	**Seward**	**3.57**	**176**	P	**Pn**	**11 58 33.0**	**-0.8**
COLD	**Coldfoot**	**3.59**	**359**	P	**Pn**	**11 58 34.0**	**+0.1**
COLD				S	**Sn**	**11 59 15.1**	**-1.0**
SVW2	**Sparrevohn**	**3.67**	**228**	P	**Pn**	**11 58 34.7**	**-0.4**
BMRM	**Bremner River**	**3.68**	**135**	P	**Pn**	**11 58 34.0**	**-1.2**
EYAK	**Cordova Ski Ar**	**3.69**	**146**	P	**Pn**	**11 58 34.7**	**-0.7**
BCA3	**Beaver Creek A**	**3.73**	**95**	P	**Pn**	**11 58 35.2**	**-0.8**
ILIM	**Iliamna**	**3.86**	**203**	P	**Pn**	**11 58 37.2**	**-0.4**
VRDI	**Verde Repeater**	**3.88**	**126**	P	**Pn**	**11 58 37.5**	**-0.5**
BRLK	**Bradley Lake**	**3.93**	**187**	P	**Pn**	**11 58 38.3**	**-0.3**
MCARA	**McCarthy VSAT**	**3.94**	**122**	P	**Pn**	**11 58 38.9**	**+0.2**
GOAT	**Goat Mountain**	**3.94**	**139**	P	**Pn**	**11 58 37.8**	**-1.0**
EGAK	**Eagle**	**4.01**	**70**	P	**Pn**	**11 58 38.5**	**-0.9**
HOM	**Homer**	**4.09**	**192**	P	**Pn**	**11 58 40.8**	**+0.2**
RAGM	**Ragged Mountai**	**4.12**	**140**	P	**Pn**	**11 58 40.4**	**-0.6**
CNPM	**China Poot**	**4.19**	**189**	P	**Pn**	**11 58 41.6**	**-0.3**
PTPK	**Patty Peak**	**4.28**	**122**	P	**Pn**	**11 58 43.1**	**-0.2**
OPT	**Oil Point**	**4.31**	**203**	P	**Pn**	**11 58 43.7**	**+0.2**
BM3	**Burnt Mountain**	**4.39**	**28**	P	**Pn**	**11 58 44.2**	**-0.3**
BALM	**Baldy**	**4.42**	**123**	P	**Pn**	**11 58 44.1**	**-0.9**
NICHA	**Nichawak Mount**	**4.45**	**138**	P	**Pn**	**11 58 44.5**	**-0.8**
KIAG	**Kiagna River**	**4.49**	**124**	P	**Pn**	**11 58 44.8**	**-1.2**
KHIT	**Khitrov Hills**	**4.51**	**133**	P	**Pn**	**11 58 45.4**	**-0.9**
GRIN	**Grindle Hills**	**4.61**	**134**	P	**Pn**	**11 58 46.5**	**-1.0**
BARN	**Barnard Glacie**	**4.66**	**120**	P	**Pn**	**11 58 48.1**	**-0.2**
DAWY	**Dawson**	**4.70**	**80**	P	**Pn**	**11 58 47.9**	**-0.7**
BARK	**Barkley Ridge**	**4.80**	**129**	P	**Pn**	**11 58 49.4**	**-0.7**
GRNC	**Granite Creek**	**4.83**	**124**	P	**Pn**	**11 58 49.5**	**-1.2**
BAGL	**Bagley Icefiel**	**4.88**	**127**	P	**Pn**	**11 58 49.6**	**-1.4**
MCNL	**McNeil River**	**4.95**	**207**	P	**Pn**	**11 58 51.5**	**-0.5**
KAPH	**Katmai Pasha**	**5.50**	**205**	P	**Pn**	**11 58 58.9**	**-0.6**
KAKN	**Katmai Knife C**	**5.92**	**207**	P	**Pn**	**11 59 04.2**	**-0.8**
KELA	**Mount Kelaz**	**5.94**	**211**	P	**Pn**	**11 59 04.6**	**-0.6**
KDAK	**Kodiak Island**	**6.03**	**193**	P	**Pn**	**11 59 05.3**	**-1.0**
KDAK				S	**Sn**	**12 00 08.3**	**-5.9**
KDAK	**Kodiak Island**	**6.03**	**193**	P	**Pn**	**11 59 05.3**	**-1.0**
	10nm,0.3s,baz=27,slow=9.5,SNR=69						
KDAK				S	**Sn**	**12 00 08.3**	**-5.9**
	28nm,0.3s,baz=286,slow=22,SNR=17						
KJL	**Kejulik**	**6.25**	**209**	P	**Pn**	**11 59 09.4**	**0.0**
HYT	**Haines Junctio**	**6.47**	**110**	P	**Pn**	**11 59 12.1**	**-0.3**
OHAK	**Old Harbor**	**6.66**	**196**	P	**Pn**	**11 59 12.2**	**-2.7**
PLK1	**Peulik 1**	**6.71**	**212**	P	**Pn**	**11 59 17.4**	**+1.9**
WHY	**Whitehorse**	**7.67**	**106**	P	**Pn**	**11 59 28.6**	**+0.1**
SKAG	**Skagway**	**8.15**	**114**	*e*Pn	**Pn**	**11 59 34.7**	**0.0**
SIT	**Sitka**	**9.80**	**126**	*e*Pn	**Pn**	**11 59 56.1**	**-0.6**
DLBC	**Dease Lake**	**10.96**	**109**	*e*Pn	**Pn**	**12 00 13.1**	**+0.8**
DLBC	**Dease Lake**	**10.96**	**109**	P	**Pn**	**12 00 12.9**	**+0.6**
	0.7nm,0.3s,baz=302,slow=13,SNR=13						
YKA	**Yellowknife Ar**	**15.93**	**78**	P	**P**	**12 01 16.4**	**0.0**
YKA	**Yellowknife Ar**	**15.93**	**78**	P	**P**	**12 01 16.4**	**0.0**
	0.7nm,0.3s,baz=292,slow=10,SNR=9.4						
BBB	**Bella Bella**	**16.22**	**125**	P	**P**	**12 01 22.8**	**+3.1**
BBB	**Bella Bella**	**16.22**	**125**	P	**P**	**12 01 22.8**	**+3.1**
	0.3nm,0.3s,baz=302,slow=7.6,SNR=3.8						
RES	**Resolute Bay**	**21.46**	**37**	P	**P**	**12 02 16.8**	**+0.5**
RES	**Resolute Bay**	**21.46**	**37**	P	**P**	**12 02 16.8**	**+0.5**
	7.2nm,0.5s,baz=261,slow=11,SNR=7.3						
PDAR	**Pinedale Array**	**31.17**	**113**	P	**P**	**12 03 47.4**	**+2.2**
PDAR	**Pinedale Array**	**31.17**	**113**	P	**P**	**12 03 47.4**	**+2.2**
	1.2nm,0.8s,baz=331,slow=2.7,SNR=10						
NVAR	**Mina Array Bea**	**31.55**	**128**	P	**P**	**12 03 50.8**	**+2.2**
NVAR	**Mina Array Bea**	**31.55**	**128**	P	**P**	**12 03 50.8**	**+2.2**
	1.8nm,0.7s,baz=320,slow=7.5,SNR=19						
SUMG	**Summit**	**36.48**	**28**	*i* P	**P**	**12 04 31.4**	**+0.5**
	4.3nm,0.7s						
TXAR	**Lajitas Array**	**45.14**	**117**	P	**P**	**12 05 44.0**	**+2.0**
TXAR	**Lajitas Array**	**45.14**	**117**	P	**P**	**12 05 44.0**	**+2.0**
	0.7nm,0.6s,baz=331,slow=6.8,SNR=12						
ARCES	**ARCESS Array B**	**47.05**	**2**	P	**P**	**12 05 55.9**	**-0.4**
ARCES	**ARCESS Array B**	**47.05**	**2**	P	**P**	**12 05 55.9**	**-0.4**
	1.3nm,0.4s,baz=354,slow=7.4,SNR=22						
MDJ	**Mudanjiang**	**47.21**	**286**	P	**P**	**12 05 55.3**	**-2.5**
MDJ				pP	**pP**	**12 06 26.5**	**-2.8**
MDJ				sP	**sP**	**12 06 42.6**	**-2.2**
MDJ				PP	**PP**	**12 07 46.3**	**-3.3**
MDJ				ScP	**ScP**	**12 11 05.5**	**-1.8**
MDJ				S	**S**	**12 12 38.3**	**-1.4**
MDJ				pmax	pmax		
	comp=Z,6.0nm,1.9s						
MDJ				pmax	pmax		
	comp=Z,150nm,5.6s						
MDJ				LR	LR		
	comp=N,23nm,24.8s						
MDJ				LR	LR		
	comp=E,28nm,21.1s						
MDJ				LR	LR		
	comp=Z,34nm,22.3s						
JOF	**Joensuu**	**53.73**	**359**	*e*p	**P**	**12 06 45.9**	**-0.6**
	comp=Z,5.5nm,0.8s						
KSRS	**Korea Array**	**53.80**	**282**	P	**P**	**12 06 48.2**	**+1.0**
	comp=Z,2.5nm,0.6s,baz=27,slow=7.0,SNR=13						
SONM	**Songino Array**	**53.81**	**306**	P	**P**	**12 06 48.3**	**+0.8**
SONM	**Songino Array**	**53.81**	**306**	P	**P**	**12 06 48.3**	**+0.8**
	comp=Z,2.4nm,0.6s,baz=19,slow=5.7,SNR=13						
KSAR	**Wonju Array Be**	**53.82**	**282**	P	**P**	**12 06 48.2**	**+0.8**
KAF	**Kangasniemi**	**54.51**	**2**	*e*p	**P**	**12 06 52.0**	**-0.1**
	comp=Z,2.4nm,0.5s						
NB2	**NORSAR Subarra**	**54.81**	**11**	P	**P**	**12 06 53.6**	**-0.8**
	comp=Z,1.7nm,0.6s,baz=350,slow=7.4						
NOA	**NORSAR Array B**	**54.81**	**11**	P	**P**	**12 06 53.7**	**-0.7**
NOA	**NORSAR Array B**	**54.81**	**11**	P	**P**	**12 06 53.7**	**-0.7**
	comp=Z,2.7nm,0.7s,baz=350,slow=7.2,SNR=8.7						
FINES	**FINESS Array B**	**55.18**	**2**	P	**P**	**12 06 56.5**	**-0.4**
FINES	**FINESS Array B**	**55.18**	**2**	P	**P**	**12 06 56.5**	**-0.4**
	comp=Z,5.9nm,0.7s,baz=1.8,slow=7.9,SNR=23						
ZALV	**Zalesovo Beam**	**55.27**	**324**	P	**P**	**12 06 57.0**	**-0.7**
ZALV	**Zalesovo Beam**	**55.27**	**324**	P	**P**	**12 06 57.0**	**-0.7**
	comp=Z,2.0nm,0.6s,baz=24,slow=6.0,SNR=6.8						

comp=N,310nm,1.1s
KMI smax smax
comp=E,260nm,1.0s
KMI LR LR
comp=N,2μm,7.4s
KMI LR LR
comp=E,640nm,6.3s
KMI LR LR
comp=Z,320nm,8.9s
SHL Shillong 5.43 278 *e*P **Pn 12 01 11.0 +1.7**
CMAR Chiang Mai Arr 6.51 171 Pn **Pn 12 01 23.4 -0.6**
comp=Z,1.3nm,0.3s,baz=346,slow=13,SNR=16
CMAR Pg Pg 12 01 47.5 -5.3
comp=Z,2.3nm,0.3s,baz=350,slow=15,SNR=42
CMAR Sn **Sn 12 02 37.2 -1.2**
comp=Z,0.7nm,0.3s,baz=341,slow=16,SNR=2.6
CMAR Lg Lg 12 03 13.9
comp=Z,3.4nm,0.3s,baz=351,slow=28,SNR=10
GYA Guiyang 8.11 77 P **Pn 12 01 44.3 -1.8**
GYA pmax pmax
comp=Z,10.0nm,0.8s
GYA pmax pmax
comp=Z,70nm,5.6s
GYA LR LR
comp=N,210nm,12.8s
GYA LR LR
comp=E,180nm,14.7s
GYA LR LR
comp=Z,240nm,13.8s
LZH Lanzhou 12.27 24 *e*P **Pn 12 02 42.1 -1.0**
LZH pP 12 02 46.0
LZH sP 12 02 49.1
LZH pmax pmax
comp=Z,16nm,1.0s
SONM Songino Array 23.86 14 P **P 12 05 02.1 +0.5**
comp=Z,0.8nm,0.7s,baz=198,slow=11,SNR=5.5
MKAR Makanchi Array 25.11 334 P **P 12 05 12.5 -0.6**
comp=Z,2.0nm,0.6s,baz=149,slow=9.3,SNR=17
AAK Ala-Archa 26.11 318 P **P 12 05 22.3 0.0**
comp=Z,2.3nm,0.6s,baz=159,slow=5.9,SNR=5.7
AAK LR LR 12 16 56.6
comp=Z,42nm,18.9s,baz=5.7,slow=40
KURBB Kurchatov Arra 29.68 335 P **P 12 05 53.5 -0.5**
comp=Z,0.2nm,0.2s,baz=149,slow=10,SNR=3.5
ZALV Zalesovo Beam 30.58 345 P **P 12 06 00.7 -1.3**
comp=Z,1.9nm,0.6s,baz=158,slow=8.3,SNR=7.6
WRA Warramunga Arr 57.01 138 P **P 12 09 34.7 +0.4**
comp=Z,0.9nm,0.8s,baz=327,slow=7.5,SNR=8.6
ASAR Alice Springs 59.62 141 P **P 12 09 53.6 +1.1**
comp=Z,0.9nm,1.0s,baz=313,slow=6.6,SNR=5.9
NOA NORSAR Array B 66.92 328 LR LR 12 40 13.0
comp=Z,7.8nm,21.5s,baz=5.0,slow=36
STKA Stephens Creek 70.26 141 LR LR 12 43 29.3
comp=Z,113nm,19.0s,baz=34,slow=37

MAN 20 12:24:06.6±22.2N×125°21.2E, h10km±1km, mb4.5/11, ML3.4/11, MS3.3/11, 3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**0.29**	**244**	⇓	*i*P	Pg	12 24 06.9	-5.2
GSPH					*e*S	Sg	12 24 09.6	-6.6
KCP	**Kidapawan**	**0.80**	**351**	⇓	*e*P	Pb	12 24 22.1	0.0
KCP					*i*S	Sn	12 24 35.5	+0.1
CTBH	**Cotabato--PC H**	**1.39**	**316**	⇓	*i*P	Pg	12 24 32.9	+0.2

IDC 20 12:57:48.6±2.1, 30°78N×137°69E, h485km±26km, mb2.7/5, mb1 3.0/9, mb1mx2.8/28, mbtmp3.0/9, Error ellipse: s-maj=31.7km s-min=17.0km az=73.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JNU	**Nakatsue**	**6.24**	**294**		P	P	12 59 26.6	-0.2
2.2nm,0.3s,baz=117,slow=4.9,SNR=26								
KSRS	**Korea Array**	**10.48**	**312**		P	P	13 00 10.8	+0.1
0.4nm,0.3s,baz=124,slow=11,SNR=8.8								
ASAJ	**Asahikawa**	**13.86**	**15**		P	P	13 00 47.8	+1.0
0.3nm,0.3s,baz=66,slow=12,SNR=3.3								
USRK	**Ussuriysk Arra**	**14.13**	**343**		P	P	13 00 49.5	-0.1
1.8nm,0.3s,baz=166,slow=11,SNR=36								
CMAR	**Chiang Mai Arr**	**37.12**	**260**		P	P	13 04 17.6	+0.3
1.4nm,0.7s,baz=55,slow=6.9,SNR=15								
MKAR	**Makanchi Array**	**45.11**	**307**		P	P	13 05 19.9	-0.7
0.5nm,0.7s,baz=97,slow=7.4,SNR=3.3								
WRA	**Warramunga Arr**	**50.54**	**184**		P	P	13 06 01.3	-0.3
0.3nm,0.5s,baz=359,slow=7.5,SNR=11								
ASAR	**Alice Springs**	**54.26**	**184**		P	P	13 06 28.3	-0.1
0.2nm,0.7s,baz=1.7,slow=5.9,SNR=7.5								
FINES	**FINESS Array B**	**72.89**	**332**		P	P	13 08 27.6	+0.3
0.6nm,0.7s,baz=180,slow=6.5,SNR=3.8								

*VIE **20** 13:01:08.9±0.8, 47°08N×9°67E, h6km±16km, mb0.3/1, ML1.4/1, Error ellipse: s-maj=2.0km s-min=1.5km az=90.0*
12 km ESE of Vaduz
*CSEM **20** 13:01:08.5±0.0, 47°08N×9°66E, h10km, ML0.7/3, Error ellipse: s-maj=0.9km s-min=0.7km az=139.0*
ZUR 20 13:01:08.4, 47°09N×9°65E, h11km±5km, ML0.7/3, 4C, Germany

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PLONS	**Plons/SG**	**0.19**	**259**	⇑	*i*Pg	Pg	13 01 12.7	+0.1
54nm,0.3s								
PLONS					*i*Sg	Sg	13 01 15.6	+0.1
54nm,0.3s								
PLONS	**Plons/SG**	**0.19**	**259**	⇑	*i*Pg	Pg	13 01 12.7	+0.1
54nm,0.3s								
PLONS					*i*Sg	Sg	13 01 15.6	+0.1
54nm,0.3s								
LIENZ	**Kamor/St.Gall**	**0.23**	**333**		*i*Pg	Pg	13 01 13.8	+0.2
14nm,0.5s								
LIENZ	**Kamor/St.Gall**	**0.23**	**333**		*i*Pg	Pg	13 01 13.8	+0.2
14nm,0.5s								
DAVA	**Damuels**	**0.26**	**38**	⇑	*e*Pg	Pg	13 01 13.9	-0.1
3.0nm,0.1s								
DAVA				⇑	*e*Sg	Sg	13 01 17.5	-0.2
14nm,0.2s								
DAVA	**Damuels**	**0.26**	**38**		Pg	Pg	13 01 13.9	-0.1
3.0nm,0.1s								
DAVA					Sg	Sg	13 01 17.5	-0.2
14nm,0.2s								
DAVOX	**Davos/Dischmat**	**0.34**	**152**		*e*Pg	Pg	13 01 15.6	0.0
19nm,0.3s								
DAVOX	**Davos/Dischmat**	**0.34**	**152**		*e*Pg	Pg	13 01 15.6	0.0
19nm,0.3s								
LLS	**Linth-Limmern**	**0.50**	**242**		*e*Sg	Sg	13 01 25.2	0.0
4.5nm,0.4s								
LLS	**Linth-Limmern**	**0.50**	**242**		*e*Sg	Sg	13 01 25.2	0.0
4.5nm,0.4s								

*IDC **20** 13:01:16.9±1.2, 52°38N×159°61E, h0km, mb3.4/6, mb1 3.8/6, mb1mx3.5/25, mbtmp3.4/6, Error ellipse: s-maj=35.2km s-min=17.8km az=10.0*
*ISCJB **20** 13:01:20.8±0.7, 52°36N±0°03×159°66E±0°04, h29km±4km, mb3.4/6, Error ellipse: s-maj=5.8km s-min=3.5km az=142.4*
*KRSC **20** 13:01:20.2±3.0, 52°35N×159°68E, h22km±22km, ML4.0*
*MOS **20** 13:01:20.5±1.1, 52°35N×159°80E, h25km, mb4.2/1, Error ellipse: s-maj=17.1km s-min=8.1km az=83.6*
ISC 20 13:01:21.3±1.3, 52°39N±0°04×159°62E±0°04, h27km±10km, n59, σ1°29/89, mb3.5/6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.68**	**275**		PN	**Pn**	**13 01 34.9**	**-0.1**
RUS					S	**Sb**	**13 01 43.8**	**+0.3**
RUS	**Russkaya**	**0.68**	**275**		*i*P	**Pn**	**13 01 34.9**	**-0.1**
RUS					*i*S	**Sb**	**13 01 43.8**	**+0.3**
SPN	**Mys Shipunski**	**0.76**	**19**		PN	**Pn**	**13 01 36.2**	**+0.1**
SPN					S	**Sb**	**13 01 45.8**	**+0.1**
SPN	**Mys Shipunski**	**0.76**	**19**		*i*P	**Pn**	**13 01 36.2**	**+0.1**
SPN					*i*S	**Sb**	**13 01 45.8**	**+0.1**
NLC	**Nalytchevo**	**0.81**	**348**		PN	**Pb**	**13 01 36.3**	**-0.3**
NLC					S	**Sb**	**13 01 46.3**	**-0.8**
NLC	**Nalytchevo**	**0.81**	**348**		*i*P	**Pb**	**13 01 36.3**	**-0.3**
NLC					*i*S	**Sb**	**13 01 46.3**	**-0.8**
PET	**Petropavlovsk**	**0.87**	**318**		PN	**Pn**	**13 01 37.2**	**-0.5**
PET					S	**Sb**	**13 01 47.6**	**-1.3**
PET	**Petropavlovsk**	**0.87**	**318**		*i*P	**Pn**	**13 01 37.2**	**-0.5**
PET					*i*S	**Sb**	**13 01 47.6**	**-1.3**
MTVR	**Mutnovka**	**0.88**	**277**		*i*P	**Pn**	**13 01 38.1**	**+0.1**
MTVR					*i*S	**Sb**	**13 01 49.3**	**-0.2**
UGLR	**Uglovaya**	**0.95**	**330**		*i*P	**Pn**	**13 01 38.7**	**-0.3**
UGLR					*i*S	**Sb**	**13 01 51.4**	**-0.1**
GRL	**Gorelyy**	**0.96**	**281**		*i*P	**Pn**	**13 01 39.2**	**+0.2**
GRL					*i*S	**Sb**	**13 01 51.6**	**0.0**
SDLR	**Sedlovina**	**1.00**	**334**		*i*P	**Pn**	**13 01 39.3**	**-0.3**
SDLR					*i*S	**Sn**	**13 01 51.5**	**-1.4**
SMAR	**Somma**	**1.01**	**331**		*e*P	**Pn**	**13 01 38.9**	**-0.9**
AVH	**Avacha**	**1.03**	**329**		*i*P	**Pn**	**13 01 39.8**	**-0.2**
AVH					*i*S	**Sb**	**13 01 56.2**	**+2.6**
ASAK	**Asacha**	**1.05**	**271**		*i*P	**Pb**	**13 01 40.9**	**+0.1**
ASAK					*i*S	**Sb**	**13 01 54.6**	**+0.4**
KRER	**Koryakskii**	**1.06**	**331**		*i*P	**Pn**	**13 01 40.3**	**-0.2**
KRER					*i*S	**Sn**	**13 01 53.9**	**-0.6**
KOK	**Koryaka**	**1.09**	**327**		*i*P	**Pn**	**13 01 40.6**	**-0.2**
KOK					*i*S	**Sn**	**13 01 54.5**	**-0.5**
KRX	**Arik**	**1.14**	**329**		*e*P	**Pn**	**13 01 41.0**	**-0.5**
PETK	**Petropavlovsk-**	**1.37**	**303**		PN	**Pn**	**13 01 44.4**	**-0.2**
PETK							13 02 01.8	
PETK					pmax	pmax		
comp=Z,31nm,0.3s								
PETK					smax	smax		
comp=N,56nm,0.3s								
PETK	**Petropavlovsk-**	**1.37**	**303**		Pn	**Pn**	**13 01 44.4**	**-0.2**
comp=N,31nm,0.3s,baz=102,slow=20,SNR=3009								
PETK					Sn	**Sn**	**13 02 01.8**	**-0.1**
comp=N,56nm,0.3s,baz=111,slow=30,SNR=20								
APC	**Apacha**	**1.59**	**291**		*i*P	**Pn**	**13 01 48.4**	**+0.8**
APC					*i*S	**Sb**	**13 02 09.0**	**-0.6**
GNL	**Ganaly**	**1.66**	**323**		*i*P	**Pn**	**13 01 49.0**	**+0.4**
GNL					*i*S	**Sn**	**13 02 09.8**	**+0.7**
KII	**Karymskiy**	**1.66**	**357**		*e*P	**Pn**	**13 01 49.9**	**+1.3**
KII					*i*S	**Sn**	**13 02 10.0**	**+1.0**
MIPR	**Malaya Ipel'ka**	**1.76**	**268**		*e*P	**Pn**	**13 01 51.3**	**+1.4**
PAU	**Pauzhetka**	**1.96**	**243**		PN	**Pn**	**13 01 54.4**	**+1.7**
PAU					S	**Sn**	**13 02 17.6**	**+1.1**
PAU	**Pauzhetka**	**1.96**	**243**		*e*P	**Pn**	**13 01 54.4**	**+1.7**
PAU					*i*S	**Sn**	**13 02 17.6**	**+1.1**
MKZ	**Mys Kozlova**	**2.52**	**29**		PN	**Pn**	**13 02 00.4**	**+0.1**
MKZ					S	**Sn**	**13 02 29.5**	**-0.5**
MKZ	**Mys Kozlova**	**2.52**	**29**		*e*P	**Pn**	**13 02 00.4**	**+0.1**
MKZ					*i*S	**Sn**	**13 02 29.5**	**-0.5**
SKR	**Severo-Kuril's**	**2.77**	**233**		*e*PN	**Pb**	**13 02 09.5**	**-0.5**
SKR					pmax	pmax		
comp=Z,60nm,0.5s								
SKR	**Severo-Kuril's**	**2.77**	**233**		*e*P	**Pn**	**13 02 04.0**	**+0.2**
SKR					*i*S	**Sn**	**13 02 35.7**	**-0.6**
TUMR	**Tumrok**	**2.92**	**6**		*e*P	**Pn**	**13 02 07.7**	**+1.7**
KMNR	**Kamenistaya**	**3.40**	**6**		*e*P	**Pn**	**13 02 14.6**	**+2.1**
KMNR					*i*S	**Sn**	**13 02 53.4**	**+1.4**
ESO	**Esso**	**3.59**	**352**		PN	**Pn**	**13 02 17.8**	**+2.7**
ESO	**Esso**	**3.59**	**352**		*i*P	**Pn**	**13 02 17.8**	**+2.7**
BZMR	**Bezymyannaya**	**3.59**	**8**		*e*P	**Pn**	**13 02 18.2**	**+2.9**
KIRR	**Kirishev**	**3.60**	**7**		*e*P	**Pn**	**13 02 17.8**	**+2.4**
KPT	**Kopyto**	**3.61**	**5**		*e*P	**Pn**	**13 02 16.3**	**+0.9**
BZGR	**Bezymyannyi-Gr**	**3.62**	**10**		*e*P	**Pn**	**13 02 17.7**	**+2.1**
BZWR	**Bezymyannyi-We**	**3.62**	**8**		*e*P	**Pn**	**13 02 17.5**	**+1.8**
KOZ	**Kozyrevsk**	**3.68**	**2**		*e*P	**Pn**	**13 02 19.3**	**+2.9**
KOZR	**Kozyr**	**3.69**	**2**		PN	**Pn**	**13 02 19.3**	**+2.8**
KRSR	**Krestovskiy**	**3.88**	**8**		*e*P	**Pn**	**13 02 20.7**	**+1.5**
SRDR	**Sredinnyy**	**3.94**	**1**		*e*P	**Pn**	**13 02 21.9**	**+1.9**
KLY	**Klyuchi**	**3.98**	**8**		PN	**Pn**	**13 02 23.4**	**+3.0**
KLY	**Klyuchi**	**3.98**	**8**		*e*P	**Pn**	**13 02 23.4**	**+3.0**
KLY					*i*S	**Sn**	**13 03 07.3**	**+1.1**
KBTR	**Krutoberegovo**	**4.27**	**25**		PN	**Pn**	**13 02 26.3**	**+2.0**
KBTR					S	**Sn**	**13 03 14.3**	**+1.1**
KBTR	**Krutoberegovo**	**4.27**	**25**		*e*P	**Pn**	**13 02 26.3**	**+2.0**
KBTR					*i*S	**Sn**	**13 03 14.3**	**+1.1**
BDR	**Baidarnaya**	**4.29**	**12**		*e*P	**Pn**	**13 02 26.0**	**+1.2**
SMKR	**Semkarok**	**4.34**	**14**		*e*P	**Pn**	**13 02 26.7**	**+1.2**
SRKR	**Sorokina**	**4.37**	**11**		*e*P	**Pn**	**13 02 27.2**	**+1.3**
BKI	**Bering**	**4.71**	**51**		PN	**Pn**	**13 02 30.7**	**+0.3**
BKI	**Bering**	**4.71**	**51**		*e*P	**Pn**	**13 02 30.7**	**+0.3**
BKI					*i*S	**Sn**	**13 03 22.1**	**-2.0**
ILAR	**Eielson Array**	**29.52**	**44**		P	**P**	**13 07 22.4**	**-0.6**
comp=Z,0.1nm,0.7s,baz=260,slow=7.9,SNR=4.7								
MKAR	**Makanchi Array**	**48.20**	**296**		P	**P**	**13 09 58.3**	**-0.8**
MKAR	**Makanchi Array**	**48.20**	**296**		P	**P**	**13 09 58.3**	**-0.8**
comp=Z,0.3nm,0.6s,baz=64,slow=9.8,SNR=3.2								
NVAR	**Mina Array Bea**	**56.26**	**69**		P	**P**	**13 10 58.8**	**-0.5**
comp=Z,0.2nm,0.4s,baz=300,slow=6.1,SNR=3.2								
PDAR	**Pinedale Array**	**58.13**	**60**		P	**P**	**13 11 12.3**	**-0.1**
comp=Z,0.5nm,0.7s,baz=321,slow=2.3,SNR=4.4								
TXAR	**Lajitas Array**	**71.19**	**66**		P	**P**	**13 12 38.0**	**+0.4**
comp=Z,0.4nm,0.5s,baz=295,slow=4.3,SNR=7.4								
ASAR	**Alice Springs**	**78.99**	**204**		P	**P**	**13 13 22.4**	**0.0**
comp=Z,0.2nm,0.6s,baz=19,slow=5.9,SNR=3.5								

WEL 20 13:06:30.6±0.5, 36°58S×178°26E, h33km, ML3.8/9, Error ellipse: s-maj=4.7km s-min=3.0km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.99**	**178**		P*	Pn	13 06 45.9	-2.3
MXZ					S*	Sn	13 07 00.1	-0.9
MXZ					AML	AML	13 07 01.4	
MXZ					AML	AML	13 07 01.4	
MXZ					AML	AML	13 07 03.8	
PUZ	**Puketiti**	**1.50**	**180**		PN	Pn	13 06 54.8	-0.4
PUZ					SN	Sn	13 07 13.5	-0.1
PUZ					AML	AML	13 07 22.4	
MYRZ	**Mayor Island**	**1.77**	**246**		P*	Pn	13 06 59.3	+0.4
MWZ	**Matawai**	**1.85**	**198**		P*	Pn	13 06 59.3	-0.8
MWZ					S*	Sn	13 07 20.5	-2.0
MWZ					AML	AML	13 07 35.9	
MWZ					AML	AML	13 07 36.1	
MWZ					AML	AML	13 07 36.1	
OPRZ	**Ohinepanea**	**1.86**	**227**		P*	Pn	13 06 59.9	-0.3
MARZ	**Manawahe**	**1.90**	**222**		P*	Pn	13 06 59.7	-1.0
CNGZ	**Carnagh Statio**	**1.91**	**181**		PN	Pn	13 07 00.7	-0.1
URZ	**Urewera**	**1.92**	**208**		P*	Pn	13 06 59.9	-1.0
URZ					AML	AML	13 07 25.6	
URZ					AML	AML	13 07 25.7	
EDRZ	**Edgecumbe**	**1.95**	**218**		P*	Pn	13 07 02.7	+1.1
EDRZ					AML	AML	13 07 32.8	
EDRZ					AML	AML	13 07 37.3	
TGRZ	**Tauranga**	**1.97**	**234**		P*	Pn	13 07 02.0	+0.3
TGRZ					AML	AML	13 07 05.1	
KUZ	**Kuaotunu**	**2.05**	**264**		PN	Pn	13 07 03.7	+0.9
KUZ					SN	Sn	13 07 27.6	+0.3
KUZ					AML	AML	13 07 29.8	
KARZ	**Kaharoa**	**2.16**	**228**		P*	Pn	13 07 04.4	0.0
TARZ	**Mount Tarawera**	**2.17**	**220**		P*	Pn	13 07 05.6	+1.1
RRRZ	**Republican Roa**	**2.25**	**218**		P*	Pn	13 07 06.5	+0.9
PRGZ	**Paritu Road**	**2.36**	**187**		PN	Pn	13 07 06.0	-1.2
KNZ	**Kokohu**	**2.49**	**191**		PN	Pn	13 07 07.2	-1.6
ALRZ	**Allen Road**	**2.50**	**217**		P*	Pn	13 07 10.3	+1.2
RAHZ	**Arahi**	**2.52**	**201**		PN	Pn	13 07 09.6	+0.4
MKAZ	**Moumakai**	**2.54**	**257**		PN	Pn	13 07 10.8	+1.2
MHGZ	**Mahia Peninsul**	**2.59**	**186**		PN	Pn	13 07 08.8	-1.4
OTAZ	**Otara**	**2.71**	**261**		PN	Pn	13 07 13.4	+1.6
KBAZ	**Karaka Road Bo**	**2.76**	**258**		PN	Pn	13 07 14.3	+1.9
NMHZ	**Naumai**	**2.77**	**204**		PN	Pn	13 07 12.7	-0.1
HBAZ	**Herne Bay Bore**	**2.85**	**263**		PN	Pn	13 07 16.6	+2.8
BKZ	**Black Stump Fm**	**2.94**	**208**		P*	Pn	13 07 14.4	-0.8
BKZ					AML	AML	13 07 59.9	
BKZ					AML	AML	13 08 03.1	
RVAZ	**Riverhead Bore**	**2.97**	**265**		PN	Pn	13 07 16.7	+1.3
WTAZ	**Waiatarua**	**2.98**	**262**		PN	Pn	13 07 17.7	+2.0
MCHZ	**McNeill Hill**	**3.12**	**203**		PN	Pn	13 07 17.3	-0.3
NGZ	**Ngauruhoe**	**3.34**	**218**		P*	Pn	13 07 22.0	+1.2
BHHZ	**Black Hill Sta**	**3.39**	**210**		P*	Pn	13 07 21.3	0.0
TUVZ	**Tukino**	**3.39**	**217**		P*	Pn	13 07 22.1	+0.7
WPVZ	**Whakapapa**	**3.39**	**218**		P*	Pn	13 07 22.8	+1.4
KAHZ	**Kahuranaki**	**3.40**	**198**		PN	Pn	13 07 19.8	-1.6
FWVZ	**Far West T-bar**	**3.43**	**218**		P*	Pn	13 07 23.0	+1.0
WHVZ	**Whangaehu Hut**	**3.43**	**217**		P*	Pn	13 07 22.9	+0.7
MOVZ	**Moawhango**	**3.45**	**214**		P*	Pn	13 07 22.1	-0.1
WNVZ	**Wahianoa**	**3.46**	**217**		P*	Pn	13 07 22.9	+0.5
TRVZ	**Turoa**	**3.46**	**217**		P*	Pn	13 07 24.5	+1.9
PKVZ	**Pokaka**	**3.56**	**220**		P*	Pn	13 07 24.6	+1.0
PXZ	**Pawanui**	**3.62**	**197**		PN	Pn	13 07 21.3	-3.1
PXZ					AML	AML	13 08 03.5	
PNHZ	**Pukenui**	**3.71**	**205**		PN	Pn	13 07 24.1	-1.6
TSZ	**Takapari Road**	**3.92**	**207**		PN	Pn	13 07 24.9	-3.7
ANWZ	**Angora Road**	**4.12**	**199**		PN	Pn	13 07 23.6	-7.7
BFZ	**Birch Farm**	**4.39**	**200**		*e*PN	Pn	13 07 31.4	-3.6
MRZ	**Mangatainoka R**	**4.59**	**206**		PN	Pn	13 07 34.7	-3.0
HOWZ	**Holdsworth Sta**	**4.82**	**206**		PN	Pn	13 07 37.6	-3.3
KIW	**Kapiti Island**	**5.02**	**210**		PN	Pn	13 07 41.0	-2.7
CAW	**Cannon Point**	**5.17**	**208**		PN	Pn	13 07 41.6	-4.1
THZ	**Tophouse**	**6.64**	**217**		PN	Pn	13 08 02.8	-3.2
CTZ	**Chatham Island**	**8.15**	**153**		PN	Pn	13 08 22.6	-4.0

NNC 20 13:39:36.3±12.0, 37°28N×69°96E, h0km, mb3.9, mpv3.9, 1C-3D, Error ellipse: s-maj=141.3km s-min=108.0km az=82.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.83**	**4**	⇓	Pn	Pn	13 41 07.4	+3.3
2.1nm,0.2s,baz=177,slow=12,SNR=106								
KK31				⇓	Sn	Sn	13 42 18.0	+6.3
1.7nm,0.3s,baz=190,slow=24,SNR=12								
TKM2	**Tokmak 2**	**7.10**	**36**	⇑	Pn	Pn	13 41 18.7	-3.0
4.5nm,0.5s								
AB31	**Akbulak array**	**14.00**	**332**	⇓	Pn	Pn	13 42 56.4	+0.5
0.2nm,0.3s,baz=0.0,slow=0.1,SNR=5.2								

IDC 20 13:59:02.7±0.9, 13°20N×145°00E, h0km, mb3.8/11, mb1 4.0/11, mb1mx3.8/25, mbtmp3.8/11, Error ellipse: s-maj=31.9km s-min=19.9km az=95.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**28.57**	**331**		P	P	14 05 01.5	+1.0
0.7nm,0.7s,baz=134,slow=10,SNR=4.0								
WRA	**Warramunga Arr**	**34.56**	**198**		P	P	14 05 53.0	-0.4
0.3nm,0.5s,baz=20,slow=9.2,SNR=5.4								
ASAR	**Alice Springs**	**38.21**	**197**		P	P	14 06 24.4	-0.2
0.4nm,0.5s,baz=18,slow=11,SNR=13								
CMAR	**Chiang Mai Arr**	**44.53**	**283**		P	P	14 07 17.2	+0.6
0.8nm,0.4s,baz=87,slow=6.6,SNR=7.3								
MKAR	**Makanchi Array**	**61.86**	**316**		P	P	14 09 23.4	-0.5
0.2nm,0.5s,baz=93,slow=7.4,SNR=4.4								
KURBB	**Kurchatov Arra**	**65.00**	**320**		P	P	14 09 42.8	-1.9
0.4nm,0.3s,baz=101,slow=6.4,SNR=4.4								
ILAR	**Eielson Array**	**68.86**	**25**		P	P	14 10 08.6	-0.4
1.2nm,0.5s,baz=249,slow=5.9,SNR=31								
BVAR	**Borovoye Array**	**70.31**	**322**		P	P	14 10 19.4	+1.3
0.4nm,0.3s,baz=106,slow=5.8,SNR=3.2								
NVAR	**Mina Array Bea**	**87.06**	**51**		P	P	14 11 52.5	+1.5
0.2nm,0.5s,baz=297,slow=5.9,SNR=2.4								
ARCES	**ARCESS Array B**	**87.49**	**342**		P	P	14 11 52.0	-0.1
0.9nm,0.6s,baz=66,slow=7.0,SNR=8.0								
FINES	**FINESS Array B**	**91.57**	**335**		P	P	14 12 10.0	-1.3
1.6nm,0.8s,baz=60,slow=6.9,SNR=6.3								
TORD	**Torodi Ar. Bea**	**135.19**	**304**		PKP	PKPdf	14 18 26.1	+0.8
0.1nm,0.5s,baz=48,slow=2.1,SNR=2.4								

IDC 20 14:06:07.4±2.2, 20°89S×178°05W, h572km±28km, mb3.2/4, mb1 3.4/6, mb1mx3.0/19, mbtmp3.3/6, Error ellipse: s-maj=38.4km s-min=19.5km az=143.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.17**	**42**		P	P	14 08 17.3	-0.2
1.1nm,0.3s,baz=137,slow=22,SNR=3.0								
AFI					S	S	14 09 59.2	-5.1
1.0nm,0.3s,baz=244,slow=19,SNR=3.3								
URZ	**Urewera**	**17.81**	**193**		P	P	14 09 42.4	+0.1
0.9nm,0.3s,baz=62,slow=9.7,SNR=6.8								
ASAR	**Alice Springs**	**44.38**	**257**		P	P	14 13 28.1	0.0
3.0nm,0.6s,baz=90,slow=7.7,SNR=94								
WRA	**Warramunga Arr**	**44.50**	**262**		P	P	14 13 28.6	-0.5
1.8nm,0.3s,baz=97,slow=7.2,SNR=64								
FITZ	**Fitzroy Crossi**	**52.93**	**263**		P	P	14 14 31.5	+0.2
1.9nm,0.7s,baz=135,slow=5.7,SNR=4.7								
ILAR	**Eielson Array**	**88.70**	**13**		P	P	14 18 00.4	+0.5
0.3nm,0.9s,baz=207,slow=5.8,SNR=5.1								
ARCES	**ARCESS Array B**	**129.29**	**350**		PKP	PKPdf	14 24 10.5	-0.1
2.7nm,1.0s,baz=44,slow=2.7,SNR=3.5								
AKASG	**Malin Array Be**	**143.33**	**331**		PKP	PKPab	14 24 35.1	-0.2
0.2nm,0.3s,baz=44,slow=3.8,SNR=8.0								
BRTR	**Keskin Array B**	**147.06**	**312**		PKPbc	PKPbc	14 24 46.4	-0.6
0.8nm,1.0s,baz=58,slow=4.1,SNR=3.9								

GUC 20 14:10:23.6±0.8, 33°47S×72°37W, h34km±4km, MD3.7, ML2.9, 2C-6D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.76**	**54**	⇓	*i*P	Pn	14 10 37.7	-0.2
IHA					*i*S	Sn	14 10 48.3	+0.2
LNV	**

IDC 20 15:11:37.0±2.0, 4°33N×126°13E, h0km, mb3.2/4, mb1 3.4/4, mb1mx3.2/23, mbtmp3.2/4, Error ellipse: s-maj=196.4km s-min=22.3km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.44**	**162**	P	P	15 17 05.9	-0.9
	0.4nm,0.4s,baz=340,slow=9.9,SNR=4.6						
ASAR	**Alice Springs**	**28.84**	**165**	P	P	15 17 38.2	+0.8
	0.1nm,0.5s,baz=350,slow=7.8,SNR=4.6						
MKAR	**Makanchi Array**	**56.72**	**325**	P	P	15 21 23.2	+0.5
	0.1nm,0.4s,baz=116,slow=8.1,SNR=3.2						
KURBB	**Kurchatov Arra**	**60.91**	**327**	P	P	15 21 51.0	-0.6
	0.2nm,0.6s,baz=125,slow=7.1,SNR=3.2						

*ISCJB **20** 15:21:46.3±0.5, 13°84N±0°07×92°99E±0°09, h32km, mb4.1/21, MS3.4/5, Error ellipse: s-maj=14.1km s-min=8.3km az=145.4*
*IDC **20** 15:21:47.4±0.6, 13°70N×92°93E, h27km±3km, mb3.9/18, mb1 4.0/19, mb1mx3.9/29, mbtmp4.1/19, ML3.9/1, MS3.4/6, Ms1 3.4/6, ms1mx3.0/40, Error ellipse: s-maj=19.2km s-min=10.7km az=49.0*

ISC 20 15:21:47.8±0.6, 13°75N±0°10×92°9E±0°1, h32km, n35, σ0§95/40, mb4.2/21, MS3.3/5, 2C, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.44**	**50**	Pn	Pn	15 23 34.6	+0.5
	0.5nm,0.3s,baz=238,slow=15,SNR=10						
PSI	**Prapat**	**12.39**	**151**	LR	LR	15 29 05.9	
	comp=Z,118nm,21.1s,baz=217,slow=35						
ODAN	**Odare**	**14.04**	**339**	*eP*	Pn	15 25 03.0	-1.7
	9.2nm,0.4s						
TAPN	**Taplejung**	**14.38**	**341**	*eP*	Pn	15 25 08.5	-1.0
	16nm,0.6s						
RAMN	**Ramite**	**14.41**	**337**	*eP*	Pn	15 25 08.5	-1.3
	8.7nm,0.4s						
PKI	**Pulchoki**	**15.44**	**334**	*eP*	Pn	15 25 21.7	-1.9
PKIN	**Phulchoki**	**15.45**	**334**	*eP*	Pn	15 25 21.7	-2.0
	11nm,0.5s						
DMN	**Daman**	**15.60**	**333**	*eP*	Pn	15 25 24.5	-1.2
	12nm,0.5s						
KOLN	**Koldanda**	**16.44**	**329**	*eP*	Pn	15 25 35.2	-1.2
	15nm,0.6s						
KAPI	**Kappang**	**32.50**	**123**	LR	LR	15 41 45.5	
	comp=Z,57nm,19.4s,baz=279,slow=37						
MKAR	**Makanchi Array**	**34.13**	**347**	P	P	15 28 30.8	+1.1
	1.7nm,0.8s,baz=161,slow=8.8,SNR=5.8						
SONM	**Songino Array**	**35.78**	**16**	P	P	15 28 44.9	+0.8
	0.5nm,0.7s,baz=189,slow=8.6,SNR=3.3						
KURBB	**Kurchatov Arra**	**38.59**	**345**	P	P	15 29 08.1	+0.4
	0.2nm,0.9s,baz=165,slow=7.8,SNR=4.6						
KSRS	**Korea Array**	**39.06**	**46**	P	P	15 29 12.1	+0.3
	0.3nm,0.4s,baz=223,slow=6.5,SNR=3.5						
KSRS				LR	LR	15 47 07.3	
	comp=Z,43nm,18.0s,baz=230,slow=39						
ZALV	**Zalesovo Beam**	**40.61**	**353**	P	P	15 29 25.0	+0.5
	2.0nm,0.7s,baz=168,slow=7.4,SNR=6.9						
BVAR	**Borovoye Array**	**43.08**	**340**	LR	LR	15 49 08.1	
	comp=Z,29nm,18.9s,baz=292,slow=38						
FITZ	**Fitzroy Crossi**	**45.20**	**134**	P	P	15 30 01.3	-0.8
	2.1nm,0.7s,baz=310,slow=7.9,SNR=9.6						
AKTO	**Aktyubinsk**	**46.28**	**330**	P	P	15 30 09.9	-0.4
	1.7nm,0.8s,baz=113,slow=8.7,SNR=4.9						
WRA	**Warramunga Arr**	**52.73**	**129**	P	P	15 30 59.5	-0.4
	4.5nm,0.7s,baz=308,slow=7.9,SNR=64						
WRA				pP	pP	15 31 08.0	-1.6
	1.7nm,0.7s,baz=308,slow=7.8,SNR=7.3						
WRA				PcP	PcP	15 32 09.7	+0.3
	0.6nm,0.6s,baz=314,slow=3.3,SNR=6.4						
ASAR	**Alice Springs**	**54.66**	**133**	P	P	15 31 14.1	+0.1
	2.7nm,0.4s,baz=309,slow=6.9,SNR=183						
ASAR				pP	pP	15 31 22.2	-1.5
	1.0nm,0.5s,baz=310,slow=6.6,SNR=6.1						
ASAR				PcP	PcP	15 32 17.4	+0.7
	0.7nm,0.9s,baz=311,slow=4.3,SNR=3.0						
BRTR	**Keskin Array B**	**57.79**	**308**	P	P	15 31 36.5	+0.2
	2.6nm,0.8s,baz=119,slow=6.3,SNR=14						
BRTR				pP	pP	15 31 45.1	-1.0
	1.2nm,0.7s,baz=108,slow=7.5,SNR=4.7						
STKA	**Stephens Creek**	**65.05**	**135**	P	P	15 32 25.0	-0.2
	1.2nm,0.7s,baz=310,slow=7.9,SNR=3.0						
FINES	**FINESS Array B**	**67.00**	**331**	P	P	15 32 37.5	+0.2
	2.3nm,0.6s,baz=102,slow=6.2,SNR=12						
FINES				pP	pP	15 32 46.6	-0.7
	3.3nm,0.9s,baz=84,slow=5.7,SNR=2.6						
ARCES	**ARCESS Array B**	**69.37**	**340**	P	P	15 32 52.5	+0.5
	2.4nm,0.8s,baz=97,slow=7.5,SNR=11						
ARCES				LR	LR	16 06 29.5	
	comp=Z,62nm,20.2s,baz=225,slow=39						
GERES	**GERESS Array B**	**72.70**	**317**	P	P	15 33 13.6	+0.8
	1.6nm,0.7s,baz=86,slow=6.4,SNR=17						
GERES				pP	pP	15 33 22.5	-0.4
	0.6nm,0.7s,baz=96,slow=5.3,SNR=4.2						
NB2	**NORSAR Subarra**	**74.07**	**330**	P	P	15 33 20.4	-0.1
	comp=Z,1.1nm,0.6s,baz=90,slow=5.9						
NOA	**NORSAR Array B**	**74.07**	**330**	P	P	15 33 20.4	-0.1
	comp=Z,1.3nm,0.7s,baz=90,slow=5.7,SNR=4.7						
NOA				pP	pP	15 33 29.4	-1.2
	comp=Z,2.4nm,1.0s,baz=94,slow=6.2,SNR=3.1						
NOA				LR	LR	16 08 00.5	
	comp=Z,22nm,18.1s,baz=110,slow=37						
LPG	**La Plagne**	**77.67**	**314**	⇑*iP*	P	15 33 42.7	+1.0
	comp=Z,7.9nm,0.8s						
LPL	**La Plagne**	**77.69**	**314**	⇑*iP*	P	15 33 42.6	+0.9
	comp=Z,6.9nm,0.6s						
BOSA	**Boshof**	**77.76**	**236**	P	P	15 33 43.0	+0.8
	comp=Z,3.7nm,1.1s,baz=43,slow=4.5,SNR=4.4						
CABF	**La Chapelle**	**78.00**	**315**	*eP*	P	15 33 43.9	+0.7
SMF	**Signal de Mont**	**79.52**	**316**	*eP*	P	15 33 51.8	+0.3
AVF	**Avril sur Loir**	**79.83**	**316**	*eP*	P	15 33 53.0	-0.2
	comp=Z,3.5nm,0.6s						
ESDC	**Sonseca Array**	**86.55**	**310**	P	P	15 34 29.0	+0.9
	comp=Z,0.4nm,0.6s,baz=47,slow=5.8,SNR=4.3						
TORD	**Torodi Ar. Bea**	**88.11**	**283**	P	P	15 34 37.0	+1.0
	comp=Z,1.2nm,1.0s,baz=84,slow=4.4,SNR=5.6						

*NNC **20** 15:22:36.5±4.0, 42°33N×86°08E, h0km, mb3.6, mpv3.1, Error ellipse: s-maj=47.5km s-min=35.6km az=49.0*
*IDC **20** 15:22:47.1±5.3, 42°94N×85°79E, h0km, mb1 3.3/4, mb1mx3.1/29, mbtmp3.3/4, ML3.3/4, Error ellipse: s-maj=75.2km s-min=33.6km az=30.0*

ISC 20 15:22:47.5±2.9, 43°0N±0°2×86°0E±0°2, h10km, n9, σ1§31/8, 4C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**4.62**	**326**	Pn	Pn	15 23 58.5	+1.1
	0.8nm,0.3s,baz=146,slow=14,SNR=89						
MK31				Lg	Lg	15 25 16.6	
	12nm,0.6s,baz=140,slow=30,SNR=5.8						
MKAR	**Makanchi Array**	**4.62**	**326**	Pn	Pn	15 23 59.0	+1.6
	1.2nm,0.3s,baz=147,slow=13,SNR=57						
MKAR				Lg	Lg	15 25 14.6	
	4.8nm,0.3s,baz=142,slow=29,SNR=8.6						
TKM2	**Tokmak 2**	**7.65**	**273**	⇓Lg	Lg	15 26 40.9	
	9.1nm,0.7s						
KURBB	**Kurchatov Arra**	**9.18**	**329**	⇑Pn	Pn	15 24 58.3	-1.5
	1.2nm,0.8s						
KURBB				⇑Sn	Sn	15 26 53.7	+11
	3.3nm,0.7s						
KURBB				⇑Lg	Lg	15 27 44.2	
	13nm,0.7s						
KURBB	**Kurchatov Arra**	**9.18**	**329**	Pn	Pn	15 24 59.5	-0.4
	0.1nm,0.3s,baz=141,slow=12,SNR=4.8						
KURK	**Kurchatov**	**9.22**	**329**	⇓Pn	Pn	15 24 59.0	-1.5
	0.9nm,0.8s						
KURK				⇓Lg	Lg	15 27 45.3	
	3.5nm,0.8s						
ZALV	**Zalesovo Beam**	**10.97**	**356**	Pn	Pn	15 25 24.6	+0.2
	0.1nm,0.3s,baz=181,slow=12,SNR=2.6						
ZALV				Sn	Sn	15 27 27.1	0.0
	0.3nm,0.3s,baz=182,slow=23,SNR=4.7						
KK31	**Karatay Array**	**11.36**	**276**	⇑Lg	Lg	15 28 37.6	
	1.5nm,0.7s,baz=110,slow=13,SNR=6.0						
SONM	**Songino Array**	**15.08**	**64**	Pn	P	15 26 25.9	-0.1
	0.2nm,0.3s,baz=262,slow=9.9,SNR=13						

JMA 20 15:29:11.7, 33°37N×130°92E, h12km, M1.7, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNU	**Nakatsue**	**0.25**	**188**	P	Pg	15 29 17.0	0.0
JNU				*eS*	Sg	15 29 20.4	-0.2
JNU	**Nakatsue**	**0.25**	**188**	P	Pg	15 29 16.7	-0.3
	20nm,0.3s,baz=5.5,slow=4.3,SNR=242						
JFA	**Akaike**	**0.36**	**343**	P	Pg	15 29 18.9	0.0
JFA				*eS*	Sg	15 29 23.9	+0.2
JTA	**Tamana**	**0.52**	**219**	P	Pg	15 29 21.8	-0.1
JTA				S	Sg	15 29 28.7	-0.1

*NIED **20** 15:30:00, 42°30N×142°20E, h47km, Mw3.9 Best double couple: M0=7.27000×10^14 NP1:φ=100.00000°, δ67.00000°, λ80.00000°. NP2:φ=304.00000°, δ25.00000°, λ112.00000°.*
*SKHL **20** 15:30:05.4±2.0, 42°23N×141°86E, h66km±5km, mb5.0/1*
*ISCJB **20** 15:30:06.5±0.3, 42°32N±0°03×142°16E±0°03, h63km±3km, mb3.8/18, Error ellipse: s-maj=5.7km s-min=3.6km az=151.4*
*MOS **20** 15:30:06.6±1.1, 42°32N×142°18E, h68km, mb4.2/9, Error ellipse: s-maj=13.3km s-min=8.7km az=84.0*
*JMA **20** 15:30:06.8±0.1, 42°34N×142°20E, h59km±1km, M3.8*
JMA Felt I J1.
*IDC **20** 15:30:06.2±2.6, 42°29N×142°14E, h45km±22km, mb3.5/16, mb1 3.7/17, mb1mx3.6/27, mbtmp3.5/17, ML3.4/1, Error ellipse: s-maj=17.6km s-min=16.4km az=157.0*

ISC 20 15:30:07.6±0.7, 42°33N±0°04×142°16E±0°03, h55km±7km, n63, σ1§27/83, mb3.8/18, 2C-14D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.45**	**96**	⇑P	Pn	15 30 17.8	-0.8
JNBK				*eS*	Sn	15 30 26.0	-0.5
JBT2	**Biratori 2**	**0.47**	**19**	⇓P	Pn	15 30 18.1	-0.8
JBT2				*eS*	Sn	15 30 26.5	-0.6
JEW	**Eniwo**	**0.73**	**315**	P	Pn	15 30 21.7	-0.3
JEW				*eS*	Sn	15 30 32.4	0.0
ERM	**Erimo**	**0.81**	**113**	⇓*i*PN	Pn	15 30 23.0	+0.1
ERM	**Erimo**	**0.81**	**113**	*eP*	Pn	15 30 23.0	+0.1
JEM	**Erimo**	**0.81**	**112**	P	Pn	15 30 22.8	-0.1
JNB	**Noboribetsu**	**0.84**	**280**	⇑P	Pn	15 30 22.3	-1.0
JNB				*eS*	Sn	15 30 33.7	-1.2
JFR	**Furan**	**0.89**	**21**	⇓P	Pn	15 30 23.2	-0.9
JCH	**Churui**	**0.94**	**72**	⇓P	Pn	15 30 23.8	-0.8
JCH				*eS*	Sn	15 30 36.1	-1.1
JKB	**Kayabe**	**0.94**	**243**	⇓P	Pn	15 30 24.4	-0.3
JKB				*eS*	Sn	15 30 37.1	-0.2
JAB	**Ashibetsu**	**1.18**	**2**	⇓P	Pn	15 30 27.9	+0.1
JAB				*eS*	Sn	15 30 43.9	+1.1
JOT	**Ohata**	**1.26**	**222**	⇓P	Pn	15 30 28.6	-0.3
JOT				*eS*	Sn	15 30 44.7	-0.1
JYM2	**Yakumo 2**	**1.34**	**262**	⇓P	Pn	15 30 29.9	-0.1
JYM2				*eS*	Sn	15 30 47.0	+0.2
JOB	**Onbets**	**1.37**	**65**	⇓P	Pn	15 30 30.0	-0.4
JOB				*eS*	Sn	15 30 47.0	-0.4
JHR	**Hokuryu**	**1.45**	**348**	⇓P	Pn	15 30 31.9	+0.4
JHR				*eS*	Sn	15 30 50.8	+1.4
JAR	**Ashorobuto**	**1.53**	**50**	⇓P	Pn	15 30 31.8	-0.8
JAR				*eS*	Sn	15 30 50.5	-0.9
ASAJ	**Asahikawa**	**1.81**	**10**	P	Pn	15 30 36.5	+0.1
	65nm,0.3s,baz=220,slow=12,SNR=1574						
ASAJ				S	Sn	15 30 58.0	-0.4
	46nm,0.3s,baz=311,slow=19,SNR=24						
YUK	**Yuzh-Kuril'sk**	**3.20**	**57**	*e*PN	Pn	15 30 55.6	+0.2
YUK				*i* S	Sn	15 31 34.8	+2.5
YUK				pmax	pmax		
	comp=E,71nm,0.2s						
YUK				pmax	pmax		
	comp=N,19nm,0.2s						
YUK				pmax	pmax		
	comp=Z,103nm,0.2s						
YUK				smax	smax		
	comp=E,212nm,0.6s						
YUK				smax	smax		
	comp=N,127nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**3.20**	**57**	*e*P	Pn	15 30 55.6	+0.2
YUK				AMB	AMB	15 30 56.6	
	comp=N,19nm,0.2s						
YUK				AMB	AMB	15 30 56.6	
	comp=N,71nm,0.2s						
YUK				AMB	AMB	15 30 56.6	
	comp=N,103nm,0.2s						
YUK				*i* S	Sn	15 31 34.8	+2.5
YUK				A	A	15 31 40.4	
	comp=N,126nm,0.6s						
YUK				A	A	15 31 40.4	
	comp=N,212nm,0.6s						
YSS	**Yuzh-Sakhalins**	**4.64**	**5**	*e*PN	Pn	15 31 15.9	+0.7
YSS	**Yuzh-Sakhalins**	**4.64**	**5**	*e*P	Pn	15 31 15.9	+0.7
YSS				*e*rx	rx	15 31 22.0	
KUR	**Kuril'sk**	**5.05**	**53**	PN	Pn	15 31 23.5	+2.8
KUR				S	Sn	15 32 20.6	+2.9
KUR				smax	smax		
	comp=E,24nm,0.6s						
KUR				smax	smax		
	comp=N,22nm,0.7s						
KUR	**Kuril'sk**	**5.05**	**53**	*e*P	Pn	15 31 23.5	+2.8
KUR				*e*S	Sn	15 32 20.6	+2.9
KUR				A	A	15 32 29.5	
	comp=N,22nm,0.6s						
KUR				A	A	15 32 29.5	
	comp=N,24nm,0.6s						
MAT	**Matsushiro**	**6.54**	**209**	P	Pn	15 31 43.4	+2.2
KSRS	**Korea Array**	**11.96**	**251**	P	Pn	15 32 58.1	+2.7
	comp=N,0.1nm,0.3s,baz=62,slow=14,SNR=2.9						
KSRS				S	Sn	15 35 12.1	+4.9
	comp=N,0.1nm,0.3s,baz=187,slow=24,SNR=2.9						
PETK	**Petropavlovsk-**	**14.99**	**39**	P	Pn	15 33 35.3	-0.6
PETK	**Petropavlovsk-**	**14.99**	**39**	P	Pn	15 33 35.3	-0.6
	comp=N,0.2nm,0.3s,baz=203,slow=10,SNR=6.4						
SEY	**Seymchan**	**21.50**	**13**	⇓*i*P	P	15 34 49.5	-2.0
SEY	**Seymchan**	**21.50**	**13**	*e*P	P	15 34 49.5	-2.0
SONM	**Songino Array**	**25.68**	**295**	P	P	15 35 32.8	+0.3
	comp=N,0.5nm,0.9s,baz=78,slow=8.0,SNR=3.4						
KRAR	**Krasnoyarsk**	**34.23**	**311**	⇓*e*P	P	15 36 48.6	+0.8
ZALV	**Zalesovo Beam**	**38.95**	**308**	P	P	15 37 28.1	+0.1
ZALV						15 39 36.5	
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZALV	**Zalesovo Beam**	**38.95**	**308**	P	P	15 37 28.1	+0.1
	comp=Z,0.3nm,0.3s,baz=88,slow=8.8,SNR=3.4						
ZALV				PcP	PcP	15 39 36.5	-1.0
	comp=Z,0.9nm,0.5s,baz=83,slow=4.5,SNR=5.3						
MKAR	**Makanchi Array**	**41.99**	**297**	P	P	15 37 53.4	+0.2
MKAR	**Makanchi Array**	**41.99**	**297**	P	P	15 37 53.4	+0.2
	comp=Z,0.2nm,0.5s,baz=87,slow=7.7,SNR=4.8						
KURK	**Kurchatov**	**43.28**	**304**	⇓P	P	15 38 03.6	0.0
KURK				pmax	pmax		
	comp=Z,1.0nm,1.1s						
KURK	**Kurchatov**	**43.28**	**304**	*e*P	P	15 38 03.6	0.0
KURBB	**Kurchatov Arra**	**43.36**	**304**	P	P	15 38 03.8	-0.4
	comp=Z,1.2nm,0.5s,baz=76,slow=8.7,SNR=7.3						
KURBB				PcP	PcP	15 39 51.5	-0.4
	comp=Z,0.2nm,0.5s,baz=82,slow=3.3,SNR=4.1						
COLA	**College**	**44.36**	**35**	*e*P	P	15 38 11.3	-0.7
ILAR	**Eielson Array**	**44.78**	**35**	P	P	15 38 15.3	-0.1
	comp=Z,1.5nm,0.7s,baz=273,slow=7.9,SNR=18						
BVAR	**Borovoye Array**	**47.56**	**309**	P	P	15 38 37.5	+0.1
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BVAR	**Borovoye Array**	**47.56**	**309**	P	P	15 38 37.5	+0.1
	comp=Z,1.0nm,0.4s,baz=74,slow=8.7,SNR=6.6						
INK	**Inuvik**	**49.45**	**29**	P	P	15 38 51.3	-0.4
AKTO	**Aktyubinsk**	**55.65**	**310**	P	P	15 39 37.1	-0.7
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AKTO	**Aktyubinsk**	**55.65**	**310**	P	P	15 39 37.1	-0.7
	comp=Z,1.1nm,0.8s,baz=76,slow=8.3,SNR=3.8						
ARCES	**ARCESS Array B**	**59.27**	**339**	P	P	15 40 01.8	-1.1
	comp=Z,2.3nm,0.9s,baz=27,slow=8.1,SNR=4.7						
JOF	**Joensuu**	**61.59**	**331**	*e*P	P	15 40 17.9	-1.0
JOF				pmax	pmax		
	comp=Z,3.0nm,0.6s						
JOF	**Joensuu**	**61.59**	**331**	*e*p	P	15 40 17.9	-1.0
	comp=Z,2.8nm,0.6s						
WRA	**Warramunga Arr**	**62.38**	**188**	P	P	15 40 24.1	-0.5
	comp=Z,0.4nm,0.6s,baz=6.4,slow=6.9,SNR=6.6						
KAF	**Kangasniemi**	**63.89**	**332**	*e*P	P	15 40 32.1	-2.1
KAF	**Kangasniemi**	**63.89**	**332**	*e*p	P	15 40 32.1	-2.1
FINES	**FINESS Array B**	**64.42**	**331**	P	P	15 40 37.2	-0.4
	comp=Z,4.6nm,0.6s,baz=58,slow=8.4,SNR=33						
ASAR	**Alice Springs**	**66.11**	**188**	P	P	15 40 47.2	-1.7
	comp=Z,0.2nm,0.9s,baz=2.1,slow=7.1,SNR=2.9						
NB2	**NORSAR Subarra**	**69.54**	**337**	P	P	15 41 09.9	-0.3
	comp=Z,2.4nm,0.6s,baz=36,slow=6.5						
NOA	**NORSAR Array B**	**69.54**	**337**	P	P	15 41 09.4	-0.8
	comp=Z,2.5nm,0.6s,baz=36,slow=6.2,SNR=10						
AKASG	**Malin Array Be**	**70.48**	**322**	P	P	15 41 15.5	-0.6
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**70.48**	**322**	P	P	15 41 15.5	-0.6
	comp=Z,1.0nm,0.5s,baz=42,slow=6.0,SNR=6.9						
NVAR	**Mina Array Bea**	**71.41**	**55**	P	P	15 41 22.6	+0.3
	comp=Z,0.2nm,0.5s,baz=294,slow=6.8,SNR=2.7						
CLL	**Collm**	**76.80**	**330**	*e*P	P	15 41 52.0	-1.1
CLL	**Collm**	**76.80**	**330**	*e*P	P	15 41 52.0	-1.1
GERES	**GERESS Array B**	**78.52**	**328**	P	P	15 42 03.4	+0.5
	comp=Z,0.1nm,0.3s,baz=21,slow=8.4,SNR=3.2						
TXAR	**Lajitas Array**	**86.46**	**53**	P	P	15 42 45.5	+0.9
	comp=Z,0.4nm,0.6s,baz=300,slow=4.7,SNR=6.4						
SIV	**San Ignacio**	**147.04**	**44**	PKPbc	PKPbc	15 49 44.7	+0.1
	comp=Z,1.0nm,0.5s,baz=315,slow=2.9,SNR=5.3						

*IDC **20** 15:32:28.1±2.0, 2°85S×128°66E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.4/20, mbtmp3.4/4, ML3.4/1, MS3.9/1, Ms1 3.9/1, ms1mx2.5/21, Error ellipse: s-maj=174.6km s-min=24.9km az=69.0*
*ISCJB **20** 15:32:33.5±0.6, 2°97S±0°06×129°01E±0°04, h58km±7km, mb3.4/3, MS3.8/1, Error ellipse: s-maj=10.0km s-min=6.4km az=161.8*
*DJA **20** 15:32:34.2±0.4, 3°S±3°×12°9E±°, h39km±4km, M3.2/7, MLv3.2/7*

ISC 20 15:32:34.6±1.0, 3°00S±0°07×129°00E±0°05, h54km±11km, n11, σ1§09/16, mb3.4/3, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.35**	**191**	P	Pn	15 32 44.9	+0.2
MSAI				S	Sn	15 32 51.2	-0.7
AAI	**Ambon**	**1.05**	**229**	P	Pn	15 32 52.8	-0.4
AAI				S	Sn	15 33 07.2	+0.2
BNDI	**Bandanaira**	**1.77**	**149**	P	Pn	15 33 01.9	-1.0
BNDI				S	Sn	15 33 23.2	-1.0
NLAI	**Namlea**	**1.91**	**263**	P	Pn	15 33 04.6	-0.2
NLAI				S	Sn	15 33 28.5	+0.8
SWI	**Sorong**	**3.10**	**47**	P	Pn	15 33 20.4	-0.7
SWI				S	Sn	15 33 57.2	+0.2
FAKI	**Fak Fak**	**3.25**	**89**	P	Pn	15 33 24.5	+1.3
FAKI				S	Sn	15 34 00.3	-0.4
WRA	**Warramunga Arr**	**17.63**	**163**	Pn	P	15 36 38.5	+1.5
	0.1nm,0.3s,baz=345,slow=13,SNR=9.3						
ASAR	**Alice Springs**	**21.09**	**167**	P	P	15 37 16.6	+1.9
	1.9nm,1.0s,baz=345,slow=11,SNR=15						
CBIJ	**Chichi jima**	**32.51**	**22**	LR	LR	15 49 50.8	
	comp=Z,180nm,18.4s,baz=134,slow=32						
MKAR	**Makanchi Array**	**64.36**	**326**	P	P	15 43 04.4	-0.6
	0.3nm,0.6s,baz=115,slow=6.5,SNR=2.7						
KURBB	**Kurchatov Arra**	**68.60**	**328**	P	P	15 43 30.4	-1.5
	0.3nm,0.7s,baz=129,slow=5.8,SNR=4.8						

IDC 20 15:50:12.7±1.6, 32°18S×111°85W, h0km, mb3.9/5, mb1 4.3/5, mb1mx4.0/16, mbtmp3.9/5, MS3.9/9, Ms1 3.9/9, ms1mx3.8/18, Error ellipse: s-maj=57.5km s-min=26.8km az=38.0, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**34.04**	**116**	P	P	15 56 60.0	+1.3
	1.5nm,0.8s,baz=262,slow=8.6,SNR=4.1						
PLCA				LR	LR	16 07 10.8	
	comp=Z,274nm,18.4s,baz=285,slow=30						
PPT	**Papeete**	**36.98**	**284**	LR	LR	16 09 05.7	
	comp=Z,270nm,19.1s,baz=119,slow=31						
LPAZ	**La Paz**	**42.58**	**79**	P	P	15 58 10.6	-0.9
	3.9nm,0.9s,baz=245,slow=6.6,SNR=11						
LPAZ				LR	LR	16 12 22.2	
	comp=Z,78nm,21.6s,baz=232,slow=31						
CPUP	**Villa Florida**	**47.51**	**98**	LR	LR	16 15 18.4	
	comp=Z,160nm,18.3s,baz=63,slow=32						
VNDA	**Vanda**	**58.05**	**195**	LR	LR	16 20 36.6	
	comp=Z,132nm,18.0s,baz=108,slow=31						
BDFB	**Brasilia**	**59.85**	**90**	LR	LR	16 23 57.8	
	comp=Z,86nm,19.2s,baz=215,slow=34						
TXAR	**Lajitas Array**	**61.67**	**8**	P	P	16 00 33.0	+0.4
	1.1nm,1.0s,baz=191,slow=9.0,SNR=6.8						
TXAR				LR	LR	16 22 55.5	
	comp=Z,55nm,18.7s,baz=185,slow=32						
NVAR	**Mina Array Bea**	**70.51**	**355**	P	P	16 01 30.0	+0.7
	1.1nm,0.8s,baz=187,slow=6.4,SNR=3.7						
PDAR	**Pinedale Array**	**74.61**	**2**	P	P	16 01 53.3	-0.4
	2.0nm,1.1s,baz=188,slow=5.9,SNR=6.2						
PDAR				LR	LR	16 28 30.8	
	comp=Z,43nm,19.0s,baz=352,slow=31						
MAW	**Mawson**	**80.44**	**178**	LR	LR	16 36 21.1	
	comp=Z,90nm,18.4s,baz=34,slow=34						
AKASG	**Malin Array Be**	**145.95**	**46**	PKPbc	PKPdf	16 09 52.0	-1.1
	0.5nm,0.4s,baz=291,slow=3.1,SNR=7.6						
SONM	**Songino Array**	**147.18**	**310**	PKPbc	PKPdf	16 09 56.1	+0.6
	1.2nm,0.9

comp=Z,58nm,20.1s,baz=247,slow=34
MKAR Makanchi Array 47.39 306 P **P 16 24 07.8 +2.0**
0.6nm,0.7s,baz=98,slow=9.1,SNR=4.3
KURBB Kurchatov Arra 49.59 311 P **P 16 24 23.6 +1.0**
0.2nm,0.4s,baz=89,slow=7.7,SNR=7.1
WRA Warramunga Arr 52.62 190 P **P 16 24 44.9 -0.7**
0.6nm,0.7s,baz=7.5,slow=7.6,SNR=5.9
ILAR Eielson Array 53.01 30 P **P 16 24 47.7 -0.3**
0.3nm,0.9s,baz=233,slow=7.5,SNR=2.7

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*IDC **20** 16:27:01.9±1.3, 7°.50N×127°.17E, h0km, mb3.8/4, mb1 3.8/4, mb1mx3.5/24, mbtmp3.8/4, Error ellipse: s-maj=61.7km s-min=26.6km az=72.0*
*ISCJB **20** 16:27:07.0±1.1, 6°.42N±0°.05×124°.59E±0°.06, h24km±9km, mb3.7/4, Error ellipse: s-maj=9.9km s-min=9.0km az=176.2*
*MAN **20** 16:27:06, 6°.42N×124°.63E, h16km, mb4.6, ML3.5, MS3.5*
ISC 20 16:27:05.9±2.1, 6°.48N±0°.05×124°.62E±0°.06, h5km±14km, n12, σ1§14/16, mb3.9/4, 2C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**0.51**	**140⇑**	*eP*	**Pn**	**16 27 19.0**	**-1.1**
GSPH				*i* S	**Sn**	**16 27 31.1**	**+2.0**
KCP	**Kidapawan**	**0.71**	**42⇓**	*eP*	**Pg**	**16 27 20.4**	**+0.9**
KCP				*i* S	**Sn**	**16 27 32.9**	**-1.1**
CTBH	**Cotabato--PC H**	**0.83**	**333⇑**	*eP*	**Pb**	**16 27 21.3**	**-1.4**
BUKP	**Musuan**	**1.46**	**18**	*eP*	**Pb**	**16 27 33.3**	**-0.3**
BUKP				*e*S	**Sb**	**16 27 52.3**	**-0.2**
MATI	**Mati**	**1.69**	**74**	*eP*	**Pn**	**16 27 35.3**	**-0.8**
PAGZ	**Pagadian**	**1.83**	**318**	*eP*	**Pn**	**16 27 37.1**	**-1.0**
CGP	**Cagayan de Oro**	**1.97**	**2**	*eP*	**Pn**	**16 27 40.3**	**+0.4**
CGP				*i* S	**Sn**	**16 28 05.7**	**+0.7**
IPIL	**Ipil**	**2.41**	**303⇓**	*iP*	**Pn**	**16 27 46.0**	**0.0**
IPIL				*i* S	**Sn**	**16 28 16.5**	**+0.5**
WRA	**Warramunga Arr**	**27.94**	**160**	P	**P**	**16 32 56.2**	**-1.3**
PETK	**Petropavlovsk-**	**53.74**	**24**	P	P	16 36 11.1	-18
	3.2nm,0.6s,baz=201,slow=7.7,SNR=3.9						
MKAR	**Makanchi Array**	**54.11**	**325**	P	**P**	**16 36 33.3**	**+1.4**
	0.5nm,0.6s,baz=124,slow=8.5,SNR=4.2						
KURBB	**Kurchatov Arra**	**58.31**	**327**	P	**P**	**16 37 02.5**	**+0.8**
	0.4nm,0.3s,baz=138,slow=7.4,SNR=4.0						

IDC 20 16:35:05.2±8.2, 15°.01S×175°.91W, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/16, mbtmp3.5/3, Error ellipse: s-maj=367.3km s-min=35.1km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**47.57**	**257**	P	P	16 43 43.4	+0.4
	0.8nm,1.2s,baz=90,slow=7.8,SNR=6.0						
ASAR	**Alice Springs**	**47.93**	**252**	P	P	16 43 45.2	-0.5
	0.4nm,0.4s,baz=88,slow=8.4,SNR=9.6						
ILAR	**Eielson Array**	**82.56**	**12**	P	P	16 47 29.6	0.0
	0.2nm,0.6s,baz=220,slow=5.3,SNR=3.2						

IDC 20 16:44:03.0±2.7, 6°.30S×146°.90E, h0km, mb2.5/1, mb1 3.2/3, mb1mx3.1/17, mbtmp3.0/3, ML2.8/2, Error ellipse: s-maj=62.8km s-min=32.5km az=86.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.09**	**175**	Pn	Pn	16 44 54.5	+1.4
	2.0nm,0.3s,baz=21,slow=3.7,SNR=7.0						
PMG				Sn	Sn	16 45 32.2	+1.4
	1.5nm,0.3s,baz=43,slow=18,SNR=3.2						
WRA	**Warramunga Arr**	**18.24**	**221**	P	Pn	16 48 17.1	-0.7
	0.1nm,0.3s,baz=48,slow=12,SNR=7.1						
ASAR	**Alice Springs**	**21.31**	**215**	P	P	16 48 51.4	-0.2
	0.1nm,0.6s,baz=53,slow=8.6,SNR=7.1						
TORD	**Torodi Ar. Bea**	**145.07**	**284**	PKPbc	PKPbc	17 03 41.8	-1.1
	0.4nm,0.8s,baz=109,slow=3.6,SNR=3.6						

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*AUST **20** 17:04:50.2, 5°.43S×131°.75E, h20km*
*IDC **20** 17:04:59.7±2.3, 6°.75S×133°.39E, h0km, mb3.3/1, mb1 3.4/4, mb1mx3.3/17, mbtmp3.3/4, ML2.9/3, Error ellipse: s-maj=87.3km s-min=26.5km az=92.0*
ISC 20 17:05:00.6±1.3, 6°.77S±0°.07×133°.5E±0°.2, h10km, n7, σ1§20/7, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**4.02**	**342**	S	**Pn**	**17 06 00.9**	**-1.4**
	baz=2.6,SNR=5.0						
KDU	**Kakadu**	**5.96**	**190**	P	Pn	17 06 35.4	+6.4
	baz=7.3,SNR=5.7						
SWI	**Sorong**	**6.28**	**339**	S	**Pb**	**17 06 51.4**	**+1.3**
	baz=4.6,SNR=13						
WRA	**Warramunga Arr**	**13.12**	**177**	Pn	**Pn**	**17 08 07.7**	**+0.5**
	0.0nm,0.3s,baz=357,slow=13,SNR=4.0						
WRA				Sn	S	17 10 46.8	-12
	0.0nm,0.3s,baz=342,slow=26,SNR=2.5						
FITZ	**Fitzroy Crossi**	**13.62**	**214**	Pn	**Pn**	**17 08 13.4**	**-0.6**
	0.1nm,0.3s,baz=22,slow=16,SNR=5.9						
FITZ				Sn	**Sn**	**17 10 46.3**	**+0.8**
	0.0nm,0.3s,baz=344,slow=20,SNR=2.0						
ASAR	**Alice Springs**	**16.80**	**179**	Pn	**P**	**17 08 57.5**	**-0.8**
	0.1nm,0.3s,baz=5.6,slow=11,SNR=4.5						
SONM	**Songino Array**	**59.40**	**339**	P	**P**	**17 15 03.7**	**+0.3**
	0.2nm,0.5s,baz=140,slow=7.5,SNR=2.4						

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*CSEM **20** 17:19:13.7, 37°.03N×28°.11E, h16km, MD2.1, After ISK*
ISK 20 17:19:13.7, 37°.03N×28°.11E, h16km, MD2.1, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.18**	**53**	*e*PG	Pb	17 19 18.6	-0.2
YER				*e*SG	Sb	17 19 22.0	-0.1
YER	**Yerkesik**	**0.18**	**53**	*e*Pg	Pb	17 19 18.6	-0.1
YER				*e*Sg	Sb	17 19 22.0	-0.1
DALY	**Dalyan (Mu¨la**	**0.49**	**116**	*e*PG	Pb	17 19 23.9	0.0
DALY	**Dalyan (Mu¨la**	**0.49**	**116**	*e*Pg	Pb	17 19 23.9	0.0
DAT	**Datca**	**0.52**	**235**	*e*PG	Pg	17 19 24.1	-0.1
DAT				*e*SG	Sb	17 19 32.5	+0.5
DAT	**Datca**	**0.52**	**235**	*e*Pg	Pg	17 19 24.1	-0.1
DAT				*e*Sg	Sb	17 19 32.5	+0.5
BODT	**Bodrum**	**0.64**	**273**	*e*PG	Pb	17 19 27.0	+0.5
BODT				*e*SG	Sb	17 19 35.9	+0.7
BODT	**Bodrum**	**0.64**	**273**	*e*Pg	Pb	17 19 27.0	+0.5
BODT				*e*Sg	Sb	17 19 35.9	+0.7

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*CSEM **20** 17:20:23.2, 43°.08N×13°.04E, h14km, MD1.5/4, After ROM*
ROM 20 17:20:23.2±0.2, 43°.08N×13°.04E, h14km±1km, Md1.5/4, Ml0.6/1, Error ellipse: s-maj=2.3km s-min=1.7km az=66.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FDMO	**Fiordimonte**	**0.06**	**140**	Pg	Pg	17 20 26.3	+0.4
FDMO				Sg	Sg	17 20 28.2	+0.4
	36nm,0.1s						
FDMO	**Fiordimonte**	**0.06**	**140**	Pg	Pg	17 20 26.3	+0.4
FDMO				Sg	Sg	17 20 28.2	+0.4
	36nm,0.1s						
CESI	**CESI - Serrava**	**0.12**	**233**	Pg	Pg	17 20 27.0	+0.3
CESI				Sg	Sg	17 20 29.5	+0.4
	12nm,0.2s						
CESI	**CESI - Serrava**	**0.12**	**233**	Pg	Pg	17 20 27.0	+0.3
CESI				Sg	Sg	17 20 29.5	+0.4
	12nm,0.2s						
SNTG	**Esanatoglia**	**0.19**	**338**	Pg	Pg	17 20 28.0	+0.3
SNTG				Sg	Sg	17 20 30.9	+0.2
	5.0nm,0.2s						
SNTG	**Esanatoglia**	**0.19**	**338**	Pg	Pg	17 20 28.0	+0.3
SNTG				Sg	Sg	17 20 30.9	+0.2
	5.0nm,0.2s						
NRCA	**Norcia**	**0.25**	**167**	Pg	Pg	17 20 29.1	+0.4
NRCA				Sg	Sg	17 20 32.8	+0.3
	5.0nm,0.1s						
NRCA	**Norcia**	**0.25**	**167**	Pg	Pg	17 20 29.1	+0.4
NRCA				Sg	Sg	17 20 32.8	+0.3
	5.0nm,0.1s						

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*NIED **20** 17:39:00, 46°.10N×152°.30E, h38km, Mw4.5 Best double couple: M0 6.85000×10^15 NP1:φs225.00000°, δ72.00000°, λ-161.00000°. NP2:φs129.00000°, δ72.00000°, λ-19.00000°.*
*MOS **20** 17:39:02.2±1.0, 46°.06N×152°.16E, h37km, mb4.8/18, Error ellipse: s-maj=10.3km s-min=6.8km az=101.8*
*ISCJB **20** 17:39:03.5±0.4, 46°.04N±0°.06×152°.08E±0°.07, h48km, mb4.3/45, Error ellipse: s-maj=10.2km s-min=4.8km az=150.7*
*SKHL **20** 17:39:04.8±0.3, 46°.08N×152°.23E, h60km±5km, mb4.7/4, Ms3.9/1*
*NEIC **20** 17:39:04.7±1.1, 46°.01N×152°.04E, h48km±8km, mb4.7/11, Error ellipse: s-maj=12.6km s-min=7.4km az=140.0*
*BJI **20** 17:39:04.2, 46°.12N×152°.49E, h81km, mB4.8/4, mb4.3/6, Ms4.2/2, Ms7 4.1/2*
*IDC **20** 17:39:06.0±2.8, 46°.06N×152°.03E, h60km±24km, mb3.8/15, mb1 4.0/19, mb1mx3.9/26, mbtmp4.1/19, ML3.8/3, Error ellipse: s-maj=17.9km s-min=13.9km az=151.0*
ISC 20 17:39:04.5±0.6, 46°.06N±0°.08×152°.12E±0°.07, h48km, n190, σ1§03/197, mb4.4/45, 16C-19D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.10**	**256**	*e i*PN	**Pn**	**17 39 52.4**	**+1.6**
KUR				*i* S	**Sn**	**17 40 28.3**	**+1.8**
KUR				pmax	pmax		
	comp=Z,129nm,0.4s						
KUR				pmax	pmax		
	comp=E,10.0nm,0.4s						
KUR				pmax	pmax		
	comp=N,20nm,0.4s						
KUR				smax	smax		
	comp=N,73nm,0.6s						
KUR				smax	smax		
	comp=E,291nm,0.6s						
KUR	**Kuril'sk**	**3.10**	**256**	*i* P	**Pn**	**17 39 52.4**	**+1.6**
KUR				AMB	AMB	17 39 53.0	
	comp=E,20nm,0.4s						
KUR				AMB	AMB	17 39 53.0	
	comp=E,11nm,0.4s						
KUR				AMB	AMB	17 39 53.0	
	comp=E,129nm,0.4s						
KUR				*i* S	**Sn**	**17 40 28.3**	**+1.8**
KUR				A	A	17 40 40.6	
	comp=E,291nm,0.6s						
KUR				A	A	17 40 40.6	
	comp=E,73nm,0.6s						
SKR	**Severo-Kuril's**	**5.34**	**28**	*e*PN	**Pn**	**17 40 20.0**	**-1.5**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR	**Severo-Kuril's**	**5.34**	**28**	*e*P	**Pn**	**17 40 20.0**	**-1.5**
SKR				AMB	AMB	17 40 27.0	
	comp=Z,80nm,0.5s						
SKR				*e*rx	rx	17 40 32.5	
YSS	**Yuzh-Sakhalins**	**6.53**	**281**	*e*PN	**Pn**	**17 40 40.2**	**+2.3**
YSS				pmax	pmax		
	comp=Z,30nm,0.9s						
YSS				MLR	MLR		
	comp=Z,400nm,16.0s						
YSS				MLR	MLR		
	comp=N,400nm,13.0s						
YSS				MLR	MLR		
	comp=E,400nm,13.0s						
YSS	**Yuzh-Sakhalins**	**6.53**	**281**	*e*P	**Pn**	**17 40 40.2**	**+2.3**
YSS				AMB	AMB	17 40 41.9	
	comp=E,30nm,0.9s						
YSS				*e*S	**Sn**	**17 41 51.5**	**+0.6**
YSS				AMS	AMS	17 43 06.5	
	comp=E,400nm,14.0s						
ASAJ	**Asahikawa**	**7.02**	**257**	*e*P	**Pn**	**17 40 44.3**	**-0.3**
	comp=E,17nm,0.9s						
ASAJ	**Asahikawa**	**7.02**	**257**	P	**Pn**	**17 40 46.4**	**+1.8**
	comp=E,2.7nm,0.3s,baz=99,slow=17,SNR=25						
UGL	**Uglegorsk**	**7.44**	**298**	*e*P	Pn	17 40 54.0	+3.6
UGL				AMB	AMB	17 40 55.0	
	comp=E,46nm,0.7s						
UGL				*e*rx	rx	17 41 04.5	
ERM	**Erimo**	**7.62**	**241**	*i*PN	**Pn**	**17 40 52.8**	**0.0**
ERM	**Erimo**	**7.62**	**241**	*e*P	**Pn**	**17 40 52.8**	**0.0**
ERM	**Erimo**	**7.62**	**241**	*e*P	**Pn**	**17 40 52.5**	**-0.4**
	comp=E,53nm,0.6s						
PETK	**Petropavlovsk-**	**7.93**	**25**	PN	**Pn**	**17 40 57.4**	**+0.3**
PETK	**Petropavlovsk-**	**7.93**	**25**	P	**Pn**	**17 40 57.4**	**+0.3**
PETK	**Petropavlovsk-**	**7.93**	**25**	P	**Pn**	**17 40 57.4**	**+0.3**
	comp=E,0.6nm,0.3s,baz=184,slow=13,SNR=18						
PET	**Petropavlovsk**	**8.16**	**29**	*e*P	**Pn**	**17 41 00.6**	**+0.4**
KLR	**Kul'dur**	**14.09**	**290**	*e*P	**Pn**	**17 42 19.2**	**-2.0**
KLR				MLR	MLR		
	comp=Z,600nm,14.5s						
MAJO	**Matsushiro**	**14.11**	**233**	*e*P	**Pn**	**17 42 20.7**	**-0.9**
USRK	**Ussuriysk Arra**	**14.33**	**270**	P	**Pn**	**17 42 24.4**	**0.0**
	comp=Z,0.2nm,0.3s,baz=86,slow=12,SNR=11						
SEY	**Seymchan**	**16.91**	**0**	*e*P	**Pn**	**17 42 57.5**	**+0.1**
SEY	**Seymchan**	**16.91**	**0**	*e*P	**Pn**	**17 42 57.5**	**+0.1**
KSRS	**Korea Array**	**19.94**	**253**	P	**Pn**	**17 43 34.0**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=56,slow=12,SNR=12						
KSAR	**Wonju Array Be**	**19.97**	**253**	P	**Pn**	**17 43 34.0**	**-0.6**
TIXI	**Tiksi**	**27.95**	**345**	*e*P	**P**	**17 44 49.7**	**-0.1**
TIXI				pmax	pmax		
	comp=Z,7.0nm,0.8s						
SONM	**Songino Array**	**30.92**	**290**	P	**P**	**17 45 17.1**	**+0.5**
SONM	**Songino Array**	**30.92**	**290**	P	**P**	**17 45 17.1**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=65,slow=8.1,SNR=2.3						
WHN	**Wuhan**	**33.09**	**255**	P	**P**	**17 45 35.5**	**-0.2**
XAN	**Xi'an**	**34.77**	**265**	P	**P**	**17 45 50.0**	**-0.3**
XAN				pmax	pmax		
	comp=Z,1.0nm,0.9s						
XAN				pmax	pmax		
	comp=Z,12nm,3.9s						
COLA	**College**	**37.10**	**38**	*e*P	**P**	**17 46 10.5**	**+0.7**
ILAR	**Eielson Array**	**37.52**	**38**	*e*P	**P**	**17 46 15.1**	**+1.8**
ILAR	**Eielson Array**	**37.52**	**38**	P	**P**	**17 46 13.6**	**+0.3**
ILAR	**Eielson Array**	**37.52**	**38**	P	**P**	**17 46 13.6**	**+0.3**
	comp=Z,1.1nm,1.0s,baz=276,slow=8.6,SNR=7.9						
ZALV	**Zalesovo Beam**	**42.46**	**306**	PcP	**PcP**	**17 48 47.4**	**+0.9**
ZALV	**Zalesovo Beam**	**42.46**	**306**	PcP	**PcP**	**17 48 47.4**	**+0.9**
	comp=Z,0.7nm,0.3s,baz=90,slow=4.4,SNR=5.1						
MKAR	**Makanchi Array**	**46.65**	**298**	P	**P**	**17 47 27.2**	**-0.8**
MKAR						17 49 01.6	
MKAR	**Makanchi Array**	**46.65**	**298**	*e*P	**P**	**17 47 30.1**	**+2.1**
MKAR	**Makanchi Array**	**46.65**	**298**	P	**P**	**17 47 27.2**	**-0.8**
MKAR				PcP	**PcP**	**17 49 01.6**	**+0.5**
MKAR	**Makanchi Array**	**46.65**	**298**	P	**P**	**17 47 27.2**	**-0.8**
	comp=Z,1.0nm,0.9s,baz=64,slow=6.5,SNR=5.1						
MKAR				PcP	**PcP**	**17 49 01.6**	**+0.5**
	comp=Z,1.3nm,0.7s,baz=72,slow=5.3,SNR=4.6						
KURK	**Kurchatov**	**47.18**	**304**	P	**P**	**17 47 31.4**	**-0.6**
KURK	**Kurchatov**	**47.18**	**304**	P	**P**	**17 47 31.4**	**-0.6**
KURBB	**Kurchatov Arra**	**47.27**	**304**	P	**P**	**17 47 31.4**	**-1.3**
	comp=Z,0.6nm,0.3s,baz=67,slow=8.9,SNR=3.0						
LSA	**Lhasa**	**49.62**	**273**	*e*P	**P**	**17 47 50.2**	**-1.5**
LSA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
LSA	**Lhasa**	**49.62**	**273**	*e*P	**P**	**17 47 50.1**	**-1.5**
	comp=Z,2.7nm,0.5s						
CHTO	**Chiang Mai**	**51.29**	**256**	*e*P	**P**	**17 48 01.7**	**-2.1**
CHTO				pmax	pmax		
	comp=Z,24nm,0.9s						
CHTO	**Chiang Mai**	**51.29**	**256**	*e*P	**P**	**17 48 01.7**	**-2.1**
	comp=Z,24nm,0.9s						
TAPN	**Taplejung**	**53.45**	**273**	*e*P	**P**	**17 48 20.9**	**+0.8**
	comp=Z,8.3nm,0.7s						
AAK	**Ala-Archa**	**53.53**	**296**	*i*P	**P**	**17 48 20.8**	**+0.5**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
AAK	**Ala-Archa**	**53.53**	**296**	*e*P	**P**	**17 48 20.8**	**+0.5**
JIRN	**Jiri**	**54.31**	**274**	*e*P	**P**	**17 48 27.4**	**+0.9**
	comp=Z,11nm,0.5s						
GUN	**Gumba**	**54.38**	**275**	*e*P	**P**	**17 48 27.6**	**+0.7**
RAMN	**Ramite**	**54.47**	**273**	*e*P	**P**	**17 48 28.0**	**+0.5**
	comp=Z,18nm,0.6s						
KKN	**Kakani**	**54.87**	**275**	*e*P	**P**	**17 48 31.0**	**+0.7**
	comp=Z,9.2nm,0.6s						
PKIN	**Phulchoki**	**54.92**	**275**	*e*P	**P**	**17 48 31.1**	**+0.4**
ARU	**Arti**	**55.06**	**317**	*e i*P	**P**	**17 48 30.3**	**-0.7**
ARU				S	**S**	**17 56 08.7**	**-0.9**
ARU				SS	**SS**	**17 59 49.6**	**-3.6**
ARU				pmax	pmax		
	comp=Z,5.0nm,1.2s						
ARU	**Arti**	**55.06**	**317**	*e*P	**P**	**17 48 30.4**	**-0.6**
DMN	**Daman**	**55.10**	**275**	*e*P	**P**	**17 48 32.9**	**+0.9**
DANN	**Dangsing**	**55.57**	**277**	*e*P	**P**	**17 48 36.7**	**+1.2**
	comp=Z,14nm,0.6s						
KKAR	**Karatay Array**	**55.73**	**299**	*e*P	**P**	**17 48 35.3**	**-0.8**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KKAR	**Karatay Array**	**55.73**	**299**	*e*P	**P**	**17 48 35.3**	**-0.8**
	comp=Z,1.6nm,0.8s						
KOLN	**Koldanda**	**56.04**	**276**	*e*P	**P**	**17 48 39.6**	**+0.9**
	comp=Z,11nm,0.9s						
PYUN	**Piuthan**	**56.26**	**277**	*e*P	**P**	**17 48 41.5**	**+1.2**
	comp=Z,40nm,0.6s						
ABKAR	**Akbulak array**	**58.34**	**310**	*e*P	**P**	**17 48 53.3**	**-1.0**
	comp=Z,0.6nm,0.4s						
NVAR	**Mina Array Bea**	**63.37**	**61**	P	**P**	**17 49 30.3**	**+1.3**
NVAR	**Mina Array Bea**	**63.37**	**61**	P	**P**	**17 49 30.3**	**+1.3**
	comp=Z,0.7nm,0.7s,baz=308,slow=7.9,SNR=5.5						
FINES	**FINESS Array B**	**64.37**	**334**	P	**P**	**17 49 33.6**	**-1.3**
FINES	**FINESS Array B**	**64.37**	**334**	P	**P**	**17 49 33.6**	**-1.3**
	comp=Z,3.8nm,0.7s,baz=32,slow=8.1,SNR=12						
PDAR	**Pinedale Array**	**65.71**	**53**	P	**P**	**17 49 45.2**	**+1.0**
PDAR	**Pinedale Array**	**65.71**	**53**	P	**P**	**17 49 45.2**	**+1.0**
	comp=Z,1.6nm,0.9s,baz=296,slow=2.4,SNR=10						
WRA	**Warramunga Arr**	**67.64**	**198**	P	**P**	**17 49 55.5**	**-0.9**
WRA	**Warramunga Arr**	**67.64**	**198**	P	**P**	**17 49 55.5**	**-0.9**
	comp=Z,0.6nm,0.6s,baz=16,slow=6.7,SNR=5.9						
NB2	**NORSAR Subarra**	**68.66**	**341**	P	**P**	**17 50 02.2**	**-0.1**
	comp=Z,2.1nm,0.6s,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**68.66**	**341**	P	**P**	**17 50 02.5**	**+0.2**
NOA	**NORSAR Array B**	**68.66**	**341**	P	**P**	**17 50 02.5**	**+0.2**
	comp=Z,2.8nm,0.6s,baz=28,slow=6.3,SNR=13						
KIV	**Kislovodsk**	**70.79**	**314**	*e*P	**P**	**17 50 16.4**	**+0.6**
KIV				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KBZ	**Khabaz**	**70.84**	**314**	P	**P**	**17 50 17.3**	**+1.3**
KBZ	**Khabaz**	**70.84**	**314**	P	**P**	**17 50 17.3**	**+1.3**
KBZ	**Khabaz**	**70.84**	**314**	P	**P**	**17 50 17.3**	**+1.3**
	comp=Z,7.0nm,0.9s,baz=107,slow=1.5,SNR=12						
ASAR	**Alice Springs**	**71.34**	**198**	P	**P**	**17 50 19.3**	**+0.2**
ASAR	**Alice Springs**	**71.34**	**198**	P	**P**	**17 50 19.3**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=15,slow=6.2,SNR=11						
AKASG	**Malin Array Be**	**71.74**	**326**	*e*P	**P**	**17 50 21.2**	**-0.1**
AKASG	**Malin Array Be**	**71.74**	**326**	P	**P**	**17 50 21.0**	**-0.3**
AKASG	**Malin Array Be**	**71.74**	**326**	P	**P**	**17 50 21.0**	**-0.3**
	comp=Z,5.1nm,0.7s,baz=33,slow=6.2,SNR=14						
STHS	**Stebnicka Huta**	**75.77**	**329**	*e*P	**P**	**17 50 46.1**	**+1.1**
STHS				pmax	pmax		
	comp=Z,5.0nm,0.8s						
STHS	**Stebnicka Huta**	**75.77**	**329**	*e*P	**P**	**17 50 46.0**	**+1.1**
KOLS	**Kolonicke sedl**	**75.80**	**329**	*e*P	**P**	**17 50 45.9**	**+0.8**
KOLS				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KOLS	**Kolonicke sedl**	**75.80**	**329**	*e*P	**P**	**17 50 45.9**	**+0.8**
CRVS	**Cervenica-Dubn**	**76.12**	**329**	*e*P	**P**	**17 50 47.7**	**+0.7**
CRVS				pmax	pmax		
	comp=Z,3.0nm,0.9s						
CRVS	**Cervenica-Dubn**	**76.12**	**329**	*e*P	**P**	**17 50 47.7**	**+0.7**
TRPA	**Tarpa**	**76.37**	**328**	*i*P	**P**	**17 50 49.8**	**+1.5**
OKC	**Ostrava-Krasne**	**76.47**	**331**	*e*P	**P**	**17 50 50.4**	**+1.5**
OKC	**Ostrava-Krasne**	**76.47**	**331**	*i*P	**P**	**17 50 50.4**	**+1.5**
UPC	**Upice**	**76.59**	**333**	*e*P	**P**	**17 50 50.5**	**+0.9**
UPC	**Upice**	**76.59**	**333**	*i*P	**P**	**17 50 50.5**	**+0.9**
DPC	**Dobruska-Polom**	**76.63**	**333**	*e*P	**P**	**17 50 51.0**	**+1.2**
DPC	**Dobruska-Polom**	**76.63**	**333**	*e*P	**P**	**17 50 51.0**	**+1.2**
KRLC	**Kraliky**	**76.72**	**332**	*e*P	**P**	**17 50 51.3**	**+0.9**
KRLC	**Kraliky**	**76.72**	**332**	*i*P	**P**	**17 50 51.3**	**+0.9**
CLL	**Collm**	**76.81**	**335**	*i*P	**P**	**17 50 50.9**	**+0.1**
CLL				pmax	pmax		
	comp=Z,8.0nm,0.9s						
CLL	**Collm**	**76.81**	**335**	*i*P	**P**	**17 50 50.9**	**+0.1**
	comp=Z,8.0nm,0.9s						
KECS	**Kecovo**	**76.82**	**329**	*e*P	**P**	**17 50 52.0**	**+1.1**
KECS				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KECS	**Kecovo**	**76.82**	**329**	*e*P	**P**	**17 50 52.0**	**+1.1**
BRG	**Berggiesshubel**	**76.91**	**334**	*e*P	**P**	**17 50 51.6**	**+0.3**
	comp=Z,4.8nm,1.2s						
BRG	**Berggiesshubel**	**76.91**	**334**	*e*P	**P**	**17 50 51.7**	**+0.3**
BRG				pmax	pmax		
	comp=Z,5.0nm,1.2s						
MLR	**Muntele Rosu**	**77.23**	**324**	*i*P	**P**	**17 50 54.4**	**+1.0**
VYHS	**Vyhne**	**77.39**	**330**	*e*P	**P**	**17 50 55.1**	**+0.9**
VYHS				pmax	pmax		
	comp=Z,3.0nm,0.9s						
VYHS	**Vyhne**	**77.39**	**330**	*e*P	**P**	**17 50 55.0**	**+0.9**
DRGR		**77.42**	**327**	P	**P**	**17 50 55.3**	**+0.9**
DRGR		**77.42**	**327**	*i*P	**P**	**17 50 55.3**	**+0.9**
PRU	**Pruhonice**	**77.50**	**334**	*e*P	**P**	**17 50 55.0**	**+0.3**
PRU	**Pruhonice**	**77.50**	**334**	*i*P	**P**	**17 50 55.0**	**+0.3**
PSZ	**Piszkesteto**	**77.51**	**329**	P	**P**	**17 50 55.9**	**+1.0**
PSZ	**Piszkesteto**	**77.51**	**329**	*i*P	**P**	**17 50 55.9**	**+1.0**
TREC	**Trest**	**77.81**	**333**	*e*P	**P**	**17 50 57.1**	**+0.6**
TREC	**Trest**	**77.81**	**333**	*i*P	**P**	**17 50 57.1**	**+0.6**
SMOL	**Smolenice**	**77.85**	**331**	*e*P	**P**	**17 50 58.2**	**+1.5**
SMOL	**Smolenice**	**77.85**	**331**	*e*P	**P**	**17 50 58.2**	**+1.5**
ARR	**Arges**	**77.86**	**325**	*i*P	**P**	**17 50 58.7**	**+1.8**
NKC	**Novy Kostel**	**77.92**	**335**	*e*P	**P**	**17 50 57.5**	**+0.4**
NKC	**Novy Kostel**	**77.92**	**335**	*i*P	**P**	**17 50 57.5**	**+0.4**
SIRR	**Siria**	**78.26**	**327**	*i*P	**P**	**17 50

SMF	**Signal de Mont**	**83.56 339**	*e*P		**P**		**17 51 27.8 +0.6**
SMF			pmax		pmax		
comp=Z,12nm,1.0s							
SMF	**Signal de Mont**	**83.56 339**	*e*P		**P**		**17 51 27.8 +0.6**
comp=Z,12nm,1.0s							
LPL	**La Plagne**	**83.83 336**	*e*P		**P**		**17 51 29.7 +0.8**
LPL	**La Plagne**	**83.83 336**	*e*P		**P**		**17 51 29.7 +0.8**
LPL	**La Plagne**	**83.83 336**	*e*P		**P**		**17 51 29.7 +0.8**
LPG	**La Plagne**	**83.85 336**	*e*P		**P**		**17 51 29.9 +0.8**
LPG	**La Plagne**	**83.85 336**	*e*P		**P**		**17 51 29.9 +0.8**
LPG	**La Plagne**	**83.85 336**	*e*P		**P**		**17 51 29.9 +0.8**
BGF	**Bois d'Agland**	**83.89 339**	*e*P		**P**		**17 51 29.7 +0.8**
BGF	**Bois d'Agland**	**83.89 339**	*e*P		**P**		**17 51 29.7 +0.8**
BGF	**Bois d'Agland**	**83.89 339**	*e*P		**P**		**17 51 29.7 +0.8**
TCF	**Toulx Ste Croi**	**84.30 340**	*e*P		**P**		**17 51 31.7 +0.7**
comp=Z,5.5nm,0.8s							
TCF	**Toulx Ste Croi**	**84.30 340**	*e*P		**P**		**17 51 31.7 +0.7**
TCF			pmax		pmax		
comp=Z,6.0nm,0.8s							
TCF	**Toulx Ste Croi**	**84.30 340**	*e*P		**P**		**17 51 31.7 +0.7**
comp=Z,5.5nm,0.8s							
MFF	**Saint Martin d**	**84.56 341**	*e*P		**P**		**17 51 34.5 +2.2**
MFF	**Saint Martin d**	**84.56 341**	*e*P		**P**		**17 51 34.5 +2.2**
MFF	**Saint Martin d**	**84.56 341**	*e*P		**P**		**17 51 34.5 +2.2**
ORIF	**Oris-en-Rattie**	**84.62 337**	*e*P		**P**		**17 51 33.7 +0.9**
comp=Z,9.0nm,0.9s							
ORIF	**Oris-en-Rattie**	**84.62 337**	*e*P		**P**		**17 51 33.7 +0.9**
ORIF			pmax		pmax		
comp=Z,9.0nm,0.9s							
ORIF	**Oris-en-Rattie**	**84.62 337**	*e*P		**P**		**17 51 33.7 +0.9**
comp=Z,9.0nm,0.9s							
VIVF	**Saint-Julien-l**	**85.01 337**	*e*P		**P**		**17 51 35.6 +1.0**
VIVF	**Saint-Julien-l**	**85.01 337**	*e*P		**P**		**17 51 35.6 +1.0**
VIVF	**Saint-Julien-l**	**85.01 337**	*e*P		**P**		**17 51 35.6 +1.0**
SNAA	**Sanae**	**151.70 196**	PKPbc		**PKPbc**		**17 58 50.5 -1.7**
SNAA	**Sanae**	**151.70 196**	PKPbc		**PKPbc**		**17 58 50.5 -1.7**
comp=Z,0.4nm,0.9s,baz=190,slow=4.8,SNR=5.7							

CSEM ***20*** *17:39:58.5±0.6, 49.°81N×18.°54E, h1km, Error ellipse: s-maj=8.7km s-min=7.0km az=64.0*

PRU 20 17:40:00.1, 49.79N×18.°46E, h0km, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.21**	**283**	*e*PG	Pg	17 40 04.0	-0.1
OKC				*e*SG	Sg	17 40 06.8	-0.1
8.6nm,0.4s							
OKC	**Ostrava-Krasne**	**0.21**	**283**	Pg	Pg	17 40 04.0	-0.1
OKC				Sg	Sg	17 40 06.8	-0.1
8.6nm,0.4s							
MORC	**Moravsky Berou**	**0.59**	**269**	*e*Pg	Pg	17 40 11.5	-0.1
MORC				*e*Sg	Sg	17 40 19.8	+0.4
KRLC	**Kraliky**	**1.12**	**285**	*e*PG	Pg	17 40 20.8	-0.9
KRLC				*e*SG	Sg	17 40 36.2	-0.1
KRLC	**Kraliky**	**1.12**	**285**	Pg	Pg	17 40 20.8	-0.9
KRLC				Sg	Sg	17 40 36.2	-0.1
VRAC	**Vranov**	**1.31**	**249**	*e*Pg	Pg	17 40 24.3	-0.9
VRAC				*e*Sg	Sg	17 40 42.0	-0.2
DPC	**Dobruska-Polom**	**1.49**	**293**	*e*PG	Pn	17 40 27.6	-0.6
DPC				*e*SG	Sg	17 40 47.4	-0.7
DPC	**Dobruska-Polom**	**1.49**	**293**	Pg	Pn	17 40 27.6	-0.6
DPC				Sg	Sg	17 40 47.4	-0.7
UPC	**Upice**	**1.73**	**295**	*e*SG	Sb	17 40 55.0	-0.1
UPC	**Upice**	**1.73**	**295**	Sg	Sb	17 40 55.0	-0.1

JMA ***20*** *17:39:58.7±0.7, 46.°05N×152.°26E, h30km, M4.8*
ISCJB ***20*** *17:39:59.4±0.2, 45.°73N±0.°05×152.°19E±0.°04, h48km, mb4.6/84, MS4.0/3, Error ellipse: s-maj=7.0km s-min=2.2km az=156.1*
MOS ***20*** *17:40:00.5±0.9, 45.°97N×152.°17E, h49km, mb5.0/29, Error ellipse: s-maj=9.2km s-min=6.5km az=97.5*
NEIC ***20*** *17:40:02.9±0.9, 46.°02N×152.°12E, h56km±8km, mb5.0/18, Error ellipse: s-maj=10.9km s-min=5.9km az=147.0*
BJI ***20*** *17:40:03.0, 45.°94N×152.°19E, h83km, mB5.0/6, mb4.7/8, Ms4.4/2, Ms7 4.2/2*
IDC ***20*** *17:40:03.5±2.8, 46.°03N×152.°07E, h62km±24km, mb3.9/17, mb1 4.2/21, mb1mx4.1/26, mbtmp4.2/21, ML4.0/3, MS3.7/3, Ms1 3.7/3, ms1mx3.2/33, Error ellipse: s-maj=17.7km s-min=14.2km az=149.0*
TEH ***20*** *17:40:04.4, 45.°74N×152.°03E, h80km, ML4.7*
SZGRF ***20*** *17:40:09.5, 48.°08N×150.°95E, h33km, mb5.0, MS3.7, Northwest of Kuril Islands, Russia*

ISC 20 17:40:00.8±0.5, 45.°77N±0.°07×152.°23E±0.°06, h48km, n348, σ1§12/358, mb4.7/84, MS4.0/3, 15C-7D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.11**	**262**	*d i*PN	**Pn**	**17 40 49.5**	**+2.2**
KUR				*i* S	**Sn**	**17 41 25.4**	**+2.2**
KUR				pmax	pmax		
comp=Z,191nm,0.6s							
KUR				smax	smax		
comp=N,168nm,0.4s							
KUR				smax	smax		
comp=E,505nm,0.7s							
YUK	**Yuzh-Kuril'sk**	**4.84**	**251**	*i i*PN	**Pn**	**17 41 13.3**	**+2.2**
YUK				*i* S	**Sn**	**17 42 07.0**	**+1.2**
YUK				pmax	pmax		
comp=E,186nm,0.9s							
YUK				pmax	pmax		
comp=Z,225nm,0.8s							
YUK				pmax	pmax		
comp=N,119nm,0.4s							
YUK				smax	smax		
comp=E,186nm,0.7s							
YUK				smax	smax		
comp=N,441nm,0.7s							
NEM2	**Nemuro 2**	**5.22**	**245**	P	**Pn**	**17 41 15.8**	**-0.4**
NEM2				*e*S	**Sn**	**17 42 13.2**	**-1.9**
JRA	**Rausu**	**5.37**	**253**	P	**Pn**	**17 41 20.2**	**+1.9**
JRA				*e*S	**Sn**	**17 42 21.6**	**+2.7**
SKR	**Severo-Kuril's**	**5.56**	**26**	*e*PN	Pn	17 41 15.0	-5.8
SKR				pmax	pmax		
comp=N,80nm,0.5s							
SKR				pmax	pmax		
comp=E,80nm,0.5s							
SKR				pmax	pmax		
comp=Z,80nm,0.5s							
JNK	**Nakash**	**5.78**	**250**	P	**Pn**	**17 41 25.0**	**+1.0**
JNK				*e*S	**Sn**	**17 42 29.8**	**+0.9**
JAK	**Akkeshi**	**6.07**	**245**	P	**Pn**	**17 41 27.6**	**-0.3**
JAK				*e*S	**Sn**	**17 42 33.9**	**-2.0**
JTKR	**Abashiri--Toko**	**6.18**	**256**	P	**Pn**	**17 41 30.9**	**+1.5**
JAR	**Ashorobuto**	**6.53**	**251**	P	**Pn**	**17 41 35.4**	**+1.2**
JAR				*e*S	**Sn**	**17 42 48.4**	**+1.1**
JMP	**Maruseppu**	**6.54**	**257**	P	**Pn**	**17 41 36.1**	**+1.7**
YSS	**Yuzh-Sakhalins**	**6.66**	**284**	*i e*PN	**Pn**	**17 41 38.6**	**+2.6**
YSS				*e*S	**Sn**	**17 42 54.2**	**+3.7**
YSS				pmax	pmax		
comp=Z,50nm,0.9s							
YSS				pmax	pmax		
comp=E,60nm,1.0s							
YSS				MLR	MLR		
comp=E,700nm,16.0s							
YSS				MLR	MLR		
comp=Z,700nm,16.0s							
YSS				MLR	MLR		
comp=N,400nm,15.0s							
JOB	**Onbets**	**6.67**	**247**	P	**Pn**	**17 41 36.7**	**+0.6**
JOB				*e*S	**Sn**	**17 42 49.3**	**-1.3**
JKK2	**Kamakawa 2**	**7.00**	**258**	P	**Pn**	**17 41 42.9**	**+2.2**
ASAJ	**Asahikawa**	**7.03**	**260**	P	**Pn**	**17 41 44.1**	**+3.0**
ASAJ	**Asahikawa**	**7.03**	**260**	P	**Pn**	**17 41 43.7**	**+2.6**
ASAJ	**Asahikawa**	**7.03**	**260**	P	**Pn**	**17 41 43.7**	**+2.6**
comp=N,5.1nm,0.3s,baz=82,slow=10,SNR=12							
ASAJ				LR	LR	17 44 24.2	
comp=N,564nm,20.7s,baz=228,slow=37							
JCH	**Churui**	**7.11**	**247**	P	**Pn**	**17 41 42.4**	**+0.2**
JCH				*e*S	**Sn**	**17 42 59.6**	**-2.0**
JWK2	**Keihoku**	**7.27**	**270**	P	Pn	17 41 49.7	+5.4
JFR	**Furan**	**7.37**	**253**	P	**Pn**	**17 41 47.7**	**+2.0**
ERM	**Erimo**	**7.55**	**243**	*c i*PN	**Pn**	**17 41 50.5**	**+2.3**
JEM	**Erimo**	**7.55**	**243**	P	**Pn**	**17 41 49.5**	**+1.3**
JNBK	**Urakawa-nobuka**	**7.67**	**246**	P	**Pn**	**17 41 49.4**	**-0.4**
JBT2	**Biratori 2**	**7.68**	**251**	P	**Pn**	**17 41 50.3**	**+0.3**
PETK	**Petropavlovsk-**	**8.16**	**24**	PN	**Pn**	**17 41 55.3**	**-1.2**
PETK	**Petropavlovsk-**	**8.16**	**24**	P	**Pn**	**17 41 55.3**	**-1.2**
PETK	**Petropavlovsk-**	**8.16**	**24**	P	**Pn**	**17 41 55.3**	**-1.2**
comp=N,1.1nm,0.3s,baz=179,slow=12,SNR=8.7							
JEW	**Eniwo**	**8.27**	**253**	P	**Pn**	**17 41 59.5**	**+1.5**
PET	**Petropavlovsk**	**8.38**	**28**	*e*PN	Pn	17 42 05.3	+5.8
PET				pmax	pmax		
comp=Z,14nm,0.8s							
JNB	**Noboribetsu**	**8.70**	**252**	P	**Pn**	**17 42 04.6**	**+0.7**
JNB				*e*S	**Sn**	**17 43 38.5**	**-2.1**
JKB	**Kayabe**	**8.97**	**248**	P	**Pn**	**17 42 07.2**	**-0.5**
JKB				*e*S	**Sn**	**17 43 42.2**	**-5.1**
JSH	**Shimam**	**9.29**	**255**	P	**Pn**	**17 42 13.3**	**+1.3**
JYM2	**Yakumo 2**	**9.30**	**251**	P	**Pn**	**17 42 12.1**	**0.0**
JANG	**Nango**	**9.51**	**239**	P	**Pn**	**17 42 12.6**	**-2.5**
JANG				*e*S	Sn	17 43 51.1	-9.4
JTM	**Tenmabayashi**	**9.54**	**242**	P	**Pn**	**17 42 14.2**	**-1.2**
JSR	**Shiriuchi**	**9.55**	**248**	P	**Pn**	**17 42 15.0**	**-0.6**
JTH	**Tanohata**	**9.58**	**236**	P	**Pn**	**17 42 13.4**	**-2.6**
JTH				*e*S	Sn	17 43 52.7	-10
JOSM	**Okushiri--Mats**	**9.91**	**253**	P	**Pn**	**17 42 20.3**	**-0.2**
OFUJ	**Ofunato**	**10.27**	**233**	P	**Pn**	**17 42 23.2**	**-2.3**
OFUJ				*e*S	Sn	17 44 11.7	-7.5
JRG	**Rokugo**	**10.65**	**237**	P	**Pn**	**17 42 28.6**	**-2.1**
JRG				*e*S	Sn	17 44 20.8	-7.7
JIO	**Ouri**	**10.89**	**232**	P	**Pn**	**17 42 31.8**	**-2.1**
JIO				*e*S	Sn	17 44 23.2	-11
JFY	**Yanaizu**	**12.55**	**233**	P	**Pn**	**17 42 55.5**	**-1.1**
MAJO	**Matsushiro**	**14.00**	**234**	*e*P	**Pn**	**17 43 19.1**	**+2.7**
MAJO				pmax	pmax		
comp=Z,13nm,0.8s							
MAJO	**Matsushiro**	**14.00**	**234**	*e*Pn	**Pn**	**17 43 19.1**	**+2.7**
comp=Z,13nm,0.8s							
USRK	**Ussuriysk Arra**	**14.41**	**271**	P	**Pn**	**17 43 21.8**	**0.0**
comp=Z,0.3nm,0.3s,baz=86,slow=12,SNR=7.3							
USRK				LR	LR	17 48 30.6	
comp=Z,373nm,20.3s,baz=73,slow=36							
FX1	**Attu Island--F**	**15.36**	**55**	*e*Pn	**Pn**	**17 43 34.8**	**+0.6**
SEY	**Seymchan**	**17.20**	**0**	*e*P	**Pn**	**17 43 55.9**	**-1.4**
KSRS	**Korea Array**	**19.93**	**254**	P	**Pn**	**17 44 31.8**	**+1.4**
comp=Z,0.3nm,0.3s,baz=58,slow=9.8,SNR=11							
KSAR	**Wonju Array Be**	**19.96**	**254**	P	**Pn**	**17 44 31.8**	**+1.0**
JNU	**Nakatsue**	**20.69**	**240**	LR	LR	17 52 36.2	
comp=Z,154nm,18.2s,baz=42,slow=36							
SONM	**Songino Array**	**31.09**	**291**	P	**P**	**17 46 15.8**	**+1.4**
SONM	**Songino Array**	**31.09**	**291**	P	**P**	**17 46 15.8**	**+1.4**
comp=Z,0.8nm,0.7s,baz=80,slow=7.7,SNR=4.7							
ZAK	**Zakamensk**	**32.54**	**296**	*e*P	**P**	**17 46 25.0**	**-2.1**
ZAK				pmax	pmax		
comp=Z,2.0nm,1.0s							
IMA2	**Indian Mountai**	**34.96**	**35**	*e*P	**P**	**17 46 47.5**	**-0.5**
LZH	**Lanzhou**	**37.31**	**272**	*e*P	**P**	**17 47 09.8**	**+1.4**
LZH				pmax	pmax		
comp=Z,22nm,1.0s							
LZH				pmax	pmax		
comp=Z,120nm,5.2s							
LZH				LR	LR		
comp=N,390nm,12.5s							
LZH				LR	LR		
comp=E,430nm,12.3s							
LZH				LR	LR		
comp=Z,550nm,14.0s							
ILAR	**Eielson Array**	**37.70**	**38**	P	**P**	**17 47 10.5**	**-0.7**
ILAR	**Eielson Array**	**37.70**	**38**	P	**P**	**17 47 10.5**	**-0.7**
comp=Z,2.9nm,1.2s,baz=285,slow=7.7,SNR=6.9							
HVS	**Khovu-Aksy**	**38.29**	**300**	*d i*P	**P**	**17 47 15.1**	**-1.3**
HVS				pmax	pmax		
comp=Z,23nm,1.2s							
GTA	**Gaotai**	**38.52**	**280**	*e*P	**P**	**17 47 19.3**	**+0.7**
GTA				pmax	pmax		
comp=Z,2.0nm,1.0s							
ZALV	**Zalesovo Beam**	**42.69**	**306**	PcP	**PcP**	**17 49 44.6**	**+1.0**
comp=Z,3.7nm,0.8s,baz=79,slow=3.2,SNR=8.3							
MKAR	**Makanchi Array**	**46.85**	**298**	P	**P**	**17 48 24.7**	**-1.1**
MKAR				PCP	**PcP**	**17 49 58.1**	**0.0**
MKAR	**Makanchi Array**	**46.85**	**298**	P	**P**	**17 48 24.6**	**-1.1**
MKAR				PcP	**PcP**	**17 49 58.1**	**0.0**
MKAR	**Makanchi Array**	**46.85**	**298**	P	**P**	**17 48 24.6**	**-1.1**
comp=Z,1.5nm,0.7s,baz=67,slow=9.5,SNR=7.4							
MKAR				PcP	**PcP**	**17 49 58.1**	**0.0**
comp=Z,2.0nm,0.7s,baz=54,slow=5.1,SNR=6.7							
KURK	**Kurchatov**	**47.40**	**304**	*i i*P	**P**	**17 48 27.6**	**-2.4**
KURK				pmax	pmax		
comp=Z,2.0nm,1.1s							
KURK	**Kurchatov**	**47.40**	**304**	P	**P**	**17 48 28.6**	**-1.4**
KURBB	**Kurchatov Arra**	**47.49**	**304**	P	**P**	**17 48 28.6**	**-2.1**
comp=Z,1.6nm,0.6s,baz=72,slow=8.3,SNR=4.8							
LSA	**Lhasa**	**49.71**	**273**	*e*P	**P**	**17 48 48.4**	**-0.2**
LSA				pmax	pmax		
comp=Z,4.0nm,0.6s							
LSA	**Lhasa**	**49.71**	**273**	*e*P	**P**	**17 48 48.4**	**-0.2**
comp=Z,3.9nm,0.6s							
CHTO	**Chiang Mai**	**51.29**	**257**	*e*P	**P**	**17 49 01.0**	**+0.9**
CHTO				pmax	pmax		
comp=Z,50nm,0.9s							
CHTO	**Chiang Mai**	**51.29**	**257**	*e*P	**P**	**17 49 01.0**	**+0.9**
comp=Z,50nm,0.9s							
CM31	**Chiang Mai Arr**	**51.54**	**256**	*e*P	**P**	**17 49 03.1**	**+1.1**
comp=Z,3.6nm,0.7s							
TAPN	**Taplejung**	**53.54**	**273**	*e*P	**P**	**17 49 18.2**	**+1.2**
comp=Z,16nm,0.7s							
AAK	**Ala-Archa**	**53.72**	**297**	*i i*P	**P**	**17 49 17.4**	**-0.6**
AAK				pmax	pmax		
comp=Z,8.0nm,1.0s							
ODAN	**Odare**	**54.07**	**273**	*e*P	**P**	**17 49 20.9**	**+0.1**
EKS2	**Erkin-Say**	**54.15**	**297**	*e*P	**P**	**17 49 20.2**	**-0.9**
EKS2				pmax	pmax		
comp=Z,3.0nm,0.8s							
EKS2	**Erkin-Say**	**54.15**	**297**	*e*P	**P**	**17 49 20.2**	**-0.9**
comp=Z,3.4nm,0.8s							
JIRN	**Jiri**	**54.41**	**275**	*e*P	**P**	**17 49 24.7**	**+1.2**
comp=Z,15nm,0.4s							
GUN	**Gumba**	**54.47**	**275**	*e*P	**P**	**17 49 24.8**	**+0.9**
comp=Z,14nm,0.5s							
RAMN	**Ranite**	**54.56**	**274**	*e*P	**P**	**17 49 25.4**	**+1.0**
comp=Z,21nm,0.4s							
KKN	**Kakani**	**54.96**	**275**	*e*P	**P**	**17 49 28.7**	**+1.4**
PKI	**Pulchoki**	**55.01**	**275**	*e*P	**P**	**17 49 28.5**	**+0.7**
PKIN	**Phulchoki**	**55.01**	**275**	*e*P	**P**	**17 49 28.4**	**+0.7**
comp=Z,4.4nm,0.5s							
DMN	**Daman**	**55.20**	**275**	*e*P	**P**	**17 49 30.3**	**+1.3**
comp=Z,8.3nm,0.4s							
ARU	**Arti**	**55.32**	**318**	*d i*P	**P**	**17 49 27.3**	**-1.8**
ARU				S	**S**	**17 57 05.8**	**-3.6**
ARU				SS	**SS**	**18 00 46.5**	**-7.0**
ARU				pmax	pmax		
comp=Z,10.0nm,1.7s							
DANN	**Dangsing**	**55.68**	**277**	*e*P	**P**	**17 49 33.8**	**+1.3**
comp=Z,26nm,0.5s							
KOLN	**Koldanda**	**56.15**	**276**	*e*P	**P**	**17 49 36.9**	**+1.1**
PYUN	**Piuthan**	**56.37**	**277**	*e*P	**P**	**17 49 38.8**	**+1.5**
comp=Z,56nm,0.6s							
ARCES	**ARCESS Array B**	**58.57**	**341**	P	**P**	**17 49 51.2**	**-0.8**
ARCES	**ARCESS Array B**	**58.57**	**341**	P	**P**	**17 49 51.2**	**-0.8**
comp=Z,2.2nm,0.8s,baz=44,slow=7.9,SNR=3.4							
ABKAR	**Akbulak array**	**58.58**	**310**	*e*P	**P**	**17 49 50.8**	**-1.6**
comp=Z,1.1nm,0.4s							
MSO	**Missoula**	**60.85**	**52**	P	**P**	**17 50 08.8**	**+0.6**
baz=60							
KBL	**Kabul**	**61.85**	**292**	*e*P	**P**	**17 50 14.5**	**-0.7**
KBL				pmax	pmax		
comp=Z,14nm,0.9s							
KBL	**Kabul**	**61.85**	**292**	*e*P	**P**	**17 50 14.5**	**-0.7**
comp=Z,14nm,0.9s							
A19A	**Klindworth Far**	**62.33**	**47**	P	**P**	**17 50 18.5**	**+0.5**
baz=62							
C19A	**Slack Wire Ran**	**62.92**	**49**	P	**P**	**17 50 22.0**	**+0.1**
baz=63							
NVAR	**Mina Array Bea**	**63.44**	**61**	P	**P**	**17 50 27.8**	**+2.0**
NVAR	**Mina Array Bea**	**63.44**	**61**	P	**P**	**17 50 27.8**	**+2.0**
comp=Z,1.1nm,0.8s,baz=293,slow=5.8,SNR=5.4							
A22A	**Carney Farms,**	**63.73**	**46**	P	**P**	**17 50 26.8**	**-0.4**
baz=63							
F19A	**Roth Farm, Mol**	**64.17**	**50**	P	**P**	**17 50 30.6**	**+0.3**
baz=64							
FINES	**FINESS Array B**	**64.66**	**335**	P	**P**	**17 50 31.3**	**-1.8**
FINES	**FINESS Array B**	**64.66**	**335**	P	**P**	**17 50 31.3**	**-1.8**
comp=Z,5.2nm,0.7s,baz=40,slow=7.4,SNR=11							
DGMT	**Dagmar**	**64.93**	**46**	P	**P**	**17 50 35.4**	**+0.3**
baz=64							
I19A	**Meeteetse**	**65.31**	**52**	P	**P**	**17 50 37.9**	**0.0**
baz=65							
DUG	**Dugway**	**65.62**	**57**	P	**P**	**17 50 41.2**	**+1.4**
baz=65							
PDAR	**Pinedale Array**	**65.82**	**53**	P	**P**	**17 50 42.6**	**+1.3**
PDAR	**Pinedale Array**	**65.82**	**53**	P	**P**	**17 50 42.6**	**+1.3**
comp=Z,2.5nm,0.8s,baz=293,slow=1.0,SNR=14							
H21A	**Big Horn, Sher**	**65.98**	**50**	P	**P**	**17 50 42.3**	**+0.2**
baz=66							
F23A	**Volborg**	**66.13**	**48**	P	**P**	**17 50 43.3**	**+0.3**
baz=66							
K19A	**Absolon Red Bu**	**66.18**	**53**	P	**P**	**17 50 43.8**	**+0.3**
baz=66							
J20A	**Shoshoni**	**66.26**	**52**	P	**P**	**17 50 43.8**	**-0.2**
baz=66							
GSC	**Goldstone**	**66.35**	**63**	P	**P**	**17 50 45.4**	**+0.9**
baz=66							
I21A	**Big Trails, Te**	**66.39**	**51**	P	**P**	**17 50 45.6**	**+0.8**
baz=66							
IMYA	**Miami**	**66.39**	**298**	*e*P	**P**	**17 50 44.5**	**-0.4**
G23A	**Biddle**	**66.48**	**49**	P	**P**	**17 50 46.1**	**+0.8**
baz=66							
IEMG	**Emamgholi**	**66.58**	**300**	*e*P	**P**	**17 50 45.9**	**-0.4**
J21A	**Lysite**	**66.61**	**51**	P	**P**	**17 50 47.3**	**+1.0**
baz=66							
I22A	**9 Mile Ranch,**	**66.77**	**50**	P	**P**	**17 50 47.9**	**+0.7**
baz=66							
K21A	**Alcova**	**67.19**	**52**	P	**P**	**17 50 50.2**	**+0.2**
baz=67							
ISFR	**Sfrayin**	**67.21**	**300**	*e*P	**P**	**17 50 50.8**	**+0.5**
H24A	**Dirks Ranch, A**	**67.23**	**49**	P	**P**	**17 50 50.1**	**+0.1**
baz=67							
WRA	**Warramunga Arr**	**67.39**	**198**	P	**P**	**17 50 52.4**	**+1.4**
WRA	**Warramunga Arr**	**67.39**	**198**	P	**P**	**17 50 52.4**	**+1.4**
comp=Z,1.0nm,0.9s,baz=16,slow=6.7,SNR=3.9							
K22A	**Casper**	**67.58**	**52**	P	**P**	**17 50 52.8**	**+0.4**
baz=67							
G27A	**Dupree**	**67.65**	**47**	P	P	17 50 56.1	+3.5
baz=68							
B30A	**Myrvik Farm, E**	**67.80**	**43**	P	**P**	**17 50 53.7**	**+0.2**
baz=67							
G26A	**Maurine**	**67.88**	**47**	P	**P**	**17 50 54.6**	**+0.6**
baz=68							
L22A	**Ellis Ranch, M**	**68.04**	**52**	P	**P**	**17 50 56.1**	**+0.7**
baz=68							
I25A	**Rochford**	**68.16**	**49**	P	**P**	**17 50 56.1**	**+0.1**
baz=68							
P19A	**Cripple Cowboy**	**68.21**	**55**	P	**P**	**17 50 57.4**	**+1.0**
baz=68							
N21A	**Black Mountain**	**68.29**	**54**	P	**P**	**17 50 57.8**	**+0.9**
baz=68							
L23A	**Garrett**	**68.39**	**51**	P	**P**	**17 50 57.6**	**+0.1**
baz=68							
NB2	**NORSAR Subarra**	**68.95**	**341**	P	**P**	**17 50 59.3**	**-1.2**
comp=Z,13nm,0.9s,baz=26,slow=6.5							
NOA	**NORSAR Array B**	**68.95**	**341**	P	**P**	**17 51 00.1**	**-0.4**
NOA	**NORSAR Array B**	**68.95**	**341**	P	**P**	**17 51 00.1**	**-0.4**
comp=Z,7.0nm,0.8s,baz=27,slow=6.3,SNR=15							
GLA	**Glamis**	**69.06**	**64**	*e*P	**P**	**17 51 02.5**	**+0.9**
GLA				pmax	pmax		
comp=Z,4.0nm,0.7s							
GLA	**Glamis**	**69.06**	**64**	*e*P	**P**	**17 51 02.5**	**+0.9**
comp=Z,3.8nm,0.7s							
H28A	**Mission Ridge**	**69.11**	**47**	P	**P**	**17 51 01.6**	**-0.2**
baz=69							
P21A	**Newcastle**	**69.16**	**55**	P	**P**	**17 51 02.7**	**+0.3**
baz=69							
R21A	**Cimarron**	**69.89**	**55**	P	**P**	**17 51 07.9**	**+1.0**
baz=70							
ISCO	**Idaho Springs**	**70.01**	**53**	P	**P**	**17 51 09.1**	**+1.4**
baz=70							
S21A	**Coal Bank Pass**	**70.23**	**56**	P	**P**	**17 51 10.4**	**+1.3**
baz=70							
X16A	**Lo Mia Camp, P**	**70.24**	**61**	P	**P**	**17 51 10.2**	**+1.1**
baz=70							
R22A	**Saguache, Gunn**	**70.44**	**55**	P	**P**	**17 51 10.8**	**+0.4**
baz=70							
Q23A	**Hartsel**	**70.50**	**54**	P	**P**	**17 51 11.2**	**+0.4**
baz=70							
S22A	**4UR Ranch, Cre**	**70.73**	**56**	P	**P**	**17 51 13.0**	**+0.9**
baz=70							
R23A	**Moffat**	**71.00**	**55**	P	**P**	**17 51 15.2**	**+1.5**
baz=71							
P25A	**Willow Gulch B**	**71.02**	**53**	P	**P**	**17 51 14.8**	**+1.1**
baz=71							
KIV	**Kislovodsk**	**71.04**	**314**	*e*P	**P**	**17 51 15.3**	**+1.7**
KIV				pmax	pmax		
comp=Z,13nm,1.1s							
KIV				MLR	MLR		
comp=Z,76nm,18.0s							
ASAR	**Alice Springs**	**71.09**	**198**	P	**P**	**17 51 16.6**	**+2.7**
ASAR	**Alice Springs**	**71.09**	**198**	P	**P**	**17 51 16.6**	**+2.7**
comp=Z,0.6nm,0.7s,baz=9.8,slow=4.5,SNR=5.8							
KBZ	**Khabaz**	**71.09**	**314**	P	**P**	**17 51 14.5**	**+0.7**
KBZ	**Khabaz**	**71.09**	**314**	P	**P**	**17 51 14.5**	**+0.7**
KBZ	**Khabaz**	**71.09**	**314**	P	**P**	**17 51 14.5**	**+0.7**
comp=Z,11nm,0.9s,baz=51,slow=3.7,SNR=13							
T22A	**Edith**	**71.19**	**56**	P	**P**	**17 51 15.0**	**+0.1**
baz=71							
O27A	**Beecher Island**	**71.48**	**51**	P	**P**	**17 51 16.7**	**+0.3**
baz=71							
W20A	**Ramah**	**71.54**	**59**	P	**P**	**17 51 17.3**	**+0.3**

comp=Z,10.0nm,1.0s
UPC Upice 76.88 333 *eP* **P 17 51 47.7 +0.2**
UPC Upice 76.88 333 *eP* **P 17 51 47.7 +0.2**
DPC Dobruska-Polom 76.91 333 *i P* **P 17 51 48.3 +0.5**
DPC Dobruska-Polom 76.91 333 *i P* **P 17 51 48.3 +0.5**
KRLC Kraliky 77.00 332 *i P* **P 17 51 48.6 +0.3**
KRLC Kraliky 77.00 332 *i P* **P 17 51 48.6 +0.3**
CLL Collm 77.09 335 *eP* **P 17 51 48.2 -0.5**
comp=Z,18nm,0.9s
CLL Collm 77.09 335⇑*iP* **P 17 51 48.0 -0.7**
CLL pmax pmax
comp=Z,18nm,0.9s
CLL Collm 77.09 335⇑*iP* **P 17 51 48.0 -0.7**
comp=Z,18nm,0.9s
KECS Kecovo 77.10 329 *eP* **P 17 51 49.0 +0.2**
KECS pmax pmax
comp=Z,4.0nm,0.9s
KECS Kecovo 77.10 329 *eP* **P 17 51 49.0 +0.2**
BRG Berggiesshubel 77.20 334 *i P* **P 17 51 48.8 -0.5**
comp=Z,6.0nm,1.2s
BRG Berggiesshubel 77.20 334 *eP* **P 17 51 48.9 -0.4**
comp=Z,4.0nm,0.9s
BRG Berggiesshubel 77.20 334 *i P* **P 17 51 48.8 -0.5**
BRG pmax pmax
comp=Z,6.0nm,1.2s
FBE Freiberg 77.33 335 *eP* **P 17 51 50.0 0.0**
comp=Z,10.0nm,0.9s
CLZ Clausthal 77.37 337 *eP* **P 17 51 50.5 +0.2**
comp=Z,16nm,0.9s
CLZ Clausthal 77.37 337 *eP* **P 17 51 50.5 +0.2**
CLZ pmax pmax
comp=Z,16nm,0.9s
NEUB Neuenburg 77.54 336 *eP* **P 17 51 51.0 -0.2**
comp=Z,20nm,1.1s
328A Wristen Ranch, 77.55 58 P **P 17 51 52.0 +0.3**
baz=77
VYHS Vyhne 77.67 330 *eP* **P 17 51 52.2 +0.2**
VYHS pmax pmax
comp=Z,6.0nm,1.0s
VYHS Vyhne 77.67 330 *eP* **P 17 51 52.2 +0.2**
PRU Pruhonice 77.79 334 *i P* **P 17 51 52.7 +0.1**
PRU *e* 17 51 56.4
PRU Pruhonice 77.79 334 *i P* **P 17 51 52.7 +0.1**
PRU *ex* x 17 51 56.4
TANN Tannenbergstha 78.05 335 *eP* **P 17 51 53.9 -0.2**
comp=Z,4.0nm,1.0s
WERD Werda 78.06 335 *eP* **P 17 51 54.1 0.0**
comp=Z,6.0nm,0.9s
MOX Moxa 78.09 336 *eP* **P 17 51 54.2 -0.1**
comp=Z,10.0nm,1.0s
MOX Moxa 78.09 336 *eP* **P 17 51 54.2 -0.1**
MOX pmax pmax
comp=Z,10.0nm,1.0s
TREC Trest 78.10 333 *eP* **P 17 51 54.3 -0.1**
TREC Trest 78.10 333 *eP* **P 17 51 54.3 -0.1**
GUNZ Gunzen 78.13 335 *eP* **P 17 51 54.6 +0.1**
comp=Z,8.0nm,0.9s
SMOL Smolenice 78.14 331 *eP* **P 17 51 55.4 +0.8**
SMOL Smolenice 78.14 331 *eP* **P 17 51 55.4 +0.8**
NKC Novy Kostel 78.21 335 *eP* **P 17 51 54.9 -0.1**
NKC Novy Kostel 78.21 335 *eP* **P 17 51 54.9 -0.1**
TXAR Lajitas Array 78.51 60 P **P 17 51 58.3 +1.2**
TXAR Lajitas Array 78.51 60 P **P 17 51 58.3 +1.2**
comp=Z,1.2nm,0.7s,baz=301,slow=4.1,SNR=6.8
MANZ Manzenberg 78.53 335 *eP* **P 17 51 56.7 -0.1**
comp=Z,7.0nm,0.9s
BUG Bochum--Univer 78.56 338 *eP* **P 17 51 56.7 -0.1**
comp=Z,20nm,1.0s
BRTR Keskin Array B 78.67 316 P **P 17 51 58.5 +0.6**
BRTR Keskin Array B 78.67 316 P **P 17 51 58.5 +0.6**
comp=Z,4.9nm,0.9s,baz=84,slow=4.9,SNR=15
ROTZ Rotzenmuhle 78.70 335 *eP* **P 17 51 58.0 +0.4**
comp=Z,8.0nm,1.0s
KHC Kasperske Hory 78.84 334 *i P* **P 17 51 58.7 +0.2**
KHC *e* 17 52 01.9
KHC Kasperske Hory 78.84 334 *i P* **P 17 51 58.7 +0.2**
KHC *ex* x 17 52 01.9
WET Wettzell 79.05 334 *eP* **P 17 52 00.0 +0.4**
comp=Z,13nm,1.0s
WET Wettzell 79.05 334 *eP* **P 17 52 00.0 +0.4**
WET pmax pmax
comp=Z,13nm,1.0s
GRF Grafenberg Arr 79.05 335 *eP* **P 17 52 00.0 +0.4**
comp=Z,17nm,0.9s
GRF *eL* L 18 24 48.8
comp=Z,41nm,20.3s
GRF Grafenberg Arr 79.05 335 *eP* **P 17 52 00.0 +0.4**
GRF pmax pmax
comp=Z,17nm,0.9s
GEC2 GERESS Array S 79.06 334 *eP* **P 17 51 59.5 -0.3**
comp=Z,6.0nm,0.9s
GEC2 GERESS Array S 79.06 334 *eP* **P 17 51 59.5 -0.3**
GEC2 pmax pmax
comp=Z,6.0nm,0.9s
GERES GERESS Array B 79.06 334 P **P 17 51 59.5 -0.3**
GERES GERESS Array B 79.06 334 P **P 17 51 59.5 -0.3**
comp=Z,3.6nm,0.8s,baz=35,slow=4.9,SNR=26
SFIN Scholer Farm 79.16 42 P **P 17 52 00.2 -0.1**
baz=79
CONA Conrad Observa 79.17 332⇑*iP* **P 17 52 00.9 +0.5**
comp=Z,12nm,0.9s,SNR=8.2
TNS Taunus Mts 79.36 337 *eP* **P 17 52 01.4 +0.1**
comp=Z,11nm,1.0s
TNS Taunus Mts 79.36 337 *eP* **P 17 52 01.4 +0.1**
TNS pmax pmax
comp=Z,11nm,1.0s
MOA Molln 79.76 333⇑*iP* **P 17 52 03.2 -0.2**
comp=Z,5.2nm,0.8s
ARSA Arzberg 79.87 332⇑*iP* **P 17 52 04.2 +0.1**
comp=Z,5.5nm,1.1s
532A Rocksprings 80.18 57 P **P 17 52 06.7 +0.6**
baz=80
WHTX Lake Whitney 80.21 54 P **P 17 52 06.7 +0.6**
baz=80
631A Perdido Creek 80.31 58 P **P 17 52 07.2 +0.4**
baz=80
RJOB Jochberg 80.32 334 *eP* **P 17 52 07.0 +0.4**
comp=Z,7.0nm,1.0s
GIVF Givet 80.40 339 *eP* **P 17 52 06.5 -0.4**
GIVF Givet 80.40 339 *eP* **P 17 52 06.5 -0.4**
GIVF Givet 80.40 339 *eP* **P 17 52 06.5 -0.4**
SOKA Soboth 80.54 332⇑*eP* **P 17 52 07.5 -0.3**
comp=Z,13nm,1.0s,SNR=8.7
KBA Koelnbreinsper 80.73 333⇑*iP* **P 17 52 09.4 +0.5**
comp=Z,16nm,1.1s,SNR=6.8
MYKA Terra Mystica 81.03 333⇑*iP* **P 17 52 10.9 +0.5**
comp=Z,1.4nm,0.4s
WTTA Wattenberg 81.10 334⇓*iP* **P 17 52 11.3 +0.4**
comp=Z,16nm,1.0s,SNR=6.5
BFO Black Forest 81.11 337 *eP* **P 17 52 10.8 +0.1**
comp=Z,9.0nm,1.0s
BFO Black Forest 81.11 337 *eP* **P 17 52 10.8 +0.1**
BFO pmax pmax
comp=Z,9.0nm,1.0s
RETA Reutte 81.17 335⇑*eP* **P 17 52 11.2 +0.1**
comp=Z,7.3nm,1.0s
MOTA Moosalm 81.19 334⇑*iP* **P 17 52 11.3 0.0**
comp=Z,12nm,1.0s,SNR=9.1
ABTA Abfaltersbach 81.29 333⇑*eP* **P 17 52 11.0 -0.7**
comp=Z,4.2nm,1.0s
CDF Champ du Feu 81.32 337 *eP* **P 17 52 11.8 -0.1**
comp=Z,24nm,1.2s
CDF Champ du Feu 81.32 337 *eP* **P 17 52 11.8 -0.1**
CDF pmax pmax
comp=Z,24nm,1.2s
CDF Champ du Feu 81.32 337 *eP* **P 17 52 11.8 -0.1**
comp=Z,24nm,1.2s
PAGF Fort de Pagny 81.60 338 *eP* **P 17 52 13.6 +0.3**
comp=Z,11nm,1.1s
PAGF Fort de Pagny 81.60 338 *eP* **P 17 52 13.6 +0.3**
comp=Z,11nm,1.1s
DAVA Damuels 81.61 335⇑*iP* **P 17 52 13.4 -0.1**
comp=Z,10.0nm,1.1s
MEZF Maizieres J'vi 81.82 339 *eP* **P 17 52 14.7 +0.3**
comp=Z,34nm,1.2s
MEZF Maizieres J'vi 81.82 339 *eP* **P 17 52 14.7 +0.3**
comp=Z,34nm,1.2s
HAU Haudompre 81.94 338 *eP* **P 17 52 14.8 -0.3**
comp=Z,25nm,1.3s
HAU Haudompre 81.94 338 *eP* **P 17 52 14.8 -0.3**
HAU pmax pmax
comp=Z,25nm,1.3s
HAU Haudompre 81.94 338 *eP* **P 17 52 14.8 -0.3**
comp=Z,25nm,1.3s
HINF Hinterlafeld 81.98 337 *eP* **P 17 52 14.8 -0.6**
HINF Hinterlafeld 81.98 337 *eP* **P 17 52 14.8 -0.6**
HINF Hinterlafeld 81.98 337 *eP* **P 17 52 14.8 -0.6**
SFTF Sexfontaines 82.10 339 *eP* **P 17 52 15.9 0.0**
comp=Z,31nm,0.9s
SFTF Sexfontaines 82.10 339 *eP* **P 17 52 15.9 0.0**
comp=Z,31nm,0.9s
FLN La Foliniere 82.88 342 *eP* **P 17 52 20.3 +0.4**
comp=Z,19nm,0.9s
FLN La Foliniere 82.88 342 *eP* **P 17 52 20.3 +0.4**
FLN La Foliniere 82.88 342 *eP* **P 17 52 20.3 +0.4**
LDF La Druitiere 82.96 342 *eP* **P 17 52 20.5 +0.1**
LDF La Druitiere 82.96 342 *eP* **P 17 52 20.5 +0.1**
LDF La Druitiere 82.96 342 *eP* **P 17 52 20.5 +0.1**
LOR Lormes 83.27 339 *eP* **P 17 52 21.8 -0.2**
comp=Z,9.6nm,0.8s
LOR Lormes 83.27 339 *eP* **P 17 52 21.8 -0.2**
GRR Gorron 83.31 342 *eP* **P 17 52 22.2 0.0**
comp=Z,22nm,0.9s
GRR Gorron 83.31 342 *eP* **P 17 52 22.2 0.0**
GRR Gorron 83.31 342 *eP* **P 17 52 22.2 0.0**
AVF Avril sur Loir 83.84 339 *eP* **P 17 52 24.3 -0.6**
comp=Z,11nm,0.9s
AVF Avril sur Loir 83.84 339 *eP* **P 17 52 24.3 -0.6**
AVF Avril sur Loir 83.84 339 *eP* **P 17 52 24.3 -0.6**
SMF Signal de Mont 83.85 339 *eP* **P 17 52 24.0 -1.0**
comp=Z,59nm,1.4s
SMF Signal de Mont 83.85 339 *eP* **P 17 52 24.0 -1.0**
SMF pmax pmax
comp=Z,59nm,1.4s
SMF Signal de Mont 83.85 339 *eP* **P 17 52 24.0 -1.0**
comp=Z,59nm,1.4s
LPL La Plagne 84.12 336 *eP* **P 17 52 27.2 +0.5**
comp=Z,13nm,1.0s
LPL La Plagne 84.12 336 *eP* **P 17 52 27.2 +0.5**
LPL pmax pmax
comp=Z,13nm,1.0s
LPL La Plagne 84.12 336 *eP* **P 17 52 27.2 +0.5**
comp=Z,13nm,1.0s
LPG La Plagne 84.14 336 *eP* **P 17 52 27.4 +0.6**
comp=Z,23nm,1.2s
LPG La Plagne 84.14 336 *eP* **P 17 52 27.4 +0.6**
LPG pmax pmax
comp=Z,23nm,1.2s
LPG La Plagne 84.14 336 *eP* **P 17 52 27.4 +0.6**
comp=Z,23nm,1.2s
BGF Bois d'Agland 84.18 339 *eP* **P 17 52 26.6 -0.1**
comp=Z,4.4nm,0.6s
BGF Bois d'Agland 84.18 339 *eP* **P 17 52 26.6 -0.1**
BGF Bois d'Agland 84.18 339 *eP* **P 17 52 26.6 -0.1**
TCF Toulx Ste Croi 84.59 340 *eP* **P 17 52 29.0 +0.2**
comp=Z,8.2nm,0.8s
TCF Toulx Ste Croi 84.59 340 *eP* **P 17 52 29.0 +0.2**
TCF Toulx Ste Croi 84.59 340 *eP* **P 17 52 29.0 +0.2**
MBDF Montbardon 84.84 336 *eP* **P 17 52 30.5 +0.3**
MBDF Montbardon 84.84 336 *eP* **P 17 52 30.5 +0.3**
MBDF Montbardon 84.84 336 *eP* **P 17 52 30.5 +0.3**
MFF Saint Martin d 84.85 341 *eP* **P 17 52 31.1 +1.0**
comp=Z,13nm,1.0s
MFF Saint Martin d 84.85 341 *eP* **P 17 52 31.1 +1.0**
MFF Saint Martin d 84.85 341 *eP* **P 17 52 31.1 +1.0**
ORIF Oris-en-Rattie 84.91 337 *eP* **P 17 52 31.2 +0.7**
comp=Z,14nm,0.8s
ORIF Oris-en-Rattie 84.91 337 *eP* **P 17 52 31.2 +0.7**
ORIF pmax pmax
comp=Z,14nm,0.8s
ORIF Oris-en-Rattie 84.91 337 *eP* **P 17 52 31.2 +0.7**
comp=Z,14nm,0.8s
VIVF Saint-Julien-l 85.30 337 *eP* **P 17 52 32.9 +0.5**
comp=Z,8.5nm,0.9s
VIVF Saint-Julien-l 85.30 337 *eP* **P 17 52 32.9 +0.5**
VIVF pmax pmax
comp=Z,9.0nm,0.9s
VIVF Saint-Julien-l 85.30 337 *eP* **P 17 52 32.9 +0.5**
comp=Z,8.5nm,0.9s
RJF Les Rejaudoux 85.68 340 *eP* **P 17 52 35.5 +1.2**
RJF Les Rejaudoux 85.68 340 *eP* **P 17 52 35.5 +1.2**
RJF Les Rejaudoux 85.68 340 *eP* **P 17 52 35.5 +1.2**
SMRF Simiane la Rot 85.86 337 *eP* **P 17 52 36.1 +0.9**
SMRF Simiane la Rot 85.86 337 *eP* **P 17 52 36.1 +0.9**
CAF Calviac 85.91 339 *eP* **P 17 52 37.0 +1.6**
comp=Z,10nm,0.9s
CAF Calviac 85.91 339 *eP* **P 17 52 37.0 +1.6**
CAF pmax pmax
comp=Z,10.0nm,0.9s
CAF Calviac 85.91 339 *eP* **P 17 52 37.0 +1.6**
comp=Z,10nm,0.9s
FRF La Foret Royal 85.94 336 *eP* **P 17 52 35.0 -0.6**
FRF La Foret Royal 85.94 336 *eP* **P 17 52 35.0 -0.6**
FRF La Foret Royal 85.94 336 *eP* **P 17 52 35.0 -0.6**
LASF Ste Croix 86.24 338 *eP* **P 17 52 37.9 +0.8**
LASF Ste Croix 86.24 338 *eP* **P 17 52 37.9 +0.8**
EPF Esparros 88.11 340 *eP* **P 17 52 47.2 +1.0**
EPF Esparros 88.11 340 *eP* **P 17 52 47.2 +1.0**
EPF Esparros 88.11 340 *eP* **P 17 52 47.2 +1.0**
KEST Kesra 92.22 331 P **P 17 53 05.1 -0.4**
KEST Kesra 92.22 331 P **P 17 53 05.1 -0.4**
comp=Z,1.6nm,0.8s,baz=31,slow=2.5,SNR=4.5
SNAA Sanae 151.44 196 PKPbc **PKPbc 17 59 48.0 0.0**
SNAA Sanae 151.44 196 PKPbc **PKPbc 17 59 48.0 0.0**
comp=Z,0.7nm,0.8s,baz=191,slow=5.2,SNR=5.8

*ISCJB **20** 17:44:56.8±0.8, 77°.84N±0°.06×7°.8E±0°.3, h10km, mb3.6/3, MS3.0/1, Error ellipse: s-maj=10.8km s-min=7.0km az=34.8*
*CSEM **20** 17:44:58.8±1.4, 77°.89N×7°.83E, h10km, ML3.1, Error ellipse: s-maj=41.5km s-min=15.3km az=98.0*
*BER **20** 17:44:59.7±2.0, 77°.83N×7°.68E, h10km, MD2.2, ML2.3, ML3.1(NAO)*
*NAO **20** 17:45:00.2±3.0, 77°.92N×8°.47E, h7km±11km, ML3.1*
*IDC **20** 17:45:01.6±2.1, 77°.56N×7°.77E, h0km, mb3.7/3, mb1 3.8/5, mb1mx3.4/27, mbtmp3.8/5, ML3.2/2, MS2.9/2, Ms1 2.9/2, ms1mx2.5/41, Error ellipse: s-maj=37.3km s-min=24.3km az=60.0*

ISC 20 17:44:58.7±1.0, 77°.94N±0°.08×7°.90E±0°.08, h10km, n16, σ0s65/17, mb3.6/3, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.28**	**37**	Pg	**Pg**	**17 45 23.5**	**+0.1**
KBS				Lg	Lg	17 45 39.6	
KBS	**Kingsbay**	**1.28**	**37**	*eP*	**Pg**	**17 45 23.5**	**+0.1**
KBS				*eS*	**Sb**	**17 45 39.4**	**-0.1**
KBS				AML	AML	17 45 42.2	
	comp=Z,63nm,0.2s						
KBS	**Kingsbay**	**1.28**	**37**	*eP*	**Pg**	**17 45 23.5**	**+0.1**
	SNR=50						
KBS				*eS*	**Sb**	**17 45 39.4**	**-0.1**
	comp=Z,63nm,0.2s,SNR=50						
KBS				Lg	Lg	17 45 39.6	
SPA0	**Spitsbergen Ar**	**1.78**	**78**	Pg	**Pb**	**17 45 31.1**	**-0.3**
	baz=264,slow=9.3						
SPA0				Lg	Lg	17 45 53.1	
SPA0	**Spitsbergen Ar**	**1.78**	**78**	*eP*	**Pb**	**17 45 31.1**	**-0.3**
SPA0				*eS*	**Sn**	**17 45 52.4**	**+0.3**
SPA0	**Spitsbergen Ar**	**1.78**	**78**	*eP*	**Pb**	**17 45 31.1**	**-0.3**
	SNR=50						
SPA0				*eS*	**Sn**	**17 45 52.4**	**+0.3**
	SNR=50						
SPA0				Lg	Lg	17 45 53.1	
ARA0	**ARCESS Array S**	**9.71**	**141**	Pn	**Pn**	**17 47 17.6**	**-0.6**
	baz=333,slow=12						
ARA0				Sn	Sn	17 48 57.8	-9.3
	baz=339,slow=22						
ARA0	**ARCESS Array S**	**9.71**	**141**	Pn	**Pn**	**17 47 17.6**	**-0.6**
	baz=333,slow=12						
ARA0				Sn	Sn	17 48 57.8	-9.3
	baz=339,slow=22						
ARA0	**ARCESS Array S**	**9.71**	**141**	Pn	**Pn**	**17 47 17.6**	**-0.6**
	SNR=50						
ARCES	**ARCESS Array B**	**9.71**	**141**	Pn	**Pn**	**17 47 17.8**	**-0.4**
	comp=Z,0.6nm,0.3s,baz=327,slow=9.9,SNR=42						
ARCES				Sn	Sn	17 48 58.0	-9.1
	comp=Z,0.3nm,0.3s,baz=347,slow=19,SNR=3.7						
ARCES				LR	LR	17 50 56.8	
	comp=Z,47nm,21.7s,baz=266,slow=38						
SUMG	**Summit**	**12.59**	**269**	*i P*	**Pn**	**17 47 57.3**	**-0.6**
SUMG				*i* S	Sn	17 50 09.3	-8.9
FINES	**FINESS Array B**	**17.56**	**150**	P	**Pn**	**17 49 02.2**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=5.7,slow=16,SNR=7.1						
SCHQ	**Schefferville**	**33.96**	**272**	LR	LR	18 05 52.4	
	comp=Z,29nm,18.1s,baz=95,slow=37						
KURBB	**Kurchatov Arra**	**37.05**	**94**	P	P	17 52 12.2	+4.0
	comp=Z,0.4nm,0.3s,baz=333,slow=7.9,SNR=4.6						
MKAR	**Makanchi Array**	**41.48**	**92**	P	P	17 52 49.4	+4.1
	comp=Z,0.9nm,1.0s,baz=353,slow=7.0,SNR=3.3						
TORD	**Torodi Ar. Bea**	**64.87**	**187**	P	**P**	**17 55 39.4**	**+1.7**
	comp=Z,0.6nm,0.7s,baz=359,slow=6.6,SNR=4.5						

*ISCJB **20** 18:18:35.0±0.5, 31°.92S±0°.08×111°.1W±0°.2, h10km, mb4.5/25, MS4.4/28, Error ellipse: s-maj=27.7km s-min=11.9km az=0.3*
*IDC **20** 18:18:35.3±0.7, 31°.90S×111°.60W, h0km, mb4.1/10, mb1 4.4/10, mb1mx4.2/20, mbtmp4.1/10, MS4.3/28, Ms1 4.3/28, ms1mx4.3/34, Error ellipse: s-maj=28.6km s-min=18.4km az=86.0*
*NEIC **20** 18:18:36.7±0.6, 31°.88S×111°.44W, h10km, mb4.8/17, Error ellipse: s-maj=23.9km s-min=14.9km az=81.0*
*GCMT **20** 18:18:40.2±0.3, 32°.05S×111°.46W, h15km±1km, MW5.1, Moment Tensor Solution. s40,c47; s82,c120; Moment tensor: Scale 10^{16}Nm; M_{rr}0.17±.15; $M_{\theta\theta}$-3.67±.17; $M_{\phi\phi}$3.50±.16; $M_{r\theta}$-2.29±.46; $M_{\theta\phi}$2.76±.14; $M_{\phi r}$-0.66±.31; Best double couple: $M_0$5.10000×10^{16} NP1:ϕ_s64.00000°, δ88.00000°, λ-27.00000°. NP2:ϕ_s155.00000°, δ63.00000°, λ-178.00000°. Principal axes: T 4.8700, Plg18.0000°, Azm113.0000°; N 0.4600, Plg63.0000°, Azm240.0000°; P -5.3300, Plg20.0000°, Azm16.0000°; Data Used: IU IC II G CN.*

ISC 20 18:18:36.7±0.6, 31°.9S±0°.1×111°.5W±0°.2, h10km, n189, σ0s78/168, mb4.6/26, MS4.4/28, 51C-65D, Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**33.92**	**117**	P	**P**	**18 25 21.7**	**+1.7**
PLCA	**Paso Flores**	**33.92**	**117**	P	**P**	**18 25 21.7**	**+1.7**
	1.7nm,0.8s,baz=302,slow=6.0,SNR=4.3						
PLCA				LR	LR	18 35 31.2	
	comp=Z,1μm,19.6s,baz=339,slow=30						
PPT	**Papeete**	**37.19**	**283**	LR	LR	18 36 40.2	
	comp=Z,889nm,18.2s,baz=161,slow=29						
USHA	**Ushuaia**	**37.98**	**140**	LR	LR	18 37 48.2	
	comp=Z,610nm,18.6s,baz=268,slow=30						
ATAH	**Atahualpa**	**39.48**	**59**	LR	LR	18 37 07.0	
	comp=Z,184nm,20.3s,baz=51,slow=28						
LPAZ	**La Paz**	**42.25**	**79**	*eP*	**P**	**18 26 30.7**	**-0.4**
	7.0nm,1.1s						
LPAZ				PcP	**PcP**	**18 28 25.5**	**+0.4**
LPAZ	**La Paz**	**42.25**	**79**	P	**P**	**18 26 30.7**	**-0.4**
	3.8nm,1.0s,baz=221,slow=5.0,SNR=9.9						
LPAZ				PcP	**PcP**	**18 28 25.5**	**+0.4**
	1.0nm,0.7s,baz=207,slow=4.5,SNR=3.6						
LPAZ				LR	LR	18 40 21.9	
	comp=Z,271nm,19.3s,baz=100,slow=31						
PMSA	**Palmer Station**	**43.83**	**153**	LR	LR	18 40 20.7	
	comp=Z,181nm,18.7s,baz=107,slow=30						
RAR	**Rarotonga**	**44.14**	**272**	LR	LR	18 40 16.8	
	comp=Z,563nm,18.8s,baz=89,slow=30						
CPUP	**Villa Florida**	**47.27**	**98**	LR	LR	18 43 38.0	
	comp=Z,580nm,18.7s,baz=235,slow=32						
APG	**El Apazote**	**50.81**	**27**	LR	LR	18 43 48.8	
	comp=Z,584nm,20.6s,baz=96,slow=30						
LPIG	**La Paz**	**55.69**	**1**	LR	LR	18 46 53.5	
	comp=Z,269nm,18.7s,baz=340,slow=30						
SDV	**Santo Domingo**	**56.30**	**51**	*eP*	**P**	**18 28 16.4**	**-1.7**
	9.4nm,1.4s						
TEIG	**Tepich**	**56.40**	**26**	LR	LR	18 47 15.5	
	comp=Z,392nm,20.6s,baz=344,slow=30						
RAO	**Raoul Island**	**56.41**	**254**	LR	LR	18 45 47.9	
	comp=Z,150nm,19.8s,baz=41,slow=29						
AFI	**Afiamalu**	**57.63**	**273**	LR	LR	18 47 30.9	
	comp=Z,191nm,18.4s,baz=208,slow=30						
QSPA	**South Pole Qui**	**58.30**	**180**	P	**P**	**18 28 31.3**	**-0.2**
QSPA	**South Pole Qui**	**58.30**	**180**	P	**P**	**18 28 31.3**	**-0.2**
	1.6nm,1.0s,baz=356,slow=1.6,SNR=6.6						
QSPA				LR	LR	18 50 25.7	
	comp=Z,300nm,18.3s,baz=298,slow=33						
VNDA	**Vanda**	**58.40**	**195**	P	**P**	**18 28 31.9**	**+0.1**
VNDA	**Vanda**	**58.40**	**195**	P	**P**	**18 28 31.9**	**+0.1**
	1.0nm,1.1s,baz=71,slow=4.1,SNR=2.9						
VNDA				LR	LR	18 49 32.7	
	comp=Z,425nm,18.1s,baz=88,slow=32						
BDFB	**Brasilia**	**59.57**	**90**	LR	LR	18 51 51.3	
	comp=Z,261nm,19.9s,baz=54,slow=34						
RPZ	**Rata Peaks**	**60.24**	**235**	LR	LR	18 49 40.4	
	comp=Z,132nm,19.8s,baz=344,slow=31						
TXAR	**Lajitas Array**	**61.34**	**8**	P	**P**	**18 28 53.0**	**+0.3**
TXAR	**Lajitas Array**	**61.34**	**8**	P	**P**	**18 28 53.0**	**+0.3**
	1.2nm,1.0s,baz=195,slow=8.0,SNR=10						
TXAR				LR	LR	18 51 14.4	
	comp=Z,174nm,20.6s,baz=210,slow=32						
627A	**Terlingua Ranc**	**61.49**	**8**	⇑P	**P**	**18 28 54.3**	**+0.6**
	baz=62,SNR=10						
626A	**Big Bend Ranch**	**61.51**	**7**	⇑P	**P**	**18 28 54.5**	**+0.6**
	baz=62,SNR=12						
631A	**Perdido Creek**	**61.84**	**11**	⇑P	**P**	**18 28 55.8**	**-0.2**
	baz=62						
632A	**Uvalde**	**62.07**	**12**	⇑P	**P**	**18 28 57.9**	**+0.4**
	baz=62,SNR=13						
527A	**Woodward Ranch**	**62.15**	**8**	⇓P	**P**	**18 28 58.4**	**+0.2**
	baz=62,SNR=9.9						
528A	**Cox Ranch, San**	**62.27**	**9**	⇓P	**P**	**18 28 59.3**	**+0.4**
	baz=63						
529A	**Stev Forest Ra**	**62.30**	**9**	⇓P	**P**	**18 28 59.2**	**0.0**
	baz=63,SNR=7.9						
530A	**J-C Ranch, Com**	**62.45**	**10**	⇑P	**P**	**18 29 00.6**	**+0.5**
	baz=63,SNR=7.7						
531A	**Rocksprings**	**62.59**	**11**	⇓P	**P**	**18 29 01.4**	**+0.4**
	baz=63						
426A	**McDonald Obser**	**62.62**	**7**	⇓P	**P**	**18 29 01.5**	**+0.1**
	baz=63						
425A	**Indio Mountain**	**62.64**	**6**	⇓P	**P**	**18 29 01.3**	**-0.2**
	baz=63						
532A	**Rocksprings**	**62.66**	**11**	⇓P	**P**	**18 29 01.6**	**+0.1**
	baz=63,SNR=7.8						
428A	**Kincaid Ranch,**	**62.84**	**9**	⇓P	**P**	**18 29 02.9**	**+0.3**
	baz=63						
427A	**Hayter Ranch,**	**62.87**	**8**	⇑P	**P**	**18 29 03.0**	**+0.1**
	baz=63,SNR=9.6						
319A	**Douglas**	**62.96**	**2**	⇓P	**P**	**18 29 04.1**	**+0.6**
	baz=63						
JCT	**Junction City**	**63.02**	**11**	*eP*	**P**	**18 29 01.5**	**-2.3**
	13nm,0.9s						
JCT	**Junction City**	**63.02**	**11**	⇑P	**P**	**18 29 04.2**	**+0.3**
	baz=63						
431A	**Sonora**	**63.09**	**11**	⇓P	**P**	**18 29 03.9**	**-0.4**
	baz=63,SNR=11						
430A	**Baggett Ranch,**	**63.09**	**10**	⇑P	**P**	**18 29 05.0**	**+0.6**
	baz=63						
325A	**Bean Ranch, Si**	**63.22**	**6**	⇓P	**P**	**18 29 04.8**	**-0.6**
	baz=64						
324A	**Moseley Ranch,**	**63.25**	**6**	⇑P	**P**	**18 29 05.0**	**-0.4**
	baz=64,SNR=8.1						
214A	**Organ Pipe Nat**	**63.51**	**359**	⇓P	**P**	**18 29 07.4**	**+0.3**
	baz=64						
329A	**Wagon Wheel Ra**	**63.68**	**9**	⇑P	**P**	**18 29 08.2**	**0.0**
	baz=64						
330A	**Mertzon**	**63.71**	**10**	⇓P	**P**	**18 29 08.5**	**0.0**
	baz=64,SNR=6.6						
TUC	**Tucson**	**63.86**	**1**	*eP*	**P**	**18 29 09.0**	**-0.5**
	2.9nm,0.9s						
224A	**Cornudas Mount**	**63.87**	**6**	⇑P	**P**	**18 29 09.4**	**-0.2**
	baz=64,SNR=13						
332A	**Millersview**	**63.91**	**11**	⇓P	**P**	**18 29 09.0**	**-0.7**
	baz=64						
225A	**Deer Hill, Car**	**63.97**	**6**	⇓P	**P**	**18 29 09.8**	**-0.4**
	baz=64						
226B	**Tecolote Peak,**	**64.00**	**7**	⇑P	**P**	**18 29 09.3**	**-1.1**
	baz=64						
230A	**Sterling City**	**64.19**	**10**	⇑P	**P**	**18 29 11.8**	**+0.2**
	baz=64						
228A	**UT Block 9, Go**	**64.22**	**8**	⇓P	**P**	**18 29 12.0**	**+0.2**
	baz=64						
232A	**Coleman**	**64.42**	**11**	⇓P	**P**	**18 29 13.2**	**+0.1**
	baz=65						
124A	**Stringfield Ra**	**64.50**	**6**	⇓P	**P**	**18 29 14.1**	**+0.3**
	baz=65,SNR=5.5						
125A	**Gardner Draw,**	**64.53**	**6**	⇓P	**P**	**18 29 13.3**	**-0.6**
	baz=65,SNR=14						
VNA2	**Neumayer--Watz**	**64.64**	**159**	*eP*	P	18 29 08.0	-6.1
VNA2	**Neumayer--Watz**	**64.64**	**159**	*ei*	P	18 29 20.4	+6.3
Z20A	**Nine Sixteen R**	**64.71**	**3**	⇓P	**P**	**18 29 15.2**	**+0.1**
	baz=65						
128A	**Castleberry Fa**	**64.73**	**8**	⇑P	**P**	**18 29 14.9**	**-0.3**
	baz=65						
WHTX	**Lake Whitney**	**64.91**	**13**	⇑P	**P**	**18 29 16.5**	**+0.3**
	baz=65

baz=66
Z25A Roswell 65.14 6 ⇑P P 18 29 18.3 +0.5
baz=66
Z26A Caprock 65.20 7 ⇓P P 18 29 17.7 -0.6
baz=66,SNR=6.3
BC3 Big Chuckawall 65.30 356 ⇓P P 18 29 19.6 +0.8
baz=66
PFO Pinyon Flat Ob 65.31 355 LR LR 18 51 13.2
comp=Z,151nm,19.8s,baz=173,slow=30
Z28A Tucker Farm, M 65.40 8 ⇓P P 18 29 20.2 +0.7
baz=66
Z29A Hungry Hill Ra 65.46 9 ⇑P P 18 29 20.9 +1.1
baz=66
SNAA Sanae 65.64 161 eP P 18 29 19.6 -1.0
SNAA Sanae 65.64 161 el Px 18 29 31.9
Y23A Lovelace Mesa, 65.67 5 ⇑P P 18 29 22.2 +0.8
baz=66
Y24A Capitan 65.72 6 ⇑P P 18 29 21.9 +0.2
baz=66,SNR=8.1
Y25A Mesa, Roswell 65.78 6 ⇓P P 18 29 21.5 -0.4
baz=66
Y26A Elida 65.86 7 ⇑P P 18 29 22.5 0.0
baz=66
Y27A Causey 65.89 8 ⇓P P 18 29 22.2 -0.5
baz=66,SNR=7.0
X16A Lo Mia Camp, P 65.95 0 ⇓P P 18 29 23.4 +0.2
baz=66
MSTX Muleshoe 66.02 8 eP P 18 29 22.9 -0.7
MSTX Muleshoe 66.02 8 ⇑P P 18 29 23.1 -0.4
baz=66,SNR=7.5
Y28A McKinney Farm, 66.03 8 ⇓P P 18 29 23.4 -0.1
baz=66
X18A Snowflake 66.08 1 ⇑P P 18 29 24.4 +0.4
baz=66
Y31A Rekieta Farm, 66.35 10 ⇓P P 18 29 26.2 +0.6
baz=67
ANMO Albuquerque 66.65 5 eP P 18 29 28.9 +1.2
48nm,2.9s
ANMO Albuquerque 66.65 5 P P 18 29 29.1 +1.4
0.8nm,0.8s,baz=106,slow=5.7,SNR=4.3
ANMO LR LR 18 53 12.7
comp=Z,171nm,19.5s,baz=209,slow=31
W20A Ramah 66.72 3 ⇓P P 18 29 28.6 +0.4
baz=67
W24A Lazy 6 Ranch, 66.99 5 ⇑P P 18 29 30.8 +1.0
baz=67
GSC Goldstone 67.02 355 eP P 18 29 30.9 +1.1
7.7nm,1.0s
GSC Goldstone 67.02 355 ⇑P P 18 29 30.7 +0.8
baz=67
W27A Bowe Ranch, En 67.07 8 ⇓P P 18 29 31.0 +0.7
baz=67
W25A X Bar L Ranch, 67.08 6 ⇓P P 18 29 29.9 -0.4
baz=67
LRMC Laurel Mountai 67.26 355 ⇓P P 18 29 32.0 +0.5
baz=68
V26A Tequesquite Ra 67.72 7 ⇑P P 18 29 34.0 -0.4
baz=68,SNR=6.0
MPMC Manual Prospec 67.83 355 ⇓P P 18 29 35.9 +0.8
baz=68,SNR=8.5
U15A North Rim 67.96 359 ⇓P P 18 29 36.5 +0.5
baz=68
U23A El Rito 68.05 5 ⇑P P 18 29 37.0 +0.5
baz=68,SNR=5.8
U22A Llaves 68.05 4 ⇓P P 18 29 37.1 +0.6
baz=68
U21A Nageezi 68.06 3 ⇑P P 18 29 37.2 +0.7
baz=68
SHPR Sheep Range 68.12 357 eP P 18 29 37.8 +0.9
MIAR Mount Ida 68.21 16 eP P 18 29 36.3 -1.0
9.7nm,1.2s
U26A Atchley Ranch, 68.32 7 ⇓P P 18 29 38.6 +0.4
baz=69
T21A Navajo Lake 68.62 3 ⇓P P 18 29 40.5 +0.4
baz=69
TUL1 Tulsa 69.04 14 eP P 18 29 40.7 -1.8
TUL1 Tulsa 69.04 14 ⇑P P 18 29 42.7 +0.2
baz=69
CCUT Cedar City 69.10 358 eP P 18 29 44.3 +1.2
5.0nm,1.0s
T26A Comanche Natio 69.10 7 ⇓P P 18 29 43.8 +0.7
baz=69
S21A Coal Bank Pass 69.28 3 ⇑P P 18 29 44.9 +0.6
baz=70
S22A 4UR Ranch, Cre 69.41 4 ⇑P P 18 29 45.4 +0.3
baz=70
S20A Disappointment 69.42 3 ⇓P P 18 29 46.1 +1.1
baz=70
S25A Robets Cordova 69.51 6 ⇑P P 18 29 45.8 +0.3
baz=70,SNR=8.6
S26A Kim 69.56 7 ⇑P P 18 29 46.2 +0.4
baz=70
R20A Redvale 69.78 3 ⇑P P 18 29 47.4 +0.2
baz=70
S30A Montezuma 69.94 9 ⇓P P 18 29 49.0 +1.0
baz=70
R11A Troy Canyon, C 69.98 357 eP P 18 29 56.0 +7.6
19nm,2.0s
R21A Cimarron 70.00 3 ⇑P P 18 29 49.1 +0.5
baz=70
R24A Sanders Place, 70.02 5 ⇓P P 18 29 49.1 +0.4
baz=70
S31A Mullinville 70.06 10 ⇑P P 18 29 49.1 +0.4
baz=70
NVAR Mina Array Bea 70.24 354 P P 18 29 51.2 +1.1
NVAR Mina Array Bea 70.24 354 P P 18 29 51.2 +1.1
3.3nm,0.9s,baz=182,slow=8.8,SNR=13
R27A Eads 70.29 7 ⇓P P 18 29 50.7 +0.5
baz=71
R28A Tribune 70.45 8 ⇓P P 18 29 51.5 +0.2
baz=71
R30A Dighton 70.60 9 ⇓P P 18 29 52.6 +0.5
baz=71
Q23A Hartsel 70.63 5 ⇓P P 18 29 53.0 +0.5
baz=71
Q25A Bedland, Calha 70.77 6 ⇓P P 18 29 53.1 -0.2
baz=71
P23A Jefferson 71.10 5 ⇓P P 18 29 56.6 +1.2
baz=71
DUG Dugway 71.73 359 eP P 18 30 00.1 +1.1
3.7nm,1.3s
O25A Wiggins 71.97 6 ⇓P P 18 30 01.5 +1.1
baz=72
N21A Black Mountain 72.38 3 ⇓P P 18 30 03.7 +0.7
baz=73
N20A Spence Gulch, 72.42 3 ⇑P P 18 30 04.0 +0.7
baz=73
KMSC Kings Mountain 72.46 26 ⇑P P 18 30 03.6 +0.4
baz=73
N22A Wattenberg Ran 72.48 4 ⇓P P 18 30 04.7 +1.1
baz=73
N23A Red Feather La 72.60 4 ⇑P P 18 30 05.6 +1.2
baz=73
M20A Sweetwater, Wa 73.08 3 ⇓P P 18 30 07.3 +0.2
baz=73
M24A Cheyenne 73.25 5 ⇑P P 18 30 08.8 +0.7
baz=74
L18A Fontenelle, Gr 73.46 1 ⇓P P 18 30 10.4 +1.1
baz=74
MOD Modoc 73.87 353 eP P 18 30 12.0 +0.3
494nm,3.0s
YBH Yreka Blue Hor 73.98 351 LR LR 18 55 52.8
comp=Z,283nm,18.4s,baz=180,slow=30
K21A Alcova 74.26 3 ⇑P P 18 30 13.5 -0.5
baz=75
PDAR Pinedale Array 74.31 2 P P 18 30 13.9 -0.4
PDAR Pinedale Array 74.31 2 P P 18 30 13.9 -0.4
2.2nm,0.9s,baz=158,slow=4.4,SNR=12
PDAR LR LR 18 57 14.7
comp=Z,154nm,20.1s,baz=203,slow=31
K22A Casper 74.32 4 ⇓P P 18 30 14.7 +0.5
baz=75
K23A Bowen Ranch, D 74.48 5 ⇓P P 18 30 15.7 +0.5
baz=75
K05A Summer Lake 74.75 353 eP P 18 30 19.7 +2.9
156nm,2.8s
J19A Crowheart 74.82 2 ⇑P P 18 30 17.3 0.0
baz=75
J21A Lysite 74.96 3 ⇓P P 18 30 18.0 -0.1
baz=75
J22A Midwest 75.08 4 ⇑P P 18 30 18.9 +0.2
baz=75
HLID Hailey 75.13 358 eP P 18 30 18.4 -0.6
6.1nm,1.1s
HLID Hailey 75.13 358 ⇓P P 18 30 19.5 +0.5
baz=76
I21A Big Trails, Te 75.44 3 ⇓P P 18 30 20.6 -0.1
baz=76
I20A Worland 75.54 3 ⇓P P 18 30 21.1 -0.2
baz=76
I22A 9 Mile Ranch, 75.56 4 ⇑P P 18 30 21.4 0.0
baz=76
J29A Okreek 75.63 8 ⇑P P 18 30 21.2 -0.5
baz=76
RSSD Black Hills 75.95 6 eP P 18 30 21.7 -2.1
13nm,0.9s
I07A Izee 75.96 354 eP P 18 30 25.1 +1.4
39nm,2.4s
I27A Quinn 76.09 7 ⇓P P 18 30 24.2 -0.1
baz=76
I28A Midland 76.11 8 ⇓P P 18 30 24.4 0.0
baz=76
ECSD EROS Data Cent 76.48 11 eP P 18 30 24.1 -2.4
4.9nm,0.9s
H25A Fruitdale 76.49 6 ⇓P P 18 30 27.2 +0.6
baz=77
H28A Mission Ridge 76.80 8 ⇓P P 18 30 28.3 0.0
baz=77
G20A Bridger 76.80 2 ⇓P P 18 30 28.3 -0.1
baz=77
G23A Biddle 76.93 4 ⇓P P 18 30 29.7 +0.6
baz=77
G08A Pilot Rock 77.11 355 eP P 18 30 31.7 +1.5
68nm,2.9s
F23A Volborg 77.44 4 ⇑P P 18 30 32.2 +0.2
baz=78
F27A Lemmon 77.88 7 ⇑P P 18 30 34.8 +0.5
baz=78
D21A La Casta Ranch 78.70 3 ⇑P P 18 30 39.7 +0.8
baz=79
D23A Lindsay 78.90 4 ⇑P P 18 30 40.7 +0.7
baz=79
C19A Slack Wire Ran 79.29 2 ⇑P P 18 30 42.9 +0.8
baz=80
C24A Savage 79.31 5 ⇑P P 18 30 43.1 +0.9
baz=80
NEW Newport 79.95 356 eP P 18 30 46.1 +0.5
NEW Newport 79.95 356 P P 18 30 46.0 +0.3
2.0nm,0.8s,baz=231,slow=13,SNR=3.8
NEW LR LR 19 00 40.8
comp=Z,191nm,18.1s,baz=201,slow=32
B23A Brockton 80.20 4 ⇑P P 18 30 48.0 +1.0
baz=80
MAW Mawson 80.72 178 LR LR 19 04 42.6
comp=Z,290nm,18.4s,baz=283,slow=34
SADO Sadowa 81.79 23 P P 18 30 56.1 +0.6
SADO Sadowa 81.79 23 P P 18 30 56.1 +0.6
5.5nm,0.8s,baz=265,slow=8.3,SNR=5.8
SADO LR LR 19 02 58.7
comp=Z,225nm,19.5s,baz=39,slow=32
LONY Lake Ozonia 83.25 26 eP P 18 30 59.4 -3.7
14nm,1.1s
STKA Stephens Creek 86.21 235 LR LR 19 05 35.5
comp=Z,127nm,18.4s,baz=206,slow=33
SCHQ Schefferville 94.52 24 LR LR 19 09 27.2
comp=Z,190nm,19.7s,baz=201,slow=32
ASAR Alice Springs 96.58 237 LR LR 19 13 13.5
comp=Z,148nm,19.3s,baz=91,slow=34
AKASG Malin Array Be 145.55 45 PKPbc PKPdf 18 38 13.2 -1.6
AKASG Malin Array Be 145.55 45 PKPbc PKPdf 18 38 13.2 -1.6
3.5nm,1.1s,baz=292,slow=3.3,SNR=7.0
SONM Songino Array 147.21 310 PKPbc PKPdf 18 38 18.8 +1.0
SONM Songino Array 147.21 310 PKPbc PKPdf 18 38 18.8 +1.0
2.8nm,1.1s,baz=81,slow=1.8,SNR=8.4
CMAR Chiang Mai Arr 149.48 251 PKPbc PKPbc 18 38 26.2 -0.5
CMAR Chiang Mai Arr 149.48 251 PKPbc PKPbc 18 38 26.2 -0.5
0.7nm,0.8s,baz=105,slow=0.8,SNR=5.3
BRTR Keskin Array B 150.82 65 PKP PKPdf 18 38 24.4 +0.5
BRTR PKPbc PKiKP 18 38 29.9 -0.2
BRTR Keskin Array B 150.82 65 PKP PKPdf 18 38 24.4 +0.5
0.9nm,0.9s,baz=241,slow=3.0,SNR=3.0
BRTR PKPbc PKiKP 18 38 29.9 -0.2
2.1nm,0.9s,baz=230,slow=3.6,SNR=8.3
GTA Gaotai 153.55 295 SKKS SKKSdf 18 54 02.4 -15
ZALV Zalesovo Beam 155.03 337 PKPab PKPab 18 38 53.2 -0.5
ZALV Zalesovo Beam 155.03 337 PKPab PKPab 18 38 53.2 -0.5
1.7nm,0.4s,baz=41,slow=4.7,SNR=6.9

*ISCJB **20** 18:23:19.6±0.3,31°.98S±0°.05×111°.3W±0°.1,h10km,*
mb4.5/39,MS4.8/5,Error ellipse: s-maj=14.6km
s-min=7.1km az=165.0
*IDC **20** 18:23:19.4±0.5,31°.92S×111°.37W,h0km,mb4.1/17,*
mb1 4.3/17,mb1mx4.3/23,mbtmp4.1/17,Error ellipse:
s-maj=20.8km s-min=14.4km az=78.0
*NEIC **20** 18:23:21.1±0.4,32°.01S×111°.42W,h10km,mb5.0/24,*
Error ellipse: s-maj=14.7km s-min=9.5km az=69.0
*BJI **20** 18:23:22.1,32°.14S×111°.18W,h30km,mB5.3/8,Ms5.1/6,*
Ms7 4.8/9
ISC 20 18:23:20.8±0.3,32°.08S±0°.09×111°.44W±0°.08,h10km,
n218,σ1°15/242,mb4.6/39,MS4.7/5,65C-61D,Southern
East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	33.78	117	P	P	18 30 02.9	0.0
PLCA	Paso Flores	33.78	117	P	P	18 30 02.9	0.0
3.0nm,0.8s,baz=282,slow=10,SNR=6.6							
CFAA	Coronel Fontan	36.52	101	P	P	18 30 26.7	0.0
CFAA	Coronel Fontan	36.52	101	P	P	18 30 26.7	0.0
0.6nm,0.4s,baz=241,slow=8.1,SNR=32							
LVC	Limon Verde	38.73	87	eP	P	18 30 48.3	+2.6
41nm,1.6s							
TRQA	Tornquist	40.54	113	eP	P	18 31 00.2	-0.1
36nm,1.6s							
LPAZ	La Paz	42.22	79	P	P	18 31 15.3	+0.3
LPAZ	La Paz	42.22	79	P	P	18 31 15.3	+0.3
4.1nm,0.8s,baz=238,slow=4.8,SNR=18							
OTAV	Otavalo	44.78	51	eP	P	18 31 36.3	+0.8
15nm,1.6s							
CPUP	Villa Florida	47.18	98	P	P	18 31 52.8	-1.0
CPUP	Villa Florida	47.18	98	P	P	18 31 52.8	-1.0
0.9nm,0.6s,baz=294,slow=5.6,SNR=3.6							
QSPA	South Pole Qui	58.11	180	P	P	18 33 16.4	+2.0
QSPA	South Pole Qui	58.11	180	P	P	18 33 16.4	+2.0
2.4nm,0.8s,baz=104,slow=4.3,SNR=7.2							
VNDA	Vanda	58.23	195	P	P	18 33 17.7	+2.9
VNDA	Vanda	58.23	195	P	P	18 33 17.7	+2.9
0.7nm,0.9s,baz=63,slow=4.5,SNR=4.0							
BDFB	Brasilia	59.51	90	P	P	18 33 25.2	+0.5
BDFB	Brasilia	59.51	90	P	P	18 33 25.2	+0.5
1.4nm,0.4s,baz=305,slow=4.0,SNR=3.6							
TXAR	Lajitas Array	61.52	8	P	P	18 33 37.9	-0.1
TXAR	Lajitas Array	61.52	8	P	P	18 33 37.9	-0.1
1.1nm,0.9s,baz=190,slow=9.0,SNR=8.4							
627A	Terlingua Ranc	61.67	8	⇓P	P	18 33 39.2	+0.1
baz=62,SNR=8.6							
626A	Big Bend Ranch	61.69	7	⇑P	P	18 33 39.7	+0.5
baz=62,SNR=7.9							
628A	Black Gap, Mar	61.76	8	⇑P	P	18 33 40.1	+0.4
baz=62							
631A	Perdido Creek	62.02	11	⇓P	P	18 33 41.1	-0.2
baz=62							
632A	Uvalde	62.24	11	⇑P	P	18 33 43.1	+0.3
baz=62,SNR=11							
527A	Woodward Ranch	62.33	8	⇑P	P	18 33 43.4	-0.1
baz=63,SNR=9.9							
528A	Cox Ranch, San	62.44	8	⇓P	P	18 33 44.2	0.0
baz=63							
529A	Stev Forest Ra	62.48	9	⇑P	P	18 33 44.6	+0.2
baz=63,SNR=6.8							
530A	J-C Ranch, Com	62.62	10	⇑P	P	18 33 45.9	+0.5
baz=63,SNR=8.3							
531A	Rocksprings	62.76	11	⇓P	P	18 33 46.7	+0.4
baz=63,SNR=6.4							
425A	Indio Mountain	62.82	6	⇑P	P	18 33 46.8	0.0
baz=63							
532A	Rocksprings	62.83	11	⇓P	P	18 33 47.2	+0.5
baz=63,SNR=7.2							
428A	Kincaid Ranch,	63.01	8	⇓P	P	18 33 48.6	+0.5
baz=63							
429A	Davenport Ranc	63.02	9	⇑P	P	18 33 48.1	0.0
baz=63							
427A	Hayter Ranch,	63.05	8	⇓P	P	18 33 48.6	+0.4
baz=63,SNR=7.9							
319A	Douglas	63.14	2	⇓P	P	18 33 49.5	+0.6
baz=63							
JCT	Junction City	63.19	11	eP	P	18 33 48.9	-0.2
11nm,0.8s							
JCT	Junction City	63.19	11	⇑P	P	18 33 49.2	+0.1
baz=64,SNR=5.0							
431A	Sonora	63.26	10	⇑P	P	18 33 49.7	+0.1
baz=64,SNR=11							
325A	Bean Ranch, Si	63.40	6	⇓P	P	18 33 50.4	-0.3
baz=64,SNR=6.9							
324A	Moseley Ranch,	63.43	6	⇑P	P	18 33 50.2	-0.6
baz=64,SNR=5.8							
HKT	Hockley	63.44	15	eP	P	18 33 50.9	+0.3
21nm,1.6s							
328A	Wristen Ranch,	63.64	8	⇑P	P	18 33 51.8	-0.3
baz=64							
214A	Organ Pipe Nat	63.70	359	⇓P	P	18 33 53.0	+0.5
baz=64							
329A	Wagon Wheel Ra	63.85	9	⇓P	P	18 33 53.7	+0.2
baz=64							
330A	Mertzon	63.88	10	⇑P	P	18 33 53.6	-0.2
baz=64,SNR=5.6							
331A	San Angelo	63.90	10	⇑P	P	18 33 53.5	-0.3
baz=64							
TUC	Tucson	64.04	1	eP	P	18 33 55.3	+0.5
25nm,2.2s							
224A	Cornudas Mount	64.05	6	⇑P	P	18 33 54.7	-0.2
baz=64,SNR=11							
332A	Millersview	64.08	11	⇑P	P	18 33 54.2	-0.8
baz=64							
225A	Deer Hill, Car	64.15	6	⇓P	P	18 33 54.9	-0.7
baz=64							
121A	Cookes Peak, D	64.36	3	⇓P	P	18 33 56.6	-0.3
baz=65							
VNA2	Neumayer--Watz	64.45	159	eP	P	18 33 58.0	+1.0
baz=225,slow=4.6							
124A	Stringfield Ra	64.68	6	⇑P	P	18 33 59.0	-0.1
baz=65,SNR=6.1							
125A	Gardner Draw,	64.71	6	⇑P	P	18 33 58.5	-0.7
baz=65,SNR=12							
128A	Castleberry Fa	64.91	8	⇓P	P	18 34 00.3	-0.1
baz=65,SNR=6.8							
Z22A	Elephant Butte	65.12	4	⇓P	P	18 34 01.9	0.0
baz=65							
ABTX	Abilene, Hawle	65.31	11	⇑P	P	18 34 02.5	-0.6
baz=66							
Z25A	Roswell	65.32	6	⇑P	P	18 34 02.8	-0.3
baz=66							
Z26A	Caprock	65.38	7	⇓P	P	18 34 02.7	-0.8
baz=66,SNR=5.4							
SNAA	Sanae	65.44	161	eP	P	18 34 04.0	+0.5
SNAA	Sanae	65.44	161	eP	P	18 34 03.7	+0.2
12nm,1.1s							
SNAA	Sanae	65.44	161	P	P	18 34 03.8	+0.2
2.4nm,0.9s,baz=236,slow=5.1,SNR=17							
BC3	Big Chuckawall	65.49	356	⇓P	P	18 34 04.8	+0.5
baz=66							
PFO	Pinyon Flat Ob	65.51	355	P	P	18 34 04.3	0.0
PFO	Pinyon Flat Ob	65.51	355	P	P	18 34 04.3	0.0
1.7nm,0.8s,baz=184,slow=6.4,SNR=3.5							
Z28A	Tucker Farm, M	65.58	8	⇑P	P	18 34 04.5	-0.3
baz=66							
Z29A	Hungry Hill Ra	65.63	9	⇓P	P	18 34 04.6	-0.6
baz=66							
Y23A	Lovelace Mesa,	65.85	5	⇑P	P	18 34 06.8	+0.1
baz=66							
BELC	Belle Mtn. Jos	65.87	356	⇓P	P	18 34 07.1	+0.4
baz=66							
Y24A	Capitan	65.90	5	⇑P	P	18 34 07.0	0.0
baz=66,SNR=7.5							
Z31A	Sharp Cattle R	65.91	10	⇑P	P	18 34 07.1	+0.2
baz=66							
Y25A	Mesa, Roswell	65.96	6	⇓P	P	18 34 07.1	-0.2
baz=66							
Z32A	Haskell	66.01	11	⇑P	P	18 34 07.7	+0.2
baz=66							
Y27A	Causey	66.07	8	⇑P	P	18 34 07.1	-0.9
baz=66,SNR=8.1							
MSTX	Muleshoe	66.20	8	eP	P	18 34 07.7	-1.2
MSTX	Muleshoe	66.20	8	⇓P	P	18 34 08.3	-0.5
baz=66,SNR=8.0							
Y31A	Rekieta Farm,	66.53	10	⇓P	P	18 34 11.1	+0.3
baz=67							
X26A	CR and CF Fran	66.66	7	⇓P	P	18 34 11.8	0.0
baz=67							
Y32A	R-V Farms, Ver	66.69	11	⇑P	P	18 34 11.8	0.0
baz=67							
ANMO	Albuquerque	66.83	4	P	P	18 34 10.5	-2.5
ANMO	Albuquerque	66.83	4	P	P	18 34 10.5	-2.5
1.4nm,0.9s,baz=150,slow=8.1,SNR=3.3							
W20A	Ramah	66.91	3	⇑P	P	18 34 13.9	+0.5
baz=67							
W24A	Lazy 6 Ranch,	67.17	5	⇑P	P	18 34 15.2	+0.1
baz=68							
GSC	Goldstone	67.21	355	eP	P	18 34 16.1	+0.8
12nm,1.3s							
GSC	Goldstone	67.21	355	⇑P	P	18 34 15.9	+0.7
baz=68							
W27A	Bowe Ranch, En	67.25	7	⇑P	P	18 34 15.9	+0.4
baz=68							
W25A	X Bar L Ranch,	67.26	6	⇑P	P	18 34 15.6	0.0
baz=68							
V20A	Brimhall	67.58	3	⇓P	P	18 34 18.1	+0.5
baz=68							
V26A	Tequesquite Ra	67.90	7	⇑P	P	18 34 18.9	-0.7
baz=68							
MPMC	Manual Prospec	68.02	355	⇓P	P	18 34 21.1	+0.6
baz=68,SNR=7.2							
U15A	North Rim	68.15	359	⇑P	P	18 34 21.9	+0.6
baz=68							
U23A	El Rito	68.23	5	⇓P	P	18 34 22.4	+0.6
baz=68,SNR=6.4							
U22A	Llaves	68.23	4	⇓P	P	18 34 22.1	+0.3
baz=68							
U21A	Nageezi	68.24	3	⇑P	P	18 34 22.1	+0.2
baz=68							
V31A	Spring Creek L	68.37	10	⇑P	P	18 34 23.3	+0.8
baz=69							
MIAR	Mount Ida	68.37	16	eP	P	18 34 20.8	-1.6
24nm,1.8s							
U25A	Circle Dot Ran	68.44	6	⇑P	P	18 34 23.4	+0.3
baz=69							
U26A	Atchley Ranch,	68.50	7	⇑P	P	18 34 23.5	+0.1
baz=69							
U27A	Thompson Grove	68.62	7	⇑P	P	18 34 24.0	-0.1
baz=69							
MVCO	Mesa Verde	68.98	3	eP	P	18 34 26.8	+0.3
9.7nm,1.1s							
MVCO	Mesa Verde	68.98	3	⇓P	P	18 34 26.8	+0.3
baz=69							
TUL1	Tulsa	69.21	14	eP	P	18 34 27.9	+0.3
20nm,1.1s							
TUL1	Tulsa	69.21	14	⇑P	P	18 34 27.9	+0.3
baz=70							
T26A	Comanche Natio	69.28	7	⇑P	P	18 34 28.6	+0.3
baz=70,SNR=6.3							
CCUT	Cedar City	69.29	358	eP	P	18 34 29.6	+1.2
8.1nm,1.3s							
S21A	Coal Bank Pass	69.46	3	⇑P	P	18 34 29.7	+0.1
baz=70							
S24A	Houchin Ranch,	69.60	5	⇓P	P	18 34 30.5	+0.1
baz=70							
S20A	Disappointment	69.61	3	⇓P	P	18 34 30.5	+0.2
baz=70							
S25A	Robets Cordova	69.69	6	⇑P	P	18 34 30.9	+0.1
baz=70,SNR=8.2							
S26A	Kim	69.74	7	⇑P	P	18 34 31.6	+0.5
baz=70							
MAIT	Maitri	69.83	163	eP	P	18 34 30.2	-0.9
R20A	Redvale	69.97	3	⇓P	P	18 34 32.9	+0.4
baz=70							
R11A	Troy Canyon, C	70.17	357	eP	P	18 34 38.1	+4.4
R21A	Cimarron	70.18	3	⇑P	P	18 34 34.2	+0.4
baz=70							
NVAR	Mina Array Bea	70.44	354	P	P	18 34 36.2	+0.8
NVAR	Mina Array Bea	70.44	354	P	P	18 34 36.2	+0.8
2.8nm,0.9s,baz=186,slow=8.1							
R27A	Eads	70.47	7	⇑P	P	18 34 35.6	+0.1
baz=71							
R28A	Tribune	70.63	8	⇓P	P	18 34 36.5	+0.1
baz=71							
Q16A	Castle Valley	70.63	0	⇑P	P	18 34 36.8	+0.2
baz=71							
Q22A	Crested Butte,	70.70	4	⇓P	P	18 34 37.5	+0.3
baz=71							
R30A	Dighton	70.77	9	⇓P	P	18 34 37.2	0.0
baz=71							
SRU	San Rafael	70.83	1	eP	P	18 34 37.7	0.0
33nm,2.1s							
Q25A	Bedland, Calha	70.95	6	⇓P	P	18 34 38.8	+0.3
baz=71							
P23A	Jefferson	71.28	5	⇓P	P	18 34 40.7	0.0
baz=72							
P19A	Cripple Cowboy	71.39	2	⇓P	P	18 34 41.3	+0.2
baz=72							
Q30A	Quinter	71.46	9	⇑P	P	18 34 41.8	+0.4
baz=72							

ISCO	**Idaho Springs**	71.72	5	⇑P	P	18 34 43.9	+0.7
	baz=72						
O22A	**Kremmling**	72.02	4	⇑P	P	18 34 45.2	+0.1
	baz=72						
DAU	**Daniels Canyon**	72.13	0	*e*P	P	18 34 46.5	+0.8
N20A	**Spence Gulch,**	72.61	3	⇓P	P	18 34 48.3	-0.2
	baz=73						
N23A	**Red Feather La**	72.79	4	⇓P	P	18 34 49.9	+0.3
	baz=73						
OGNE	**Ogallala**	73.18	7	⇓P	P	18 34 51.9	+0.2
	baz=74						
L21A	**Rawlins**	73.77	3	⇓P	P	18 34 55.1	-0.3
	baz=74						
L20A	**Wamsutter**	73.78	2	⇓P	P	18 34 55.4	+0.1
	baz=74						
MOD	**Modoc**	74.07	353	*e*P	P	18 34 58.3	+1.4
	127nm,2.1s						
K21A	**Alcova**	74.45	3	⇑P	P	18 34 59.4	+0.2
	baz=75						
PDAR	**Pinedale Array**	74.50	1	P	P	18 34 58.4	-1.2
PDAR	**Pinedale Array**	74.50	1	P	P	18 34 58.4	-1.2
	3.0nm,1.0s,baz=176,slow=4.5,SNR=13						
K22A	**Casper**	74.50	4	⇓P	P	18 34 59.6	+0.2
	baz=75						
J19A	**Crowheart**	75.01	2	⇑P	P	18 35 02.4	0.0
	baz=75						
J20A	**Shoshoni**	75.13	3	⇓P	P	18 35 03.4	+0.3
	baz=75						
J21A	**Lysite**	75.15	3	⇓P	P	18 35 03.4	+0.2
	baz=75						
TPAW	**Teton Pass**	75.20	0	*e*P	P	18 35 03.5	-0.2
	4.3nm,0.8s						
J22A	**Midwest**	75.26	4	⇑P	P	18 35 03.8	0.0
	baz=76						
HLID	**Hailey**	75.32	358	*e*P	P	18 35 02.5	-1.8
	5.3nm,0.9s						
HLID	**Hailey**	75.32	358	⇑P	P	18 35 04.5	+0.3
	baz=76						
LOHW	**Long Hollow**	75.33	1	*e*P	P	18 35 04.2	-0.2
	7.2nm,1.3s						
J25A	**Sunshine Ranch**	75.43	6	⇓P	P	18 35 04.8	+0.1
	baz=76						
IMW	**Indian Meadow**	75.61	0	*e*P	P	18 35 06.3	+0.3
	5.2nm,1.1s						
I21A	**Big Trails, Te**	75.62	3	⇑P	P	18 35 06.0	0.0
	baz=76						
I20A	**Worland**	75.72	2	⇑P	P	18 35 06.6	+0.2
	baz=76						
I22A	**9 Mile Ranch,**	75.74	4	⇓P	P	18 35 06.8	+0.2
	baz=76						
I19A	**Meeteetse**	75.78	2	⇑P	P	18 35 07.0	+0.1
	baz=76						
RSSD	**Black Hills**	76.14	5	*e*P	P	18 35 08.8	-0.1
	17nm,0.9s						
I07A	**Izee**	76.15	354	*e*P	P	18 35 10.0	+1.1
	18nm,1.6s						
I27A	**Quinn**	76.27	7	⇑P	P	18 35 10.1	+0.6
	baz=77						
I28A	**Midland**	76.29	8	⇓P	P	18 35 10.5	+0.9
	baz=77						
H22A	**Clearmont**	76.45	4	⇓P	P	18 35 10.7	+0.1
	baz=77						
ECSD	**EROS Data Cent**	76.66	11	*e*P	P	18 35 11.1	-0.6
	63nm,2.6s						
H25A	**Fruitdale**	76.67	6	⇓P	P	18 35 12.4	+0.7
	baz=77						
H24A	**Dirks Ranch, A**	76.72	5	⇓P	P	18 35 12.2	+0.2
	baz=77						
H27A	**Howes**	76.82	7	⇓P	P	18 35 13.1	+0.5
	baz=77						
SYO	**Syowa Base**	76.97	170	⇑*e*P	P	18 35 12.6	-0.6
SYO	**Syowa Base**	76.97	170	⇑*es*P	sP	18 35 17.0	-0.7
G20A	**Bridger**	76.99	2	⇓P	P	18 35 13.6	0.0
	baz=77						
G21A	**Lodge Grass**	77.03	3	⇓P	P	18 35 14.0	+0.1
	baz=77						
G23A	**Biddle**	77.11	4	⇓P	P	18 35 14.2	0.0
	baz=77						
G24A	**Alzada**	77.30	5	⇓P	P	18 35 15.8	+0.4
	baz=78						
G08A	**Pilot Rock**	77.31	355	*e*P	P	18 35 16.5	+1.1
	40nm,2.3s						
G26A	**Maurine**	77.42	6	⇓P	P	18 35 16.2	+0.2
	baz=78						
G27A	**Dupree**	77.48	6	⇓P	P	18 35 17.1	+0.8
	baz=78						
F23A	**Volborg**	77.63	4	⇑P	P	18 35 17.5	+0.4
	baz=78						
F22A	**Rosebud**	77.63	4	⇓P	P	18 35 17.5	+0.4
	baz=78						
F27A	**Lemmon**	78.05	7	⇑P	P	18 35 20.0	+0.5
	baz=78						
E20A	**Meyer Farm, Mu**	78.27	2	⇓P	P	18 35 21.1	+0.5
	baz=79						
E26A	**Carlson Angus**	78.60	6	⇑P	P	18 35 23.4	+0.9
	baz=79						
D23A	**Lindsay**	79.08	4	⇑P	P	18 35 26.3	+1.2
	baz=79						
D24A	**Glendive**	79.09	5	⇓P	P	18 35 26.0	+0.9
	baz=79						
C24A	**Savage**	79.49	5	⇑P	P	18 35 28.1	+0.8
	baz=80						
NEW	**Newport**	80.14	356	*e*P	P	18 35 31.4	+0.6
	15nm,1.4s						
NEW	**Newport**	80.14	356	P	P	18 35 31.3	+0.6
	4.3nm,1.1s,baz=165,slow=4.9,SNR=4.8						
MAW	**Mawson**	80.53	178	P	P	18 35 34.9	+2.1
MAW	**Mawson**	80.53	178	P	P	18 35 34.9	+2.1
	0.9nm,0.6s,baz=141,slow=6.5,SNR=3.7						
SADO	**Sadowa**	81.94	23	P	P	18 35 40.4	0.0
SADO	**Sadowa**	81.94	23	P	P	18 35 40.4	0.0
	4.3nm,0.8s,baz=204,slow=10.0,SNR=4.1						
LONY	**Lake Ozonia**	83.39	26	*e*P	P	18 35 49.5	+1.4
	13nm,1.1s						
ASAR	**Alice Springs**	96.53	237	P	P	18 36 50.4	-0.8
ASAR	**Alice Springs**	96.53	237	P	P	18 36 50.4	-0.8
	0.3nm,0.7s,baz=146,slow=5.1,SNR=3.1						
TORD	**Torodi Ar. Bea**	116.39	91	PKP	**PKPdf**	18 42 03.4	-2.0
TORD	**Torodi Ar. Bea**	116.39	91	PKP	**PKPdf**	18 42 03.4	-2.0
	0.6nm,0.8s,baz=234,slow=0.9,SNR=3.8						
ESDC	**Sonseca Array**	122.20	60	PKP	**PKPdf**	18 42 14.1	-1.9
ESDC	**Sonseca Array**	122.20	60	PKP	**PKPdf**	18 42 14.1	-1.9
	0.3nm,0.6s,baz=287,slow=1.2,SNR=3.4						
MDJ	**Mudanjiang**	131.57	303	PKP	**PKPdf**	18 42 32.9	-0.7
MDJ				PP	**PP**	18 44 52.5	-1.0
MDJ				SKS	**SKSdf**	18 49 42.8	-2.2
MDJ				SS	**SS**	19 02 30.6	+2.6
MDJ				AMB	AMB		
	comp=Z,100nm,5.5s						
MDJ				LR	LR		
	comp=E,110nm,27.0s						
MDJ				LR	LR		
	comp=Z,140nm,23.4s						
CN2	**Changchun**	134.45	302	*e*PKP	**PKPdf**	18 42 40.0	+1.0
GERES	**GERESS Array B**	136.02	51	PKP	**PKPdf**	18 42 40.8	-1.1
GERES	**GERESS Array B**	136.02	51	PKP	**PKPdf**	18 42 40.8	-1.1
	comp=Z,0.8nm,0.9s,baz=282,slow=1.2,SNR=6.2						
BJI	**Beijing**	141.07	296	PKP	**PKPdf**	18 42 49.4	-1.9
BJI				LR	LR		
	comp=Z,110nm,29.0s						
HHC	**Hu-ho-hao-te**	144.62	297	*e*PKP	PKPbc	18 42 56.5	0.0
HHC				PP	**PP**	18 46 16.6	+1.8
HHC				PKS	**PKSdf**	18 46 30.8	-2.5
HHC				SKS	**SKSdf**	18 50 04.3	-2.9
HHC				SKKS	**SKKSac**	18 53 05.6	-1.5
HHC				SS	**SS**	19 05 02.6	-0.3
HHC				AMB	AMB		
	comp=Z,280nm,5.8s						
HHC				LR	LR		
	comp=N,240nm,18.8s						
HHC				LR	LR		
	comp=E,460nm,20.6s						
HHC				LR	LR		
	comp=Z,230nm,18.6s						
KIEV	**Kiev**	145.62	46	*e*PKPdf	**PKPdf**	18 42 57.6	-1.4
AKASG	**Malin Array Be**	145.63	46	PKPbc	**PKPdf**	18 42 57.1	-1.9
AKASG	**Malin Array Be**	145.63	46	PKPbc	**PKPdf**	18 42 57.1	-1.9
	comp=Z,1.6nm,0.7s,baz=279,slow=3.5,SNR=16						
XAN	**Xi'an**	146.26	284	PKPbc	**PKPdf**	18 43 01.1	+0.4
GYA	**Guiyang**	146.41	270	*e*PKPbc	**PKPdf**	18 42 58.0	-3.3
GYA				PP	**PP**	18 46 27.3	+1.5
GYA				PKS	**PKSdf**	18 46 33.3	-3.6
GYA				SKKS		18 53 14.8	
GYA				SS	**SS**	19 05 21.0	-3.0
GYA				AMB	AMB		
	comp=Z,120nm,7.6s						
GYA				LR	LR		
	comp=N,110nm,20.4s						
GYA				LR	LR		
	comp=E,90nm,21.7s						
GYA				LR	LR		
	comp=Z,100nm,20.0s						
SONM	**Songino Array**	147.38	310	PKPbc	**PKPdf**	18 43 03.2	+0.9
SONM	**Songino Array**	147.38	310	PKPbc	**PKPdf**	18 43 03.2	+0.9
	comp=Z,1.1nm,0.8s,baz=124,slow=2.9,SNR=6.6						
KMI	**Kunming**	149.29	266	PKPbc	**PKPdf**	18 43 06.4	+0.2
CHTO	**Chiang Mai**	149.66	252	*e*PKPdf	**PKPdf**	18 43 07.3	+0.6
CHTO				*e*PKPbc	**PKPbc**	18 43 11.2	-0.1
CD2	**Chengdu**	150.04	277	PKPbc	**PKPdf**	18 43 05.8	-1.2
CD2				pPKP	**PKPab**	18 43 16.5	-1.3
CD2				sPKP		18 43 20.1	
CD2				PKS	**PKSdf**	18 46 39.1	-2.9
CD2				PP	**PP**	18 46 48.3	+1.4
CD2				SKS	**SKSdf**	18 50 11.0	-4.1
CD2				SKKS	**SKKSac**	18 53 35.1	-2.8
CD2				SS	**SS**	19 06 02.0	-2.6
CD2				AMB	AMB		
	comp=Z,160nm,5.9s						
CD2				LR	LR		
	comp=Z,240nm,7.1s						
ANTO	**Ankara**	150.18	65	*e*PKPdf	**PKPbc**	18 43 11.9	-0.2
LZH	**Lanzhou**	150.60	288	*e*PKPbc	**PKPdf**	18 43 06.4	-1.5
LZH				pPKP	**PKiKP**	18 43 15.0	+1.0
LZH				sPKP		18 43 17.5	
LZH				PKPab	**PKPab**	18 43 20.0	-0.1
LZH				PP	**PP**	18 46 52.6	+2.4
LZH				SS	SS	19 06 05.3	-5.6
LZH				AMB	AMB		
	comp=Z,120nm,4.9s						
LZH				LR	LR		
	comp=Z,590nm,20.0s						
BRTR	**Keskin Array B**	150.84	65	PKP	**PKPdf**	18 43 07.5	-0.6
BRTR				PKPbc	**PKPbc**	18 43 12.9	-0.8
BRTR	**Keskin Array B**	150.84	65	PKP	**PKPdf**	18 43 07.5	-0.6
	comp=Z,0.6nm,0.8s,baz=338,slow=3.1,SNR=2.7						
BRTR				PKPbc	**PKPbc**	18 43 12.9	-0.8
	comp=Z,2.3nm,0.8s,baz=225,slow=1.8,SNR=10						
GTA	**Gaotai**	153.69	295	*e*PKPbc	**PKPbc**	18 43 20.1	0.0
GTA				sPKP		18 43 33.0	
GTA				PP	PP	18 47 19.3	+12
GTA				SKS	**SKSdf**	18 50 22.0	+2.6
ZALV	**Zalesovo Beam**	155.23	337	PKPab	**PKPab**	18 43 39.0	+0.3
ZALV	**Zalesovo Beam**	155.23	337	PKPab	**PKPab**	18 43 39.0	+0.3
	comp=Z,2.5nm,0.8s,baz=34,slow=5.6,SNR=7.7						
WMQ	**Urumqi**	160.94	313	*e*PKP	**PKPdf**	18 43 20.1	-1.1
WMQ				LR	LR		
	comp=E,100nm,25.0s						
WMQ				LR	LR		
	comp=Z,78nm,22.8s						
ABKAR	**Akbulak array**	161.66	18	*e*PKPdf	**PKPdf**	18 43 22.6	+0.9
KSH	**Kashi**	170.44	323	*e*PKP	**PKPdf**	18 43 29.6	+0.4
KSH				PKS	**PKSdf**	18 47 00.1	-1.6
KSH				PP	**PP**	18 48 40.9	+4.9
KSH				SKKS		18 55 27.0	
KSH				SS	**SS**	19 09 42.0	+4.6
KSH				AMB	AMB		
	comp=Z,80nm,4.9s						
KSH				LR	LR		
	comp=N,82nm,5.3s						
KSH				LR	LR		
	comp=E,48nm,5.4s						
KSH				LR	LR		
	comp=Z,180nm,5.3s						

IDC 20 18:26:37.6±32.0, 16°.28S×178°.16W, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.7/18, mbtmp4.0/4, Error ellipse: s-maj=603.8km s-min=143.7km az=83.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	39.64	239	P	P	18 34 11.7	+0.4
	1.1nm,0.4s,baz=94,slow=12,SNR=5.5						
WRA	**Warramunga Arr**	45.18	258	P	P	18 34 56.5	-0.1
	0.3nm,0.5s,baz=95,slow=8.0,SNR=10						
ASAR	**Alice Springs**	45.48	253	P	P	18 34 58.9	-0.1
	3.6nm,0.5s,baz=89,slow=7.9,SNR=91						
FITZ	**Fitzroy Crossi**	53.54	259	P	P	18 36 00.0	-0.6
	1.7nm,1.0s,baz=76,slow=4.2,SNR=4.2						

TRN 20 18:27:47.8, 16°.99N×61°.21W, h16km, MD3.5, M3.1(FDF), 14C-1D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BPA	**Boggy Peak**	0.62	276	⇑*e*P	Pn	18 28 02.7	+0.8
BPA				*e*S	Sn	18 28 12.1	+0.5
SEG	**Port Louis**	0.64	206	⇑*i*P	Pn	18 28 03.4	+1.2
ANWB	**Willy Bob**	0.87	321	⇓*e*P	Pn	18 28 07.0	+1.6
BCG	**Bois Riant Cap**	0.98	204	*e*P	Pn	18 28 08.4	+1.5
LZG	**Guadaloupe-1**	1.00	213	⇑*e*P	Pn	18 28 08.6	+1.5
SSG	**Sans Toucher**	1.00	207	⇑*e*P	Pn	18 28 08.7	+1.4
CRG	**Carmichael**	1.02	205	*e*P	Pg	18 28 09.0	+1.3
DOG	**Dongo Capester**	1.02	202	⇑*i*P	Pg	18 28 09.0	+1.3
FNG	**Fond-Bernard**	1.02	206	⇑*i*P	Pg	18 28 08.9	+1.2
ECG	**Echelle**	1.03	204	⇑*i*P	Pg	18 28 09.2	+1.2
LKG	**Breislack**	1.03	205	⇑*i*P	Pg	18 28 09.1	+1.2
TAG	**Tarade**	1.03	205	⇑*i*P	Pg	18 28 09.3	+1.4
PHG	**Guadaloupe-2**	1.05	203	⇑*i*P	Pg	18 28 09.4	+1.2
SCG	**Saint Claude**	1.05	205	⇑*i*P	Pg	18 28 09.3	+1.1
MGG	**Marie-Galante**	1.07	185	⇑*i*P	Pg	18 28 09.7	+1.3
HMG	**Houelmont**	1.10	205	⇑*i*P	Pg	18 28 10.2	+1.1
TBG	**Guadaloupe-3**	1.20	200	⇑*i*P	Pg	18 28 11.5	+0.6
SKI	**Saint Kitts**	1.50	284	*e*P	Pb	18 28 15.6	+0.3
SKI	**Saint Kitts**	1.50	284	*e*P	Pg	18 28 17.1	+0.4
SKI				*e*S	Sg	18 28 37.1	+0.9

GUC 20 18:29:43.9±0.9, 33°.11S×70°.27W, h12km±4km, MD3.7, ML1.8, 3D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FCH	**Farellones**	0.21	184	*e*P	Pg	18 29 48.6	-0.3
FCH				*i*S	Sg	18 29 52.5	0.0
FCH				AML	AML	18 29 53.2	
	comp=E,449nm,0.2s						
PEL	**Peldehue**	0.35	265	⇓*i*P	Pg	18 29 51.1	+0.1
PEL				*i*S	Sb	18 29 57.7	+0.1
PEL				AML	AML	18 29 59.9	
	comp=E,120nm,0.6s						
CLCH	**Cerro Calan**	0.36	218	⇓*i*P	Pg	18 29 51.5	+0.2
CLCH				*i*S	Sb	18 29 57.5	-0.5
CLCH				AML	AML	18 29 59.7	
	comp=N,326nm,0.5s						
ROCH	**El Roble**	0.64	283	*e*P	Pg	18 29 56.6	0.0
ROCH				*i*S	Sb	18 30 06.2	-0.1
ROCH				AML	AML	18 30 12.8	
	comp=N,91nm,0.6s						
LMEL	**Las Melosas**	0.73	175	⇓*i*P	Pb	18 29 58.6	-0.2
LMEL				*i*S	Sb	18 30 08.7	-0.4
LMEL				AML	AML	18 30 10.4	
	comp=N,54nm,0.1s						

IDC 20 18:34:08.5±2.0, 5°.60N×124°.94E, h0km, mb3.4/4, mb1 3.7/4, mb1mx3.4/24, mbtmp3.5/4, Error ellipse: s-maj=132.3km s-min=25.1km az=68.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	23.56	178	P	P	18 39 19.7	-1.1
	1.7nm,0.9s,baz=0.0,slow=11,SNR=3.1						
WRA	**Warramunga Arr**	27.01	160	P	P	18 39 52.6	+0.2
	0.3nm,0.5s,baz=342,slow=9.2,SNR=8.2						
ASAR	**Alice Springs**	30.37	164	P	P	18 40 23.1	+0.6
	0.2nm,0.3s,baz=339,slow=7.8,SNR=13						
MKAR	**Makanchi Array**	55.02	325	P	P	18 43 41.8	-0.1
	0.2nm,0.4s,baz=115,slow=7.4,SNR=5.2						

IDC 20 18:42:27.5±2.7, 20°.36N×146°.13E, h0km, mb3.6/7, mb1 3.7/7, mb1mx3.6/25, mbtmp3.6/7, Error ellipse: s-maj=102.3km s-min=19.6km az=82.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	23.26	321	P	P	18 47 36.8	+0.2
	0.9nm,0.8s,baz=147,slow=8.8,SNR=5.2						
WRA	**Warramunga Arr**	41.69	197	P	P	18 50 18.5	+0.4
	0.3nm,0.5s,baz=12,slow=8.6,SNR=6.2						
SONM	**Songino Array**	42.12	320	P	P	18 50 22.3	+0.6
	0.3nm,0.5s,baz=128,slow=6.8,SNR=5.7						
FITZ	**Fitzroy Crossi**	43.19	209	P	P	18 50 28.9	-1.4
	1.9nm,0.9s,baz=17,slow=14,SNR=4.2						
ASAR	**Alice Springs**	45.35	196	P	P	18 50 48.4	+0.7
	0.3nm,0.7s,baz=21,slow=8.4,SNR=4.9						
MKAR	**Makanchi Array**	57.62	313	P	P	18 52 19.4	-0.1
	0.3nm,0.6s,baz=86,slow=8.3,SNR=5.8						
JOF	**Joensuu**	82.69	335	*e*p	P	18 54 53.0	+0.2
KAF	**Kangasniemi**	85.08	336	*e*p	P	18 55 04.6	-0.4
FINES	**FINESS Array B**	85.55	335	P	P	18 55 06.8	-0.5
	1.0nm,0.3s,baz=67,slow=5.3,SNR=17						

MAN 20 18:45:05, 11°.52N×121°.71E, h1km, mb4.1, ML2.9, MS2.6, 1C, Panay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTRP	**Odiongan**	0.89	20	*e*P	Pb	18 45 23.0	-0.3
OTRP				*e*S	Sb	18 45 35.4	-0.3
CUYO	**Cuyo Island**	0.95	226	*e*P	Pb	18 45 24.2	-0.2
RCP	**Roxas**	1.01	88	⇑*e*P	Pn	18 45 27.1	+0.7
RCP				*e*S	Sn	18 45 41.5	+0.2
SJMP	**San Jose**	1.10	328	*e*P	Pn	18 45 27.2	-0.3
GUIM	**Jordan**	1.24	136	*e*P	Pb	18 45 29.2	0.0
BUSP	**Coron**	1.56	288	*e*P	Pg	18 45 36.4	+1.5
ENPP	**El Nido**	2.26	262	*e*P	Pn	18 45 42.7	-0.9

*IDC **20** 19:34:11.4±0.9, 2°.96S×130°.22E, h0km, mb3.8/8, mb1 4.1/11, mb1mx3.9/23, mbtmp3.9/11, ML3.6/3, MS3.1/2, Ms1 3.1/2, ms1mx2.6/28, Error ellipse: s-maj=44.8km s-min=15.9km az=68.0*

*ISCJB **20** 19:34:14.4±0.3, 3°.04S±0°.04×129°.99E±0°.03, h25km, mb3.8/8, MS4.7/1, Error ellipse: s-maj=5.3km s-min=4.7km az=172.2*

*DJA **20** 19:34:15.2±1.4, 3°S±3°×13°0E±°, h9km±11km, M4.3/13, mb4.5/9, mB5.0/4, MLv4.2/13, Mw(mB)4.4/4*

*AUST **20** 19:34:17.6, 2°.99S×130°.01E, h35km*

ISC 20 19:34:15.8±0.6, 3°.09S±0°.05×130°.05E±0°.06, h25km, n47, σ1§64/44, mb3.8/8, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	1.15	257	P	**Pn**	19 34 35.3	-1.0
MSAI				S	**Sb**	19 34 54.3	+2.9
BNDI	**Bandanaira**	1.43	186	P	**Pb**	19 34 42.2	+0.3
BNDI	**Bandanaira**	1.43	186	P	**Pb**	19 34 42.3	+0.5
	baz=1.5,SNR=44						
AAI	**Ambon**	1.94	252	P	**Pn**	19 34 47.5	+0.3
AAI	**Ambon**	1.94	252	P	**Pn**	19 34 47.9	+0.6
	baz=1.9,SNR=82						
FAKI	**Fak Fak**	2.21	86	P	**Pn**	19 34 52.6	+1.7
FAKI	**Fak Fak**	2.21	86	P	**Pn**	19 34 52.6	+1.7
	baz=2.2,SNR=168						
SWI	**Sorong**	2.52	29	P	**Pn**	19 34 54.7	-0.5
SWI				S	**Sn**	19 35 25.7	+0.5
SWI	**Sorong**	2.52	29	P	**Pn**	19 34 54.4	-0.8
	baz=2.5,SNR=155						
NLAI	**Namlea**	2.94	267	P	**Pn**	19 35 01.5	+0.4
LBMI	**Labuha**	3.52	314	P	**Pn**	19 35 08.3	-0.7
TLE	**Tual**	3.69	133	P	Pn	19 35 15.2	+3.9
TLE	**Tual**	3.69	133	P	Pn	19 35 16.0	+4.7
	baz=3.8,SNR=19						
KMPI	**Kaimana, Papua**	3.70	99	P	**Pn**	19 35 13.5	+2.1
RKPI	**Ransiki, Papua**	4.42	69	P	**Pn**	19 35 22.7	+1.4
RKPI				S	**Sn**	19 36 13.3	+1.3
TNTI	**Ternate**	4.68	325	P	**Pn**	19 35 22.9	-2.0
LUWI	**Luwuk**	7.55	285	P	**Pn**	19 36 04.3	-0.1
	48nm,0.9s,0.1nm						
LUWI	**Luwuk**	7.55	285	P	**Pn**	19 36 02.9	-1.5
	baz=7.5,SNR=6.4						
BBSI	**Bau Bau**	7.83	252	P	Pn	19 36 12.9	+4.7
	31nm,1.0s,408nm0.1nm						
GTOI	**Gorontalo**	7.95	298	P	**Pn**	19 36 11.8	+2.0
	35nm,0.9s,2μm						
APSI	**Ampana**	8.67	284	P	**Pn**	19 36 18.4	-1.3
	80nm,1.0s,625nm						
SOEI	**Soe**	8.77	221	P	Pn	19 36 24.8	+3.6
	32nm,1.6s						
SOEI	**Soe**	8.77	221	P	Pn	19 36 35.5	+14
	baz=8.8,SNR=3.6						
MRSI	**Marisa**	8.84	293	P	**Pn**	19 36 21.3	-0.8
	29nm,0.5s,1μm						
MTN	**Manton Dam**	9.75	174	P	**Pn**	19 36 35.7	+1.1
	baz=9.9,SNR=22						
KDU	**Kakadu**	9.84	166	P	**Pn**	19 36 36.1	+0.4
	baz=10.0,SNR=15						
BKSI	**Bulukumba**	10.14	257	P	**Pn**	19 36 41.3	+1.3
	12nm,1.4s						
SPSI	**Sidrap Palu**	10.29	265	P	**Pn**	19 36 44.6	+2.5
KAPI	**Kappang**	10.45	259	Pn	**Pn**	19 36 46.0	+1.9
	0.7nm,0.3s,baz=102,slow=9.3,SNR=4.7						
KAPI				LR	LR	19 41 07.4	
	comp=Z,78nm,18.4s,baz=106,slow=39						
KNRA	**Kununurra**	12.57	186	P	**Pn**	19 37 13.7	+0.4
	baz=13,SNR=9.2						
FITZ	**Fitzroy Crossi**	15.53	196	Pn	**Pn**	19 37 52.3	-1.1
	0.1nm,0.3s,baz=27,slow=14,SNR=4.7						
FITZ				LR	LR	19 45 11.1	
	comp=Z,69nm,18.3s,baz=289,slow=42						
FITZ	**Fitzroy Crossi**	15.53	196	P	**P**	19 37 56.8	-0.7
	baz=16,SNR=13						
WRA	**Warramunga Arr**	17.27	166	P	**Pn**	19 38 13.4	-2.0
	0.4nm,0.3s,baz=343,slow=11,SNR=34						
WRA				S	**Sn**	19 41 20.8	-6.2
	0.1nm,0.3s,baz=342,slow=22,SNR=3.1						
MTSU	**Mount Surprise**	20.47	138	P	Pn	19 38 55.2	+1.0
	baz=21,SNR=4.8						
ASAR	**Alice Springs**	20.80	170	P	**P**	19 38 56.0	+0.6
	14nm,0.7s,baz=351,slow=10,SNR=146						
ASAR				S	**S**	19 42 43.9	-2.6
	2.1nm,1.0s,baz=352,slow=23,SNR=5.8						
CISI	**Cisompet, Garu**	22.57	258	S	S	19 43 04.3	-17
	baz=23,SNR=9.8						
CTA	**Charters Tower**	23.14	138	P	**P**	19 39 22.6	+2.2
	2.6nm,0.7s,baz=338,slow

comp=E,36μm,0.3s
PSGC Pisagua 1.20 313⇓ *i*P **Pn 19 41 36.0 -0.5**
PSGC *i* S **Sn 19 41 52.5 -0.6**
PSGC AML AML 19 41 56.2
comp=E,13μm,0.4s
MNMC Minimini 1.34 343⇓ *i*P **Pn 19 41 39.1 +0.7**
MNMC *i* S **Sn 19 41 58.2 +1.8**
MNMC AML AML 19 42 02.4
comp=E,27μm,0.3s
PB09 Plate Boundary 1.37 182⇑ *i*P **Pn 19 41 38.8 +0.2**
PB09 *i* S **Sn 19 41 57.9 +0.9**
PB09 AML AML 19 41 59.9
comp=N,66μm,0.8s
PB07 Plate Boundary 1.45 206⇑ *i*P **Pn 19 41 38.9 -0.8**
PB07 *i* S **Sn 19 41 57.8 -1.0**
PB07 AML AML 19 42 02.5
comp=E,10μm,0.7s
MACH Maria Elena 1.84 197⇑ *i*P **Pn 19 41 44.2 -0.5**
MACH *i* S **Sn 19 42 07.2 -0.6**
PB04 Plate Boundary 1.85 188⇓ *i*P **Pn 19 41 47.4 +2.8**
PB04 *i* S **Sn 19 42 10.7 +3.0**
PB04 AML AML 19 42 25.2
comp=E,3μm,0.3s
LVC Limon Verde 2.20 173 *e*P **Pn 19 41 50.4 +1.1**
LPAZ La Paz 4.23 14 P **Pn 19 42 19.8 +2.7**
LPAZ La Paz 4.23 14 P **Pn 19 42 19.8 +2.7**
comp=E,22nm,0.3s,baz=200,slow=6.5,SNR=358
LCO Las Campanas 8.66 189 *e*P **Pn 19 43 16.7 -0.3**
comp=E,28nm,0.7s
SIV San Ignacio 8.89 62 P **Pn 19 43 19.1 -0.9**
SIV San Ignacio 8.89 62 P **Pn 19 43 19.1 -0.9**
comp=E,16nm,0.3s,baz=260,slow=12,SNR=194
CFAA Coronel Fontan 11.17 176 P Pn 19 43 46.2 -4.7
CFAA S Sn 19 45 41.0 -13
CFAA Coronel Fontan 11.17 176 P Pn 19 43 46.2 -4.7
comp=E,0.1nm,0.3s,baz=18,slow=6.0,SNR=15
CFAA S Sn 19 45 41.0 -13
comp=E,0.1nm,0.3s,baz=72,slow=20,SNR=2.0
CPUP Villa Florida 12.38 121 P **Pn 19 44 05.5 -1.7**
CPUP Villa Florida 12.38 121 P **Pn 19 44 05.5 -1.7**
comp=E,0.6nm,0.3s,baz=286,slow=14,SNR=5.3
SAML Samuel 12.80 28 *e*P Pn 19 44 08.2 -4.7
comp=E,13nm,0.8s
TRQA Tornquist 18.65 162 *e*P **P 19 45 23.6 -1.3**
comp=E,51nm,1.4s
BB16B Bebedouro 19.29 95⇑ *i*P **P 19 45 31.3 -0.7**
BB16B *i* 19 45 38.6
BB16B Bebedouro 19.29 95⇑ *i*P **P 19 45 31.3 -0.7**
BB16B *i* 19 45 38.6
PLCA Paso Flores 20.28 183 P **P 19 45 42.6 0.0**
PLCA Paso Flores 20.28 183 P **P 19 45 42.6 0.0**
comp=E,14nm,1.0s,baz=5.1,slow=12,SNR=17
BDFB Brasilia 20.69 80 P **P 19 45 46.6 -0.7**
BDFB Brasilia 20.69 80 P **P 19 45 46.6 -0.7**
comp=E,4.3nm,0.5s,baz=254,slow=16,SNR=7.6
DBIC Dimbokro 68.69 74 P **P 19 52 06.9 -1.6**
DBIC pP **pP 19 52 31.2 -0.5**
DBIC Dimbokro 68.69 74 P **P 19 52 06.9 -1.6**
comp=E,8.8nm,1.1s,baz=226,slow=8.4,SNR=5.4
DBIC pP **pP 19 52 31.2 -0.5**
comp=E,6.7nm,0.9s,baz=181,slow=5.7,SNR=2.7
PDAR Pinedale Array 73.05 330 P **P 19 52 35.2 +0.6**
PDAR Pinedale Array 73.05 330 P **P 19 52 35.2 +0.6**
comp=E,0.4nm,0.6s,baz=132,slow=7.8,SNR=3.4
NVAR Mina Array Bea 74.48 322 P **P 19 52 44.3 +1.2**
NVAR pP **pP 19 53 08.0 +1.3**
NVAR Mina Array Bea 74.48 322 P **P 19 52 44.3 +1.2**
comp=E,0.8nm,0.7s,baz=156,slow=7.4,SNR=6.9
NVAR pP **pP 19 53 08.0 +1.3**
comp=E,1.1nm,0.8s,baz=163,slow=6.8,SNR=4.0
TORD Torodi Ar. Bea 77.25 71 P **P 19 52 57.7 -1.4**
TORD pP **pP 19 53 23.1 +0.4**
TORD Torodi Ar. Bea 77.25 71 P **P 19 52 57.7 -1.4**
comp=E,2.3nm,0.5s,baz=254,slow=5.2,SNR=84
TORD pP **pP 19 53 23.1 +0.4**
comp=E,7.8nm,0.7s,baz=251,slow=5.3,SNR=16
VNDA Vanda 77.86 190 P **P 19 53 02.9 +1.5**
VNDA Vanda 77.86 190 P **P 19 53 02.9 +1.5**
comp=E,1.1nm,0.8s,baz=146,slow=5.1,SNR=8.2
MAW Mawson 85.43 163 P **P 19 53 42.0 +0.6**
MAW Mawson 85.43 163 P **P 19 53 42.0 +0.6**
comp=E,1.2nm,0.5s,baz=193,slow=8.9,SNR=7.2
YKA Yellowknife Ar 90.09 341 pP pP 19 54 28.3 +0.6
YKA Yellowknife Ar 90.09 341 pP pP 19 54 28.3 +0.6
comp=E,6.9nm,0.8s,baz=134,slow=4.4,SNR=7.3
ASAR Alice Springs 130.74 208 PKP **PKPdf 20 00 14.8 -0.8**
ASAR pPKP **pPKPdf 20 00 42.0 +1.1**
ASAR Alice Springs 130.74 208 PKP **PKPdf 20 00 14.8 -0.8**
comp=E,0.7nm,0.5s,baz=139,slow=1.8,SNR=15
ASAR pPKP **pPKPdf 20 00 42.0 +1.1**
comp=E,0.3nm,0.5s,baz=131,slow=1.7,SNR=2.2
WRA Warramunga Arr 133.74 211 PKP **PKPdf 20 00 20.8 -0.5**
WRA Warramunga Arr 133.74 211 PKP **PKPdf 20 00 20.8 -0.5**
comp=E,1.0nm,0.6s,baz=224,slow=1.6,SNR=4.9
ZALV Zalesovo Beam 141.09 24 PKP **PKPdf 20 00 34.0 +0.3**
ZALV Zalesovo Beam 141.09 24 PKP **PKPdf 20 00 34.0 +0.3**
comp=E,1.2nm,0.5s,baz=294,slow=5.2,SNR=5.7
MKAR Makanchi Array 144.91 35 PKP PKPbc 20 00 40.2 +0.1
MKAR pPKP pPKPdf 20 01 05.2 -0.9
MKAR Makanchi Array 144.91 35 PKP PKPbc 20 00 40.2 +0.1
comp=E,0.9nm,0.6s,baz=327,slow=2.6,SNR=12
MKAR pPKP pPKPdf 20 01 05.2 -0.9
comp=E,0.9nm,0.5s,baz=327,slow=3.3,SNR=5.5
USRK Ussuriysk Arra 150.46 328 PKPbc **PKPbc 20 00 55.8 +0.4**
comp=E,2.0nm,0.5s,baz=27,slow=3.4,SNR=6.7
USRK pPKPbc **pPKPbc 20 01 21.0 +0.5**
comp=E,2.3nm,0.8s,baz=73,slow=4.8,SNR=4.0
SONM Songino Array 152.42 6 PKP **PKPdf 20 00 53.8 +0.8**
SONM PKPbc **PKPbc 20 01 00.0 +0.1**
SONM pPKPbc **pPKPbc 20 01 25.5 +0.3**
SONM Songino Array 152.42 6 PKP **PKPdf 20 00 53.8 +0.8**
comp=E,0.4nm,0.8s,baz=10,slow=3.2,SNR=3.5
SONM PKPbc **PKPbc 20 01 00.0 +0.1**
comp=E,1.5nm,0.5s,baz=310,slow=1.3,SNR=24
SONM pPKPbc **pPKPbc 20 01 25.5 +0.3**
comp=E,0.5nm,0.4s,baz=273,slow=1.3,SNR=3.2

NIED ***20*** *20:04:00,40.°60N×142.°00E,h113km,Mw5.0 Best double couple: M₀4.13000×10¹⁶ NP1:φ₀235.00000°, δ80.00000°,λ150.00000°. NP2:φ₀331.00000°,δ61.00000°, λ12.00000°.*
ISCJB ***20*** *20:04:42.9±0.6,40.°54N±0.°03×142.°00E±0.°08, h106km±3km,mb3.5/7,Error ellipse: s-maj=9.8km s-min=5.2km az=5.9*
IDC ***20*** *20:04:43.9±2.9,40.°57N×142.°16E,h108km±28km,mb3.3/7, mb1 3.3/9,mb1mx3.2/26,mbtmp3.3/9,Error ellipse: s-maj=34.6km s-min=22.9km az=75.0*
JMA ***20*** *20:04:44.4±0.1,40.°56N×142.°01E,h95km±1km,M3.7*
JMA Felt I J1.

ISC 20 20:04:43.7±0.9,40.°54N±0.°04×142.°02E±0.°07,h99km±7km, n21,σ0.°55/34,mb3.5/7,1C-7D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JANG	**Nango**	**0.42**	**247**	⇓P	**Pn**	**20 04 59.2**	**+0.4**
JANG				S	**Sn**	**20 05 09.9**	**-0.3**
JTH	**Tanohata**	**0.61**	**191**	⇑P	**Pn**	**20 05 00.8**	**+0.5**
JTH				S	**Sn**	**20 05 12.7**	**0.0**
JKZ	**Kuzumaki**	**0.76**	**224**	⇓P	**Pn**	**20 05 02.4**	**+0.7**
JKZ				S	**Sn**	**20 05 15.3**	**+0.1**
JTM	**Tenmabayashi**	**0.76**	**289**	⇓P	**Pn**	**20 05 01.5**	**-0.1**
JTM				S	**Sn**	**20 05 14.8**	**-0.2**
JAH	**Hinai**	**1.11**	**252**	⇓P	**Pn**	**20 05 05.8**	**+0.5**
JAH				S	**Sn**	**20 05 21.9**	**+0.4**
JOT	**Ohata**	**1.12**	**319**	⇓P	**Pn**	**20 05 05.3**	**0.0**
JOT				*e*S	**Sn**	**20 05 21.2**	**-0.4**
JOM	**Ohasama**	**1.20**	**208**	⇓P	**Pn**	**20 05 06.8**	**+0.5**
JOM				*e*S	**Sn**	**20 05 23.4**	**0.0**
JIW	**Iwasaki**	**1.53**	**273**	P	**Pn**	**20 05 11.0**	**+0.7**
JIW				*e*S	**Sn**	**20 05 31.0**	**+0.5**
JKB	**Kayabe**	**1.54**	**332**	P	**Pn**	**20 05 10.5**	**+0.2**
JKB				*e*S	**Sn**	**20 05 30.0**	**-0.6**
JSR	**Shiriuchi**	**1.56**	**310**	⇓P	**Pn**	**20 05 10.7**	**+0.1**
JSR				*e*S	**Sn**	**20 05 31.0**	**-0.1**
JMK	**Ichinoseki**	**1.70**	**201**	P	**Pn**	**20 05 12.9**	**+0.5**
JMK				*e*S	**Sn**	**20 05 33.7**	**-0.5**
JNBK	**Urakawa-nobuka**	**1.83**	**17**	P	**Pn**	**20 05 14.9**	**+0.9**
JNBK				*e*S	**Sn**	**20 05 37.7**	**+0.7**
ASAJ	**Asahikawa**	**3.60**	**7**	P	**Pn**	**20 05 38.0**	**+0.6**
	1.5nm,0.3s,baz=170,slow=16,SNR=29						
ASAJ				S	**Sn**	**20 06 18.8**	**-0.2**
	2.2nm,0.3s,baz=153,slow=30,SNR=7.2						
USRK	**Ussuriysk Arra**	**8.27**	**300**	P	**Pn**	**20 06 42.4**	**+1.7**
	0.4nm,0.3s,baz=108,slow=14,SNR=7.5						
SONM	**Songino Array**	**26.39**	**298**	P	**P**	**20 10 10.6**	**-0.1**
	0.4nm,0.6s,baz=96,slow=10,SNR=3.1						
ZALV	**Zalesovo Beam**	**39.98**	**309**	P	**P**	**20 12 08.2**	**0.0**
	0.7nm,0.4s,baz=95,slow=9.5,SNR=3.6						
MKAR	**Makanchi Array**	**42.74**	**299**	P	**P**	**20 12 30.3**	**-0.6**
	0.2nm,0.4s,baz=86,slow=9.8,SNR=5.1						
KURBB	**Kurchatov Arra**	**44.29**	**305**	P	**P**	**20 12 43.2**	**-0.1**
	1.2nm,0.6s,baz=79,slow=8.9,SNR=10						
BVAR	**Borovoye Array**	**48.62**	**310**	P	**P**	**20 13 16.8**	**-0.3**
	0.7nm,0.4s,baz=80,slow=8.9,SNR=3.8						
WRA	**Warramunga Arr**	**60.59**	**188**	P	**P**	**20 14 43.2**	**-0.6**
	0.2nm,0.5s,baz=4.9,slow=6.9,SNR=7.5						
AKASG	**Malin Array Be**	**71.83**	**322**	P	**P**	**20 15 55.2**	**-0.1**
	0.1nm,0.2s,baz=44,slow=5.6,SNR=4.1						

GUC 20 20:08:12.1±0.8,28.°28S×71.°04W,h47km±18km,ML3.9,2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.38**	**140⇑**	*i*P	Pn	20 08 22.4	+0.5
VACH				*i* S	Sn	20 08 29.4	+0.6
VACH				AML	AML	20 08 29.7	
	comp=N,34μm,0.1s						
CPCH	**Copiapo**	**1.10**	**34⇑**	*i*P	Pn	20 08 32.1	+0.9
CPCH				*i* S	Sn	20 08 46.5	+1.2
CPCH				AML	AML	20 08 47.2	
	comp=N,21μm,0.1s						
CDCH	**Caldera**	**1.22**	**9**	*e*P	Pn	20 08 32.8	0.0
CDCH				AML	AML	20 08 52.0	
	comp=E,361nm,0.2s						
CMCH	**Combarbala**	**2.88**	**179**	*e*P	Pn	20 08 56.2	+0.5

ISN ***20*** *20:14:38.5±0.5,32.°61N×38.°94E,h0km±265km,ML3.5*
ISK ***20*** *20:14:46.4,36.°37N×40.°83E,h5km,ML3.9*
TEH ***20*** *20:14:46.0,36.°26N×40.°87E,h2km,ML3.9*
ISCJB ***20*** *20:14:46.7±0.7,36.°30N±0.°02×40.°89E±0.°02,h11km±5km, Error ellipse: s-maj=3.8km s-min=2.8km az=144.7*
NSSC ***20*** *20:14:46.2±1.6,36.°40N×40.°92E,h0km±6km,ML3.6,Fault plane solution: NP1:φ₀258.95000°,δ30.00000°, λ-90.00000°.*
CSEM ***20*** *20:14:47.2±0.1,36.°33N×40.°91E,h5km,ML3.6,Error ellipse: s-maj=4.1km s-min=3.1km az=159.0*
DDA ***20*** *20:14:47.5,36.°41N×40.°96E,h14km,MD3.7*

ISC 20 20:14:47.0±1.2,36.°36N±0.°02×40.°87E±0.°02,h2km±10km, n142,σ1$12/209,10C-17D,Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MZRK	**Al-Mazaregh**	**0.56**	**199⇑**	*e*P	**Pg**	**20 14 58.0**	**+0.3**
MZRK				*e*S	**Sb**	**20 15 07.8**	**0.0**
MZRK				AML	AML	20 15 21.2	
	comp=Z,10μm,0.5s						
MZRK	**Al-Mazaregh**	**0.56**	**199⇑**	*e*P	**Pg**	**20 14 57.9**	**+0.3**
MZRK				*e*S	**Sb**	**20 15 07.9**	**+0.1**
MZRK				AML	AML	20 15 21.2	
	comp=Z,10μm,0.5s						
MZRK	**Al-Mazaregh**	**0.56**	**199⇑**	*e*P	**Pg**	**20 14 57.9**	**+0.3**
	SNR=75						
SFNV	**Sufian**	**0.62**	**276⇑**	*e*P	**Pg**	**20 14 59.4**	**+0.6**
SFNV				*e*S	**Sb**	**20 15 09.8**	**+0.2**
SFNV				AML	AML	20 15 26.7	
	comp=Z,6μm,0.6s						
SFNV	**Sufian**	**0.62**	**276⇑**	*e*P	**Pg**	**20 14 59.4**	**+0.6**
SFNV				*e*S	**Sb**	**20 15 09.2**	**-0.4**
SFNV				AML	AML	20 15 26.0	
	comp=N,16μm,0.5s						
SFNV				AML	AML	20 15 26.3	
	comp=E,12μm,0.7s						
SFNV				AML	AML	20 15 26.7	
	comp=Z,6μm,0.6s						
SFNV	**Sufian**	**0.62**	**276⇑**	*e*P	**Pg**	**20 14 59.4**	**+0.6**
	SNR=75						
SFNV				*e*S	**Sb**	**20 15 09.2**	**-0.4**
	comp=Z,6μm,0.6s,SNR=59						
KBSD	**Kabsdagh**	**0.70**	**338⇓**	*e*P	**Pg**	**20 15 00.3**	**-0.1**
KBSD				*e*S	**Sg**	**20 15 08.2**	**-1.2**
KBSD				AML	AML	20 15 19.2	
	comp=Z,5μm,0.6s						
KBSD	**Kabsdagh**	**0.70**	**338⇓**	*e*P	**Pg**	**20 15 00.3**	**-0.1**
KBSD				*e*S	**Sg**	**20 15 09.0**	**-0.4**
KBSD				AML	AML	20 15 19.2	
	comp=Z,5μm,0.6s						
KBSD				AML	AML	20 15 20.5	
	comp=E,9μm,0.6s						
KBSD				AML	AML	20 15 24.6	
	comp=N,4μm,0.6s						
KBSD	**Kabsdagh**	**0.70**	**338⇓**	*e*P	**Pg**	**20 15 00.3**	**-0.1**
	SNR=75						
KBSD				*e*S	**Sg**	**20 15 09.0**	**-0.4**
	comp=N,4μm,0.6s,SNR=59						
MARD	**Mardin**	**0.96**	**356**	*i* P	**Pg**	**20 15 04.8**	**-0.7**
MARD				*i* S	**Sb**	**20 15 19.9**	**+0.3**
MAZI	**Mazidag**	**1.15**	**343**	PN	**Pg**	**20 15 08.3**	**-0.8**
MAZI				SN	**Sg**	**20 15 24.1**	**0.0**
MAZI	**Mazidag**	**1.15**	**343**	*i* Pn	**Pg**	**20 15 08.3**	**-0.8**
MAZI				*i* Sn	**Sg**	**20 15 24.1**	**0.0**
BEST	**Besiri**	**1.57**	**12**	*i* P	**Pb**	**20 15 16.2**	**-0.5**
BEST				*i* S	**Sg**	**20 15 37.5**	**+0.2**
BEST	**Besiri**	**1.57**	**12**	*i* P	**Pn**	**20 15 15.5**	**-0.4**
BEST				*i* S	**Sg**	**20 15 37.7**	**+0.3**
DIY	**Diyarbakir**	**1.62**	**342**	*e*Pn	**Pn**	**20 15 16.6**	**-0.1**
DIY	**Diyarbakir**	**1.62**	**342**	*e*Pn	**Pn**	**20 15 16.6**	**-0.1**
DIYA	**Diyarbakir**	**1.68**	**339**	*i* P	**Pn**	**20 15 17.8**	**+0.4**
DIYA				*i* S	**Sb**	**20 15 40.5**	**+0.3**
DIYA	**Diyarbakir**	**1.68**	**339**	*i* P	**Pn**	**20 15 17.0**	**-0.4**
DIYA				*i* S	**Sb**	**20 15 40.5**	**+0.3**
DIYA	**Diyarbakir**	**1.68**	**339**	*i* P	**Pn**	**20 15 17.8**	**+0.4**
DIYA				*i* S	**Sb**	**20 15 40.5**	**+0.3**
SIRN	**S¨–rnak**	**1.68**	**47**	*i* P	**Pn**	**20 15 17.0**	**-0.5**
SIRN				*i* S	**Sn**	**20 15 39.4**	**-0.2**
SIRN	**S¨–rnak**	**1.68**	**47**	*i* P	**Pn**	**20 15 16.7**	**-0.8**
SIRN				*i* S	**Sb**	**20 15 39.8**	**-0.5**
SIRN	**S¨–rnak**	**1.68**	**47**	*i* P	**Pn**	**20 15 17.0**	**-0.5**
SIRN				*i* S	**Sn**	**20 15 39.4**	**-0.2**
SIRT	**Sirnak**	**1.70**	**47**	*e*PN	**Pn**	**20 15 17.1**	**-0.7**
SIRT				*e*SN	**Sb**	**20 15 40.0**	**-0.9**
SIRT	**Sirnak**	**1.70**	**47**	*e*Pn	**Pn**	**20 15 17.1**	**-0.7**
SIRT				*e*Sn	**Sb**	**20 15 40.0**	**-0.9**
BTMT	**Batman**	**1.90**	**15**	*e*PN	**Pn**	**20 15 20.9**	**+0.4**
BTMT	**Batman**	**1.90**	**15**	*e*Pn	**Pn**	**20 15 20.9**	**+0.4**
URFA	**Urfa**	**1.97**	**304**	*e*PN	**Pn**	**20 15 21.0**	**-0.4**
URFA	**Urfa**	**1.97**	**304**	*e*Pn	**Pn**	**20 15 21.0**	**-0.4**
JHLN	**Al Jahlan**	**2.08**	**252⇓**	*e*P	**Pn**	**20 15 23.1**	**+0.1**
JHLN				*e*S	**Sn**	**20 15 48.3**	**-1.2**
JHLN				AML	AML	20 16 03.9	
	comp=E,1μm,0.5s						
JHLN				AML	AML	20 16 10.5	
	comp=N,1μm,0.5s						
JHLN				AML	AML	20 16 11.8	
	comp=Z,637nm,0.6s						
JHLN	**Al Jahlan**	**2.08**	**252⇓**	*e*P	**Pn**	**20 15 23.1**	**+0.1**
JHLN				*e*S	**Sn**	**20 15 50.7**	**+1.3**
JHLN				AML	AML	20 16 03.9	
	comp=E,1μm,0.5s						
JHLN				AML	AML	20 16 10.5	
	comp=N,1μm,0.5s						
JHLN				AML	AML	20 16 11.7	
	comp=Z,637nm,0.6s						
JHLN	**Al Jahlan**	**2.08**	**252⇓**	*e*P	**Pn**	**20 15 23.1**	**+0.1**
	SNR=45						
JHLN				*e*S	**Sn**	**20 15 50.7**	**+1.3**
	comp=Z,637nm,0.6s,SNR=40						
ATAB	**Bozova**	**2.34**	**299**	*i* P	**Pb**	**20 15 29.9**	**-0.1**
ATAB				*i* S	**Sb**	**20 16 01.1**	**+1.7**
ATAB	**Bozova**	**2.34**	**299**	*i* P	**Pb**	**20 15 29.9**	**-0.1**
ATAB				*i* S	**Sb**	**20 16 01.1**	**+1.7**
CUKT	**Cukurca**	**2.37**	**67**	*e*PN	**Pn**	**20 15 26.9**	**-0.1**
CUKT	**Cukurca**	**2.37**	**67**	*e*Pn	**Pn**	**20 15 26.9**	**-0.1**
SLMH	**Al Salmeh**	**2.38**	**267⇓**	*e*P	**Pn**	**20 15 27.2**	**+0.1**
SLMH				*e*S	**Sn**	**20 15 54.7**	**-2.1**
SLMH				AML	AML	20 16 10.3	
	comp=Z,540nm,0.6s						
SLMH				AML	AML	20 16 13.4	
	comp=E,865nm,0.9s						
SLMH				AML	AML	20 16 18.7	
	comp=N,1μm,0.6s						
SLMH	**Al Salmeh**	**2.38**	**267**	*e*P	**Pn**	**20 15 27.3**	**+0.3**
SLMH				*e*S	**Sn**	**20 15 56.5**	**-0.3**
SLMH				AML	AML	20 16 10.4	
	comp=Z,540nm,0.6s						
SLMH				AML	AML	20 16 11.4	
	comp=N,1μm,0.5s						
SLMH				AML	AML	20 16 13.5	
	comp=E,865nm,0.9s						
SLMH	**Al Salmeh**	**2.38**	**267**	*e*P	**Pn**	**20 15 27.3**	**+0.3**
	SNR=45						
SLMH				*e*S	**Sn**	**20 15 56.5**	**-0.3**
	comp=E,865nm,0.9s,SNR=40						
BINT	**Bingol**	**2.53**	**353**	*e*Pn	**Pn**	**20 15 30.5**	**+1.2**
HAKT	**HAKKARI**	**2.57**	**61**	*i* P	**Pn**	**20 15 30.4**	**+0.6**
HAKT				*i* S	**Sn**	**20 16 02.9**	**+1.1**
HAKT	**HAKKARI**	**2.57**	**61**	*i* P	**Pn**	**20 15 29.4**	**-0.5**
HAKT				*i* S	**Sb**	**20 16 03.8**	**-2.3**
HAKT	**HAKKARI**	**2.57**	**61**	*i* P	**Pn**	**20 15 30.4**	**+0.6**
HAKT				*i* S	**Sn**	**20 16 02.9**	**+1.1**
ELZG	**Elazig**	**2.61**	**325**	*i* P	**Pg**	**20 15 38.4**	**+1.3**
ELZG				*i* S	**Sb**	**20 16 09.1**	**+1.8**
ELZG	**Elazig**	**2.61**	**325**	*i* P	**Pg**	**20 15 38.4**	**+1.3**
ELZG				*i* S	**Sb**	**20 16 09.1**	**+1.8**
GEVA	**Gevas**	**2.62**	**41**	*i* P	**Pn**	**20 15 31.9**	**+1.5**
GEVA				*i* S	**Sg**	**20 16 10.2**	**-1.0**
GEVA	**Gevas**	**2.62**	**41**	*i* P	**Pn**	**20 15 31.9**	**+1.5**
GEVA				*i* S	**Sg**	**20 16 10.2**	**-1.0**
BNGB	**Bing¨¶l**	**2.64**	**357**	*e*PN	**Pn**	**20 15 30.5**	**-0.2**
MALT	**Malatya**	**2.76**	**316**	*e*PN	**Pn**	**20 15 32.8**	**+0.5**
MALT	**Malatya**	**2.76**	**316**	*e*Pn	**Pn**	**20 15 32.8**	**+0.5**
PTK	**Pertek**	**2.79**	**336**	*e*PN	**Pn**	**20 15 32.5**	**-0.4**
PTK	**Pertek**	**2.79**	**336**	*e*Pn	**Pn**	**20 15 32.5**	**-0.3**
VRTB	**Varto-Mus**	**2.84**	**9**	*e*PN	**Pn**	**20 15 33.9**	**+0.5**
VRTB	**Varto-Mus**	**2.84**	**9**	*e*Pn	**Pn**	**20 15 33.9**	**+0.4**
AKCD	**Akcadag**	**3.04**	**310**	*i* P	**Pb**	**20 15 43.0**	**+1.0**
AKCD				*i* S	**Sg**	**20 16 23.6**	**-1.2**
AKCD	**Akcadag**	**3.04**	**310**	*i* P	**Pb**	**20 15 43.0**	**+1.0**
AKCD				*i* S	**Sg**	**20 16 23.6**	**-1.2**
KUZU	**Kuzuini**	**3.08**	**279**	*i* P	**Pb**	**20 15 44.5**	**+1.9**
KUZU				*i* S	**Sg**	**20 16 24.2**	**-1.9**
KUZU	**Kuzuini**	**3.08**	**279**	*i* P	**Pn**	**20 15 36.3**	**-0.5**
KUZU				*i* S	**Sb**	**20 16 23.2**	**+2.5**
KUZU	**Kuzuini**	**3.08**	**279**	*i* P	**Pb**	**20 15 44.5**	**+1.9**
KUZU				*i* S	**Sg**	**20 16 24.2**	**-1.9**
ERZN	**Erzincan**	**3.35**	**345**	*e*PN	**Pn**	**20 15 40.9**	**+0.4**
KMRS	**Kahramanmaras**	**3.38**	**291**	*e*PN	**Pn**	**20 15 40.0**	**-0.8**
KMRS	**Kahramanmaras**	**3.38**	**291**	*e*Pn	**Pn**	**20 15 40.0**	**-0.8**
AYKD	**Aykdinkavak**	**3.42**	**289**	*i* P	**Pg**	**20 15 52.6**	**0.0**
AYKD				*i* S	**Sg**	**20 16 38.4**	**+1.4**
EUZM	**Uzumlu**	**3.47**	**345**	*i* P	**Pg**	**20 15 51.9**	**-1.6**
EUZM				*i* S	**Sg**	**20 16 40.9**	**+2.3**
EUZM	**Uzumlu**	**3.47**	**345**	*i* P	**Pg**	**20 15 51.9**	**-1.6**
EUZM				*i* S	**Sg**	**20 16 40.9**	**+2.3**
DARE	**Darende-Malaty**	**3.49**	**310**	*e*PN	**Pn**	**20 15 41.8**	**-0.5**
DARE	**Darende-Malaty**	**3.49**	**310**	*e*Pn	**Pn**	**20 15 41.8**	**-0.5**
EZM	**Erzurum**	**3.56**	**6**	*e*PN	**Pn**	**20 15 44.4**	**+0.8**
BTCH	**Batrach**	**3.58**	**266⇓**	*i* P	**Pn**	**20 15 43.1**	**-0.5**
BTCH				*e*P	**Pn**	**20 15 43.1**	**-0.5**
BTCH				*e*S	**Sn**	**20 16 24.9**	**-1.6**
BTCH				AML	AML	20 16 52.9	
	comp=E,434nm,1.2s						
BTCH				AML	AML	20 16 56.4	
	comp=Z,591nm,0.4s						
BTCH				AML	AML	20 17 01.6	
	comp=N,403nm,0.5s						
BTCH	**Batrach**	**3.58**	**266⇓**	*e*P	**Pn**	**20 15 43.1**	**-0.5**
BTCH				*e*S	**Sn**	**20 16 25.0**	**-1.6**
BTCH				AML	AML	20 16 53.0	
	comp=E,434nm,1.2s						
BTCH				AML	AML	20 17 01.6	
	comp=N,403nm,0.5s						
BTCH	**Batrach**	**3.58**	**266⇓**	*e*P	**Pn**	**20 15 43.1**	**-0.5**
	SNR=45						
BTCH				*e*S	**Sn**	**20 16 25.0**	**-1.5**
	comp=N,403nm,0.5s,SNR=40						
ILIC	**ilic-Erzincan**	**3.59**	**330**	*e*PN	**Pn**	**20 15 43.9**	**+0.2**
ILIC	**ilic-Erzincan**	**3.59**	**330**	*e*Pn	**Pn**	**20 15 43.9**	**+0.2**
EZC	**Erzincan**	**3.60**	**341**	*e*PN	**Pn**	**20 15 44.4**	**+0.5**
EZC	**Erzincan**	**3.60**	**341**	*e*Pn	**Pn**	**20 15 44.4**	**+0.5**
AGRB	**Hanur-Agry**	**3.63**	**27**	*e*PN	**Pn**	**20 15 45.0**	**+0.7**
AGRB	**Hanur-Agry**	**3.63**	**27**	*e*Pn	**Pn**	**20 15 45.0**	**+0.7**
ROOS	**tl_alroos**	**3.65**	**234**	*e*P	**Pn**	**20 15 45.1**	**+0.5**
ROOS				*e*S	**Sn**	**20 16 26.9**	**-1.4**
ROOS				AML	AML	20 16 51.9	
	comp=E,1.3nm,0.5s						
ROOS				AML	AML	20 16 52.2	
	comp=Z,2.2nm,0.4s						
ROOS				AML	AML	20 16 57.9	
	comp=N,2.5nm,0.5s						
ROOS	**tl_alroos**	**3.65**	**234**	*e*P	**Pn**	**20 15 45.4**	**+0.8**
ROOS				*e*S	**Sn**	**20 16 27.2**	**-1.1**
ROOS	**tl_alroos**	**3.65**	**234**	*e*P	**Pn**	**20 15 45.4**	**+0.8**
	SNR=45						
ROOS				*e*S	**Sn**	**20 16 27.2**	**-1.1**
	SNR=40						
CLDR	**Caldiran**	**3.68**	**40**	*e*PN	**Pn**	**20 15 46.4**	**+1.3**
CLDR	**Caldiran**	**3.68**	**40**	*e*Pn	**Pn**	**20 15 46.4**	**+1.3**
COBT	**Iskenderun**	**3.73**	**274**	*i* P	**Pb**	**20 15 55.2**	**+1.6**
COBT				*i* S	**Sg**	**20 16 46.2**	**-0.5**
COBT	**Iskenderun**	**3.73**	**274**	*i* P	**Pb**	**20 15 55.2**	**+1.6**
COBT				*i* S	**Sg**	**20 16 46.2**	**-0.5**
ANDN	**Andirin**

IDHR	**Dehrash**	**4.79**	**109**	*e*P	**Pn**	**20 16 00.3**	**-0.1**
IDHR	**Dehrash**	**4.79**	**109**	*e*P	**Pn**	**20 16 00.3**	**-0.1**
GNI	**Garni**	**4.86**	**38**	*e*PN	**Pn**	**20 16 03.5**	**+2.2**
GNI	**Garni**	**4.86**	**38**	*e*Pn	**Pn**	**20 16 03.5**	**+2.2**
RSDY	**Resadiye-TOKAT**	**4.90**	**326**	*e*PN	**Pn**	**20 16 02.4**	**+0.7**
RSDY	**Resadiye-TOKAT**	**4.90**	**326**	*e*Pn	**Pn**	**20 16 02.4**	**+0.7**
SALA	**Sala**	**4.99**	**224**	‖*e*P	**Pn**	**20 16 03.0**	**0.0**
SALA				*e*S	**Sn**	**20 16 58.5**	**-2.8**
SALA				AML	AML	20 17 33.4	
	comp=N,230nm,0.5s						
SALA				AML	AML	20 17 50.8	
	comp=E,7.6nm,0.7s						
SALA	**Sala**	**4.99**	**224**	*e*P	**Pn**	**20 16 03.6**	**+0.6**
SALA				*e*S	**Sn**	**20 17 00.6**	**-0.7**
SALA				AML	AML	20 17 33.3	
	comp=N,230nm,0.5s						
SALA				AML	AML	20 17 50.8	
	comp=E,7.6nm,0.7s						
SALA	**Sala**	**4.99**	**224**	*e*P	**Pn**	**20 16 03.6**	**+0.6**
	SNR=45						
SALA				*e*S	**Sn**	**20 17 00.6**	**-0.7**
	comp=E,7.6nm,0.7s,SNR=40						
BRBR	**Barbar**	**5.00**	**235**	*e*P	**Pn**	**20 16 03.4**	**+0.2**
BRBR				*e*S	**Sn**	**20 16 59.1**	**-2.5**
BRBR	**Barbar**	**5.00**	**235**	*e*P	**Pn**	**20 16 05.1**	**+1.9**
BRBR				*e*S	**Sn**	**20 17 00.4**	**-1.2**
BRBR				AML	AML	20 17 32.3	
	comp=N,81nm,0.6s						
BRBR				AML	AML	20 17 38.4	
	comp=E,77nm,0.6s						
BRBR	**Barbar**	**5.00**	**235**	*e*P	**Pn**	**20 16 05.1**	**+1.9**
	SNR=45						
BRBR				*e*S	**Sn**	**20 17 00.4**	**-1.2**
	comp=E,77nm,0.6s,SNR=40						
IGHG	**Ghaleghazi**	**5.08**	**112**	*e*P	**Pn**	**20 16 01.4**	**-2.9**
IGHG	**Ghaleghazi**	**5.08**	**112**	*e*P	**Pn**	**20 16 01.4**	**-2.9**
ILIN	**Lien**	**5.16**	**104**	*e*P	**Pn**	**20 16 05.3**	**-0.2**
ILIN	**Lien**	**5.16**	**104**	*e*P	**Pn**	**20 16 05.3**	**-0.2**
IVIS	**Veis**	**5.21**	**109**	*e*P	**Pn**	**20 16 05.1**	**-0.9**
IVIS	**Veis**	**5.21**	**109**	*e*P	**Pn**	**20 16 05.1**	**-0.9**
IBDR	**Badra**	**5.28**	**126**	*e*PN4	**Pn**	**20 16 08.9**	**+2.1**
IBDR				*e*SN4	**Sn**	**20 17 11.5**	**+3.4**
IHRS	**Heris**	**5.29**	**66**	*e*P	**Pn**	**20 16 06.9**	**-0.4**
IHRS	**Heris**	**5.29**	**66**	*e*P	**Pn**	**20 16 06.9**	**-0.4**
TCHB	**Talchebab**	**5.47**	**229**	*e*P	**Pn**	**20 16 11.2**	**+1.8**
TCHB	**Talchebab**	**5.47**	**229**	*e*P	**Pn**	**20 16 11.2**	**+1.8**
	SNR=45						
ISRB	**Sarab**	**5.63**	**73**	*e*P	**Pn**	**20 16 11.4**	**-0.4**
ISRB	**Sarab**	**5.63**	**73**	*e*P	**Pn**	**20 16 11.4**	**-0.4**
IKOM	**Komasi**	**5.85**	**110**	*e*P	**Pn**	**20 16 14.0**	**-0.9**
IKOM	**Komasi**	**5.85**	**110**	*e*P	**Pn**	**20 16 14.0**	**-0.9**
AYK	**Aydincik**	**6.10**	**270**	*i* S	Pb	20 16 38.4	+4.5
NSR	**Nassriya**	**6.91**	**139**	*e*PN4	x	20 16 15.7	
NSR				*e*SN4	x	20 17 23.9	
IKLH	**Kolahrood**	**9.31**	**106**	*e*P	**Pn**	**20 17 00.0**	**-2.4**
IKLH	**Kolahrood**	**9.31**	**106**	*e*P	**Pn**	**20 17 00.0**	**-2.4**

WEL 20 20:17:13.9±0.5, 46°.78S×165°.40E, h33km, ML3.9/10, Error ellipse: s-maj=5.2km s-min=2.8km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**1.08**	**56**	PN	Pn	20 17 31.5	-1.2
PYZ				SN	Sn	20 17 45.4	-1.1
DCZ	**Deep Cove**	**1.79**	**44**	AML	AML	20 18 13.3	
WHZ	**Wether Hill Ro**	**1.98**	**64**	PN	Pn	20 17 44.6	-0.5
WHZ				SN	Sn	20 18 07.4	-1.3
WHZ				AML	AML	20 18 09.1	
MLZ	**Mavora Lakes**	**2.41**	**54**	PN	Pn	20 17 51.3	+0.2
MLZ				SN	Sn	20 18 19.7	+0.3
MLZ				AML	AML	20 18 30.9	
SYZ	**Scrubby Hill**	**2.59**	**86**	PN	Pn	20 17 53.0	-0.5
TUZ	**Tuapeka**	**3.05**	**76**	PN	Pn	20 17 59.3	-0.5
TUZ				AML	AML	20 18 34.7	
TUZ				AML	AML	20 18 47.3	
EAZ	**Earnscleugh**	**3.13**	**62**	PN	Pn	20 18 00.9	0.0
EAZ				AML	AML	20 18 37.9	
EAZ				AML	AML	20 18 39.5	
EAZ				AML	AML	20 18 39.5	
WKZ	**Wanaka**	**3.20**	**54**	PN	Pn	20 18 03.3	+1.4
WKZ				AML	AML	20 18 46.1	
WKZ				AML	AML	20 18 46.2	
JCZ	**Jackson Bay**	**3.59**	**42**	PN	Pn	20 18 09.2	+1.8
JCZ				AML	AML	20 18 56.8	
JCZ				AML	AML	20 18 58.7	
ODZ	**Otahua Downs**	**4.05**	**67**	PN	Pn	20 18 11.6	-2.0
LBZ	**Lake Benmore**	**4.13**	**56**	PN	Pn	20 18 13.4	-1.2
LBZ				AML	AML	20 20 13.3	
FOZ	**Fox Glacier**	**4.42**	**45**	PN	Pn	20 18 19.9	+1.3
RPZ	**Rata Peaks**	**5.03**	**55**	PN	Pn	20 18 25.6	-1.5
WVZ	**Waitaha Valley**	**5.30**	**48**	PN	Pn	20 18 30.4	-0.3

MAN 20 20:23:54, 8°.44N×126°.49E, h115km, mb4.1, ML2.9, MS2.6, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**1.01**	**301**	*e*P	Pn	20 24 16.5	+0.8
BUTP				*e*S	Sn	20 24 38.0	+5.9
BUKP	**Musuan**	**1.52**	**249**	*e*P	Pn	20 24 22.6	+1.2
BUKP				*e*S	Sn	20 24 44.0	+1.7
CGP	**Cagayan de Oro**	**1.78**	**271**	*e*P	Pn	20 24 26.5	+2.0

IDC 20 20:58:00.4±2.4, 27°.40S×136°.15E, h0km, mb1 3.7/5, mb1mx3.5/17, mbtmp3.6/5, ML3.5/5, Error ellipse: s-maj=38.3km s-min=17.1km az=53.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**4.23**	**331**	Pn	Pn	20 59 07.4	+1.1
	0.6nm,0.3s,baz=153,slow=13,SNR=28						
ASAR				Sn	Sn	20 59 56.2	-0.3
	2.1nm,0.3s,baz=153,slow=22,SNR=8.4						
STKA	**Stephens Creek**	**6.51**	**135**	Pn	Pn	20 59 36.5	-1.0
	0.7nm,0.3s,baz=322,slow=12,SNR=16						
STKA				Sn	Sn	21 00 45.9	-6.6
	2.0nm,0.3s,baz=272,slow=14,SNR=4.6						
STKA				Lg	Lg	21 01 27.7	
	1.6nm,0.3s,baz=202,slow=20,SNR=4.1						
WRA	**Warramunga Arr**	**7.61**	**347**	Pn	Pn	20 59 53.3	+0.7
	0.4nm,0.3s,baz=167,slow=11,SNR=17						
WRA				Sn	Sn	21 01 19.0	-0.6
	0.6nm,0.3s,baz=160,slow=27,SNR=4.6						
WRA				Lg	Lg	21 02 01.5	
	0.7nm,0.3s,baz=164,slow=31,SNR=6.8						
CTA	**Charters Tower**	**11.77**	**54**	Pn	Pn	21 00 51.1	+1.4
	0.9nm,0.3s,baz=222,slow=16,SNR=6.5						
FITZ	**Fitzroy Crossi**	**13.39**	**312**	Pn	Pn	21 01 09.7	-2.1
	0.2nm,0.3s,baz=158,slow=14,SNR=9.3						
FITZ				Sn	Sn	21 03 31.2	-10
	0.2nm,0.3s,baz=319,slow=11,SNR=3.1						

*ISCJB **20** 21:01:07.1±1.3, 37°.28N±0°.05×20°.61E±0°.07, h4km±7km, Error ellipse: s-maj=11.6km s-min=5.5km az=139.4*
*ATH **20** 21:01:07.9, 37°.31N×20°.68E, h5km, MD3.5/16*
*CSEM **20** 21:01:08.0±0.5, 37°.31N×20°.64E, h12km, ML2.5, Error ellipse: s-maj=9.2km s-min=3.7km az=55.0*
*THE **20** 21:01:08.7, 37°.33N×20°.67E, h14km±1km, ML3.1/1, Error ellipse: s-maj=3.3km s-min=0.7km az=58.0*

ISC 20 21:01:08.3±1.8, 37°.31N±0°.05×20°.69E±0°.06, h10km±11km, n43, σ0s54/62, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFD	**Strofades**	**0.27**	**103**	P	**Pb**	**21 01 14.9**	**-0.3**
SFD				S	**Sb**	**21 01 19.4**	**-0.4**
SFD	**Strofades**	**0.27**	**103**	*e*PG	**Pb**	**21 01 15.1**	**-0.1**
SFD				*e*SB	**Sb**	**21 01 19.8**	**0.0**
SFD	**Strofades**	**0.27**	**103**	P	**Pb**	**21 01 14.7**	**-0.5**
SFD	**Strofades**	**0.27**	**103**	*e*Pg	**Pb**	**21 01 15.1**	**-0.1**
SFD				S	**Sb**	**21 01 18.9**	**-0.9**
SFD				*e*Sg	**Sb**	**21 01 19.8**	**0.0**
KFL	**Anninata**	**0.80**	**5**	P	**Pg**	**21 01 23.4**	**-0.3**
KFL				S	**Sb**	**21 01 35.3**	**+0.1**
KFL	**Anninata**	**0.80**	**5**	P	**Pg**	**21 01 23.4**	**-0.3**
KFL				S	**Sg**	**21 01 34.2**	**+0.1**
AMT	**Artemida-Makis**	**0.84**	**74**	P	**Pg**	**21 01 24.2**	**-0.2**
AMT	**Artemida-Makis**	**0.84**	**74**	*e*PB	**Pg**	**21 01 24.3**	**-0.2**
AMT				*e*SB	**Sb**	**21 01 37.0**	**+0.6**
AMT	**Artemida-Makis**	**0.84**	**74**	*e*Pb	**Pg**	**21 01 24.3**	**-0.2**
AMT				S	**Sb**	**21 01 36.4**	**0.0**
AMT				*e*Sb	**Sb**	**21 01 37.0**	**+0.6**
VLS	**Valsamata**	**0.87**	**355**	P	**Pb**	**21 01 24.8**	**-0.7**
VLS				S	**Sb**	**21 01 37.6**	**+0.4**
VLS	**Valsamata**	**0.87**	**355**	P	**Pb**	**21 01 24.8**	**-0.7**
VLS				S	**Sb**	**21 01 37.3**	**+0.1**
PYL	**PYLOS**	**0.94**	**116**	P	**Pb**	**21 01 26.5**	**-0.2**
PYL				S	**Sn**	**21 01 40.7**	**-0.3**
PYL	**PYLOS**	**0.94**	**116**	*e*PN	**Pb**	**21 01 26.4**	**-0.2**
PYL				*e*SB	**Sn**	**21 01 40.9**	**-0.1**
PYL	**PYLOS**	**0.94**	**116**	P	**Pb**	**21 01 26.3**	**-0.3**
PYL				S	**Sb**	**21 01 39.8**	**+0.7**
PYL				*e*Sb	**Sn**	**21 01 40.9**	**-0.1**
RLS	**Riolos of Patr**	**0.97**	**39**	P	**Pg**	**21 01 26.1**	**-0.7**
RLS	**Riolos of Patr**	**0.97**	**39**	*e*PG	**Pg**	**21 01 26.1**	**-0.7**
RLS				*e*SB	**Sb**	**21 01 40.3**	**+0.3**
RLS	**Riolos of Patr**	**0.97**	**39**	P	**Pg**	**21 01 26.1**	**-0.7**
RLS				*e*Sb	**Sb**	**21 01 40.3**	**+0.3**
KLV	**Kalavryta, Ach**	**1.37**	**57**	*e*PN	**Pn**	**21 01 33.0**	**-0.6**
KLV				*e*SB	**Sg**	**21 01 53.3**	**+1.0**
KLV	**Kalavryta, Ach**	**1.37**	**57**	P	**Pn**	**21 01 32.9**	**-0.6**
KLV				*e*Sb	**Sg**	**21 01 53.3**	**+1.0**
LAKA	**Lakka**	**1.38**	**47**	*e*PB	**Pg**	**21 01 34.7**	**0.0**
LAKA	**Lakka**	**1.38**	**47**	*e*Pb	**Pg**	**21 01 34.7**	**0.0**
GUR	**Goura**	**1.45**	**64**	P	**Pn**	**21 01 34.4**	**-0.3**
GUR	**Goura**	**1.45**	**64**	*e*PG	**Pn**	**21 01 34.5**	**-0.3**
GUR	**Goura**	**1.45**	**64**	P	**Pn**	**21 01 34.2**	**-0.5**
GUR	**Goura**	**1.45**	**64**	*e*Pn	**Pn**	**21 01 34.5**	**-0.3**
EFP	**Efpalio**	**1.47**	**40**	*e*PB	**Pg**	**21 01 36.3**	**-0.2**
EFP	**Efpalio**	**1.47**	**40**	*e*Pb	**Pg**	**21 01 36.3**	**-0.2**
LKD2	**Lefkada island**	**1.48**	**359**	*e*PB	**Pg**	**21 01 36.7**	**+0.1**
LKD2	**Lefkada island**	**1.48**	**359**	*e*Pb	**Pg**	**21 01 36.7**	**+0.1**
TRIZ	**Trizonia**	**1.52**	**46**	*e*PB	**Pg**	**21 01 37.1**	**-0.3**
TRIZ	**Trizonia**	**1.52**	**46**	*e*Pb	**Pg**	**21 01 37.1**	**-0.3**
KALE	**Kalithea**	**1.57**	**46**	*e*PB	**Pg**	**21 01 38.4**	**-0.1**
KALE	**Kalithea**	**1.57**	**46**	*e*Pb	**Pg**	**21 01 38.4**	**-0.1**
EVR	**Evrytania**	**1.83**	**28**	*e*PN	**Pg**	**21 01 42.5**	**-0.8**
EVR	**Evrytania**	**1.83**	**28**	*e*Pg	**Pg**	**21 01 42.5**	**-0.8**
VLI	**Veliíai**	**1.89**	**108**	*e*PN	**Pg**	**21 01 44.5**	**0.0**
VLI	**Veliai**	**1.89**	**108**	*e*Pg	**Pg**	**21 01 44.5**	**0.0**
LTK	**Loutraki**	**1.94**	**68**	*e*PN	**Pg**	**21 01 45.5**	**0.0**
LTK	**Loutraki**	**1.94**	**68**	*e*Pg	**Pg**	**21 01 45.5**	**0.0**
DID	**Didima**	**2.04**	**84**	*e*PN	**Pb**	**21 01 44.7**	**-0.7**
DID	**Didima**	**2.04**	**84**	*e*Pn	**Pb**	**21 01 44.7**	**-0.7**
THL	**Klokotos Trika**	**2.48**	**24**	*e*PB	**Pn**	**21 01 50.3**	**+1.6**
THL	**Klokotos Trika**	**2.48**	**24**	*e*Pb	**Pn**	**21 01 50.3**	**+1.6**

*CSEM **20** 21:18:24.1±0.6, 45°.71N×26°.66E, h138km±5km, MD3.5/2*

BUC 20 21:18:22.4±1.6, 45°.81N×26°.58E, h156km±14km, MD3.5/2, 18C-3D, Error ellipse: s-maj=14.3km s-min=5.7km az=0.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRI	**Vrincioaia**	**0.12**	**60**	⇑*i*P	Pn	21 18 43.3	0.0
VRI	**Vrincioaia**	**0.12**	**60**	*i* S	Sn	21 18 56.9	-2.3
VRI	**Vrincioaia**	**0.12**	**60**	⇑*i*P	Pn	21 18 43.3	0.0
VRI				*i* S	Sn	21 18 57.9	-1.3
VRI	**Vrincioaia**	**0.12**	**60**	⇑*i*P	Pn	21 18 43.3	0.0
VRI				*i* S	Sn	21 18 57.9	-1.3
PETR	**Petresti**	**0.46**	**100**	‖*i*P	Pn	21 18 44.0	-0.2
PETR	**Petresti**	**0.46**	**100**	‖*i*P	Pn	21 18 44.0	-0.2
PETR	**Petresti**	**0.46**	**100**	‖*i*P	Pn	21 18 44.0	-0.2
MLR	**Muntele Rosu**	**0.55**	**235**	⇑*i*P	Pn	21 18 45.1	+0.3
MLR	**Muntele Rosu**	**0.55**	**235**	⇑*i*P	Pn	21 18 45.1	+0.3
MLR				*i* S	Sn	21 19 00.3	-1.6
MLR	**Muntele Rosu**	**0.55**	**235**	⇑*i*P	Pn	21 18 45.1	+0.3
MLR				*i* S	Sn	21 19 00.3	-1.6
SULR		**1.15**	**192**	⇑*i*P	Pn	21 18 49.4	+0.4
SULR		**1.15**	**192**	⇑*i*P	Pn	21 18 49.4	+0.4
SULR				*i* S	Sn	21 19 08.1	-1.3
SULR		**1.15**	**192**	⇑*i*P	Pn	21 18 49.4	+0.4
SULR				*i* S	Sn	21 19 08.1	-1.3
CFR	**Carcaliu**	**1.26**	**119**	⇑*i*P	Pn	21 18 49.8	-0.2
CFR	**Carcaliu**	**1.26**	**119**	⇑*i*P	Pn	21 18 49.8	-0.2
CFR	**Carcaliu**	**1.26**	**119**	⇑*i*P	Pn	21 18 49.8	-0.2
CFR				S	Sn	21 19 08.1	-3.0
LEOM	**Leova**	**1.33**	**59**	S	Sn	21 19 11.4	-1.0
LEOM	**Leova**	**1.33**	**59**	*i* S	Sn	21 19 11.4	-1.0
LEOM	**Leova**	**1.33**	**59**	*i* S	Sn	21 19 11.4	-1.0
ARR	**Arges**	**1.44**	**253**	⇑*i*P	Pn	21 18 52.1	+0.2
ARR	**Arges**	**1.44**	**253**	⇑*i*P	Pn	21 18 52.1	+0.2
ARR				*i* S	Sn	21 19 14.2	-0.2
ARR	**Arges**	**1.44**	**253**	⇑*i*P	Pn	21 18 52.1	+0.2
ARR				*i* S	Sn	21 19 14.2	-0.2
TIRR	**Tirgusor**	**1.87**	**136**	⇑*i*P	Pn	21 18 56.2	-0.2
TIRR	**Tirgusor**	**1.87**	**136**	⇑*i*P	Pn	21 18 56.2	-0.2
TIRR	**Tirgusor**	**1.87**	**136**	⇑*i*P	Pn	21 18 56.2	-0.2
TIRR				S	Sn	21 19 19.3	-3.2

*IDC **20** 21:30:16.7±1.7, 6°.89S×128°.96E, h0km, mb3.8/2, mb1 4.0/4, mb1mx3.6/18, mbtmp3.9/4, ML3.9/2, Error ellipse: s-maj=118.8km s-min=26.1km az=71.0*
*ISCJB **20** 21:30:31.4±1.2, 7°.42S±0°.06×129°.1E±0°.1, h131km, mb3.6/2, Error ellipse: s-maj=17.6km s-min=8.5km az=9.8*
*AUST **20** 21:30:31.1, 7°.48S×129°.04E, h100km*

ISC 20 21:30:30.9±1.1, 7°.36S±0°.07×129°.1E±0°.1, h131km, n11, σ2s98/15, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLE	**Tual**	**3.99**	**65**	P	**Pn**	**21 31 33.5**	**+3.0**
	baz=4.1,SNR=7.9						
FAKI	**Fak Fak**	**5.40**	**36**	P	**Pn**	**21 31 48.2**	**-1.3**
	baz=5.6,SNR=4.6						
MTN	**Manton Dam**	**5.81**	**160**	P	Pn	21 31 58.2	+3.3
	baz=5.7,SNR=5.6						
MTN				S	**Sn**	**21 32 59.7**	**-0.7**
	baz=5.7,SNR=7.8						
KDU	**Kakadu**	**6.25**	**148**	P	**Pn**	**21 32 03.2**	**+2.4**
	baz=6.2,SNR=16						
KDU				S	**Sn**	**21 33 09.6**	**-1.4**
	baz=6.2,SNR=5.9						
KNRA	**Kununurra**	**8.28**	**182**	P	**Pn**	**21 32 30.6**	**+2.5**
	baz=8.2,SNR=5.4						
KNRA				S	**Sn**	**21 33 59.3**	**-0.8**
	baz=8.2,SNR=4.6						
FITZ	**Fitzroy Crossi**	**11.21**	**197**	P	**Pn**	**21 33 06.5**	**-0.8**
	baz=11,SNR=5.4						
WRA	**Warramunga Arr**	**13.50**	**158**	Pn	**Pn**	**21 33 36.0**	**-1.3**
	0.5nm,0.3s,baz=337,slow=12,SNR=19						
WRA				Sn	**Sn**	**21 36 00.5**	**-6.0**
	1.2nm,0.3s,baz=327,slow=22,SNR=12						
ASAR	**Alice Springs**	**16.86**	**165**	P	**Pn**	**21 34 21.1**	**+1.8**
	0.5nm,0.3s,baz=344,slow=10,SNR=55						
ASAR				S	**Sn**	**21 37 22.8**	**-4.5**
	0.3nm,0.3s,baz=350,slow=27,SNR=7.3						
MTSU	**Mount Surprise**	**18.28**	**127**	P	**Pn**	**21 34 36.0**	**-0.3**
	baz=18,SNR=4.5						
STKA	**Stephens Creek**	**27.03**	**156**	P	**P**	**21 36 04.8**	**+3.9**
	2.7nm,1.0s,baz=336,slow=10.0,SNR=4.4						
SONM	**Songino Array**	**58.50**	**342**	P	**P**	**21 40 11.4**	**-2.0**
	0.2nm,0.4s,baz=154,slow=6.8,SNR=5.2						

*IDC **20** 21:33:08.7±7.6, 45°.64N×148°.11E, h72km±83km, mb3.6/6, mb1 3.6/8, mb1mx3.3/25, mbtmp3.5/8, ML2.8/2, Error ellipse: s-maj=213.2km s-min=63.9km az=160.0*
*MOS **20** 21:33:10.5±1.3, 46°.10N×147°.57E, h72km, mb4.2/5, Error ellipse: s-maj=33.5km s-min=24.9km az=115.5*
*JMA **20** 21:33:12.6±0.6, 44°.29N×148°.13E, h103km, M3.5*

ISC 20 21:33:09.2±2.0, 44°.5N±0°.2×148°.1E±0°.2, h126km±8km, n21, σ1s87/27, mb3.8/7, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.72**	**345**	‖*i*PN	**Pn**	**21 33 29.4**	**+0.1**
KUR				*i* S	**Sn**	**21 33 43.3**	**-1.3**
KUR				pmax	pmax		
	comp=Z,255nm,0.5s						
KUR				pmax	pmax		
	comp=N,53nm,0.2s						
KUR				pmax	pmax		
	comp=E,54nm,0.1s						
KUR				smax	smax		
	comp=N,503nm,0.4s						
KUR				smax	smax		
	comp=E,180nm,0.4s						
NEM2	**Nemuro 2**	**2.08**	**237**	P	**Pn**	**21 33 45.1**	**+1.2**
NEM2				*e*S	**Sn**	**21 34 10.4**	**-0.1**
JRA	**Rausu**	**2.24**	**256**	P	**Pn**	**21 33 48.7**	**+2.8**
JNK	**Nakash**	**2.63**	**250**	P	**Pn**	**21 33 52.9**	**+2.0**
JAK	**Akkeshi**	**2.92**	**239**	P	**Pn**	**21 33 56.0**	**+1.4**
JAK				*e*S	**Sn**	**21 34 29.5**	**-0.2**
JAR	**Ashorobuto**	**3.38**	**250**	P	**Pn**	**21 34 03.1**	**+2.4**
JCH	**Churui**	**3.96**	**243**	P	**Pn**	**21 34 09.8**	**+1.5**
JCH				*e*S	**Sn**	**21 34 53.1**	**-1.0**
ASAJ	**Asahikawa**	**3.99**	**266**	P	**Pn**	**21 34 10.6**	**+1.9**
	comp=E,0.8nm,0.3s,baz=318,slow=17,SNR=7.1						
JNBK	**Urakawa-nobuka**	**4.52**	**242**	P	**Pn**	**21 34 16.8**	**+1.1**
JNBK				*e*S	**Sn**	**21 35 04.2**	**-3.2**
JKB	**Kayabe**	**5.82**	**245**	*e*S	**Sn**	**21 35 35.7**	**-3.0**
JOT	**Ohata**	**6.08**	**241**	P	**Pn**	**21 34 37.8**	**+1.2**
JOT				*e*S	**Sn**	**21 35 40.1**	**-4.8**
USRK	**Ussuriysk Arra**	**11.56**	**274**	P	**Pn**	**21 35 49.7**	**-0.6**
	comp=E,0.2nm,0.3s,baz=83,slow=12,SNR=4.1						
SONM	**Songino Array**	**28.83**	**292**	P	**P**	**21 38 56.4**	**+0.9**
	comp=E,0.3nm,0.5s,baz=79,slow=9.3,SNR=5.0						
MKAR	**Makanchi Array**	**44.85**	**297**	P	**P**	**21 41 11.5**	**+0.9**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**44.85**	**297**	P	**P**	**21 41 11.4**	**+0.9**
	comp=Z,1.3nm,0.6s,baz=79,slow=8.9,SNR=16						
KURK	**Kurchatov**	**45.68**	**304**	P	**P**	**21 41 18.1**	**+1.1**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KURBB	**Kurchatov Arra**	**45.76**	**304**	P	**P**	**21 41 18.1**	**+0.5**
	comp=Z,0.8nm,0.5s,baz=73,slow=8.8,SNR=4.8						
FINES	**FINESS Array B**	**64.49**	**333**	P	**P**	**21 43 30.8**	**-1.1**
	comp=Z,2.2nm,0.6s,baz=28,slow=8.6,SNR=8.0						
NOA	**NORSAR Array B**	**69.12**	**339**	P	**P**	**21 44 00.7**	**-0.6**
	comp=Z,1.4nm,0.9s,baz=30,slow=6.3,SNR=4.8						
AKASG	**Malin Array Be**	**71.36**	**324**	P	**P**	**21 44 14.6**	**-0.4**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**71.36**	**324**	P	**P**	**21 44 14.6**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=39,slow=7.2,SNR=4.5						

MAN 20 21:35:36, 16°.65N×119°.38E, h22km, mb4.8, ML3.7, MS3.7, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLP	**Bolinao**	**0.58**	**117**	*e*P	Pn	21 35 48.6	-0.3
BOLP				*e*S	Sb	21 35 55.5	+0.1
SCZP	**Santa Cruz**	**1.01**	**149**	*e*P	Pn	21 35 55.4	+0.6
BCPH	**Baguio City Da**	**1.19**	**103**	⇑*i*P	Pb	21 35 59.9	+1.8
BCPH				*i* S	Sn	21 36 36.1	+23
ABRA	**Dolores**	**1.62**	**52**	*e*P	Pn	21 36 03.7	+0.4
APYP	**Conner**	**2.16**	**56**	*e*P	Pn	21 36 11.0	+0.3
BALP	**Baler**	**2.30**	**113**	*e*P	Pn	21 36 13.8	+1.2
CAUP	**Cauayan**	**2.36**	**82**	*e*P	Pn	21 36 15.2	+1.7

MAN 20 21:45:22, 8°.54N×125°.89E, h13km, mb4.5, ML3.3, MS3.2, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.51**	**328**	*e*P	Pb	21 45 33.1	+0.3
BUTP				*e*S	Sn	21 45 43.8	+0.2
BUKP	**Musuan**	**1.05**	**232**	*e*P	Pb	21 45 41.7	-0.5
BUKP				*e*S	Sn	21 46 06.8	+10
CGP	**Cagayan de Oro**	**1.19**	**266**	*e*P	Pn	21 45 43.8	-0.6
CGP				*i* S	Sb	21 45 59.2	-0.6
SCPH	**Surigao**	**1.30**	**342**	‖*e*P	Pb	21 45 46.1	-0.2
MATI	**Mati**	**1.62**	**167**	*e*P	Pn	21 45 49.9	-0.4
PAGZ	**Pagadian**	**2.58**	**255**	*e*P	Pb	21 46 08.4	+0.3

*IDC **20** 22:07:25.4±0.6, 8°.64N×39°.53W, h0km, mb4.0/14, mb1 4.1/14, mb1mx4.0/23, mbtmp4.0/14, MS4.1/32, Ms1 4.1/32, ms1mx4.1/39, Error ellipse: s-maj=25.1km s-min=13.7km az=137.0*
*ISCJB **20** 22:07:26.0±0.3, 8°.32N±0°.06×39°.08W±0°.03, h10km, mb4.7/73, MS4.2/36, Error ellipse: s-maj=8.6km s-min=4.6km az=171.9*
*NEIC **20** 22:07:27.7±0.3, 8°.24N×39°.07W, h10km, mb5.0/44, Error ellipse: s-maj=9.2km s-min=7.2km az=165.0*
*CSEM **20** 22:07:28.0±0.2, 8°.25N×39°.09W, h10km, mb4.9/19, Mw4.9, Error ellipse: s-maj=12.2km s-min=10.3km az=165.0*
*BJI **20** 22:07:30.0,

TORD LR LR 22 30 25.8
comp=Z,311nm,18.4s,baz=260,slow=34
TORD Torodi Ar. Bea 40.43 79 P **P 22 15 07.6 +0.7**
ESDC Sonseca Array 44.42 39 P **P 22 15 37.7 -1.4**
ESDC Sonseca Array 44.42 39 P **P 22 15 37.7 -1.4**
0.1nm,0.3s,baz=242,slow=7.3,SNR=3.3
ESDC LR LR 22 32 22.2
comp=Z,354nm,18.6s,baz=245,slow=34
TAM Tamanrasset 45.26 66 *eP* **P 22 15 46.1 0.0**
6.5nm,1.1s
HNH Hanover 45.67 326 *eP* **P 22 15 49.5 +0.6**
SDMD Soldier's Deli 45.84 319 *eP* **P 22 15 51.3 +0.9**
7.4nm,0.9s
SDMD Soldier's Deli 45.84 319 *eP* **P 22 15 51.3 +0.9**
7.4nm,0.9s
TGUH Tegucigalpa,Un 47.49 282 *eP* **P 22 16 03.6 +0.1**
42nm,1.5s
TGUH Tegucigalpa,Un 47.49 282 *eP* **P 22 16 03.6 +0.1**
42nm,1.5s
SJPF Ste Jean 48.08 37 *eP* **P 22 16 05.6 -2.2**
46nm,1.2s
SJPF Ste Jean 48.08 37 *eP* **P 22 16 05.6 -2.2**
46nm,1.2s
SJPF Ste Jean 48.08 37 *eP* **P 22 16 05.6 -2.2**
46nm,1.2s
ETSF Etsaut 48.36 38 *eP* **P 22 16 08.8 -1.2**
ETSF Etsaut 48.36 38 *eP* **P 22 16 08.8 -1.2**
ETSF Etsaut 48.36 38 *eP* **P 22 16 08.8 -1.2**
EPF Esparros 48.98 38 *eP* **P 22 16 14.8 0.0**
56nm,1.5s
EPF Esparros 48.98 38 *eP* **P 22 16 14.8 0.0**
56nm,1.5s
EPF Esparros 48.98 38 *eP* **P 22 16 14.8 0.0**
56nm,1.5s
SADO Sadowa 50.22 323 LR LR 22 32 25.4
comp=Z,184nm,21.0s,baz=310,slow=30
SWET Sewanee 50.46 309 *eP* **P 22 16 26.2 0.0**
6.9nm,0.8s
SWET Sewanee 50.46 309 *eP* **P 22 16 26.2 0.0**
6.9nm,0.8s
SGMF Saint Gilles 50.48 31 *eP* P 22 16 22.6 -3.4
65nm,1.4s
SGMF Saint Gilles 50.48 31 *eP* P 22 16 22.6 -3.4
65nm,1.4s
MFF Saint Martin d 50.74 34 *eP* P 22 16 24.7 -3.3
35nm,1.2s
MFF Saint Martin d 50.74 34 *eP* P 22 16 24.7 -3.3
35nm,1.2s
RJF Les Rejaudoux 50.95 36 *eP* P 22 16 26.2 -3.4
43nm,1.3s
RJF *eR*
398nm,20.2s
RJF Les Rejaudoux 50.95 36 *eP* P 22 16 26.2 -3.4
43nm,1.3s
CAF Calviac 51.06 37 *eP* **P 22 16 28.5 -2.0**
39nm,1.3s
CAF Calviac 51.06 37 *eP* **P 22 16 28.5 -2.0**
39nm,1.3s
CAF Calviac 51.06 37 *eP* **P 22 16 28.5 -2.0**
39nm,1.3s
SCHQ Schefferville 51.48 340 *eP* **P 22 16 34.6 +1.2**
SCHQ Schefferville 51.48 340 P P 22 16 29.7 -3.8
6.9nm,0.8s,baz=59,slow=5.9,SNR=2.6
SCHQ LR LR 22 34 21.3
comp=Z,187nm,18.4s,baz=116,slow=32
SCHQ Schefferville 51.48 340 *eP* **P 22 16 34.7 +1.2**
TCF Toulx Ste Croi 51.90 36 *eP* P 22 16 33.5 -3.3
64nm,1.5s
TCF Toulx Ste Croi 51.90 36 *eP* P 22 16 33.5 -3.3
64nm,1.5s
KEST Kesra 51.99 51 *eP* **P 22 16 37.6 -0.1**
KEST Kesra 51.99 51 P **P 22 16 37.1 -0.6**
2.2nm,0.9s,baz=193,slow=5.0,SNR=5.9
KEST LR LR 22 37 50.4
comp=Z,136nm,18.7s,baz=201,slow=35
KEST Kesra 51.99 51 *eP* **P 22 16 37.6 -0.1**
BGF Bois d'Agland 52.41 36 *eP* P 22 16 35.9 -4.7
31nm,1.0s
BGF Bois d'Agland 52.41 36 *eP* P 22 16 35.9 -4.7
31nm,1.0s
VIVF Saint-Julien-l 52.60 38 *eP* **P 22 16 40.3 -1.8**
55nm,1.4s
VIVF Saint-Julien-l 52.60 38 *eP* **P 22 16 40.3 -1.8**
55nm,1.4s
VIVF Saint-Julien-l 52.60 38 *eP* **P 22 16 40.3 -1.8**
55nm,1.4s
OLIL Olney 53.35 313 *eP* **P 22 16 48.5 +0.9**
26nm,1.2s
OLIL Olney 53.35 313 *eP* **P 22 16 48.5 +0.9**
26nm,1.2s
LOR Lormes 53.38 35 *eP* **P 22 16 46.0 -1.7**
LOR *eR*
225nm,22.5s
LOR Lormes 53.38 35 *eP* **P 22 16 46.0 -1.7**
LOR Lormes 53.38 35 *eP* **P 22 16 46.0 -1.7**
SIUC Southern Illin 53.81 311 *eP* **P 22 16 52.8 +1.8**
11nm,0.9s
SIUC Southern Illin 53.81 311 *eP* **P 22 16 52.8 +1.8**
11nm,0.9s
BNI Bardonecchia 53.94 39 *eP* P 22 16 58.4 +6.4
55nm,2.0s
MEZF Maizieres J'vi 54.72 35 *eP* P 22 16 53.9 -3.6
21nm,1.0s
MEZF Maizieres J'vi 54.72 35 *eP* P 22 16 53.9 -3.6
21nm,1.0s
SENIN Lac Senin/Sane 54.95 38 *eP* **P 22 16 58.0 -1.5**
10nm,1.3s
SENIN Lac Senin/Sane 54.95 38 *eP* **P 22 16 58.0 -1.5**
10nm,1.3s
HAU Haudompre 55.20 36 *eP* P 22 16 57.0 -4.0
23nm,1.2s
HAU *eR*
251nm,22.2s
HAU Haudompre 55.20 36 *eP* P 22 16 57.0 -4.0
23nm,1.2s
DOU Dourbes 55.34 33 P **P 22 17 02.4 +0.6**
comp=Z,12nm,2.2s
HINF Hinteralfeld 55.40 36 *eP* **P 22 16 59.5 -2.9**
comp=Z,41nm,1.5s
HINF Hinteralfeld 55.40 36 *eP* **P 22 16 59.5 -2.9**
comp=Z,41nm,1.5s
BCLA Clavier 55.90 33 P **P 22 17 06.1 +0.2**
comp=Z,9.7nm,1.5s
CDF Champ du Feu 55.94 36 *eP* P 22 17 02.8 -3.6
CDF Champ du Feu 55.94 36 *eP* P 22 17 02.8 -3.6
MEM Membach 56.38 33 P **P 22 17 09.1 -0.2**
comp=Z,7.0nm,1.5s
BFO Black Forest 56.51 36 *eP* **P 22 17 10.4 0.0**
comp=Z,9.5nm,1.0s
PLCA Paso Flores 56.62 208 P **P 22 17 11.4 +0.2**
PLCA Paso Flores 56.62 208 P **P 22 17 11.4 +0.2**
comp=Z,1.4nm,0.8s,baz=17,slow=11,SNR=2.4
PLCA LR LR 22 42 42.6
comp=Z,428nm,18.6s,baz=315,slow=37
DAVOX Davos/Dischmat 56.72 38 LR LR 22 37 26.7
comp=Z,341nm,20.8s,baz=248,slow=32
DAVA Damuels 56.95 38⇑ *eP* **P 22 17 11.3 -2.4**
comp=Z,16nm,1.1s
FETA Feichten 57.35 38⇑ *iP* **P 22 17 14.9 -1.6**
comp=Z,15nm,1.3s
MOTA Moosalm 57.72 38⇑ *eP* **P 22 17 16.3 -2.8**
comp=Z,11nm,0.9s
WTTA Wattenberg 58.01 38⇑ *eP* **P 22 17 19.4 -1.8**
comp=Z,11nm,1.3s
ABTA Abfaltersbach 58.34 39⇑ *eP* **P 22 17 21.9 -1.6**
comp=Z,12nm,0.9s
TUL1 Tulsa 58.34 307 *eP* P 22 17 17.4 -6.1
GRFO Grafenberg 58.83 36 *eP* **P 22 17 25.9 -0.8**
comp=Z,13nm,1.3s
WHTX Lake Whitney 58.88 302 P **P 22 17 27.9 +0.6**
baz=59
KBA Koelnbreinsper 59.00 39⇑ *eP* **P 22 17 26.2 -1.9**
comp=Z,23nm,1.3s
SPMN St. Paul 59.00 318 *eP* **P 22 17 28.8 +0.9**
NKC Novy Kostel 59.78 36 *eP* **P 22 17 33.5 +0.2**
NKC *epP* **pP 22 17 38.6 +2.1**
MOA Molln 59.88 39⇓ *eP* P 22 17 30.4 -3.6
comp=Z,14nm,0.9s
SOKA Soboth 59.91 40⇑ *eP* **P 22 17 32.0 -2.3**
comp=Z,8.6nm,1.2s
GEC2 GERESS Array S 59.93 37 *eP* **P 22 17 36.2 +1.8**
GERES GERESS Array B 59.93 37 P **P 22 17 31.4 -3.0**
GERES GERESS Array B 59.93 37 P **P 22 17 31.4 -3.0**
comp=Z,0.8nm,0.8s,baz=241,slow=5.5,SNR=6.4
GERES LR LR 22 41 42.1
comp=Z,147nm,18.6s,baz=253,slow=34
KHC Kasperske Hory 59.98 37 *eP* **P 22 17 35.1 +0.5**
KHC *epP* **pP 22 17 39.5 +1.6**
KHC Kasperske Hory 59.98 37 *eP* **P 22 17 35.0 +0.4**
comp=Z,16nm,1.5s
ARSA Arzberg 60.44 40⇑ *eP* **P 22 17 35.8 -2.0**
comp=Z,6.4nm,0.8s
632A Uvalde 60.47 299 P **P 22 17 38.9 +0.5**
baz=60
732A Laxson Ranch, 60.53 298 P **P 22 17 39.5 +0.8**
baz=60
532A Rocksprings 60.66 300 P **P 22 17 39.7 0.0**
baz=61
432A Menard 60.67 301 P **P 22 17 40.0 +0.2**
baz=61
232A Coleman 60.70 302 P **P 22 17 40.0 +0.1**
baz=61
332A Millersview 60.70 301 P **P 22 17 40.1 +0.2**
baz=61
ABTX Abilene, Hawle 60.81 303 P **P 22 17 40.9 +0.3**
baz=61
CONA Conrad Observa 60.90 39⇑ *eP* **P 22 17 39.5 -1.5**
comp=Z,16nm,1.7s
PRU Pruhonice 60.90 37 *eP* **P 22 17 41.1 +0.2**
PRU *epP* **pP 22 17 46.0 +1.9**
PRU AMS AMS 22 41 20.0
comp=Z,200nm,17.1s
BRG Berggiesshubel 60.92 35 *eP* **P 22 17 41.8 +0.8**
comp=Z,18nm,1.9s
ECSD EROS Data Cent 61.07 316 *eP* **P 22 17 42.3 +0.1**
comp=Z,63nm,2.7s
PVCC Panska Ves 61.14 36 *eP* **P 22 17 45.5 +3.0**
PVCC *epP* **pP 22 17 48.7 +3.0**
PVCC AMS AMS 22 41 00.0
comp=Z,300nm,18.8s
TREC Trest 61.19 38 *eP* **P 22 17 41.6 -1.3**
TREC *epP* **pP 22 17 48.0 +1.9**
TREC AMS AMS 22 41 40.0
431A Sonora 61.33 300 P **P 22 17 44.3 0.0**
baz=61
Z31A Sharp Cattle R 61.34 303 P **P 22 17 44.6 +0.4**
baz=61
BGNE Belgrade 61.51 313 *eP* **P 22 17 46.4 +1.2**
BGNE Belgrade 61.51 313 P **P 22 17 45.7 +0.5**
baz=62
R31A Burdett 61.79 309 P **P 22 17 47.2 0.0**
baz=62
430A Baggett Ranch, 61.88 300 P **P 22 17 47.7 -0.3**
baz=62
530A J-C Ranch, Com 61.89 300 P **P 22 17 48.4 +0.4**
baz=62
130A Snyder 61.91 303 P **P 22 17 48.5 +0.4**
baz=62
330A Mertzon 61.91 301 P **P 22 17 48.8 +0.6**
baz=62
N31A Bailey Ranch, 61.94 312 P **P 22 17 48.0 -0.2**
baz=62
UPC Upice 61.98 36 *eP* **P 22 17 49.1 +1.0**
UPC *epP* **pP 22 17 53.7 +2.3**
Y30A Stafford Cattl 62.05 304 P **P 22 17 49.3 +0.3**
baz=62
DPC Dobruska-Polom 62.10 37 *eP* **P 22 17 49.5 +0.5**
DPC *epP* **pP 22 17 54.5 +2.2**
DPC Dobruska-Polom 62.10 37 *eP* **P 22 17 49.5 +0.5**
comp=Z,101nm,1.4s
Z30A Sanderson Ranc 62.15 303 P **P 22 17 49.6 -0.1**
baz=62
KRLC Kraliky 62.27 37 *eP* **P 22 17 48.9 -1.3**
KRLC *epP* **pP 22 17 55.8 +2.4**
429A Davenport Ranc 62.43 300 P **P 22 17 51.6 -0.1**
baz=62
P30A Selden 62.61 310 P **P 22 17 52.6 -0.1**
baz=63
529A Stev Forest Ra 62.65 300 P **P 22 17 53.2 +0.1**
baz=63
VYHS Vyhne 62.96 39 *eP* **P 22 17 57.4 +2.6**
OKC Ostrava-Krasne 63.00 38 *eP* **P 22 17 56.1 +1.1**
428A Kincaid Ranch, 63.12 300 P **P 22 17 56.9 +0.6**
baz=63
628A Black Gap, Mar 63.16 299 P **P 22 17 56.8 +0.3**
baz=63
Y28A McKinney Farm, 63.16 304 P **P 22 17 56.6 +0.1**
baz=63
Z28A Tucker Farm, M 63.19 303 P **P 22 17 56.8 +0.1**
baz=63
228A UT Block 9, Go 63.20 302 P **P 22 17 56.9 0.0**
baz=63
328A Wristen Ranch, 63.30 301 P **P 22 17 57.5 +0.1**
baz=63
T28A Walsh 63.57 307 P **P 22 17 59.3 +0.1**
baz=64
627A Terlingua Ranc 63.59 299 P **P 22 17 60.0 +0.5**
baz=64
427A Hayter Ranch, 63.74 300 P **P 22 18 00.8 +0.4**
baz=64
TXAR Lajitas Array 63.82 299 P P 22 17 55.0 -6.0
TXAR Lajitas Array 63.82 299 P P 22 17 55.0 -6.0
comp=Z,0.3nm,0.6s,baz=120,slow=7.2,SNR=5.8
TXAR LR LR 22 44 15.4
comp=Z,72nm,18.2s,baz=5.0,slow=35
527A Woodward Ranch 63.85 299 P **P 22 18 01.5 +0.3**
baz=64
Y27A Causey 63.91 304 P **P 22 18 01.7 +0.1**
baz=64
KECS Kecovo 64.00 40 *eP* P 22 18 06.7 +5.1
T27A Campo 64.04 307 P **P 22 18 02.3 0.0**
baz=64
IDI Anoyia 64.17 55 LR LR 22 44 52.7
comp=Z,192nm,21.5s,baz=248,slow=35
626A Big Bend Ranch 64.24 299 P **P 22 18 04.1 +0.4**
baz=64
526A Mary Lane Ranc 64.25 299 P **P 22 18 04.3 +0.5**
baz=64
426A McDonald Obser 64.26 300 P **P 22 18 04.5 +0.5**
baz=64
R27A Eads 64.31 309 P **P 22 18 04.0 0.0**
baz=64
SUMG Summit 64.33 0 *i* P **P 22 18 06.6 +2.8**
comp=Z,12nm,0.8s
SUMG Summit 64.33 0 *eP* P 22 17 59.6 -4.3
comp=Z,13nm,0.7s
NOA NORSAR Array B 64.48 25 P **P 22 18 05.8 +1.3**
NOA NORSAR Array B 64.48 25 P **P 22 18 05.8 +1.3**
comp=Z,2.5nm,1.0s,baz=211,slow=11,SNR=3.0
NOA LR LR 22 41 28.6
comp=Z,172nm,19.6s,baz=245,slow=32
Z26A Caprock 64.51 303 P **P 22 18 05.2 -0.2**
baz=64
226B Tecolote Peak, 64.53 302 P **P 22 18 05.5 0.0**
baz=64
S26A Kim 64.72 308 P **P 22 18 07.1 +0.3**
baz=65
CRVS Cervenica-Dubn 64.74 39 *eP* P 22 18 12.5 +6.0
U26A Atchley Ranch, 64.75 306 P **P 22 18 07.2 +0.2**
baz=65
T26A Comanche Natio 64.75 307 P **P 22 18 07.5 +0.5**
baz=65
STHS Stebnicka Huta 64.76 39 *eP* P 22 18 13.9 +7.3
R26A Arlington 64.82 308 P **P 22 18 07.3 -0.1**
baz=65
125A Gardner Draw, 65.00 302 P P 22 18 02.5 -6.2
baz=65
225A Deer Hill, Car 65.08 302 P P 22 18 03.9 -5.4
baz=65
425A Indio Mountain 65.09 300 P P 22 18 04.2 -5.1
baz=65
H27A Howes 65.10 316 P P 22 18 04.0 -4.9
baz=65
Z25A Roswell 65.12 303 P P 22 18 04.5 -5.0
baz=65
325A Bean Ranch, Si 65.13 301 P P 22 18 04.0 -5.6
baz=65
U25A Circle Dot Ran 65.28 306 P P 22 18 05.3 -5.2
baz=65
MNTX Cornudas Mount 65.52 301 *eP* **P 22 18 12.4 +0.5**
comp=Z,2.4nm,1.0s
324A Moseley Ranch, 65.58 301 P P 22 18 06.1 -6.4
baz=66
H26A Fairpoint 65.58 315 P P 22 18 05.1 -7.0
baz=66
Z24A Sheeppen Canyo 65.67 303 P P 22 18 07.1 -6.0
baz=66
224A Cornudas Mount 65.67 301 P P 22 18 06.5 -6.6
baz=66
Y24A Capitan 65.79 303 P P 22 18 07.9 -6.0
baz=66
V24A Rampart Ranch, 65.88 305 P P 22 18 07.9 -6.5
baz=66
W24A Lazy 6 Ranch, 65.92 305 P **P 22 18 16.1 +1.4**
baz=66
G25A Newell 66.15 316 P **P 22 18 16.6 +0.8**
baz=66
SDCO Great Sand Dun 66.33 308 *eP* P 22 18 11.4 -6.0
comp=Z,3.3nm,0.9s
ANMO Albuquerque 66.75 304 *eP* **P 22 18 20.1 +0.1**
comp=Z,2.7nm,1.1s
ANMO Albuquerque 66.75 304 LR LR 22 44 10.2
comp=Z,142nm,18.7s,baz=269,slow=33
Z22A Elephant Butte 66.99 303 P **P 22 18 23.0 +1.4**
baz=67
SUW Suwalki 67.33 35 *eP* P 22 18 30.7 +7.7
comp=Z,24nm,0.9s
T22A Edith 67.34 307 P P 22 18 18.8 -5.0
baz=67
S22A 4UR Ranch, Cre 67.38 307 P P 22 18 19.2 -4.9
baz=67
R22A Saguache, Gunn 67.38 308 P P 22 18 19.2 -4.9
baz=67
Z21A St. Cloud Mine 67.59 303 P **P 22 18 25.2 -0.1**
baz=68
X21A Alamocita Cree 67.78 304 P **P 22 18 26.8 +0.2**
baz=68
U21A Nageezi 67.88 306 P P 22 18 20.8 -6.3
baz=68
220A Playas Peak, P 68.20 301 P P 22 18 23.6 -5.5
baz=68
W20A Ramah 68.43 304 P **P 22 18 31.4 +0.7**
baz=68
I21A Big Trails, Te 68.61 314 P **P 22 18 32.1 +0.6**
baz=69
LPIG La Paz 69.51 293 LR LR 22 50 18.2
comp=Z,58nm,19.2s,baz=62,slow=37
AKASG Malin Array Be 70.06 39 P **P 22 18 38.8 -1.3**
AKASG Malin Array Be 70.06 39 P **P 22 18 38.8 -1.3**
comp=Z,0.6nm,0.5s,baz=254,slow=6.8,SNR=5.0
PDAR Pinedale Array 70.09 312 P **P 22 18 39.1 -1.7**
PDAR Pinedale Array 70.09 312 P **P 22 18 39.1 -1.7**
comp=Z,0.3nm,0.3s,baz=110,slow=7.0,SNR=2.6
PDAR LR LR 22 45 20.6
comp=Z,300nm,21.1s,baz=100,slow=33
PDAR Pinedale Array 70.09 312 P **P 22 18 39.1 -1.7**
B19A Brinkman Farms 70.52 319 P **P 22 18 43.2 +0.2**
baz=70
LSZ Lusaka 70.69 109 *eP* **P 22 18 44.1 -0.7**
comp=Z,15nm,1.5s
LSZ Lusaka 70.69 109 *eP* **P 22 18 44.1 -0.7**
comp=Z,15nm,1.5s
X16A Lo Mia Camp, P 70.80 304 P P 22 18 39.4 -5.9
baz=71
FINES FINESS Array B 71.14 27 LR LR 22 44 40.1
comp=Z,183nm,20.6s,baz=270,slow=32
RRI2 Red Ridge 71.44 313 *eP* **P 22 18 46.9 -2.2**
comp=Z,5.1nm,1.0s
BR131 Keskin Array S 71.59 51 *eP* **P 22 18 49.9 0.0**
comp=Z,1.9nm,0.6s
BR131 Keskin Array S 71.59 51 *eP* **P 22 18 49.9 0.0**
comp=Z,1.9nm,0.6s
BRTR Keskin Array B 71.59 51 P **P 22 18 49.4 -0.6**
BRTR Keskin Array B 71.59 51 P **P 22 18 49.4 -0.6**
comp=Z,2.9nm,1.0s,baz=316,slow=3.4,SNR=6.4
BRTR LR LR 22 53 51.8
comp=Z,61nm,18.1s,baz=251,slow=39
BRTR Keskin Array B 71.59 51 P **P 22 18 49.3 -0.6**
BOSA Boshof 72.05 124 *eP* **P 22 18 53.1 +0.4**
comp=Z,7.5nm,0.9s
BOSA Boshof 72.05 124 LR LR 22 43 57.3
comp=Z,192nm,18.7s,baz=326,slow=30
BOSA Boshof 72.05 124 *eP* **P 22 18 53.1 +0.4**
comp=Z,7.5nm,0.9s
BGU Big Grassy Mou 72.48 310 *eP* **P 22 18 55.5 +0.3**
comp=Z,9.9nm,1.0s
BGU Big Grassy Mou 72.48 310 *eP* **P 22 18 55.5 +0.3**
comp=Z,9.9nm,1.0s
MMAI Mount Meron Ar 72.66 58 LR LR 22 51 19.5
comp=Z,92nm,19.3s,baz=310,slow=36
ARCES ARCESS Array B 73.65 19 LR LR 22 46 44.6
comp=Z,82nm,20.2s,baz=18,slow=32
HLID Hailey 73.70 313 *eP* P 22 18 57.6 -4.9
comp=Z,4.7nm,1.2s
ASF Jabal al Asfar 73.91 59 LR LR 22 52 44.4
comp=Z,68nm,20.4s,baz=242,slow=37
R11A Troy Canyon, C 74.31 307 *eP* **P 22 19 06.5 +0.4**
comp=Z,6.2nm,1.4s
R11A Troy Canyon, C 74.31 307 *eP* **P 22 19 06.5 +0.4**
comp=Z,6.2nm,1.4s
R11A Troy Canyon, C 74.31 307 P P 22 19 00.9 -5.2
baz=74
PFO Pinyon Flat Ob 74.94 303 P **P 22 19 10.4 +0.6**
baz=75
MPMC Manual Prospec 75.79 305 P **P 22 19 15.7 +1.0**
baz=76
MOD Modoc 77.98 311 *eP* **P 22 19 27.5 +0.6**
comp=Z,20nm,1.0s
MOD Modoc 77.98 311 *eP* **P 22 19 27.5 +0.6**
comp=Z,20nm,1.0s
KBZ Khabaz 78.67 47 LR LR 22 55 17.6
comp=Z,82nm,20.8s,baz=294,slow=36
YBH Yreka Blue Hor 79.79 311 LR LR 22 52 25.8
comp=Z,193nm,18.7s,baz=85,slow=34
GNI Garni 80.13 51 LR LR 22 54 27.6
comp=Z,64nm,22.0s,baz=290,slow=35
ATD Arta Tunnel 80.63 80 LR LR 22 52 11.3
comp=Z,90nm,20.7s,baz=279,slow=33
BBB Bella Bella 82.94 322 LR LR 22 52 53.5
comp=Z,127nm,18.0s,baz=103,slow=33
ABKAR Akbulak array 89.76 40 *eP* **P 22 20 25.9 -0.8**
comp=Z,3.6nm,0.9s
ABKAR Akbulak array 89.76 40 *eP* **P 22 20 25.9 -0.8**
comp=Z,3.6nm,0.9s
ILAR Eielson Array 90.06 336 LR LR 22 56 06.7
comp=Z,96nm,18.5s,baz=67,slow=33
LZH Lanzhou 123.88 36 *e*PKP **PKPdf 22 26 25.8 -1.3**
LZH sPKP 22 26 39.4
LZH PP **PP 22 28 13.4 +4.0**
LZH SKKS 22 35 02.0
LZH AMB AMB
comp=Z,100nm,5.4s
LZH LR LR
comp=N,410nm,16.3s
LZH LR LR
comp=E,520nm,17.0s
LZH LR LR
comp=Z,690nm,18.6s
HHC Hu-ho-hao-te 124.25 27 *e*PKP **PKPdf 22 26 26.5 -1.1**
HHC PP **PP 22 28 15.0 +3.5**
HHC PKS **PKSdf 22 30 01.9 -2.4**
HHC SKS **SKSdf 22 33 37.1 -2.8**
HHC SKKS **SKKSac 22 35 07.0 -4.6**
HHC SS **SS 22 45 02.0 -0.6**
HHC AMB AMB
comp=Z,200nm,5.7s
HHC LR LR
comp=N,320nm,21.0s
HHC LR LR
comp=E,430nm,20.0s
HHC LR LR
comp=Z,300nm,19.2s
MDJ Mudanjiang 126.46 10 PKP **PKPdf 22 26 30.5 -1.0**
MDJ PP **PP 22 28 25.3 -0.4**
MDJ AMB AMB
comp=Z,100nm,5.2s
MDJ LR LR
comp=N,32nm,31.7s
MDJ LR LR
comp=E,50nm,38.5s
CD2 Chengdu 127.34 41 PKP **PKPdf 22 26 32.9 -0.8**
CD2 sPKP 22 26 47.3
CD2 PP **PP 22 28 35.6 +3.1**
CD2 PKS **PKSdf 22 30 08.3 -2.1**
CD2 SKS **SKSdf 22 33 42.3 -3.7**
CD2 SKKS **SKKSac 22 35 26.4 -5.1**
CD2 SS **SS 22 45 41.5 -0.6**
CD2 AMB AMB
comp=Z,140nm,7.1s
CD2 LR LR
comp=Z,260nm,8.3s
KMI Kunming 130.28 47 PKP **PKPdf 22 26 38.6 -1.1**
KMI LR LR
comp=Z,71nm,21.1s
GYA Guiyang 132.19 43 Pdif **Pdif 22 23 35.0 -2.3**
GYA PKP **PKPdf 22 26 41.8 -1.3**
GYA PP **PP 22 29 06.3 +2.0**
GYA PKS **PKSdf 22 30 17.3 -2.5**
GYA SKKS 22 35 57.9
GYA SS **SS 22 46 41.4 -0.8**
GYA AMB AMB

comp=Z,120nm,7.9s
GYA LR LR
comp=N,120nm,21.4s
GYA LR LR
comp=E,110nm,22.7s
GYA LR LR
comp=Z,130nm,21.0s

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*AUST **20** 22:09:21.2, 6°.99N×127°.52E, h60km*
*IDC **20** 22:09:47.1±1.2, 3°.78N×126°.61E, h0km, mb4.1/7, mb1 4.2/7, mb1mx3.9/24, mbtmp4.1/7, Error ellipse: s-maj=109.9km s-min=16.2km az=70.0*
ISC 20 22:09:52.5±0.9, 3°.92N±0°.10×126°.8E±0°.2, h36km, n16, σ1§65/15, mb3.9/7, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**6.34**	**219**	P	Pn	22 11 30.0	+6.5
	baz=9.3,SNR=3.5						
FAKI	**Fak Fak**	**8.72**	**141**	P	**Pn**	**22 11 57.8**	**+1.5**
	baz=11,SNR=9.6						
WSI	**Waingapu**	**14.96**	**205**	S	**S**	**22 16 24.2**	**+1.3**
	baz=18,SNR=6.3						
MTN	**Manton Dam**	**17.21**	**165**	P	**Pn**	**22 13 47.1**	**-3.1**
	baz=20,SNR=7.1						
KDU	**Kakadu**	**17.44**	**161**	P	**Pn**	**22 13 51.9**	**-1.2**
	baz=20,SNR=5.4						
KDU				S	**S**	**22 17 16.4**	**+2.7**
	baz=20,SNR=3.4						
KNRA	**Kununurra**	**19.57**	**174**	P	**P**	**22 14 16.8**	**-0.6**
	baz=23,SNR=5.7						
FITZ	**Fitzroy Crossi**	**21.91**	**183**	P	**P**	**22 14 41.7**	**-1.0**
	1.6nm,0.5s,baz=14,slow=12,SNR=7.5						
FITZ	**Fitzroy Crossi**	**21.91**	**183**	P	**P**	**22 14 43.5**	**+0.8**
	baz=25,SNR=4.9						
WRA	**Warramunga Arr**	**24.85**	**163**	P	**P**	**22 15 10.1**	**-1.7**
	15nm,1.1s,baz=344,slow=10.0,SNR=41						
ASAR	**Alice Springs**	**28.28**	**166**	P	**P**	**22 15 41.5**	**-1.3**
	0.3nm,0.3s,baz=340,slow=6.8,SNR=7.5						
STKA	**Stephens Creek**	**38.29**	**159**	P	**P**	**22 17 09.6**	**-0.1**
	3.5nm,0.6s,baz=329,slow=10,SNR=4.3						
RKGY	**Rocky Gully**	**39.41**	**193**	S	S	22 23 31.5	+13
	baz=43,SNR=16						
SONM	**Songino Array**	**47.13**	**341**	P	**P**	**22 18 22.7**	**+1.3**
	0.6nm,0.7s,baz=163,slow=7.2,SNR=5.6						
MKAR	**Makanchi Array**	**57.42**	**325**	P	**P**	**22 19 37.6**	**-0.1**
	0.4nm,0.4s,baz=118,slow=7.4,SNR=16						
KURBB	**Kurchatov Arra**	**61.60**	**327**	P	**P**	**22 20 06.7**	**+0.3**
	0.4nm,0.3s,baz=129,slow=6.0,SNR=3.7						
TORD	**Torodi Ar. Bea**	**122.90**	**288**	PKP	**PKPdf**	**22 28 44.5**	**-1.4**
	0.5nm,1.1s,baz=49,slow=2.8,SNR=3.3						

MEX 20 22:19:40.9±0.9, 16°.44N×99°.35W, h12km±10km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**1.07**	**305**	*eP*	Pb	22 19 57.6	-3.8
CAIG				*i* S	Sb	22 20 11.1	-4.2
PNIG	**Pinotepa**	**1.18**	**92**	*i* P	Pb	22 19 59.0	-4.3
PNIG				*i* S	Sb	22 20 14.4	-4.1
PLIG	**Platanillo**	**1.95**	**356**	*i* P	Pn	22 20 10.4	-3.6
PLIG				*i* S	Sn	22 20 33.9	-4.7
ARIG	**Puente Sto Nin**	**2.07**	**333**	*i* P	Pn	22 20 13.1	-2.5
ARIG				*i* S	Sn	22 20 36.8	-4.6
YAIG	**Yautepec**	**2.43**	**6**	*i* P	Pn	22 20 17.2	-3.5
YAIG				*i* S	Sn	22 20 45.6	-4.9

WEL 20 22:24:34.7±0.5, 46°.83S×165°.59E, h33km, ML3.5/6, Error ellipse: s-maj=5.2km s-min=2.3km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**1.00**	**49**	PN	Pn	22 24 51.8	-0.7
PYZ				SN	Sn	22 25 04.2	-1.3
APZ	**The Paps**	**1.65**	**91**	PN	Pn	22 25 00.6	-0.8
APZ				SN	Sn	22 25 20.7	-0.7
DCZ	**Deep Cove**	**1.74**	**39**	PN	Pn	22 25 02.1	-0.3
WHZ	**Wether Hill Ro**	**1.88**	**61**	PN	Pn	22 25 04.7	+0.2
WHZ				SN	Sn	22 25 27.5	+0.4
WHZ				AML	AML	22 25 29.0	
MLZ	**Mavora Lakes**	**2.33**	**51**	PN	Pn	22 25 11.4	+0.6
MLZ				AML	AML	22 25 43.3	
SYZ	**Scrubby Hill**	**2.46**	**84**	PN	Pn	22 25 13.1	+0.6
TUZ	**Tuapeka**	**2.93**	**74**	PN	Pn	22 25 19.3	+0.4
TUZ				SN	Sn	22 25 51.6	-1.4
EAZ	**Earnscleugh**	**3.04**	**60**	PN	Pn	22 25 21.1	+0.6
EAZ				AML	AML	22 25 57.9	
EAZ				AML	AML	22 25 59.6	
JCZ	**Jackson Bay**	**3.55**	**40**	PN	Pn	22 25 30.6	+3.1
ODZ	**Otahua Downs**	**3.95**	**65**	PN	Pn	22 25 31.6	-1.4

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*ISCJB **20** 22:27:10.0±0.6, 8°.33S±0°.06×119°.94E±0°.06, h172km, mb3.6/4, Error ellipse: s-maj=10.5km s-min=7.0km az=135.7*
*AUST **20** 22:27:10.8, 8°.50S×119°.98E, h200km*
*IDC **20** 22:27:14.1±1.9, 8°.13S×120°.23E, h202km±17km, mb3.3/5, mb1 3.4/8, mb1mx3.2/23, mbtmp3.2/8, Error ellipse: s-maj=59.2km s-min=9.4km az=56.0*
ISC 20 22:27:11.7±0.8, 8°.43S±0°.07×120°.00E±0°.08, h172km, n23, σ2§51/23, mb3.5/4, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**1.26**	**167**	S	**Sn**	**22 28 04.0**	**+0.6**
	baz=1.2,SNR=6.0						
KAPI	**Kappang**	**3.41**	**356**	P	**Pn**	**22 28 05.5**	**+0.4**
	2.4nm,0.3s,baz=319,slow=17,SNR=16						
SOEI	**Soe**	**4.41**	**108**	P	Pn	22 28 21.6	+3.6
	baz=4.4,SNR=12						
UGM	**Wanagama**	**9.40**	**272**	P	**Pn**	**22 29 21.2**	**-2.4**
	baz=9.4,SNR=6.3						
FITZ	**Fitzroy Crossi**	**11.06**	**151**	P	**Pn**	**22 29 47.4**	**+2.1**
	0.3nm,0.3s,baz=287,slow=1.5,SNR=16						
FITZ				S	**Sn**	**22 31 44.2**	**-4.0**
	0.8nm,0.3s,baz=193,slow=19,SNR=11						
FITZ	**Fitzroy Crossi**	**11.06**	**151**	P	**Pn**	**22 29 48.2**	**+2.9**
	baz=11,SNR=6.6						
FITZ				S	**Sn**	**22 31 43.5**	**-4.7**
	baz=11,SNR=6.1						
KNRA	**Kununurra**	**11.19**	**131**	P	**Pn**	**22 29 47.4**	**+0.5**
	baz=11,SNR=7.8						
KNRA				S	**Sn**	**22 31 47.3**	**-3.9**
	baz=11,SNR=5.5						
MTN	**Manton Dam**	**11.79**	**113**	P	**Pn**	**22 29 55.5**	**+0.8**
	baz=12,SNR=8.5						
MTN				S	**Sn**	**22 32 01.9**	**-3.7**
	baz=12,SNR=5.5						
CISI	**Cisompet, Garu**	**12.10**	**273**	P	Pn	22 29 51.6	-7.2
	baz=12,SNR=17						
KDU	**Kakadu**	**12.97**	**110**	P	**Pn**	**22 30 11.2**	**+1.4**
	baz=13,SNR=6.0						
KDU				S	Sn	22 32 25.8	-8.1
	baz=13,SNR=5.5						
FAKI	**Fak Fak**	**13.36**	**66**	P	**Pn**	**22 30 14.7**	**-0.1**
	baz=13,SNR=8.5						
WRA	**Warramunga Arr**	**17.99**	**131**	P	**P**	**22 31 10.3**	**+0.9**
	0.7nm,0.3s,baz=303,slow=13,SNR=30						
WRA				S	**S**	**22 34 26.4**	**-0.5**
	0.2nm,0.3s,baz=308,slow=25,SNR=5.9						
MEEK	**Meekatharra**	**18.15**	**184**	P	**Pn**	**22 31 12.5**	**-0.7**
	baz=18,SNR=5.3						
MEEK				S	**S**	**22 34 30.2**	**0.0**
	baz=18,SNR=7.9						
ASAR	**Alice Springs**	**20.17**	**140**	P	**P**	**22 31 34.5**	**+1.4**
	3.0nm,0.4s,baz=317,slow=8.9,SNR=37						
COEN	**Coen**	**23.38**	**106**	P	**P**	**22 32 07.6**	**+2.4**
	baz=23,SNR=7.1						
RKGY	**Rocky Gully**	**26.20**	**186**	S	**S**	**22 36 54.5**	**+4.7**
	baz=26,SNR=10.0						
MANU	**Manus Island**	**27.97**	**78**	S	S	22 36 53.2	-25
	baz=28,SNR=3.5						
STKA	**Stephens Creek**	**30.77**	**142**	P	**P**	**22 33 12.5**	**+1.4**
	2.4nm,0.3s,baz=325,slow=10,SNR=12						
STKA	**Stephens Creek**	**30.77**	**142**	P	**P**	**22 33 12.6**	**+1.4**
	baz=31,SNR=9.8						
LHI	**Lord Howe Isla**	**42.96**	**128**	S	S	22 40 55.7	-11
	baz=43,SNR=3.3						
SONM	**Songino Array**	**57.30**	**349**	P	P	22 36 39.6	-2.0
	0.1nm,0.3s,baz=162,slow=9.4,SNR=2.9						
MKAR	**Makanchi Array**	**64.41**	**332**	P	**P**	**22 37 28.0**	**-1.5**
	0.2nm,0.4s,baz=139,slow=7.8,SNR=3.1						
ZALV	**Zalesovo Beam**	**68.87**	**339**	P	P	22 37 54.5	-3.0
	0.5nm,0.4s,baz=148,slow=6.1,SNR=2.9						

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*NNC **20** 22:28:40.6±2.4, 39°.23N×76°.99E, h0km, mb4.3, mpv4.0, Error ellipse: s-maj=21.5km s-min=17.0km az=148.0*
*MOS **20** 22:28:47.8±1.6, 39°.55N×76°.78E, h17km, mb4.0/7, Error ellipse: s-maj=19.6km s-min=8.8km az=98.3*
*IDC **20** 22:28:47.3±1.0, 39°.74N×76°.83E, h0km, mb3.8/11, mb1 4.0/17, mb1mx3.8/31, mbtmp3.8/17, ML3.6/5, MS3.1/2, Ms1 3.1/2, ms1mx2.6/38, Error ellipse: s-maj=19.3km s-min=17.1km az=156.0*
*ISCJB **20** 22:28:48.9±0.3, 39°.84N±0°.02×77°.21E±0°.06, h10km, mb3.6/12, Error ellipse: s-maj=6.5km s-min=3.0km az=169.9*
*BJI **20** 22:28:50.1, 40°.01N×76°.88E, h6km, mb4.2/4, ML3.8/8*
ISC 20 22:28:49.8±0.5, 39°.88N±0°.04×77°.02E±0°.06, h10km, n74, σ1§91/78, mb3.6/12, 12C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**0.89**	**246**	Pg	Pn	22 29 15.5	+7.0
KSH				Sg	Sn	22 29 33.8	+12
KSH				smax	smax		
	comp=N,2μm,0.3s						
KSH				smax	smax		
	comp=E,4μm,0.7s						
ULHL	**Ulahol**	**2.43**	**346**	P	**Pb**	**22 29 32.4**	**-1.4**
	SNR=145						
KZA	**Kyzart**	**2.57**	**329**	P	**Pn**	**22 29 33.8**	**+2.0**
	SNR=69						
UCH	**Uchtor**	**3.01**	**322**	P	**Pn**	**22 29 39.8**	**+1.8**
	SNR=13						
KBK	**Karagaybulak**	**3.18**	**331**	P	**Pn**	**22 29 42.6**	**+2.6**
	SNR=126						
TKM2	**Tokmak 2**	**3.22**	**341**	⇑Pn	**Pn**	**22 29 43.4**	**+2.8**
	comp=E,60nm,0.6s						
TKM2				⇑Sn	**Sb**	**22 30 26.6**	**+0.1**
	comp=E,268nm,1.2s						
TKM2	**Tokmak 2**	**3.22**	**341**	P	**Pn**	**22 29 43.4**	**+2.8**
	SNR=129						
KNDC	**Almaty**	**3.33**	**359**	⇑Pn	**Pn**	**22 29 44.9**	**+2.9**
	comp=E,118nm,0.5s						
KNDC				⇑Sn	**Sb**	**22 30 32.7**	**+3.1**
	comp=E,566nm,1.0s						
AAK	**Ala-Archa**	**3.34**	**326**	PN	**Pn**	**22 29 44.4**	**+2.2**
AAK				pmax	pmax		
	comp=Z,10.0nm,0.3s						
AAK	**Ala-Archa**	**3.34**	**326**	P	**Pn**	**22 29 44.7**	**+2.4**
	SNR=39						
AAK	**Ala-Archa**	**3.34**	**326**	Pn	**Pn**	**22 29 44.4**	**+2.2**
	comp=Z,9.8nm,0.3s,baz=132,slow=8.8,SNR=89						
AAK				Lg	Lg	22 30 29.6	
	comp=Z,19nm,0.3s,baz=314,slow=20,SNR=18						
AML	**Almayashu**	**3.37**	**313**	P	**Pn**	**22 29 44.9**	**+2.0**
	SNR=62						
AAA	**Alma-Ata**	**3.38**	**359**	*i* PN	**Pb**	**22 29 49.1**	**-0.8**
AAA				*i* S	**Sb**	**22 30 30.3**	**-0.8**
AAA				pmax	pmax		
	comp=Z,282nm,0.7s						
AAA				smax	smax		
	comp=N,754nm,1.3s						
FRU	**Bishkek**	**3.46**	**329**	⇑*i*PN	**Pn**	**22 29 46.0**	**+2.3**
FRU				*i*		22 30 34.0	
FRU				pmax	pmax		
	comp=Z,280nm,1.6s						
FRU				smax	smax		
	comp=N,2μm,1.9s						
CHMS	**Chumysh**	**3.55**	**332**	P	**Pn**	**22 29 47.6**	**+2.6**
	SNR=94						
EKS2	**Erkin-Say**	**3.70**	**320**	P	**Pn**	**22 29 49.6**	**+2.5**
	SNR=250						
USP	**Ospenovka**	**3.87**	**332**	P	**Pn**	**22 29 51.8**	**+2.4**
	SNR=21						
KK31	**Karatay Array**	**5.85**	**305**	⇓Pn	**Pn**	**22 30 16.5**	**-0.1**
	comp=N,1.4nm,0.5s,baz=119,slow=13,SNR=88						
KK31				⇑Pg	**Pb**	**22 30 33.0**	**+1.2**
	comp=N,6.6nm,0.5s,baz=122,slow=14,SNR=20						
KK31				⇑Lg	Lg	22 31 51.7	
	comp=N,26nm,0.6s,baz=117,slow=28,SNR=6.3						
CHCP	**Chirah Chowk**	**6.91**	**207**	P	Pn	22 30 35.0	+3.9
CEP	**Cherat**	**7.31**	**216**	P	**Pn**	**22 30 39.5**	**+2.8**
CEP				S	**Sn**	**22 31 59.0**	**-0.7**
DLH	**Dalhousie**	**7.38**	**187**	*eP*	Pn	22 30 41.0	+3.3
DLH				*eS*	**Sn**	**22 32 03.0**	**+1.4**
THN	**Thein Dam**	**7.51**	**188**	*eP*	**Pn**	**22 30 41.0**	**+1.7**
THN				*eS*	**Sn**	**22 32 07.0**	**+2.5**
DHRM	**DHARAMSHALA**	**7.64**	**185**	*eP*	Pn	22 30 44.7	+3.3
DHRM				*eS*	**Sn**	**22 32 10.8**	**+2.6**
DHRM				AML	AML	22 32 19.0	
	comp=N,149nm,0.5s						
DHRM				AML	AML	22 32 19.7	
	comp=E,218nm,0.5s						
MK31	**Makanchi Array**	**7.90**	**27**	⇑Pn	**Pn**	**22 30 46.4**	**+1.8**
	comp=E,0.5nm,0.3s,baz=201,slow=11,SNR=19						
MK31				⇑Lg	Lg	22 33 04.9	
	comp=E,12nm,0.8s,baz=216,slow=28,SNR=4.1						
MKAR	**Makanchi Array**	**7.90**	**27**	P	**Pn**	**22 30 46.8**	**+2.1**
MKAR	**Makanchi Array**	**7.90**	**27**	Pn	**Pn**	**22 30 46.8**	**+2.1**
	comp=E,0.4nm,0.3s,baz=203,slow=15,SNR=22						
MKAR				Lg	Lg	22 32 57.9	
	comp=E,0.8nm,0.3s,baz=214,slow=30,SNR=4.3						
THW	**Thamme Wali**	**8.26**	**213**	P	**Pn**	**22 30 51.9**	**+2.3**
SDNR	**Sundarnagar**	**8.37**	**180**	*eP*	Pn	22 30 54.6	+3.5
SDNR				*ex*	x	22 32 28.0	
SARP	**Sargodha**	**8.69**	**205**	P	**Pn**	**22 30 57.5**	**+1.9**
SMLA	**Simla**	**8.74**	**179**	*i* P	**Pn**	**22 30 58.3**	**+2.1**
SMLA				*eS*	**Sn**	**22 32 32.2**	**-2.5**
SMLA				AML	AML	22 32 40.6	
	comp=N,88nm,0.5s						
SMLA				AML	AML	22 32 43.1	
	comp=E,91nm,0.4s						
WMQ	**Urumqi**	**8.88**	**60**	P	**Pn**	**22 31 01.3**	**+3.1**
WMQ				smax	smax		
	comp=N,18nm,0.8s						
WMQ				smax	smax		
	comp=E,20nm,1.1s						
DDI	**Dehra Dun**	**9.58**	**175**	*eP*	**Pn**	**22 31 09.9**	**+2.1**
DDI				*eS*	**Sn**	**22 32 56.2**	**+0.7**
DDI				AML	AML	22 32 59.4	
	comp=N,502nm,0.3s						
DDI				AML	AML	22 33 00.9	
	comp=E,401nm,0.4s						
KURBB	**Kurchatov Arra**	**10.79**	**5**	Pn	**Pn**	**22 31 24.4**	**+0.2**
	baz=194,slow=11,SNR=3.3						
KURK	**Kurchatov**	**10.89**	**5**	P	**Pn**	**22 31 24.4**	**-1.2**
NDI	**New Delhi**	**11.18**	**179**	*ex*	**Pn**	**22 31 28.0**	**-1.6**
NDI				*eS*	**Sn**	**22 33 29.5**	**-5.1**
PYUN	**Piuthan**	**12.75**	**155**	*eP*	**Pn**	**22 31 51.0**	**-0.3**
	comp=E,171nm,0.4s						
DANN	**Dangsing**	**12.78**	**152**	*eP*	**Pn**	**22 31 51.7**	**-0.1**
	comp=E,17nm,0.4s						
KOLN	**Koldanda**	**13.26**	**154**	*eP*	**Pn**	**22 31 57.4**	**-0.8**
	comp=E,12nm,0.3s						
VOSK	**Vostochnaya**	**13.50**	**344**	⇓Pn	**Pn**	**22 31 60.0**	**-1.3**
	comp=E,9.6nm,1.3s						
KKN	**Kakani**	**13.87**	**148**	*eP*	**Pn**	**22 32 06.0**	**-0.6**
	comp=E,9.6nm,0.4s						
BVA0	**Borovoye Array**	**13.91**	**343**	⇓Pn	**Pn**	**22 32 05.3**	**-1.5**
	comp=E,5.6nm,0.9s,baz=155,slow=15,SNR=26						
BVAR	**Borovoye Array**	**13.91**	**343**	P	**Pn**	**22 32 05.6**	**-1.2**
BVAR				MLR	MLR		
	comp=Z,72nm,19.4s						
BVAR	**Borovoye Array**	**13.91**	**343**	Pn	**Pn**	**22 32 05.6**	**-1.2**
	comp=Z,0.4nm,0.3s,baz=156,slow=15,SNR=10						
BVAR				Lg	Lg	22 36 05.9	
	comp=Z,0.3nm,0.3s,baz=148,slow=27,SNR=7.0						
BVAR				LR	LR	22 37 40.7	
	comp=Z,72nm,19.4s,baz=290,slow=38						
DMN	**Daman**	**13.96**	**149**	*eP*	**Pn**	**22 32 06.7**	**-1.2**
	comp=Z,6.1nm,0.3s						
BRVK	**Borovoye**	**13.96**	**343**	⇑Pn	**Pn**	**22 32 06.4**	**-1.1**
	comp=Z,5.5nm,0.6s						
GUN	**Gumba**	**14.02**	**146**	*eP*	**Pn**	**22 32 08.3**	**-0.4**
	comp=Z,11nm,0.4s						
PKIN	**Phulchoki**	**14.10**	**148**	*eP*	**Pn**	**22 32 08.7**	**-1.2**
	comp=Z,7.6nm,0.4s						
PKI	**Pulchoki**	**14.12**	**148**	*eP*	**Pn**	**22 32 08.8**	**-1.3**
	comp=Z,7.1nm,0.3s						
JIRN	**Jiri**	**14.37**	**145**	*eP*	**Pn**	**22 32 12.7**	**-0.9**
	comp=Z,18nm,0.3s						
ZALV	**Zalesovo Beam**	**15.03**	**18**	P	**Pn**	**22 32 24.4**	**+2.3**
ZALV				MLR	MLR		
	comp=Z,77nm,21.2s						
ZALV	**Zalesovo Beam**	**15.03**	**18**	Pn	**Pn**	**22 32 24.4**	**+2.3**
	comp=Z,0.4nm,0.3s,baz=212,slow=11,SNR=15						
ZALV				LR	LR	22 38 25.4	
	comp=Z,77nm,21.2s,baz=159,slow=38						
RAMN	**Ramite**	**15.16**	**145**	*eP*	**Pn**	**22 32 22.5**	**-1.8**
	comp=Z,20nm,0.6s						
AB31	**Akbulak array**	**15.33**	**313**	⇑P	**Pn**	**22 32 23.2**	**-2.8**
	comp=Z,2.8nm,1.0s,baz=115,slow=8.4,SNR=19						
NVS	**Novosibirsk**	**15.53**	**14**	*eP*	**P**	**22 32 33.5**	**+0.4**
NVS				pmax	pmax		
	comp=N,5.0nm,0.7s						
NVS				pmax	pmax		
	comp=N,2.0nm,0.5s						
NVS				pmax	pmax		
	comp=E,1.0nm,0.3s						
ODAN	**Odare**	**15.60**	**143**	*eP*	**Pn**	**22 32 28.8**	**-1.1**
	comp=E,14nm,0.6s						
BHPL	**Bhopal**	**16.60**	**179**	*eP*	**P**	**22 32 44.8**	**-0.3**
BHPL				*ex*	x	22 35 33.5	
AKTO	**Aktyubinsk**	**17.01**	**315**	⇑P	**Pn**	**22 32 45.9**	**-1.8**
	comp=E,9.0nm,1.3s						
AKTO	**Aktyubinsk**	**17.01**	**315**	P	**Pn**	**22 32 46.3**	**-1.3**
AKTO	**Aktyubinsk**	**17.01**	**315**	P	**Pn**	**22 32 46.3**	**-1.3**
	comp=E,0.1nm,0.3s,baz=124,slow=16,SNR=12						
GTA	**Gaotai**	**17.56**	**84**	*eP*	**P**	**22 32 59.1**	**+3.3**
GTA				pP	pP	22 33 06.3	+7.7
GTA				sP	sP	22 33 10.4	+11
GTA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
ARU	**Arti**	**20.52**	**330**	P	Pn	22 33 30.9	+0.7
ZAK	**Zakamensk**	**21.18**	**52**	*eP*	**P**	**22 33 32.9**	**-2.4**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s						
SONM	**Songino Array**	**22.52**	**60**	P	**P**	**22 33 51.9**	**+2.2**
	comp=Z,1.3nm,0.8s,baz=260,slow=10,SNR=13						
BRTR	**Keskin Array B**	**33.09**	**284**	P	**P**	**22 35 25.2**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=119,slow=10,SNR=3.1						
FINES	**FINESS Array B**	**37.52**	**322**	P	**P**	**22 36 02.8**	**-0.8**
	comp=Z,2.1nm,0.7s,baz=111,slow=9.4,SNR=11						
ARCES	**ARCESS Array B**	**39.98**	**335**	P	**P**	**22 36 23.9**	**-0.2**
	comp=Z,1.7nm,0.8s,baz=98,slow=8.7,SNR=7.8						
NB2	**NORSAR Subarra**	**44.65**	**321**	P	**P**	**22 37 00.6**	**-1.7**
	comp=Z,0.6nm,0.5s,baz=89,slow=7.9						
NOA	**NORSAR Array B**	**44.65**	**321**	P	**P**	**22 37 00.8**	**-1.4**
	comp=Z,1.0nm,0.6s,baz=89,slow=7.9,SNR=3.8						
GERES	**GERESS Array B**	**44.95**	**303**	P	**P**	**22 37 04.2**	**-0.8**
	comp=Z,0.7nm,0.8s,baz=69,slow=7.3,SNR=6.6						
ESDC	**Sonseca Array**	**60.05**	**298**	P	P	22 38 53.8	-3.2
	comp=Z,0.2nm,0.4s,baz=60,slow=7.0,SNR=4.9						
ILAR	**Eielson Array**	**70.15**	**18**	P	**P**	**22 40 01.6**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=317,slow=4.9,SNR=3.9						
TORD	**Torodi Ar. Bea**	**70.48**	**271**	P	**P**	**22 40 03.1**	**-1.7**
	comp=Z,2.0nm,0.5s,baz=49,slow=5.3,SNR=64						
YKA	**Yellowknife Ar**	**77.54**	**5**	P	**P**	**22 40 44.3**	**-1.0**
	comp=Z,1.9nm,0.7s,baz=344,slow=6.0,SNR=4.4						
ASAR	**Alice Springs**	**82.50**	**129**	P	**P**	**22 41 12.6**	**-0.1**
	comp=Z,0.2nm,0.6s,baz=302,slow=5.3,SNR=3.7						

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*IDC **20** 22:56:42.0±0.7, 11°.61N×140°.12E, h0km, mb4.0/8, mb1 4.1/8, mb1mx3.9/23, mbtmp4.0/8, MS3.5/3, Ms1 3.5/3, ms1mx2.9/29, Error ellipse: s-maj=34.6km s-min=19.8km az=84.0*
*ISCJB **20** 22:56:45.1±0.7, 11°.55N±0°.09×140°.0E±0°.2, h33km, mb4.0/11, MS3.5/3, Error ellipse: s-maj=28.0km s-min=12.5km az=172.5*
*NEIC **20** 22:56:47.2±0.6, 11°.58N×140°.03E, h35km, mb4.2/3, Error ellipse: s-maj=25.1km s-min=11.7km az=83.0*
ISC 20 22:56:47.3±0.6, 11°.6N±0°.1×140°.0E±0°.2, h35km, n30, σ0§92/27, mb4.1/11, MS3.3/3, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**27.98**	**339**	LR	LR	23 11 48.3	
	comp=Z,55nm,20.8s,baz=140,slow=32						
HNR	**Honiara**	**28.76**	**136**	LR	LR	23 11 58.4	
	comp=Z,77nm,19.2s,baz=64,slow=32						
WRAB	**Tennant Creek**	**31.79**	**190**	*eP*	**P**	**23 03 08.6**	**0.0**
	5.2nm,1.1s						
WRA	**Warramunga Arr**	**31.80**	**190**	P	**P**	**23 03 08.5**	**-0.2**
WRA	**Warramunga Arr**	**31.80**	**190**	P	**P**	**23 03 08.5**	**-0.2**
	0.6nm,0.6s,baz=5.0,slow=9.5,SNR=3.6						
ASAR	**Alice Springs**	**35.52**	**190**	P	**P**	**23 03 41.9**	**+0.8**
ASAR	**Alice Springs**	**35.52**	**190**	P	**P**	**23 03 41.9**	**+0.8**
	0.4nm,0.5s,baz=16,slow=12,SNR=7.1						
CHTO	**Chiang Mai**	**40.23**	**285**	*eP*	**P**	**23 04 21.1**	**+0.2**
STKA	**Stephens Creek**	**43.22**	**178**	*eP*	**P**	**23 04 44.7**	**-0.4**
SONM	**Songino Array**	**45.83**	**329**	P	**P**	**23 05 07.2**	**+1.3**
SONM	**Songino Array**	**45.83**	**329**	P	**P**	**23 05 07.2**	**+1.3**
	0.5nm,0.7s,baz=142,slow=7.4,SNR=6.5						
RAO	**Raoul Island**	**57.38**	**136**	LR	LR	23 25 41.1	
	comp=Z,98nm,18.8s,baz=214,slow=30						
MKAR	**Makanchi Array**	**59.73**	**318**	P	**P**	**23 06 49.5**	**+0.8**
MKAR	**Makanchi Array**	**59.73**	**318**	P	**P**	**23 06 49.5**	**+0.8**
	0.8nm,0.8s,baz=102,slow=7.6,SNR=7.9						
KURK	**Kurchatov**	**63.14**	**321**	*eP*	**P**	**23 07 10.4**	**-1.2**
	1.4nm,0.7s						
BRVK	**Borovoye**	**68.69**	**323**	*eP*	**P**	**23 07 46.5**	**-0.7**
	1.1nm,0.6s						
ILAR	**Eielson Array**	**72.42**	**25**	P	**P**	**23 08 08.8**	**-1.0**
ILAR	**Eielson Array**	**72.42**	**25**	P	**P**	**23 08 08.8**	**-1.0**
	1.3nm,0.7s,baz=247,slow=6.0,SNR=14						
ARCES	**ARCESS Array B**	**87.52**	**341**	P	**P**	**23 09 30.2**	**-1.0**
ARCES	**ARCESS Array B**	**87.52**	**341**	P	**P**	**23 09 30.2**	**-1.0**
	1.5nm

EAZ	**Earnscleugh**	**3.06**	**61**	PN	Pn	23 15 29.2	+0.7
EAZ				AML	AML	23 16 06.1	
EAZ				AML	AML	23 16 07.7	
WKZ	**Wanaka**	**3.13**	**53**	PN	Pn	23 15 31.5	+1.9
WKZ				AML	AML	23 17 17.1	
JCZ	**Jackson Bay**	**3.54**	**41**	PN	Pn	23 15 37.7	+2.4
JCZ				AML	AML	23 16 24.4	
ODZ	**Otahua Downs**	**3.97**	**66**	PN	Pn	23 15 39.9	-1.2

NIED ***20*** *23:41:00, 46°.00N×152°.50E, h35km, Mw4.3 Best double couple: M0=3.31000×10^15 NP1:φ0=328.00000°, δ77.00000°, λ42.00000°. NP2:φ0=227.00000°, δ50.00000°, λ163.00000°.*
ISCJB ***20*** *23:41:35.8±1.0, 45°.85N±0°.06×152°.24E±0°.05, h20km±7km, mb4.6/113, MS4.0/12, Error ellipse: s-maj=10.8km s-min=3.4km az=148.0*
BJI ***20*** *23:41:36.2, 46°.10N×152°.58E, h39km, mB4.9/24, mb4.6/32, Ms4.5/18, Ms7 4.2/15*
JMA ***20*** *23:41:36.3±0.7, 46°.01N×152°.54E, h30km, M5.0*
MOS ***20*** *23:41:39.3±1.0, 46°.02N×152°.20E, h43km, mb5.0/42, Error ellipse: s-maj=8.6km s-min=6.0km az=92.7*
TEH ***20*** *23:41:40.0, 46°.25N×152°.00E, h31km, ML4.8*
SKHL ***20*** *23:41:41.8±0.5, 46°.27N×151°.98E, h61km±3km, mb5.2/3*
NEIC ***20*** *23:41:42.1±2.9, 46°.06N×152°.09E, h58km±6km, mb4.8/26, Error ellipse: s-maj=20.6km s-min=13.4km az=146.0*
IDC ***20*** *23:41:42.1±2.6, 46°.06N×152°.10E, h51km±22km, mb4.1/18, mb1 4.3/23, mb1mx4.2/27, mbtmp4.1/23, ML4.2/4, MS3.6/11, Ms1 3.6/11, ms1mx3.3/33, Error ellipse: s-maj=17.0km s-min=12.3km az=143.0*
SZGRF ***20*** *23:41:46.7, 47°.42N×150°.72E, h33km, mb4.9, Kuril Islands, Russia*
ISC 20 23:41:38.9±0.5, 45°.98N±0°.07×152°.23E±0°.05, h33km±2km, h32km:pP-P, n352, σ1§41/390, mb4.7/115, MS3.9/14, 21C-22D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.15**	**258**	*d* iPN	**Pn**	**23 42 29.2**	**+3.1**
KUR				*e*S	**Sn**	**23 43 04.4**	**+1.9**
KUR				pmax	pmax		
	comp=E,41nm,0.5s						
KUR				pmax	pmax		
	comp=Z,309nm,0.5s						
KUR				pmax	pmax		
	comp=N,52nm,0.5s						
KUR				smax	smax		
	comp=E,835nm,0.6s						
KUR				smax	smax		
	comp=N,227nm,0.3s						
KUR	**Kuril'sk**	**3.15**	**258**	*i* P	**Pn**	**23 42 29.2**	**+3.1**
KUR				AMB	AMB	23 42 30.0	
	comp=N,52nm,0.5s						
KUR				AMB	AMB	23 42 30.0	
	comp=N,42nm,0.5s						
KUR				AMB	AMB	23 42 30.0	
	comp=N,309nm,0.5s						
KUR				*e*S	**Sn**	**23 43 04.4**	**+1.9**
KUR				A	A	23 43 12.3	
	comp=N,227nm,0.6s						
KUR				A	A	23 43 12.3	
	comp=N,835nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**4.91**	**249**	*d* iPN	Pn	23 42 54.1	+3.7
YUK				*i* S	**Sn**	**23 43 48.7**	**+2.6**
YUK				pmax	pmax		
	comp=N,82nm,0.4s						
YUK				pmax	pmax		
	comp=E,88nm,0.4s						
YUK				pmax	pmax		
	comp=Z,256nm,0.4s						
YUK				smax	smax		
	comp=E,468nm,0.6s						
YUK				smax	smax		
	comp=N,585nm,0.6s						
YUK				MLR	MLR		
	comp=Z,468nm,5.0s						
YUK	**Yuzh-Kuril'sk**	**4.91**	**249**	*i* P	Pn	23 42 54.1	+3.7
YUK				AMB	AMB	23 42 55.0	
	comp=Z,82nm,0.4s						
YUK				AMB	AMB	23 42 55.0	
	comp=Z,880nm,0.4s						
YUK				AMB	AMB	23 42 55.0	
	comp=Z,256nm,0.4s						
YUK				*i* S	**Sn**	**23 43 48.7**	**+2.6**
YUK				A	A	23 44 10.9	
	comp=Z,585nm,0.6s						
YUK				A	A	23 44 10.9	
	comp=Z,468nm,0.6s						
YUK				AMS	AMS	23 45 08.9	
	comp=Z,468nm,5.0s						
NEM2	**Nemuro 2**	**5.31**	**243**	P	**Pn**	**23 42 55.7**	**-0.1**
NEM2				*e*S	**Sn**	**23 43 53.9**	**-1.9**
SKR	**Severo-Kuril's**	**5.38**	**27**	*e*PN	**Pn**	**23 42 57.0**	**+0.3**
SKR				pmax	pmax		
	comp=E,80nm,0.5s						
SKR				pmax	pmax		
	comp=Z,90nm,0.5s						
SKR	**Severo-Kuril's**	**5.38**	**27**	*e*P	**Pn**	**23 42 57.0**	**+0.3**
SKR				AMB	AMB	23 42 58.0	
	comp=Z,80nm,0.5s						
SKR				AMB	AMB	23 42 58.0	
	comp=Z,90nm,0.5s						
SKR				*e*S	**Sn**	**23 43 53.4**	**-4.0**
SKR				A	A	23 44 04.0	
	comp=Z,180nm,0.5s						
SKR				A	A	23 44 04.0	
	comp=Z,150nm,0.5s						
JRA	**Rausu**	**5.44**	**251**	P	**Pn**	**23 43 00.1**	**+2.5**
JNK	**Nakash**	**5.85**	**249**	P	**Pn**	**23 43 05.0**	**+1.7**
JNK				*e*S	**Sn**	**23 44 09.9**	**+0.6**
JAK	**Akkeshi**	**6.15**	**244**	P	**Pn**	**23 43 07.3**	**-0.1**
JAK				*e*S	**Sn**	**23 44 15.0**	**-1.6**
JTKR	**Abashiri--Toko**	**6.23**	**254**	P	**Pn**	**23 43 11.0**	**+2.5**
JMP	**Maruseppu**	**6.59**	**256**	P	**Pn**	**23 43 16.6**	**+3.2**
JAR	**Ashorobuto**	**6.60**	**249**	P	**Pn**	**23 43 15.6**	**+2.0**
JAR				*e*S	**Sn**	**23 44 27.9**	**+0.2**
YSS	**Yuzh-Sakhalins**	**6.61**	**282**	‖ *i* PN	Pn	23 43 17.0	+3.3
YSS				pmax	pmax		
	comp=Z,40nm,0.7s						
YSS				MLR	MLR		
	comp=E,400nm,17.0s						
YSS				MLR	MLR		
	comp=Z,500nm,17.0s						
JOB	**Onbets**	**6.75**	**246**	P	**Pn**	**23 43 15.7**	**+0.2**
JOB				*e*S	**Sn**	**23 44 30.5**	**-0.7**
JKK2	**Kamakawa 2**	**7.05**	**256**	P	**Pn**	**23 43 22.9**	**+3.2**
ASAJ	**Asahikawa**	**7.07**	**258**	P	Pn	23 43 23.5	+3.5
ASAJ	**Asahikawa**	**7.07**	**258**	*e*Pn	Pn	23 43 23.4	+3.5
ASAJ	**Asahikawa**	**7.07**	**258**	P	**Pn**	**23 43 22.8**	**+2.8**
	comp=Z,7.4nm,0.3s,baz=79,slow=17,SNR=21						
ASAJ				LR	LR	23 46 03.5	
	comp=Z,415nm,18.4s,baz=318,slow=37						
JCH	**Churui**	**7.19**	**245**	P	**Pn**	**23 43 21.7**	**0.0**
JCH				*e*S	**Sn**	**23 44 39.3**	**-2.9**
JFR	**Furan**	**7.43**	**251**	P	**Pn**	**23 43 27.1**	**+2.1**
JEM	**Erimo**	**7.64**	**242**	P	**Pn**	**23 43 28.6**	**+0.8**
ERM	**Erimo**	**7.64**	**242**	*d* iPN	**Pn**	**23 43 28.9**	**+1.0**
ERM	**Erimo**	**7.64**	**242**	*e*P	**Pn**	**23 43 28.9**	**+1.0**
ERM	**Erimo**	**7.64**	**242**	*e*Pn	**Pn**	**23 43 29.1**	**+1.2**
JNBK	**Urakawa-nobuka**	**7.75**	**245**	P	**Pn**	**23 43 28.5**	**-0.8**
JBT2	**Biratori 2**	**7.75**	**249**	P	**Pn**	**23 43 30.1**	**+0.7**
PEA0	**Petropavlovsk-**	**7.97**	**24**	*e*Pn	**Pn**	**23 43 34.8**	**+2.4**
PETK	**Petropavlovsk-**	**7.97**	**24**	PN	**Pn**	**23 43 34.3**	**+1.9**
PETK				S	Sb	23 45 17.5	-13
PETK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PETK				smax	smax		
	comp=N,1.0nm,0.3s						
PETK	**Petropavlovsk-**	**7.97**	**24**	P	**Pn**	**23 43 34.3**	**+1.9**
	comp=N,2.2nm,0.3s,baz=186,slow=13,SNR=22						
PETK				S	Sb	23 45 17.5	-13
	comp=N,0.6nm,0.3s,baz=156,slow=19,SNR=2.9						
PETK				LR	LR	23 47 27.7	
	comp=N,56nm,18.3s,baz=212,slow=44						
PET	**Petropavlovsk**	**8.20**	**28**	‖ *e*PN	Pn	23 43 39.7	+4.3
PET				MLR	MLR		
	comp=Z,300nm,17.0s						
JNB	**Noboribetsu**	**8.77**	**250**	P	**Pn**	**23 43 43.9**	**+0.7**
JKB	**Kayabe**	**9.05**	**247**	P	**Pn**	**23 43 46.3**	**-0.8**
JKB				*e*S	Sn	23 45 20.6	-7.2
JYM2	**Yakumo 2**	**9.37**	**250**	P	**Pn**	**23 43 51.6**	**+0.1**
JANG	**Nango**	**9.62**	**238**	P	**Pn**	**23 43 52.2**	**-2.8**
JANG				*e*S	Sn	23 45 32.2	-10
JSR	**Shiriuchi**	**9.63**	**247**	P	**Pn**	**23 43 54.7**	**-0.4**
JTM	**Tenmabayashi**	**9.63**	**241**	P	**Pn**	**23 43 54.0**	**-1.2**
JOSM	**Okushiri--Mats**	**9.97**	**252**	P	**Pn**	**23 43 59.6**	**-0.2**
OFUJ	**Ofunato**	**10.39**	**232**	P	**Pn**	**23 44 03.1**	**-2.5**
OFUJ				*e*S	Sn	23 45 50.3	-11
JRG	**Rokugo**	**10.77**	**236**	P	**Pn**	**23 44 08.6**	**-2.1**
JIO	**Ouri**	**11.02**	**231**	P	**Pn**	**23 44 11.4**	**-2.7**
JIO				*e*S	Sn	23 46 00.2	-16
HABR	**Khabarovsk**	**11.94**	**288**	*e*PN	Pn	23 44 22.0	-4.7
HABR				pmax	pmax		
	comp=Z,25nm,1.5s						
HABR				MLR	MLR		
	comp=Z,268nm,16.0s						
JFY	**Yanaizu**	**12.67**	**232**	P	**Pn**	**23 44 35.2**	**-1.5**
MAJO	**Matsushiro**	**14.12**	**233**	*e*P	**Pn**	**23 44 54.6**	**-2.0**
MAJO	**Matsushiro**	**14.12**	**233**	*e*P	**Pn**	**23 44 56.2**	**-0.4**
MAJO	**Matsushiro**	**14.12**	**233**	*e*Pn	**Pn**	**23 44 54.6**	**-2.0**
KLR	**Kul'dur**	**14.19**	**291**	*e*P	**P**	**23 45 01.8**	**-2.6**
USRK	**Ussuriysk Arra**	**14.41**	**270**	P	**Pn**	**23 45 01.3**	**+0.9**
	comp=Z,0.5nm,0.3s,baz=87,slow=13,SNR=9.8						
USRK				LR	LR	23 50 19.9	
	comp=Z,214nm,19.6s,baz=134,slow=36						
FX1	**Attu Island--F**	**15.24**	**55**	*e*Pn	**Pn**	**23 45 11.9**	**+0.4**
FX1				*e*Sn	**Sn**	**23 47 52.7**	**-6.4**
FX1	**Attu Island--F**	**15.24**	**55**	P	**Pn**	**23 45 12.2**	**+0.8**
	comp=Z,1.9nm,0.3s,baz=300,slow=13,SNR=6.1						
FX1				S	Sn	23 47 49.1	-10
	comp=Z,0.7nm,0.3s,baz=288,slow=20,SNR=3.3						
MDJ	**Mudanjiang**	**15.98**	**273**	P	**Pn**	**23 45 19.6**	**-1.5**
MDJ				pP	**P**	**23 45 27.0**	**+2.7**
MDJ				S	**Sn**	**23 48 13.3**	**-3.8**
MDJ				pmax	pmax		
	comp=Z,10.0nm,1.4s						
MDJ				pmax	pmax		
	comp=Z,54nm,5.3s						
KSRS	**Korea Array**	**19.98**	**253**	P	**Pn**	**23 46 10.6**	**+0.3**
	comp=Z,0.7nm,0.3s,baz=62,slow=11,SNR=13						
KSRS				LR	LR	23 52 51.0	
	comp=Z,96nm,20.8s,baz=265,slow=34						
KS01	**Wonju Array Si**	**19.99**	**254**	*e*P	**P**	**23 46 06.3**	**-2.2**
KS15	**Wonju Array Si**	**20.02**	**253**	*e*P	Pn	23 46 10.6	-0.1
TJN	**Taejon**	**20.95**	**252**	*i* P	Pn	23 46 20.9	-0.7
HIA	**Hailar**	**22.05**	**290**	*e*P	**P**	**23 46 26.8**	**-3.8**
BJI	**Beijing**	**26.86**	**270**	P	**P**	**23 47 15.0**	**-1.4**
BJI				S	**S**	**23 51 49.4**	**-1.2**
BJI				LR	LR		
	comp=N,160nm,13.9s						
BJI				LR	LR		
	comp=E,240nm,19.0s						
HHC	**Hu-ho-hao-te**	**29.74**	**275**	*e*P	**P**	**23 47 41.3**	**-0.9**
HHC				pP	**pP**	**23 47 50.9**	**-0.7**
HHC				sP	**sP**	**23 47 54.9**	**-0.6**
HHC				PP	**PnPn**	**23 48 37.6**	**-0.5**
HHC				S	**S**	**23 52 32.3**	**-3.9**
HHC				PcS	**PcS**	**23 54 28.3**	**-0.4**
HHC				pmax	pmax		
	comp=Z,43nm,1.0s						
HHC				pmax	pmax		
	comp=Z,97nm,5.0s						
HHC				LR	LR		
	comp=N,250nm,15.3s						
HHC				LR	LR		
	comp=E,410nm,15.1s						
HHC				LR	LR		
	comp=Z,380nm,14.9s						
SONA0	**Songino Array**	**31.02**	**290**	*e*P	**P**	**23 47 53.7**	**+0.3**
SONM	**Songino Array**	**31.02**	**290**	P	**P**	**23 47 53.7**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=59,slow=8.6,SNR=3.0						
SONM				LR	LR	00 01 13.6	
	comp=Z,137nm,18.3s,baz=56,slow=38						
XAN	**Xi'an**	**34.84**	**266**	P	**P**	**23 48 27.3**	**+0.5**
XAN				pmax	pmax		
	comp=Z,2.0nm,1.0s						
XAN				pmax	pmax		
	comp=Z,26nm,5.3s						
COLA	**College**	**37.12**	**38**	*e*P	**P**	**23 48 47.7**	**+1.8**
COLA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
COLA	**College**	**37.12**	**38**	*e*P	**P**	**23 48 47.7**	**+1.8**
COLA	**College**	**37.12**	**38**	*e*P	**P**	**23 48 47.7**	**+1.8**
	comp=Z,6.3nm,0.8s						
LZH	**Lanzhou**	**37.30**	**272**	P	**P**	**23 48 49.6**	**+1.6**
LZH				pP	**pP**	**23 48 58.3**	**+0.8**
LZH				sP	**sP**	**23 49 01.4**	**-0.1**
LZH				*e*S	**S**	**23 54 36.1**	**+2.7**
LZH				sS	**ScP**	**23 54 51.3**	**-0.1**
LZH				pmax	pmax		
	comp=Z,30nm,1.0s						
LZH				pmax	pmax		
	comp=Z,99nm,5.4s						
LZH				LR	LR		
	comp=N,410nm,13.5s						
LZH				LR	LR		
	comp=E,520nm,12.9s						
LZH				LR	LR		
	comp=Z,630nm,15.0s						
IL1	**Eielson Array**	**37.54**	**38**	*e*P	**P**	**23 48 50.1**	**+0.7**
ILAR	**Eielson Array**	**37.54**	**38**	P	**P**	**23 48 50.5**	**+1.1**
	comp=Z,0.9nm,0.6s,baz=260,slow=7.9,SNR=14						
ILB	**Eielson Array**	**37.54**	**38**	*e*P	**P**	**23 48 50.5**	**+1.1**
HVS	**Khovu-Aksy**	**38.19**	**300**	‖ *i* P	**P**	**23 48 53.9**	**-1.3**
HVS				pmax	pmax		
	comp=Z,12nm,0.7s						
PAX	**Paxson**	**38.22**	**41**	*e*P	**P**	**23 48 56.7**	**+1.3**
PAX				pmax	pmax		
	comp=Z,71nm,2.4s						
PAX	**Paxson**	**38.22**	**41**	*e*P	**P**	**23 48 56.7**	**+1.3**
	comp=Z,71nm,2.4s						
GTA	**Gaotai**	**38.49**	**279**	*e*P	**P**	**23 48 57.6**	**-0.3**
GTA				pP	**pP**	**23 49 06.9**	**-0.6**
GTA				sP	**sP**	**23 49 11.1**	**-0.3**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
EGAK	**Eagle**	**39.99**	**38**	*e*P	**P**	**23 49 11.1**	**+1.1**
	comp=Z,42nm,2.0s						
CD2	**Chengdu**	**40.20**	**265**	P	**P**	**23 49 13.5**	**+1.3**
CD2				pP	**pP**	**23 49 21.6**	**-0.2**
CD2				sP	**sP**	**23 49 25.4**	**-0.3**
CD2				PP	**PnPn**	**23 50 49.1**	**+0.4**
CD2				S	**S**	**23 55 15.8**	**-1.2**
CD2				pmax	pmax		
	comp=Z,20nm,0.9s						
CD2				pmax	pmax		
	comp=Z,220nm,7.6s						
CD2				LR	LR		
	comp=N,310nm,6.5s						
CD2				LR	LR		
	comp=Z,300nm,5.9s						
GYA	**Guiyang**	**40.95**	**258**	*e*P	**P**	**23 49 19.4**	**+0.9**
GYA				pP	**pP**	**23 49 29.3**	**+1.2**
GYA				PP	**PnPn**	**23 50 57.8**	**+0.2**
GYA				PcP	**PcP**	**23 51 20.3**	**+1.9**
GYA				ScP	**ScP**	**23 55 06.0**	**+0.5**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,90nm,4.9s						
GYA				LR	LR		
	comp=N,480nm,17.7s						
GYA				LR	LR		
	comp=E,370nm,18.3s						
GYA				LR	LR		
	comp=Z,460nm,17.8s						
ZALV	**Zalesovo Beam**	**42.57**	**306**	PcP	**PcP**	**23 51 23.8**	**+0.7**
	comp=Z,3.4nm,0.8s,baz=90,slow=3.0,SNR=6.4						
ZALV				LR	LR	00 08 21.3	
	comp=Z,148nm,18.4s,baz=249,slow=38						
INK	**Inuvik**	**42.63**	**32**	*e*P	**P**	**23 49 32.8**	**+1.2**
	comp=Z,7.6nm,1.1s						
INK	**Inuvik**	**42.63**	**32**	P	**P**	**23 49 33.3**	**+1.7**
	comp=Z,3.1nm,0.7s,baz=311,slow=2.6,SNR=7.8						
QIZ	**Qiongzhong**	**43.98**	**247**	P	**P**	**23 49 42.9**	**-0.2**
QIZ				S	S	23 56 04.8	-8.0
QIZ				pmax	pmax		
	comp=Z,6.0nm,1.0s						
QIZ				pmax	pmax		
	comp=Z,65nm,4.4s						
KMI	**Kunming**	**44.50**	**260**	P	P	23 49 51.0	+3.6
KMI				pP	pP	23 49 59.4	+2.3
KMI				sP	sP	23 50 03.1	+2.1
KMI				pmax	pmax		
	comp=Z,5.0nm,1.1s						
WMQ	**Urumqi**	**44.63**	**292**	*e*P	**P**	**23 49 48.3**	**+0.1**
WMQ				pP	**pP**	**23 49 58.3**	**+0.5**
WMQ				sP	**sP**	**23 50 02.3**	**+0.6**
WMQ				PP	**PP**	**23 51 33.3**	**+0.8**
WMQ				pmax	pmax		
	comp=Z,8.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,110nm,4.1s						
WMQ				LR	LR		
	comp=E,45nm,18.8s						
MK32	**Makanchi Array**	**46.75**	**298**	*e*P	**P**	**23 50 04.0**	**-0.9**
MK32				*e*PcP	**PcP**	**23 51 38.5**	**+0.7**
MKAR	**Makanchi Array**	**46.75**	**298**	P	**P**	**23 50 04.0**	**-0.8**
MKAR						23 51 38.5	
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR				MLR	MLR		
	comp=Z,125nm,18.5s						
MKAR	**Makanchi Array**	**46.75**	**298**	*e*P	**P**	**23 50 04.0**	**-0.8**
MKAR	**Makanchi Array**	**46.75**	**298**	*e*P	**P**	**23 50 03.5**	**-1.3**
MKAR				*e*PcP	**PcP**	**23 51 37.7**	**0.0**
MKAR	**Makanchi Array**	**46.75**	**298**	P	**P**	**23 50 04.0**	**-0.8**
	comp=Z,1.5nm,0.7s,baz=51,slow=4.8,SNR=14						
MKAR				PcP	**PcP**	**23 51 38.5**	**+0.7**
	comp=Z,2.7nm,0.7s,baz=67,slow=3.3,SNR=10						
MKAR				LR	LR	00 10 41.8	
	comp=Z,125nm,18.5s,baz=257,slow=37						
MK01	**Makanchi Array**	**46.76**	**298**	*e*P	**P**	**23 50 02.5**	**-2.3**
MK01				*e*PcP	**PcP**	**23 51 36.2**	**-1.6**
KURK	**Kurchatov**	**47.28**	**304**	*d* iP	**P**	**23 50 06.7**	**-2.1**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KURK	**Kurchatov**	**47.28**	**304**	*e*P	**P**	**23 50 06.7**	**-2.1**
KURK	**Kurchatov**	**47.28**	**304**	*e*P	**P**	**23 50 06.5**	**-2.3**
	comp=Z,2.3nm,0.9s						
LSA	**Lhasa**	**49.70**	**273**	*e*P	**P**	**23 50 28.4**	**+0.1**
LSA				pmax	pmax		
	comp=Z,25nm,1.6s						
LSA	**Lhasa**	**49.70**	**273**	*e*P	**P**	**23 50 28.4**	**+0.1**
	comp=Z,24nm,1.6s						
CHTO	**Chiang Mai**	**51.34**	**256**	*e*P	**P**	**23 50 41.0**	**+0.8**
CHTO				pmax	pmax		
	comp=Z,40nm,0.8s						
CHTO	**Chiang Mai**	**51.34**	**256**	*e*P	**P**	**23 50 41.0**	**+0.8**
	comp=Z,40nm,0.8s						
CM31	**Chiang Mai Arr**	**51.59**	**256**	*e*P	**P**	**23 50 43.8**	**+1.7**
CMAR	**Chiang Mai Arr**	**51.59**	**256**	P	**P**	**23 50 43.8**	**+1.7**
	comp=Z,5.9nm,0.9s,baz=38,slow=7.5,SNR=30						
SHL	**Shillong**	**51.74**	**268**	*e*P	**P**	**23 50 46.0**	**+2.7**
TKM2	**Tokmak 2**	**52.79**	**296**	*e*P	**P**	**23 50 51.0**	**0.0**
TAPN	**Taplejung**	**53.53**	**273**	*e*P	**P**	**23 50 57.8**	**+1.1**
AAK	**Ala-Archa**	**53.63**	**296**	*ce*P	**P**	**23 50 57.3**	**+0.2**
AAK				pmax	pmax		
	comp=Z,20nm,2.5s						
AAK	**Ala-Archa**	**53.63**	**296**	*e*P	**P**	**23 50 57.3**	**+0.2**
AAK	**Ala-Archa**	**53.63**	**296**	*e*P	**P**	**23 50 56.1**	**-1.0**
	comp=Z,2.3nm,0.9s						
AAK	**Ala-Archa**	**53.63**	**296**	LR	LR	00 14 54.1	
	comp=Z,95nm,19.4s,baz=218,slow=37						
ODAN	**Odare**	**54.06**	**273**	*e*P	**P**	**23 51 01.8**	**+1.3**
	comp=Z,10nm,0.5s						
EKS2	**Erkin-Say**	**54.06**	**297**	*e*P	**P**	**23 50 58.0**	**-2.2**
EKS2				pmax	pmax		
	comp=Z,3.0nm,1.0s						
EKS2	**Erkin-Say**	**54.06**	**297**	*e*P	**P**	**23 50 58.0**	**-2.2**
	comp=Z,3.4nm,1.0s						
KSH	**Kashi**	**54.38**	**292**	P	P	23 51 07.5	+4.9
KSH				pP	pP	23 51 17.5	+5.1
KSH				PP	PP	23 53 11.4	+6.9
KSH				PcS	**PcS**	**23 56 08.6**	**+2.9**
KSH				S	**S**	**23 58 43.3**	**+4.7**
KSH				ScS	**ScS**	**00 00 50.6**	**+1.2**
KSH				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KSH				pmax	pmax		
	comp=Z,120nm,4.4s						
KSH				LR	LR		
	comp=N,120nm,5.0s						
KSH				LR	LR		
	comp=E,130nm,5.8s						
KSH				LR	LR		
	comp=Z,140nm,14.3s						
JIRN	**Jiri**	**54.39**	**275**	*e*P	**P**	**23 51 04.4**	**+1.3**
	comp=Z,27nm,0.5s						
GUN	**Gumba**	**54.45**	**275**	*e*P	**P**	**23 51 04.5**	**+1.0**
	comp=Z,10nm,0.3s						
RAMN	**Ramite**	**54.55**	**274**	*e*P	**P**	**23 51 05.0**	**+0.9**
	comp=Z,29nm,0.4s						
KKN	**Kakani**	**54.95**	**275**	*e*P	**P**	**23 51 08.5**	**+1.6**
	comp=Z,18nm,0.6s						
PKI	**Pulchoki**	**54.99**	**275**	*e*P	**P**	**23 51 08.3**	**+0.9**
PKIN	**Phulchoki**	**55.00**	**275**	*e*P	**P**	**23 51 08.2**	**+0.8**
	comp=Z,6.7nm,0.5s						
ARU	**Arti**	**55.17**	**318**	*c i*P	**P**	**23 51 06.8**	**-1.1**
ARU				S	**S**	**23 58 45.9**	**-2.5**
ARU				SS	**SS**	**00 02 25.6**	**-6.4**
ARU				pmax	pmax		
	comp=Z,11nm,1.7s						
ARU	**Arti**	**55.17**	**318**	*e*P	**P**	**23 51 06.7**	**-1.1**
DMN	**Daman**	**55.18**	**275**	*e*P	**P**	**23 51 10.0**	**+1.3**
	comp=Z,10.0nm,0.4s						
DANN	**Dangsing**	**55.65**	**277**	*e*P	**P**	**23 51 13.7**	**+1.6**
	comp=Z,27nm,0.5s						
KKAR	**Karatay Array**	**55.83**	**299**	*e*P	**P**	**23 51 11.3**	**-1.6**
KKAR	**Karatay Array**	**55.83**	**299**	*e*P	**P**	**23 51 11.3**	**-1.6**
KOLN	**Koldanda**	**56.12**	**276**	*e*P	**P**	**23 51 16.6**	**+1.2**
	comp=Z,8.6nm,0.3s						
PYUN	**Piuthan**	**56.34**	**277**	*e*P	**P**	**23 51 18.2**	**+1.2**
	comp=Z,89nm,0.5s						
ARA0	**ARCESS Array S**	**58.38**	**341**	*e*P	**P**	**23 51 30.4**	**0.0**
ARCES	**ARCESS Array B**	**58.38**	**341**	P	**P**	**23 51 30.4**	**0.0**
	comp=Z,3.4nm,0.9s,baz=35,slow=6.7,SNR=12						
ARCES				LR	LR	00 22 54.1	
	comp=Z,37nm,19.1s,baz=260,slow=42						
ABKAR	**Akbulak array**	**58.45**	**310**	*e*P	**P**	**23 51 30.4**	**-0.9**
SUMG	**Summit**	**61.51**	**4**	*i* P	**P**	**23 51 52.7**	**+0.3**
SUMG				pmax	pmax		
	comp=Z,8.0nm,0.8s						
SUMG	**Summit**	**61.51**	**4**	*i* P	**P**	**23 51 52.7**	**+0.3**
	comp=Z,8.0nm,0.8s						
JOF	**Joensuu**	**61.75**	**334**	*e*P	**P**	**23 51 52.9**	**-0.7**
JOF				pmax	pmax		
	comp=Z,2.0nm,0.7s						
JOF	**Joensuu**	**61.75**	**334**	*ep*	**P**	**23 51 52.9**	**-0.7**
	comp=Z,2.3nm,0.7s						
KBL	**Kabul**	**61.78**	**292**	*e*P	**P**	**23 51 53.9**	**-0.7**
KBL				pmax	pmax		
	comp=Z,15nm,0.9s						
KBL	**Kabul**	**61.78**	**292**	*e*P	**P**	**23 51 53.9**	**-0.7**
	comp=Z,15nm,0.9s						
KAF	**Kangasniemi**	**63.88**	**335**	*e*P	**P**	**23 52 06.7**	**-1.1**
KAF				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KAF	**Kangasniemi**	**63.88**	**335

ITEG	Tejag	69.40	296	eP	P	23 52 44.7 +0.9
HYA	Hoyanger	69.73	343	eP	P	23 52 45.9 +0.9
HYA				AMB	AMB	23 52 46.7
	comp=Z,23nm,0.8s					
HYA				epP	pP	23 53 01.2 +6.1
ISCO	Idaho Springs	69.89	53	eP	P	23 52 46.4 -0.4
ISCO				pmax	pmax	
	comp=Z,3.0nm,0.8s					
ISCO	Idaho Springs	69.89	53	eP	P	23 52 46.4 -0.4
	comp=Z,2.9nm,0.8s					
ASK	Askoy	70.55	343	eP	P	23 52 50.1 +0.1
RUND	Rundenannen	70.58	343	eP	P	23 52 50.5 +0.2
RUND				AMB	AMB	23 52 50.9
	comp=Z,151nm,1.6s					
BER	Bergen	70.61	343	eP	P	23 52 51.6 +1.2
ODD1	Odda	70.78	342	eP	P	23 52 52.3 +0.7
ODD1				AMB	AMB	23 52 53.9
	comp=Z,25nm,1.8s					
KIV	Kislovodsk	70.89	314	eP	P	23 52 52.6 0.0
KIV				pmax	pmax	
	comp=Z,18nm,1.1s					
KIV				MLR	MLR	
	comp=Z,57nm,18.0s					
KBZ	Khabaz	70.95	314	eP	P	23 52 54.3 +1.5
KBZ	Khabaz	70.95	314	eP	P	23 52 54.2 +1.5
KBZ	Khabaz	70.95	314	P	P	23 52 54.2 +1.5
	comp=Z,12nm,0.9s,baz=48,slow=5.0,SNR=15					
KBZ				LR	LR	00 28 08.4
	comp=Z,77nm,18.6s,baz=21,slow=39					
ILAS	Lasjerd	71.25	302	eP	P	23 52 56.6 +1.5
AS12	Alice Springs	71.28	198	eP	P	23 52 56.1 +1.2
ASAR	Alice Springs	71.28	198	P	P	23 52 56.1 +1.2
	comp=Z,0.9nm,0.7s,baz=13,slow=5.4,SNR=9.0					
AKASG	Malin Array Be	71.84	326	P	P	23 52 57.6 -0.5
AKASG				pmax	pmax	
	comp=Z,3.0nm,0.4s					
AKASG	Malin Array Be	71.84	326	P	P	23 52 57.6 -0.5
	comp=Z,3.3nm,0.3s,baz=33,slow=6.4,SNR=45					
AKBB	Malin Array Si	71.84	326	eP	P	23 52 57.6 -0.5
AKBB	Malin Array Si	71.84	326	eP	P	23 52 57.6 -0.5
KIEV	Kiev	71.86	326	eP	P	23 52 57.0 -1.2
KIEV	Kiev	71.86	326	eP	P	23 52 57.0 -1.2
ECSD	EROS Data Cent	71.86	45	eP	P	23 52 57.6 -0.8
	comp=Z,9.4nm,1.1s					
SNART	Snartemo	72.09	341	eP	P	23 53 00.4 +1.0
SNART				AMB	AMB	23 53 01.2
	comp=Z,14nm,0.6s					
IVRN	Varamin	72.25	302	eP	P	23 53 02.6 +1.7
IBAF	Bafgh	72.27	297	eP	P	23 53 01.6 +0.5
IMHD	Mahdasht	72.39	303	eP	P	23 53 03.5 +1.7
IHRS	Heris	72.61	307	eP	P	23 53 04.4 +1.2
ISRB	Sarab	72.61	307	eP	P	23 53 04.2 +1.0
IRAZ	Razeghan	73.02	303	eP	P	23 53 07.2 +1.6
IZEF	Zefreh	73.35	300	eP	P	23 53 09.0 +1.3
IKLH	Kolahrood	73.50	301	eP	P	23 53 10.1 +1.5
GKP	Gorka Klasztor	73.92	334	eP	P	23 53 10.7 +0.4
SCHQ	Schefferville	74.26	22	eP	P	23 53 11.4 -0.9
	comp=Z,50nm,1.8s					
SCHQ	Schefferville	74.26	22	P	P	23 53 12.4 0.0
	comp=Z,2.2nm,0.7s,baz=319,slow=9.3,SNR=3.5					
KWP	Kalwaria Pacla	75.17	329	⇑P	P	23 53 19.2 +1.5
KWP	Kalwaria Pacla	75.17	329	⇑iP	P	23 53 19.2 +1.5
KWP	Kalwaria Pacla	75.17	329	eP	P	23 53 18.7 +1.0
IKOM	Komasi	75.29	304	eP	P	23 53 19.6 +0.7
BSEG	Bad Segeberg	75.32	338	eP	P	23 53 19.6 +1.2
	comp=Z,8.0nm,0.8s					
BSEG	Bad Segeberg	75.32	338	eP	P	23 53 19.6 +1.2
BSEG				pmax	pmax	
	comp=Z,8.0nm,0.8s					
IDHR	Dehrash	75.56	305	eP	P	23 53 20.8 +0.3
LEOM	Leova	75.60	324	⇓P	P	23 53 21.2 +1.0
LEOM	Leova	75.60	324	⇓iP	P	23 53 21.2 +1.0
OJC	Ojcow	75.70	331	eP	P	23 53 21.2 +0.5
OJC	Ojcow	75.70	331	eP	P	23 53 20.8 +0.1
	comp=Z,12nm,1.0s					
OJC	Ojcow	75.70	331	eP	P	23 53 21.2 +0.5
STHS	Stebnicka Huta	75.87	329	eP	P	23 53 23.1 +1.4
STHS				pmax	pmax	
	comp=Z,9.0nm,0.7s					
STHS	Stebnicka Huta	75.87	329	eP	P	23 53 23.1 +1.4
KOLS	Kolonicke sedl	75.91	329	eP	P	23 53 22.9 +1.0
KOLS				pmax	pmax	
	comp=Z,8.0nm,1.0s					
KOLS	Kolonicke sedl	75.91	329	eP	P	23 53 22.9 +1.0
CRVS	Cervenica-Dubn	76.23	329	eP	P	23 53 24.7 +0.9
CRVS				pmax	pmax	
	comp=Z,5.0nm,1.0s					
CRVS	Cervenica-Dubn	76.23	329	eP	P	23 53 24.7 +0.9
KSP	Ksiaz	76.31	333	eP	P	23 53 24.9 +0.7
KSP	Ksiaz	76.31	333	eP	P	23 53 24.8 +0.6
TLCR		76.40	323	⇑P	P	23 53 26.0 +1.3
TLCR		76.40	323	⇑iP	P	23 53 26.0 +1.3
TRPA	Tarpa	76.48	328	⇓iP	P	23 53 26.8 +1.7
OKC	Ostrava-Krasne	76.58	331	eP	P	23 53 26.5 +0.8
OKC	Ostrava-Krasne	76.58	331	eP	P	23 53 26.5 +0.8
UPC	Upice	76.69	333	eP	P	23 53 27.8 +1.4
UPC	Upice	76.69	333	eP	P	23 53 27.8 +1.4
VRI	Vrincioaia	76.72	324	⇓P	P	23 53 28.3 +1.7
VRI	Vrincioaia	76.72	324	⇓iP	P	23 53 28.3 +1.7
DPC	Dobruska-Polom	76.73	333	eP	P	23 53 27.7 +1.1
DPC	Dobruska-Polom	76.73	333	eP	P	23 53 27.7 +1.1
DPC	Dobruska-Polom	76.73	333	eP	P	23 53 25.8 -0.9
	comp=Z,39nm,0.9s					
KRLC	Kraliky	76.82	332	eP	P	23 53 27.7 +0.5
KRLC	Kraliky	76.82	332	eP	P	23 53 27.7 +0.5
MORC	Moravsky Berou	76.83	332	eP	P	23 53 27.0 -0.2
MORC				pmax	pmax	
	comp=Z,12nm,0.9s					
MORC	Moravsky Berou	76.83	332	eP	P	23 53 27.0 -0.2
	comp=Z,12nm,0.9s					
CLL	Collm	76.91	335	eP	P	23 53 28.2 +0.7
	comp=Z,18nm,0.9s					
CLL	Collm	76.91	335	⇑iP	P	23 53 27.8 +0.3
CLL				e*PP	pP	23 53 36.0 -1.8
CLL				pmax	pmax	
	comp=Z,18nm,0.9s					
CLL	Collm	76.91	335	⇑iP	P	23 53 27.8 +0.3
	comp=Z,18nm,0.9s					
CLL				e(PcP)	pP	23 53 36.0 -1.8
KECS	Kecovo	76.93	329	eP	P	23 53 28.9 +1.2
KECS				pmax	pmax	
	comp=Z,5.0nm,1.0s					
KECS	Kecovo	76.93	329	eP	P	23 53 28.9 +1.2
BRG	Berggiesshubel	77.01	334	iP	P	23 53 27.4 -0.7
	comp=Z,5.3nm,0.8s					
BRG	Berggiesshubel	77.01	334	eP	P	23 53 28.9 +0.8
	comp=Z,5.0nm,0.9s					
BRG	Berggiesshubel	77.01	334	iP	P	23 53 27.4 -0.7
BRG				pmax	pmax	
	comp=Z,5.0nm,0.9s					
PVCC	Panska Ves	77.13	334	eP	P	23 53 29.3 +0.5
PVCC	Panska Ves	77.13	334	eP	P	23 53 29.3 +0.5
FBE	Freiberg	77.15	335	eP	P	23 53 30.0 +1.1
	comp=Z,13nm,0.9s					
CLZ	Clausthal	77.18	337	eP	P	23 53 30.5 +1.4
	comp=Z,14nm,0.9s					
CLZ	Clausthal	77.18	337	eP	P	23 53 30.5 +1.4
CLZ				pmax	pmax	
	comp=Z,14nm,0.9s					
MALT	Malatya	77.22	312	⇓P	P	23 53 32.0 +2.3
MALT	Malatya	77.22	312	⇓iP	P	23 53 32.0 +2.3
MLR	Muntele Rosu	77.34	324	⇑iP	P	23 53 31.5 +1.3
NEUB	Neuenburg	77.36	336	eP	P	23 53 31.0 +1.0
	comp=Z,15nm,0.9s					
VYHS	Vyhne	77.50	330	eP	P	23 53 31.9 +1.0
VYHS				pmax	pmax	
	comp=Z,4.0nm,0.9s					
VYHS	Vyhne	77.50	330	eP	P	23 53 31.9 +1.0
DRGR		77.53	327	⇓P	P	23 53 32.2 +1.0
DRGR		77.53	327	⇓iP	P	23 53 32.2 +1.0
PRU	Pruhonice	77.61	334	iP	P	23 53 32.2 +0.7
PRU	Pruhonice	77.61	334	iP	P	23 53 32.2 +0.7
PSZ	Piszkesteto	77.62	329	⇓P	P	23 53 33.4 +1.7
PSZ	Piszkesteto	77.62	329	eP	P	23 53 31.5 -0.1
	comp=Z,8.1nm,0.9s					
PSZ	Piszkesteto	77.62	329	⇓iP	P	23 53 33.4 +1.7
WERD	Werda	77.88	335	eP	P	23 53 34.0 +1.0
	comp=Z,6.0nm,0.9s					
MOX	Moxa	77.90	336	eP	P	23 53 34.1 +1.0
	comp=Z,10.0nm,1.1s					
MOX	Moxa	77.90	336	eP	P	23 53 34.1 +1.0
MOX				pmax	pmax	
	comp=Z,10.0nm,1.1s					
TREC	Trest	77.92	333	iP	P	23 53 34.0 +0.7
TREC	Trest	77.92	333	iP	P	23 53 34.0 +0.7
GUNZ	Gunzen	77.95	335	eP	P	23 53 34.5 +1.1
	comp=Z,10.0nm,0.8s					
SMOL	Smolenice	77.96	331	eP	P	23 53 34.9 +1.4
SMOL	Smolenice	77.96	331	eP	P	23 53 34.9 +1.4
ARR	Arges	77.97	325	⇓iP	P	23 53 35.9 +2.2
WTSB	Winterswijk	78.00	339	eP	P	23 53 34.2 +0.6
	comp=Z,14nm,0.8s					
NKC	Novy Kostel	78.03	335	eP	P	23 53 34.5 +0.6
NKC				e		23 53 39.9
NKC	Novy Kostel	78.03	335	eP	P	23 53 34.5 +0.6
NKC				ePCP	PcP	23 53 39.9 -3.6
MANZ	Manzenberg	78.35	335	eP	P	23 53 36.7 +1.1
	comp=Z,5.0nm,0.9s					
SIRR	Siria	78.37	327	⇓iP	P	23 53 36.8 +1.0
TX31	Lajitas Ar. Si	78.41	60	eP	P	23 53 37.0 +0.6
LTX	Lajitas	78.41	60	eP	P	23 53 38.1 +1.7
LTX	Lajitas	78.41	60	eP	P	23 53 38.1 +1.7
TXAR	Lajitas Array	78.41	60	P	P	23 53 38.1 +1.7
	comp=Z,1.4nm,0.6s,baz=299,slow=4.6,SNR=38					
ROTZ	Rotzenmuhle	78.51	335	eP	P	23 53 38.0 +1.5
	comp=Z,7.0nm,0.9s					
BR101	Keskin Array S	78.53	316	eP	P	23 53 38.1 +1.1
BRTR	Keskin Array B	78.53	316	P	P	23 53 38.1 +1.1
	comp=Z,4.5nm,0.9s,baz=82,slow=4.1,SNR=16					
KHC	Kasperske Hory	78.66	334	eP	P	23 53 37.9 +0.5
KHC				pmax	pmax	
	comp=Z,12nm,0.8s					
KHC	Kasperske Hory	78.66	334	iP	P	23 53 38.4 +1.0
KHC	Kasperske Hory	78.66	334	eP	P	23 53 37.9 +0.5
	comp=Z,12nm,0.8s					
ANTO	Ankara	78.82	317	⇓P	P	23 53 40.2 +1.7
ANTO	Ankara	78.82	317	⇓iP	P	23 53 40.2 +1.7
BR231	Keskin MP Arra	78.85	317	eP	P	23 53 37.9 -0.8
WET	Wettzell	78.86	334	eP	P	23 53 40.0 +1.5
	comp=Z,14nm,1.0s					
WET	Wettzell	78.86	334	eP	P	23 53 40.0 +1.5
WET				pmax	pmax	
	comp=Z,14nm,1.0s					
GRF	Grafenberg Arr	78.87	335	eP	P	23 53 40.0 +1.5
	comp=Z,16nm,0.8s					
GRF	Grafenberg Arr	78.87	335	eP	P	23 53 40.0 +1.5
GRF				pmax	pmax	
	comp=Z,16nm,0.8s					
GRFO	Grafenberg	78.87	335	eP	P	23 53 38.9 +0.4
GRFO				pmax	pmax	
	comp=Z,13nm,0.7s					
GRFO	Grafenberg	78.87	335	eP	P	23 53 38.9 +0.4
	comp=Z,13nm,0.7s					
GEC2	GERESS Array S	78.88	334	eP	P	23 53 39.6 +0.9
	comp=Z,7.0nm,0.9s					
GEC2	GERESS Array S	78.88	334	eP	P	23 53 39.6 +0.9
GEC2				pmax	pmax	
	comp=Z,7.0nm,0.9s					
GEC2	GERESS Array S	78.88	334	eP	P	23 53 38.2 -0.4
GERES	GERESS Array B	78.88	334	P	P	23 53 39.2 +0.6
	comp=Z,3.6nm,0.7s,baz=30,slow=5.1,SNR=49					
BZS	Buzias	78.93	327	⇑P	P	23 53 39.8 +0.9
BZS	Buzias	78.93	327	⇑iP	P	23 53 39.8 +0.9
CONA	Conrad Observa	78.99	332	⇑iP	P	23 53 40.6 +1.3
	comp=Z,11nm,0.8s,SNR=7.0					
TNS	Taunus Mts	79.17	337	eP	P	23 53 41.5 +1.3
	comp=Z,10.0nm,0.9s					
TNS	Taunus Mts	79.17	337	eP	P	23 53 41.5 +1.3
TNS				pmax	pmax	
	comp=Z,10.0nm,0.9s					
MEM	Membach	79.45	339	P	P	23 53 42.8 +1.2
	comp=Z,8.5nm,1.1s					
MEM	Membach	79.45	339	eP	P	23 53 40.5 -1.1
MEM	Membach	79.45	339	eP	P	23 53 40.5 -1.1
MOA	Molln	79.58	333	⇑iP	P	23 53 43.1 +0.6
	comp=Z,6.9nm,0.8s					
ARSA	Arzberg	79.69	332	⇑eP	P	23 53 44.2 +1.1
	comp=Z,5.3nm,1.1s					
BCLA	Clavier	79.80	339	P	P	23 53 44.3 +0.8
SNF	Seneffe	79.97	340	P	P	23 53 45.1 +0.7
FUR	Furstenfeldbru	80.22	335	eP	P	23 53 47.3 +1.4
	comp=Z,12nm,0.9s					
FUR	Furstenfeldbru	80.22	335	eP	P	23 53 47.3 +1.4
FUR				pmax	pmax	
	comp=Z,12nm,0.9s					
MIAR	Mount Ida	80.29	50	eP	P	23 53 46.3 -0.2
MIAR				pmax	pmax	
	comp=Z,27nm,2.0s					
MIAR	Mount Ida	80.29	50	eP	P	23 53 46.3 -0.2
	comp=Z,27nm,2.0s					
SOKA	Soboth	80.36	332	⇑iP	P	23 53 47.5 +0.8
	comp=Z,10nm,1.0s,SNR=6.1					
BAIF	Baives	80.40	340	eP	P	23 53 47.5 +0.7
	comp=Z,3.3nm,0.5s					
KBA	Koelnbreinsper	80.55	333	⇑iPcP	P	23 53 49.2 +1.3
	comp=Z,8.3nm,0.5s,SNR=7.7					
VTS	Vitosha	80.85	324	⇓P	P	23 53 50.6 +1.1
VTS	Vitosha	80.85	324	⇓iP	P	23 53 50.6 +1.1
WTTA	Wattenberg	80.92	334	⇑iPcP	P	23 53 51.0 +1.2
	comp=Z,8.1nm,0.5s,SNR=7.1					
BFO	Black Forest	80.92	337	eP	P	23 53 50.7 +1.1
	comp=Z,10.0nm,1.1s					
BFO	Black Forest	80.92	337	eP	P	23 53 50.7 +1.1
BFO				pmax	pmax	
	comp=Z,10.0nm,1.1s					
BFO	Black Forest	80.92	337	eP	P	23 53 49.6 0.0
	comp=Z,5.6nm,0.8s					
RETA	Reutte	80.98	335	⇑iP	P	23 53 51.0 +1.0
	comp=Z,4.6nm,0.9s					
MOTA	Moosalm	81.01	334	⇑iP	P	23 53 51.1 +0.8
	comp=Z,20nm,1.2s,SNR=11					
CDF	Champ du Feu	81.13	337	eP	P	23 53 51.5 +0.6
	comp=Z,5.7nm,0.6s					
PAGF	Fort de Pagny	81.41	338	eP	P	23 53 53.4 +1.2
	comp=Z,3.4nm,0.5s					
MEZF	Maizieres J'vi	81.64	339	eP	P	23 53 54.3 +0.9
	comp=Z,8.5nm,0.5s					
HAU	Haudompre	81.76	338	eP	P	23 53 54.6 +0.5
HAU				eR		
	comp=Z,66nm,17.0s					
HINF	Hinteralfeld	81.79	337	eP	P	23 53 54.6 +0.3
SFTF	Sexfontaines	81.91	339	eP	P	23 53 55.7 +0.8
	comp=Z,11nm,0.4s					
TUE	Stuetta	82.32	335	eP	P	23 53 57.8 +0.5
	comp=Z,5.8nm,0.9s					
FLN	La Foliniere	82.69	342	eP	P	23 53 59.5 +0.6
	comp=Z,16nm,0.9s					
FLN				eR		
	comp=Z,63nm,18.8s					
LDF	La Druitiere	82.77	342	eP	P	23 54 00.5 +1.2
	comp=Z,6.1nm,0.8s					
LOR	Lormes	83.08	339	eP	P	23 54 01.7 +0.7
	comp=Z,5.6nm,0.6s					
LOR				eR		
	comp=Z,73nm,20.0s					
CABF	La Chapelle	83.11	337	eP	P	23 54 02.0 +0.8
	comp=Z,3.4nm,0.7s					
GRR	Gorron	83.12	342	eP	P	23 54 01.9 +0.8
	comp=Z,19nm,0.9s					
SSF	Saint Saulge	83.36	339	eP	P	23 54 03.1 +0.7
	comp=Z,4.3nm,0.7s					
SGMF	Saint Gilles	83.60	343	eP	P	23 54 04.5 +0.9
AVF	Avril sur Loir	83.65	339	eP	P	23 54 04.3 +0.4
	comp=Z,9.5nm,0.8s					
ROSF	Rostrenen	83.66	344	eP	P	23 54 04.8 +0.9
	comp=Z,4.6nm,0.6s					
SMF	Signal de Mont	83.66	339	eP	P	23 54 04.4 +0.4
	comp=Z,18nm,1.0s					
LPL	La Plagne	83.94	336	eP	P	23 54 07.0 +1.3
	comp=Z,6.4nm,0.6s					
LPG	La Plagne	83.95	336	eP	P	23 54 07.2 +1.4
	comp=Z,5.8nm,0.6s					
BGF	Bois d'Agland	84.00	339	eP	P	23 54 06.6 +0.9
	comp=Z,6.6nm,0.6s					
TCF	Toulx Ste Croi	84.40	340	eP	P	23 54 08.3 +0.5
	comp=Z,10nm,0.9s					
MBDF	Montbardon	84.65	336	eP	P	23 54 09.9 +0.7
	comp=Z,6.9nm,0.6s					
MFF	Saint Martin d	84.66	341	eP	P	23 54 10.2 +1.2
	comp=Z,7.0nm,0.7s					
ORIF	Oris-en-Rattie	84.72	337	eP	P	23 54 10.5 +1.0
	comp=Z,14nm,0.8s					
ORIF				eR		
	comp=Z,56nm,22.5s					
VIVF	Saint-Julien-l	85.11	337	eP	P	23 54 12.3 +0.9
	comp=Z,8.8nm,0.8s					
RJF	Les Rejaudoux	85.49	340	eP	P	23 54 14.6 +1.3
	comp=Z,5.9nm,0.7s					
RJF				eR		
	comp=Z,79nm,21.2s					
CAF	Calviac	85.72	339	eP	P	23 54 15.9 +1.5
	comp=Z,10nm,1.0s					
FRF	La Foret Royal	85.76	336	eP	P	23 54 15.0 +0.4
LMR	La Mourre	86.00	336	eP	P	23 54 17.3 +1.5
	comp=Z,27nm,1.1s					
LFF	La Frestale	86.02	340	eP	P	23 54 16.5 +0.7
LASF	Ste Croix	86.05	338	eP	P	23 54 17.7 +1.6
KEST	Kesra	92.05	331	P	P	23 54 45.7 +1.1
	comp=Z,1.0nm,0.8s,baz=204,slow=6.1,SNR=4.6					
TOA0	Torodi Ar. Sit	115.43	328	ePKPdf	PKPdf	00 00 17.3 -0.3
TORD	Torodi Ar. Bea	115.43	328	PKP	PKPdf	00 00 17.3 -0.3
	comp=Z,0.2nm,0.4s,baz=9.0,slow=1.7,SNR=7.3					
PLCA	Paso Flores	148.74	96	PKPbc	PKPbc	00 01 23.1 +0.6
	comp=Z,1.2nm,0.9s,baz=261,slow=6.2,SNR=3.3					
CPUP	Villa Florida	149.38	60	ePKPdf	PKPdf	00 01 18.0 -1.9
CPUP				ePKPbc	PKPbc	00 01 24.4 +0.1
CPUP	Villa Florida	149.38	60	PKPbc	PKPbc	00 01 24.9 +0.5
	comp=Z,0.9nm,0.5s,baz=42,slow=3.2,SNR=4.5					
SNAA	Sanae	151.64	196	ePKPbc	PKPbc	00 01 28.6 +0.1
SNAA	Sanae	151.64	196	PKPbc	PKPbc	00 01 28.6 +0.1
	comp=Z,0.7nm,0.8s,baz=184,slow=3.7,SNR=11					

*CSEM **20** 23:45:37.4, 14°.90N×44°.43E, h15km, ML3.5, After DHMR*

DHMR 20 23:45:37.4±1.4, 14°.90N×44°.43E, h15km±7km, ML3.5, 3C-6D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHBB	Dhamar BB	0.33	186	⇓iP	Pg	23 45 44.0	-0.6
DHBB				iS	Sg	23 45 49.0	-0.5
SANA	San'a	0.53	336	⇑iP	Pg	23 45 47.9	-0.5
SANA				iS	Sg	23 45 55.5	-0.3
SANA				AML	AML	23 45 55.8	
	comp=E,3μm,0.4s						
UDYN	Al 'Udayn	1.03	206	⇑iP	Pb	23 45 56.5	-0.5
UDYN				iS	Sb	23 46 10.4	-0.1
UDYN	Al 'Udayn	1.03	206	⇑iP	Pb	23 45 56.5	-0.6
UDYN				iS	Sb	23 46 10.4	-0.1
HAJJ	Hajjah	1.13	315	⇓iP	Pb	23 45 58.6	-0.3
HAJJ				iS	Sb	23 46 13.6	+0.1
HAJJ	Hajjah	1.13	315	⇓iP	Pb	23 45 58.6	-0.3
HAJJ				iS	Sb	23 46 13.6	+0.1
LBOS		1.29	142	⇓iP	Pb	23 46 01.9	+0.1
LBOS				iS	Sn	23 46 19.3	+0.7
BDHA	Al Bayda'	1.44	130	⇓iP	Pb	23 46 03.9	-0.3
BDHA				iS	Sb	23 46 22.7	+0.2
BDHA	Al Bayda'	1.44	130	⇓iP	Pb	23 46 03.9	-0.3
BDHA				iS	Sb	23 46 22.7	+0.2
TRBA	At Turbah	1.68	190	iP	Pb	23 46 07.9	-0.5
TRBA				iS	Sb	23 46 30.6	+1.0

TIR 20 23:51:36.7, 41°.55N×20°.65E, h14km, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHP	Peshkopia	0.20	312	ePG	Pb	23 51 42.1	-0.3
PHP				eSG	Sg	23 51 45.1	+0.5
PUK	Puka	0.75	312	ePG	Pg	23 51 51.2	-0.2
PUK				eSG	Sn	23 52 03.0	-1.2

IDC 20 23:56:45.1±2.2, 7°.21S×129°.38E, h0km, mb3.5/1, mb1 3.5/3, mb1mx3.3/17, mbtmp3.4/3, ML3.4/2, Error ellipse: s-maj=137.5km s-min=32.5km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	13.54	160	Pn	Pn	23 59 57.4	-1.3
	0.3nm,0.3s,baz=341,slow=13,SNR=10						
WRA				Sn	Sn	00 02 19.1	-11
	0.5nm,0.3s,baz=345,slow=24,SNR=8.2						
ASAR	Alice Springs	16.93	166	Pn	P	00 00 44.9	-0.9
	0.1nm,0.3s,baz=352,slow=12,SNR=4.9						
ASAR				Sn	Sn	00 03 43.1	-9.5
	0.1nm,0.3s,baz=350,slow=27,SNR=3.4						
MKAR	Makanchi Array	68.07	327	P	P	00 07 46.7	0.0
	0.2nm,0.3s,baz=121,slow=7.7,SNR=5.7						

JMA 20 23:59:52.4±0.5, 44°.02N×148°.15E, h0km, M3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	1.86	250	P	Pn	00 00 26.3	+0.8
NEM2				eS	Sb	00 00 50.7	-0.5
JRA	Rausu	2.19	269	P	Pn	00 00 30.9	+0.9
JAK	Akkeshi	2.71	249	P	Pn	00 00 38.2	+1.0
JAR	Ashorobuto	3.26	259	P	Pn	00 00 46.2	+1.4
JCH	Churui	3.77	250	P	Pn	00 00 53.2	+1.5
JOT	Ohata	5.86	246	P	Pn	00 01 21.1	+0.6
JANG	Nango	6.13	236	eS	Sn	00 02 34.3	-0.7

IDC 21 00:02:41.8±2.9, 28°.15N×66°.34E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.4/27, mbtmp3.5/5, Error ellipse: s-maj=71.8km s-min=29.3km az=156.0, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	22.44	30	P	P	00 07 42.1	-0.1
	0.4nm,0.6s,baz=211,slow=9.1,SNR=4.8						
SONM	Songino Array	36.67	47	P	P	00 09 50.1	-0.2
	0.2nm,0.6s,baz=250,slow=12,SNR=2.2						
FINES	FINESS Array B	42.66	333	P	P	00 10 40.5	+0.7
	3.9nm,1.1s,baz=138,slow=11,SNR=2.7						
GERES	GERESS Array B	45.06	312	P	P	00 10 58.2	-1.4
	0.2nm,0.6s,baz=99,slow=8.2,SNR=3.5						
TORD	Torodi Ar. Bea	61.67	270	P	P	00 13 02.2	+0.2
	0.9nm,1.0s,baz=70,slow=5.4,SNR=4.7						

*CSEM **21** 00:06:59.3, 39°.46N×23°.67E, h25km, MD2.7, After ATH*

ATH 21 00:06:59.3, 39°.46N×23°.67E, h25km±1km, MD2.7/4, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOS	Alonnisos	0.33	151	ePB	Pb	00 07 07.3	+0.5
AOS				eSB	Sb	00 07 12.1	+0.2
AOS	Alonnisos	0.33	151	ePb	Pb	00 07 07.3	+0.5
AOS				eSb	Sb	00 07 12.

VAY				*e*Lg	Lg	00 07 21.6	
	comp=E,190nm,0.2s						
VAY				*e*Lg	Lg	00 07 21.7	
	comp=N,219nm,0.3s						
VAY	**Valandovo**	**0.11**	**292**	⇑*i*Pg	**Pg**	**00 07 18.7**	**-0.6**
VAY				*i* Sg	**Sg**	**00 07 20.9**	**+0.1**
VAY				*e*Lg	Lg	00 07 21.1	
	comp=N,190nm,0.2s						
GRG	**Griva**	**0.40**	**216**	*e*PB	**Pg**	**00 07 25.2**	**+0.5**
GRG				*e*SB	**Sg**	**00 07 30.8**	**+0.9**
GRG	**Griva**	**0.40**	**216**	*e*Pb	**Pg**	**00 07 25.2**	**+0.5**
GRG				*e*Sb	**Sg**	**00 07 30.8**	**+0.9**
SOH	**Sokhos**	**0.67**	**133**	*e*PB	**Pg**	**00 07 29.7**	**-0.2**
SOH				*e*SB	**Sg**	**00 07 37.7**	**-0.9**
SOH	**Sokhos**	**0.67**	**133**	*e*Pb	**Pg**	**00 07 29.7**	**-0.2**
SOH				*e*Sb	**Sg**	**00 07 37.7**	**-0.9**
NVR	**Nevrokopi**	**0.87**	**85**	*e*PB	**Pg**	**00 07 33.7**	**-0.1**
NVR	**Nevrokopi**	**0.87**	**85**	*e*Pb	**Pg**	**00 07 33.7**	**-0.1**
FNA	**Florina**	**1.12**	**244**	*e*PG	**Pg**	**00 07 38.5**	**-0.1**
FNA	**Florina**	**1.12**	**244**	*e*Pg	**Pg**	**00 07 38.5**	**-0.1**
VTS	**Vitosha**	**1.36**	**16**	*e*Pg	**Pg**	**00 07 43.6**	**+0.4**
VTS				*i* Sg	**Sb**	**00 08 00.8**	**-0.5**
VTS	**Vitosha**	**1.36**	**16**	*e*Pg	**Pg**	**00 07 43.6**	**+0.4**
VTS				*i* Sg	**Sb**	**00 08 00.8**	**-0.5**
PAIG	**Paliouri**	**1.54**	**151**	*e*PB	**Pb**	**00 07 46.1**	**-0.2**
PAIG	**Paliouri**	**1.54**	**151**	*e*Pb	**Pb**	**00 07 46.1**	**-0.2**
BARS	**Barje**	**1.67**	**337**	*e*Pn	**Pn**	**00 07 47.8**	**+0.5**
BARS				*i* Sg	**Sb**	**00 08 09.7**	**-0.4**
BARS	**Barje**	**1.67**	**337**	*e*Pn	**Pn**	**00 07 47.8**	**+0.5**
BARS				*i* Sg	**Sb**	**00 08 09.7**	**-0.4**
PLD	**Plovdiv**	**1.71**	**60**	*e*Pn	**Pg**	**00 07 50.9**	**+1.1**
PLD				*i* Sg	**Sg**	**00 08 12.1**	**+0.2**
PLD	**Plovdiv**	**1.71**	**60**	*e*Pn	**Pg**	**00 07 50.9**	**+1.1**
PLD				*i* Sg	**Sg**	**00 08 12.1**	**+0.2**
ZAPS	**Zavoj**	**1.99**	**358**	*e*Pn	**Pb**	**00 07 53.2**	**-0.8**
ZAPS				*e*Sg	**Sg**	**00 08 21.5**	**+0.3**

IDC 21 00:18:46.7±6.0, 39°.43N×110°.84E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.3/24, mbtmp3.5/4, ML2.9/1, Error ellipse: s-maj=127.9km s-min=24.7km az=84.0, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**9.00**	**340**	Pn	Pn	00 20 57.4	-0.6
	0.1nm,0.3s,baz=156,slow=12,SNR=16						
SONM				Sn	Sn	00 22 35.4	-4.7
	0.1nm,0.3s,baz=159,slow=25,SNR=3.8						
SONM				Lg	Lg	00 23 32.5	
	0.2nm,0.3s,baz=166,slow=31,SNR=6.1						
MKAR	**Makanchi Array**	**22.02**	**299**	P	P	00 23 42.6	0.0
	1.1nm,0.9s,baz=96,slow=12,SNR=5.5						
CMAR	**Chiang Mai Arr**	**23.30**	**210**	P	P	00 23 56.2	-0.1
	1.1nm,0.4s,baz=16,slow=11,SNR=8.3						
KURBB	**Kurchatov Arra**	**25.23**	**307**	P	P	00 24 14.3	+0.2
	0.2nm,0.3s,baz=104,slow=10.0,SNR=3.8						

IDC 21 00:25:24.9±1.3, 34°.93N×90°.30E, h0km, mb3.5/2, mb1 3.7/5, mb1mx3.5/25, mbtmp3.7/5, ML3.5/3, Error ellipse: s-maj=61.3km s-min=25.5km az=60.0, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**13.30**	**335**	Pn	Pn	00 28 34.1	-0.9
	0.1nm,0.3s,baz=146,slow=13,SNR=5.5						
KURBB	**Kurchatov Arra**	**17.87**	**335**	P	Pn	00 29 34.4	-0.4
	0.1nm,0.3s,baz=140,slow=13,SNR=4.7						
ZALV	**Zalesovo Beam**	**19.40**	**350**	P	P	00 29 51.7	-0.6
	0.1nm,0.3s,baz=168,slow=11,SNR=13						
ASAR	**Alice Springs**	**71.46**	**138**	P	P	00 36 47.6	+0.2
	0.3nm,0.6s,baz=327,slow=6.6,SNR=3.5						
TORD	**Torodi Ar. Bea**	**81.47**	**280**	P	P	00 37 44.3	-0.2
	0.4nm,0.6s,baz=48,slow=4.2,SNR=9.2						

MEX 21 00:32:20.8±0.4, 16°.16N×98°.09W, h5km±4km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.24**	**352**	*e*P	Pg	00 32 25.3	-0.2
PNIG				*i* S	Sg	00 32 28.5	-0.2
VHO	**Vista Hermosa**	**1.59**	**55**	*i* P	Pn	00 32 46.1	-3.9
VHO				*i* S	Sn	00 33 06.4	-4.8
HUIG	**Huatulco**	**1.95**	**101**	*i* P	Pn	00 32 50.5	-4.2
HUIG				*e*S	Sn	00 33 14.7	-4.8
PLIG	**Platanillo**	**2.60**	**329**	*i* P	Pn	00 32 60.0	-3.8
PLIG				*i* S	Sn	00 33 31.1	-4.7
YAIG	**Yautepec**	**2.85**	**341**	*i* P	Pn	00 33 04.8	-2.4
YAIG				*i* S	Sn	00 33 38.0	-4.1
ARIG	**Puente Sto Nin**	**3.02**	**315**	*i* P	Pn	00 33 06.8	-2.6
ARIG				*i* S	Sn	00 33 42.6	-3.3

*IDC **21** 02:01:59.4±6.1, 36°.46N×71°.22E, h161km±58km, mb3.4/2, mb1 3.2/6, mb1mx2.9/27, mbtmp3.2/6, Error ellipse: s-maj=70.7km s-min=42.5km az=132.0*
*ISCJB **21** 02:02:05.2±1.5, 36°.9N±0°.1×71°.2E±0°.1, h204km, mb3.4/2, Error ellipse: s-maj=14.5km s-min=12.6km az=172.9*
*NNC **21** 02:02:08.4±6.5, 37°.51N×70°.70E, h0km, mb3.7, mpv3.5, Error ellipse: s-maj=50.5km s-min=48.0km az=30.0*
ISC 21 02:02:05.0±1.8, 36°.9N±0°.1×71°.0E±0°.1, h204km, n16, σ0°89/18, 3C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.59**	**21**	P	**Pn**	**02 03 27.9**	**+0.5**
	SNR=13						
UCH	**Uchtor**	**5.95**	**26**	P	**Pn**	**02 03 32.1**	**+0.1**
	SNR=6.6						
EKS2	**Erkin-Say**	**6.11**	**20**	P	**Pn**	**02 03 35.1**	**+1.4**
	SNR=5.7						
KK31	**Karatay Array**	**6.16**	**357**	⇑Pn	**Pn**	**02 03 36.0**	**+1.7**
	0.9nm,0.3s,baz=171,slow=12,SNR=20						
KK31				⇑Sn	**S**	**02 04 44.5**	**-0.5**
	6.2nm,0.4s,baz=184,slow=22,SNR=4.3						
AAK	**Ala-Archa**	**6.30**	**24**	P	**Pn**	**02 03 37.1**	**+0.8**
	SNR=9.4						
AAK	**Ala-Archa**	**6.30**	**24**	P	**Pn**	**02 03 37.1**	**+0.8**
	4.1nm,0.3s,baz=162,slow=4.3,SNR=26						
AAK				S	**S**	**02 04 48.2**	**-0.1**
	1.2nm,0.3s,baz=124,slow=22,SNR=24						
KBK	**Karagaybulak**	**6.48**	**27**	P	**Pn**	**02 03 39.6**	**+1.0**
	SNR=5.1						
USP	**Ospenovka**	**6.87**	**22**	P	**Pn**	**02 03 43.4**	**-0.1**
	SNR=5.8						
TKM2	**Tokmak 2**	**6.95**	**29**	⇓Pn	**Pn**	**02 03 44.9**	**+0.1**
	4.5nm,0.6s						
TKM2				⇓Sn	**S**	**02 05 03.0**	**-0.7**
	16nm,0.8s						
TKM2	**Tokmak 2**	**6.95**	**29**	P	**Pn**	**02 03 45.0**	**+0.3**
	SNR=8.2						
MKAR	**Makanchi Array**	**12.95**	**37**	P	**Pn**	**02 05 00.7**	**-1.0**
	0.1nm,0.3s,baz=224,slow=14,SNR=4.7						
AB31	**Akbulak array**	**14.68**	**330**	⇓Pn	P	02 05 29.9	+5.9
	0.2nm,0.3s,baz=146,slow=12,SNR=17						
AB31				⇑Sn	**S**	**02 08 04.9**	**-0.9**
	0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**14.71**	**19**	P	**P**	**02 05 24.3**	**+0.1**
	0.3nm,0.3s,baz=206,slow=9.5,SNR=4.0						
ZALV	**Zalesovo Beam**	**19.52**	**25**	P	**P**	**02 06 18.0**	**+1.3**
	0.5nm,0.3s,baz=214,slow=11,SNR=5.9						
FINES	**FINESS Array B**	**37.10**	**326**	P	P	02 08 58.9	+3.5
	2.0nm,0.9s,baz=123,slow=12,SNR=3.9						
TORD	**Torodi Ar. Bea**	**65.70**	**268**	P	**P**	**02 12 27.5**	**-0.5**
	0.2nm,0.4s,baz=50,slow=6.1,SNR=8.9						

*ISCJB **21** 02:09:38.1±0.3, 42°.59N±0°.02×43°.49E±0°.03, h6km±3km, Error ellipse: s-maj=3.5km s-min=2.9km az=30.3*
*CSEM **21** 02:09:38.0±0.1, 42°.56N×43°.48E, h2km, mb4.4, Error ellipse: s-maj=4.2km s-min=2.6km az=113.0*
*MOS **21** 02:09:38.5±0.9, 42°.59N×43°.50E, h11km, mb4.4/1, Error ellipse: s-maj=9.2km s-min=5.4km az=82.9*
*DDA **21** 02:09:38.1, 42°.38N×43°.50E, h1km, MD3.4*
*TIF **21** 02:09:38.3, 42°.51N×43°.45E, h7km±2km*
ISC 21 02:09:38.5±0.8, 42°.56N±0°.01×43°.48E±0°.02, h11km±4km, n82, σ0°89/134, 7C-5D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.04**	**325**	*i* PG	**Pg**	**02 09 40.3**	**-0.3**
ONI	**Oni**	**0.04**	**325**	P	**Pg**	**02 09 40.3**	**-0.3**
ONI				S	**Sg**	**02 09 42.3**	**+0.1**
ONI	**Oni**	**0.04**	**325**	*i* Pg	**Pg**	**02 09 40.3**	**-0.3**
ONI	**Oni**	**0.04**	**325**	P	**Pg**	**02 09 40.4**	**-0.3**
ONI				S	**Sg**	**02 09 42.3**	**+0.1**
DIGR	**Digorskoe uzhe**	**0.35**	**12**	⇓*i*PG	**Pg**	**02 09 44.6**	**-0.9**
DIGR				*i* S	**Sg**	**02 09 49.8**	**-0.4**
DIGR	**Digorskoe uzhe**	**0.35**	**12**	*i* Pg	**Pg**	**02 09 44.6**	**-0.9**
DIGR				*i* Sg	**Sg**	**02 09 49.8**	**-0.4**
LACR	**Lac**	**0.66**	**66**	⇓*i*PG	**Pg**	**02 09 50.1**	**-1.1**
LACR				*i* S	**Sg**	**02 09 59.1**	**-0.8**
LACR	**Lac**	**0.66**	**66**	*i* Pg	**Pg**	**02 09 50.1**	**-1.1**
LACR				*i* Sg	**Sg**	**02 09 59.1**	**-0.8**
KORR	**Kora**	**0.68**	**39**	⇑*i*PG	**Pg**	**02 09 50.9**	**-0.8**
KORR				*i* S	**Sg**	**02 10 00.3**	**-0.3**
KORR	**Kora**	**0.68**	**39**	*i* Pg	**Pg**	**02 09 50.9**	**-0.8**
KORR				*i* Sg	**Sg**	**02 10 00.3**	**-0.3**
LSNR	**Lesken**	**0.76**	**19**	⇓*i*PG	**Pg**	**02 09 53.0**	**-0.2**
LSNR				*e*S	**Sg**	**02 10 03.5**	**+0.3**
LSNR	**Lesken**	**0.76**	**19**	*i* Pg	**Pg**	**02 09 53.0**	**-0.2**
LSNR				*e*Sg	**Sg**	**02 10 03.5**	**+0.3**
STDR	**Stavd-Durt**	**0.92**	**28**	⇑*i*PG	**Pb**	**02 09 56.3**	**0.0**
STDR				*e*S	**Sb**	**02 10 08.8**	**+0.3**
STDR	**Stavd-Durt**	**0.92**	**28**	*i* Pg	**Pb**	**02 09 56.3**	**0.0**
STDR				*e*Sg	**Sb**	**02 10 08.8**	**+0.3**
NCK	**Nalchik**	**0.94**	**5**	⇓*i*PG	**Pg**	**02 09 56.4**	**-0.2**
NCK				*i* S	**Sn**	**02 10 10.4**	**-0.7**
NCK	**Nalchik**	**0.94**	**5**	*i* Pg	**Pg**	**02 09 56.4**	**-0.2**
NCK				*i* Sg	**Sn**	**02 10 10.4**	**-0.7**
VLKR	**Vladikavkaz**	**1.00**	**61**	*e*PG	**Pg**	**02 09 56.3**	**-1.5**
VLKR				*e*S	**Sg**	**02 10 09.9**	**-1.0**
VLKR	**Vladikavkaz**	**1.00**	**61**	*e*Pg	**Pg**	**02 09 56.3**	**-1.5**
VLKR				*e*Sg	**Sg**	**02 10 09.9**	**-1.0**
DUS	**Dusheti**	**1.02**	**117**	P	**Pn**	**02 09 58.7**	**0.0**
DUS				S	**Sn**	**02 10 15.4**	**+2.3**
DUS	**Dusheti**	**1.02**	**117**	P	**Pn**	**02 09 58.7**	**0.0**
DUS				S	**Sn**	**02 10 13.0**	**0.0**
CHVG	**Ch'k'valeri**	**1.04**	**279**	P	**Pb**	**02 09 57.3**	**-1.2**
CHVG				S	**Sg**	**02 10 12.1**	**0.0**
CHVG	**Ch'k'valeri**	**1.04**	**279**	P	**Pb**	**02 09 57.3**	**-1.2**
CHVG				S	**Sg**	**02 10 12.2**	**0.0**
BTKR	**Batakoyurt**	**1.12**	**43**	⇑*i*PG	**Pn**	**02 10 01.0**	**+0.8**
BTKR				*e*S	**Sn**	**02 10 16.0**	**+0.3**
BTKR	**Batakoyurt**	**1.12**	**43**	*i* Pg	**Pn**	**02 10 01.0**	**+0.8**
BTKR				*e*Sg	**Sn**	**02 10 16.0**	**+0.3**
AKH	**Akhalkalaki**	**1.15**	**180**	*i* PG	**Pb**	**02 09 59.3**	**-1.1**
AKH	**Akhalkalaki**	**1.15**	**180**	P	**Pb**	**02 09 59.3**	**-1.1**
AKH				S	**Sb**	**02 10 15.4**	**0.0**
AKH	**Akhalkalaki**	**1.15**	**180**	*i* Pg	**Pb**	**02 09 59.3**	**-1.1**
AKH	**Akhalkalaki**	**1.15**	**180**	P	**Pb**	**02 09 59.3**	**-1.1**
AKH				S	**Sb**	**02 10 15.4**	**0.0**
KUBR	**Kubataba**	**1.24**	**358**	⇑*i*PG	**Pb**	**02 10 02.1**	**+0.2**
KUBR				*e*S	**Sn**	**02 10 18.7**	**+0.1**
KUBR	**Kubataba**	**1.24**	**358**	*i* Pg	**Pb**	**02 10 02.1**	**+0.2**
KUBR				*e*Sg	**Sn**	**02 10 18.7**	**+0.1**
TBLG	**Delisi**	**1.25**	**131**	*e*PG	**Pn**	**02 10 01.4**	**-0.5**
TBLG	**Delisi**	**1.25**	**131**	P	**Pn**	**02 10 01.1**	**-0.7**
TBLG				S	**Sb**	**02 10 18.5**	**+0.4**
TBLG	**Delisi**	**1.25**	**131**	*e*Pg	**Pn**	**02 10 01.4**	**-0.5**
TBLG				S	**Sb**	**02 10 18.5**	**+0.4**
TBLG	**Delisi**	**1.25**	**131**	P	**Pn**	**02 10 01.1**	**-0.7**
TBLG				S	**Sb**	**02 10 18.5**	**+0.4**
SHAR	**Shatzhatmas**	**1.32**	**334**	⇓*e*PG	**Pn**	**02 10 03.2**	**+0.1**
SHAR				*i* S	**Sb**	**02 10 20.2**	**-0.3**
SHAR	**Shatzhatmas**	**1.32**	**334**	*e*Pg	**Pn**	**02 10 03.2**	**+0.1**
SHAR				*i* Sg	**Sb**	**02 10 20.2**	**-0.3**
PRTR	**Priterechnaya**	**1.33**	**26**	*e*PG	**Pn**	**02 10 03.1**	**+0.2**
PRTR				*e*S	**Sg**	**02 10 21.0**	**-0.2**
PRTR	**Priterechnaya**	**1.33**	**26**	*e*Pg	**Pn**	**02 10 03.1**	**+0.2**
PRTR				*e*Sg	**Sg**	**02 10 21.0**	**-0.2**
TRKR	**Terskaya**	**1.48**	**38**	*e*PG	**Pb**	**02 10 05.7**	**-0.3**
TRKR				*e*S	**Sg**	**02 10 25.7**	**-0.4**
TRKR	**Terskaya**	**1.48**	**38**	*e*Pg	**Pb**	**02 10 05.7**	**-0.3**
TRKR				*e*Sg	**Sg**	**02 10 25.7**	**-0.4**
PYA	**Pyatigorsk**	**1.51**	**348**	⇑*i*PG	**Pb**	**02 10 06.3**	**-0.1**
PYA				*e*S	**Sb**	**02 10 26.3**	**+0.8**
PYA	**Pyatigorsk**	**1.51**	**348**	*i* Pg	**Pb**	**02 10 06.3**	**-0.1**
PYA				*e*Sg	**Sb**	**02 10 26.3**	**+0.8**
KIV	**Kislovodsk**	**1.51**	**338**	⇑*i*PG	**Pb**	**02 10 06.4**	**-0.2**
KIV				*e*S	**Sb**	**02 10 26.2**	**+0.4**
KIV	**Kislovodsk**	**1.51**	**338**	*i* Pg	**Pb**	**02 10 06.4**	**-0.2**
KIV				*e*Sg	**Sb**	**02 10 26.2**	**+0.4**
BCA	**Borcka**	**1.78**	**232**	*e*PN	**Pn**	**02 10 07.7**	**-1.4**
BCA	**Borcka**	**1.78**	**232**	*e*Pn	**Pn**	**02 10 07.7**	**-1.4**
DGRG	**David-gareji**	**1.79**	**128**	*e*PN	**Pb**	**02 10 11.4**	**+0.1**
DGRG	**David-gareji**	**1.79**	**128**	P	**Pb**	**02 10 11.1**	**-0.2**
DGRG				S	**Sg**	**02 10 37.5**	**+1.4**
DGRG	**David-gareji**	**1.79**	**128**	*e*Pn	**Pb**	**02 10 11.4**	**+0.1**
DGRG	**David-gareji**	**1.79**	**128**	P	**Pb**	**02 10 11.1**	**-0.2**
DGRG				S	**Sg**	**02 10 37.5**	**+1.4**
ARTV	**Artvin**	**1.80**	**221**	*i* P	**Pn**	**02 10 10.0**	**+0.4**
ARTV				*i* S	**Sb**	**02 10 34.0**	**-0.2**
ARTV	**Artvin**	**1.80**	**221**	*i* P	**Pn**	**02 10 10.0**	**+0.4**
ARTV				*i* S	**Sb**	**02 10 34.0**	**-0.2**
DBOC	**Borcka**	**1.82**	**229**	*i* P	**Pn**	**02 10 10.1**	**+0.4**
DBOC				*i* S	**Sb**	**02 10 34.7**	**+0.2**
DBOC	**Borcka**	**1.82**	**229**	*i* P	**Pn**	**02 10 10.1**	**+0.4**
DBOC				*i* S	**Sb**	**02 10 34.7**	**+0.2**
DAGI	**Agillar**	**1.89**	**219**	*i* P	**Pn**	**02 10 11.7**	**+1.0**
DAGI				*i* S	**Sb**	**02 10 36.9**	**+0.3**
KARS	**Kars**	**1.95**	**189**	*e*PN	**Pb**	**02 10 13.7**	**-0.4**
KARS				*e*SN	**Sg**	**02 10 40.4**	**-0.9**
KARS	**Kars**	**1.95**	**189**	*e*Pn	**Pb**	**02 10 13.7**	**-0.4**
KARS				*e*Sn	**Sg**	**02 10 40.4**	**-0.9**
DBAD	**Bademkaya**	**2.04**	**222**	*i* P	**Pn**	**02 10 14.2**	**+1.4**
DBAD				*i* S	**Sb**	**02 10 42.0**	**+1.0**
DBAD	**Bademkaya**	**2.04**	**222**	*i* P	**Pn**	**02 10 14.2**	**+1.4**
DBAD				*i* S	**Sb**	**02 10 42.0**	**+1.0**
DDEM	**Demirkent**	**2.11**	**218**	*i* P	**Pb**	**02 10 15.7**	**-1.1**
DDEM				*i* S	**Sb**	**02 10 44.6**	**+1.6**
DDEM	**Demirkent**	**2.11**	**218**	*i* P	**Pb**	**02 10 15.7**	**-1.1**
DDEM				*i* S	**Sb**	**02 10 44.6**	**+1.6**
DIGO	**Kars**	**2.14**	**182**	*i* P	**Pn**	**02 10 15.9**	**+1.5**
DIGO	**Kars**	**2.14**	**182**	*i* P	**Pn**	**02 10 15.9**	**+1.5**
GNI	**Garni**	**2.59**	**158**	*e*PN	**Pg**	**02 10 27.5**	**-0.6**
SOC	**Sochi**	**2.94**	**292**	*c*PN	**Pn**	**02 10 25.9**	**+0.8**
SOC	**Sochi**	**2.94**	**292**	*i* Pn	**Pn**	**02 10 25.9**	**+0.8**
AGRB	**Hanur-Agry**	**3.00**	**187**	*e*PN	**Pn**	**02 10 28.4**	**+2.3**
AGRB	**Hanur-Agry**	**3.00**	**187**	*e*Pn	**Pn**	**02 10 28.5**	**+2.3**
ERZM	**Erzurum**	**3.10**	**212**	*i* P	**Pb**	**02 10 34.0**	**+0.4**
ERZM	**Erzurum**	**3.10**	**212**	*e*PN	**Pn**	**02 10 28.5**	**+1.0**
GUMT	**Gumushane**	**3.67**	**236**	*e*PN	**Pn**	**02 10 32.9**	**-2.3**
GUMT	**Gumushane**	**3.67**	**236**	*e*Pn	**Pn**	**02 10 32.9**	**-2.3**
ESPY	**Espiye-Giresun**	**3.92**	**247**	*e*PN	**Pn**	**02 10 37.3**	**-1.2**
ESPY	**Espiye-Giresun**	**3.92**	**247**	*e*Pn	**Pn**	**02 10 37.3**	**-1.2**
KELT	**Kelkit**	**3.99**	**234**	*i* P	**Pn**	**02 10 40.3**	**+0.6**
KELT	**Kelkit**	**3.99**	**234**	*i* P	**Pn**	**02 10 40.3**	**+0.6**
ANN	**Anapa**	**4.93**	**299**	*e*PN	**Pn**	**02 10 54.3**	**+2.0**
ANN				pmax	pmax		
	comp=Z,15nm,0.7s						
ANN	**Anapa**	**4.93**	**299**	*e*Pn	**Pn**	**02 10 54.3**	**+2.0**
	comp=Z,15nm,0.7s						
BRVK	**Borovoye**	**20.72**	**50**	*i* P	**P**	**02 14 18.1**	**-0.5**
BRVK	**Borovoye**	**20.72**	**50**	*i* P	**P**	**02 14 18.1**	**-0.5**
KURK	**Kurchatov**	**25.27**	**59**	*i* P	**P**	**02 15 05.3**	**+0.8**
KURK	**Kurchatov**	**25.27**	**59**	*i* P	**P**	**02 15 05.3**	**+0.8**

*DDA **21** 02:14:35.9, 35°.27N×40°.40E, h4km, MD3.5*
*ISK **21** 02:14:36.4, 35°.06N×40°.47E, h12km, ML3.5*
*ISCJB **21** 02:14:38.2±1.1, 35°.07N±0°.04×40°.44E±0°.06, h25km±11km, Error ellipse: s-maj=8.8km s-min=4.5km az=36.2*
*CSEM **21** 02:14:39.1±0.3, 35°.10N×40°.48E, h20km, ML2.5, Error ellipse: s-maj=9.1km s-min=5.0km az=137.0*
*NSSC **21** 02:14:39.5±2.3, 35°.15N×40°.39E, h16km±14km, MD1.6, ML2.5, Fault plane solution: NP1:φ=244.67000°, δ33.00000°, λ-90.00000°.*
ISC 21 02:14:38.0±1.5, 35°.10N±0°.04×40°.47E±0°.05, h17km±11km, n54, σ1°25/70, 4C-14D, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MZRK	**Al-Mazaregh**	**0.74**	**11**	⇑*e*P	**Pg**	**02 14 52.1**	**-0.3**
MZRK				*e*S	**Sg**	**02 15 02.3**	**0.0**
MZRK				AML	AML	02 15 03.2	
	comp=Z,325nm,0.7s						
MZRK				AML	AML	02 15 19.8	
	comp=E,264nm,0.4s						
MZRK				AML	AML	02 15 25.8	
	comp=N,162nm,0.5s						
MZRK	**Al-Mazaregh**	**0.74**	**11**	⇑*e*P	**Pg**	**02 14 52.1**	**-0.3**
	SNR=66						
SFNV	**Sufian**	**1.34**	**347**	⇑*e*P	**Pn**	**02 15 02.0**	**0.0**
SFNV				*e*S	**Sb**	**02 15 18.7**	**-1.0**
SFNV				AML	AML	02 15 22.1	
	comp=N,414nm,0.5s						
SFNV				AML	AML	02 15 25.3	
	comp=E,368nm,0.2s						
SFNV				AML	AML	02 15 48.4	
	comp=Z,206nm,0.5s						
SFNV	**Sufian**	**1.34**	**347**	⇑*e*P	**Pn**	**02 15 02.0**	**0.0**
	SNR=66						
SFNV				*e*S	**Sb**	**02 15 18.7**	**-1.0**
	comp=Z,206nm,0.5s,SNR=62						
JHLN	**Al Jahlan**	**1.75**	**289**	⇓*e*P	**Pn**	**02 15 08.3**	**+0.7**
JHLN				*e*S	**Sn**	**02 15 28.2**	**-1.3**
JHLN				AML	AML	02 15 45.9	
	comp=Z,39nm,0.4s						
JHLN				AML	AML	02 15 46.9	
	comp=E,64nm,0.6s						
JHLN				AML	AML	02 16 09.6	
	comp=N,49nm,0.7s						
JHLN	**Al Jahlan**	**1.75**	**289**	⇓*e*P	**Pn**	**02 15 08.3**	**+0.7**
	SNR=51						
JHLN				*e*S	**Sn**	**02 15 28.2**	**-1.3**
	comp=N,49nm,0.7s,SNR=49						
KBSD	**Kabsdagh**	**1.89**	**2**	⇓*e*P	**Pn**	**02 15 10.0**	**+0.4**
KBSD				*e*S	**Sb**	**02 15 34.6**	**-0.9**
KBSD				AML	AML	02 15 36.5	
	comp=E,304nm,0.5s						
KBSD				AML	AML	02 15 36.7	
	comp=Z,118nm,0.2s						
KBSD				AML	AML	02 15 37.9	
	comp=N,196nm,0.2s						
KBSD	**Kabsdagh**	**1.89**	**2**	⇓*e*P	**Pn**	**02 15 10.0**	**+0.4**
	SNR=51						
KBSD				*e*S	**Sb**	**02 15 34.6**	**-0.9**
	comp=N,196nm,0.2s,SNR=49						
MARD	**Mardin**	**2.22**	**6**	*i* P	**Pn**	**02 15 14.0**	**-0.1**
MARD				*i* S	**Sn**	**02 15 42.9**	**+1.7**
URFA	**Urfa**	**2.69**	**331**	*e*PN	**Pn**	**02 15 21.2**	**+0.7**
URFA				*e*SN	**Sn**	**02 15 53.9**	**+1.2**
URFA	**Urfa**	**2.69**	**331**	*e*Pn	**Pn**	**02 15 21.2**	**+0.7**
URFA				*e*Sn	**Sn**	**02 15 53.9**	**+1.2**
ROOS	**tl_alroos**	**2.79**	**251**	⇓*e*P	**Pn**	**02 15 24.6**	**+2.8**
DIY	**Diyarbakir**	**2.79**	**356**	*e*PN	**Pn**	**02 15 23.8**	**+1.8**
DIY	**Diyarbakir**	**2.79**	**356**	*e*Pn	**Pn**	**02 15 23.8**	**+1.8**
DIYA	**Diyarbakir**	**2.83**	**354**	*i* P	**Pn**	**02 15 22.5**	**+0.1**
DIYA	**Diyarbakir**	**2.83**	**354**	*i* P	**Pn**	**02 15 22.5**	**+0.1**
BEST	**Besiri**	**2.85**	**13**	*i* P	**Pn**	**02 15 23.5**	**+0.7**
SIRN	**S¨¨-rnak**	**2.86**	**33**	*i* P	**Pn**	**02 15 23.7**	**+0.9**
SIRN	**S¨¨-rnak**	**2.86**	**33**	*i* P	**Pn**	**02 15 23.7**	**+0.9**
SIRT	**Sirnak**	**2.87**	**33**	*e*PN	**Pn**	**02 15 23.8**	**+0.7**
SIRT	**Sirnak**	**2.87**	**33**	*e*Pn	**Pn**	**02 15 23.8**	**+0.7**
BTMT	**Batman**	**3.19**	**15**	*e*PN	**Pn**	**02 15 28.0**	**+0.6**
BTMT	**Batman**	**3.19**	**15**	*e*Pn	**Pn**	**02 15 28.0**	**+0.6**
KUZU	**Kuzuini**	**3.22**	**302**	*i* P	**Pn**	**02 15 28.3**	**+0.5**
GZT	**Gaziantep**	**3.25**	**315**	*i* P	**Pn**	**02 15 28.6**	**+0.3**
CUKT	**Cukurca**	**3.32**	**49**	*e*PN	**Pn**	**02 15 30.3**	**+1.1**
CUKT	**Cukurca**	**3.32**	**49**	*e*Pn	**Pn**	**02 15 30.3**	**+1.1**
ZALF	**Zalf**	**3.40**	**231**	⇓*e*P	**Pn**	**02 15 31.7**	**+1.5**
ZALF				*e*S	**Sn**	**02 16 08.4**	**-1.7**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOMI	**Horasan**	**0.41**	**219**	*i* P	**Pg**	**03 07 03.9**	**-0.7**
HOMI				*i* S	**Sg**	**03 07 10.8**	**+0.8**
DDEM	**Demirkent**	**0.65**	**324**	*i* P	**Pg**	**03 07 09.2**	**+0.2**
DDEM				*i* S	**Sg**	**03 07 18.7**	**+1.3**
DDEM	**Demirkent**	**0.65**	**324**	*i* P	**Pg**	**03 07 09.2**	**+0.2**
DDEM				*i* S	**Sg**	**03 07 18.7**	**+1.3**
KARS	**Kars**	**0.69**	**67**	PG	**Pg**	**03 07 09.7**	**0.0**
KARS	**Kars**	**0.69**	**67**	*i* Pg	**Pg**	**03 07 09.7**	**0.0**
DAGI	**Agillar**	**0.76**	**340**	*i* P	**Pg**	**03 07 10.9**	**-0.1**
DAGI				*i* S	**Sg**	**03 07 21.9**	**+1.1**
DBAD	**Bademkaya**	**0.78**	**327**	*i* P	**Pg**	**03 07 11.3**	**-0.1**
DBAD				*i* S	**Sb**	**03 07 23.6**	**0.0**
DBAD	**Bademkaya**	**0.78**	**327**	*i* P	**Pg**	**03 07 11.3**	**-0.1**
DBAD				*i* S	**Sb**	**03 07 23.6**	**0.0**
ERZM	**Erzurum**	**0.82**	**236**	*i* P	**Pg**	**03 07 12.1**	**-0.1**
ERZM				*i* S	**Sg**	**03 07 23.0**	**+0.2**
ERZM	**Erzurum**	**0.82**	**236**	*i* P	**Pg**	**03 07 12.1**	**-0.1**
ERZM				*i* S	**Sg**	**03 07 23.0**	**+0.2**
EZM	**Erzurum**	**0.82**	**236**	*e*PG	**Pg**	**03 07 12.2**	**-0.1**
ARTV	**Artvin**	**0.85**	**344**	*i* P	**Pg**	**03 07 12.7**	**-0.2**
ARTV				*i* S	**Sg**	**03 07 24.0**	**0.0**
ARTV	**Artvin**	**0.85**	**344**	*i* P	**Pg**	**03 07 12.7**	**-0.2**
ARTV				*i* S	**Sg**	**03 07 24.0**	**0.0**
DIGO	**Kars**	**0.86**	**86**	*i* P	**Pg**	**03 07 12.3**	**-0.8**
DIGO				*i* S	**Sb**	**03 07 26.5**	**+0.3**
DIGO	**Kars**	**0.86**	**86**	*i* P	**Pg**	**03 07 12.3**	**-0.8**
DIGO				*i* S	**Sb**	**03 07 26.5**	**+0.3**
AGRB	**Hanur-Agry**	**0.97**	**144**	*e*PG	**Pg**	**03 07 14.2**	**-0.9**
AGRB				*e*SG	**Sg**	**03 07 28.3**	**+0.5**
AGRB	**Hanur-Agry**	**0.97**	**144**	*e*Pg	**Pg**	**03 07 14.3**	**-0.9**
AGRB				*e*Sg	**Sg**	**03 07 28.3**	**+0.5**
TUTA	**Tutak**	**1.06**	**155**	*i* P	**Pg**	**03 07 16.6**	**-0.2**
TUTA				*i* S	**Sb**	**03 07 31.9**	**+0.1**
TUTA	**Tutak**	**1.06**	**155**	*i* P	**Pg**	**03 07 16.6**	**-0.2**
TUTA				*i* S	**Sb**	**03 07 31.9**	**+0.1**
DBOC	**Borcka**	**1.07**	**336**	*i* P	**Pg**	**03 07 16.3**	**-0.8**
DBOC				*i* S	**Sg**	**03 07 30.8**	**-0.2**
DBOC	**Borcka**	**1.07**	**336**	*i* P	**Pg**	**03 07 16.3**	**-0.8**
DBOC				*i* S	**Sg**	**03 07 30.8**	**-0.2**
BCA	**Borcka**	**1.18**	**336**	*e*PN	**Pg**	**03 07 18.0**	**-1.1**
BCA				*e*SN	**Sg**	**03 07 33.7**	**-0.7**
BCA	**Borcka**	**1.18**	**336**	*e*Pn	**Pg**	**03 07 18.0**	**-1.1**
BCA				*e*Sn	**Sg**	**03 07 33.7**	**-0.7**
VRTB	**Varto-Mus**	**1.35**	**207**	*e*PN	**Pn**	**03 07 22.3**	**0.0**
VRTB	**Varto-Mus**	**1.35**	**207**	*e*Pn	**Pn**	**03 07 22.3**	**0.0**
CLDR	**Caldiran**	**1.77**	**133**	*e*PN	**Pn**	**03 07 28.1**	**-0.1**
CLDR	**Caldiran**	**1.77**	**133**	*e*Pn	**Pn**	**03 07 28.1**	**-0.1**
BNGB	**Bing¶‖**	**1.83**	**222**	*e*PN	**Pn**	**03 07 29.5**	**+0.7**
GNI	**Garni**	**1.92**	**96**	*e*PN	**Pn**	**03 07 30.7**	**+0.5**
GNI	**Garni**	**1.92**	**96**	*e*Pn	**Pn**	**03 07 30.7**	**+0.5**
BINT	**Bingol**	**2.02**	**223**	*e*Pn	**Pn**	**03 07 29.5**	**-1.9**
GUMT	**Gumushane**	**2.12**	**273**	*e*PN	**Pn**	**03 07 32.8**	**0.0**
GUMT	**Gumushane**	**2.12**	**273**	*e*Pn	**Pn**	**03 07 32.8**	**0.0**
BTMT	**Batman**	**2.25**	**195**	*e*PN	**Pn**	**03 07 35.2**	**+0.6**
BTMT	**Batman**	**2.25**	**195**	*e*Pn	**Pn**	**03 07 35.2**	**+0.6**

*ISCJB **21** 03:17:45.3±0.9, 9°.03S±0°.07×108°.96E±0°.07, h27km, mb3.6/5, Error ellipse: s-maj=11.2km s-min=8.5km az=143.6*
*DJA **21** 03:17:45.2±2.8, 9°S±6°×10°9E±°, h36km±33km, M3.6/9, MLv3.6/9*
*IDC **21** 03:18:31.5±26.0, 8°.55S×109°.89E, h498km±342km, mb2.8/5, mb1 2.9/5, mb1mx2.7/19, mbtmp2.8/5, Error ellipse: s-maj=143.2km s-min=57.3km az=70.0*
ISC 21 03:17:46.8±1.2, 8°.95S±0°.09×108°.98E±0°.07, h27km, n13, σ1§12/14, mb3.5/5, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLJI	**Cilicap**	**1.23**	**2**	P	**Pn**	**03 18 07.9**	**-0.4**
CLJI				S	**Sb**	**03 18 25.4**	**+0.5**
KPJI	**Karang Pucung**	**1.61**	**358**	P	**Pn**	**03 18 14.1**	**+0.6**
BJII	**Banjamegara**	**1.77**	**24**	P	**Pn**	**03 18 16.1**	**+0.4**
CISI	**Cisompet, Garu**	**1.81**	**320**	P	**Pn**	**03 18 16.1**	**-0.2**
UGM	**Wanagama**	**1.84**	**56**	P	**Pn**	**03 18 16.3**	**-0.5**
UGM				S	**Sn**	**03 18 40.0**	**+0.8**
TGJI	**Tegal**	**2.08**	**4**	P	**Pn**	**03 18 18.8**	**-1.1**
LEM	**Lembang**	**2.51**	**327**	P	**Pn**	**03 18 26.1**	**+0.1**
PWJI	**Pagerwojo**	**2.94**	**72**	P	**Pn**	**03 18 30.9**	**-0.9**
WRA	**Warramunga Arr**	**26.83**	**117**	P	**P**	**03 23 25.1**	**-0.2**
	0.6nm,0.7s,baz=288,slow=12,SNR=7.5						
ASAR	**Alice Springs**	**27.97**	**125**	P	**P**	**03 23 38.1**	**+2.6**
	0.3nm,0.5s,baz=297,slow=9.2,SNR=6.1						
STKA	**Stephens Creek**	**37.88**	**132**	P	**P**	**03 25 02.1**	**+0.3**
	1.6nm,0.6s,baz=303,slow=9.2,SNR=4.2						
MKAR	**Makanchi Array**	**60.39**	**339**	P	**P**	**03 27 52.0**	**-1.7**
	0.2nm,0.5s,baz=142,slow=5.4,SNR=2.6						
ZALV	**Zalesovo Beam**	**65.91**	**345**	P	P	03 28 26.0	-4.2
	0.6nm,0.3s,baz=149,slow=6.7,SNR=2.6						

*ISCJB **21** 03:18:24.3±0.4, 31°.54S±0°.03×68°.56W±0°.06, h113km±5km, mb3.8/8, Error ellipse: s-maj=7.9km s-min=5.5km az=175.8*
*IDC **21** 03:18:24.8±1.0, 31°.59S×68°.56W, h103km±5km, mb3.6/8, mb1 3.6/12, mb1mx3.5/19, mbtmp3.5/12, MS3.0/1, Ms1 2.9/1, ms1mx2.4/28, Error ellipse: s-maj=28.2km s-min=16.0km az=103.0*
*GUC **21** 03:18:25.4±0.9, 31°.55S×68°.72W, h149km±68km, ML4.0*
ISC 21 03:18:25.4±0.7, 31°.55S±0°.04×68°.56W±0°.06, h111km±6km, n28, σ1§07/36, mb3.8/8, 1C-1D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**0.28**	**102**	P	**Pn**	**03 18 41.2**	**0.0**
	47nm,0.3s,baz=289,slow=3.5,SNR=2904						
CFAA				S	**Sn**	**03 18 52.5**	**-0.6**
	217nm,0.3s,baz=342,slow=20,SNR=318						
CMCH	**Combarbala**	**2.12**	**279‖**	*e*P	**Pn**	**03 18 59.6**	**-0.4**
CMCH				*e*S	**Sn**	**03 19 26.3**	**-0.2**
FCH	**Farellones**	**2.30**	**219**	*e*P	**Pn**	**03 19 01.8**	**-0.8**
FCH				*e*S	**Sn**	**03 19 28.7**	**-2.4**
TLL	**Tololo Astrono**	**2.37**	**305**	*e*P	**Pn**	**03 19 03.9**	**+0.5**
TLL				*e*S	**Sn**	**03 19 33.1**	**+0.5**
TLL				AML	AML	03 19 38.2	
	comp=N,912nm,0.2s						
PEL	**Peldehue**	**2.40**	**228**	*e*P	**Pn**	**03 19 04.0**	**+0.4**
PEL				AML	AML	03 19 35.4	
	comp=N,519nm,0.1s						
CLCH	**Cerro Calan**	**2.49**	**222**	*e*P	**Pn**	**03 19 05.3**	**+0.5**
CLCH				*e*S	**Sn**	**03 19 34.5**	**-0.5**
CLCH				AML	AML	03 19 41.9	
	comp=E,302nm,0.4s						
ROCH	**El Roble**	**2.52**	**235**	*e*P	**Pn**	**03 19 05.1**	**-0.2**
LCO	**Las Campanas**	**3.13**	**323‖**	*e*P	**Pn**	**03 19 13.6**	**+0.1**
LCO				*e*S	**Sn**	**03 19 49.6**	**-0.9**
LCO				AML	AML	03 19 54.6	
	comp=E,372nm,0.5s						
VACH	**Vallenar**	**3.52**	**327**	*e*S	**Sn**	**03 19 57.9**	**-1.5**
CPCH	**Copiapo**	**4.46**	**339**	*e*P	**Pn**	**03 19 30.1**	**-0.9**
CPCH				*e*S	**Sn**	**03 20 19.4**	**-2.5**
CDCH	**Caldera**	**4.88**	**336**	*e*P	**Pn**	**03 19 36.0**	**-0.6**
PLCA	**Paso Flores**	**9.31**	**189**	P	**Pn**	**03 20 35.3**	**-1.3**
	comp=E,0.1nm,0.3s,baz=12,slow=7.3,SNR=3.8						
CPUP	**Villa Florida**	**11.12**	**65**	P	**Pn**	**03 20 59.7**	**-1.5**
	comp=E,0.9nm,0.3s,baz=192,slow=11,SNR=6.4						
LPAZ	**La Paz**	**15.20**	**2**	P	**Pn**	**03 21 54.5**	**-0.2**
	comp=E,0.0nm,0.3s,baz=191,slow=10,SNR=2.7						
SIV	**San Ignacio**	**16.92**	**25**	P	**P**	**03 22 16.1**	**+0.4**
	comp=E,0.1nm,0.3s,baz=224,slow=12,SNR=4.2						
USHA	**Ushuaia**	**23.27**	**180**	P	**P**	**03 23 23.4**	**+0.5**
	comp=E,9.8nm,0.8s,baz=338,slow=5.6,SNR=11						
BDFB	**Brasilia**	**24.53**	**55**	LR	LR	03 33 30.9	
	comp=E,39nm,21.7s,baz=91,slow=37						
SNAA	**Sanae**	**52.77**	**159**	P	**P**	**03 27 28.9**	**+0.2**
	comp=E,0.3nm,0.4s,baz=311,slow=8.6,SNR=8.3						
VNDA	**Vanda**	**67.06**	**190**	P	**P**	**03 29 04.5**	**-1.6**
	comp=E,0.7nm,1.0s,baz=187,slow=2.6,SNR=3.5						
TXAR	**Lajitas Array**	**69.14**	**327**	P	**P**	**03 29 20.8**	**+0.9**
	comp=E,0.3nm,0.9s,baz=149,slow=8.6,SNR=3.9						
TXAR				pP	**pP**	**03 29 49.9**	**+2.4**
	comp=E,0.2nm,0.6s,baz=145,slow=8.2,SNR=3.8						
DBIC	**Dimbokro**	**71.60**	**70**	P	**P**	**03 29 35.7**	**+0.6**
	comp=E,2.3nm,0.8s,baz=275,slow=11,SNR=1.5						
MAW	**Mawson**	**74.67**	**163**	P	**P**	**03 29 53.2**	**+0.9**
	comp=E,0.9nm,0.6s,baz=292,slow=5.4,SNR=3.6						
BOSA	**Boshof**	**78.57**	**116**	P	**P**	**03 30 16.1**	**+1.0**
	comp=E,3.0nm,0.9s,baz=221,slow=6.6,SNR=2.4						
TORD	**Torodi Ar. Bea**	**80.60**	**68**	P	**P**	**03 30 26.5**	**+0.4**
	comp=E,0.9nm,0.6s,baz=279,slow=6.5,SNR=11						
ASAR	**Alice Springs**	**121.04**	**204**	PKP	**PKPdf**	**03 37 04.3**	**-1.3**
	comp=E,0.2nm,0.4s,baz=148,slow=3.0,SNR=2.9						
WRA	**Warramunga Arr**	**124.29**	**206**	PKP	**PKPdf**	**03 37 11.0**	**-0.8**
	comp=E,0.5nm,0.4s,baz=166,slow=1.8,SNR=5.4						
ZALV	**Zalesovo Beam**	**150.59**	**33**	PKPbc	**PKPbc**	**03 38 04.5**	**+0.7**
	comp=E,1.9nm,0.4s,baz=293,slow=2.8,SNR=9.2						
MKAR	**Makanchi Array**	**152.95**	**47**	PKPbc	**PKPbc**	**03 38 09.1**	**-0.3**
	comp=E,0.4nm,0.6s,baz=296,slow=3.4,SNR=4.3						
MKAR				PKPab	**PKPab**	**03 38 21.1**	**0.0**
	comp=E,0.7nm,0.6s,baz=276,slow=4.3,SNR=5.9						

IDC 21 03:23:13.8±2.4, 20°.09S×175°.98E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.8/15, mbtmp3.9/4, Error ellipse: s-maj=142.0km s-min=34.4km az=154.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**32.93**	**242**	P	P	03 29 50.2	+0.1
	0.9nm,0.5s,baz=94,slow=14,SNR=2.8						
WRA	**Warramunga Arr**	**39.05**	**263**	P	P	03 30 42.6	-0.1
	0.8nm,0.4s,baz=97,slow=7.7,SNR=20						
ASAR	**Alice Springs**	**39.11**	**257**	P	P	03 30 42.9	-0.3
	1.3nm,0.5s,baz=91,slow=8.0,SNR=21						
PDAR	**Pinedale Array**	**92.61**	**45**	P	P	03 36 27.6	-0.1
	0.2nm,0.4s,baz=217,slow=4.4,SNR=4.2						

*CSEM **21** 03:33:17.8, 42°.45N×1°.21E, h0km, ML1.0, After MDD*
MDD 21 03:33:17.8±0.4, 42°.45N×1°.21E, h0km, mbLg1.0/1, Error ellipse: s-maj=4.3km s-min=2.7km az=113.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSOR	**Sort**	**0.10**	**218**	Pg	Pg	03 33 19.7	-0.2
	0.8nm,0.1s,SNR=7.9						
CSOR				Lg	Lg	03 33 21.8	
	17nm,0.2s,SNR=7.9						
CSOR	**Sort**	**0.10**	**218**	Pg	Pg	03 33 19.7	-0.2
	0.8nm,0.1s,SNR=7.9						
CSOR				Lg	Lg	03 33 21.8	
	17nm,0.2s,SNR=7.9						
CEST	**Esterri de Car**	**0.15**	**12**	Pg	Pg	03 33 20.6	-0.3
CEST				Lg	Lg	03 33 23.3	
CEST	**Esterri de Car**	**0.15**	**12**	Pg	Pg	03 33 20.6	-0.3
CEST				Lg	Lg	03 33 23.3	
CORG	**Organya**	**0.23**	**161**	Pg	Pg	03 33 21.8	-0.6
CORG				Lg	Lg	03 33 25.8	
CORG	**Organya**	**0.23**	**161**	Pg	Pg	03 33 21.8	-0.6
CORG				Lg	Lg	03 33 25.8	
CTRE	**Tremp**	**0.35**	**249**	Pg	Pg	03 33 23.6	-1.1
CTRE				Lg	Lg	03 33 28.6	
CTRE	**Tremp**	**0.35**	**249**	Pg	Pg	03 33 23.6	-1.1
CTRE				Lg	Lg	03 33 28.6	
CLLI	**Llivia**	**0.56**	**87**	Lg	Lg	03 33 35.1	
	0.4nm,0.2s,SNR=7.9						
CLLI	**Llivia**	**0.56**	**87**	Lg	Lg	03 33 35.1	
	0.4nm,0.2s,SNR=7.9						

*TRN **21** 03:54:54.7, 19°.08N×62°.78W, h3km, MD4.4*
*IDC **21** 03:54:55.6±0.5, 18°.88N×62°.87W, h0km, mb4.1/22, mb1 4.3/23, mb1mx4.2/29, mbtmp4.1/23, ML3.0/1, MS3.7/7, Ms1 3.7/7, ms1mx3.3/37, Error ellipse: s-maj=13.4km s-min=12.0km az=120.0*
*ISCJB **21** 03:55:00.0±0.5, 18°.96N±0°.04×62°.96W±0°.02, h39km±5km, mb4.3/57, MS4.0/9, Error ellipse: s-maj=6.2km s-min=2.8km az=18.0*
*BJI **21** 03:55:00.7, 19°.00N×63°.00W, h35km, Ms5.3/3, Ms7 4.9/3*
*NEIC **21** 03:55:01.3±0.2, 18°.92N×62°.95W, h35km, mb4.5/37, Error ellipse: s-maj=4.9km s-min=3.7km az=165.0*
ISC 21 03:55:01.1±0.6, 19°.00N±0°.05×62°.94W±0°.04, h37km±1km, n355, σ1§07/376, mb4.3/57, MS3.8/9, 88C-109D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKI	**Saint Kitts**	**1.67**	**173**	*e*P	**Pn**	**03 55 27.6**	**-0.1**
SKI				*e*S	**Sn**	**03 55 52.6**	**+4.8**
ANWB	**Willy Bob**	**1.71**	**140**	*e*Pn	**Pn**	**03 55 26.7**	**-1.6**
ANWB				*e*Sn	**Sn**	**03 55 47.2**	**-1.9**
STVI	**Saint Thomas**	**2.02**	**252**	*e*Pn	**Pn**	**03 55 32.3**	**-0.2**
STVI				*e*Sn	**Sn**	**03 55 57.1**	**+0.6**
CDVI	**St. Croix**	**2.13**	**235**	*e*Pn	**Pn**	**03 55 35.0**	**+0.9**
CDVI				*e*Sn	**Sn**	**03 56 00.2**	**+0.9**
BPA	**Boggy Peak**	**2.19**	**152**	*e*P	**Pn**	**03 55 34.9**	**-0.1**
BPA				*e*S	**Sn**	**03 56 03.8**	**+2.8**
MTP	**Monte Pirata**	**2.64**	**251**	*e*Pn	**Pn**	**03 55 41.3**	**+0.2**
CBYP	**Canovanas**	**2.86**	**256**	*e*Pn	**Pn**	**03 55 43.8**	**-0.4**
HUMP	**Col San Antoni**	**2.89**	**253**	*e*Pn	**Pn**	**03 55 44.1**	**-0.4**
HUMP				*e*Sn	**Sn**	**03 56 17.6**	**-0.5**
SEG	**Port Louis**	**2.92**	**152**	*e*P	**Pn**	**03 55 44.5**	**-0.4**
CPD	**Cerro la Pandu**	**2.98**	**252**	*e*Pn	**Pn**	**03 55 46.2**	**+0.3**
LZG	**Guadaloupe-1**	**3.05**	**159**	*e*P	**Pn**	**03 55 47.2**	**+0.5**
SSG	**Sans Toucher**	**3.13**	**157**	*e*P	**Pn**	**03 55 47.8**	**-0.2**
MLG	**Mont-d'or**	**3.15**	**158**	*e*P	**Pn**	**03 55 47.8**	**-0.3**
FNG	**Fond-Bernard**	**3.15**	**158**	*e*P	**Pn**	**03 55 48.2**	**-0.1**
BCG	**Bois Riant Cap**	**3.16**	**156**	*e*P	**Pn**	**03 55 48.2**	**0.0**
CRG	**Carmichael**	**3.17**	**157**	*e*P	**Pn**	**03 55 48.3**	**-0.2**
LKG	**Breislack**	**3.18**	**157**	*e*P	Pn	03 55 55.6	+7.0
TAG	**Tarade**	**3.18**	**157**	*e*P	**Pn**	**03 55 51.0**	**+2.3**
ECG	**Echelle**	**3.18**	**157**	*e*P	**Pn**	**03 55 49.5**	**+0.7**
SCG	**Saint Claude**	**3.19**	**158**	*e*P	**Pn**	**03 55 48.6**	**0.0**
DOG	**Dongo Capester**	**3.21**	**157**	*e*P	**Pn**	**03 55 48.9**	**0.0**
PHG	**Guadaloupe-2**	**3.21**	**157**	*e*P	**Pn**	**03 55 49.3**	**+0.3**
DEG	**La Desirade**	**3.21**	**146**	*e*P	**Pn**	**03 55 48.3**	**-0.8**
HMG	**Houelmont**	**3.22**	**158**	*e*P	**Pn**	**03 55 50.4**	**+1.3**
TBG	**Guadaloupe-3**	**3.36**	**158**	*e*P	**Pn**	**03 55 49.7**	**-1.4**
MGG	**Marie-Galante**	**3.43**	**153**	*e*P	**Pn**	**03 55 50.9**	**-1.1**
CELP	**Cerrillos**	**3.58**	**256**	*e*Pn	**Pn**	**03 55 54.0**	**+0.1**
CELP				*e*Sn	**Sn**	**03 56 34.6**	**-0.3**
OBIP	**Obispado Ponce**	**3.61**	**255**	*e*Pn	**Pn**	**03 55 54.1**	**-0.3**
OBIP				*e*Sn	**Sn**	**03 56 35.7**	**-0.1**
LRS	**Lares**	**3.77**	**260**	*e*Pn	**Pn**	**03 55 55.6**	**-1.0**
LRS				*e*Sn	**Sn**	**03 56 39.9**	**+0.1**
AGPR	**Aguadilla, PR**	**3.99**	**263**	*e*Pn	**Pn**	**03 55 58.7**	**-0.9**
AGPR				*e*Sn	**Sn**	**03 56 44.9**	**-0.3**
LSP	**Las Mesas**	**4.02**	**259**	*e*Pn	**Pn**	**03 55 59.7**	**-0.4**
LSP				*e*Sn	**Sn**	**03 56 45.8**	**-0.2**
AGP	**Aguadilla**	**4.03**	**262**	*e*Pn	**Pn**	**03 56 02.3**	**+2.1**
AGP				*e*Sn	**Sn**	**03 56 44.5**	**-1.6**
MPR	**Mayaguez**	**4.06**	**260**	*e*Pn	**Pn**	**03 56 00.0**	**-0.6**
MPR				*e*Sn	**Sn**	**03 56 47.4**	**+0.4**
CRPR	**Cabo Rojo, PR**	**4.08**	**257**	*e*Pn	**Pn**	**03 56 01.8**	**+1.0**
CRPR				*e*Sn	**Sn**	**03 56 48.6**	**+1.3**
MCLT	**Moule a Chique**	**5.59**	**160**	*e*P	**Pn**	**03 56 22.5**	**+0.8**
MCLT				*e*S	**Sn**	**03 57 26.8**	**+1.9**
SVB	**Belmont**	**5.92**	**164**	*e*P	**Pn**	**03 56 26.4**	**+0.2**
BBGH	**Gun Hill**	**6.66**	**150**	*e*Pn	**Pn**	**03 56 39.6**	**+3.1**
GRGR	**Grenville**	**6.94**	**170**	*e*Pn	**Pn**	**03 56 42.1**	**+1.9**
SDDR	**Presa de Saban**	**7.90**	**271**	*e*Pn	**Pn**	**03 56 52.2**	**-1.2**
SDDR				*e*Sn	**Sn**	**03 58 22.2**	**+0.6**
TOSP	**Speyside**	**8.00**	**163**	*e*P	**Pn**	**03 56 56.4**	**+1.6**
TOSP				*e*S	**Sn**	**03 58 24.4**	**+0.4**
GRTK	**Grand Turk**	**8.09**	**289**	*e*Pn	Pn	03 56 52.6	-3.4
GTBY	**Guantanamo Bay**	**11.52**	**277**	*e*Pn	**Pn**	**03 57 40.7**	**-2.3**
SDV	**Santo Domingo**	**12.52**	**218**	*e*Pn	Pn	03 58 00.3	+3.4
SDV				*e*Sn	**Sn**	**04 00 16.1**	**+1.0**
BBSR	**BB Station**	**13.41**	**354**	*e*Pn	**Pn**	**03 58 06.3**	**-2.5**
ROSC	**El Rosal**	**17.92**	**220**	*e*P	**P**	**03 59 09.2**	**+1.0**
ROSC	**El Rosal**	**17.92**	**220**	P	**Pn**	**03 59 08.2**	**+0.3**
	1.0nm,0.3s,baz=92,slow=23,SNR=9.0						
KMSC	**Kings Mountain**	**22.89**	**318**	*e*P	**P**	**04 00 02.7**	**+1.1**
GOGA	**Godfrey**	**23.29**	**312**	*e*P	**P**	**04 00 07.1**	**+1.5**
	9.8nm,0.9s						
BLA	**Blacksburg**	**23.74**	**323**	*e*P	**P**	**04 00 11.0**	**+1.0**
	15nm,0.6s						
TGUH	**Tegucigalpa,Un**	**23.83**	**262**	*e*P	**P**	**04 00 10.8**	**-0.1**
	19nm,1.1s						
TEIG	**Tepich**	**23.90**	**277**	*e*P	**P**	**04 00 12.4**	**+1.0**
	4.5nm,0.8s						
TEIG	**Tepich**	**23.90**	**277**	P	**P**	**04 00 11.9**	**+0.4**
	4.1nm,0.4s,baz=44,slow=6.6,SNR=12						
OTAV	**Otavalo**	**24.07**	**221**	*e*P	**P**	**04 00 14.8**	**+1.2**
	10nm,1.0s						
TZTN	**Tazewell**	**25.17**	**318**	*e*P	**P**	**04 00 23.1**	**+0.1**
	15nm,1.0s						
ACCN	**Adirondack Com**	**25.94**	**342**	*e*P	**P**	**04 00 30.5**	**+0.6**
APG	**El Apazote**	**26.61**	**266**	P	**P**	**04 00 37.5**	**+1.1**
APG	**El Apazote**	**26.61**	**266**	P	**P**	**04 00 37.5**	**+1.1**
	7.0nm,0.8s,baz=116,slow=6.8,SNR=9.6						
APG				LR	LR	04 10 16.7	
	comp=Z,152nm,21.2s,baz=71,slow=34						
PLAL	**Pickwick Lake**	**27.37**	**311**	*e*P	**P**	**04 00 43.8**	**+1.0**
	10.0nm,1.3s						
SAML	**Samuel**	**27.77**	**181**	*e*P	**P**	**04 00 45.3**	**-1.3**
	3.7nm,0.9s						
WVT	**Waverly**	**27.77**	**313**	*e*P	**P**	**04 00 46.6**	**+0.2**
	49nm,2.5s						
SFIN	**Scholer Farm**	**29.74**	**321**	⇓P	**P**	**04 01 02.2**	**-1.6**
	baz=30						
TUL1	**Tulsa**	**33.47**	**307**	⇓P	**P**	**04 01 35.5**	**-1.2**
	baz=34						
WHTX	**Lake Whitney**	**33.59**	**299**	⇓P	**P**	**04 01 36.7**	**-1.1**
	baz=34						
NNA	**Nana**	**33.70**	**205**	P	**P**	**04 01 37.2**	**-1.7**
NNA	**Nana**	**33.70**	**205**	P	**P**	**04 01 37.2**	**-1.7**
	4.8nm,0.4s,baz=328,slow=4.8,SNR=4.1						
SIV	**San Ignacio**	**34.82**	**177**	P	**P**	**04 01 46.9**	**-1.7**
SIV	**San Ignacio**	**34.82**	**177**	P	**P**	**04 01 46.9**	**-1.7**
	2.3nm,0.6s,baz=25,slow=8.6,SNR=11						
632A	**Uvalde**	**35.06**	**294**	⇓P	**P**	**04 01 50.0**	**-0.6**
	baz=35						
732A	**Laxson Ranch,**	**35.10**	**293**	⇓P	**P**	**04 01 50.6**	**-0.4**
	baz=35						
JCT	**Junction City**	**35.23**	**296**	⇑P	**P**	**04 01 52.2**	**+0.1**
	baz=35						
532A	**Rocksprings**	**35.26**	**296**	⇓P	**P**	**04 01 52.8**	**+0.4**
	baz=35,SNR=5.3						
432A	**Menard**	**35.30**	**297**	⇓P	**P**	**04 01 52.7**	**0.0**
	baz=35						
332A	**Millersview**	**35.35**	**298**	⇓P	**P**	**04 01 53.4**	**+0.3**
	baz=35,SNR=6.3						
232A	**Coleman**	**35.38**	**299**	⇑P	**P**	**04 01 53.5**	**+0.1**
	baz=35						
LPAZ	**La Paz**	**35.43**	**189**	*e*P	**P**	**04 01 54.5**	**0.0**
	43nm,2.1s						
LPAZ	**La Paz**	**35.43**	**189**	P	**P**	**04 01 53.2**	**-1.3**
	2.5nm,0.8s,baz=13,slow=9.4,SNR=8.6						
LPAZ				LR	LR	04 17 38.3	
	comp=Z,128nm,20.1s,baz=48,slow=39						
ABTX	**Abilene, Hawle**	**35.54**	**300**	*e*P	**P**	**04 01 55.1**	**+0.3**
ABTX	**Abilene, Hawle**	**35.54**	**300**	⇓P	**P**	**04 01 55.0**	**+0.3**
	baz=36						
Z32A	**Haskell**	**35.56**	**301**	⇑P	**P**	**04 01 55.4**	**+0.4**
	baz=36						
Y32A	**R-V Farms, Ver**	**35.71**	**302**	⇓P	**P**	**04 01 56.7**	**+0.5**
	baz=36						
531A	**Rocksprings**	**35.81**	**295**	⇓P	**P**	**04 01 57.0**	**-0.2**
	baz=36						
SCHQ	**Schefferville**	**35.90**	**356**	*e*P	**P**	**04 01 58.7**	**+1.2**
	148nm,2.5s						
SCHQ	**Schefferville**	**35.90**	**356**	P	**P**	**04 01 58.7**	**+1.2**
	7.1nm,0.9s,baz=124,slow=7.4,SNR=6.2						
331A	**San Angelo**	**35.91**	**297**	⇓P	**P**	**04 01 58.1**	**+0.1**
	baz=36						
231A	**Bronte**	**35.94**	**298**	⇑P	**P**	**04 01 58.2**	**0.0**
	baz=36						
431A	**Sonora**	**35.95**	**296**	⇑P	**P**	**04 01 58.6**	**+0.3**
	baz=36		

426A	McDonald Obser baz=39	38.86 296	⇓P	P	04 02 23.5 +0.3
U27A	Thompson Grove baz=39	39.03 305	⇓P	P	04 02 24.8 +0.4
T27A	Campo baz=39	39.12 306	⇓P	P	04 02 25.4 +0.2
126A	Clayton Basin, baz=39	39.16 299	⇓P	P	04 02 25.4 -0.1
P28A	Saint Francis baz=39	39.18 310	⇓P	P	04 02 26.1 +0.5
Z26A	Caprock baz=39	39.24 300	⇑P	P	04 02 26.7 +0.5
R27A	Eads baz=40	39.54 308	⇑P	P	04 02 29.3 +0.6
V26A	Tequesquite Ra baz=40	39.62 304	⇑P	P	04 02 30.3 +0.9
125A	Gardner Draw, baz=40	39.69 298	⇑P	P	04 02 30.0 +0.1
U26A	Atchley Ranch, baz=40	39.73 304	⇑P	P	04 02 31.0 +0.6
225A	Deer Hill, Car baz=40,SNR=6.4	39.74 298	⇑P	P	04 02 30.9 +0.5
325A	Bean Ranch, Si baz=40,SNR=11	39.76 296	⇑P	P	04 02 31.3 +0.7
P27A	Ficken Ranch, baz=40	39.78 310	⇓P	P	04 02 31.2 +0.5
Y25A	Mesa, Roswell baz=40	39.94 300	⇓P	P	04 02 32.4 +0.3
I29A	Vivian Onida baz=40	39.95 317	⇓P	P	04 02 32.2 +0.4
W25A	X Bar L Ranch, baz=40	40.02 302	⇑P	P	04 02 33.1 +0.4
MNTX	Cornudas Mount 2.3nm,0.9s	40.15 297	eP	P	04 02 34.2 +0.5
N27A	Anderson Farm, baz=40	40.18 311	⇓P	P	04 02 34.2 +0.3
324A	Moseley Ranch, baz=40	40.20 296	⇓P	P	04 02 34.8 +0.5
U25A	Circle Dot Ran baz=40	40.26 304	⇓P	P	04 02 35.2 +0.5
J28A	Allard Ranch, baz=40	40.30 316	⇑P	P	04 02 35.3 +0.5
224A	Cornudas Mount baz=40	40.32 297	⇓P	P	04 02 35.5 +0.2
M27A	Reverse DX Ran baz=40	40.33 313	⇑P	P	04 02 35.5 +0.4
P26A	Davis Ranch, A baz=40	40.34 309	⇑P	P	04 02 35.8 +0.5
124A	Stringfield Ra baz=40	40.36 298	⇓P	P	04 02 36.5 +0.8
T25A	Trinidad baz=40	40.44 305	⇑P	P	04 02 36.2 -0.1
F29A	Eureka baz=41	40.50 320	⇓P	P	04 02 36.7 +0.3
D30A	Buchanan baz=41	40.50 322	⇓P	P	04 02 36.7 +0.4
I28A	Midland baz=41	40.50 317	⇑P	P	04 02 37.0 +0.6
O26A	Horse Wrangler baz=41	40.54 310	⇑P	P	04 02 37.3 +0.4
Y24A	Capitan baz=41	40.55 300	⇓P	P	04 02 37.3 +0.1
S25A	Robets Cordova baz=41	40.60 306	⇓P	P	04 02 37.8 +0.2
R25A	Fountain Ranch baz=41	40.62 307	⇓P	P	04 02 38.0 +0.4
C30A	Mose, Pekin baz=41	40.66 323	⇓P	P	04 02 38.1 +0.5
K27A	Flueckinger Fa baz=41	40.68 314	⇑P	P	04 02 37.7 -0.3
H28A	Mission Ridge baz=41	40.70 318	⇓P	P	04 02 38.3 +0.2
E29A	Napoleon baz=41	40.75 321	⇑P	P	04 02 38.6 +0.2
W24A	Lazy 6 Ranch, baz=41	40.78 302	⇓P	P	04 02 39.3 +0.3
V24A	Rampart Ranch, baz=41	40.78 303	⇓P	P	04 02 39.7 +0.6
P25A	Willow Gulch B baz=41	40.93 309	⇓P	P	04 02 41.0 +0.8
123A	Bell Site, Whi baz=41	41.02 298	⇑P	P	04 02 41.5 +0.5
Y23A	Lovelace Mesa, baz=41	41.06 300	⇓P	P	04 02 41.6 +0.2
Z23A	Rita Site, Whi baz=41	41.09 299	⇓P	P	04 02 42.1 +0.5
I27A	Quinn baz=41	41.11 316	⇓P	P	04 02 42.0 +0.5
T24B	San Luis baz=41	41.17 305	⇓P	P	04 02 43.2 +0.8
S24A	Houchin Ranch, baz=41	41.19 306	⇓P	P	04 02 43.4 +0.8
R24A	Sanders Place, baz=41	41.26 307	⇓P	P	04 02 43.6 +0.6
H27A	Howes baz=41	41.36 317	⇓P	P	04 02 43.9 +0.3
W23A	Werner Place, baz=41,SNR=5.4	41.36 302	⇓P	P	04 02 45.3 +1.4
J26A	Sides Ranch, S baz=42	41.48 315	⇑P	P	04 02 44.8 +0.2
V23A	Ortiz Mt. (NFS baz=42	41.51 303	⇑P	P	04 02 46.1 +1.0
BNM	Barren Site 5.9nm,0.8s	41.56 300	eP	P	04 02 46.9 +1.3
ANMO	Albuquerque 3.1nm,0.9s	41.57 302	eP	P	04 02 46.7 +1.1
I26A	New Underwood baz=42	41.62 316	⇑P	P	04 02 46.2 +0.5
U23A	El Rito baz=42	41.64 304	⇑P	P	04 02 47.9 +1.7
122A	Conniff Cattle baz=42	41.65 298	⇑P	P	04 02 47.9 +1.8
L25A	Engebretsen Ra baz=42	41.66 313	⇓P	P	04 02 46.3 +0.2
A29A	Manning Farm, baz=42	41.74 324	⇓P	P	04 02 46.7 +0.2
Y22A	Socorro baz=42	41.80 300	⇑P	P	04 02 49.1 +1.6
H26A	Fairpoint baz=42	41.81 317	⇓P	P	04 02 47.4 +0.1
G26A	Maurine baz=42,SNR=6.4	41.98 318	⇓P	P	04 02 48.9 +0.3
M24A	Cheyenne baz=42	42.03 311	⇑P	P	04 02 49.4 +0.2
ISCO	Idaho Springs baz=42	42.08 309	⇓P	P	04 02 49.7 -0.1
V22A	San Miguel Ran baz=42	42.12 303	⇑P	P	04 02 50.1 0.0
U22A	Llaves baz=42	42.17 304	⇑P	P	04 02 50.4 -0.1
I25A	Rochford baz=42	42.20 315	⇑P	P	04 02 52.0 +1.4
121A	Cookes Peak, D baz=42	42.28 298	⇑P	P	04 02 52.3 +0.9
Z21A	St. Cloud Mine baz=42	42.29 299	⇑P	P	04 02 52.0 +0.5
T22A	Edith baz=42	42.35 304	⇓P	P	04 02 52.7 +0.7
Y21A	Point of Rocks baz=42,SNR=5.9	42.40 300	⇓P	P	04 02 54.0 +1.6
E26A	Carlson Angus baz=42	42.41 319	⇑P	P	04 02 52.3 +0.2
O23A	Lake Granby, G baz=42	42.42 309	⇑P	P	04 02 53.0 +0.4
S22A	4UR Ranch, Cre baz=42	42.46 305	⇓P	P	04 02 52.8 -0.1
G25A	Newell baz=42	42.46 317	⇓P	P	04 02 53.2 +0.6
R22A	Saguache, Gunn baz=42	42.52 306	⇑P	P	04 02 54.0 +0.6
X21A	Alamocita Cree baz=43	42.56 300	⇑P	P	04 02 54.2 +0.5
Q22A	Crested Butte, baz=43	42.79 307	⇑P	P	04 02 55.8 +0.2
U21A	Nageezi baz=43,SNR=5.3	42.82 303	⇑P	P	04 02 57.1 +1.3
220A	Playas Peak, P baz=43	42.83 297	⇑P	P	04 02 57.2 +1.3
L23A	Garrett baz=43	42.86 312	⇓P	P	04 02 56.7 +0.7
O22A	Kremmling baz=43	42.87 309	⇓P	P	04 02 56.6 +0.4
Y20A	Horse Springs, baz=43,SNR=5.1	42.96 300	⇓P	P	04 02 58.3 +1.4
N22A	Wattenberg Ran baz=43	42.99 310	⇓P	P	04 02 57.7 +0.6
120A	U Bar Ranch, L baz=43,SNR=5.0	42.99 298	⇓P	P	04 02 59.0 +1.8
K23A	Bowen Ranch, D baz=43	43.02 313	⇓P	P	04 02 57.6 +0.4
H24A	Dirks Ranch, A baz=43	43.02 316	⇑P	P	04 02 56.9 -0.2
Z20A	Nine Sixteen R baz=43	43.03 298	⇓P	P	04 02 58.1 +0.7
S21A	Coal Bank Pass baz=43	43.18 305	⇑P	P	04 02 59.1 +0.3
P21A	Newcastle baz=43	43.37 308	⇓P	P	04 03 00.5 +0.3
E24A	Baker baz=44	43.60 319	⇑P	P	04 03 02.5 +0.8
K22A	Casper baz=44	43.61 312	⇑P	P	04 03 02.6 +0.6
S20A	Disappointment baz=44	43.66 305	⇑P	P	04 03 02.4 -0.2
Q20A	Ridgley Place, baz=44	43.86 307	⇓P	P	04 03 04.2 +0.1
L21A	Rawlins baz=44	43.99 311	⇓P	P	04 03 05.6 +0.5
K21A	Alcova baz=44	44.11 312	⇓P	P	04 03 06.8 +0.7
G22A	Birney baz=44	44.34 316	⇑P	P	04 03 08.0 +0.3
M20A	Sweetwater, Wa baz=44	44.44 310	⇓P	P	04 03 09.2 +0.5
F22A	Rosebud baz=45	44.53 317	⇓P	P	04 03 10.2 +1.0
L20A	Wamsutter baz=45	44.70 311	⇓P	P	04 03 11.8 +1.0
TUC	Tucson 4.0nm,0.9s	44.78 297	eP	P	04 03 13.2 +1.9
O19A	Miners Draw (B baz=45	44.81 308	⇓P	P	04 03 12.3 +0.6
K20A	Yellowstone Ra baz=45	44.89 312	⇓P	P	04 03 13.0 +0.8
K19A	Absolon Red Bu baz=45,SNR=6.4	45.29 312	⇓P	P	04 03 15.8 +0.3
B22A	Reddig Ranch S baz=45	45.37 320	⇑P	P	04 03 17.2 +1.3
CPUP	Villa Florida	45.38 173	P	P	04 03 14.2 -1.7
CPUP	Villa Florida 1.0nm,0.4s,baz=351,slow=8.0,SNR=6.9	45.38 173	P	P	04 03 14.2 -1.7
CPUP			LR	LR	04 23 37.2
	comp=Z,64nm,19.4s,baz=169,slow=38				
D21A	La Casta Ranch baz=46,SNR=7.8	45.49 318	⇑P	P	04 03 18.2 +1.4
X16A	Lo Mia Camp, P baz=46	45.55 300	⇑P	P	04 03 18.8 +1.2
G20A	Bridger baz=46	45.61 315	⇑P	P	04 03 17.4 -0.5
F20A	Billings baz=46	45.77 316	⇓P	P	04 03 20.1 +1.0
PDAR	Pinedale Array	45.77 312	P	P	04 03 19.8 +0.4
PDAR	Pinedale Array 2.2nm,0.8s,baz=117,slow=9.8,SNR=24	45.77 312	P	P	04 03 19.8 +0.4
BW06	Boulder Array 2.2nm,0.8s	45.78 312	eP	P	04 03 19.6 +0.3
E20A	Meyer Farm, Mu baz=46	46.01 317	⇑P	P	04 03 21.6 +0.7
A21A	Bergtoll Ranch baz=46,SNR=5.9	46.22 321	⇑P	P	04 03 24.0 +1.4
D20A	Manuel Ranch, baz=46	46.23 318	⇓P	P	04 03 23.3 +0.7
M17A	Scullys Gap (B baz=46	46.23 310	⇑P	P	04 03 23.8 +0.8
F19A	Roth Farm, Mol baz=46	46.31 316	⇓P	P	04 03 23.7 +0.4
C20A	Veseth Ranch, baz=46	46.38 319	⇑P	P	04 03 23.8 0.0
H18A	Shoshone NF, C baz=46	46.41 314	⇓P	P	04 03 24.5 +0.2
E19A	Rath Farm, Rou baz=46	46.42 317	⇑P	P	04 03 24.7 +0.5
214A	Organ Pipe Nat baz=46	46.47 296	⇓P	P	04 03 25.5 +0.8
A20A	Cobblestone Ra baz=47	46.78 320	⇑P	P	04 03 28.1 +1.2
Y14A	Wickenburg baz=47	46.78 299	⇑P	P	04 03 28.7 +1.6
REDW	Red Top Meadow 14nm,1.7s	46.85 312	eP	P	04 03 28.4 +0.6
HWUT	Hardware Ranch 2.6nm,0.8s	46.92 310	eP	P	04 03 28.4 +0.2
TPAW	Teton Pass 2.9nm,0.8s	46.95 312	eP	P	04 03 29.8 +1.1
RRI2	Red Ridge 3.3nm,0.9s	47.18 312	eP	P	04 03 31.5 +1.1
A19A	Klindworth Far baz=47	47.30 320	⇓P	P	04 03 32.0 +1.0
CCUT	Cedar City 40nm,2.6s	47.51 304	eP	P	04 03 35.1 +2.1
EGMT	Eagleton baz=48	47.59 318	⇑P	P	04 03 33.7 +0.4
W13A	Hualapai Mount baz=48	47.62 300	⇑P	P	04 03 35.5 +1.6
QLMT	Earthquake Lak	47.66 314	eP	P	04 03 36.5 +2.4
BGU	Big Grassy Mou 5.2nm,1.0s	47.85 308	eP	P	04 03 35.8 +0.3
IRM	Iron Mountain baz=49,SNR=5.6	48.58 299	⇑P	P	04 03 42.9 +1.8
DLMT	Dillon 39nm,2.5s	48.60 314	eP	P	04 03 41.9 +0.6
BC3	Big Chuckawall baz=49	48.80 298	⇓P	P	04 03 44.2 +1.3
GMRC	Granite Mounta baz=49	49.05 300	⇓P	P	04 03 46.0 +1.2
BELC	Belle Mtn. Jos baz=49	49.27 299	⇑P	P	04 03 47.7 +1.2
TUQ	Turquoise Moun baz=49	49.31 301	⇓P	P	04 03 47.9 +1.1
R11A	Troy Canyon, C baz=49	49.36 305	⇑P	P	04 03 48.0 +0.8
HLID	Hailey 22nm,2.3s	49.41 312	eP	P	04 03 49.0 +1.5
HLID	Hailey baz=49	49.41 312	⇓P	P	04 03 48.5 +1.0
CHMT	Chamberlain Mo	49.48 316	eP	P	04 03 48.7 +0.7
MONP	Monument Peak baz=50	49.56 297	⇑P	P	04 03 49.9 +1.1
HEC	Hector,Ludlow baz=50	49.60 300	⇑P	P	04 03 50.1 +1.2
MSO	Missoula baz=50	49.91 316	⇑P	P	04 03 51.5 +0.4
GSC	Goldstone baz=50	50.02 300	⇓P	P	04 03 52.3 +0.1
MFID	Camas Ranch baz=50	50.39 311	⇓P	P	04 03 55.6 +0.8
CFAA	Coronel Fontan	50.57 186	P	P	04 03 54.1 -1.9
CFAA	Coronel Fontan 0.2nm,0.6s,baz=34,slow=18,SNR=2.7	50.57 186	P	P	04 03 54.1 -1.9
GRAC	Grapevine Rang baz=51	50.62 303	⇓P	P	04 03 57.7 +1.1
EDW2	Edwards Air Fo baz=51	50.96 300	⇑P	P	04 04 00.8 +1.6
NEW	Newport 3.0nm,0.8s	52.36 317	eP	P	04 04 10.0 +0.6
NEW	Newport baz=52	52.36 317	⇑P	P	04 04 09.8 +0.4
I07A	Izee 10nm,1.4s	53.13 311	eP	P	04 04 16.4 +1.1
MDT	Midelt	53.63 63	P	P	04 04 20.5 +1.4
MDT	Midelt 3.6nm,0.9s,baz=297,slow=8.4,SNR=8.1	53.63 63	P	P	04 04 20.5 +1.4
ESDC	Sonseca Array	54.40 54	P	P	04 04 26.0 +1.4
ESDC	Sonseca Array 0.9nm,0.8s,baz=259,slow=8.4,SNR=6.2	54.40 54	P	P	04 04 26.0 +1.4
YKA	Yellowknife Ar	56.01 334	P	P	04 04 35.9 +0.2
YKA	Yellowknife Ar 2.2nm,0.8s,baz=106,slow=8.0,SNR=3.9	56.01 334	P	P	04 04 35.9 +0.2
LIC	Lamto 26nm,1.1s	57.68 95	eP	P	04 04 49.1 +0.8
LIC	Lamto 26nm,1.1s	57.68 95	eP	P	04 04 49.1 +0.8
DBIC	Dimbokro	57.70 94	P	P	04 04 47.4 -1.1
DBIC	Dimbokro 2.4nm,0.8s,baz=269,slow=13,SNR=2.4	57.70 94	P	P	04 04 47.4 -1.1
MFF	Saint Martin d 23nm,1.2s	57.81 46	eP	P	04 04 49.9 +1.1
MFF	Saint Martin d 23nm,1.2s	57.81 46	eP	P	04 04 49.9 +1.1
EPF	Esparros	57.86 51	eP	P	04 04 52.0 +2.8
EPF	Esparros	57.86 51	eP	P	04 04 52.0 +2.8
LDF	La Druitiere 14nm,1.1s	58.06 44	eP	P	04 04 52.5 +2.0
LDF	La Druitiere 14nm,1.0s	58.06 44	eP	P	04 04 52.5 +2.0
TCF	Toulx Ste Croi 23nm,1.4s	59.41 47	eP	P	04 05 01.9 +2.0
TCF	Toulx Ste Croi 23nm,1.4s	59.41 47	eP	P	04 05 01.9 +2.0
PLCA	Paso Flores comp=Z,69nm,19.6s,baz=302,slow=37	59.84 187	LR	LR	04 31 40.1
AVF	Avril sur Loir	60.23 46	eP	P	04 05 07.3 +1.8
AVF	Avril sur Loir	60.23 46	eP	P	04 05 07.3 +1.8
SMF	Signal de Mont 11nm,0.9s	60.56 47	eP	P	04 05 09.5 +1.7
SMF	Signal de Mont 11nm,0.9s	60.56 47	eP	P	04 05 09.5 +1.7
LOR	Lormes 7.1nm,1.0s	60.60 46	eP	P	04 05 08.7 +0.6
LOR	Lormes 7.1nm,1.0s	60.60 46	eP	P	04 05 08.7 +0.6
GIVF	Givet	61.44 43	eP	P	04 05 15.3 +1.7
GIVF	Givet	61.44 43	eP	P	04 05 15.3 +1.7
TORD	Torodi Ar. Bea	62.09 85	P	P	04 05 18.5 -0.1
TORD	Torodi Ar. Bea 1.0nm,0.8s,baz=286,slow=6.3,SNR=5.7	62.09 85	P	P	04 05 18.5 -0.1
TORD			LR	LR	04 29 05.2
	comp=Z,82nm,20.1s,baz=285,slow=33				
LPL	La Plagne 4.2nm,0.7s	62.53 48	eP	P	04 05 23.1 +1.7
LPL	La Plagne 4.2nm,0.7s	62.53 48	eP	P	04 05 23.1 +1.7
MBDF	Montbardon 3.1nm,0.6s	62.56 49	eP	P	04 05 23.5 +2.0
MBDF	Montbardon 3.1nm,0.6s	62.56 49	eP	P	04 05 23.5 +2.0
KEST	Kesra	65.01 59	P	P	04 05 36.9 -0.8
KEST	Kesra 0.9nm,1.0s,baz=41,slow=16,SNR=2.2	65.01 59	P	P	04 05 36.9 -0.8
INK	Inuvik 6.1nm,1.0s	65.33 337	eP	P	04 05 39.2 +0.2
NOA	NORSAR Array B	65.89 31	P	P	04 05 43.8 +0.8
NOA	NORSAR Array B 1.7nm,0.8s,baz=266,slow=6.4,SNR=4.3	65.89 31	P	P	04 05 43.8 +0.8
GERES	GERESS Array B	67.21 44	P	P	04 05 52.0 +0.4
GERES	GERESS Array B 0.5nm,0.8s,baz=263,slow=7.6,SNR=3.5	67.21 44	P	P	04 05 52.0 +0.4
ILAR	Eielson Array	70.42 333	P	P	04 06 11.9 +0.7
ILAR	Eielson Array 2.2nm,0.8s,baz=101,slow=4.7,SNR=20	70.42 333	P	P	04 06 11.9 +0.7
BPAW	Bear Paw Mtn. 8.0nm,0.9s	72.25 333	eP	P	04 06 23.2 +0.9
FINES	FINESS Array B	73.05 30	P	P	04 06 26.7 -0.3
FINES	FINESS Array B 3.5nm,0.9s,baz=298,slow=3.0,SNR=3.9	73.05 30	P	P	04 06 26.7 -0.3
FINES			LR	LR	04 33 19.3
	comp=Z,83nm,18.4s,baz=270,slow=32				
IMA2	Indian Mountai	73.12 335	eP	P	04 06 28.6 +1.0
AKASG	Malin Array Be	76.88 41	P	P	04 06 49.9 +0.5
AKASG	Malin Array Be 0.3nm,0.4s,baz=290,slow=4.5,SNR=3.9	76.88 41	P	P	04 06 49.9 +0.5
BRTR	Keskin Array B	82.97 51	P	P	04 07 22.9 +0.1
BRTR	Keskin Array B 1.2nm,0.8s,baz=324,slow=6.1,SNR=4.4	82.97 51	P	P	04 07 22.9 +0.1
KSH	Kashi	110.28 33	eP	PKiKP	PKiKP 04 13 28.8 -0.8
KSH			es	PKP	04 13 43.3
KSH			PP	PP	PP 04 14 07.0 +3.5
KSH			PKS	PKSdf	PKSdf 04 17 04.4 -1.9
KSH			SS	SS	04 29 27.0 -0.6
KSH			LR	LR	
	comp=N,68nm,5.6s				
KSH			LR	LR	
	comp=E,91nm,5.3s				
KSH			LR	LR	
	comp=Z,130nm,6.0s				
WMQ	Urumqi	111.94 22	eP	PKiKP	PKiKP 04 13 32.6 +0.1
SYO	Syowa Base	112.07 158	eP	PKKPbc	PKKPbc 04 24 24.0 -1.9
HHC	Hu-ho-hao-te	120.24 5	eP	PKKP	PKPdf 04 13 46.3 -2.3
HHC			sP	PKP	04 14 00.5
HHC			PP	PP	PP 04 15 14.4 +1.4
HHC			PKS	PKSdf	PKSdf 04 17 21.5 -3.9
HHC			SKS	SKSdf	SKSdf 04 20 53.3 -4.8
HHC			SKKS	SKKSac	04 22 03.3 -8.2
HHC			LR	LR	
	comp=N,180nm,18.8s				
HHC			LR	LR	
	comp=E,220nm,18.2s				
HHC			LR	LR	
	comp=Z,240nm,19.2s				
LZH	Lanzhou	123.81 13	eP	PKP	PKPdf 04 13 55.6 -0.1
LZH			sP	PKP	04 14 07.3
LZH			LR	LR	
	comp=N,180nm,16.8s				
LZH			LR	LR	
	comp=E,200nm,17.3s				
LZH			LR	LR	
	comp=Z,230nm,18.9s				
CD2	Chengdu	128.76 15	PKP	PKPdf	04 14 05.1 0.0
NJ2	Nanjing	129.21 358	eP	PKPdf	04 14 04.3 -1.6
ASAR	Alice Springs	163.64 251	PKPab	PKPab	04 15 52.7 0.0
ASAR	Alice Springs comp=Z,1.1nm,0.7s,baz=106,slow=4.9,SNR=7.3	163.64 251	PKPab	PKPab	04 15 52.7 0.0
WRA	Warramunga Arr	163.68 264	PKPab	PKPab	04 15 53.0 0.0
WRA	Warramunga Arr comp=Z,0.4nm,0.3s,baz=88,slow=4.2,SNR=10	163.68 264	PKPab	PKPab	04 15 53.0 0.0

IDC 21 04:22:52.1±31.0, 18°.89S×176°.20W, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.7/16, mbtmp3.8/4, Error ellipse: s-maj=608.4km s-min=146.2km az=87.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek 1.3nm,0.6s,baz=90,slow=8.8,SNR=2.8	40.03	243	P	P	04 30 28.8	-0.3
WRA	Warramunga Arr 0.3nm,0.4s,baz=98,slow=7.6,SNR=10.0	46.53	260	P	P	04 31 22.1	+0.2
ASAR	Alice Springs 0.4nm,0.4s,baz=88,slow=8.8,SNR=6.3	46.56	255	P	P	04 31 22.4	+0.4
FITZ	Fitzroy Crossi 1.8nm,1.1s,baz=112,slow=5.4,SNR=5.6	54.94	261	P	P	04 32 24.5	-0.8

*CSEM **21** 04:46:27.5±0.4, 36°.79N×7°.03W, h20km, ML1.5, Error ellipse: s-maj=7.6km s-min=4.2km az=6.0*
*INMG **21** 04:46:29.2±0.8, 36°.78N×7°.09W, h21km±2km, ML1.5, Error ellipse: s-maj=4.0km s-min=2.9km az=137.0*

MDD 21 04:46:28.4±1.0, 36°.78N×7°.01W, h24km±6km, mbLg1.8/5, Error ellipse: s-maj=10.9km s-min=5.0km az=11.0, PRXIMO, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVAQ	Vaqueiros	0.84	318	eP	Pb	04 46 43.8	-0.5
PVAQ				eS	Sb	04 46 55.0	-0.2
PVAQ				A	A	04 46 56.0	
	16nm,0.1s						
PVAQ	Vaqueiros	0.84	318	Pg	Pb	04 46 43.8	-0.5
PVAQ				Lg	Lg	04 46 55.0	
	16nm,0.1s						
PVAQ	Vaqueiros	0.84	318	eP	Pb	04 46 43.8	-0.5
PVAQ				eS	Sb	04 46 55.0	-0.2
	16nm,0.1s						
EGRO	El Granado	0.84	334	Pg	Pb	04 46 44.1	-0.3
	1.7nm,0.1s,SNR=22						
EGRO				Lg	Lg	04 46 55.3	
	6.5nm,0.1s,SNR=7.9						
EGRO	El Granado	0.84	334	Pg	Pb	04 46 44.1	-0.3
	1.7nm,0.1s,SNR=22						
EGRO				Lg	Lg	04 46 55.3	
	6.5nm,0.1s,SNR=7.9						
PBDV	Barranco-do-Ve	0.87	302	eP	Pb	04 46 44.0	-0.9
PBDV				eS	Sb	04 46 55.0	-1.1
PBDV				A	A	04 46 56.1	
	4.0nm,0.1s						
PBDV	Barranco-do-Ve	0.87	302	Pg	Pb	04 46 44.0	-0.9
PBDV				Lg	Lg	04 46 55.0	
	4.0nm,0.1s						
PBDV	Barranco-do-Ve	0.87	302	eP	Pb	04 46 44.0	-0.9
PBDV				eS	Sb	04 46 55.0	-1.1
	4.0nm,0.1s						
ESPR	Espera	0.93	84	Pg	Pb	04 46 44.8	-1.1
	1.9nm,0.1s,SNR=7.9						
ESPR				Lg	Lg	04 46 56.9	
	5.3nm,0.3s,SNR=7.9						
ESPR	Espera	0.93	84	Pg	Pb	04 46 44.8	-1.1
	1.9nm,0.1s,SNR=7.9						
ESPR				Lg	Lg	04 46 56.9	
	5.3nm,0.3s,SNR=7.9						
EMIN	Mina Concepcio	1.02	15	Pg	Pn	04 46 46.5	-0.7

0.1nm,0.0s,SNR=8.6
EMIN Lg Lg 04 46 59.8
1.3nm,0.1s,SNR=8.8
EMIN Mina Concepcio 1.02 15 Pg Pn 04 46 46.5 -0.7
0.1nm,0.0s,SNR=8.6
EMIN Lg Lg 04 46 59.8
1.3nm,0.1s,SNR=8.8
PCVE Castro Verde 1.18 316 *e*P Pn 04 46 48.9 -0.5
PCVE *e*S Sn 04 47 03.4 -1.3
PCVE Castro Verde 1.18 316 Pg Pn 04 46 48.9 -0.5
PCVE Lg Lg 04 47 03.4
PCVE Castro Verde 1.18 316 *e*P Pn 04 46 48.9 -0.5
PCVE *e*S Sn 04 47 03.4 -1.3
PBAR Barrancos 1.39 359 *e*P Pn 04 46 51.9 -0.4
PBAR *e*S Sn 04 47 09.1 -0.8
PBAR Barrancos 1.39 359 Pg Pn 04 46 51.9 -0.4
PBAR Lg Lg 04 47 09.1
PBAR Barrancos 1.39 359 *e*P Pn 04 46 51.9 -0.4
PBAR *e*S Sn 04 47 09.1 -0.8
MORF Marmelete 1.41 292 *e*S Sn 04 47 08.2 -2.3
MORF Marmelete 1.41 292 Sn Sn 04 47 08.2 -2.3
MORF Marmelete 1.41 292 *e*S Sn 04 47 08.2 -2.3
PFVI Vila Bisbo 1.50 284 *e*S Sn 04 47 09.5 -2.9
PFVI Vila Bisbo 1.50 284 *e*S Sn 04 47 09.5 -2.9
PTEO Sao Teotonio 1.57 300 *e*Pn Pn 04 46 53.8 -0.9
PTEO *e*Sn Sn 04 47 11.9 -2.3
PTEO Sao Teotonio 1.57 300 Pn Pn 04 46 53.8 -0.9
PTEO Sn Sn 04 47 11.9 -2.3
PTEO Sao Teotonio 1.57 300 *e*Pn Pn 04 46 53.8 -0.9
PTEO *e*Sn Sn 04 47 11.9 -2.3
PNCL Nicolau / Gran 1.79 318 *e*Pn Pn 04 46 57.1 -0.7
PNCL *e*Sn Sn 04 47 18.1 -1.7
PNCL Nicolau / Gran 1.79 318 *e*Pn Pn 04 46 57.1 -0.7
PNCL *e*Sn Sn 04 47 18.1 -1.7
ECAB El Cabril 1.81 44 Sn Sn 04 47 17.3 -3.0
0.1nm,0.0s,SNR=7.9
ECAB Lg Lg 04 47 24.4
0.5nm,0.0s,SNR=7.9
ECAB El Cabril 1.81 44 Sn Sn 04 47 17.3 -3.1
0.1nm,0.0s,SNR=7.9
ECAB Lg Lg 04 47 24.4
0.5nm,0.0s,SNR=7.9
EBAD Badajoz 1.97 0 Pn Pn 04 46 59.7 -0.5
0.4nm,0.1s,SNR=8.0
EBAD Sn Sn 04 47 22.8 -1.4
0.9nm,0.1s,SNR=7.9
EBAD Badajoz 1.97 0 Pn Pn 04 46 59.7 -0.6
0.4nm,0.1s,SNR=8.0
EBAD Sn Sn 04 47 22.8 -1.4
0.9nm,0.1s,SNR=7.9
PESTR Estremoz 2.13 348 *e*Sn Sn 04 47 26.4 -1.9
PESTR Estremoz 2.13 348 Sn Sn 04 47 26.4 -1.9
PESTR Estremoz 2.13 348 *e*Sn Sn 04 47 26.4 -1.9
PMRV Marv??o 2.66 354 *e*Pn Pn 04 47 09.4 -0.4
PMRV *e*Sn Sn 04 47 38.7 -2.6
PMRV Marv??o 2.66 354 Pn Pn 04 47 09.4 -0.4
PMRV Sn Sn 04 47 38.7 -2.6
PMRV Marv??o 2.66 354 *e*Pn Pn 04 47 09.4 -0.4
PMRV *e*Sn Sn 04 47 38.7 -2.6

*INMG **21** 04:46:37.8±1.1,34°.17N×5°.04W,h0km±13km, Error ellipse: s-maj=7.0km s-min=5.8km az=87.0*
*MDD **21** 04:46:37.5±2.7,34°.18N×4°.94W,h0km, mb4.2/3, Error ellipse: s-maj=25.3km s-min=20.9km az=167.0, PRXIMO*
*CSEM **21** 04:46:38.4±0.5,34°.31N×5°.02W,h2km, mb4.2/3, Error ellipse: s-maj=9.5km s-min=7.0km az=163.0*
ISC 21 04:46:39.3±5.1,34°.2N±0°.3×4°.96W±0°.07,h19km±28km,n36, σ0°89/54,Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMIJ	**Mijas**	**2.34**	**4**	S	**Sn**	**04 47 44.5**	**-0.4**
	4.4nm,0.3s,SNR=7.9						
EMIJ	**Mijas**	**2.34**	**4**	S	**Sn**	**04 47 44.5**	**-0.4**
	4.4nm,0.3s,SNR=7.9						
EBER	**Berja**	**3.16**	**32**	S	**Sn**	**04 48 02.4**	**-2.9**
	24nm,1.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.80**	**339**	P	**Pn**	**04 47 36.9**	**+0.2**
	0.5nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**04 48 23.0**	**+2.2**
	0.3nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.80**	**339**	P	**Pn**	**04 47 36.9**	**+0.2**
	0.5nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**04 48 23.0**	**+2.2**
	0.3nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**3.86**	**355**	P	**Pn**	**04 47 37.7**	**+0.1**
	1.1nm,0.1s,SNR=7.9						
ECAB				S	**Sn**	**04 48 21.7**	**-0.8**
	0.6nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**3.86**	**355**	P	**Pn**	**04 47 37.7**	**+0.1**
	1.1nm,0.1s,SNR=7.9						
ECAB				S	**Sn**	**04 48 21.7**	**-0.8**
	0.6nm,0.1s,SNR=7.9						
PBDV	**Barranco-do-Ve**	**3.86**	**322**	*e*Pn	**Pn**	**04 47 37.0**	**-0.6**
PBDV				*e*Sn	**Sn**	**04 48 22.9**	**+0.5**
PBDV	**Barranco-do-Ve**	**3.86**	**322**	P	**Pn**	**04 47 37.0**	**-0.6**
PBDV				S	**Sn**	**04 48 22.9**	**+0.5**
PBDV	**Barranco-do-Ve**	**3.86**	**322**	P	**Pn**	**04 47 37.0**	**-0.6**
PBDV				S	**Sn**	**04 48 22.9**	**+0.5**
PVAQ	**Vaqueiros**	**3.88**	**326**	*e*Pn	**Pn**	**04 47 37.2**	**-0.7**
PVAQ				*e*Sn	**Sn**	**04 48 23.1**	**+0.2**
PVAQ	**Vaqueiros**	**3.88**	**326**	P	**Pn**	**04 47 37.2**	**-0.7**
PVAQ				S	**Sn**	**04 48 23.1**	**+0.2**
PVAQ	**Vaqueiros**	**3.88**	**326**	P	**Pn**	**04 47 37.2**	**-0.7**
PVAQ				S	**Sn**	**04 48 23.1**	**+0.2**
EGRO	**El Granado**	**3.88**	**329**	P	**Pn**	**04 47 38.1**	**+0.2**
	1.9nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**04 48 23.2**	**+0.2**
	0.8nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**3.88**	**329**	P	**Pn**	**04 47 38.1**	**+0.2**
	1.9nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**04 48 23.2**	**+0.2**
	0.8nm,0.1s,SNR=7.9						
EQES	**Quesada**	**3.89**	**23**	P	**Pn**	**04 47 38.4**	**+0.4**
	0.2nm,0.1s,SNR=7.9						
EQES				S	**Sn**	**04 48 25.2**	**+2.0**
	SNR=7.9						
EQES	**Quesada**	**3.89**	**23**	P	**Pn**	**04 47 38.4**	**+0.4**
	0.2nm,0.1s,SNR=7.9						
EQES				S	**Sn**	**04 48 25.2**	**+2.0**
	SNR=7.9						
EADA	**Adamuz**	**3.95**	**4**	P	**Pn**	**04 47 39.6**	**+0.8**
	0.3nm,0.0s,SNR=7.9						
EADA				S	**Sn**	**04 48 23.9**	**-0.7**
	0.6nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**3.95**	**4**	P	**Pn**	**04 47 39.6**	**+0.8**
	0.3nm,0.0s,SNR=7.9						
EADA				S	**Sn**	**04 48 23.9**	**-0.7**
	0.6nm,0.1s,SNR=7.9						
PCVE	**Castro Verde**	**4.22**	**325**	*e*Pn	**Pn**	**04 47 42.6**	**+0.1**
PCVE	**Castro Verde**	**4.22**	**325**	P	**Pn**	**04 47 42.6**	**+0.1**
PCVE	**Castro Verde**	**4.22**	**325**	P	**Pn**	**04 47 42.6**	**+0.1**
PBAR	**Barrancos**	**4.28**	**338**	*e*Pn	**Pn**	**04 47 43.2**	**-0.2**
PBAR	**Barrancos**	**4.28**	**338**	P	**Pn**	**04 47 43.2**	**-0.2**
PBAR	**Barrancos**	**4.28**	**338**	P	**Pn**	**04 47 43.2**	**-0.2**
EBAD	**Badajoz**	**4.81**	**341**	P	**Pn**	**04 47 50.3**	**-0.4**
	1.7nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**04 48 44.3**	**-1.6**
	0.1nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**4.81**	**341**	P	**Pn**	**04 47 50.3**	**-0.4**
	1.7nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**04 48 44.3**	**-1.6**
	0.1nm,0.1s,SNR=7.9						
PNCL	**Nicolau / Gran**	**4.83**	**324**	*e*Pn	**Pn**	**04 47 51.2**	**+0.3**
PNCL	**Nicolau / Gran**	**4.83**	**324**	*e*Pn	**Pn**	**04 47 51.2**	**+0.3**
PESTR	**Estremoz**	**5.09**	**336**	*e*Pn	**Pn**	**04 47 54.5**	**0.0**
PESTR	**Estremoz**	**5.09**	**336**	P	**Pn**	**04 47 54.5**	**0.0**
PESTR	**Estremoz**	**5.09**	**336**	P	**Pn**	**04 47 54.5**	**0.0**
PMTG	**Montargil**	**5.50**	**332**	*e*Pn	**Pn**	**04 47 59.9**	**-0.2**
PMTG	**Montargil**	**5.50**	**332**	*e*Pn	**Pn**	**04 47 59.9**	**-0.2**
EPLA	**Plasencia**	**5.90**	**352**	P	**Pn**	**04 48 05.3**	**-0.3**
	0.7nm,0.1s,SNR=6.1						
EPLA	**Plasencia**	**5.90**	**352**	P	**Pn**	**04 48 05.3**	**-0.3**
	0.7nm,0.1s,SNR=6.1						

IDC 21 04:59:21.5±2.4,15°.10S×177°.70W,h357km±30km, mb3.5/4,mb1 3.9/5,mb1mx3.4/16,mbtmp3.6/5, Error ellipse: s-maj=40.4km s-min=22.6km az=171.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.85**	**79**	P	Pn	05 00 51.0	0.0
	12nm,0.3s,baz=266,slow=19,SNR=17						
WRA	**Warramunga Arr**	**45.88**	**257**	P	P	05 07 09.4	-0.5
	0.5nm,0.6s,baz=90,slow=8.3,SNR=10						
ASAR	**Alice Springs**	**46.26**	**252**	P	P	05 07 13.0	+0.1
	8.8nm,0.5s,baz=85,slow=8.4,SNR=135						
VNDA	**Vanda**	**63.28**	**185**	P	P	05 09 12.6	-0.1
	0.3nm,0.5s,baz=5.7,slow=10,SNR=7.7						
TXAR	**Lajitas Array**	**83.92**	**58**	P	P	05 11 12.6	0.0
	3.6nm,0.3s,baz=226,slow=6.7,SNR=4.9						

MEX 21 05:08:03.1±0.9,15°.09N×92°.86W,h106km±12km, MD3.8, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.71**	**331**	*e*P	Pn	05 08 20.0	-1.1
PCIG				*i* S	Sn	05 08 32.8	-1.8
CCIG	**Comitan**	**1.38**	**30**	*e*P	Pn	05 08 26.8	-1.7
CCIG				*i* S	Sn	05 08 46.6	-1.1
TGIG		**1.70**	**352**	*i* P	Pn	05 08 31.5	-0.8
TGIG				*i* S	Sn	05 08 52.4	-2.0

MEX 21 05:19:27.2±0.8,16°.42N×93°.94W,h106km±12km, MD3.5, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGIG		**0.86**	**65**	*e*P	Pn	05 19 45.2	-1.5
TGIG				*i* S	Sn	05 19 59.6	-1.7
PCIG		**0.99**	**136**	*i* P	Pn	05 19 47.1	-0.9
PCIG				*i* S	Sn	05 20 02.4	-1.2
CCIG	**Comitan**	**1.73**	**94**	*e*P	Pn	05 19 55.4	-1.5
CCIG				*e*S	Sn	05 20 17.7	-1.7
HUIG	**Huatulco**	**2.19**	**253**	*i* P	Pn	05 19 59.1	-3.4
HUIG				*i* S	Sn	05 20 27.0	-2.4
VHO	**Vista Hermosa**	**2.76**	**284**	*i* P	Pn	05 20 09.3	-0.9
VHO				*e*S	Sn	05 20 42.1	-1.1

*NIED **21** 05:22:00,25°.00N×125°.60E,h50km, Mw3.9 Best double couple: M0:8.50000×10^14 NP1:φ=249.00000°, δ=67.00000°, λ=105.00000°. NP2:φ=34.00000°, δ=27.00000°, λ=58.00000°.*
*IDC **21** 05:22:26.7±1.3,25°.02N×125°.40E,h0km,mb3.5/6, mb1 3.7/7,mb1mx3.6/22,mbtmp3.5/7,ML3.4/1, Error ellipse: s-maj=45.4km s-min=25.8km az=70.0*
*ISCJB **21** 05:22:32.6±0.6,25°.02N±0°.09×125°.63E±0°.07,h60km±5km, mb3.4/6, Error ellipse: s-maj=18.6km s-min=4.8km az=145.9*
*JMA **21** 05:22:33.2,25°.03N×125°.63E,h53km±1km,M3.5*
ISC 21 05:22:33.2±0.9,25°.08N±0°.09×125°.58E±0°.07,h47km±9km, n19,σ1°15/27,mb3.4/6,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**0.36**	**206**	P	**Pn**	**05 22 42.8**	**+0.1**
JOGS				S	**Sn**	**05 22 49.9**	**+0.5**
JMJ	**Miyako jima 2**	**0.37**	**224**	P	**Pn**	**05 22 43.2**	**+0.4**
JMJ				S	**Sn**	**05 22 50.4**	**+0.8**
JTJ	**Tarama**	**0.91**	**241**	P	**Pn**	**05 22 50.2**	**+0.6**
JTJ				S	**Sn**	**05 23 02.7**	**+1.0**
JIJ	**Ishigaki jima**	**1.49**	**241**	P	**Pn**	**05 22 58.1**	**+0.6**
JIJ				*e*S	**Sn**	**05 23 17.0**	**+1.2**
JKE	**Kume jima 2**	**1.65**	**41**	P	**Pn**	**05 23 00.7**	**+1.0**
JKE				*e*S	**Sn**	**05 23 21.4**	**+1.7**
JKRS	**Kuro-shima**	**1.66**	**240**	P	**Pn**	**05 23 00.8**	**+1.0**
JKRS				*e*S	**Sn**	**05 23 21.0**	**+1.1**
IRIF	**Iriomote-Funau**	**1.84**	**246**	P	**Pn**	**05 23 03.3**	**+1.0**
IRIF				*e*S	**Sn**	**05 23 25.3**	**+0.9**
JAGN	**Aguni-jima**	**2.12**	**45**	*e*S	**Sn**	**05 23 33.2**	**+1.9**
YOJ	**Yonaguni jima**	**2.41**	**256**	P	**Pn**	**05 23 11.1**	**+0.9**
YOJ				*e*S	**Sn**	**05 23 39.4**	**+0.9**
JTK	**Tokunoshima**	**4.05**	**48**	P	**Pn**	**05 23 32.9**	**+0.2**
JAMN	**Amaminishikomi**	**4.50**	**45**	P	**Pn**	**05 23 39.5**	**+0.6**
JAM	**Amami Oshima**	**4.89**	**47**	P	**Pn**	**05 23 44.5**	**+0.2**
KSRS	**Korea Array**	**12.49**	**9**	Pn	**Pn**	**05 25 26.4**	**-1.9**
	0.2nm,0.3s,baz=186,slow=11,SNR=3.3						
SONM	**Songino Array**	**27.30**	**331**	P	**P**	**05 28 12.9**	**-0.6**
	0.2nm,0.3s,baz=140,slow=7.5,SNR=3.5						
MKAR	**Makanchi Array**	**40.55**	**314**	P	**P**	**05 30 07.7**	**-0.2**
	0.3nm,0.4s,baz=98,slow=11,SNR=4.2						
ZALV	**Zalesovo Beam**	**41.75**	**325**	P	**P**	**05 30 15.2**	**-2.4**
	1.0nm,0.6s,baz=100,slow=9.1,SNR=4.5						
WRA	**Warramunga Arr**	**45.56**	**168**	P	**P**	**05 30 47.8**	**-0.8**
	0.3nm,0.8s,baz=349,slow=8.5,SNR=5.0						
ILAR	**Eielson Array**	**66.57**	**28**	P	**P**	**05 33 19.5**	**+1.4**
	0.2nm,0.7s,baz=284,slow=7.3,SNR=4.2						
BRTR	**Keskin Array B**	**75.83**	**307**	P	**P**	**05 34 15.6**	**+0.8**
	1.0nm,1.0s,baz=76,slow=6.1,SNR=4.4						

*SKO **21** 05:28:23.6,41°.75N×20°.57E,h0km*
*TIR **21** 05:28:24.5±0.8,41°.46N×20°.54E,h7km±7km,ML3.0*
*CSEM **21** 05:28:25.1±0.4,41°.46N×20°.49E,h15km,ML3.0, Error ellipse: s-maj=10.7km s-min=6.8km az=39.0*
ISC 21 05:28:25.1±1.2,41°.43N±0°.05×20°.51E±0°.05,h12km±11km, n8,σ0°38/16,Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHP	**Peshkopia**	**0.26**	**349**	*e*PG	**Pg**	**05 28 30.2**	**-0.3**
PHP				*e*SG	**Sg**	**05 28 34.5**	**+0.4**
PHP	**Peshkopia**	**0.26**	**349**	*e*Pg	**Pg**	**05 28 30.2**	**-0.3**
	SNR=122						
PHP				*e*Sg	**Sg**	**05 28 34.5**	**+0.4**
	SNR=122						
TIR	**Tirane**	**0.49**	**260**	*e*PG	**Pg**	**05 28 34.3**	**-0.4**
TIR				*e*SG	**Sb**	**05 28 43.1**	**+0.3**
TIR	**Tirane**	**0.49**	**260**	*e*Pg	**Pg**	**05 28 34.3**	**-0.4**
	SNR=102						
TIR				*e*Sg	**Sb**	**05 28 43.1**	**+0.3**
	SNR=102						
BIA	**Bitola**	**0.74**	**123**	*e*Pg	**Pb**	**05 28 40.3**	**+0.4**
BIA				*i* Sg	**Sn**	**05 28 52.8**	**+0.2**
BIA	**Bitola**	**0.74**	**123**	*e*Pg	**Pb**	**05 28 39.7**	**-0.2**
BIA				*i* Sg	**Sn**	**05 28 52.3**	**-0.3**
PUK	**Puka**	**0.76**	**323**	*e*PG	**Pg**	**05 28 39.4**	**-0.5**
PUK				*e*SG	**Sb**	**05 28 50.8**	**+0.1**
PUK	**Puka**	**0.76**	**323**	*e*Pg	**Pg**	**05 28 39.4**	**-0.5**
	SNR=96						
PUK				*e*Sg	**Sb**	**05 28 50.8**	**+0.1**
	SNR=96						

NNC 21 05:52:17.4±5.8,37°.45N×69°.53E,h0km,mb3.5,mpv3.2, 4C-2D, Error ellipse: s-maj=43.5km s-min=42.5km az=157.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.70**	**7**	⇑Pn	Pn	05 53 47.5	+4.2
	0.4nm,0.3s,baz=183,slow=13,SNR=16						
KK31				⇑Pg	Pb	05 53 59.4	+1.8
	0.6nm,0.3s,baz=192,slow=17,SNR=4.1						
KK31				⇓Sn	Sn	05 54 55.8	+6.4
	3.8nm,0.7s,baz=192,slow=20						
KK31				⇑Lg	Lg	05 55 18.3	
	3.1nm,0.6s,baz=189,slow=30						
TKM2	**Tokmak 2**	**7.17**	**38**	⇓Pn	Pn	05 53 59.5	-4.3
	4.0nm,0.9s						
TKM2				⇑Sn	Sn	05 55 26.3	+0.2
	3.0nm,0.8s						
AB31	**Akbulak array**	**13.69**	**333**	Pn	Pn	05 55 30.1	-2.6
	0.5nm,0.5s,baz=147,slow=12,SNR=6.6						

OMAN 21 05:58:48.9±0.8,25°.94N×57°.45E,h0km±50km,1C-2D, Error ellipse: s-maj=55.7km s-min=9.3km az=12.0, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BANOM	**Banah**	**1.04**	**269**	P	Pg	05 59 08.6	-0.3
	SNR=382						
ASHO	**Ashiyiah**	**1.78**	**225**	P	Pn	05 59 21.2	+0.2
	SNR=34						
HOQ	**Hoqain**	**2.35**	**183**	P	Pn	05 59 28.6	-0.2
	SNR=14						
ARQ	**Araqi**	**2.73**	**198**	⇑P	Pb	05 59 36.7	-2.0
SMDO	**Samad**	**2.92**	**169**	⇓P	Pn	05 59 37.5	+0.7
BSY	**Bisya**	**3.19**	**184**	⇓P	Pn	05 59 42.6	+2.2
WBK	**Wadi Bani Khal**	**3.60**	**157**	P	Pn	05 59 46.0	+0.1
	SNR=8.8						

*IDC **21** 06:06:37.7±0.7,14°.23N×93°.21E,h0km,mb4.0/15, mb1 4.1/16,mb1mx4.0/27,mbtmp4.0/16,ML4.0/1,MS3.4/5, Ms1 3.4/5,ms1mx3.0/39, Error ellipse: s-maj=25.1km s-min=15.0km az=57.0*
*ISCJB **21** 06:06:40.3±0.5,14°.37N±0°.06×93°.09E±0°.08,h32km, mb4.0/15,MS3.4/4, Error ellipse: s-maj=11.8km s-min=6.6km az=152.0*
ISC 21 06:06:41.6±0.6,14°.23N±0°.07×93°.08E±0°.10,h32km,n38, σ1°66/33,mb3.8/15,MS3.3/4,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGPR	**DIGLIPUR**	**1.06**	**188**	*e*P	Pb	06 07 05.2	+3.8
DGPR				*e*S	Sb	06 07 21.9	+6.9
DGPR				AML	AML	06 07 24.8	
	comp=N,11μm,0.4s						
DGPR				AML	AML	06 07 25.3	
	comp=E,10μm,0.3s						
PBA	**Port Blair**	**2.58**	**187**	*e*P	Pn	06 07 21.7	+0.5
PBA				*e*S	Sn	06 07 47.2	-4.3
CMAR	**Chiang Mai Arr**	**7.02**	**52**	Pn	**Pn**	**06 08 21.9**	**-0.4**
	comp=E,0.8nm,0.3s,baz=244,slow=15,SNR=2.7						
CMBY	**CAMPBELL BAY**	**7.22**	**173**	*e*S	**Sn**	**06 09 41.7**	**-4.4**
VIS	**Vishakhapatnam**	**10.00**	**292**	*e*P	**Pn**	**06 09 01.6**	**-1.5**
VIS				*i* P	**Pn**	**06 09 02.4**	**-0.7**
VIS				*e*S	Sn	06 10 38.5	-16
SHL	**Shillong**	**11.33**	**354**	*e*P	Pn	06 09 36.2	+15
SHL				*e*4	**Sn**	**06 11 24.5**	**-2.7**
MDRS	**Chennai**	**12.53**	**266**	*e*S	Sn	06 11 41.9	-14
PSI	**Prapat**	**12.74**	**153**	Pn	P	06 09 45.8	-5.7
	comp=E,0.4nm,0.3s,baz=324,slow=13,SNR=17						
PSI				LR	LR	06 14 28.0	
	comp=E,147nm,18.1s,baz=319,slow=37						
ODAN	**Odare**	**13.64**	**338**	*e*P	**Pn**	**06 09 52.2**	**-1.0**
	comp=E,63nm,0.5s						
TAPN	**Taplejung**	**13.98**	**340**	*e*P	**Pn**	**06 09 56.8**	**-1.0**
	comp=E,68nm,0.6s						
RAMN	**Ramite**	**14.03**	**335**	*e*P	**Pn**	**06 09 57.3**	**-1.1**
	comp=E,83nm,0.6s						
JIRN	**Jiri**	**14.82**	**335**	*e*P	**Pn**	**06 10 07.1**	**-2.3**
	comp=E,75nm,0.8s						
PKI	**Pulchoki**	**15.07**	**333**	*e*P	**Pn**	**06 10 11.3**	**-1.4**
	comp=E,54nm,0.6s						
PKIN	**Phulchoki**	**15.09**	**333**	*e*P	**Pn**	**06 10 11.4**	**-1.4**
	comp=E,41nm,0.5s						
GUN	**Gumba**	**15.17**	**335**	*e*P	**Pn**	**06 10 12.0**	**-2.0**
	comp=E,72nm,0.9s						
DMN	**Daman**	**15.24**	**332**	*e*P	**Pn**	**06 10 12.6**	**-2.3**
	comp=E,71nm,0.7s						
KKN	**Kakani**	**15.32**	**333**	*e*P	**Pn**	**06 10 14.5**	**-1.3**
	comp=E,28nm,0.5s						
KOLN	**Koldanda**	**16.11**	**328**	*e*P	**Pn**	**06 10 24.4**	**-1.5**
	comp=E,110nm,0.6s						
DANN	**Dangsing**	**16.50**	**330**	*e*P	**Pn**	**06 10 29.7**	**-1.4**
	comp=E,40nm,0.5s						
PYUN	**Piuthan**	**16.69**	**327**	*e*P	**Pn**	**06 10 32.0**	**-1.3**
	comp=E,382nm,0.6s						
BHPL	**Bhopal**	**17.31**	**303**	*e*P	**Pn**	**06 10 41.0**	**0.0**
BHPL				*ex*	x	06 13 26.5	
MKAR	**Makanchi Array**	**33.70**	**347**	P	**P**	**06 13 20.8**	**+1.0**
	comp=E,0.6nm,0.5s,baz=167,slow=9.4,SNR=8.2						
MKAR				LR	LR	06 30 40.7	
	comp=E,34nm,18.5s,baz=339,slow=43						
SONM	**Songino Array**	**35.28**	**16**	P	**P**	**06 13 34.9**	**+1.2**
	comp=E,1.4nm,1.0s,baz=197,slow=8.8,SNR=6.0						
KURBB	**Kurchatov Arra**	**38.17**	**345**	P	**P**	**06 13 58.7**	**+0.7**
	comp=E,0.9nm,0.7s,baz=159,slow=8.4,SNR=9.0						
KSRS	**Korea Array**	**38.62**	**47**	P	**P**	**06 14 01.5**	**-0.5**
	comp=E,0.5nm,0.4s,baz=248,slow=8.8,SNR=3.0						
ZALV	**Zalesovo Beam**	**40.16**	**352**	P	**P**	**06 14 13.5**	**-1.0**
	comp=E,0.6nm,0.5s,baz=191,slow=5.9,SNR=3.9						
ZALV				LR	LR	06 33 26.2	
	comp=E,36nm,18.5s,baz=69,slow=40						
WRA	**Warramunga Arr**	**52.92**	**129**	P	**P**	**06 15 54.6**	**-0.6**
	comp=E,3.7nm,0.8s,baz=312,slow=8.0,SNR=33						
WRA				PcP	**PcP**	**06 17 05.2**	**+1.3**
	comp=E,0.8nm,0.6s,baz=320,slow=3.0,SNR=4.6						
ASF	**Jabal al Asfar**	**54.05**	**299**	LR	LR	06 41 49.9	
	comp=E,34nm,19.4s,baz=158,slow=39						
ASAR	**Alice Springs**	**54.88**	**133**	P	**P**	**06 16 10.5**	**+1.1**
	comp=E,2.7nm,0.7s,baz=311,slow=6.8,SNR=18						
BRTR	**Keskin Array B**	**57.60**	**308**	P	P	06 16 31.8	+2.9
	comp=E,0.7nm,0.8s,baz=129,slow=7.5,SNR=3.3						
STKA	**Stephens Creek**	**65.29**	**135**	P	**P**	**06 17 19.6**	**-1.0**
	comp=E,2.6nm,0.6s,baz=328,slow=8.5,SNR=5.4						
FINES	**FINESS Array B**	**66.65**	**331**	P	**P**	**06 17 28.9**	**0.0**
	comp=E,3.0nm,0.9s,baz=126,slow=5.9,SNR=2.6						
ARCES	**ARCESS Array B**	**68.97**	**340**	P	**P**	**06 17 44.3**	**+0.8**
	comp=E,2.9nm,0.9s,baz=93,slow=9.1,SNR=3.0						
GERES	**GERESS Array B**	**72.45**	**317**	P	**P**	**06 18 06.1**	**+0.9**
	comp=E,0.3nm,0.3s,baz=108,slow=8.4,SNR=3.8						
NOA	**NORSAR Array B**	**73.73**	**330**	P	P	06 18 15.8	+3.5
	comp=E,0.5nm,0.7s,baz=90,slow=5.8,SNR=2.5						
NOA				LR	LR	06 57 45.9	
	comp=E,36nm,18.1s,baz=260,slow=42						
BOSA	**Boshof**	**78.15**	**236**	P	**P**	**06 18 40.5**	**+2.2**
	comp=E,1.5nm,0.5s,baz=120,slow=10,SNR=3.7						
TORD	**Torodi Ar. Bea**	**88.14**	**283**	P	**P**	**06 19 31.1**	**+1.1**
	comp=E,0.7nm,0.9s,baz=81,slow=5.5,SNR=3.2						
TXAR	**Lajitas Array**	**133.77**	**20**	PKP	**PKPdf**	**06 25 58.8**	**+2.7**
	comp=E,5.9nm,0.3s,baz=344,slow=2.3,SNR=2.3						

*IDC **21** 06:06:55.1±0.8,15°.84S×177°.17W,h0km,mb4.0/8, mb1 4.2/10,mb1mx4.1/18,mbtmp4.1/10,ML2.4/2,MS4.0/21, Ms1 4.0/21,ms1mx4.0/24, Error ellipse: s-maj=29.0km s-min=17.5km az=139.0*
*ISCJB **21** 06:06:59.3±0.6,15°.9S±0°.1×177°.3W±0°.1,h33km,mb4.1/13, MS4.1/17, Error ellipse: s-maj=19.3km s-min=11.8km az=144.2*
*NEIC **21** 06:07:00.8

666nm,33.2s
TBI eLR LR 06 19 38.0
540nm,28.0s
EIDS Eidsvold 31.14 247 P **P 06 13 15.9 +0.1**
2.4nm,0.7s
PMG Port Moresby 35.37 276 LR LR 06 24 44.7
comp=Z,328nm,19.5s,baz=26,slow=30
RKT Rikitea 40.31 107 eLR LR 06 25 43.6
300nm,26.5s
STKA Stephens Creek 40.70 239 P **P 06 14 36.6 -0.9**
STKA Stephens Creek 40.70 239 P **P 06 14 36.6 -0.9**
3.4nm,0.9s,baz=94,slow=14,SNR=3.1
STKA LR LR 06 29 39.5
comp=Z,261nm,19.4s,baz=30,slow=34
WRA Warramunga Arr 46.22 257 P **P 06 15 21.1 -1.1**
WRA Warramunga Arr 46.22 257 P **P 06 15 21.1 -1.1**
2.0nm,0.8s,baz=88,slow=6.9,SNR=9.5
WRA LR LR 06 31 34.9
comp=Z,178nm,21.0s,baz=85,slow=32
AS31 Alice Springs 46.54 252 eP **P 06 15 24.2 -0.5**
ASAR Alice Springs 46.54 252 P **P 06 15 24.2 -0.5**
ASAR Alice Springs 46.54 252 P **P 06 15 24.2 -0.5**
9.1nm,0.6s,baz=84,slow=8.3,SNR=118
ASAR LR LR 06 32 20.5
comp=Z,306nm,22.0s,baz=82,slow=33
FITZ Fitzroy Crossi 54.58 259 LR LR 06 37 06.7
comp=Z,156nm,21.1s,baz=90,slow=33
NWAO Narrogin (SRO) 61.25 241 LR LR 06 40 23.4
comp=Z,217nm,19.7s,baz=2.0,slow=33
VNDA Vanda 62.60 185 P **P 06 17 21.4 +1.1**
VNDA Vanda 62.60 185 P **P 06 17 21.4 +1.1**
0.6nm,0.8s,baz=2.9,slow=8.3,SNR=4.8
VNDA LR LR 06 40 47.5
comp=Z,54nm,19.2s,baz=2.5,slow=32
KSRS Korea Array 73.98 317 P **P 06 18 34.5 +2.4**
0.7nm,0.6s,baz=116,slow=5.5,SNR=4.1
KSRS LR LR 06 46 20.4
comp=Z,110nm,19.2s,baz=294,slow=32
KSAR Wonju Array Be 74.00 317 P **P 06 18 34.5 +2.2**
QSPA South Pole Qui 74.20 180 eP **P 06 18 34.6 +1.4**
9.6nm,1.1s
USRK Ussuriysk Arra 75.61 325 LR LR 06 46 27.1
comp=Z,109nm,20.6s,baz=317,slow=31
IPM Ipoh 83.37 277 eP **P 06 19 25.2 +0.8**
8.0nm,0.8s
ILAR Eielson Array 83.61 13 P **P 06 19 23.1 -1.3**
ILAR Eielson Array 83.61 13 P **P 06 19 23.2 -1.3**
0.3nm,0.9s,baz=212,slow=4.9,SNR=5.3
ANMO Albuquerque 83.87 51 eP **P 06 19 29.3 +2.5**
3.7nm,1.2s
TXAR Lajitas Array 83.87 57 P **P 06 19 27.8 +1.1**
TXAR Lajitas Array 83.87 57 P **P 06 19 27.8 +1.1**
0.7nm,1.0s,baz=216,slow=8.6,SNR=7.6
TXAR LR LR 06 48 56.7
comp=Z,188nm,19.2s,baz=175,slow=30
PDAR Pinedale Array 85.03 43 P **P 06 19 32.4 -0.1**
PDAR Pinedale Array 85.03 43 P **P 06 19 32.4 -0.1**
0.6nm,0.6s,baz=242,slow=1.9,SNR=3.1
PDAR LR LR 06 48 09.2
comp=Z,83nm,20.4s,baz=261,slow=29
MAW Mawson 86.20 199 LR LR 06 53 23.0
comp=Z,133nm,19.9s,baz=243,slow=32
PLCA Paso Flores 91.87 133 LR LR 06 56 14.4
comp=Z,51nm,18.4s,baz=316,slow=32
SONM Songino Array 92.78 319 LR LR 07 03 00.2
comp=Z,58nm,18.1s,baz=132,slow=36
BRTR Keskin Array B 144.13 318 PKP **PKPdf 06 26 34.3 +1.6**
BRTR Keskin Array B 144.13 318 PKP **PKPdf 06 26 34.3 +1.6**
0.6nm,0.8s,baz=35,slow=5.6,SNR=3.5
KHC Kasperske Hory 145.66 347 ePKPbc **PKPab 06 26 35.7 +0.2**
GERES GERESS Array B 145.90 347 PKPbc **PKPab 06 26 36.5 0.0**
GERES GERESS Array B 145.90 347 PKPbc **PKPab 06 26 36.5 0.0**
0.4nm,0.4s,baz=309,slow=4.8,SNR=6.9

MEX 21 06:07:06.8±0.5, 16°26N×96°09W, h69km±6km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.49**	**183**	eP		Pn	06 07 17.8 -1.6
HUIG				i S		Sn	06 07 27.0 -1.6
VHO	**Vista Hermosa**	**1.02**	**323**	eP		Pn	06 07 24.6 -1.2
VHO				i S		Sn	06 07 37.9 -2.0
PNIG	**Pinotepa**	**1.96**	**274**	eP		Pn	06 07 37.0 -1.0
PNIG				i S		Sn	06 07 59.7 -2.1
PCIG		**2.81**	**101**	eP		Pn	06 07 48.2 -1.2
PCIG				i S		Sn	06 08 20.2 -2.0

IDC 21 07:32:35.6±2.1, 3°59N×126°79E, h0km, mb3.2/4, mb1 3.4/4, mb1mx3.3/23, mbtmp3.3/4, Error ellipse: s-maj=201.6km s-min=22.8km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.53**	**163**	P		P	07 37 55.3 -1.8
	0.2nm,0.4s,baz=341,slow=10,SNR=6.0						
ASAR	**Alice Springs**	**27.96**	**166**	P		P	07 38 29.8 +1.7
	0.2nm,0.6s,baz=345,slow=11,SNR=3.2						
MKAR	**Makanchi Array**	**57.71**	**325**	P		P	07 42 27.8 -0.4
	0.2nm,0.5s,baz=117,slow=7.6,SNR=4.9						
KURBB	**Kurchatov Arra**	**61.89**	**327**	P		P	07 42 57.1 +0.2
	0.1nm,0.4s,baz=129,slow=6.4,SNR=4.1						

IDC 21 07:43:44.4±4.1, 4°42S×101°20E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.6/22, mbtmp3.6/5, Error ellipse: s-maj=158.4km s-min=22.4km az=57.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**22.84**	**354**	P		P	07 48 49.5 +0.1
	0.9nm,0.3s,baz=182,slow=8.9,SNR=5.7						
WRA	**Warramunga Arr**	**35.77**	**118**	P		P	07 50 44.9 -0.7
	0.3nm,0.5s,baz=305,slow=8.8,SNR=3.7						
ASAR	**Alice Springs**	**36.89**	**124**	P		P	07 50 55.5 +0.4
	0.2nm,0.7s,baz=298,slow=7.9,SNR=3.0						
SONM	**Songino Array**	**52.23**	**4**	P		P	07 52 57.4 0.0
	1.2nm,0.7s,baz=189,slow=9.2,SNR=6.3						
MKAR	**Makanchi Array**	**53.67**	**344**	P		P	07 53 07.4 -0.5
	0.4nm,0.5s,baz=148,slow=7.8,SNR=5.9						
TXAR	**Lajitas Array**	**145.82**	**41**	PKPbc		PKPdf	08 03 26.1 +0.1
	3.6nm,1.3s,baz=240,slow=1.8,SNR=8.4						

DJA 21 07:57:51.1±1.5, 1°N±8°×10°0E±°, h10km, M3.8/4, MLv3.8/4, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKNI	**Bangkinang**	**1.05**	**106**	P	Pg	07 58 11.1 -0.2	
BKNI				S	Sg	07 58 25.1 +0.1	
PPI	**Padang Panjang**	**1.13**	**161**	P	Pb	07 58 11.0 -1.8	
PDSI	**Padang**	**1.58**	**164**	P	Pn	07 58 19.0 -0.3	
PDSI				S	Sg	07 58 41.8 -0.3	
SDSI	**Sungai Dareh**	**2.08**	**138**	P	Pb	07 58 27.8 -1.2	

DJA 21 08:11:41.2±0.8, 8°S±4°×10°7E±°, h15km±9km, M4.0/13, MLv4.0/13, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CISI	**Cisompet, Garu**	**0.80**	**36**	P	Pg	08 11 56.0 -0.9	
CISI				S	Sg	08 12 06.2 -1.4	
LEM	**Lembang**	**1.40**	**11**	P	Pn	08 12 05.5 -1.0	
SKJI	**Sukabumi**	**1.43**	**327**	P	Pn	08 12 05.1 -1.5	
SKJI				S	Sn	08 12 23.5 -1.6	
CLJI	**Cilicap**	**1.73**	**74**	P	Pn	08 12 11.4 +0.7	
DBJI	**Dramaga**	**1.75**	**340**	P	Pn	08 12 10.8 -0.2	
KPJI	**Karang Pucung**	**1.80**	**61**	P	Pn	08 12 11.1 -0.6	
TGJI	**Tegal**	**2.21**	**53**	P	Pn	08 12 17.2 -0.2	
SBJI	**Serang**	**2.40**	**330**	P	Pn	08 12 20.9 +0.9	
BJII	**Banjamegara**	**2.50**	**70**	P	Pn	08 12 20.8 -0.7	
UGM	**Wanagama**	**3.17**	**85**	P	Pn	08 12 30.0 -0.6	
PWJI	**Pagerwojo**	**4.42**	**88**	P	Pn	08 12 48.2 +0.4	
MDSI	**Maura Dua**	**4.85**	**319**	P	Pn	08 12 53.4 -0.3	

IDC 21 08:19:28.7±4.0, 3°36S×148°74E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.7/17, mbtmp3.8/5, MS3.2/2, Ms1 3.2/2, ms1mx2.6/35, Error ellipse: s-maj=133.5km s-min=27.9km az=104.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.65**	**219**	P		P	08 24 20.0 -1.0
	3.9nm,1.2s,baz=38,slow=11,SNR=5.5						
WRA				LR	LR	08 32 57.4	
	comp=Z,52nm,18.3s,baz=145,slow=37						
ASAR	**Alice Springs**	**24.76**	**214**	P		P	08 24 51.5 -0.9
	1.7nm,0.8s,baz=42,slow=8.3,SNR=16						
DZM	**Mont Dzumac**	**25.32**	**139**	LR	LR	08 31 54.2	
	comp=Z,67nm,18.7s,baz=204,slow=29						
FITZ	**Fitzroy Crossi**	**26.95**	**235**	P		P	08 25 13.8 +1.6
	5.0nm,0.8s,baz=65,slow=8.8,SNR=5.4						
MKAR	**Makanchi Array**	**76.60**	**320**	P		P	08 31 20.9 -0.4
	0.6nm,0.9s,baz=117,slow=5.0,SNR=4.4						
KURBB	**Kurchatov Arra**	**80.19**	**323**	P		P	08 31 40.4 -0.6
	0.2nm,0.3s,baz=115,slow=4.2,SNR=3.0						
TORD	**Torodi Ar. Bea**	**146.01**	**289**	PKPbc		PKPab	08 39 12.0 -0.1
	0.5nm,0.7s,baz=57,slow=2.1,SNR=3.0						

DJA 21 08:20:47.7±0.5, 3°S±6°×12°9E±°, h20km, M3.8/7, MLv3.8/7, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSAI	**Masohi**	**0.68**	**216**	P	Pb	08 20 58.7 -2.1	
AAI	**Ambon**	**1.44**	**232**	P	Pn	08 21 12.6 0.0	
BNDI	**Bandanaira**	**1.80**	**161**	P	Pn	08 21 18.3 +0.6	
NLAI	**Namlea**	**2.27**	**259**	P	Pn	08 21 24.3 +0.2	
SWI	**Sorong**	**2.72**	**45**	P	Pn	08 21 30.6 +0.3	
FAKI	**Fak Fak**	**2.92**	**92**	P	Pn	08 21 32.9 -0.1	

IDC 21 08:27:46.2±3.5, 5°29S×152°01E, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.5/17, mbtmp3.6/2, Error ellipse: s-maj=144.5km s-min=46.8km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.54**	**228**	P		P	08 32 48.4 +0.4
	1.0nm,0.5s,baz=52,slow=9.8,SNR=14						
ASAR	**Alice Springs**	**25.27**	**222**	P		P	08 33 13.9 -0.4
	0.9nm,0.7s,baz=57,slow=8.7,SNR=15						
TORD	**Torodi Ar. Bea**	**149.71**	**287**	PKPbc		PKPbc	08 47 38.7 -0.4
	0.2nm,0.6s,baz=74,slow=3.2,SNR=2.8						

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*BJI **21** 08:30:11.6, 71°.10N×7°.60W, h10km, mB5.5/32, mb5.0/44, Ms5.5/19, MS7 5.4/22*
*IDC **21** 08:30:11.3±0.3, 70°.99N×8°.51W, h0km, mb4.7/31, mb1 4.9/33, mb1mx4.9/35, mbtmp4.8/33, ML5.2/2, MS5.1/28, Ms1 5.1/28, ms1mx5.0/51, Error ellipse: s-maj=9.3km s-min=4.0km az=134.0*
*ISCJB **21** 08:30:12.5±0.6, 70°.98N±0°.01×8°.08W±0°.03, h11km±3km, mb5.2/339, MS5.3/211, Error ellipse: s-maj=2.2km s-min=1.4km az=38.1*
*BGS **21** 08:30:12.9±2.3, 71°.04N×7°.67W, h10km, mb5.1, MS5.0*
*NAO **21** 08:30:12.6±3.2, 70°.94N×7°.56W, h13km±53km, ML5.0*
*MOS **21** 08:30:12.2±1.0, 71°.06N×7°.90W, h10km, mb5.5/104, MS5.1/59, Error ellipse: s-maj=11.3km s-min=3.1km az=99.4*
*CSEM **21** 08:30:13.7, 71°.00N×7°.90W, h10km, mb5.3/99, Ms5.1, Mw5.6, Error ellipse: s-maj=2.1km s-min=1.5km az=46.0*
*NEIC **21** 08:30:14.0±0.1, 71°.04N×7°.67W, h10km, mb5.4/200, MS5.2/127, Error ellipse: s-maj=3.1km s-min=1.6km az=222.0*
*REY **21** 08:30:14.5, 70°.98N×9°.29W, h10km, ML4.7, ML4.2*
*BER **21** 08:30:14.0±2.8, 70°.88N×7°.73W, h10km, MD3.8, ML4.7, ML5.2(NAO)*
*PDA **21** 08:30:14.9, 71°.30N×7°.50W, h14km, mb5.6*
*TEH **21** 08:30:15.0, 71°.08N×7°.50W, h10km, ML5.3*
*GCMT **21** 08:30:15.9±0.1, 71°.10N×7°.70W, h15km, MW5.6, Moment Tensor Solution. s84,c150; s40,c47; Moment tensor: Scale 10^17^Nm; M_{rr}-0.13±.04; $M_{\theta\theta}$2.14±.05; $M_{\phi\phi}$-2.01±.04; $M_{r\theta}$0.41±.13; $M_{\theta\phi}$2.22±.04; $M_{\phi r}$0.73±.13; Best double couple: $M_0$3.20000×10^17^ NP1:ϕ_s22.00000°, δ89.00000°, λ165.00000°. NP2:ϕ_s112.00000°, δ75.00000°, λ1.00000°. Principal axes: T 3.2400, Plg11.0000°, Azm336.0000°; N -0.1700, Plg75.0000°, Azm198.0000°; P -3.0700, Plg10.0000°, Azm68.0000°; Data Used: II IU CN G IC. Surface waves: sta=114, comp=217, per= 50.*
*SZGRF **21** 08:30:24.5, 70°.41N×5°.95W, h29km, mb5.1, MS4.5, Jan Mayen Island region*
*BKK **21** 08:30:26.1±1.3, 71°N±10°×°±2°6, h10km, M5.3/19, mB5.8/13, mb5.1/19, Mw(mB)5.4/13*
*DJA **21** 08:30:43.5±6.9, 71°N±12°×°±3°7, h191km±51km, M4.9/8, mB5.4/7, mb4.8/8, Mw(mB)4.9/7*
ISC 21 08:30:14.8±0.3, 71°01N±0°02×7°85W±0°02, h16km±1km, h15km:pP-P, n1994, σ1°16/2001, mb5.3/338, MS5.2/211, 456C-215D, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNE	**Jan Mayen East**	**0.15**	**262**	⇓ i P		**Pg**	**08 30 18.1 -0.6**
JNE	**Jan Mayen East**	**0.15**	**262**	⇓ i P		**Pg**	**08 30 18.1 -0.6**
	SNR=113						
JNW	**Jan Mayen West**	**0.19**	**276**	⇓ i P		**Pg**	**08 30 18.5 -0.8**
JNW	**Jan Mayen West**	**0.19**	**276**	⇓ i P		**Pg**	**08 30 18.5 -0.8**
	SNR=108						
JMIC	**Jan Mayen**	**0.22**	**264**	Pg		**Pg**	**08 30 18.9 -0.8**
JMIC	**Jan Mayen**	**0.22**	**264**	Pg		**Pg**	**08 30 18.9 -0.8**
JMIC	**Jan Mayen**	**0.22**	**264**	Pn		**Pg**	**08 30 18.6 -1.1**
JMIC	**Jan Mayen**	**0.22**	**264**	Pn		**Pg**	**08 30 18.6 -1.1**
	12μm,0.3s,baz=53,slow=6.3,SNR=2051						
JMIC	**Jan Mayen**	**0.22**	**264**	Pn		**Pg**	**08 30 18.6 -1.1**
JMIC	**Jan Mayen**	**0.22**	**264**	Pg		**Pg**	**08 30 18.9 -0.8**
	SNR=108						
JMI	**Jan Mayen**	**0.30**	**254**	i P		**Pg**	**08 30 20.7 -0.4**
JMI				eS		**Sb**	**08 30 26.4 0.0**
JMI				AML	AML	08 30 27.4	
	comp=Z,302μm,0.6s						
JMI	**Jan Mayen**	**0.30**	**254**	i P		**Pg**	**08 30 20.7 -0.4**
	SNR=105						
SCO	**Scoresbysund**	**4.70**	**270**	i P		**Pn**	**08 31 25.5 +0.7**
SCO				pmax	pmax		
	comp=Z,180nm,0.9s						
SCO	**Scoresbysund**	**4.70**	**270**	i P		**Pn**	**08 31 25.5 +0.7**
	comp=Z,182nm,0.9s						
SCO				eS		**Sb**	**08 32 31.8 -1.0**
SCO	**Scoresbysund**	**4.70**	**270**	i P		**Pn**	**08 31 25.5 +0.7**
	comp=Z,182nm,0.9s						
ILEI	**Leirhofn**	**5.59**	**218**	P		Pn	08 31 34.5 -2.6
ILEI				S		**Sn**	**08 32 38.6 -2.2**
IGIL	**Gilhagi**	**5.85**	**216**	P		**Pn**	**08 31 38.6 -2.1**
IGIL				S		**Sn**	**08 32 46.0 -1.3**
IHED	**Heoinshofoi**	**6.04**	**220**	P		Pn	08 31 40.6 -2.7
IHED				S		**Sn**	**08 32 49.6 -2.3**
IDIM	**Dimmadals¨¡s**	**6.07**	**218**	P		Pn	08 31 41.3 -2.3
IDIM				S		**Sn**	**08 32 50.2 -2.4**
IBRE	**Brettingsstaoi**	**6.13**	**222**	P		**Pn**	**08 31 42.5 -2.0**
IBRE				S		**Sn**	**08 32 52.7 -1.5**
ISKI	**Skildingah¨‡ls**	**6.17**	**218**	P		**Pn**	**08 31 42.8 -2.2**
ISKI				S		**Sn**	**08 32 53.7 -1.4**
IGRS	**Grimsstaoir**	**6.20**	**214**	P		**Pn**	**08 31 44.5 -1.0**
IGRS				S		**Sn**	**08 32 55.6 -0.3**
IGRA	**Granastaoir**	**6.24**	**220**	P		**Pn**	**08 31 43.7 -2.2**
IGRA				S		**Sn**	**08 32 54.7 -2.1**
IKVO	**Krokottuvotn**	**6.27**	**216**	P		**Pn**	**08 31 44.9 -1.6**
IKVO				S		**Sn**	**08 32 57.1 -0.7**
IREN	**Reynihlio**	**6.34**	**216**	P		**Pn**	**08 31 45.4 -2.0**
IREN				S		**Sn**	**08 32 59.1 -0.2**
ISIG	**Siglufjorour**	**6.35**	**225**	P		**Pn**	**08 31 45.5 -2.0**
ISIG				S		**Sn**	**08 32 57.6 -1.9**
IHLA	**Hella**	**6.39**	**222**	P		**Pn**	**08 31 46.0 -2.0**
DAG	**Danmarks Havn**	**6.51**	**338**	⇑ i P		Pn	08 31 46.2 -3.5
DAG				pmax	pmax		
	comp=Z,600nm,0.7s						
DAG				MLR	MLR		
	comp=Z,23μm,18.0s						
DAG	**Danmarks Havn**	**6.51**	**338**	⇑ i P		Pn	08 31 46.2 -3.5
	comp=Z,879nm,0.7s						
DAG				eS		Sn	08 32 52.3 -11
DAG							
	comp=Z,22μm,17.0s						
DAG	**Danmarks Havn**	**6.51**	**338**	i P		Pn	08 31 46.2 -3.5
	comp=Z,23μm,18.0s						
IGLU	**Glumsstadir**	**6.63**	**208**	P		**Pn**	**08 31 50.4 -1.0**
IGLU				S		**Sn**	**08 33 06.7 +0.1**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IHRN	**Hraun**	**6.66**	**228**	S		**Sn**	**08 33 04.1 -3.0**
IADA	**Aoalbol**	**6.67**	**209**	P		**Pn**	**08 31 51.4 -0.6**
IADA				S		**Sn**	**08 33 07.7 +0.1**
ISVA	**Svartarkot**	**6.68**	**216**	P		**Pn**	**08 31 50.2 -1.9**
ISVA				S		**Sn**	**08 33 07.8 0.0**
IHVA	**Hvannstoosfjol**	**6.78**	**210**	P		**Pn**	**08 31 52.1 -1.4**
IMKO	**Mokollar**	**6.84**	**212**	P		**Pn**	**08 31 53.3 -1.0**
IVSH	**V-Sauoahnukur**	**6.89**	**209**	P		**Pn**	**08 31 53.5 -1.6**
IVSH				S		**Sn**	**08 33 13.4 +0.3**
IBRU	**Bruarjokull**	**6.93**	**211**	P		**Pn**	**08 31 54.1 -1.5**
IBRU				S		**Sn**	**08 33 14.9 +0.8**
IKRE	**Kreppuhraun**	**7.03**	**211**	P		**Pn**	**08 31 56.1 -0.8**
IKRE				S		**Sn**	**08 33 16.6 +0.3**
LOF	**Lofoten**	**8.00**	**101**	ePn		Pn	08 32 06.4 -3.7
LOF				eSn		Sn	08 33 32.5 -7.5
LOF				AML	AML	08 33 36.3	
	comp=Z,308nm,0.8s						
BORG	**Borgarnes**	**8.07**	**225**	Pn		Pn	08 32 15.9 +4.9
	comp=Z,866nm,1.6s,SNR=5.8						
BORG	**Borgarnes**	**8.07**	**225**	Pn		**Pn**	**08 32 12.4 +1.4**
BORG				Sn		**Sn**	**08 33 46.5 +4.7**
BORG				eSn		Sn	08 33 47.8 +6.1
BORG	**Borgarnes**	**8.07**	**225**	Pn		**Pn**	**08 32 12.4 +1.4**
	comp=Z,5.3nm,0.3s,baz=44,slow=7.7,SNR=15						
BORG				Sn		**Sn**	**08 33 46.5 +4.7**
	comp=Z,2.9nm,0.3s,baz=180,slow=20,SNR=4.6						
BORG				LR	LR	08 34 38.3	
	comp=Z,18μm,20.1s,baz=33,slow=34						
BORG	**Borgarnes**	**8.07**	**225**	P		**Pn**	**08 32 12.4 +1.4**
STEI	**Steigen**	**8.65**	**100**	ePn		**Pn**	**08 32 16.0 -3.0**
STEI				eSn		Sn	08 33 46.5 -9.5
STEI				AML	AML	08 33 55.1	
	comp=Z,472nm,0.7s						
STOK	**Stokkvaagen**	**8.90**	**112**	ePn		**Pn**	**08 32 19.9 -2.5**
STOK				eSn		Sn	08 33 52.8 -9.3
STOK				AML	AML	08 34 01.9	
	comp=N,1μm,0.5s						
SOFL	**Sornfelli, Far**	**8.99**	**177**	AMS	AMS	08 35 00.2	
	comp=Z,31μm,17.8s						
FLOS	**Flostrand**	**9.00**	**111**	ePn		**Pn**	**08 32 21.3 -2.5**
FLOS				eSn		Sn	08 33 56.4 -8.3
FLOS				AML	AML	08 34 03.4	
	comp=Z,2μm,0.4s						
KBS	**Kingsbay**	**9.38**	**24**	eP		**Pn**	**08 32 27.0 -2.0**
KBS				e			08 34 07.4
KBS				pmax	pmax		
	comp=Z,317nm,0.6s						
KBS	**Kingsbay**	**9.38**	**24**	ePn		**Pn**	**08 32 27.0 -2.0**
	comp=Z,317nm,0.6s						
KBS				eSn		Sn	08 34 07.3 -6.6
KBS	**Kingsbay**	**9.38**	**24**	eP		**Pn**	**08 32 27.0 -2.0**
	comp=Z,317nm,0.6s						
MOR8	**Moi Rana**	**9.44**	**110**	ePn		**Pn**	**08 32 27.5 -2.4**
MOR8				eSn		Sn	08 34 07.7 -7.7
MOR8				AML	AML	08 34 17.6	
	comp=Z,1μm,0.5s						
SPA0	**Spitsbergen Ar**	**9.54**	**31**	Pn		**Pn**	**08 32 30.0 -1.3**
	baz=228,slow=16						
SPA0				Sn		**Sn**	**08 34 14.3 -3.7**
	baz=244,slow=37						
SPA0	**Spitsbergen Ar**	**9.54**	**31**	Pn		**Pn**	**08 32 30.0 -1.3**
	baz=228,slow=16						
SPA0				Sn		**Sn**	**08 34 14.3 -3.7**
	baz=244,slow=37						
SPITS	**Spitsbergen Ar**	**9.54**	**31**	Pn		**Pn**	**08 32 30.4 -0.8**
SPITS	**Spitsbergen Ar**	**9.54**	**31**	Pn		**Pn**	**08 32 30.4 -0.8**
	baz=220,slow=13,SNR=428						
SPITS	**Spitsbergen Ar**	**9.54**	**31**	P		**Pn**	**08 32 30.4 -0.8**
SUMG	**Summit**	**9.64**	**294**	⇑ i P		**Pn**	**08 32 32.3 -0.6**
SUMG				pmax	pmax		
	comp=Z,140nm,1.0s						
SUMG	**Summit**	**9.64**	**294**	⇑ i P		**Pn**	**08 32 32.3 -0.6**
	comp=Z,137nm,1.0s						
SUMG	**Summit**	**9.64**	**294**	ePn		**Pn**	**08 32 31.9 -1.0**
	comp=Z,225nm,0.9s						
SUMG	**Summit**	**9.64**	**294**	ePn		**Pn**	**08 32 31.9 -1.0**
	comp=Z,225nm,0.9s						
SUMG	**Summit**	**9.64**	**294**	⇑ i P		**Pn**	**08 32 32.3 -0.6**
	comp=Z,137nm,1.0s,SNR=46						
NSS	**Namsos**	**9.88**	**121**	⇑ i Pn		**Pn**	**08 32 33.7 -2.2**
NSS				eSn		Sn	08 34 14.3 -12
NSS				AML	AML	08 34 24.4	
	comp=Z,1μm,0.5s						
MOL	**Molde**	**10.38**	**137**	ePn		Pn	08 32 38.7 -4.0
MOL				eSn		Sn	08 34 26.7 -12
MOL				AML	AML	08 34 32.3	
	comp=Z,189nm,0.8s						
TBLU	**Trondheim**	**10.45**	**129**	ePn		**Pn**	**08 32 41.0 -2.7**
TBLU				eSn		Sn	08 34 27.2 -13
TBLU				AML	AML	08 34 32.1	
	comp=Z,647nm,0.7s						
KTK1	**Kautokeino**	**10.75**	**86**	ePn		**Pn**	**08 32 44.9 -2.9**
DOMB	**Dombas**	**11.19**	**135**	eSn		Sn	08 34 50.6 -7.8
DOMB				AML	AML	08 34 57.4	
	comp=Z,99nm,0.5s						
SUE	**Sulen**	**11.20**	**147**	ePn		Pn	08 32 50.7 -3.2
SUE				eSn		Sn	08 34 45.7 -13
SUE				AML	AML	08 34 53.9	
	comp=Z,217nm,0.4s						
LRW	**Lerwick**	**11.25**	**163**	eP		**Pn**	**08 32 54.8 +0.1**
LRW				AMB	AMB	08 32 57.3	
	comp=Z,260nm,2.9s						
LRW				AMS	AMS	08 35 52.6	
	comp=Z,13μm,20.9s						
LRW	**Lerwick**	**11.25**	**163**	eP		**Pn**	**08 32 54.8 +0.1**
ARA0	**ARCESS Array S**	**11.28**	**82**	Pn		**Pn**	**08 32 52.4 -2.6**
	baz=288,slow=12						
ARA0				Sn		**Sn**	**08 34 55.5 -4.9**
	baz=273,slow=18						
ARA0	**ARCESS Array S**	**11.28**	**82**	Pn		**Pn**	**08 32 52.4 -2.6**
	baz=288,slow=12						
ARA0				Sn		**Sn**	**08 34 55.5 -4.9**
	baz=273,slow=18						
ARCES	**ARCESS Array B**	**11.28**	**82**	Pn		**Pn**	**08 32 52.2 -2.7**
ARCES				Sn		**Sn**	**08 34 55.5 -4.9**
ARCES	**ARCESS Array B**	**11.28**	**82**	Pn		**Pn**	**08 32 52.2 -2.7**
	comp=Z,1.9nm,0.3s,baz=289,slow=11,SNR=42						
ARCES				Sn		**Sn**	**08 34 55.5 -4.9**
	comp=Z,5.7nm,0.3s,baz=283,slow=20,SNR=4.0						
ARCES				LR	LR	08 36 36.6	
	comp=Z,7μm,20.7s,baz=298,slow=34						
ARE0	**ARCESS Array S**	**11.28**	**82**	ePn		**Pn**	**08 32 52.4 -2.5**
ARE0	**ARCESS Array S**	**11.28**	**82**	ePn		**Pn**	**08 32 52.4 -2.5**
HYA	**Hoyanger**	**11.36**	**143**	ePn		Pn	08 32 53.2 -2.9
HYA				eSn		Sn	08 34 51.9 -11
HYA				AML	AML	08 35 05.9	
	comp=Z,304nm,0.7s						
ASK	**Askoy**	**11.81**	**147**	ePn

comp=Z,144nm,0.6s
BLS5 Blasjo 13.03 146 *e*Pn **Pn 08 33 16.4 -2.6**
BLS5 *e*Sn Sn 08 35 30.7 -13
BLS5 AML AML 08 35 37.9
comp=Z,126nm,0.4s
MVH1 Achvaich 13.23 171 *e*P **Pn 08 33 20.0 -1.7**
MVH1 Achvaich 13.23 171 *e*P **Pn 08 33 20.0 -1.7**
KONO Kongsberg 13.45 139 *e*Pn **Pn 08 33 21.9 -2.7**
KONO *e*Sn Sn 08 35 45.0 -8.5
KONO AML AML 08 36 21.6
comp=Z,324nm,0.5s
KONO Kongsberg 13.45 139 *e*P Pn 08 33 21.2 -3.4
KONO pmax pmax
comp=Z,247nm,0.9s
KONO Kongsberg 13.45 139 *e*Pn Pn 08 33 21.2 -3.4
comp=Z,247nm,0.9s
KAC Achnashellach 13.61 174 *e*P **Pn 08 33 25.7 -1.1**
KAC Achnashellach 13.61 174 *e*P **Pn 08 33 25.7 -1.1**
MCD Coleburn Disti 13.62 169 *e*P **Pn 08 33 27.1 +0.1**
MCD Coleburn Disti 13.62 169 *e*P **Pn 08 33 27.1 +0.1**
MDO Dochfour 13.71 172 *e*P **Pn 08 33 27.9 -0.2**
MDO Dochfour 13.71 172 *e*P **Pn 08 33 27.9 -0.2**
KPL Plockton 13.76 175 *e*P **Pn 08 33 29.6 +0.8**
KPL AMB AMB 08 33 39.3
comp=Z,116nm,2.2s
KPL AMS AMS 08 38 01.3
comp=Z,15μm,16.7s
KPL Plockton 13.76 175 *e*P **Pn 08 33 29.6 +0.8**
HFS Hagfors 13.97 130 Pn **Pn 08 33 28.8 -2.9**
baz=328,slow=14
HFS Sn Sn 08 35 56.5 -10
baz=336,slow=28
HFS Hagfors 13.97 130 Pn **Pn 08 33 28.8 -2.9**
baz=328,slow=14
HFS Pn P 08 33 28.8 -11
baz=342,slow=12
HFS Sn Sn 08 35 56.5 -10
baz=336,slow=28
HFS Hagfors 13.97 130 Pn **Pn 08 33 29.1 -2.6**
HFS Sn Sn 08 35 56.8 -9.4
HFS Hagfors 13.97 130 Pn **Pn 08 33 29.1 -2.6**
comp=Z,5.2nm,0.3s,baz=334,slow=9.6,SNR=58
HFS Sn Sn 08 35 56.8 -9.4
comp=Z,13nm,0.3s,baz=332,slow=21,SNR=8.9
HFS LR LR 08 38 25.7
comp=Z,10μm,21.9s,baz=330,slow=35
HFS Hagfors 13.97 130 P **Pn 08 33 29.1 -2.6**
SNART Snartemo 14.19 146 *e*Pn Pn 08 33 31.9 -2.8
SNART *e*Sn Sn 08 35 59.5 -12
SNART AML AML 08 36 19.8
comp=Z,55nm,0.6s
DRUM Mains of Drumt 14.34 168 *e*P **Pn 08 33 36.7 -0.1**
DRUM AMB AMB 08 33 46.7
comp=Z,249nm,2.1s
DRUM AMS AMS 08 37 36.1
comp=Z,9μm,22.0s
ILULI Ilulissat 14.59 284 *i* P Pn 08 33 37.2 -2.9
ILULI pmax pmax
comp=Z,170nm,0.7s
APA0 Apatity Array 14.61 84 Pn **Pn 08 33 38.4 -2.0**
baz=315,slow=14
APA0 Sn Sn 08 36 12.3 -9.4
baz=299,slow=28
APA0 Apatity Array 14.61 84 Pn **Pn 08 33 38.4 -2.0**
baz=315,slow=14
APA0 Sn Sn 08 36 12.3 -9.4
baz=299,slow=28
KULLO Kullorsuaq 14.65 307 *i* P Pn 08 33 34.5 -6.4
KULLO pmax pmax
comp=Z,94nm,0.8s
KULLO MLR MLR
comp=Z,9μm,10.0s
APA Apatity 14.76 83⇑ *i*P **Pn 08 33 40.0 -2.5**
APA *i* 08 36 22.0
APA MLR MLR
comp=Z,7μm,20.0s
EAB Aberfoyle 14.96 172 *e*P **Pn 08 33 44.3 -0.9**
LVZ Lovozero 14.99 81 *d* *i*P Pn 08 33 42.2 -3.4
LVZ Lovozero 14.99 81 Pn **Pn 08 33 42.9 -2.7**
comp=Z,874nm,0.9s,SNR=9.2
ESY Stoneypath 15.32 169 *e*P **Pn 08 33 49.0 -1.0**
SFJD Kangerlussuaq 15.57 276 *i* P **Pn 08 33 51.1 -2.0**
comp=Z,217nm,0.9s
SFJD
comp=Z,8μm,10.0s
SFJD Kangerlussuaq 15.57 276 Pn **Pn 08 33 51.2 -2.0**
comp=Z,90nm,0.9s
SFJD Kangerlussuaq 15.57 276 Pn **Pn 08 33 51.2 -2.0**
comp=Z,2.4nm,0.3s,baz=48,slow=12,SNR=21
SFJD LR LR 08 38 56.2
comp=Z,6μm,21.7s,baz=52,slow=34
SFJD Kangerlussuaq 15.57 276 Pn **Pn 08 33 51.2 -2.0**
comp=Z,90nm,0.9s
EKA Eskdalemuir Ar 15.87 170 Pn **Pn 08 33 56.0 -1.1**
EKA Sn Sn 08 36 42.6 -10
EKA Eskdalemuir Ar 15.87 170 Pn **Pn 08 33 56.0 -1.1**
baz=353,slow=13,SNR=17
EKA Sn Sn 08 36 42.6 -10
baz=351,slow=26,SNR=4.1
EKA LR LR 08 39 04.1
comp=Z,9μm,21.9s,baz=335,slow=34
ESK Eskdalemuir 15.88 170 *e*P **Pn 08 33 56.5 -0.8**
ESK AMB AMB 08 34 02.5
comp=Z,118nm,1.5s
ESK AMS AMS 08 38 21.6
comp=Z,8μm,23.2s
ESK Eskdalemuir 15.88 170 *e*P **Pn 08 33 56.7 -0.6**
ESK pmax pmax
comp=Z,147nm,1.3s
ESK Eskdalemuir 15.88 170 *e*Pn **Pn 08 33 56.7 -0.6**
comp=Z,147nm,1.3s
ALE Alert 15.91 337 Pn Pn 08 33 51.7 -5.8
comp=Z,801nm,1.3s,SNR=26
ECK Cauldkaine Hil 16.02 170 *e*P **Pn 08 33 57.2 -2.0**
GAL1 Galloway 16.27 174 AMS AMS 08 39 44.6
comp=Z,11μm,15.1s
GCD Castle Douglas 16.30 172 *e*P **Pn 08 34 02.4 -0.3**
MUD Monsted U'grnd 16.32 145 *i* P **Pn 08 34 02.8 -0.1**
MUD pmax pmax
comp=Z,30nm,0.8s
MUD MLR MLR
comp=Z,3μm,14.0s
MUD Monsted U'grnd 16.32 145 *i* P **Pn 08 34 02.8 -0.1**
comp=Z,30nm,0.7s
MUD
comp=Z,3μm,13.0s
FIA0 FINESS Array S 16.43 108 P **Pn 08 34 01.8 -2.4**
baz=326,slow=12
FIA0 Sn Sn 08 36 54.7 -11
baz=325,slow=22
FIA0 FINESS Array S 16.43 108 Pn **Pn 08 34 01.8 -2.4**
baz=326,slow=12
FIA0 Sn Sn 08 36 54.7 -11
baz=325,slow=22
FIA1 FINESS Array S 16.43 108 *e*Pn **Pn 08 34 02.0 -2.2**
FIA1 *e*Sn Sn 08 36 50.1 -16
FIA1 FINESS Array S 16.43 108 *e*Pn **Pn 08 34 02.0 -2.2**
FINES FINESS Array B 16.43 108 Pn **Pn 08 34 01.7 -2.4**
FINES Sn Sn 08 36 54.4 -11
FINES FINESS Array B 16.43 108 Pn **Pn 08 34 01.7 -2.4**
comp=Z,4.9nm,0.3s,baz=327,slow=12,SNR=64
FINES Sn Sn 08 36 54.4 -11
comp=Z,4.8nm,0.3s,baz=324,slow=22,SNR=5.3
KESW Keswick, Cumbr 16.62 170 *e*P **Pn 08 34 07.5 +0.8**
KESW AMB AMB 08 34 10.8
comp=Z,328nm,1.9s
KESW AMS AMS 08 39 59.0
comp=Z,10μm,17.1s
GMM Mts of Mourne 16.86 176 *e*P **Pn 08 34 08.1 -1.6**
HPK Haverah Park 17.34 168 *e*P **Pn 08 34 15.0 -0.7**
HPK AMB AMB 08 34 19.0
comp=Z,230nm,2.1s
HPK AMS AMS 08 39 28.7
comp=Z,6μm,21.5s
COP Copenhagen 17.70 140 *i* P **Pn 08 34 18.1 -2.1**
COP pmax pmax
comp=Z,35nm,0.9s
COP MLR MLR
comp=Z,3μm,12.0s
COP Copenhagen 17.70 140 *i* P **Pn 08 34 18.1 -2.1**
comp=Z,35nm,0.8s
COP
comp=Z,3μm,12.0s
WME Myndd Eilian 17.75 173 *e*P **Pn 08 34 19.1 -1.8**
NRS Narsarsuaq 17.79 255 *i* P **P 08 34 23.6 +1.7**
NRS pmax pmax
comp=Z,67nm,1.0s
NRS Narsarsuaq 17.79 255 *i* P **P 08 34 23.6 +1.7**
comp=Z,67nm,1.0s
YRC Rhoscolyn 17.89 174 *e*P **Pn 08 34 22.8 +0.3**
LLD Lille Linde 17.98 141 *i* P **P 08 34 27.1 +3.0**
LLD pmax pmax
comp=Z,56nm,0.8s
LLD Lille Linde 17.98 141 *i* P **P 08 34 27.1 +3.0**
comp=Z,56nm,0.8s
KBI1 Birley Grange 18.05 168 *e*P **Pn 08 34 22.9 -1.5**
FOEL Foel Wylfa 18.31 171 *e*P **Pn 08 34 27.7 0.0**
FOEL AMB AMB 08 34 32.2
comp=Z,168nm,3.3s
FOEL AMS AMS 08 41 22.6
comp=Z,10μm,16.0s
TMCR Tamitsa 18.34 89 *e*P **P 08 34 27.9 -0.1**
TMCR *e* 08 37 47.7
TMCR pmax pmax
comp=Z,243nm,1.1s
TMCR Tamitsa 18.34 89 *e*P **P 08 34 27.9 -0.1**
comp=Z,243nm,1.1s
SLIT Slitere, Latvi 18.41 121 *e*P **P 08 34 27.5 -1.3**
SNR=81
HLM1 Long Mynd 18.69 170 *e*P **P 08 34 31.8 -0.3**
HLM1 AMB AMB 08 34 33.0
comp=Z,137nm,3.6s
BSD Bornholm Skovb 18.77 136⇑ *i*P **P 08 34 31.1 -1.7**
BSD pmax pmax
comp=Z,49nm,0.9s
BSD MLR MLR
comp=Z,7μm,14.0s
BSD Bornholm Skovb 18.77 136⇑ *i*P **P 08 34 31.1 -1.7**
comp=Z,49nm,0.8s
BSD
comp=Z,7μm,13.0s
BSD Bornholm Skovb 18.77 136 *i* P **P 08 34 31.1 -1.7**
comp=Z,7μm,14.0s
BSEG Bad Segeberg 18.93 145 *e*P **P 08 34 34.8 +0.3**
comp=Z,150nm,1.5s
BSEG Bad Segeberg 18.93 145 *e*P **P 08 34 34.8 +0.3**
BSEG pmax pmax
comp=Z,150nm,1.5s
BSEG Bad Segeberg 18.93 145 *e*P **P 08 34 34.8 +0.3**
comp=Z,150nm,1.5s
VSU Vasula 19.00 114 *d* *i*P **P 08 34 35.0 -0.3**
VSU pmax pmax
comp=Z,376nm,0.8s
VSU Vasula 19.00 114 *e*P **Pn 08 34 36.3 +0.3**
SNR=81
PUL Pulkovo 19.05 107 *e*P **Pn 08 34 36.6 0.0**
PUL pmax pmax
comp=Z,133nm,0.6s
PUL Pulkovo 19.05 107 *e*P **Pn 08 34 36.6 0.0**
comp=Z,133nm,0.6s
VAL Valentia 19.17 185 *e*P P 08 34 31.8 -5.4
MCH1 Michaelchurch 19.21 171 *e*P **P 08 34 37.5 -0.2**
MCH1 AMB AMB 08 34 42.4
comp=Z,186nm,2.8s
MCH1 AMS AMS 08 41 51.6
comp=Z,9μm,15.3s
SKP1 Kophill 19.62 167 *e*P **P 08 34 41.9 -0.3**
WOL Wolverton 20.00 168 *e*P **P 08 34 45.2 -1.0**
WOL AMB AMB 08 34 50.4
comp=Z,389nm,2.1s
WOL AMS AMS 08 40 34.2
comp=Z,5μm,22.5s
IBBN Ibbenburen 20.05 151 *e*P **P 08 34 46.7 -0.1**
comp=Z,63nm,1.1s
WTSB Winterswijk 20.23 153 *e*P **P 08 34 49.1 +0.3**
comp=Z,54nm,0.5s
NRDL Niedersach Rie 20.26 147 *e*P **P 08 34 49.5 +0.5**
comp=Z,71nm,1.5s
DYA Yadsworthy 20.73 173 AMS AMS 08 42 23.4
comp=Z,7μm,16.7s
BUG Bochum--Univer 20.81 153 *e*P **P 08 34 55.5 +0.4**
comp=Z,122nm,1.4s
CCA1 Carnmenellis 20.93 175 *e*P **P 08 34 55.9 -0.5**
CCA1 AMB AMB 08 35 00.1
comp=Z,122nm,2.9s
CCA1 AMS AMS 08 42 21.5
comp=Z,9μm,17.6s
CLZ Clausthal 20.94 147 *e*P **P 08 34 56.7 +0.2**
comp=Z,65nm,1.3s
CLZ Clausthal 20.94 147 *e*P **P 08 34 56.7 +0.2**
CLZ pmax pmax
comp=Z,65nm,1.3s
CLZ Clausthal 20.94 147 *e*P **P 08 34 56.7 +0.2**
comp=Z,65nm,1.3s
RUE Ruedersdorf 20.98 141 *e*P **P 08 34 57.1 +0.2**
comp=Z,380nm,2.0s
RUE *e*pP **pP 08 35 05.6 +4.2**
RUE Ruedersdorf 20.98 141 *e*P **P 08 34 56.9 0.0**
comp=Z,85nm,0.8s
RUE Ruedersdorf 20.98 141 *e*P **P 08 34 56.9 0.0**
comp=Z,85nm,0.8s
GKP Gorka Klasztor 21.00 135 *e*P **P 08 34 58.8 +1.7**
GKP *e*S **S 08 38 49.9 -0.3**
GKP LMZ LR 08 41 21.2
KLMR Klimovskoe 21.18 94 *d* *i*P **P 08 34 58.1 -0.8**
KLMR *e*S S 08 38 44.5 -9.0
KLMR pmax pmax
comp=Z,512nm,1.4s
KLMR MLR MLR
comp=Z,9μm,16.0s
KLMR Klimovskoe 21.18 94 *i* P **P 08 34 58.1 -0.8**
comp=Z,512nm,1.4s
ISAL Salakas 21.27 119 *e*P **P 08 34 60.0 0.0**
ISAL AMB AMB 08 35 06.0
comp=Z,63nm,0.9s
ISAL Salakas 21.27 119 *e*P **P 08 35 00.0 0.0**
comp=Z,63nm,0.9s,SNR=34
HGN Heimansgroeve 21.28 155 *e*P **P 08 35 00.3 +0.2**
comp=Z,161nm,1.1s
HGN *e*S S 08 38 37.2 -19
HGN *e*L L 08 42 58.7
comp=Z,5μm,21.2s
SNF Seneffe 21.32 158 P **P 08 35 00.2 -0.3**
SNF Seneffe 21.32 158 P **P 08 35 00.2 -0.3**
MEM Membach 21.44 155 P **P 08 35 02.2 +0.3**
comp=Z,80nm,1.1s
MEM Membach 21.44 155 P **P 08 35 02.2 +0.3**
comp=Z,80nm,1.1s
IIGN Ignalina 21.49 119 *e*P **P 08 35 02.4 0.0**
IIGN AMB AMB 08 35 13.0
comp=Z,65nm,1.3s
IIGN Ignalina 21.49 119 *e*P **P 08 35 02.3 0.0**
comp=Z,65nm,1.3s,SNR=34
BCLA Clavier 21.54 157 P **P 08 35 03.0 +0.1**
comp=Z,128nm,1.8s
BCLA Clavier 21.54 157 P **P 08 35 02.9 +0.1**
comp=Z,128nm,1.8s
IDID Didziasalis 21.67 118 *e*P **P 08 35 04.2 0.0**
IDID AMB AMB 08 35 10.4
comp=Z,60nm,1.1s
IDID Didziasalis 21.67 118 *e*P **P 08 35 04.2 0.0**
comp=Z,60nm,1.1s,SNR=34
BAIF Baives 21.75 159⇑ *i*P **P 08 35 04.3 -0.9**
comp=Z,108nm,0.9s
BAIF Baives 21.75 159⇑ *i*P **P 08 35 04.3 -0.9**
BAIF pmax pmax
comp=Z,108nm,0.9s
BAIF Baives 21.75 159⇑ *i*P **P 08 35 04.3 -0.9**
comp=Z,108nm,0.9s
BAIF Baives 21.75 159⇑ *i*P **P 08 35 04.3 -0.9**
comp=Z,54nm,0.9s
DOU Dourbes 21.76 158 P **P 08 35 05.0 -0.4**
comp=Z,38nm,1.8s
DOU Dourbes 21.76 158 P **P 08 35 04.9 -0.4**
comp=Z,38nm,1.8s
GIVF Givet 21.79 158⇑ *i*P **P 08 35 04.7 -0.8**
comp=Z,259nm,1.1s
GIVF Givet 21.79 158⇑ *i*P **P 08 35 04.7 -0.8**
GIVF pmax pmax
comp=Z,259nm,1.1s
GIVF Givet 21.79 158⇑ *i*P **P 08 35 04.7 -0.8**
comp=Z,259nm,1.1s
GIVF Givet 21.79 158⇑ *i*P **P 08 35 04.7 -0.8**
comp=Z,130nm,1.1s
NEUB Neuenburg 21.80 145 *e*P **P 08 35 05.7 0.0**
comp=Z,154nm,1.0s
SUW Suwalki 21.82 125 *e*P **P 08 35 05.6 -0.3**
SUW *e* 08 38 59.8
SUW pmax pmax
comp=Z,356nm,1.0s
SUW Suwalki 21.82 125 *e*P **P 08 35 05.6 -0.3**
comp=Z,356nm,1.0s
SUW *e* 08 38 59.8
SUW Suwalki 21.82 125 *e*P **P 08 35 06.7 +0.8**
SUW *e*S **S 08 39 01.5 -4.8**
SUW LMZ LR 08 42 42.2
SUW Suwalki 21.82 125 *e*P **P 08 35 05.6 -0.3**
comp=Z,356nm,1.0s
UBBA Unterbreizbach 21.86 149 *e*P **P 08 35 06.2 0.0**
comp=Z,102nm,1.5s
CLL Collm 21.94 143 *e*P **P 08 35 06.8 -0.4**
comp=Z,80nm,1.3s
CLL Collm 21.94 143⇑ *i*P **P 08 35 06.8 -0.4**
CLL *e* 08 35 11.0
CLL *e*S **S 08 39 11.0 +2.5**
CLL pmax pmax
comp=Z,85nm,1.1s
CLL Collm 21.94 143⇑ *i*P **P 08 35 06.8 -0.4**
comp=Z,85nm,1.1s
CLL *e*(sP) **sP 08 35 11.0 -2.7**
CLL *i* 08 35 13.3
CLL *e* 08 35 21.0
CLL *e*PPP PPP 08 35 38.0
CLL *e*S **S 08 39 11.0 +2.5**
comp=N,2μm,21.5s
CLL *e*S **S 08 39 11.0 +2.5**
comp=E,5μm,24.0s
CLL Collm 21.94 143 *i* P **P 08 35 06.8 -0.4**
comp=E,85nm,1.1s
CLL *e*S **S 08 39 11.0 +2.5**
NACGM Naroch 22.04 119 *e*P **P 08 35 06.0 -2.2**
JSA Saint Aubin 22.06 170 *e*P **P 08 35 07.2 -1.2**
JSA AMB AMB 08 35 10.0
comp=Z,210nm,2.1s
JSA AMS AMS 08 43 42.0
comp=Z,7μm,15.4s
TNS Taunus Mts 22.18 151 *e*P **P 08 35 10.2 +0.4**
comp=Z,52nm,0.8s
TNS Taunus Mts 22.18 151 *e*P **P 08 35 10.2 +0.4**
TNS pmax pmax
comp=Z,52nm,0.8s
TNS Taunus Mts 22.18 151 *e*P **P 08 35 10.2 +0.4**
comp=Z,52nm,0.8s
MOX Moxa 22.31 146 *e*P **P 08 35 11.2 0.0**
comp=Z,76nm,1.1s
MOX Moxa 22.31 146 *e*P **P 08 35 11.2 0.0**
MOX pmax pmax
comp=Z,76nm,1.1s
MOX Moxa 22.31 146 *e*P **P 08 35 11.2 0.0**
comp=Z,76nm,1.1s
ABH Alteburg 22.37 153 *e*P **P 08 35 12.4 +0.5**
FBE Freiberg 22.38 143 *e*P **P 08 35 11.5 -0.3**
comp=Z,110nm,1.2s
FBE *e*pP **pP 08 35 19.7 +3.3**
WLF Walferdange 22.39 156 P **P 08 35 13.1 +1.1**
comp=Z,72nm,1.8s
WLF Walferdange 22.39 156 *e*P **P 08 35 13.0 +1.0**
WLF pmax pmax
comp=Z,156nm,1.4s
WLF MLR MLR
comp=Z,6μm,19.0s
WLF Walferdange 22.39 156 *e*P **P 08 35 13.0 +1.0**
comp=Z,156nm,1.4s
WLF LR LR
comp=Z,6μm,19.0s
WLF Walferdange 22.39 156 *e*P **P 08 35 13.0 +1.0**
comp=Z,6μm,19.0s
RUP Ruppelstein 22.48 154 *e*P **P 08 35 13.1 +0.1**
BRG Berggiesshubel 22.54 142 *i* P **P 08 35 13.0 -0.6**
comp=Z,85nm,1.8s
BRG *i* 08 35 18.6
comp=Z,153nm,1.2s
BRG S **S 08 39 22.0 +2.2**
BRG
comp=N,3μm,14.1s
BRG
comp=E,3μm,14.2s
BRG
comp=Z,6μm,13.8s
BRG Berggiesshubel 22.54 142 *e*P **P 08 35 12.6 -1.0**
comp=Z,110nm,1.8s
BRG Berggiesshubel 22.54 142 *i* P **P 08 35 13.0 -0.6**
BRG *i* 08 35 18.6
BRG S **S 08 39 22.0 +2.2**
BRG pmax pmax
comp=Z,85nm,1.8s
BRG pmax pmax
comp=Z,153nm,1.2s
BRG MLR MLR
comp=N,3μm,14.1s
BRG MLR MLR
comp=E,3μm,14.2s
BRG MLR MLR
comp=Z,6μm,13.8s
BRG Berggiesshubel 22.54 142 *i* P **P 08 35 13.0 -0.6**
comp=Z,85nm,1.8s
BRG S **S 08 39 22.0 +2.2**
comp=Z,6μm,13.8s
FLN La Foliniere 22.59 167⇑ *i*P **P 08 35 12.7 -1.4**
comp=Z,243nm,1.1s,baz=359
FLN *e*R
comp=Z,7μm,17.5s
FLN La Foliniere 22.59 167⇑ *i*P **P 08 35 12.7 -1.4**
FLN pmax pmax
comp=Z,243nm,1.1s
FLN La Foliniere 22.59 167⇑ *i*P **P 08 35 12.7 -1.4**
comp=Z,243nm,1.1s
FLN La Foliniere 22.59 167⇑ *i*P **P 08 35 12.7 -1.4**
comp=Z,122nm,1.1s
WERD Werda 22.63 145 *e*P **P 08 35 14.6 0.0**
comp=Z,113nm,0.9s
WERD *e*pP **pP 08 35 21.0 +1.9**
TANN Tannenbergstha 22.69 145 *e*P **P 08 35 15.4 +0.2**
comp=Z,116nm,1.0s
TANN *e*pP **pP 08 35 21.7 +1.9**
MNK Minsk 22.69 118 *e*P **P 08 35 14.0 -1.2**
MNK *e*S **S 08 39 18.0 -4.5**
MNK *e*SS SnSn 08 40 20.0 +28
MNK pmax pmax
comp=Z,160nm,1.0s
MNK pmax pmax
comp=E,140nm,1.0s
MNK smax smax
comp=N,12μm,20.0s
MNK smax smax
comp=E,19μm,18.0s
MNK MLR MLR
comp=Z,6μm,12.0s
MNK MLR MLR
comp=E,6μm,12.0s
MNK Minsk 22.69 118 *e*P **P 08 35 14.0 -1.2**
comp=E,12μm,20.0s
MICGM Minsk 22.70 118⇓ *e*P **P 08 35 14.0 -1.3**
GUNZ Gunzen 22.71 145 *e*P **P 08 35 15.5 0.0**
comp=Z,80nm,0.9s
GUNZ *e*pP **pP 08 35 21.9 +1.9**
LDF La Druitiere 22.78 167⇑ *i*P **P 08 35 14.5 -1.7**
comp=Z,266nm,1.1s
LDF La Druitiere 22.78 167⇑ *i*P **P 08 35 14.5 -1.7**
LDF pmax pmax
comp=Z,266nm,1.1s
LDF La Druitiere 22.78 167⇑ *i*P **P 08 35 14.5 -1.7**
comp=Z,266nm,1.1s
LDF La Druitiere 22.78 167⇑ *i*P **P 08 35 14.5 -1.7**
comp=Z,133nm,1.1s
TOD Tromm 22.83 151 *e*P **P 08 35 16.4 -0.4**
ROSF Rostrenen 22.85 172⇑ *i*P **P 08 35 15.6 -1.3**
comp=Z,52nm,0.8s
ROSF Rostrenen 22.85 172⇑ *i*P **P 08 35 15.6 -1.3**
ROSF pmax pmax
comp=Z,52nm,0.8s
ROSF Rostrenen 22.85 172⇑ *i*P **P 08 35 15.6 -1.3**
comp=Z,52nm,0.8s
ROSF Rostrenen 22.85 172⇑ *i*P **P 08 35 15.6 -1.3**
comp=Z,26nm,0.8s
NKC Novy Kostel 22.86 145⇑ *i*P **P 08 35 17.2 +0.2**
NKC *e* 08 35 21.9
NKC *e*S **S 08 39 26.3 +0.7**
NKC MLR MLR
comp=Z,5μm,13.6s
NKC Novy Kostel 22.86 145⇑ *i*P **P 08 35 17.2 +0.2**
NKC *e*pP **pP 08 35 21.9 +0.4**
NKC *e*S **S 08 39 26.3 +0.7**
NKC AMS AMS 08 46 20.0
comp=Z,5μm,13.6s
NKC Novy Kostel 22.86 145 P **P 08 35 17.2 +0.2**
NKC S **S 08 39 26.3 +0.7**
SGMF Saint Gilles 22.97 171⇑ *i*P **P 08 35 16.8 -1.3**
comp=Z,92nm,1.0s

SGMF	**Saint Gilles**	**22.97 171⇑**	*i*P	**P**	**08 35 16.8**	**-1.3**
SGMF			pmax	pmax		
	comp=Z,92nm,1.0s					
SGMF	**Saint Gilles**	**22.97 171⇑**	*i*P	**P**	**08 35 16.8**	**-1.3**
	comp=Z,92nm,1.0s					
SGMF	**Saint Gilles**	**22.97 171⇑**	*i*P	**P**	**08 35 16.8**	**-1.3**
	comp=Z,46nm,1.0s					
PVCC	**Panska Ves**	**22.99 141**	*e*P	**P**	**08 35 18.3**	**-0.1**
PVCC			*e*S	**S**	**08 39 29.2**	**+1.3**
PVCC			MLR	MLR		
	comp=Z,5μm,13.2s					
PVCC	**Panska Ves**	**22.99 141⇑**	*e*P	**P**	**08 35 18.3**	**-0.1**
PVCC			*e*S	**S**	**08 39 29.2**	**+1.3**
PVCC			AMS	AMS	08 47 00.0	
	comp=Z,5μm,13.2s					
PVCC	**Panska Ves**	**22.99 141**	P	**P**	**08 35 18.3**	**-0.1**
PVCC			S	**S**	**08 39 29.2**	**+1.3**
KTD	**Kalmit**	**23.00 153**	*e*P	**P**	**08 35 18.6**	**+0.1**
MANZ	**Manzenberg**	**23.03 146**	*e*P	**P**	**08 35 18.5**	**-0.3**
	comp=Z,58nm,1.1s					
MANZ			*e*pP	**pP**	**08 35 24.5**	**+1.1**
KSP	**Ksiaz**	**23.06 139⇑**	*e*P	**P**	**08 35 18.8**	**-0.3**
KSP			*e**PP	**pP**	**08 35 23.8**	**+0.2**
KSP			*e*S	**S**	**08 39 29.2**	**+0.2**
KSP			MLR	MLR		
	comp=Z,12μm,14.2s					
KSP	**Ksiaz**	**23.06 139**	*e*P	**P**	**08 35 18.7**	**-0.3**
KSP			*e*S	**S**	**08 39 28.6**	**-0.4**
KSP			LMZ	LR	08 42 03.6	
KSP	**Ksiaz**	**23.06 139**	*e*P	**P**	**08 35 18.8**	**-0.3**
KSP			*e*S	**S**	**08 39 29.2**	**+0.2**
	comp=Z,12μm,14.2s					
GRA1	**Grafenberg Arr**	**23.15 147**	*e*P	**P**	**08 35 20.2**	**+0.1**
	comp=Z,157nm,1.2s					
GRF	**Grafenberg Arr**	**23.15 147**	*e*P	**P**	**08 35 20.2**	**+0.1**
	comp=Z,157nm,1.2s					
GRF			*e*pP	**pP**	**08 35 26.5**	**+1.9**
GRF			*e*L	L	08 43 41.1	
	comp=Z,2μm,21.8s					
GRF	**Grafenberg Arr**	**23.15 147**	*e*P	**P**	**08 35 20.2**	**+0.1**
GRF			*e**PP	**pP**	**08 35 26.5**	**+1.9**
GRF			pmax	pmax		
	comp=Z,157nm,1.2s					
GRF			MLR	MLR		
	comp=Z,2μm,21.8s					
GRFO	**Grafenberg**	**23.16 147**	*e*P	**P**	**08 35 20.4**	**+0.4**
GRFO			pmax	pmax		
	comp=Z,239nm,1.1s					
GRFO	**Grafenberg**	**23.16 147**	*e*P	**P**	**08 35 20.4**	**+0.4**
	comp=Z,239nm,1.1s					
GRFO	**Grafenberg**	**23.16 147**	*e*P	**P**	**08 35 20.4**	**+0.4**
	comp=Z,239nm,1.1s					
BEL	**Belsk**	**23.18 131**	*e*P	**P**	**08 35 22.1**	**+1.9**
BEL			LMZ	LR	08 43 11.1	
ROTZ	**Rotzenmuhle**	**23.26 146**	*e*P	**P**	**08 35 21.2**	**+0.1**
	comp=Z,150nm,1.0s					
QUIF	**Quistinic**	**23.27 172⇑**	*i*P	**P**	**08 35 20.0**	**-1.2**
	comp=Z,332nm,1.5s					
QUIF	**Quistinic**	**23.27 172⇑**	*i*P	**P**	**08 35 20.0**	**-1.2**
QUIF			pmax	pmax		
	comp=Z,333nm,1.5s					
QUIF	**Quistinic**	**23.27 172⇑**	*i*P	**P**	**08 35 20.0**	**-1.2**
	comp=Z,332nm,1.5s					
QUIF	**Quistinic**	**23.27 172⇑**	*i*P	**P**	**08 35 20.0**	**-1.2**
	comp=Z,166nm,1.5s					
LANF	**Langenberg**	**23.29 153**	*e*P	**P**	**08 35 21.6**	**+0.2**
LANF	**Langenberg**	**23.29 153**	*e*P	**P**	**08 35 21.6**	**+0.2**
UPC	**Upice**	**23.31 139**	*e*P	**P**	**08 35 21.6**	**0.0**
UPC			*e*		08 35 27.0	
UPC	**Upice**	**23.31 139⇑**	*e*P	**P**	**08 35 21.6**	**0.0**
UPC			*e*pP	**pP**	**08 35 27.0**	**+0.7**
UPC	**Upice**	**23.31 139**	*e*P	**P**	**08 35 21.6**	**0.0**
MEZF	**Maizieres J'vi**	**23.39 158⇑**	*i*P	**P**	**08 35 22.7**	**+0.3**
	comp=Z,210nm,1.1s,baz=347					
MEZF	**Maizieres J'vi**	**23.39 158⇑**	*i*P	**P**	**08 35 22.7**	**+0.3**
	comp=Z,210nm,1.1s					
MEZF	**Maizieres J'vi**	**23.39 158⇑**	*i*P	**P**	**08 35 22.7**	**+0.3**
	comp=Z,105nm,1.1s					
PRA	**Prague**	**23.40 142**	⇑P	**P**	**08 35 24.0**	**+1.5**
PRA			S	**S**	**08 39 38.0**	**+3.4**
PAGF	**Fort de Pagny**	**23.42 157⇑**	*i*P	**P**	**08 35 23.0**	**+0.3**
	comp=Z,79nm,1.3s,baz=342					
PAGF	**Fort de Pagny**	**23.42 157⇑**	*i*P	**P**	**08 35 23.0**	**+0.3**
	comp=Z,79nm,1.3s					
PAGF	**Fort de Pagny**	**23.42 157⇑**	*i*P	**P**	**08 35 23.0**	**+0.3**
	comp=Z,40nm,1.3s					
FRB	**Frobisher Bay**	**23.43 283**	P	P	08 35 17.0	-5.6
FRB	**Frobisher Bay**	**23.43 283**	P	P	08 35 17.0	-5.6
	comp=Z,27nm,1.2s,baz=49,slow=9.3,SNR=3.2					
FRB			LR	LR	08 44 05.0	
	comp=Z,7μm,18.7s,baz=46,slow=36					
PRU	**Pruhonice**	**23.50 142**	*e*P	**P**	**08 35 23.9**	**+0.4**
PRU			*e*		08 35 28.7	
PRU			*e*S	**S**	**08 39 34.6**	**-1.7**
PRU			MLR	MLR		
	comp=Z,4μm,13.4s					
PRU	**Pruhonice**	**23.50 142⇑**	*e*P	**P**	**08 35 23.9**	**+0.4**
PRU			*e*pP	**pP**	**08 35 28.7**	**+0.6**
PRU			*e*S	**S**	**08 39 34.6**	**-1.7**
PRU			AMS	AMS	08 45 40.0	
	comp=Z,4μm,13.4s					
PRU	**Pruhonice**	**23.50 142**	*e*P	**P**	**08 35 23.9**	**+0.4**
DPC	**Dobruska-Polom**	**23.53 139**	*e*P	**P**	**08 35 23.8**	**0.0**
DPC			*e*		08 35 29.1	
DPC			*e*S	**S**	**08 39 38.9**	**+2.1**
DPC	**Dobruska-Polom**	**23.53 139**	*e*P	**P**	**08 35 23.8**	**0.0**
DPC			*e*pP	**pP**	**08 35 29.1**	**+0.6**
DPC			*e*S	**S**	**08 39 38.9**	**+2.1**
DPC			AMS	AMS	08 47 20.0	
DPC	**Dobruska-Polom**	**23.53 139**	*e*P	**P**	**08 35 23.5**	**-0.3**
	comp=Z,2μm,1.1s					
DPC	**Dobruska-Polom**	**23.53 139**	*e*P	**P**	**08 35 23.8**	**0.0**
DPC			*e*S	**S**	**08 39 38.9**	**+2.1**
SFTF	**Sexfontaines**	**23.68 158⇑**	*i*P	**P**	**08 35 25.3**	**+0.1**
	comp=Z,510nm,1.5s,baz=351					
SFTF	**Sexfontaines**	**23.68 158⇑**	*i*P	**P**	**08 35 25.3**	**+0.1**
	comp=Z,510nm,1.5s					
SFTF	**Sexfontaines**	**23.68 158⇑**	*i*P	**P**	**08 35 25.3**	**+0.1**
	comp=Z,255nm,1.5s					
STU	**Stuttgart**	**23.70 151**	*e*P	**P**	**08 35 25.9**	**+0.4**
	comp=Z,343nm,2.0s					
STU	**Stuttgart**	**23.70 151**	*e*P	**P**	**08 35 27.3**	**+1.8**
STU			pmax	pmax		
	comp=Z,62nm,1.0s					
STU	**Stuttgart**	**23.70 151**	*e*P	**P**	**08 35 27.3**	**+1.8**
	comp=Z,62nm,1.0s					
STU	**Stuttgart**	**23.70 151**	*e*P	**P**	**08 35 27.3**	**+1.8**
	comp=Z,62nm,1.0s					
RES	**Resolute Bay**	**23.74 319**	*e*P	**P**	**08 35 25.8**	**+0.2**
	comp=Z,136nm,0.8s					
RES	**Resolute Bay**	**23.74 319**	P	**P**	**08 35 23.1**	**-2.4**
	comp=Z,14nm,0.8s,baz=0.0,slow=7.1,SNR=3.5					
RES			LR	LR	08 44 20.0	
	comp=Z,9μm,18.8s,baz=53,slow=36					
RES	**Resolute Bay**	**23.74 319**	*e*P	**P**	**08 35 25.8**	**+0.2**
	comp=Z,137nm,0.8s					
CDF	**Champ du Feu**	**23.77 154⇑**	*i*P	**P**	**08 35 26.2**	**0.0**
	comp=Z,253nm,1.5s					
CDF	**Champ du Feu**	**23.77 154⇑**	*i*P	**P**	**08 35 26.2**	**0.0**
CDF			pmax	pmax		
	comp=Z,253nm,1.5s					
CDF	**Champ du Feu**	**23.77 154⇑**	*i*P	**P**	**08 35 26.2**	**0.0**
	comp=Z,253nm,1.5s					
CDF	**Champ du Feu**	**23.77 154⇑**	*i*P	**P**	**08 35 26.2**	**0.0**
	comp=Z,126nm,1.5s					
THEF	**They Montfort**	**23.78 157**	*e*P	**P**	**08 35 26.6**	**+0.4**
THEF	**They Montfort**	**23.78 157**	*e*P	**P**	**08 35 26.6**	**+0.4**
WLS	**Welschbruch**	**23.78 154**	*e*P	**P**	**08 35 26.2**	**-0.1**
WLS	**Welschbruch**	**23.78 154**	*e*P	**P**	**08 35 26.2**	**-0.1**
KRLC	**Kraliky**	**23.89 138**	*e*P	**P**	**08 35 27.7**	**+0.4**
KRLC	**Kraliky**	**23.89 138⇑**	*e*P	**P**	**08 35 27.7**	**+0.4**
KRLC	**Kraliky**	**23.89 138**	*e*P	**P**	**08 35 27.7**	**+0.4**
ECH	**Echery**	**23.94 155**	*e*P	**P**	**08 35 27.5**	**-0.3**
ECH			pmax	pmax		
	comp=Z,66nm,1.2s					
ECH			MLR	MLR		
	comp=Z,4μm,22.0s					
ECH	**Echery**	**23.94 155**	*e*P	**P**	**08 35 28.2**	**+0.4**
ECH	**Echery**	**23.94 155**	*e*P	**P**	**08 35 27.5**	**-0.3**
	comp=Z,66nm,1.2s					
ECH			LR	LR		
	comp=Z,4μm,22.0s					
ECH	**Echery**	**23.94 155**	*e*P	**P**	**08 35 28.2**	**+0.4**
WET	**Wettzell**	**23.98 145**	*e*P	**P**	**08 35 29.0**	**+0.8**
	comp=Z,156nm,1.7s					
WET	**Wettzell**	**23.98 145**	*e*P	**P**	**08 35 29.0**	**+0.8**
WET			pmax	pmax		
	comp=Z,156nm,1.7s					
WET	**Wettzell**	**23.98 145**	*e*P	**P**	**08 35 29.0**	**+0.8**
	comp=Z,156nm,1.7s					
BFO	**Black Forest**	**24.00 153**	P	**P**	**08 35 29.2**	**+0.8**
	comp=Z,290nm,0.9s,SNR=12					
BFO	**Black Forest**	**24.00 153**	*e*P	**P**	**08 35 29.0**	**+0.6**
	comp=Z,229nm,2.1s					
BFO	**Black Forest**	**24.00 153**	*e*P	**P**	**08 35 28.3**	**-0.1**
BFO			pmax	pmax		
	comp=Z,35nm,0.8s					
BFO			MLR	MLR		
	comp=Z,3μm,19.0s					
BFO	**Black Forest**	**24.00 153**	*e*P	**P**	**08 35 28.3**	**-0.1**
	comp=Z,35nm,0.8s					
BFO			LR	LR		
	comp=Z,3μm,19.0s					
BFO	**Black Forest**	**24.00 153**	*e*P	**P**	**08 35 28.3**	**-0.1**
	comp=Z,3μm,19.0s					
HAU	**Haudompre**	**24.04 156⇑**	*i*P	**P**	**08 35 28.7**	**0.0**
HAU			*e*R			
	comp=Z,6μm,18.8s					
HAU	**Haudompre**	**24.04 156⇑**	*i*P	**P**	**08 35 28.7**	**0.0**
HAU	**Haudompre**	**24.04 156⇑**	*i*P	**P**	**08 35 28.7**	**0.0**
HAU	**Haudompre**	**24.04 156⇑**	*i*P	**P**	**08 35 28.7**	**0.0**
LIBD	**Limburg**	**24.07 154**	*e*P	**P**	**08 35 29.8**	**+0.9**
KHC	**Kasperske Hory**	**24.13 144⇑**	*i*P	**P**	**08 35 30.5**	**+1.0**
KHC			*e*		08 35 34.9	
KHC			*e*S	**S**	**08 39 49.6**	**+3.2**
KHC			MLR	MLR		
	comp=Z,6μm,13.6s					
KHC	**Kasperske Hory**	**24.13 144⇑**	*i*P	**P**	**08 35 30.5**	**+1.0**
KHC			*e*pP	**pP**	**08 35 34.9**	**+0.6**
KHC			*e*S	**S**	**08 39 49.6**	**+3.2**
KHC			AMS	AMS	08 47 40.0	
	comp=Z,6μm,13.6s					
KHC	**Kasperske Hory**	**24.13 144**	*e*P	**P**	**08 35 30.1**	**+0.6**
	comp=Z,105nm,1.0s					
KHC	**Kasperske Hory**	**24.13 144**	*e*P	**P**	**08 35 30.1**	**+0.6**
	comp=Z,105nm,1.0s					
KHC			S	**S**	**08 39 49.6**	**+3.2**
RAC	**Raciborz**	**24.19 136**	*e*P	**P**	**08 35 30.5**	**+0.4**
RAC			*e*S	**S**	**08 39 49.7**	**+2.4**
RAC			MLR	MLR		
	comp=E,14μm,15.7s					
RAC			MLR	MLR		
	comp=Z,9μm,14.4s					
RAC			MLR	MLR		
	comp=N,11μm,14.5s					
RAC	**Raciborz**	**24.19 136**	*e*P	**P**	**08 35 30.5**	**+0.4**
RAC			*e*S	**S**	**08 39 49.7**	**+2.4**
	comp=N,11μm,14.5s					
HINF	**Hinteralfeld**	**24.29 155⇑**	*i*P	**P**	**08 35 31.3**	**+0.2**
	comp=N,233nm,1.5s					
HINF	**Hinteralfeld**	**24.29 155⇑**	*i*P	**P**	**08 35 31.3**	**+0.2**
HINF			pmax	pmax		
	comp=Z,233nm,1.5s					
HINF	**Hinteralfeld**	**24.29 155⇑**	*i*P	**P**	**08 35 31.3**	**+0.2**
	comp=Z,233nm,1.5s					
HINF	**Hinteralfeld**	**24.29 155⇑**	*i*P	**P**	**08 35 31.3**	**+0.2**
	comp=Z,117nm,1.5s					
SPAK	**Spaichingen-Ko**	**24.29 152**	*e*P	**P**	**08 35 31.8**	**+0.7**
MOF	**Molkenrain**	**24.30 155**	*e*P	**P**	**08 35 31.1**	**-0.1**
MOF	**Molkenrain**	**24.30 155**	*e*P	**P**	**08 35 31.1**	**-0.1**
MORC	**Moravsky Berou**	**24.33 138**	*e*P	**P**	**08 35 31.5**	**+0.1**
MORC			pmax	pmax		
	comp=Z,46nm,0.8s					
MORC	**Moravsky Berou**	**24.33 138**	*e*P	**P**	**08 35 31.5**	**+0.1**
	comp=Z,46nm,0.8s					
MORC			*e*Sn	S	08 40 11.7	+22
MORC	**Moravsky Berou**	**24.33 138**	*e*P	**P**	**08 35 31.5**	**+0.1**
	comp=Z,46nm,0.8s					
HYF	**Humbligny**	**24.34 162⇑**	*i*P	**P**	**08 35 31.5**	**+0.1**
HYF	**Humbligny**	**24.34 162⇑**	*i*P	**P**	**08 35 31.5**	**+0.1**
HYF	**Humbligny**	**24.34 162⇑**	*i*P	**P**	**08 35 31.5**	**+0.1**
TREC	**Trest**	**24.35 141⇑**	*i*P	**P**	**08 35 32.5**	**+0.9**
TREC			*e*		08 35 36.7	
TREC			*e*S	**S**	**08 39 50.5**	**+0.6**
TREC			MLR	MLR		
	comp=Z,6μm,14.0s					
TREC	**Trest**	**24.35 141⇑**	*i*P	**P**	**08 35 32.5**	**+0.9**
TREC			*e*pP	**pP**	**08 35 36.7**	**+0.3**
TREC			*e*S	**S**	**08 39 50.5**	**+0.6**
TREC			AMS	AMS	08 47 40.0	
	comp=Z,6μm,14.0s					
TREC	**Trest**	**24.35 141**	*i*P	**P**	**08 35 32.5**	**+0.9**
TREC			*e*S	**S**	**08 39 50.5**	**+0.6**
	comp=Z,6μm,14.0s					
FELD	**Feldberg im Sc**	**24.40 154**	*e*P	**P**	**08 35 32.3**	**+0.2**
OKC	**Ostrava-Krasne**	**24.41 137⇑**	*i*P	**P**	**08 35 32.4**	**+0.3**
OKC			*e*		08 35 36.4	
OKC			*e*S	**S**	**08 39 53.7**	**+2.9**
OKC			MLR	MLR		
	comp=Z,8μm,13.3s					
OKC	**Ostrava-Krasne**	**24.41 137⇑**	*i*P	**P**	**08 35 32.4**	**+0.3**
OKC			*e*pP	**pP**	**08 35 36.4**	**-0.5**
OKC			*e*S	**S**	**08 39 53.7**	**+2.9**
OKC			AMS	AMS	08 47 00.0	
	comp=Z,8μm,13.3s					
OKC	**Ostrava-Krasne**	**24.41 137**	*i*P	**P**	**08 35 32.4**	**+0.3**
OKC			*e*S	**S**	**08 39 53.7**	**+2.9**
	comp=Z,8μm,13.3s					
GEC2	**GERESS Array S**	**24.43 144**	*e*P	**P**	**08 35 33.6**	**+1.3**
	comp=Z,119nm,1.2s					
GEC2	**GERESS Array S**	**24.43 144**	*e*P	**P**	**08 35 33.6**	**+1.3**
GEC2			pmax	pmax		
	comp=Z,119nm,1.2s					
GEC2	**GERESS Array S**	**24.43 144**	*e*P	**P**	**08 35 33.7**	**+1.3**
GEC2	**GERESS Array S**	**24.43 144**	*e*P	**P**	**08 35 33.6**	**+1.3**
	comp=Z,119nm,1.2s					
GERES	**GERESS Array B**	**24.43 144**	P	**P**	**08 35 33.3**	**+1.0**
GERES	**GERESS Array B**	**24.43 144**	P	**P**	**08 35 33.3**	**+1.0**
	comp=Z,72nm,0.9s,baz=347,slow=8.1,SNR=116					
GERES			LR	LR	08 45 28.4	
	comp=Z,2μm,18.2s,baz=338,slow=37					
GERES	**GERESS Array B**	**24.43 144**	P	**P**	**08 35 33.3**	**+1.0**
OJC	**Ojcow**	**24.43 134⇑**	*e*P	**P**	**08 35 32.5**	**+0.2**
OJC			*e**PP	**pP**	**08 35 35.1**	**-2.0**
OJC			*e*S	**S**	**08 39 55.2**	**+4.0**
OJC			MLR	MLR		
	comp=Z,13μm,14.1s					
OJC	**Ojcow**	**24.43 134**	*e*P	**P**	**08 35 32.4**	**+0.1**
	comp=Z,122nm,0.9s					
OJC	**Ojcow**	**24.43 134**	*e*P	**P**	**08 35 32.5**	**+0.2**
OJC			*e*pP	**pP**	**08 35 35.1**	**-2.0**
OJC			*e*S	**S**	**08 39 55.2**	**+4.0**
OJC			L	L	08 46 46.0	
	comp=Z,13μm,14.1s					
OJC	**Ojcow**	**24.43 134**	*e*P	**P**	**08 35 32.5**	**+0.2**
LOR	**Lormes**	**24.46 161⇑**	*i*P	**P**	**08 35 32.4**	**-0.2**
	comp=Z,79nm,0.8s,baz=352					
LOR			*e*R			
	comp=Z,6μm,17.5s					
LOR	**Lormes**	**24.46 161⇑**	*i*P	**P**	**08 35 32.4**	**-0.2**
	comp=Z,79nm,0.8s					
LOR	**Lormes**	**24.46 161⇑**	*i*P	**P**	**08 35 32.4**	**-0.2**
	comp=Z,40nm,0.8s					
VRAC	**Vranov**	**24.57 139**	P	**P**	**08 35 33.9**	**+0.3**
VRAC	**Vranov**	**24.57 139**	P	**P**	**08 35 33.9**	**+0.3**
	comp=Z,47nm,0.9s,baz=339,slow=11,SNR=30					
VRAC			LR	LR	08 45 07.9	
	comp=Z,2μm,19.0s,baz=338,slow=36					
VRAC	**Vranov**	**24.57 139**	P	**P**	**08 35 33.9**	**+0.3**
MOS	**Moscow**	**24.62 105**	*e*P	**P**	**08 35 35.3**	**+1.4**
MOS			*e*		08 36 04.8	
MOS			*e*		08 36 26.1	
MOS			*e*S	**S**	**08 39 56.1**	**+2.0**
MOS			pmax	pmax		
	comp=Z,215nm,1.8s					
MOS			pmax	pmax		
	comp=E,53nm,1.3s					
MOS			pmax	pmax		
	comp=N,2μm,3.5s					
MOS			pmax	pmax		
	comp=E,900nm,3.5s					
MOS			pmax	pmax		
	comp=Z,2μm,3.5s					
MOS			MLR	MLR		
	comp=Z,5μm,13.0s					
MOS	**Moscow**	**24.62 105**	*e*P	**P**	**08 35 35.3**	**+1.4**
	comp=Z,215nm,1.8s					
MOS			*e*S	**S**	**08 39 56.1**	**+2.0**
	comp=Z,5μm,13.0s					
SSF	**Saint Saulge**	**24.63 161⇑**	*i*P	**P**	**08 35 33.9**	**-0.2**
	comp=Z,64nm,0.9s					
SSF	**Saint Saulge**	**24.63 161⇑**	*i*P	**P**	**08 35 33.9**	**-0.2**
SSF			pmax	pmax		
	comp=Z,64nm,0.9s					
SSF	**Saint Saulge**	**24.63 161⇑**	*i*P	**P**	**08 35 33.9**	**-0.2**
	comp=Z,64nm,0.9s					
SSF	**Saint Saulge**	**24.63 161⇑**	*i*P	**P**	**08 35 33.9**	**-0.2**
	comp=Z,32nm,0.9s					
FUR	**Furstenfeldbru**	**24.64 148**	*e*P	**P**	**08 35 35.5**	**+1.3**
	comp=Z,200nm,1.2s					
FUR	**Furstenfeldbru**	**24.64 148**	*e*P	**P**	**08 35 35.5**	**+1.3**
FUR			pmax	pmax		
	comp=Z,200nm,1.2s					
FUR	**Furstenfeldbru**	**24.64 148**	*e*P	**P**	**08 35 35.5**	**+1.3**
	comp=Z,200nm,1.2s					
BBS	**Basel-Blauen**	**24.73 155**	*e*P	**P**	**08 35 34.4**	**-0.6**
LOMF	**Lomont**	**24.75 156**	*e*P	**P**	**08 35 34.4**	**-0.8**
LOMF	**Lomont**	**24.75 156**	*e*P	**P**	**08 35 34.4**	**-0.8**
MFF	**Saint Martin d**	**24.76 167⇑**	*i*P	**P**	**08 35 34.8**	**-0.5**
	comp=Z,132nm,1.1s					
MFF	**Saint Martin d**	**24.76 167⇑**	*i*P	**P**	**08 35 34.8**	**-0.5**
MFF			pmax	pmax		
	comp=Z,132nm,1.1s					
MFF	**Saint Martin d**	**24.76 167⇑**	*i*P	**P**	**08 35 34.8**	**-0.5**
	comp=Z,132nm,1.1s					
MFF	**Saint Martin d**	**24.76 167⇑**	*i*P	**P**	**08 35 34.8**	**-0.5**
	comp=Z,66nm,1.1s					
OBN	**Obninsk**	**24.81 107⇑**	*i*P	**P**	**08 35 35.2**	**-0.4**
OBN			*e*		08 36 27.3	
OBN			*i* S	**S**	**08 40 04.1**	**+7.0**
OBN			*e*SS	**SnSn**	**08 40 46.4**	**+2.4**
OBN			pmax	pmax		
	comp=Z,60nm,0.8s					
OBN			MLR	MLR		
	comp=Z,2μm,14.0s					
OBN	**Obninsk**	**24.81 107**	*i* P	**P**	**08 35 35.2**	**-0.4**
	comp=Z,60nm,0.8s					
AVF	**Avril sur Loir**	**24.88 162⇑**	*i*P	**P**	**08 35 36.1**	**-0.2**
	comp=Z,112nm,1.1s					
AVF	**Avril sur Loir**	**24.88 162⇑**	*i*P	**P**	**08 35 36.1**	**-0.2**
AVF			pmax	pmax		
	comp=Z,112nm,1.1s					
AVF	**Avril sur Loir**	**24.88 162⇑**	*i*P	**P**	**08 35 36.1**	**-0.2**
	comp=Z,112nm,1.1s					
AVF	**Avril sur Loir**	**24.88 162⇑**	*i*P	**P**	**08 35 36.1**	**-0.2**
	comp=Z,56nm,1.1s					
BGF	**Bois d'Agland**	**25.06 162⇑**	*i*P	**P**	**08 35 37.8**	**-0.2**
BGF	**Bois d'Agland**	**25.06 162⇑**	*i*P	**P**	**08 35 37.8**	**-0.2**
BGF	**Bois d'Agland**	**25.06 162⇑**	*i*P	**P**	**08 35 37.8**	**-0.2**
BGF	**Bois d'Agland**	**25.06 162⇑**	*i*P	**P**	**08 35 37.8**	**-0.2**
SMF	**Signal de Mont**	**25.08 161⇑**	*i*P	**P**	**08 35 38.2**	**+0.1**
	comp=Z,149nm,1.0s					
SMF	**Signal de Mont**	**25.08 161⇑**	*i*P	**P**	**08 35 38.2**	**+0.1**
SMF			pmax	pmax		
	comp=Z,149nm,1.0s					
SMF	**Signal de Mont**	**25.08 161⇑**	*i*P	**P**	**08 35 38.2**	**+0.1**
	comp=Z,149nm,1.0s					
SMF	**Signal de Mont**	**25.08 161⇑**	*i*P	**P**	**08 35 38.2**	**+0.1**
	comp=Z,74nm,1.0s					
RETA	**Reutte**	**25.21 149⇑**	*i*P	**P**	**08 35 40.5**	**+1.1**
	comp=Z,48nm,1.0s,SNR=17					
RETA	**Reutte**	**25.21 149**	P	**P**	**08 35 40.5**	**+1.1**
	comp=Z,48nm,1.0s,SNR=17					
DAVA	**Damuels**	**25.26 151⇑**	*i*P	**P**	**08 35 41.1**	**+1.2**
	comp=Z,149nm,1.3s,SNR=26					
DAVA	**Damuels**	**25.26 151**	P	**P**	**08 35 41.1**	**+1.2**
	comp=Z,149nm,1.3s,SNR=26					
TCF	**Toulx Ste Croi**	**25.27 164⇑**	*i*P	**P**	**08 35 39.7**	**-0.2**
	comp=Z,87nm,0.9s					
TCF	**Toulx Ste Croi**	**25.27 164⇑**	*i*P	**P**	**08 35 39.7**	**-0.2**
TCF			pmax	pmax		
	comp=Z,87nm,0.9s					
TCF	**Toulx Ste Croi**	**25.27 164⇑**	*i*P	**P**	**08 35 39.7**	**-0.2**
	comp=Z,87nm,0.9s					
TCF	**Toulx Ste Croi**	**25.27 164⇑**	*i*P	**P**	**08 35 39.7**	**-0.2**
	comp=Z,44nm,0.9s					
NIE	**Niedzica**	**25.30 134⇑**	*e*P	**P**	**08 35 41.1**	**+0.9**
NIE			*e**PP	**pP**	**08 35 43.4**	**-1.6**
NIE			MLR	MLR		
	comp=Z,7μm,14.2s					
NIE	**Niedzica**	**25.30 134**	*e*P	**P**	**08 35 41.1**	**+0.9**
NIE			*e*pP	**pP**	**08 35 43.4**	**-1.6**
NIE			*e*		08 40 21.9	
NIE			L	L	08 45 20.0	
	comp=Z,7μm,14.2s					
NIE	**Niedzica**	**25.30 134**	*e*P	**P**	**08 35 41.1**	**+0.9**
RJOB	**Jochberg**	**25.32 146**	*e*P	**P**	**08 35 41.7**	**+1.3**
	comp=Z,97nm,1.4s					
CABF	**La Chapelle**	**25.38 157⇑**	*i*P	**P**	**08 35 40.5**	**-0.4**
	comp=Z,225nm,1.3s					
CABF	**La Chapelle**	**25.38 157⇑**	*i*P	**P**	**08 35 40.5**	**-0.4**
CABF			pmax	pmax		
	comp=Z,225nm,1.3s					
CABF	**La Chapelle**	**25.38 157⇑**	*i*P	**P**	**08 35 40.5**	**-0.4**
	comp=Z,225nm,1.3s					
CABF	**La Chapelle**	**25.38 157⇑**	*i*P	**P**	**08 35 40.5**	**-0.4**
	comp=Z,112nm,1.3s					
MOTA	**Moosalm**	**25.40 149⇑**	*i*P	**P**	**08 35 42.6**	**+1.3**
	comp=Z,78nm,1.0s,SNR=30					
MOTA	**Moosalm**	**25.40 149**	P	**P**	**08 35 42.6**	**+1.3**
	comp=Z,78nm,1.0s,SNR=30					
MOA	**Molln**	**25.49 144⇑**	*i*P	**P**	**08 35 42.6**	**+0.7**
	comp=Z,99nm,1.1s,SNR=26					
MOA	**Molln**	**25.49 144**	P	**P**	**08 35 42.6**	**+0.7**
	comp=Z,99nm,1.1s,SNR=26					
STHS	**Stebnicka Huta**	**25.53 133**	*e*P	**P**	**08 35 43.6**	**+1.4**
STHS			pmax	pmax		
	comp=Z,9.0nm,0.8s					
STHS	**Stebnicka Huta**	**25.53 133**	*e*P	**P**	**08 35 43.6**	**+1.4**
STHS	**Stebnicka Huta**	**25.53 133**	*e*P	**P**	**08 35 43.6**	**+1.4**
	comp=Z,9.0nm,0.

OG35	Corcelles	25.87 158	eP	P	08 35 44.7	-0.7
PYM	Petit Puy Mans	25.88 162	eP	P	08 35 45.5	0.0
PYM	Petit Puy Mans	25.88 162	eP	P	08 35 45.5	0.0
TUE	Stuetta	25.97 152	eP	P	08 35 48.1	+1.7
	comp=Z,69nm,0.9s					
TUE			LR	LR		
	comp=Z,3µm,21.0s					
TUE	Stuetta	25.97 152	eP	P	08 35 48.2	+1.7
	comp=Z,69nm,0.9s					
KBA	Koelnbreinsper	26.05 146	i P	P	08 35 48.6	+1.4
	comp=Z,102nm,1.1s,SNR=24					
KBA	Koelnbreinsper	26.05 146	P	P	08 35 48.6	+1.4
	comp=Z,102nm,1.1s,SNR=24					
SOP	Sopron	26.11 141⇑	eP	P	08 35 48.5	+1.1
COLF	Collangettes	26.18 161	eP	P	08 35 47.9	-0.3
COLF	Collangettes	26.18 161	eP	P	08 35 47.9	-0.3
RJF	Les Rejaudoux	26.18 165⇑	iP	P	08 35 47.5	-0.7
	comp=Z,114nm,0.9s					
RJF			eR			
	comp=Z,7µm,22.8s					
RJF	Les Rejaudoux	26.18 165⇑	iP	P	08 35 47.5	-0.7
RJF			pmax	pmax		
	comp=Z,114nm,0.9s					
RJF	Les Rejaudoux	26.18 165⇑	iP	P	08 35 47.5	-0.7
	comp=Z,114nm,0.9s					
RJF	Les Rejaudoux	26.18 165⇑	iP	P	08 35 47.5	-0.7
	comp=Z,57nm,0.9s					
KECS	Kecovo	26.22 134	eP	P	08 35 49.3	+0.9
KECS			pmax	pmax		
	comp=Z,17nm,1.1s					
KECS	Kecovo	26.22 134	eP	P	08 35 49.3	+0.9
KECS	Kecovo	26.22 134	eP	P	08 35 49.3	+0.9
	comp=Z,17nm,1.1s					
ABTA	Abfaltersbach	26.22 147⇑	iP	P	08 35 50.1	+1.5
	comp=Z,51nm,1.2s,SNR=10					
ABTA	Abfaltersbach	26.22 147	P	P	08 35 50.1	+1.5
	comp=Z,51nm,1.2s,SNR=10					
KOLS	Kolonicke sedl	26.23 132	eP	P	08 35 49.1	+0.6
KOLS			pmax	pmax		
	comp=Z,21nm,1.4s					
KOLS	Kolonicke sedl	26.23 132	eP	P	08 35 49.1	+0.6
KOLS	Kolonicke sedl	26.23 132	eP	P	08 35 49.1	+0.6
	comp=Z,21nm,1.4s					
ARSA	Arzberg	26.31 142⇓	iP	P	08 35 50.3	+1.0
	comp=Z,68nm,1.1s,SNR=20					
ARSA	Arzberg	26.31 142	P	P	08 35 50.3	+1.0
	comp=Z,68nm,1.1s,SNR=20					
RSL	Roselend	26.35 157	eP	P	08 35 50.2	+0.3
RSL	Roselend	26.35 157	eP	P	08 35 50.2	+0.3
LBL	Lubilhac	26.41 162	eP	P	08 35 50.0	-0.3
LBL	Lubilhac	26.41 162	eP	P	08 35 50.0	-0.3
AKASG	Malin Array Be	26.45 121	P	P	08 35 49.6	-0.9
AKASG	Malin Array Be	26.45 121	P	P	08 35 49.6	-0.9
AKASG			S	S	08 40 44.6	+21
AKASG	Malin Array Be	26.45 121	P	P	08 35 49.6	-0.9
	comp=Z,28nm,0.7s,baz=331,slow=9.3,SNR=24					
AKASG			S	S	08 40 44.7	+21
	comp=Z,7.8nm,0.8s,baz=330,slow=23,SNR=4.1					
AKASG			LR	LR	08 45 42.8	
	comp=Z,5µm,18.0s,baz=335,slow=35					
AKASG	Malin Array Be	26.45 121	P	P	08 35 49.6	-0.9
KIEV	Kiev	26.45 121	eP	P	08 35 50.0	-0.5
KIEV			pmax	pmax		
	comp=Z,86nm,1.0s					
KIEV			MLR	MLR		
	comp=Z,4µm,22.0s					
KIEV	Kiev	26.45 121	eP	P	08 35 50.0	-0.5
	comp=Z,86nm,1.0s					
KIEV			LR	LR		
	comp=Z,4µm,22.0s					
KIEV	Kiev	26.45 121	eP	P	08 35 50.0	-0.5
	comp=Z,4µm,22.0s					
LFF	La Frestale	26.48 166⇑	iP	P	08 35 50.5	-0.3
	comp=Z,128nm,1.0s					
LFF	La Frestale	26.48 166⇑	iP	P	08 35 50.5	-0.3
LFF			pmax	pmax		
	comp=Z,128nm,1.0s					
LFF	La Frestale	26.48 166⇑	iP	P	08 35 50.5	-0.3
	comp=Z,128nm,1.0s					
LFF	La Frestale	26.48 166⇑	iP	P	08 35 50.5	-0.3
	comp=Z,64nm,1.0s					
SSB	Saint Sauveur	26.50 160	eP	P	08 35 51.4	+0.3
SSB			pmax	pmax		
	comp=Z,40nm,1.1s					
SSB			MLR	MLR		
	comp=Z,5µm,19.0s					
SSB	Saint Sauveur	26.50 160	eP	P	08 35 50.4	-0.7
SSB	Saint Sauveur	26.50 160	eP	P	08 35 51.4	+0.3
	comp=Z,40nm,1.1s					
SSB			LR	LR		
	comp=Z,5µm,19.0s					
SSB	Saint Sauveur	26.50 160	eP	P	08 35 50.4	-0.7
UZH	Uzhgorod	26.51 132	eP	P	08 35 50.6	-0.5
UZH			i		08 35 52.9	
UZH			e		08 35 59.2	
UZH			e		08 36 31.5	
UZH			e		08 39 22.8	
UZH			eS	S	08 40 19.0	-5.2
UZH			MLR	MLR		
	comp=N,3µm,15.0s					
UZH			MLR	MLR		
	comp=E,5µm,15.0s					
UZH			MLR	MLR		
	comp=Z,2µm,15.0s					
UZH	Uzhgorod	26.51 132	eP	P	08 35 50.6	-0.5
LPL	La Plagne	26.54 157⇑	iP	P	08 35 51.9	+0.3
	comp=Z,118nm,1.1s					
LPL	La Plagne	26.54 157⇑	iP	P	08 35 51.9	+0.3
LPL			pmax	pmax		
	comp=Z,118nm,1.1s					
LPL	La Plagne	26.54 157⇑	iP	P	08 35 51.9	+0.3
	comp=Z,118nm,1.1s					
LPL	La Plagne	26.54 157⇑	iP	P	08 35 51.9	+0.3
	comp=Z,59nm,1.1s					
MYKA	Terra Mystica	26.54 146⇑	iP	P	08 35 52.6	+1.1
	comp=Z,45nm,1.1s,SNR=16					
MYKA	Terra Mystica	26.54 146	P	P	08 35 52.6	+1.1
	comp=Z,45nm,1.1s,SNR=16					
LPG	La Plagne	26.56 157⇑	iP	P	08 35 52.2	+0.3
	comp=Z,142nm,1.2s					
LPG	La Plagne	26.56 157⇑	iP	P	08 35 52.2	+0.3
LPG			pmax	pmax		
	comp=Z,142nm,1.2s					
LPG	La Plagne	26.56 157⇑	iP	P	08 35 52.2	+0.3
	comp=Z,142nm,1.2s					
LPG	La Plagne	26.56 157⇑	iP	P	08 35 52.2	+0.3
	comp=Z,71nm,1.2s					
CAF	Calviac	26.61 164⇑	iP	P	08 35 51.2	-0.8
	comp=Z,57nm,0.9s					
CAF	Calviac	26.61 164⇑	iP	P	08 35 51.2	-0.8
CAF			pmax	pmax		
	comp=Z,57nm,0.9s					
CAF	Calviac	26.61 164⇑	iP	P	08 35 51.2	-0.8
	comp=Z,57nm,0.9s					
CAF	Calviac	26.61 164⇑	iP	P	08 35 51.2	-0.8
	comp=Z,28nm,0.9s					
PSZ	Piszkesteto	26.61 136	⇑P	P	08 35 53.9	+1.8
PSZ	Piszkesteto	26.61 136	eP	P	08 35 53.0	+0.9
	comp=Z,92nm,1.2s					
PSZ			LR	LR		
	comp=Z,3µm,19.0s					
PSZ	Piszkesteto	26.61 136⇑	iP	P	08 35 53.8	+1.7
PSZ	Piszkesteto	26.61 136⇑	eP	P	08 35 52.8	+0.7
PSZ	Piszkesteto	26.61 136	eP	P	08 35 53.0	+0.9
	comp=Z,92nm,1.2s					
SOKA	Soboth	26.76 144⇑	iP	P	08 35 54.4	+0.9
	comp=Z,76nm,1.1s					
SOKA	Soboth	26.76 144	P	P	08 35 54.4	+0.9
	comp=Z,76nm,1.1s					
GDM	Grand'Maison	26.76 158	eP	P	08 35 53.9	+0.3
GDM	Grand'Maison	26.76 158	eP	P	08 35 53.9	+0.3
PKSG		26.77 138	eP	P	08 35 54.2	+0.8
PERS	Pernice	26.82 143	i P	P	08 35 55.0	+1.1
PERS			eS	S	08 40 30.6	+1.4
PERS	Pernice	26.82 143	i P	P	08 35 55.0	+1.1
PERS			eS	S	08 40 30.6	+1.4
PKST	T"'s	26.82 139	eP	P	08 35 54.7	+0.8
VIVF	Saint-Julien-I	26.94 160⇑	iP	P	08 35 54.9	-0.1
	comp=Z,83nm,1.0s					
VIVF	Saint-Julien-I	26.94 160⇑	iP	P	08 35 54.9	-0.1
VIVF			pmax	pmax		
	comp=Z,83nm,1.0s					
VIVF	Saint-Julien-I	26.94 160⇑	iP	P	08 35 54.9	-0.1
	comp=Z,83nm,1.0s					
VIVF	Saint-Julien-I	26.94 160⇑	iP	P	08 35 54.9	-0.1
	comp=Z,42nm,1.0s					
BNI	Bardonecchia	26.98 157	eP	P	08 35 56.9	+1.3
BNI			MLR	MLR		
	comp=Z,6µm,22.0s					
BNI	Bardonecchia	26.98 157	eP	P	08 35 56.9	+1.3
BNI			LR	LR		
	comp=Z,6µm,22.0s					
BNI	Bardonecchia	26.98 157	eP	P	08 35 56.8	+1.3
ORIF	Oris-en-Rattie	27.02 158⇑	iP	P	08 35 55.7	-0.1
	comp=Z,161nm,1.1s					
ORIF			eR			
	comp=Z,6µm,20.2s					
ORIF	Oris-en-Rattie	27.02 158⇑	iP	P	08 35 55.7	-0.1
ORIF			pmax	pmax		
	comp=Z,161nm,1.1s					
ORIF	Oris-en-Rattie	27.02 158⇑	iP	P	08 35 55.7	-0.1
	comp=Z,161nm,1.1s					
ORIF	Oris-en-Rattie	27.02 158⇑	iP	P	08 35 55.7	-0.1
	comp=Z,80nm,1.1s					
TRPA	Tarpa	27.04 132⇑	iP	P	08 35 57.2	+1.4
TRPA	Tarpa	27.04 132⇑	iP	P	08 35 57.2	+1.4
KOGS	Kog	27.22 142	eP	P	08 35 58.4	+0.9
KOGS	Kog	27.22 142	eP	P	08 35 58.4	+0.9
LJU	Ljubljana	27.27 145	eP	P	08 35 58.5	+0.5
LJU			eS	S	08 40 34.1	-2.2
LJU	Ljubljana	27.27 145	eP	P	08 35 58.5	+0.5
BEHE	Becsehely	27.31 141⇑	eP	P	08 35 59.7	+1.4
MBDF	Montbardon	27.32 157⇑	iP	P	08 35 59.2	+0.7
	comp=Z,136nm,1.0s					
MBDF	Montbardon	27.32 157⇑	iP	P	08 35 59.2	+0.7
MBDF			pmax	pmax		
	comp=Z,136nm,1.0s					
MBDF	Montbardon	27.32 157⇑	iP	P	08 35 59.2	+0.7
	comp=Z,136nm,1.0s					
MBDF	Montbardon	27.32 157⇑	iP	P	08 35 59.2	+0.7
	comp=Z,68nm,1.0s					
PKS9	Tamasi	27.51 139⇑	eP	P	08 36 00.6	+0.5
LASF	Ste Croix	27.62 162⇑	iP	P	08 36 01.7	+0.6
	comp=Z,54nm,0.8s					
LASF	Ste Croix	27.62 162⇑	iP	P	08 36 01.7	+0.6
	comp=Z,54nm,0.8s					
LASF	Ste Croix	27.62 162⇑	iP	P	08 36 01.7	+0.6
	comp=Z,27nm,0.8s					
SOKR	Solikamsk	27.77 81	d iP	P	08 36 01.8	-0.4
SOKR			pmax	pmax		
	comp=Z,100nm,1.5s					
SOKR			MLR	MLR		
	comp=Z,4µm,16.0s					
SOKR	Solikamsk	27.77 81	i P	P	08 36 01.8	-0.4
	comp=Z,4µm,16.0s					
SMRF	Simiane la Rot	27.91 159⇑	iP	P	08 36 03.9	+0.2
	comp=Z,275nm,1.9s					
SMRF	Simiane la Rot	27.91 159⇑	iP	P	08 36 03.9	+0.2
	comp=Z,275nm,1.9s					
SMRF	Simiane la Rot	27.91 159⇑	iP	P	08 36 03.9	+0.2
	comp=Z,137nm,1.9s					
BOJS	Bojanci	27.93 144	i P	P	08 36 04.1	+0.3
BOJS	Bojanci	27.93 144	i P	P	08 36 04.1	+0.3
TOUF	Mont Tournerai	28.08 156	eP	P	08 36 05.7	+0.3
TOUF	Mont Tournerai	28.08 156	eP	P	08 36 05.7	+0.3
AUTN	L'Aution	28.12 156	eP	P	08 36 06.5	+0.7
AUTN	L'Aution	28.12 156	eP	P	08 36 06.5	+0.7
SAOF	Saorge	28.15 156	eP	P	08 36 05.9	+0.1
SAOF	Saorge	28.15 156	eP	P	08 36 05.9	+0.1
SJPF	Ste Jean	28.16 170⇑	iP	P	08 36 05.2	-0.8
	comp=Z,59nm,1.1s					
SJPF	Ste Jean	28.16 170⇑	iP	P	08 36 05.2	-0.8
SJPF			pmax	pmax		
	comp=Z,59nm,1.1s					
SJPF	Ste Jean	28.16 170⇑	iP	P	08 36 05.2	-0.8
	comp=Z,59nm,1.1s					
SJPF	Ste Jean	28.16 170⇑	iP	P	08 36 05.2	-0.8
	comp=Z,30nm,1.1s					
MTLF	Montolieu	28.19 164⇑	iP	P	08 36 06.2	0.0
	comp=Z,26nm,0.9s					
MTLF	Montolieu	28.19 164⇑	iP	P	08 36 06.2	0.0
MTLF			pmax	pmax		
	comp=Z,26nm,0.9s					
MTLF	Montolieu	28.19 164⇑	iP	P	08 36 06.2	0.0
	comp=Z,26nm,0.9s					
MTLF	Montolieu	28.19 164⇑	iP	P	08 36 06.2	0.0
	comp=Z,13nm,0.9s					
SBF	Sospel	28.25 156	eP	P	08 36 07.1	+0.3
	comp=Z,98nm,0.9s					
SBF	Sospel	28.25 156	eP	P	08 36 07.1	+0.3
SBF			pmax	pmax		
	comp=Z,98nm,0.9s					
SBF	Sospel	28.25 156	eP	P	08 36 07.1	+0.3
	comp=Z,98nm,0.9s					
SBF	Sospel	28.25 156	eP	P	08 36 07.1	+0.3
	comp=Z,49nm,0.9s					
DRGR		28.33 133	⇑P	P	08 36 10.4	+2.9
DRGR		28.33 133	⇑P	P	08 36 10.4	+2.9
DRGR		28.33 133	P	P	08 36 10.4	+2.9
EPF	Esparros	28.35 167	⇑P	P	08 36 06.9	-0.8
	comp=Z,81nm,0.8s					
EPF	Esparros	28.35 167	⇑iP	P	08 36 06.9	-0.8
EPF			pmax	pmax		
	comp=Z,81nm,0.8s					
EPF	Esparros	28.35 167	⇑iP	P	08 36 06.9	-0.8
	comp=Z,81nm,0.8s					
EPF	Esparros	28.35 167	⇑iP	P	08 36 06.9	-0.8
	comp=Z,41nm,0.8s					
VLC	Villacollemand	28.39 152	eP	P	08 36 09.8	+1.9
	comp=Z,62nm,0.9s					
VLC			LR	LR		
	comp=Z,4µm,20.0s					
VLC	Villacollemand	28.39 152	eP	P	08 36 09.9	+1.9
	comp=Z,62nm,0.9s					
FRF	La Foret Royal	28.45 158	eP	P	08 36 09.5	+1.0
FRF	La Foret Royal	28.45 158	eP	P	08 36 09.5	+1.0
FRF	La Foret Royal	28.45 158	eP	P	08 36 09.5	+1.0
FRF	La Foret Royal	28.45 158	eP	P	08 36 09.5	+1.0
VOR	Voronezh	28.52 108	eP	P	08 36 10.0	+1.0
VOR			pmax	pmax		
	comp=Z,280nm,2.0s					
VOR	Voronezh	28.52 108	eP	P	08 36 10.0	+1.0
	comp=Z,280nm,2.0s					
SIRR	Siria	28.57 134	⇑iP	P	08 36 11.9	+2.3
SIRR	Siria	28.57 134	⇑iP	P	08 36 11.9	+2.3
LMR	La Mourre	28.66 158	eP	P	08 36 11.2	+0.9
LMR	La Mourre	28.66 158	eP	P	08 36 11.2	+0.9
LMR	La Mourre	28.66 158	eP	P	08 36 11.2	+0.9
LMR	La Mourre	28.66 158	eP	P	08 36 11.2	+0.9
PGAV	Gavieira, Arco	29.12 181	eP	P	08 36 18.6	+4.0
PGAV			eS	S	08 41 11.1	+5.5
PGAV			eLR	LR	08 44 24.4	
	comp=Z,7µm,22.0s					
BZS	Buzias	29.18 135	⇓P	P	08 36 17.7	+2.8
BZS	Buzias	29.18 135	⇓iP	P	08 36 17.6	+2.7
BZS	Buzias	29.18 135	⇓iP	P	08 36 17.6	+2.7
FGSL	Fruska Gora	29.20 138	eP	P	08 36 15.5	+0.3
VORD	Divnogorie	29.21 108	eP	P	08 36 14.3	-0.9
VORD			eS	S	08 41 03.3	-3.4
VORD			pmax	pmax		
	comp=Z,30nm,1.0s					
VORD			pmax	pmax		
	comp=N,20nm,0.5s					
VORD			pmax	pmax		
	comp=E,10.0nm,0.4s					
VORD			smax	smax		
	comp=N,340nm,8.2s					
VORD			smax	smax		
	comp=Z,90nm,4.7s					
VORD			smax	smax		
	comp=E,150nm,9.8s					
VORD			MLR	MLR		
	comp=N,2µm,13.0s					
VORD			MLR	MLR		
	comp=Z,5µm,13.0s					
VORD			MLR	MLR		
	comp=E,1µm,10.0s					
VORD	Divnogorie	29.21 108	eP	P	08 36 14.3	-0.9
	comp=E,20nm,0.5s					
PBRG	Braganca	29.28 178	eS	S	08 41 17.2	+9.1
KIS	Kishinev	29.70 124	eP	P	08 36 23.0	+3.4
KIS			eS	S	08 41 16.0	+1.5
KIS			eSS	ScP	08 43 00.0	-3.9
KIS			eLi		08 44 50.0	
KIS			eLQ	LQ	08 45 50.0	
KIS			eLR	LR	08 46 52.0	
	comp=E,6µm,19.0s					
KIS	Kishinev	29.70 124	eP	P	08 36 23.0	+3.4
KIS			eS	S	08 41 16.0	+1.5
KIS			MLR	MLR		
	comp=N,3µm,15.0s					
KIS			MLR	MLR		
	comp=E,3µm,15.0s					
KIS			MLR	MLR		
	comp=Z,5µm,15.0s					
KIS			MLR	MLR		
	comp=Z,6µm,19.0s					
POLO	Lamas de Olo	29.71 180	eP	P	08 36 20.9	+1.1
	comp=Z,28nm,1.2s					
POLO			eS	S	08 41 20.0	+5.1
POLO	Lamas de Olo	29.71 180	eP	P	08 36 20.9	+1.1
	comp=Z,28nm,1.2s					
TEKS	Tekeris	29.72 138	eP	P	08 36 21.1	+1.3
SCHQ	Schefferville	29.74 268	P	P	08 36 20.6	+0.7
SCHQ	Schefferville	29.74 268	P	P	08 36 20.6	+0.7
	comp=Z,26nm,0.8s,baz=32,slow=8.9,SNR=24					
SCHQ			LR	LR	08 47 25.4	
	comp=Z,5µm,19.8s,baz=40,slow=35					
SCHQ	Schefferville	29.74 268	P	P	08 36 20.6	+0.7
PGF	Pioggiola	29.76 154	eP	P	08 36 20.0	-0.2
	comp=Z,73nm,1.2s					
PGF	Pioggiola	29.76 154	eP	P	08 36 20.0	-0.2
PGF			pmax	pmax		
	comp=Z,73nm,1.2s					
PGF	Pioggiola	29.76 154	eP	P	08 36 20.0	-0.2
	comp=Z,73nm,1.2s					
PGF	Pioggiola	29.76 154	eP	P	08 36 20.0	-0.2
	comp=Z,36nm,1.2s					
VRHR	Novokhopersk	29.83 106	eP	P	08 36 19.4	-1.2
VRHR			eS	S	08 41 14.8	-1.6
VRHR			pmax	pmax		
	comp=Z,10.0nm,0.5s					
VRHR			pmax	pmax		
	comp=N,20nm,1.0s					
VRHR			pmax	pmax		
	comp=E,20nm,1.2s					
VRHR			smax	smax		
	comp=E,500nm,12.0s					
VRHR			smax	smax		
	comp=Z,240nm,10.7s					
VRHR			smax	smax		
	comp=N,80nm,8.7s					
VRHR			MLR	MLR		
	comp=Z,4µm,14.0s					
VRHR			MLR	MLR		
	comp=N,380nm,17.0s					
VRHR			MLR	MLR		
	comp=E,3µm,14.0s					
VRHR	Novokhopersk	29.83 106	eP	P	08 36 19.4	-1.2
	comp=E,20nm,1.0s					
VRHR			eS	S	08 41 14.8	-1.6
	comp=E,380nm,17.0s					
LOT	Lotru	29.85 132	⇑iP	P	08 36 24.2	+3.2
MVO	Moncorvo	29.92 179	eP	P	08 36 22.8	+1.2
	comp=Z,43nm,1.2s					
MVO			eS	S	08 41 24.0	+5.9
MVO			eLR	LR	08 44 50.7	
	comp=E,7µm,20.0s					
MVO	Moncorvo	29.92 179	eP	P	08 36 22.8	+1.2
	comp=E,43nm,1.2s					
PLOR	Plostina	30.19 128	⇑P	P	08 36 26.0	+2.0
PLOR	Plostina	30.19 128	⇑iP	P	08 36 26.0	+2.0
PLOR	Plostina	30.19 128	P	P	08 36 26.0	+2.0
VRI	Vrincioaia	30.20 128	⇑P	P	08 36 25.7	+1.7
VRI	Vrincioaia	30.20 128	⇑iP	P	08 36 25.7	+1.7
VRI	Vrincioaia	30.20 128	P	P	08 36 25.7	+1.7
TRUS	Trudelj	30.22 137	eP	P	08 36 24.2	0.0
DIVS	Divibare	30.25 138	eP	P	08 36 24.7	+0.1
BBLS	Lazići	30.35 139	eP	P	08 36 27.0	+1.6
MLR	Muntele Rosu	30.35 129	P	P	08 36 26.1	+0.7
MLR	Muntele Rosu	30.35 129	⇑iP	P	08 36 27.1	+1.7
MLR	Muntele Rosu	30.35 129	P	P	08 36 26.1	+0.7
	comp=E,3.8nm,0.9s,baz=343,slow=7.1					
MLR			LR	LR	08 49 12.8	
	comp=E,3µm,20.4s,baz=342,slow=37					
MLR	Muntele Rosu	30.35 129	P	P	08 36 26.1	+0.7
PVIS	Viseu	30.37 180	eP	P	08 36 26.9	+1.3
	comp=E,45nm,1.2s					
PVIS	Viseu	30.37 180	eP	P	08 36 26.9	+1.3
	comp=E,45nm,1.2s					
MTE	Manteigas	30.68 180	eP	P	08 36 29.8	+1.4
	comp=E,44nm,1.4s					
MTE			eS	S	08 41 39.6	+10
MTE			eLR	LR	08 45 00.5	
	comp=E,7µm,22.0s					
MTE	Manteigas	30.68 180	eP	P	08 36 30.7	+2.4
	comp=E,22nm,1.0s					
MTE			LR	LR		
	comp=Z,8µm,22.0s					
MTE	Manteigas	30.68 180	eP	P	08 36 29.8	+1.4
	comp=Z,44nm,1.4s					
IVAS	Ivanjica	30.79 138	eP	P	08 36 29.5	+0.3
PLE	Pljevlja	30.86 139	eP	P	08 36 31.9	+2.0
PLE	Pljevlja	30.86 139	eP	P	08 36 32.0	+2.0
ARU	Arti	30.86 83	d iP	P	08 36 29.7	0.0
ARU					08 37 27.1	
ARU			S	S	08 41 33.3	+0.9
ARU			pmax	pmax		
	comp=Z,52nm,1.0s					
ARU			MLR	MLR		
	comp=Z,5µm,19.0s					
ARU	Arti	30.86 83	P	P	08 36 29.3	-0.4
	comp=Z,404nm,1.0s,SNR=6.7					
ARU	Arti	30.86 83	i P	P	08 36 29.7	0.0
	comp=Z,52nm,1.0s					
ARU			S	S	08 41 33.3	+0.9
	comp=Z,5µm,19.0s					
UPM	Unac-Piva	30.87 140	⇑iP	P	08 36 30.7	+0.6
UPM	Unac-Piva	30.87 140	⇑iP	P	08 36 30.8	+0.6
PCAS	Casmilo, Conde	31.03 181	eS	S	08 41 45.7	+10
BRY	Bratogost	31.09 141	⇑iP	P	08 36 32.1	+0.1
BRY	Bratogost	31.09 141	⇑iP	P	08 36 32.2	+0.2
CFR	Carcaliu	31.20 127	⇑P	P	08 36 34.5	+1.7
CFR	Carcaliu	31.20 127	⇑iP	P	08 36 34.5	+1.7
CFR	Carcaliu	31.20 127	P	P	08 36 34.5	+1.7
SVE	Sverdlovsk	31.21 81	⇑eP	P	08 36 32.9	+0.2
SVE			eS	S	08 41 39.4	+1.5
SVE			pmax	pmax		
	comp=Z,60nm,1.6s					
SVE			MLR	MLR		
	comp=Z,3µm,18.0s					
SVE	Sverdlovsk	31.21 81	eP	P	08 36 32.9	+0.2
	comp=Z,60nm,1.6s					
SVE			eS	S	08 41 39.4	+1.5
	comp=Z,3µm,18.0s					
PCBR	Castelo Branco	31.24 179	eP	P	08 36 35.0	+1.8
	comp=Z,40nm,1.6s					
PCBR	Castelo Branco	31.24 179	eP	P	08 36 35.0	+1.8
	comp=Z,40nm,1.6s					
NKY	Niksic	31.27 140	⇑iP	P	08 36 33.3	-0.2
NKY	Niksic	31.27 140	⇑iP	P	08 36 33.3	-0.2
BEY	Berane	31.40 139	eP	P	08 36 35.6	+0.9
IVA	Berane	31.40 139	eP	P	08 36 35.6	+0.9
PTOM	Tomar	31.46 181	eP	P	08 36 36.5	+1.3
	comp=Z,113nm,1.1s					
PTOM	Tomar	31.46 181	eP	P	08 36 36.5	+1.3
	comp=Z,113nm,1.1s					
ESDC	Sonseca Array	31.47 174	P	P	08 36 35.8	+0.5
ESDC	Sonseca Array	31.47 174	P	P	08 36 35.8	+0.5
	comp=Z,6.3nm,0.8s,baz=356,slow=9.1,SNR=17					
ESDC			LR	LR	08 49 18.9	
	comp=Z,3µm,18.7s,baz=350,slow=36					
ESDC	Sonseca Array	31.47 174	P	P	08 36 35.8	+0.5
ESLA	Sonseca Array	31.47 174	eP	P	08 36 36.0	+0.7
	comp=Z,8.9nm,1.1s					
ESLA	Sonseca Array	31.47 174	eP	P	08 36 36.0	+0.7
	comp=Z,8.9nm,1.1s					
HCY	Herceg Novi	31.51 141	⇑iP	P	08 36 35.2	-0.4
HCY	Herceg Novi	31.51 141	⇑iP	P	08 36 35.2	-0.4
PAB	San Pablo	31.59 175	eP	P	08 36 37.0	+0.6
PAB			pmax	pmax		
	comp=Z,249nm,1.2s					
PAB			MLR	MLR		
	comp=Z,7µm,20.0s					
PAB	San Pablo	31.59 175	eP	P	08 36 37.0	+0.6
	comp=Z,249nm,1.2s					
PAB			LR	LR		
	comp=Z,7µm,20.0s					
PAB	San Pablo	31.59 175	eP	P	08 36 37.0	+0.6
	comp=Z,7µm,20.0s					
PMRV	Marv??o	31.65 179	eP	P	08 36 37.9	+1.0
	comp=Z,100nm,1.3s					
PMRV			eS	S	08 41 52.8	+7.6
PMRV			eLR	LR	08 45 24.7	
	comp=Z,6µm,22.0s					
PMRV

PVY	Plav	31.68 139⇑	*i*P		P	08 36 38.0 +0.8
PVY	Plav	31.68 139⇑	*i*P		P	08 36 38.1 +0.8
PDG	Podgorica	31.69 140⇑	*i*P		P	08 36 37.2 +0.1
TTG	Podgorica	31.69 140⇑	*i*P		P	08 36 37.2 +0.1
BUM	Brajici-Budva	31.74 141⇑	*i*P		P	08 36 37.2 -0.4
BUM	Brajici-Budva	31.74 141⇑	*i*P		P	08 36 37.3 -0.4
MPEP	Malo Peshtene	31.81 134	*e*P		P	08 36 41.0 +2.8
BARS	Barje	31.88 136	*e*P		P	08 36 38.6 -0.2
TIRR	Tirgusor	31.95 127	⇑P		P	08 36 40.9 +1.6
TIRR	Tirgusor	31.95 127	*e*P		P	08 36 41.2 +1.9
	comp=Z,67nm,1.0s					
TIRR	Tirgusor	31.95 127⇑	*i*P		P	08 36 40.9 +1.6
TIRR	Tirgusor	31.95 127	P		P	08 36 40.9 +1.6
PMTG	Montargil	32.01 181	*e*P		P	08 36 40.0 0.0
	comp=Z,51nm,1.2s					
PMTG			*e*S		S	08 41 59.9 +9.2
PMTG	Montargil	32.01 181	*e*P		P	08 36 40.0 0.0
	comp=Z,51nm,1.2s					
PMAFR	Mafra	32.13 182	*e*S		S	08 42 06.7 +14
ULC	Ulcinj	32.13 140⇑	*i*P		P	08 36 41.2 +0.1
ULC	Ulcinj	32.13 140⇑	*i*P		P	08 36 41.2 +0.1
PESTR	Estremoz	32.21 180	*e*P		P	08 36 42.2 +0.4
	comp=Z,55nm,1.1s					
PESTR			*e*S		S	08 42 04.3 +10
PESTR	Estremoz	32.21 180	*e*P		P	08 36 42.2 +0.4
	comp=Z,55nm,1.1s					
VTS	Vitosha	32.41 135	⇑P		P	08 36 47.0 +3.4
VTS	Vitosha	32.41 135⇑	*i*P		P	08 36 47.0 +3.4
VTS	Vitosha	32.41 135	*e*P		P	08 36 37.6 -6.0
SZH	Strazhica	32.43 131	*e*P		P	08 36 45.2 +1.6
SZH	Strazhica	32.43 131	*e*P		P	08 36 45.2 +1.6
EVO	Evora	32.55 180	*e*P		P	08 36 46.0 +1.3
	comp=Z,36nm,1.2s					
EVO			*e*R			
	comp=Z,7μm,18.5s					
EVOP	Sao Brissos	32.55 180	*e*P		P	08 36 46.0 +1.3
EVOP			pmax		pmax	
	comp=Z,36nm,1.2s					
EVOP	Sao Brissos	32.55 180	*e*P		P	08 36 46.0 +1.3
	comp=Z,36nm,1.2s					
EVOP	Sao Brissos	32.55 180	*e*P		P	08 36 46.0 +1.3
	comp=Z,18nm,1.2s					
SKO	Skopje	32.60 137	*i*P		P	08 36 48.4 +3.3
SKO	Skopje	32.60 137	*i*P		P	08 36 47.4 +2.3
VSL	Villasalto	32.81 155	PFAKE			08 37 00.0 +13
VSL			LR		LR	
	comp=Z,3μm,20.0s					
TIR	Tirane	32.85 140	PFAKE			08 37 00.0 +13
TIR			LR		LR	
	comp=Z,2μm,19.0s					
PBAR	Barrancos	32.91 179	*e*P		P	08 36 48.3 +0.5
	comp=Z,45nm,1.6s					
PBAR			*e*S		S	08 42 16.3 +12
PBAR	Barrancos	32.91 179	*e*P		P	08 36 48.3 +0.5
	comp=Z,45nm,1.6s					
PNCL	Nicolau / Gran	32.97 181	*e*P		P	08 36 49.2 +0.8
	comp=Z,35nm,1.6s					
PNCL			*e*S		S	08 42 14.0 +8.4
PNCL	Nicolau / Gran	32.97 181	*e*P		P	08 36 49.2 +0.8
	comp=Z,35nm,1.6s					
PBEJ	Beja	33.05 180	*e*P		P	08 36 50.2 +1.1
	comp=Z,60nm,1.3s					
PBEJ	Beja	33.05 180	*e*P		P	08 36 50.2 +1.1
	comp=Z,60nm,1.3s					
KKB	Krupnik	33.07 135	*e*P		P	08 36 47.0 -2.3
CUC	Castrocucco	33.36 146	PFAKE			08 37 00.0 +8.1
CUC			LR		LR	
	comp=Z,2μm,20.0s					
PCVE	Castro Verde	33.45 180	*e*P		P	08 36 53.5 +1.0
	comp=Z,26nm,1.6s					
PCVE			*e*S		S	08 42 23.4 +10
PCVE	Castro Verde	33.45 180	*e*P		P	08 36 53.5 +1.0
	comp=Z,26nm,1.6s					
VAY	Valandovo	33.47 136	*i*P		P	08 36 56.6 +3.9
BIA	Bitola	33.48 138	*i*P		P	08 36 56.9 +4.0
MMB	Musomiste	33.48 135	*e*P		P	08 36 57.2 +4.3
PVAQ	Vaqueiros	33.67 180	*e*P		P	08 36 55.6 +1.1
PVAQ			*e*S		S	08 42 23.6 +7.0
PVAQ			*e*LR		LR	08 46 17.2
	comp=Z,6μm,18.0s					
PVAQ	Vaqueiros	33.67 180	*e*P		P	08 36 55.6 +1.1
PGRA	Graciosa	33.70 209	*e*S		S	08 42 38.4 +22
PGRA			*e*LQ		LQ	08 44 51.5
PGRA			*e*LR		LR	08 46 17.4
	comp=Z,268nm,10.2s					
MORF	Marmelete	33.77 181	*e*P		P	08 36 55.7 +0.2
	comp=Z,68nm,1.2s					
MORF			*e*S		S	08 42 27.0 +8.8
MORF	Marmelete	33.77 181	*e*P		P	08 36 57.6 +2.1
MORF			*e*S		S	08 42 22.8 +4.6
MORF	Marmelete	33.77 181	*e*P		P	08 36 55.7 +0.2
	comp=Z,68nm,1.2s					
KDZ	Kurdzhali	33.83 132	*e*P		P	08 37 00.0 +4.2
PBDV	Barranco-do-Ve	33.83 180	*e*S		S	08 42 27.5 +8.4
PFVI	Vila Bisbo	33.95 181	*e*S		S	08 42 31.3 +10
ROSA	Rosais	34.04 209	*e*S		S	08 42 35.5 +13
ROSA			*e*LQ		LQ	08 44 56.5
ROSA			*e*LR		LR	08 46 08.5
	comp=Z,599nm,11.9s					
ANN	Anapa	34.15 116	*e*P		P	08 36 58.6 0.0
ANN			*e**PP		pP	08 37 04.7 +1.2
ANN			*e*S		S	08 42 23.8 0.0
ANN			*e*SS		SnSn	08 44 28.3 -3.4
ANN			*e*SSS		SSS	08 45 03.4
ANN			pmax		pmax	
	comp=Z,59nm,0.8s					
ANN			MLR		MLR	
	comp=N,3μm,15.0s					
ANN			MLR		MLR	
	comp=E,1μm,15.0s					
ANN			MLR		MLR	
	comp=Z,4μm,15.0s					
ANN	Anapa	34.15 116	*e*P		P	08 36 58.6 0.0
	comp=Z,59nm,0.8s					
ANN			*e*S		S	08 42 23.8 0.0
PSET	Sete Cidades	34.54 205	*e*S		S	08 42 36.4 +6.4
PSET			*e*LQ		LQ	08 45 09.2
PSET			*e*LR		LR	08 46 17.4
	comp=Z,560nm,12.1s					
CMLA	Cha da Macela	34.57 205	*e*S		S	08 42 51.9 +21
CMLA			*e*LR		LR	08 44 54.0
	comp=Z,613nm,16.2s					
CMLA			*e*LQ		LQ	08 45 00.3
CMLA	Cha da Macela	34.57 205	PFAKE			08 37 10.0 +7.7
CMLA			LR		LR	
	comp=Z,2μm,19.0s					
TIXI	Tiksi	34.84 22⇑	*e*P		P	08 37 07.6 +3.3
TIXI			pmax		pmax	
	comp=Z,38nm,1.2s					
TIXI			MLR		MLR	
	comp=Z,1μm,18.0s					
TIXI	Tiksi	34.84 22	*e*P		P	08 37 07.6 +3.3
	comp=Z,1μm,18.0s					
CEL	Celeste	35.06 147	*e*P		P	08 37 05.8 -0.8
	comp=Z,26nm,1.0s					
CEL			LR		LR	
	comp=Z,2μm,21.0s					
CEL	Celeste	35.06 147	*e*P		P	08 37 05.8 -0.8
	comp=Z,26nm,1.0s					
EBNR	Beni Rached	35.14 167	P		P	08 37 08.9 +1.6
EBNR	Beni Rached	35.14 167	P		P	08 37 08.9 +1.6
PSMN	Pico do Norte,	35.26 204	*e*S		S	08 42 54.7 +14
PSMN			*e*LQ		LQ	08 45 21.8
PSMN			*e*LR		LR	08 46 52.7
	comp=Z,1μm,16.1s					
ECHA	Ech Chlef	35.27 167	P		P	08 37 10.5 +2.2
ECHA	Ech Chlef	35.27 167	P		P	08 37 10.5 +2.2
EMHD	Djebel Mahouad	35.34 165	P		P	08 37 07.0 -2.1
EMHD	Djebel Mahouad	35.34 165	P		P	08 37 07.0 -2.1
CMAH	Djebel Manchou	35.38 159	P		P	08 37 15.5 +6.1
EANR	'Ain N'Sour	35.45 167	P		P	08 37 11.0 +1.1
EANR	'Ain N'Sour	35.45 167	P		P	08 37 11.0 +1.1
CKFL	Kef-Lekhel	35.52 160	P		P	08 37 15.6 +4.9
SET	Setif	35.58 161	P		P	08 37 14.0 +2.9
SET	Setif	35.58 161	P		P	08 37 14.0 +2.9
GOF	Gofitskoye	35.62 109	*e*P		P	08 37 15.4 +4.1
GOF			pmax		pmax	
	comp=Z,120nm,1.0s					
CASM	Ain Smara	35.63 160	P		P	08 37 15.7 +4.2
AKTK	Aktyubinsk	35.71 90	P		P	08 37 11.7 -0.3
AKTO	Aktyubinsk	35.71 90	P		P	08 37 11.7 -0.3
AKTO	Aktyubinsk	35.71 90	P		P	08 37 11.7 -0.3
AKTO	Aktyubinsk	35.71 90	P		P	08 37 11.7 -0.3
	comp=Z,12nm,0.8s,baz=329,slow=10.0,SNR=36					
AKTO	Aktyubinsk	35.71 90	P		P	08 37 11.7 -0.3
ABSA	Djebel Ababsia	35.73 159	P		P	08 37 13.9 +1.4
ABSA	Djebel Ababsia	35.73 159	P		P	08 37 13.9 +1.4
SOC	Sochi	35.94 114	*e*P		P	08 37 13.6 -0.4
SOC			*e*S		S	08 42 52.9 +1.6
SOC			MLR		MLR	
	comp=Z,4μm,19.0s					
SOC	Sochi	35.94 114	*e*P		P	08 37 13.6 -0.4
SOC			*e*S		S	08 42 52.9 +1.6
	comp=Z,4μm,19.0s					
ETRT	Tiaret	36.02 167	P		P	08 37 15.1 +0.2
ETRT	Tiaret	36.02 167	P		P	08 37 15.1 +0.2
INK	Inuvik	36.27 329	*e*P		P	08 37 15.9 -0.7
	comp=Z,145nm,1.2s					
INK	Inuvik	36.27 329	*e*P		P	08 37 15.9 -0.7
	comp=Z,145nm,1.2s					
KIV	Kislovodsk	36.50 110	*e*P		P	08 37 20.4 +1.4
KIV			*e*			08 39 47.1
KIV			*e*S		S	08 43 02.3 +2.1
KIV			pmax		pmax	
	comp=Z,69nm,1.1s					
KIV			pmax		pmax	
	comp=Z,98nm,4.8s					
KIV			MLR		MLR	
	comp=Z,1μm,15.0s					
KIV	Kislovodsk	36.50 110	P		P	08 37 24.6 +5.6
	comp=Z,341nm,0.8s,SNR=5.2					
KIV	Kislovodsk	36.50 110	*e*P		P	08 37 20.4 +1.4
	comp=Z,98nm,4.8s					
KIV			*e*S		S	08 43 02.3 +2.1
	comp=Z,1μm,15.0s					
KEST	Kesra	36.51 156	P		P	08 37 18.8 -0.2
KEST	Kesra	36.51 156	P		P	08 37 18.8 -0.2
	comp=Z,4.5nm,1.0s,baz=228,slow=22,SNR=3.6					
KEST			LR		LR	08 52 19.8
	comp=Z,1μm,18.5s,baz=234,slow=36					
KEST	Kesra	36.51 156	P		P	08 37 18.8 -0.2
DURS	Dursunbey	36.52 130	*i*P		P	08 37 23.3 +4.2
BORA	Eskisehir	36.76 127	*i*P		P	08 37 25.9 +4.7
KBZ	Khabaz	36.77 110	P		P	08 37 21.7 +0.6
KBZ	Khabaz	36.77 110	P		P	08 37 21.7 +0.6
KBZ	Khabaz	36.77 110	P		P	08 37 21.7 +0.6
	comp=Z,22nm,1.0s,baz=326,slow=8.7,SNR=9.6					
KBZ	Khabaz	36.77 110	P		P	08 37 21.7 +0.6
AKHS	Akhisar	37.03 131	*i*P		P	08 37 27.8 +4.3
RTC	Rabat Centre	37.09 179	PFAKE			08 37 40.0 +16
RTC			LR		LR	
	comp=Z,3μm,19.0s					
DEMI	Demirci	37.10 130	*i*P		P	08 37 29.7 +5.6
PQI	Presque Isle	37.13 262	*e*P		P	08 37 25.7 +1.6
	comp=Z,80nm,1.3s					
PQI	Presque Isle	37.13 262	*e*P		P	08 37 25.7 +1.6
	comp=Z,80nm,1.3s					
SEYT	Eskypehyr	37.20 127	*i*P		P	08 37 29.7 +4.7
GDZ	Gediz	37.26 129	*i*P		P	08 37 30.7 +5.3
ANTO	Ankara	37.39 124	PFAKE			08 37 40.0 +13
ANTO			LR		LR	
	comp=Z,3μm,19.0s					
BRVK	Borovoye	37.44 76	P		P	08 37 27.9 +1.2
	comp=Z,180nm,1.4s,SNR=10					
BRVK	Borovoye	37.44 76	*d*i*P		P	08 37 27.2 +0.5
BRVK			pmax		pmax	
	comp=Z,27nm,0.8s					
BRVK	Borovoye	37.44 76	P		P	08 37 27.6 +0.9
	SNR=23					
BRVK	Borovoye	37.44 76	*e*P		P	08 37 27.1 +0.5
	comp=Z,28nm,0.9s					
BRVK			*e*PP		PnPn	08 38 52.4 -0.2
BRVK			LR		LR	
	comp=Z,2μm,19.0s					
BRVK	Borovoye	37.44 76	*e*P		P	08 37 27.1 +0.4
	comp=Z,28nm,0.9s					
YKW3	Yellowknife Ar	37.47 313	*e*P		P	08 37 26.3 -0.6
	comp=Z,2.9nm,1.4s					
YKW3	Yellowknife Ar	37.47 313	*e*P		P	08 37 26.3 -0.6
	comp=Z,2.9nm,1.4s					
BVAR	Borovoye Array	37.50 76	P		P	08 37 27.7 +0.4
BVAR						08 38 52.0
BVAR	Borovoye Array	37.50 76	P		P	08 37 27.7 +0.4
BVAR			PP		PP	08 38 52.0 -0.5
BVAR	Borovoye Array	37.50 76	P		P	08 37 27.7 +0.4
	comp=Z,21nm,0.8s,baz=324,slow=7.7,SNR=63					
BVAR			PP		PP	08 38 52.0 -0.5
	comp=Z,11nm,0.8s,baz=330,slow=8.3,SNR=4.2					
BVAR	Borovoye Array	37.50 76	P		P	08 37 27.7 +0.4
BVAR	Borovoye Array	37.50 76	PP		PP	08 38 52.0 -0.6
YKA	Yellowknife Ar	37.53 313	P		P	08 37 26.7 -0.6
YKA	Yellowknife Ar	37.53 313	P		P	08 37 26.7 -0.6
	comp=Z,29nm,0.7s,baz=29,slow=9.0,SNR=54					
YKA	Yellowknife Ar	37.53 313	P		P	08 37 26.7 -0.6
BR131	Keskin Array S	37.76 123	*e*P		P	08 37 28.9 -0.8
	comp=Z,11nm,0.9s					
BR131	Keskin Array S	37.76 123	*e*P		P	08 37 28.9 -0.8
	comp=Z,11nm,0.9s					
BRTR	Keskin Array B	37.76 123	P		P	08 37 31.1 +1.4
BRTR	Keskin Array B	37.76 123	P		P	08 37 31.1 +1.4
	comp=Z,11nm,0.9s,baz=332,slow=7.0,SNR=16					
BRTR			LR		LR	08 54 46.3
	comp=Z,2μm,18.6s,baz=333,slow=39					
BRTR	Keskin Array B	37.76 123	P		P	08 37 31.1 +1.4
BBAL	Bala	37.79 124	*i*P		P	08 37 33.9 +4.0
KHAL	Karahalli	37.94 129	*i*P		P	08 37 36.9 +5.7
ONI	Oni	37.98 111	P		P	08 37 37.1 +5.6
BOLV	Bolvadin	37.98 127	*i*P		P	08 37 36.6 +5.0
DNZL	Cakiroluk	38.47 130	*i*P		P	08 37 41.1 +5.3
ISP	Isparta	38.72 128	PFAKE			08 37 50.0 +12
ISP			LR		LR	
	comp=Z,4μm,20.0s					
PKME	Peaks-Kenny Pk	38.78 262	*e*P		P	08 37 38.8 +0.7
	comp=Z,82nm,1.4s					
PKME			LR		LR	
	comp=Z,6μm,21.0s					
PKME	Peaks-Kenny Pk	38.78 262	*e*P		P	08 37 38.8 +0.7
	comp=Z,82nm,1.4s					
SANT	Santorini	38.86 135	PFAKE			08 37 50.0 +11
SANT			LR		LR	
	comp=Z,2μm,19.0s					
DAGI	Agillar	38.89 113	*i*P		P	08 37 44.9 +5.7
MAK	Makhachkala	38.90 106	*e*P		P	08 37 37.0 -2.1
MAK			*e*			08 39 50.0
MAK			*e*S		S	08 43 33.2 -3.1
MAK			*e*SS		SnSn	08 46 23.8 -2.6
MAK			pmax		pmax	
	comp=Z,337nm,1.0s					
MAK			MLR		MLR	
	comp=Z,2μm,13.0s					
MAK	Makhachkala	38.90 106	*e*P		P	08 37 37.0 -2.1
	comp=Z,337nm,1.0s					
MAK	Makhachkala	38.90 106	*e*PcP		PcP	08 39 50.0 +0.5
DDEM	Demirkent	39.01 113	*i*P		P	08 37 45.6 +5.4
AKH	Akhalkalaki	39.06 111	P		P	08 37 46.9 +6.2
TBLG	Delisi	39.15 110	P		P	08 37 46.9 +5.6
TBLG	Delisi	39.15 110	P		P	08 37 46.9 +5.6
PINB	Pinarbasi	39.50 121	*i*P		P	08 37 50.8 +6.3
WVL	Waterville	39.53 262	*e*P		P	08 37 45.7 +1.4
	comp=Z,276nm,1.5s					
WVL	Waterville	39.53 262	*e*P		P	08 37 45.7 +1.4
	comp=Z,276nm,1.5s					
KEMA	Kemaliye	39.55 118	*i*P		P	08 37 51.1 +6.5
DGRG	David-gareji	39.60 109	P		P	08 37 45.4 +0.3
COLD	Coldfoot	39.69 338	*e*P		P	08 37 45.5 0.0
	comp=Z,54nm,1.5s					
COLD	Coldfoot	39.69 338	*e*P		P	08 37 45.5 0.0
	comp=Z,54nm,1.5s					
ERZM	Erzurum	39.80 115	*i*P		P	08 37 49.7 +2.7
ERZM	Erzurum	39.80 115	*i*P		P	08 37 49.7 +2.7
HOMI	Horasan	39.84 114	*i*P		P	08 37 53.7 +6.4
NVS	Novosibirsk	39.90 64⇓	*i*P		P	08 37 48.0 +0.7
NVS			*i*			08 39 17.6
NVS			pmax		pmax	
	comp=Z,70nm,1.6s					
NVS			pmax		pmax	
	comp=N,31nm,1.0s					
NVS			pmax		pmax	
	comp=E,12nm,1.0s					
NVS	Novosibirsk	39.90 64	*i*P		P	08 37 48.0 +0.7
	comp=E,70nm,1.6s					
AKCD	Akcadag	40.29 119	*i*P		P	08 37 53.6 +2.7
AKCD	Akcadag	40.29 119	*i*P		P	08 37 53.6 +2.7
GULE	Gulek	40.35 123	*i*P		P	08 37 56.8 +5.3
ELZG	Elazig	40.40 118	*i*P		P	08 37 59.0 +7.1
MALT	Malatya	40.41 119	⇑P		P	08 37 54.6 +2.7
MALT	Malatya	40.41 119	⇑*i*P		P	08 37 54.6 +2.7
MALT	Malatya	40.41 119	P		P	08 37 54.6 +2.7
ERMK	Ermenek	40.46 126	*i*P		P	08 37 57.2 +4.9
ANDN	Andirin	40.51 122	*i*P		P	08 37 52.2 -0.5
ANDN	Andirin	40.51 122	*i*P		P	08 37 52.2 -0.5
LBNH	Lisbon	40.55 264	*e*P		P	08 37 54.2 +1.3
LBNH			pmax		pmax	
	comp=Z,78nm,1.5s					
LBNH			MLR		MLR	
	comp=Z,5μm,20.0s					
LBNH	Lisbon	40.55 264	*e*P		P	08 37 54.1 +1.3
	comp=Z,78nm,1.5s					
LBNH			LR		LR	
	comp=Z,5μm,20.0s					
LBNH	Lisbon	40.55 264	*e*P		P	08 37 54.2 +1.3
	comp=Z,5μm,20.0s					
GNI	Garni	40.60 111	P		P	08 38 02.0 +8.6
	SNR=15					
GNI	Garni	40.60 111	*e*P		P	08 37 54.3 +0.8
	comp=Z,124nm,1.4s					
GNI			LR		LR	
	comp=Z,2μm,20.0s					
GNI	Garni	40.60 111	*e*P		P	08 37 54.3 +0.8
	comp=Z,19nm,0.8s					
BNGL	BINGOL	40.62 115	*i*P		P	08 38 00.7 +7.0
EGAK	Eagle	40.75 331	*e*P		P	08 37 53.6 -0.6
	comp=Z,102nm,1.3s					
EGAK			LR		LR	
	comp=Z,3μm,19.0s					
EGAK	Eagle	40.75 331	*e*P		P	08 37 53.6 -0.6
	comp=Z,102nm,1.3s					
AYKD	Aykdinkavak	40.79 121	*i*P		P	08 38 01.0 +6.1
FFC	Flin Flon	40.89 298	P		P	08 37 55.9 +0.4
	comp=Z,561nm,1.1s,SNR=13					
FFC	Flin Flon	40.89 298	*e*P		P	08 37 55.8 +0.3
FFC			pmax		pmax	
	comp=Z,260nm,1.1s					
FFC			MLR		MLR	
	comp=Z,2μm,22.0s					
FFC	Flin Flon	40.89 298	*e*P		P	08 37 55.8 +0.3
	comp=Z,260nm,1.1s					
FFC			LR		LR	
	comp=Z,2μm,22.0s					
FFC	Flin Flon	40.89 298	*e*P		P	08 37 55.8 +0.3
	comp=Z,2μm,22.0s					
GZT	Gaziantep	41.06 120	*i*P		P	08 38 00.6 +3.3
LONY	Lake Ozonia	41.08 267	*e*P		P	08 37 58.5 +1.3
	comp=Z,82nm,1.6s					
LONY			LR		LR	
	comp=Z,4μm,20.0s					
LONY	Lake Ozonia	41.08 267	*e*P		P	08 37 58.5 +1.3
	comp=Z,82nm,1.6s					
DAWY	Dawson	41.13 330	*e*P		P	08 37 57.2 -0.3
DAWY	Dawson	41.13 330	*e*P		P	08 37 57.2 -0.3
ZAA0	Zalesovo Array	41.14 64	*e*P		P	08 37 57.5 0.0
ZAA0	Zalesovo Array	41.14 64	*e*P		P	08 37 57.5 0.0
ZALV	Zalesovo Beam	41.14 64	P		P	08 37 57.2 -0.3
ZALV						08 39 32.3
ZALV	Zalesovo Beam	41.14 64	P		P	08 37 57.2 -0.3
ZALV			PP		PP	08 39 32.3 +0.1
ZALV	Zalesovo Beam	41.14 64	P		P	08 37 57.2 -0.3
	comp=Z,4.7nm,0.9s,baz=332,slow=8.8,SNR=8.8					
ZALV			PP		PP	08 39 32.3 +0.1
	comp=Z,3.2nm,0.9s,baz=325,slow=7.2,SNR=2.6					
ZALV	Zalesovo Beam	41.14 64	P		P	08 37 57.2 -0.3
FFD	Franklin Falls	41.15 263	*e*P		P	08 38 00.5 +2.8
	comp=Z,8.3nm,0.3s					
FFD	Franklin Falls	41.15 263	*e*P		P	08 38 00.5 +2.8
	comp=Z,8.3nm,0.3s					
MDV	Middlebury	41.18 265	*e*P		P	08 38 00.1 +2.2
MDV	Middlebury	41.18 265	*e*P		P	08 38 00.1 +2.2
IMA2	Indian Mountai	41.22 340	*e*P		P	08 37 58.2 0.0
IMA2	Indian Mountai	41.22 340	*e*P		P	08 37 58.2 0.0
DIYA	Diyarbakir	41.27 117	*i*P		P	08 38 05.4 +6.6
IM04	Indian Mountai	41.32 340	*e*P		P	08 37 59.1 +0.2
IM04	Indian Mountai	41.32 340	*e*P		P	08 37 59.1 +0.2
NCB	Newcomb	41.54 266	PFAKE			08 38 10.0 +9.0
NCB			LR		LR	
	comp=Z,5μm,21.0s					
ILAR	Eielson Array	41.60 335	P		P	08 38 01.4 +0.2
ILAR	Eielson Array	41.60 335	P		P	08 38 01.4 +0.2
	comp=Z,26nm,1.0s,baz=14,slow=7.3,SNR=152					
ILAR			LR		LR	08 56 30.9
	comp=Z,3μm,20.4s,baz=41,slow=38					
ILAR	Eielson Array	41.60 335	P		P	08 38 01.5 +0.2
COLA	College	41.64 336	*e*P		P	08 38 02.2 +0.7
COLA			pmax		pmax	
	comp=Z,367nm,1.1s					
COLA			MLR		MLR	
	comp=Z,3μm,22.0s					
COLA	College	41.64 336	*e*P		P	08 38 02.2 +0.7
	comp=Z,367nm,1.1s					
COLA			LR		LR	
	comp=Z,3μm,22.0s					
COLA	College	41.64 336	*e*P		P	08 38 02.2 +0.7
	comp=Z,3μm,22.0s					
ACCN	Adirondack Com	41.88 265	*e*P		P	08 38 05.4 +1.6
	comp=Z,68nm,1.6s					
ACCN	Adirondack Com	41.88 265	*e*P		P	08 38 05.4 +1.6
	comp=Z,68nm,1.6s					
YAYL	Yayladag	41.89 123	*i*P		P	08 38 09.3 +5.2
HRV	Adam Dziewonsk	41.98 262	*e*P		P	08 38 06.8 +2.2
HRV			pmax		pmax	
	comp=Z,70nm,1.5s					
HRV	Adam Dziewonsk	41.98 262	*e*P		P	08 38 06.8 +2.2
	comp=Z,70nm,1.5s					
HRV	Adam Dziewonsk	41.98 262	*e*P		P	08 38 06.8 +2.2
	comp=Z,70nm,1.5s					
BTCH	Batrach	41.98 122	*e*P		P	08 38 05.1 +0.4
ARNB	Al Arnab	42.02 123	*e*P		P	08 38 04.0 -1.0
MARD	Mardin	42.02 117	*i*P		P	08 38 11.1 +5.9
KURK	Kurchatov	42.08 71	P		P	08 38 05.0 -0.3
	comp=Z,77nm,1.2s,SNR=8.8					
KURK	Kurchatov	42.08 71	*c*e*P		P	08 38 05.4 +0.1
KURK			*i*	*PP	pP	08 38 11.1 +0.9
KURK			pmax		pmax	
	comp=Z,16nm,1.6s					
KURK	Kurchatov	42.08 71	P		P	08 38 05.7 +0.4
	SNR=17					
KURK	Kurchatov	42.08 71	P		P	08 38 05.5 +0.1
KURK			PP		PP	08 39 40.4 -2.0
KURK			LR		LR	
	comp=Z,3μm,19.0s					
KURK	Kurchatov	42.08 71	P		P	08 38 05.7 +0.4
	SNR=17					
KURBB	Kurchatov Arra	42.13 71	P		P	08 38 05.5 -0.3
	comp=Z,8.4nm,0.9s,baz=333,slow=6.7,SNR=30					
KURBB			PP		PP	08 39 40.4 -2.6
	comp=Z,8.1nm,0.9s,baz=330,slow=10.1,SNR=7.0					
CSS	Prodhromos	42.15 126	PFAKE			08 38 20.0 +14
CSS			LR		LR	
	comp=Z,3μm,21.0s					
KBSD	Kabsdagh	42.25 117	*e*P		P	08 38 04.6 -2.2
SADO	Sadowa	42.44 271	P		P	08 38 09.4 +1.1
SADO	Sadowa	42.44 271	P		P	08 38 09.4 +1.1
	comp=Z,18nm,0.9s,baz=41,slow=10,SNR=10					
SADO	Sadowa	42.44 271	P		P	08 38 09.4 +1.1
HAKT	HAKKARI	42.67 113	*i*P		P	08 38 15.5 +5.0
BPAW	Bear Paw Mtn.	42.79 337	*e*P		P	08 38 11.3 +0.4
	comp=Z,62nm,1.1s					
BPAW	Bear Paw M

comp=Z,139nm,1.7s
BINY LR LR
comp=Z,6μm,20.0s
BINY Binghamton 43.70 266 *e*P **P 08 38 21.0 +2.4**
comp=Z,139nm,1.7s
HYT Haines Junctio 43.83 327 *e*P **P 08 38 19.8 +0.3**
HYT Haines Junctio 43.83 327 *e*P **P 08 38 19.8 +0.3**
PPLA Purkeypile 44.10 337 *e*P **P 08 38 21.7 0.0**
comp=Z,55nm,1.2s
PPLA Purkeypile 44.10 337 *e*P **P 08 38 21.7 0.0**
comp=Z,55nm,1.2s
TOTH TOTAH 44.49 124 *e*P P 08 38 28.6 +3.5
COWI Conover 44.51 281 *e*P **P 08 38 25.8 +0.8**
comp=Z,31nm,1.0s
COWI LR LR
comp=Z,2μm,20.0s
COWI Conover 44.51 281 *e*P **P 08 38 25.8 +0.8**
comp=Z,31nm,1.0s
DLBC Dease Lake 44.61 321 *e*P **P 08 38 26.5 +0.8**
DLBC Dease Lake 44.61 321 *e*P **P 08 38 26.5 +0.8**
AGMN Agassiz Nation 44.69 288 *e*P **P 08 38 26.9 +0.5**
comp=Z,31nm,1.2s
AGMN LR LR
comp=Z,2μm,20.0s
AGMN Agassiz Nation 44.69 288 *e*P **P 08 38 26.9 +0.5**
comp=Z,31nm,1.2s
SKAG Skagway 44.71 325 *e*P **P 08 38 26.6 +0.2**
comp=Z,50nm,1.3s
SKAG Skagway 44.71 325 *e*P **P 08 38 26.6 +0.2**
comp=Z,50nm,1.3s
A30A Hoffart Farm, 44.87 291 ⇑P **P 08 38 28.1 +0.3**
baz=45
BMRM Bremner River 44.88 332 *e*P **P 08 38 27.3 -0.5**
comp=Z,49nm,1.1s
BMRM Bremner River 44.88 332 *e*P **P 08 38 27.3 -0.5**
comp=Z,49nm,1.1s
PMR Palmer 44.95 335 *e*P **P 08 38 28.5 +0.2**
PMR pmax pmax
comp=Z,50nm,1.0s
PMR Palmer 44.95 335 *e*P **P 08 38 28.5 +0.2**
comp=Z,50nm,1.0s
PMR Palmer 44.95 335 *e*P **P 08 38 28.5 +0.2**
comp=Z,50nm,1.0s
TCHB Talchebab 45.02 124 *e*P **P 08 38 30.3 +1.0**
ERPA Erie 45.09 270 PFAKE 08 38 40.0 +10
ERPA LR LR
comp=Z,4μm,19.0s
ZALF Zalf 45.16 123 *e*P **P 08 38 31.8 +1.5**
A29A Manning Farm, 45.17 292 ⇓P **P 08 38 30.1 -0.1**
baz=45,SNR=11
SALA Sala 45.19 123 *e*P **P 08 38 32.5 +1.8**
B30A Myrvik Farm, E 45.31 291 ⇑P **P 08 38 31.1 -0.2**
baz=45,SNR=11
EDM Edmonton 45.38 306 *e*P **P 08 38 31.7 -0.2**
EDM Edmonton 45.38 306 *e*P **P 08 38 31.7 -0.2**
EDM Edmonton 45.38 306 *e*P **P 08 38 31.7 -0.2**
A28A Rude Farm, Bot 45.49 292 ⇓P **P 08 38 33.0 +0.2**
baz=45
B29A Wagenman Farm, 45.61 291 ⇓P **P 08 38 33.7 0.0**
baz=45
SEY Seymchan 45.63 12 ⇑*i*P **P 08 38 34.4 +0.8**
SEY Seymchan 45.63 12 *i*P **P 08 38 34.4 +0.8**
SSPA Standing Stone 45.73 267 *e*P **P 08 38 35.4 +0.6**
comp=Z,121nm,1.6s
SSPA Standing Stone 45.73 267 *e*P **P 08 38 35.3 +0.6**
comp=Z,121nm,1.6s
IGZV Ghazvin 45.75 107 *e*P **P 08 38 36.7 +1.5**
IGZV Ghazvin 45.75 107 *e*P **P 08 38 36.7 +1.5**
A27A Ledoux Ranch, 45.75 293 ⇓P **P 08 38 34.9 +0.1**
baz=46
B28A Dugan Ranch, T 45.93 292 ⇓P **P 08 38 36.4 +0.1**
baz=46,SNR=13
C30A Mose, Pekin 46.02 290 ⇓P **P 08 38 36.9 -0.1**
baz=46
HVS Khovu-Aksy 46.17 59*d*/*i*P **P 08 38 38.9 +0.7**
HVS pmax pmax
comp=Z,279nm,1.8s
HVS Khovu-Aksy 46.17 59 *i*P **P 08 38 38.9 +0.7**
comp=Z,279nm,1.8s
KKAR Karatay Array 46.23 83 *e*P **P 08 38 39.7 +1.0**
KKAR pmax pmax
comp=Z,104nm,1.4s
KKAR Karatay Array 46.23 83 *e*P **P 08 38 39.7 +1.0**
comp=Z,104nm,1.4s
KKAR Karatay Array 46.23 83 *e*P **P 08 38 39.7 +1.0**
comp=Z,104nm,1.4s
MDND Maddock 46.24 291 *e*P **P 08 38 39.4 +0.7**
MDND Maddock 46.24 291 *e*P **P 08 38 39.3 +0.7**
MDND Maddock 46.24 291 ⇑P **P 08 38 38.2 -0.5**
baz=46
B27A Peters Farms, 46.24 293 ⇑P **P 08 38 38.7 0.0**
baz=46
A25A Svangstu Ranch 46.32 295 ⇓P **P 08 38 39.5 +0.2**
baz=46
SPMN St. Paul 46.46 284 *e*P **P 08 38 41.9 +1.5**
SPMN St. Paul 46.46 284 *e*P **P 08 38 41.9 +1.5**
SPMN St. Paul 46.46 284 ⇓P **P 08 38 41.0 +0.6**
baz=46,SNR=15
SDMD Soldier's Deli 46.50 266 *e*P **P 08 38 43.0 +2.2**
comp=Z,117nm,1.6s
SDMD Soldier's Deli 46.50 266 *e*P **P 08 38 43.0 +2.2**
comp=Z,117nm,1.6s
RSO Redoubt South 46.53 337 *e*P **P 08 38 40.9 -0.1**
comp=Z,66nm,0.9s
RSO Redoubt South 46.53 337 *e*P **P 08 38 40.9 -0.1**
comp=Z,66nm,0.9s
IMHD Mahdasht 46.53 107 *e*P **P 08 38 42.3 +1.1**
IMHD Mahdasht 46.53 107 *e*P **P 08 38 42.3 +1.1**
IRAZ Razeghan 46.56 108 *e*P **P 08 38 41.4 -0.2**
IRAZ Razeghan 46.56 108 *e*P **P 08 38 41.4 -0.2**
B26A Jensen Ranch, 46.56 294 ⇓P **P 08 38 41.3 0.0**
baz=46
C28A Hausauer Farms 46.60 292 ⇑P **P 08 38 41.6 +0.1**
baz=46
A24A Westby 46.60 296 ⇓P **P 08 38 40.8 -0.7**
baz=46
D30A Buchanan 46.64 290 ⇑P **P 08 38 41.7 -0.1**
baz=46
MK31 Makanchi Array 46.69 71 *e*P **P 08 38 42.2 0.0**
MK31 Makanchi Array 46.69 71 *e*P **P 08 38 42.2 0.0**
MK31 Makanchi Array 46.69 71 *e*P **P 08 38 42.2 0.0**
MKAR Makanchi Array 46.69 71*ce*P **P 08 38 42.4 +0.2**
MKAR pmax pmax
comp=Z,5.0nm,0.7s
MKAR Makanchi Array 46.69 71 P **P 08 38 42.0 -0.1**
MKAR PP **PP 08 40 31.5 -0.2**
MKAR Makanchi Array 46.69 71 P **P 08 38 42.0 -0.1**
comp=Z,4.7nm,0.7s,baz=348,slow=6.1,SNR=27
MKAR PP **PP 08 40 31.5 -0.2**
comp=Z,4.1nm,0.9s,baz=330,slow=8.3,SNR=2.9
MKAR Makanchi Array 46.69 71 *e*P **P 08 38 42.4 +0.2**
comp=Z,5.0nm,0.7s
A23A Redstone 46.83 296 ⇓P **P 08 38 43.3 0.0**
baz=47
IR3 Iran Long-Peri 46.84 107 *e*P **P 08 38 46.3 +2.7**
IR3 Iran Long-Peri 46.84 107 *e*P **P 08 38 46.3 +2.7**
B25A Knox Farm, Ray 46.93 294 ⇓P **P 08 38 44.0 -0.1**
baz=47
C27A Sayler Ranch, 46.94 293 ⇑P **P 08 38 44.3 +0.2**
baz=47
D29A Pettibone, Tap 46.94 291 ⇓P **P 08 38 43.9 -0.2**
baz=47
IR5 Iran Long-Peri 46.94 107 *e*P **P 08 38 45.2 +0.7**
IR5 Iran Long-Peri 46.94 107 *e*P **P 08 38 45.2 +0.7**
WRAK Wrangell Islan 46.96 321 PFAKE 08 39 00.0 +16
WRAK LR LR
comp=Z,3μm,21.0s
C26A Wahner Farm, P 47.01 293 ⇓P **P 08 38 44.9 +0.2**
baz=47
DGMT Dagmar 47.06 295 *e*P **P 08 38 45.9 +0.7**
comp=Z,55nm,1.4s
DGMT LR LR
comp=Z,2μm,19.0s
DGMT Dagmar 47.06 295 *e*P **P 08 38 45.8 +0.7**
comp=Z,55nm,1.4s
DGMT Dagmar 47.06 295 ⇑P **P 08 38 45.1 0.0**
baz=47
A22A Carney Farms, 47.10 297 ⇓P **P 08 38 45.9 +0.4**
baz=47,SNR=15
D28A Regan 47.12 292 ⇓P **P 08 38 45.9 +0.4**
baz=47
E30A Jud 47.23 290 ⇑P **P 08 38 46.6 +0.2**
baz=47
ISHM Shahmirzad 47.25 104 *e*P **P 08 38 48.9 +1.9**
ISHM Shahmirzad 47.25 104 *e*P **P 08 38 48.9 +1.9**
MCWV Mont Chateau 47.25 269 *e*P **P 08 38 48.8 +2.1**
comp=Z,106nm,1.4s
MCWV LR LR
comp=Z,5μm,19.0s
MCWV Mont Chateau 47.25 269 *e*P **P 08 38 48.8 +2.1**
comp=Z,106nm,1.4s
B23A Brockton 47.30 296 ⇓P **P 08 38 47.1 +0.1**
baz=47
USP Ospenovka 47.38 80 *i*P **P 08 38 48.6 +0.9**
USP Ospenovka 47.38 80 P **P 08 38 48.5 +0.9**
SNR=7.3
USP Ospenovka 47.38 80 *i*P **P 08 38 48.6 +0.9**
A21A Bergtoll Ranch 47.39 298 ⇑P **P 08 38 47.9 +0.2**
baz=47,SNR=15
E29A Napoleon 47.40 290 ⇓P **P 08 38 47.8 0.0**
baz=47
D27A Center 47.48 292 ⇓P **P 08 38 48.5 +0.1**
baz=47
IEMG Emamgholi 47.50 98 *e*P **P 08 38 47.4 -1.6**
IEMG Emamgholi 47.50 98 *e*P **P 08 38 47.4 -1.6**
IVRN Varamin 47.50 106 *e*P **P 08 38 50.0 +1.2**
IVRN Varamin 47.50 106 *e*P **P 08 38 50.0 +1.2**
ISFR Sfrayin 47.62 99 *e*P **P 08 38 51.0 +1.1**
ISFR Sfrayin 47.62 99 *e*P **P 08 38 51.0 +1.1**
EKS2 Erkin-Say 47.69 81 *e*P **P 08 38 51.4 +1.2**
EKS2 pmax pmax
comp=Z,19nm,0.8s
EKS2 Erkin-Say 47.69 81 P **P 08 38 51.4 +1.2**
SNR=17
EKS2 Erkin-Say 47.69 81 *e*P **P 08 38 51.4 +1.2**
comp=Z,19nm,0.8s
EKS2 LR LR
comp=Z,90μm,19.0s
EKS2 Erkin-Say 47.69 81 *e*P **P 08 38 51.4 +1.2**
comp=Z,19nm,0.8s
JFWS Jewell Farm 47.71 280 *e*P **P 08 38 51.6 +1.4**
JFWS pmax pmax
comp=Z,55nm,1.0s
JFWS MLR MLR
comp=Z,2μm,20.0s
JFWS Jewell Farm 47.71 280 *e*P **P 08 38 51.6 +1.4**
comp=Z,55nm,1.0s
JFWS LR LR
comp=Z,2μm,20.0s
JFWS Jewell Farm 47.71 280 *e*P **P 08 38 51.6 +1.4**
comp=Z,2μm,20.0s
E28A Huff 47.71 291 ⇓P **P 08 38 50.4 +0.2**
baz=48
B22A Reddig Ranch S 47.74 297 ⇑P **P 08 38 50.8 +0.3**
baz=48
IANJ Anjilo 47.76 104 *e*P **P 08 38 51.4 +0.5**
IANJ Anjilo 47.76 104 *e*P **P 08 38 51.4 +0.5**
ACSO Alum Creek Sta 47.76 272 *e*P **P 08 38 51.8 +1.2**
comp=Z,80nm,1.2s
ACSO LR LR
comp=Z,4μm,20.0s
ACSO Alum Creek Sta 47.76 272 *e*P **P 08 38 51.8 +1.2**
comp=Z,80nm,1.2s
CBN Corbin 47.76 265 PFAKE 08 39 00.0 +9.4
CBN LR LR
comp=Z,6μm,20.0s
A20A Cobblestone Ra 47.78 299 ⇑P **P 08 38 51.0 +0.3**
baz=48,SNR=8.4
FRU Bishkek 47.80 80 *e*P **P 08 38 52.0 +1.0**
FRU *i* 08 38 57.0
FRU *e* 08 41 30.0
FRU *e*S S 08 45 54.0 +7.3
FRU pmax pmax
comp=Z,160nm,2.0s
FRU Bishkek 47.80 80 *e*P **P 08 38 52.0 +1.0**
comp=Z,160nm,2.0s
D26A Manning 47.83 293 ⇓P **P 08 38 51.7 +0.6**
baz=48
F30A Leola 47.86 290 ⇑P **P 08 38 51.2 -0.2**
baz=48
B21A Ellsworth Farm 47.93 298 ⇑P **P 08 38 51.4 -0.4**
baz=48
AAK Ala-Archa 47.95 80 P **P 08 38 53.5 +1.3**
comp=Z,171nm,1.0s,SNR=11
AAK Ala-Archa 47.95 80*d*/*i*P **P 08 38 53.5 +1.3**
AAK pmax pmax
comp=Z,118nm,1.8s
AAK Ala-Archa 47.95 80 P **P 08 38 53.9 +1.6**
SNR=22
AAK Ala-Archa 47.95 80 P **P 08 38 53.8 +1.5**
SNR=15
AAK Ala-Archa 47.95 80 P **P 08 38 53.1 +0.9**
AAK LR LR
comp=Z,18μm,19.0s
AAK Ala-Archa 47.95 80 P **P 08 38 53.1 +0.9**
comp=Z,19nm,0.8s,baz=326,slow=5.1,SNR=38
AAK Ala-Archa 47.95 80 P **P 08 38 53.1 +0.9**
C23A Lambert 47.95 296 ⇑P **P 08 38 52.7 +0.6**
baz=48
A19A Klindworth Far 47.97 299 ⇑P **P 08 38 52.4 +0.1**
baz=48,SNR=24
C24A Savage 47.98 295 ⇑P **P 08 38 53.0 +0.8**
baz=48
IRK Irkutsk 47.98 50 *e*P **P 08 38 51.7 -0.5**
IRK *e* 08 40 39.4
IRK pmax pmax
comp=Z,82nm,1.7s
IRK Irkutsk 47.98 50 *e*P **P 08 38 51.7 -0.5**
comp=Z,82nm,1.7s
D25A Fairfield 47.99 294 ⇑P **P 08 38 52.3 -0.1**
baz=48
TKM2 Tokmak 2 48.04 79 *e*P **P 08 38 54.3 +1.2**
TKM2 pmax pmax
comp=Z,20nm,0.8s
TKM2 MLR MLR
comp=Z,3μm,20.0s
TKM2 Tokmak 2 48.04 79 P **P 08 38 54.5 +1.4**
SNR=20
TKM2 Tokmak 2 48.04 79 *e*P **P 08 38 54.2 +1.2**
comp=Z,20nm,0.8s
TKM2 LR LR
comp=Z,3μm,20.0s
TKM2 Tokmak 2 48.04 79 *e*P **P 08 38 54.2 +1.2**
comp=Z,20nm,0.8s
KBK Karagaybulak 48.07 80 *i*P **P 08 38 54.8 +1.6**
KBK Karagaybulak 48.07 80 P **P 08 38 54.8 +1.6**
SNR=8.2
KBK Karagaybulak 48.07 80 *i*P **P 08 38 54.8 +1.6**
E27A Carson 48.11 292 ⇓P **P 08 38 53.9 +0.6**
baz=48
F29A Eureka 48.11 290 ⇑P **P 08 38 53.6 +0.3**
baz=48
AML Almayashu 48.14 81 *i*P **P 08 38 56.0 +2.0**
AML Almayashu 48.14 81 P **P 08 38 56.0 +2.0**
SNR=9.3
AML Almayashu 48.14 81 *i*P **P 08 38 56.0 +2.0**
CLNS Chul'man 48.14 33 *e*P **P 08 38 52.9 -0.5**
CLNS *e* 08 40 17.3
CLNS *e* 08 40 39.2
CLNS *e*S **S 08 45 51.9 +0.8**
CLNS pmax pmax
comp=E,7.0nm,1.2s
CLNS pmax pmax
comp=Z,23nm,1.0s
CLNS pmax pmax
comp=N,15nm,1.1s
CLNS pmax pmax
comp=N,9.0nm,1.1s
CLNS pmax pmax
comp=Z,7.0nm,0.8s
CLNS pmax pmax
comp=E,11nm,1.0s
CLNS smax smax
comp=E,491nm,14.3s
CLNS smax smax
comp=N,561nm,14.1s
CLNS pmax pmax
comp=N,352nm,15.0s
CLNS pmax pmax
comp=E,1μm,15.0s
CLNS MLR MLR
comp=N,2μm,12.0s
CLNS MLR MLR
comp=Z,4μm,13.0s
CLNS MLR MLR
comp=E,2μm,13.0s
CLNS Chul'man 48.14 33 *e*P **P 08 38 52.9 -0.5**
comp=E,15nm,1.1s
CLNS *e*S **S 08 45 51.9 +0.8**
comp=E,4μm,13.0s
B20A Solberg Farm, 48.21 298 ⇓P **P 08 38 53.9 -0.1**
baz=48,SNR=8.1
C22A Vida 48.21 296 ⇑P **P 08 38 54.4 +0.3**
baz=48
ISFB Sefidab 48.26 106 *e*P **P 08 38 55.7 +1.1**
ISFB Sefidab 48.26 106 *e*P **P 08 38 55.7 +1.1**
UCH Uchtor 48.32 80 *i*P **P 08 38 57.4 +2.0**
UCH Uchtor 48.32 80 P **P 08 38 57.4 +2.0**
SNR=11
UCH Uchtor 48.32 80 *i*P **P 08 38 57.4 +2.0**
D24A Glendive 48.32 295 ⇑P **P 08 38 55.4 +0.5**
baz=48
TLY Talaya 48.34 51 *e*P **P 08 38 55.0 0.0**
TLY *e* 08 40 46.4
TLY *e*S **S 08 45 55.0 +1.0**
TLY *e*SSS SSS 08 50 38.3
TLY pmax pmax
comp=Z,27nm,1.3s
TLY Talaya 48.34 51 *e*P **P 08 38 55.0 0.0**
comp=Z,27nm,1.3s
TLY *e*S **S 08 45 55.0 +1.0**
E26A Carlson Angus 48.34 293 ⇓P **P 08 38 55.5 +0.4**
baz=48,SNR=6.5
F28A McLaughlin 48.40 291 ⇓P **P 08 38 55.7 +0.2**
baz=48
B19A Brinkman Farms 48.46 299 ⇑P **P 08 38 56.0 0.0**
baz=48
C21A Desert Coulee 48.49 297 ⇑P **P 08 38 56.2 -0.1**
baz=48
D23A Lindsay 48.53 295 ⇑P **P 08 38 57.1 +0.6**
baz=48,SNR=11
E25A Miller Ranch, 48.60 294 ⇓P **P 08 38 57.5 +0.4**
baz=48
G29A Hoven 48.72 290 ⇓P **P 08 38 58.0 0.0**
baz=48
F27A Lemmon 48.75 292 ⇑P **P 08 38 58.5 +0.3**
baz=49,SNR=16
E24A Baker 48.81 294 ⇑P **P 08 38 59.1 +0.4**
baz=49
D22A Cohagen 48.84 296 ⇑P **P 08 38 59.4 +0.5**
baz=49,SNR=11
C20A Veseth Ranch, 48.86 298 ⇑P **P 08 38 59.0 -0.1**
baz=49,SNR=26
TAM Tamanrasset 48.86 164 *e*P **P 08 39 01.0 +1.6**
TAM pmax pmax
comp=Z,14nm,1.0s
TAM MLR MLR
comp=Z,2μm,19.0s
TAM Tamanrasset 48.86 164 *e*P **P 08 39 01.0 +1.6**
comp=Z,14nm,1.0s
TAM LR LR
comp=Z,2μm,19.0s
TAM Tamanrasset 48.86 164 *e*P **P 08 39 01.0 +1.6**
comp=Z,2μm,19.0s
F26A Lodgepole 48.96 293 ⇓P **P 08 39 00.4 +0.5**
baz=49
SFIN Scholer Farm 48.97 276 *e*P **P 08 39 01.7 +1.8**
SFIN Scholer Farm 48.97 276 *e*P **P 08 39 01.7 +1.8**
SFIN Scholer Farm 48.97 276 ⇑P **P 08 39 00.5 +0.6**
baz=49
ECSD EROS Data Cent 49.00 286 *e*P **P 08 39 00.7 +0.5**
comp=Z,25nm,1.0s
ECSD *e*PcP **PcP 08 40 24.5 +0.7**
ECSD LR LR
comp=Z,3μm,21.0s
ECSD EROS Data Cent 49.00 286 *e*P **P 08 39 00.7 +0.5**
comp=Z,25nm,1.0s
EGMT Eagleton 49.08 300 *e*P **P 08 39 01.1 +0.3**
comp=Z,257nm,1.3s
EGMT LR LR
comp=Z,2μm,22.0s
EGMT Eagleton 49.08 300 *e*P **P 08 39 01.1 +0.3**
comp=Z,257nm,1.3s
EGMT Eagleton 49.08 300 ⇑P **P 08 39 00.8 0.0**
baz=49,SNR=43
BBSR BB Station 49.08 250 PFAKE 08 39 10.0 +9.2
BBSR LR LR
comp=Z,838nm,20.0s
BRSD Miller 49.09 289 *e*P **P 08 39 01.8 +0.9**
BRSD Miller 49.09 289 *e*P **P 08 39 01.8 +0.9**
BRSD Miller 49.09 289 ⇓P **P 08 39 00.8 -0.1**
baz=49
KDAK Kodiak Island 49.10 336 P **P 08 39 00.8 +0.1**
KDAK Kodiak Island 49.10 336 P **P 08 39 00.8 +0.1**
comp=Z,52nm,1.1s,baz=36,slow=9.1,SNR=4.0
KDAK LR LR 08 59 39.9
comp=Z,4μm,21.7s,baz=298,slow=36
KDAK Kodiak Island 49.10 336 P **P 08 39 00.8 +0.1**
G28A Parade 49.13 291 ⇑P **P 08 39 01.4 +0.2**
baz=49
F25A Bowman 49.13 293 ⇑P **P 08 39 01.6 +0.4**
baz=49
C19A Slack Wire Ran 49.14 299 ⇓P **P 08 39 01.2 0.0**
baz=49,SNR=13
D21A La Casta Ranch 49.15 297 ⇓P **P 08 39 01.5 +0.2**
baz=49,SNR=5.1
LAO LASA Array 49.27 296 *e*P **P 08 39 03.4 +1.2**
comp=Z,206nm,2.0s
LAO LR LR
comp=Z,2μm,19.0s
LAO LASA Array 49.27 296 *e*P **P 08 39 03.4 +1.2**
comp=Z,206nm,2.0s
WALA Waterton Lakes 49.30 304 *e*P **P 08 39 01.6 -0.9**
comp=Z,2.6nm,1.1s
WALA *e*PP **PP 08 40 57.0 +1.0**
WALA Waterton Lakes 49.30 304 *e*P **P 08 39 01.6 -0.9**
comp=Z,2.6nm,1.1s
H29A Onida 49.32 290 ⇑P **P 08 39 02.5 -0.1**
baz=49
E22A Miles City 49.41 296 ⇑P **P 08 39 03.5 +0.2**
baz=49
ZAK Zakamensk 49.43 52 *e*P **P 08 39 01.5 -2.0**
ZAK *e* 08 40 29.0
ZAK *e* 08 41 03.6
ZAK pmax pmax
comp=Z,12nm,1.7s
ZAK Zakamensk 49.43 52 *e*P **P 08 39 01.5 -2.0**
comp=Z,12nm,1.7s
ZAK Zakamensk 49.43 52 *e*PcP **PcP 08 40 29.0 +3.6**
G26A Maurine 49.44 292 ⇑P **P 08 39 03.9 +0.3**
baz=49,SNR=10
D20A Manuel Ranch, 49.46 298 ⇓P **P 08 39 04.1 +0.4**
baz=49,SNR=40
G27A Dupree 49.47 293 ⇓P **P 08 39 01.8 -2.0**
baz=49,SNR=14
VWCC Virginia Weste 49.49 267 *e*P **P 08 39 05.3 +1.4**
VWCC Virginia Weste 49.49 267 *e*P **P 08 39 05.3 +1.4**
F24A Ekalaka 49.50 294 ⇓P **P 08 39 04.1 +0.1**
baz=49
SCIA State Center 49.57 282 *e*P **P 08 39 05.4 +0.9**
comp=Z,80nm,1.1s
SCIA *e*PP **PP 08 40 58.2 -0.3**
SCIA LR LR
comp=Z,2μm,22.0s
SCIA State Center 49.57 282 *e*P **P 08 39 05.4 +0.9**
comp=Z,80nm,1.1s
D19A Cripps Ranch, 49.61 298 ⇓P **P 08 39 05.0 +0.1**
baz=49,SNR=17
E21A Keefer Ranch, 49.65 297 ⇑P **P 08 39 05.5 +0.3**
baz=50
BLA Blacksburg 49.66 268 *e*P **P 08 39 06.8 +1.5**
BLA pmax pmax
comp=Z,62nm,1.3s
BLA MLR MLR
comp=Z,3μm,20.0s
BLA Blacksburg 49.66 268 *e*P **P 08 39 06.8 +1.5**
comp=Z,62nm,1.3s
BLA LR LR
comp=Z,3μm,20.0s
BLA Blacksburg 49.66 268 *e*P **P 08 39 06.8 +1.5**
comp=Z,3μm,20.0s
I30A Oacoma 49.72 289 ⇑P **P 08 39 05.7 +0.1**
baz=50
G25A Newell 49.78 293 ⇑P **P 08 39 06.1 -0.1**
baz=50
BLO Bloomington 49.88 275 *e*P **P 08 39 07.4 +0.5**
BLO pmax pmax
comp=Z,48nm,0.9s
BLO Bloomington 49.88 275 *e*P **P 08 39 07.4 +0.5**
comp=Z,48nm,0.9s
BLO Bloomington 49.88 275 *e*P **P 08 39 07.4 +0.5**
comp=Z,48nm,0.9s
H27A Howes 49.88 291 ⇓P **P 08 39 06.9 0.0**
baz=50
I29A Vivian Onida 49.89 290 ⇓P **P 08 39 07.2 +0.3**
baz=50
F23A Volborg 49.90 295 ⇑P **P 08 39 07.0 0.0**
baz=50,SNR=12
G24A Alzada 49.96 294 ⇓P **P 08 39 07.8 +0.2**
baz=50

E20A	Meyer Farm, Mu	49.99 297	⇓P		P	08 39 07.9 +0.2
	baz=50,SNR=25					
F22A	Rosebud	50.10 296	⇓P		P	08 39 08.9 +0.3
	baz=50					
H26A	Fairpoint	50.11 292	⇑P		P	08 39 08.6 -0.1
	baz=50,SNR=14					
I28A	Midland	50.18 290	⇑P		P	08 39 09.4 +0.3
	baz=50,SNR=18					
E19A	Rath Farm, Rou	50.22 298	⇓P		P	08 39 09.5 0.0
	baz=50,SNR=27					
F21A	Absaloka Mine,	50.31 296	⇓P		P	08 39 10.4 +0.2
	baz=50					
H25A	Fruitdale	50.35 293	⇓P		P	08 39 10.8 +0.3
	baz=50					
G23A	Biddle	50.37 294	⇑P		P	08 39 10.7 +0.1
	baz=50					
BLMT	Blacktail Moun	50.38 303	eP		P	08 39 11.4 +0.6
	comp=Z,13nm,1.0s					
BLMT	Blacktail Moun	50.38 303	eP		P	08 39 11.4 +0.6
	comp=Z,13nm,1.0s					
I27A	Quinn	50.38 291	⇑P		P	08 39 11.0 +0.2
	baz=50					
YBMT	Yellow Bay	50.42 303	eP		P	08 39 10.7 -0.3
	comp=Z,32nm,1.3s					
YBMT	Yellow Bay	50.42 303	eP		P	08 39 10.7 -0.3
	comp=Z,32nm,1.3s					
H24A	Dirks Ranch, A	50.53 294	⇓P		P	08 39 12.1 +0.2
	baz=50					
JTMT	Jette	50.60 303	eP		P	08 39 12.7 +0.3
	comp=Z,40nm,1.2s					
JTMT	Jette	50.60 303	eP		P	08 39 12.7 +0.3
	comp=Z,40nm,1.2s					
G22A	Birney	50.62 295	⇑P		P	08 39 12.7 +0.2
	baz=50					
F20A	Billings	50.63 297	⇑P		P	08 39 13.0 +0.4
	baz=50					
CNNC	Cliffs of the	50.64 264	PFAKE			08 39 30.0 +17
CNNC			LR	LR		
	comp=Z,3μm,21.0s					
BSMT	Bassoo Peak	50.64 304	eP		P	08 39 13.2 +0.4
	comp=Z,79nm,1.3s					
BSMT	Bassoo Peak	50.64 304	eP		P	08 39 13.2 +0.4
	comp=Z,79nm,1.3s					
J28A	Allard Ranch,	50.72 290	⇓P		P	08 39 13.4 +0.1
	baz=50,SNR=18					
SWMT	Swartz Lake	50.74 303	eP		P	08 39 13.5 +0.1
	comp=Z,48nm,1.3s					
SWMT	Swartz Lake	50.74 303	eP		P	08 39 13.5 +0.1
	comp=Z,48nm,1.3s					
OLIL	Olney	50.79 276	eP		P	08 39 14.8 +1.1
	comp=Z,51nm,0.9s					
OLIL	Olney	50.79 276	eP		P	08 39 14.8 +1.1
	comp=Z,51nm,0.9s					
F19A	Roth Farm, Mol	50.82 298	⇓P		P	08 39 13.9 -0.1
	baz=51,SNR=19					
SLMT	Seeley Lake	50.84 302	eP		P	08 39 14.2 0.0
	comp=Z,102nm,1.1s					
SLMT	Seeley Lake	50.84 302	eP		P	08 39 14.2 0.0
	comp=Z,102nm,1.1s					
HRY	Holter Researc	50.86 301	eP		P	08 39 14.1 -0.3
	comp=Z,18nm,1.2s					
HRY	Holter Researc	50.86 301	eP		P	08 39 14.1 -0.3
	comp=Z,18nm,1.2s					
G21A	Lodge Grass	50.88 296	⇑P		P	08 39 14.4 -0.1
	baz=51,SNR=5.5					
ICHK	Chekchek	50.89 105	eP		P	08 39 16.5 +1.6
ICHK	Chekchek	50.89 105	eP		P	08 39 16.5 +1.6
NEW	Newport	50.89 306	eP		P	08 39 14.7 +0.2
	comp=Z,32nm,1.3s					
NEW			LR	LR		
	comp=Z,2μm,21.0s					
NEW	Newport	50.89 306	eP		P	08 39 14.7 +0.2
	comp=Z,2μm,21.0s					
NEW	Newport	50.89 306	⇑P		P	08 39 14.3 -0.1
	baz=51,SNR=17					
I25A	Rochford	50.94 292	⇓P		P	08 39 15.0 -0.1
	baz=51,SNR=10					
RSSD	Black Hills	50.94 293	eP		P	08 39 15.6 +0.5
RSSD			pmax	pmax		
	comp=Z,121nm,1.4s					
RSSD	Black Hills	50.94 293	eP		P	08 39 15.6 +0.5
	comp=Z,121nm,1.4s					
RSSD	Black Hills	50.94 293	eP		P	08 39 15.6 +0.5
	comp=Z,121nm,1.4s					
H23A	Clabaugh Cattl	50.95 294	⇓P		P	08 39 14.8 -0.3
	baz=51					
WMQ	Urumqi	51.02 68	P		P	08 39 16.6 +1.1
WMQ			pP		pP	08 39 21.1 +0.6
WMQ			sP		sP	08 39 23.6 +1.1
WMQ			PcP		PcP	08 40 33.6 +2.3
WMQ			PP		PP	08 41 13.8 +2.1
WMQ			S		S	08 46 31.3 -0.4
WMQ			sS		sS	08 46 38.9 -1.1
WMQ			ScS		ScS	08 49 03.8 -1.2
WMQ			pmax	pmax		
	comp=Z,33nm,1.2s					
WMQ			pmax	pmax		
	comp=Z,390nm,4.0s					
WMQ			LR	LR		
	comp=N,7μm,23.8s					
WMQ			LR	LR		
	comp=E,3μm,22.4s					
WMQ			LR	LR		
	comp=Z,9μm,18.7s					
K29A	Lazy Trails An	51.04 289	⇑P		P	08 39 15.9 +0.3
	baz=51					
CHMT	Chamberlain Mo	51.07 302	eP		P	08 39 15.8 -0.3
	comp=Z,56nm,1.2s					
CHMT	Chamberlain Mo	51.07 302	eP		P	08 39 15.8 -0.3
	comp=Z,56nm,1.2s					
GCMT	Greycliff	51.08 298	eP		P	08 39 16.3 +0.2
	comp=Z,51nm,1.4s					
GCMT	Greycliff	51.08 298	eP		P	08 39 16.3 +0.2
	comp=Z,51nm,1.4s					
J27A	Elkhorn Farm,	51.11 291	⇑P		P	08 39 16.3 +0.1
	baz=51					
RST	Umm Al-Ruwaisa	51.15 114	eP		P	08 39 17.1 +0.5
RST	Umm Al-Ruwaisa	51.15 114	eP		P	08 39 17.1 +0.5
G20A	Bridger	51.18 297	⇓P		P	08 39 16.6 -0.3
	baz=51,SNR=32					
H22A	Clearmont	51.20 295	⇓P		P	08 39 16.5 -0.4
	baz=51					
KSH	Kashi	51.24 80	P		P	08 39 19.6 +2.3
KSH			pP		pP	08 39 24.3 +2.0
KSH			PP		PP	08 41 17.3 +3.5
KSH			S		S	08 46 35.8 +0.8
KSH			sS		sS	08 46 43.6 +0.4
KSH			ScS		ScS	08 49 06.6 -0.2
KSH			pmax	pmax		
	comp=Z,26nm,0.7s					
KSH			pmax	pmax		
	comp=Z,360nm,3.7s					
KSH			LR	LR		
	comp=N,830nm,13.2s					
KSH			LR	LR		
	comp=E,700nm,10.7s					
KSH			LR	LR		
	comp=Z,450nm,12.6s					
TZTN	Tazewell	51.30 270	eP		P	08 39 18.8 +1.2
	comp=Z,48nm,1.1s					
TZTN	Tazewell	51.30 270	eP		P	08 39 18.8 +1.2
	comp=Z,48nm,1.1s					
UMR	Umm Al-Rimmam	51.32 113	eP		P	08 39 18.4 +0.5
UMR	Umm Al-Rimmam	51.32 113	eP		P	08 39 18.4 +0.5
MSO	Missoula	51.34 302	⇑P		P	08 39 17.8 -0.1
	baz=51,SNR=76					
USIN	University of	51.35 275	eP		P	08 39 18.9 +1.0
	comp=Z,45nm,0.9s					
USIN	University of	51.35 275	eP		P	08 39 18.9 +1.0
	comp=Z,45nm,0.9s					
I24A	Kuemmerle Ranc	51.36 293	⇑P		P	08 39 18.1 0.0
	baz=51					
H21A	Big Horn, Sher	51.38 296	⇑P		P	08 39 18.2 -0.1
	baz=51					
J26A	Sides Ranch, S	51.38 292	⇓P		P	08 39 18.3 +0.1
	baz=51					
K28A	Ten Mile Ranch	51.40 290	⇑P		P	08 39 18.7 +0.2
	baz=51					
NAY	Al-Naaiem	51.46 114	eP		P	08 39 19.3 +0.4
NAY			AMb	AMB		08 39 26.8
	comp=Z,61nm,1.6s					
NAY	Al-Naaiem	51.46 114	eP		P	08 39 19.3 +0.4
	comp=Z,61nm,1.6s					
I23A	Meade Ranch, G	51.52 294	⇑P		P	08 39 19.4 +0.1
	baz=51					
J25A	Sunshine Ranch	51.53 292	⇑P		P	08 39 19.7 +0.3
	baz=51					
RLMT	Red Lodge	51.58 298	eP		P	08 39 20.5 +0.6
	comp=Z,37nm,1.4s					
RLMT			LR	LR		
	comp=Z,3μm,19.0s					
RLMT	Red Lodge	51.58 298	eP		P	08 39 20.5 +0.6
	comp=Z,37nm,1.4s					
BGNE	Belgrade	51.59 286	⇑P		P	08 39 19.3 -0.5
	baz=51					
L30A	Spencer Herefo	51.59 288	⇑P		P	08 39 19.6 -0.2
	baz=51					
K27A	Flueckinger Fa	51.68 290	⇓P		P	08 39 20.2 -0.3
	baz=52,SNR=12					
L29A	Maesberg Ranch	51.72 289	⇑P		P	08 39 20.9 +0.2
	baz=52					
BOZ	Bozeman (W)	51.78 300	eP		P	08 39 21.7 +0.4
BOZ			pmax	pmax		
	comp=Z,20nm,1.3s					
BOZ			MLR	MLR		
	comp=Z,1μm,19.0s					
BOZ	Bozeman (W)	51.78 300	eP		P	08 39 21.7 +0.4
	comp=Z,20nm,1.3s					
BOZ			LR	LR		
	comp=Z,1μm,19.0s					
BOZ	Bozeman (W)	51.78 300	eP		P	08 39 21.7 +0.4
	comp=Z,1μm,19.0s					
H20A	Greybull	51.79 296	⇓P		P	08 39 21.1 -0.2
	baz=52,SNR=50					
J24A	Dixon Ranch, L	51.85 293	⇑P		P	08 39 21.4 -0.4
	baz=52					
LRM	Limekiln Ridge	51.85 301	eP		P	08 39 22.2 +0.3
	comp=Z,343nm,1.3s					
LRM	Limekiln Ridge	51.85 301	eP		P	08 39 22.2 +0.3
	comp=Z,343nm,1.3s					
KMSC	Kings Mountain	51.85 268	eP		P	08 39 22.2 +0.4
KMSC	Kings Mountain	51.85 268	eP		P	08 39 22.2 +0.4
KMSC	Kings Mountain	51.85 268	⇓P		P	08 39 22.7 +0.9
	baz=52,SNR=13					
RDF	Al-Radifah	51.86 113	eP		P	08 39 22.2 +0.3
RDF			AMb	AMB		08 39 30.0
	comp=Z,168nm,1.8s					
RDF	Al-Radifah	51.86 113	eP		P	08 39 22.2 +0.3
	comp=Z,168nm,1.8s					
IBAF	Bafgh	51.86 104	eP		P	08 39 23.9 +1.8
IBAF	Bafgh	51.86 104	eP		P	08 39 23.9 +1.8
I22A	9 Mile Ranch,	51.88 295	⇑P		P	08 39 22.0 -0.1
	baz=52,SNR=14					
M31A	Lambtecht Ranc	51.91 287	⇓P		P	08 39 21.6 -0.5
	baz=52					
H19A	Powell	51.91 297	⇑P		P	08 39 22.4 +0.1
	baz=52,SNR=14					
K26A	Motz Farm, Whi	51.97 291	⇑P		P	08 39 22.6 -0.1
	baz=52					
J23A	Dilts Ranch, B	52.05 294	⇑P		P	08 39 23.0 -0.3
	baz=52					
SIUC	Southern Illin	52.08 276	eP		P	08 39 23.9 +0.5
	comp=Z,60nm,0.9s					
SIUC	Southern Illin	52.08 276	eP		P	08 39 23.9 +0.5
	comp=Z,60nm,0.9s					
L28A	Connealy Angus	52.09 289	⇓P		P	08 39 23.7 +0.1
	baz=52					
H18A	Shoshone NF, C	52.10 298	⇑P		P	08 39 23.5 -0.3
	baz=52,SNR=18					
PGC	Sidney	52.16 311	eP		P	08 39 20.7 -3.2
	comp=Z,2.0nm,1.3s					
I21A	Big Trails, Te	52.19 295	⇓P		P	08 39 23.9 -0.5
	baz=52,SNR=44					
K25A	Mack Ranch, Ha	52.26 292	⇓P		P	08 39 24.9 0.0
	baz=52					
L27A	T5 Ranch, Ells	52.27 290	⇑P		P	08 39 25.1 +0.2
	baz=52,SNR=12					
DLMT	Dillon	52.31 301	eP		P	08 39 25.3 0.0
	comp=Z,21nm,1.2s					
DLMT	Dillon	52.31 301	eP		P	08 39 25.3 0.0
	comp=Z,21nm,1.2s					
I20A	Worland	52.32 296	⇓P		P	08 39 25.3 0.0
	baz=52,SNR=14					
J22A	Midwest	52.32 294	⇑P		P	08 39 24.2 -1.1
	baz=52,SNR=30					
M29A	Burnside Ranch	52.35 288	⇓P		P	08 39 25.0 -0.5
	baz=52					
YNR	Norris Junctio	52.36 299	eP		P	08 39 27.0 +1.3
	comp=Z,32nm,1.3s					
YNR	Norris Junctio	52.36 299	eP		P	08 39 27.0 +1.3
	comp=Z,32nm,1.3s					
N31A	Bailey Ranch,	52.37 287	⇑P		P	08 39 25.4 -0.2
	baz=52					
LKWY	Lake	52.41 298	PFAKE			08 39 40.0 +14
LKWY			LR	LR		
	comp=Z,6μm,19.0s					
K24A	Anderson Ranch	52.45 293	⇑P		P	08 39 26.4 +0.1
	baz=52					
QLMT	Earthquake Lak	52.47 299	eP		P	08 39 27.2 +0.7
	comp=Z,7.1nm,1.4s					
QLMT	Earthquake Lak	52.47 299	eP		P	08 39 27.2 +0.7
	comp=Z,7.1nm,1.4s					
YMR	Madison River	52.48 299	eP		P	08 39 27.3 +0.6
	comp=Z,57nm,1.5s					
YMR	Madison River	52.48 299	eP		P	08 39 27.3 +0.6
	comp=Z,57nm,1.5s					
I19A	Meeteetse	52.49 297	⇓P		P	08 39 26.7 0.0
	baz=52,SNR=20					
L26A	Underwood Farm	52.55 291	⇓P		P	08 39 26.9 -0.1
	baz=52					
SONM	Songino Array	52.58 51	P		P	08 39 27.3 +0.1
SONM	Songino Array	52.58 51	P		P	08 39 27.3 +0.1
	comp=Z,8.4nm,1.3s,baz=350,slow=7.3,SNR=15					
SONM	Songino Array	52.58 51	P		P	08 39 27.3 +0.1
M28A	Bar X Bar Ranc	52.60 289	⇓P		P	08 39 27.5 +0.1
	baz=52					
CPCT	Cooper Cave	52.61 271	eP		P	08 39 28.2 +0.8
CPCT	Cooper Cave	52.61 271	eP		P	08 39 28.2 +0.8
H17A	Grant Village	52.62 298	eP		P	08 39 29.7 +2.0
H17A	Grant Village	52.62 298	eP		P	08 39 29.7 +2.0
H17A	Grant Village	52.62 298	⇓P		P	08 39 27.4 -0.3
	baz=52					
YFT	Old Faithful	52.64 299	eP		P	08 39 29.9 +2.0
	comp=Z,45nm,1.2s					
YFT	Old Faithful	52.64 299	eP		P	08 39 29.9 +2.0
	comp=Z,45nm,1.2s					
K23A	Bowen Ranch, D	52.66 293	⇑P		P	08 39 27.2 -0.7
	baz=52					
J21A	Lysite	52.67 295	⇓P		P	08 39 27.3 -0.7
	baz=52					
O32A	Brockman Farm,	52.67 286	⇓P		P	08 39 27.1 -0.7
	baz=52					
L25A	Engebretsen Ra	52.71 292	⇑P		P	08 39 27.9 -0.4
	baz=52					
ULN	Ulaanbaatar	52.72 50	P		P	08 39 29.5 +1.3
	SNR=9.8					
ULN	Ulaanbaatar	52.72 50	eP		P	08 39 28.6 +0.4
	comp=Z,15nm,1.0s					
ULN			LR	LR		
	comp=Z,93μm,21.0s					
ULN	Ulaanbaatar	52.72 50	P		P	08 39 31.0 +2.8
	comp=Z,18nm,2.0s,comp=Z,754nm					
ULN	Ulaanbaatar	52.72 50	eP		P	08 39 28.6 +0.4
	comp=Z,93μm,21.0s					
N30A	Hueftle Ranch,	52.76 288	⇓P		P	08 39 28.3 -0.2
	baz=53					
M27A	Reverse DX Ran	52.80 290	⇓P		P	08 39 28.6 -0.3
	baz=53					
J20A	Shoshoni	52.85 296	⇑P		P	08 39 29.1 -0.1
	baz=53,SNR=5.6					
MCMT	McKenzie Canyo	52.87 300	eP		P	08 39 30.2 +0.6
	comp=Z,16nm,1.2s					
MCMT	McKenzie Canyo	52.87 300	eP		P	08 39 30.2 +0.6
	comp=Z,16nm,1.2s					
N29A	Votaw Ranch, W	52.90 288	⇑P		P	08 39 29.4 -0.2
	baz=53					
FLWY	Flagg Ranch	52.94 298	eP		P	08 39 30.8 +0.8
	comp=Z,90nm,1.7s					
FLWY	Flagg Ranch	52.94 298	eP		P	08 39 30.8 +0.8
	comp=Z,90nm,1.7s					
OSD	Olympics--Snow	52.99 311	P		P	08 39 31.4 +1.1
OSD	Olympics--Snow	52.99 311	P		P	08 39 31.5 +1.1
K22A	Casper	53.03 294	⇓P		P	08 39 29.8 -0.8
	baz=53,SNR=34					
I17A	Pilgrim Ck.	53.06 298	⇑P		P	08 39 30.2 -0.6
	baz=53					
WVT	Waverly	53.07 274	eP		P	08 39 30.1 -0.7
WVT			e			08 40 42.3
WVT			pmax	pmax		
	comp=Z,19nm,1.1s					
WVT	Waverly	53.07 274	eP		P	08 39 30.1 -0.7
	comp=Z,19nm,1.1s					
WVT			ePcP	PcP		08 40 42.3 +3.3
WVT	Waverly	53.07 274	eP		P	08 39 30.1 -0.7
	comp=Z,19nm,1.1s					
M26A	McRoberts Ranc	53.09 291	⇑P		P	08 39 30.9 -0.1
	baz=53					
O31A	Woolen Ranch,	53.10 287	⇑P		P	08 39 30.7 -0.4
	baz=53					
L24A	Wheatland	53.10 292	⇑P		P	08 39 31.0 -0.1
	baz=53					
MDW	Midway	53.11 307	P		P	08 39 31.1 +0.1
MDW	Midway	53.11 307	P		P	08 39 31.1 +0.1
MDW	Midway	53.11 307	P		P	08 39 31.1 +0.1
IMW	Indian Meadow	53.18 298	eP		P	08 39 33.0 +1.1
	comp=Z,45nm,1.4s					
IMW	Indian Meadow	53.18 298	eP		P	08 39 33.0 +1.1
	comp=Z,45nm,1.4s					
KSU1	Kansas State U	53.20 284	eP		P	08 39 30.8 -0.9
	comp=Z,31nm,1.0s					
KSU1			LR	LR		
	comp=Z,3μm,19.0s					
KSU1	Kansas State U	53.20 284	eP		P	08 39 30.8 -0.9
	comp=Z,31nm,1.0s					
PARMO	Parma	53.21 276	eP		P	08 39 32.9 +1.0
PARMO	Parma	53.21 276	eP		P	08 39 32.8 +1.0
J19A	Crowheart	53.21 297	⇓P		P	08 39 31.9 0.0
	baz=53,SNR=28					
OGNE	Ogallala	53.22 289	eP		P	08 39 31.6 -0.4
	comp=Z,186nm,1.6s					
OGNE			LR	LR		
	comp=Z,1μm,20.0s					
OGNE	Ogallala	53.22 289	eP		P	08 39 31.6 -0.4
	comp=Z,186nm,1.6s					
OGNE	Ogallala	53.22 289	⇑P		P	08 39 31.5 -0.5
	baz=53					
SNIWA	Snively Ranch	53.22 307	P		P	08 39 32.4 +0.7
SNIWA	Snively Ranch	53.22 307	P		P	08 39 32.4 +0.7
H2OWA	Water	53.22 307	P		P	08 39 32.4 +0.7
H2OWA	Water	53.22 307	P		P	08 39 32.4 +0.7
HAWA	Hanford	53.25 307	eP		P	08 39 32.2 +0.2
	comp=Z,82nm,1.5s					
HAWA			LR	LR		
	comp=Z,2μm,21.0s					
HAWA	Hanford	53.25 307	eP		P	08 39 32.2 +0.2
	comp=Z,82nm,1.5s					
K21A	Alcova	53.26 295	⇓P		P	08 39 31.6 -0.8
	baz=53,SNR=6.0					
L23A	Garrett	53.27 293	⇑P		P	08 39 31.8 -0.6
	baz=53					
SWET	Sewanee	53.29 272	eP		P	08 39 32.9 +0.5
	comp=Z,47nm,1.0s					
SWET	Sewanee	53.29 272	eP		P	08 39 32.9 +0.5
	comp=Z,47nm,1.0s					
N28A	Pribbeno Ranch	53.30 289	⇑P		P	08 39 32.0 -0.6
	baz=53					
O30A	MW Ranch, Wils	53.30 287	⇑P		P	08 39 31.9 -0.6
	baz=53					
LOHW	Long Hollow	53.35 298	eP		P	08 39 33.3 +0.3
	comp=Z,49nm,1.8s					
LOHW			ePP	PP		08 41 33.2 +0.3
LOHW	Long Hollow	53.35 298	eP		P	08 39 33.3 +0.3
	comp=Z,49nm,1.8s					
M25A	Palm-Egli Farm	53.39 291	⇓P		P	08 39 33.0 -0.3
	baz=53					
GLAT	Glass	53.42 276	eP		P	08 39 26.7 -6.7
NLWA	Neilton Lookou	53.44 311	eP		P	08 39 34.4 +1.0
	comp=Z,61nm,1.3s					
NLWA			LR	LR		
	comp=Z,3μm,22.0s					
NLWA	Neilton Lookou	53.44 311	eP		P	08 39 34.4 +1.0
	comp=Z,61nm,1.3s					
WPW	White Pass	53.49 308	P		P	08 39 34.0 +0.1
WPW	White Pass	53.49 308	P		P	08 39 34.0 +0.1
N27A	Anderson Farm,	53.50 290	⇑P		P	08 39 33.8 -0.3
	baz=53					
LON	Longmire	53.51 309	P		P	08 39 33.8 -0.2
LON	Longmire	53.51 309	P		P	08 39 33.8 -0.2
LON	Longmire	53.51 309	P		P	08 39 33.8 -0.2
KBL	Kabul	53.52 89	eP		P	08 39 34.7 +0.3
KBL			pmax	pmax		
	comp=Z,28nm,1.0s					
KBL	Kabul	53.52 89	eP		P	08 39 34.7 +0.3
	comp=Z,28nm,1.0s					
KBL	Kabul	53.52 89	eP		P	08 39 34.7 +0.3
	comp=Z,28nm,1.0s					
SNOW	Snow King Moun	53.53 298	eP		P	08 39 35.4 +1.0
	comp=Z,58nm,1.8s					
SNOW	Snow King Moun	53.53 298	eP		P	08 39 35.4 +1.0
	comp=Z,58nm,1.8s					
K19A	Absolon Red Bu	53.56 296	⇑P		P	08 39 33.5 -1.0
	baz=53,SNR=21					
TPAW	Teton Pass	53.56 298	eP		P	08 39 35.5 +0.9
	comp=Z,49nm,1.6s					
TPAW	Teton Pass	53.56 298	eP		P	08 39 35.5 +0.9
	comp=Z,49nm,1.6s					
K20A	Yellowstone Ra	53.56 296	⇑P		P	08 39 33.8 -0.8
	baz=53,SNR=17					
L22A	Ellis Ranch, M	53.57 294	⇑P		P	08 39 34.3 -0.4
	baz=53,SNR=13					
O29A	4D Ranch, Culb	53.58 288	⇑P		P	08 39 34.3 -0.3
	baz=53					
M24A	Cheyenne	53.60 292	⇓P		P	08 39 34.8 -0.1
	baz=53					
REDW	Red Top Meadow	53.65 298	eP		P	08 39 36.2 +0.9
	comp=Z,63nm,1.5s					
REDW			ePcP	PcP		08 40 48.0 +6.6
REDW	Red Top Meadow	53.65 298	eP		P	08 39 36.2 +0.9
	comp=Z,63nm,1.5s					
N26A	Koester Ranch,	53.69 290	⇑P		P	08 39 35.0 -0.4
	baz=54					
HALT	Halls	53.77 276	eP		P	08 39 35.8 -0.1
HALT	Halls	53.77 276	eP		P	08 39 35.8 -0.1
RRI2	Red Ridge	53.80 298	eP		P	08 39 36.7 +0.3
	comp=Z,57nm,1.5s					
RRI2	Red Ridge	53.80 298	eP		P	08 39 36.7 +0.3
	comp=Z,57nm,1.5s					
F07A	Phinny Hill Vi	53.82 307	P		P	08 39 37.0 +0.8
F07A	Phinny Hill Vi	53.82 307	P		P	08 39 37.0 +0.8
PDAR	Pinedale Array	53.82 297	P		P	08 39 35.6 -0.8
PDAR			PP		PP	08 41 34.6 -2.5
PDAR	Pinedale Array	53.82 297	P		P	08 39 35.6 -0.8
	comp=Z,14nm,1.0s,baz=40,slow=5.9,SNR=26					
PDAR			PP		PP	08 41 34.6 -2.5
	comp=Z,2.1nm,1.1s,baz=35,slow=6.8,SNR=2.4					
PDAR			LR	LR		09 02 23.9
	comp=Z,3μm,18.7s,baz=32,slow=36					
PDAR	Pinedale Array	53.82 297	P		P	08 39 35.7 -0.8
BW06	Boulder Array	53.82 297	eP		P	08 39 35.8 -0.7
	comp=Z,32nm,1.2s					
BW06			ePP	PP		08 41 35.3 -1.8
BW06			LR	LR		
	comp=Z,3μm,20.0s					
BW06	Boulder Array	53.82 297	eP		P	08 39 35.8 -0.7
	comp=Z,32nm,1.2s					
O28A	Krutsinger Ran	53.89 289	⇑P		P	08 39 36.4 -0.5
	baz=54					
L21A	Rawlins	53.91 294	⇓P		P	08 39 36.4 -0.8
	baz=54,SNR=12					
PHWY	Pilot Hill	53.94 293	eP		P	08 39 37.3 -0.2
	comp=Z,14nm,1.0s					
PHWY	Pilot Hill	53.94 293	eP		P	08 39 37.3 -0.2
	comp=Z,14nm,1.0s					
P30A	Selden	53.94 287	⇓P		P	08 39 36.7 -0.5
	baz=54,SNR=9.0					
N25A	Grover	53.97 291	⇑P		P	08 39 37.4 -0.1
	baz=54					
ASR	Mount Adams--S	54.01 308	P		P	08 39 38.4 +0.6
ASR	Mount Adams--S	54.01 308	P		P	08 39 38.4 +0.6
O27A	Beecher Island	54.05 289	⇓P		P	08 39 38.2 +0.1
	baz=54					
BMO	Blue Mountains	54.08 304	eP		P	08 39 37.1 -1.1
	comp=Z,52nm,1.1s					
BMO			LR	LR		
	comp=Z,2μm,21.0s					
BMO	Blue Mountains	54.08 304	eP		P	08 39 37.1 -1.1
	comp=Z,52nm,1.1s					
P29A	Atwood	54.10 288	⇓P		P	08 39 38.1 -0.3
	baz=54					
RWWY	Rawlins	54.11 294	eP		P	08 39 38.0 -0.7
	comp=Z,78nm,1.7s					
RWWY	Rawlins	54.11 294	eP		P	08 39 38.0 -0.7
	comp=Z,78nm,1.7s					
BMW	Boistfort Moun	54.13 310	P		P	08 39 39.6 +1.1
BMW	Boistfort Moun	54.13 310	P		P	08 39 39.6 +1.1
BMW	Boistfort Moun	54.13 310	P		P	08 39 39.6 +1.1
L20A	Wamsutter	54.16 295	⇑P		P	08 39 38.3 -0.7
	baz=54,SNR=6.8					
Q31A	Ellis	54.17 286	⇑P		P	08 39 38.1 -0.7
	baz=54,SN

baz=54
N24A Carr 54.20 292 ⇑P P 08 39 39.1 -0.2
baz=54
O26A Horse Wrangler 54.26 290 ⇑P P 08 39 39.3 -0.3
baz=54
AHID Auburn Hatcher 54.27 298 eP P 08 39 40.2 +0.5
comp=Z,89nm,1.8s
AHID LR LR
comp=Z,2µm,19.0s
AHID Auburn Hatcher 54.27 298 eP P 08 39 40.2 +0.5
comp=Z,89nm,1.8s
P28A Saint Francis 54.39 288 ⇓P P 08 39 40.2 -0.3
baz=54,SNR=9.1
Q30A Quinter 54.45 287 ⇓P P 08 39 40.5 -0.5
baz=54,SNR=8.0
N23A Red Feather La 54.46 293 ⇑P P 08 39 41.2 0.0
baz=54,SNR=22
HLID Hailey 54.48 301 eP P 08 39 41.3 +0.1
comp=Z,38nm,1.3s
HLID LR LR
comp=Z,1µm,20.0s
HLID Hailey 54.48 301 eP P 08 39 41.3 +0.1
comp=Z,38nm,1.3s
HLID Hailey 54.48 301 ⇓P P 08 39 40.9 -0.3
baz=54,SNR=36
M20A Sweetwater, Wa 54.58 295 ⇓P P 08 39 41.7 -0.4
baz=54
O25A Wiggins 54.62 291 ⇑P P 08 39 42.1 -0.2
baz=54
P27A Ficken Ranch, 54.66 289 ⇑P P 08 39 42.1 -0.4
baz=54
N22A Wattenberg Ran 54.70 293 ⇓P P 08 39 42.8 -0.2
baz=54,SNR=5.5
L18A Fontenelle, Gr 54.73 297 ⇓P P 08 39 42.6 -0.6
baz=54,SNR=16
Q29A Oakley 54.77 287 ⇓P P 08 39 43.0 -0.3
baz=55
M19A Rock Springs 54.86 296 ⇓P P 08 39 43.4 -0.7
baz=55
R31A Burdett 54.86 286 ⇑P P 08 39 43.4 -0.6
baz=55,SNR=13
Q28A Sharon Springs 54.88 288 ⇓P P 08 39 44.1 0.0
baz=55
P26A Davis Ranch, A 54.89 290 ⇓P P 08 39 44.4 +0.2
baz=55
O24A Longmont 54.90 292 ⇑P P 08 39 44.3 0.0
baz=55
MFID Camas Ranch 55.01 302 ⇓P P 08 39 44.1 -0.8
baz=55,SNR=7.3
N21A Black Mountain 55.06 294 ⇓P P 08 39 45.2 -0.3
baz=55
OXF Oxford 55.07 275 eP P 08 39 44.7 -0.7
OXF pmax pmax
comp=Z,91nm,1.0s
OXF MLR MLR
comp=Z,1µm,20.0s
OXF Oxford 55.07 275 eP P 08 39 44.7 -0.7
comp=Z,91nm,1.0s
OXF LR LR
comp=Z,1µm,20.0s
OXF Oxford 55.07 275 eP P 08 39 44.7 -0.7
comp=Z,1µm,20.0s
O23A Lake Granby, G 55.08 292 ⇑P P 08 39 45.8 +0.1
baz=55,SNR=28
R30A Dighton 55.10 287 ⇓P P 08 39 45.1 -0.6
baz=55,SNR=11
KSCO Kaye Shedlock' 55.17 289 eP P 08 39 46.4 +0.2
KSCO ePP PP 08 41 49.5 +0.3
KSCO Kaye Shedlock' 55.17 289 eP P 08 39 46.4 +0.2
KSCO Kaye Shedlock' 55.17 289 ⇓P P 08 39 46.1 -0.1
baz=55
P25A Willow Gulch B 55.19 291 ⇓P P 08 39 46.4 0.0
baz=55,SNR=11
N20A Spence Gulch, 55.21 295 ⇓P P 08 39 46.5 -0.2
baz=55,SNR=19
R29A Marienthal 55.24 287 ⇑P P 08 39 46.6 -0.2
baz=55
O22A Kremmling 55.31 293 ⇑P P 08 39 47.5 0.0
baz=55,SNR=26
M17A Scullys Gap (B 55.33 297 ⇑P P 08 39 47.4 -0.1
baz=55,SNR=7.4
ISCO Idaho Springs 55.36 292 eP P 08 39 47.4 -0.4
ISCO pmax pmax
comp=Z,32nm,1.4s
ISCO MLR MLR
comp=Z,3µm,20.0s
ISCO Idaho Springs 55.36 292 eP P 08 39 47.4 -0.4
comp=Z,32nm,1.4s
ISCO LR LR
comp=Z,3µm,20.0s
ISCO Idaho Springs 55.36 292 eP P 08 39 47.4 -0.4
comp=Z,3µm,20.0s
ISCO Idaho Springs 55.36 292 ⇓P P 08 39 47.8 -0.1
baz=55,SNR=20
P24A Kohler Place, 55.41 291 ⇑P P 08 39 48.3 +0.2
baz=55
S31A Mullinville 55.46 286 ⇓P P 08 39 48.3 +0.1
baz=55
HWUT Hardware Ranch 55.47 298 eP P 08 39 48.4 0.0
comp=Z,30nm,1.1s
HWUT LR LR
comp=Z,2µm,21.0s
HWUT Hardware Ranch 55.47 298 eP P 08 39 48.4 0.0
comp=Z,30nm,1.1s
Q26A Hugo 55.53 290 ⇑P P 08 39 48.8 -0.1
baz=55,SNR=11
R28A Tribune 55.53 288 ⇑P P 08 39 48.6 -0.2
baz=55
O21A Pagoda 55.54 294 ⇑P P 08 39 49.4 +0.3
baz=55
LRAL Lakeview Retre 55.64 272 eP P 08 39 48.6 -0.9
comp=Z,13nm,0.8s
LRAL LR LR
comp=Z,4µm,19.0s
LRAL Lakeview Retre 55.64 272 eP P 08 39 48.6 -0.9
comp=Z,13nm,0.8s
HVU Hansel Valley 55.66 299 eP P 08 39 50.4 +0.7
HVU pmax pmax
comp=Z,38nm,1.4s
HVU Hansel Valley 55.66 299 eP P 08 39 50.4 +0.7
comp=Z,38nm,1.4s
HVU Hansel Valley 55.66 299 eP P 08 39 50.4 +0.7
comp=Z,38nm,1.4s
S30A Montezuma 55.75 286 ⇑P P 08 39 50.1 -0.2
baz=56
PETK Petropavlovsk- 55.75 10 P P 08 39 49.8 -0.3
PETK Petropavlovsk- 55.75 10 P P 08 39 49.8 -0.3
PETK Petropavlovsk- 55.75 10 P P 08 39 49.8 -0.3
comp=Z,9.5nm,1.0s,baz=106,slow=4.8,SNR=4.1
PETK Petropavlovsk- 55.75 10 P P 08 39 49.8 -0.3
Q25A Bedland, Calha 55.76 290 ⇑P P 08 39 50.3 -0.3
baz=56
UALR University of 55.78 278 eP P 08 39 51.4 +0.9
comp=Z,14nm,0.9s
UALR University of 55.78 278 eP P 08 39 51.4 +0.9
comp=Z,14nm,0.9s
P23A Jefferson 55.82 292 ⇑P P 08 39 51.7 +0.5
baz=56,SNR=9.1
O20A White River Ci 55.85 294 eP P 08 39 51.7 +0.5
O20A White River Ci 55.85 294 eP P 08 39 51.7 +0.5
O20A White River Ci 55.85 294 ⇑P P 08 39 51.6 +0.4
baz=56,SNR=32
TUL1 Tulsa 55.85 281 eP P 08 39 50.0 -1.0
TUL1 Tulsa 55.85 281 eP P 08 39 50.0 -1.0
TUL1 Tulsa 55.85 281 ⇓P P 08 39 50.2 -0.9
baz=56
R27A Eads 55.89 289 ⇑P P 08 39 51.3 -0.1
baz=56,SNR=9.4
P22A Eagle 55.90 293 ⇑P P 08 39 51.6 0.0
baz=56,SNR=15
O19A Miners Draw (B 55.96 295 ⇓P P 08 39 52.1 +0.2
baz=56,SNR=19
S29A Ulysses 55.98 287 ⇓P P 08 39 51.6 -0.4
baz=56
TIGA Tifton 55.99 268 eP P 08 39 51.7 -0.3
TIGA Tifton 55.99 268 eP P 08 39 51.7 -0.3
TIGA Tifton 55.99 268 ⇑P P 08 39 53.5 +1.5
baz=56
Q24A Divide 55.99 291 ⇑P P 08 39 52.1 -0.3
baz=56
T31A Randall Ranch, 56.00 285 ⇓P P 08 39 51.8 -0.3
baz=56
R26A Arlington 56.08 289 ⇓P P 08 39 52.5 -0.2
baz=56,SNR=5.6
P21A Newcastle 56.17 293 ⇑P P 08 39 53.9 +0.4
baz=56,SNR=5.7
S28A Manter 56.25 288 ⇑P P 08 39 53.9 0.0
baz=56

Q23A Hartsel 56.25 292 ⇓P P 08 39 54.2 0.0
baz=56
T30A Plains 56.31 286 ⇓P P 08 39 54.2 -0.2
baz=56
RAYN Ar Rayn 56.34 118 P P 08 39 55.4 +0.8
comp=Z,111nm,1.1s,SNR=10
SMCO Snowmass 56.35 293 eP P 08 39 55.4 +0.4
comp=Z,36nm,1.3s
SMCO Snowmass 56.35 293 eP P 08 39 55.4 +0.4
comp=Z,36nm,1.3s
JLU Jordanelle 56.36 297 eP P 08 39 54.7 -0.2
comp=Z,22nm,1.2s
JLU Jordanelle 56.36 297 eP P 08 39 54.7 -0.2
comp=Z,22nm,1.2s
CTU Camp Tracy 56.37 298 eP P 08 39 55.9 +1.0
comp=Z,49nm,1.4s
CTU Camp Tracy 56.37 298 eP P 08 39 55.9 +1.0
comp=Z,49nm,1.4s
MIAR Mount Ida 56.39 279 eP P 08 39 55.4 +0.5
MIAR e 08 42 01.3
MIAR pmax pmax
comp=Z,192nm,2.0s
MIAR MLR MLR
comp=Z,2µm,20.0s
MIAR Mount Ida 56.39 279 eP P 08 39 55.4 +0.5
comp=Z,192nm,2.0s
MIAR ePP PP 08 42 01.3 +1.2
MIAR LR LR
comp=Z,2µm,20.0s
MIAR Mount Ida 56.39 279 eP P 08 39 55.4 +0.5
comp=Z,192nm,2.0s
T29A Hugoton 56.46 287 ⇑P P 08 39 55.2 -0.2
baz=56
S27A Las Animas 56.47 289 ⇓P P 08 39 55.5 -0.1
baz=56
R25A Fountain Ranch 56.47 290 ⇓P P 08 39 55.2 -0.4
baz=56,SNR=8.2
P20A De Beque 56.48 294 ⇓P P 08 39 55.3 -0.3
baz=56,SNR=25
BGU Big Grassy Mou 56.52 299 eP P 08 39 56.5 +0.6
comp=Z,89nm,1.7s
BGU Big Grassy Mou 56.52 299 eP P 08 39 56.5 +0.6
comp=Z,89nm,1.7s
P19A Cripple Cowboy 56.53 295 ⇑P P 08 39 56.4 +0.4
baz=56,SNR=27
Q22A Crested Butte, 56.62 293 ⇑P P 08 39 56.8 -0.1
baz=56,SNR=23
KLR Kul'dur 56.62 31 eP P 08 39 56.2 -0.1
KLR eS S 08 47 45.0 -2.3
KLR e 08 49 49.0
KLR Kul'dur 56.62 31 eP P 08 39 56.2 -0.1
KLR eScS ScS 08 49 49.0 +4.7
R24A Sanders Place, 56.65 291 ⇑P P 08 39 56.7 -0.3
baz=56
WVOR Wild Horse Val 56.69 304 eP P 08 39 57.3 +0.2
WVOR pmax pmax
comp=Z,13nm,1.3s
WVOR MLR MLR
comp=Z,2µm,21.0s
WVOR Wild Horse Val 56.69 304 eP P 08 39 57.3 +0.2
comp=Z,13nm,1.3s
WVOR LR LR
comp=Z,2µm,21.0s
WVOR Wild Horse Val 56.69 304 eP P 08 39 57.3 +0.2
comp=Z,2µm,21.0s
S26A Kim 56.71 289 ⇑P P 08 39 57.0 -0.2
baz=56
U31A Nine Bar Ranch 56.73 285 ⇓P P 08 39 57.1 -0.2
baz=57
T28A Walsh 56.75 288 ⇓P P 08 39 57.5 0.0
baz=57
U30A WK&E Inc. Balk 56.83 286 ⇑P P 08 39 58.2 +0.2
baz=57
SACV Santiago Islan 56.84 198 PFAKE 08 40 10.0 +12
SACV LR LR
comp=Z,1µm,19.0s
Q21A Lamborn Mesa, 56.84 293 ⇑P P 08 39 58.1 -0.2
baz=57
R23A Moffat 56.91 291 ⇑P P 08 39 58.9 0.0
baz=57,SNR=10
Q20A Ridgley Place, 56.95 294 ⇓P P 08 39 58.6 -0.4
baz=57,SNR=19
MPU Maple Canyon 56.96 297 eP P 08 39 59.9 +0.8
comp=Z,90nm,1.9s
MPU Maple Canyon 56.96 297 eP P 08 39 59.9 +0.8
comp=Z,90nm,1.9s
S25A Robets Cordova 56.97 290 ⇑P P 08 39 59.2 0.0
baz=57,SNR=24
T27A Campo 56.99 288 ⇑P P 08 39 59.2 -0.1
baz=57
U29A Oasis Ranch, S 57.10 287 ⇓P P 08 40 00.2 +0.3
baz=57
DUG Dugway 57.13 298 eP P 08 40 00.9 +0.6
DUG pmax pmax
comp=Z,114nm,1.6s
DUG MLR MLR
comp=Z,2µm,20.0s
DUG Dugway 57.13 298 eP P 08 40 00.9 +0.6
comp=Z,114nm,1.6s
DUG LR LR
comp=Z,2µm,20.0s
DUG Dugway 57.13 298 eP P 08 40 00.9 +0.6
comp=Z,2µm,20.0s
DUG Dugway 57.13 298 ⇑P P 08 40 00.9 +0.6
baz=57,SNR=26
NLU North Lily Min 57.14 298 eP P 08 40 01.1 +0.7
comp=Z,54nm,1.6s
NLU North Lily Min 57.14 298 eP P 08 40 01.1 +0.7
comp=Z,54nm,1.6s
ADK Adak 57.15 352 PFAKE 08 40 10.0 +10
ADK LR LR
comp=Z,1µm,22.0s
R22A Saguache, Gunn 57.16 292 ⇑P P 08 40 01.0 +0.3
baz=57,SNR=22
T26A Comanche Natio 57.16 289 ⇓P P 08 40 00.3 -0.2
baz=57,SNR=9.5
SDCO Great Sand Dun 57.22 291 eP P 08 40 01.1 0.0
comp=Z,14nm,1.3s
SDCO LR LR
comp=Z,2µm,19.0s
SDCO Great Sand Dun 57.22 291 eP P 08 40 01.1 0.0
comp=Z,14nm,1.3s
S24A Houchin Ranch, 57.23 291 ⇑P P 08 40 00.9 -0.2
baz=57
R21A Cimarron 57.27 293 ⇓P P 08 40 01.6 +0.3
baz=57,SNR=18
V31A Spring Creek L 57.27 285 ⇑P P 08 40 01.3 +0.1
baz=57
ELK Elko 57.31 301 eP P 08 40 01.9 +0.3
comp=Z,26nm,1.3s
ELK Elko 57.31 301 eP P 08 40 01.9 +0.3
comp=Z,26nm,1.3s
S23A Nye Farm, Mont 57.41 291 ⇓P P 08 40 02.4 +0.1
baz=57
T25A Trinidad 57.44 290 ⇑P P 08 40 02.3 -0.2
baz=57
U28A Mallet 57.46 287 ⇑P P 08 40 02.6 0.0
baz=57,SNR=5.2
SRU San Rafael 57.47 296 eP P 08 40 03.1 +0.4
SRU pmax pmax
comp=Z,89nm,1.6s
SRU San Rafael 57.47 296 eP P 08 40 03.1 +0.4
comp=Z,89nm,1.6s
SRU San Rafael 57.47 296 eP P 08 40 03.1 +0.4
comp=Z,89nm,1.6s
TMUT Trail Mountain 57.50 296 P P 08 40 04.1 +1.1
comp=Z,23nm,1.0s
TMUT Trail Mountain 57.50 296 P P 08 40 04.1 +1.1
comp=Z,23nm,1.0s
BRAL Brewton 57.52 271 eP P 08 40 02.5 -0.4
comp=Z,83nm,0.8s
BRAL LR LR
comp=Z,3µm,20.0s
BRAL Brewton 57.52 271 eP P 08 40 02.5 -0.4
comp=Z,83nm,0.8s
VBMS Vicksburg 57.54 275 eP P 08 40 03.7 +0.7
comp=Z,51nm,1.0s
VBMS LR LR
comp=Z,2µm,21.0s
VBMS Vicksburg 57.54 275 eP P 08 40 03.7 +0.7
comp=Z,51nm,1.0s
V30A Spur Ranch, Mi 57.55 286 ⇓P P 08 40 03.5 +0.3
baz=57
U27A Thompson Grove 57.61 288 ⇑P P 08 40 03.6 -0.1
baz=58,SNR=11
S22A 4UR Ranch, Cre 57.62 292 ⇓P P 08 40 04.2 +0.2
baz=58,SNR=15
MOD Modoc 57.63 305 eP P 08 40 04.5 +0.7

comp=Z,132nm,1.2s
MOD Modoc 57.63 305 eP P 08 40 04.5 +0.7
comp=Z,132nm,1.2s
R20A Redvale 57.68 294 ⇓P P 08 40 04.3 +0.1
baz=58,SNR=20
V29A Stinnett 57.71 287 ⇑P P 08 40 04.4 +0.2
baz=58
T24B San Luis 57.81 290 ⇑P P 08 40 05.3 0.0
baz=58,SNR=14
Q16A Castle Valley 57.84 296 eP P 08 40 06.2 +0.9
Q16A Castle Valley 57.84 296 eP P 08 40 06.2 +0.9
Q16A Castle Valley 57.84 296 ⇑P P 08 40 05.8 +0.5
baz=58,SNR=6.6
W31A Holland Ranch, 57.84 285 ⇓P P 08 40 05.3 +0.1
baz=58
WMOK Wichita Mounta 57.89 284 PFAKE 08 40 20.0 +15
WMOK LR LR
comp=Z,2µm,20.0s
U26A Atchley Ranch, 57.92 289 ⇑P P 08 40 06.1 +0.2
baz=58,SNR=16
S21A Coal Bank Pass 57.99 293 ⇑P P 08 40 07.0 +0.5
baz=58
S20A Disappointment 58.01 293 ⇓P P 08 40 06.7 +0.1
baz=58,SNR=19
T23A Casias Ranch, 58.04 291 ⇓P P 08 40 06.9 +0.1
baz=58
V28A Channing 58.04 287 ⇓P P 08 40 06.8 +0.1
baz=58
W30A Crocket Farms 58.05 285 ⇓P P 08 40 06.6 0.0
baz=58
U25A Circle Dot Ran 58.12 289 ⇑P P 08 40 07.3 0.0
baz=58,SNR=14
TORD Torodi Ar. Bea 58.13 169 P P 08 40 07.2 -0.1
TORD Torodi Ar. Bea 58.13 169 P P 08 40 07.2 -0.1
comp=Z,23nm,0.6s,baz=351,slow=7.1,SNR=84
TORD LR LR 09 05 06.2
comp=Z,2µm,19.8s,baz=350,slow=36
TORD Torodi Ar. Bea 58.13 169 P P 08 40 07.2 -0.1
BMN Battle Mountai 58.16 302 eP P 08 40 07.6 +0.1
BMN pmax pmax
comp=Z,13nm,1.0s
BMN Battle Mountai 58.16 302 eP P 08 40 07.6 +0.1
comp=Z,13nm,1.0s
BMN Battle Mountai 58.16 302 eP P 08 40 07.6 +0.1
comp=Z,13nm,1.0s
V27A Dan Oppiter Fa 58.23 288 ⇑P P 08 40 08.3 +0.3
baz=58
UOSS Wadi Hilu 58.24 106 P P 08 40 08.5 +0.5
comp=Z,188nm,0.7s,SNR=5.7
T22A Edith 58.32 292 ⇓P P 08 40 08.8 +0.1
baz=58,SNR=33
X31A McDonald Ranch 58.37 285 ⇑P P 08 40 09.1 +0.3
baz=58
U24A Moreno Valley 58.38 290 ⇓P P 08 40 09.3 +0.1
baz=58
YBH Yreka Blue Hor 58.42 307 P P 08 40 08.9 -0.3
YBH Yreka Blue Hor 58.42 307 P P 08 40 08.9 -0.3
comp=Z,6.3nm,1.1s,baz=35,slow=8.6,SNR=4.8
YBH Yreka Blue Hor 58.42 307 P P 08 40 08.9 -0.3
ASHO Ashiyiah 58.44 107 P P 08 40 15.6 +6.2
SNR=8.2
W29A Amraillo 58.44 286 ⇑P P 08 40 10.5 +1.0
baz=58
V26A Tequesquite Ra 58.48 288 ⇑P P 08 40 09.2 -0.6
baz=58
W28A Vega 58.49 287 ⇑P P 08 40 09.6 -0.2
baz=58
MVU Marysvale 58.52 297 eP P 08 40 11.1 +0.9
comp=Z,43nm,1.3s
MVU Marysvale 58.52 297 eP P 08 40 11.1 +0.9
comp=Z,43nm,1.3s
T21A Navajo Lake 58.53 292 ⇓P P 08 40 09.7 -0.5
baz=58
MVCO Mesa Verde 58.62 293 eP P 08 40 11.2 +0.4
comp=Z,106nm,1.4s
MVCO LR LR
comp=Z,2µm,20.0s
MVCO Mesa Verde 58.62 293 eP P 08 40 11.2 +0.4
comp=Z,106nm,1.4s
MVCO Mesa Verde 58.62 293 ⇓P P 08 40 11.0 +0.2
baz=58,SNR=42
GTA Gaotai 58.63 60 eP P 08 40 10.9 +0.1
GTA pP pP 08 40 15.1 -0.7
GTA sP sP 08 40 17.9 +0.1
GTA S S 08 48 12.1 -2.0
GTA sS sS 08 48 18.8 -3.7
GTA SS SS 08 52 05.5 -0.7
GTA pmax pmax
comp=Z,9.0nm,1.2s
GTA pmax pmax
comp=Z,360nm,4.5s
V25A Rancho No Teng 58.70 289 ⇓P P 08 40 11.2 -0.2
baz=58
U23A El Rito 58.74 291 ⇓P P 08 40 11.8 +0.1
baz=59,SNR=10
Y32A R-V Farms, Ver 58.77 284 ⇑P P 08 40 12.1 +0.5
baz=59
X30A Coker Ranch, T 58.82 285 ⇑P P 08 40 12.7 +0.6
baz=59
U22A Llaves 58.89 291 ⇑P P 08 40 13.1 +0.4
baz=59,SNR=7.9
W27A Bowe Ranch, En 58.94 288 ⇓P P 08 40 13.0 +0.1
baz=59
V24A Rampart Ranch, 59.01 290 ⇑P P 08 40 13.6 0.0
baz=59,SNR=13
Y31A Rekieta Farm, 59.07 285 ⇑P P 08 40 13.8 +0.1
baz=59
X29A Tulia 59.08 286 ⇓P P 08 40 13.7 -0.2
baz=59
U21A Nageezi 59.09 292 ⇑P P 08 40 13.7 -0.4
baz=59,SNR=16
W26A Owens Ranch, T 59.13 288 ⇑P P 08 40 14.4 +0.1
baz=59
X28A Dimmitt 59.17 286 ⇑P P 08 40 14.4 -0.1
baz=59
W25A X Bar L Ranch, 59.23 289 ⇓P P 08 40 15.3 +0.3
baz=59
V23A Ortiz Mt. (NFS 59.27 291 ⇓P P 08 40 15.5 +0.2
baz=59
NATX Nacogdoches 59.31 278 eP P 08 40 15.5 +0.2
comp=Z,8.6nm,0.5s
NATX LR LR
comp=Z,2µm,19.0s
NATX Nacogdoches 59.31 278 eP P 08 40 15.5 +0.2
comp=Z,8.6nm,0.5s
X27A F and S Farms, 59.33 287 ⇓P P 08 40 15.8 +0.1
baz=59,SNR=5.5
V22A San Miguel Ran 59.34 291 ⇑P P 08 40 16.1 +0.2
baz=59,SNR=8.3
Y30A Stafford Cattl 59.35 285 ⇑P P 08 40 16.0 +0.3
baz=59
U20A Newcomb 59.40 293 ⇓P P 08 40 16.1 -0.1
baz=59,SNR=6.5
Z32A Haskell 59.43 284 ⇓P P 08 40 15.9 -0.3
baz=59,SNR=21
PAHR Pah Rah Range 59.43 304 eP P 08 40 17.1 +0.8
comp=Z,46nm,1.3s
PAHR ePP PP 08 42 31.3 +4.2
PAHR Pah Rah Range 59.43 304 eP P 08 40 17.1 +0.8
comp=Z,46nm,1.3s
WDC Whiskeytown Da 59.46 307 eP P 08 40 15.5 -0.8
WDC pmax pmax
comp=Z,34nm,1.3s
WDC Whiskeytown Da 59.46 307 eP P 08 40 15.5 -0.8
comp=Z,34nm,1.3s
WDC Whiskeytown Da 59.46 307 eP P 08 40 15.5 -0.8
comp=Z,34nm,1.3s
W24A Lazy 6 Ranch, 59.53 290 ⇓P P 08 40 16.7 -0.4
baz=59,SNR=7.6
BEKR Beckworth 59.55 304 eP P 08 40 16.8 -0.3
comp=Z,23nm,1.5s
BEKR Beckworth 59.55 304 eP P 08 40 16.8 -0.3
comp=Z,23nm,1.5s
Y29A Porterfield Fa 59.61 286 ⇓P P 08 40 17.5 0.0
baz=60,SNR=7.0
Z31A Sharp Cattle R 59.63 284 ⇓P P 08 40 17.7 +0.1
baz=60
R11A Troy Canyon, C 59.64 300 eP P 08 40 18.1 +0.3
R11A Troy Canyon, C 59.64 300 eP P 08 40 18.1 +0.3
R11A Troy Canyon, C 59.64 300 ⇓P P 08 40 17.8 0.0
baz=59,SNR=35
X26A CR and CF Fran 59.64 288 ⇑P P 08 40 18.1 +0.2
baz=60,SNR=13
V21A Milan 59.66 292 ⇓P P 08 40 18.1 0.0
baz=60
CCUT Cedar City 59.74 298 eP P 08 40 20.1 +1.5
comp=Z,81nm,1.8s

CCUT	Cedar City	59.74	298	eP	P	08 40 20.1 +1.5
	comp=Z,81nm,1.8s					
Y28A	McKinney Farm,	59.75	286	⇓P	P	08 40 18.5 -0.1
	baz=60,SNR=14					
W23A	Werner Place,	59.80	290	⇑P	P	08 40 19.2 +0.2
	baz=60					
ARQ	Araqi	59.85	107	P	P	08 40 20.2 +1.0
	SNR=7.5					
ARQ	Araqi	59.85	107	P	P	08 40 20.2 +1.0
	SNR=7.5					
MSTX	Muleshoe	59.85	287	eP	P	08 40 19.5 +0.2
MSTX	Muleshoe	59.85	287	eP	P	08 40 19.5 +0.2
MSTX	Muleshoe	59.85	287	⇓P	P	08 40 19.4 +0.2
	baz=60					
V20A	Brimhall	59.92	293	⇑P	P	08 40 19.8 0.0
	baz=60,SNR=13					
X25A	Clemmons Ranch	59.93	289	⇑P	P	08 40 20.1 +0.3
	baz=60					
Z30A	Sanderson Ranc	59.97	285	⇓P	P	08 40 20.3 +0.3
	baz=60					
WHTX	Lake Whitney	59.99	281	⇓P	P	08 40 19.7 -0.4
	baz=60					
Y27A	Causey	60.06	287	⇑P	P	08 40 20.7 0.0
	baz=60,SNR=22					
ANMO	Albuquerque	60.10	290	eP	P	08 40 21.5 +0.5
	comp=Z,13nm,1.2s					
ANMO				LR	LR	
	comp=Z,2μm,21.0s					
ANMO	Albuquerque	60.10	290	eP	P	08 40 21.5 +0.5
	comp=Z,2μm,21.0s					
W22A	Albuquerque	60.10	291	⇓P	P	08 40 21.5 +0.5
	baz=60					
ABTX	Abilene, Hawle	60.11	283	eP	P	08 40 20.4 -0.5
ABTX	Abilene, Hawle	60.11	283	eP	P	08 40 20.4 -0.5
ABTX	Abilene, Hawle	60.11	283	⇓P	P	08 40 20.8 -0.1
	baz=60					
X24A	Lazy VL Ranch,	60.13	289	⇓P	P	08 40 20.9 -0.4
	baz=60					
Z29A	Hungry Hill Ra	60.18	286	⇑P	P	08 40 21.4 0.0
	baz=60,SNR=16					
Y26A	Elida	60.23	288	⇓P	P	08 40 22.2 +0.4
	baz=60					
NV11	Mina Array Sit	60.28	302	eP	P	08 40 22.3 +0.1
NV11	Mina Array Sit	60.28	302	eP	P	08 40 22.3 +0.1
131A	Roby	60.30	284	⇓P	P	08 40 22.3 +0.1
	baz=60					
W21A	San Fidel	60.30	292	⇓P	P	08 40 22.4 -0.1
	baz=60					
NVAR	Mina Array Bea	60.33	302	P	P	08 40 22.2 -0.4
NVAR				PP	PP	08 42 29.1 -6.0
NVAR	Mina Array Bea	60.33	302	P	P	08 40 22.2 -0.4
	comp=Z,2.4nm,0.9s,baz=23,slow=4.9,SNR=16					
NVAR				PP	PP	08 42 29.1 -6.0
	comp=Z,0.7nm,0.8s,baz=359,slow=7.6,SNR=2.2					
NVAR	Mina Array Bea	60.33	302	P	P	08 40 22.2 -0.4
X23A	Hourglass Bar	60.35	290	⇑P	P	08 40 22.6 -0.2
	baz=60					
Z28A	Tucker Farm, M	60.36	286	⇑P	P	08 40 22.8 +0.1
	baz=60,SNR=18					
HHC	Hu-ho-hao-te	60.42	49	eP	P	08 40 21.4 -1.6
HHC				pP	pP	08 40 26.0 -2.1
HHC				sP	sP	08 40 28.4 -1.6
HHC				PP	PP	08 42 35.8 +0.1
HHC				PcS	PcS	08 45 08.0 -2.3
HHC				S	S	08 48 31.8 -5.3
HHC				ScS	SKKSac	08 50 07.8 -4.8
HHC				SS	SS	08 52 29.3 -4.7
HHC				pmax	pmax	
	comp=Z,29nm,1.0s					
HHC				pmax	pmax	
	comp=Z,300nm,5.5s					
HHC				LR	LR	
	comp=N,2μm,16.5s					
HHC				LR	LR	
	comp=E,3μm,15.1s					
HHC				LR	LR	
	comp=Z,2μm,16.1s					
YSS	Yuzh-Sakhalins	60.46	23	eP	P	08 40 23.9 +0.8
YSS	Yuzh-Sakhalins	60.46	23	eP	P	08 40 23.9 +0.8
U15A	North Rim	60.47	296	⇓P	P	08 40 23.0 -0.7
	baz=60,SNR=7.2					
Y25A	Mesa, Roswell	60.50	288	⇓P	P	08 40 23.8 +0.1
	baz=60,SNR=16					
W20A	Ramah	60.55	292	⇑P	P	08 40 23.7 -0.5
	baz=60,SNR=6.9					
130A	Snyder	60.55	285	⇑P	P	08 40 24.2 +0.2
	baz=60					
WAKR	Walker	60.57	303	eP	P	08 40 24.9 +0.7
	comp=Z,41nm,1.5s					
WAKR	Walker	60.57	303	eP	P	08 40 24.9 +0.7
	comp=Z,41nm,1.5s					
SMDO	Samad	60.59	105	P	P	08 40 24.9 +0.5
	SNR=13					
SMDO	Samad	60.59	105	P	P	08 40 24.9 +0.5
	SNR=13					
Z27A	Tatum	60.60	287	⇑P	P	08 40 23.9 -0.4
	baz=60,SNR=11					
BSY	Bisya	60.61	106	P	P	08 40 24.7 +0.3
	SNR=35					
BSYO	Bisya	60.64	106	P	P	08 40 24.7 +0.1
	SNR=35					
X22A	Bernardo	60.67	291	⇓P	P	08 40 24.8 -0.1
	baz=60					
CN2	Changchun	60.71	37	eP	P	08 40 25.5 +0.6
CN2				esP	sP	08 40 33.0 +1.1
CN2				eS	S	08 48 39.1 -1.4
CN2				pmax	pmax	
	comp=Z,20nm,1.2s					
CN2				pmax	pmax	
	comp=Z,100nm,4.0s					
CN2				LR	LR	
	comp=Z,5μm,18.0s					
MDJ	Mudanjiang	60.71	34	P	P	08 40 23.8 -1.0
MDJ				pP	pP	08 40 26.9 -3.0
MDJ				PP	PP	08 42 36.4 -1.7
MDJ				S	S	08 48 38.3 -2.2
MDJ				ScS	ScS	08 50 15.0 +0.4
MDJ				SS	SS	08 52 36.9 -1.3
MDJ				pmax	pmax	
	comp=Z,4.0nm,0.6s					
MDJ				pmax	pmax	
	comp=Z,62nm,3.3s					
MDJ				LR	LR	
	comp=N,260nm,23.9s					
MDJ				LR	LR	
	comp=E,660nm,21.4s					
Y24A	Capitan	60.73	289	⇓P	P	08 40 25.1 -0.2
	baz=61,SNR=22					
232A	Coleman	60.79	283	⇑P	P	08 40 25.4 -0.2
	baz=61,SNR=5.8					
129A	Stewart Farms,	60.81	285	⇑P	P	08 40 25.5 -0.2
	baz=61					
LAZ	Ladron	60.81	291	eP	P	08 40 26.1 +0.2
	comp=E,12nm,1.4s					
LAZ	Ladron	60.81	291	eP	P	08 40 26.1 +0.2
	comp=E,12nm,1.4s					
Z26A	Caprock	60.88	288	⇓P	P	08 40 26.3 0.0
	baz=61,SNR=6.9					
BNM	Barren Site	60.88	290	eP	P	08 40 26.9 +0.4
BNM				ePP	PP	08 42 42.2 +2.0
BNM	Barren Site	60.88	290	eP	P	08 40 26.9 +0.4
Y23A	Lovelace Mesa,	60.91	290	⇑P	P	08 40 27.1 +0.5
	baz=61,SNR=31					
W18A	Petrified Fore	60.93	293	eP	P	08 40 27.1 +0.4
W18A	Petrified Fore	60.93	293	eP	P	08 40 27.1 +0.4
W18A	Petrified Fore	60.93	293	⇓P	P	08 40 27.1 +0.4
	baz=61					
231A	Bronte	60.96	284	⇓P	P	08 40 26.2 -0.5
	baz=61,SNR=6.0					
X21A	Alamocita Cree	60.97	291	⇑P	P	08 40 27.2 +0.2
	baz=61,SNR=24					
LENM	Lemitar	60.98	291	eP	P	08 40 26.9 0.0
	comp=E,32nm,1.5s					
LENM	Lemitar	60.98	291	eP	P	08 40 27.0 0.0
	comp=E,32nm,1.5s					
128A	Castleberry Fa	61.01	286	⇓P	P	08 40 27.2 0.0
	baz=61,SNR=10					
Y22D	IRIS PASSCAL I	61.05	290	⇑P	P	08 40 28.4 +0.9
	baz=61					
WUAZ	Wupatki	61.05	295	eP	P	08 40 27.7 +0.2
	comp=E,50nm,1.4s					
WUAZ				LR	LR	
	comp=Z,2μm,19.0s					
WUAZ	Wupatki	61.05	295	eP	P	08 40 27.7 +0.2
	comp=Z,50nm,1.4s					
WUAZ	Wupatki	61.05	295	⇑P	P	08 40 27.4 -0.1
	baz=61,SNR=6.9					
X20A	Quemado	61.09	292	⇓P	P	08 40 28.1 +0.3
	baz=61,SNR=26					
Z25A	Roswell	61.10	288	⇑P	P	08 40 28.3 +0.5
	baz=61,SNR=25					
Y22A	Socorro	61.19	290	⇑P	P	08 40 28.8 +0.4
	baz=61,SNR=22					
GRTK	Grand Turk	61.22	252	PFAKE		08 40 40.0 +12
GRTK				LR	LR	
	comp=Z,1μm,21.0s					
MLAC	Mammoth Lakes	61.22	302	⇑P	P	08 40 29.0 +0.2
	baz=61					
127A	Arkansas Junct	61.23	287	⇑P	P	08 40 28.6 -0.1
	baz=61					
SHPR	Sheep Range	61.24	299	eP	P	08 40 29.2 +0.5
	comp=Z,75nm,1.7s					
SHPR	Sheep Range	61.24	299	eP	P	08 40 29.2 +0.5
	comp=Z,75nm,1.7s					
JMDO	Jabal Madar	61.25	105	P	P	08 40 29.1 +0.3
	SNR=13					
JMDO	Jabal Madar	61.25	105	P	P	08 40 29.1 +0.3
	SNR=13					
Z24A	Sheeppen Canyo	61.26	289	⇓P	P	08 40 28.7 -0.2
	baz=61					
230A	Sterling City	61.26	284	⇑P	P	08 40 28.6 -0.2
	baz=61,SNR=7.1					
CMB	Columbia Colle	61.27	304	eP	P	08 40 28.6 -0.2
CMB				pmax	pmax	
	comp=Z,37nm,1.3s					
CMB	Columbia Colle	61.27	304	eP	P	08 40 28.6 -0.2
	comp=Z,37nm,1.3s					
CMB	Columbia Colle	61.27	304	eP	P	08 40 28.6 -0.2
	comp=Z,37nm,1.3s					
332A	Millersview	61.29	283	⇓P	P	08 40 28.9 -0.1
	baz=61,SNR=20					
Y21A	Point of Rocks	61.34	291	⇑P	P	08 40 29.9 +0.4
	baz=61,SNR=8.0					
HKT	Hockley	61.36	279	eP	P	08 40 30.2 +0.9
HKT				pmax	pmax	
	comp=Z,82nm,1.9s					
HKT	Hockley	61.36	279	eP	P	08 40 30.2 +0.9
	comp=Z,82nm,1.9s					
HKT	Hockley	61.36	279	eP	P	08 40 30.2 +0.9
	comp=Z,82nm,1.9s					
GRAC	Grapevine Rang	61.40	301	⇑P	P	08 40 29.0 -0.7
	baz=61					
126A	Clayton Basin,	61.47	287	⇓P	P	08 40 30.5 +0.2
	baz=61					
228A	UT Block 9, Go	61.51	286	⇑P	P	08 40 30.2 -0.4
	baz=61,SNR=6.4					
USRK	Ussuriysk Arra	61.54	32	P	P	08 40 30.9 +0.5
	comp=Z,1.3nm,0.5s,baz=359,slow=7.9,SNR=4.6					
X18A	Snowflake	61.54	293	⇑P	P	08 40 30.4 -0.4
	baz=61					
331A	San Angelo	61.58	284	⇑P	P	08 40 30.8 -0.1
	baz=61,SNR=15					
NDI	New Delhi	61.58	84	eP	P	08 40 23.0 -7.9
Z23A	Rita Site, Whi	61.59	290	⇓P	P	08 40 31.7 +0.6
	baz=61,SNR=12					
TIN	Tinemaha	61.59	302	⇑P	P	08 40 30.4 -0.7
	baz=61					
Y20A	Horse Springs,	61.64	292	⇓P	P	08 40 31.6 0.0
	baz=62,SNR=6.1					
125A	Gardner Draw,	61.66	288	⇓P	P	08 40 31.6 0.0
	baz=62,SNR=8.7					
330A	Mertzon	61.72	284	⇑P	P	08 40 31.9 0.0
	baz=62					
FURC	Furnace Creek,	61.75	300	⇓P	P	08 40 32.3 +0.3
	baz=62,SNR=13					
432A	Menard	61.77	283	⇓P	P	08 40 32.1 -0.2
	baz=62					
Z22A	Elephant Butte	61.82	290	⇓P	P	08 40 33.1 +0.4
	baz=62,SNR=24					
227A	Bennet, Jal	61.83	286	⇓P	P	08 40 32.9 +0.3
	baz=62					
124A	Stringfield Ra	61.87	289	⇑P	P	08 40 33.5 +0.4
	baz=62,SNR=21					
329A	Wagon Wheel Ra	61.90	285	⇓P	P	08 40 33.1 -0.1
	baz=62					
Z21A	St. Cloud Mine	61.98	291	⇑P	P	08 40 34.0 +0.1
	baz=62,SNR=27					
GDL2	Guadalupe Moun	61.99	287	eP	P	08 40 34.2 +0.4
	comp=Z,1.8nm,0.5s					
GDL2	Guadalupe Moun	61.99	287	eP	P	08 40 34.2 +0.4
	comp=Z,1.8nm,0.5s					
226B	Tecolote Peak,	62.04	287	⇑P	P	08 40 34.4 +0.2
	baz=62					
ANWB	Willy Bob	62.05	241	PFAKE		08 40 50.0 +16
ANWB				LR	LR	
	comp=Z,2μm,22.0s					
X16A	Lo Mia Camp, P	62.09	295	⇑P	P	08 40 34.6 0.0
	baz=62,SNR=21					
SHOC	Shoshone	62.12	299	⇑P	P	08 40 34.6 +0.1
	baz=62					
CWC	Cottonwood Cre	62.13	301	⇑P	P	08 40 32.7 -2.0
	baz=62,SNR=11					
JCT	Junction City	62.14	283	eP	P	08 40 34.1 -0.6
JCT				pmax	pmax	
	comp=Z,48nm,1.3s					
JCT				MLR	MLR	
	comp=Z,3μm,19.0s					
JCT	Junction City	62.14	283	eP	P	08 40 34.1 -0.6
	comp=Z,48nm,1.3s					
JCT				LR	LR	
	comp=Z,3μm,19.0s					
JCT	Junction City	62.14	283	eP	P	08 40 34.1 -0.6
	comp=Z,3μm,19.0s					
JCT	Junction City	62.14	283	⇑P	P	08 40 34.9 +0.2
	baz=62					
123A	Bell Site, Whi	62.18	289	⇑P	P	08 40 35.3 +0.3
	baz=62					
W13A	Hualapai Mount	62.18	297	⇑P	P	08 40 35.5 +0.3
	baz=62					
431A	Sonora	62.21	283	⇑P	P	08 40 35.6 +0.4
	baz=62,SNR=16					
225A	Deer Hill, Car	62.22	288	⇓P	P	08 40 34.9 -0.5
	baz=62,SNR=8.1					
SNY	Shenyang	62.23	39	⇑P	P	08 40 37.3 +2.2
SNY				S	S	08 49 03.6 +3.8
SNY				pmax	pmax	
	comp=Z,16nm,1.6s					
SNY				pmax	pmax	
	comp=Z,300nm,5.2s					
SNY				LR	LR	
	comp=N,770nm,14.9s					
SNY				LR	LR	
	comp=E,1μm,18.6s					
SNY				LR	LR	
	comp=Z,1μm,20.0s					
328A	Wristen Ranch,	62.26	286	⇑P	P	08 40 35.1 -0.4
	baz=62,SNR=12					
BJI	Beijing	62.30	46	P	P	08 40 34.0 -1.6
BJI				S	S	08 49 02.6 +1.9
BJI				SS	SS	08 53 03.1 -0.1
BJI				pmax	pmax	
	comp=Z,11nm,0.5s					
430A	Baggett Ranch,	62.31	284	⇑P	P	08 40 36.0 +0.1
	baz=62,SNR=20					
MPMC	Manual Prospec	62.31	300	⇓P	P	08 40 36.7 +0.6
	baz=62,SNR=33					
122A	Conniff Cattle	62.34	290	⇑P	P	08 40 36.4 +0.2
	baz=62					
Z20A	Nine Sixteen R	62.45	292	⇑P	P	08 40 37.0 0.0
	baz=62,SNR=15					
TUQ	Turquoise Moun	62.45	299	⇓P	P	08 40 36.8 -0.1
	baz=62					
224A	Cornudas Mount	62.47	288	⇑P	P	08 40 36.8 -0.2
	baz=62					
532A	Rocksprings	62.50	283	⇑P	P	08 40 37.2 0.0
	baz=62,SNR=5.7					
VLA	Vladivostok	62.57	32	iP	P	08 40 37.7 +0.3
VLA				pmax	pmax	
	comp=Z,79nm,1.3s					
VLA	Vladivostok	62.57	32	iP	P	08 40 37.7 +0.3
	comp=Z,79nm,1.3s					
531A	Rocksprings	62.67	283	⇑P	P	08 40 38.2 -0.1
	baz=62,SNR=6.1					
429A	Davenport Ranc	62.67	285	⇓P	P	08 40 37.8 -0.5
	baz=62					
326A	Caldwell Ranch	62.69	287	⇑P	P	08 40 38.9 +0.4
	baz=62,SNR=32					
121A	Cookes Peak, D	62.74	291	⇓P	P	08 40 39.2 +0.3
	baz=63,SNR=15					
MNTX	Cornudas Mount	62.77	288	eP	P	08 40 38.8 -0.1
	comp=Z,6.2nm,0.9s					
MNTX				LR	LR	
	comp=Z,2μm,19.0s					
MNTX	Cornudas Mount	62.77	288	eP	P	08 40 38.8 -0.1
	comp=Z,6.2nm,0.9s					
223A	Chaparral, Ant	62.81	289	⇑P	P	08 40 39.6 +0.3
	baz=63					
428A	Kincaid Ranch,	62.83	285	⇑P	P	08 40 39.7 +0.3
	baz=63,SNR=7.4					
GSC	Goldstone	62.83	300	eP	P	08 40 40.2 +0.8
GSC				pmax	pmax	
	comp=Z,33nm,1.6s					
GSC	Goldstone	62.83	300	eP	P	08 40 40.2 +0.8
	comp=Z,33nm,1.6s					
GSC	Goldstone	62.83	300	eP	P	08 40 40.2 +0.8
	comp=Z,33nm,1.6s					
GSC	Goldstone	62.83	300	⇓P	P	08 40 39.3 -0.1
	baz=63					
LZH	Lanzhou	62.86	58	P	P	08 40 40.3 +0.6
LZH				pP	pP	08 40 46.9 +2.1
LZH				sP	sP	08 40 49.8 +3.1
LZH				PP	PP	08 42 58.5 +1.0
LZH				S	S	08 49 06.5 -1.8
LZH				sS	sS	08 49 17.0 +0.3
LZH				SS	SS	08 53 08.5 -4.1
LZH				pmax	pmax	
	comp=Z,23nm,1.1s					
LZH				pmax	pmax	
	comp=Z,170nm,4.3s					
LZH				LR	LR	
	comp=N,570nm,16.4s					
LZH				LR	LR	
	comp=E,490nm,15.3s					
LZH				LR	LR	
	comp=Z,780nm,17.0s					
LRMC	Laurel Mountai	62.92	300	⇑P	P	08 40 39.9 -0.1
	baz=63					
222A	Williams Famil	62.93	290	⇑P	P	08 40 40.2 +0.1
	baz=63					
530A	J-C Ranch, Com	62.94	284	⇓P	P	08 40 40.1 0.0
	baz=63,SNR=15					
427A	Hayter Ranch,	62.94	286	⇑P	P	08 40 39.9 -0.2
	baz=63,SNR=27					
325A	Bean Ranch, Si	62.95	288	⇓P	P	08 40 40.1 -0.2
	baz=63					
ISA	Isabella	62.96	301	eP	P	08 40 40.8 +0.6
ISA				pmax	pmax	
	comp=Z,47nm,1.4s					
ISA	Isabella	62.96	301	eP	P	08 40 40.8 +0.6
	comp=Z,47nm,1.4s					
ISA	Isabella	62.96	301	eP	P	08 40 40.8 +0.6
	comp=Z,47nm,1.4s					
ISA	Isabella	62.96	301	⇓P	P	08 40 40.6 +0.4
	baz=63,SNR=15					
VES	Vestal, Richgr	62.97	302	⇓P	P	08 40 40.6 +0.5
	baz=63					
120A	U Bar Ranch, L	62.99	291	⇓P	P	08 40 40.7 +0.2
	baz=63,SNR=18					
GMRC	Granite Mounta	62.99	298	⇓P	P	08 40 41.1 +0.6
	baz=63,SNR=18					
PDMCI	Parker Dam,Lak	63.00	297	⇓P	P	08 40 40.6 +0.2
	baz=63,SNR=5.7					
Y14A	Wickenburg	63.00	296	⇑P	P	08 40 40.4 -0.1
	baz=63					
632A	Uvalde	63.04	282	⇓P	P	08 40 40.5 -0.3
	baz=63					
324A	Moseley Ranch,	63.04	288	⇑P	P	08 40 40.9 0.0
	baz=63					
HEC	Hector,Ludlow	63.14	299	⇑P	P	08 40 40.7 -0.7
	baz=63					
221A	Mesquite Ranch	63.23	290	⇑P	P	08 40 42.3 +0.3
	baz=63					
529A	Stev Forest Ra	63.24	285	⇑P	P	08 40 42.0 -0.1
	baz=63,SNR=7.2					
RRX	Edison Barstow	63.28	300	⇑P	P	08 40 41.9 -0.3
	baz=63					
426A	McDonald Obser	63.31	287	⇑P	P	08 40 42.6 -0.1
	baz=63,SNR=43					
631A	Perdido Creek	63.38	283	⇑P	P	08 40 43.2 +0.2
	baz=63					
528A	Cox Ranch, San	63.39	285	⇓P	P	08 40 43.6 +0.4
	baz=63					
IRM	Iron Mountain	63.42	298	⇑P	P	08 40 43.7 +0.4
	baz=63					
425A	Indio Mountain	63.50	287	⇓P	P	08 40 43.6 -0.3
	baz=63,SNR=27					
Z14A	Wintersburg	63.52	295	⇑P	P	08 40 44.0 +0.2
	baz=63					
220A	Playas Peak, P	63.55	291	⇓P	P	08 40 44.5 +0.2
	baz=63					
EDW2	Edwards Air Fo	63.56	300	⇑P	P	08 40 44.6 +0.4
	baz=63					
ARVC	Arvin	63.57	301	⇑P	P	08 40 44.4 +0.3
	baz=63					
Y12C	Blythe	63.62	297	⇓P	P	08 40 44.8 +0.3
	baz=63					
SDDR	Presa de Saban	63.64	251	eP	P	08 40 47.5 +2.7
	comp=Z,114nm,1.6s					
SDDR				LR	LR	
	comp=Z,1μm,21.0s					
SDDR	Presa de Saban	63.64	251	eP	P	08 40 47.5 +2.7
	comp=Z,114nm,1.6s					
527A	Woodward Ranch	63.66	286	⇓P	P	08 40 45.2 +0.2
	baz=64,SNR=16					
SMMC	Simmler	63.72	302	⇑P	P	08 40 44.6 -0.6
	baz=64					
BELC	Belle Mtn. Jos	63.82	298	⇑P	P	08 40 46.9 +0.9
	baz=64,SNR=29					
732A	Laxson Ranch,	63.82	282	⇑P	P	08 40 46.0 +0.2
	baz=64					
BBRC	Big Bear Solar	63.84	299	⇓P	P	08 40 45.8 -0.3
	baz=64					
TUC	Tucson	63.86	293	eP	P	08 40 46.7 +0.5
TUC				pmax	pmax	
	comp=Z,44nm,1.7s					
TUC				MLR	MLR	
	comp=Z,2μm,19.0s					
TUC	Tucson	63.86	293	eP	P	08 40 46.7 +0.5
	comp=Z,44nm,1.7s					
TUC				LR	LR	
	comp=Z,2μm,19.0s					
TUC	Tucson	63.86	293	eP	P	08 40 46.7 +0.5
	comp=Z,2μm,19.0s					
526A	Mary Lane Ranc	63.89	286	⇑P	P	08 40 46.5 0.0
	baz=64,SNR=7.0					
GTBY	Guantanamo Bay	63.95	255	PFAKE		08 41 00.0 +13
GTBY				LR	LR	
	comp=Z,953nm,22.0s					
BC3	Big Chuckawall	63.98	298	⇑P	P	08 40 47.2 +0.2
	baz=64,SNR=13					
PYUN	Piuthan	63.99	79	eP	P	08 40 47.7 +0.4
	comp=Z,254nm,0.5s					
DANN	Dangsing	64.01	79	eP	P	08 40 47.7 +0.2
	comp=Z,193nm,1.3s					
628A	Black Gap, Mar	64.05	285	⇑P	P	08 40 46.9 -0.5
	baz=64,SNR=16					
PKM	Peak Mountain	64.06	302	⇑P	P	08 40 47.3 -0.3
	baz=64					
BFSC	Mount Baldy Ra	64.07	300	⇓P	P	08 40 47.9 +0.3
	baz=64					
320A	Kipp Ranch, An	64.08	291	⇓P	P	08 40 47.9 +0.1
	baz=64					
MWC	Mount Wilson	64.19	300	eP	P	08 40 49.6 +1.1
MWC				pmax	pmax	
	comp=Z,49nm,1.3s					
MWC	Mount Wilson	64.19	300	eP	P	08 40 49.6 +1.1
	comp=Z,50nm,1.3s					
MWC	Mount Wilson	64.19	300	eP	P	08 40 49.6 +1.1
	comp=Z,49nm,1.3s					
627A	Terlingua Ranc	64.23	285	⇓P	P	08 40 47.8 -0.9
	baz=64,SNR=7.5					
DECC	Green Verdugo	64.25	301	⇓P	P	08 40 48.0 -0.6
	baz=64					
KVTX	Kingsville	64.25	280	PFAKE		08 41 00.0 +11
KVTX				LR	LR	
	comp=Z,2μm,19.0s					
319A	Douglas	64.27	291	⇓P	P	08 40 48.6 -0.4
	baz=64					
PASC	Pasadena Art C	64.28	300	eP	P	08 40 49.3 +0.5
	comp=Z,46nm,1.4s					
PASC	Pasadena Art C	64.28	300	eP	P	08 40 49.3 +0.5
	comp=Z,46nm,1.4s					
DBIC	Dimbokro	64.29	177	P	P	08 40 49.6 +0.5
DBIC	Dimbokro	64.29	177	P	P	08 40 49.6 +0.5
	comp=Z,9.3nm,0.9s,baz=352,slow=6.2,SNR=5.6					
DBIC				LR	LR	09 07 49.5
	comp=Z,2μm,20.9s,baz=151,slow=35					
DBIC	Dimbokro	64.29	177	P	P	08 40 49.6 +0.5
PFO	Pinyon Flat Ob	64.31	299	eP	P	08 40 49.5 +0.3
	comp=Z,22nm,1.7s					
PFO				LR	LR	
	comp=Z,2μm,20.0s					
PFO	Pinyon Flat Ob	64.31	299	eP	P	08 40 49.5 +0.3

comp=Z,2μm,20.0s
PFO Pinyon Flat Ob 64.31 299 ⇓P **P** 08 40 49.1 -0.1
baz=64
TIC Toumodi 64.32 177 *e*P P 08 40 53.2 +4.0
comp=Z,87nm,1.5s
113A Mohawk Valley, 64.32 296 ⇑P **P** 08 40 49.4 +0.3
baz=64
GLA Glamis 64.36 297 *e*P **P** 08 40 49.9 +0.5
GLA pmax pmax
comp=Z,70nm,1.5s
GLA Glamis 64.36 297 *e*P **P** 08 40 49.9 +0.5
comp=Z,70nm,1.5s
GLA Glamis 64.36 297 *e*P **P** 08 40 49.9 +0.5
comp=Z,70nm,1.5s
GLA Glamis 64.36 297 ⇓P **P** 08 40 49.3 -0.2
baz=64
626A Big Bend Ranch 64.38 286 ⇑P **P** 08 40 49.1 -0.5
baz=64,SNR=28
TXAR Lajitas Array 64.43 286 P **P** 08 40 49.1 -0.8
TXAR Lajitas Array 64.43 286 P **P** 08 40 49.1 -0.8
comp=Z,7.1nm,1.1s,baz=46,slow=5.6,SNR=15
TXAR LR LR 09 08 31.3
comp=Z,1μm,19.3s,baz=35,slow=36
TXAR Lajitas Array 64.43 286 P **P** 08 40 49.2 -0.8
SBC Santa Barbara 64.46 302 ⇑P **P** 08 40 49.4 -0.6
baz=64
KOLN Koldanda 64.49 79 *e*P **P** 08 40 50.3 -0.3
comp=Z,145nm,1.4s
MURC Murrieta 64.54 299 ⇑P **P** 08 40 50.3 -0.2
baz=64
BLG Laguna Peak 64.59 301 ⇑P **P** 08 40 51.0 +0.1
baz=64
KIC Kosan Boka 64.60 177 *e*P P 08 40 56.0 +4.9
comp=Z,65nm,0.9s
LIC Lamto 64.73 177 *e*P **P** 08 40 51.1 -0.8
comp=Z,29nm,0.8s,baz=352
LIC *e*R
comp=Z,3μm,22.2s
LIC Lamto 64.73 177 *e*P P 08 40 56.7 +4.8
comp=Z,44nm,0.8s
LIC Lamto 64.73 177 *e*P **P** 08 40 51.1 -0.8
comp=Z,29nm,0.8s
LIC Lamto 64.73 177 *e*P **P** 08 40 51.1 -0.8
comp=Z,15nm,0.8s
FMP Fort Macarthur 64.74 300 ⇑P **P** 08 40 52.4 +0.6
baz=65
SWSC Sam W. Stewart 64.75 298 ⇑P **P** 08 40 52.0 +0.1
baz=65
214A Organ Pipe Nat 64.80 295 ⇓P **P** 08 40 52.4 +0.2
baz=65
MONP Monument Peak 64.98 298 ⇑P **P** 08 40 54.1 +0.5
baz=65
KKN Kakani 65.01 77 *e*P **P** 08 40 54.1 +0.1
CIS Catalina Islan 65.06 300 ⇓P **P** 08 40 54.7 +0.7
baz=65
LSA Lhasa 65.09 71 P **P** 08 40 55.8 +1.1
GUN Gumba 65.09 77 *e*P **P** 08 40 54.9 +0.3
comp=Z,156nm,1.1s
DVTC Desert V Tower 65.10 298 ⇑P **P** 08 40 55.1 +0.8
baz=65
DMN Daman 65.13 78 *e*P **P** 08 40 54.9 +0.2
comp=Z,288nm,1.6s
109C Camp Elliot, M 65.18 299 ⇑P **P** 08 40 55.2 +0.5
baz=65
PKI Pulchoki 65.26 77 *e*P **P** 08 40 55.5 -0.2
comp=Z,162nm,1.6s
ERM Erimo 65.37 23 PFAKE 08 41 10.0 +14
ERM LR LR
comp=Z,5μm,19.0s
JIRN Jiri 65.42 77 *e*P **P** 08 40 57.1 +0.3
comp=Z,169nm,1.3s
SCI San Clemente I 65.50 300 ⇑P **P** 08 40 57.1 +0.3
baz=65
BBGH Gun Hill 65.73 237 PFAKE 08 41 10.0 +12
BBGH LR LR
comp=Z,3μm,22.0s
XAN Xi'an 66.17 54 P **P** 08 41 00.5 -0.6
XAN pP **pP** 08 41 08.0 +1.7
XAN sP **sP** 08 41 11.8 +3.6
XAN S **S** 08 49 49.8 +0.9
XAN ScS **SKSac** 08 50 54.0 -2.3
XAN pmax pmax
comp=Z,56nm,6.2s
TAPN Taplejung 66.20 75 *e*P **P** 08 41 02.3 +0.6
comp=Z,246nm,1.6s
RAMN Ramite 66.22 77 *e*P **P** 08 41 01.4 -0.4
comp=Z,271nm,1.6s
ODAN Odare 66.55 76 *e*P **P** 08 41 04.7 +0.8
comp=Z,154nm,1.2s
INCN Inchon 67.04 38 PFAKE 08 41 20.0 +13
INCN LR LR
comp=Z,7μm,21.0s
GRGR Grenville 67.27 239 PFAKE 08 41 20.0 +12
GRGR LR LR
comp=Z,1μm,22.0s
KSRS Korea Array 67.33 37 P **P** 08 41 08.4 +0.1
comp=Z,2.6nm,0.9s,baz=357,slow=5.2,SNR=3.1
KSAR Wonju Array Be 67.33 37 P **P** 08 41 08.4 0.0
KSAR Wonju Array Be 67.33 37 P **P** 08 41 08.4 0.0
CD2 Chengdu 67.70 60 P **P** 08 41 10.6 -0.3
CD2 pP **pP** 08 41 16.3 +0.2
CD2 sP **sP** 08 41 18.5 +0.5
CD2 PP **PP** 08 43 41.8 +2.0
CD2 PcS 08 45 42.5
CD2 S **S** 08 50 05.6 -1.9
CD2 sS **sS** 08 50 12.9 -3.1
CD2 SS **SS** 08 54 26.9 -0.9
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,330nm,5.7s
CD2 LR LR
comp=N,3μm,12.5s
CD2 LR LR
comp=Z,2μm,11.3s
TEIG Tepich 67.92 268 PFAKE 08 41 20.0 +7.7
TEIG LR LR
comp=Z,3μm,20.0s
POO Poona 69.92 92 *e*P **P** 08 41 25.0 +0.1
MAJO Matsushiro 70.03 29 PFAKE 08 41 40.0 +15
MAJO LR LR
comp=Z,5μm,19.0s
NJ2 Nanjing 70.56 46 *e*P **P** 08 41 27.6 -0.9
NJ2 pmax pmax
comp=Z,10.0nm,0.9s
HYB Hyderabad 72.50 88 *i*P **P** 08 41 40.0 -0.5
GYA Guiyang 72.72 59 ⇑*i*P **P** 08 41 41.9 +0.1
GYA PcP **PcP** 08 42 01.8 +2.7
GYA PP **PP** 08 44 24.3 +1.2
GYA S **S** 08 51 05.0 -1.4
GYA SS **SS** 08 55 44.8 -0.4
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,150nm,5.3s
GYA LR LR
comp=N,830nm,18.9s
GYA LR LR
comp=E,660nm,19.5s
GYA LR LR
comp=Z,750nm,19.2s
KMI Kunming 72.87 63 P **P** 08 41 45.0 +2.2
KMI S **S** 08 51 06.6 -1.7
KMI pmax pmax
comp=Z,17nm,0.7s
TGUH Tegucigalpa,Un 73.36 265 *e*P **P** 08 41 46.6 +1.1
comp=Z,33nm,1.1s
TGUH *e*PP **PP** 08 44 29.6 +0.9
TGUH LR LR
comp=Z,3μm,21.0s
TGUH Tegucigalpa,Un 73.36 265 *e*P **P** 08 41 46.6 +1.1
comp=Z,33nm,1.1s
MSKU Masuku 73.89 158 PFAKE 08 42 00.0 +11
MSKU LR LR
comp=Z,1.0nm,19.0s
BCIP Isla Barro Col 75.55 256 PFAKE 08 42 10.0 +12
BCIP LR LR
comp=Z,1μm,21.0s
MBAR Mbarara 75.76 140 PFAKE 08 42 10.0 +10
MBAR LR LR
comp=Z,640nm,20.0s
JTS JuntasAbangare 76.14 261 PFAKE 08 42 10.0 +8.4
JTS LR LR
comp=Z,3μm,22.0s
CHTO Chiang Mai 77.68 68 PFAKE 08 42 20.0 +10
CHTO LR LR
comp=Z,3μm,19.0s
KMBO Kilima Mbogo 77.73 134 P **P** 08 42 11.9 +1.1
KMBO LR LR
comp=Z,8μm,19.0s
KMBO Kilima Mbogo 77.73 134 P **P** 08 42 11.9 +1.1
comp=Z,0.6nm,0.2s,baz=347,slow=9.4,SNR=3.5
KMBO Kilima Mbogo 77.73 134 P **P** 08 42 11.9 +1.1
comp=Z,8μm,19.0s
ROSC El Rosal 77.90 249 P **P** 08 42 14.0 +2.0
ROSC El Rosal 77.90 249 P **P** 08 42 14.0 +2.0
comp=Z,24nm,0.9s,baz=88,slow=7.6,SNR=9.9
ROSC LR LR 09 14 22.7
comp=Z,935nm,19.3s,baz=10.0,slow=34
ROSC El Rosal 77.90 249 P **P** 08 42 14.0 +2.0
CMAR Chiang Mai Arr 78.02 68 P **P** 08 42 11.9 -0.3
CMAR Chiang Mai Arr 78.02 68 P **P** 08 42 11.9 -0.3
comp=Z,2.5nm,0.6s,baz=326,slow=5.9
CMAR Chiang Mai Arr 78.02 68 P **P** 08 42 11.9 -0.3
YHNB Yeheng 78.24 46 PFAKE 08 42 20.0 +6.6
YHNB LR LR
comp=Z,41μm,19.0s
ASCN Ascension 78.89 187 PFAKE 08 42 30.0 +13
ASCN LR LR
comp=Z,426nm,19.0s
RCBR Riachuelo 78.92 208 PFAKE 08 42 30.0 +13
RCBR LR LR
comp=Z,876nm,21.0s
PBKT Sadao Pong 80.41 67 P **P** 08 42 25.3 +0.1
PBKT Sadao Pong 80.41 67 P **P** 08 42 26.4 +1.2
comp=Z,21nm,1.6s
QIZ Qiongzhong 80.66 58 P **P** 08 42 26.8 +0.2
QIZ S **S** 08 52 32.4 -0.7
QIZ pmax pmax
comp=Z,9.0nm,1.9s
QIZ pmax pmax
comp=Z,140nm,6.1s
UTHA Uthaitani 80.91 69 P **P** 08 42 28.4 +0.5
comp=Z,6.2nm,1.2s,comp=Z,61nm
OTAV Otavalo 83.53 252 PFAKE 08 42 50.0 +7.8
OTAV LR LR
comp=Z,2μm,22.0s
CHBT CHBT 84.43 67 P P 08 42 49.5 +3.3
CHBT CHBT 84.43 67 P P 08 42 52.8 +6.6
comp=Z,16nm,0.9s
MSEY Mahe Island 85.99 117 PFAKE 08 43 10.0 +16
MSEY LR LR
comp=Z,19μm,19.0s
PKDT Phuket 87.79 72 P P 08 43 08.8 +6.0
comp=Z,53nm,0.7s
SAML Samuel 87.83 234 PFAKE 08 43 10.0 +7.1
SAML LR LR
comp=Z,979nm,19.0s
PAYG Puerto Ayora 88.16 263 PFAKE 08 43 20.0 +15
PAYG LR LR
comp=Z,2μm,22.0s
LSZ Lusaka 89.54 145 PFAKE 08 43 20.0 +9.0
LSZ LR LR
comp=Z,13μm,20.0s
WAKE Wake Island 89.86 5 PFAKE 08 43 20.0 +7.5
WAKE LR LR
comp=Z,3μm,19.0s
BDFB Brasilia 90.70 218 LR LR 09 17 29.3
comp=Z,1μm,19.1s,baz=252,slow=31
KULM Kulim 90.97 71 PFAKE 08 43 30.0 +12
KULM LR LR
comp=Z,10μm,20.0s
KULM Kulim 90.97 71 P P 08 43 21.2 +3.5
comp=Z,11nm,1.5s
TSUM Tsumeb 91.69 156 PFAKE 08 43 30.0 +9.0
TSUM LR LR
comp=Z,7μm,20.0s
KCSI Kotacane, Aceh 91.74 74 P **P** 08 43 24.5 +3.2
IPM Ipoh 91.85 71 P **P** 08 43 24.6 +2.8
PSI Prapat 92.78 73 P **P** 08 43 25.1 -1.2
PSI Prapat 92.78 73 P **P** 08 43 25.1 -1.2
comp=Z,19nm,1.0s,baz=308,slow=8.2,SNR=18
GUMO Guam 93.57 27 PFAKE 08 43 40.0 +10
GUMO LR LR
comp=Z,4μm,20.0s
DGAR Diego Garcia 93.81 102 PFAKE 08 43 40.0 +9.3
DGAR LR LR
comp=Z,21μm,22.0s
SIV San Ignacio 94.03 231 LR LR 09 21 21.2
comp=Z,1μm,18.8s,slow=33
NNA Nana 94.60 246 LR LR 09 19 29.5
comp=Z,550nm,21.0s,baz=346,slow=31
KKM Kota Kinabalu 94.79 56 PFAKE 08 43 50.0 +14
KKM LR LR
comp=Z,27μm,20.0s
LPAZ La Paz 96.17 237 LR LR 09 27 56.7
comp=Z,780nm,18.6s,baz=175,slow=36
DAV Davao City (W) 96.19 46 PFAKE 08 43 50.0 +8.2
DAV LR LR
comp=Z,9μm,20.0s
ABPO Ambohimpanom 97.40 129 PFAKE 08 44 00.0 +13
ABPO LR LR
comp=Z,18μm,20.0s
KSM Kuching 97.49 63 PFAKE 08 44 00.0 +12
KSM LR LR
comp=Z,13μm,20.0s
RER Riviere de l'E 101.72 121 PFAKE 08 44 20.0 +14
RER LR LR
comp=Z,15μm,20.0s
LVC Limon Verde 102.41 236 PFAKE 08 44 20.0 +10
LVC LR LR
comp=Z,1μm,20.0s
SUR Sutherland 105.10 155 PFAKE 08 48 50.0
SUR LR LR
comp=Z,11μm,20.0s
COCO West Island 106.22 80 PFAKE 08 48 50.0
COCO LR LR
comp=Z,9μm,19.0s
KAPI Kappang 106.32 55 PFAKE 08 48 50.0
KAPI LR LR
comp=Z,9μm,19.0s
TARA Tarawa 107.76 359 PFAKE 08 48 50.0
TARA LR LR
comp=Z,2μm,20.0s
LCO Las Campanas 108.97 236 PFAKE 08 48 50.0
LCO LR LR
comp=Z,969nm,19.0s
TRQA Tornquist 115.38 225 PFAKE 08 49 10.0 +15
TRQA LR LR
comp=Z,2μm,19.0s
PMG Port Moresby 116.50 28 PFAKE 08 49 10.0 +13
PMG LR LR
comp=Z,2μm,21.0s
FUNA Funafuti 117.42 352 PFAKE 08 49 10.0 +11
FUNA LR LR
comp=Z,7μm,19.0s
MBWA Marble Bar 121.70 60 PFAKE 08 49 20.0 +13
MBWA LR LR
comp=Z,7μm,20.0s
PPT2 Papeete2 121.93 316 *e*SS SS 09 07 27.6 +9.4
comp=Z,1μm,31.0s
PPT2 Papeete2 121.93 316 *e*LQ LQ 09 21 41.2
comp=Z,1μm,26.5s
PPT2 *e*LR LR 09 26 53.3
comp=Z,2μm,32.2s
AFI Afiamalu 122.08 342 PFAKE 08 49 20.0 +12
AFI LR LR
comp=Z,2μm,21.0s
RKT Rikitea 123.42 298 *e*LQ LQ 09 21 54.5
comp=Z,1μm,32.8s
RKT *e*LR LR 09 27 35.9
comp=Z,858nm,24.5s
WRAB Tennant Creek 124.30 44 PFAKE 08 49 20.0 +7.8
WRAB LR LR
comp=Z,5μm,20.0s
WRA Warramunga Arr 124.31 44 PKP **PKPdf** 08 49 09.9 -2.3
WRA Warramunga Arr 124.31 44 PKP **PKPdf** 08 49 09.9 -2.3
comp=Z,1.2nm,0.9s,baz=338,slow=2.0,SNR=5.9
MSVF Nonsavu 126.61 353 PFAKE 08 49 30.0 +13
MSVF LR LR
comp=Z,2μm,20.0s
CTAO Charters Tower 126.83 31 PFAKE 08 49 30.0 +13
CTAO LR LR
comp=Z,5μm,22.0s
TBI Tubuai 127.46 314 *e*SS SS 09 08 39.8 +12
comp=Z,955nm,35.5s
TBI Tubuai 127.46 314 *e*LR LR 09 29 33.8
comp=Z,915nm,35.8s
EFI East Falkland 127.51 217 PFAKE 08 49 30.0 +13
EFI LR LR
comp=Z,2μm,21.0s
ASAR Alice Springs 127.80 46 P **P** 08 49 18.4 -0.4
ASAR Alice Springs 127.80 46 PKP **PKPdf** 08 49 18.4 -0.4
comp=Z,3.2nm,0.9s,baz=344,slow=2.4,SNR=12
ASAR Alice Springs 127.80 46 PKIKP **PKPdf** 08 49 18.5 -0.4
NWAO Narrogin (SRO) 132.02 68 PFAKE 08 49 40.0 +13
NWAO LR LR
comp=Z,4μm,20.0s
PAF Port-aux-Franc 132.11 120 PFAKE 08 49 40.0 +14
PAF LR LR
comp=Z,19μm,21.0s
RAO Raoul Island 137.83 347 PFAKE 08 49 50.0 +13
RAO LR LR
comp=Z,2μm,21.0s
PMSA Palmer Station 140.87 214 PFAKE 08 49 50.0 +8.2
PMSA LR LR
comp=Z,11μm,20.0s
VNA2 Neumayer--Watz 141.70 180 *e*P PKPdf 08 49 48.7 +5.5
CAN Canberra 142.19 32 PFAKE 08 50 00.0 +15
CAN LR LR
comp=Z,7μm,21.0s
SNAA Sanae 142.48 177 *e*P **PKPdf** 08 49 46.6 +1.9
MAW Mawson 146.24 139 PKPbc **PKPbc** 08 49 52.7 +0.4
MAW Mawson 146.24 139 PKPbc **PKPbc** 08 49 52.7 +0.4
comp=Z,12nm,1.0s,baz=342,slow=3.2,SNR=14
MAW Mawson 146.24 139 PKPbc **PKPbc** 08 49 52.7 +0.4
URZ Urewera 147.08 353 PKPbc **PKPab** 08 49 57.3 0.0
URZ Urewera 147.08 353 PKPbc **PKPab** 08 49 57.3 0.0
comp=Z,5.5nm,0.8s,baz=297,slow=9.6,SNR=4.2
URZ Urewera 147.08 353 PKPbc **PKPab** 08 49 57.3 0.0
TAU Tasmania Unive 149.24 37 PFAKE 08 50 10.0 +4.2
TAU LR LR
comp=Z,6μm,22.0s
SNZO South Karori 150.20 356 PFAKE 08 50 10.0 +0.2
SNZO LR LR
comp=Z,3μm,20.0s
RPZ Rata Peaks 152.63 2 PKPbc **PKPbc** 08 50 09.7 +0.5
RPZ Rata Peaks 152.63 2 PKPbc **PKPbc** 08 50 09.7 +0.5
comp=Z,13nm,0.8s,baz=346,slow=4.2,SNR=3.0
RPZ Rata Peaks 152.63 2 PKPbc **PKPbc** 08 50 09.7 +0.5
MIR Mirnyy 152.95 120 *e*PKIKP PKPab 08 50 15.0 -5.6
MIR pmax pmax
comp=Z,35nm,1.0s
CASY Casey 157.99 108 PFAKE 08 50 20.0 +11
CASY LR LR
comp=Z,14μm,19.0s
QSPA South Pole Qui 160.96 180 PFAKE 08 50 20.0 +7.8
QSPA LR LR
comp=Z,13μm,19.0s
VNDA Vanda 172.90 162 PKPab **PKPab** 08 51 48.3 +0.6
VNDA Vanda 172.90 162 PKPab **PKPab** 08 51 48.3 +0.6
comp=Z,0.7nm,0.9s,baz=319,slow=4.0,SNR=4.0
VNDA Vanda 172.90 162 PKPab **PKPab** 08 51 48.3 +0.6
SBA Scott Base 172.97 171 PFAKE 08 50 30.0 +9.3
SBA LR LR
comp=Z,4μm,19.0s

TIR ***21*** *08:30:47.4±3.1, 40.°46N×19.°57E, h20km±21km, ML2.8*
SKO ***21*** *08:30:50.8, 40.°32N×19.°35E, h18km*
ISCJB ***21*** *08:30:52.7±0.6, 40.°41N±0.°03×19.°52E±0.°04, h7km±6km,*
Error ellipse: s-maj=5.6km s-min=5.0km az=137.1
ROM ***21*** *08:30:52.2±0.7, 40.°24N×19.°66E, h10km, Md2.8/6, Ml2.7/3,*
Error ellipse: s-maj=9.8km s-min=2.6km az=137.0
ATH ***21*** *08:30:52.0, 40.°46N×19.°55E, h10km±1km, MD3.4/7*
CSEM ***21*** *08:30:55.0±0.3, 40.°42N×19.°58E, h20km, MD3.4, Error ellipse: s-maj=7.5km s-min=6.1km az=2.0*

ISC 21 08:30:51.9±1.1, 40.°35N±0.°03×19.°58E±0.°02, h13km±10km, n33, o0.°89/48, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRN	**Sarande**	**0.57**	**145**	*i* PG	**Pn**	**08 31 05.3**	**-0.5**
SRN				*i* SG	**Sn**	**08 31 15.8**	**+0.8**
SRN	**Sarande**	**0.57**	**145**	*i* Pg	**Pn**	**08 31 05.3**	**-0.5**
SRN	SNR=90			*i* Sg	**Sn**	**08 31 15.8**	**+0.8**
	SNR=90						
KEK	**Kerkira**	**0.66**	**165**	*e*PB	**Pn**	**08 31 06.8**	**-0.2**
SCTE	**Santa Cesarea**	**0.90**	**252**	Pg	**Pb**	**08 31 09.1**	**-0.2**
SCTE				Sg	**Sn**	**08 31 22.6**	**-0.5**
SCTE	**Santa Cesarea**	**0.90**	**252**	Pg	**Pb**	**08 31 09.1**	**-0.2**
SCTE				Sg	**Sn**	**08 31 22.6**	**-0.5**
KBN	**Korca**	**0.96**	**73**	*i* PG	**Pb**	**08 31 10.1**	**-0.4**
KBN				*i* SG	**Sn**	**08 31 25.0**	**+0.2**
KBN	**Korca**	**0.96**	**73**	*i* Pg	**Pb**	**08 31 10.1**	**-0.4**
KBN	SNR=90			*i* Sg	**Sn**	**08 31 25.0**	**+0.2**
	SNR=90						
TIR	**Tirane**	**1.02**	**12**	Pg	**Pg**	**08 31 13.2**	**+1.6**
TIR				Sg	**Sn**	**08 31 27.4**	**+1.2**
	150nm,0.6s						
TIR	**Tirane**	**1.02**	**12**	Pg	**Pg**	**08 31 13.2**	**+1.6**
TIR				*e*Sb	**Sn**	**08 31 24.8**	**-1.4**
TIR				Sg	**Sn**	**08 31 27.4**	**+1.2**
	150nm,0.6s						
MESG	**Mesagne**	**1.34**	**281**	Pg	**Pg**	**08 31 18.4**	**+0.7**
MESG	**Mesagne**	**1.34**	**281**	Pg	**Pg**	**08 31 18.4**	**+0.7**
FNA	**Florina**	**1.44**	**72**	*e*PB	**Pg**	**08 31 18.8**	**-0.7**
FNA				*e*SB	**Sg**	**08 31 38.6**	**+0.4**
FNA	**Florina**	**1.44**	**72**	*e*Pg	**Pg**	**08 31 18.8**	**-0.7**
FNA				*e*Sb	**Sg**	**08 31 38.6**	**+0.4**
PHP	**Peshkopia**	**1.48**	**26**	*e*PG	**Pb**	**08 31 17.9**	**-1.5**
PHP	**Peshkopia**	**1.48**	**26**	*e*Pg	**Pb**	**08 31 17.9**	**-1.5**
	SNR=90						
BIA	**Bitola**	**1.49**	**63**	*e*Pn	**Pb**	**08 31 19.4**	**-0.1**
BIA				*i* Sn	**Sg**	**08 31 40.2**	**+0.4**
BIA	**Bitola**	**1.49**	**63**	*e*Pn	**Pb**	**08 31 18.8**	**-0.7**
BIA				*i* Sn	**Sg**	**08 31 39.7**	**-0.1**
LKD2	**Lefkada island**	**1.77**	**152**	*e*PN	**Pg**	**08 31 26.3**	**+0.4**
LKD2	**Lefkada island**	**1.77**	**152**	*e*Pn	**Pg**	**08 31 26.3**	**+0.4**
NOCI	**Noci**	**1.96**	**284**	Pg	**Pb**	**08 31 27.7**	**+0.1**
NOCI				Sg	**Sg**	**08 31 52.9**	**-2.2**
	62nm,0.3s						
NOCI	**Noci**	**1.96**	**284**	Pg	**Pb**	**08 31 27.7**	**+0.1**
NOCI				Sg	**Sg**	**08 31 52.9**	**-2.2**
	62nm,0.3s						
THL	**Klokotos Trika**	**2.03**	**112**	*e*PN	**Pb**	**08 31 29.2**	**+0.5**
THL	**Klokotos Trika**	**2.03**	**112**	*e*Pn	**Pb**	**08 31 29.2**	**+0.5**
MATE	**Matera**	**2.21**	**279**	Pg	**Pb**	**08 31 31.4**	**-0.4**
	29nm,0.3s						
MATE	**Matera**	**2.21**	**279**	Pg	**Pb**	**08 31 31.4**	**-0.4**
	29nm,0.3s						
GRG	**Griva**	**2.23**	**73**	*e*PN	**Pb**	**08 31 31.3**	**-0.8**
GRG	**Griva**	**2.23**	**73**	*e*Pn	**Pb**	**08 31 31.3**	**-0.8**
EVR	**Evrytania**	**2.24**	**129**	*e*PN	**Pb**	**08 31 32.1**	**-0.2**
EVR	**Evrytania**	**2.24**	**129**	*e*Pn	**Pb**	**08 31 32.1**	**-0.2**
AGG	**Agios Georgios**	**2.50**	**121**	*e*PN	**Pb**	**08 31 36.4**	**-0.4**
AGG	**Agios Georgios**	**2.50**	**121**	*e*Pn	**Pb**	**08 31 36.4**	**-0.4**
SALB	**San Lorenzo Be**	**2.52**	**260**	Pg	**Pn**	**08 31 33.8**	**+1.0**
SALB	**San Lorenzo Be**	**2.52**	**260**	Pg	**Pn**	**08 31 33.8**	**+1.0**

NNC 21 08:31:55.4±3.0, 49.°61N×88.°00E, h14km±16km, mb3.7, mpv3.3, 5C-5D, Error ellipse: s-maj=26.4km s-min=15.1km az=76.0, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**4.74**	**236**	⇓Pn	Pn	08 33 09.5	+2.9
	1.5nm,0.5s,baz=22,slow=1.2,SNR=41						
MK31				⇑Pg	Pg	08 33 23.2	-3.1
	1.1nm,0.3s,baz=54,slow=17,SNR=10						
MK31				⇑Sn	Sn	08 34 07.2	+5.8
	3.4nm,0.5s,baz=59,slow=26,SNR=5.5						
MK31				⇓Lg	Lg	08 34 29.5	
	7.0nm,0.5s,baz=59,slow=26,SNR=6.2						
KURK	**Kurchatov**	**6.13**	**284**	⇑Pn	Pn	08 33 24.7	-0.9
	1.4nm,0.6s						
KURK				⇑Sn	Sn	08 34 36.6	+1.1
	4.2nm,0.6s						
KURK				⇓Lg	Lg	08 35 04.5	
	10nm,0.7s						
KURBB	**Kurchatov Arra**	**6.18**	**283**	⇓Pn	Pn	08 33 25.7	-0.5
	2.9nm,0.3s						
KURBB				⇑Sn	Sn	08 34 39.2	+2.6
	12nm,0.5s						
KURBB				⇓Lg	Lg	08 35 07.4	
	36nm,0.8s						

IDC 21 08:34:42.7±1.1, 48.°12N×155.°58E, h0km, mb3.4/4, mb1 3.8/6, mb1mx3.6/25, mbtmp3.5/6, ML3.5/2, Error ellipse: s-maj=54.2km s-min=21.7km az=132.0, Kuril

Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**5.17**	**14**	Pn	Pn	08 36 00.6	-0.6
	0.8nm,0.3s,baz=171,slow=13,SNR=11						
ASAJ	**Asahikawa**	**9.86**	**251**	Pn	Pn	08 37 06.6	+1.0
	0.8nm,0.3s,baz=84,slow=13,SNR=9.2						
FX1	**Attu Island--F**	**12.16**	**60**	Sn	Sn	08 39 49.1	-4.1
	0.5nm,0.3s,baz=94,slow=22,SNR=2.9						
NVAR	**Mina Array Bea**	**60.32**	**64**	P	P	08 44 53.6	+0.3
	0.2nm,0.6s,baz=308,slow=6.4,SNR=2.1						
WRA	**Warramunga Arr**	**70.38**	**201**	P	P	08 45 57.8	-0.5
	0.2nm,0.6s,baz=20,slow=6.3,SNR=3.4						
ASAR	**Alice Springs**	**74.06**	**201**	P	P	08 46 20.5	+0.2
	0.1nm,0.5s,baz=12,slow=5.0,SNR=3.3						
TXAR	**Lajitas Array**	**75.37**	**62**	P	P	08 46 28.1	0.0
	0.2nm,0.5s,baz=293,slow=5.2,SNR=5.2						

SKO 21 08:34:57.2, 41°.30N×22°.72E, h2km, M0.3, ML0.5, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAY	**Valandovo**	**0.12**	**281**	*i* Pg	Pg	08 34 59.8	+0.3
VAY				*i* Sg	Sg	08 35 01.0	0.0
VAY				*e*Lg	Lg	08 35 01.2	
	comp=N,42nm,0.2s						
VAY				*e*Lg	Lg	08 35 01.3	
	comp=E,26nm,0.5s						

IDC 21 08:40:20.7±0.9, 13°.79N×144°.99E, h128km±8km, mb3.3/7, mb1 3.6/7, mb1mx3.3/26, mbtmp3.3/7, Error ellipse: s-maj=26.0km s-min=15.2km az=84.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**35.12**	**198**	P	P	08 47 01.1	-1.0
	0.6nm,0.5s,baz=23,slow=9.4,SNR=7.5						
WRA				pP	pP	08 47 29.9	-0.2
	0.3nm,0.5s,baz=20,slow=9.6,SNR=2.0						
FITZ	**Fitzroy Crossi**	**36.99**	**212**	P	P	08 47 17.7	-0.3
	2.3nm,1.1s,baz=93,slow=11,SNR=3.2						
DZM	**Mont Dzumac**	**41.38**	**149**	P	P	08 47 54.8	+0.2
	5.4nm,0.6s,baz=324,slow=13,SNR=10						
MKAR	**Makanchi Array**	**61.43**	**316**	P	P	08 50 23.8	+0.3
	0.2nm,0.5s,baz=99,slow=6.6,SNR=3.7						
MKAR				pP	pP	08 50 55.3	+1.0
	0.5nm,0.7s,baz=96,slow=7.2,SNR=3.9						
KURBB	**Kurchatov Arra**	**64.55**	**320**	P	P	08 50 44.3	+0.3
	0.2nm,0.4s,baz=103,slow=7.6,SNR=2.5						
KURBB				pP	pP	08 51 14.5	-0.6
	0.9nm,0.7s,baz=102,slow=6.7,SNR=6.0						
ILAR	**Eielson Array**	**68.34**	**25**	P	P	08 51 06.3	-1.6
	0.2nm,0.6s,baz=265,slow=6.0,SNR=4.0						
NVAR	**Mina Array Bea**	**86.70**	**51**	P	P	08 52 51.8	+1.0
	0.2nm,0.4s,baz=238,slow=5.2,SNR=4.2						
LPAZ	**La Paz**	**147.93**	**99**	PKPbc	PKPbc	08 59 53.3	+0.7
	0.8nm,0.6s,baz=251,slow=3.8,SNR=4.9						

BJI ***21*** *08:53:02.9, 27°.30N×91°.38E, h16km, mB6.2/60, mb5.5/49, ML6.5/4, Ms6.5/78, Ms7 6.5/70*

ISCJB ***21*** *08:53:03.6±0.4, 27°.40N±0°.02×91°.45E±0°.01, h10km±2km, mb5.8/381, MS6.2/243, Error ellipse: s-maj=2.7km s-min=1.9km az=23.9*

LDG ***21*** *08:53:03.7±0.2, 27°.37N×91°.30E, h10km, Mb6.0/46, Ms5.9/11, Error ellipse: s-maj=12.0km s-min=9.3km az=145.0*

SZGRF ***21*** *08:53:04.6, 27°.01N×92°.18E, h33km, mb6.1, MS6.2, Eastern Xizang-India border region*

NEIC ***21*** *08:53:05.9±0.1, 27°.33N×91°.44E, h14km, mb6.1/137, ME5.8, MS6.1/111, MW6.1, MW6.1, MW6.2(USGS), Error ellipse: s-maj=4.5km s-min=3.2km az=49.0, Moment Tensor Solution. s71 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.02; $M_{\theta\theta}$0.05; $M_{\phi\phi}$-0.03; $M_{r\theta}$1.62; $M_{\theta\phi}$0.10; $M_{\phi r}$-0.16; Best double couple: $M_0$1.60000×10^{18} NP1:ϕ_s276.00000°, δ90.00000°, λ-86.00000°. NP2:ϕ_s12.00000°, δ4.00000°, λ-173.00000°. Principal axes: T 1.6400, Plg44.0000°, Azm1.0000°; N -0.0100, Plg3.0000°, Azm95.0000°; P -1.6200, Plg45.0000°, Azm189.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*

NEIC At least eleven people killed and dozens injured in Mongar and Tashigang. Many buildings destroyed and many roads damaged throughout Bhutan. Cracks appeared in buildings at Guwahati, India. Felt [VI] at Tashigang and [IV] at Thimphu. Also felt at Phuntsholing and Tshongdue. Felt [II] at Calcutta, India. Also felt at Barpeta, Bidhannagar, Dispur, Guwahati, Kalimpong, Nagaon, Nalbari, North Dum Dum, Patna, Shillong, Silchar, Tezpur and Tura. Felt in northern Bangladesh, at Lhasa, China and at Kathmandu, Nepal.

DMN ***21*** *08:53:06.1±0.5, 27°.22N×91°.64E, h10km, Ml6.6/4 Error ellipse: s-maj=31.1km s-min=10.2km az=180.0*

BKK ***21*** *08:53:06.8±0.2, 27°.N±5°×9°.1E±°, h10km, M6.1/38, mb5.8/38, mB6.4/38, Mw(mB)6.1/38*

DJA ***21*** *08:53:06.8±0.2, 27°.N±4°×9°.1E±°, h10km, M6.2/95, mb5.9/95, mB6.5/88, Mw(mB)6.2/88, Mwp6.2/11*

IDC ***21*** *08:53:07.8±1.9, 27°.37N×91°.51E, h27km±12km, mb5.2/37, mb1 5.2/37, mb1mx5.2/37, mbtmp5.2/37, MS5.9/38, Ms1 5.9/38, ms1mx5.8/49, Error ellipse: s-maj=12.0km s-min=8.1km az=45.0*

MOS ***21*** *08:53:07.1±0.8, 27°.38N×91°.44E, h33km, mb6.2/127, MS6.2/72, Error ellipse: s-maj=6.9km s-min=3.2km az=123.4*

GCMT ***21*** *08:53:10.4±0.1, 27°.20N×91°.63E, h12km, MW6.1, Moment Tensor Solution. s106, c224; s68, c84; Moment tensor: Scale 10^{18}Nm; M_{rr}0.33±.01; $M_{\theta\theta}$-0.45±.01; $M_{\phi\phi}$0.12±.01; $M_{r\theta}$1.80±.02; $M_{\theta\phi}$0.08±.01; $M_{\phi r}$-0.22±.02; Best double couple: $M_0$1.90000×10^{18} NP1:ϕ_s97.00000°, δ84.00000°, λ90.00000°. NP2:ϕ_s281.00000°, δ6.00000°, λ94.00000°. Principal axes: T 1.7900, Plg51.0000°, Azm6.0000°; N 0.1300, Plg0.0000°, Azm97.0000°; P -1.9200, Plg39.0000°, Azm187.0000°; Data Used: II IU G CN IC. Surface waves: sta=106, comp=240, per= 50.*

BGS ***21*** *08:53:24.8±2.1, 29°.10N×88°.22E, h15km, mb5.5, MS6.4*

NEIC ***21*** *08:53:24.7±0.0, 26°.96N×90°.91E, h22km, Moment Tensor Solution. s153 Moment tensor: Scale 10^{18}Nm; M_{rr}0.48; $M_{\theta\theta}$-0.47; $M_{\phi\phi}$-0.01; $M_{r\theta}$1.78; $M_{\theta\phi}$0.04; $M_{\phi r}$-0.35; Best double couple: $M_0$1.90000×10^{18} NP1:ϕ_s271.00000°, δ7.00000°, λ80.00000°. NP2:ϕ_s101.00000°, δ83.00000°, λ91.00000°. Principal axes: T 1.8800, Plg52.0000°, Azm12.0000°; N -0.0100, Plg1.0000°, Azm280.0000°; P -1.8700, Plg37.0000°, Azm189.0000°;*

ISC 21 08:53:06.2±0.3, 27°.37N±0°.02×91°.46E±0°.02, h16km±1km, h16km:pP-P, n1517, σ1°56/1553, mb6.0/387, MS6.2/248, 262C-28D, Bhutan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**1.83**	**168**	*i* P	Pn	08 53 37.5	+0.2
SHL				*e*S	Sn	08 54 00.0	-0.2
SHL				AMB	AMB	08 54 04.0	
	comp=Z,459μm,0.5s						
LSA	**Lhasa**	**2.34**	**353**	Pg	Pb	08 53 48.9	+0.6
LSA				Sg	Sb	08 54 17.9	+0.8
SLGI	**Shiliguri**	**2.79**	**257**	*e*P	Pb	08 53 56.9	+1.1
SLGI				*e*S	Sb	08 54 31.5	+1.7
TAPN	**Taplejung**	**3.33**	**271**	*e*Pn	Pn	08 53 59.2	+1.2
TAPN				*e*Sn	Sn	08 54 38.1	+0.7
	comp=Z,42μm,0.4s						
ODAN	**Odare**	**3.66**	**263**	*e*Pn	Pn	08 54 02.5	+0.1
ODAN				*e*Sn	Sn	08 54 44.9	-0.5
RAMN	**Ramite**	**4.35**	**266**	*e*Pn	Pn	08 54 13.1	+1.2
RAMN				*e*Sn	Sn	08 55 01.8	-0.6
	comp=Z,75μm,0.6s						
JIRN	**Jiri**	**4.69**	**275**	*e*Pn	Pn	08 54 18.2	+1.5
JIRN				*e*Sn	Sn	08 55 10.9	-0.1
	comp=Z,24μm,0.6s						
GUN	**Gumba**	**4.98**	**278**	*e*Pn	Pn	08 54 22.2	+1.5
PKI	**Pulchoki**	**5.38**	**274**	*e*Pn	Pn	08 54 27.0	+0.9
PKI				*e*Sn	Sn	08 55 27.1	-0.8
	comp=Z,16μm,0.6s						
PKIN	**Phulchoki**	**5.39**	**274**	*e*Pn	Pn	08 54 27.3	+1.1
KKN	**Kakani**	**5.50**	**276**	*e*Pn	Pn	08 54 29.3	+1.6
KKN				*e*Sn	Sn	08 55 30.0	-0.8
DMN	**Daman**	**5.65**	**274**	*e*Pn	Pn	08 54 30.6	+0.8
DMN				*e*Sn	Sn	08 55 33.8	-0.7
BOK	**Bokaro**	**6.16**	**236**	*e*P	Pn	08 54 36.2	-0.4
BOK				AMB	AMB	08 54 43.4	
	comp=Z,1μm,0.6s						
BOK				*e*S	Sn	08 55 44.3	-2.6
DANN	**Dangsing**	**6.89**	**280**	*e*Pn	Pn	08 54 46.8	0.0
KOLN	**Koldanda**	**6.99**	**275**	*e*Pn	Pn	08 54 48.4	+0.3
PYUN	**Piuthan**	**7.54**	**277**	*e*Pn	Pn	08 54 55.7	0.0
LGTI	**Lohaghat**	**10.09**	**284**	*e*P	Pn	08 55 30.5	+0.1
LGTI				*e*4		08 57 25.2	
PTH	**Pithoragarh**	**10.13**	**285**	*e*P	Pn	08 55 26.0	-5.2
PTH				*e*S	Sn	08 57 11.9	-13
CMAI	**Chiengmai2**	**10.15**	**135**	P	Pn	08 55 31.4	-0.1
	comp=Z,494nm,0.9s,comp=Z,9μm						
KMI	**Kunming**	**10.37**	**100**	P	Pn	08 55 36.1	+1.5
KMI				pP		08 55 39.6	
KMI				S	Sn	08 57 33.9	+3.3
KMI				ScS	ScS	09 08 43.8	-4.2
KMI				pmax	pmax		
	comp=Z,140nm,1.2s						
KMI				pmax	pmax		
	comp=Z,700nm,3.6s						
KMI				LR	LR		
	comp=N,54μm,10.7s						
KMI				LR	LR		
	comp=E,69μm,12.8s						
KMI				LR	LR		
	comp=Z,86μm,14.1s						
CHTO	**Chiang Mai**	**10.95**	**139**	*e*P	Pn	08 55 40.3	-2.0
CHTO	**Chiang Mai**	**10.95**	**139**	*e*Pn	Pn	08 55 40.3	-2.0
CMMT	**Chiang Mai**	**10.95**	**139**	P	Px	08 56 41.1	
PAYA	**Payao**	**11.10**	**134**	P	Pn	08 55 44.4	+0.1
	comp=Z,248nm,0.9s,comp=Z,2μm						
JBP	**Jabalpur**	**11.20**	**251**	↓*i*P	Pn	08 55 44.6	-1.0
JBP				*e*4	Sn	08 57 44.1	-6.4
CM31	**Chiang Mai Arr**	**11.23**	**141**	*e*Pn	Pn	08 55 44.6	-1.5
	comp=Z,223nm,0.7s						
CM31				*e*Sn	Sn	08 57 53.8	+2.4
CMAR	**Chiang Mai Arr**	**11.23**	**141**	Pn	Pn	08 55 45.7	-0.5
CMAR	**Chiang Mai Arr**	**11.23**	**141**	Pn	Pn	08 55 45.7	-0.5
	baz=319,slow=12						
CMAR				LR	LR	09 00 36.5	
	comp=Z,37μm,21.3s,baz=80,slow=40						
CM01	**Chiang Mai Arr**	**11.27**	**141**	*e*Pn	Pn	08 55 38.4	-8.3
CD2	**Chengdu**	**11.31**	**69**	P	Pn	08 55 49.0	+1.7
CD2				pP		08 55 54.0	
CD2				sP		08 55 57.1	
CD2				PP	PnPn	08 55 59.8	+4.8
CD2				S	Sn	08 57 59.3	+5.8
CD2				sS		08 58 03.8	
CD2				SS	SnSn	08 58 12.9	+7.5
CD2				pmax	pmax		
	comp=Z,240nm,1.3s						
CD2				pmax	pmax		
	comp=Z,8μm,9.2s						
CD2				LR	LR		
	comp=E,174μm,10.1s						
CD2				LR	LR		
	comp=Z,161μm,10.1s						
AGRA	**Agra**	**12.02**	**272**	*e*P	Pn	08 55 54.9	-2.0
DDI	**Dehra Dun**	**12.11**	**287**	*e*x	x	08 57 58.2	
DDI				*e*4	Sn	08 58 06.0	-7.0
DDI				AMB	AMB	08 58 30.7	
	comp=Z,5μm,0.8s						
VIS	**Vishakhapatnam**	**12.19**	**220**	*e*P	Pn	08 55 56.4	-2.8
VIS				AMB	AMB	08 56 00.4	
	comp=Z,8μm,1.7s						
VIS				*e*x	x	08 58 05.1	
SUKH	**Sukhothai**	**12.40**	**141**	P	Pn	08 56 01.1	-1.0
	comp=Z,127nm,1.0s,comp=Z,928nm						
AYAN	**Aya Nagar**	**12.72**	**278**	*e*P	Pn	08 56 03.4	-3.1
SONA	**Sohna**	**12.76**	**277**	*e*P	Pn	08 56 04.0	-3.0
NGP	**Nagpur**	**12.90**	**244**	*e*P	Pn	08 56 06.6	-2.4
NGP				AMB	AMB	08 56 15.0	
	comp=Z,666nm,0.9s						
SMLA	**Simla**	**13.03**	**290**	*i* P	Pn	08 56 08.7	-2.0
SMLA				AMB	AMB	08 56 21.2	
	comp=Z,538nm,1.7s						
SMLA				*i* S	Sn	08 58 23.1	-12
SDNR	**Sundarnagar**	**13.28**	**292**	*e*x	Pn	08 56 11.0	-3.2
SDNR				*e*4	Sn	08 58 45.0	+3.5
KUDL	**Kundal**	**13.28**	**277**	*e*P	Pn	08 56 11.0	-3.1
BHPL	**Bhopal**	**13.34**	**255**	*e*P	Pn	08 56 12.0	-3.1
BHPL				AMB	AMB	08 56 19.6	
	comp=Z,984nm,2.5s						
GYA	**Guiyang**	**13.60**	**90**	⇑*i*P	Pn	08 56 18.4	-0.2
GYA				PP	P	08 56 30.3	+2.8
GYA				SS	S	08 59 08.8	-3.8
GYA				PcP	PcP	09 01 45.6	+1.2
GYA				pmax	pmax		
	comp=Z,260nm,0.8s						
GYA				pmax	pmax		
	comp=Z,1μm,9.0s						
GYA				LR	LR		
	comp=N,84μm,13.9s						
GYA				LR	LR		
	comp=E,61μm,16.5s						
GYA				LR	LR		
	comp=Z,69μm,16.2s						
LZH	**Lanzhou**	**13.65**	**47**	⇑P	Pn	08 56 18.6	-0.7
LZH				pP	P	08 56 22.3	-5.8
LZH				sP		08 56 26.1	
LZH				S	Sn	08 58 50.0	-0.7
LZH				SS	S	08 59 08.8	-4.8
LZH				pmax	pmax		
	comp=Z,6μm,5.8s						
LZH				LR	LR		
	comp=N,159μm,11.1s						
LZH				LR	LR		
	comp=E,189μm,10.8s						
LZH				LR	LR		
	comp=Z,210μm,12.6s						
BHK	**Bhakra**	**13.72**	**291**	*e*x	Pn	08 56 15.4	-4.7
BHK				*e*x	x	08 59 02.2	
GTA	**Gaotai**	**13.88**	**28**	⇑P	Pn	08 56 19.9	-2.5
GTA				pP	P	08 56 23.8	-6.8
GTA				S	Sn	08 58 52.8	-3.4
GTA				pmax	pmax		
	comp=Z,52nm,1.5s						
GTA				pmax	pmax		
	comp=Z,3μm,5.0s						
GTA				LR	LR		
	comp=N,115μm,12.1s						
GTA				LR	LR		
	comp=E,106μm,13.5s						
GTA				LR	LR		
	comp=Z,155μm,12.6s						
KHET	**Khetri**	**13.88**	**277**	*e*x	Pn	08 56 19.3	-3.1
PBKT	**Sadao Pong**	**13.89**	**139**	P	Pn	08 56 21.4	-1.2
	comp=Z,675nm,1.2s,comp=Z,9μm						
PBKT	**Sadao Pong**	**13.89**	**139**	P	Pn	08 56 21.4	-1.2
	comp=Z,675nm,1.2s,comp=Z,9μm						
UTHA	**Uthaitani**	**13.90**	**146**	P	Pn	08 56 20.4	-2.2
	comp=Z,118nm,0.7s,comp=Z,1μm						
DHRM	**DHARAMSHALA**	**14.03**	**294**	*e*P	Pn	08 56 22.2	-2.3
DHRM				AMB	AMB	08 56 36.2	
	comp=Z,434nm,1.2s						
DGPR	**DIGLIPUR**	**14.19**	**174**	*e*P	Pn	08 56 24.0	-2.6
DGPR				AMB	AMB	08 56 30.0	
	comp=Z,3μm,1.1s						
DLH	**Dalhousie**	**14.38**	**295**	*e*4	Pn	08 56 25.0	-4.4
DLH				*e*x	x	08 59 13.0	
THN	**Thein Dam**	**14.55**	**294**	*e*4	Pn	08 56 24.0	-7.5
THN				*e*4	x	09 01 28.0	
AKL	**Akola**	**14.77**	**246**	*e*P	Pn	08 56 31.1	-3.3
AKL				*i* x	x	08 59 04.5	
HYB	**Hyderabad**	**15.50**	**233**	*i* P	Pn	08 56 40.0	-4.2
	comp=Z,500nm,1.0s						
HYB				*e*PP	pP	08 56 55.0	+1.9
HYB				*e*S	Sn	08 59 35.5	-0.2
HYB	**Hyderabad**	**15.50**	**233**	*e*x	S	08 59 49.0	-2.4
HYB				AMB	AMB	09 01 05.5	
	comp=Z,5μm,0.0s						
SKNT	**Sakolnakorn**	**15.53**	**129**	P	Pn	08 56 44.3	-0.3
	comp=Z,535nm,1.5s,comp=Z,10μm						
PBA	**Port Blair**	**15.68**	**175**	*e*P	Pn	08 56 47.2	+0.6
PBA				AMB	AMB	08 56 55.2	
	comp=Z,1μm,4.5s						
LATR	**Latur**	**16.35**	**240**	⇑*e*P	Pn	08 56 44.5	-11
LATR				AMB	AMB	08 56 55.0	
	comp=Z,750nm,2.5s						
LATR				*e*S	Sn	08 59 37.9	-19
XAN	**Xi'an**	**16.41**	**62**	P	Pn	08 56 53.0	-3.0
XAN				pP	pP	08 57 01.4	-1.9
XAN				pmax	pmax		
	comp=Z,33nm,1.3s						
XAN				pmax	pmax		
	comp=Z,2μm,9.0s						
XAN				LR	LR		
	comp=N,31μm,10.4s						
XAN				LR	LR		
	comp=Z,30μm,9.9s						
WMQ	**Urumqi**	**16.70**	**350**	P	P	08 57 01.4	-0.4
WMQ				pP	pP	08 57 04.9	-1.4
WMQ				sP	sP	08 57 08.4	0.0
WMQ				PP	PnPn	08 57 15.6	+6.6
WMQ				S	Sn	09 00 07.1	+2.5
WMQ				SS	SnSn	09 00 27.5	+9.5
WMQ				PcP	PcP	09 01 50.3	+1.9
WMQ				pmax	pmax		
	comp=Z,850nm,1.2s						
WMQ				pmax	pmax		
	comp=Z,16μm,10.0s						
WMQ				LR	LR		
	comp=N,172μm,13.5s						
WMQ				LR	LR		
	comp=E,64μm,14.7s						
WMQ				LR	LR		
	comp=Z,171μm,16.7s						
CHCP	**Chirah Chowk**	**16.88**	**296**	⇓P	Pn	08 56 57.6	-4.2
SARP	**Sargodha**	**16.95**	**290**	P	Pn	08 56 58.3	-4.4
MDRS	**Chennai**	**17.68**	**219**	*e*4	sP	08 57 20.6	+1.3
MDRS				AMb	AMB	08 57 32.2	
	comp=Z,772nm,1.4s						
KSH	**Kashi**	**17.68**	**317**	⇑*i*P	Pn	08 57 09.0	-3.0
KSH				pP	P	08 57 12.5	-0.3
KSH				PP	PnPn	08 57 23.6	+1.1
KSH				S	Sn	09 00 19.8	-8.9
KSH				pmax	pmax		
	comp=Z,880nm,1.2s						
KSH				pmax	pmax		
	comp=Z,9μm,5.0s						
KSH				LR	LR		
	comp=N,51μm,11.5s						
KSH				LR	LR		
	comp=E,60μm,11.2s						
KSH				LR	LR		
	comp=Z,86μm,17.5s						
UBPT	**Khong Chiam**	**17.73**	**130**	P	Pn	08 57 10.7	-1.8
	comp=Z,674nm,1.1s,comp=Z,11μm						
UBPT	**Khong Chiam**	**17.73**	**130**	P	Pn	08 57 10.7	-1.8
	comp=Z,674nm,1.1s,comp=Z,11μm						
CHBT	**CHBT**	**17.75**	**143**	P	Pn	08 57 12.4	-0.4
	comp=Z,710nm,1.1s,comp=Z,18μmcomp=Z,66μm						
CHBT	**CHBT**	**17.75**	**143**	P	Pn	08 57 12.4	-0.4
	comp=Z,710nm,1.1s,comp=Z,18μm						
THW	**Thamme Wali**	**17.89**	**292**	P	Pn	08 57 10.2	-4.3
CEP	**Cherat**	**18.01**	**296**	P	Pn	08 57 11.6	-4.4
POO	**Poona**	**18.43**	**245**	*e*P	P	08 57 18.4	-2.7
POO				*e*x	x	09 01 00.0	
QIZ	**Qiongzhong**	**18.81**	**112**	P	P	08 57 25.1	-0.1
QIZ				S	Sn	09 00 53.0	-3.0
QIZ				sS	sS	09 01 05.8	-0.3
QIZ				pmax	pmax		
	comp=Z,5μm,9.9s						
QIZ				LR	LR		
	comp=N,17μm,17.7s						
QIZ				LR	LR		
	comp=Z,27μm,15.7s						
KAD	**Karad**	**18.84**	**241**	*e*P	P	08 57 24.1	-1.5
KAD				*e*x	x	09 00 55.0	
ULHL	**Ulahol**	**19.36**	**324**	P	Pn	08 57 33.1	+0.7
	SNR=207						
AAA	**Alma-Ata**	**19.75**	**327**	*i* P	Pn	08 57 37.7	+0.8
AAA				pmax	pmax		
	comp=Z,29μm,2.3s						
AAA				MLR	MLR		
	comp=Z,82μm,8.0s						
KZA	**Kyzart**	**19.77**	**322**	P	Pn	08 57 38.3	+0.8
	SNR=84						
BHJ	**Bhuj**	**20.13**	**263**	*e*P	P	08 57 39.0	-0.6
BHJ				*e*S	S	09 01 23.9	-1.3
TKM2	**Tokmak 2**	**20.17**	**324**	*e*P	Pn	08 57 42.4	+0.3
TKM2				pmax	pmax		
	comp=Z,899nm,0.9s						
TKM2	**Tokmak 2**	**20.17**	**324**	P	Pn	08 57 42.5	+0.3
	SNR=725						
TKM2	**Tokmak 2**	**20.17**	**324**	*e*P	Pn	08 57 42.4	+0.3
	comp=Z,899nm,0.9s						
TKM2				LR	LR		
	comp=Z,3μm,19.0s						
GOA	**Goa**	**20.20**	**238**	*e*P	P	08 57 40.1	-0.2
BTO	**Baotou**	**20.22**	**45**	*i* P	P	08 57 40.8	+0.2
BTO				S	S	09 01 13.8	-13
BTO				LR	LR		
	comp=N,37μm,11.8s						
BTO				LR	LR		
	comp=E,27μm,11.8s						
GZH	**Guangzhou**	**20.25**	**97**	P	Pn	08 57 42.0	-0.9
GZH				S	S	09 01 27.4	-0.1
GZH				LR	LR		
	comp=N,126μm,15.3s						
GZH				LR	LR		
	comp=E,39μm,15.9s						
GZH				LR	LR		
	comp=Z,98μm,12.8s						
WHN	**Wuhan**	**20.27**	**76**	⇑P	P	08 57 40.9	-0.2
WHN				S	S	09 01 25.6	-2.4
WHN				pmax	pmax		
	comp=Z,12μm,5.5s						
WHN				LR	LR		
	comp=N,47μm,8.3s						
WHN				LR	LR		
	comp=E,75μm,12.3s						
WHN				LR	LR		
	comp=Z,115μm,14.6s						
UCH	**Uchtor**	**20.27**	**321**	P	Pn	08 57 43.9	+0.2
	SNR=149						
KBK	**Karagaybulak**	**20.33**	**323**	P	Pn	08 57 44.2	+0.3
	SNR=439						
CMBY	**CAMPBELL BAY**	**20.38**	**173**	*e*P	P	08 57 40.6	-1.8
CMBY				AMB	AMB	08 57 51.6	
	comp=Z,1μm,2.2s						
TIY	**Taiyuan**	**20.43**	**54**	*e*P	P	08 57 42.5	-0.4
TIY				S	S	09 01 21.5	-10
TIY				pmax	pmax		
	comp=Z,260nm,0.7s						
TIY				pmax	pmax		
	comp=Z,8μm,5.8s						
TIY				LR	LR		
	comp=N,50μm,10.4s						
TIY				LR	LR		
	comp=E,95μm,11.9s						
TIY				LR	LR		
	comp=Z,137μm,12.1s						
PKDT	**Phuket**	**20.44**	**160**	P	P	08 57 43.3	+0.3
	comp=Z,831nm,1.1s,comp=Z,22μm						
KBL	**Kabul**	**20.49**	**296**	*e*P	P	08 57 43.8	+0.1
KBL				*e*S	S	09 01 31.9	-0.7
KBL				pmax	pmax		
	comp=Z,840nm,0.8s						
KBL	**Kabul**	**20.49**	**296**	*e*P	P	08 57 43.8	+0.1
	comp=Z,840nm,0.8s						
KBL				*e*S	S	09 01 31.9	-0.7
AAK	**Ala-Archa**	**20.56**	**322**	Pn	Pn	08 57 46.0	-0.6
	comp=Z,4μm,1.0s						
AAK	**Ala-Archa**	**20.56**	**322***c*	*i*P	Pn	08 57 46.4	-0.2
AAK				pmax	pmax		
	comp=Z,2μm,1.0s						
AAK				MLR	MLR		
	comp=Z,89μm,15.0s						
AAK	**Ala-Archa**	**20.56**	**322**	P	Pn	08 57 46.7	0.0
	SNR=380						
AAK	**Ala-Archa**	**20.56**	**322**	P	Pn	08 57 46.7	+0.1
	SNR=325						
AAK	**Ala-Archa**	**20.56**	**322**	P	Pn	08 57 46.2	-0.4
AAK				ScP	ScP	09 05 29.9	-1.3
AAK	**Ala-Archa**	**20.56**	**322**	P	Pn	08 57 46.2	-0.4
	comp=Z,657nm,1.1s,baz=131,slow=8.4,SNR=252						
AAK				ScP	ScP	09 05 29.9	-1.3
	comp=Z,22nm,1.0s,baz=221,slow

FRU MLR MLR
comp=E,46μm,18.0s
CHMS Chumysh 20.67 323 P Pn 08 57 47.0 -0.7
SNR=221
MK01 Makanchi Array 20.67 342 *e*P **P** **08 57 43.9 -1.4**
AML Almayashu 20.68 320 P Pn 08 57 48.2 -0.1
SNR=119
MK31 Makanchi Array 20.70 342 *ce*P **P** **08 57 45.7 +0.1**
MK31 pmax pmax
comp=Z,803nm,0.6s
MK31 Makanchi Array 20.70 342 *e*P **P** **08 57 45.9 +0.3**
MKAR Makanchi Array 20.70 342 *e*P **P** **08 57 45.8 +0.2**
MKAR Makanchi Array 20.70 342 *e*P **P** **08 57 45.8 +0.2**
MKAR *e* 09 31 50.6
MKAR Makanchi Array 20.70 342 P **P** **08 57 45.7 +0.1**
comp=Z,767nm,0.8s,baz=149,slow=13,SNR=2675
MKAR LR LR 09 07 01.9
comp=Z,82μm,19.7s,baz=163,slow=40
MKAR P3KPbc 09 31 50.6
comp=Z,0.4nm,0.8s,baz=322,slow=4.4,SNR=2.5
EKS2 Erkin-Say 20.97 321 P Pn 08 57 51.1 -0.3
SNR=305
EKS2 Erkin-Say 20.97 321 PFAKE 08 58 00.0 +8.6
EKS2 LR LR
comp=Z,90μm,19.0s
USP Ospenovka 20.99 323 P Pn 08 57 50.6 -0.9
SNR=10.0
HKC Hong Kong Obse 21.21 99⇓ *i*P **P** **08 57 54.0 +2.7**
HKC *i*S **S** **09 01 44.0 -2.7**
HHC Hu-ho-hao-te 21.33 46 *e*P **P** **08 57 52.9 +0.3**
HHC pP **pP** **08 57 57.0 -0.2**
HHC sP **sP** **08 57 59.9 +0.6**
HHC PP **PnPn** **08 58 16.9 +4.4**
HHC S **S** **09 01 50.8 +1.7**
HHC sS **sS** **09 01 51.8 -4.6**
HHC SS **SnSn** **09 02 19.8 +8.0**
HHC PcS **PcS** **09 05 33.6 -1.2**
HHC pmax pmax
comp=Z,520nm,1.2s
HHC LR LR
comp=N,30μm,12.7s
HHC LR LR
comp=E,32μm,10.7s
HHC LR LR
comp=Z,30μm,11.6s
SKLT Songkhla 21.89 155 P **P** **08 57 58.3 -0.3**
comp=Z,1μm,1.2s,comp=Z,24μm
SKLT Songkhla 21.89 155 P **P** **08 57 58.3 -0.3**
comp=Z,1μm,1.2s,comp=Z,24μm
PALK Pallekele 22.44 209 P **P** **08 58 05.7 +1.1**
comp=Z,1μm,1.6s,SNR=23
PALK Pallekele 22.44 209 P **P** **08 58 06.2 +1.5**
SNR=41
PALK Pallekele 22.44 209 P **P** **08 58 05.8 +1.1**
comp=Z,863nm,1.4s,comp=Z,18μmcomp=Z,56μm
LHMI Lhok Sumawe 22.63 166 P **P** **08 58 08.3 +1.7**
comp=Z,2μm,1.3s,comp=Z,41μmcomp=Z,113μm
KK31 Karatay Array 23.13 318 *ce*P **P** **08 58 11.8 +0.2**
KK31 pmax pmax
comp=Z,302nm,1.3s
TRD Trivandrum 23.24 219 *e*P **P** **08 58 12.3 -0.6**
TIA Tai'an 23.48 62⇑ P **P** **08 58 14.8 -0.4**
TIA pP **pP** **08 58 24.9 +5.0**
TIA sP sP 08 58 28.3 +6.3
TIA S **S** **09 02 26.9 -1.3**
TIA pmax pmax
comp=Z,240nm,0.9s
TIA pmax pmax
comp=Z,8μm,9.0s
TIA LR LR
comp=N,32μm,12.4s
TIA LR LR
comp=E,21μm,10.5s
TIA LR LR
comp=Z,34μm,10.1s
SONM Songino Array 23.53 26 P **P** **08 58 15.5 -0.3**
SONM ScP **ScP** **09 05 37.4 -1.2**
SONM *e* 09 31 40.4
SONM Songino Array 23.53 26 P **P** **08 58 15.5 -0.3**
comp=Z,134nm,0.8s,baz=209,slow=11,SNR=204
SONM ScP **ScP** **09 05 37.4 -1.2**
comp=Z,10nm,1.1s,baz=225,slow=5.9,SNR=3.7
SONM P3KPbc 09 31 40.4
comp=Z,0.2nm,0.4s,baz=24,slow=5.0,SNR=5.0
SONA1 Songino Array 23.54 26 *e*P **P** **08 58 14.9 -0.9**
KULM Kulim 23.64 157 PFAKE 08 58 30.0 +13
KULM LR LR
comp=Z,38μm,22.0s
KULM Kulim 23.64 157 P **P** **08 58 16.7 -0.2**
KULM Kulim 23.64 157 P **P** **08 58 16.1 -0.8**
comp=Z,503nm,0.8s,comp=Z,19μmcomp=Z,46μm
HVS Khovu-Aksy 23.80 4 *c i*P **P** **08 58 19.0 +0.8**
HVS pmax pmax
comp=Z,7μm,1.9s
HVS MLR MLR
comp=Z,327μm,16.0s
ULN Ulaanbaatar 23.81 27 P **P** **08 58 18.6 +0.1**
SNR=178
ULN Ulaanbaatar 23.81 27 *e*P **P** **08 58 18.2 -0.3**
comp=Z,251nm,1.0s
ULN Ulaanbaatar 23.81 27 P **P** **08 58 17.9 -0.6**
comp=Z,402nm,1.2s,comp=Z,8μm
BJI Beijing 24.05 52 P **P** **08 58 21.1 +0.6**
BJI S **S** **09 02 39.8 +2.7**
BJI PcS **PcS** **09 05 44.8 +3.2**
BJI pmax pmax
comp=Z,130nm,1.0s
BJI pmax pmax
comp=Z,7μm,5.2s
BJI LR LR
comp=N,161μm,11.4s
BJI LR LR
comp=E,240μm,10.4s
BJI LR LR
comp=Z,84μm,14.2s
NJ2 Nanjing 24.22 72 *e*P **P** **08 58 21.8 -0.4**
NJ2 pP **pP** **08 58 25.9 -1.2**
NJ2 sP **sP** **08 58 28.8 -0.4**
NJ2 PP **PnPn** **08 58 56.5 +4.6**
NJ2 S **S** **09 02 39.0 -1.1**
NJ2 sS **sS** **09 02 46.0 -2.1**
NJ2 pmax pmax
comp=Z,80nm,1.0s
NJ2 pmax pmax
comp=Z,6μm,9.2s
NJ2 LR LR
comp=N,29μm,11.4s
NJ2 LR LR
comp=E,38μm,10.7s
NJ2 LR LR
comp=Z,46μm,14.1s
QZH Quanzhou 24.46 90⇑ *i*P **P** **08 58 22.0 -2.5**
QZH S **S** **09 02 40.3 -3.7**
QZH pmax pmax
comp=Z,200nm,0.9s
QZH pmax pmax
comp=Z,7μm,5.4s
QZH LR LR
comp=N,16μm,7.9s
QZH LR LR
comp=E,68μm,13.8s
QZH LR LR
comp=Z,107μm,15.1s
KCSI Kotacane, Aceh 24.47 165 P **P** **08 58 22.5 -2.1**
comp=Z,400nm,1.0s,comp=Z,10μm
IPM Ipoh 24.52 156 *e*P **P** **08 58 24.1 -1.1**
comp=Z,1μm,1.4s
IPM Ipoh 24.52 156 P **P** **08 58 24.3 -0.8**
IPM Ipoh 24.52 156 P **P** **08 58 23.7 -1.5**
comp=Z,763nm,1.3s,comp=Z,22μmcomp=Z,37μm
KTGM Kuala Trenggan 24.58 151 P **P** **08 58 26.6 +1.0**
ZAK Zakamensk 24.69 18 *e*P **P** **08 58 27.3 +0.8**
ZAK pmax pmax
comp=Z,207nm,1.2s
KURBB Kurchatov Arra 25.23 340 P **P** **08 58 31.4 +0.2**
comp=Z,298nm,1.0s,baz=154,slow=10.0,SNR=369
KURBB ScP **ScP** **09 05 41.0 -2.0**
comp=Z,13nm,0.9s,baz=159,slow=2.6,SNR=6.0
KURBB P3KPbc 09 31 31.1
comp=Z,2.0nm,1.0s,baz=330,slow=4.8,SNR=12
SNSI Sinabang, Aceh 25.25 169 P **P** **08 58 31.4 -0.3**
comp=Z,1μm,0.9s,comp=Z,21μm
KURK Kurchatov 25.28 341 P **P** **08 58 32.0 +0.4**
comp=Z,2μm,1.2s
KURK Kurchatov 25.28 341 *c i*P **P** **08 58 32.1 +0.4**
KURK pmax pmax
comp=Z,282nm,1.0s
KURK MLR MLR
comp=Z,43μm,17.0s
KURK Kurchatov 25.28 341 P **P** **08 58 32.4 +0.7**
SNR=240
KURK Kurchatov 25.28 341 *e*P **P** **08 58 32.1 +0.5**
KURK ScP **ScP** **09 05 41.0 -2.1**
KURK *e* 09 31 31.1
KURK LR LR
comp=Z,59μm,19.0s
MOY Mondy 25.31 14 *e*P **P** **08 58 33.8 +1.7**
MOY pmax pmax
comp=Z,1μm,2.0s
PSI Prapat 25.45 162 P **P** **08 58 32.9 -0.7**
PSI Prapat 25.45 162 P **P** **08 58 32.9 -0.7**
comp=Z,59nm,0.6s,baz=319,slow=7.6,SNR=69
PSI LR LR 09 11 41.4
comp=Z,27μm,18.6s,baz=199,slow=44
MNCY Minicoy 25.79 226 *ex* **P** **08 58 35.0 -1.6**
MNCY *ex* x 09 09 27.0
FRIM Kepong 25.89 156 P **P** **08 58 38.7 +1.2**
TLY Talaya 25.96 17 *c i*P **P** **08 58 39.9 +2.0**
TLY *e*S **S** **09 03 09.1 +1.4**
TLY *e*SSS SSS 09 04 31.9
TLY pmax pmax
comp=Z,341nm,1.3s
TLY MLR MLR
comp=Z,94μm,12.0s
TLY Talaya 25.96 17 P **P** **08 58 39.8 +1.9**
comp=Z,944nm,1.7s,SNR=30
SSE Sheshan 26.17 75⇑ P **P** **08 58 40.1 +0.2**
SSE pP **pP** **08 58 43.4 -1.4**
SSE S **S** **09 03 10.5 -0.7**
SSE sS **sS** **09 03 15.8 -3.5**
SSE pmax pmax
comp=Z,74nm,0.8s
SSE pmax pmax
comp=Z,3μm,11.2s
SSE LR LR
comp=N,14μm,13.8s
SSE LR LR
comp=E,40μm,13.9s
SSE LR LR
comp=Z,54μm,14.1s
IRK Irkutsk 26.64 18 *e*P **P** **08 58 45.5 +1.5**
IRK pmax pmax
comp=Z,1μm,1.9s
YHNB Yeheng 26.99 89 PFAKE 08 59 00.0 +12
YHNB LR LR
comp=Z,41μm,19.0s
ZAA0 Zalesovo Array 27.00 351 *e*P **P** **08 58 47.7 +0.5**
ZALV Zalesovo Beam 27.00 351 P **P** **08 58 47.5 +0.3**
ZALV Zalesovo Beam 27.00 351 P **P** **08 58 47.5 +0.3**
ZALV *e* 09 31 24.0
ZALV Zalesovo Beam 27.00 351 P **P** **08 58 47.5 +0.3**
comp=Z,132nm,0.6s,baz=176,slow=8.5,SNR=305
ZALV LR LR 09 10 50.0
comp=Z,40μm,21.0s,baz=140,slow=39
ZALV P3KPbc 09 31 24.0
comp=Z,7.7nm,1.0s,baz=319,slow=5.9,SNR=9.5
DL2 Dalian 27.64 58 P **P** **08 58 53.3 +0.2**
DL2 S **S** **09 03 34.3 +0.1**
DL2 pmax pmax
comp=Z,170nm,1.2s
DL2 pmax pmax
comp=Z,3μm,9.8s
DL2 LR LR
comp=E,25μm,13.2s
DL2 LR LR
comp=Z,22μm,13.7s
KGM Kluang 27.65 154 P **P** **08 58 54.0 +0.6**
IDAH Dahanechah 27.80 289 *e*P **P** **08 58 56.4 +1.4**
MYKOM Kota Tinggi 28.07 153 P **P** **08 58 57.9 +0.8**
MYKOM Kota Tinggi 28.07 153 P **P** **08 58 57.4 +0.3**
comp=Z,152nm,2.2s,comp=Z,7μm
NVS Novosibirsk 28.10 350⇑ *i*P **P** **08 58 57.1 +0.1**
NVS *e*S **S** **09 03 40.6 -0.5**
NVS pmax pmax
comp=Z,547nm,1.3s
NVS pmax pmax
comp=N,878nm,2.0s
NVS pmax pmax
comp=E,235nm,1.2s
NVS smax smax
comp=N,453nm,2.5s
NVS smax smax
comp=E,337nm,2.5s
BKNI Bangkinang 28.42 160 P **P** **08 59 00.7 +0.5**
comp=E,278nm,1.5s,comp=E,9μmcomp=E,25μm
ITEG Tejag 28.75 289 *e*P **P** **08 59 04.6 +1.3**
PPI Padang Panjang 28.97 161 P **P** **08 59 04.1 -1.0**
comp=E,192nm,1.4s,comp=E,6μmcomp=E,27μm
IAKL Akhelmad 29.11 297 *e*P **P** **08 59 07.6 +1.0**
IEMG Emamgholi 29.33 298 *e*P **P** **08 59 09.6 +1.0**
PDSI Padang 29.42 161 P **P** **08 59 08.5 -0.7**
comp=E,242nm,1.3s,comp=E,8μm
RGRI Rengat 29.48 157 P **P** **08 59 11.0 +1.4**
comp=E,940nm,1.8s,comp=E,41μm
VOSK Vostochnaya 29.58 334 *e*P **P** **08 59 10.8 +0.6**
VOSK pmax pmax
comp=Z,236nm,0.9s
VOSK Vostochnaya 29.58 334 *e*P **P** **08 59 10.8 +0.6**
comp=Z,236nm,0.9s
CIT Chita 29.69 28 *e*P **P** **08 59 11.9 +0.6**
CIT *e* 09 00 15.3
CIT pmax pmax
comp=Z,182nm,4.6s
WBK Wadi Bani Khal 29.78 268 P P 08 59 16.5 +4.1
SNR=9.6
ISFR Sfrayin 29.78 297 *e*P **P** **08 59 14.1 +1.5**
SNY Shenyang 29.92 53⇑ P **P** **08 59 13.5 +0.2**
SNY S **S** **09 04 10.3 +0.3**
SNY pmax pmax
comp=Z,75nm,0.8s
SNY pmax pmax
comp=Z,4μm,10.0s
SNY LR LR
comp=N,55μm,14.8s
SNY LR LR
comp=E,56μm,12.0s
SNY LR LR
comp=Z,67μm,12.0s
BVA0 Borovoye Array 30.04 334 *i* P **P** **08 59 14.6 +0.3**
BVA0 pmax pmax
comp=Z,598nm,1.8s
BVAR Borovoye Array 30.04 334 P **P** **08 59 14.6 +0.3**
BVAR Borovoye Array 30.04 334 P **P** **08 59 14.6 +0.3**
BVAR ScP **ScP** **09 05 55.5 -2.1**
BVAR Borovoye Array 30.04 334 P **P** **08 59 14.6 +0.3**
comp=Z,34nm,0.7s,baz=128,slow=11,SNR=104
BVAR ScP **ScP** **09 05 55.5 -2.1**
comp=Z,9.8nm,0.8s,baz=177,slow=2.7,SNR=5.7
BVAR LR LR 09 12 54.6
comp=Z,127μm,18.3s,baz=136,slow=40
ISHV Shirvan 30.09 298 *e*P **P** **08 59 17.6 +2.4**
BRVK Borovoye 30.10 334 P **P** **08 59 15.4 +0.5**
comp=Z,599nm,1.2s,SNR=47
BRVK Borovoye 30.10 334 *c i*P **P** **08 59 15.3 +0.4**
BRVK pmax pmax
comp=Z,202nm,1.7s
BRVK MLR MLR
comp=Z,128μm,18.0s
BRVK Borovoye 30.10 334 P **P** **08 59 15.6 +0.7**
SNR=75
BRVK Borovoye 30.10 334 *e*P P 08 59 06.8 -8.0
BRVK LR LR
comp=Z,88μm,21.0s
SMDO Samad 30.48 269 P **P** **08 59 20.3 +1.7**
SNR=32
JMDO Jabal Madar 30.61 268 P **P** **08 59 21.4 +1.6**
SNR=6.9
INCN Inchon 31.20 62 *e*P **P** **08 59 25.6 +0.8**
comp=Z,144nm,1.2s
INCN LR LR
comp=Z,7μm,21.0s
BSY Bisya 31.32 269 P **P** **08 59 27.7 +1.8**
SNR=26
IBAF Bafgh 31.44 286 *e*P **P** **08 59 27.8 +0.7**
KSM Kuching 31.46 142 PFAKE 08 59 40.0 +13
KSM LR LR
comp=Z,13μm,20.0s
KSM Kuching 31.46 142 P **P** **08 59 28.2 +1.0**
KSM Kuching 31.46 142 P **P** **08 59 27.6 +0.4**
comp=Z,331nm,1.4s,comp=Z,5μm
KDM Kudat 31.52 126 P **P** **08 59 30.1 +2.4**
TJN Taejon 31.64 64 *i* P **P** **08 59 27.8 -0.8**
KKM Kota Kinabalu 31.68 128 *e*P **P** **08 59 30.6 +1.3**
comp=Z,192nm,1.1s
KKM LR LR
comp=Z,27μm,20.0s
KKM Kota Kinabalu 31.68 128 P **P** **08 59 31.3 +2.1**
KKM Kota Kinabalu 31.68 128 P P 08 59 35.0 +5.7
comp=Z,171nm,1.6s,comp=Z,6μm
BTM Bintulu 31.70 136 P **P** **08 59 31.0 +1.7**
SBUM Sibu 31.76 138 *e*P P 08 59 26.2 -3.7
comp=Z,239nm,1.7s
SBUM Sibu 31.76 138 P **P** **08 59 31.4 +1.6**
SBUM Sibu 31.76 138 P **P** **08 59 30.4 +0.6**
comp=Z,59nm,2.2s,comp=Z,4μmcomp=Z,15μm
ARQ Araqi 31.76 271 P **P** **08 59 31.5 +1.6**
SNR=13
ASHO Ashiyiah 31.86 273 P **P** **08 59 32.3 +1.6**
SNR=28
CN2 Changchun 31.86 50⇑ *i*P **P** **08 59 31.3 +0.8**
CN2 *es*P **sP** **08 59 38.0 +0.6**
CN2 *e*S **S** **09 04 40.0 -0.5**
CN2 pmax pmax
comp=Z,100nm,0.9s
CN2 pmax pmax
comp=Z,3μm,5.0s
CN2 LR LR
comp=N,81μm,13.0s
CN2 LR LR
comp=E,75μm,13.0s
CN2 LR LR
comp=Z,11μm,14.0s
MASI Maura Aman, Be 32.07 159 P P 08 59 41.2 +8.7
comp=Z,335nm,1.3s,comp=Z,6μm
KAAM Kaadhehdhoo 32.07 217 P P 08 59 41.4 +8.9
comp=Z,278nm,2.2s,comp=Z,9μm
KSAR Wonju Array Be 32.18 63 P **P** **08 59 32.0 -1.3**
KSAR PcP **PcP** **09 02 23.2 +1.2**
KS01 Wonju Array Si 32.19 62 *e*P **P** **08 59 31.8 -1.7**
KSRS Korea Array 32.21 63 P **P** **08 59 32.0 -1.6**
comp=Z,23nm,1.1s,baz=258,slow=8.1,SNR=24
KSRS PcP **PcP** **09 02 23.2 +1.2**
comp=Z,5.3nm,0.7s,baz=270,slow=3.2,SNR=6.6
KSRS LR LR 09 12 07.3
comp=Z,6μm,19.9s,baz=267,slow=36
IMEH Mehriz 32.26 286 *e*P **P** **08 59 35.7 +1.3**
ICHK Chekchek 32.41 288 *e*P **P** **08 59 37.1 +1.4**
PPBI Pangkal Pinang 32.59 152 P **P** **08 59 38.2 +1.1**
comp=Z,172nm,2.3s,comp=Z,8μm
AB31 Akbulak array 32.63 321 *ce*P **P** **08 59 37.8 +0.7**
AB31 pmax pmax
comp=Z,89nm,0.5s
ABKAR Akbulak array 32.63 321 *e*P **P** **08 59 37.9 +0.8**
SDKM Sandakan 32.66 127 P **P** **08 59 40.6 +2.8**
KSI Kapahiang 32.66 159 P **P** **08 59 38.8 +1.0**
comp=Z,254nm,1.1s,comp=Z,8μm
PMBI Palembang 32.74 155 P P 08 59 44.0 +5.6
comp=Z,491nm,1.0s,comp=Z,9μm
IANJ Anjilo 32.89 294 *e*P **P** **08 59 40.8 +0.9**
ISAD Sadrabad 33.03 287 *e*P **P** **08 59 41.9 +0.7**
STKI Sintang 33.27 141 P **P** **08 59 44.2 +1.1**
comp=Z,194nm,1.5s
ISHM Shahmirzad 33.42 294 *e*P **P** **08 59 45.9 +1.3**
ISRV Sarvestan 33.70 283 *e*P **P** **08 59 48.3 +1.2**
IPAR Pars 33.71 283 *e*P **P** **08 59 48.5 +1.3**
TPI Tanjungpandan 33.78 150 P P 08 59 51.8 +4.3
comp=Z,98nm,1.3s,comp=Z,3μmcomp=Z,22μm
IFIR Firoozkooh 33.84 294 *e*P **P** **08 59 50.7 +2.4**
MYLDM Lahad Datu 33.91 126 P **P** **08 59 51.0 +2.4**
MYLDM Lahad Datu 33.91 126 P **P** **08 59 50.8 +2.1**
comp=Z,332nm,1.2s,comp=Z,5μm
MDSI Maura Dua 33.97 157 P **P** **08 59 46.7 -2.4**
comp=Z,103nm,1.1s,comp=Z,2μm
TSM Tawau 34.08 128 P **P** **08 59 50.3 +0.2**
IZEF Zefreh 34.15 289 *e*P **P** **08 59 51.6 +0.6**
EGSI Enggano, Bengk 34.17 161 P **P** **08 59 50.9 0.0**
comp=Z,631nm,1.3s,comp=Z,13μm
ISFB Sefidab 34.22 292 *e*P **P** **08 59 52.0 +0.7**
AKTO Aktyubinsk 34.30 321 ScP **ScP** **09 06 09.9 -2.2**
AKTO Aktyubinsk 34.30 321 ScP **ScP** **09 06 09.9 -2.2**
comp=Z,25nm,0.9s,baz=148,slow=4.0,SNR=4.8
AKTO LR LR 09 15 29.9
comp=Z,23μm,18.4s,baz=128,slow=39
JNU Nakatsue 34.39 71 P **P** **08 59 52.1 -0.6**
JNU Nakatsue 34.39 71 P **P** **08 59 52.1 -0.6**
comp=Z,27nm,1.0s,baz=258,slow=3.9,SNR=9.9
JNU LR LR 09 14 17.2
comp=Z,6μm,18.2s,baz=272,slow=37
IGAR Gharneh 34.41 288 *e*P **P** **08 59 53.3 +0.2**
LWLI Liwa 34.42 157 P **P** **08 59 55.9 +2.7**
comp=Z,282nm,0.8s,comp=Z,6μm
IDMV Damavand 34.43 294 *e*P **P** **08 59 54.2 +0.8**
KLI Kotabumi 34.56 156 P P 09 00 08.5 +14
IVRN Varamin 34.66 293 *e*P **P** **08 59 55.7 +0.6**
IKAZ Kazeroun 34.76 284 *e*P **P** **08 59 56.1 -0.3**
IKLH Kolahrood 34.77 290 *e*P P 09 00 06.7 +10
MDJ Mudanjiang 34.95 50 P **P** **08 59 57.1 -0.3**
MDJ pP **pP** **09 00 00.1 -2.2**
MDJ PP **PnPn** **09 01 14.6 +0.4**
MDJ S **S** **09 05 25.3 -3.1**
MDJ ScP **ScP** **09 06 12.8 -1.8**
MDJ ScS **ScS** **09 10 18.0 -0.1**
MDJ pmax pmax
comp=Z,3μm,7.2s
MDJ LR LR
comp=N,28μm,13.1s
MDJ LR LR
comp=E,11μm,12.5s
MDJ LR LR
comp=Z,60μm,11.0s
KASI Kota Agung 35.05 157 P P 09 00 03.1 +4.7
comp=Z,124nm,0.9s,comp=Z,2μm
BLSI Bandar Lampung 35.17 156 P P 09 00 02.9 +3.4
comp=Z,131nm,1.7s,comp=Z,3μm
IMHD Mahdasht 35.54 294 *e*P **P** **09 00 04.0 +1.2**
IR5 Iran Long-Peri 35.60 293 *e*P **P** **09 00 04.0 +0.7**
PBKI Pangkalan Bun 35.69 144 P P 09 00 12.2 +8.2
comp=Z,274nm,1.3s,comp=Z,6μm
RBK Rabkut 35.69 262 P P 09 00 07.9 +3.8
SNR=8.6
IGZV Ghazvin 35.93 295 *e*P **P** **09 00 07.6 +1.3**
MTKI Muara Teweh, K 36.06 138 P P 09 00 13.6 +6.4
comp=Z,169nm,1.1s,comp=Z,9μm
IRAZ Razeghan 36.14 293 *e*P **P** **09 00 08.8 +0.8**
VLA Vladivostok 36.18 54 *c i*P **P** **09 00 07.8 -0.2**
VLA pmax pmax
comp=Z,133nm,1.0s
VLA MLR MLR
comp=Z,31μm,16.0s
USRK Ussuriysk Arra 36.50 52 P **P** **09 00 10.4 -0.3**
comp=Z,28nm,0.8s,baz=260,slow=9.1,SNR=35
USRK LR LR 09 16 31.4
comp=Z,30μm,18.8s,baz=11,slow=38
SVE Sverdlovsk 36.69 332 *d i*P **P** **09 00 13.3 +1.1**
SVE *e*S **S** **09 05 55.0 +0.2**
SVE *e* 09 08 23.8
SVE *e* 09 10 26.6
SVE pmax pmax
comp=Z,744nm,1.2s
SVE pmax pmax
comp=Z,3μm,11.2s
SVE smax smax
comp=E,6μm,14.1s
SVE smax smax
comp=N,3μm,12.1s
SVE MLR MLR
comp=Z,47μm,18.0s
SVE MLR MLR
comp=N,24μm,18.0s
SVE MLR MLR
comp=E,21μm,14.0s
DBJI Dramaga 36.83 154 P **P** **09 00 14.2 +0.5**
comp=E,193nm,1.4s,comp=E,7μm
CTBH Cotabato--PC H 36.98 117 *i* P P 09 00 18.7 +3.7
ARU Arti 37.34 330 *c i*P **P** **09 00 18.2 +0.5**
ARU *e* 09 01 41.5
ARU 09 02 41.3
ARU S **S** **09 06 06.2 +1.6**
ARU 09 06 24.8
ARU SS **SnSn** **09 08 42.6 +1.6**
ARU 09 10 28.5
ARU pmax pmax
comp=Z,453nm,1.7s
ARU MLR MLR
comp=Z,53μm,16.0s
ARU Arti 37.34 330 P **P** **09 00 18.5 +0.8**
comp=Z,1μm,1.2s,SNR=46

LEM	**Lembang**	**37.42 153**	P	P		09 00 30.7 +12
KLR	**Kul'dur**	**37.81 44**	*d iP*	P		09 00 18.5 -3.3
KLR			*e*S	S		09 06 05.0 -7.0
KLR			*e*SS	**SnSn**		**09 08 51.0 -1.7**
KLR			pmax	pmax		
	comp=E,1μm,4.0s					
KLR			pmax	pmax		
	comp=Z,2μm,4.0s					
KLR			pmax	pmax		
	comp=N,1μm,10.5s					
KLR			pmax	pmax		
	comp=E,3μm,10.5s					
KLR			pmax	pmax		
	comp=Z,4μm,10.5s					
KLR			smax	smax		
	comp=N,4μm,11.5s					
KLR			smax	smax		
	comp=E,7μm,11.5s					
TGJI	**Tegal**	**38.09 151**	P	**P**		**09 00 26.7 +2.3**
	comp=E,634nm,2.0s,comp=E,18μm					
DAV	**Davao City (W)**	**38.13 116**	PFAKE			09 00 40.0 +15
DAV			LR	LR		
	comp=Z,9μm,20.0s					
QRN	**Al-Qurain**	**38.29 283**	*e*P	**P**		**09 00 27.1 +1.0**
UMR	**Umm Al-Rimmam**	**38.35 284**	*e*P	**P**		**09 00 27.1 +0.5**
UMR			AMb	AMB		09 00 41.8
	comp=Z,324nm,1.0s					
KPJI	**Karang Pucung**	**38.42 151**	P	**P**		**09 00 27.9 +0.7**
	comp=Z,337nm,1.2s,comp=Z,7μm					
RDF	**Al-Radifah**	**38.59 283**	*e*P	**P**		**09 00 29.7 +1.1**
RDF			AMb	AMB		09 00 43.5
	comp=Z,424nm,1.1s					
BJII	**Banjamegara**	**38.76 150**	P	**P**		**09 00 31.2 +1.1**
	comp=Z,412nm,2.1s,comp=Z,15μmcomp=Z,59μm					
NAY	**Al-Naaiem**	**38.80 283**	*e*P	**P**		**09 00 31.1 +0.6**
NAY			AMb	AMB		09 00 45.5
	comp=Z,334nm,1.3s					
DGAR	**Diego Garcia**	**39.17 211**	*e*P	**P**		**09 00 34.8 +1.3**
DGAR	**Diego Garcia**	**39.17 211**	PFAKE			09 00 40.0 +6.5
DGAR			LR	LR		
	comp=Z,21μm,22.0s					
NGJI	**Ngawi**	**39.59 148**	P	P		09 00 44.5 +7.5
	comp=Z,494nm,1.6s,comp=Z,11μm					
MRSI	**Marisa**	**39.63 127**	P	**P**		**09 00 39.0 +1.6**
	comp=Z,181nm,1.1s,comp=Z,4μm					
UGM	**Wanagama**	**39.64 150**	*e*P	P		09 00 44.7 +7.3
	comp=Z,209nm,0.9s					
HABR	**Khabarovsk**	**39.65 46**	*e*P	**P**		**09 00 34.6 -2.6**
HABR			*e*			09 02 06.3
HABR			*e*			09 02 41.3
HABR			*e*S	**S**		**09 06 38.9 -0.8**
HABR			SSS	SSS		09 09 55.4
HABR			*e*			09 10 42.9
HABR			pmax	pmax		
	comp=E,52nm,1.5s					
HABR			pmax	pmax		
	comp=Z,83nm,1.1s					
HABR			pmax	pmax		
	comp=N,15nm,1.5s					
HABR			pmax	pmax		
	comp=Z,2μm,7.1s					
HABR			MLR	MLR		
	comp=N,40μm,14.0s					
HABR			MLR	MLR		
	comp=E,85μm,15.0s					
HABR			MLR	MLR		
	comp=Z,88μm,14.0s					
COCO	**West Island**	**39.67 172**	*e*P	**P**		**09 00 39.3 +1.7**
COCO			pmax	pmax		
	comp=Z,498nm,1.0s					
COCO			MLR	MLR		
	comp=Z,9μm,19.0s					
COCO	**West Island**	**39.67 172**	*e*P	**P**		**09 00 39.3 +1.7**
	comp=Z,498nm,1.0s					
COCO			LR	LR		
	comp=Z,9μm,19.0s					
COCO	**West Island**	**39.67 172**	P	P		09 00 46.3 +8.7
GRJI	**Gresik**	**39.69 146**	P	P		09 00 47.1 +9.3
	comp=Z,123nm,1.0s,comp=Z,1μm					
MMSI	**Mamuju**	**39.91 134**	P	**P**		**09 00 41.6 +1.8**
	comp=Z,333nm,1.1s,comp=Z,7μm					
SOKR	**Solikamsk**	**40.03 333**	*c iP*	**P**		**09 00 40.8 +0.7**
SOKR			S	**S**		**09 06 43.6 -1.4**
SOKR			SS	**SS**		**09 09 41.2 -0.9**
SOKR			pmax	pmax		
	comp=Z,560nm,1.5s					
SOKR			MLR	MLR		
	comp=Z,70μm,16.0s					
SJI	**Sawahan**	**40.06 148**	P	**P**		**09 00 41.8 +0.8**
	comp=Z,242nm,1.4s,comp=Z,10μm					
DGRG	**David-gareji**	**40.07 303**	P	**P**		**09 00 43.1 +2.2**
DGRG			S	S		09 06 52.9 +6.5
PWJI	**Pagerwojo**	**40.32 148**	P	P		09 00 47.8 +4.7
	comp=Z,369nm,1.2s,comp=Z,4μm					
MAJO	**Matsushiro**	**40.37 65**	PFAKE			09 01 00.0 +17
MAJO			LR	LR		
	comp=Z,5μm,19.0s					
MAT	**Matsushiro**	**40.37 65**	P	**P**		**09 00 43.0 -0.4**
MAT			S	**S**		**09 06 51.0 +0.1**
APSI	**Ampana**	**40.41 129**	P	P		09 00 54.0 +10
GNI	**Garni**	**40.45 301**	*e*P	**P**		**09 00 46.3 +2.2**
GNI	**Garni**	**40.45 301**	P	**P**		**09 00 46.5 +2.3**
	SNR=41					
GNI	**Garni**	**40.45 301**	PFAKE			09 01 00.0 +16
GNI			LR	LR		
	comp=Z,13μm,19.0s					
KMMI	**Kalianget**	**40.56 144**	P	P		09 00 49.6 +4.5
	comp=Z,263nm,1.2s,comp=Z,8μm					
TBLG	**Delisi**	**40.57 303**	*i* P	**P**		**09 00 44.7 -0.3**
TBLG			S	**S**		**09 06 55.9 +2.1**
TBLG	**Delisi**	**40.57 303**	P	**P**		**09 00 44.7 -0.3**
TBLG			S	**S**		**09 06 55.9 +2.1**
MJSI	**Majene**	**40.62 135**	P	P		09 00 53.6 +8.0
	comp=Z,422nm,1.5s,comp=Z,7μm					
KRKI	**Karangkates**	**40.75 147**	P	P		09 00 54.5 +7.9
	comp=Z,390nm,1.0s					
BLJI	**Banyuglugur**	**40.96 145**	P	P		09 00 53.1 +4.7
	comp=Z,176nm,1.8s,comp=Z,8μm					
CLDR	**Caldiran**	**41.03 299**	*e*P	**P**		**09 00 51.3 +2.2**
HAKT	**HAKKARI**	**41.17 297**	*i* P	**P**		**09 00 50.2 0.0**
CUKT	**Cukurca**	**41.25 296**	*e*P	**P**		**09 00 51.6 +0.8**
LUWI	**Luwuk**	**41.29 128**	P	P		09 01 05.2 +14
GMJI	**Gumukmas**	**41.34 146**	P	P		09 00 58.6 +7.1
	comp=Z,122nm,1.6s,comp=Z,5μm					
SPSI	**Sidrap Palu**	**41.44 134**	P	**P**		**09 00 53.0 +0.7**
	comp=Z,335nm,1.8s,comp=Z,8μm					
AKH	**Akhalkalaki**	**41.48 302**	P	**P**		**09 00 54.9 +2.2**
AKH			S	**S**		**09 07 11.6 +4.1**
RAYN	**Ar Rayn**	**41.50 275**	P	**P**		**09 00 53.5 +0.6**
	comp=Z,316nm,0.9s,SNR=12					
RAYN	**Ar Rayn**	**41.50 275**	*e*P	**P**		**09 00 53.4 +0.6**
DIGO	**Kars**	**41.50 301**	*i* P	**P**		**09 00 51.7 -1.3**
ONI	**Oni**	**41.61 304**	P	**P**		**09 00 55.3 +1.8**
ONI			S	**S**		**09 07 12.7 +3.5**
KARS	**Kars**	**41.74 301**	*e*P	**P**		**09 00 57.1 +2.3**
BYJI	**Banyuwangi**	**41.75 145**	P	P		09 01 04.1 +9.3
AGRB	**Hanur-Agry**	**41.76 300**	*e*P	**P**		**09 00 57.4 +2.3**
BNSI	**Bone**	**41.98 134**	P	**P**		**09 00 58.4 +1.6**
	comp=Z,124nm,1.3s,comp=Z,3μm					
SRBI	**Singaraja**	**42.09 143**	P	P		09 01 02.7 +5.1
	comp=Z,282nm,1.0s,comp=Z,6μm					
KBZ	**Khabaz**	**42.13 306**	P	**P**		**09 00 57.9 +0.2**
KBZ	**Khabaz**	**42.13 306**	P	**P**		**09 00 57.9 +0.2**
KBZ	**Khabaz**	**42.13 306**	P	**P**		**09 00 57.9 +0.2**
	comp=Z,19nm,1.0s,baz=62,slow=8.9,SNR=19					
KBZ			LR	LR		09 20 50.6
	comp=Z,23μm,21.7s,baz=95,slow=39					
SIRT	**Sirnak**	**42.18 297**	*e*P	**P**		**09 00 59.3 +1.0**
GOF	**Gofitskoye**	**42.19 308**	⇑ *i* P	**P**		**09 00 58.6 +0.4**
GOF			*e*S	**S**		**09 07 14.4 -3.2**
GOF			pmax	pmax		
	comp=Z,360nm,1.2s					
SIRN	**S¨–rnak**	**42.20 297**	*i* P	**P**		**09 00 56.2 -2.4**
KAPI	**Kappang**	**42.23 135**	P	P		09 01 03.7 +4.9
	comp=Z,266nm,1.0s,SNR=5.8					
KAPI	**Kappang**	**42.23 135**	P	**P**		**09 00 58.8 0.0**
	comp=Z,4.0nm,1.3s					
KAPI	**Kappang**	**42.23 135**	P	P		09 01 10.0 +11
KAPI	**Kappang**	**42.23 135**	P	**P**		**09 00 58.8 0.0**
	comp=Z,6.9nm,0.8s,baz=317,slow=9.7,SNR=2.7					
KAPI			LR	LR		09 21 45.6
	comp=Z,8μm,19.6s,baz=298,slow=41					
KIV	**Kislovodsk**	**42.30 306**	*e*P	**P**		**09 01 00.0 +0.7**
KIV			*e*			09 02 37.2
KIV			*e*S	**S**		**09 07 20.7 +1.1**
KIV			pmax	pmax		
	comp=Z,597nm,3.9s					
KIV			pmax	pmax		
	comp=Z,137nm,1.1s					
KIV			MLR	MLR		
	comp=Z,17μm,15.0s					
KIV	**Kislovodsk**	**42.30 306**	P	**P**		**09 01 00.9 +1.6**
	comp=Z,637nm,1.2s,SNR=9.2					
HOMI	**Horasan**	**42.61 300**	*i* P	**P**		**09 01 02.8 +0.8**
CHVG	**Ch'k'valeri**	**42.62 304**	P	P		09 01 05.8 +4.0
ARTV	**Artvin**	**42.64 302**	*i* P	**P**		**09 01 03.5 +1.3**
DAGI	**Agillar**	**42.65 302**	*i* P	**P**		**09 01 02.1 0.0**
BKSI	**Bulukumba**	**42.70 135**	P	P		09 01 06.0 +3.4
	comp=Z,46nm,1.5s,comp=Z,2μm					
DDEM	**Demirkent**	**42.76 302**	*i* P	**P**		**09 01 02.8 -0.2**
KKSI	**Kolaka, Sulawe**	**42.81 132**	P	P		09 01 08.8 +5.3
	comp=Z,150nm,1.2s,comp=Z,5μm					
BTMT	**Batman**	**42.92 298**	*e*P	**P**		**09 01 06.1 +1.7**
VRTB	**Varto-Mus**	**42.95 299**	*e*P	**P**		**09 01 05.4 +0.7**
EZM	**Erzurum**	**43.03 300**	*e*P	**P**		**09 01 08.2 +2.8**
BNGL	**BINGOL**	**43.18 299**	*i* P	**P**		**09 01 06.5 -0.1**
TNTI	**Ternate**	**43.42 121**	*e*P	P		09 01 12.9 +4.4
	comp=Z,327nm,1.2s					
TNTI	**Ternate**	**43.42 121**	P	P		09 01 13.7 +5.2
	comp=Z,270nm,1.4s,comp=Z,4μm					
MARD	**Mardin**	**43.51 296**	*i* P	**P**		**09 01 07.2 -1.9**
BNGB	**Bing¶l**	**43.55 299**	*e*P	**P**		**09 01 11.3 +1.8**
KOPT	**Kop Dagi**	**43.69 300**	*i* P	**P**		**09 01 12.4 +1.6**
KBSD	**Kabsdagh**	**43.71 296**	*e*P	P		09 01 02.9 -7.8
MAZI	**Mazidag**	**43.77 297**	*e*P	**P**		**09 01 12.3 +1.1**
DIYA	**Diyarbakir**	**44.01 297**	*i* P	**P**		**09 01 13.9 +0.8**
ASAJ	**Asahikawa**	**44.02 54**	P	**P**		**09 01 13.1 +0.1**
ASAJ	**Asahikawa**	**44.02 54**	P	**P**		**09 01 13.1 +0.1**
	comp=Z,30nm,0.7s,baz=263,slow=9.6,SNR=17					
ASAJ			LR	LR		09 20 09.6
	comp=Z,7μm,18.1s,baz=271,slow=37					
VRHR	**Novokhopersk**	**44.22 316**	*e*P	**P**		**09 01 14.2 -0.3**
VRHR			*e*			09 02 58.8
VRHR			*e*S	**S**		**09 07 45.5 -1.8**
VRHR			*e*			09 11 07.1
VRHR			pmax	pmax		
	comp=Z,400nm,1.3s					
VRHR			pmax	pmax		
	comp=N,60nm,1.0s					
VRHR			pmax	pmax		
	comp=E,660nm,1.4s					
VRHR			pmax	pmax		
	comp=Z,110nm,1.1s					
VRHR			pmax	pmax		
	comp=N,80nm,0.8s					
VRHR			pmax	pmax		
	comp=E,80nm,1.0s					
VRHR			smax	smax		
	comp=E,2μm,3.5s					
VRHR			smax	smax		
	comp=Z,650nm,2.7s					
VRHR			smax	smax		
	comp=N,970nm,2.9s					
VRHR			MLR	MLR		
	comp=Z,24μm,17.0s					
VRHR			MLR	MLR		
	comp=N,1μm,10.0s					
VRHR			MLR	MLR		
	comp=E,17μm,16.0s					
ERZN	**Erzincan**	**44.29 300**	*e*P	**P**		**09 01 15.7 +0.3**
ERM	**Erimo**	**44.30 57**	P	**P**		**09 01 15.3 0.0**
	comp=E,726nm,1.2s,SNR=6.2					
ERM	**Erimo**	**44.30 57**	*d iP*	**P**		**09 01 15.9 +0.6**
ERM			pmax	pmax		
	comp=Z,73nm,1.0s					
ERM			MLR	MLR		
	comp=Z,10μm,16.0s					
ERM	**Erimo**	**44.30 57**	*e*P	**P**		**09 01 15.8 +0.6**
	comp=Z,155nm,0.9s					
ERM			LR	LR		
	comp=Z,9μm,20.0s					
SOC	**Sochi**	**44.41 305**	*i* P	**P**		**09 01 16.5 +0.3**
YSS	**Yuzh-Sakhalins**	**44.43 50**	α *i iP*	**P**		**09 01 16.6 +0.3**
YSS			*e*			09 03 07.0
YSS			*i* S	**S**		**09 07 50.0 -0.4**
YSS			*e**SS	sS		09 08 05.0 +6.3
YSS			*e*			09 11 09.0
YSS			pmax	pmax		
	comp=Z,160nm,0.9s					
YSS			pmax	pmax		
	comp=E,2μm,6.0s					
YSS			pmax	pmax		
	comp=Z,3μm,6.0s					
YSS			pmax	pmax		
	comp=Z,2μm,9.0s					
YSS			pmax	pmax		
	comp=E,600nm,8.0s					
YSS			smax	smax		
	comp=N,10μm,10.0s					
YSS			smax	smax		
	comp=E,5μm,10.0s					
YSS			MLR	MLR		
	comp=E,53μm,13.0s					
YSS			MLR	MLR		
	comp=Z,45μm,13.0s					
GUMT	**Gumushane**	**44.48 301**	*e*P	**P**		**09 01 17.8 +0.9**
PTK	**Pertek**	**44.55 299**	*e*P	**P**		**09 01 18.5 +0.8**
KELT	**Kelkit**	**44.65 300**	*i* P	**P**		**09 01 19.8 +1.4**
ELZG	**Elazig**	**44.88 298**	*i* P	**P**		**09 01 20.5 +0.3**
LBFI	**Labuhan Bajo,**	**45.04 138**	P	P		09 01 37.4 +16
ESPY	**Espiye-Giresun**	**45.05 302**	*e*P	**P**		**09 01 22.6 +1.3**
URFA	**Urfa**	**45.06 297**	*e*P	**P**		**09 01 22.8 +1.3**
ILIC	**ilic-Erzincan**	**45.18 299**	*e*P	**P**		**09 01 23.3 +0.8**
KEMA	**Kemaliye**	**45.25 299**	*i* P	**P**		**09 01 23.5 +0.5**
MALT	**Malatya**	**45.33 298**	*e*P	**P**		**09 01 25.1 +1.4**
MALT	**Malatya**	**45.33 298**	⇑P	**P**		**09 01 24.8 +1.1**
MALT	**Malatya**	**45.33 298**	⇑ *i* P	**P**		**09 01 24.8 +1.1**
ATAB	**Bozova**	**45.48 297**	*i* P	**P**		**09 01 25.0 +0.2**
JHLN	**Al Jahlan**	**45.49 294**	*e*P	**P**		**09 01 22.2 -2.7**
DAMY	**Dhamar**	**45.51 264**	*e*P	**P**		**09 01 26.9 +1.3**
VORD	**Divnogorie**	**45.64 316**	*e*P	**P**		**09 01 26.1 +0.3**
VORD			*e*			09 03 08.1
VORD			*e*S	**S**		**09 08 05.5 -2.3**
VORD			*e*			09 11 17.6
VORD			pmax	pmax		
	comp=E,100nm,1.0s					
VORD			pmax	pmax		
	comp=Z,170nm,1.0s					
VORD			pmax	pmax		
	comp=N,130nm,1.3s					
VORD			smax	smax		
	comp=E,1μm,4.1s					
VORD			smax	smax		
	comp=Z,130nm,1.9s					
VORD			smax	smax		
	comp=N,650nm,2.2s					
VORD			MLR	MLR		
	comp=Z,38μm,17.0s					
VORD			MLR	MLR		
	comp=N,8μm,12.0s					
VORD			MLR	MLR		
	comp=E,28μm,16.0s					
AKCD	**Akcadag**	**45.73 298**	*i* P	**P**		**09 01 27.2 +0.3**
VOR	**Voronezh**	**45.84 317**	*e*P	**P**		**09 01 27.0 -0.4**
VOR			pmax	pmax		
	comp=Z,560nm,1.4s					
SLMH	**Al Salmeh**	**45.86 295**	*e*P	**P**		**09 01 27.6 -0.2**
NLAI	**Namlea**	**45.90 126**	P	P		09 01 40.9 +13
DARE	**Darende-Malaty**	**46.06 298**	*e*P	**P**		**09 01 30.2 +0.8**
RSDY	**Resadiye-TOKAT**	**46.12 301**	*e*P	**P**		**09 01 31.3 +1.5**
ANN	**Anapa**	**46.13 307**	*e*P	P		09 01 26.4 -3.3
ANN			*e*			09 03 11.4
ANN			*e*S	**S**		**09 08 11.6 -3.4**
ANN			*e*SSS	SSS		09 12 37.0
ANN			pmax	pmax		
	comp=Z,95nm,1.0s					
ANN			MLR	MLR		
	comp=N,16μm,16.0s					
ANN			MLR	MLR		
	comp=E,8μm,16.0s					
ANN			MLR	MLR		
	comp=Z,20μm,16.0s					
SCER	**sogukcermik**	**46.28 300**	*i* P	**P**		**09 01 30.1 -1.1**
YUK	**Yuzh-Kuril'sk**	**46.36 54**	*i* P	P		09 01 25.6 -6.0
YUK			*i*			09 03 10.4
YUK			*i* PPP	PPP		09 04 08.0
YUK			pmax	pmax		
	comp=N,198nm,1.4s					
YUK			pmax	pmax		
	comp=Z,2μm,1.4s					
YUK			pmax	pmax		
	comp=Z,1μm,1.5s					
YUK			pmax	pmax		
	comp=E,551nm,1.5s					
YUK			MLR	MLR		
	comp=N,2μm,12.0s					
YUK			MLR	MLR		
	comp=E,8μm,12.0s					
YUK			MLR	MLR		
	comp=Z,9μm,12.0s					
SVSK	**Karacayir**	**46.38 300**	*e*P	P		09 01 27.5 -4.4
ERBA	**Erbaa**	**46.55 301**	*i* P	**P**		**09 01 33.1 -0.1**
KMRS	**Kahramanmaras**	**46.58 297**	*e*P	**P**		**09 01 31.6 -1.9**
MMRI	**Maumere**	**46.58 136**	*e*P	P		09 01 37.1 +3.5
	comp=Z,224nm,1.0s					
MMRI	**Maumere**	**46.58 136**	P	P		09 01 39.3 +5.7
	comp=Z,183nm,1.0s,comp=Z,4μm					
ROOS	**tl_alroos**	**46.59 292**	*e*P	**P**		**09 01 32.2 -1.4**
AYKD	**Aykdinkavak**	**46.66 297**	*i* P	**P**		**09 01 33.8 -0.3**
ZALF	**Zalf**	**46.71 291**	*e*P	P		09 01 30.3 -4.3
TOKT	**Tokat**	**46.72 301**	*e*P	**P**		**09 01 35.7 +1.2**
PINB	**Pinarbasi**	**46.90 299**	*i* P	**P**		**09 01 36.1 -0.2**
AAI	**Ambon**	**47.00 125**	P	P		09 01 44.4 +7.5
	comp=Z,176nm,1.1s,comp=Z,4μm					
ANDN	**Andirin**	**47.02 297**	*i* P	**P**		**09 01 35.3 -1.7**
BTCH	**Batrach**	**47.06 295**	*e*P	P		09 01 41.6 +4.3
KVT	**Kavak**	**47.08 302**	*e*P	**P**		**09 01 37.8 +0.4**
MSEY	**Mahe Island**	**47.13 233**	*e*P	**P**		**09 01 39.6 +1.6**
	comp=Z,130nm,1.3s					
MSEY			LR	LR		
	comp=Z,19μm,19.0s					
ASF	**Jabal al Asfar**	**47.19 290**	LR	LR		09 26 09.5
	comp=Z,12μm,18.1s,baz=208,slow=42					
MARH	**Ras Al Marh**	**47.27 292**	*e*P	**P**		**09 01 40.6 +1.3**
MSAI	**Masohi**	**47.30 124**	P	P		09 01 52.4 +13
BNN	**Bunyan**	**47.32 299**	*e*P	**P**		**09 01 39.2 -0.2**
HAVZ	**Havza**	**47.33 302**	*i* P	**P**		**09 01 39.8 +0.5**
YAYL	**Yayladag**	**47.34 295**	*i* P	**P**		**09 01 38.3 -1.3**
TOTH	**TOTAH**	**47.40 291**	*e*P	**P**		**09 01 42.1 +2.1**
KOZT	**Kozan**	**47.43 297**	*e*P	**P**		**09 01 39.2 -0.9**
SWI	**Sorong**	**47.44 120**	P	P		09 01 44.5 +4.1
	comp=Z,151nm,1.0s,comp=Z,3μm					
ARNB	**Al Arnab**	**47.47 295**	*e*P	P		09 01 45.5 +5.0
MOS	**Moscow**	**47.63 322**	*e*P	**P**		**09 01 39.5 -1.8**
MOS			*i*			09 03 32.6
MOS			*i* S	**S**		**09 08 33.8 -2.3**
MOS			*e*			09 11 29.7
MOS			pmax	pmax		
	comp=Z,2μm,1.8s					
MOS			pmax	pmax		
	comp=Z,679nm,1.5s					
MOS			pmax	pmax		
	comp=E,309nm,1.1s					
MOS			smax	smax		
	comp=E,4μm,5.2s					
MOS			smax	smax		
	comp=N,6μm,4.6s					
MOS			MLR	MLR		
	comp=E,26μm,14.0s					
MOS			MLR	MLR		
	comp=Z,30μm,14.0s					
MOS			MLR	MLR		
	comp=N,4μm,12.0s					
DIKM	**Dikmen**	**47.66 303**	*e*P	**P**		**09 01 41.3 -0.6**
YOZ	**Yozgat**	**47.69 300**	*e*P	**P**		**09 01 43.3 +1.1**
BRBR	**Barbar**	**47.79 291**	*e*P	**P**		**09 01 46.0 +2.8**
KUR	**Kuril'sk**	**47.84 53**	*c iP*	P		09 01 39.5 -3.6
KUR			*i* S	**S**		**09 08 35.6 -3.7**
KUR			MLR	MLR		
	comp=N,9μm,13.0s					
KUR			MLR	MLR		
	comp=E,16μm,13.0s					
KUR			MLR	MLR		
	comp=Z,17μm,13.0s					
TCHB	**Talchebab**	**47.88 290**	*e*P	**P**		**09 01 45.1 +1.4**
KARA	**Karaisali**	**48.06 297**	*e*P	**P**		**09 01 45.4 +0.4**
OBN	**Obninsk**	**48.08 321**	α *iP*	**P**		**09 01 44.8 0.0**
OBN			*i*			09 03 37.8
OBN			*i* S	**S**		**09 08 39.5 -2.9**
OBN			*i* PS			09 08 56.9
OBN			pmax	pmax		
	comp=Z,759nm,1.7s					
OBN			MLR	MLR		
	comp=Z,21μm,17.0s					
OBN	**Obninsk**	**48.08 321**	P	**P**		**09 01 44.4 -0.4**
	comp=Z,2μm,1.0s,SNR=15					
KLMR	**Klimovskoe**	**48.15 329**	*c iP*	**P**		**09 01 45.6 +0.3**
KLMR			*i*			09 03 38.9
KLMR			*i* S	**S**		**09 08 40.5 -2.9**
KLMR			pmax	pmax		
	comp=Z,2μm,1.6s					
KLMR			pmax	pmax		
	comp=Z,921nm,1.4s					
KLMR			MLR	MLR		
	comp=Z,32μm,12.0s					
CORM	**Corum**	**48.19 301**	*e*P	**P**		**09 01 44.7 -1.4**
GULE	**Gulek**	**48.28 297**	*i* P	**P**		**09 01 47.1 +0.2**
NIG	**Nigde**	**48.34 298**	*e*P	**P**		**09 01 48.2 +0.7**
MMLI	**Mount Malkishu**	**48.38 290**	*e*P	**P**		**09 01 46.9 -0.7**
SIM	**Simferopol'**	**48.49 307**	*e*P	**P**		**09 01 50.0 +1.8**
SIM			*e*			09 03 40.0
SIM			*e*S	**S**		**09 08 49.0 +0.3**
SIM			pmax	pmax		
	comp=Z,91nm,1.2s					
SIM			MLR	MLR		
	comp=N,11μm,16.0s					
TOS	**Tosya**	**48.61 302**	*e*P	**P**		**09 01 48.9 -0.4**
SOEI	**Soe**	**48.71 135**	P	**P**		**09 01 49.7 -0.6**
	comp=N,221nm,2.3s,comp=N,5μm					
TIXI	**Tiksi**	**48.89 15**	*c iP*	**P**		**09 01 50.6 -0.2**
TIXI			pmax	pmax		
	comp=Z,353nm,1.7s					
TIXI			MLR	MLR		
	comp=Z,14μm,16.0s					
EREN	**Erenkoy**	**48.96 295**	*e*P	**P**		**09 01 53.0 +1.1**
BR131	**Keskin Array S**	**48.98 300**	*e*P	**P**		**09 01 52.3 +0.1**
	comp=Z,43nm,0.7s					
BRTR	**Keskin Array B**	**48.98 300**	P	**P**		**09 01 51.8 -0.4**
BRTR	**Keskin Array B**	**48.98 300**	P	**P**		**09 01 51.8 -0.4**
	comp=Z,14nm,0.6s,baz=104,slow=6.1,SNR=43					
BRTR			LR	LR		09 26 41.8
	comp=Z,3μm,19.6s,baz=304,slow=41					
ELDT	**Eldivan**	**49.09 301**	*i* P	**P**		**09 01 53.1 0.0**
SULT	**Sultanhani-AKS**	**49.20 298**	*e*P	**P**		**09 01 55.1 +1.3**
BBAL	**Bala**	**49.39 300**	*i* P	**P**		**09 01 53.1 -2.3**
AFSR	**Af´ar-Bala (A**	**49.44 300**	*e*P	**P**		**09 01 56.4 +0.7**
FAKI	**Fak Fak**	**49.51 121**	P	P		09 02 00.8 +4.5
	comp=Z,128nm,1.2s,comp=Z,3μm					
ANTO	**Ankara**	**49.62 300**	*e*P	**P**		**09 01 56.2 -0.8**
ANTO	**Ankara**	**49.62 300**	⇓P	**P**		**09 01 57.8 +0.8**
ANTO	**Ankara**	**49.62 300**	P	**P**		**09 01 58.0 +1.0**
	SNR=8.5					
ANTO	**Ankara**	**49.62 300**	*e*P	**P**		**09 01 57.4 +0.4**
	comp=Z,183nm,1.3s					
ANTO			LR	LR		
	comp=Z,4μm,20.0s					
ANTO	**Ankara**	**49.62 300**	⇓ *i* P	**P**		**09 01 57.8 +0.8**
BR231	**Keskin MP Arra**	**49.63 300**	*e*P	P		09 01 53.0 -4.1
CSS	**Prodhromos**	**49.72 294**	*e*P	P		09 02 01.9 +4.1
ERMK	**Ermenek**	**49.84 296**	*i* P	**P**		**09 01 57.5 -1.4**
TMCR	**Tamitsa**	**49.97 333**	*e*P	**P**		**09 01 58.8 -0.3**
TMCR			*e*			09 03 18.4
TMCR			pmax	pmax		
	comp=Z,305nm,1.3s					
HDMB	**Hadim**	**50.14 297**	*e*P	**P**		**09 02 00.6 -0.6**
GAZI	**Gazipasa**	**50.37 296**	*i* P	**P**		**09 02 01.2 -1.5**
KMPI	**Kaimana, Papua**	**51.10 120**	P	P		09 02 22.5 +14
BOLV	**Bolvadin**	**51.15 299**	*i* P	**P**		**09 02 07.1 -1.6**
BORA	**Eskisehir**	**51.41 301**	*i* P	**P**		**09 02 09.3 -1.2**
GUMO	**Guam**	**51.52

comp=Z,25nm,0.4s,baz=79,slow=6.8,SNR=82
AKASG S **S** **09 09 32.7 -3.9**
comp=Z,0.3nm,0.3s,baz=88,slow=14,SNR=3.2
AKASG LR LR 09 27 41.2
comp=Z,28μm,20.6s,baz=85,slow=40
AKASG PKPPKP P'P'df 09 32 48.7 -6.5
comp=Z,1.7nm,0.5s,baz=345,slow=2.0,SNR=9.9
KIEV Kiev 51.96 314 *e*P **P** **09 02 13.7 -0.6**
KIEV MLR MLR
comp=Z,26μm,20.0s
KIEV Kiev 51.96 314 *e*P **P** **09 02 13.7 -0.6**
KIEV LR LR
comp=Z,26μm,20.0s
KIS Kishinev 52.19 310⇑*i*P **P** **09 02 15.0 -1.1**
comp=Z,900nm,3.0s
KIS Kishinev 52.19 310 *i* PP PP 09 04 20.0 +5.6
comp=Z,2μm,8.0s
KIS Kishinev 52.19 310α *i*P **P** **09 02 15.0 -1.1**
KIS *i* 09 04 20.0
KIS *i* PPP PPP 09 05 24.0
KIS *i* S **S** **09 09 37.0 -3.0**
KIS *i* SS **ScS** **09 12 02.0 -3.5**
KIS *i* SSS SSS 09 13 20.0
KIS pmax pmax
comp=Z,900nm,3.0s
KIS pmax pmax
comp=Z,1μm,5.0s
KIS pmax pmax
comp=Z,2μm,8.0s
KIS smax smax
comp=N,1μm,3.0s
KIS smax smax
comp=E,800nm,3.0s
KIS smax smax
comp=N,7μm,12.0s
KIS smax smax
comp=E,4μm,16.0s
KIS MLR MLR
comp=E,9μm,14.0s
KIS MLR MLR
comp=Z,14μm,14.0s
KIS MLR MLR
comp=N,8μm,16.0s
KIS MLR MLR
comp=Z,11μm,15.0s
GDZ Gediz 52.24 300 *i* P **P** **09 02 16.0 -0.9**
TLCR 52.24 307 P **P** **09 02 16.8 +0.2**
TLCR 52.24 307⇑*i*P **P** **09 02 16.8 +0.2**
TLCR 52.24 307⇑*i*P **P** **09 02 17.0 +0.4**
PUL Pulkovo 52.29 326 *e*P **P** **09 02 17.3 +0.6**
PUL pmax pmax
comp=Z,806nm,1.2s
PUL MLR MLR
comp=Z,37μm,17.0s
BUY Buyukada 52.33 302 *i* P P 09 02 13.7 -3.5
GOLH Golhisar 52.42 297 *i* P **P** **09 02 15.2 -2.9**
JOF Joensuu 52.47 330 *e*P **P** **09 02 18.9 +1.0**
JOF pmax pmax
comp=Z,98nm,0.7s
KSL Kastellorizon 52.56 296 *e*P P 09 02 23.3 +4.2
TIRR Tirgusor 52.57 306 ⇑P **P** **09 02 19.3 +0.3**
TIRR Tirgusor 52.57 306 *e*P **P** **09 02 19.0 +0.1**
comp=Z,133nm,1.2s
TIRR Tirgusor 52.57 306⇑*i*P **P** **09 02 19.3 +0.3**
LEOM Leova 52.59 309 ⇑P **P** **09 02 20.1 +1.0**
LEOM Leova 52.59 309⇑*i*P **P** **09 02 20.1 +1.0**
CFR Carcaliu 52.72 307 ⇑P **P** **09 02 20.3 +0.2**
CFR Carcaliu 52.72 307⇑*i*P **P** **09 02 20.3 +0.2**
DNZL Cakiroluk 52.76 298 *i* P **P** **09 02 18.9 -1.9**
PSN Preselentsi 52.78 306 *i* P **P** **09 02 19.9 -0.7**
ELBA Catalca 52.82 302 *i* P **P** **09 02 19.7 -1.3**
SEY Seymchan 52.82 30*c* *i*P **P** **09 02 21.0 +0.5**
DEMI Demirci 52.84 300 *i* P **P** **09 02 20.4 -0.8**
APA Apatity 52.92 336⇓*i*P **P** **09 02 21.4 +0.1**
APA *i* 09 03 31.4
APA *i* 09 04 20.0
APA *i* S **S** **09 09 46.0 -3.5**
APA pmax pmax
comp=Z,78nm,1.0s
APA MLR MLR
comp=Z,38μm,18.0s
DURS Dursunbey 52.96 300 *i* P **P** **09 02 20.4 -1.7**
MICGM Minsk 52.97 319⇑*e*P **P** **09 02 20.0 -1.8**
MNK Minsk 53.00 319 *e*P **P** **09 02 20.0 -2.0**
MNK *e* 09 03 24.0
MNK *e*S S 09 09 44.0 -6.9
MNK *e* 09 12 04.0
MNK pmax pmax
comp=Z,770nm,1.0s
MNK pmax pmax
comp=E,720nm,1.0s
MNK smax smax
comp=N,18μm,12.0s
MNK smax smax
comp=E,14μm,16.0s
MNK MLR MLR
comp=N,20μm,12.0s
MNK MLR MLR
comp=E,38μm,14.0s
MNK MLR MLR
comp=Z,39μm,13.0s
AKHS Akhisar 53.56 300 *i* P **P** **09 02 25.6 -0.9**
BALY Balya 53.59 301 *i* P **P** **09 02 25.6 -1.1**
NACGM Naroch 53.63 320 *e*P **P** **09 02 24.0 -2.6**
VRI Vrincioaia 53.67 308 ⇑P **P** **09 02 28.1 +0.9**
VRI Vrincioaia 53.67 308⇑*i*P **P** **09 02 28.1 +0.9**
IDID Didziasalis 53.68 320 *e*P **P** **09 02 27.2 +0.2**
IDID AMB AMB 09 02 31.5
comp=Z,89nm,2.0s
PLOR Plostina 53.73 308 ⇑P **P** **09 02 28.7 +1.1**
PLOR Plostina 53.73 308⇑*i*P **P** **09 02 28.7 +1.1**
ISR Istrita 53.85 307 ⇑P **P** **09 02 29.4 +0.9**
ISR Istrita 53.85 307⇑*i*P **P** **09 02 29.4 +0.9**
VSU Vasula 53.94 324*c* *i*P **P** **09 02 28.9 +0.1**
VSU pmax pmax
comp=Z,1μm,1.2s
VSU MLR MLR
comp=Z,102μm,17.0s
IIGN Ignalina 53.98 320 *e*P **P** **09 02 29.3 +0.2**
IIGN AMB AMB 09 02 33.4
comp=Z,140nm,0.9s
ISAL Salakas 54.04 320 *e*P **P** **09 02 29.9 +0.2**
ISAL AMB AMB 09 02 34.2
comp=Z,119nm,1.9s
GCAM G?zelcaml? 54.18 298 *i* P **P** **09 02 30.0 -1.0**
MLR Muntele Rosu 54.25 308⇓*i*P **P** **09 02 32.4 +0.9**
PEA0 Petropavlovsk- 54.49 43 *e*P **P** **09 02 32.5 -0.4**
PETK Petropavlovsk- 54.49 43 P **P** **09 02 31.5 -1.5**
PETK Petropavlovsk- 54.49 43 P **P** **09 02 31.5 -1.5**
PETK Petropavlovsk- 54.49 43 P **P** **09 02 31.5 -1.5**
comp=Z,22nm,1.0s,baz=245,slow=8.8,SNR=11
PETK LR LR 09 28 09.1
comp=Z,22μm,19.2s,baz=269,slow=39
SMG Samos 54.49 298 *e*P **P** **09 02 33.8 +0.5**
KAF Kangasniemi 54.60 328 *e*P **P** **09 02 34.0 +0.4**
KAF pmax pmax
comp=Z,89nm,0.7s
KARP Karpathos 54.61 296 *e*P P 09 02 38.0 +3.9
FIA1 FINESS Array S 54.62 328 *e*P **P** **09 02 33.6 -0.1**
FINES FINESS Array B 54.62 328 P **P** **09 02 33.2 -0.5**
FINES FINESS Array B 54.62 328 P **P** **09 02 33.2 -0.5**
comp=Z,84nm,0.7s,baz=99,slow=8.6,SNR=126
FINES LR LR 09 28 22.7
comp=Z,15μm,18.8s,baz=90,slow=39
ALN Alexandroupoli 54.64 302 *e*P **P** **09 02 36.2 +2.0**
PRK Paraskevi 54.70 300 *e*P **P** **09 02 35.1 +0.4**
BOZC Bozcaada 54.78 301 *i* P **P** **09 02 33.7 -1.6**
RDO Rodhopi 54.99 303 *e*P **P** **09 02 36.9 +0.1**
CHOS Chios Island 54.99 299 *e*P **P** **09 02 39.2 +2.2**
KDZ Kurdzhali 55.01 303 *i* P **P** **09 02 37.8 +0.8**
PET Petropavlovsk 55.06 43 *e*P **P** **09 02 36.4 -0.7**
PET *e*S **S** **09 10 14.8 -4.0**
PET *e*SS **SS** **09 13 58.5 -3.8**
PET pmax pmax
comp=Z,2μm,9.9s
PET pmax pmax
comp=Z,3μm,8.1s
PET MLR MLR
comp=Z,38μm,15.0s
PET MLR MLR
comp=Z,40μm,15.0s
SMTH Samothraki Isl 55.08 302 *e*P **P** **09 02 37.2 -0.3**
ARCR ARCALIA 55.23 310⇑*i*P **P** **09 02 39.3 +0.9**
LVV L'vov 55.28 313*d* *i*P **P** **09 02 38.0 -0.8**
LVV *e*S **S** **09 10 19.0 -2.9**
LVV MLR MLR
comp=Z,13μm,17.0s
LIA Limnos Island 55.43 301 *e*P **P** **09 02 39.7 -0.3**
MBWA Marble Bar 55.46 148 *e*P **P** **09 02 39.8 -0.5**
comp=Z,63nm,1.0s
MBWA LR LR
comp=Z,7μm,20.0s
RZN Rozhen 55.53 303 *i* P **P** **09 02 40.4 -0.5**
SUW Suwalki 55.71 318 *e*P **P** **09 02 41.5 -0.2**
SUW pmax pmax
comp=Z,688nm,1.1s
SUW Suwalki 55.71 318 *e*P **P** **09 02 41.5 -0.2**
comp=Z,688nm,1.1s
SUW Suwalki 55.71 318 *e*P **P** **09 02 41.7 0.0**
SUW *e*S **S** **09 10 26.5 -0.9**
SUW LMZ LR 09 29 54.8
LOT Lotru 55.77 308⇑*i*P **P** **09 02 43.5 +1.0**
SANT Santorini 55.81 297 *e*P **P** **09 02 42.4 -0.4**
comp=Z,2μm,1.6s
SANT LR LR
comp=Z,5μm,20.0s
NPS Neapolis 55.90 296 *e*P P 09 02 49.4 +5.9
MPEP Malo Peshtene 56.03 306 *i* P **P** **09 02 44.7 +0.5**
FITZ Fitzroy Crossi 56.05 140 *e*P **P** **09 02 43.5 -1.0**
comp=Z,53nm,1.0s
KWP Kalwaria Pacla 56.15 313⇓P **P** **09 02 45.7 +0.7**
KWP Kalwaria Pacla 56.15 313⇓*i*P **P** **09 02 45.7 +0.7**
KWP Kalwaria Pacla 56.15 313 *e*P **P** **09 02 45.4 +0.4**
KWP *e*pP **pP** **09 02 46.8 -3.4**
KWP *e*S **S** **09 10 33.5 -0.1**
KWP LMZ LR 09 30 07.3
NVR Nevrokopi 56.21 303 *e*P **P** **09 02 45.0 -0.6**
ARA0 ARCESS Array S 56.25 337 *e*P **P** **09 02 45.5 +0.1**
ARCES ARCESS Array B 56.25 337 P **P** **09 02 45.3 -0.1**
ARCES ARCESS Array B 56.25 337 P **P** **09 02 45.3 -0.1**
comp=Z,22nm,0.4s,baz=97,slow=7.6,SNR=124
ARCES LR LR 09 29 05.1
comp=Z,32μm,19.5s,baz=108,slow=38
ARE0 ARCESS Array S 56.25 337 *e*P **P** **09 02 45.8 +0.3**
ARE0 *e*S **S** **09 10 34.6 +0.3**
ARE0 *e*SS **SS** **09 14 22.5 +1.9**
ARE0 ARCESS Array S 56.25 337 *e*P **P** **09 02 45.5 +0.1**
MMB Musomiste 56.28 303 *i* P **P** **09 02 45.5 -0.6**
DEV Deva 56.34 309 ⇑P **P** **09 02 47.2 +0.8**
DEV Deva 56.34 309⇑*i*P **P** **09 02 47.2 +0.8**
TRPA Tarpa 56.37 311⇑*i*P **P** **09 02 47.2 +0.6**
DRGR 56.38 310 ⇑P **P** **09 02 47.4 +0.6**
DRGR 56.38 310⇑*i*P **P** **09 02 47.4 +0.6**
IDI Anoyia 56.48 296 *e*P P 09 02 54.8 +7.2
IDI Anoyia 56.48 296 *e*P **P** **09 02 47.5 -0.2**
comp=Z,127nm,0.9s
KOLS Kolonicke sedl 56.48 312 *e*P **P** **09 02 46.6 -0.8**
KOLS pmax pmax
comp=Z,20nm,1.5s
KOLS Kolonicke sedl 56.48 312 *e*P **P** **09 02 46.6 -0.8**
UZH Uzhgorod 56.50 312 *e*P **P** **09 02 46.4 -1.1**
UZH *i* 09 02 52.8
UZH *e* 09 03 46.6
UZH *i* 09 04 49.8
UZH *e*PPP PPP 09 06 06.4
UZH *i* S **S** **09 10 32.8 -5.3**
UZH *i* PS **PnS** **09 10 41.8 -7.1**
UZH *e* 09 12 28.4
UZH MLR MLR
comp=N,6μm,14.0s
UZH MLR MLR
comp=E,14μm,14.0s
UZH MLR MLR
comp=Z,7μm,14.0s
VTS Vitosha 56.52 305⇓P **P** **09 02 48.5 +0.6**
VTS Vitosha 56.52 305⇓*i*P **P** **09 02 48.5 +0.6**
VTS Vitosha 56.52 305 *i* P **P** **09 02 47.7 -0.2**
AOS Alonnisos 56.54 301 *e*P P 09 02 51.2 +3.2
PAIG Paliouri 56.57 301 *e*P **P** **09 02 48.3 +0.2**
SOH Sokhos 56.67 303 *e*P **P** **09 02 48.2 -0.7**
PLG Polygyros 56.67 302 *e*P **P** **09 02 48.9 0.0**
KKB Krupnik 56.71 304 *i* P **P** **09 02 48.5 -0.7**
PTL Penteli 56.75 299 *e*P P 09 02 52.9 +3.4
ATH Athens Observa 56.88 299 *e*P **P** **09 02 52.1 +1.7**
KTK1 Kautokeino 56.95 336 *e*P **P** **09 02 48.1 -2.2**
KTK1 AMB AMB 09 02 57.3
comp=Z,150nm,0.8s
KTK1 *e*S **S** **09 10 43.3 -0.2**
KTK1 *e*SS **SS** **09 14 34.5 +3.1**
CRVS Cervenica-Dubn 57.02 312 *e*P **P** **09 02 51.5 +0.3**
CRVS pmax pmax
comp=Z,135nm,2.4s
CRVS Cervenica-Dubn 57.02 312 *e*P **P** **09 02 51.5 +0.3**
STHS Stebnicka Huta 57.12 313 *e*P **P** **09 02 51.8 -0.1**
STHS pmax pmax
comp=Z,10.0nm,0.9s
STHS Stebnicka Huta 57.12 313 *e*P **P** **09 02 51.8 -0.1**
SIRR Siria 57.15 309⇑*i*P **P** **09 02 53.2 +1.0**
VAY Valandovo 57.18 303⇑*i*P **P** **09 02 51.0 -1.4**
GVD Gavdhos 57.21 295 *e*P P 09 02 56.8 +4.0
comp=Z,414nm,0.7s
BEL Belsk 57.23 316 *e*P **P** **09 02 53.0 +0.4**
BEL *e*pP **pP** **09 02 54.9 -2.9**
BEL *e*S **S** **09 10 47.1 -0.5**
BEL LMZ LR 09 30 41.7
BZS Buzias 57.26 308⇓P **P** **09 02 53.0 +0.1**
BZS Buzias 57.26 308⇓*i*P **P** **09 02 53.0 +0.1**
DID Didima 57.34 296 *e*P P 09 02 59.2 +5.5
GRG Griva 57.36 303 *e*P **P** **09 02 53.2 -0.6**
LTK Loutraki 57.45 299 *e*P **P** **09 02 53.8 -0.7**
MRIV Mauritius Mete 57.68 218 *e*P **P** **09 02 56.9 +0.8**
KECS Kecovo 57.70 312 *e*P **P** **09 02 56.0 0.0**
KECS pmax pmax
comp=Z,13nm,0.2s
KECS Kecovo 57.70 312 *e*P **P** **09 02 56.0 0.0**
NIE Niedzica 57.73 313⇑*i*P **P** **09 02 57.1 +0.9**
NIE *e* 09 05 04.7
NIE *i* S **S** **09 10 54.1 -0.3**
NIE MLR MLR
comp=Z,30μm,19.8s
NIE Niedzica 57.73 313 *i* P **P** **09 02 57.1 +0.9**
NIE *e*pP **pP** **09 02 59.6 -1.8**
NIE *e*PP **PP** **09 05 04.7 +0.7**
NIE *i* S **S** **09 10 54.1 -0.3**
NIE L L 09 31 28.0
comp=Z,30μm,19.8s
VLI Velial 57.73 298 *e*P **P** **09 02 56.5 +0.1**
AGG Agios Georgios 57.75 301 *e*P **P** **09 02 55.7 -0.9**
THL Klokotos Trika 57.90 301 *e*P **P** **09 02 55.9 -1.6**
SKO Skopje 57.91 304⇑*i*P **P** **09 02 58.6 +1.0**
KZN Kozani 57.95 302 *e*P **P** **09 02 57.6 -0.4**
OJC Ojcow 57.98 314⇑*i*P **P** **09 02 57.9 0.0**
OJC *e* 09 05 05.9
OJC *i* S **S** **09 10 55.5 -2.1**
OJC MLR MLR
comp=Z,23μm,18.9s
OJC Ojcow 57.98 314 *e*P **P** **09 02 58.0 0.0**
comp=Z,101nm,0.8s
OJC Ojcow 57.98 314 *i* P **P** **09 02 57.9 0.0**
OJC *e*pP **pP** **09 03 00.7 -2.4**
OJC *e*PP **PP** **09 05 05.9 -0.3**
OJC *i* S **S** **09 10 55.5 -2.1**
OJC L L 09 30 52.0
comp=Z,23μm,18.9s
KALE Kalithea 58.02 300 *e*P **P** **09 03 01.3 +2.8**
VLX Vlachokerasia 58.04 299 *e*P **P** **09 02 58.5 -0.2**
TRIZ Trizonia 58.08 300 *e*P **P** **09 03 01.2 +2.4**
BIA Bitola 58.16 303 *i* P **P** **09 02 57.7 -1.7**
FNA Florina 58.16 303 *e*P **P** **09 02 58.2 -1.2**
PSZ Piszkesteto 58.16 311 ⇓P **P** **09 02 59.5 +0.2**
PSZ Piszkesteto 58.16 311 *e*P **P** **09 02 59.3 -0.1**
comp=Z,69nm,0.9s
PSZ LR LR
comp=Z,10μm,22.0s
PSZ Piszkesteto 58.16 311⇓*i*P **P** **09 02 59.5 +0.2**
PSZ Piszkesteto 58.16 311⇓*e*P **P** **09 02 59.6 +0.2**
EVR Evrytania 58.17 301 *e*P **P** **09 03 00.3 +0.7**
LAKA Lakka 58.17 300 *e*P **P** **09 02 59.0 -0.5**
ITM Ithomi 58.43 299 *e*P **P** **09 02 59.8 -1.5**
AMT Artemida-Makis 58.53 299 *e*P **P** **09 03 03.5 +1.5**
TRO Tromso 58.55 337 *e*P P 09 03 04.8 +3.2
TRO AMB AMB 09 03 07.5
comp=Z,268nm,1.0s
TRO *e*S **S** **09 11 04.1 -0.3**
TRO AMS AMS 09 30 12.9
comp=Z,26μm,16.2s
RLS Riolos of Patr 58.61 300 *e*P P 09 03 06.9 +4.4
PYL PYLOS 58.63 298 *e*P **P** **09 03 02.0 -0.7**
VYHS Vyhne 58.79 312 *e*P **P** **09 03 03.7 0.0**
VYHS pmax pmax
comp=Z,14nm,1.3s
VYHS Vyhne 58.79 312 *e*P **P** **09 03 03.7 0.0**
BUD Budapest 58.80 311⇑*e*P **P** **09 03 02.8 -0.9**
IVA Berane 58.89 305 *e*P **P** **09 03 04.3 -0.2**
PVY Plav 58.89 305 *e*P **P** **09 03 03.6 -1.0**
RAC Raciborz 59.02 314 *e*P **P** **09 03 06.0 +0.8**
RAC *e*S **S** **09 11 07.6 -3.5**
RAC MLR MLR
comp=E,14μm,20.8s
RAC MLR MLR
comp=Z,15μm,21.7s
RAC MLR MLR
comp=N,15μm,17.3s
LKD2 Lefkada island 59.08 301 *e*P **P** **09 03 05.6 -0.2**
OKC Ostrava-Krasne 59.08 314⇑*i*P **P** **09 03 05.9 +0.3**
OKC *e*S **S** **09 11 11.1 -0.8**
OKC *e* 09 12 54.9
OKC MLR MLR
comp=Z,11μm,15.2s
OKC Ostrava-Krasne 59.08 314⇑*i*P **P** **09 03 05.9 +0.3**
OKC *e*S **S** **09 11 11.1 -0.8**
OKC *e*SCS **ScS** **09 12 54.9 -0.1**
OKC AMS AMS 09 32 00.0
comp=Z,11μm,15.2s
BJO Bjornoya 59.12 343 *e* 09 01 50.9
BJO AMS AMS 09 22 38.5
comp=Z,33μm,16.7s
PLE Pljevlja 59.17 306⇑*i*P **P** **09 03 06.0 -0.5**
TIR Tirane 59.18 304 *e*P **P** **09 03 07.4 +1.0**
TIR pmax pmax
comp=Z,144nm,0.9s
TIR MLR MLR
comp=Z,8μm,20.0s
TIR Tirane 59.18 304 *e*P **P** **09 03 07.4 +1.0**
comp=Z,144nm,0.9s
TIR LR LR
comp=Z,8μm,20.0s
PKSG 59.24 311⇑*e*P **P** **09 03 06.6 -0.1**
VLS Valsamata 59.26 300 *e*P **P** **09 03 07.4 +0.3**
KMBO Kilima Mbogo 59.26 251 *e*P **P** **09 03 07.8 +0.2**
KMBO Kilima Mbogo 59.26 251 P **P** **09 03 08.1 +0.4**
SNR=57
KMBO Kilima Mbogo 59.26 251 *e*P **P** **09 03 07.4 -0.3**
comp=Z,138nm,1.1s
KMBO Kilima Mbogo 59.26 251 P **P** **09 03 07.7 0.0**
comp=Z,9.0nm,0.6s,baz=44,slow=7.7,SNR=27
KMBO LR LR 09 30 20.3
comp=Z,9μm,18.2s,baz=78,slow=38
GKP Gorka Klasztor 59.28 318 *e*P **P** **09 03 07.6 +0.7**
GKP *e*S **S** **09 11 13.7 -0.7**
GKP LMZ LR 09 31 39.8
RER Riviere de l'E 59.34 219 PFAKE 09 03 20.0 +12
RER LR LR
comp=Z,15μm,20.0s
TTG Podgorica 59.43 305⇑*i*P **P** **09 03 07.5 -0.6**
MORC Moravsky Berou 59.48 314 *e*P **P** **09 03 08.9 +0.5**
MORC pmax pmax
comp=Z,104nm,0.8s
MORC Moravsky Berou 59.48 314 *e*P **P** **09 03 08.9 +0.5**
comp=Z,104nm,0.8s
PKST T''s 59.50 311⇑*e*P **P** **09 03 08.0 -0.6**
ULC Ulcinj 59.52 305⇑*i*P **P** **09 03 07.7 -1.1**
DRME Dracevica, Mon 59.52 305⇑*i*P **P** **09 03 08.2 -0.6**
UPM Unac-Piva 59.54 306⇑*i*P **P** **09 03 08.8 -0.4**
NKY Niksic 59.55 306⇑*i*P **P** **09 03 08.6 -0.5**
NKME Niksic 59.59 305⇑*i*P **P** **09 03 08.7 -0.6**
BUM Brajici-Budva 59.72 305⇑*i*P **P** **09 03 09.0 -1.2**
STEI Steigen 59.77 335 *e*P **P** **09 03 10.5 +0.5**
BRY Bratogost 59.86 306⇑*i*P **P** **09 03 10.8 -0.5**
KRLC Kraliky 59.92 314⇑*i*P **P** **09 03 11.7 +0.2**
KRLC Kraliky 59.92 314⇑*i*P **P** **09 03 11.7 +0.2**
HCY Herceg Novi 59.98 305⇑*i*P **P** **09 03 11.1 -0.9**
MOR8 Moi Rana 60.06 333⇑*i*P **P** **09 03 11.1 -1.1**
MOR8 AMB AMB 09 03 15.9
comp=Z,207nm,1.6s
KSP Ksiaz 60.13 315⇑*e*P **P** **09 03 13.2 +0.4**
KSP *e**PP **pP** **09 03 21.3 +3.3**
KSP *e*S **S** **09 11 23.5 -2.0**
KSP *e* 09 13 01.0
KSP MLR MLR
comp=Z,45μm,20.8s
KSP Ksiaz 60.13 315 *e*P **P** **09 03 13.3 +0.4**
KSP *e*S **S** **09 11 23.8 -1.7**
KSP LMZ LR 09 32 21.0
DPC Dobruska-Polom 60.18 314⇑*i*P **P** **09 03 14.0 +0.7**
DPC *e*S **S** **09 11 24.6 -1.6**
DPC *e*SS **SS** **09 15 23.5 +0.5**
DPC Dobruska-Polom 60.18 314⇑*i*P **P** **09 03 14.0 +0.7**
DPC *e*S **S** **09 11 24.6 -1.6**
DPC *e*SS **SS** **09 15 23.5 +0.5**
DPC AMS AMS 09 32 40.0
DPC Dobruska-Polom 60.18 314 *e*P **P** **09 03 13.4 +0.1**
comp=Z,476nm,0.8s
SPA0 Spitsbergen Ar 60.35 347 *e*P **P** **09 03 14.0 0.0**
SPA0 *e*S **S** **09 11 29.3 +1.7**
UPC Upice 60.36 315 *e*P **P** **09 03 14.9 +0.5**
UPC Upice 60.36 315⇑*e*P **P** **09 03 14.9 +0.5**
LOF Lofoten 60.41 335 *e*P **P** **09 03 13.6 -0.9**
LOF AMB AMB 09 03 23.5
comp=Z,329nm,2.2s
LOF *e*S **S** **09 11 30.4 +1.8**
LOF *e*SS **SS** **09 15 29.6 +3.8**
LOF AMS AMS 09 31 09.5
comp=Z,80μm,14.2s
SOP Sopron 60.42 311⇑*e*P **P** **09 03 14.9 0.0**
BSD Bornholm Skovb 60.45 320 *i* P **P** **09 03 15.0 +0.1**
BSD *i* S **S** **09 11 25.7 -3.7**
BSD pmax pmax
comp=Z,62nm,0.7s
BSD MLR MLR
comp=Z,17μm,13.0s
BSD Bornholm Skovb 60.45 320 *i* P **P** **09 03 15.0 +0.1**
comp=Z,62nm,0.7s
BSD *i* S **S** **09 11 25.7 -3.7**
BSD
comp=Z,17μm,13.0s
BEHE Becsehely 60.47 310⇑*e*P **P** **09 03 15.7 +0.4**
STON Ston 60.47 306 P **P** **09 03 14.7 -0.6**
FLOS Flostrand 60.50 333 *e*P **P** **09 03 14.2 -0.8**
FLOS AMB AMB 09 03 22.4
comp=Z,424nm,1.4s
STOK Stokkvaagen 60.64 333 *e*P **P** **09 03 17.3 +1.3**
KOGS Kog 60.83 310 *i* P **P** **09 03 17.7 0.0**
KOGS *e*S **S** **09 11 33.4 -1.2**
CONA Conrad Observa 60.84 312⇑*i*P **P** **09 03 18.0 +0.1**
comp=Z,149nm,1.0s,SNR=86
TREC Trest 60.87 313⇑*i*P **P** **09 03 18.3 +0.3**
TREC *e*S **S** **09 11 35.1 +0.1**
TREC *e* 09 13 08.9
TREC *e*SS **SS** **09 15 29.7 -4.1**
TREC MLR MLR
comp=Z,18μm,16.7s
TREC Trest 60.87 313⇑*i*P **P** **09 03 18.3 +0.3**
TREC *e*S **S** **09 11 35.1 +0.1**
TREC *e*SCS **ScS** **09 13 08.9 +0.5**
TREC *e*SS **SS** **09 15 29.7 -4.1**
TREC AMS AMS 09 33 00.0
comp=Z,18μm,16.7s
SISC Sisak 60.92 309 P **P** **09 03 17.8 -0.5**
NSS Namsos 61.15 331 *e*P **P** **09 03 18.8 -0.8**
NSS AMB AMB 09 03 23.1
comp=Z,279nm,1.6s
NSS *e*S **S** **09 11 38.7 +0.6**
NSS AMS AMS 09 31 50.3
comp=Z,13μm,17.8s
ARSA Arzberg 61.19 311⇑*i*P **P** **09 03 20.0 -0.1**
comp=Z,74nm,1.3s,SNR=21
PVCC Panska Ves 61.26 315 *e*P **P** **09 03 21.4 +0.8**
PVCC *e*S **S** **09 11 37.0 -3.0**
PVCC *e* 09 13 12.0
PVCC MLR MLR
comp=Z,20μm,16.5s
PVCC Panska Ves 61.26 315⇑*e*P **P** **09 03 21.4 +0.8**
PVCC *e*S **S** **09 11 37.0 -3.0**
PVCC *e*SCS **ScS** **09 13 12.0 +0.7**
PVCC *ex* x 09 15 25.7
PVCC AMS AMS 09 32 40.0
comp=Z,20μm,16.5s
PRU Pruhonice 61.37 314⇑*i*P **P** **09 03 21.7 +0.4**

PRU *eS* **S** **09 11 41.5 +0.2**
PRU *e* 09 13 12.5
PRU MLR MLR
comp=Z,15µm,30.3s
PRU Pruhonice 61.37 314⇑ *iP* **P** **09 03 21.7 +0.4**
PRU *eS* **S** **09 11 41.5 +0.2**
PRU *eSCS* **ScS** **09 13 12.5 +0.4**
PRU *ex* x 09 15 32.1
PRU AMS AMS 09 32 10.0
comp=Z,15µm,30.3s
PRA Prague 61.42 314 ⇑P **P** **09 03 22.0 +0.4**
PRA S **S** **09 11 43.0 +1.0**
RGN Rugen 61.43 320 *eP* P 09 03 25.4 +3.8
comp=Z,379nm,1.2s
RUE Ruedersdorf 61.45 317 *eP* **P** **09 03 22.0 +0.3**
comp=Z,210nm,1.1s
RUE Ruedersdorf 61.45 317 *eP* **P** **09 03 22.1 +0.3**
comp=Z,210nm,0.8s
UDBI Udbina 61.53 308 P **P** **09 03 21.6 -1.0**
PERS Pernice 61.57 310 *iP* **P** **09 03 22.8 0.0**
PERS *eS* **S** **09 11 42.5 -1.6**
PERS *eScS* **SKKSac** **09 13 12.3 -1.5**
BRG Berggiesshubel 61.60 315⇑ *iP* **P** **09 03 23.1 +0.3**
comp=Z,28nm,1.0s
BRG *i* 09 03 32.1
comp=Z,113nm,1.0s
BRG *e* 09 08 07.0
comp=Z,50nm,1.9s
BRG S **S** **09 11 40.0 -4.2**
BRG SS **SS** **09 15 40.0 -5.1**
BRG PKPPKP P'P'df 09 32 48.8 +8.3
comp=Z,70nm,2.4s
BRG
comp=N,8µm,21.5s
BRG
comp=E,27µm,16.4s
BRG
comp=Z,21µm,15.7s
BRG Berggiesshubel 61.60 315 *eP* **P** **09 03 23.3 +0.5**
comp=Z,152nm,1.3s
BRG Berggiesshubel 61.60 315⇑ *iP* **P** **09 03 23.1 +0.3**
BRG *i* 09 03 32.1
BRG S **S** **09 11 40.0 -4.2**
BRG SS **SS** **09 15 40.0 -5.1**
BRG pmax pmax
comp=Z,29nm,1.0s
BRG MLR MLR
comp=N,8µm,21.5s
BRG MLR MLR
comp=E,27µm,16.4s
BRG MLR MLR
comp=Z,21µm,15.7s
SOKA Soboth 61.62 310⇓ *iP* **P** **09 03 22.8 -0.4**
comp=Z,114nm,1.4s,SNR=35
NC602 NORSAR Array S 61.66 327 *eP* **P** **09 03 22.4 -0.6**
NC602 *eS* **S** **09 11 44.4 -0.2**
NC602 *eSS* **SS** **09 15 47.6 +2.0**
BOJS Bojanci 61.69 309 *iP* **P** **09 03 23.5 0.0**
BOJS *eS* **S** **09 11 43.4 -2.2**
BOJS *i* ScS **SKKSac** **09 13 13.4 -1.2**
NB2 NORSAR Subarra 61.78 327 P **P** **09 03 23.2 -0.8**
comp=Z,113nm,0.8s,baz=85,slow=6.9
NB2 NORSAR Subarra 61.78 327 P **P** **09 03 23.2 -0.8**
baz=85,slow=6.9
NOA NORSAR Array B 61.78 327 P **P** **09 03 23.0 -0.9**
NOA NORSAR Array B 61.78 327 P **P** **09 03 23.0 -0.9**
comp=Z,111nm,1.1s,baz=85,slow=6.6,SNR=88
NOA LR LR 09 32 04.5
comp=Z,17µm,18.2s,baz=90,slow=38
COP Copenhagen 61.79 321 *iP* **P** **09 03 24.1 +0.1**
COP *iS* **S** **09 11 43.9 -2.4**
COP pmax pmax
comp=Z,45nm,0.9s
COP MLR MLR
comp=Z,9µm,15.0s
COP Copenhagen 61.79 321 *iP* **P** **09 03 24.1 +0.1**
comp=Z,45nm,0.9s
COP *iS* **S** **09 11 43.9 -2.4**
COP
comp=Z,9µm,14.0s
MOA Molln 61.92 312 *iP* **P** **09 03 24.9 -0.1**
comp=Z,118nm,0.8s,SNR=50
NBO02 NORSAR Array S 61.95 327 *eP* **P** **09 03 24.6 -0.5**
LLD Lille Linde 61.96 321 *iP* **P** **09 03 27.3 +2.2**
LLD pmax pmax
comp=Z,130nm,0.8s
LLD Lille Linde 61.96 321 *iP* **P** **09 03 27.3 +2.2**
comp=Z,128nm,0.7s
FBE Freiberg 61.96 315 *eP* **P** **09 03 25.9 +0.6**
comp=Z,159nm,1.1s
NAO01 NORSAR Array S 61.96 327 *eP* **P** **09 03 24.5 -0.6**
comp=Z,9.9nm,1.1s
OBKA Obir 61.98 310⇓ *iP* **P** **09 03 25.7 +0.1**
comp=Z,78nm,0.8s,SNR=12
TBLU Trondheim 62.01 330 *eP* **P** **09 03 24.2 -1.1**
TBLU AMB AMB 09 03 28.7
comp=Z,373nm,1.1s
TBLU *eS* **S** **09 11 48.1 -0.9**
TBLU *eSS* **SS** **09 15 52.4 +1.4**
TBLU AMS AMS 09 32 36.8
comp=Z,23µm,11.8s
LJU Ljubljana 62.08 310 *iP* **P** **09 03 26.5 +0.3**
LJU *ePP* **PP** **09 05 45.0 +2.4**
LJU *e* 09 07 26.0
LJU *eS* **S** **09 11 50.0 -0.6**
LJU *eScS* **SKKSac** **09 13 16.4 -1.2**
GEC2 GERESS Array S 62.10 313 *eP* **P** **09 03 26.7 +0.3**
comp=Z,90nm,0.9s
GEC2 GERESS Array S 62.10 313 *eP* **P** **09 03 26.7 +0.3**
GEC2 pmax pmax
comp=Z,90nm,0.9s
GEC2 GERESS Array S 62.10 313 *eP* **P** **09 03 26.6 +0.2**
GERES GERESS Array B 62.10 313 P **P** **09 03 26.4 0.0**
GERES ⇑*e* 09 32 40.0
GERES GERESS Array B 62.10 313 P **P** **09 03 26.4 0.0**
comp=Z,53nm,0.7s,baz=78,slow=6.1,SNR=173
GERES PKP2bc 09 32 40.0
comp=Z,0.3nm,0.2s,baz=323,slow=4.2,SNR=4.2
GERES LR LR 09 34 24.7
comp=Z,19µm,18.3s,baz=79,slow=40
CLL Collm 62.12 316 *eP* **P** **09 03 26.2 -0.1**
comp=Z,95nm,1.2s
CLL Collm 62.12 316⇑ *iP* **P** **09 03 26.0 -0.3**
CLL *i* 09 03 35.3
CLL *eS* **S** **09 11 46.0 -4.7**
CLL *e* 09 13 16.0
CLL pmax pmax
comp=Z,95nm,1.3s
CLL MLR MLR
comp=Z,20µm,19.3s
CLL Collm 62.12 316⇑ *iP* **P** **09 03 26.0 -0.3**
comp=Z,95nm,1.3s
CLL *i* (sP) **sP** **09 03 31.8 -1.6**
CLL *i* 09 03 35.3
CLL *eS* **S** **09 11 52.0 +1.3**
CLL *eScS* **SKKSac** **09 13 16.0 -1.6**
CLL *eSS* **SS** **09 15 55.0 +1.9**
CLL *e* 09 16 57.0
CLL *eSSS* SSS 09 18 48.0
CLL Lm MLR 09 33 00.0
comp=Z,20µm,19.3s
KHC Kasperske Hory 62.13 313⇑ *iP* **P** **09 03 26.7 +0.2**
KHC *e* 09 03 35.5
KHC *eS* **S** **09 11 51.9 +0.8**
KHC *e* 09 13 18.8
KHC MLR MLR
comp=Z,18µm,15.2s
KHC Kasperske Hory 62.13 313⇑ *iP* **P** **09 03 26.7 +0.2**
KHC *ex* x 09 03 35.5
KHC *ex* x 09 03 58.0
KHC *eS* **S** **09 11 51.9 +0.8**
KHC *eSCS* **ScS** **09 13 18.8 +0.8**
KHC AMS AMS 09 33 40.0
comp=Z,18µm,15.2s
KHC Kasperske Hory 62.13 313 *eP* **P** **09 03 26.4 -0.1**
comp=Z,56nm,0.9s
NVLJ Novalja 62.15 308 P **P** **09 03 25.7 -0.9**
OSL Oslo 62.15 326 *eP* **P** **09 03 26.1 -0.3**
CUC Castrocucco 62.48 303 *eP* **P** **09 03 28.5 -0.5**
comp=Z,103nm,0.9s
CUC LR LR
comp=Z,6µm,19.0s
VOY Vojsko 62.52 310 *eP* **P** **09 03 28.5 -0.7**
VOY *e* 09 03 36.7
WET Wettzell 62.58 314 *eP* **P** **09 03 29.8 +0.3**
comp=Z,112nm,1.3s
WET Wettzell 62.58 314 *eP* **P** **09 03 29.8 +0.3**
WET pmax pmax
comp=Z,112nm,1.3s
CADS Cadrg 62.59 310 *iP* **P** **09 03 29.0 -0.6**
TANN Tannenbergstha 62.61 315 *eP* **P** **09 03 29.9 +0.2**
comp=Z,107nm,1.3s
NKC Novy Kostel 62.65 315⇑ *iP* **P** **09 03 30.3 +0.4**
NKC *eS* **S** **09 11 58.0 +0.4**
NKC *e* 09 13 20.1
NKC MLR MLR
comp=Z,14µm,16.0s
NKC Novy Kostel 62.65 315⇑ *iP* **P** **09 03 30.3 +0.4**
NKC *eS* **S** **09 11 58.0 +0.4**
NKC *eSCS* **SKKSac** **09 13 20.1 -1.7**
NKC *ex* x 09 15 51.3
NKC AMS AMS 09 33 30.0
comp=Z,14µm,16.0s
TRI Trieste 62.67 310 *eP* **P** **09 03 29.6 -0.5**
TRI pmax pmax
comp=Z,179nm,1.2s
TRI Trieste 62.67 310 *eP* **P** **09 03 29.6 -0.5**
comp=Z,179nm,1.2s
KBA Koelnbreinsper 62.68 311⇑ *iP* **P** **09 03 29.9 -0.5**
comp=Z,58nm,0.8s,SNR=18
DOMB Dombas 62.69 328 *eP* **P** **09 03 29.8 -0.2**
DOMB AMB AMB 09 03 34.0
comp=Z,114nm,1.4s
GUNZ Gunzen 62.70 315 *eP* **P** **09 03 30.7 +0.4**
comp=Z,140nm,1.2s
WERD Werda 62.70 315 *eP* **P** **09 03 30.5 +0.2**
comp=Z,104nm,1.3s
WRA Warramunga Arr 62.74 134 P **P** **09 03 29.7 -1.1**
WRA S **S** **09 11 55.0 -4.2**
WRA P'P' 09 32 30.0
WRA Warramunga Arr 62.74 134 P **P** **09 03 29.7 -1.1**
comp=Z,16nm,0.7s,baz=322,slow=7.1,SNR=64
WRA S **S** **09 11 55.0 -4.2**
comp=Z,5.6nm,1.2s,baz=316,slow=13,SNR=6.2
WRA PKPPKP **P'P'df** **09 32 30.0 0.0**
comp=Z,1.5nm,1.0s,baz=153,slow=3.0,SNR=4.8
WRA LR LR 09 34 04.2
comp=Z,3µm,21.7s,baz=310,slow=39
WRAB Tennant Creek 62.74 134 P **P** **09 03 30.0 -0.8**
comp=Z,537nm,0.8s,SNR=14
WRAB Tennant Creek 62.74 134 *eP* **P** **09 03 30.5 -0.4**
WRAB pmax pmax
comp=Z,106nm,0.8s
WRAB MLR MLR
comp=Z,5µm,20.0s
WRAB Tennant Creek 62.74 134 *eP* **P** **09 03 30.4 -0.4**
comp=Z,106nm,0.8s
WRAB LR LR
comp=Z,5µm,20.0s
KONO Kongsberg 62.75 326 *eP* **P** **09 03 30.3 -0.1**
KONO AMB AMB 09 03 34.1
comp=Z,962nm,1.9s
KONO *eS* **S** **09 11 59.0 +0.6**
KONO *eSS* **SS** **09 16 02.0 -0.7**
KONO AMS AMS 09 32 40.2
comp=Z,84µm,17.9s
KONO Kongsberg 62.75 326 *eP* **P** **09 03 30.1 -0.3**
KONO pmax pmax
comp=Z,791nm,1.0s
KONO MLR MLR
comp=Z,14µm,19.0s
KONO Kongsberg 62.75 326 *eP* **P** **09 03 30.1 -0.3**
comp=Z,791nm,1.0s
KONO LR LR
comp=Z,14µm,19.0s
CEL Celeste 62.84 301 *eP* **P** **09 03 31.1 -0.3**
comp=Z,266nm,1.0s
CEL LR LR
comp=Z,3µm,19.0s
NEUB Neuenburg 62.89 316 *eP* **P** **09 03 31.5 0.0**
comp=Z,188nm,1.1s
ROTZ Rotzenmuhle 62.89 314 *eP* **P** **09 03 32.5 +1.0**
comp=Z,163nm,1.1s
RJOB Jochberg 62.91 312 *eP* **P** **09 03 31.4 -0.4**
comp=Z,58nm,0.9s
MANZ Manzenberg 62.91 315 *eP* **P** **09 03 32.1 +0.4**
comp=Z,170nm,1.5s
ABPO Ambohimpanom 62.95 228 *eP* **P** **09 03 32.3 -0.1**
ABPO pmax pmax
comp=Z,84nm,1.2s
ABPO MLR MLR
comp=Z,18µm,20.0s
ABPO Ambohimpanom 62.95 228 *eP* **P** **09 03 32.3 -0.1**
comp=Z,84nm,1.2s
ABPO LR LR
comp=Z,18µm,20.0s
MOX Moxa 63.10 315 *eP* **P** **09 03 32.9 0.0**
comp=Z,138nm,1.4s
MOX Moxa 63.10 315 *eP* **P** **09 03 32.9 0.0**
MOX pmax pmax
comp=Z,138nm,1.4s
BSEG Bad Segeberg 63.27 319 *eP* **P** **09 03 34.7 +0.8**
comp=Z,215nm,1.2s
BSEG Bad Segeberg 63.27 319 *eP* **P** **09 03 34.7 +0.8**
BSEG pmax pmax
comp=Z,215nm,1.2s
ABTA Abfaltersbach 63.30 311⇑ *iP* **P** **09 03 33.3 -1.2**
comp=Z,80nm,0.7s,SNR=27
MOL Molde 63.32 329 *eP* **P** **09 03 34.5 +0.4**
MOL AMB AMB 09 03 38.5
comp=Z,194nm,1.6s
MOL *eS* **S** **09 12 04.2 -1.3**
MOL AMS AMS 09 32 52.9
comp=Z,11µm,13.9s
MUD Monsted U'grnd 63.47 322 *iP* **P** **09 03 36.4 +1.2**
MUD *iS* **S** **09 12 06.3 -1.2**
MUD pmax pmax
comp=Z,65nm,1.2s
MUD MLR MLR
comp=Z,31µm,16.0s
MUD Monsted U'grnd 63.47 322 *iP* **P** **09 03 36.4 +1.2**
comp=Z,65nm,1.2s
MUD *iS* **S** **09 12 06.3 -1.2**
MUD
comp=Z,31µm,15.0s
HOMB Homborsund 63.52 324 *eS* **S** **09 12 04.8 -3.3**
HOMB AMS AMS 09 33 25.3
comp=Z,27µm,14.3s
GRF Grafenberg Arr 63.53 314 *eP* **P** **09 03 36.7 +0.9**
comp=Z,223nm,1.4s
GRF *eL* L 09 34 32.8
comp=Z,16µm,18.1s
GRF Grafenberg Arr 63.53 314 *eP* **P** **09 03 36.7 +0.9**
GRF pmax pmax
comp=Z,223nm,1.4s
GRF MLR MLR
comp=Z,16µm,18.1s
GRFO Grafenberg 63.53 314 *eP* **P** **09 03 36.7 +0.9**
GRFO pmax pmax
comp=Z,227nm,1.3s
GRFO Grafenberg 63.53 314 *eP* **P** **09 03 36.7 +0.9**
comp=Z,227nm,1.3s
CLZ Clausthal 63.63 317 *eP* **P** **09 03 36.8 +0.4**
comp=Z,183nm,1.0s
CLZ Clausthal 63.63 317 *eP* **P** **09 03 36.8 +0.4**
CLZ pmax pmax
comp=Z,183nm,1.0s
NRDL Niedersach Rie 63.66 318 *eP* **P** **09 03 36.9 +0.4**
comp=Z,374nm,1.3s
WTTA Wattenberg 63.78 312 *iP* **P** **09 03 37.0 -0.7**
comp=Z,134nm,0.8s,SNR=44
FX1 Attu Island--F 63.80 42 LR LR 09 33 08.3
comp=Z,15µm,21.5s,baz=287,slow=38
FUR Furstenfeldbru 63.82 313 *eP* **P** **09 03 38.0 +0.3**
comp=Z,134nm,1.0s
FUR Furstenfeldbru 63.82 313 *eP* **P** **09 03 38.0 +0.3**
FUR pmax pmax
comp=Z,134nm,1.0s
UBBA Unterbreizbach 64.07 316 *eP* **P** **09 03 39.3 +0.2**
comp=Z,166nm,1.7s
MOTA Moosalm 64.11 312⇑ *iP* **P** **09 03 38.9 -1.0**
comp=Z,132nm,0.8s,SNR=58
HYA Hoyanger 64.18 328 *eP* **P** **09 03 40.1 +0.3**
HYA *eS* **S** **09 12 16.7 +0.5**
HYA AMS AMS 09 33 22.2
comp=Z,16µm,13.9s
SNART Snartemo 64.18 324 *eP* **P** **09 03 40.4 +0.6**
SNART AMB AMB 09 03 44.4
comp=Z,187nm,1.2s
ODD1 Odda 64.19 326 *eP* **P** **09 03 41.4 +1.4**
ODD1 *eS* **S** **09 12 16.3 -0.2**
RETA Reutte 64.31 312 *iP* **P** **09 03 40.4 -0.6**
comp=Z,128nm,0.8s,SNR=55
BLS5 Blasjo 64.37 326 *eP* **P** **09 03 40.9 -0.2**
BLS5 AMB AMB 09 03 45.5
comp=Z,71nm,1.2s
FETA Feichten 64.44 312⇑ *iP* **P** **09 03 41.2 -0.8**
comp=Z,69nm,0.8s,SNR=39
MBAR Mbarara 64.52 255 *eP* **P** **09 03 42.9 -0.1**
MBAR Mbarara 64.52 255 P **P** **09 03 43.7 +0.7**
comp=Z,120nm,1.2s,SNR=8.3
MBAR Mbarara 64.52 255 *eP* **P** **09 03 42.6 -0.4**
comp=Z,74nm,0.9s
MBAR LR LR
comp=Z,830nm,22.0s
RUND Rundenannen 64.72 327 *eP* **P** **09 03 42.7 -0.6**
BER Bergen 64.74 327 *eP* **P** **09 03 44.1 +0.6**
BER *eS* **S** **09 12 23.1 0.0**
BER *eSS* **SS** **09 16 33.0 -0.6**
BER AMS AMS 09 33 57.1
comp=Z,25µm,16.2s
NWAO Narrogin (SRO) 64.78 156 *eP* **P** **09 03 46.1 +2.1**
comp=Z,414nm,1.9s
NWAO Narrogin (SRO) 64.78 156 LR LR 09 33 52.1
comp=Z,5µm,20.2s,baz=329,slow=38
ASK Askoy 64.79 327 *eP* **P** **09 03 43.0 -0.8**
COEN Coen 64.83 123 *eP* P 09 03 49.6 +4.9
comp=Z,328nm,1.2s
SUE Sulen 64.88 328 *eP* **P** **09 03 44.9 +0.5**
SUE *eS* **S** **09 12 25.5 +0.7**
SUE AMS AMS 09 33 58.6
comp=Z,18µm,15.9s
DAVA Damuels 64.94 312⇑ *iP* **P** **09 03 44.7 -0.5**
comp=Z,184nm,1.4s,SNR=45
KMY Karmoy 65.02 326 *eS* **S** **09 12 24.8 -1.7**
KMY *eSKS* **SKSac** **09 13 38.9 -0.4**
KMY AMS AMS 09 34 09.6
comp=Z,15µm,17.6s
STU Stuttgart 65.03 314 *eP* **P** **09 03 46.0 +0.4**
comp=Z,134nm,1.0s
STU Stuttgart 65.03 314 *eP* **P** **09 03 45.4 -0.2**
STU pmax pmax
comp=Z,219nm,0.9s
STU Stuttgart 65.03 314 *eP* **P** **09 03 45.4 -0.2**
comp=Z,219nm,0.9s
BERNI Berninapass 65.05 311⇑ *iP* **P** **09 03 45.5 -0.6**
comp=Z,319nm,1.3s
DAVOX Davos/Dischmat 65.06 311⇑ *iP* **P** **09 03 45.6 -0.5**
comp=Z,127nm,0.7s
IBBN Ibbenburen 65.11 318 *eP* **P** **09 03 46.1 +0.1**
comp=Z,275nm,1.5s
PMG Port Moresby 65.15 116 P **P** **09 03 47.8 +1.0**
PMG LR LR
comp=Z,2µm,21.0s
PMG Port Moresby 65.15 116 P P 09 03 51.5 +4.7
comp=Z,106nm,1.2s,comp=Z,2µm
PMG Port Moresby 65.15 116 P **P** **09 03 47.8 +1.0**
comp=Z,62nm,1.0s,baz=325,slow=9.0,SNR=10
TNS Taunus Mts 65.17 315 *eP* **P** **09 03 46.8 +0.3**
comp=Z,96nm,1.0s
TNS Taunus Mts 65.17 315 *eP* **P** **09 03 46.8 +0.3**
TNS pmax pmax
comp=Z,96nm,1.0s
LIENZ Kamor/St.Gall 65.19 312⇑ *iP* **P** **09 03 46.3 -0.6**
comp=Z,481nm,2.6s
AS31 Alice Springs 65.22 137 *eP* **P** **09 03 46.8 -0.3**
ASAR Alice Springs 65.22 137 P **P** **09 03 46.2 -0.9**
ASAR S **S** **09 12 27.4 -2.6**
ASAR P'P' 09 32 27.4
ASAR Alice Springs 65.22 137 P **P** **09 03 46.2 -0.9**
comp=Z,9.4nm,0.8s,baz=316,slow=6.4,SNR=66
ASAR S **S** **09 12 27.4 -2.6**
comp=Z,5.4nm,1.1s,baz=315,slow=12,SNR=10
ASAR PKPPKP **P'P'df** **09 32 27.4 +1.8**
comp=Z,1.0nm,0.8s,baz=123,slow=3.4,SNR=3.4
ASAR LR LR 09 38 15.2
comp=Z,5µm,19.8s,baz=304,slow=42
AS01 Alice Springs 65.24 137 *eP* **P** **09 03 45.3 -1.9**
PLONS Plons/SG 65.33 312⇑ *iP* **P** **09 03 47.1 -0.6**
comp=Z,303nm,0.8s
VLC Villacollemand 65.37 309 *eP* **P** **09 03 49.0 +1.1**
comp=Z,157nm,1.0s
VLC LR LR
comp=Z,11µm,19.0s
VDL Val di Lei 65.42 311⇑ *iP* **P** **09 03 47.9 -0.5**
comp=Z,442nm,1.9s
TUE Stuetta 65.49 311 *eP* **P** **09 03 48.2 -0.7**
comp=Z,135nm,0.8s
TUE LR LR
comp=Z,6µm,19.0s
BUG Bochum--Univer 65.61 317 *eP* **P** **09 03 49.1 -0.1**
comp=Z,138nm,1.1s
LLS Linth-Limmern 65.62 312⇑ *iP* **P** **09 03 49.1 -0.6**
comp=Z,435nm,2.0s
BFO Black Forest 65.70 313 P **P** **09 03 50.8 +0.8**
comp=Z,226nm,1.3s,SNR=6.8
BFO Black Forest 65.70 313 *eP* **P** **09 03 49.2 -0.8**
comp=Z,65nm,1.3s
BFO Black Forest 65.70 313 *eP* **P** **09 03 50.1 +0.1**
BFO pmax pmax
comp=Z,64nm,1.1s
BFO MLR MLR
comp=Z,12µm,19.0s
BFO Black Forest 65.70 313 *eP* **P** **09 03 50.1 +0.1**
comp=Z,64nm,1.1s
BFO LR LR
comp=Z,12µm,19.0s
WTSB Winterswijk 65.77 318 *eP* **P** **09 03 50.3 +0.1**
comp=Z,292nm,1.4s
MUGIO Muggio 65.84 311⇑ *iP* **P** **09 03 49.7 -1.3**
comp=Z,262nm,1.1s
MUO Muotathal 65.84 312⇑ *iP* **P** **09 03 50.7 -0.4**
comp=Z,300nm,0.8s
LANF Langenberg 65.87 314 *eP* **P** **09 03 51.1 0.0**
BNALP Bannalp 66.00 312⇑ *iP* **P** **09 03 51.6 -0.5**
comp=Z,173nm,0.8s
SULZ Cheisacher 66.04 313⇑ *iP* **P** **09 03 51.7 -0.5**
comp=Z,367nm,0.8s
HASLI Hasliberg/Brie 66.22 312⇑ *iP* **P** **09 03 53.0 -0.4**
comp=Z,461nm,1.9s
WLS Welschbruch 66.31 314 *eP* **P** **09 03 53.5 -0.4**
CDF Champ du Feu 66.36 314⇑ *iP* **P** **09 03 54.1 -0.2**
comp=Z,323nm,0.9s
CDF Champ du Feu 66.36 314⇑ *iP* **P** **09 03 54.1 -0.2**
CDF pmax pmax
comp=Z,323nm,0.9s
CDF Champ du Feu 66.36 314⇑ *iP* **P** **09 03 54.1 -0.2**
comp=Z,323nm,0.9s
BALST Balsthal 66.36 312⇑ *iP* **P** **09 03 53.8 -0.5**
comp=Z,315nm,1.0s
ECH Echery 66.48 313 *eP* **P** **09 03 54.4 -0.6**
ECH pmax pmax
comp=Z,87nm,0.8s
ECH MLR MLR
comp=Z,7µm,20.0s
ECH Echery 66.48 313 *eP* **P** **09 03 54.6 -0.4**
ECH Echery 66.48 313 *eP* **P** **09 03 54.4 -0.6**
comp=Z,87nm,0.8s
ECH LR LR
comp=Z,7µm,20.0s
MMK Mattmark 66.53 311⇑ *iP* **P** **09 03 55.1 -0.5**
comp=Z,289nm,1.0s
MEM Membach 66.59 316 P **P** **09 03 55.7 +0.1**
comp=Z,40nm,1.9s
MEM Membach 66.59 316 *eP* **P** **09 03 56.2 +0.6**
MEM Membach 66.59 316 *eP* **P** **09 03 56.2 +0.6**
WIMIS Wimmis 66.59 312⇑ *iP* **P** **09 03 55.6 -0.2**
comp=Z,339nm,0.8s
HGN Heimansgroeve 66.59 316 *eP* **P** **09 03 55.5 -0.1**
comp=Z,145nm,1.6s
MOF Molkenrain 66.59 313 *eP* **P** **09 03 55.6 -0.2**
LKBD Leukerbad 66.66 311⇑ *iP* **P** **09 03 56.2 -0.2**
comp=Z,411nm,0.9s
BEBN Eben Emael 66.74 316 P **P** **09 03 56.3 -0.3**
WLF Walferdange 66.74 315 P **P** **09 03 57.8 +1.2**
comp=Z,175nm,1.1s
WLF Walferdange 66.74 315 *eP* **P** **09 03 57.5 +0.9**
comp=Z,256nm,1.2s
WLF Walferdange 66.74 315 *eP* **P** **09 03 57.1 +0.5**
WLF pmax pmax
comp=Z,253nm,1.0s
WLF MLR MLR
comp=Z,7µm,19.0s
WLF Walferdange 66.74 315 *eP* **P** **09 03 57.1 +0.5**
comp=Z,253nm,1.0s
WLF LR LR
comp=Z,7µm,19.0s
PGF Pioggiola 66.78 307⇑ *iP* **P** **09 03 56.7 -0.4**

comp=Z,295nm,1.0s
PGF Pioggiola 66.78 307⇑iP P 09 03 56.7 -0.4
PGF pmax pmax
comp=Z,295nm,1.0s
PGF Pioggiola 66.78 307⇑iP P 09 03 56.7 -0.4
comp=Z,295nm,1.0s
HINF Hinteralfeld 66.79 313⇑iP P 09 03 56.5 -0.5
comp=Z,249nm,1.0s
HINF Hinteralfeld 66.79 313⇑iP P 09 03 56.5 -0.5
HINF pmax pmax
comp=Z,249nm,1.0s
HINF Hinteralfeld 66.79 313⇑iP P 09 03 56.5 -0.5
comp=Z,249nm,1.0s
SENIN Lac Senin/Sane 66.89 311⇑iP P 09 03 57.7 -0.2
comp=Z,203nm,0.7s
SENIN Lac Senin/Sane 66.89 311 eP P 09 03 57.7 -0.2
comp=Z,103nm,0.8s
OSPF L'Ospedale 66.89 306 eP P 09 03 56.8 -1.0
DIX Grande Dixence 66.89 311⇑iP P 09 03 58.2 +0.2
comp=Z,535nm,0.8s
LOMF Lomont 66.93 313 eP P 09 03 57.2 -0.8
GRYON Gryon 67.04 311⇑iP P 09 03 58.6 -0.2
comp=Z,254nm,0.9s
HAU Haudompre 67.06 313⇑iP P 09 03 58.4 -0.3
comp=Z,230nm,1.0s
HAU eR
comp=Z,13µm,20.0s
HAU Haudompre 67.06 313⇑iP P 09 03 58.4 -0.3
HAU pmax pmax
comp=Z,231nm,1.0s
HAU Haudompre 67.06 313⇑iP P 09 03 58.4 -0.3
comp=Z,230nm,1.0s
BCLA Clavier 67.07 316 P P 09 03 58.7 +0.1
comp=Z,54nm,1.8s
AIGLE Aigle 67.12 312⇑iP P 09 03 59.0 -0.2
comp=Z,848nm,3.3s
SALAN Lac Salanfe 67.17 311⇑iP P 09 03 59.5 -0.1
comp=Z,552nm,2.1s
THEF They Montfort 67.23 314 eP P 09 03 59.4 -0.4
EMV Vieux Emosson 67.24 311⇑iP P 09 04 00.0 -0.1
comp=Z,632nm,2.0s
BRANT Les Verrieres 67.28 312⇑iP P 09 04 00.1 -0.1
comp=Z,276nm,1.5s
PAGF Fort de Pagny 67.31 314⇑iP P 09 04 00.5 +0.2
comp=Z,70nm,0.9s
PAGF Fort de Pagny 67.31 314⇑iP P 09 04 00.5 +0.2
comp=Z,70nm,0.9s
SAOF Saorge 67.38 309 eP P 09 04 00.4 -0.4
VSL Villasalto 67.39 304 eP P 09 04 00.6 -0.3
comp=Z,153nm,1.0s
VSL LR LR
comp=Z,6µm,19.0s
GIVF Givet 67.45 316⇑iP P 09 04 01.3 +0.2
comp=Z,100nm,0.8s
GIVF Givet 67.45 316⇑iP P 09 04 01.3 +0.2
GIVF pmax pmax
comp=Z,100nm,0.8s
GIVF Givet 67.45 316⇑iP P 09 04 01.3 +0.2
comp=Z,100nm,0.8s
LPG La Plagne 67.50 311⇑iP P 09 04 01.9 +0.1
comp=Z,257nm,0.7s
LPG La Plagne 67.50 311⇑iP P 09 04 01.9 +0.1
LPG pmax pmax
comp=Z,257nm,0.7s
LPG La Plagne 67.50 311⇑iP P 09 04 01.9 +0.1
comp=Z,257nm,0.7s
SBF Sospel 67.50 309⇑iP P 09 04 01.3 -0.3
comp=Z,240nm,0.7s
SBF Sospel 67.50 309⇑iP P 09 04 01.3 -0.3
SBF pmax pmax
comp=Z,240nm,0.7s
SBF Sospel 67.50 309⇑iP P 09 04 01.3 -0.3
comp=Z,240nm,0.7s
LPL La Plagne 67.50 311⇑iP P 09 04 01.9 +0.1
comp=Z,209nm,0.6s
LPL La Plagne 67.50 311⇑iP P 09 04 01.9 +0.1
LPL pmax pmax
comp=Z,209nm,0.6s
LPL La Plagne 67.50 311⇑iP P 09 04 01.9 +0.1
comp=Z,209nm,0.6s
RSL Roselend 67.53 311 eP P 09 04 01.4 -0.5
UCC Uccle 67.55 317 P P 09 04 00.9 -0.8
LUCF Luceram 67.55 309 eP P 09 04 01.6 -0.4
OG22 Abries 67.56 310 eP P 09 04 00.8 -1.3
FORT Forrest 67.56 146 eP P 09 04 08.4 +6.5
JMIC Jan Mayen 67.57 340 eS S 09 12 59.2 +2.0
JMIC AMS AMS 09 37 55.4
comp=Z,9µm,20.5s
TOUF Mont Tournerai 67.58 309 eP P 09 04 00.8 -1.5
DOU Dourbes 67.59 316 P P 09 04 02.1 +0.2
comp=Z,34nm,1.5s
CABF La Chapelle 67.62 312⇑iP P 09 04 02.2 -0.2
comp=Z,235nm,1.1s
CABF La Chapelle 67.62 312⇑iP P 09 04 02.2 -0.2
CABF pmax pmax
comp=Z,235nm,1.1s
CABF La Chapelle 67.62 312⇑iP P 09 04 02.2 -0.2
comp=Z,235nm,1.1s
BNI Bardonecchia 67.67 310 eP P 09 04 02.3 -0.5
BNI pmax pmax
comp=Z,100nm,1.0s
BNI MLR MLR
comp=Z,11µm,19.0s
BNI Bardonecchia 67.67 310 eP P 09 04 02.3 -0.5
comp=Z,100nm,1.0s
BNI LR LR
comp=Z,11µm,19.0s
SNF Seneffe 67.67 316 P P 09 04 02.1 -0.3
MBDF Montbardon 67.70 310⇑iP P 09 04 02.0 -1.0
comp=Z,234nm,0.9s
MBDF Montbardon 67.70 310⇑iP P 09 04 02.0 -1.0
MBDF pmax pmax
comp=Z,234nm,0.9s
MBDF Montbardon 67.70 310⇑iP P 09 04 02.0 -1.0
comp=Z,234nm,0.9s
SURF Saint Ours 67.75 310 eP P 09 04 03.0 -0.3
MEZF Maizieres J'vi 67.76 314⇑iP P 09 04 03.2 +0.1
comp=Z,441nm,1.0s
MEZF Maizieres J'vi 67.76 314⇑iP P 09 04 03.2 +0.1
comp=Z,441nm,1.0s
BAIF Baives 67.84 316⇑iP P 09 04 03.7 +0.1
comp=Z,134nm,1.0s
BAIF Baives 67.84 316⇑iP P 09 04 03.7 +0.1
BAIF pmax pmax
comp=Z,134nm,1.0s
BAIF Baives 67.84 316⇑iP P 09 04 03.7 +0.1
comp=Z,134nm,1.0s
SFTF Sexfontaines 67.85 314⇑iP P 09 04 03.4 -0.3
comp=Z,311nm,0.9s,baz=85
SFTF Sexfontaines 67.85 314⇑iP P 09 04 03.4 -0.3
comp=Z,311nm,0.9s
LRW Lerwick 67.95 327 AMS AMS 09 36 43.6
DAG Danmarks Havn 68.00 347⇑iP P 09 04 03.2 -0.9
DAG *i* S **S 09 12 56.4 -5.9**
DAG pmax pmax
comp=Z,14nm,0.8s
DAG MLR MLR
comp=Z,15µm,18.0s
DAG Danmarks Havn 68.00 347⇑iP P 09 04 03.2 -0.9
comp=Z,19nm,0.8s
DAG *i* S **S 09 12 56.4 -5.9**
DAG
comp=Z,14µm,18.0s
GDM Grand'Maison 68.01 311 eP P 09 04 04.4 -0.5
OG35 Corcelles 68.13 312 eP P 09 04 05.4 -0.1
FRF La Foret Royal 68.13 309⇑iP P 09 04 05.2 -0.3
comp=Z,149nm,0.8s
FRF La Foret Royal 68.13 309⇑iP P 09 04 05.2 -0.3
FRF pmax pmax
comp=Z,149nm,0.8s
FRF La Foret Royal 68.13 309⇑iP P 09 04 05.2 -0.3
comp=Z,149nm,0.8s
GRN Grenoble 68.25 311 eP P 09 04 06.2 -0.1
ORIF Oris-en-Rattie 68.25 310⇑iP P 09 04 05.8 -0.6
comp=Z,204nm,1.0s
ORIF eR
comp=Z,25µm,20.2s
ORIF Oris-en-Rattie 68.25 310⇑iP P 09 04 05.8 -0.6
ORIF pmax pmax
comp=Z,204nm,1.0s
ORIF Oris-en-Rattie 68.25 310⇑iP P 09 04 05.8 -0.6
comp=Z,204nm,1.0s
OG25 Le Caire 68.28 310 eP P 09 04 05.6 -1.0
LMR La Mourre 68.30 309⇑iP P 09 04 06.2 -0.3
comp=Z,188nm,1.0s
LMR La Mourre 68.30 309⇑iP P 09 04 06.2 -0.3
LMR pmax pmax
comp=Z,189nm,1.0s
LMR La Mourre 68.30 309⇑iP P 09 04 06.2 -0.3
comp=Z,188nm,1.0s
KEST Kesra 68.58 300 eP P 09 04 08.7 +0.1
KEST Kesra 68.58 300 P P 09 04 08.7 +0.1
comp=Z,22nm,0.9s,baz=37,slow=2.2,SNR=25
KEST LR LR 09 42 07.5
comp=Z,2µm,20.1s,baz=0.8,slow=43
SMRF Simiane la Rot 68.75 309⇑iP P 09 04 09.4 0.0
comp=Z,174nm,1.2s
SMRF Simiane la Rot 68.75 309⇑iP P 09 04 09.4 0.0
comp=Z,174nm,1.2s
OG26 St.-Nazaire-De 68.75 310 eP P 09 04 09.2 -0.2
LOR Lormes 68.89 313⇑iP P 09 04 09.6 -0.6
comp=Z,226nm,1.0s,baz=67
LOR eR
comp=Z,9µm,19.0s
LOR Lormes 68.89 313⇑iP P 09 04 09.6 -0.6
comp=Z,226nm,1.0s
SSB Saint Sauveur 69.05 311 eP P 09 04 11.0 -0.3
SSB pmax pmax
comp=Z,97nm,1.0s
SSB MLR MLR
comp=Z,7µm,22.0s
SSB Saint Sauveur 69.05 311 eP P 09 04 10.3 -1.0
SSB Saint Sauveur 69.05 311 eP P 09 04 10.9 -0.3
comp=Z,97nm,1.0s
SSB LR LR
comp=Z,7µm,22.0s
SMF Signal de Mont 69.09 313⇑iP P 09 04 11.0 -0.5
comp=Z,354nm,0.9s
SMF Signal de Mont 69.09 313⇑iP P 09 04 11.0 -0.5
SMF pmax pmax
comp=Z,354nm,0.9s
SMF Signal de Mont 69.09 313⇑iP P 09 04 11.0 -0.5
comp=Z,354nm,0.9s
VIVF Saint-Julien-I 69.09 311⇑iP P 09 04 11.3 -0.2
comp=Z,323nm,1.1s
VIVF Saint-Julien-I 69.09 311⇑iP P 09 04 11.3 -0.2
VIVF pmax pmax
comp=Z,323nm,1.1s
VIVF Saint-Julien-I 69.09 311⇑iP P 09 04 11.3 -0.2
comp=Z,323nm,1.1s
SSF Saint Saulge 69.18 313⇑iP P 09 04 11.7 -0.3
comp=Z,434nm,1.0s
SSF Saint Saulge 69.18 313⇑iP P 09 04 11.7 -0.3
SSF pmax pmax
comp=Z,434nm,1.0s
SSF Saint Saulge 69.18 313⇑iP P 09 04 11.7 -0.3
comp=Z,434nm,1.0s
AVF Avril sur Loir 69.36 313⇑iP P 09 04 12.8 -0.3
comp=Z,326nm,1.0s
AVF Avril sur Loir 69.36 313⇑iP P 09 04 12.8 -0.3
AVF pmax pmax
comp=Z,326nm,1.0s
AVF Avril sur Loir 69.36 313⇑iP P 09 04 12.8 -0.3
comp=Z,326nm,1.0s
ELSH Elham, Standar 69.39 318 AMS AMS 09 38 31.8
comp=Z,26µm,17.1s
PLDF La Plantade 69.44 312 eP P 09 04 13.3 -0.5
LMK Market Rasen 69.52 320 AMS AMS 09 38 14.0
comp=Z,19µm,15.6s
COLF Collangettes 69.54 311 eP P 09 04 14.0 -0.3
DRUM Mains of Drumt 69.59 324 eP P 09 04 13.8 -0.5
DRUM AMS AMS 09 37 39.1
comp=Z,11µm,14.6s
ALE Alert 69.60 356 P **P 09 04 14.9 +0.9**
comp=Z,260nm,0.8s,SNR=24
HYF Humbligny 69.68 313 eP P 09 04 15.3 +0.2
HYF Humbligny 69.68 313 eP P 09 04 15.3 +0.2
AGO Saint Agoulin 69.74 312 eP P 09 04 15.3 -0.2
CMAH Djebel Manchou 69.76 301 P **P 09 04 15.9 0.0**
MCD Coleburn Disti 69.76 325 eP P 09 04 14.0 -1.4
BGF Bois d'Agland 69.77 313⇑iP P 09 04 15.3 -0.4
comp=Z,199nm,1.0s
BGF Bois d'Agland 69.77 313⇑iP P 09 04 15.3 -0.4
BGF pmax pmax
comp=Z,199nm,1.0s
BGF Bois d'Agland 69.77 313⇑iP P 09 04 15.3 -0.4
comp=Z,199nm,1.0s
ABSA Djebel Ababsia 69.84 301 P **P 09 04 16.1 -0.3**
LASF Ste Croix 69.89 310⇑iP P 09 04 16.6 +0.1
comp=Z,278nm,1.0s
LASF Ste Croix 69.89 310⇑iP P 09 04 16.6 +0.1
comp=Z,278nm,1.0s
PYM Petit Puy Mans 69.92 312 eP P 09 04 16.6 -0.1
LBL Lubilhac 69.93 311 eP P 09 04 16.6 -0.2
HMNX Herstmonceux 69.96 318 AMS AMS 09 38 50.6
comp=Z,25µm,17.2s
ESY Stoneypath 69.98 323 eP P 09 04 16.4 -0.4
ADK Adak 70.06 41 PFAKE 09 04 30.0 +13
ADK LR LR
comp=Z,15µm,20.0s
HPK Haverah Park 70.08 321 eP P 09 04 15.4 -2.0
HPK AMB AMB 09 04 20.9
HPK AMS AMS 09 38 33.8
comp=Z,16µm,17.9s
CAEH 'Ain El Ouahch 70.14 302 P **P 09 04 18.5 +0.4**
EBL Broad Law 70.25 323 eP P 09 04 17.8 -0.7
KBI1 Birley Grange 70.26 320 eP P 09 04 16.4 -2.1
VERF Verneugheol 70.27 312 eP P 09 04 18.6 -0.2
TCF Toulx Ste Croi 70.27 313⇑iP P 09 04 18.9 +0.1
comp=Z,491nm,1.1s
TCF Toulx Ste Croi 70.27 313⇑iP P 09 04 18.9 +0.1
TCF pmax pmax
comp=Z,491nm,1.1s
TCF Toulx Ste Croi 70.27 313⇑iP P 09 04 18.9 +0.1
comp=Z,491nm,1.1s
EDI Edinburgh 70.28 323 AMB AMB 09 04 20.1
comp=Z,82nm,1.8s
EDI AMS AMS 09 37 57.1
comp=Z,12µm,17.2s
EDI Edinburgh 70.28 323 eP P 09 04 17.7 -0.9
EDI pmax pmax
comp=Z,133nm,1.5s
EDI Edinburgh 70.28 323 eP P 09 04 17.7 -0.9
comp=Z,133nm,1.5s
SKP1 Kophill 70.36 319 eP P 09 04 18.3 -0.9
CKFL Kef-Lekhel 70.37 301 P **P 09 04 19.5 -0.2**
MDO Dochfour 70.37 325 eP P 09 04 18.9 -0.3
ESK Eskdalemuir 70.50 323 eP P 09 04 19.5 -0.4
ESK AMB AMB 09 04 24.1
comp=Z,108nm,1.6s
ESK AMS AMS 09 38 38.1
comp=Z,12µm,15.9s
ESK Eskdalemuir 70.50 323 eP P 09 04 19.9 0.0
ESK pmax pmax
comp=Z,97nm,0.9s
ESK MLR MLR
comp=Z,13µm,20.0s
ESK Eskdalemuir 70.50 323 eP P 09 04 19.9 0.0
comp=Z,97nm,0.9s
ESK LR LR
comp=Z,13µm,20.0s
ECK Cauldkaine Hil 70.50 323 eP P 09 04 19.4 -0.5
CASM Ain Smara 70.59 301 P **P 09 04 20.9 0.0**
KESW Keswick, Cumbr 70.69 322 eP P 09 04 20.8 -0.4
KESW AMB AMB 09 04 31.1
comp=Z,155nm,2.3s
KESW AMS AMS 09 39 06.4
comp=Z,24µm,15.5s
STNC Stoke 70.70 320 eP P 09 04 22.1 +0.9
STNC AMS AMS 09 38 58.2
comp=Z,21µm,16.5s
CTEI Djebel Teioual 70.72 301 P P 09 04 25.1 +3.3
WOL Wolverton 70.74 318 eP P 09 04 21.4 -0.1
WOL AMB AMB 09 04 25.8
comp=Z,143nm,1.6s
WOL AMS AMS 09 39 02.7
comp=Z,14µm,17.2s
EAB Aberfoyle 70.80 324 eP P 09 04 22.2 +0.4
CAF Calviac 70.82 311⇑iP P 09 04 22.3 +0.1
comp=Z,232nm,1.0s
CAF Calviac 70.82 311⇑iP P 09 04 22.3 +0.1
CAF pmax pmax
comp=Z,232nm,1.0s
CAF Calviac 70.82 311⇑iP P 09 04 22.3 +0.1
comp=Z,232nm,1.0s
KAC Achnashellach 70.83 325 eP P 09 04 21.5 -0.4
DFRA Djebel Bou Aff 70.96 302 P **P 09 04 23.4 +0.1**
CTA Charters Tower 70.99 126 P **P 09 04 23.9 +0.5**
CTA Charters Tower 70.99 126 P **P 09 04 23.9 +0.5**
comp=Z,21nm,0.8s,baz=319,slow=8.9,SNR=19
CTAO Charters Tower 70.99 126 eP P 09 04 23.5 +0.1
CTAO pmax pmax
comp=Z,228nm,1.2s
CTAO MLR MLR
comp=Z,5µm,22.0s
CTAO Charters Tower 70.99 126 eP P 09 04 23.5 +0.1
comp=Z,228nm,1.2s
CTAO LR LR
comp=Z,5µm,22.0s
LDF La Druitiere 70.99 315⇑iP P 09 04 22.6 -0.5
comp=Z,192nm,1.0s
LDF La Druitiere 70.99 315⇑iP P 09 04 22.6 -0.5
LDF pmax pmax
comp=Z,192nm,1.0s
LDF La Druitiere 70.99 315⇑iP P 09 04 22.6 -0.5
comp=Z,192nm,1.0s
PGBU Glenifferbraes 71.00 324 eP P 09 04 22.3 -0.7
PGBU AMS AMS 09 38 27.8
comp=Z,11µm,15.6s
SWN1 Swindon 71.01 319 AMS AMS 09 39 40.2
comp=Z,19µm,16.3s
RJF Les Rejaudoux 71.06 312⇑iP P 09 04 24.0 +0.4
comp=Z,410nm,1.1s
RJF eR
comp=Z,10µm,21.8s
RJF Les Rejaudoux 71.06 312⇑iP P 09 04 24.0 +0.4
RJF pmax pmax
comp=Z,410nm,1.1s
RJF Les Rejaudoux 71.06 312⇑iP P 09 04 24.0 +0.4
comp=Z,410nm,1.1s
KPL Plockton 71.06 325 eP P 09 04 24.6 +1.3
KPL AMB AMB 09 04 31.8
comp=Z,98nm,2.6s
KPL AMS AMS 09 38 20.0
comp=Z,19µm,15.3s
FLN La Foliniere 71.16 316⇑iP P 09 04 23.7 -0.4
comp=Z,224nm,1.3s,baz=60
FLN eR
comp=Z,15µm,22.0s
FLN La Foliniere 71.16 316⇑iP P 09 04 23.7 -0.4
FLN pmax pmax
comp=Z,224nm,1.3s
FLN La Foliniere 71.16 316⇑iP P 09 04 23.7 -0.4
comp=Z,224nm,1.3s
LRDF Laroque-de-Fa 71.17 309 eP P 09 04 23.5 -0.8
MTLF Montolieu 71.26 310⇑iP P 09 04 24.7 -0.1
comp=Z,227nm,1.1s
MTLF Montolieu 71.26 310⇑iP P 09 04 24.7 -0.1
MTLF pmax pmax
comp=Z,227nm,1.1s
MTLF Montolieu 71.26 310⇑iP P 09 04 24.7 -0.1
comp=Z,227nm,1.1s
HLM1 Long Mynd 71.29 320 eP P 09 04 24.6 -0.2
HLM1 AMB AMB 09 04 36.1
comp=Z,88nm,1.4s
FOEL Foel Wylfa 71.34 320 eP P 09 04 24.8 -0.3
FOEL AMB AMB 09 04 32.9
comp=Z,139nm,2.4s
FOEL AMS AMS 09 39 26.3
comp=Z,18µm,16.3s
CKHR Kef el Ahmar 71.42 301 P **P 09 04 26.7 +0.6**
SET Setif 71.44 302 P **P 09 04 26.0 -0.1**
GAL1 Galloway 71.47 323 AMS AMS 09 38 58.4
comp=Z,10µm,18.5s
GRR Gorron 71.52 315⇑iP P 09 04 25.8 -0.5
comp=Z,144nm,1.0s
GRR Gorron 71.52 315⇑iP P 09 04 25.8 -0.5
GRR pmax pmax
comp=Z,144nm,1.0s
GRR Gorron 71.52 315⇑iP P 09 04 25.8 -0.5
comp=Z,144nm,1.0s
MCH1 Michaelchurch 71.54 319 eP P 09 04 25.1 -1.2
MCH1 AMB AMB 09 04 34.7
comp=Z,94nm,2.8s
MCH1 AMS AMS 09 40 37.8
comp=Z,20µm,17.7s
WPM1 Penmaenmawr 71.60 321 eP P 09 04 26.2 -0.5
MFF Saint Martin d 71.70 313⇑iP P 09 04 27.0 -0.4
comp=Z,203nm,1.1s
MFF Saint Martin d 71.70 313⇑iP P 09 04 27.0 -0.4
MFF pmax pmax
comp=Z,203nm,1.1s
MFF Saint Martin d 71.70 313⇑iP P 09 04 27.0 -0.4
comp=Z,203nm,1.1s
LFF La Frestale 71.70 312⇑iP P 09 04 27.7 +0.3
comp=Z,289nm,1.2s
LFF La Frestale 71.70 312⇑iP P 09 04 27.7 +0.3
LFF pmax pmax
comp=Z,289nm,1.2s
LFF La Frestale 71.70 312⇑iP P 09 04 27.7 +0.3
comp=Z,289nm,1.2s
VALF Valcebollere 71.72 309 eP P 09 04 27.1 -0.7
WME Myndd Eilian 71.78 321 eP P 09 04 25.9 -1.7
YLL Llanberis 71.79 321 eP P 09 04 27.7 -0.1
SCO Scoresbysund 71.82 341 eP P 09 04 28.4 +0.7
SCO pmax pmax
comp=Z,42nm,1.0s
SCO MLR MLR
comp=Z,8µm,19.0s
SCO Scoresbysund 71.82 341 *i* P **P 09 04 28.4 +0.7**
comp=Z,42nm,1.0s
SCO
comp=Z,8µm,18.0s
WLF1 Llynfaes 71.87 321 AMS AMS 09 40 03.6
comp=Z,14µm,15.6s
YRC Rhoscolyn 71.98 321 eP P 09 04 28.5 -0.4
YRE Yr Eifl 72.00 321 eP P 09 04 28.0 -1.1
JSA Saint Aubin 72.05 317 AMS AMS 09 40 15.2
comp=Z,12µm,15.6s
LPW Lampeter 72.11 320 eP P 09 04 29.5 -0.3
LPW AMB AMB 09 04 38.5
comp=Z,574nm,2.4s
LPW AMS AMS 09 39 47.3
comp=Z,203µm,16.4s
MLS Moulis 72.16 310 eP P 09 04 29.5 -0.8
SGMF Saint Gilles 72.63 316⇑iP P 09 04 32.9 0.0
comp=Z,321nm,1.4s
SGMF Saint Gilles 72.63 316⇑iP P 09 04 32.9 0.0
SGMF pmax pmax
comp=Z,321nm,1.4s
SGMF Saint Gilles 72.63 316⇑iP P 09 04 32.9 0.0
comp=Z,321nm,1.4s
EPF Esparros 72.65 310⇑iP P 09 04 33.9 +0.7
comp=Z,174nm,1.3s
EPF Esparros 72.65 310⇑iP P 09 04 33.9 +0.7
EPF pmax pmax
comp=Z,174nm,1.3s
EPF Esparros 72.65 310⇑iP P 09 04 33.9 +0.7
comp=Z,174nm,1.3s
DYA Yadsworthy 72.65 318 eP P 09 04 32.4 -0.6
DYA AMB AMB 09 04 40.3
comp=Z,73nm,2.2s
DYA AMS AMS 09 40 13.6
comp=Z,13µm,17.2s
DYA Yadsworthy 72.65 318 eP P 09 04 34.9 +1.9
comp=Z,42nm,0.8s
HTL Hartland 72.77 319 eP P 09 04 32.5 -1.2
HTL AMS AMS 09 41 42.9
comp=Z,16µm,16.7s
VIEF Viey 72.92 310 eP P 09 04 34.8 -0.1
ROSF Rostrenen 73.04 316⇑iP P 09 04 35.2 -0.2
comp=Z,50nm,0.6s
ROSF Rostrenen 73.04 316⇑iP P 09 04 35.2 -0.2
ROSF pmax pmax
comp=Z,50nm,0.6s
ROSF Rostrenen 73.04 316⇑iP P 09 04 35.2 -0.2
comp=Z,50nm,0.6s
QUIF Quistinic 73.14 316⇑iP P 09 04 35.4 -0.5
comp=Z,139nm,1.2s
QUIF Quistinic 73.14 316⇑iP P 09 04 35.4 -0.5
QUIF pmax pmax
comp=Z,139nm,1.2s
QUIF Quistinic 73.14 316⇑iP P 09 04 35.4 -0.5
comp=Z,139nm,1.2s
EMHD Djebel Mahouad 73.28 302 P **P 09 04 37.9 +0.7**
ETSF Etsaut 73.31 310⇑iP P 09 04 37.4 +0.2
comp=Z,106nm,0.8s
ETSF Etsaut 73.31 310⇑iP P 09 04 37.4 +0.2
ETSF pmax pmax
comp=Z,106nm,0.8s
ETSF Etsaut 73.31 310⇑iP P 09 04 37.4 +0.2
comp=Z,106nm,0.8s
ATE Arette 73.34 310 eP P 09 04 37.6 +0.3
BBOO Buckleboo 73.34 142 eP P 09 04 36.7 -0.6
comp=Z,706nm,1.0s
CCA1 Carnmenellis 73.52 318 AMS AMS 09 42 19.6
comp=Z,11µm,14.7s

LARF	Larrau	73.55	310	eP		P	09 04 38.8 +0.2
SJPF	Ste Jean	73.69	310	⇑iP		P	09 04 39.8 +0.5
	comp=Z,280nm,1.5s						
SJPF	Ste Jean	73.69	310	⇑iP		P	09 04 39.8 +0.5
SJPF					pmax	pmax	
	comp=Z,280nm,1.5s						
SJPF	Ste Jean	73.69	310	⇑iP		P	09 04 39.8 +0.5
	comp=Z,280nm,1.5s						
EBNR	Beni Rached	74.31	303	P		P	09 04 41.3 -1.8
ECHA	Ech Chlef	74.49	303	P		P	09 04 44.6 +0.5
LSZ	Lusaka	74.56	243	⇓iP		P	09 04 44.9 0.0
LSZ	Lusaka	74.56	243	eP		P	09 04 44.8 0.0
	comp=Z,173nm,1.2s						
BORG	Borgarnes	74.61	336	LR		LR	09 38 54.6
	comp=Z,14µm,18.0s,baz=57,slow=37						
IMA2	Indian Mountai	74.63	23	eP		P	09 04 45.1 +0.6
IM04	Indian Mountai	74.65	23	eP		P	09 04 45.1 +0.6
SUMG	Summit	74.68	346	⇑iP		P	09 04 45.4 +0.3
SUMG				eS		S	09 14 16.2 -4.3
SUMG				i			09 14 59.0
SUMG					pmax	pmax	
	comp=Z,80nm,0.9s						
SUMG					MLR	MLR	
	comp=Z,16µm,19.0s						
SUMG	Summit	74.68	346	⇑iP		P	09 04 45.4 +0.3
	comp=Z,80nm,0.9s						
SUMG				eS		S	09 14 16.2 -4.3
SUMG				i			09 14 59.0
SUMG							
	comp=Z,16µm,18.0s						
SUMG	Summit	74.68	346	eP		P	09 04 45.0 0.0
	comp=Z,2µm,2.9s						
EANR	'Ain N'Sour	74.77	303	P		P	09 04 46.2 +0.4
ETRT	Tiaret	74.83	302	P		P	09 04 48.0 +1.7
OKGL	Djebel Kef Gue	75.07	303	P		P	09 04 51.0 +3.5
COLD	Coldfoot	75.11	21	eP		P	09 04 48.0 +0.9
	comp=Z,136nm,1.1s						
OJGS	Djebel Guires	75.20	302	P		P	09 04 50.0 +1.6
VAL	Valentia	75.67	321	eP		P	09 04 51.0 +0.4
VAL	Valentia	75.67	321	⇓iS		S	09 14 34.0 +2.8
HNR	Honiara	75.68	109	LR		LR	09 37 40.8
	comp=Z,2µm,20.6s,baz=124,slow=35						
STKA	Stephens Creek	75.84	138	P		P	09 04 51.1 -0.6
	comp=Z,119nm,1.0s						
STKA	Stephens Creek	75.84	138	P		P	09 04 51.1 -0.6
	comp=Z,16nm,0.9s,baz=320,slow=5.6,SNR=21						
STKA				LR		LR	09 41 53.2
	comp=Z,4µm,20.1s,baz=300,slow=39						
ODJA	Bouhanifia	75.95	303	P		P	09 04 52.0 -0.6
KULLO	Kullorsuaq	76.27	352	iP		P	09 04 54.2 +0.6
KULLO					pmax	pmax	
	comp=Z,140nm,0.9s						
KULLO					MLR	MLR	
	comp=Z,18µm,19.0s						
TAM	Tamanrasset	76.45	289	eP		P	09 04 55.6 -0.2
TAM					pmax	pmax	
	comp=Z,19nm,0.7s						
TAM					MLR	MLR	
	comp=Z,10µm,19.0s						
TAM	Tamanrasset	76.45	289	eP		P	09 04 55.6 -0.2
	comp=Z,18nm,0.7s						
TAM					LR	LR	
	comp=Z,10µm,19.0s						
SVW2	Sparrevohn	76.63	27	eP		P	09 04 57.1 +1.2
	comp=Z,61nm,0.9s						
BPAW	Bear Paw Mtn.	76.69	24	eP		P	09 04 56.9 +0.6
	comp=Z,131nm,0.9s						
CAST	Castle Rocks	76.69	24	eP		P	09 04 56.7 +0.5
	comp=Z,404nm,1.4s						
ES19	SONSECA Array	76.89	308	eP		P	09 04 57.9 0.0
OLHC	Oulhaca	76.93	303	P		P	09 04 54.0 -4.1
ESDC	Sonseca Array	76.94	308	P		P	09 04 57.7 -0.4
ESDC	Sonseca Array	76.94	308	P		P	09 04 57.7 -0.4
	comp=Z,31nm,0.9s,baz=51,slow=6.3,SNR=23						
ESDC				LR		LR	09 44 57.5
	comp=Z,6µm,18.9s,baz=40,slow=40						
ESLA	Sonseca Array	76.94	308	eP		P	09 04 57.9 -0.3
	comp=Z,30nm,1.1s						
PPLA	Purkeypile	76.96	25	eP		P	09 04 59.0 +1.1
	comp=Z,288nm,1.2s						
BLWY	Bulawayo	77.01	239	iP		P	09 04 55.7 -3.1
MSNA	Messina	77.24	236	eP		P	09 05 00.2 +0.3
MSNA					AMB	AMB	09 05 06.8
	comp=Z,203nm,3.1s						
PAB	San Pablo	77.27	308	eP		P	09 05 00.0 0.0
PAB					pmax	pmax	
	comp=Z,475nm,1.1s						
PAB	San Pablo	77.27	308	eP		P	09 04 60.0 0.0
	comp=Z,475nm,1.1s						
COLA	College	77.31	22	eP		P	09 05 00.3 +0.7
COLA					pmax	pmax	
	comp=Z,162nm,0.8s						
COLA					MLR	MLR	
	comp=Z,15µm,19.0s						
COLA	College	77.31	22	eP		P	09 05 00.3 +0.7
	comp=Z,162nm,0.8s						
COLA					LR	LR	
	comp=Z,15µm,19.0s						
MCK	McKinley	77.64	23	eP		P	09 05 02.1 +0.5
MCK					pmax	pmax	
	comp=Z,85nm,0.8s						
MCK	McKinley	77.64	23	eP		P	09 05 02.1 +0.5
	comp=Z,84nm,0.8s						
IL1	Eielson Array	77.69	22	eP		P	09 04 59.2 -2.6
ILAR	Eielson Array	77.69	22	P		P	09 05 01.3 -0.5
ILAR				PP		PP	09 07 56.3 -0.2
ILAR	Eielson Array	77.69	22	P		P	09 05 01.3 -0.5
	comp=Z,47nm,0.8s,baz=305,slow=5.0,SNR=195						
ILAR				PP		PP	09 07 56.3 -0.2
	comp=Z,15nm,1.0s,baz=305,slow=6.8,SNR=6.1						
ILAR				LR		LR	09 43 43.8
	comp=Z,17µm,18.3s,baz=320,slow=39						
EIDS	Eidsvold	77.76	127	eP		P	09 05 03.2 +0.5
	comp=Z,66nm,0.9s						
CHGN	Chignik	77.93	32	eP		P	09 05 03.5 +0.3
PBRG	Braganca	77.94	311	eP		P	09 05 04.1 +0.4
	comp=Z,74nm,1.5s						
PBRG				eS		S	09 14 56.3 -0.3
SPU	Mount Spurr	78.00	26	eP		P	09 05 04.1 +0.4
RES	Resolute Bay	78.11	2	eP		P	09 05 05.0 +1.1
	comp=Z,79nm,0.9s						
RSO	Redoubt South	78.14	27	eP		P	09 05 06.0 +1.4
MVO	Moncorvo	78.42	310	eP		P	09 05 05.1 -1.3
	comp=Z,125nm,2.1s						
MVO				eS		S	09 14 58.3 -3.5
MVO				A		A	09 43 29.4
	comp=Z,3µm,20.8s						
MIDW	Midway	78.52	64	PFAKE			09 05 20.0 +13
MIDW				LR		LR	
	comp=Z,3µm,19.0s						
PAF	Port-aux-Franc	78.69	194	PFAKE			09 05 20.0 +13
PAF				LR		LR	
	comp=Z,19µm,21.0s						
PVRL	Vila Real	78.83	311	eP		P	09 05 09.6 +1.0
POLO	Lamas de Olo	78.84	311	eP		P	09 05 08.8 0.0
POLO				eS		S	09 15 04.9 -1.5
PCAB	Cabril	78.85	311	eP		P	09 05 09.5 +0.8
PMR	Palmer	78.89	25	eP		P	09 05 08.8 +0.4
PMR					pmax	pmax	
	comp=Z,170nm,1.1s						
PMR	Palmer	78.89	25	eP		P	09 05 08.8 +0.4
	comp=Z,170nm,1.1s						
PGAV	Gavieira, Arco	78.90	311	eP		P	09 05 09.4 +0.4
	comp=Z,132nm,1.3s						
PGAV				eS		S	09 15 04.5 -2.4
INK	Inuvik	79.01	16	eP		P	09 05 09.5 +0.5
	comp=Z,187nm,1.2s						
MTE	Manteigas	79.11	310	eP		P	09 05 10.9 +0.7
	comp=Z,168nm,1.6s						
MTE				eS		S	09 15 07.6 -1.6
MTE	Manteigas	79.11	310	eLR		LR	09 36 13.1
	comp=Z,4µm,20.0s						
MTE	Manteigas	79.11	310	eP		P	09 05 10.7 +0.5
	comp=Z,140nm,1.0s						
MTE				LR		LR	
	comp=Z,5µm,20.0s						
POGA	Pongola	79.16	232	eP		P	09 05 10.0 -0.4
POGA					AMB	AMB	09 05 16.7
	comp=Z,166nm,3.0s						
PVIS	Viseu	79.21	310	eP		P	09 05 11.9 +1.2
PCBR	Castelo Branco	79.31	309	eP		P	09 05 11.1 -0.1
PAX	Paxson	79.33	23	eP		P	09 05 11.8 +0.8
PAX					pmax	pmax	
	comp=Z,92nm,1.1s						
PAX	Paxson	79.33	23	eP		P	09 05 11.8 +0.8
	comp=Z,92nm,1.1s						
PMRV	Marv??o	79.44	309	eP		P	09 05 12.1 +0.1
	comp=Z,98nm,1.6s						
PMRV				eS		S	09 15 10.7 -1.9
PMRV	Marv??o	79.44	309	eLR		LR	09 36 20.1
	comp=Z,5µm,18.7s						
EGAK	Eagle	79.52	20	PFAKE			09 05 20.0 +8.1
EGAK				LR		LR	
	comp=Z,17µm,20.0s						
SEW	Seward	79.68	26	eP		P	09 05 14.2 +1.5
	comp=Z,145nm,1.1s						
PBAR	Barrancos	79.75	308	eP		P	09 05 13.7 +0.1
	comp=Z,162nm,1.2s						
PBAR	Barrancos	79.75	308	eS		S	09 15 15.2 -0.7
KDAK	Kodiak Island	79.77	29	P		P	09 05 14.3 +1.0
	comp=Z,372nm,0.8s,SNR=5.1						
KDAK	Kodiak Island	79.77	29	eP		P	09 05 15.3 +2.0
	comp=Z,371nm,1.7s						
KDAK				LR		LR	
	comp=Z,44µm,19.0s						
OHAK	Old Harbor	79.78	30	eP		P	09 05 13.8 +0.3
	comp=Z,152nm,1.0s						
PESTR	Estremoz	79.83	308	eP		P	09 05 14.3 +0.2
	comp=Z,81nm,1.5s						
PESTR	Estremoz	79.83	308	eS		S	09 15 16.1 -0.6
ILULI	Ilulissat	79.92	347	iP		P	09 05 14.7 +0.8
ILULI					pmax	pmax	
	comp=Z,35nm,0.8s						
ILULI					MLR	MLR	
	comp=Z,15µm,20.0s						
PCAS	Casmilo, Conde	79.92	310	eP		P	09 05 13.8 -0.7
	comp=Z,58nm,1.3s						
PCAS	Casmilo, Conde	79.92	310	eS		S	09 15 17.3 -0.3
MENT	Mentasta	79.96	22	eP		P	09 05 14.9 +0.5
PTOM	Tomar	80.06	309	eP		P	09 05 16.3 +1.0
PMTG	Montargil	80.18	309	eP		P	09 05 15.6 -0.3
	comp=Z,118nm,1.3s						
PMTG	Montargil	80.18	309	eS		S	09 15 18.3 -2.1
EVO	Evora	80.28	308	⇑iP		P	09 05 17.0 +0.5
	comp=Z,180nm,1.2s						
EVO				eR			
	comp=Z,7µm,20.0s						
EVO	Evora	80.28	308	eP		P	09 05 16.8 +0.3
EVOP	Sao Brissos	80.36	308	⇑iP		P	09 05 17.0 +0.1
EVOP					pmax	pmax	
	comp=Z,180nm,1.2s						
EVOP	Sao Brissos	80.36	308	⇑iP		P	09 05 17.0 +0.1
	comp=Z,180nm,1.2s						
PBEJ	Beja	80.40	308	eP		P	09 05 17.7 +0.5
DIV	Divide	80.43	24	eP		P	09 05 18.3 +1.4
	comp=Z,102nm,0.8s						
SLR	Silverton	80.53	235	eP		P	09 05 17.8 -0.3
SLR					AMB	AMB	09 05 24.9
	comp=Z,197nm,3.1s						
DAWY	Dawson	80.57	20	eP		P	09 05 17.9 +0.2
PVAQ	Vaqueiros	80.58	307	eP		P	09 05 17.7 -0.4
	comp=Z,135nm,1.1s						
PVAQ	Vaqueiros	80.58	307	eS		S	09 15 22.1 -2.6
PVAQ	Vaqueiros	80.58	307	eLR		LR	09 36 07.8
	comp=Z,5µm,27.0s						
PCVE	Castro Verde	80.70	307	eP		P	09 05 19.1 +0.3
	comp=Z,65nm,1.5s						
PCVE	Castro Verde	80.70	307	eS		S	09 15 24.8 -1.1
PBDV	Barranco-do-Ve	80.81	307	eP		P	09 05 19.7 +0.3
	comp=Z,181nm,1.4s						
PBDV	Barranco-do-Ve	80.81	307	eS		S	09 15 24.5 -2.6
PNCL	Nicolau / Gran	80.83	308	eP		P	09 05 18.6 -0.8
	comp=Z,104nm,1.6s						
PNCL	Nicolau / Gran	80.83	308	eS		S	09 15 26.0 -1.2
PMAFR	Mafra	80.96	309	eP		P	09 05 20.5 +0.3
	comp=Z,200nm,1.3s						
PMAFR	Mafra	80.96	309	eS		S	09 15 27.3 -1.3
BMRM	Bremner River	80.97	24	eP		P	09 05 21.0 +1.2
	comp=Z,376nm,1.1s						
LIS	Lisbon	80.98	309	eP		P	09 05 20.7 +0.5
LIS				eS		S	09 15 29.6 +0.8
LIS					AMS	AMS	09 49 16.9
	comp=E,5µm,19.4s						
LIS	Lisbon	80.98	309	eP		P	09 05 20.7 +0.5
LIS	Lisbon	80.98	309	eP		P	09 05 20.3 +0.1
LIS				eS		S	09 15 29.6 +0.8
PTEO	Sao Teotonio	81.23	308	eP		P	09 05 23.2 +1.6
ARMA	Armidale	81.27	131	eP		P	09 05 23.4 +1.5
	comp=E,80nm,1.0s						
MORF	Marmelete	81.29	307	eP		P	09 05 22.7 +0.7
	comp=E,92nm,1.6s						
MORF	Marmelete	81.29	307	eS		S	09 15 29.1 -3.0
MORF	Marmelete	81.29	307	eP		P	09 05 22.1 +0.1
MORF				eS		S	09 15 33.2 +1.1
PFVI	Vila Bisbo	81.49	307	eP		P	09 05 24.1 +1.1
	comp=E,112nm,1.0s						
PFVI	Vila Bisbo	81.49	307	eS		S	09 15 32.5 -1.6
RTC	Rabat Centre	81.51	304	eP		P	09 05 21.5 -1.7
	comp=E,131nm,0.8s						
RTC				LR		LR	
	comp=Z,2µm,19.0s						
KSR	Koster	81.61	235	eP		P	09 05 24.3 +0.4
KSR					AMB	AMB	09 05 28.9
	comp=Z,41nm,3.2s						
SFJD	Kangerlussuaq	81.68	346	⇑iP		P	09 05 22.7 -0.7
	comp=Z,82nm,0.8s						
SFJD	Kangerlussuaq	81.68	346	iS		S	09 15 32.4 -2.5
SFJD							
	comp=Z,7µm,16.0s						
SFJD	Kangerlussuaq	81.68	346	eP		P	09 05 22.9 -0.5
	comp=Z,144nm,1.0s						
SFJD	Kangerlussuaq	81.68	346	LR		LR	09 46 21.7
	comp=Z,9µm,18.2s,baz=29,slow=39						
PRYS	Parys	81.90	234	⇓iP		P	09 05 25.0 -0.3
PRYS					AMB	AMB	09 05 31.4
	comp=Z,59nm,3.1s						
LBTB	Lobatse	82.09	237	⇑iP		P	09 05 26.3 0.0
LBTB					AMB	AMB	09 05 33.1
	comp=Z,185nm,2.9s						
LBTB	Lobatse	82.09	237	eP		P	09 05 26.4 +0.1
	comp=Z,126nm,1.1s						
SEK	Senekal	82.54	233	eP		P	09 05 28.6 -0.1
SEK					AMB	AMB	09 05 35.3
	comp=Z,200nm,5.2s						
CAN	Canberra	82.70	136	eP		P	09 05 29.5 +0.3
CAN					pmax	pmax	
	comp=Z,164nm,1.4s						
CAN					MLR	MLR	
	comp=Z,7µm,21.0s						
CAN	Canberra	82.70	136	eP		P	09 05 29.5 +0.3
	comp=Z,164nm,1.4s						
CAN				LR		LR	
	comp=Z,7µm,21.0s						
RUDU	RUNDU	82.79	246	eP		P	09 05 33.9 +3.8
RUDU					AMB	AMB	09 05 37.3
	comp=Z,132nm,3.2s						
SWZ	Schweizer	83.52	235	⇓iP		P	09 05 33.3 -0.5
SWZ					AMB	AMB	09 05 40.2
	comp=Z,198nm,3.0s						
HYT	Haines Junctio	83.54	22	eP		P	09 05 34.5 +1.1
TOA0	Torodi Ar. Sit	83.86	282	eP		P	09 05 35.6 0.0
TORD	Torodi Ar. Bea	83.86	282	P		P	09 05 35.4 -0.3
TORD				S		S	09 15 53.4 -5.6
TORD	Torodi Ar. Bea	83.86	282	P		P	09 05 35.4 -0.3
	comp=Z,11nm,0.8s,baz=61,slow=4.4,SNR=45						
TORD				S		S	09 15 53.4 -5.6
	comp=Z,1.4nm,1.1s,baz=43,slow=5.2,SNR=3.8						
TORD				LR		LR	09 47 52.8
	comp=Z,10µm,18.0s,baz=80,slow=39						
BOSA	Boshof	84.40	234	⇑iP		P	09 05 38.0 -0.2
BOSA					AMB	AMB	09 05 44.6
	comp=Z,138nm,3.0s						
BOSA	Boshof	84.40	234	P		P	09 05 37.8 -0.4
	comp=Z,50nm,1.1s						
BOSA	Boshof	84.40	234	P		P	09 05 37.8 -0.4
	comp=Z,34nm,1.0s,baz=50,slow=4.4,SNR=18						
BOSA				LR		LR	09 40 24.6
	comp=Z,11µm,20.7s,baz=61,slow=34						
NRS	Narsarsuaq	85.11	341	iP		P	09 05 40.8 -0.3
NRS					pmax	pmax	
	comp=Z,41nm,0.8s						
NRS					MLR	MLR	
	comp=Z,4µm,16.0s						
TSUM	Tsumeb	85.19	246	eP		P	09 05 42.5 +0.1
TSUM	Tsumeb	85.19	246	eP		P	09 05 42.6 +0.3
	comp=Z,465nm,2.4s						
SKAG	Skagway	85.28	22	eP		P	09 05 44.0 +1.9
	comp=Z,59nm,0.9s						
HVD	Gariep Dam	85.37	232	eP		P	09 05 42.8 -0.3
HVD					AMB	AMB	09 05 49.7
	comp=Z,164nm,3.0s						
GRM	Grahamstown	86.25	229	eP		P	09 05 47.6 +0.4
GRM					AMB	AMB	09 05 52.6
	comp=Z,127nm,3.4s						
SOE	Somerset East	86.55	230	eP		P	09 05 49.1 +0.4
SOE					AMB	AMB	09 05 55.7
	comp=Z,156nm,3.0s						
TAU	Tasmania Unive	86.76	142	eP		P	09 05 50.1 +0.7
TAU					pmax	pmax	
	comp=Z,665nm,2.3s						
TAU					MLR	MLR	
	comp=Z,6µm,22.0s						
TAU	Tasmania Unive	86.76	142	eP		P	09 05 50.0 +0.7
	comp=Z,665nm,2.3s						
TAU					LR	LR	
	comp=Z,6µm,22.0s						
WIN	Windhoek	87.30	243	eP		P	09 05 53.8 +1.0
DZM	Mont Dzumac	87.54	116	eP		P	09 05 55.4 +1.6
	comp=Z,122nm,1.2s						
DZM	Mont Dzumac	87.54	116	eS		S	09 16 38.9 +3.9
	comp=Z,5µm,26.4s						
DZM	Mont Dzumac	87.54	116	eLR		LR	09 33 52.2
	comp=Z,4µm,24.2s						
DZM	Mont Dzumac	87.54	116	eP		P	09 05 54.3 +0.4
	comp=Z,65nm,1.2s						
DZM	Mont Dzumac	87.54	116	P		P	09 05 55.2 +1.4
	comp=Z,29nm,1.1s,baz=295,slow=6.0,SNR=8.6						
DLBC	Dease Lake	87.79	20	eP		P	09 05 56.2 +1.7
YKW3	Yellowknife Ar	87.98	12	eP		P	09 05 54.5 -0.7
	comp=Z,0.6nm,0.8s						
YKA	Yellowknife Ar	88.05	12	P		P	09 05 54.6 -0.9
YKA				PP		PP	09 09 21.4 +0.1
YKA	Yellowknife Ar	88.05	12	P		P	09 05 54.6 -0.9
	comp=Z,22nm,0.8s,baz=330,slow=4.6,SNR=38						
YKA				PP		PP	09 09 21.4 +0.1
	comp=Z,7.0nm,1.0s,baz=337,slow=7.8,SNR=3.9						
YKB5	Yellowknife Ar	88.05	12	eP		P	09 05 54.8 -0.6
WRAK	Wrangell Islan	88.65	23	eP		P	09 06 00.1 +1.6
	comp=Z,58nm,1.1s						
PMPST	Porto Santo, M	88.84	307	eP		P	09 06 02.5 +2.6
	comp=Z,164nm,1.5s						
PMOZ	Porto Moniz, M	89.59	307	eP		P	09 06 05.8 +2.3
	comp=Z,110nm,1.4s						
SUR	Sutherland	89.68	233	eP		P	09 06 04.4 +0.5
SUR					AMB	AMB	09 06 09.0
	comp=Z,65nm,4.8s						
SUR	Sutherland	89.68	233	P		P	09 06 03.9 +0.1
SUR					LR	LR	
	comp=Z,11µm,20.0s						
SUR	Sutherland	89.68	233	P		P	09 06 03.9 +0.1
	comp=Z,15nm,1.1s,baz=50,slow=7.9,SNR=3.2						
CVNA	Calvinia	89.95	234	eP		P	09 06 07.5 +2.5
CVNA					AMB	AMB	09 06 10.5
	comp=Z,54nm,3.3s						
CMLA	Cha da Macela	92.35	315	ePP		PP	09 09 53.5 -2.8
CMLA				eS		SKSac	09 16 47.2 -1.9
CMLA				eSS		SS	09 23 31.9 +3.2
PSET	Sete Cidades	92.43	315	ePP		PP	09 09 59.1 +2.1
PSET				eS		SKSac	09 16 53.8 +4.1
PSET				eSS		SS	09 23 33.6 +3.6
PSMN	Pico do Norte,	92.52	314	eS		SKSac	09 16 55.3 +5.2
PSMN				eSS		SS	09 23 37.8 +6.6
DBIC	Dimbokro	92.55	279	eP		P	09 06 18.4 +1.0
DBIC	Dimbokro	92.55	279	P		P	09 06 17.8 +0.4
DBIC	Dimbokro	92.55	279	P		P	09 06 17.8 +0.4
	comp=Z,51nm,1.0s,baz=42,slow=5.3,SNR=11						
DBIC				LR		LR	09 51 42.5
	comp=Z,7µm,18.1s,baz=42,slow=38						
KIC	Kosan Boka	92.59	278	ePKP1		P	09 06 18.6 +1.0
	comp=Z,114nm,1.0s						
TIC	Toumodi	92.70	279	ePKP1		P	09 06 19.5 +1.3
	comp=Z,125nm,1.1s						
LIC	Lamto	92.90	278	⇑iP		P	09 06 20.5 +1.4
	comp=Z,40nm,0.7s,baz=67						
LIC				eR			
	comp=Z,9µm,22.0s						
LIC	Lamto	92.90	278	ePKP1		P	09 06 20.3 +1.2
	comp=Z,89nm,1.0s						
LIC	Lamto	92.90	278	⇑iP		P	09 06 20.5 +1.4
	comp=Z,40nm,0.7s						
PGRA	Graciosa	93.08	317	ePP		PP	09 10 04.6 +2.7
PGRA				eS		SKSac	09 16 59.0 +5.9
PGRA				eSS		SS	09 23 37.8 -1.2
ROSA	Rosais	93.43	317	ePP		PP	09 10 07.8 +3.1
ROSA				eS		SKSac	09 17 01.5 +6.4
ROSA				eSS		SS	09 23 43.6 -0.5
MIR	Mirnyy	93.63	179	eP		P	09 06 22.0 +1.0
MIR				e			09 10 07.0
MIR				eS		SKSac	09 16 51.0 -3.3
MIR					pmax	pmax	
	comp=Z,56nm,1.5s						
MIR					pmax	pmax	
	comp=Z,1µm,5.0s						
CASY	Casey	94.48	172	eP		P	09 06 24.5 -0.5
	comp=Z,422nm,3.0s						
CASY				LR		LR	
	comp=Z,14µm,19.0s						
MSVF	Nonsavu	95.05	107	PFAKE			09 06 40.0 +11
MSVF				LR		LR	
	comp=Z,2µm,20.0s						
SCHQ	Schefferville	96.03	348	eP		P	09 06 32.1 -0.6
SCHQ				PP		PP	09 10 35.8 +12
SCHQ	Schefferville	96.03	348	P		P	09 06 31.6 -1.0
	comp=Z,13nm,0.8s,baz=37,slow=5.9,SNR=13						
SCHQ				PP		PP	09 10 35.8 +12
	comp=Z,10nm,0.9s,baz=45,slow=7.3,SNR=4.1						
SCHQ				LR		LR	09 53 02.8
	comp=Z,13µm,21.0s,baz=23,slow=37						
EDM	Edmonton	96.89	15	eP		P	09 06 36.9 +0.2
EDM	Edmonton	96.89	15	eP		P	09 06 36.9 +0.2
MAW	Mawson	97.07	191	P		P	09 06 35.8 -0.9
MAW				PP		PP	09 10 44.3 +11
MAW	Mawson	97.07	191	P		P	09 06 35.8 -0.9
	comp=Z,4.3nm,1.0s,baz=4.6,slow=7.6,SNR=6.2						
MAW				PP		PP	09 10 44.3 +11
	comp=Z,12nm,1.3s,baz=27,slow=6.8,SNR=3.7						
MAW				LR		LR	09 44 51.4
	comp=Z,11µm,20.8s,baz=7.9,slow=32						
FFC	Flin Flon	97.43	8	eP		P	09 06 38.6 -0.4
FFC					pmax	pmax	
	comp=Z,41nm,1.0s						
FFC					MLR	MLR	
	comp=Z,7µm,20.0s						
FFC	Flin Flon	97.43	8	eP		P	09 06 38.6 -0.4
	comp=Z,41nm,1.0s						
FFC					LR	LR	
	comp=Z,7µm,20.0s						
B06A	Marblemount	98.89	21	ePP		PP	09 10 48.5 +2.2
NLWA	Neilton Lookou	99.06	23	PFAKE			09 07 00.0 +13
NLWA				LR		LR	
	comp=Z,14µm,22.0s						
B08A	Colville Reser	99.72	20	ePdif		Pdif	09 06 54.3 +4.9
D05A	Enumclaw	99.89	22	ePP		PP	09 10 59.0 +5.1
LTY	Liberty	100.26	22	ePP		PP	09 10 55.5 -1.4
LON	Longmire	100.33	23	ePP		PP	09 10 56.5 -0.9
NEW	Newport	100.46	19	ePdif		Pdif	09 07 02.0 +9.2
NEW				LR		LR	
	comp=Z,21µm,19.0s						
C09A	Chrisman Ranch	100.54	20	ePdif		Pdif	09 06 57.1 +4.1

RAO	Raoul Island	103.34	116	PFAKE			09 07 20.0	+14
RAO				LR	LR			
comp=Z,2µm,21.0s								
I07A	Izee	103.45	22	ePP	PP		09 11 21.6	+0.7
BMO	Blue Mountains	103.48	21	PFAKE			09 07 20.0	+14
BMO				LR	LR			
comp=Z,8µm,19.0s								
LRM	Limekiln Ridge	103.98	17	ePP	PP		09 11 30.2	+5.2
K05A	Summer Lake	104.15	24	ePP	PP		09 11 29.4	+3.0
SACV	Santiago Islan	104.29	295	PFAKE			09 07 20.0	+10
SACV				LR	LR			
comp=Z,4µm,19.0s								
BOZ	Bozeman (W)	104.36	16	PFAKE			09 07 20.0	+10
BOZ				LR	LR			
comp=Z,15µm,19.0s								
DLMT	Dillon	104.37	17	ePP	PP		09 11 26.2	-1.6
AGMN	Agassiz Nation	104.39	5	ePP	PP		09 11 22.8	-4.8
AGMN				LR	LR			
comp=Z,6µm,19.0s								
J08A	Circle Bar Ran	104.44	22	ePdif	Pdif		09 07 19.0	+8.4
LAO	LASA Array	104.57	12	PFAKE			09 07 20.0	+8.9
LAO				LR	LR			
comp=Z,17µm,20.0s								
GCMT	Greycliff	104.70	15	ePP	PP		09 11 34.6	+4.5
MCMT	McKenzie Canyo	104.80	18	ePP	PP		09 11 31.2	+0.1
EYMN	Ely	104.99	2	PFAKE			09 11 40.0	
EYMN				LR	LR			
comp=Z,9µm,20.0s								
RLMT	Red Lodge	105.42	15	PFAKE			09 11 40.0	
RLMT				LR	LR			
comp=Z,13µm,20.0s								
PKME	Peaks-Kenny Pk	105.62	346	PFAKE			09 11 40.0	
PKME				LR	LR			
comp=Z,10µm,20.0s								
LKWY	Lake	105.67	16	PFAKE			09 11 40.0	
LKWY				LR	LR			
comp=Z,17µm,20.0s								
IMW	Indian Meadow	106.17	17	ePP	PP		09 11 42.9	+1.6
TPAW	Teton Pass	106.54	17	ePKiKP	PKiKP		09 11 34.2	+3.2
RRI2	Red Ridge	106.58	17	ePP	PP		09 11 47.5	+3.2
SNOW	Snow King Moun	106.62	17	ePKPdf	PKiKP		09 11 33.3	+2.2
REDW	Red Top Meadow	106.69	17	ePKPdf	PKiKP		09 11 31.9	+0.7
REDW				ePP	PP		09 11 41.5	-3.5
BEKR	Beckworth	106.84	25	ePP	PP		09 11 48.9	+2.7
LBNH	Lisbon	107.13	348	PFAKE			09 11 40.0	
LBNH				LR	LR			
comp=Z,7µm,20.0s								
AHID	Auburn Hatcher	107.18	17	PFAKE			09 11 40.0	
AHID				LR	LR			
comp=Z,7µm,20.0s								
LONY	Lake Ozonia	107.23	350	ePKKPdf	PKKPdf		09 23 03.8	+3.7
LONY				LR	LR			
comp=Z,6µm,19.0s								
PAHR	Pah Rah Range	107.34	24	ePP	PP		09 11 51.5	+1.6
RSSD	Black Hills	107.45	12	eP	Pdif		09 07 29.5	+5.3
RSSD	Black Hills	107.45	12	ePdif	Pdif		09 07 29.5	+5.3
BMN	Battle Mountai	107.47	23	PFAKE			09 11 40.0	
BMN				LR	LR			
comp=Z,6µm,19.0s								
BW06	Boulder Array	107.57	16	ePKKPbc	PKKPbc		09 22 50.2	+2.4
PDAR	Pinedale Array	107.57	16	Pdif	Pdif		09 07 26.0	+1.2
PDAR				PKiKP	PKiKP		09 11 31.8	-1.0
PDAR				PKKPbc	PKKPbc		09 22 50.2	+2.4
PDAR	Pinedale Array	107.57	16	Pdiff	Pdif		09 07 26.0	+1.2
comp=Z,0.2nm,0.6s,baz=338,slow=2.1,SNR=2.0								
PDAR				PKiKP	PKiKP		09 11 31.8	-1.0
comp=Z,1.8nm,0.9s,baz=343,slow=1.2,SNR=4.4								
PDAR				PKKPbc	PKKPbc		09 22 50.2	+2.4
comp=Z,1.5nm,0.9s,baz=193,slow=3.7,SNR=6.7								
ASCN	Ascension	107.63	270	PFAKE			09 11 40.0	
ASCN				LR	LR			
comp=Z,2µm,19.0s								
HVU	Hansel Valley	107.64	19	ePP	PP		09 11 58.2	+6.2
SPMN	St. Paul	107.65	3	ePKKPab	PKKPab		09 22 58.9	-5.3
NCB	Newcomb	107.81	349	ePKKPab	PKKPab		09 23 05.8	+2.3
NCB				LR	LR			
comp=Z,6µm,19.0s								
BRSD	Miller	107.90	8	ePdif	Pdif		09 07 32.0	+6.1
BRSD				ePP	PP		09 11 53.7	+0.2
HWUT	Hardware Ranch	108.14	18	PFAKE			09 11 50.0	
HWUT				LR	LR			
comp=Z,9µm,19.0s								
WAKR	Walker	108.37	25	ePP	PP		09 11 54.6	-2.9
ECSD	EROS Data Cent	108.86	6	ePdif	Pdif		09 07 35.5	+5.3
ECSD				ePKPdf	PKiKP		09 11 35.9	+1.0
ECSD				LR	LR			
comp=Z,11µm,19.0s								
NV01	Mina Array Sit	108.86	24	ePKiKP	PKiKP		09 11 35.4	+0.1
NVAR	Mina Array Bea	108.86	24	Pdif	Pdif		09 07 33.0	+2.5
NVAR				PKiKP	PKiKP		09 11 34.0	-1.3
NVAR				PKKPbc	PKKPbc		09 22 44.2	+0.6
NVAR	Mina Array Bea	108.86	24	Pdiff	Pdif		09 07 33.0	+2.5
comp=Z,0.2nm,0.3s,baz=332,slow=3.1,SNR=2.3								
NVAR				PKiKP	PKiKP		09 11 34.0	-1.3
comp=Z,1.9nm,0.9s,baz=318,slow=1.2,SNR=4.9								
NVAR				PKKPbc	PKKPbc		09 22 44.2	+0.6
comp=Z,1.0nm,0.9s,baz=182,slow=4.5,SNR=3.0								
CTU	Camp Tracy	108.94	18	ePP	PP		09 12 04.9	+3.5
L23A	Garrett	109.07	13	P	PKiKP		09 11 34.4	-1.2
baz=109								
DUG	Dugway	109.09	19	ePP	PP		09 11 56.5	-6.0
DAU	Daniels Canyon	109.33	18	ePP	PP		09 11 59.8	-4.7
MMNY	Mt. Morris Dam	109.56	352	ePKKPab	PKKPab		09 22 56.9	+1.2
TPH	Tonopah	109.57	24	PFAKE			09 11 50.0	
TPH				LR	LR			
comp=Z,9µm,22.0s								
BINY	Binghamton	109.81	350	ePP	PP		09 12 14.1	+6.7
BINY				LR	LR			
comp=Z,7µm,20.0s								
PHWY	Pilot Hill	109.90	13	ePKKPbc	PKKPbc		09 22 45.9	+5.3
JFWS	Jewell Farm	110.05	1	ePKKPab	PKKPab		09 22 48.6	-5.0
JFWS				LR	LR			
comp=Z,16µm,21.0s								
ERPA	Erie	110.41	353	PFAKE			09 11 50.0	
ERPA				LR	LR			
comp=Z,6µm,19.0s								
Q16A	Castle Valley	110.75	19	ePP	PP		09 12 19.0	+4.4
SCIA	State Center	110.94	4	PFAKE			09 11 50.0	
SCIA				LR	LR			
comp=Z,14µm,20.0s								
BGNE	Belgrade	110.99	8	ePKKPbc	PKKPbc		09 22 36.0	-0.6
ISA	Isabella	111.23	26	ePP	PP		09 12 18.2	+0.1
ISCO	Idaho Springs	111.31	14	ePP	PP		09 12 21.8	+3.1
ISCO				LR	LR			
comp=Z,14µm,20.0s								
P26A	Davis Ranch, A	112.00	12	P	PKiKP		09 11 39.4	-1.8
baz=112								
GSC	Goldstone	112.19	25	ePKIKP	PKiKP		09 11 43.4	+1.9
GSC				e			09 12 22.9	
GSC	Goldstone	112.19	25	ePKPdf	PKiKP		09 11 43.4	+1.9
GSC				ePP	PP		09 12 22.9	-2.0
VNDA	Vanda	112.42	167	PKiKP	PKiKP		09 11 39.9	-0.5
VNDA				PKKPbc	PKKPbc		09 22 33.1	+0.5
VNDA	Vanda	112.42	167	PKiKP	PKiKP		09 11 39.9	-0.5
comp=Z,1.5nm,1.0s,baz=293,slow=3.9,SNR=3.0								
VNDA				PKKPbc	PKKPbc		09 22 33.1	+0.5
comp=Z,0.7nm,0.8s,baz=235,slow=3.7,SNR=4.2								
ACSO	Alum Creek Sta	112.55	355	PFAKE			09 11 50.0	
ACSO				LR	LR			
comp=Z,10µm,19.0s								
SFIN	Scholer Farm	112.58	359	ePKKPab	PKKPab		09 22 38.2	-4.0
KSCO	Kaye Shedlock'	112.66	12	ePP	PP		09 12 32.9	+4.8
SDMD	Soldier's Deli	112.67	350	ePP	PP		09 12 33.8	+5.8
P31A	Stockton	112.69	9	P	PKiKP		09 11 41.4	-0.9
baz=112								
MCWV	Mont Chateau	112.83	353	PFAKE			09 11 50.0	
MCWV				LR	LR			
comp=Z,7µm,21.0s								
MVCO	Mesa Verde	113.08	17	PFAKE			09 11 50.0	
MVCO				LR	LR			
comp=Z,8µm,19.0s								
R25A	Fountain Ranch	113.18	13	P	PKiKP		09 11 42.6	-0.9
baz=113								
SDCO	Great Sand Dun	113.30	15	ePKKPab	PKKPab		09 22 35.5	-3.9
SDCO				LR	LR			
comp=Z,8µm,21.0s								
KSU1	Kansas State U	113.45	7	PFAKE			09 12 00.0	
KSU1				LR	LR			
comp=Z,11µm,19.0s								
S25A	Robets Cordova	113.61	14	P	PKiKP		09 11 43.3	-1.1
baz=113								
BELC	Belle Mtn. Jos	113.64	25	P	PKiKP		09 11 43.3	-1.1
baz=113								
PFO	Pinyon Flat Ob	113.82	25	PFAKE			09 12 00.0	
PFO				LR	LR			
comp=Z,4µm,21.0s								
WUAZ	Wupatki	113.84	20	ePP	PP		09 12 43.2	+6.5
S26A	Kim	113.85	13	P	PKiKP		09 11 43.8	-0.9
baz=114								
R31A	Burdett	113.88	9	P	PKiKP		09 11 44.0	-0.6
baz=114								
CBN	Corbin	113.94	350	PFAKE			09 12 00.0	
CBN				LR	LR			
comp=Z,8µm,21.0s								
T25A	Trinidad	114.12	14	P	PKPdf		09 11 44.0	-1.4
baz=114								
JSRW	J. Sargeant Re	114.51	351	ePKKPab	PKKPab		09 22 30.9	-2.6
T27A	Campo	114.54	12	P	PKPdf		09 11 45.5	-0.6
baz=114								
X16A	Lo Mia Camp, P	114.83	21	P	PKPdf		09 11 46.3	-0.4
baz=115								
U26A	Atchley Ranch,	114.98	13	P	PKPdf		09 11 46.8	-0.2
baz=115								
U27A	Thompson Grove	115.14	13	P	PKPdf		09 11 47.0	-0.2
baz=115								
V24A	Rampart Ranch,	115.29	15	P	PKPdf		09 11 46.9	-0.7
baz=115								
BLA	Blacksburg	115.31	353	PFAKE			09 12 00.0	+13
BLA				LR	LR			
comp=Z,10µm,22.0s								
V25A	Rancho No Teng	115.33	14	P	PKPdf		09 11 47.0	-0.7
baz=115								
RAR	Rarotonga	115.56	102	PFAKE			09 12 00.0	+12
RAR				LR	LR			
comp=Z,2µm,19.0s								
X20A	Quemado	115.59	18	P	PKPdf		09 11 47.6	-0.7
baz=115								
ANMO	Albuquerque	115.75	16	ePKPdf	PKPdf		09 11 46.3	-2.2
X21A	Alamocita Cree	115.88	18	P	PKPdf		09 11 48.4	-0.5
baz=116								
W25A	X Bar L Ranch,	115.96	14	P	PKPdf		09 11 48.3	-0.5
baz=116								
LAZ	Lazron	116.09	17	ePP	PP		09 12 59.1	+6.5
X23A	Hourglass Bar	116.16	16	P	PKPdf		09 11 49.4	+0.1
baz=116								
TZTN	Tazewell	116.25	356	ePKKPab	PKKPab		09 22 28.2	+2.3
Y21A	Point of Rocks	116.32	18	P	PKPdf		09 11 49.4	-0.3
baz=116								
LENM	Lemitar	116.36	17	ePKPdf	PKPdf		09 11 49.7	0.0
LENM				ePP	PP		09 13 07.5	+13
X24A	Lazy VL Ranch,	116.36	16	P	PKPdf		09 11 49.3	-0.4
baz=116								
BBSR	BB Station	116.40	338	PFAKE			09 12 00.0	+10
BBSR				LR	LR			
comp=Z,4µm,21.0s								
W27A	Bowe Ranch, En	116.40	13	P	PKPdf		09 11 49.4	-0.2
baz=116								
BNM	Barren Site	116.46	17	ePKPdf	PKPdf		09 11 50.6	+0.7
Y22A	Socorro	116.57	17	P	PKPdf		09 11 49.8	-0.3
baz=116								
TUL1	Tulsa	116.69	7	ePKPdf	PKPdf		09 11 56.2	+6.2
TUL1	Tulsa	116.69	7	P	PKPdf		09 11 49.5	-0.5
baz=116								
X26A	CR and CF Fran	116.74	14	P	PKPdf		09 11 49.4	-1.0
baz=116								
Y23A	Lovelace Mesa,	116.81	16	P	PKPdf		09 11 50.3	-0.3
baz=116								
WVT	Waverly	116.84	359	ePKIKP	PKPdf		09 11 50.6	+0.3
WVT	Waverly	116.84	359	ePKPdf	PKPdf		09 11 50.6	+0.3
Z20A	Nine Sixteen R	116.90	19	P	PKPdf		09 11 50.6	-0.1
baz=117								
CNNC	Cliffs of the	116.92	350	PFAKE			09 12 00.0	+10
CNNC				LR	LR			
comp=Z,7µm,21.0s								
Y24A	Capitan	116.97	16	P	PKPdf		09 11 50.6	-0.3
baz=117								
Z21A	St. Cloud Mine	116.98	18	P	PKPdf		09 11 51.1	+0.2
baz=117								
TUC	Tucson	116.99	21	ePKIKP	PKPdf		09 11 51.0	+0.2
TUC	Tucson	116.99	21	ePKPdf	PKPdf		09 11 51.0	+0.2
SNAA	Sanae	117.06	201	eP	PKPdf		09 11 50.1	+0.5
SNAA	Sanae	117.06	201	ePKKPab	PKKPab		09 22 14.6	-2.0
SNAA	Sanae	117.06	201	eP	PKPdf		09 11 48.4	-1.2
SNAA	Sanae	117.06	201	PKP	PKPdf		09 11 48.1	-1.5
SNAA				ePKPdf	PKiKP		09 11 49.1	-0.4
SNAA				PKKPbc	PKKPab		09 22 13.8	-2.8
SNAA	Sanae	117.06	201	PKP	PKPdf		09 11 48.1	-1.5
comp=Z,0.7nm,0.7s,baz=106,slow=2.2,SNR=7.3								
SNAA				PKKPbc	PKKPab		09 22 13.8	-2.8
comp=Z,0.6nm,0.7s,baz=248,slow=5.4,SNR=7.5								
Y25A	Mesa, Roswell	117.15	15	P	PKPdf		09 11 50.4	-0.8
baz=117								
QSPA	South Pole Qui	117.17	180	PKP	PKPdf		09 11 49.0	-0.9
QSPA				ePKPdf	PKiKP		09 11 51.4	+1.5
QSPA				PP	PP		09 13 00.5	-0.1
QSPA				PKKPbc	PKKPab		09 22 16.1	0.0
QSPA	South Pole Qui	117.17	180	PKP	PKPdf		09 11 49.0	-0.9
comp=Z,4.1nm,0.8s,baz=293,slow=0.5,SNR=16								
QSPA				PP	PP		09 13 00.5	-0.1
comp=Z,9.3nm,1.0s,baz=327,slow=5.4,SNR=3.0								
QSPA				PKKPbc	PKKPab		09 22 16.1	0.0
comp=Z,5.8nm,0.9s,baz=216,slow=1.5,SNR=7.9								
X29A	Tulia	117.27	12	P	PKPdf		09 11 50.8	-0.5
baz=117								
X31A	McDonald Ranch	117.39	11	P	PKPdf		09 11 50.5	-0.9
baz=117								
Z23A	Rita Site, Whi	117.40	17	P	PKPdf		09 11 51.3	-0.3
baz=117								
CPCT	Cooper Cave	117.40	356	ePKPdf	PKPdf		09 11 50.8	-0.7
KMSC	Kings Mountain	117.45	353	ePKKPab	PKKPab		09 22 18.6	-2.0
KMSC	Kings Mountain	117.45	353	P	PKPdf		09 11 51.0	-0.5
baz=117								
WMOK	Wichita Mounta	117.47	9	ePKKPbc	PKKPbc		09 22 14.8	+0.4
MSTX	Muleshoe	117.52	13	ePKPdf	PKPdf		09 11 52.2	+0.4
MSTX	Muleshoe	117.52	13	P	PKPdf		09 11 51.3	-0.6
baz=117								
Z24A	Sheeppen Canyo	117.55	16	P	PKPdf		09 11 51.7	-0.3
baz=117								
121A	Cookes Peak, D	117.68	18	P	PKPdf		09 11 51.9	-0.3
baz=117								
SWET	Sewanee	117.70	358	ePKKPab	PKKPab		09 22 17.7	-1.8
Z25A	Roswell	117.76	15	P	PKPdf		09 11 51.8	-0.5
baz=118								
Z26A	Caprock	117.93	15	P	PKPdf		09 11 51.9	-0.8
baz=118								
PLAL	Pickwick Lake	117.98	360	ePKPdf	PKPdf		09 11 52.0	-0.5
220A	Playas Peak, P	118.06	19	P	PKPdf		09 11 52.6	-0.3
baz=118								
Z27A	Tatum	118.06	14	P	PKPdf		09 11 52.1	-0.8
baz=118								
MIAR	Mount Ida	118.24	5	ePKIKP	PKPdf		09 11 52.7	-0.4
MIAR				MLR	MLR			
comp=Z,17µm,20.0s								
MIAR	Mount Ida	118.24	5	ePKPdf	PKPdf		09 11 52.6	-0.4
MIAR				LR	LR			
comp=Z,17µm,20.0s								
Z28A	Tucker Farm, M	118.26	13	P	PKPdf		09 11 52.4	-0.8
baz=118								
125A	Gardner Draw,	118.36	15	P	PKPdf		09 11 52.8	-0.7
baz=118								
Z29A	Hungry Hill Ra	118.42	13	P	PKPdf		09 11 52.8	-0.8
baz=118								
OXF	Oxford	118.45	1	ePKIKP	PKPdf		09 11 57.6	+4.2
OXF				MLR	MLR			
comp=Z,10µm,19.0s								
OXF	Oxford	118.45	1	ePKPdf	PKPdf		09 11 57.6	+4.2
OXF				LR	LR			
comp=Z,10µm,19.0s								
VNA2	Neumayer--Watz	118.48	202	eP	PKPdf		09 11 54.6	+2.4
320A	Kipp Ranch, An	118.58	19	P	PKPdf		09 11 53.8	-0.2
baz=118								
127A	Arkansas Junct	118.64	14	P	PKPdf		09 11 53.2	-0.8
baz=118								
Z31A	Sharp Cattle R	118.65	11	P	PKPdf		09 11 53.5	-0.4
baz=118								
224A	Cornudas Mount	118.71	16	P	PKPdf		09 11 53.7	-0.6
baz=118								
VNA1	Neumayer--Stat	118.76	202	eP	PKPdf		09 11 56.3	+3.6
Z32A	Haskell	118.77	10	P	PKPdf		09 11 53.4	-0.7
baz=118								
225A	Deer Hill, Car	118.85	16	P	PKPdf		09 11 53.4	-1.1
baz=119								
128A	Castleberry Fa	118.88	13	P	PKPdf		09 11 53.9	-0.6
baz=119								
129A	Stewart Farms,	119.00	13	P	PKPdf		09 11 53.8	-0.9
baz=119								
226B	Tecolote Peak,	119.04	15	P	PKPdf		09 11 54.1	-0.7
baz=119								
MNTX	Cornudas Mount	119.11	16	ePKPdf	PKPdf		09 11 54.2	-0.6
MNTX				LR	LR			
comp=Z,6µm,20.0s								
131A	Roby	119.23	11	P	PKPdf		09 11 54.2	-0.8
baz=119								
324A	Moseley Ranch,	119.32	17	P	PKPdf		09 11 54.8	-0.6
baz=119								
GOGA	Godfrey	119.36	355	ePKKPab	PKKPab		09 22 10.6	-1.6
325A	Bean Ranch, Si	119.52	16	P	PKPdf		09 11 55.0	-0.9
baz=119								
230A	Sterling City	119.87	12	P	PKPdf		09 11 55.6	-0.8
baz=120								
LRAL	Lakeview Retre	119.91	359	ePKPdf	PKPdf		09 11 58.9	+2.6
328A	Wristen Ranch,	120.01	14	P	PKPdf		09 11 55.7	-1.0
baz=120								
425A	Indio Mountain	120.08	16	P	PKPdf		09 11 56.0	-0.8
baz=120								
232A	Coleman	120.13	11	P	PKPdf		09 11 56.1	-0.7
baz=120								
330A	Mertzon	120.32	13	P	PKPdf		09 11 56.3	-1.0
baz=120								
427A	Hayter Ranch,	120.39	15	P	PKPdf		09 11 56.8	-0.6
baz=120								
331A	San Angelo	120.56	12	P	PKPdf		09 11 56.8	-0.9
baz=120								
332A	Millersview	120.61	11	P	PKPdf		09 11 56.9	-0.9
baz=120								
428A	Kincaid Ranch,	120.67	14	P	PKPdf		09 11 57.5	-0.5
baz=120								
VBMS	Vicksburg	120.71	2	PFAKE			09 12 10.0	+12
VBMS				LR	LR			
comp=Z,10µm,19.0s								
NATX	Nacogdoches	120.91	6	PFAKE			09 12 10.0	+12
NATX				LR	LR			
comp=Z,10µm,19.0s								
430A	Baggett Ranch,	120.91	13	P	PKPdf		09 11 57.5	-0.9
baz=121								
429A	Davenport Ranc	120.94	13	P	PKPdf		09 11 57.6	-0.9
baz=121								
526A	Mary Lane Ranc	120.99	16	P	PKPdf		09 11 57.9	-0.7
baz=121								
527A	Woodward Ranch	121.02	15	P	PKPdf		09 11 58.2	-0.5
baz=121								
431A	Sonora	121.13	12	P	PKPdf		09 11 58.1	-0.7
baz=121								
528A	Cox Ranch, San	121.19	14	P	PKPdf		09 11 58.4	-0.6
baz=121								
529A	Stev Forest Ra	121.35	14	P	PKPdf		09 11 58.5	-0.7
baz=121								
626A	Big Bend Ranch	121.46	16	P	PKPdf		09 11 58.9	-0.6
baz=121								
JCT	Junction City	121.48	11	ePKIKP	PKPdf		09 11 58.8	-0.7
JCT				MLR	MLR			
comp=Z,15µm,20.0s								
JCT	Junction City	121.48	11	ePKPdf	PKPdf		09 11 58.8	-0.7
JCT				LR	LR			
comp=Z,15µm,20.0s								
JCT	Junction City	121.48	11	P	PKPdf		09 11 58.7	-0.7
baz=121								
530A	J-C Ranch, Com	121.51	13	P	PKPdf		09 11 59.0	-0.6
baz=121								
531A	Rocksprings	121.65	12	P	PKPdf		09 11 59.2	-0.6
baz=121								
627A	Terlingua Ranc	121.74	15	P	PKPdf		09 11 59.3	-0.7
baz=122								
TX31	Lajitas Ar. Si	121.78	16	ePKPdf	PKPdf		09 11 59.6	-0.5
TXAR	Lajitas Array	121.79	16	PKP	PKPdf		09 11 59.4	-0.8
TXAR				PP	PP		09 13 33.2	+1.5
TXAR				PKKPbc	PKKPbc		09 21 57.6	-1.0
TXAR	Lajitas Array	121.79	16	PKP	PKPdf		09 11 59.4	-0.8
comp=Z,6.3nm,0.9s,baz=260,slow=0.5,SNR=31								
TXAR				PP	PP		09 13 33.2	+1.5
comp=Z,4.1nm,0.9s,baz=329,slow=3.2,SNR=1.9								
TXAR				PKKPbc	PKKPbc		09 21 57.6	-1.0
comp=Z,1.5nm,1.0s,baz=177,slow=6.1,SNR=6.0								
532A	Rocksprings	121.80	12	P	PKPdf		09 11 59.1	-0.9
baz=122								
628A	Black Gap, Mar	121.82	15	P	PKPdf		09 11 59.6	-0.6
baz=122								
631A	Perdido Creek	122.38	12	P	PKPdf		09 12 00.2	-0.9
baz=122								
632A	Uvalde	122.43	12	P	PKPdf		09 12 00.3	-0.9
baz=122								
HKT	Hockley	122.58	8	ePKIKP	PKPdf		09 12 01.9	+0.5
HKT	Hockley	122.58	8	ePKPdf	PKPdf		09 12 01.9	+0.5
732A	Laxson Ranch,	123.15	12	P	PKPdf		09 12 02.1	-0.5
baz=123								
PPT2	Papeete2	123.24	94	eLR	LR		09 50 35.5	
comp=Z,3µm,22.8s								
KVTX	Kingsville	124.67	10	PFAKE			09 12 20.0	+14
KVTX				LR	LR			
comp=Z,8µm,19.0s								
TBI	Tubuai	125.27	100	eLR	LR		09 51 24.3	
comp=Z,2µm,25.2s								
RCBR	Riachuelo	125.67	283	ePKPdf	PKPdf		09 12 08.5	+0.7
ANWB	Willy Bob	128.25	327	PFAKE			09 12 20.0	+7.4
ANWB				LR	LR			
comp=Z,2µm,21.0s								
GRTK	Grand Turk	128.57	339	PFAKE			09 12 20.0	+6.9
GRTK				LR	LR			
comp=Z,6µm,22.0s								
CELP	Cerrillos	130.06	332	ePKPdf	PKPdf		09 12 17.4	+1.3
OBIP	Obispado Ponce	130.10	332	ePKPdf	PKPdf		09 12 17.9	+1.8
BBGH	Gun Hill	130.88	321	PFAKE			09 12 30.0	+12
BBGH				LR	LR			
comp=Z,5µm,21.0s								
SDDR	Presa de Saban	130.98	338	eSKPbc	SKPbc		09 15 40.0	-1.7
SDDR				LR	LR			
comp=Z,5µm,22.0s								
GTBY	Guantanamo Bay	131.22	343	PFAKE			09 12 30.0	+12
GTBY				LR	LR			
comp=Z,4µm,19.0s								
TEIG	Tepich	132.69	360	eSKP

CPUP			*e*PKPbc	PKPab	09 13 02.1	-9.1
CPUP			PKPbc	PKPbc	09 13 02.7	+1.2
CPUP			*e*PKPab	PKPab	09 13 11.2	0.0
CPUP	**Villa Florida**	**152.17 265**	PKP	**PKPdf**	**09 12 55.8**	**+1.0**
	comp=Z,9.7nm,0.8s,baz=80,slow=2.8,SNR=14					
CPUP			PKPbc	**PKiKP**	**09 13 02.7**	**+0.9**
	comp=Z,23nm,0.5s,baz=67,slow=3.1,SNR=36					
LPA	**La Plata**	**152.82 246**	PKP	**PKPbc**	**09 13 02.0**	**-0.6**
LPA			PP	**PP**	**09 16 48.0**	**+1.0**
LPA			PPP	PPP	09 26 16.0	
LPA			SS	SS	09 36 20.0	+1.3
TRQA	**Tornquist**	**155.32 238**	*e*PKPdf	**PKPdf**	**09 13 01.7**	**+2.7**
ATAH	**Atahualpa**	**157.69 333**	PKP	**PKPdf**	**09 13 02.5**	**-0.8**
ATAH			PKPab	**PKPab**	**09 13 35.9**	**+0.6**
ATAH	**Atahualpa**	**157.69 333**	PKP	**PKPdf**	**09 13 02.5**	**-0.8**
	comp=Z,6.8nm,0.7s,baz=48,slow=3.3,SNR=2.9					
ATAH			PKPab	**PKPab**	**09 13 35.9**	**+0.6**
	comp=Z,30nm,0.8s,baz=5.1,slow=5.2,SNR=9.3					
LPAZ	**La Paz**	**158.11 296**	PKP	**PKPdf**	**09 13 03.1**	**-0.8**
LPAZ			*e*PKPdf	**PKPdf**	**09 13 03.2**	**-0.7**
LPAZ			*e*PKPdf	**PKPdf**	**09 13 03.5**	**-0.5**
LPAZ	**La Paz**	**158.11 296**	PKP	**PKPdf**	**09 13 03.1**	**-0.8**
	comp=Z,31nm,1.4s,baz=23,slow=2.8,SNR=18					
PLCA	**Paso Flores**	**160.06 223**	PKP	**PKPdf**	**09 13 06.2**	**+1.4**
PLCA			*e*PKPdf	**PKPdf**	**09 13 06.6**	**+1.8**
PLCA			*e*PKPdf	**PKPdf**	**09 13 09.7**	**+4.8**
PLCA	**Paso Flores**	**160.06 223**	PKP	**PKPdf**	**09 13 06.2**	**+1.4**
	comp=Z,8.1nm,0.9s,baz=132,slow=1.0,SNR=9.7					
NNA	**Nana**	**161.17 322**	PKP	**PKPdf**	**09 13 07.0**	**+0.3**
NNA	**Nana**	**161.17 322**	PKP	**PKPdf**	**09 13 07.0**	**+0.3**
	comp=Z,3.5nm,0.4s,baz=350,slow=11,SNR=2.0					
LVC	**Limon Verde**	**161.59 281**	*e*PKPdf	**PKPdf**	**09 13 10.7**	**+3.4**
CFAA	**Coronel Fontan**	**161.83 252**	PKP	**PKPdf**	**09 13 07.1**	**+0.1**
CFAA	**Coronel Fontan**	**161.83 252**	PKP	**PKPdf**	**09 13 07.1**	**+0.1**
	comp=Z,0.6nm,0.9s,baz=287,slow=1.1,SNR=8.4					

CASC 21 09:01:43.2±2.1, 10°.05N×83°.56W, h12km±6km, MD3.7, 4C-5D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URSC	**Urasca**	**0.30**	**225**	⇓*i*P	Pg	09 01 49.8	+0.1
SJS	**Escuela Geolog**	**0.50**	**257**	⇑*e*P	Pg	09 01 53.4	+0.2
BUS	**Buena Vista**	**0.53**	**202**	⇓*i*P	Pg	09 01 53.6	-0.5
BUS				*e*S	Sg	09 02 01.4	-0.2
QCR	**Quepos**	**0.86**	**224**	⇓*e*P	Pg	09 01 59.3	-0.6
QCR				*e*S	Sg	09 02 11.3	+0.1
CGA2	**Cerro Gallo 2**	**0.89**	**268**	⇑*e*P	Pg	09 01 59.5	-1.1
FORC	**Fortuna**	**1.17**	**291**	*i* P	Pb	09 02 04.2	-1.2
CNI	**Changuinola**	**1.20**	**121**	⇑*i*P	Pn	09 02 04.5	-1.5
CNI				*e*S	Sb	09 02 19.8	-1.8
CEDE	**Laguna Cede¯–o**	**1.21**	**291**	*i* P	Pn	09 02 04.9	-1.2
CEDE				*i* S	Sb	09 02 21.2	-0.6
CTCR	**Cotoan**	**1.39**	**145**	⇑*i*P	Pn	09 02 08.1	-0.7
CTCR				*e*S	Sn	09 02 26.2	-1.2
ACR	**Cerro Adams**	**1.44**	**164**	⇓*e*P	Pn	09 02 08.6	-0.7
ACR				*e*S	Sn	09 02 27.2	-1.0
BRU2	**Volcan**	**1.51**	**146**	⇓*i*P	Pn	09 02 10.2	-0.2
BRU2				*e*S	Sn	09 02 30.4	+0.1
AMAS	**Alto Masis**	**1.52**	**292**	*i* P	Pn	09 02 09.1	-1.3
AMAS				*i* S	Sn	09 02 28.9	-1.3
JCR	**Jicaral**	**1.54**	**263**	*e*P	Pn	09 02 10.5	-0.2
CAO	**Cobano**	**1.56**	**257**	*e*P	Pn	09 02 11.0	+0.1
CAO				*e*S	Sb	09 02 32.7	+0.8
BRU	**Baru**	**1.58**	**141**	*e*P	Pn	09 02 11.5	-0.2
BRU				*e*S	Sb	09 02 33.2	-0.1
COLC	**Colonia**	**1.73**	**291**	*i* P	Pn	09 02 12.4	-0.8
COLC				*i* S	Sn	09 02 35.5	+0.1
LAPC	**Finca la Perla**	**1.98**	**291**	*i* P	Pn	09 02 16.4	-0.2
VCR	**Vista de Mar**	**2.04**	**272**	*e*P	Pn	09 02 18.4	+0.8

BER 21 09:02:13.4±0.4, 71°.13N×7°.88W, h16km±9km, MD1.5, ML2.2, 3D, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNE	**Jan Mayen East**	**0.20**	**224**	*e*P	Pg	09 02 17.9	-0.2
JNE				*e*S	Sg	09 02 20.8	-0.4
JNE				AML	AML	09 02 21.6	
	comp=Z,269nm,0.1s						
JNE	**Jan Mayen East**	**0.20**	**224**	⇓*i*P	Pg	09 02 17.9	-0.2
JNE				*e*S	Sg	09 02 20.9	-0.3
JNE				AML	AML	09 02 21.6	
	comp=Z,264nm,0.1s						
JNW	**Jan Mayen West**	**0.20**	**240**	*e*P	Pg	09 02 17.9	-0.3
JNW				AML	AML	09 02 23.2	
	comp=Z,189nm,0.3s						
JNW	**Jan Mayen West**	**0.20**	**240**	⇓*i*P	Pg	09 02 17.9	-0.3
JNW				AML	AML	09 02 23.2	
	comp=Z,190nm,0.3s						
JMI	**Jan Mayen**	**0.34**	**234**	*e*P	Pg	09 02 19.9	-0.7
JMI				*e*S	Sg	09 02 24.9	-0.5
JMI	**Jan Mayen**	**0.34**	**234**	⇓*i*P	Pg	09 02 19.9	-0.7

*DMN **21** 09:16:52.1±0.8, 27°.64N×91°.91E, h10km, Ml5.7/3, Error ellipse: s-maj=35.0km s-min=16.0km az=168.0*
*NEIC **21** 09:16:54.3±0.4, 27°.31N×91°.49E, h10km, mb4.5/12, Error ellipse: s-maj=12.4km s-min=7.3km az=51.0*
*ISCJB **21** 09:16:55.3±0.3, 27°.32N±0°.04×91°.52E±0°.03, h10km, mb4.6/64, Error ellipse: s-maj=5.8km s-min=4.2km az=164.1*
*IDC **21** 09:16:55.9±3.3, 27°.25N×91°.47E, h23km±20km, mb4.0/24, mb1 4.2/24, mb1mx4.1/31, mbtmp4.1/24, Error ellipse: s-maj=18.5km s-min=13.5km az=37.0*
*MOS **21** 09:16:58.3±0.8, 27°.31N×92°.10E, h33km, mb5.2/33, Error ellipse: s-maj=11.8km s-min=6.5km az=118.3*
*LDG **21** 09:17:03.4±0.4, 28°.24N×90°.89E, h10km, Mb4.9/27, Error ellipse: s-maj=19.3km s-min=9.7km az=137.0*

ISC 21 09:16:55.0±0.8, 27°.30N±0°.05×91°.49E±0°.04, h17km±4km, n242, σ1.9±17/147, mb4.7/61, 7C, Bhutan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**1.76**	**168**	*e*P	**Pb**	**09 17 27.1**	**+0.2**
SHL				*e*S	**Sg**	**09 17 52.0**	**+0.2**
SLGI	**Shiliguri**	**2.81**	**258**	*e*P	**Pb**	**09 17 46.0**	**+1.3**
SLGI				*e*S	**Sb**	**09 18 17.8**	**-1.0**
TAPN	**Taplejung**	**3.36**	**272**	*e*Pn	**Pn**	**09 17 48.6**	**+1.5**
TAPN				*e*Sn	**Sn**	**09 18 29.8**	**+3.0**
	4μm,0.6s						
ODAN	**Odare**	**3.68**	**264**	*e*Pn	**Pn**	**09 17 52.3**	**+0.9**
ODAN				*e*Sn	**Sn**	**09 18 37.5**	**+3.0**
	6μm,0.4s						
RAMN	**Ramite**	**4.37**	**267**	*e*Pn	**Pn**	**09 18 02.5**	**+1.6**
RAMN				*e*Sn	**Sn**	**09 18 54.3**	**+2.7**
	5μm,0.6s						
JIRN	**Jiri**	**4.72**	**276**	*e*Pn	**Pn**	**09 18 07.2**	**+1.4**
GUN	**Gumba**	**5.02**	**278**	*e*Pn	**Pn**	**09 18 10.9**	**+1.1**
PKI	**Pulchoki**	**5.41**	**274**	*e*Pn	**Pn**	**09 18 15.6**	**+0.4**
PKIN	**Phulchoki**	**5.42**	**274**	*e*Pn	**Pn**	**09 18 15.8**	**+0.5**
KKN	**Kakani**	**5.54**	**276**	*e*Pn	**Pn**	**09 18 17.7**	**+0.9**
DMN	**Daman**	**5.68**	**275**	*e*Pn	**Pn**	**09 18 20.2**	**+1.3**
GKN	**Gorkha**	**6.12**	**278**	*e*Sn	**Sn**	**09 19 34.4**	**-0.1**
BOK	**Bokaro**	**6.15**	**237**	*e*P	**Pn**	**09 18 25.5**	**+0.5**
BOK				AMB	AMB	09 18 27.5	
	comp=Z,55nm,0.4s						
DANN	**Dangsing**	**6.92**	**280**	*e*Pn	**Pn**	**09 18 35.3**	**-0.7**
KOLN	**Koldanda**	**7.02**	**276**	*e*Pn	**Pn**	**09 18 37.0**	**-0.2**
PYUN	**Piuthan**	**7.58**	**278**	*e*Pn	**Pn**	**09 18 44.1**	**-0.8**
CHTO	**Chiang Mai**	**10.88**	**139**	*e*P	**Pn**	**09 19 30.1**	**+0.1**
CHTO	**Chiang Mai**	**10.88**	**139**	*e*Pn	**Pn**	**09 19 30.1**	**+0.1**
VIS	**Vishakhapatnam**	**12.15**	**220**	*e*P	**Pn**	**09 19 47.3**	**-0.1**
VIS				AMB	AMB	09 20 03.2	
	comp=Z,37nm,1.1s						
DDI	**Dehra Dun**	**12.16**	**288**	*e*P	**Pn**	**09 19 46.3**	**-1.3**
DDI				AMB	AMB	09 20 05.9	
	comp=Z,110nm,0.9s						
NDI	**New Delhi**	**12.69**	**280**	*ex*	x	09 20 13.3	
NGP	**Nagpur**	**12.89**	**244**	*e*P	**Pn**	**09 19 55.9**	**-1.7**
NGP				AMB	AMB	09 20 00.6	
	comp=Z,32nm,0.7s						
NGP				*ex*	x	09 22 50.3	
SMLA	**Simla**	**13.08**	**290**	*e*P	**Pn**	**09 19 57.3**	**-2.7**
SMLA				AMB	AMB	09 20 45.5	
	comp=Z,74nm,3.0s						
BHPL	**Bhopal**	**13.35**	**255**	*e*P	Pn	09 20 00.4	-3.5
BHPL				AMB	AMB	09 20 02.1	
	comp=Z,42nm,0.5s						
DHRM	**DHARAMSHALA**	**14.08**	**294**	*e*P	**Pn**	**09 20 11.6**	**-2.4**
DGPR	**DIGLIPUR**	**14.12**	**174**	*e*P	**Pn**	**09 20 13.1**	**-1.1**
AKL	**Akola**	**14.76**	**247**	*e*P	**Pn**	**09 20 20.3**	**-2.8**
AKL				*i* x	x	09 22 56.6	
HYB	**Hyderabad**	**15.48**	**233**	*ex*	**Pn**	**09 20 29.5**	**-3.2**
PBA	**Port Blair**	**15.61**	**175**	*e*P	Pn	09 20 36.4	+2.1
PBA				AMB	AMB	09 21 27.3	
	comp=Z,63nm,2.1s						
LATR	**Latur**	**16.34**	**240**	*ex*	x	09 20 33.8	
LATR				AMB	AMB	09 20 43.5	
	comp=Z,61nm,6.1s						
LATR				*e*S	**Sn**	**09 23 46.3**	**+1.5**
POO	**Poona**	**18.43**	**245**	*e*P	**P**	**09 21 08.0**	**-1.7**
POO				AMB	AMB	09 21 31.7	
	comp=Z,67nm,4.3s						
TKM2	**Tokmak 2**	**20.24**	**324**	*e*P	Pn	09 21 31.9	+0.3
TKM2				pmax	pmax		
	comp=Z,15nm,0.7s						
TKM2	**Tokmak 2**	**20.24**	**324**	*e*P	Pn	09 21 31.9	+0.2
	comp=Z,14nm,0.7s						
KBL	**Kabul**	**20.54**	**296**	*e*P	**P**	**09 21 32.8**	**-0.1**
KBL				pmax	pmax		
	comp=Z,25nm,0.9s						
KBL	**Kabul**	**20.54**	**296**	*e*P	**P**	**09 21 32.8**	**-0.1**
	comp=Z,25nm,0.9s						
AAK	**Ala-Archa**	**20.63**	**322**	⇑*i*P	Pn	09 21 36.7	+0.6
AAK				pmax	pmax		
	comp=Z,14nm,1.2s						
AAK	**Ala-Archa**	**20.63**	**322**	*e*P	Pn	09 21 36.3	+0.2
	comp=Z,12nm,0.9s						
AAK	**Ala-Archa**	**20.63**	**322**	P	Pn	09 21 35.1	-1.0
	comp=Z,1.9nm,0.6s,baz=166,slow=8.3,SNR=2.6						
MK31	**Makanchi Array**	**20.77**	**342**	*ce*P	**P**	**09 21 35.5**	**+0.4**
MK31				pmax	pmax		
	comp=Z,35nm,0.7s						
MK31	**Makanchi Array**	**20.77**	**342**	*e*P	**P**	**09 21 35.9**	**+0.8**
MKAR	**Makanchi Array**	**20.77**	**342**	P	**P**	**09 21 35.6**	**+0.6**
MKAR	**Makanchi Array**	**20.77**	**342**	P	**P**	**09 21 35.6**	**+0.6**
MKAR	**Makanchi Array**	**20.77**	**342**	P	**P**	**09 21 35.6**	**+0.6**
	comp=Z,17nm,0.6s,baz=149,slow=13,SNR=155						
EKS2	**Erkin-Say**	**21.04**	**321**	*e*P	**P**	**09 21 40.0**	**+1.8**
EKS2				pmax	pmax		
	comp=Z,9.0nm,0.8s						
EKS2	**Erkin-Say**	**21.04**	**321**	*e*P	**P**	**09 21 40.0**	**+1.8**
	comp=Z,8.6nm,0.8s						
KULM	**Kulim**	**23.56**	**157**	*e*P	**P**	**09 22 07.6**	**+2.9**
	comp=Z,9.7nm,1.1s						
SONM	**Songino Array**	**23.58**	**26**	P	**P**	**09 22 05.3**	**+0.4**
SONM	**Songino Array**	**23.58**	**26**	P	**P**	**09 22 05.3**	**+0.4**
	comp=Z,7.9nm,0.9s,baz=214,slow=9.9,SNR=28						
ULN	**Ulaanbaatar**	**23.86**	**27**	*e*P	**P**	**09 22 07.9**	**+0.3**
	comp=Z,9.1nm,0.8s						
HVS	**Khovu-Aksy**	**23.86**	**3**	*c i*P	**P**	**09 22 08.8**	**+1.3**
HVS				pmax	pmax		
	comp=Z,53nm,0.9s						
IPM	**Ipoh**	**24.45**	**156**	*e*P	**P**	**09 22 15.2**	**+2.1**
	comp=Z,14nm,1.3s						
ZAK	**Zakamensk**	**24.75**	**18**	*e*P	**P**	**09 22 16.4**	**+0.7**
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KURBB	**Kurchatov Arra**	**25.30**	**340**	P	**P**	**09 22 21.0**	**+0.5**
	comp=Z,4.7nm,0.9s,baz=156,slow=9.5,SNR=30						
KURBB				ScP	**ScP**	**09 29 30.8**	**-1.0**
	comp=Z,1.0nm,0.5s,baz=162,slow=2.5,SNR=12						
KURK	**Kurchatov**	**25.36**	**341**	⇑*i*P	**P**	**09 22 21.6**	**+0.6**
KURK				pmax	pmax		
	comp=Z,6.0nm,1.2s						
KURK	**Kurchatov**	**25.36**	**341**	P	**P**	**09 22 21.0**	**0.0**
KURK				ScP	**ScP**	**09 29 30.8**	**-1.1**
TLY	**Talaya**	**26.02**	**17**	*i* P	**P**	**09 22 28.7**	**+1.6**
ZALV	**Zalesovo Beam**	**27.07**	**351**	*i* P	**P**	**09 22 38.2**	**+1.7**
ZALV				pmax	pmax		
	comp=Z,5.0nm,0.6s						
ZALV	**Zalesovo Beam**	**27.07**	**351**	P	**P**	**09 22 36.9**	**+0.4**
ZALV	**Zalesovo Beam**	**27.07**	**351**	P	**P**	**09 22 36.9**	**+0.4**
	comp=Z,5.1nm,0.7s,baz=175,slow=7.6,SNR=22						
NVS	**Novosibirsk**	**28.17**	**350**	*i* P	**P**	**09 22 46.4**	**+0.1**
VOSK	**Vostochnaya**	**29.65**	**334**	P	**P**	**09 22 59.5**	**0.0**
VOSK				pmax	pmax		
	comp=Z,10.0nm,0.7s						
BVAR	**Borovoye Array**	**30.11**	**334**	P	**P**	**09 23 03.7**	**+0.1**
BVAR						09 29 45.1	
BVAR	**Borovoye Array**	**30.11**	**334**	P	**P**	**09 23 03.7**	**+0.1**
BVAR				ScP	**ScP**	**09 29 45.1**	**-1.3**
BVAR	**Borovoye Array**	**30.11**	**334**	P	**P**	**09 23 03.7**	**+0.1**
	comp=Z,2.8nm,0.8s,baz=129,slow=10,SNR=3.9						
BVAR				ScP	**ScP**	**09 29 45.1**	**-1.3**
	comp=Z,0.7nm,0.4s,baz=128,slow=6.3,SNR=3.7						
KSAR	**Wonju Array Be**	**32.19**	**62**	P	**P**	**09 23 20.7**	**-1.3**
KSRS	**Korea Array**	**32.22**	**62**	P	**P**	**09 23 20.7**	**-1.6**
	comp=Z,1.0nm,0.6s,baz=255,slow=8.5,SNR=5.1						
AB31	**Akbulak array**	**32.70**	**321**	*ce*P	**P**	**09 23 26.8**	**+0.4**
AB31				pmax	pmax		
	comp=Z,4.0nm,0.5s						
AKTO	**Aktyubinsk**	**34.37**	**321**	P	**P**	**09 23 42.0**	**+1.0**
AKTO	**Aktyubinsk**	**34.37**	**321**	P	**P**	**09 23 42.0**	**+1.0**
AKTO	**Aktyubinsk**	**34.37**	**321**	P	**P**	**09 23 42.0**	**+1.0**
	comp=Z,0.7nm,0.3s,baz=111,slow=8.6,SNR=8.6						
USRK	**Ussuriysk Arra**	**36.52**	**52**	P	**P**	**09 24 00.5**	**+1.0**
	comp=Z,2.9nm,0.7s,baz=259,slow=8.3,SNR=8.3						
SVE	**Sverdlovsk**	**36.77**	**332**	*e*P	P	09 24 07.3	+5.8
SVE				pmax	pmax		
	comp=Z,18nm,0.9s						
COCO	**West Island**	**39.59**	**172**	*i* P	P	09 24 29.1	+3.5
MAJO	**Matsushiro**	**40.38**	**65**	*e*P	**P**	**09 24 32.4**	**+0.3**
MAJO				pmax	pmax		
	comp=Z,16nm,0.7s						
MAJO	**Matsushiro**	**40.38**	**65**	*e*P	**P**	**09 24 32.4**	**+0.3**
	comp=Z,16nm,0.7s						
ASAJ	**Asahikawa**	**44.04**	**54**	P	**P**	**09 25 03.2**	**+1.4**
ASAJ	**Asahikawa**	**44.04**	**54**	P	**P**	**09 25 03.2**	**+1.4**
	comp=Z,2.5nm,0.6s,baz=65,slow=14,SNR=4.4						
YSS	**Yuzh-Sakhalins**	**44.46**	**50**	⇑*e*P	**P**	**09 25 06.0**	**+0.9**
YSS				*e*		09 25 11.0	
YSS				pmax	pmax		
	comp=Z,20nm,0.8s						
YSS	**Yuzh-Sakhalins**	**44.46**	**50**	*e*P	**P**	**09 25 07.3**	**+2.2**
OBN	**Obninsk**	**48.15**	**321**	P	**P**	**09 25 37.0**	**+3.0**
OBN				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KLMR	**Klimovskoe**	**48.23**	**329**	*e*P	P	09 25 38.6	+4.1
KLMR				*e*		09 27 31.8	
KLMR				pmax	pmax		
	comp=Z,33nm,1.5s						
KLMR				pmax	pmax		
	comp=Z,37nm,1.5s						
BRTR	**Keskin Array B**	**49.03**	**300**	P	**P**	**09 25 39.9**	**-1.4**
BRTR	**Keskin Array B**	**49.03**	**300**	P	**P**	**09 25 39.9**	**-1.4**
	comp=Z,1.1nm,0.5s,baz=118,slow=6.4,SNR=4.1						
AKASG	**Malin Array Be**	**52.02**	**314**	*ce*P	**P**	**09 26 06.3**	**+2.9**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.4s						
AKASG	**Malin Array Be**	**52.02**	**314**	P	**P**	**09 26 03.1**	**-0.3**
AKASG	**Malin Array Be**	**52.02**	**314**	P	**P**	**09 26 03.1**	**-0.3**
	comp=Z,2.9nm,0.4s,baz=78,slow=7.2,SNR=6.9						
KIEV	**Kiev**	**52.03**	**314**	P	**P**	**09 26 03.4**	**-0.1**
KIEV				pmax	pmax		
	comp=Z,5.0nm,0.6s						
KIEV	**Kiev**	**52.03**	**314**	P	**P**	**09 26 03.4**	**-0.1**
	comp=Z,4.8nm,0.6s						
FINES	**FINESS Array B**	**54.69**	**328**	P	**P**	**09 26 22.8**	**-0.1**
FINES	**FINESS Array B**	**54.69**	**328**	P	**P**	**09 26 22.8**	**-0.1**
	comp=Z,7.8nm,0.6s,baz=92,slow=9.7,SNR=7.1						
ARCES	**ARCESS Array B**	**56.33**	**337**	P	**P**	**09 26 34.4**	**-0.2**
ARCES	**ARCESS Array B**	**56.33**	**337**	P	**P**	**09 26 34.4**	**-0.2**
	comp=Z,4.8nm,1.0s,baz=93,slow=7.2,SNR=7.6						
KRLC	**Kraliky**	**59.99**	**314**	*e*P	pP	09 27 06.5	+0.5
KRLC	**Kraliky**	**59.99**	**314**	*ep*P	pP	09 27 06.5	+0.5
DPC	**Dobruska-Polom**	**60.25**	**314**	*e*P	pP	09 27 07.3	-0.5
DPC	**Dobruska-Polom**	**60.25**	**314**	*ep*P	pP	09 27 07.3	-0.5
UPC	**Upice**	**60.42**	**315**	*e*P	pP	09 27 09.7	+0.8
UPC	**Upice**	**60.42**	**315**	*ep*P	pP	09 27 09.7	+0.8
TREC	**Trest**	**60.94**	**313**	*e*P	pP	09 27 12.9	+0.4
TREC	**Trest**	**60.94**	**313**	*ep*P	pP	09 27 12.9	+0.4
PRU	**Pruhonice**	**61.44**	**314**	*e*P	pP	09 27 16.6	+0.8
PRU	**Pruhonice**	**61.44**	**314**	*ep*P	pP	09 27 16.6	+0.8
BRG	**Berggiesshubel**	**61.67**	**315**	*i* PKP	pP	09 27 18.0	+0.6
	comp=Z,6.2nm,0.9s						
BRG	**Berggiesshubel**	**61.67**	**315**	*i* P	**pP**	**09 27 18.0**	**+0.6**
BRG				pmax	pmax		
	comp=Z,6.0nm,1.0s						
NB2	**NORSAR Subarra**	**61.86**	**327**	P	P	09 27 17.2	+4.1
	comp=Z,6.9nm,0.8s,baz=85,slow=6.5						
NOA	**NORSAR Array B**	**61.86**	**327**	P	**P**	**09 27 11.4**	**-1.7**
NOA	**NORSAR Array B**	**61.86**	**327**	P	**P**	**09 27 11.4**	**-1.7**
	comp=Z,1.6nm,0.8s,baz=84,slow=6.7,SNR=3.5						
GERES	**GERESS Array B**	**62.17**	**313**	P	**P**	**09 27 17.0**	**+1.5**
GERES	**GERESS Array B**	**62.17**	**313**	P	**P**	**09 27 17.0**	**+1.5**
	comp=Z,4.9nm,0.6s,baz=67,slow=7.6,SNR=30						
KHC	**Kasperske Hory**	**62.20**	**313**	*e*P	pP	09 27 20.4	-0.6
KHC	**Kasperske Hory**	**62.20**	**313**	*ep*P	pP	09 27 20.4	-0.6
WRA	**Warramunga Arr**	**62.67**	**134**	P	**P**	**09 27 19.1**	**0.0**
WRA	**Warramunga Arr**	**62.67**	**134**	P	**P**	**09 27 19.1**	**0.0**
	comp=Z,0.5nm,0.6s,baz=326,slow=6.9,SNR=17						
WRAB	**Tennant Creek**	**62.67**	**134**	*e*P	**P**	**09 27 19.8**	**+0.8**
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.7s						
WRAB	**Tennant Creek**	**62.67**	**134**	*e*P	**P**	**09 27 19.8**	**+0.8**
	comp=Z,3.6nm,0.7s						
ASAR	**Alice Springs**	**65.15**	**137**	P	**P**	**09 27 35.6**	**+0.3**
ASAR	**Alice Springs**	**65.15**	**137**	P	**P**	**09 27 35.6**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=318,slow=6.3,SNR=7.9						
CDF	**Champ du Feu**	**66.42**	**314**	*e*P	pP	09 27 48.7	-0.1
	comp=Z,24nm,0.9s						
CDF	**Champ du Feu**	**66.42**	**314**	*e*P	**pP**	**09 27 48.7**	**-0.1**
CDF				pmax	pmax		
	comp=Z,24nm,0.9s						
CDF	**Champ du Feu**	**66.42**	**314**	*e*P	pP	09 27 48.7	-0.1
	comp=Z,24nm,0.9s						
PGF	**Pioggiola**	**66.84**	**307**	*e*P	pP	09 27 51.2	-0.4
	comp=Z,52nm,1.1s						
PGF	**Pioggiola**	**66.84**	**307**	*e*P	**pP**	**09 27 51.2**	**-0.4**
PGF				pmax	pmax		
	comp=Z,52nm,1.1s						
PGF	**Pioggiola**	**66.84**	**307**	*e*P	pP	09 27 51.2	-0.4
	comp=Z,52nm,1.1s						
HINF	**Hinteralfeld**	**66.85**	**313**	*e*P	pP	09 27 51.1	-0.4
HINF	**Hinteralfeld**	**66.85**	**313**	*e*P	pP	09 27 51.1	-0.4
HINF	**Hinteralfeld**	**66.85**	**313**	*e*P	pP	09 27 51.1	-0.4
HAU	**Haudompre**	**67.13**	**313**	*e*P	pP	09 27 53.0	-0.2
	comp=Z,15nm,0.9s						
HAU	**Haudompre**	**67.13**	**313**	*e*P	**pP**	**09 27 53.0**	**-0.2**
HAU				pmax	pmax		
	comp=Z,15nm,0.9s						
HAU	**Haudompre**	**67.13**	**313**	*e*P	pP	09 27 53.0	-0.2
	comp=Z,15nm,0.9s						
PAGF	**Fort de Pagny**	**67.38**	**314**	*e*P	pP	09 27 55.0	+0.2
	comp=Z,5.4nm,0.8s						
PAGF	**Fort de Pagny**	**67.38**	**314**	*e*P	pP	09 27 55.0	+0.2
	comp=Z,5.4nm,0.8s						
LPG	**La Plagne**	**67.56**	**311**	*e*P	pP	09 27 56.5	+0.1
	comp=Z,27nm,0.8s						
LPG	**La Plagne**	**67.56**	**311**	*e*P	**pP**	**09 27 56.5**	**+0.1**
LPG				pmax	pmax		
	comp=Z,27nm,0.8s						
LPG	**La Plagne**	**67.56**	**311**	*e*P	pP	09 27 56.5	+0.1
	comp=Z,27nm,0.8s						
SBF	**Sospel**	**67.56**	**309**	*e*P	pP	09 27 55.8	-0.3
	comp=Z,66nm,1.1s						
SBF	**Sospel**	**67.56**	**309**	*e*P	**pP**	**09 27 55.8**	**-0.3**
SBF				pmax	pmax		
	comp=Z,66nm,1.1s						
SBF	**Sospel**	**67.56**	**309**	*e*P	pP	09 27 55.8	-0.3
	comp=Z,66nm,1.1s						
LPL	**La Plagne**	**67.57**	**311**	*e*P	pP	09 27 56.4	+0.1
	comp=Z,18nm,0.6s						
LPL	**La Plagne**	**67.57**	**311**	*e*P	**pP**	**09 27 56.4**	**+0.1**
LPL				pmax	pmax		
	comp=Z,18nm,0.6s						
LPL	**La Plagne**	**67.57**	**311**	*e*P	pP	09 27 56.4	+0.1
	comp=Z,18nm,0.6s						
CABF	**La Chapelle**	**67.69**	**312**	*e*P	pP	09 27 56.8	-0.1
	comp=Z,17nm,0.9s						
CABF	**La Chapelle**	**67.69**	**312**	*e*P	**pP**	**09 27 56.8**	**-0.1**
CABF				pmax	pmax		
	comp=Z,17nm,0.9s						
CABF	**La Chapelle**	**67.69**	**312**	*e*P	pP

comp=Z,10nm,0.9s
GRR Gorron 71.59 315 *e*P pP 09 28 20.4 -0.4
GRR Gorron 71.59 315 *e*P pP 09 28 20.4 -0.4
GRR Gorron 71.59 315 *e*P pP 09 28 20.4 -0.4
MFF Saint Martin d 71.77 313 *e*P pP 09 28 21.6 -0.3
comp=Z,17nm,1.1s
MFF Saint Martin d 71.77 313 *e*P **pP 09 28 21.6 -0.3**
MFF pmax pmax
comp=Z,17nm,1.1s
MFF Saint Martin d 71.77 313 *e*P pP 09 28 21.6 -0.3
comp=Z,17nm,1.1s
LFF La Frestale 71.77 312 *e*P pP 09 28 22.4 +0.4
LFF La Frestale 71.77 312 *e*P pP 09 28 22.4 +0.4
LFF La Frestale 71.77 312 *e*P pP 09 28 22.4 +0.4
SGMF Saint Gilles 72.70 316 *e*P pP 09 28 27.6 +0.1
SGMF Saint Gilles 72.70 316 *e*P pP 09 28 27.6 +0.1
SGMF Saint Gilles 72.70 316 *e*P pP 09 28 27.6 +0.1
ROSF Rostrenen 73.11 316 *e*P pP 09 28 29.8 -0.1
comp=Z,8.5nm,0.7s
ROSF Rostrenen 73.11 316 *e*P **pP 09 28 29.8 -0.1**
ROSF pmax pmax
comp=Z,9.0nm,0.7s
ROSF Rostrenen 73.11 316 *e*P pP 09 28 29.8 -0.1
comp=Z,8.5nm,0.7s
QUIF Quistinic 73.20 316 *e*P pP 09 28 30.1 -0.4
QUIF Quistinic 73.20 316 *e*P pP 09 28 30.1 -0.4
QUIF Quistinic 73.20 316 *e*P pP 09 28 30.1 -0.4
ETSF Etsaut 73.38 310 *e*P pP 09 28 32.0 +0.3
comp=Z,12nm,0.8s
ETSF Etsaut 73.38 310 *e*P **pP 09 28 32.0 +0.3**
ETSF pmax pmax
comp=Z,12nm,0.8s
ETSF Etsaut 73.38 310 *e*P pP 09 28 32.0 +0.3
comp=Z,12nm,0.8s
SJPF Ste Jean 73.75 310 *e*P pP 09 28 34.3 +0.5
comp=Z,15nm,0.9s
SJPF Ste Jean 73.75 310 *e*P **pP 09 28 34.3 +0.5**
SJPF pmax pmax
comp=Z,15nm,0.9s
SJPF Ste Jean 73.75 310 *e*P pP 09 28 34.3 +0.5
comp=Z,15nm,0.9s
ESDC Sonseca Array 77.01 308 P **P 09 28 48.5 +1.4**
ESDC Sonseca Array 77.01 308 P **P 09 28 48.5 +1.4**
comp=Z,2.8nm,0.9s,baz=45,slow=6.2,SNR=2.6
PPLA Purkeypile 77.01 25 *e*P **P 09 28 48.3 +1.5**
COLA College 77.36 22 *e*P **P 09 28 49.4 +0.9**
COLA pmax pmax
comp=Z,33nm,0.9s
COLA College 77.36 22 *e*P **P 09 28 49.4 +0.9**
comp=Z,34nm,0.9s
ILAR Eielson Array 77.75 22 P **P 09 28 50.5 -0.3**
ILAR PP **PP 09 31 44.9 -0.7**
ILAR Eielson Array 77.75 22 P **P 09 28 50.5 -0.3**
comp=Z,3.3nm,0.8s,baz=309,slow=4.8,SNR=34
ILAR PP **PP 09 31 44.9 -0.7**
comp=Z,1.0nm,1.0s,baz=302,slow=7.3,SNR=5.0
INK Inuvik 79.07 16 P **P 09 28 58.0 0.0**
INK Inuvik 79.07 16 P **P 09 28 58.0 0.0**
comp=Z,1.7nm,0.6s,baz=328,slow=3.6,SNR=4.3
TOA0 Torodi Ar. Sit 83.90 282 *e*P **P 09 29 24.8 +0.3**
TORD Torodi Ar. Bea 83.90 282 P **P 09 29 24.5 0.0**
TORD Torodi Ar. Bea 83.90 282 P **P 09 29 24.5 0.0**
comp=Z,0.7nm,0.5s,baz=60,slow=4.7,SNR=14
BOSA Boshof 84.38 234 *e*P **P 09 29 25.5 -1.2**
comp=Z,5.2nm,0.9s
BOSA Boshof 84.38 234 P **P 09 29 25.6 -1.2**
comp=Z,2.9nm,0.7s,baz=94,slow=7.4,SNR=4.3
YKA Yellowknife Ar 88.11 12 P **P 09 29 44.1 -0.3**
YKA Yellowknife Ar 88.11 12 P **P 09 29 44.1 -0.3**
comp=Z,1.8nm,0.8s,baz=334,slow=4.2,SNR=6.1
TXAR Lajitas Array 121.85 16 PKP **PKPdf 09 35 48.3 -0.6**
TXAR Lajitas Array 121.85 16 PKP **PKPdf 09 35 48.3 -0.6**
comp=Z,0.2nm,0.5s,baz=47,slow=1.6,SNR=5.0
ROSC El Rosal 145.22 335 PKPbc **PKPdf 09 36 34.0 +0.9**
ROSC El Rosal 145.22 335 PKPbc **PKPdf 09 36 34.0 +0.9**
comp=Z,8.8nm,0.5s,baz=111,slow=8.6,SNR=5.9
SAML Samuel 149.90 303 *e*PKPdf **PKPbc 09 36 43.4 -1.7**
CPUP Villa Florida 152.19 265 PKPbc **PKPbc 09 36 48.5 -1.6**
CPUP Villa Florida 152.19 265 PKPbc **PKPbc 09 36 48.5 -1.6**
comp=Z,0.5nm,0.4s,baz=8.3,slow=3.6,SNR=2.6

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*IDC **21** 09:21:08.0±0.6,28°.61S×176°.71W,h0km,mb4.1/10,*
mb1 4.3/10,mb1mx4.2/17,mbtmp4.1/10,Error ellipse:
s-maj=23.1km s-min=15.9km az=137.0
*ISCJB **21** 09:21:12.2±0.7,29°.0S±0°.1×176°.6W±0°.1,h36km,mb4.1/10,*
Error ellipse: s-maj=16.5km s-min=13.7km az=153.7
*NEIC **21** 09:21:13.2±0.5,28°.66S×176°.82W,h35km,mb4.2/2,Error*
ellipse: s-maj=21.0km s-min=12.8km az=130.0
ISC 21 09:21:13.1±0.6,28°.96S±0°.09×176°.54W±0°.09,h36km,n49,
σ1§53/51,mb4.1/10,1C,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.23**	**257**	Pn	**Pn**	**09 21 33.7**	**0.0**
RAO				Sn	**Sn**	**09 21 52.6**	**+3.5**
RAO	**Raoul Island**	**1.23**	**257**	Pn	**Pn**	**09 21 33.7**	**0.0**
907nm,0.3s,baz=80,slow=9.6,SNR=35							
RAO				Sn	**Sn**	**09 21 52.6**	**+3.5**
2μm,0.3s,baz=90,slow=20,SNR=17							
URZ	**Urewera**	**10.66**	**208**	Pn	Pn	09 23 39.9	-3.2
URZ				Sn	**Sn**	**09 25 37.9**	**-3.3**
URZ	**Urewera**	**10.66**	**208**	Pn	Pn	09 23 39.9	-3.2
0.5nm,0.3s,baz=300,slow=2.7,SNR=3.9							
URZ				Sn	**Sn**	**09 25 37.9**	**-3.3**
1.2nm,0.3s,baz=180,slow=20,SNR=5.8							
DZM	**Mont Dzumac**	**16.82**	**290**	Pn	**P**	**09 25 07.7**	**0.0**
DZM	**Mont Dzumac**	**16.82**	**290**	Pn	**P**	**09 25 07.7**	**0.0**
0.1nm,0.3s,baz=116,slow=17,SNR=3.2							
RPZ	**Rata Peaks**	**17.75**	**211**	Pn	**Pn**	**09 25 16.4**	**-0.9**
RPZ	**Rata Peaks**	**17.75**	**211**	Pn	**Pn**	**09 25 16.4**	**-0.9**
1.4nm,0.3s,baz=313,slow=4.1,SNR=6.7							
STKA	**Stephens Creek**	**36.05**	**255**	P	**P**	**09 28 10.8**	**-0.4**
STKA	**Stephens Creek**	**36.05**	**255**	P	**P**	**09 28 10.8**	**-0.4**
1.7nm,0.5s,baz=104,slow=7.7,SNR=4.2							
ASAR	**Alice Springs**	**44.48**	**265**	P	**P**	**09 29 19.8**	**-1.3**
ASAR	**Alice Springs**	**44.48**	**265**	P	**P**	**09 29 19.8**	**-1.3**
1.6nm,0.6s,baz=96,slow=7.0,SNR=24							
WRA	**Warramunga Arr**	**45.34**	**270**	P	**P**	**09 29 26.1**	**-1.8**
WRA	**Warramunga Arr**	**45.34**	**270**	P	**P**	**09 29 26.1**	**-1.8**
2.4nm,0.9s,baz=108,slow=8.0,SNR=20							
VNDA	**Vanda**	**49.63**	**186**	P	P	09 30 04.1	+3.6
VNDA	**Vanda**	**49.63**	**186**	P	P	09 30 04.1	+3.6
0.7nm,0.9s,baz=32,slow=7.0,SNR=3.6							
QSPA	**South Pole Qui**	**61.13**	**180**	*e*P	**P**	**09 31 26.6**	**+3.1**
9.8nm,1.0s							
QSPA	**South Pole Qui**	**61.13**	**180**	P	**P**	**09 31 25.9**	**+2.4**
6.7nm,0.9s,baz=59,slow=1.7,SNR=33							
MAW	**Mawson**	**74.08**	**200**	*e*P	**P**	**09 32 47.5**	**+2.6**
0.4nm,0.8s							
MAW	**Mawson**	**74.08**	**200**	P	**P**	**09 32 47.4**	**+2.4**
3.8nm,0.6s,baz=118,slow=3.9,SNR=16							
SYO	**Syowa Base**	**78.78**	**193**	*e*P	**P**	**09 33 12.2**	**+0.6**
NVAR	**Mina Array Bea**	**86.34**	**42**	P	**P**	**09 33 52.4**	**+0.8**
NVAR	**Mina Array Bea**	**86.34**	**42**	P	**P**	**09 33 52.4**	**+0.8**
1.4nm,0.8s,baz=227,slow=8.0,SNR=9.2							
USRK	**Ussuriysk Arra**	**86.69**	**326**	P	**P**	**09 33 52.4**	**-0.4**
2.5nm,0.8s,baz=125,slow=4.2,SNR=5.0							
TXAR	**Lajitas Array**	**90.55**	**57**	P	**P**	**09 34 12.8**	**+1.2**
TXAR	**Lajitas Array**	**90.55**	**57**	P	**P**	**09 34 12.8**	**+1.2**
0.4nm,0.8s,baz=203,slow=5.9,SNR=5.8							
ILAR	**Eielson Array**	**96.27**	**12**	P	**P**	**09 34 35.9**	**-1.1**
ILAR	**Eielson Array**	**96.27**	**12**	P	**P**	**09 34 35.9**	**-1.1**
0.2nm,0.6s,baz=216,slow=4.5,SNR=4.8							
KURK	**Kurchatov**	**120.98**	**314**	PKP	**PKPdf**	**09 40 00.5**	**-0.8**
KURBB	**Kurchatov Arra**	**121.02**	**314**	PKP	**PKPdf**	**09 40 00.5**	**-0.9**
0.3nm,0.5s,baz=95,slow=2.0,SNR=3.9							
FINES	**FINESS Array B**	**144.22**	**342**	PKPpre	PKPpre	09 40 41.3	
FINES	**FINESS Array B**	**144.22**	**342**	PKhKP	PKPpre	09 40 41.3	
2.1nm,0.7s,baz=88,slow=4.3,SNR=4.5							
NB2	**NORSAR Subarra**	**147.52**	**353**	PKP	**PKPbc**	**09 40 51.9**	**-0.9**
comp=Z,1.1nm,0.6s,baz=9.5,slow=2.9							
NOA	**NORSAR Array B**	**147.52**	**353**	PKPbc	**PKPbc**	**09 40 51.7**	**-1.0**
NOA	**NORSAR Array B**	**147.52**	**353**	PKPbc	**PKPbc**	**09 40 51.7**	**-1.0**
comp=Z,0.9nm,0.7s,baz=14,slow=4.5,SNR=3.3							
HFS	**Hagfors**	**148.08**	**350**	PKPbc	**PKPbc**	**09 40 53.0**	**-1.2**
HFS	**Hagfors**	**148.08**	**350**	PKPbc	**PKPbc**	**09 40 53.0**	**-1.2**
comp=Z,4.6nm,0.8s,baz=79,slow=3.1,SNR=6.5							
AKASG	**Malin Array Be**	**150.90**	**325**	PKPbc	**PKPbc**	**09 41 00.3**	**-1.2**
AKASG	**Malin Array Be**	**150.90**	**325**	PKPbc	**PKPbc**	**09 41 00.3**	**-1.2**
comp=Z,0.5nm,0.3s,baz=43,slow=3.9,SNR=8.3							
ASF	**Jabal al Asfar**	**151.10**	**285**	PKPbc	**PKPbc**	**09 41 03.3**	**+0.6**
ASF	**Jabal al Asfar**	**151.10**	**285**	PKPbc	**PKPbc**	**09 41 03.3**	**+0.6**
comp=Z,1.6nm,0.8s,baz=84,slow=4.0,SNR=4.3							
MMAI	**Mount Meron Ar**	**152.38**	**286**	PKPbc	**PKPbc**	**09 41 05.8**	**+0.3**
MMAI				PKPab	**PKPab**	**09 41 16.3**	**+0.5**
MMAI	**Mount Meron Ar**	**152.38**	**286**	PKPbc	**PKPbc**	**09 41 05.8**	**+0.3**
comp=Z,2.9nm,0.6s,baz=332,slow=45,SNR=2.4							
MMAI				PKPab	**PKPab**	**09 41 16.3**	**+0.5**
comp=Z,3.8nm,0.6s,baz=75,slow=6.1,SNR=4.3							
EIL	**Elat**	**152.57**	**279**	PKPbc	**PKPbc**	**09 41 05.6**	**-0.4**
EIL	**Elat**	**152.57**	**279**	PKPbc	**PKPbc**	**09 41 05.6**	**-0.4**
comp=Z,3.7nm,0.7s,baz=80,slow=6.1,SNR=4.4							
BRTR	**Keskin Array B**	**152.99**	**301**	PKPbc	**PKPbc**	**09 41 05.7**	**-1.1**
BRTR				PKPab	**PKPab**	**09 41 17.1**	**-1.1**
BRTR	**Keskin Array B**	**152.99**	**301**	PKPbc	**PKPbc**	**09 41 05.7**	**-1.1**
comp=Z,0.9nm,0.9s,baz=89,slow=5.9,SNR=2.6							
BRTR				PKPab	**PKPab**	**09 41 17.1**	**-1.1**
comp=Z,1.0nm,0.6s,baz=151,slow=4.8,SNR=4.3							
TORD	**Torodi Ar. Bea**	**164.16**	**174**	PKPab	**PKPab**	**09 42 07.8**	**+1.1**
TORD	**Torodi Ar. Bea**	**164.16**	**174**	PKPab	**PKPab**	**09 42 07.8**	**+1.1**
comp=Z,0.6nm,0.9s,baz=191,slow=4.9,SNR=3.6							

IDC 21 09:22:37.1±0.7,28°.52S×176°.78W,h0km,mb4.1/6,
mb1 4.4/6,mb1mx4.1/15,mbtmp4.1/6,1C,Error ellipse:
s-maj=28.5km s-min=17.7km az=141.0,Kermadec
Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.24**	**234**	Pn	Pn	09 23 03.1	+1.4
436nm,0.3s,baz=94,slow=19,SNR=3.6							
RAO				Sn	Sn	09 23 21.2	+2.1
1μm,0.3s,baz=75,slow=20,SNR=4.8							
URZ	**Urewera**	**10.97**	**206**	Pn	Pn	09 25 08.0	-7.4
0.7nm,0.3s,baz=108,slow=9.6,SNR=2.1							
URZ				Sn	Sn	09 27 07.4	-11
baz=22,slow=18,SNR=4.5							
DZM	**Mont Dzumac**	**16.47**	**289**	Pn	P	09 26 37.7	+5.1
0.1nm,0.3s,baz=95,slow=17,SNR=2.0							
RPZ	**Rata Peaks**	**18.04**	**210**	P	Pn	09 26 44.6	-4.7
1.1nm,0.3s,baz=39,slow=13,SNR=3.8							
STKA	**Stephens Creek**	**35.98**	**254**	P	P	09 29 39.0	-0.8
3.3nm,0.7s,baz=99,slow=10,SNR=3.7							
ASAR	**Alice Springs**	**44.31**	**264**	P	P	09 30 49.0	-0.2
1.2nm,0.6s,baz=102,slow=7.7,SNR=5.7							
WRA	**Warramunga Arr**	**45.13**	**270**	P	P	09 30 55.2	-0.4
1.4nm,0.6s,baz=108,slow=8.0,SNR=5.7							
QSPA	**South Pole Qui**	**61.59**	**180**	P	P	09 32 56.2	0.0
baz=288,slow=13							
MAW	**Mawson**	**74.44**	**200**	P	P	09 34 16.7	+0.1
3.5nm,0.7s,baz=155,slow=7.2,SNR=8.7							
SYO	**Syowa Base**	**79.18**	**193**	*e*P	P	09 34 41.5	-1.9
NVAR	**Mina Array Bea**	**86.14**	**42**	P	P	09 35 21.7	+1.4
1.2nm,0.8s,baz=224,slow=7.6,SNR=7.1							
TXAR	**Lajitas Array**	**90.47**	**57**	P	P	09 35 42.0	+0.9
0.3nm,0.8s,baz=226,slow=4.9,SNR=3.9							
KURBB	**Kurchatov Arra**	**120.55**	**314**	PKP	PKPdf	09 41 28.6	-1.8
0.6nm,0.8s,baz=103,slow=2.1,SNR=3.9							
FINES	**FINESS Array B**	**143.72**	**342**	PKhKP	PKPpre	09 42 10.3	
3.6nm,1.1s,baz=17,slow=1.9,SNR=3.0							
NOA	**NORSAR Array B**	**147.04**	**353**	PKPbc	PKPbc	09 42 20.7	-0.6
1.6nm,0.7s,baz=15,slow=4.5,SNR=3.5							
AKASG	**Malin Array Be**	**150.40**	**326**	PKPbc	PKPbc	09 42 29.3	-0.9
0.6nm,0.4s,baz=46,slow=3.1,SNR=4.0							
MMAI	**Mount Meron Ar**	**152.05**	**287**	PKPbc	PKPbc	09 42 35.2	+0.4
1.2nm,0.2s,baz=191,slow=2.9,SNR=6.3							
MMAI				PKPab	PKPab	09 42 44.2	0.0
1.1nm,0.2s,baz=200,slow=9.7,SNR=5.1							
BRTR	**Keskin Array B**	**152.57**	**302**	PKPbc	PKPbc	09 42 35.0	-0.8
0.5nm,0.7s,baz=138,slow=5.4,SNR=2.5							
BRTR				PKPab	PKPab	09 42 45.9	-0.4
0.5nm,0.6s,baz=144,slow=4.6,SNR=4.2							
TORD	**Torodi Ar. Bea**	**164.64**	**174**	PKPab	PKPab	09 43 36.9	-1.7
0.6nm,0.8s,baz=189,slow=3.7,SNR=2.7							

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*BKK **21** 09:30:16.2±3.3,20°S±9°×17°8W±1°4,h290km±34km,*
M5.0/11,mB6.0/2,mb5.0/11,Mw(mB)5.6/2
*ISCJB **21** 09:30:20.8±1.0,19°.74S±0°.05×177°.51W±0°.04,*
h367km±10km,mb4.6/66,Error ellipse: s-maj=8.4km
s-min=6.2km az=156.2
*BJI **21** 09:30:21.3,19°.95S×176°.80W,h405km,mB5.1/3,*
mb4.7/23
*IDC **21** 09:30:22.5±1.8,19°.70S×177°.46W,h376km±19km,*
mb4.0/20,mb1 4.1/23,mb1mx4.1/23,mbtmp4.0/23,Error
ellipse: s-maj=11.9km s-min=9.3km az=158.0
*DJA **21** 09:30:24.4±2.8,20°S±8°×17°8W±1°3,h399km±32km,*
M4.8/7,mb4.8/7
*NEIC **21** 09:30:25.4±0.8,19°.75S×177°.52W,h405km±8km,mb4.6/32,*
Error ellipse: s-maj=8.0km s-min=5.5km az=147.0
ISC 21 09:30:25.5±0.4,19°.72S±0°.06×177°.46W±0°.06,
h409km±3km,h409km:pP-P,n141,σ1§41/165,mb4.6/66,
2C-1D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.69**	**294**	*e*Pn	**P**	**09 31 45.0**	**+0.3**
AFI	**Afiamalu**	**7.93**	**44**	P	P	09 32 15.0	-5.4
AFI				S	S	09 33 40.9	-13
AFI	**Afiamalu**	**7.93**	**44**	P	P	09 32 15.0	-5.4
5.1nm,0.3s,baz=132,slow=3.8,SNR=19							
AFI				S	S	09 33 40.9	-13
30nm,0.3s,baz=210,slow=20,SNR=8.5							
RAO	**Raoul Island**	**9.50**	**182**	S	S	09 34 18.8	-7.3
164nm,0.3s,baz=72,slow=19,SNR=7.3							
DZM	**Mont Dzumac**	**15.22**	**258**	*e*P	**P**	**09 33 41.6**	**+1.3**
158nm,1.1s							
DZM	**Mont Dzumac**	**15.22**	**258**	P	**P**	**09 33 41.8**	**+1.5**
DZM	**Mont Dzumac**	**15.22**	**258**	P	**P**	**09 33 41.8**	**+1.5**
1.2nm,0.3s,baz=85,slow=13,SNR=29							
RAR	**Rarotonga**	**16.64**	**98**	*e*P	**P**	**09 33 54.7**	**-0.7**
RAR	**Rarotonga**	**16.64**	**98**	P	**P**	**09 33 54.3**	**-1.1**
1.4nm,0.3s,baz=270,slow=9.0,SNR=9.4							
KNTN	**Kanton**	**17.75**	**19**	*e*P	**P**	**09 34 05.7**	**-1.5**
115nm,0.8s							
URZ	**Urewera**	**19.07**	**193**	P	**P**	**09 34 17.6**	**-3.0**
URZ				S	**S**	**09 37 37.8**	**+4.5**
URZ	**Urewera**	**19.07**	**193**	P	**P**	**09 34 17.6**	**-3.0**
0.9nm,0.3s,baz=22,slow=6.0,SNR=6.7							
URZ				S	**S**	**09 37 37.8**	**+4.5**
0.5nm,0.3s,baz=294,slow=19,SNR=4.4							
TARA	**Tarawa**	**22.97**	**335**	*e*P	**P**	**09 34 56.5**	**-0.1**
440nm,1.3s							
TBI	**Tubuai**	**26.28**	**103**	*e*P	**P**	**09 35 26.4**	**+0.4**
66nm,0.8s							
PAE	**Paea**	**26.48**	**90**	*e*P	**P**	**09 35 28.0**	**+0.1**
23nm,1.2s							
PPT2	**Papeete2**	**26.49**	**90**	*e*P	**P**	**09 35 28.6**	**+0.5**
63nm,0.8s							
PPT	**Papeete**	**26.50**	**90**	P	**P**	**09 35 28.5**	**+0.4**
PPT	**Papeete**	**26.50**	**90**	P	**P**	**09 35 28.5**	**+0.4**
68nm,0.6s,baz=90,slow=3.0,SNR=12							
TIAR	**Tiarei**	**26.71**	**90**	*e*P	**P**	**09 35 30.0**	**0.0**
88nm,1.0s							
TVO	**Taravao**	**26.77**	**91**	*e*P	**P**	**09 35 30.0**	**-0.5**
58nm,0.9s							
PMOR	**Pomariorio Ree**	**28.59**	**85**	*e*P	**P**	**09 35 46.1**	**-0.4**
152nm,1.0s							
EIDS	**Eidsvold**	**29.55**	**253**	*e*P	**P**	**09 35 54.6**	**-0.2**
32nm,1.3s							
ARMA	**Armidale**	**29.87**	**243**	*e*P	**P**	**09 35 57.9**	**+0.2**
16nm,1.0s							
CTA	**Charters Tower**	**34.08**	**263**	P	**P**	**09 36 34.1**	**0.0**
CTA	**Charters Tower**	**34.08**	**263**	P	**P**	**09 36 34.1**	**0.0**
118nm,0.7s,baz=92,slow=11,SNR=207							
CTAO	**Charters Tower**	**34.08**	**263**	*e*P	**P**	**09 36 34.0**	**0.0**
145nm,0.8s							
PMG	**Port Moresby**	**35.67**	**282**	*e*P	**P**	**09 36 46.8**	**-0.7**
76nm,0.9s							
PMG	**Port Moresby**	**35.67**	**282**	P	**P**	**09 36 47.4**	**-0.1**
99nm,1.0s							
PMG	**Port Moresby**	**35.67**	**282**	P	**P**	**09 36 47.8**	**+0.3**
71nm,0.9s,baz=92,slow=8.0,SNR=14							
COEN	**Coen**	**38.05**	**272**	*e*P	**P**	**09 37 06.7**	**-0.6**
305nm,0.9s							
STKA	**Stephens Creek**	**38.59**	**243**	*e*P	**P**	**09 37 11.6**	**+0.2**
3.9nm,1.0s							
STKA	**Stephens Creek**	**38.59**	**243**	P	**P**	**09 37 11.7**	**+0.2**
16nm,0.9s,baz=91,slow=9.1,SNR=15							
RKT	**Riketa**	**39.60**	**103**	*e*P	**P**	**09 37 19.6**	**-0.2**
29nm,0.9s							
AS31	**Alice Springs**	**45.20**	**256**	*e*P	**P**	**09 38 03.9**	**-0.5**
ASAR	**Alice Springs**	**45.20**	**256**	P	**P**	**09 38 04.0**	**-0.4**
ASAR				S	**S**	**09 44 10.6**	**-2.6**
ASAR	**Alice Springs**	**45.20**	**256**	P	**P**	**09 38 04.0**	**-0.4**
74nm,0.7s,baz=92,slow=8.2,SNR=936							
ASAR				S	**S**	**09 44 10.6**	**-2.6**
5.5nm,0.8s,baz=93,slow=17,SNR=19							
WRAB	**Tennant Creek**	**45.21**	**261**	*e*P	**P**	**09 38 03.2**	**-1.3**
43nm,1.1s							
WRA	**Warramunga Arr**	**45.22**	**261**	P	**P**	**09 38 03.4**	**-1.2**
WRA	**Warramunga Arr**	**45.22**	**261**	P	**P**	**09 38 03.4**	**-1.2**
41nm,1.1s,baz=97,slow=7.5,SNR=270							
FITZ	**Fitzroy Crossi**	**53.64**	**262**	*e*P	**P**	**09 39 07.2**	**0.0**
FITZ	**Fitzroy Crossi**	**53.64**	**262**	P	**P**	**09 39 06.8**	**-0.5**
12nm,0.8s,baz=146,slow=6.2,SNR=29							
MBWA	**Marble Bar**	**58.52**	**257**	*e*P	**P**	**09 39 40.9**	**-0.5**
22nm,0.9s							
SBA	**Scott Base**	**58.68**	**184**	*e*P	**P**	**09 39 43.3**	**+1.8**
14nm,1.0s							
VNDA	**Vanda**	**58.73**	**185**	*e*P	**P**	**09 39 42.3**	**+0.5**
3.7nm,0.8s							
VNDA	**Vanda**	**58.73**	**185**	P	**P**	**09 39 42.7**	**+0.9**
3.1nm,0.8s,baz=347,slow=8.6,SNR=25							
CASY	**Casey**	**64.89**	**205**	*e*P	**P**	**09 40 21.6**	**-0.8**
13nm,1.1s							
MAJO	**Matsushiro**	**69.89**	**323**	*e*P	**P**	**09 40 53.9**	**+0.1**
12nm,0.5s							
MAT	**Matsushiro**	**69.89**	**323**	P	**P**	**09 40 53.8**	**-0.1**
QSPA	**South Pole Qui**	**70.35**	**180**	*e*P	**P**	**09 40 56.6**	**+0.3**
ASAJ	**Asahikawa**	**73.29**	**331**	P	**P**	**09 41 13.6**	**-0.1**
ASAJ	**Asahikawa**	**73.29**	**331**	P	**P**	**09 41 13.6**	**-0.1**
17nm,1.1s,baz=213,slow=12,SNR=5.3							
KSM	**Kuching**	**73.81**	**278**	*e*P	**P**	**09 41 17.9**	**+0.4**
19nm,0.9s							
KSM	**Kuching**	**73.81**	**278**	P	**P**	**09 41 17.8**	**+0.4**
25nm,1.0s							
TPUB	**Ta-pu**	**73.98**	**302**	*e*P	**P**	**09 41 17.3**	**-0.9**
25nm,0.8s							
PETK	**Petropavlovsk-**	**75.65**	**345**	P	**P**	**09 41 26.6**	**-0.3**
PETK	**Petropavlovsk-**	**75.65**	**345**	P	**P**	**09 41 26.6**	**-0.3**
14nm,0.9s,baz=151,slow=9.2,SNR=9.4							
KSRS	**Korea Array**	**76.64**	**318**	P	**P**	**09 41 31.1**	**-1.6**
2.9nm,0.9s,baz=126,slow=4.8,SNR=8.7							
KSAR	**Wonju Array Be**	**76.66**	**318**	P	**P**	**09 41 31.1**	**-1.7**
ISA	**Isabella**	**78.43**	**45**	*e*P	**P**	**09 41 44.2**	**+1.5**
5.2nm,1.0s							
CMB	**Columbia Colle**	**78.55**	**43**	*e*P	**P**	**09 41 44.4**	**+1.2**
USRK	**Ussuriysk Arra**	**78.61**	**325**	P	**P**	**09 41 44.8**	**+1.4**
7.7nm,0.9s,baz=147,slow=2.9,SNR=15							
WAKR	**Walker**	**79.42**	**43**	*e*P	**P**	**09 41 49.8**	**+1.6**
NJ2	**Nanjing**	**79.78**	**309**	*e*P	**P**	**09 41 51.4**	**+1.5**
NJ2 pmax pmax							
comp=Z,10.0nm,0.5s							
NVAR	**Mina Array Bea**	**80.11**	**43**	P	**P**	**09 41 52.6**	**+0.8**
NVAR	**Mina Array Bea**	**80.11**	**43**	P	**P**	**09 41 52.6**	**+0.8**
comp=Z,2.6nm,0.7s,baz=223,slow=8.2,SNR=24							
MDJ	**Mudanjiang**	**80.17**	**325**	P	**P**	**09 41 53.9**	**+2.2**
MDJ				pP	**pP**	**09 43 23.6**	**+0.1**
MDJ				sP	**sP**	**09 44 05.8**	**-0.4**
MDJ				pmax	pmax		
comp=Z,15nm,1.0s							
MOD	**Modoc**	**80.89**	**39**	*e*P	**P**	**09 41 56.5**	**+0.7**
comp=Z,34nm,0.9s							
K05A	**Summer Lake**	**81.04**	**39**	*e*P	**P**	**09 41 57.5**	**+0.9**
comp=Z,21nm,0.9s							
PMSA	**Palmer Station**	**81.80**	**157**	P	**P**	**09 41 60.0**	**+0.1**
PMSA	**Palmer Station**	**81.80**	**157**	P	**P**	**09 41 60.0**	**+0.1**
comp=Z,6.4nm,0.9s,baz=197,slow=11,SNR=4.5							
E03A	**Lebam**	**81.92**	**34**	*e*P	**P**	**09 42 01.9**	**+1.2**
comp=Z,28nm,1.0s							
CN2	**Changchun**	**81.99**	**322**	*e*P	**P**	**09 42 02.3**	**+1.1**
CN2				*e*pP	**pP**	**09 43 34.0**	**+0.6**
CN2				*e*S	**S**	**09 51 41.6**	**+1.1**
CN2				pmax	pmax		
comp=Z,10.0nm,1.2s							
WVOR	**Wild Horse Val**	**82.21**	**40**	*e*P	**P**	**09 42 03.2**	**+0.7**
comp=Z,8.9nm,1.0s							
MAW	**Mawson**	**82.47**	**200**	P	**P**	**09 42 02.7**	**-0.6**
MAW	**Mawson**	**82.47**	**200**	P	**P**	**09 42 02.7**	**-0.6**
comp=Z,3.9nm,0.9s,baz=51,slow=6.8,SNR=6.9							
I07A	**Izee**	**82.66**	**38**	*e*P	**P**	**09 42 06.

YKA	**Yellowknife Ar**	**95.59**	**25**	P	**P**	**09 43 04.5**	**-0.6**
YKA	**Yellowknife Ar**	**95.59**	**25**	P	**P**	**09 43 04.5**	**-0.6**
	comp=Z,1.0nm,0.8s,baz=230,slow=5.3,SNR=4.1						
KSH	**Kashi**	**114.86**	**305**	*e*PKP	PKPdf	09 48 17.9	-1.0
KSH				PP	**PP**	**09 49 28.0**	**+3.2**
KSH				sPKP		09 50 39.4	
KSH				PKS	**PKSdf**	**09 51 53.5**	**-2.2**
KSH				SKS	**SKSdf**	**09 54 49.3**	**-2.3**
KSH				SKKS	**SKKSac**	**09 55 37.3**	**-5.7**
FINES	**FINESS Array B**	**135.16**	**344**	PKP	**PKPdf**	**09 48 56.8**	**+0.1**
FINES	**FINESS Array B**	**135.16**	**344**	PKP	**PKPdf**	**09 48 56.8**	**+0.1**
	comp=Z,6.5nm,1.2s,baz=224,slow=3.8,SNR=3.0						
AKASG	**Malin Array Be**	**142.57**	**332**	PKPpre	PKPpre	09 49 06.1	
AKASG	**Malin Array Be**	**142.57**	**332**	PKhKP	PKPpre	09 49 06.1	
	comp=Z,2.0nm,0.5s,baz=44,slow=4.1,SNR=8.7						
EKA	**Eskdalemuir Ar**	**144.18**	**6**	PKP	PKPbc	09 49 11.2	-1.2
EKA	**Eskdalemuir Ar**	**144.18**	**6**	PKP	PKPbc	09 49 11.2	-1.2
	comp=Z,2.9nm,0.7s,baz=344,slow=2.4,SNR=5.3						
BRTR	**Keskin Array B**	**146.68**	**314**	PKPbc	**PKPbc**	**09 49 20.0**	**-0.6**
BRTR	**Keskin Array B**	**146.68**	**314**	PKPbc	**PKPbc**	**09 49 20.0**	**-0.6**
	comp=Z,2.1nm,0.7s,baz=29,slow=3.3,SNR=9.4						
CLL	**Collm**	**147.41**	**348**	⇓*i*PKPbc	**PKPbc**	**09 49 21.4**	**-0.6**
	comp=Z,6.0nm,0.8s						
CLL				⇑*i*PKPab	**PKPab**	**09 49 24.6**	**-0.6**
	comp=Z,9.0nm,1.0s						
CLL				*i*		09 49 30.4	
	comp=Z,6.0nm,0.6s						
CLL				*e*pPKPab	**pPKPab**	**09 51 03.0**	**+1.8**
CLL				*i*		09 51 14.5	
UPC	**Upice**	**147.47**	**344**	*e*PKPAB	**PKPab**	**09 49 26.2**	**+0.8**
DPC	**Dobruska-Polom**	**147.53**	**343**	*e*PKPAB	**PKPab**	**09 49 26.2**	**+0.4**
DPC				*e*pPKP	**pPKPdf**	**09 51 04.0**	**+5.0**
BRG	**Berggiesshubel**	**147.63**	**346**	*e*PKP	**PKPab**	**09 49 25.8**	**-0.3**
	comp=Z,4.0nm,0.7s						
BRG				*e*		09 53 08.8	
	comp=Z,4.8nm,0.7s						
MMAI	**Mount Meron Ar**	**147.86**	**301**	PKPbc	**PKPbc**	**09 49 24.4**	**+0.6**
MMAI	**Mount Meron Ar**	**147.86**	**301**	PKPbc	**PKPbc**	**09 49 24.4**	**+0.6**
	comp=Z,1.0nm,0.4s,baz=59,slow=6.9,SNR=3.9						
PRU	**Pruhonice**	**148.31**	**345**	*e*PKPAB	**PKPab**	**09 49 28.8**	**-0.1**
NKC	**Novy Kostel**	**148.54**	**348**	*e*PKPAB	**PKPab**	**09 49 29.9**	**+0.1**
KHC	**Kasperske Hory**	**149.34**	**346**	⇑*e*PKP	**PKPbc**	**09 49 27.1**	**+0.1**
KHC				*e*PKPAB	**PKPab**	**09 49 32.7**	**-0.5**
KHC				*e*pPKP	pPKPdf	09 51 09.8	+7.8
GERES	**GERESS Array B**	**149.58**	**345**	PKPbc	**PKPbc**	**09 49 27.2**	**-0.5**
GERES	**GERESS Array B**	**149.58**	**345**	PKPbc	**PKPbc**	**09 49 27.2**	**-0.5**
	comp=Z,1.5nm,0.7s,baz=29,slow=2.3,SNR=9.2						
TORD	**Torodi Ar. Bea**	**173.42**	**173**	PKPab	**PKPab**	**09 51 17.8**	**-0.8**
TORD	**Torodi Ar. Bea**	**173.42**	**173**	PKPab	**PKPab**	**09 51 17.8**	**-0.8**
	comp=Z,0.6nm,0.6s,baz=187,slow=3.7,SNR=5.3						

*DMN **21** 09:31:56.1±0.5,27°.49N×91°.77E,h10km,MI4.7/7,Error ellipse: s-maj=28.3km s-min=10.1km az=176.0*
*ISCJB **21** 09:31:57.4±0.8,27°.44N±0°.06×91°.41E±0°.06,h15km, mb3.5/2,Error ellipse: s-maj=9.9km s-min=6.1km az=27.6*
*IDC **21** 09:31:57.0±3.5,27°.31N×91°.45E,h0km,mb3.6/3, mb1 3.9/4,mb1mx3.5/28,mbtmp3.8/4,Error ellipse: s-maj=166.9km s-min=32.1km az=60.0*
ISC 21 09:31:57.9±1.4,27°.4N±0°.1×91°.48E±0°.09,h15km,n17, σ§88/23,Bhutan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**1.81**	**168**	*e*PN	**Pb**	**09 32 30.0**	**-0.8**
SHL				*e*SN	**Sb**	**09 32 53.5**	**+0.1**
TAPN	**Taplejung**	**3.35**	**271**	*e*Pn	**Pn**	**09 32 51.0**	**+1.0**
TAPN				*e*Sn	**Sn**	**09 33 30.9**	**+1.1**
	878nm,0.5s						
ODAN	**Odare**	**3.68**	**263**	*e*Pn	**Pn**	**09 32 54.3**	**-0.1**
ODAN				*e*Sn	**Sn**	**09 33 39.6**	**+1.9**
	1μm,0.5s						
RAMN	**Ramite**	**4.37**	**266**	*e*Pn	**Pn**	**09 33 04.3**	**+0.4**
RAMN				*e*Sn	**Sn**	**09 33 55.0**	**+0.3**
	440nm,0.4s						
JIRN	**Jiri**	**4.71**	**275**	*e*Pn	**Pn**	**09 33 09.0**	**+0.3**
JIRN				*e*Sn	**Sn**	**09 34 01.8**	**-1.5**
	200nm,0.3s						
GUN	**Gumba**	**5.00**	**278**	*e*Pn	**Pn**	**09 33 13.5**	**+0.8**
PKI	**Pulchoki**	**5.40**	**274**	*e*Pn	**Pn**	**09 33 18.7**	**+0.5**
PKIN	**Phulchoki**	**5.41**	**274**	*e*Pn	**Pn**	**09 33 18.9**	**+0.6**
PKIN				*e*Sn	**Sn**	**09 34 20.0**	**-0.4**
	205nm,0.6s						
KKN	**Kakani**	**5.52**	**276**	*e*Pn	**Pn**	**09 33 20.2**	**+0.4**
KKN				*e*Sn	**Sn**	**09 34 22.2**	**-0.9**
	65nm,0.2s						
DMN	**Daman**	**5.67**	**274**	*e*Pn	**Pn**	**09 33 21.7**	**-0.1**
DMN				*e*Sn	**Sn**	**09 34 25.4**	**-1.4**
	44nm,0.3s						
DANN	**Dangsing**	**6.91**	**280**	*e*Pn	**Pn**	**09 33 38.0**	**-0.9**
KOLN	**Koldanda**	**7.01**	**275**	*e*Pn	**Pn**	**09 33 40.0**	**-0.2**
PYUN	**Piuthan**	**7.56**	**278**	*e*Pn	**Pn**	**09 33 47.0**	**-0.8**
CMAR	**Chiang Mai Arr**	**11.20**	**141**	Pn	**Pn**	**09 34 37.9**	**+0.4**
	baz=320,slow=13						
MKAR	**Makanchi Array**	**20.72**	**342**	P	Pn	09 36 38.5	-1.6
	2.1nm,0.8s,baz=149,slow=12,SNR=13						
KURBB	**Kurchatov Arra**	**25.25**	**340**	P	**P**	**09 37 23.8**	**+0.5**
	0.7nm,0.6s,baz=153,slow=10,SNR=4.4						
ZALV	**Zalesovo Beam**	**27.02**	**351**	P	P	09 37 43.0	+3.8
	1.0nm,0.6s,baz=178,slow=8.5,SNR=4.3						

*IDC **21** 09:37:43.6±1.5,8°.90S×123°.59E,h0km,mb4.3/2, mb1 4.6/6,mb1mx4.1/20,mbtmp4.4/6,ML4.4/4,Error ellipse: s-maj=64.9km s-min=22.1km az=66.0*
*ISCJB **21** 09:37:47.5±0.7,9°.3S±0°.1×123°.2E±0°.1,h43km,mb4.3/2, Error ellipse: s-maj=26.0km s-min=6.3km az=143.0*
*DJA **21** 09:37:52.8±0.9,9°S±11°×12°3E±°,h22km±9km,M4.3/4, mb4.4/3,MLv4.3/4*
ISC 21 09:37:47.7±0.9,9°.39S±0°.09×123°.2E±0°.1,h43km,n13, σ2§10/15,Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**1.09**	**110**	P	**Sn**	**09 38 19.3**	**-1.3**
MMRI	**Maumere**	**1.23**	**307**	P	**Pn**	**09 38 07.7**	**-0.7**
LBFI	**Labuhan Bajo,**	**3.42**	**285**	P	**Pn**	**09 38 38.0**	**-0.5**
BKSI	**Bulukumba**	**5.08**	**323**	P	**Pn**	**09 39 01.8**	**+0.5**
KAPI	**Kappang**	**5.55**	**321**	P	**Pn**	**09 39 08.7**	**+0.9**
	50nm,0.8s						
KAPI	**Kappang**	**5.55**	**321**	Pn	**Pn**	**09 39 06.8**	**-1.0**
	3.6nm,0.3s,baz=150,slow=12,SNR=12						
BNSI	**Bone**	**5.84**	**328**	P	**Pn**	**09 39 14.2**	**+2.4**
	43nm,1.1s						
SPSI	**Sidrap Palu**	**6.39**	**327**	P	**Pn**	**09 39 21.1**	**+1.8**
FITZ	**Fitzroy Crossi**	**8.97**	**165**	Pn	Pn	09 39 58.6	+3.9
	2.3nm,0.3s,baz=348,slow=12,SNR=16						
FITZ				Sn	**Sn**	**09 41 34.0**	**-0.6**
	6.0nm,0.3s,baz=228,slow=16,SNR=10						
WRA	**Warramunga Arr**	**15.01**	**136**	Pn	**Pn**	**09 41 19.2**	**+2.1**
	1.6nm,0.3s,baz=317,slow=13,SNR=18						
WRA				Sn	**Sn**	**09 43 58.2**	**-4.1**
	1.2nm,0.3s,baz=301,slow=23,SNR=13						
ASAR	**Alice Springs**	**17.49**	**146**	P	**P**	**09 41 53.0**	**+3.7**
	3.7nm,0.3s,baz=318,slow=12,SNR=108						
ASAR				S	**Sn**	**09 45 01.8**	**-0.6**
	0.7nm,0.3s,baz=312,slow=21,SNR=7.9						
USRK	**Ussuriysk Arra**	**53.92**	**8**	P	**P**	**09 47 06.2**	**-0.7**
	1.9nm,0.4s,baz=199,slow=7.6,SNR=7.6						
SONM	**Songino Array**	**58.90**	**347**	P	**P**	**09 47 40.5**	**-1.9**
	1.9nm,0.5s,baz=163,slow=7.7,SNR=11						

DJA 21 09:41:49.9±1.9,10°S±9°×11°3E±°,h17km±23km,M3.8/7, MLv3.8/7,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**1.60**	**1**	P	Pn	09 42 16.5	-0.9
KRKI	**Karangkates**	**1.96**	**331**	P	Pn	09 42 22.5	+0.1
KRKI				S	Sb	09 42 48.5	-0.8
BLJI	**Banyuglugur**	**2.13**	**5**	P	Pn	09 42 25.9	+1.2
PWJI	**Pagerwojo**	**2.44**	**319**	P	Pn	09 42 28.3	-0.7
PWJI				S	Sn	09 42 59.2	+0.7
SRBI	**Singaraja**	**2.51**	**45**	P	Pn	09 42 30.6	+0.6
SJI	**Sawahan**	**2.69**	**322**	P	Pn	09 42 32.2	-0.3

*LDG **21** 09:43:43.5±0.1,30°.99N×78°.98E,h10km,Mb4.8/13,Error ellipse: s-maj=7.3km s-min=4.8km az=40.0*
*IDC **21** 09:43:43.6±0.4,30°.78N×79°.05E,h0km,mb4.5/29, mb1 4.6/32,mb1mx4.5/37,mbtmp4.5/32,ML4.5/3,MS4.5/1, Ms1 4.5/1,ms1mx3.5/42,Error ellipse: s-maj=13.1km s-min=10.6km az=48.0*
*MOS **21** 09:43:47.2±1.0,30°.80N×78°.98E,h33km,mb5.1/20,Error ellipse: s-maj=10.0km s-min=4.3km az=108.4*
*DJA **21** 09:43:47.7±0.3,31°.N±7°×7°9E±°,h10km,M5.1/9,mb5.1/9*
*BKK **21** 09:43:48.4±0.5,31°.N±11°×7°9E±1°.0,h10km,M4.5/10, mb4.5/10*
*BJI **21** 09:43:49.8,30°.90N×79°.08E,h48km,mB5.1/10,mb4.6/31, ML4.7/3,Ms4.8/16,Ms7 4.6/15*
*NEIC **21** 09:43:51.0±0.8,30°.88N×79°.06E,h52km±7km,mb5.0/24, Error ellipse: s-maj=6.1km s-min=4.4km az=209.0*
NEIC Felt at Delhi and Shimla.
*ISCJB **21** 09:43:50.8±0.2,30°.89N±0°.02×79°.04E±0°.02,h65km±3km, mb4.6/78,Error ellipse: s-maj=3.7km s-min=2.6km az=36.7*
*TEH **21** 09:43:51.0,30°.87N×79°.05E,h44km,ML4.8*
*NDI **21** 09:43:52.9±2.7,30°.86N×79°.02E,h36km±6km,ML5.0, mb5.0(NEIC)*
*DMN **21** 09:43:52.1±0.8,30°.94N×79°.15E,h10km,Ml5.5/4,Error ellipse: s-maj=44.7km s-min=15.9km az=25.0*
*NNC **21** 09:43:59.9±3.4,32°.25N×78°.68E,h0km,mb4.6,Error ellipse: s-maj=32.1km s-min=30.3km az=108.0*
ISC 21 09:43:51.2±0.4,30°.83N±0°.03×79°.03E±0°.03,h53km±3km, n336,σ1§54/384,mb4.7/78,MS4.7/5,17C-15D,Western Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GKD	**Gaurikund**	**0.21**	**186**	⇑*i*x	**Pn**	**09 44 02.0**	**+1.8**
GKD				*ex*	**Sn**	**09 44 08.5**	**+2.0**
GTU	**Guttu**	**0.39**	**218**	⇓*e*P	**Pn**	**09 44 03.6**	**+1.9**
GTU				*e*S	**Sn**	**09 44 11.1**	**+2.0**
ABI	**ADIBADRI**	**0.69**	**167**	⇑*e*P	**Pn**	**09 44 07.4**	**+2.2**
ABI				*e*S	**Sn**	**09 44 17.9**	**+2.6**
DDI	**Dehra Dun**	**0.98**	**239**	*e*P	**Pn**	**09 44 11.0**	**+2.3**
DDI				*e*S	**Sn**	**09 44 23.1**	**+1.4**
DDI				AML	AML	09 44 29.5	
	comp=E,101μm,0.4s						
DDI				AML	AML	09 44 29.6	
	comp=N,151μm,0.4s						
CKA	**Chakrata**	**1.01**	**264**	⇓*e*P	**Pn**	**09 44 11.0**	**+1.7**
CKA				*e*S	**Sn**	**09 44 24.8**	**+2.2**
NHN	**Nahan**	**1.54**	**259**	⇓*e*P	**Pn**	**09 44 18.8**	**+2.4**
NHN				*e*S	**Sn**	**09 44 38.4**	**+3.1**
DBND	**Deoband**	**1.58**	**226**	⇓*e*P	**Pn**	**09 44 19.2**	**+2.3**
DBND				*e*S	**Sn**	**09 44 38.8**	**+2.7**
SMLA	**Simla**	**1.62**	**281**	⇑*i*P	**Pn**	**09 44 19.8**	**+2.4**
SMLA				*e*S	**Sn**	**09 44 39.5**	**+2.3**
SMLA				AML	AML	09 44 41.3	
	comp=N,251μm,0.3s						
SMLA				AML	AML	09 44 41.9	
	comp=E,312μm,0.3s						
PTH	**Pithoragarh**	**1.64**	**141**	*ex*	Pn	09 44 11.1	-6.8
LGTI	**Lohaghat**	**1.73**	**142**	*e*P	**Pn**	**09 44 21.3**	**+2.4**
LGTI				*e*S	**Sn**	**09 44 41.9**	**+2.0**
SDNR	**Sundarnagar**	**1.89**	**291**	*ex*	**Pn**	**09 44 24.0**	**+3.0**
SDNR				*e*4	x	09 45 08.8	
KKR	**Kurukshetra**	**2.09**	**246**	*e*P	**Pn**	**09 44 26.2**	**+2.4**
KKR				*e*S	**Sn**	**09 44 50.0**	**+1.2**
BHK	**Bhakra**	**2.31**	**285**	*e*P	**Pn**	**09 44 27.2**	**+0.3**
BHK				*e*S	**Sn**	**09 44 54.8**	**+0.6**
NDI	**New Delhi**	**2.66**	**217**	*ex*	**Pn**	**09 44 31.0**	**-0.6**
DHRM	**DHARAMSHALA**	**2.72**	**302**	*e*P	**Pn**	**09 44 34.6**	**+1.9**
DHRM				*e*S	**Sn**	**09 45 03.6**	**-0.9**
DHRM				AML	AML	09 45 07.1	
	comp=N,6μm,0.0s						
DHRM				AML	AML	09 45 07.6	
	comp=E,13μm,0.7s						
BHGR	**Bahadurgarh**	**2.80**	**221**	*e*P	**Pn**	**09 44 35.4**	**+1.9**
AYAN	**Aya Nagar**	**2.87**	**216**	*e*P	**Pn**	**09 44 36.0**	**+1.6**
AYAN				*e*4		09 45 21.4	
RTK	**Rohtak**	**2.89**	**232**	*e*4	Pn	09 44 41.5	+6.7
SONA	**Sohna**	**3.08**	**214**	*e*4	Sn	09 45 02.7	-10
DLH	**Dalhousie**	**3.12**	**304**	*e*P	**Pn**	**09 44 40.0**	**+1.9**
DLH				*ex*	**Sn**	**09 45 17.0**	**+2.8**
THN	**Thein Dam**	**3.24**	**300**	*e*P	**Pn**	**09 44 39.0**	**-0.6**
THN				*ex*	**Sn**	**09 45 13.9**	**-3.0**
KUDL	**Kundal**	**3.47**	**220**	⇓*e*P	**Pn**	**09 44 44.0**	**+1.3**
KUDL				*e*S	**Sn**	**09 45 23.6**	**+0.9**
KUDL				AML	AML	09 45 52.3	
	comp=N,1μm,0.5s						
KUDL				AML	AML	09 45 52.3	
	comp=E,2μm,0.6s						
AGRA	**Agra**	**3.71**	**195**	*e*P	**Pn**	**09 44 47.5**	**+1.4**
AGRA				*e*S	**Sn**	**09 45 28.8**	**+0.3**
AGRA				AML	AML	09 45 54.6	
	comp=N,2μm,0.5s						
AGRA				AML	AML	09 45 54.7	
	comp=E,1μm,0.3s						
KHET	**Khetri**	**3.93**	**226**	*e*P	**Pn**	**09 44 50.0**	**+0.9**
KHET				*ex*	x	09 45 52.6	
JMU	**Jammu**	**3.98**	**299**	*e*P	**Pn**	**09 44 52.5**	**+2.8**
JMU				*e*S	**Sn**	**09 45 35.5**	**+0.3**
PYUN	**Piuthan**	**4.40**	**127**	*e*Pn	**Pn**	**09 44 55.8**	**+0.1**
DANN	**Dangsing**	**4.81**	**120**	*e*Pn	**Pn**	**09 45 03.4**	**+2.1**
KOLN	**Koldanda**	**5.03**	**126**	*e*Pn	**Pn**	**09 45 06.2**	**+1.9**
JHNI	**Jhansi**	**5.36**	**185**	*i* x	**Pn**	**09 45 08.0**	**-0.7**
JHNI				*i* S	**Sn**	**09 46 07.0**	**-2.2**
SARP	**Sargodha**	**5.54**	**283**	⇓P	**Pn**	**09 45 11.8**	**+0.7**
SARP				S	**Sn**	**09 46 10.0**	**-3.5**
CHCP	**Chirah Chowk**	**5.64**	**302**	P	**Pn**	**09 45 13.8**	**+1.3**
ALBI	**Allahabad**	**6.03**	**155**	*e*P	Pn	09 45 13.5	-4.3
ALBI				*e*S	Sn	09 46 18.5	-6.9
DMN	**Daman**	**6.21**	**120**	*e*Pn	**Pn**	**09 45 22.0**	**+1.5**
DMN				*e*Sn	**Sn**	**09 46 27.7**	**-2.6**
	comp=E,897nm,0.5s						
KKN	**Kakani**	**6.24**	**117**	*e*Pn	**Pn**	**09 45 22.0**	**+1.0**
PKIN	**Phulchoki**	**6.44**	**119**	*e*Pn	**Pn**	**09 45 24.8**	**+1.1**
PKIN				*e*Sn	**Sn**	**09 46 33.6**	**-2.5**
	comp=E,781nm,0.2s						
PKI	**Pulchoki**	**6.46**	**119**	*e*Pn	**Pn**	**09 45 25.0**	**+1.0**
PKI				*e*Sn	**Sn**	**09 46 33.3**	**-3.2**
	comp=E,659nm,0.3s						
THW	**Thamme Wali**	**6.50**	**289**	P	**Pn**	**09 45 24.0**	**-0.3**
GUN	**Gumba**	**6.65**	**114**	*e*Pn	**Pn**	**09 45 27.3**	**+0.6**
CEP	**Cherat**	**6.72**	**298**	P	**Pn**	**09 45 27.3**	**-0.1**
JIRN	**Jiri**	**7.01**	**115**	*e*Pn	**Pn**	**09 45 32.5**	**+0.9**
JIRN				*e*Sn	**Sn**	**09 46 47.0**	**-3.2**
JBP	**Jabalpur**	**7.68**	**173**	⇑*e*P	**Pn**	**09 45 40.4**	**-0.1**
JBP				*ex*	**Sn**	**09 47 01.5**	**-4.6**
RAMN	**Ramite**	**7.68**	**118**	*e*Pn	**Pn**	**09 45 40.5**	**-0.2**
ODAN	**Odare**	**8.33**	**116**	*e*Pn	**Pn**	**09 45 49.4**	**-0.2**
TAPN	**Taplejung**	**8.35**	**112**	*e*Pn	**Pn**	**09 45 50.0**	**+0.1**
TAPN				*e*Sn	**Sn**	**09 47 19.1**	**-3.9**
	comp=E,670nm,0.6s						
KSH	**Kashi**	**9.02**	**345**	P	**Pn**	**09 45 55.8**	**-3.0**
KSH				S	Sn	09 47 23.4	-16
KSH				smax	smax		
	comp=N,190nm,0.4s						
KSH				smax	smax		
	comp=E,360nm,0.9s						
KBL	**Kabul**	**9.19**	**296**	*e*P	**Pn**	**09 46 00.4**	**-0.9**
KBL				*e*		09 47 39.1	
KBL	**Kabul**	**9.19**	**296**	*e*Pn	**Pn**	**09 46 00.4**	**-0.9**
KBL				*e*Sn	**Sn**	**09 47 39.1**	**-4.3**
NGP	**Nagpur**	**9.64**	**180**	*e*P	**Pn**	**09 46 08.5**	**+1.2**
NGP				*ex*	x	09 47 47.1	
AKL	**Akola**	**10.25**	**191**	*e*P	**Pn**	**09 46 16.1**	**+0.4**
AKL				*i* x	x	09 48 02.9	
LSA	**Lhasa**	**10.54**	**93**	P	**Pn**	**09 46 20.4**	**+0.3**
ULHL	**Ulahol**	**11.61**	**350**	*i* P	**Pn**	**09 46 36.3**	**+2.0**
ULHL	**Ulahol**	**11.61**	**350**	P	**Pn**	**09 46 36.3**	**+2.0**
	SNR=9.9						
KZA	**Kyzart**	**11.63**	**346**	*i* P	**Pn**	**09 46 33.2**	**-1.5**
KZA	**Kyzart**	**11.63**	**346**	P	**Pn**	**09 46 33.2**	**-1.5**
	SNR=19						
UCH	**Uchtor**	**11.94**	**344**	*i* P	**Pn**	**09 46 37.7**	**-1.3**
UCH	**Uchtor**	**11.94**	**344**	P	**Pn**	**09 46 37.7**	**-1.3**
	SNR=12						
AML	**Almayashu**	**12.06**	**341**	*i* P	**Pn**	**09 46 40.4**	**-0.3**
AML	**Almayashu**	**12.06**	**341**	P	**Pn**	**09 46 40.4**	**-0.3**
	SNR=6.3						
KBK	**Karagaybulak**	**12.24**	**346**	*i* P	**Pn**	**09 46 43.1**	**+0.1**
KBK	**Karagaybulak**	**12.24**	**346**	P	**Pn**	**09 46 43.0**	**+0.1**
	SNR=22						
AAK	**Ala-Archa**	**12.32**	**344**	⇑*i*P	**Pn**	**09 46 42.5**	**-1.5**
AAK				pmax	pmax		
	comp=Z,39nm,1.2s						
AAK	**Ala-Archa**	**12.32**	**344**	P	**Pn**	**09 46 43.2**	**-0.8**
	SNR=8.1						
AAK	**Ala-Archa**	**12.32**	**344**	Pn	**Pn**	**09 46 42.7**	**-1.4**
AAK				Sn	Sn	09 48 51.8	-8.1
AAK	**Ala-Archa**	**12.32**	**344**	Pn	**Pn**	**09 46 42.7**	**-1.4**
	comp=Z,3.4nm,0.3s,baz=153,slow=9.9,SNR=16						
AAK				Sn	Sn	09 48 51.8	-8.1
	comp=Z,1.4nm,0.3s,baz=38,slow=19,SNR=3.4						
TKM2	**Tokmak 2**	**12.37**	**348**	⇓Pn	**Pn**	**09 46 43.8**	**-0.9**
	comp=Z,12nm,0.8s						
TKM2				⇑Sn	Sn	09 48 44.9	-16
	comp=Z,27nm,1.1s						
TKM2	**Tokmak 2**	**12.37**	**348**	*e*P	**Pn**	**09 46 44.5**	**-0.2**
TKM2	**Tokmak 2**	**12.37**	**348**	*e*Pn	**Pn**	**09 46 44.5**	**-0.2**
FRU	**Bishkek**	**12.49**	**345**	*e*P	**Pn**	**09 46 45.0**	**-1.1**
FRU				*e*S	**Sn**	**09 49 05.5**	**+1.8**
FRU				pmax	pmax		
	comp=Z,20nm,0.9s						
FRU				pmax	pmax		
	comp=E,160nm,2.0s						
EKS2	**Erkin-Say**	**12.53**	**342**	*e*P	**Pn**	**09 46 45.8**	**-1.0**
EKS2				*e*		09 49 04.8	
EKS2	**Erkin-Say**	**12.53**	**342**	P	**Pn**	**09 46 45.8**	**-1.0**
	SNR=11						
EKS2	**Erkin-Say**	**12.53**	**342**	*e*Pn	**Pn**	**09 46 45.8**	**-1.0**
EKS2				*e*Sn	**Sn**	**09 49 04.8**	**-0.1**
LATR	**Latur**	**12.56**	**191**	*e*4		09 46 37.7	
LATR				*e*4		09 48 49.5	
LATR	**Latur**	**12.56**	**191**	⇓*e*x	x	09 46 37.7	
LATR				*ex*	x	09 48 49.5	
LATR				*ex*	x	09 50 25.4	
	comp=E,51nm,0.1s						
LATR				*ex*	x	09 50 25.8	
	comp=N,37nm,0.1s						
CHMS	**Chumysh**	**12.61**	**345**	*i* P	**Pn**	**09 46 49.2**	**+1.3**
CHMS	**Chumysh**	**12.61**	**345**	P	**Pn**	**09 46 49.2**	**+1.3**
	SNR=8.8						
USP	**Ospenovka**	**12.93**	**345**	*i* P	**Pn**	**09 46 50.9**	**-1.2**
USP	**Ospenovka**	**12.93**	**345**	P	**Pn**	**09 46 51.0**	**-1.2**
	SNR=7.5						
POO	**Poona**	**13.12**	**202**	*ex*	Pn	09 46 51.0	-3.9
	comp=N,3.0nm,1.2s						
HYB	**Hyderabad**	**13.36**	**182**	⇑*i*P	Pn	09 46 53.0	-5.2
HYB				*e*S	**Sn**	**09 49 27.0**	**+1.7**
KK31	**Karatay Array**	**14.00**	**333**	⇑Pn	Pn	09 47 02.8	-4.0
	comp=N,3.8nm,0.2s,baz=137,slow=11,SNR=156						
KK31				⇑Sn	Sn	09 49 27.0	-14
	comp=N,50nm,0.6s,baz=161,slow=24,SNR=15						
KK31	**Karatay Array**	**14.00**	**333**	*e*P	Pn	09 47 03.0	-3.8
KK31				pmax	pmax		
	comp=Z,17nm,0.3s						
KAD	**Karad**	**14.17**	**199**	*i* 4	Pn	09 47 04.0	-5.1
KAD				*i* 4		09 49 32.0	
KAD	**Karad**	**14.17**	**199**	*ex*	Pn	09 47 04.0	-5.1
KAD				*ex*	x	09 49 32.0	
WMQ	**Urumqi**	**14.67**	**26**	P	**Pn**	**09 47 15.4**	**-0.3**
WMQ				pP	P	09 47 24.0	+3.3
WMQ				PP	**PnPn**	**09 47 27.9**	**+3.7**
WMQ				sP		09 47 30.6	
WMQ				pmax	pmax		
	comp=Z,39nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,2μm,10.0s						
MK31	**Makanchi Array**	**16.14**	**8**	⇑Pn	**Pn**	**09 47 33.8**	**-0.6**
	comp=Z,9.7nm,0.8s,baz=183,slow=12,SNR=54						
MK31				⇑Sn	Sn	09 50 19.6	-13
	comp=Z,16nm,0.9s,baz=182,slow=24,SNR=9.0						
MK31	**Makanchi Array**	**16.14**	**8**	*i* P	**Pn**	**09 47 32.9**	**-1.6**
MK31				pmax	pmax		
	comp=Z,6.0nm,0.4s						
MK31	**Makanchi Array**	**16.14**	**8**	*e*Pn	**Pn**	**09 47 34.0**	**-0.5**
MKAR	**Makanchi Array**	**16.14**	**8**	P	**Pn**	**09 47 31.3**	**-3.1**
MKAR	**Makanchi Array**	**16.14**	**8**	Pn	**Pn**	**09 47 31.3**	**-3.1**
MKAR				Sn	Sn	09 50 18.5	-14
MKAR	**Makanchi Array**	**16.14**	**8**	Pn	**Pn**	**09 47 31.3**	**-3.1**
	comp=Z,0.7nm,0.3s,baz=186,slow=14,SNR=13						
MKAR				Sn	Sn	09 50 18.5	-14
	comp=Z,0.9nm,0.3s,baz=185,slow=23,SNR=5.7						
GTA	**Gaotai**	**19.01**	**58**	*e*P	**Pn**	**09 48 10.9**	**+1.0**
GTA				pP	**pP**	**09 48 20.3**	**-0.2**
GTA				sP	**sP**	**09 48 26.0**	**-1.2**
GTA				pmax

comp=Z,28nm,1.1s,baz=151,slow=12,SNR=23
BVA0 Borovoye Array 23.06 347 P **P** **09 48 51.4 -0.5**
BVA0 pmax pmax
comp=Z,29nm,1.2s
BVAR Borovoye Array 23.06 347 P **P** **09 48 51.7 -0.3**
BVAR Borovoye Array 23.06 347 P **P** **09 48 51.6 -0.3**
BVAR Borovoye Array 23.06 347 P **P** **09 48 51.6 -0.3**
comp=Z,3.3nm,0.3s,baz=147,slow=10,SNR=22
BVAR LR LR 09 59 11.7
comp=Z,1μm,19.5s,baz=17,slow=40
BRVK Borovoye 23.11 346 ⇓P **P** **09 48 52.4 0.0**
comp=Z,43nm,1.2s
BRVK Borovoye 23.11 346 *d iP* **P** **09 48 53.1 +0.7**
BRVK pmax pmax
comp=Z,11nm,0.8s
BRVK Borovoye 23.11 346 *eP* **P** **09 48 52.9 +0.5**
comp=Z,23nm,0.8s
AB31 Akbulak array 23.38 327 ⇓P **P** **09 48 55.5 +0.4**
comp=Z,12nm,0.8s,baz=225,slow=2.2,SNR=95
AB31 ⇓S **S** **09 53 03.7 -0.3**
comp=Z,12nm,1.0s,baz=132,slow=25,SNR=3.7
AB31 Akbulak array 23.38 327 *ceP* **P** **09 48 55.2 +0.1**
AB31 pmax pmax
comp=Z,12nm,0.6s
ZAA0 Zalesovo Array 23.48 9 *eP* **P** **09 48 55.6 -0.3**
ZALV Zalesovo Beam 23.48 9 P **P** **09 48 55.1 -0.9**
ZALV Zalesovo Beam 23.48 9 P **P** **09 48 55.1 -0.9**
ZALV Zalesovo Beam 23.48 9 P **P** **09 48 55.1 -0.9**
comp=Z,3.7nm,0.5s,baz=195,slow=9.1,SNR=13
UTHA Uthaitani 24.09 125 P **P** **09 49 03.1 +1.2**
comp=Z,6.0nm,0.9s
NVS Novosibirsk 24.18 6 *eP* **P** **09 49 02.2 -0.2**
NVS *eS* S 09 53 06.5 -10
NVS pmax pmax
comp=N,4.0nm,0.5s
NVS pmax pmax
comp=E,3.0nm,0.5s
NVS pmax pmax
comp=Z,6.0nm,0.5s
NVS smax smax
comp=N,28nm,1.8s
NVS smax smax
comp=E,20nm,1.8s
PBKT Sadao Pong 24.54 120 P **P** **09 49 07.4 +1.4**
comp=E,47nm,1.2s
PBKT Sadao Pong 24.54 120 P **P** **09 49 07.4 +1.4**
GYA Guiyang 24.61 93 ⇓*iP* **P** **09 49 07.1 +0.3**
GYA pP **pP** **09 49 19.3 -0.8**
GYA sP **sP** **09 49 25.0 -1.4**
GYA PP **PnPn** **09 49 43.4 +3.0**
GYA PcP **PcP** **09 52 45.9 +2.4**
GYA S **S** **09 53 22.4 -2.2**
GYA sS sS 09 53 41.0 -6.0
GYA SS **SnSn** **09 54 19.0 +5.0**
GYA ScP **ScP** **09 56 19.6 +1.7**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,90nm,4.8s
GYA LR LR
comp=N,2μm,14.9s
GYA LR LR
comp=E,260nm,16.0s
GYA LR LR
comp=Z,1μm,15.2s
AKTO Aktyubinsk 25.10 327 ⇑P **P** **09 49 11.3 +0.4**
comp=Z,12nm,0.9s
AKTO Aktyubinsk 25.10 327 P **P** **09 49 10.9 +0.1**
AKTO Aktyubinsk 25.10 327 P **P** **09 49 10.9 +0.1**
AKTO Aktyubinsk 25.10 327 P **P** **09 49 10.9 +0.1**
comp=Z,9.0nm,0.7s,baz=133,slow=9.7,SNR=23
XAN Xi'an 25.39 75 P **P** **09 49 12.8 -0.9**
XAN pmax pmax
comp=Z,3.0nm,0.8s
XAN Xi'an 25.39 75 P **P** **09 49 15.3 +1.6**
XAN pP **pP** **09 49 27.9 +0.9**
XAN pmax pmax
comp=Z,9.0nm,0.6s
SONM Songino Array 26.93 43 P **P** **09 49 28.8 +1.2**
SONM PcP **PcP** **09 52 48.3 -0.1**
SONM Songino Array 26.93 43 P **P** **09 49 28.8 +1.2**
comp=Z,3.7nm,0.7s,baz=233,slow=9.5,SNR=22
SONM PcP **PcP** **09 52 48.3 -0.1**
comp=Z,1.4nm,0.6s,baz=248,slow=1.9,SNR=3.8
ULN Ulaanbaatar 27.34 44 *eP* **P** **09 49 32.3 +1.1**
comp=Z,49nm,2.0s
HHC Hu-ho-hao-te 28.07 60 *eP* **P** **09 49 37.8 0.0**
HHC pP **pP** **09 49 49.4 -1.8**
HHC sP **sP** **09 49 54.9 -2.5**
HHC PP **PnPn** **09 50 28.5 +1.1**
HHC S **S** **09 54 17.3 -1.7**
HHC sS **sS** **09 54 37.3 -4.3**
HHC SS **SnSn** **09 55 41.1 +3.1**
HHC ScS **ScS** **10 00 18.8 -1.6**
HHC pmax pmax
comp=Z,36nm,1.2s
HHC LR LR
comp=N,580nm,16.7s
HHC LR LR
comp=E,1μm,16.9s
HHC LR LR
comp=Z,2μm,16.7s
ARU Arti 29.34 337 *d iP* **P** **09 49 49.7 +0.9**
ARU 09 50 39.5
ARU S **S** **09 54 42.4 +4.1**
ARU SS **SnSn** **09 56 04.5 -4.0**
ARU pmax pmax
comp=Z,10.0nm,2.5s
QIZ Qiongzhong 30.21 106 P **P** **09 49 57.3 +0.4**
QIZ S **S** **09 54 54.8 +2.0**
QIZ pmax pmax
comp=Z,5.0nm,0.9s
RAYN Ar Rayn 30.62 264 *eP* **P** **09 50 01.6 +1.1**
comp=Z,12nm,1.2s
BJI Beijing 31.44 63 P **P** **09 50 08.3 +0.8**
BJI pmax pmax
comp=Z,11nm,0.7s
DAMY Dhamar 35.63 251 *eP* **P** **09 50 47.7 +3.1**
BR131 Keskin Array S 37.76 296 *eP* **P** **09 51 02.2 -0.1**
comp=Z,4.8nm,0.9s
BRTR Keskin Array B 37.76 296 P **P** **09 51 00.6 -1.7**
BRTR Keskin Array B 37.76 296 P **P** **09 51 00.6 -1.7**
comp=Z,2.8nm,0.8s,baz=111,slow=5.7,SNR=9.8
OBN Obninsk 38.55 322 P **P** **09 51 10.0 +1.5**
OBN *e* 09 51 24.2
OBN PPP PPP 09 53 07.0
OBN pmax pmax
comp=Z,11nm,0.5s
CN2 Changchun 38.64 57 *eP* **P** **09 51 11.3 +1.9**
KSAR Wonju Array Be 40.61 67 P **P** **09 51 24.4 -1.5**
KSRS Korea Array 40.64 67 P **P** **09 51 24.3 -1.8**
comp=Z,3.3nm,0.7s,baz=274,slow=8.0,SNR=13
AKASG Malin Array Be 41.70 313 P **P** **09 51 35.6 +1.0**
AKASG Malin Array Be 41.70 313 P **P** **09 51 35.6 +1.0**
AKASG Malin Array Be 41.70 313 P **P** **09 51 35.6 +1.0**
comp=Z,0.7nm,0.3s,baz=107,slow=9.0,SNR=6.2
USRK Ussuriysk Array 43.37 57 P **P** **09 51 47.1 -1.2**
comp=Z,2.8nm,0.9s,baz=260,slow=8.6,SNR=4.9
KLR Kul'dur 43.39 49 *eP* **P** **09 51 45.4 -3.1**
KLR *e* 09 52 02.2
JOF Joensuu 44.08 331 *eP* **P** **09 51 54.6 +0.8**
JOF pmax pmax
comp=Z,8.0nm,0.5s
VSU Vasula 44.73 324 *i P* **P** **09 52 00.4 +1.4**
VSU pmax pmax
comp=Z,10.0nm,0.5s
FINES FINESS Array B 45.87 328 P **P** **09 52 08.2 +0.2**
FINES FINESS Array B 45.87 328 P **P** **09 52 08.2 +0.2**
comp=Z,3.0nm,0.5s,baz=120,slow=8.3,SNR=15
ARCES ARCESS Array B 48.91 338 P **P** **09 52 32.2 +0.7**
ARCES ARCESS Array B 48.91 338 P **P** **09 52 32.2 +0.7**
comp=Z,4.7nm,0.7s,baz=101,slow=7.8,SNR=28
KMBO Kilima Mbogo 50.84 239 P **P** **09 52 48.0 +0.9**
KMBO Kilima Mbogo 50.84 239 P **P** **09 52 48.0 +0.9**
comp=Z,1.1nm,1.0s,baz=36,slow=11,SNR=19
CUC Castrocucco 51.37 299 *eP* **P** **09 52 51.7 +1.0**
comp=Z,13nm,0.9s
CUC *ep*P pP 09 53 13.5 +8.7
HFS Hagfors 51.60 325 P **P** **09 52 52.0 +0.1**
HFS Hagfors 51.60 325 P **P** **09 52 52.0 +0.1**
comp=Z,3.1nm,0.3s,baz=101,slow=7.6,SNR=48
NB2 NORSAR Subarra 52.87 326 P **P** **09 53 01.3 -0.1**
comp=Z,5.7nm,0.9s,baz=91,slow=7.4
NOA NORSAR Array B 52.87 326 P **P** **09 53 01.5 +0.1**
NOA NORSAR Array B 52.87 326 P **P** **09 53 01.5 +0.1**
comp=Z,2.9nm,0.8s,baz=94,slow=7.3,SNR=9.2
SPITS Spitsbergen Ar 54.52 347 P **P** **09 53 12.7 -0.5**
SPITS Spitsbergen Ar 54.52 347 P **P** **09 53 12.6 -0.5**
comp=Z,5.4nm,0.8s,baz=116,slow=13,SNR=3.7
SEY Seymchan 55.51 32 ⇑*iP* **P** **09 53 21.0 +0.4**
SENIN Lac Senin/Sane 56.31 308 *eP* **P** **09 53 27.0 +0.2**
comp=Z,9.8nm,0.7s
HINF Hinteralfeld 56.34 310 *eP* **P** **09 53 26.2 -0.6**
HINF Hinteralfeld 56.34 310 *eP* **P** **09 53 26.2 -0.6**
HINF Hinteralfeld 56.34 310 *eP* **P** **09 53 26.2 -0.6**
HAU Haudompre 56.64 310 *eP* **P** **09 53 28.4 -0.5**
comp=Z,6.5nm,0.6s
HAU Haudompre 56.64 310 *eP* **P** **09 53 28.4 -0.5**
HAU pmax pmax
comp=Z,7.0nm,0.6s
HAU Haudompre 56.64 310 *eP* **P** **09 53 28.4 -0.5**
comp=Z,6.5nm,0.6s
LPG La Plagne 56.86 307 *eP* **P** **09 53 30.8 0.0**
comp=Z,42nm,1.0s
LPG La Plagne 56.86 307 *eP* **P** **09 53 30.8 0.0**
LPG pmax pmax
comp=Z,42nm,1.0s
LPG La Plagne 56.86 307 *eP* **P** **09 53 30.8 0.0**
comp=Z,42nm,1.0s
LPL La Plagne 56.87 307 *eP* **P** **09 53 30.8 0.0**
comp=Z,26nm,0.7s
LPL La Plagne 56.87 307 *eP* **P** **09 53 30.8 0.0**
LPL pmax pmax
comp=Z,26nm,0.7s
LPL La Plagne 56.87 307 *eP* **P** **09 53 30.8 0.0**
comp=Z,26nm,0.7s
MBDF Montbardon 57.01 306 *eP* **P** **09 53 31.6 -0.1**
comp=Z,15nm,0.8s
MBDF Montbardon 57.01 306 *eP* **P** **09 53 31.6 -0.1**
MBDF pmax pmax
comp=Z,15nm,0.8s
MBDF Montbardon 57.01 306 *eP* **P** **09 53 31.6 -0.1**
comp=Z,15nm,0.8s
KEST Kesra 57.35 295 P **P** **09 53 34.0 -0.2**
KEST Kesra 57.35 295 P **P** **09 53 34.0 -0.2**
comp=Z,2.3nm,1.0s,baz=294,slow=4.7,SNR=5.3
FRF La Foret Royal 57.35 305 *eP* **P** **09 53 33.4 -0.6**
FRF La Foret Royal 57.35 305 *eP* **P** **09 53 33.4 -0.6**
FRF La Foret Royal 57.35 305 *eP* **P** **09 53 33.4 -0.6**
ORIF Oris-en-Rattie 57.58 306 *eP* **P** **09 53 35.5 -0.2**
ORIF Oris-en-Rattie 57.58 306 *eP* **P** **09 53 35.5 -0.2**
ORIF Oris-en-Rattie 57.58 306 *eP* **P** **09 53 35.5 -0.2**
OPO Ambohidratompo 57.88 216 P **P** **09 53 37.9 -0.2**
OPO Ambohidratompo 57.88 216 P **P** **09 53 37.9 -0.2**
comp=Z,4.6nm,0.7s,baz=48,slow=7.1,SNR=7.0
SMRF Simiane la Rot 58.01 305 *eP* **P** **09 53 37.9 -0.8**
SMRF Simiane la Rot 58.01 305 *eP* **P** **09 53 37.9 -0.8**
LOR Lormes 58.44 309 *eP* **P** **09 53 40.6 -1.0**
LOR Lormes 58.44 309 *eP* **P** **09 53 40.6 -1.0**
SMF Signal de Mont 58.59 309 *eP* **P** **09 53 42.0 -0.6**
comp=Z,10nm,0.8s
SMF Signal de Mont 58.59 309 *eP* **P** **09 53 42.0 -0.6**
SMF pmax pmax
comp=Z,10.0nm,0.8s
SMF Signal de Mont 58.59 309 *eP* **P** **09 53 42.0 -0.6**
comp=Z,10nm,0.8s
SSF Saint Saulge 58.72 309 *eP* **P** **09 53 42.9 -0.6**
SSF Saint Saulge 58.72 309 *eP* **P** **09 53 42.9 -0.6**
SSF Saint Saulge 58.72 309 *eP* **P** **09 53 42.9 -0.6**
AVF Avril sur Loir 58.88 309 *eP* **P** **09 53 43.9 -0.7**
comp=Z,20nm,1.1s
AVF Avril sur Loir 58.88 309 *eP* **P** **09 53 43.9 -0.7**
AVF pmax pmax
comp=Z,20nm,1.1s
AVF Avril sur Loir 58.88 309 *eP* **P** **09 53 43.9 -0.7**
comp=Z,20nm,1.1s
LASF Ste Croix 59.19 306 *eP* **P** **09 53 46.8 0.0**
comp=Z,21nm,1.0s
LASF Ste Croix 59.19 306 *eP* **P** **09 53 46.8 0.0**
comp=Z,21nm,1.0s
TCF Toulx Ste Croi 59.77 309 *eP* **P** **09 53 50.7 -0.1**
comp=Z,9.5nm,0.8s
TCF Toulx Ste Croi 59.77 309 *eP* **P** **09 53 50.7 -0.1**
TCF pmax pmax
comp=Z,10.0nm,0.8s
TCF Toulx Ste Croi 59.77 309 *eP* **P** **09 53 50.7 -0.1**
comp=Z,9.5nm,0.8s
EKA Eskdalemuir Ar 60.97 320 P **P** **09 53 58.0 -0.7**
EKA Eskdalemuir Ar 60.97 320 P **P** **09 53 58.0 -0.7**
comp=Z,2.3nm,0.8s,baz=68,slow=7.7,SNR=3.5
SGMF Saint Gilles 62.39 312 *eP* **P** **09 54 08.0 -0.4**
SGMF Saint Gilles 62.39 312 *eP* **P** **09 54 08.0 -0.4**
SGMF Saint Gilles 62.39 312 *eP* **P** **09 54 08.0 -0.4**
ETSF Etsaut 62.60 306 *eP* **P** **09 54 09.3 -0.8**
ETSF Etsaut 62.60 306 *eP* **P** **09 54 09.3 -0.8**
ETSF Etsaut 62.60 306 *eP* **P** **09 54 09.3 -0.8**
ROSF Rostrenen 62.82 312 *eP* **P** **09 54 10.5 -0.8**
comp=Z,8.8nm,0.8s
ROSF Rostrenen 62.82 312 *eP* **P** **09 54 10.5 -0.8**
ROSF pmax pmax
comp=Z,9.0nm,0.8s
ROSF Rostrenen 62.82 312 *eP* **P** **09 54 10.5 -0.8**
comp=Z,8.8nm,0.8s
ESDC Sonseca Array 66.09 303 P **P** **09 54 32.5 -0.5**
ESDC Sonseca Array 66.09 303 P **P** **09 54 32.5 -0.5**
comp=Z,0.6nm,0.5s,baz=57,slow=6.7,SNR=6.5
FITZ Fitzroy Crossi 66.14 131 P **P** **09 54 32.1 -1.2**
FITZ Fitzroy Crossi 66.14 131 P **P** **09 54 32.1 -1.2**
comp=Z,4.4nm,1.1s,baz=288,slow=9.6,SNR=2.6
TOA0 Torodi Ar. Sit 72.60 275 *eP* **P** **09 55 12.8 -0.6**
TORD Torodi Ar. Bea 72.60 275 P **P** **09 55 12.9 -0.5**
TORD Torodi Ar. Bea 72.60 275 P **P** **09 55 12.9 -0.5**
comp=Z,14nm,0.7s,baz=53,slow=5.0,SNR=87
WRA Warramunga Arr 73.28 126 P **P** **09 55 17.5 +0.2**
WRA Warramunga Arr 73.28 126 P **P** **09 55 17.5 +0.2**
comp=Z,17nm,0.7s,baz=318,slow=5.9,SNR=197
WRAB Tennant Creek 73.28 126 *eP* **P** **09 55 17.3 0.0**
WRAB pmax pmax
comp=Z,18nm,0.8s
WRAB Tennant Creek 73.28 126 *eP* **P** **09 55 17.3 0.0**
comp=Z,18nm,0.8s
COLD Coldfoot 75.46 18 *eP* **P** **09 55 29.7 +0.4**
comp=Z,7.1nm,0.9s
LBTB Lobatse 75.49 229 *eP* **P** **09 55 30.3 +0.2**
comp=Z,15nm,0.8s
AS31 Alice Springs 75.51 129 *eP* **P** **09 55 29.8 -0.4**
ASAR Alice Springs 75.51 129 P **P** **09 55 30.1 -0.1**
ASAR Alice Springs 75.51 129 P **P** **09 55 30.1 -0.1**
comp=Z,6.6nm,0.7s,baz=313,slow=5.7,SNR=129
TSUM Tsumeb 77.18 238 *eP* **P** **09 55 39.6 -0.3**
comp=Z,16nm,1.4s
COLA College 77.87 19 *eP* **P** **09 55 42.1 -0.8**
COLA pmax pmax
comp=Z,10.0nm,0.8s
COLA College 77.87 19 *eP* **P** **09 55 42.1 -0.8**
comp=Z,9.9nm,0.8s
ILAR Eielson Array 78.21 18 P **P** **09 55 43.7 -1.1**
ILAR Eielson Array 78.21 18 P **P** **09 55 43.7 -1.1**
comp=Z,3.7nm,0.9s,baz=309,slow=5.7,SNR=33
BOSA Boshof 78.23 226 *eP* **P** **09 55 45.3 -0.2**
BOSA Boshof 78.23 226 P **P** **09 55 44.9 -0.7**
comp=Z,13nm,0.8s,baz=48,slow=6.3,SNR=17
DBIC Dimbokro 81.38 273 P **P** **09 56 02.8 0.0**
DBIC Dimbokro 81.38 273 P **P** **09 56 02.8 0.0**
comp=Z,12nm,0.8s,baz=52,slow=6.6,SNR=10.0
KIC Kosan Boka 81.44 272 *eP* **P** **09 56 03.2 +0.1**
comp=Z,83nm,1.1s
TIC Toumodi 81.53 273 *eP* **P** **09 56 03.5 -0.2**
comp=Z,46nm,0.9s
KDAK Kodiak Island 81.69 25 P **P** **09 56 03.1 -0.5**
KDAK Kodiak Island 81.69 25 P **P** **09 56 03.1 -0.5**
comp=Z,12nm,1.1s,baz=187,slow=8.1,SNR=4.0
LIC Lamto 81.75 272 *eP* **P** **09 56 04.7 -0.1**
comp=Z,38nm,1.0s
LIC Lamto 81.75 272 *eP* **P** **09 56 04.7 -0.1**
comp=Z,50nm,1.0s
LIC Lamto 81.75 272 *eP* **P** **09 56 04.7 -0.1**
comp=Z,38nm,1.0s
CTA Charters Tower 82.02 119 P **P** **09 56 05.6 -0.4**
CTA Charters Tower 82.02 119 P **P** **09 56 05.6 -0.4**
comp=Z,8.3nm,1.0s,baz=307,slow=5.1,SNR=9.5
CTAO Charters Tower 82.02 119 *eP* **P** **09 56 05.8 -0.2**
CTAO Charters Tower 82.02 119 *eP* **P** **09 56 05.8 -0.2**
CTAO *ep*P pP 09 56 29.4 +8.3
STKA Stephens Creek 86.04 131 P **P** **09 56 25.6 -0.6**
STKA Stephens Creek 86.04 131 P **P** **09 56 25.6 -0.6**
comp=Z,3.0nm,0.7s,baz=328,slow=6.7,SNR=4.3
YKA Yellowknife Ar 86.36 6 P **P** **09 56 26.1 -1.2**
YKA Yellowknife Ar 86.36 6 P **P** **09 56 26.1 -1.2**
comp=Z,2.3nm,0.7s,baz=343,slow=5.0,SNR=7.7
HNR Honiara 87.08 103 *eP* P 09 56 35.6 +4.0
comp=Z,14nm,0.8s
HNR *ep*P pP 09 56 50.0 +3.2
H20A Greybull 104.77 5 P **Pdif** **09 57 50.1 -2.0**
baz=104
PDAR Pinedale Array 106.34 7 PKiKP **PKiKP** **10 02 09.0 -1.3**
PDAR Pinedale Array 106.34 7 PKiKP **PKiKP** **10 02 09.0 -1.3**
comp=Z,0.6nm,0.8s,baz=34,slow=2.3,SNR=4.6
L21A Rawlins 107.33 5 P **PKiKP** **10 02 10.8 -1.4**
baz=107
L31A Butterfield Fa 107.33 358 P **PKiKP** **10 02 10.9 -1.0**
baz=107
NVAR Mina Array Bea 109.22 14 PKiKP **PKiKP** **10 02 15.8 0.0**
NVAR Mina Array Bea 109.22 14 PKiKP **PKiKP** **10 02 15.8 0.0**
comp=Z,0.2nm,0.6s,baz=342,slow=0.3,SNR=4.4
VES Vestal, Richgr 111.53 16 P **PKiKP** **10 02 19.0 -0.9**
baz=111
S21A Coal Bank Pass 111.56 6 P **PKiKP** **10 02 18.9 -1.4**
baz=111
T26A Comanche Natio 112.30 2 P **PKiKP** **10 02 20.4 -1.2**
baz=112
T25A Trinidad 112.31 3 P **PKiKP** **10 02 20.4 -1.2**
baz=112
X16A Lo Mia Camp, P 114.35 9 P PKPdf 10 02 24.0 -1.6
baz=114
W27A Bowe Ranch, En 114.42 2 P PKPdf 10 02 24.8 -0.8
baz=114
X31A McDonald Ranch 114.88 359 P PKPdf 10 02 25.5 -0.9
baz=114
Z21A St. Cloud Mine 115.89 6 P **PKPdf** **10 02 27.7 -0.9**
baz=116
Z22A Elephant Butte 116.01 6 P **PKPdf** **10 02 28.2 -0.5**
baz=116
Z24A Sheeppen Canyo 116.05 4 P **PKPdf** **10 02 28.3 -0.6**
baz=116
Z23A Rita Site, Whi 116.06 5 P **PKPdf** **10 02 28.3 -0.5**
baz=116
Z27A Tatum 116.16 2 P **PKPdf** **10 02 28.0 -1.1**
baz=116
Z26A Caprock 116.18 3 P **PKPdf** **10 02 28.3 -0.8**
baz=116
Z31A Sharp Cattle R 116.19 359 P **PKPdf** **10 02 28.3 -0.7**
baz=116
Z32A Haskell 116.19 359 P **PKPdf** **10 02 28.2 -0.8**
baz=116
214A Organ Pipe Nat 116.55 11 P **PKPdf** **10 02 29.1 -0.6**
baz=116
121A Cookes Peak, D 116.65 6 P **PKPdf** **10 02 29.6 -0.4**
baz=116
124A Stringfield Ra 116.67 4 P **PKPdf** **10 02 29.1 -1.1**
baz=116
125A Gardner Draw, 116.76 3 P **PKPdf** **10 02 29.7 -0.4**
baz=116
128A Castleberry Fa 116.88 1 P **PKPdf** **10 02 29.7 -0.7**
baz=116
223A Chaparral, Ant 117.29 5 P **PKPdf** **10 02 29.9 -1.3**
baz=117
226B Tecolote Peak, 117.36 3 P **PKPdf** **10 02 30.5 -0.8**
baz=117
232A Coleman 117.61 359 P **PKPdf** **10 02 30.6 -1.1**
baz=117
230A Sterling City 117.62 0 P **PKPdf** **10 02 30.7 -1.1**
baz=117
320A Kipp Ranch, An 117.76 7 P **PKPdf** **10 02 31.9 -0.3**
baz=117
324A Moseley Ranch, 117.92 4 P **PKPdf** **10 02 31.7 -0.8**
baz=118
329A Wagon Wheel Ra 118.02 1 P **PKPdf** **10 02 31.3 -1.3**
baz=118
325A Bean Ranch, Si 118.02 4 P **PKPdf** **10 02 32.2 -0.6**
baz=118
330A Mertzon 118.10 0 P **PKPdf** **10 02 31.8 -1.0**
baz=118
331A San Angelo 118.20 359 P **PKPdf** **10 02 32.3 -0.6**
baz=118
427A Hayter Ranch, 118.61 2 P **PKPdf** **10 02 33.4 -0.3**
baz=118
432A Menard 118.62 359 P **PKPdf** **10 02 33.2 -0.5**
baz=118
428A Kincaid Ranch, 118.76 2 P **PKPdf** **10 02 33.7 -0.4**
baz=118
431A Sonora 118.82 360 P **PKPdf** **10 02 33.1 -1.0**
baz=118
429A Davenport Ranc 118.88 1 P **PKPdf** **10 02 33.0 -1.2**
baz=118
JCT Junction City 119.02 359 P **PKPdf** **10 02 33.7 -0.8**
baz=119
528A Cox Ranch, San 119.32 2 P **PKPdf** **10 02 34.6 -0.6**
baz=119
531A Rocksprings 119.34 360 P **PKPdf** **10 02 34.5 -0.6**
baz=119
530A J-C Ranch, Com 119.36 0 P **PKPdf** **10 02 34.2 -1.0**
baz=119
529A Stev Forest Ra 119.37 1 P **PKPdf** **10 02 34.4 -0.8**
baz=119
532A Rocksprings 119.37 359 P **PKPdf** **10 02 34.6 -0.6**
baz=119
626A Big Bend Ranch 119.87 3 P **PKPdf** **10 02 35.6 -0.6**
baz=120
632A Uvalde 119.98 359 P **PKPdf** **10 02 36.1 -0.3**
baz=120
628A Black Gap, Mar 119.99 2 P **PKPdf** **10 02 35.9 -0.5**
baz=120
627A Terlingua Ranc 120.00 2 P **PKPdf** **10 02 35.8 -0.7**
baz=120
631A Perdido Creek 120.09 360 P **PKPdf** **10 02 35.9 -0.6**
baz=120
TXAR Lajitas Array 120.11 3 PKP **PKPdf** **10 02 36.5 -0.2**
TXAR Lajitas Array 120.11 3 PKP **PKPdf** **10 02 36.4 -0.2**
comp=Z,0.7nm,0.6s,baz=202,slow=1.5,SNR=23
LPAZ La Paz 146.74 288 PKPbc **PKPdf** **10 03 26.6 -0.3**
LPAZ La Paz 146.74 288 PKPbc **PKPdf** **10 03 26.6 -0.3**
comp=Z,2.0nm,0.7s,baz=350,slow=4.0,SNR=12
TRQA Tornquist 147.23 247 *e*PKPbc **PKPbc** **10 03 28.4 -0.3**
PLCA Paso Flores 153.53 240 PKPbc **PKPbc** **10 03 44.4 +0.4**
PLCA Paso Flores 153.53 240 PKPbc **PKPbc** **10 03 44.4 +0.4**
comp=Z,1.4nm,0.8s,baz=63,slow=1.5,SNR=5.2

*ISCJB **21** 10:14:25.4±0.7,38°.85N±0°.04×141°.71E±0°.08,h81km±4km, mb3.5/3, Error ellipse: s-maj=10.9km s-min=6.6km az=20.4*
*IDC **21** 10:14:26.4±4.0,38°.93N×141°.99E,h83km±47km,mb3.3/3, mb1 3.3/5,mb1mx3.1/23,mbtmp3.2/5,ML2.6/2,Error ellipse: s-maj=42.6km s-min=28.4km az=70.0*
*JMA **21** 10:14:27.1,38°.84N×141°.60E,h73km±1km,M3.5*
JMA Felt I J1.
ISC 21 10:14:26.1±1.1,38°.84N±0°.05×141°.74E±0°.08,h76km±7km, n20,o0°78/29,mb3.7/3,6C-5D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.24**	**347**	⇑P	**Pn**	**10 14 38.3**	**+0.6**
OFUJ				S	**Sn**	**10 14 46.4**	**+0.3**
JMK	**Ichinoseki**	**0.42**	**285**	⇑P	**Pn**	**10 14 38.6**	**-0.2**
JMK				S	**Sn**	**10 14 47.1**	**-1.0**
JIO	**Ouri**	**0.49**	**218**	⇑P	**Pn**	**10 14 39.6**	**+0.2**
JIO				S	**Sn**	**10 14 48.7**	**-0.5**
JOM	**Ohasama**	**0.72**	**331**	⇑P	**Pn**	**10 14 42.0**	**+0.3**
JOM				S	**Sn**	**10 14 53.0**	**-0.2**
JOU	**Okura**	**0.97**	**241**	⇓P	**Pn**	**10 14 44.6**	**0.0**
JOU				S	**Sn**	**10 14 57.5**	**-0.8**
JRG	**Rokugo**	**1.02**	**303**	⇑P	**Pn**	**10 14 45.1**	**-0.1**
JRG				S	**Sn**	**10 14 59.0**	**-0.4**
JYK	**Kaneyama**	**1.08**	**274**	⇓P	**Pn**	**10 14 45.6**	**-0.3**
JYK				*e*S	**Sn**	**10 14 59.8**	**-0.9**
JMM	**Marumori**	**1.23**	**218**	⇓P	**Pn**	**10 14 47.4**	**-0.4**
JYS	**Shirataka**	**1.45**	**245**	⇓P	**Pn**	**10 14 50.6**	**-0.1**
JYS				*e*S	**Sn**	**10 15 08.7**	**-0.5**
JANG	**Nango**	**1.54**	**354**	P	**Pn**	**10 14 52.2**	**+0.4**
JAH	**Hinai**	**1.59**	**328**	⇑P	**Pn**	**10 14 53.1**	**+0.6**
JYA	**Atsumi**	**1.60**	**262**	⇓P	**Pn**	**10 14 52.4**	**-0.2**
JYA				*e*S	**Sn**	**10 15 11.6**	**-1.1**
JFK	**Kawauchi**	**1.62**	**205**	P	**Pn**	**10 14 53.5**	**+0.5**
MAT	**Matsushiro**	**3.62**	**232**	P	**Pn**	**10 15 21.3**	**+1.4**
ASAJ	**Asahikawa**	**5.31**	**7**	P	**Pn**	**10 15 41.7**	**-1.1**
	0.4nm,0.3s,baz=219,slow=11,SNR=6.1						
ASAJ				S	**Sn**	**10 16 40.8**	**-1.7**
	0.3nm,0.3s,baz=221,slow=20,SNR=2.6						
USRK	**Ussuriysk Array**	**9.05**	**309**	P	**Pn**	**10 16 35.5**	**+1.6**
	0.1nm,0.3s,baz=116,slow=14,SNR=2.8						
MKAR	**Makanchi Array**	**43.40**	**301**	P	**P**	**10 22 21.4**	**+0.3**
	0.9nm,0.7s,baz=87,slow=9.0,SNR=8.8						
ILAR	**Eielson Array**	**47.84**	**33**	pP	pP	10 23 23.8	+9.2

0.3nm,0.7s,baz=265,slow=6.2,SNR=3.0
WRA Warramunga Arr 58.89 188 P **P 10 24 17.1 0.0**
0.3nm,0.4s,baz=7.8,slow=7.7,SNR=17
ASAR Alice Springs 62.61 188 P **P 10 24 43.0 +0.5**
0.3nm,0.9s,baz=356,slow=5.2,SNR=8.0

IDC 21 10:20:15.7±9.4,55°.93S×28°.01W,h180km±87km,mb3.3/4, mb1 3.4/4,mb1mx3.3/16,mbtmp3.3/4,Error ellipse: s-maj=33.1km s-min=22.8km az=71.0,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAW	**Mawson**	**40.52**	**144**	P	P	10 27 35.9	-0.5
	1.2nm,0.9s,baz=220,slow=7.9,SNR=2.8						
VNDA	**Vanda**	**46.67**	**183**	P	P	10 28 25.8	+0.3
	0.4nm,0.6s,baz=190,slow=6.0,SNR=8.7						
LPAZ	**La Paz**	**49.93**	**306**	P	P	10 28 51.4	-0.5
	0.4nm,0.4s,baz=149,slow=11,SNR=3.7						
TORD	**Torodi Ar. Bea**	**73.18**	**30**	P	P	10 31 26.8	+0.3
	0.9nm,0.4s,baz=200,slow=6.5,SNR=26						
FINES	**FINESS Array B**	**124.49**	**28**	PKP	PKPdf	10 38 51.4	-0.4
	2.3nm,1.0s,baz=222,slow=1.9,SNR=3.5						
ILAR	**Eielson Array**	**149.69**	**312**	PKPbc	PKPbc	10 39 42.0	-0.5
	0.6nm,0.7s,baz=113,slow=1.5,SNR=6.5						
SONM	**Songino Array**	**151.18**	**87**	PKPbc	PKPbc	10 39 46.3	-0.4
	0.8nm,0.5s,baz=237,slow=3.6,SNR=5.8						

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*IDC **21** 10:22:19.3±0.8,27°.31N×91°.51E,h0km,mb3.8/14, mb1 3.9/14,mb1mx3.8/29,mbtmp3.8/14,Error ellipse: s-maj=33.5km s-min=16.4km az=56.0*
*NEIC **21** 10:22:21.0±0.6,27°.31N×91°.49E,h10km,mb4.1/3,Error ellipse: s-maj=20.5km s-min=8.9km az=51.0*
*ISCJB **21** 10:22:23.8±0.5,27°.48N±0°.05×91°.40E±0°.04,h33km, mb3.8/12,Error ellipse: s-maj=6.7km s-min=4.9km az=177.9*
*DMN **21** 10:22:24.2±0.6,27°.38N×91°.54E,h10km,Ml4.7/6,Error ellipse: s-maj=30.4km s-min=10.9km az=2.0*

ISC 21 10:22:25.0±0.6,27°.40N±0°.08×91°.45E±0°.06,h35km,n47, σ1§10/51,mb3.8/12,Bhutan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**1.87**	**168**	*i* PN	**Pn**	**10 22 55.5**	**+0.9**
SHL				*i* SN	**Sn**	**10 23 19.0**	**+1.9**
TAPN	**Taplejung**	**3.32**	**270**	*e*Pn	**Pn**	**10 23 16.2**	**+1.5**
TAPN				*e*Sn	**Sn**	**10 23 53.2**	**0.0**
	778nm,0.5s						
ODAN	**Odare**	**3.65**	**262**	*e*Pn	**Pn**	**10 23 20.3**	**+1.1**
ODAN				*e*Sn	**Sn**	**10 24 01.3**	**0.0**
	643nm,0.3s						
RAMN	**Ramite**	**4.34**	**265**	*e*Pn	**Pn**	**10 23 29.4**	**+0.7**
JIRN	**Jiri**	**4.67**	**274**	*e*Pn	**Pn**	**10 23 35.1**	**+1.7**
JIRN				*e*Sn	**Sn**	**10 24 26.7**	**+0.1**
	234nm,0.3s						
GUN	**Gumba**	**4.96**	**277**	*e*Pn	**Pn**	**10 23 39.3**	**+2.0**
GUN				*e*Sn	**Sn**	**10 24 33.5**	**-0.2**
PKI	**Pulchoki**	**5.37**	**273**	*e*Pn	**Pn**	**10 23 43.5**	**+0.6**
PKIN	**Phulchoki**	**5.38**	**273**	*e*Pn	**Pn**	**10 23 43.6**	**+0.6**
PKIN				*e*Sn	**Sn**	**10 24 42.4**	**-1.4**
	151nm,0.3s						
KKN	**Kakani**	**5.49**	**275**	*e*Pn	**Pn**	**10 23 44.8**	**+0.4**
KKN				*e*Sn	**Sn**	**10 24 46.2**	**-0.2**
	148nm,0.4s						
DMN	**Daman**	**5.63**	**274**	*e*Pn	**Pn**	**10 23 47.7**	**+1.2**
DANN	**Dangsing**	**6.87**	**280**	*e*Pn	**Pn**	**10 24 03.7**	**+0.2**
KOLN	**Koldanda**	**6.97**	**275**	*e*Pn	**Pn**	**10 24 05.1**	**+0.3**
KOLN				*e*Sn	**Sn**	**10 25 21.0**	**-2.0**
	115nm,0.5s						
PYUN	**Piuthan**	**7.53**	**277**	*e*Pn	**Pn**	**10 24 12.1**	**-0.3**
CHTO	**Chiang Mai**	**10.98**	**140**	*e*Pn	**Pn**	**10 24 57.4**	**-2.3**
SMLA	**Simla**	**13.01**	**290**	*e*P	**Pn**	**10 25 24.6**	**-2.7**
SMLA				AMB	AMB	10 25 43.7	
	comp=Z,7.3nm,2.3s						
SMLA				*e*S	Sn	10 27 42.5	-8.2
TKM2	**Tokmak 2**	**20.14**	**324**	*e*Pn	Pn	10 26 58.4	+0.1
	comp=Z,11nm,0.6s						
KBL	**Kabul**	**20.46**	**296**	*e*Pn	**P**	**10 27 00.8**	**+1.0**
	comp=Z,4.8nm,0.6s						
AAK	**Ala-Archa**	**20.52**	**322**	*e*P	Pn	10 27 02.4	-0.4
AAK	**Ala-Archa**	**20.52**	**322**	P	Pn	10 27 01.9	-0.9
	comp=Z,2.0nm,0.5s,baz=95,slow=2.0,SNR=5.1						
MK31	**Makanchi Array**	**20.66**	**342**	*e*P	**P**	**10 27 02.4**	**+0.7**
MKAR	**Makanchi Array**	**20.66**	**342**	P	**P**	**10 27 02.5**	**+0.9**
MKAR	**Makanchi Array**	**20.66**	**342**	P	**P**	**10 27 02.5**	**+0.9**
	comp=Z,6.6nm,0.6s,baz=148,slow=13,SNR=61						
EKS2	**Erkin-Say**	**20.94**	**321**	*e*P	Pn	10 27 06.9	-0.6
	comp=Z,4.8nm,0.7s						
SONM	**Songino Array**	**23.51**	**26**	P	**P**	**10 27 31.9**	**+0.1**
SONM	**Songino Array**	**23.51**	**26**	P	**P**	**10 27 31.9**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=210,slow=8.7,SNR=5.4						
KURBB	**Kurchatov Arra**	**25.19**	**340**	P	**P**	**10 27 45.5**	**-1.5**
	comp=Z,1.4nm,0.4s,baz=155,slow=9.9,SNR=7.9						
KURK	**Kurchatov**	**25.25**	**341**	P	**P**	**10 27 45.5**	**-2.0**
ZALV	**Zalesovo Beam**	**26.97**	**351**	P	**P**	**10 28 03.5**	**+0.3**
ZALV	**Zalesovo Beam**	**26.97**	**351**	P	**P**	**10 28 03.4**	**+0.3**
	comp=Z,2.7nm,0.6s,baz=180,slow=8.5,SNR=9.2						
BVAR	**Borovoye Array**	**30.00**	**334**	P	**P**	**10 28 29.6**	**-0.6**
BVAR	**Borovoye Array**	**30.00**	**334**	P	**P**	**10 28 29.6**	**-0.6**
	comp=Z,0.7nm,0.5s,baz=138,slow=12,SNR=3.1						
AKASG	**Malin Array Be**	**51.92**	**314**	P	**P**	**10 31 29.7**	**-0.4**
AKASG	**Malin Array Be**	**51.92**	**314**	P	**P**	**10 31 29.7**	**-0.4**
	comp=Z,0.7nm,0.3s,baz=74,slow=7.8,SNR=4.4						
FINES	**FINESS Array B**	**54.58**	**328**	P	**P**	**10 31 50.3**	**+0.7**
FINES	**FINESS Array B**	**54.58**	**328**	P	**P**	**10 31 50.3**	**+0.7**
	comp=Z,1.1nm,0.6s,baz=105,slow=10,SNR=5.5						
ARCES	**ARCESS Array B**	**56.22**	**337**	P	**P**	**10 32 02.0**	**+0.8**
ARCES	**ARCESS Array B**	**56.22**	**337**	P	**P**	**10 32 02.0**	**+0.8**
	comp=Z,1.7nm,0.9s,baz=101,slow=7.4,SNR=3.2						
GERES	**GERESS Array B**	**62.07**	**313**	P	**P**	**10 32 42.8**	**+0.6**
GERES	**GERESS Array B**	**62.07**	**313**	P	**P**	**10 32 42.8**	**+0.6**
	comp=Z,1.3nm,0.7s,baz=79,slow=6.9,SNR=7.9						
WRA	**Warramunga Arr**	**62.77**	**134**	P	**P**	**10 32 47.0**	**-0.1**
WRA	**Warramunga Arr**	**62.77**	**134**	P	**P**	**10 32 47.0**	**-0.1**
	comp=Z,0.5nm,0.9s,baz=317,slow=8.2,SNR=3.7						
ASAR	**Alice Springs**	**65.25**	**137**	P	**P**	**10 33 01.4**	**-1.9**
ASAR	**Alice Springs**	**65.25**	**137**	P	**P**	**10 33 01.4**	**-1.9**
	comp=Z,0.2nm,0.6s,baz=312,slow=5.8,SNR=3.1						
ILAR	**Eielson Array**	**77.67**	**22**	P	**P**	**10 34 17.6**	**0.0**
ILAR	**Eielson Array**	**77.67**	**22**	P	**P**	**10 34 17.6**	**0.0**
	comp=Z,0.5nm,0.8s,baz=302,slow=4.3,SNR=4.8						
TORD	**Torodi Ar. Bea**	**83.84**	**282**	P	**P**	**10 34 51.8**	**+0.3**
TORD	**Torodi Ar. Bea**	**83.84**	**282**	P	**P**	**10 34 51.8**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=73,slow=4.0,SNR=3.0						

IDC 21 10:38:31.7±1.7,17°.61S×178°.51W,h549km±20km, mb3.6/18,mb1 3.7/20,mb1mx3.7/25,mbtmp4.5/20,Error ellipse: s-maj=15.3km s-min=10.7km az=133.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.45**	**61**	P	P	10 40 23.5	-0.6
	7.7nm,0.3s,baz=108,slow=3.5,SNR=12						
DZM	**Mont Dzumac**	**14.84**	**250**	P	P	10 41 39.7	+0.1
	1.8nm,0.3s,baz=90,slow=15,SNR=25						
URZ	**Urewera**	**20.93**	**190**	P	P	10 42 34.7	-1.3
	8.3nm,0.6s,baz=65,slow=2.1,SNR=8.5						
URZ				S	S	10 45 46.5	-7.0
	4.8nm,0.8s,baz=31,slow=18,SNR=3.0						
RPZ	**Rata Peaks**	**27.48**	**197**	P	P	10 43 33.9	-0.2
	4.9nm,0.6s,baz=43,slow=7.5,SNR=3.9						
PMG	**Port Moresby**	**34.32**	**279**	P	P	10 44 33.4	+0.2
	46nm,0.8s,baz=89,slow=6.7,SNR=7.7						
STKA	**Stephens Creek**	**38.69**	**241**	P	P	10 45 09.7	+0.8
	18nm,0.5s,baz=92,slow=9.9,SNR=44						
WRA	**Warramunga Arr**	**44.59**	**259**	P	P	10 45 54.9	-0.8
	14nm,0.5s,baz=93,slow=6.7,SNR=306						
ASAR	**Alice Springs**	**44.78**	**254**	P	P	10 45 57.1	+0.1
	96nm,0.5s,baz=89,slow=7.8,SNR=2602						
ASAR				PcP	PcP	10 47 26.9	-0.4
	2.3nm,0.6s,baz=109,slow=3.3,SNR=4.2						
ASAR				S	S	10 51 49.8	-4.9
	1.2nm,1.0s,baz=86,slow=16,SNR=5.9						
FITZ	**Fitzroy Crossi**	**52.99**	**260**	P	P	10 46 57.6	-0.2
	4.1nm,0.3s,baz=133,slow=4.5,SNR=51						
NWAO	**Narrogin (SRO)**	**59.27**	**242**	P	P	10 47 40.5	-0.4
	20nm,1.1s,baz=180,slow=13,SNR=5.1						
VNDA	**Vanda**	**60.73**	**185**	P	P	10 47 51.0	+1.2
	0.7nm,0.7s,baz=354,slow=5.8,SNR=6.4						
ASAJ	**Asahikawa**	**70.98**	**331**	P	P	10 48 54.8	+0.8
	6.4nm,1.0s,baz=233,slow=16,SNR=4.5						
PETK	**Petropavlovsk-**	**73.37**	**345**	P	P	10 49 07.7	0.0
	5.3nm,0.9s,baz=139,slow=11,SNR=3.2						
KSRS	**Korea Array**	**74.42**	**318**	P	P	10 49 14.3	+0.3
	0.9nm,0.7s,baz=126,slow=6.6,SNR=4.7						
KDAK	**Kodiak Island**	**78.14**	**14**	P	P	10 49 33.7	-0.3
	10nm,1.0s,baz=127,slow=5.1,SNR=2.9						
NVAR	**Mina Array Bea**	**79.28**	**44**	P	P	10 49 41.4	+0.6
	1.1nm,0.8s,baz=222,slow=8.7,SNR=6.4						
PSI	**Prapat**	**83.77**	**275**	P	P	10 50 03.2	-1.0
	7.3nm,0.7s,baz=145,slow=3.0,SNR=5.8						
MAW	**Mawson**	**84.10**	**200**	P	P	10 50 04.2	-0.4
	3.4nm,0.9s,baz=147,slow=5.5,SNR=11						
ILAR	**Eielson Array**	**85.62**	**13**	P	P	10 50 10.6	-1.4
	0.4nm,0.7s,baz=226,slow=5.3,SNR=4.9						
TXAR	**Lajitas Array**	**85.92**	**58**	P	P	10 50 15.6	+1.3
	1.8nm,0.8s,baz=215,slow=6.5,SNR=8.6						
PDAR	**Pinedale Array**	**87.20**	**43**	P	P	10 50 20.2	0.0
	0.4nm,0.6s,baz=207,slow=3.5,SNR=3.4						
MKAR	**Makanchi Array**	**108.86**	**314**	PKiKP	PKiKP	10 55 57.0	-1.9
	0.2nm,0.5s,baz=233,slow=1.4,SNR=2.9						
BRTR	**Keskin Array B**	**144.51**	**315**	PKP	PKPdf	10 57 05.8	-0.4
	3.6nm,0.9s,baz=124,slow=3.4,SNR=14						
GERES	**GERESS Array B**	**147.31**	**345**	PKPbc	PKPbc	10 57 12.4	-1.5
	1.3nm,0.4s,baz=11,slow=2.7,SNR=10						

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*MOS **21** 10:41:21.6±1.3,60°.98N×147°.15W,h10km,mb4.9/21, Error ellipse: s-maj=11.5km s-min=5.3km az=97.0*
*IDC **21** 10:41:21.3±0.5,61°.01N×147°.16W,h0km,mb4.3/22, mb1 4.5/25,mb1mx4.4/30,mbtmp4.3/25,ML4.2/3,MS3.6/2, Ms1 3.6/2,ms1mx3.4/36,Error ellipse: s-maj=13.0km s-min=9.0km az=48.0*
*BJI **21** 10:41:22.2,60°.27N×147°.55W,h16km,mB5.2/11, mb4.8/14,Ms4.8/6,Ms7 4.5/6*
*ISCJB **21** 10:41:24.8±0.3,60°.96N±0°.02×147°.19W±0°.03,h29km±2km, mb4.5/83,MS4.5/5,Error ellipse: s-maj=2.8km s-min=1.9km az=21.0*
*NEIC **21** 10:41:26.4,60°.89N×147°.12W,h21km,mb4.6/52, ML4.4(AEIC),MW4.3(USGS),After AEIC.*
NEIC Felt [II] at Anchorage, Eagle River and Valdez. Also felt at Cordova, Girdwood, Glennallen and Palmer.

ISC 21 10:41:25.2±0.5,60°.91N±0°.02×147°.16W±0°.03,h23km±3km, n646,σ1§12/663,mb4.6/83,MS4.5/5,165C-170D, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLI	**Glacier Island**	**0.04**	**132**	P	**Pb**	**10 41 30.1**	**+0.8**
GLI				S	**Sb**	**10 41 33.7**	**+1.7**
FID	**Port Fidalgo**	**0.37**	**115**	P	**Pb**	**10 41 32.8**	**-0.3**
VLZ	**Valdez**	**0.46**	**60**	P	**Pb**	**10 41 34.2**	**-0.4**
VLZ				S	**Sb**	**10 41 40.9**	**-0.1**
DIV	**Divide**	**0.71**	**71**	P	**Pb**	**10 41 37.7**	**-1.2**
DIV				S	**Sb**	**10 41 47.0**	**-1.3**
EYAK	**Cordova Ski Ar**	**0.78**	**117**	P	**Pb**	**10 41 39.7**	**-0.3**
EYAK				S	**Sb**	**10 41 50.6**	**+0.5**
KLU	**Klutina**	**0.84**	**45**	P	**Pb**	**10 41 39.9**	**-1.2**
KLU				S	**Sb**	**10 41 50.8**	**-1.2**
PTE	**Portage**	**0.91**	**268**	P	**Pn**	**10 41 42.1**	**-0.4**
SCM	**Sheep Creek Mo**	**0.93**	**355**	P	**Pn**	**10 41 41.9**	**-1.0**
SCM				S	**Sb**	**10 41 54.7**	**0.0**
SCM	**Sheep Creek Mo**	**0.93**	**355**	P	**Pn**	**10 41 41.9**	**-1.0**
SCM				S	**Sb**	**10 41 54.7**	**0.0**
SGAM	**Sherman Glacie**	**1.04**	**112**	P	**Pn**	**10 41 44.0**	**-0.4**
PMR	**Palmer**	**1.18**	**307**	P	**Pn**	**10 41 45.9**	**-0.2**
PMR	**Palmer**	**1.18**	**307**	P	**Pn**	**10 41 45.9**	**-0.2**
GOAT	**Goat Mountain**	**1.24**	**104**	P	**Pn**	**10 41 47.0**	**-0.1**
BMRM	**Bremner River**	**1.25**	**86**	P	**Pn**	**10 41 46.4**	**-0.8**
RAGM	**Ragged Mountai**	**1.33**	**112**	P	**Pn**	**10 41 48.5**	**+0.2**
SEW	**Seward**	**1.39**	**236**	P	**Pn**	**10 41 49.0**	**-0.1**
MID	**Middleton Isla**	**1.54**	**164**	*e*P	**Pn**	**10 41 51.5**	**+0.4**
MID				*e*		10 42 12.3	
MID	**Middleton Isla**	**1.54**	**164**	*e*Pn	**Pn**	**10 41 51.5**	**+0.4**
MID				*e*Sn	**Sb**	**10 42 12.2**	**+0.3**
SLKM	**Skilak Lake**	**1.56**	**256**	P	**Pn**	**10 41 52.0**	**+0.5**
SLKM	**Skilak Lake**	**1.56**	**256**	P	**Pn**	**10 41 52.0**	**+0.5**
GLB	**Gilahina Butte**	**1.71**	**70**	P	**Pn**	**10 41 53.4**	**-0.2**
NICHA	**Nichawak Mount**	**1.71**	**112**	P	**Pn**	**10 41 53.0**	**-0.6**
WASW	**Wrangell South**	**1.76**	**53**	P	**Pn**	**10 41 54.7**	**+0.2**
HARP	**HAARP**	**1.78**	**32**	P	**Pn**	**10 41 55.2**	**+0.7**
SUA	**Susitna One**	**1.82**	**289**	P	**Pn**	**10 41 55.8**	**+0.6**
VRDI	**Verde Repeater**	**1.83**	**78**	P	**Pn**	**10 41 55.2**	**-0.1**
WANC	**Wrangell North**	**1.85**	**52**	P	**Pn**	**10 41 56.3**	**+0.5**
KHIT	**Khitrov Hills**	**1.98**	**102**	P	**Pn**	**10 41 56.7**	**-0.6**
GRIN	**Grindle Hills**	**2.00**	**107**	P	**Pn**	**10 41 57.5**	**0.0**
NKA	**Nikiska**	**2.01**	**267**	P	**Pn**	**10 41 59.0**	**+1.4**
MCARA	**McCarthy VSAT**	**2.06**	**75**	P	**Pn**	**10 41 58.4**	**0.0**
DHY	**Denali Highway**	**2.18**	**357**	P	**Pn**	**10 42 00.9**	**+0.8**
BRLK	**Bradley Lake**	**2.18**	**240**	P	**Pn**	**10 42 00.3**	**+0.3**
PAX	**Paxson**	**2.22**	**20**	P	**Pn**	**10 42 01.4**	**+0.8**
PAX	**Paxson**	**2.22**	**20**	P	**Pn**	**10 42 01.4**	**+0.8**
PTPK	**Patty Peak**	**2.30**	**81**	P	**Pn**	**10 42 02.0**	**+0.2**
STLK	**Strandline Lak**	**2.34**	**287**	P	**Pn**	**10 42 03.0**	**+0.8**
KIAG	**Kiagna River**	**2.34**	**88**	P	**Pn**	**10 42 02.1**	**-0.3**
BALM	**Baldy**	**2.35**	**85**	P	**Pn**	**10 42 02.3**	**-0.1**
BALM	**Baldy**	**2.35**	**85**	P	**Pn**	**10 42 02.3**	**-0.1**
BARK	**Barkley Ridge**	**2.35**	**100**	P	**Pn**	**10 42 02.5**	**0.0**
SKT	**Skwentna**	**2.36**	**299**	P	**Pn**	**10 42 02.9**	**+0.5**
ISLE	**Juniper Island**	**2.38**	**95**	P	**Pn**	**10 42 03.4**	**+0.5**
SPU	**Mount Spurr**	**2.40**	**279**	P	**Pn**	**10 42 03.1**	**+0.1**
CNPM	**China Poot**	**2.46**	**238**	P	**Pn**	**10 42 04.0**	**+0.1**
BAGL	**Bagley Icefiel**	**2.53**	**97**	P	**Pn**	**10 42 04.5**	**-0.2**
CKL	**Chakachamna La**	**2.54**	**279**	P	**Pn**	**10 42 05.1**	**+0.1**
SPBG	**Spurr Blockage**	**2.56**	**280**	P	**Pn**	**10 42 05.4**	**+0.1**
HOM	**Homer**	**2.56**	**243**	P	**Pn**	**10 42 05.9**	**+0.7**
BGL	**Barrier Glacie**	**2.57**	**280**	P	**Pn**	**10 42 05.5**	**+0.1**
RDT	**Redoubt**	**2.60**	**265**	P	**Pn**	**10 42 05.7**	**-0.1**
MENT	**Mentasta**	**2.61**	**37**	*e*Pn	**Pn**	**10 42 07.0**	**+1.2**
MENT				*e*Sn	**Sn**	**10 42 39.5**	**+2.7**
RND	**Reindeer**	**2.63**	**343**	P	**Pn**	**10 42 07.5**	**+1.3**
RND	**Reindeer**	**2.63**	**343**	P	**Pn**	**10 42 07.5**	**+1.3**
GRNC	**Granite Creek**	**2.65**	**91**	P	**Pn**	**10 42 06.2**	**-0.4**
BARN	**Barnard Glacie**	**2.68**	**84**	P	**Pn**	**10 42 07.0**	**-0.1**
DFR	**Drift River**	**2.73**	**266**	P	**Pn**	**10 42 07.4**	**-0.2**
RSO	**Redoubt South**	**2.79**	**263**	*e*Pn	**Pn**	**10 42 08.3**	**-0.2**
NCT	**North Crescent**	**2.86**	**266**	P	**Pn**	**10 42 09.2**	**-0.1**
MCK	**McKinley**	**2.95**	**344**	P	**Pn**	**10 42 12.1**	**+1.5**
MCK	**McKinley**	**2.95**	**344**	P	**Pn**	**10 42 12.1**	**+1.5**
ILIM	**Iliamna**	**2.99**	**256**	P	**Pn**	**10 42 11.0**	**-0.2**
TABL	**Table Mountain**	**3.00**	**96**	P	**Pn**	**10 42 10.3**	**-1.0**
IVE	**Iliamna Volcan**	**3.04**	**255**	P	**Pn**	**10 42 11.7**	**-0.1**
ILS	**Iliamna Low So**	**3.08**	**255**	P	**Pn**	**10 42 12.5**	**0.0**
PPLA	**Purkeypile**	**3.11**	**312**	P	**Pn**	**10 42 13.3**	**+0.5**
KTH	**Kantishna Hill**	**3.19**	**328**	P	**Pn**	**10 42 15.1**	**+1.3**
OPT	**Oil Point**	**3.28**	**250**	P	**Pn**	**10 42 15.2**	**+0.1**
BCA3	**Beaver Creek A**	**3.33**	**47**	P	**Pn**	**10 42 16.7**	**+0.8**
SCRK	**Sand Creek**	**3.42**	**24**	P	**Pn**	**10 42 17.4**	**+0.3**
CAST	**Castle Rocks**	**3.42**	**320**	P	**Pn**	**10 42 18.1**	**+1.1**
BWN	**Browne**	**3.45**	**343**	P	**Pn**	**10 42 18.4**	**+1.0**
AUE	**Augustine Isla**	**3.48**	**246**	P	**Pn**	**10 42 18.4**	**+0.6**
AUL	**Augustine Lava**	**3.49**	**247**	P	**Pn**	**10 42 18.7**	**+0.7**
AUI	**Augustine Isla**	**3.51**	**246**	P	**Pn**	**10 42 19.0**	**+0.8**
HDA	**Harding Lake**	**3.51**	**1**	P	**Pn**	**10 42 18.7**	**+0.4**
WRH	**Wood River Hil**	**3.60**	**354**	P	**Pn**	**10 42 20.4**	**+0.9**
BPAW	**Bear Paw Mtn.**	**3.66**	**333**	P	**Pn**	**10 42 20.9**	**+0.6**
CCB	**Clear Creek Bu**	**3.77**	**356**	P	**Pn**	**10 42 22.3**	**+0.6**
NEA	**Nenana**	**3.79**	**347**	P	**Pn**	**10 42 22.7**	**+0.4**
CHUM	**Lake Minchumin**	**3.83**	**323**	P	**Pn**	**10 42 23.5**	**+0.9**
IL1	**Eielson Array**	**3.88**	**2**	P	**Pn**	**10 42 23.1**	**-0.3**
ILAR	**Eielson Array**	**3.88**	**2**	Pg	Pn	10 42 27.2	+3.9
ILAR				Sn	**Sn**	**10 43 09.3**	**+1.2**
ILAR				Lg	Lg	10 43 18.7	
ILAR	**Eielson Array**	**3.88**	**2**	Pn	**Pn**	**10 42 23.4**	**0.0**
	8.6nm,0.3s,baz=178,slow=12,SNR=184						
ILAR				Pg	Pn	10 42 27.2	+3.9
	56nm,0.3s,baz=183,slow=14,SNR=234						
ILAR				Sn	**Sn**	**10 43 09.3**	**+1.2**
	29nm,0.3s,baz=182,slow=21,SNR=6.3						
ILAR				Lg	Lg	10 43 18.7	
	54nm,0.3s,baz=200,slow=18,SNR=6.2						
COLA	**College**	**3.99**	**356**	P	**Pn**	**10 42 25.5**	**+0.6**
COLA	**College**	**3.99**	**356**	P	**Pn**	**10 42 25.5**	**+0.6**
SVW2	**Sparrevohn**	**4.11**	**276**	P	**Pn**	**10 42 25.4**	**-1.0**
KDAK	**Kodiak Island**	**4.19**	**224**	P	**Pn**	**10 42 27.4**	**-0.1**
KDAK	**Kodiak Island**	**4.19**	**224**	Pn	**Pn**	**10 42 27.4**	**-0.1**
	49nm,0.3s,baz=37,slow=12,SNR=303						
KDAK				Sn	**Sn**	**10 43 11.7**	**-4.0**
	43nm,0.3s,baz=312,slow=22,SNR=24						
KDAK				LR	LR	10 44 14.3	
	comp=Z,219nm,21.3s,baz=157,slow=41						
KAPH	**Katmai Pasha**	**4.31**	**241**	P	**Pn**	**10 42 29.7**	**+0.3**
MLY	**Manley**	**4.45**	**340**	P	**Pn**	**10 42 32.1**	**+0.9**
TT01	**Tatalina**	**4.64**	**299**	P	**Pn**	**10 42 33.1**	**-0.7**
HYT	**Haines Junctio**	**4.72**	**87**	P	**Pn**	**10 42 35.7**	**+0.7**
EGAK	**Eagle**	**4.76**	**33**	P	**Pn**	**10 42 36.4**	**+1.0**
KAKN	**Katmai Knife C**	**4.79**	**240**	P	**Pn**	**10 42 36.0**	**0.0**
DAWY	**Dawson**	**4.80**	**45**	P	**Pn**	**10 42 36.8**	**+0.8**
KABR	**Katmai Barrier**	**4.86**	**238**	P	**Pn**	**10 42 36.6**	**-0.2**
OHAK	**Old Harbor**	**4.86**	**223**	P	**Pn**	**10 42 36.0**	**-0.8**
KELA	**Mount Kelaz**	**5.00**	**244**	P	**Pn**	**10 42 38.8**	**0.0**
CAHL	**Cahill**	**5.04**	**239**	P	**Pn**	**10 42 39.5**	**+0.2**
KJL	**Kejulik**	**5.16**	**240**	P	**Pn**	**10 42 41.7**	**+0.8**
GCSA	**Galena City Sc**	**5.89**	**315**	P	**Pn**	**10 42 51.0**	**+0.2**
IM04	**Indian Mountai**	**5.89**	**333**	*e*Pn	**Pn**	**10 42 51.1**	**+0.3**
IM3	**Indian Mountai**	**5.89**	**333**	P	**Pn**	**10 42 51.1**	**+0.3**
IMA2	**Indian Mountai**	**5.95**	**333**	P	**Pn**	**10 42 52.4**	**+0.6**
WHY	**Whitehorse**	**6.02**	**87**	P	**Pn**	**10 42 51.6**	**-1.1**
SKAG	**Skagway**	**6.08**	**99**	*e*Pn	**Pn**	**10 42 54.6**	**+1.1**
SKAG				*e*Sn	**Sn**	**10 44 00.9**	**-1.2**
COLD	**Coldfoot**	**6.48**	**349**	P	**Pn**	**10 42 59.8**	**+0.7**
BM3	**Burnt Mountain**	**6.63**	**9**	P	**Pn**	**10 43 01.1**	**-0.1**
BESE	**Bessie Mountai**	**6.64**	**105**	P	**Pn**	**10 43 01.3**	**0.0**
SIT	**Sitka**	**7.23**	**117**	P	**Pn**	**10 43 08.3**	**-0.9**
SIT	**Sitka**	**7.23**	**117**	P	**Pn**	**10 43 08.2**	**-0.9**
CHGN	**Chignik**	**7.47**	**237**	*e*Pn	**Pn**	**10 43 13.0**	**+0.4**
WRAK	**Wrangell Islan**	**8.93**	**114**	*e*Pn	**Pn**	**10 43 32.3**	**-0.2**
	18nm,0.4s						
WRAK				*e*Sn	**Sn**	**10 45 11.4**	**-0.7**
DLBC	**Dease Lake**	**9.01**	**98**	Pn	**Pn**	**10 43 33.1**	**-0.6**
DLBC				Lg	Lg	10 46 02.9	
DLBC	**Dease Lake**	**9.01**	**98**	Pn	**Pn**	**10 43 33.1**	**-0.6**
	2.1nm,0.3s,baz=277,slow=13,SNR=30						
DLBC				Lg	Lg	10 46 02.9	
	0.6nm,0.3s,baz=212,slow=23,SNR=2.5						
INK	**Inuvik**	**9.43**	**32**	*e*Pn	**Pn**	**10 43 40.6**	**+1.2**
INK				Lg	Lg	10 46 15.8	
INK	**Inuvik**	**9.43**	**32**	Pn	**Pn**	**10 43 38.4**	**-1.0**
	0.5nm,0.3s,baz=230,slow=15,SNR=11						
INK				Lg	Lg	10 46 15.8	
	0.3nm,0.3s,baz=270,slow=19,SNR=2.5						
YKW3	**Yellowknife Ar**	**15.41**	**70**	*e*Pn	**Pn**	**10 45 01.7**	**+0.9**
	0.7nm,0.8s						
**YK

D21A	La Casta Ranch baz=27,SNR=5.8	26.87	103	⇑P	P	10 47 04.4 +0.5
A24A	Westby baz=27,SNR=5.1	27.01	97	⇓P	P	10 47 05.3 +0.2
D22A	Cohagen baz=27	27.20	102	⇑P	P	10 47 07.8 +1.0
E21A	Keefer Ranch, baz=27	27.21	104	⇓P	P	10 47 07.4 +0.5
C23A	Lambert baz=27	27.21	100	⇑P	P	10 47 07.3 +0.4
F20A	Billings baz=27	27.24	106	⇑P	P	10 47 08.0 +0.8
H18A	Shoshone NF, C baz=27,SNR=7.1	27.38	109	⇓P	P	10 47 09.5 +0.8
IMW	Indian Meadow comp=Z,12nm,0.8s	27.40	112	eP	P	10 47 10.6 +1.6
A25A	Svangstu Ranch baz=27	27.43	96	⇑P	P	10 47 09.2 +0.4
SEY	Seymchan	27.62	301	⇓P	P	10 47 08.7 -1.7
G20A	Bridger baz=28,SNR=7.2	27.64	107	⇑P	P	10 47 11.0 +0.1
D23A	Lindsay baz=28	27.64	101	⇑P	P	10 47 11.2 +0.4
RRI2	Red Ridge	27.66	113	eP	P	10 47 12.8 +1.6
H19A	Powell baz=28	27.70	108	⇑P	P	10 47 12.7 +1.2
TPAW	Teton Pass comp=Z,8.3nm,0.8s	27.71	112	eP	P	10 47 13.3 +1.7
C24A	Savage baz=28	27.77	99	⇑P	P	10 47 12.7 +0.7
LOHW	Long Hollow comp=Z,18nm,1.6s	27.77	112	eP	P	10 47 13.9 +1.7
E22A	Miles City baz=28,SNR=6.1	27.82	102	⇑P	P	10 47 12.6 +0.3
SNOW	Snow King Moun comp=Z,40nm,1.8s	27.82	112	eP	P	10 47 14.3 +1.6
REDW	Red Top Meadow	27.86	112	eP	P	10 47 14.3 +1.3
ELK	Elko	28.07	121	eP	P	10 47 15.9 +1.1
D24A	Glendive baz=28	28.11	100	⇑P	P	10 47 15.3 +0.4
G21A	Lodge Grass baz=28	28.11	106	⇑P	P	10 47 15.3 +0.3
F22A	Rosebud baz=28	28.15	104	⇑P	P	10 47 15.5 +0.2
HVU	Hansel Valley	28.27	117	eP	P	10 47 18.8 +2.3
HVU	Hansel Valley	28.27	117	eP	P	10 47 18.8 +2.3
H20A	Greybull baz=28,SNR=6.7	28.30	108	⇓P	P	10 47 17.1 +0.4
WAKR	Walker comp=Z,29nm,2.0s	28.31	130	eP	P	10 47 18.4 +1.3
A27A	Ledoux Ranch, baz=28	28.34	94	⇓P	P	10 47 17.6 +0.7
E24A	Baker baz=28	28.51	101	⇑P	P	10 47 19.4 +0.9
G22A	Birney baz=28	28.55	105	⇑P	P	10 47 20.1 +1.1
F23A	Volborg baz=28	28.60	103	⇓P	P	10 47 20.1 +0.8
I20A	Worland baz=28	28.65	108	⇑P	P	10 47 21.1 +1.3
J19A	Crowheart baz=29	28.75	110	⇓P	P	10 47 22.4 +1.6
NVAR	Mina Array Bea	28.81	128	P	P	10 47 22.7 +1.2
NVAR				PcP	PcP	10 50 30.2 -0.4
NVAR	Mina Array Bea comp=Z,5.4nm,1.0s,baz=308,slow=9.3,SNR=17	28.81	128	P	P	10 47 22.7 +1.2
NVAR				PcP	PcP	10 50 30.2 -0.4
	comp=Z,1.0nm,0.6s,baz=277,slow=1.7,SNR=5.4					
A28A	Rude Farm, Bot baz=29	28.84	93	⇑P	P	10 47 22.1 +0.7
PDAR	Pinedale Array	28.91	112	P	P	10 47 22.4 0.0
PDAR				PcP	PcP	10 50 28.7 -2.2
PDAR	Pinedale Array comp=Z,1.6nm,0.6s,baz=320,slow=6.0,SNR=14	28.91	112	P	P	10 47 22.4 0.0
PDAR				PcP	PcP	10 50 28.7 -2.2
	comp=Z,0.5nm,0.6s,baz=224,slow=2.5,SNR=3.6					
F24A	Ekalaka baz=29,SNR=5.7	28.97	102	⇓P	P	10 47 23.4 +0.7
E25A	Miller Ranch, baz=29	28.99	100	⇑P	P	10 47 23.2 +0.3
B28A	Dugan Ranch, T baz=29	29.11	94	⇓P	P	10 47 24.3 +0.6
J20A	Shoshoni baz=29	29.13	109	⇑P	P	10 47 26.5 +2.4
I21A	Big Trails, Te baz=29,SNR=5.6	29.14	108	⇓P	P	10 47 24.4 +0.1
K19A	Absolon Red Bu baz=29,SNR=6.2	29.19	111	⇑P	P	10 47 24.8 +0.1
A29A	Manning Farm, baz=29	29.34	92	⇑P	P	10 47 26.0 +0.2
J21A	Lysite baz=29,SNR=8.8	29.43	108	⇓P	P	10 47 27.7 +0.8
I22A	9 Mile Ranch, baz=29,SNR=13	29.46	107	⇑P	P	10 47 28.2 +1.1
D27A	Center baz=29	29.47	97	⇑P	P	10 47 28.0 +1.0
DUG	Dugway baz=29	29.55	119	⇑P	P	10 47 29.2 +1.3
K20A	Yellowstone Ra baz=29	29.55	110	⇓P	P	10 47 28.7 +0.7
B29A	Wagenman Farm, baz=29	29.59	93	⇓P	P	10 47 28.7 +0.7
C28A	Hausauer Farms baz=30	29.60	95	⇑P	P	10 47 29.5 +1.3
H24A	Dirks Ranch, A baz=30	29.72	103	⇓P	P	10 47 30.5 +1.1
A30A	Hoffart Farm, baz=30	29.78	91	⇑P	P	10 47 29.9 +0.2
F26A	Lodgepole baz=30	29.81	100	⇓P	P	10 47 31.3 +1.2
J22A	Midwest baz=30,SNR=9.1	29.83	107	⇑P	P	10 47 31.3 +1.0
MDND	Maddock baz=30	29.89	94	⇓P	P	10 47 31.1 +0.4
G25A	Newell baz=30	29.93	102	⇓P	P	10 47 32.1 +0.9
R11A	Troy Canyon, C baz=30,SNR=11	29.95	124	⇓P	P	10 47 32.5 +1.0
G27A	Dupree baz=30	30.03	101	⇑P	P	10 47 36.7 +4.7
L20A	Wamsutter baz=30	30.06	111	⇓P	P	10 47 33.0 +0.5
K21A	Alcova baz=30,SNR=6.2	30.07	109	⇑P	P	10 47 32.6 +0.1
B30A	Myrvik Farm, E baz=30	30.10	92	⇑P	P	10 47 33.0 +0.4
F27A	Lemmon baz=30	30.11	99	⇑P	P	10 47 33.7 +1.0
H25A	Fruitdale baz=30	30.27	103	⇓P	P	10 47 35.0 +0.9
I24A	Kuemmerle Ranc baz=30	30.36	105	⇓P	P	10 47 35.9 +0.9
K22A	Casper baz=30,SNR=5.1	30.39	108	⇓P	P	10 47 35.8 +0.5
GRAC	Grapevine Rang baz=30	30.42	128	⇑P	P	10 47 38.0 +2.5
RSSD	Black Hills	30.44	104	eP	P	10 47 36.7 +0.8
RSSD	Black Hills	30.44	104	eP	P	10 47 36.6 +0.8
L21A	Rawlins baz=30	30.54	110	⇑P	P	10 47 37.7 +0.9
M20A	Sweetwater, Wa baz=30	30.54	112	⇓P	P	10 47 37.7 +0.9
I25A	Rochford baz=30	30.66	103	⇓P	P	10 47 38.3 +0.6
H26A	Fairpoint baz=30,SNR=8.0	30.67	102	⇓P	P	10 47 38.2 +0.5
J24A	Dixon Ranch, L baz=31	30.74	105	⇑P	P	10 47 39.1 +0.7
D30A	Buchanan baz=31	30.82	94	⇓P	P	10 47 39.4 +0.6
L22A	Ellis Ranch, M baz=31,SNR=6.7	30.92	109	⇑P	P	10 47 42.5 +2.4
SMMC	Simmler baz=31	30.95	133	⇑P	P	10 47 42.1 +1.9
H27A	Howes baz=31	30.99	101	⇑P	P	10 47 42.0 +1.5
N20A	Spence Gulch, baz=31,SNR=11	31.03	112	⇓P	P	10 47 42.3 +1.2
FURC	Furnace Creek, baz=31	31.08	128	⇑P	P	10 47 43.0 +1.8
O19A	Miners Draw (B baz=31	31.08	114	⇓P	P	10 47 43.0 +1.5
J25A	Sunshine Ranch baz=31,SNR=6.7	31.10	104	⇑P	P	10 47 42.0 +0.5
E30A	Jud baz=31	31.17	95	⇑P	P	10 47 42.9 +0.9
ISA	Isabella baz=31,SNR=6.2	31.18	131	⇓P	P	10 47 43.4 +1.1
L23A	Garrett baz=31,SNR=9.4	31.19	108	⇓P	P	10 47 42.5 0.0
MPMC	Manual Prospec baz=31,SNR=8.5	31.20	129	⇓P	P	10 47 44.1 +1.6
Q16A	Castle Valley	31.31	118	eP	P	10 47 45.1 +1.5
Q16A	Castle Valley baz=31	31.31	118	⇑P	P	10 47 45.0 +1.5
M22A	Cedar Creek Ra baz=31,SNR=5.2	31.34	110	⇑P	P	10 47 44.4 +0.6
PKM	Peak Mountain baz=31	31.38	134	⇓P	P	10 47 46.1 +2.0
AGMN	Agassiz Nation	31.41	90	eP	P	10 47 44.0 -0.1
I27A	Quinn baz=31	31.42	102	⇓P	P	10 47 45.5 +1.2
SRU	San Rafael	31.43	117	eP	P	10 47 46.4 +1.8
SRU	San Rafael	31.43	117	eP	P	10 47 46.4 +1.8
J26A	Sides Ranch, S baz=31,SNR=7.5	31.50	104	⇑P	P	10 47 46.2 +1.1
CCUT	Cedar City	31.54	122	eP	P	10 47 43.2 -2.4
O20A	White River Ci baz=32	31.61	113	⇓P	P	10 47 47.1 +1.0
K25A	Mack Ranch, Ha baz=32	31.66	105	⇑P	P	10 47 47.2 +0.7
P19A	Cripple Cowboy baz=32,SNR=6.3	31.68	115	⇓P	P	10 47 47.9 +1.1
SHPR	Sheep Range comp=Z,1.1nm,0.6s	31.71	126	eP	P	10 47 48.0 +0.9
SHOC	Shoshone baz=32	31.80	128	⇓P	P	10 47 49.3 +1.6
N22A	Wattenberg Ran baz=32	31.88	110	⇓P	P	10 47 49.0 +0.3
K26A	Motz Farm, Whi baz=32	31.92	105	⇑P	P	10 47 49.3 +0.6
N23A	Red Feather La baz=32	32.04	110	⇑P	P	10 47 50.7 +0.7
P20A	De Beque baz=32	32.05	114	⇑P	P	10 47 51.3 +1.3
EDW2	Edwards Air Fo baz=32	32.06	131	⇓P	P	10 47 51.7 +1.7
J27A	Elkhorn Farm, baz=32	32.06	103	⇓P	P	10 47 51.1 +1.2
M24A	Cheyenne baz=32,SNR=5.9	32.11	108	⇓P	P	10 47 51.8 +1.3
GSC	Goldstone	32.13	129	eP	P	10 47 52.3 +1.7
GSC				pmax	pmax	
	comp=Z,19nm,1.3s					
GSC	Goldstone comp=Z,19nm,1.3s	32.13	129	eP	P	10 47 52.3 +1.7
GSC	Goldstone baz=32,SNR=8.1	32.13	129	⇓P	P	10 47 52.1 +1.5
I29A	Vivian Onida baz=32	32.30	100	⇓P	P	10 47 52.8 +0.8
J28A	Allard Ranch, baz=32	32.30	102	⇓P	P	10 47 52.7 +0.7
TUQ	Turquoise Moun baz=32,SNR=5.7	32.35	128	⇑P	P	10 47 54.0 +1.4
K27A	Flueckinger Fa baz=32,SNR=5.4	32.37	104	⇑P	P	10 47 53.3 +0.7
P21A	Newcastle baz=32,SNR=7.1	32.46	113	⇑P	P	10 47 54.4 +0.8
M25A	Palm-Egli Farm baz=32	32.49	107	⇓P	P	10 47 54.7 +0.9
Q20A	Ridgley Place, baz=32	32.54	115	⇑P	P	10 47 55.2 +0.9
O23A	Lake Granby, G baz=32,SNR=8.3	32.60	110	⇑P	P	10 47 56.4 +1.4
P22A	Eagle baz=33	32.71	112	⇑P	P	10 47 57.1 +1.3
BFSC	Mount Baldy Ra baz=33	32.75	131	⇑P	P	10 47 58.0 +1.9
K28A	Ten Mile Ranch baz=33	32.77	103	⇑P	P	10 47 57.3 +1.0
U15A	North Rim baz=33,SNR=5.8	32.94	122	⇓P	P	10 47 59.4 +1.4
Q21A	Lamborn Mesa, baz=33	32.96	114	⇓P	P	10 47 59.3 +1.2
BBRC	Big Bear Solar baz=33	33.01	130	⇑P	P	10 47 60.0 +1.5
GMRC	Granite Mounta baz=33,SNR=5.9	33.03	128	⇓P	P	10 47 60.0 +1.4
ISCO	Idaho Springs baz=33	33.07	111	⇓P	P	10 48 00.2 +1.2
R20A	Redvale baz=33,SNR=14	33.14	115	⇓P	P	10 48 00.4 +0.9
Q22A	Crested Butte, baz=33	33.24	113	⇓P	P	10 48 02.1 +1.6
K29A	Lazy Trails An baz=33	33.24	101	⇓P	P	10 48 01.0 +0.8
P23A	Jefferson baz=33	33.31	111	⇓P	P	10 48 02.1 +0.9
R21A	Cimarron baz=33,SNR=9.9	33.36	114	⇓P	P	10 48 02.3 +0.8
S20A	Disappointment baz=33,SNR=6.6	33.44	116	⇑P	P	10 48 02.9 +0.6
W13A	Hualapai Mount baz=33,SNR=5.9	33.44	125	⇑P	P	10 48 03.7 +1.4
O25A	Wiggins baz=33	33.50	109	⇓P	P	10 48 03.6 +0.9
BELC	Belle Mtn. Jos baz=34	33.59	129	⇑P	P	10 48 04.8 +1.3
Q23A	Hartsel baz=34	33.69	112	⇑P	P	10 48 05.5 +1.0
L29A	Maesberg Ranch baz=34	33.69	102	⇓P	P	10 48 05.4 +1.2
N27A	Anderson Farm, baz=34	33.70	106	⇓P	P	10 48 05.5 +1.2
PFO	Pinyon Flat Ob baz=34	33.76	130	⇑P	P	10 48 06.3 +1.3
IRM	Iron Mountain baz=34,SNR=7.1	33.77	128	⇓P	P	10 48 06.5 +1.6
O26A	Horse Wrangler baz=34,SNR=6.2	33.78	107	⇓P	P	10 48 05.7 +0.7
EYMN	Ely comp=Z,12nm,1.0s	33.78	87	eP	P	10 48 05.2 +0.3
M28A	Bar X Bar Ranc baz=34	33.78	104	⇓P	P	10 48 06.0 +0.9
R22A	Saguache, Gunn baz=34,SNR=11	33.83	114	⇓P	P	10 48 06.9 +1.2
S21A	Coal Bank Pass baz=34	33.83	115	⇓P	P	10 48 07.2 +1.5
MVCO	Mesa Verde comp=Z,7.1nm,1.0s	33.90	117	eP	P	10 48 07.0 +0.7
MVCO	Mesa Verde baz=34,SNR=5.5	33.90	117	⇑P	P	10 48 07.1 +0.8
Q24A	Divide baz=34	33.95	111	⇓P	P	10 48 08.2 +1.4
P25A	Willow Gulch B baz=34	33.96	109	⇑P	P	10 48 07.8 +1.1
PDMCI	Parker Dam,Lak baz=34	34.04	126	⇑P	P	10 48 08.8 +1.6
M29A	Burnside Ranch baz=34	34.07	103	⇑P	P	10 48 08.6 +1.0
BC3	Big Chuckawall baz=34	34.10	129	⇑P	P	10 48 09.2 +1.4
WUAZ	Wupatki comp=Z,14nm,0.9s	34.10	122	eP	P	10 48 09.6 +1.6
WUAZ	Wupatki baz=34,SNR=9.2	34.10	122	⇓P	P	10 48 09.2 +1.3
L30A	Spencer Herefo baz=34	34.15	102	⇑P	P	10 48 09.5 +1.4
S22A	4UR Ranch, Cre baz=34,SNR=6.3	34.19	114	⇑P	P	10 48 10.2 +1.3
O27A	Beecher Island baz=34,SNR=6.5	34.21	107	⇓P	P	10 48 09.2 +0.4
R23A	Moffat baz=34,SNR=6.3	34.27	112	⇓P	P	10 48 11.0 +1.4
P26A	Davis Ranch, A baz=34	34.30	108	⇓P	P	10 48 10.0 +0.4
Y12C	Blythe baz=34	34.37	127	⇑P	P	10 48 12.1 +2.0
Q25A	Bedland, Calha baz=34	34.41	110	⇓P	P	10 48 11.8 +1.2
MONP	Monument Peak baz=34	34.42	130	⇓P	P	10 48 12.2 +1.5
T21A	Navajo Lake baz=34	34.50	116	⇑P	P	10 48 13.2 +1.7
R24A	Sanders Place, baz=34	34.57	112	⇓P	P	10 48 12.9 +0.9
N29A	Votaw Ranch, W baz=34	34.59	104	⇑P	P	10 48 12.9 +0.9
U20A	Newcomb baz=34	34.59	117	⇓P	P	10 48 13.7 +1.5
O28A	Krutsinger Ran baz=34	34.59	106	⇑P	P	10 48 13.2 +1.2
S23A	Nye Farm, Mont baz=34	34.59	113	⇑P	P	10 48 13.8 +1.5
P27A	Ficken Ranch, baz=34	34.66	107	⇓P	P	10 48 13.3 +0.5
Q26A	Hugo baz=35,SNR=11	34.73	109	⇓P	P	10 48 14.4 +1.0
T22A	Edith baz=35,SNR=8.0	34.76	115	⇑P	P	10 48 15.3 +1.5
Y14A	Wickenburg baz=35,SNR=7.0	34.81	125	⇓P	P	10 48 15.3 +1.4
N30A	Hueftle Ranch, baz=35	34.85	103	⇓P	P	10 48 14.8 +0.5
U21A	Nageezi baz=35,SNR=9.3	34.92	116	⇑P	P	10 48 16.0 +1.0
S24A	Houchin Ranch, baz=35	35.00	112	⇑P	P	10 48 17.4 +1.5
R25A	Fountain Ranch baz=35	35.01	111	⇓P	P	10 48 17.1 +1.3
X16A	Lo Mia Camp, P baz=35,SNR=7.7	35.02	123	⇑P	P	10 48 17.2 +1.3
P28A	Saint Francis baz=35,SNR=7.8	35.04	107	⇓P	P	10 48 16.3 +0.4
SPMN	St. Paul baz=35	35.06	91	⇑P	P	10 48 16.4 +0.4
KSCO	Kaye Shedlock'	35.08	108	eP	P	10 48 17.2 +0.9
KSCO	Kaye Shedlock' baz=35,SNR=7.6	35.08	108	⇑P	P	10 48 17.1 +0.8
V20A	Brimhall baz=35,SNR=5.4	35.10	118	⇑P	P	10 48 17.6 +1.0
T23A	Casias Ranch, baz=35	35.13	114	⇑P	P	10 48 18.2 +1.2
W18A	Petrified Fore baz=35	35.13	120	⇓P	P	10 48 18.6 +1.7
R26A	Arlington baz=35	35.27	110	⇑P	P	10 48 19.3 +1.3
BGNE	Belgrade baz=35	35.31	101	⇑P	P	10 48 19.0 +0.8
U22A	Llaves baz=35	35.32	115	⇑P	P	10 48 19.6 +1.1
Z14A	Wintersburg baz=35	35.34	126	⇓P	P	10 48 20.1 +1.7
S25A	Robets Cordova baz=35,SNR=15	35.34	111	⇓P	P	10 48 19.5 +0.9
O30A	MW Ranch, Wils baz=35	35.36	104	⇑P	P	10 48 19.4 +0.8
P29A	Atwood baz=35	35.40	106	⇑P	P	10 48 19.7 +0.7
T24B	San Luis baz=35,SNR=11	35.40	113	⇓P	P	10 48 21.5 +2.2
Q28A	Sharon Springs baz=35	35.41	107	⇑P	P	10 48 19.8 +0.7
V21A	Milan baz=35,SNR=8.9	35.45	117	⇑P	P	10 48 21.4 +1.7
113A	Mohawk Valley, baz=36,SNR=5.4	35.54	127	⇓P	P	10 48 21.7 +1.6
X18A	Snowflake baz=36,SNR=6.5	35.55	121	⇓P	P	10 48 21.9 +1.5
R27A	Eads baz=36,SNR=6.8	35.58	109	⇓P	P	10 48 21.5 +0.8
U23A	El Rito baz=36,SNR=18	35.65	115	⇑P	P	10 48 23.0 +1.7
W20A	Ramah baz=36,SNR=28	35.65	119	⇑P	P	10 48 22.9 +1.5
V22A	San Miguel Ran baz=36,SNR=20	35.68	116	⇓P	P	10 48 23.3 +1.7
O31A	Woolen Ranch, baz=36	35.73	103	⇑P	P	10 48 22.4 +0.7
P30A	Selden baz=36	35.77	105	⇓P	P	10 48 23.1 +0.9
T25A	Trinidad baz=36	35.78	112	⇑P	P	10 48 23.5 +1.0
S26A	Kim baz=36,SNR=6.0	35.81	110	⇓P	P	10 48 23.6 +1.0
Q29A	Oakley baz=36,SNR=11	35.94	106	⇓P	P	10 48 24.5 +0.8
R28A	Tribune baz=36,SNR=5.7	35.99	108	⇓P	P	10 48 24.8 +0.7
W21A	San Fidel baz=36,SNR=5.6	36.03	118	⇓P	P	10 48 25.6 +1.0
T26A	Comanche Natio baz=36,SNR=10	36.12	111	⇓P	P	10 48 26.2 +0.9
O32A	Brockman Farm, baz=36	36.14	102	⇓P	P	10 48 25.8 +0.5
V23A	Ortiz Mt. (NFS baz=36,SNR=15	36.14	115	⇓P	P	10 48 27.9 +2.3
X20A	Quemado baz=36,SNR=7.3	36.15	119	⇑P	P	10 48 26.7 +1.0
R29A	Marienthal baz=36	36.24	107	⇓P	P	10 48 27.6 +1.3
U25A	Circle Dot Ran baz=36,SNR=38	36.39	113	⇑P	P	10 48 29.3 +1.7
W22A	Albuquerque baz=36	36.41	117	⇓P	P	10 48 29.3 +1.5
X21A	Alamocita Cree baz=36,SNR=27	36.54	118	⇓P	P	10 48 30.9 +1.9
S28A	Manter baz=36	36.56	109	⇓P	P	10 48 30.3 +1.3
V24A	Rampart Ranch, baz=36,SNR=20	36.56	114	⇓P	P	10 48 30.7 +1.5
Q31A	Ellis baz=36	36.60	105	⇑P	P	10 48 30.4 +1.2
T27A	Campo baz=36,SNR=6.1	36.61	110	⇓P	P	10 48 30.4 +0.9
214A	Organ Pipe Nat baz=36,SNR=5.6	36.63	127	⇑P	P	10 48 31.2 +1.7
W23A	Werner Place, baz=36,SNR=25	36.65	116	⇓P	P	10 48 31.5 +1.6
ANMO	Albuquerque comp=Z,6.8nm,1.2s	36.69	116	eP	P	10 48 31.4 +1.2
U26A	Atchley Ranch, baz=37,SNR=11	36.69	112	⇑P	P	10 48 31.4 +1.2
Y20A	Horse Springs, baz=37	36.75	119	⇑P	P	10 48 32.4 +1.6
R30A	Dighton baz=37,SNR=10	36.76	106	⇓P	P	10 48 31.8 +1.2
V25A	Rancho No Teng baz=37,SNR=15	36.76	113	⇑P	P	10 48 32.4 +1.6
X22A	Bernardo baz=37	36.82	117	⇓P	P	10 48 33.1 +1.8
T28A	Walsh baz=37	36.84	109	⇓P	P	10 48 32.4 +1.0
LAZ	Ladron comp=Z,3.2nm,1.2s	36.86	118	eP	P	10 48 32.9 +1.2
S29A	Ulysses baz=37	36.90	108	⇓P	P	10 48 33.4 +1.6
W24A	Lazy 6 Ranch, baz=37,SNR=12	36.93	115	⇓P	P	10 48 33.9 +1.6
Y21A	Point of Rocks baz=37	36.96	119	⇓P	P	10 48 33.8 +1.2
U27A	Thompson Grove baz=37,SNR=6.6	37.09	111	⇑P	P	10 48 34.6 +1.1
R31A	Burdett baz=37,SNR=8.3	37.11	105	⇑P	P	10 48 34.4 +0.8
V26A	Tequesquite Ra baz=37,SNR=26	37.17	112	⇓P	P	10 48 35.7 +1.5
T29A	Hugoton baz=37	37.19	108	⇑P	P	10 48 35.1 +0.7
Y22D	IRIS PASSCAL I baz=37	37.23	118	⇓P	P	10 48 36.6 +1.8
BNM	Barren Site comp=Z,5.2nm,0.8s	37.29	117	eP	P	10 48 36.7 +1.3
Y22A	Socorro baz=37,SNR=13	37.33	118	⇑P	P	10 48 37.3 +1.7
Z20A	Nine Sixteen R baz=37,SNR=6.3	37.34	120	⇓P	P	10 48 37.3 +1.6
W25A	X Bar L Ranch, baz=37,SNR=9.2	37.35	114	⇑P	P	10 48 37.3 +1.5
U28A	Mallet baz=37	37.40	110	⇑P	P	10 48 36.5 +0.4
X24A	Lazy VL Ranch, baz=37	37.46	115	⇑P	P	10 48 38.2 +1.3
Z21A	St. Cloud Mine baz=38,SNR=6.0	37.56	119	⇑P	P	10 48 39.6 +1.9
V27A	Dan Oppiter Fa baz=38	37.63	111	⇓P	P	10 48 39.1 +1.0
T30A	Plains baz=38	37.63	108	⇓P	P	10 48 39.5 +1.5
S31A	Mullinville baz=38	37.66	106	⇑P	P	10 48 39.0 +0.7
Y23A	Lovelace Mesa, baz=38,SNR=12	37.73	117	⇓P	P	10 48 40.4 +1.4
W26A	Owens Ranch, T baz=38,SNR=6.5	37.77	113	⇑P	P	10 48 40.3 +1.0
120A	U Bar Ranch, L baz=38	37.81	121	⇓P	P	10 48 41.4 +1.6
Z22A	Elephant Butte baz=38,SNR=23	37.91	118	⇑P	P	10 48 42.4 +1.8
V28A	Channing baz=38	37.92	111	⇑P	P	10 48 41.8 +1.2
T31A	Randall Ranch, baz=38,SNR=9.2	37.99	107	⇑P	P	10 48 41.6 +0.5
U30A	WK&E Inc. Balk	38.00	108	⇑P	P	10 48 42.2 +1.0

baz=38
Y24A Capitan 38.00 116 ⇓P P 10 48 43.0 +1.6
baz=38,SNR=10
121A Cookes Peak, D 38.18 120 ⇑P P 10 48 44.6 +1.7
baz=38,SNR=8.8
X26A CR and CF Fran 38.20 114 ⇓P P 10 48 44.2 +1.3
baz=38,SNR=16
Z23A Rita Site, Whi 38.22 117 ⇑P P 10 48 44.8 +1.7
baz=38,SNR=12
Y25A Mesa, Roswell 38.33 115 ⇑P P 10 48 45.6 +1.6
baz=38,SNR=17
122A Conniff Cattle 38.37 119 ⇓P P 10 48 46.2 +1.8
baz=38
220A Playas Peak, P 38.41 121 ⇑P P 10 48 46.6 +1.8
baz=38,SNR=13
X27A F and S Farms, 38.44 113 ⇑P P 10 48 46.1 +1.1
baz=38,SNR=12
U31A Nine Bar Ranch 38.51 108 ⇑P P 10 48 46.5 +1.1
baz=38,SNR=5.5
Z24A Sheeppen Canyo 38.54 116 ⇓P P 10 48 47.3 +1.4
baz=38,SNR=20
319A Douglas 38.56 123 ⇑P P 10 48 48.0 +2.0
baz=38
221A Mesquite Ranch 38.63 120 ⇓P P 10 48 48.2 +1.6
baz=38
Y26A Elida 38.72 114 ⇑P P 10 48 49.1 +1.8
baz=39
222A Williams Famil 38.84 119 ⇓P P 10 48 49.7 +1.4
baz=39
Z25A Roswell 38.87 116 ⇑P P 10 48 50.0 +1.5
baz=39,SNR=12
320A Kipp Ranch, An 38.91 122 ⇑P P 10 48 50.6 +1.7
baz=39,SNR=6.1
X28A Dimmitt 38.95 112 ⇓P P 10 48 50.2 +1.0
baz=39,SNR=5.9
V31A Spring Creek L 38.99 108 ⇓P P 10 48 50.5 +1.0
baz=39,SNR=8.4
124A Stringfield Ra 39.04 117 ⇑P P 10 48 51.2 +1.1
baz=39,SNR=11
Y27A Causey 39.05 113 ⇑P P 10 48 51.2 +1.2
baz=39,SNR=26
MSTX Muleshoe 39.15 113 *e*P P 10 48 51.8 +0.8
MSTX Muleshoe 39.15 113 ⇑P P 10 48 51.7 +0.8
baz=39,SNR=21
Z26A Caprock 39.20 115 ⇑P P 10 48 52.4 +1.1
baz=39,SNR=16
X29A Tulia 39.24 111 ⇓P P 10 48 52.3 +0.7
baz=39,SNR=6.6
125A Gardner Draw, 39.42 116 ⇓P P 10 48 54.7 +1.5
baz=39,SNR=19
W31A Holland Ranch, 39.43 109 ⇓P P 10 48 54.1 +0.9
baz=39
Y28A McKinney Farm, 39.44 112 ⇓P P 10 48 53.8 +0.6
baz=39,SNR=6.0
Z27A Tatum 39.50 114 ⇓P P 10 48 54.8 +0.9
baz=39,SNR=10
224A Cornudas Mount 39.54 118 ⇓P P 10 48 55.5 +1.2
baz=39,SNR=5.7
X30A Coker Ranch, T 39.62 110 ⇑P P 10 48 55.5 +0.8
baz=40,SNR=15
126A Clayton Basin, 39.71 115 ⇓P P 10 48 56.7 +1.1
baz=40
Y29A Porterfield Fa 39.74 112 ⇑P P 10 48 56.3 +0.6
baz=40,SNR=6.8
225A Deer Hill, Car 39.82 117 ⇓P P 10 48 58.2 +1.7
baz=40,SNR=15
X31A McDonald Ranch 39.87 109 ⇑P P 10 48 57.8 +0.9
baz=40,SNR=13
Z28A Tucker Farm, M 39.90 113 ⇓P P 10 48 57.7 +0.6
baz=40
127A Arkansas Junct 39.98 115 ⇑P P 10 48 58.8 +1.0
baz=40
Y30A Stafford Cattl 40.08 111 ⇓P P 10 48 59.1 +0.6
baz=40
324A Moseley Ranch, 40.10 118 ⇑P P 10 48 59.6 +0.8
baz=40,SNR=5.0
Z29A Hungry Hill Ra 40.23 112 ⇓P P 10 49 00.4 +0.6
baz=40,SNR=19
Y31A Rekieta Farm, 40.30 110 ⇓P P 10 49 01.2 +0.8
baz=40
WMOK Wichita Mounta 40.34 108 *e*P P 10 49 00.9 +0.2
WMOK pmax pmax
comp=Z,17nm,1.0s
WMOK Wichita Mounta 40.34 108 *e*P P 10 49 00.9 +0.2
comp=Z,17nm,1.0s
325A Bean Ranch, Si 40.39 118 ⇓P P 10 49 02.3 +1.1
baz=40,SNR=5.7
128A Castleberry Fa 40.41 114 ⇓P P 10 49 02.0 +0.6
baz=40,SNR=7.0
Z30A Sanderson Ranc 40.47 112 ⇓P P 10 49 02.1 +0.4
baz=40
227A Bennet, Jal 40.57 115 ⇓P P 10 49 03.5 +0.8
baz=40
SCHQ Schefferville 40.61 61 P P 10 49 01.8 -0.9
SCHQ Schefferville 40.61 61 P P 10 49 01.8 -0.9
comp=Z,5.1nm,0.8s,baz=336,slow=10,SNR=4.9
Y32A R-V Farms, Ver 40.64 109 ⇑P P 10 49 03.5 +0.3
baz=40,SNR=6.1
TUL1 Tulsa 40.79 104 ⇓P P 10 49 04.7 +0.4
baz=41
228A UT Block 9, Go 40.79 114 ⇓P P 10 49 05.5 +1.0
baz=41
326A Caldwell Ranch 40.87 116 ⇑P P 10 49 06.2 +1.0
baz=41,SNR=9.4
425A Indio Mountain 40.88 118 ⇓P P 10 49 07.3 +2.0
baz=41,SNR=22
Z31A Sharp Cattle R 40.89 111 ⇑P P 10 49 05.3 +0.1
baz=41
130A Snyder 41.12 112 ⇑P P 10 49 07.7 +0.5
baz=41
Z32A Haskell 41.20 110 ⇓P P 10 49 07.8 0.0
baz=41,SNR=8.3
131A Roby 41.32 111 ⇑P P 10 49 09.4 +0.6
baz=41
328A Wristen Ranch, 41.32 115 ⇑P P 10 49 09.8 +0.9
baz=41
426A McDonald Obser 41.40 117 ⇓P P 10 49 10.6 +0.9
baz=41,SNR=9.8
SFIN Scholer Farm 41.47 91 ⇑P P 10 49 09.9 0.0
baz=41
427A Hayter Ranch, 41.52 116 ⇑P P 10 49 11.2 +0.7
baz=41,SNR=8.3
329A Wagon Wheel Ra 41.60 114 ⇑P P 10 49 11.9 +0.8
baz=42,SNR=10
230A Sterling City 41.65 113 ⇑P P 10 49 12.2 +0.6
baz=42
ABTX Abilene, Hawle 41.70 111 ⇑P P 10 49 12.9 +1.0
baz=42
526A Mary Lane Ranc 41.90 118 ⇓P P 10 49 15.0 +1.4
baz=42,SNR=14
231A Bronte 41.97 112 ⇑P P 10 49 14.3 +0.1
baz=42,SNR=5.3
330A Mertzon 42.03 113 ⇑P P 10 49 15.0 +0.4
baz=42,SNR=17
527A Woodward Ranch 42.03 117 ⇓P P 10 49 15.5 +0.8
baz=42,SNR=10
OLIL Olney 42.25 94 *e*P P 10 49 16.1 -0.2
comp=Z,14nm,0.6s
232A Coleman 42.31 111 ⇓P P 10 49 17.3 +0.4
baz=42,SNR=15
626A Big Bend Ranch 42.32 118 ⇓P P 10 49 18.0 +1.0
baz=42,SNR=6.9
429A Davenport Ranc 42.38 115 ⇑P P 10 49 18.1 +0.7
baz=42,SNR=18
528A Cox Ranch, San 42.38 116 ⇓P P 10 49 18.9 +1.4
baz=42,SNR=36
SIUC Southern Illin 42.51 96 *e*P P 10 49 17.9 -0.5
comp=Z,7.3nm,0.6s
430A Baggett Ranch, 42.53 114 ⇑P P 10 49 19.4 +0.7
baz=42,SNR=15
529A Stev Forest Ra 42.66 115 ⇑P P 10 49 20.4 +0.6
baz=43,SNR=5.3
332A Millersview 42.70 112 ⇑P P 10 49 20.3 +0.3
baz=43,SNR=5.4
TXAR Lajitas Array 42.71 118 P P 10 49 21.3 +1.1
TXAR PcP **PcP** 10 51 10.7 -0.9
TXAR Lajitas Array 42.71 118 P P 10 49 21.3 +1.1
comp=Z,3.0nm,0.7s,baz=327,slow=6.5,SNR=42
TXAR PcP **PcP** 10 51 10.7 -0.9
comp=Z,1.0nm,0.8s,baz=318,slow=1.7,SNR=5.2
627A Terlingua Ranc 42.73 117 ⇓P P 10 49 21.3 +0.9
baz=43,SNR=9.3
431A Sonora 42.90 113 ⇓P P 10 49 22.3 +0.5
baz=43,SNR=23
628A Black Gap, Mar 42.91 117 ⇓P P 10 49 23.1 +1.3
baz=43,SNR=17
MIAR Mount Ida 42.95 103 *e*P P 10 49 21.7 -0.3
MIAR pmax pmax
comp=Z,15nm,0.8s
MIAR Mount Ida 42.95 103 *e*P P 10 49 21.7 -0.3
comp=Z,15nm,0.8s
530A J-C Ranch, Com 43.03 114 ⇑P P 10 49 23.5 +0.7
baz=43,SNR=11
USIN University of 43.07 94 *e*P P 10 49 22.6 -0.3
comp=Z,12nm,0.4s
WHTX Lake Whitney 43.23 109 ⇓P P 10 49 25.1 +0.8
baz=43
531A Rocksprings 43.37 114 ⇓P P 10 49 26.2 +0.7
baz=43,SNR=12
JCT Junction City 43.44 113 *e*P P 10 49 26.5 +0.5
JCT pmax pmax
comp=Z,24nm,0.8s
JCT Junction City 43.44 113 *e*P P 10 49 26.5 +0.5
comp=Z,24nm,0.8s
JCT Junction City 43.44 113 ⇓P P 10 49 26.6 +0.5
baz=43,SNR=7.6
532A Rocksprings 43.69 113 ⇓P P 10 49 28.8 +0.7
baz=44,SNR=26
631A Perdido Creek 44.00 114 ⇓P P 10 49 30.8 +0.3
baz=44,SNR=25
632A Uvalde 44.27 113 ⇓P P 10 49 33.3 +0.6
baz=44,SNR=13
732A Laxson Ranch, 44.85 114 ⇑P P 10 49 37.9 +0.6
baz=45,SNR=13
OXF Oxford 44.98 99 *e*P P 10 49 38.0 -0.2
OXF pmax pmax
comp=Z,49nm,1.1s
OXF Oxford 44.98 99 *e*P P 10 49 38.0 -0.2
comp=Z,49nm,1.1s
HKT Hockley 45.70 109 *i*P P 10 49 43.8 -0.1
TZTN Tazewell 46.20 92 *e*P P 10 49 47.7 -0.2
comp=Z,20nm,1.1s
LRAL Lakeview Retre 47.34 98 *e*P P 10 49 56.0 -0.9
comp=Z,7.7nm,0.8s
KMSC Kings Mountain 48.40 91 ⇑P P 10 50 05.2 +0.2
baz=48
USRK Ussuriysk Arra 48.55 289 LR LR 11 12 50.1
comp=Z,244nm,18.6s,baz=142,slow=39
ARCES ARCESS Array B 49.74 3 P P 10 50 13.7 -1.2
ARCES ARCESS Array B 49.74 3 P P 10 50 13.7 -1.2
comp=Z,3.0nm,0.6s,baz=0.8,slow=8.0,SNR=16
TIGA Tifton 50.30 96 ⇑P P 10 50 19.1 -0.5
baz=50
CN2 Changchun 51.84 293 *e*P P 10 50 33.3 +2.3
KSRS Korea Array 55.75 286 P P 10 51 01.1 +1.4
comp=Z,2.2nm,0.9s,baz=35,slow=7.9,SNR=11
KSAR Wonju Array Be 55.78 286 P P 10 51 01.1 +1.2
ULN Ulaanbaatar 56.26 309 *e*P P 10 51 04.1 +0.7
comp=Z,5.5nm,0.9s
SONM Songino Array 56.53 309 P P 10 51 05.8 +0.4
SONM Songino Array 56.53 309 P P 10 51 05.8 +0.4
comp=Z,2.0nm,0.8s,baz=29,slow=8.0,SNR=10
NOA NORSAR Array B 57.25 12 P P 10 51 09.3 -0.8
NOA NORSAR Array B 57.25 12 P P 10 51 09.3 -0.8
comp=Z,2.5nm,0.9s,baz=346,slow=6.7,SNR=4.1
FINES FINESS Array B 57.86 4 P P 10 51 13.0 -1.3
FINES FINESS Array B 57.86 4 P P 10 51 13.0 -1.3
comp=Z,4.3nm,0.4s,baz=1.5,slow=8.8,SNR=37
ZAA0 Zalesovo Array 58.28 327 *e*P P 10 51 19.9 +2.6
ZALV Zalesovo Beam 58.28 327 P P 10 51 15.8 -1.5
ZALV Zalesovo Beam 58.28 327 P P 10 51 15.8 -1.5
ZALV Zalesovo Beam 58.28 327 P P 10 51 15.8 -1.5
comp=Z,0.5nm,0.3s,baz=34,slow=5.4,SNR=2.6
KLMR Klimovskoe 58.46 356 *e*P P 10 51 25.8 +7.3
KLMR pmax pmax
comp=Z,26nm,1.1s
HHC Hu-ho-hao-te 60.27 301 *e*P P 10 51 31.8 +0.3
HHC pP **pP** 10 51 37.8 -0.9
HHC sP **sP** 10 51 40.6 -0.9
HHC PP **PP** 10 53 46.0 +2.0
HHC S **S** 10 59 41.5 -2.5
HHC ScS SKKSac 11 01 17.4 -2.8
HHC pmax pmax
comp=Z,33nm,1.1s
HHC pmax pmax
comp=Z,400nm,5.4s
HHC LR LR
comp=N,260nm,16.5s
HHC LR LR
comp=E,250nm,17.3s
HHC LR LR
comp=Z,310nm,17.1s
VSU Vasula 60.87 4⇑ *i*P P 10 51 34.3 -0.8
VSU pmax pmax
comp=Z,72nm,1.9s
ARU Arti 61.26 344 *d*P P 10 51 37.4 -0.4
ARU *PP **pP** 10 51 45.8 +0.7
ARU 10 52 17.8
ARU 10 53 49.9
ARU S **S** 10 59 56.9 +0.9
ARU SS **SS** 11 03 51.4 -3.9
ARU pmax pmax
comp=Z,6.0nm,1.2s
BVAR Borovoye Array 62.53 335 P P 10 51 45.2 -1.2
BVAR Borovoye Array 62.53 335 P P 10 51 45.2 -1.2
BVAR Borovoye Array 62.53 335 P P 10 51 45.2 -1.2
comp=Z,1.5nm,0.7s,baz=29,slow=3.3,SNR=4.6
OBN Obninsk 64.28 358⇑ *e*P P 10 51 57.3 -0.6
OBN pmax pmax
comp=Z,7.0nm,1.1s
NJ2 Nanjing 64.41 290 *e*P P 10 52 00.3 +1.2
NJ2 pmax pmax
comp=Z,10.0nm,0.9s
MKAR Makanchi Array 65.44 325 P P 10 52 03.9 -1.8
MKAR Makanchi Array 65.44 325 P P 10 52 03.9 -1.8
MKAR Makanchi Array 65.44 325 P P 10 52 03.9 -1.8
comp=Z,0.4nm,0.4s,baz=25,slow=6.3,SNR=13
GTA Gaotai 66.20 309 P P 10 52 18.8 +8.0
GTA pP pP 10 52 24.9 +6.7
GTA sP sP 10 52 27.8 +6.9
GTA pmax pmax
comp=Z,11nm,1.1s
GTA pmax pmax
comp=Z,92nm,4.5s
GTA LR LR
comp=N,220nm,15.4s
GTA LR LR
comp=E,170nm,14.3s
GTA LR LR
comp=Z,390nm,16.9s
WMQ Urumqi 66.53 320 *e*P P 10 52 16.4 +3.6
WMQ pP pP 10 52 22.6 +2.5
WMQ sP sP 10 52 25.4 +2.5
WMQ PcP **PcP** 10 52 45.8 +3.7
WMQ pmax pmax
comp=Z,16nm,0.7s
WMQ pmax pmax
comp=Z,140nm,4.9s
WMQ LR LR
comp=N,150nm,18.4s
WMQ LR LR
comp=Z,160nm,17.6s
ROSF Rostrenen 67.27 25 *e*P P 10 52 16.4 -0.9
comp=Z,5.4nm,0.7s
ROSF Rostrenen 67.27 25 *e*P P 10 52 16.4 -0.9
ROSF pmax pmax
comp=Z,5.0nm,0.7s
ROSF Rostrenen 67.27 25 *e*P P 10 52 16.4 -0.9
comp=Z,5.4nm,0.7s
FLN La Foliniere 67.42 23 *e*P P 10 52 17.0 -1.3
FLN La Foliniere 67.42 23 *e*P P 10 52 17.0 -1.3
FLN La Foliniere 67.42 23 *e*P P 10 52 17.0 -1.3
SGMF Saint Gilles 67.50 25 *e*P P 10 52 17.8 -0.9
comp=Z,37nm,1.1s
SGMF Saint Gilles 67.50 25 *e*P P 10 52 17.8 -0.9
SGMF pmax pmax
comp=Z,37nm,1.1s
SGMF Saint Gilles 67.50 25 *e*P P 10 52 17.8 -0.9
comp=Z,37nm,1.1s
LZH Lanzhou 67.50 304 *e*P P 10 52 23.9 +4.8
LZH pP pP 10 52 29.1 +2.6
LZH sP sP 10 52 32.5 +3.2
LZH pmax pmax
comp=Z,11nm,1.0s
LDF La Druitiere 67.65 23 *e*P P 10 52 18.4 -1.3
comp=Z,12nm,0.8s
LDF La Druitiere 67.65 23 *e*P P 10 52 18.4 -1.3
LDF pmax pmax
comp=Z,12nm,0.8s
LDF La Druitiere 67.65 23 *e*P P 10 52 18.4 -1.3
comp=Z,12nm,0.8s
QUIF Quistinic 67.69 25 *e*P P 10 52 19.0 -0.9
QUIF Quistinic 67.69 25 *e*P P 10 52 19.0 -0.9
QUIF Quistinic 67.69 25 *e*P P 10 52 19.0 -0.9
GRR Gorron 67.71 24 *e*P P 10 52 19.1 -1.0
GRR Gorron 67.71 24 *e*P P 10 52 19.1 -1.0
GRR Gorron 67.71 24 *e*P P 10 52 19.1 -1.0
AKASG Malin Array Be 68.71 2 *i*P P 10 52 24.8 -1.4
AKASG pmax pmax
comp=Z,4.0nm,0.5s
AKASG Malin Array Be 68.71 2 P P 10 52 24.9 -1.4
AKASG Malin Array Be 68.71 2 P P 10 52 24.9 -1.4
comp=Z,4.4nm,0.5s,baz=355,slow=5.8,SNR=14
KIEV Kiev 68.71 2 *i*P P 10 52 24.8 -1.5
KHC Kasperske Hory 69.22 13 *e*P P 10 52 29.4 -0.2
KHC pmax pmax
comp=Z,3.0nm,0.8s
KHC Kasperske Hory 69.22 13 *e*P P 10 52 29.4 -0.2
comp=Z,2.8nm,0.8s
GERES GERESS Array B 69.51 13 P P 10 52 30.9 -0.5
GERES GERESS Array B 69.51 13 P P 10 52 30.9 -0.5
comp=Z,1.0nm,0.5s,baz=349,slow=4.3,SNR=9.1
MFF Saint Martin d 69.56 24 *e*P P 10 52 30.7 -0.9
comp=Z,8.2nm,0.8s
MFF Saint Martin d 69.56 24 *e*P P 10 52 30.7 -0.9
MFF pmax pmax
comp=Z,8.0nm,0.8s
MFF Saint Martin d 69.56 24 *e*P P 10 52 30.7 -0.9
comp=Z,8.2nm,0.8s
LOR Lormes 69.65 21 *e*P P 10 52 31.2 -1.0
comp=Z,7.6nm,0.7s
LOR Lormes 69.65 21 *e*P P 10 52 31.2 -1.0
comp=Z,7.6nm,0.7s
SSF Saint Saulge 69.79 21 *e*P P 10 52 32.1 -1.0
comp=Z,5.3nm,0.6s
SSF Saint Saulge 69.79 21 *e*P P 10 52 32.1 -1.0
SSF pmax pmax
comp=Z,5.0nm,0.6s
SSF Saint Saulge 69.79 21 *e*P P 10 52 32.1 -1.0
comp=Z,5.3nm,0.6s
AVF Avril sur Loir 70.03 21 *e*P P 10 52 33.2 -1.3
AVF Avril sur Loir 70.03 21 *e*P P 10 52 33.2 -1.3
AVF Avril sur Loir 70.03 21 *e*P P 10 52 33.2 -1.3
TKM2 Tokmak 2 70.83 328 *e*P P 10 52 41.3 +1.5
TKM2 pmax pmax
comp=Z,8.0nm,1.0s
TKM2 Tokmak 2 70.83 328 *e*P P 10 52 41.3 +1.5
comp=Z,7.5nm,1.0s
LFF La Frestale 71.33 23 *e*P P 10 52 41.6 -0.9
LFF La Frestale 71.33 23 *e*P P 10 52 41.6 -0.9
LFF La Frestale 71.33 23 *e*P P 10 52 41.6 -0.9
AAK Ala-Archa 71.38 329 *ce*P P 10 52 42.4 -0.7
AAK pmax pmax
comp=Z,7.0nm,0.7s
AAK Ala-Archa 71.38 329 *e*P P 10 52 43.1 0.0
AAK Ala-Archa 71.38 329 P P 10 52 42.7 -0.4
comp=Z,1.3nm,0.4s,baz=68,slow=11,SNR=5.2
EKS2 Erkin-Say 71.53 329 *e*P P 10 52 43.5 -0.4
EKS2 pmax pmax
comp=Z,15nm,0.9s
EKS2 Erkin-Say 71.53 329 *e*P P 10 52 43.5 -0.4
comp=Z,15nm,0.9s
KSH Kashi 73.92 327 P P 10 52 59.8 +1.7
KSH pmax pmax
comp=Z,7.0nm,0.9s
KSH pmax pmax
comp=Z,200nm,6.0s
KSH LR LR
comp=N,91nm,7.1s
KSH LR LR
comp=E,140nm,7.7s
KSH LR LR
comp=Z,250nm,16.1s
GYA Guiyang 74.66 297 *e*P P 10 53 04.0 +1.4
GYA pmax pmax
comp=Z,10.0nm,1.0s
ESDC Sonseca Array 75.36 29 P P 10 53 06.2 -0.2
ESDC Sonseca Array 75.36 29 P P 10 53 06.2 -0.2
comp=Z,4.4nm,0.6s,baz=340,slow=5.7,SNR=18
ESLA Sonseca Array 75.36 29 *e*P P 10 53 06.5 +0.1
comp=Z,9.8nm,1.6s
KBZ Khabaz 75.40 352 P P 10 53 06.4 -0.1
KBZ Khabaz 75.40 352 P P 10 53 06.3 -0.1
KBZ Khabaz 75.40 352 P P 10 53 06.3 -0.1
comp=Z,3.4nm,1.0s,baz=56,slow=3.6,SNR=3.6
BRTR Keskin Array B 79.72 359 P P 10 53 30.2 -0.7
BRTR Keskin Array B 79.72 359 P P 10 53 30.2 -0.7
comp=Z,1.5nm,0.8s,baz=38,slow=6.3,SNR=5.6
KBL Kabul 80.39 330 P P 10 53 36.9 +2.2
KBL pmax pmax
comp=Z,2.0nm,0.6s
KBL Kabul 80.39 330 P P 10 53 36.9 +2.2
comp=Z,2.4nm,0.6s
KEST Kesra 81.80 19 P P 10 53 41.6 -0.4
KEST Kesra 81.80 19 P P 10 53 41.6 -0.4
comp=Z,2.6nm,0.9s,baz=317,slow=3.9,SNR=7.2
ASAR Alice Springs 105.20 249 PKiKP **PKiKP** 10 59 43.9 -1.4
ASAR Alice Springs 105.20 249 PKiKP **PKiKP** 10 59 43.9 -1.4
comp=Z,0.3nm,0.7s,baz=52,slow=2.0,SNR=4.4
BOSA Boshof 147.31 12 PKPbc **PKPdf** 11 01 04.4 +0.4
BOSA Boshof 147.31 12 PKPbc **PKPdf** 11 01 04.4 +0.4
comp=Z,3.7nm,0.6s,baz=27,slow=2.5,SNR=6.9

MAN 21 10:43:41.14±16N×120±28E, h79km, mb4.6, ML3.5, MS3.4, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.65**	**95⇑**	*e*P	Pn	10 43 58.1	+2.0
TGY				*e*S	Sn	10 44 11.0	+3.7
LQP	**Lukban**	**1.23**	**92**	*e*P	Pn	10 44 02.3	-0.8
SJMP	**San Jose**	**1.88**	**154**	*e*P	Pn	10 44 12.5	+1.2
SJMP				*e*S	Sn	10 44 35.2	+0.8
BUSP	**Coron**	**2.15**	**182**	*e*P	Pn	10 44 15.8	+0.9
ENPP	**El Nido**	**3.05**	**196**	*e*P	Pn	10 44 28.8	+1.7

IDC 21 10:44:28.5±1.0, 3.00N×126.84E, h0km, mb4.1/6, mb1 4.3/7, mb1mx4.0/21, mbtmp4.2/7, ML3.7/1, MS4.1/2, Ms1 4.1/2, ms1mx3.5/31, Error ellipse: s-maj=58.7km s-min=16.7km az=71.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**10.65**	**222**	Pn	Pn	10 47 02.5	0.0
0.5nm,0.3s,baz=45,slow=5.7,SNR=3.2							
KAPI				LR	LR	10 50 45.7	
comp=Z,360nm,20.3s,baz=58,slow=35							
WRA	**Warramunga Arr**	**23.96**	**162**	P	P	10 49 44.5	-0.2
6.8nm,0.6s,baz=342,slow=10,SNR=21							
ASAR	**Alice Springs**	**27.38**	**166**	P	P	10 50 15.8	0.0
0.8nm,0.5s,baz=354,slow=7.7,SNR=11							
STKA	**Stephens Creek**	**37.41**	**159**	P	P	10 51 43.6	+0.1
6.9nm,0.7s,baz=331,slow=9.7,SNR=9.1							
SONM	**Songino Array**	**48.02**	**342**	P	P	10 53 09.3	-0.3
1.4nm,0.7s,baz=156,slow=9.0,SNR=5.0							
MKAR	**Makanchi Array**	**58.21**	**325**	P	P	10 54 24.6	0.0
0.7nm,0.4s,baz=119,slow=7.5,SNR=14							
ZALV	**Zalesovo Beam**	**61.28**	**333**	P	P	10 54 45.6	0.0
0.6nm,0.4s,baz=125,slow=7.2,SNR=2.8							
KMBO	**Kilima Mbogo**	**89.64**	**269**	LR	LR	11 35 02.3	
comp=Z,288nm,19.6s,baz=78,slow=34							

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*IDC **21** 10:51:32.4±2.4, 51.16N×178.87E, h0km, mb3.6/5, mb1 4.0/7, mb1mx3.7/27, mbtmp3.8/7, ML3.7/2, MS3.5/1, Ms1 3.5/1, ms1mx3.2/40, Error ellipse: s-maj=61.2km s-min=13.3km az=11.0*

*NEIC **21** 10:51:33.4, 51.07N×178.27E, h2km, ML3.1(AEIC), After AEIC.*

ISC 21 10:51:32.0±3.5, 51.00N±0.1×178.29E±0.04, h7km±22km, n20, σ1.96/25, mb3.8/5, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.75**	**58**	P	**Pb**	**10 51 48.4**	**+1.1**
AMKA				S	**Sb**	**10 51 59.5**	**+1.7**
LSSE	**Little Sitkin**	**0.96**	**11**	P	**Pb**	**10 51 51.5**	**+0.5**
LSSA	**Little Sitkin**	**0.97**	**8**	P	**Pb**	**10 51 51.5**	**+0.3**
LSPA	**Little Sitkin**	**0.98**	**10**	P	**Pb**	**10 51 51.8**	**+0.4**
LSPA				S	**Sn**	**10 52 07.3**	**+0.8**
LSNW	**Little Sitkin**	**0.99**	**8**	P	**Pb**	**10 51 51.7**	**+0.2**
CESW	**Semis' Southwe**	**1.21**	**41**	P	**Pn**	**10 51 56.1**	**+0.7**
CETU	**Semis' Tuman**	**1.23**	**37**	P	**Pn**	**10 51 56.7**	**+1.0**
CERAA	**Semis' Rag'd T**	**1.27**	**43**	P	**Pb**	**10 51 56.8**	**+0.5**
CERAA				S	**Sn**	**10 52 14.8**	**+1.3**
CEAP	**Semis' Anvil P**	**1.29**	**38**	P	**Pn**	**10 51 57.3**	**+0.8**
SMY	**Shemya**	**3.12**	**305**	P	**Pn**	**10 52 23.4**	**+1.7**

SMY				S	Sn	10 53 02.6	+3.4
ADK	**Adak**	**3.27**	**72**	P	**Pn**	**10 52 24.9**	**+1.2**
ADK				S	**Sn**	**10 53 05.5**	**+2.7**
FX1	**Attu Island--F**	**3.69**	**303**	P	**Pn**	**10 52 32.4**	**+2.9**
FX1	**Attu Island--F**	**3.69**	**303**	Pn	**Pn**	**10 52 31.7**	**+2.2**
	12nm,0.3s,baz=76,slow=16,SNR=28						
FX1				Sn	**Sb**	**10 53 18.8**	**-3.7**
	4.8nm,0.3s,baz=107,slow=19,SNR=3.2						
PETK	**Petropavlovsk-**	**12.84**	**287**	LR	LR	10 59 17.4	
	comp=Z,222nm,21.8s,baz=268,slow=35						
KDAK	**Kodiak Island**	**18.17**	**57**	P	**Pn**	**10 55 41.8**	**-2.8**
	0.8nm,0.3s,baz=252,slow=3.2,SNR=5.0						
ILAR	**Eielson Array**	**22.70**	**39**	P	**P**	**10 56 31.6**	**-2.3**
	0.4nm,0.7s,baz=233,slow=8.8,SNR=9.7						
PDAR	**Pinedale Array**	**48.17**	**70**	P	**P**	**11 00 12.2**	**-0.9**
	0.7nm,0.7s,baz=302,slow=3.5,SNR=6.7						
ARCES	**ARCESS Array B**	**58.14**	**349**	P	**P**	**11 01 24.6**	**-1.1**
	4.7nm,0.9s,baz=39,slow=7.3,SNR=3.3						
TXAR	**Lajitas Array**	**60.53**	**79**	P	**P**	**11 01 41.6**	**-1.3**
	0.1nm,0.5s,baz=311,slow=6.7,SNR=4.3						
FINES	**FINESS Array B**	**65.73**	**346**	P	**P**	**11 02 18.9**	**+2.0**
	3.2nm,1.0s,baz=8.8,slow=12,SNR=2.4						

*TIR **21** 11:15:25.7±2.6, 39°.93N×20°.81E, h20km±18km, ML2.8*
*ATH **21** 11:15:25.8, 39°.98N×20°.69E, h14km±1km, MD3.4/15*
*CSEM **21** 11:15:26.1±0.3, 39°.99N×20°.76E, h2km, MD3.4, Error ellipse: s-maj=7.4km s-min=5.1km az=87.0*

ISC 21 11:15:25.9±1.0, 39°.97N±0°.02×20.75E±0°.03, h11km±9km, n41, σ0.79/57, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.32**	**166**	*e*PB	**Pg**	**11 15 32.4**	**0.0**
JAN				*e*SB	**Sg**	**11 15 37.8**	**+1.1**
JAN	**Janina**	**0.32**	**166**	*e*Pb	**Pg**	**11 15 32.4**	**0.0**
JAN				*e*Sb	**Sg**	**11 15 37.8**	**+1.1**
SRN	**Sarande**	**0.58**	**262**	*i* PG	**Pg**	**11 15 36.7**	**-0.6**
SRN				*i* SG	**Sb**	**11 15 46.9**	**+0.3**
SRN	**Sarande**	**0.58**	**262**	*i* Pg	**Pg**	**11 15 36.7**	**-0.6**
	SNR=90						
SRN				*i* Sg	**Sb**	**11 15 46.8**	**+0.3**
	SNR=90						
KBN	**Korca**	**0.66**	**2**	*i* PG	**Pg**	**11 15 38.6**	**-0.1**
KBN				*i* SG	**Sb**	**11 15 48.9**	**+0.2**
KBN	**Korca**	**0.66**	**2**	*i* Pg	**Pg**	**11 15 38.6**	**-0.1**
	SNR=91						
KBN				*i* Sg	**Sb**	**11 15 48.9**	**+0.2**
	SNR=91						
KEK	**Kerkira**	**0.78**	**251**	*e*PB	**Pg**	**11 15 39.9**	**-1.0**
FNA	**Florina**	**0.94**	**30**	*e*PB	**Pg**	**11 15 44.1**	**-0.1**
FNA	**Florina**	**0.94**	**30**	*e*Pn	**Pg**	**11 15 44.1**	**-0.1**
THL	**Klokotos Trika**	**1.05**	**112**	*e*PG	**Pn**	**11 15 46.1**	**-0.6**
THL				*e*SB	**Sn**	**11 16 02.3**	**+0.9**
THL	**Klokotos Trika**	**1.05**	**112**	*e*Pn	**Pn**	**11 15 46.1**	**-0.6**
THL				*e*Sn	**Sn**	**11 16 02.3**	**+0.9**
BIA	**Bitola**	**1.14**	**22**	*e*Pg	**Pn**	**11 15 47.2**	**-0.7**
BIA				*e*Sg	**Sb**	**11 16 01.2**	**-1.3**
BIA	**Bitola**	**1.14**	**22**	*e*Pg	**Pb**	**11 15 46.7**	**-1.0**
BIA				*e*Sg	**Sn**	**11 16 05.7**	**+2.1**
LKD2	**Lefkada island**	**1.18**	**184**	*e*PN	**Pg**	**11 15 47.3**	**-1.2**
LKD2	**Lefkada island**	**1.18**	**184**	*e*Pb	**Pn**	**11 15 47.3**	**-1.2**
EVR	**Evrytania**	**1.33**	**142**	*e*PB	**Pg**	**11 15 51.7**	**+0.2**
EVR				*e*SB	**Sg**	**11 16 09.5**	**+0.7**
EVR	**Evrytania**	**1.33**	**142**	*e*Pn	**Pg**	**11 15 51.7**	**+0.2**
EVR				*e*Sn	**Sg**	**11 16 09.5**	**+0.7**
TIR	**Tirane**	**1.53**	**334**	*e*Pn	**Pb**	**11 15 54.4**	**0.0**
TIR				*e*Sn	**Sg**	**11 16 15.4**	**+0.1**
AGG	**Agios Georgios**	**1.54**	**127**	*e*PB	**Pg**	**11 15 55.5**	**-0.1**
AGG	**Agios Georgios**	**1.54**	**127**	*e*Pn	**Pg**	**11 15 55.5**	**-0.1**
GRG	**Griva**	**1.60**	**51**	*e*PG	**Pb**	**11 15 55.5**	**-0.1**
GRG	**Griva**	**1.60**	**51**	*e*Pn	**Pb**	**11 15 55.5**	**-0.1**
PHP	**Peshkopia**	**1.73**	**352**	*e*PN	**Pg**	**11 16 00.1**	**+0.9**
PHP	**Peshkopia**	**1.73**	**352**	*e*Pn	**Pg**	**11 16 00.1**	**+0.9**
	SNR=40						
EFP	**Efpalio**	**1.78**	**149**	*e*PG	**Pb**	**11 15 59.2**	**+0.6**
EFP	**Efpalio**	**1.78**	**149**	*e*Pn	**Pb**	**11 15 59.2**	**+0.6**
VLS	**Valsamata**	**1.79**	**184**	*e*PG	**Pb**	**11 15 59.2**	**+0.4**
VLS				*e*SN	**Sg**	**11 16 23.1**	**-0.5**
VLS	**Valsamata**	**1.79**	**184**	*e*Pn	**Pb**	**11 15 59.2**	**+0.4**
VLS				*e*Sn	**Sg**	**11 16 23.1**	**-0.5**
KALE	**Kalithea**	**1.91**	**145**	*e*PN	**Pb**	**11 15 59.8**	**-1.1**
KALE	**Kalithea**	**1.91**	**145**	*e*Pn	**Pb**	**11 15 59.8**	**-1.1**
VAY	**Valandovo**	**1.93**	**45**	*e*Pn	**Pb**	**11 16 00.7**	**-0.6**
VAY	**Valandovo**	**1.93**	**45**	*e*Pn	**Pb**	**11 16 00.1**	**-1.1**
LAKA	**Lakka**	**1.97**	**151**	*e*PN	**Pb**	**11 16 02.1**	**+0.2**
LAKA	**Lakka**	**1.97**	**151**	*e*Pn	**Pb**	**11 16 02.1**	**+0.2**
SKO	**Skopje**	**2.07**	**14**	*e*Pn	**Pn**	**11 16 01.4**	**+0.7**
SKO	**Skopje**	**2.07**	**14**	*e*Pn	**Pg**	**11 16 04.4**	**-1.2**
PLG	**Polygyros**	**2.10**	**78**	*e*PB	**Pn**	**11 16 01.8**	**+0.6**
PLG				*e*SN	**Sb**	**11 16 28.8**	**-1.5**
SOH	**Sokhos**	**2.16**	**66**	*e*PN	**Pb**	**11 16 04.2**	**-1.0**
SOH	**Sokhos**	**2.16**	**66**	*e*Pn	**Pb**	**11 16 04.2**	**-1.0**
LKR	**Lokris**	**2.19**	**126**	*e*PN	**Pb**	**11 16 04.9**	**-0.6**
LKR	**Lokris**	**2.19**	**126**	*e*Pn	**Pb**	**11 16 04.9**	**-0.6**

*ISCJB **21** 11:59:41.3±0.5, 0°.94S±0°.03×79°.47W±0°.05, h84km, mb3.9/6, Error ellipse: s-maj=7.5km s-min=4.8km az=4.2*
*IGQ **21** 11:59:42.0, 0°.91S×79°.21W, h106km±3km, Mb4.2, Ms4.0, Error ellipse: s-maj=1.5km s-min=1.0km az=4.0*
*IDC **21** 11:59:44.0±4.2, 1°.00S×79°.11W, h127km±46km, mb3.3/5, mb1 3.7/8, mb1mx3.5/22, mbtmp3.9/8, Error ellipse: s-maj=54.8km s-min=18.3km az=50.0*

ISC 21 11:59:40.5±0.8, 0°.92S±0°.04×79°.37W±0°.09, h84km, n44, σ2.01/42, mb3.8/6, 6C-13D, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PECV	**Mancha de Ca P**	**0.69**	**282**	P	Pn	12 00 05.3	+8.8
CAMI	**Rancho Maria**	**0.90**	**74**	⇓P	**Pn**	**12 00 01.6**	**+2.5**
IGUA	**Igualata**	**0.92**	**128**	P	**Pn**	**12 00 01.7**	**+2.2**
MAG1	**Magdalena**	**0.94**	**334**	P	Pn	12 00 03.1	+4.0
NAS2	**Nasa**	**0.94**	**73**	⇓P	**Pn**	**12 00 02.1**	**+2.5**
PISA	**Pisayambo**	**0.99**	**98**	⇑P	**Pn**	**12 00 02.1**	**+1.8**
PITA	**Cotopaxi Volc**	**1.00**	**69**	⇓P	**Pn**	**12 00 02.5**	**+2.1**
VC1	**Cotopaxi 1**	**1.01**	**74**	⇓P	**Pn**	**12 00 02.5**	**+2.1**
BIL2	**Estacion Bilba**	**1.02**	**121**	⇓P	**Pn**	**12 00 02.1**	**+1.9**
TAMB	**Tambo**	**1.03**	**77**	⇓P	**Pn**	**12 00 02.6**	**+2.0**
JUI6	**Juive**	**1.03**	**119**	⇓P	**Pn**	**12 00 02.1**	**+1.7**
JUA2	**San Juan 2**	**1.04**	**47**	P	**Pn**	**12 00 03.4**	**+2.7**
COV1	**Cotopaxi Volc**	**1.06**	**76**	⇓P	**Pn**	**12 00 02.3**	**+1.2**
RETU	**Refugio**	**1.06**	**120**	⇓P	**Pn**	**12 00 02.9**	**+1.8**
JAMA	**Jama**	**1.06**	**308**	P	Pn	12 00 04.4	+3.8
RUN5	**Runtun**	**1.06**	**117**	S	**Sn**	**12 00 18.4**	**+2.2**
RUN5	**Runtun**	**1.06**	**117**	P	**Pn**	**12 00 02.5**	**+1.6**
TERV	**Terraza Guagua**	**1.07**	**46**	P	**Pn**	**12 00 03.4**	**+2.3**
GGP	**Refugio Guagua**	**1.07**	**46**	⇑P	**Pn**	**12 00 03.5**	**+2.2**
PINO	**Pino**	**1.08**	**45**	⇑P	**Pn**	**12 00 03.4**	**+2.1**
ARRY	**Arrayan**	**1.08**	**122**	⇓P	**Pn**	**12 00 02.6**	**+1.4**
ULBA	**Ulba**	**1.09**	**119**	⇓P	**Pn**	**12 00 02.7**	**+1.4**
PAT1	**Patacocha**	**1.10**	**122**	⇓P	**Pn**	**12 00 03.1**	**+1.6**
ANTI	**Antisana**	**1.30**	**69**	P	**Pn**	**12 00 05.6**	**+1.6**
OTAV	**Otavalo**	**1.47**	**39**	⇑S	**Sn**	**12 00 27.2**	**+1.8**
OTAV	**Otavalo**	**1.47**	**39**	⇑P	**Pn**	**12 00 07.8**	**+1.7**
COTA	**Cotacachi**	**1.62**	**40**	⇑P	**Pn**	**12 00 10.0**	**+2.0**
CAYR	**Refugio Cayamb**	**1.65**	**56**	⇓P	**Pn**	**12 00 10.5**	**+1.9**
CHAR	**Charly**	**1.89**	**64**	P	**Pn**	**12 00 12.8**	**+1.3**
CONE	**Cono NE Rev Vo**	**1.92**	**64**	P	**Pn**	**12 00 13.4**	**+1.5**
LAV4	**Lava4-Reventad**	**1.93**	**65**	P	**Pn**	**12 00 12.9**	**+1.2**
CATE	**Catamayo**	**3.02**	**180**	S	**Sn**	**12 01 05.4**	**+3.7**
CATE	**Catamayo**	**3.02**	**180**	P	**Pn**	**12 00 28.5**	**+2.2**
ATAH	**Atahualpa**	**6.25**	**171**	P	**Pn**	**12 01 12.6**	**+2.0**
	8.1nm,0.3s,baz=13,slow=9.0,SNR=18						
ATAH				S	**Sn**	**12 02 22.1**	**+1.4**
	4.4nm,0.3s,baz=12,slow=20,SNR=9.5						
NNA	**Nana**	**11.28**	**167**	P	**Pn**	**12 02 19.6**	**+0.8**
	4.7nm,0.3s,baz=329,slow=13,SNR=8.7						
NNA				S	**Sn**	**12 04 20.2**	**-2.8**
	1.9nm,0.3s,baz=55,slow=18,SNR=3.2						
LPAZ	**La Paz**	**18.86**	**145**	P	**P**	**12 03 54.0**	**-0.8**
	0.3nm,0.3s,baz=338,slow=12,SNR=13						
TEIG	**Tepich**	**22.76**	**338**	P	**P**	**12 04 37.8**	**+1.8**
	2.9nm,0.5s,baz=180,slow=20,SNR=4.0						
TXAR	**Lajitas Array**	**38.01**	**324**	P	P	12 06 51.9	+1.2
	0.5nm,0.9s,baz=138,slow=11,SNR=3.2						
TXAR				PcP	**PcP**	**12 09 03.3**	**-1.5**
	0.3nm,0.6s,baz=90,slow=3.8,SNR=4.3						
PDAR	**Pinedale Array**	**51.27**	**332**	P	**P**	**12 08 36.7**	**+0.5**
	20nm,0.4s,baz=126,slow=4.7,SNR=2.3						
NVAR	**Mina Array Bea**	**53.06**	**322**	P	**P**	**12 08 49.6**	**+0.1**
	1.6nm,0.8s,baz=145,slow=7.6,SNR=11						
ILAR	**Eielson Array**	**81.41**	**336**	P	**P**	**12 11 47.3**	**-0.6**
	0.9nm,0.9s,baz=140,slow=3.9,SNR=9.4						
TORD	**Torodi Ar. Bea**	**81.51**	**77**	P	**P**	**12 11 46.4**	**-3.0**
	0.2nm,0.5s,baz=267,slow=8.1,SNR=3.5						
ASAR	**Alice Springs**	**139.47**	**231**	PKhKP	PKPpre	12 18 49.9	
	0.4nm,1.0s,baz=120,slow=3.8,SNR=6.5						
WRA	**Warramunga Arr**	**140.99**	**236**	PKhKP	PKPpre	12 18 55.1	
	0.4nm,0.9s,baz=112,slow=4.5,SNR=4.2						
WRA				PKP	**PKiKP**	**12 19 02.2**	**-2.4**
	0.2nm,0.5s,baz=112,slow=2.0,SNR=7.4						

IDC 21 12:01:42.0±3.4, 4°.66S×151°.93E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/18, mbtmp3.3/3, Error ellipse: s-maj=122.8km s-min=45.7km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.90**	**227**	P	P	12 06 48.0	+0.3
	0.2nm,0.3s,baz=52,slow=9.7,SNR=13						
ASAR	**Alice Springs**	**25.68**	**221**	P	P	12 07 14.0	0.0
	0.3nm,0.7s,baz=53,slow=9.2,SNR=8.7						
FITZ	**Fitzroy Crossi**	**28.98**	**240**	P	P	12 07 43.2	-0.4
	0.8nm,0.7s,baz=73,slow=14,SNR=3.1						
TORD	**Torodi Ar. Bea**	**149.44**	**288**	PKPbc	PKPbc	12 21 33.8	-0.4
	0.2nm,0.5s,baz=94,slow=4.3,SNR=3.1						

*SKO **21** 12:29:04.9, 41°.30N×19°.92E, h26km, M2.1, ML2.5*
*CSEM **21** 12:29:05.8±0.4, 41°.32N×20°.06E, h2km, ML3.0, Error ellipse: s-maj=7.8km s-min=4.8km az=12.0*
*TIR **21** 12:29:05.0±0.7, 41°.34N×20°.06E, h13km±4km, ML3.0*
*PDG **21** 12:29:06.4±0.2, 41°.37N×20°.05E, h6km, ML2.5/9, Error ellipse: s-maj=0.4km s-min=0.6km az=0.0*
*BEO **21** 12:29:07.4±0.4, 41°.40N×20°.08E, h0km, ML2.1/7*

ISC 21 12:29:06.4±0.9, 41°.33N±0°.04×20.02E±0°.02, h14km±6km, n47, σ1.10/92, 9C-8D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.12**	**278**	*e*PG	**Pg**	**12 29 09.5**	**-0.3**
TIR				*e*SG	**Sg**	**12 29 12.2**	**+0.1**
TIR	**Tirane**	**0.12**	**278**	*e*Pg	**Pg**	**12 29 09.8**	**-0.1**
TIR				*i* Sg	**Sg**	**12 29 12.6**	**+0.5**
TIR	**Tirane**	**0.12**	**278**	*e*Pg	**Pg**	**12 29 09.5**	**-0.3**
	SNR=139						
TIR				*e*Sg	**Sg**	**12 29 12.2**	**+0.1**
	SNR=139						
PHP	**Peshkopia**	**0.47**	**42**	*e*PG	**Pg**	**12 29 14.8**	**-1.1**
PHP				*e*SG	**Sg**	**12 29 22.0**	**-0.3**
PHP	**Peshkopia**	**0.47**	**42**	*e*Pg	**Pg**	**12 29 14.8**	**-1.1**
	SNR=103						
PHP				*e*Sg	**Sg**	**12 29 22.0**	**-0.3**
	SNR=103						
PUK	**Puka**	**0.72**	**352**	*e*PG	**Pg**	**12 29 19.2**	**-1.2**
PUK				*e*SG	**Sb**	**12 29 30.6**	**+0.1**
PUK	**Puka**	**0.72**	**352**	*e*Pg	**Pg**	**12 29 19.2**	**-1.2**
	SNR=96						
PUK				*e*Sg	**Sb**	**12 29 30.6**	**+0.1**
	SNR=96						
ULC	**Ulcinj**	**0.86**	**318**	⇑*i*Pg	**Pg**	**12 29 21.2**	**-1.9**
ULC				*e*Sg	**Sb**	**12 29 35.2**	**+0.7**
ULC	**Ulcinj**	**0.86**	**318**	⇑*i*Pg	**Pg**	**12 29 21.2**	**-1.9**
ULC				*e*Sg	**Sb**	**12 29 35.2**	**+0.7**
BIA	**Bitola**	**1.03**	**107**	*i* Pg	**Pg**	**12 29 25.1**	**-1.3**
BIA				*i* Sg	**Sn**	**12 29 40.6**	**-0.2**
BIA	**Bitola**	**1.03**	**107**	*i* Pg	**Pg**	**12 29 24.5**	**-1.9**
BIA				*i* Sg	**Sb**	**12 29 40.1**	**+0.6**
BCI	**Bajram Curri**	**1.03**	**2**	*e*PG	**Pg**	**12 29 24.9**	**-1.5**
BCI				*e*SG	**Sn**	**12 29 40.4**	**-0.4**
BCI	**Bajram Curri**	**1.03**	**2**	*e*Pg	**Pg**	**12 29 24.9**	**-1.5**
	SNR=93						
BCI				*e*Sg	**Sn**	**12 29 40.4**	**-0.4**
	SNR=93						
DRME	**Dracevica, Mon**	**1.06**	**324**	⇓*i*Pg	**Pb**	**12 29 24.7**	**-1.8**
DRME				*e*Sg	**Sn**	**12 29 42.0**	**+0.6**
DRME	**Dracevica, Mon**	**1.06**	**324**	⇓*i*Pg	**Pb**	**12 29 24.7**	**-1.8**
DRME				*e*Sg	**Sn**	**12 29 42.0**	**+0.6**
PDG	**Podgorica**	**1.24**	**333**	*e*Pg	**Pn**	**12 29 29.0**	**-0.3**
PDG				*e*Sg	**Sg**	**12 29 47.4**	**+1.0**
PDG	**Podgorica**	**1.24**	**333**	*e*Pg	**Pn**	**12 29 29.0**	**-0.3**
PDG				*e*Sg	**Sg**	**12 29 47.9**	**+1.5**
TTG	**Podgorica**	**1.24**	**333**	⇑*i*Pg	**Pn**	**12 29 28.6**	**-0.7**
TTG				*e*Sg	**Sg**	**12 29 47.9**	**+1.5**
SKO	**Skopje**	**1.24**	**58**	*e*Pg	**Pb**	**12 29 29.5**	**-0.1**
SKO				*i* Sg	**Sb**	**12 29 44.4**	**-1.1**
SKO	**Skopje**	**1.24**	**58**	*e*Pg	**Pg**	**12 29 32.0**	**+1.7**
SKO				*i* Sg	**Sn**	**12 29 47.2**	**+1.3**
SKO				*e*Lg	Lg	12 29 47.4	
	comp=N,86nm,0.4s						
SKO				*e*Lg	Lg	12 29 47.9	
	comp=E,37nm,0.5s						
SKO	**Skopje**	**1.24**	**58**	*e*Pg	**Pb**	**12 29 29.5**	**-0.1**
SKO				*i* Sg	**Sb**	**12 29 44.4**	**-1.1**
SKO				*e*Lg	Lg	12 29 46.9	
	comp=E,37nm,0.5s						
PVY	**Plav**	**1.26**	**358**	⇓*i*Pg	**Pn**	**12 29 28.8**	**-1.0**
PVY				*e*Sg	**Sg**	**12 29 48.2**	**+0.9**
PVY	**Plav**	**1.26**	**358**	⇓*i*Pg	**Pn**	**12 29 28.8**	**-1.0**
PVY				*e*Sg	**Sg**	**12 29 48.2**	**+0.9**
BUM	**Brajici-Budva**	**1.28**	**319**	⇑*i*Pg	**Pn**	**12 29 29.6**	**-0.4**
BUM				*e*Sg	**Sg**	**12 29 49.7**	**+1.8**
BUM	**Brajici-Budva**	**1.28**	**319**	⇑*i*Pg	**Pn**	**12 29 29.6**	**-0.4**
BUM				*e*Sg	**Sg**	**12 29 49.7**	**+1.8**
BEY	**Berane**	**1.54**	**357**	⇓*i*Pg	**Pn**	**12 29 34.1**	**+0.5**
BEY				*e*Sg	**Sg**	**12 29 57.3**	**+1.1**
IVA	**Berane**	**1.54**	**357**	⇓*i*Pg	**Pn**	**12 29 34.1**	**+0.5**
IVA				*e*Sg	**Sg**	**12 29 57.3**	**+1.1**
HCY	**Herceg Novi**	**1.59**	**315**	⇑*i*Pn	**Pn**	**12 29 35.2**	**+1.0**
HCY				*e*Sn	**Sg**	**12 29 59.4**	**+1.6**
HCY	**Herceg Novi**	**1.59**	**315**	⇑*i*Pn	**Pn**	**12 29 35.2**	**+1.0**
HCY				*e*Sn	**Sg**	**12 29 59.4**	**+1.6**
NKME	**Niksic**	**1.64**	**331**	⇓*i*Pn	**Pn**	**12 29 35.8**	**+0.9**
NKME				*e*Sn	**Sg**	**12 30 00.3**	**+1.0**
NKME	**Niksic**	**1.64**	**331**	⇓*i*Pn	**Pn**	**12 29 35.8**	**+0.9**
NKME				*e*Sn	**Sg**	**12 30 00.3**	**+1.0**
TREB	**Trebinje**	**1.86**	**319**	*e*Pn	**Pb**	**12 29 39.5**	**-0.7**
TREB				*e*Sn	**Sg**	**12 30 06.6**	**+0.3**
TREB	**Trebinje**	**1.86**	**319**	*e*Pn	**Pb**	**12 29 39.5**	**-0.7**
TREB				*e*Sn	**Sg**	**12 30 06.6**	**+0.3**
BRY	**Bratogost**	**1.92**	**325**	⇑*i*Pn	**Pn**	**12 29 40.0**	**+1.2**
BRY				*e*Sn	**Sb**	**12 30 06.8**	**+1.7**
BRY	**Bratogost**	**1.92**	**325**	⇑*i*Pn	**Pn**	**12 29 40.0**	**+1.2**
BRY				*e*Sn	**Sb**	**12 30 06.8**	**+1.7**
SJES	**Sjenica**	**1.93**	**359**	*e*Pn	**Pn**	**12 29 40.1**	**+1.2**
SJES				*e*Sg	**Sg**	**12 30 07.0**	**-1.5**
BARS	**Barje**	**2.00**	**41**	*e*Pn	**Pb**	**12 29 43.0**	**+0.5**
BARS				*i* Sg	**Sb**	**12 30 07.9**	**+0.7**
BARS	**Barje**	**2.00**	**41**	*e*Pn	**Pb**	**12 29 43.0**	**+0.5**
BARS				*i* Sg	**Sb**	**12 30 07.9**	**+0.7**
UPM	**Unac-Piva**	**2.04**	**337**	*e*Pn	**Pn**	**12 29 42.0**	**+1.4**
UPM				*e*Sn	**Sb**	**12 30 10.1**	**+1.3**
UPM	**Unac-Piva**	**2.04**	**337**	*e*Pn	**Pn**	**12 29 42.0**	**+1.4**
UPM				*e*Sn	**Sb**	**12 30 10.1**	**+1.3**
SELS	**Selova**	**2.06**	**23**	*e*Pn	**Pn**	**12 29 41.4**	**+0.8**
SELS				*e*Sg	**Sb**	**12 30 09.3**	**+0.3**
IVAS	**Ivanjica**	**2.25**	**2**	*e*Pn	**Pn**	**12 29 44.8**	**+1.6**
IVAS				*e*Sg	**Sb**	**12 30 14.4**	**-0.1**
IVAS	**Ivanjica**	**2.25**	**2**	*e*Pn	**Pn**	**12 29 44.8**	**+1.6**
IVAS				*e*Sg	**Sb**	**12 30 14.4**	**-0.1**
STON	**Ston**	**2.31**	**312**	*e*Pn	**Pb**	**12 29 46.4**	**-1.5**
STON	**Ston**	**2.31**	**312**	*e*Pn	**Pb**	**12 29 46.4**	**-1.5**
BBLS	**Lazići**	**2.57**	**350**	*e*Pn	**Pn**	**12 29 47.5**	**-0.2**
BBLS				*e*Sn	**Sb**	**12 30 22.7**	**-1.2**
BBLS	**Lazići**	**2.57**	**350**	*e*Pn	**Pn**	**12 29 47.5**	**-0.2**
BBLS				*e*Sn	**Sb**	**12 30 22.7**	**-1.2**

DJA 21 12:49:31.2±0.9, 3°S±4°×12°9E±°, h3km±7km, M3.6/5, MLv3.6/5, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.68**	**212**	P	Pg	12 49 43.0	-1.2
MSAI				S	Sg	12 49 53.8	+0.8
AAI	**Ambon**	**1.42**	**230**	P	Pn	12 49 57.0	-1.0
BNDI	**Bandanaira**	**1.85**	**161**	P	Pn	12 50 02.8	-1.0
SWI	**Sorong**	**2.73**	**46**	P	Pn	12 50 16.1	+0.1
LBMI	**Labuha**	**2.77**	**320**	P	Pn	12 50 17.7	+1.1
LBMI				S	Sn	12 50 50.9	+0.3

*IDC **21** 13:12:44.8±1.8, 5°.71S×130°.79E, h0km, mb3.7/2, mb1 4.2/5, mb1mx3.8/18, mbtmp4.0/5, ML4.2/3, Error ellipse: s-maj=90.3km s-min=24.8km az=80.0*
*ISCJB **21** 13:12:54.9±0.6, 5°.82S±0°.04×130°.90E±0°.06, h154km±8km, mb3.5/2, Error ellipse: s-maj=9.8km s-min=6.7km az=163.9*
*DJA **21** 13:12:57.1±0.5, 6°S±2°×13°1E±°, h123km±7km, M4.6/6, mb5.0/2, mB5.6/1, MLv4.3/6, Mw(mB)5.1/1*

ISC 21 13:12:57.9±1.0, 5.77S±0°.05×130°.94E±0°.06, h125km±10km, n13, σ1.72/17, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.61**	**320**	P	**Pn**	**13 13 27.8**	**+0.8**
BNDI				S	**Sn**	**13 13 50.6**	**+1.5**
TLE	**Tual**	**1.79**	**86**	P	**Pn**	**13 13 29.4**	**+0.3**
TLE				S	**Sn**	**13 13 54.1**	**+1.3**
SAUI	**Saumlaki**	**2.23**	**171**	P	**Pn**	**13 13 34.1**	**-0.4**
SAUI				S	**Sn**	**13 14 01.8**	**-0.8**
FAKI	**Fak Fak**	**3.11**	**25**	P	**Pn**	**13 13 45.4**	**-0.5**
FAKI				S	**Sn**	**13 14 22.3**	**-0.6**
MSAI	**Masohi**	**3.13**	**320**	P	**Pn**	**13 13 46.2**	**+0.1**
MSAI				S	**Sn**	**13 14 22.3**	**-1.0**
KMPI	**Kaimana, Papua**	**3.45**	**53**	P	**Pn**	**13 13 49.8**	**-0.5**
SWI	**Sorong**	**4.88**	**4**	P	**Pn**	**13 14 08.4**	**-1.0**
SWI				S	**Sn**	**13 15 00.7**	**-4.2**
BAKI	**Biak**	**6.87**	**49**	P	**Pn**	**13 14 37.7**	**+1.5**
	136nm,0.8s						
FITZ	**Fitzroy Crossi**	**13.31**	**202**	Pn	Pn	13 15 55.8	-6.2
	1.9nm,0.3s,baz=28,slow=11,SNR=66						
FITZ				Sn	Sn	13 18 12.3	-17
	2.5nm,0.3s,baz=66,slow=20,SNR=9.2						
WRA	**Warramunga Arr**	**14.47**	**167**	Pn	Pn	13 16 11.0	-5.9
	0.6nm,0.3s,baz=350,slow=14,SNR=42						
WRA				Sn	Sn	13 18 41.5	-16
	1.3nm,0.3s,baz=352,slow=23,SNR=7.6						
ASAR	**Alice Springs**	**18.02**	**171**	P	**Pn**	**13 16 58.1**	**-2.5**
	0.9nm,0.3s,baz=349,slow=10,SNR=110						
ASAR				S	S	13 20 08.1	-12
	0.3nm,0.3s,baz=351,slow=25,SNR=6.6						
SONM	**Songino Array**	**57.59**	**341**	P	**P**	**13 22 36.3**	**+1.6**
	0.2nm,0.5s,baz=152,slow=6.4,SNR=2.7						
MKAR	**Makanchi Array**	**67.72**	**326**	P	**P**	**13 23 42.9**	**+0.9**
	1.2nm,0.7s,baz=125,slow=8.0,SNR=6.8						

IDC 21 13:26:44.4±1.6, 5°.02N×125°.29E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/22, mbtmp3.5/4, 1D, Error ellipse: s-maj=116.0km s-min=23.9km az=69.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**1.11**	**342**	⇓*i*P	Sg	13 27 18.5	-2.0
FITZ	**Fitzroy Crossi**

SIPP				*e*S	Sn	13 58 43.5	+0.4
CVP	**Callao Caves**	**1.21 155**		*i* P	Pb	13 58 26.4	-0.2
CVP				*i* S	Sn	13 58 44.1	+0.2
ABRA	**Dolores**	**1.27 205**		*e*P	Pg	13 58 26.5	-0.9
CAUP	**Cauayan**	**1.92 164**		*e*P	Pb	13 58 38.5	-0.3
PALP	**Palanan**	**2.04 148**	⇑	*e*P	Pn	13 58 38.3	-0.2
PALP				*e*S	Sb	13 59 06.8	0.0
BALP	**Baler**	**3.06 175**		*e*P	Pn	13 58 54.3	+1.9

*ISCJB **21** 14:01:56.1±0.3, 44°.50S±0°.05×37°.4E±0°.1, h10km, mb4.3/22, MS4.2/21, Error ellipse: s-maj=12.8km s-min=7.2km az=166.4*
*DJA **21** 14:01:56.5±0.4, 44°.5±5°.×3°.8E± °, h10km, M4.7/6, mB5.4/2, mb4.7/6, Mw(mB)4.9/2*
*IDC **21** 14:01:56.1±0.5, 44°.51S×37°.49E, h0km, mb4.3/17, mb1 4.4/19, mb1mx4.3/26, mbtmp4.3/19, ML4.0/2, MS4.2/23, Ms1 4.1/23, ms1mx4.1/30, Error ellipse: s-maj=18.9km s-min=12.7km az=68.0*
*NEIC **21** 14:01:57.7±0.2, 44°.52S×37°.43E, h10km, mb4.8/10, Error ellipse: s-maj=10.0km s-min=6.1km az=69.0*

ISC 21 14:01:57.6±0.4, 44°.50S±0°.07×37°.4E±0°.1, h10km, n151, σ0.86/140, mb4.5/22, MS4.2/21, 39C-31D, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**17.72 307**		*e*Pn	**Pn**	**14 06 03.7**	**-0.9**
SUR	**Sutherland**	**17.72 307**		P	**Pn**	**14 06 03.1**	**-1.5**
	0.8nm,0.3s,baz=211,slow=7.3,SNR=7.5						
SUR				LR	LR	14 11 32.4	
	comp=Z,490nm,19.1s,baz=12,slow=32						
BOSA	**Boshof**	**18.58 324**		*e*P	**P**	**14 06 14.6**	**-0.4**
	49nm,1.3s						
BOSA	**Boshof**	**18.58 324**		P	**P**	**14 06 14.6**	**-0.4**
	0.3nm,0.3s,baz=156,slow=11,SNR=9.3						
BOSA				LR	LR	14 12 19.8	
	comp=Z,767nm,18.4s,baz=142,slow=34						
LBTB	**Lobatse**	**21.68 330**		*e*P	**P**	**14 06 48.8**	**+0.2**
	88nm,1.3s						
LBTB	**Lobatse**	**21.68 330**		P	**P**	**14 06 48.3**	**-0.3**
	12nm,1.1s,baz=177,slow=10,SNR=15						
LBTB				LR	LR	14 13 43.3	
	comp=Z,776nm,21.7s,baz=166,slow=33						
SYO	**Syowa Base**	**24.60 178**	⇓	*e*P	**P**	**14 07 16.0**	**-1.5**
ABPO	**Ambohimpanom**	**26.70 21**		*e*P	**P**	**14 07 37.9**	**+0.7**
	12nm,0.9s						
MAW	**Mawson**	**26.78 159**		P	**P**	**14 07 37.5**	**+0.3**
MAW	**Mawson**	**26.78 159**		P	**P**	**14 07 37.5**	**+0.3**
	5.3nm,1.2s,baz=303,slow=11,SNR=6.1						
MAW				LR	LR	14 15 47.9	
	comp=Z,538nm,18.6s,baz=316,slow=31						
OPO	**Ambohidratompo**	**27.12 21**		P	**P**	**14 07 41.3**	**+0.3**
OPO	**Ambohidratompo**	**27.12 21**		P	**P**	**14 07 41.3**	**+0.3**
	4.2nm,0.9s,baz=185,slow=12,SNR=3.9						
OPO				LR	LR	14 17 23.1	
	comp=Z,758nm,18.1s,baz=194,slow=34						
LSZ	**Lusaka**	**30.16 342**		*e*P	**P**	**14 08 07.0**	**-1.0**
	25nm,1.0s						
TSUM	**Tsumeb**	**30.17 320**		*e*P	**P**	**14 08 08.3**	**+0.2**
	16nm,1.1s						
SNAA	**Sanae**	**33.34 202**		*e*P	**P**	**14 08 36.3**	**+0.9**
SNAA	**Sanae**	**33.34 202**		*e*I		14 08 40.7	
SNAA	**Sanae**	**33.34 202**		*e*P	**P**	**14 08 34.8**	**-0.6**
	21nm,1.3s						
SNAA	**Sanae**	**33.34 202**		P	**P**	**14 08 35.6**	**+0.2**
	3.1nm,0.9s,baz=65,slow=6.2,SNR=20						
VNA2	**Neumayer--Watz**	**34.25 204**		*e*P	**P**	**14 08 44.3**	**+1.1**
VNA2	**Neumayer--Watz**	**34.25 204**		*e*I		14 08 48.9	
VNA1	**Neumayer--Stat**	**34.39 205**		*e*P	**P**	**14 08 46.1**	**+1.7**
VNA3	**Neumayer Olymp**	**35.05 204**		*e*P	**P**	**14 08 51.0**	**+0.8**
VNA3	**Neumayer Olymp**	**35.05 204**		*e*I		14 08 56.3	
KMBO	**Kilima Mbogo**	**43.19 360**		P	**P**	**14 09 59.9**	**+0.9**
KMBO	**Kilima Mbogo**	**43.19 360**		P	**P**	**14 09 59.9**	**+0.9**
	0.5nm,0.3s,baz=221,slow=22,SNR=5.0						
QSPA	**South Pole Qui**	**45.72 180**		P	**P**	**14 10 17.8**	**-0.8**
QSPA	**South Pole Qui**	**45.72 180**		P	**P**	**14 10 17.8**	**-0.8**
	14nm,1.2s,baz=248,slow=3.4,SNR=42						
VNDA	**Vanda**	**53.58 167**		*e*P	**P**	**14 11 17.6**	**-0.5**
	17nm,1.7s						
VNDA	**Vanda**	**53.58 167**		P	**P**	**14 11 18.2**	**+0.1**
	1.8nm,1.0s,baz=248,slow=9.6,SNR=8.1						
VNDA				LR	LR	14 32 11.1	
	comp=Z,492nm,20.2s,baz=224,slow=34						
SBA	**Scott Base**	**54.09 168**		*e*P	**P**	**14 11 23.0**	**+1.2**
	35nm,1.6s						
DBIC	**Dimbokro**	**63.55 312**		P	**P**	**14 12 28.9**	**+0.5**
DBIC	**Dimbokro**	**63.55 312**		P	**P**	**14 12 28.9**	**+0.5**
	5.9nm,0.9s,baz=121,slow=7.2,SNR=4.4						
DBIC				LR	LR	14 36 23.7	
	comp=Z,109nm,19.8s,baz=107,slow=32						
TOA0	**Torodi Ar. Sit**	**65.91 321**		*e*P	**P**	**14 12 44.6**	**+0.9**
TORD	**Torodi Ar. Bea**	**65.91 321**		P	**P**	**14 12 44.4**	**+0.6**
TORD				PP	**PP**	**14 15 06.2**	**-2.9**
TORD	**Torodi Ar. Bea**	**65.91 321**		P	**P**	**14 12 44.4**	**+0.6**
	4.2nm,1.0s,baz=156,slow=6.1,SNR=14						
TORD				PP	**PP**	**14 15 06.2**	**-2.9**
	1.3nm,1.0s,baz=130,slow=7.5,SNR=2.5						
TORD				LR	LR	14 38 47.2	
	comp=Z,113nm,18.3s,baz=145,slow=34						
TAM	**Tamanrasset**	**73.04 329**		*e*P	**P**	**14 13 29.9**	**+2.1**
	10nm,1.4s						
PLCA	**Paso Flores**	**73.36 229**		P	**P**	**14 13 30.2**	**+0.6**
PLCA	**Paso Flores**	**73.36 229**		P	**P**	**14 13 30.2**	**+0.6**
	1.1nm,0.8s,baz=176,slow=11,SNR=2.7						
PLCA				LR	LR	14 42 28.9	
	comp=Z,66nm,19.6s,baz=315,slow=33						
CPUP	**Villa Florida**	**75.22 248**		P	**P**	**14 13 41.0**	**+0.5**
CPUP	**Villa Florida**	**75.22 248**		P	**P**	**14 13 41.0**	**+0.5**
	3.5nm,0.9s,baz=117,slow=5.7,SNR=5.0						
CPUP				LR	LR	14 40 55.7	
	comp=Z,94nm,18.1s,baz=154,slow=31						
FITZ	**Fitzroy Crossi**	**76.31 102**		LR	LR	14 43 12.6	
	comp=Z,85nm,21.7s,baz=239,slow=32						
STKA	**Stephens Creek**	**77.42 122**		*e*P	**P**	**14 13 52.3**	**-0.7**
	2.7nm,0.9s						
STKA	**Stephens Creek**	**77.42 122**		P	**P**	**14 13 52.8**	**-0.2**
	9.9nm,0.8s,baz=228,slow=3.6,SNR=15						
STKA				LR	LR	14 41 19.2	
	comp=Z,123nm,18.6s,baz=204,slow=30						
ASAR	**Alice Springs**	**78.19 111**		P	**P**	**14 13 57.0**	**-0.5**
ASAR	**Alice Springs**	**78.19 111**		P	**P**	**14 13 57.0**	**-0.5**
	4.0nm,0.8s,baz=223,slow=4.6,SNR=32						
ASAR				LR	LR	14 41 46.3	
	comp=Z,120nm,20.2s,baz=266,slow=31						
AS31	**Alice Springs**	**78.20 111**		*e*P	**P**	**14 13 56.8**	**-0.7**
WRA	**Warramunga Arr**	**81.05 109**		P	**P**	**14 14 12.7**	**-0.3**
WRA	**Warramunga Arr**	**81.05 109**		P	**P**	**14 14 12.7**	**-0.3**
	3.0nm,0.9s,baz=218,slow=4.1,SNR=16						
WRA				LR	LR	14 43 31.6	
	comp=Z,179nm,20.2s,baz=230,slow=31						
KEST	**Kesra**	**83.82 337**		P	**P**	**14 14 27.9**	**+0.9**
KEST	**Kesra**	**83.82 337**		P	**P**	**14 14 27.9**	**+0.9**
	1.1nm,0.8s,baz=86,slow=16,SNR=2.8						
KEST				LR	LR	14 52 28.3	
	comp=Z,147nm,19.4s,baz=325,slow=36						
BRTR	**Keskin Array B**	**83.91 357**		P	**P**	**14 14 28.1**	**+0.7**
BRTR	**Keskin Array B**	**83.91 357**		P	**P**	**14 14 28.1**	**+0.7**
	1.1nm,0.8s,baz=179,slow=9.9,SNR=5.5						
BRTR				LR	LR	14 50 32.1	
	comp=Z,64nm,19.7s,baz=150,slow=35						
CMAR	**Chiang Mai Arr**	**84.03 57**		P	**P**	**14 14 28.2**	**-0.2**
CMAR	**Chiang Mai Arr**	**84.03 57**		P	**P**	**14 14 28.2**	**-0.2**
	0.4nm,0.5s,baz=213,slow=5.7,SNR=4.7						
KBZ	**Khabaz**	**87.98 4**		LR	LR	14 52 42.6	
	comp=Z,104nm,18.3s,baz=187,slow=35						
LPAZ	**La Paz**	**89.39 248**		LR	LR	14 52 10.3	
	comp=Z,102nm,18.8s,baz=304,slow=34						
ESDC	**Sonseca Array**	**91.70 329**		LR	LR	14 57 08.3	
	comp=Z,164nm,18.3s,baz=140,slow=36						
AKASG	**Malin Array Be**	**95.09 355**		LR	LR	15 00 06.7	
	comp=Z,72nm,20.1s,baz=200,slow=37						
GERES	**GERESS Array B**	**95.25 345**		LR	LR	15 00 22.5	
	comp=Z,100nm,18.7s,baz=145,slow=37						
PMG	**Port Moresby**	**97.19 111**		LR	LR	14 54 03.1	
	comp=Z,90nm,19.9s,baz=38,slow=32						
MKAR	**Makanchi Array**	**99.16 29**		LR	LR	14 57 13.7	
	comp=Z,59nm,18.4s,baz=66,slow=34						
PPT2	**Papeete2**	**117.89 172**		*e*LR	LR	14 56 43.9	
	106nm,22.5s						
531A	**Rocksprings**	**144.04 261**	⇓	P	PKPbc	14 21 31.7	+0.3
	baz=144						
332A	**Millersview**	**144.16 263**	⇓	P	PKPbc	14 21 32.2	+0.6
	baz=144						
232A	**Coleman**	**144.37 264**	⇓	P	PKPbc	14 21 32.2	-0.1
	baz=144						
530A	**J-C Ranch, Com**	**144.59 260**	⇓	P	**PKPab**	**14 21 32.5**	**-0.4**
	baz=145						
331A	**San Angelo**	**144.61 263**	⇑	P	**PKPab**	**14 21 32.4**	**-0.5**
	baz=145						
ABTX	**Abilene, Hawle**	**144.77 265**		*e*PKPdf	**PKPdf**	**14 21 34.4**	**-0.1**
ABTX	**Abilene, Hawle**	**144.77 265**	⇓	P	**PKPdf**	**14 21 34.2**	**-0.3**
	baz=145						
430A	**Baggett Ranch,**	**144.89 261**	⇑	P	**PKPdf**	**14 21 34.6**	**-0.3**
	baz=145						
Z32A	**Haskell**	**145.01 266**	⇓	P	**PKPdf**	**14 21 35.2**	**+0.3**
	baz=145						
330A	**Mertzon**	**145.19 262**	⇓	P	**PKPdf**	**14 21 35.9**	**+0.5**
	baz=145						
529A	**Stev Forest Ra**	**145.20 260**	⇑	P	**PKPdf**	**14 21 35.4**	**0.0**
	baz=145						
628A	**Black Gap, Mar**	**145.29 258**	⇑	P	**PKPdf**	**14 21 35.8**	**+0.2**
	baz=145						
230A	**Sterling City**	**145.41 263**	⇑	P	**PKPab**	**14 21 36.0**	**+0.1**
	baz=146						
Z31A	**Sharp Cattle R**	**145.49 266**	⇑	P	**PKPab**	**14 21 37.7**	**+1.6**
	baz=146						
627A	**Terlingua Ranc**	**145.62 258**	⇑	P	**PKPdf**	**14 21 34.1**	**-2.1**
	baz=146,SNR=10						
KSU1	**Kansas State U**	**145.66 277**		PKP	**PKPab**	**14 21 36.4**	**-0.1**
TXAR	**Lajitas Array**	**145.75 257**		PKPbc	**PKPab**	**14 21 37.3**	**+0.1**
TXAR	**Lajitas Array**	**145.75 257**		PKPbc	**PKPab**	**14 21 37.3**	**+0.1**
	4.5nm,0.8s,baz=141,slow=6.3,SNR=26						
Y31A	**Rekieta Farm,**	**145.91 267**	⇓	P	**PKPab**	**14 21 38.6**	**+1.0**
	baz=146						
527A	**Woodward Ranch**	**146.19 258**	⇑	P	**PKPbc**	**14 21 37.9**	**-0.4**
	baz=146,SNR=9.2						
626A	**Big Bend Ranch**	**146.21 257**	⇑	P	**PKPbc**	**14 21 38.4**	**+0.1**
	baz=146,SNR=8.2						
328A	**Wristen Ranch,**	**146.34 261**	⇑	P	**PKPbc**	**14 21 38.9**	**+0.3**
	baz=146						
427A	**Hayter Ranch,**	**146.45 260**	⇓	P	**PKPdf**	**14 21 38.1**	**+0.5**
	baz=146						
526A	**Mary Lane Ranc**	**146.47 258**	⇑	P	**PKPbc**	**14 21 39.1**	**0.0**
	baz=146						
Z29A	**Hungry Hill Ra**	**146.57 265**	⇑	P	**PKPbc**	**14 21 39.1**	**-0.2**
	baz=147						
X30A	**Coker Ranch, T**	**146.59 267**	⇑	P	**PKPdf**	**14 21 37.5**	**-0.2**
	baz=147						
128A	**Castleberry Fa**	**146.79 263**	⇑	P	**PKPab**	**14 21 41.2**	**+0.1**
	baz=147						
426A	**McDonald Obser**	**146.79 259**	⇑	P	**PKPab**	**14 21 41.7**	**+0.4**
	baz=147,SNR=5.7						
Z28A	**Tucker Farm, M**	**147.07 264**	⇓	P	**PKPdf**	**14 21 39.2**	**+0.7**
	baz=147						
ECSD	**EROS Data Cent**	**147.32 285**		*e*PKPbc	**PKPbc**	**14 21 40.5**	**-0.4**
425A	**Indio Mountain**	**147.53 258**	⇑	P	**PKPbc**	**14 21 40.8**	**-1.2**
	baz=148						
Z27A	**Tatum**	**147.68 263**	⇑	P	**PKPbc**	**14 21 43.3**	**+1.0**
	baz=148						
226B	**Tecolote Peak,**	**147.68 261**	⇓	P	**PKPbc**	**14 21 41.2**	**-1.2**
	baz=148,SNR=8.4						
MSTX	**Muleshoe**	**147.70 265**		*e*PKPbc	**PKPbc**	**14 21 42.6**	**+0.3**
MSTX	**Muleshoe**	**147.70 265**	⇑	P	**PKPbc**	**14 21 43.4**	**+1.0**
	baz=148						
325A	**Bean Ranch, Si**	**147.85 259**	⇑	P	**PKPbc**	**14 21 43.7**	**+0.7**
	baz=148						
Y27A	**Causey**	**147.94 264**	⇑	P	**PKPbc**	**14 21 42.4**	**-0.6**
	baz=148						
Z26A	**Caprock**	**148.20 263**	⇓	P	**PKPbc**	**14 21 43.2**	**-0.5**
	baz=148						
324A	**Moseley Ranch,**	**148.25 259**	⇑	P	**PKPbc**	**14 21 44.0**	**0.0**
	baz=148						
MNTX	**Cornudas Mount**	**148.33 259**		*e*PKPbc	**PKPbc**	**14 21 43.8**	**-0.2**
224A	**Cornudas Mount**	**148.64 259**	⇑	P	**PKPbc**	**14 21 45.2**	**+0.2**
	baz=149						
124A	**Stringfield Ra**	**148.93 261**	⇑	P	**PKPbc**	**14 21 46.4**	**+0.6**
	baz=149,SNR=13						
Y25A	**Mesa, Roswell**	**149.04 263**	⇓	P	**PKPbc**	**14 21 45.0**	**-0.9**
	baz=149						
W25A	**X Bar L Ranch,**	**149.53 266**	⇑	P	**PKPbc**	**14 21 45.2**	**-1.9**
	baz=150,SNR=11						
Y24A	**Capitan**	**149.57 263**	⇓	P	**PKPbc**	**14 21 46.1**	**-1.2**
	baz=150						
R27A	**Eads**	**149.73 272**	⇓	P	**PKPbc**	**14 21 48.1**	**+0.7**
	baz=150						
T26A	**Comanche Natio**	**149.82 270**	⇓	P	**PKPbc**	**14 21 48.1**	**+0.2**
	baz=150,SNR=5.8						
S26A	**Kim**	**149.93 271**	⇑	P	**PKPbc**	**14 21 47.9**	**-0.1**
	baz=150						
V25A	**Rancho No Teng**	**149.94 267**	⇑	P	**PKPbc**	**14 21 48.5**	**+0.4**
	baz=150						
Y23A	**Lovelace Mesa,**	**150.01 262**	⇑	P	**PKPbc**	**14 21 48.1**	**-0.2**
	baz=150						
U25A	**Circle Dot Ran**	**150.06 268**	⇑	P	**PKPbc**	**14 21 47.8**	**-0.7**
	baz=150,SNR=8.1						
W24A	**Lazy 6 Ranch,**	**150.20 265**	⇑	P	**PKPbc**	**14 21 49.3**	**+0.5**
	baz=150,SNR=8.8						
R26A	**Arlington**	**150.20 272**	⇑	P	**PKPbc**	**14 21 48.7**	**+0.1**
	baz=150						
OGNE	**Ogallala**	**150.21 278**		*e*PKPbc	**PKPbc**	**14 21 49.3**	**+0.8**
Z22A	**Elephant Butte**	**150.30 260**	⇓	P	**PKPbc**	**14 21 47.9**	**-1.1**
	baz=150						
V24A	**Rampart Ranch,**	**150.36 266**	⇓	P	**PKPbc**	**14 21 48.2**	**-1.0**
	baz=150						
T25A	**Trinidad**	**150.39 269**	⇓	P	**PKPbc**	**14 21 49.5**	**+0.3**
	baz=150						
X23A	**Hourglass Bar**	**150.44 263**	⇓	P	**PKPbc**	**14 21 50.0**	**+0.6**
	baz=150						
121A	**Cookes Peak, D**	**150.48 258**	⇓	P	**PKPbc**	**14 21 50.3**	**+0.8**
	baz=150						
BNM	**Barren Site**	**150.53 262**		PKPbc	**PKPbc**	**14 21 51.4**	**+1.7**
S25A	**Robets Cordova**	**150.64 270**	⇑	P	**PKPbc**	**14 21 49.8**	**0.0**
	baz=151,SNR=22						
220A	**Playas Peak, P**	**150.64 256**	⇑	P	**PKPbc**	**14 21 50.8**	**+0.9**
	baz=151						
Y22A	**Socorro**	**150.66 261**	⇑	P	**PKPbc**	**14 21 49.2**	**-0.7**
	baz=151						
W23A	**Werner Place,**	**150.71 264**	⇑	P	**PKPbc**	**14 21 50.7**	**+0.6**
	baz=151						
ANMO	**Albuquerque**	**150.82 263**		*e*PKPbc	**PKPbc**	**14 21 50.5**	**+0.3**
Z21A	**St. Cloud Mine**	**150.83 260**	⇓	P	**PKPbc**	**14 21 50.9**	**+0.5**
	baz=151						
LAZ	**Ladron**	**151.03 262**		*e*PKPbc	**PKPbc**	**14 21 51.3**	**+0.5**
120A	**U Bar Ranch, L**	**151.08 257**	⇑	P	**PKPbc**	**14 21 51.3**	**+0.4**
	baz=151						
S24A	**Houchin Ranch,**	**151.19 269**	⇓	P	**PKPbc**	**14 21 52.1**	**+0.9**
	baz=151						
Y21A	**Point of Rocks**	**151.20 261**	⇓	P	**PKPbc**	**14 21 49.2**	**-2.1**
	baz=151						
SDCO	**Great Sand Dun**	**151.44 269**		*e*PKPbc	**PKPbc**	**14 21 51.6**	**-0.2**
X21A	**Alamocita Cree**	**151.51 261**	⇑	P	**PKPbc**	**14 21 50.9**	**-1.0**
	baz=152						
V22A	**San Miguel Ran**	**151.61 265**	⇑	P	**PKPbc**	**14 21 53.3**	**+1.1**
	baz=152						
Y20A	**Horse Springs,**	**151.64 260**	⇓	P	**PKPbc**	**14 21 52.4**	**+0.1**
	baz=152						
U22A	**Llaves**	**151.79 266**	⇑	P	**PKPbc**	**14 21 53.4**	**+0.9**
	baz=152						
R23A	**Moffat**	**151.86 270**	⇓	P	**PKPbc**	**14 21 53.4**	**+0.7**
	baz=152						
X20A	**Quemado**	**152.06 261**	⇑	P	**PKPbc**	**14 21 53.1**	**-0.1**
	baz=152						
T22A	**Edith**	**152.12 267**	⇓	P	**PKPbc**	**14 21 54.3**	**+1.0**
	baz=152						
S22A	**4UR Ranch, Cre**	**152.39 268**	⇑	P	**PKPbc**	**14 21 55.5**	**+1.6**
	baz=152						
U21A	**Nageezi**	**152.39 265**	⇓	P	**PKPbc**	**14 21 54.3**	**+0.4**
	baz=152						
S21A	**Coal Bank Pass**	**153.04 267**	⇓	P	**PKPbc**	**14 21 55.3**	**-0.1**
	baz=153						
YKA	**Yellowknife Ar**	**155.79 328**		PKPab	**PKPab**	**14 22 16.7**	**-0.7**
YKA	**Yellowknife Ar**	**155.79 328**		PKPab	**PKPab**	**14 22 16.7**	**-0.7**
	1.2nm,0.7s,baz=64,slow=4.2,SNR=2.9						
PDAR	**Pinedale Array**	**156.12 278**		PKP	**PKPdf**	**14 21 50.3**	**-1.8**
PDAR				PKPab	**PKPab**	**14 22 20.1**	**+0.4**
PDAR	**Pinedale Array**	**156.12 278**		PKP	**PKPdf**	**14 21 50.3**	**-1.8**
	0.9nm,0.3s,baz=94,slow=6.5,SNR=5.0						
PDAR				PKPab	**PKPab**	**14 22 20.1**	**+0.4**
	0.4nm,0.3s,baz=81,slow=5.6,SNR=2.8						
ILAR	**Eielson Array**	**159.54 5**		PKPab	**PKPab**	**14 22 32.7**	**-0.8**
ILAR	**Eielson Array**	**159.54 5**		PKPab	**PKPab**	**14 22 32.7**	**-0.8**
	0.6nm,0.8s,baz=318,slow=2.4,SNR=5.2						
NVAR	**Mina Array Bea**	**160.85 260**		PKPab	**PKPab**	**14 22 40.1**	**-0.3**
NVAR	**Mina Array Bea**	**160.85 260**		PKPab	**PKPab**	**14 22 40.1**	**-0.3**
	0.8nm,0.9s,baz=113,slow=6.0,SNR=2.8						

*KRSC **21** 14:15:34.2±5.0, 53°.01N×162°.94E, h21km±20km, ML4.2*
*IDC **21** 14:15:35.8±0.6, 53°.13N×162°.57E, h0km, mb3.8/12, mb1 4.1/15, mb1mx3.9/28, mbtmp3.9/15, ML4.1/3, MS3.8/2, Ms1 3.8/2, ms1mx2.9/51, Error ellipse: s-maj=21.8km s-min=11.5km az=174.0*
*MOS **21** 14:15:36.4±1.1, 53°.13N×162°.71E, h19km, mb4.3/2, Error ellipse: s-maj=12.2km s-min=8.5km az=88.8*
*ISCJB **21** 14:15:37.5±0.4, 53°.10N±0°.02×162°.73E±0°.05, h27km, mb3.8/13, MS3.8/2, Error ellipse: s-maj=4.2km s-min=3.1km az=32.7*

ISC 21 14:15:38.9±0.6, 53°.08N±0°.04×162°.80E±0°.04, h27km, n70, σ1.35/98, mb3.9/13, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**1.61 337**		PN	**Pn**	**14 16 04.1**	**-1.4**
MKZ				S	**Sn**	**14 16 24.5**	**-0.9**
MKZ	**Mys Kozlova**	**1.61 337**		*e*P	**Pn**	**14 16 04.1**	**-1.4**
MKZ				*i* S	**Sn**	**14 16 24.5**	**-0.9**
SPN	**Mys Shipunski**	**1.68 272**		PN	**Pn**	**14 16 04.9**	**-1.5**
SPN				S	**Sn**	**14 16 24.0**	**-3.0**
SPN	**Mys Shipunski**	**1.68 272**		*i* P	**Pn**	**14 16 04.9**	**-1.5**
SPN				*i* S	**Sn**	**14 16 24.0**	**-3.0**
NLC	**Nalytchevo**	**2.09 274**		PN	**Pn**	**14 16 10.5**	**-1.5**
NLC				S	**Sn**	**14 16 35.7**	**-1.4**
NLC	**Nalytchevo**	**2.09 274**		*e*P	**Pn**	**14 16 10.5**	**-1.5**
NLC				*i* S	**Sn**	**14 16 35.7**	**-1.4**
KII	**Karymskiy**	**2.22 297**		*e*P	**Pn**	**14 16 12.7**	**-1.3**
KII				*i* S	**Sn**	**14 16 39.5**	**-1.0**
SDLR	**Sedlovina**	**2.37 276**		*e*P	**Pn**	**14 16 14.9**	**-1.1**
UGLR	**Uglovaya**	**2.40 275**		*e*P	**Pn**	**14 16 16.0**	**-0.5**
SMAR	**Somma**	**2.42 276**		*e*P	**Pn**	**14 16 15.8**	**-1.0**
KRER	**Koryakskii**	**2.45 277**		*e*P	**Pn**	**14 16 16.2**	**-1.0**
AVH	**Avacha**	**2.45 276**		*i* P	**Pn**	**14 16 16.6**	**-0.6**
PET	**Petropavlovsk**	**2.51 270**		*e*PN	**Pn**	**14 16 16.7**	**-1.0**
PET				*e*S	**Sn**	**14 16 46.0**	**-1.4**
PET				pmax	pmax		
	comp=Z,178nm,0.4s						
PET				smax	smax		
	comp=E,317nm,0.5s						
PET				smax	smax		
	comp=N,231nm,0.5s						
PET	**Petropavlovsk**	**2.51 270**		*i* P	**Pn**	**14 16 16.8**	**-1.0**
PET				*i* S	**Sn**	**14 16 46.0**	**-1.4**
KRX	**Arik**	**2.51 278**		*e*P	**Pn**	**14 16 16.8**	**-1.3**
KOK	**Koryaka**	**2.52 277**		*e*P	**Pn**	**14 16 17.1**	**-1.0**
RUS	**Russkaya**	**2.69 258**		PN	**Pn**	**14 16 18.9**	**-1.4**
RUS				S	**Sn**	**14 16 49.6**	**-2.3**
RUS	**Russkaya**	**2.69 258**		*e*P	**Pn**	**14 16 18.9**	**-1.4**
RUS				*i* S	**Sn**	**14 16 49.6**	**-2.3**
TUMR	**Tumrok**	**2.71 326**		*e*P	**Pn**	**14 16 20.0**	**-0.7**
BKI	**Bering**	**2.83 40**		PN	**Pn**	**14 16 20.2**	**-2.1**
BKI	**Bering**	**2.83 40**		*e*P	**Pn**	**14 16 20.2**	**-2.1**
BKI				*i* S	**Sn**	**14 16 51.7**	**-3.7**
MTVR	**Mutnovka**	**2.87 260**		*i* P	**Pn**	**14 16 22.0**	**-0.9**
MTVR				*i* S	**Sn**	**14 16 54.1**	**-2.5**
GRL	**Gorelyy**	**2.92 262**		*e*P	**Pn**	**14 16 22.9**	**-0.7**
GNL	**Ganaly**	**2.98 284**		*e*P	**Pn**	**14 16 24.1**	**-0.3**
GNL				*i* S	**Sn**	**14 17 00.3**	**+1.1**
ASAK	**Asacha**	**3.06 259**		*e*P	**Pn**	**14 16 24.8**	**-0.7**
ASAK				*i* S	**Sn**	**14 16 59.2**	**-2.1**
KMNR	**Kamenistaya**	**3.08 332**		*e*P	**Pn**	**14 16 25.2**	**-0.5**
KMNR				*i* S	**Sn**	**14 17 00.9**	**-0.7**
PETK	**Petropavlovsk-**	**3.08 273**		Pn	**Pn**	**14 16 25.4**	**-0.3**
	comp=N,46nm,0.3s,baz=100,slow=19,SNR=1086						
PETK				Sn	**Sn**	**14 17 01.4**	**-0.2**
	comp=N,13nm,0.3s,baz=81,slow=29,SNR=7.3						
BZGR	**Bezymyannyi-Gr**	**3.12 338**		*e*P	**Pn**	**14 16 26.4**	**0.0**
BZGR				*i* S	**Sn**	**14 17 02.0**	**-0.8**
KBTR	**Krutoberegovo**	**3.14 0**		PN	**Pn**	**14 16 25.3**

VHO	**Vista Hermosa**	**4.36 271**	*i* P	Pn	14 18 45.4	-1.6
VHO			*i* S	Sn	14 19 35.1	-1.8

*IDC **21** 14:34:01.9±0.9, 27°.25N×91°.52E, h0km, mb3.7/10, mb1 3.8/11, mb1mx3.6/30, mbtmp3.7/11, ML3.6/1, Error ellipse: s-maj=43.6km s-min=15.8km az=57.0*
*DMN **21** 14:34:08.0±0.5, 28°.16N×91°.47E, h10km, Ml4.5/10, Error ellipse: s-maj=21.0km s-min=9.1km az=171.0*
ISC 21 14:34:08.7±2.1, 27°.5N±0°.1×91°.5E±0°.1, h44km±25km, n26, σ1°.76/33, mb3.7/8, Bhutan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**1.96**	**168**	*e*Pn	**Pn**	**14 34 39.0**	**-0.6**
SHL				*e*Sn	**Sn**	**14 35 03.5**	**+0.4**
TAPN	**Taplejung**	**3.32**	**268**	*e*Pn	**Pn**	**14 34 59.4**	**+0.9**
TAPN				*e*Sn	**Sn**	**14 35 38.3**	**+1.4**
	457nm,0.4s						
ODAN	**Odare**	**3.67**	**261**	*e*Pn	**Pn**	**14 35 05.7**	**+2.5**
ODAN				*e*Sn	**Sn**	**14 35 47.3**	**+2.0**
	697nm,0.3s						
RAMN	**Ramite**	**4.35**	**264**	*e*Pn	**Pn**	**14 35 13.8**	**+1.3**
RAMN				*e*Sn	**Sn**	**14 36 03.7**	**+1.6**
	323nm,0.3s						
JIRN	**Jiri**	**4.67**	**273**	*e*Pn	**Pn**	**14 35 17.8**	**+0.8**
JIRN				*e*Sn	**Sn**	**14 36 07.4**	**-2.7**
	138nm,0.3s						
GUN	**Gumba**	**4.95**	**276**	*e*Pn	**Pn**	**14 35 21.2**	**+0.3**
GUN				*e*Sn	**Sn**	**14 36 14.5**	**-2.6**
	208nm,0.6s						
PKI	**Pulchoki**	**5.36**	**272**	*e*Pn	**Pn**	**14 35 26.7**	**+0.2**
PKI				*e*Sn	**Sn**	**14 36 25.8**	**-1.3**
	141nm,0.7s						
PKIN	**Phulchoki**	**5.37**	**272**	*e*Pn	**Pn**	**14 35 26.9**	**+0.3**
PKIN				*e*Sn	**Sn**	**14 36 25.9**	**-1.4**
	112nm,0.3s						
KKN	**Kakani**	**5.48**	**275**	*e*Pn	**Pn**	**14 35 28.7**	**+0.7**
KKN				*e*Sn	**Sn**	**14 36 28.0**	**-1.8**
	43nm,0.2s						
DMN	**Daman**	**5.63**	**273**	*e*Pn	**Pn**	**14 35 30.8**	**+0.7**
DMN				*e*Sn	**Sn**	**14 36 31.9**	**-1.7**
	51nm,0.3s						
DANN	**Dangsing**	**6.85**	**279**	*e*Pn	**Pn**	**14 35 44.9**	**-2.0**
KOLN	**Koldanda**	**6.96**	**274**	*e*Pn	**Pn**	**14 35 47.9**	**-0.5**
KOLN				*e*Sn	**Sn**	**14 37 02.1**	**-4.3**
	78nm,0.5s						
PYUN	**Piuthan**	**7.51**	**277**	*e*Pn	**Pn**	**14 35 54.6**	**-1.3**
CMAR	**Chiang Mai Arr**	**11.33**	**141**	Pn	Pn	14 36 43.5	-4.7
	0.1nm,0.3s,baz=323,slow=14,SNR=4.9						
AAK	**Ala-Archa**	**20.45**	**322**	P	Pn	14 38 45.1	0.0
	0.8nm,0.3s,baz=212,slow=14,SNR=3.9						
MKAR	**Makanchi Array**	**20.57**	**342**	P	**P**	**14 38 45.1**	**+1.4**
	2.8nm,0.6s,baz=146,slow=13,SNR=40						
SONM	**Songino Array**	**23.42**	**26**	P	**P**	**14 39 14.1**	**+0.1**
	0.3nm,0.6s,baz=219,slow=11,SNR=2.8						
KURBB	**Kurchatov Arra**	**25.11**	**340**	P	**P**	**14 39 30.9**	**+1.8**
	0.6nm,0.5s,baz=148,slow=11,SNR=6.9						
ZALV	**Zalesovo Beam**	**26.88**	**351**	P	**P**	**14 39 46.9**	**+1.8**
	0.8nm,0.4s,baz=181,slow=8.0,SNR=6.1						
FINES	**FINESS Array B**	**54.51**	**328**	P	**P**	**14 43 33.2**	**+1.5**
	2.2nm,0.9s,baz=107,slow=7.4,SNR=3.4						
HFS	**Hagfors**	**60.54**	**326**	P	**P**	**14 44 15.1**	**+0.9**
	2.4nm,0.8s,baz=96,slow=14,SNR=3.6						
GERES	**GERESS Array B**	**62.01**	**313**	P	**P**	**14 44 24.5**	**0.0**
	0.5nm,0.7s,baz=95,slow=4.9,SNR=3.8						
WRA	**Warramunga Arr**	**62.84**	**134**	P	**P**	**14 44 27.4**	**-2.8**
	1.1nm,1.3s,baz=320,slow=7.6,SNR=3.2						
ASAR	**Alice Springs**	**65.32**	**137**	P	**P**	**14 44 45.3**	**-1.1**
	0.4nm,1.0s,baz=320,slow=6.2,SNR=2.6						
DZM	**Mont Dzumac**	**87.61**	**116**	*e*LR	LR	14 48 00.3	
	199nm,27.5s						
TBI	**Tubuai**	**125.31**	**100**	*e*LR	LR	14 54 07.1	
	99nm,33.5s						

IDC 21 14:47:18.6±2.2, 11°.32S×118°.69E, h0km, mb3.5/1, mb1 3.6/5, mb1mx3.4/19, mbtmp3.5/5, ML3.3/4, Error ellipse: s-maj=79.4km s-min=24.2km az=56.0, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**6.35**	**10**	Pn	Pn	14 48 54.0	+0.4
	0.9nm,0.3s,baz=156,slow=10.0,SNR=6.5						
KAPI				Sn	Sn	14 50 01.2	-5.6
	2.2nm,0.3s,baz=271,slow=21,SNR=7.7						
FITZ	**Fitzroy Crossi**	**9.52**	**136**	Pn	Pn	14 49 36.1	-0.9
	0.3nm,0.3s,baz=318,slow=14,SNR=11						
FITZ				Sn	Sn	14 51 15.3	-10
	0.4nm,0.3s,baz=288,slow=20,SNR=4.7						
WRA	**Warramunga Arr**	**17.33**	**122**	P	Pn	14 51 20.1	-2.0
	0.1nm,0.3s,baz=297,slow=13,SNR=4.9						
WRA				S	Sn	14 54 19.1	-17
	0.1nm,0.3s,baz=293,slow=21,SNR=4.4						
ASAR	**Alice Springs**	**18.98**	**132**	P	Pn	14 51 43.8	+1.3
	0.1nm,0.3s,baz=307,slow=12,SNR=14						
ASAR				S	Sn	14 55 02.8	-13
	0.1nm,0.3s,baz=302,slow=23,SNR=3.8						
MKAR	**Makanchi Array**	**66.38**	**334**	P	P	14 58 09.1	-0.2
	0.3nm,0.5s,baz=149,slow=6.8,SNR=4.7						

IDC 21 14:58:27.4±2.0, 17°.55S×178°.47W, h548km±25km, mb3.3/6, mb1 3.5/7, mb1mx3.2/19, mbtmp3.3/7, Error ellipse: s-maj=74.0km s-min=17.0km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.39**	**62**	P	P	15 00 18.9	-0.4
	2.8nm,0.3s,baz=229,slow=20,SNR=5.9						
STKA	**Stephens Creek**	**38.75**	**241**	P	P	15 05 05.5	+0.4
	3.2nm,0.5s,baz=90,slow=9.8,SNR=12						
WRA	**Warramunga Arr**	**44.64**	**259**	P	P	15 05 51.1	-0.6
	1.9nm,0.6s,baz=93,slow=6.7,SNR=53						
WRA				PcP	PcP	15 07 21.8	-0.8
	0.7nm,0.8s,baz=92,slow=3.4,SNR=3.2						
ASAR	**Alice Springs**	**44.83**	**254**	P	P	15 05 53.0	-0.2
	20nm,0.6s,baz=88,slow=8.2,SNR=465						
ASAR				PcP	PcP	15 07 22.5	-0.8
	0.6nm,0.7s,baz=104,slow=3.6,SNR=5.3						
FITZ	**Fitzroy Crossi**	**53.03**	**260**	P	P	15 06 53.7	-0.1
	2.0nm,0.6s,baz=77,slow=22,SNR=8.9						
TXAR	**Lajitas Array**	**85.85**	**58**	P	P	15 10 10.4	+0.6
	0.4nm,0.7s,baz=216,slow=6.2,SNR=4.3						
CMAR	**Chiang Mai Arr**	**88.71**	**290**	P	P	15 10 24.4	+1.2
	0.2nm,0.5s,baz=121,slow=3.5,SNR=3.8						
BRTR	**Keskin Array B**	**144.49**	**315**	PKP	PKPdf	15 17 00.7	-1.3
	0.6nm,0.8s,baz=134,slow=3.0,SNR=3.3						
GERES	**GERESS Array B**	**147.25**	**345**	PKPbc	PKPbc	15 17 08.6	-0.9
	0.2nm,0.3s,baz=32,slow=4.6,SNR=4.2						

IDC 21 15:06:14.4±63.0, 19°.70S×177°.77W, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.5/16, mbtmp3.5/3, Error ellipse: s-maj=1151.0km s-min=161.4km az=82.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.34**	**243**	P	P	15 13 37.0	-0.1
	2.4nm,1.0s,baz=98,slow=7.1,SNR=3.0						
ASAR	**Alice Springs**	**44.92**	**256**	P	P	15 14 30.9	-0.4
	0.3nm,0.7s,baz=91,slow=8.7,SNR=6.6						
WRA	**Warramunga Arr**	**44.93**	**261**	P	P	15 14 31.6	+0.1
	0.6nm,1.0s,baz=97,slow=7.4,SNR=6.4						

IDC 21 15:14:23.4±10.0, 24°.55S×179°.27W, h483km±59km, mb3.1/4, mb1 3.3/6, mb1mx3.0/18, mbtmp3.1/6, Error ellipse: s-maj=153.3km s-min=42.7km az=66.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**13.36**	**278**	P	P	15 17 17.2	+0.4
	0.3nm,0.3s,baz=102,slow=14,SNR=5.8						
URZ	**Urewera**	**14.01**	**192**	P	P	15 17 23.8	+0.5
	0.2nm,0.3s,baz=39,slow=9.3,SNR=3.0						
URZ				S	S	15 19 49.9	-1.9
	0.3nm,0.3s,baz=12,slow=20,SNR=6.0						
STKA	**Stephens Creek**	**35.11**	**249**	P	P	15 20 34.8	-0.6
	0.6nm,0.4s,baz=90,slow=7.1,SNR=3.8						
ASAR	**Alice Springs**	**42.59**	**261**	P	P	15 21 36.2	-0.2
	0.8nm,0.4s,baz=92,slow=7.5,SNR=42						
WRA	**Warramunga Arr**	**43.03**	**267**	P	P	15 21 39.6	-0.3
	1.0nm,0.4s,baz=99,slow=6.8,SNR=73						
FITZ	**Fitzroy Crossi**	**51.45**	**266**	P	P	15 22 43.8	+0.4
	5.8nm,1.2s,baz=107,slow=7.3,SNR=4.9						

*IDC **21** 15:19:42.5±1.6, 2°.68N×95°.68E, h0km, mb4.0/7, mb1 4.1/9, mb1mx3.8/26, mbtmp4.0/9, ML4.0/2, Error ellipse: s-maj=47.5km s-min=18.8km az=54.0*
*ISCJB **21** 15:19:45.4±0.7, 2°.73N±0°.08×95°.72E±0°.07, h25km, mb3.9/7, Error ellipse: s-maj=14.6km s-min=6.0km az=40.6*
*DJA **21** 15:19:55.2±0.4, 3°.N±4°.×9°.7E±°, h10km, M4.3/8, mb4.9/1, mB5.1/1, MLv4.1/8, Mw(mB)4.5/1*
ISC 21 15:19:46.6±0.9, 2°.71N±0°.08×95°.7E±0°.1, h25km, n35, σ0°.90/32, mb4.1/7, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.67**	**116**	P	**Pn**	**15 20 00.2**	**-0.3**
KCSI	**Kotacane, Aceh**	**2.20**	**68**	P	**Pn**	**15 20 21.9**	**+0.3**
GSI	**Gunungsitoli**	**2.32**	**127**	P	**Pn**	**15 20 23.4**	**+0.2**
LHMI	**Lhok Sumawe**	**2.79**	**26**	P	Pb	15 20 41.1	+5.4
PSI	**Prapat**	**3.20**	**88**	Pn	**Pn**	**15 20 36.3**	**+0.9**
	14nm,0.3s,baz=278,slow=8.6,SNR=51						
KULM	**Kulim**	**5.54**	**62**	P	**Pn**	**15 21 08.6**	**+1.0**
KULM	**Kulim**	**5.54**	**62**	P	**Pn**	**15 21 08.6**	**+1.0**
KULM	**Kulim**	**5.54**	**62**	P	**Pn**	**15 21 07.9**	**+0.3**
IPM	**Ipoh**	**5.58**	**71**	P	**Pn**	**15 21 08.1**	**+0.1**
IPM	**Ipoh**	**5.58**	**71**	P	**Pn**	**15 21 08.7**	**+0.7**
IPM	**Ipoh**	**5.58**	**71**	P	**Pn**	**15 21 08.5**	**+0.5**
PPI	**Padang Panjang**	**5.63**	**124**	P	**Pn**	**15 21 10.5**	**+1.7**
FRIM	**Kepong**	**5.92**	**85**	P	**Pn**	**15 21 13.2**	**+0.5**
FRIM	**Kepong**	**5.92**	**85**	P	**Pn**	**15 21 13.2**	**+0.5**
PDSI	**Padang**	**5.95**	**127**	P	**Pn**	**15 21 13.9**	**+0.7**
MDSI	**Maura Dua**	**11.06**	**130**	P	Pn	15 22 32.6	+9.2
PBKT	**Sadao Pong**	**14.71**	**20**	P	P	15 23 29.8	+11
CMAR	**Chiang Mai Arr**	**15.97**	**11**	Pn	**Pn**	**15 23 29.1**	**-0.6**
	0.2nm,0.3s,baz=200,slow=11,SNR=24						
ODAN	**Odare**	**25.31**	**342**	*e*P	**P**	**15 25 13.7**	**+2.1**
	7.7nm,0.6s						
RAMN	**Ramite**	**25.64**	**341**	*e*P	**P**	**15 25 16.4**	**+1.7**
	15nm,0.5s						
TAPN	**Taplejung**	**25.68**	**343**	*e*P	**P**	**15 25 17.0**	**+2.0**
JIRN	**Jiri**	**26.43**	**341**	*e*P	**P**	**15 25 22.7**	**+0.7**
	20nm,0.6s						
DMN	**Daman**	**26.76**	**339**	*e*P	**P**	**15 25 25.6**	**+0.8**
GUN	**Gumba**	**26.77**	**340**	*e*P	**P**	**15 25 25.7**	**+0.7**
	22nm,0.7s						
KKN	**Kakani**	**26.86**	**339**	*e*P	**P**	**15 25 26.2**	**+0.5**
	14nm,0.9s						
KOLN	**Koldanda**	**27.48**	**336**	*e*P	**P**	**15 25 30.9**	**-0.4**
	8.7nm,0.7s						
DANN	**Dangsing**	**27.94**	**337**	*e*P	**P**	**15 25 35.6**	**+0.2**
	12nm,0.6s						
PYUN	**Piuthan**	**28.02**	**336**	*e*P	**P**	**15 25 35.7**	**-0.4**
WRA	**Warramunga Arr**	**44.08**	**122**	P	**P**	**15 27 52.3**	**-0.8**
	0.9nm,0.9s,baz=300,slow=9.6,SNR=8.1						
MKAR	**Makanchi Array**	**45.44**	**347**	P	**P**	**15 28 03.8**	**+0.3**
	1.5nm,0.3s,baz=160,slow=8.8,SNR=68						
ASAR	**Alice Springs**	**45.48**	**127**	P	**P**	**15 28 04.1**	**-0.1**
	0.3nm,0.6s,baz=303,slow=8.0,SNR=13						
KSRS	**Korea Array**	**45.48**	**36**	P	**P**	**15 28 02.7**	**-1.2**
	0.9nm,0.7s,baz=228,slow=8.4,SNR=5.4						
SONM	**Songino Array**	**45.89**	**10**	P	**P**	**15 28 06.8**	**-0.3**
	1.6nm,0.6s,baz=190,slow=9.1,SNR=15						
ZALV	**Zalesovo Beam**	**51.85**	**352**	P	**P**	**15 28 52.7**	**+0.1**
	2.9nm,0.6s,baz=182,slow=6.9,SNR=16						
ARCES	**ARCESS Array B**	**80.63**	**340**	P	**P**	**15 31 56.9**	**0.0**
	5.0nm,1.1s,baz=92,slow=6.4,SNR=2.9						

*IDC **21** 15:41:00.2±0.7, 17°.08N×147°.23E, h0km, mb4.3/18, mb1 4.4/18, mb1mx4.3/28, mbtmp4.3/18, MS3.7/8, Ms1 3.7/8, ms1mx3.3/32, Error ellipse: s-maj=23.6km s-min=12.9km az=91.0*
*BJI **21** 15:41:04.0, 17°.10N×147°.20E, h35km, mB5.0/17, mb4.7/27, Ms4.9/11, Ms7 4.4/11*
*MOS **21** 15:41:04.6±1.2, 17°.01N×146°.86E, h33km, mb4.7/13, Error ellipse: s-maj=15.9km s-min=8.7km az=114.5*
*ISCJB **21** 15:41:05.8±0.4, 17°.06N±0°.05×147°.11E±0°.07, h48km, mb4.5/46, MS3.8/12, Error ellipse: s-maj=9.6km s-min=7.1km az=171.4*
*NEIC **21** 15:41:05.7±0.4, 17°.06N×147°.19E, h35km, mb4.7/14, Error ellipse: s-maj=11.6km s-min=7.4km az=91.0*
ISC 21 15:41:07.7±0.5, 17°.07N±0°.07×146°.99E±0°.07, h48km, h48km:pP-P, n93, σ1°.76/124, mb4.5/46, MS3.8/12, 2C-1D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAJO	**Matsushiro**	**20.90**	**340**	*e*P	**P**	**15 45 46.1**	**0.0**
MAJO				pmax	pmax		
	comp=Z,21nm,0.9s						
MAJO	**Matsushiro**	**20.90**	**340**	*e*P	**P**	**15 45 46.1**	**0.0**
	comp=Z,21nm,0.9s						
MAT	**Matsushiro**	**20.90**	**340**	P	**P**	**15 45 46.1**	**0.0**
KWAJ	**Kwajalein Atol**	**21.70**	**110**	*i* P	**P**	**15 45 55.8**	**+1.0**
YHNB	**Yeheng**	**25.07**	**292**	*e*P	**P**	**15 46 28.9**	**+1.0**
	comp=Z,18nm,0.6s						
ERM	**Erimo**	**25.08**	**353**	*e*P	**P**	**15 46 27.7**	**0.0**
ERM				pmax	pmax		
	comp=Z,33nm,1.3s						
PMG	**Port Moresby**	**26.30**	**180**	*e*P	**P**	**15 46 38.0**	**-1.0**
	comp=Z,21nm,0.9s						
PMG	**Port Moresby**	**26.30**	**180**	P	**P**	**15 46 38.0**	**-1.0**
	comp=Z,19nm,0.8s,baz=325,slow=16,SNR=5.9						
KSRS	**Korea Array**	**26.35**	**324**	P	**P**	**15 46 39.9**	**+0.5**
	comp=Z,2.0nm,0.7s,baz=147,slow=9.3,SNR=6.2						
KSAR	**Wonju Array Be**	**26.36**	**324**	P	**P**	**15 46 39.9**	**+0.4**
ASAJ	**Asahikawa**	**27.22**	**353**	P	**P**	**15 46 46.1**	**-1.0**
ASAJ	**Asahikawa**	**27.22**	**353**	P	**P**	**15 46 46.1**	**-1.0**
	comp=Z,2.6nm,0.7s,baz=217,slow=20,SNR=2.0						
NJ2	**Nanjing**	**29.50**	**306**	*e*P	**P**	**15 47 07.6**	**+0.1**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
USRK	**Ussuriysk Arra**	**29.86**	**338**	LR	LR	15 59 55.0	
	comp=Z,71nm,18.1s,baz=250,slow=38						
CN2	**Changchun**	**32.29**	**330**	*e*P	**P**	**15 47 33.8**	**+1.9**
KLR	**Kul'dur**	**34.39**	**342**	*e*P	**P**	**15 47 47.0**	**-3.2**
KAPI	**Kappang**	**34.72**	**233**	P	**P**	**15 47 53.4**	**0.0**
KAPI	**Kappang**	**34.72**	**233**	P	**P**	**15 47 53.4**	**0.0**
	comp=Z,4.8nm,0.8s,baz=85,slow=19,SNR=3.4						
BJI	**Beijing**	**35.16**	**317**	P	**P**	**15 47 55.1**	**-1.8**
BJI				S	**S**	**15 53 30.6**	**+3.9**
BJI				pmax	pmax		
	comp=Z,9.0nm,0.5s						
QIZ	**Qiongzhong**	**35.33**	**279**	P	**P**	**15 47 59.8**	**+1.1**
QIZ				S	**S**	**15 53 29.8**	**0.0**
QIZ				pmax	pmax		
	comp=Z,10.0nm,1.9s						
QIZ				pmax	pmax		
	comp=Z,81nm,5.4s						
QIZ				LR	LR		
	comp=Z,170nm,14.0s						
PETK	**Petropavlovsk-**	**36.94**	**11**	LR	LR	16 00 49.1	
	comp=Z,98nm,21.6s,baz=356,slow=32						
GYA	**Guiyang**	**38.46**	**291**	*e*P	**P**	**15 48 27.0**	**+1.6**
GYA				pP	**pP**	**15 48 37.3**	**-0.9**
GYA				PP	**PnPn**	**15 49 58.8**	**+2.5**
GYA				PcP	**PcP**	**15 50 39.0**	**+1.1**
GYA				S	**S**	**15 54 19.3**	**+1.6**
GYA				ScP	**ScP**	**15 54 23.1**	**+1.0**
GYA				ScS	**ScS**	**15 58 31.8**	**-0.8**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,70nm,4.9s						
HHC	**Hu-ho-hao-te**	**38.62**	**315**	*e*P	**P**	**15 48 26.4**	**-0.1**
HHC				pP	**pP**	**15 48 36.3**	**-3.0**
HHC				sP	**sP**	**15 48 40.3**	**-4.6**
HHC				PP	**PnPn**	**15 49 59.4**	**+1.5**
HHC				S	**S**	**15 54 20.8**	**+1.2**
HHC				PcS	**PcS**	**15 54 26.6**	**-0.9**
HHC				sS	**sS**	**15 54 36.8**	**-4.3**
HHC				SS	**SnSn**	**15 57 03.4**	**-7.3**
HHC				ScS	**ScS**	**15 58 32.0**	**-0.9**
HHC				pmax	pmax		
	comp=Z,48nm,1.1s						
HHC				pmax	pmax		
	comp=Z,330nm,4.8s						
HHC				LR	LR		
	comp=N,210nm,17.8s						
HHC				LR	LR		
	comp=E,420nm,16.3s						
HHC				LR	LR		
	comp=Z,240nm,16.6s						
WRAB	**Tennant Creek**	**38.81**	**199**	*e*P	**P**	**15 48 27.7**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,18nm,1.0s						
WRAB	**Tennant Creek**	**38.81**	**199**	*e*P	**P**	**15 48 27.7**	**-0.4**
	comp=Z,18nm,1.0s						
WRA	**Warramunga Arr**	**38.82**	**199**	P	**P**	**15 48 27.6**	**-0.7**
WRA				PcP	**PcP**	**15 50 39.0**	**+0.1**
WRA	**Warramunga Arr**	**38.82**	**199**	P	**P**	**15 48 27.6**	**-0.7**
	comp=Z,5.9nm,0.7s,baz=24,slow=8.6,SNR=79						
WRA				PcP	**PcP**	**15 50 39.0**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=24,slow=3.3,SNR=4.7						
KSM	**Kuching**	**39.25**	**251**	*e*P	**P**	**15 48 32.8**	**+0.8**
	comp=Z,12nm,0.9s						
KSM				*e*pP	**pP**	**15 48 41.4**	**-3.4**
FITZ	**Fitzroy Crossi**	**40.77**	**212**	P	**P**	**15 48 44.2**	**-0.3**
FITZ	**Fitzroy Crossi**	**40.77**	**212**	P	**P**	**15 48 44.2**	**-0.3**
	comp=Z,1.6nm,0.4s,baz=70,slow=19,SNR=10						
CD2	**Chengdu**	**41.57**	**297**	P	**P**	**15 48 52.9**	**+1.8**
CD2				pP	**pP**	**15 49 03.1**	**-0.8**
CD2				sP	**sP**	**15 49 07.4**	**-2.2**
CD2				PP	**PnPn**	**15 50 33.0**	**+0.1**
CD2				S	**S**	**15 55 07.1**	**+3.1**
CD2				sS	**sS**	**15 55 24.1**	**-1.4**
CD2				SS	**SS**	**15 58 08.0**	**-2.2**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				pmax	pmax		
	comp=Z,150nm,6.4s						
CD2				LR	LR		
	comp=N,220nm,6.8s						
CD2				LR	LR		
	comp=Z,220nm,6.5s						
KMI	**Kunming**	**41.90**	**289**	P	**P**	**15 48 55.3**	**+1.3**
KMI				pmax	pmax		
	comp=Z,7.0nm,0.5s						
AS31	**Alice Springs**	**42.45**	**198**	*e*P	**P**	**15 48 59.0**	**+0.8**
ASAR	**Alice Springs**	**42.45**	**198**	P	**P**	**15 48 57.8**	**-0.4**
ASAR				PcP	**PcP**	**15 50 50.7**	**+0.1**
ASAR	**Alice Springs**	**42.45**	**198**	P	**P**	**15 48 57.8**	**-0.4**
	comp=Z,1.5nm,0.7s,baz=23,slow=8.4,SNR=28						
ASAR				PcP	**PcP**	**15 50 50.7**	**+0.1**
	comp=Z,1.0nm,0.9s,baz=19,slow=4.8,SNR=4.0						
LZH	**Lanzhou**	**42.58**	**305**	*e*P	**P**	**15 49 01.8**	**+2.5**
LZH				pP	**pP**	**15 49 11.6**	**-0.6**
LZH				sP	**sP**	**15 49 14.9**	**-3.0**
LZH				pmax	pmax		
	comp=Z,13nm,1.0s						
SONM	**Songino Array**	**45.18**	**322**	P	**P**	**15 49 20.2**	**+0.2**
SONM	**Songino Array**	**45.18**	**322**	P	**P**	**15 49 20.2**	**+0.2**
	comp=Z,1.9nm,0.7s,baz=140,slow=7.8,SNR=11						
SONM				LR	LR	16 07 51.8	
	comp=Z,67nm,20.9s,baz=243,slow=36						
CM31	**Chiang Mai Arr**	**45.67**	**279**	*e*P	**P**	**15 49 26.5**	**+2.4**
	comp=Z,1.4nm,0.4s						
CMAR	**Chiang Mai Arr**	**45.67**	**279**	P	**P**	**15 49 26.0**	**+1.9**
CMAR	**Chiang Mai Arr**	**45.67**	**279**	P	**P**	**15 49 26.0**	**+1.9**
	comp=Z,4.4nm,0.8s,baz=78,slow=6.6,SNR=15						
SEY	**Seymchan**	**45.97**	**3**	*i* P	**P**	**15 49 28.3**	**+2.5**
KULM	**Kulim**	**46.81**	**261**	*e*P	**P**	**15 49 35.4**	**+2.3**
	comp=Z,4.4nm,0.6s						
ZAK	**Zakamensk**	**48.18**	**324**	*e*P	**P**	**15 49 42.8**	**-0.6**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.2s						
TLY	**Talaya**	**48.60**	**325**	*e*P	P	15 49 51.1	+4.6
TLY				pmax	pmax		
	comp=Z,8.0nm,1.4s						
TLY				MLR	MLR		
	comp=Z,49nm,13.0s						
STKA	**Stephens Creek**	**48.94**	**186**	P	**P**	**15 49 47.1**	**-2.1**
STKA	**Stephens Creek**	**48.94**	**186**	P	**P**	**15 49 47.1**	**-2.1**
	comp=Z,1.7nm,0.8s,baz=32,slow=9.0,SNR=2.6						
STKA				LR	LR	16 08 53.8	
	comp=Z,96nm,19.9s,baz=25,slow=34						
PSI	**Prapat**	**49.26**	**259**	P	**P**	**15 49 53.6**	**+1.4**
PSI	**Prapat**	**49.26**	**259**	P	**P**	**15 49 53.6**	**+1.4**
	comp=Z,5.8nm,0.6s,baz=114,slow=12,SNR=2.3						
PSI				LR	LR	16 10 18.7	
	comp=Z,100nm,18.6s,baz=5.6,slow=36						
WMQ	**Urumqi**	**56.30**	**312**	P	**P**	**15 50 46.5**	**+2.7**
WMQ				pP	**pP**	**15 50 56.6**	**-0.5**
WMQ				sP	**sP**	**15 51 00.6**	**-2.0**
WMQ				PcP	**PcP**	**15 51 43.3**	**+2.6**
WMQ				pmax	pmax		
	comp=Z,13nm,1.2s						
WMQ				pmax	pmax		
	comp=Z,110nm,6.7s						
WMQ				LR	LR		
	comp=N,67nm,16.0s						
WMQ				LR	LR		
	comp=E,41nm,17.3s						
ZAA0	**Zalesovo Array**	**60.05**	**323**	*e*P	**P**	**15 51 08.4**	**-1.2**
ZALV	**Zalesovo Beam**	**60.05**	**323**	*i* P	**P**	**15 51 09.1**	**-0.6**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ZALV	**Zalesovo Beam**	**60.05**	**323**	P	**P**	**15 51 09.2**	**-0.4**
ZALV	**Zalesovo Beam**	**60.05**	**323**	P	**P**	**15 51 09.2**	**-0.4**
	comp=Z,2.0nm,0.7s,baz=110,slow=7.3,SNR=9.3						
ZALV				LR	LR	16 18 31.2	
	comp=Z,27nm,19.1s,baz=70,slow=37						
MK31	**Mak

comp=Z,5.0nm,1.0s
ABKAR Akbulak array 75.36 317 *e*P **P 15 52 45.5 -0.8**
comp=Z,1.9nm,0.7s
YKA Yellowknife Ar 78.85 28 P **P 15 53 05.7 +0.1**
YKA Yellowknife Ar 78.85 28 P **P 15 53 05.6 +0.1**
comp=Z,1.6nm,0.7s,baz=284,slow=5.0,SNR=3.6
KLMR Klimovskoe 83.47 332 *e*P **P 15 53 28.8 -1.3**
KLMR pmax pmax
comp=Z,27nm,1.7s
ARCES ARCESS Array B 84.41 342 P **P 15 53 36.2 +1.5**
ARCES ARCESS Array B 84.41 342 P **P 15 53 36.2 +1.5**
comp=Z,4.3nm,0.9s,baz=54,slow=4.6,SNR=4.0
RRI2 Red Ridge 86.67 46 *e*P **P 15 53 46.5 -0.4**
comp=Z,3.2nm,0.9s
FINES FINESS Array B 88.87 336 P **P 15 53 54.6 -2.0**
FINES FINESS Array B 88.87 336 P **P 15 53 54.6 -2.0**
comp=Z,2.2nm,0.7s,baz=78,slow=4.0,SNR=5.9
WUAZ Wupatki 89.36 53 *e*P **P 15 54 00.2 +0.5**
comp=Z,5.6nm,1.0s
NOA NORSAR Array B 94.52 340 LR LR 16 44 38.4
comp=Z,38nm,18.0s,baz=275,slow=40
TORD Torodi Ar. Bea 134.43 309 PKP **PKPdf 16 00 21.4 -0.1**
TORD Torodi Ar. Bea 134.43 309 PKP **PKPdf 16 00 21.4 -0.1**
comp=Z,0.8nm,0.7s,baz=26,slow=3.1,SNR=5.5
LPAZ La Paz 146.38 94 PKPbc **PKPbc 16 00 44.5 -0.6**
LPAZ La Paz 146.38 94 PKPbc **PKPbc 16 00 44.5 -0.6**
comp=Z,1.5nm,0.6s,baz=294,slow=2.9,SNR=7.3
SAML Samuel 149.55 78 *e*PKPbc **PKPbc 16 00 51.8 -1.0**

IDC 21 16:05:37.7±2.1, 0°.66S×127°.65E, h0km, mb3.1/3, mb1 3.4/3, mb1mx3.2/20, mbtmp3.2/3, Error ellipse: s-maj=168.7km s-min=25.7km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.26**	**162**	P	P	16 10 14.3	-0.6
0.5nm,0.5s,baz=340,slow=11,SNR=5.5							
ASAR	**Alice Springs**	**23.67**	**166**	P	P	16 10 51.5	+0.4
0.4nm,0.4s,baz=341,slow=11,SNR=7.9							
MKAR	**Makanchi Array**	**61.67**	**326**	P	P	16 15 57.5	-0.1
0.1nm,0.5s,baz=135,slow=8.0,SNR=2.7							

IDC 21 16:15:55.5±2.6, 10°.82S×161°.28E, h58km±20km, mb3.1/3, mb1 3.4/4, mb1mx3.2/19, mbtmp3.3/4, ML3.4/1, Error ellipse: s-maj=39.7km s-min=15.0km az=61.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.90**	**316**	P	Pn	16 16 25.9	+0.3
83nm,0.3s,baz=143,slow=6.6,SNR=35							
HNR				S	Sn	16 16 48.8	+0.3
84nm,0.3s,baz=165,slow=18,SNR=9.4							
DZM	**Mont Dzumac**	**12.24**	**157**	P	Pn	16 18 48.8	+1.7
0.2nm,0.3s,baz=307,slow=22,SNR=9.6							
DZM				S	Sn	16 20 58.8	-3.3
0.1nm,0.3s,baz=287,slow=20,SNR=2.4							
WRA	**Warramunga Arr**	**27.48**	**247**	P	P	16 21 36.9	+0.4
0.4nm,0.5s,baz=78,slow=8.8,SNR=7.8							
ASAR	**Alice Springs**	**29.04**	**240**	P	P	16 21 50.1	-0.2
0.1nm,0.4s,baz=64,slow=10,SNR=7.6							
SONM	**Songino Array**	**75.94**	**325**	P	P	16 27 36.1	0.0
0.2nm,0.4s,baz=114,slow=5.9,SNR=2.5							

KRSC 21 16:25:12.6±3.2, 52°.62N×160°.08E, h24km±24km, ML3.5, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.48**	**356**	*e*P	Pn	16 25 23.6	-0.4
SPN				*e*S	Sn	16 25 30.7	-0.9
NLC	**Nalytchevo**	**0.71**	**321**	*i* P	Pn	16 25 27.0	-0.1
NLC				*i* S	Sn	16 25 36.5	-0.7
PET	**Petropavlovsk**	**0.96**	**296**	*i* P	Pb	16 25 30.2	-0.3
PET				*e*S	Sb	16 25 42.0	-0.7
UGLR	**Uglovaya**	**0.96**	**308**	*e*P	Pn	16 25 31.0	+0.2
UGLR				*e*S	Sn	16 25 43.6	-0.2
RUS	**Russkaya**	**0.97**	**260**	*e*P	Pn	16 25 30.7	-0.1
RUS				*e*S	Sb	16 25 43.1	-0.1
SDLR	**Sedlovina**	**0.98**	**313**	*e*P	Pn	16 25 30.6	-0.4
SDLR				*e*S	Sb	16 25 43.0	-0.7
SMAR	**Somma**	**1.01**	**310**	*e*P	Pn	16 25 31.1	-0.4
AVH	**Avacha**	**1.04**	**309**	*e*P	Pn	16 25 31.8	0.0
AVH				*e*S	Sb	16 25 44.7	-0.6
KRER	**Koryakskii**	**1.06**	**311**	*e*P	Pb	16 25 32.5	0.0
KRER				*e*S	Sn	16 25 46.7	+0.4
KOK	**Koryaka**	**1.10**	**308**	*e*P	Pb	16 25 33.2	+0.1
KRX	**Arik**	**1.14**	**311**	*e*P	Pn	16 25 32.9	-0.3
KRX				*e*S	Sn	16 25 47.5	-0.7
MTVR	**Mutnovka**	**1.17**	**264**	*i* P	Pn	16 25 33.8	+0.2
MTVR				*i* S	Sn	16 25 48.1	-0.8
GRL	**Gorelyy**	**1.23**	**268**	*e*P	Pb	16 25 35.2	-0.1
GRL				*e*S	Sn	16 25 50.4	+0.1
ASAK	**Asacha**	**1.35**	**261**	*e*P	Pn	16 25 36.6	+0.5
ASAK				*e*S	Sn	16 25 53.3	-0.1
KII	**Karymskiy**	**1.47**	**345**	*e*P	Pn	16 25 37.3	-0.4
KII				*e*S	Sn	16 25 56.2	0.0
GNL	**Ganaly**	**1.68**	**311**	*e*P	Pb	16 25 41.8	-1.2
GNL				*e*S	Sn	16 26 02.2	+0.7
APC	**Apacha**	**1.80**	**281**	*e*P	Pn	16 25 43.1	+1.0
APC				*e*S	Sb	16 26 06.2	-0.8
PAU	**Pauzhetka**	**2.33**	**242**	*e*P	Pb	16 25 52.1	-1.7
PAU				*e*S	Sn	16 26 19.5	+2.4
TUMR	**Tumrok**	**2.67**	**1**	*e*P	Pn	16 25 54.9	+0.7
KMNR	**Kamenistaya**	**3.14**	**2**	*e*P	Pn	16 26 02.3	+1.6
BZMR	**Bezymyannaya**	**3.33**	**4**	*e*P	Pn	16 26 06.3	+3.0
BZGR	**Bezymyannyi-Gr**	**3.35**	**6**	*e*P	Pn	16 26 04.0	+0.5
BKI	**Bering**	**4.34**	**51**	S	Sn	16 27 06.9	+0.2

MAN 21 16:27:04, 12°.64N×124°.67E, h26km, mb4.1, ML2.9, MS2.6, 1C-1D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNP	**Cataram**	**0.13**	**183**	*e*P	Pn	16 27 10.0	-0.4
CNP				*e*S	Sb	16 27 14.0	+1.6
PVCP	**Virac**	**1.08**	**332**	*e*P	Pb	16 27 23.7	-0.3
PVCP				*e*S	Sn	16 27 36.0	-1.5
PLP	**Palo**	**1.50**	**168**⇑	*e*P	Pn	16 27 29.7	+0.5
PLP				*i* S	Sn	16 27 48.4	+0.5
RCP	**Roxas**	**2.17**	**241**⇓	*e*P	Pn	16 27 39.3	+0.8
RCP				*e*S	Sn	16 28 05.7	+1.2

IDC 21 16:31:31.8±1.5, 5°.36N×126°.06E, h0km, mb3.4/5, mb1 3.6/5, mb1mx3.4/24, mbtmp3.4/5, Error ellipse: s-maj=79.3km s-min=23.2km az=65.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**23.31**	**181**	P	P	16 36 41.9	+0.3
1.3nm,0.9s,baz=3.8,slow=15,SNR=3.0							
WRA	**Warramunga Arr**	**26.43**	**162**	P	P	16 37 11.2	+0.7
0.3nm,0.6s,baz=339,slow=10,SNR=5.1							
ASAR	**Alice Springs**	**29.84**	**165**	P	P	16 37 40.7	-0.4
0.3nm,0.9s,baz=345,slow=6.8,SNR=2.9							
CTA	**Charters Tower**	**32.15**	**142**	P	P	16 38 00.8	-0.6
0.7nm,0.4s,baz=314,slow=9.9,SNR=3.0							
MKAR	**Makanchi Array**	**55.85**	**325**	P	P	16 41 11.1	-0.1
0.2nm,0.6s,baz=120,slow=8.5,SNR=3.1							

IDC 21 16:36:57.4±70.0, 21°.81S×177°.66W, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.5/17, mbtmp3.6/3, Error ellipse: s-maj=1283.0km s-min=170.1km az=85.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.52**	**246**	P	P	16 44 12.6	-0.7
2.3nm,1.0s,baz=82,slow=10,SNR=4.4							
ASAR	**Alice Springs**	**44.54**	**258**	P	P	16 45 11.1	-0.2
0.2nm,0.4s,baz=98,slow=7.2,SNR=12							
WRA	**Warramunga Arr**	**44.75**	**263**	P	P	16 45 13.3	+0.4
0.7nm,1.1s,baz=96,slow=8.3,SNR=21							

IDC 21 16:40:41.0±1.9, 17°.07S×178°.55W, h564km±26km, mb3.3/5, mb1 3.4/6, mb1mx3.0/19, mbtmp3.3/6, Error ellipse: s-maj=30.6km s-min=19.9km az=148.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.25**	**65**	P	P	16 42 32.2	+0.1
2.1nm,0.3s,baz=312,slow=18,SNR=4.1							
URZ	**Urewera**	**21.45**	**189**	P	P	16 44 49.2	-0.1
2.2nm,0.5s,baz=91,slow=17,SNR=3.3							
CTA	**Charters Tower**	**33.45**	**259**	P	P	16 46 34.2	-0.1
1.1nm,0.6s,baz=80,slow=11,SNR=2.4							
STKA	**Stephens Creek**	**38.91**	**240**	P	P	16 47 18.6	-0.5
2.3nm,0.5s,baz=99,slow=9.8,SNR=16							
WRA	**Warramunga Arr**	**44.65**	**259**	P	P	16 48 04.0	-0.4
1.7nm,0.7s,baz=94,slow=6.7,SNR=45							
ASAR	**Alice Springs**	**44.89**	**253**	P	P	16 48 06.3	+0.1
14nm,0.6s,baz=88,slow=8.2,SNR=319							
ASAR				PcP	PcP	16 49 35.7	+0.1
0.4nm,0.7s,baz=107,slow=3.5,SNR=4.2							
BRTR	**Keskin Array B**	**144.10**	**316**	PKP	PKPbc	16 59 12.7	-0.3
0.9nm,1.0s,baz=70,slow=1.7,SNR=3.0							
GERES	**GERESS Array B**	**146.77**	**345**	PKPbc	PKPbc	16 59 19.4	-0.9
0.3nm,0.5s,baz=25,slow=2.6,SNR=3.1							

IDC 21 16:51:26.2±2.6, 4°.29N×127°.52E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/22, mbtmp3.3/3, Error ellipse: s-maj=209.1km s-min=25.5km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.00**	**165**	P	P	16 56 51.0	-0.9
0.4nm,0.4s,baz=344,slow=9.9,SNR=9.6							
ASAR	**Alice Springs**	**28.48**	**168**	P	P	16 57 24.2	+0.9
0.2nm,0.7s,baz=340,slow=11,SNR=6.6							
MKAR	**Makanchi Array**	**57.55**	**325**	P	P	17 01 17.8	0.0
0.1nm,0.4s,baz=125,slow=7.1,SNR=3.9							

*IDC **21** 17:07:39.8±0.8, 13°.86N×92°.99E, h27km±4km, mb3.6/11, mb1 3.8/11, mb1mx3.6/24, mbtmp3.6/11, MS3.7/2, Ms1 3.7/2, ms1mx2.9/33, Error ellipse: s-maj=26.2km s-min=17.1km az=62.0*

ISC 21 17:07:40.4±0.9, 14°.00N±0°.1×92°.9E±0°.2, h32km, n23, σ1§63/25, mb3.7/11, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ODAN	**Odare**	**13.79**	**339**	*e*P	**Pn**	**17 10 51.4**	**-2.6**
26nm,0.6s							
TAPN	**Taplejung**	**14.13**	**341**	*e*P	Pn	17 10 51.7	-7.0
9.4nm,0.5s							
RAMN	**Ramite**	**14.16**	**336**	*e*P	**Pn**	**17 10 59.0**	**-0.1**
16nm,0.4s							
PKI	**Pulchoki**	**15.20**	**334**	*e*P	**Pn**	**17 11 10.6**	**-2.6**
PKIN	**Phulchoki**	**15.21**	**334**	*e*P	**Pn**	**17 11 10.7**	**-2.6**
7.5nm,0.3s							
DMN	**Daman**	**15.37**	**333**	*e*P	**Pn**	**17 11 12.3**	**-3.0**
27nm,0.7s							
KOLN	**Koldanda**	**16.21**	**329**	*e*P	**Pn**	**17 11 25.4**	**-0.7**
31nm,0.6s							
PYUN	**Piuthan**	**16.79**	**328**	*e*P	**Pn**	**17 11 31.8**	**-1.7**
126nm,0.5s							
MKAR	**Makanchi Array**	**33.87**	**347**	P	**P**	**17 14 22.1**	**+2.0**
1.1nm,0.8s,baz=164,slow=8.3,SNR=9.9							
MKAR				pP	**pP**	**17 14 30.2**	**+0.7**
1.1nm,0.6s,baz=162,slow=8.8,SNR=11							
SONM	**Songino Array**	**35.53**	**16**	P	**P**	**17 14 36.0**	**+1.4**
0.8nm,1.1s,baz=216,slow=7.1,SNR=2.3							
SONM				pP	**pP**	**17 14 43.6**	**-0.4**
1.0nm,1.0s,baz=201,slow=7.9,SNR=5.5							
KURBB	**Kurchatov Arra**	**38.34**	**345**	P	**P**	**17 14 59.5**	**+1.3**
0.6nm,0.7s,baz=163,slow=7.6,SNR=6.2							
KURBB				pP	**pP**	**17 15 07.8**	**+0.2**
1.0nm,0.7s,baz=160,slow=8.0,SNR=9.6							
KSRS	**Korea Array**	**38.88**	**47**	LR	LR	17 33 42.3	
comp=Z,53nm,18.9s,baz=160,slow=40							
ZALV	**Zalesovo Beam**	**40.35**	**353**	P	**P**	**17 15 16.5**	**+1.5**
0.4nm,0.5s,baz=184,slow=5.8,SNR=3.3							
ZALV				pP	**pP**	**17 15 25.5**	**+1.1**
1.9nm,0.6s,baz=172,slow=8.0,SNR=7.0							
CBIJ	**Chichi jima**	**47.64**	**66**	LR	LR	17 38 51.0	
comp=Z,139nm,18.7s,baz=67,slow=39							
WRA	**Warramunga Arr**	**52.90**	**129**	P	**P**	**17 16 52.0**	**-1.8**
0.5nm,0.6s,baz=300,slow=9.9,SNR=7.5							
ASAR	**Alice Springs**	**54.84**	**133**	P	**P**	**17 17 06.8**	**-1.1**
0.5nm,0.4s,baz=308,slow=6.9,SNR=28							
BRTR	**Keskin Array B**	**57.62**	**308**	P	**P**	**17 17 27.7**	**-0.1**
0.5nm,0.8s,baz=123,slow=10,SNR=3.6							
BRTR				pP	**pP**	**17 17 35.5**	**-2.0**
0.6nm,0.7s,baz=119,slow=10,SNR=3.6							
FINES	**FINESS Array B**	**66.77**	**331**	P	**P**	**17 18 27.6**	**-0.9**
3.6nm,1.0s,baz=92,slow=5.7,SNR=3.6							
FINES				pP	**pP**	**17 18 37.5**	**-0.9**
1.3nm,0.5s,baz=96,slow=5.7,SNR=2.2							
ARCES	**ARCESS Array B**	**69.12**	**340**	pP	pP	17 18 53.0	-0.2
1.2nm,0.7s,baz=90,slow=7.3,SNR=5.0							
GERES	**GERESS Array B**	**72.51**	**317**	P	**P**	**17 19 05.1**	**+0.8**
0.6nm,0.8s,baz=94,slow=5.4,SNR=4.3							
GERES				pP	**pP**	**17 19 14.3**	**0.0**
0.6nm,0.6s,baz=63,slow=6.1,SNR=3.5							
BOSA	**Boshof**	**77.90**	**236**	P	**P**	**17 19 37.1**	**+1.4**
2.1nm,0.6s,baz=81,slow=6.5,SNR=5.9							
TORD	**Torodi Ar. Bea**	**88.05**	**283**	P	**P**	**17 20 29.5**	**+1.1**
0.7nm,0.8s,baz=73,slow=3.9,SNR=3.3							
ILAR	**Eielson Array**	**89.53**	**22**	pP	pP	17 20 43.1	-1.5
0.6nm,0.7s,baz=277,slow=5.1,SNR=4.1							

*ISCJB **21** 17:09:34.7±0.5, 24°.29S±0°.03×70°.21W±0°.08, h39km, mb3.8/5, Error ellipse: s-maj=10.3km s-min=4.7km az=174.8*
*IDC **21** 17:09:36.0±5.3, 24°.29S×70°.52W, h33km±39km, mb3.7/5, mb1 3.9/8, mb1mx3.8/19, mbtmp3.7/8, ML4.3/2, MS3.3/2, Ms1 3.3/2, ms1mx2.8/23, Error ellipse: s-maj=34.9km s-min=18.2km az=86.0*
*GUC **21** 17:09:36.5±0.4, 24°.26S×70°.74W, h26km±4km, ML4.5*

ISC 21 17:09:36.4±0.7, 24°.27S±0°.05×70°.36W±0°.09, h39km, n24, σ1§86/27, mb3.7/5, 7C, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANCH	**Antofagasta**	**0.58**	**356**⇑	*i*P	**Pn**	**17 09 48.3**	**0.0**
ANCH				*i* S	**Sn**	**17 09 57.2**	**+0.5**
ANCH				AML	AML	17 09 58.2	
comp=E,40μm,0.4s							
PB10	**Plate Boundary**	**0.77**	**347**⇑	*i*P	**Pn**	**17 09 50.1**	**-0.7**
PB10				*i* S	**Sn**	**17 10 00.4**	**-0.8**
PB10				AML	AML	17 10 04.8	
comp=E,25μm,0.5s							
CEN1	**Los Morros**	**0.89**	**10**⇑	*i*P	**Pn**	**17 09 50.2**	**-2.3**
CEN1				*i* S	**Sn**	**17 10 00.8**	**-3.4**
PB04	**Plate Boundary**	**2.15**	**22**⇑	*i*P	**Pn**	**17 10 06.9**	**-2.8**
PB04				*i* S	**Sn**	**17 10 33.0**	**-2.2**
PB04				AML	AML	17 10 36.1	
comp=N,9μm,0.4s							
PB07	**Plate Boundary**	**2.57**	**10**⇑	*i*P	**Pn**	**17 10 15.8**	**+0.2**
PB07				*i* S	**Sn**	**17 10 48.7**	**+3.0**
PB07				AML	AML	17 11 05.9	
comp=E,2μm,0.2s							
PB09	**Plate Boundary**	**2.67**	**23**⇑	*i*P	**Pn**	**17 10 19.2**	**+2.1**
PB09				*i* S	**Sn**	**17 10 53.8**	**+5.6**
CFAA	**Coronel Fontan**	**7.55**	**166**	Pn	**Pn**	**17 11 24.3**	**+0.4**
comp=E,0.1nm,0.3s,baz=355,slow=16,SNR=13							
CFAA				Sn	**Sn**	**17 12 47.4**	**-0.9**
comp=E,0.1nm,0.3s,baz=0.0,slow=16,SNR=1.5							
LPAZ	**La Paz**	**8.21**	**15**	Pn	**Pn**	**17 11 35.5**	**+1.9**
comp=E,2.1nm,0.3s,baz=210,slow=6.6,SNR=40							
SIV	**San Ignacio**	**11.99**	**48**	Pn	**Pn**	**17 12 25.0**	**+0.1**
comp=E,0.7nm,0.3s,baz=241,slow=13,SNR=12							
SIV				Sn	**Sn**	**17 14 37.0**	**-0.4**
comp=E,0.1nm,0.3s,baz=158,slow=19,SNR=2.4							
SIV				LR	LR	17 18 08.2	
comp=E,100nm,21.1s,slow=42							
PLCA	**Paso Flores**	**16.42**	**181**	LR	LR	17 19 36.0	
comp=E,143nm,21.1s,baz=331,slow=37							
VNA2	**Neumayer--Watz**	**58.51**	**160**	*e*P	P	17 19 38.7	+10
baz=289,slow=6.6							
VNA2	**Neumayer--Watz**	**58.51**	**160**	*e*I		17 19 54.6	
baz=289,slow=6.6							
SNAA	**Sanae**	**60.12**	**160**	*e*P	**P**	**17 19 39.5**	**-0.1**
SNAA	**Sanae**	**60.12**	**160**	*e*I		17 19 49.9	
TXAR	**Lajitas Array**	**62.17**	**327**	P	**P**	**17 19 53.6**	**-0.4**
comp=E,0.4nm,0.8s,baz=149,slow=8.9,SNR=5.0							
QSPA	**South Pole Qui**	**65.94**	**180**	P	**P**	**17 20 18.6**	**+0.3**
comp=E,0.5nm,0.7s,baz=44,slow=6.1,SNR=2.9							
SYO	**Syowa Base**	**74.39**	**159**⇑	*e*P	P	17 21 19.8	+10
PDAR	**Pinedale Array**	**75.86**	**331**	P	**P**	**17 21 18.6**	**-0.3**
comp=E,0.4nm,0.8s,baz=130,slow=9.6,SNR=2.2							
TORD	**Torodi Ar. Bea**	**79.54**	**70**	P	**P**	**17 21 40.1**	**+0.4**
comp=E,5.3nm,0.7s,baz=257,slow=5.1,SNR=38							
MAW	**Mawson**	**82.07**	**164**	P	**P**	**17 21 53.0**	**+0.7**
comp=E,1.2nm,0.8s,baz=229,slow=9.3,SNR=2.9							
ASAR	**Alice Springs**	**126.85**	**208**	PKP	**PKPdf**	**17 28 35.8**	**-0.9**
comp=E,0.2nm,0.8s,baz=112,slow=1.9,SNR=6.1							
ZALV	**Zalesovo Beam**	**145.02**	**26**	PKPbc	**PKPdf**	**17 29 08.9**	**-0.2**
comp=E,5.2nm,0.7s,baz=315,slow=4.4,SNR=24							
AAK	**Ala-Archa**	**145.75**	**49**	PKPbc	**PKPab**	**17 29 13.1**	**+1.2**
comp=E,3.0nm,0.8s,baz=228,slow=5.1,SNR=7.8							
MKAR	**Makanchi Array**	**148.64**	**37**	PKPbc	**PKPbc**	**17 29 19.4**	**+0.1**
comp=E,2.3nm,0.7s,baz=324,slow=2.7,SNR=24							

*NIED **21** 17:12:00, 24°.40N×126°.60E, h5km, Mw4.1 Best double couple: M0 1.49000×10^15 NP1:φ0=24.00000°, δ65.00000°, λ47.00000°. NP2:φ0=270.00000°, δ48.00000°, λ146.00000°.*
*IDC **21** 17:12:24.2±1.2, 24°.32N×126°.55E, h0km, mb3.8/8, mb1 3.9/9, mb1mx3.7/24, mbtmp3.8/9, ML3.4/1, MS3.1/1, Ms1 3.1/1, ms1mx2.1/35, Error ellipse: s-maj=55.5km s-min=18.3km az=69.0*
*ISCJB **21** 17:12:25.7±1.4, 24°.34N±0°.05×126°.67E±0°.04, h28km±11km, mb3.7/8, MS3.1/1, Error ellipse: s-maj=9.4km s-min=4.3km az=152.0*
*JMA **21** 17:12:26.5±0.2, 24°.38N×126°.58E, h93km±5km, MS3.5*

ISC 21 17:12:25.3±2.5, 24°.32N±0°.08×126°.64E±0°.05, h12km±14km, n25, σ1§28/35, mb3.8/8, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**1.20**	**292**	P	**Pb**	**17 12 48.1**	**+0.1**
JOGS				*e*S	**Sg**	**17 13 04.6**	**+0.4**
JMJ	**Miyako jima 2**	**1.32**	**292**	P	**Pn**	**17 12 49.5**	**0.0**
JMJ				*e*S	**Sg**	**17 13 06.9**	**-1.0**
JTJ	**Tarama**	**1.79**	**281**	P	**Pn**	**17 12 55.8**	**-0.2**
JTJ				*e*S	**Sn**	**17 13 18.5**	**-0.2**
JKE	**Kume jima 2**	**2.00**	**4**	P	**Pn**	**17 12 58.6**	**-0.4**
JKE				*e*S	**Sn**	**17 13 21.9**	**-2.0**
JJT2	**Tamagusuku 2**	**2.07**	**29**	P	**Pn**	**17 12 59.9**	**0.0**
JJT2				*e*S	**Sn**	**17 13 24.6**	**-1.1**
JIJ	**Ishigaki jima**	**2.27**	**272**	P	**Pn**	**17 13 02.1**	**-0.6**
JIJ				*e*S	**Sn**	**17 13 28.3**	**-2.3**
JAGN	**Aguni-jima**	**2.33**	**13**	P	**Pn**	**17 13 03.3**	**-0.1**
JKRS	**Kuro-shima**	**2.40**	**269**	P	**Pn**	**17 13 04.3**	**-0.1**
JKRS				*e*S	**Sn**	**17 13 31.1**	**-2.6**
HATJ	**Hateruma jima**	**2.60**	**265**	*e*S	**Sn**	**17 13 36.0**	**-2.6**
IRIF	**Iriomote-Funau**	**2.65**	**271**	P	**Pn**	**17 13 07.4**	**-0.4**
JOW	**Kunigami**	**2.91**	**30**	P	**Pn**	**17 13 11.0**	**-0.4**
JOW				*e*S	**Sn**	**17 13 45.1**	**-1.2**
JIH	**Iheya**	**2.96**	**24**	P	**Pn**	**17 13 11.6**	**-0.5**
JIH				*e*S	**Sn**	**17 13 45.1**	**-2.4**
JTK	**Tokunoshima**	**4.03**	**31**	P	**Pn**	**17 13 26.4**	**-0.5**
JMZ	**Minamidaito 2**	**4.42**	**69**	P	**Pn**	**17 13 29.8**	**-2.4**
JMZ				*e*S	Sn	17 14 16.0	-7.5
JAMN	**Amaminishikomi**	**4.53**	**30**	P	**Pn**	**17 13 33.5**	**-0.1**
JAMN				*e*S	**Sn**	**17 14 23.9**	**-2.2**
JAM	**Amami Oshima**	**4.87**	**33**	P	**Pn**	**17 13 37.5**	**-0.9**
JNU	**Nakatsue**	**9.53**	**22**	Pn	**Pn**	**17 14 43.1**	**+0.7**
0.3nm,0.3s,baz=2.0,slow=6.1,SNR=7.4							
JNU				Sn	Sn	17 16 17.1	-12
0.2nm,0.3s,baz=127,slow=10,SNR=3.1							
SONM	**Songino Array**	**28.44**	**331**	P	**P**	**17 18 21.2**	**+1.2**
1.9nm,0.8s,baz=140,slow=9.9,SNR=10							
MKAR	**Makanchi Array**	**41.77**	**314**	P	**P**	**17 20 14.5**	**-0.1**
0.7nm,0.9s,baz=91,slow=9.0,SNR=9.2							
ZALV	**Zalesovo Beam**	**42.93**	**325**	P	**P**	**17 20 23.5**	**-0.3**
0.5nm,0.3s,baz=99,slow=8.9,SNR=3.9							
ZALV				LR	LR	17 39 20.3	
comp=Z,24nm,18.6s,baz=70,slow=38							
WRA	**Warramunga Arr**	**44.63**	**170**	P	**P**	**17 20 38.1**	**+0.3**
1.9nm,0.8s,baz=348,slow=8.4,SNR=8.4							
KURBB	**Kurchatov Arra**	**45.27**	**318**	P	**P**	**17 20 43.1**	**+0.4**
0.9nm,0.6s,baz=108,slow=8.2,SNR=9.6							
ASAR	**Alice Springs**	**48.22**	**171**	P	**P**	**17 21 07.4**	**+1.4**
0.3nm,0.5s,baz=353,slow=14,SNR=6.8							
AKASG	**Malin Array Be**	**76.04**	**319**	P	**P**	**17 24 12.9**	**+0.4**
1.2nm,0.7s,baz=55,slow=6.6,SNR=5.7							
BRTR	**Keskin Array B**	**77.06**	**308**	P	**P**	**17 24 19.9**	**+1.1**
0.8nm,0.9s,baz=83,slow=11,SNR=3.9							

*NEIC **21** 17:23:35.0, 32°.69S×71°.50W, h34km, ML3.8(GUC), After GUC.*
NEIC Felt [III] at Papudo, Quillota and Zapallar; [II] at Calera, Quintero, Valparaiso and Vina del Mar.

GUC 21 17:23:35.1±0.4, 32°.69S×71°.50W, h34km±1km, MD4.0, ML3.8, 6C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.16**	**20**	*i* P	Pb	17 23 41.6	0.0
PACH				*i* S	Sb	17 23 46.4	+0.3
ROCH	**El Roble**	**0.50**	**124**	*i* P	Pb	17 23 46.0	-0.1
ROCH				*i* S	Sn	17 23 54.3	+0.5
**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.88**	**162**	P	**Pn**	**17 33 27.1**	**-0.3**
NLAI	**Namlea**	**0.91**	**244**	P	**Pn**	**17 33 27.8**	**+0.1**
MSAI	**Masohi**	**1.12**	**116**	P	**Pn**	**17 33 31.8**	**+1.1**
TNTI	**Ternate**	**3.64**	**351**	P	**Pn**	**17 34 05.4**	**+0.1**
SWI	**Sorong**	**3.88**	**60**	P	**Pn**	**17 34 07.8**	**-0.8**
KAPI	**Kappang**	**8.43**	**255**	Pn	Pn	17 35 16.0	+4.9
	0.5nm,0.3s,baz=139,slow=11,SNR=3.9						
FITZ	**Fitzroy Crossi**	**15.32**	**188**	Pn	**P**	**17 36 49.4**	**0.0**
	0.5nm,0.3s,baz=19,slow=12,SNR=16						
WRA	**Warramunga Arr**	**18.11**	**160**	P	**Pn**	**17 37 19.8**	**-0.5**
	2.3nm,0.3s,baz=340,slow=11,SNR=124						
ASAR	**Alice Springs**	**21.49**	**165**	P	**P**	**17 37 56.9**	**-0.3**
	34nm,0.9s,baz=344,slow=12,SNR=247						
ASAR				PcP	**PcP**	**17 41 59.8**	**+0.5**
	0.5nm,0.3s,baz=1.0,slow=1.7,SNR=9.0						
STKA	**Stephens Creek**	**31.62**	**157**	P	**P**	**17 39 30.6**	**-0.3**
	2.4nm,0.4s,baz=318,slow=6.2,SNR=21						
STKA				LR	LR	17 52 30.1	
	comp=Z,49nm,18.0s,baz=26,slow=37						
JNU	**Nakatsue**	**35.88**	**4**	LR	LR	17 53 12.3	
	comp=Z,57nm,21.1s,baz=334,slow=34						
KSRS	**Korea Array**	**40.10**	**0**	LR	LR	17 55 28.5	
	comp=Z,39nm,19.9s,baz=175,slow=34						
SONM	**Songino Array**	**53.88**	**342**	P	**P**	**17 42 31.2**	**+0.2**
	0.6nm,0.7s,baz=145,slow=5.4,SNR=3.8						
MKAR	**Makanchi Array**	**63.64**	**327**	P	**P**	**17 43 39.1**	**+0.3**
	0.7nm,0.7s,baz=126,slow=7.7,SNR=9.9						

IDC 21 17:43:50.1±3.5, 7°.06S×151°.09E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.4/17, mbtmp3.4/3, Error ellipse: s-maj=133.0km s-min=45.8km az=125.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.54**	**239**	Sn	Sn	17 45 57.7	+4.1
	1.1nm,0.3s,baz=158,slow=19,SNR=3.1						
WRA	**Warramunga Arr**	**20.69**	**230**	P	P	17 48 31.4	-0.6
	0.6nm,1.0s,baz=54,slow=9.6,SNR=3.3						
ASAR	**Alice Springs**	**23.35**	**223**	P	P	17 49 00.3	0.0
	0.5nm,0.6s,baz=58,slow=9.5,SNR=10						
FITZ	**Fitzroy Crossi**	**27.12**	**244**	P	P	17 49 35.1	+0.1
	1.4nm,0.8s,baz=79,slow=12,SNR=3.4						
TORD	**Torodi Ar. Bea**	**149.29**	**284**	PKPbc	PKPbc	18 03 41.6	-0.4
	0.4nm,0.9s,baz=79,slow=3.5,SNR=2.7						

MAN 21 17:57:14, 9°.38N×126°.37E, h25km, mb4.5, ML3.4, MS3.3, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.84**	**241**	*e*P	Pb	17 57 29.9	-0.1
BUTP				*e*S	Sn	17 57 45.0	+3.2
SCPH	**Surigao**	**0.95**	**295**	⇓*e*P	Pb	17 57 35.2	+3.4
SCPH				*e*S	Sn	17 57 45.5	+0.9
CGP	**Cagayan de Oro**	**1.89**	**241**	*e*P	Pn	17 57 45.7	+1.0
CGP				*i* S	Sn	17 58 08.8	+1.1
BUKP	**Musuan**	**1.97**	**221**	*e*P	Pb	17 57 48.1	-1.2
MATI	**Mati**	**2.42**	**183**	*e*P	Pn	17 57 53.0	+1.0
TBP	**Tagbilaran**	**2.49**	**277**	*e*P	Pn	17 57 54.5	+1.6
PAGZ	**Pagadian**	**3.32**	**243**	*e*P	Pn	17 58 05.7	+1.3

IDC 21 18:05:15.4±2.9, 32°.00S×177°.94W, h0km, mb3.5/2, mb1 3.9/4, mb1mx3.7/18, mbtmp3.7/4, ML3.5/2, Error ellipse: s-maj=71.1km s-min=26.6km az=115.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.74**	**0**	Pn	Pn	18 05 58.7	-1.9
	38nm,0.3s,baz=90,slow=19,SNR=5.4						
URZ	**Urewera**	**7.44**	**212**	Pn	Pn	18 07 04.6	-0.6
	0.1nm,0.3s,baz=34,slow=11,SNR=3.8						
URZ				Sn	Sn	18 08 28.8	-1.5
	1.2nm,0.3s,baz=167,slow=16,SNR=6.2						
ASAR	**Alice Springs**	**43.09**	**269**	P	P	18 13 16.6	-0.9
	0.1nm,0.3s,baz=106,slow=7.5,SNR=6.2						
WRA	**Warramunga Arr**	**44.23**	**274**	P	P	18 13 27.3	+0.6
	0.2nm,0.4s,baz=116,slow=6.7,SNR=9.7						
FINES	**FINESS Array B**	**146.66**	**339**	PKPbc	PKPbc	18 24 58.4	+0.1
	1.8nm,0.9s,baz=76,slow=5.9,SNR=2.9						

*TAP **21** 18:10:51.4, 22°.13N×121°.40E, h24km, ML3.6, C*
*JMA **21** 18:10:52.7±0.4, 22°.01N×121°.78E, h60km, M3.5*
ISC 21 18:10:50.6±1.1, 22°.07N±0°.05×121°.49E±0°.03, h29km±9km, n50, σ1§51/82, 6C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**0.07**	**122**	*i* P	**Pb**	**18 10 56.5**	**+0.9**
	baz=116						
TSEB	**Hengchuen, Pin**	**0.57**	**252**	*i* P	**Pb**	**18 11 02.5**	**+0.4**
	baz=258						
TSEB				S	**Sb**	**18 11 10.2**	**+0.1**
	baz=258						
TAW	**Tawu**	**0.62**	**297**	⇑*i* P	**Pb**	**18 11 01.5**	**-1.4**
	baz=296						
TAW				*e*S	**Sb**	**18 11 08.4**	**-2.8**
	baz=296						
TWK1	**Hengchun**	**0.65**	**259**	*i* P	**Pb**	**18 11 02.6**	**-0.8**
	baz=261						
TWK1				S	**Sb**	**18 11 10.2**	**-1.9**
	baz=261						
EAST	**Anshuo**	**0.67**	**297**	⇑*i* P	**Pb**	**18 11 02.4**	**-1.4**
	baz=296						
EAST				S	**Sb**	**18 11 10.0**	**-2.8**
	baz=296						
HEN	**Hengchun**	**0.70**	**265**	⇑*i* P	**Pb**	**18 11 03.7**	**-0.5**
	baz=266						
HEN				S	**Sb**	**18 11 12.2**	**-1.4**
	baz=266						
ECL	**Taimali**	**0.72**	**316**	⇑*i* P	**Pn**	**18 11 02.9**	**-2.0**
	baz=308						
ECL				S	**Sb**	**18 11 10.8**	**-3.3**
	baz=308						
TTN	**Taitung**	**0.75**	**335**	*e*P	**Pn**	**18 11 04.8**	**-0.4**
	baz=348						
TTN				*e*S	**Sb**	**18 11 15.8**	**+0.9**
	baz=348						
TWG	**Pinlang**	**0.84**	**333**	P	**Pn**	**18 11 04.8**	**-1.7**
	baz=324						
TWG				*e*S	**Sn**	**18 11 16.2**	**-1.7**
	baz=324						
CHKT	**Chengkung**	**1.03**	**354**	*e*P	**Pn**	**18 11 07.5**	**-1.5**
	baz=6.0						
CHKT				*e*S	**Sn**	**18 11 21.4**	**-1.1**
	baz=6.0						
TWP	**Hsiaoliuchiu**	**1.08**	**285**	⇑*e*P	**Pb**	**18 11 11.8**	**+1.1**
	baz=283						
TWP				*e*S	**Sb**	**18 11 25.8**	**+1.4**
	baz=283						
SGLT	**Jiouru**	**1.13**	**305**	*e*P	**Pb**	**18 11 12.0**	**+0.5**
	baz=305						
TWM1	**Shoushan**	**1.24**	**307**	*e*P	**Pb**	**18 11 13.3**	**0.0**
	baz=316						
TWF1	**Yuli**	**1.28**	**352**	*e*P	**Pn**	**18 11 12.5**	**-0.2**
	baz=344						
SGST	**Jiashian**	**1.31**	**320**	*e*P	**Pn**	**18 11 13.9**	**+0.9**
	baz=324						
SGST				*e*S	**Sn**	**18 11 30.8**	**+1.3**
	baz=324						
CHN1	**Nanshi**	**1.42**	**321**	⇑*i* P	**Pn**	**18 11 15.8**	**+1.3**
	baz=322						
CHN1				*e*S	**Sn**	**18 11 33.8**	**+1.6**
	baz=322						
WTP	**Ta-pu**	**1.42**	**325**	*e*P	**Pn**	**18 11 15.2**	**+0.7**
	baz=338						
WTP				*e*S	**Sn**	**18 11 34.0**	**+1.7**
	baz=338						
EHY	**Hungye**	**1.43**	**354**	*e*P	**Pn**	**18 11 14.9**	**+0.2**
	baz=345						
EHY				*e*S	**Sn**	**18 11 32.5**	**-0.1**
	baz=345						
CHN3	**Shinhua**	**1.44**	**314**	*e*P	**Pb**	**18 11 16.6**	**-0.2**
	baz=314						
CHN3				*e*S	**Sb**	**18 11 36.7**	**+2.0**
	baz=314						
CHN4	**Tsaushan**	**1.52**	**327**	*e*P	**Pn**	**18 11 17.1**	**+1.3**
	baz=338						
CHN4				*e*S	**Sn**	**18 11 36.5**	**+1.9**
	baz=338						
CHN5	**Tsauling**	**1.69**	**334**	*e*P	**Pb**	**18 11 20.3**	**-0.8**
	baz=335						
CHN5				*e*S	**Sb**	**18 11 41.5**	**-0.5**
	baz=335						
CHY	**Chiayi**	**1.72**	**325**	*e*P	**Pn**	**18 11 20.5**	**+1.9**
	baz=327						
ESL	**Shilin**	**1.73**	**358**	*e*P	**Pn**	**18 11 19.4**	**+0.6**
	baz=350						
WGK	**Gukeng**	**1.82**	**332**	*e*P	**Pn**	**18 11 21.0**	**+1.1**
	baz=317						
SMLT	**Sun Moon Lake**	**1.88**	**343**	*e*P	**Pb**	**18 11 23.2**	**-1.1**
	baz=344						
SMLT				*e*S	**Sn**	**18 11 46.1**	**+2.3**
	baz=344						
TYC	**Yuchr**	**1.91**	**342**	P	**Pn**	**18 11 23.2**	**+2.0**
	baz=344						
TYC				S	**Sn**	**18 11 46.7**	**+2.4**
	baz=344						
WNT	**Mingjian**	**1.94**	**338**	*e*P	**Pn**	**18 11 23.9**	**+2.2**
	baz=339						
WNT				*e*S	**Sn**	**18 11 47.6**	**+2.4**
	baz=339						
WSF	**Szhu**	**1.95**	**323**	*e*P	**Pn**	**18 11 22.3**	**+0.6**
	baz=324						
WSF				*e*S	**Sn**	**18 11 46.0**	**+0.8**
	baz=324						
TWD	**Chiawan**	**2.00**	**3**	*e*P	**Pn**	**18 11 22.6**	**+0.2**
	baz=353						
TWD				*e*S	**Sn**	**18 11 46.4**	**-0.2**
	baz=353						
WDGT	**Dungji**	**2.06**	**305**	*e*P	**Pn**	**18 11 22.6**	**-0.7**
	baz=305						
WDGT				*e*S	**Sn**	**18 11 46.5**	**-1.5**
	baz=305						
WHF	**Hehuan Shan**	**2.07**	**354**	*e*P	**Pn**	**18 11 25.3**	**+1.4**
	baz=5.0						
PNG	**Penghu**	**2.32**	**310**	*e*P	**Pn**	**18 11 26.4**	**-0.5**
	baz=311						
ENA	**Nanau**	**2.35**	**6**	*e*P	**Pn**	**18 11 27.5**	**+0.2**
	baz=356						
TWQ1	**Liyutan**	**2.36**	**344**	*e*P	**Pn**	**18 11 29.3**	**+1.9**
	baz=328						
TWQ1				*e*S	**Sn**	**18 11 58.8**	**+3.4**
	baz=328						
TWC	**Suao**	**2.54**	**7**	*e*P	**Pn**	**18 11 31.5**	**+1.5**
	baz=357						
ENTT	**Nioudou**	**2.56**	**2**	*e*P	**Pn**	**18 11 30.9**	**+0.8**
	baz=3.0						
NSTT	**Nanjuang**	**2.58**	**350**	*e*P	**Pb**	**18 11 33.9**	**-2.4**
	baz=336						
NSTT				*e*S	**Sn**	**18 12 04.3**	**+3.3**
	baz=336						
NSK	**Sanguang**	**2.59**	**357**	*e*P	**Pn**	**18 11 33.2**	**+2.5**
	baz=9.0						
NSK				*e*S	**Sn**	**18 12 02.5**	**+1.2**
	baz=9.0						
TWE	**Neicheng**	**2.64**	**4**	*e*P	**Pn**	**18 11 32.7**	**+1.5**
	baz=356						
YOJ	**Yonaguni jima**	**2.76**	**30**	*e*P	**Pn**	**18 11 34.1**	**+1.2**
	baz=30						
YOJ	**Yonaguni jima**	**2.76**	**30**	P	**Pn**	**18 11 34.8**	**+1.9**
YOJ				S	**Sn**	**18 12 06.0**	**+0.8**
HATJ	**Hateruma jima**	**2.91**	**47**	P	**Pn**	**18 11 35.6**	**+0.7**
HATJ				S	**Sn**	**18 12 08.1**	**-0.8**
NWF	**Wu-fen Shan**	**3.00**	**5**	*e*P	**Pn**	**18 11 38.3**	**+2.0**
	baz=356						
IRIF	**Iriomote-Funau**	**3.05**	**42**	P	**Pn**	**18 11 38.1**	**+1.2**
IRIF				S	**Sn**	**18 12 11.7**	**-0.8**
JKRS	**Kuro-shima**	**3.17**	**47**	P	**Pn**	**18 11 39.3**	**+0.8**
JKRS				S	**Sn**	**18 12 15.0**	**-0.3**
JIJ	**Ishigaki jima**	**3.34**	**46**	P	**Pn**	**18 11 42.3**	**+1.4**
JIJ				S	**Sn**	**18 12 18.0**	**-1.6**
KNM	**Kinmen**	**3.65**	**310**	*e*P	**Pn**	**18 11 45.9**	**+0.7**
	baz=309						
JTJ	**Tarama**	**3.90**	**49**	P	**Pn**	**18 11 48.9**	**+0.3**
JTJ				S	**Sn**	**18 12 33.3**	**-0.2**
JMJ	**Miyako jima 2**	**4.43**	**51**	*e*S	**Sn**	**18 12 45.5**	**-1.1**
JOGS	**Gusukube**	**4.48**	**53**	S	**Sn**	**18 12 47.9**	**+0.1**

MEX 21 18:15:20.8±0.6, 16°.71N×99°.70W, h6km±6km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.64**	**302**	*e*P	Pg	18 15 32.2	-0.9
CAIG				*i* S	Sg	18 15 41.2	-0.3
MEIG	**Mezcala**	**1.21**	**4**	*e*P	Pg	18 15 39.9	-4.3
MEIG				*i* S	Sg	18 15 55.6	-4.5
PNIG	**Pinotepa**	**1.54**	**102**	*i* P	Pn	18 15 46.0	-2.8
PNIG				*i* S	Sn	18 16 04.2	-5.0
ARIG	**Puente Sto Nin**	**1.68**	**339**	*e*P	Pn	18 15 47.1	-3.7
ARIG				*i* S	Sn	18 16 08.6	-4.2
PLIG	**Platanillo**	**1.69**	**6**	*i* P	Pn	18 15 47.4	-3.5
PLIG				*i* S	Sn	18 16 08.1	-4.8
ZIIG	**Zihuatanejo**	**1.91**	**298**	*i* P	Pn	18 15 50.1	-3.8
ZIIG				*i* S	Sn	18 16 13.0	-5.3
YAIG	**Yautepec**	**2.23**	**16**	*e*P	Pn	18 15 55.7	-2.8
YAIG				*i* S	Sn	18 16 22.3	-4.1
PPM	**Popocatepetl**	**2.56**	**23**	*i* P	Pn	18 16 00.2	-3.3
PPM				*i* S	Sn	18 16 30.7	-4.7

*ISK **21** 18:20:09.0, 37°.89N×32°.51E, h4km, MD3.6*
*CSEM **21** 18:20:09.7±0.1, 37°.90N×32°.51E, h2km, MD3.6, Error ellipse: s-maj=3.2km s-min=3.0km az=43.0*
*DDA **21** 18:20:11.7, 37°.62N×32°.55E, h27km, MD3.5*
ISC 21 18:20:10.2±1.1, 37°.92N±0°.02×32°.51E±0°.02, h3km±10km, n69, σ1§03/86, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KONT	**Konya--Tatoy**	**0.12**	**283**	PG	**Pg**	**18 20 12.4**	**-0.3**
KONT				*e*SG	**Sg**	**18 20 15.0**	**+0.6**
KONT	**Konya--Tatoy**	**0.12**	**283**	*i* Pg	**Pg**	**18 20 12.4**	**-0.3**
KONT				*e*Sg	**Sg**	**18 20 15.0**	**+0.6**
SULT	**Sultanhani-AKS**	**0.84**	**70**	*e*PG	**Pg**	**18 20 25.5**	**-0.8**
SULT	**Sultanhani-AKS**	**0.84**	**70**	*e*Pg	**Pg**	**18 20 25.5**	**-0.8**
HDMB	**Hadim**	**0.95**	**181**	*e*PG	**Pg**	**18 20 27.1**	**-1.3**
HDMB				*e*SG	**Sg**	**18 20 40.3**	**-0.5**
HDMB	**Hadim**	**0.95**	**181**	*e*Pg	**Pg**	**18 20 27.2**	**-1.3**
HDMB				*e*Sg	**Sg**	**18 20 40.3**	**-0.5**
KIZT	**Kizilcal**	**1.08**	**333**	*e*PN	**Pg**	**18 20 29.7**	**-1.3**
SUTC	**Sutluce-Ispart**	**1.28**	**250**	*e*PN	**Pg**	**18 20 33.7**	**-1.0**
SUTC	**Sutluce-Ispart**	**1.28**	**250**	*e*Pn	**Pg**	**18 20 33.7**	**-1.0**
ERMK	**Ermenek**	**1.31**	**166**	*i* P	**Pn**	**18 20 33.9**	**-1.7**
ERMK				*i* S	**Sn**	**18 20 55.2**	**+1.6**
ERMK	**Ermenek**	**1.31**	**166**	*i* P	**Pn**	**18 20 33.9**	**-1.7**
BOLV	**Bolvadin**	**1.47**	**304**	*i* P	**Pn**	**18 20 37.0**	**-0.6**
BOLV				*i* S	**Sg**	**18 20 57.9**	**+0.5**
BOLV	**Bolvadin**	**1.47**	**304**	*i* P	**Pn**	**18 20 37.0**	**-0.6**
BOLV				*i* S	**Sg**	**18 20 57.9**	**+0.5**
ISP	**Isparta**	**1.58**	**267**	*e*PN	**Pn**	**18 20 38.9**	**-0.3**
ISP	**Isparta**	**1.58**	**267**	*e*Pn	**Pn**	**18 20 38.9**	**-0.3**
AFSR	**Af¨ar-Bala (A**	**1.59**	**16**	*e*PN	**Pn**	**18 20 39.1**	**-0.2**
AFSR	**Af¨ar-Bala (A**	**1.59**	**16**	*e*Pn	**Pn**	**18 20 39.1**	**-0.2**
BCK	**Bucak**	**1.59**	**254**	*e*PN	**Pn**	**18 20 38.6**	**-0.7**
BCK	**Bucak**	**1.59**	**254**	*e*Pn	**Pn**	**18 20 38.6**	**-0.7**
NIG	**Nigde**	**1.67**	**83**	*e*PN	**Pn**	**18 20 39.8**	**-0.7**
NIG	**Nigde**	**1.67**	**83**	*e*Pn	**Pn**	**18 20 39.8**	**-0.7**
GAZI	**Gazipasa**	**1.69**	**185**	*i* P	**Pn**	**18 20 39.3**	**-1.3**
GAZI				*i* S	**Sn**	**18 21 02.3**	**-0.3**
GAZI	**Gazipasa**	**1.69**	**185**	*i* P	**Pn**	**18 20 39.3**	**-1.3**
GAZI				*i* S	**Sn**	**18 21 02.3**	**-0.3**
BBAL	**Bala**	**1.69**	**16**	*i* P	**Pn**	**18 20 39.3**	**-1.5**
BBAL				*i* S	**Sg**	**18 21 04.6**	**0.0**
BBAL	**Bala**	**1.69**	**16**	*i* P	**Pn**	**18 20 39.3**	**-1.5**
BBAL				*i* S	**Sg**	**18 21 04.6**	**0.0**
SVRH	**Sivrihisar-ESK**	**1.71**	**333**	*e*PN	**Pn**	**18 20 40.0**	**-1.0**
SVRH	**Sivrihisar-ESK**	**1.71**	**333**	*e*Pn	**Pn**	**18 20 40.0**	**-1.0**
GULE	**Gulek**	**1.91**	**109**	*i* P	**Pn**	**18 20 43.3**	**-0.4**
GULE				*i* S	**Sg**	**18 21 16.1**	**+4.7**
GULE	**Gulek**	**1.91**	**109**	*i* P	**Pn**	**18 20 43.3**	**-0.4**
IKL	**Isikli**	**1.92**	**150**	*e*PN	**Pn**	**18 20 44.1**	**+0.3**
IKL	**Isikli**	**1.92**	**150**	*e*Pn	**Pn**	**18 20 44.1**	**+0.3**
KIZK	**Mersin**	**1.94**	**137**	*i* P	**Pn**	**18 20 42.8**	**-1.2**
KIZK				*i* S	**Sg**	**18 21 13.0**	**+0.6**
KIZK	**Mersin**	**1.94**	**137**	*i* P	**Pn**	**18 20 42.8**	**-1.2**
KORT	**Korkueli**	**1.95**	**243**	*i* P	**Pn**	**18 20 43.3**	**-1.0**
KORT				*i* S	**Sg**	**18 21 16.1**	**+3.3**
KORT	**Korkueli**	**1.95**	**243**	*i* P	**Pn**	**18 20 43.3**	**-1.0**
ANTO	**Ankara**	**1.96**	**6**	*e*PN	**Pn**	**18 20 44.9**	**+0.5**
ANTO	**Ankara**	**1.96**	**6**	*e*Pn	**Pn**	**18 20 44.9**	**+0.5**
AVNT	**Avonos**	**2.03**	**64**	*i* P	**Pn**	**18 20 43.7**	**-1.8**
AVNT				*i* S	**Sg**	**18 21 15.6**	**+0.1**
AVNT	**Avonos**	**2.03**	**64**	*i* P	**Pn**	**18 20 43.7**	**-1.8**
AVNT				*i* S	**Sg**	**18 21 15.6**	**+0.1**
KARA	**Karaisali**	**2.12**	**107**	*e*PN	**Pn**	**18 20 46.6**	**0.0**
KARA	**Karaisali**	**2.12**	**107**	*e*Pn	**Pn**	**18 20 46.6**	**0.0**
ELL	**Elmali**	**2.38**	**241**	*e*PN	**Pn**	**18 20 49.8**	**-0.4**
ELL	**Elmali**	**2.38**	**241**	*e*Pn	**Pn**	**18 20 49.8**	**-0.4**
KOZT	**Kozan**	**2.66**	**98**	*e*PN	**Pn**	**18 20 54.5**	**+0.5**
KOZT	**Kozan**	**2.66**	**98**	*e*Pn	**Pn**	**18 20 54.5**	**+0.5**
EREN	**Erenkoy**	**2.73**	**150**	*e*PN	**Pn**	**18 20 55.4**	**+0.5**
EREN	**Erenkoy**	**2.73**	**150**	*e*Pn	**Pn**	**18 20 55.4**	**+0.5**
MDUB	**Mudurnu**	**2.75**	**339**	*e*PN	**Pn**	**18 20 55.3**	**+0.1**
MDUB	**Mudurnu**	**2.75**	**339**	*e*Pn	**Pn**	**18 20 55.3**	**+0.1**
BNN	**Bunyan**	**2.78**	**69**	*e*PN	**Pn**	**18 20 56.3**	**+0.6**
BNN	**Bunyan**	**2.78**	**69**	*e*Pn	**Pn**	**18 20 56.3**	**+0.6**
YOZ	**Yozgat**	**2.79**	**51**	*e*PN	**Pn**	**18 20 56.4**	**+0.5**
YOZ	**Yozgat**	**2.79**	**51**	*e*Pn	**Pn**	**18 20 56.4**	**+0.5**
CORM	**Corum**	**2.80**	**35**	*e*PN	**Pn**	**18 20 56.3**	**+0.4**
CORM	**Corum**	**2.80**	**35**	*e*Pn	**Pn**	**18 20 56.3**	**+0.4**
LEF	**Lefka**	**2.81**	**174**	*e*PN	**Pn**	**18 20 56.3**	**+0.3**
LEF	**Lefka**	**2.81**	**174**	*e*Pn	**Pn**	**18 20 56.3**	**+0.3**
AKAS	**Kas**	**2.87**	**235**	*i* P	**Pn**	**18 20 58.8**	**+1.9**
AKAS				*i* S	**Sb**	**18 21 37.4**	**-0.3**
AKAS	**Kas**	**2.87**	**235**	*i* P	**Pn**	**18 20 58.8**	**+1.9**
GULT	**Gulveren**	**2.95**	**329**	*e*PN	**Pn**	**18 20 58.1**	**0.0**
GULT	**Gulveren**	**2.95**	**329**	*e*Pn	**Pn**	**18 20 58.1**	**0.0**
CAVI	**Cavuskoy**	**3.09**	**318**	*e*PN	**Pn**	**18 20 60.0**	**+0.1**
CAVI	**Cavuskoy**	**3.09**	**318**	*e*Pn	**Pn**	**18 21 00.0**	**+0.1**
KULA	**Kula-Manisa**	**3.09**	**282**	*e*PN	**Pn**	**18 20 59.7**	**-0.3**
KULA	**Kula-Manisa**	**3.09**	**282**	*e*Pn	**Pn**	**18 20 59.7**	**-0.3**
SAFT	**Safranbolu**	**3.32**	**2**	*e*PN	**Pn**	**18 21 03.5**	**+0.5**
SAFT	**Safranbolu**	**3.32**	**2**	*e*Pn	**Pn**	**18 21 03.5**	**+0.5**
YER	**Yerkesik**	**3.45**	**258**	*e*PN	**Pn**	**18 21 05.1**	**+0.2**
YER	**Yerkesik**	**3.45**	**258**	*e*Pn	**Pn**	**18 21 05.1**	**+0.2**

*KISR **21** 18:29:06.6±0.3, 30°.62N×55°.88E, h34km, ML3.2*
*IDC **21** 18:29:19.3±2.8, 26°.96N×56°.14E, h0km, mb3.6/4, mb1 3.6/4, mb1mx3.3/25, mbtmp3.6/4, Error ellipse: s-maj=74.9km s-min=26.4km az=156.0*
ISC 21 18:29:30.9±2.5, 29°.5N±0°.5×54°.4E±0°.2, h10km, n6, σ1§86/6, mb3.8/3, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NAY	**Al-Naaiem**	**6.26**	**270**	*e*P	**Pn**	**18 31 04.9**	**+1.5**
NAY				*e*S	**Sb**	**18 32 33.6**	**-1.4**
NAY				AML	AML	18 32 41.1	
	comp=Z,2.7nm,0.6s						
RST	**Umm Al-Ruwaisa**	**6.46**	**272**	*e*P	**Pn**	**18 31 07.2**	**+1.0**
BRTR	**Keskin Array B**	**19.89**	**306**	P	Pn	18 34 22.0	+18
	comp=Z,0.8nm,0.7s,baz=122,slow=11,SNR=7.2						
MKAR	**Makanchi Array**	**27.73**	**44**	P	**P**	**18 35 17.5**	**-2.0**
	comp=Z,0.2nm,0.5s,baz=219,slow=9.7,SNR=7.3						
ZALV	**Zalesovo Beam**	**32.94**	**33**	P	**P**	**18 36 06.2**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=241,slow=10,SNR=3.2						
TORD	**Torodi Ar. Bea**	**51.30**	**263**	P	**P**	**18 38 35.0**	**-0.5**
	comp=Z,1.0nm,0.7s,baz=58,slow=8.0,SNR=8.0						

GUC 21 18:30:37.8±0.9, 35°.01S×72°.01W, h42km±3km, ML4.1, 6C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTCH	**Constitucion**	**0.46**	**225**	⇑*i* P	Pn	18 30 48.0	-0.1
CTCH				*i* S	Sn	18 30 56.2	+0.7
TALC	**Talca**	**0.50**	**142**	⇑*i* P	Pn	18 30 38.9	-10
TALC				*i* S	Sn	18 30 47.3	-8.9
TALC				AML	AML	18 30 48.1	
	comp=E,31μm,0.1s						
NICH	**Los Niches**	**0.64**	**90**	⇓*i* P	Pn	18 30 50.7	+0.2
NICH				*i* S	Sn	18 31 00.6	+1.0
NICH				AML	AML	18 31 01.0	
	comp=N,29μm,0.3s						
LNCH	**Linares**	**0.90**	**159**	⇓*i* P	Pn	18 30 54.3	+0.2
LNCH				*i* S	Sn	18 31 07.3	+1.3
LNCH				AML	AML	18 31 10.1	
	comp=N,6μm,0.6s						
LNV	**Longovilo**	**1.16**	**25**	⇓*i* P	Pn	18 30 57.5	0.0
LNV				*i* S	Sn	18 31 12.7	+0.5
CACH	**El Canelo**	**1.46**	**53**	⇓*i* P	Pn	18 31 02.1	+0.2
CACH				*i* S	Sn	18 31 21.8	+1.8
CHCH	**Chadas Angostu**	**1.55**	**47**	⇑*i* P	Pn	18 31 03.5	+0.5
CCHI	**Chillan**	**1.59**	**182**	⇓*i* P	Pn	18 31 04.5	+0.9
CCHI				*e*S	Sn	18 31 24.7	+1.7
CCHI				AML	AML	18 31 31.3	
	comp=E,2μm,0.3s						
ANTU	**Antumapu**	**1.83**	**39**	⇑*i* P	Pn	18 31 08.2	+1.4

OSTU			*e*S		**Sn**	**18 36 28.3 +0.1**
OSTU	**Oestervaala**	**1.78 188**	P		**Pn**	**18 36 06.0 +1.0**
OSTU			S		**Sn**	**18 36 28.3 +0.1**
FLYU	**Flymyra**	**1.87 176**	*e*P		**Pn**	**18 36 06.7 +0.5**
FLYU			*e*S		**Sn**	**18 36 30.6 +0.2**
FLYU	**Flymyra**	**1.87 176**	P		**Pn**	**18 36 06.7 +0.5**
FLYU			S		**Sn**	**18 36 30.6 +0.2**
NOD	**Norderasen**	**1.94 320**	*e*P		**Pn**	**18 36 07.8 +0.6**
NOD			*e*S		**Sb**	**18 36 33.8 -0.1**
NOD	**Norderasen**	**1.94 320**	P		**Pn**	**18 36 07.8 +0.6**
NOD			S		**Sb**	**18 36 33.8 -0.1**
BREU	**Bredtraesk**	**1.96 12**	*e*P		**Pb**	**18 36 08.6 -0.9**
BREU			*e*S		**Sb**	**18 36 34.0 -0.4**
BREU	**Bredtraesk**	**1.96 12**	P		**Pb**	**18 36 08.6 -0.9**
BREU			S		**Sb**	**18 36 33.9 -0.4**
AAL	**Aland**	**2.15 147**	*e*P		**Pn**	**18 36 10.5 +0.4**
AAL			*e*S		**Sn**	**18 36 37.7 +0.5**
AAL	**Aland**	**2.15 147**	P		**Pn**	**18 36 10.6 +0.6**
AAL			S		**Sn**	**18 36 37.7 +0.5**
BACU	**Backbrunna**	**2.16 187**	*e*P		**Pn**	**18 36 11.7 +1.6**
BACU	**Backbrunna**	**2.16 187**	P		**Pn**	**18 36 11.7 +1.6**
RAF	**Rauma**	**2.21 114**	*e*P		**Pn**	**18 36 11.3 +0.5**
RAF			*e*S		**Sn**	**18 36 39.8 +1.1**
RAF			MSG			18 36 42.8
	comp=Z,12nm,0.1s					
RAF	**Rauma**	**2.21 114**	P		**Pn**	**18 36 11.3 +0.5**
RAF			S		**Sn**	**18 36 39.7 +1.1**
UMAU	**Umeaa**	**2.36 35**	*e*P		**Pn**	**18 36 14.7 +1.8**
UMAU			*e*S		**Sb**	**18 36 45.2 -0.7**
UMAU	**Umeaa**	**2.36 35**	P		**Pn**	**18 36 14.6 +1.8**
UMAU			S		**Sb**	**18 36 45.1 -0.7**
NRTU	**Norrtaelje**	**2.37 168**	*e*P		**Pn**	**18 36 14.2 +1.1**
NRTU			*e*S		**Sn**	**18 36 44.9 +2.2**
NRTU	**Norrtaelje**	**2.37 168**	P		**Pn**	**18 36 14.2 +1.1**
NRTU			S		**Sn**	**18 36 44.9 +2.2**
VAF	**Ylistaro**	**2.56 63**	*e*P		**Pn**	**18 36 17.7 +2.0**
VAF			*e*S		**Sn**	**18 36 49.8 +2.2**
VAF			MSG			18 36 52.0
	comp=Z,9.4nm,0.2s					
VAF	**Ylistaro**	**2.56 63**	P		**Pn**	**18 36 17.7 +2.0**
VAF			S		**Sn**	**18 36 49.7 +2.2**
SVAU	**Svanoeiden**	**2.66 18**	*e*P		**Pn**	**18 36 18.6 +1.5**
SVAU			*e*S		**Sn**	**18 36 50.8 +0.9**
SVAU	**Svanoeiden**	**2.66 18**	P		**Pn**	**18 36 18.6 +1.5**
SVAU			S		**Sn**	**18 36 50.8 +0.9**
HFS	**Hagfors**	**2.67 228**	Pn		**Pn**	**18 36 19.1 +1.8**
	baz=38,slow=14					
HFS			Sn		**Sn**	**18 36 50.3 +0.2**
	baz=49,slow=28					
HFS			Lg		Lg	18 36 55.1
	baz=53,slow=37					
HFS	**Hagfors**	**2.67 228**	Pn		**Pn**	**18 36 19.1 +1.8**
	baz=38,slow=14					
HFS			Sn		**Sn**	**18 36 50.3 +0.2**
	baz=49,slow=28					
HFS			Lg		Lg	18 36 55.1
	baz=53,slow=37					
HFS	**Hagfors**	**2.67 228**	*e*P		**Pn**	**18 36 19.1 +1.8**
HFS			*e*S		**Sn**	**18 36 50.3 +0.2**
HFS			*e*SB		**Sb**	**18 36 55.1 +0.2**
HFS	**Hagfors**	**2.67 228**	Pn		**Pn**	**18 36 19.0 +1.8**
	comp=Z,0.5nm,0.3s,baz=50,slow=14,SNR=22					
HFS			Lg		Lg	18 36 53.8
	comp=Z,2.8nm,0.3s,baz=57,slow=28,SNR=21					
HFS	**Hagfors**	**2.67 228**	P		**Pn**	**18 36 19.0 +1.8**
HFS			Sn		**Sn**	**18 36 50.3 +0.2**
	baz=49,slow=26,SNR=50					
HFS			Sb		**Sb**	**18 36 55.1 +0.2**
NB2	**NORSAR Subarra**	**3.22 256**	Pn		**Pn**	**18 36 25.9 +1.0**
	baz=69,slow=12					
NB2			Pg		**Pg**	**18 36 33.3 -1.5**
	baz=72,slow=16					
NB2			Sn		**Sn**	**18 37 06.6 +2.9**
NB2			Lg		Lg	18 37 15.2
	baz=69,slow=37					
NB2	**NORSAR Subarra**	**3.22 256**	Pn		**Pn**	**18 36 25.9 +1.0**
	baz=69,slow=12					
NB2			Pg		**Pg**	**18 36 33.3 -1.5**
	baz=72,slow=16					
NB2			Sn		**Sn**	**18 37 06.6 +2.9**
NB2			Lg		Lg	18 37 15.2
	baz=69,slow=37					
NB2	**NORSAR Subarra**	**3.22 256**	*e*P		**Pn**	**18 36 25.9 +1.0**
NB2			*e*PG		**Pg**	**18 36 33.3 -1.5**
NB2			*e*S		**Sn**	**18 37 06.6 +2.9**
NB2			*e*SG		**Sg**	**18 37 15.2 -1.3**
NB2	**NORSAR Subarra**	**3.22 256**	P		**Pn**	**18 36 25.8 +1.0**
NB2	**NORSAR Subarra**	**3.22 256**	Pg		**Pg**	**18 36 33.3 -1.5**
	baz=72,slow=16,SNR=90					
NB2			S		**Sn**	**18 37 06.6 +2.9**
NB2			Sg		**Sg**	**18 37 15.2 -1.3**
NOA	**NORSAR Array B**	**3.22 256**	Pn		**Pn**	**18 36 25.4 +0.6**
	comp=Z,0.3nm,0.3s,baz=42,slow=10,SNR=5.5					
NOA			Lg		Lg	18 37 13.3
	comp=Z,1.5nm,0.3s,baz=92,slow=17,SNR=9.6					
MEF	**Metsahovi**	**3.73 115**	*e*P		**Pn**	**18 36 32.6 +0.8**
MEF			*e*S		**Sn**	**18 37 16.7 +0.4**
MEF			MSG			18 37 27.9
	comp=Z,2.3nm,0.1s					
MEF	**Metsahovi**	**3.73 115**	P		**Pn**	**18 36 32.5 +0.8**
MEF			S		**Sn**	**18 37 16.7 +0.4**
SUF	**Sumiainen**	**4.04 76**	*e*P		**Pn**	**18 36 37.3 +1.3**
SUF			*e*S		**Sn**	**18 37 23.9 +0.1**
SUF	**Sumiainen**	**4.04 76**	P		**Pn**	**18 36 37.3 +1.3**
SUF			S		**Sn**	**18 37 23.9 +0.1**
FIA0	**FINESS Array S**	**4.06 94**	Pn		**Pn**	**18 36 37.5 +1.3**
	baz=279,slow=12					
FIA0			Sn		**Sn**	**18 37 24.5 +0.3**
	baz=278,slow=22					
FIA0			Lg		Lg	18 37 37.5
	baz=288,slow=28					
FIA0	**FINESS Array S**	**4.06 94**	Pn		**Pn**	**18 36 37.5 +1.3**
	baz=279,slow=12					
FIA0			Sn		**Sn**	**18 37 24.5 +0.3**
	baz=278,slow=22					
FIA0			Lg		Lg	18 37 37.5
	baz=288,slow=28					
FIA0	**FINESS Array S**	**4.06 94**	*e*P		**Pn**	**18 36 37.8 +1.5**
FIA0			*e*S		**Sn**	**18 37 24.9 +0.6**
FIA0	**FINESS Array S**	**4.06 94**	Pn		**Pn**	**18 36 37.5 +1.3**
	baz=279,slow=12,SNR=50					
FIA0			Sn		**Sn**	**18 37 24.5 +0.3**
	baz=278,slow=21,SNR=50					
FIA0			Lg		Lg	18 37 37.5
	baz=288,slow=28,SNR=6.6					
FINES	**FINESS Array B**	**4.06 94**	Pn		**Pn**	**18 36 37.5 +1.3**
	comp=Z,0.2nm,0.3s,baz=279,slow=12,SNR=7.1					
FINES			Sn		**Sn**	**18 37 24.9 +0.6**
	comp=Z,0.6nm,0.3s,baz=288,slow=21,SNR=7.7					
FINES			Lg		Lg	18 37 38.5
	comp=Z,0.9nm,0.3s,baz=278,slow=24,SNR=4.2					
KAF	**Kangasniemi**	**4.08 84**	*e*P		**Pn**	**18 36 39.3 +2.6**
KAF			*e*S		**Sn**	**18 37 25.8 +0.8**
KAF	**Kangasniemi**	**4.08 84**	P		**Pn**	**18 36 39.2 +2.6**
KAF			S		**Sn**	**18 37 25.8 +0.8**
PVF	**Pernaja**	**4.23 106**	*e*P		**Pn**	**18 36 39.8 +1.2**
PVF			*e*S		**Sn**	**18 37 28.2 -0.3**
PVF	**Pernaja**	**4.23 106**	P		**Pn**	**18 36 39.8 +1.2**
PVF			S		**Sn**	**18 37 28.1 -0.3**
ARA0	**ARCESS Array S**	**8.23 20**	Pn		**Pn**	**18 37 32.2 -1.3**
	baz=202,slow=14					
ARA0			Sn		Sn	18 38 59.3 -7.6
	baz=210,slow=28					
ARA0			Lg		Lg	18 39 47.9
	baz=200,slow=28					
ARA0	**ARCESS Array S**	**8.23 20**	Pn		**Pn**	**18 37 32.2 -1.3**
	baz=202,slow=14					
ARA0			Sn		Sn	18 38 59.3 -7.6
	baz=210,slow=28					
ARA0			Lg		Lg	18 39 47.9
	baz=200,slow=28					
ARA0	**ARCESS Array S**	**8.23 20**	*e*P		**Pn**	**18 37 32.2 -1.3**
ARA0			*e*			18 38 59.3
ARA0			*e*SG		Sg	18 39 47.9 -9.2
ARA0	**ARCESS Array S**	**8.23 20**	Pn		**Pn**	**18 37 32.2 -1.3**
	baz=202,slow=13,SNR=50					
ARA0			Lg		Lg	18 39 47.9
	baz=200,slow=26,SNR=21					
ARCES	**ARCESS Array B**	**8.23 20**	Pn		**Pn**	**18 37 32.4 -1.1**
	comp=Z,0.1nm,0.3s,baz=203,slow=14,SNR=5.3					
ARCES			Sn		Sn	18 38 58.9 -8.1
	comp=Z,0.1nm,0.3s,baz=206,slow=24,SNR=3.6					

MAN 21 18:37:58, 10°.97N×124°.43E, h1km, mb4.4, ML3.3, MS3.1, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.20**	**65**	*e*P	Pg	18 38 02.3	+0.4
LLP	**Lapu-Lapu**	**0.79**	**215**	*e*P	Pb	18 38 14.0	-0.5
LLP				*e*S	Sn	18 38 28.6	-0.1
MSLP	**Maasin**	**0.93**	**153**	*e*P	Pn	18 38 18.4	+0.2
MSLP				*e*S	Sb	18 38 29.2	-0.6
TBP	**Tagbilaran**	**1.38**	**204**	*e*P	Pb	18 38 24.7	0.0
GUIM	**Jordan**	**1.83**	**260**	*e*P	Pn	18 38 31.4	+0.7

*CSEM **21** 19:17:08.9, 37°.72N×21°.86E, h48km, MD3.1, After ATH*

ATH 21 19:17:09.0, 37°.72N×21°.87E, h47km±2km, MD3.1/18, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMT	**Artemida-Makis**	**0.23**	**214**	*e*P	Pn	19 17 17.6	+0.3
AMT				*e*S	Sn	19 17 23.8	+0.7
AMT	**Artemida-Makis**	**0.23**	**214**	*e*P	Pn	19 17 17.6	+0.3
AMT				*e*S	Sn	19 17 23.8	+0.7
KLV	**Kalavryta, Ach**	**0.39**	**34**	*e*P	Pn	19 17 19.6	+0.7
KLV				*e*S	Sn	19 17 26.7	+0.7
KLV	**Kalavryta, Ach**	**0.39**	**34**	*e*P	Pn	19 17 19.6	+0.7
KLV				*e*S	Sn	19 17 26.7	+0.7
GUR	**Goura**	**0.43**	**60**	*e*P	Pn	19 17 20.3	+0.9
GUR				*e*S	Sn	19 17 28.3	+1.5
GUR	**Goura**	**0.43**	**60**	*e*P	Pn	19 17 20.3	+0.9
GUR				*e*S	Sn	19 17 28.3	+1.5
RLS	**Riolos of Patr**	**0.46**	**317**	*e*P	Pn	19 17 19.8	+0.2
RLS	**Riolos of Patr**	**0.46**	**317**	*e*P	Pn	19 17 19.8	+0.2
LAKA	**Lakka**	**0.53**	**9**	*e*P	Pn	19 17 21.6	+1.1
LAKA	**Lakka**	**0.53**	**9**	*e*P	Pn	19 17 21.6	+1.1
VLX	**Vlachokerasia**	**0.54**	**131**	*e*P	Pn	19 17 21.2	+0.5
VLX	**Vlachokerasia**	**0.54**	**131**	*e*P	Pn	19 17 21.2	+0.5
ITM	**Ithomi**	**0.54**	**175**	*e*P	Pn	19 17 21.0	+0.4
ITM				*e*S	Sn	19 17 30.8	+1.9
ITM	**Ithomi**	**0.54**	**175**	*e*P	Pn	19 17 21.0	+0.4
ITM				*e*S	Sn	19 17 30.8	+1.9
TRIZ	**Trizonia**	**0.66**	**14**	*e*P	Pn	19 17 23.3	+1.1
TRIZ	**Trizonia**	**0.66**	**14**	*e*P	Pn	19 17 23.3	+1.1
KALE	**Kalithea**	**0.70**	**18**	*e*P	Pn	19 17 24.3	+1.5
KALE	**Kalithea**	**0.70**	**18**	*e*P	Pn	19 17 24.3	+1.5
EFP	**Efpalio**	**0.71**	**2**	*e*P	Pn	19 17 24.2	+1.5
EFP	**Efpalio**	**0.71**	**2**	*e*P	Pn	19 17 24.2	+1.5
SFD	**Strofades**	**0.82**	**236**	*e*P	Pn	19 17 24.9	+0.6
SFD	**Strofades**	**0.82**	**236**	*e*P	Pn	19 17 24.9	+0.6
PYL	**PYLOS**	**0.83**	**187**	*e*P	Pn	19 17 24.5	+0.1
PYL				*e*S	Sn	19 17 37.8	+2.2
PYL	**PYLOS**	**0.83**	**187**	*e*P	Pn	19 17 24.5	+0.1
PYL				*e*S	Sn	19 17 37.8	+2.2
LTK	**Loutraki**	**0.92**	**70**	*e*P	Pn	19 17 26.0	+0.4
LTK	**Loutraki**	**0.92**	**70**	*e*P	Pn	19 17 26.0	+0.4
DID	**Didima**	**1.11**	**101**	*e*P	Pn	19 17 28.6	+0.4
DID				*e*S	Sn	19 17 44.2	+1.9
DID	**Didima**	**1.11**	**101**	*e*P	Pn	19 17 28.6	+0.4
DID				*e*S	Sn	19 17 44.2	+1.9
VLS	**Valsamata**	**1.11**	**295**	*e*P	Pn	19 17 29.3	+1.1
VLS				*e*S	Sn	19 17 44.5	+2.1
VLS	**Valsamata**	**1.11**	**295**	*e*P	Pn	19 17 29.3	+1.1
VLS				*e*S	Sn	19 17 44.5	+2.1
EVR	**Evrytania**	**1.20**	**358**	*e*P	Pn	19 17 29.4	-0.1
EVR	**Evrytania**	**1.20**	**358**	*e*P	Pn	19 17 29.4	-0.1
LKR	**Lokris**	**1.29**	**43**	*e*P	Pn	19 17 31.4	+0.8
LKR	**Lokris**	**1.29**	**43**	*e*P	Pn	19 17 31.4	+0.8
VLI	**Veliai**	**1.31**	**139**	*e*P	Pn	19 17 31.9	+1.0
VLI	**Veliai**	**1.31**	**139**	*e*P	Pn	19 17 31.9	+1.0
AGG	**Agios Georgios**	**1.35**	**15**	*e*P	Pn	19 17 32.5	+1.0
AGG				*e*S	Sn	19 17 50.7	+2.4
AGG	**Agios Georgios**	**1.35**	**15**	*e*P	Pn	19 17 32.5	+1.0
AGG				*e*S	Sn	19 17 50.7	+2.4
THL	**Klokotos Trika**	**1.84**	**3**	*e*P	Pn	19 17 38.6	+0.4
THL	**Klokotos Trika**	**1.84**	**3**	*e*P	Pn	19 17 38.6	+0.4

MAN 21 19:17:34, 8°.58N×124°.31E, h33km, mb4.3, ML3.2, MS3.0, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGP	**Cagayan de Oro**	**0.40**	**108**	*e*P	Pn	19 17 45.4	+1.9
CGP				*e*S	Sn	19 17 52.1	+2.2
BUKP	**Musuan**	**1.02**	**133**	*e*P	Pb	19 17 52.9	-0.4
BUKP				*e*S	Sb	19 18 06.2	-0.2
PAGZ	**Pagadian**	**1.17**	**232**	*e*P	Pn	19 17 54.4	+0.4
CTBH	**Cotabato--PC H**	**1.35**	**183**	||*e*P	Pn	19 17 55.3	-1.3
IPIL	**Ipil**	**1.89**	**246**	*e*P	Pb	19 18 07.8	-0.1

*ISCJB **21** 19:36:16.4±0.4, 35°.98N±0°.03×25°.27E±0°.03, h91km±5km, mb3.3/2, Error ellipse: s-maj=5.1km s-min=3.7km az=5.6*
*ATH **21** 19:36:16.4, 36°.01N×25°.27E, h87km±1km*
*IDC **21** 19:36:16.8±1.0, 35°.74N×25°.45E, h80km±11km, mb3.0/2, mb1 3.1/5, mb1mx3.0/28, mbtmp3.1/5, Error ellipse: s-maj=46.5km s-min=17.4km az=145.0*
*CSEM **21** 19:36:17.7±0.1, 35°.99N×25°.27E, h80km, ML3.0/3, Error ellipse: s-maj=2.9km s-min=2.3km az=7.0*
*THE **21** 19:36:18.0, 35°.98N×25°.25E, h85km±3km, ML3.0/3, Error ellipse: s-maj=3.4km s-min=1.0km az=105.0*

ISC 21 19:36:17.0±0.9, 35°.99N±0°.03×25°.27E±0°.02, h85km±6km, n83, σ0°.79/115, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THR6	**Thira Island,**	**0.38**	**16**	P	**Pn**	**19 36 31.2**	**+0.9**
THR6	**Thira Island,**	**0.38**	**16**	P	**Pn**	**19 36 31.2**	**+0.9**
SANT	**Santorini**	**0.41**	**22**	P	**Pn**	**19 36 30.8**	**+0.2**
SANT				S	**Sn**	**19 36 40.7**	**+0.1**
SANT	**Santorini**	**0.41**	**22**	*e*P	**Pn**	**19 36 30.9**	**+0.3**
SANT				*e*S	**Sn**	**19 36 40.6**	**0.0**
SANT	**Santorini**	**0.41**	**22**	*e*P	**Pn**	**19 36 30.9**	**+0.3**
SANT				*e*S	**Sn**	**19 36 40.6**	**0.0**
THR1	**Thera Island**	**0.41**	**22**	P	**Pn**	**19 36 31.1**	**+0.5**
THR1	**Thera Island**	**0.41**	**22**	P	**Pn**	**19 36 31.1**	**+0.5**
THR3	**Thira Island,**	**0.43**	**14**	P	**Pn**	**19 36 31.5**	**+0.8**
THR3	**Thira Island,**	**0.43**	**14**	P	**Pn**	**19 36 31.5**	**+0.8**
THR5	**Thira Island,**	**0.43**	**8**	P	**Pn**	**19 36 31.2**	**+0.5**
THR5	**Thira Island,**	**0.43**	**8**	P	**Pn**	**19 36 31.2**	**+0.5**
THR2	**Thira island,**	**0.48**	**16**	P	**Pn**	**19 36 31.2**	**+0.2**
THR2	**Thira island,**	**0.48**	**16**	P	**Pn**	**19 36 31.2**	**+0.2**
IDI	**Anoyia**	**0.77**	**204**	P	**Pn**	**19 36 34.0**	**+0.2**
IDI				S	**Sn**	**19 36 45.4**	**-0.9**
IDI	**Anoyia**	**0.77**	**204**	*e*P	**Pn**	**19 36 34.0**	**+0.2**
IDI	**Anoyia**	**0.77**	**204**	P	**Pn**	**19 36 34.0**	**+0.2**
	4.5nm,0.3s,baz=6.7,slow=9.9,SNR=90						
IDI				S	**Sn**	**19 36 44.5**	**-1.8**
	24nm,0.3s,baz=307,slow=20,SNR=48						
IDI	**Anoyia**	**0.77**	**204**	*e*P	**Pn**	**19 36 34.0**	**+0.2**
IDI				S	**Sn**	**19 36 45.4**	**-0.9**
NPS	**Neapolis**	**0.78**	**159**	P	**Pn**	**19 36 34.2**	**+0.3**
NPS				S	**Sn**	**19 36 46.5**	**+0.1**
NPS	**Neapolis**	**0.78**	**159**	*e*P	**Pn**	**19 36 34.0**	**+0.1**
NPS				*e*S	**Sn**	**19 36 46.6**	**+0.1**
NPS	**Neapolis**	**0.78**	**159**	P	**Pn**	**19 36 34.2**	**+0.3**
NPS				*e*S	**Sn**	**19 36 46.6**	**+0.1**
LAST	**Lasithi**	**0.84**	**168**	P	**Pn**	**19 36 35.4**	**+0.7**
LAST				S	**Sn**	**19 36 48.0**	**+0.2**
LAST	**Lasithi**	**0.84**	**168**	*e*P	**Pn**	**19 36 35.4**	**+0.7**
LAST				*e*S	**Sn**	**19 36 48.6**	**+0.8**
LAST	**Lasithi**	**0.84**	**168**	*e*P	**Pn**	**19 36 35.4**	**+0.7**
LAST				S	**Sn**	**19 36 48.0**	**+0.2**
VAM	**Vamos**	**1.05**	**237**	*e*P	**Pn**	**19 36 37.4**	**+0.5**
VAM	**Vamos**	**1.05**	**237**	*e*P	**Pn**	**19 36 37.4**	**+0.5**
APE	**Apeiranthos**	**1.10**	**11**	*e*P	**Pn**	**19 36 38.0**	**+0.4**
APE	**Apeiranthos**	**1.10**	**11**	*e*P	**Pn**	**19 36 38.0**	**+0.4**
ZKR	**Zakros**	**1.17**	**138**	*e*P	**Pn**	**19 36 39.4**	**+1.1**
ZKR				*e*S	**Sn**	**19 36 55.4**	**+1.1**
ZKR	**Zakros**	**1.17**	**138**	*e*P	**Pn**	**19 36 39.4**	**+1.1**
ZKR				*e*S	**Sn**	**19 36 55.4**	**+1.1**
KARN	**Karanos**	**1.25**	**242**	P	**Pn**	**19 36 40.4**	**+1.1**
KARN				S	**Sn**	**19 36 56.3**	**+0.1**
KARN	**Karanos**	**1.25**	**242**	P	**Pn**	**19 36 40.4**	**+1.1**
KARN				S	**Sn**	**19 36 56.3**	**+0.1**
GVD	**Gavdhos**	**1.50**	**220**	P	**Pn**	**19 36 41.6**	**-0.9**
GVD	**Gavdhos**	**1.50**	**220**	P	**Pn**	**19 36 41.6**	**-0.9**
KARP	**Karpathos**	**1.60**	**105**	P	**Pn**	**19 36 44.3**	**+0.5**
KARP				S	**Sn**	**19 37 04.6**	**+0.5**
KARP	**Karpathos**	**1.60**	**105**	*e*P	**Pn**	**19 36 44.5**	**+0.7**
KARP				*e*S	**Sn**	**19 37 04.0**	**-0.1**
KARP	**Karpathos**	**1.60**	**105**	*e*P	**Pn**	**19 36 44.5**	**+0.7**
KARP				S	**Sn**	**19 37 04.6**	**+0.5**
ANKY	**Antikythira Is**	**1.60**	**266**	*e*P	**Pn**	**19 36 44.3**	**+0.5**
ANKY	**Antikythira Is**	**1.60**	**266**	*e*P	**Pn**	**19 36 44.3**	**+0.5**
NIS1	**Nisyros Isl.**	**1.66**	**68**	*e*P	**Pn**	**19 36 45.1**	**+0.5**
NIS1	**Nisyros Isl.**	**1.66**	**68**	*e*P	**Pn**	**19 36 45.1**	**+0.5**
KYTH	**Kithira**	**1.83**	**280**	*e*P	**Pn**	**19 36 46.5**	**-0.3**
KYTH	**Kithira**	**1.83**	**280**	*e*P	**Pn**	**19 36 46.5**	**-0.3**
VLI	**Veliai**	**2.02**	**292**	*e*P	**Pn**	**19 36 49.7**	**+0.4**
VLI	**Veliai**	**2.02**	**292**	*e*P	**Pn**	**19 36 49.7**	**+0.4**
BDRM	**Kayabasi**	**2.05**	**58**	*i*P	**Pn**	**19 36 49.9**	**+0.1**
BDRM				*i*S	**Sn**	**19 37 13.7**	**-1.0**
BDRM	**Kayabasi**	**2.05**	**58**	*i*P	**Pn**	**19 36 49.9**	**+0.1**
BDRM				*i*S	**Sn**	**19 37 13.7**	**-1.0**
SMG	**Samos**	**2.13**	**36**	*e*P	**Pn**	**19 36 50.6**	**-0.1**
SMG	**Samos**	**2.13**	**36**	*e*P	**Pn**	**19 36 50.6**	**-0.1**
DIDY	**Didyma**	**2.22**	**313**	P	**Pn**	**19 36 52.8**	**+0.7**
DIDY				S	**Sn**	**19 37 18.9**	**0.0**
DIDY	**Didyma**	**2.22**	**313**	P	**Pn**	**19 36 52.8**	**+0.7**
DIDY				S	**Sn**	**19 37 18.9**	**0.0**
DID	**Didima**	**2.23**	**313**	P	**Pn**	**19 36 52.8**	**+0.7**
DID				S	**Sn**	**19 37 18.6**	**-0.3**
DID	**Didima**	**2.23**	**313**	P	**Pn**	**19 36 52.8**	**+0.7**
DID				S	**Sn**	**19 37 18.6**	**-0.3**
NAIG	**Nisos Aigina**	**2.27**	**322**	*e*P	**Pn**	**19 36 53.2**	**+0.6**
NAIG	**Nisos Aigina**	**2.27**	**322**	*e*P	**Pn**	**19 36 53.2**	**+0.6**
ARG	**Arkhangelos**	**2.32**	**84**	*e*P	**Pn**	**19 36 54.3**	**+1.0**
ARG				*e*S	**Sn**	**19 37 21.7**	**+0.6**
ARG	**Arkhangelos**	**2.32**	**84**	*e*P	**Pn**	**19 36 54.3**	**+1.0**
ARG				*e*S	**Sn**	**19 37 21.7**	**+0.6**
CHOS	**Chios island**	**2.47**	**14**	*e*P	**Pn**	**19 36 55.9**	**+0.5**
CHOS	**Chios island**	**2.47**	**14**	*e*P	**Pn**	**19 36 55.9**	**+0.5**
AYDN	**Tasoluk**	**2.68**	**51**	*i*P	**Pn**	**19 36 57.7**	**-0.4**
AYDN				*i*S	Sn	19 37 38.4	+8.7
AYDN	**Tasoluk**	**2.68**	**51**	*i*P	**Pn**	**19 36 57.7**	**-0.4**
ITM	**Ithomi**	**2.94**	**295**	*e*P	**Pn**	**19 37 02.9**	**+1.3**
ITM	**Ithomi**	**2.94**	**295**	*e*P	**Pn**	**19 37 02.9**	**+1.3**
LKR	**Lokris**	**3.21**	**326**	*e*P	**Pn**	**19 37 06.6**	**+1.3**
LKR	**Lokris**	**3.21**	**326**	*e*P	**Pn**	**19 37 06.6**	**+1.3**
KLV	**Kalavryta, Ach**	**3.23**	**310**	*e*P	**Pn**	**19 37 06.6**	**+1.0**
KLV	**Kalavryta, Ach**	**3.23**	**310**	*e*P	**Pn**	**19 37 06.6**	**+1.0**
AKAS	**Kas**	**3.52**	**85**	*i*P	**Pn**	**19 37 08.9**	**-0.6**
AKAS				*i*S	**Sn**	**19 37 47.9**	**-2.3**
AKAS	**Kas**	**3.52**	**85**	*i*P	**Pn**	**19 37 08.9**	**-0.6**
AKAS				*i*S	**Sn**	**19 37 47.9**	**-2.3**
GOLH	**Golhisar**	**3.67**	**69**	*i*P	**Pn**	**19 37 12.8**	**+1.2**
GOLH				*i*S	**Sn**	**19 37 54.8**	**+1.0**
GOLH	**Golhisar**	**3.67**	**69**	*i*P	**Pn**	**19 37 12.8**	**+1.2**
GOLH				*i*S	**Sn**	**19 37 54.8**	**+1.0**
NEO	**Neokhori**	**3.69**	**334**	*e*P	**Pn**	**19 37 12.2**	**+0.4**
NEO	**Neokhori**	**3.69**	**334**	*e*P	**Pn**	**19 37 12.2**	**+0.4**
AGG	**Agios Georgios**	**3.83**	**323**	*e*P	**Pn**	**19 37 14.7**	**+1.1**
AGG	**Agios Georgios**	**3.83**	**323**	*e*P	**Pn**	**19 37 14.7**	**+1.1**
KORT	**Korkueli**	**4.22**	**75**	*i*P	**Pn**	**19 37 19.7**	**+0.7**
KORT				*i*S	**Sn**	**19 38 08.2**	**+1.1**
KORT	**Korkueli**	**4.22**	**75**	*i*P	**Pn**	**19 37 19.7**	**+0.7**
KORT				*i*S	**Sn**	**19 38 08.2**	**+1.1**
LKD2	**Lefkada island**	**4.62**	**309**	*e*P	**Pn**	**19 37 24.4**	**+0.1**
LKD2	**Lefkada island**	**4.62**	**309**	*e*P	**Pn**	**19 37 24.4**	**+0.1**
BRTR	**Keskin Array B**	**7.60**	**58**	P	**Pn**	**19 38 07.1**	**+2.0**
	0.3nm,0.3s,baz=229,slow=14,SNR=19						
MMAI	**Mount Meron Ar**	**8.87**	**107**	P	Pn	19 38 19.2	-3.3
	1.9nm,0.3s,baz=310,slow=13,SNR=10						
AKASG	**Malin Array Be**	**14.98**	**10**	P	**P**	**19 39 46.7**	**-0.7**
	0.9nm,0.3s,baz=202,slow=11,SNR=4.3						
TORD	**Torodi Ar. Bea**	**31.10**	**229**	P	**P**	**19 42 27.6**	**+0.2**
	0.4nm,0.4s,ba

DGPR	**DIGLIPUR**	**7.40 195**	*e*P	**Pn**	**19 40 26.0**	**-1.6**
DGPR			AMB	AMB	19 40 27.2	
comp=Z,1μm,1.4s						
SLGI	**Shiliguri**	**8.63 318**	*e*P	**Pn**	**19 40 43.3**	**-1.0**
SLGI			*e*x	x	19 42 11.2	
KMI	**Kunming**	**8.66 56**	⇑P	Pn	19 40 51.8	+6.8
KMI			sP		19 41 14.0	
KMI			S	Sn	19 42 32.5	+11
KMI			ScP	**ScP**	**19 50 31.3**	**+0.8**
KMI			ScS	**ScS**	**19 54 05.0**	**+0.1**
KMI			LR	LR		
comp=N,18μm,7.5s						
KMI			LR	LR		
comp=E,16μm,14.0s						
KMI			LR	LR		
comp=Z,20μm,13.5s						
PHET	**Kaeng Krachan**	**8.72 148**	P	**Pn**	**19 40 45.8**	**+0.1**
comp=Z,2μm,1.1s,comp=Z,20μmcomp=Z,8.6nm						
BOK	**Bokaro**	**8.99 294**	*e*P	**Pn**	**19 40 46.8**	**-2.5**
BOK			AMB	AMB	19 40 51.2	
comp=Z,647nm,2.5s						
ODAN	**Odare**	**9.40 315**	*e*P	**Pn**	**19 40 52.8**	**-2.3**
TAPN	**Taplejung**	**9.53 318**	*e*P	**Pn**	**19 40 54.6**	**-2.3**
LSA	**Lhasa**	**9.87 341**	P	**Pn**	**19 41 00.3**	**-1.3**
LSA			S	**Sn**	**19 42 47.3**	**-3.5**
RAMN	**Ramite**	**10.00 312**	*e*P	**Pn**	**19 41 00.9**	**-2.3**
CHBT	**CHBT**	**10.43 136**	P	**Pn**	**19 41 10.0**	**+1.0**
comp=Z,236nm,0.8s,comp=Z,4μm						
CHBT	**CHBT**	**10.43 136**	P	**Pn**	**19 41 09.9**	**+1.0**
comp=Z,236nm,0.8s,comp=Z,4μm						
JIRN	**Jiri**	**10.73 314**	*e*P	**Pn**	**19 41 10.8**	**-2.6**
GUN	**Gumba**	**11.10 314**	*e*P	**Pn**	**19 41 15.9**	**-2.5**
PKI	**Pulchoki**	**11.21 311**	*e*P	**Pn**	**19 41 17.1**	**-2.8**
comp=Z,1μm,0.6s						
VIS	**Vishakhapatnam**	**11.22 258**	*e*P	**Pn**	**19 41 17.0**	**-2.7**
VIS			AMB	AMB	19 41 29.5	
comp=Z,480nm,1.5s						
PKIN	**Phulchoki**	**11.23 311**	*e*P	**Pn**	**19 41 17.3**	**-2.7**
PKIN			*e*S	**Sn**	**19 43 18.0**	**-5.7**
UBPT	**Khong Chiam**	**11.30 115**	P	**Pn**	**19 41 21.9**	**+1.1**
comp=Z,1μm,1.8s,comp=Z,14μm						
UBPT	**Khong Chiam**	**11.30 115**	P	**Pn**	**19 41 21.7**	**+0.9**
comp=Z,1μm,1.8s,comp=Z,14μm						
KKN	**Kakani**	**11.44 312**	*e*P	Pn	19 41 19.6	-3.2
DMN	**Daman**	**11.45 311**	*e*P	**Pn**	**19 41 20.1**	**-2.9**
comp=Z,2μm,0.9s						
SURA	**Surathani**	**12.07 157**	P	**Pn**	**19 41 32.1**	**+1.0**
comp=Z,91nm,2.2s,comp=Z,3μm						
GYA	**Guiyang**	**12.40 59**	⇑*i*P	**Pn**	**19 41 37.9**	**+2.1**
GYA			pP	P	19 41 48.0	+3.7
GYA			sP		19 42 02.6	
GYA			S	**Sn**	**19 43 56.4**	**+4.2**
GYA			SS	**S**	**19 44 13.3**	**-0.9**
GYA			pmax	pmax		
comp=Z,330nm,1.0s						
GYA			pmax	pmax		
comp=Z,3μm,8.7s						
GYA			LR	LR		
comp=N,8μm,15.3s						
GYA			LR	LR		
comp=E,11μm,14.8s						
GYA			LR	LR		
comp=Z,18μm,15.0s						
SRIT	**Nakonsritamara**	**12.58 158**	P	**Pn**	**19 41 38.0**	**-0.1**
comp=Z,308nm,1.7s						
KOLN	**Koldanda**	**12.64 308**	*e*P	**Pn**	**19 41 36.0**	**-3.0**
comp=Z,1μm,0.6s						
KRAB	**Krabi**	**12.80 160**	P	**Pn**	**19 41 41.2**	**+0.2**
comp=Z,236nm,1.4s,comp=Z,2μm						
DANN	**Dangsing**	**12.85 310**	*e*P	Pn	19 41 38.2	-3.7
comp=Z,1μm,0.7s						
PKDT	**Phuket**	**12.87 164**	P	**Pn**	**19 41 41.5**	**-0.4**
comp=Z,179nm,2.0s,comp=Z,3μm						
CD2	**Chengdu**	**13.19 36**	P	**Pn**	**19 41 47.4**	**+1.2**
CD2			pP	P	19 41 58.8	+5.9
CD2			S	**Sn**	**19 44 13.0**	**+1.9**
CD2			SS	**S**	**19 44 31.0**	**+0.8**
CD2			pmax	pmax		
comp=Z,380nm,0.9s						
CD2			pmax	pmax		
comp=Z,3μm,6.3s						
CD2			LR	LR		
comp=E,17μm,5.9s						
CD2			LR	LR		
comp=Z,16μm,12.5s						
PYUN	**Piuthan**	**13.27 308**	*e*P	Pn	19 41 43.6	-3.8
CMBY	**CAMPBELL BAY**	**13.33 184**	*e*x	Pn	19 41 43.0	-4.9
CMBY			AMB	AMB	19 41 43.6	
comp=Z,995nm,3.6s						
JBP	**Jabalpur**	**14.10 284**	⇑*e*P	**Pn**	**19 41 55.8**	**-2.2**
JBP			*e*x	x	19 44 21.5	
QIZ	**Qiongzhong**	**14.17 93**	P	**Pn**	**19 42 00.5**	**+1.5**
QIZ			S	**Sn**	**19 44 36.3**	**+1.3**
QIZ			pmax	pmax		
comp=Z,170nm,2.1s						
QIZ			pmax	pmax		
comp=Z,3μm,6.4s						
QIZ			LR	LR		
comp=N,7μm,13.6s						
QIZ			LR	LR		
comp=Z,8μm,27.3s						
SKLT	**Songkhla**	**14.27 156**	P	**Pn**	**19 41 59.7**	**-0.6**
comp=Z,334nm,1.1s,comp=Z,4μm						
SKLT	**Songkhla**	**14.27 156**	P	**Pn**	**19 42 00.1**	**-0.2**
comp=Z,334nm,1.1s,comp=Z,4μm						
NGP	**Nagpur**	**14.81 276**	*e*P	**Pn**	**19 42 05.4**	**-1.9**
NGP			*e*x	x	19 44 36.3	
LHMI	**Lhok Sumawe**	**15.20 172**	P	**P**	**19 42 17.4**	**+2.1**
HYB	**Hyderabad**	**15.71 262**	*i*P	**Pn**	**19 42 14.0**	**-4.7**
comp=Z,580nm,1.0s						
HYB			*e*S	**S**	**19 45 20.0**	**-2.0**
HYB	**Hyderabad**	**15.71 262**	*e*P	**Pn**	**19 42 16.1**	**-2.6**
HYB			AMB	AMB	19 42 58.8	
comp=Z,388nm,0.0s						
KULM	**Kulim**	**16.02 159**	*e*P	**Pn**	**19 42 21.2**	**-1.4**
comp=Z,709nm,1.7s						
KULM	**Kulim**	**16.02 159**	P	**Pn**	**19 42 22.0**	**-0.6**
KULM	**Kulim**	**16.02 159**	P	**Pn**	**19 42 21.9**	**-0.7**
comp=Z,204nm,1.3s,comp=Z,4μm						
LGTI	**Lohaghat**	**16.03 307**	*e*P	**Pn**	**19 42 22.1**	**-0.4**
LGTI			*e*x	x	19 45 09.2	
PTH	**Pithoragarh**	**16.10 307**	*e*x	Pn	19 42 14.9	-8.7
PTH			*e*x	x	19 44 59.8	
BHPL	**Bhopal**	**16.44 283**	*e*P	**Pn**	**19 42 25.9**	**-1.9**
BHPL			AMB	AMB	19 42 29.9	
comp=Z,620nm,1.2s						
AKL	**Akola**	**16.72 274**	⇓*i*P	**Pn**	**19 42 29.5**	**-1.8**
AKL			AMP		19 42 35.6	
comp=Z,578nm,1.3s						
AKL			*i*x	x	19 45 19.3	
IPM	**Ipoh**	**16.91 158**	*e*P	**Pn**	**19 42 30.9**	**-2.7**
comp=Z,246nm,0.9s						
IPM	**Ipoh**	**16.91 158**	P	**Pn**	**19 42 31.8**	**-1.8**
IPM	**Ipoh**	**16.91 158**	P	**Pn**	**19 42 32.0**	**-1.6**
comp=Z,340nm,1.3s,comp=Z,5μm						
KTGM	**Kuala Trenggan**	**16.99 151**	P	**P**	**19 42 34.9**	**-0.2**
KCSI	**Kotacane, Aceh**	**17.00 170**	P	**P**	**19 42 35.0**	**-0.2**
comp=Z,658nm,1.1s,comp=Z,11μm						
LATR	**Latur**	**17.38 267**	⇑*e*x	Pn	19 42 31.1	-8.2
LATR			*e*x	x	19 42 36.5	
comp=Z,704nm,1.3s						
GZH	**Guangzhou**	**17.38 78**	P	P	19 42 45.5	+6.1
GZH			S	S	19 46 04.4	+9.0
GZH			pmax	pmax		
comp=Z,14μm,4.4s						
LZH	**Lanzhou**	**17.52 25**	⇑P	**Pn**	**19 42 41.9**	**+0.9**
LZH			S	**Sn**	**19 45 50.1**	**-5.7**
LZH			ScP	**ScP**	**19 50 46.3**	**+2.1**
LZH			ScS	**ScS**	**19 54 26.4**	**+1.9**
LZH			pmax	pmax		
comp=Z,200nm,1.0s						
LZH			pmax	pmax		
comp=Z,3μm,4.0s						
LZH			LR	LR		
comp=N,4μm,8.0s						
LZH			LR	LR		
comp=E,6μm,9.1s						
LZH			LR	LR		
comp=Z,7μm,9.4s						
PSI	**Prapat**	**17.92 167**	P	**Pn**	**19 42 46.6**	**+0.6**
PSI			S	**Sn**	**19 46 04.9**	**-0.9**
PSI			ScP	**ScP**	**19 50 46.5**	**+1.1**
PSI			ScS	**ScS**	**19 54 25.6**	**-0.7**
PSI	**Prapat**	**17.92 167**	P	**Pn**	**19 42 46.6**	**+0.6**
comp=Z,14nm,0.3s,baz=347,slow=10.0,SNR=94						
PSI			S	**Sn**	**19 46 04.9**	**-0.9**
baz=324,slow=9.0,SNR=9.1						
PSI			ScP	**ScP**	**19 50 46.5**	**+1.1**
comp=Z,1.5nm,0.3s,baz=318,slow=3.1,SNR=24						
PSI			ScS	**ScS**	**19 54 25.6**	**-0.7**
comp=Z,0.3nm,0.3s,baz=44,slow=23,SNR=32						
SNSI	**Sinabang, Aceh**	**17.92 175**	P	**P**	**19 42 42.4**	**-3.0**
comp=Z,889nm,1.3s,comp=Z,9μm						
NDI	**New Delhi**	**18.04 301**	*e*P	**Pn**	**19 42 48.0**	**+0.7**
NDI			*e*x	x	19 45 48.0	
HKC	**Hong Kong Obse**	**18.09 80**	⇑*i*P	**Pn**	**19 42 50.0**	**+2.1**
HKC			*i*S	**Sn**	**19 46 12.0**	**+2.3**
DDI	**Dehra Dun**	**18.11 306**	*e*P	**Pn**	**19 42 48.5**	**+0.4**
FRIM	**Kepong**	**18.27 158**	P	**Pn**	**19 42 50.0**	**-0.1**
XAN	**Xi'an**	**18.45 40**	P	**P**	**19 42 51.1**	**0.0**
XAN			S	**S**	**19 46 11.1**	**-5.7**
XAN			pmax	pmax		
comp=Z,130nm,1.1s						
XAN			pmax	pmax		
comp=Z,1μm,7.6s						
XAN			LR	LR		
comp=N,5μm,10.9s						
XAN			LR	LR		
comp=Z,2μm,16.2s						
PALK	**Pallekele**	**18.92 228**	P	**Pn**	**19 42 57.3**	**-0.7**
comp=Z,3μm,1.1s,SNR=48						
PALK	**Pallekele**	**18.92 228**	P	**Pn**	**19 42 57.4**	**-0.5**
SNR=38						
PALK	**Pallekele**	**18.92 228**	*e*P	**P**	**19 42 56.5**	**0.0**
comp=Z,749nm,1.1s						
PALK	**Pallekele**	**18.92 228**	P	**Pn**	**19 42 57.2**	**-0.7**
GSI	**Gunungsitoli**	**19.15 172**	P	**P**	**19 42 57.1**	**-1.7**
comp=Z,410nm,0.8s,comp=Z,6μm						
SMLA	**Simla**	**19.17 307**	*i*P	**Pn**	**19 43 00.2**	**-0.5**
SMLA			*i*x	x	19 46 19.4	
SMLA			*i*x	x	19 46 19.8	
GTA	**Gaotai**	**19.44 12**	⇑P	**P**	**19 43 02.0**	**+0.1**
GTA			pP	**pP**	**19 43 16.3**	**-2.5**
GTA			sP	**sP**	**19 43 26.3**	**-3.4**
GTA			S	**S**	**19 46 33.8**	**-3.4**
GTA			sS	sS	19 46 55.1	-10
GTA			SS	**SnSn**	**19 47 03.8**	**+5.7**
GTA			ScP	**ScP**	**19 50 49.0**	**+0.7**
GTA			PcS	**PcS**	**19 50 57.8**	**+0.6**
GTA			ScS	**ScS**	**19 54 29.9**	**-0.5**
GTA			pmax	pmax		
comp=Z,60nm,1.2s						
GTA			pmax	pmax		
comp=Z,2μm,4.5s						
GTA			LR	LR		
comp=N,4μm,14.7s						
GTA			LR	LR		
comp=E,3μm,12.1s						
GTA			LR	LR		
comp=Z,5μm,16.2s						
SDNR	**Sundarnagar**	**19.50 308**	*e*x	**P**	**19 43 04.0**	**+1.4**
SDNR			*e*x	x	19 46 31.0	
BHK	**Bhakra**	**19.87 307**	*e*P	**P**	**19 43 06.0**	**-0.6**
BHK			*e*x	x	19 46 30.0	
POO	**Poona**	**19.90 268**	*e*P	**P**	**19 43 07.8**	**+0.7**
KGM	**Kluang**	**20.04 155**	P	**P**	**19 43 09.3**	**+0.8**
WHN	**Wuhan**	**20.27 56**	⇑P	Pn	19 43 12.3	-1.3
WHN			S	**S**	**19 46 55.8**	**+2.4**
WHN			pmax	pmax		
comp=Z,5μm,2.8s						
WHN			LR	LR		
comp=N,11μm,7.8s						
WHN			LR	LR		
comp=E,14μm,11.1s						
WHN			LR	LR		
comp=Z,22μm,18.8s						
DHRM	**DHARAMSHALA**	**20.37 309**	*e*P	**P**	**19 43 13.3**	**+1.0**
DHRM			AMB	AMB	19 43 34.8	
comp=Z,1μm,1.8s						
MYKOM	**Kota Tinggi**	**20.46 153**	P	**P**	**19 43 13.8**	**+0.7**
MYKOM	**Kota Tinggi**	**20.46 153**	P	**P**	**19 43 13.2**	**+0.2**
comp=Z,474nm,1.1s,comp=Z,5μm						
GOA	**Goa**	**20.59 260**	*e*P	Pn	19 43 15.9	-1.6
GOA			AMB	AMB	19 43 17.4	
comp=Z,548nm,1.5s						
DLH	**Dalhousie**	**20.76 310**	*e*P	**P**	**19 43 17.0**	**+0.5**
DLH			*e*S	**S**	**19 47 05.0**	**+1.4**
TRD	**Trivandrum**	**20.95 238**	*e*P	**P**	**19 43 19.3**	**+1.0**
TRD			AMB	AMB	19 43 20.1	
comp=Z,607nm,0.7s						
TRD			⇑*i*P	Pn	19 43 27.4	+5.7
TRD			*i*S	Sn	19 47 15.4	-2.9
PPI	**Padang Panjang**	**21.41 165**	P	**P**	**19 43 22.4**	**-0.8**
comp=Z,56nm,1.2s,comp=Z,2μm						
PDSI	**Padang**	**21.86 165**	P	**P**	**19 43 26.1**	**-2.0**
comp=Z,547nm,1.1s,comp=Z,5μm						
RGRI	**Rengat**	**21.87 160**	P	**P**	**19 43 27.9**	**-0.2**
comp=Z,558nm,1.4s,comp=Z,8μm						
QZH	**Quanzhou**	**22.35 74**	⇑*i*P	**P**	**19 43 32.1**	**-1.1**
QZH			S	**S**	**19 47 34.4**	**+1.1**
QZH			sS	**sS**	**19 48 04.0**	**+0.8**
QZH			pmax	pmax		
comp=Z,520nm,1.1s						
QZH			pmax	pmax		
comp=Z,6μm,3.3s						
QZH			LR	LR		
comp=N,16μm,5.1s						
QZH			LR	LR		
comp=E,5μm,7.6s						
QZH			LR	LR		
comp=Z,11μm,16.8s						
SARP	**Sargodha**	**22.95 305**	P	**P**	**19 43 38.2**	**-1.1**
TIY	**Taiyuan**	**23.04 38**	*e*P	**P**	**19 43 40.3**	**0.0**
TIY			pP	**pP**	**19 43 59.3**	**+1.4**
TIY			sP	**sP**	**19 44 06.0**	**-2.7**
TIY			S	S	19 47 37.0	-7.4
TIY			ScP	**ScP**	**19 50 58.3**	**+1.1**
TIY			pmax	pmax		
comp=Z,86nm,0.7s						
TIY			pmax	pmax		
comp=Z,2μm,3.7s						
TIY			LR	LR		
comp=N,3μm,8.4s						
TIY			LR	LR		
comp=E,3μm,9.2s						
TIY			LR	LR		
comp=Z,5μm,11.3s						
CHCP	**Chirah Chowk**	**23.29 309**	⇑P	**P**	**19 43 41.7**	**-0.9**
BHJ	**Bhuj**	**23.57 282**	*e*P	**P**	**19 43 45.4**	**+0.2**
BHJ			AMB	AMB	19 43 48.8	
comp=Z,243nm,1.3s						
BTO	**Baotou**	**23.95 29**	*e*P	**P**	**19 43 48.3**	**-0.3**
THW	**Thamme Wali**	**24.03 306**	P	**P**	**19 43 49.0**	**-0.3**
TPUB	**Ta-pu**	**24.08 78**	*e*P	**P**	**19 43 51.7**	**+1.8**
comp=Z,351nm,1.4s						
KSM	**Kuching**	**24.11 139**	*e*P	**P**	**19 43 50.4**	**+0.3**
comp=Z,173nm,1.4s						
KSM	**Kuching**	**24.11 139**	P	**P**	**19 43 49.6**	**-0.5**
WMQ	**Urumqi**	**24.12 347**	P	**P**	**19 43 51.5**	**+1.4**
WMQ			pP	**pP**	**19 44 08.6**	**-0.7**
WMQ			sP	**sP**	**19 44 17.8**	**-2.0**
WMQ			PP	**PnPn**	**19 44 28.8**	**+4.4**
WMQ			PcP	**PcP**	**19 47 32.8**	**+3.7**
WMQ			S	**S**	**19 48 00.8**	**-0.9**
WMQ			sS	sS	19 48 29.5	-6.0
WMQ			SS	**SnSn**	**19 48 58.0**	**+5.6**
WMQ			pmax	pmax		
comp=Z,640nm,1.2s						
WMQ			pmax	pmax		
comp=Z,3μm,4.4s						
WMQ			LR	LR		
comp=N,4μm,12.0s						
WMQ			LR	LR		
comp=E,4μm,15.6s						
WMQ			LR	LR		
comp=Z,3μm,15.6s						
CEP	**Cherat**	**24.36 308**	⇑P	**P**	**19 43 52.5**	**+0.1**
NJ2	**Nanjing**	**24.40 57**	*e*P	**P**	**19 43 52.6**	**0.0**
NJ2			pP	**pP**	**19 44 10.8**	**-1.2**
NJ2			sP	**sP**	**19 44 20.8**	**-1.5**
NJ2			S	**S**	**19 48 04.0**	**-2.3**
NJ2			sS	**sS**	**19 48 40.0**	**0.0**
NJ2			pmax	pmax		
comp=Z,1μm,4.1s						
NJ2			LR	LR		
comp=N,5μm,10.6s						
NJ2			LR	LR		
comp=E,7μm,10.8s						
NJ2			LR	LR		
comp=Z,9μm,13.4s						
SSLB	**Suanglung**	**24.40 77**	*e*P	**P**	**19 43 54.7**	**+2.0**
comp=Z,80nm,1.2s						
TWG	**Pinlang**	**24.48 80**	*e*P	**P**	**19 43 55.7**	**+2.3**
comp=Z,2μm,1.0s						
SBUM	**Sibu**	**24.59 134**	P	**P**	**19 43 55.9**	**+1.5**
BTM	**Bintulu**	**24.64 132**	P	**P**	**19 43 56.8**	**+1.9**
YULB	**Yu-li**	**24.70 78**	*e*P	**P**	**19 43 58.1**	**+2.7**
comp=Z,220nm,1.0s						
YHNB	**Yeheng**	**24.84 75**	*e*P	**P**	**19 43 57.6**	**+0.8**
comp=Z,339nm,1.7s						
HHC	**Hu-ho-hao-te**	**24.87 31**	*e*P	**P**	**19 43 57.8**	**+0.9**
HHC			pP	**pP**	**19 44 14.9**	**-1.5**
HHC			sP	**sP**	**19 44 24.3**	**-2.3**
HHC			PP	**PnPn**	**19 44 37.3**	**+2.7**
HHC			S	**S**	**19 48 12.9**	**-0.9**
HHC			sS	**sS**	**19 48 42.8**	**-4.9**
HHC			SS	**SnSn**	**19 49 16.4**	**+5.7**
HHC			PcS	**PcS**	**19 51 12.6**	**+1.5**
HHC			pmax	pmax		
comp=Z,89nm,1.2s						
HHC			pmax	pmax		
comp=Z,2μm,5.5s						
HHC			LR	LR		
comp=N,5μm,10.6s						
HHC			LR	LR		
comp=E,6μm,12.8s						
HHC			LR	LR		
comp=Z,8μm,12.0s						
PPBI	**Pangkal Pinang**	**24.99 152**	P	**P**	**19 43 58.6**	**+0.5**
comp=Z,100nm,1.1s,comp=Z,2μm						
NACB	**Ninganchiao**	**25.01 76**	*e*P	**P**	**19 44 00.4**	**+2.1**
comp=Z,238nm,1.1s						
KSH	**Kashi**	**25.04 324**	⇑*i*P	**P**	**19 43 58.6**	**+0.1**
KSH			sP	**sP**	**19 44 25.0**	**-3.1**
KSH			PP	**PnPn**	**19 44 38.4**	**+1.5**
KSH			S	**S**	**19 48 12.6**	**-3.9**
KSH			sS	sS	19 48 42.5	-7.9
KSH			SS	**SnSn**	**19 49 15.5**	**+0.8**
KSH			pmax	pmax		
comp=Z,370nm,1.0s						
KSH			LR	LR		
comp=N,3μm,6.9s						
KSH			LR	LR		
comp=E,6μm,8.3s						
KSH			LR	LR		
comp=Z,3μm,15.4s						
KSI	**Kapahiang**	**25.06 162**	P	**P**	**19 43 57.1**	**-1.7**
comp=Z,283nm,0.7s,comp=Z,4μm						
TIA	**Tai'an**	**25.07 46**	⇑P	**P**	**19 43 58.9**	**+0.2**
TIA			pP	**pP**	**19 44 18.0**	**-0.2**
TIA			sP	**sP**	**19 44 29.0**	**+0.7**
TIA			PP	**PnPn**	**19 44 42.3**	**+5.0**
TIA			S	**S**	**19 48 18.3**	**+1.5**
TIA			sS	**sS**	**19 48 52.9**	**+2.2**
TIA			SS	SnSn	19 49 25.9	+11
TIA			pmax	pmax		
comp=Z,2μm,9.9s						
TIA			LR	LR		
comp=N,5μm,11.6s						
TIA			LR	LR		
comp=E,4μm,9.6s						
TIA			LR	LR		
comp=Z,6μm,12.6s						
PMBI	**Palembang**	**25.12 156**	P	**P**	**19 44 00.2**	**+0.9**
comp=Z,608nm,1.0s,comp=Z,6μm						
KDM	**Kudat**	**25.15 119**	P	pP	19 44 18.2	-0.9
KKM	**Kota Kinabalu**	**25.15 122**	P	pP	19 44 20.9	+1.6
TGY	**Tagaytay City**	**25.65 100**	LR	LR	19 54 19.2	
comp=Z,13nm,18.6s,baz=117,slow=37						
STKI	**Sintang**	**25.93 139**	P	**P**	**19 44 07.6**	**+1.0**
comp=Z,65nm,1.2s,comp=Z,2μm						
SSE	**Sheshan**	**25.94 60**	⇑P	**P**	**19 44 07.1**	**+0.5**
SSE			pP	**pP**	**19 44 27.4**	**+1.3**
SSE			sP	**sP**	**19 44 35.8**	**-0.4**
SSE			S	**S**	**19 48 29.8**	**-0.9**
SSE			sS	**sS**	**19 49 02.1**	**-2.6**
SSE			pmax	pmax		
comp=Z,51nm,0.7s						
SSE			pmax	pmax		
comp=Z,890nm,8.1s						
SSE			LR	LR		
comp=N,4μm,14.6s						
SSE			LR	LR		
comp=E,2μm,14.6s						
SSE			LR	LR		
comp=Z,4μm,16.5s						
SDKM	**Sandakan**	**26.18 121**	P	**P**	**19 44 10.3**	**+1.3**
TPI	**Tanjungpandan**	**26.20 150**	P	**P**	**19 44 12.8**	**+3.8**
comp=Z,38nm,0.9s,comp=Z,497nm						
MDSI	**Maura Dua**	**26.36 159**	P	**P**	**19 44 08.2**	**-2.2**
BJI	**Beijing**	**26.77 38**	P	**P**	**19 44 14.8**	**+0.9**
BJI			pP	**pP**	**19 44 35.0**	**+1.5**
BJI			S	**S**	**19 48 46.0**	**+2.5**
BJI			pmax	pmax		
comp=Z,120nm,0.9s						
BJI			pmax	pmax		
comp=Z,1μm,5.6s						
KBL	**Kabul**	**26.80 307**	*e*P	**P**	**19 44 15.6**	**+1.0**
KBL			pmax	pmax		
comp=Z,309nm,0.7s						
KBL	**Kabul**	**26.80 307**	*e*P	**P**	**19 44 15.6**	**+1.0**
comp=Z,309nm,0.7s						
ULHL	**Ulahol**	**26.87 328**	*i*P	**P**	**19 44 16.8**	**+1.7**
ULHL	**Ulahol**	**26.87 328**	P	**P**	**19 44 16.8**	**+1.7**
SNR=130						
KZA	**Kyzart**	**27.24 327**	*i*P	**P**	**19 44 20.3**	**+1.6**
KZA	**Kyzart**	**27.24 327**	P	**P**	**19 44 20.4**	**+1.6**
SNR=25						
AAA	**Alma-Ata**	**27.32 331**	*i*P	**P**	**19 44 20.1**	**+1.2**
AAA			*i*S	**S**	**19 48 53.4**	**+1.1**
AAA			pmax	pmax		
comp=Z,700nm,1.2s						
AAA			smax	smax		
comp=N,2μm,2.0s						
AAA			MLR	MLR		
comp=Z,2μm,8.0s						
MYLDM	**Lahad Datu**	**27.50 120**	P	**P**	**19 44 24.3**	**+3.6**
TSM	**Tawau**	**27.52 122**	P	**P**	**19 44 20.9**	**0.0**
TKM2	**Tokmak 2**	**27.69 329**	*i*P	**P**	**19 44 23.9**	**+1.5**
TKM2	**Tokmak 2**	**27.69 329**	P	**P**	**19 44 23.9**	**+1.5**
SNR=54						
TKM2	**Tokmak 2**	**27.69 329**	*e*P	**P**	**19 44 22.9**	**+0.4**
comp=Z,332nm,1.2s						
UCH	**Uchtor**	**27.73 326**	*i*P	**P**	**19 44 24.2**	**+1.1**
UCH	**Uchtor**	**27.73 326**	P	**P**	**19 44 24.2**	**+1.1**
SNR=14						
KBK	**Karagaybulak**	**27.82 327**	*i*P	**P**	**19 44 25.0**	**+1.5**
KBK	**Karagaybulak**	**27.82 327**	P	**P**	**19 44 25.0**	**+1.5**
SNR=65						
AAK	**Ala-Archa**	**28.03 327**	P	**P**	**19 44 26.2**	**+0.8**
comp=Z,836nm,1.1s,SNR=58						
AAK	**Ala-Archa**	**28.03 327**	*c i*P	**P**	**19 44 26.7**	**+1.2**
AAK			*e**PP	**pP**	**19 44 45.5**	**+0.4**
AAK			pmax	pmax		
comp=Z,673nm,1.7s						
AAK	**Ala-Archa**	**28.03 327**	P	**P**	**19 44 27.2**	**+1.7**
SNR=92						
AAK	**Ala-Archa**	**28.03 327**	P	**P**	**19 44 27.0**	**+1.6**
SNR=82						
AAK	**Ala-Archa**	**28.03 327**	*e*P	**P**	**19 44 26.6**	**+1.2**
comp=Z,613nm,1.3s						
AAK			pP	**pP**	**19 44 45.7**	**+0.5**
AAK			S	**S**	**19 49 03.4**	**-0.4**
AAK			ScP	**ScP**	**19 51 12.9**	**+1.4**
AAK			ScS	**ScS**	**19 55 05.9**	**+1.7**
AAK	**Ala-Archa**	**28.03 327**	P	**P**	**19 44 25.6**	**+0.1**
comp=Z,103nm,0.9s,baz=128,slow=7.0,SNR=216						
AAK			pP	**pP**	**19 44 45.7**	**+0.5**
comp=Z,85nm,0.7s,baz=129,slow=9.3,SNR=9.3						
AAK			S	**S**	**19 49 03.4**	**-0.4**
comp=Z,3.9nm,0.7s,baz=253,slow=19,SNR=1.4						
AAK			ScP	**ScP**	**19 51 12.9**	**+1.4**
comp=Z,58nm,0.9s,baz=171,slow=2.9,SNR=8.9						
AAK			ScS	**ScS**	**19 55 05.9**	**+1.7**
comp=Z,3.3nm,0.8s,baz=252,slow=23,SNR=5.7						
AAK			LR	LR	19 58 18.7	
comp=Z,2μm,18.6s,baz=128,slow=42						
AML	**Almayashu**	**28.09 325**

FRU pmax pmax
comp=Z,320nm,2.0s
CHMS Chumysh 28.16 328 *i* P **P 19 44 27.8 +1.3**
CHMS Chumysh 28.16 328 P **P 19 44 27.8 +1.3**
SNR=47
MK31 Makanchi Array 28.27 342 *i* P **P 19 44 27.7 +0.3**
MK31 pmax pmax
comp=Z,256nm,0.9s
MK31 Makanchi Array 28.27 342 *e*P **P 19 44 27.4 0.0**
MKAR Makanchi Array 28.27 342 P **P 19 44 27.5 +0.1**
MKAR *PP **pP 19 44 47.5 +0.4**
MKAR 19 55 05.6
MKAR Makanchi Array 28.27 342 P **P 19 44 27.5 +0.1**
MKAR pP **pP 19 44 47.5 +0.4**
MKAR ScP **ScP 19 51 12.9 +0.9**
MKAR ScS **ScS 19 55 05.6 +0.8**
MKAR *e* 20 16 46.0
MKAR Makanchi Array 28.27 342 P **P 19 44 27.5 +0.1**
comp=Z,76nm,0.7s,baz=153,slow=9.4,SNR=597
MKAR pP **pP 19 44 47.5 +0.4**
comp=Z,122nm,0.7s,baz=150,slow=8.2,SNR=12
MKAR ScP **ScP 19 51 12.9 +0.9**
comp=Z,74nm,1.0s,baz=146,slow=4.1,SNR=27
MKAR ScS **ScS 19 55 05.6 +0.8**
comp=Z,5.1nm,1.0s,baz=141,slow=5.9,SNR=4.3
MKAR P3KPbc 20 16 46.0
comp=Z,0.9nm,0.7s,baz=345,slow=5.0,SNR=12
EKS2 Erkin-Say 28.42 326 *e*P **P 19 44 30.0 +1.1**
EKS2 pmax pmax
comp=Z,225nm,1.0s
EKS2 Erkin-Say 28.42 326 P **P 19 44 30.2 +1.3**
SNR=127
EKS2 Erkin-Say 28.42 326 *e*P **P 19 44 30.0 +1.1**
comp=Z,225nm,1.0s
USP Ospenovka 28.49 328 *i* P **P 19 44 30.5 +1.2**
USP Ospenovka 28.49 328 P **P 19 44 30.5 +1.2**
SNR=61
SONM Songino Array 28.93 16 P **P 19 44 33.1 -0.3**
SONM pP **pP 19 44 53.7 +0.6**
SONM ScP **ScP 19 51 14.6 +0.5**
SONM Songino Array 28.93 16 P **P 19 44 33.1 -0.3**
comp=Z,13nm,0.8s,baz=200,slow=10,SNR=66
SONM pP **pP 19 44 53.7 +0.6**
comp=Z,49nm,0.9s,baz=200,slow=11,SNR=22
SONM ScP **ScP 19 51 14.6 +0.5**
comp=Z,7.5nm,0.4s,baz=207,slow=3.6,SNR=16
SONM LR LR 19 57 26.4
comp=Z,4μm,21.3s,baz=200,slow=39
ULN Ulaanbaatar 29.14 17 P **P 19 44 35.5 +0.4**
SNR=12
KK31 Karatay Array 30.49 323 *i* P **P 19 44 46.9 -0.1**
KK31 pmax pmax
comp=Z,43nm,0.8s
KKAR Karatay Array 30.49 323 *e*P **P 19 44 46.9 -0.1**
KKAR pmax pmax
comp=Z,4.0nm,0.1s
KKAR Karatay Array 30.49 323 *e*P **P 19 44 46.9 -0.1**
comp=Z,4.1nm,0.1s
ZAK Zakamensk 30.67 11⇑ *i* P **P 19 44 48.9 +0.3**
ZAK *e* 19 45 04.7
ZAK pmax pmax
comp=Z,31nm,1.1s
HVS Khovu-Aksy 30.70 359*c i* P **P 19 44 49.5 +0.6**
CTBH Cotabato--PC H 31.32 111⇑ *i* P **P 19 44 54.9 +0.3**
MOY Mondy 31.59 7 *e*P **P 19 44 57.1 +0.4**
MOY pmax pmax
comp=Z,62nm,1.5s
TLY Talaya 31.98 10 *e*P **P 19 45 00.7 +0.7**
TLY *e* 19 45 22.9
TLY pmax pmax
comp=Z,50nm,1.2s
TLY MLR MLR
comp=Z,955nm,17.0s
SNY Shenyang 32.33 42⇑ P **P 19 45 03.0 -0.2**
SNY pP **pP 19 45 23.3 +0.2**
SNY S **S 19 50 09.6 -1.2**
SNY pmax pmax
comp=Z,51nm,0.8s
SNY pmax pmax
comp=Z,1μm,3.5s
SNY LR LR
comp=N,2μm,18.2s
SNY LR LR
comp=E,2μm,17.5s
SNY LR LR
comp=Z,2μm,21.2s
INCN Inchon 32.40 51 *e*P **P 19 45 03.1 -0.8**
comp=Z,49nm,1.0s
XMIS Christmas Isla 32.46 160 *e*P **P 19 45 03.9 -0.6**
comp=Z,806nm,1.0s
TJN Taejon 32.54 54 *i* P **P 19 45 04.7 -0.4**
IRK Irkutsk 32.63 11 *e*P P 19 44 54.2 -12
IRK *e* 19 55 20.8
IRK pmax pmax
comp=Z,535nm,1.3s
KURBB Kurchatov Arra 32.82 341 P **P 19 45 07.2 -0.1**
comp=Z,108nm,0.7s,baz=152,slow=8.2,SNR=621
KURBB PcP **PcP 19 47 51.8 +1.4**
comp=Z,21nm,0.6s,baz=158,slow=2.3,SNR=9.5
KURBB pPcP 19 48 14.6
comp=Z,57nm,0.9s,baz=160,slow=2.3,SNR=9.7
KURBB S **S 19 50 18.8 +0.7**
comp=Z,7.4nm,0.8s,baz=36,slow=32,SNR=4.4
KURBB ScP **ScP 19 51 27.7 +0.9**
comp=Z,79nm,1.0s,baz=159,slow=2.8,SNR=23
KURBB P3KPbc 20 16 25.3
comp=Z,0.7nm,0.4s,baz=325,slow=4.9,SNR=9.3
KURK Kurchatov 32.87 341 P **P 19 45 07.6 -0.2**
comp=Z,785nm,0.8s
KURK Kurchatov 32.87 341*c i* P **P 19 45 07.7 -0.1**
KURK *e*PP **pP 19 45 28.5 +0.8**
KURK pmax pmax
comp=Z,159nm,1.2s
KURK Kurchatov 32.87 341 P **P 19 45 08.1 +0.3**
SNR=66
KURK Kurchatov 32.87 341 *e*P **P 19 45 07.6 -0.2**
comp=Z,120nm,0.8s
KURK PcP **PcP 19 47 51.8 +1.3**
KURK pPcP 19 48 14.6
KURK S **S 19 50 18.8 -0.1**
KURK ScP **ScP 19 51 27.7 +0.7**
KURK *e* 20 16 25.3
KSAR Wonju Array Be 33.31 52 P **P 19 45 11.7 -0.1**
KSAR pP **pP 19 45 32.1 +0.4**
KSAR PcP **PcP 19 47 52.9 +0.8**
KSAR S **S 19 50 26.4 +0.3**
KSAR ScP **ScP 19 51 27.6 -1.2**
KSRS Korea Array 33.34 52 P **P 19 45 11.7 -0.4**
comp=Z,20nm,0.9s,baz=244,slow=8.9,SNR=38
KSRS pP **pP 19 45 32.1 +0.1**
comp=Z,25nm,0.9s,baz=243,slow=8.6,SNR=6.7
KSRS PcP **PcP 19 47 52.9 +0.7**
comp=Z,8.7nm,0.7s,baz=248,slow=2.3,SNR=7.2
KSRS S **S 19 50 26.4 -0.2**
comp=Z,4.4nm,1.0s,baz=252,slow=16,SNR=6.0
KSRS ScP **ScP 19 51 27.6 -1.3**
comp=Z,20nm,1.0s,baz=256,slow=3.4,SNR=19
KSRS LR LR 20 00 38.1
comp=Z,3μm,20.2s,baz=244,slow=40
WBK Wadi Bani Khal 33.42 280 P **P 19 45 16.0 +3.0**
SNR=26
IDAH Dahanechah 33.48 299 *e*P **P 19 45 13.9 +0.2**
IMON Monand 33.75 300 *e*P **P 19 45 17.6 +1.6**
IKOO Kooshah 34.13 298 *e*P **P 19 45 19.6 +0.3**
JMDO Jabal Madar 34.23 280 P **P 19 45 22.6 +2.5**
SNR=33
SMDO Samad 34.25 281 P **P 19 45 22.2 +2.0**
SNR=66
IMYA Miami 34.25 305 *e*P **P 19 45 20.5 +0.3**
ZAA0 Zalesovo Array 34.38 349 *e*P **P 19 45 20.9 +0.1**
ZALV Zalesovo Beam 34.38 349 *i* P **P 19 45 21.0 +0.2**
ZALV pmax pmax
comp=Z,323nm,0.7s
ZALV Zalesovo Beam 34.38 349 P **P 19 45 21.0 +0.2**
ZALV pP **pP 19 45 40.1 -0.7**
ZALV PcP **PcP 19 47 56.0 +1.2**
ZALV S **S 19 50 41.4 -0.8**
ZALV ScP **ScP 19 51 32.0 -0.2**
ZALV ScS **ScS 19 55 32.3 -2.4**
ZALV *e* 20 16 18.9
ZALV Zalesovo Beam 34.38 349 P **P 19 45 21.0 +0.2**
comp=Z,319nm,0.7s,baz=168,slow=8.6,SNR=626
ZALV pP **pP 19 45 40.1 -0.7**
comp=Z,248nm,0.9s,baz=171,slow=8.0,SNR=8.1
ZALV PcP **PcP 19 47 56.0 +1.2**
comp=Z,18nm,0.8s,baz=174,slow=5.6,SNR=5.4
ZALV S **S 19 50 41.4 -0.8**
comp=Z,25nm,0.8s,baz=175,slow=13,SNR=7.1
ZALV ScP **ScP 19 51 32.0 -0.2**
comp=Z,12nm,0.5s,baz=171,slow=3.2,SNR=14
ZALV ScS **ScS 19 55 32.3 -2.4**
comp=Z,22nm,1.0s,baz=164,slow=5.9,SNR=8.9
ZALV LR LR 20 02 42.2
comp=Z,349nm,20.1s,baz=226,slow=42
ZALV P3KPbc 20 16 18.9
comp=Z,1.5nm,0.7s,baz=339,slow=6.5,SNR=6.5
JNU Nakatsue 34.40 61 *e*P **P 19 45 21.8 +0.5**
comp=Z,18nm,1.0s
JNU ScP **ScP 19 51 31.4 -1.4**
JNU Nakatsue 34.40 61 ScP **ScP 19 51 31.4 -1.4**
comp=Z,37nm,1.1s,baz=84,slow=4.5,SNR=9.4
JNU LR LR 20 00 13.2
comp=Z,2μm,19.3s,baz=75,slow=38
ITEG Tejag 34.43 299 *e*P **P 19 45 22.7 +0.9**
CN2 Changchun 34.55 41 *e*P **P 19 45 22.8 +0.3**
CN2 *e*S **S 19 50 42.1 -3.1**
CN2 *e*ScP **ScP 19 51 32.6 -0.5**
CN2 *e*ScS **ScS 19 55 33.8 -2.3**
CN2 pmax pmax
comp=Z,30nm,1.0s
CN2 pmax pmax
comp=Z,800nm,4.0s
CN2 LR LR
comp=N,2μm,15.0s
CN2 LR LR
comp=E,1μm,15.0s
CN2 LR LR
comp=Z,2μm,21.0s
ISRO Mashad 34.73 305 *e*P **P 19 45 24.7 +0.5**
IMOG Moghan 34.77 304 *e*P **P 19 45 26.0 +1.2**
CIT Chita 34.78 20 *e*P **P 19 45 24.0 -0.4**
CIT *e* 19 47 02.3
CIT *e* 19 47 57.4
HOQ Hoqain 34.90 282 P **P 19 45 28.2 +2.5**
SNR=84
BSY Bisya 35.05 281 P **P 19 45 30.0 +2.9**
SNR=85
KAPI Kappang 35.14 133 P **P 19 45 28.5 +0.6**
SNR=5.3
KAPI Kappang 35.14 133 *e*P **P 19 45 27.5 -0.3**
comp=Z,133nm,1.2s
KAPI ScP **ScP 19 51 34.0 -1.7**
KAPI Kappang 35.14 133 ScP **ScP 19 51 34.0 -1.7**
comp=Z,5.8nm,0.6s,baz=194,slow=1.6,SNR=6.5
KAPI LR LR 20 02 40.2
comp=Z,1μm,20.3s,baz=138,slow=41
IAKL Akhelmad 35.36 305 *e*P **P 19 45 31.1 +1.2**
NVS Novosibirsk 35.51 348⇑ *i* P **P 19 45 30.1 -0.5**
NVS *e* 19 46 57.2
NVS *e*S S 19 50 52.3 -7.3
NVS *e* 19 51 30.5
NVS *e*SSS SSS 19 53 22.5
NVS *e* 19 55 37.3
NVS pmax pmax
comp=N,177nm,0.8s
NVS pmax pmax
comp=E,115nm,0.8s
NVS pmax pmax
comp=Z,265nm,0.8s
NVS pmax pmax
comp=Z,99nm,1.4s
NVS pmax pmax
comp=N,91nm,1.3s
NVS pmax pmax
comp=E,66nm,1.3s
NVS smax smax
comp=N,103nm,2.0s
NVS smax smax
comp=E,448nm,2.0s
IKRD Kardeh 35.60 305 *e*P P 19 45 26.3 -5.6
KRAR Krasnoyarsk 35.61 358*c i* P P 19 45 38.0 +6.7
KRAR pmax pmax
comp=Z,344nm,1.4s
ARQ Araqi 35.64 282 P **P 19 45 34.9 +2.8**
SNR=43
IEMG Emamgholi 35.69 306 *e*P **P 19 45 32.7 0.0**
UOSS Wadi Hilu 35.88 285 P **P 19 45 35.0 +0.9**
comp=Z,336nm,1.0s,SNR=16
ASHO Ashiyiah 36.02 284 P **P 19 45 37.9 +2.5**
SNR=26
ISFR Sfrayin 36.08 305 *e*P **P 19 45 37.6 +1.6**
ISHV Shirvan 36.45 306 *e*P **P 19 45 41.1 +2.0**
IBAF Bafgh 36.86 296 *e*P **P 19 45 43.7 +1.1**
VOSK Vostochnaya 37.19 336 P **P 19 45 43.3 -1.6**
VOSK pmax pmax
comp=Z,309nm,0.9s
MDJ Mudanjiang 37.53 42 P **P 19 45 48.3 +0.4**
MDJ pP **pP 19 46 07.3 -0.8**
MDJ sP **sP 19 46 16.8 -1.3**
MDJ PP **PP 19 47 14.3 -0.8**
MDJ PcP **PcP 19 48 04.1 -0.2**
MDJ S **S 19 51 31.8 +1.1**
MDJ sS **sS 19 52 02.9 -2.5**
MDJ ScS **ScS 19 55 50.8 -1.7**
MDJ pmax pmax
comp=Z,33nm,1.4s
MDJ pmax pmax
comp=Z,390nm,5.8s
MDJ LR LR
comp=N,1μm,23.1s
MDJ LR LR
comp=E,980nm,23.8s
MDJ LR LR
comp=Z,2μm,29.0s
IMEH Mehriz 37.65 295 *e*P **P 19 45 49.5 +0.2**
BVA0 Borovoye Array 37.65 336 *i* P **P 19 45 47.6 -1.2**
BVA0 pmax pmax
comp=Z,342nm,2.0s
BVAR Borovoye Array 37.65 336 P **P 19 45 48.4 -0.4**
BVAR *PP **pP 19 46 08.5 -0.6**
BVAR 19 48 06.2
BVAR S **S 19 51 30.8 -1.5**
BVAR Borovoye Array 37.65 336 P **P 19 45 48.4 -0.4**
BVAR pP **pP 19 46 08.5 -0.6**
BVAR PcP **PcP 19 48 06.2 +1.7**
BVAR pPcP 19 48 28.8
BVAR S **S 19 51 30.8 -1.5**
BVAR ScP **ScP 19 51 46.1 +1.8**
BVAR *e* 20 16 06.5
BVAR Borovoye Array 37.65 336 P **P 19 45 48.4 -0.4**
comp=Z,20nm,0.7s,baz=128,slow=9.7,SNR=97
BVAR pP **pP 19 46 08.5 -0.6**
comp=Z,21nm,0.6s,baz=137,slow=13,SNR=7.7
BVAR PcP **PcP 19 48 06.2 +1.7**
comp=Z,5.6nm,0.4s,baz=159,slow=4.3,SNR=4.1
BVAR pPcP 19 48 28.8
comp=Z,42nm,0.7s,baz=132,slow=4.9,SNR=6.6
BVAR S **S 19 51 30.8 -1.5**
comp=Z,9.2nm,0.8s,baz=142,slow=16,SNR=3.6
BVAR ScP **ScP 19 51 46.1 +1.8**
comp=Z,38nm,1.0s,baz=145,slow=5.4,SNR=10
BVAR LR LR 20 04 26.9
comp=Z,1μm,21.8s,baz=142,slow=41
BVAR P3KPbc 20 16 06.5
comp=Z,2.6nm,0.5s,baz=339,slow=3.6,SNR=13
BRVK Borovoye 37.72 336 P **P 19 45 48.4 -1.0**
comp=Z,280nm,0.7s,SNR=18
BRVK Borovoye 37.72 336*c i* P **P 19 45 49.0 -0.3**
BRVK *i* *PP **pP 19 46 09.9 +0.3**
BRVK pmax pmax
comp=Z,33nm,0.7s
BRVK Borovoye 37.72 336 P **P 19 45 49.0 -0.3**
SNR=22
BRVK Borovoye 37.72 336 *e*P **P 19 45 48.9 -0.5**
comp=Z,138nm,1.1s
ICHK Chekchek 37.93 297 *e*P **P 19 45 52.6 +0.9**
VLA Vladivostok 38.35 45*c i* P **P 19 45 54.5 -0.3**
VLA *i* *PP **pP 19 46 13.5 -1.5**
VLA pmax pmax
comp=Z,349nm,2.8s
ISAD Sadrabad 38.49 296 *e*P **P 19 45 56.8 +0.3**
RBK Rabkut 38.50 273 P **P 19 45 58.4 +2.0**
SNR=29
ISRV Sarvestan 38.75 292 *e*P **P 19 45 58.2 -0.5**
IPAR Pars 38.84 293 *e*P **P 19 45 59.5 +0.1**
USRK Ussuriysk Arra 38.87 44 P **P 19 45 59.2 +0.1**
comp=Z,30nm,0.7s,baz=252,slow=7.7,SNR=42
USRK pP **pP 19 46 18.1 -1.4**
comp=Z,37nm,0.8s,baz=256,slow=5.3,SNR=5.7
USRK ScP **ScP 19 51 47.5 -1.6**
comp=Z,10nm,0.9s,baz=246,slow=2.8,SNR=8.4
USRK LR LR 20 03 57.5
comp=Z,2μm,20.6s,baz=233,slow=39
IANJ Anjilo 38.88 302 *e*P **P 19 46 01.3 +1.6**
ABTO Aybut 39.38 273 P **P 19 46 05.4 +1.6**
SNR=13
ISHM Shahmirzad 39.45 302 *e*P **P 19 46 06.1 +1.7**
ILAS Lasjerd 39.63 301 *e*P **P 19 46 06.9 +1.0**
IZEF Zefreh 39.76 297 *e*P **P 19 46 07.3 +0.3**
IFIR Firoozkooh 39.85 302 *e*P **P 19 46 09.0 +1.3**
IKAZ Kazeroun 39.88 292 *e*P **P 19 46 07.7 -0.5**
IGAR Gharneh 39.94 296 *e*P **P 19 46 09.4 +0.9**
ISFB Sefidab 40.04 299 *e*P **P 19 46 10.5 +1.4**
AB31 Akbulak array 40.04 324 *i* P **P 19 46 08.7 -0.1**
AB31 pmax pmax
comp=Z,167nm,0.7s
ABKAR Akbulak array 40.04 324 *e*P **P 19 46 09.1 +0.3**
comp=Z,0.2nm,0.7s
IDMV Damavand 40.41 301 *e*P **P 19 46 14.1 +1.7**
IKLH Kolahrood 40.44 298 *e*P **P 19 46 13.5 +0.9**
IVRN Varamin 40.56 300 *e*P **P 19 46 14.6 +1.2**
MAJO Matsushiro 41.00 57 *e*P **P 19 46 16.6 -0.3**
MAJO pmax pmax
comp=Z,50nm,1.0s
MAJO Matsushiro 41.00 57 *e*P **P 19 46 16.6 -0.3**
comp=Z,50nm,1.0s
MAT Matsushiro 41.00 57 P **P 19 46 16.8 -0.1**
MAT S **S 19 52 26.6 +3.7**
KLR Kul'dur 41.12 37 *e*P P 19 46 13.5 -4.2
KLR *e* 19 48 09.7
KLR *e*S S 19 52 17.5 -6.8
KLR *e* 19 56 05.2
KLR pmax pmax
comp=E,90nm,2.2s
KLR pmax pmax
comp=Z,140nm,2.2s
KLR MLR MLR
comp=Z,2μm,12.0s
IR3 Iran Long-Peri 41.20 301 *e*P **P 19 46 20.2 +1.5**
IMHD Mahdasht 41.52 301 *e*P **P 19 46 22.7 +1.3**
AKTO Aktyubinsk 41.73 325 P **P 19 46 22.8 +0.1**
AKTO S **S 19 52 32.2 -1.1**
AKTO Aktyubinsk 41.73 325 P **P 19 46 22.8 +0.1**
AKTO ScP **ScP 19 52 00.4 +0.2**
AKTO S **S 19 52 32.2 -1.1**
AKTO Aktyubinsk 41.73 325 P **P 19 46 22.8 +0.1**
comp=Z,179nm,1.0s,baz=120,slow=7.8,SNR=215
AKTO ScP **ScP 19 52 00.4 +0.2**
comp=Z,80nm,0.8s,baz=127,slow=4.3,SNR=20
AKTO S **S 19 52 32.2 -1.1**
comp=Z,67nm,1.1s,baz=7.1,slow=24,SNR=15
AKTO LR LR 20 07 07.6
comp=Z,1μm,18.8s,baz=302,slow=41
IGZV Ghazvin 42.00 302 *e*P **P 19 46 26.6 +1.2**
IRAZ Razeghan 42.08 301 *e*P **P 19 46 27.3 +1.3**
CLNS Chul'man 42.64 24 *e*P **P 19 46 30.3 +0.3**
CLNS *e* 19 48 07.6
CLNS *e* 19 48 21.7
CLNS *e*S **S 19 52 46.6 0.0**
CLNS *e*SS SS 19 55 47.8 -12
CLNS *e* 19 56 19.5
CLNS pmax pmax
comp=E,88nm,1.4s
CLNS pmax pmax
comp=N,71nm,1.4s
CLNS pmax pmax
comp=Z,102nm,1.2s
CLNS pmax pmax
comp=E,16nm,0.9s
CLNS pmax pmax
comp=N,46nm,1.0s
CLNS pmax pmax
comp=Z,30nm,1.2s
CLNS smax smax
comp=N,234nm,12.1s
CLNS smax smax
comp=E,288nm,13.7s
CLNS MLR MLR
comp=Z,718nm,11.0s
CLNS MLR MLR
comp=N,403nm,10.0s
CLNS MLR MLR
comp=E,306nm,9.0s
HABR Khabarovsk 42.66 39*de*P **P 19 46 28.5 -1.7**
HABR *e**PP **pP 19 46 48.6 -2.2**
HABR *e**SP **sP 19 46 58.4 -2.3**
HABR 19 48 08.8
HABR *e* 19 48 19.2
HABR *e*S **S 19 52 45.5 -1.5**
HABR *e**SS **sS 19 53 20.5 -1.8**
HABR *e*SS **SS 19 55 59.5 -0.7**
HABR *e* 19 56 21.2
HABR *e*SSS SSS 19 56 37.9
HABR pmax pmax
comp=Z,71nm,2.5s
HABR pmax pmax
comp=N,9.0nm,1.2s
HABR pmax pmax
comp=E,38nm,1.2s
HABR MLR MLR
comp=Z,1μm,15.0s
QRN Al-Qurain 43.27 291 *e*P **P 19 46 36.0 +0.5**
QRN AML AML 19 46 57.7
comp=Z,64nm,0.6s
QRN *e*S **pP 19 46 58.1 +2.0**
UMR Umm Al-Rimmam 43.46 292 *e*P **P 19 46 36.6 -0.4**
KBD Kabd 43.47 291 *e*P **P 19 46 37.3 +0.2**
RDF Al-Radifah 43.60 291 *e*P **P 19 46 38.4 +0.3**
RDF *e*S **pP 19 47 00.7 +2.0**
RDF AML AML 19 47 03.8
comp=Z,551nm,0.7s
CBIJ Chichi jima 43.63 72 LR LR 20 04 39.3
comp=Z,766nm,20.2s,baz=295,slow=36
NAY Al-Naaiem 43.87 291 *e*P **P 19 46 39.9 -0.4**
NAY *e*S **pP 19 47 03.8 +2.9**
IKOM Komasi 43.90 298 *e*P **P 19 46 40.9 +0.2**
RST Umm Al-Ruwaisa 44.09 292 *e*P **P 19 46 41.9 -0.1**
SVE Sverdlovsk 44.30 334*d i* P **P 19 46 43.6 +0.3**
SVE *e*S **S 19 53 09.4 -1.3**
SVE *e* 19 56 34.1
SVE pmax pmax
comp=Z,380nm,0.9s
SVE MLR MLR
comp=Z,2μm,20.0s
ILIN Lien 44.42 299 *e*P **P 19 46 45.7 +0.7**
IVIS Veis 44.48 299 *e*P **P 19 46 44.6 -0.6**
IDHR Dehrash 44.88 299 *e*P **P 19 46 48.5 0.0**
ARU Arti 44.93 332*c i* P **P 19 46 47.9 -0.4**
ARU *PP **pP 19 47 08.2 -0.9**
ARU *SP **sP 19 47 17.7 -1.2**
ARU 19 48 28.3
ARU 19 48 40.3
ARU PPP PPP 19 49 12.8
ARU S **S 19 53 18.9 -1.0**
ARU *SS **sS 19 53 58.0 +2.6**
ARU 19 56 35.3
ARU pmax pmax
comp=Z,267nm,1.7s
ARU Arti 44.93 332 P **P 19 46 48.5 +0.2**
comp=Z,821nm,0.6s,SNR=55
MAK Makhachkala 45.44 311 *e*P **P 19 46 51.3 -1.2**
MAK *e**PP **pP 19 47 12.3 -1.0**
MAK *e**SP **sP 19 47 21.7 -1.4**
MAK *e* 19 48 27.7
MAK *e* 19 48 43.6
MAK *e*S **S 19 53 25.4 -2.2**
MAK *e**SS **sS 19 54 00.0 -3.1**
MAK *e* 19 56 34.5
MAK pmax pmax
comp=Z,261nm,1.4s
MAK MLR MLR
comp=Z,749nm,13.0s
RAYN Ar Rayn 45.71 283 P **P 19 46 55.7 +0.6**
comp=Z,542nm,1.5s,SNR=51
ERM Erimo 45.89 51*c i* P **P 19 46 56.7 +0.6**
ERM Erimo 45.89 51 *e*P **P 19 46 57.2 +1.1**
comp=Z,51nm,0.8s
ASAJ Asahikawa 46.00 48 *e*P **P 19 46 57.4 +0.4**
comp=Z,98nm,1.3s
ASAJ ScP **ScP 19 52 15.9 -1.8**
ASAJ Asahikawa 46.00 48 ScP **ScP 19 52 15.9 -1.8**
comp=Z,5.9nm,0.4s,baz=242,slow=7.4,SNR=12
ASAJ LR LR 20 09 35.3
comp=Z,1μm,18.1s,baz=266,slow=40

DGRG David-gareji 46.65 308 P **P** **19 47 04.6 +2.4**
DGRG S **S** **19 53 49.1 +4.0**
GNI Garni 46.89 306 P **P** **19 47 06.4 +2.2**
SNR=7.3
GNI Garni 46.89 306 *e*P **P** **19 47 06.3 +2.1**
comp=Z,730nm,1.6s
GNI pP **pP** **19 47 26.5 +1.4**
GNI Garni 46.89 306 P **P** **19 47 06.4 +2.2**
comp=Z,21nm,0.6s,baz=207,slow=4.4,SNR=14
GNI pP **pP** **19 47 26.5 +1.4**
comp=Z,87nm,0.8s,baz=334,slow=5.7,SNR=10
YSS Yuzh-Sakhalins 46.91 44⇑*e*P **P** **19 47 04.2 +0.2**
YSS *e**PP **pP** **19 47 25.0 +0.1**
YSS *e**SP **sP** **19 47 33.0 -1.7**
YSS *i* 19 48 36.0
YSS *e* 19 49 02.0
YSS *e*S **S** **19 53 48.0 -0.5**
YSS *e* 19 54 08.0
YSS *e**SS **sS** **19 54 24.0 -0.2**
YSS *e* 19 56 46.0
YSS *e* 19 57 11.0
YSS pmax pmax
comp=Z,100nm,1.2s
YSS MLR MLR
comp=Z,2μm,14.0s
YSS MLR MLR
comp=E,2μm,13.0s
TBLG Delisi 47.17 308 P **P** **19 47 07.9 +1.7**
TBLG S **S** **19 53 53.1 +0.6**
TBLG Delisi 47.17 308 P **P** **19 47 07.9 +1.7**
TBLG S **S** **19 53 53.1 +0.6**
DUS Dusheti 47.27 309 P **P** **19 47 09.2 +2.2**
DUS S S 19 54 02.8 +8.8
HAKT HAKKARI 47.33 303 *i* P **P** **19 47 07.7 0.0**
KZR Kazreti 47.34 308 P pP 19 47 31.2 +2.7
CLDR Caldiran 47.36 305 *e*P **P** **19 47 10.0 +2.1**
CUKT Cukurca 47.37 302 *e*P **P** **19 47 08.9 +0.9**
SOKR Solikamsk 47.64 335*c i*P **P** **19 47 09.8 +0.4**
SOKR S **S** **19 53 55.6 -2.8**
SOKR SS **SS** **19 57 26.0 -1.4**
SOKR pmax pmax
comp=Z,260nm,0.9s
SOKR MLR MLR
comp=Z,2μm,22.0s
MBWA Marble Bar 47.92 148 *e*P **P** **19 47 11.9 -0.1**
comp=Z,64nm,0.7s
ZEI Tsey 47.98 310 *e*P **P** **19 47 14.2 +1.5**
ZEI pmax pmax
comp=Z,692nm,1.3s
AKH Akhalkalaki 48.03 308 P **P** **19 47 15.5 +2.4**
AKH S **S** **19 54 09.3 +4.3**
AGRB Hanur-Agry 48.13 305 *e*P **P** **19 47 15.6 +1.7**
KARS Kars 48.22 307 *e*P **P** **19 47 16.3 +1.9**
YUK Yuzh-Kuril'sk 48.27 49 *i* P P 19 47 05.2 -9.3
YUK *i* *PP pP 19 47 30.4 -5.1
YUK *i* 19 49 08.4
YUK *i* PPP PPP 19 49 57.3
YUK S S 19 53 57.1 -11
YUK pmax pmax
comp=E,242nm,1.5s
YUK pmax pmax
comp=N,90nm,0.7s
YUK pmax pmax
comp=Z,470nm,1.4s
YUK MLR MLR
comp=E,2μm,19.0s
YUK MLR MLR
comp=Z,2μm,19.0s
YUK MLR MLR
comp=N,441nm,17.0s
ONI Oni 48.27 309 P **P** **19 47 17.0 +2.2**
ONI S **S** **19 54 10.9 +2.8**
SIRT Sirnak 48.33 302 *e*P **P** **19 47 14.8 -0.5**
FITZ Fitzroy Crossi 48.73 140 PcP **PcP** **19 48 43.0 +0.7**
FITZ ScP **ScP** **19 52 26.2 -3.3**
FITZ Fitzroy Crossi 48.73 140 PcP **PcP** **19 48 43.0 +0.7**
baz=332,slow=7.1
FITZ ScP **ScP** **19 52 26.2 -3.3**
comp=N,16nm,0.9s,baz=330,slow=5.3,SNR=3.8
KBZ Khabaz 48.89 311 P **P** **19 47 20.7 +1.4**
KBZ *PP **pP** **19 47 41.4 +1.1**
KBZ Khabaz 48.89 311 P **P** **19 47 20.7 +1.4**
KBZ pP **pP** **19 47 41.4 +1.1**
KBZ ScP **ScP** **19 52 31.0 +1.1**
KBZ Khabaz 48.89 311 P **P** **19 47 20.7 +1.4**
comp=N,14nm,0.7s,baz=118,slow=8.7,SNR=16
KBZ pP **pP** **19 47 41.4 +1.1**
comp=N,51nm,0.8s,baz=138,slow=5.6,SNR=9.2
KBZ ScP **ScP** **19 52 31.0 +1.1**
comp=N,22nm,0.9s,baz=155,slow=1.6,SNR=5.8
KBZ LR LR 20 13 46.9
comp=N,653nm,18.1s,baz=105,slow=43
GOF Gofitskoye 49.06 312 *e*P **P** **19 47 22.0 +1.4**
GOF *e* 19 54 19.6
GOF pmax pmax
comp=Z,420nm,1.2s
KIV Kislovodsk 49.08 311 *e*P **P** **19 47 22.6 +1.6**
KIV *e**PP **pP** **19 47 43.3 +1.3**
KIV *e**SP **sP** **19 47 53.9 +2.2**
KIV *e*S **S** **19 54 20.8 +1.3**
KIV *e*SS **SS** **19 57 49.8 -1.7**
KIV pmax pmax
comp=Z,25nm,3.3s
KIV pmax pmax
comp=Z,74nm,0.7s
KIV MLR MLR
comp=Z,451nm,16.0s
KIV Kislovodsk 49.08 311 P **P** **19 47 22.7 +1.7**
comp=Z,639nm,0.7s,SNR=12
BTMT Batman 49.14 303 *e*P **P** **19 47 21.8 +0.3**
ARTV Artvin 49.16 307 *i* P **P** **19 47 22.9 +1.2**
DDEM Demirkent 49.25 307 *i* P **P** **19 47 23.6 +1.2**
VRTB Varto-Mus 49.26 305 *e*P **P** **19 47 24.2 +1.7**
BEST Besiri 49.28 303 *i* P **P** **19 47 23.3 +0.7**
CHVG Ch'k'valeri 49.29 309 P **P** **19 47 24.7 +2.3**
CHVG S S 19 54 13.0 -9.3
DBAD Bademkaya 49.31 307 *i* P **P** **19 47 24.2 +1.4**
DBOC Borcka 49.38 307 *i* P **P** **19 47 24.5 +1.3**
ERZM Erzurum 49.42 305 *i* P **P** **19 47 26.2 +2.4**
EZM Erzurum 49.42 305 *e*P **P** **19 47 25.8 +2.0**
BCA Borcka 49.43 308 *e*P **P** **19 47 24.6 +1.1**
BNGB Bing'ℓl 49.85 304 *e*P **P** **19 47 26.2 -0.7**
MAZI Mazidag 49.90 302 *e*P **P** **19 47 27.8 +0.4**
DIY Diyarbakir 50.11 303 *e*P **P** **19 47 30.5 +1.7**
ATD Arta Tunnel 50.61 268 P **P** **19 47 34.0 +1.1**
ATD pP **pP** **19 47 55.7 +1.7**
ATD ScP **ScP** **19 52 38.9 +1.0**
ATD Arta Tunnel 50.61 268 P **P** **19 47 34.0 +1.1**
comp=Z,27nm,0.9s,baz=43,slow=4.0,SNR=21
ATD pP **pP** **19 47 55.7 +1.7**
comp=Z,14nm,0.7s,baz=261,slow=11,SNR=3.4
ATD ScP **ScP** **19 52 38.9 +1.0**
comp=Z,14nm,1.0s,baz=286,slow=22,SNR=6.9
ATD LR LR 20 09 18.1
comp=Z,842nm,20.9s,baz=73,slow=36
ERZN Erzincan 50.64 305 *e*P **P** **19 47 33.6 +0.7**
PTK Pertek 50.84 304 *e*P **P** **19 47 34.0 -0.4**
GUMT Gumushane 50.91 306 *e*P **P** **19 47 36.8 +1.9**
EZC Erzincan 50.94 305 *e*P **P** **19 47 36.8 +1.6**
KELT Kelkit 51.05 306 *i* P **P** **19 47 37.5 +1.4**
SOC Sochi 51.14 310 *e*P **P** **19 47 37.4 +1.0**
SOC *e**PP **pP** **19 47 57.1 -0.4**
SOC *e**SP **sP** **19 48 07.5 +0.3**
SOC *e* 19 48 50.1
SOC *e* 19 49 31.9
SOC *e*PPP PPP 19 50 34.7
SOC *i* S **S** **19 54 48.1 +0.2**
SOC *e**SS **sS** **19 55 23.7 -0.3**
SOC *e* 19 57 18.0
SOC *e*SS **SS** **19 58 27.1 +3.1**
SOC pmax pmax
comp=Z,69nm,0.9s
URFA Urfa 51.19 302 *e*P **P** **19 47 36.0 -1.0**
VRHR Novokhopersk 51.48 320 *e*P **P** **19 47 38.3 -0.5**
VRHR *e**PP **pP** **19 47 58.9 -1.1**
VRHR *e*S **S** **19 54 48.2 -4.1**
VRHR pmax pmax
comp=Z,140nm,0.8s
VRHR pmax pmax
comp=N,20nm,0.7s
VRHR pmax pmax
comp=E,150nm,1.0s
VRHR smax smax
comp=E,270nm,0.8s
VRHR smax smax
comp=Z,30nm,0.8s
VRHR smax smax
comp=N,230nm,1.1s
VRHR MLR MLR
comp=Z,960nm,18.0s
VRHR MLR MLR
comp=N,120nm,14.0s
VRHR MLR MLR
comp=E,1μm,23.0s
ILIC ilic-Erzincan 51.52 305 *e*P **P** **19 47 41.1 +1.6**
ESPY Espiye-Giresun 51.53 307 *e*P **P** **19 47 39.5 +0.2**
MALT Malatya 51.55 303 *e*P **P** **19 47 40.0 +0.3**
MALT Malatya 51.55 303 ⇓*i*P **P** **19 47 41.3 +1.6**
MALT Malatya 51.55 303 ⇓⇓*i*P **P** **19 47 41.3 +1.6**
KEMA Kemaliye 51.56 304 *i* P **P** **19 47 41.1 +1.3**
AKCD Akcadag 51.95 303 *i* P **P** **19 47 43.3 +0.6**
GZT Gaziantep 52.19 302 *i* P **P** **19 47 44.6 +0.1**
DARE Darende-Malaty 52.31 303 *e*P **P** **19 47 45.5 +0.2**
RSDY Resadiye-TOKAT 52.55 306 *e*P P 19 47 36.4 -11
KUZU Kuzuini 52.56 301 *i* P **P** **19 47 47.5 +0.4**
ASF Jabal al Asfar 52.73 295 P **P** **19 47 50.0 +1.4**
ASF pP **pP** **19 48 11.7 +1.8**
ASF ScP **ScP** **19 52 46.5 -0.4**
ASF Jabal al Asfar 52.73 295 P **P** **19 47 50.0 +1.4**
comp=E,44nm,0.8s,baz=44,slow=5.5,SNR=106
ASF pP **pP** **19 48 11.7 +1.8**
comp=E,149nm,0.9s,baz=55,slow=4.3,SNR=25
ASF ScP **ScP** **19 52 46.5 -0.4**
comp=E,7.5nm,1.0s,baz=74,slow=7.4,SNR=3.2
ASF LR LR 20 12 42.7
comp=E,426nm,20.7s,baz=51,slow=39
SVSK Karacayir 52.76 305 *e*P **P** **19 47 50.5 +2.0**
VORD Divnogorie 52.87 319 *e*P **P** **19 47 48.8 -0.3**
VORD *e**PP **pP** **19 48 08.9 -1.4**
VORD *e*S **S** **19 55 08.1 -3.2**
VORD pmax pmax
comp=E,90nm,0.9s
VORD pmax pmax
comp=Z,60nm,0.9s
VORD pmax pmax
comp=N,50nm,0.8s
VORD smax smax
comp=E,430nm,0.9s
VORD smax smax
comp=Z,120nm,1.2s
VORD smax smax
comp=N,380nm,2.3s
VORD MLR MLR
comp=Z,1μm,22.0s
VORD MLR MLR
comp=E,1μm,24.0s
ANN Anapa 52.94 311 *e*P **P** **19 47 49.0 -0.7**
ANN *e**PP **pP** **19 48 10.9 0.0**
ANN *e* 19 48 51.7
ANN *e* 19 49 50.3
ANN *e*PPP PPP 19 50 56.4
ANN *e*S **S** **19 55 10.3 -2.1**
ANN *e* 19 57 27.6
ANN *e*SS **SKiKP** **19 58 59.0 -1.3**
ANN pmax pmax
comp=Z,48nm,0.8s
ERBA Erbaa 53.00 306 *i* P **P** **19 47 50.5 +0.1**
VOR Voronezh 53.11 320 ⇓*i*P **P** **19 47 52.0 +1.1**
VOR *e*S **S** **19 55 12.0 -2.6**
VOR pmax pmax
comp=Z,400nm,1.2s
TOKT Tokat 53.14 306 *e*P **P** **19 47 52.5 +1.2**
ANDN Andirin 53.16 302 *i* P **P** **19 47 51.8 +0.1**
HTY Hatay 53.30 300 *e*P **P** **19 47 53.3 +0.8**
HWQ Hawqa 53.47 298 *e*P **P** **19 47 55.2 +1.2**
KVT Kavak 53.57 307 *e*P **P** **19 47 55.3 +0.8**
KOZT Kozan 53.57 302 *e*P **P** **19 47 55.7 +1.2**
RCY Rachaya 53.58 297 *e*P **P** **19 47 55.9 +1.1**
BNN Bunyan 53.60 304 *e*P **P** **19 47 54.9 0.0**
BHL Bhannes 53.72 298 *e*P **P** **19 47 56.9 +1.1**
MMAI Mount Meron Ar 53.96 297 P **P** **19 47 59.2 +1.7**
MMAI pP **pP** **19 48 21.1 +2.2**
MMAI ScP **ScP** **19 52 52.7 +0.4**
MMAI Mount Meron Ar 53.96 297 P **P** **19 47 59.2 +1.7**
comp=Z,24nm,0.7s,baz=86,slow=11,SNR=33
MMAI pP **pP** **19 48 21.1 +2.2**
comp=Z,110nm,0.9s,baz=92,slow=11,SNR=20
MMAI ScP **ScP** **19 52 52.7 +0.4**
comp=Z,9.5nm,1.0s,baz=77,slow=7.6,SNR=4.4
MMAI LR LR 20 15 05.7
comp=Z,818nm,18.1s,baz=90,slow=40
MMLI Mount Malkishu 53.97 296 *e*P **P** **19 47 57.5 -0.1**
YOZ Yozgat 54.04 305 *e*P **P** **19 47 56.5 -1.6**
KARA Karaisali 54.19 302 *e*P **P** **19 47 58.8 -0.2**
DIKM Dikmen 54.20 307 *e*P **P** **19 48 00.4 +1.4**
AVNT Avonos 54.37 304 *i* P **P** **19 48 00.5 0.0**
CTKT Corum 54.49 306 *i* P **P** **19 48 00.8 -0.5**
MRIV Mauritius Mete 54.52 224 *e*P **P** **19 48 01.4 -0.1**
NIG Nigde 54.55 303 *e*P **P** **19 48 02.8 +0.8**
EIL Elat 54.56 292 P **P** **19 48 02.4 +0.6**
EIL pP **pP** **19 48 24.7 +1.5**
EIL Elat 54.56 292 P **P** **19 48 02.4 +0.6**
comp=Z,77nm,0.7s,baz=58,slow=2.5,SNR=96
EIL pP **pP** **19 48 24.7 +1.5**
comp=Z,229nm,0.7s,baz=44,slow=2.5,SNR=28
EIL LR LR 20 15 23.8
comp=Z,1μm,20.5s,baz=304,slow=40
CORM Corum 54.59 305 *e*P **P** **19 48 02.4 +0.3**
EREN Erenkoy 54.91 300 *e*P **P** **19 48 04.8 +0.6**
TIXI Tiksi 54.92 13*ce*P **P** **19 48 02.7 -1.0**
TIXI pmax pmax
comp=Z,348nm,1.3s
TIXI MLR MLR
comp=Z,2μm,21.0s
PHNC Paralimni 55.03 299 P P 19 48 08.8 +3.7
comp=Z,3.1nm,1.4s
MOS Moscow 55.06 325 *e*P **P** **19 48 03.2 -1.8**
MOS *e**PP **pP** **19 48 23.9 -2.5**
MOS *e* 19 49 06.1
MOS *e*S **S** **19 55 36.1 -4.7**
MOS *e* 19 57 43.2
MOS pmax pmax
comp=Z,300nm,1.6s
MOS pmax pmax
comp=Z,155nm,1.2s
TOS Tosya 55.09 306 *e*P **P** **19 48 07.4 +1.8**
BZK Bozkurt 55.15 307 *e*P **P** **19 48 06.1 +0.2**
IKL Isikli 55.29 300 *e*P **P** **19 48 06.2 -0.8**
SIM Simferopol' 55.30 311 *e*P P 19 48 21.7 +15
SIM *e*S **S** **19 55 46.0 +1.7**
SIM pmax pmax
comp=Z,110nm,0.9s
BR131 Keskin Array S 55.34 305 *e*P **P** **19 48 07.2 -0.2**
comp=Z,11nm,0.8s
BRTR Keskin Array B 55.34 305 P **P** **19 48 07.6 +0.1**
BRTR pP **pP** **19 48 29.4 +0.5**
BRTR ScP **ScP** **19 52 57.5 -0.8**
BRTR S **S** **19 55 46.2 +0.9**
BRTR Keskin Array B 55.34 305 P **P** **19 48 07.6 +0.1**
comp=Z,11nm,0.8s,baz=116,slow=8.4,SNR=49
BRTR pP **pP** **19 48 29.4 +0.5**
comp=Z,102nm,1.0s,baz=127,slow=8.4,SNR=35
BRTR ScP **ScP** **19 52 57.5 -0.8**
comp=Z,10.0nm,1.0s,baz=98,slow=3.9,SNR=4.5
BRTR S **S** **19 55 46.2 +0.9**
comp=Z,1.9nm,0.9s,baz=106,slow=9.2,SNR=4.1
BRTR LR LR 20 15 57.5
comp=Z,488nm,20.8s,baz=283,slow=40
CANT Cankiri 55.38 306 *e*P **P** **19 48 07.6 0.0**
SULT Sultanhani-AKS 55.41 303 *e*P **P** **19 48 07.3 -0.7**
OBN Obninsk 55.48 324κ *i*P **P** **19 48 08.0 0.0**
OBN *i* *PP **pP** **19 48 27.5 -1.9**
OBN *e**SP **sP** **19 48 40.7 +1.7**
OBN *e* 19 49 04.5
OBN *i* S **S** **19 55 42.1 -4.2**
OBN pmax pmax
comp=Z,190nm,1.8s
OBN MLR MLR
comp=Z,1μm,22.0s
OBN Obninsk 55.48 324 P **P** **19 48 07.6 -0.4**
comp=Z,438nm,0.7s,SNR=8.4
CSS Prodhromos 55.61 299 P **P** **19 48 09.6 +0.2**
comp=Z,6.7nm,1.3s
CSS Prodhromos 55.61 299 P **P** **19 48 09.5 +0.2**
CSS Prodhromos 55.61 299 *e*P **P** **19 48 09.0 -0.3**
comp=Z,114nm,0.8s
WRA Warramunga Arr 55.68 134 P **P** **19 48 10.1 +0.2**
WRA pP **pP** **19 48 33.1 +1.8**
WRA ScP **ScP** **19 52 57.7 -2.0**
WRA S **S** **19 55 47.7 -2.2**
WRA ScS **ScS** **19 57 48.8 -2.5**
WRA ⇑*e* 20 18 27.9
WRA P'P'ab P'P'ab 20 18 51.0 +7.3
WRA Warramunga Arr 55.68 134 P **P** **19 48 10.1 +0.2**
comp=Z,37nm,0.9s,baz=318,slow=7.5,SNR=112
WRA pP **pP** **19 48 33.1 +1.8**
comp=Z,35nm,0.8s,baz=323,slow=7.4,SNR=6.4
WRA ScP **ScP** **19 52 57.7 -2.0**
comp=Z,3.3nm,0.8s,baz=314,slow=5.8,SNR=4.9
WRA S **S** **19 55 47.7 -2.2**
comp=Z,13nm,1.3s,baz=317,slow=12,SNR=11
WRA ScS **ScS** **19 57 48.8 -2.5**
comp=Z,6.5nm,1.2s,baz=307,slow=6.4,SNR=8.7
WRA PKP2bc 20 18 27.9
comp=Z,4.4nm,0.9s,baz=130,slow=2.0,SNR=6.0
WRA PKP2ab 20 18 51.0
comp=Z,7.2nm,0.9s,baz=134,slow=1.9,SNR=6.6
WRAB Tennant Creek 55.68 134 *e*P **P** **19 48 09.7 -0.2**
WRAB pmax pmax
comp=Z,153nm,1.4s
WRAB Tennant Creek 55.68 134 *e*P **P** **19 48 09.7 -0.2**
comp=Z,153nm,1.4s
WRAB Tennant Creek 55.68 134 P **P** **19 48 10.0 +0.1**
comp=Z,339nm,1.3s,SNR=22
MAMC Mammari 55.70 299 P **P** **19 48 10.6 +0.7**
KLMR Klimovskoe 55.73 331*d i*P **P** **19 48 08.5 -1.2**
KLMR *e**PP **pP** **19 48 30.6 -0.5**
KLMR *e* 19 50 11.2
KLMR *e*S **S** **19 55 46.1 -3.4**
KLMR *e* 19 57 50.3
KLMR pmax pmax
comp=Z,280nm,1.5s
BBAL Bala 55.73 305 *i* P **P** **19 48 10.2 -0.1**
AFSR Af'ar-Bala (A 55.77 304 *e*P **P** **19 48 09.2 -1.4**
ERMK Ermenek 55.90 301 *i* P **P** **19 48 11.5 -0.1**
LEF Lefka 55.97 299 *e*P **P** **19 48 12.2 +0.4**
SZAC Souni-Zanaja 55.99 299 P **P** **19 48 12.8 +0.8**
comp=Z,8.0nm,1.3s
ANTO Ankara 55.99 305 *e*P **P** **19 48 12.0 0.0**
ANTO Ankara 55.99 305 ⇓P **P** **19 48 12.5 +0.5**
ANTO Ankara 55.99 305 *e*P **P** **19 48 12.2 +0.2**
comp=Z,242nm,1.0s
ANTO Ankara 55.99 305 ⇓*i*P **P** **19 48 12.5 +0.5**
SAFT Safranbolu 56.11 307 *e*P **P** **19 48 13.4 +0.6**
ALFC Alevga 56.20 299 P **P** **19 48 13.2 -0.4**
comp=Z,6.1nm,0.9s
HDMB Hadim 56.24 301 *e*P **P** **19 48 11.2 -2.9**
KONT Konya--Tatoy 56.33 303 *e*P **P** **19 48 14.1 -0.3**
PPCY Paphos 56.42 299 P **P** **19 48 15.1 0.0**
AKMC Akamas 56.43 299 P **P** **19 48 15.1 -0.1**
KIZT Kizilcal 56.70 304 *e*P **P** **19 48 16.7 -0.4**
SVRH Sivrihisar-ESK 56.97 304 *e*P **P** **19 48 18.5 -0.5**
KDZE Karadeniz Ereo 57.05 307 *e*P **P** **19 48 19.3 -0.1**
NWAO Narrogin (SRO) 57.16 158 *e*P **P** **19 48 20.1 0.0**
comp=Z,100nm,0.6s
NWAO Narrogin (SRO) 57.16 158 LR LR 20 14 41.8
comp=Z,720nm,21.6s,baz=327,slow=38
MDUB Mudurnu 57.22 306 *e*P **P** **19 48 19.3 -1.5**
SUTC Sutluce-Ispart 57.41 302 *e*P **P** **19 48 21.7 -0.6**
SEY Seymchan 57.43 27*c i*P **P** **19 48 20.4 -1.3**
SEYT Eskypehyr 57.49 304 *i* P **P** **19 48 22.2 -0.5**
TMCR Tamitsa 57.58 334 *e*P **P** **19 48 22.7 0.0**
TMCR *e* 19 50 32.4
TMCR pmax pmax
comp=Z,227nm,1.1s
PETK Petropavlovsk- 57.69 39 P **P** **19 48 23.7 0.0**
PETK Petropavlovsk- 57.69 39 P **P** **19 48 23.7 0.0**
PETK ScP **ScP** **19 53 06.6 -1.5**
PETK Petropavlovsk- 57.69 39 P **P** **19 48 23.7 0.0**
comp=Z,22nm,1.0s,baz=242,slow=3.2,SNR=9.9
PETK ScP **ScP** **19 53 06.6 -1.5**
comp=Z,7.7nm,0.9s,baz=212,slow=5.1,SNR=4.3
PETK LR LR 20 14 00.7
comp=Z,849nm,21.1s,baz=257,slow=37
BCK Bucak 57.74 302 *e*P **P** **19 48 22.1 -2.4**
GULT Gulveren 57.74 306 *e*P **P** **19 48 24.4 0.0**
ISP Isparta 57.78 302 *e*P **P** **19 48 23.4 -1.3**
ISP Isparta 57.78 302 P **P** **19 48 24.5 -0.3**
ISP Isparta 57.78 302 ⇓P **P** **19 48 24.4 -0.3**
ISP Isparta 57.78 302 *e*P **P** **19 48 24.0 -0.8**
comp=Z,302nm,1.1s
ISP Isparta 57.78 302 ⇓*i*P **P** **19 48 24.4 -0.3**
SPNC Sapanca-Adapaz 57.90 306 *e*P **P** **19 48 25.6 +0.2**
GPA Golpazari 57.90 305 *e*P **P** **19 48 25.2 -0.3**
KORT Korkueli 57.95 302 *i* P **P** **19 48 25.8 -0.2**
ASAR Alice Springs 58.00 137 P **P** **19 48 26.9 +0.5**
ASAR ScP **ScP** **19 53 07.5 -2.4**
ASAR S **S** **19 56 17.2 -3.3**
ASAR ScS **ScS** **19 58 05.6 -2.5**
ASAR ⇑*e* 20 18 21.1
ASAR P'P'ab **P'P'ab** **20 18 34.0 +0.2**
ASAR Alice Springs 58.00 137 P **P** **19 48 26.9 +0.5**
comp=Z,18nm,0.7s,baz=318,slow=7.0,SNR=185
ASAR ScP **ScP** **19 53 07.6 -2.4**
comp=Z,3.8nm,0.7s,baz=320,slow=5.2,SNR=5.2
ASAR S **S** **19 56 17.2 -3.3**
comp=Z,1.9nm,1.1s,baz=317,slow=9.4,SNR=3.7
ASAR ScS **ScS** **19 58 05.6 -2.5**
comp=Z,7.9nm,1.2s,baz=310,slow=7.0,SNR=8.0
ASAR PKP2bc 20 18 21.1
comp=Z,3.1nm,0.8s,baz=128,slow=2.6,SNR=12
ASAR PKP2ab 20 18 34.0
comp=Z,4.5nm,0.9s,baz=132,slow=2.4,SNR=7.2
PET Petropavlovsk 58.25 40*c i*P **P** **19 48 28.2 +0.6**
PET *e*S **S** **19 56 22.2 -0.7**
PET pmax pmax
comp=Z,116nm,1.0s
PET MLR MLR
comp=Z,2μm,21.0s
CAVI Cavuskoy 58.26 305 *e*P **P** **19 48 31.1 +3.1**
ELL Elmali 58.31 301 *e*P **P** **19 48 27.9 -0.6**
ADVT Abdulvahap 58.34 306 *e*P **P** **19 48 27.6 -0.9**
HRT Hereke 58.39 306 *e*P **P** **19 48 28.7 -0.1**
COEN Coen 58.48 122 *e*P **P** **19 48 29.3 -0.5**
comp=Z,231nm,0.9s
KHL Karahalli 58.55 303 *e*P **P** **19 48 29.3 -0.8**
GDZ Gediz 58.56 304 *i* P **P** **19 48 29.0 -1.2**
AKAS Kas 58.59 301 *i* P **P** **19 48 29.0 -1.4**
ISK Istanbul-Kandi 58.84 306 *e*P **P** **19 48 31.9 -0.1**
ISK Istanbul-Kandi 58.84 306 P **P** **19 48 32.2 +0.2**
ISK Istanbul-Kandi 58.84 306 P **P** **19 48 32.2 +0.2**
ISK Istanbul-Kandi 58.84 306 P **P** **19 48 32.2 +0.2**
KLYT Kilyos 58.86 307 *e*P **P** **19 48 32.6 +0.6**
DENT Denizli 58.96 302 *e*P **P** **19 48 31.9 -1.0**
FETY Fethiye 58.98 301 *e*P **P** **19 48 31.1 -1.9**
ORLT Orhaneli 58.99 305 *e*P **P** **19 48 31.5 -1.6**
MDNY Mudanya-Bursa 58.99 305 *e*P **P** **19 48 31.9 -1.1**
ARMT Armutlu 59.00 306 *e*P **P** **19 48 32.3 -0.8**
TLCR 59.06 311 ⇑P **P** **19 48 33.4 +0.1**
TLCR 59.06 311 ⇑*i*P **P** **19 48 33.4 +0.1**
BGKT Bogazkoy 59.06 306 *e*P P 19 48 38.6 +5.1
AKASG Malin Array Be 59.12 318 P **P** **19 48 32.5 -1.1**
AKASG *PP **pP** **19 48 54.4 -0.9**
AKASG S **S** **19 56 31.0 -3.2**
AKASG Malin Array Be 59.12 318 P **P** **19 48 32.5 -1.1**
AKASG pP **pP** **19 48 54.4 -0.9**
AKASG S **S** **19 56 31.0 -3.2**
AKASG Malin Array Be 59.12 318 P **P** **19 48 32.5 -1.1**
comp=Z,28nm,0.7s,baz=74,slow=7.2,SNR=119
AKASG pP **pP** **19 48 54.4 -0.9**
comp=Z,62nm,0.7s,baz=78,slow=6.9,SNR=12
AKASG S **S** **19 56 31.0 -3.2**
comp=Z,12nm,0.9s,baz=90,slow=13,SNR=17
AKASG LR LR 20 18 26.9
comp=Z,972nm,20.5s,baz=105,slow=40
KIEV Kiev 59.12 318 *e*P **P** **19 48 32.5 -1.2**
KIEV pmax pmax
comp=Z,110nm,0.9s
KIEV Kiev 59.12 318 *e*P **P** **19 48 32.5 -1.2**
comp=Z,110nm,0.9s
KIS Kishinev 59.12 313 *e*P **P** **19 48 33.0 -0.8**
KIS Kishinev 59.12 313 *i* PcP **pP** **19 48 54.0 -1.4**
KIS *i* S **S** **19 56 30.0 -4.5**
KIS Kishinev 59.12 313 *e*P **P** **19 48 33.0 -0.8**
KIS *i* 19 48 54.0
KIS *i* S **S** **19 56 30.0 -4.5**
KIS *i* 19 58 12.0
KIS Kishinev 59.12 313⇑*i*P pP 19 48 56.1 +0.7
DST Dursunbey 59.21 305 *e*P **P** **19 48 33.1 -1.6**
KULA Kula-Manisa 59.22 303 *e*P **P** **19 48 33.5 -1.3**

CTKS	Kestanelik-??a	59.26 307	eP	P	19 48 35.8	+1.0
DALY	Dalyan (Mu˙la	59.32 301	eP	P	19 48 33.9	-1.4
TIRR	Tirgusor	59.33 310	⇑P	P	19 48 35.5	+0.3
TIRR	Tirgusor	59.33 310	eP	P	19 48 35.4	+0.2
	comp=Z,75nm,0.9s					
TIRR	Tirgusor	59.33 310	⇑iP	P	19 48 35.5	+0.3
PMG	Port Moresby	59.34 115	eP	P	19 48 36.5	+0.7
	comp=Z,60nm,0.9s					
PMG	Port Moresby	59.34 115	LR	LR	20 16 58.2	
	comp=Z,231nm,19.6s,baz=144,slow=39					
KCTX	Karacabey (Bur	59.40 305	eP	P	19 48 33.9	-2.0
CTYL	Yal??k??y-??at	59.42 307	eP	P	19 48 32.7	-3.2
SLVT	Silivri	59.48 307	eP	P	19 48 36.2	-0.2
LEOM	Leova	59.50 313	⇓P	P	19 48 35.9	-0.4
LEOM	Leova	59.50 313	⇓iP	P	19 48 35.9	-0.4
CFR	Carcaliu	59.54 311	⇑P	P	19 48 37.3	+0.7
CFR	Carcaliu	59.54 311	⇑iP	P	19 48 37.3	+0.7
YER	Yerkesik	59.59 302	eP	P	19 48 37.0	-0.3
HARR	Harsova	59.68 311	⇓P	P	19 48 38.4	+0.8
HARR	Harsova	59.68 311	⇓iP	P	19 48 38.4	+0.8
BALB	Balikesir	59.78 305	eP	P	19 48 38.2	-0.3
PUL	Pulkovo	59.82 328	iP	P	19 48 39.0	+0.7
PUL			pmax	pmax		
	comp=Z,102nm,0.4s					
AYDN	Tasoluk	59.88 302	iP	P	19 48 38.4	-0.9
GONE	Gonen-Balikesi	59.92 305	eP	P	19 48 39.0	-0.4
BALY	Balya	59.98 305	iP	P	19 48 39.0	-0.8
IAS	Iasi	59.99 313	⇓P	P	19 48 40.2	+0.5
IAS	Iasi	59.99 313	⇓iP	P	19 48 40.2	+0.5
PHSR	Pinarhisar	59.99 307	eP	P	19 48 40.1	+0.3
JOF	Joensuu	60.06 332	eP	P	19 48 39.9	0.0
JOF			pmax	pmax		
	comp=Z,80nm,0.5s					
GHRR		60.07 312	⇓iP	P	19 48 41.7	+1.4
PETR	Petresti	60.18 312	⇓iP	P	19 48 42.8	+1.7
LVZ	Lovozero	60.20 338	ceP	P	19 48 40.5	-0.4
LVZ			pmax	pmax		
	comp=Z,173nm,0.9s					
LVZ	Lovozero	60.20 338	P	P	19 48 40.2	-0.7
	comp=Z,982nm,0.9s,SNR=10					
BDRM	Kayabasi	60.27 302	iP	P	19 48 41.0	-0.9
KMBO	Kilima Mbogo	60.28 256	eP	P	19 48 42.6	+0.1
KMBO	Kilima Mbogo	60.28 256	P	P	19 48 43.0	+0.4
	SNR=25					
KMBO	Kilima Mbogo	60.28 256	eP	P	19 48 42.4	-0.2
	comp=Z,84nm,1.1s					
KMBO			pP	pP	19 49 04.4	+0.1
KMBO			ScP	ScP	19 53 21.1	+0.5
KMBO	Kilima Mbogo	60.28 256	P	P	19 48 43.1	+0.6
	comp=Z,52nm,1.0s,baz=50,slow=11,SNR=97					
KMBO			pP	pP	19 49 04.4	+0.1
	comp=Z,23nm,0.7s,baz=46,slow=11,SNR=7.2					
KMBO			ScP	ScP	19 53 21.1	+0.5
	comp=Z,4.4nm,0.9s,baz=59,slow=23,SNR=4.2					
KMBO			LR	LR	20 11 44.1	
	comp=Z,1μm,21.3s,baz=94,slow=33					
MICGM	Minsk	60.31 322	⇓eP	P	19 48 39.0	-2.8
MNK	Minsk	60.34 322	⇓eP	P	19 48 39.0	-3.0
MNK			e		19 56 42.0	
MNK			pmax	pmax		
	comp=Z,270nm,1.0s					
PGOR	Pogoanele	60.35 311	⇓iP	pP	19 49 07.6	+3.6
GRER		60.36 311	⇑iP	pP	19 49 08.5	+4.5
VRI	Vrincioaia	60.54 312	⇓P	P	19 48 44.5	+1.0
VRI	Vrincioaia	60.54 312	⇓iP	P	19 48 44.5	+1.0
APA	Apatity	60.54 337	⇓iP	P	19 48 42.8	-0.3
APA			i		19 49 21.0	
APA			i		19 50 54.0	
APA			iS	S	19 56 46.0	-6.0
APA			i		19 58 25.0	
APA			iSS	SS	20 00 55.0	+3.9
APA			pmax	pmax		
	comp=Z,11nm,0.9s					
APA			MLR	MLR		
	comp=Z,2μm,21.0s					
PLOR	Plostina	60.59 312	⇓P	P	19 48 45.1	+1.2
PLOR	Plostina	60.59 312	⇓iP	P	19 48 45.1	+1.2
KARP	Karpathos	60.61 300	P	P	19 48 44.2	-0.1
KARP	Karpathos	60.61 300	P	P	19 48 44.2	-0.1
ISR	Istrita	60.66 311	⇓P	P	19 48 46.0	+1.5
ISR	Istrita	60.66 311	⇓iP	P	19 48 46.0	+1.5
JMB	Yambol	60.67 308	P	P	19 48 45.8	+1.3
JMB	Yambol	60.67 308	P	P	19 48 45.8	+1.3
JMB	Yambol	60.67 308	P	P	19 48 45.8	+1.3
SMG	Samos	60.70 303	P	P	19 48 44.9	+0.1
SMG	Samos	60.70 303	P	P	19 48 44.9	+0.1
PRAR	RASCA	60.90 314	⇑iP	P	19 48 46.4	+0.4
ABPO	Ambohimpanom	60.93 233	P	P	19 48 47.3	+0.6
	comp=Z,156nm,1.1s,SNR=6.4					
ABPO	Ambohimpanom	60.93 233	eP	P	19 48 46.1	-0.6
ABPO			pmax	pmax		
	comp=Z,119nm,1.1s					
ABPO	Ambohimpanom	60.93 233	eP	P	19 48 46.1	-0.6
	comp=Z,119nm,1.1s					
NACGM	Naroch	60.99 322	eP	P	19 48 44.0	-2.4
SECR		61.00 311	⇑iP	P	19 48 58.6	+12
IDID	Didziasalis	61.06 323	eP	P	19 48 46.9	+0.1
IDID			AMB	AMB	19 49 30.7	
	comp=Z,57nm,1.4s					
MLR	Muntele Rosu	61.09 311	P	P	19 48 47.8	+0.4
MLR			pP	pP	19 49 10.0	+0.8
MLR	Muntele Rosu	61.09 311	⇓iP	P	19 48 48.6	+1.2
MLR	Muntele Rosu	61.09 311	P	P	19 48 47.8	+0.4
	comp=Z,13nm,0.7s,baz=168,slow=1.4,SNR=113					
MLR			pP	pP	19 49 10.0	+0.8
	comp=Z,53nm,0.9s,baz=51,slow=5.1,SNR=13					
MLR			LR	LR	20 20 56.3	
	comp=Z,210nm,20.1s,baz=293,slow=42					
ALN	Alexandroupoli	61.13 306	P	P	19 48 47.5	-0.1
ALN	Alexandroupoli	61.13 306	P	P	19 48 47.5	-0.1
ALN	Alexandroupoli	61.13 306	P	P	19 48 47.5	-0.1
CHOS	Chios island	61.27 303	P	P	19 48 49.5	+0.8
CHOS	Chios island	61.27 303	P	P	19 48 49.5	+0.8
IIGN	Ignalina	61.35 323	eP	P	19 48 49.0	+0.1
IIGN			AMB	AMB	19 49 32.3	
	comp=Z,79nm,1.1s					
VSU	Vasula	61.43 326	ciP	P	19 48 49.0	-0.3
VSU			pmax	pmax		
	comp=Z,96nm,0.8s					
ISAL	Salakas	61.43 323	eP	P	19 48 49.5	+0.1
ISAL			AMB	AMB	19 49 33.1	
	comp=Z,57nm,1.2s					
DOPR	Dopca	61.47 312	⇑iP	P	19 48 51.1	+1.2
RDO	Rodhopi	61.50 306	P	P	19 48 50.1	0.0
RDO	Rodhopi	61.50 306	P	P	19 48 50.1	0.0
SMTH	Samothraki Isl	61.54 306	P	P	19 48 50.6	+0.2
SMTH	Samothraki Isl	61.54 306	P	P	19 48 50.6	+0.2
KDZ	Kurdzhali	61.57 307	eP	P	19 48 51.2	+0.6
KDZ			iPg	pP	19 49 13.8	+1.4
MTUR	Matau	61.71 311	⇑P	P	19 48 59.5	+7.9
MTUR	Matau	61.71 311	⇑iP	P	19 48 59.5	+7.9
VOIR		61.72 311	⇑P	P	19 48 51.9	+0.3
VOIR		61.72 311	⇑iP	P	19 48 51.9	+0.3
HUMR	Humele	61.78 310	⇑iP	P	19 48 52.6	+0.6
GOLR		61.79 311	⇑iP	pP	19 49 16.0	+2.2
LIA	Limnos Island	61.84 305	P	P	19 48 52.3	-0.1
LIA	Limnos Island	61.84 305	P	P	19 48 52.3	-0.1
NPS	Neapolis	61.90 300	P	P	19 48 53.4	+0.5
NPS	Neapolis	61.90 300	P	P	19 48 53.4	+0.5
NPS	Neapolis	61.90 300	P	P	19 48 53.4	+0.5
SANT	Santorini	61.91 301	P	P	19 48 52.7	-0.3
SANT	Santorini	61.91 301	eP	P	19 48 52.0	-1.0
	comp=Z,85nm,0.7s					
SANT			epP	pP	19 49 14.6	-0.2
THR1	Thera Island	61.91 301	P	P	19 48 52.6	-0.4
THR3	Thira Island,	61.96 301	P	P	19 48 53.1	-0.1
THR3	Thira Island,	61.96 301	P	P	19 48 53.1	-0.1
ARR	Arges	62.01 311	⇓iP	P	19 48 54.4	+0.8
LAST	Lasithi	62.02 300	P	P	19 48 54.2	+0.4
LAST	Lasithi	62.02 300	P	P	19 48 54.2	+0.4
PLD	Plovdiv	62.08 308	P	P	19 48 54.5	+0.5
PLD	Plovdiv	62.08 308	P	P	19 48 54.5	+0.5
PLD	Plovdiv	62.08 308	P	P	19 48 54.5	+0.5
RZN	Rozhen	62.09 307	eP	P	19 48 55.2	+0.9
RZN			iPg	pP	19 49 12.3	-3.8
KAF	Kangasniemi	62.17 330	eP	P	19 48 54.1	-0.1
KAF			pmax	pmax		
	comp=Z,42nm,0.7s					
FIA1	FINESS Array S	62.17 330	eP	P	19 48 53.5	-0.7
MDB	Medias	62.17 312	⇓P	P	19 48 56.9	+2.4
MDB	Medias	62.17 312	⇓iP	P	19 48 56.9	+2.4
FINES	FINESS Array B	62.17 330	P	P	19 48 53.6	-0.6
FINES			pP	pP	19 49 15.5	-0.6
FINES			ScS	ScS	19 58 41.5	+3.5
FINES	FINESS Array B	62.17 330	P	P	19 48 53.6	-0.6
	comp=Z,57nm,0.8s,baz=101,slow=5.8,SNR=150					
FINES			pP	pP	19 49 15.5	-0.6
	comp=Z,22nm,0.6s,baz=103,slow=7.1,SNR=4.4					
FINES			ScS	ScS	19 58 41.5	+3.5
	comp=Z,7.7nm,1.0s,baz=75,slow=5.9,SNR=4.1					
FINES			LR	LR	20 19 13.0	
	comp=Z,1μm,20.9s,baz=90,slow=39					
ARCR	ARCALIA	62.18 313	⇓iP	P	19 48 56.2	+1.6
KAVA	Kavala	62.28 306	P	P	19 48 55.5	+0.1
KAVA	Kavala	62.28 306	P	P	19 48 55.5	+0.1
LVV	L'vov	62.40 316	eP	P	19 48 55.8	-0.2
LVV			e		19 49 17.2	
LVV			e		19 49 31.6	
LVV			eS	S	19 57 12.9	-3.2
LVV			e		19 57 47.2	
LVV			MLR	MLR		
	comp=E,300nm,16.0s					
LVV			MLR	MLR		
	comp=Z,300nm,16.0s					
LVV			MLR	MLR		
	comp=N,300nm,17.0s					
IDI	Anoyia	62.48 300	P	P	19 48 56.4	-0.5
IDI	Anoyia	62.48 300	eP	P	19 48 56.5	-0.4
	comp=N,347nm,1.1s					
IDI			epP	pP	19 49 18.5	-0.3
LOT	Lotru	62.62 311	⇑iP	P	19 48 57.9	+0.2
MPEP	Malo Peshtene	62.72 309	eP	P	19 48 59.0	+0.7
MPEP			iPg	pP	19 49 20.6	+0.5
OUR	Ouranopolis	62.73 306	P	P	19 48 58.2	-0.1
OUR	Ouranopolis	62.73 306	P	P	19 48 58.2	-0.1
OUR	Ouranopolis	62.73 306	P	P	19 48 58.2	-0.1
NVR	Nevrokopi	62.75 307	P	P	19 48 58.4	-0.1
NVR	Nevrokopi	62.75 307	P	P	19 48 58.4	-0.1
MMB	Musomiste	62.84 307	eP	P	19 48 58.2	-0.9
MMB			iPg	pP	19 49 19.6	-1.4
AOS	Alonnisos	62.91 304	P	P	19 48 59.4	-0.1
AOS	Alonnisos	62.91 304	P	P	19 48 59.4	-0.1
SRS	Serrai	62.97 307	P	P	19 48 59.6	-0.4
SRS	Serrai	62.97 307	P	P	19 48 59.6	-0.4
SRS	Serrai	62.97 307	P	P	19 48 59.6	-0.4
PAIG	Paliouri	63.00 305	P	P	19 49 00.4	+0.3
PAIG	Paliouri	63.00 305	P	P	19 49 00.4	+0.3
PAIG	Paliouri	63.00 305	P	P	19 49 00.4	+0.3
PTL	Penteli	63.02 303	P	P	19 48 59.9	-0.5
PTL	Penteli	63.02 303	P	P	19 48 59.9	-0.5
ERET	Eretria	63.03 304	P	P	19 49 00.2	-0.3
SUW	Suwalki	63.03 321	eP	P	19 49 00.3	+0.3
SUW			pmax	pmax		
	comp=Z,171nm,0.8s					
SUW	Suwalki	63.03 321	eP	P	19 49 00.3	+0.3
	comp=Z,171nm,0.8s					
SUW	Suwalki	63.03 321	eP	P	19 48 59.5	-0.5
SUW			epP	pP	19 49 20.3	-1.6
SUW			eS	S	19 57 19.7	-4.1
SUW			esS	sS	19 58 03.0	+1.9
SUW			eScS	ScS	19 58 45.0	+0.2
SUW			LMZ	LR	20 15 42.7	
ATHU	Athens Univers	63.09 303	P	P	19 48 59.9	-0.9
ATHU	Athens Univers	63.09 303	P	P	19 48 59.9	-0.9
PLG	Polygyros	63.14 306	P	P	19 49 01.2	+0.1
PLG	Polygyros	63.14 306	P	P	19 49 01.2	+0.1
PLG	Polygyros	63.14 306	P	P	19 49 01.2	+0.1
VTS	Vitosha	63.16 308	P	P	19 49 01.7	+0.4
VTS	Vitosha	63.16 308	⇓P	P	19 49 01.6	+0.3
VTS	Vitosha	63.16 308	P	P	19 49 01.7	+0.4
VTS	Vitosha	63.16 308	⇓iP	P	19 49 01.6	+0.3
VTS	Vitosha	63.16 308	eP	P	19 49 01.6	+0.3
VTS			iPg	pP	19 49 22.6	-0.6
SOH	Sokhos	63.17 306	P	P	19 49 00.9	-0.4
SOH	Sokhos	63.17 306	P	P	19 49 00.9	-0.4
SOH	Sokhos	63.17 306	P	P	19 49 00.9	-0.4
MRKA	Markates	63.17 304	P	P	19 49 01.7	+0.3
GVD	Gavdhos	63.19 300	P	P	19 49 01.2	-0.3
GVD	Gavdhos	63.19 300	eP	P	19 49 01.1	-0.4
SKIA	Skiathos	63.23 304	P	P	19 49 01.5	-0.2
KWP	Kalwaria Pacla	63.26 316	⇓P	P	19 49 02.6	+0.9
KWP	Kalwaria Pacla	63.26 316	eP	P	19 49 01.5	-0.2
	comp=Z,287nm,0.9s					
KWP			epP	pP	19 49 21.3	-2.3
KWP	Kalwaria Pacla	63.26 316	⇓iP	P	19 49 02.6	+0.9
KWP	Kalwaria Pacla	63.26 316	eP	P	19 49 02.4	+0.7
KWP			epP	pP	19 49 24.2	+0.6
KWP			eS	S	19 57 24.4	-2.5
KWP			esS	sS	19 58 06.4	+2.2
KWP			LMZ	LR	20 17 19.5	
KARN	Karanos	63.26 300	P	P	19 49 02.0	0.0
KARN	Karanos	63.26 300	P	P	19 49 02.0	0.0
KKB	Krupnik	63.30 307	eP	P	19 49 05.5	+3.4
KKB			iPg	pP	19 49 23.0	-1.0
DRGR		63.31 313	⇑P	P	19 49 03.2	+1.0
DRGR		63.31 313	⇑iP	P	19 49 03.2	+1.0
HORT	Hortiatis	63.38 306	P	P	19 49 02.4	-0.4
HORT	Hortiatis	63.38 306	P	P	19 49 02.4	-0.4
TRPA	Tarpa	63.39 314	⇑iP	P	19 49 03.1	+0.6
XOR	Xorichti	63.42 305	P	P	19 49 02.8	-0.2
XOR	Xorichti	63.42 305	P	P	19 49 02.8	-0.2
THE	Thessaloniki	63.48 306	P	P	19 49 02.6	-0.7
THE	Thessaloniki	63.48 306	P	P	19 49 02.6	-0.7
THE	Thessaloniki	63.48 306	P	P	19 49 02.6	-0.7
KNT	Kendrikon	63.49 307	P	P	19 49 02.8	-0.6
KNT	Kendrikon	63.49 307	P	P	19 49 02.8	-0.6
KNT	Kendrikon	63.49 307	P	P	19 49 02.8	-0.6
UZH	Uzhgorod	63.54 315	eP	P	19 49 03.4	-0.2
UZH			eSP	pP	19 49 25.0	-0.5
UZH			e		19 49 38.6	
UZH			e		19 51 21.8	
UZH			iS	S	19 57 26.2	-4.2
UZH			eSP	SPn	19 57 47.3	+1.8
UZH			e		19 58 45.8	
KOLS	Kolonicke sedl	63.55 315	eP	P	19 49 04.2	+0.6
KOLS			pmax	pmax		
	comp=Z,10.0nm,1.3s					
KOLS	Kolonicke sedl	63.55 315	eP	P	19 49 04.2	+0.6
KOLS			epP	pP	19 49 25.2	-0.3
ANKY	Antikythira Is	63.70 301	P	P	19 49 04.8	-0.1
ANKY	Antikythira Is	63.70 301	P	P	19 49 04.8	-0.1
VAY	Valandovo	63.72 307	iPn	P	19 49 01.3	-3.6
VAY			iSn	pP	19 49 27.0	+0.2
LTK	Loutraki	63.73 303	P	P	19 49 03.0	-2.0
LTK	Loutraki	63.73 303	P	P	19 49 03.0	-2.0
ACOR	Acrocorinthos	63.82 303	P	P	19 49 02.2	-3.4
ARCES	ARCESS Array B	63.87 338	P	P	19 49 05.4	+0.1
ARCES			pP	pP	19 49 26.6	-0.7
ARCES	ARCESS Array B	63.87 338	P	P	19 49 05.4	+0.1
	comp=Z,30nm,0.5s,baz=84,slow=7.6,SNR=264					
ARCES			pP	pP	19 49 26.6	-0.7
	comp=Z,24nm,0.6s,baz=79,slow=6.3,SNR=5.0					
ARCES			LR	LR	20 21 31.7	
	comp=Z,907nm,20.5s,baz=107,slow=40					
ARE0	ARCESS Array S	63.87 338	eP	P	19 49 04.9	-0.4
ARE0			epP	pP	19 49 26.3	-1.0
ARE0	ARCESS Array S	63.87 338	eP	P	19 49 05.1	-0.2
GRG	Griva	63.88 306	P	P	19 49 05.5	-0.5
GRG	Griva	63.88 306	P	P	19 49 05.5	-0.5
GRG	Griva	63.88 306	P	P	19 49 05.5	-0.5
AXAR	Agios Charalam	63.89 304	P	P	19 49 05.0	-1.1
AXAR	Agios Charalam	63.89 304	P	P	19 49 05.0	-1.1
SIRR	Siria	64.06 312	⇑iP	P	19 49 08.2	+1.2
AGG	Agios Georgios	64.12 304	P	P	19 49 06.3	-1.3
AGG	Agios Georgios	64.12 304	P	P	19 49 06.3	-1.3
AGG	Agios Georgios	64.12 304	P	P	19 49 06.3	-1.3
BZS	Buzias	64.12 312	⇑P	P	19 49 08.0	+0.6
BZS	Buzias	64.12 312	⇑iP	P	19 49 08.0	+0.6
STHS	Stebnicka Huta	64.21 316	eP	P	19 49 08.6	+0.6
STHS			pmax	pmax		
	comp=Z,8.0nm,0.7s					
STHS	Stebnicka Huta	64.21 316	eP	P	19 49 08.6	+0.6
STHS			epP	pP	19 49 30.3	+0.4
GUR	Goura	64.23 303	P	P	19 49 07.0	-1.4
GUR	Goura	64.23 303	P	P	19 49 07.0	-1.4
VLX	Vlachokerasia	64.26 302	P	P	19 49 08.2	-0.4
VLX	Vlachokerasia	64.26 302	P	P	19 49 08.2	-0.4
MAKR	Makrakomi, Fth	64.27 304	P	P	19 49 07.4	-1.2
MAKR	Makrakomi, Fth	64.27 304	P	P	19 49 07.4	-1.2
THL	Klokotos Trika	64.31 305	P	P	19 49 07.3	-1.4
KLV	Kalavryta, Ach	64.37 303	P	P	19 49 08.2	-1.1
KLV	Kalavryta, Ach	64.37 303	P	P	19 49 08.2	-1.1
CTAO	Charters Tower	64.41 125	eP	P	19 49 10.5	+0.9
CTAO			pmax	pmax		
	comp=Z,27nm,0.9s					
CTAO	Charters Tower	64.41 125	eP	P	19 49 10.5	+0.9
	comp=Z,26nm,0.9s					
KZN	Kozani	64.42 306	P	P	19 49 08.9	-0.7
KZN	Kozani	64.42 306	P	P	19 49 08.9	-0.7
KZN	Kozani	64.42 306	P	P	19 49 08.9	-0.7
BEL	Belsk	64.45 319	eP	P	19 49 10.0	+0.6
BEL			epP	pP	19 49 31.1	-0.3
BEL			eS	S	19 57 39.7	-1.8
BEL			LMZ	LR	20 20 09.0	
LAKA	Lakka	64.48 303	P	P	19 49 07.9	-2.0
LAKA	Lakka	64.48 303	P	P	19 49 07.9	-2.0
SKO	Skopje	64.51 308	iPn	P	19 49 11.3	+1.2
EVR	Evrytania	64.53 304	P	P	19 49 08.9	-1.5
EVR	Evrytania	64.53 304	P	P	19 49 08.9	-1.5
KTK1	Kautokeino	64.56 338	eP	P	19 49 09.1	-0.8
ITM	Ithomi	64.64 302	P	P	19 49 09.6	-1.4
ITM	Ithomi	64.64 302	P	P	19 49 09.6	-1.4
FNA	Florina	64.67 306	P	P	19 49 10.4	-0.8
FNA	Florina	64.67 306	P	P	19 49 10.4	-0.8
FNA	Florina	64.67 306	P	P	19 49 10.4	-0.8
BIA	Bitola	64.69 307	iPn	P	19 49 10.6	-0.7
KECS	Kecovo	64.75 315	eP	P	19 49 12.0	+0.5
KECS			pmax	pmax		
	comp=Z,6.0nm,1.1s					
KECS	Kecovo	64.75 315	eP	P	19 49 12.0	+0.5
KECS			epP	pP	19 49 33.8	+0.4
AMT	Artemida-Makis	64.77 303	P	P	19 49 11.1	-0.8
NIE	Niedzica	64.82 316	eP	P	19 49 13.4	+1.4
NIE			e*PP	pP	19 49 35.2	+1.3
NIE	Niedzica	64.82 316	eP	P	19 49 13.4	+1.4
NIE			epP	pP	19 49 35.2	+1.3
NEST	Nestorio	64.96 306	P	P	19 49 11.8	-1.3
OJC	Ojcow	65.12 317	eP	P	19 49 14.2	+0.3
OJC			e*PP	pP	19 49 35.9	0.0
OJC	Ojcow	65.12 317	eP	P	19 49 14.2	+0.3
OJC			epP	pP	19 49 35.9	0.0
KBN	Korca	65.13 306	eP	P	19 49 13.9	-0.3
PSZ	Piszkesteto	65.17 314	⇑P	P	19 49 13.8	-0.5
PSZ	Piszkesteto	65.17 314	eP	P	19 49 14.8	+0.5
	comp=Z,117nm,1.2s					
PSZ			epP	pP	19 49 36.5	+0.2
PSZ	Piszkesteto	65.17 314	⇑iP	P	19 49 13.8	-0.5
PSZ	Piszkesteto	65.17 314	⇑eP	P	19 49 14.9	+0.5
PSZ					19 49 36.9	
PHP	Peshkopia	65.28 307	eP	P	19 49 14.6	-0.5
PHP	Peshkopia	65.28 307	P	P	19 49 14.7	-0.5
PHP	Peshkopia	65.28 307	P	P	19 49 14.7	-0.5
PHP	Peshkopia	65.28 307	P	P	19 49 14.7	-0.5
DIVS	Divibare	65.38 310	P	P	19 49 15.9	+0.1
LKD2	Lefkada island	65.44 304	P	P	19 49 14.8	-1.4
LKD2	Lefkada island	65.44 304	P	P	19 49 14.8	-1.4
PVY	Plav	65.55 308	eP	P	19 49 16.3	-0.6
IVA	Berane	65.57 309	eP	P	19 49 16.5	-0.5
VLS	Valsamata	65.57 304	P	P	19 49 15.8	-1.2
VLS	Valsamata	65.57 304	P	P	19 49 15.8	-1.2
VLS	Valsamata	65.57 304	P	P	19 49 15.8	-1.2
IGT	Igoumenitsa	65.60 305	P	P	19 49 15.6	-1.6
IGT	Igoumenitsa	65.60 305	P	P	19 49 15.6	-1.6
IGT	Igoumenitsa	65.60 305	P	P	19 49 15.6	-1.6
PUK	Puka	65.65 308	eP	P	19 49 16.6	-0.9
PKS7	Kunszentmiklos	65.73 313	e	pP	19 49 40.3	+0.5
PKS2	Kecel	65.73 313	⇑eP	P	19 49 19.9	+2.1
PKS2			e		19 49 40.9	
TIR	Tirane	65.75 307	eP	P	19 49 18.0	-0.1
TIR	Tirane	65.75 307	eP	P	19 49 17.4	-0.7
TIR			e*PP	pP	19 49 38.9	-1.2
TIR			pmax	pmax		
	comp=Z,167nm,0.8s					
TIR	Tirane	65.75 307	eP	P	19 49 17.4	-0.7
	comp=Z,167nm,0.8s					
TIR			epP	pP	19 49 38.9	-1.2
SRN	Sarande	65.82 305	eP	P	19 49 17.4	-1.1
VYHS	Vyhne	65.84 315	eP	P	19 49 18.8	+0.2
VYHS			pmax	pmax		
	comp=Z,9.0nm,1.3s					
VYHS	Vyhne	65.84 315	eP	P	19 49 18.8	+0.2
VYHS			epP	pP	19 49 40.9	+0.3
PLE	Pljevlja	65.89 309	eP	P	19 49 19.3	+0.2
BBOO	Buckleboo	65.94 143	eP	P	19 49 19.0	-0.3
	comp=Z,648nm,0.6s					
MBAR	Mbarara	66.06 260	eP	P	19 49 19.9	-0.8
MBAR	Mbarara	66.06 260	P	P	19 49 20.5	-0.2
	comp=Z,99nm,1.4s,SNR=9.8					
TTG	Podgorica	66.08 308	⇓iP	P	19 49 19.9	-0.3
ULC	Ulcinj	66.14 308	⇓iP	P	19 49 20.1	-0.5
DRME	Dracevica, Mon	66.16 308	⇓iP	P	19 49 20.3	-0.4
OKC	Ostrava-Krasne	66.20 316	eP	P	19 49 21.3	+0.5
OKC			e		19 49 43.0	
OKC			eS	S	19 57 58.9	-4.1
OKC			e		19 58 40.8	
OKC			MLR	MLR		
	comp=Z,500nm,14.9s					
OKC	Ostrava-Krasne	66.20 316	eP	P	19 49 21.3	+0.5
OKC			epP	pP	19 49 43.0	+0.1
OKC			eS	S	19 57 58.9	-4.1
OKC			eXS	sS	19 58 40.8	+0.1
OKC			ex	x	20 05 42.1	
OKC			AMS	AMS	20 21 00.0	
	comp=Z,500nm,14.9s					
PKSG		66.22 314	⇑eP	P	19 49 22.1	+1.1
PKSG			eP	pP	19 49 44.1	+1.1
NKY	Niksic	66.23 309	⇓iP	P	19 49 20.7	-0.6
UPM	Unac-Piva	66.26 309	⇓P	P	19 49 21.3	-0.2
NKME	Niksic	66.27 309	⇓iP	P	19 49 21.0	-0.4
BUM	Brajici-Budva	66.36 308	⇓iP	P	19 49 21.5	-0.6
PKS9	Tamasi	66.37 313	⇓eP	P	19 49 22.3	+0.4
PKS9			eP	pP	19 49 45.0	+1.0
PKST	T˙'s	66.48 314	⇑eP	P	19 49 22.8	+0.2
PKST			eP	pP	19

DPC eS **S** **19 58 16.1 -0.7**
DPC eXS **sS** **19 58 54.5 -0.1**
DPC ex x 20 06 00.8
DPC AMS AMS 20 21 20.0
STEI Steigen 67.39 336 eP **P** **19 49 27.8 -0.2**
BEHE Becsehely 67.41 313⇑ eP **P** **19 49 29.8 +1.2**
BEHE e 19 49 51.3
SOP Sopron 67.43 314⇑ eP **P** **19 49 29.3 +0.6**
UPC Upice 67.52 317 eP **P** **19 49 30.4 +1.2**
UPC e 19 49 51.7
UPC Upice 67.52 317 eP **P** **19 49 30.4 +1.2**
UPC epP **pP** **19 49 51.7 +0.4**
MOR8 Moi Rana 67.68 334 eP **P** **19 49 28.6 -1.3**
MOR8 AMB AMB 19 49 30.7
comp=Z,179nm,1.0s
MOR8 epP **pP** **19 49 49.3 -2.7**
KOGS Kog 67.78 313 i P **P** **19 49 31.6 +0.7**
KOGS epP **pP** **19 49 51.1 -1.9**
KOGS ePP PP 19 52 23.0 +22
KOGS eS **S** **19 58 18.9 -3.1**
KOGS e 19 59 02.6
KOGS i 20 00 04.6
BSD Bornholm Skovb 67.82 322 i P **P** **19 49 30.4 -0.5**
BSD pmax pmax
comp=Z,26nm,0.8s
BSD Bornholm Skovb 67.82 322 i P **P** **19 49 30.4 -0.5**
comp=Z,26nm,0.8s
SPA0 Spitsbergen Ar 67.83 347 eP **P** **19 49 31.3 +0.6**
SPA0 eS **S** **19 58 22.8 +1.1**
SPITS Spitsbergen Ar 67.83 347 P **P** **19 49 31.3 +0.6**
SPITS Spitsbergen Ar 67.83 347 P **P** **19 49 31.3 +0.6**
comp=Z,87nm,0.9s,baz=111,slow=9.0,SNR=30
CONA Conrad Observa 67.87 315⇑ i P **P** **19 49 32.2 +0.6**
comp=Z,37nm,1.2s,SNR=22
TREC Trest 67.98 316 eP **P** **19 49 33.1 +1.0**
TREC e 19 49 54.6
TREC MLR MLR
comp=Z,700nm,19.4s
TREC Trest 67.98 316 eP **P** **19 49 33.1 +1.0**
TREC epP **pP** **19 49 54.6 +0.4**
TREC AMS AMS 20 22 10.0
comp=Z,700nm,19.4s
LOF Lofoten 68.03 336 eP **P** **19 49 31.3 -0.7**
LOF AMB AMB 19 49 32.6
comp=Z,200nm,1.2s
FLOS Flostrand 68.11 335 eP **P** **19 49 32.1 -0.4**
FLOS AMB AMB 19 49 34.2
comp=Z,222nm,1.3s
HFS Hagfors 68.17 328 P **P** **19 49 32.7 -0.4**
HFS pP **pP** **19 49 54.5 -0.7**
HFS S **S** **19 58 24.2 -2.0**
HFS Hagfors 68.17 328 P **P** **19 49 32.7 -0.4**
comp=Z,65nm,0.5s,baz=101,slow=6.2,SNR=259
HFS pP **pP** **19 49 54.5 -0.7**
comp=Z,35nm,0.5s,baz=94,slow=6.1,SNR=4.4
HFS S **S** **19 58 24.2 -2.0**
comp=Z,11nm,1.0s,baz=99,slow=19,SNR=4.3
HFS LR LR 20 23 07.7
comp=Z,724nm,19.4s,baz=89,slow=39
ARSA Arzberg 68.18 314 i P **P** **19 49 33.9 +0.4**
comp=Z,14nm,0.8s,SNR=9.7
UDBI Udbina 68.35 311 P **P** **19 49 34.6 0.0**
PVCC Panska Ves 68.44 317 eP **P** **19 49 36.3 +1.4**
PVCC e 19 49 57.4
PVCC eS **S** **19 58 24.9 -4.9**
PVCC e 19 59 05.6
PVCC MLR MLR
comp=Z,800nm,20.3s
PVCC Panska Ves 68.44 317 eP **P** **19 49 36.3 +1.4**
PVCC epP **pP** **19 49 57.4 +0.3**
PVCC eS **S** **19 58 24.9 -4.9**
PVCC eXS **sS** **19 59 05.6 -2.0**
PVCC AMS AMS 20 21 50.0
comp=Z,800nm,20.3s
PRU Pruhonice 68.51 317 eP **P** **19 49 36.4 +1.0**
PRU e 19 49 57.9
PRU e 19 52 13.7
PRU eS **S** **19 58 27.2 -3.5**
PRU e 19 59 04.4
PRU MLR MLR
comp=Z,700nm,19.3s
PRU Pruhonice 68.51 317 eP **P** **19 49 36.4 +1.0**
PRU epP **pP** **19 49 57.9 +0.3**
PRU ePP PP 19 52 13.7 +6.3
PRU eS **S** **19 58 27.2 -3.5**
PRU ex x 19 59 04.4
PRU ex x 20 06 25.1
PRU AMS AMS 20 22 10.0
comp=Z,700nm,19.3s
PERS Pernice 68.53 313 i P **P** **19 49 36.3 +0.7**
PERS epP **pP** **19 49 55.7 -2.1**
PRA Prague 68.57 317 P **P** **19 49 37.0 +1.2**
PRA pP **pP** **19 49 58.0 +0.1**
PRA PP PP 19 52 14.0 +6.1
PRA S **S** **19 58 30.0 -1.4**
SOKA Soboth 68.58 313⇑ i P **P** **19 49 36.7 +0.7**
comp=Z,17nm,0.6s,SNR=15
BOJS Bojanci 68.58 312 i P **P** **19 49 36.9 +1.0**
STKA Stephens Creek 68.59 138 eP **P** **19 49 36.6 +0.6**
comp=Z,12nm,1.0s
STKA Stephens Creek 68.59 138 P **P** **19 49 36.5 +0.4**
comp=Z,39nm,0.9s,baz=324,slow=7.4,SNR=42
STKA LR LR 20 23 22.8
comp=Z,606nm,21.4s,baz=304,slow=39
RUE Ruedersdorf 68.72 320 eP **P** **19 49 37.7 +1.1**
comp=Z,112nm,0.9s
RUE epP **pP** **19 49 59.1 +0.3**
NSS Namsos 68.75 333 eP **P** **19 49 36.5 -0.1**
KBS Kingsbay 68.77 348 eP **P** **19 49 36.8 +0.2**
KBS eS **S** **19 58 31.3 -1.6**
KBS Kingsbay 68.77 348 d i P **P** **19 49 37.0 +0.5**
KBS pmax pmax
comp=Z,46nm,0.9s
BRG Berggiesshubel 68.80 318⇑ i P **P** **19 49 37.4 +0.3**
comp=Z,35nm,0.7s
BRG i pP **pP** **19 50 00.1 +0.8**
comp=Z,114nm,0.9s
BRG ePP PP 19 52 19.9 +10
comp=Z,24nm,1.3s
BRG S **S** **19 58 32.0 -2.0**
BRG ePKPPKP **P'P'df** **20 17 47.7 -4.5**
comp=Z,24nm,2.0s
BRG
comp=N,704nm,18.0s
BRG
comp=E,796nm,21.2s
BRG
comp=Z,943nm,19.0s
BRG Berggiesshubel 68.80 318 eP **P** **19 49 38.2 +1.1**
comp=Z,35nm,0.7s
BRG epP **pP** **19 49 59.8 +0.5**
BRG Berggiesshubel 68.80 318⇑ i P **P** **19 49 37.4 +0.3**
BRG i *PP **pP** **19 50 00.1 +0.8**
BRG e 19 52 19.9
BRG S **S** **19 58 32.0 -2.0**
BRG pmax pmax
comp=Z,35nm,0.7s
BRG pmax pmax
comp=Z,24nm,1.3s
BRG MLR MLR
comp=N,704nm,18.0s
BRG MLR MLR
comp=E,796nm,21.2s
BRG MLR MLR
comp=Z,943nm,19.0s
MOA Molln 68.95 315 i P **P** **19 49 38.4 +0.2**
comp=Z,18nm,0.5s,SNR=16
CUC Castrocucco 68.98 306 eP **P** **19 49 37.3 -1.3**
comp=Z,65nm,0.8s
LJU Ljubljana 69.01 313 i P **P** **19 49 39.6 +1.0**
LJU epP **pP** **19 49 58.9 -1.9**
LJU eS **S** **19 58 34.9 -1.9**
LJU e 19 59 16.1
LJU e 20 00 15.1
FBE Freiberg 69.16 318 eP **P** **19 49 40.7 +1.3**
comp=Z,75nm,1.0s
FBE epP **PcP** **19 50 02.3 -0.4**
NC602 NORSAR Array S 69.19 329 eP **P** **19 49 38.8 -0.6**
GEC2 GERESS Array S 69.19 316 eP **P** **19 49 40.8 +1.0**
comp=Z,32nm,0.9s
GEC2 epP **PcP** **19 50 02.6 -0.5**
GEC2 GERESS Array S 69.19 316 eP **P** **19 49 40.8 +1.0**
GEC2 e*PP **PcP** **19 50 02.6 -0.5**
GEC2 pmax pmax
comp=Z,32nm,0.9s
GERES GERESS Array B 69.19 316 P **P** **19 49 39.9 +0.1**
GERES pP **pP** **19 50 02.4 +0.4**
GERES P'P'ab **P'P'ab** **20 17 48.0 -4.1**
GERES GERESS Array B 69.19 316 P **P** **19 49 39.9 +0.1**
comp=Z,22nm,0.6s,baz=78,slow=5.8,SNR=210
GERES pP **pP** **19 50 02.4 +0.4**
comp=Z,71nm,0.7s,baz=77,slow=6.3,SNR=18
GERES PKP2ab
20 17 48.0
comp=Z,0.8nm,0.8s,baz=260,slow=3.8,SNR=6.8
GERES LR LR 20 23 26.3
comp=Z,539nm,21.8s,baz=76,slow=39
CEL Celeste 69.22 304 eP **P** **19 49 40.0 -0.1**
comp=Z,274nm,0.9s
CEL epP **pP** **19 50 02.5 +0.2**
KHC Kasperske Hory 69.24 316 eP P 19 49 34.5 -5.5
KHC e 19 50 02.5
KHC Kasperske Hory 69.24 316 eP **P** **19 49 40.5 +0.5**
KHC ex x 19 49 50.0
KHC epP **pP** **19 50 02.5 +0.3**
KHC ex x 19 50 17.5
NB2 NORSAR Subarra 69.33 329 P **P** **19 49 39.4 -0.9**
comp=Z,97nm,0.9s,baz=84,slow=6.5
NB2 NORSAR Subarra 69.33 329 P **P** **19 49 39.4 -0.9**
baz=84,slow=6.5
NOA NORSAR Array B 69.33 329 P **P** **19 49 39.4 -0.9**
NOA S S 19 58 48.7 +8.6
NOA NORSAR Array B 69.33 329 P **P** **19 49 39.4 -0.9**
comp=Z,60nm,0.8s,baz=86,slow=6.0,SNR=125
NOA S S 19 58 48.7 +8.6
comp=Z,4.1nm,1.0s,baz=79,slow=13,SNR=3.2
NOA LR LR 20 23 31.7
comp=Z,1µm,22.0s,baz=80,slow=39
CLL Collm 69.33 318 eP **P** **19 49 41.0 +0.5**
comp=Z,39nm,1.3s
CLL epP **pP** **19 50 02.6 -0.1**
CLL Collm 69.33 318⇓ i P **P** **19 49 40.9 +0.5**
CLL i *PP **pP** **19 50 01.8 -0.9**
CLL eS **S** **19 58 37.0 -3.3**
CLL e*SS **SKiKP** **19 59 20.0 -1.6**
CLL pmax pmax
comp=Z,39nm,1.3s
CLL Collm 69.33 318⇓ i P **P** **19 49 40.9 +0.5**
comp=Z,39nm,1.3s
CLL i 19 49 53.2
CLL i pP **pP** **19 50 01.8 -0.9**
comp=Z,119nm,1.4s
CLL e 19 50 20.0
CLL e 19 52 29.0
CLL epPP 19 52 34.0
CLL eS **S** **19 58 37.0 -3.3**
CLL epS **pS** **19 59 04.0 -2.9**
CLL esS **SKiKP** **19 59 20.0 -1.6**
CLL e(sSP) 19 59 40.0
CLL e(sScS) 20 00 11.0
CLL eSSS SSS 20 06 36.0
CLL ePKPPKPdf P'P'df 20 17 46.0 -5.2
LLD Lille Linde 69.34 323 i P **P** **19 49 40.9 +0.5**
LLD pmax pmax
comp=Z,68nm,0.9s
LLD Lille Linde 69.34 323 i P **P** **19 49 40.9 +0.5**
comp=Z,68nm,0.8s
VOY Vojsko 69.45 313 eP **P** **19 49 41.6 +0.2**
VOY e 19 50 02.9
NAO01 NORSAR Array S 69.50 329 eP **P** **19 49 40.5 -0.8**
comp=Z,47nm,0.7s
CADS Cadrg 69.53 313 i P **P** **19 49 42.1 +0.2**
TRI Trieste 69.59 312 eP **P** **19 49 41.5 -0.6**
TRI e*PP **pP** **19 50 04.2 -0.1**
TRI pmax pmax
comp=Z,41nm,0.8s
TRI Trieste 69.59 312 eP **P** **19 49 41.5 -0.6**
comp=Z,41nm,0.8s
TRI epP **pP** **19 50 04.2 -0.1**
TBLU Trondheim 69.59 331 eP **P** **19 49 41.4 -0.4**
TBLU AMB AMB 19 49 46.6
comp=Z,123nm,1.3s
TBLU eS **S** **19 58 43.1 +0.2**
OSL Oslo 69.67 328 eP **P** **19 49 42.4 0.0**
KBA Koelnbreinsper 69.67 314⇑ i P **P** **19 49 42.9 0.0**
comp=Z,25nm,0.9s,SNR=15
WET Wettzell 69.69 316 eP **P** **19 49 43.8 +1.0**
comp=Z,28nm,1.1s
WET epP **PcP** **19 50 05.5 +0.4**
WET Wettzell 69.69 316 eP **P** **19 49 43.8 +1.0**
WET e*PP **PcP** **19 50 05.5 +0.4**
WET pmax pmax
comp=Z,28nm,1.1s
TANN Tannenbergstha 69.79 317 eP **P** **19 49 44.2 +0.8**
comp=Z,27nm,1.0s
TANN epP **PcP** **19 50 05.8 +0.3**
GUNZ Gunzen 69.88 317 eP **P** **19 49 45.0 +1.1**
comp=Z,45nm,1.0s
GUNZ epP **pP** **19 50 06.5 +0.4**
WERD Werda 69.88 318 eP **P** **19 49 44.8 +0.9**
comp=Z,33nm,0.9s
WERD epP **pP** **19 50 06.4 +0.3**
RJOB Jochberg 69.95 315 eP **P** **19 49 44.9 +0.5**
comp=Z,21nm,1.2s
RJOB epP **pP** **19 50 06.4 -0.2**
ROTZ Rotzenmuhle 70.04 317 eP **P** **19 49 46.5 +1.7**
comp=Z,50nm,0.9s
ROTZ epP **pP** **19 50 08.0 +0.9**
MANZ Manzenberg 70.07 317 eP **P** **19 49 46.3 +1.2**
comp=Z,68nm,1.5s
MANZ epP **pP** **19 50 07.9 +0.6**
NEUB Neuenburg 70.11 318 eP **P** **19 49 46.1 +0.9**
comp=Z,54nm,1.0s
NEUB epP **pP** **19 50 07.6 +0.1**
DOMB Dombas 70.26 330 eP **P** **19 49 45.9 -0.1**
DOMB AMB AMB 19 49 47.7
comp=Z,48nm,1.0s
KONO Kongsberg 70.27 327 eP **P** **19 49 45.7 -0.3**
KONO AMB AMB 19 49 50.6
comp=Z,408nm,1.6s
KONO eS **S** **19 58 49.6 -1.4**
KONO Kongsberg 70.27 327 eP **P** **19 49 45.6 -0.4**
KONO pmax pmax
comp=Z,124nm,0.9s
KONO Kongsberg 70.27 327 eP **P** **19 49 45.6 -0.4**
comp=Z,124nm,0.9s
ABTA Abfaltersbach 70.29 314⇑ i P **P** **19 49 46.1 -0.4**
comp=Z,21nm,1.3s,SNR=7.5
MOX Moxa 70.29 318 eP **P** **19 49 47.3 +0.9**
comp=Z,42nm,1.2s
MOX epP **pP** **19 50 08.9 +0.3**
MOX Moxa 70.29 318 eP **P** **19 49 47.3 +0.9**
MOX e*PP **pP** **19 50 08.9 +0.3**
MOX pmax pmax
comp=Z,42nm,1.2s
HNR Honiara 70.51 108 LR LR 20 18 16.7
comp=Z,419nm,20.8s,baz=300,slow=34
BSEG Bad Segeberg 70.61 321 eP **P** **19 49 49.4 +1.2**
comp=Z,94nm,0.9s
BSEG epP **pP** **19 50 11.2 +0.7**
BSEG Bad Segeberg 70.61 321 eP **P** **19 49 49.4 +1.2**
BSEG e*PP **pP** **19 50 11.2 +0.7**
BSEG pmax pmax
comp=Z,94nm,0.9s
GRF Grafenberg Arr 70.68 317 eP **P** **19 49 50.1 +1.3**
comp=Z,52nm,1.1s
GRF epP **pP** **19 50 11.8 +0.7**
GRF Grafenberg Arr 70.68 317 eP **P** **19 49 50.1 +1.3**
GRF e*PP **pP** **19 50 11.8 +0.7**
GRF pmax pmax
comp=Z,52nm,1.1s
GRFO Grafenberg 70.68 317 eP **P** **19 49 50.0 +1.2**
GRFO e*PP **PcP** **19 50 09.4 +0.2**
GRFO pmax pmax
comp=Z,432nm,1.5s
GRFO Grafenberg 70.68 317 eP **P** **19 49 50.0 +1.2**
comp=Z,432nm,1.5s
GRFO epP **PcP** **19 50 09.4 +0.2**
WTTA Wattenberg 70.80 314⇑ i P **P** **19 49 49.6 -0.2**
comp=Z,32nm,0.8s,SNR=15
CLZ Clausthal 70.89 319 eP **P** **19 49 51.1 +1.1**
comp=Z,80nm,1.2s
CLZ epP **pP** **19 50 12.6 +0.3**
CLZ Clausthal 70.89 319 eP **P** **19 49 51.1 +1.1**
CLZ e*PP **pP** **19 50 12.6 +0.3**
CLZ pmax pmax
comp=Z,80nm,1.2s
FUR Furstenfeldbru 70.89 315 eP **P** **19 49 50.9 +0.8**
comp=Z,25nm,0.9s
FUR epP **pP** **19 50 12.5 +0.1**
FUR Furstenfeldbru 70.89 315 eP **P** **19 49 50.9 +0.8**
FUR e*PP **pP** **19 50 12.5 +0.1**
FUR pmax pmax
comp=Z,25nm,0.9s
MOL Molde 70.90 331 eP **P** **19 49 50.1 +0.3**
MOL AMB AMB 19 49 52.0
comp=Z,114nm,1.9s
MUD Monsted U'grnd 70.90 324 i P **P** **19 49 50.8 +0.9**
MUD pmax pmax
comp=Z,51nm,1.0s
MUD Monsted U'grnd 70.90 324 i P **P** **19 49 50.8 +0.9**
comp=Z,51nm,1.0s
NRDL Niedersach Rie 70.95 320 eP **P** **19 49 51.4 +1.2**
comp=Z,100nm,1.3s
NRDL epP **pP** **19 50 13.2 +0.7**
EIDS Eidsvold 71.07 127 eP **P** **19 49 52.6 +1.2**
comp=Z,86nm,1.4s
MOTA Moosalm 71.14 314⇑ i P **P** **19 49 51.5 -0.3**
comp=Z,23nm,0.7s,SNR=17
UBBA Unterbreizbach 71.28 318 eP **P** **19 49 53.0 +0.8**
comp=Z,37nm,1.4s
UBBA epP **pP** **19 50 14.7 +0.2**
RETA Reutte 71.34 315⇑ i P **P** **19 49 53.1 +0.2**
comp=Z,31nm,0.6s,SNR=16
FETA Feichten 71.45 314⇓ i P **P** **19 49 53.7 0.0**
comp=Z,29nm,1.0s,SNR=15
SNART Snartemo 71.67 326 eP **P** **19 49 54.8 +0.3**
SNART epP **pP** **19 50 17.6 +0.8**
ODD1 Odda 71.72 328 eP **P** **19 49 55.2 +0.3**
ODD1 AMB AMB 19 49 58.7
comp=Z,66nm,1.0s
HYA Hoyanger 71.74 329 eP **P** **19 49 55.0 +0.2**
HYA AMB AMB 19 50 01.8
comp=Z,58nm,1.7s
BLS5 Blasjo 71.88 327 eP **P** **19 49 56.2 +0.3**
BLS5 AMB AMB 19 49 58.1
comp=Z,67nm,0.9s
DAVA Damuels 71.97 315⇓ i P **P** **19 49 57.0 +0.2**
comp=Z,56nm,1.4s,SNR=14
DAVOX Davos/Dischmat 72.07 314 P **P** **19 49 57.8 +0.4**
DAVOX pP **pP** **19 50 19.0 -0.8**
DAVOX Davos/Dischmat 72.07 314 P **P** **19 49 57.8 +0.4**
comp=Z,21nm,0.7s,baz=108,slow=7.8,SNR=32
DAVOX pP **pP** **19 50 19.0 -0.8**
comp=Z,78nm,0.7s,baz=70,slow=3.9,SNR=16
DAVOX LR LR 20 26 05.1
comp=Z,528nm,20.9s,baz=170,slow=39
STU Stuttgart 72.15 316 eP **P** **19 49 58.6 +0.9**
comp=Z,40nm,0.9s
STU epP **pP** **19 50 20.3 +0.3**
STU Stuttgart 72.15 316 eP **P** **19 49 58.5 +0.9**
STU e*PP **pP** **19 50 19.6 -0.4**
STU pmax pmax
comp=Z,286nm,1.2s
STU Stuttgart 72.15 316 eP **P** **19 49 58.5 +0.9**
comp=Z,286nm,1.2s
STU epP **pP** **19 50 19.6 -0.4**
VLC Villacollemand 72.22 311 eP **P** **19 49 58.5 +0.3**
comp=Z,216nm,1.3s
RUND Rundenannen 72.26 329 eP **P** **19 49 56.6 -1.5**
RUND AMB AMB 19 49 59.5
comp=Z,216nm,1.7s
EGD Espegrand 72.35 328 eP P 19 49 54.6 -3.9
TNS Taunus Mts 72.36 318 eP **P** **19 49 59.9 +1.0**
comp=Z,40nm,1.0s
TNS epP **pP** **19 50 21.4 +0.1**
TNS Taunus Mts 72.36 318 eP **P** **19 49 59.9 +1.0**
TNS e*PP **pP** **19 50 21.4 +0.1**
TNS pmax pmax
comp=Z,40nm,1.0s
IBBN Ibbenburen 72.40 320 eP **P** **19 50 00.1 +1.1**
comp=Z,66nm,0.9s
IBBN epP **pP** **19 50 21.6 +0.3**
TUE Stuetta 72.48 314 eP **P** **19 50 00.1 +0.2**
comp=Z,64nm,0.8s
KMY Karmoy 72.53 327 eP **P** **19 49 59.6 -0.1**
KMY AMB AMB 19 50 01.5
comp=Z,134nm,0.9s
BFO Black Forest 72.80 316 P **P** **19 50 01.9 +0.4**
comp=Z,71nm,0.6s,SNR=7.2
BFO Black Forest 72.80 316 eP **P** **19 50 01.9 +0.4**
comp=Z,9.0nm,0.7s
BFO Black Forest 72.80 316 eP **P** **19 50 01.9 +0.4**
BFO pmax pmax
comp=Z,9.0nm,0.7s
BFO Black Forest 72.80 316 eP **P** **19 50 01.7 +0.2**
comp=Z,65nm,1.2s
BUG Bochum--Univer 72.86 319 eP **P** **19 50 02.8 +1.1**
comp=Z,61nm,1.1s
BUG epP **pP** **19 50 24.2 +0.1**
LANF Langenberg 73.01 317 eP **P** **19 50 03.2 +0.5**
CDF Champ du Feu 73.47 316 eP **P** **19 50 05.2 -0.3**
comp=Z,30nm,0.7s
CDF epP **pP** **19 50 26.6 -1.4**
CDF Champ du Feu 73.47 316 eP **P** **19 50 05.2 -0.3**
CDF e*PP **pP** **19 50 26.6 -1.4**
CDF pmax pmax
comp=Z,30nm,0.7s
CDF Champ du Feu 73.47 316 eP **P** **19 50 05.2 -0.3**
comp=Z,30nm,0.7s
CDF epP **pP** **19 50 26.6 -1.4**
PGF Pioggiola 73.54 310 eP **P** **19 50 05.3 -0.8**
comp=Z,78nm,1.0s
PGF epP **pP** **19 50 27.6 -0.9**
PGF Pioggiola 73.54 310 eP **P** **19 50 05.3 -0.8**
PGF e*PP **pP** **19 50 27.6 -0.9**
PGF pmax pmax
comp=Z,78nm,1.0s
PGF Pioggiola 73.54 310 eP **P** **19 50 05.3 -0.8**
comp=Z,78nm,1.0s
PGF epP **pP** **19 50 27.6 -0.9**
ECH Echery 73.59 316 eP **P** **19 50 06.3 +0.2**
ECH e*PP **pP** **19 50 28.2 -0.4**
ECH pmax pmax
comp=Z,46nm,1.0s
ECH Echery 73.59 316 eP **P** **19 50 05.5 -0.7**
ECH Echery 73.59 316 eP **P** **19 50 06.3 +0.2**
comp=Z,46nm,1.0s
ECH epP **pP** **19 50 28.1 -0.4**
MOF Molkenrain 73.68 315 eP **P** **19 50 06.9 +0.1**
MEM Membach 73.81 318 P **P** **19 50 08.4 +1.1**
comp=Z,46nm,1.6s
HINF Hinteralfeld 73.87 315 eP **P** **19 50 07.3 -0.6**
comp=Z,28nm,0.9s
HINF Hinteralfeld 73.87 315 eP **P** **19 50 07.3 -0.6**
HINF pmax pmax
comp=Z,28nm,0.9s
HINF Hinteralfeld 73.87 315 eP **P** **19 50 07.3 -0.6**
comp=Z,28nm,0.9s
WLF Walferdange 73.92 317 P **P** **19 50 09.3 +1.3**
comp=Z,229nm,1.6s
WLF Walferdange 73.92 317 eP **P** **19 50 09.7 +1.7**
comp=Z,98nm,1.2s
WLF epP **pP** **19 50 31.3 +0.8**
WLF Walferdange 73.92 317 eP **P** **19 50 09.0 +0.9**
WLF pmax pmax
comp=Z,427nm,1.4s
WLF Walferdange 73.92 317 eP **P** **19 50 09.0 +0.9**
comp=Z,427nm,1.4s
VSL Villasalto 73.95 307 eP **P** **19 50 08.3 -0.1**
comp=Z,160nm,1.0s
VSL epP **pP** **19 50 32.1 +1.3**
BEBN Eben Emael 73.97 319 P **P** **19 50 09.2 +0.9**
BEBN AP **pP** **19 50 30.0 -0.8**
comp=Z,20nm,1.8s
LOMF Lomont 73.99 315 eP **P** **19 50 07.8 -0.8**
HAU Haudompre 74.16 316 eP **P** **19 50 09.2 -0.3**
comp=Z,30nm,0.6s
HAU epP **pP** **19 50 30.6 -1.4**
HAU eR
comp=Z,241nm,22.0s
HAU Haudompre 74.16 316 eP **P** **19 50 09.2 -0.3**
HAU e*PP **pP** **19 50 30.6 -1.4**
HAU pmax pmax
comp=Z,30nm,0.6s
HAU Haudompre 74.16 316 eP **P** **19 50 09.2 -0.3**
comp=Z,30nm,0.6s
HAU epP **pP** **19 50 30.6 -1.4**
SAOF Saorge 74.25 311 eP **P** **19 50 10.6 +0.5**
BCLA Clavier 74.29 318 P **P** **19 50 10.9 +0.8**
comp=Z,60nm,1.7s
AUTN L'Aution 74.34 312 eP **P** **19 50 09.6 -1.3**
THEF They Montfort 74.35 316 eP **P** **19 50 10.6 0.0**
ARMA Armidale 74.35 131 eP **P** **19 50 13.2 +2.3**
comp=Z,36nm,1.0s

SBF **Sospel** 74.36 311 eP P 19 50 10.5 -0.3
comp=Z,75nm,0.9s
SBF **Sospel** 74.36 311 eP P 19 50 10.5 -0.3
SBF pmax pmax
comp=Z,75nm,0.9s
SBF **Sospel** 74.36 311 eP P 19 50 10.5 -0.3
comp=Z,75nm,0.9s
LUCF **Luceram** 74.42 311 eP P 19 50 11.5 +0.3
PAGF **Fort de Pagny** 74.44 316 eP P 19 50 11.3 +0.2
comp=Z,24nm,0.9s
PAGF epP pP 19 50 32.7 -0.9
PAGF **Fort de Pagny** 74.44 316 eP P 19 50 11.3 +0.2
comp=Z,24nm,0.9s
PAGF epP pP 19 50 32.7 -0.9
TOUF **Mont Tournerai** 74.46 312 eP P 19 50 12.1 +0.6
LPG **La Plagne** 74.46 313 eP P 19 50 11.7 +0.1
comp=Z,70nm,0.8s
LPG **La Plagne** 74.46 313 eP P 19 50 11.7 +0.1
LPG pmax pmax
comp=Z,70nm,0.8s
LPG **La Plagne** 74.46 313 eP P 19 50 11.7 +0.1
comp=Z,70nm,0.8s
LSZ **Lusaka** 74.46 247⇓iP P 19 50 11.7 -0.1
LSZ **Lusaka** 74.46 247 eP P 19 50 11.5 -0.3
comp=Z,155nm,1.3s
LPL **La Plagne** 74.47 313 eP P 19 50 11.7 +0.1
comp=Z,67nm,0.8s
LPL epP pP 19 50 33.3 -0.8
LPL **La Plagne** 74.47 313 eP P 19 50 11.7 +0.1
LPL e*PP pP 19 50 33.3 -0.8
LPL pmax pmax
comp=Z,67nm,0.8s
LPL **La Plagne** 74.47 313 eP P 19 50 11.7 +0.1
comp=Z,67nm,0.8s
LPL epP pP 19 50 33.3 -0.8
RSL **Roselend** 74.50 313 eP P 19 50 11.6 -0.1
BNI **Bardonecchia** 74.61 313 eP P 19 50 12.2 -0.2
BNI pmax pmax
comp=Z,44nm,0.8s
BNI **Bardonecchia** 74.61 313 eP P 19 50 12.2 -0.2
comp=Z,44nm,0.8s
MBDF **Montbardon** 74.62 312 eP P 19 50 11.4 -1.0
comp=Z,31nm,0.7s
MBDF **Montbardon** 74.62 312 eP P 19 50 11.4 -1.0
MBDF pmax pmax
comp=Z,31nm,0.7s
MBDF **Montbardon** 74.62 312 eP P 19 50 11.4 -1.0
comp=Z,31nm,0.7s
CABF **La Chapelle** 74.65 314 eP P 19 50 12.4 -0.1
comp=Z,63nm,0.9s
CABF epP pP 19 50 33.9 -1.0
CABF **La Chapelle** 74.65 314 eP P 19 50 12.4 -0.1
CABF e*PP pP 19 50 33.9 -1.0
CABF pmax pmax
comp=Z,63nm,0.9s
CABF **La Chapelle** 74.65 314 eP P 19 50 12.4 -0.1
comp=Z,63nm,0.9s
CABF epP pP 19 50 33.9 -1.0
GIVF **Givet** 74.66 318 eP P 19 50 12.4 +0.1
comp=Z,65nm,1.0s
GIVF epP pP 19 50 33.8 -1.0
GIVF **Givet** 74.66 318 eP P 19 50 12.4 +0.1
GIVF e*PP pP 19 50 33.8 -1.0
GIVF pmax pmax
comp=Z,65nm,1.0s
GIVF **Givet** 74.66 318 eP P 19 50 12.4 +0.1
comp=Z,65nm,1.0s
GIVF epP pP 19 50 33.8 -1.0
UCC **Uccle** 74.79 319 AP pP 19 50 35.5 0.0
DOU **Dourbes** 74.81 318 P P 19 50 14.2 +1.1
comp=Z,43nm,1.6s
KEST **Kesra** 74.87 303 eP P 19 50 14.3 +0.3
KEST epP pP 19 50 37.5 +1.0
KEST **Kesra** 74.87 303 P P 19 50 14.6 +0.6
comp=Z,8.7nm,0.8s,baz=259,slow=1.0,SNR=28
KEST pP pP 19 50 37.5 +1.0
comp=Z,34nm,0.9s,baz=354,slow=1.1,SNR=16
KEST LR LR 20 27 40.7
comp=Z,186nm,20.3s,baz=25,slow=39
MEZF **Maizieres J'vi** 74.89 316 eP P 19 50 13.8 +0.1
comp=Z,71nm,0.6s,baz=53
MEZF **Maizieres J'vi** 74.89 316 eP P 19 50 13.8 +0.1
comp=Z,71nm,0.6s
SNF **Seneffe** 74.90 319 P P 19 50 14.3 +0.6
SFTF **Sexfontaines** 74.97 316 eP P 19 50 13.9 -0.3
comp=Z,32nm,0.6s,baz=44
SFTF epP pP 19 50 35.4 -1.3
SFTF **Sexfontaines** 74.97 316 eP P 19 50 13.9 -0.3
comp=Z,32nm,0.6s
SFTF epP pP 19 50 35.4 -1.3
FRF **La Foret Royal** 74.99 311 eP P 19 50 14.2 -0.1
comp=Z,77nm,0.9s
FRF epP pP 19 50 35.9 -0.9
FRF **La Foret Royal** 74.99 311 eP P 19 50 14.2 -0.1
FRF e*PP pP 19 50 35.9 -0.9
FRF pmax pmax
comp=Z,77nm,0.9s
FRF **La Foret Royal** 74.99 311 eP P 19 50 14.2 -0.1
comp=Z,77nm,0.9s
FRF epP pP 19 50 35.9 -0.9
BAIF **Baives** 75.06 318 eP P 19 50 14.8 +0.2
comp=Z,77nm,1.0s
BAIF epP pP 19 50 36.2 -0.9
BAIF **Baives** 75.06 318 eP P 19 50 14.8 +0.2
BAIF e*PP pP 19 50 36.2 -0.9
BAIF pmax pmax
comp=Z,77nm,1.0s
BAIF **Baives** 75.06 318 eP P 19 50 14.8 +0.2
comp=Z,77nm,1.0s
BAIF epP pP 19 50 36.2 -0.9
LMR **La Mourre** 75.14 311 eP P 19 50 15.2 0.0
comp=Z,33nm,0.7s
LMR **La Mourre** 75.14 311 eP P 19 50 15.2 0.0
LMR pmax pmax
comp=Z,33nm,0.7s
LMR **La Mourre** 75.14 311 eP P 19 50 15.2 0.0
comp=Z,33nm,0.7s
ORIF **Oris-en-Rattie** 75.20 313 eP P 19 50 15.0 -0.6
comp=Z,18nm,0.7s
ORIF eR
comp=Z,447nm,22.5s
ORIF **Oris-en-Rattie** 75.20 313 eP P 19 50 15.0 -0.6
ORIF pmax pmax
comp=Z,18nm,0.7s
ORIF **Oris-en-Rattie** 75.20 313 eP P 19 50 15.0 -0.6
comp=Z,18nm,0.7s
DAG **Danmarks Havn** 75.48 347⇑iP P 19 50 16.4 -0.1
DAG i *PP pP 19 50 38.6 -0.4
DAG pmax pmax
comp=Z,58nm,0.9s
DAG **Danmarks Havn** 75.48 347⇑iP P 19 50 16.4 -0.1
comp=Z,69nm,0.9s
DAG i pP pP 19 50 38.6 -0.4
CAN **Canberra** 75.51 137 eP P 19 50 18.5 +1.1
CAN pmax pmax
comp=Z,52nm,1.1s
CAN **Canberra** 75.51 137 eP P 19 50 18.5 +1.1
comp=Z,52nm,1.1s
SMRF **Simiane la Rot** 75.64 312 eP P 19 50 18.3 +0.2
comp=Z,19nm,0.7s
SMRF epP pP 19 50 39.9 -0.8
SMRF **Simiane la Rot** 75.64 312 eP P 19 50 18.3 +0.2
comp=Z,19nm,0.7s
SMRF epP pP 19 50 39.9 -0.8
LOR **Lormes** 75.97 315 eP P 19 50 19.4 -0.5
comp=Z,44nm,0.9s,baz=72
LOR epP pP 19 50 41.1 -1.4
LOR eR
comp=Z,413nm,22.2s
LOR **Lormes** 75.97 315 eP P 19 50 19.4 -0.5
comp=Z,44nm,0.9s
LOR epP pP 19 50 41.1 -1.4
SSB **Saint Sauveur** 76.02 313 eP P 19 50 19.8 -0.5
SSB e*PP pP 19 50 42.2 -0.6
SSB pmax pmax
comp=Z,78nm,0.9s
SSB **Saint Sauveur** 76.02 313 eP P 19 50 19.7 -0.5
SSB **Saint Sauveur** 76.02 313 eP P 19 50 19.8 -0.5
comp=Z,78nm,0.9s
SSB epP pP 19 50 42.2 -0.6
VIVF **Saint-Julien-l** 76.04 313 eP P 19 50 20.2 -0.2
comp=Z,40nm,0.9s
VIVF epP pP 19 50 41.9 -1.0
VIVF **Saint-Julien-l** 76.04 313 eP P 19 50 20.2 -0.2
VIVF e*PP pP 19 50 41.9 -1.0
VIVF pmax pmax
comp=Z,40nm,0.9s
VIVF **Saint-Julien-l** 76.04 313 eP P 19 50 20.2 -0.2
comp=Z,40nm,0.9s
VIVF epP pP 19 50 41.9 -1.0
SMF **Signal de Mont** 76.14 315 eP P 19 50 20.6 -0.3
comp=Z,68nm,0.6s
SMF **Signal de Mont** 76.14 315 eP P 19 50 20.6 -0.3
SMF pmax pmax
comp=Z,68nm,0.6s
SMF **Signal de Mont** 76.14 315 eP P 19 50 20.6 -0.3
comp=Z,68nm,0.6s
CMAH **Djebel Manchou** 76.15 304 P P 19 50 15.9 -5.3
ABSA **Djebel Ababsia** 76.20 304 P P 19 50 16.1 -5.4
MSNA **Messina** 76.21 240 eP P 19 50 22.6 +0.9
MSNA AMB AMB 19 50 23.3
comp=Z,213nm,1.0s
SSF **Saint Saulge** 76.26 315 eP P 19 50 21.4 -0.1
comp=Z,54nm,0.7s
SSF **Saint Saulge** 76.26 315 eP P 19 50 21.4 -0.1
SSF pmax pmax
comp=Z,54nm,0.7s
SSF **Saint Saulge** 76.26 315 eP P 19 50 21.4 -0.1
comp=Z,54nm,0.7s
AVF **Avril sur Loir** 76.43 315 eP P 19 50 22.3 -0.2
comp=Z,54nm,0.7s
AVF epP pP 19 50 43.9 -1.2
AVF **Avril sur Loir** 76.43 315 eP P 19 50 22.3 -0.2
AVF e*PP pP 19 50 43.9 -1.2
AVF pmax pmax
comp=Z,54nm,0.7s
AVF **Avril sur Loir** 76.43 315 eP P 19 50 22.3 -0.2
comp=Z,54nm,0.7s
AVF epP pP 19 50 43.9 -1.2
PLDF **La Plantade** 76.47 314 eP P 19 50 23.0 +0.2
ALE **Alert** 76.72 357 P P 19 50 23.3 -0.2
comp=Z,711nm,0.9s,SNR=26
CKFL **Kef-Lekhel** 76.75 304 P P 19 50 18.5 -6.2
HYF **Humbligny** 76.78 316 eP P 19 50 25.0 +0.5
HYF **Humbligny** 76.78 316 eP P 19 50 25.0 +0.5
AGO **Saint Agoulin** 76.78 314 eP P 19 50 24.7 +0.2
LASF **Ste Croix** 76.81 312 eP P 19 50 24.9 +0.2
comp=Z,30nm,0.7s
LASF **Ste Croix** 76.81 312 eP P 19 50 24.9 +0.2
comp=Z,30nm,0.7s
BGF **Bois d'Agland** 76.83 315 eP P 19 50 24.6 -0.2
comp=Z,25nm,0.6s
BGF epP pP 19 50 46.3 -1.1
BGF **Bois d'Agland** 76.83 315 eP P 19 50 24.6 -0.2
BGF e*PP pP 19 50 46.3 -1.1
BGF pmax pmax
comp=Z,25nm,0.6s
BGF **Bois d'Agland** 76.83 315 eP P 19 50 24.6 -0.2
comp=Z,25nm,0.6s
BGF epP pP 19 50 46.3 -1.1
LBL **Lubilhac** 76.92 314 eP P 19 50 25.9 +0.5
PYM **Petit Puy Mans** 76.94 314 eP P 19 50 26.3 +0.8
CASM **Ain Smara** 76.97 304 P P 19 50 19.5 -6.3
DRUM **Mains of Drumt** 77.07 326 eP P 19 50 26.3 +0.4
DRUM AMB AMB 19 50 28.2
comp=Z,120nm,2.5s
MCD **Coleburn Disti** 77.27 327⇑eP P 19 50 28.0 +1.0
VERF **Verneugheol** 77.29 314 eP P 19 50 28.3 +0.8
TCF **Toulx Ste Croi** 77.33 315 eP P 19 50 27.9 +0.3
comp=Z,67nm,0.8s
TCF epP pP 19 50 49.5 -0.7
TCF **Toulx Ste Croi** 77.33 315 eP P 19 50 27.9 +0.3
TCF e*PP pP 19 50 49.5 -0.7
TCF pmax pmax
comp=Z,67nm,0.8s
TCF **Toulx Ste Croi** 77.33 315 eP P 19 50 27.9 +0.3
comp=Z,67nm,0.8s
TCF epP pP 19 50 49.5 -0.7
DFRA **Djebel Bou Aff** 77.37 304 P P 19 50 20.9 -7.2
ESY **Stoneypath** 77.44 325⇑eP P 19 50 28.6 +0.6
POGA **Pongola** 77.46 234⇓iP P 19 50 28.5 -0.1
POGA AMB AMB 19 50 29.6
comp=Z,398nm,0.9s
HPK **Haverah Park** 77.48 323⇑eP P 19 50 28.9 +0.6
HPK AMB AMB 19 50 33.8
comp=Z,60nm,2.1s
XAL **Allendale** 77.54 324 eP P 19 50 29.0 +0.4
KBI1 **Birley Grange** 77.64 322 eP P 19 50 28.9 -0.2
SKP1 **Kophill** 77.68 321 eP P 19 50 29.2 -0.2
EBL **Broad Law** 77.72 325⇑eP P 19 50 29.8 +0.3
EDI **Edinburgh** 77.75 325 AMB AMB 19 50 29.1
comp=Z,121nm,2.5s
CAF **Calviac** 77.81 313 eP P 19 50 30.6 +0.3
comp=Z,21nm,0.7s
CAF **Calviac** 77.81 313 eP P 19 50 30.6 +0.3
CAF pmax pmax
comp=Z,21nm,0.7s
CAF **Calviac** 77.81 313 eP P 19 50 30.6 +0.3
comp=Z,21nm,0.7s
SET **Setif** 77.83 304 P P 19 50 23.4 -7.3
MDO **Dochfour** 77.88 327⇑eP P 19 50 30.8 +0.3
EKA **Eskdalemuir Ar** 77.91 325 P P 19 50 31.2 +0.5
EKA pP pP 19 50 53.8 +0.5
EKA **Eskdalemuir Ar** 77.91 325 P P 19 50 31.2 +0.5
comp=Z,64nm,0.8s,baz=80,slow=6.2,SNR=65
EKA pP pP 19 50 53.8 +0.5
comp=Z,55nm,0.8s,baz=78,slow=6.3,SNR=7.7
ESK **Eskdalemuir** 77.94 325⇑eP P 19 50 30.9 +0.2
ESK AMB AMB 19 50 33.1
comp=Z,118nm,2.5s
ESK **Eskdalemuir** 77.94 325 P P 19 50 31.2 +0.4
comp=Z,559nm,0.8s,SNR=5.4
ESK **Eskdalemuir** 77.94 325 eP P 19 50 31.0 +0.2
ESK e*PP pP 19 50 53.8 +0.4
ESK pmax pmax
comp=Z,71nm,0.8s
ESK **Eskdalemuir** 77.94 325 eP P 19 50 31.0 +0.2
comp=Z,71nm,0.8s
ESK epP pP 19 50 53.8 +0.4
ECK **Cauldkaine Hil** 77.94 324⇑eP P 19 50 30.9 +0.1
WOL **Wolverton** 78.04 320 eP P 19 50 32.0 +0.6
WOL AMB AMB 19 50 40.5
comp=Z,77nm,2.5s
RJF **Les Rejaudoux** 78.07 314 eP P 19 50 32.3 +0.6
comp=Z,92nm,1.0s
RJF epP pP 19 50 53.9 -0.5
RJF eR
comp=Z,276nm,22.2s
RJF **Les Rejaudoux** 78.07 314 eP P 19 50 32.3 +0.6
RJF e*PP pP 19 50 53.9 -0.5
RJF pmax pmax
comp=Z,92nm,1.0s
RJF **Les Rejaudoux** 78.07 314 eP P 19 50 32.3 +0.6
comp=Z,92nm,1.0s
RJF epP pP 19 50 53.9 -0.5
KESW **Keswick, Cumbr** 78.12 324 eP P 19 50 33.1 +1.3
KESW AMB AMB 19 50 33.7
comp=Z,101nm,1.0s
MTLF **Montolieu** 78.16 312 eP P 19 50 32.3 +0.1
comp=Z,22nm,0.7s
MTLF epP pP 19 50 54.0 -0.9
MTLF **Montolieu** 78.16 312 eP P 19 50 32.3 +0.1
MTLF e*PP pP 19 50 54.0 -0.9
MTLF pmax pmax
comp=Z,22nm,0.7s
MTLF **Montolieu** 78.16 312 eP P 19 50 32.3 +0.1
comp=Z,22nm,0.7s
MTLF epP pP 19 50 54.0 -0.9
LDF **La Druitiere** 78.18 317 eP P 19 50 32.1 -0.1
comp=Z,55nm,0.8s
LDF epP pP 19 50 53.6 -1.3
LDF **La Druitiere** 78.18 317 eP P 19 50 32.1 -0.1
LDF e*PP pP 19 50 53.6 -1.3
LDF pmax pmax
comp=Z,55nm,0.8s
LDF **La Druitiere** 78.18 317 eP P 19 50 32.1 -0.1
comp=Z,55nm,0.8s
LDF epP pP 19 50 53.6 -1.3
SSW **Stow on the Wo** 78.22 321⇑eP P 19 50 33.0 +0.7
EAB **Aberfoyle** 78.27 326⇑eP P 19 50 33.4 +0.8
FLN **La Foliniere** 78.36 318 eP P 19 50 33.1 -0.1
comp=Z,41nm,0.9s,baz=106
FLN epP pP 19 50 54.5 -1.4
FLN eR
comp=Z,250nm,20.8s
FLN **La Foliniere** 78.36 318 eP P 19 50 33.1 -0.1
FLN e*PP pP 19 50 54.5 -1.4
FLN pmax pmax
comp=Z,41nm,0.9s
FLN **La Foliniere** 78.36 318 eP P 19 50 33.1 -0.1
comp=Z,41nm,0.9s
FLN epP pP 19 50 54.5 -1.4
GCD **Castle Douglas** 78.49 324 eP P 19 50 34.5 +0.7
KPL **Plockton** 78.57 327 eP P 19 50 34.6 +0.4
KPL AMB AMB 19 50 40.0
comp=Z,142nm,3.7s
HLM1 **Long Mynd** 78.65 322 eP P 19 50 35.5 +0.7
HLM1 AMB AMB 19 50 36.7
comp=Z,34nm,0.8s
LFF **La Frestale** 78.70 314 eP P 19 50 35.7 +0.5
comp=Z,54nm,0.8s
LFF epP pP 19 50 57.3 -0.6
LFF **La Frestale** 78.70 314 eP P 19 50 35.7 +0.5
LFF e*PP pP 19 50 57.3 -0.6
LFF pmax pmax
comp=Z,54nm,0.8s
LFF **La Frestale** 78.70 314 eP P 19 50 35.7 +0.5
comp=Z,54nm,0.8s
LFF epP pP 19 50 57.3 -0.6
GRR **Gorron** 78.71 317 eP P 19 50 35.1 0.0
comp=Z,27nm,0.8s
GRR **Gorron** 78.71 317 eP P 19 50 35.1 0.0
GRR pmax pmax
comp=Z,27nm,0.8s
GRR **Gorron** 78.71 317 eP P 19 50 35.1 0.0
comp=Z,27nm,0.8s
FOEL **Foel Wylfa** 78.71 322 eP P 19 50 36.1 +1.0
FOEL AMB AMB 19 50 37.2
comp=Z,63nm,1.0s
MFF **Saint Martin d** 78.79 316 eP P 19 50 35.5 -0.2
comp=Z,23nm,0.8s
MFF **Saint Martin d** 78.79 316 eP P 19 50 35.5 -0.2
MFF pmax pmax
comp=Z,23nm,0.8s
MFF **Saint Martin d** 78.79 316 eP P 19 50 35.5 -0.2
comp=Z,23nm,0.8s
MCH1 **Michaelchurch** 78.88 321 eP P 19 50 36.6 +0.6
MCH1 AMB AMB 19 50 36.9
comp=Z,62nm,1.7s
WPM1 **Penmaenmawr** 79.00 323 eP P 19 50 37.6 +1.0
SLR **Silverton** 79.23 237 eP P 19 50 38.8 +0.2
SLR AMB AMB 19 50 40.6
comp=Z,330nm,1.3s
WLF1 **Llynfaes** 79.26 323 eP P 19 50 37.8 -0.3
JSA **Saint Aubin** 79.28 318 eP P 19 50 37.7 -0.6
YRE **Yr Eifl** 79.38 323 eP P 19 50 40.1 +1.3
LPW **Lampeter** 79.47 322 eP P 19 50 40.1 +0.9
LPW AMB AMB 19 50 41.7
comp=Z,501nm,2.2s
ERPM **east rand prop** 79.56 237 eP P 19 50 40.6 +0.3
ERPM AMB AMB 19 50 42.1
comp=Z,181nm,1.2s
EPF **Esparros** 79.56 312 eP P 19 50 39.2 -0.8
EPF **Esparros** 79.56 312 eP P 19 50 39.2 -0.8
EPF **Esparros** 79.56 312 eP P 19 50 39.2 -0.8
GMM **Mts of Mourne** 79.80 324⇑eP P 19 50 41.9 +0.9
SGMF **Saint Gilles** 79.83 318 eP P 19 50 41.4 +0.2
comp=Z,56nm,0.7s
SGMF epP pP 19 51 03.0 -0.9
SGMF **Saint Gilles** 79.83 318 eP P 19 50 41.4 +0.2
SGMF e*PP pP 19 51 03.0 -0.9
SGMF pmax pmax
comp=Z,56nm,0.7s
SGMF **Saint Gilles** 79.83 318 eP P 19 50 41.4 +0.2
comp=Z,56nm,0.7s
SGMF epP pP 19 51 03.0 -0.9
VIEF **Viey** 79.83 312 eP P 19 50 42.3 +0.8
IMA2 **Indian Mountai** 79.85 23 eP P 19 50 41.6 +0.4
IM04 **Indian Mountai** 79.86 23 eP P 19 50 41.0 -0.2
DYA **Yadsworthy** 79.95 320 eP P 19 50 42.4 +0.5
DYA AMB AMB 19 50 47.3
comp=Z,49nm,2.1s
ETSF **Etsaut** 80.23 312 eP P 19 50 44.0 +0.4
comp=Z,26nm,0.7s
ETSF epP pP 19 51 05.7 -0.7
ETSF **Etsaut** 80.23 312 eP P 19 50 44.0 +0.4
ETSF e*PP pP 19 51 05.7 -0.7
ETSF pmax pmax
comp=Z,26nm,0.7s
ETSF **Etsaut** 80.23 312 eP P 19 50 44.0 +0.4
comp=Z,26nm,0.7s
ETSF epP pP 19 51 05.7 -0.7
ROSF **Rostrenen** 80.25 318 eP P 19 50 43.6 +0.1
comp=Z,44nm,0.7s
ROSF **Rostrenen** 80.25 318 eP P 19 50 43.6 +0.1
ROSF pmax pmax
comp=Z,44nm,0.7s
ROSF **Rostrenen** 80.25 318 eP P 19 50 43.6 +0.1
comp=Z,44nm,0.7s
ATE **Arette** 80.27 312 eP P 19 50 45.0 +1.2
QUIF **Quistinic** 80.32 317 eP P 19 50 43.7 -0.2
comp=Z,31nm,0.9s
QUIF **Quistinic** 80.32 317 eP P 19 50 43.7 -0.2
QUIF pmax pmax
comp=Z,31nm,0.9s
QUIF **Quistinic** 80.32 317 eP P 19 50 43.7 -0.2
comp=Z,31nm,0.9s
KSR **Koster** 80.39 238 eP P 19 50 45.6 +0.8
KSR AMB AMB 19 50 47.0
comp=Z,94nm,1.2s
LARF **Larrau** 80.48 312 eP P 19 50 46.1 +1.2
COLD **Coldfoot** 80.50 21 eP P 19 50 44.7 +0.1
comp=Z,69nm,1.1s
PRYS **Parys** 80.53 237⇓iP P 19 50 45.6 +0.1
PRYS AMB AMB 19 50 47.3
comp=Z,77nm,1.3s
SJPF **Ste Jean** 80.62 312 eP P 19 50 45.9 +0.2
comp=Z,48nm,1.1s
SJPF **Ste Jean** 80.62 312 eP P 19 50 45.9 +0.2
SJPF pmax pmax
comp=Z,48nm,1.1s
SJPF **Ste Jean** 80.62 312 eP P 19 50 45.9 +0.2
comp=Z,48nm,1.1s
KSD **Kokstad** 80.72 233 eP P 19 50 46.6 +0.1
KSD AMB AMB 19 50 47.6
comp=Z,163nm,1.1s
SEK **Senekal** 80.99 235⇓iP P 19 50 47.9 0.0
SEK AMB AMB 19 50 49.8
comp=Z,246nm,1.3s
LBTB **Lobatse** 81.04 239⇓iP P 19 50 48.5 +0.3
LBTB AMB AMB 19 50 49.8
comp=Z,206nm,0.9s
LBTB **Lobatse** 81.04 239 eP P 19 50 48.5 +0.3
comp=Z,186nm,0.9s
LBTB epP pP 19 51 13.0 +2.0
ETRT **Tiaret** 81.26 304 P P 19 50 41.3 -8.0
DZM **Mont Dzumac** 81.63 117 eP P 19 50 53.2 +1.9
comp=Z,69nm,1.3s
DZM eS S 20 00 52.7 -4.5
comp=Z,1µm,26.9s
DZM **Mont Dzumac** 81.63 117 eLR LR 20 16 39.0
comp=Z,813nm,30.0s
DZM **Mont Dzumac** 81.63 117 eP P 19 50 53.2 +1.9
comp=Z,47nm,1.4s
TAM **Tamanrasset** 81.76 291 eP P 19 50 52.9 +0.7
TAM e*PP pP 19 51 15.1 +0.1
TAM pmax pmax
comp=Z,148nm,1.4s
TAM **Tamanrasset** 81.76 291 eP P 19 50 52.9 +0.7
comp=Z,148nm,1.4s
TAM epP pP 19 51 15.1 +0.1
BPAW **Bear Paw Mtn.** 81.81 24 eP P 19 50 51.4 -0.1
comp=Z,74nm,0.7s
PPLA **Purkeypile** 81.94 25 eP P 19 50 52.5 +0.1
comp=Z,114nm,1.1s
CHGN **Chignik** 82.12 33 eP P 19 50 51.7 -1.5
SUMG **Summit** 82.17 347⇑iP P 19 50 54.2 +0.5
SUMG i *PP pP 19 51 15.9 -0.6
SUMG i S S 20 01 03.0 +1.2
SUMG pmax pmax
comp=Z,130nm,1.0s
SUMG **Summit** 82.17 347⇑iP P 19 50 54.2 +0.5
comp=Z,130nm,1.0s
SUMG i pP pP 19 51 15.9 -0.6
SUMG i S S 20 01 03.0 +1.2
SUMG **Summit** 82.17 347 eP P 19 50 53.4 -0.3
comp=Z,337nm,1.2s
SWZ **Schweizer** 82.25 237⇓iP P 19 50 54.4 -0.2
SWZ AMB AMB 19 50 55.9
comp=Z,282nm,1.0s
COLA **College** 82.56 22 eP P 19 50 54.6 -0.8
COLA pmax pmax
comp=Z,219nm,0.9s
COLA **College** 82.56 22 eP P 19 50 54.6 -0.8
comp=Z,219nm,0.9s

MCK McKinley 82.77 24 *e*P **P 19 50 56.4 -0.2**
MCK pmax pmax
comp=Z,85nm,0.8s
MCK McKinley 82.77 24 *e*P **P 19 50 56.4 -0.2**
comp=Z,85nm,0.8s
RSO Redoubt South 82.89 27 *e*P **P 19 50 56.9 -0.5**
comp=Z,46nm,0.7s
RUDU RUNDU 82.92 248 *e*P **P 19 50 59.2 +1.0**
RUDU AMB AMB 19 51 00.3
comp=Z,90nm,1.7s
ILAR Eielson Array 82.96 22 P **P 19 50 56.3 -1.2**
ILAR S **S 20 01 06.5 -2.8**
ILAR PKKPbc **PKKPbc 20 09 18.9 -2.3**
ILAR P'P' 20 17 25.9
ILAR Eielson Array 82.96 22 P **P 19 50 56.3 -1.2**
comp=Z,32nm,0.8s,baz=295,slow=4.8,SNR=159
ILAR S **S 20 01 06.5 -2.8**
comp=Z,1.1nm,1.1s,baz=268,slow=6.3,SNR=4.9
ILAR PKKPbc **PKKPbc 20 09 18.9 -2.3**
comp=Z,1.2nm,0.9s,baz=170,slow=3.2,SNR=5.6
ILAR PKPPKP **P'P'df 20 17 25.9 -0.4**
comp=Z,0.9nm,1.0s,baz=163,slow=1.4,SNR=5.5
ILAR LR LR 20 34 40.1
comp=Z,730nm,19.2s,baz=121,slow=40
BOSA Boshof 82.97 236⇓*i*P **P 19 50 58.6 +0.4**
BOSA AMB AMB 19 50 59.6
comp=Z,286nm,1.0s
BOSA Boshof 82.97 236 *e*P **P 19 50 58.4 +0.2**
comp=Z,306nm,0.9s
BOSA PKKPbc **PKKPbc 20 09 21.4 +0.3**
BOSA Boshof 82.97 236 P **P 19 50 58.5 +0.2**
comp=Z,181nm,0.6s,baz=67,slow=3.9,SNR=460
BOSA PKKPbc **PKKPbc 20 09 21.4 +0.3**
comp=Z,4.6nm,0.9s,baz=298,slow=4.2,SNR=6.0
BOSA LR LR 20 25 04.7
comp=Z,1μm,18.7s,baz=77,slow=34
KULLO Kullorsuaq 83.58 353⇑*i*P **P 19 51 00.9 +0.4**
KULLO *i* S **S 20 01 12.8 -2.3**
KULLO pmax pmax
comp=Z,240nm,1.0s
HVD Garlep Dam 83.71 234⇓*i*P **P 19 51 02.8 +0.8**
HVD AMB AMB 19 51 04.2
comp=Z,382nm,1.2s
ESDC Sonseca Array 83.74 310 P **P 19 51 02.6 +0.6**
ESDC pP **pP 19 51 25.2 +0.3**
ESDC Sonseca Array 83.74 310 P **P 19 51 02.6 +0.6**
comp=Z,8.7nm,0.7s,baz=58,slow=5.0,SNR=53
ESDC pP **pP 19 51 25.2 +0.3**
comp=Z,16nm,0.8s,baz=48,slow=4.8,SNR=6.7
ESDC LR LR 20 33 54.2
comp=Z,259nm,19.8s,baz=55,slow=40
ESLA Sonseca Array 83.74 310 *e*P **P 19 51 01.9 -0.2**
comp=Z,29nm,1.4s
PMR Palmer 83.83 26 *e*P **P 19 51 01.3 -0.7**
PMR pmax pmax
comp=Z,72nm,0.9s
PMR Palmer 83.83 26 *e*P **P 19 51 01.3 -0.7**
comp=Z,72nm,0.9s
PAB San Pablo 84.06 310 *e*P **P 19 51 03.8 0.0**
PAB pmax pmax
comp=Z,434nm,1.3s
PAB San Pablo 84.06 310 *e*P **P 19 51 03.8 0.0**
comp=Z,434nm,1.3s
OHAK Old Harbor 84.22 30 *e*P **P 19 51 03.8 -0.3**
comp=Z,129nm,1.3s
GRM Grahamstown 84.23 231 *e*P **P 19 51 05.2 +0.7**
GRM AMB AMB 19 51 06.8
comp=Z,235nm,1.6s
KDAK Kodiak Island 84.28 30 P **P 19 51 04.0 -0.3**
comp=Z,275nm,0.8s,SNR=9.9
KDAK Kodiak Island 84.28 30 *e*P **P 19 51 03.8 -0.6**
comp=Z,83nm,1.4s
PAX Paxson 84.50 24 *e*P **P 19 51 05.8 +0.3**
PAX pmax pmax
comp=Z,61nm,1.0s
PAX Paxson 84.50 24 *e*P **P 19 51 05.8 +0.3**
comp=Z,61nm,1.0s
SOE Somerset East 84.65 232⇓*i*P **P 19 51 07.5 +0.8**
SOE AMB AMB 19 51 08.4
comp=Z,265nm,1.1s
PBRG Braganca 84.90 313 *e*P **P 19 51 08.7 +0.8**
comp=Z,88nm,1.6s
PBRG *e*pP **pP 19 51 31.0 +0.2**
EGAK Eagle 84.94 21 *e*P **P 19 51 07.4 -0.1**
comp=Z,52nm,1.1s
RES Resolute Bay 84.94 3 LR LR 20 32 06.1
comp=Z,411nm,21.6s,baz=153,slow=38
MENT Mentasta 85.17 23 *e*P **P 19 51 09.6 +0.9**
TSUM Tsumeb 85.30 248 *e*P **P 19 51 10.5 +0.2**
TSUM Tsumeb 85.30 248 *e*P **P 19 51 10.3 0.0**
comp=Z,100nm,1.5s
MVO Moncorvo 85.35 312 *e*P **P 19 51 11.4 +1.2**
comp=Z,120nm,1.5s
MVO *e*pP **pP 19 51 32.7 -0.4**
DIV Divide 85.44 25 *e*P **P 19 51 10.6 +0.4**
comp=Z,34nm,0.7s
PVRL Vila Real 85.78 312 *e*P **P 19 51 13.5 +1.2**
comp=Z,82nm,1.5s
PVRL *e*pP **pP 19 51 35.5 +0.2**
POLO Lamas de Olo 85.80 313 *e*P **P 19 51 13.3 +0.9**
comp=Z,38nm,1.4s
POLO *e*pP **pP 19 51 35.8 +0.4**
PCAB Cabril 85.82 313 *e*P **P 19 51 14.1 +1.6**
comp=Z,127nm,1.4s
PCAB *e*pP **pP 19 51 36.1 +0.7**
PGAV Gavieira, Arco 85.89 313 *e*pP **pP 19 51 36.3 +0.5**
PGAV A A 19 51 39.0
comp=Z,94nm,1.5s
BUFB Buffelsbos 85.92 231⇓*i*P **P 19 51 13.3 +0.4**
BUFB AMB AMB 19 51 14.8
comp=Z,92nm,1.2s
DAWY Dawson 85.99 21 *e*P **P 19 51 12.2 -0.7**
BMRM Bremner River 86.00 25 *e*P **P 19 51 13.2 +0.2**
comp=Z,208nm,0.8s
MTE Manteigas 86.01 312 *e*P **P 19 51 15.0 +1.6**
comp=Z,135nm,1.6s
MTE *e*pP **pP 19 51 37.2 +0.8**
MTE Manteigas 86.01 312 *e*P **P 19 51 14.5 +1.1**
comp=Z,99nm,1.0s
PVIS Viseu 86.13 312 *e*P **P 19 51 15.4 +1.4**
comp=Z,132nm,1.5s
PVIS *e*pP **pP 19 51 37.5 +0.5**
PCBR Castelo Branco 86.18 311 *e*P **P 19 51 15.2 +1.0**
comp=Z,122nm,1.4s
PMRV Marv??o 86.28 311 *e*P **P 19 51 15.9 +1.1**
comp=Z,83nm,1.6s
PMRV *e*pP **pP 19 51 38.2 +0.5**
PBAR Barrancos 86.52 309 *e*P **P 19 51 17.3 +1.4**
comp=Z,142nm,1.6s
PBAR *e*pP **pP 19 51 39.8 +0.9**
PESTR Estremoz 86.65 310 *e*P **P 19 51 17.9 +1.3**
comp=Z,45nm,1.4s
PESTR *e*pP **pP 19 51 40.0 +0.4**
MIR Mirnyy 86.68 181 *e*P P 19 51 12.5 -3.3
MIR *e* 19 51 32.0
MIR pmax pmax
comp=Z,88nm,1.2s
MDT Midelt 86.75 304 P **P 19 51 18.5 +1.2**
MDT pP **pP 19 51 40.6 +0.2**
MDT Midelt 86.75 304 P **P 19 51 18.5 +1.2**
comp=Z,6.7nm,0.8s,baz=72,slow=6.5,SNR=17
MDT pP **pP 19 51 40.6 +0.2**
comp=Z,8.5nm,1.0s,baz=68,slow=4.6,SNR=5.0
PCAS Casmilo, Conde 86.82 312 *e*P **P 19 51 18.5 +1.2**
comp=Z,58nm,1.7s
PCAS *e*pP **pP 19 51 40.9 +0.6**
PTOM Tomar 86.93 311 *e*P **P 19 51 19.4 +1.5**
comp=Z,223nm,1.4s
PTOM *e*pP **pP 19 51 42.7 +1.8**
PMTG Montargil 87.02 311 *e*P **P 19 51 19.5 +1.2**
comp=Z,95nm,1.5s
PMTG *e*pP **pP 19 51 41.8 +0.5**
WIN Windhoek 87.04 245 *e*P **P 19 51 19.4 +0.5**
WIN AMB AMB 19 51 20.8
comp=Z,62nm,1.0s
EVO Evora 87.08 310 *e*P **P 19 51 19.2 +0.5**
comp=Z,35nm,0.9s
EVO *e*pP **pP 19 51 43.8 +2.1**
EVO *e*R
comp=Z,192nm,19.8s
EVO Evora 87.08 310 *e*P **P 19 51 19.9 +1.2**
comp=Z,85nm,1.6s
EVO *e*pP **pP 19 51 42.5 +0.8**
EVOP Sao Brissos 87.17 310 *e*P **P 19 51 19.2 +0.2**
EVOP *e**PP **pP 19 51 43.8 +1.7**
EVOP pmax pmax
comp=Z,35nm,0.9s
EVOP Sao Brissos 87.17 310 *e*P **P 19 51 19.2 +0.2**
comp=Z,35nm,0.9s
EVOP *e*pP **pP 19 51 43.8 +1.7**
PBEJ Beja 87.18 310 *e*P **P 19 51 20.8 +1.7**
comp=Z,92nm,1.5s
CASY Casey 87.21 174 *e*P **P 19 51 17.9 -0.4**
comp=Z,20nm,0.7s
PVAQ Vaqueiros 87.32 309 *e*P **P 19 51 21.3 +1.5**
comp=Z,121nm,1.5s
PVAQ *e*pP **pP 19 51 43.5 +0.6**
ILULI Ilulissat 87.37 348⇑*i*P **P 19 51 19.6 +0.2**
ILULI pmax pmax
comp=Z,49nm,1.1s
PCVE Castro Verde 87.46 309 *e*P **P 19 51 21.8 +1.3**
comp=Z,56nm,1.4s
PCVE *e*pP **pP 19 51 44.5 +0.9**
PBDV Barranco-do-Ve 87.54 309 *e*P **P 19 51 20.7 -0.2**
comp=Z,147nm,1.5s
PBDV *e*pP **pP 19 51 45.3 +1.3**
PACT Alcochete 87.58 311 A A 19 52 47.2
comp=Z,222nm,1.2s
PNCL Nicolau / Gran 87.62 310 *e*P **P 19 51 22.0 +0.8**
comp=Z,116nm,1.6s
PNCL *e*pP **pP 19 51 45.4 +1.1**
PMAFR Mafra 87.82 311 *e*P **P 19 51 24.0 +1.8**
comp=Z,155nm,1.6s
PMAFR *e*pP **pP 19 51 46.2 +0.9**
PTEO Sao Teotonio 88.00 309 *e*P **P 19 51 24.8 +1.8**
comp=Z,146nm,1.6s
PTEO *e*pP **pP 19 51 47.2 +1.1**
MORF Marmelete 88.04 309 *e*P **P 19 51 23.1 -0.2**
comp=Z,119nm,1.6s
MORF *e*pP **pP 19 51 47.3 +0.9**
MORF Marmelete 88.04 309 *e*P **P 19 51 23.3 0.0**
MORF *e*S S 20 01 43.2 -17
SUR Sutherland 88.08 234 *e*P **P 19 51 26.1 +2.5**
SUR AMB AMB 19 51 28.0
comp=Z,76nm,3.6s
SUR Sutherland 88.08 234 P **P 19 51 24.0 +0.4**
comp=Z,777nm,0.8s,SNR=18
SUR Sutherland 88.08 234 *e*P **P 19 51 24.4 +0.7**
comp=Z,89nm,0.8s
PFVI Vila Bisbo 88.24 309 *e*P **P 19 51 25.9 +1.7**
comp=Z,143nm,2.0s
TORD Torodi Ar. Bea 88.41 283 P **P 19 51 25.3 -0.1**
TORD pP **pP 19 51 49.0 +0.5**
TORD PP **PP 19 54 51.1 -3.1**
TORD S **SKSac 20 01 44.6 -2.6**
TORD PKKPbc **PKKPbc 20 09 08.5 +1.6**
TORD Torodi Ar. Bea 88.41 283 P **P 19 51 25.3 -0.1**
comp=Z,20nm,0.7s,baz=71,slow=4.1,SNR=138
TORD pP **pP 19 51 49.0 +0.5**
comp=Z,36nm,0.8s,baz=63,slow=4.4,SNR=13
TORD PP **PP 19 54 51.1 -3.1**
comp=Z,11nm,0.9s,baz=69,slow=7.5,SNR=4.8
TORD S **SKSac 20 01 44.6 -2.6**
comp=Z,5.7nm,1.2s,baz=72,slow=5.7,SNR=6.6
TORD PKKPbc **PKKPbc 20 09 08.5 +1.6**
comp=Z,1.6nm,0.6s,baz=293,slow=2.4,SNR=19
TORD LR LR 20 32 02.8
comp=Z,367nm,20.4s,baz=65,slow=36
CVNA Calvinia 88.50 236 *e*P **P 19 51 25.5 0.0**
CVNA AMB AMB 19 51 27.4
comp=Z,139nm,3.9s
HYT Haines Junctio 88.79 23 *e*P **P 19 51 27.5 +1.0**
SFJD Kangerlussuaq 89.16 347⇑*i*P **P 19 51 28.3 +0.4**
comp=Z,145nm,0.9s
SFJD Kangerlussuaq 89.16 347 *e*S **SKSac 20 01 50.6 +0.8**
SFJD Kangerlussuaq 89.16 347 *e*P **P 19 51 28.0 +0.1**
comp=Z,267nm,1.0s
SFJD Kangerlussuaq 89.16 347 LR LR 20 34 42.2
comp=Z,453nm,20.0s,baz=28,slow=38
CER Ceres 89.65 234 *e*P **P 19 51 31.0 +0.2**
CER AMB AMB 19 51 32.3
comp=Z,87nm,1.4s
MAW Mawson 90.86 192 *e*P **P 19 51 35.6 +0.1**
comp=Z,17nm,1.5s
MAW PKKP **PKKPdf 20 09 00.7 +0.7**
MAW Mawson 90.86 192 P **P 19 51 36.7 +1.2**
comp=Z,9.6nm,0.8s,baz=13,slow=7.7,SNR=18
MAW PKKP **PKKPdf 20 09 00.7 +0.7**
comp=Z,2.3nm,0.6s,baz=186,slow=5.9,SNR=8.0
MAW LR LR 20 23 53.9
comp=Z,351nm,20.7s,baz=358,slow=30
NRS Narsarsuaq 92.70 342 *i*P **P 19 51 44.1 -0.3**
NRS pmax pmax
comp=Z,29nm,0.9s
YKA Yellowknife Ar 94.16 13 P **P 19 51 51.1 0.0**
YKA PP **PP 19 55 37.0 -0.8**
YKA Yellowknife Ar 94.16 13 P **P 19 51 51.1 0.0**
comp=Z,17nm,0.9s,baz=329,slow=4.6,SNR=13
YKA PP **PP 19 55 37.0 -0.8**
comp=Z,3.7nm,0.8s,baz=337,slow=8.1,SNR=4.1
RPZ Rata Peaks 94.36 135 LR LR 20 33 41.8
comp=Z,383nm,21.3s,baz=288,slow=35
DBIC Dimbokro 96.74 280 P **P 19 52 03.6 -0.3**
DBIC pP **pP 19 52 26.9 -0.2**
DBIC PP PP 19 55 51.4 -8.3
DBIC PKKP **PKKPdf 20 08 46.9 -0.1**
DBIC Dimbokro 96.74 280 P **P 19 52 03.6 -0.3**
comp=Z,8.9nm,0.7s,baz=80,slow=4.4,SNR=13
DBIC pP **pP 19 52 26.9 -0.2**
comp=Z,15nm,0.9s,baz=26,slow=5.9,SNR=4.8
DBIC PP PP 19 55 51.4 -8.3
comp=Z,12nm,1.1s,baz=62,slow=7.7,SNR=5.9
DBIC PKKP **PKKPdf 20 08 46.9 -0.1**
comp=Z,4.3nm,0.8s,baz=269,slow=5.8,SNR=7.6
DBIC LR LR 20 36 19.2
comp=Z,473nm,20.3s,baz=45,slow=36
KIC Kosan Boka 96.75 279 *e*PKIKP **P 19 52 04.2 +0.3**
comp=Z,91nm,1.2s
TIC Toumodi 96.90 280 *e*PKIKP **P 19 52 03.8 -0.8**
comp=Z,114nm,1.2s
LIC Lamto 97.06 279 *e*P **P 19 52 04.9 -0.4**
comp=Z,13nm,0.8s
LIC *e*pP **pP 19 52 28.4 -0.1**
LIC Lamto 97.06 279 *e*PKIKP **P 19 52 03.7 -1.6**
comp=Z,62nm,1.3s
LIC Lamto 97.06 279 *e*P **P 19 52 04.9 -0.4**
comp=Z,13nm,0.8s
LIC *e*pP **pP 19 52 28.4 -0.1**
RAO Raoul Island 97.39 118 LR LR 20 35 23.8
comp=Z,207nm,21.2s,baz=356,slow=35
SYO Syowa Base 97.49 197⇑*e*P **P 19 52 04.2 -1.7**
SYO Syowa Base 97.49 197⇓*e*P Pdif 19 52 14.2 +8.3
AFI Afiamalu 97.82 102 LR LR 20 34 02.4
comp=Z,192nm,19.4s,baz=325,slow=34
SCHQ Schefferville 103.47 349 PP PP 19 56 45.1 -3.7
SCHQ Schefferville 103.47 349 PP PP 19 56 45.1 -3.7
comp=Z,11nm,0.9s,baz=22,slow=5.9,SNR=4.9
VNDA Vanda 104.96 168 Pdif **Pdif 19 52 38.8 -0.3**
VNDA PP **PP 19 56 57.2 -3.4**
VNDA PKKPbc **PKKPbc 20 08 22.1 -2.1**
VNDA PKKP **PKKPab 20 08 39.5 +1.8**
VNDA Vanda 104.96 168 Pdiff **Pdif 19 52 38.8 -0.3**
comp=Z,0.3nm,0.5s,baz=270,slow=4.0,SNR=2.4
VNDA PP **PP 19 56 57.2 -3.4**
comp=Z,3.7nm,1.2s,baz=285,slow=11,SNR=3.7
VNDA PKKPbc **PKKPbc 20 08 22.1 -2.1**
comp=Z,1.3nm,0.9s,baz=41,slow=0.5,SNR=4.7
VNDA PKKP **PKKPab 20 08 39.5 +1.8**
comp=Z,2.5nm,0.9s,baz=121,slow=3.8,SNR=6.4
WALA Waterton Lakes 106.27 19 *e*PKIKP **PKiKP 19 56 59.8 +2.9**
MAIT Maitri 106.83 200 *e*P **PKiKP 19 56 58.4 +1.4**
A19A Klindworth Far 107.86 16⇓PKiKP **PKiKP 19 57 00.9 +1.1**
baz=108
MSO Missoula 108.22 20⇑PKiKP **PKiKP 19 57 01.1 +0.5**
baz=108
A21A Bergtoll Ranch 108.25 15⇑PKiKP **PKiKP 19 57 01.3 +0.8**
baz=108
EGMT Eagleton 108.41 17⇑PKiKP **PKiKP 19 57 01.8 +0.9**
baz=108
C19A Slack Wire Ran 108.87 17⇓PKiKP **PKiKP 19 57 02.8 +1.0**
baz=109
D19A Cripps Ranch, 109.44 17⇑PKiKP **PKiKP 19 57 02.7 -0.1**
baz=109
E19A Rath Farm, Rou 110.11 17⇑PKiKP **PKiKP 19 57 05.7 +1.6**
baz=110
B28A Dugan Ranch, T 110.14 11⇓PKiKP **PKiKP 19 57 04.9 +0.9**
baz=110
D22A Cohagen 110.15 15⇑PKiKP **PKiKP 19 57 05.3 +1.2**
baz=110
QSPA South Pole Qui 110.21 180 PKKPbc PKKPbc 20 08 05.4 -2.6
QSPA PKKPab **PKKPab 20 08 17.0 +2.3**
QSPA South Pole Qui 110.21 180 PKKPbc PKKPbc 20 08 05.4 -2.7
comp=Z,10nm,1.0s,baz=143,slow=2.0,SNR=17
QSPA PKKPab **PKKPab 20 08 17.0 +2.3**
comp=Z,19nm,0.9s,baz=227,slow=1.6,SNR=3.9
E20A Meyer Farm, Mu 110.25 17⇑PKiKP **PKiKP 19 57 05.8 +1.5**
baz=110
WVOR Wild Horse Val 110.27 26 *e*PKIKP **PKiKP 19 57 05.7 +1.1**
WVOR Wild Horse Val 110.27 26 *e*PKiKP **PKiKP 19 57 05.7 +1.1**
C26A Wahner Farm, P 110.42 12⇑PKiKP **PKiKP 19 57 03.7 -0.9**
baz=110
MFID Camas Ranch 110.53 23⇓PKiKP **PKiKP 19 57 06.1 +1.1**
baz=110
F19A Roth Farm, Mol 110.62 18⇓PKiKP **PKiKP 19 57 06.3 +1.2**
baz=110
HLID Hailey 110.92 22 *e*PKiKP **PKiKP 19 57 06.8 +0.9**
HLID Hailey 110.92 22⇓PKiKP **PKiKP 19 57 06.8 +0.9**
baz=111
E25A Miller Ranch, 111.41 13⇑PKiKP **PKiKP 19 57 07.9 +1.3**
baz=111
G20A Bridger 111.41 17⇓PKiKP **PKiKP 19 57 07.8 +1.1**
baz=111
F22A Rosebud 111.41 16⇑PKiKP **PKiKP 19 57 07.9 +1.3**
baz=111
SNAA Sanae 111.61 200 *e*P **PKiKP 19 57 05.7 -0.4**
SNAA Sanae 111.61 200 *e*P PKiKP 19 57 29.7 +24
SNAA Sanae 111.61 200 *e*PP PP 19 57 47.3 -1.8
F23A Volborg 111.68 15⇑PKiKP **PKiKP 19 57 06.5 -0.6**
baz=111
G21A Lodge Grass 111.68 17⇑PKiKP **PKiKP 19 57 08.2 +1.0**
baz=111
D30A Buchanan 111.71 10⇓PKiKP **PKiKP 19 57 07.9 +0.9**
baz=111
G22A Birney 111.93 16⇑PKiKP **PKiKP 19 57 08.8 +1.1**
baz=112
RRI2 Red Ridge 112.17 20 *e*PKiKP **PKiKP 19 57 08.7 +0.3**
G23A Biddle 112.17 15⇓PKiKP **PKiKP 19 57 08.8 +0.7**
baz=112
E30A Jud 112.27 10⇓PKiKP **PKiKP 19 57 08.5 +0.3**
baz=112
H21A Big Horn, Sher 112.28 17⇑PKiKP **PKiKP 19 57 09.1 +0.8**
baz=112
REDW Red Top Meadow 112.31 20 *e*PKiKP **PKiKP 19 57 09.6 +1.0**
H22A Clearmont 112.49 16⇑PKiKP **PKiKP 19 57 09.4 +0.6**
baz=112
G27A Dupree 112.58 13⇑PKiKP **PKiKP 19 57 10.0 +1.2**
baz=112
I20A Worland 112.60 18⇓PKiKP **PKiKP 19 57 09.9 +0.9**
baz=112
G26A Maurine 112.73 13⇓PKiKP **PKiKP 19 57 10.0 +0.9**
baz=112
H24A Dirks Ranch, A 112.80 15⇓PKiKP **PKiKP 19 57 10.3 +1.0**
baz=112
J19A Crowheart 112.95 19⇓PKiKP **PKiKP 19 57 10.2 +0.5**
baz=113
I21A Big Trails, Te 112.96 17⇑PKiKP **PKiKP 19 57 10.7 +0.9**
baz=113
I22A 9 Mile Ranch, 113.11 17⇓PKiKP **PKiKP 19 57 10.9 +1.0**
baz=113
VNA2 Neumayer--Watz 113.11 200 *e*P **PKiKP 19 57 09.4 +0.6**
baz=37,slow=1.9
VNA2 Neumayer--Watz 113.11 200 *e*P PKiKP 19 57 33.1 +24
baz=24,slow=2.5
VNA2 Neumayer--Watz 113.11 200 *e*PP PP 19 57 59.0 -0.7
baz=91,slow=9.0
J20A Shoshoni 113.16 18⇑PKiKP **PKiKP 19 57 10.6 +0.5**
baz=113
WAKR Walker 113.16 29 *e*PKiKP **PKiKP 19 57 11.5 +1.2**
BW06 Boulder Array 113.25 19 *e*PKiKP **PKiKP 19 57 09.4 -1.0**
PDAR Pinedale Array 113.25 19 PKiKP **PKiKP 19 57 10.7 +0.2**
PDAR PP **PP 19 57 59.9 -0.6**
PDAR SKP 20 00 37.4
PDAR PKKPbc **PKKPbc 20 07 54.6 -2.3**
PDAR PKKPab **PKKPab 20 08 02.4 -4.0**
PDAR PKKP PKKPdf 20 08 25.0 +8.2
PDAR Pinedale Array 113.25 19 PKiKP **PKiKP 19 57 10.7 +0.2**
comp=Z,3.8nm,0.9s,baz=27,slow=1.7,SNR=18
PDAR PP **PP 19 57 59.9 -0.6**
comp=Z,9.6nm,1.1s,baz=294,slow=4.5,SNR=8.4
PDAR SKP 20 00 37.4
comp=Z,1.8nm,0.5s,baz=159,slow=1.6,SNR=8.7
PDAR PKKPbc **PKKPbc 20 07 54.6 -2.3**
comp=Z,0.9nm,0.8s,baz=136,slow=4.9,SNR=4.0
PDAR PKKPab **PKKPab 20 08 02.4 -4.0**
comp=Z,1.7nm,0.9s,baz=142,slow=7.4,SNR=6.8
PDAR PKKP PKKPdf 20 08 25.0 +8.2
comp=Z,1.1nm,0.7s,baz=151,slow=4.3,SNR=4.6
H26A Fairpoint 113.34 14⇑PKiKP **PKiKP 19 57 11.5 +1.2**
baz=113
J21A Lysite 113.35 18⇓PKiKP **PKiKP 19 57 10.8 +0.3**
baz=113
K19A Absolon Red Bu 113.42 19⇑PKiKP **PKiKP 19 57 11.0 +0.3**
baz=113
VNA1 Neumayer--Stat 113.42 201 *e*PP PP 19 58 01.6 -0.2
J22A Midwest 113.56 17⇓PKiKP **PKiKP 19 57 11.2 +0.3**
baz=113
I24A Kuemmerle Ranc 113.62 15⇓PKiKP **PKiKP 19 57 11.5 +0.5**
baz=113
HWUT Hardware Ranch 113.64 21 *e*PKiKP **PKiKP 19 57 11.7 +0.6**
I25A Rochford 113.68 15⇓PKiKP **PKiKP 19 57 11.9 +0.7**
baz=113
K20A Yellowstone Ra 113.72 19⇓PKiKP **PKiKP 19 57 11.4 +0.2**
baz=113
NVAR Mina Array Bea 113.73 28 PKiKP **PKiKP 19 57 12.7 +1.3**
NVAR SKP 20 00 38.4
NVAR PKKPbc **PKKPbc 20 07 53.8 -1.4**
NVAR PKKPab **PKKPab 20 08 01.4 -2.7**
NVAR PKKP **PKKPdf 20 08 18.6 +2.8**
NVAR Mina Array Bea 113.73 28 PKiKP **PKiKP 19 57 12.7 +1.3**
baz=316,slow=2.5
NVAR SKP 20 00 38.4
comp=Z,3.1nm,0.8s,baz=273,slow=2.6,SNR=6.8
NVAR PKKPbc **PKKPbc 20 07 53.8 -1.4**
comp=Z,1.1nm,0.8s,baz=163,slow=4.8,SNR=4.9
NVAR PKKPab **PKKPab 20 08 01.4 -2.7**
comp=Z,2.0nm,0.9s,baz=149,slow=5.8,SNR=7.1
NVAR PKKP **PKKPdf 20 08 18.6 +2.8**
comp=Z,1.6nm,0.8s,baz=138,slow=3.9,SNR=4.6
NV11 Mina Array Sit 113.79 28 *e*PKiKP **PKiKP 19 57 12.9 +1.5**
L18A Fontenelle, Gr 113.86 20⇑PKiKP **PKiKP 19 57 12.2 +0.6**
baz=114
M17A Scullys Gap (B 114.06 21⇓PKiKP PKPdf 19 57 12.2 +0.2
baz=114
K21A Alcova 114.06 18⇑PKiKP PKPdf 19 57 12.5 +0.6
baz=114
K22A Casper 114.25 17⇑PKiKP PKPdf 19 57 12.6 +0.4
baz=114
J25A Sunshine Ranch 114.26 15⇓PKiKP **PKiKP 19 57 11.0 -1.2**
baz=114
BRSD Miller 114.26 11⇓PKiKP PKPdf 19 57 12.3 +0.3
baz=114
I28A Midland 114.27 13⇓PKiKP PKPdf 19 57 13.1 +1.0
baz=114
SPMN St. Paul 114.34 6⇑PKiKP PKPdf 19 57 13.0 +0.9
baz=114
K23A Bowen Ranch, D 114.40 16⇓PKiKP PKPdf 19 57 12.6 +0.1
baz=114
DUG Dugway 114.44 23 *e*PKIKP PKPdf 19 57 13.8 +1.1
DUG Dugway 114.44 23 *e*PKiKP PKPdf 19 57 13.8 +1.2
DUG Dugway 114.44 23⇑PKiKP PKPdf 19 57 13.7 +1.0
baz=114
J26A Sides Ranch, S 114.51 14⇑PKiKP PKPdf 19 57 13.5 +0.9
baz=114
M19A Rock Springs 114.52 20⇑PKiKP PKPdf 19 57 13.4 +0.6
baz=114
K24A Anderson Ranch 114.64 16⇓PKiKP PKPdf 19 57 13.3 +0.4
baz=114
L21A Rawlins 114.64 18⇓PKiKP PKPdf 19 57 13.3 +0.3
baz=114
M20A Sweetwater, Wa 114.83 19⇑PKiKP PKPdf 19 57 14.0 +0.5
baz=114
L22A Ellis Ranch, M 114.85 17⇑PKiKP PKPdf 19 57 14.2 +0.7
baz=115
R11A Troy Canyon, C 114.96 26 *e*PKPdf PKPdf 19 57 14.9 +1.1
R11A Troy Canyon, C 114.96 26⇑PKiKP PKPdf 19 57 15.0 +1.3
baz=115
L23A Garrett 114.97 17⇓PKiKP PKPdf 19 57 14.1 +0.3
baz=115
ECSD EROS Data Cent 115.33 9 *e*PKPdf **PKPdf 19 57 14.1 0.0**
M22A Cedar Creek Ra 115.38 18⇑PKiKP **PKPdf 19 57 15.2 +0.7**
baz=115
L25A Engebretsen Ra 115.39 15⇑PKiKP **PKPdf 19 57 15.3 +0.9**
baz=115
N20A Spence Gulch, 115.41 19⇓PKiKP **PKPdf 19 57 15.1 +0.4**
baz=115
SMMC Simmler 115.49 31⇓PKiKP **PKPdf 19 57 16.4 +1.7**
baz=115
O19A Miners Draw (B 115.62 20⇓PKiKP **PKPdf 19 57 15.5 +0.6**
baz=115

K29A	Lazy Trails An	115.63	12	⇑PKiKP	PKPdf	19 57 15.8	+1.0
	baz=115						
N21A	Black Mountain	115.70	19	⇓PKiKP	PKPdf	19 57 16.1	+0.9
	baz=115						
M24A	Cheyenne	115.81	16	⇓PKiKP	PKPdf	19 57 16.0	+0.7
	baz=116						
PKM	Peak Mountain	115.91	31	⇑PKiKP	PKPdf	19 57 17.4	+1.7
	baz=116						
ISA	Isabella	115.93	30	⇑PKiKP	PKPdf	19 57 16.3	+0.8
	baz=116						
N22A	Wattenberg Ran	115.98	18	⇑PKiKP	PKPdf	19 57 16.4	+0.6
	baz=116						
N23A	Red Feather La	116.04	17	⇑PKiKP	PKPdf	19 57 16.6	+0.8
	baz=116						
M25A	Palm-Egli Farm	116.04	16	⇓PKiKP	PKPdf	19 57 16.3	+0.5
	baz=116						
O20A	White River Ci	116.05	20	*e*PKPdf	PKPdf	19 57 15.9	+0.1
O20A	White River Ci	116.05	20	⇓PKiKP	PKPdf	19 57 16.4	+0.6
	baz=116						
MPMC	Manual Prospec	116.06	29	⇑PKiKP	PKPdf	19 57 17.4	+1.5
	baz=116						
Q16A	Castle Valley	116.16	22	⇑PKiKP	PKPdf	19 57 17.3	+1.2
	baz=116						
L29A	Maesberg Ranch	116.27	13	⇓PKiKP	PKPdf	19 57 16.6	+0.6
	baz=116						
P19A	Cripple Cowboy	116.27	20	⇑PKiKP	PKiKP	19 57 17.1	+0.8
	baz=116						
LRMC	Laurel Mountai	116.44	29	⇑PKiKP	PKiKP	19 57 17.8	+1.2
	baz=116						
L30A	Spencer Herefo	116.53	12	⇑PKiKP	PKiKP	19 57 16.9	+0.4
	baz=116						
P20A	De Beque	116.58	20	⇑PKiKP	PKiKP	19 57 17.3	+0.5
	baz=116						
O23A	Lake Granby, G	116.68	18	⇑PKiKP	PKiKP	19 57 17.9	+0.7
	baz=116						
SHPR	Sheep Range	116.70	27	*e*PKPdf	PKPdf	19 57 18.7	+1.5
EDW2	Edwards Air Fo	116.80	30	⇓PKiKP	PKiKP	19 57 18.5	+1.3
	baz=117						
N26A	Koester Ranch,	116.82	15	⇓PKiKP	PKiKP	19 57 17.7	+0.6
	baz=116						
P21A	Newcastle	116.86	19	⇑PKiKP	PKiKP	19 57 18.1	+0.6
	baz=117						
BLG	Laguna Peak	116.91	31	⇑PKiKP	PKPdf	19 57 17.0	-0.4
	baz=117						
GSC	Goldstone	116.99	29	*e*PKIKP	PKPdf	19 57 19.0	+1.4
GSC	Goldstone	116.99	29	*e*PKPdf	PKPdf	19 57 19.0	+1.4
GSC	Goldstone	116.99	29	⇓PKiKP	PKPdf	19 57 19.0	+1.4
	baz=117						
P22A	Eagle	117.00	19	⇑PKiKP	PKiKP	19 57 18.3	+0.5
	baz=117						
ISCO	Idaho Springs	117.15	18	⇓PKiKP	PKiKP	19 57 18.7	+0.6
	baz=117						
BINY	Binghamton	117.16	352	*e*PKPdf	PKPdf	19 57 18.0	+0.3
M31A	Lambtecht Ranc	117.26	12	⇓PKiKP	PKiKP	19 57 18.4	+0.5
	baz=117						
O25A	Wiggins	117.27	16	⇑PKiKP	PKiKP	19 57 19.1	+1.0
	baz=117						
SMCO	Snowmass	117.32	19	*e*PKPdf	PKPdf	19 57 19.2	+0.6
BGNE	Belgrade	117.35	11	⇑PKiKP	PKiKP	19 57 18.5	+0.5
	baz=117						
O26A	Horse Wrangler	117.35	16	⇑PKiKP	PKiKP	19 57 18.5	+0.2
	baz=117						
N29A	Votaw Ranch, W	117.43	13	⇑PKiKP	PKiKP	19 57 18.8	+0.5
	baz=117						
Q21A	Lamborn Mesa,	117.45	20	⇑PKiKP	PKiKP	19 57 19.6	+1.0
	baz=117						
BFSC	Mount Baldy Ra	117.48	30	⇑PKiKP	PKiKP	19 57 19.4	+0.7
	baz=117						
P23A	Jefferson	117.48	18	⇓PKiKP	PKiKP	19 57 19.6	+0.8
	baz=117						
HEC	Hector,Ludlow	117.60	29	⇑PKiKP	PKiKP	19 57 20.7	+1.9
	baz=117						
O27A	Beecher Island	117.61	15	⇓PKiKP	PKiKP	19 57 19.1	+0.4
	baz=117						
P25A	Willow Gulch B	117.82	17	⇓PKiKP	PKiKP	19 57 19.6	+0.3
	baz=118						
R21A	Cimarron	117.88	20	⇓PKiKP	PKiKP	19 57 20.2	+0.8
	baz=118						
Q23A	Hartsel	117.92	18	⇑PKiKP	PKPdf	19 57 19.3	-0.3
	baz=118						
U15A	North Rim	117.94	25	⇓PKiKP	PKiKP	19 57 21.0	+1.3
	baz=118						
GMRC	Granite Mounta	117.94	28	⇑PKiKP	PKiKP	19 57 21.1	+1.5
	baz=118						
P26A	Davis Ranch, A	117.99	16	⇑PKiKP	PKiKP	19 57 20.1	+0.5
	baz=118						
Q24A	Divide	118.06	18	⇓PKiKP	PKiKP	19 57 19.9	0.0
	baz=118						
P27A	Ficken Ranch,	118.18	15	⇓PKiKP	PKiKP	19 57 20.4	+0.5
	baz=118						
MURC	Murrieta	118.22	30	⇓PKiKP	PKiKP	19 57 21.2	+1.2
	baz=118						
P28A	Saint Francis	118.37	15	⇓PKiKP	PKiKP	19 57 20.4	+0.2
	baz=118						
W13A	Hualapai Mount	118.44	27	⇑PKiKP	PKiKP	19 57 21.8	+1.2
	baz=118						
BELC	Belle Mtn. Jos	118.44	29	⇑PKiKP	PKiKP	19 57 22.0	+1.4
	baz=118						
S21A	Coal Bank Pass	118.45	20	⇑PKiKP	PKiKP	19 57 21.6	+0.9
	baz=118						
Q26A	Hugo	118.54	16	⇓PKiKP	PKiKP	19 57 21.2	+0.6
	baz=118						
PFO	Pinyon Flat Ob	118.56	30	⇓PKiKP	PKiKP	19 57 21.9	+1.1
	baz=118						
R23A	Moffat	118.58	18	⇓PKiKP	PKiKP	19 57 21.9	+1.0
	baz=118						
KSCO	Kaye Shedlock'	118.69	15	*e*PKPdf	PKPdf	19 57 21.8	+0.9
R24A	Sanders Place,	118.75	18	⇓PKiKP	PKiKP	19 57 21.3	+0.2
	baz=118						
SSPA	Standing Stone	118.92	354	*e*PKPdf	PKPdf	19 57 21.3	+0.3
P31A	Stockton	118.94	13	⇑PKiKP	PKiKP	19 57 21.6	+0.3
	baz=119						
BC3	Big Chuckawall	118.98	29	⇑PKiKP	PKiKP	19 57 23.1	+1.5
	baz=119						
PDMCI	Parker Dam,Lak	119.01	27	⇓PKiKP	PKiKP	19 57 23.0	+1.5
	baz=119						
R25A	Fountain Ranch	119.06	17	⇑PKiKP	PKiKP	19 57 22.1	+0.5
	baz=119						
SDCO	Great Sand Dun	119.09	18	*e*PKPdf	PKPdf	19 57 22.7	+0.8
R26A	Arlington	119.14	16	⇑PKiKP	PKiKP	19 57 22.4	+0.6
	baz=119						
MONP	Monument Peak	119.17	30	⇓PKiKP	PKiKP	19 57 23.1	+1.0
	baz=119						
Q29A	Oakley	119.20	14	⇑PKiKP	PKiKP	19 57 22.2	+0.4
	baz=119						
S24A	Houchin Ranch,	119.27	18	⇓PKiKP	PKiKP	19 57 22.7	+0.5
	baz=119						
Y12C	Blythe	119.31	28	⇓PKiKP	PKiKP	19 57 23.7	+1.7
	baz=119						
R27A	Eads	119.33	16	⇑PKiKP	PKiKP	19 57 22.5	+0.3
	baz=119						
T22A	Edith	119.33	20	⇓PKiKP	PKiKP	19 57 23.7	+1.4
	baz=119						
PPT2	Papeete2	119.35	99	*e*SP	SP	20 08 22.7	-1.8
	comp=Z,286nm,28.8s						
PPT2				*e*SS	SS	20 14 56.7	-4.7
	comp=Z,524nm,24.2s						
PPT2	Papeete2	119.35	99	*e*LR	LR	20 33 58.4	
	comp=Z,2μm,34.5s						
SWSC	Sam W. Stewart	119.42	29	⇑PKiKP	PKiKP	19 57 23.9	+1.6
	baz=119						
Q31A	Ellis	119.43	13	⇓PKiKP	PKiKP	19 57 22.6	+0.4
	baz=119						
S25A	Robets Cordova	119.47	18	⇓PKiKP	PKiKP	19 57 23.1	+0.6
	baz=119						
DVTC	Desert V Tower	119.51	30	⇑PKiKP	PKiKP	19 57 24.1	+1.5
	baz=119						
R28A	Tribune	119.52	15	⇓PKiKP	PKiKP	19 57 22.8	+0.3
	baz=119						
SFIN	Scholer Farm	119.52	2	⇓PKiKP	PKiKP	19 57 22.8	+0.5
	baz=119						
T23A	Casias Ranch,	119.58	19	⇑PKiKP	PKiKP	19 57 23.7	+0.9
	baz=119						
ACSO	Alum Creek Sta	119.67	358	*e*PKPdf	PKPdf	19 57 22.7	+0.2
T24B	San Luis	119.75	19	⇓PKiKP	PKiKP	19 57 24.2	+1.0
	baz=120						
GLA	Glamis	119.77	29	*e*PKIKP	PKPdf	19 57 24.3	+1.3
GLA	Glamis	119.77	29	*e*PKPdf	PKPdf	19 57 24.3	+1.3
GLA	Glamis	119.77	29	⇑PKiKP	PKiKP	19 57 24.7	+1.7
	baz=120						
Y14A	Wickenburg	119.81	27	⇓PKiKP	PKiKP	19 57 24.6	+1.5
	baz=120						
KSU1	Kansas State U	119.86	10	*e*PKPdf	PKPdf	19 57 23.1	+0.2
V20A	Brimhall	119.91	22	⇓PKiKP	PKPdf	19 57 22.7	-0.7
	baz=120						
T25A	Trinidad	119.97	18	⇑PKiKP	PKiKP	19 57 23.9	+0.3
	baz=120						
X16A	Lo Mia Camp, P	120.03	25	⇓PKiKP	PKiKP	19 57 25.3	+1.6
	baz=120						
W18A	Petrified Fore	120.06	23	*e*PKPdf	PKPdf	19 57 25.4	+1.8
W18A	Petrified Fore	120.06	23	⇓PKiKP	PKiKP	19 57 24.9	+1.1
	baz=120						
R31A	Burdett	120.09	13	⇓PKiKP	PKiKP	19 57 24.1	+0.6
	baz=120						
T26A	Comanche Natio	120.16	17	⇓PKiKP	PKiKP	19 57 24.1	+0.2
	baz=120						
U23A	El Rito	120.18	20	⇑PKiKP	PKPdf	19 57 23.2	-0.7
	baz=120						
V21A	Milan	120.19	21	⇓PKiKP	PKiKP	19 57 24.9	+0.9
	baz=120						
S28A	Manter	120.21	15	⇓PKiKP	PKiKP	19 57 24.2	+0.3
	baz=120						
Z14A	Wintersburg	120.33	27	⇑PKiKP	PKiKP	19 57 25.6	+1.5
	baz=120						
V22A	San Miguel Ran	120.33	20	⇑PKiKP	PKiKP	19 57 25.4	+1.1
	baz=120						
S29A	Ulysses	120.38	15	⇓PKiKP	PKiKP	19 57 24.8	+0.6
	baz=120						
113A	Mohawk Valley,	120.48	28	⇑PKiKP	PKiKP	19 57 25.5	+1.1
	baz=120						
T27A	Campo	120.50	16	⇑PKiKP	PKiKP	19 57 24.7	+0.2
	baz=120						
W20A	Ramah	120.50	22	⇓PKiKP	PKiKP	19 57 25.7	+1.0
	baz=120						
X18A	Snowflake	120.51	24	⇓PKiKP	PKiKP	19 57 25.8	+1.2
	baz=120						
S30A	Montezuma	120.51	14	⇓PKiKP	PKiKP	19 57 24.8	+0.4
	baz=120						
T28A	Walsh	120.61	16	⇑PKiKP	PKPdf	19 57 24.4	-0.1
	baz=120						
U25A	Circle Dot Ran	120.66	18	⇓PKiKP	PKiKP	19 57 26.0	+1.1
	baz=120						
TBI	Tubuai	120.67	106	*e*SS	SS	20 15 14.5	-3.6
	comp=Z,346nm,30.5s						
TBI	Tubuai	120.67	106	*e*LR	LR	20 34 34.3	
	comp=Z,1μm,35.5s						
V23A	Ortiz Mt. (NFS	120.72	20	⇓PKiKP	PKiKP	19 57 26.4	+1.3
	baz=120						
S31A	Mullinville	120.75	13	⇓PKiKP	PKiKP	19 57 25.3	+0.5
	baz=120						
T29A	Hugoton	120.77	15	⇓PKiKP	PKiKP	19 57 25.4	+0.4
	baz=120						
W21A	San Fidel	120.81	21	⇓PKiKP	PKiKP	19 57 26.2	+0.9
	baz=120						
V24A	Rampart Ranch,	121.02	19	⇓PKiKP	PKiKP	19 57 26.8	+1.1
	baz=121						
X20A	Quemado	121.03	22	⇓PKiKP	PKiKP	19 57 26.8	+1.1
	baz=121						
T30A	Plains	121.06	14	⇑PKiKP	PKiKP	19 57 25.9	+0.4
	baz=121						
U27A	Thompson Grove	121.08	17	⇑PKiKP	PKiKP	19 57 25.8	+0.2
	baz=121						
V25A	Rancho No Teng	121.12	18	⇑PKiKP	PKiKP	19 57 26.3	+0.5
	baz=121						
T31A	Randall Ranch,	121.20	14	⇓PKiKP	PKiKP	19 57 26.4	+0.6
	baz=121						
W23A	Werner Place,	121.27	20	⇓PKiKP	PKiKP	19 57 27.2	+1.0
	baz=121						
ANMO	Albuquerque	121.36	20	*e*PKPdf	PKPdf	19 57 27.6	+1.5
X21A	Alamocita Cree	121.37	22	⇑PKiKP	PKiKP	19 57 27.5	+1.1
	baz=121						
V26A	Tequesquite Ra	121.40	18	⇓PKiKP	PKiKP	19 57 27.0	+0.7
	baz=121						
W24A	Lazy 6 Ranch,	121.46	19	⇓PKiKP	PKiKP	19 57 27.4	+0.9
	baz=121						
U30A	WK&E Inc. Balk	121.53	15	⇑PKiKP	PKiKP	19 57 27.1	+0.6
	baz=121						
X22A	Bernardo	121.58	21	⇓PKiKP	PKiKP	19 57 28.4	+1.7
	baz=121						
214A	Organ Pipe Nat	121.59	28	⇑PKiKP	PKiKP	19 57 27.9	+1.3
	baz=121						
LAZ	Lazon	121.63	21	*e*PKPdf	PKPdf	19 57 28.2	+1.5
Y20A	Horse Springs,	121.64	23	⇑PKiKP	PKiKP	19 57 28.1	+1.1
	baz=121						
V27A	Dan Oppiter Fa	121.70	17	⇓PKiKP	PKiKP	19 57 27.2	+0.4
	baz=121						
W25A	X Bar L Ranch,	121.74	19	⇑PKiKP	PKiKP	19 57 27.7	+0.7
	baz=122						
X23A	Hourglass Bar	121.79	20	⇓PKiKP	PKiKP	19 57 28.3	+1.1
	baz=122						
Y21A	Point of Rocks	121.80	22	⇓PKiKP	PKiKP	19 57 28.4	+1.2
	baz=122						
U31A	Nine Bar Ranch	121.86	14	⇑PKiKP	PKiKP	19 57 27.6	+0.6
	baz=122						
V28A	Channing	121.87	16	⇓PKiKP	PKiKP	19 57 27.3	+0.1
	baz=122						
LPM	Los Pinos Moun	121.89	21	*e*PKPdf	PKPdf	19 57 28.2	+1.0
LENM	Lemitar	121.90	21	*e*PKPdf	PKPdf	19 57 28.4	+1.2
Y22D	IRIS PASSCAL I	122.00	21	⇓PKiKP	PKiKP	19 57 29.0	+1.4
	baz=122						
BNM	Barren Site	122.03	21	*e*PKPdf	PKPdf	19 57 28.2	+0.7
X24A	Lazy VL Ranch,	122.05	20	⇑PKiKP	PKiKP	19 57 28.3	+0.6
	baz=122						
W26A	Owens Ranch, T	122.06	18	⇑PKiKP	PKiKP	19 57 28.0	+0.4
	baz=122						
TUC	Tucson	122.14	26	*e*PKIKP	PKPdf	19 57 28.6	+1.0
TUC	Tucson	122.14	26	*e*PKPdf	PKPdf	19 57 28.6	+1.0
Z20A	Nine Sixteen R	122.28	23	⇑PKiKP	PKiKP	19 57 29.4	+1.2
	baz=122						
W27A	Bowe Ranch, En	122.29	17	⇓PKiKP	PKiKP	19 57 28.4	+0.4
	baz=122						
X25A	Clemons Ranch	122.32	19	⇑PKiKP	PKiKP	19 57 28.9	+0.7
	baz=122						
Y23A	Lovelace Mesa,	122.43	21	⇑PKiKP	PKiKP	19 57 29.3	+0.8
	baz=122						
V31A	Spring Creek L	122.44	14	⇑PKiKP	PKiKP	19 57 29.1	+0.9
	baz=122						
Z21A	St. Cloud Mine	122.44	22	⇑PKiKP	PKiKP	19 57 29.7	+1.2
	baz=122						
X26A	CR and CF Fran	122.55	18	⇑PKiKP	PKiKP	19 57 28.9	+0.3
	baz=122						
W29A	Amraillo	122.62	16	⇓PKiKP	PKiKP	19 57 28.8	+0.1
	baz=122						
Y24A	Capitan	122.63	20	⇓PKiKP	PKiKP	19 57 29.4	+0.6
	baz=122						
X27A	F and S Farms,	122.67	18	⇓PKiKP	PKiKP	19 57 29.1	+0.3
	baz=122						
Z22A	Elephant Butte	122.73	22	⇓PKiKP	PKiKP	19 57 29.8	+0.8
	baz=122						
120A	U Bar Ranch, L	122.77	24	⇑PKiKP	PKiKP	19 57 30.5	+1.4
	baz=122						
Y25A	Mesa, Roswell	122.87	19	⇑PKiKP	PKiKP	19 57 29.8	+0.6
	baz=123						
W31A	Holland Ranch,	122.97	14	⇓PKiKP	PKiKP	19 57 29.5	+0.2
	baz=123						
Z23A	Rita Site, Whi	122.98	21	⇓PKiKP	PKiKP	19 57 30.3	+0.9
	baz=123						
X28A	Dimmitt	123.04	17	⇑PKiKP	PKiKP	19 57 29.7	+0.1
	baz=123						
121A	Cookes Peak, D	123.09	23	⇑PKiKP	PKiKP	19 57 30.9	+1.1
	baz=123						
TUL1	Tulsa	123.11	10	*e*PKPdf	PKPdf	19 57 29.7	+0.5
TUL1	Tulsa	123.11	10	⇓PKiKP	PKPdf	19 57 29.7	+0.5
	baz=123						
Y26A	Elida	123.13	19	⇓PKiKP	PKiKP	19 57 30.1	+0.3
	baz=123						
Z24A	Sheeppen Canyo	123.20	20	⇑PKiKP	PKiKP	19 57 31.1	+1.1
	baz=123						
122A	Conniff Cattle	123.22	22	⇓PKiKP	PKiKP	19 57 31.1	+1.1
	baz=123						
X29A	Tulia	123.24	16	⇓PKiKP	PKiKP	19 57 30.1	+0.2
	baz=123						
Y27A	Causey	123.36	18	⇑PKiKP	PKiKP	19 57 30.4	+0.2
	baz=123						
220A	Playas Peak, P	123.38	24	⇓PKiKP	PKiKP	19 57 31.2	+0.9
	baz=123						
MSTX	Muleshoe	123.40	18	*e*PKPdf	PKPdf	19 57 30.4	+0.5
MSTX	Muleshoe	123.40	18	⇑PKiKP	PKPdf	19 57 30.5	+0.5
	baz=123						
X30A	Coker Ranch, T	123.45	16	⇑PKiKP	PKiKP	19 57 30.2	-0.1
	baz=123						
Z25A	Roswell	123.46	20	⇑PKiKP	PKiKP	19 57 31.1	+0.7
	baz=123						
X31A	McDonald Ranch	123.50	15	⇑PKiKP	PKiKP	19 57 30.4	+0.1
	baz=123						
123A	Bell Site, Whi	123.54	21	⇓PKiKP	PKiKP	19 57 31.9	+1.3
	baz=123						
319A	Douglas	123.56	25	⇓PKiKP	PKiKP	19 57 32.0	+1.3
	baz=123						
221A	Mesquite Ranch	123.57	23	⇓PKiKP	PKiKP	19 57 31.7	+1.1
	baz=123						
Y28A	McKinney Farm,	123.60	17	⇓PKiKP	PKiKP	19 57 31.0	+0.4
	baz=123						
WMOK	Wichita Mounta	123.67	13	*e*PKIKP	PKPdf	19 57 30.4	0.0
WMOK	Wichita Mounta	123.67	13	*e*PKPdf	PKPdf	19 57 30.4	0.0
Z26A	Caprock	123.69	19	⇓PKiKP	PKiKP	19 57 31.1	+0.3
	baz=123						
222A	Williams Famil	123.73	22	⇓PKiKP	PKiKP	19 57 32.0	+1.0
	baz=124						
WVT	Waverly	123.74	3	*e*PKIKP	PKPdf	19 57 30.2	-0.2
WVT	Waverly	123.74	3	*e*PKPdf	PKPdf	19 57 30.2	-0.2
124A	Stringfield Ra	123.75	21	⇑PKiKP	PKiKP	19 57 32.1	+1.0
	baz=124						
Y29A	Porterfield Fa	123.80	17	⇓PKiKP	PKiKP	19 57 31.6	+0.6
	baz=124						
Z27A	Tatum	123.88	18	⇑PKiKP	PKiKP	19 57 31.8	+0.6
	baz=124						
320A	Kipp Ranch, An	123.89	24	⇓PKiKP	PKiKP	19 57 32.7	+1.3
	baz=124						
125A	Gardner Draw,	124.05	20	⇓PKiKP	PKiKP	19 57 32.0	+0.5
	baz=124						
Y31A	Rekieta Farm,	124.07	15	⇓PKiKP	PKiKP	19 57 31.4	-0.1
	baz=124						
Z28A	Tucker Farm, M	124.14	17	⇑PKiKP	PKiKP	19 57 32.1	+0.3
	baz=124						
Y32A	R-V Farms, Ver	124.22	14	⇑PKiKP	PKiKP	19 57 32.0	+0.2
	baz=124						
126A	Clayton Basin,	124.26	19	⇑PKiKP	PKiKP	19 57 32.1	+0.1
	baz=124						
224A	Cornudas Mount	124.30	21	⇓PKiKP	PKiKP	19 57 32.8	+0.7
	baz=124						
Z29A	Hungry Hill Ra	124.36	17	⇓PKiKP	PKiKP	19 57 32.4	+0.3
	baz=124						
127A	Arkansas Junct	124.44	19	⇓PKiKP	PKiKP	19 57 32.5	+0.1
	baz=124						
CPCT	Cooper Cave	124.47	359	*e*PKPdf	PKPdf	19 57 32.4	+0.5
Z30A	Sanderson Ranc	124.49	16	⇑PKiKP	PKiKP	19 57 32.3	-0.1
	baz=124						
225A	Deer Hill, Car	124.50	20	⇓PKiKP	PKiKP	19 57 32.9	+0.3
	baz=124						
KMSC	Kings Mountain	124.66	356	*e*PKPdf	PKPdf	19 57 32.7	+0.4
KMSC	Kings Mountain	124.66	356	⇓PKiKP	PKPdf	19 57 32.6	+0.4
	baz=124						
MNTX	Cornudas Mount	124.69	21	*e*PKPdf	PKPdf	19 57 33.0	+0.6
SWET	Sewanee	124.70	1	*e*PKPdf	PKPdf	19 57 31.5	-0.8
Z31A	Sharp Cattle R	124.71	15	⇑PKiKP	PKiKP	19 57 33.0	+0.2
	baz=124						
UALR	University of	124.72	7	*e*PKPdf	PKPdf	19 57 32.8	+0.5
226B	Tecolote Peak,	124.74	20	⇑PKiKP	PKiKP	19 57 33.3	+0.4
	baz=124						
128A	Castleberry Fa	124.74	18	⇓PKiKP	PKiKP	19 57 33.0	+0.1
	baz=124						
MIAR	Mount Ida	124.79	8	*e*PKIKP	PKPdf	19 57 33.3	+0.8
MIAR	Mount Ida	124.79	8	*e*PKPdf	PKPdf	19 57 33.2	+0.8
Z32A	Haskell	124.88	15	⇑PKiKP	PKiKP	19 57 33.5	+0.5
	baz=125						
324A	Moseley Ranch,	124.89	21	⇑PKiKP	PKiKP	19 57 33.7	+0.3
	baz=125						
129A	Stewart Farms,	124.91	17	⇓PKiKP	PKiKP	19 57 33.4	+0.1
	baz=125						
227A	Bennet, Jal	125.07	19	⇑PKiKP	PKiKP	19 57 33.6	0.0
	baz=125						
325A	Bean Ranch, Si	125.13	21	⇑PKiKP	PKiKP	19 57 33.7	-0.2
	baz=125						
228A	UT Block 9, Go	125.18	18	⇑PKiKP	PKiKP	19 57 34.0	+0.2
	baz=125						
130A	Snyder	125.19	16	⇓PKiKP	PKiKP	19 57 33.8	+0.1
	baz=125						
131A	Roby	125.26	16	⇓PKiKP	PKiKP	19 57 34.3	+0.4
	baz=125						
ABTX	Abilene, Hawle	125.50	15	*e*PKPdf	PKPdf	19 57 34.3	+0.3
ABTX	Abilene, Hawle	125.50	15	⇑PKiKP	PKiKP	19 57 34.6	+0.2
	baz=125						
326A	Caldwell Ranch	125.51	20	⇑PKiKP	PKiKP	19 57 34.5	0.0
	baz=125						
327A	Balmorhea Ranc	125.61	19	⇓PKiKP	PKiKP	19 57 34.9	+0.3
	baz=125						
425A	Indio Mountain	125.66	21	⇓PKiKP	PKiKP	19 57 34.9	0.0
	baz=125						
328A	Wristen Ranch,	125.81	19	⇑PKiKP	PKiKP	19 57 35.0	0.0
	baz=126						
230A	Sterling City	125.82	17	⇑PKiKP	PKiKP	19 57 35.3	+0.2
	baz=126						
329A	Wagon Wheel Ra	125.95	18	⇑PKiKP	PKPdf	19 57 35.1	+0.1
	baz=126						
231A	Bronte	125.98	16	⇓PKiKP	PKiKP	19 57 35.1	-0.2
	baz=126						
426A	McDonald Obser	126.09	20	⇓PKiKP	PKiKP	19 57 35.8	0.0
	baz=126						
427A	Hayter Ranch,	126.12	19	⇑PKiKP	PKiKP	19 57 36.0	+0.3
	baz=126						
232A	Coleman	126.20	15	⇑PKiKP	PKiKP	19 57 35.7	0.0
	baz=126						
330A	Mertzon	126.25	17	⇓PKiKP	PKiKP	19 57 36.0	+0.1
	baz=126						
331A	San Angelo	126.55	16	⇓PKiKP	PKiKP	19 57 36.4	-0.1
	baz=126						
WHTX	Lake Whitney	126.60	13	*e*PKPdf	PKPdf	19 57 36.7	+

BDFB				SKPbc	**SKiKP**	**20 01 42.4**	**+0.7**
	comp=Z,35nm,1.0s,baz=128,slow=1.7,SNR=6.7						
APG	**El Apazote**	**144.44**	**9**	PKP	PKPbc	19 58 08.5	+0.2
APG				SKPbc	**SKPbc**	**20 01 41.3**	**0.0**
APG	**El Apazote**	**144.44**	**9**	PKP	PKPbc	19 58 08.5	+0.2
	comp=Z,118nm,1.0s,baz=301,slow=4.0,SNR=10						
APG				SKPbc	**SKPbc**	**20 01 41.3**	**0.0**
	comp=Z,17nm,0.8s,baz=270,slow=4.1,SNR=5.1						
TGUH	**Tegucigalpa,Un**	**145.71**	**4**	*e*PKPdf	**PKPab**	**19 58 13.5**	**+1.1**
BB16B	**Bebedouro**	**145.85 262**	⇑	*i*P	**PKPab**	**19 58 13.4**	**+0.4**
BB16B				*i*		19 58 13.7	
BB16B				*i*		19 58 19.3	
BB16B				*i*		19 58 36.9	
BB16B	**Bebedouro**	**145.85 262**	⇑	*i*P	**PKPab**	**19 58 13.4**	**+0.4**
BB16B				*i*		19 58 13.7	
BB16B				*i*		19 58 19.3	
BB16B				*i*		19 58 36.9	
SDV	**Santo Domingo**	**147.60 332**		*e*PKPdf	**PKPdf**	**19 58 16.4**	**+1.3**
JTS	**JuntasAbangare**	**149.52 360**		*e*PKPbc	**PKPbc**	**19 58 21.8**	**-0.8**
BCIP	**Isla Barro Col**	**150.18 349**		*e*PKPbc	**PKPbc**	**19 58 23.8**	**-0.3**
ROSC	**El Rosal**	**152.76 336**		*e*PKPdf	**PKPdf**	**19 58 24.8**	**+1.4**
ROSC				PKP	**PKPdf**	**19 58 25.1**	**+1.7**
ROSC	**El Rosal**	**152.76 336**		PKP	**PKPdf**	**19 58 25.1**	**+1.7**
	comp=Z,21nm,0.8s,baz=90,slow=19,SNR=14						
TRQA	**Tornquist**	**153.31 224**		*e*PKPdf	**PKPdf**	**19 58 23.7**	**+0.6**
CPUP	**Villa Florida**	**153.82 252**		*e*PKPdf	**PKPdf**	**19 58 24.3**	**+0.2**
CPUP				PKP	**PKPdf**	**19 58 25.3**	**+1.2**
CPUP				*e*PKPbc	**PKiKP**	**19 58 31.2**	**-0.9**
CPUP				PKPbc	**PKPbc**	**19 58 31.6**	**-0.4**
CPUP				PKPab	**PKPab**	**19 58 45.9**	**+0.5**
CPUP	**Villa Florida**	**153.82 252**		PKP	**PKPdf**	**19 58 25.3**	**+1.2**
	comp=Z,6.3nm,0.8s,baz=46,slow=2.4,SNR=13						
CPUP				PKPbc	**PKPbc**	**19 58 31.6**	**-0.4**
	comp=Z,14nm,0.5s,baz=81,slow=2.6,SNR=41						
CPUP				PKPab	**PKPab**	**19 58 45.9**	**+0.5**
	comp=Z,66nm,0.7s,baz=79,slow=6.5,SNR=34						
SAML	**Samuel**	**155.95 295**		*e*PKPdf	**PKPdf**	**19 58 27.5**	**+0.1**
PLCA	**Paso Flores**	**156.21 208**		PKP	**PKPdf**	**19 58 28.3**	**+1.2**
PLCA				PKPab	**PKPab**	**19 58 54.5**	**-0.7**
PLCA	**Paso Flores**	**156.21 208**		PKP	**PKPdf**	**19 58 28.3**	**+1.2**
	comp=Z,9.9nm,1.2s,baz=30,slow=3.2,SNR=4.8						
PLCA				PKPab	**PKPab**	**19 58 54.5**	**-0.7**
	comp=Z,13nm,0.9s,baz=170,slow=5.3,SNR=8.9						
SIV	**San Ignacio**	**156.73 277**		PKP	**PKPdf**	**19 58 29.5**	**+1.2**
SIV				PKPab	**PKPab**	**19 58 58.7**	**+0.6**
SIV	**San Ignacio**	**156.73 277**		PKP	**PKPdf**	**19 58 29.5**	**+1.2**
	baz=153,slow=3.2						
SIV				PKPab	**PKPab**	**19 58 58.7**	**+0.6**
	comp=Z,9.1nm,0.7s,baz=109,slow=8.2,SNR=3.4						
OTAV	**Otavalo**	**158.49 341**		*e*PKPdf	**PKPdf**	**19 58 33.1**	**+1.9**
LPAZ	**La Paz**	**163.35 281**		*e*PKPdf	**PKPdf**	**19 58 36.8**	**+0.3**
LPAZ				PKP	**PKPdf**	**19 58 37.7**	**+1.2**
LPAZ				pPKP	**pPKPdf**	**19 58 59.7**	**-1.0**
LPAZ				PKPab	**PKPab**	**19 59 25.9**	**-1.8**
LPAZ	**La Paz**	**163.35 281**		PKP	**PKPdf**	**19 58 37.7**	**+1.2**
	comp=Z,5.0nm,0.9s,baz=290,slow=0.8,SNR=12						
LPAZ				pPKP	**pPKPdf**	**19 58 59.7**	**-1.0**
	comp=Z,11nm,1.0s,baz=44,slow=7.2,SNR=7.6						
LPAZ				PKPab	**PKPab**	**19 59 25.9**	**-1.8**
	comp=Z,6.8nm,0.7s,baz=56,slow=3.1,SNR=5.6						
ATAH	**Atahualpa**	**165.30 333**		PKP	**PKPdf**	**19 58 40.0**	**+1.9**
ATAH				PKPab	**PKPab**	**19 59 38.2**	**+2.5**
ATAH	**Atahualpa**	**165.30 333**		PKP	**PKPdf**	**19 58 40.0**	**+1.9**
	comp=Z,7.0nm,0.6s,baz=111,slow=8.6,SNR=8.0						
ATAH				PKPab	**PKPab**	**19 59 38.2**	**+2.5**
	comp=Z,39nm,0.9s,baz=82,slow=3.8,SNR=9.8						
NNA	**Nana**	**168.46 315**		PKPab	**PKPab**	**19 59 49.7**	**+0.3**
NNA	**Nana**	**168.46 315**		PKPab	**PKPab**	**19 59 49.7**	**+0.3**
	comp=Z,8.4nm,0.6s,baz=0.0,slow=1.0,SNR=3.7						

GUC 21 19:40:10.4±0.4, 31°.83S×70°.57W, h123km±2km, MD3.6, ML3.6, 5C-3D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMCH	**Combarbala**	**0.75 330**	⇓	*i*P	Pn	19 40 30.8	+0.3
CMCH				*i* S	Sn	19 40 46.2	+0.4
CMCH				AML	AML	19 40 47.6	
	comp=E,3μm,0.6s						
JACH	**Jahuel**	**0.85 181**	⇑	*i*P	Pn	19 40 31.7	+0.3
JACH				*i* S	Sn	19 40 47.6	+0.2
PACH	**Papudo**	**1.02 226**	⇑	*i*P	Pn	19 40 34.3	+1.4
PACH				*i* S	Sn	19 40 51.9	+1.8
ROCH	**El Roble**	**1.20 198**		*i* P	Pn	19 40 35.5	+0.5
ROCH				*i* S	Sn	19 40 54.8	+1.1
ROCH				AML	AML	19 40 56.0	
	comp=N,1μm,0.3s						
PEL	**Peldehue**	**1.31 184**	⇑	*i*P	Pn	19 40 36.2	+0.2
PEL				*i* S	Sn	19 40 56.0	+0.5
PEL				AML	AML	19 40 56.9	
	comp=E,2μm,0.3s						
CLCH	**Cerro Calan**	**1.56 179**		*e*P	Pn	19 40 39.1	+0.3
CLCH				*i* S	Sn	19 41 01.0	+0.5
CLCH				AML	AML	19 41 07.8	
	comp=E,600nm,0.6s						
CLCH				AML	AML	19 41 08.4	
	comp=E,704nm,0.5s						
ANTU	**Antumapu**	**1.74 182**	⇑	*i*P	Pn	19 40 41.3	+0.5
ANTU				*i* S	Sn	19 41 04.6	+0.5
ANTU				AML	AML	19 41 06.3	
	comp=E,610nm,0.3s						
PCH	**Pirque**	**1.79 179**	⇑	*i*P	Pn	19 40 42.0	+0.4
PCH				*i* S	Sn	19 41 06.0	+0.6
LMEL	**Las Melosas**	**2.04 171**	⇓	*i*P	Pn	19 40 45.2	+0.5
LMEL				*i* S	Sn	19 41 11.5	+0.6
LMEL				AML	AML	19 41 15.4	
	comp=N,469nm,0.2s						
LNV	**Longovilo**	**2.24 198**	⇓	*i*P	Pn	19 40 47.2	+0.3
LNV				*i* S	Sn	19 41 15.0	+0.1

IDC 21 19:51:30.5±1.9, 3°.93N×126°.84E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/21, mbtmp3.6/4, Error ellipse: s-maj=106.3km s-min=26.4km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.93 183**		P	P	19 56 26.1	+0.4
	1.3nm,0.7s,baz=15,slow=12,SNR=5.0						
WRA	**Warramunga Arr**	**24.84 163**		P	P	19 56 54.2	-0.7
	1.5nm,0.7s,baz=342,slow=10,SNR=8.3						
ASAR	**Alice Springs**	**28.28 166**		P	P	19 57 30.0	+4.1
	0.6nm,0.6s,baz=346,slow=12,SNR=4.4						
STKA	**Stephens Creek**	**38.28 160**		P	P	19 58 53.0	+0.3
	3.1nm,1.0s,baz=320,slow=9.5,SNR=4.6						
MKAR	**Makanchi Array**	**57.45 325**		P	P	20 01 21.2	-0.1
	0.3nm,0.7s,baz=119,slow=8.7,SNR=4.2						

*ISCJB **21** 19:58:20.8±1.1, 11°.40N±0°.04×124°.59E±0°.06, h8km±9km, mb3.7/4, Error ellipse: s-maj=9.6km s-min=7.0km az=159.2*
*MAN **21** 19:58:21, 11°.31N×124°.53E, h4km, mb4.9, ML3.8, MS3.9*
*IDC **21** 19:58:22.1±2.8, 10°.82N×123°.42E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.6/23, mbtmp3.8/4, Error ellipse: s-maj=308.4km s-min=22.1km az=64.0*

ISC 21 19:58:20.6±1.6, 11°.34N±0°.05×124°.52E±0°.04, h0km±11km, n16, σ0°.99/21, mb3.6/4, 3C-1D, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OCLP	**Ormoc**	**0.30 163**		*e*P	**Pb**	**19 58 28.0**	**-0.9**
PLP	**Palo**	**0.48 111**	⇑	*e*P	**Pg**	**19 58 30.5**	**+0.6**
PLP				*e*S	**Sg**	**19 58 35.1**	**-1.0**
LLP	**Lapu-Lapu**	**1.15 208**		*e*P	**Pg**	**19 58 42.5**	**-0.3**
LLP				*e*S	**Sn**	**19 58 59.3**	**-1.1**
MSLP	**Maasin**	**1.24 164**		*e*P	**Pn**	**19 58 45.6**	**+0.4**
MSLP				*e*S	**Sn**	**19 59 02.3**	**-0.4**
RCP	**Roxas**	**1.75 277**	⇑	*e*P	**Pn**	**19 58 52.8**	**+0.5**
RCP				*e*S	**Sb**	**19 59 17.1**	**+0.8**
TBP	**Tagbilaran**	**1.76 202**		*e*P	**Pb**	**19 58 52.8**	**-1.0**
TBP				*e*S	**Sg**	**19 59 17.9**	**+0.6**
SCPH	**Surigao**	**1.82 148**	⇓	*e*P	**Pb**	**19 58 54.0**	**-0.7**
GUIM	**Jordan**	**2.02 250**		*e*P	**Pn**	**19 58 56.8**	**+0.8**
PVCP	**Virac**	**2.27 351**	⇑	*e*P	**Pn**	**19 59 00.1**	**+0.6**
BUTP	**Butuan**	**2.59 155**		*e*P	**Pg**	**19 59 10.4**	**+0.1**
BUKP	**Musuan**	**3.48 171**		*e*P	**Pn**	**19 59 17.9**	**+1.9**
PAGZ	**Pagadian**	**3.65 198**		*e*P	**Pn**	**19 59 19.8**	**+1.4**
WRA	**Warramunga Arr**	**32.55 163**		P	**P**	**20 04 54.2**	**+0.5**
	0.6nm,0.9s,baz=339,slow=9.8,SNR=4.6						
ASAR	**Alice Springs**	**35.98 165**		P	**P**	**20 05 22.8**	**-0.6**
	0.5nm,0.5s,baz=344,slow=7.3,SNR=10						
MKAR	**Makanchi Array**	**50.14 323**		P	**P**	**20 07 18.9**	**+1.0**
	0.8nm,0.8s,baz=111,slow=7.9,SNR=5.7						
KURBB	**Kurchatov Arra**	**54.23 326**		P	**P**	**20 07 46.8**	**-1.2**
	0.3nm,0.3s,baz=122,slow=7.8,SNR=5.7						

*NNC **21** 20:04:31.8±6.1, 39°.08N×72°.68E, h0km, mb3.9, mpv3.4, Error ellipse: s-maj=59.6km s-min=27.4km az=161.0*
*IDC **21** 20:04:31.0±1.4, 39°.36N×73°.74E, h0km, mb3.8/5, mb1 3.8/7, mb1mx3.5/27, mbtmp3.7/7, ML3.3/2, Error ellipse: s-maj=27.1km s-min=18.0km az=107.0*
*ISCJB **21** 20:04:37.5±1.4, 39°.5N±0°.1×72°.9E±0°.1, h33km, mb3.7/5, Error ellipse: s-maj=18.7km s-min=9.5km az=147.8*

ISC 21 20:04:37.4±1.2, 39°.3N±0°.1×73°.07E±0°.09, h35km, n19, σ1°.53/20, mb3.6/5, 4C-2D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**2.83**	**9**	P	**Pn**	**20 05 20.0**	**-0.5**
	SNR=30						
UCH	**Uchtor**	**3.09**	**20**	P	**Pn**	**20 05 24.1**	**0.0**
	SNR=22						
KZA	**Kyzart**	**3.20**	**31**	P	**Pn**	**20 05 26.7**	**+1.1**
	SNR=12						
EKS2	**Erkin-Say**	**3.36**	**9**	P	**Pn**	**20 05 27.8**	**+0.2**
	SNR=11						
AAK	**Ala-Archa**	**3.46**	**18**	P	**Pn**	**20 05 29.7**	**+0.7**
	SNR=13						
AAK	**Ala-Archa**	**3.46**	**18**	Pn	**Pn**	**20 05 28.0**	**-1.0**
	3.1nm,0.3s,baz=162,slow=6.5,SNR=20						
AAK				Sn	**Sn**	**20 06 09.9**	**+1.1**
	4.6nm,0.3s,baz=126,slow=22,SNR=4.1						
KBK	**Karagaybulak**	**3.61**	**23**	P	**Pn**	**20 05 30.6**	**-0.4**
	SNR=21						
ULHL	**Ulahol**	**3.77**	**39**	P	**Pn**	**20 05 35.9**	**+2.6**
	SNR=24						
TKM2	**Tokmak 2**	**4.05**	**27**	⇑Pn	**Pn**	**20 05 39.0**	**+1.8**
	6.7nm,0.6s						
TKM2				⇑Sn	Sn	20 06 34.5	+11
	16nm,0.5s						
KK31	**Karatay Array**	**4.22**	**334**	Pn	**Pn**	**20 05 42.0**	**+2.7**
	1.3nm,0.3s,baz=136,slow=11,SNR=73						
KK31				⇓Lg	Lg	20 06 47.6	
	15nm,0.5s,baz=152,slow=30,SNR=7.4						
AB31	**Akbulak array**	**13.64**	**321**	⇑Pn	**Pn**	**20 07 47.8**	**-0.5**
	0.7nm,0.7s,baz=132,slow=12,SNR=8.1						
AB31				⇓Sn	**Sn**	**20 10 15.5**	**-2.9**
	0.2nm,0.4s,baz=132,slow=24,SNR=2.6						
AKTO	**Aktyubinsk**	**15.36**	**321**	⇑Pn	**Pn**	**20 08 11.1**	**-0.3**
	3.8nm,0.8s						
AKTO	**Aktyubinsk**	**15.36**	**321**	Pn	**Pn**	**20 08 11.4**	**0.0**
	0.1nm,0.3s,baz=119,slow=10,SNR=3.8						
ZALV	**Zalesovo Beam**	**16.66**	**25**	Pn	**Pn**	**20 08 27.9**	**-0.1**
	0.2nm,0.3s,baz=228,slow=11,SNR=4.1						
BRTR	**Keskin Array B**	**30.25**	**283**	P	P	20 10 48.7	+3.7
	0.8nm,0.9s,baz=89,slow=9.4,SNR=3.5						
FINES	**FINESS Array B**	**36.11**	**323**	P	**P**	**20 11 37.0**	**+1.3**
	2.3nm,1.0s,baz=104,slow=11,SNR=3.1						
ARCES	**ARCESS Array B**	**39.19**	**336**	P	**P**	**20 12 01.8**	**+0.2**
	2.9nm,1.0s,baz=105,slow=10,SNR=3.3						
TORD	**Torodi Ar. Bea**	**67.42**	**269**	P	**P**	**20 15 30.9**	**+1.2**
	0.2nm,0.4s,baz=48,slow=5.2,SNR=5.8						
WRA	**Warramunga Arr**	**82.15**	**124**	P	**P**	**20 16 52.1**	**-2.6**
	0.6nm,0.9s,baz=322,slow=4.6,SNR=5.1						

*IDC **21** 20:05:09.0±0.6, 55°.45S×124°.81W, h0km, mb4.4/13, mb1 4.5/13, mb1mx4.4/20, mbtmp4.4/13, MS4.0/3, Ms1 4.0/3, ms1mx3.6/25, Error ellipse: s-maj=25.6km s-min=15.2km az=171.0*
*ISCJB **21** 20:05:09.1±0.7, 55°.6S±0°.1×124°.8W±0°.2, h10km, mb4.3/15, MS4.0/3, Error ellipse: s-maj=18.9km s-min=12.9km az=171.6*
*NEIC **21** 20:05:10.6±0.4, 55°.54S×124°.77W, h10km, mb4.7/6, Error ellipse: s-maj=16.4km s-min=10.1km az=170.0*

ISC 21 20:05:10.5±0.7, 55°.5S±0°.1×124°.8W±0°.1, h10km, n59, σ0°.87/48, mb4.5/15, MS3.9/3, 1D, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMSA	**Palmer Station**	**30.43 132**		P	**P**	**20 11 23.2**	**+0.7**
PMSA	**Palmer Station**	**30.43 132**		P	**P**	**20 11 23.2**	**+0.7**
	6.8nm,0.9s,baz=231,slow=6.4,SNR=6.6						
USHA	**Ushuaia**	**31.45 113**		LR	LR	20 20 30.2	
	comp=Z,276nm,19.4s,baz=237,slow=29						
VNDA	**Vanda**	**33.04 202**		P	**P**	**20 11 43.9**	**-1.6**
	1.2nm,0.9s						
RKT	**Rikitea**	**33.23 343**		*e*LR	LR	20 20 31.0	
	652nm,28.8s,baz=168						
RKT	**Rikitea**	**33.23 343**		*e*T	T	20 46 34.6	
	10nm,0.3s						
QSPA	**South Pole Qui**	**34.66 180**		*e*P	**P**	**20 12 01.2**	**+1.3**
	12nm,1.2s						
QSPA	**South Pole Qui**	**34.66 180**		P	**P**	**20 12 01.4**	**+1.6**
	3.0nm,1.0s,baz=98,slow=2.0,SNR=7.1						
TBI	**Tubuai**	**36.95 320**		*e*LR	LR	20 22 05.6	
	469nm,29.8s,baz=167						
TBI	**Tubuai**	**36.95 320**		*e*T	T	20 51 16.6	
	133nm,0.4s						
PLCA	**Paso Flores**	**38.08 90**		P	**P**	**20 12 30.9**	**+1.7**
PLCA	**Paso Flores**	**38.08 90**		P	**P**	**20 12 30.9**	**+1.7**
	2.5nm,0.9s,baz=229,slow=1.9,SNR=3.2						
PLCA				LR	LR	20 24 30.5	
	comp=Z,166nm,19.0s,baz=353,slow=30						
PPT2	**Papeete2**	**42.30 324**		*e*LR	LR	20 24 45.9	
	484nm,25.8s,baz=164						
PMOR	**Pomariorio Ree**	**44.18 327**		*e*T	T	21 00 17.2	
	11nm,0.3s						
VNA1	**Neumayer--Stat**	**46.31 156**		*e*P	**P**	**20 13 36.1**	**+0.4**
VNA2	**Neumayer--Watz**	**46.31 156**		*e*P	**P**	**20 13 36.1**	**+0.3**
	baz=224,slow=9.8						
SNAA	**Sanae**	**46.76 158**		*e*P	**P**	**20 13 39.1**	**-0.3**
SNAA	**Sanae**	**46.76 158**		*e*P	**P**	**20 13 38.3**	**-1.2**
	7.9nm,0.8s						
SNAA	**Sanae**	**46.76 158**		P	**P**	**20 13 39.2**	**-0.3**
	2.8nm,0.8s,baz=238,slow=5.9,SNR=38						
SYO	**Syowa Base**	**55.26 173**	⇓	*e*P	**P**	**20 14 41.6**	**-1.5**
CPUP	**Villa Florida**	**56.05 88**		*e*P	**P**	**20 14 48.3**	**-1.2**
	11nm,0.9s						
CPUP	**Villa Florida**	**56.05 88**		P	**P**	**20 14 48.4**	**-1.0**
	2.0nm,0.6s,baz=206,slow=7.9,SNR=8.5						
MAW	**Mawson**	**57.06 183**		P	**P**	**20 14 56.5**	**+0.4**
MAW	**Mawson**	**57.06 183**		P	**P**	**20 14 56.5**	**+0.4**
	2.1nm,0.7s,baz=172,slow=9.0,SNR=10.0						
LPAZ	**La Paz**	**58.04 71**		P	**P**	**20 15 04.7**	**+0.3**
LPAZ	**La Paz**	**58.04 71**		P	**P**	**20 15 04.7**	**+0.3**
	2.3nm,0.9s,baz=208,slow=2.3,SNR=6.1						
SIV	**San Ignacio**	**62.14 77**		P	**P**	**20 15 31.6**	**-0.2**
SIV	**San Ignacio**	**62.14 77**		P	**P**	**20 15 31.6**	**-0.2**
	3.3nm,0.9s,baz=236,slow=7.6,SNR=6.5						
STKA	**Stephens Creek**	**66.31 248**		P	**P**	**20 16 00.1**	**+1.2**
STKA	**Stephens Creek**	**66.31 248**		P	**P**	**20 16 00.1**	**+1.2**
	3.6nm,0.9s,baz=78,slow=10.0,SNR=3.9						
CTA	**Charters Tower**	**73.10 259**		P	**P**	**20 16 41.7**	**+0.7**
CTA	**Charters Tower**	**73.10 259**		P	**P**	**20 16 41.7**	**+0.7**
	1.6nm,0.5s,baz=134,slow=13,SNR=4.0						
CTAO	**Charters Tower**	**73.10 259**		*e*P	**P**	**20 16 42.0**	**+1.1**
	10nm,1.2s						
ASAR	**Alice Springs**	**76.93 247**		P	**P**	**20 17 02.7**	**-0.4**
ASAR	**Alice Springs**	**76.93 247**		P	**P**	**20 17 02.7**	**-0.4**
	2.4nm,0.7s,baz=154,slow=6.4,SNR=28						
WRA	**Warramunga Arr**	**79.74 250**		P	**P**	**20 17 18.9**	**+0.2**
WRA	**Warramunga Arr**	**79.74 250**		P	**P**	**20 17 18.9**	**+0.2**
	5.0nm,0.9s,baz=147,slow=4.9,SNR=26						
WRAB	**Tennant Creek**	**79.74 250**		*e*P	**P**	**20 17 18.8**	**+0.2**
	9.1nm,1.1s						
PMG	**Port Moresby**	**81.21 266**		LR	LR	20 46 03.1	
	comp=Z,113nm,20.4s,baz=294,slow=30						
FITZ	**Fitzroy Crossi**	**85.82 244**		P	**P**	**20 17 50.3**	**+0.1**
FITZ	**Fitzroy Crossi**	**85.82 244**		P	**P**	**20 17 50.3**	**+0.1**
	1.6nm,0.6s,baz=196,slow=5.3,SNR=10						
ODAN	**Odare**	**143.09 232**		*e*P	PKPbc	20 24 41.2	-0.3
TAPN	**Taplejung**	**143.37 233**		*e*P	PKPbc	20 24 41.8	-0.5
	15nm,1.0s						
GUN	**Gumba**	**144.67 231**		*e*P	**PKPab**	**20 24 44.9**	**-1.3**
DMN	**Daman**	**144.75 230**		*e*P	PKPbc	20 24 46.8	+0.3
	29nm,0.8s						
KKN	**Kakani**	**144.83 230**		*e*P	**PKPab**	**20 24 46.2**	**-0.4**
	12nm,0.8s						
KOLN	**Koldanda**	**145.54 228**		*e*P	**PKPdf**	**20 24 47.8**	**-1.0**
	14nm,0.9s						
EKA	**Eskdalemuir Ar**	**147.73 66**		PKPbc	**PKPbc**	**20 24 54.0**	**-0.1**
EKA	**Eskdalemuir Ar**	**147.73 66**		PKPbc	**PKPbc**	**20 24 54.0**	**-0.1**
	0.9nm,0.5s,baz=261,slow=1.7,SNR=4.1						
DAVOX	**Davos/Dischmat**	**150.73 88**		PKPbc	**PKPbc**	**20 25 02.2**	**0.0**
DAVOX	**Davos/Dischmat**	**150.73 88**		PKPbc	**PKPbc**	**20 25 02.2**	**0.0**
	2.6nm,0.8s,baz=311,slow=9.3,SNR=4.3						
GERES	**GERESS Array B**	**154.01 87**		PKPbc	**PKPbc**	**20 25 09.1**	**-0.3**
GERES	**GERESS Array B**	**154.01 87**		PKPbc	**PKPbc**	**20 25 09.1**	**-0.3**
	0.6nm,0.7s,baz=176,slow=1.6,SNR=6.2						
BRTR	**Keskin Array B**	**158.67 129**		PKPab	**PKPab**	**20 25 41.7**	**-1.6**
BRTR	**Keskin Array B**	**158.67 129**		PKPab	**PKPab**	**20 25 41.7**	**-1.6**
	0.9nm,0.7s,baz=232,slow=5.1,SNR=4.8						
MKAR	**Makanchi Array**	**161.00 254**		PKPab	**PKPab**	**20 25 52.8**	**-0.3**
MKAR	**Makanchi Array**	**161.00 254**		PKPab	**PKPab**	**20 25 52.8**	**-0.3**
	1.2nm,0.6s,baz=123,slow=5.4,SNR=14						
ZALV	**Zalesovo Beam**	**162.88 277**		PKPab	**PKPab**	**20 26 00.7**	**-0.4**
ZALV	**Zalesovo Beam**	**162.88 277**		PKPab	**PKPab**	**20 26 00.7**	**-0.4**
	0.9nm,0.6s,baz=129,slow=4.8,SNR=4.6						

IDC 21 20:21:15.9±46.0, 16°.10S×171°.61W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.8/18, mbtmp4.0/3, Error ellipse: s-maj=898.8km s-min=196.7km az=80.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**45.20 241**		P	P	20 29 35.1	+0.2
	3.3nm,1.2s,baz=78,slow=14,SNR=2.8						
WRA	**Warramunga Arr**	**51.37 257**		P	P	20 30 22.6	-0.3
	0.4nm,0.5s,baz=95,slow=6.6,SNR=15						
ASAR	**Alice Springs**	**51.54 252**		P	P	20 30 23.9	-0.2
	3.0nm,0.5s,baz=89,slow=8.6,SNR=69						

IDC 21 20:35:38.1±1.2, 3°.68N×126°.88E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.7/22, mbtmp3.9/6, 1C, Error ellipse: s-maj=97.8km s-min=19.4km az=70.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**4.39 323**	⇑	*i*P	Pn	20 36 46.0	-0.1
FITZ	**Fitzroy Crossi**	**21.68 183**		P	P	20 40 30.3	-0.3
	1.4nm,0.6s,baz=12,slow=10,SNR=4.7						
WRA	**Warramunga Arr**	**24.59 163**		P	P	20 41 00.1	-0.1
	2.9nm,0.7s,baz=343,slow=9.8,SNR=20						
ASAR	**Alice Springs**	**28.03 166**		P	P	20 41 31.2	0.0
	0.2nm,0.3s,baz=347,slow=7.9,SNR=4.6						
ASAR				PcP	PcP	20 44 47.1	+0.8
	0.2nm,0.4s,baz=351,slow=2.1,SNR=4.5						
STKA	**Stephens Creek**	**38.03 159**		P	P	20 42 58.1	-0.2
	2.2nm,0.9s,baz=324,slow=5.8,SNR=4.5						
MKAR	**Makanchi Array**	**57.68 325**		P	P	20 45 30.4	-0.1
	0.3nm,0.4s,baz=119,slow=7.0,SNR=12						
ARCES	**ARCESS Array B**	**90.55 340**		P	P	20 48 41.3	-0.5
	2.3nm,0.8s,baz=78,slow=6.5,SNR=3.3						

KRSC 21 20:38:33.2±7.4, 49°.79N×154°.27E, h2km±2km, ML4.2, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.48**	**52**	*i* P	Pn	20 39 00.6	-0.3
SKR				*i* S	Sb	20 39 20.5	-0.3
PAU	**Pauzhetka**	**2.33**	**43**	*e*P	Pn	20 39 14.1	+1.6
PAU				*i* S	Sn	20 39 41.7	0.0
ASAK	**Asacha**	**3.46**	**40**	*e*P	Pn	20 39 30.4	+2.2
ASAK				*i* S	Sn	20 40 09.5	-0.3
APC	**Apacha**	**3.62**	**29**	*e*P	Pn	20 39 31.1	+0.8
MTVR	**Mutnovka**	**3.65**	**41**	*e*P	Pn	20 39 31.9	+1.0
MTVR				*i* S	Sn	20 40 14.5	-0.2
RUS	**Russkaya**	**3.76**	**44**	*i* P	Pn	20 39 33.2	+1.0
RUS				*i* S	Sn	20 40 16.3	-0.7
AVH	**Avacha**	**4.46**	**37**	*e*P	Pn	20 39 43.2	+1.3
SDLR	**Sedlovina**	**4.53**	**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAGN	**Fagnano**	**0.05**	**72**	Pg	Pg	21 26 37.8	+0.4
FAGN				Sg	Sg	21 26 38.7	-0.2
	20μm,0.3s						
FAGN	**Fagnano**	**0.05**	**72**	Pg	Pg	21 26 37.8	+0.4
FAGN				Sg	Sg	21 26 38.7	-0.2
	20μm,0.3s						
PTQR	**Pietraquaria**	**0.24**	**201**	Pg	Pg	21 26 41.3	+0.8
PTQR				Sg	Sg	21 26 45.3	+1.4
PTQR	**Pietraquaria**	**0.24**	**201**	Pg	Pg	21 26 41.3	+0.8
PTQR				Sg	Sg	21 26 45.3	+1.4
FIAM	**Fiamignano**	**0.30**	**274**	Pg	Pg	21 26 42.1	+0.6
	531nm,0.5s						
FIAM	**Fiamignano**	**0.30**	**274**	Pg	Pg	21 26 42.1	+0.6
	531nm,0.5s						
INTR	**Introdacqua**	**0.38**	**129**	Pg	Pg	21 26 43.5	+0.6
INTR				Sg	Sb	21 26 49.4	-1.0
	557nm,0.3s						
INTR	**Introdacqua**	**0.38**	**129**	Pg	Pg	21 26 43.5	+0.6
INTR				Sg	Sb	21 26 49.4	-1.0
	557nm,0.3s						
TERO	**Teramo**	**0.38**	**10**	Pg	Pg	21 26 43.4	+0.4
TERO				Sg	Sb	21 26 49.5	-0.9
	350nm,0.5s						
TERO	**Teramo**	**0.38**	**10**	Pg	Pg	21 26 43.4	+0.4
TERO				Sg	Sb	21 26 49.5	-0.9
	350nm,0.5s						
VVLD	**Villa Vallelon**	**0.39**	**168**	Pg	Pg	21 26 43.7	+0.5
VVLD				Sg	Sb	21 26 49.6	-1.1
	232nm,0.6s						
VVLD	**Villa Vallelon**	**0.39**	**168**	Pg	Pg	21 26 43.7	+0.5
VVLD				Sg	Sb	21 26 49.6	-1.1
	232nm,0.6s						
GUAR	**Guarcino**	**0.48**	**199**	Pg	Pg	21 26 45.4	+0.6
	158nm,0.3s						
GUAR	**Guarcino**	**0.48**	**199**	Pg	Pg	21 26 45.4	+0.6
	158nm,0.3s						
CERT	**Cerreto**	**0.50**	**233**	Pg	Pg	21 26 45.6	+0.4
	153nm,0.6s						
CERT	**Cerreto**	**0.50**	**233**	Pg	Pg	21 26 45.6	+0.4
	153nm,0.6s						
LPEL	**Lama dei Pelig**	**0.54**	**112**	Pg	Pg	21 26 46.2	+0.3
LPEL				Sg	Sb	21 26 54.7	-0.3
	315nm,0.3s						
LPEL	**Lama dei Pelig**	**0.54**	**112**	Pg	Pg	21 26 46.2	+0.3
LPEL				Sg	Sb	21 26 54.7	-0.3
	315nm,0.3s						
POFI	**Posta Fibreno**	**0.55**	**165**	Pg	Pb	21 26 46.8	-0.6
	128nm,0.6s						
POFI	**Posta Fibreno**	**0.55**	**165**	Pg	Pb	21 26 46.8	-0.6
	128nm,0.6s						
SDI	**San Donato**	**0.58**	**158**	Pg	Pb	21 26 47.4	-0.5
	110nm,0.2s						
SDI	**San Donato**	**0.58**	**158**	Pg	Pb	21 26 47.4	-0.5
	110nm,0.2s						
CAFR	**Castel Frentan**	**0.62**	**92**	Pg	Pb	21 26 48.3	-0.1
CAFR	**Castel Frentan**	**0.62**	**92**	Pg	Pb	21 26 48.3	-0.1
MNS	**Montasola**	**0.63**	**283**	Pg	Pg	21 26 47.8	0.0
	170nm,0.4s						
MNS	**Montasola**	**0.63**	**283**	Pg	Pg	21 26 47.8	0.0
	170nm,0.4s						
NRCA	**Norcia**	**0.65**	**333**	Pg	Pg	21 26 48.2	0.0
	76nm,0.3s						
NRCA	**Norcia**	**0.65**	**333**	Pg	Pg	21 26 48.2	0.0
	76nm,0.3s						
GIUL	**Giuliano Di Ro**	**0.72**	**196**	Pg	Pg	21 26 49.6	+0.3
	77nm,0.7s						
GIUL	**Giuliano Di Ro**	**0.72**	**196**	Pg	Pg	21 26 49.6	+0.3
	77nm,0.7s						
RNI2	**Rionero Sannit**	**0.72**	**139**	Pg	Pg	21 26 49.9	+0.4
	153nm,0.5s						
RNI2	**Rionero Sannit**	**0.72**	**139**	Pg	Pg	21 26 49.9	+0.4
	153nm,0.5s						
CERA	**Filignano**	**0.75**	**150**	Pg	Pg	21 26 49.8	-0.2
	137nm,0.5s						
CERA	**Filignano**	**0.75**	**150**	Pg	Pg	21 26 49.8	-0.2
	137nm,0.5s						
MIDA	**Miranda**	**0.82**	**138**	Pg	Pg	21 26 50.7	-0.6
	73nm,0.2s						
MIDA	**Miranda**	**0.82**	**138**	Pg	Pg	21 26 50.7	-0.6
	73nm,0.2s						
FDMO	**Fiordimonte**	**0.85**	**338**	Pg	Pg	21 26 51.4	-0.4
	72nm,0.7s						
FDMO	**Fiordimonte**	**0.85**	**338**	Pg	Pg	21 26 51.4	-0.4
	72nm,0.7s						
GUMA	**Gualdo di Mace**	**0.87**	**21**	Pg	Pg	21 26 52.0	-0.2
	252nm,0.5s						
GUMA	**Gualdo di Mace**	**0.87**	**21**	Pg	Pg	21 26 52.0	-0.2
	252nm,0.5s						
CESI	**CESI - Serrava**	**0.88**	**329**	Pg	Pg	21 26 52.4	-0.1
	30nm,0.6s						
CESI	**CESI - Serrava**	**0.88**	**329**	Pg	Pg	21 26 52.4	-0.1
	30nm,0.6s						
NVLJ	**Novalja**	**2.51**	**23**	*e*Pn	Pn	21 27 17.7	+1.3
NVLJ				Sn	Sb	21 27 49.9	-1.9
UDBI	**Udbina**	**2.81**	**35**	*e*Pn	Pn	21 27 19.6	-0.9
UDBI				Sn	Sn	21 27 57.0	+2.5

WEL 21 21:27:53.1±0.1, 45°.95S×166°.86E, h5km, ML3.9/11, 2D, Error ellipse: s-maj=1.0km s-min=0.7km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.25**	**210**	⇓PG	Pg	21 27 58.2	+0.2
PYZ				SG	Sg	21 28 01.1	-0.2
DCZ	**Deep Cove**	**0.52**	**23**	PG	Pg	21 28 03.2	+0.2
DCZ				SG	Sg	21 28 10.4	+0.7
DCZ				AML	AML	21 28 12.5	
DCZ				AML	AML	21 28 12.5	
DCZ				AML	AML	21 28 12.6	
WHZ	**Wether Hill Ro**	**0.76**	**86**	⇓P*	Pg	21 28 08.2	+0.6
WHZ				S*	Sb	21 28 18.9	-0.5
WHZ				AML	AML	21 28 19.5	
MLZ	**Mavora Lakes**	**1.10**	**57**	P*	Pg	21 28 13.0	-1.2
MLZ				AML	AML	21 28 29.6	
MLZ				AML	AML	21 28 30.3	
APZ	**The Paps**	**1.18**	**139**	P*	Pg	21 28 14.2	-1.5
MSZ	**Milford Sound**	**1.48**	**31**	PN	Pn	21 28 19.6	-0.8
MSZ				AML	AML	21 28 40.0	
MSZ				AML	AML	21 28 40.0	
MSZ				AML	AML	21 28 45.7	
MSZ				AML	AML	21 28 45.7	
SYZ	**Scrubby Hill**	**1.69**	**111**	PN	Pn	21 28 22.7	-0.5
EAZ	**Earnscleugh**	**1.86**	**68**	PN	Pn	21 28 26.5	+0.9
EAZ				AML	AML	21 28 53.0	
EAZ				AML	AML	21 28 55.4	
EAZ				AML	AML	21 28 59.7	
EAZ				AML	AML	21 28 59.7	
WKZ	**Wanaka**	**1.89**	**54**	PN	Pb	21 28 27.4	-0.7
WKZ				AML	AML	21 28 57.1	
WKZ				AML	AML	21 28 57.1	
WKZ				AML	AML	21 28 57.6	
TUZ	**Tuapeka**	**1.93**	**91**	PN	Pn	21 28 26.5	0.0
TUZ				AML	AML	21 28 53.5	
TUZ				AML	AML	21 28 55.2	
JCZ	**Jackson Bay**	**2.31**	**36**	PN	Pb	21 28 34.2	-1.1
JCZ				AML	AML	21 29 19.4	
JCZ				AML	AML	21 29 19.9	
HHSZ	**Highcliff Hill**	**2.61**	**90**	PN	Pb	21 28 38.3	-2.0
LBZ	**Lake Benmore**	**2.82**	**58**	PN	Pn	21 28 39.9	+1.1
LBZ				AML	AML	21 29 23.3	
LBZ				AML	AML	21 29 24.6	
FOZ	**Fox Glacier**	**3.12**	**41**	PN	Pb	21 28 46.4	-2.6

IDC 21 21:33:35.5±6.4, 30°.16S×137°.73E, h0km, mb1 3.0/3, mb1mx3.0/15, mbtmp2.8/3, ML2.1/2, Error ellipse: s-maj=164.4km s-min=19.4km az=41.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**3.73**	**118**	Pn	Pn	21 34 35.1	+0.7
	0.0nm,0.3s,baz=298,slow=15,SNR=2.0						
STKA				Sn	Sn	21 35 22.0	+3.0
	0.3nm,0.3s,baz=288,slow=14,SNR=4.7						
STKA				Lg	Lg	21 35 32.4	
	0.3nm,0.3s,baz=32,slow=15,SNR=4.1						
ASAR	**Alice Springs**	**7.32**	**331**	Pn	Pn	21 35 23.4	-0.4
	0.1nm,0.3s,baz=168,slow=10,SNR=4.2						
WRA	**Warramunga Arr**	**10.63**	**342**	Pn	Pn	21 36 09.1	-0.1
	0.1nm,0.3s,baz=167,slow=13,SNR=2.7						
WRA				Sn	Sn	21 38 03.2	-5.8
	baz=169,slow=18,SNR=2.9						

*IDC **21** 21:58:35.5±0.6, 5°.24N×82°.52W, h0km, mb4.2/14, mb1 4.5/16, mb1mx4.3/26, mbtmp4.3/16, ML4.0/2, MS4.2/18, Ms1 4.2/18, ms1mx4.1/25, Error ellipse: s-maj=32.5km s-min=12.1km az=57.0*

*ISCJB **21** 21:58:36.9±0.2, 5°.40N±0°.03×82°.47W±0°.03, h10km, mb4.7/96, MS4.4/17, Error ellipse: s-maj=4.4km s-min=3.1km az=39.1*

*NEIC **21** 21:58:37.1±0.2, 5°.18N×82°.50W, h10km, mb4.9/87, Error ellipse: s-maj=5.1km s-min=3.5km az=219.0*

*BJI **21** 21:58:37.2, 5°.20N×82°.50W, h10km, mB5.3/6, Ms5.3/7, Ms7 4.9/7*

*CASC **21** 21:58:38.0±2.9, 5°.34N×82°.76W, h22km±66km, MD4.5*

*GCMT **21** 21:58:42.1±0.3, 5°.21N×82°.58W, h21km±1km, MW5.0, Moment Tensor Solution. s24,c29; s76,c106; Moment tensor: Scale 10^{16}Nm; M_{rr}-0.28±.16; $M_{\theta\theta}$0.52±.13; $M_{\phi\phi}$-0.24±.15; $M_{r\theta}$0.05±.23; $M_{\theta\phi}$3.69±.12; $M_{\phi r}$-0.34±.23; Best double couple: $M_0$3.70000×10^{16} NP1:ϕ_s3.00000°, δ88.00000°, λ-175.00000°. NP2:ϕ_s273.00000°, δ85.00000°, λ-2.00000°. Principal axes: T 3.8600, Plg3.0000°, Azm138.0000°; N -0.2600, Plg84.0000°, Azm20.0000°; P -3.5900, Plg5.0000°, Azm228.0000°; Data Used: IU II G CN IC.*

ISC 21 21:58:38.9±1.2, 5°.25N±0°.04×82°.64W±0°.05, h23km±8km, n518, σ1§47/539, mb4.8/97, MS4.3/18, 148C-137D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**3.42**	**351**	⇑*e*P	Pn	21 59 27.9	-3.1
ACR				*e*S	**Sn**	**22 00 07.7**	**-3.2**
BRU2	**Volcan**	**3.52**	**359**	⇑*i*P	Pn	21 59 30.1	-2.4
BRU2				*e*S	**Sn**	**22 00 12.4**	**-1.1**
BRU	**Baru**	**3.54**	**1**	⇓*i*P	**Pn**	**21 59 30.9**	**-2.0**
BRU				*e*S	**Sn**	**22 00 15.0**	**+0.8**
CTCR	**Cotoan**	**3.62**	**358**	*e*P	**Pn**	**21 59 32.0**	**-1.9**
CNI	**Changuinola**	**4.14**	**2**	*e*P	**Pn**	**21 59 40.0**	**-0.8**
QCR	**Quepos**	**4.42**	**340**	⇑*e*P	Pn	21 59 41.6	-3.0
QCR				*e*S	**Sn**	**22 00 33.1**	**-2.2**
BUS	**Buena Vista**	**4.42**	**345**	⇑*e*P	**Pn**	**21 59 42.9**	**-2.2**
BUS				*e*S	**Sn**	**22 00 33.6**	**-2.5**
ZANG	**Zanguenga, Cho**	**4.59**	**37**	*e*P	**Pn**	**21 59 47.6**	**+0.5**
ZANG				*e*S	**Sn**	**22 00 38.2**	**-1.6**
URSC	**Urasca**	**4.70**	**346**	⇑*e*P	**Pn**	**21 59 46.8**	**-1.8**
URSC				*e*S	**Sn**	**22 00 42.0**	**-0.5**
BCIP	**Isla Barro Col**	**4.78**	**35**	*e*P	**Pn**	**21 59 49.2**	**-0.4**
BCIP				*e*S	**Sn**	**22 00 45.4**	**+1.1**
BCIP	**Isla Barro Col**	**4.78**	**35**	*e*Pn	**Pn**	**21 59 48.8**	**-0.8**
BCIP				*e*Sn	**Sn**	**22 00 45.1**	**+0.7**
UPA	**Univ. de Panam**	**4.82**	**40**	*e*P	**Pn**	**21 59 48.9**	**-1.2**
UPA				*e*S	**Sn**	**22 00 46.0**	**+0.7**
SJS	**Escuela Geolog**	**4.87**	**343**	⇓*e*P	**Pn**	**21 59 49.8**	**-1.2**
SJS				*e*S	**Sn**	**22 00 42.4**	**-4.3**
CAO	**Cobano**	**5.05**	**331**	*e*P	**Pn**	**21 59 51.1**	**-2.3**
CAO				*e*S	Sn	22 00 45.0	-6.2
CGA2	**Cerro Gallo 2**	**5.07**	**339**	⇓*e*P	**Pn**	**21 59 51.8**	**-1.9**
CGA2				*e*P	**Pn**	**21 59 51.9**	**-1.9**
CGA2				*e*S	**Sn**	**22 00 49.9**	**-1.9**
JCR	**Jicaral**	**5.19**	**332**	⇑*e*P	**Pn**	**21 59 53.1**	**-2.2**
JCR				*e*S	**Sn**	**22 00 52.0**	**-2.5**
JTS	**JuntasAbangare**	**5.51**	**336**	*e*Pn	Pn	21 59 57.1	-2.5
JTS				*e*Sn	**Sn**	**22 01 00.1**	**-2.3**
CHPA	**Chiripa**	**5.63**	**337**	*i* S	**Sn**	**22 01 06.1**	**+0.6**
VCR	**Vista de Mar**	**5.68**	**329**	⇑*e*P	**Pn**	**22 00 00.1**	**-2.1**
VCR				*e*P	**Pn**	**22 00 00.1**	**-2.1**
VCR				*e*S	**Sn**	**22 01 02.1**	**-4.7**
CUI	**Cuipilapa**	**5.93**	**335**	*i* P	**Pn**	**22 00 03.6**	**-1.9**
CUI				*i* S	**Sn**	**22 01 12.2**	**-0.6**
LAPC	**Finca la Perla**	**6.14**	**333**	*i* P	**Pn**	**22 00 07.4**	**-1.0**
GB1A	**Borinquen Arri**	**6.17**	**334**	*i* P	**Pn**	**22 00 08.0**	**-0.8**
GB1A				*i* S	**Sn**	**22 01 18.0**	**-0.9**
OTAV	**Otavalo**	**6.50**	**140**	*e*Pn	**Pn**	**22 00 11.2**	**-2.5**
ROSC	**El Rosal**	**8.28**	**92**	*e*Pn	**Pn**	**22 00 37.5**	**-0.6**
ROSC				Sn	**Sn**	**22 02 13.1**	**+1.8**
ROSC	**El Rosal**	**8.28**	**92**	Pn	Pn	22 00 41.3	+3.2
	7.5nm,0.3s,baz=281,slow=21,SNR=7.1						
ROSC				Sn	**Sn**	**22 02 13.1**	**+1.8**
	2.0nm,0.3s,baz=270,slow=20,SNR=1.8						
PAYG	**Puerto Ayora**	**9.64**	**233**	*e*Pn	**Pn**	**22 00 57.2**	**+0.7**
	132nm,1.3s						
TGUH	**Tegucigalpa,Un**	**9.87**	**333**	*e*Pn	**Pn**	**22 01 00.3**	**+0.8**
APG	**El Apazote**	**12.38**	**322**	Pn	Pn	22 01 37.7	+3.6
APG	**El Apazote**	**12.38**	**322**	Pn	Pn	22 01 37.7	+3.6
	0.9nm,0.3s,baz=156,slow=6.0,SNR=11						
APG				LR	LR	22 05 47.9	
	comp=Z,1μm,20.8s,baz=127,slow=35						
SDV	**Santo Domingo**	**12.45**	**72**	*e*Pn	**Pn**	**22 01 35.2**	**+0.2**
ATAH	**Atahualpa**	**13.01**	**161**	Pn	**Pn**	**22 01 43.6**	**+0.7**
ATAH	**Atahualpa**	**13.01**	**161**	Pn	**Pn**	**22 01 43.6**	**+0.7**
	0.8nm,0.3s,baz=353,slow=7.1,SNR=6.2						
ATAH				LR	LR	22 06 08.6	
	comp=Z,2μm,21.6s,baz=336,slow=35						
TEIG	**Tepich**	**15.87**	**340**	Pn	**P**	**22 02 25.3**	**+0.8**
TEIG	**Tepich**	**15.87**	**340**	Pn	**P**	**22 02 25.3**	**+0.8**
	0.4nm,0.3s,baz=18,slow=19,SNR=5.5						
TEIG				LR	LR	22 07 58.1	
	comp=Z,1μm,19.7s,baz=161,slow=35						
SDDR	**Presa de Saban**	**17.57**	**38**	*e*Pn	**Pn**	**22 02 42.5**	**-0.1**
	56nm,1.0s						
NNA	**Nana**	**18.07**	**161**	*e*Pn	**Pn**	**22 02 47.7**	**-1.0**
	27nm,0.9s						
NNA	**Nana**	**18.07**	**161**	P	**P**	**22 02 49.2**	**+0.2**
	0.5nm,0.3s,baz=352,slow=13,SNR=8.0						
NNA				LR	LR	22 08 47.6	
	comp=Z,103nm,19.7s,baz=148,slow=34						
CRPR	**Cabo Rojo, PR**	**19.77**	**49**	*e*P	**P**	**22 03 07.8**	**+0.1**
	56nm,0.8s						
LSP	**Las Mesas**	**19.90**	**48**	*e*P	**P**	**22 03 09.8**	**+0.7**
LRS	**Lares**	**20.15**	**49**	*e*P	**P**	**22 03 12.9**	**+1.1**
OBIP	**Obispado Ponce**	**20.18**	**50**	*e*P	**P**	**22 03 12.5**	**+0.5**
	43nm,0.9s						
CELP	**Cerrillos**	**20.22**	**50**	*e*P	**P**	**22 03 12.6**	**+0.1**
CBYP	**Canovanas**	**20.88**	**50**	*e*P	**P**	**22 03 19.4**	**-0.4**
	70nm,1.0s						
MTP	**Monte Pirata**	**21.02**	**51**	*e*P	**P**	**22 03 21.0**	**-0.2**
	127nm,1.2s						
CDVI	**St. Croix**	**21.44**	**53**	*e*P	**P**	**22 03 26.0**	**+0.2**
STVI	**Saint Thomas**	**21.63**	**52**	*e*P	**P**	**22 03 28.5**	**+0.8**
	274nm,1.8s						
SAML	**Samuel**	**23.98**	**126**	*e*P	**P**	**22 03 49.8**	**-2.2**
	86nm,1.3s						
LPAZ	**La Paz**	**25.77**	**146**	*e*P	**P**	**22 04 08.7**	**-0.3**
	52nm,1.8s						
LPAZ	**La Paz**	**25.77**	**146**	P	**P**	**22 04 09.0**	**+0.1**
	3.2nm,0.6s,baz=334,slow=11,SNR=14						
LPAZ				LR	LR	22 15 25.2	
	comp=Z,1μm,20.4s,baz=351,slow=39						
HKT	**Hockley**	**27.55**	**335**	*e*P	**P**	**22 04 26.8**	**+2.6**
	81nm,2.4s						
LRAL	**Lakeview Retre**	**27.94**	**352**	*e*P	**P**	**22 04 28.4**	**+0.7**
	23nm,0.8s						
732A	**Laxson Ranch,**	**28.56**	**327**	⇑P	**P**	**22 04 34.7**	**+1.5**
	baz=29						
632A	**Uvalde**	**29.07**	**328**	⇓P	**P**	**22 04 38.9**	**+1.0**
	baz=29						
631A	**Perdido Creek**	**29.42**	**327**	⇓P	**P**	**22 04 41.9**	**+1.0**
	baz=30,SNR=5.5						
532A	**Rocksprings**	**29.63**	**329**	⇑P	**P**	**22 04 43.8**	**+1.0**
	baz=30,SNR=7.9						
KMSC	**Kings Mountain**	**29.77**	**2**	*e*P	**P**	**22 04 44.9**	**+1.0**
KMSC	**Kings Mountain**	**29.77**	**2**	⇑P	**P**	**22 04 44.2**	**+0.3**
	baz=30						
OXF	**Oxford**	**29.79**	**349**	*e*P	**P**	**22 04 44.4**	**+0.3**
	27nm,0.9s						
JCT	**Junction City**	**29.86**	**329**	⇓P	**P**	**22 04 46.1**	**+1.3**
	baz=30						
SWET	**Sewanee**	**29.98**	**355**	*e*P	**P**	**22 04 46.1**	**+0.3**
	14nm,0.9s						
531A	**Rocksprings**	**29.99**	**328**	⇓P	**P**	**22 04 48.3**	**+2.3**
	baz=30,SNR=8.0						
PLAL	**Pickwick Lake**	**30.01**	**351**	*e*P	**P**	**22 04 46.0**	**0.0**
	14nm,0.9s						
SIV	**San Ignacio**	**30.02**	**135**	P	**P**	**22 04 45.9**	**-0.5**
SIV	**San Ignacio**	**30.02**	**135**	P	**P**	**22 04 45.9**	**-0.5**
	3.3nm,1.0s,baz=315,slow=12,SNR=6.0						
SIV				LR	LR	22 16 54.3	
	comp=Z,1μm,19.7s,slow=37						
CPCT	**Cooper Cave**	**30.10**	**357**	*e*P	**P**	**22 04 48.0**	**+1.1**
530A	**J-C Ranch, Com**	**30.41**	**327**	⇓P	**P**	**22 04 50.7**	**+1.0**
	baz=31,SNR=11						
431A	**Sonora**	**30.43**	**328**	⇑P	**P**	**22 04 50.7**	**+0.8**
	baz=31,SNR=6.8						
332A	**Millersview**	**30.56**	**330**	⇓P	**P**	**22 04 51.4**	**+0.4**
	baz=31,SNR=6.1						
UALR	**University of**	**30.72**	**344**	*e*P	**P**	**22 04 52.4**	**+0.1**
	11nm,0.8s						
628A	**Black Gap, Mar**	**30.79**	**324**	⇑P	**P**	**22 04 54.3**	**+1.3**
	baz=31						
331A	**San Angelo**	**30.84**	**329**	⇑P	**P**	**22 04 54.3**	**+0.9**
	baz=31						
430A	**Baggett Ranch,**	**30.85**	**328**	⇑P	**P**	**22 04 54.5**	**+0.9**
	baz=31						
MIAR	**Mount Ida**	**30.86**	**342**	*e*P	**P**	**22 04 53.6**	**0.0**
	11nm,1.3s						
232A	**Coleman**	**30.92**	**331**	⇑P	**P**	**22 04 56.1**	**+1.8**
	baz=31						
627A	**Terlingua Ranc**	**31.06**	**323**	⇑P	**P**	**22 04 56.9**	**+1.4**
	baz=31						
429A	**Davenport Ranc**	**31.08**	**327**	⇓P	**P**	**22 04 56.6**	**+1.0**
	baz=31,SNR=20						
WVT	**Waverly**	**31.10**	**352**	*e*P	**P**	**22 04 54.5**	**-1.1**
	19nm,0.8s						
TXAR	**Lajitas Array**	**31.14**	**323**	P	**P**	**22 04 57.0**	**+0.8**
TXAR	**Lajitas Array**	**31.14**	**323**	P	**P**	**22 04 57.0**	**+0.8**
	0.2nm,0.4s,baz=141,slow=12,SNR=4.8						
TXAR				LR	LR	22 17 31.4	
	comp=Z,216nm,18.7s,baz=140,slow=36						
528A	**Cox Ranch, San**	**31.23**	**325**	⇓P	**P**	**22 04 58.5**	**+1.5**
	baz=32						
231A	**Bronte**	**31.29**	**330**	⇑P	**P**	**22 04 58.3**	**+0.8**
	baz=32						
330A	**Mertzon**	**31.30**	**328**	⇑P	**P**	**22 04 59.1**	**+1.5**
	baz=32						
626A	**Big Bend Ranch**	**31.58**	**322**	⇑P	**P**	**22 05 01.3**	**+1.2**
	baz=32						
230A	**Sterling City**	**31.65**	**329**	⇑P	**P**	**22 05 01.7**	**+1.0**
	baz=32						
527A	**Woodward Ranch**	**31.69**	**324**	⇓P	**P**	**22 05 02.1**	**+0.9**
	baz=32,SNR=9.7						
329A	**Wagon Wheel Ra**	**31.79**	**328**	⇑P	**P**	**22 05 03.0**	**+1.1**
	baz=32						
526A	**Mary Lane Ranc**	**31.92**	**323**	⇓P	**P**	**22 05 04.3**	**+1.2**
	baz=32						
131A	**Roby**	**31.93**	**331**	⇓P	**P**	**22 05 03.7**	**+0.7**
	baz=32						
PARMO	**Parma**	**31.94**	**349**	*e*P	**P**	**22 05 04.2**	**+1.1**
Z32A	**Haskell**	**32.02**	**333**	⇑P	**P**	**22 05 05.4**	**+1.6**
	baz=32,SNR=6.4						
427A	**Hayter Ranch,**	**32.09**	**325**	⇓P	**P**	**22 05 05.5**	**+0.9**
	baz=32						
130A	**Snyder**	**32.15**	**330**	⇓P	**P**	**22 05 05.8**	**+0.8**
	baz=32						
328A	**Wristen Ranch,**	**32.16**	**326**	⇓P	**P**	**22 05 06.5**	**+1.4**
	baz=32						
426A	**McDonald Obser**	**32.32**	**324**	⇓P	**P**	**22 05 08.0**	**+1.2**
	baz=33,SNR=6.3						
Z31A	**Sharp Cattle R**	**32.34**	**332**	⇑P	**P**	**22 05 07.3**	**+0.6**
	baz=33						
JSRW	**J. Sargeant Re**	**32.58**	**7**	*e*P	**P**	**22 05 09.3**	**+0.6**
Y32A	**R-V Farms, Ver**	**32.59**	**344**	⇑P	**P**	**22 05 09.7**	**+0.8**
	baz=33						
228A	**UT Block 9, Go**	**32.61**	**327**	⇓P	**P**	**22 05 10.0**	**+0.9**
	baz=33						
326A	**Caldwell Ranch**	**32.77**	**325**	⇑P	**P**	**22 05 11.7**	**+1.2**
	baz=33,SNR=5.7						
Z30A	**Sanderson Ranc**	**32.78**	**331**	⇑P	**P**	**22 05 11.4**	**+0.8**
	baz=33,SNR=7.5						
SIUC	**Southern Illin**	**32.87**	**350**	*e*P	**P**	**22 05 11.2**	**0.0**
	26nm,0.8s						
USIN	**University of**	**32.89**	**353**	*e*P	**P**	**22 05 11.2**	**-0.2**
	52nm,0.9s						
227A	**Bennet, Jal**	**32.91**	**327**	⇑P	**P**	**22 05 12.9**	**+1.2**
	baz=33						
Y31A	**Rekieta Farm,**	**32.93**	**332**	⇓P	**P**	**22 05 12.7**	**+0.9**
	baz=33						
128A	**Castleberry Fa**	**32.94**	**328**	⇓P	**P**	**22 05 13.3**	**+1.3**
	baz=33						
425A	**Indio Mountain**	**32.97**	**323**	⇓P	**P**	**22 05 13.6**	**+1.2**
	baz=33,SNR=15						
WCI	**Wyandotte Cave**	**33.00**	**355**	*e*P	**P**	**22 05 11.8**	**-0.5**
	21nm,0.8s						
Z29A	**Hungry Hill Ra**	**33.05**	**330**	⇓P	**P**	**22 05 14.0**	**+1.1**
	baz=33						
325A	**Bean Ranch, Si**	**33.38**	**324**	⇑P	**P**	**22 05 16.8**	**+0.8**
	baz=34,SNR=5.9						
226B	**Tecolote Peak,**	**33.44**	**326**	⇓P	**P**	**22 05 17.7**	**+1.3**
	baz=34,SNR=14						
X30A	**Coker Ranch, T**	**33.61**	**332**	⇓P	**P**	**22 05 18.6**	**+0.9**
	baz=34						
OLIL	**Olney**	**33.70**	**352**	*e*P	**P**	**22 05 18.4**	**0.0**
	44nm,0.8s						
324A	**Moseley Ranch,**	**33.74**	**323**	⇑P	**P**	**22 05 19.8**	**+0.7**
	baz=34,SNR=12						
126A	**Clayton Basin,**	**33.79**	**326**	⇑P	**P**	**22 05 20.8**	**+1.3**
	baz=34						
225A	**Deer Hill, Car**	**33.84**	**325**	⇓P	**P**	**22 05 21.0**	**+1.1**
	baz=34						
MNTX	**Cornudas Mount**	**33.86**	**324**	*e*P	**P**	**22 05 20.7**	**+0.7**

S30A	Montezuma baz=36	36.11 336	⇓P	P	22 05 40.9 +1.5
R31A	Burdett baz=36	36.30 337	⇑P	P	22 05 42.3 +1.3
BNM	Barren Site 14nm,1.3s	36.36 325	eP	P	22 05 43.1 +1.4
Z21A	St. Cloud Mine baz=37,SNR=6.7	36.36 323	⇓P	P	22 05 43.8 +2.0
S29A	Ulysses baz=37	36.37 335	⇓P	P	22 05 43.0 +1.4
Y22A	Socorro baz=37,SNR=6.0	36.40 325	⇓P	P	22 05 44.0 +2.0
120A	U Bar Ranch, L baz=37	36.42 321	⇓P	P	22 05 44.7 +2.4
W24A	Lazy 6 Ranch, baz=37,SNR=9.2	36.48 328	⇓P	P	22 05 44.3 +1.6
V25A	Rancho No Teng baz=37,SNR=8.7	36.55 329	⇑P	P	22 05 44.6 +1.3
U26A	Atchley Ranch, baz=37	36.56 331	⇑P	P	22 05 44.8 +1.4
LENM	Lemitar	36.57 325	eP	P	22 05 43.6 +0.2
R30A	Dighton baz=37,SNR=6.3	36.59 336	⇑P	P	22 05 44.2 +0.7
Z20A	Nine Sixteen R baz=37,SNR=10.0	36.78 322	⇑P	P	22 05 47.5 +2.2
V24A	Rampart Ranch, baz=37	36.80 328	⇓P	P	22 05 47.2 +1.7
X22A	Bernardo baz=37	36.84 325	⇓P	P	22 05 48.2 +2.5
W23A	Werner Place, baz=37	36.84 327	⇓P	P	22 05 47.8 +2.0
ANMO	Albuquerque 13nm,1.1s	36.85 326	eP	P	22 05 47.0 +1.2
Y21A	Point of Rocks baz=37	36.86 324	⇓P	P	22 05 48.5 +2.5
Q31A	Ellis baz=37	36.88 338	⇑P	P	22 05 47.4 +1.5
W22A	Albuquerque baz=37	37.17 326	⇑P	P	22 05 51.1 +2.5
Y20A	Horse Springs, baz=37	37.20 323	⇓P	P	22 05 51.3 +2.4
X21A	Alamocita Cree baz=38	37.24 325	⇑P	P	22 05 51.5 +2.3
BINY	Binghamton 10nm,0.9s	37.27 8	eP	P	22 05 48.9 -0.2
R28A	Tribune baz=38,SNR=10.0	37.27 335	⇑P	P	22 05 49.9 +0.6
P31A	Stockton baz=38	37.32 338	⇑P	P	22 05 51.2 +1.6
Q29A	Oakley baz=38,SNR=6.9	37.39 336	⇑P	P	22 05 51.6 +1.3
S26A	Kim baz=38	37.41 332	⇓P	P	22 05 52.2 +1.7
T25A	Trinidad baz=38	37.47 331	⇓P	P	22 05 53.2 +2.0
TUC	Tucson 11nm,1.1s	37.64 319	eP	P	22 05 54.5 +2.0
R27A	Eads baz=38	37.65 334	⇑P	P	22 05 53.7 +1.2
P30A	Selden baz=38,SNR=5.6	37.67 337	⇓P	P	22 05 53.6 +1.1
X20A	Quemado baz=38	37.72 324	⇓P	P	22 05 55.4 +2.1
U23A	El Rito baz=38,SNR=8.3	37.74 328	⇓P	P	22 05 55.3 +1.8
V22A	San Miguel Ran baz=38	37.81 327	⇓P	P	22 05 56.0 +2.0
Q28A	Sharon Springs baz=38	37.89 335	⇑P	P	22 05 56.2 +1.7
T24B	San Luis baz=38	37.89 330	⇑P	P	22 05 57.5 +2.7
S25A	Robets Cordova baz=38	37.90 331	⇑P	P	22 05 56.4 +1.7
R26A	Arlington baz=38	37.95 333	⇑P	P	22 05 56.5 +1.4
JFWS	Jewell Farm 18nm,1.0s	38.11 351	eP	P	22 05 55.3 -0.8
U22A	Llaves baz=38,SNR=6.0	38.13 328	⇑P	P	22 05 58.8 +2.1
W20A	Ramah baz=38	38.13 325	⇓P	P	22 05 59.1 +2.3
V21A	Milan baz=38	38.13 326	⇑P	P	22 05 58.9 +2.2
O30A	MW Ranch, Wils baz=38	38.15 338	⇑P	P	22 05 57.7 +1.1
KSCO	Kaye Shedlock' baz=38	38.18 334	⇑P	P	22 05 58.7 +1.8
T23A	Casias Ranch, baz=38,SNR=12	38.20 329	⇑P	P	22 05 59.2 +1.8
R25A	Fountain Ranch baz=38,SNR=5.6	38.22 332	⇑P	P	22 05 59.1 +1.7
S24A	Houchin Ranch, baz=38,SNR=6.8	38.26 331	⇑P	P	22 05 59.6 +1.7
P28A	Saint Francis baz=38	38.29 336	⇓P	P	22 05 59.6 +1.7
SDCO	Great Sand Dun 17nm,1.1s	38.48 330	eP	P	22 06 00.7 +0.9
X18A	Snowflake baz=39	38.58 323	⇓P	P	22 06 02.7 +2.3
V20A	Brimhall baz=39	38.59 325	⇑P	P	22 06 02.3 +1.7
U21A	Nageezi baz=39	38.60 327	⇓P	P	22 06 02.4 +1.7
P27A	Ficken Ranch, baz=39	38.61 335	⇑P	P	22 06 02.1 +1.5
R24A	Sanders Place, baz=39	38.67 331	⇓P	P	22 06 03.3 +2.1
O28A	Krutsinger Ran baz=39	38.77 336	⇑P	P	22 06 03.6 +1.7
214A	Organ Pipe Nat baz=39,SNR=16	38.77 317	⇑P	P	22 06 03.9 +2.0
Q25A	Bedland, Calha baz=39	38.82 333	⇑P	P	22 06 04.3 +1.8
W18A	Petrified Fore	38.85 323	eP	P	22 06 05.4 +2.6
W18A	Petrified Fore baz=39,SNR=5.1	38.85 323	⇓P	P	22 06 04.6 +1.9
P26A	Davis Ranch, A baz=39	38.95 334	⇓P	P	22 06 05.6 +2.1
T21A	Navajo Lake baz=39	38.95 328	⇓P	P	22 06 06.0 +2.4
R23A	Moffat baz=39	38.99 330	⇓P	P	22 06 06.1 +2.1
U20A	Newcomb baz=39,SNR=7.8	39.04 326	⇓P	P	22 06 06.4 +2.1
O27A	Beecher Island baz=39	39.10 336	⇓P	P	22 06 06.6 +1.9
CFAA	Coronel Fontan	39.14 160 P		P	22 06 04.3 -0.7
CFAA	Coronel Fontan 0.7nm,0.8s,baz=341,slow=6.9,SNR=4.6	39.14 160 P		P	22 06 04.3 -0.7
S22A	4UR Ranch, Cre baz=39,SNR=6.9	39.15 329	⇑P	P	22 06 06.9 +1.6
P25A	Willow Gulch B baz=40	39.27 333	⇓P	P	22 06 07.8 +1.6
Q24A	Divide baz=40	39.27 332	⇓P	P	22 06 08.0 +1.6
X16A	Lo Mia Camp, P baz=40	39.42 321	⇑P	P	22 06 09.5 +2.0
R22A	Saguache, Gunn baz=40,SNR=7.1	39.48 330	⇓P	P	22 06 09.6 +1.4
O26A	Horse Wrangler baz=40	39.50 335	⇓P	P	22 06 09.2 +1.1
Q23A	Hartsel baz=40,SNR=11	39.55 331	⇑P	P	22 06 10.2 +1.5
OGNE	Ogallala 53nm,0.9s	39.57 337	eP	P	22 06 08.8 +0.3
OGNE	Ogallala baz=40	39.57 337	⇑P	P	22 06 09.9 +1.4
S21A	Coal Bank Pass baz=40,SNR=8.5	39.59 328	⇓P	P	22 06 10.4 +1.4
L30A	Spencer Herefo baz=40	39.59 340	⇑P	P	22 06 10.1 +1.4
MVCO	Mesa Verde 14nm,0.8s	39.63 327	eP	P	22 06 11.7 +2.3
MVCO	Mesa Verde baz=40	39.63 327	⇓P	P	22 06 11.2 +1.9
N27A	Anderson Farm, baz=40	39.65 336	⇓P	P	22 06 10.8 +1.5
Z14A	Wintersburg baz=40	39.71 319	⇓P	P	22 06 12.1 +2.3
CPUP	Villa Florida comp=Z,278nm,20.8s,baz=303,slow=38	39.84 143 LR		LR	22 23 53.4
113A	Mohawk Valley, baz=40	39.90 317	⇑P	P	22 06 13.5 +2.2
P23A	Jefferson baz=40,SNR=9.6	39.93 332	⇓P	P	22 06 13.9 +2.0
L29A	Maesberg Ranch baz=40	39.96 339	⇓P	P	22 06 12.9 +1.2
S20A	Disappointment	40.01 328	⇑P	P	22 06 13.9 +1.3
Q22A	Crested Butte, baz=40,SNR=10	40.05 330	⇓P	P	22 06 14.6 +1.8
BDFB	Brasilia	40.07 122 P		P	22 06 11.7 -1.4
BDFB	Brasilia 1.9nm,0.5s,baz=270,slow=2.0,SNR=3.1	40.07 122 P		P	22 06 11.7 -1.4
BDFB		LR		LR	22 22 42.4
WUAZ	comp=Z,333nm,20.7s,baz=247,slow=36 Wupatki baz=40,SNR=6.8	40.10 322	⇓P	P	22 06 15.1 +1.9
ISCO	Idaho Springs 10nm,1.0s	40.16 332	eP	P	22 06 15.7 +1.9
ISCO	Idaho Springs baz=40,SNR=9.8	40.16 332	⇓P	P	22 06 15.2 +1.4
ECSD	EROS Data Cent 119nm,2.6s	40.26 344	eP	P	22 06 13.4 -0.8
R20A	Redvale baz=40	40.29 328	⇑P	P	22 06 15.9 +1.1
SMCO	Snowmass 10nm,0.8s	40.32 330	eP	P	22 06 17.5 +2.3
Q21A	Lamborn Mesa, baz=41	40.36 329	⇑P	P	22 06 17.1 +1.8
K29A	Lazy Trails An baz=41	40.52 340	⇑P	P	22 06 17.7 +1.3
P22A	Eagle baz=41	40.54 331	⇓P	P	22 06 18.6 +1.7
O23A	Lake Granby, G baz=41	40.63 332	⇓P	P	22 06 19.3 +1.7
GLA	Glamis 14nm,1.0s	40.79 317	eP	P	22 06 21.1 +2.3
GLA	Glamis baz=41	40.79 317	⇑P	P	22 06 20.9 +2.1
SPMN	St. Paul	40.80 349	eP	P	22 06 17.1 -1.5
Q20A	Ridgley Place, baz=41	40.82 329	⇓P	P	22 06 21.4 +2.4
P21A	Newcastle baz=41	40.82 330	⇑P	P	22 06 20.9 +1.8
K28A	Ten Mile Ranch baz=41	40.84 339	⇓P	P	22 06 20.5 +1.5
O22A	Kremmling baz=41,SNR=7.7	40.88 332	⇑P	P	22 06 20.7 +1.0
Y12C	Blythe baz=41	40.99 318	⇑P	P	22 06 22.5 +2.2
I30A	Oacoma baz=42	41.25 342	⇑P	P	22 06 23.0 +0.7
U15A	North Rim baz=42,SNR=7.2	41.26 323	⇓P	P	22 06 25.1 +2.2
P20A	De Beque baz=42	41.28 329	⇓P	P	22 06 24.6 +1.8
O21A	Pagoda baz=42	41.37 331	⇓P	P	22 06 25.6 +2.0
SWSC	Sam W. Stewart baz=42	41.39 316	⇑P	P	22 06 24.9 +1.3
W13A	Hualapai Mount baz=42,SNR=9.6	41.40 320	⇓P	P	22 06 25.9 +1.9
J28A	Allard Ranch, baz=42	41.42 339	⇑P	P	22 06 25.1 +1.4
DVTC	Desert V Tower baz=42	41.45 315	⇓P	P	22 06 26.4 +2.2
J27A	Elkhorn Farm, baz=42	41.54 339	⇓P	P	22 06 26.2 +1.4
BC3	Big Chuckawall baz=42,SNR=8.0	41.56 317	⇑P	P	22 06 27.2 +1.9
O20A	White River Ci	41.68 330	eP	P	22 06 27.7 +1.5
O20A	White River Ci baz=42	41.68 330	⇑P	P	22 06 28.0 +1.8
MONP	Monument Peak baz=42	41.80 315	⇓P	P	22 06 29.4 +2.2
N21A	Black Mountain baz=42	41.81 331	⇓P	P	22 06 29.8 +2.5
I28A	Midland baz=42	41.90 340	⇓P	P	22 06 28.6 +0.9
J26A	Sides Ranch, S baz=42	41.99 338	⇑P	P	22 06 30.3 +1.8
L23A	Garrett baz=42	42.06 334	⇓P	P	22 06 30.5 +1.3
SRU	San Rafael 110nm,2.2s	42.11 327	eP	P	22 06 31.5 +1.9
BELC	Belle Mtn. Jos baz=42,SNR=12	42.13 317	⇑P	P	22 06 31.8 +1.9
PFO	Pinyon Flat Ob	42.22 316	eP	P	22 06 32.8 +2.1
PFO	Pinyon Flat Ob 5.9nm,0.9s,baz=95,slow=10,SNR=5.7	42.22 316 P		P	22 06 32.1 +1.5
PFO	Pinyon Flat Ob baz=42	42.22 316	⇑P	P	22 06 32.9 +2.3
N20A	Spence Gulch, baz=42,SNR=5.7	42.23 331	⇓P	P	22 06 31.9 +1.3
I27A	Quinn baz=42	42.27 339	⇑P	P	22 06 31.8 +1.0
L22A	Ellis Ranch, M baz=43	42.31 333	⇑P	P	22 06 33.4 +2.1
J25A	Sunshine Ranch baz=43	42.34 337	⇓P	P	22 06 33.2 +1.8
GMRC	Granite Mounta baz=43,SNR=6.0	42.36 318	⇓P	P	22 06 33.5 +1.8
RWWY	Rawlins 17nm,1.0s	42.39 332	eP	P	22 06 34.1 +2.1
K23A	Bowen Ranch, D baz=43	42.55 335	⇓P	P	22 06 34.6 +1.5
MVU	Marysvale 90nm,2.5s	42.62 325	eP	P	22 06 36.3 +2.4
CCUT	Cedar City 9.6nm,1.2s	42.65 323	eP	P	22 06 36.8 +2.6
L21A	Rawlins baz=43	42.68 333	⇑P	P	22 06 36.1 +1.7
M20A	Sweetwater, Wa baz=43	42.70 331	⇑P	P	22 06 36.4 +1.9
MURC	Murrieta baz=43	42.73 316	⇓P	P	22 06 36.5 +1.8
H27A	Howes baz=43	42.77 340	⇓P	P	22 06 36.1 +1.3
HEC	Hector,Ludlow baz=43,SNR=7.6	42.84 318	⇑P	P	22 06 37.4 +1.9
I25A	Rochford baz=43,SNR=8.1	42.84 338	⇑P	P	22 06 37.0 +1.4
K22A	Casper baz=43	42.85 334	⇑P	P	22 06 36.9 +1.2
TUQ	Turquoise Moun baz=43	42.93 319	⇑P	P	22 06 38.5 +2.2
RSSD	Black Hills 39nm,0.8s	43.05 337	eP	P	22 06 38.3 +1.1
SHPR	Sheep Range	43.08 321	eP	P	22 06 39.9 +2.3
F29A	Eureka baz=43	43.10 342	⇑P	P	22 06 37.3 -0.1
L20A	Wamsutter baz=43	43.17 332	⇓P	P	22 06 39.8 +1.5
EYMN	Ely 91nm,2.6s	43.21 351	eP	P	22 06 37.0 -1.3
H25A	Fruitdale baz=44,SNR=5.3	43.30 338	⇑P	P	22 06 40.0 +0.8
MPU	Maple Canyon 8.9nm,0.8s	43.35 327	eP	P	22 06 41.9 +2.2
BFSC	Mount Baldy Ra baz=44	43.40 316	⇓P	P	22 06 42.4 +2.2
GSC	Goldstone 8.9nm,1.1s	43.43 318	eP	P	22 06 42.5 +2.2
GSC	Goldstone baz=44,SNR=5.2	43.43 318	⇑P	P	22 06 42.0 +1.7
DAU	Daniels Canyon	43.44 328	eP	P	22 06 42.2 +1.6
JLU	Jordanelle 59nm,2.2s	43.67 328	eP	P	22 06 44.0 +1.6
K20A	Yellowstone Ra baz=44,SNR=6.2	43.67 332	⇑P	P	22 06 43.2 +1.0
G27A	Dupree baz=44	43.72 339	⇓P	P	22 06 41.4 -1.0
G25A	Newell baz=44	43.73 339	⇑P	P	22 06 44.1 +1.6
H24A	Dirks Ranch, A baz=44	43.77 337	⇓P	P	22 06 44.4 +1.5
J21A	Lysite baz=44	43.81 334	⇓P	P	22 06 45.0 +1.6
M17A	Scullys Gap (B baz=44,SNR=13	43.90 329	⇓P	P	22 06 45.1 +0.9
L18A	Fontenelle, Gr baz=44	43.92 330	⇓P	P	22 06 45.5 +1.1
D30A	Buchanan baz=44	43.96 344	⇑P	P	22 06 45.1 +0.8
EDW2	Edwards Air Fo baz=44,SNR=5.5	43.99 317	⇓P	P	22 06 46.1 +1.3
E28A	Huff baz=44	44.03 342	⇑P	P	22 06 45.5 +0.6
K19A	Absolon Red Bu baz=44,SNR=11	44.04 332	⇓P	P	22 06 45.9 +0.7
J20A	Shoshoni baz=44	44.10 333	⇑P	P	22 06 46.9 +1.2
I21A	Big Trails, Te baz=44	44.12 334	⇑P	P	22 06 47.0 +1.2
LRMC	Laurel Mountai	44.12 318	⇑P	P	22 06 48.0 +2.0
DUG	Dugway baz=44	44.12 326	⇑P	P	22 06 47.3 +1.4
E27A	Carson baz=44	44.18 341	⇓P	P	22 06 47.1 +1.0
G24A	Alzada baz=44	44.21 338	⇑P	P	22 06 47.4 +1.0
MPMC	Manual Prospec baz=44,SNR=5.3	44.32 318	⇑P	P	22 06 48.8 +1.2
PDAR	Pinedale Array	44.33 331 P		P	22 06 48.5 +0.9
PDAR	Pinedale Array 2.8nm,0.8s,baz=116,slow=10,SNR=16	44.33 331 P		P	22 06 48.5 +0.9
PDAR		LR		LR	22 27 29.3
AGMN	comp=Z,260nm,18.5s,baz=304,slow=39 Agassiz Nation 112nm,2.5s	44.36 347	eP	P	22 06 47.2 -0.2
J19A	Crowheart baz=45	44.48 332	⇑P	P	22 06 49.6 +0.8
G23A	Biddle baz=45	44.48 337	⇑P	P	22 06 49.7 +1.1
R11A	Troy Canyon, C	44.50 322	eP	P	22 06 50.8 +1.7
R11A	Troy Canyon, C baz=45	44.50 322	⇑P	P	22 06 50.5 +1.5
I20A	Worland baz=45,SNR=10	44.59 334	⇑P	P	22 06 50.7 +1.1
H21A	Big Horn, Sher baz=45	44.67 335	⇓P	P	22 06 51.4 +1.2
ARVC	Arvin baz=45	44.70 317	⇑P	P	22 06 52.7 +2.3
BGU	Big Grassy Mou 8.6nm,1.0s	44.75 327	eP	P	22 06 52.6 +1.7
ISA	Isabella 17nm,1.6s	44.75 317	eP	P	22 06 53.0 +2.1
ISA	Isabella baz=45	44.75 317	⇑P	P	22 06 53.1 +2.1
GRAC	Grapevine Rang baz=45	44.79 320	⇑P	P	22 06 53.2 +2.0
G22A	Birney baz=45	44.85 336	⇑P	P	22 06 52.7 +1.2
E25A	Miller Ranch, baz=45	44.85 340	⇑P	P	22 06 52.5 +1.0
MDND	Maddock baz=45	44.87 344	⇑P	P	22 06 52.7 +1.1
F23A	Volborg baz=45,SNR=10	44.92 337	⇑P	P	22 06 53.1 +1.0
H20A	Greybull baz=45	44.96 334	⇓P	P	22 06 53.0 +0.5
B30A	Myrvik Farm, E baz=45	45.08 345	⇓P	P	22 06 53.6 +0.3
E24A	Baker baz=46,SNR=6.0	45.22 339	⇑P	P	22 06 55.3 +0.9
G21A	Lodge Grass baz=46	45.22 336	⇑P	P	22 06 55.5 +1.0
PKM	Peak Mountain baz=46,SNR=6.6	45.26 316	⇓P	P	22 06 56.5 +1.4
F22A	Rosebud baz=46,SNR=13	45.30 337	⇓P	P	22 06 55.8 +0.7
B29A	Wagenman Farm, baz=46	45.36 344	⇓P	P	22 06 55.7 +0.3
REDW	Red Top Meadow 16nm,1.2s	45.40 331	eP	P	22 06 57.5 +1.4
LOHW	Long Hollow 8.5nm,1.4s	45.47 331	eP	P	22 06 58.0 +1.3
A30A	Hoffart Farm, baz=46	45.53 346	⇑P	P	22 06 57.6 +0.8
TPAW	Teton Pass 8.3nm,0.9s	45.54 331	eP	P	22 06 59.5 +2.2
SMMC	Simmler baz=46,SNR=7.4	45.60 316	⇑P	P	22 06 59.4 +1.8
RRI2	Red Ridge 8.9nm,1.0s	45.62 331	eP	P	22 06 59.3 +1.4
MOOW	Moose Ponds 7.4nm,1.4s	45.64 331	eP	P	22 06 59.2 +1.2
G20A	Bridger baz=46	45.64 335	⇑P	P	22 06 58.7 +0.8
F21A	Absaloka Mine, baz=46	45.68 336	⇓P	P	22 06 59.2 +1.1
D24A	Glendive baz=46,SNR=9.4	45.70 339	⇓P	P	22 06 59.4 +1.2
E22A	Miles City baz=46,SNR=7.3	45.72 338	⇑P	P	22 06 59.0 +0.6
A29A	Manning Farm, baz=46	45.75 345	⇑P	P	22 06 59.2 +0.6
IMW	Indian Meadow 6.2nm,1.1s	45.84 331	eP	P	22 07 00.9 +1.2
H18A	Shoshone NF, C baz=46	45.85 333	⇑P	P	22 07 00.8 +1.2
ELK	Elko 7.9nm,1.0s	45.85 325	eP	P	22 07 01.5 +1.7
C25A	Freed Ranch, W baz=46	45.86 341	⇓P	P	22 07 00.6 +1.1
FLWY	Flagg Ranch 20nm,1.2s	45.87 332	eP	P	22 07 01.6 +1.8
LAO	LASA Array 39nm,1.0s	46.04 337	eP	P	22 07 01.8 +0.8
D23A	Lindsay baz=46,SNR=6.7	46.07 339	⇓P	P	22 07 02.3 +1.2
F20A	Billings baz=46	46.08 335	⇑P	P	22 07 02.7 +1.4
B26A	Jensen Ranch, baz=46	46.11 342	⇑P	P	22 07 02.7 +1.2
NV11	Mina Array Sit	46.15 321	eP	P	22 07 02.7 +0.7
NVAR	Mina Array Bea	46.24 321 P		P	22 07 04.6 +1.8
NVAR	Mina Array Bea 12nm,0.9s,baz=137,slow=7.5,SNR=54	46.24 321 P		P	22 07 04.6 +1.8
E21A	Keefer Ranch, baz=46	46.25 337	⇑P	P	22 07 03.8 +1.3
B25A	Knox Farm, Ray baz=47	46.31 341	⇓P	P	22 07 04.2 +1.1
A27A	Ledoux Ranch, baz=47	46.33 343	⇑P	P	22 07 04.7 +1.6
D22A	Cohagen baz=47,SNR=9.6	46.41 338	⇑P	P	22 07 05.0 +1.2
F19A	Roth Farm, Mol baz=47	46.46 335	⇑P	P	22 07 05.4 +1.1
C23A	Lambert baz=47,SNR=14	46.59 339	⇑P	P	22 07 06.3 +1.1
E20A	Meyer Farm, Mu baz=47,SNR=10	46.64 336	⇓P	P	22 07 06.7 +1.0
QLMT	Earthquake Lak 0.6nm,0.8s	46.78 332	eP	P	22 07 08.1 +1.1
C22A	Vida baz=47,SNR=6.0	46.80 339	⇑P	P	22 07 08.1 +1.2
BMN	Battle Mountai 15nm,1.1s	46.80 324	eP	P	22 07 09.0 +1.8
DGMT	Dagmar 30nm,0.9s	46.83 340	eP	P	22 07 08.4 +1.3
DGMT	Dagmar baz=47	46.83 340	⇑P	P	22 07 08.1 +1.0
E19A	Rath Farm, Rou baz=47,SNR=7.8	46.87 335	⇓P	P	22 07 08.4 +0.9
A25A	Svangstu Ranch baz=47	46.88 342	⇓P	P	22 07 08.7 +1.3
WAKR	Walker	47.00 320	eP	P	22 07 10.6 +1.8
PLCA	Paso Flores	47.08 167	eP	P	22 07 08.2 -1.0
PLCA	Paso Flores 3.0nm,0.7s,baz=300,slow=8.9,SNR=6.3	47.08 167 P		P	22 07 08.0 -1.2
B23A	Brockton baz=47,SNR=11	47.09 340	⇓P	P	22 07 10.6 +1.4
D20A	Manuel Ranch, baz=47,SNR=9.5	47.12 336	⇑P	P	22 07 10.7 +1.3
A24A	Westby baz=47	47.16 341	⇓P	P	22 07 10.9 +1.3
TRQA	Tornquist 16nm,1.5s	47.17 158	eP	P	22 07 08.1 -1.8
B22A	Reddig Ranch S baz=48	47.31 339	⇓P	P	22 07 12.4 +1.6
C21A	Desert Coulee baz=48,SNR=5.4	47.31 338	⇑P	P	22 07 11.9 +1.0
HLID	Hailey 35nm,2.3s	47.33 329	eP	P	22 07 12.7 +1.5
HLID	Hailey baz=48,SNR=5.7	47.33 329	⇑P	P	22 07 12.3 +1.1
D19A	Cripps Ranch, baz=48,SNR=9.9	47.48 336	⇑P	P	22 07 13.2 +1.0
A23A	Redstone baz=48	47.48 340	⇑P	P	22 07 13.6 +1.4
BOZ	Bozeman (W) 12nm,1.3s	47.48 333	eP	P	22 07 13.3 +0.9
B21A	Ellsworth Farm baz=48	47.78 338	⇓P	P	22 07 15.9 +1.4
A22A	Carney Farms, baz=48,SNR=6.1	47.86 339	⇓P	P	22 07 16.3 +1.2
MFID	Camas Ranch baz=48	47.97 328	⇑P	P	22 07 17.5 +1.3
C19A	Slack Wire Ran baz=48,SNR=11	48.00 336	⇑P	P	22 07 17.4 +1.2
A21A	Bergtoll Ranch	48.22 339	⇑P	P	22 07 19.1 +1.3

baz=48,SNR=16
A20A Cobblestone Ra 48.50 338 ⇓P **P 22 07 20.9 +0.9**
baz=49,SNR=7.0
B19A Brinkman Farms 48.54 337 ⇑P **P 22 07 21.5 +1.1**
baz=49
OHCM Honcut 48.79 320 *e*P **P 22 07 24.5 +2.1**
WVOR Wild Horse Val 48.89 325 *e*P **P 22 07 23.8 +0.5**
17nm,1.1s
J08A Circle Bar Ran 49.38 326 *e*P **P 22 07 28.1 +1.0**
5.0nm,0.9s
MSO Missoula 49.44 332 ⇓P **P 22 07 28.7 +1.3**
baz=50
I07A Izee 50.42 326 *e*P **P 22 07 35.0 +0.1**
80nm,2.6s
F10A Beach Ranch, E 50.44 329 *e*P **P 22 07 37.1 +2.1**
91nm,2.7s
G08A Pilot Rock 50.90 327 *e*P **P 22 07 40.3 +1.8**
54nm,2.7s
YBH Yreka Blue Hor 50.90 322 P **P 22 07 37.5 -1.0**
YBH Yreka Blue Hor 50.90 322 P **P 22 07 37.5 -1.0**
2.5nm,0.8s,baz=47,slow=2.3,SNR=5.7
KHMM Horse Mountain 51.07 320 *e*P **P 22 07 42.0 +2.1**
22nm,1.1s
E09A Wood Farm, Sta 51.28 329 *e*P **P 22 07 42.0 +0.9**
57nm,2.2s
H04A Detroit Lake 52.31 325 *e*P **P 22 07 49.8 +0.8**
6.7nm,0.9s
LTY Liberty 53.07 328 *e*P **P 22 07 55.7 +1.2**
10nm,1.3s
LTY *e*ScP **ScP 22 12 56.7 -2.5**
EDM Edmonton 54.03 338 *e*P **P 22 08 02.0 +0.6**
RKT Rikitea 58.35 239 *e*LR LR 22 25 42.2
436nm,29.0s
YKA Yellowknife Ar 61.79 344 P **P 22 08 56.3 +0.7**
YKA Yellowknife Ar 61.79 344 P **P 22 08 56.3 +0.7**
3.2nm,0.7s,baz=138,slow=6.6,SNR=4.9
PPT Papeete 69.83 249 LR LR 22 32 19.5
comp=Z,141nm,21.2s,baz=45,slow=29
PPT2 Papeete2 69.83 249 *e*LR LR 22 31 27.7
181nm,25.0s
TBI Tubuai 71.07 243 *e*LR LR 22 32 18.3
360nm,26.8s,baz=75
EGAK Eagle 72.25 337 *e*P **P 22 10 03.8 +1.6**
15nm,1.1s
ILAR Eielson Array 74.48 336 P **P 22 10 16.1 +0.8**
ILAR Eielson Array 74.48 336 P **P 22 10 16.1 +0.8**
2.6nm,0.8s,baz=119,slow=4.0,SNR=16
ILAR LR LR 22 45 59.9
comp=Z,214nm,18.4s,baz=127,slow=38
EVOP Sao Brissos 74.64 52 *e*P **P 22 10 16.7 0.0**
15nm,0.8s
EVO Evora 74.72 52 *e*P **P 22 10 16.7 -0.5**
15nm,0.8s
RSO Redoubt South 75.72 331 *e*P **P 22 10 25.3 +2.6**
BPAW Bear Paw Mtn. 75.94 335 *e*P **P 22 10 24.5 +0.8**
16nm,1.2s
CAST Castle Rocks 76.20 334 *e*P **P 22 10 25.7 +0.5**
12nm,1.1s
LIC Lamto 77.16 85 *e*P **P 22 10 30.8 -0.8**
20nm,1.0s
LIC Lamto 77.16 85 *e*P **P 22 10 30.8 -0.8**
20nm,1.0s
ESDC Sonseca Array 77.95 51 P **P 22 10 36.0 +0.4**
ESDC Sonseca Array 77.95 51 P **P 22 10 36.0 +0.4**
3.9nm,0.9s,baz=271,slow=5.0,SNR=16
RAR Rarotonga 79.97 247 LR LR 22 38 02.3
comp=Z,158nm,18.9s,baz=315,slow=30
SJPF Ste Jean 80.17 47 *e*P **P 22 10 48.2 +0.6**
28nm,1.1s
SJPF Ste Jean 80.17 47 *e*P **P 22 10 48.2 +0.6**
28nm,1.1s
ETSF Etsaut 80.65 48 *e*P **P 22 10 50.0 -0.3**
ETSF Etsaut 80.65 48 *e*P **P 22 10 50.0 -0.3**
MFF Saint Martin d 81.05 44 *e*P **P 22 10 51.7 -0.6**
67nm,1.8s
MFF Saint Martin d 81.05 44 *e*P **P 22 10 51.7 -0.6**
67nm,1.8s
EPF Esparros 81.31 47 *e*P **P 22 10 53.7 -0.1**
14nm,1.1s
EPF Esparros 81.31 47 *e*P **P 22 10 53.7 -0.1**
14nm,1.1s
TCF Toulx Ste Croi 82.67 44 *e*P **P 22 11 01.0 +0.1**
53nm,1.8s
TCF Toulx Ste Croi 82.67 44 *e*P **P 22 11 01.0 +0.1**
53nm,1.8s
MTLF Montolieu 82.68 47 *e*P **P 22 11 01.1 +0.1**
12nm,1.1s
MTLF Montolieu 82.68 47 *e*P **P 22 11 01.1 +0.1**
12nm,1.1s
BGF Bois d'Agland 83.11 44 *e*P **P 22 11 02.6 -0.5**
BGF Bois d'Agland 83.11 44 *e*P **P 22 11 02.6 -0.5**
TORD Torodi Ar. Bea 83.32 77 P **P 22 11 04.8 0.0**
TORD Torodi Ar. Bea 83.32 77 P **P 22 11 04.8 0.0**
1.1nm,0.6s,baz=294,slow=6.2,SNR=15
AVF Avril sur Loir 83.46 44 *e*P **P 22 11 05.0 +0.1**
43nm,1.7s
AVF Avril sur Loir 83.46 44 *e*P **P 22 11 05.0 +0.1**
43nm,1.7s
SSF Saint Saulge 83.56 43 *e*P **P 22 11 05.4 0.0**
SSF Saint Saulge 83.56 43 *e*P **P 22 11 05.4 0.0**
SMF Signal de Mont 83.80 44 *e*P **P 22 11 06.2 -0.5**
13nm,1.0s
SMF Signal de Mont 83.80 44 *e*P **P 22 11 06.2 -0.5**
13nm,1.0s
LOR Lormes 83.80 43 *e*P **P 22 11 06.2 -0.5**
LOR Lormes 83.80 43 *e*P **P 22 11 06.2 -0.5**
BAIF Baives 83.98 40 *e*P **P 22 11 07.1 -0.4**
BAIF Baives 83.98 40 *e*P **P 22 11 07.1 -0.4**
SFTF Sexfontaines 84.57 42 *e*P **P 22 11 09.3 -1.2**
SFTF Sexfontaines 84.57 42 *e*P **P 22 11 09.3 -1.2**
PAGF Fort de Pagny 85.02 42 *e*P **P 22 11 12.3 -0.5**
PAGF Fort de Pagny 85.02 42 *e*P **P 22 11 12.3 -0.5**
ORIF Oris-en-Rattie 85.28 45 *e*P **P 22 11 14.3 0.0**
ORIF Oris-en-Rattie 85.28 45 *e*P **P 22 11 14.3 0.0**
CABF La Chapelle 85.35 44 *e*P **P 22 11 13.8 -0.8**
CABF La Chapelle 85.35 44 *e*P **P 22 11 13.8 -0.8**
HINF Hinteralfeld 85.81 43 *e*P **P 22 11 16.9 +0.1**
HINF Hinteralfeld 85.81 43 *e*P **P 22 11 16.9 +0.1**
FRF La Foret Royal 85.90 47 *e*P **P 22 11 16.6 -0.7**
FRF La Foret Royal 85.90 47 *e*P **P 22 11 16.6 -0.7**
CDF Champ du Feu 86.06 42 *e*P **P 22 11 17.6 -0.5**
6.7nm,1.0s
CDF Champ du Feu 86.06 42 *e*P **P 22 11 17.6 -0.5**
6.7nm,1.0s
TAM Tamanrasset 86.30 68 *e*P **P 22 11 18.8 -1.1**
NOA NORSAR Array B 87.31 29 LR LR 22 45 06.2
comp=Z,132nm,18.0s,baz=285,slow=32
GERES GERESS Array B 90.25 41 LR LR 22 43 40.4
comp=Z,123nm,21.3s,baz=81,slow=30
ARCES ARCESS Array B 91.37 20 LR LR 22 49 57.2
comp=Z,80nm,18.7s,baz=94,slow=34
SNAA Sanae 91.74 162 *e*P **P 22 11 43.8 -0.7**
1.7nm,0.9s
FINES FINESS Array B 94.23 27 LR LR 22 48 20.3
comp=Z,149nm,21.7s,baz=270,slow=32
AKASG Malin Array Be 99.53 37 LR LR 22 50 30.7
comp=Z,64nm,19.9s,baz=40,slow=31
ZALV Zalesovo Beam 120.09 9 PKP **PKPdf 22 17 27.4 -0.5**
ZALV Zalesovo Beam 120.09 9 PKP **PKPdf 22 17 27.4 -0.5**
0.4nm,0.5s,baz=306,slow=5.0,SNR=2.7
CN2 Changchun 124.99 335 *e*PKP **PKPdf 22 17 34.3 -3.4**
MKAR Makanchi Array 126.49 13 PKP **PKPdf 22 17 39.6 -0.9**
MKAR Makanchi Array 126.49 13 PKP **PKPdf 22 17 39.6 -0.9**
0.3nm,0.7s,baz=335,slow=3.1,SNR=3.4
WMQ Urumqi 130.38 9 *e*PKP **PKPdf 22 17 48.3 +0.2**
WMQ LR LR
comp=E,74nm,17.0s
WMQ LR LR
comp=Z,50nm,24.3s
KSH Kashi 131.27 22 *e*PKP **PKPdf 22 17 51.0 +1.1**
KSH PP PP 22 20 12.0 +5.3
KSH PKS **PKSdf 22 21 25.9 -0.6**
KSH SKS **SKSdf 22 25 00.9 +0.4**
KSH SKKS **SKKSac 22 27 03.0 -0.3**
KSH SS **SS 22 37 40.1 +2.7**
KSH AMB AMB
comp=Z,44nm,4.7s
KSH LR LR
comp=N,86nm,6.8s
KSH LR LR
comp=E,87nm,6.8s
KSH LR LR
comp=Z,130nm,8.7s
HHC Hu-ho-hao-te 132.31 345 *e*PKP **PKPdf 22 17 52.0 +0.2**
HHC PP **PP 22 20 17.6 +4.4**
HHC PKS **PKSdf 22 21 26.9 -1.5**
HHC SKS **SKSdf 22 25 01.9 -0.3**
HHC SKKS **SKKSac 22 27 08.6 -0.9**
HHC SS **SS 22 37 53.3 +3.6**
HHC AMB AMB
comp=Z,97nm,5.4s
HHC LR LR
comp=N,220nm,18.6s
HHC LR LR
comp=E,270nm,18.8s
HHC LR LR
comp=Z,210nm,18.0s
NJ2 Nanjing 137.64 333 *e*PKP **PKPdf 22 18 01.4 -0.5**
LZH Lanzhou 138.44 352 *e*PKP **PKPdf 22 18 02.3 -1.2**
LZH LR LR
comp=N,170nm,18.6s
LZH LR LR
comp=E,200nm,17.0s
LZH LR LR
comp=Z,240nm,19.3s
ASAR Alice Springs 140.34 239 PKP **PKPdf 22 18 06.8 -0.4**
ASAR Alice Springs 140.34 239 PKP **PKPdf 22 18 06.8 -0.4**
comp=Z,0.9nm,0.9s,baz=62,slow=3.2,SNR=5.8
WRA Warramunga Arr 141.19 245 PKP **PKPdf 22 18 09.0 +0.3**
WRA Warramunga Arr 141.19 245 PKP **PKPdf 22 18 09.0 +0.3**
comp=Z,0.9nm,0.8s,baz=91,slow=1.6,SNR=3.1
CD2 Chengdu 143.53 351 PKP **PKPdf 22 18 12.6 0.0**
CD2 PP **PP 22 21 27.4 +4.6**
CD2 PKS **PKSdf 22 21 46.9 -1.6**
CD2 SKS **SKSdf 22 25 19.6 -1.7**
CD2 SKKS **SKKSac 22 28 15.8 -0.3**
CD2 SS **SS 22 40 05.0 +2.7**
CD2 AMB AMB
comp=Z,150nm,8.3s
CD2 LR LR
comp=N,200nm,4.8s
CD2 LR LR
comp=Z,170nm,6.5s
KKN Kakani 145.14 19 *e*P **PKPbc 22 18 15.1 -0.1**
comp=Z,24nm,0.7s
GUN Gumba 145.22 18 *e*P **PKPbc 22 18 15.7 +0.1**
comp=Z,62nm,0.9s
DMN Daman 145.25 19 *e*P **PKPbc 22 18 15.6 0.0**
comp=Z,26nm,0.9s
PKIN Phulchoki 145.38 19 *e*P **PKPbc 22 18 15.6 -0.4**
comp=Z,12nm,0.8s
PKI Pulchoki 145.39 19 *e*P **PKPbc 22 18 15.5 -0.6**
comp=Z,30nm,1.0s
JIRN Jiri 145.55 18 *e*P **PKPbc 22 18 16.7 0.0**
comp=Z,41nm,1.0s
TAPN Taplejung 146.28 16 *e*P **PKPab 22 18 19.8 +0.2**
RAMN Ramite 146.34 18 *e*P **PKPdf 22 18 17.6 -0.3**
comp=Z,14nm,1.0s
ODAN Odare 146.65 16 *e*P **PKPbc 22 18 19.4 -0.5**
comp=Z,10nm,0.8s
GYA Guiyang 147.22 344 PKPbc **PKPdf 22 18 17.8 -1.4**
GYA PP **PP 22 21 48.0 +3.1**
GYA PKS **PKSdf 22 21 50.4 -4.3**
GYA SKKS 22 28 35.5
GYA SS **SS 22 40 45.6 +0.8**
GYA AMB AMB
comp=Z,120nm,7.8s
GYA LR LR
comp=N,110nm,23.3s
GYA LR LR
comp=E,80nm,24.8s
GYA LR LR
comp=Z,120nm,23.0s
CMAR Chiang Mai Arr 156.39 356 PKPab **PKPab 22 19 00.1 -1.0**
CMAR Chiang Mai Arr 156.39 356 PKPab **PKPab 22 19 00.1 -1.0**
comp=Z,1.0nm,0.7s,baz=342,slow=4.4,SNR=6.7

IDC 21 22:18:30.8±9.8, 20.76°S×173.56°W, h0km, mb4.0/4, mb1 4.1/5, mb1mx3.8/19, mbtmp4.0/5, ML3.5/1, Error ellipse: s-maj=184.2km s-min=134.6km az=45.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**18.67**	**262**	P	Pn	22 22 51.2	+0.2
0.2nm,0.3s,baz=81,slow=14,SNR=4.1							
CTA	**Charters Tower**	**37.60**	**264**	P	P	22 25 47.5	0.0
1.2nm,0.3s,baz=73,slow=11,SNR=3.0							
STKA	**Stephens Creek**	**41.44**	**245**	P	P	22 26 18.4	-1.0
1.5nm,0.8s,baz=76,slow=8.3,SNR=3.6							
ASAR	**Alice Springs**	**48.51**	**256**	P	P	22 27 16.1	+0.2
2.0nm,0.7s,baz=93,slow=7.8,SNR=19							
WRA	**Warramunga Arr**	**48.68**	**261**	P	P	22 27 17.3	+0.1
0.4nm,0.4s,baz=96,slow=8.6,SNR=14							

MAN 21 22:40:18, 8.19N×123.57E, h23km, mb4.0, ML2.8, MS2.5, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAGZ	**Pagadian**	**0.39**	**209**	*e*P	Pb	22 40 27.2	+0.9
PAGZ				*e*S	Sn	22 40 34.0	-1.0
DCPH	**Dipolog City**	**0.44**	**331**	⇑*e*P	Pn	22 40 28.6	-0.4
DCPH				*e*S	Sn	22 40 37.6	+1.3
IPIL	**Ipil**	**1.07**	**248**	*e*P	Pb	22 40 39.3	+1.4
CTBH	**Cotabato--PC H**	**1.18**	**145**	⇓*i*P	Pn	22 40 38.4	-0.7
CTBH				*i* S	Sb	22 40 55.0	+0.6
BUKP	**Musuan**	**1.51**	**102**	*e*P	Pb	22 40 46.6	+1.2

NIED ***21*** *22:57:00, 24.40N×123.00E, h50km, Mw4.2 Best double couple: M₀2.44000×10¹⁵ NP1:φ=58.00000°, δ61.00000°, λ70.00000°. NP2:φ=276.00000°, δ35.00000°, λ122.00000°.*
ISCJB ***21*** *22:57:46.9±0.2, 24.29N±0.02×123.00E±0.01, h51km±4km, mb3.6/7, MS3.1/3, Error ellipse: s-maj=3.8km s-min=2.1km az=168.0*
JMA ***21*** *22:57:47.4, 24.36N×123.00E, h48km±1km, M4.1*
JMA Felt I J1.
TAP ***21*** *22:57:47.0, 24.32N×122.97E, h44km±1km, ML4.3, D*
IDC ***21*** *22:57:50.7±5.7, 24.41N×122.97E, h76km±54km, mb3.4/7, mb1 3.6/8, mb1mx3.4/24, mbtmp3.4/8, MS3.2/5, Ms1 3.2/5, ms1mx2.9/24, Error ellipse: s-maj=29.1km s-min=16.9km az=73.0*

ISC 21 22:57:47.6±0.8, 24.28N±0.03×122.99E±0.02, h44km±8km, n82, σ19/30/138, mb3.6/7, MS3.1/3, 2D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.19**	**6**	P	**Pn**	**22 57 54.9**	**-0.4**
YOJ				S	**Sn**	**22 58 00.3**	**-0.3**
IRIF	**Iriomote-Funau**	**0.68**	**85**	P	**Pn**	**22 58 00.6**	**-0.3**
IRIF				S	**Sn**	**22 58 10.3**	**-0.1**
HATJ	**Hateruma jima**	**0.78**	**106**	P	**Pn**	**22 58 02.4**	**+0.2**
JKRS	**Kuro-shima**	**0.93**	**92**	P	**Pn**	**22 58 04.5**	**+0.2**
JKRS				S	**Sn**	**22 58 16.5**	**0.0**
JIJ	**Ishigaki jima**	**1.06**	**85**	P	**Pn**	**22 58 05.6**	**-0.4**
JIJ				S	**Sn**	**22 58 19.2**	**-0.4**
TWC	**Suao**	**1.09**	**288**	P	**Pn**	**22 58 05.2**	**-1.2**
baz=294							
TWC				S	**Sn**	**22 58 18.5**	**-1.8**
baz=294							
ENA	**Nanau**	**1.15**	**278**	*e*P	**Pn**	**22 58 07.0**	**-0.3**
baz=284							
ENA				*e*S	**Sn**	**22 58 21.9**	**+0.1**
baz=284							
TWB1	**Santiao Chiao**	**1.17**	**309**	P	**Pn**	**22 58 06.4**	**-1.1**
baz=316							
TWB1				S	**Sn**	**22 58 20.1**	**-2.2**
baz=316							
ILA	**Ilan**	**1.23**	**294**	*e*P	**Pn**	**22 58 08.4**	**0.0**
baz=292							
ILA				*e*S	**Sn**	**22 58 23.7**	**-0.2**
baz=292							
TWE	**Neicheng**	**1.28**	**291**	*e*P	**Pn**	**22 58 08.7**	**-0.4**
baz=289							
TWE				*e*S	**Sn**	**22 58 24.0**	**-1.1**
baz=289							
TWD	**Chiawan**	**1.29**	**262**	P	**Pn**	**22 58 08.5**	**-0.6**
baz=246							
TWD				*e*S	**Sn**	**22 58 25.1**	**0.0**
baz=246							
HWA	**Hwalien**	**1.30**	**257**	*e*P	**Pn**	**22 58 09.5**	**+0.2**
baz=254							
HWA				*e*S	**Sn**	**22 58 25.4**	**-0.1**
baz=254							
ENTT	**Nioudou**	**1.35**	**286**	P	**Pn**	**22 58 09.9**	**-0.1**
baz=292							
NWF	**Wu-fen Shan**	**1.35**	**306**	*e*P	**Pn**	**22 58 09.5**	**-0.7**
baz=305							
NWF				S	**Sn**	**22 58 25.4**	**-1.6**
baz=305							
TWA	**Mucha**	**1.46**	**299**	*e*P	**Pn**	**22 58 11.3**	**-0.2**
baz=308							
TWA				*e*S	**Sn**	**22 58 27.9**	**-1.6**
baz=308							
NNS	**Nan Shan**	**1.48**	**277**	*e*P	**Pn**	**22 58 12.5**	**+0.5**
baz=262							
NNS				*e*S	**Sn**	**22 58 30.8**	**+0.6**
baz=262							
ESL	**Shilin**	**1.50**	**252**	P	**Pn**	**22 58 11.3**	**-0.7**
baz=250							
ESL				*e*S	**Sn**	**22 58 28.9**	**-1.4**
baz=250							
TAP1	**Taipei**	**1.54**	**300**	*e*P	**Pn**	**22 58 12.1**	**-0.4**
baz=307							
TAP1				*e*S	**Sn**	**22 58 31.2**	**0.0**
baz=307							
NSK	**Sanguang**	**1.54**	**285**	*e*P	**Pn**	**22 58 13.3**	**+0.7**
baz=292							
NSK				*e*S	**Sn**	**22 58 32.1**	**+0.6**
baz=292							
TAP	**Taipei**	**1.55**	**300**	*e*P	**Pn**	**22 58 13.4**	**+0.7**
baz=307							
TAP				*e*S	**Sn**	**22 58 30.1**	**-1.5**
baz=307							
WHF	**Hehuan Shan**	**1.58**	**266**	P	**Pn**	**22 58 13.6**	**0.0**
baz=251							
WHF				*e*S	**Sn**	**22 58 33.8**	**+0.8**
baz=251							
PCYT	**Pengchaiyu**	**1.58**	**328**	P	**Pn**	**22 58 13.2**	**0.0**
baz=318							
JTJ	**Tarama**	**1.60**	**77**	P	**Pn**	**22 58 13.6**	**+0.1**
JTJ				S	**Sn**	**22 58 33.2**	**+0.2**
TWY	**Chenhua**	**1.61**	**309**	*e*P	**Pn**	**22 58 13.7**	**+0.2**
baz=308							
TWY				*e*S	**Sn**	**22 58 32.5**	**-0.6**
baz=308							
TWS1	**Kuangyinshan**	**1.65**	**300**	*e*P	**Pn**	**22 58 14.2**	**+0.1**
baz=299							
TWS1				*e*S	**Sn**	**22 58 33.5**	**-0.6**
baz=299							
TWT	**Tachien**	**1.66**	**270**	*e*P	**Pn**	**22 58 15.0**	**+0.7**
baz=268							
TWT				*e*S	**Sn**	**22 58 36.0**	**+1.5**
baz=268							
EHY	**Hungye**	**1.71**	**244**	*i* P	**Pn**	**22 58 14.5**	**-0.4**
baz=254							
EHY				*e*S	**Sn**	**22 58 33.5**	**-2.1**
baz=254							
NCU	**National Centr**	**1.78**	**293**	*e*P	**Pn**	**22 58 16.1**	**+0.2**
baz=303							
NCU				*e*S	**Sn**	**22 58 38.9**	**+1.5**
baz=303							
TWF1	**Yuli**	**1.80**	**240**	*i* P	**Pn**	**22 58 15.8**	**-0.4**
baz=237							
TWF1				*e*S	**Sn**	**22 58 37.6**	**-0.3**
baz=237							
NSTT	**Nanjuang**	**1.85**	**281**	*e*P	**Pn**	**22 58 18.2**	**+1.4**
baz=292							
NSTT				*e*S	**Sn**	**22 58 40.1**	**+1.2**
baz=292							
CHKT	**Chengkung**	**1.89**	**232**	*e*P	**Pn**	**22 58 16.2**	**-1.2**
baz=220							
CHKT				*e*S	**Sn**	**22 58 37.5**	**-2.7**
baz=220							
SMLT	**Sun Moon Lake**	**1.95**	**259**	⇓*i*P	**Pn**	**22 58 18.9**	**+0.5**
baz=248							
SMLT				*e*S	**Sn**	**22 58 41.3**	**-0.3**
baz=248							
TYC	**Yuchr**	**1.98**	**260**	⇓*i*P	**Pn**	**22 58 19.2**	**+0.5**
baz=249							
TYC				*e*S	**Sn**	**22 58 43.0**	**+0.7**
baz=249							
TWQ1	**Liyutan**	**2.02**	**272**	*e*P	**Pn**	**22 58 20.6**	**+1.3**
baz=271							
TWQ1				*e*S	**Sn**	**22 58 44.8**	**+1.5**
baz=271							
NSY	**Sanyi**	**2.04**	**274**	*e*P	**Pn**	**22 58 20.1**	**+0.6**
baz=273							
NSY				*e*S	**Sn**	**22 58 45.4**	**+1.7**
baz=273							
TCU	**Taichung**	**2.12**	**267**	*e*P	**Pn**	**22 58 21.3**	**+0.8**
baz=279							
TCU				*e*S	**Sn**	**22 58 48.2**	**+2.7**
baz=279							
WNT	**Mingjian**	**2.14**	**260**	*e*P	**Pn**	**22 58 22.2**	**+1.3**
baz=259							
JMJ	**Miyako jima 2**	**2.17**	**75**	P	**Pn**	**22 58 22.1**	**+0.9**
JMJ				S	**Sn**	**22 58 46.9**	**+0.1**
CHN5	**Tsauling**	**2.22**	**253**	P	**Pn**	**22 58 23.2**	**+1.2**
baz=241							
CHN5				S	**Sn**	**22 58 49.5**	**+1.3**
baz=241							
JOGS	**Gusukube**	**2.25**	**77**	P	**Pn**	**22 58 22.7**	**+0.3**
JOGS				S	**Sn**	**22 58 49.9**	**+0.9**
TTN	**Taitung**	**2.27**	**229**	*e*P	**Pn**	**22 58 21.2**	**-1.5**
baz=218							
TTN				*e*S	**Sn**	**22 58 49.5**	**+0.1**
baz=218							
TWG	**Pinlang**	**2.28**	**231**	*e*P	**Pn**	**22 58 22.3**	**-0.4**
baz=240							
TWG				*e*S	**Sn**	**22 58 48.2**	**-1.5**
baz=240							
WGK	**Gukeng**	**2.30**	**256**	*e*P	**Pn**	**22 58 24.5**	**+1.6**
baz=254							
WGK				*e*S	**Sn**	**22 58 52.1**	**+2.1**
baz=254							
CHN4	**Tsaushan**	**2.38**	**248**	*e*P	**Pn**	**22 58 25.6**	**+1.4**
baz=246							
CHN4				*e*S	**Sn**	**22 58 54.0**	**+1.9**
baz=246							
WTP	**Ta-pu**	**2.41**	**245**	*e*P	**Pn**	**22 58 25.9**	**+1.3**
baz=243							
WTP				*e*S	**Sn**	**22 58 53.9**	**+1.1**
baz=243							
CHY	**Chiayi**	**2.47**	**252**	*e*P	**Pn**	**22 58 25.8**	**+0.4**
baz=250							
CHY				*e*S	**Sn**	**22 58 55.7**	**+1.4**
baz=250							
CHN1	**Nanshi**	**2.50**	**245**	*e*P	**Pn**	**22 58 26.8**	**+0.9**
baz=243							
CHN1				*e*S	**Sn**	**22 58 56.9**	**+1.7**
baz=243							
SGST	**Jiashian**	**2.50**	**242**	*e*P	**Pn**	**22 58 27.3**	**+1.4**
baz=240							
SGST				*e*S	**Sn**	**22 58 56.6**	**+1.4**
baz=240							
ECL	**Taimali**	**2.51**	**229**	*e*P	**Pn**	**22 58 25.3**	**-0.6**
baz=237							
ECL				*e*S	**Sn**	**22 58 51.9**	**-3.4**
baz=237							
WTCT	**Ta-ch'eng**	**2.51**	**261**	*e*P	**Pn**	**22 58 27.6**	**+1.7**
baz=260							
WTCT				*e*S	**Sn**	**22 58 55.7**	**+0.5**
baz=260							
LAY	**Lan-yu**	**2.59**	**211**	*e*P	**Pn**	**22 58 25.5**	**-1.5**
baz=209							
LAY				*e*S	**Sn**	**22 58 53.7**	**-3.6**
baz=209							
WSF	**Szhu**	**2.61**	**256**	*e*P	**Pn**	**22 58 27.9**	**+0.6**
baz=269							
WSF				*e*S	**Sn**	**22 58 58.9**	**+1.2**
baz=269							
TAW	**Tawu**	**2.71**	**226**	*e*P	**Pn**	**22 58 29.7**	**+1.1**
baz=233							
EAST	**Anshuo**	**2.72**	**227**	P	**Pn**	**22 58 28.2**	**-0.7**
baz=233							
EAST				*e*S	**Sn**	**22 58 58.6**	**-2.0**
baz=233							
TWM1	**Shoushan**	**2.76**	**239**	*e*P	**Pn**	**22 58 31.3**	**+1.9**
baz=228							
TWM1				*e*S	**Sn**	**22 59 06.1**	**+4.5**
baz=228							
SGLT	**Jiouru**	**2.76**	**237**	*e*P	**Pn**	**22 58 29.6**	**+0.2**
baz=235							
SGLT				*e*S	**Sn**	**22 59 03.9**	**+2.3**
baz=235							
SCLT	**Jiali**	**2.79**	**247**	*e*P	**Pn**	**22 58 30.9**	**+1.2**
baz=246							
SCLT				*e*S	**Sn**	**22 59 03.0**	**+0.9**
baz=246							
SCZT	**Fangliau**	**2.89**	**229**	*e*P	**Pn**	**22 58 31.7**	**+0.6**
baz=222							
KAU	**Kaohsiung**	**2.99**	**236**	*e*P	**Pn**	**22 58 33.7**	**+1.1**
baz=236							
TSEB	**Hengchuen, Pin**	**3.05**	**220**	*e*P	**Pn**	**22 58 35.0**	**+1.6**

baz=219
TSEB eS **Sn** **22 59 10.2 +1.6**
baz=219
HEN Hengchun 3.06 223 eP **Pn** **22 58 33.5 0.0**
baz=221
HEN eS **Sn** **22 59 08.9 -0.1**
baz=221
TWK1 Hengchun 3.07 221 eP **Pn** **22 58 34.2 +0.5**
baz=220
TWK1 S **Sn** **22 59 08.5 -0.7**
baz=220
TWP Hsiaoliuchiu 3.08 232 eP **Pn** **22 58 36.1 +2.2**
baz=245
TWP eS **Sn** **22 59 13.8 +4.3**
baz=245
WDGT Dungji 3.21 252 P **Pn** **22 58 35.9 +0.3**
baz=250
WDGT S **Sn** **22 59 12.4 -0.2**
baz=250
PNG Penghu 3.22 258 eP **Pn** **22 58 35.2 -0.4**
baz=256
PNG eS **Sn** **22 59 12.5 -0.3**
baz=256
JKE Kume jima 2 4.00 58 P **Pn** **22 58 47.4 +1.0**
KNM Kinmen 4.16 273 eP **Pn** **22 58 49.4 +0.8**
baz=273
JOW Kunigami 5.41 61 P **Pn** **22 59 07.0 +1.2**
JTK Tokunoshima 6.40 56 P **Pn** **22 59 18.9 -0.5**
JAMN Amaminishikomi 6.81 53 P **Pn** **22 59 24.0 -1.0**
JAM Amami Oshima 7.22 54 P **Pn** **22 59 29.7 -0.9**
JNU Nakatsue 11.20 36 LR LR 23 04 06.3
comp=Z,102nm,20.3s,baz=260,slow=34
KSRS Korea Array 13.80 17 P **Pn** **23 01 03.0 +2.4**
baz=198,slow=12,SNR=4.6
KSRS LR LR 23 06 30.4
comp=Z,73nm,19.0s,baz=173,slow=38
CMAR Chiang Mai Arr 23.11 260 P **P** **23 02 51.0 +1.0**
0.7nm,0.3s,baz=58,slow=8.2,SNR=6.2
CMAR LR LR 23 11 58.5
comp=Z,43nm,18.8s,baz=331,slow=37
ASAJ Asahikawa 25.47 34 LR LR 23 13 15.5
comp=Z,66nm,21.9s,baz=306,slow=36
KAPI Kappang 29.28 187 LR LR 23 17 53.9
comp=Z,80nm,19.0s,baz=8.9,slow=41
MKAR Makanchi Array 39.43 315 P **P** **23 05 11.7 -1.6**
0.3nm,0.6s,baz=102,slow=10,SNR=5.8
MKAR PcP **PcP** **23 07 19.4 -1.3**
0.4nm,0.8s,baz=108,slow=4.0,SNR=4.0
ZALV Zalesovo Beam 41.07 326 P **P** **23 05 24.3 -2.4**
0.4nm,0.5s,baz=107,slow=7.7,SNR=2.9
WRA Warramunga Arr 45.32 165 P **P** **23 06 01.6 +0.2**
1.1nm,0.6s,baz=345,slow=8.7,SNR=18
ASAR Alice Springs 48.82 167 P **P** **23 06 29.9 +1.2**
0.6nm,0.6s,baz=350,slow=13,SNR=9.1
ILAR Eielson Array 68.38 27 P **P** **23 08 42.7 -1.5**
0.3nm,0.5s,baz=287,slow=6.3,SNR=4.1
FINES FINESS Array B 72.19 330 P **P** **23 09 07.9 +0.2**
1.2nm,0.8s,baz=54,slow=7.1,SNR=3.6

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*ISCJB **21** 23:18:29.7±0.3,3.92N±0.06×31.45W±0.03,h10km, mb4.7/83,MS4.3/32,Error ellipse: s-maj=8.6km s-min=4.0km az=163.6*
*IDC **21** 23:18:29.6±0.5,3.90N×31.61W,h0km,mb4.3/24, mb1 4.5/25,mb1mx4.4/31,mbtmp4.3/25,ML4.0/1,MS4.2/31, Ms1 4.2/31,ms1mx4.2/32,Error ellipse: s-maj=18.6km s-min=11.5km az=136.0*
*BJI **21** 23:18:30.1,3.70N×31.50W,h10km,mB5.3/3,Ms5.2/4, Ms7 4.9/4*
*NEIC **21** 23:18:31.1±0.2,3.81N×31.48W,h10km,mb4.9/58,Error ellipse: s-maj=6.8km s-min=3.9km az=148.0*
*GCMT **21** 23:18:36.7±0.2,3.99N×31.69W,h12km,MW5.0,Moment Tensor Solution. s33,c40; s75,c125; Moment tensor: Scale 10^{16}Nm; M_{rr}-0.29±.11; $M_{\theta\theta}$0.86±.10; $M_{\phi\phi}$-0.57±.12; $M_{r\theta}$0.07±.28; $M_{\theta\phi}$-3.64±.08; $M_{\phi r}$0.38±.32; Best double couple: $M_0$3.70000×10^{16} NP1:ϕ_s174.00000°,δ88.00000°, λ-6.00000°. NP2:ϕ_s265.00000°,δ84.00000°, λ-178.00000°. Principal axes: T 3.8600, Plg3.0000°, Azm220.0000°; N -0.2600, Plg84.0000°, Azm333.0000°; P -3.6000, Plg6.0000°, Azm129.0000°; Data Used: IU II G CN IC.*

ISC 21 23:18:31.0±0.3,3.82N±0.07×31.56W±0.07,h10km,n408, σ0.992/404,mb4.7/83,MS4.2/32,92C-108D,Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**10.52**	**204**	eP*n*	**Pn**	**23 21 00.8**	**-1.2**
SACV	**Santiago Islan**	**13.57**	**35**	eP*n*	Pn	23 21 39.1	-4.5
60nm,0.6s							
BBTS	**Babate**	**18.31**	**53**	P	**P**	**23 22 45.1**	**-0.3**
BBTS	**Babate**	**18.31**	**53**	P	**P**	**23 22 45.1**	**-0.3**
0.5nm,0.3s,baz=204,slow=3.4,SNR=2.8							
BBTS				LR	LR	23 28 03.2	
comp=Z,938nm,19.9s,baz=317,slow=31							
BDFB	**Brasilia**	**25.28**	**220**	eP	**P**	**23 23 57.8**	**-0.2**
BDFB	**Brasilia**	**25.28**	**220**	P	**P**	**23 23 57.5**	**-0.4**
11nm,0.8s,baz=53,slow=10,SNR=16							
BDFB				LR	LR	23 32 46.5	
comp=Z,990nm,20.8s,baz=78,slow=34							
LIC	**Lamto**	**26.54**	**84**	eP	**P**	**23 24 10.6**	**+1.4**
11nm,0.6s,baz=251							
LIC				eR			
370nm,21.5s							
LIC	**Lamto**	**26.54**	**84**	ePKP2	**P**	**23 24 08.4**	**-0.8**
24nm,0.7s							
LIC	**Lamto**	**26.54**	**84**	eP	**P**	**23 24 10.6**	**+1.4**
11nm,0.6s							
TIC	**Toumodi**	**26.58**	**83**	ePKP2	**P**	**23 24 06.7**	**-2.9**
34nm,1.1s							
DBIC	**Dimbokro**	**26.74**	**83**	eP	**P**	**23 24 09.8**	**-1.2**
DBIC	**Dimbokro**	**26.74**	**83**	P	**P**	**23 24 10.1**	**-1.0**
5.0nm,0.9s,baz=238,slow=16,SNR=3.6							
DBIC				LR	LR	23 32 06.0	
comp=Z,370nm,21.3s,baz=243,slow=30							
KIC	**Kosan Boka**	**26.83**	**84**	ePKP2	**P**	**23 24 07.7**	**-4.2**
125nm,1.6s							
SAML	**Samuel**	**33.98**	**248**	eP	**P**	**23 25 14.8**	**-0.4**
11nm,1.3s							
TORD	**Torodi Ar. Bea**	**34.13**	**72**	P	**P**	**23 25 16.1**	**-0.3**
TORD				PcP	**PcP**	**23 27 53.7**	**-0.1**
TORD	**Torodi Ar. Bea**	**34.13**	**72**	P	**P**	**23 25 16.1**	**-0.3**
6.0nm,1.0s,baz=259,slow=9.1,SNR=27							
TORD				PcP	**PcP**	**23 27 53.7**	**-0.1**
0.8nm,0.8s,baz=295,slow=3.4,SNR=5.9							
TORD				LR	LR	23 37 23.4	
comp=Z,576nm,18.9s,baz=250,slow=33							
SIV	**San Ignacio**	**35.21**	**235**	P	**P**	**23 25 26.1**	**+0.3**
SIV	**San Ignacio**	**35.21**	**235**	P	**P**	**23 25 26.1**	**+0.3**
9.2nm,0.7s,baz=94,slow=9.4,SNR=32							
CELP	**Cerrillos**	**37.08**	**295**	P	**P**	**23 25 41.4**	**-0.4**
MDT	**Midelt**	**38.31**	**38**	LR	LR	23 39 43.3	
comp=Z,1μm,21.2s,baz=222,slow=33							
CPUP	**Villa Florida**	**38.99**	**218**	eP	**P**	**23 25 56.8**	**-1.0**
25nm,1.0s							
CPUP				ePP	**PP**	**23 27 26.5**	**-0.7**
CPUP	**Villa Florida**	**38.99**	**218**	P	**P**	**23 25 57.4**	**-0.4**
4.0nm,0.7s,baz=16,slow=8.7,SNR=9.5							
CPUP				LR	LR	23 41 51.3	
comp=Z,1μm,19.4s,baz=35,slow=36							
SDV	**Santo Domingo**	**39.14**	**279**	eP	**P**	**23 26 01.8**	**+2.4**
7.7nm,0.8s							
TAM	**Tamanrasset**	**40.53**	**59**	eP	**P**	**23 26 11.6**	**+0.8**
8.5nm,0.9s							
LPAZ	**La Paz**	**41.31**	**240**	eP	**P**	**23 26 17.5**	**-0.3**
42nm,2.0s							
LPAZ	**La Paz**	**41.31**	**240**	P	**P**	**23 26 17.2**	**-0.6**
3.8nm,0.8s,baz=58,slow=7.7,SNR=17							
LPAZ				LR	LR	23 42 40.4	
comp=Z,486nm,20.4s,baz=254,slow=35							
ROSC	**El Rosal**	**42.65**	**273**	LR	LR	23 44 53.6	
comp=Z,238nm,18.4s,baz=48,slow=37							
ESDC	**Sonseca Array**	**43.57**	**31**	P	**P**	**23 26 36.0**	**+0.7**
ESDC	**Sonseca Array**	**43.57**	**31**	P	**P**	**23 26 36.0**	**+0.7**
3.4nm,0.9s,baz=228,slow=8.7,SNR=19							
ESDC				LR	LR	23 42 21.2	
comp=Z,226nm,18.8s,baz=215,slow=33							
SJPF	**Ste Jean**	**47.49**	**30**	eP	**P**	**23 27 05.5**	**-0.8**
37nm,1.3s							
SJPF	**Ste Jean**	**47.49**	**30**	eP	**P**	**23 27 05.5**	**-0.8**
37nm,1.3s							
ETSF	**Etsaut**	**47.67**	**31**	eP	**P**	**23 27 07.3**	**-0.4**
57nm,1.5s							
ETSF	**Etsaut**	**47.67**	**31**	eP	**P**	**23 27 07.3**	**-0.4**
57nm,1.5s							
EPF	**Esparros**	**48.23**	**31**	eP	**P**	**23 27 11.6**	**-0.4**
31nm,1.2s							
EPF	**Esparros**	**48.23**	**31**	eP	**P**	**23 27 11.6**	**-0.4**
31nm,1.2s							
KEST	**Kesra**	**49.30**	**45**	P	**P**	**23 27 21.1**	**+0.6**
KEST	**Kesra**	**49.30**	**45**	P	**P**	**23 27 21.1**	**+0.6**
1.5nm,1.0s,baz=180,slow=5.1,SNR=3.5							
KEST				LR	LR	23 48 00.1	
comp=Z,251nm,19.6s,baz=199,slow=36							
MTLF	**Montolieu**	**49.43**	**32**	eP	**P**	**23 27 19.6**	**-1.6**
83nm,1.7s							
MTLF	**Montolieu**	**49.43**	**32**	eP	**P**	**23 27 19.6**	**-1.6**
83nm,1.7s							
CFAA	**Coronel Fontan**	**49.59**	**222**	LR	LR	23 48 57.9	
comp=Z,46nm,18.1s,baz=254,slow=37							
LFF	**La Frestale**	**49.79**	**30**	eP	**P**	**23 27 23.6**	**-0.3**
LFF	**La Frestale**	**49.79**	**30**	eP	**P**	**23 27 23.6**	**-0.3**
QUIF	**Quistinic**	**50.25**	**25**	eP	**P**	**23 27 26.7**	**-0.6**
65nm,1.4s							
QUIF	**Quistinic**	**50.25**	**25**	eP	**P**	**23 27 26.7**	**-0.6**
65nm,1.4s							
RJF	**Les Rejaudoux**	**50.43**	**30**	eP	**P**	**23 27 28.4**	**-0.4**
RJF				eR			
575nm,20.0s							
RJF	**Les Rejaudoux**	**50.43**	**30**	eP	**P**	**23 27 28.4**	**-0.4**
CAF	**Calviac**	**50.44**	**31**	eP	**P**	**23 27 27.7**	**-1.2**
25nm,1.2s							
CAF	**Calviac**	**50.44**	**31**	eP	**P**	**23 27 27.7**	**-1.2**
25nm,1.2s							
ROSF	**Rostrenen**	**50.53**	**24**	eP	**P**	**23 27 29.0**	**-0.5**
ROSF	**Rostrenen**	**50.53**	**24**	eP	**P**	**23 27 29.0**	**-0.5**
MFF	**Saint Martin d**	**50.57**	**28**	eP	**P**	**23 27 29.2**	**-0.6**
MFF	**Saint Martin d**	**50.57**	**28**	eP	**P**	**23 27 29.2**	**-0.6**
SGMF	**Saint Gilles**	**50.77**	**25**	eP	**P**	**23 27 30.6**	**-0.6**
SGMF	**Saint Gilles**	**50.77**	**25**	eP	**P**	**23 27 30.6**	**-0.6**
LASF	**Ste Croix**	**50.80**	**33**	eP	**P**	**23 27 31.3**	**-0.3**
116nm,1.9s							
LASF	**Ste Croix**	**50.80**	**33**	eP	**P**	**23 27 31.3**	**-0.3**
116nm,1.9s							
TCF	**Toulx Ste Croi**	**51.47**	**30**	eP	**P**	**23 27 36.3**	**-0.3**
37nm,1.6s							
TCF	**Toulx Ste Croi**	**51.47**	**30**	eP	**P**	**23 27 36.3**	**-0.3**
37nm,1.6s							
GRR	**Gorron**	**51.59**	**26**	eP	**P**	**23 27 36.8**	**-0.6**
GRR	**Gorron**	**51.59**	**26**	eP	**P**	**23 27 36.8**	**-0.6**
SMRF	**Simiane la Rot**	**51.68**	**34**	eP	**P**	**23 27 38.1**	**-0.1**
SMRF	**Simiane la Rot**	**51.68**	**34**	eP	**P**	**23 27 38.1**	**-0.1**
VIVF	**Saint-Julien-l**	**51.76**	**32**	eP	**P**	**23 27 38.6**	**-0.2**
48nm,1.5s							
VIVF	**Saint-Julien-l**	**51.76**	**32**	eP	**P**	**23 27 38.6**	**-0.2**
48nm,1.5s							
BGF	**Bois d'Agland**	**51.98**	**30**	eP	**P**	**23 27 39.1**	**-1.3**
BGF	**Bois d'Agland**	**51.98**	**30**	eP	**P**	**23 27 39.1**	**-1.3**
FRF	**La Foret Royal**	**52.02**	**35**	eP	**P**	**23 27 39.5**	**-1.2**
FRF	**La Foret Royal**	**52.02**	**35**	eP	**P**	**23 27 39.5**	**-1.2**
LDF	**La Druitiere**	**52.07**	**26**	eP	**P**	**23 27 40.3**	**-0.7**
30nm,1.3s							
LDF	**La Druitiere**	**52.07**	**26**	eP	**P**	**23 27 40.3**	**-0.7**
30nm,1.3s							
AVF	**Avril sur Loir**	**52.39**	**30**	eP	**P**	**23 27 43.2**	**-0.2**
26nm,1.4s							
AVF	**Avril sur Loir**	**52.39**	**30**	eP	**P**	**23 27 43.2**	**-0.2**
26nm,1.4s							
HRV	**Adam Dziewonsk**	**52.42**	**323**	eP	**P**	**23 27 42.2**	**-1.6**
22nm,1.1s							
HRV				ePcP	**PcP**	**23 28 54.0**	**-0.5**
ORIF	**Oris-en-Rattie**	**52.45**	**33**	eP	**P**	**23 27 43.7**	**-0.3**
51nm,1.7s							
ORIF				eR			
405nm,20.8s							
ORIF	**Oris-en-Rattie**	**52.45**	**33**	eP	**P**	**23 27 43.7**	**-0.3**
51nm,1.7s							
SMF	**Signal de Mont**	**52.53**	**30**	eP	**P**	**23 27 44.5**	**0.0**
26nm,1.3s							
SMF	**Signal de Mont**	**52.53**	**30**	eP	**P**	**23 27 44.5**	**0.0**
26nm,1.3s							
SSF	**Saint Saulge**	**52.65**	**30**	eP	**P**	**23 27 45.3**	**-0.1**
SSF	**Saint Saulge**	**52.65**	**30**	eP	**P**	**23 27 45.3**	**-0.1**
SBF	**Sospel**	**52.65**	**35**	eP	**P**	**23 27 45.4**	**-0.1**
72nm,1.1s							
SBF	**Sospel**	**52.65**	**35**	eP	**P**	**23 27 45.4**	**-0.1**
72nm,1.1s							
PGF	**Pioggiola**	**52.79**	**37**	eP	**P**	**23 27 46.7**	**+0.1**
187nm,1.7s							
PGF	**Pioggiola**	**52.79**	**37**	eP	**P**	**23 27 46.7**	**+0.1**
187nm,1.7s							
MBDF	**Montbardon**	**52.82**	**34**	eP	**P**	**23 27 47.5**	**+0.7**
MBDF	**Montbardon**	**52.82**	**34**	eP	**P**	**23 27 47.5**	**+0.7**
LOR	**Lormes**	**52.97**	**30**	eP	**P**	**23 27 47.7**	**0.0**
LOR				eR			
650nm,19.5s							
LOR	**Lormes**	**52.97**	**30**	eP	**P**	**23 27 47.7**	**0.0**
BNI	**Bardonecchia**	**52.97**	**33**	eP	**P**	**23 27 48.3**	**+0.4**
19nm,1.2s							
LPG	**La Plagne**	**53.29**	**33**	eP	**P**	**23 27 50.5**	**0.0**
LPG	**La Plagne**	**53.29**	**33**	eP	**P**	**23 27 50.5**	**0.0**
LPL	**La Plagne**	**53.29**	**33**	eP	**P**	**23 27 50.3**	**-0.1**
LPL	**La Plagne**	**53.29**	**33**	eP	**P**	**23 27 50.3**	**-0.1**
HNH	**Hanover**	**53.56**	**324**	eP	**P**	**23 27 52.5**	**+0.4**
CABF	**La Chapelle**	**53.66**	**32**	eP	**P**	**23 27 53.3**	**+0.4**
51nm,1.4s							
CABF	**La Chapelle**	**53.66**	**32**	eP	**P**	**23 27 53.3**	**+0.4**
51nm,1.4s							
MEZF	**Maizieres J'vi**	**54.40**	**29**	eP	**P**	**23 27 57.8**	**-0.4**
MEZF	**Maizieres J'vi**	**54.40**	**29**	eP	**P**	**23 27 57.8**	**-0.4**
HAU	**Haudompre**	**54.71**	**30**	eP	**P**	**23 28 00.4**	**-0.1**
HAU				eR			
568nm,20.8s							
HAU	**Haudompre**	**54.71**	**30**	eP	**P**	**23 28 00.4**	**-0.1**
PAGF	**Fort de Pagny**	**54.76**	**30**	eP	**P**	**23 28 00.7**	**-0.1**
PAGF	**Fort de Pagny**	**54.76**	**30**	eP	**P**	**23 28 00.7**	**-0.1**
HINF	**Hinterlafeld**	**54.84**	**31**	eP	**P**	**23 28 00.9**	**-0.6**
HINF	**Hinterlafeld**	**54.84**	**31**	eP	**P**	**23 28 00.9**	**-0.6**
BAIF	**Baives**	**55.08**	**27**	eP	**P**	**23 28 02.0**	**-1.1**
57nm,1.5s							
BAIF	**Baives**	**55.08**	**27**	eP	**P**	**23 28 02.0**	**-1.1**
57nm,1.5s							
CDF	**Champ du Feu**	**55.44**	**30**	eP	**P**	**23 28 05.6**	**-0.3**
CDF	**Champ du Feu**	**55.44**	**30**	eP	**P**	**23 28 05.6**	**-0.3**
KMSC	**Kings Mountain**	**55.52**	**311**	⇓P	**P**	**23 28 06.1**	**-0.5**
baz=56							
DAVOX	**Davos/Dischmat**	**55.80**	**33**	P	**P**	**23 28 08.3**	**-0.2**
DAVOX	**Davos/Dischmat**	**55.80**	**33**	P	**P**	**23 28 08.3**	**-0.2**
5.2nm,0.8s,baz=305,slow=7.8,SNR=5.8							
PLCA	**Paso Flores**	**56.89**	**215**	LR	LR	23 52 21.6	
comp=Z,706nm,20.8s,baz=135,slow=36							
SCHQ	**Schefferville**	**58.31**	**337**	P	**P**	**23 28 24.8**	**-1.2**
SCHQ	**Schefferville**	**58.31**	**337**	P	**P**	**23 28 24.8**	**-1.2**
3.4nm,0.6s,baz=238,slow=11,SNR=6.2							
SCHQ				LR	LR	23 49 07.4	
comp=Z,125nm,19.7s,baz=289,slow=32							
SWET	**Sewanee**	**59.07**	**309**	eP	**P**	**23 28 32.8**	**+1.1**
12nm,0.9s							
GEC2	**GERESS Array S**	**59.09**	**33**	eP	**P**	**23 28 32.2**	**+0.5**
GERES	**GERESS Array B**	**59.09**	**33**	P	**P**	**23 28 31.0**	**-0.7**
GERES	**GERESS Array B**	**59.09**	**33**	P	**P**	**23 28 31.0**	**-0.7**
3.5nm,1.1s,baz=241,slow=5.5,SNR=3.9							
GERES				LR	LR	23 51 32.5	
comp=Z,156nm,18.4s,baz=272,slow=34							
PRU	**Pruhonice**	**60.19**	**32**	eP	**P**	**23 28 37.6**	**-1.5**
PRU				AMS	AMS	23 51 50.0	
300nm,19.7s							
TREC	**Trest**	**60.32**	**33**	eP	**P**	**23 28 40.0**	**0.0**
TREC				ex	x	23 28 47.9	
TREC				AMS	AMS	23 51 10.0	
BRG	**Berggiesshubel**	**60.38**	**31**	eP	**P**	**23 28 40.3**	**-0.1**
9.1nm,1.3s							
PVCC	**Panska Ves**	**60.51**	**32**	eP	**P**	**23 28 39.3**	**-1.9**
PVCC				ep*P*	**pP**	**23 28 42.4**	**-2.1**
PVCC				ex	x	23 28 51.6	
PVCC				AMS	AMS	23 50 30.0	
400nm,20.1s							
VRAC	**Vranov**	**60.94**	**34**	P	**P**	**23 28 43.9**	**-0.4**
VRAC	**Vranov**	**60.94**	**34**	P	**P**	**23 28 43.9**	**-0.4**
3.3nm,1.0s,baz=252,slow=5.4,SNR=4.4							
BORG	**Borgarnes**	**61.25**	**5**	LR	LR	23 47 38.6	
comp=Z,146nm,19.8s,baz=313,slow=29							
UPC	**Upice**	**61.26**	**33**	eP	**P**	**23 28 47.4**	**+1.0**
UPC				ex	x	23 28 55.3	
DPC	**Dobruska-Polom**	**61.34**	**33**	eP	**P**	**23 28 46.7**	**-0.3**
DPC				ep*P*	**pP**	**23 28 52.6**	**+2.4**
SFIN	**Scholer Farm**	**61.70**	**314**	⇓P	**P**	**23 28 49.9**	**+0.3**
baz=62							
VYHS	**Vyhne**	**61.80**	**36**	eP	**P**	**23 28 49.3**	**-0.8**
OKC	**Ostrava-Krasne**	**62.08**	**34**	eP	**P**	**23 28 51.6**	**-0.3**
OKC				ex	x	23 28 58.9	
PSZ	**Piszkesteto**	**62.15**	**37**	eP	**P**	**23 28 52.0**	**-0.5**
126nm,2.7s							
BOSA	**Boshof**	**63.35**	**125**	P	**P**	**23 29 02.9**	**+2.0**
BOSA	**Boshof**	**63.35**	**125**	P	**P**	**23 29 02.9**	**+2.0**
2.1nm,0.8s,baz=297,slow=6.8,SNR=2.7							
BOSA				LR	LR	23 50 58.9	
comp=Z,244nm,19.9s,baz=294,slow=31							
SFJD	**Kangerlussuaq**	**64.43**	**352**	LR	LR	23 49 29.5	
comp=Z,89nm,21.9s,baz=163,slow=29							
JFWS	**Jewell Farm**	**64.79**	**316**	eP	**P**	**23 29 10.0**	**0.0**
12nm,0.8s							
MLR	**Muntele Rosu**	**64.91**	**41**	P	**P**	**23 29 10.2**	**-0.7**
MLR	**Muntele Rosu**	**64.91**	**41**	P	**P**	**23 29 10.2**	**-0.7**
1.0nm,0.9s,baz=138,slow=11,SNR=4.7							
NB2	**NORSAR Subarra**	**65.52**	**21**	P	**P**	**23 29 14.0**	**-0.5**
comp=Z,8.7nm,1.0s,baz=227,slow=6.5							
NOA	**NORSAR Array B**	**65.52**	**21**	P	**P**	**23 29 14.5**	**+0.1**
NOA	**NORSAR Array B**	**65.52**	**21**	P	**P**	**23 29 14.5**	**+0.1**
comp=Z,6.1nm,1.1s,baz=230,slow=6.3,SNR=4.8							
NOA				LR	LR	23 54 46.2	
comp=Z,214nm,18.7s,baz=225,slow=33							
HFS	**Hagfors**	**65.86**	**23**	LR	LR	23 57 01.3	
comp=Z,189nm,18.4s,baz=242,slow=35							
USHA	**Ushuaia**	**65.93**	**202**	LR	LR	23 55 19.9	
comp=Z,183nm,21.4s,baz=24,slow=34							
SUW	**Suwalki**	**66.83**	**32**	eP	**P**	**23 29 23.1**	**+0.2**
comp=Z,45nm,1.2s							
SPMN	**St. Paul**	**67.29**	**318**	⇑P	**P**	**23 29 26.4**	**+0.4**
baz=67							
WHTX	**Lake Whitney**	**67.59**	**303**	⇓P	**P**	**23 29 28.0**	**-0.2**
baz=68							
BRTR	**Keskin Array B**	**68.60**	**49**	P	**P**	**23 29 34.5**	**0.0**
BRTR	**Keskin Array B**	**68.60**	**49**	P	**P**	**23 29 34.5**	**0.0**
comp=Z,3.0nm,1.1s,baz=261,slow=4.9,SNR=5.7							
BRTR				LR	LR	23 58 56.3	
comp=Z,198nm,21.7s,baz=271,slow=35							
AKASG	**Malin Array Be**	**68.85**	**37**	P	**P**	**23 29 35.6**	**-0.1**
AKASG	**Malin Array Be**	**68.85**	**37**	P	**P**	**23 29 35.6**	**-0.1**
comp=Z,0.6nm,0.3s,baz=246,slow=5.8,SNR=9.2							
AKASG				LR	LR	23 58 11.6	
comp=Z,114nm,19.2s,baz=310,slow=35							
632A	**Uvalde**	**69.20**	**300**	⇑P	**P**	**23 29 39.6**	**+1.2**
baz=69							
732A	**Laxson Ranch,**	**69.26**	**299**	⇑P	**P**	**23 29 39.5**	**+0.8**
baz=69							
JCT	**Junction City**	**69.34**	**301**	eP	**P**	**23 29 39.0**	**-0.2**
comp=Z,16nm,1.1s							
JCT	**Junction City**	**69.34**	**301**	⇑P	**P**	**23 29 38.9**	**-0.4**
baz=69,SNR=5.3							
532A	**Rocksprings**	**69.38**	**301**	⇓P	**P**	**23 29 39.6**	**+0.1**
baz=70							
432A	**Menard**	**69.39**	**301**	⇑P	**P**	**23 29 39.3**	**-0.3**
baz=70							
332A	**Millersview**	**69.42**	**302**	⇓P	**P**	**23 29 39.7**	**0.0**
baz=70							
ECSD	**EROS Data Cent**	**69.47**	**315**	eP	**P**	**23 29 39.2**	**-0.6**
comp=Z,14nm,1.3s							
Z32A	**Haskell**	**69.49**	**304**	⇑P	**P**	**23 29 41.0**	**+0.9**
baz=70							
631A	**Perdido Creek**	**69.87**	**300**	⇑P	**P**	**23 29 43.7**	**+1.2**
baz=70							
531A	**Rocksprings**	**69.94**	**301**	⇑P	**P**	**23 29 44.0**	**+1.0**
baz=70							
331A	**San Angelo**	**69.99**	**302**	⇓P	**P**	**23 29 45.0**	**+1.7**
baz=70							
BGNE	**Belgrade**	**70.01**	**313**	⇑P	**P**	**23 29 43.5**	**+0.4**
baz=70							
Z31A	**Sharp Cattle R**	**70.04**	**304**	⇑P	**P**	**23 29 43.2**	**-0.3**
baz=70							
431A	**Sonora**	**70.06**	**301**	⇓P	**P**	**23 29 44.9**	**+1.2**
baz=70							
W31A	**Holland Ranch,**	**70.18**	**306**	⇓P	**P**	**23 29 44.8**	**+0.5**
baz=70							
AGMN	**Agassiz Nation**	**70.23**	**320**	eP	**P**	**23 29 45.3**	**+1.0**
comp=Z,28nm,1.8s							
Y31A	**Rekieta Farm,**	**70.24**	**305**	⇓P	**P**	**23 29 45.9**	**+1.2**
baz=70							
S31A	**Mullinville**	**70.24**	**309**	⇓P	**P**	**23 29 45.1**	**+0.4**
baz=70							
T31A	**Randall Ranch,**	**70.30**	**308**	⇑P	**P**	**23 29 44.8**	**-0.2**
baz=70							
R31A	**Burdett**	**70.40**	**309**	⇓P	**P**	**23 29 45.8**	**+0.2**
baz=70							
430A	**Baggett Ranch,**	**70.61**	**301**	⇑P	**P**	**23 29 46.7**	**-0.4**
baz=71							
530A	**J-C Ranch, Com**	**70.62**	**301**	⇑P	**P**	**23 29 47.1**	**0.0**
baz=71							
330A	**Mertzon**	**70.64**	**302**	⇑P	**P**	**23 29 46.8**	**-0.4**
baz=71							
230A	**Sterling City**	**70.65**	**302**	⇓P	**P**	**23 29 47.6**	**+0.3**
baz=71							
Z30A	**Sanderson Ranc**	**70.85**	**304**	⇓P	**P**	**23 29 49.8**	**+1.2**
baz=71							
R30A	**Dighton**	**70.98**	**309**	⇑P	**P**	**23 29 50.1**	**+0.9**
baz=71							
429A	**Davenport Ranc**	**71.15**	**301**	⇑P	**P**	**23 29 50.2**	**-0.2**
baz=71,SNR=5.6							
Z29A	**Hungry Hill Ra**	**71.33**	**304**	⇑P	**P**	**23 29 52.8**	**+1.4**
baz=71							
W29A	**Amraillo**	**71.55**	**306**	⇑P	**P**	**23 29 54.3**	**+1.6**
baz=72							
FINES	**FINESS Array B**	**71.66**	**25**	P	**P**	**23 29 52.4**	**-0.2**
FINES	**FINESS Array B**	**71.66**	**25**	P	**P**	**23 29 52.4**	**-0.2**
comp=Z,2.1nm,0.8s,baz=259,slow=13,SNR=3.1							
FINES				LR	LR	23 59 05.2	
comp=Z,236nm,18.7s,baz

V27A	Dan Oppiter Fa	72.60 306	⇑P		P	23 29 58.7 -0.4
	baz=73					
Y27A	Causey	72.62 304	⇑P		P	23 29 59.9 +0.7
	baz=73,SNR=7.5					
K28A	Ten Mile Ranch	72.62 314	⇑P		P	23 29 58.5 -0.5
	baz=73					
U27A	Thompson Grove	72.68 307	⇑P		P	23 30 00.5 +0.9
	baz=73					
W27A	Bowe Ranch, En	72.69 305	⇑P		P	23 30 00.1 +0.5
	baz=73					
OGNE	Ogallala	72.79 312	⇑P		P	23 30 00.3 +0.3
	baz=73					
R27A	Eads	72.94 309	⇑P		P	23 30 01.4 +0.4
	baz=73					
626A	Big Bend Ranch	72.97 300	⇑P		P	23 30 01.5 +0.2
	baz=73					
526A	Mary Lane Ranc	72.98 300	⇓P		P	23 30 01.8 +0.4
	baz=73					
426A	McDonald Obser	72.99 301	⇑P		P	23 30 02.3 +0.7
	baz=73					
O27A	Beecher Island	72.99 311	⇓P		P	23 30 01.8 +0.5
	baz=73					
326A	Caldwell Ranch	73.01 301	⇓P		P	23 30 03.2 +1.7
	baz=73					
Y26A	Elida	73.17 304	⇓P		P	23 30 03.0 +0.5
	baz=73,SNR=5.8					
226B	Tecolote Peak,	73.25 302	⇑P		P	23 30 03.2 +0.3
	baz=73					
S26A	Kim	73.36 308	⇓P		P	23 30 03.4 -0.2
	baz=73					
T26A	Comanche Natio	73.40 308	⇑P		P	23 30 04.7 +0.8
	baz=74					
U26A	Atchley Ranch,	73.41 307	⇑P		P	23 30 04.8 +0.8
	baz=74					
R26A	Arlington	73.44 309	⇑P		P	23 30 05.1 +1.1
	baz=74					
P26A	Davis Ranch, A	73.55 310	⇓P		P	23 30 05.7 +1.0
	baz=74					
F27A	Lemmon	73.71 317	⇑P		P	23 30 06.4 +1.1
	baz=74					
125A	Gardner Draw,	73.72 303	⇓P		P	23 30 06.4 +0.6
	baz=74					
Z25A	Roswell	73.84 303	⇓P		P	23 30 07.0 +0.6
	baz=74					
Y25A	Mesa, Roswell	73.89 304	⇑P		P	23 30 07.5 +0.8
	baz=74,SNR=5.3					
U25A	Circle Dot Ran	73.94 307	⇓P		P	23 30 07.7 +0.6
	baz=74					
J26A	Sides Ranch, S	73.97 314	⇓P		P	23 30 07.2 +0.2
	baz=74					
V25A	Rancho No Teng	74.04 306	⇓P		P	23 30 07.7 0.0
	baz=74					
R25A	Fountain Ranch	74.07 308	⇓P		P	23 30 07.9 +0.2
	baz=74					
S25A	Robets Cordova	74.13 308	⇑P		P	23 30 08.8 +0.7
	baz=74					
G27A	Dupree	74.24 316	⇓P		P	23 30 04.3 -4.1
	baz=74					
124A	Stringfield Ra	74.39 303	⇓P		P	23 30 09.5 -0.3
	baz=74					
Y24A	Capitan	74.50 304	⇓P		P	23 30 10.3 0.0
	baz=75,SNR=8.4					
G25A	Newell	74.54 316	⇑P		P	23 30 10.3 +0.1
	baz=75					
I25A	Rochford	74.56 315	⇓P		P	23 30 09.7 -0.8
	baz=75					
W24A	Lazy 6 Ranch,	74.61 305	⇑P		P	23 30 11.0 0.0
	baz=75,SNR=6.2					
R24A	Sanders Place,	74.73 308	⇑P		P	23 30 12.0 +0.4
	baz=75					
E25A	Miller Ranch,	74.77 317	⇑P		P	23 30 11.7 +0.1
	baz=75					
Q24A	Divide	74.85 309	⇑P		P	23 30 13.1 +0.6
	baz=75,SNR=5.8					
M24A	Cheyenne	74.95 312	⇓P		P	23 30 13.0 +0.2
	baz=75					
Y23A	Lovelace Mesa,	75.01 304	⇑P		P	23 30 14.4 +1.0
	baz=75,SNR=5.5					
Z23A	Rita Site, Whi	75.10 303	⇓P		P	23 30 14.4 +0.7
	baz=75					
I24A	Kuemmerle Ranc	75.17 314	⇓P		P	23 30 15.2 +1.2
	baz=75					
H24A	Dirks Ranch, A	75.26 315	⇓P		P	23 30 14.7 +0.2
	baz=75					
V23A	Ortiz Mt. (NFS	75.30 306	⇓P		P	23 30 15.0 0.0
	baz=75					
ISCO	Idaho Springs	75.32 310	eP		P	23 30 16.7 +1.6
	comp=Z,8.9nm,1.1s					
ISCO	Idaho Springs	75.32 310	⇑P		P	23 30 14.3 -0.8
	baz=75,SNR=5.4					
ARCES	ARCESS Array B	75.36 18	LR		LR	23 57 25.8
	comp=Z,203nm,20.2s,baz=213,slow=31					
Q23A	Hartsel	75.38 309	⇑P		P	23 30 16.3 +0.8
	baz=76,SNR=5.6					
E24A	Baker	75.39 317	⇓P		P	23 30 15.1 0.0
	baz=76					
PHWY	Pilot Hill	75.40 312	eP		P	23 30 15.9 +0.3
	comp=Z,4.5nm,1.0s					
P23A	Jefferson	75.44 310	⇓P		P	23 30 17.0 +1.1
	baz=76					
ANMO	Albuquerque	75.44 305	eP		P	23 30 23.6 +7.8
ANMO	Albuquerque	75.44 305	P		P	23 30 22.2 +6.4
	comp=Z,3.7nm,1.1s,baz=90,slow=6.1,SNR=5.1					
D24A	Glendive	75.50 318	⇓P		P	23 30 16.2 +0.5
	baz=76					
O23A	Lake Granby, G	75.60 310	⇓P		P	23 30 17.3 +0.5
	baz=76					
A24A	Westby	75.62 320	⇑P		P	23 30 16.9 +0.5
	baz=76					
DGMT	Dagmar	75.66 319	eP		P	23 30 18.0 +1.4
	comp=Z,40nm,0.9s					
DGMT	Dagmar	75.66 319	⇓P		P	23 30 17.4 +0.8
	baz=76					
L23A	Garrett	75.69 312	⇑P		P	23 30 17.5 +0.4
	baz=76					
Z22A	Elephant Butte	75.71 303	⇓P		P	23 30 17.9 +0.6
	baz=76					
N23A	Red Feather La	75.71 311	⇑P		P	23 30 18.2 +0.9
	baz=76,SNR=6.1					
K23A	Bowen Ranch, D	75.72 313	⇑P		P	23 30 17.6 +0.4
	baz=76					
W22A	Albuquerque	75.79 305	⇓P		P	23 30 18.7 +0.9
	baz=76					
X22A	Bernardo	75.85 304	⇓P		P	23 30 18.5 +0.4
	baz=76					
V22A	San Miguel Ran	75.90 306	⇑P		P	23 30 19.1 +0.6
	baz=76					
U22A	Llaves	75.90 306	⇓P		P	23 30 18.4 0.0
	baz=76					
G23A	Biddle	75.92 316	⇓P		P	23 30 18.9 +0.7
	baz=76					
VNA1	Neumayer--Stat	75.94 172	eP		P	23 30 21.4 +3.9
T22A	Edith	76.01 307	⇓P		P	23 30 18.1 -1.0
	baz=76					
F23A	Volborg	76.01 316	⇓P		P	23 30 18.6 0.0
	baz=76					
R22A	Saguache, Gunn	76.02 308	⇑P		P	23 30 19.5 +0.3
	baz=76					
O22A	Kremmling	76.08 310	⇑P		P	23 30 19.4 0.0
	baz=76					
D23A	Lindsay	76.11 318	⇑P		P	23 30 19.9 +0.7
	baz=76					
KBZ	Khabaz	76.15 46	LR		LR	00 04 33.9
	comp=Z,98nm,18.0s,baz=12,slow=36					
C23A	Lambert	76.20 318	⇓P		P	23 30 19.9 +0.2
	baz=76					
L22A	Ellis Ranch, M	76.22 312	⇓P		P	23 30 20.5 +0.3
	baz=76					
SMCO	Snowmass	76.29 309	eP		P	23 30 21.1 +0.3
	comp=Z,8.8nm,1.0s					
Z21A	St. Cloud Mine	76.30 303	⇑P		P	23 30 20.7 -0.1
	baz=76					
VNA2	Neumayer--Watz	76.31 172	eP		P	23 30 22.3 +2.6
	baz=343,slow=7.4					
121A	Cookes Peak, D	76.34 302	⇓P		P	23 30 21.2 +0.3
	baz=76					
Y21A	Point of Rocks	76.36 304	⇓P		P	23 30 22.1 +1.0
	baz=76					
K22A	Casper	76.37 313	⇑P		P	23 30 21.3 +0.4
	baz=76					
J22A	Midwest	76.43 314	⇑P		P	23 30 21.3 +0.1
	baz=76					
X21A	Alamocita Cree	76.49 304	⇑P		P	23 30 23.3 +1.4
	baz=77					
I22A	9 Mile Ranch,	76.50 314	⇓P		P	23 30 21.0 -0.6
	baz=77,SNR=6.2					
H22A	Clearmont	76.50 315	⇑P		P	23 30 22.1 +0.5
	baz=77					
G22A	Birney	76.55 315	⇑P		P	23 30 21.7 -0.1
	baz=77					
F22A	Rosebud	76.61 316	⇓P		P	23 30 22.5 +0.4
	baz=77					
R21A	Cimarron	76.65 308	⇑P		P	23 30 22.5 -0.2
	baz=77					
D22A	Cohagen	76.76 317	⇑P		P	23 30 23.3 +0.4
	baz=77					
S21A	Coal Bank Pass	76.78 308	⇑P		P	23 30 23.5 +0.1
	baz=77					
B22A	Reddig Ranch S	76.82 319	⇓P		P	23 30 23.3 +0.1
	baz=77					
A22A	Carney Farms,	76.87 319	⇑P		P	23 30 24.7 +1.2
	baz=77					
N21A	Black Mountain	76.88 311	⇑P		P	23 30 24.7 +0.8
	baz=77					
320A	Kipp Ranch, An	76.89 301	⇑P		P	23 30 24.5 +0.4
	baz=77					
K21A	Alcova	76.90 313	⇓P		P	23 30 24.4 +0.5
	baz=77					
L21A	Rawlins	76.91 312	⇓P		P	23 30 24.9 +0.9
	baz=77,SNR=5.3					
220A	Playas Peak, P	76.92 302	⇑P		P	23 30 24.1 -0.1
	baz=77					
H21A	Big Horn, Sher	77.00 315	⇓P		P	23 30 24.7 +0.3
	baz=77					
120A	U Bar Ranch, L	77.06 302	⇓P		P	23 30 26.3 +1.3
	baz=77					
Z20A	Nine Sixteen R	77.06 303	⇑P		P	23 30 25.5 +0.5
	baz=77					
I21A	Big Trails, Te	77.07 314	⇓P		P	23 30 24.7 -0.1
	baz=77,SNR=10					
J21A	Lysite	77.12 313	⇓P		P	23 30 24.6 -0.6
	baz=77,SNR=7.7					
V20A	Brimhall	77.15 306	⇑P		P	23 30 25.8 +0.3
	baz=77					
F21A	Absaloka Mine,	77.21 316	⇓P		P	23 30 25.8 +0.4
	baz=77					
S20A	Disappointment	77.24 308	⇓P		P	23 30 26.7 +0.6
	baz=77					
U20A	Newcomb	77.24 306	⇓P		P	23 30 26.0 0.0
	baz=77					
Q20A	Ridgley Place,	77.29 309	⇑P		P	23 30 27.9 +1.7
	baz=77					
D21A	La Casta Ranch	77.30 317	⇑P		P	23 30 27.3 +1.4
	baz=77					
O20A	White River Ci	77.36 310	⇓P		P	23 30 27.1 +0.5
	baz=77					
N20A	Spence Gulch,	77.45 311	⇓P		P	23 30 27.9 +0.8
	baz=78					
M20A	Sweetwater, Wa	77.46 312	⇓P		P	23 30 28.2 +1.0
	baz=78					
B21A	Ellsworth Farm	77.51 319	⇓P		P	23 30 27.9 +0.9
	baz=78					
A21A	Bergtoll Ranch	77.53 319	⇓P		P	23 30 28.1 +0.9
	baz=78					
319A	Douglas	77.53 301	⇑P		P	23 30 29.6 +2.0
	baz=78					
J20A	Shoshoni	77.59 313	⇓P		P	23 30 28.8 +1.1
	baz=78					
L20A	Wamsutter	77.63 312	⇓P		P	23 30 29.1 +1.0
	baz=78					
SNAA	Sanae	77.64 171	eP		P	23 30 29.1 +1.8
SNAA	Sanae	77.64 171	eP		P	23 30 28.5 +1.2
	comp=Z,6.5nm,0.9s					
SNAA	Sanae	77.64 171	P		P	23 30 28.5 +1.2
	comp=Z,1.5nm,0.8s,baz=330,slow=5.0,SNR=22					
H20A	Greybull	77.66 315	⇓P		P	23 30 28.6 +0.6
	baz=78					
I20A	Worland	77.69 314	⇓P		P	23 30 28.8 +0.6
	baz=78					
K20A	Yellowstone Ra	77.70 313	⇑P		P	23 30 28.7 +0.3
	baz=78					
P19A	Cripple Cowboy	77.88 310	⇑P		P	23 30 30.1 +0.5
	baz=78					
G20A	Bridger	77.90 315	⇓P		P	23 30 29.9 +0.5
	baz=78					
E20A	Meyer Farm, Mu	78.00 317	⇑P		P	23 30 30.2 +0.4
	baz=78					
D20A	Manuel Ranch,	78.07 317	⇓P		P	23 30 31.3 +1.1
	baz=78					
K19A	Absolon Red Bu	78.09 313	⇓P		P	23 30 30.8 +0.2
	baz=78					
A20A	Cobblestone Ra	78.17 319	⇓P		P	23 30 30.2 -0.5
	baz=78					
B20A	Solberg Farm,	78.17 319	⇓P		P	23 30 30.8 +0.1
	baz=78					
LPIG	La Paz	78.18 294	LR		LR	00 03 45.8
	comp=Z,83nm,18.4s,baz=59,slow=35					
J19A	Crowheart	78.28 313	⇓P		P	23 30 31.8 +0.2
	baz=78					
I19A	Meeteetse	78.32 314	⇑P		P	23 30 32.0 +0.1
	baz=78					
E19A	Rath Farm, Rou	78.44 317	⇓P		P	23 30 32.6 +0.2
	baz=78					
F19A	Roth Farm, Mol	78.48 316	⇑P		P	23 30 32.0 -0.6
	baz=78					
D19A	Cripps Ranch,	78.59 317	⇓P		P	23 30 32.9 -0.2
	baz=79					
PDAR	Pinedale Array	78.60 313	P		P	23 30 33.5 0.0
PDAR	Pinedale Array	78.60 313	P		P	23 30 33.5 0.0
	comp=Z,2.0nm,0.6s,baz=103,slow=7.3,SNR=12					
PDAR			LR		LR	00 01 30.5
	comp=Z,116nm,21.0s,baz=100,slow=33					
C19A	Slack Wire Ran	78.77 318	⇓P		P	23 30 34.6 +0.5
	baz=79					
H18A	Shoshone NF, C	78.86 315	⇑P		P	23 30 34.7 -0.2
	baz=79					
L18A	Fontenelle, Gr	78.88 312	⇓P		P	23 30 35.7 +0.6
	baz=79					
SRU	San Rafael	79.03 309	eP		P	23 30 38.2 +2.3
	comp=Z,7.8nm,1.0s					
M17A	Scullys Gap (B	79.31 311	⇓P		P	23 30 38.3 +0.9
	baz=79					
WUAZ	Wupatki	79.50 305	⇑P		P	23 30 39.5 +1.0
	baz=80					
X16A	Lo Mia Camp, P	79.50 304	⇓P		P	23 30 39.5 +1.0
	baz=80					
MOOW	Moose Ponds	79.55 314	eP		P	23 30 39.8 +1.2
	comp=Z,6.2nm,1.1s					
REDW	Red Top Meadow	79.60 313	eP		P	23 30 40.0 +1.1
	comp=Z,9.1nm,1.1s					
TPAW	Teton Pass	79.68 313	eP		P	23 30 40.6 +1.1
	comp=Z,5.2nm,0.8s					
IMW	Indian Meadow	79.70 314	eP		P	23 30 40.4 +0.8
	comp=Z,10nm,1.3s					
RRI2	Red Ridge	79.94 313	eP		P	23 30 41.6 +0.8
	comp=Z,4.9nm,0.8s					
HWUT	Hardware Ranch	80.00 311	eP		P	23 30 40.9 -0.2
	comp=Z,8.3nm,0.6s					
HWUT			ePcP		PcP	23 30 48.9 +0.3
U15A	North Rim	80.28 306	⇑P		P	23 30 42.8 0.0
	baz=80					
NLU	North Lily Min	80.28 310	eP		P	23 30 44.4 +1.7
	comp=Z,6.7nm,1.0s					
214A	Organ Pipe Nat	80.57 302	⇓P		P	23 30 45.7 +1.5
	baz=81					
DUG	Dugway	80.86 310	eP		P	23 30 46.6 +0.9
	comp=Z,9.8nm,1.4s					
DLMT	Dillon	80.99 315	eP		P	23 30 47.8 +1.5
	comp=Z,9.1nm,1.2s					
BGU	Big Grassy Mou	81.06 311	eP		P	23 30 47.3 +0.5
	comp=Z,12nm,1.4s					
CCUT	Cedar City	81.18 307	eP		P	23 30 49.4 +1.8
	comp=Z,11nm,1.1s					
W13A	Hualapai Mount	81.53 305	⇑P		P	23 30 51.0 +1.5
	baz=82					
PDMCI	Parker Dam,Lak	81.73 304	⇓P		P	23 30 51.4 +1.2
	baz=82					
MSO	Missoula	82.01 317	⇓P		P	23 30 51.5 -0.1
	baz=82					
EDM	Edmonton	82.03 323	eP		P	23 30 55.1 +3.6
Y12C	Blythe	82.04 303	⇑P		P	23 30 53.2 +1.3
	baz=82					
SWMT	Swartz Lake	82.08 317	eP		P	23 30 52.7 +0.8
HLID	Hailey	82.20 313	eP		P	23 30 54.5 +1.8
	comp=Z,37nm,2.8s					
HLID	Hailey	82.20 313	⇓P		P	23 30 53.4 +0.7
	baz=82					
GLA	Glamis	82.29 303	⇓P		P	23 30 54.5 +1.2
	baz=82					
ELK	Elko	82.73 310	eP		P	23 30 56.3 +0.6
	comp=Z,3.3nm,1.0s					
R11A	Troy Canyon, C	82.96 308	eP		P	23 30 58.1 +1.3
R11A	Troy Canyon, C	82.96 308	⇓P		P	23 30 57.3 +0.5
	baz=83					
GMRC	Granite Mounta	82.99 304	⇑P		P	23 30 56.7 -0.3
	baz=83					
YKA	Yellowknife Ar	83.41 332	P		P	23 30 58.8 +0.4
YKA	Yellowknife Ar	83.41 332	P		P	23 30 58.7 +0.4
	comp=Z,2.6nm,0.7s,baz=95,slow=4.8,SNR=5.3					
MONP	Monument Peak	83.62 303	⇑P		P	23 31 01.7 +1.3
	baz=84					
NEW	Newport	84.21 318	P		P	23 31 02.9 0.0
NEW	Newport	84.21 318	P		P	23 31 02.9 0.0
	comp=Z,2.3nm,0.9s,baz=134,slow=2.7,SNR=4.1					
NEW	Newport	84.21 318	⇓P		P	23 31 02.7 -0.1
	baz=84					
MURC	Murrieta	84.27 303	⇑P		P	23 31 03.4 -0.1
	baz=84					
BMO	Blue Mountains	84.31 315	eP		P	23 31 04.1 +0.6
	comp=Z,8.1nm,1.1s					
MPMC	Manual Prospec	84.48 306	⇓P		P	23 31 05.4 +0.8
	baz=84					
BFSC	Mount Baldy Ra	84.64 304	⇑P		P	23 31 05.9 +0.4
	baz=85					
EDW2	Edwards Air Fo	84.91 305	⇓P		P	23 31 06.4 -0.3
	baz=85					
J08A	Circle Bar Ran	85.15 313	eP		P	23 31 09.3 +1.5
	comp=Z,13nm,1.1s					
ISA	Isabella	85.28 305	eP		P	23 31 10.4 +1.8
	comp=Z,6.6nm,1.2s					
ISA	Isabella	85.28 305	⇓P		P	23 31 09.2 +0.6
	baz=85					
G08A	Pilot Rock	85.47 315	eP		P	23 31 08.7 -0.7
	comp=Z,28nm,2.3s					
MOD	Modoc	86.53 312	eP		P	23 31 16.4 +1.6
	comp=Z,29nm,0.9s					
QSPA	South Pole Qui	93.87 180	eP		P	23 31 48.9 +0.4
	comp=Z,2.6nm,0.9s					
MAW	Mawson	95.20 157	LR		LR	00 07 40.4
	comp=Z,70nm,20.9s,baz=128,slow=31					
ILAR	Eielson Array	97.07 337	P		P	23 32 02.2 -0.8
ILAR	Eielson Array	97.07 337	P		P	23 32 02.2 -0.8
	comp=Z,1.2nm,0.8s,baz=54,slow=4.1,SNR=9.9					
ILAR			LR		LR	00 14 26.7
	comp=Z,220nm,18.5s,baz=92,slow=35					
KSH	Kashi	100.99 49	eP		Pdif	23 32 19.1 -2.2
KSH			pP		pP	23 32 23.4 -1.4
KSH			PP		PP	23 36 28.3 -1.1
KSH			SKS			23 42 55.8
KSH			S		SKKSac	23 43 50.9 +14
KSH			SS		SS	23 50 50.3 -8.2
KSH			LR		LR	
	comp=N,110nm,5.8s					
KSH			LR		LR	
	comp=E,120nm,9.3s					
KSH			LR		LR	
	comp=Z,160nm,8.4s					
GTA	Gaotai	117.97 41	PKP		PKPdf	23 37 19.6 +0.9
LZH	Lanzhou	122.46 42	ePKP		PKPdf	23 37 26.5 -0.9
LZH			LR		LR	
	comp=N,190nm,17.4s					
LZH			LR		LR	
	comp=E,180nm,15.8s					
LZH			LR		LR	
	comp=Z,220nm,19.0s					
HHC	Hu-ho-hao-te	124.22 33	ePKP		PKPdf	23 37 29.8 -0.8
HHC			PP		PP	23 39 18.6 +4.0
HHC			PKS		PKSdf	23 41 05.1 -2.2
HHC			SKS		SKSdf	23 44 40.3 -2.7
HHC			SKKS		SKKSac	23 46 10.6 -3.9
HHC			SS		SS	23 56 06.3 +0.5
HHC			LR		LR	
	comp=N,220nm,18.8s					
HHC			LR		LR	
	comp=E,250nm,19.8s					
HHC			LR		LR	
	comp=Z,280nm,18.0s					
CD2	Chengdu	125.17 48	PKP		PKPdf	23 37 31.9 -0.7
GYA	Guiyang	129.62 51	ePdif		Pdif	23 34 27.4 -1.5
GYA			PKP		PKPdf	23 37 38.9 -2.4
GYA			PP		PP	23 39 54.3 +3.1
GYA			AMB		AMB	
	comp=Z,90nm,7.9s					
ASAR	Alice Springs	155.79 146	PKP		PKPdf	23 38 26.9 +0.6
ASAR	Alice Springs	155.79 146	PKP		PKPdf	23 38 26.8 +0.6
	comp=Z,0.4nm,0.7s,baz=205,slow=1.9,SNR=4.2					

GUC 22 00:10:12.0±0.6, 22°23S×68°66W, h110km±7km, ML3.5, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PB09	Plate Boundary	0.69	308	i	P	Pn	00 10 31.1	+0.6
PB09				i	S	Sn	00 10 45.1	+0.7
PB09					AML	AML	00 10 47.7	
	comp=E,3μm,0.6s							
PB04	Plate Boundary	0.77	267	i	P	Pn	00 10 38.0	+7.1
PB04				i	S	Sn	00 10 58.3	+13
PB04					AML	AML	00 11 00.8	
	comp=N,662nm,0.2s							
MACH	Maria Elena	1.02	272	i	P	Pn	00 10 34.0	+0.2
MACH				i	S	Sn	00 10 51.2	+1.1
PB07	Plate Boundary	1.24	293	i	P	Pn	00 10 36.5	+0.5
PB07				i	S	Sn	00 10 55.4	+1.1
PB07					AML	AML	00 11 00.5	
	comp=E,795nm,0.5s							
CEN1	Los Morros	1.83	231	eP		Pn	00 10 44.9	+1.8
CEN1				i	S	Sn	00 11 11.0	+4.2
CEN1					AML	AML	00 11 17.7	
	comp=N,225nm,0.5s							
PB10	Plate Boundary	2.17	233		AML	AML	00 11 24.8	
	comp=N,680nm,0.3s							
ANCH	Antofagasta	2.17	228	eP		Pn	00 10 47.9	+0.7
ANCH				i	S	Sn	00 11 15.2	+1.2
HMBC	Humberstone	2.25	329		AML	AML	00 11 22.9	
	comp=E,159nm,0.3s							
PSGC	Pisagua	2.95	332		AML	AML	00 11 42.1	
	comp=N,102nm,0.3s							
MNMC	Minimini	3.20	344		AML	AML	00 11 52.0	
	comp=E,157nm,0.5s							

IDC 22 00:40:23.4±4.8, 16°56S×69°54W, h164km±15km, mb2.9/3, mb1 3.3/4, mb1mx3.1/19, mbtmp3.0/4, Error ellipse: s-maj=145.3km s-min=21.1km az=17.0, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	1.38	79	P		Pn	00 40 53.5	-0.1
	13nm,0.3s,baz=252,slow=6.1,SNR=382							
SIV	San Ignacio	8.15	87	P		Pn	00 42 18.2	-0.7
	2.0nm,0.3s,baz=273,slow=12,SNR=25							
SIV					S	Sn	00 43 50.8	+0.8
	0.1nm,0.3s,baz=200,slow=23,SNR=1.9							
TXAR	Lajitas Array	56.28	324	P		P	00 49 46.6	-0.5
	0.1nm,0.6s,baz=170,slow=5.5,SNR=3.1							
PDAR	Pinedale Array	69.56	330	P		P	00 51 15.2	+0.4
	0.2nm,0.4s,baz=142,slow=9.1,SNR=3.2							
TORD	Torodi Ar. Bea	76.32	72	P		P	00 51 54.9	+0.1
	0.4nm,0.5s,baz=254,slow=5.0,SNR=16							

IDC 22 00:48:20.2±5.7, 1°29S×99°74E, h62km±47km, mb3.6/5, mb1 3.6/7, mb1mx3.4/24, mbtmp3.5/7, ML4.4/1, Error ellipse: s-maj=71.9km s-min=19.5km az=56.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	4.14	349	P		Pn	00 49 19.8	-1.4
	0.5nm,0.3s,baz=164,slow=15,SNR=2.8							
CMAR	Chiang Mai Arr	19.64	358	P		P	00 52 43.6	-0.4
	0.5nm,0.3s,baz=185,slow=9.0,SNR=2.4							
WRA	Warramunga Arr	38.57	121	P		P	00 55 37.0	-0.4
	0.6nm,0.6s,baz=301,slow=9.1,SNR=6.4							
ASAR	Alice Springs	39.88	127	P		P	00 55 48.3	+0.1
	0.2nm,0.3s,baz=300,slow=7.5,SNR=3.6							
MKAR	Makanchi Array	50.28	344	P		P	00 57 10.6	+0.3
	1.4nm,0.6s,baz=155,slow=8.2,SNR=13							
ZALV	Zalesovo Beam	56.43	349	P		P	00 57 55.5	+0.2
	0.8nm,0.4s,baz=180,slow=4.4,SNR=4.7							
FINES	FINESS Array B	83.37	332	P		P	01 00 39.3	-1.1
	2.6nm,1.0s,baz=151,slow=3.2,SNR=3.5							
TXAR	Lajitas Array	144.29	36	PKP		PKPdf	01 07 50.0	-0.1
	0.8nm,0.6s,baz=213,slow=0.5,SNR=14							
CPUP	Villa Florida	144.73	217	PKP		PKPab	01 07 49.3	-0.3
	0.6nm,0.6s,baz=144,slow=5.7,SNR=2.8							
CFAA	Coronel Fontan	145.35	198	PKPbc		PKPbc	01 07 51.4	-0.3
	0.3nm,0.5s,baz=206,slow=4.8,SNR=5.0						

IDC 22 00:52:07.7±7.8, 21°64S×12°03W, h0km, mb4.0/3, mb1 4.1/3, mb1mx3.6/21, mbtmp4.0/3, MS3.7/3, Ms1 3.7/3, ms1mx3.0/31, Error ellipse: s-maj=167.1km s-min=144.7km az=58.0, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**34.36**	**109**	LR	LR	01 10 07.0	
	comp=Z,53nm,18.4s,baz=318,slow=31						
TORD	**Torodi Ar. Bea**	**37.11**	**23**	P	P	00 59 20.0	-0.1
	4.5nm,0.9s,baz=199,slow=8.4,SNR=24						
ESDC	**Sonseca Array**	**61.46**	**7**	P	P	01 02 26.1	+0.1
	0.7nm,0.8s,baz=198,slow=7.6,SNR=5.9						
ATAH	**Atahualpa**	**65.46**	**272**	LR	LR	01 29 12.8	
	comp=Z,74nm,20.9s,baz=19,slow=34						
DAVOX	**Davos/Dischmat**	**70.92**	**16**	LR	LR	01 32 22.8	
	comp=Z,84nm,18.1s,baz=354,slow=34						
BRTR	**Keskin Array B**	**74.46**	**35**	P	P	01 03 48.0	0.0
	1.3nm,1.0s,baz=242,slow=3.1,SNR=3.9						

IDC 22 01:10:37.3±2.3, 17°80S×66°20W, h46km±21km, mb3.7/1, mb1 3.8/3, mb1mx3.4/18, mbtmp3.7/3, ML4.5/3, Error ellipse: s-maj=36.4km s-min=10.5km az=15.0, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.38**	**309**	P	Pn	01 11 13.4	-1.2
	180nm,0.3s,baz=118,slow=14,SNR=2391						
LPAZ				S	Sn	01 11 43.4	+0.3
	143nm,0.3s,baz=246,slow=15,SNR=16						
SIV	**San Ignacio**	**5.23**	**71**	P	Pn	01 11 53.1	0.0
	3.3nm,0.3s,baz=257,slow=11,SNR=45						
SIV				S	Sn	01 12 52.9	+0.7
	5.3nm,0.3s,baz=348,slow=23,SNR=11						
CPUP	**Villa Florida**	**11.82**	**137**	P	Pn	01 13 23.5	+0.2
	0.7nm,0.3s,baz=307,slow=15,SNR=6.3						
TORD	**Torodi Ar. Bea**	**73.71**	**70**	P	P	01 22 06.7	-0.3
	0.9nm,0.8s,baz=261,slow=5.1,SNR=8.5						
ZALV	**Zalesovo Beam**	**137.53**	**25**	PKP	PKPdf	01 29 57.1	+1.1
	0.7nm,0.4s,baz=298,slow=3.1,SNR=2.7						
MKAR	**Makanchi Array**	**141.15**	**35**	PKP	PKPdf	01 30 05.6	+2.7
	0.1nm,0.4s,baz=345,slow=2.2,SNR=3.7						

*CSEM **22** 01:22:42.6, 35°61N×22°19E, h10km, MD3.5, After ATH*
ATH 22 01:22:42.6, 35°61N×22°19E, h10km±3km, MD3.5/17, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANKY	**Antikythira Is**	**0.94**	**74**	*e*PB	Pg	01 23 00.7	0.0
ANKY	**Antikythira Is**	**0.94**	**74**	*e*Pb	Pg	01 23 00.7	0.0
VLI	**Veliai**	**1.26**	**28**	*e*PB	Pb	01 23 06.5	0.0
VLI	**Veliai**	**1.26**	**28**	*e*Pb	Pb	01 23 06.5	0.0
PYL	**PYLOS**	**1.33**	**344**	*e*PG	Pn	01 23 07.3	0.0
PYL	**PYLOS**	**1.33**	**344**	*e*Pg	Pn	01 23 07.3	0.0
KARN	**Karanos**	**1.43**	**98**	*e*PB	Pb	01 23 09.3	0.0
KARN	**Karanos**	**1.43**	**98**	*e*Pb	Pb	01 23 09.3	0.0
ITM	**Ithomi**	**1.58**	**352**	*e*PG	Pb	01 23 11.8	-0.2
ITM	**Ithomi**	**1.58**	**352**	*e*Pg	Pb	01 23 11.8	-0.2
VAM	**Vamos**	**1.65**	**96**	*e*PB	Pg	01 23 14.1	-0.2
VAM	**Vamos**	**1.65**	**96**	*e*Pb	Pg	01 23 14.1	-0.2
GVD	**Gavdhos**	**1.73**	**116**	*e*PG	Pb	01 23 14.4	-0.1
GVD	**Gavdhos**	**1.73**	**116**	*e*Pg	Pb	01 23 14.4	-0.1
VLX	**Vlachokerasia**	**1.76**	**5**	*e*PG	Pb	01 23 15.4	+0.2
VLX	**Vlachokerasia**	**1.76**	**5**	*e*Pg	Pb	01 23 15.4	+0.2
AMT	**Artemida-Makis**	**1.96**	**349**	*e*PG	Pb	01 23 19.1	+0.7
AMT	**Artemida-Makis**	**1.96**	**349**	*e*Pg	Pb	01 23 19.1	+0.7
DID	**Didima**	**2.07**	**24**	*e*PN	Pb	01 23 20.4	0.0
DID	**Didima**	**2.07**	**24**	*e*Pn	Pb	01 23 20.4	0.0
SIVA	**Sivas**	**2.22**	**105**	*e*PN	Pb	01 23 22.6	-0.3
SIVA	**Sivas**	**2.22**	**105**	*e*Pn	Pb	01 23 22.6	-0.3
IDI	**Anoyia**	**2.23**	**98**	*e*PB	Pn	01 23 20.2	+0.5
IDI	**Anoyia**	**2.23**	**98**	*e*Pb	Pn	01 23 20.2	+0.5
GUR	**Goura**	**2.33**	**3**	*e*PN	Pb	01 23 23.7	-1.1
GUR	**Goura**	**2.33**	**3**	*e*Pn	Pb	01 23 23.7	-1.1
KLV	**Kalavryta, Ach**	**2.43**	**359**	*e*PN	Pb	01 23 25.2	-1.3
KLV	**Kalavryta, Ach**	**2.43**	**359**	*e*Pn	Pb	01 23 25.2	-1.3
LTK	**Loutraki**	**2.49**	**14**	*e*PN	Pb	01 23 25.4	-2.0
LTK	**Loutraki**	**2.49**	**14**	*e*Pn	Pb	01 23 25.4	-2.0
RLS	**Riolos of Patr**	**2.51**	**347**	*e*PN	Pb	01 23 25.9	-1.9
RLS	**Riolos of Patr**	**2.51**	**347**	*e*Pn	Pb	01 23 25.9	-1.9
LAKA	**Lakka**	**2.63**	**356**	*e*PN	Pb	01 23 27.6	-2.3
LAKA	**Lakka**	**2.63**	**356**	*e*Pn	Pb	01 23 27.6	-2.3
LAST	**Lasithi**	**2.72**	**99**	*e*PB	Pn	01 23 28.5	+2.0
LAST	**Lasithi**	**2.72**	**99**	*e*Pb	Pn	01 23 28.5	+2.0
KALE	**Kalithea**	**2.78**	**359**	*e*PB	Pn	01 23 29.5	+2.3
KALE	**Kalithea**	**2.78**	**359**	*e*Pb	Pn	01 23 29.5	+2.3
NPS	**Neapolis**	**2.82**	**96**	*e*PB	Pb	01 23 31.6	-1.4
NPS	**Neapolis**	**2.82**	**96**	*e*Pb	Pb	01 23 31.6	-1.4
EFP	**Efpalio**	**2.82**	**355**	*e*PN	Pb	01 23 31.2	-1.9
EFP	**Efpalio**	**2.82**	**355**	*e*Pn	Pb	01 23 31.2	-1.9
APE	**Apeiranthos**	**3.06**	**61**	*e*PN	Pn	01 23 33.6	+2.4
APE	**Apeiranthos**	**3.06**	**61**	*e*Pn	Pn	01 23 33.6	+2.4
LKR	**Lokris**	**3.10**	**12**	*e*PN	Pn	01 23 33.7	+2.1
LKR	**Lokris**	**3.10**	**12**	*e*Pn	Pn	01 23 33.7	+2.1
EVR	**Evrytania**	**3.31**	**355**	*e*PN	Pn	01 23 37.3	+2.6
EVR	**Evrytania**	**3.31**	**355**	*e*Pn	Pn	01 23 37.3	+2.6
LKD2	**Lefkada island**	**3.40**	**339**	*e*PN	Pn	01 23 37.6	+1.8
LKD2	**Lefkada island**	**3.40**	**339**	*e*Pn	Pn	01 23 37.6	+1.8
AGG	**Agios Georgios**	**3.41**	**2**	*e*PN	Pn	01 23 38.0	+2.1
AGG	**Agios Georgios**	**3.41**	**2**	*e*Pn	Pn	01 23 38.0	+2.1
NEO	**Neokhori**	**3.78**	**12**	*e*PN	Pn	01 23 42.9	+1.9
NEO	**Neokhori**	**3.78**	**12**	*e*Pn	Pn	01 23 42.9	+1.9

PRE 22 01:23:35.8±2.1, 32°73S×31°34E, h5km, ML3.5, Off coast of South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRM	**Grahamstown**	**4.10**	**261**	*e*P	Pn	01 24 39.9	+0.7
GRM				*e*S	Sn	01 25 25.5	-2.0
GRM				AML	AML	01 25 28.4	
	comp=Z,21nm,0.5s						
SEK	**Senekal**	**5.44**	**323**	*e*P	Pn	01 24 57.1	-0.7
SEK				AML	AML	01 26 18.6	
	comp=Z,15nm,0.3s						
BUFB	**Buffelsbos**	**5.69**	**254**	*e*P	Pn	01 25 01.1	+0.1
BUFB				*e*S	Sn	01 26 03.8	-2.9
BUFB				AML	AML	01 26 58.5	
	comp=Z,6.2nm,0.5s						
BOSA	**Boshof**	**6.65**	**307**	*e*P	Pn	01 25 16.4	+2.0
BOSA				*e*S	Sn	01 26 27.0	-3.8
BOSA				AML	AML	01 27 01.9	
	comp=Z,7.1nm,0.6s						
PRYS	**Parys**	**6.74**	**328**	*e*P	Pn	01 25 16.9	+1.3
PRYS				*e*S	Sn	01 26 30.4	-2.6
PRYS				AML	AML	01 27 11.0	
	comp=Z,5.2nm,0.4s						
ERPM	**east rand prop**	**6.92**	**336**	*e*P	Pn	01 25 20.8	+2.7
SWZ	**Schweizer**	**7.60**	**315**	*e*P	Pn	01 25 28.3	+0.9
SWZ				*e*S	Sn	01 26 49.6	-4.4
SWZ				AML	AML	01 27 26.8	
	comp=Z,5.2nm,0.3s						
KSR	**Koster**	**7.88**	**329**	*e*P	Pn	01 25 32.4	+1.1
KSR				*e*S	Sn	01 26 57.1	-3.9
KSR				AML	AML	01 27 31.2	
	comp=Z,4.9nm,0.4s						
SUR	**Sutherland**	**8.89**	**269**	*e*P	Pn	01 25 46.8	+1.6
SUR				*e*S	Sn	01 27 22.9	-3.1
SUR				AML	AML	01 28 11.8	
	comp=Z,5.0nm,0.6s						
LBTB	**Lobatse**	**9.19**	**325**	*e*P	Pn	01 25 50.3	+1.1
LBTB				*e*S	Sn	01 27 27.2	-5.9
LBTB				AML	AML	01 28 19.2	
	comp=Z,3.0nm,0.7s						
ELIM	**Elim**	**9.84**	**256**	*e*P	Pn	01 25 57.2	-0.8
CVNA	**Calvinia**	**9.90**	**274**	*e*P	Pn	01 26 00.5	+1.7
CVNA				*e*S	Sn	01 27 46.5	-4.0
CVNA				AML	AML	01 28 41.2	
	comp=Z,7.0nm,0.8s						
CER	**Ceres**	**10.13**	**263**	*e*P	Pn	01 26 02.8	+0.8
CER				*e*S	Sn	01 27 49.6	-6.4
CER				AML	AML	01 29 12.3	
	comp=Z,6.6nm,0.8s						

WEL 22 01:26:02.7±0.1, 40°65S×174°87E, h42km±1km, ML3.6/15, 4C-4D, Error ellipse: s-maj=1.1km s-min=1.0km az=90.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIW	**Kapiti Island**	**0.21**	**173**	⇓P*	Pn	01 26 09.9	-0.4
KIW				S*	Sn	01 26 15.3	-0.3
KIW				AML	AML	01 26 15.6	
OGWZ	**Otaki Gorge**	**0.28**	**127**	⇓P*	Pn	01 26 10.7	-0.2
OGWZ				S*	Sn	01 26 16.8	+0.2
CAW	**Cannon Point**	**0.48**	**162**	P*	Pn	01 26 13.2	-0.1
CAW				AML	AML	01 26 22.7	
CAW				AML	AML	01 26 23.3	
MRZ	**Mangatainoka R**	**0.54**	**92**	⇑P*	Pn	01 26 13.8	-0.2
MRZ				S*	Sn	01 26 22.6	+0.6
MRZ				AML	AML	01 26 23.5	
HOWZ	**Holdsworth Sta**	**0.55**	**117**	P*	Pn	01 26 13.8	-0.3
HOWZ				S*	Sn	01 26 23.0	+0.7
WEL	**Wellington**	**0.64**	**187**	P*	Pn	01 26 15.2	-0.1
WEL				S*	Sn	01 26 24.9	+0.4
SNZO	**South Karori**	**0.67**	**191**	⇑P*	Pn	01 26 15.5	-0.2
SNZO				AML	AML	01 26 25.8	
SNZO				AML	AML	01 26 25.8	
SNZO				AML	AML	01 26 27.6	
SNZO				AML	AML	01 26 27.6	
MTW	**Mount Morrison**	**0.70**	**137**	P*	Pn	01 26 15.7	-0.4
MTW				AML	AML	01 26 27.6	
MTW				AML	AML	01 26 27.7	
TCW	**Tory Channel**	**0.72**	**219**	P*	Pn	01 26 15.9	-0.6
TCW				AML	AML	01 26 28.4	
TCW				AML	AML	01 26 28.5	
POWZ	**Post Office Ro**	**0.73**	**70**	P*	Pn	01 26 16.3	-0.2
DUWZ	**D'Urville Isla**	**0.74**	**258**	P*	Pn	01 26 16.1	-0.6
BHW	**Baring Head**	**0.76**	**180**	P*	Pn	01 26 16.7	-0.2
BHW				AML	AML	01 26 27.9	
BHW				AML	AML	01 26 30.0	
TIWZ	**Tintock**	**0.78**	**100**	⇑P*	Pn	01 26 16.7	-0.6
MSWZ	**Moikau Station**	**0.82**	**160**	P*	Pn	01 26 17.1	-0.7
MSWZ				AML	AML	01 26 30.6	
MSWZ				AML	AML	01 26 33.1	
PRWZ	**Pori Road**	**0.84**	**84**	⇓P*	Pn	01 26 17.9	-0.2
PAWZ	**Paruwai Farm**	**0.84**	**150**	P*	Pn	01 26 18.2	+0.1
PAWZ				AML	AML	01 26 31.5	
PAWZ				AML	AML	01 26 31.6	
TMWZ	**Te Maipa**	**0.90**	**121**	⇓PN	Pn	01 26 19.2	+0.3
WAZ	**Wanganui**	**0.90**	**5**	⇑PN	Pn	01 26 19.3	+0.4
PLWZ	**Palliser**	**0.96**	**163**	PN	Pn	01 26 19.7	-0.1
TRWZ	**Traveller**	**0.97**	**141**	PN	Pn	01 26 20.2	+0.4
TRWZ				AML	AML	01 26 37.8	
TRWZ				AML	AML	01 26 38.7	
TSZ	**Takapari Road**	**1.02**	**55**	PN	Pn	01 26 20.2	-0.4
TSZ				AML	AML	01 26 38.1	
TSZ				AML	AML	01 26 40.9	
CPWZ	**Castlepoint**	**1.04**	**105**	PN	Pn	01 26 20.3	-0.5
BFZ	**Birch Farm**	**1.04**	**92**	PN	Pn	01 26 20.0	-0.9
DVHZ	**Dannevirke**	**1.05**	**71**	PN	Pn	01 26 20.4	-0.5
TUWZ	**Tuamarina**	**1.05**	**222**	PN	Pn	01 26 20.7	-0.2
TUWZ				AML	AML	01 26 36.6	
TUWZ				AML	AML	01 26 38.4	
NNZ	**Nelson**	**1.27**	**243**	PN	Pn	01 26 23.7	-0.2
BSWZ	**Blackbirch Sta**	**1.30**	**215**	PN	Pn	01 26 24.1	-0.3
BSWZ				AML	AML	01 26 48.7	
BSWZ				AML	AML	01 26 50.3	
WPHZ	**Waipukurau**	**1.33**	**65**	PN	Pn	01 26 23.8	-1.0
PXZ	**Pawanui**	**1.64**	**69**	AML	AML	01 27 03.3	
PXZ				AML	AML	01 27 08.0	
BKZ	**Black Stump Fm**	**1.94**	**41**	AML	AML	01 27 08.4	
BKZ				AML	AML	01 27 22.2	

*ISCJB **22** 01:28:26.3±0.5, 13°76N±0°06×120°6E±0°1, h152km, mb3.7/6, Error ellipse: s-maj=14.9km s-min=7.9km az=170.5*
*IDC **22** 01:28:26.7±0.7, 13°80N×120°97E, h149km±9km, mb3.5/6, mb1 3.6/6, mb1mx3.3/25, mbtmp3.5/6, Error ellipse: s-maj=129.8km s-min=14.3km az=65.0*
*MAN **22** 01:28:27, 13°79N×120°50E, h128km, mb4.4, ML3.2, MS3.1*
ISC 22 01:28:27.0±0.9, 13°77N±0°06×120°7E±0°1, h152km, n16, σ0°82/16, mb3.7/6, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.41**	**36**	⇓*i*P	**Pn**	**01 28 48.5**	**+0.3**
TGY				*i* S	**Sn**	**01 29 04.6**	**+0.1**
TGY	**Tagaytay City**	**0.41**	**36**	P	**Pn**	**01 28 48.2**	**-0.1**
	216nm,0.3s,baz=162,slow=2.6,SNR=16						
TGY				S	**Sn**	**01 29 03.7**	**-0.8**
	182nm,0.3s,baz=12,slow=23,SNR=4.1						
LQP	**Lukban**	**0.89**	**67**	*e*P	Pn	01 28 52.0	+0.7
BOAC	**Boac**	**1.17**	**105**	*e*P	Pn	01 28 54.5	+1.1
SJMP	**San Jose**	**1.37**	**162**	*e*P	**Pn**	**01 28 55.7**	**+0.2**
SJMP				*e*S	**Sn**	**01 29 16.1**	**-1.0**
BUSP	**Coron**	**1.82**	**195**	*e*P	**Pn**	**01 29 00.1**	**-0.1**
OTRP	**Odiongan**	**1.91**	**137**	*e*P	Pn	01 29 04.7	+3.5
SCZP	**Santa Cruz**	**2.13**	**339**	*e*P	**Pn**	**01 29 02.5**	**-1.3**
BALP	**Baler**	**2.14**	**24**	*e*P	**Pn**	**01 29 04.7**	**+0.8**
ENPP	**El Nido**	**2.83**	**206**	*e*P	**Pn**	**01 29 13.2**	**+0.8**
WRA	**Warramunga Arr**	**36.09**	**158**	P	**P**	**01 35 13.2**	**-1.1**
	0.5nm,0.4s,baz=331,slow=9.9,SNR=14						
ASAR	**Alice Springs**	**39.39**	**161**	P	**P**	**01 35 41.7**	**-0.3**
	0.4nm,0.3s,baz=340,slow=6.9,SNR=7.3						
MKAR	**Makanchi Array**	**45.97**	**324**	P	**P**	**01 36 35.9**	**+1.0**
	0.6nm,0.5s,baz=134,slow=9.2,SNR=8.1						
ZALV	**Zalesovo Beam**	**48.99**	**333**	P	**P**	**01 36 58.2**	**+0.2**
	1.2nm,0.4s,baz=129,slow=6.8,SNR=6.3						
KURBB	**Kurchatov Arra**	**50.13**	**326**	P	**P**	**01 37 07.9**	**+1.3**
	1.4nm,0.6s,baz=115,slow=8.9,SNR=21						
ARCES	**ARCESS Array B**	**79.02**	**339**	P	**P**	**01 40 13.9**	**+0.1**
	4.3nm,1.1s,baz=70,slow=7.1,SNR=5.2						

IDC 22 01:42:04.1±3.6, 0°45S×101°06E, h120km±41km, mb3.1/5, mb1 3.2/6, mb1mx3.1/25, mbtmp3.1/6, Error ellipse: s-maj=260.2km s-min=16.8km az=53.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.88**	**327**	P	Pn	01 43 01.0	-1.2
	0.6nm,0.3s,baz=174,slow=9.2,SNR=6.9						
WRA	**Warramunga Arr**	**37.89**	**123**	P	P	01 49 10.1	+0.2
	0.6nm,0.5s,baz=301,slow=9.1,SNR=8.4						
ASAR	**Alice Springs**	**39.33**	**128**	P	P	01 49 21.6	-0.4
	0.2nm,0.6s,baz=306,slow=6.6,SNR=2.7						
MKAR	**Makanchi Array**	**49.85**	**343**	P	P	01 50 44.4	-0.7
	0.4nm,0.4s,baz=145,slow=8.5,SNR=7.0						
KURBB	**Kurchatov Arra**	**54.39**	**343**	P	P	01 51 18.9	+0.4
	0.4nm,0.9s,baz=168,slow=7.1,SNR=3.5						
ZALV	**Zalesovo Beam**	**55.87**	**348**	P	P	01 51 29.1	0.0
	0.4nm,0.3s,baz=142,slow=7.3,SNR=3.7						
TXAR	**Lajitas Array**	**142.84**	**37**	PKP	PKPdf	02 01 23.5	-0.9
	0.4nm,0.6s,baz=239,slow=1.1,SNR=9.1						

*ATH **22** 01:47:36.9, 41°57N×20°50E, h5km±3km, MD3.5/16*
*SKO **22** 01:47:37.7, 41°38N×20°40E, h21km, M2.4, ML3.0*
*BEO **22** 01:47:39.1±0.5, 41°41N×20°50E, h0km, ML2.6/1*
*PDG **22** 01:47:39.3±0.3, 41°46N×20°43E, h4km, ML2.9/9, Error ellipse: s-maj=0.5km s-min=0.9km az=0.0*
*CSEM **22** 01:47:39.3±0.1, 41°46N×20°49E, h2km, ML2.7/7, Error ellipse: s-maj=3.8km s-min=2.4km az=56.0*
*THE **22** 01:47:39.0, 41°48N×20°49E, h0km±2km, ML2.7/7, Error ellipse: s-maj=2.1km s-min=0.9km az=313.0*
ISC 22 01:47:39.3±1.1, 41°45N±0°01×20°47E±0°01, h3km±9km, n133, σ1°04/200, 11C-13D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHP	**Peshkopia**	**0.24**	**355**	P	**Pg**	**01 47 43.6**	**-0.3**
PHP	**Peshkopia**	**0.24**	**355**	P	**Pg**	**01 47 43.6**	**-0.3**
TIR	**Tirane**	**0.47**	**258**	P	**Pg**	**01 47 46.8**	**-1.5**
TIR				S	**Sg**	**01 47 55.5**	**+1.2**
TIR	**Tirane**	**0.47**	**258**	*e*Pg	**Pg**	**01 47 46.9**	**-1.4**
TIR				*i* Sg	**Sb**	**01 47 56.4**	**-1.1**
TIR	**Tirane**	**0.47**	**258**	P	**Pg**	**01 47 46.8**	**-1.5**
TIR				S	**Sg**	**01 47 55.5**	**+1.2**
TIR				*i* Sg	**Sb**	**01 47 56.4**	**-1.1**
BIA	**Bitola**	**0.77**	**123**	P	**Pg**	**01 47 52.6**	**-1.5**
BIA				S	**Sg**	**01 48 04.9**	**+0.8**
BIA	**Bitola**	**0.77**	**123**	⇑*i*Pg	**Pg**	**01 47 53.0**	**-1.1**
BIA				*i* Sg	**Sg**	**01 48 01.3**	**-2.9**
BIA	**Bitola**	**0.77**	**123**	P	**Pg**	**01 47 52.6**	**-1.5**
BIA				S	**Sg**	**01 48 04.9**	**+0.8**
KBN	**Korca**	**0.86**	**164**	P	**Pg**	**01 47 55.3**	**-0.5**
KBN				S	**Sb**	**01 48 08.2**	**-0.6**
KBN	**Korca**	**0.86**	**164**	P	**Pg**	**01 47 55.3**	**-0.5**
KBN				S	**Sb**	**01 48 08.2**	**-0.6**
SKO	**Skopje**	**0.89**	**54**	P	**Pg**	**01 47 56.5**	**+0.1**
SKO				S	**Sb**	**01 48 10.7**	**+0.9**
SKO	**Skopje**	**0.89**	**54**	*i* Pg	**Pb**	**01 47 57.6**	**+0.1**
SKO				*i* Sg	**Sn**	**01 48 11.6**	**-0.6**
SKO				*e*Lg	Lg	01 48 14.1	
	comp=N,262nm,0.4s						
SKO				*e*Lg	Lg	01 48 14.2	
	comp=E,258nm,0.7s						
SKO	**Skopje**	**0.89**	**54**	P	**Pg**	**01 47 56.5**	**+0.1**
SKO				*i* Sg	**Sb**	**01 48 10.6**	**+0.8**
SKO				*e*Lg	Lg	01 48 13.2	
	comp=E,258nm,0.7s						
FNA	**Florina**	**0.95**	**134**	P	**Pg**	**01 47 56.5**	**-1.1**
FNA				S	**Sb**	**01 48 11.1**	**-0.4**
FNA	**Florina**	**0.95**	**134**	*e*PB	**Pg**	**01 47 56.5**	**-1.1**
FNA				*e*SB	**Sg**	**01 48 10.7**	**+0.8**
FNA	**Florina**	**0.95**	**134**	*e*Pb	**Pg**	**01 47 56.5**	**-1.1**
FNA				*e*Sb	**Sg**	**01 48 10.7**	**+0.8**
FNA				S	**Sb**	**01 48 11.1**	**-0.4**
ULC	**Ulcinj**	**1.05**	**300**	⇓*i*Pg	**Pg**	**01 47 57.4**	**-2.1**
ULC				*e*Sg	**Sg**	**01 48 13.8**	**+0.7**
ULC	**Ulcinj**	**1.05**	**300**	⇓*i*Pg	**Pg**	**01 47 57.4**	**-2.1**
ULC				*e*Sg	**Sg**	**01 48 13.8**	**+0.7**
NEST	**Nestorio**	**1.12**	**157**	P	**Pg**	**01 47 59.9**	**-0.9**
NEST				S	**Sn**	**01 48 17.4**	**-0.6**
NEST	**Nestorio**	**1.12**	**157**	P	**Pg**	**01 47 59.9**	**-0.9**
NEST				S	**Sn**	**01 48 17.4**	**-0.6**
PVY	**Plav**	**1.21**	**342**	⇑*i*Pg	**Pg**	**01 48 01.0**	**-1.4**
PVY				*e*Sg	**Sb**	**01 48 19.3**	**+0.4**
PVY	**Plav**	**1.21**	**342**	⇑*i*Pg	**Pg**	**01 48 01.0**	**-1.4**
PVY				*e*Sg	**Sb**	**01 48 19.3**	**+0.4**
PDG	**Podgorica**	**1.33**	**318**	P	**Pn**	**01 48 03.2**	**-1.6**
PDG	**Podgorica**	**1.33**	**318**	*e*Pn	**Pn**	**01 48 03.1**	**-1.7**
PDG				*i* Sg	**Sn**	**01 48 23.3**	**+0.2**
PDG	**Podgorica**	**1.33**	**318**	P	**Pn**	**01 48 03.2**	**-1.6**
TTG	**Podgorica**	**1.33**	**318**	⇓*i*Pg	**Pn**	**01 48 03.2**	**-1.6**
TTG				*e*Sg	**Sn**	**01 48 23.9**	**+0.8**
BUM	**Brajici-Budva**	**1.45**	**306**	⇓*i*Pg	**Pn**	**01 48 05.5**	**-1.0**
BUM				*e*Sg	**Sg**	**01 48 27.5**	**+1.5**
BUM	**Brajici-Budva**	**1.45**	**306**	⇓*i*Pg	**Pn**	**01 48 05.5**	**-1.0**
BUM				*e*Sg	**Sg**	**01 48 27.5**	**+1.5**
BEY	**Berane**	**1.48**	**343**	⇓*i*Pg	**Pn**	**01 48 06.5**	**-0.5**
BEY				*e*Sg	**Sg**	**01 48 29.6**	**+2.6**
IVA	**Berane**	**1.48**	**343**	⇓*i*Pg	**Pn**	**01 48 06.5**	**-0.5**
IVA				*e*Sg	**Sg**	**01 48 29.6**	**+2.6**
KZN	**Kozani**	**1.51**	**139**	P	**Pn**	**01 48 06.4**	**-0.9**
KZN				S	**Sg**	**01 48 28.8**	**+1.1**
KZN	**Kozani**	**1.51**	**139**	*e*PB	**Pn**	**01 48 07.3**	**0.0**
KZN				*e*SB	**Sg**	**01 48 28.8**	**+1.1**
KZN	**Kozani**	**1.51**	**139**	P	**Pn**	**01 48 06.4**	**-0.9**
KZN	**Kozani**	**1.51**	**139**	*e*Pb	**Pn**	**01 48 07.3**	**0.0**
KZN				S	**Sg**	**01 48 28.8**	**+1.1**
GRG	**Griva**	**1.54**	**108**	P	**Pn**	**01 48 07.0**	**-0.7**
GRG				S	**Sg**	**01 48 28.8**	**+0.1**
GRG	**Griva**	**1.54**	**108**	*e*PB	**Pn**	**01 48 07.0**	**-0.7**
GRG	**Griva**	**1.54**	**108**	P	**Pn**	**01 48 07.0**	**-0.7**
GRG				S	**Sg**	**01 48 28.8**	**+0.1**
VAY	**Valandovo**	**1.58**	**94**	P	**Pn**	**01 48 06.5**	**-1.8**
VAY				S	**Sb**	**01 48 29.3**	**-0.3**
VAY	**Valandovo**	**1.58**	**94**	*i* Pn	Pn	01 48 01.3	-7.0
VAY				*i* Pg	**Pg**	**01 48 10.2**	**+0.5**
VAY				*i* Sg	**Sb**	**01 48 29.5**	**-0.2**
VAY				*e*Lg	Lg	01 48 32.4	
	comp=N,58nm,0.5s						
VAY				*e*Lg	Lg	01 48 32.5	
	comp=E,53nm,0.5s						
VAY	**Valandovo**	**1.58**	**94**	P	**Pn**	**01 48 06.5**	**-1.8**
VAY	**Valandovo**	**1.58**	**94**	*i* Pn	**Pn**	**01 48 06.8**	**-1.5**
VAY	**Valandovo**	**1.58**	**94**	*i* Pg	**Pg**	**01 48 09.6**	**-0.1**
VAY				*i* Sg	**Sn**	**01 48 28.9**	**-0.4**
VAY				S	**Sb**	**01 48 29.3**	**-0.3**
VAY				*e*Lg	Lg	01 48 31.9	
	comp=E,53nm,0.5s						
SRN	**Sarande**	**1.61**	**193**	P	**Pn**	**01 48 08.8**	**+0.2**
**SRN

BBLS	**Lazići**	**2.54**	**342**	*e*Pn	**Pn**	**01 48 20.6**	**-0.9**
NVR	**Nevrokopi**	**2.55**	**91**	*e*PN	**Pn**	**01 48 22.0**	**+0.4**
NVR	**Nevrokopi**	**2.55**	**91**	*e*Pn	**Pn**	**01 48 22.0**	**+0.4**
LKD2	**Lefkada island**	**2.66**	**177**	P	**Pn**	**01 48 23.7**	**+0.6**
LKD2	**Lefkada island**	**2.66**	**177**	*e*PB	**Pn**	**01 48 23.7**	**+0.6**
LKD2	**Lefkada island**	**2.66**	**177**	P	**Pn**	**01 48 23.7**	**+0.6**
DIVS	**Divibare**	**2.67**	**353**	*e*Pn	**Pn**	**01 48 23.6**	**+0.3**
DIVS	**Divibare**	**2.67**	**353**	*e*Pn	**Pn**	**01 48 23.6**	**+0.3**
EVR	**Evrytania**	**2.73**	**158**	*e*PN	**Pn**	**01 48 26.1**	**+2.0**
EVR	**Evrytania**	**2.73**	**158**	*e*Pn	**Pn**	**01 48 26.1**	**+2.0**
MAKR	**Makrakomi, Fth**	**2.75**	**152**	P	**Pn**	**01 48 24.9**	**+0.6**
MAKR	**Makrakomi, Fth**	**2.75**	**152**	P	**Pn**	**01 48 24.9**	**+0.6**
AGG	**Agios Georgios**	**2.81**	**149**	*e*PN	**Pn**	**01 48 26.3**	**+1.1**
AGG	**Agios Georgios**	**2.81**	**149**	*e*Pn	**Pn**	**01 48 26.3**	**+1.1**
PAIG	**Paliouri**	**2.88**	**121**	*e*PB	**Pn**	**01 48 26.0**	**0.0**
PAIG	**Paliouri**	**2.88**	**121**	*e*Pb	**Pn**	**01 48 26.0**	**0.0**
NEO	**Neokhori**	**3.00**	**135**	*e*PB	**Pn**	**01 48 28.7**	**+0.9**
NEO	**Neokhori**	**3.00**	**135**	*e*Pb	**Pn**	**01 48 28.7**	**+0.9**
EFP	**Efpalio**	**3.21**	**159**	*e*PN	**Pn**	**01 48 32.6**	**+1.9**
EFP	**Efpalio**	**3.21**	**159**	*e*Pn	**Pn**	**01 48 32.6**	**+1.9**
KALE	**Kalithea**	**3.31**	**157**	*e*PB	**Pn**	**01 48 34.5**	**+2.4**
KALE	**Kalithea**	**3.31**	**157**	*e*Pb	**Pn**	**01 48 34.5**	**+2.4**
TRIZ	**Trizonia**	**3.32**	**158**	*e*PN	**Pn**	**01 48 33.7**	**+1.6**
TRIZ	**Trizonia**	**3.32**	**158**	*e*Pn	**Pn**	**01 48 33.7**	**+1.6**
LKR	**Lokris**	**3.40**	**144**	*e*PN	**Pn**	**01 48 33.7**	**+0.4**
LKR	**Lokris**	**3.40**	**144**	*e*Pn	**Pn**	**01 48 33.7**	**+0.4**
LAKA	**Lakka**	**3.41**	**160**	*e*PN	**Pn**	**01 48 35.0**	**+1.6**
LAKA	**Lakka**	**3.41**	**160**	*e*Pn	**Pn**	**01 48 35.0**	**+1.6**
KLV	**Kalavryta, Ach**	**3.64**	**159**	*e*PN	**Pn**	**01 48 38.4**	**+1.8**
KLV	**Kalavryta, Ach**	**3.64**	**159**	*e*Pn	**Pn**	**01 48 38.4**	**+1.8**
GUR	**Goura**	**3.79**	**157**	*e*PN	**Pn**	**01 48 41.0**	**+2.3**
GUR	**Goura**	**3.79**	**157**	*e*Pn	**Pn**	**01 48 41.0**	**+2.3**
RDO	**Rodhopi**	**3.83**	**93**	*e*PN	**Pn**	**01 48 39.0**	**-0.1**
RDO	**Rodhopi**	**3.83**	**93**	*e*Pn	**Pn**	**01 48 39.0**	**-0.1**
BZS	**Buzias**	**4.25**	**11** ⇑	*i*P	**Pn**	**01 48 44.2**	**-0.7**
BZS	**Buzias**	**4.25**	**11** ⇑	*i*P	**Pn**	**01 48 44.2**	**-0.7**
UDBI	**Udbina**	**4.62**	**313**	*e*Pn	**Pn**	**01 48 51.6**	**+1.5**
UDBI				Sn	**Sn**	**01 49 46.4**	**+2.1**
NVLJ	**Novalja**	**5.15**	**309**	*e*Pn	**Pn**	**01 48 57.1**	**-0.2**
NVLJ				Sn	**Sn**	**01 49 56.6**	**-0.6**
MLR	**Muntele Rosu**	**5.67**	**43** ⇓	*i*P	Pn	01 49 08.0	+3.4

IDC 22 01:49:11.7±8.9, 48°.21N×154°.45E, h62km±84km, mb3.1/2, mb1 3.4/4, mb1mx3.1/25, mbtmp3.2/4, ML2.7/2, Error ellipse: s-maj=112.9km s-min=20.1km az=143.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**5.32**	**22**	P	Pn	01 50 28.9	+0.3
	0.6nm,0.3s,baz=176,slow=13,SNR=7.3						
PETK				S	Sn	01 51 28.7	+0.3
	0.9nm,0.3s,baz=154,slow=27,SNR=2.3						
USRK	**Ussuriysk Arra**	**16.05**	**264**	P	Pn	01 52 54.3	+1.0
	0.1nm,0.3s,baz=76,slow=13,SNR=4.5						
KSRS	**Korea Array**	**22.12**	**251**	P	P	01 54 01.8	-0.2
	1.3nm,0.7s,baz=52,slow=9.7,SNR=4.9						
TXAR	**Lajitas Array**	**75.99**	**62**	P	P	02 00 52.4	+0.1
	0.2nm,0.7s,baz=301,slow=7.2,SNR=3.1						

CSEM ***22*** *02:00:08.5±0.2, 41°.50N×20°.46E, h2km, ML2.5/3, Error ellipse: s-maj=4.1km s-min=3.1km az=60.0*
SKO ***22*** *02:00:08.1, 41°.48N×20°.37E, h15km, M2.0, ML2.3*
PDG ***22*** *02:00:08.3±0.3, 41°.54N×20°.43E, h2km, ML2.6/10, Error ellipse: s-maj=0.6km s-min=1.0km az=0.0*
THE ***22*** *02:00:08.4, 41°.54N×20°.43E, h0km±3km, ML2.5/3, Error ellipse: s-maj=3.5km s-min=0.9km az=297.0*
BEO ***22*** *02:00:10.0±0.5, 41°.53N×20°.45E, h5km±2km, ML2.3/7*
ISC 22 02:00:08.4±1.1, 41°.52N±0°.02×20°.43E±0°.02, h2km±9km, n70, σ0°.92/120, 6C-11D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHP	**Peshkopia**	**0.17**	**2**	P	**Pg**	**02 00 11.5**	**-0.1**
PHP				S	**Sg**	**02 00 14.3**	**+0.5**
PHP	**Peshkopia**	**0.17**	**2**	P	**Pg**	**02 00 11.5**	**-0.1**
PHP				S	**Sg**	**02 00 14.3**	**+0.5**
TIR	**Tirane**	**0.46**	**248**	P	**Pg**	**02 00 16.4**	**-0.8**
TIR				S	**Sg**	**02 00 24.9**	**+1.7**
TIR	**Tirane**	**0.46**	**248**	*e*Pg	**Pg**	**02 00 17.8**	**+0.6**
TIR	**Tirane**	**0.46**	**248**	P	**Pg**	**02 00 16.5**	**-0.8**
TIR	**Tirane**	**0.46**	**248**	*e*Pg	**Pg**	**02 00 17.8**	**+0.6**
TIR				S	**Sg**	**02 00 24.9**	**+1.7**
PRZK	**Prizren**	**0.73**	**19**	P	**Pg**	**02 00 22.3**	**-0.2**
BIA	**Bitola**	**0.84**	**126**	P	**Pg**	**02 00 23.5**	**-0.9**
BIA				S	**Sb**	**02 00 36.8**	**-0.6**
BIA	**Bitola**	**0.84**	**126**	*i* Pg	**Pg**	**02 00 23.9**	**-0.5**
BIA				*i* Sg	**Sb**	**02 00 38.3**	**+0.9**
BIA				*e*Lg	Lg	02 00 38.5	
	comp=N,64nm,0.5s						
BIA				*e*Lg	Lg	02 00 40.5	
	comp=E,62nm,0.3s						
BIA	**Bitola**	**0.84**	**126**	P	**Pg**	**02 00 23.5**	**-0.9**
BIA				*i* Sg	**Sb**	**02 00 37.7**	**+0.3**
BIA				*e*Lg	Lg	02 00 39.9	
	comp=E,62nm,0.3s						
SKO	**Skopje**	**0.88**	**59**	*i* Pg	**Pn**	**02 00 27.1**	**-0.7**
SKO				*i* Sg	**Sn**	**02 00 40.1**	**-1.0**
SKO	**Skopje**	**0.88**	**59**	*i* Pg	**Pb**	**02 00 26.1**	**-0.3**
SKO				*i* Sg	**Sb**	**02 00 39.1**	**+0.5**
KBN	**Korca**	**0.93**	**163**	P	**Pg**	**02 00 26.3**	**0.0**
KBN	**Korca**	**0.93**	**163**	P	**Pg**	**02 00 26.3**	**0.0**
ULC	**Ulcinj**	**0.99**	**297** ⇑	*i*Pg	**Pg**	**02 00 26.0**	**-1.4**
ULC				*e*Sg	**Sb**	**02 00 41.6**	**-0.3**
ULC	**Ulcinj**	**0.99**	**297**	P	**Pg**	**02 00 26.1**	**-1.4**
ULC				*e*Sg	**Sb**	**02 00 41.6**	**-0.3**
FNA	**Florina**	**1.02**	**136**	P	**Pg**	**02 00 27.4**	**-0.6**
FNA				S	**Sn**	**02 00 44.3**	**-0.5**
FNA	**Florina**	**1.02**	**136**	P	**Pg**	**02 00 27.4**	**-0.6**
PEJK	**Peje**	**1.13**	**354**	S	**Sn**	**02 00 51.0**	**+3.6**
PVY	**Plav**	**1.13**	**342** ⇑	*i*Pg	**Pg**	**02 00 28.8**	**-1.3**
PVY				*e*Sg	**Sb**	**02 00 45.9**	**-0.1**
PVY	**Plav**	**1.13**	**342** ⇑	*i*Pg	**Pg**	**02 00 28.8**	**-1.3**
PVY				*e*Sg	**Sb**	**02 00 45.9**	**-0.1**
NEST	**Nestorio**	**1.20**	**157**	P	**Pg**	**02 00 30.7**	**-0.7**
NEST				S	**Sn**	**02 00 50.0**	**+0.8**
NEST	**Nestorio**	**1.20**	**157**	P	**Pg**	**02 00 30.7**	**-0.7**
GJIK	**Gjilan**	**1.20**	**38**	P	**Pg**	**02 00 30.9**	**-0.6**
GJIK				S	**Sn**	**02 00 48.9**	**-0.3**
PDG	**Podgorica**	**1.27**	**316**	P	**Pg**	**02 00 31.4**	**-1.3**
PDG				S	**Sn**	**02 00 50.2**	**-0.5**
PDG	**Podgorica**	**1.27**	**316**	*e*Pg	**Pg**	**02 00 31.3**	**-1.4**
PDG				*i* Sg	**Sg**	**02 00 48.8**	**-0.3**
PDG	**Podgorica**	**1.27**	**316**	P	**Pg**	**02 00 31.4**	**-1.3**
PDG				S	**Sn**	**02 00 50.2**	**-0.5**
TTG	**Podgorica**	**1.27**	**316** ⇓	*i*Pg	**Pg**	**02 00 31.1**	**-1.6**
TTG				*e*Sg	**Sn**	**02 00 50.8**	**+0.1**
BUM	**Brajici-Budva**	**1.39**	**305** ⇑	*i*Pg	**Pn**	**02 00 33.6**	**-1.3**
BUM				*e*Sg	**Sn**	**02 00 55.3**	**+1.4**
SMRK	**Smrekonice**	**1.40**	**15**	P	**Pb**	**02 00 35.7**	**+0.3**
SMRK				S	**Sn**	**02 00 55.4**	**+1.2**
BEY	**Berane**	**1.41**	**344** ⇓	*i*Pg	**Pn**	**02 00 34.3**	**-0.9**
BEY	**Berane**	**1.41**	**344**	P	**Pb**	**02 00 35.7**	**+0.2**
BEY				*e*Sg	**Sn**	**02 00 54.9**	**+0.5**
IVA	**Berane**	**1.41**	**344** ⇓	*i*Pg	**Pn**	**02 00 34.3**	**-0.9**
IVA				*e*Sg	**Sn**	**02 00 54.9**	**+0.5**
KZN	**Kozani**	**1.58**	**140**	P	**Pn**	**02 00 37.8**	**+0.3**
KZN				S	**Sg**	**02 01 00.1**	**+1.0**
KZN	**Kozani**	**1.58**	**140**	P	**Pn**	**02 00 37.8**	**+0.3**
VAY	**Valandovo**	**1.62**	**96**	P	**Pn**	**02 00 36.9**	**-1.1**
VAY	**Valandovo**	**1.62**	**96**	*i* Pn	**Pn**	**02 00 37.3**	**-0.6**
VAY				*i* Sn	**Sb**	**02 00 60.0**	**+0.1**
VAY				*e*Lg	Lg	02 01 01.3	
	comp=E,32nm,0.6s						
VAY				*e*Lg	Lg	02 01 02.0	
	comp=N,35nm,0.6s						
VAY	**Valandovo**	**1.62**	**96**	P	**Pn**	**02 00 36.9**	**-1.1**
VAY				*i* Sn	**Sn**	**02 00 59.4**	**0.0**
VAY				*e*Lg	Lg	02 01 03.7	
	comp=N,32nm,0.6s						
BARS	**Barje**	**1.65**	**38**	*e*Pn	**Pb**	**02 00 39.5**	**-0.1**
BARS				*i* Sg	**Sg**	**02 01 03.6**	**+2.1**
BARS	**Barje**	**1.65**	**38**	*e*Pn	**Pb**	**02 00 39.5**	**-0.1**
BARS				*i* Sg	**Sg**	**02 01 03.6**	**+2.1**
SRN	**Sarande**	**1.67**	**192**	P	**Pn**	**02 00 38.1**	**-0.6**
SRN	**Sarande**	**1.67**	**192**	P	**Pn**	**02 00 38.1**	**-0.6**
NKY	**Niksic**	**1.68**	**321** ⇓	*i*Pn	**Pn**	**02 00 38.6**	**-0.3**
NKY				*e*Sn	**Sg**	**02 01 04.1**	**+1.8**
NKY	**Niksic**	**1.68**	**321** ⇓	*i*Pn	**Pn**	**02 00 38.6**	**-0.3**
NKY				*e*Sn	**Sg**	**02 01 04.1**	**+1.8**
HCY	**Herceg Novi**	**1.72**	**303** ⇑	*i*Pn	**Pn**	**02 00 39.8**	**+0.4**
HCY				*e*Sn	**Sg**	**02 01 04.6**	**+1.0**
HCY	**Herceg Novi**	**1.72**	**303** ⇑	*i*Pn	**Pn**	**02 00 39.8**	**+0.4**
HCY				*e*Sn	**Sg**	**02 01 04.6**	**+1.0**
SELS	**Selova**	**1.77**	**16**	*e*Pn	**Pn**	**02 00 39.4**	**-0.7**
SELS				*e*Sg	**Sg**	**02 01 06.6**	**+1.2**
SJES	**Sjenica**	**1.77**	**349**	*e*Pn	**Pn**	**02 00 40.4**	**+0.2**
SJES				*e*Sg	**Sg**	**02 01 05.8**	**+0.4**
SJES	**Sjenica**	**1.77**	**349**	*e*Pn	**Pn**	**02 00 40.4**	**+0.2**
SJES				*e*Sg	**Sg**	**02 01 05.8**	**+0.4**
TREB	**Trebinje**	**1.96**	**308**	*e*Pn	**Pn**	**02 00 43.4**	**+0.7**
TREB				*i* Sn	**Sb**	**02 01 09.8**	**+0.1**
TREB	**Trebinje**	**1.96**	**308**	*e*Pn	**Pn**	**02 00 43.4**	**+0.7**
TREB				*i* Sn	**Sb**	**02 01 09.8**	**+0.1**
PLE	**Pljevlja**	**1.97**	**337** ⇓	*i*Pn	**Pn**	**02 00 43.2**	**+0.3**
PLE				*e*Sn	**Sb**	**02 01 10.8**	**+0.7**
PLE	**Pljevlja**	**1.97**	**337** ⇓	*i*Pn	**Pn**	**02 00 43.2**	**+0.3**
PLE				*e*Sn	**Sb**	**02 01 10.8**	**+0.7**
BRY	**Bratogost**	**1.97**	**315** ⇓	*i*Pn	**Pn**	**02 00 43.9**	**+0.9**
BRY				*e*Sn	**Sg**	**02 01 11.1**	**-0.7**
BRY	**Bratogost**	**1.97**	**315** ⇓	*i*Pn	**Pn**	**02 00 43.9**	**+0.9**
BRY				*e*Sn	**Sg**	**02 01 11.1**	**-0.7**
IGT	**Igoumenitsa**	**1.99**	**182**	P	**Pb**	**02 00 44.5**	**-0.8**
IGT	**Igoumenitsa**	**1.99**	**182**	P	**Pb**	**02 00 44.5**	**-0.8**
UPM	**Unac-Piva**	**2.03**	**327** ⇓	*i*Pn	**Pn**	**02 00 44.7**	**+0.9**
UPM				*e*Sn	**Sb**	**02 01 12.3**	**+0.4**
UPM	**Unac-Piva**	**2.03**	**327** ⇓	*i*Pn	**Pn**	**02 00 44.7**	**+0.9**
UPM	**Unac-Piva**	**2.03**	**327**	P	**Pb**	**02 00 46.2**	**+0.1**
UPM				*e*Sn	**Sb**	**02 01 12.3**	**+0.4**
IVAS	**Ivanjica**	**2.07**	**354**	*e*Pn	**Pb**	**02 00 45.8**	**-0.9**
IVAS				*e*Sg	**Sg**	**02 01 15.1**	**+0.3**
IVAS	**Ivanjica**	**2.07**	**354**	*e*Pn	**Pb**	**02 00 45.8**	**-0.9**
IVAS				*e*Sg	**Sg**	**02 01 15.1**	**+0.3**
GRUS	**Gruza**	**2.38**	**5**	*e*Pn	**Pn**	**02 00 49.2**	**+0.8**
GRUS	**Gruza**	**2.38**	**5**	*e*Pn	**Pn**	**02 00 49.2**	**+0.8**
STON	**Ston**	**2.44**	**305**	*e*Pn	**Pn**	**02 00 50.4**	**+1.2**
STON				*i* Sn	**Sb**	**02 01 22.5**	**-1.0**
STON	**Ston**	**2.44**	**305**	*e*Pn	**Pn**	**02 00 50.4**	**+1.2**
STON				*i* Sn	**Sb**	**02 01 22.5**	**-1.0**
BBLS	**Lazići**	**2.46**	**342**	*e*Pn	**Pb**	**02 00 52.1**	**-1.4**
BBLS				*e*Sg	**Sg**	**02 01 28.7**	**+1.1**
BBLS	**Lazići**	**2.46**	**342**	*e*Pn	**Pb**	**02 00 52.1**	**-1.4**
BBLS				*e*Sg	**Sg**	**02 01 28.7**	**+1.1**
DIVS	**Divibare**	**2.60**	**353**	*e*Pn	**Pn**	**02 00 51.0**	**-0.5**
DIVS	**Divibare**	**2.60**	**353**	*e*Pn	**Pn**	**02 00 51.0**	**-0.5**

ISCJB ***22*** *02:37:22.1±0.5, 1°.03N±0°.06×98°.57E±0°.04, h88km±6km, mb3.5/5, Error ellipse: s-maj=11.1km s-min=5.7km az=28.4*
DJA ***22*** *02:37:23.8±0.5, 1°.N±5°.×9°.9E±°, h61km±9km, M3.9/11, mb3.6/1, MLv4.1/11*
IDC ***22*** *02:37:28.1±4.7, 2°.09N×100°.08E, h84km±77km, mb3.2/5, mb1 3.3/5, mb1mx3.2/25, mbtmp3.2/5, Error ellipse: s-maj=179.4km s-min=17.7km az=53.0*
ISC 22 02:37:22.8±1.0, 0°.99N±0°.06×98°.56E±0°.05, h76km±11km, n25, σ1°.38/28, mb3.4/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**1.03**	**288**	P	**Pn**	**02 37 42.1**	**0.0**
GSI				S	**Sn**	**02 37 58.1**	**+1.6**
MNSI	**Mandailing Nat**	**1.03**	**101**	P	**Pn**	**02 37 42.6**	**+0.5**
MNSI				S	**Sn**	**02 37 55.9**	**-0.5**
PSI	**Prapat**	**1.84**	**11**	P	**Pn**	**02 37 51.3**	**-1.3**
	31nm,0.3s,baz=221,slow=2.4,SNR=108						
PSI				S	Sn	02 38 08.4	-6.7
	18nm,0.3s,baz=260,slow=11,SNR=7.9						
PPI	**Padang Panjang**	**2.33**	**128**	P	**Pn**	**02 38 00.2**	**+1.2**
KCSI	**Kotacane, Aceh**	**2.64**	**343**	P	**Pn**	**02 38 02.6**	**-0.6**
SNSI	**Sinabang, Aceh**	**2.64**	**302**	P	**Pn**	**02 38 03.5**	**+0.2**
SNSI				S	**Sn**	**02 38 33.1**	**-1.3**
PDSI	**Padang**	**2.68**	**135**	P	**Pn**	**02 38 04.4**	**+0.6**
PDSI				S	**Sn**	**02 38 32.0**	**-3.2**
FRIM	**Kepong**	**3.79**	**54**	P	**Pn**	**02 38 20.0**	**+1.2**
RGRI	**Rengat**	**4.00**	**109**	P	**Pn**	**02 38 22.0**	**+0.3**
IPM	**Ipoh**	**4.25**	**35**	P	**Pn**	**02 38 26.8**	**+1.7**
IPM	**Ipoh**	**4.25**	**35**	P	**Pn**	**02 38 26.9**	**+1.7**
LHMI	**Lhok Sumawe**	**4.51**	**339**	P	**Pn**	**02 38 29.1**	**+0.4**
KULM	**Kulim**	**4.75**	**26**	P	**Pn**	**02 38 33.1**	**+1.1**
KULM	**Kulim**	**4.75**	**26**	P	**Pn**	**02 38 32.8**	**+0.8**
KGM	**Kluang**	**4.86**	**78**	P	**Pn**	**02 38 34.4**	**+0.8**
MYKOM	**Kota Tinggi**	**5.35**	**81**	P	**Pn**	**02 38 40.0**	**-0.2**
MYKOM	**Kota Tinggi**	**5.35**	**81**	P	**Pn**	**02 38 40.6**	**+0.5**
MASI	**Maura Aman, Be**	**5.51**	**138**	P	**Pn**	**02 38 45.2**	**+2.8**
KTGM	**Kuala Trenggan**	**6.28**	**47**	P	**Pn**	**02 38 54.4**	**+1.5**
KSM	**Kuching**	**11.75**	**88**	P	**Pn**	**02 40 06.3**	**-1.3**
WRA	**Warramunga Arr**	**40.77**	**123**	P	**P**	**02 44 55.1**	**-1.8**
	0.3nm,0.5s,baz=303,slow=9.0,SNR=3.0						
ASAR	**Alice Springs**	**42.19**	**128**	P	**P**	**02 45 09.6**	**+1.1**
	0.4nm,0.7s,baz=303,slow=7.9,SNR=6.2						
MKAR	**Makanchi Array**	**47.79**	**345**	P	P	02 45 50.0	-2.5
	0.2nm,0.4s,baz=166,slow=8.3,SNR=3.7						
KURBB	**Kurchatov Arra**	**52.30**	**344**	P	**P**	**02 46 27.2**	**+0.7**
	0.2nm,0.5s,baz=155,slow=6.3,SNR=3.4						
ZALV	**Zalesovo Beam**	**53.99**	**350**	P	**P**	**02 46 39.1**	**+0.2**
	0.7nm,0.5s,baz=165,slow=6.0,SNR=3.8						

IDC 22 02:40:21.1±51.0, 23°.75S×176°.65W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.7/17, mbtmp3.8/3, Error ellipse: s-maj=933.5km s-min=163.9km az=88.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.63**	**248**	P	P	02 47 37.1	-0.8
	1.8nm,0.9s,baz=85,slow=11,SNR=3.0						
ASAR	**Alice Springs**	**45.09**	**260**	P	P	02 48 39.5	+0.1
	0.5nm,0.3s,baz=96,slow=7.4,SNR=8.5						
WRA	**Warramunga Arr**	**45.48**	**265**	P	P	02 48 42.7	+0.2
	0.4nm,0.4s,baz=102,slow=7.8,SNR=12						
PONG	**Pong**	**116.35**	**295**	*e*P		02 56 25.5	

BYKL ***22*** *02:47:03.5±0.2, 55°.20N×112°.16E*
MOS 22 02:47:02.8±1.1, 55°.15N×112°.20E, h10km, mb4.4/1, 4C-1D, Error ellipse: s-maj=32.3km s-min=21.3km az=83.4, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UKT	**Uakit**	**0.88**	**67** ⇑	*i*Pg	Pg	02 47 19.3	-0.7
UKT				*e*Sg	Sg	02 47 31.2	-0.4
UKT				*e*Sb	Sn	02 47 35.0	+0.6
UKT				Pmax			
	67nm,0.1s						
UKT				Smax			
	2μm,0.4s						
UKT	**Uakit**	**0.88**	**67**	*e*PG	Pg	02 47 19.2	-0.8
UKT				*e*		02 47 31.0	
UKT				pmax	pmax		
	comp=Z,90nm,0.2s						
UKT				smax	smax		
	comp=N,2μm,0.3s						
KMO	**Kumora**	**0.93**	**323** ⇑	*i*Pg	Pg	02 47 19.4	-1.4
KMO				*e*Sg	Sg	02 47 31.1	-1.9
KMO				Pmax			
	comp=N,132nm,0.3s						
KMO				Smax			
	comp=N,838nm,0.9s						
KMO	**Kumora**	**0.93**	**323**	*e*PG	Pg	02 47 19.2	-1.6
KMO				*e*		02 47 30.6	
KMO				pmax	pmax		
	comp=Z,132nm,0.3s						
KMO				smax	smax		
	comp=N,749nm,0.5s						
YOA	**Uoyan**	**1.02**	**345**	*e*Pg	Pg	02 47 21.1	-1.4
YOA				*e*Sg	Sg	02 47 34.9	-0.9
YOA				Pmax			
	comp=N,483nm,0.2s						
YOA				Smax			
	comp=N,4μm,0.5s						
YOA	**Uoyan**	**1.02**	**345** ⇓	*i*PG	Pg	02 47 21.2	-1.3
YOA				*i*		02 47 34.9	
YOA				pmax	pmax		
	comp=Z,462nm,0.2s						
YOA				smax	smax		
	comp=N,4μm,0.4s						
SVKR	**Severomuysk**	**1.24**	**38** ⇑	*i*Pg	Pn	02 47 25.9	-0.4
SVKR				*e*Sg	Sb	02 47 42.5	0.0
SVKR				Pmax			
	comp=N,1μm,0.1s						
SVKR				Smax			
	comp=N,2μm,0.2s						
SVKR	**Severomuysk**	**1.24**	**38**	*e*PG	Pn	02 47 25.4	-0.9
SVKR				*e*		02 47 41.3	
SVKR				pmax	pmax		
	comp=Z,1μm,0.2s						
SVKR				smax	smax		
	comp=E,2μm,0.7s						
NIZ	**Nizh Angarsk**	**1.64**	**294** ⇑	*i*Pg	Pb	02 47 32.5	-0.6
NIZ				*e*Sg	Sb	02 47 53.6	-0.3
NIZ				Pmax			
	comp=E,56nm,0.2s						
NIZ				Smax			
	comp=E,190nm,0.2s						
NIZ	**Nizh Angarsk**	**1.64**	**294**	*e*PN	Pn	02 47 32.4	+0.7
NIZ				*e*		02 47 54.3	
NIZ				pmax	pmax		
	comp=Z,56nm,0.2s						
NIZ				smax	smax		
	comp=N,190nm,0.2s						
BOD	**Bodaibo**	**2.86**	**20**	*e*Pn	Pn	02 47 47.3	-1.1
BOD				*e*Pg	Pb	02 47 52.2	-1.6
BOD				*e*PgPg	PnPn	02 47 54.6	-1.0
BOD				*e*Sn	Sn	02 48 20.7	-2.1
BOD				*e*Sg	Sb	02 48 28.6	-0.2
BOD				*e*SgSg	SnSn	02 48 32.2	-1.6
BOD				max			
	comp=N,34nm,0.2s						
BOD				Smax			
	comp=N,122nm,0.5s						
OGRR	**Ongureny**	**3.09**	**243**	*e*Pn	Pn	02 47 53.1	+1.5
OGRR				*e*Pg	Pg	02 48 00.0	-2.0
OGRR				*e*Sn	Sn	02 48 28.5	0.0
OGRR				*e*		02 48 37.2	
OGRR				*e*Sg	Sg	02 48 39.8	-2.2
OGRR				Pmax			
	comp=N,20nm,0.1s						
OGRR				Smax			
	comp=N,198nm,0.2s						
OGRR	**Ongureny**	**3.09**	**243**	*e*PN	Pg	02 47 59.9	-2.1
OGRR				*e*		02 48 37.0	
OGRR				pmax	pmax		
	comp=Z,17nm,0.1s						
OGRR				smax	smax		
	comp=E,292nm,1.1s						
CIT	**Chita**	**3.24**	**165**	*e*Sg	Sg	02 48 45.9	-1.0
CIT				Smax			
	comp=E,333nm,0.2s						
CRS	**Chara**	**3.83**	**60**	*e*Pn	Pn	02 48 02.1	+0.3
CRS				*e*Pg	Pb	02 48 12.0	+1.5
CRS				*e*Sn	Sn	02 48 45.7	-1.2
CRS				*e*Sg	Sg	02 49 01.7	-4.2
CRS				Pmax			
	comp=E,20nm,0.3s						
CRS				Smax			
	comp=E,74nm,0.6s						
TRG	**Tyrgan**	**4.21**	**238**	*e*Pn	Pn	02 48 08.0	+1.0
TRG				*e*Pg	Pb	02 48 19.5	+2.6
TRG				*e*Sn	Sn	02 48 55.6	-0.6
TRG				*e*Sg	Sg	02 49 13.8	-4.1
TRG				Pmax			
	comp=E,7.0nm,0.2s						
TRG				Smax			
	comp=E,38nm,0.3s						
UUDB	**Ulan-Yde**	**4.26**	**221**	*e*Pn	Pn	02 48 08.8	+1.1
UUDB				*e*Pg	Pb	02 48 21.0	+3.2
UUDB				*e*		02 48 27.7	
UUDB				*e*Sn	Sn	02 48 57.3	-0.2
UUDB				*e*Sg	Sg	02 49 15.8	-3.8
UUDB				max			
	comp=E,24nm,0.5s						
UUDB				Smax			
	comp=E,125nm,1.3s						
TUP	**Tupik**	**4.55**	**96**	*e*Pn	Pn	02 48 11.7	0.0
TUP				*e*Pg	Pb	02 48 26.2	+3.5
TUP				*e*Sg	Sg	02 49 25.3	-3.5
TUP				Pmax			
	comp=E,6.0nm,0.2s						
TUP				Smax			
	comp=E,61nm,0.7s						
KHNR	**Khani**	**4.71**	**65**	*e*Sg	Sg	02 49 28.3	-5.8
HRMR	**Khuramsha**	**4.72**	**224**	*e*Pn	Pn	02 48

PSMA			*e*S	Sg	03 26 41.8	-2.2
PSMA			A	A	03 26 45.0	
	130nm,0.3s					
BART	**Pico Bartolome**	**0.59 312**	*e*P	Pg	03 26 35.2	-2.0
BART			*e*S	Sg	03 26 42.8	-2.3
BART			A	A	03 26 46.2	
	204nm,0.4s					
BART	**Pico Bartolome**	**0.59 312**	*e*P	Pg	03 26 35.2	-2.0
BART			*e*S	Sg	03 26 42.8	-2.3
CMLA	**Cha da Macela**	**0.82 298**	*e*P	Pg	03 26 38.5	-2.9
CMLA			*e*S	Sg	03 26 47.9	-4.2
CMLA			A	A	03 26 51.5	
	322nm,0.3s					
CMLA	**Cha da Macela**	**0.82 298**	*e*P	Pg	03 26 38.5	-2.9
CMLA			*e*S	Sg	03 26 47.9	-4.2
PDA	**Ponta Delgada**	**0.91 294**	*e*P	Pg	03 26 39.6	-3.5
PDA			*e*S	Sg	03 26 50.3	-4.7
PDA			A	A	03 26 51.9	
	82nm,0.2s					
PDA	**Ponta Delgada**	**0.91 294**	*e*P	Pg	03 26 39.6	-3.5
PDA			*e*S	Sg	03 26 50.3	-4.7
PSET	**Sete Cidades**	**0.98 297**	*e*P	Pg	03 26 40.8	-3.8
PSET			*e*S	Sg	03 26 52.1	-5.4
PSET			A	A	03 26 55.0	
	109nm,0.4s					
PSET	**Sete Cidades**	**0.98 297**	*e*P	Pg	03 26 40.8	-3.8
PSET			*e*S	Sg	03 26 52.1	-5.4
PMAN	**Manadas**	**3.02 296**	*e*S	Sn	03 27 41.7	-7.9
PMAN			A	A	03 27 45.0	
	7.4nm,0.3s					
PMAN	**Manadas**	**3.02 296**	*e*S	Sn	03 27 41.7	-7.9
PPNO	**Prainha do Nor**	**3.08 292**	*e*P	Pn	03 27 09.7	-4.8
PPNO			*e*S	Sn	03 27 43.2	-8.3
PPNO			A	A	03 27 46.5	
	16nm,0.3s					
PPNO	**Prainha do Nor**	**3.08 292**	*e*P	Pn	03 27 09.7	-4.8
PPNO			*e*S	Sn	03 27 43.2	-8.3
PGRA	**Graciosa**	**3.12 303**	*e*S	Sn	03 27 43.8	-8.4
PGRA			A	A	03 27 48.7	
	13nm,0.4s					
PGRA	**Graciosa**	**3.12 303**	*e*S	Sn	03 27 43.8	-8.4
ROSA	**Rosais**	**3.16 296**	*e*P	Pn	03 27 11.0	-4.4
ROSA			*e*S	Sn	03 27 45.2	-8.0
ROSA			A	A	03 27 45.8	
	5.5nm,0.4s					
ROSA	**Rosais**	**3.16 296**	*e*P	Pn	03 27 11.0	-4.4
ROSA			*e*S	Sn	03 27 45.2	-8.0
PICO	**Pico**	**3.21 291**	*e*P	Pn	03 27 11.8	-4.4
PICO			*e*S	Sn	03 27 46.4	-8.3
PICO	**Pico**	**3.21 291**	*e*P	Pn	03 27 11.8	-4.4
PICO			*e*S	Sn	03 27 46.4	-8.3
PCAN	**Candelaria**	**3.25 291**	*e*P	Pn	03 27 12.4	-4.2
PCAN			*e*S	Sn	03 27 46.8	-8.6
PCAN			A	A	03 27 50.2	
	11nm,0.3s					
PCAN	**Candelaria**	**3.25 291**	*e*P	Pn	03 27 12.4	-4.2
PCAN			*e*S	Sn	03 27 46.8	-8.6
CALA	**Caldeira**	**3.44 292**	*e*S	Sn	03 27 52.3	-8.1
CALA	**Caldeira**	**3.44 292**	*e*S	Sn	03 27 52.3	-8.1

IDC 22 03:30:17.1±1.9, 3°.81N×126°.18E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/23, mbtmp3.5/4, Error ellipse: s-maj=120.2km s-min=23.8km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.78**	**181**	P	P	03 35 11.5	+0.8
	3.2nm,0.9s,baz=4.8,slow=12,SNR=4.2						
WRA	**Warramunga Arr**	**24.93**	**162**	P	P	03 35 41.8	-0.5
	0.5nm,0.4s,baz=338,slow=11,SNR=9.6						
ASAR	**Alice Springs**	**28.33**	**165**	P	P	03 36 12.7	-0.2
	0.4nm,0.8s,baz=354,slow=8.4,SNR=4.1						
MKAR	**Makanchi Array**	**57.18**	**325**	P	P	03 40 06.0	0.0
	0.2nm,0.4s,baz=137,slow=6.9,SNR=2.9						

*IDC **22** 03:40:19.5±2.3, 35°.74N×68°.16E, h0km, mb3.7/5, mb1 3.7/10, mb1mx3.5/29, mbtmp3.7/10, ML3.8/5, MS3.5/1, Ms1 3.5/1, ms1mx2.4/48, Error ellipse: s-maj=49.2km s-min=19.4km az=145.0*

*NNC **22** 03:40:32.8±2.8, 36°.84N×67°.59E, h34km±31km, mb3.9, mpv3.6, Error ellipse: s-maj=23.0km s-min=16.0km az=147.0*

ISC 22 03:40:29.1±1.9, 36°.6N±0°.2×67°.8E±0°.1, h22km, n16, σ1°.77/16, mb3.7/5, 3C-5D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.80**	**17**	⇑Pn	**Pn**	**03 42 08.7**	**+1.1**
	0.6nm,0.2s,baz=206,slow=15,SNR=23						
KK31				⇑Sn	**Sn**	**03 43 23.2**	**-1.2**
	7.8nm,0.5s,baz=201,slow=21,SNR=7.2						
KK31				⇓Lg	Lg	03 44 04.3	
	8.4nm,0.5s,baz=198,slow=28,SNR=6.2						
AAK	**Ala-Archa**	**7.93**	**39**	Pn	**Pn**	**03 42 24.4**	**+1.2**
	1.6nm,0.3s,baz=208,slow=6.7,SNR=13						
AAK				Sn	**Sn**	**03 43 52.4**	**+0.2**
	0.2nm,0.3s,baz=251,slow=10,SNR=1.1						
TKM2	**Tokmak 2**	**8.70**	**41**	⇓Pn	**Pn**	**03 42 34.9**	**+1.0**
	2.9nm,0.5s						
TKM2				⇑Sn	**Sn**	**03 44 12.5**	**+1.0**
	3.7nm,0.8s						
TKM2				⇓Lg	Lg	03 45 07.3	
	7.6nm,0.8s						
AB31	**Akbulak array**	**13.85**	**338**	⇓P	**Pn**	**03 43 42.1**	**-2.0**
	1.0nm,0.5s,baz=163,slow=12,SNR=9.9						
MKAR	**Makanchi Array**	**14.83**	**42**	Pn	**Pn**	**03 43 56.3**	**-1.2**
	0.1nm,0.3s,baz=229,slow=13,SNR=9.0						
AKTO	**Aktyubinsk**	**15.49**	**336**	Pn	**Pn**	**03 44 07.0**	**+0.9**
	0.3nm,0.3s,baz=134,slow=12,SNR=2.7						
KURBB	**Kurchatov Arra**	**15.99**	**26**	⇓P	**Pn**	**03 44 14.8**	**+2.3**
	2.7nm,0.7s						
KURBB	**Kurchatov Arra**	**15.99**	**26**	Pn	**Pn**	**03 44 09.8**	**-2.8**
	0.1nm,0.3s,baz=214,slow=12,SNR=6.4						
KURBB				Lg	Lg	03 49 00.4	
	0.1nm,0.3s,baz=206,slow=30,SNR=4.8						
BVAR	**Borovoye Array**	**16.50**	**6**	Pn	**Pn**	**03 44 17.4**	**-1.7**
	0.5nm,0.3s,baz=178,slow=7.2,SNR=3.6						
ZALV	**Zalesovo Beam**	**20.97**	**29**	P	**P**	**03 45 10.1**	**-0.5**
	3.1nm,0.6s,baz=225,slow=10,SNR=11						
FINES	**FINESS Array B**	**35.95**	**327**	P	**P**	**03 47 30.9**	**+3.2**
	2.2nm,0.9s,baz=134,slow=12,SNR=3.8						
ARCES	**ARCESS Array B**	**40.05**	**338**	P	P	03 48 06.6	+4.3
	2.6nm,0.9s,baz=122,slow=6.8,SNR=4.0						
KEST	**Kesra**	**46.52**	**287**	P	**P**	**03 48 53.7**	**-1.4**
	0.7nm,0.9s,baz=67,slow=7.7,SNR=4.3						
MDT	**Midelt**	**58.31**	**289**	LR	LR	04 19 51.4	
	comp=Z,42nm,20.0s,baz=242,slow=40						
TORD	**Torodi Ar. Bea**	**63.13**	**267**	P	P	03 50 49.9	-5.5
	0.3nm,0.6s,baz=53,slow=5.8,SNR=5.0						
ILAR	**Eielson Array**	**75.34**	**15**	P	**P**	**03 52 09.6**	**-0.7**
	0.4nm,0.9s,baz=328,slow=3.2,SNR=4.0						

IDC 22 03:54:00.8±1.2, 10°.14N×108°.48E, h0km, mb3.8/4, mb1 4.0/6, mb1mx3.7/24, mbtmp3.9/6, ML4.1/2, MS3.3/2, Ms1 3.3/2, ms1mx2.7/33, Error ellipse: s-maj=45.7km s-min=23.2km az=57.0, Vietnam

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**11.97**	**233**	Pn	Pn	03 56 54.4	+1.5
	0.6nm,0.3s,baz=18,slow=9.6,SNR=2.8						
PSI				Lg	Lg	04 00 31.9	
	0.4nm,0.3s,baz=229,slow=17,SNR=1.7						
PSI				LR	LR	04 02 25.9	
	comp=Z,170nm,18.4s,baz=168,slow=42						
CMAR	**Chiang Mai Arr**	**12.40**	**313**	Pn	Pn	03 57 00.8	+2.0
	0.5nm,0.3s,baz=128,slow=12,SNR=4.4						
CMAR				Sn	Sn	03 59 09.2	-8.6
	0.7nm,0.3s,baz=142,slow=12,SNR=4.9						
CMAR				Lg	Lg	04 00 24.4	
	0.4nm,0.3s,baz=124,slow=18,SNR=5.4						
KSRS	**Korea Array**	**32.35**	**30**	LR	LR	04 13 56.6	
	comp=Z,32nm,18.3s,baz=140,slow=37						
WRA	**Warramunga Arr**	**39.26**	**140**	P	P	04 01 31.6	+0.1
	1.7nm,0.9s,baz=318,slow=9.1,SNR=9.5						
MKAR	**Makanchi Array**	**42.77**	**333**	P	P	04 02 00.4	+0.3
	0.6nm,0.8s,baz=145,slow=9.2,SNR=6.0						
ZALV	**Zalesovo Beam**	**47.62**	**341**	P	P	04 02 38.6	+0.2
	1.0nm,0.4s,baz=145,slow=6.0,SNR=6.5						
BRTR	**Keskin Array B**	**71.95**	**308**	P	P	04 05 25.4	-1.1
	1.2nm,1.1s,baz=93,slow=6.2,SNR=3.0						

*IDC **22** 04:03:43.4±1.2, 36°.30N×22°.09E, h0km, mb3.8/5, mb1 3.8/10, mb1mx3.6/31, mbtmp3.7/10, ML3.6/4, MS3.4/1, Ms1 3.4/1, ms1mx2.3/52, Error ellipse: s-maj=23.6km s-min=21.0km az=165.0*

*ATH **22** 04:03:48.9, 36°.24N×22°.00E, h36km±1km, MD3.5/36, ML3.2*

*CSEM **22** 04:03:49.0±0.2, 36°.24N×21°.96E, h20km, ML3.6, Error ellipse: s-maj=6.2km s-min=2.7km az=49.0*

*THE **22** 04:03:49.0, 36°.23N×22°.00E, h15km±2km, ML3.7/2, Error ellipse: s-maj=2.6km s-min=1.1km az=254.0*

*HLW **22** 04:03:49.3, 36°.33N×22°.67E, h22km±12km, Md3.9, Ml3.6*

*BEO **22** 04:03:52.6±1.1, 36°.71N×21°.64E, h0km, ML3.8/6*

ISC 22 04:03:48.9±1.1, 36°.21N±0°.03×21°.97E±0°.03, h33km±10km, n210, σ1°.42/226, mb3.9/6, 3C-3D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.70**	**345**	P	**Pb**	**04 04 02.3**	**-0.5**
PYL				S	**Sn**	**04 04 12.8**	**+0.5**
PYL	**PYLOS**	**0.70**	**345**	*e*PN	**Pb**	**04 04 02.5**	**-0.3**
PYL				*e*SN	**Sn**	**04 04 13.7**	**+1.4**
PYL	**PYLOS**	**0.70**	**345**	P	**Pb**	**04 04 02.4**	**-0.3**
PYL				S	**Sb**	**04 04 11.9**	**-0.4**
PYL				*e*Sn	**Sn**	**04 04 13.7**	**+1.4**
KYTH	**Kithira**	**0.87**	**85**	P	**Pn**	**04 04 05.2**	**+0.4**
KYTH	**Kithira**	**0.87**	**85**	*e*PN	**Pn**	**04 04 05.3**	**+0.4**
KYTH	**Kithira**	**0.87**	**85**	P	**Pn**	**04 04 05.2**	**+0.4**
VLI	**Veliai**	**0.93**	**57**	P	**Pb**	**04 04 05.9**	**-0.7**
VLI				S	**Sn**	**04 04 18.7**	**+0.8**
VLI	**Veliai**	**0.93**	**57**	*e*PN	**Pb**	**04 04 05.9**	**-0.7**
VLI				*e*SN	**Sn**	**04 04 19.3**	**+1.4**
VLI	**Veliai**	**0.93**	**57**	P	**Pb**	**04 04 05.9**	**-0.7**
VLI				S	**Sn**	**04 04 18.7**	**+0.8**
VLI				*e*Sn	**Sn**	**04 04 19.3**	**+1.4**
ITM	**Ithomi**	**0.96**	**358**	P	**Pn**	**04 04 06.5**	**+0.4**
ITM				S	**Sn**	**04 04 21.3**	**+2.5**
ITM	**Ithomi**	**0.96**	**358**	*e*PN	**Pn**	**04 04 06.6**	**+0.4**
ITM				*e*SN	**Sn**	**04 04 20.1**	**+1.3**
ITM	**Ithomi**	**0.96**	**358**	P	**Pn**	**04 04 06.5**	**+0.4**
ITM				S	**Sb**	**04 04 17.9**	**-1.7**
ITM				*e*Sn	**Sn**	**04 04 20.1**	**+1.3**
ANKY	**Antikythira Is**	**1.14**	**107**	P	**Pb**	**04 04 09.2**	**-0.8**
ANKY	**Antikythira Is**	**1.14**	**107**	*e*PN	**Pb**	**04 04 10.3**	**+0.3**
ANKY				*e*SN	**Sb**	**04 04 25.2**	**+0.7**
ANKY	**Antikythira Is**	**1.14**	**107**	P	**Pb**	**04 04 09.2**	**-0.8**
ANKY	**Antikythira Is**	**1.14**	**107**	*e*Pn	**Pb**	**04 04 10.3**	**+0.3**
ANKY				*e*Sn	**Sb**	**04 04 25.2**	**+0.7**
VLX	**Vlachokerasia**	**1.20**	**16**	P	**Pb**	**04 04 10.6**	**-0.6**
VLX				S	**Sb**	**04 04 26.9**	**+0.5**
VLX	**Vlachokerasia**	**1.20**	**16**	*e*PN	**Pb**	**04 04 10.6**	**-0.6**
VLX				*e*SN	**Sb**	**04 04 27.1**	**+0.7**
VLX	**Vlachokerasia**	**1.20**	**16**	P	**Pb**	**04 04 10.6**	**-0.6**
VLX				S	**Sb**	**04 04 26.3**	**-0.1**
VLX				*e*Sn	**Sb**	**04 04 27.1**	**+0.7**
SFD	**Strofades**	**1.28**	**324**	*e*PN	**Pb**	**04 04 11.9**	**-0.6**
SFD	**Strofades**	**1.28**	**324**	*e*Pn	**Pb**	**04 04 11.9**	**-0.6**
AMT	**Artemida-Makis**	**1.33**	**351**	P	**Pb**	**04 04 12.3**	**-1.0**
AMT	**Artemida-Makis**	**1.33**	**351**	*e*PN	**Pb**	**04 04 12.4**	**-0.9**
AMT				*e*SN	**Sb**	**04 04 29.5**	**-0.6**
AMT	**Artemida-Makis**	**1.33**	**351**	*e*Pn	**Pb**	**04 04 12.4**	**-0.9**
AMT				*e*Sn	**Sb**	**04 04 29.5**	**-0.6**
AMT				S	**Sn**	**04 04 31.0**	**+3.2**
DIDY	**Didyma**	**1.61**	**38**	P	**Pn**	**04 04 15.5**	**+0.4**
DIDY	**Didyma**	**1.61**	**38**	P	**Pn**	**04 04 15.5**	**+0.4**
DID	**Didima**	**1.65**	**38**	P	**Pn**	**04 04 15.6**	**+0.1**
DID	**Didima**	**1.65**	**38**	*e*PN	**Pn**	**04 04 16.1**	**+0.6**
DID	**Didima**	**1.65**	**38**	P	**Pn**	**04 04 15.7**	**+0.2**
DID	**Didima**	**1.65**	**38**	*e*Pn	**Pn**	**04 04 16.1**	**+0.6**
DID				S	**Sn**	**04 04 35.0**	**-0.6**
GUR	**Goura**	**1.75**	**10**	P	**Pn**	**04 04 17.5**	**+0.5**
GUR	**Goura**	**1.75**	**10**	*e*PB	**Pb**	**04 04 19.1**	**-1.3**
GUR	**Goura**	**1.75**	**10**	*e*Pb	**Pb**	**04 04 19.1**	**-1.3**
GUR				S	**Sb**	**04 04 41.9**	**-0.1**
KARN	**Karanos**	**1.78**	**116**	P	**Pb**	**04 04 19.1**	**-1.8**
KARN	**Karanos**	**1.78**	**116**	P	**Pb**	**04 04 19.1**	**-1.8**
ACOR	**Acrocorinthos**	**1.82**	**23**	P	**Pn**	**04 04 18.4**	**+0.4**
ACOR	**Acrocorinthos**	**1.82**	**23**	P	**Pn**	**04 04 18.4**	**+0.4**
KLV	**Kalavryta, Ach**	**1.83**	**5**	P	**Pn**	**04 04 19.8**	**+1.7**
KLV	**Kalavryta, Ach**	**1.83**	**5**	*e*PB	**Pb**	**04 04 20.1**	**-1.7**
KLV				*e*SN	**Sn**	**04 04 42.2**	**+2.0**
KLV	**Kalavryta, Ach**	**1.83**	**5**	P	**Pn**	**04 04 19.8**	**+1.7**
KLV	**Kalavryta, Ach**	**1.83**	**5**	*e*Pb	**Pb**	**04 04 20.1**	**-1.7**
KLV				*e*Sn	**Sn**	**04 04 42.2**	**+2.0**
RLS	**Riolos of Patr**	**1.88**	**348**	P	**Pn**	**04 04 20.7**	**+1.9**
RLS	**Riolos of Patr**	**1.88**	**348**	*e*PN	**Pn**	**04 04 20.6**	**+1.8**
RLS	**Riolos of Patr**	**1.88**	**348**	P	**Pn**	**04 04 20.3**	**+1.5**
RLS	**Riolos of Patr**	**1.88**	**348**	*e*Pb	**Pn**	**04 04 20.6**	**+1.8**
NAIG	**Nisos Aigina**	**1.97**	**38**	*e*PN	**Pn**	**04 04 20.5**	**+0.6**
NAIG	**Nisos Aigina**	**1.97**	**38**	*e*Pn	**Pn**	**04 04 20.5**	**+0.6**
LTK	**Loutraki**	**1.98**	**24**	P	**Pn**	**04 04 20.6**	**+0.5**
LTK	**Loutraki**	**1.98**	**24**	*e*PB	**Pn**	**04 04 21.9**	**+1.8**
LTK	**Loutraki**	**1.98**	**24**	P	**Pn**	**04 04 20.6**	**+0.5**
LTK	**Loutraki**	**1.98**	**24**	*e*Pb	**Pn**	**04 04 21.9**	**+1.8**
VAM	**Vamos**	**1.99**	**113**	*e*PN	**Pn**	**04 04 21.7**	**+1.5**
VAM	**Vamos**	**1.99**	**113**	*e*Pn	**Pn**	**04 04 21.7**	**+1.5**
LAKA	**Lakka**	**2.02**	**0**	P	**Pn**	**04 04 22.4**	**+1.7**
LAKA	**Lakka**	**2.02**	**0**	P	**Pn**	**04 04 22.4**	**+1.7**
TRIZ	**Trizonia**	**2.15**	**2**	P	**Pn**	**04 04 24.0**	**+1.6**
TRIZ	**Trizonia**	**2.15**	**2**	*e*PN	**Pn**	**04 04 24.2**	**+1.8**
TRIZ	**Trizonia**	**2.15**	**2**	P	**Pn**	**04 04 24.0**	**+1.6**
KALE	**Kalithea**	**2.18**	**4**	P	**Pn**	**04 04 24.1**	**+1.2**
KALE	**Kalithea**	**2.18**	**4**	*e*PN	**Pn**	**04 04 24.1**	**+1.2**
KALE	**Kalithea**	**2.18**	**4**	P	**Pn**	**04 04 24.2**	**+1.3**
EFP	**Efpalio**	**2.21**	**359**	P	**Pn**	**04 04 24.8**	**+1.5**
EFP	**Efpalio**	**2.21**	**359**	*e*PB	**Pb**	**04 04 25.8**	**-2.4**
EFP	**Efpalio**	**2.21**	**359**	P	**Pn**	**04 04 24.8**	**+1.5**
EFP	**Efpalio**	**2.21**	**359**	*e*Pb	**Pb**	**04 04 25.8**	**-2.4**
GVD	**Gavdhos**	**2.21**	**128**	*e*PN	**Pn**	**04 04 25.2**	**+2.0**
GVD	**Gavdhos**	**2.21**	**128**	*e*Pn	**Pn**	**04 04 25.2**	**+2.0**
ATH	**Athens Observa**	**2.25**	**38**	*e*PN	**Pn**	**04 04 24.8**	**+1.1**
ATH	**Athens Observa**	**2.25**	**38**	*e*Pn	**Pn**	**04 04 24.8**	**+1.1**
VLS	**Valsamata**	**2.25**	**331**	P	**Pn**	**04 04 24.8**	**+1.0**
VLS	**Valsamata**	**2.25**	**331**	*e*PN	**Pn**	**04 04 24.8**	**+1.0**
VLS	**Valsamata**	**2.25**	**331**	P	**Pn**	**04 04 24.8**	**+1.0**
PTL	**Penteli**	**2.38**	**39**	*e*PN	**Pn**	**04 04 25.8**	**+0.2**
PTL	**Penteli**	**2.38**	**39**	*e*Pn	**Pn**	**04 04 25.8**	**+0.2**
IDI	**Anoyia**	**2.55**	**110**	P	**Pn**	**04 04 29.4**	**+1.4**
IDI	**Anoyia**	**2.55**	**110**	*e*PN	**Pn**	**04 04 29.3**	**+1.3**
IDI	**Anoyia**	**2.55**	**110**	Pn	**Pn**	**04 04 29.2**	**+1.1**
	2.6nm,0.3s,baz=312,slow=18,SNR=15						
IDI				Sn	**Sn**	**04 05 00.5**	**+2.4**
	13nm,0.3s,baz=312,slow=19,SNR=6.4						
IDI	**Anoyia**	**2.55**	**110**	P	**Pn**	**04 04 29.4**	**+1.4**
LKR	**Lokris**	**2.57**	**18**	P	**Pn**	**04 04 28.5**	**+0.3**
LKR	**Lokris**	**2.57**	**18**	*e*PN	**Pn**	**04 04 28.9**	**+0.7**
LKR	**Lokris**	**2.57**	**18**	P	**Pn**	**04 04 28.5**	**+0.3**
LKR	**Lokris**	**2.57**	**18**	*e*Pn	**Pn**	**04 04 28.9**	**+0.7**
AXAR	**Agios Charalam**	**2.61**	**12**	P	**Pn**	**04 04 29.4**	**+0.7**
AXAR	**Agios Charalam**	**2.61**	**12**	P	**Pn**	**04 04 29.4**	**+0.7**
ERET	**Eretria**	**2.67**	**33**	P	**Pn**	**04 04 29.4**	**-0.2**
ERET	**Eretria**	**2.67**	**33**	P	**Pn**	**04 04 29.4**	**-0.2**
EVR	**Evrytania**	**2.70**	**357**	P	**Pn**	**04 04 31.4**	**+1.3**
EVR	**Evrytania**	**2.70**	**357**	*e*PN	**Pn**	**04 04 32.6**	**+2.5**
EVR	**Evrytania**	**2.70**	**357**	P	**Pn**	**04 04 31.4**	**+1.3**
EVR	**Evrytania**	**2.70**	**357**	*e*Pn	**Pn**	**04 04 32.6**	**+2.5**
LKD2	**Lefkada island**	**2.77**	**338**	P	**Pn**	**04 04 33.0**	**+2.0**
LKD2	**Lefkada island**	**2.77**	**338**	*e*PN	**Pn**	**04 04 33.7**	**+2.7**
LKD2	**Lefkada island**	**2.77**	**338**	P	**Pn**	**04 04 33.0**	**+2.0**
LKD2	**Lefkada island**	**2.77**	**338**	*e*Pn	**Pn**	**04 04 33.7**	**+2.7**
MAKR	**Makrakomi, Fth**	**2.80**	**3**	P	**Pn**	**04 04 33.1**	**+1.7**
MAKR	**Makrakomi, Fth**	**2.80**	**3**	P	**Pn**	**04 04 33.1**	**+1.7**
MRKA	**Markates**	**2.80**	**27**	P	**Pn**	**04 04 32.7**	**+1.3**
MRKA	**Markates**	**2.80**	**27**	P	**Pn**	**04 04 32.7**	**+1.3**
AGG	**Agios Georgios**	**2.82**	**6**	P	**Pn**	**04 04 33.0**	**+1.3**
AGG	**Agios Georgios**	**2.82**	**6**	*e*PN	**Pn**	**04 04 34.1**	**+2.4**
AGG	**Agios Georgios**	**2.82**	**6**	P	**Pn**	**04 04 33.0**	**+1.3**
AGG	**Agios Georgios**	**2.82**	**6**	*e*Pn	**Pn**	**04 04 34.1**	**+2.4**
SANT	**Santorini**	**2.83**	**86**	*e*PN	**Pn**	**04 04 34.2**	**+2.4**
SANT	**Santorini**	**2.83**	**86**	*e*Pn	**Pn**	**04 04 34.2**	**+2.4**
APE	**Apeiranthos**	**2.99**	**72**	*e*PN	**Pn**	**04 04 35.4**	**+1.3**
APE	**Apeiranthos**	**2.99**	**72**	*e*Pn	**Pn**	**04 04 35.4**	**+1.3**
LAST	**Lasithi**	**3.05**	**109**	*e*PN	**Pn**	**04 04 36.5**	**+1.6**
LAST	**Lasithi**	**3.05**	**109**	*e*Pn	**Pn**	**04 04 36.5**	**+1.6**
NPS	**Neapolis**	**3.12**	**107**	*e*PN	**Pn**	**04 04 37.0**	**+1.3**
NPS	**Neapolis**	**3.12**	**107**	*e*Pn	**Pn**	**04 04 37.0**	**+1.3**
NEO	**Neokhori**	**3.25**	**18**	P	**Pn**	**04 04 38.3**	**+0.8**
NEO	**Neokhori**	**3.25**	**18**	*e*PN	**Pn**	**04 04 38.7**	**+1.2**
NEO	**Neokhori**	**3.25**	**18**	P	**Pn**	**04 04 38.3**	**+0.8**
NEO	**Neokhori**	**3.25**	**18**	*e*Pn	**Pn**	**04 04 38.7**	**+1.2**
AOS	**Alonnisos**	**3.32**	**27**	*e*PN	**Pn**	**04 04 40.2**	**+1.7**
AOS	**Alonnisos**	**3.32**	**27**	*e*Pn	**Pn**	**04 04 40.2**	**+1.7**
THL	**Klokotos Trika**	**3.34**	**1**	P	**Pn**	**04 04 40.5**	**+1.6**
THL	**Klokotos Trika**	**3.34**	**1**	*e*PN	**Pn**	**04 04 40.4**	**+1.6**
THL	**Klokotos Trika**	**3.34**	**1**	*e*Pn	**Pn**	**04 04 40.4**	**+1.6**
JAN	**Janina**	**3.55**	**346**	P	**Pn**	**04 04 43.5**	**+1.8**
JAN	**Janina**	**3.55**	**346**	*e*PN	**Pn**	**04 04 43.5**	**+1.8**
JAN	**Janina**	**3.55**	**346**	P	**Pn**	**04 04 43.5**	**+1.8**
IGT	**Igoumenitsa**	**3.56**	**339**	P	**Pn**	**04 04 42.4**	**+0.6**
IGT	**Igoumenitsa**	**3.56**	**339**	P	**Pn**	**04 04 42.4**	**+0.6**
KEK	**Kerkira**	**3.89**	**335**	P	**Pn**	**04 04 46.8**	**+0.4**
KEK	**Kerkira**	**3.89**	**335**	*e*PN	**Pn**	**04 04 48.3**	**+1.9**
KEK	**Kerkira**	**3.89**	**335**	P	**Pn**	**04 04 46.8**	**+0.4**
KEK	**Kerkira**	**3.89**	**335**	*e*Pn	**Pn**	**04 04 48.3**	**+1.9**
CHOS	**Chios island**	**3.92**	**55**	*e*PN	**Pn**	**04 04 49.0**	**+2.2**
CHOS	**Chios island**	**3.92**	**55**	*e*Pn	**Pn**	**04 04 49.0**	**+2.2**
PAIG	**Paliouri**	**3.95**	**20**	*e*PN	**Pn**	**04 04 49.4**	**+2.3**
PAIG	**Paliouri**	**3.95**	**20**	*e*Pn	**Pn**	**04 04 49.4**	**+2.3**
SRN	**Sarande**	**3.98**	**338**	P	**Pn**	**04 04 48.3**	**+0.8**
SRN	**Sarande**	**3.98**	**338**	P	**Pn**	**04 04 48.3**	**+0.8**
KZN	**Kozani**	**4.09**	**358**	P	**Pn**	**04 04 50.9**	**+1.7**
KZN	**Kozani**	**4.09**	**358**	*e*PN	**Pn**	**04 04 50.9**	**+1.7**
KZN	**Kozani**	**4.09**	**358**	P	**Pn**	**04 04 50.9**	**+1.7**
SMG	**Samos**	**4.18**	**68**	*e*PN	**Pn**	**04 04 51.6**	**+1.3**
SMG	**Samos**	**4.18**	**68**	*e*Pn	**Pn**	**04 04 51.6**	**+1.3**
NEST	**Nestorio**	**4.25**	**351**	P	**Pn**	**04 04 53.5**	**+2.0**
NEST	**Nestorio**	**4.25**	**351**	P	**Pn**	**04 04 53.5**	**+2.0**
KARP	**Karpathos**	**4.27**	**97**	*e*PN	**Pn**	**04 04 53.8**	**+2.2**
KARP	**Karpathos**	**4.27**	**97**	*e*Pn	**Pn**	**04 04 53.8**	**+2.2**
PLG	**Polygyros**	**4.31**	**15**	*e*PN	**Pn**	**04 04 53.5**	**+1.3**
PLG	**Polygyros**	**4.31**	**15**	*e*Pn	**Pn**	**04 04 53.5**	**+1.3**
LTBQ	**Tobruq**	**4.45**	**158**	*i* P	**Pn**	**04 04 54.6**	**+0.5**
	SNR=24						
BDRM	**Kayabasi**	**4.49**	**77**	*i* P	**Pn**	**04 04 55.3**	**+0.7**
BDRM	**Kayabasi**	**4.49**	**77**	*i* P	**Pn**	**04 04 55.3**	**+0.7**
FNA	**Florina**	**4.59**	**354**	P	**Pn**	**04 04 56.7**	**+0.7**
FNA	**Florina**	**4.59**	**354**	P	**Pn**	**04 04 56.7**	**+0.7**
SOH	**Sokhos**	**4.73**	**13**	*e*PN	**Pn**	**04 04 59.4**	**+1.5**
SOH	**Sokhos**	**4.73**	**13**	*e*Pn	**Pn**	**04 04 59.4**	**+1.5**
BIA	**Bitola**	**4.82**	**354**	*e*Pn	**Pn**	**04 04 59.7**	**+0.5**
BIA	**Bitola**	**4.82**	**354**	*e*Pn	**Pn**	**04 04 59

Azm97.0000°; N -0.1000, Plg72.0000°, Azm336.0000°; P -2.6200, Plg15.0000°, Azm189.0000°; Data Used: II IU G CN IC. Surface waves: sta=102, comp=186, per= 50.

BKK **22** *04:38:16.0±0.8,4˚S±6˚×14˚2E±˚,h86km±8km,M5.4/35, mB5.8/21,mb5.3/35,MLv5.8/1,Mw(mB)5.3/21*

NEIC **22** *04:38:27.7±0.0,3˚23S×142˚34E,h33km,Moment Tensor Solution. s108 Moment tensor: Scale 10^{17}Nm; M_{rr}=0.58; $M_{\theta\theta}$=1.93; $M_{\phi\phi}$2.50; $M_{r\theta}$0.25; $M_{\theta\phi}$1.01; $M_{\phi r}$-0.01; Best double couple: $M_0$2.40000×10^{17} NP1:ϕ_s328.00000°, δ83.00000°,λ-173.00000°. NP2:ϕ_s237.00000°, δ84.00000°,λ-6.00000°. Principal axes: T 2.7200, Plg0.0000°, Azm282.0000°; N -0.5400, Plg81.0000°, Azm17.0000°; P -2.1900, Plg8.0000°, Azm192.0000°;*

ISC 22 04:38:10.9±0.3,3˚83S±0˚03×141˚95E±0˚04,h54km±2km, h54km:pP-P,n418,σ1§56/483,mb5.4/132,MS4.8/42, 11C-13D,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.80**	**316**	P	**Pn**	**04 38 36.9**	**-2.8**
JAY				S	**Sn**	**04 38 57.3**	**-4.2**
PMG	**Port Moresby**	**7.58**	**137**	*e*Pn	**Pn**	**04 40 00.1**	**+1.3**
PMG				Sn	**Sn**	**04 41 26.6**	**+3.2**
PMG	**Port Moresby**	**7.58**	**137**	P	**Pn**	**04 40 00.4**	**+1.5**
662nm,0.8s,7μm2.9nm							
PMG	**Port Moresby**	**7.58**	**137**	Pn	**Pn**	**04 39 60.0**	**+1.1**
20nm,0.3s,baz=324,slow=11,SNR=34							
PMG				Sn	**Sn**	**04 41 26.6**	**+3.2**
13nm,0.3s,baz=150,slow=19,SNR=3.7							
TLE	**Tual**	**9.36**	**259**	P	**Pn**	**04 40 23.4**	**+0.2**
827nm,1.4s,15μm							
FAKI	**Fak Fak**	**9.73**	**275**	P	**Pn**	**04 40 28.5**	**+0.2**
280nm,0.9s,4μm30μm							
COEN	**Coen**	**10.14**	**173**	*e*Pn	**Pn**	**04 40 35.3**	**+1.4**
COEN				*e*S	Sn	04 42 32.6	+6.4
SWI	**Sorong**	**11.08**	**285**	P	**Pn**	**04 40 47.8**	**+1.0**
441nm,1.0s,4μm							
SAUI	**Saumlaki**	**11.37**	**248**	P	**Pn**	**04 40 52.4**	**+1.7**
2μm,1.4s,22μm							
BNDI	**Bandanaira**	**12.03**	**266**	P	Pn	04 41 04.9	+5.1
1μm,1.5s,16μm							
MSAI	**Masohi**	**13.01**	**272**	P	Pn	04 41 04.9	-8.2
AAI	**Ambon**	**13.73**	**270**	P	**Pn**	**04 41 21.7**	**-1.3**
197nm,0.9s,3μm							
LBMI	**Labuha**	**14.78**	**282**	P	**Pn**	**04 41 39.2**	**+2.3**
666nm,1.3s,7μm							
NLAI	**Namlea**	**14.83**	**272**	P	**Pn**	**04 41 39.3**	**+1.7**
156nm,1.1s,4μm							
TNTI	**Ternate**	**15.28**	**287**	*e*Pn	**Pn**	**04 41 44.0**	**+0.7**
1μm,1.4s							
TNTI	**Ternate**	**15.28**	**287**	P	**P**	**04 41 46.9**	**-0.3**
753nm,1.4s,9μm							
CTA	**Charters Tower**	**16.70**	**166**	Pn	**P**	**04 42 02.6**	**-0.4**
CTA				Lg	Lg	04 46 55.5	
CTA	**Charters Tower**	**16.70**	**166**	Pn	**P**	**04 42 02.6**	**-0.4**
0.8nm,0.3s,baz=337,slow=14,SNR=34							
CTA				Lg	Lg	04 46 55.5	
1.7nm,0.3s,baz=250,slow=18,SNR=3.6							
CTAO	**Charters Tower**	**16.70**	**166**	*e*P	**P**	**04 42 02.6**	**-0.4**
CTAO				pmax	pmax		
comp=Z,414nm,1.8s							
CTAO	**Charters Tower**	**16.70**	**166**	*e*Pn	**P**	**04 42 02.5**	**-0.4**
comp=Z,414nm,1.8s							
CTAO				*e*		04 45 40.5	
GUMO	**Guam**	**17.55**	**9**	*e*Pn	**Pn**	**04 42 09.2**	**-2.6**
WRAB	**Tennant Creek**	**17.64**	**204**	*e*P	**Pn**	**04 42 11.6**	**-1.5**
WRAB				*e*S	**Sn**	**04 45 27.3**	**-1.5**
WRAB				pmax	pmax		
comp=Z,201nm,0.6s							
WRAB	**Tennant Creek**	**17.64**	**204**	*e*Pn	**Pn**	**04 42 11.6**	**-1.5**
comp=Z,201nm,0.6s							
WRAB				*e*S	**Sn**	**04 45 27.3**	**-1.5**
WRAB	**Tennant Creek**	**17.64**	**204**	Pn	**Pn**	**04 42 11.0**	**-2.0**
comp=Z,2μm,0.6s							
WRA	**Warramunga Arr**	**17.65**	**204**	P	**Pn**	**04 42 10.6**	**-2.6**
WRA				S	**Sn**	**04 45 28.3**	**-0.9**
WRA				Lg	Lg	04 47 23.9	
WRA	**Warramunga Arr**	**17.65**	**204**	P	**Pn**	**04 42 10.6**	**-2.6**
comp=Z,7.6nm,0.3s,baz=26,slow=13,SNR=206							
WRA				S	**Sn**	**04 45 28.3**	**-0.9**
comp=Z,5.0nm,0.3s,baz=16,slow=21,SNR=6.6							
WRA				Lg	Lg	04 47 23.9	
comp=Z,2.1nm,0.3s,baz=27,slow=30,SNR=3.2							
WRA				LR	LR	04 49 29.3	
comp=Z,9μm,19.4s,baz=25,slow=39							
SGSI	**Sangihe**	**18.03**	**294**	P	**Pn**	**04 42 20.2**	**+2.4**
comp=Z,650nm,1.2s,comp=Z,9μm							
KMSI	**Cibinong**	**18.46**	**280**	P	**P**	**04 42 22.0**	**-0.7**
comp=Z,2μm,1.2s,comp=Z,21μm							
SOEI	**Soe**	**18.51**	**251**	P	**Pn**	**04 42 24.7**	**+0.9**
comp=Z,884nm,1.0s,comp=Z,11μm							
HNR	**Honiara**	**18.72**	**108**	P	**Pn**	**04 42 26.1**	**-0.1**
HNR	**Honiara**	**18.72**	**108**	P	**Pn**	**04 42 26.0**	**-0.1**
comp=Z,15nm,0.3s,baz=309,slow=13,SNR=2.5							
LUWI	**Luwuk**	**19.36**	**278**	P	**P**	**04 42 31.7**	**-0.6**
comp=Z,715nm,1.1s,comp=Z,9μm							
BBSI	**Bau Bau**	**19.39**	**264**	P	Pn	04 42 39.4	+5.2
comp=Z,361nm,1.5s,comp=Z,5μm							
DAV	**Davao City (W)**	**19.60**	**304**	P	**Pn**	**04 42 37.3**	**+0.6**
SNR=8.0							
MMRI	**Maumere**	**20.16**	**255**	*e*P	**P**	**04 42 41.5**	**+0.4**
comp=Z,447nm,1.3s							
MMRI	**Maumere**	**20.16**	**255**	P	Pn	04 42 43.6	+0.2
comp=Z,273nm,0.8s,comp=Z,4μm							
KKSI	**Kolaka, Sulawe**	**20.25**	**268**	P	Pn	04 42 46.8	+2.4
comp=Z,305nm,1.2s,comp=Z,4μm							
MRSI	**Marisa**	**20.45**	**282**	P	**P**	**04 42 43.7**	**-0.5**
comp=Z,397nm,1.1s,comp=Z,3μm							
APSI	**Ampana**	**20.49**	**278**	P	**P**	**04 42 45.9**	**+1.3**
comp=Z,1μm,1.2s,comp=Z,12μm							
CTBH	**Cotabato--PC H**	**20.80**	**302**	||*i*P	**P**	**04 42 46.9**	**-1.1**
AS31	**Alice Springs**	**21.20**	**201**	*e*P	**P**	**04 42 52.5**	**+0.3**
AS31				*e*S	Sn	04 46 51.1	-3.4
ASAR	**Alice Springs**	**21.20**	**201**	P	**P**	**04 42 51.9**	**-0.4**
ASAR				S	**S**	**04 46 44.6**	**-0.5**
ASAR				Lg	Lg	04 49 24.1	
ASAR	**Alice Springs**	**21.20**	**201**	P	**P**	**04 42 51.9**	**-0.4**
comp=Z,64nm,0.6s,baz=29,slow=10,SNR=241							
ASAR				S	**S**	**04 46 44.6**	**-0.5**
comp=Z,16nm,0.8s,baz=21,slow=27,SNR=3.8							
ASAR				Lg	Lg	04 49 24.1	
comp=Z,41nm,0.9s,baz=16,slow=31,SNR=3.4							
ASAR				LR	LR	04 51 40.9	
comp=Z,7μm,19.8s,baz=23,slow=38							
FITZ	**Fitzroy Crossi**	**21.36**	**227**	*e*P	**P**	**04 42 53.3**	**-0.6**
FITZ				S	**S**	**04 46 45.3**	**-3.0**
FITZ				Lg	Lg	04 49 26.6	
FITZ	**Fitzroy Crossi**	**21.36**	**227**	P	**P**	**04 42 53.8**	**-0.2**
comp=Z,103nm,0.6s,baz=57,slow=10.0,SNR=69							
FITZ				S	**S**	**04 46 45.3**	**-3.0**
comp=Z,121nm,0.7s,baz=121,slow=11,SNR=8.5							
FITZ				Lg	Lg	04 49 26.6	
comp=Z,116nm,1.0s,baz=132,slow=15,SNR=2.3							
FITZ				LR	LR	04 51 48.8	
comp=Z,5μm,19.8s,baz=48,slow=38							
TOLI	**Toli-Toli**	**21.71**	**283**	P	P	04 43 03.4	+5.7
comp=Z,480nm,1.1s,comp=Z,5μm							
BNSI	**Bone**	**21.80**	**268**	P	**P**	**04 43 01.5**	**+2.8**
comp=Z,749nm,0.7s,comp=Z,7μm							
BKSI	**Bulukumba**	**21.81**	**265**	P	**P**	**04 43 00.6**	**+1.8**
comp=Z,356nm,0.7s,comp=Z,3μm							
SPSI	**Sidrap Palu**	**22.13**	**269**	P	**P**	**04 43 04.4**	**+2.1**
comp=Z,202nm,0.7s,comp=Z,3μm							
KAPI	**Kappang**	**22.16**	**266**	P	**P**	**04 43 03.3**	**+0.7**
comp=Z,735nm,0.5s,SNR=13							
KAPI	**Kappang**	**22.16**	**266**	P	**P**	**04 43 03.7**	**+1.1**
SNR=13							
KAPI	**Kappang**	**22.16**	**266**	*e*P	**P**	**04 43 02.6**	**0.0**
comp=Z,260nm,1.4s							
KAPI	**Kappang**	**22.16**	**266**	P	**P**	**04 43 04.5**	**+1.9**
comp=Z,125nm,1.4s,comp=Z,2μm							
KAPI	**Kappang**	**22.16**	**266**	P	**P**	**04 43 03.0**	**+0.4**
comp=Z,47nm,0.5s,baz=104,slow=3.4,SNR=33							
LBFI	**Labuhan Bajo,**	**22.41**	**257**	P	**P**	**04 43 04.3**	**-1.0**
comp=Z,226nm,0.7s,comp=Z,4μm							
MJSI	**Majene**	**22.92**	**270**	P	**P**	**04 43 15.0**	**+4.3**
comp=Z,208nm,1.1s,comp=Z,4μm							
MMSI	**Mamuju**	**23.03**	**272**	P	**P**	**04 43 12.5**	**+0.7**
comp=Z,442nm,1.0s,comp=Z,6μm							
EIDS	**Eidsvold**	**23.14**	**159**	*e*P	**P**	**04 43 14.0**	**+1.2**
comp=Z,175nm,0.8s							
RCP	**Roxas**	**24.47**	**309**	||*e*P	**P**	**04 43 25.4**	**+0.3**
MYLDM	**Lahad Datu**	**25.08**	**291**	P	**P**	**04 43 33.2**	**+2.5**
MYLDM	**Lahad Datu**	**25.08**	**291**	P	**P**	**04 43 35.0**	**+4.3**
MYLDM	**Lahad Datu**	**25.08**	**291**	P	**P**	**04 43 33.2**	**+2.5**
comp=Z,397nm,1.5s,comp=Z,6μm							
TSM	**Tawau**	**25.38**	**288**	P	**P**	**04 43 33.2**	**-0.2**
MTNI	**Mataram**	**26.06**	**258**	P	**P**	**04 43 41.7**	**+2.1**
comp=Z,145nm,1.0s,comp=Z,2μm							
SDKM	**Sandakan**	**26.45**	**291**	P	**P**	**04 43 44.7**	**+1.4**
SDKM	**Sandakan**	**26.45**	**291**	P	P	04 43 48.5	+5.3
TGY	**Tagaytay City**	**27.42**	**311**	P	**P**	**04 43 52.3**	**+0.4**
TGY	**Tagaytay City**	**27.42**	**311**	P	**P**	**04 43 52.3**	**+0.4**
comp=Z,141nm,0.4s,baz=145,slow=4.4,SNR=3.0							
KKM	**Kota Kinabalu**	**27.51**	**291**	*e*P	**P**	**04 43 54.2**	**+1.4**
comp=Z,693nm,2.1s							
KKM	**Kota Kinabalu**	**27.51**	**291**	P	**P**	**04 43 53.2**	**+0.4**
KKM	**Kota Kinabalu**	**27.51**	**291**	P	**P**	**04 43 53.9**	**+1.1**
comp=Z,111nm,1.4s,comp=Z,2μm							
MBWA	**Marble Bar**	**27.63**	**230**	*e*P	**P**	**04 43 54.6**	**+0.9**
comp=Z,82nm,0.8s							
STKA	**Stephens Creek**	**27.90**	**181**	*e*P	**P**	**04 43 56.1**	**+0.1**
comp=Z,6.9nm,0.8s							
STKA	**Stephens Creek**	**27.90**	**181**	P	**P**	**04 43 55.9**	**-0.1**
comp=Z,6.4nm,0.4s,baz=356,slow=9.4,SNR=21							
STKA				LR	LR	04 56 52.8	
comp=Z,7μm,18.1s,baz=356,slow=40							
ARMA	**Armidale**	**27.98**	**162**	*e*P	**P**	**04 43 58.8**	**+1.9**
comp=Z,91nm,1.4s							
KMMI	**Kalianget**	**28.04**	**262**	P	P	04 44 03.3	+5.9
comp=Z,184nm,0.6s							
GMJI	**Gumukmas**	**28.68**	**260**	P	**P**	**04 44 03.1**	**0.0**
comp=Z,38nm,2.2s							
BBOO	**Buckleboo**	**29.35**	**190**	*e*P	**P**	**04 44 08.1**	**-0.8**
comp=Z,2μm,1.5s							
GRJI	**Gresik**	**29.50**	**263**	P	P	04 44 13.7	+3.3
comp=Z,53nm,0.8s,comp=Z,652nm							
BTM	**Bintulu**	**29.68**	**283**	P	**P**	**04 44 14.3**	**+2.3**
FORT	**Forrest**	**29.84**	**205**	*e*P	**P**	**04 44 14.2**	**+1.0**
comp=Z,218nm,0.7s							
DZM	**Mont Dzumac**	**29.88**	**129**	*e*P	**P**	**04 44 13.4**	**-0.4**
comp=Z,302nm,1.2s							
DZM				*e*LR	LR	04 51 53.0	
comp=Z,10μm,23.8s							
DZM	**Mont Dzumac**	**29.88**	**129**	*e*P	**P**	**04 44 13.3**	**-0.4**
comp=Z,240nm,1.4s							
DZM	**Mont Dzumac**	**29.88**	**129**	P	**P**	**04 44 12.4**	**-1.4**
comp=Z,62nm,1.0s,baz=322,slow=6.4,SNR=28							
PWJI	**Pagerwojo**	**30.27**	**261**	P	**P**	**04 44 15.3**	**-1.9**
comp=Z,43nm,0.9s							
SBUM	**Sibu**	**30.36**	**281**	*e*P	**P**	**04 44 18.7**	**+0.6**
comp=Z,75nm,1.5s							
SBUM	**Sibu**	**30.36**	**281**	P	**P**	**04 44 19.3**	**+1.2**
SBUM	**Sibu**	**30.36**	**281**	P	**P**	**04 44 20.1**	**+2.1**
comp=Z,33nm,1.4s,comp=Z,643nm							
STKI	**Sintang**	**30.70**	**277**	P	P	04 44 30.6	+10
PCJI	**Pacitan**	**30.90**	**260**	P	**P**	**04 44 21.2**	**-1.6**
comp=Z,88nm,1.5s							
CAN	**Canberra**	**32.01**	**169**	*e*P	**P**	**04 44 34.3**	**+2.0**
CAN				pmax	pmax		
comp=Z,39nm,0.8s							
CAN	**Canberra**	**32.01**	**169**	*e*P	**P**	**04 44 34.3**	**+2.0**
comp=Z,39nm,0.8s							
KSM	**Kuching**	**32.06**	**279**	*e*P	**P**	**04 44 33.4**	**+0.3**
comp=Z,41nm,1.1s							
KSM	**Kuching**	**32.06**	**279**	P	**P**	**04 44 33.7**	**+0.7**
KSM	**Kuching**	**32.06**	**279**	P	**P**	**04 44 33.9**	**+0.9**
comp=Z,40nm,0.9s,comp=Z,812nm							
BJII	**Banjamegara**	**32.27**	**262**	P	**P**	**04 44 35.2**	**+0.3**
comp=Z,42nm,1.6s							
CISI	**Cisompet, Garu**	**34.16**	**262**	P	**P**	**04 44 53.1**	**+1.7**
comp=Z,119nm,0.7s							
NACB	**Ninganchiao**	**34.17**	**326**	*e*P	**P**	**04 44 51.0**	**-0.2**
TPI	**Tanjungpandan**	**34.26**	**271**	P	P	04 45 02.3	+10
YHNB	**Yeheng**	**34.68**	**326**	*e*P	**P**	**04 44 57.2**	**+1.5**
comp=Z,29nm,0.8s							
CBJI	**Citeko**	**35.05**	**264**	P	**P**	**04 45 00.8**	**+1.8**
comp=Z,281nm,0.4s							
PPBI	**Pangkal Pinang**	**35.80**	**272**	P	P	04 45 12.8	+7.3
QZH	**Quanzhou**	**36.51**	**323**	*e*P	**P**	**04 45 13.6**	**+2.3**
QZH				S	**S**	**04 50 48.3**	**-1.6**
QZH				LR	LR		
comp=Z,2μm,23.6s							
NWAO	**Narrogin (SRO)**	**37.04**	**216**	*e*P	**P**	**04 45 16.5**	**+0.6**
comp=Z,191nm,1.3s							
MDSI	**Maura Dua**	**37.68**	**268**	P	**P**	**04 45 20.4**	**-1.0**
comp=Z,42nm,1.2s,comp=Z,777nm							
JNU	**Nakatsue**	**38.22**	**345**	*e*P	**P**	**04 45 25.3**	**-0.4**
JNU	**Nakatsue**	**38.22**	**345**	P	**P**	**04 45 24.7**	**-1.0**
comp=Z,13nm,0.9s,baz=80,slow=3.3,SNR=4.2							
JNU				LR	LR	04 59 47.1	
comp=Z,793nm,21.8s,baz=159,slow=34							
MYKOM	**Kota Tinggi**	**38.49**	**278**	P	**P**	**04 45 29.8**	**+1.5**
QIZ	**Qiongzhong**	**38.92**	**307**	P	**P**	**04 45 30.1**	**-1.7**
QIZ				sP	**sP**	**04 45 52.8**	**+0.8**
QIZ				S	**S**	**04 51 28.0**	**+1.4**
QIZ				LR	LR		
comp=N,1μm,23.0s							
QIZ				LR	LR		
comp=Z,1μm,24.1s							
KGM	**Kluang**	**39.04**	**278**	P	**P**	**04 45 30.9**	**-2.1**
TAU	**Tasmania Unive**	**39.21**	**174**	P	**P**	**04 45 36.2**	**+2.3**
comp=Z,529nm,0.8s,SNR=6.2							
TAU	**Tasmania Unive**	**39.21**	**174**	*e*P	**P**	**04 45 36.2**	**+2.3**
TAU	**Tasmania Unive**	**39.21**	**174**	*e*P	**P**	**04 45 36.2**	**+2.3**
KTGM	**Kuala Trenggan**	**39.83**	**283**	P	**P**	**04 45 38.6**	**-0.8**
SSE	**Sheshan**	**39.98**	**332**	*e*P	**P**	**04 45 41.9**	**+1.5**
SSE				pP	**pP**	**04 45 55.4**	**+1.0**
SSE				S	**S**	**04 51 43.8**	**+1.6**
SSE				sS	**sS**	**04 52 06.4**	**+0.6**
SSE				pmax	pmax		
comp=Z,39nm,0.8s							
SSE				pmax	pmax		
comp=Z,28nm,3.5s							
SSE				LR	LR		
comp=N,380nm,22.5s							
SSE				LR	LR		
comp=E,810nm,22.5s							
SSE				LR	LR		
comp=Z,890nm,20.5s							
MAJO	**Matsushiro**	**40.31**	**355**	*e*P	**P**	**04 45 41.5**	**-1.7**
MAJO				pmax	pmax		
comp=Z,135nm,1.9s							
MAJO	**Matsushiro**	**40.31**	**355**	*e*P	**P**	**04 45 41.5**	**-1.7**
comp=Z,135nm,1.9s							
MAT	**Matsushiro**	**40.31**	**355**	P	**P**	**04 45 41.4**	**-1.8**
MAT				S	**S**	**04 51 52.0**	**+4.9**
UBPT	**Khong Chiam**	**40.81**	**299**	P	P	04 45 51.4	+3.9
comp=Z,34nm,1.9s,comp=Z,757nm							
UBPT	**Khong Chiam**	**40.81**	**299**	P	P	04 45 51.4	+3.9
comp=Z,34nm,1.9s,comp=Z,757nm							
FRIM	**Kepong**	**40.91**	**279**	P	**P**	**04 45 48.1**	**-0.3**
BKNI	**Bangkinang**	**41.09**	**275**	P	**P**	**04 45 50.7**	**+0.8**
comp=Z,120nm,1.1s,comp=Z,1μm							
PPI	**Padang Panjang**	**41.65**	**274**	P	**P**	**04 45 52.8**	**-1.7**
comp=Z,86nm,0.9s,comp=Z,36μm							
IPM	**Ipoh**	**41.71**	**281**	*e*P	**P**	**04 45 56.0**	**+0.9**
IPM	**Ipoh**	**41.71**	**281**	P	**P**	**04 45 56.4**	**+1.3**
NJ2	**Nanjing**	**41.90**	**330**	*e*P	**P**	**04 45 57.3**	**+1.1**
NJ2				pP	**pP**	**04 46 10.1**	**-0.2**
NJ2				sP	**sP**	**04 46 17.3**	**+0.8**
NJ2				PP	**PP**	**04 47 35.3**	**+1.2**
NJ2				S	**S**	**04 52 13.0**	**+2.3**
NJ2				sS	**sS**	**04 52 36.0**	**+1.6**
NJ2				pmax	pmax		
comp=Z,20nm,1.0s							
NJ2				pmax	pmax		
comp=Z,150nm,5.2s							
NJ2				LR	LR		
comp=N,4μm,19.3s							
NJ2				LR	LR		
comp=E,860nm,18.4s							
NJ2				LR	LR		
comp=Z,5μm,14.0s							
KULM	**Kulim**	**42.24**	**282**	*e*P	**P**	**04 46 00.2**	**+0.9**
comp=Z,32nm,1.5s							
KULM	**Kulim**	**42.24**	**282**	P	P	04 46 02.7	+3.4
CHBT	**CHBT**	**42.67**	**293**	P	**P**	**04 46 02.3**	**-0.4**
CHBT	**CHBT**	**42.67**	**293**	P	**P**	**04 46 02.3**	**-0.4**
comp=Z,56nm,0.7s							
OUZ	**Omahuta**	**42.81**	**141**	*e*P	**P**	**04 46 06.0**	**+2.4**
comp=Z,109nm,0.9s							
SKNT	**Sakolnakorn**	**42.82**	**300**	P	**P**	**04 46 03.5**	**-0.5**
comp=Z,38nm,0.7s							
KSAR	**Wonju Array Be**	**43.10**	**344**	P	**P**	**04 46 05.6**	**-0.2**
KSRS	**Korea Array**	**43.10**	**344**	P	**P**	**04 46 05.6**	**-0.2**
comp=Z,5.3nm,0.9s,baz=160,slow=8.8,SNR=19							
KSRS				LR	LR	05 02 36.2	
comp=Z,627nm,21.0s,baz=170,slow=34							
WHN	**Wuhan**	**43.17**	**324**	P	P	04 46 14.4	+7.8
WHN				S	**S**	**04 52 33.1**	**+3.6**
WHN				SS	**ScS**	**04 56 01.1**	**-1.3**
WHN				pmax	pmax		
comp=Z,950nm,3.8s							
WHN				LR	LR		
comp=Z,1μm,28.4s							
PSI	**Prapat**	**43.50**	**278**	P	**P**	**04 46 07.8**	**-1.9**
PSI	**Prapat**	**43.50**	**278**	P	**P**	**04 46 07.8**	**-1.9**
comp=Z,37nm,0.8s,baz=88,slow=3.4,SNR=16							
SRIT	**Nakonsritamara**	**43.99**	**286**	P	P	04 46 16.8	+3.3
comp=Z,207nm,1.0s							
SURA	**Surathani**	**44.11**	**287**	P	P	04 46 18.1	+3.7
comp=Z,55nm,0.8s							
PHET	**Kaeng Krachan**	**45.20**	**292**	P	**P**	**04 46 24.7**	**+1.6**
comp=Z,101nm,0.8s							
PBKT	**Sadao Pong**	**45.28**	**298**	P	P	04 46 29.9	+6.2
comp=Z,19nm,1.1s							
LOEI	**Loei**	**45.40**	**299**	P	**P**	**04 46 21.6**	**-3.0**
GYA	**Guiyang**	**45.51**	**313**	||*i*P	**P**	**04 46 25.3**	**-0.3**
GYA				pP	**pP**	**04 46 41.8**	**+2.0**
GYA				sP	**sP**	**04 46 48.0**	**+2.0**
GYA				PcP	**PcP**	**04 48 05.4**	**+1.7**
GYA				ScP	**ScP**	**04 51 52.5**	**+0.3**
GYA				S	**S**	**04 53 05.3**	**+1.3**
GYA				sS	**sS**	**04 53 28.9**	**+1.0**
GYA				pmax	pmax		
comp=Z,20nm,0.8s							
GYA				pmax	pmax		
comp=Z,140nm,5.2s							
GYA				LR	LR		
comp=N,760nm,18.3s							
GYA				LR	LR		
comp=E,680nm,19.8s							
GYA				LR	LR		
comp=Z,720nm,18.0s							
KNTN	**Kanton**	**46.26**	**90**	*e*P	**P**	**04 46 31.9**	**+0.4**
comp=Z,245nm,1.4s							
URZ	**Urewera**	**46.91**	**142**	*e*P	**P**	**04 46 37.4**	**+1.2**
comp=Z,106nm,1.5s							
URZ	**Urewera**	**46.91**	**142**	P	**P**	**04 46 36.8**	**+0.6**
comp=Z,13nm,0.3s,baz=293,slow=4.1,SNR=28							
BKZ	**Black Stump Fm**	**47.10**	**143**	*e*P	**P**	**04 46 39.3**	**+1.5**
comp=Z,48nm,0.8s							
LAMP	**Lampang**	**47.23**	**300**	P	P	04 46 42.2	+3.2
comp=Z,7.1nm,0.9s							
RPZ	**Rata Peaks**	**47.33**	**151**	*e*P	**P**	**04 46 40.5**	**+1.1**
comp=Z,226nm,1.8s							
RPZ	**Rata Peaks**	**47.33**	**151**	P	**P**	**04 46 39.4**	**+0.1**
comp=Z,25nm,0.6s,baz=216,slow=2.2,SNR=17							
PAYA	**Payao**	**47.36**	**301**	P	**P**	**04 46 40.3**	**+0.2**
comp=Z,10nm,0.8s,comp=Z,107nm							
KMI	**Kunming**	**47.72**	**309**	P	**P**	**04 46 42.1**	**-0.8**
KMI				pP	**pP**	**04 46 54.5**	**-2.7**
KMI				sP	**sP**	**04 47 00.3**	**-3.1**
KMI				PP	**PP**	**04 48 33.0**	**-2.1**
KMI				S	**S**	**04 53 32.8**	**-2.9**
KMI				ScS	**ScS**	**04 56 30.3**	**-2.1**
KMI				SS	**SS**	**04 57 01.5**	**-3.3**
KMI				pmax	pmax		
comp=Z,19nm,1.2s							
KMI				pmax	pmax		
comp=Z,190nm,6.6s							
KMI				LR	LR		
comp=N,440nm,16.0s							
KMI				LR	LR		
comp=E,630nm,19.8s							
KMI				LR	LR		
comp=Z,1μm,22.8s							
ASAJ	**Asahikawa**	**47.73**	**1**	*e*P	**P**	**04 46 42.2**	**-0.2**
comp=Z,59nm,1.6s							
ASAJ	**Asahikawa**	**47.73**	**1**	P	**P**	**04 46 42.2**	**-0.2**
comp=Z,20nm,0.8s,baz=225,slow=15,SNR=8.7							
ASAJ				LR	LR	05 03 35.2	
comp=Z,631nm,20.4s,baz=33,slow=32							
YUK	**Yuzh-Kuril'sk**	**47.78**	**4***d*	*i*P	P	04 46 37.6	-5.2
YUK				*i*		04 48 37.4	
YUK				*i* S	**S**	**04 53 33.8**	**-1.6**
YUK				*i* SS	**SS**	**04 57 03.4**	**-1.3**
YUK				MLR	MLR		
comp=Z,788nm,20.0s							
CMAR	**Chiang Mai Arr**	**47.80**	**299**	P	**P**	**04 46 43.8**	**+0.3**
CMAR	**Chiang Mai Arr**	**47.80**	**299**	P	**P**	**04 46 43.8**	**+0.3**
comp=Z,5.9nm,0.8s,baz=123,slow=6.2,SNR=17							
CHTO	**Chiang Mai**	**47.94**	**300**	*e*P	**P**	**04 46 43.2**	**-1.3**
CHTO				pmax	pmax		
comp=Z,94nm,1.3s							
CHTO	**Chiang Mai**	**47.94**	**300**	*e*P	**P**	**04 46 43.2**	**-1.3**
comp=Z,94nm,1.3s							
CMAI	**Chiengmai2**	**48.31**	**301**	P	**P**	**04 46 47.7**	**+0.2**
comp=Z,6.7nm,0.8s,comp=Z,479nm							
SNY	**Shenyang**	**48.42**	**342**	||P	**P**	**04 46 47.8**	**0.0**
SNY				S	**S**	**04 53 50.1**	**+5.4**
SN

CD2	**Chengdu**	**50.20 316**	P	**P**	**04 47 02.4 +0.7**
CD2			pP	**pP**	**04 47 16.3 +0.2**
CD2			sP	**sP**	**04 47 22.4 +0.2**
CD2			PcP	**PcP**	**04 48 21.0 +0.7**
CD2			PP	**PP**	**04 48 59.3 +1.8**
CD2			S	**S**	**04 54 09.1 -1.0**
CD2			sS	**sS**	**04 54 33.5 -0.8**
CD2			SS	**SS**	**04 57 40.5 -3.8**
CD2			pmax	pmax	
	comp=Z,70nm,1.1s				
CD2			pmax	pmax	
	comp=Z,210nm,4.3s				
CD2			LR	LR	
	comp=N,1μm,17.2s				
CD2			LR	LR	
	comp=Z,720nm,19.6s				
YSS	**Yuzh-Sakhalins**	**50.57 1⇑**	*i*P	**P**	**04 47 03.2 -0.9**
YSS			*e*		04 47 13.0
YSS			pmax	pmax	
	comp=Z,40nm,1.1s				
HHC	**Hu-ho-hao-te**	**52.43 331**	*e*P	**P**	**04 47 21.3 +3.0**
HHC			pP	**pP**	**04 47 37.1 +4.4**
HHC			PP	**PP**	**04 49 21.9 +4.3**
HHC			S	**S**	**04 54 39.3 -1.4**
HHC			sS	**sS**	**04 55 05.6 +0.6**
HHC			SS	**SS**	**04 58 16.3 -3.1**
HHC			pmax	pmax	
	comp=Z,41nm,0.8s				
HHC			pmax	pmax	
	comp=Z,210nm,4.9s				
HHC			LR	LR	
	comp=N,2μm,19.0s				
HHC			LR	LR	
	comp=E,2μm,16.7s				
HHC			LR	LR	
	comp=Z,2μm,20.2s				
BTO	**Baotou**	**53.01 330**	*e*P	**P**	**04 47 23.3 +0.8**
LZH	**Lanzhou**	**53.34 321**	*e*P	**P**	**04 47 26.8 +1.6**
LZH			pP	**pP**	**04 47 40.4 +0.8**
LZH			sP	**sP**	**04 47 47.1 +1.3**
LZH			PcP	**PcP**	**04 48 31.9 -0.2**
LZH			PP	**PP**	**04 49 24.0 -2.0**
LZH			*e*S	**S**	**04 54 55.1 +1.7**
LZH			SS	**SS**	**04 58 34.1 0.0**
LZH			pmax	pmax	
	comp=Z,70nm,1.1s				
LZH			pmax	pmax	
	comp=Z,210nm,5.8s				
LZH			LR	LR	
	comp=N,600nm,15.3s				
LZH			LR	LR	
	comp=E,380nm,14.5s				
LZH			LR	LR	
	comp=Z,2μm,18.0s				
KLR	**Kul'dur**	**53.58 352**	*e*P	P	04 47 22.0 -4.5
KLR			*e*		04 47 33.7
KLR			*e*S	S	04 55 15.5 +20
SHL	**Shillong**	**56.63 304**	*e*P	**P**	**04 47 49.0 -0.1**
SHL			*e*S	**S**	**04 55 38.0 +0.2**
GTA	**Gaotai**	**57.91 322**	P	**P**	**04 47 58.8 +1.0**
GTA			pP	**pP**	**04 48 11.8 -0.7**
GTA			sP	**sP**	**04 48 17.0 -1.6**
GTA			S	**S**	**04 55 56.6 +2.5**
GTA			sS	**sS**	**04 56 15.8 -2.9**
GTA			SS	**SS**	**04 59 50.8 +4.9**
GTA			pmax	pmax	
	comp=Z,48nm,0.9s				
GTA			pmax	pmax	
	comp=Z,200nm,4.1s				
GTA			LR	LR	
	comp=N,310nm,18.1s				
GTA			LR	LR	
	comp=E,340nm,21.6s				
GTA			LR	LR	
	comp=Z,330nm,23.0s				
PETK	**Petropavlovsk-**	**58.26 11**	P	**P**	**04 47 59.7 -0.2**
PETK			pmax	pmax	
	comp=Z,11nm,0.6s				
PETK	**Petropavlovsk-**	**58.26 11**	P	**P**	**04 47 59.6 -0.2**
PETK	**Petropavlovsk-**	**58.26 11**	P	**P**	**04 47 59.6 -0.2**
	comp=Z,17nm,0.8s,baz=164,slow=5.2,SNR=19				
PETK			LR	LR	05 08 39.3
	comp=Z,718nm,21.5s,baz=205,slow=32				
RAR	**Rarotonga**	**59.11 112**	LR	LR	05 09 39.5
	comp=Z,429nm,21.9s,baz=315,slow=32				
ULN	**Ulaanbaatar**	**59.87 334**	P	**P**	**04 48 13.1 +1.8**
	SNR=20				
ULN	**Ulaanbaatar**	**59.87 334**	*e*P	**P**	**04 48 12.3 +1.0**
	comp=Z,83nm,1.6s				
SONM	**Songino Array**	**60.14 333**	P	**P**	**04 48 13.7 +0.6**
SONM	**Songino Array**	**60.14 333**	P	**P**	**04 48 13.7 +0.6**
	comp=Z,7.1nm,0.8s,baz=157,slow=7.9,SNR=13				
SONM			LR	LR	05 15 01.8
	comp=Z,985nm,19.5s,baz=283,slow=37				
TAPN	**Taplejung**	**60.77 304**	*e*Pn	**P**	**04 48 18.8 +0.8**
	comp=Z,60nm,0.7s				
ODAN	**Odare**	**60.85 304**	*e*Pn	**P**	**04 48 19.4 +0.9**
	comp=Z,91nm,0.8s				
RAMN	**Ramite**	**61.54 303**	*e*Pn	**P**	**04 48 24.0 +0.8**
	comp=Z,53nm,0.7s				
CLNS	**Chul'man**	**62.04 349**	*e*P	**P**	**04 48 26.2 +0.5**
CLNS			*e*		04 49 09.3
CLNS			*e*		04 50 41.3
CLNS			*e*S	**S**	**04 56 45.8 -0.5**
CLNS			*e*		04 58 18.9
CLNS			pmax	pmax	
	comp=Z,21nm,1.0s				
CLNS			pmax	pmax	
	comp=N,13nm,1.1s				
CLNS			pmax	pmax	
	comp=E,5.0nm,1.1s				
CLNS			pmax	pmax	
	comp=E,5.0nm,1.0s				
CLNS			pmax	pmax	
	comp=Z,8.0nm,1.1s				
CLNS			pmax	pmax	
	comp=N,5.0nm,1.3s				
CLNS			smax	smax	
	comp=N,165nm,12.8s				
CLNS			smax	smax	
	comp=E,204nm,14.1s				
CLNS			MLR	MLR	
	comp=N,264nm,21.0s				
CLNS			MLR	MLR	
	comp=E,166nm,17.0s				
JIRN	**Jiri**	**62.14 304**	*e*Pn	**P**	**04 48 27.9 +0.5**
	comp=E,34nm,0.5s				
FX1	**Attu Island--F**	**62.33 21**	P	**P**	**04 48 27.3 -0.3**
FX1	**Attu Island--F**	**62.33 21**	P	**P**	**04 48 27.3 -0.3**
	comp=E,37nm,0.7s,baz=183,slow=3.9,SNR=5.1				
GUN	**Gumba**	**62.48 304**	*e*Pn	**P**	**04 48 30.6 +1.0**
	comp=E,147nm,0.9s				
PKI	**Pulchoki**	**62.76 304**	*e*Pn	**P**	**04 48 31.8 +0.4**
	comp=E,31nm,0.7s				
PKIN	**Phulchoki**	**62.77 304**	*e*Pn	**P**	**04 48 31.8 +0.4**
	comp=E,35nm,0.8s				
KKN	**Kakani**	**62.94 304**	*e*Pn	**P**	**04 48 33.2 +0.7**
	comp=E,99nm,1.0s				
DMN	**Daman**	**63.02 304**	*e*Pn	**P**	**04 48 34.0 +0.9**
	comp=E,80nm,0.6s				
ZAK	**Zakamensk**	**63.40 333**	*e*P	**P**	**04 48 35.1 +0.1**
ZAK			pmax	pmax	
	comp=Z,26nm,1.4s				
TLY	**Talaya**	**64.18 335**	*e*P	**P**	**04 48 41.3 +1.3**
TLY			pmax	pmax	
	comp=Z,34nm,1.5s				
TLY			MLR	MLR	
	comp=Z,817nm,21.0s				
KOLN	**Koldanda**	**64.33 303**	*e*Pn	**P**	**04 48 42.3 +0.6**
	comp=Z,50nm,0.6s				
DANN	**Dangsing**	**64.39 304**	*e*Pn	**P**	**04 48 42.6 +0.4**
	comp=Z,89nm,0.7s				
PYUN	**Piuthan**	**64.95 303**	*e*Pn	**P**	**04 48 46.3 +0.6**
	comp=Z,379nm,0.5s				
MOY	**Mondy**	**65.33 333**	*e*P	**P**	**04 48 49.1 +1.5**
MOY			pmax	pmax	
	comp=Z,48nm,2.3s				
HYB	**Hyderabad**	**65.99 291**	*i*P	**P**	**04 48 52.0 -0.4**
CASY	**Casey**	**66.10 193**	*e*P	**P**	**04 48 52.3 +0.2**
	comp=Z,33nm,0.9s				
SEY	**Seymchan**	**67.05 5⇓**	*i*P	**P**	**04 48 58.1 -0.1**
WMQ	**Urumqi**	**67.91 321**	P	**P**	**04 49 04.8 +0.7**
WMQ			pP	**pP**	**04 49 19.3 +0.2**
WMQ			sP	**sP**	**04 49 25.1 0.0**
WMQ			PcP	**PcP**	**04 49 31.1 +0.8**
WMQ			S	**S**	**04 57 58.0 -0.9**
WMQ			SS	**SS**	**05 02 21.4 -0.4**
WMQ			pmax	pmax	
	comp=Z,71nm,0.9s				
WMQ			pmax	pmax	
	comp=Z,320nm,4.8s				
WMQ			LR	LR	
	comp=N,530nm,24.6s				
WMQ			LR	LR	
	comp=E,470nm,20.0s				
WMQ			LR	LR	
	comp=Z,320nm,22.4s				
PPT	**Papeete**	**68.34 107**	LR	LR	05 12 19.1
	comp=Z,446nm,21.9s,baz=84,slow=30				
PPT2	**Papeete2**	**68.34 107**	*e*S	**S**	**04 58 00.2 -4.8**
	comp=Z,477nm,25.8s				
PPT2	**Papeete2**	**68.34 107**	*e*LR	LR	05 09 36.8
	comp=Z,1μm,29.2s				
HVS	**Khovu-Aksy**	**68.46 330**	*d i*P	**P**	**04 49 08.2 +0.7**
HVS			pmax	pmax	
	comp=Z,288nm,1.1s				
TBI	**Tubuai**	**68.84 113**	*e*S	**S**	**04 58 08.0 -2.7**
	comp=Z,661nm,39.5s				
TBI			*e*LQ	LQ	05 06 57.8
	comp=Z,2μm,40.2s				
TBI			*e*LR	LR	05 09 52.7
	comp=Z,852nm,25.8s				
KAD	**Karad**	**70.06 290**	*ex*	**P**	**04 49 18.0 0.0**
POO	**Poona**	**70.60 291⇑**	*ix*	**P**	**04 49 20.0 -1.3**
MIR	**Mirnyy**	**71.15 199⇑**	*i*P	**P**	**04 49 26.0 +2.4**
MIR			*i*		04 49 41.0
MIR			pmax	pmax	
	comp=Z,125nm,1.5s				
MK31	**Makanchi Array**	**72.66 322**	*ce*P	**P**	**04 49 33.6 +0.5**
MK31			pmax	pmax	
	comp=Z,125nm,1.2s				
MK31	**Makanchi Array**	**72.66 322**	*e*P	**P**	**04 49 34.1 +1.1**
MKAR	**Makanchi Array**	**72.66 322**	*ce*P	**P**	**04 49 34.0 +1.0**
MKAR			*e**PP	**pP**	**04 49 48.0 -0.2**
MKAR			pmax	pmax	
	comp=Z,57nm,0.9s				
MKAR	**Makanchi Array**	**72.66 322**	P	**P**	**04 49 34.1 +1.0**
MKAR	**Makanchi Array**	**72.66 322**	P	**P**	**04 49 34.1 +1.0**
	comp=Z,57nm,0.9s,baz=108,slow=7.8,SNR=266				
MKAR			LR	LR	05 22 23.5
	comp=Z,257nm,21.4s,baz=225,slow=37				
KSH	**Kashi**	**74.21 313**	P	**P**	**04 49 45.1 +2.6**
KSH			PcP	**pP**	**04 49 59.4 +1.8**
KSH			sP	**sP**	**04 50 06.0 +2.4**
KSH			PP	PP	04 52 34.3 +5.5
KSH			S	**S**	**04 59 14.0 +1.7**
KSH			SKS	**SKSac**	**04 59 43.8 -2.1**
KSH			SS	**SS**	**05 04 04.6 +5.8**
KSH			pmax	pmax	
	comp=Z,76nm,1.3s				
KSH			pmax	pmax	
	comp=Z,190nm,4.2s				
KSH			LR	LR	
	comp=N,170nm,6.9s				
KSH			LR	LR	
	comp=E,180nm,6.0s				
KSH			LR	LR	
	comp=Z,280nm,11.5s				
VNDA	**Vanda**	**74.40 176**	*e*P	**P**	**04 49 42.8 +0.1**
VNDA	**Vanda**	**74.40 176**	P	**P**	**04 49 43.2 +0.4**
	comp=Z,7.8nm,0.7s,baz=325,slow=6.1,SNR=68				
VNDA			LR	LR	05 22 09.9
	comp=Z,2μm,19.0s,baz=352,slow=36				
ZALV	**Zalesovo Beam**	**74.54 329**	P	**P**	**04 49 43.5 -0.4**
ZALV			pmax	pmax	
	comp=Z,8.0nm,0.7s				
ZALV			MLR	MLR	
	comp=Z,661nm,21.9s				
ZALV	**Zalesovo Beam**	**74.54 329**	P	**P**	**04 49 43.5 -0.4**
ZALV	**Zalesovo Beam**	**74.54 329**	P	**P**	**04 49 43.5 -0.4**
	comp=Z,7.6nm,0.7s,baz=103,slow=5.7,SNR=14				
ZALV			LR	LR	05 23 37.9
	comp=Z,661nm,21.9s,baz=69,slow=37				
ULHL	**Ulahol**	**74.91 315**	*i* P	**P**	**04 49 48.0 +1.4**
ULHL	**Ulahol**	**74.91 315**	P	**P**	**04 49 48.0 +1.4**
	SNR=8.0				
SBA	**Scott Base**	**75.13 175**	*e*P	**P**	**04 49 48.9 +2.0**
SBA			pmax	pmax	
	comp=Z,120nm,2.1s				
SBA	**Scott Base**	**75.13 175**	*e*P	**P**	**04 49 48.9 +2.0**
	comp=Z,120nm,2.1s				
SDPT	**Sand Point**	**75.45 30**	*e*P	**P**	**04 49 50.4 +1.3**
	comp=Z,63nm,0.8s				
KZA	**Kyzart**	**75.55 315**	*i* P	**P**	**04 49 52.9 +2.4**
KZA	**Kyzart**	**75.55 315**	P	**P**	**04 49 53.0 +2.4**
	SNR=9.9				
TKM2	**Tokmak 2**	**75.58 316**	*i* P	**P**	**04 49 51.6 +1.2**
TKM2	**Tokmak 2**	**75.58 316**	P	**P**	**04 49 51.6 +1.2**
	SNR=51				
TKM2	**Tokmak 2**	**75.58 316**	*e*P	**P**	**04 49 51.7 +1.2**
	comp=Z,35nm,0.8s				
NVS	**Novosibirsk**	**75.78 329⇓**	*i*P	**P**	**04 49 50.5 -0.5**
NVS			*e*S	**S**	**04 59 31.9 +3.1**
NVS			pmax	pmax	
	comp=N,22nm,1.6s				
NVS			pmax	pmax	
	comp=E,35nm,1.6s				
NVS			pmax	pmax	
	comp=Z,55nm,1.6s				
NVS			smax	smax	
	comp=N,21nm,3.0s				
NVS			smax	smax	
	comp=E,42nm,3.0s				
TIXI	**Tiksi**	**75.82 356⇑**	*i*P	**P**	**04 49 52.4 +1.5**
TIXI			pmax	pmax	
	comp=Z,33nm,3.2s				
TIXI			MLR	MLR	
	comp=Z,473nm,20.0s				
KBK	**Karagaybulak**	**75.95 316**	*i* P	**P**	**04 49 54.1 +1.6**
KBK	**Karagaybulak**	**75.95 316**	P	**P**	**04 49 54.1 +1.6**
	SNR=15				
UCH	**Uchtor**	**76.12 315**	*i* P	**P**	**04 49 55.9 +2.1**
UCH	**Uchtor**	**76.12 315**	P	**P**	**04 49 56.0 +2.1**
	SNR=16				
CHMS	**Chumysh**	**76.20 316**	*i* P	**P**	**04 49 55.1 +1.4**
CHMS	**Chumysh**	**76.20 316**	P	**P**	**04 49 55.1 +1.4**
	SNR=12				
FRU	**Bishkek**	**76.24 316**	*i* P	**P**	**04 49 55.0 +1.0**
FRU			*e*S	**S**	**04 59 38.0 +3.5**
FRU			pmax	pmax	
	comp=Z,90nm,1.9s				
AAK	**Ala-Archa**	**76.26 315**	P	**P**	**04 49 55.5 +1.3**
	comp=Z,146nm,1.0s,SNR=14				
AAK	**Ala-Archa**	**76.26 315**	*d i*P	**P**	**04 49 55.3 +1.0**
AAK			pmax	pmax	
	comp=Z,96nm,1.2s				
AAK	**Ala-Archa**	**76.26 315**	P	**P**	**04 49 55.8 +1.5**
	SNR=18				
AAK	**Ala-Archa**	**76.26 315**	P	**P**	**04 49 55.6 +1.3**
	SNR=21				
AAK	**Ala-Archa**	**76.26 315**	*e*P	**P**	**04 49 55.4 +1.3**
	comp=Z,36nm,1.1s				
USP	**Ospenovka**	**76.46 316**	*i* P	**P**	**04 49 56.3 +1.1**
USP	**Ospenovka**	**76.46 316**	P	**P**	**04 49 56.4 +1.1**
	SNR=79				
KURK	**Kurchatov**	**76.50 324**	P	**P**	**04 49 55.5 +0.3**
	comp=Z,111nm,1.1s,SNR=17				
KURK	**Kurchatov**	**76.50 324**	*d i*P	**P**	**04 49 55.2 0.0**
KURK			pmax	pmax	
	comp=Z,41nm,1.5s				
KURK	**Kurchatov**	**76.50 324**	P	**P**	**04 49 55.8 +0.6**
	SNR=26				
KURK	**Kurchatov**	**76.50 324**	*e*P	**P**	**04 49 55.5 +0.3**
	comp=Z,32nm,1.2s				
AML	**Almayashu**	**76.67 315**	*i* P	**P**	**04 49 58.9 +2.1**
AML	**Almayashu**	**76.67 315**	P	**P**	**04 49 58.9 +2.1**
	SNR=8.9				
EKS2	**Erkin-Say**	**76.77 315**	*e*P	**P**	**04 49 58.7 +1.6**
EKS2			pmax	pmax	
	comp=Z,48nm,1.0s				
EKS2	**Erkin-Say**	**76.77 315**	P	**P**	**04 49 58.3 +1.2**
	SNR=32				
EKS2	**Erkin-Say**	**76.77 315**	*e*P	**P**	**04 49 58.7 +1.6**
	comp=Z,48nm,1.0s				
KBL	**Kabul**	**78.19 306**	*e*P	**P**	**04 50 05.3 0.0**
KBL	**Kabul**	**78.19 306**	*e*P	**P**	**04 50 05.3 0.0**
KK31	**Karatay Array**	**79.20 315**	*ce*P	**P**	**04 50 10.7 +0.3**
KK31			pmax	pmax	
	comp=Z,7.0nm,0.5s				
KKAR	**Karatay Array**	**79.20 315**	*e*P	**P**	**04 50 11.2 +0.8**
KKAR	**Karatay Array**	**79.20 315**	*e*P	**P**	**04 50 11.2 +0.8**
OHAK	**Old Harbor**	**79.88 30**	*e*P	**P**	**04 50 14.2 +0.5**
	comp=Z,47nm,0.8s				
SVW2	**Sparrevohn**	**80.44 26**	*e*P	**P**	**04 50 17.6 +0.9**
KDAK	**Kodiak Island**	**80.45 30**	P	**P**	**04 50 15.2 -1.6**
	comp=Z,359nm,1.2s,SNR=8.1				
KDAK	**Kodiak Island**	**80.45 30**	*e*P	**P**	**04 50 16.7 0.0**
	comp=Z,94nm,1.2s				
KDAK	**Kodiak Island**	**80.45 30**	P	**P**	**04 50 16.1 -0.6**
	comp=Z,36nm,0.9s,baz=228,slow=0.2,SNR=14				
RSO	**Redoubt South**	**81.43 27**	*e*P	**P**	**04 50 21.4 -0.9**
VOSK	**Vostochnaya**	**81.65 324**	*e*P	**P**	**04 50 23.5 +0.2**
VOSK	**Vostochnaya**	**81.65 324**	*e*P	**P**	**04 50 23.5 +0.2**
BVA0	**Borovoye Array**	**82.08 325**	P	**P**	**04 50 25.8 +0.2**
BVA0			pmax	pmax	
	comp=Z,120nm,1.2s				
RKT	**Rikitea**	**82.15 113**	*e*S	**S**	**05 00 33.4 -4.5**
	comp=Z,246nm,29.8s				
RKT	**Rikitea**	**82.15 113**	*e*LQ	LQ	05 12 33.5
	comp=Z,448nm,37.5s				
RKT			*e*LR	LR	05 15 53.6
	comp=Z,702nm,25.8s				
BRVK	**Borovoye**	**82.15 325**	P	**P**	**04 50 26.8 +0.9**
	comp=Z,249nm,1.0s,SNR=16				
BRVK	**Borovoye**	**82.15 325**	*d i*P	**P**	**04 50 26.6 +0.6**
BRVK			*e**PP	**pP**	**04 50 41.4 +0.1**
BRVK			pmax	pmax	
	comp=Z,95nm,1.7s				
BRVK	**Borovoye**	**82.15 325**	P	**P**	**04 50 26.8 +0.9**
	SNR=31				
BRVK	**Borovoye**	**82.15 325**	*e*P	**P**	**04 50 26.4 +0.5**
	comp=Z,26nm,0.8s				
MAW	**Mawson**	**82.32 202**	*e*P	**P**	**04 50 27.3 +0.8**
	comp=Z,13nm,1.3s				
MAW	**Mawson**	**82.32 202**	P	**P**	**04 50 27.2 +0.7**
	comp=Z,25nm,0.9s,baz=75,slow=6.1,SNR=25				
MAW			LR	LR	05 22 26.7
	comp=Z,829nm,20.2s,baz=72,slow=32				
PPLA	**Purkeypile**	**82.65 25**	*e*P	**P**	**04 50 28.1 -0.5**
	comp=Z,141nm,1.6s				
SEW	**Seward**	**82.82 28**	*e*P	**P**	**04 50 28.9 -0.4**
	comp=Z,26nm,0.7s				
IM04	**Indian Mountai**	**83.29 22**	*e*P	**P**	**04 50 31.2 -0.4**
PMR	**Palmer**	**83.49 27**	*e*P	**P**	**04 50 31.8 -0.9**
PMR			pmax	pmax	
	comp=Z,28nm,0.9s				
PMR	**Palmer**	**83.49 27**	*e*P	**P**	**04 50 31.8 -0.9**
	comp=Z,28nm,0.9s				
BPAW	**Bear Paw Mtn.**	**83.62 24**	*e*P	**P**	**04 50 32.8 -0.6**
	comp=Z,20nm,0.9s				
MCK	**McKinley**	**84.33 25**	*e*P	**P**	**04 50 35.7 -1.2**
MCK			pmax	pmax	
	comp=Z,52nm,0.8s				
MCK	**McKinley**	**84.33 25**	*e*P	**P**	**04 50 35.7 -1.2**
	comp=Z,52nm,0.8s				
DIV	**Divide**	**84.87 28**	*e*P	**P**	**04 50 40.5 +0.6**
	comp=Z,64nm,0.6s				
COLD	**Coldfoot**	**85.10 21**	*e*P	**P**	**04 50 41.1 +0.3**
	comp=Z,14nm,0.6s				
COLA	**College**	**85.16 24**	*e*P	**P**	**04 50 40.4 -0.7**
COLA			pmax	pmax	
	comp=Z,45nm,0.8s				
COLA	**College**	**85.16 24**	*e*P	**P**	**04 50 40.4 -0.7**
	comp=Z,44nm,0.8s				
BMRM	**Bremner River**	**85.37 28**	*e*P	**P**	**04 50 42.5 +0.2**
	comp=Z,44nm,0.8s				
ILAR	**Eielson Array**	**85.52 24**	P	**P**	**04 50 41.2 -1.6**
ILAR	**Eielson Array**	**85.52 24**	P	**P**	**04 50 41.2 -1.6**
	comp=Z,44nm,0.8s,baz=256,slow=4.9,SNR=370				
ILAR			LR	LR	05 31 46.7
	comp=Z,352nm,18.8s,baz=66,slow=38				
PAX	**Paxson**	**85.56 26**	*e*P	**P**	**04 50 43.0 -0.3**
PAX			pmax	pmax	
	comp=Z,11nm,0.5s				
PAX	**Paxson**	**85.56 26**	*e*P	**P**	**04 50 43.0 -0.3**
	comp=Z,11nm,0.5s				
QSPA	**South Pole Qui**	**86.12 180**	*e*P	**P**	**04 50 45.6 -0.5**
	comp=Z,24nm,0.7s				
QSPA			*e*PP	**PP**	**04 54 06.3 -0.4**
MENT	**Mentasta**	**86.31 26**	*e*P	**P**	**04 50 47.4 +0.5**
AB31	**Akbulak array**	**87.66 320**	*ce*P	**P**	**04 50 52.9 -0.8**
AB31			pmax	pmax	
	comp=Z,4.0nm,0.4s				
ABKAR	**Akbulak array**	**87.66 320**	*e*P	**P**	**04 50 53.2 -0.5**
	comp=Z,22nm,0.8s				
EGAK	**Eagle**	**87.88 25**	*e*P	**P**	**04 50 54.5 +0.1**
	comp=Z,29nm,0.8s				
DAWY	**Dawson**	**88.47 26**	*e*P	**P**	**04 50 57.8 +0.5**
ARU	**Arti**	**89.50 327**	*d i*P	**P**	**04 51 01.0 -1.2**
ARU					04 54 32.1
ARU			S	**SKSac**	**05 01 26.1 -1.8**
ARU			pmax	pmax	
	comp=Z,34nm,1.7s				
DIB	**Dawson Inlet,**	**90.38 37**	T	T	06 31 27.0
	SNR=373				
SOKR	**Solikamsk**	**90.82 330⇑**	*i*P	**P**	**04 51 07.4 -0.8**
SOKR			pmax	pmax	
	comp=Z,20nm,1.4s				
SOKR			MLR	MLR	
	comp=Z,550nm,25.0s				
SYO	**Syowa Base**	**90.86 201⇓**	*e*P	**P**	**04 51 07.6 -0.7**
INK	**Inuvik**	**91.50 22**	P	**P**	**04 51 10.4 -0.8**
INK	**Inuvik**	**91.50 22**	P	**P**	**04 51 10.4 -0.8**
	comp=Z,8.0nm,1.0s,baz=249,slow=5.4				
IFIR	**Firoozkooh**	**91.55 305**	*e*P	**P**	**04 51 11.4 -1.2**
ISFB	**Sefidab**	**91.90 304**	*e*P	**P**	**04 51 13.5 -0.5**
IDMV	**Damavand**	**92.14 305**	*e*		04 47 04.8
	comp=Z,1μm,1.1s				
IDMV			*e*P	P	04 51 12.0 -3.4
DLBC	**Dease Lake**	**92.20 32**	LR	LR	05 24 57.4
	comp=Z,405nm,20.2s,baz=260,slow=31				
IR3	**Iran Long-Peri**	**92.95 305**	*e*P	P	04 51 13.2 -5.7
IRAZ	**Razeghan**	**93.84 305**	*e*P	P	04 51 11.6 -12
HUMO	**Hull Mountain**	**96.32 48**	*e*P	**P**	**04 51 34.6 +0.5**
	comp=Z,8.0nm,0.8s				
WDC	**Whiskeytown Da**	**96.66 50**	*e*P	**P**	**04 51 36.1 +0.5**
WDC			pmax	pmax	
	comp=Z,8.0nm,0.9s				
WDC	**Whiskeytown Da**	**96.66 50**	*e*P	**P**	**04 51 36.1 +0.5**
	comp=Z,7.6nm,0.9s				
MOD	**Modoc**	**98.31 48**	*e*P	**P**	**04 51 43.1 -0.1**
	comp=Z,106nm,1.3s				
ZEI	**Tsey**	**98.50 313**	*e*P	**P**	**04 51 42.1 -2.0**
ZEI			pmax	pmax	
	comp=Z,15nm,1.4s				
KIV	**Kislovodsk**	**99.32 314**	*e*P	**Pdif**	**04 51 47.2 -0.4**
KIV			pmax	pmax	
	comp=Z,9.0nm,1.1s				
KLMR	**Klimovskoe**	**99.38 331**	*e*P	**Pdif**	**04 51 45.0 -2.3**
KLMR			pmax	pmax	
	comp=Z,1μm,23.3s				
VRHR	**Novokhopersk**	**99.45 321**	*e*P	**Pdif**	**04 51 46.0 -1.9**
VRHR			pmax	pmax	
	comp=Z,20nm,0.8s				
VRHR			pmax	pmax	
	comp=N,10.0nm,0.5s				
VRHR			pmax	pmax	
	comp=E,10.0nm,1.0s				
TMCR	**Tamitsa**	**99.48 334**	*e*P	**Pdif**	**04 51 40.9 -6.8**
TMCR			pmax	pmax	
	comp=Z,24nm,1.0s				
YKA	**Yellowknife Ar**	**99.58 27**	P	**Pdif**	**04 51 47.3 -0.9**
YKA	**Yellowknife Ar**	**99.58 27**	P	**Pdif**	**04 51 47.3 -0.9**
	comp=Z,4.3nm,0.8s,baz=281,slow=4.9,SNR=7.7				
NVAR	**Mina Array Bea**	**100.00 52**	P	**Pdif**	**04 51 50.0 -0.9**
NVAR	**Mina Array Bea**	**100.00 52**	P	**Pdif**	**04 51 50.0 -0.9**
	comp=Z,1.5nm,0.6s,baz=256,slow=6.4,SNR=14				
APA	**Apatity**	**100.55 338⇓**	*e*P	Pdif	04 51 39.0 -13
APA			MLR	MLR	
	comp=Z,700nm,17.0s				
VORD	**Divnogorie**	**100.93 321**	*e*P	**Pdif**	**04 51 53.1 -1.3**
VORD			pmax	pmax	
	comp=Z,10.0nm,1.0s				
VORD			pmax	pmax	
	comp=N,10.0nm,0.6s				
VORD			pmax	pmax	
	comp=E,10.0nm,0.6s				
SNAA	**Sanae**	**101.24 191**	*e*P	**Pdif**	**04 51 56.5 +0.9**
SNAA	**Sanae**	**101.24 191**	*e*I	**PP**	**04 56 02.1 -2.4**
OBN	**Obninsk**	**101.91 326**	P	**Pdif**	**04 51 58.0 -0.7**
OBN			*e*SS	SS	05 10 48.6 +7.8
OBN			pmax	pmax	
	comp=Z,10.0nm,0.6s				
ARCES	**ARCESS Array B**	**102.61 341**	P	**Pdif**	**04 52 00.2 -1.4**
ARCES			PKiKP	**PKiKP**	**04 56 22.5 +0.3**
ARCES	**ARCESS Array B**	**102.61 341**	P	**Pdif**	**04 52 00.2 -1.4**
	comp=Z,4.8nm,1.0s,baz=100,slow=5.3,SNR=6.6				

ARCES				PKiKP	**PKiKP**	**04 56 22.5**	**+0.3**
	comp=Z,2.5nm,0.9s,baz=64,slow=4.1,SNR=2.7						
VNA2	**Neumayer--Watz**	**102.68**	**190**	*e*P	**Pdif**	**04 52 05.2**	**+3.3**
VNA2	**Neumayer--Watz**	**102.68**	**190**	*e*I	**PP**	**04 56 13.8**	**-1.4**
FINES	**FINESS Array B**	**105.51**	**333**	Pdif	**Pdif**	**04 52 13.2**	**-1.3**
FINES	**FINESS Array B**	**105.51**	**333**	Pdiff	**Pdif**	**04 52 13.2**	**-1.3**
	comp=Z,4.0nm,0.9s,baz=351,slow=1.8,SNR=3.7						
PDAR	**Pinedale Array**	**106.14**	**47**	Pdif	**Pdif**	**04 52 18.6**	**+0.5**
PDAR	**Pinedale Array**	**106.14**	**47**	Pdiff	**Pdif**	**04 52 18.6**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=318,slow=3.6,SNR=4.7						
BRTR	**Keskin Array B**	**106.50**	**310**	Pdif	**Pdif**	**04 52 18.3**	**-1.4**
BRTR	**Keskin Array B**	**106.50**	**310**	Pdiff	**Pdif**	**04 52 18.3**	**-1.4**
	comp=Z,0.5nm,0.7s,baz=116,slow=6.6,SNR=2.8						
AKASG	**Malin Array Be**	**107.24**	**322**	P	**Pdif**	**04 52 20.1**	**-2.4**
AKASG						04 56 49.6	
AKASG	**Malin Array Be**	**107.24**	**322**	Pdif	**Pdif**	**04 52 20.1**	**-2.4**
AKASG				PP	**PP**	**04 56 49.6**	**-0.2**
AKASG	**Malin Array Be**	**107.24**	**322**	Pdiff	**Pdif**	**04 52 20.1**	**-2.4**
	comp=Z,0.1nm,0.3s,baz=57,slow=5.2,SNR=5.7						
AKASG				PP	**PP**	**04 56 49.6**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=60,slow=7.8,SNR=4.3						
TXAR	**Lajitas Array**	**113.08**	**60**	Pdif	**Pdif**	**04 52 52.7**	**+3.6**
TXAR				PKiKP	**PKiKP**	**04 56 41.9**	**-1.2**
TXAR				PP	**PP**	**04 57 30.6**	**-2.3**
TXAR				PKKP	**PKKPdf**	**05 07 49.6**	**-1.4**
TXAR	**Lajitas Array**	**113.08**	**60**	Pdiff	**Pdif**	**04 52 52.7**	**+3.6**
	comp=Z,0.1nm,0.6s,baz=260,slow=5.4,SNR=2.4						
TXAR				PKiKP	**PKiKP**	**04 56 41.9**	**-1.2**
	comp=Z,0.2nm,0.5s,baz=156,slow=2.2,SNR=9.5						
TXAR				PP	**PP**	**04 57 30.6**	**-2.3**
	comp=Z,0.7nm,0.9s,baz=255,slow=5.5,SNR=4.0						
TXAR				PKKP	**PKKPdf**	**05 07 49.6**	**-1.4**
	comp=Z,0.4nm,0.9s,baz=111,slow=4.9,SNR=4.1						
OKC	**Ostrava-Krasne**	**114.20**	**324**	AMS	AMS	05 49 20.0	
	comp=Z,400nm,17.2s						
DPC	**Dobruska-Polom**	**115.04**	**325**	AMS	AMS	05 47 30.0	
TREC	**Trest**	**116.00**	**324**	AMS	AMS	05 48 40.0	
	comp=Z,500nm,18.0s						
PRU	**Pruhonice**	**116.23**	**325**	AMS	AMS	05 48 30.0	
	comp=Z,400nm,18.8s						
CLL	**Collm**	**116.45**	**327**	*e*PS	PS	05 07 42.0	+3.2
CLL				*e*SS	SS	05 14 06.0	+10
CLL				Lm	MLR	05 51 00.0	
	comp=N,400nm,18.7s						
CLL				Lm	MLR	05 51 00.0	
	comp=E,300nm,18.4s						
CLL				Lm	MLR	05 51 00.0	
	comp=Z,600nm,18.6s						
GERES	**GERESS Array B**	**117.25**	**324**	PKP	**PKPdf**	**04 56 50.5**	**0.0**
GERES	**GERESS Array B**	**117.25**	**324**	PKP	**PKPdf**	**04 56 50.5**	**0.0**
	comp=Z,0.4nm,0.7s,baz=85,slow=2.8,SNR=3.9						
FETA	**Feichten**	**119.88**	**324**	⇓*i*PKPdf	**PKPdf**	**04 56 54.8**	**-0.9**
	comp=Z,5.0nm,1.2s						
CDF	**Champ du Feu**	**121.12**	**326**	*e*PKIKP	**PKPdf**	**04 56 56.5**	**-1.5**
CDF	**Champ du Feu**	**121.12**	**326**	*e*PKIKP	**PKPdf**	**04 56 56.5**	**-1.5**
CDF	**Champ du Feu**	**121.12**	**326**	*e*PKPdf	**PKPdf**	**04 56 56.5**	**-1.5**
GIVF	**Givet**	**121.44**	**329**	*e*PKIKP	**PKPdf**	**04 56 57.5**	**-0.9**
GIVF	**Givet**	**121.44**	**329**	*e*PKIKP	**PKPdf**	**04 56 57.5**	**-0.9**
GIVF	**Givet**	**121.44**	**329**	*e*PKPdf	**PKPdf**	**04 56 57.5**	**-0.9**
HINF	**Hinteralfeld**	**121.69**	**326**	*e*PKIKP	**PKPdf**	**04 56 58.8**	**-0.2**
	comp=Z,11nm,0.7s						
HINF	**Hinteralfeld**	**121.69**	**326**	*e*PKIKP	**PKPdf**	**04 56 58.8**	**-0.2**
HINF	**Hinteralfeld**	**121.69**	**326**	*e*PKPdf	**PKPdf**	**04 56 58.8**	**-0.2**
HAU	**Haudompre**	**121.86**	**326**	*e*PKIKP	**PKPdf**	**04 56 59.3**	**-0.1**
HAU	**Haudompre**	**121.86**	**326**	*e*PKIKP	**PKPdf**	**04 56 59.3**	**-0.1**
HAU	**Haudompre**	**121.86**	**326**	*e*PKPdf	**PKPdf**	**04 56 59.3**	**-0.1**
CABF	**La Chapelle**	**122.80**	**325**	*e*PKIKP	**PKPdf**	**04 57 00.4**	**-0.9**
	comp=Z,25nm,1.2s						
CABF	**La Chapelle**	**122.80**	**325**	*e*PKIKP	**PKPdf**	**04 57 00.4**	**-0.9**
CABF	**La Chapelle**	**122.80**	**325**	*e*PKPdf	**PKPdf**	**04 57 00.4**	**-0.9**
LPG	**La Plagne**	**123.03**	**324**	*e*PKIKP	**PKPdf**	**04 57 01.3**	**-0.7**
	comp=Z,11nm,0.9s						
LPG	**La Plagne**	**123.03**	**324**	*e*PKIKP	**PKPdf**	**04 57 01.3**	**-0.7**
LPG	**La Plagne**	**123.03**	**324**	*e*PKPdf	**PKPdf**	**04 57 01.3**	**-0.7**
SSF	**Saint Saulge**	**123.98**	**327**	*e*PKIKP	**PKPdf**	**04 57 02.1**	**-1.3**
	comp=Z,8.5nm,0.8s						
SSF	**Saint Saulge**	**123.98**	**327**	*e*PKIKP	**PKPdf**	**04 57 02.1**	**-1.3**
SSF	**Saint Saulge**	**123.98**	**327**	*e*PKPdf	**PKPdf**	**04 57 02.1**	**-1.3**
SMF	**Signal de Mont**	**124.04**	**326**	*e*PKIKP	**PKPdf**	**04 57 02.5**	**-1.1**
	comp=Z,54nm,1.6s						
SMF	**Signal de Mont**	**124.04**	**326**	*e*PKIKP	**PKPdf**	**04 57 02.5**	**-1.1**
SMF	**Signal de Mont**	**124.04**	**326**	*e*PKPdf	**PKPdf**	**04 57 02.5**	**-1.1**
SCHQ	**Schefferville**	**124.06**	**20**	PKP	**PKPdf**	**04 57 02.8**	**-0.6**
SCHQ	**Schefferville**	**124.06**	**20**	PKP	**PKPdf**	**04 57 02.8**	**-0.6**
	comp=Z,1.5nm,0.5s,baz=270,slow=7.1,SNR=5.0						
TCF	**Toulx Ste Croi**	**125.16**	**327**	*e*PKIKP	**PKPdf**	**04 57 06.1**	**+0.4**
	comp=Z,15nm,0.9s						
TCF	**Toulx Ste Croi**	**125.16**	**327**	*e*PKIKP	**PKPdf**	**04 57 06.1**	**+0.4**
TCF	**Toulx Ste Croi**	**125.16**	**327**	*e*PKPdf	**PKPdf**	**04 57 06.1**	**+0.4**
PLCA	**Paso Flores**	**126.61**	**149**	PKP	**PKPdf**	**04 57 10.5**	**+1.7**
PLCA	**Paso Flores**	**126.61**	**149**	PKP	**PKPdf**	**04 57 10.5**	**+1.7**
	comp=Z,0.4nm,0.4s,baz=129,slow=1.7,SNR=2.5						
ESDC	**Sonseca Array**	**132.84**	**324**	PKP	**PKPdf**	**04 57 19.5**	**-1.1**
ESDC	**Sonseca Array**	**132.84**	**324**	PKP	**PKPdf**	**04 57 19.5**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=64,slow=3.0,SNR=3.3						
TORD	**Torodi Ar. Bea**	**139.67**	**286**	PKPpre	PKPpre	04 57 24.1	
TORD				SKPbc	**SKiKP**	**05 01 08.5**	**+0.5**
TORD	**Torodi Ar. Bea**	**139.67**	**286**	PKhKP	PKPpre	04 57 24.1	
	comp=Z,0.9nm,0.8s,baz=62,slow=3.4,SNR=9.1						
TORD				SKPbc	**SKiKP**	**05 01 08.5**	**+0.5**
	comp=Z,1.9nm,0.9s,baz=30,slow=3.8,SNR=4.3						
ROSC	**El Rosal**	**143.81**	**87**	PKP	PKPbc	04 57 40.0	+0.4
ROSC				*e*PKPdf	PKPab	04 57 40.1	+1.3
ROSC	**El Rosal**	**143.81**	**87**	PKP	PKPbc	04 57 40.0	+0.4
	comp=Z,16nm,0.7s,baz=53,slow=4.4,SNR=12						
LPAZ	**La Paz**	**144.16**	**125**	PKP	PKPbc	04 57 41.5	+0.7
LPAZ				*e*PKPdf	**PKPdf**	**04 57 41.6**	**-1.0**
LPAZ	**La Paz**	**144.16**	**125**	PKP	PKPbc	04 57 41.5	+0.7
	comp=Z,4.7nm,0.7s,baz=275,slow=2.2,SNR=24						
SDDR	**Presa de Saban**	**144.21**	**62**	*e*PKPdf	**PKPab**	**04 57 39.8**	**0.0**
CMLA	**Cha da Macela**	**144.33**	**343**	*e*PKIKP	PKPbc	04 57 39.8	-0.1
CMLA	**Cha da Macela**	**144.33**	**343**	*e*PKPdf	**PKPab**	**04 57 39.8**	**+0.2**
CPUP	**Villa Florida**	**144.68**	**149**	PKP	PKPbc	04 57 41.8	+0.5
CPUP				*e*PKPdf	**PKPdf**	**04 57 42.2**	**-0.3**
CPUP	**Villa Florida**	**144.68**	**149**	PKP	PKPbc	04 57 41.8	+0.5
	comp=Z,1.1nm,0.5s,baz=254,slow=2.5,SNR=6.5						
KIC	**Kosan Boka**	**146.73**	**276**	*e*PKIKP	**PKPab**	**04 57 49.0**	**-0.3**
	comp=Z,66nm,1.0s						
DBIC	**Dimbokro**	**146.83**	**276**	*e*PKPbc	**PKPbc**	**04 57 48.0**	**-0.3**
DBIC	**Dimbokro**	**146.83**	**276**	PKPbc	**PKPbc**	**04 57 48.4**	**+0.1**
	comp=Z,6.0nm,0.4s,baz=51,slow=3.9,SNR=30						
TIC	**Toumodi**	**147.00**	**276**	*e*PKIKP	**PKPbc**	**04 57 49.3**	**+0.5**
	comp=Z,55nm,0.9s						
LIC	**Lamto**	**147.02**	**276**	*e*PKIKP	**PKPdf**	**04 57 47.8**	**+1.0**
	comp=Z,32nm,0.6s						
LIC	**Lamto**	**147.02**	**276**	*e*PKIKP	**PKPbc**	**04 57 49.3**	**+0.4**
	comp=Z,55nm,0.6s						
LIC	**Lamto**	**147.02**	**276**	*e*PKPdf	**PKPdf**	**04 57 47.8**	**+1.0**
SDV	**Santo Domingo**	**147.24**	**80**	*e*PKPbc	**PKPbc**	**04 57 49.8**	**0.0**
CRPR	**Cabo Rojo, PR**	**148.25**	**61**	*e*PKPbc	**PKPbc**	**04 57 51.7**	**-0.4**
LRS	**Lares**	**148.37**	**61**	*e*PKPbc	**PKPbc**	**04 57 51.8**	**-0.6**
OBIP	**Obispado Ponce**	**148.68**	**61**	*e*PKPbc	**PKPbc**	**04 57 52.7**	**-0.4**
CELP	**Cerrillos**	**148.69**	**61**	*e*PKPbc	**PKPbc**	**04 57 52.7**	**-0.5**
CBYP	**Canovanas**	**149.24**	**60**	*e*PKPbc	**PKPbc**	**04 57 53.6**	**-1.0**
MTP	**Monte Pirata**	**149.57**	**60**	*e*PKPbc	**PKPbc**	**04 57 55.7**	**+0.3**
STVI	**Saint Thomas**	**149.98**	**59**	*e*PKPbc	**PKPbc**	**04 57 55.9**	**-0.5**
SAML	**Samuel**	**151.91**	**117**	*e*PKPbc	**PKPbc**	**04 58 01.0**	**-0.1**
BDFB	**Brasilia**	**158.28**	**153**	PKP	**PKPdf**	**04 58 04.2**	**+0.9**
BDFB	**Brasilia**	**158.28**	**153**	PKP	**PKPdf**	**04 58 04.2**	**+0.9**
	comp=Z,1.8nm,1.0s,baz=168,slow=9.3,SNR=2.4						

JMA 22 04:43:38.2±0.3, 24°.91N×128°.06E, h64km, M3.5, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT2	**Tamagusuku 2**	**1.25**	**347**	P	Pn	04 44 00.0	+0.3
JJT2				*e*S	Sn	04 44 16.4	+0.6
JKE	**Kume jima 2**	**1.82**	**321**	P	Pn	04 44 08.0	+0.7
JKE				*e*S	Sn	04 44 29.3	-0.1
JAGN	**Aguni-jima**	**1.83**	**336**	P	Pn	04 44 08.3	+0.9
JAGN				*e*S	Sn	04 44 29.5	0.0
JOW	**Kunigami**	**1.92**	**6**	P	Pn	04 44 08.8	+0.1
JOW				*e*S	Sn	04 44 29.6	-2.3
JIH	**Iheya**	**2.12**	**358**	P	Pn	04 44 12.5	+1.2
JIH				*e*S	Sn	04 44 36.9	+0.3
JOGS	**Gusukube**	**2.42**	**267**	*e*S	Sn	04 44 43.5	-0.3
JMJ	**Miyako jima 2**	**2.52**	**268**	*e*S	Sn	04 44 46.8	+0.5
JTK	**Tokunoshima**	**2.97**	**15**	P	Pn	04 44 23.6	+0.6
JTK				*e*S	Sn	04 44 54.3	-3.2
JMZ	**Minamidaito 2**	**3.00**	**72**	P	Pn	04 44 20.8	-2.5
JMZ				*e*S	Sn	04 44 53.2	-4.9
JTJ	**Tarama**	**3.06**	**266**	P	Pn	04 44 24.8	+0.6
JTJ				*e*S	Sn	04 44 58.6	-1.1
JAMN	**Amaminishikomi**	**3.47**	**16**	P	Pn	04 44 30.9	+1.2
JAMN				*e*S	Sn	04 45 06.6	-2.9
JIJ	**Ishigaki jima**	**3.61**	**262**	P	Pn	04 44 31.8	+0.2
JIJ				*e*S	Sn	04 45 10.7	-2.3
JAM	**Amami Oshima**	**3.75**	**21**	P	Pn	04 44 34.3	+0.7
JAM				*e*S	Sn	04 45 12.7	-3.8

CSEM ***22*** *04:53:37.0, 39°.93N×23°.68E, h6km, ML2.2/6, After THE*
THE 22 04:53:37.0, 39°.93N×23°.68E, h6km±1km, ML2.2/6, Error ellipse: s-maj=1.6km s-min=0.5km az=90.0, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAIG	**Paliouri**	**0.00**	**90**	P	Pg	04 53 38.0	-0.1
PAIG				S	Sg	04 53 39.0	+0.1
PAIG	**Paliouri**	**0.00**	**90**	P	Pg	04 53 38.0	-0.1
PAIG				S	Sg	04 53 39.0	+0.1
OUR	**Ouranopolis**	**0.47**	**30**	P	Pg	04 53 46.0	-0.1
OUR				S	Sg	04 53 53.3	+1.1
OUR	**Ouranopolis**	**0.47**	**30**	P	Pg	04 53 46.0	-0.1
OUR				S	Sg	04 53 53.3	+1.1
PLG	**Polygyros**	**0.48**	**338**	P	Pg	04 53 45.9	-0.5
PLG				S	Sg	04 53 52.3	-0.4
PLG	**Polygyros**	**0.48**	**338**	P	Pg	04 53 45.9	-0.5
PLG				S	Sg	04 53 52.3	-0.4
XOR	**Xorichti**	**0.67**	**214**	P	Pg	04 53 49.8	-0.2
XOR				S	Sg	04 53 59.1	+0.2
XOR	**Xorichti**	**0.67**	**214**	P	Pg	04 53 49.8	-0.2
XOR				S	Sg	04 53 59.1	+0.2
NEO	**Neokhori**	**0.71**	**210**	P	Pg	04 53 50.9	+0.1
NEO				S	Sb	04 54 01.5	-0.4
NEO	**Neokhori**	**0.71**	**210**	P	Pg	04 53 50.9	+0.1
NEO				S	Sb	04 54 01.5	-0.4
AOS	**Alonnisos**	**0.77**	**168**	P	Pg	04 53 51.0	-0.9
AOS				S	Sg	04 54 02.1	+0.2
AOS	**Alonnisos**	**0.77**	**168**	P	Pg	04 53 51.0	-0.9
AOS				S	Sg	04 54 02.1	+0.2
SKIA	**Skiathos**	**0.78**	**192**	P	Pg	04 53 52.0	0.0
SKIA				S	Sb	04 54 03.0	-0.7
SKIA	**Skiathos**	**0.78**	**192**	P	Pg	04 53 52.0	0.0
SKIA				S	Sb	04 54 03.0	-0.7
HORT	**Hortiatis**	**0.80**	**327**	P	Pg	04 53 51.9	-0.7
HORT				S	Sb	04 54 04.3	-0.4
HORT	**Hortiatis**	**0.80**	**327**	P	Pg	04 53 51.9	-0.7
HORT				S	Sb	04 54 04.3	-0.4
SOH	**Sokhos**	**0.93**	**345**	P	Pg	04 53 54.5	-0.4
SOH				S	Sg	04 54 07.3	+0.3
SOH	**Sokhos**	**0.93**	**345**	P	Pg	04 53 54.5	-0.4
SOH				S	Sg	04 54 07.3	+0.3

ISCJB ***22*** *05:06:51.4±0.2, 20°.39S±0°.07×178°.57W±0°.06, h587km, mb4.3/64, Error ellipse: s-maj=10.8km s-min=5.3km az=147.6*
IDC ***22*** *05:06:52.4±1.4, 20°.24S×178°.47W, h591km±15km, mb3.8/16, mb1 4.0/18, mb1mx3.9/24, mbtmp3.8/18, Error ellipse: s-maj=14.9km s-min=10.5km az=153.0*
NEIC ***22*** *05:06:55.2±0.6, 20°.30S×178°.66W, h622km±7km, mb4.4/48, Error ellipse: s-maj=9.1km s-min=4.9km az=144.0*
ISC 22 05:06:51.8±0.3, 20°.35S±0°.08×178°.54W±0°.07, h587km, n350, σ0=9.94/367, mb4.3/64, 108C-101D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.14**	**308**	*e*P	P	05 08 21.0	+3.5
AFI	**Afiamalu**	**9.10**	**46**	P	**P**	**05 08 59.9**	**-1.7**
AFI				S	S	05 10 40.8	-7.2
AFI	**Afiamalu**	**9.10**	**46**	P	**P**	**05 08 59.9**	**-1.7**
	4.9nm,0.3s,baz=270,slow=11,SNR=3.9						
AFI				S	S	05 10 40.8	-7.2
	10.0nm,0.3s,baz=16,slow=23,SNR=7.9						
DZM	**Mont Dzumac**	**14.11**	**260**	P	**P**	**05 09 53.2**	**+1.1**
DZM	**Mont Dzumac**	**14.11**	**260**	P	**P**	**05 09 53.2**	**+1.1**
	8.9nm,0.3s,baz=85,slow=16,SNR=26						
URZ	**Urewera**	**18.24**	**191**	P	**P**	**05 10 28.4**	**-1.6**
URZ				S	S	05 13 19.8	-7.4
URZ	**Urewera**	**18.24**	**191**	P	**P**	**05 10 28.4**	**-1.6**
	1.0nm,0.3s,baz=55,slow=1.4,SNR=7.1						
URZ				S	S	05 13 19.8	-7.4
	0.3nm,0.3s,baz=137,slow=18,SNR=4.5						
CTA	**Charters Tower**	**33.00**	**264**	P	**P**	**05 12 41.3**	**+1.4**
CTA				ScP	**ScP**	**05 17 56.1**	**+0.9**
CTA	**Charters Tower**	**33.00**	**264**	P	**P**	**05 12 41.3**	**+1.4**
	20nm,0.4s,baz=93,slow=11,SNR=43						
CTA				ScP	**ScP**	**05 17 56.1**	**+0.9**
	4.7nm,0.9s,baz=166,slow=4.2,SNR=5.2						
CTAO	**Charters Tower**	**33.00**	**264**	*e*P	**P**	**05 12 40.4**	**+0.4**
	28nm,0.5s						
PMG	**Port Moresby**	**34.81**	**283**	*e*P	**P**	**05 12 56.5**	**+1.4**
PMG	**Port Moresby**	**34.81**	**283**	P	**P**	**05 12 56.3**	**+1.2**
	39nm,0.7s,baz=66,slow=3.6,SNR=9.6						
COEN	**Coen**	**37.06**	**274**	*e*P	**P**	**05 13 15.1**	**+1.4**
	116nm,0.6s						
STKA	**Stephens Creek**	**37.40**	**244**	P	**P**	**05 13 17.5**	**+1.3**
STKA	**Stephens Creek**	**37.40**	**244**	P	**P**	**05 13 17.5**	**+1.3**
	4.4nm,0.5s,baz=108,slow=9.6,SNR=11						
AS31	**Alice Springs**	**44.06**	**257**	*e*P	**P**	**05 14 09.8**	**+0.7**
ASAR	**Alice Springs**	**44.06**	**257**	P	**P**	**05 14 09.8**	**+0.6**
ASAR				PcP	**PcP**	**05 15 41.2**	**-0.2**
ASAR				ScP	**ScP**	**05 18 37.6**	**-0.2**
ASAR				S	**S**	**05 19 58.5**	**-1.4**
ASAR	**Alice Springs**	**44.06**	**257**	P	**P**	**05 14 09.8**	**+0.6**
	9.1nm,0.5s,baz=95,slow=7.6,SNR=173						
ASAR				PcP	**PcP**	**05 15 41.2**	**-0.2**
	3.5nm,0.6s,baz=103,slow=4.0,SNR=12						
ASAR				ScP	**ScP**	**05 18 37.6**	**-0.2**
	1.1nm,0.7s,baz=109,slow=4.7,SNR=5.2						
ASAR				S	**S**	**05 19 58.5**	**-1.4**
	1.7nm,0.8s,baz=93,slow=16,SNR=9.0						
WRAB	**Tennant Creek**	**44.11**	**262**	*e*P	**P**	**05 14 09.7**	**+0.1**
	4.9nm,0.4s						
WRA	**Warramunga Arr**	**44.12**	**262**	P	**P**	**05 14 09.8**	**+0.2**
WRA				PcP	**PcP**	**05 15 41.5**	**-0.1**
WRA				ScP	**ScP**	**05 18 39.0**	**+0.9**
WRA				S	**S**	**05 19 58.7**	**-2.2**
WRA	**Warramunga Arr**	**44.12**	**262**	P	**P**	**05 14 09.8**	**+0.2**
	6.9nm,0.4s,baz=98,slow=7.9,SNR=333						
WRA				PcP	**PcP**	**05 15 41.5**	**-0.1**
	0.7nm,0.8s,baz=91,slow=3.3,SNR=5.3						
WRA				ScP	**ScP**	**05 18 39.0**	**+0.9**
	0.7nm,0.7s,baz=92,slow=4.5,SNR=3.8						
WRA				S	**S**	**05 19 58.7**	**-2.2**
	0.6nm,0.6s,baz=98,slow=12,SNR=5.0						
FITZ	**Fitzroy Crossi**	**52.54**	**262**	P	**P**	**05 15 12.8**	**+0.8**
FITZ	**Fitzroy Crossi**	**52.54**	**262**	P	**P**	**05 15 12.8**	**+0.8**
	3.3nm,0.6s,baz=162,slow=6.1,SNR=18						
SBA	**Scott Base**	**57.99**	**184**	*e*P	**P**	**05 15 51.5**	**+2.8**
	6.7nm,0.7s						
VNDA	**Vanda**	**58.02**	**185**	*e*P	**P**	**05 15 50.8**	**+1.8**
VNDA	**Vanda**	**58.02**	**185**	P	**P**	**05 15 50.5**	**+1.6**
	1.8nm,0.5s,baz=360,slow=7.3,SNR=30						
QSPA	**South Pole Qui**	**69.72**	**180**	*e*P	**P**	**05 17 04.3**	**+0.8**
	14nm,0.8s						
PETK	**Petropavlovsk-**	**76.00**	**346**	P	**P**	**05 17 39.2**	**-0.1**
PETK	**Petropavlovsk-**	**76.00**	**346**	P	**P**	**05 17 39.3**	**-0.1**
	2.9nm,0.7s,baz=141,slow=9.3,SNR=3.1						
SAO	**San Andreas Ge**	**78.27**	**44**	*e*P	**P**	**05 17 53.2**	**+1.2**
	9.1nm,0.8s						
ARVC	**Arvin**	**79.05**	**46**	⇓P	**P**	**05 17 57.4**	**+1.2**
	baz=79						
MURC	**Murrieta**	**79.33**	**48**	⇓P	**P**	**05 17 57.9**	**+0.1**
	baz=80						
BFSC	**Mount Baldy Ra**	**79.36**	**47**	⇓P	**P**	**05 17 58.2**	**+0.2**
	baz=80						
EDW2	**Edwards Air Fo**	**79.48**	**47**	⇓P	**P**	**05 17 59.3**	**+0.7**
	baz=80						
MONP	**Monument Peak**	**79.49**	**49**	⇑P	**P**	**05 17 59.7**	**+0.9**
	baz=80						
ISA	**Isabella**	**79.59**	**46**	*e*P	**P**	**05 18 00.2**	**+1.1**
ISA	**Isabella**	**79.59**	**46**	⇑P	**P**	**05 17 59.6**	**+0.5**
	baz=80						
DVTC	**Desert V Tower**	**79.60**	**49**	⇑P	**P**	**05 18 00.3**	**+1.1**
	baz=80						
CMB	**Columbia Colle**	**79.70**	**43**	*e*P	**P**	**05 18 00.1**	**+0.5**
	6.1nm,0.9s						
PFO	**Pinyon Flat Ob**	**79.86**	**49**	⇑P	**P**	**05 18 01.7**	**+1.1**
	baz=80						
SWSC	**Sam W. Stewart**	**79.97**	**49**	⇑P	**P**	**05 18 02.3**	**+1.2**
	baz=80						
LRMC	**Laurel Mountai**	**80.02**	**46**	⇑P	**P**	**05 18 02.3**	**+0.9**
	baz=80						
CWC	**Cottonwood Cre**	**80.29**	**45**	⇑P	**P**	**05 18 03.9**	**+1.0**
	baz=80						
BELC	**Belle Mtn. Jos**	**80.39**	**48**	⇑P	**P**	**05 18 03.9**	**+0.5**
	baz=81						
MPMC	**Manual Prospec**	**80.48**	**46**	⇑P	**P**	**05 18 04.4**	**+0.5**
	baz=81						
MTUM	**Tungsten Hills**	**80.49**	**44**	*e*P	**P**	**05 18 04.9**	**+1.0**
YBH	**Yreka Blue Hor**	**80.49**	**39**	*e*P	**P**	**05 18 04.7**	**+1.0**
	8.1nm,0.9s						
GSC	**Goldstone**	**80.53**	**47**	⇓P	**P**	**05 18 04.7**	**+0.6**
	baz=81						
WAKR	**Walker**	**80.58**	**43**	*e*P	**P**	**05 18 05.3**	**+0.9**
BC3	**Big Chuckawall**	**80.59**	**49**	⇓P	**P**	**05 18 05.3**	**+0.9**
	baz=81						
HEC	**Hector,Ludlow**	**80.60**	**48**	⇑P	**P**	**05 18 05.1**	**+0.7**
	baz=81						
GLA	**Glamis**	**80.72**	**50**	⇑P	**P**	**05 18 06.0**	**+1.0**
	baz=81						
BEKR	**Beckworth**	**80.79**	**41**	*e*P	**P**	**05 18 05.7**	**+0.3**
	1.6nm,0.6s						
HUMO	**Hull Mountain**	**80.89**	**38**	*e*P	**P**	**05 18 06.9**	**+1.3**
	8.7nm,1.0s						
GMRC	**Granite Mounta**	**81.04**	**48**	⇑P	**P**	**05 18 07.6**	**+0.9**
	baz=81						
GRAC	**Grapevine Rang**	**81.08**	**45**	⇓P	**P**	**05 18 07.9**	**+1.1**
	baz=81						
FURC	**Furnace Creek,**	**81.13**	**46**	⇓P	**P**	**05 18 07.9**	**+0.9**
	baz=81						
SHOC	**Shoshone**	**81.21**	**47**	⇑P	**P**	**05 18 08.6**	**+1.1**
	baz=81						
NVAR	**Mina Array Bea**	**81.27**	**44**	P	**P**	**05 18 08.3**	**+0.3**
NVAR	**Mina Array Bea**	**81.27**	**44**	P	**P**	**05 18 08.3**	**+0.3**
	4.9nm,0.7s,baz=224,slow=9.0,SNR=42						
Y12C	**Blythe**	**81.30**	**49**	⇑P	**P**	**05 18 08.8**	**+0.9**
	baz=82						
PAHR	**Pah Rah Range**	**81.31**	**42**	*e*P	**P**	**05 18 09.0**	**+1.0**
	6.7nm,0.7s						
113A	**Mohawk Valley,**	**81.33**	**50**	⇓P	**P**	**05 18 09.1**	**+1.0**
	baz=82						
NV11	**Mina Array Sit**	**81.36**	**44**	*e*P	**P**	**05 18 09.0**	**+0.6**
214A	**Organ Pipe Nat**	**81.62**	**52**	⇑P	**P**	**05 18 10.9**	**+1.3**
	baz=82						
PDMCI	**Parker Dam,Lak**	**81.85**	**49**	⇑P	**P**	**05 18 11.6**	**+0.8**
	baz=82						
MOD	**Modoc**	**82.03**	**40**	*e*P	**P**	**05 18 12.4**	**+0.8**
	40nm,0.7s						
K05A	**Summer Lake**	**82.17**	**39**	*e*P	**P**	**05 18 13.4**	**+1.0**
	18nm,0.8s						

U21A	Nageezi	87.51	50	⇓P	P	05 18 39.2	+0.7
	baz=88						
NEW	Newport	87.55	36	⇓P	P	05 18 38.3	+0.2
	baz=88						
S20A	Disappointment	87.66	48	⇓P	P	05 18 39.2	0.0
	baz=88						
627A	Terlingua Ranc	87.67	58	⇑P	P	05 18 40.1	+0.8
	baz=88,SNR=11						
426A	McDonald Obser	87.68	56	⇑P	P	05 18 40.0	+0.6
	baz=88,SNR=16						
ANMO	Albuquerque	87.71	51	eP	P	05 18 39.7	+0.3
	4.9nm,1.1s						
527A	Woodward Ranch	87.79	57	⇑P	P	05 18 40.4	+0.5
	baz=88,SNR=7.9						
V22A	San Miguel Ran	87.81	50	⇓P	P	05 18 41.2	+1.2
	baz=88						
T21A	Navajo Lake	87.86	49	⇓P	P	05 18 40.4	+0.4
	baz=88						
S21A	Coal Bank Pass	87.98	49	⇑P	P	05 18 41.0	+0.2
	baz=88						
Y24A	Capitan	88.01	53	⇓P	P	05 18 41.5	+0.7
	baz=88,SNR=9.6						
U22A	Llaves	88.06	50	⇓P	P	05 18 41.3	+0.2
	baz=88						
628A	Black Gap, Mar	88.08	58	⇑P	P	05 18 41.7	+0.7
	baz=88,SNR=6.1						
P19A	Cripple Cowboy	88.08	46	⇓P	P	05 18 41.4	+0.4
	baz=88						
MCMT	McKenzie Canyo	88.17	40	eP	P	05 18 42.2	+0.8
	5.0nm,1.2s						
COLA	College	88.17	13	eP	P	05 18 39.5	-1.0
	25nm,0.9s						
SNAA	Sanae	88.17	179	eP	P	05 18 39.9	-0.9
SNAA	Sanae	88.17	179	eP	P	05 18 39.9	-0.9
	6.0nm,1.5s						
226B	Tecolote Peak,	88.18	55	⇓P	P	05 18 42.2	+0.7
	baz=88						
Q20A	Ridgley Place,	88.23	47	⇑P	P	05 18 41.8	+0.1
	baz=88						
427A	Hayter Ranch,	88.25	56	⇑P	P	05 18 42.8	+0.9
	baz=88,SNR=17						
V23A	Ortiz Mt. (NFS	88.27	51	⇓P	P	05 18 43.2	+1.2
	baz=88						
Z25A	Roswell	88.27	54	⇑P	P	05 18 43.0	+1.1
	baz=88						
ILAR	Eielson Array	88.28	13	P	P	05 18 40.0	-1.1
ILAR				pP	pP	05 20 49.9	+1.9
ILAR	Eielson Array	88.28	13	P	P	05 18 40.0	-1.1
	3.6nm,0.7s,baz=219,slow=5.5,SNR=47						
ILAR				pP	pP	05 20 49.9	+1.9
	1.2nm,1.0s,baz=236,slow=6.0,SNR=5.7						
O19A	Miners Draw (B	88.30	46	⇓P	P	05 18 41.9	-0.1
	baz=88,SNR=5.1						
RRI2	Red Ridge	88.36	42	eP	P	05 18 42.9	+0.6
	9.2nm,0.8s						
P20A	De Beque	88.42	47	⇑P	P	05 18 43.1	+0.5
	baz=89						
528A	Cox Ranch, San	88.44	57	⇓P	P	05 18 43.5	+0.7
	baz=89,SNR=5.9						
R21A	Cimarron	88.48	48	⇓P	P	05 18 43.3	+0.3
	baz=89,SNR=6.5						
L18A	Fontenelle, Gr	88.48	44	⇑P	P	05 18 43.1	+0.3
	baz=89						
U23A	El Rito	88.52	50	⇑P	P	05 18 43.9	+0.8
	baz=89						
Y25A	Mesa, Roswell	88.57	53	⇑P	P	05 18 43.0	-0.4
	baz=89,SNR=6.1						
W24A	Lazy 6 Ranch,	88.60	52	⇓P	P	05 18 44.1	+0.5
	baz=89						
DLMT	Dillon	88.60	40	eP	P	05 18 44.2	+0.9
	10.0nm,1.4s						
REDW	Red Top Meadow	88.67	42	eP	P	05 18 44.1	+0.4
	11nm,1.1s						
TPAW	Teton Pass	88.67	42	eP	P	05 18 43.9	+0.1
	4.3nm,0.8s						
S22A	4UR Ranch, Cre	88.70	49	⇓P	P	05 18 44.4	+0.3
	baz=89						
VNA2	Neumayer--Watz	88.76	177	eP	P	05 18 43.4	0.0
	baz=204,slow=3.5						
SNOW	Snow King Moun	88.78	42	eP	P	05 18 45.3	+1.0
	9.4nm,0.8s						
O20A	White River Ci	88.82	46	⇓P	P	05 18 44.9	+0.4
	baz=89						
Z26A	Caprock	88.83	54	⇑P	P	05 18 45.3	+0.8
	baz=89						
X25A	Clemmons Ranch	88.85	52	⇑P	P	05 18 45.6	+0.9
	baz=89						
529A	Stev Forest Ra	88.88	57	⇑P	P	05 18 45.3	+0.5
	baz=89						
IMW	Indian Meadow	88.88	42	eP	P	05 18 45.7	+1.0
	6.5nm,0.8s						
V24A	Rampart Ranch,	88.92	51	⇑P	P	05 18 45.8	+0.7
	baz=89						
328A	Wristen Ranch,	88.93	56	⇑P	P	05 18 45.2	+0.2
	baz=89						
LOHW	Long Hollow	88.95	42	eP	P	05 18 45.7	+0.8
	4.1nm,0.8s						
VNA1	Neumayer--Stat	88.99	177	eP	P	05 18 44.6	+0.2
P21A	Newcastle	89.08	47	⇓P	P	05 18 46.4	+0.7
	baz=89						
N20A	Spence Gulch,	89.14	46	⇓P	P	05 18 46.3	+0.3
	baz=89,SNR=6.7						
Q22A	Crested Butte,	89.15	48	⇑P	P	05 18 46.4	+0.2
	baz=89						
BW06	Boulder Array	89.20	43	eP	P	05 18 45.9	-0.3
	8.2nm,1.1s						
PDAR	Pinedale Array	89.20	43	P	P	05 18 46.3	+0.1
PDAR	Pinedale Array	89.20	43	P	P	05 18 46.3	+0.1
	4.4nm,0.6s,baz=207,slow=3.4,SNR=40						
SMCO	Snowmass	89.25	48	eP	P	05 18 47.3	+0.6
	3.2nm,0.8s						
W25A	X Bar L Ranch,	89.30	52	⇑P	P	05 18 46.6	-0.1
	baz=90,SNR=8.5						
BOZ	Bozeman (W)	89.33	40	P	P	05 18 46.8	+0.2
	0.8nm,0.3s						
429A	Davenport Ranc	89.34	57	⇑P	P	05 18 47.0	+0.1
	baz=90,SNR=16						
Z27A	Tatum	89.42	54	⇓P	P	05 18 48.1	+0.8
	baz=90						
T24B	San Luis	89.43	50	⇑P	P	05 18 48.5	+1.0
	baz=90						
V25A	Rancho No Teng	89.45	51	⇑P	P	05 18 48.1	+0.6
	baz=90						
M20A	Sweetwater, Wa	89.49	45	⇑P	P	05 18 48.0	+0.4
	baz=90						
530A	J-C Ranch, Com	89.58	58	⇑P	P	05 18 48.6	+0.6
	baz=90						
CMAR	Chiang Mai Arr	89.58	290	P	P	05 18 49.4	+1.2
CMAR	Chiang Mai Arr	89.58	290	P	P	05 18 49.4	+1.2
	1.1nm,0.5s,baz=127,slow=3.0,SNR=9.9						
N21A	Black Mountain	89.60	46	⇓P	P	05 18 48.4	+0.3
	baz=90,SNR=8.7						
329A	Wagon Wheel Ra	89.62	56	⇓P	P	05 18 48.8	+0.6
	baz=90						
L20A	Wamsutter	89.63	45	⇓P	P	05 18 48.6	+0.4
	baz=90						
K19A	Absolon Red Bu	89.69	44	⇓P	P	05 18 48.4	-0.1
	baz=90						
128A	Castleberry Fa	89.69	55	⇓P	P	05 18 49.0	+0.5
	baz=90						
Y27A	Causey	89.70	54	⇓P	P	05 18 49.1	+0.6
	baz=90						
PLCA	Paso Flores	89.75	134	P	P	05 18 49.0	+0.3
PLCA	Paso Flores	89.75	134	P	P	05 18 49.0	+0.3
	2.3nm,0.8s,baz=226,slow=5.4,SNR=5.8						
J19A	Crowheart	89.77	43	⇑P	P	05 18 48.7	0.0
	baz=90,SNR=5.9						
S24A	Houchin Ranch,	89.80	50	⇓P	P	05 18 49.9	+0.7
	baz=90						
U25A	Circle Dot Ran	89.84	51	⇓P	P	05 18 49.2	0.0
	baz=90						
631A	Perdido Creek	89.90	59	⇓P	P	05 18 50.0	+0.5
	baz=90						
430A	Baggett Ranch,	89.92	57	⇑P	P	05 18 49.6	0.0
	baz=90						
K20A	Yellowstone Ra	89.94	44	⇓P	P	05 18 49.6	+0.1
	baz=90						
O22A	Kremmling	89.99	47	⇓P	P	05 18 50.5	+0.5
	baz=90						
V26A	Tequesquite Ra	90.04	52	⇓P	P	05 18 51.8	+1.6
	baz=90						
X27A	F and S Farms,	90.07	53	⇑P	P	05 18 50.5	+0.2
	baz=90						
M21A	Separation Pea	90.09	45	⇑P	P	05 18 50.2	-0.2
	baz=90,SNR=9.0						
732A	Laxson Ranch,	90.11	59	⇓P	P	05 18 51.3	+0.9
	baz=90						
P23A	Jefferson	90.12	48	⇓P	P	05 18 51.1	+0.4
	baz=90						
R24A	Sanders Place,	90.13	49	⇓P	P	05 18 51.9	+1.3
	baz=90						
T25A	Trinidad	90.16	50	⇑P	P	05 18 51.2	+0.5
	baz=90						
I19A	Meeteetse	90.17	43	⇓P	P	05 18 51.5	+0.9
	baz=90						
129A	Stewart Farms,	90.17	55	⇑P	P	05 18 51.1	+0.4
	baz=90						
531A	Rocksprings	90.22	58	⇓P	P	05 18 52.0	+1.1
	baz=90						
RWWY	Rawlins	90.23	45	eP	P	05 18 51.3	+0.3
	5.4nm,0.6s						
L21A	Rawlins	90.25	45	eP	P	05 18 51.1	0.0
	baz=90						
W27A	Bowe Ranch, En	90.27	53	⇑P	P	05 18 51.2	0.0
	baz=90						
U26A	Atchley Ranch,	90.33	51	⇓P	P	05 18 51.2	-0.3
	baz=90						
N22A	Wattenberg Ran	90.34	46	⇑P	P	05 18 51.8	+0.3
	baz=91,SNR=8.1						
S25A	Robets Cordova	90.37	50	⇓P	P	05 18 52.3	+0.7
	baz=91						
Y28A	McKinney Farm,	90.40	54	⇑P	P	05 18 52.4	+0.6
	baz=91						
J20A	Shoshoni	90.43	43	⇓P	P	05 18 52.0	+0.3
	baz=91,SNR=8.1						
O23A	Lake Granby, G	90.44	47	⇓P	P	05 18 52.8	+0.8
	baz=91						
ISCO	Idaho Springs	90.47	47	⇓P	P	05 18 52.2	-0.1
	baz=91						
H19A	Powell	90.48	42	⇑P	P	05 18 52.9	+1.0
	baz=91						
M22A	Cedar Creek Ra	90.52	46	⇑P	P	05 18 52.6	+0.2
	baz=91						
632A	Uvalde	90.57	59	⇑P	P	05 18 53.6	+1.1
	baz=91						
K21A	Alcova	90.64	44	⇑P	P	05 18 52.6	-0.2
	baz=91,SNR=6.7						
I20A	Worland	90.68	43	⇓P	P	05 18 53.1	+0.2
	baz=91						
532A	Rocksprings	90.71	58	⇓P	P	05 18 54.2	+0.9
	baz=91						
N23A	Red Feather La	90.73	46	⇓P	P	05 18 54.2	+0.9
	baz=91						
Y29A	Porterfield Fa	90.82	54	⇓P	P	05 18 54.2	+0.5
	baz=91						
J21A	Lysite	90.84	44	⇓P	P	05 18 53.9	+0.2
	baz=91,SNR=6.7						
L22A	Ellis Ranch, M	90.91	45	⇑P	P	05 18 54.7	+0.6
	baz=91,SNR=8.5						
JCT	Junction City	90.93	58	⇑P	P	05 18 54.5	+0.3
	baz=91						
Z30A	Sanderson Ranc	91.01	55	⇓P	P	05 18 55.1	+0.5
	baz=91						
U27A	Thompson Grove	91.01	51	⇑P	P	05 18 54.4	-0.2
	baz=91						
S26A	Kim	91.04	50	⇑P	P	05 18 55.4	+0.7
	baz=91						
432A	Menard	91.09	58	⇓P	P	05 18 54.8	-0.2
	baz=91						
231A	Bronte	91.10	56	⇑P	P	05 18 55.0	0.0
	baz=91						
K22A	Casper	91.12	45	⇑P	P	05 18 55.7	+0.7
	baz=91						
I21A	Big Trails, Te	91.15	43	⇑P	P	05 18 55.5	+0.4
	baz=91						
332A	Millersview	91.33	57	⇑P	P	05 18 56.2	+0.1
	baz=92						
131A	Roby	91.33	56	⇓P	P	05 18 56.3	+0.3
	baz=92						
R26A	Arlington	91.34	50	⇓P	P	05 18 56.6	+0.5
	baz=92						
P25A	Willow Gulch B	91.35	48	⇓P	P	05 18 56.4	+0.2
	baz=92						
L23A	Garrett	91.43	45	⇓P	P	05 18 56.4	-0.1
	baz=92,SNR=5.8						
U28A	Mallet	91.43	52	⇓P	P	05 18 56.8	+0.3
	baz=92						
E19A	Rath Farm, Rou	91.45	40	⇑P	P	05 18 57.1	+0.8
	baz=92						
J22A	Midwest	91.50	44	⇓P	P	05 18 57.4	+0.7
	baz=92						
232A	Coleman	91.60	57	⇑P	P	05 18 57.3	0.0
	baz=92						
I22A	9 Mile Ranch,	91.71	43	⇑P	P	05 18 58.0	+0.4
	baz=92						
D19A	Cripps Ranch,	91.73	40	⇓P	P	05 18 58.6	+1.0
	baz=92						
K23A	Bowen Ranch, D	91.77	45	⇓P	P	05 18 58.4	+0.5
	baz=92						
R27A	Eads	91.80	50	⇓P	P	05 18 58.5	+0.4
	baz=92						
E20A	Meyer Farm, Mu	91.87	41	⇓P	P	05 18 58.8	+0.6
	baz=92						
ABTX	Abilene, Hawle	91.89	56	⇑P	P	05 18 59.5	+0.9
	baz=92						
C19A	Slack Wire Ran	91.90	39	⇑P	P	05 18 58.8	+0.5
	baz=92						
D20A	Manuel Ranch,	92.14	40	⇑P	P	05 18 59.8	+0.4
	baz=92						
KSCO	Kaye Shedlock'	92.22	49	⇓P	P	05 19 01.4	+1.3
	baz=92						
Z32A	Haskell	92.28	55	⇓P	P	05 19 00.7	+0.3
	baz=92						
B19A	Brinkman Farms	92.30	39	⇓P	P	05 19 00.7	+0.6
	baz=92						
T29A	Hugoton	92.43	51	⇓P	P	05 19 01.6	+0.6
	baz=93						
P27A	Ficken Ranch,	92.48	49	⇑P	P	05 19 01.6	+0.3
	baz=93						
R28A	Tribune	92.53	50	⇑P	P	05 19 01.3	-0.2
	baz=93,SNR=6.3						
A19A	Klindworth Far	92.64	38	⇓P	P	05 19 01.8	+0.1
	baz=93						
B20A	Solberg Farm,	92.84	39	⇑P	P	05 19 03.5	+0.9
	baz=93						
M26A	McRoberts Ranc	92.88	47	⇑P	P	05 19 03.3	+0.3
	baz=93						
P28A	Saint Francis	93.07	49	⇑P	P	05 19 04.9	+1.0
	baz=93						
A20A	Cobblestone Ra	93.10	39	⇓P	P	05 19 04.4	+0.6
	baz=93						
F23A	Volborg	93.21	42	⇑P	P	05 19 05.0	+0.6
	baz=93						
H24A	Dirks Ranch, A	93.33	43	⇓P	P	05 19 05.0	0.0
	baz=94						
Q29A	Oakley	93.35	50	⇑P	P	05 19 05.6	+0.4
	baz=94						
WHTX	Lake Whitney	93.37	57	⇑P	P	05 19 05.6	+0.3
	baz=94						
K26A	Motz Farm, Whi	93.37	46	⇑P	P	05 19 05.9	+0.6
	baz=94						
I25A	Rochford	93.56	44	⇓P	P	05 19 06.0	-0.1
	baz=94						
P29A	Atwood	93.67	49	⇓P	P	05 19 07.4	+0.8
	baz=94						
A21A	Bergtoll Ranch	93.74	39	⇑P	P	05 19 07.2	+0.5
	baz=94						
D23A	Lindsay	93.97	41	⇓P	P	05 19 08.8	+1.0
	baz=94						
P30A	Selden	94.13	49	⇓P	P	05 19 09.4	+0.7
	baz=94						
INK	Inuvik	94.26	15	P	P	05 19 07.7	-0.8
INK	Inuvik	94.26	15	P	P	05 19 07.7	-0.8
	3.0nm,0.8s,baz=166,slow=8.3						
J27A	Elkhorn Farm,	94.38	45	⇑P	P	05 19 10.5	+0.7
	baz=95						
CFAA	Coronel Fontan	95.60	126	P	P	05 19 15.6	-0.1
CFAA	Coronel Fontan	95.60	126	P	P	05 19 15.6	-0.1
	0.1nm,0.4s,baz=262,slow=7.1						
ZALV	Zalesovo Beam	110.06	321	PKiKP	PKiKP	05 24 15.7	-1.5
ZALV	Zalesovo Beam	110.06	321	PKiKP	PKiKP	05 24 15.7	-1.5
	1.0nm,0.4s,baz=158,slow=1.0,SNR=5.5						
MKAR	Makanchi Array	110.72	314	PKiKP	PKiKP	05 24 17.3	-1.4
MKAR	Makanchi Array	110.72	314	PKiKP	PKiKP	05 24 17.3	-1.4
	0.8nm,0.4s,baz=70,slow=1.0,SNR=14						
VOSK	Vostochnaya	118.30	320	ePKPdf	PKPdf	05 24 31.8	-1.2
ABKAR	Akbulak array	125.63	317	ePKPdf	PKPdf	05 24 46.8	-0.4
BOSA	Boshof	126.17	206	PKP	PKPdf	05 24 48.1	-1.0
BOSA	Boshof	126.17	206	PKP	PKPdf	05 24 48.1	-1.0
	1.3nm,0.6s,baz=349,slow=5.2,SNR=3.0						
AKTO	Aktyubinsk	126.62	318	PKP	PKPdf	05 24 48.2	-0.8
AKTO	Aktyubinsk	126.62	318	PKP	PKPdf	05 24 48.2	-0.8
	2.8nm,0.9s,baz=266,slow=2.0,SNR=7.9						
ARCES	ARCESS Array B	128.68	349	PKP	PKPdf	05 24 51.4	-1.0
ARCES	ARCESS Array B	128.68	349	PKP	PKPdf	05 24 51.4	-1.0
	2.4nm,0.5s,baz=91,slow=0.9,SNR=22						
FINES	FINESS Array B	135.48	343	PKP	PKPdf	05 25 05.7	+0.3
FINES	FINESS Array B	135.48	343	PKhKP	PKPpre	05 24 51.5	
	0.7nm,0.5s,baz=315,slow=1.0,SNR=2.6						
FINES				PKP	PKPdf	05 25 05.7	+0.3
	1.7nm,0.6s,baz=64,slow=4.4,SNR=6.0						
NB2	NORSAR Subarra	138.77	353	PKP	PKPpre	05 25 04.0	
	comp=Z,0.9nm,0.6s,baz=15,slow=3.3						
NOA	NORSAR Array B	138.77	353	PKPpre	PKPpre	05 25 03.4	
NOA	NORSAR Array B	138.77	353	PKhKP	PKPpre	05 25 03.4	
	comp=Z,2.1nm,1.0s,baz=21,slow=5.1,SNR=4.3						
AKASG	Malin Array Be	142.63	331	PKPpre	PKPpre	05 25 14.8	
AKASG	Malin Array Be	142.63	331	PKhKP	PKPpre	05 25 14.8	
	comp=Z,5.4nm,0.4s,baz=43,slow=4.3,SNR=46						
KIEV	Kiev	142.65	331	ePKPdf	PKPdf	05 25 14.9	-3.8
SFNV	Sufian	142.69	304	eP	PKPdf	05 25 16.3	-3.1
SHEL	Horse Pasture	143.23	168	ePKPdf	PKPdf	05 25 20.4	-0.5
DRWC	Darouich	145.30	305	eP	PKPab	05 25 32.3	+5.8
ROOS	tl_alroos	145.49	301	eP	PKPbc	05 25 25.9	+0.1
ZALF	Zalf	145.74	299	eP	PKPdf	05 25 21.8	-2.9
MARH	Ras Al Marh	146.18	301	eP	PKPbc	05 25 28.9	+0.9
KWP	Kalwaria Pacla	146.23	335	⇑iP	PKPbc	05 25 26.5	-0.7
BR131	Keskin Array S	146.36	312	ePKPbc	PKPbc	05 25 27.4	-0.7
BRTR	Keskin Array B	146.36	312	PKPbc	PKPbc	05 25 27.4	-0.7
BRTR	Keskin Array B	146.36	312	PKPbc	PKPbc	05 25 27.4	-0.7
	comp=Z,3.6nm,0.5s,baz=131,slow=2.7,SNR=23						
BRBR	Barbar	146.76	300	eP	PKPbc	05 25 29.5	0.0
ANTO	Ankara	146.88	313	⇑iP	PKPbc	05 25 29.5	+0.1
VRI	Vrincioaia	147.16	327	⇓iP	PKPbc	05 25 29.2	-0.7
TRPA	Tarpa	147.48	333	⇑iP	PKPbc	05 25 30.7	+0.1
OKC	Ostrava-Krasne	147.72	340	⇑ePKP	PKPbc	05 25 30.2	-0.9
UPC	Upice	147.78	342	⇑ePKP	PKPbc	05 25 31.3	0.0
CLL	Collm	147.80	346	⇓iPKPbc	PKPbc	05 25 31.1	-0.2
	comp=Z,22nm,0.9s						
CLL				ePKPab	PKPab	05 25 35.0	-0.9
	comp=Z,5.0nm,0.6s						
MLR	Muntele Rosu	147.82	327	⇑iP	PKPbc	05 25 31.4	-0.3
DPC	Dobruska-Polom	147.83	342	⇑ePKP	PKPbc	05 25 31.7	+0.2
DPC				ePKPAB	PKPab	05 25 36.7	+0.6
DPC	Dobruska-Polom	147.83	342	ePKPdf	PKPbc	05 25 31.8	+0.3
BRG	Berggiesshubel	147.99	345	i PKP	PKPbc	05 25 31.7	-0.1
	comp=Z,10nm,0.6s						
BRG				e		05 25 36.6	
	comp=Z,5.9nm,0.7s						
BRG							
	comp=N,332nm,21.8s						
BRG							
	comp=E,429nm,23.1s						
BRG							
	comp=Z,708nm,20.1s						
PVCC	Panska Ves	148.15	344	⇑ePKP	PKPbc	05 25 32.5	+0.3
VOIR		148.31	328	⇑iP	PKPbc	05 25 32.6	-0.3
ARR	Arges	148.57	328	⇓iP	PKPbc	05 25 34.5	+1.0
PRU	Pruhonice	148.65	344	⇑ePKP	PKPbc	05 25 33.3	-0.1
SIRR	Siria	149.30	332	⇑iP	PKPbc	05 25 34.1	-1.1
ISP	Isparta	149.38	311	ePKPdf	PKPbc	05 25 34.5	-1.3
ISP	Isparta	149.38	311	⇑iP	PKPbc	05 25 34.1	-1.7
KHC	Kasperske Hory	149.69	344	⇑ePKP	PKPbc	05 25 35.5	-0.5
GEC2	GERESS Array S	149.92	344	ePKPdf	PKPbc	05 25 36.3	-0.4
GERES	GERESS Array B	149.92	344	PKPbc	PKPbc	05 25 36.2	-0.4
GERES	GERESS Array B	149.92	344	PKPbc	PKPbc	05 25 36.2	-0.4
	comp=Z,2.9nm,0.6s,baz=48,slow=2.0,SNR=25						
VTS	Vitosha	151.25	325	⇑iP	PKPbc	05 25 39.8	-0.2
FUORN	Ofenpass-Fuorn	152.82	347	ePKPdf	PKPbc	05 25 43.5	0.0
ESDC	Sonseca Array	160.18	12	PKPab	PKPab	05 26 28.7	-0.5
ESDC	Sonseca Array	160.18	12	PKPab	PKPab	05 26 28.7	-0.5
	comp=Z,0.1nm,0.3s,baz=328,slow=4.6,SNR=4.9						
DBIC	Dimbokro	165.09	155	PKPab	PKPab	05 26 51.4	+0.2
DBIC	Dimbokro	165.09	155	PKPab	PKPab	05 26 51.4	+0.2
	comp=Z,5.2nm,1.1s,baz=136,slow=4.8,SNR=3.4						
TORD	Torodi Ar. Bea	172.84	182	PKP	PKPdf	05 25 53.2	-1.9
TORD				PKPab	PKPab	05 27 24.7	-0.8
TORD				PP	PP	05 31 17.1	+0.8
TORD	Torodi Ar. Bea	172.84	182	PKP	PKPdf	05 25 53.2	-1.9
	comp=Z,1.3nm,0.9s,baz=26,slow=0.9,SNR=7.9						
TORD				PKPab	PKPab	05 27 24.7	-0.8
	comp=Z,1.1nm,0.7s,baz=180,slow=3.7,SNR=6.4						
TORD				PP	PP	05 31 17.1	+0.8
	comp=Z,1.1nm,1.1s,baz=169,slow=4.9,SNR=3.9						

IDC 22 05:14:50.4±4.9, 2°.82N×128°.29E, h124km±45km, mb3.5/8, mb1 3.6/9, mb1mx3.5/23, mbtmp3.5/9, Error ellipse: s-maj=43.1km s-min=15.4km az=73.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	Kappang	11.54	228	P	Pn	05 17 32.6	+1.0
	1.9nm,0.3s,baz=68,slow=6.0,SNR=5.3						
FITZ	Fitzroy Crossi	20.96	187	P	P	05 19 22.8	-0.8
	1.9nm,0.9s,baz=25,slow=14,SNR=2.8						
WRA	Warramunga Arr	23.39	166	P	P	05 19 48.0	-0.3
	1.7nm,0.6s,baz=345,slow=9.7,SNR=16						
ASAR	Alice Springs	26.89	169	P	P	05 20 20.3	+0.4
	0.2nm,0.3s,baz=347,slow=7.5,SNR=4.2						
STKA	Stephens Creek	36.75	161	P	P	05 21 45.8	-0.2
	4.2nm,0.9s,baz=343,slow=11,SNR=4.4						
USRK	Ussuriysk Arra	41.33	4	P	P	05 22 24.0	0.0
	1.4nm,0.5s,baz=151,slow=3.3,SNR=3.7						
MKAR	Makanchi Array	59.18	325	P	P	05 24 37.8	-0.6
	0.9nm,0.5s,baz=121,slow=8.2,SNR=9.8						
VNDA	Vanda	82.34	173	P	P	05 26 58.0	+0.2
	0.2nm,0.4s,baz=304,slow=5.8,SNR=4.2						
BRTR	Keskin Array B	91.79	310	P	P	05 27 45.6	+0.8
	0.9nm,0.8s,baz=83,slow=4.7,SNR=3.1						
TORD	Torodi Ar. Bea	124.67	288	PKP	PKPdf	05 33 35.5	-0.9
	0.3nm,0.9s,baz=100,slow=1.3,SNR=4.0						
CFAA	Coronel Fontan	147.41	153

TIC	**Toumodi**	**67.90**	**73**	*e*P	**P**	**05 33 28.9**	**+0.1**
	comp=N,94nm,1.6s						
KIC	**Kosan Boka**	**68.02**	**73**	*e*P	**P**	**05 33 29.9**	**+0.4**
	comp=N,31nm,0.8s						
DBIC	**Dimbokro**	**68.06**	**73**	P	**P**	**05 33 29.6**	**-0.1**
	comp=N,14nm,0.9s,baz=199,slow=5.2,SNR=11						
TORD	**Torodi Ar. Bea**	**76.70**	**70**	P	**P**	**05 34 21.1**	**+0.1**
	comp=N,5.0nm,0.7s,baz=256,slow=5.6,SNR=44						
TORD				pP	pP	05 34 58.0	+7.0
	comp=N,0.9nm,0.6s,baz=257,slow=5.6,SNR=2.0						
YKA	**Yellowknife Ar**	**91.57**	**340**	P	**P**	**05 35 35.3**	**0.0**
	comp=N,2.3nm,0.9s,baz=132,slow=4.5,SNR=5.5						
MKAR	**Makanchi Array**	**145.30**	**37**	PKPbc	**PKPab**	**05 42 06.8**	**+0.3**
	comp=N,0.5nm,0.5s,baz=332,slow=3.2,SNR=7.1						

IDC 22 05:23:36.8±1.2, 3°.77S×142°.28E, h0km, mb3.7/5, mb1 4.0/6, mb1mx3.8/18, mbtmp3.8/6, ML4.2/1, Error ellipse: s-maj=49.2km s-min=23.7km az=105.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.40**	**139**	Pn	Pn	05 25 34.3	+8.1
	1.6nm,0.3s,baz=289,slow=18,SNR=3.1						
PMG				Sn	Sn	05 27 01.2	+10
	0.8nm,0.3s,baz=126,slow=19,SNR=2.6						
WRA	**Warramunga Arr**	**17.84**	**205**	P	Pn	05 27 45.7	-1.0
	0.9nm,0.3s,baz=31,slow=13,SNR=18						
WRA				S	Sn	05 31 04.8	-1.6
	0.2nm,0.3s,baz=36,slow=24,SNR=4.0						
WRA				Lg	Lg	05 33 00.5	
	baz=23,slow=36,SNR=3.0						
ASAR	**Alice Springs**	**21.37**	**202**	P	P	05 28 26.0	-0.1
	2.8nm,0.5s,baz=29,slow=11,SNR=34						
FITZ	**Fitzroy Crossi**	**21.64**	**228**	P	P	05 28 28.8	-0.2
	2.2nm,0.5s,baz=42,slow=13,SNR=13						
FITZ				S	S	05 32 22.0	-7.6
	3.8nm,0.8s,baz=90,slow=13,SNR=3.5						
MKAR	**Makanchi Array**	**72.82**	**321**	P	P	05 35 07.8	+0.4
	0.3nm,0.4s,baz=99,slow=7.5,SNR=5.5						
VNDA	**Vanda**	**74.43**	**176**	P	P	05 35 16.9	+0.6
	0.4nm,0.7s,baz=324,slow=6.6,SNR=2.8						
ILAR	**Eielson Array**	**85.33**	**24**	P	P	05 36 14.9	-0.7
	0.3nm,0.7s,baz=261,slow=4.5,SNR=6.2						

TAP 22 05:27:40.8, 23°.12N×120°.18E, h14km, ML3.5, 8C-2D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCLT	**Jiali**	**0.06**	**13**	⇓*i*P	Pg	05 27 44.0	+0.5
	baz=18						
SCLT				*i*S	Sg	05 27 46.8	+1.5
	baz=18						
TAI1	**Yung-k'ang**	**0.09**	**151**	*i*P	Pg	05 27 44.5	+0.7
	baz=147						
TAI1				*i*S	Sg	05 27 47.3	+1.5
	baz=147						
CHN3	**Shinhua**	**0.18**	**104**	⇑*i*P	Pb	05 27 46.3	+0.5
	baz=96						
CHN3				*i*S	Sb	05 27 50.5	+1.3
	baz=96						
CHN1	**Nanshi**	**0.33**	**79**	⇑*i*P	Pb	05 27 48.7	+0.2
	baz=66						
CHN1				S	Sb	05 27 55.3	+1.7
	baz=66						
TWM1	**Shoushan**	**0.37**	**143**	*e*P	Pn	05 27 50.5	-1.2
	baz=142						
SGST	**Jiashian**	**0.37**	**96**	*e*P	Pb	05 27 49.7	+0.5
	baz=82						
WTP	**Ta-pu**	**0.42**	**72**	⇑*i*P	Pb	05 27 50.2	+0.2
	baz=72						
WTP				*e*S	Sb	05 27 57.9	+1.6
	baz=72						
CHY	**Chiayi**	**0.44**	**31**	*e*P	Pb	05 27 50.8	+0.5
	baz=31						
CHY				*e*S	Sb	05 27 58.0	+1.3
	baz=31						
CHN4	**Tsaushan**	**0.44**	**59**	⇑*i*P	Pb	05 27 50.6	+0.2
	baz=57						
CHN4				S	Sb	05 27 58.3	+1.3
	baz=57						
WDGT	**Dungji**	**0.50**	**286**	⇑*i*P	Pb	05 27 51.1	-0.2
	baz=287						
WDGT				*e*S	Sb	05 27 58.3	-0.1
	baz=287						
WSF	**Szhu**	**0.52**	**4**	*e*P	Pb	05 27 51.8	+0.1
	baz=6.0						
WSF				*e*S	Sb	05 28 00.6	+1.5
	baz=6.0						
CHN5	**Tsauling**	**0.66**	**44**	*e*P	Pb	05 27 54.3	+0.1
	baz=43						
CHN5				*e*S	Sb	05 28 04.6	+1.3
	baz=43						
PNG	**Penghu**	**0.73**	**308**	*e*P	Pg	05 27 54.7	-0.2
	baz=309						
PNG				*e*S	Sb	05 28 05.3	+0.2
	baz=309						
WTCT	**Ta-ch'eng**	**0.75**	**7**	*e*P	Pb	05 27 55.8	+0.2
	baz=20						
WTCT				*e*S	Sn	05 28 06.9	-1.1
	baz=20						
ELDTW	**Lidau**	**0.77**	**85**	*e*P	Pb	05 27 56.7	+0.5
	baz=72						
ELDTW				*e*S	Sn	05 28 08.2	-0.8
	baz=72						
TWP	**Hsiaoliuchiu**	**0.79**	**168**	*e*P	Pn	05 27 58.1	+0.6
	baz=179						
SCZT	**Fangliau**	**0.85**	**151**	⇓*i*P	Pn	05 27 58.6	+0.3
	baz=150						
SCZT				*e*S	Sn	05 28 11.1	+0.5
	baz=150						
TWG	**Pinlang**	**0.87**	**110**	*e*P	Pn	05 27 59.0	+0.4
	baz=108						
TWG				*e*S	Sn	05 28 11.8	+0.6
	baz=108						
ECL	**Taimali**	**0.88**	**126**	*e*P	Pn	05 27 59.3	+0.5
	baz=125						
EAST	**Anshuo**	**0.96**	**140**	*e*P	Pn	05 28 00.4	+0.5
	baz=138						
EAST				*e*S	Sn	05 28 14.7	+1.3
	baz=138						
TYC	**Yuchr**	**1.00**	**38**	⇑*i*P	Pg	05 28 00.2	+0.1
	baz=37						
TYC				S	Sn	05 28 15.1	+0.9
	baz=37						
SMLT	**Sun Moon Lake**	**1.01**	**41**	*e*P	Pb	05 28 00.2	0.0
	baz=40						
SMLT				*e*S	Sn	05 28 16.0	+1.2
	baz=40						
TWF1	**Yuli**	**1.05**	**77**	⇑*i*P	Pn	05 28 01.5	+0.3
	baz=75						
TWF1				*e*S	Sn	05 28 16.4	+0.7
	baz=75						
CHKT	**Chengkung**	**1.09**	**91**	*e*P	Pg	05 28 02.2	+0.4
	baz=74						
CHKT				*e*S	Sn	05 28 19.1	+2.5
	baz=74						
EHY	**Hungye**	**1.12**	**70**	⇑*i*P	Pg	05 28 02.5	+0.1
	baz=67						
EHY				S	Sn	05 28 18.1	+0.9
	baz=67						
TCU	**Taichung**	**1.12**	**24**	*e*P	Pn	05 28 02.0	0.0
	baz=24						
TWQ1	**Liyutan**	**1.34**	**24**	*e*P	Pg	05 28 06.2	-0.3
	baz=24						
NSY	**Sanyi**	**1.40**	**22**	*e*P	Pg	05 28 07.5	-0.2
	baz=23						
WHF	**Hehuan Shan**	**1.43**	**44**	*e*P	Pb	05 28 07.8	+0.1
	baz=43						
TWT	**Tachien**	**1.45**	**39**	*e*P	Pn	05 28 07.3	+0.5
	baz=37						
TWD	**Chiawan**	**1.61**	**53**	*e*P	Pb	05 28 10.7	+0.3
	baz=52						
NNS	**Nan Shan**	**1.71**	**40**	*e*P	Pb	05 28 11.7	-0.4
	baz=38						
NSK	**Sanguang**	**1.89**	**35**	*e*P	Pb	05 28 14.3	-0.8
	baz=19						
KNM	**Kinmen**	**2.06**	**309**	*e*P	Pb	05 28 17.5	-0.4
	baz=309						

*ISCJB **22** 05:41:13.4±0.6, 39°.7N±0°.1×95°.39E±0°.07, h10km, mb3.6/9, MS3.3/1, Error ellipse: s-maj=15.5km s-min=6.5km az=13.4*

*IDC **22** 05:41:13.8±1.2, 39°.68N×95°.56E, h0km, mb3.8/8, mb1 3.9/13, mb1mx3.8/31, mbtmp3.9/13, ML4.0/5, MS3.5/1, Ms1 3.5/1, ms1mx2.7/41, Error ellipse: s-maj=38.9km s-min=22.1km az=43.0*

*BJI **22** 05:41:14.3, 39°.61N×95°.54E, h15km, mb4.2/1, ML4.2/8, Ms3.7/2, Ms7 3.3/1*

*NNC **22** 05:41:21.2±3.6, 40°.05N×94°.69E, h0km, mb3.9, Error ellipse: s-maj=60.2km s-min=35.1km az=44.0*

ISC 22 05:41:15.2±0.7, 39°.7N±0°.1×95°.47E±0°.06, h10km, n20, σ1♀65°/23, mb4.0/9, 3C-2D, Gansu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**3.37**	**93**	Pn	**Pn**	**05 42 09.9**	**+1.9**
GTA				Pg	**Pb**	**05 42 13.3**	**-1.8**
GTA				Sn	**Sn**	**05 42 48.3**	**+0.2**
GTA				Sg	**Sb**	**05 42 55.5**	**-0.7**
GTA				smax	smax		
	comp=N,510nm,0.8s						
GTA				smax	smax		
	comp=E,340nm,0.9s						
GTA				LR	LR		
	comp=N,1μm,9.2s						
GTA				LR	LR		
	comp=E,590nm,9.2s						
GTA				LR	LR		
	comp=Z,460nm,10.4s						
WMQ	**Urumqi**	**7.14**	**308**	Pn	**Pn**	**05 43 01.4**	**+1.8**
WMQ				smax	smax		
	comp=N,160nm,0.7s						
WMQ				smax	smax		
	comp=E,220nm,1.0s						
SONM	**Songino Array**	**11.35**	**40**	Pn	**Pn**	**05 43 57.3**	**-0.1**
	comp=E,1.1nm,0.3s,baz=222,slow=15,SNR=10						
SONM				Lg	Lg	05 47 08.1	
	comp=E,0.8nm,0.3s,baz=232,slow=28,SNR=5.1						
MK31	**Makanchi Array**	**11.95**	**311**	⇓Pn	**Pn**	**05 44 04.0**	**-1.5**
	comp=E,3.4nm,0.6s,baz=118,slow=13,SNR=68						
MK31				⇑Sn	Sn	05 46 10.7	-8.2
	comp=E,4.5nm,0.6s,baz=130,slow=17,SNR=4.7						
MK31				⇑Lg	Lg	05 47 20.0	
	comp=E,11nm,0.9s,baz=122,slow=28,SNR=3.6						
MKAR	**Makanchi Array**	**11.95**	**311**	Pn	**Pn**	**05 44 04.1**	**-1.4**
	comp=E,1.5nm,0.3s,baz=124,slow=13,SNR=59						
MKAR				Sn	Sn	05 46 08.0	-11
	comp=E,0.3nm,0.3s,baz=132,slow=24,SNR=2.5						
MKAR				Lg	Lg	05 47 33.6	
	baz=107,slow=25,SNR=2.4						
TKM2	**Tokmak 2**	**15.28**	**289**	⇓Pn	**Pn**	**05 44 48.5**	**-2.6**
	comp=E,4.7nm,0.5s						
ZALV	**Zalesovo Beam**	**16.00**	**337**	Pn	**Pn**	**05 44 59.1**	**-1.1**
	comp=E,0.2nm,0.3s,baz=139,slow=13,SNR=3.1						
ZALV				Lg	Lg	05 49 44.6	
	comp=E,0.3nm,0.3s,baz=159,slow=24,SNR=4.4						
AAK	**Ala-Archa**	**16.07**	**287**	Pn	**Pn**	**05 44 58.4**	**-2.9**
	comp=E,0.4nm,0.3s,baz=136,slow=10,SNR=5.4						
KURBB	**Kurchatov Arra**	**16.16**	**318**	⇑Pn	**Pn**	**05 44 59.2**	**-3.1**
	comp=E,5.6nm,1.0s						
KURBB	**Kurchatov Arra**	**16.16**	**318**	Pn	**Pn**	**05 44 59.6**	**-2.6**
	comp=E,0.5nm,0.3s,baz=122,slow=13,SNR=37						
KURBB				Lg	Lg	05 49 53.0	
	baz=103,slow=32,SNR=4.4						
SARP	**Sargodha**	**20.01**	**254**	P	**P**	**05 45 46.8**	**-1.2**
BVA0	**Borovoye Array**	**21.72**	**316**	P	**P**	**05 46 07.3**	**+1.0**
	comp=E,0.2nm,0.9s,baz=120,slow=8.3,SNR=4.6						
BVAR	**Borovoye Array**	**21.72**	**316**	P	**P**	**05 46 07.1**	**+0.8**
	comp=E,0.9nm,0.5s,baz=110,slow=11,SNR=3.3						
BVAR				LR	LR	05 54 52.6	
	comp=E,111nm,19.2s,baz=279,slow=38						
AKASG	**Malin Array Be**	**46.49**	**307**	P	**P**	**05 49 41.9**	**-0.4**
	comp=E,0.7nm,0.5s,baz=70,slow=7.4,SNR=4.0						
FINES	**FINESS Array B**	**46.51**	**322**	P	**P**	**05 49 42.5**	**+0.2**
	comp=E,2.0nm,0.8s,baz=79,slow=7.2,SNR=3.7						
BRTR	**Keskin Array B**	**46.70**	**291**	P	**P**	**05 49 45.6**	**+1.3**
	comp=E,1.1nm,0.7s,baz=103,slow=8.7,SNR=6.6						
NOA	**NORSAR Array B**	**53.62**	**323**	P	**P**	**05 50 36.2**	**-0.2**
	comp=E,1.2nm,0.7s,baz=72,slow=7.3,SNR=3.6						
ESDC	**Sonseca Array**	**72.14**	**307**	P	**P**	**05 52 40.9**	**+1.0**
	comp=E,0.8nm,0.5s,baz=47,slow=4.0,SNR=4.9						
ASAR	**Alice Springs**	**72.51**	**143**	P	**P**	**05 52 42.2**	**0.0**
	comp=E,0.5nm,0.6s,baz=332,slow=6.2,SNR=5.9						
TORD	**Torodi Ar. Bea**	**84.59**	**282**	P	**P**	**05 53 50.2**	**+1.1**
	comp=E,0.2nm,0.8s,baz=42,slow=4.9,SNR=2.4						

*NIED **22** 05:42:00, 44°.80N×149°.70E, h35km, Mw4.5 Best double couple: M0 7.01000×10^15 NP1:φ=22.00000°, δ=70.00000°, λ=78.00000°. NP2:φ=233.00000°, δ=23.00000°, λ=119.00000°.*

*TEH **22** 05:42:30.1, 44°.83N×149°.72E, h10km, ML5.0*

*JMA **22** 05:42:31.4±0.6, 44°.83N×149°.74E, h30km, M5.3*

*BJI **22** 05:42:31.3, 44°.40N×149°.60E, h33km, mB5.0/7, mb5.0/15, Ms4.3/3, Ms7 4.2/3*

*SKHL **22** 05:42:31.9±1.1, 44°.64N×149°.82E, h55km±4km, mb4.9/4, Ms4.0/2*

*ISCJB **22** 05:42:33.1±0.7, 44°.55N±0°.04×149°.56E±0°.05, h50km±5km, mb4.6/70, MS3.9/5, Error ellipse: s-maj=8.4km s-min=4.4km az=139.7*

*MOS **22** 05:42:34.1±0.7, 44°.66N×149°.52E, h54km, mb4.9/36, Error ellipse: s-maj=9.4km s-min=6.2km az=115.4*

*IDC **22** 05:42:34.9±0.6, 44°.83N×149°.45E, h45km±5km, mb4.0/23, mb1 4.2/25, mb1mx4.1/30, mbtmp4.0/25, ML3.5/2, MS3.8/8, Ms1 3.9/8, ms1mx3.5/40, Error ellipse: s-maj=14.5km s-min=11.5km az=166.0*

*NEIC **22** 05:42:37.0±0.7, 44°.75N×149°.44E, h66km±6km, mb4.9/22, Error ellipse: s-maj=7.6km s-min=4.3km az=156.0*

ISC 22 05:42:34.2±0.5, 44°.58N±0°.05×149°.56E±0°.05, h45km±3km, h44km:pP-P, n335, σ1♀07/360, mb4.7/70, MS3.8/5, 16C-7D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.36**	**299**	*d*iPN	**Pn**	**05 42 55.4**	**-1.4**
KUR				*e*S	**Sn**	**05 43 12.2**	**-1.5**
KUR				pmax	pmax		
	comp=E,467nm,0.4s						
KUR				pmax	pmax		
	comp=Z,1μm,0.4s						
KUR				pmax	pmax		
	comp=N,704nm,0.2s						
KUR				smax	smax		
	comp=N,3μm,0.3s						
KUR				smax	smax		
	comp=E,2μm,0.3s						
KUR	**Kuril'sk**	**1.36**	**299**	*i*P	**Pn**	**05 42 55.4**	**-1.4**
KUR				AMB	AMB	05 43 01.2	
	comp=E,704nm,0.4s						
KUR				AMB	AMB	05 43 01.2	
	comp=E,467nm,0.4s						
KUR				AMB	AMB	05 43 01.2	
	comp=E,1μm,0.4s						
KUR				*e*S	**Sn**	**05 43 12.2**	**-1.5**
KUR				A	A	05 43 16.5	
	comp=E,3μm,0.3s						
KUR				A	A	05 43 16.5	
	comp=E,2μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**2.71**	**260**	*i*PN	**Pn**	**05 43 15.8**	**+0.6**
YUK				*i*S	**Sn**	**05 43 49.9**	**+3.2**
YUK				pmax	pmax		
	comp=Z,654nm,0.6s						
YUK				pmax	pmax		
	comp=E,199nm,0.6s						
YUK				pmax	pmax		
	comp=N,194nm,0.3s						
YUK				smax	smax		
	comp=N,2μm,0.5s						
YUK				smax	smax		
	comp=E,97nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**2.71**	**260**	*i*P	**Pn**	**05 43 15.8**	**+0.6**
YUK				AMB	AMB	05 43 22.1	
	comp=E,194nm,0.6s						
YUK				AMB	AMB	05 43 22.1	
	comp=E,199nm,0.6s						
YUK				AMB	AMB	05 43 22.1	
	comp=E,655nm,0.6s						
YUK				*i*S	**Sn**	**05 43 49.9**	**+3.2**
YUK				A	A	05 44 02.2	
	comp=E,2μm,0.5s						
YUK				A	A	05 44 02.2	
	comp=E,97nm,0.5s						
NEM2	**Nemuro 2**	**3.01**	**247**	P	**Pn**	**05 43 18.8**	**-0.6**
NEM2				*e*S	**Sn**	**05 43 54.4**	**+0.2**
JRA	**Rausu**	**3.25**	**260**	P	**Pn**	**05 43 23.5**	**+0.9**
JNK	**Nakash**	**3.63**	**256**	P	**Pn**	**05 43 29.5**	**+1.7**
JNK				*e*S	**Sn**	**05 44 11.5**	**+2.2**
JAK	**Akkeshi**	**3.86**	**247**	P	**Pn**	**05 43 31.0**	**0.0**
JAK				*e*S	**Sn**	**05 44 15.3**	**+0.2**
JTKR	**Abashiri--Toko**	**4.10**	**263**	P	**Pn**	**05 43 36.7**	**+2.4**
JAR	**Ashorobuto**	**4.37**	**255**	P	**Pn**	**05 43 39.7**	**+1.6**
JAR				*e*S	**Sn**	**05 44 30.4**	**+2.7**
JOB	**Onbets**	**4.47**	**250**	P	**Pn**	**05 43 40.1**	**+0.7**
JOB				*e*S	**Sn**	**05 44 31.0**	**+0.8**
JMP	**Maruseppu**	**4.49**	**265**	P	**Pn**	**05 43 41.9**	**+2.2**
JCH	**Churui**	**4.91**	**249**	P	**Pn**	**05 43 46.2**	**+0.8**
JCH				*e*S	**Sn**	**05 44 41.5**	**+0.6**
JKK2	**Kamakawa 2**	**4.95**	**264**	P	**Pn**	**05 43 48.5**	**+2.6**
ASAJ	**Asahikawa**	**5.01**	**267**	P	**Pn**	**05 43 49.5**	**+2.6**
ASAJ	**Asahikawa**	**5.01**	**267**	*e*Pn	**Pn**	**05 43 49.4**	**+2.6**
ASAJ				S	Sn	05 44 59.2	+16
ASAJ	**Asahikawa**	**5.01**	**267**	P	**Pn**	**05 43 49.6**	**+2.6**
	comp=E,9.7nm,0.3s,baz=78,slow=14,SNR=21						
ASAJ				S	Sn	05 44 59.2	+16
	comp=E,4.7nm,0.3s,baz=174,slow=19,SNR=2.8						
ASAJ				LR	LR	05 45 59.0	
	comp=E,1μm,20.0s,baz=156,slow=41						
JFR	**Furan**	**5.23**	**257**	*e*S	**Sn**	**05 44 51.4**	**+2.5**
YSS	**Yuzh-Sakhalins**	**5.32**	**299**	⇑*i*PN	**Pn**	**05 43 51.5**	**+0.5**
YSS				*e*S	**Sn**	**05 44 51.0**	**+0.1**
YSS				pmax	pmax		
	comp=Z,20nm,0.6s						
YSS				smax	smax		
	comp=E,50nm,0.7s						
YSS				MLR	MLR		
	comp=Z,1μm,14.0s						
YSS				MLR	MLR		
	comp=E,700nm,15.0s						
YSS	**Yuzh-Sakhalins**	**5.32**	**299**	*i*P	**Pn**	**05 43 51.5**	**+0.5**
YSS				AMB	AMB	05 43 53.5	
	comp=E,20nm,0.6s						
YSS				*e*S	**Sn**	**05 44 51.0**	**+0.1**
YSS				A	A	05 44 57.5	
	comp=E,50nm,0.7s						
YSS				AMS	AMS	05 46 00.0	
	comp=E,700nm,15.0s						
YSS				AMS	AMS	05 46 00.0	
	comp=E,1μm,15.0s						
ERM	**Erimo**	**5.33**	**243**	*ce*PN	**Pn**	**05 43 53.2**	**+2.0**
ERM				pmax	pmax		
	comp=Z,153nm,1.0s						
ERM	**Erimo**	**5.33**	**243**	*e*P	**Pn**	**05 43 53.2**	**+2.0**
ERM	**Erimo**	**5.33**	**243**	*e*Pn	**Pn**	**05 43 53.4**	**+2.2**
ERM				*e*Sn	**Sn**	**05 44 52.2**	**+1.0**
JEM	**Erimo**	**5.33**	**243**	P	**Pn**	**05 43 53.1**	**+1.9**
JEM				*e*S	**Sn**	**05 44 52.8**	**+1.6**
JAB	**Ashibetsu**	**5.40**	**261**	P	Pn	05 43 55.5	+3.4
JNBK	**Urakawa-nobuka**	**5.46**	**247**	P	**Pn**	**05 43 53.3**	**+0.3**
JNBK				*e*S	**Sn**	**05 44 54.3**	**-0.3**
JWK2	**Keihoku**	**5.49**	**280**	P	Pn	05 43 56.6	+3.3
JSS	**Shosan**	**5.51**	**271**	P	Pn	05 43 57.6	+3.9
JBT2	**Biratori 2**	**5.52**	**253**	P	**Pn**	**05 43 55.0**	**+1.2**
JNB	**Noboribetsu**	**6.54**	**254**	P	**Pn**	**05 44 09.0**	**+1.2**
JNB				*e*S	**Sn**	**05 45 22.5**	**+1.4**
JSK	**Shakotan**	**6.67**	**263**	P	Pn	05 44 14.1	+4.6
JKB	**Kayabe**	**6.78**	**250**	P	**Pn**	**05 44 11.2**	**+0.1**
JKB				*e*S	**Sn**	**05 45 24.4**	**-2.6**
UGL	**Uglegorsk**	**6.83**	**314**	PN	Pn	05 44 15.5	+3.8
UGL				*e*		05 45 35.0	
UGL				pmax	pmax		
	comp=Z,53nm,0.4s						
UGL				MLR	MLR		
	comp=N,1μm,15.0s						
UGL				MLR	MLR		
	comp=E,600nm,15.0s						
UGL				MLR	MLR		
	comp=Z,1μm,15.0s						
UGL	**Uglegorsk**	**6.83**	**314**	*e*P	Pn	05 44 15.5	+3.8
UGL				AMB	AMB	05 44 17.0	
	comp=Z,53nm,0.4s						
UGL				*e*S	Sn	05 45 35.5	+7.5
UGL				AMS	AMS	05 47 04.5	
	comp=Z,1μm,15.0s						
UGL				AMS	AMS	05 47 04.5	
	comp=Z,600nm,15.0s						
UGL				AMS	AMS	05 47 04.5	
	comp=Z,1μm,15.0s						
JYM2	**Yakumo 2**	**7.14**	**253**	P	**Pn**	**05 44 17.0**	**+1.0**
JANG	**Nango**	**7.28**	**237**	P	**Pn**	**05 44 16.0**	**-2.0**
JANG				*e*S	Sn	05 45 33.1	-6.2
JTM	**Tenmabayashi**	**7.31**	**242**	P	**Pn**	**05 44 17.8**	**-0.6**
JTM				*e*S	**Sn**	**05 45 35.7**	**-4.4**
JTH	**Tanohata**	**7.35**	**234**	P	**Pn**	**05 44 16.8**	**-2.2**
JTH				*e*S	Sn	05 45 33.9	-7.2
JSR	**Shiriuchi**	**7.36**	**249**	P	**Pn**	**05 44 19.1**	**+0.1**
SKR	**Severo-Kuril's**	**7.54**	**34**	*e*PN	Pn	05 44 15.1	-6.3
JOSM	**Okushiri--Mats**	**7.76**	**255**	P	**Pn**	**05 44 25.3**	**+0.7**
OFUJ	**Ofunato**	**8.05**	**230**	P	**Pn**	**05 44 26.8**	**-1.8**
JIO	**Ouri**	**8.68**	**228**	*e*S	Sn	05 46 05.9	-7.7
JYA	**Atsumi**	**9.49**	**234**	P	**Pn**	**05 44 47.7**	**-0.6**
PETK	**Petropavlovsk-**	**10.07**	**29**	PN	**Pn**	**05 44 57.9**	**+1.7**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK	**Petropavlovsk-**	**10.07**	**29**	P	**Pn**	**05 44 57.9**	**+1.7**
PETK				S	**Sn**	**05 46 49.9**	**+2.3**
PETK	**Petropavlovsk-**	**10.07**	**29**	P	**Pn**	**05 44 57.9**	**+1.7**
	comp=Z,1.1nm,0.3s,baz=197,slow=13,SNR=8.8						
PETK				S	**Sn**	**05 46 49.9**	**+2.3**
	comp=Z,0.6nm,0.3s,baz=223,slow=29,SNR=2.7						
MAJO	**Matsushiro**	**11.78**	**231**	*e*PN	**Pn**	**05 45 18.9**	**-0.7**
MAJO	**Matsushiro**	**11.78**	**231**	*e*P	**Pn**	**05 45 18.7**	**-0.9**
MAJO	**Matsushiro**	**11.78**	**231**	*e*Pn	**Pn**	**05 45 18.9**	**-0.7**
MAT	**Matsushiro**	**11.78**	**231**	P	**Pn**	**05 45 18.8**	**-0.8**
MAT				*e*S	**Sn**	**05 47 29.8**	**+0.2**
USRK	**Ussuriysk Arra**	**12.58**	**274**	P	**Pn**	**05 45 31.5**	**+1.1**
	comp=Z,1.2nm,0.3s,baz=87,slow=13,SNR=15						
KLR	**Kul'dur**	**13.03**	**297**	*e*PN	**Pn**	**05 45 38.6**	**+2.1**
KSRS	**Korea Array**	**17.78**	**254**	P	**P**	**05 46 39.5**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=57,slow=12,SNR=9.1						
KSRS				LR	LR	05 53 37.6	
	comp=Z,206nm,18.4s,baz=259,slow=37						
KSAR	**Wonju Array Be**	**17.82**	**254**	P	**P**	**05 46 39.5**	**+0.5**
JNU	**Nakatsue**	**18.46**	**238**	P	Pn	05 46 51.6	+5.0
JNU	**Nakatsue**	**18.46**	**238**	P	Pn	05 46 51.6	+5.0
	comp=Z,0.3nm,0.3s,baz=226,slow=2.1,SNR=4.2						
JNU				LR	LR	05 54 22.1	
	comp=Z,168nm,19.1s,baz=230,slow=38						
SONM	**Songino Array**	**29.76**	**292**	P	**P**	**05 48 36.2**	**-0.3**
SONM	**Songino Array**	**29.76**	**292**	P	**P**	**05 48 36.2**	**-0.3**
	comp=Z,2.9nm,0.7s,baz=86,slow=8.1,SNR=4.2						
SONM				LR	LR	06 01 22.0	
	comp=Z,240nm,20.0s,baz=50,slow=38						
LZH	**Lanzhou**	**35.47**	**272**	*e*P	**P**	**05 49 27.5**	**+1.0**
LZH				pP	**pP**	**05 49 36.8**	**-1.7**
LZH				sP	**sP**

ZALV pPcP 05 52 25.6
ZALV Zalesovo Beam 41.88 307 P P 05 50 16.7 -3.1
comp=Z,1.2nm,0.3s,baz=63,slow=7.3,SNR=3.7
ZALV PcP **PcP 05 52 14.7 +0.1**
comp=Z,2.3nm,0.4s,baz=60,slow=3.6,SNR=6.1
ZALV pPcP 05 52 25.6
comp=Z,2.5nm,0.5s,baz=91,slow=3.0,SNR=5.2
EGAK Eagle 42.23 37 *eP* **P 05 50 22.4 -0.1**
comp=Z,9.1nm,1.0s
HYT Haines Junctio 44.56 42 *eP* **P 05 50 41.1 -0.3**
MK31 Makanchi Array 45.73 298 *eP* **P 05 50 50.4 -0.4**
MK31 Makanchi Array 45.73 298 *eP* **P 05 50 50.4 -0.4**
MKAR Makanchi Array 45.73 298 *ceP* **P 05 50 50.5 -0.3**
MKAR pmax pmax
comp=Z,7.0nm,0.6s
MKAR Makanchi Array 45.73 298 *eP* **P 05 50 50.5 -0.3**
MKAR Makanchi Array 45.73 298 P **P 05 50 50.2 -0.6**
MKAR PcP **PcP 05 52 27.9 0.0**
MKAR pPcP 05 52 40.6
MKAR Makanchi Array 45.73 298 P **P 05 50 50.2 -0.6**
comp=Z,6.9nm,0.6s,baz=74,slow=8.1,SNR=29
MKAR PcP **PcP 05 52 27.9 0.0**
comp=Z,1.5nm,0.6s,baz=71,slow=4.2,SNR=3.6
MKAR pPcP 05 52 40.6
comp=Z,1.8nm,0.6s,baz=71,slow=3.9,SNR=4.5
MKAR LR LR 06 11 06.8
comp=Z,237nm,18.8s,baz=358,slow=38
KURK Kurchatov 46.50 304 ⇊ *iP* **P 05 50 56.1 -0.6**
KURK pmax pmax
comp=Z,7.0nm,1.1s
KURK Kurchatov 46.50 304 *eP* **P 05 50 56.1 -0.6**
KURK Kurchatov 46.50 304 P **P 05 50 56.0 -0.8**
KURK PcP **PcP 05 52 30.7 +0.2**
KURK pPcP 05 52 43.2
KURBB Kurchatov Arra 46.59 304 P **P 05 50 56.0 -1.4**
comp=Z,3.6nm,0.3s,baz=73,slow=8.2,SNR=24
KURBB PcP **PcP 05 52 30.7 -0.1**
comp=Z,1.7nm,0.4s,baz=82,slow=3.6,SNR=5.4
KURBB pPcP 05 52 43.2
comp=Z,1.4nm,0.6s,baz=80,slow=3.8,SNR=4.0
CMAR Chiang Mai Arr 49.42 255 P **P 05 51 20.7 +1.0**
CMAR Chiang Mai Arr 49.42 255 P **P 05 51 20.7 +1.0**
comp=Z,0.7nm,0.3s,baz=34,slow=6.8,SNR=6.9
CMAR LR LR 06 15 40.0
comp=Z,81nm,18.3s,baz=333,slow=40
BVAR Borovoye Array 50.31 310 P **P 05 51 24.9 -1.1**
BVAR *PP **pP 05 51 38.2 -0.4**
BVAR 05 52 44.2
BVAR pmax pmax
comp=Z,1.0nm,0.4s
BVAR pmax pmax
comp=Z,1.0nm,0.4s
BVAR pmax pmax
comp=Z,2.0nm,0.6s
BVAR Borovoye Array 50.31 310 P **P 05 51 24.9 -1.1**
BVAR pP **pP 05 51 38.2 -0.4**
BVAR PcP **PcP 05 52 44.2 -0.1**
BVAR Borovoye Array 50.31 310 P **P 05 51 24.9 -1.1**
comp=Z,1.2nm,0.4s,baz=78,slow=7.7,SNR=4.4
BVAR pP **pP 05 51 38.2 -0.4**
comp=Z,1.1nm,0.4s,baz=128,slow=6.2,SNR=4.2
BVAR PcP **PcP 05 52 44.2 -0.1**
comp=Z,1.7nm,0.6s,baz=86,slow=4.8,SNR=4.0
BRVK Borovoye 50.35 310 *i P* **P 05 51 26.1 -0.3**
BRVK pmax pmax
comp=Z,2.0nm,0.5s
BRVK Borovoye 50.35 310 *eP* **P 05 51 26.1 -0.3**
TAPN Taplejung 51.71 272 *eP* **P 05 51 38.0 +0.7**
comp=Z,15nm,0.4s
AAK Ala-Archa 52.55 296 *ceP* **P 05 51 42.8 -0.4**
AAK pmax pmax
comp=Z,11nm,1.2s
AAK Ala-Archa 52.55 296 *eP* **P 05 51 42.8 -0.4**
AAK Ala-Archa 52.55 296 P **P 05 51 42.2 -1.0**
AAK Ala-Archa 52.55 296 P **P 05 51 42.2 -1.0**
comp=Z,2.0nm,0.4s,baz=62,slow=3.1,SNR=3.6
JIRN Jiri 52.62 274 *eP* **P 05 51 44.7 +0.6**
GUN Gumba 52.69 274 *eP* **P 05 51 45.1 +0.5**
comp=Z,54nm,0.6s
RAMN Ramite 52.74 273 *eP* **P 05 51 45.2 +0.3**
comp=Z,68nm,0.4s
EKS2 Erkin-Say 53.00 296 *eP* **P 05 51 46.8 +0.4**
EKS2 pmax pmax
comp=Z,11nm,1.3s
EKS2 Erkin-Say 53.00 296 *eP* **P 05 51 46.8 +0.4**
comp=Z,11nm,1.3s
KKN Kakani 53.19 274 *eP* **P 05 51 48.7 +0.6**
comp=Z,24nm,0.6s
PKI Pulchoki 53.22 274 *eP* **P 05 51 48.8 +0.3**
PKIN Phulchoki 53.23 274 *eP* **P 05 51 48.7 +0.2**
comp=Z,10nm,0.5s
DMN Daman 53.42 274 *eP* **P 05 51 50.5 +0.7**
comp=Z,60nm,0.8s
DANN Dangsing 53.94 276 *eP* **P 05 51 54.5 +0.8**
comp=Z,32nm,0.4s
YKA Yellowknife Ar 54.14 35 P **P 05 51 54.4 +0.1**
YKA Yellowknife Ar 54.14 35 P **P 05 51 54.3 +0.1**
comp=Z,2.0nm,0.7s,baz=300,slow=6.7,SNR=8.8
KOLN Koldanda 54.39 276 *eP* **P 05 51 57.5 +0.6**
comp=Z,23nm,0.6s
PYUN Piuthan 54.63 276 *eP* **P 05 51 59.3 +0.7**
comp=Z,124nm,0.4s
KKAR Karatay Array 54.85 298 *eP* **P 05 51 59.4 -0.4**
KKAR Karatay Array 54.85 298 *eP* **P 05 51 59.4 -0.4**
ABKAR Abkulak array 57.88 309 *eP* **P 05 52 20.6 -0.7**
AKTO Aktyubinsk 58.30 311 P **P 05 52 23.6 -0.5**
AKTO pmax pmax
comp=Z,1.0nm,0.4s
AKTO Aktyubinsk 58.30 311 P **P 05 52 23.6 -0.5**
AKTO Aktyubinsk 58.30 311 P **P 05 52 23.6 -0.5**
comp=Z,1.4nm,0.4s,baz=92,slow=21,SNR=4.0
ARCES ARCESS Array B 59.06 340 P **P 05 52 27.5 -1.6**
ARCES ARCESS Array B 59.06 340 P **P 05 52 27.5 -1.6**
comp=Z,1.1nm,0.5s,baz=38,slow=8.1,SNR=8.0
KBL Kabul 60.52 291 *eP* **P 05 52 39.3 -0.7**
KBL pmax pmax
comp=Z,13nm,0.9s
KBL Kabul 60.52 291 *eP* **P 05 52 39.3 -0.7**
comp=Z,13nm,0.9s
JOF Joensuu 62.15 333 *eP* **P 05 52 47.6 -2.6**
JOF pmax pmax
comp=Z,2.0nm,0.3s
JOF Joensuu 62.15 333 *ep* **P 05 52 47.6 -2.6**
comp=Z,1.5nm,0.3s
SUMG Summit 63.01 3 *eP* **P 05 52 55.9 -0.4**
SUMG pmax pmax
comp=Z,11nm,1.0s
SUMG Summit 63.01 3 *i P* **P 05 52 56.0 -0.4**
comp=Z,7.8nm,0.9s
SUMG Summit 63.01 3 *eP* **P 05 52 55.9 -0.4**
comp=Z,11nm,1.0s
SLMT Seeley Lake 63.05 49 *eP* **P 05 52 56.1 -0.6**
comp=Z,2.9nm,0.7s
FINES FINESS Array B 64.91 334 P **P 05 53 06.1 -2.3**
FINES FINESS Array B 64.91 334 P **P 05 53 06.1 -2.3**
comp=Z,3.4nm,0.6s,baz=35,slow=8.0,SNR=9.8
IEMG Emamgholi 65.53 299 *eP* **P 05 53 12.8 -0.5**
OBN Obninsk 65.66 325 P P 05 53 06.0 -7.4
NVAR Mina Array Bea 65.67 59 P **P 05 53 15.4 +1.4**
NVAR Mina Array Bea 65.67 59 P **P 05 53 15.4 +1.4**
comp=Z,0.9nm,0.8s,baz=277,slow=7.5,SNR=8.0
WRA Warramunga Arr 65.70 196 P **P 05 53 14.9 +0.9**
WRA pP **pP 05 53 29.1 +2.1**
WRA Warramunga Arr 65.70 196 P **P 05 53 14.9 +0.9**
comp=Z,2.0nm,1.0s,baz=12,slow=6.4,SNR=5.3
WRA pP **pP 05 53 29.1 +2.1**
comp=Z,3.1nm,0.8s,baz=15,slow=6.7,SNR=7.6
IAKL Akhelmad 65.97 298 *eP* **P 05 53 16.2 +0.1**
ISHV Shirvan 66.05 300 *eP* **P 05 53 16.8 +0.3**
ISFR Sfrayin 66.16 299 *eP* **P 05 53 16.1 -1.2**
RRI2 Red Ridge 66.68 52 *eP* **P 05 53 21.9 +1.4**
comp=Z,41nm,2.4s
POO Poona 67.15 274 ⇊ *iP* **P 05 53 23.0 -0.6**
comp=Z,2.0nm,1.0s
IMON Monand 67.52 295 *eP* **P 05 53 26.2 +0.2**
PDAR Pinedale Array 68.04 51 P **P 05 53 29.4 +0.2**
PDAR Pinedale Array 68.04 51 P **P 05 53 29.4 +0.2**
comp=Z,0.7nm,0.7s,baz=349,slow=0.6,SNR=11
ITEG Tejag 68.31 295 *eP* **P 05 53 31.0 +0.1**
ASAR Alice Springs 69.41 195 P **P 05 53 39.1 +1.7**
ASAR pP **pP 05 53 53.1 +2.7**
ASAR Alice Springs 69.41 195 P **P 05 53 39.1 +1.7**
comp=Z,1.2nm,0.8s,baz=22,slow=6.4,SNR=8.0
ASAR pP **pP 05 53 53.1 +2.7**
comp=Z,1.8nm,0.7s,baz=15,slow=6.2,SNR=6.6

NB2 NORSAR Subarra 69.44 340 P **P 05 53 35.5 -1.7**
comp=Z,1.5nm,0.4s,baz=28,slow=6.5
NOA NORSAR Array B 69.44 340 P **P 05 53 35.5 -1.7**
NOA NORSAR Array B 69.44 340 P **P 05 53 35.5 -1.7**
comp=Z,2.4nm,0.5s,baz=29,slow=6.5,SNR=20
NOA LR LR 06 27 11.9
comp=Z,73nm,18.3s,baz=270,slow=39
AKASG Malin Array Be 71.92 325 *ceP* **P 05 53 51.7 -0.7**
AKASG pmax pmax
comp=Z,6.0nm,0.4s
AKASG Malin Array Be 71.92 325 P **P 05 53 51.8 -0.7**
AKASG Malin Array Be 71.92 325 P **P 05 53 51.8 -0.7**
comp=Z,5.8nm,0.4s,baz=36,slow=6.0,SNR=30
KIEV Kiev 71.93 325 *eP* **P 05 53 51.6 -0.9**
KIEV pmax pmax
comp=Z,11nm,0.7s
KIEV Kiev 71.93 325 *eP* **P 05 53 51.6 -0.9**
comp=Z,11nm,0.7s
GNI Garni 71.99 309 LR LR 06 30 19.7
comp=Z,57nm,21.4s,baz=284,slow=40
IZEF Zetreh 72.39 299 *eP* P 05 53 48.4 -7.5
IKLH Kolahrood 72.58 300 *eP* **P 05 53 57.6 +0.6**
KWP Kalwaria Pacla 75.36 327 ⇑ *iP* **P 05 54 12.4 -0.3**
OJC Ojcow 75.96 329 *eP* **P 05 54 16.1 0.0**
OJC Ojcow 75.96 329 *eP* **P 05 54 16.3 +0.2**
comp=Z,14nm,0.8s
OJC Ojcow 75.96 329 *eP* **P 05 54 16.1 0.0**
KOLS Kolonicke sedl 76.09 327 *eP* **P 05 54 17.2 +0.3**
KOLS pmax pmax
comp=Z,7.0nm,1.0s
KOLS Kolonicke sedl 76.09 327 *eP* **P 05 54 17.2 +0.3**
STHS Stebnicka Huta 76.09 328 *eP* **P 05 54 17.4 +0.5**
STHS pmax pmax
comp=Z,9.0nm,0.7s
STHS Stebnicka Huta 76.09 328 *eP* **P 05 54 17.4 +0.5**
SCHQ Schefferville 76.24 21 P **P 05 54 17.3 -0.4**
SCHQ Schefferville 76.24 21 P **P 05 54 17.3 -0.4**
comp=Z,1.8nm,0.8s,baz=304,slow=11,SNR=2.0
TLCR 76.33 321 ⇑ *iP* **P 05 54 18.1 -0.2**
NIE Niedzica 76.43 329 *eP* **P 05 54 19.3 +0.5**
NIE Niedzica 76.43 329 *eP* **P 05 54 19.3 +0.5**
TRPA Tarpa 76.64 327 ⇑ *iP* **P 05 54 20.4 +0.5**
CFR Carcaliu 76.64 322 ⇊ *iP* **P 05 54 19.7 -0.3**
KSP Ksiaz 76.67 332 *eP* **P 05 54 19.6 -0.5**
MALT Malatya 76.75 311 ⇑ *iP* **P 05 54 22.3 +1.4**
OKC Ostrava-Krasne 76.88 330 *eP* **P 05 54 21.6 +0.3**
OKC Ostrava-Krasne 76.88 330 *eP* **P 05 54 21.6 +0.3**
UPC Upice 77.05 332 *eP* **P 05 54 21.7 -0.6**
UPC Upice 77.05 332 *eP* **P 05 54 21.7 -0.6**
DPC Dobruska-Polom 77.08 331 *eP* **P 05 54 22.7 +0.2**
DPC Dobruska-Polom 77.08 331 *eP* **P 05 54 22.7 +0.2**
DPC Dobruska-Polom 77.08 331 *eP* **P 05 54 22.9 +0.4**
comp=Z,40nm,1.0s
KECS Kecovo 77.14 328 *eP* **P 05 54 22.8 0.0**
KECS pmax pmax
comp=Z,5.0nm,0.8s
KECS Kecovo 77.14 328 *eP* **P 05 54 22.8 0.0**
MORC Moravsky Berou 77.14 330 *eP* **P 05 54 23.3 +0.5**
MORC pmax pmax
comp=Z,12nm,0.9s
MORC Moravsky Berou 77.14 330 *eP* **P 05 54 23.3 +0.5**
comp=Z,12nm,0.9s
MLR Muntele Rosu 77.35 323 ⇑ *iP* **P 05 54 24.9 +0.7**
CLL Collm 77.35 334 *eP* **P 05 54 23.4 -0.5**
comp=Z,18nm,0.5s
CLL Collm 77.35 334 ⇑ *iP* **P 05 54 23.3 -0.6**
CLL pmax pmax
comp=Z,17nm,0.5s
CLL Collm 77.35 334 ⇑ *iP* **P 05 54 23.3 -0.6**
comp=Z,17nm,0.5s
CLL *i* P(2) 05 54 26.6
comp=Z,11nm,0.7s
BRG Berggiesshubel 77.43 333 *eP* **P 05 54 23.9 -0.5**
comp=Z,2.5nm,0.6s
BRG Berggiesshubel 77.43 333 *eP* **P 05 54 23.9 -0.5**
comp=Z,4.0nm,0.7s
BRG Berggiesshubel 77.43 333 *eP* **P 05 54 23.9 -0.5**
BRG pmax pmax
comp=Z,3.0nm,0.6s
PVCC Panska Ves 77.52 332 *eP* **P 05 54 25.0 +0.1**
PVCC Panska Ves 77.52 332 *eP* **P 05 54 25.0 +0.1**
FBE Freiberg 77.58 333 *eP* **P 05 54 25.1 -0.1**
comp=Z,9.0nm,0.9s
DRGR 77.65 326 ⇑ *iP* **P 05 54 25.5 -0.3**
CLZ Clausthal 77.69 335 *eP* **P 05 54 26.0 +0.1**
comp=Z,16nm,1.4s
CLZ Clausthal 77.69 335 *eP* **P 05 54 26.0 +0.1**
CLZ pmax pmax
comp=Z,16nm,1.4s
VYHS Vyhne 77.75 329 *eP* **P 05 54 26.4 +0.2**
VYHS pmax pmax
comp=Z,4.0nm,1.0s
VYHS Vyhne 77.75 329 *eP* **P 05 54 26.4 +0.2**
PSZ Piszkesteto 77.83 328 *eP* **P 05 54 27.1 +0.3**
PSZ pmax pmax
comp=Z,8.0nm,0.7s
PSZ Piszkesteto 77.83 328 *eP* **P 05 54 27.1 +0.3**
comp=Z,7.7nm,0.7s
PRU Pruhonice 77.99 332 *eP* **P 05 54 27.7 +0.2**
PRU Pruhonice 77.99 332 *eP* **P 05 54 27.7 +0.2**
RST Umm Al-Ruwaisa 78.04 300 *eP* **P 05 54 28.0 -0.1**
RST AMb AMB 05 54 30.0
comp=Z,245nm,0.9s
NAY Al-Naaiem 78.06 299 *eP* **P 05 54 28.0 -0.3**
NAY AMb AMB 05 54 30.7
comp=Z,18nm,2.1s
RDF Al-Radifah 78.09 299 *eP* **P 05 54 29.1 +0.7**
RDF AMb AMB 05 54 31.7
comp=Z,31nm,0.8s
BRTR Keskin Array B 78.20 315 P **P 05 54 29.6 +0.6**
BRTR Keskin Array B 78.20 315 P **P 05 54 29.6 +0.6**
comp=Z,2.0nm,0.6s,baz=87,slow=2.7,SNR=12
WERD Werda 78.32 334 *eP* **P 05 54 29.2 -0.2**
comp=Z,4.0nm,0.7s
MANZ Manzenberg 78.78 334 *eP* **P 05 54 31.8 -0.1**
comp=Z,8.0nm,1.1s
ROTZ Rotzenmuhle 78.94 333 *eP* **P 05 54 33.0 +0.2**
comp=Z,6.0nm,1.0s
KHC Kasperske Hory 79.05 332 *eP* **P 05 54 33.5 +0.1**
KHC *e* 05 54 36.5
KHC Kasperske Hory 79.05 332 *eP* **P 05 54 33.5 +0.1**
KHC *ex* x 05 54 36.5
BZS Buzias 79.05 326 ⇊ *iP* **P 05 54 33.0 -0.4**
GEC2 GERESS Array S 79.25 332 *eP* **P 05 54 34.5 -0.1**
comp=Z,6.0nm,0.9s
GEC2 GERESS Array S 79.25 332 *eP* **P 05 54 34.5 -0.1**
GEC2 pmax pmax
comp=Z,6.0nm,0.9s
GEC2 GERESS Array S 79.25 332 *eP* **P 05 54 34.8 +0.2**
GERES GERESS Array B 79.25 332 P **P 05 54 34.2 -0.4**
GERES GERESS Array B 79.25 332 P **P 05 54 34.2 -0.4**
comp=Z,2.7nm,0.5s,baz=53,slow=5.2,SNR=18
WET Wettzell 79.27 333 *eP* **P 05 54 34.9 +0.3**
comp=Z,16nm,1.0s
WET Wettzell 79.27 333 *eP* **P 05 54 34.9 +0.3**
WET pmax pmax
comp=Z,16nm,1.0s
CONA Conrad Observa 79.30 330 ⇑ *iP* **P 05 54 35.4 +0.5**
comp=Z,7.5nm,0.7s
GRF Grafenberg Arr 79.32 334 *eP* **P 05 54 35.4 +0.5**
comp=Z,13nm,0.9s
GRF Grafenberg Arr 79.32 334 *eP* **P 05 54 35.4 +0.5**
GRF pmax pmax
comp=Z,13nm,0.9s
MEM Membach 80.04 337 P **P 05 54 39.1 +0.4**
BCLA Clavier 80.40 338 P **P 05 54 40.9 +0.3**
comp=Z,15nm,2.4s
PERS Pernice 80.67 330 *i P* **P 05 54 42.7 +0.5**
TXAR Lajitas Array 80.74 58 P **P 05 54 43.2 +0.3**
TXAR pP **pP 05 54 55.9 -0.4**
TXAR Lajitas Array 80.74 58 P **P 05 54 43.2 +0.3**
comp=Z,1.8nm,0.7s,baz=299,slow=4.1,SNR=34
TXAR pP **pP 05 54 55.9 -0.4**
comp=Z,1.6nm,0.4s,baz=298,slow=4.5,SNR=9.0
GIVF Givet 80.82 338 *eP* **P 05 54 42.6 -0.3**
GIVF Givet 80.82 338 *eP* **P 05 54 42.6 -0.3**
GIVF Givet 80.82 338 *eP* **P 05 54 42.6 -0.3**
VTS Vitosha 80.85 323 ⇑ *iP* P 05 54 39.2 -4.2
VTS Vitosha 80.85 323 ⇑ *iP* P 05 54 39.2 -4.2
BAIF Baives 81.03 338 *eP* **P 05 54 43.9 -0.1**
BAIF Baives 81.03 338 *eP* **P 05 54 43.9 -0.1**
BAIF Baives 81.03 338 *eP* **P 05 54 43.9 -0.1**
BFO Black Forest 81.42 335 *i P* **P 05 54 47.2 +1.0**
MOTA Moosalm 81.42 333 ⇊ *iP* **P 05 54 46.8 +0.5**

comp=Z,31nm,1.4s
VISS Visnje 81.48 330 *i* P **P 05 54 45.9 -0.6**
BOJS Bojanci 81.58 329 *i* P **P 05 54 47.0 0.0**
CDF Champ du Feu 81.66 336 *eP* **P 05 54 46.3 -1.2**
comp=Z,6.2nm,0.5s
CDF Champ du Feu 81.66 336 *eP* **P 05 54 46.3 -1.2**
CDF pmax pmax
comp=Z,6.0nm,0.5s
CDF Champ du Feu 81.66 336 *eP* **P 05 54 46.3 -1.2**
comp=Z,6.2nm,0.5s
JAVS Javornik 81.68 330 *i* P **P 05 54 46.5 -1.1**
PAGF Fort de Pagny 81.98 337 *eP* **P 05 54 48.4 -0.7**
comp=Z,4.4nm,0.6s
PAGF Fort de Pagny 81.98 337 *eP* **P 05 54 48.4 -0.7**
comp=Z,4.4nm,0.6s
PMOR Pomariorio Ree 82.05 120 *eT* T 07 25 30.7
comp=Z,24nm,0.2s
HAU Haudompre 82.30 336 *eP* **P 05 54 49.6 -1.2**
HAU *eR* 05 54 49.6
comp=Z,185nm,19.5s
HAU Haudompre 82.30 336 *eP* **P 05 54 49.6 -1.2**
HAU Haudompre 82.30 336 *eP* **P 05 54 49.6 -1.2**
FUORN Ofenpass-Fuorn 82.33 333 *eP* **P 05 54 52.1 +0.8**
comp=Z,11nm,1.1s
SFTF Sexfontaines 82.49 337 *eP* **P 05 54 51.9 +0.2**
SFTF Sexfontaines 82.49 337 *eP* **P 05 54 51.9 +0.2**
PPT2 Papeete2 83.01 123 *eLR* LR 06 21 20.4
comp=Z,73nm,23.2s
PPT2 Papeete2 83.01 123 *eT* T 07 26 48.2
comp=Z,3.5nm,0.3s
FLN La Foliniere 83.40 341 *eP* **P 05 54 56.1 -0.3**
FLN *eR* 05 54 56.1
comp=Z,193nm,20.0s
FLN La Foliniere 83.40 341 *eP* **P 05 54 56.1 -0.3**
FLN La Foliniere 83.40 341 *eP* **P 05 54 56.1 -0.3**
LDF La Druitiere 83.47 340 *eP* **P 05 54 56.8 0.0**
LDF La Druitiere 83.47 340 *eP* **P 05 54 56.8 0.0**
LDF La Druitiere 83.47 340 *eP* **P 05 54 56.8 0.0**
LOR Lormes 83.67 337 *eP* **P 05 54 56.8 -1.1**
comp=Z,7.4nm,0.6s
LOR *eR* 05 54 56.8
comp=Z,223nm,20.8s
LOR Lormes 83.67 337 *eP* **P 05 54 56.8 -1.1**
comp=Z,7.4nm,0.6s
GRR Gorron 83.84 341 *eP* **P 05 54 58.1 -0.6**
comp=Z,16nm,0.6s
GRR Gorron 83.84 341 *eP* **P 05 54 58.1 -0.6**
GRR pmax pmax
comp=Z,16nm,0.6s
GRR Gorron 83.84 341 *eP* **P 05 54 58.1 -0.6**
comp=Z,16nm,0.6s
SSF Saint Saulge 83.96 337 *eP* **P 05 54 58.8 -0.5**
SSF Saint Saulge 83.96 337 *eP* **P 05 54 58.8 -0.5**
SSF Saint Saulge 83.96 337 *eP* **P 05 54 58.8 -0.5**
SMF Signal de Mont 84.25 337 *eP* **P 05 55 01.1 +0.3**
comp=Z,34nm,1.1s
SMF Signal de Mont 84.25 337 *eP* **P 05 55 01.1 +0.3**
SMF pmax pmax
comp=Z,34nm,1.1s
SMF Signal de Mont 84.25 337 *eP* **P 05 55 01.1 +0.3**
comp=Z,34nm,1.1s
AVF Avril sur Loir 84.25 337 *eP* **P 05 55 01.1 +0.3**
AVF Avril sur Loir 84.25 337 *eP* **P 05 55 01.1 +0.3**
AVF Avril sur Loir 84.25 337 *eP* **P 05 55 01.1 +0.3**
SGMF Saint Gilles 84.36 342 *eP* **P 05 55 00.8 -0.5**
SGMF Saint Gilles 84.36 342 *eP* **P 05 55 00.8 -0.5**
SGMF Saint Gilles 84.36 342 *eP* **P 05 55 00.8 -0.5**
LPG La Plagne 84.44 335 *eP* **P 05 55 01.8 -0.4**
LPG La Plagne 84.44 335 *eP* **P 05 55 01.8 -0.4**
LPG La Plagne 84.44 335 *eP* **P 05 55 01.8 -0.4**
ROSF Rostrenen 84.44 342 *eP* **P 05 55 01.1 -0.7**
comp=Z,4.9nm,0.5s
ROSF Rostrenen 84.44 342 *eP* **P 05 55 01.1 -0.7**
ROSF pmax pmax
comp=Z,5.0nm,0.5s
ROSF Rostrenen 84.44 342 *eP* **P 05 55 01.1 -0.7**
comp=Z,4.9nm,0.5s
QUIF Quistinic 84.81 342 *eP* **P 05 55 03.4 -0.2**
QUIF Quistinic 84.81 342 *eP* **P 05 55 03.4 -0.2**
QUIF Quistinic 84.81 342 *eP* **P 05 55 03.4 -0.2**
TCF Toulx Ste Croi 85.02 338 *eP* **P 05 55 04.1 -0.7**
TCF Toulx Ste Croi 85.02 338 *eP* **P 05 55 04.1 -0.7**
TCF Toulx Ste Croi 85.02 338 *eP* **P 05 55 04.1 -0.7**
MBDF Montbardon 85.12 334 *eP* **P 05 55 05.1 -0.4**
comp=Z,8.0nm,0.6s
MBDF Montbardon 85.12 334 *eP* **P 05 55 05.1 -0.4**
MBDF pmax pmax
comp=Z,8.0nm,0.6s
MBDF Montbardon 85.12 334 *eP* **P 05 55 05.1 -0.4**
comp=Z,8.0nm,0.6s
ORIF Oris-en-Rattie 85.22 335 *eP* **P 05 55 05.3 -0.6**
comp=Z,9.9nm,0.6s
ORIF *eR* 05 55 05.3
comp=Z,243nm,21.8s
ORIF Oris-en-Rattie 85.22 335 *eP* **P 05 55 05.3 -0.6**
ORIF pmax pmax
comp=Z,10.0nm,0.6s
ORIF Oris-en-Rattie 85.22 335 *eP* **P 05 55 05.3 -0.6**
comp=Z,9.9nm,0.6s
MFF Saint Martin d 85.34 340 *eP* **P 05 55 05.9 -0.4**
comp=Z,15nm,0.8s
MFF Saint Martin d 85.34 340 *eP* **P 05 55 05.9 -0.4**
MFF pmax pmax
comp=Z,15nm,0.8s
MFF Saint Martin d 85.34 340 *eP* **P 05 55 05.9 -0.4**
comp=Z,15nm,0.8s
VIVF Saint-Julien-l 85.64 336 *eP* **P 05 55 07.2 -0.7**
VIVF Saint-Julien-l 85.64 336 *eP* **P 05 55 07.2 -0.7**
VIVF Saint-Julien-l 85.64 336 *eP* **P 05 55 07.2 -0.7**
RJF Les Rejaudoux 86.11 338 *eP* **P 05 55 09.8 -0.4**
RJF *eR* 05 55 09.8
comp=Z,244nm,19.2s
RJF Les Rejaudoux 86.11 338 *eP* **P 05 55 09.8 -0.4**
RJF Les Rejaudoux 86.11 338 *eP* **P 05 55 09.8 -0.4**
CAF Calviac 86.32 338 *eP* **P 05 55 10.6 -0.6**
CAF Calviac 86.32 338 *eP* **P 05 55 10.6 -0.6**
CAF Calviac 86.32 338 *eP* **P 05 55 10.6 -0.6**
LFF La Frestale 86.66 338 *eP* **P 05 55 12.5 -0.3**
LFF La Frestale 86.66 338 *eP* **P 05 55 12.5 -0.3**
LFF La Frestale 86.66 338 *eP* **P 05 55 12.5 -0.3**
TBI Tubuai 87.54 126 *eT* T 07 32 25.4
comp=Z,4.1nm,0.3s
MTLF Montolieu 87.73 337 *eP* **P 05 55 17.4 -0.7**
MTLF Montolieu 87.73 337 *eP* **P 05 55 17.4 -0.7**
MTLF Montolieu 87.73 337 *eP* **P 05 55 17.4 -0.7**
ETSF Etsaut 88.90 339 *eP* **P 05 55 23.4 -0.3**
ETSF Etsaut 88.90 339 *eP* **P 05 55 23.4 -0.3**
ETSF Etsaut 88.90 339 *eP* **P 05 55 23.4 -0.3**
TORD Torodi Ar. Bea 115.55 325 PKP **PKPdf 06 01 11.1 -0.6**
TORD Torodi Ar. Bea 115.55 325 PKP **PKPdf 06 01 11.1 -0.6**
comp=Z,0.2nm,0.5s,baz=9.5,slow=2.4,SNR=3.9
VNDA Vanda 122.07 177 PKP **PKPdf 06 01 22.4 +0.2**
VNDA Vanda 122.07 177 PKP **PKPdf 06 01 22.4 +0.2**
comp=Z,0.6nm,0.8s,baz=324,slow=6.7,SNR=4.9
BDFB Brasilia 147.54 33 PKPbc **PKPbc 06 02 14.0 +0.2**
BDFB pPKPbc **pPKPbc 06 02 26.8 -0.8**
BDFB Brasilia 147.54 33 PKPbc **PKPbc 06 02 14.0 +0.2**
comp=Z,1.2nm,0.4s,baz=19,slow=7.0,SNR=3.9
BDFB pPKPbc **pPKPbc 06 02 26.8 -0.8**
comp=Z,4.6nm,0.7s,baz=235,slow=3.3,SNR=3.6
SNAA Sanae 149.76 197 *ep*PKPab **PKPbc 06 02 18.5 +0.7**
PLCA Paso Flores 150.46 97 PKPbc **PKPbc 06 02 20.8 +0.3**
PLCA Paso Flores 150.46 97 PKPbc **PKPbc 06 02 20.8 +0.3**
comp=Z,1.5nm,0.5s,baz=252,slow=5.6,SNR=9.4
VNA2 Neumayer--Watz 151.26 196 *e*PKPdf **PKPdf 06 02 11.0 -4.3**
VNA2 Neumayer--Watz 151.26 196 *ep*PKPab **PKPbc 06 02 22.6 +1.3**
VNA1 Neumayer--Stat 151.66 195 *ep*PKPab **PKPbc 06 02 23.6 +1.4**
CPUP Villa Florida 151.71 59 PKPbc **PKPbc 06 02 23.9 +0.2**
CPUP Villa Florida 151.71 59 PKPbc **PKPbc 06 02 23.9 +0.2**
comp=Z,0.6nm,0.4s,baz=352,slow=4.1,SNR=5.5

ISK ***22*** *05:52:32.9, 38°.91N×27°.07E, h5km, ML3.3*
ISCJB ***22*** *05:52:33.7±0.4, 38°.89N±0°.01×26°.98E±0°.02, h8km±3km,*
Error ellipse: s-maj=2.8km s-min=2.3km az=149.6
DDA ***22*** *05:52:33.7, 38°.90N×27°.03E, h13km, MD3.4, ML3.6*
ATH ***22*** *05:52:33.6, 38°.87N×27°.01E, h28km, MD3.3/7*
CSEM ***22*** *05:52:34.1±0.1, 38°.88N×26°.99E, h8km, ML3.6, Error*
ellipse: s-maj=2.7km s-min=2.3km az=67.0
THE ***22*** *05:52:34.2, 38°.88N×26°.99E, h7km±2km, ML3.0/3, Error*
ellipse: s-maj=2.2km s-min=0.8km az=256.0
ISC 22 05:52:34.0±1.0,**38°.88N**±0°.01×**27°.01E**±0°.02,**h11**km±8km,

n125,σ0°82/180,3C-2D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AYVA	**Ayvalik**	**0.50**	**330**	*i* P	**Pg**	**05 52 43.6**	**0.0**
AYVA				*i* S	**Sg**	05 52 51.2	+1.0
AYVA	**Ayvalik**	**0.50**	**330**	*i* P	**Pg**	**05 52 43.6**	**0.0**
AYVA				*i* S	**Sg**	05 52 51.2	+1.0
IZM	**Izmir**	**0.52**	**157**	*e*PG	**Pg**	**05 52 43.9**	**-0.2**
IZM				*e*SG	**Sb**	05 52 52.9	+0.2
IZM	**Izmir**	**0.52**	**157**	*e*Pg	**Pg**	**05 52 43.9**	**-0.2**
IZM				*e*Sg	**Sb**	05 52 52.9	+0.2
AKS	**Akhisar**	**0.63**	**90**	*e*PG	**Pg**	**05 52 45.7**	**-0.4**
AKS				*e*SG	**Sg**	05 52 54.6	+0.2
AKS	**Akhisar**	**0.63**	**90**	*e*Pg	**Pg**	**05 52 45.7**	**-0.4**
AKS				*e*Sg	**Sg**	05 52 54.6	+0.2
AKHS	**Akhisar**	**0.63**	**90**	*i* P	**Pg**	**05 52 45.6**	**-0.5**
AKHS				*i* S	**Sg**	05 52 55.7	+0.6
AKHS	**Akhisar**	**0.63**	**90**	*i* P	**Pg**	**05 52 45.6**	**-0.5**
AKHS				*i* S	**Sg**	05 52 55.0	+0.6
PRK	**Paraskevi**	**0.68**	**303**	P	**Pg**	**05 52 47.1**	**0.0**
PRK				S	**Sg**	05 52 56.9	+0.8
PRK	**Paraskevi**	**0.68**	**303**	*e*PN	**Pg**	**05 52 47.2**	**+0.1**
PRK				*e*SN	**Sb**	05 52 57.6	+0.3
PRK	**Paraskevi**	**0.68**	**303**	P	**Pg**	**05 52 47.1**	**0.0**
PRK				S	**Sg**	05 52 56.9	+0.8
PRK				*e*Sn	**Sb**	05 52 57.6	+0.3
CHOS	**Chios island**	**0.89**	**237**	P	**Pg**	**05 52 51.0**	**-0.2**
CHOS				S	**Sb**	05 53 03.6	+0.1
CHOS	**Chios island**	**0.89**	**237**	*e*PN	**Pg**	**05 52 50.9**	**-0.2**
CHOS				*e*SN	**Sb**	05 53 03.9	+0.4
CHOS	**Chios island**	**0.89**	**237**	P	**Pg**	**05 52 51.0**	**-0.2**
CHOS				S	**Sb**	05 53 03.6	+0.1
BALY	**Balya**	**0.98**	**29**	*i* P	**Pg**	**05 52 52.4**	**-0.5**
BALY				*i* S	**Sn**	05 53 07.8	0.0
BALY	**Balya**	**0.98**	**29**	*i* P	**Pg**	**05 52 52.4**	**-0.5**
BALY				*i* S	**Sn**	05 53 07.8	0.0
BALB	**Balikesir**	**1.02**	**41**	*e*PG	**Pg**	**05 52 52.4**	**-1.2**
BALB				*e*SG	**Sg**	05 53 06.5	-0.3
BALB	**Balikesir**	**1.02**	**41**	*e*Pg	**Pg**	**05 52 52.4**	**-1.2**
BALB				*e*Sg	**Sg**	05 53 06.5	-0.3
SMG	**Samos**	**1.18**	**187**	P	**Pb**	**05 52 55.3**	**-1.0**
SMG				S	**Sn**	05 53 13.3	+0.9
SMG	**Samos**	**1.18**	**187**	*e*PN	**Pb**	**05 52 55.6**	**-0.7**
SMG				*e*SN	**Sg**	05 53 11.9	+0.1
SMG	**Samos**	**1.18**	**187**	P	**Pb**	**05 52 55.3**	**-1.0**
SMG	**Samos**	**1.18**	**187**	*e*Pn	**Pb**	**05 52 55.6**	**-0.7**
SMG				*e*Sn	**Sg**	05 53 11.9	+0.1
SMG				S	**Sn**	05 53 13.3	+0.9
GCAM	**G?zelcaml?**	**1.19**	**171**	*i* P	**Pb**	**05 52 56.0**	**-0.5**
GCAM				*i* S	**Sn**	05 53 13.6	+0.9
GCAM	**G?zelcaml?**	**1.19**	**171**	*i* P	**Pb**	**05 52 56.0**	**-0.5**
GCAM				*i* S	**Sn**	05 53 13.6	+0.9
BOZC	**Bozcaada**	**1.22**	**323**	*i* P	**Pg**	**05 52 57.5**	**+0.2**
BOZC				*i* S	**Sn**	05 53 14.1	+0.7
MANT	**Manisa**	**1.27**	**107**	*i* P	**Pb**	**05 52 58.2**	**+0.1**
MANT				*i* S	**Sb**	05 53 14.7	+0.1
MANT	**Manisa**	**1.27**	**107**	*i* P	**Pb**	**05 52 58.2**	**+0.1**
MANT				*i* S	**Sb**	05 53 14.7	+0.1
GONE	**Gonen-Balikesi**	**1.28**	**24**	*e*PN	**Pn**	**05 52 56.8**	**-1.0**
GONE				*e*SN	**Sn**	05 53 15.5	+0.5
GONE	**Gonen-Balikesi**	**1.28**	**24**	*e*Pn	**Pn**	**05 52 56.8**	**-1.0**
GONE				*e*Sn	**Sn**	05 53 15.5	+0.5
KULA	**Kula-Manisa**	**1.34**	**105**	P	**Pn**	**05 52 58.4**	**-0.4**
KULA				S	**Sb**	05 53 16.6	+0.1
KULA	**Kula-Manisa**	**1.34**	**105**	*e*PN	**Pn**	**05 52 59.0**	**+0.2**
KULA	**Kula-Manisa**	**1.34**	**105**	P	**Pn**	**05 52 58.4**	**-0.4**
KULA	**Kula-Manisa**	**1.34**	**105**	*e*Pn	**Pn**	**05 52 59.0**	**+0.2**
KULA				S	**Sb**	05 53 16.6	+0.1
DURS	**Dursunbey**	**1.35**	**57**	*i* P	**Pn**	**05 52 57.7**	**-1.1**
DURS				*i* S	**Sb**	05 53 16.1	-0.5
DURS	**Dursunbey**	**1.35**	**57**	*i* P	**Pn**	**05 52 57.7**	**-1.1**
DURS				*i* S	**Sb**	05 53 16.1	-0.5
AYDN	**Tasoluk**	**1.40**	**150**	*i* P	**Pb**	**05 53 00.3**	**+0.2**
AYDN				*i* S	**Sg**	05 53 18.8	0.0
AYDN	**Tasoluk**	**1.40**	**150**	*i* P	**Pb**	**05 53 00.3**	**+0.2**
AYDN				*i* S	**Sg**	05 53 18.8	0.0
DST	**Dursunbey**	**1.45**	**59**	*e*PN	**Pn**	**05 53 00.6**	**+0.4**
DST	**Dursunbey**	**1.45**	**59**	*e*Pn	**Pn**	**05 53 00.6**	**+0.4**
LPK	**Lapseki**	**1.50**	**353**	*e*PN	**Pb**	**05 53 02.0**	**+0.1**
LPK	**Lapseki**	**1.50**	**353**	*e*Pn	**Pb**	**05 53 02.0**	**+0.1**
KRBG	**Karabiga-Canak**	**1.53**	**8**	*e*PN	**Pb**	**05 53 02.2**	**-0.1**
KRBG	**Karabiga-Canak**	**1.53**	**8**	*e*Pn	**Pb**	**05 53 02.3**	**-0.1**
GELI	**Tayfur-Gelibol**	**1.57**	**345**	*e*PN	**Pn**	**05 53 01.8**	**0.0**
GELI	**Tayfur-Gelibol**	**1.57**	**345**	*e*Pn	**Pn**	**05 53 01.8**	**0.0**
BNT	**Bandirma**	**1.64**	**25**	*e*PN	**Pn**	**05 53 03.6**	**+0.9**
BNT	**Bandirma**	**1.64**	**25**	*e*Pn	**Pn**	**05 53 03.6**	**+0.9**
KCTX	**Karacabey (Bur**	**1.73**	**37**	*e*PN	**Pn**	**05 53 03.6**	**-0.5**
KCTX	**Karacabey (Bur**	**1.73**	**37**	*e*Pn	**Pn**	**05 53 03.6**	**-0.5**
LIA	**Limnos Island**	**1.74**	**306**	*e*PN	**Pn**	**05 53 04.3**	**+0.1**
LIA				*e*SN	**Sn**	05 53 26.3	-0.1
LIA	**Limnos Island**	**1.74**	**306**	*e*Pn	**Pn**	**05 53 04.3**	**+0.1**
LIA				*e*Sn	**Sn**	05 53 26.3	-0.1
RKY	**Sarkoy-Tekirda**	**1.81**	**4**	*e*PN	**Pn**	**05 53 05.3**	**+0.1**
RKY	**Sarkoy-Tekirda**	**1.81**	**4**	*e*Pn	**Pn**	**05 53 05.3**	**+0.1**
SART	**Tekirdag**	**1.81**	**4**	*i* P	**Pn**	**05 53 05.0**	**-0.2**
SART				*i* S	**Sn**	05 53 29.1	+0.8
SART	**Tekirdag**	**1.81**	**4**	*i* P	**Pn**	**05 53 05.0**	**-0.2**
SART				*i* S	**Sn**	05 53 29.0	+0.8
BODT	**Bodrum**	**1.83**	**172**	*e*PN	**Pb**	**05 53 07.2**	**-0.2**
BODT	**Bodrum**	**1.83**	**172**	*e*Pn	**Pb**	**05 53 07.2**	**-0.2**
BDRM	**Kayabasi**	**1.84**	**169**	*i* P	**Pn**	**05 53 04.9**	**-0.6**
BDRM				*i* S	**Sg**	05 53 33.8	+0.6
BDRM	**Kayabasi**	**1.84**	**169**	*i* P	**Pn**	**05 53 04.9**	**-0.6**
GDZ	**Gediz**	**1.94**	**83**	*i* P	**Pb**	**05 53 08.7**	**-0.7**
GDZ				*i* S	**Sg**	05 53 35.3	-1.0
GDZ	**Gediz**	**1.94**	**83**	*i* P	**Pb**	**05 53 08.7**	**-0.7**
SMTH	**Samothraki Isl**	**1.96**	**325**	P	**Pn**	**05 53 07.0**	**-0.1**
SMTH				S	**Sn**	05 53 31.8	+0.1
SMTH	**Samothraki Isl**	**1.96**	**325**	*e*PN	**Pn**	**05 53 07.2**	**+0.1**
SMTH				*e*SN	**Sn**	05 53 31.3	-0.4
SMTH	**Samothraki Isl**	**1.96**	**325**	*e*Pn	**Pn**	**05 53 07.2**	**+0.1**
SMTH				*e*Sn	**Sn**	05 53 31.3	-0.4
DNZL	**Cakiroluk**	**2.00**	**126**	*i* P	**Pn**	**05 53 07.6**	**-0.2**
DNZL				*i* S	**Sn**	05 53 32.7	-0.2
DNZL	**Cakiroluk**	**2.00**	**126**	*i* P	**Pn**	**05 53 07.6**	**-0.2**
DNZL				*i* S	**Sn**	05 53 32.7	-0.2
KHAL	**Karahalli**	**2.01**	**104**	*i* P	**Pb**	**05 53 10.2**	**-0.4**
KHAL				*i* S	**Sg**	05 53 38.6	0.0
KHAL	**Karahalli**	**2.01**	**104**	*i* P	**Pb**	**05 53 10.2**	**-0.4**
YER	**Yerkesik**	**2.01**	**150**	*e*PN	**Pn**	**05 53 08.4**	**+0.5**
YER	**Yerkesik**	**2.01**	**150**	*e*Pn	**Pn**	**05 53 08.4**	**+0.5**
KHL	**Karahalli**	**2.05**	**105**	*e*PN	**Pn**	**05 53 09.5**	**+1.1**
KHL	**Karahalli**	**2.05**	**105**	*e*Pn	**Pn**	**05 53 09.5**	**+1.1**
MDNY	**Mudanya-Bursa**	**2.08**	**44**	*e*PN	**Pn**	**05 53 10.1**	**+1.4**
MDNY	**Mudanya-Bursa**	**2.08**	**44**	*e*Pn	**Pn**	**05 53 10.1**	**+1.4**
ALN	**Alexandroupoli**	**2.15**	**340**	P	**Pn**	**05 53 09.6**	**-0.1**
ALN				S	**Sn**	05 53 36.2	-0.2
ALN	**Alexandroupoli**	**2.15**	**340**	*e*PN	**Pn**	**05 53 09.7**	**0.0**
ALN				*e*SN	**Sn**	05 53 36.4	0.0
ALN	**Alexandroupoli**	**2.15**	**340**	*e*Pn	**Pn**	**05 53 09.7**	**0.0**
ALN				*e*Sn	**Sn**	05 53 36.4	0.0
TKR	**Tekirdag**	**2.15**	**11**	*e*PN	**Pn**	**05 53 10.8**	**+1.1**
TKR	**Tekirdag**	**2.15**	**11**	*e*Pn	**Pn**	**05 53 10.8**	**+1.1**
APE	**Apeiranthos**	**2.15**	**213**	*e*PN	**Pb**	**05 53 12.1**	**-0.8**
APE	**Apeiranthos**	**2.15**	**213**	*e*PN	**Pn**	**05 53 09.8**	**0.0**
APE				*e*SN	**Sn**	05 53 36.3	-0.2
APE	**Apeiranthos**	**2.15**	**213**	‖ *i*P	**Pg**	**05 53 14.3**	**-0.9**
APE	**Apeiranthos**	**2.15**	**213**	*e*Pn	**Pn**	**05 53 09.8**	**0.0**
APE	**Apeiranthos**	**2.15**	**213**	‖ *i*P	**Pg**	**05 53 14.3**	**-0.9**
APE				*e*Sn	**Sn**	05 53 36.3	-0.2
DAT	**Datca**	**2.19**	**168**	*e*PN	**Pb**	**05 53 12.3**	**-1.4**
DAT	**Datca**	**2.19**	**168**	*e*Pn	**Pb**	**05 53 12.3**	**-1.4**
ARMT	**Armutlu**	**2.21**	**40**	*e*PN	**Pn**	**05 53 11.6**	**+1.0**
ARMT	**Armutlu**	**2.21**	**40**	*e*Pn	**Pn**	**05 53 11.6**	**+1.0**
DALY	**Dalyan (Mu¨la**	**2.44**	**147**	*e*PN	**Pn**	**05 53 15.8**	**+2.2**
DALY	**Dalyan (Mu¨la**	**2.44**	**147**	*e*Pn	**Pn**	**05 53 15.8**	**+2.2**
AOS	**Alonnisos**	**2.45**	**278**	*e*PN	**Pn**	**05 53 13.9**	**0.0**
AOS	**Alonnisos**	**2.45**	**278**	*e*Pn	**Pn**	**05 53 13.9**	**0.0**
SLVT	**Silivri**	**2.52**	**21**	*e*PN	**Pn**	**05 53 16.2**	**+1.3**
SLVT	**Silivri**	**2.52**	**21**	*e*Pn	**Pn**	**05 53 16.2**	**+1.3**
RDO	**Rodhopi**	**2.53**	**334**	*e*PN	**Pn**	**05 53 15.1**	**+0.1**
RDO				*e*SN	**Sn**	05 53 45.2	-0.6
RDO	**Rodhopi**	**2.53**	**334**	*e*Pn	**Pn**	**05 53 15.1**	**+0.1**
RDO				*e*Sn	**Sn**	05 53 45.2	-0.6
CAVI	**Cavuskoy**	**2.56**	**58**	*e*PN	**Pn**	**05 53 16.2**	**+0.8**
CAVI	**Cavuskoy**	**2.56**	**58**	*e*Pn	**Pn**	**05 53 16.2**	**+0.8**
ADVT	**Abdulvahap**	**2.62**	**53**	*e*PN	**Pn**	**05 53 17.3**	**+1.1**
ADVT	**Abdulvahap**	**2.62**	**53**	*e*Pn	**Pn**	**05 53 17.3**	**+1.1**
CTKS	**Kestanelik-??a**	**2.62**	**26**	*e*PN	**Pn**	**05 53 18.2**	**+2.0**
CTKS	**Kestanelik-??a**	**2.62**	**26**	*e*Pn	**Pn**	**05 53 18.2**	**+2.0**
BGKT	**Bogazkoy**	**2.67**	**30**	*e*PN	**Pn**	**05 53 18.9**	**+2.0**
BGKT	**Bogazkoy**	**2.67**	**30**	*e*Pn	**Pn**	**05 53 18.9**	**+2.0**
ISK	**Istanbul-Kandi**	**2.69**	**35**	*e*PN	**Pn**	**05 53 18.4**	**+1.2**
ISK	**Istanbul-Kandi**	**2.69**	**35**	*e*Pn	**Pn**	**05 53 18.4**	**+1.2**
FETY	**Fethiye**	**2.78**	**143**	*e*PN	**Pn**	**05 53 20.5**	**+2.1**
FETY	**Fethiye**	**2.78**	**143**	*e*Pn	**Pn**	**05 53 20.5**	**+2.1**
PAIG	**Paliouri**	**2.78**	**293**	*e*PN	**Pn**	**05 53 18.3**	**-0.2**
PAIG	**Paliouri**	**2.78**	**293**	*e*Pn	**Pn**	**05 53 18.3**	**-0.2**
HRT	**Hereke**	**2.82**	**46**	*e*PN	**Pn**	**05 53 20.5**	**+1.4**
HRT	**Hereke**	**2.82**	**46**	*e*Pn	**Pn**	**05 53 20.5**	**+1.4**
EDRB	**Edirne**	**2.97**	**356**	*e*PN	**Pn**	**05 53 22.8**	**+1.7**
EDRB	**Edirne**	**2.97**	**356**	*e*Pn	**Pn**	**05 53 22.8**	**+1.7**
GULT	**Gulveren**	**3.12**	**59**	*e*PN	**Pn**	**05 53 24.5**	**+1.3**
GULT	**Gulveren**	**3.12**	**59**	*e*Pn	**Pn**	**05 53 24.5**	**+1.3**
NVR	**Nevrokopi**	**3.45**	**317**	*e*PN	**Pn**	**05 53 28.3**	**+0.6**
NVR				*e*SN	**Sn**	05 54 07.2	-1.4
NVR	**Nevrokopi**	**3.45**	**317**	*e*Pn	**Pn**	**05 53 28.3**	**+0.6**
NVR				*e*Sn	**Sn**	05 54 07.2	-1.4
MDUB	**Mudurnu**	**3.60**	**62**	*e*PN	**Pn**	**05 53 31.1**	**+1.3**
MDUB	**Mudurnu**	**3.60**	**62**	*e*Pn	**Pn**	**05 53 31.1**	**+1.3**
GRG	**Griva**	**4.11**	**302**	*e*PN	**Pn**	**05 53 37.8**	**+1.1**
GRG	**Griva**	**4.11**	**302**	*e*Pn	**Pn**	**05 53 37.8**	**+1.1**
VOIR		**6.71**	**348**	‖ *i*P	Pb	05 54 27.2	-3.5
ARR	**Arges**	**6.72**	**346**	‖ *i*P	**Pb**	**05 54 28.8**	**-2.0**
SIRR	**Siria**	**8.37**	**334**	‖ *i*P	Pn	05 54 31.2	-4.0

MAN 22 05:57:45,8°30N×125°61E,h1km,mb4.1,ML2.9,MS2.6, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	**Musuan**	**0.68**	**232**	*e*P	Pg	05 57 58.5	+0.3
BUKP				*e*S	Sn	05 58 13.4	+0.2
CGP	**Cagayan de Oro**	**0.92**	**280**	*e*P	Pb	05 58 03.2	-0.5
CGP				*e*S	Sn	05 58 22.2	+3.3
PAGZ	**Pagadian**	**2.25**	**259**	*e*P	Pn	05 58 24.3	+0.9
PAGZ				*e*S	Sb	05 58 54.0	-0.9

ISCJB ***22*** *06:01:35.6±0.4, 67°05N±0°03×20°86E±0°06, h0km, Error ellipse: s-maj=3.8km s-min=3.1km az=154.4*
CSEM ***22*** *06:01:37.8±0.2, 67°11N×20°87E, h2km, ML2.8, Error ellipse: s-maj=4.6km s-min=3.6km az=147.0*
NAO ***22*** *06:01:38.6±0.8, 67°16N×21°17E, ML2.9*
IDC ***22*** *06:01:38.8±0.8, 67°14N×20°93E, h0km, mb1 3.3/5, mb1mx3.1/28, mbtmp3.3/5, ML3.0/5, Error ellipse: s-maj=13.3km s-min=6.6km az=111.0*
HEL ***22*** *06:01:39.6±0.1, 67°17N×20°85E, h1km, ML2.8, ML2.9(BER), ML2.9(NAO)*
BER ***22*** *06:01:42.4±3.6, 67°15N×20°79E, h15km±14km, ML2.9, ML2.9(NAO)*

ISC 22 06:01:37.2±0.6,67°11N±0°03×20°79E±0°02,h0km,n64, σ1°42/112,Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANU	**Lannavaara**	**1.05**	**25**	*e*P	**Pg**	**06 01 56.9**	**-0.5**
LANU				*e*S	**Sg**	06 02 10.0	-1.0
LANU	**Lannavaara**	**1.05**	**25**	P	**Pg**	**06 01 56.8**	**-0.5**
LANU				S	**Sg**	06 02 10.0	-1.0
HEF	**Hetta**	**1.71**	**38**	*e*P	**Pn**	**06 02 08.4**	**+0.2**
HEF				*e*S	**Sn**	06 02 30.1	-0.6
HEF	**Hetta**	**1.71**	**38**	P	**Pn**	**06 02 08.3**	**+0.2**
HEF				S	**Sn**	06 02 30.0	-0.6
RNF	**Rovaniemi**	**2.12**	**101**	*e*PB	**Pb**	**06 02 16.5**	**+0.1**
RNF				*e*SG	**Sg**	06 02 45.4	+0.2
RNF	**Rovaniemi**	**2.12**	**101**	Pb	**Pb**	**06 02 16.5**	**+0.1**
RNF				Sg	**Sg**	06 02 45.4	+0.2
KTK1	**Kautokeino**	**2.12**	**24**	*e*P	**Pn**	**06 02 15.7**	**+1.8**
KTK1				*e*Sg	**Sb**	**06 02 43.1**	**-0.3**
KTK1				AML	AML	06 02 43.9	
	comp=Z,702nm,0.4s						
KTK1	**Kautokeino**	**2.12**	**24**	*e*P	**Pn**	**06 02 15.7**	**+1.8**
KTK1				*e*SG	**Sb**	**06 02 43.1**	**-0.3**
KTK1				AML	AML	06 02 43.9	
	comp=Z,702nm,0.4s						
KTK1	**Kautokeino**	**2.12**	**24**	P	**Pn**	**06 02 15.7**	**+1.8**
KTK1				*e*Sg	**Sb**	**06 02 43.1**	**-0.3**
	comp=Z,62nm,0.7s,SNR=91						
SGF	**Sodankyl**	**2.25**	**79**	*e*P	**Pn**	**06 02 17.3**	**+1.6**
SGF				*e*SG	**Sb**	**06 02 47.4**	**+0.3**
SGF	**Sodankyl**	**2.25**	**79**	P	**Pn**	**06 02 17.2**	**+1.6**
SGF				Sg	**Sb**	**06 02 47.3**	**+0.3**
STEI	**Steigen**	**2.29**	**294**	*e*P	**Pn**	**06 02 18.6**	**+2.4**
STEI				*e*Sg	**Sb**	**06 02 48.6**	**+0.5**
STEI				AML	AML	06 02 52.2	
	comp=Z,62nm,0.7s						
STEI	**Steigen**	**2.29**	**294**	*e*P	**Pn**	**06 02 18.6**	**+2.4**
STEI				*e*SB	**Sb**	**06 02 48.6**	**+0.5**
STEI				AML	AML	06 02 52.2	
	comp=Z,62nm,0.7s						
STEI	**Steigen**	**2.29**	**294**	P	**Pn**	**06 02 18.5**	**+2.4**
MOR8	**Moi Rana**	**2.70**	**253**	*e*P	**Pn**	**06 02 22.7**	**+0.9**
MOR8				*e*Sg	**Sn**	**06 02 58.2**	**+3.0**
MOR8				AML	AML	06 03 00.2	
	comp=Z,80nm,0.5s						
MOR8	**Moi Rana**	**2.70**	**253**	*e*P	**Pn**	**06 02 22.7**	**+0.9**
MOR8				*e*SG	**Sn**	**06 02 58.2**	**+3.0**
MOR8				AML	AML	06 03 00.2	
	comp=Z,80nm,0.5s						
MOR8	**Moi Rana**	**2.70**	**253**	P	**Pn**	**06 02 22.7**	**+0.9**
OUL	**Oulu**	**2.90**	**132**	*e*P	**Pn**	**06 02 27.6**	**+3.0**
OUL				*e*SG	**Sg**	**06 03 10.4**	**+0.1**
LOF	**Lofoten**	**2.96**	**294**	*e*P	Pn	06 02 29.1	+3.7
LOF				*e*Sg	**Sg**	**06 03 11.8**	**-0.3**
LOF	**Lofoten**	**2.96**	**294**	*e*P	Pn	06 02 29.1	+3.7
LOF				*e*SG	**Sg**	**06 03 11.8**	**-0.3**
LOF	**Lofoten**	**2.96**	**294**	*e*P	Pn	06 02 29.1	+3.7
	SNR=55						
LOF				Sg	**Sg**	**06 03 11.8**	**-0.3**
ARA0	**ARCESS Array S**	**3.00**	**33**	Pn	**Pn**	**06 02 26.9**	**+0.9**
	baz=209,slow=16						
ARA0				Sn	**Sn**	**06 03 01.3**	**-1.3**
	baz=211,slow=28						
ARA0				Lg	Lg	06 03 07.6	
	baz=211,slow=37						
ARA0	**ARCESS Array S**	**3.00**	**33**	Pn	**Pn**	**06 02 26.9**	**+0.9**
	baz=209,slow=16						
ARA0				Sn	**Sn**	**06 03 01.3**	**-1.3**
	baz=211,slow=28						
ARA0				Lg	Lg	06 03 07.6	
	baz=211,slow=37						
ARA0	**ARCESS Array S**	**3.00**	**33**	*e*P	**Pn**	**06 02 26.9**	**+0.9**
ARA0				*e*S	**Sn**	**06 03 01.3**	**-1.3**
ARA0				*e*SB4		06 03 07.6	
ARA0	**ARCESS Array S**	**3.00**	**33**	P	**Pn**	**06 02 26.9**	**+0.9**
ARA0				S	**Sn**	**06 03 01.3**	**-1.3**
ARA0				Lg	Lg	06 03 07.6	
	baz=211,slow=30,SNR=0.4						
ARCES	**ARCESS Array B**	**3.00**	**33**	Pn	**Pn**	**06 02 26.9**	**+0.9**
	comp=Z,2.8nm,0.3s,baz=214,slow=13,SNR=156						
ARCES				Sn	**Sn**	**06 03 01.7**	**-0.9**
	comp=Z,6.6nm,0.3s,baz=213,slow=18,SNR=13						
FLOS	**Flostrand**	**3.05**	**259**	*e*P	**Pn**	**06 02 27.1**	**+0.6**
FLOS				*e*Sg	**Sg**	**06 03 14.9**	**-0.1**
FLOS				AML	AML	06 03 22.8	
	comp=Z,52nm,0.4s						
FLOS	**Flostrand**	**3.05**	**259**	*e*P	**Pn**	**06 02 27.1**	**+0.6**
FLOS				*e*SG	**Sg**	**06 03 14.9**	**-0.1**
FLOS				AML	AML	06 03 22.8	
	comp=Z,52nm,0.4s						
FLOS	**Flostrand**	**3.05**	**259**	P	**Pn**	**06 02 27.1**	**+0.6**
FLOS				Sg	**Sg**	**06 03 14.9**	**-0.1**
	comp=Z,52nm,0.4s						
STOK	**Stokkvaagen**	**3.18**	**260**	*e*P	**Pn**	**06 02 29.9**	**+1.4**
STOK	**Stokkvaagen**	**3.18**	**260**	*e*P	**Pn**	**06 02 29.9**	**+1.4**
STOK	**Stokkvaagen**	**3.18**	**260**	P	**Pn**	**06 02 29.8**	**+1.4**
VRF	**Varrio**	**3.46**	**75**	*e*P	**Pn**	**06 02 33.5**	**+1.3**
VRF				*e*SG	**Sb**	**06 03 24.7**	**+2.9**
VRF				MSG		06 03 32.3	
	comp=Z,48nm,0.5s						
VRF	**Varrio**	**3.46**	**75**	P	**Pn**	**06 02 33.5**	**+1.3**
KEV	**Kevo**	**3.51**	**38**	*e*P	**Pn**	**06 02 33.8**	**+0.8**
KEV				*e*SG	**Sg**	**06 03 28.2**	**-1.8**
KEV				MSG		06 03 31.4	
	comp=Z,35nm,0.4s						
KEV	**Kevo**	**3.51**	**38**	P	**Pn**	**06 02 33.7**	**+0.8**
KEV				Sg	**Sg**	**06 03 28.1**	**-1.8**
MSF	**Maaselka**	**3.51**	**106**	*e*P	**Pn**	**06 02 35.4**	**+2.4**
VAF	**Ylistaro**	**4.16**	**168**	*e*SG	**Sg**	**06 03 48.6**	**-1.9**
KJN	**Kajaani**	**4.17**	**133**	*e*SG	**Sg**	**06 03 48.9**	**-2.2**
KJN				MSG		06 03 52.9	
	comp=Z,15nm,0.3s						
KJN	**Kajaani**	**4.17**	**133**	Sg	**Sg**	**06 03 48.9**	**-2.2**
APA0	**Apatity Array**	**4.74**	**78**	Pn	**Pn**	**06 02 49.8**	**0.0**
	baz=282,slow=10						
APA0				Sn	**Sn**	**06 03 44.9**	**-0.5**
	baz=274,slow=28						
APA0				Lg	Lg	06 03 59.8	
	baz=270,slow=22						
APA0	**Apatity Array**	**4.74**	**78**	Pn	**Pn**	**06 02 49.8**	**0.0**
	baz=282,slow=10						
APA0				Sn	**Sn**	**06 03 44.9**	**-0.5**
	baz=274,slow=28						
APA0				Lg	Lg	06 03 59.8	
	baz=270,slow=22						
APA0	**Apatity Array**	**4.74**	**78**	*e*P	**Pn**	**06 02 49.8**	**0.0**
APA0				*e*S	**Sn**	**06 03 44.9**	**-0.5**
APA0				*e*SB4		06 03 59.8	
APA0	**Apatity Array**	**4.74**	**78**	P	**Pn**	**06 02 49.8**	**0.0**
APA0				S	**Sn**	**06 03 44.9**	**-0.5**
APA0				Lg	Lg	06 03 59.8	
	baz=270,slow=20						
FIA0	**FINESS Array S**	**6.13**	**156**	Pn	**Pn**	**06 03 11.7**	**+2.8**
	baz=348,slow=14						
FIA0				Sn	**Sn**	**06 04 20.1**	**+0.5**
	baz=349,slow=28						
FIA0				Lg	Lg	06 04 52.1	
	baz=348,slow=37						
FIA0	**FINESS Array S**	**6.13**	**156**	Pn	**Pn**	**06 03 11.7**	**+2.8**
	baz=348,slow=14						
FIA0				Sn	**Sn**	**06 04 20.1**	**+0.5**
	baz=349,slow=28						
FIA0				Lg	Lg	06 04 52.1	
	baz=348,slow=37						
FIA0	**FINESS Array S**	**6.13**	**156**	*e*P	**Pn**	**06 03 11.7**	**+2.8**
FIA0				*e*S	**Sn**	**06 04 20.1**	**+0.5**
FIA0				*e*SG	**Sg**	**06 04 52.1**	**-1.7**
FIA0	**FINESS Array S**	**6.13**	**156**	S	**Sn**	**06 04 20.1**	**+0.5**
FIA0				Sg	**Sg**	**06 04 52.1**	**-1.7**
FINES	**FINESS Array B**	**6.13**	**156**	Pn	**Pn**	**06 03 11.9**	**+3.0**
	comp=Z,0.4nm,0.3s,baz=334,slow=14,SNR=8.4						
FINES				Sn	**Sn**	**06 04 20.2**	**+0.7**
	comp=Z,1.0nm,0.3s,baz=346,slow=26,SNR=8.1						
FINES				Lg	Lg	06 04 52.6	
	comp=Z,2.1nm,0.3s,baz=348,slow=26,SNR=12						
NB2	**NORSAR Subarra**	**7.39**	**219**	Pn	**Pn**	**06 03 28.1**	**+2.0**
	baz=29,slow=14						
NB2				Sn	**Sn**	**06

PMG	Port Moresby	21.53 291	LR	LR	06 28 10.6		
	comp=Z,179nm,18.4s,baz=200,slow=30						
STKA	Stephens Creek	27.16 235	P	P	06 23 08.9	+1.0	
STKA	Stephens Creek	27.16 235	P	P	06 23 08.9	+1.0	
	8.0nm,0.9s,baz=45,slow=9.4,SNR=7.1						
STKA			LR	LR	06 33 40.2		
	comp=Z,65nm,20.8s,baz=200,slow=36						
WRAB	Tennant Creek	31.39 261	eP	P	06 23 44.1	-1.5	
	3.0nm,0.5s						
WRA	Warramunga Arr	31.40 261	P	P	06 23 44.1	-1.6	
WRA	Warramunga Arr	31.40 261	P	P	06 23 44.1	-1.6	
	3.9nm,0.8s,baz=91,slow=8.9,SNR=20						
WRA			LR	LR	06 33 54.8		
	comp=Z,109nm,18.3s,baz=65,slow=32						
ASAR	Alice Springs	31.86 254	P	P	06 23 48.5	-1.2	
ASAR	Alice Springs	31.86 254	P	P	06 23 48.5	-1.2	
	4.0nm,0.7s,baz=80,slow=8.6,SNR=30						
FITZ	Fitzroy Crossi	39.74 263	P	P	06 24 56.8	-0.5	
FITZ	Fitzroy Crossi	39.74 263	P	P	06 24 56.8	-0.5	
	13nm,0.8s,baz=116,slow=6.8,SNR=22						
FITZ			LR	LR	06 40 27.0		
	comp=Z,130nm,20.6s,baz=271,slow=35						
PPT2	Papeete2	40.79 96	eLR	LR	06 36 52.3		
	202nm,27.0s						
VNDA	Vanda	59.59 181	P	P	06 27 28.8	+1.1	
VNDA	Vanda	59.59 181	P	P	06 27 28.8	+1.1	
	0.8nm,0.9s,baz=8.3,slow=4.2,SNR=4.7						
CMAR	Chiang Mai Arr	76.51 295	P	P	06 29 16.2	+1.3	
CMAR	Chiang Mai Arr	76.51 295	P	P	06 29 16.2	+1.3	
	2.9nm,0.7s,baz=130,slow=4.2,SNR=15						
NVAR	Mina Array Bea	89.24 49	P	P	06 30 19.5	-1.2	
NVAR	Mina Array Bea	89.24 49	P	P	06 30 19.5	-1.2	
	0.3nm,0.9s,baz=216,slow=5.6,SNR=2.7						
ILAR	Eielson Array	89.58 18	P	P	06 30 20.4	-1.0	
ILAR	Eielson Array	89.58 18	P	P	06 30 20.4	-1.0	
	0.9nm,0.7s,baz=239,slow=4.9,SNR=18						
SNAA	Sanae	90.28 183	eP	P	06 30 25.8	+0.9	
VNA2	Neumayer--Watz	91.21 182	eP	P	06 30 30.6	+1.5	
AKASG	Malin Array Be	133.56 324	PKP	PKPdf	06 36 40.2	-0.5	
AKASG	Malin Array Be	133.56 324	PKP	PKPdf	06 36 40.2	-0.5	
	0.4nm,0.4s,baz=90,slow=1.9,SNR=5.1						
TORD	Torodi Ar. Bea	165.50 252	PKP	PKPdf	06 37 30.0	+0.2	
TORD			PKPab	PKPab	06 38 27.8	-0.5	
TORD	Torodi Ar. Bea	165.50 252	PKP	PKPdf	06 37 30.0	+0.2	
	0.8nm,1.0s,baz=209,slow=2.6,SNR=3.9						
TORD			PKPab	PKPab	06 38 27.7	-0.5	
	0.5nm,0.9s,baz=134,slow=4.2,SNR=2.4						

IDC 22 06:44:23.0±0.8, 56°.84N×123°.01E, h0km, mb3.6/9, mb1 3.8/10, mb1mx3.7/26, mbtmp3.6/10, ML3.3/1, MS3.0/1, Ms1 3.0/1, ms1mx2.4/36, Error ellipse: s-maj=24.9km s-min=19.4km az=172.0, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	Songino Array	13.55	235	Pn	Pn	06 47 38.1	+1.7
	0.2nm,0.3s,baz=33,slow=13,SNR=3.2						
SONM				Sn	Sn	06 50 06.0	-1.7
	0.1nm,0.3s,baz=42,slow=24,SNR=2.1						
SONM				Lg	Lg	06 51 29.7	
	0.8nm,0.3s,baz=40,slow=26,SNR=7.6						
ASAJ	Asahikawa	17.74	128	LR	LR	06 56 06.5	
	comp=Z,47nm,18.6s,baz=353,slow=40						
ZALV	Zalesovo Beam	21.69	279	P	P	06 49 16.8	+1.7
	1.1nm,0.6s,baz=77,slow=9.2,SNR=5.2						
KURBB	Kurchatov Arra	26.64	276	P	P	06 50 02.4	-0.6
	0.4nm,0.7s,baz=299,slow=22,SNR=3.4						
MKAR	Makanchi Array	26.72	265	P	P	06 50 03.1	-0.7
	0.2nm,0.4s,baz=56,slow=7.8,SNR=3.1						
ILAR	Eielson Array	41.03	41	P	P	06 52 07.2	-0.2
	0.6nm,0.8s,baz=301,slow=7.0,SNR=8.4						
FINES	FINESS Array B	45.51	318	P	P	06 52 42.6	-0.9
	3.0nm,0.9s,baz=46,slow=9.9,SNR=3.8						
BRTR	Keskin Array B	57.55	294	P	P	06 54 14.3	+0.1
	0.5nm,0.6s,baz=68,slow=6.0,SNR=2.4						
NVAR	Mina Array Bea	71.94	46	P	P	06 55 48.5	+0.3
	0.6nm,0.7s,baz=330,slow=5.2,SNR=6.0						
WRA	Warramunga Arr	77.08	169	P	P	06 56 17.4	-0.4
	0.4nm,0.3s,baz=348,slow=6.6,SNR=7.0						
ASAR	Alice Springs	80.72	170	P	P	06 56 37.9	+0.2
	0.1nm,0.3s,baz=3.6,slow=5.9,SNR=3.4						
CPUP	Villa Florida	149.51	1	PKPbc	PKPbc	07 04 13.8	0.0
	0.2nm,0.3s,baz=259,slow=5.2,SNR=3.3						

NNC 22 06:54:48.6±4.6, 38°.78N×70°.27E, h33km±130km, mb3.9, mpv3.5, Error ellipse: s-maj=61.5km s-min=17.9km az=15.0

ISC 22 06:54:46.1±3.4, 38°.8N±0°.2×70°.1E±0°.1, h13km, n9, σ1§50/11, 4C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	4.26	4	⇑Pn	Pn	06 55 52.6	+1.8
	1.8nm,0.3s,baz=191,slow=16,SNR=81						
KK31				⇑Sn	Sn	06 56 41.8	+1.3
	11nm,0.5s,baz=180,slow=29,SNR=7.2						
UCH	Uchtor	4.74	43	P	Pn	06 55 58.0	+0.3
	SNR=11						
AAK	Ala-Archa	5.03	40	P	Pn	06 56 01.8	+0.4
	SNR=11						
KBK	Karagaybulak	5.27	42	P	Pn	06 56 05.5	+0.7
	SNR=17						
USP	Ospenovka	5.51	35	P	Pn	06 56 08.0	+0.1
	SNR=9.2						
TKM2	Tokmak 2	5.80	44	⇑Pn	Pn	06 56 11.5	-0.6
	5.6nm,0.7s						
TKM2				⇓Sn	Sn	06 57 18.4	-0.2
	6.1nm,0.8s						
TKM2	Tokmak 2	5.80	44	P	Pn	06 56 12.0	-0.1
	SNR=13						
AB31	Akbulak array	12.72	328	⇑P	Pn	06 57 47.2	+0.6
	1.0nm,0.5s,baz=164,slow=11,SNR=22						
AB31				⇓S	Sn	07 00 04.6	-3.4
	2.0nm,0.7s,baz=143,slow=22,SNR=9.1						
AKTO	Aktyubinsk	14.43	327	⇓P	P	06 58 13.0	-3.8
	2.6nm,1.0s						

IDC 22 06:58:22.4±1.4, 31°.31N×141°.66E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.5/23, mbtmp3.4/5, MS2.8/1, Ms1 2.8/1, ms1mx2.4/24, Error ellipse: s-maj=51.1km s-min=25.5km az=71.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	4.23	174	LR	LR	07 01 00.7	
	comp=Z,129nm,21.3s,baz=335,slow=38						
MKAR	Makanchi Array	47.52	307	P	P	07 06 58.5	-0.9
	0.2nm,0.6s,baz=76,slow=7.6,SNR=2.6						
KURBB	Kurchatov Arra	49.83	312	P	P	07 07 17.7	+0.7
	0.2nm,0.4s,baz=89,slow=8.2,SNR=3.3						
WRA	Warramunga Arr	51.44	189	P	P	07 07 29.0	-0.4
	0.4nm,0.5s,baz=5.9,slow=7.5,SNR=5.7						
ASAR	Alice Springs	55.17	189	P	P	07 07 57.1	+0.2
	0.1nm,0.5s,baz=14,slow=8.6,SNR=3.7						
TXAR	Lajitas Array	93.44	53	P	P	07 11 40.0	-0.3
	0.3nm,0.7s,baz=288,slow=3.5,SNR=4.9						

IDC 22 07:04:42.0±1.1, 18°.37N×121°.21E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.6/25, mbtmp3.7/7, Error ellipse: s-maj=37.4km s-min=23.2km az=55.0
ISCJB 22 07:04:44.7±0.6, 18°.28N±0°.05×121°.00E±0°.04, h28km, mb3.6/6, Error ellipse: s-maj=8.3km s-min=4.8km az=29.6
MAN 22 07:04:44, 18°.20N×120°.93E, h26km, mb4.2, ML3.0, MS2.8

ISC 22 07:04:45.1±0.8, 18°.19N±0°.07×120°.96E±0°.05, h28km, n15, σ1§41/18, mb3.7/6, 3D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	Pasuquin	0.35	292	⇓iP	Pn	07 04 52.7	-1.7
PIP				eS	Sn	07 04 58.4	-2.1
APYP	Conner	0.42	141	eP	Pn	07 04 54.2	-1.1
APYP				eS	Sn	07 05 01.2	-0.9
SIPP	Brgy, Tapao	0.55	241	⇓eP	Pn	07 04 57.3	+0.2
SIPP				eS	Sn	07 05 05.5	+0.2
ABRA	Dolores	0.59	204	eP	Pn	07 04 56.3	-1.4
CVP	Callao Caves	0.95	121	⇓eP	Pn	07 05 02.1	-0.5
CVP				i S	Sn	07 05 14.8	-0.5
CAUP	Cauayan	1.49	146	eP	Pb	07 05 12.8	+0.7
PALP	Palanan	1.79	129	eP	Pb	07 05 15.5	-1.8
BALP	Baler	2.50	166	eP	Pb	07 05 27.4	-2.0
CMAR	Chiang Mai Arr	20.91	274	P	Pn	07 09 27.9	-0.3
	0.8nm,0.4s,baz=85,slow=8.7,SNR=7.5						
WRA	Warramunga Arr	40.10	160	P	P	07 12 20.5	+1.9
	0.5nm,0.9s,baz=341,slow=8.7,SNR=3.0						
MKAR	Makanchi Array	42.66	321	P	P	07 12 40.5	+1.2
	1.2nm,0.8s,baz=114,slow=10.0,SNR=12						
ZALV	Zalesovo Beam	45.25	331	P	P	07 13 01.6	+1.7
	0.4nm,0.3s,baz=108,slow=9.5,SNR=3.0						
AAK	Ala-Archa	46.17	312	P	P	07 13 08.7	+1.1
	1.3nm,0.4s,baz=156,slow=10.0,SNR=6.8						
KURBB	Kurchatov Arra	46.68	324	P	P	07 13 11.9	+0.7
	1.3nm,0.8s,baz=120,slow=7.8,SNR=12						
ILAR	Eielson Array	74.63	26	P	P	07 16 20.8	-0.8
	0.2nm,0.7s,baz=263,slow=4.5,SNR=3.6						

ISCJB 22 07:32:12.9±0.3, 35°.19N±0°.03×27°.53E±0°.03, h18km, Error ellipse: s-maj=3.9km s-min=3.7km az=177.2
CSEM 22 07:32:14.6±0.2, 35°.27N×27°.44E, h20km, MD3.4, Error ellipse: s-maj=4.8km s-min=4.7km az=110.0
HLW 22 07:32:14.5, 35°.34N×27°.48E, h33km±17km, Md3.2, Ml3.4
ATH 22 07:32:15.5, 35°.42N×27°.39E, h39km±4km, MD3.4/12

ISC 22 07:32:13.8±0.9, 35°.29N±0°.03×27°.49E±0°.03, h18km, n65, σ1§23/78, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	Zakros	1.05	261	ePB	Pb	07 32 33.9	+0.4
ZKR				eSN	Sg	07 32 49.0	+0.9
ZKR	Zakros	1.05	261	ePb	Pb	07 32 33.9	+0.4
ZKR				eSn	Sg	07 32 49.0	+0.9
ARG	Arkhangelos	1.06	29	ePN	Pn	07 32 34.3	+0.5
ARG				eSN	Sg	07 32 48.8	+0.4
ARG	Arkhangelos	1.06	29	ePn	Pn	07 32 34.3	+0.5
ARG				eSn	Sg	07 32 48.8	+0.4
NPS	Neapolis	1.54	270	ePN	Pn	07 32 40.4	+0.1
NPS	Neapolis	1.54	270	ePn	Pn	07 32 40.4	+0.1
LAST	Lasithi	1.65	266	ePB	Pb	07 32 43.6	-0.1
LAST	Lasithi	1.65	266	ePb	Pb	07 32 43.6	-0.1
BDRM	Kayabasi	1.78	359	i P	Pn	07 32 44.0	+0.3
BDRM	Kayabasi	1.78	359	i P	Pn	07 32 44.0	+0.3
TURN	Turunc	1.82	29	i P	Pn	07 32 43.8	-0.5
TURN	Turunc	1.82	29	i P	Pn	07 32 43.8	-0.5
AKAS	Kas	1.96	61	i P	Pn	07 32 47.8	+1.5
AKAS	Kas	1.96	61	i P	Pn	07 32 47.8	+1.5
SANT	Santorini	1.97	304	ePB	Pn	07 32 46.7	+0.3
SANT	Santorini	1.97	304	ePb	Pn	07 32 46.7	+0.3
IDI	Anoyia	2.13	271	ePN	Pn	07 32 49.7	+1.2
IDI				eSN	Sn	07 33 13.4	-1.1
IDI	Anoyia	2.13	271	ePn	Pn	07 32 49.7	+1.2
IDI				eSn	Sn	07 33 13.4	-1.1
SIVA	Sivas	2.21	264	ePN	Pn	07 32 51.1	+1.5
SIVA	Sivas	2.21	264	ePn	Pn	07 32 51.1	+1.5
APE	Apeiranthos	2.38	319	ePN	Pn	07 32 51.2	-0.8
APE				eSN	Sn	07 33 18.7	-2.1
APE	Apeiranthos	2.38	319	ePn	Pn	07 32 51.2	-0.8
APE				eSn	Sn	07 33 18.7	-2.1
AYDN	Tasoluk	2.39	7	i P	Pn	07 32 53.7	+1.5
AYDN	Tasoluk	2.39	7	i P	Pn	07 32 53.7	+1.5
SMG	Samos	2.48	348	ePN	Pn	07 32 53.2	0.0
SMG	Samos	2.48	348	ePn	Pn	07 32 53.2	0.0
GOLH	Golhisar	2.57	40	i P	Pn	07 32 57.3	+2.7
GOLH	Golhisar	2.57	40	i P	Pn	07 32 57.3	+2.7
VAM	Vamos	2.69	274	ePN	Pn	07 32 57.6	+1.4
VAM	Vamos	2.69	274	ePn	Pn	07 32 57.6	+1.4
DNZL	Cakiroluk	2.71	27	i P	Pn	07 32 58.2	+1.6
DNZL	Cakiroluk	2.71	27	i P	Pn	07 32 58.2	+1.6
KARN	Karanos	2.92	273	ePN	Pn	07 33 00.6	+1.2
KARN	Karanos	2.92	273	ePn	Pn	07 33 00.6	+1.2
CHOS	Chios island	3.30	340	ePN	Pn	07 33 04.4	-0.3
CHOS	Chios island	3.30	340	ePn	Pn	07 33 04.4	-0.3
MANT	Manisa	3.31	15	i P	Pn	07 33 06.3	+1.3
MANT	Manisa	3.31	15	i P	Pn	07 33 06.3	+1.3
KHAL	Karahalli	3.47	27	i P	Pn	07 33 07.7	+0.6
KHAL	Karahalli	3.47	27	i P	Pn	07 33 07.7	+0.6
AKHS	Akhisar	3.60	4	i P	Pn	07 33 10.5	+1.9
AKHS	Akhisar	3.60	4	i P	Pn	07 33 10.5	+1.9
GAZI	Gazipasa	4.04	75	i P	Pn	07 33 15.4	+0.6
GAZI	Gazipasa	4.04	75	i P	Pn	07 33 15.4	+0.6
SLUM		4.24	207	S	Sn	07 34 04.8	-1.6
	baz=207						
SLUM		4.24	207	P	Pn	07 33 17.8	+0.4
SLUM				S	Sn	07 34 04.8	-1.6
BALY	Balya	4.45	1	i P	Pn	07 33 21.4	+1.0
BALY	Balya	4.45	1	i P	Pn	07 33 21.4	+1.0
ERMK	Ermenek	4.60	71	i P	Pn	07 33 26.0	+3.3
ERMK	Ermenek	4.60	71	i P	Pn	07 33 26.0	+3.3
HBRG	Burj al 'Arab	5.10	157	P	Pn	07 33 29.5	+0.2
	baz=156						
HBRG				AMP		07 34 00.0	
	comp=E,70μm,0.6s,logA/T=5.1,baz=156						
HBRG				S	Sn	07 34 26.3	-1.3
	baz=156						
HBRG	Burj al 'Arab	5.10	157	P	Pn	07 33 29.5	+0.2
HBRG				S	Sn	07 34 26.3	-1.3
GULE	Gulek	6.21	69	i P	Pn	07 33 42.8	-2.0
SWA2		6.26	197	P	Pn	07 33 46.0	+0.7
	baz=197						
SWA2		6.26	197	P	Pn	07 33 46.0	+0.7
KOT	Kottamia	6.48	144	P	Pn	07 33 48.7	+0.4
	baz=144						
KOT				S	Sn	07 34 59.6	-2.1
	baz=144						
KOT	Kottamia	6.48	144	P	Pn	07 33 48.7	+0.4
KOT				S	Sn	07 34 59.6	-2.1
HSAF	As Saff	6.61	148	P	Pn	07 33 50.6	+0.6
	baz=147						
HSAF	As Saff	6.61	148	P	Pn	07 33 50.7	+0.6
AMAG	Maghara	6.67	132	P	Pn	07 33 51.5	+0.5
	baz=132						
AMAG	Maghara	6.67	132	P	Pn	07 33 51.5	+0.5
GLL	Jalalah	6.72	147	P	Pn	07 33 52.3	+0.7
	baz=147						
GLL	Jalalah	6.72	147	P	Pn	07 33 52.3	+0.7
HNKL	Nakhl	7.65	132	P	Pn	07 34 05.2	+0.9
	baz=132						
HNKL				S	Sn	07 35 28.0	-2.6
	baz=132						
HNKL	Nakhl	7.65	132	P	Pn	07 34 05.2	+0.9
HNKL				S	Sn	07 35 28.0	-2.6

MEX 22 07:38:54.8±1.0, 18°.19N×100°.59W, h52km±7km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIG	Puente Sto Nin	0.24	67	eP	Pn	07 39 01.6	-2.1
ARIG				i S	Sn	07 39 08.5	-1.6
MEIG	Mezcala	0.95	106	eP	Pn	07 39 10.8	-1.2
MEIG				i S	Sn	07 39 23.5	-1.3
ZIIG	Zihuatanejo	1.02	236	eP	Pn	07 39 11.3	-1.5
ZIIG				i S	Sn	07 39 25.0	-1.1
PLIG	Platanillo	1.05	79	i P	Pn	07 39 12.2	-1.1
PLIG				i S	Sn	07 39 24.4	-2.7
CAIG	El Cayaco	1.17	165	eP	Pn	07 39 12.9	-2.0
CAIG				i S	Sn	07 39 27.1	-2.7
MOIG	Morelia	1.59	339	i P	Pn	07 39 19.4	-1.5
MOIG				i S	Sn	07 39 38.5	-2.1
YAIG	Yautepec	1.59	65	eP	Pn	07 39 19.3	-1.4
YAIG				i S	Sn	07 39 37.9	-2.5
PPM	Popocatepetl	2.05	64	eP	Pn	07 39 26.6	-1.0
PPM				i S	Sn	07 39 50.0	-2.5
MMIG	Aquila	2.63	273	i P	Pn	07 39 32.8	-2.0
MMIG				i S	Sn	07 40 02.8	-2.6
PNIG	Pinotepa	2.95	127	eP	Pn	07 39 37.1	-2.2
PNIG				i S	Sn	07 40 12.3	-1.1
VHO	Vista Hermosa	3.84	106	i P	Pn	07 39 49.8	-1.9
VHO				i S	Sn	07 40 33.2	-2.5

CASC 22 07:43:05.8±3.5, 11°.09N×86°.87W, h36km±999km, MD4.2, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNGN	Cerro Negro	1.41	7	eP	Pn	07 43 30.2	+1.1
LAPC	Finca la Perla	1.45	103	i P	Pn	07 43 28.4	-1.1
GB1A	Borinquen Arri	1.47	100	i P	Pn	07 43 29.0	-0.9
VCR	Vista de Mar	1.55	128	eP	Pn	07 43 34.1	+3.1
CUI	Cuipilapa	1.73	104	i P	Pn	07 43 32.4	-1.0
CUI				i S	Sn	07 43 59.3	+4.9
JCR	Jicaral	2.13	125	eP	Pn	07 43 36.6	-2.3
CEDE	Laguna Cede˜–o	2.21	106	i P	Pn	07 43 39.8	-0.3
CEDE				i S	Sn	07 44 13.1	+6.8
CNCH	Conchagua	2.37	337	eP	Pn	07 43 43.0	+0.7
CGA2	Cerro Gallo 2	2.60	114	eP	Pn	07 43 51.5	+6.0
VSM	San Miguel	2.70	330	eP	Pn	07 43 47.6	+0.6
TGUH	Tegucigalpa,Un	2.98	352	eP	Pn	07 43 51.8	+1.3
SNVI	San Vicente	3.16	323	eS	Sn	07 44 29.3	-0.5
URSC	Urasca	3.29	112	eP	Pn	07 43 56.6	+1.6
URSC				eS	Sn	07 44 49.5	+16
LFRS	El Faro	3.30	320	eS	Sn	07 44 33.0	-0.3
BUS	Buena Vista	3.42	116	eP	Pn	07 43 57.9	+0.6

DDA 22 08:03:52.7, 38°.90N×27°.04E, h7km, MD2.8

CSEM 22 08:03:51.4±0.7, 38°.89N×26°.96E, h2km, MD2.8, Error ellipse: s-maj=16.2km s-min=4.5km az=99.0, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IZM	Izmir	0.55	154	ePG	Pg	08 04 02.2	+0.1
IZM				eSG	Sg	08 04 08.9	-0.4
IZM	Izmir	0.55	154	ePg	Pg	08 04 02.2	+0.1
IZM				eSg	Sg	08 04 08.9	-0.4
AKS	Akhisar	0.67	91	ePG	Pg	08 04 04.3	0.0
AKS	Akhisar	0.67	91	ePg	Pg	08 04 04.3	0.0
BALB	Balikesir	1.03	44	ePG	Pg	08 04 10.9	-0.3
BALB	Balikesir	1.03	44	ePg	Pg	08 04 10.9	-0.4
DURS	Dursunbey	1.38	59	i P	Pn	08 04 17.8	0.0
DURS				i S	Sg	08 04 35.5	-0.4
DURS	Dursunbey	1.38	59	i P	Pn	08 04 17.8	0.0
DURS				i S	Sg	08 04 35.5	-0.4

JMA 22 08:23:18.3±0.2, 41°.25N×145°.88E, h49km±3km, M3.5, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAK	Akkeshi	1.95	334	P	Pn	08 23 50.0	+1.0
JAK				eS	Sn	08 24 13.4	+1.1
NEM2	Nemuro 2	2.12	357	P	Pn	08 23 52.5	+1.3
NEM2				eS	Sn	08 24 17.0	+0.7
JEM	Erimo	2.18	291	P	Pn	08 23 53.6	+1.5
JOB	Onbets	2.25	318	P	Pn	08 23 54.3	+1.3
JOB				eS	Sn	08 24 20.9	+1.4
JCH	Churui	2.32	307	P	Pn	08 23 55.1	+1.1
JCH				eS	Sn	08 24 21.5	+0.2
JNK	Nakash	2.49	340	P	Pn	08 23 57.1	+0.8
JNK				eS	Sn	08 24 24.6	-0.8
JNBK	Urakawa-nobuka	2.56	295	P	Pn	08 23 58.9	+1.7
JNBK				eS	Sn	08 24 28.1	+1.0
JAR	Ashorobuto	2.58	323	P	Pn	08 23 58.2	+0.7
JAR				eS	Sn	08 24 27.8	+0.2
JRA	Rausu	2.74	348	eS	Sn	08 24 32.3	+0.6
JBT2	Biratori 2	3.03	301	P	Pn	08 24 04.2	+0.4
JTKR	Abashiri--Toko	3.08	332	P	Pn	08 24 06.1	+1.7
JTKR				eS	Sn	08 24 41.8	+1.7
JFR	Furan	3.10	309	P	Pn	08 24 05.8	+1.1

IDC 22 08:27:55.2±0.9, 27°.29N×91°.44E, h0km, mb3.9/16, mb1 4.1/17, mb1mx4.0/31, mbtmp4.0/17, ML4.3/1, Error ellipse: s-maj=30.3km s-min=18.0km az=50.0
ISCJB 22 08:27:58.6±0.7, 27°.39N±0°.09×91°.50E±0°.04, h33km, mb4.0/16, Error ellipse: s-maj=13.7km s-min=4.8km az=166.2
DMN 22 08:27:58.0±0.7, 27°.54N×91°.70E, h10km, Ml4.7/9, Error ellipse: s-maj=34.2km s-min=12.5km az=0.0
NEIC 22 08:27:59.3±3.4, 27°.29N×91°.53E, h28km±25km, mb4.0/5, Error ellipse: s-maj=18.0km s-min=9.0km az=49.0

ISC 22 08:28:00.3±0.6, 27°.33N±0°.10×91°.51E±0°.06, h35km, n51, σ0§97/58, mb4.0/16, Bhutan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAPN	Taplejung	3.38	271	ePn	Pn	08 28 51.2	+0.3
TAPN				eSn	Sn	08 29 31.2	+1.3
	708nm,0.4s						
ODAN	Odare	3.70	264	ePn	Pn	08 28 55.6	+0.4
ODAN				eSn	Sn	08 29 39.3	+1.6
	796nm,0.4s						
RAMN	Ramite	4.39	266	ePn	Pn	08 29 05.3	+0.6
RAMN				eSn	Sn	08 29 56.0	+1.3
	494nm,0.4s						
JIRN	Jiri	4.73	275	ePn	Pn	08 29 11.1	+1.5
JIRN				eSn	Sn	08 30 03.7	+0.2
	311nm,0.4s						
GUN	Gumba	5.03	278	ePn	Pn	08 29 14.7	+1.1
GUN				eSn	Sn	08 30 10.1	-0.5
	247nm,0.4s						
PKI	Pulchoki	5.42	274	ePn	Pn	08 29 19.6	+0.6
PKIN	Phulchoki	5.43	274	ePn	Pn	08 29 19.7	+0.6
KKN	Kakani	5.55	276	ePn	Pn	08 29 21.6	+1.0
KKN				eSn	Sn	08 30 22.8	-0.5
	118nm,0.4s						
DMN	Daman	5.69	274	ePn	Pn	08 29 23.4	+0.7
DMN				eSn	Sn	08 30 26.8	-0.1
	152nm,0.7s						
DANN	Dangsing	6.93	280	ePn	Pn	08 29 38.5	-1.2
DANN				eSn	Sn	08 30 54.1	-3.5
	54nm,0.3s						
KOLN	Koldanda	7.03	275	ePn	Pn	08 29 40.8	-0.2
KOLN				eSn	Sn	08 30 57.0	-2.9
	68nm,0.4s						
PYUN	Piuthan	7.59	278	ePn	Pn	08 29 47.4	-1.3
CMAR	Chiang Mai Arr	11.17	141	Pn	Pn	08 30 36.4	-1.3
CMAR	Chiang Mai Arr	11.17	141	Pn	Pn	08 30 36.4	-1.3
	0.6nm,0.3s,baz=312,slow=13,SNR=3.6						
TKM2	Tokmak 2	20.23	324	eP	Pn	08 32 34.1	-0.6
	14nm,1.1s						
KBL	Kabul	20.54	296	eP	P	08 32 35.8	-0

YKA	**Yellowknife Ar**	**88.08**	**12**	P	**P**	**08 40 47.0**	**+0.1**
YKA	**Yellowknife Ar**	**88.08**	**12**	P	**P**	**08 40 47.0**	**+0.1**
	0.7nm,0.8s,baz=334,slow=5.2,SNR=3.8						
ROSC	**El Rosal**	**145.20**	**335**	*e*PKPdf	**PKPdf**	**08 47 36.5**	**+0.9**
ROSC	**El Rosal**	**145.20**	**335**	PKPbc	**PKPdf**	**08 47 36.6**	**+0.9**
	5.1nm,0.6s,baz=35,slow=5.0,SNR=6.2						

GUC 22 08:45:24.7±0.5,**24°.04S×67°.61W,h222**km±22km,**ML4.0,**
1C-1D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEN1	**Los Morros**	**2.46**	**285**⇓	*e*P	Pn	08 46 11.7	+1.9
CEN1				*e*S	S	08 46 47.1	+2.3
PB04	**Plate Boundary**	**2.47**	**315**	*e*P	Pn	08 46 15.6	+5.9
PB04				*e*S	S	08 46 54.3	+10
PB04				AML	AML	08 46 56.4	
	comp=N,164nm,0.6s						
ANCH	**Antofagasta**	**2.59**	**277**	*e*P	Pn	08 46 11.8	+0.8
ANCH				*e*S	S	08 46 47.2	+0.2
PB09	**Plate Boundary**	**2.69**	**326**⇑	*e*P	Pn	08 46 13.1	+0.7
PB09				*e*S	S	08 46 50.7	+1.1
PB09				AML	AML	08 46 55.3	
	comp=E,282nm,0.6s						
PB10	**Plate Boundary**	**2.75**	**280**	*e*P	Pn	08 46 13.7	+1.0
PB10				*e*S	S	08 46 51.0	+0.8
PB10				AML	AML	08 46 59.1	
	comp=N,250nm,0.5s						
PB01	**Plate Boundary**	**3.45**	**329**	*e*P	Pn	08 46 21.0	+0.1
HMBC	**Humberstone**	**4.30**	**330**	*e*P	Pn	08 46 30.5	-0.7

ISCJB ***22*** *08:49:31.3±0.9, 10°.82N±0°.04×67°.90W±0°.02, h13km±5km, mb3.7/6, Error ellipse: s-maj=6.2km s-min=3.5km az=179.0*
FUNV ***22*** *08:49:31.9, 10°.81N×67°.87W, h2km, MW3.6*
IDC ***22*** *08:49:38.9±5.9, 10°.70N×67°.95W, h68km±58km, mb3.4/6, mb1 3.6/7, mb1mx3.4/23, mbtmp3.4/7, ML2.4/1, Error ellipse: s-maj=35.8km s-min=24.5km az=69.0*

ISC 22 08:49:31.4±1.5,**10°.82N**±0°.05×**67°.89W**±0°.03,**h7**km±10km,
n29,σ0°.93/43,**mb3.8**/6,**4C,Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TURV	**Turiamo**	**0.37**	**173**⇑	*e*P	**Pg**	**08 49 38.6**	**0.0**
TURV				*e*S	**Sg**	**08 49 43.5**	**+0.1**
JACV	**Jacura**	**0.96**	**286**	*e*P	**Pn**	**08 49 51.3**	**-0.1**
FUNV	**FUNVISIS**	**1.11**	**108**	*e*P	**Pg**	**08 49 52.3**	**-0.5**
FUNV				*e*S	**Sg**	**08 50 07.3**	**+0.1**
TEPV	**Terepaima**	**1.54**	**237**	*e*P	**Pn**	**08 49 59.6**	**+0.3**
TEPV				*e*S	**Sb**	**08 50 20.0**	**0.0**
BIRV	**Birongo**	**1.63**	**102**	*e*P	**Pn**	**08 50 00.5**	**0.0**
BIRV				*e*S	**Sb**	**08 50 22.2**	**-0.3**
BAUV	**El Baul**	**1.87**	**185**	*e*P	**Pn**	**08 50 03.7**	**-0.1**
BAUV				*e*S	**Sb**	**08 50 28.7**	**-0.9**
ORCV	**Isla La Orchil**	**1.93**	**59**	*e*P	**Pn**	**08 50 04.5**	**-0.2**
CURV	**Curarigua**	**2.19**	**249**	*e*P	**Pn**	**08 50 08.7**	**+0.4**
CURV				*e*S	**Sn**	**08 50 36.0**	**+0.2**
CUPV	**Cœpira**	**2.20**	**110**	*e*P	**Pn**	**08 50 09.6**	**+1.2**
CUPV				*e*S	**Sn**	**08 50 36.0**	**+0.1**
MERV	**Las Mercedes**	**2.21**	**135**	*e*P	**Pn**	**08 50 09.1**	**+0.7**
MERV				*e*S	**Sn**	**08 50 35.9**	**-0.2**
MONV	**Montecano**	**2.33**	**299**	*e*P	**Pn**	**08 50 10.4**	**+0.2**
QARV	**Quebrada Arrib**	**2.66**	**257**	*e*P	**Pn**	**08 50 16.2**	**+1.4**
QARV				*e*S	**Sn**	**08 50 47.3**	**-0.1**
DABV	**Dabajuro**	**2.70**	**272**⇑	*e*P	**Pn**	**08 50 15.2**	**-0.1**
DABV				*e*S	**Sn**	**08 50 48.6**	**+0.3**
PCRV	**Puerto La Cruz**	**3.26**	**101**	*e*P	**Pn**	**08 50 23.5**	**+0.5**
SOCV	**Socops**	**3.86**	**230**⇑	*e*P	**Pn**	**08 50 31.5**	**+0.2**
SOCV				*e*S	**Sn**	**08 51 14.6**	**-2.4**
VIGV	**El Vigia**	**3.95**	**240**	*e*P	**Pn**	**08 50 33.0**	**+0.5**
VIGV				*e*S	**Sn**	**08 51 17.8**	**-1.4**
ELOV	**Elorza**	**4.11**	**203**	*e*P	**Pn**	**08 50 35.2**	**+0.5**
VIRV	**Villa del Rosa**	**4.45**	**266**⇑	*e*P	**Pn**	**08 50 39.0**	**-0.4**
VIRV				*e*S	**Sn**	**08 51 28.8**	**-2.8**
ORIV	**Oritupano**	**4.74**	**111**	*e*P	**Pn**	**08 50 42.5**	**-0.8**
GUNV	**Guanoco**	**4.91**	**97**	*e*P	**Pn**	**08 50 45.0**	**-0.6**
CAPV	**Capacho**	**5.26**	**236**	*e*P	**Pn**	**08 50 50.7**	**0.0**
LUEV	**Luepa**	**8.05**	**127**	*e*P	**Pn**	**08 51 27.7**	**-1.3**
ROSC	**El Rosal**	**8.71**	**228**	P	**Pn**	**08 51 40.2**	**+2.0**
	1.0nm,0.3s,baz=30,slow=14,SNR=4.5						
ROSC				S	**Sn**	**08 53 17.4**	**+0.5**
	1.0nm,0.3s,baz=90,slow=20,SNR=2.3						
SCHQ	**Schefferville**	**43.91**	**1**	P	**P**	**08 57 40.5**	**+1.9**
	2.0nm,0.7s,baz=150,slow=8.1,SNR=5.0						
PDAR	**Pinedale Array**	**48.20**	**319**	P	**P**	**08 58 13.7**	**+0.8**
	0.5nm,0.6s,baz=121,slow=11,SNR=5.0						
PLCA	**Paso Flores**	**51.35**	**183**	P	**P**	**08 58 36.2**	**-0.4**
	1.5nm,0.9s,baz=358,slow=7.1,SNR=3.4						
YKA	**Yellowknife Ar**	**61.45**	**337**	P	**P**	**08 59 48.3**	**0.0**
	0.4nm,0.6s,baz=114,slow=6.9,SNR=4.3						
TORD	**Torodi Ar. Bea**	**67.91**	**80**	P	**P**	**09 00 31.2**	**-0.1**
	0.3nm,0.5s,baz=288,slow=7.6,SNR=6.3						
ILAR	**Eielson Array**	**75.59**	**334**	P	**P**	**09 01 15.6**	**-1.1**
	0.2nm,0.5s,baz=104,slow=5.7,SNR=4.4						

DJA 22 09:10:44.0±0.8,**8°S**±4°×**10°7E**±°,**h16**km±8km,**M3.9**/16,
MLv3.9/16,**Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.86**	**46**	P	Pb	09 10 59.6	-1.1
CISI				S	Sb	09 11 08.8	-3.3
SKJI	**Sukabumi**	**1.31**	**331**	P	Pn	09 11 07.2	-0.4
SKJI				S	Sg	09 11 25.7	-0.7
LEM	**Lembang**	**1.39**	**18**	P	Pn	09 11 07.4	-1.6
LEM				S	Sn	09 11 25.7	-1.5
DBJI	**Dramaga**	**1.65**	**345**	P	Pn	09 11 13.3	+0.9
DBJI				S	Sn	09 11 33.0	-0.4
CLJI	**Cilicap**	**1.86**	**76**	P	Pb	09 11 16.8	-0.8
KPJI	**Karang Pucung**	**1.91**	**65**	P	Pn	09 11 15.4	-0.5
SBJI	**Serang**	**2.28**	**333**	P	Pn	09 11 21.6	+0.5
TGJI	**Tegal**	**2.31**	**56**	P	Pn	09 11 22.7	+1.3
BJII	**Banjamegara**	**2.63**	**72**	P	Pn	09 11 28.3	+2.4
YOGI	**Yogyakarta**	**3.09**	**84**	P	Pn	09 11 31.5	-0.7
UGM	**Wanagama**	**3.31**	**86**	P	Pn	09 11 33.9	-1.3
KASI	**Kota Agung**	**3.74**	**314**	P	Pn	09 11 35.4	-5.7
PCJI	**Pacitan**	**3.95**	**91**	P	Pn	09 11 43.4	-0.6
PWJI	**Pagerwojo**	**4.57**	**89**	P	Pn	09 11 53.2	+0.7
MDSI	**Maura Dua**	**4.72**	**320**	P	Pn	09 11 53.5	-1.1

ISCJB ***22*** *09:30:17.9±0.5, 51°.47N±0°.02×16°.14E±0°.03, h0km, mb3.2/1, MS3.4/1, Error ellipse: s-maj=3.5km s-min=2.6km az=8.2*
IPEC ***22*** *09:30:19.6±0.3, 51°.55N×16°.22E, h0km, ML2.8/3, Error ellipse: s-maj=3.3km s-min=1.7km az=67.0*
CSEM ***22*** *09:30:20.7±0.3, 51°.44N×16°.13E, h2km, ML3.5/8, Error ellipse: s-maj=5.4km s-min=2.8km az=10.0*
WAR ***22*** *09:30:20.5, 51°.54N×16°.14E*
BGR ***22*** *09:30:21.6±0.6, 51°.46N×16°.11E, h1km, ML3.0/13, Error ellipse: s-maj=7.8km s-min=2.2km az=13.0*
IDC ***22*** *09:30:21.2±0.7, 51°.49N×15°.97E, h0km, mb3.4/1, mb1 3.5/8, mb1mx3.4/27, mbtmp3.4/8, ML3.1/7, MS3.5/1, Ms1 3.5/1, ms1mx2.0/30, Error ellipse: s-maj=11.5km s-min=6.9km az=106.0*
PRU ***22*** *09:30:21.8, 51°.43N×16°.10E, h0km*
VIE ***22*** *09:30:22.8±0.4, 51°.27N×16°.18E, h0km, mb2.6/3, ML3.0/3, Error ellipse: s-maj=2.7km s-min=2.1km az=1.0 61 km WNW of Wroclaw Suspected Mining induced.*

ISC 22 09:30:19.7±0.7,**51°.51N**±0°.03×**16°.13E**±0°.02,**h0**km,**n63,**
σ1§14/109,**5C-1D,Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.67**	**171**	*e*Pg	**Pg**	**09 30 33.6**	**+1.0**
KSP	**Ksiaz**	**0.67**	**171**	*e*Pg	**Pg**	**09 30 33.5**	**+1.0**
KSP				*e*Sg	**Sg**	**09 30 42.7**	**+1.4**
KSP	**Ksiaz**	**0.67**	**171**	Pg	**Pg**	**09 30 33.6**	**+1.0**
KSP				*e*Sg	**Sg**	**09 30 42.1**	**+0.8**
UPC	**Upice**	**1.00**	**184**	*e*PG	**Pg**	**09 30 39.5**	**+0.6**
DPC	**Dobruska-Polom**	**1.16**	**174**	*e*Pg	**Pg**	**09 30 42.3**	**+0.3**
DPC				*e*Sg	**Sg**	**09 30 58.1**	**+1.0**
DPC	**Dobruska-Polom**	**1.16**	**174**	*e*PG	**Pg**	**09 30 42.4**	**+0.3**
DPC				*e*SG	**Sg**	**09 30 56.9**	**-0.2**
DPC	**Dobruska-Polom**	**1.16**	**174**	Pg	**Pg**	**09 30 42.3**	**+0.3**
DPC				Sg	**Sg**	**09 30 56.9**	**-0.2**
PVCC	**Panska Ves**	**1.39**	**226**	*e*PG	**Pn**	**09 30 46.6**	**+0.2**
PVCC				*e*SG	**Sg**	**09 31 04.6**	**+0.2**
	253nm,0.3s						
PVCC	**Panska Ves**	**1.39**	**226**	Pg	**Pn**	**09 30 46.6**	**+0.2**
PVCC				Sg	**Sg**	**09 31 04.6**	**+0.2**
	253nm,0.3s						
BRG	**Berggiesshubel**	**1.52**	**246**	PG	**Pb**	**09 30 49.1**	**+0.4**
BRG				SG	**Sn**	**09 31 09.1**	**+0.6**
	94nm,0.5s						
BRG	**Berggiesshubel**	**1.52**	**246**	*e*Pg	**Pg**	**09 30 49.2**	**+0.5**
BRG				*e*Sg	**Sn**	**09 31 09.1**	**+0.6**
BRG	**Berggiesshubel**	**1.52**	**246**	Pg	**Pg**	**09 30 49.2**	**+0.5**
BRG				Sg	**Sn**	**09 31 09.1**	**+0.6**
PRA	**Prague**	**1.80**	**218**	PG	**Pn**	**09 30 53.0**	**+1.0**
PRA				SG	**Sn**	**09 31 16.0**	**+0.6**
PRU	**Pruhonice**	**1.82**	**214**	*e*PN	**Pn**	**09 30 52.3**	**0.0**
PRU				*e*PG	**Pb**	**09 30 54.4**	**+0.4**
PRU				*e*SG	**Sn**	**09 31 17.0**	**+0.9**
	29nm,0.3s						
PRU	**Pruhonice**	**1.82**	**214**	Pn	**Pn**	**09 30 52.3**	**0.0**
FBE	**Freiberg**	**1.84**	**253**	*e*Sg	**Sg**	**09 31 19.0**	**+0.1**
FBE	**Freiberg**	**1.84**	**253**	Sg	**Sg**	**09 31 19.0**	**+0.1**
MORC	**Moravsky Berou**	**1.95**	**152**	*e*Pn	**Pn**	**09 30 54.4**	**+0.3**
MORC	**Moravsky Berou**	**1.95**	**152**	Pn	**Pn**	**09 30 54.4**	**+0.3**
MORC				*e*Sg	**Sb**	**09 31 21.3**	**+0.3**
	31nm,0.4s,baz=335						
CLL	**Collm**	**1.97**	**265**	*e*Pn	**Pn**	**09 30 54.4**	**+0.1**
CLL				*e*Sg	**Sg**	**09 31 23.0**	**0.0**
CLL	**Collm**	**1.97**	**265**	*e*Pn	**Pn**	**09 30 54.0**	**-0.3**
CLL				*e*Pg	**Pb**	**09 30 57.0**	**+0.6**
CLL				*e*		09 31 01.0	
CLL				*e*Sg	**Sg**	**09 31 23.0**	**0.0**
	comp=Z,61nm,0.9s						
CLL	**Collm**	**1.97**	**265**	Pn	**Pn**	**09 30 54.4**	**+0.1**
CLL				Sg	**Sg**	**09 31 23.0**	**0.0**
OKC	**Ostrava-Krasne**	**2.11**	**142**	*e*Sg	**Sb**	**09 31 26.3**	**+0.9**
OKC	**Ostrava-Krasne**	**2.11**	**142**	*e*PG	**Pb**	**09 30 59.5**	**+0.8**
OKC				*e*SG	**Sb**	**09 31 26.3**	**+0.9**
OKC	**Ostrava-Krasne**	**2.11**	**142**	Pg	**Pb**	**09 30 59.5**	**+0.8**
OKC				Sg	**Sb**	**09 31 26.3**	**+0.9**
VRAC	**Vranov**	**2.22**	**172**	Pn	**Pn**	**09 30 58.4**	**+0.6**
	comp=Z,4.1nm,0.3s,baz=350,slow=15,SNR=12						
VRAC				Sn	**Sb**	**09 31 28.8**	**+0.1**
	comp=Z,7.2nm,0.3s,baz=262,slow=22,SNR=10						
VRAC	**Vranov**	**2.22**	**172**	*e*Pn	**Pn**	**09 30 58.3**	**+0.5**
	baz=354						
VRAC				*e*Sg	**Sg**	**09 31 30.4**	**-0.6**
	comp=Z,74nm,1.1s,baz=354						
TREC	**Trest**	**2.25**	**191**	*e*PN	**Pn**	**09 30 59.2**	**+1.0**
TREC				*e*SG	**Sb**	**09 31 30.5**	**+0.8**
	comp=Z,27nm,0.2s						
TREC	**Trest**	**2.25**	**191**	Pn	**Pn**	**09 30 59.2**	**+1.0**
TREC				Sg	**Sb**	**09 31 30.5**	**+0.8**
	comp=Z,27nm,0.2s						
KRUC	**Moravsky**	**2.45**	**176**	*e*Pn	**Pn**	**09 31 01.3**	**+0.3**
	baz=358						
TANN	**Tannenbergstha**	**2.56**	**246**	*e*Pn	**Pn**	**09 31 03.5**	**+0.9**
TANN				*e*Sg	**Sg**	**09 31 41.9**	**-0.2**
TANN	**Tannenbergstha**	**2.56**	**246**	Pn	**Pn**	**09 31 03.5**	**+0.9**
TANN				Sg	**Sg**	**09 31 41.9**	**-0.2**
WERD	**Werda**	**2.64**	**248**	*e*Pn	**Pn**	**09 31 04.1**	**+0.5**
WERD				*e*Sg	**Sg**	**09 31 43.3**	**-1.2**
WERD	**Werda**	**2.64**	**248**	Pn	**Pn**	**09 31 04.1**	**+0.5**
WERD				Sg	**Sg**	**09 31 43.3**	**-1.2**
OJC	**Ojcow**	**2.66**	**118**	*e*Sg	**Sg**	**09 31 45.2**	**+0.2**
OJC	**Ojcow**	**2.66**	**118**	*e*Pg	**Pg**	**09 31 11.9**	**+1.3**
OJC				*e*Sg	**Sg**	**09 31 46.8**	**+1.8**
OJC	**Ojcow**	**2.66**	**118**	*e*Pg	**Pg**	**09 31 11.9**	**+1.3**
OJC				Sg	**Sg**	**09 31 45.2**	**+0.2**
KHC	**Kasperske Hory**	**2.89**	**216**	*e*PN	**Pn**	**09 31 07.8**	**+0.8**
KHC				*e*PG	**Pb**	**09 31 13.2**	**+1.1**
KHC				*e*SN	**Sn**	**09 31 41.0**	**-1.4**
KHC				*e*SG	**Sg**	**09 31 51.4**	**-1.0**
	comp=Z,15nm,0.4s						
KHC	**Kasperske Hory**	**2.89**	**216**	Pn	**Pn**	**09 31 07.8**	**+0.8**
ROTZ	**Rotzenmuhle**	**3.05**	**237**	*e*Pn	**Pn**	**09 31 10.0**	**+0.9**
ROTZ				*e*Sg	**Sg**	**09 31 56.2**	**-1.3**
ROTZ	**Rotzenmuhle**	**3.05**	**237**	Pn	**Pn**	**09 31 10.0**	**+0.9**
ROTZ				Sg	**Sg**	**09 31 56.2**	**-1.3**
GEC2	**GERESS Array S**	**3.09**	**211**	*e*Pn	**Pn**	**09 31 10.8**	**+1.0**
GEC2	**GERESS Array S**	**3.09**	**211**	Pn	**Pn**	**09 31 10.8**	**+1.0**
GERES	**GERESS Array B**	**3.09**	**211**	Pn	**Pn**	**09 31 10.5**	**+0.7**
	comp=Z,1.0nm,0.3s,baz=25,slow=13,SNR=14						
GERES				Pg	**Pb**	**09 31 16.6**	**+1.0**
	comp=Z,2.6nm,0.3s,baz=33,slow=16,SNR=41						
GERES				Sn	**Sn**	**09 31 46.4**	**-1.1**
	comp=Z,3.0nm,0.3s,baz=29,slow=19,SNR=6.5						
GERES				Lg	Lg	09 31 55.0	
	comp=Z,4.9nm,0.3s,baz=36,slow=26,SNR=11						
NIE	**Niedzica**	**3.39**	**126**	*e*P	**Pg**	**09 31 25.2**	**+0.5**
NIE				*e*S	**Sg**	**09 32 11.0**	**+2.4**
VYHS	**Vyhne**	**3.48**	**149**	*e*PG	**Pb**	**09 31 23.8**	**+1.6**
VYHS				*e*SG	**Sg**	**09 32 09.9**	**-1.7**
VYHS	**Vyhne**	**3.48**	**149**	*e*Pg	**Pb**	**09 31 23.8**	**+1.6**
VYHS				*e*Sg	**Sg**	**09 32 09.9**	**-1.7**
CSNA	**Conrad Observa**	**3.59**	**183**	⇓*i*Pn	**Pn**	**09 31 16.3**	**-0.3**
CSNA				⇑*i*Pg	**Pg**	**09 31 27.3**	**-1.1**
CSNA				⇑*i*Sg	**Sg**	**09 32 13.9**	**-1.0**
	comp=Z,25nm,0.6s						
CSNA	**Conrad Observa**	**3.59**	**183**	Pn	**Pn**	**09 31 16.3**	**-0.3**
GRA1	**Grafenberg Arr**	**3.62**	**242**	Sg	**Sg**	**09 32 15.8**	**-0.1**
GRF	**Grafenberg Arr**	**3.62**	**242**	*e*Sg	**Sg**	**09 32 15.8**	**-0.1**
MOA	**Molln**	**3.86**	**199**	⇑*i*Pn	**Pn**	**09 31 20.9**	**+0.6**
MOA				⇑*i*Pg	**Pg**	**09 31 32.5**	**-1.1**
MOA				⇑*i*Sg	**Sg**	**09 32 23.4**	**-0.2**
	comp=Z,33nm,0.8s						
MOA	**Molln**	**3.86**	**199**	Pn	**Pn**	**09 31 20.9**	**+0.6**
STHS	**Stebnicka Huta**	**3.88**	**121**	*e*PG	**Pg**	**09 31 32.4**	**-1.6**
STHS				*e*SG	**Sg**	**09 32 23.6**	**-0.6**
STHS	**Stebnicka Huta**	**3.88**	**121**	*e*Pg	**Pg**	**09 31 32.4**	**-1.6**
STHS				*e*Sg	**Sg**	**09 32 23.7**	**-0.5**
DAVOX	**Davos/Dischmat**	**6.26**	**223**	Lg	Lg	09 33 38.6	
	comp=Z,0.5nm,0.3s,baz=345,slow=20,SNR=2.5						
AKASG	**Malin Array Be**	**8.28**	**90**	Pn	**Pn**	**09 32 20.2**	**-0.8**
	comp=Z,1.3nm,0.3s,baz=282,slow=11,SNR=6.7						
AKASG				Sn	**Sn**	**09 33 51.4**	**-3.7**
	comp=Z,0.6nm,0.3s,baz=272,slow=22,SNR=3.1						
AKASG				Lg	Lg	09 34 51.0	
	comp=Z,0.2nm,0.3s,baz=275,slow=27,SNR=3.5						
HFS	**Hagfors**	**8.76**	**352**	Pn	**Pn**	**09 32 26.7**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=192,slow=13,SNR=3.1						
HFS				Sn	Sn	09 34 00.8	-6.0
	comp=Z,0.2nm,0.3s,baz=162,slow=20,SNR=3.0						
NOA	**NORSAR Array B**	**9.94**	**346**	Pn	**Pn**	**09 32 42.7**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=152,slow=16,SNR=2.5						
NOA				Sn	**Sn**	**09 34 41.5**	**+5.7**
	comp=Z,0.2nm,0.3s,baz=202,slow=16,SNR=2.6						
FINES	**FINESS Array B**	**11.36**	**25**	Pn	**Pn**	**09 33 01.4**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=198,slow=12,SNR=5.5						
FINES				Sn	Sn	09 35 00.9	-10
	comp=Z,0.1nm,0.3s,baz=207,slow=21,SNR=3.1						
ARCES	**ARCESS Array B**	**18.62**	**10**	Pn	**P**	**09 34 34.9**	**-3.5**
	comp=Z,0.3nm,0.3s,baz=196,slow=13,SNR=7.0						
TORD	**Torodi Ar. Bea**	**40.00**	**202**	P	**P**	**09 37 56.3**	**+0.1**
	comp=Z,0.6nm,1.0s,baz=18,slow=8.2,SNR=3.0						
ZALV	**Zalesovo Beam**	**40.19**	**59**	LR	LR	09 56 55.5	
	comp=Z,55nm,18.4s,baz=159,slow=40						

NIED ***22*** *09:49:00, 37°.00N×141°.30E, h53km, Mw3.7 Best double couple: M0=3.74000×10^14 NP1:φ=122.00000°, δ=56.00000°, λ=49.00000°. NP2:φ=0.00000°, δ=51.00000°, λ=135.00000°.*
ISCJB ***22*** *09:49:26.7±1.0, 36°.96N±0°.05×141°.51E±0°.10, h57km±7km, mb3.5/6, Error ellipse: s-maj=13.7km s-min=6.6km az=23.8*
IDC ***22*** *09:49:28.8±3.7, 37°.07N×141°.59E, h62km±31km, mb3.3/6, mb1 3.4/8, mb1mx3.4/23, mbtmp3.4/8, ML3.4/2, Error ellipse: s-maj=27.4km s-min=21.3km az=127.0*
JMA ***22*** *09:49:29.4±0.1, 36°.99N×141°.24E, h57km±1km, M3.8*
JMA Felt I J1.

ISC 22 09:49:26.8±0.9,**36°.92N**±0°.05×**141°.54E**±0°.07,**h43**km±7km,
n23,σ1§14/33,**mb3.5**/6,**5D,Near east coast of eastern**
Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.62**	**287**	⇓P	**Pn**	**09 49 39.8**	**+0.5**
ONAJ				*e*S	**Sn**	**09 49 47.1**	**-1.1**
JFK	**Kawauchi**	**0.69**	**310**	P	**Pn**	**09 49 40.8**	**+0.6**
JFK				*e*S	**Sn**	**09 49 48.9**	**-1.0**
JHO	**Hitachi**	**0.84**	**248**	⇓P	**Pn**	**09 49 42.8**	**+0.6**
JHO				*e*S	**Sn**	**09 49 52.4**	**-1.0**
JMM	**Marumori**	**1.11**	**328**	P	**Pn**	**09 49 46.8**	**+0.9**
JMM				S	**Sn**	**09 49 59.6**	**-0.4**
JFT	**Otama**	**1.13**	**302**	⇓P	**Pn**	**09 49 46.9**	**+0.8**
JFT				S	**Sn**	**09 49 59.4**	**-1.1**
JIO	**Ouri**	**1.54**	**354**	P	**Pn**	**09 49 53.6**	**+1.9**
JIO				*e*S	**Sn**	**09 50 11.0**	**+0.6**
JFY	**Yanaizu**	**1.54**	**289**	⇓P	**Pn**	**09 49 51.8**	**0.0**
JOU	**Okura**	**1.60**	**334**	P	**Pn**	**09 49 53.8**	**+1.2**
JOU				*e*S	**Sn**	**09 50 12.0**	**0.0**
JYS	**Shiratake**	**1.75**	**318**	P	**Pn**	**09 49 55.5**	**+0.9**
JYS				*e*S	**Sn**	**09 50 15.1**	**-0.5**
JAG	**Ashikaga**	**1.75**	**254**	⇓P	**Pn**	**09 49 55.0**	**+0.4**
JKT	**Katashina**	**1.85**	**266**	P	**Pn**	**09 49 56.6**	**+0.6**
MAT	**Matsushiro**	**2.71**	**263**	P	**Pn**	**09 50 09.0**	**+1.2**
MAT				S	**Sn**	**09 50 41.9**	**+2.6**
ASAJ	**Asahikawa**	**7.23**	**6**	P	**Pn**	**09 51 10.5**	**+0.7**
	1.0nm,0.3s,baz=216,slow=8.7,SNR=10						
ASAJ				S	**Sn**	**09 52 29.8**	**-0.7**
	0.3nm,0.3s,baz=127,slow=20,SNR=4.4						
USRK	**Ussuriysk Arra**	**10.27**	**318**	P	Pn	09 51 56.0	+4.5
	0.1nm,0.3s,baz=133,slow=15,SNR=5.2						
KSRS	**Korea Array**	**10.88**	**277**	P	**Pn**	**09 52 01.9**	**+2.1**
	0.1nm,0.3s,baz=87,slow=13,SNR=2.7						
SONM	**Songino Array**	**27.93**	**304**	P	**P**	**09 55 12.3**	**-0.7**
	0.5nm,0.6s,baz=102,slow=11,SNR=4.4						
ZALV	**Zalesovo Beam**	**42.06**	**312**	P	**P**	**09 57 13.5**	**-0.6**
	0.8nm,0.5s,baz=111,slow=6.8,SNR=3.3						
MKAR	**Makanchi Array**	**44.26**	**302**	P	**P**	**09 57 31.5**	**-0.5**
	0.6nm,0.6s,baz=88,slow=10,SNR=4.4						
ILAR	**Eielson Array**	**49.53**	**32**	P	**P**	**09 58 10.4**	**-2.4**
	0.4nm,1.0s,baz=270,slow=6.2,SNR=3.1						
WRA	**Warramunga Arr**	**56.97**	**188**	P	**P**	**09 59 08.8**	**+1.0**
	0.2nm,0.4s,baz=4.3,slow=7.3,SNR=4.5						
WRA				pP	**pP**	**09 59 19.9**	**-0.3**
	0.3nm,0.5s,baz=0.0,slow=7.2,SNR=1.9						
WRA				sP	**sP**	**09 59 24.8**	**-0.4**
	0.5nm,0.5s,baz=2.7,slow=7.3,SNR=3.3						
ASAR	**Alice Springs**	**60.69**	**188**	sP	sP	09 59 51.7	+0.6
	0.3nm,0.6s,baz=20,slow=11,SNR=3.7						
AKASG	**Malin Array Be**	**74.45**	**322**	P	**P**	**10 01 00.0**	**-0.2**
	0.7nm,0.5s,baz=44,slow=5.2,SNR=4.3						
LPAZ	**La Paz**	**146.66**	**60**	PKPbc	**PKPdf**	**10 09 04.5**	**+1.1**
	0.4nm,0.4s,baz=342,slow=3.2,SNR=2.9						

NEIC ***22*** *09:53:33.7, 46°.14S×165°.83E, h12km, mb4.6/4, ML5.1(WEL), After WEL.*
IDC ***22*** *09:53:33.3±0.6, 46°.13S×166°.20E, h0km, mb4.2/8, mb1 4.3/9, mb1mx4.3/15, mbtmp4.2/9, ML5.1/2, MS3.9/4, Ms1 3.8/4, ms1mx3.3/22, Error ellipse: s-maj=22.8km s-min=17.2km az=66.0*
ISCJB ***22*** *09:53:34.1±0.4, 45°.98S±0°.04×166°.00E±0°.05, h12km, mb4.2/13, MS3.8/4, Error ellipse: s-maj=6.6km s-min=4.3km az=164.1*
WEL ***22*** *09:53:36.8±0.6, 46°.14S×166°.12E, h32km±2km, ML5.0/21, Error ellipse: s-maj=7.0km s-min=2.6km az=90.0*
WEL Felt from Fiordland to Southland, maximum reported intensity MM 4.

ISC 22 09:53:35.4±0.4,**46°.11S**±0°.05×**166°.11E**±0°.04,**h12**km,**n121,**
σ1§12/127,**mb4.3**/13,**MS3.8**/4,**1C-1D,Off west coast of**
South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.41**	**99**	*e*P*	**Pn**	**09 53 45.6**	**-1.5**
PYZ				S*	**Sb**	**09 53 50.9**	**+0.3**

24nm,0.6s
STKA Stephens Creek 23.64 298 P P 09 58 48.4 +1.9
STKA Stephens Creek 23.64 298 P P 09 58 48.4 +1.9
6.0nm,0.8s,baz=122,slow=12,SNR=6.2
STKA LR LR 10 05 53.0
comp=Z,174nm,19.0s,baz=68,slow=31
EIDS Eidsvold 23.94 325 *eP* **P 09 58 45.6 -3.8**
9.5nm,0.8s
DZM Mont Dzumac 23.98 1 *eP* **P 09 58 52.6 +2.8**
71nm,1.0s
DZM *e*LR LR 10 04 42.0
131nm,23.1s
DZM Mont Dzumac 23.98 1 P P 09 58 52.8 +2.9
1.7nm,0.8s
DZM Mont Dzumac 23.98 1 P P 09 58 52.8 +2.9
21nm,0.7s,baz=179,slow=8.3,SNR=25
VNDA Vanda 31.57 182 P P 09 59 55.4 -1.8
VNDA Vanda 31.57 182 P P 09 59 55.4 -1.8
0.3nm,0.8s,baz=348,slow=8.9,SNR=2.4
ASAR Alice Springs 34.26 300 P P 10 00 21.3 0.0
ASAR PcP **PcP 10 02 57.1 -0.6**
ASAR Alice Springs 34.26 300 P P 10 00 21.3 0.0
2.9nm,0.8s,baz=134,slow=7.9,SNR=42
ASAR PcP **PcP 10 02 57.1 -0.6**
0.8nm,0.7s,baz=131,slow=4.1,SNR=4.2
ASAR LR LR 10 14 53.8
comp=Z,191nm,19.1s,baz=67,slow=37
CASY Casey 35.31 215 *eP* **P 10 00 30.8 +1.0**
18nm,1.4s
WRA Warramunga Arr 36.87 304 P P 10 00 43.4 -0.3
WRA Warramunga Arr 36.87 304 P P 10 00 43.4 -0.3
3.5nm,0.8s,baz=140,slow=7.8,SNR=22
WRA LR LR 10 16 16.4
comp=Z,149nm,18.6s,baz=170,slow=37
WRAB Tennant Creek 36.87 304 *eP* **P 10 00 43.6 -0.1**
7.3nm,1.0s
HNR Honiara 36.93 350 LR LR 10 14 19.7
comp=Z,190nm,19.1s,baz=310,slow=34
TBI Tubuai 42.30 73 *e*LR LR 10 13 06.5
140nm,33.5s
QSPA South Pole Qui 44.02 180 P P 10 01 43.6 +1.0
QSPA South Pole Qui 44.02 180 P P 10 01 43.6 +1.0
8.3nm,0.9s,baz=27,slow=2.4,SNR=28
PPT2 Papeete2 46.33 67 *e*LR LR 10 15 09.7
251nm,30.0s
MAW Mawson 52.95 208 P P 10 02 53.4 +2.4
MAW PcP **PcP 10 04 00.3 +0.6**
MAW Mawson 52.95 208 P P 10 02 53.4 +2.4
0.6nm,0.8s,baz=104,slow=12,SNR=2.0
MAW PcP **PcP 10 04 00.3 +0.6**
1.7nm,0.8s,baz=99,slow=2.8,SNR=3.8
SNAA Sanae 62.26 184 *eP* **P 10 03 57.0 +0.3**
SNAA Sanae 62.26 184 P P 10 03 56.7 0.0
SNAA Sanae 62.26 184 P P 10 03 56.7 0.0
2.1nm,0.9s,baz=191,slow=9.3,SNR=28
VNA2 Neumayer--Watz 63.18 182 *eP* **P 10 04 03.3 +0.6**
baz=172,slow=5.4
VNA1 Neumayer--Stat 63.48 182 *eP* **P 10 04 05.4 +0.7**
CMAR Chiang Mai Arr 88.27 299 P P 10 06 27.6 +0.9
CMAR Chiang Mai Arr 88.27 299 P P 10 06 27.6 +0.9
0.7nm,0.3s,baz=142,slow=3.1,SNR=2.6
KSRS Korea Array 89.99 331 P P 10 06 36.2 +1.9
1.3nm,0.9s,baz=158,slow=7.1,SNR=5.1
KSAR Wonju Array Be 89.99 330 P P 10 06 36.2 +1.9
ILAR Eielson Array 116.47 20 PKP **PKPdf 10 12 17.3 -0.5**
ILAR Eielson Array 116.47 20 PKP **PKPdf 10 12 17.3 -0.5**
0.6nm,1.0s,baz=222,slow=2.2,SNR=3.8
MKAR Makanchi Array 118.06 309 PKP **PKPdf 10 12 20.9 -0.5**
MKAR Makanchi Array 118.06 309 PKP **PKPdf 10 12 20.9 -0.5**
0.5nm,0.7s,baz=141,slow=3.9,SNR=3.2
J26A Sides Ranch, S 119.89 57 P PKPdf 10 12 24.0 -1.2
baz=120
H24A Dirks Ranch, A 119.89 55 P PKPdf 10 12 24.3 -0.8
baz=120
I25A Rochford 119.92 56 P PKPdf 10 12 24.0 -1.3
baz=120
C22A Vida 120.92 52 P PKPdf 10 12 26.1 -0.8
baz=121
J28A Allard Ranch, 121.03 58 P PKPdf 10 12 26.4 -0.9
baz=121
A21A Bergtoll Ranch 121.08 50 P PKPdf 10 12 26.5 -0.7
baz=122
ZALV Zalesovo Beam 121.14 317 PKP **PKPdf 10 12 26.2 -0.9**
ZALV Zalesovo Beam 121.14 317 PKP **PKPdf 10 12 26.2 -0.9**
0.5nm,0.5s,baz=127,slow=0.7,SNR=2.7
G27A Dupree 121.19 55 P PKPdf 10 12 28.0 +0.4
baz=122
E25A Miller Ranch, 121.57 54 P PKPdf 10 12 27.8 -0.5
baz=122
A22A Carney Farms, 121.62 51 P PKPdf 10 12 28.0 -0.3
baz=122
BGNE Belgrade 121.72 62 P PKPdf 10 12 28.0 -0.7
baz=122
B23A Brockton 121.82 52 P PKPdf 10 12 28.7 +0.1
baz=122
F27A Lemmon 121.99 55 P PKPdf 10 12 28.4 -0.6
baz=122
E26A Carlson Angus 122.08 55 P PKPdf 10 12 28.1 -1.1
baz=122
E27A Carson 122.57 55 P PKPdf 10 12 29.7 -0.5
baz=123
BRSD Miller 122.97 58 P PKPdf 10 12 29.9 -1.1
baz=123
D28A Regan 123.56 55 P PKPdf 10 12 31.5 -0.6
baz=124
A26A Wade Farm, Ken 123.68 52 P PKPdf 10 12 31.8 -0.4
baz=124
B27A Peters Farms, 123.84 53 P PKPdf 10 12 32.1 -0.4
baz=124
C28A Hausauer Farms 123.96 54 P PKPdf 10 12 32.7 -0.1
baz=124
A27A Ledoux Ranch, 124.15 53 P PKPdf 10 12 32.9 -0.2
baz=124
B28A Dugan Ranch, T 124.37 54 P PKPdf 10 12 33.2 -0.3
baz=125
MDND Maddock 124.47 55 P PKPdf 10 12 32.9 -0.8
baz=125
A28A Rude Farm, Bot 124.67 53 P PKPdf 10 12 33.7 -0.4
baz=125
B29A Wagenman Farm,124.94 54 P PKPdf 10 12 33.9 -0.7
baz=125
YKA Yellowknife Ar 125.18 34 PKP **PKPdf 10 12 33.5 -1.0**
YKA Yellowknife Ar 125.18 34 PKP **PKPdf 10 12 33.5 -1.0**
0.7nm,0.7s,baz=224,slow=2.0,SNR=4.6
JFWS Jewell Farm 127.44 64 *e*PKPdf **PKPdf 10 12 38.6 -0.9**
WCI Wyandotte Cave 127.47 71 *e*PKPdf **PKPdf 10 12 39.0 -0.8**
SFIN Scholer Farm 128.11 68 P PKPdf 10 12 40.5 -0.4
baz=128
TOA0 Torodi Ar. Sit 144.60 207 *e*PKPdf **PKPab 10 13 10.5 -0.1**
TORD Torodi Ar. Bea 144.60 207 PKP **PKPab 10 13 10.0 -0.6**
TORD Torodi Ar. Bea 144.60 207 PKP **PKPab 10 13 10.0 -0.6**
3.7nm,0.6s,baz=154,slow=2.1,SNR=56
BR131 Keskin Array S 145.04 277 *e*PKPdf **PKPbc 10 13 11.6 -0.2**
BRTR Keskin Array B 145.04 277 PKPbc **PKPbc 10 13 11.6 -0.2**
BRTR Keskin Array B 145.04 277 PKPbc **PKPbc 10 13 11.6 -0.2**
5.5nm,0.9s,baz=139,slow=5.0,SNR=20
SCHQ Schefferville 145.94 56 PKPbc **PKPdf 10 13 12.7 -0.5**
SCHQ Schefferville 145.94 56 PKPbc **PKPdf 10 13 12.7 -0.5**
16nm,0.6s,baz=279,slow=3.8,SNR=27
ARCES ARCESS Array B 149.49 334 PKPbc **PKPbc 10 13 23.2 +0.1**
ARCES ARCESS Array B 149.49 334 PKPbc **PKPbc 10 13 23.2 +0.1**
16nm,0.7s,baz=79,slow=2.9,SNR=55
JOF Joensuu 149.66 320 *ep* **PKPbc 10 13 23.1 -0.6**
AKASG Malin Array Be 151.32 295 PKPbc **PKPbc 10 13 28.0 -0.1**
AKASG PKPab **PKPab 10 13 35.2 -1.0**
AKASG Malin Array Be 151.32 295 PKPbc **PKPbc 10 13 28.0 -0.1**
5.5nm,0.6s,baz=74,slow=2.8,SNR=26
AKASG PKPab **PKPab 10 13 35.2 -1.0**
1.0nm,0.5s,baz=70,slow=3.3,SNR=5.1
KAF Kangasniemi 152.10 320 *ep* **PKPbc 10 13 29.0 -0.5**
FINES FINESS Array B 152.39 318 PKPbc **PKPbc 10 13 30.3 +0.2**
FINES PKPab **PKPab 10 13 40.8 +0.4**
FINES FINESS Array B 152.39 318 PKPbc **PKPbc 10 13 30.3 +0.2**
3.6nm,0.6s,baz=98,slow=5.8,SNR=9.2
FINES PKPab **PKPab 10 13 40.8 +0.4**
2.0nm,0.6s,baz=56,slow=3.4,SNR=4.0
GERES GERESS Array B 161.19 288 PKPab **PKPab 10 14 16.5 -2.3**
GERES GERESS Array B 161.19 288 PKPab **PKPab 10 14 16.5 -2.3**
0.2nm,0.4s,baz=15,slow=4.1,SNR=2.7

IDC 22 10:21:26.2±0.8, 29°.10S×178°.88W, h194km±13km, mb3.2/5, mb1 3.4/6, mb1mx3.3/18, mbtmp3.2/6, Error ellipse: s-maj=36.0km s-min=22.4km az=68.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.85**	**101**	P	Pn	10 21 54.7	+0.3
	224nm,0.3s,baz=70,slow=21,SNR=19						
RAO				S	Sn	10 22 16.5	+0.4
	205nm,0.3s,baz=58,slow=23,SNR=7.3						
URZ	**Urewera**	**9.73**	**199**	P	Pn	10 23 43.5	+1.6
	0.2nm,0.3s,baz=38,slow=19,SNR=0.8						
URZ				S	Sn	10 25 29.0	-1.6
	1.8nm,0.3s,baz=322,slow=24,SNR=13						
ASAR	**Alice Springs**	**42.43**	**266**	P	P	10 29 01.9	-0.2
	0.4nm,0.4s,baz=101,slow=6.5,SNR=20						
WRA	**Warramunga Arr**	**43.30**	**271**	P	P	10 29 09.0	-0.1
	0.4nm,0.3s,baz=109,slow=8.1,SNR=35						
VNDA	**Vanda**	**49.31**	**185**	P	P	10 29 55.5	+0.5
	0.3nm,0.5s,baz=347,slow=8.9,SNR=5.5						
FITZ	**Fitzroy Crossi**	**51.61**	**269**	P	P	10 30 13.0	-0.1
	1.6nm,0.8s,baz=84,slow=5.6,SNR=6.3						
MAW	**Mawson**	**73.26**	**201**	P	P	10 32 34.7	-1.0
	0.6nm,0.5s,baz=143,slow=5.1,SNR=1.8						

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*ISCJB **22** 10:25:30.3±0.3, 35°.97S±0°.03×71°.37W±0°.06, h95km±2km, mb4.2/15, Error ellipse: s-maj=8.1km s-min=4.0km az=23.0*
*NEIC **22** 10:25:30.0, 35°.89S×71°.58W, h100km, mb4.3/2, After GUC.*
NEIC Felt [III] at Talca and [II] at Cauquenes, Curico and Parral.
*GUC **22** 10:25:30.8±0.7, 35°.89S×71°.58W, h100km±3km, ML4.8*
*IDC **22** 10:25:31.0±2.1, 35°.93S×71°.33W, h91km±19km, mb4.0/12, mb1 4.1/16, mb1mx4.0/21, mbtmp4.0/16, Error ellipse: s-maj=23.1km s-min=10.8km az=88.0*
ISC 22 10:25:31.3±0.6, 35°.94S±0°.04×71°.45W±0°.07, h94km±5km, n279, g0°86/293, mb4.2/15, 118C-109D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNCH	**Linares**	**0.16**	**307**	↑*iP*	**Pn**	**10 25 44.4**	**-0.2**
LNCH				*i* S	**Sn**	**10 25 54.8**	**+0.3**
LNCH				AML	AML	10 25 55.3	
	comp=N,45μm,0.6s						
TALC	**Talca**	**0.56**	**344**	↑*iP*	Pn	10 25 37.0	-10
TALC				*i* S	Sn	10 25 49.1	-9.5
TALC				AML	AML	10 25 50.1	
	comp=E,64μm,0.1s						
CCHI	**Chillan**	**0.83**	**217**	↓*iP*	**Pn**	**10 25 49.5**	**0.0**
CCHI				*i* S	**Sn**	**10 26 03.6**	**+0.5**
CCHI				AML	AML	10 26 04.4	
	comp=E,13μm,0.4s						
NICH	**Los Niches**	**0.95**	**11**	↑*iP*	**Pn**	**10 25 50.4**	**-0.4**
NICH				*i* S	**Sn**	**10 26 06.0**	**+0.7**
NICH				AML	AML	10 26 07.6	
	comp=N,21μm,0.5s						
CTCH	**Constitucion**	**0.99**	**307**	*eP*	**Pn**	**10 25 50.5**	**-0.6**
CTCH				AML	AML	10 26 11.9	
	comp=E,59μm,0.9s						
CCSP	**San Pedro de C**	**1.62**	**236**	*eP*	**Pn**	**10 25 57.8**	**-0.9**
CCSP				*e*S	**Sn**	**10 26 18.6**	**-0.9**
CACH	**El Canelo**	**1.95**	**21**	↓*iP*	**Pn**	**10 26 03.3**	**+0.2**
CHCH	**Chadas Angostu**	**2.11**	**18**	↑*iP*	**Pn**	**10 26 04.9**	**-0.2**
TACH	**Talagante**	**2.32**	**11**	↑*iP*	**Pn**	**10 26 07.6**	**-0.3**
LMEL	**Las Melosas**	**2.33**	**26**	↓*iP*	**Pn**	**10 26 08.8**	**+0.7**
LMEL				*i* S	**Sn**	**10 26 37.2**	**+1.0**
LMEL				AML	AML	10 26 42.0	
	comp=N,4μm,0.2s						
PCH	**Pirque**	**2.44**	**19**	↑*iP*	**Pn**	**10 26 09.5**	**-0.1**
ANTU	**Antumapu**	**2.46**	**16**	↑*iP*	**Pn**	**10 26 09.7**	**0.0**
ANTU				*i* S	**Sn**	**10 26 39.2**	**-0.1**
ANTU				AML	AML	10 26 42.1	
	comp=N,5μm,0.5s						
LCCH	**Las Cruces**	**2.46**	**358**	↓*iP*	**Pn**	**10 26 08.9**	**-0.9**
SAN	**Santiago**	**2.56**	**15**	↑*iP*	**Pn**	**10 26 10.9**	**-0.3**
SAN				*i* S	**Sn**	**10 26 41.2**	**-0.5**
FSR	**Penalolen**	**2.57**	**17**	*eP*	**Pn**	**10 26 12.3**	**+1.1**
FSR				*e*S	**Sn**	**10 26 43.1**	**+1.2**
CLCH	**Cerro Calan**	**2.65**	**17**	↓*iP*	**Pn**	**10 26 12.2**	**-0.1**
CLCH				*i* S	**Sn**	**10 26 43.6**	**-0.1**
CLCH				AML	AML	10 26 46.2	
	comp=N,4μm,0.7s						
PEL	**Peldehue**	**2.86**	**13**	↑*iP*	**Pn**	**10 26 15.1**	**-0.1**
PEL				*i* S	**Sn**	**10 26 48.4**	**-0.4**
PEL				AML	AML	10 26 50.6	
	comp=N,6μm,0.8s						
ROCH	**El Roble**	**2.98**	**7**	↓*iP*	**Pn**	**10 26 16.5**	**-0.5**
ROCH				*i* S	**Sn**	**10 26 51.8**	**-0.2**
ROCH				AML	AML	10 26 54.5	
	comp=E,7μm,0.5s						
PACH	**Papudo**	**3.40**	**0**	*eP*	**Pn**	**10 26 21.4**	**-0.9**
PLCA	**Paso Flores**	**4.84**	**172**	P	**Pn**	**10 26 42.0**	**+0.2**
PLCA	**Paso Flores**	**4.84**	**172**	P	**Pn**	**10 26 42.0**	**+0.2**
	comp=E,2.6nm,0.3s,baz=336,slow=11,SNR=42						
CFAA	**Coronel Fontan**	**5.08**	**33**	P	**Pn**	**10 26 43.9**	**-1.3**
CFAA				S	**Sn**	**10 27 40.9**	**-1.7**
CFAA	**Coronel Fontan**	**5.08**	**33**	P	**Pn**	**10 26 43.9**	**-1.3**
	comp=E,2.9nm,0.3s,baz=212,slow=13,SNR=370						
CFAA				S	**Sn**	**10 27 40.9**	**-1.7**
	comp=E,2.9nm,0.3s,baz=170,slow=2.3,SNR=4.4						
LCO	**Las Campanas**	**6.94**	**5**	*e*Pn	**Pn**	**10 27 08.8**	**-1.8**
	comp=E,25nm,0.4s						
LCO				*e*Sn	**Sn**	**10 28 24.0**	**-4.2**
TRQA	**Tornquist**	**7.86**	**108**	*e*Pn	**Pn**	**10 27 21.9**	**-1.1**
	comp=E,70nm,0.5s						
LVC	**Limon Verde**	**13.46**	**10**	*e*Pn	**Pn**	**10 28 37.2**	**-1.5**
	comp=E,7.3nm,0.6s						
CPUP	**Villa Florida**	**15.41**	**55**	P	**Pn**	**10 29 04.5**	**+1.1**
CPUP	**Villa Florida**	**15.41**	**55**	P	**Pn**	**10 29 04.5**	**+1.1**
	comp=E,0.6nm,0.3s,baz=222,slow=16,SNR=3.4						
USHA	**Ushuaia**	**19.01**	**175**	P	**P**	**10 29 45.6**	**+0.2**
USHA	**Ushuaia**	**19.01**	**175**	P	**P**	**10 29 45.6**	**+0.2**
	comp=E,1.5nm,0.3s,baz=2.0,slow=11,SNR=13						
LPAZ	**La Paz**	**19.80**	**9**	*eP*	**P**	**10 29 55.9**	**+0.9**
LPAZ	**La Paz**	**19.80**	**9**	P	**P**	**10 29 55.4**	**+0.4**
	comp=E,1.2nm,0.3s,baz=163,slow=4.2,SNR=36						
SIV	**San Ignacio**	**21.92**	**28**	P	**P**	**10 30 15.6**	**-1.5**
SIV	**San Ignacio**	**21.92**	**28**	P	**P**	**10 30 15.6**	**-1.5**
	comp=E,2.8nm,0.4s,baz=238,slow=14,SNR=17						
ROSC	**El Rosal**	**40.67**	**356**	P	**P**	**10 33 05.8**	**+2.8**
ROSC	**El Rosal**	**40.67**	**356**	P	**P**	**10 33 05.8**	**+2.8**
	comp=E,13nm,0.5s,baz=272,slow=22,SNR=5.2						
VNA2	**Neumayer--Watz**	**48.04**	**157**	*eP*	**P**	**10 34 00.5**	**-0.2**
	baz=278,slow=8.3						
VNA2	**Neumayer--Watz**	**48.04**	**157**	*e*I	sP	10 34 34.5	+0.8
	baz=278,slow=8.3						
SNAA	**Sanae**	**49.61**	**157**	*eP*	**P**	**10 34 11.9**	**-0.8**
SNAA	**Sanae**	**49.61**	**157**	*e*I	sP	10 34 46.0	+0.2
SNAA	**Sanae**	**49.61**	**157**	P	**P**	**10 34 12.0**	**-0.8**
SNAA	**Sanae**	**49.61**	**157**	P	**P**	**10 34 12.0**	**-0.8**
	comp=E,1.9nm,0.8s,baz=293,slow=6.3,SNR=20						
APG	**El Apazote**	**53.77**	**337**	P	**P**	**10 34 44.8**	**+0.4**
APG	**El Apazote**	**53.77**	**337**	P	**P**	**10 34 44.8**	**+0.4**
	comp=E,3.8nm,0.5s,baz=174,slow=4.0,SNR=5.5						
QSPA	**South Pole Qui**	**54.30**	**180**	*eP*	**P**	**10 34 47.7**	**0.0**
QSPA	**South Pole Qui**	**54.30**	**180**	P	**P**	**10 34 47.6**	**0.0**
	comp=E,4.8nm,0.8s,baz=151,slow=2.2,SNR=35						
TEIG	**Tepich**	**58.09**	**341**	P	**P**	**10 35 14.4**	**-0.5**
TEIG	**Tepich**	**58.09**	**341**	P	**P**	**10 35 14.4**	**-0.5**
	comp=E,17nm,0.9s,baz=157,slow=9.3,SNR=8.2						
732A	**Laxson Ranch,**	**69.71**	**333**	↑P	**P**	**10 36 31.5**	**+0.5**
	baz=70,SNR=15						
632A	**Uvalde**	**70.35**	**334**	↑P	**P**	**10 36 35.5**	**+0.6**
	baz=71,SNR=5.3						
631A	**Perdido Creek**	**70.55**	**333**	↓P	**P**	**10 36 36.5**	**+0.4**
	baz=71						
532A	**Rocksprings**	**70.96**	**334**	↑P	**P**	**10 36 39.3**	**+0.7**
	baz=71,SNR=12						
MAW	**Mawson**	**71.19**	**163**	P	**P**	**10 36 38.7**	**-0.8**
MAW	**Mawson**	**71.19**	**163**	P	**P**	**10 36 38.7**	**-0.8**
	comp=E,2.7nm,0.7s,baz=201,slow=6.5,SNR=8.0						
531A	**Rocksprings**	**71.22**	**334**	↑P	**P**	**10 36 40.9**	**+0.7**
	baz=72,SNR=8.0						
JCT	**Junction City**	**71.24**	**334**	↑P	**P**	**10 36 40.8**	**+0.5**
	baz=72						
KMSC	**Kings Mountain**	**71.32**	**351**	↓P	**P**	**10 36 40.4**	**-0.3**
	baz=72						
628A	**Black Gap, Mar**	**71.49**	**331**	↑P	**P**	**10 36 42.6**	**+0.8**
	baz=72,SNR=8.1						
530A	**J-C Ranch, Com**	**71.50**	**333**	↓P	**P**	**10 36 42.5**	**+0.6**
	baz=72,SNR=7.3						
432A	**Menard**	**71.60**	**335**	↓P	**P**	**10 36 42.6**	**+0.1**
	baz=72						
627A	**Terlingua Ranc**	**71.66**	**331**	↑P	**P**	**10 36 43.3**	**+0.4**
	baz=72						
TXAR	**Lajitas Array**	**71.66**	**331**	P	**P**	**10 36 43.4**	**+0.4**
TXAR	**Lajitas Array**	**71.66**	**331**	P	**P**	**10 36 43.4**	**+0.4**
	comp=E,2.5nm,0.6s,baz=149,slow=10.0,SNR=7.6						
431A	**Sonora**	**71.71**	**334**	↓P	**P**	**10 36 43.4**	**+0.2**
	baz=72,SNR=6.5						
529A	**Stev Forest Ra**	**71.80**	**332**	↓P	**P**	**10 36 44.2**	**+0.5**
	baz=72,SNR=6.0						
WHTX	**Lake Whitney**	**71.84**	**337**	↓P	**P**	**10 36 43.9**	**0.0**
	baz=72						
430A	**Baggett Ranch,**	**72.03**	**333**	↑P	**P**	**10 36 45.4**	**+0.2**
	baz=72,SNR=10						
626A	**Big Bend Ranch**	**72.04**	**330**	↓P	**P**	**10 36 45.8**	**+0.6**
	baz=72						
332A	**Millersview**	**72.04**	**335**	↑P	**P**	**10 36 45.1**	**-0.1**
	baz=72						
429A	**Davenport Ranc**	**72.13**	**333**	↓P	**P**	**10 36 46.0**	**+0.3**
	baz=72,SNR=7.5						
331A	**San Angelo**	**72.22**	**334**	↓P	**P**	**10 36 46.3**	**+0.1**
	baz=72,SNR=8.3						
527A	**Woodward Ranch**	**72.36**	**331**	↓P	**P**	**10 36 47.5**	**+0.4**
	baz=73						
232A	**Coleman**	**72.47**	**335**	↓P	**P**	**10 36 47.5**	**-0.1**
	baz=73,SNR=5.6						
526A	**Mary Lane Ranc**	**72.47**	**331**	↑P	**P**	**10 36 48.5**	**+0.7**
	baz=73						
428A	**Kincaid Ranch,**	**72.52**	**332**	↓P	**P**	**10 36 48.3**	**+0.2**
	baz=73						
330A	**Mertzon**	**72.57**	**334**	↑P	**P**	**10 36 47.7**	**-0.6**
	baz=73,SNR=5.0						
231A	**Bronte**	**72.75**	**335**	↑P	**P**	**10 36 49.2**	**-0.1**
	baz=73						
329A	**Wagon Wheel Ra**	**72.94**	**333**	↓P	**P**	**10 36 50.8**	**+0.3**
	baz=73,SNR=6.6						
230A	**Sterling City**	**72.98**	**334**	↑P	**P**	**10 36 50.6**	**-0.1**
	baz=73						
426A	**McDonald Obser**	**72.99**	**331**	↑P	**P**	**10 36 51.7**	**+0.7**
	baz=73,SNR=9.3						
ABTX	**Abilene, Hawle**	**73.14**	**335**	↓P	**P**	**10 36 52.0**	**+0.4**
	baz=74						
328A	**Wristen Ranch,**	**73.15**	**332**	↓P	**P**	**10 36 52.1**	**+0.3**
	baz=74						
WVT	**Waverly**	**73.31**	**346**	*eP*	**P**	**10 36 52.1**	**-0.3**
	comp=E,5.2nm,0.7s						
WVT				*ep*P	**pP**	**10 37 15.7**	**-0.8**
131A	**Roby**	**73.44**	**335**	↑P	**P**	**10 36 53.7**	**+0.3**
	baz=74						
425A	**Indio Mountain**	**73.47**	**330**	↓P	**P**	**10 36 51.9**	**-1.8**
	baz=74						
326A	**Caldwell Ranch**	**73.54**	**331**	↓P	**P**	**10 36 54.3**	**+0.3**
	baz=74						
130A	**Snyder**	**73.57**	**334**	↑P	**P**	**10 36 54.1**	**0.0**
	baz=74						
Z32A	**Haskell**	**73.71**	**336**	↓P	**P**	**10 36 55.1**	**+0.2**
	baz=74						
228A	**UT Block 9, Go**	**73.73**	**333**	↓P	**P**	**10 36 55.2**	**0.0**
	baz=74						
Z31A	**Sharp Cattle R**	**73.95**	**335**	↑P	**P**	**10 36 56.6**	**+0.3**
	baz=74						
128A	**Castleberry Fa**	**74.14**	**333**	↓P	**P**	**10 36 57.8**	**+0.2**
	baz=74						
324A	**Moseley Ranch,**	**74.25**	**330**	↓P	**P**	**10 36 57.6**	**-0.6**
	baz=75						
Z30A	**Sanderson Ranc**	**74.26**	**334**	↓P	**P**	**10 36 58.1**	**0.0**
	baz=75						
226B	**Tecolote Peak,**	**74.29**	**332**	↓P	**P**	**10 36 59.4**	**+0.9**
	baz=75						
Y32A	**R-V Farms, Ver**	**74.34**	**336**	↑P	**P**	**10 36 58.2**	**-0.3**
	baz=75						
MNTX	**Cornudas Mount**	**74.44**	**330**	*eP*	**P**	**10 36 58.5**	**-0.7**
	comp=E,3.0nm,0.9s						
Z29A	**Hungry Hill Ra**	**74.44**	**334**	↑P	**P**	**10 36 59.1**	**-0.1**
	baz=75						
Y31A	**Rekieta Farm,**	**74.57**	**335**	↓P	**P**	**10 37 00.2**	**+0.2**
	baz=75						
Z28A	**Tucker Farm, M**	**74.71**	**333**	↑P	**P**	**10 37 00.9**	**+0.1**
	baz=75						
126A	**Clayton Basin,**	**74.74**	**332**	↑P	**P**	**10 37 01.5**	**+0.4**
	baz=75						
224A	**Cornudas Mount**	**74.82**	**330**	↑P	**P**	**10 37 01.3**	**-0.3**
	baz=75,SNR=6.5						
Y29A	**Porterfield Fa**	**74.97**	**334**	↓P	**P**	**10 37 02.4**	**+0.2**
	baz=75						
TUL1	**Tulsa**	**74.99**	**340**	↑P	**P**	**10 37 02.2**	**-0.1**
	baz=75						
125A	**Gardner Draw,**	**75.00**	**331**	↓P	**P**	**10 37 02.9**	**+0.3**
	baz=75						
Z27A	**Tatum**	**75.03**	**333**	↓P	**P**	**10 37 03.1**	**+0.4**
	baz=75						
X31A	**McDonald Ranch**	**75.09**	**336**	↑P	**P**	**10 37 03.3**	**+0.4**
	baz=75						
Y28A	**McKinney Farm,**	**75.22**	**334**	↓P	**P**	**10 37 04.2**	**+0.5**
	baz=76						
Z26A	**Caprock**	**75.28**	**332**	↑P	**P**	**10 37 04.5**	**+0.4**
	baz=76,SNR=8.7						
124A	**Stringfield Ra**	**75.34**	**331**	↑P	**P**	**10 37 05.4**	**+0.7**
	baz=76						
DBIC	**Dimbokro**	**75.36**	**70**	P	**P**	**10 37 06.2**	**+1.3**
DBIC	**Dimbokro**	**75.36**	**70**	P	**P**	**10 37 06.2**	**+1.3**
	comp=E,2.1nm,0.5s,baz=251,slow=6.0,SNR=4.7						
320A	**Kipp Ranch, An**	**75.43**	**328**	↓P	**P**	**10 37 06.3**	**+1.3**
	baz=76						
MSTX	**Muleshoe**	**75.46**	**333**	*eP*	**P**	**10 37 05.2**	**0.0**
MSTX	**Muleshoe**	**75.46**	**333**	↑P	**P**	**10 37 05.6**	**+0.5**
	baz=76						
222A	**Williams Famil**	**75.49**	**329**	↑P	**P**	**10 37 06.1**	**+0.7**
	baz=76						
X29A	**Tulia**	**75.51**	**335**	↓P	**P**	**10 37 05.5**	**+0.1**
	baz=76						
Y27A	**Causey**	**75.52**	**333**	↓P	**P**	**10 37 05.3**	**-0.2**
	baz=76						
Z25A	**Roswell**	**75.57**	**332**	↓P	**P**	**10 37 06.2**	**+0.4**
	baz=76						
X28A	**Dimmitt**	**75.75**	**334**	↑P	**P**	**10 37 07.4**	**+0.6**
	baz=76						
319A	**Douglas**	**75.79**	**327**	↑P	**P**	**10 37 08.1**	**+1.0**
	baz=76						
Z24A	**Sheeppen Canyo**	**75.86**	**331**	↓P	**P**	**10 37 08.5**	**+1.0**
	baz=76						
220A	**Playas Peak, P**	**75.92**	**328**	↑P	**P**	**10 37 09.0**	**+1.1**
	baz=76						
V31A	**Spring Creek L**	**76.09**	**337**	↓P	**P**	**10 37 09.4**	**+0.8**
	baz=76						
W29A	**Amraillo**	**76.10**	**335**	↑P	**P**	**10 37 09.1**	**+0.4**
	baz=76						
121A	**Cookes Peak, D**	**76.15**	**329**	↓P	**P**	**10 37 10.4**	**+1.2**
	baz=76,SNR=5.7						
X27A	**F and S Farms,**	**76.18**	**334**	↑P	**P**	**10 37 09.8**	**+0.6**
	baz=76						
X26A	**CR and CF Fran**	**76.36**	**333**	↓P	**P**	**10 37 11.0**	**+0.7**

X21A	Alamocita Cree	77.81 330	⇑P	P	10 37 19.6 +1.1
	baz=78,SNR=6.8				
214A	Organ Pipe Nat	77.88 325	⇑P	P	10 37 20.1 +1.4
	baz=78				
V24A	Rampart Ranch,	77.95 332	⇓P	P	10 37 19.8 +0.5
	baz=78				
U26A	Atchley Ranch,	77.98 334	⇑P	P	10 37 19.4 0.0
	baz=78				
S30A	Montezuma	78.00 337	⇓P	P	10 37 19.4 +0.2
	baz=78				
T28A	Walsh	78.07 335	⇑P	P	10 37 20.1 +0.4
	baz=78				
X20A	Quemado	78.18 329	⇓P	P	10 37 21.7 +1.1
	baz=78				
S29A	Ulysses	78.19 336	⇓P	P	10 37 21.3 +0.9
	baz=78				
T27A	Campo	78.22 335	⇓P	P	10 37 21.5 +0.9
	baz=79				
U25A	Circle Dot Ran	78.22 333	⇓P	P	10 37 21.6 +0.9
	baz=79				
R31A	Burdett	78.30 338	⇑P	P	10 37 21.0 +0.1
	baz=79				
S28A	Manter	78.42 336	⇓P	P	10 37 22.2 +0.6
	baz=79				
R30A	Dighton	78.53 337	⇑P	P	10 37 22.8 +0.6
	baz=79				
T26A	Comanche Natio	78.63 334	⇑P	P	10 37 22.9 0.0
	baz=79				
W20A	Ramah	78.69 330	⇓P	P	10 37 23.7 +0.3
	baz=79,SNR=5.2				
V22A	San Miguel Ran	78.74 331	⇓P	P	10 37 24.9 +1.3
	baz=79,SNR=6.8				
BOSA	Boshof	78.75 117 P		P	10 37 22.9 -1.0
BOSA	Boshof	78.75 117 P		P	10 37 22.9 -1.0
	comp=E,3.3nm,0.6s,baz=266,slow=5.6,SNR=8.9				
X18A	Snowflake	78.78 328	⇑P	P	10 37 24.9 +1.0
	baz=79				
U23A	El Rito	78.83 332	⇑P	P	10 37 25.0 +0.9
	baz=79				
T25A	Trinidad	78.89 334	⇑P	P	10 37 25.6 +1.3
	baz=79				
Q31A	Ellis	78.92 338	⇓P	P	10 37 24.8 +0.5
	baz=79				
S26A	Kim	78.98 335	⇓P	P	10 37 25.8 +1.0
	baz=79				
113A	Mohawk Valley,	79.00 325	⇓P	P	10 37 26.1 +1.3
	baz=79				
R28A	Tribune	79.07 336	⇓P	P	10 37 25.8 +0.6
	baz=79				
U22A	Llaves	79.12 332	⇓P	P	10 37 26.6 +0.9
	baz=79				
Q30A	Quinter	79.14 338	⇑P	P	10 37 26.2 +0.7
	baz=80				
T24B	San Luis	79.17 333	⇓P	P	10 37 27.4 +1.3
	baz=80				
V20A	Brimhall	79.26 330	⇓P	P	10 37 27.4 +1.0
	baz=80				
Q29A	Oakley	79.30 337	⇑P	P	10 37 26.8 +0.4
	baz=80				
X16A	Lo Mia Camp, P	79.33 327	⇑P	P	10 37 28.1 +1.3
	baz=80				
R27A	Eads	79.35 335	⇓P	P	10 37 27.3 +0.6
	baz=80				
S25A	Robets Cordova	79.36 334	⇓P	P	10 37 27.5 +0.6
	baz=80				
P31A	Stockton	79.39 338	⇑P	P	10 37 27.2 +0.4
	baz=80				
T23A	Casias Ranch,	79.39 332	⇓P	P	10 37 27.9 +0.7
	baz=80				
U21A	Nageezi	79.48 331	⇑P	P	10 37 28.0 +0.4
	baz=80,SNR=5.3				
R26A	Arlington	79.58 335	⇓P	P	10 37 28.8 +0.8
	baz=80				
S24A	Houchin Ranch,	79.62 333	⇑P	P	10 37 29.7 +1.2
	baz=80				
Y14A	Wickenburg	79.62 326	⇓P	P	10 37 29.4 +1.1
	baz=80				
T22A	Edith	79.70 332	⇑P	P	10 37 30.1 +1.2
	baz=80				
Q28A	Sharon Springs	79.73 336	⇑P	P	10 37 29.5 +0.7
	baz=80				
T21A	Navajo Lake	79.92 331	⇓P	P	10 37 31.3 +1.3
	baz=80				
P29A	Atwood	79.94 337	⇓P	P	10 37 30.7 +0.8
	baz=80				
R24A	Sanders Place,	80.11 334	⇑P	P	10 37 32.4 +1.4
	baz=80				
Q26A	Hugo	80.17 335	⇓P	P	10 37 32.3 +1.1
	baz=80				
WUAZ	Wupatki	80.23 328	⇓P	P	10 37 33.4 +1.7
	baz=80				
S22A	4UR Ranch, Cre	80.31 332	⇑P	P	10 37 33.1 +0.9
	baz=81				
R23A	Moffat	80.33 333	⇑P	P	10 37 32.9 +0.6
	baz=81				
O29A	4D Ranch, Culb	80.37 338	⇑P	P	10 37 32.9 +0.8
	baz=81				
MVCO	Mesa Verde	80.49 331	⇑P	P	10 37 34.2 +1.1
	baz=81				
S21A	Coal Bank Pass	80.61 332	⇑P	P	10 37 34.7 +0.9
	baz=81				
O28A	Krutsinger Ran	80.68 337	⇑P	P	10 37 34.6 +0.8
	baz=81				
P26A	Davis Ranch, A	80.68 336	⇑P	P	10 37 34.7 +0.7
	baz=81				
Q24A	Divide	80.77 334	⇑P	P	10 37 35.5 +0.8
	baz=81				
P25A	Willow Gulch B	80.92 335	⇓P	P	10 37 36.6 +1.3
	baz=81				
O27A	Beecher Island	80.97 336	⇓P	P	10 37 36.3 +0.9
	baz=81				
PFO	Pinyon Flat Ob	80.98 323	⇓P	P	10 37 37.3 +1.7
	baz=81				
S20A	Disappointment	80.98 331	⇑P	P	10 37 36.6 +0.9
	baz=81				
W13A	Hualapai Mount	80.99 326	⇓P	P	10 37 36.8 +1.0
	baz=81				
N28A	Pribbeno Ranch	81.12 337	⇑P	P	10 37 36.6 +0.4
	baz=82				
O26A	Horse Wrangler	81.28 336	⇓P	P	10 37 38.3 +1.2
	baz=82				
R20A	Redvale	81.30 331	⇓P	P	10 37 38.6 +1.3
	baz=82				
Q22A	Crested Butte,	81.32 333	⇓P	P	10 37 38.6 +1.1
	baz=82				
MURC	Murrieta	81.33 323	⇓P	P	10 37 39.0 +1.6
	baz=82				
U15A	North Rim	81.40 328	⇑P	P	10 37 39.2 +1.2
	baz=82				
O25A	Wiggins	81.44 335	⇑P	P	10 37 38.9 +1.0
	baz=82				
N27A	Anderson Farm,	81.54 337	⇓P	P	10 37 39.2 +0.8
	baz=82				
ISCO	Idaho Springs	81.68 334	⇑P	P	10 37 40.1 +0.7
	baz=82				
L31A	Butterfield Fa	81.68 340	⇑P	P	10 37 39.6 +0.6
	baz=82				
L30A	Spencer Herefo	81.72 339	⇑P	P	10 37 39.9 +0.6
	baz=82				
HEC	Hector,Ludlow	81.91 324	⇑P	P	10 37 42.4 +2.0
	baz=82				
P21A	Newcastle	82.11 333	⇑P	P	10 37 42.6 +1.0
	baz=82				
O22A	Kremmling	82.33 334	⇑P	P	10 37 44.0 +1.1
	baz=83				
P20A	De Beque	82.44 332	⇑P	P	10 37 43.6 +0.4
	baz=83				
GSC	Goldstone	82.52 324	⇓P	P	10 37 45.0 +1.4
	baz=83				
N23A	Red Feather La	82.77 334	⇑P	P	10 37 45.8 +0.8
	baz=83				
P19A	Cripple Cowboy	82.78 332	⇑P	P	10 37 46.1 +1.0
	baz=83				
N22A	Wattenberg Ran	82.87 334	⇑P	P	10 37 46.4 +0.8
	baz=83				
K28A	Ten Mile Ranch	82.91 338	⇑P	P	10 37 46.6 +1.1
	baz=83				
O19A	Miners Draw (B	83.41 332	⇑P	P	10 37 49.1 +0.9
	baz=84				
MPMC	Manual Prospec	83.46 324	⇓P	P	10 37 50.0 +1.4
	baz=84				
J28A	Allard Ranch,	83.52 339	⇑P	P	10 37 49.4 +0.8
	baz=84				
J27A	Elkhorn Farm,	83.59 338	⇑P	P	10 37 50.4 +1.4
	baz=84				
ISA	Isabella	83.61 323	⇑P	P	10 37 50.9 +1.7
	baz=84				
I28A	Midland	84.03 339	⇓P	P	10 37 51.9 +0.8
	baz=84				
L21A	Rawlins	84.21 334	⇓P	P	10 37 52.8 +0.4
	baz=84				
J25A	Sunshine Ranch	84.28 337	⇓P	P	10 37 53.0 +0.5
	baz=85				
TORD	Torodi Ar. Bea	84.42 70 P		P	10 37 53.1 -0.6
TORD	Torodi Ar. Bea	84.42 70 P		P	10 37 53.1 -0.6
	comp=E,0.4nm,0.5s,baz=250,slow=5.9,SNR=5.8				
R11A	Troy Canyon, C	84.44 327	⇓P	P	10 37 54.7 +1.2
	baz=85				
K22A	Casper	84.52 335	⇑P	P	10 37 54.5 +0.7
	baz=85				
K21A	Alcova	84.76 334	⇑P	P	10 37 55.7 +0.6
	baz=85				
DUG	Dugway	84.79 329	⇓P	P	10 37 56.5 +1.3
	baz=85				
I25A	Rochford	84.82 337	⇓P	P	10 37 55.6 +0.3
	baz=85				
H27A	Howes	84.87 339	⇓P	P	10 37 55.3 0.0
	baz=85				
K20A	Yellowstone Ra	85.17 334	⇑P	P	10 37 56.9 -0.1
	baz=86				
K19A	Absolon Red Bu	85.50 333	⇑P	P	10 37 59.0 +0.2
	baz=86				
I22A	9 Mile Ranch,	85.61 335	⇑P	P	10 37 59.4 +0.3
	baz=86				
J20A	Shoshoni	85.69 334	⇑P	P	10 38 00.2 +0.7
	baz=86				
PDAR	Pinedale Array	85.71 333 P		P	10 37 59.4 -0.5
PDAR	Pinedale Array	85.71 333 P		P	10 37 59.4 -0.5
	comp=E,0.5nm,0.6s,baz=141,slow=5.0,SNR=5.1				
NVAR	Mina Array Bea	85.75 325 P		P	10 38 00.5 +0.4
NVAR	Mina Array Bea	85.75 325 P		P	10 38 00.5 +0.4
	comp=E,1.0nm,0.8s,baz=157,slow=6.6,SNR=6.1				
G25A	Newell	85.78 338	⇓P	P	10 38 00.2 +0.3
	baz=86				
G27A	Dupree	85.80 338	⇓P	P	10 37 58.8 -1.2
	baz=86				
I21A	Big Trails, Te	85.81 335	⇓P	P	10 38 00.5 +0.3
	baz=86				
J19A	Crowheart	85.95 333	⇓P	P	10 38 01.9 +0.9
	baz=86				
F26A	Lodgepole	86.15 339	⇓P	P	10 38 02.0 +0.3
	baz=86				
G24A	Alzada	86.21 337	⇑P	P	10 38 02.5 +0.4
	baz=87				
I20A	Worland	86.22 334	⇑P	P	10 38 02.9 +0.7
	baz=87				
D30A	Buchanan	86.23 342	⇓P	P	10 38 02.5 +0.5
	baz=87				
E28A	Huff	86.25 340	⇓P	P	10 38 02.7 +0.6
	baz=87				
G23A	Biddle	86.41 337	⇓P	P	10 38 02.9 -0.1
	baz=87				
H21A	Big Horn, Sher	86.44 335	⇓P	P	10 38 03.2 0.0
	baz=87				
I19A	Meeteetse	86.60 334	⇑P	P	10 38 04.6 +0.4
	baz=87				
H20A	Greybull	86.65 335	⇑P	P	10 38 04.5 +0.3
	baz=87				
E26A	Carlson Angus	86.66 339	⇓P	P	10 38 04.7 +0.5
	baz=87				
C30A	Mose, Pekin	86.71 342	⇑P	P	10 38 04.8 +0.5
	baz=87				
E25A	Miller Ranch,	86.96 339	⇑P	P	10 38 05.9 +0.3
	baz=87				
MDND	Maddock	87.13 341	⇓P	P	10 38 06.9 +0.5
	baz=88				
B30A	Myrvik Farm, E	87.37 342	⇑P	P	10 38 07.8 +0.3
	baz=88				
H18A	Shoshone NF, C	87.40 334	⇓P	P	10 38 08.1 +0.1
	baz=88				
B28A	Dugan Ranch, T	87.89 341	⇑P	P	10 38 10.3 +0.4
	baz=88				
A29A	Manning Farm,	88.03 342	⇑P	P	10 38 11.3 +0.6
	baz=88				
C24A	Savage	88.19 338	⇑P	P	10 38 11.8 +0.4
	baz=88				
HLID	Hailey	88.26 330	⇓P	P	10 38 13.4 +1.4
	baz=89				
A28A	Rude Farm, Bot	88.28 341	⇑P	P	10 38 12.5 +0.6
	baz=89				
A27A	Ledoux Ranch,	88.58 341	⇓P	P	10 38 13.4 +0.2
	baz=89				
E19A	Rath Farm, Rou	88.64 335	⇓P	P	10 38 14.0 +0.3
	baz=89				
A26A	Wade Farm, Ken	88.74 340	⇑P	P	10 38 14.2 +0.2
	baz=89				
KURBB	Kurchatov Arra	153.90 46	PKPbc	PKPbc	10 45 18.5 -0.7
	comp=E,0.4nm,0.5s,baz=296,slow=3.2,SNR=5.2				
KURBB			PKPab	PKPab	10 45 32.1 -0.6
	comp=E,0.3nm,0.3s,baz=288,slow=4.5,SNR=4.8				
KURK	Kurchatov	153.92 46	PKPbc	PKPbc	10 45 18.5 -0.7
KURK			PKPab	PKPab	10 45 32.1 -0.7

CSEM ***22*** *10:39:52.5, 40°.87N×29°.50W, h10km, ML3.5, After PDA*
PDA 22 10:39:52.5±0.7, 40°.87N×29°.50W, h10km, ML3.5, Error ellipse: s-maj=4.6km s-min=3.2km az=80.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGRA	Graciosa	2.17	147	eP	Pn	10 40 24.1	-4.7
PGRA				eS	Sn	10 40 47.9	-7.8
PGRA				A	A	10 40 54.4	
	54nm,0.1s						
PGRA	Graciosa	2.17	147	eP	Pn	10 40 24.1	-4.7
PGRA				eS	Sn	10 40 47.9	-7.8
PCED	Cedros	2.32	164	eP	Pn	10 40 26.1	-4.6
PCED				eS	Sn	10 40 51.5	-7.8
PCED				A	A	10 40 55.3	
	44nm,0.3s						
PCED	Cedros	2.32	164	eP	Pn	10 40 26.1	-4.6
PCED				eS	Sn	10 40 51.5	-7.8
ROSA	Rosais	2.35	155	eS	Sn	10 40 52.1	-8.1
ROSA				A	A	10 40 55.5	
	38nm,0.4s						
ROSA	Rosais	2.35	155	eS	Sn	10 40 52.1	-8.1
CALA	Caldeira	2.36	165	eS	Sn	10 40 52.7	-7.9
CALA	Caldeira	2.36	165	eS	Sn	10 40 52.7	-7.9
PMAN	Manadas	2.48	154	eP	Pn	10 40 28.5	-4.5
PMAN				eS	Sn	10 40 55.5	-7.8
PMAN				A	A	10 40 56.8	
	26nm,0.2s						
PMAN	Manadas	2.48	154	eP	Pn	10 40 28.5	-4.5
PMAN				eS	Sn	10 40 55.5	-7.8
PICO	Pico	2.50	160	eP	Pn	10 40 28.8	-4.6
PICO				eS	Sn	10 40 56.2	-7.8
PICO	Pico	2.50	160	eP	Pn	10 40 28.8	-4.6
PICO				eS	Sn	10 40 56.2	-7.8
PCAN	Candelaria	2.52	162	eP	Pn	10 40 29.0	-4.6
PCAN				eS	Sn	10 40 56.5	-7.9
PCAN				A	A	10 41 01.7	
	69nm,0.5s						
PCAN	Candelaria	2.52	162	eP	Pn	10 40 29.0	-4.6
PCAN				eS	Sn	10 40 56.5	-7.9
PPNO	Prainha do Nor	2.57	158	eP	Pn	10 40 30.4	-3.9
PPNO				eS	Sn	10 40 57.6	-8.2
PPNO				A	A	10 40 59.7	
	33nm,0.4s						
PPNO	Prainha do Nor	2.57	158	eP	Pn	10 40 30.4	-3.9
PPNO				eS	Sn	10 40 57.6	-8.2
PSET	Sete Cidades	4.22	135	eS	Sn	10 41 37.8	-8.5
PSET				A	A	10 41 39.5	
	16nm,0.2s						
PSET	Sete Cidades	4.22	135	eS	Sn	10 41 37.8	-8.5
CMLA	Cha da Macela	4.37	134	eS	Sn	10 41 41.4	-8.6
CMLA				A	A	10 41 45.7	
	86nm,0.4s						
CMLA	Cha da Macela	4.37	134	eS	Sn	10 41 41.4	-8.6
BART	Pico Bartolome	4.56	131	eP	Pn	10 40 57.3	-4.4
BART				eS	Sn	10 41 46.2	-8.6
BART				A	A	10 41 51.1	
	28nm,0.4s						
BART	Pico Bartolome	4.56	131	eP	Pn	10 40 57.3	-4.4
BART				eS	Sn	10 41 46.2	-8.6
PSMA	Santa Maria	5.15	137	eP	Pn	10 41 05.5	-4.2
PSMA				eS	Sn	10 42 00.5	-8.7
PSMA				A	A	10 42 00.9	
	5.1nm,0.1s						
PSMN	Pico do Norte,	5.18	137	eP	Pn	10 41 05.8	-4.3
PSMN				eS	Sn	10 42 01.2	-8.7
PSMN				A	A	10 42 06.0	
	11nm,0.5s						
PSMN	Pico do Norte,	5.18	137	eP	Pn	10 41 05.8	-4.3
PSMN				eS	Sn	10 42 01.2	-8.7

NNC ***22*** *10:42:54.9±0.7, 41°.26N×73°.43E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=8.3km s-min=2.8km az=175.0*
ISC 22 10:42:55.4±2.5, 41°.3N±0°.2×73°.47E±0°.07, h9km, n16, σ0.75/15, 9C-1D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	0.90	11	P	Pb	10 43 13.0	-0.4
	SNR=54						
UCH	Uchtor	1.25	38	P	Pb	10 43 18.6	-0.8
	SNR=43						
EKS2	Erkin-Say	1.43	9	P	Pg	10 43 22.5	-0.3
	SNR=65						
KZA	Kyzart	1.57	58	P	Pn	10 43 24.1	+0.4
	SNR=55						
AAK	Ala-Archa	1.58	29	P	Pb	10 43 24.9	0.0
	SNR=109						
KBK	Karagaybulak	1.78	38	P	Pb	10 43 28.1	-0.2
	SNR=19						
CHMS	Chumysh	1.99	28	P	Pb	10 43 30.9	-0.9
	SNR=17						
USP	Ospenovka	2.15	20	P	Pb	10 43 33.7	-0.9
	SNR=13						
ULHL	Ulahol	2.30	63	P	Pn	10 43 33.0	-0.7
	SNR=13						
TKM2	Tokmak 2	2.30	43	⇑Pn	Pn	10 43 34.5	+0.8
	25nm,0.4s						
TKM2				⇑Lg	Lg	10 44 08.2	
	92nm,0.6s						
TKM2	Tokmak 2	2.30	43	P	Pn	10 43 34.6	+1.0
	SNR=70						
KK31	Karatay Array	2.88	311	⇓Pn	Pn	10 43 41.4	0.0
	0.7nm,0.2s,baz=132,slow=13,SNR=161						
KK31				⇑Pg	Pb	10 43 46.6	-0.3
	32nm,0.7s,baz=132,slow=16,SNR=7.0						
KK31				⇑Lg	Lg	10 44 26.1	
	77nm,0.6s,baz=150,slow=26,SNR=3.6						
MK31	Makanchi Array	8.43	46	⇑Pn	Pn	10 44 58.9	+1.3
	4.6nm,1.1s,baz=224,slow=14,SNR=4.5						
MK31				⇑Lg	Lg	10 47 24.2	
	2.5nm,0.8s,baz=241,slow=28,SNR=3.5						
KURBB	Kurchatov Arra	10.01	19	⇑Lg	Lg	10 48 12.0	
	21nm,0.9s						
KURK	Kurchatov	10.12	19	⇑Lg	Lg	10 48 14.3	
	5.9nm,0.8s						
AB31	Akbulak array	12.43	315	⇑Pn	Pn	10 45 52.8	+0.4
	1.2nm,0.7s,baz=120,slow=14,SNR=7.5						

BKK ***22*** *10:45:18.0±1.0, 51°.N±11°×17°.8W±2°.4, h10km, M5.2/11, mB5.7/3, mb5.2/11, Mw(mB)5.2/3*
IDC ***22*** *10:45:19.8±3.1, 51°.39N×178°.00W, h21km±19km, mb4.8/30, mb1 4.9/31, mb1mx4.9/34, mbtmp4.8/31, ML5.1/1, MS4.5/31, Ms1 4.5/31, ms1mx4.4/43, Error ellipse: s-maj=15.3km s-min=10.7km az=148.0*
ISCJB ***22*** *10:45:22.7±0.5, 51°.34N±0°.03×178°.02W±0°.02, h56km±4km, mb5.2/318, MS4.6/60, Error ellipse: s-maj=5.7km s-min=2.2km az=8.2*
BJI ***22*** *10:45:22.6, 52°.05N×178°.56W, h31km, mB5.3/37, mb5.2/54, Ms5.0/41, Ms7 4.7/41*
MOS ***22*** *10:45:22.3±0.8, 51°.42N×178°.06W, h50km, mb5.4/115, MS4.6/23, Error ellipse: s-maj=7.1km s-min=4.6km az=93.3*
GCMT ***22*** *10:45:24.4±0.2, 51°.16N×178°.07W, h34km, MW5.2, Moment Tensor Solution. s68,c104; s89,c138; Moment tensor: Scale 10^{16}Nm; M_{rr}5.61±.20; $M_{\theta\theta}$-7.08±.15; $M_{\phi\phi}$1.47±.14; $M_{r\theta}$4.38±.21; $M_{\theta\phi}$0.26±.12; $M_{\phi r}$3.66±.20; Best double couple: $M_0$8.60000×10^{16} NP1:ϕ_s66.00000°, δ67.00000°, λ65.00000°. NP2:ϕ_p297.00000°, δ34.00000°, λ136.00000°. Principal axes: T 8.7400, Plg60.0000°, Azm299.0000°; N -0.2200, Plg23.0000°, Azm76.0000°; P -8.5200, Plg18.0000°, Azm174.0000°; Data Used: II IU CN G IC.*
NEIC ***22*** *10:45:25.2±0.4, 51°.43N×178°.12W, h63km±2km, mb5.3/204, ML5.4(AEIC) Error ellipse: s-maj=4.2km s-min=2.1km az=184.0*
SZGRF ***22*** *10:45:27.3, 52°.05N×179°.63W, h33km, mb5.2, Andreanof Islands, Aleutian Islands, United States*
DJA ***22*** *10:45:56.0±6.7, 51°.N±11°×17°.9W±2°.9, h325km±61km, M4.8/9, mB5.3/3, mb4.9/9, Mw(mB)4.7/3, Mwp6.3/1*
ISC 22 10:45:24.1±0.5, 51°.43N±0°.06×178°.01W±0°.03, h52km±4km, n1184, σ0.89/1229, mb5.2/317, MS4.6/62, 309C-230D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOKL	Mount Kliuchef	2.52	68	P	Pn	10 46 04.6	+2.0
SMY	Shemya	5.04	288	P	Pn	10 46 37.1	+0.1
SMY				S	Sn	10 47 37.0	+3.1
SMY	Shemya	5.04	288	P	Pn	10 46 37.1	+0.1
SMY				S	Sn	10 47 37.0	+3.1
FX1	Attu Island--F	5.63	288	Pn	Pn	10 46 45.2	+0.1
FX1				Sn	Sn	10 47 47.9	-0.4
FX1	Attu Island--F	5.63	288	Pn	Pn	10 46 45.2	+0.1
	39nm,0.3s,baz=113,slow=9.1,SNR=27						
FX1				Sn	Sn	10 47 47.9	-0.4
	11nm,0.3s,baz=270,slow=20,SNR=2.3						
NIKH	Nikolski High	5.84	71	P	Pn	10 46 49.2	+1.3
NIKH				S	Sn	10 47 58.5	+5.0
OKSP	Okmok Steeple	6.23	69	P	Pn	10 46 55.6	+2.2
OKCE	Okmok Cone E	6.34	68	P	Pn	10 46 56.5	+1.6
OKTU	Okmok Mt. Tuli	6.41	68	P	Pn	10 46 57.1	+1.4
MCIR	Makushin Cirqu	7.21	65	P	Pn	10 47 08.4	+1.6
SPIA	Saint Paul Isl	7.33	35	P	Pn	10 47 11.7	+3.3
SPIA				S	Sn	10 48 37.2	+7.1
MTBL	Makushin Table	7.34	65	P	Pn	10 47 10.3	+1.8
AKRB	Akutan Reef Bi	7.73	65	P	Pn	10 47 16.0	+2.1
LVA	Lava Point	7.76	65	P	Pn	10 47 16.9	+2.6
ZRO	Akutan Zero	7.77	65	P	Pn	10 47 16.2	+1.8
AKGG	Akutan Green G	7.79	64	P	Pn	10 47 16.8	+2.1
AKUT	Akutan	7.90	65	P	Pn	10 47 18.3	+2.2
WESE	West Dahl East	8.66	64	P	Pn	10 47 28.9	+2.3
SSBA	Shishaldin	9.00	63	P	Pn	10 47 33.4	+2.1
SSLW	Shishaldin Wes	9.00	63	P	Pn	10 47 33.2	+2.0
BRPK	Brown Peak	9.18	64	P	Pn	10 47 35.9	+2.3
FALS	False Pass	9.41	63	P	Pn	10 47 39.4	+2.5
SDPT	Sand Point	11.17	63	ePn	Pn	10 48 01.2	+0.3
	127nm,0.4s						
SDPT				eSn	Sn	10 50 03.5	-0.7
CHGN	Chignik	12.53	59	ePn	Pn	10 48 18.9	-0.5
CHGN				eSn	Sn	10 50 36.5	-0.8
PET	Petropavlovsk	14.38	286	eP	P	10 48 55.7	+5.6
PET				MLR	MLR		
	comp=Z,1μm,17.0s						
PETK	Petropavlovsk-	14.95	286	P	Pn	10 48 52.9	+0.9
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK	Petropavlovsk-	14.95	286	Pn	Pn	10 48 52.9	+0.9
PETK	Petropavlovsk-	14.95	286	Pn	Pn	10 48 52.9	+0.9
	comp=Z,0.8nm,0.3s,baz=92,slow=19,SNR=16						
OHAK	Old Harbor	15.49	58	ePn	Pn	10 48 56.5	-2.3
KDAK	Kodiak Island	15.98	57	Pn	Pn	10 49 03.8	-1.3
	comp=Z,2μm,0.5s,SNR=6.9						
KDAK	Kodiak Island	15.98	57	ePn	Pn	10 49 02.5	-2.6
	comp=Z,164nm,0.6s						
KDAK				Sn	Sn	10 51 57.7	-3.3
KDAK	Kodiak Island	15.98	57	Pn	Pn	10 49 01.7	-3.4
	comp=Z,7.3nm,0.3s,baz=249,slow=5.1,SNR=40						
KDAK				Sn	Sn	10 51 57.7	-3.3
	comp=Z,0.5nm,0.3s,baz=158,slow=19,SNR=2.4						
SKR	Severo-Kuril's	16.26	278	eP	P	10 49 17.0	+6.0
RSO	Redoubt South	16.69	47	eP	P	10 49 16.6	+0.7
	comp=Z,356nm,0.7s						
PPLA	Purkeypile	17.95	40	eP	Pn	10 49 31.6	+1.9
	comp=Z,98nm,0.7s						
SEW	Seward	18.13	50	ePn	P	10 49 30.6	-0.9
	comp=Z,157nm,0.7s						
CAST	Castle Rocks	18.25	39	ePn	Pn	10 49 35.1	+1.9
	comp=Z,97nm,0.9s						
PMR	Palmer	18.74	46	eP	P	10 49 38.4	+0.2
PMR				pmax	pmax		
	comp=Z,44nm,1.0s						
PMR	Palmer	18.74	46	ePn	P	10 49 38.4	+0.2
	comp=Z,44nm,1.0s						
BPAW	Bear Paw Mtn.	19.00	38	ePn	Pn	10 49 42.8	+0.4
	comp=Z,64nm,0.7s						
IM04	Indian Mountai	19.06	31	eP	Pn	10 49 43.5	+0.5
IMA2	Indian Mountai	19.15	31	eP	P	10 49

MID Middleton Isla 19.51 53 *eP* **Pn 10 49 48.6 +0.3**
MID Middleton Isla 19.51 53 *eP* **Pn 10 49 48.6 +0.3**
SEY Seymchan 19.54 317 *ceP* **Pn 10 49 47.8 -0.9**
MCK McKinley 19.64 40 *eP* **P 10 49 47.9 -0.2**
MCK pmax pmax
comp=Z,88nm,1.0s
MCK McKinley 19.64 40 *e*Pn **P 10 49 47.9 -0.2**
comp=Z,88nm,1.0s
DIV Divide 20.15 49 *e*Pn Pn 10 49 56.8 +0.8
comp=Z,83nm,0.6s
COLA College 20.57 38 *eP* **P 10 49 59.2 +1.1**
COLA pmax pmax
comp=Z,70nm,0.6s
COLA College 20.57 38 *e*Pn **P 10 49 59.2 +1.1**
comp=Z,70nm,0.6s
BMRM Bremner River 20.66 50 *e*Pn **P 10 50 00.1 +0.9**
comp=Z,104nm,0.8s
PAX Paxson 20.81 44 *eP* **P 10 50 02.9 +2.0**
PAX pmax pmax
comp=Z,86nm,0.8s
PAX Paxson 20.81 44 *e*Pn **P 10 50 02.9 +2.0**
comp=Z,86nm,0.8s
ILAR Eielson Array 20.89 38 P **P 10 49 59.5 -2.2**
ILAR PcP **PcP 10 54 07.0 -0.6**
ILAR ScP **ScP 10 57 42.6 +2.9**
ILAR Eielson Array 20.89 38 P **P 10 49 59.5 -2.2**
comp=Z,6.0nm,0.7s,baz=240,slow=9.7,SNR=60
ILAR PcP **PcP 10 54 07.0 -0.6**
comp=Z,2.8nm,0.8s,baz=260,slow=3.1,SNR=4.8
ILAR ScP **ScP 10 57 42.6 +2.9**
comp=Z,1.1nm,0.6s,baz=276,slow=3.8,SNR=6.7
ILAR LR LR 10 59 21.0
comp=Z,2μm,18.9s,baz=240,slow=40
COLD Coldfoot 20.96 31 *eP* **P 10 50 04.0 +1.7**
comp=Z,57nm,0.9s
MENT Mentasta 21.56 45 *eP* **P 10 50 08.8 -0.1**
EGAK Eagle 23.18 41 *eP* **P 10 50 25.0 -0.9**
comp=Z,54nm,0.7s
DAWY Dawson 23.73 43 *eP* **P 10 50 30.5 -0.6**
HYT Haines Junctio 24.07 51 *eP* **P 10 50 34.5 +0.2**
YSS Yuzh-Sakhalins 25.81 276 ⇓ *iP* **P 10 50 50.0 -0.1**
YSS *e*SP sP 10 51 06.0 -3.3
YSS *e*PPP PPP 10 51 50.0
YSS *e*S **S 10 55 12.0 -3.7**
YSS pmax pmax
comp=Z,120nm,1.0s
YSS MLR MLR
comp=Z,600nm,14.0s
YSS MLR MLR
comp=N,600nm,15.0s
YSS MLR MLR
comp=E,500nm,15.0s
INK Inuvik 27.13 35 P **P 10 51 01.6 -0.1**
INK Inuvik 27.13 35 P **P 10 51 01.6 -0.1**
comp=E,7.4nm,0.4s,baz=247,slow=13
ASAJ Asahikawa 27.20 270 *eP* **P 10 51 02.5 -0.2**
comp=E,25nm,1.0s
ASAJ Asahikawa 27.20 270 P **P 10 51 02.6 -0.1**
comp=E,41nm,0.9s,baz=9.6,slow=4.4,SNR=16
ASAJ LR LR 11 01 08.4
comp=E,690nm,18.9s,baz=5.8,slow=35
DLBC Dease Lake 27.92 57 LR LR 11 03 15.9
comp=E,974nm,18.9s,baz=275,slow=38
HABR Khabarovsk 29.95 283 *de*P **P 10 51 25.6 -1.4**
HABR *e*PP **pP 10 51 44.0 +3.8**
HABR *e* 10 52 25.0
HABR *e* 10 54 25.8
HABR *e*S **S 10 56 17.6 -3.1**
HABR *e*SS **SnSn 10 57 58.0 +2.2**
HABR *e* 11 01 56.2
HABR pmax pmax
comp=Z,138nm,2.0s
HABR pmax pmax
comp=E,107nm,2.0s
HABR pmax pmax
comp=N,24nm,1.3s
HABR MLR MLR
comp=Z,605nm,19.0s
BBB Bella Bella 30.37 69 LR LR 11 00 58.7
comp=Z,572nm,20.1s,baz=274,slow=31
KLR Kul'dur 31.64 286 ⇓ *iP* P 10 51 38.7 -3.3
KLR pmax pmax
comp=N,33nm,1.4s
KLR pmax pmax
comp=E,96nm,1.4s
KLR pmax pmax
comp=Z,170nm,1.4s
KLR MLR MLR
comp=E,1μm,20.0s
USRK Ussuriysk Arra 33.78 278 P **P 10 51 59.8 -0.9**
comp=E,23nm,0.6s,baz=56,slow=8.4,SNR=42
USRK LR LR 11 04 23.8
comp=E,578nm,21.2s,baz=220,slow=34
MAJO Matsushiro 34.28 262 *eP* **P 10 52 04.9 -0.3**
MAJO pmax pmax
comp=Z,49nm,1.0s
MAJO Matsushiro 34.28 262 *eP* **P 10 52 04.9 -0.3**
comp=Z,49nm,1.0s
MAT Matsushiro 34.28 262 P **P 10 52 04.7 -0.5**
OBC Olympics--Boni 34.36 74 P **P 10 52 07.7 +1.9**
NLWA Neilton Lookou 34.78 75 *eP* **P 10 52 11.2 +1.9**
comp=Z,44nm,1.0s
YKW3 Yellowknife Ar 34.82 47 *eP* **P 10 52 08.6 -0.8**
comp=Z,0.5nm,0.9s
YKW3 *e*PcP **PcP 10 54 42.5 +1.0**
YKA Yellowknife Ar 34.84 47 P **P 10 52 09.0 -0.6**
YKA PcP **PcP 10 54 42.1 +0.7**
YKA Yellowknife Ar 34.84 47 P **P 10 52 09.0 -0.6**
comp=Z,7.4nm,0.5s,baz=281,slow=8.4,SNR=34
YKA PcP **PcP 10 54 42.1 +0.7**
comp=Z,6.3nm,0.8s,baz=292,slow=2.6,SNR=9.0
MDJ Mudanjiang 35.05 280 P **P 10 52 10.4 -1.3**
MDJ pP pP 10 52 19.0 -6.1
MDJ sP sP 10 52 23.3 -7.9
MDJ PP **PnPn 10 53 27.9 -2.1**
MDJ PcP **PcP 10 54 44.8 +2.3**
MDJ S **S 10 57 42.8 +2.6**
MDJ ScP **ScP 10 58 27.8 +4.4**
MDJ PcS **PcS 10 58 31.6 +2.4**
MDJ ScS **ScS 11 02 30.5 +3.3**
MDJ pmax pmax
comp=Z,24nm,0.9s
MDJ pmax pmax
comp=Z,79nm,7.5s
MDJ LR LR
comp=N,430nm,19.0s
MDJ LR LR
comp=E,440nm,32.3s
MDJ LR LR
comp=Z,620nm,26.6s
VDB Vedder Mountai 35.11 71 P **P 10 52 13.1 +1.0**
A05A Maple Falls 35.13 71 *eP* **P 10 52 13.6 +1.3**
comp=Z,76nm,1.0s
MBW Mount Baker 35.34 72 P **P 10 52 15.5 +1.2**
E03A Lebam 35.36 76 *eP* **P 10 52 16.4 +2.2**
comp=Z,77nm,1.0s
D05A Enumclaw 36.01 74 *eP* **P 10 52 22.0 +2.2**
comp=Z,113nm,1.0s
LON Longmire 36.32 75 *eP* **P 10 52 23.7 +1.1**
LON Longmire 36.32 75 *eP* **P 10 52 23.7 +1.1**
WPW White Pass 36.51 75 P **P 10 52 25.5 +1.2**
KEBM Edson Butte 36.75 82 P **P 10 52 28.1 +1.8**
comp=Z,64nm,1.2s
LTY Liberty 36.77 73 *eP* **P 10 52 27.3 +0.9**
comp=Z,35nm,1.2s
ETW Entiat 36.81 73 P **P 10 52 27.9 +1.1**
TBM Table Mountain 36.85 73 P **P 10 52 28.2 +1.1**
VLL Laurance Lake 37.03 77 P **P 10 52 30.2 +1.5**
B08A Colville Reser 37.05 71 *eP* **P 10 52 29.8 +1.1**
comp=Z,55nm,0.8s
H04A Detroit Lake 37.12 78 *eP* **P 10 52 30.6 +1.2**
comp=Z,97nm,0.9s
KBO Bosley Butte 37.17 83 *eP* **P 10 52 32.0 +2.1**
comp=Z,22nm,1.0s
VFP Flag Point 37.24 77 P **P 10 52 31.8 +1.3**
IRO Indian Ridge 37.43 79 P **P 10 52 33.4 +1.2**
HUMO Hull Mountain 37.74 81 *eP* **P 10 52 36.1 +1.4**
comp=Z,16nm,1.0s
KRMB Red Mountain 37.75 83 *eP* **P 10 52 36.7 +1.8**
comp=Z,132nm,2.8s
HAWA Hanford 37.87 74 *eP* **P 10 52 36.9 +1.3**
comp=Z,65nm,0.9s
OD2 Odessa Site #2 37.88 72 P **P 10 52 36.2 +0.5**
C09A Chrisman Ranch 37.94 71 *eP* **P 10 52 36.9 +0.6**
comp=Z,48nm,1.0s

CN2 Changchun 38.03 281 *eP* **P 10 52 35.9 -1.1**
CN2 *e*pP pP 10 52 45.8 -4.7
CN2 *e*sP sP 10 52 49.8 -6.8
CN2 *e*S **S 10 58 24.9 -0.6**
CN2 pmax pmax
comp=Z,20nm,0.9s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,600nm,16.0s
CN2 LR LR
comp=E,400nm,16.0s
CN2 LR LR
comp=Z,500nm,17.0s
KHMM Horse Mountain 38.23 84 *eP* **P 10 52 41.1 +2.1**
comp=Z,41nm,1.2s
EDM Edmonton 38.35 61 *eP* **P 10 52 39.5 -0.2**
EDM Edmonton 38.35 61 *eP* **P 10 52 39.5 -0.2**
YBH Yreka Blue Hor 38.38 82 *eP* **P 10 52 41.6 +1.5**
comp=Z,20nm,1.0s
YBH Yreka Blue Hor 38.38 82 LR LR 11 05 46.6
comp=Z,563nm,18.9s,baz=303,slow=32
PINOR Pine Mountain 38.38 78 *eP* **P 10 52 42.0 +2.0**
comp=Z,58nm,1.2s
NEW Newport 38.40 70 *eP* **P 10 52 40.7 +0.6**
comp=Z,72nm,0.8s
NEW Newport 38.40 70 LR LR 11 05 23.0
comp=Z,632nm,20.6s,baz=295,slow=31
NEW Newport 38.40 70 ⇓ P **P 10 52 40.5 +0.3**
baz=38,SNR=86
CBIJ Chichi jima 38.55 246 P **P 10 52 41.1 -0.5**
CBIJ Chichi jima 38.55 246 P **P 10 52 41.1 -0.5**
comp=Z,116nm,0.7s,baz=260,slow=22,SNR=6.5
CBIJ LR LR 11 05 05.1
comp=Z,683nm,19.8s,baz=126,slow=31
E09A Wood Farm, Sta 38.64 73 *eP* **P 10 52 42.8 +0.6**
comp=Z,50nm,1.1s
K05A Summer Lake 38.95 80 *eP* **P 10 52 46.8 +1.8**
comp=Z,68nm,0.9s
KIPM Iron Peak 39.00 85 *eP* **P 10 52 46.4 +1.0**
comp=Z,28nm,1.1s
KCPM Cahto Peak 39.01 86 *eP* **P 10 52 46.8 +1.3**
comp=Z,10nm,0.8s
I07A Izee 39.07 77 *eP* **P 10 52 47.1 +1.2**
comp=Z,62nm,1.0s
WDC Whiskeytown Da 39.14 84 *eP* **P 10 52 47.4 +1.0**
WDC pmax pmax
comp=Z,12nm,0.8s
WDC Whiskeytown Da 39.14 84 *eP* **P 10 52 47.4 +1.0**
comp=Z,12nm,0.8s
F10A Beach Ranch, E 39.47 73 *eP* **P 10 52 49.5 +0.4**
comp=Z,26nm,0.9s
HOPS Hopland 39.74 86 *eP* **P 10 52 52.4 +1.0**
comp=Z,26nm,1.1s
MOD Modoc 39.77 81 *eP* **P 10 52 52.9 +1.1**
comp=Z,178nm,1.1s
WALA Waterton Lakes 39.89 67 *eP* **P 10 52 53.1 +0.4**
comp=Z,2.5nm,1.0s
BSMT Bassoo Peak 39.97 69 *eP* **P 10 52 53.7 +0.2**
BMO Blue Mountains 40.00 75 *eP* **P 10 52 54.3 +0.7**
comp=Z,27nm,1.1s
J08A Circle Bar Ran 40.09 77 *eP* **P 10 52 55.5 +1.0**
comp=Z,57nm,1.0s
KSRS Korea Array 40.13 271 P **P 10 52 54.9 +0.3**
comp=Z,8.4nm,0.7s,baz=54,slow=8.2,SNR=40
KSRS PcP **PcP 10 54 58.5 +0.3**
comp=Z,3.9nm,1.0s,baz=68,slow=4.2,SNR=6.1
KSRS LR LR 11 08 35.7
comp=Z,242nm,20.4s,baz=55,slow=35
BLMT Blacktail Moun 40.14 69 *eP* **P 10 52 55.6 +0.7**
KSAR Wonju Array Be 40.17 271 P **P 10 52 54.9 0.0**
KSAR PcP **PcP 10 54 58.5 +0.2**
SNY Shenyang 40.26 280 ⇑ P **P 10 52 55.8 +0.2**
SNY S S 10 59 06.1 +7.1
SNY pmax pmax
comp=Z,63nm,1.5s
SNY pmax pmax
comp=Z,500nm,3.5s
SNY LR LR
comp=N,590nm,19.5s
SNY LR LR
comp=E,530nm,18.0s
SNY LR LR
comp=Z,650nm,21.4s
JTMT Jette 40.32 69 *eP* **P 10 52 56.7 +0.4**
YBMT Yellow Bay 40.42 69 *eP* **P 10 52 57.9 +0.9**
comp=Z,37nm,1.2s
WVOR Wild Horse Val 40.50 79 *eP* **P 10 52 58.9 +1.0**
WVOR pmax pmax
comp=Z,61nm,0.9s
WVOR Wild Horse Val 40.50 79 *eP* **P 10 52 58.9 +1.0**
comp=Z,61nm,0.9s
OHCM Honcut 40.53 85 *eP* **P 10 52 58.1 +0.3**
SWMT Swartz Lake 40.60 69 *eP* **P 10 52 58.9 +0.4**
BEKR Beckworth 40.91 83 *eP* **P 10 53 01.6 +0.3**
comp=Z,6.7nm,0.9s
MSO Missoula 40.98 70 *eP* **P 10 53 02.0 +0.2**
comp=Z,51nm,0.9s
MSO Missoula 40.98 70 ⇑ P **P 10 53 01.9 +0.2**
baz=41,SNR=36
SLMT Seeley Lake 41.03 70 *eP* **P 10 53 02.3 +0.1**
JNU Nakatsue 41.07 264 *eP* **P 10 53 02.5 0.0**
comp=Z,26nm,1.0s
JNU Nakatsue 41.07 264 LR LR 11 08 57.7
comp=Z,725nm,21.6s,baz=40,slow=34
TJN Taejon 41.16 270 *i* P **P 10 53 03.1 0.0**
CHMT Chamberlain Mo 41.34 70 *eP* **P 10 53 04.6 -0.2**
PAHR Pah Rah Range 41.61 83 *eP* **P 10 53 08.1 +1.1**
comp=Z,42nm,1.0s
MFID Camas Ranch 41.67 76 ⇑ P **P 10 53 07.6 +0.1**
baz=42,SNR=31
CMB Columbia Colle 41.99 85 *eP* **P 10 53 10.8 +0.8**
CMB pmax pmax
comp=Z,18nm,1.1s
CMB Columbia Colle 41.99 85 *eP* **P 10 53 10.8 +0.8**
comp=Z,18nm,1.1s
SAO San Andreas Ge 42.12 88 *eP* **P 10 53 11.6 +0.6**
SAO pmax pmax
comp=Z,14nm,1.0s
SAO San Andreas Ge 42.12 88 *eP* **P 10 53 11.6 +0.6**
comp=Z,14nm,1.0s
HRY Holter Researc 42.28 69 *eP* **P 10 53 12.5 +0.1**
WAKR Walker 42.30 84 *eP* **P 10 53 12.9 +0.2**
LRM Limekiln Ridge 42.39 71 *eP* **P 10 53 13.5 +0.1**
HLID Hailey 42.45 75 ⇑ P **P 10 53 14.2 +0.4**
baz=42,SNR=98
BMN Battle Mountai 42.52 80 *eP* **P 10 53 15.6 +1.2**
BMN pmax pmax
comp=Z,25nm,1.1s
BMN Battle Mountai 42.52 80 *eP* **P 10 53 15.6 +1.2**
comp=Z,25nm,1.1s
DLMT Dillon 42.55 71 *eP* **P 10 53 15.0 +0.4**
comp=Z,18nm,0.9s
MCMT McKenzie Canyo 42.69 72 *eP* **P 10 53 16.2 +0.4**
comp=Z,10nm,0.6s
EGMT Eagleton 42.80 67 ⇓ P **P 10 53 16.4 -0.1**
baz=43,SNR=32
A19A Klindworth Far 42.91 65 ⇑ P **P 10 53 16.9 -0.5**
baz=43,SNR=38
BOZ Bozeman (W) 42.97 71 *eP* **P 10 53 18.3 +0.3**
BOZ pmax pmax
comp=Z,59nm,1.1s
BOZ Bozeman (W) 42.97 71 *eP* **P 10 53 18.3 +0.3**
comp=Z,59nm,1.1s
NV11 Mina Array Sit 43.14 83 *eP* **P 10 53 19.9 +0.4**
C19A Slack Wire Ran 43.36 67 ⇑ P **P 10 53 21.4 +0.4**
baz=43,SNR=109
A20A Cobblestone Ra 43.40 65 ⇑ P **P 10 53 21.1 -0.2**
baz=43,SNR=58
QLMT Earthquake Lak 43.53 71 *eP* **P 10 53 23.0 +0.4**
MTUM Tungsten Hills 43.55 85 *eP* **P 10 53 24.1 +1.3**
ELK Elko 43.56 79 *eP* **P 10 53 23.6 +0.7**
comp=Z,28nm,0.9s
B20A Solberg Farm, 43.58 65 ⇓ P **P 10 53 22.4 -0.3**
baz=43,SNR=34
PTRM Twissleman Ran 43.59 88 *eP* **P 10 53 23.6 +0.6**
D19A Cripps Ranch, 43.76 67 ⇑ P **P 10 53 24.3 +0.1**
baz=44,SNR=85
RCTC Rector, Farmer 43.78 86 ⇑ P **P 10 53 25.1 +0.7**
baz=44
YMR Madison River 43.90 71 *eP* **P 10 53 26.2 +0.7**
comp=Z,75nm,1.1s
A21A Bergtoll Ranch 43.91 64 ⇓ P **P 10 53 25.3 -0.1**
baz=44,SNR=13
SMMC Simmler 43.95 88 ⇑ P **P 10 53 26.6 +0.8**
baz=44
TIN Tinemaha 43.95 85 ⇓ P **P 10 53 27.2 +1.3**
baz=44

C20A Veseth Ranch, 43.97 66 ⇑ P **P 10 53 26.1 +0.2**
baz=44,SNR=48
YNR Norris Junctio 44.04 71 *eP* **P 10 53 28.0 +1.3**
comp=Z,86nm,1.2s
GCMT Greycliff 44.04 69 *eP* **P 10 53 27.0 +0.4**
comp=Z,21nm,0.9s
YFT Old Faithful 44.09 72 *eP* **P 10 53 29.1 +1.9**
comp=Z,39nm,0.9s
B21A Ellsworth Farm 44.15 65 ⇑ P **P 10 53 27.0 -0.3**
baz=44,SNR=51
VES Vestal, Richgr 44.18 87 ⇑ P **P 10 53 28.0 +0.4**
baz=44
E19A Rath Farm, Rou 44.19 68 ⇓ P **P 10 53 28.1 +0.4**
baz=44,SNR=36
D20A Manuel Ranch, 44.23 67 ⇑ P **P 10 53 28.3 +0.3**
baz=44,SNR=32
H17A Grant Village 44.28 71 *eP* **P 10 53 30.5 +1.8**
H17A Grant Village 44.28 71 ⇓ P **P 10 53 30.0 +1.4**
baz=44
LKWY Lake 44.29 71 *eP* **P 10 53 30.4 +1.7**
LKWY pmax pmax
comp=Z,53nm,1.0s
LKWY Lake 44.29 71 *eP* **P 10 53 30.4 +1.7**
comp=Z,53nm,1.0s
PKM Peak Mountain 44.33 88 ⇓ P **P 10 53 29.8 +0.8**
baz=44
IMW Indian Meadow 44.34 72 *eP* **P 10 53 29.9 +0.6**
comp=Z,26nm,1.0s
FLWY Flagg Ranch 44.38 72 *eP* **P 10 53 30.4 +1.0**
comp=Z,42nm,0.9s
CWC Cottonwood Cre 44.43 85 ⇓ P **P 10 53 29.7 -0.1**
baz=44,SNR=11
C21A Desert Coulee 44.43 65 ⇓ P **P 10 53 29.7 +0.2**
baz=44,SNR=55
RRI2 Red Ridge 44.43 73 *eP* **P 10 53 31.0 +1.1**
comp=Z,43nm,1.0s
F19A Roth Farm, Mol 44.43 69 ⇑ P **P 10 53 29.8 +0.2**
baz=44,SNR=19
HVU Hansel Valley 44.46 76 *eP* **P 10 53 30.9 +0.9**
HVU pmax pmax
comp=Z,40nm,0.8s
HVU Hansel Valley 44.46 76 *eP* **P 10 53 30.9 +0.9**
comp=Z,40nm,0.8s
A22A Carney Farms, 44.48 63 ⇑ P **P 10 53 29.7 -0.2**
baz=44,SNR=25
GRAC Grapevine Rang 44.52 84 ⇓ P **P 10 53 30.8 +0.5**
baz=44
MOOW Moose Ponds 44.55 72 *eP* **P 10 53 31.3 +0.6**
comp=Z,9.7nm,1.0s
E20A Meyer Farm, Mu 44.55 68 ⇑ P **P 10 53 30.7 +0.2**
baz=44,SNR=28
I17A Pilgrim Ck. 44.55 72 ⇓ P **P 10 53 31.5 +0.7**
baz=44,SNR=5.4
RLMT Red Lodge 44.65 70 *eP* **P 10 53 32.4 +0.8**
comp=Z,66nm,1.1s
H18A Shoshone NF, C 44.66 71 ⇑ P **P 10 53 31.6 -0.1**
baz=44,SNR=17
ISA Isabella 44.67 87 *eP* **P 10 53 31.3 -0.4**
ISA pmax pmax
comp=Z,16nm,1.1s
ISA Isabella 44.67 87 *eP* **P 10 53 31.3 -0.4**
comp=Z,16nm,1.1s
ISA Isabella 44.67 87 ⇓ P **P 10 53 31.2 -0.4**
baz=44,SNR=15
REDW Red Top Meadow 44.70 73 *eP* **P 10 53 32.8 +0.8**
comp=Z,38nm,1.3s
SNOW Snow King Moun 44.70 73 *eP* **P 10 53 33.5 +1.4**
comp=Z,25nm,0.9s
LOHW Long Hollow 44.71 72 *eP* **P 10 53 32.3 +0.3**
comp=Z,56nm,1.8s
R11A Troy Canyon, C 44.79 82 ⇑ P **P 10 53 32.6 -0.1**
baz=45,SNR=46
ARVC Arvin 44.80 87 ⇑ P **P 10 53 33.0 +0.4**
baz=45
B22A Reddig Ranch S 44.80 64 ⇑ P **P 10 53 32.2 -0.3**
baz=45,SNR=39
BGU Big Grassy Mou 44.80 77 *eP* **P 10 53 33.5 +0.7**
comp=Z,22nm,1.0s
AHID Auburn Hatcher 44.90 74 *eP* **P 10 53 34.0 +0.5**
comp=Z,26nm,0.9s
D21A La Casta Ranch 44.90 66 ⇑ P **P 10 53 33.4 +0.1**
baz=45,SNR=55
F20A Billings 44.92 68 ⇓ P **P 10 53 33.9 +0.3**
baz=45,SNR=18
SPUT South Promonto 44.93 76 *eP* **P 10 53 34.9 +1.1**
comp=Z,27nm,1.0s
MPMC Manual Prospec 45.04 85 ⇑ P **P 10 53 34.6 -0.1**
baz=45,SNR=12
H19A Powell 45.07 70 ⇑ P **P 10 53 35.3 +0.5**
baz=45,SNR=36
A23A Redstone 45.07 63 ⇑ P **P 10 53 34.6 -0.1**
baz=45,SNR=16
E21A Keefer Ranch, 45.14 67 ⇓ P **P 10 53 35.4 +0.2**
baz=45,SNR=20
C22A Vida 45.16 65 ⇑ P **P 10 53 34.9 -0.4**
baz=45,SNR=52
FURC Furnace Creek, 45.17 85 ⇓ P **P 10 53 35.7 +0.3**
baz=45,SNR=17
G20A Bridger 45.21 69 ⇓ P **P 10 53 35.7 -0.2**
baz=45,SNR=73
B23A Brockton 45.27 64 ⇓ P **P 10 53 35.9 -0.3**
baz=45,SNR=42
LRMC Laurel Mountai 45.28 86 ⇑ P **P 10 53 36.8 +0.3**
baz=45
HWUT Hardware Ranch 45.29 75 *eP* **P 10 53 37.1 +0.4**
comp=Z,30nm,1.0s
BLG Laguna Peak 45.31 89 ⇓ P **P 10 53 36.9 +0.2**
baz=45
D22A Cohagen 45.32 66 ⇑ P **P 10 53 37.1 +0.4**
baz=45,SNR=122
DUG Dugway 45.37 78 *eP* **P 10 53 38.1 +0.8**
DUG pmax pmax
comp=Z,72nm,1.0s
DUG Dugway 45.37 78 *eP* **P 10 53 38.1 +0.8**
comp=Z,72nm,1.0s
DUG Dugway 45.37 78 ⇓ P **P 10 53 37.8 +0.5**
baz=45,SNR=51
I19A Meeteetse 45.42 71 ⇑ P **P 10 53 37.7 +0.1**
baz=45,SNR=16
EDW2 Edwards Air Fo 45.48 87 ⇑ P **P 10 53 38.3 +0.2**
baz=45,SNR=7.1
F21A Absaloka Mine, 45.51 68 ⇑ P **P 10 53 38.5 +0.3**
baz=45,SNR=8.2
C23A Lambert 45.52 65 ⇓ P **P 10 53 38.2 -0.1**
baz=45,SNR=64
LAO LASA Array 45.55 66 *eP* **P 10 53 38.8 +0.4**
comp=Z,73nm,0.8s
DGMT Dagmar 45.72 63 *eP* **P 10 53 39.5 -0.2**
comp=Z,44nm,1.0s
DGMT Dagmar 45.72 63 ⇓ P **P 10 53 39.7 -0.1**
baz=46,SNR=12
CTU Camp Tracy 45.72 76 *eP* **P 10 53 40.9 +0.9**
comp=Z,42nm,1.1s
H20A Greybull 45.75 70 ⇑ P **P 10 53 40.0 -0.2**
baz=46,SNR=15
G21A Lodge Grass 45.80 69 ⇓ P **P 10 53 40.3 -0.2**
baz=46,SNR=14
BW06 Boulder Array 45.82 73 *eP* **P 10 53 41.1 +0.3**
comp=Z,50nm,0.9s
PDAR Pinedale Array 45.82 73 P **P 10 53 41.1 +0.2**
PDAR Pinedale Array 45.82 73 P **P 10 53 41.1 +0.2**
comp=Z,41nm,0.8s,baz=302,slow=3.9,SNR=293
PDAR LR LR 11 10 33.7
comp=Z,530nm,20.0s,baz=310,slow=33
J19A Crowheart 45.83 72 ⇑ P **P 10 53 41.4 +0.5**
baz=46,SNR=15
E22A Miles City 45.84 66 ⇑ P **P 10 53 41.1 +0.3**
baz=46,SNR=64
BJI Beijing 45.85 283 P **P 10 53 41.0 +0.2**
BJI PcP **PcP 10 55 20.5 +3.2**
BJI pmax pmax
comp=Z,31nm,0.9s
BJI pmax pmax
comp=Z,260nm,4.8s
BJI LR LR
comp=N,420nm,17.0s
BJI LR LR
comp=E,540nm,16.1s
BJI LR LR
comp=Z,380nm,17.8s
MWC Mount Wilson 45.87 88 *eP* **P 10 53 41.6 +0.3**
MWC pmax pmax
comp=Z,20nm,1.0s
MWC Mount Wilson 45.87 88 *eP* **P 10 53 41.6 +0.3**
comp=Z,20nm,1.0s
SHOC Shoshone 45.89 85 ⇑ P **P 10 53 42.0 +0.7**
baz=46

M17A	Scullys Gap (B baz=46,SNR=20	45.91	75	⇑P	P	10 53 41.7 +0.1
GSC	Goldstone baz=46,SNR=22	45.95	86	⇑P	P	10 53 41.8 0.0
JLU	Jordanelle comp=Z,42nm,1.0s	45.96	76	eP	P	10 53 38.6 -3.4
NLU	North Lily Min comp=Z,35nm,0.9s	45.97	77	eP	P	10 53 43.0 +1.0
I20A	Worland baz=46,SNR=24	45.98	71	⇑P	P	10 53 42.4 +0.4
L18A	Fontenelle, Gr baz=46,SNR=50	46.03	74	⇑P	P	10 53 42.6 +0.1
F22A	Rosebud baz=46,SNR=46	46.03	67	⇓P	P	10 53 42.1 -0.2
A25A	Svangstu Ranch baz=46,SNR=12	46.06	62	⇑P	P	10 53 42.1 -0.3
C24A	Savage baz=46,SNR=5.3	46.10	64	⇑P	P	10 53 43.0 +0.2
BFSC	Mount Baldy Ra baz=46,SNR=6.4	46.11	88	⇓P	P	10 53 43.0 -0.1
DAU	Daniels Canyon	46.19	76	eP	P	10 53 45.1 +1.2
DAU	Daniels Canyon	46.19	76	eP	P	10 53 45.1 +1.2
MPU	Maple Canyon comp=Z,30nm,0.8s	46.20	77	eP	P	10 53 44.5 +0.7
SHPR	Sheep Range	46.20	83	eP	P	10 53 44.4 +0.5
K19A	Absolon Red Bu baz=46,SNR=65	46.21	72	⇓P	P	10 53 43.8 -0.1
H21A	Big Horn, Sher baz=46,SNR=18	46.23	69	⇑P	P	10 53 43.9 -0.1
G22A	Birney baz=46,SNR=24	46.33	68	⇓P	P	10 53 44.6 -0.1
J20A	Shoshoni baz=46,SNR=22	46.35	71	⇓P	P	10 53 45.2 +0.3
D24A	Glendive baz=46	46.39	65	⇑P	P	10 53 45.7 +0.7
B25A	Knox Farm, Ray baz=46,SNR=11	46.40	63	⇑P	P	10 53 45.1 -0.1
ARUT	Antelope Range	46.46	81	eP	P	10 53 46.1 +0.2
ARUT				pmax	pmax	
	comp=Z,332nm,1.0s					
ARUT	Antelope Range comp=Z,332nm,1.0s	46.46	81	eP	P	10 53 46.1 +0.2
HEC	Hector,Ludlow baz=46	46.55	86	⇓P	P	10 53 46.4 -0.1
BBRC	Big Bear Solar baz=46,SNR=6.5	46.55	87	⇑P	P	10 53 46.7 0.0
I21A	Big Trails, Te baz=46,SNR=44	46.56	70	⇑P	P	10 53 46.4 -0.1
F23A	Volborg baz=46,SNR=77	46.56	67	⇑P	P	10 53 46.4 -0.1
K20A	Yellowstone Ra baz=46,SNR=21	46.61	72	⇓P	P	10 53 46.5 -0.5
H22A	Clearmont baz=46,SNR=24	46.66	69	⇑P	P	10 53 47.2 -0.1
CCUT	Cedar City comp=Z,13nm,0.9s	46.66	81	eP	P	10 53 48.1 +0.6
C25A	Freed Ranch, W baz=46,SNR=13	46.66	64	⇓P	P	10 53 47.2 +0.1
A26A	Wade Farm, Ken baz=46,SNR=11	46.68	62	⇑P	P	10 53 46.8 -0.4
ULN	Ulaanbaatar comp=Z,25nm,1.0s	46.68	297	eP	P	10 53 48.2 +0.7
ULN				ePcP	PcP	10 55 21.9 +1.6
ULN	Ulaanbaatar comp=Z,26nm,1.4s,comp=Z,764nmcomp=Z,38µm	46.68	297	P	P	10 53 47.3 -0.2
E24A	Baker baz=46,SNR=39	46.71	65	⇓P	P	10 53 48.3 +0.7
J21A	Lysite baz=46,SNR=26	46.74	71	⇓P	P	10 53 47.9 -0.2
MVU	Marysvale comp=Z,29nm,1.0s	46.77	79	eP	P	10 53 49.2 +0.8
M19A	Rock Springs baz=47	46.81	74	⇓P	P	10 53 48.1 -0.5
MURC	Murrieta baz=47	46.81	88	⇑P	P	10 53 48.7 +0.2
B26A	Jensen Ranch, baz=47,SNR=6.7	46.86	62	⇑P	P	10 53 48.6 -0.1
G23A	Biddle baz=47,SNR=29	46.86	68	⇓P	P	10 53 48.8 -0.1
TMUT	Trail Mountain comp=Z,64nm,1.0s	46.90	78	eP	P	10 53 50.3 +0.8
D25A	Fairfield baz=47,SNR=6.4	46.94	64	⇓P	P	10 53 49.5 +0.2
I22A	9 Mile Ranch, baz=47,SNR=34	46.98	70	⇓P	P	10 53 50.3 +0.4
L20A	Wamsutter baz=47,SNR=9.7	47.00	73	⇑P	P	10 53 49.9 -0.1
GMRC	Granite Mounta baz=47,SNR=11	47.00	85	⇑P	P	10 53 50.1 0.0
F24A	Ekalaka baz=47,SNR=40	47.04	66	⇓P	P	10 53 50.1 -0.1
SONM	Songino Array	47.07	297	P	P	10 53 51.1 +0.6
SONM				PcP	PcP	10 55 22.6 +1.0
SONM				ScP	ScP	10 59 13.3 +2.4
SONM	Songino Array comp=Z,16nm,1.0s,baz=53,slow=10,SNR=65	47.07	297	P	P	10 53 51.1 +0.6
SONM				PcP	PcP	10 55 22.6 +1.0
	comp=Z,4.9nm,0.7s,baz=72,slow=2.5,SNR=6.5					
SONM				ScP	ScP	10 59 13.3 +2.4
	comp=Z,1.9nm,0.8s,baz=75,slow=1.7,SNR=6.2					
SONM				LR	LR	11 14 23.0
	comp=Z,2µm,20.3s,baz=59,slow=37					
A27A	Ledoux Ranch, baz=47,SNR=8.5	47.09	61	⇓P	P	10 53 50.3 -0.2
Q16A	Castle Valley	47.16	78	eP	P	10 53 52.1 +0.7
Q16A	Castle Valley baz=47,SNR=21	47.16	78	⇓P	P	10 53 51.9 +0.6
C26A	Wahner Farm, P baz=47,SNR=6.4	47.25	63	⇓P	P	10 53 51.5 -0.2
E25A	Miller Ranch, baz=47,SNR=34	47.26	65	⇑P	P	10 53 52.1 +0.2
K21A	Alcova baz=47,SNR=24	47.27	72	⇓P	P	10 53 51.9 -0.3
PFO	Pinyon Flat Ob comp=Z,76nm,2.3s	47.27	87	eP	P	10 53 52.1 0.0
PFO	Pinyon Flat Ob comp=Z,262nm,19.9s,baz=178,slow=30	47.27	87	LR	LR	11 09 19.3
PFO	Pinyon Flat Ob baz=47	47.27	87	⇑P	P	10 53 52.2 0.0
BELC	Belle Mtn. Jos baz=47,SNR=5.4	47.30	87	⇓P	P	10 53 51.7 -0.7
G24A	Alzada baz=47,SNR=56	47.35	67	⇓P	P	10 53 52.2 -0.5
ZAK	Zakamensk	47.35	301	⇑P	P	10 53 51.7 -0.9
ZAK				pmax	pmax	
	comp=Z,17nm,1.1s					
B27A	Peters Farms, baz=47,SNR=10.0	47.38	62	⇓P	P	10 53 52.3 -0.4
M20A	Sweetwater, Wa baz=47,SNR=22	47.40	73	⇑P	P	10 53 53.3 +0.1
SRU	San Rafael	47.43	77	eP	P	10 53 54.0 +0.5
SRU				pmax	pmax	
	comp=Z,60nm,0.9s					
SRU	San Rafael comp=Z,60nm,0.9s	47.43	77	eP	P	10 53 54.0 +0.5
O19A	Miners Draw (B baz=47,SNR=51	47.55	75	⇓P	P	10 53 54.6 +0.2
F25A	Bowman baz=47,SNR=14	47.56	66	⇑P	P	10 53 54.5 +0.3
L21A	Rawlins baz=47,SNR=58	47.60	72	⇓P	P	10 53 54.6 -0.1
H24A	Dirks Ranch, A baz=47,SNR=30	47.61	68	⇓P	P	10 53 54.0 -0.7
C27A	Sayler Ranch, baz=47	47.64	63	⇓P	P	10 53 54.9 +0.2
A28A	Rude Farm, Bot baz=47,SNR=9.4	47.65	61	⇓P	P	10 53 54.5 -0.3
K22A	Casper baz=48,SNR=23	47.69	71	⇓P	P	10 53 55.2 -0.2
N20A	Spence Gulch, baz=48,SNR=26	47.75	74	⇑P	P	10 53 56.4 +0.5
BAR	Barrett comp=Z,13nm,1.0s	47.75	88	eP	P	10 53 56.2 +0.4
MONP	Monument Peak baz=48	47.77	88	⇓P	P	10 53 56.6 +0.5
E26A	Carlson Angus baz=48,SNR=44	47.81	65	⇑P	P	10 53 55.7 -0.4
J23A	Dilts Ranch, B baz=48,SNR=5.2	47.82	70	⇓P	P	10 53 56.1 -0.2
M21A	Separation Pea baz=48,SNR=26	47.82	73	⇑P	P	10 53 56.1 -0.4
MOY	Mondy	47.85	304	eP	P	10 53 56.8 +0.4
MOY				pmax	pmax	
	comp=Z,20nm,2.1s					
B28A	Dugan Ranch, T baz=48,SNR=14	47.85	61	⇑P	P	10 53 56.0 -0.4
RWWY	Rawlins comp=Z,30nm,0.9s	47.86	73	eP	P	10 53 56.4 -0.5
BC3	Big Chuckawall baz=48	47.87	86	⇑P	P	10 53 56.7 -0.1
W13A	Hualapai Mount baz=48,SNR=10	47.90	84	⇑P	P	10 53 56.9 -0.3
D27A	Center baz=48,SNR=5.1	47.97	63	⇓P	P	10 53 57.3 -0.1
G25A	Newell baz=48,SNR=32	48.01	67	⇓P	P	10 53 57.1 -0.5
U15A	North Rim baz=48,SNR=48	48.03	81	⇑P	P	10 53 58.6 +0.3
P19A	Cripple Cowboy baz=48,SNR=79	48.05	76	⇑P	P	10 53 58.4 +0.2
F26A	Lodgepole baz=48,SNR=25	48.05	65	⇓P	P	10 53 57.8 -0.2
I24A	Kuemmerle Ranc baz=48,SNR=5.8	48.09	69	⇑P	P	10 53 57.7 -0.7
L22A	Ellis Ranch, M baz=48,SNR=18	48.12	72	⇓P	P	10 53 59.1 +0.3
DVTC	Desert V Tower baz=48	48.12	88	⇑P	P	10 53 59.2 +0.4
SWSC	Sam W. Stewart baz=48	48.13	87	⇑P	P	10 53 59.3 +0.6
HHC	Hu-ho-hao-te	48.15	286	eP	P	10 53 59.6 +0.7
HHC				pP	pP	10 54 10.1 -2.7
HHC				sP	sP	10 54 13.8 -5.0
HHC				PP	PP	10 55 51.1 -0.1
HHC				S	S	11 00 54.0 -0.1
HHC				sS	sS	11 01 11.0 -6.3
HHC				SS	SS	11 04 18.0 -5.2
HHC				pmax	pmax	
	comp=Z,140nm,1.2s					
HHC				pmax	pmax	
	comp=Z,400nm,6.3s					
HHC				LR	LR	
	comp=N,1µm,18.9s					
HHC				LR	LR	
	comp=E,1µm,19.8s					
HHC				LR	LR	
	comp=Z,2µm,21.4s					
K23A	Bowen Ranch, D baz=48,SNR=13	48.16	70	⇑P	P	10 53 58.7 -0.4
G27A	Dupree baz=48,SNR=46	48.18	66	⇓P	P	10 54 02.9 +4.0
O20A	White River Ci	48.19	75	eP	P	10 53 59.5 +0.1
O20A	White River Ci baz=48,SNR=52	48.19	75	⇓P	P	10 53 59.2 -0.1
A29A	Manning Farm, baz=48,SNR=9.6	48.20	60	⇑P	P	10 53 58.3 -0.8
H25A	Fruitdale baz=48,SNR=23	48.24	67	⇑P	P	10 53 59.2 -0.3
N21A	Black Mountain baz=48,SNR=42	48.24	74	⇑P	P	10 53 59.6 -0.1
C28A	Hausauer Farms baz=48	48.26	62	⇓P	P	10 53 59.6 +0.1
PDMCI	Parker Dam,Lak baz=48	48.26	85	⇑P	P	10 54 00.1 +0.4
RSSD	Black Hills	48.28	68	eP	P	10 53 59.7 -0.3
RSSD				pmax	pmax	
	comp=Z,101nm,0.9s					
RSSD	Black Hills comp=Z,100nm,0.9s	48.28	68	eP	P	10 53 59.6 -0.3
E27A	Carson baz=48,SNR=15	48.34	64	⇓P	P	10 53 59.9 -0.3
J24A	Dixon Ranch, L baz=48,SNR=14	48.38	69	⇑P	P	10 54 00.4 -0.3
Y12C	Blythe baz=48	48.39	86	⇓P	P	10 54 00.8 +0.2
B29A	Wagenman Farm, baz=48	48.40	61	⇑P	P	10 54 00.5 -0.1
M22A	Cedar Creek Ra baz=48,SNR=14	48.40	72	⇑P	P	10 54 00.8 -0.2
F27A	Lemmon baz=48,SNR=31	48.41	65	⇑P	P	10 54 00.4 -0.3
G26A	Maurine baz=48,SNR=70	48.42	66	⇓P	P	10 54 00.7 -0.2
D28A	Regan baz=48,SNR=9.3	48.46	63	⇓P	P	10 54 01.0 -0.1
P20A	De Beque baz=48,SNR=62	48.49	76	⇓P	P	10 54 01.6 0.0
SSE	Sheshan	48.49	270	eP	P	10 54 05.0 +3.5
SSE				pP	pP	10 54 16.8 +1.4
SSE				S	S	11 01 01.3 +2.5
SSE				pmax	pmax	
	comp=Z,20nm,0.7s					
SSE				pmax	pmax	
	comp=Z,110nm,4.1s					
SSE				LR	LR	
	comp=N,76nm,21.1s					
SSE				LR	LR	
	comp=E,120nm,21.0s					
SSE				LR	LR	
	comp=Z,220nm,21.5s					
L23A	Garrett baz=48,SNR=61	48.50	71	⇑P	P	10 54 01.4 -0.3
I25A	Rochford baz=48,SNR=19	48.52	68	⇑P	P	10 54 01.3 -0.4
O21A	Pagoda baz=48,SNR=24	48.60	74	⇑P	P	10 54 02.6 0.0
MDND	Maddock baz=48,SNR=13	48.61	62	⇓P	P	10 54 02.0 -0.3
K24A	Anderson Ranch baz=48,SNR=6.6	48.66	70	⇓P	P	10 54 02.4 -0.5
GLA	Glamis	48.66	87	eP	P	10 54 03.4 +0.6
GLA				pmax	pmax	
	comp=Z,24nm,1.0s					
GLA	Glamis comp=Z,24nm,1.0s	48.66	87	eP	P	10 54 03.4 +0.6
GLA	Glamis baz=48	48.66	87	⇓P	P	10 54 03.1 +0.3
A30A	Hoffart Farm, baz=48	48.70	60	⇓P	P	10 54 02.8 -0.1
H26A	Fairpoint baz=48,SNR=24	48.72	67	⇑P	P	10 54 02.6 -0.5
E28A	Huff baz=48,SNR=9.7	48.75	64	⇑P	P	10 54 03.0 -0.3
J25A	Sunshine Ranch baz=49,SNR=7.1	48.85	69	⇓P	P	10 54 03.8 -0.4
N22A	Wattenberg Ran baz=49,SNR=40	48.85	73	⇑P	P	10 54 04.7 +0.2
Q20A	Ridgley Place, baz=49,SNR=45	48.89	76	⇓P	P	10 54 04.3 -0.4
B30A	Myrvik Farm, E baz=49,SNR=9.9	48.96	60	⇑P	P	10 54 04.6 -0.3
I26A	New Underwood baz=49,SNR=22	49.02	67	⇓P	P	10 54 05.3 -0.2
P21A	Newcastle baz=49,SNR=52	49.05	75	⇑P	P	10 54 06.3 +0.4
D29A	Pettibone, Tap baz=49	49.08	62	⇓P	P	10 54 06.1 +0.3
N23A	Red Feather La baz=49,SNR=23	49.10	73	⇓P	P	10 54 06.8 +0.4
H27A	Howes baz=49,SNR=11	49.11	66	⇑P	P	10 54 05.8 -0.3
F28A	McLaughlin baz=49,SNR=14	49.11	64	⇓P	P	10 54 05.8 -0.3
PHWY	Pilot Hill	49.14	72	eP	P	10 54 06.4 -0.3
WUAZ	Wupatki	49.19	82	eP	P	10 54 07.4 +0.4
	comp=Z,34nm,1.0s					
WUAZ	Wupatki baz=49,SNR=29	49.19	82	⇓P	P	10 54 07.5 +0.5
O22A	Kremmling baz=49,SNR=33	49.19	74	⇑P	P	10 54 07.1 -0.1
Y14A	Wickenburg baz=49,SNR=16	49.21	84	⇓P	P	10 54 06.8 -0.3
BTO	Baotou	49.23	287	eP	P	10 54 06.8 -0.4
K25A	Mack Ranch, Ha baz=49,SNR=7.2	49.28	70	⇓P	P	10 54 07.6 0.0
NJ2	Nanjing	49.31	272	eP	P	10 54 10.3 +2.6
NJ2				S	S	11 01 15.0 +4.8
NJ2				pmax	pmax	
	comp=Z,30nm,1.0s					
NJ2				pmax	pmax	
	comp=Z,1µm,4.6s					
NJ2				LR	LR	
	comp=N,4µm,19.3s					
NJ2				LR	LR	
	comp=E,2µm,18.4s					
NJ2				LR	LR	
	comp=Z,6µm,24.0s					
C30A	Mose, Pekin baz=49	49.32	61	⇓P	P	10 54 07.3 -0.3
R20A	Redvale baz=49,SNR=50	49.32	77	⇓P	P	10 54 07.9 -0.2
J26A	Sides Ranch, S baz=49	49.32	68	⇓P	P	10 54 08.0 +0.2
E29A	Napoleon baz=49	49.34	63	⇑P	P	10 54 08.3 +0.4
Q21A	Lamborn Mesa, baz=49,SNR=48	49.40	76	⇓P	P	10 54 08.6 0.0
M24A	Cheyenne baz=49,SNR=9.9	49.42	71	⇑P	P	10 54 09.0 +0.3
P22A	Eagle baz=49,SNR=27	49.42	74	⇑P	P	10 54 08.7 -0.1
I27A	Quinn baz=49,SNR=51	49.46	67	⇑P	P	10 54 08.5 -0.3
L25A	Engebretsen Ra baz=49	49.50	70	⇓P	P	10 54 09.5 +0.2
G28A	Parade baz=49,SNR=14	49.51	65	⇑P	P	10 54 09.1 0.0
113A	Mohawk Valley, baz=49,SNR=8.3	49.51	86	⇑P	P	10 54 08.8 -0.5
D30A	Buchanan baz=49,SNR=6.9	49.51	62	⇓P	P	10 54 08.5 -0.7
O23A	Lake Granby, G baz=49,SNR=28	49.54	73	⇑P	P	10 54 10.4 +0.7
SMCO	Snowmass comp=Z,39nm,1.4s	49.55	75	eP	P	10 54 10.0 0.0
S20A	Disappointment baz=49,SNR=91	49.56	77	⇑P	P	10 54 09.6 -0.3
Z14A	Wintersburg baz=50	49.63	85	⇓P	P	10 54 10.3 +0.2
K26A	Motz Farm, Whi baz=49	49.63	69	⇓P	P	10 54 10.2 0.0
F29A	Eureka baz=49,SNR=5.1	49.67	64	⇓P	P	10 54 09.8 -0.5
R21A	Cimarron baz=50,SNR=53	49.71	76	⇓P	P	10 54 11.1 0.0
N24A	Carr baz=50,SNR=6.6	49.78	72	⇓P	P	10 54 12.0 +0.5
E30A	Jud baz=50	49.78	63	⇑P	P	10 54 10.8 -0.4
Q22A	Crested Butte, baz=50,SNR=42	49.79	75	⇑P	P	10 54 11.9 +0.2
X16A	Lo Mia Camp, P baz=50,SNR=6.0	49.87	83	⇑P	P	10 54 12.5 +0.3
MVCO	Mesa Verde comp=Z,43nm,1.1s	49.87	78	eP	P	10 54 12.2 0.0
MVCO	Mesa Verde baz=50,SNR=26	49.87	78	⇑P	P	10 54 12.3 0.0
M25A	Palm-Egli Farm baz=50,SNR=12	49.89	71	⇑P	P	10 54 12.8 +0.5
J27A	Elkhorn Farm, baz=50,SNR=32	49.98	68	⇑P	P	10 54 12.8 0.0
ISCO	Idaho Springs	49.98	74	eP	P	10 54 13.7 +0.5
ISCO				pmax	pmax	
	comp=Z,25nm,1.0s					
ISCO	Idaho Springs comp=Z,24nm,1.0s	49.98	74	eP	P	10 54 13.7 +0.5
ISCO	Idaho Springs baz=50,SNR=38	49.98	74	⇑P	P	10 54 13.4 +0.3
G29A	Hoven baz=50,SNR=6.2	50.00	65	⇓P	P	10 54 12.0 -0.9
I28A	Midland baz=50,SNR=69	50.01	67	⇓P	P	10 54 13.0 0.0
S21A	Coal Bank Pass baz=50,SNR=58	50.01	77	⇓P	P	10 54 13.8 +0.4
O24A	Longmont baz=50,SNR=8.8	50.10	73	⇑P	P	10 54 15.0 +1.1
P23A	Jefferson baz=50,SNR=18	50.11	74	⇑P	P	10 54 15.1 +0.9
K27A	Flueckinger Fa baz=50,SNR=13	50.18	68	⇑P	P	10 54 14.3 0.0
R22A	Saguache, Gunn baz=50,SNR=41	50.28	76	⇑P	P	10 54 16.3 +0.8
J28A	Allard Ranch, baz=50,SNR=43	50.32	67	⇓P	P	10 54 15.6 +0.2
SPITS	Spitsbergen Ar comp=Z,308nm,20.6s,baz=55,slow=33	50.36	356	LR	LR	11 13 18.4
AGMN	Agassiz Nation comp=Z,17nm,1.0s	50.39	59	eP	P	10 54 14.6 -1.1
U20A	Newcomb baz=50	50.39	79	⇑P	P	10 54 16.7 +0.6
Q23A	Hartsel baz=50,SNR=70	50.41	75	⇓P	P	10 54 17.2 +0.8
M26A	McRoberts Ranc baz=50	50.41	70	⇓P	P	10 54 16.6 +0.5
W18A	Petrified Fore	50.46	81	eP	P	10 54 17.3 +0.5
W18A	Petrified Fore baz=50,SNR=26	50.46	81	⇓P	P	10 54 17.2 +0.5
I29A	Vivian Onida baz=50,SNR=17	50.49	66	⇓P	P	10 54 16.4 -0.2
L27A	T5 Ranch, Ells baz=50	50.52	69	⇑P	P	10 54 17.4 +0.5
S22A	4UR Ranch, Cre baz=50,SNR=39	50.54	76	⇓P	P	10 54 18.2 +0.7
P24A	Kohler Place, baz=50,SNR=7.0	50.58	73	⇓P	P	10 54 18.2 +0.7
T21A	Navajo Lake baz=50,SNR=12	50.60	78	⇓P	P	10 54 18.1 +0.4
214A	Organ Pipe Nat baz=50,SNR=13	50.66	86	⇓P	P	10 54 17.9 -0.1
O25A	Wiggins baz=50,SNR=8.5	50.68	72	⇓P	P	10 54 18.8 +0.6
K28A	Ten Mile Ranch baz=50,SNR=23	50.68	68	⇓P	P	10 54 18.1 0.0
X18A	Snowflake baz=50,SNR=11	50.72	82	⇑P	P	10 54 19.0 +0.4
N26A	Koester Ranch, baz=50	50.76	71	⇑P	P	10 54 19.5 +0.7
Q24A	Divide baz=51,SNR=5.9	50.78	74	⇓P	P	10 54 19.5 +0.3
V20A	Brimhall baz=51,SNR=16	50.80	79	⇓P	P	10 54 19.3 +0.1
M27A	Reverse DX Ran baz=51,SNR=5.8	50.82	70	⇑P	P	10 54 19.4 +0.2
R23A	Moffat baz=51,SNR=16	50.87	75	⇑P	P	10 54 20.5 +0.6
U21A	Nageezi baz=51,SNR=80	50.89	78	⇑P	P	10 54 20.3 +0.4
T22A	Edith baz=51,SNR=40	50.97	77	⇓P	P	10 54 21.3 +0.7
BRSD	Miller	51.00	65	eP	P	10 54 20.3 -0.1
BRSD	Miller baz=51,SNR=20	51.00	65	⇓P	P	10 54 19.8 -0.6
P25A	Willow Gulch B baz=51,SNR=70	51.03	73	⇓P	P	10 54 21.8 +0.9
L28A	Connealy Angus baz=51	51.03	69	⇑P	P	10 54 20.7 0.0
I30A	Oacoma baz=51,SNR=5.2	51.06	66	⇑P	P	10 54 20.7 -0.1
S23A	Nye Farm, Mont baz=51,SNR=18	51.07	76	⇑P	P	10 54 22.3 +0.9
O26A	Horse Wrangler baz=51,SNR=6.9	51.08	72	⇓P	P	10 54 21.5 +0.3
N27A	Anderson Farm, baz=51,SNR=6.8	51.18	71	⇑P	P	10 54 22.5 +0.6
W20A	Ramah baz=51,SNR=11	51.22	80	⇓P	P	10 54 22.5 0.0
K29A	Lazy Trails An baz=51,SNR=19	51.26	67	⇑P	P	10 54 22.5 +0.1
R24A	Sanders Place, baz=51,SNR=16	51.28	75	⇑P	P	10 54 23.1 +0.3
V21A	Milan baz=51,SNR=10	51.30	79	⇑P	P	10 54 23.2 +0.2
SDCO	Great Sand Dun comp=Z,29nm,1.0s	51.35	75	eP	P	10 54 23.9 +0.5
Q25A	Bedland, Calha baz=51,SNR=27	51.36	74	⇑P	P	10 54 23.7 +0.3
OGNE	Ogallala comp=Z,36nm,0.7s	51.39	70	eP	P	10 54 24.3 +0.9
OGNE	Ogallala baz=51,SNR=7.1	51.39	70	⇓P	P	10 54 24.0 +0.5
U22A	Llaves baz=51,SNR=33	51.41	78	⇓P	P	10 54 24.1 +0.2
T23A	Casias Ranch, baz=51,SNR=23	51.48	77	⇑P	P	10 54 24.7 +0.3
P26A	Davis Ranch, A baz=51,SNR=43	51.49	72	⇑P	P	10 54 25.0 +0.7
M28A	Bar X Bar Ranc baz=51,SNR=6.1	51.50	69	⇑P	P	10 54 24.5 +0.2
S24A	Houchin Ranch, baz=51,SNR=27	51.59	75	⇓P	P	10 54 26.0 +0.7
L29A	Maesberg Ranch baz=51,SNR=13	51.60	68	⇓P	P	10 54 25.1 +0.1
O27A	Beecher Island baz=51,SNR=12	51.60	71	⇓P	P	10 54 25.4 +0.3
X20A	Quemado baz=51,SNR=37	51.61	81	⇓P	P	10 54 25.9 +0.6
TUC	Tucson	51.68	84	eP	P	10 54 25.7 -0.1
TUC	Tucson	51.68	84	eP	P	10 54 25.6 -0.1
V22A	San Miguel Ran baz=52,SNR=25	51.68	78	⇑P	P	10 54 25.8 -0.1
W21A	San Fidel baz=52	51.75	79	⇓P	P	10 54 26.3 -0.1
Q26A	Hugo	51.79	73	⇓P	P	10 54 26.9 +0.4

baz=52,SNR=16
R25A Fountain Ranch 51.83 74 ⇑P P 10 54 27.1 +0.3
baz=52,SNR=14
N28A Pribbeno Ranch 51.84 70 ⇓P P 10 54 27.2 +0.4
baz=52,SNR=9.9
U23A El Rito 51.85 77 ⇓P P 10 54 27.5 +0.4
baz=52,SNR=99
M29A Burnside Ranch 51.86 69 ⇑P P 10 54 26.9 -0.1
baz=52,SNR=18
T24B San Luis 51.87 76 ⇓P P 10 54 28.1 +0.8
baz=52,SNR=27
HVS Khovu-Aksy 51.88 307 ⇓*i*P P 10 54 26.3 -0.7
HVS pmax pmax
comp=Z,228nm,1.5s
P27A Ficken Ranch, 51.95 72 ⇑P P 10 54 28.1 +0.4
baz=52
S25A Robets Cordova 52.05 75 ⇓P P 10 54 28.8 +0.2
baz=52,SNR=47
O28A Krutsinger Ran 52.06 71 ⇓P P 10 54 28.8 +0.3
baz=52,SNR=14
Y20A Horse Springs, 52.10 81 ⇓P P 10 54 29.8 +0.7
baz=52,SNR=35
L30A Spencer Herefo 52.11 68 ⇓P P 10 54 28.6 -0.2
baz=52,SNR=12
X21A Alamocita Cree 52.11 80 ⇓P P 10 54 29.7 +0.6
baz=52,SNR=47
R26A Arlington 52.23 74 ⇓P P 10 54 30.1 +0.3
baz=52,SNR=28
V23A Ortiz Mt. (NFS 52.24 78 ⇑P P 10 54 30.9 +0.9
baz=52,SNR=53
W22A Albuquerque 52.26 79 ⇓P P 10 54 30.7 +0.6
baz=52,SNR=9.0
KSCO Kaye Shedlock' 52.27 72 *e*P P 10 54 30.7 +0.6
KSCO Kaye Shedlock' 52.27 72 ⇑P P 10 54 30.6 +0.5
baz=52,SNR=33
M30A Dale-Ortello V 52.28 68 ⇑P P 10 54 30.2 +0.1
baz=52,SNR=11
N29A Votaw Ranch, W 52.30 69 ⇑P P 10 54 30.5 +0.3
baz=52,SNR=7.0
U24A Moreno Valley 52.35 77 ⇓P P 10 54 31.6 +0.7
baz=52,SNR=11
T25A Trinidad 52.41 75 ⇓P P 10 54 31.8 +0.6
baz=52,SNR=69
Y21A Point of Rocks 52.47 81 ⇓P P 10 54 32.4 +0.6
baz=52,SNR=26
L31A Butterfield Fa 52.48 67 ⇓P P 10 54 31.8 +0.3
baz=52,SNR=38
Z20A Nine Sixteen R 52.50 82 ⇓P P 10 54 32.1 +0.2
baz=52,SNR=21
LAZ Ladron 52.54 80 *e*P P 10 54 33.2 +1.0
comp=Z,16nm,1.0s
X22A Bernardo 52.55 80 ⇑P P 10 54 33.4 +1.1
baz=52,SNR=25
ANMO Albuquerque 52.60 79 *e*P P 10 54 32.8 +0.1
comp=Z,19nm,1.1s
N30A Hueftle Ranch, 52.62 69 ⇓P P 10 54 33.2 +0.7
baz=52
R27A Eads 52.63 73 ⇓P P 10 54 33.1 +0.3
baz=52,SNR=41
O29A 4D Ranch, Culb 52.64 70 ⇑P P 10 54 33.3 +0.6
baz=52,SNR=28
W23A Werner Place, 52.64 78 ⇑P P 10 54 33.2 +0.2
baz=52,SNR=20
S26A Kim 52.66 74 ⇑P P 10 54 33.1 +0.1
baz=52
Q28A Sharon Springs 52.71 72 ⇓P P 10 54 34.0 +0.7
baz=52
ECSD EROS Data Cent 52.76 64 *e*P P 10 54 32.3 -1.3
comp=Z,22nm,0.9s
LENM Lemitar 52.80 80 *e*P P 10 54 34.8 +0.7
V24A Rampart Ranch, 52.81 77 ⇑P P 10 54 35.0 +0.7
baz=53,SNR=67
120A U Bar Ranch, L 52.86 83 ⇓P P 10 54 34.6 0.0
baz=53,SNR=14
T26A Comanche Natio 52.88 75 ⇑P P 10 54 34.4 -0.3
baz=53,SNR=19
U25A Circle Dot Ran 52.89 76 ⇓P P 10 54 35.1 +0.3
baz=53,SNR=56
Y22D IRIS PASSCAL I 52.89 80 ⇑P P 10 54 36.0 +1.2
baz=53
P29A Atwood 52.89 71 ⇑P P 10 54 35.1 +0.4
baz=53,SNR=41
LPM Los Pinos Moun 52.91 80 *e*P P 10 54 35.9 +0.9
EYMN Ely 52.92 57 *e*P P 10 54 34.1 -0.6
comp=Z,22nm,1.0s
M31A Lambtecht Ranc 52.92 68 ⇑P P 10 54 34.7 -0.1
baz=53
Z21A St. Cloud Mine 52.94 81 ⇓P P 10 54 35.6 +0.4
baz=53,SNR=19
Y22A Socorro 52.95 80 ⇓P P 10 54 35.9 +0.6
baz=53,SNR=34
S27A Las Animas 52.96 74 ⇓P P 10 54 35.7 +0.4
baz=53
X23A Hourglass Bar 53.00 79 ⇓P P 10 54 36.3 +0.6
baz=53
BNM Barren Site 53.02 80 *e*P P 10 54 36.3 +0.5
comp=Z,27nm,1.2s
O30A MW Ranch, Wils 53.04 70 ⇓P P 10 54 36.1 +0.4
baz=53,SNR=32
W24A Lazy 6 Ranch, 53.06 78 ⇓P P 10 54 36.4 +0.3
baz=53,SNR=58
SUMG Summit 53.13 14 *e*P P 10 54 36.0 -0.3
SUMG *e* 10 55 43.7
SUMG pmax pmax
comp=Z,12nm,0.8s
SUMG Summit 53.13 14 *i*P P 10 54 36.1 -0.3
comp=Z,11nm,0.9s
SUMG *i* 10 55 43.7
SUMG Summit 53.13 14 *e*P P 10 54 36.0 -0.3
comp=Z,12nm,0.8s
SUMG *e*PcP **PcP 10 55 43.7 -0.2**
V25A Rancho No Teng 53.13 77 ⇓P P 10 54 36.9 +0.3
baz=53,SNR=51
WHN Wuhan 53.15 274 ⇑P P 10 54 35.8 -0.7
WHN S **S 11 02 04.1 +0.9**
WHN pmax pmax
comp=Z,170nm,1.4s
WHN LR LR
comp=Z,850nm,28.1s
R28A Tribune 53.19 73 ⇓P P 10 54 37.2 +0.3
baz=53,SNR=21
319A Douglas 53.25 84 ⇓P P 10 54 37.4 0.0
baz=53,SNR=8.7
N31A Bailey Ranch, 53.27 68 ⇑P P 10 54 37.5 +0.2
baz=53
U26A Atchley Ranch, 53.30 76 ⇑P P 10 54 37.8 0.0
baz=53,SNR=41
Q29A Oakley 53.33 71 ⇑P P 10 54 37.8 0.0
baz=53,SNR=13
P30A Selden 53.34 70 ⇑P P 10 54 38.1 +0.2
baz=53,SNR=20
220A Playas Peak, P 53.36 83 ⇓P P 10 54 38.0 -0.2
baz=53,SNR=10
BGNE Belgrade 53.36 67 *e*P P 10 54 37.9 -0.1
BGNE Belgrade 53.36 67 ⇓P P 10 54 37.6 -0.4
baz=53,SNR=22
121A Cookes Peak, D 53.39 82 ⇓P P 10 54 39.0 +0.5
baz=53,SNR=10
Z22A Elephant Butte 53.41 81 ⇑P P 10 54 39.0 +0.3
baz=53,SNR=8.4
T27A Campo 53.48 74 ⇑P P 10 54 39.0 -0.1
baz=53
X24A Lazy VL Ranch, 53.48 78 ⇑P P 10 54 39.6 +0.4
baz=53,SNR=12
O31A Woolen Ranch, 53.48 69 ⇓P P 10 54 39.1 +0.2
baz=53,SNR=15
Y23A Lovelace Mesa, 53.52 79 ⇑P P 10 54 40.0 +0.5
baz=53,SNR=56
R29A Marienthal 53.53 72 ⇓P P 10 54 39.7 +0.3
baz=53,SNR=9.7
S28A Manter 53.62 73 ⇑P P 10 54 40.4 +0.3
baz=53,SNR=42
W25A X Bar L Ranch, 53.64 77 ⇓P P 10 54 40.6 +0.4
baz=53,SNR=60
V26A Tequesquite Ra 53.66 76 ⇑P P 10 54 40.4 0.0
baz=54,SNR=41
N32A Stulken Farm, 53.69 68 ⇑P P 10 54 40.2 -0.2
baz=54
Q30A Quinter 53.72 71 ⇑P P 10 54 41.0 +0.3
baz=54,SNR=16
320A Kipp Ranch, An 53.75 84 ⇑P P 10 54 41.4 +0.3
baz=54,SNR=8.1
221A Mesquite Ranch 53.75 82 ⇓P P 10 54 41.8 +0.7
baz=54
122A Conniff Cattle 53.77 81 ⇓P P 10 54 41.9 +0.7
baz=54,SNR=16
T28A Walsh 53.80 74 ⇓P P 10 54 41.5 +0.1
baz=54,SNR=14
SSLB Suanglung 53.81 263 *e*P P 10 54 40.7 -0.8
comp=Z,75nm,1.3s
U27A Thompson Grove 53.84 75 ⇓P P 10 54 41.6 0.0
baz=54,SNR=29
Z23A Rita Site, Whi 53.86 80 ⇓P P 10 54 42.4 +0.5
baz=54
YULB Yu-li 53.89 263 *e*P P 10 54 41.6 -0.4
comp=Z,32nm,1.1s
Y24A Capitan 53.90 79 ⇓P P 10 54 42.6 +0.4
baz=54,SNR=123
SPMN St. Paul 53.93 61 *e*P P 10 54 41.9 -0.2
SPMN St. Paul 53.93 61 ⇑P P 10 54 41.7 -0.4
baz=54,SNR=8.1
X25A Clemmons Ranch 53.98 78 ⇓P P 10 54 43.1 +0.4
baz=54,SNR=30
O32A Brockman Farm, 54.03 68 ⇓P P 10 54 42.5 -0.4
baz=54,SNR=10
S29A Ulysses 54.07 73 ⇓P P 10 54 43.5 +0.2
baz=54,SNR=5.6
222A Williams Famil 54.11 82 ⇓P P 10 54 44.0 +0.3
baz=54
R30A Dighton 54.14 72 ⇑P P 10 54 44.1 +0.4
baz=54,SNR=36
XAN Xi'an 54.14 281 P P 10 54 42.9 -0.9
XAN pP pP 10 54 53.6 -4.3
XAN sP sP 10 54 59.0 -4.8
XAN pmax pmax
comp=Z,7.0nm,1.2s
XAN pmax pmax
comp=Z,65nm,14.4s
XAN LR LR
comp=N,250nm,15.7s
XAN LR LR
comp=E,150nm,16.8s
XAN LR LR
comp=Z,130nm,18.0s
W26A Owens Ranch, T 54.15 77 ⇑P P 10 54 44.1 +0.1
baz=54,SNR=12
Q31A Ellis 54.19 70 ⇓P P 10 54 44.1 0.0
baz=54,SNR=6.2
U28A Mallet 54.23 75 ⇑P P 10 54 44.3 -0.1
baz=54
123A Bell Site, Whi 54.27 81 ⇑P P 10 54 45.6 +0.8
baz=54
V27A Dan Oppiter Fa 54.27 76 ⇓P P 10 54 44.8 0.0
baz=54
Z24A Sheeppen Canyo 54.35 80 ⇑P P 10 54 45.5 0.0
baz=54,SNR=23
ZALV Zalesovo Beam 54.36 314 P P 10 54 45.9 +0.9
ZALV 10 55 48.5
ZALV pmax pmax
comp=Z,1.0nm,0.5s
ZALV pmax pmax
comp=Z,23nm,0.8s
ZALV MLR MLR
comp=Z,444nm,18.6s
ZALV Zalesovo Beam 54.36 314 P P 10 54 45.9 +0.9
ZALV PcP **PcP 10 55 48.5 +0.2**
ZALV Zalesovo Beam 54.36 314 P P 10 54 45.9 +0.9
comp=Z,1.3nm,0.5s,baz=41,slow=7.4,SNR=5.6
ZALV PcP **PcP 10 55 48.5 +0.2**
comp=Z,22nm,0.8s,baz=46,slow=4.3,SNR=35
ZALV LR LR 11 20 18.7
comp=Z,444nm,18.6s,baz=70,slow=39
Y25A Mesa, Roswell 54.36 79 ⇓P P 10 54 45.6 +0.1
baz=54,SNR=33
S30A Montezuma 54.45 72 ⇑P P 10 54 45.9 -0.1
baz=54,SNR=27
X26A CR and CF Fran 54.48 77 ⇑P P 10 54 46.4 0.0
baz=54,SNR=26
NVS Novosibirsk 54.48 315 *e*P P 10 54 42.8 -3.1
NVS pmax pmax
comp=Z,6.0nm,0.8s
NVS pmax pmax
comp=N,2.0nm,0.8s
R31A Burdett 54.58 71 ⇑P P 10 54 46.7 -0.2
baz=54,SNR=27
223A Chaparral, Ant 54.59 81 ⇓P P 10 54 48.0 +0.8
baz=54
W27A Bowe Ranch, En 54.59 76 ⇓P P 10 54 46.8 -0.3
baz=54,SNR=16
V28A Channing 54.64 75 ⇓P P 10 54 47.5 0.0
baz=54
124A Stringfield Ra 54.72 80 ⇓P P 10 54 48.3 0.0
baz=54,SNR=16
U29A Oasis Ranch, S 54.75 74 ⇑P P 10 54 48.3 0.0
baz=54,SNR=5.7
Z25A Roswell 54.78 79 ⇓P P 10 54 48.5 0.0
baz=55,SNR=18
T30A Plains 54.80 73 ⇑P P 10 54 48.5 -0.1
baz=55,SNR=5.6
X27A F and S Farms, 54.85 77 ⇓P P 10 54 49.0 -0.1
baz=55,SNR=9.1
Y26A Elida 54.90 78 ⇑P P 10 54 49.2 -0.2
baz=55,SNR=5.8
W28A Vega 54.98 76 ⇑P P 10 54 50.4 +0.4
baz=55
V29A Stinnett 54.99 75 ⇓P P 10 54 50.5 +0.5
baz=55
S31A Mullinville 55.05 72 ⇓P P 10 54 50.1 -0.2
baz=55,SNR=9.8
U30A WK&E Inc. Balk 55.07 73 ⇓P P 10 54 50.2 -0.3
baz=55,SNR=16
224A Cornudas Mount 55.10 81 ⇑P P 10 54 51.1 +0.1
baz=55,SNR=24
125A Gardner Draw, 55.24 80 ⇑P P 10 54 52.0 +0.1
baz=55,SNR=34
Z26A Caprock 55.24 79 ⇓P P 10 54 51.7 -0.1
baz=55,SNR=14
T31A Randall Ranch, 55.28 72 ⇓P P 10 54 51.7 -0.3
baz=55,SNR=18
Y27A Causey 55.33 78 ⇑P P 10 54 52.3 -0.2
baz=55,SNR=23
SFJD Kangerlussuaq 55.41 22 P P 10 54 52.5 +0.1
SFJD Kangerlussuaq 55.41 22 P P 10 54 52.5 +0.1
comp=N,6.1nm,0.8s,baz=78,slow=5.0,SNR=4.0
W29A Amraillo 55.41 75 ⇑P P 10 54 53.5 +0.4
baz=55
MNTX Cornudas Mount 55.45 81 *e*P P 10 54 53.5 +0.2
comp=N,29nm,1.0s
X28A Dimmitt 55.49 76 ⇓P P 10 54 53.2 -0.4
baz=55,SNR=8.7
MSTX Muleshoe 55.51 77 *e*P P 10 54 53.5 -0.3
MSTX Muleshoe 55.51 77 ⇓P P 10 54 53.3 -0.4
baz=55,SNR=24
225A Deer Hill, Car 55.51 80 ⇓P P 10 54 54.0 +0.1
baz=55,SNR=10
V30A Spur Ranch, Mi 55.56 74 ⇑P P 10 54 53.7 -0.5
baz=55,SNR=6.9
324A Moseley Ranch, 55.56 81 ⇓P P 10 54 54.1 -0.1
baz=55
126A Clayton Basin, 55.64 79 ⇓P P 10 54 54.5 -0.2
baz=56,SNR=10.0
U31A Nine Bar Ranch 55.66 73 ⇑P P 10 54 54.7 -0.1
baz=55,SNR=11
Z27A Tatum 55.68 78 ⇑P P 10 54 54.5 -0.5
baz=56,SNR=17
GDL2 Guadalupe Moun 55.73 80 *e*P P 10 54 55.8 +0.4
KSU1 Kansas State U 55.76 69 *e*P P 10 54 54.8 -0.6
comp=N,67nm,0.9s
X29A Tulia 55.84 76 ⇑P P 10 54 55.8 -0.3
baz=56,SNR=6.5
LZH Lanzhou 55.85 287 *e*P P 10 54 57.3 +1.1
LZH pP **pP 10 55 08.6 -1.8**
LZH sP sP 10 55 12.3 -4.0
LZH PcP **PcP 10 55 55.8 +1.2**
LZH PP **PP 10 57 01.3 +0.4**
LZH *e*S **S 11 02 39.5 -0.3**
LZH sS sS 11 02 56.5 -7.0
LZH SS **SS 11 06 26.0 +0.5**
LZH pmax pmax
comp=Z,100nm,1.2s
LZH pmax pmax
comp=Z,430nm,4.0s
LZH LR LR
comp=N,1μm,19.0s
LZH LR LR
comp=E,670nm,17.0s
LZH LR LR
comp=Z,1μm,19.8s
SCIA State Center 55.85 64 *e*P P 10 54 56.2 +0.2
comp=Z,53nm,0.8s
Y28A McKinney Farm, 55.87 77 ⇑P P 10 54 55.7 -0.7
baz=56,SNR=15
226B Tecolote Peak, 55.94 80 ⇓P P 10 54 56.8 -0.1
baz=56,SNR=30
GTA Gaotai 56.01 292 P P 10 54 57.6 +0.3
GTA pP pP 10 55 07.9 -3.5
GTA sP sP 10 55 11.8 -5.6
GTA S **S 11 02 40.8 -1.0**
GTA sS sS 11 02 57.9 -7.6
GTA ScS **ScS 11 04 41.8 -0.1**
GTA SS **SS 11 06 26.0 -1.8**
GTA pmax pmax
comp=Z,110nm,1.0s
GTA pmax pmax
comp=Z,310nm,4.1s
GTA LR LR
comp=N,750nm,19.1s
GTA LR LR
comp=E,680nm,18.4s
GTA LR LR
comp=Z,1μm,19.8s
W30A Crocket Farms 56.02 75 ⇓P P 10 54 57.3 -0.1
baz=56
127A Arkansas Junct 56.03 79 ⇓P P 10 54 57.1 -0.4
baz=56
V31A Spring Creek L 56.06 74 ⇓P P 10 54 57.5 -0.2
baz=56,SNR=9.1
Z28A Tucker Farm, M 56.20 78 ⇑P P 10 54 58.1 -0.6
baz=56,SNR=12
Y29A Porterfield Fa 56.25 77 ⇓P P 10 54 58.8 -0.3
baz=56,SNR=25
425A Indio Mountain 56.32 82 ⇓P P 10 54 59.7 +0.1
baz=56,SNR=20
X30A Coker Ranch, T 56.34 75 ⇑P P 10 54 59.4 -0.2
baz=56,SNR=22
W31A Holland Ranch, 56.40 74 ⇑P P 10 55 00.0 0.0
baz=56,SNR=11
326A Caldwell Ranch 56.58 80 ⇓P P 10 55 01.1 -0.3
baz=56,SNR=21
128A Castleberry Fa 56.60 78 ⇑P P 10 55 01.1 -0.5
baz=56,SNR=28
Z29A Hungry Hill Ra 56.64 77 ⇓P P 10 55 01.5 -0.4
baz=56,SNR=18
Y30A Stafford Catt 56.71 76 ⇑P P 10 55 02.2 -0.1
baz=56,SNR=16
X31A McDonald Ranch 56.75 75 ⇓P P 10 55 02.3 -0.2
baz=56,SNR=10.0
JFWS Jewell Farm 56.84 61 *e*P P 10 55 02.2 -0.8
JFWS pmax pmax
comp=Z,33nm,0.8s
JFWS Jewell Farm 56.84 61 *e*P P 10 55 02.2 -0.8
comp=Z,33nm,0.8s
228A UT Block 9, Go 56.88 79 ⇓P P 10 55 03.0 -0.6
baz=57,SNR=8.0
129A Stewart Farms, 56.97 78 ⇓P P 10 55 03.9 -0.3
baz=57
Z30A Sanderson Ranc 56.97 77 ⇓P P 10 55 03.6 -0.6
baz=57,SNR=17
426A McDonald Obser 57.00 81 ⇓P P 10 55 03.9 -0.7
baz=57,SNR=22
Y31A Rekieta Farm, 57.04 75 ⇓P P 10 55 04.5 -0.1
baz=57
328A Wristen Ranch, 57.26 79 ⇓P P 10 55 05.7 -0.5
baz=57,SNR=25
526A Mary Lane Ranc 57.38 81 ⇓P P 10 55 06.9 -0.3
baz=57,SNR=15
WMOK Wichita Mounta 57.40 74 *e*P P 10 55 07.1 0.0
WMOK pmax pmax
comp=Z,21nm,0.9s
WMOK Wichita Mounta 57.40 74 *e*P P 10 55 07.1 0.0
comp=Z,21nm,0.9s
Y32A R-V Farms, Ver 57.51 75 ⇓P P 10 55 07.5 -0.3
baz=57,SNR=23
130A Snyder 57.55 77 ⇓P P 10 55 07.8 -0.4
baz=57
Z31A Sharp Cattle R 57.55 76 ⇑P P 10 55 07.8 -0.4
baz=57,SNR=15
527A Woodward Ranch 57.62 81 ⇓P P 10 55 08.1 -0.8
baz=57,SNR=8.9
329A Wagon Wheel Ra 57.69 79 ⇑P P 10 55 08.7 -0.5
baz=58,SNR=13
626A Big Bend Ranch 57.71 82 ⇑P P 10 55 08.8 -0.6
baz=58,SNR=7.2
428A Kincaid Ranch, 57.79 80 ⇑P P 10 55 09.8 -0.1
baz=58,SNR=23
131A Roby 57.85 77 ⇓P P 10 55 09.9 -0.4
baz=58,SNR=11
230A Sterling City 57.95 78 ⇑P P 10 55 10.4 -0.7
baz=58,SNR=39
Z32A Haskell 57.96 75 ⇑P P 10 55 10.8 -0.3
baz=58,SNR=21
528A Cox Ranch, San 58.12 80 ⇓P P 10 55 12.2 -0.2
baz=58,SNR=5.1
ARCES ARCESS Array B 58.13 350 P P 10 55 11.5 -0.2
ARCES PcP **PcP 10 56 01.6 -1.1**
ARCES ARCESS Array B 58.13 350 P P 10 55 11.5 -0.2
comp=Z,7.0nm,0.7s,baz=24,slow=8.5,SNR=24
ARCES PcP **PcP 10 56 01.6 -1.1**
comp=Z,18nm,0.8s,baz=14,slow=6.4,SNR=14
ARCES LR LR 11 21 30.6
comp=Z,377nm,19.7s,baz=190,slow=37
TXAR Lajitas Array 58.15 82 P P 10 55 12.4 -0.1
TXAR Lajitas Array 58.15 82 P P 10 55 12.4 -0.1
comp=Z,11nm,0.9s,baz=298,slow=5.3,SNR=24
TXAR LR LR 11 19 54.6
comp=Z,125nm,19.3s,baz=10.0,slow=36
330A Mertzon 58.24 78 ⇑P P 10 55 12.3 -0.8
baz=58,SNR=14
627A Terlingua Ranc 58.24 81 ⇓P P 10 55 12.7 -0.5
baz=58,SNR=22
ABTX Abilene, Hawle 58.33 76 *e*P P 10 55 13.4 -0.3
ABTX Abilene, Hawle 58.33 76 ⇓P P 10 55 13.4 -0.3
baz=58,SNR=15
429A Davenport Ranc 58.34 79 ⇑P P 10 55 13.2 -0.6
baz=58,SNR=14
TUL1 Tulsa 58.38 71 ⇑P P 10 55 13.6 -0.4
baz=58,SNR=17
231A Bronte 58.40 77 ⇓P P 10 55 12.9 -1.3
baz=58
529A Stev Forest Ra 58.49 80 ⇓P P 10 55 14.3 -0.6
baz=58,SNR=8.9
LVZ Lovozero 58.51 346 *c*eP P 10 55 13.6 -0.8
LVZ pmax pmax
comp=Z,40nm,1.1s
628A Black Gap, Mar 58.53 81 ⇑P P 10 55 14.7 -0.4
baz=58,SNR=24
430A Baggett Ranch, 58.64 79 ⇓P P 10 55 15.1 -0.7
baz=58,SNR=33
331A San Angelo 58.77 78 ⇓P P 10 55 15.8 -1.0
baz=59,SNR=20
232A Coleman 58.84 77 ⇓P P 10 55 16.6 -0.6
baz=59,SNR=17
530A J-C Ranch, Com 59.02 79 ⇓P P 10 55 18.1 -0.5
baz=59,SNR=38
431A Sonora 59.09 78 ⇑P P 10 55 18.2 -0.9
baz=59,SNR=38
332A Millersview 59.14 77 ⇑P P 10 55 18.7 -0.6
baz=59,SNR=20
KURK Kurchatov 59.34 314 *c*eP P 10 55 19.3 -1.1
KURK pmax pmax
comp=Z,10.0nm,1.2s
KURK Kurchatov 59.34 314 *e*P P 10 55 19.0 -1.4
comp=Z,19nm,1.1s
CD2 Chengdu 59.45 282 P P 10 55 21.3 -0.2
CD2 pP pP 10 55 31.8 -3.9
CD2 sP sP 10 55 39.9 -1.7
CD2 PcP **PcP 10 56 08.8 +0.1**
CD2 PP **PP 10 57 34.0 +1.1**
CD2 S **S 11 03 25.8 -1.0**
CD2 sS sS 11 03 43.0 -7.7
CD2 SS **SS 11 07 23.8 +1.7**
CD2 pmax pmax
comp=Z,40nm,0.5s
CD2 pmax pmax
comp=Z,280nm,7.7s
CD2 LR LR
comp=N,710nm,16.7s
CD2 LR LR
comp=Z,530nm,18.4s
432A Menard 59.46 78 ⇓P P 10 55 20.6 -1.0
baz=59,SNR=13
531A Rocksprings 59.50 79 ⇑P P 10 55 20.6 -1.2
baz=59,SNR=13
SCHQ Schefferville 59.66 39 P P 10 55 21.8 -0.7
SCHQ Schefferville 59.66 39 P P 10 55 21.8 -0.7
comp=Z,6.8nm,1.0s,baz=334,slow=6.2,SNR=4.0
SCHQ LR LR 11 23 16.4
comp=Z,967nm,18.0s,baz=90,slow=38
JCT Junction City 59.73 78 *e*P P 10 55 22.4 -1.0
JCT pmax pmax
comp=Z,25nm,1.1s
JCT Junction City 59.73 78 *e*P P 10 55 22.4 -1.0

comp=Z,25nm,1.1s
JCT Junction City 59.73 78 ⇓P P 10 55 22.3 -1.0
baz=60,SNR=12
WMQ Urumqi 59.73 303 P **P 10 55 23.4 +0.1**
WMQ pP pP 10 55 33.5 -4.0
WMQ sP sP 10 55 37.4 -6.0
WMQ PcP **PcP 10 56 09.9 +0.3**
WMQ PP **PP 10 57 37.1 +2.0**
WMQ pmax pmax
comp=Z,33nm,1.0s
WMQ pmax pmax
comp=Z,200nm,5.4s
WMQ LR LR
comp=N,850nm,23.9s
WMQ LR LR
comp=E,600nm,21.4s
WMQ LR LR
comp=Z,860nm,22.7s
SLM Saint Louis 59.74 65 *e*P **P 10 55 23.2 -0.1**
SLM pmax pmax
comp=Z,68nm,1.1s
SLM Saint Louis 59.74 65 *e*P **P 10 55 23.2 -0.1**
comp=Z,68nm,1.1s
532A Rocksprings 59.92 78 ⇑P **P 10 55 23.4 -1.3**
baz=60,SNR=11
631A Perdido Creek 60.01 80 ⇑P **P 10 55 23.5 -1.7**
baz=60,SNR=15
WHTX Lake Whitney 60.10 75 *e*P **P 10 55 25.8 -0.1**
WHTX Lake Whitney 60.10 75 ⇓P **P 10 55 26.0 +0.2**
baz=60,SNR=22
SFIN Scholer Farm 60.29 62 ⇓P **P 10 55 26.9 -0.1**
baz=60,SNR=43
MK31 Makanchi Array 60.39 309 *e*P **P 10 55 26.6 -1.1**
MK31 Makanchi Array 60.39 309 *e*P **P 10 55 26.6 -1.1**
MKAR Makanchi Array 60.39 309 P **P 10 55 26.0 -1.7**
MKAR pmax pmax
comp=Z,4.0nm,0.5s
MKAR MLR MLR
comp=Z,682nm,21.9s
MKAR Makanchi Array 60.39 309 P **P 10 55 26.0 -1.7**
MKAR Makanchi Array 60.39 309 P **P 10 55 26.0 -1.7**
comp=Z,4.5nm,0.6s,baz=60,slow=7.4,SNR=23
MKAR LR LR 11 21 49.2
comp=Z,682nm,21.9s,baz=37,slow=36
632A Uvalde 60.43 79 ⇑P **P 10 55 27.9 -0.3**
baz=60,SNR=6.7
MIAR Mount Ida 60.64 70 *e*P **P 10 55 29.4 -0.1**
MIAR pmax pmax
comp=Z,56nm,0.9s
MIAR Mount Ida 60.64 70 *e*P **P 10 55 29.4 -0.1**
comp=Z,56nm,0.9s
SOKR Solikamsk 60.80 332 ⇓*i*P **P 10 55 30.4 +0.2**
SOKR pmax pmax
comp=Z,20nm,1.3s
SOKR MLR MLR
comp=Z,730nm,21.0s
GYA Guiyang 60.81 277 ⇑*i*P P 10 55 34.8 +3.9
GYA pP pP 10 55 43.4 -1.8
GYA sP sP 10 55 50.3 -0.8
GYA PcP **PcP 10 56 18.0 +3.7**
GYA PP PP 10 57 50.5 +5.4
GYA ScP **ScP 11 00 12.8 +1.8**
GYA S **S 11 03 47.6 +3.1**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,5.4s
GYA LR LR
comp=N,560nm,18.0s
GYA LR LR
comp=E,480nm,19.4s
GYA LR LR
comp=Z,520nm,18.8s
732A Laxson Ranch, 60.86 80 ⇓P **P 10 55 30.8 -0.3**
baz=61,SNR=18
OLIL Olney 60.88 64 *e*P **P 10 55 30.8 -0.2**
SIUC Southern Illin 60.95 65 *e*P **P 10 55 31.2 -0.3**
comp=Z,49nm,0.9s
BRVK Borovoye 61.19 320 ⇓*i*P **P 10 55 32.8 -0.1**
BRVK pmax pmax
comp=Z,4.0nm,0.5s
TMCR Tamitsa 61.37 343 *e*P **P 10 55 34.5 +0.5**
TMCR *e* 10 56 15.5
TMCR *e* 10 57 49.9
TMCR pmax pmax
comp=Z,25nm,1.0s
PARMO Parma 61.38 66 *e*P **P 10 55 34.5 0.0**
BLO Bloomington 61.45 62 *e*P **P 10 55 34.6 -0.3**
BLO Bloomington 61.45 62 *e*P **P 10 55 34.6 -0.3**
HBAR Harrisburg 61.64 68 *e*P **P 10 55 36.1 -0.2**
USIN University of 61.66 64 *e*P **P 10 55 36.5 +0.2**
comp=Z,166nm,0.8s
GNAR Gosnell 61.72 67 *e*P **P 10 55 37.0 +0.2**
comp=Z,1μm,1.6s
SVE Sverdlovsk 61.82 328 *e*P **P 10 55 37.9 +0.8**
SVE pmax pmax
comp=Z,37nm,1.1s
SVE MLR MLR
comp=Z,1μm,20.0s
NATX Nacogdoches 61.95 73 *e*P **P 10 55 38.8 +0.4**
comp=Z,32nm,0.9s
HALT Halls 62.15 67 *e*P **P 10 55 39.9 +0.2**
WCI Wyandotte Cave 62.24 63 *e*P **P 10 55 40.1 -0.2**
WCI pmax pmax
comp=Z,88nm,0.9s
WCI Wyandotte Cave 62.24 63 *e*P **P 10 55 40.0 -0.2**
comp=Z,88nm,0.9s
HKT Hockley 62.53 76 *e*P **P 10 55 42.5 +0.3**
HKT pmax pmax
comp=Z,46nm,1.5s
HKT Hockley 62.53 76 *e*P **P 10 55 42.5 +0.3**
comp=Z,46nm,1.5s
ACSO Alum Creek Sta 62.63 59 *e*P **P 10 55 43.2 +0.3**
comp=Z,46nm,0.8s
ARU Arti 62.82 329 *c i*P **P 10 55 43.5 -0.3**
ARU 10 56 19.3
ARU S **S 11 04 07.4 -1.5**
ARU SS **SS 11 08 10.6 -2.9**
ARU pmax pmax
comp=Z,55nm,1.7s
ARU MLR MLR
comp=Z,466nm,17.0s
ARU Arti 62.82 329 P **P 10 55 43.2 -0.6**
comp=Z,214nm,0.7s,SNR=6.6
WVT Waverly 62.86 65 *e*P **P 10 55 43.9 -0.5**
WVT pmax pmax
comp=Z,40nm,0.9s
WVT Waverly 62.86 65 *e*P **P 10 55 43.9 -0.5**
comp=Z,40nm,0.9s
ERPA Erie 62.87 56 *e*P **P 10 55 44.9 +0.6**
comp=Z,34nm,0.9s
OXF Oxford 63.10 68 *e*P **P 10 55 45.7 -0.3**
OXF pmax pmax
comp=Z,113nm,0.8s
OXF Oxford 63.10 68 *e*P **P 10 55 45.6 -0.3**
comp=Z,113nm,0.8s
ALLY Alegheny Colle 63.12 56 *e*P **P 10 55 46.8 +0.7**
comp=Z,77nm,1.0s
VBMS Vicksburg 64.09 70 *e*P **P 10 55 52.8 +0.3**
comp=Z,78nm,0.9s
KLMR Klimovskoe 64.09 341 *e*P **P 10 55 51.0 -1.1**
KLMR pmax pmax
comp=Z,26nm,1.1s
KLMR MLR MLR
comp=Z,913nm,17.0s
KMI Kunming 64.21 278 P **P 10 55 53.4 -0.3**
KMI pP pP 10 56 02.1 -6.0
KMI PP **PP 10 58 14.9 -0.3**
KMI S **S 11 04 29.0 +1.5**
KMI pmax pmax
comp=Z,21nm,0.9s
KMI pmax pmax
comp=Z,270nm,6.3s
KMI LR LR
comp=N,180nm,14.2s
KMI LR LR
comp=E,230nm,19.2s
KMI LR LR
comp=Z,250nm,14.4s
QIZ Qiongzhong 64.26 269 P **P 10 55 55.0 +1.1**
QIZ sP sP 10 56 10.8 -3.3
QIZ S S 11 04 32.1 +4.4
QIZ pmax pmax
comp=Z,210nm,6.8s
QIZ LR LR
comp=N,270nm,19.9s
QIZ LR LR
comp=Z,290nm,17.4s
SWET Sewanee 64.59 65 *e*P **P 10 55 55.6 -0.3**
comp=Z,54nm,1.0s
BINY Binghamton 64.85 53 *e*P **P 10 55 57.9 +0.4**
comp=Z,22nm,1.0s
TZTN Tazewell 64.97 62 *e*P **P 10 55 58.7 +0.4**
comp=Z,142nm,1.3s
SSPA Standing Stone 65.03 56 *e*P **P 10 55 58.2 -0.3**
comp=Z,9.5nm,0.8s
ACCN Adirondack Com 65.12 51 *e*P **P 10 55 58.9 -0.3**
comp=Z,5.9nm,0.8s
CPCT Cooper Cave 65.22 64 *e*P **P 10 55 59.4 -0.5**
LRAL Lakeview Retre 65.55 67 *e*P **P 10 56 01.2 -0.8**
comp=Z,18nm,0.6s
FIA1 FINESS Array S 65.84 348 *e*P **P 10 56 02.9 -0.6**
FINES FINESS Array B 65.84 348 P **P 10 56 02.6 -0.9**
FINES FINESS Array B 65.84 348 P **P 10 56 02.6 -0.9**
comp=Z,17nm,0.9s,baz=53,slow=7.4,SNR=18
FINES LR LR 11 27 08.6
comp=Z,275nm,19.7s,baz=90,slow=38
BLA Blacksburg 66.20 60 *e*P **P 10 56 06.3 +0.1**
BLA pmax pmax
comp=Z,102nm,1.3s
BLA Blacksburg 66.20 60 *e*P **P 10 56 06.3 +0.1**
comp=Z,102nm,1.3s
VWCC Virginia Weste 66.41 60 *e*P **P 10 56 07.6 0.0**
FRU Bishkek 67.00 310 *e*P **P 10 56 10.0 -1.3**
AAK Ala-Archa 67.21 310 *ce*P **P 10 56 12.5 -0.3**
AAK pmax pmax
comp=Z,21nm,0.8s
AAK Ala-Archa 67.21 310 *e*P **P 10 56 11.6 -1.2**
comp=Z,9.2nm,0.9s
KMSC Kings Mountain 67.22 62 *e*P **P 10 56 13.0 +0.2**
KMSC Kings Mountain 67.22 62 ⇑P **P 10 56 12.9 +0.1**
baz=67,SNR=62
EKS2 Erkin-Say 67.53 311 *e*P **P 10 56 13.9 -0.9**
EKS2 pmax pmax
comp=Z,7.0nm,0.6s
EKS2 Erkin-Say 67.53 311 *e*P **P 10 56 13.9 -0.9**
comp=Z,7.2nm,0.6s
NB2 NORSAR Subarra 67.64 355 P **P 10 56 14.9 -0.1**
comp=Z,3.0nm,0.6s,baz=3.7,slow=6.2
NOA NORSAR Array B 67.64 355 P **P 10 56 14.7 -0.3**
NOA NORSAR Array B 67.64 355 P **P 10 56 14.7 -0.3**
comp=Z,7.4nm,0.9s,baz=5.2,slow=6.3,SNR=9.2
NOA LR LR 11 24 13.6
comp=Z,350nm,19.6s,baz=5.0,slow=34
LSA Lhasa 67.89 290 P **P 10 56 18.9 +1.3**
LSA pmax pmax
comp=Z,170nm,0.9s
AKTO Aktyubinsk 67.93 325 P **P 10 56 16.7 -0.3**
AKTO pmax pmax
comp=Z,19nm,0.7s
AKTO Aktyubinsk 67.93 325 P **P 10 56 16.7 -0.3**
AKTO Aktyubinsk 67.93 325 P **P 10 56 16.7 -0.3**
comp=Z,19nm,0.7s,baz=44,slow=6.9,SNR=58
ABKAR Akbulak array 68.20 323 *e*P **P 10 56 18.2 -0.4**
comp=Z,12nm,0.8s
TAOE Nuku Hiva Isla 68.33 139 *e*T T 12 10 42.2
comp=Z,57nm,0.2s
VSU Vasula 68.62 346 ⇑*i*P **P 10 56 20.5 -0.6**
VSU pmax pmax
comp=Z,87nm,0.9s
TIGA Tifton 68.68 66 ⇓P **P 10 56 22.0 0.0**
baz=68
KKAR Karatay Array 68.72 313 *e*P **P 10 56 21.2 -0.8**
KKAR pmax pmax
comp=Z,7.0nm,0.7s
KKAR Karatay Array 68.72 313 *e*P **P 10 56 21.2 -0.8**
comp=Z,7.2nm,0.7s
KSH Kashi 68.87 307 P P 10 56 26.6 +3.4
KSH pP pP 10 56 36.9 -0.8
KSH PP PP 10 59 00.3 +5.1
KSH PcS 11 00 55.3
KSH S **S 11 05 25.4 +2.1**
KSH ScS **ScS 11 06 20.3 +1.2**
KSH pmax pmax
comp=Z,19nm,1.0s
KSH pmax pmax
comp=Z,120nm,4.5s
KSH LR LR
comp=N,480nm,14.7s
KSH LR LR
comp=E,560nm,12.8s
KSH LR LR
comp=Z,810nm,19.6s
MOS Moscow 69.19 339 *e*P **P 10 56 23.1 -1.6**
MOS *e* 10 56 36.8
MOS pmax pmax
comp=Z,73nm,0.9s
OBN Obninsk 70.00 340 ⇓*e*P **P 10 56 29.6 0.0**
OBN *e* 10 56 41.4
OBN *i* 10 56 51.7
OBN S **S 11 05 34.0 -1.7**
OBN pmax pmax
comp=Z,94nm,1.6s
OBN MLR MLR
comp=Z,400nm,17.0s
SHL Shillong 70.51 287 *e*P **P 10 56 33.5 0.0**
SHL *e*S **S 11 05 44.0 +1.0**
LAMP Lampang 71.02 276 P **P 10 56 36.7 +0.2**
comp=Z,4.3nm,1.1s
PMOR Pomariorio Ree 71.17 149 *e*T T 12 14 21.1
comp=Z,48nm,0.3s
CMAR Chiang Mai Arr 71.50 277 LR LR 11 31 43.6
comp=Z,256nm,19.6s,baz=252,slow=39
TAPN Taplejung 71.65 291 *e*P **P 10 56 41.4 +0.8**
comp=Z,651nm,1.0s
ODAN Odare 72.21 291 *e*P **P 10 56 44.3 +0.5**
comp=Z,150nm,0.9s
GUN Gumba 72.30 293 *e*P **P 10 56 45.1 +0.6**
comp=Z,610nm,0.7s
JIRN Jiri 72.31 292 *e*P **P 10 56 45.3 +0.7**
comp=Z,633nm,1.0s
VRHR Novokhopersk 72.47 335 *e*P **P 10 56 43.3 -1.4**
VRHR pmax pmax
comp=Z,30nm,0.7s
VRHR pmax pmax
comp=N,50nm,1.0s
VRHR pmax pmax
comp=E,30nm,0.7s
RAMN Ramite 72.60 291 *e*P **P 10 56 46.7 +0.5**
comp=E,438nm,0.7s
KKN Kakani 72.73 293 *e*P **P 10 56 47.5 +0.6**
comp=E,253nm,0.9s
PKI Pulchoki 72.83 293 *e*P **P 10 56 47.9 +0.3**
comp=E,375nm,1.0s
PKIN Phulchoki 72.83 293 *e*P **P 10 56 47.8 +0.3**
comp=E,270nm,1.0s
DMN Daman 72.97 293 *e*P **P 10 56 49.0 +0.6**
comp=E,352nm,1.1s
PPT Papeete 73.07 152 LR LR 11 23 11.2
comp=E,350nm,18.3s,baz=355,slow=31
PPT2 Papeete2 73.09 152 *e*S **SKiKP 11 06 16.3 +0.1**
comp=E,822nm,28.2s
PPT2 *e*SS **SS 11 10 58.8 +4.2**
comp=E,140nm,26.8s
PPT2 *e*LR LR 11 19 14.6
comp=E,904nm,27.8s,baz=345
PPT2 Papeete2 73.09 152 *e*T T 12 16 44.1
comp=E,12nm,0.3s
TIAR Tiarei 73.13 151 *e*T T 12 16 57.3
comp=E,13nm,0.3s
DANN Dangsing 73.18 294 *e*P **P 10 56 50.1 +0.4**
comp=E,335nm,0.9s
VORD Divnogorie 73.19 336 *e*P **P 10 56 48.1 -0.8**
VORD pmax pmax
comp=Z,20nm,0.7s
VORD pmax pmax
comp=N,40nm,1.0s
VORD pmax pmax
comp=E,10.0nm,0.8s
COEN Coen 73.34 219 *e*P **P 10 56 48.6 -1.6**
comp=E,206nm,1.3s
KOLN Koldanda 73.72 294 *e*P **P 10 56 53.0 +0.3**
comp=E,138nm,0.9s
PYUN Piuthan 73.81 295 *e*P **P 10 56 53.5 +0.2**
comp=E,321nm,0.5s
DZM Mont Dzumac 74.45 195 *e*LR LR 11 19 52.7
comp=E,680nm,24.9s
DZM Mont Dzumac 74.45 195 P **P 10 56 55.4 -1.2**
DZM Mont Dzumac 74.45 195 P **P 10 56 55.4 -1.2**
comp=E,14nm,1.0s,baz=61,slow=8.2,SNR=5.5
BSEG Bad Segeberg 74.78 355 *e*P **P 10 56 58.8 +0.7**
comp=Z,45nm,1.7s
BSEG Bad Segeberg 74.78 355 *e*P **P 10 56 58.8 +0.7**
BSEG pmax pmax
comp=Z,45nm,1.7s
SBUM Sibu 75.56 255 P P 10 56 59.6 -3.6
comp=Z,11nm,1.4s
AKASG Malin Array Be 75.65 343 P **P 10 57 02.9 -0.3**
AKASG pmax pmax
comp=Z,21nm,0.8s
AKASG Malin Array Be 75.65 343 P **P 10 57 02.9 -0.3**
AKASG Malin Array Be 75.65 343 P **P 10 57 02.9 -0.3**
comp=Z,21nm,0.8s,baz=18,slow=5.5,SNR=54
AKASG LR LR 11 35 58.9
comp=Z,369nm,18.0s,baz=35,slow=40
KIEV Kiev 75.66 343 *e*P **P 10 57 02.5 -0.8**
KIEV pmax pmax
comp=Z,33nm,1.0s
KIEV Kiev 75.66 343 *e*P **P 10 57 02.5 -0.8**
comp=Z,33nm,1.0s
KBL Kabul 76.20 308 *e*P **P 10 57 05.8 -1.1**
KBL pmax pmax
comp=Z,33nm,0.9s
KBL Kabul 76.20 308 *e*P **P 10 57 05.8 -1.1**
comp=Z,33nm,0.9s
NRDL Niedersach Rie 76.22 355 *e*P **P 10 57 06.3 -0.1**
comp=Z,30nm,1.5s
IBBN Ibbenburen 76.52 356 *e*P **P 10 57 08.4 +0.2**
comp=Z,63nm,1.4s
CLZ Clausthal 76.86 355 *e*P **P 10 57 10.4 +0.2**
comp=Z,42nm,1.5s
CLZ Clausthal 76.86 355 *e*P **P 10 57 10.4 +0.2**
CLZ pmax pmax
comp=Z,42nm,1.5s
CLL Collm 77.22 353 *e*P **P 10 57 11.5 -0.6**
comp=Z,34nm,1.7s
CLL Collm 77.22 353 *i*P **P 10 57 11.8 -0.3**
CLL *e* 10 57 30.0
CLL pmax pmax
comp=Z,33nm,1.7s
CLL MLR MLR
comp=Z,400nm,19.1s
CLL Collm 77.22 353 *i*P **P 10 57 11.8 -0.3**
comp=Z,33nm,1.7s
CLL *e*(PcP) **PcP 10 57 20.0 -2.6**
CLL *e*pP **pP 10 57 30.0 +3.2**
CLL *e*PS **PnS 11 07 40.0 -1.5**
CLL *e*PPS PPS 11 08 00.0
CLL *e*SS SS 11 12 24.0 +30
CLL *e* 11 14 12.0
CLL Lm MLR 11 35 00.0
comp=N,300nm,20.3s
CLL Lm MLR 11 35 00.0
comp=E,300nm,18.6s
CLL Lm MLR 11 35 00.0
comp=Z,400nm,19.1s
KSP Ksiaz 77.38 351 *e*P **P 10 57 13.9 +0.9**
LVV L'vov 77.40 346 *e*P **P 10 57 12.7 -0.4**
NEUB Neuenburg 77.40 354 *e*P **P 10 57 13.1 0.0**
comp=Z,56nm,1.5s
BUG Bochum--Univer 77.41 357 *e*P **P 10 57 13.1 0.0**
comp=Z,41nm,1.4s
GOF Gofitskoye 77.56 332 *e*P **P 10 57 14.4 +0.3**
GOF pmax pmax
comp=Z,230nm,0.8s
BRG Berggiesshubel 77.57 352 *e*P **P 10 57 14.2 +0.1**
comp=Z,18nm,1.2s
BRG
comp=N,471nm,21.4s
BRG
comp=E,245nm,15.5s
BRG
comp=Z,419nm,17.9s
BRG Berggiesshubel 77.57 352 *e*P **P 10 57 13.6 -0.5**
comp=Z,18nm,1.2s
BRG Berggiesshubel 77.57 352 *e*P **P 10 57 14.2 +0.1**
BRG pmax pmax
comp=Z,18nm,1.2s
BRG MLR MLR
comp=N,471nm,21.4s
BRG MLR MLR
comp=E,245nm,15.5s
BRG MLR MLR
comp=Z,419nm,17.9s
FBE Freiberg 77.57 353 *e*P **P 10 57 14.2 +0.1**
comp=Z,42nm,1.4s
UPC Upice 77.74 351 *e*P **P 10 57 15.7 +0.6**
UPC Upice 77.74 351 *e*P **P 10 57 15.7 +0.6**
KWP Kalwaria Pacla 77.78 346 *e*P **P 10 57 15.8 +0.5**
KWP pmax pmax
comp=Z,59nm,0.8s
KWP Kalwaria Pacla 77.78 346 *e*P **P 10 57 15.8 +0.5**
comp=Z,59nm,0.8s
KWP Kalwaria Pacla 77.78 346 *e*P **P 10 57 16.4 +1.1**
CTAO Charters Tower 77.80 214 *e*P **P 10 57 14.7 -0.9**
CTAO pmax pmax
comp=Z,20nm,1.1s
CTAO Charters Tower 77.80 214 *e*P **P 10 57 14.7 -0.9**
comp=Z,20nm,1.1s
DPC Dobruska-Polom 77.87 351 *e*P **P 10 57 16.3 +0.5**
DPC *e* 10 57 20.8
DPC Dobruska-Polom 77.87 351 *e*P **P 10 57 16.3 +0.5**
DPC *e*x x 10 57 20.8
WERD Werda 78.12 353 *e*P **P 10 57 17.2 0.0**
comp=Z,21nm,1.5s
TANN Tannenbergstha 78.14 353 *e*P **P 10 57 17.3 -0.1**
comp=Z,12nm,1.2s
STHS Stebnicka Huta 78.20 347 *e*P **P 10 57 18.4 +0.8**
STHS pmax pmax
comp=Z,16nm,1.1s
STHS Stebnicka Huta 78.20 347 *e*P **P 10 57 18.4 +0.8**
STHS *e*PCP **PcP 10 57 27.6 +0.6**
GUNZ Gunzen 78.20 353 *e*P **P 10 57 17.8 +0.1**
comp=Z,24nm,1.4s
MEM Membach 78.28 357 P **P 10 57 18.4 +0.3**
comp=Z,15nm,1.2s
PRA Prague 78.33 352 P **P 10 57 20.0 +1.7**
PRU Pruhonice 78.40 352 *e*P **P 10 57 18.9 +0.2**
PRU MLR MLR
comp=Z,400nm,26.2s
PRU Pruhonice 78.40 352 *e*P **P 10 57 18.9 +0.2**
PRU AMS AMS 11 29 50.0
comp=Z,400nm,26.2s
SNF Seneffe 78.42 359 P **P 10 57 19.5 +0.7**
BCLA Clavier 78.49 358 P **P 10 57 19.1 0.0**
KOLS Kolonicke sedl 78.53 347 *e*P **P 10 57 19.7 +0.3**
KOLS pmax pmax
comp=Z,18nm,1.2s
KOLS Kolonicke sedl 78.53 347 *e*P **P 10 57 19.7 +0.3**
TBI Tubuai 78.57 153 *e*S S 11 07 20.0 +7.8
comp=Z,389nm,34.2s
TBI Tubuai 78.57 153 *e*LR LR 11 21 36.7
comp=Z,766nm,30.5s,baz=340
TBI Tubuai 78.57 153 *e*T T 12 23 45.8
comp=Z,10nm,0.3s
TNS Taunus Mts 78.58 356 *e*P **P 10 57 19.7 -0.1**
comp=Z,22nm,1.3s
TNS Taunus Mts 78.58 356 *e*P **P 10 57 19.7 -0.1**
TNS pmax pmax
comp=Z,22nm,1.3s
MANZ Manzenberg 78.60 353 *e*P **P 10 57 19.7 -0.1**
comp=Z,8.0nm,1.0s
KIV Kislovodsk 78.67 331 *e*P **P 10 57 20.7 +0.3**
KIV pmax pmax
comp=Z,43nm,0.9s
KIV MLR MLR
comp=Z,499nm,19.0s
ROTZ Rotzenmuhle 78.81 353 *e*P **P 10 57 21.0 0.0**
comp=Z,23nm,1.4s
KBZ Khabaz 78.81 331 P **P 10 57 21.5 +0.5**
KBZ pmax pmax
comp=Z,25nm,0.8s
KBZ MLR MLR
comp=Z,760nm,20.4s
KBZ Khabaz 78.81 331 P **P 10 57 21.5 +0.5**
KBZ Khabaz 78.81 331 P **P 10 57 21.5 +0.5**
comp=Z,25nm,0.8s,baz=74,slow=1.7,SNR=34
KBZ LR LR 11 36 52.8
comp=Z,760nm,20.4s,baz=30,slow=39
UZH Uzhgorod 78.82 346 *e*P **P 10 57 19.5 -1.5**
UZH *e* 10 57 30.9
UZH *e* 10 57 38.9
GIVF Givet 78.82 358 *e*P **P 10 57 20.9 -0.1**
comp=Z,42nm,1.0s
GIVF Givet 78.82 358 *e*P **P 10 57 20.9 -0.1**
GIVF pmax pmax
comp=Z,42nm,1.0s
GIVF Givet 78.82 358 *e*P **P 10 57 20.9 -0.1**
comp=Z,42nm,1.0s

DOU Dourbes 78.83 358 P P 10 57 21.6 +0.5
comp=Z,11nm,1.4s
BAIF Baives 78.87 359 *eP* **P 10 57 21.5 +0.2**
comp=Z,94nm,1.2s
BAIF Baives 78.87 359 *eP* **P 10 57 21.5 +0.2**
BAIF pmax pmax
comp=Z,95nm,1.2s
BAIF Baives 78.87 359 *eP* **P 10 57 21.5 +0.2**
comp=Z,94nm,1.2s
GRF Grafenberg Arr 78.95 354 *eP* **P 10 57 22.0 +0.2**
comp=Z,33nm,1.3s
GRF Grafenberg Arr 78.95 354 *eP* **P 10 57 22.0 +0.2**
GRF pmax pmax
comp=Z,33nm,1.3s
TREC Trest 79.00 351 *eP* **P 10 57 22.6 +0.6**
TREC MLR MLR
comp=Z,400nm,17.2s
TREC Trest 79.00 351 *eP* **P 10 57 22.6 +0.6**
TREC AMS AMS 11 28 30.0
comp=Z,400nm,17.2s
KECS Kecovo 79.22 348 *eP* **P 10 57 24.2 +1.0**
KECS pmax pmax
comp=Z,8.0nm,0.9s
KECS Kecovo 79.22 348 *eP* **P 10 57 24.2 +1.0**
KECS *e*PCP **PcP 10 57 31.5 +0.1**
WLF Walferdange 79.22 357 *eP* **P 10 57 23.5 +0.3**
comp=Z,36nm,1.5s
TRPA Tarpa 79.27 346⇑*iP* **P 10 57 24.8 +1.3**
KIS Kishinev 79.28 342⇑*iP* **P 10 57 23.0 -0.5**
comp=Z,200nm,1.0s
KIS LRM MLR 11 37 20.0
comp=Z,700nm,22.0s
KIS Kishinev 79.28 342⇑*iP* **P 10 57 23.0 -0.5**
KIS *e* 11 02 10.0
KIS pmax pmax
comp=Z,200nm,1.0s
KIS MLR MLR
comp=Z,700nm,20.0s
KIS MLR MLR
comp=Z,700nm,22.0s
KHC Kasperske Hory 79.33 352 *eP* **P 10 57 23.6 -0.3**
KHC *e* 10 57 32.0
KHC Kasperske Hory 79.33 352 *eP* **P 10 57 23.6 -0.3**
KHC *ex* x 10 57 28.3
KHC *e*PCP **PcP 10 57 32.0 +0.1**
KHC Kasperske Hory 79.33 352 *eP* **P 10 57 24.2 +0.4**
comp=Z,14nm,1.0s
ZEI Tsey 79.35 330 *eP* **P 10 57 23.6 -0.7**
ZEI pmax pmax
comp=Z,75nm,1.0s
WET Wettzell 79.38 353 *eP* **P 10 57 24.1 0.0**
comp=Z,10.0nm,1.1s
WET Wettzell 79.38 353 *eP* **P 10 57 24.1 0.0**
WET pmax pmax
comp=Z,10.0nm,1.1s
VYHS Vyhne 79.42 349 *eP* **P 10 57 24.4 +0.1**
VYHS pmax pmax
comp=Z,7.0nm,1.1s
VYHS Vyhne 79.42 349 *eP* **P 10 57 24.4 +0.1**
GEC2 GERESS Array S 79.60 352 *eP* **P 10 57 25.1 -0.3**
comp=Z,15nm,1.3s
GEC2 GERESS Array S 79.60 352 *eP* **P 10 57 25.1 -0.3**
GEC2 pmax pmax
comp=Z,15nm,1.3s
GERES GERESS Array B 79.60 352 P **P 10 57 25.2 -0.2**
GERES GERESS Array B 79.60 352 P **P 10 57 25.3 -0.2**
comp=Z,2.7nm,0.8s,baz=28,slow=6.0,SNR=14
GERES LR LR 11 37 38.3
comp=Z,351nm,19.0s,baz=2.9,slow=39
TGUH Tegucigalpa,Un 79.60 81 *eP* **P 10 57 27.1 +1.4**
comp=Z,45nm,1.0s
ONI Oni 79.67 330 P **P 10 57 27.1 +1.2**
LANF Langenberg 79.85 356 *eP* **P 10 57 26.8 +0.2**
PSZ Piszkesteto 79.85 348⇑P **P 10 57 28.1 +1.4**
PSZ Piszkesteto 79.85 348 *eP* **P 10 57 27.3 +0.6**
comp=Z,14nm,1.0s
PSZ Piszkesteto 79.85 348⇑*iP* **P 10 57 28.1 +1.4**
TBLG Delisi 80.04 329 P **P 10 57 28.4 +0.6**
TBLG Delisi 80.04 329 P **P 10 57 28.4 +0.6**
DGRG David-gareji 80.08 328 P **P 10 57 28.5 +0.4**
FLN La Foliniere 80.17 2⇑*iP* **P 10 57 28.0 -0.3**
comp=Z,91nm,1.1s
FLN *e*R
comp=Z,343nm,23.0s
FLN La Foliniere 80.17 2⇑*iP* **P 10 57 28.0 -0.3**
FLN pmax pmax
comp=Z,91nm,1.1s
FLN La Foliniere 80.17 2⇑*iP* **P 10 57 28.0 -0.3**
comp=Z,91nm,1.1s
CONA Conrad Observa 80.31 351⇑*iP* **P 10 57 29.2 0.0**
comp=Z,18nm,1.2s,SNR=5.6
LDF La Druitiere 80.34 1 *eP* **P 10 57 28.8 -0.5**
comp=Z,61nm,1.1s
LDF La Druitiere 80.34 1 *eP* **P 10 57 28.8 -0.5**
LDF pmax pmax
comp=Z,61nm,1.1s
LDF La Druitiere 80.34 1 *eP* **P 10 57 28.8 -0.5**
comp=Z,61nm,1.1s
PAGF Fort de Pagny 80.34 357⇑*iP* **P 10 57 29.6 +0.3**
comp=Z,25nm,1.0s
PAGF Fort de Pagny 80.34 357⇑*iP* **P 10 57 29.6 +0.3**
comp=Z,25nm,1.0s
MEZF Maizieres J'vi 80.41 358⇑*iP* **P 10 57 29.9 +0.2**
comp=Z,95nm,1.3s
MEZF Maizieres J'vi 80.41 358⇑*iP* **P 10 57 29.9 +0.2**
comp=Z,95nm,1.3s
CDF Champ du Feu 80.44 356 *eP* **P 10 57 29.6 -0.3**
comp=Z,16nm,0.9s
CDF Champ du Feu 80.44 356 *eP* **P 10 57 29.6 -0.3**
CDF pmax pmax
comp=Z,16nm,0.9s
CDF Champ du Feu 80.44 356 *eP* **P 10 57 29.6 -0.3**
comp=Z,16nm,0.9s
GHRR 80.45 342⇑*iP* **P 10 57 31.6 +1.7**
FUR Furstenfeldbru 80.47 354 *eP* **P 10 57 30.0 0.0**
comp=Z,33nm,1.1s
FUR Furstenfeldbru 80.47 354 *eP* **P 10 57 30.0 0.0**
FUR pmax pmax
comp=Z,33nm,1.1s
BFO Black Forest 80.47 356 *eP* **P 10 57 30.0 0.0**
comp=Z,20nm,1.4s
BFO Black Forest 80.47 356 *eP* **P 10 57 30.0 0.0**
BFO pmax pmax
comp=Z,20nm,1.4s
ROSF Rostrenen 80.51 4 *eP* **P 10 57 30.0 -0.2**
ROSF Rostrenen 80.51 4 *eP* **P 10 57 30.0 -0.2**
ROSF Rostrenen 80.51 4 *eP* **P 10 57 30.0 -0.2**
GRR Gorron 80.53 2⇑*iP* **P 10 57 30.2 -0.1**
comp=Z,73nm,1.0s
GRR Gorron 80.53 2⇑*iP* **P 10 57 30.2 -0.1**
GRR pmax pmax
comp=Z,73nm,1.0s
GRR Gorron 80.53 2⇑*iP* **P 10 57 30.2 -0.1**
comp=Z,73nm,1.0s
MOA Molln 80.54 352⇑*iP* **P 10 57 31.2 +0.8**
comp=Z,7.6nm,1.2s
DRGR 80.55 346⇓P **P 10 57 31.5 +1.0**
DRGR 80.55 346⇓*iP* **P 10 57 31.5 +1.0**
SGMF Saint Gilles 80.62 3⇑*iP* **P 10 57 30.8 0.0**
comp=Z,96nm,1.1s
SGMF Saint Gilles 80.62 3⇑*iP* **P 10 57 30.8 0.0**
SGMF pmax pmax
comp=Z,96nm,1.1s
SGMF Saint Gilles 80.62 3⇑*iP* **P 10 57 30.8 0.0**
comp=Z,96nm,1.1s
ECH Echery 80.64 357 *eP* **P 10 57 31.0 0.0**
ECH pmax pmax
comp=Z,10.0nm,1.0s
ECH Echery 80.64 357 *eP* **P 10 57 30.9 0.0**
ECH Echery 80.64 357 *eP* **P 10 57 31.0 0.0**
comp=Z,9.5nm,1.0s
THEF They Montfort 80.67 357 *eP* **P 10 57 31.2 +0.1**
SFTF Sexfontaines 80.71 358⇑*iP* **P 10 57 31.3 0.0**
comp=Z,87nm,1.0s
SFTF Sexfontaines 80.71 358⇑*iP* **P 10 57 31.3 0.0**
comp=Z,87nm,1.0s
AKH Akhalkalaki 80.73 330 P **P 10 57 32.3 +0.6**
VRI Vrincioaia 80.76 343⇑P **P 10 57 32.9 +1.3**
VRI Vrincioaia 80.76 343⇑*iP* **P 10 57 32.9 +1.3**
RJOB Jochberg 80.78 353 *eP* **P 10 57 31.6 -0.1**
comp=Z,15nm,1.4s
PLOR Plostina 80.79 343⇑P **P 10 57 32.5 +0.7**
PLOR Plostina 80.79 343⇑*iP* **P 10 57 32.5 +0.7**
HAU Haudompre 80.88 357⇑*iP* **P 10 57 32.0 -0.2**
comp=Z,24nm,0.9s
HAU *e*R
comp=Z,365nm,21.0s
HAU Haudompre 80.88 357⇑*iP* **P 10 57 32.0 -0.2**
HAU pmax pmax
comp=Z,24nm,0.9s
HAU Haudompre 80.88 357⇑*iP* **P 10 57 32.0 -0.2**
comp=Z,24nm,0.9s
QUIF Quistinic 80.94 4 *eP* **P 10 57 32.2 -0.2**
comp=Z,52nm,1.0s
QUIF Quistinic 80.94 4 *eP* **P 10 57 32.2 -0.2**
QUIF pmax pmax
comp=Z,53nm,1.0s
QUIF Quistinic 80.94 4 *eP* **P 10 57 32.2 -0.2**
comp=Z,52nm,1.0s
MOF Molkenrain 81.00 356 *eP* **P 10 57 32.7 -0.3**
ARSA Arzberg 81.02 351⇑*iP* **P 10 57 33.4 +0.5**
comp=Z,15nm,1.1s
HINF Hinteralfeld 81.05 357 *eP* **P 10 57 32.7 -0.4**
comp=Z,23nm,1.1s
HINF Hinteralfeld 81.05 357 *eP* **P 10 57 32.7 -0.4**
HINF pmax pmax
comp=Z,23nm,1.1s
HINF Hinteralfeld 81.05 357 *eP* **P 10 57 32.7 -0.4**
comp=Z,23nm,1.1s
CFR Carcaliu 81.16 342⇑P **P 10 57 33.9 +0.2**
CFR Carcaliu 81.16 342⇑*iP* **P 10 57 33.9 +0.2**
SIRR Siria 81.22 346⇑*iP* **P 10 57 35.1 +1.1**
MLR Muntele Rosu 81.27 343⇓*iP* **P 10 57 35.6 +1.1**
MOTA Moosalm 81.30 354⇑*iP* **P 10 57 34.4 -0.2**
comp=Z,22nm,1.2s,SNR=8.4
WTTA Wattenberg 81.34 353⇑*iP* **P 10 57 35.1 +0.2**
comp=Z,30nm,1.2s,SNR=7.6
KBA Koelnbreinsper 81.39 352⇓*iP* **P 10 57 35.8 +0.6**
comp=Z,61nm,1.0s,SNR=24
GNI Garni 81.47 328 *eP* **P 10 57 36.7 +1.0**
comp=Z,29nm,0.9s
VOIR 81.48 344 P **P 10 57 36.9 +1.4**
VOIR 81.48 344⇑*iP* **P 10 57 36.9 +1.4**
LOMF Lomont 81.51 357 *eP* **P 10 57 35.7 0.0**
SOKA Soboth 81.63 351⇑*iP* **P 10 57 36.4 +0.1**
comp=Z,43nm,1.1s,SNR=16
FETA Feichten 81.64 354⇑*iP* **P 10 57 36.6 +0.2**
comp=Z,21nm,1.0s,SNR=7.8
PERS Pernice 81.66 351 *iP* **P 10 57 37.3 +0.8**
HARR Harsova 81.67 342⇑P **P 10 57 37.3 +0.9**
HARR Harsova 81.67 342⇑*iP* **P 10 57 37.3 +0.9**
LOR Lormes 81.67 359 *eP* **P 10 57 36.3 -0.1**
comp=Z,36nm,1.0s
LOR *e*R
comp=Z,382nm,21.5s
LOR Lormes 81.67 359 *eP* **P 10 57 36.3 -0.1**
comp=Z,36nm,1.0s
HYF Humbligny 81.68 360 *eP* **P 10 57 36.6 +0.1**
HYF Humbligny 81.68 360 *eP* **P 10 57 36.6 +0.1**
SECR 81.69 343⇑*iP* **P 10 57 38.2 +1.7**
ABTA Abfaltersbach 81.79 353⇓*iP* **P 10 57 36.8 -0.3**
comp=Z,23nm,1.1s,SNR=6.9
TIRR Tirgusor 81.79 341⇑P **P 10 57 37.4 +0.4**
TIRR Tirgusor 81.79 341⇑*iP* **P 10 57 37.4 +0.4**
MYKA Terra Mystica 81.81 352⇑*iP* **P 10 57 37.0 -0.2**
comp=Z,17nm,1.5s
OBKA Obir 81.84 351⇑*iP* **P 10 57 37.4 0.0**
comp=Z,17nm,0.9s
BZS Buzias 81.86 346⇑P **P 10 57 37.5 +0.1**
BZS Buzias 81.86 346⇑*iP* **P 10 57 37.5 +0.1**
SSF Saint Saulge 81.88 359⇑*iP* **P 10 57 37.4 -0.1**
comp=Z,26nm,0.8s
SSF Saint Saulge 81.88 359⇑*iP* **P 10 57 37.4 -0.1**
SSF pmax pmax
comp=Z,26nm,0.8s
SSF Saint Saulge 81.88 359⇑*iP* **P 10 57 37.4 -0.1**
comp=Z,26nm,0.8s
AVF Avril sur Loir 82.15 359⇑*iP* **P 10 57 38.8 -0.1**
comp=Z,52nm,1.1s
AVF Avril sur Loir 82.15 359⇑*iP* **P 10 57 38.8 -0.1**
AVF pmax pmax
comp=Z,52nm,1.1s
AVF Avril sur Loir 82.15 359⇑*iP* **P 10 57 38.8 -0.1**
comp=Z,52nm,1.1s
TUE Stuetta 82.27 355 *eP* **P 10 57 40.1 +0.2**
comp=Z,11nm,0.9s
CABF La Chapelle 82.28 357 *eP* **P 10 57 39.8 +0.1**
comp=Z,53nm,1.1s
CABF La Chapelle 82.28 357 *eP* **P 10 57 39.8 +0.1**
CABF pmax pmax
comp=Z,53nm,1.1s
CABF La Chapelle 82.28 357 *eP* **P 10 57 39.8 +0.1**
comp=Z,53nm,1.1s
SMF Signal de Mont 82.29 359 *eP* **P 10 57 39.5 -0.2**
comp=Z,73nm,1.0s
SMF Signal de Mont 82.29 359 *eP* **P 10 57 39.5 -0.2**
SMF pmax pmax
comp=Z,73nm,1.0s
SMF Signal de Mont 82.29 359 *eP* **P 10 57 39.5 -0.2**
comp=Z,73nm,1.0s
MFF Saint Martin d 82.33 1⇑*iP* **P 10 57 39.9 0.0**
comp=Z,80nm,1.0s
MFF Saint Martin d 82.33 1⇑*iP* **P 10 57 39.9 0.0**
MFF pmax pmax
comp=Z,80nm,1.0s
MFF Saint Martin d 82.33 1⇑*iP* **P 10 57 39.9 0.0**
comp=Z,80nm,1.0s
WRAB Tennant Creek 82.38 225 *eP* **P 10 57 38.8 -1.6**
WRAB pmax pmax
comp=Z,27nm,1.4s
WRAB Tennant Creek 82.38 225 *eP* **P 10 57 38.8 -1.6**
comp=Z,27nm,1.4s
BGF Bois d'Agland 82.39 359 *eP* **P 10 57 40.1 -0.1**
comp=Z,42nm,1.0s
BGF Bois d'Agland 82.39 359 *eP* **P 10 57 40.1 -0.1**
BGF pmax pmax
comp=Z,42nm,1.0s
BGF Bois d'Agland 82.39 359 *eP* **P 10 57 40.1 -0.1**
comp=Z,42nm,1.0s
WRA Warramunga Arr 82.40 225 P **P 10 57 38.6 -1.8**
WRA Warramunga Arr 82.40 225 P **P 10 57 38.6 -1.8**
comp=Z,7.5nm,0.9s,baz=30,slow=5.7,SNR=33
WRA LR LR 11 31 21.4
comp=Z,222nm,19.3s,baz=40,slow=34
JAVS Javornik 82.50 352 *iP* **P 10 57 40.7 -0.2**
VISS Visnje 82.52 351 *iP* **P 10 57 41.9 +1.1**
TCF Toulx Ste Croi 82.66 360⇑*iP* **P 10 57 41.5 -0.1**
comp=Z,21nm,0.8s
TCF Toulx Ste Croi 82.66 360⇑*iP* **P 10 57 41.5 -0.1**
TCF pmax pmax
comp=Z,21nm,0.8s
TCF Toulx Ste Croi 82.66 360⇑*iP* **P 10 57 41.5 -0.1**
comp=Z,21nm,0.8s
BOJS Bojanci 82.77 351 *iP* **P 10 57 42.5 +0.3**
AGO Saint Agoulin 82.89 359 *eP* **P 10 57 43.1 +0.3**
PYM Petit Puy Mans 83.20 359 *eP* **P 10 57 44.7 +0.2**
RKT Rikitea 83.29 141 *e*LR LR 11 23 59.7
comp=Z,882nm,24.8s,baz=332
RKT Rikitea 83.29 141 *e*T T 12 29 23.2
comp=Z,13nm,0.2s
LPL La Plagne 83.35 357 *eP* **P 10 57 45.2 -0.3**
comp=Z,17nm,0.9s
LPL La Plagne 83.35 357 *eP* **P 10 57 45.2 -0.3**
LPL pmax pmax
comp=Z,17nm,0.9s
LPL La Plagne 83.35 357 *eP* **P 10 57 45.2 -0.3**
comp=Z,17nm,0.9s
LPG La Plagne 83.37 357 *eP* **P 10 57 45.3 -0.3**
comp=Z,25nm,1.0s
LPG La Plagne 83.37 357 *eP* **P 10 57 45.3 -0.3**
LPG pmax pmax
comp=Z,25nm,1.0s
LPG La Plagne 83.37 357 *eP* **P 10 57 45.3 -0.3**
comp=Z,25nm,1.0s
RJF Les Rejaudoux 83.65 0⇑*iP* **P 10 57 46.5 -0.2**
comp=Z,69nm,1.2s
RJF *e*R
comp=Z,409nm,22.2s
RJF Les Rejaudoux 83.65 0⇑*iP* **P 10 57 46.5 -0.2**
RJF pmax pmax
comp=Z,69nm,1.2s
RJF Les Rejaudoux 83.65 0⇑*iP* **P 10 57 46.5 -0.2**
comp=Z,69nm,1.2s
SSB Saint Sauveur 83.65 358 *eP* **P 10 57 46.8 0.0**
SSB pmax pmax
comp=Z,12nm,1.4s
SSB Saint Sauveur 83.65 358 *eP* **P 10 57 46.8 0.0**
comp=Z,12nm,1.4s
LBL Lubilhac 83.71 359 *eP* **P 10 57 48.1 +1.0**
BNI Bardonecchia 83.81 357 *eP* **P 10 57 48.8 +1.1**
BNI pmax pmax
comp=Z,24nm,1.0s
BNI Bardonecchia 83.81 357 *eP* **P 10 57 48.8 +1.1**
comp=Z,24nm,1.0s
ORIF Oris-en-Rattie 83.97 357⇑*iP* **P 10 57 49.2 +0.7**
comp=Z,38nm,1.0s
ORIF *e*R
comp=Z,328nm,18.8s
ORIF Oris-en-Rattie 83.97 357⇑*iP* **P 10 57 49.2 +0.7**
ORIF pmax pmax
comp=Z,38nm,1.0s
ORIF Oris-en-Rattie 83.97 357⇑*iP* **P 10 57 49.2 +0.7**
comp=Z,38nm,1.0s
LFF La Frestale 84.01 1⇑*iP* **P 10 57 48.7 +0.2**
comp=Z,132nm,1.1s
LFF La Frestale 84.01 1⇑*iP* **P 10 57 48.7 +0.2**
LFF pmax pmax
comp=Z,133nm,1.1s
LFF La Frestale 84.01 1⇑*iP* **P 10 57 48.7 +0.2**
comp=Z,132nm,1.1s
CAF Calviac 84.03 360 *eP* **P 10 57 48.9 +0.2**
comp=Z,73nm,1.1s
CAF Calviac 84.03 360 *eP* **P 10 57 48.9 +0.2**
CAF pmax pmax
comp=Z,73nm,1.1s
CAF Calviac 84.03 360 *eP* **P 10 57 48.9 +0.2**
comp=Z,73nm,1.1s
VIVF Saint-Julien-l 84.07 358⇑*iP* **P 10 57 49.3 +0.4**
comp=Z,38nm,1.2s
VIVF Saint-Julien-l 84.07 358⇑*iP* **P 10 57 49.3 +0.4**
VIVF pmax pmax
comp=Z,38nm,1.2s
VIVF Saint-Julien-l 84.07 358⇑*iP* **P 10 57 49.3 +0.4**
comp=Z,38nm,1.2s
MBDF Montbardon 84.14 357⇑*iP* **P 10 57 50.0 +0.6**
comp=Z,29nm,0.9s
MBDF Montbardon 84.14 357⇑*iP* **P 10 57 50.0 +0.6**
MBDF pmax pmax
comp=Z,29nm,0.9s
MBDF Montbardon 84.14 357⇑*iP* **P 10 57 50.0 +0.6**
comp=Z,29nm,0.9s
PLE Pljevlja 84.42 347⇑*iP* **P 10 57 49.4 -1.4**
VTS Vitosha 84.56 344⇑P **P 10 57 51.2 -0.4**
VTS Vitosha 84.56 344⇑*iP* **P 10 57 51.2 -0.4**
UPM Unac-Piva 84.61 348⇑*iP* **P 10 57 50.4 -1.5**
HYB Hyderabad 84.66 291 *iP* **P 10 57 51.0 -1.3**
IVA Berane 84.80 347 *eP* **P 10 57 53.1 +0.4**
TOUF Mont Tournerai 84.83 356 *eP* **P 10 57 52.4 -0.6**
AUTN L'Aution 84.84 356 *eP* **P 10 57 53.3 +0.2**
SAOF Saorge 84.84 356 *eP* **P 10 57 52.5 -0.3**
LASF Ste Croix 84.86 359 *eP* **P 10 57 53.1 +0.2**
comp=Z,55nm,1.2s
LASF Ste Croix 84.86 359 *eP* **P 10 57 53.1 +0.2**
comp=Z,55nm,1.2s
FITZ Fitzroy Crossi 84.89 233 P **P 10 57 52.6 -0.6**
FITZ Fitzroy Crossi 84.89 233 P **P 10 57 52.6 -0.6**
comp=Z,18nm,0.9s,baz=20,slow=4.7,SNR=17
SMRF Simiane la Rot 84.92 357⇑*iP* **P 10 57 54.1 +0.8**
comp=Z,93nm,1.1s
SMRF Simiane la Rot 84.92 357⇑*iP* **P 10 57 54.1 +0.8**
comp=Z,93nm,1.1s
LUCF Luceram 84.95 356 *eP* **P 10 57 53.5 +0.1**
MVIF Mont Vial 84.95 356 *eP* **P 10 57 53.6 +0.1**
BRY Bratogost 84.95 348⇑*iP* **P 10 57 53.1 -0.5**
SBF Sospel 84.97 356 *eP* **P 10 57 53.2 -0.3**
comp=Z,113nm,0.9s
SBF Sospel 84.97 356 *eP* **P 10 57 53.2 -0.3**
SBF pmax pmax
comp=Z,113nm,0.9s
SBF Sospel 84.97 356 *eP* **P 10 57 53.2 -0.3**
comp=Z,113nm,0.9s
NKME Niksic 85.03 348 *eP* **P 10 57 53.3 -0.5**
REVF Revere 85.10 356 *eP* **P 10 57 53.8 -0.3**
BR131 Keskin Array S 85.10 336 *eP* **P 10 57 54.5 +0.1**
comp=Z,27nm,0.8s
CALN Calern 85.10 356 *eP* **P 10 57 54.5 +0.2**
BRTR Keskin Array B 85.11 336 P **P 10 57 54.2 -0.2**
BRTR Keskin Array B 85.11 336 P **P 10 57 54.2 -0.2**
comp=Z,32nm,0.8s,baz=50,slow=2.6,SNR=94
BRTR LR LR 11 37 35.0
comp=Z,214nm,20.8s,baz=38,slow=37
MALT Malatya 85.11 332⇑P **P 10 57 55.0 +0.6**
MALT Malatya 85.11 332⇑*iP* **P 10 57 55.0 +0.6**
ANTO Ankara 85.18 337⇓P **P 10 57 54.9 +0.2**
ANTO Ankara 85.18 337 *eP* **P 10 57 55.0 +0.4**
comp=Z,45nm,1.0s
ANTO Ankara 85.18 337⇓*iP* **P 10 57 54.9 +0.2**
FRF La Foret Royal 85.31 357⇑*iP* **P 10 57 54.9 -0.2**
comp=Z,37nm,0.9s
FRF La Foret Royal 85.31 357⇑*iP* **P 10 57 54.9 -0.2**
FRF pmax pmax
comp=Z,37nm,0.9s
FRF La Foret Royal 85.31 357⇑*iP* **P 10 57 54.9 -0.2**
comp=Z,37nm,0.9s
TTG Podgorica 85.32 347⇑*iP* **P 10 57 55.0 -0.2**
HCY Herceg Novi 85.41 348⇑*iP* **P 10 57 54.8 -0.8**
BUM Brajici-Budva 85.50 348⇑*iP* **P 10 57 55.6 -0.6**
LMR La Mourre 85.54 357 *eP* **P 10 57 56.2 0.0**
comp=Z,66nm,1.1s
LMR La Mourre 85.54 357 *eP* **P 10 57 56.2 0.0**
LMR pmax pmax
comp=Z,66nm,1.1s
LMR La Mourre 85.54 357 *eP* **P 10 57 56.2 0.0**
comp=Z,66nm,1.1s
DRME Dracevica, Mon 85.57 347⇑*iP* **P 10 57 56.2 -0.3**
MTLF Montolieu 85.61 360 *eP* **P 10 57 56.8 +0.2**
comp=Z,81nm,1.3s
MTLF Montolieu 85.61 360 *eP* **P 10 57 56.8 +0.2**
MTLF pmax pmax
comp=Z,81nm,1.3s
MTLF Montolieu 85.61 360 *eP* **P 10 57 56.8 +0.2**
comp=Z,81nm,1.3s
KBSD Kabsdagh 85.68 330 *iP* P 10 57 53.7 -3.5
ULC Ulcinj 85.78 347⇑*iP* **P 10 57 57.2 -0.3**
SJPF Ste Jean 85.80 2 *eP* **P 10 57 57.7 +0.1**
comp=Z,21nm,1.0s
SJPF Ste Jean 85.80 2 *eP* **P 10 57 57.7 +0.1**
SJPF pmax pmax
comp=Z,21nm,1.0s
SJPF Ste Jean 85.80 2 *eP* **P 10 57 57.7 +0.1**
comp=Z,21nm,1.0s
AS31 Alice Springs 85.86 223 *eP* **P 10 57 56.9 -1.1**
ASAR Alice Springs 85.86 223 P **P 10 57 57.0 -1.0**
ASAR Alice Springs 85.86 223 P **P 10 57 57.0 -1.0**
comp=Z,8.9nm,0.9s,baz=21,slow=5.6,SNR=80
EPF Esparros 85.91 1 *eP* **P 10 57 57.5 -0.7**
comp=Z,13nm,0.9s
EPF Esparros 85.91 1 *eP* **P 10 57 57.5 -0.7**
EPF pmax pmax
comp=Z,13nm,0.9s
EPF Esparros 85.91 1 *eP* **P 10 57 57.5 -0.7**
comp=Z,13nm,0.9s
ETSF Etsaut 86.03 2⇑*iP* **P 10 57 58.8 0.0**
comp=Z,29nm,0.9s
ETSF Etsaut 86.03 2⇑*iP* **P 10 57 58.8 0.0**
ETSF pmax pmax
comp=Z,29nm,0.9s
ETSF Etsaut 86.03 2⇑*iP* **P 10 57 58.8 0.0**
comp=Z,29nm,0.9s
PGF Pioggiola 86.20 355⇑*iP* **P 10 57 59.4 -0.3**
comp=Z,127nm,1.0s
PGF Pioggiola 86.20 355⇑*iP* **P 10 57 59.4 -0.3**
PGF pmax pmax
comp=Z,127nm,1.0s
PGF Pioggiola 86.20 355⇑*iP* **P 10 57 59.4 -0.3**
comp=Z,127nm,1.0s
POO Poona 86.48 295⇑*iP* **P 10 57 59.0 -2.4**
comp=Z,5.0nm,1.0s
MZRK Al-Mazaregh 86.72 329 *iP* **P 10 58 02.0 -0.3**
PBRG Braganca 86.83 7 *eP* **P 10 58 02.6 -0.1**
comp=Z,14nm,1.2s
POLO Lamas de Olo 87.18 7 *eP* **P 10 58 04.3 -0.2**
comp=Z,9.8nm,0.9s
DRWC Darouich 87.20 333 *iP* **P 10 58 05.2 +0.5**
PVRL Vila Real 87.29 7 *eP* **P 10 58 04.9 0.0**
comp=Z,16nm,0.8s
MVO Moncorvo 87.45 7 *eP* **P 10 58 05.4 -0.4**
comp=Z,23nm,1.6s
ISP Isparta 87.67 338 *eP* **P 10 58 06.1 -0.9**
ISP pmax pmax
comp=Z,10.0nm,0.8s
ISP Isparta 87.67 338 *eP* **P 10 58 06.1 -0.9**
comp=Z,10nm,0.8s
PVIS Viseu 87.83 8 *eP* **P 10 58 07.2 -0.4**
comp=Z,32nm,1.1s
MTE Manteigas 88.17 7 *eP* **P 10 58 08.8 -0.4**
comp=Z,30nm,1.0s
MTE Manteigas 88.17 7 *eP* **P 10 58 08.6 -0.7**

comp=Z,20nm,0.9s
LRS Lares 88.36 62 eP P 10 58 10.4 0.0
PCAS Casmilo, Conde 88.44 8 eP P 10 58 09.9 -0.5
comp=Z,38nm,1.1s
CELP Cerrillos 88.69 62 eP P 10 58 11.7 -0.1
OBIP Obispado Ponce 88.70 62 eP P 10 58 12.3 +0.4
comp=Z,30nm,0.9s
PCBR Castelo Branco 88.73 7 eP P 10 58 11.5 -0.3
comp=Z,22nm,1.1s
PCBR eP PcP 10 58 16.3 +3.0
PTOM Tomar 88.88 8 eP P 10 58 12.1 -0.3
comp=Z,32nm,0.9s
ESDC Sonseca Array 89.12 5 P P 10 58 13.0 -0.7
ESDC Sonseca Array 89.12 5 P P 10 58 13.0 -0.7
comp=Z,8.4nm,0.8s,baz=354,slow=4.2,SNR=30
ESDC LR LR 11 39 15.4
comp=Z,154nm,20.6s,baz=15,slow=36
ESLA Sonseca Array 89.12 5 eP P 10 58 12.9 -0.8
comp=Z,7.5nm,1.2s
PMRV Marv??o 89.15 7 eP P 10 58 12.9 -0.9
comp=Z,27nm,1.4s
MTP Monte Pirata 89.24 62 eP P 10 58 14.9 +0.5
comp=Z,52nm,0.8s
PESTR Estremoz 89.69 7 eP P 10 58 15.6 -0.7
comp=Z,18nm,1.0s
CEL Celeste 89.86 349 eP P 10 58 14.7 -2.5
comp=Z,40nm,0.8s
STKA Stephens Creek 90.24 213 P P 10 58 18.3 -0.4
STKA Stephens Creek 90.24 213 P P 10 58 18.3 -0.4
comp=Z,18nm,0.9s,baz=351,slow=7.9,SNR=14
STKA LR LR 11 35 17.7
comp=Z,528nm,18.5s,baz=20,slow=33
NAY Al-Naaiem 90.35 322 eP P 10 58 18.3 -1.2
NAY AMb AMB 10 58 19.5
comp=Z,28nm,1.0s
PBAR Barrancos 90.42 7 eP P 10 58 19.1 -0.6
comp=Z,26nm,1.2s
ZALF Zalf 90.44 331 iP P 10 58 18.6 -1.4
PBEJ Beja 90.50 8 eP P 10 58 20.3 +0.2
comp=Z,16nm,1.9s
RDF Al-Radifah 90.52 321 eP P 10 58 19.1 -1.2
RDF AMb AMB 10 58 20.4
comp=Z,68nm,1.0s
SALA Sala 90.82 331 iP P 10 58 20.2 -1.7
TCHB Talchebab 91.09 332 iP P 10 58 22.1 -0.8
PVAQ Vaqueiros 91.13 8 eP P 10 58 22.9 -0.1
comp=Z,22nm,1.2s
KEST Kesra 92.97 354 P P 10 58 31.2 -0.5
comp=Z,6.8nm,1.1s
KEST Kesra 92.97 354 P P 10 58 31.2 -0.5
comp=Z,3.3nm,0.9s,baz=326,slow=1.1,SNR=9.1
RPZ Rata Peaks 95.24 188 LR LR 11 34 14.0
comp=Z,639nm,20.2s,baz=265,slow=31
MDT Midelt 95.92 6 P P 10 58 44.5 -0.8
MDT Midelt 95.92 6 P P 10 58 44.5 -0.8
comp=Z,6.1nm,1.1s,baz=315,slow=5.0,SNR=6.2
RAYN Ar Rayn 96.16 321 P P 10 58 45.0 -1.4
comp=Z,116nm,0.8s,SNR=13
TORD Torodi Ar. Bea 115.70 0 PKP PKPdf 11 03 59.8 -0.9
TORD Torodi Ar. Bea 115.70 0 PKP PKPdf 11 03 59.8 -0.9
comp=Z,1.6nm,0.5s,baz=352,slow=2.2,SNR=26
KMBO Kilima Mbogo 121.76 317 PKP PKPdf 11 04 12.7 0.0
KMBO Kilima Mbogo 121.76 317 PKP PKPdf 11 04 12.7 0.0
comp=Z,2.5nm,0.7s,baz=27,slow=4.0,SNR=5.4
DBIC Dimbokro 121.83 8 PKP PKPdf 11 04 11.9 -0.6
DBIC Dimbokro 121.83 8 PKP PKPdf 11 04 11.9 -0.6
comp=Z,5.0nm,0.4s,baz=316,slow=3.9,SNR=17
TIC Toumodi 121.84 8 eP PKPdf 11 04 10.3 -2.3
comp=Z,11nm,0.2s
KIC Kosan Boka 122.15 8 eP PKPdf 11 04 11.9 -1.2
comp=Z,112nm,1.8s
LIC Lamto 122.26 8 eP PKPdf 11 04 12.3 -1.0
comp=Z,51nm,1.3s
CPUP Villa Florida 129.10 84 PKP PKPdf 11 04 28.1 +2.1
CPUP Villa Florida 129.10 84 PKP PKPdf 11 04 28.1 +2.1
comp=Z,0.4nm,0.3s,baz=231,slow=3.2,SNR=2.9
VNDA Vanda 129.29 186 PKP PKPdf 11 04 24.4 -0.4
VNDA Vanda 129.29 186 PKP PKPdf 11 04 24.4 -0.4
comp=Z,1.0nm,0.9s,baz=326,slow=3.4,SNR=4.5
PLCA Paso Flores 130.51 108 PKP PKPdf 11 04 27.7 -0.6
PLCA Paso Flores 130.51 108 PKP PKPdf 11 04 27.7 -0.6
comp=Z,8.1nm,1.1s,baz=276,slow=3.5,SNR=8.3
QSPA South Pole Qui 141.18 180 PKPpre PKPpre 11 04 39.9
QSPA South Pole Qui 141.18 180 PKhKP PKPpre 11 04 39.9
comp=Z,6.5nm,1.2s,baz=331,slow=1.8,SNR=12
PMSA Palmer Station 144.44 138 ePKPdf PKPab 11 04 50.6 -0.8
MAW Mawson 146.83 218 ePKPdf PKPdf 11 04 56.5 -0.4
MAW PKPbc PKPbc 11 04 58.1 -0.8
MAW ePKPbc PKPab 11 04 58.5 -1.8
MAW Mawson 146.83 218 PKPbc PKPbc 11 04 58.1 -0.8
comp=Z,24nm,1.0s,baz=59,slow=3.0,SNR=36
LBTB Lobatse 148.04 317 ePKPbc PKPbc 11 05 04.1 +0.4
BOSA Boshof 151.31 314 ePKPbc PKPbc 11 05 11.7 +0.1
BOSA ePKPab PKPab 11 05 20.1 +0.3
BOSA Boshof 151.31 314 PKPbc PKPbc 11 05 11.4 -0.2
comp=Z,14nm,0.7s,baz=27,slow=2.8,SNR=38
SYO Syowa Base 154.98 211⇑eX PKPab 11 05 31.1 -3.0
SYO Syowa Base 154.98 211⇑eX PKPab 11 05 42.6 +8.5
SNAA Sanae 159.57 176 ePKPdf PKPdf 11 05 13.0 -2.3
SNAA Sanae 159.57 176 ePKPdf PKPdf 11 05 13.2 -2.1
SNAA ePKPab PKPab 11 05 51.6 -2.3
VNA2 Neumayer--Watz 159.97 171 ePKPdf PKPdf 11 05 13.8 -1.9
VNA2 Neumayer--Watz 159.97 171 ePKPab PKPab 11 05 54.0 -1.6
VNA1 Neumayer--Stat 160.14 170 ePKPdf PKPdf 11 05 27.4 +12

*IDC **22** 10:59:51.5±1.0, 51°.96N×171°.89W, h0km, mb3.8/8, mb1 4.0/10, mb1mx3.8/27, mbtmp3.7/10, ML3.6/2, Error ellipse: s-maj=41.4km s-min=16.8km az=171.0*
*ISCJB **22** 10:59:56.9±0.7, 52°.1N±0°.2×171°.9W±0°.1, h50km, mb3.8/8, Error ellipse: s-maj=25.1km s-min=5.3km az=159.6*
*NEIC **22** 10:59:59.1, 51°.82N×171°.03W, h8km, ML3.4(AEIC), After AEIC.*
ISC 22 10:59:58.3±0.9, 52°.1N±0°.2×171°.86W±0°.09, h50km, n29, σ0°.77/33, mb3.8/8, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	Nikolski High	2.04	63	P	Pn	11 00 28.9	-1.3
NIKH				S	Sn	11 00 53.0	-1.4
OKSP	Okmok Steeple	2.47	60	P	Pn	11 00 35.6	-0.5
OKSP				S	Sn	11 01 04.4	-0.7
OKAK	Okmok	2.60	53	P	Pn	11 00 37.1	-0.8
OKCE	Okmok Cone E	2.62	57	P	Pn	11 00 38.4	+0.3
OKCE				S	Sn	11 01 09.2	+0.5
MSOM	Makushin Julie	3.44	58	P	Pn	11 00 49.9	+0.6
MSW	Makushin Switc	3.58	57	P	Pn	11 00 52.7	+1.5
MSW				S	Sn	11 01 32.8	+0.6
AKRB	Akutan Reef Bi	4.05	57	P	Pn	11 00 58.0	+0.3
AKGG	Akutan Green G	4.12	57	P	Pn	11 00 59.7	+1.0
SSBA	Shishaldin	5.35	57	P	Pn	11 01 15.8	+0.2
ILAR	Eielson Array	18.07	36	P	P	11 04 04.6	-0.6
ILAR	Eielson Array	18.07	36	P	P	11 04 04.6	-0.6
	0.1nm,0.3s,baz=229,slow=9.6,SNR=6.8						
PETK	Petropavlovsk-	18.46	285	P	Pn	11 04 09.5	-0.7
PETK	Petropavlovsk-	18.46	285	P	Pn	11 04 09.5	-0.7
	0.3nm,0.3s,baz=98,slow=14,SNR=5.8						
DLBC	Dease Lake	24.34	58	P	P	11 05 12.6	+1.4
DLBC	Dease Lake	24.34	58	P	P	11 05 12.6	+1.4
	2.7nm,0.6s,baz=268,slow=11,SNR=7.9						
YKA	Yellowknife Ar	31.58	48	P	P	11 06 16.2	+0.5
YKA	Yellowknife Ar	31.58	48	P	P	11 06 16.2	+0.5
	0.6nm,0.6s,baz=271,slow=7.8,SNR=5.3						
PDAR	Pinedale Array	41.96	77	P	P	11 07 44.4	0.0
PDAR	Pinedale Array	41.96	77	P	P	11 07 44.4	0.0
	1.0nm,0.9s,baz=296,slow=4.8,SNR=7.1						
KSRS	Korea Array	43.91	275	P	P	11 07 60.0	+0.1
	0.8nm,0.6s,baz=65,slow=7.6,SNR=5.5						
KSAR	Wonju Array Be	43.94	275	P	P	11 07 60.0	-0.2
TXAR	Lajitas Array	54.29	87	P	P	11 09 19.1	-0.4
TXAR	Lajitas Array	54.29	87	P	P	11 09 19.1	-0.4
	0.4nm,0.4s,baz=297,slow=8.0,SNR=2.6						
MKAR	Makanchi Array	62.88	312	P	P	11 10 18.5	-0.4
MKAR	Makanchi Array	62.88	312	P	P	11 10 18.5	-0.4
	0.3nm,0.4s,baz=38,slow=6.6,SNR=2.7						
CMAR	Chiang Mai Arr	75.18	281	P	P	11 11 36.4	+0.9
CMAR	Chiang Mai Arr	75.18	281	P	P	11 11 36.4	+0.9
	1.2nm,0.4s,baz=16,slow=5.9,SNR=5.6						
ASAR	Alice Springs	89.05	228	P	P	11 12 47.6	-0.1
ASAR	Alice Springs	89.05	228	P	P	11 12 47.6	-0.1
	0.4nm,0.6s,baz=29,slow=5.2,SNR=6.5						

MAN 22 11:03:55, 16°.70N×122°.40E, h28km, mb4.1, ML2.9, MS2.7, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALP	Palanan	0.37	3	eP	Pn	11 04 05.5	+1.1
PALP				eS	Sn	11 04 12.9	+2.1
CAUP	Cauayan	0.61	294	eP	Pn	11 04 07.9	+0.1
BALP	Baler	1.24	220	eP	Pn	11 04 17.1	+0.6
APYP	Conner	1.60	317	eP	Pb	11 04 23.6	-0.3

GUC 22 11:11:36.5±0.4, 28°.96S×70°.97W, h66km±3km, MD3.4, ML3.6, 1C-2D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	Las Campanas	0.24	103	⇓iP	Pn	11 11 47.7	+0.5
LCO				iS	Sn	11 11 56.1	+1.1
LCO				AML	AML	11 11 56.8	
	comp=E,7μm,0.3s						
VACH	Vallenar	0.42	26	⇑iP	Pn	11 11 48.5	+0.2
VACH				iS	Sn	11 11 57.4	+0.6
VACH				AML	AML	11 11 58.0	
	comp=E,25μm,0.1s						
TLL	Tololo Astrono	1.21	173	⇓iP	Pn	11 11 58.4	+0.5
TLL				iS	Sn	11 12 15.3	+1.4
TLL				AML	AML	11 12 21.5	
	comp=N,526nm,0.5s						
CPCH	Copiapo	1.69	19	iP	Pn	11 12 04.2	+0.4
CPCH				iS	Sn	11 12 25.4	+0.8
CDCH	Caldera	1.89	4	iP	Pn	11 12 06.7	+0.2
CDCH				iS	Sn	11 12 29.9	+0.6
CDCH				AML	AML	11 12 36.7	
	comp=E,196nm,0.3s						
CMCH	Combarbala	2.21	181	iP	Pn	11 12 10.3	-0.7
CMCH				iS	Sn	11 12 37.1	-0.2
CMCH				AML	AML	11 13 08.7	
	comp=E,802nm,0.6s						

CASC 22 11:24:51.4±1.9, 7°.74N×82°.99W, h8km±24km, MD4.0, 4C-1D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	Cerro Adams	0.92	349	⇑eP	Pg	11 25 08.5	-0.7
ACR				eS	Sb	11 25 23.0	+0.7
BRU2	Volcan	1.09	16	⇑iP	Pg	11 25 11.3	-1.2
BRU2				eS	Sg	11 25 26.1	-0.8
TBS2		1.09	17	⇓iP	Pg	11 25 12.5	-0.2
TBS2				eS	Sg	11 25 27.0	-0.2
BRU	Baru	1.14	22	⇑iP	Pg	11 25 12.2	-1.7
CNI	Changuinola	1.73	16	iP	Pn	11 25 21.5	-0.2
BUS	Buena Vista	1.96	337	eP	Pn	11 25 25.6	+0.1
BUS				eS	Sn	11 25 51.1	+0.5
QCR	Quepos	2.04	325	⇑eP	Pn	11 25 25.8	-0.2
URSC	Urasca	2.22	339	eP	Pn	11 25 28.7	-0.1
URSC				eS	Sg	11 26 02.9	-0.5

IDC 22 11:33:10.2±4.5, 20°.48S×177°.48W, h0km, mb3.9/3, mb1 4.2/4, mb1mx3.8/18, mbtmp4.1/4, ML1.9/1, Error ellipse: s-maj=194.6km s-min=33.0km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	8.51	41	Pn	Pn	11 35 14.8	0.0
	0.9nm,0.3s,baz=336,slow=20,SNR=2.8						
AFI				Sn	Sn	11 36 42.0	-10
	1.2nm,0.3s,baz=90,slow=20,SNR=4.1						
STKA	Stephens Creek	38.24	244	P	P	11 40 30.4	-1.8
	1.0nm,0.3s,baz=95,slow=11,SNR=3.7						
ASAR	Alice Springs	45.00	257	P	P	11 41 28.1	+0.3
	0.5nm,0.3s,baz=88,slow=8.3,SNR=16						
WRA	Warramunga Arr	45.09	262	P	P	11 41 29.1	+0.6
	0.8nm,0.5s,baz=93,slow=8.2,SNR=34						

*ISCJB **22** 11:33:37.0±0.6, 32°.28N±0°.02×115°.05W±0°.02, h12km±4km, Error ellipse: s-maj=3.8km s-min=2.4km az=174.2*
*NEIC **22** 11:33:39.5, 32°.26N×115°.13W, h14km, ML3.4(PAS), ML3.7(ECX), After ECX.*
*ECX **22** 11:33:39.5±0.6, 32°.26N×115°.13W, h5km, MD3.5, ML3.7*
ISC 22 11:33:38.0±1.1, 32°.26N±0°.03×115°.11W±0°.02, h10km±9km, n51, σ1°.28/78, 4C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	Cerro Prieto	0.22	313	⇓eP	Pb	11 33 43.8	-0.4
CPBX				eS	Sg	11 33 46.9	+1.1
COA	Coachella	0.60	359	⇓iP	Pg	11 33 49.9	+0.2
RDX	Rancho Dawling	0.78	245	⇑eP	Pg	11 33 53.5	+0.3
RDX				eS	Sg	11 34 03.4	+0.1
RDX				⇑e		11 34 06.0	
	comp=N,2μm,0.4s						
GLA	Glamis	0.82	17	ePg	Pg	11 33 53.2	-0.7
GLA				eSg	Sg	11 34 03.9	-0.7
GLA	Glamis	0.82	17	P	Pg	11 33 53.1	-0.7
	baz=0.9						
GLA				S	Sg	11 34 03.7	-1.0
	baz=0.9						
RMX	La Rumorosa	0.89	293	⇑eP	Pg	11 33 54.7	-0.4
RMX				eS	Sg	11 34 06.4	-0.3
RMX				⇑e		11 34 07.5	
	comp=E,1μm,0.3s						
SWSC	Sam W. Stewart	0.89	320	P	Pg	11 33 53.4	-1.7
	baz=0.9						
DVTC	Desert V Tower	0.93	296	P	Pg	11 33 54.5	-1.3
	baz=0.9						
DVTC				S	Sg	11 34 07.0	-0.9
	baz=0.9						
ZAX	El Zacaton	1.24	233	eP	Pn	11 34 00.8	-0.6
ZAX				eS	Sb	11 34 17.2	-0.3
113A	Mohawk Valley,	1.24	66	P	Pn	11 33 59.9	-1.5
	baz=1.3						
113A				S	Sb	11 34 15.0	-2.6
	baz=1.3						
SPX	San Pedro Mart	1.25	194	eP	Pn	11 34 00.7	-1.2
SPX				eS	Sb	11 34 18.1	0.0
MONP	Monument Peak	1.27	300	P	Pn	11 33 59.6	-2.3
	baz=1.3						
MONP				S	Sb	11 34 17.8	-0.8
	baz=1.3						
CBX	Cerro Bola	1.32	273	⇓eP	Pn	11 34 02.0	-0.5
CBX				eS	Sb	11 34 19.6	-0.3
BAR	Barrett	1.38	288	ePn	Pn	11 34 01.8	-1.6
BAR				eSn	Sb	11 34 21.1	-0.6
ECNX	Esteban Cantu	1.40	245	eP	Pn	11 34 03.9	+0.2
ECNX				eS	Sn	11 34 22.2	-0.1
BC3	Big Chuckawall	1.42	348	P	Pn	11 34 01.6	-2.3
	baz=1.5						
PBX	Punta Banda	1.47	250	eP	Pn	11 34 04.2	-0.3
PBX				eS	Sb	11 34 24.0	-0.1
PFO	Pinyon Flat Ob	1.75	320	ePn	Pn	11 34 06.1	-2.6
PFO				eSg	Sg	11 34 37.7	+3.2
PFO	Pinyon Flat Ob	1.75	320	P	Pn	11 34 06.0	-2.6
	baz=1.8						
109C	Camp Elliot, M	1.79	291	Sb	Sb	11 34 32.9	-0.6
	baz=1.8						
214A	Organ Pipe Nat	1.98	98	P	Pn	11 34 09.7	-1.8
	baz=2.0						
Z14A	Wintersburg	2.13	58	P	Pn	11 34 12.6	-1.0
	baz=2.2						
MURC	Murrieta	2.21	308	P	Pn	11 34 13.0	-1.7
	baz=2.2						
MURC				Sb	Sb	11 34 44.8	-0.5
	baz=2.2						
GMRC	Granite Mounta	2.55	350	P	Pn	11 34 17.8	-1.7
	baz=2.6						
CIS	Catalina Islan	3.00	293	Sb	Sb	11 35 08.7	+0.6
	baz=3.0						
MWC	Mount Wilson	3.15	309	ePn	Pn	11 34 27.5	-0.3
MWC				eSg	Sg	11 35 19.1	-0.1
PASC	Pasadena Art C	3.20	307	ePg	Pg	11 34 40.5	+1.1
PASC				eSg	Sg	11 35 19.1	-1.8
GSC	Goldstone	3.34	335	ePg	Pg	11 34 43.9	+1.9
GSC				eSn	Sb	11 35 16.4	-1.8
DECC	Green Verdugo	3.35	307	Sb	Sb	11 35 18.5	+0.3
	baz=3.4						
TUC	Tucson	3.67	88	ePn	Pn	11 34 33.5	-1.3
TUC				eSg	Sg	11 35 36.6	+0.8
SHPR	Sheep Range	4.23	359	ePn	Pn	11 34 43.0	+0.3
SHPR				eSg	Sg	11 35 53.8	-0.2
ISA	Isabella	4.39	321	ePn	Pn	11 34 47.4	+2.6
ISA				eSg	Sg	11 35 59.1	0.0
WUAZ	Wupatki	4.49	43	ePn	Pn	11 34 46.4	+0.2
WUAZ				eSn	Sn	11 35 37.5	-1.1
WUAZ	Wupatki	4.49	43	P	Pn	11 34 47.1	+0.8
	baz=4.5						
U15A	North Rim	4.76	29	P	Pn	11 34 50.9	+0.8
	baz=4.8						
X18A	Snowflake	4.87	61	P	Pn	11 34 51.6	+0.1
	baz=4.9						
319A	Douglas	5.04	99	P	Pn	11 34 52.7	-1.1
	baz=5.0						
CCUT	Cedar City	5.47	15	ePn	Pn	11 35 00.8	+1.1
	comp=E,8.9nm,1.1s						
CCUT				eSg	Sg	11 36 33.7	+0.2
120A	U Bar Ranch, L	5.49	85	P	Pn	11 34 59.0	-0.9
	baz=5.5						
Z20A	Nine Sixteen R	5.56	79	P	Pn	11 35 00.3	-0.6
	baz=5.6						
ARUT	Antelope Range	5.68	14	ePn	Pn	11 35 03.6	+1.0
	comp=E,101nm,0.7s						
ARUT				eSg	Sg	11 36 40.9	+0.5
Y20A	Horse Springs,	5.89	72	P	Pn	11 35 06.0	+0.5
	baz=5.9						
R11A	Troy Canyon, C	6.08	356	ePn	Pn	11 35 08.6	+0.5
R11A				eSg	Sg	11 36 57.5	+4.1
121A	Cookes Peak, D	6.20	86	P	Pn	11 35 09.5	-0.3
	baz=6.2						
221A	Mesquite Ranch	6.22	90	P	Pn	11 35 10.0	0.0
	baz=6.2						
Z21A	St. Cloud Mine	6.35	79	P	Pn	11 35 12.1	+0.2
	baz=6.4						
Y21A	Point of Rocks	6.48	72	P	Pn	11 35 14.6	+1.0
	baz=6.5						
MVU	Marysvale	6.66	20	ePn	Pn	11 35 18.2	+2.1
	comp=E,6.8nm,1.1s						
222A	Williams Famil	6.79	89	P	Pn	11 35 17.3	-0.5
	baz=6.8						
Z22A	Elephant Butte	6.93	80	P	Pn	11 35 19.6	-0.2
	baz=6.9						
LAZ	Ladron	7.00	70	ePn	Pn	11 35 21.6	+0.8
LAZ				eSn	Sn	11 36 40.3	-0.3

*NIED **22** 11:40:00, 37°.60N×141°.70E, h77km, Mw4.6 Best double couple: M0 7.75000×10^15 NP1:φs197.00000°, δ58.00000°, λ-115.00000°. NP2:φs58.00000°, δ39.00000°, λ-56.00000°.*
*BJI **22** 11:40:42.3, 37°.78N×141°.66E, h67km, mB5.0/25, mb4.8/42, Ms4.5/20, Ms7 4.2/11*
*ISCJB **22** 11:40:43.7±0.3, 37°.63N±0°.03×141°.67E±0°.03, h76km±2km, mb4.5/105, Error ellipse: s-maj=5.2km s-min=3.6km az=156.8*
*NEIC **22** 11:40:43.6±0.6, 37°.56N×141°.68E, h67km±6km, mb4.7/63, MW4.5(NIED), Error ellipse: s-maj=5.8km s-min=4.5km az=141.0*
NEIC Felt at Ichinoseki, Sendai and Yokohama. Recorded [3 JMA] in Fukushima and Miyagi; [2 JMA] in Iwate and Yamagata; [1 JMA] in Gumma, Ibaraki and Tochigi.
*JMA **22** 11:40:43.9, 37°.60N×141°.66E, h76km±1km, M4.7 Broadband fault plane solution: P waves. NP1: φs193.00000°, δ62.00000°, λ-104.00000°. NP2: φs43.00000°, δ31.00000°, λ-64.00000°. Principal axes: T Plg16.0000°, Azm294.0000°; N Plg13.0000°, Azm200.0000°; P Plg69.0000°, Azm74.0000°;*
JMA Felt III J1.
*IDC **22** 11:40:44.9±0.5, 37°.56N×141°.64E, h82km±4km, mb4.3/25, mb1 4.4/29, mb1mx4.4/32, mbtmp4.3/29, MS3.6/11, Ms1 3.6/11, ms1mx3.3/40 Error ellipse: s-maj=11.4km s-min=10.3km az=122.0*
*MOS **22** 11:40:44.4±0.9, 37°.88N×141°.62E, h77km, mb4.9/45, Error ellipse: s-maj=8.4km s-min=6.1km az=86.4*
ISC 22 11:40:44.0±0.4, 37°.65N±0°.04×141°.75E±0°.04, h72km±2km, h71km: pP-P, n579, σ1s18/630, mb4.7/105, 183C-172D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	0.76	248	⇓P	Pn	11 40 59.0	-0.7
JFK				S	Sn	11 41 09.9	-1.4
JMM	Marumori	0.79	286	⇓P	Pn	11 41 00.0	0.0
JMM				iS	Sn	11 41 11.7	-0.2
JIO	Ouri	0.86	338	⇓P	Pn	11 41 01.6	+0.7
JIO				S	Sn	11 41 14.5	+1.1
ONAJ	Iwakimizuishiy	0.94	234	⇓P	Pn	11 41 00.9	-1.0
ONAJ				S	Sn	11 41 13.6	-1.6
JOU	Okura	1.11	310	⇑P	Pn	11 41 04.1	0.0
JOU				S	Sn	11 41 19.2	+0.2
JFT	Otama	1.13	264	⇑P	Pn	11 41 04.0	-0.3
JFT				S	Sn	11 41 18.6	-0.8
JMK	Ichinoseki	1.36	342	⇑P	Pn	11 41 07.9	+0.7
JMK				S	Sn	11 41 25.8	+1.2
JYS	Shirataka	1.45	294	⇑P	Pn	11 41 08.4	0.0
JYS				eS	Sn	11 41 27.5	+0.8
JFY	Yanaizu	1.65	262	⇑P	Pn	11 41 10.3	-0.7
JFY				eS	Sn	11 41 30.1	-1.3
JYK	Kaneyama	1.67	319	⇑P	Pn	11 41 11.7	+0.4
JYK				S	Sn	11 41 32.8	+0.9
JOM	Ohasama	1.85	349	⇑P	Pn	11 41 14.4	+0.7
JOM				eS	Sn	11 41 37.5	+1.3
JYA	Atsumi	1.86	301	⇑P	Pn	11 41 13.8	0.0
JNS	Sasagawa	1.94	276	⇑P	Pn	11 41 14.5	-0.3
JAW	Awa shima	2.13	293	⇑P	Pn	11 41 17.5	+0.1
MAJO	Matsushiro	3.04	250	eP	Pn	11 41 30.1	+0.3
MAJO	Matsushiro	3.04	250	ePn	Pn	11 41 30.1	+0.3
MAJO				eSn	Sn	11 41 53.9	-11
MAT	Matsushiro	3.04	250	P	Pn	11 41 30.1	+0.3
MAT				S	Sn	11 41 59.4	-5.8
ERM	Erimo	4.49	14	iP	Pn	11 41 49.2	-0.3
ERM	Erimo	4.49	14	ePn	Pn	11 41 49.2	-0.3
ERM				eSn	Sn	11 42 38.0	-2.4
ASAJ	Asahikawa	6.49	5	ePn	Pn	11 42 16.0	-0.8
ASAJ				eSn	Sn	11 43 15.9	-13
ASAJ	Asahikawa	6.49	5	P	Pn	11 42 16.2	-0.6
	18nm,0.3s,baz=223,slow=9.4,SNR=213						
ASAJ				S	Sn	11 43 25.1	-4.3
	16nm,0.3s,baz=303,slow=31,SNR=5.6						
YUK	Yuzh-Kuril'sk	7.09	25c	iP	Pn	11 42 24.4	-0.6
YUK				iS	Sn	11 43 39.2	-4.9
YUK				pmax	pmax		
	comp=Z,107nm,0.8s						
YUK				pmax	pmax		
	comp=N,46nm,0.4s						
YUK				pmax	pmax		
	comp=E,83nm,0.3s						
KUR	Kuril'sk	8.85	29	⇑iP	Pn	11 42 49.4	+0.3
KUR				iS	Sn	11 44 22.1	-5.0
KUR				pmax	pmax		
	comp=Z,28nm,0.6s						
YSS	Yuzh-Sakhalins	9.32	4	⇑iP	Pn	11 42 55.2	-0.3
YSS				eS	Sn	11 44 34.0	-4.6
YSS				pmax	pmax		
	comp=Z,50nm,0.7s						
YSS				smax	smax		
	comp=N,50nm,1.0s						
USRK	Ussuriysk Arra	9.86	315	P	Pn	11 43 04.2	+1.3
	comp=N,12nm,0.3s,baz=122,slow=14,SNR=130						
USRK				LR	LR	11 46 57.1	
	comp=N,66nm,20.6s,baz=303,slow=38						
JNU	Nakatsue	9.96	246	ePn	Pn	11 43 03.1	-1.2
JNU	Nakatsue	9.96	246	P	Pn	11 43 03.5	-0.9
	comp=N,0.3nm,0.3s,baz=56,slow=4.8,SNR=6.6						
JNU				LR	LR	11 47 09.5	
	comp=N,237nm,18.4s,baz=68,slow=39						
CBIJ	Chichi jima	10.54	178	P	Pn	11 43 08.2	-3.9
CBIJ				S	Sn	11 44 56.6	-12
CBIJ	Chichi jima	10.54	178	P	Pn	11 43 08.2	-3.9
	comp=N,20nm,0.3s,baz=309,slow=17,SNR=6.6						
CBIJ				S	Sn	11 44 56.6	-12
	comp=N,16nm,0.3s,baz=274,slow=22,

HABR Khabarovsk 11.87 338 *eP* **Pn 11 43 29.2 -0.9**
HABR pmax pmax
comp=N,26nm,1.0s
HABR pmax pmax
comp=Z,37nm,0.9s
HABR pmax pmax
comp=E,23nm,1.0s
KLR Kul'dur 13.65 331 *eP* Pn 11 43 47.3 -6.9
CN2 Changchun 13.80 302 *eP* **Pn 11 43 56.5 +0.3**
CN2 *ep*P P 11 44 06.8 +4.5
CN2 *es*P 11 44 17.8
CN2 *eS* **Sn 11 46 28.4 +0.7**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,300nm,6.0s
PETK Petropavlovsk- 19.02 31 P **Pn 11 45 01.1 -0.3**
PETK pmax pmax
comp=Z,1.0nm,0.3s
PETK Petropavlovsk- 19.02 31 P **Pn 11 45 01.1 -0.3**
PETK Petropavlovsk- 19.02 31 P **Pn 11 45 01.1 -0.3**
comp=Z,0.6nm,0.3s,baz=215,slow=9.1,SNR=15
NJ2 Nanjing 19.59 260 *eP* **Pn 11 45 07.3 -0.9**
NJ2 pmax pmax
comp=Z,30nm,1.0s
BJI Beijing 20.05 285 P **P 11 45 08.8 -2.4**
BJI pmax pmax
comp=Z,15nm,0.5s
CLNS Chul'man 22.23 335 *eP* **P 11 45 33.0 -1.6**
CLNS pmax pmax
comp=Z,34nm,1.0s
CLNS pmax pmax
comp=N,33nm,1.3s
CLNS pmax pmax
comp=E,12nm,1.3s
HHC Hu-ho-hao-te 23.54 287 *eP* **P 11 45 48.1 +0.2**
HHC pP **pP 11 46 02.3 -1.5**
HHC sP **sP 11 46 09.1 -3.5**
HHC PP **PnPn 11 46 21.8 +3.7**
HHC S **S 11 49 52.8 -3.7**
HHC sS Sn 11 50 17.4 -5.0
HHC SS **SnSn 11 50 43.8 +4.1**
HHC pmax pmax
comp=Z,35nm,0.8s
HHC pmax pmax
comp=Z,390nm,6.4s
HHC LR LR
comp=N,860nm,11.4s
HHC LR LR
comp=E,820nm,7.3s
HHC LR LR
comp=Z,820nm,13.3s
WHN Wuhan 23.72 261 P **P 11 45 48.1 -1.4**
SEY Seymchan 26.13 11 *ce*P **P 11 46 12.4 +1.4**
ULN Ulaanbaatar 27.23 303 *eP* **P 11 46 19.6 -1.7**
comp=Z,19nm,0.9s
SONM Songino Array 27.67 303 P **P 11 46 24.4 -0.8**
SONM Songino Array 27.67 303 P **P 11 46 24.4 -0.8**
comp=Z,17nm,0.8s,baz=99,slow=8.6,SNR=101
SONM LR LR 11 56 07.8
comp=Z,91nm,21.5s,baz=66,slow=33
ZAK Zakamensk 30.10 307 *eP* **P 11 46 45.5 -1.2**
ZAK pmax pmax
comp=Z,11nm,1.1s
TLY Talaya 30.13 310 *eP* **P 11 46 47.0 +0.1**
TLY pmax pmax
comp=Z,14nm,1.1s
LZH Lanzhou 30.23 279 *eP* **P 11 46 50.6 +2.5**
LZH pP **pP 11 47 06.5 +1.4**
LZH sP **sP 11 47 15.9 +2.4**
LZH pmax pmax
comp=Z,22nm,1.3s
GYA Guiyang 31.59 260 *eP* **P 11 47 02.0 +1.9**
GYA pP **pP 11 47 19.4 +2.2**
GYA sP **sP 11 47 27.8 +2.3**
GYA PP **PnPn 11 48 07.3 +1.2**
GYA PcP **PcP 11 49 53.0 +2.0**
GYA S **S 11 52 03.6 -0.4**
GYA sS **sS 11 52 33.4 +0.2**
GYA ScS **ScS 11 57 26.5 +0.4**
GYA pmax pmax
comp=Z,10.0nm,0.8s
GYA pmax pmax
comp=Z,90nm,4.8s
CD2 Chengdu 31.95 269 P **P 11 47 03.6 +0.5**
CD2 pP **pP 11 47 19.3 -0.9**
CD2 sP **sP 11 47 27.5 -1.0**
CD2 PP **PnPn 11 48 10.6 +0.1**
CD2 S **S 11 52 07.3 -1.9**
CD2 sS **sS 11 52 35.5 -3.0**
CD2 SS **SnSn 11 54 01.9 -2.6**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,140nm,6.9s
CD2 LR LR
comp=N,290nm,8.9s
CD2 LR LR
comp=Z,240nm,9.5s
GTA Gaotai 32.64 286 *eP* **P 11 47 07.9 -1.3**
GTA pP **pP 11 47 22.8 -3.5**
GTA sP **sP 11 47 30.8 -3.9**
GTA PcP **PcP 11 49 54.3 +0.6**
GTA pmax pmax
comp=Z,3.0nm,0.8s
KMI Kunming 35.32 261 P **P 11 47 33.0 +0.3**
KMI pP **pP 11 47 49.4 -0.5**
KMI pmax pmax
comp=Z,11nm,0.9s
HVS Khovu-Aksy 36.23 308 *i* P **P 11 47 40.0 +0.1**
HVS pmax pmax
comp=Z,117nm,1.4s
WMQ Urumqi 40.80 296 P **P 11 48 20.1 +1.7**
WMQ pP **pP 11 48 35.6 -0.3**
WMQ sP **sP 11 48 42.6 -1.6**
WMQ PP **PnPn 11 49 58.1 -0.1**
WMQ pmax pmax
comp=Z,15nm,0.9s
WMQ pmax pmax
comp=Z,210nm,5.6s
WMQ LR LR
comp=E,100nm,19.0s
WMQ LR LR
comp=Z,96nm,22.6s
ZAA0 Zalesovo Array 41.70 312 *eP* **P 11 48 25.0 -0.4**
ZAA0 *ep*PcP **PcP 11 50 20.1 -0.6**
ZALV Zalesovo Beam 41.70 312 P **P 11 48 25.1 -0.4**
ZALV 11 50 18.5
ZALV 11 50 40.9
ZALV pmax pmax
comp=Z,6.0nm,0.6s
ZALV pmax pmax
comp=Z,2.0nm,0.5s
ZALV pmax pmax
comp=Z,3.0nm,0.7s
ZALV Zalesovo Beam 41.70 312 P **P 11 48 25.1 -0.4**
ZALV PcP **PcP 11 50 18.5 -2.3**
ZALV pPcP 11 50 40.9
ZALV Zalesovo Beam 41.70 312 P **P 11 48 25.1 -0.4**
comp=Z,6.2nm,0.6s,baz=90,slow=7.4,SNR=21
ZALV PcP **PcP 11 50 18.5 -2.3**
comp=Z,2.3nm,0.5s,baz=92,slow=1.8,SNR=3.8
ZALV pPcP 11 50 40.9
comp=Z,3.0nm,0.7s,baz=91,slow=2.1,SNR=4.3
ZALV LR LR 12 07 32.1
comp=Z,10nm,20.7s,baz=160,slow=38
CMAR Chiang Mai Arr 41.92 255 P **P 11 48 27.9 +0.3**
CMAR Chiang Mai Arr 41.92 255 P **P 11 48 27.9 +0.3**
comp=Z,0.6nm,0.5s,baz=42,slow=6.1,SNR=4.2
CMAR LR LR 12 04 15.3
comp=Z,68nm,21.4s,baz=148,slow=34
LSA Lhasa 42.42 275 P **P 11 48 33.3 +1.1**
NVS Novosibirsk 42.61 313 *eP* P 11 48 28.0 -4.8
NVS *e* 11 48 57.9
NVS pmax pmax
comp=Z,18nm,1.5s
NVS pmax pmax
comp=E,15nm,1.3s
MK31 Makanchi Array 44.02 302 *eP* **P 11 48 43.9 -0.5**
MK31 Makanchi Array 44.02 302 *eP* **P 11 48 43.9 -0.5**
MKAR Makanchi Array 44.02 302 P **P 11 48 44.0 -0.4**
MKAR pmax pmax
comp=Z,8.0nm,0.7s
MKAR Makanchi Array 44.02 302 P **P 11 48 44.0 -0.4**
comp=Z,8.2nm,0.7s,baz=85,slow=9.8,SNR=43
KURK Kurchatov 45.76 308 *ce*P **P 11 48 58.1 0.0**
KURK pmax pmax
comp=Z,36nm,1.0s
KURK Kurchatov 45.76 308 *eP* **P 11 48 57.5 -0.6**
comp=Z,27nm,0.8s
KURBB Kurchatov Arra 45.84 308 P **P 11 48 57.8 -0.8**
comp=Z,24nm,0.6s,baz=82,slow=8.2,SNR=155
IMA2 Indian Mountai 46.01 31 *eP* **P 11 49 00.7 +0.7**
TAPN Taplejung 46.17 274 *eP* **P 11 49 03.1 +1.1**
KDAK Kodiak Island 46.46 42 P **P 11 49 04.0 +0.6**
KDAK Kodiak Island 46.46 42 P **P 11 49 04.0 +0.6**
comp=Z,23nm,0.8s,baz=305,slow=1.7,SNR=12
PPLA Purkeypile 46.51 35 *eP* **P 11 49 06.2 +2.3**
comp=Z,66nm,1.7s
RAMN Ramite 47.23 274 *eP* **P 11 49 09.9 -0.3**
comp=Z,40nm,0.8s
JIRN Jiri 47.23 275 *eP* **P 11 49 11.0 +0.6**
GUN Gumba 47.37 275 *eP* **P 11 49 12.2 +0.8**
comp=Z,29nm,0.4s
KKN Kakani 47.89 275 *eP* **P 11 49 15.5 +0.2**
comp=Z,35nm,0.7s
PKIN Phulchoki 47.90 275 *eP* **P 11 49 15.4 0.0**
comp=Z,8.5nm,0.4s
MCK McKinley 47.97 34 *eP* **P 11 49 15.8 +0.7**
MCK pmax pmax
comp=Z,7.0nm,0.9s
MCK McKinley 47.97 34 *eP* **P 11 49 15.8 +0.7**
comp=Z,7.3nm,0.9s
PMR Palmer 47.97 37 *eP* **P 11 49 15.6 +0.5**
PMR pmax pmax
comp=Z,5.0nm,0.5s
PMR Palmer 47.97 37 *eP* **P 11 49 15.6 +0.5**
comp=Z,4.7nm,0.5s
COLA College 48.41 33 *eP* **P 11 49 20.1 +1.6**
COLA pmax pmax
comp=Z,34nm,1.1s
COLA College 48.41 33 *eP* **P 11 49 20.1 +1.6**
comp=Z,34nm,1.1s
ILAR Eielson Array 48.83 33 P **P 11 49 22.2 +0.5**
ILAR PcP **PcP 11 50 44.4 -0.9**
ILAR Eielson Array 48.83 33 P **P 11 49 22.2 +0.5**
comp=Z,7.5nm,0.8s,baz=268,slow=6.4,SNR=82
ILAR PcP **PcP 11 50 44.4 -0.9**
comp=Z,1.1nm,0.5s,baz=283,slow=3.7,SNR=5.9
DANN Dangsing 48.84 277 *eP* **P 11 49 22.1 -0.6**
comp=Z,79nm,0.7s
KOLN Koldanda 49.23 276 *eP* **P 11 49 24.6 -0.9**
comp=Z,12nm,0.5s
TKM2 Tokmak 2 49.57 298 *i* P **P 11 49 28.4 +0.4**
TKM2 Tokmak 2 49.57 298 P **P 11 49 28.5 +0.4**
SNR=11
TKM2 Tokmak 2 49.57 298 *eP* **P 11 49 28.4 +0.4**
comp=Z,40nm,1.4s
VOSK Vostochnaya 50.07 312 *eP* **P 11 49 31.0 -0.4**
VOSK pmax pmax
comp=Z,14nm,0.9s
VOSK Vostochnaya 50.07 312 *eP* **P 11 49 31.0 -0.4**
comp=Z,14nm,0.9s
KBK Karagaybulak 50.11 298 *i* P **P 11 49 34.8 +2.8**
KBK Karagaybulak 50.11 298 P **P 11 49 34.8 +2.8**
SNR=13
USP Ospenovka 50.23 299 *i* P **P 11 49 35.2 +2.4**
USP Ospenovka 50.23 299 P **P 11 49 35.2 +2.4**
SNR=9.2
BVAR Borovoye Array 50.36 312 P **P 11 49 34.8 +1.3**
BVAR 11 50 49.9
BVAR pmax pmax
comp=Z,6.0nm,0.6s
BVAR pmax pmax
comp=Z,3.0nm,0.7s
BVAR pmax pmax
comp=Z,4.0nm,0.6s
BVAR Borovoye Array 50.36 312 P **P 11 49 34.8 +1.3**
BVAR PcP **PcP 11 50 49.9 -1.2**
BVAR pPcP 11 51 11.5
BVAR Borovoye Array 50.36 312 P **P 11 49 34.8 +1.3**
comp=Z,5.5nm,0.6s,baz=84,slow=9.4,SNR=14
BVAR PcP **PcP 11 50 49.9 -1.2**
comp=Z,3.0nm,0.7s,baz=76,slow=6.3,SNR=4.0
BVAR pPcP 11 51 11.5
comp=Z,4.0nm,0.6s,baz=96,slow=4.6,SNR=6.5
MENT Mentasta 50.37 35 *eP* **P 11 49 34.7 +1.2**
KSH Kashi 50.40 294 P P 11 49 40.5 +6.3
KSH pP pP 11 49 57.8 +5.5
KSH PcP **PcP 11 50 56.6 +4.9**
KSH PP PP 11 51 38.3 +8.1
KSH S S 11 56 49.9 +7.6
KSH sS sS 11 57 18.6 +5.6
KSH pmax pmax
comp=Z,10.0nm,0.9s
KSH pmax pmax
comp=Z,110nm,4.9s
KSH LR LR
comp=N,440nm,11.5s
KSH LR LR
comp=E,170nm,6.4s
KSH LR LR
comp=Z,180nm,13.1s
BRVK Borovoye 50.41 312⇑ *i P* **P 11 49 37.0 +3.1**
BRVK pmax pmax
comp=Z,5.0nm,1.0s
AAK Ala-Archa 50.44 298⇑ *i P* **P 11 49 36.4 +1.9**
AAK pmax pmax
comp=Z,20nm,0.9s
AAK Ala-Archa 50.44 298 P **P 11 49 36.8 +2.3**
SNR=7.5
AAK Ala-Archa 50.44 298 *eP* **P 11 49 36.7 +2.3**
comp=Z,7.7nm,0.7s
AAK Ala-Archa 50.44 298 P **P 11 49 36.3 +1.9**
comp=Z,5.0nm,0.4s,baz=111,slow=4.4,SNR=19
EKS2 Erkin-Say 50.93 298 *eP* **P 11 49 40.3 +2.2**
EKS2 pmax pmax
comp=Z,8.0nm,0.8s
EKS2 Erkin-Say 50.93 298 P **P 11 49 40.5 +2.4**
SNR=7.8
EKS2 Erkin-Say 50.93 298 *eP* **P 11 49 40.3 +2.2**
comp=Z,7.9nm,0.8s
AML Almayashu 51.16 298 *i* P P 11 49 43.3 +3.1
AML Almayashu 51.16 298 P P 11 49 43.3 +3.1
SNR=13
EGAK Eagle 51.27 32 *eP* **P 11 49 41.1 +1.0**
COEN Coen 51.35 178 *eP* **P 11 49 40.9 -0.4**
comp=Z,122nm,1.1s
COEN *e* 11 50 02.1
KKAR Karatay Array 53.05 300 *eP* P 11 49 58.1 +4.3
KKAR pmax pmax
comp=Z,5.0nm,0.5s
KKAR Karatay Array 53.05 300 *eP* P 11 49 58.1 +4.3
comp=Z,5.4nm,0.5s
HYT Haines Junctio 53.64 37 *eP* **P 11 49 58.3 +0.4**
INK Inuvik 53.71 27 P **P 11 49 59.3 +1.1**
INK Inuvik 53.71 27 P **P 11 49 59.3 +1.1**
comp=Z,7.7nm,0.8s,baz=299,slow=5.8
SVE Sverdlovsk 54.86 318 *eP* **P 11 50 06.4 -0.3**
ARU Arti 56.08 318 *c i P* **P 11 50 15.0 -0.4**
ARU 11 52 15.6
ARU S **S 11 57 59.4 +0.9**
ARU pmax pmax
comp=Z,15nm,1.7s
KBL Kabul 57.45 291 *eP* **P 11 50 25.8 +0.1**
KBL pmax pmax
comp=Z,3.0nm,0.4s
KBL Kabul 57.45 291 *eP* **P 11 50 25.8 +0.1**
comp=Z,2.9nm,0.4s
WRAB Tennant Creek 57.70 188 *eP* **P 11 50 25.4 -1.8**
WRAB *e* 11 50 44.0
WRAB pmax pmax
comp=Z,12nm,0.8s
WRAB Tennant Creek 57.70 188 *eP* **P 11 50 25.4 -1.8**
comp=Z,12nm,0.8s
WRAB *e* 11 50 44.0
WRA Warramunga Arr 57.71 188 P **P 11 50 25.6 -1.7**
WRA pP **pP 11 50 45.3 -0.5**
WRA Warramunga Arr 57.71 188 P **P 11 50 25.6 -1.7**
comp=Z,15nm,0.6s,baz=7.8,slow=7.7,SNR=113
WRA pP **pP 11 50 45.3 -0.5**
comp=Z,6.9nm,0.5s,baz=5.6,slow=7.3,SNR=9.8
ABKAR Akbulak array 57.75 310 *eP* **P 11 50 26.5 -0.8**
comp=Z,5.3nm,0.3s
DLBC Dease Lake 57.97 38 *eP* **P 11 50 29.9 +1.0**
DLBC *e* 11 50 49.6
ASAR Alice Springs 61.44 188 P **P 11 50 52.0 -1.0**
ASAR pP **pP 11 51 12.4 +0.9**
ASAR Alice Springs 61.44 188 P **P 11 50 52.0 -1.0**
comp=Z,5.3nm,0.7s,baz=12,slow=5.8,SNR=66
ASAR pP **pP 11 51 12.4 +0.9**
comp=Z,2.6nm,0.7s,baz=15,slow=5.3,SNR=6.5
ASAR LR LR 12 15 22.5
comp=Z,125nm,18.3s,baz=94,slow=34
MBWA Marble Bar 62.06 203 *eP* **P 11 50 55.7 -1.4**
comp=Z,10nm,0.6s
YKA Yellowknife Ar 63.14 30 P **P 11 51 04.1 +0.3**
YKA Yellowknife Ar 63.14 30 P **P 11 51 04.1 +0.3**
comp=Z,4.0nm,0.7s,baz=303,slow=6.7,SNR=20
EIDS Eidsvold 63.30 171 *eP* **P 11 51 04.6 -0.7**
comp=Z,3.8nm,0.6s
ARCES ARCESS Array B 63.51 339 P **P 11 51 06.0 -0.2**
ARCES ARCESS Array B 63.51 339 P **P 11 51 06.0 -0.2**
comp=Z,2.8nm,0.7s,baz=55,slow=7.1,SNR=8.1
DZM Mont Dzumac 63.79 154 P **P 11 51 09.3 +0.6**
DZM Mont Dzumac 63.79 154 P **P 11 51 09.3 +0.6**
comp=Z,6.5nm,0.9s,baz=322,slow=12,SNR=3.7
JOF Joensuu 65.54 332 *eP* **P 11 51 17.1 -2.4**
JOF pmax pmax
comp=Z,1.0nm,0.4s
JOF Joensuu 65.54 332 *ep* **P 11 51 17.1 -2.4**
comp=Z,1.4nm,0.4s
KAF Kangasniemi 67.88 333 *eP* **P 11 51 32.7 -1.7**
KAF pmax pmax
comp=Z,3.0nm,0.4s
KAF Kangasniemi 67.88 333 *ep* **P 11 51 32.7 -1.7**
comp=Z,3.0nm,0.4s
FINES FINESS Array B 68.39 332 P **P 11 51 37.1 -0.4**
FINES FINESS Array B 68.39 332 P **P 11 51 37.1 -0.4**
comp=Z,6.5nm,0.7s,baz=64,slow=8.7,SNR=11
EDM Edmonton 68.69 39 *eP* **P 11 51 40.1 +0.4**
EDM *e* 11 52 01.5
EDM Edmonton 68.69 39 *eP* **P 11 51 40.1 +0.4**
EDM *e* 11 52 01.5
STKA Stephens Creek 69.17 180 *eP* **P 11 51 42.3 -0.4**
comp=Z,4.4nm,1.3s
STKA *e* 11 52 03.5
STKA Stephens Creek 69.17 180 P **P 11 51 42.0 -0.7**
comp=Z,6.9nm,1.0s,baz=325,slow=7.6,SNR=4.9
STKA pP **pP 11 52 03.1 +1.5**
comp=Z,6.4nm,0.7s,baz=341,slow=8.5,SNR=4.7
NEW Newport 69.50 44 *eP* **P 11 51 45.5 +0.7**
comp=Z,3.5nm,0.5s
NEW *e* 11 52 06.9
NEW Newport 69.50 44 ⇑P **P 11 51 45.5 +0.7**
baz=69
YBH Yreka Blue Hor 69.75 53 *eP* **P 11 51 47.8 +1.3**
comp=Z,4.6nm,1.1s
SUMG Summit 70.06 0 *i* P **PcP 11 52 09.6 -0.4**
comp=Z,6.7nm,0.9s
KIPM Iron Peak 70.30 55 *eP* **P 11 51 50.8 +0.8**
KCPM Cahto Peak 70.30 55 *eP* **P 11 51 50.8 +0.8**
comp=Z,3.0nm,0.7s
KBZ Khabaz 70.70 311 P **P 11 51 52.8 +0.7**
KBZ pmax pmax
comp=Z,1.0nm,0.4s
KBZ Khabaz 70.70 311 P **P 11 51 52.8 +0.7**
KBZ Khabaz 70.70 311 P **P 11 51 52.8 +0.7**
comp=Z,1.0nm,0.4s,baz=27,slow=11,SNR=2.7
WALA Waterton Lakes 70.80 42 *eP* **P 11 51 53.6 +0.8**
comp=Z,0.2nm,0.7s
WALA *e* 11 52 14.8
MOD Modoc 71.16 51 *eP* **P 11 51 56.0 +0.7**
comp=Z,33nm,1.1s
BMO Blue Mountains 71.31 47 *eP* **P 11 51 56.9 +0.9**
comp=Z,9.0nm,1.1s
BMO *e* 11 52 18.7
WVOR Wild Horse Val 71.89 50 *eP* **P 11 52 00.0 +0.5**
WVOR *e* 11 52 22.1
WVOR pmax pmax
comp=Z,12nm,1.5s
WVOR Wild Horse Val 71.89 50 *eP* **P 11 52 00.0 +0.5**
comp=Z,12nm,1.5s
WVOR *e* 11 52 22.1
MSO Missoula 72.09 44 ⇓P **P 11 52 01.4 +0.8**
baz=72
BEKR Beckworth 72.27 53 *eP* **P 11 52 03.0 +1.0**
comp=Z,11nm,1.4s
MFID Camas Ranch 73.01 48 ⇑P **P 11 52 07.3 +1.2**
baz=73
CMB Columbia Colle 73.29 55 *eP* **P 11 52 08.9 +1.1**
CMB *e* 11 52 30.7
CMB pmax pmax
comp=Z,17nm,1.2s
CMB Columbia Colle 73.29 55 *eP* **P 11 52 08.9 +1.1**
comp=Z,17nm,1.2s
CMB *e* 11 52 30.7
A19A Klindworth Far 73.59 40 ⇓P **P 11 52 10.2 +0.7**
baz=73,SNR=11
EGMT Eagleton 73.63 42 *eP* **P 11 52 10.6 +0.9**
comp=Z,15nm,0.9s
EGMT *e* 11 52 32.1
EGMT Eagleton 73.63 42 ⇑P **P 11 52 10.3 +0.6**
baz=74,SNR=5.7
WAKR Walker 73.63 54 *eP* **P 11 52 11.2 +1.2**
comp=Z,3.0nm,0.9s
DLMT Dillon 73.71 45 *eP* **P 11 52 11.6 +1.3**
comp=Z,21nm,1.1s
NB2 NORSAR Subarra 73.72 337 P **P 11 52 09.3 -0.6**
comp=Z,2.3nm,0.7s,baz=37,slow=6.2
NOA NORSAR Array B 73.72 337 P **P 11 52 09.3 -0.6**
NOA NORSAR Array B 73.72 337 P **P 11 52 09.3 -0.6**
comp=Z,4.1nm,0.8s,baz=39,slow=5.9,SNR=8.8
NOA LR LR 12 26 30.3
comp=Z,81nm,20.1s,baz=220,slow=37
HLID Hailey 73.75 47 *eP* **P 11 52 11.6 +1.0**
comp=Z,5.8nm,1.1s
HLID *e* 11 52 32.5
HLID Hailey 73.75 47 ⇑P **P 11 52 11.6 +1.0**
baz=74
AKASG Malin Array Be 73.97 322 P **P 11 52 10.6 -0.9**
AKASG pmax pmax
comp=Z,3.0nm,0.4s
AKASG Malin Array Be 73.97 322 P **P 11 52 10.6 -0.9**
AKASG Malin Array Be 73.97 322 P **P 11 52 10.6 -0.9**
comp=Z,2.3nm,0.4s,baz=46,slow=6.2,SNR=17
A20A Cobblestone Ra 74.04 40 ⇑P **P 11 52 12.5 +0.5**
baz=74,SNR=5.3
BOZ Bozeman (W) 74.08 44 *eP* **P 11 52 13.3 +0.9**
BOZ *e* 11 52 35.3
BOZ pmax pmax
comp=Z,9.0nm,1.0s
BOZ Bozeman (W) 74.08 44 *eP* **P 11 52 13.3 +0.9**
comp=Z,8.6nm,1.0s
BOZ *e* 11 52 35.3
C19A Slack Wire Ran 74.18 41 ⇓P **P 11 52 13.8 +0.9**
baz=74
B20A Solberg Farm, 74.27 40 ⇓P **P 11 52 13.8 +0.4**
baz=74,SNR=5.2
NVAR Mina Array Bea 74.40 53 P **P 11 52 16.0 +1.5**
NVAR pP **pP 11 52 37.9 +4.2**
NVAR Mina Array Bea 74.40 53 P **P 11 52 16.0 +1.5**
comp=Z,5.3nm,0.7s,baz=302,slow=5.2,SNR=46
NVAR pP **pP 11 52 37.9 +4.2**
comp=Z,3.4nm,0.8s,baz=284,slow=5.7,SNR=7.0
A21A Bergtoll Ranch 74.48 40 ⇓P **P 11 52 15.2 +0.6**
baz=74,SNR=6.2
MLAC Mammoth Lakes 74.53 54 ⇓P **P 11 52 16.6 +1.3**
baz=74
D19A Cripps Ranch, 74.63 42 ⇑P **P 11 52 16.3 +0.7**
baz=74,SNR=15
C20A Veseth Ranch, 74.74 41 ⇑P **P 11 52 17.3 +1.2**
baz=75
B21A Ellsworth Farm 74.79 40 ⇓P **P 11 52 17.0 +0.7**
baz=75,SNR=8.8
ELK Elko 74.94 50 *eP* **P 11 52 18.8 +1.1**
comp=Z,2.9nm,0.8s
A22A Carney Farms, 74.98 39 ⇓P **P 11 52 17.6 +0.1**
baz=75,SNR=11
RCTC Rector, Farmer 75.03 56 ⇓P **P 11 52 19.2 +1.3**
baz=75
D20A Manuel Ranch, 75.07 42 ⇑P **P 11 52 19.0 +1.0**
baz=75,SNR=11
SMMC Simmler 75.11 57 ⇓P **P 11 52 19.8 +1.3**
baz=75
E19A Rath Farm, Rou 75.12 42 ⇑P **P 11 52 19.4 +1.0**
baz=75,SNR=12
C21A Desert Coulee 75.14 41 ⇑P **P 11 52 18.9 +0.5**
baz=75,SNR=5.5
B22A Reddig Ranch S 75.39 40 ⇑P **P 11 52 20.2 +0.4**
baz=75,SNR=5.7
VES Vestal, Richgr 75.41 56 ⇑P **P 11 52 20.5 +0.4**
baz=75
F19A Roth Farm, Mol 75.42 43 ⇓P **P 11 52 20.9 +0.7**
baz=75,SNR=8.3
H17A Grant Village 75.44 45 *eP* **P 11 52 23.3 +2.9**

H17A e 11 52 44.5
H17A Grant Village 75.44 45 ⇓P P 11 52 22.5 +2.1
baz=75
E20A Meyer Farm, Mu 75.44 42 ⇑P P 11 52 21.3 +1.1
baz=75,SNR=10
PKM Peak Mountain 75.47 57 ⇓P P 11 52 21.8 +1.1
baz=75
A23A Redstone 75.52 39 ⇓P P 11 52 21.0 +0.4
baz=75
IMW Indian Meadow 75.55 45 eP P 11 52 22.7 +1.5
comp=Z,8.4nm,0.8s
IMW e 11 52 44.5
FLWY Flagg Ranch 75.56 45 eP P 11 52 22.5 +1.4
comp=Z,2.8nm,0.7s
RRI2 Red Ridge 75.67 46 eP P 11 52 23.2 +1.4
comp=Z,16nm,1.3s
RRI2 e 11 52 44.8
D21A La Casta Ranch 75.68 41 ⇑P P 11 52 22.2 +0.6
baz=76,SNR=7.3
CWC Cottonwood Cre 75.71 55 ⇓P P 11 52 22.7 +0.6
baz=76
I17A Pilgrim Ck. 75.74 45 ⇑P P 11 52 24.0 +1.9
baz=76
MOOW Moose Ponds 75.75 45 eP P 11 52 24.1 +1.9
comp=Z,11nm,1.3s
MOOW e 11 52 45.8
H18A Shoshone NF, C 75.77 44 ⇓P P 11 52 23.4 +1.1
baz=76,SNR=5.4
TPAW Teton Pass 75.79 46 eP P 11 52 23.9 +1.4
comp=Z,4.6nm,0.7s
TPAW e 11 52 45.4
B23A Brockton 75.79 39 ⇓P P 11 52 22.6 +0.5
baz=76,SNR=16
C22A Vida 75.81 40 ⇓P P 11 52 22.8 +0.5
baz=76
GRAC Grapevine Rang 75.84 54 ⇑P P 11 52 23.9 +1.3
baz=76
ISA Isabella 75.92 56 eP P 11 52 22.8 -0.3
ISA e 11 52 45.1
ISA pmax pmax
comp=Z,2.0nm,0.9s
ISA Isabella 75.92 56 eP P 11 52 22.8 -0.3
comp=Z,2.3nm,0.9s
ISA e 11 52 45.1
ISA Isabella 75.92 56 ⇑P P 11 52 23.2 +0.1
baz=76
SNOW Snow King Moun 75.92 46 eP P 11 52 25.1 +1.8
comp=Z,5.0nm,0.9s
REDW Red Top Meadow 75.93 46 eP P 11 52 24.4 +1.1
comp=Z,12nm,1.3s
REDW e 11 52 46.4
ARVC Arvin 76.00 56 ⇓P P 11 52 24.5 +1.0
baz=76
D22A Cohagen 76.05 41 ⇓P P 11 52 24.3 +0.6
baz=76,SNR=9.3
C23A Lambert 76.13 40 ⇑P P 11 52 24.6 +0.5
baz=76,SNR=6.7
H19A Powell 76.15 44 ⇓P P 11 52 25.6 +1.2
baz=76
AHID Auburn Hatcher 76.16 46 eP P 11 52 25.6 +1.1
comp=Z,3.0nm,0.6s
R11A Troy Canyon, C 76.17 52 eP P 11 52 25.5 +0.9
R11A e 11 52 47.6
R11A Troy Canyon, C 76.17 52 ⇓P P 11 52 25.7 +1.0
baz=76
DGMT Dagmar 76.19 39 ⇑P P 11 52 24.9 +0.5
baz=76
G20A Bridger 76.22 43 ⇑P P 11 52 24.8 +0.1
baz=76
MPMC Manual Prospec 76.32 55 ⇓P P 11 52 26.4 +0.8
baz=76
LAO LASA Array 76.33 41 eP P 11 52 26.0 +0.7
comp=Z,14nm,1.1s
LAO e 11 52 48.0
A25A Svangstu Ranch 76.41 38 ⇑P P 11 52 26.1 +0.5
baz=76
F21A Absaloka Mine, 76.42 42 ⇓P P 11 52 26.5 +0.8
baz=76
FURC Furnace Creek, 76.48 54 ⇑P P 11 52 27.4 +1.3
baz=76
LRMC Laurel Mountai 76.54 56 ⇑P P 11 52 27.4 +0.7
baz=76
I19A Meeteetse 76.55 44 ⇓P P 11 52 28.0 +1.3
baz=76
E22A Miles City 76.64 41 ⇑P P 11 52 27.5 +0.5
baz=76
EDW2 Edwards Air Fo 76.70 56 ⇑P P 11 52 28.7 +1.1
baz=77
DUG Dugway 76.75 49 eP P 11 52 29.0 +1.2
DUG e 11 52 51.1
DUG pmax pmax
comp=Z,3.0nm,0.5s
DUG Dugway 76.75 49 eP P 11 52 29.0 +1.2
comp=Z,3.1nm,0.5s
DUG e 11 52 51.1
DUG Dugway 76.75 49 ⇓P P 11 52 29.1 +1.3
baz=77
G21A Lodge Grass 76.76 43 ⇓P P 11 52 28.4 +0.6
baz=77
H20A Greybull 76.81 44 ⇓P P 11 52 28.5 +0.5
baz=77
B25A Knox Farm, Ray 76.83 38 ⇑P P 11 52 29.0 +1.0
baz=77
F22A Rosebud 76.91 42 ⇓P P 11 52 29.0 +0.5
baz=77,SNR=6.7
A26A Wade Farm, Ken 76.95 37 ⇑P P 11 52 29.5 +0.9
baz=77
J19A Crowheart 77.01 45 ⇑P P 11 52 30.2 +0.9
baz=77,SNR=10
D24A Glendive 77.02 40 ⇑P P 11 52 30.0 +0.9
baz=77
BW06 Boulder Array 77.04 46 eP P 11 52 29.9 +0.3
comp=Z,4.3nm,0.8s
BW06 e 11 52 51.1
PDAR Pinedale Array 77.04 46 P P 11 52 30.0 +0.5
PDAR pP pP 11 52 51.2 +2.5
PDAR Pinedale Array 77.04 46 P P 11 52 30.0 +0.5
comp=Z,4.5nm,0.8s,baz=269,slow=2.0,SNR=45
PDAR pP pP 11 52 51.2 +2.5
comp=Z,4.1nm,0.7s,baz=292,slow=1.2,SNR=11
I20A Worland 77.08 44 ⇑P P 11 52 30.7 +1.1
baz=77,SNR=5.7
B26A Jensen Ranch, 77.22 38 ⇑P P 11 52 31.1 +1.0
baz=77
GSC Goldstone 77.22 55 ⇓P P 11 52 31.0 +0.5
baz=77
H21A Big Horn, Sher 77.24 43 ⇑P P 11 52 30.9 +0.5
baz=77,SNR=5.8
G22A Birney 77.25 42 ⇑P P 11 52 31.4 +0.8
baz=77
A27A Ledoux Ranch, 77.30 37 ⇓P P 11 52 31.6 +1.0
baz=77
BFSC Mount Baldy Ra 77.30 57 ⇑P P 11 52 32.1 +1.1
baz=77
L18A Fontenelle, Gr 77.30 47 ⇓P P 11 52 32.0 +1.0
baz=77
JLU Jordanelle 77.31 48 eP P 11 52 31.7 +0.6
comp=Z,2.8nm,0.8s
JLU e 11 52 53.8
F23A Volborg 77.39 41 ⇓P P 11 52 31.6 +0.4
baz=77,SNR=11
E24A Baker 77.41 40 ⇓P P 11 52 32.2 +0.9
baz=77
K19A Absolon Red Bu 77.41 45 ⇑P P 11 52 32.2 +0.7
baz=77
J20A Shoshoni 77.49 45 ⇑P P 11 52 32.5 +0.6
baz=77,SNR=6.2
D25A Fairfield 77.51 39 ⇑P P 11 52 32.7 +0.9
baz=77
SHPR Sheep Range 77.55 53 eP P 11 52 33.6 +1.2
comp=Z,15nm,1.4s
SHPR e 11 52 54.9
H22A Clearmont 77.63 43 ⇑P P 11 52 33.3 +0.6
baz=78
I21A Big Trails, Te 77.63 44 ⇑P P 11 52 33.2 +0.4
baz=78,SNR=7.4
B27A Peters Farms, 77.67 37 ⇑P P 11 52 33.5 +0.9
baz=78
G23A Biddle 77.75 42 ⇑P P 11 52 33.6 +0.4
baz=78,SNR=5.5
A28A Rude Farm, Bot 77.79 37 ⇓P P 11 52 34.0 +0.6
baz=78
K20A Yellowstone Ra 77.80 45 ⇓P P 11 52 34.2 +0.6
baz=78
F24A Ekalaka 77.81 41 ⇓P P 11 52 33.9 +0.3
baz=78,SNR=6.4
HEC Hector,Ludlow 77.82 55 ⇓P P 11 52 34.9 +1.1
baz=78
J21A Lysite 77.85 44 ⇓P P 11 52 34.9 +0.9
baz=78
E25A Miller Ranch, 77.91 40 ⇑P P 11 52 34.7 +0.6
baz=78,SNR=5.6
I22A 9 Mile Ranch, 78.02 43 ⇑P P 11 52 35.4 +0.6
baz=78,SNR=6.0
C27A Sayler Ranch, 78.03 38 ⇑P P 11 52 35.3 +0.6
baz=78
B28A Dugan Ranch, T 78.07 37 ⇓P P 11 52 35.5 +0.6
baz=78
M19A Rock Springs 78.08 47 ⇑P P 11 52 35.8 +0.5
baz=78
MVU Marysvale 78.16 50 eP P 11 52 37.2 +1.3
comp=Z,7.0nm,1.2s
MVU e 11 52 58.6
H23A Clabaugh Cattl 78.17 42 ⇑P P 11 52 36.1 +0.5
baz=78
L20A Wamsutter 78.22 46 ⇓P P 11 52 37.0 +0.9
baz=78
F25A Bowman 78.27 40 ⇑P P 11 52 37.1 +1.0
baz=78
A29A Manning Farm, 78.27 36 ⇑P P 11 52 37.0 +1.0
baz=78
GMRC Granite Mounta 78.28 55 ⇑P P 11 52 37.4 +0.9
baz=78
E26A Carlson Angus 78.40 39 ⇓P P 11 52 37.3 +0.5
baz=78
K21A Alcova 78.42 45 ⇑P P 11 52 37.5 +0.3
baz=78,SNR=8.6
PFO Pinyon Flat Ob 78.48 56 ⇑P P 11 52 38.1 +0.6
baz=78
H24A Dirks Ranch, A 78.49 42 ⇓P P 11 52 37.2 -0.2
baz=78,SNR=7.8
BELC Belle Mtn. Jos 78.54 56 ⇑P P 11 52 38.5 +0.6
baz=78
C28A Hausauer Farms 78.57 38 ⇓P P 11 52 38.7 +1.0
baz=78
M20A Sweetwater, Wa 78.64 46 ⇓P P 11 52 39.1 +0.6
baz=78
BRTR Keskin Array B 78.64 312 P P 11 52 38.0 -0.3
BRTR Keskin Array B 78.64 312 P P 11 52 38.0 -0.3
comp=Z,1.5nm,1.0s,baz=50,slow=5.6,SNR=3.2
A30A Hoffart Farm, 78.69 36 ⇑P P 11 52 38.7 +0.4
baz=78
F26A Lodgepole 78.72 40 ⇓P P 11 52 39.2 +0.6
baz=79
G25A Newell 78.78 41 ⇓P P 11 52 39.2 +0.3
baz=79
L21A Rawlins 78.80 45 ⇑P P 11 52 39.8 +0.5
baz=79,SNR=11
SRU San Rafael 78.80 49 eP P 11 52 40.0 +0.7
SRU e 11 53 01.9
SRU pmax pmax
comp=Z,9.0nm,0.7s
SRU San Rafael 78.80 49 eP P 11 52 40.0 +0.7
comp=Z,9.3nm,0.7s
SRU e 11 53 01.9
K22A Casper 78.82 44 ⇓P P 11 52 39.9 +0.5
baz=79
O19A Miners Draw (B 78.87 47 ⇑P P 11 52 40.6 +1.0
baz=79
E27A Carson 78.88 39 ⇓P P 11 52 40.1 +0.6
baz=79
G27A Dupree 78.91 40 ⇓P P 11 52 42.3 +2.7
baz=79
MONP Monument Peak 78.94 57 ⇑P P 11 52 41.0 +0.8
baz=79
N20A Spence Gulch, 79.02 47 ⇓P P 11 52 41.3 +0.7
baz=79,SNR=7.8
B30A Myrvik Farm, E 79.03 36 ⇓P P 11 52 40.9 +0.7
baz=79
M21A Separation Pea 79.03 46 ⇑P P 11 52 40.8 +0.2
baz=79,SNR=6.9
F27A Lemmon 79.04 40 ⇑P P 11 52 41.0 +0.8
baz=79
RWWY Rawlins 79.07 45 eP P 11 52 41.0 +0.2
comp=Z,4.3nm,0.8s
H25A Fruitdale 79.08 41 ⇓P P 11 52 41.1 +0.5
baz=79
MLR Muntele Rosu 79.09 320 LR LR 12 32 21.9
comp=Z,29nm,18.2s,baz=165,slow=39
BC3 Big Chuckawall 79.11 56 ⇓P P 11 52 41.8 +0.8
baz=79
G26A Maurine 79.14 40 ⇑P P 11 52 41.3 +0.4
baz=79
RSSD Black Hills 79.19 42 eP P 11 52 41.8 +0.4
RSSD e 11 53 02.4
RSSD pmax pmax
comp=Z,16nm,0.8s
RSSD Black Hills 79.19 42 eP P 11 52 41.8 +0.4
comp=Z,16nm,0.8s
RSSD e 11 53 02.4
E28A Huff 79.22 39 ⇓P P 11 52 41.7 +0.5
baz=79
W13A Hualapai Mount 79.24 54 ⇓P P 11 52 42.8 +1.0
baz=79
K23A Bowen Ranch, D 79.25 44 ⇑P P 11 52 42.2 +0.5
baz=79
L22A Ellis Ranch, M 79.28 45 ⇓P P 11 52 43.0 +1.1
baz=79
P19A Cripple Cowboy 79.38 48 ⇑P P 11 52 43.2 +0.7
baz=79,SNR=9.0
U15A North Rim 79.42 52 ⇑P P 11 52 43.9 +1.0
baz=79
I25A Rochford 79.42 42 ⇑P P 11 52 42.7 +0.1
baz=79
C30A Mose, Pekin 79.49 37 ⇑P P 11 52 43.2 +0.5
baz=79
O20A White River Ci 79.49 47 ⇑P P 11 52 43.7 +0.7
baz=79
N21A Black Mountain 79.50 46 ⇓P P 11 52 44.0 +0.9
baz=79
PDMCI Parker Dam,Lak 79.57 55 ⇓P P 11 52 44.5 +1.2
baz=79
M22A Cedar Creek Ra 79.60 45 ⇑P P 11 52 44.7 +0.9
baz=80
L23A Garrett 79.63 44 ⇓P P 11 52 43.7 -0.2
baz=80,SNR=7.2
Y12C Blythe 79.66 55 ⇓P P 11 52 44.8 +1.0
baz=80
F28A McLaughlin 79.67 39 ⇓P P 11 52 44.3 +0.6
baz=80
D30A Buchanan 79.78 37 ⇑P P 11 52 44.7 +0.4
baz=80
J25A Sunshine Ranch 79.81 42 ⇓P P 11 52 45.1 +0.5
baz=80
P20A De Beque 79.82 48 ⇓P P 11 52 45.5 +0.7
baz=80
H27A Howes 79.86 41 ⇑P P 11 52 45.8 +1.0
baz=80
I26A New Underwood 79.87 41 ⇓P P 11 52 45.5 +0.6
baz=80
DPC Dobruska-Polom 80.08 328 eP P 11 52 54.9 +9.1
DPC Dobruska-Polom 80.08 328 ePCP P 11 52 54.9 +9.1
N22A Wattenberg Ran 80.08 46 ⇑P P 11 52 47.0 +0.7
baz=80,SNR=5.2
E30A Jud 80.14 38 ⇑P P 11 52 46.5 +0.3
baz=80
F29A Eureka 80.16 39 ⇑P P 11 52 47.4 +1.0
baz=80
Q20A Ridgley Place, 80.23 48 ⇑P P 11 52 47.6 +0.6
baz=80,SNR=7.2
J26A Sides Ranch, S 80.25 42 ⇓P P 11 52 47.3 +0.4
baz=80
I27A Quinn 80.27 41 ⇑P P 11 52 47.4 +0.4
baz=80,SNR=5.8
AGMN Agassiz Nation 80.27 35 eP P 11 52 46.8 -0.1
comp=Z,7.6nm,1.0s
K25A Mack Ranch, Ha 80.30 43 ⇑P P 11 52 48.2 +0.9
baz=80
N23A Red Feather La 80.31 45 ⇑P P 11 52 48.5 +0.9
baz=80,SNR=9.2
P21A Newcastle 80.35 47 ⇓P P 11 52 48.6 +0.9
baz=80
O22A Kremmling 80.45 46 ⇓P P 11 52 49.0 +0.6
baz=80,SNR=7.2
Y14A Wickenburg 80.53 54 ⇓P P 11 52 49.7 +1.1
baz=80
M24A Cheyenne 80.55 44 ⇓P P 11 52 49.6 +0.9
baz=80,SNR=6.4
L25A Engebretsen Ra 80.56 43 ⇓P P 11 52 48.9 +0.2
baz=80
G29A Hoven 80.57 39 ⇓P P 11 52 49.2 +0.6
baz=80
WUAZ Wupatki 80.57 52 eP P 11 52 50.3 +1.4
comp=Z,11nm,1.0s
WUAZ e 11 53 11.5
WUAZ Wupatki 80.57 52 ⇓P P 11 52 50.0 +1.1
baz=80
K26A Motz Farm, Whi 80.61 43 ⇓P P 11 52 49.5 +0.6
baz=80
R20A Redvale 80.68 49 ⇑P P 11 52 50.2 +0.7
baz=80,SNR=15
P22A Eagle 80.70 47 ⇓P P 11 52 50.7 +1.0
baz=81,SNR=10
Q21A Lamborn Mesa, 80.73 48 ⇑P P 11 52 50.6 +0.8
baz=81
VRAC Vranov 80.75 327 LR LR 12 29 28.8
comp=Z,96nm,18.3s,baz=110,slow=36
113A Mohawk Valley, 80.77 56 ⇓P P 11 52 50.4 +0.6
baz=81
I28A Midland 80.77 41 ⇑P P 11 52 50.5 +0.8
baz=81
O23A Lake Granby, G 80.78 46 ⇓P P 11 52 51.1 +1.0
baz=81,SNR=11
J27A Elkhorn Farm, 80.85 42 ⇑P P 11 52 50.5 +0.3
baz=81,SNR=5.3
SMCO Snowmass 80.86 47 eP P 11 52 51.5 +0.8
comp=Z,2.2nm,0.7s
SMCO e 11 53 13.4
S20A Disappointment 80.92 49 ⇑P P 11 52 51.6 +0.7
baz=81,SNR=6.0
N24A Carr 80.95 45 ⇓P P 11 52 51.9 +1.0
baz=81
M25A Palm-Egli Farm 81.00 44 ⇑P P 11 52 52.5 +1.4
baz=81
R21A Cimarron 81.05 48 ⇓P P 11 52 52.7 +1.1
baz=81,SNR=5.5
Q22A Crested Butte, 81.10 47 ⇓P P 11 52 52.8 +0.9
baz=81,SNR=11
K27A Flueckinger Fa 81.11 42 ⇓P P 11 52 52.8 +1.2
baz=81
J28A Allard Ranch, 81.14 41 ⇑P P 11 52 52.2 +0.5
baz=81
I29A Vivian Onida 81.20 40 ⇓P P 11 52 53.1 +1.1
baz=81
X16A Lo Mia Camp, P 81.23 53 ⇑P P 11 52 53.8 +1.3
baz=81
ISCO Idaho Springs 81.23 46 eP P 11 52 53.5 +0.9
ISCO pmax pmax
comp=Z,2.0nm,0.7s
ISCO Idaho Springs 81.23 46 eP P 11 52 53.5 +0.9
comp=Z,1.9nm,0.7s
ISCO Idaho Springs 81.23 46 ⇓P P 11 52 53.4 +0.9
baz=81,SNR=5.3
MVCO Mesa Verde 81.25 49 eP P 11 52 53.0 +0.4
comp=Z,15nm,1.3s
MVCO e 11 53 15.2
MVCO Mesa Verde 81.25 49 ⇓P P 11 52 53.4 +0.8
baz=81,SNR=9.0
O24A Longmont 81.32 45 ⇑P P 11 52 54.5 +1.7
baz=81
S21A Coal Bank Pass 81.37 49 ⇓P P 11 52 54.6 +1.3
baz=81,SNR=7.8
P23A Jefferson 81.38 46 ⇑P P 11 52 55.1 +1.7
baz=81
L27A T5 Ranch, Ells 81.50 43 ⇑P P 11 52 54.5 +0.8
baz=81
K28A Ten Mile Ranch 81.57 42 ⇓P P 11 52 54.8 +0.8
baz=81
BRSD Miller 81.58 39 eP P 11 52 54.1 +0.1
BRSD Miller 81.58 39 ⇓P P 11 52 54.9 +0.9
baz=81
R22A Saguache, Gunn 81.61 48 ⇓P P 11 52 56.0 +1.4
baz=82,SNR=6.1
Q23A Hartsel 81.70 47 ⇓P P 11 52 55.8 +0.8
baz=82
I30A Oacoma 81.72 40 ⇓P P 11 52 55.1 +0.4
baz=82
U20A Newcomb 81.78 50 ⇓P P 11 52 56.3 +1.0
baz=82
S22A 4UR Ranch, Cre 81.89 48 ⇓P P 11 52 57.2 +1.2
baz=82,SNR=9.7
214A Organ Pipe Nat 81.90 56 ⇓P P 11 52 56.6 +0.7
baz=82
T21A Navajo Lake 81.97 49 ⇓P P 11 52 57.7 +1.3
baz=82
Q24A Divide 82.06 46 ⇓P P 11 52 57.7 +0.8
baz=82
K29A Lazy Trails An 82.08 41 ⇑P P 11 52 57.5 +0.9
baz=82
X18A Snowflake 82.10 52 ⇑P P 11 52 58.0 +0.9
baz=82
R23A Moffat 82.18 47 ⇑P P 11 52 58.7 +1.2
baz=82,SNR=12
V20A Brimhall 82.19 51 ⇑P P 11 52 58.4 +0.8
baz=82,SNR=6.6
O26A Horse Wrangler 82.22 44 ⇓P P 11 52 58.2 +0.7
baz=82
P25A Willow Gulch B 82.24 45 ⇓P P 11 52 58.7 +1.0
baz=82
N27A Anderson Farm, 82.26 44 ⇑P P 11 52 58.3 +0.6
baz=82
U21A Nageezi 82.27 50 ⇑P P 11 52 59.1 +1.2
baz=82,SNR=8.6
GERES GERESS Array B 82.33 328 P P 11 52 57.1 -0.7
GERES GERESS Array B 82.33 328 P P 11 52 57.1 -0.7
comp=Z,0.6nm,0.4s,baz=59,slow=5.9,SNR=3.9
T22A Edith 82.33 49 ⇑P P 11 52 59.6 +1.3
baz=82,SNR=13
S23A Nye Farm, Mont 82.41 48 ⇑P P 11 53 00.2 +1.5
baz=82
EYMN Ely 82.47 33 eP P 11 52 58.2 -0.3
comp=Z,15nm,1.1s
R24A Sanders Place, 82.57 47 ⇓P P 11 53 00.5 +1.0
baz=82,SNR=8.8
Q25A Bedland, Calha 82.61 46 ⇓P P 11 53 00.2 +0.5
baz=82
W20A Ramah 82.61 51 ⇑P P 11 53 00.3 +0.6
baz=82,SNR=6.2
SDCO Great Sand Dun 82.67 47 eP P 11 53 00.8 +0.7
comp=Z,6.6nm,1.3s
SDCO e 11 53 22.8
P26A Davis Ranch, A 82.67 45 ⇓P P 11 53 00.1 +0.2
baz=82
V21A Milan 82.69 50 ⇑P P 11 53 00.9 +0.7
baz=83
O27A Beecher Island 82.72 44 ⇑P P 11 53 00.8 +0.7
baz=83
T23A Casias Ranch, 82.83 48 ⇓P P 11 53 02.3 +1.3
baz=83,SNR=6.3
N28A Pribbeno Ranch 82.89 43 ⇓P P 11 53 01.3 +0.4
baz=83
S24A Houchin Ranch, 82.91 47 ⇑P P 11 53 02.3 +0.9
baz=83
X20A Quemado 83.00 52 ⇓P P 11 53 03.0 +1.2
baz=83,SNR=10
Q26A Hugo 83.01 46 ⇑P P 11 53 02.3 +0.6
baz=83
V22A San Miguel Ran 83.06 50 ⇓P P 11 53 03.0 +0.9
baz=83,SNR=5.0
P27A Ficken Ranch, 83.11 45 ⇑P P 11 53 02.6 +0.5
baz=83
O28A Krutsinger Ran 83.15 44 ⇑P P 11 53 02.4 +0.1
baz=83
T24B San Luis 83.20 48 ⇑P P 11 53 04.4 +1.5
baz=83,SNR=15
U23A El Rito 83.22 49 ⇓P P 11 53 03.9 +1.0
baz=83,SNR=35
ECSD EROS Data Cent 83.26 38 eP P 11 53 02.5 -0.2
comp=Z,8.6nm,1.4s
ECSD e 11 53 24.7
L31A Butterfield Fa 83.27 41 ⇑P P 11 53 03.1 +0.3
baz=83
N29A Votaw Ranch, W 83.29 43 ⇑P P 11 53 03.5 +0.5
baz=83
S25A Robets Cordova 83.35 47 ⇓P P 11 53 03.9 +0.4
baz=83
KSCO Kaye Shedlock' 83.45 45 ⇑P P 11 53 04.3 +0.3
baz=83
R26A Arlington 83.48 46 ⇓P P 11 53 04.2 +0.1
baz=83,SNR=10
Y20A Horse Springs, 83.49 52 ⇑P P 11 53 05.4 +1.1
baz=83,SNR=14
X21A Alamocita Cree 83.50 51 ⇑P P 11 53 05.6 +1.2
baz=83,SNR=11
V23A Ortiz Mt. (NFS 83.61 49 ⇓P P 11 53 06.3 +1.4
baz=84,SNR=7.0
U24A Moreno Valley 83.70 48 ⇑P P 11 53 07.2 +1.7
baz=84,SNR=5.8
T25A Trinidad 83.72 47 ⇑P P 11 53 06.0 +0.5
baz=84,SNR=11
Y21A Point of Rocks 83.86 51 ⇓P P 11 53 07.4 +1.2
baz=84,SNR=11
R27A Eads 83.86 46 ⇑P P 11 53 05.9 -0.1

baz=84,SNR=5.6
Q28A Sharon Springs 83.86 45 ⇓P P 11 53 06.6 +0.6
baz=84
Z20A Nine Sixteen R 83.88 53 ⇓P P 11 53 07.2 +0.9
baz=84,SNR=24
LAZ Ladron 83.93 51 eP P 11 53 07.5 +1.0
comp=Z,5.3nm,1.4s
LAZ e 11 53 29.8
S26A Kim 83.93 46 ⇓P P 11 53 06.4 0.0
baz=84
X22A Bernardo 83.94 51 ⇓P P 11 53 07.5 +1.0
baz=84
SPMN St. Paul 83.97 35 ⇓P P 11 53 06.1 -0.1
baz=84
ANMO Albuquerque 83.98 50 eP P 11 53 07.8 +1.0
comp=Z,9.8nm,1.1s
ANMO e 11 53 30.0
P29A Atwood 83.98 44 ⇓P P 11 53 06.9 +0.4
baz=84
W23A Werner Place, 84.03 50 ⇓P P 11 53 08.2 +1.2
baz=84,SNR=6.5
O30A MW Ranch, Wils 84.05 43 ⇓P P 11 53 07.4 +0.5
baz=84
T26A Comanche Natio 84.17 47 ⇓P P 11 53 08.0 +0.3
baz=84,SNR=14
V24A Rampart Ranch, 84.17 49 ⇑P P 11 53 09.3 +1.5
baz=84,SNR=18
BGNE Belgrade 84.18 41 ⇓P P 11 53 07.8 +0.4
baz=84
120A U Bar Ranch, L 84.22 53 ⇑P P 11 53 08.9 +0.9
baz=84,SNR=8.0
U25A Circle Dot Ran 84.23 48 ⇑P P 11 53 08.7 +0.7
baz=84,SNR=12
Z21A St. Cloud Mine 84.32 52 ⇓P P 11 53 09.6 +1.0
baz=84,SNR=12
R28A Tribune 84.38 45 ⇑P P 11 53 08.9 +0.2
baz=84
P30A Selden 84.40 43 ⇓P P 11 53 08.8 +0.1
baz=84
W24A Lazy 6 Ranch, 84.44 49 ⇑P P 11 53 10.4 +1.3
baz=84,SNR=15
Q29A Oakley 84.46 44 ⇓P P 11 53 09.5 +0.5
baz=84
V25A Rancho No Teng 84.49 48 ⇑P P 11 53 10.3 +0.9
baz=84,SNR=22
319A Douglas 84.58 54 ⇑P P 11 53 10.4 +0.7
baz=84,SNR=10
U26A Atchley Ranch, 84.62 48 ⇑P P 11 53 10.5 +0.5
baz=84,SNR=12
SCHQ Schefferville 84.67 16 eP P 11 53 09.5 -0.1
comp=Z,7.8nm,0.8s
SCHQ Schefferville 84.67 16 P P 11 53 09.1 -0.5
comp=Z,4.0nm,0.6s,baz=346,slow=4.3,SNR=5.5
220A Playas Peak, P 84.71 54 ⇑P P 11 53 10.9 +0.5
baz=85,SNR=5.6
121A Cookes Peak, D 84.77 53 ⇑P P 11 53 11.6 +0.8
baz=85
Z22A Elephant Butte 84.80 52 ⇓P P 11 53 11.8 +0.9
baz=85
Q30A Quinter 84.81 44 ⇓P P 11 53 10.6 -0.1
baz=85
S28A Manter 84.86 46 ⇑P P 11 53 11.9 +0.9
baz=85
X24A Lazy VL Ranch, 84.86 50 ⇑P P 11 53 12.2 +0.9
baz=85,SNR=8.3
Y23A Lovelace Mesa, 84.91 51 ⇓P P 11 53 12.1 +0.6
baz=85,SNR=17
W25A X Bar L Ranch, 85.00 49 ⇓P P 11 53 12.9 +1.0
baz=85,SNR=31
V26A Tequesquite Ra 85.01 48 ⇑P P 11 53 12.4 +0.5
baz=85,SNR=12
T28A Walsh 85.06 46 ⇓P P 11 53 12.3 +0.3
baz=85
320A Kipp Ranch, An 85.09 54 ⇓P P 11 53 13.2 +0.9
baz=85
U27A Thompson Grove 85.14 47 ⇑P P 11 53 12.9 +0.4
baz=85,SNR=6.6
122A Conniff Cattle 85.15 52 ⇑P P 11 53 13.8 +1.2
baz=85
Z23A Rita Site, Whi 85.25 51 ⇓P P 11 53 14.4 +1.3
baz=85
R30A Dighton 85.28 44 ⇓P P 11 53 13.2 +0.2
baz=85
S29A Ulysses 85.28 45 ⇑P P 11 53 13.6 +0.5
baz=85
Y24A Capitan 85.29 50 ⇑P P 11 53 13.9 +0.5
baz=85,SNR=5.6
X25A Clemmons Ranch 85.35 49 ⇑P P 11 53 14.3 +0.6
baz=85,SNR=6.3
222A Williams Famil 85.48 53 ⇑P P 11 53 15.0 +0.7
baz=85,SNR=6.1
W26A Owens Ranch, T 85.50 48 ⇓P P 11 53 15.7 +1.4
baz=85
U28A Mallet 85.51 47 ⇑P P 11 53 14.4 0.0
baz=85
DAVOX Davos/Dischmat 85.54 329 LR LR 12 35 13.1
comp=Z,106nm,18.2s,baz=290,slow=38
S30A Montezuma 85.63 45 ⇓P P 11 53 15.1 +0.3
baz=86
Z24A Sheeppen Canyo 85.74 51 ⇑P P 11 53 16.1 +0.5
baz=86
Y25A Mesa, Roswell 85.75 50 ⇑P P 11 53 16.0 +0.4
baz=86,SNR=5.7
X26A CR and CF Fran 85.85 49 ⇑P P 11 53 16.6 +0.5
baz=86,SNR=10
W27A Bowe Ranch, En 85.94 48 ⇑P P 11 53 17.4 +0.9
baz=86,SNR=23
U29A Oasis Ranch, S 86.01 46 ⇑P P 11 53 17.3 +0.5
baz=86
124A Stringfield Ra 86.11 51 ⇓P P 11 53 17.7 +0.2
baz=86,SNR=9.3
Z25A Roswell 86.17 50 ⇑P P 11 53 18.0 +0.3
baz=86,SNR=11
X27A F and S Farms, 86.21 48 ⇑P P 11 53 18.5 +0.6
baz=86,SNR=9.4
Y26A Elida 86.27 49 ⇑P P 11 53 18.4 +0.3
baz=86
V29A Stinnett 86.27 47 ⇑P P 11 53 18.6 +0.5
baz=86
U30A WK&E Inc. Balk 86.31 46 ⇑P P 11 53 19.0 +0.8
baz=86
T31A Randall Ranch, 86.45 45 ⇓P P 11 53 19.2 +0.3
baz=86
224A Cornudas Mount 86.49 52 ⇓P P 11 53 20.1 +0.8
baz=86
Z26A Caprock 86.62 50 ⇓P P 11 53 20.4 +0.6
baz=86,SNR=6.4
125A Gardner Draw, 86.63 51 ⇓P P 11 53 20.3 +0.3
baz=86,SNR=6.9
KSU1 Kansas State U 86.67 42 eP P 11 53 19.7 -0.1
comp=Z,4.5nm,0.4s
Y27A Causey 86.69 49 ⇑P P 11 53 20.8 +0.5
baz=87
X28A Dimmitt 86.83 48 ⇓P P 11 53 21.5 +0.6
baz=87
MSTX Muleshoe 86.87 49 ⇑P P 11 53 21.5 +0.4
baz=87
324A Moseley Ranch, 86.95 52 ⇓P P 11 53 21.6 +0.1
baz=87
126A Clayton Basin, 87.03 50 ⇓P P 11 53 22.4 +0.6
baz=87
Z27A Tatum 87.06 49 ⇓P P 11 53 22.1 0.0
baz=87,SNR=6.8
X29A Tulia 87.17 48 ⇓P P 11 53 23.0 +0.5
baz=87
Y28A McKinney Farm, 87.22 48 ⇑P P 11 53 23.2 +0.4
baz=87
V31A Spring Creek L 87.31 46 ⇑P P 11 53 23.5 +0.4
baz=87
226B Tecolote Peak, 87.33 51 ⇓P P 11 53 23.7 +0.4
baz=87
Z28A Tucker Farm, M 87.57 49 ⇑P P 11 53 24.9 +0.4
baz=87
Y29A Porterfield Fa 87.60 48 ⇑P P 11 53 25.4 +0.8
baz=88
W31A Holland Ranch, 87.67 46 ⇓P P 11 53 25.4 +0.6
baz=88
425A Indio Mountain 87.70 52 ⇓P P 11 53 25.8 +0.6
baz=88
326A Caldwell Ranch 87.97 51 ⇑P P 11 53 26.6 +0.2
baz=88,SNR=6.1
128A Castleberry Fa 87.98 50 ⇑P P 11 53 27.0 +0.6
baz=88
Z29A Hungry Hill Ra 88.00 49 ⇓P P 11 53 27.0 +0.6
baz=88,SNR=6.9
X31A McDonald Ranch 88.04 47 ⇑P P 11 53 27.2 +0.6
baz=88
Y30A Stafford Cattl 88.04 48 ⇓P P 11 53 27.5 +0.8
baz=88
Z30A Sanderson Ranc 88.33 48 ⇑P P 11 53 28.6 +0.6
baz=88
Y31A Rekieta Farm, 88.36 47 ⇓P P 11 53 28.9 +0.9
baz=88
426A McDonald Obser 88.38 52 ⇑P P 11 53 28.5 0.0
baz=88
328A Wristen Ranch, 88.64 51 ⇓P P 11 53 29.8 +0.3
baz=88
WMOK Wichita Mounta 88.65 46 eP P 11 53 29.5 0.0
WMOK pmax pmax
comp=Z,5.0nm,0.8s
WMOK Wichita Mounta 88.65 46 eP P 11 53 29.5 0.0
comp=Z,5.2nm,0.8s
526A Mary Lane Ranc 88.76 52 ⇑P P 11 53 30.9 +0.7
baz=89,SNR=6.1
Y32A R-V Farms, Ver 88.80 47 ⇓P P 11 53 30.5 +0.4
baz=89
Z31A Sharp Cattle R 88.88 48 ⇓P P 11 53 31.1 +0.5
baz=89
130A Snyder 88.91 49 ⇓P P 11 53 31.3 +0.6
baz=89
329A Wagon Wheel Ra 89.08 50 ⇓P P 11 53 32.2 +0.6
baz=89
626A Big Bend Ranch 89.08 53 ⇑P P 11 53 32.2 +0.5
baz=89
428A Kincaid Ranch, 89.18 51 ⇑P P 11 53 32.7 +0.6
baz=89
131A Roby 89.20 48 ⇑P P 11 53 32.9 +0.9
baz=89
Z32A Haskell 89.28 47 ⇑P P 11 53 33.0 +0.6
baz=89
230A Sterling City 89.32 49 ⇓P P 11 53 33.2 +0.5
baz=89
TUL1 Tulsa 89.46 43 ⇓P P 11 53 33.6 +0.5
baz=89
528A Cox Ranch, San 89.51 51 ⇓P P 11 53 34.5 +0.8
baz=89
TXAR Lajitas Array 89.53 53 P P 11 53 34.4 +0.7
TXAR pP pP 11 53 56.0 +2.6
TXAR Lajitas Array 89.53 53 P P 11 53 34.4 +0.7
comp=Z,5.5nm,0.5s,baz=304,slow=3.3,SNR=26
TXAR pP pP 11 53 56.0 +2.6
comp=Z,1.6nm,0.5s,baz=312,slow=3.3,SNR=4.4
330A Mertzon 89.62 50 ⇑P P 11 53 34.5 +0.4
baz=90
ABTX Abilene, Hawle 89.67 48 ⇓P P 11 53 34.6 +0.4
baz=90
429A Davenport Ranc 89.73 51 ⇓P P 11 53 35.0 +0.4
baz=90
231A Bronte 89.76 49 ⇓P P 11 53 35.0 +0.2
baz=90
529A Stev Forest Ra 89.88 51 ⇑P P 11 53 35.7 +0.4
baz=90
628A Black Gap, Mar 89.91 52 ⇓P P 11 53 36.1 +0.7
baz=90
430A Baggett Ranch, 90.02 50 ⇓P P 11 53 36.0 0.0
baz=90
331A San Angelo 90.14 49 ⇑P P 11 53 36.6 +0.1
baz=90
232A Coleman 90.19 48 ⇑P P 11 53 37.2 +0.5
baz=90
SFIN Scholer Farm 90.37 35 ⇓P P 11 53 37.9 +0.6
baz=90
530A J-C Ranch, Com 90.41 51 ⇓P P 11 53 38.4 +0.6
baz=90
431A Sonora 90.48 50 ⇑P P 11 53 37.8 -0.3
baz=90
332A Millersview 90.50 49 ⇓P P 11 53 38.5 +0.4
baz=90
432A Menard 90.83 49 ⇑P P 11 53 40.0 +0.2
baz=91
531A Rocksprings 90.88 50 ⇑P P 11 53 40.5 +0.5
baz=91
JCT Junction City 91.11 49 eP P 11 53 41.1 +0.1
JCT pmax pmax
comp=Z,7.0nm,0.6s
JCT Junction City 91.11 49 eP P 11 53 41.1 +0.1
comp=Z,6.7nm,0.6s
JCT Junction City 91.11 49 ⇓P P 11 53 41.4 +0.4
baz=91
532A Rocksprings 91.30 50 ⇑P P 11 53 41.9 0.0
baz=91
631A Perdido Creek 91.40 51 ⇓P P 11 53 43.3 +0.9
baz=91
WHTX Lake Whitney 91.41 47 eP P 11 53 42.9 +0.6
WHTX Lake Whitney 91.41 47 ⇑P P 11 53 43.2 +0.9
baz=91
632A Uvalde 91.81 50 ⇓P P 11 53 44.8 +0.5
baz=92
732A Laxson Ranch, 92.25 51 ⇑P P 11 53 47.1 +0.8
baz=92
TORD Torodi Ar. Bea 117.08 315 PKP PKPdf 11 59 19.5 -1.8
TORD Torodi Ar. Bea 117.08 315 PKP PKPdf 11 59 19.5 -1.8
comp=Z,0.4nm,0.5s,baz=48,slow=1.6,SNR=8.2
QSPA South Pole Qui 127.40 180 ePKPdf PKPdf 11 59 38.0 -1.5
QSPA e 12 00 00.5
LPAZ La Paz 146.15 59 ePKPbc PKPbc 12 00 16.9 -0.4
LPAZ La Paz 146.15 59 PKPbc PKPbc 12 00 17.0 -0.2
comp=Z,7.4nm,0.5s,baz=22,slow=4.9,SNR=44
LPAZ pPKPbc pPKPbc 12 00 39.3 +1.8
comp=Z,8.0nm,0.9s,baz=12,slow=6.8,SNR=4.8

JMA 22 11:45:23.2±0.7,32°.69N×142°.02E,h0km,M3.9,
Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.90**	**283**	P	Pn	11 45 57.6	+0.7
JHCJ	**Hachijojimakas**	**1.91**	**282**	P	Pn	11 45 57.5	+0.5
BSO3	**Boso 3**	**2.45**	**330**	P	Pb	11 46 06.4	-1.4
JOD2	**Odawara 2**	**3.54**	**317**	P	Pn	11 46 20.4	+0.9
JHU	**Hanno**	**3.88**	**325**	P	Pn	11 46 25.9	+1.7
JHU				eS	Sn	11 47 12.3	+1.8
JYN	**Shimob**	**4.02**	**315**	P	Pn	11 46 29.1	+3.0
JHO	**Hitachi**	**4.09**	**343**	P	Pn	11 46 27.5	+0.5
JHO				eS	Sn	11 47 16.3	+0.7
JRY	**Ryogami san**	**4.20**	**323**	P	Pn	11 46 30.8	+2.2
JRY				eS	Sn	11 47 22.0	+3.5
JAG	**Ashikaga**	**4.29**	**331**	P	Pn	11 46 31.3	+1.6
MAT	**Matsushiro**	**4.96**	**322**	P	Pn	11 46 41.4	+2.3
MAT				eS	Sn	11 47 39.0	+1.8
MAT	**Matsushiro**	**4.96**	**322**	P	Pn	11 46 41.3	+2.2
JFT	**Otama**	**5.01**	**344**	P	Pn	11 46 41.7	+2.0
JFT				S	Sn	11 47 37.5	-0.8

*CSEM **22** 11:45:40.3,35°.97N×4°.47E,h0km,ML3.6,After ALG*
CRAAG 22 11:45:40.3,35°.96N×4°.46E,MI3.6,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAF	**Djebel Tarf**	**0.17**	**240**	P	Pg	11 45 48.0	+4.2
ATAF	**Djebel Tarf**	**0.17**	**240**	P	Pg	11 45 48.0	+4.2
AKET	**Djebel Ketaf**	**0.48**	**281**	P	Pg	11 45 44.2	-5.5
AKET	**Djebel Ketaf**	**0.48**	**281**	P	Pg	11 45 44.2	-5.5
ABMS	**Boumerdes**	**1.12**	**315**	P	Pg	11 45 59.9	-1.8
ABMS	**Boumerdes**	**1.12**	**315**	P	Pg	11 45 59.9	-1.8
EMHD	**Djebel Mahouad**	**1.24**	**282**	P	Pg	11 45 59.2	-5.2
EMHD	**Djebel Mahouad**	**1.24**	**282**	P	Pg	11 45 59.2	-5.2
EBNR	**Beni Rached**	**2.40**	**279**	P	Pn	11 46 10.0	-11
EBNR	**Beni Rached**	**2.40**	**279**	P	Pn	11 46 10.0	-11
EANR	**'Ain N'Sour**	**2.73**	**271**	P	Pn	11 46 26.6	+1.2
EANR	**'Ain N'Sour**	**2.73**	**271**	P	Pn	11 46 26.6	+1.2

*ISCJB **22** 11:56:50.9±0.5,32°.31N±0°.03×115°.08W±0°.03,h20km±5km,*
Error ellipse: s-maj=5.1km s-min=3.6km az=154.3
*NEIC **22** 11:56:52.3,32°.27N×115°.13W,h13km,ML3.0(PAS),*
ML3.5(ECX),After ECX.
*ECX **22** 11:56:52.3±0.5,32°.27N×115°.13W,h5km,MD3.3,ML3.5*
ISC 22 11:56:50.8±1.1,32°.27N±0°.03×115°.14W±0°.02,h12km±9km,
n31,σ1§30/47,5C-2D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.20**	**316**	eP	Pb	**11 56 56.3**	**-0.1**
CPBX				eS	Sg	**11 56 59.5**	**+1.3**
CPBX				⇓e		11 57 01.3	
comp=N,25μm,0.3s							
COA	**Coachella**	**0.59**	**1**	⇓iP	Pg	**11 57 02.5**	**+0.2**
RDX	**Rancho Dawling**	**0.76**	**244**	⇓eP	Pb	**11 57 06.1**	**0.0**
RDX				eS	Sg	**11 57 16.2**	**+0.6**
RDX				⇑e		11 57 17.7	
comp=N,1μm,0.5s							
GLA	**Glamis**	**0.82**	**19**	ePg	Pg	**11 57 05.8**	**-0.9**
GLA				eSg	Sg	**11 57 17.3**	**-0.2**
GLA	**Glamis**	**0.82**	**19**	P	Pg	**11 57 05.8**	**-0.9**
baz=0.8							
GLA				S	Sg	**11 57 16.3**	**-1.1**
baz=0.8							
RMX	**La Rumorosa**	**0.86**	**293**	⇑eP	Pg	**11 57 07.4**	**-0.1**
RMX				eS	Sg	**11 57 18.9**	**+0.2**
RMX				⇑e		11 57 19.4	
comp=E,800nm,0.2s							
SWSC	**Sam W. Stewart**	**0.87**	**320**	S	Sg	**11 57 16.5**	**-2.5**
baz=0.8							
DVTC	**Desert V Tower**	**0.90**	**296**	P	Pg	**11 57 07.2**	**-1.0**
baz=0.8							
DVTC				S	Sg	**11 57 19.6**	**-0.4**
baz=0.8							
ZAX	**El Zacaton**	**1.23**	**232**	eP	Pb	**11 57 14.1**	**+0.1**
ZAX				eS	Sn	**11 57 30.3**	**0.0**
MONP	**Monument Peak**	**1.25**	**300**	S	Sb	**11 57 30.4**	**-0.1**
baz=1.2							
SPX	**San Pedro Mart**	**1.25**	**193**	eP	Pn	**11 57 13.7**	**-0.7**
SPX				eS	Sb	**11 57 31.2**	**+0.4**
113A	**Mohawk Valley,**	**1.26**	**66**	P	Pn	**11 57 12.6**	**-1.5**
baz=1.3							
113A				S	Sb	**11 57 28.1**	**-2.5**
baz=1.3							
CBX	**Cerro Bola**	**1.29**	**272**	⇑eP	Pn	**11 57 14.7**	**0.0**
CBX				eS	Sg	**11 57 32.6**	**+0.1**
BAR	**Barrett**	**1.36**	**288**	ePn	Pn	**11 57 15.1**	**-0.5**
BAR				eSn	Sb	**11 57 33.5**	**-0.1**
ECNX	**Esteban Cantu**	**1.38**	**244**	eP	Pb	**11 57 16.6**	**0.0**
ECNX				eS	Sg	**11 57 35.2**	**-0.1**
BC3	**Big Chuckawall**	**1.41**	**349**	P	Pn	**11 57 14.3**	**-2.0**
baz=1.3							
PBX	**Punta Banda**	**1.45**	**249**	eP	Pb	**11 57 17.4**	**-0.3**
PBX				eS	Sg	**11 57 36.9**	**-0.5**
PFO	**Pinyon Flat Ob**	**1.73**	**321**	ePn	Pn	**11 57 18.7**	**-2.1**
PFO	**Pinyon Flat Ob**	**1.73**	**321**	P	Pn	**11 57 18.7**	**-2.1**
baz=1.6							
109C	**Camp Elliot, M**	**1.77**	**291**	Sb	Sb	**11 57 45.5**	**+0.2**
baz=1.7							
214A	**Organ Pipe Nat**	**2.00**	**98**	P	Pn	**11 57 22.4**	**-2.0**
baz=2.1							
Z14A	**Wintersburg**	**2.14**	**59**	P	Pn	**11 57 25.3**	**-1.1**
baz=2.1							
MURC	**Murrieta**	**2.18**	**308**	P	Pn	**11 57 25.7**	**-1.2**
baz=2.1							
CIS	**Catalina Islan**	**2.97**	**293**	Sb	Sb	**11 58 21.3**	**+1.3**
baz=2.9							
MWC	**Mount Wilson**	**3.13**	**309**	Pn	Pn	**11 57 40.0**	**-0.1**
GSC	**Goldstone**	**3.33**	**336**	ePg	Pg	**11 57 56.4**	**+1.9**
TUC	**Tucson**	**3.69**	**88**	ePn	Pn	**11 57 46.8**	**-0.8**
TUC				eSg	Sg	**11 58 52.4**	**+3.2**
SHPR	**Sheep Range**	**4.22**	**360**	ePn	Pn	**11 57 55.7**	**+0.6**
ISA	**Isabella**	**4.37**	**322**	ePn	Pn	**11 57 58.7**	**+1.7**
WUAZ	**Wupatki**	**4.50**	**43**	ePn	Pn	**11 58 00.8**	**+1.9**
WUAZ				eSg	Sg	**11 59 17.9**	**+2.5**
CCUT	**Cedar City**	**5.46**	**15**	ePn	Pn	**11 58 13.8**	**+1.5**
comp=E,2.9nm,0.8s							
CCUT				eSg	Sg	**11 59 46.3**	**+0.1**

*JMA **22** 12:17:24.7±0.2,31°.33N×138°.63E,h399km,M3.6*
*ISCJB **22** 12:17:26.6±0.4,31°.42N±0°.05×138°.71E±0°.07,h381km,*
mb3.5/13,Error ellipse: s-maj=8.5km s-min=6.3km
az=177.5
*IDC **22** 12:17:27.0±1.7,31°.46N×138°.57E,h355km±16km,*
mb3.3/13,mb1 3.3/17,mb1mx3.2/29,mbtmp3.3/17,Error
ellipse: s-maj=29.6km s-min=12.1km az=66.0
ISC 22 12:17:27.8±0.6,31°.39N±0°.06×138°.75E±0°.08,h381km,n34,
σ1§95/41,mb3.6/13,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	**1.90**	**28**	P	Pn	**12 18 21.0**	**-0.2**
JHJ2	**Mitsune**	**1.94**	**27**	P	Pn	**12 18 21.3**	**-0.2**
TTO2	**TONANKAI O.B.S**	**2.76**	**329**	P	Pn	**12 18 26.4**	**-0.6**
TTO1	**TONANKAI O.B.S**	**2.78**	**324**	P	Pn	**12 18 26.3**	**-0.9**
TTO4	**TONANKAI O.B.S**	**2.81**	**339**	P	Pn	**12 18 26.9**	**-0.6**
JWZ	**Kozaga**	**3.34**	**311**	P	Pn	**12 18 30.1**	**-2.3**
JIE	**Ise**	**3.45**	**331**	P	Pn	**12 18 32.2**	**-1.2**
BSO1	**Boso 1**	**3.75**	**29**	P	Pn	**12 18 35.0**	**-0.6**
BSO1				eS	S	**12 19 27.6**	**-3.0**
JOD2	**Odawara 2**	**3.88**	**4**	P	Pn	**12 18 37.5**	**+0.1**
JOD2				eS	S	**12 19 32.2**	**-1.6**
JRY	**Ryogami san**	**4.62**	**2**	P	Pn	**12 18 44.2**	**-0.6**
MAT	**Matsushiro**	**5.16**	**355**	P	Pn	**12 18 49.8**	**-0.7**
MAT				eS	S	**12 19 53.6**	**-4.1**
CBIJ	**Chichi jima**	**5.22**	**144**	P	Pn	**12 18 49.2**	**-2.1**
CBIJ				eS	S	**12 19 56.0**	**-3.1**
CBIJ	**Chichi jima**	**5.22**	**144**	P	Pn	**12 18 49.5**	**-1.9**
13nm,0.3s,baz=281,slow=22,SNR=9.1							
CBIJ				S	S	**12 19 55.3**	**-3.8**
68nm,0.3s,baz=284,slow=22,SNR=20							
JTO	**Tosashimizu**	**5.26**	**288**	P	Pn	**12 18 49.0**	**-2.5**
JHS	**Saijyo**	**5.94**	**309**	P	Pn	**12 18 57.1**	**-1.9**
JNU	**Nakatsue**	**6.89**	**287**	P	Pn	**12 19 07.3**	**-2.3**
0.6nm,0.3s,baz=115,slow=6.3,SNR=7.0							
JMK	**Ichinoseki**	**7.81**	**14**	P	P	**12 19 20.7**	**-0.2**
JMK				eS	S	**12 20 46.6**	**-5.4**
KSRS	**Korea Array**	**10.79**	**307**	P	P	**12 19 54.0**	**-0.6**
0.3nm,0.3s,baz=121,slow=12,SNR=9.9							
ASAJ	**Asahikawa**	**13.06**	**12**	P	Pn	**12 20 23.5**	**+2.1**
0.4nm,0.3s,baz=1.7,slow=32,SNR=5.8							
USRK	**Ussuriysk Arra**	**13.86**	**339**	P	P	**12 20 28.4**	**+0.1**
0.1nm,0.3s,baz=154,slow=10,SNR=4.2							
SONM	**Songino Array**	**29.57**	**313**	P	P	**12 22 59.3**	**+0.1**
0.7nm,0.5s,baz=117,slow=7.8,SNR=7.0							
CMAR	**Chiang Mai Arr**	**38.12**	**260**	P	P	**12 24 11.5**	**-0.6**
0.6nm,0.4s,baz=49,slow=7.7,SNR=5.3							
ZALV	**Zalesovo Beam**	**44.30**	**317**	P	P	**12 25 01.3**	**+0.1**
0.6nm,0.3s,baz=90,slow=9.0,SNR=3.3							
ZALV				PcP	PcP	**12 26 39.3**	**+1.5**
0.9nm,0.5s,baz=114,slow=2.8,SNR=4.7							
MKAR	**Makanchi Array**	**45.48**	**307**	P	P	**12 25 09.9**	**-0.7**
1.2nm,0.7s,baz=57,slow=8.8,SNR=8.1							
KURBB	**Kurchatov Arra**	**47.93**	**312**	P	P	**12 25 28.5**	**-0.7**
1.2nm,0.3s,baz=91,slow=6.1,SNR=8.3							
WRA	**Warramunga Arr**	**51.21**	**185**	P	P	**12 25 56.0**	**+2.0**
0.2nm,0.3s,baz=0.1,slow=7.9,SNR=8.2							
BVAR	**Borovoye Array**	**52.88**	**315**	P	P	**12 26 05.7**	**-0.1**
2.7nm,0.4s,baz=104,slow=8.3,SNR=10							
ASAR	**Alice Springs**	**54.94**	**185**	P	P	**12 26 23.4**	**+2.5**
0.6nm,1.0s,baz=23,slow=11,SNR=6.4							
ARCES	**ARCESS Array B**	**68.50**	**340**	P	P	**12 27 51.6**	**+1.9**
4.1nm,1.1s,baz=19,slow=7.7,SNR=4.0							
FINES	**FINESS Array B**	**72.78**	**332**	P	P	**12 28 16.4**	**+1.1**
1.9nm,0.5s,baz=65,slow=5.0,SNR=8.3							
KBZ	**Khabaz**	**72.92**	**311**	P	P	**12 28 17.1**	**+0.7**
3.4nm,0.7s,baz=92,slow=6.2,SNR=6.5							
AKASG	**Malin Array Be**	**77.40**	**322**	P	P	**12 28 42.5**	**+0.9**
1.9nm,0.4s,baz=49,slow=5.8,SNR=6.1							
BRTR	**Keskin Array B**	**80.91**	**311**	P	P	**12 29 02.5**	**+1.6**
1.5nm,0.7s,baz=108,slow=5.6,SNR=7.1							
TORD	**Torodi Ar. Bea**	**119.52**	**310**	PKP	PKPdf	**12 35 34.7**	**+1.3**
0.3nm,0.5s,baz=34,slow=0.8,SNR=6.4							

*IDC **22** 12:43:30.8±3.2,5°.47S×151°.67E,h32km±22km,mb4.2/14,*
mb1 4.4/14,mb1mx4.3/18,mbtmp4.2/14,MS3.7/3,
Ms1 3.8/3,ms1mx3.3/18,Error ellipse: s-maj=24.1km
s-min=15.5km az=113.0
*NEIC **22** 12:43:31.5±0.3,5°.38S×151°.67E,h35km,mb4.6/9,Error*
ellipse: s-maj=13.4km s-min=6.6km az=114.0
*ISCJB **22** 12:43:32.4±0.4,5°.42S±0°.06×151°.56E±0°.09,h57km,*
mb4.5/22,MS3.7/3,Error ellipse: s-maj=14.0km
s-min=6.4km az=31.5
ISC 22 12:43:33.8±0.5,5°.46S±0°.08×151°.6E±0°.1,h57km,n56,
σ1§18/63,mb4.5/22,MS3.5/3,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.92**	**228**	ePn	Pn	**12 44 58.9**	**-0.1**
141nm,0.9s							
PMG				eSn	Sn	**12 46 07.2**	**+1.7**
PMG	**Port Moresby**	**5.92**	**228**	Pn	Pn	**12 45 00.3**	**+1.3**
7.9nm,0.3s,baz=33,slow=9.3,SNR=28							
PMG				Sn	Sn	**12 46 05.9**	**+0.4**
20nm,0.3s,baz=292,slow=21,SNR=8.8							
COEN	**Coen**	**11.86**	**224**	ePn	Pn	**12 46 20.0**	**-0.3**
CTA	**Charters Tower**	**15.45**	**199**	Pn	P	**12 47 10.1**	**-1.7**

CTA	**Charters Tower**	**15.45 199**	Pn		**P**	**12 47 10.1**	**-1.7**
	0.2nm,0.3s,baz=33,slow=13,SNR=9.1						
CTAO	**Charters Tower**	**15.45 199**	*eP*		**Pn**	**12 47 08.6**	**+0.3**
	6.6nm,0.8s						
EIDS	**Eidsvold**	**19.80 181**	*eP*		**P**	**12 47 59.1**	**-0.6**
	5.5nm,0.7s						
WRAB	**Tennant Creek**	**22.13 228**	*eP*		**P**	**12 48 24.3**	**-0.5**
	14nm,0.6s						
WRA	**Warramunga Arr**	**22.14 228**	P		**P**	**12 48 24.3**	**-0.7**
WRA			S		**S**	**12 52 23.1**	**-2.6**
WRA			ScP		**ScP**	**12 55 55.7**	**+2.4**
WRA	**Warramunga Arr**	**22.14 228**	P		**P**	**12 48 24.3**	**-0.7**
	8.6nm,0.5s,baz=52,slow=9.9,SNR=104						
WRA			S		**S**	**12 52 23.1**	**-2.6**
	1.8nm,1.0s,baz=52,slow=18,SNR=5.4						
WRA			ScP		**ScP**	**12 55 55.7**	**+2.4**
	1.2nm,0.8s,baz=51,slow=2.8,SNR=5.9						
AS31	**Alice Springs**	**24.88 222**	*eP*		**P**	**12 48 51.3**	**-0.2**
ASAR	**Alice Springs**	**24.88 222**	P		**P**	**12 48 51.1**	**-0.4**
ASAR			ScP		**ScP**	**12 56 03.1**	**+2.4**
ASAR	**Alice Springs**	**24.88 222**	P		**P**	**12 48 51.1**	**-0.4**
	11nm,0.8s,baz=60,slow=8.3,SNR=87						
ASAR			ScP		**ScP**	**12 56 03.1**	**+2.4**
	0.5nm,0.8s,baz=26,slow=2.9,SNR=5.5						
ASAR			LR		LR	12 58 33.4	
	comp=Z,151nm,18.4s,baz=86,slow=36						
STKA	**Stephens Creek**	**27.91 198**	P		**P**	**12 49 21.0**	**+2.4**
STKA	**Stephens Creek**	**27.91 198**	P		**P**	**12 49 21.0**	**+2.4**
	2.5nm,0.7s,baz=20,slow=12,SNR=3.1						
FITZ	**Fitzroy Crossi**	**28.33 241**	P		**P**	**12 49 21.9**	**-0.6**
FITZ	**Fitzroy Crossi**	**28.33 241**	P		**P**	**12 49 21.9**	**-0.6**
	25nm,0.7s,baz=65,slow=6.4,SNR=51						
RPZ	**Rata Peaks**	**41.76 159**	LR		LR	13 06 02.9	
	comp=Z,197nm,18.8s,baz=288,slow=32						
JNU	**Nakatsue**	**43.13 334**	P		**P**	**12 51 28.8**	**0.0**
JNU	**Nakatsue**	**43.13 334**	P		**P**	**12 51 28.8**	**0.0**
	7.9nm,0.9s,baz=40,slow=2.4,SNR=3.7						
KSRS	**Korea Array**	**48.08 335**	P		**P**	**12 52 07.6**	**-0.2**
	0.5nm,0.6s,baz=153,slow=8.8,SNR=4.9						
KSAR	**Wonju Array Be**	**48.09 334**	P		**P**	**12 52 07.6**	**-0.2**
CMAR	**Chiang Mai Arr**	**57.11 296**	P		**P**	**12 53 15.8**	**+0.9**
CMAR	**Chiang Mai Arr**	**57.11 296**	P		**P**	**12 53 15.8**	**+0.9**
	1.1nm,0.6s,baz=109,slow=5.9,SNR=6.8						
CMAR			LR		LR	13 17 37.7	
	comp=Z,36nm,18.7s,baz=175,slow=36						
PETK	**Petropavlovsk-**	**58.58 4**	P		**P**	**12 53 25.0**	**+0.4**
PETK	**Petropavlovsk-**	**58.58 4**	P		**P**	**12 53 25.0**	**+0.4**
	2.8nm,0.8s,baz=168,slow=7.1,SNR=6.3						
ULN	**Ulaanbaatar**	**65.95 329**	*eP*		**P**	**12 54 14.8**	**+0.5**
	1.8nm,0.8s						
SONM	**Songino Array**	**66.27 328**	P		**P**	**12 54 17.0**	**+0.7**
SONM	**Songino Array**	**66.27 328**	P		**P**	**12 54 17.0**	**+0.7**
	2.1nm,0.7s,baz=143,slow=4.6,SNR=15						
VNDA	**Vanda**	**72.22 178**	P		**P**	**12 54 52.4**	**0.0**
VNDA	**Vanda**	**72.22 178**	P		**P**	**12 54 52.4**	**0.0**
	0.7nm,0.6s,baz=342,slow=6.8,SNR=4.0						
MKAR	**Makanchi Array**	**80.06 319**	P		**P**	**12 55 37.6**	**+0.1**
MKAR	**Makanchi Array**	**80.06 319**	P		**P**	**12 55 37.6**	**+0.1**
	1.2nm,0.5s,baz=98,slow=7.7,SNR=6.7						
ZALV	**Zalesovo Beam**	**81.06 327**	P		**P**	**12 55 41.3**	**-1.3**
ZALV	**Zalesovo Beam**	**81.06 327**	P		**P**	**12 55 41.3**	**-1.3**
	2.7nm,0.5s,baz=111,slow=6.5,SNR=8.7						
COLA	**College**	**82.89 22**	*eP*		**P**	**12 55 51.2**	**-0.8**
	8.3nm,0.6s						
ILAR	**Eielson Array**	**83.21 22**	P		**P**	**12 55 51.8**	**-1.9**
ILAR	**Eielson Array**	**83.21 22**	P		**P**	**12 55 51.8**	**-1.9**
	1.3nm,0.8s,baz=248,slow=4.9,SNR=20						
QSPA	**South Pole Qui**	**84.50 180**	*eP*		**P**	**12 55 59.7**	**-0.8**
	4.5nm,1.0s						
HUMO	**Hull Mountain**	**90.28 47**	*eP*		**P**	**12 56 29.4**	**+0.7**
	8.6nm,1.0s						
YBH	**Yreka Blue Hor**	**90.36 48**	P		**P**	**12 56 30.0**	**+0.8**
YBH	**Yreka Blue Hor**	**90.36 48**	P		**P**	**12 56 30.0**	**+0.8**
	3.4nm,0.9s,baz=263,slow=3.4,SNR=12						
MOD	**Modoc**	**92.17 48**	*eP*		**P**	**12 56 37.5**	**-0.1**
	19nm,0.9s						
NVAR	**Mina Array Bea**	**93.40 52**	P		**P**	**12 56 44.5**	**+0.9**
NVAR	**Mina Array Bea**	**93.40 52**	P		**P**	**12 56 44.5**	**+0.9**
	4.0nm,0.8s,baz=254,slow=6.9,SNR=32						
NV11	**Mina Array Sit**	**93.52 52**	*eP*		**P**	**12 56 44.6**	**+0.6**
HLID	**Hailey**	**96.59 47**	*eP*		**P**	**12 56 58.0**	**+0.1**
	3.0nm,1.1s						
PDAR	**Pinedale Array**	**100.15 48**	P		**Pdif**	**12 57 13.7**	**-0.4**
PDAR	**Pinedale Array**	**100.15 48**	P		**Pdif**	**12 57 13.7**	**-0.4**
	1.5nm,0.8s,baz=244,slow=2.4,SNR=10						
GERES	**GERESS Array B**	**124.00 328**	PKP		**PKPdf**	**13 02 25.7**	**-0.3**
GERES	**GERESS Array B**	**124.00 328**	PKP		**PKPdf**	**13 02 25.7**	**-0.3**
	2.2nm,0.5s,baz=65,slow=1.5,SNR=17						
TOA0	**Torodi Ar. Sit**	**149.40 287**	*e*PKPbc		**PKPbc**	**13 03 16.7**	**-0.9**
TORD	**Torodi Ar. Bea**	**149.40 287**	PKPbc		**PKPbc**	**13 03 17.1**	**-0.4**
TORD	**Torodi Ar. Bea**	**149.40 287**	PKPbc		**PKPbc**	**13 03 17.1**	**-0.4**
	4.7nm,0.4s,baz=94,slow=2.3,SNR=86						
BDFB	**Brasilia**	**151.39 137**	PKPbc		**PKPbc**	**13 03 22.0**	**-0.4**
BDFB	**Brasilia**	**151.39 137**	PKPbc		**PKPbc**	**13 03 22.0**	**-0.4**
	2.3nm,0.6s,baz=210,slow=2.3,SNR=3.5						

NNC 22 12:49:50.6±3.1, 50°.22N×73°.04E, h0km, mb3.5, mpv3.2, 7C-4D, Error ellipse: s-maj=38.8km s-min=7.8km az=25.0, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VOSK	**Vostochnaya**	**2.82**	**334**	⇑Pn	Pn	12 50 36.1	-0.8
	8.6nm,0.8s						
VOSK				⇑Sn	Sn	12 51 09.6	-2.0
	81nm,0.9s						
BVA0	**Borovoye Array**	**3.26**	**331**	⇓Pn	Pn	12 50 43.1	+0.1
	9.2nm,1.2s,baz=122,slow=16,SNR=15						
BVA0				⇑Sn	Sn	12 51 25.3	+2.8
	49nm,0.9s,baz=118,slow=28,SNR=19						
BRVK	**Borovoye**	**3.32**	**330**	⇑Pn	Pn	12 50 43.9	+0.1
	13nm,1.3s						
BRVK				⇓Sn	Sn	12 51 24.2	+0.3
	146nm,0.8s						
KURBB	**Kurchatov Arra**	**3.53**	**81**	⇑Pn	Pn	12 50 46.2	-0.5
	12nm,1.1s						
KURBB				⇓Sn	Sn	12 51 30.6	+1.4
	134nm,0.9s						
KURK	**Kurchatov**	**3.60**	**80**	⇓Pn	Pn	12 50 48.6	+1.1
	4.3nm,1.0s						
KURK				⇑Sn	Sn	12 51 31.2	+0.5
	44nm,1.1s						
MK31	**Makanchi Array**	**7.04**	**116**	⇑Lg	Lg	12 53 32.0	
	26nm,1.1s,baz=311,slow=22,SNR=7.2						

IDC 22 13:08:03.1±2.5, 7°.63S×80°.17W, h0km, mb4.4/2, mb1 4.1/3, mb1mx3.7/19, mbtmp4.1/3, ML3.7/1, MS3.3/1, Ms1 3.4/1, ms1mx2.8/27, Error ellipse: s-maj=101.6km s-min=28.2km az=43.0, Off coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**14.58**	**127**	Pn	Pn	13 11 33.0	+1.4
	0.1nm,0.3s,baz=312,slow=9.7,SNR=5.5						
LPAZ				LR	LR	13 17 07.5	
	comp=Z,106nm,18.7s,baz=253,slow=37						
SIV	**San Ignacio**	**20.44**	**116**	P	P	13 12 40.8	-1.6
	baz=300,slow=12						
APG	**El Apazote**	**24.69**	**336**	P	P	13 13 26.0	-0.4
	5.9nm,0.5s,baz=162,slow=13,SNR=7.0						
TORD	**Torodi Ar. Bea**	**83.86**	**76**	P	P	13 20 36.1	+0.7
	1.7nm,0.8s,baz=262,slow=4.5,SNR=9.4						
WRA	**Warramunga Arr**	**136.37**	**231**	PKP	PKPdf	13 27 27.6	-0.3
	0.4nm,0.6s,baz=124,slow=2.0,SNR=5.3						

IDC 22 13:19:32.6±47.0, 30°.14S×175°.80W, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.5/17, mbtmp3.6/3, Error ellipse: s-maj=876.5km s-min=178.1km az=98.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.39**	**256**	P	P	13 26 40.0	+1.2
	3.4nm,1.0s,baz=74,slow=7.4,SNR=2.7						
ASAR	**Alice Springs**	**45.03**	**266**	P	P	13 27 48.6	-1.7
	0.2nm,0.8s,baz=112,slow=8.0,SNR=6.7						
WRA	**Warramunga Arr**	**45.99**	**271**	P	P	13 27 58.0	0.0
	0.4nm,0.6s,baz=115,slow=7.9,SNR=6.4						

*CSEM **22** 13:32:57.9, 35°.74N×3°.92E, h0km, ML3.8, After ALG*
CRAAG 22 13:32:57.9, 35.73N×3.92E, MI3.8, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKET	**Djebel Ketaf**	**0.32**	**354**	P	Pb	13 33 07.2	+0.5
AKET	**Djebel Ketaf**	**0.32**	**354**	P	Pb	13 33 07.2	+0.5
ATAF	**Djebel Tarf**	**0.32**	**64**	P	Pn	13 33 11.1	+1.0
ATAF	**Djebel Tarf**	**0.32**	**64**	P	Pn	13 33 11.1	+1.0
EMHD	**Djebel Mahouad**	**0.91**	**301**	P	Pn	13 33 22.8	+4.6
EMHD	**Djebel Mahouad**	**0.91**	**301**	P	Pn	13 33 22.8	+4.6
CKHR	**Kef el Ahmar**	**1.32**	**77**	P	Pn	13 33 30.3	+6.4
CKHR	**Kef el Ahmar**	**1.32**	**77**	P	Pn	13 33 30.3	+6.4
DFRA	**Djebel Bou Aff**	**1.78**	**62**	P	Pg	13 33 38.1	+5.9
DFRA	**Djebel Bou Aff**	**1.78**	**62**	P	Pg	13 33 38.1	+5.9
EBNR	**Beni Rached**	**2.02**	**287**	P	Pg	13 33 48.2	+12
EBNR	**Beni Rached**	**2.02**	**287**	P	Pg	13 33 48.2	+12
ETRT	**Tiaret**	**2.16**	**262**	P	Pg	13 33 43.6	+4.0
ETRT	**Tiaret**	**2.16**	**262**	P	Pg	13 33 43.6	+4.0
EANR	**'Ain N'Sour**	**2.30**	**276**	P	Pg	13 33 49.4	+7.3
EANR	**'Ain N'Sour**	**2.30**	**276**	P	Pg	13 33 49.4	+7.3

IDC 22 13:49:03.5±4.3, 51°.22N×178°.01W, h53km±38km, mb3.2/6, mb1 3.6/8, mb1mx3.4/28, mbtmp3.5/8, ML3.4/2, Error ellipse: s-maj=38.6km s-min=17.4km az=171.0, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FX1	**Attu Island--F**	**5.70**	**290**	P	Pn	13 50 26.8	+1.4
	1.7nm,0.3s,baz=66,slow=20,SNR=2.7						
FX1				S	Sn	13 51 29.1	-0.4
	1.5nm,0.3s,baz=87,slow=18,SNR=1.8						
KDAK	**Kodiak Island**	**16.10**	**56**	P	Pn	13 52 46.2	+0.3
	0.7nm,0.3s,baz=297,slow=12,SNR=5.1						
ILAR	**Eielson Array**	**21.06**	**38**	P	P	13 53 41.7	-1.0
	0.2nm,0.5s,baz=242,slow=11,SNR=5.6						
PDAR	**Pinedale Array**	**45.88**	**73**	P	P	13 57 20.9	+0.2
	0.6nm,0.6s,baz=310,slow=4.0,SNR=5.6						
SONM	**Songino Array**	**47.16**	**297**	P	P	13 57 31.4	+0.9
	0.3nm,0.6s,baz=55,slow=9.4,SNR=3.4						
MKAR	**Makanchi Array**	**60.52**	**309**	P	P	13 59 07.6	-0.3
	1.9nm,0.4s,baz=46,slow=7.7,SNR=7.0						
WRA	**Warramunga Arr**	**82.25**	**225**	P	P	14 01 18.1	-0.8
	0.3nm,0.9s,baz=31,slow=6.1,SNR=2.9						
ASAR	**Alice Springs**	**85.71**	**223**	P	P	14 01 36.8	+0.3
	0.2nm,0.7s,baz=22,slow=5.5,SNR=3.8						

*IDC **22** 13:56:49.5±0.7, 11°.60S×165°.61E, h0km, mb4.3/18, mb1 4.4/20, mb1mx4.4/25, mbtmp4.4/20, ML5.1/2, MS3.7/11, Ms1 3.7/11, ms1mx3.5/21, Error ellipse: s-maj=21.8km s-min=14.4km az=82.0*
*ISCJB **22** 13:56:51.4±0.4, 11°.67S±0°.06×165°.49E±0°.06, h24km, mb4.4/24, MS3.6/10, Error ellipse: s-maj=9.5km s-min=7.8km az=42.5*
*NEIC **22** 13:56:52.8±3.0, 11°.64S×165°.60E, h23km±20km, mb4.7/9, Error ellipse: s-maj=9.5km s-min=6.7km az=65.0*
ISC 22 13:56:53.2±0.5, 11°.70S±0°.07×165°.54E±0°.08, h24km, n59, σ1°.20/56, mb4.5/24, MS3.6/10, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.94**	**292**	Pn	**Pn**	**13 58 19.8**	**+0.1**
HNR				Sn	**Sn**	**13 59 25.1**	**-2.0**
HNR	**Honiara**	**5.94**	**292**	Pn	**Pn**	**13 58 19.8**	**+0.1**
	61nm,0.3s,baz=130,slow=5.4,SNR=15						
HNR				Sn	**Sn**	**13 59 25.1**	**-2.0**
	60nm,0.3s,baz=189,slow=21,SNR=7.6						
DZM	**Mont Dzumac**	**10.35**	**175**	*e*Pn	**Pn**	**13 59 20.7**	**+0.3**
	23nm,0.3s						
DZM				*e*Sn	Sn	14 01 07.8	-8.0
	7.5nm,0.3s						
DZM				*e*LR	LR	14 01 43.4	
	406nm,22.9s						
DZM	**Mont Dzumac**	**10.35**	**175**	*eP*	**Pn**	**13 59 20.7**	**+0.3**
	40nm,0.4s						
DZM				Sn	**Sn**	**14 01 13.5**	**-2.3**
DZM	**Mont Dzumac**	**10.35**	**175**	Pn	**Pn**	**13 59 20.7**	**+0.3**
	14nm,0.3s,baz=21,slow=11,SNR=163						
DZM				Sn	**Sn**	**14 01 13.5**	**-2.3**
	1.0nm,0.3s,baz=317,slow=23,SNR=1.5						
DZM				LR	LR	14 02 52.3	
	comp=Z,387nm,19.1s,baz=27,slow=35						
CTA	**Charters Tower**	**20.33**	**243**	P	Pn	14 01 28.7	-1.3
CTA	**Charters Tower**	**20.33**	**243**	P	Pn	14 01 28.7	-1.3
	7.2nm,1.0s,baz=74,slow=13,SNR=7.0						
CTAO	**Charters Tower**	**20.33**	**243**	*eP*	Pn	14 01 29.1	-0.8
	12nm,1.1s						
COEN	**Coen**	**21.92**	**262**	P	**P**	**14 01 45.6**	**+0.5**
	67nm,0.8s						
AFI	**Afiamalu**	**22.22**	**98**	LR	LR	14 07 33.2	
	comp=Z,105nm,19.7s,baz=212,slow=29						
URZ	**Urewera**	**28.40**	**161**	*eP*	**P**	**14 02 46.0**	**+0.2**
URZ	**Urewera**	**28.40**	**161**	P	**P**	**14 02 48.0**	**+2.2**
	5.9nm,0.6s,baz=72,slow=5.4,SNR=6.4						
STKA	**Stephens Creek**	**29.84**	**224**	P	**P**	**14 03 00.3**	**+1.6**
STKA	**Stephens Creek**	**29.84**	**224**	P	**P**	**14 03 00.3**	**+1.6**
	3.1nm,0.8s,baz=53,slow=12,SNR=4.7						
STKA				LR	LR	14 13 17.8	
	comp=Z,112nm,21.7s,baz=210,slow=33						
WRAB	**Tennant Creek**	**31.07**	**251**	*eP*	**P**	**14 03 09.4**	**-0.3**
	9.7nm,1.1s						
WRA	**Warramunga Arr**	**31.08**	**251**	P	**P**	**14 03 09.9**	**+0.1**
WRA	**Warramunga Arr**	**31.08**	**251**	P	**P**	**14 03 09.9**	**+0.1**
	5.2nm,1.0s,baz=80,slow=8.7,SNR=29						
WRA				LR	LR	14 14 37.2	
	comp=Z,63nm,20.0s,baz=70,slow=34						
RPZ	**Rata Peaks**	**32.26**	**173**	P	**P**	**14 03 21.0**	**+1.1**
RPZ	**Rata Peaks**	**32.26**	**173**	P	**P**	**14 03 21.0**	**+1.1**
	8.8nm,0.5s,baz=336,slow=5.6,SNR=14						
RPZ				LR	LR	14 13 20.6	
	comp=Z,162nm,19.0s,baz=155,slow=31						
AS31	**Alice Springs**	**32.33**	**244**	*eP*	**P**	**14 03 19.9**	**-0.9**
ASAR	**Alice Springs**	**32.33**	**244**	P	**P**	**14 03 20.4**	**-0.4**
ASAR	**Alice Springs**	**32.33**	**244**	P	**P**	**14 03 20.4**	**-0.4**
	3.3nm,0.9s,baz=74,slow=9.3,SNR=20						
ASAR				LR	LR	14 15 08.1	
	comp=Z,183nm,19.7s,baz=89,slow=34						
PPT	**Papeete**	**43.74**	**103**	LR	LR	14 18 13.9	
	comp=Z,207nm,21.8s,baz=360,slow=29						
PPT2	**Papeete2**	**43.74**	**103**	*eS*	**S**	**14 11 25.2**	**-1.2**
	66nm,24.5s						
PPT2				*e*LR	LR	14 17 13.5	
	310nm,30.0s						
TBI	**Tubuai**	**44.28**	**111**	*e*LR	LR	14 17 24.5	
	207nm,31.0s						
JNU	**Nakatsue**	**55.49**	**325**	P	**P**	**14 06 25.6**	**-0.7**
JNU	**Nakatsue**	**55.49**	**325**	P	**P**	**14 06 25.6**	**-0.7**
	11nm,1.0s,baz=286,slow=4.1,SNR=2.9						
ASAJ	**Asahikawa**	**59.34**	**341**	P	**P**	**14 06 52.8**	**-0.4**
ASAJ	**Asahikawa**	**59.34**	**341**	P	**P**	**14 06 52.8**	**-0.4**
	11nm,1.1s,baz=175,slow=11,SNR=2.9						
KSRS	**Korea Array**	**60.30**	**326**	P	**P**	**14 07 00.5**	**+0.5**
	0.8nm,0.7s,baz=143,slow=6.8,SNR=4.4						
KSRS				LR	LR	14 30 53.1	
	comp=Z,27nm,18.3s,baz=160,slow=34						
KSAR	**Wonju Array Be**	**60.31**	**326**	P	**P**	**14 07 00.5**	**+0.4**
USRK	**Ussuriysk Arra**	**63.43**	**334**	P	**P**	**14 07 22.1**	**+1.2**
	1.6nm,0.8s,baz=132,slow=8.2,SNR=2.7						
VNDA	**Vanda**	**65.84**	**181**	*eP*	**P**	**14 07 36.2**	**-0.1**
	1.8nm,1.0s						
VNDA	**Vanda**	**65.84**	**181**	P	**P**	**14 07 36.2**	**-0.1**
	0.6nm,0.4s,baz=338,slow=8.7,SNR=13						
CMAR	**Chiang Mai Arr**	**72.19**	**294**	P	**P**	**14 08 17.2**	**+0.5**
CMAR	**Chiang Mai Arr**	**72.19**	**294**	P	**P**	**14 08 17.2**	**+0.5**
	0.6nm,0.3s,baz=114,slow=5.3,SNR=8.5						
CMAR				LR	LR	14 39 34.6	
	comp=Z,23nm,19.0s,baz=337,slow=36						
QSPA	**South Pole Qui**	**78.31**	**180**	*eP*	**P**	**14 08 51.1**	**-0.2**
	12nm,1.3s						
ULN	**Ulaanbaatar**	**78.71**	**324**	*eP*	**P**	**14 08 53.1**	**-0.6**
	8.3nm,1.4s						
SONM	**Songino Array**	**79.07**	**324**	P	**P**	**14 08 56.1**	**+0.4**
SONM	**Songino Array**	**79.07**	**324**	P	**P**	**14 08 56.1**	**+0.4**
	1.2nm,1.0s,baz=134,slow=6.9,SNR=5.7						
SONM				LR	LR	14 43 20.2	
	comp=Z,48nm,19.1s,baz=270,slow=35						
SML	**Sawmill**	**81.65**	**20**	*eP*	**P**	**14 09 09.3**	**+0.2**
	4.4nm,0.6s						
COLA	**College**	**83.96**	**18**	*eP*	**P**	**14 09 19.8**	**-1.1**
	23nm,0.9s						
MAW	**Mawson**	**84.05**	**202**	P	**P**	**14 09 21.6**	**+0.1**
MAW	**Mawson**	**84.05**	**202**	P	**P**	**14 09 21.6**	**+0.1**
	3.0nm,1.0s,baz=352,slow=2.0,SNR=5.1						
ILAR	**Eielson Array**	**84.19**	**19**	P	**P**	**14 09 21.4**	**-0.7**
ILAR	**Eielson Array**	**84.19**	**19**	P	**P**	**14 09 21.4**	**-0.7**
	2.0nm,0.7s,baz=242,slow=5.4,SNR=5.8						
EGAK	**Eagle**	**86.05**	**20**	*eP*	**P**	**14 09 30.8**	**-0.6**
	8.6nm,0.8s						
NVAR	**Mina Array Bea**	**86.59**	**50**	P	**P**	**14 09 33.3**	**-1.8**
NVAR	**Mina Array Bea**	**86.59**	**50**	P	**P**	**14 09 33.3**	**-1.8**
	0.6nm,0.8s,baz=246,slow=6.7,SNR=3.4						
MK31	**Makanchi Array**	**93.86**	**317**	*eP*	**P**	**14 10 08.6**	**-0.1**
MKAR	**Makanchi Array**	**93.86**	**317**	P	**P**	**14 10 08.9**	**+0.3**
MKAR	**Makanchi Array**	**93.86**	**317**	P	**P**	**14 10 08.9**	**+0.3**
	1.6nm,0.9s,baz=91,slow=5.1,SNR=7.4						
ZALV	**Zalesovo Beam**	**93.96**	**324**	P	**P**	**14 10 08.1**	**-0.9**
ZALV	**Zalesovo Beam**	**93.96**	**324**	P	**P**	**14 10 08.1**	**-0.9**
	0.4nm,0.4s,baz=152,slow=6.7,SNR=4.1						
TXAR	**Lajitas Array**	**96.31**	**61**	LR	LR	14 49 03.1	
	comp=Z,61nm,18.7s,baz=245,slow=33						
ARCES	**ARCESS Array B**	**116.91**	**345**	PKP	**PKPdf**	**14 15 35.4**	**+0.1**
ARCES	**ARCESS Array B**	**116.91**	**345**	PKP	**PKPdf**	**14 15 35.4**	**+0.1**
	1.3nm,0.8s,baz=97,slow=1.8,SNR=10						
ESDC	**Sonseca Array**	**150.62**	**343**	PKPab	**PKPab**	**14 16 54.0**	**+3.7**
ESDC	**Sonseca Array**	**150.62**	**343**	PKPab	**PKPab**	**14 16 54.0**	**+3.7**
	7.0nm,1.1s,baz=14,slow=4.6,SNR=11						

WEL 22 14:11:56.0±0.1, 40°.12S×174°.88E, h18km±3km, ML3.7/39, 8C-2D, Error ellipse: s-maj=1.3km s-min=0.6km az=90.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAZ	**Wanganui**	**0.37**	**12**	P*	Pb	14 12 04.5	+0.4
WAZ				AML	AML	14 12 12.3	
WAZ				AML	AML	14 12 13.4	
POWZ	**Post Office Ro**	**0.73**	**112**	P*	Pb	14 12 10.1	-0.2
POWZ				S*	Sb	14 12 19.9	-0.1
OGWZ	**Otaki Gorge**	**0.73**	**163**	⇑P*	Pb	14 12 09.9	-0.4
OGWZ				S*	Sb	14 12 19.5	-0.6
KIW	**Kapiti Island**	**0.74**	**178**	P*	Pb	14 12 09.7	-0.9
KIW				AML	AML	14 12 19.8	
KIW				AML	AML	14 12 20.2	
MRZ	**Mangatainoka R**	**0.76**	**136**	P*	Pb	14 12 10.6	-0.2
MRZ				S*	Sb	14 12 20.9	0.0
MRZ				AML	AML	14 12 21.1	
TSZ	**Takapari Road**	**0.83**	**86**	⇓P*	Pb	14 12 11.6	-0.4
TSZ				S*	Sb	14 12 22.6	-0.3
TSZ				AML	AML	14 12 25.0	
MTVZ	**Mangateitei**	**0.86**	**32**	⇑P*	Pb	14 12 11.9	-0.7
MTVZ				AML	AML	14 12 26.2	
MTVZ				AML	AML	14 12 26.4	
PKVZ	**Pokaka**	**0.90**	**24**	⇑P*	Pb	14 12 12.4	-0.9
PKVZ				AML	AML	14 12 26.7	
PKVZ				AML	AML	14 12 28.1	
HOWZ	**Holdsworth Sta**	**0.92**	**149**	⇑P*	Pb	14 12 13.0	-0.5
HOWZ				S*	Sb	14 12 25.4	0.0
PRWZ	**Pori Road**	**0.94**	**118**	P*	Pb	14 12 13.9	+0.1
WNVZ	**Wahianoa**	**0.96**	**35**	P*	Pb	14 12 13.5	-0.9
WNVZ				AML	AML	14 12 27.3	
WNVZ				AML	AML	14 12 30.6	
TRVZ	**Turoa**	**0.96**	**32**	P*	Pb	14 12 13.4	-1.1
TRVZ				AML	AML	14 12 27.3	
TRVZ				AML	AML	14 12 27.5	
MOVZ	**Moawhango**	**0.97**	**44**	P*	Pb	14 12 13.1	-1.4
MOVZ				AML	AML	14 12 27.6	
MOVZ				AML	AML	14 12 28.8	
DRZ	**Dome Shelter**	**0.99**	**32**	P*	Pb	14 12 13.8	-1.3
DRZ				AML	AML	14 12 28.3	
DRZ				AML	AML	14 12 29.9	
VRZ	**Vera Road**	**0.99**	**354**	P*	Pb	14 12 14.8	0.0
VRZ				AML	AML	14 12 33.9	
VRZ				AML	AML	14 12 34.6	
WHVZ	**Whangaehu Hut**	**1.00**	**33**	P*	Pb	14 12 13.6	-1.5
DVHZ	**Dannevirke**	**1.00**	**101**	P*	Pb	14 12 14.8	-0.1
CAW	**Cannon Point**	**1.00**	**172**	P*	Pb	14 12 13.9	-1.0
CAW				S*	Sb	14 12 27.1	-0.7
CAW				AML	AML	14 12 28.7	
FWVZ	**Far West T-bar**	**1.00**	**31**	P*	Pb	14 12 13.8	-1.4
FWVZ				AML	AML	14 12 28.1	
FWVZ				AML	AML	14 12 28.4	
DUWZ	**D'Urville Isla**	**1.00**	**227**	P*	Pb	14 12 14.0	-0.9
DUWZ				AML	AML	14 12 29.9	
DUWZ				AML	AML	14 12 32.3	
TIWZ	**Tintock**	**1.01**	**131**	⇑P*	Pb	14 12 14.9	-0.2
PNHZ	**Pukenui**	**1.03**	**79**	P*	Pb	14 12 14.5	-0.9
TUVZ	**Tukino**	**1.03**	**35**	P*	Pb	14 12 14.7	-1.0
TUVZ				AML	AML	14 12 31.1	
TUVZ				AML	AML	14 12 31.4	
WPV

DSZ	**Denniston Nort**	**2.84 234**	PN	Pn	14 12 40.5	-0.2
LTZ	**Lake Taylor**	**3.31 216**	PN	Pn	14 12 46.0	-1.0

IDC 22 14:53:46.5±5.5, 4°.79S×153°.23E, h77km±45km, mb3.5/9, mb1 3.7/10, mb1mx3.6/18, mbtmp3.6/10, ML2.9/1, MS3.5/3, Ms1 3.5/3, ms1mx3.1/14, Error ellipse: s-maj=42.4km s-min=21.6km az=102.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.58**	**232**	P	Pn	14 55 34.2	-0.1
	1.1nm,0.3s,baz=20,slow=12,SNR=4.0						
PMG				S	Sn	14 57 01.3	+2.6
	2.5nm,0.3s,baz=128,slow=17,SNR=3.8						
PMG				LR	LR	14 58 27.0	
	comp=Z,244nm,18.3s,baz=226,slow=37						
WRA	**Warramunga Arr**	**23.78**	**229**	P	P	14 58 51.2	-1.1
	3.8nm,0.7s,baz=50,slow=9.7,SNR=18						
ASAR	**Alice Springs**	**26.45**	**223**	P	P	14 59 16.9	+0.4
	1.1nm,0.7s,baz=54,slow=9.0,SNR=9.0						
STKA	**Stephens Creek**	**29.08**	**201**	P	P	14 59 40.5	+0.7
	4.1nm,1.0s,baz=281,slow=7.3,SNR=4.2						
FITZ	**Fitzroy Crossi**	**30.05**	**242**	P	P	14 59 47.4	-1.1
	2.7nm,0.9s,baz=55,slow=10,SNR=2.9						
KSRS	**Korea Array**	**48.18**	**333**	P	P	15 02 17.9	-1.4
	0.6nm,0.7s,baz=148,slow=6.0,SNR=4.2						
KSRS				LR	LR	15 17 59.1	
	comp=Z,33nm,21.5s,baz=65,slow=30						
CMAR	**Chiang Mai Arr**	**58.26**	**295**	P	P	15 03 34.6	+1.0
	1.0nm,0.8s,baz=112,slow=5.8,SNR=7.7						
SONM	**Songino Array**	**66.54**	**328**	P	P	15 04 28.1	-0.4
	0.6nm,0.7s,baz=146,slow=5.3,SNR=5.0						
SONM				LR	LR	15 30 03.2	
	comp=Z,60nm,19.1s,baz=287,slow=33						
MKAR	**Makanchi Array**	**80.60**	**319**	P	P	15 05 52.8	+1.9
	0.5nm,0.8s,baz=103,slow=5.4,SNR=4.0						
ILAR	**Eielson Array**	**81.98**	**22**	P	P	15 05 58.5	+0.7
	0.4nm,1.0s,baz=250,slow=5.7,SNR=3.1						
TORD	**Torodi Ar. Bea**	**150.71**	**288**	PKPbc	PKPbc	15 13 29.5	-1.5
	0.3nm,0.7s,baz=305,slow=36,SNR=3.1						

MEX 22 14:56:13.0±0.3, 15°.94N×97°.92W, h5km, MD3.5, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.49**	**336**	*e*P	Pg	14 56 21.9	-0.6
PNIG				*i* S	Sg	14 56 29.3	+0.3
VHO	**Vista Hermosa**	**1.60**	**45**	*i* P	Pn	14 56 38.7	-3.6
VHO				*i* S	Sn	14 56 58.8	-4.7
MEIG	**Mezcala**	**2.56**	**321**	*i* P	Pn	14 56 53.1	-2.2
MEIG				*i* S	Sn	14 57 23.4	-3.5
PLIG	**Platanillo**	**2.87**	**328**	*i* P	Pn	14 56 56.7	-2.9
PLIG				*i* S	Sn	14 57 31.4	-3.2
YAIG	**Yautepec**	**3.10**	**340**	*i* P	Pn	14 57 00.7	-2.2
YAIG				*i* S	Sn	14 57 36.1	-4.4
ARIG	**Puente Sto Nin**	**3.29**	**315**	*e*P	Pn	14 57 03.2	-2.1
ARIG				*i* S	Sn	14 57 40.9	-3.8

IDC 22 15:18:46.7±2.1, 2°.79S×129°.76E, h0km, mb3.6/2, mb1 3.9/5, mb1mx3.6/22, mbtmp3.7/5, ML3.5/3, Error ellipse: s-maj=58.3km s-min=27.2km az=68.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**10.22**	**257**	Pn	Pn	15 21 14.3	-0.6
	0.2nm,0.3s,baz=123,slow=9.3,SNR=4.0						
FITZ	**Fitzroy Crossi**	**15.74**	**195**	Pn	Pn	15 22 30.2	+0.3
	0.1nm,0.3s,baz=26,slow=11,SNR=4.4						
WRA	**Warramunga Arr**	**17.62**	**166**	P	Pn	15 22 52.5	-1.4
	0.3nm,0.3s,baz=349,slow=12,SNR=25						
ASAR	**Alice Springs**	**21.13**	**169**	P	P	15 23 33.9	+0.5
	2.5nm,0.5s,baz=348,slow=11,SNR=63						
MKAR	**Makanchi Array**	**64.61**	**326**	P	P	15 29 26.3	+0.2
	0.3nm,0.8s,baz=129,slow=5.2,SNR=3.6						

IDC 22 15:48:52.5±2.0, 9°.76S×152°.77E, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.6/16, mbtmp3.7/6, ML2.4/1, MS3.4/1, Ms1 3.3/1, ms1mx2.6/23, Error ellipse: s-maj=54.7km s-min=27.4km az=111.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.54**	**273**	Pn	Pn	15 50 18.5	+2.2
	0.7nm,0.3s,baz=44,slow=4.4,SNR=8.4						
PMG				Sn	Sn	15 51 19.0	-1.8
	baz=0.0,slow=16,SNR=2.1						
WRA	**Warramunga Arr**	**20.47**	**238**	P	P	15 53 31.2	-0.8
	1.4nm,0.6s,baz=62,slow=10,SNR=12						
ASAR	**Alice Springs**	**22.71**	**230**	P	P	15 53 54.9	-1.3
	0.7nm,0.5s,baz=59,slow=9.9,SNR=18						
STKA	**Stephens Creek**	**24.33**	**204**	P	P	15 54 13.7	+1.7
	2.4nm,0.7s,baz=354,slow=10,SNR=2.8						
STKA				LR	LR	16 03 23.8	
	comp=Z,79nm,18.2s,baz=309,slow=36						
SONM	**Songino Array**	**70.50**	**329**	P	P	16 00 09.7	+0.5
	0.6nm,0.8s,baz=154,slow=5.0,SNR=5.0						
MKAR	**Makanchi Array**	**84.03**	**319**	P	P	16 01 24.3	-0.7
	0.6nm,0.7s,baz=102,slow=5.6,SNR=6.2						
TORD	**Torodi Ar. Bea**	**151.46**	**280**	PKPbc	PKPbc	16 08 49.2	-0.3
	0.7nm,0.8s,baz=74,slow=3.7,SNR=3.2						

BJI ***22*** *15:57:16.6, 4°.69S×100°.39E, h35km, mB5.1/35, mb4.9/49, Ms4.8/37, Ms7 4.5/35*
IDC ***22*** *15:57:18.9±0.6, 3°.99S×100°.21E, h0km, mb4.6/19, mb1 4.7/21, mb1mx4.6/26, mbtmp4.6/21, MS3.8/10, Ms1 3.8/10, ms1mx3.5/36, Error ellipse: s-maj=21.3km s-min=10.6km az=54.0*
ISCJB ***22*** *15:57:19.8±0.9, 3°.99S±0°.03×100°.30E±0°.03, h17km±6km, mb4.8/78, MS4.2/22, Error ellipse: s-maj=6.4km s-min=3.5km az=42.3*
BKK ***22*** *15:57:21.1±0.6, 4°.5S±5°×10°0E±°, h10km, M4.8/21, mB5.3/9, mb4.8/21, MLv5.0/8, Mw(mB)4.7/9*
DJA ***22*** *15:57:22.9±0.3, 4°.3S±3°×10°0E±°, h10km, M4.7/32, mB5.2/17, mb5.0/32, MLv5.1/21, Mw(mB)4.6/17*
MOS ***22*** *15:57:22.1±0.8, 3°.94S×100°.32E, h33km, mb5.0/29, Error ellipse: s-maj=16.4km s-min=6.6km az=111.3*
NEIC ***22*** *15:57:24.2±1.3, 3°.95S×100°.33E, h36km±10km, mb4.8/15, Error ellipse: s-maj=14.2km s-min=5.5km az=49.0*
ISC 22 15:57:24.2±0.5, 4°.01S±0°.04×100°.28E±0°.05, h35km±1km, h35km:pP-P, n216, σ1°.34/265, mb4.9/78, MS4.1/22, 12C, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASI	**Maura Aman, Be**	**2.14**	**66**	P	**Pn**	15 57 55.7	-1.8
MASI				S	**Sn**	15 58 19.5	-3.5
KSI	**Kapahiang**	**2.34**	**81**	P	**Pn**	15 57 58.5	-1.8
EGSI	**Enggano, Bengk**	**2.40**	**124**	P	**Pn**	15 57 59.1	-1.9
EGSI				S	**Sn**	15 58 26.8	-2.4
MNAI	**Manna**	**2.69**	**97**	P	**Pn**	15 58 03.6	-1.5
MNAI				S	**Sn**	15 58 36.2	-0.3
PDSI	**Padang**	**3.09**	**3**	P	**Pn**	15 58 08.1	-2.4
PDSI				S	**Sn**	15 58 43.5	-2.7
PPI	**Padang Panjang**	**3.54**	**2**	P	**Pn**	15 58 14.6	-2.1
LWLI	**Liwa**	**3.90**	**105**	P	**Pn**	15 58 20.6	-1.2
LWLI				S	**Sn**	15 59 03.2	-3.3
MDSI	**Maura Dua**	**3.92**	**97**	P	**Pn**	15 58 20.8	-1.2
MDSI				S	**Sn**	15 59 06.4	-0.4
RGRI	**Rengat**	**4.18**	**30**	P	**Pn**	15 58 24.3	-1.3
BKNI	**Bangkinang**	**4.38**	**10**	P	**Pn**	15 58 26.8	-1.5
KASI	**Kota Agung**	**4.47**	**110**	P	**Pn**	15 58 27.8	-1.7
PMBI	**Palembang**	**4.62**	**77**	P	**Pn**	15 58 28.6	-2.9
KLI	**Kotabumi**	**4.64**	**101**	P	**Pn**	15 58 30.9	-1.0
BLSI	**Bandar Lampung**	**5.13**	**105**	P	Pn	15 58 35.3	-3.4
	294nm,0.5s,3μm1.0nm						
GSI	**Gunungsitoli**	**5.93**	**333**	P	**Pn**	15 58 46.6	-3.0
	118nm,0.7s,0.4nm						
PPBI	**Pangkal Pinang**	**6.13**	**73**	P	**Pn**	15 58 54.7	+2.3
	30nm,0.8s,10μm1.2nm						
TNG	**Tangerang**	**6.70**	**109**	P	**Pn**	15 59 00.2	0.0
	1μm,0.8s,9μm3.7nm						
KGM	**Kluang**	**6.72**	**27**	P	**Pn**	15 59 00.0	-0.4
MYKOM	**Kota Tinggi**	**6.78**	**32**	P	**Pn**	15 59 00.5	-0.8
MYKOM	**Kota Tinggi**	**6.78**	**32**	P	**Pn**	15 58 59.8	-1.5
	93nm,1.0s,681nm0.3nm						
PSI	**Prapat**	**6.90**	**349**	Pn	**Pn**	**15 59 01.6**	**-1.5**
PSI	**Prapat**	**6.90**	**349**	Pn	**Pn**	**15 59 01.6**	**-1.5**
	baz=168,slow=3.0						
PSI				LR	LR	16 01 35.8	
	comp=Z,291nm,18.3s,baz=340,slow=38						
SKJI	**Sukabumi**	**6.92**	**116**	P	Pb	15 59 15.2	-8.6
DBJI	**Dramaga**	**6.92**	**112**	P	**Pn**	15 59 02.5	-0.8
	226nm,0.9s,2μm0.7nm						
CBJI	**Citeko**	**6.97**	**110**	P	**Pn**	15 59 05.5	+1.6
	811nm,0.7s,8μm3.0nm						
FRIM	**Kepong**	**7.33**	**11**	P	**Pn**	15 59 08.8	-0.1
LEM	**Lembang**	**7.82**	**111**	P	**Pn**	15 59 16.2	+0.4
	217nm,0.8s,0.7nm						
KCSI	**Kotacane, Aceh**	**7.89**	**341**	P	**Pn**	15 59 14.9	-1.7
	47nm,0.8s,693nm0.2nm						
CISI	**Cisompet, Garu**	**8.29**	**115**	P	**Pn**	15 59 18.9	-3.1
	467nm,0.7s,4μm						
IPM	**Ipoh**	**8.47**	**5**	*e*P	**Pn**	15 59 24.8	+0.2
	40nm,1.0s						
IPM	**Ipoh**	**8.47**	**5**	P	**Pn**	15 59 23.7	-0.8
IPM	**Ipoh**	**8.47**	**5**	P	**Pn**	15 59 25.9	+1.4
	24nm,0.7s,0.1nm						
KPJI	**Karang Pucung**	**9.22**	**111**	P	**Pn**	15 59 36.0	+1.2
	98nm,0.9s						
KULM	**Kulim**	**9.25**	**2**	*e*P	**Pn**	15 59 32.7	-2.5
	23nm,0.8s						
KULM	**Kulim**	**9.25**	**2**	P	**Pn**	15 59 34.9	-0.3
KULM	**Kulim**	**9.25**	**2**	P	**Pn**	15 59 35.1	-0.1
	23nm,0.9s						
TGJI	**Tegal**	**9.25**	**108**	P	**Pn**	15 59 36.6	+1.4
	91nm,0.9s						
KTGM	**Kuala Trenggan**	**9.71**	**17**	P	**Pn**	15 59 42.2	+0.7
KSM	**Kuching**	**11.41**	**62**	*e*P	**Pn**	16 00 05.7	+0.9
	12nm,1.1s						
PBKI	**Pangkalan Bun**	**11.45**	**84**	P	**Pn**	16 00 07.3	+1.9
	118nm,1.1s						
SBUM	**Sibu**	**13.55**	**62**	P	**Pn**	16 00 36.1	+2.0
SBUM	**Sibu**	**13.55**	**62**	P	**Pn**	16 00 35.7	+1.6
	41nm,1.2s,544nm						
CHBT	**CHBT**	**16.78**	**7**	P	**P**	16 01 17.9	-0.7
	22nm,1.1s						
CHBT	**CHBT**	**16.78**	**7**	P	**P**	16 01 17.9	-0.7
	22nm,1.1s						
TSM	**Tawau**	**19.42**	**65**	P	**P**	16 01 47.9	+0.1
SDKM	**Sandakan**	**19.43**	**61**	P	**P**	16 01 48.5	+0.6
KAPI	**Kappang**	**19.44**	**94**	*e*P	**P**	16 01 46.3	-1.7
	43nm,0.8s						
KAPI	**Kappang**	**19.44**	**94**	P	**P**	16 01 46.6	-1.3
	54nm,1.0s						
KAPI	**Kappang**	**19.44**	**94**	P	**P**	16 01 46.4	-1.5
	2.9nm,0.3s,baz=276,slow=11,SNR=13						
SPSI	**Sidrap Palu**	**19.45**	**91**	P	**P**	16 01 47.7	-0.3
	47nm,1.0s,426nm						
UTHA	**Uthaitani**	**19.46**	**358**	P	**Pn**	16 01 49.6	+0.1
	5.4nm,0.8s,56nm						
BNSI	**Bone**	**19.78**	**92**	P	**P**	16 01 51.8	+0.2
	64nm,1.3s						
BKSI	**Bulukumba**	**19.82**	**95**	P	**P**	16 01 50.9	-1.2
	64nm,1.0s,586nm						
CHAI	**Chaiyaphum**	**19.86**	**5**	P	**P**	16 01 52.9	+0.5
	9.5nm,1.0s						
MYLDM	**Lahad Datu**	**20.37**	**64**	P	Pn	16 02 02.5	+2.3
	52nm,1.1s						
PBKT	**Sadao Pong**	**20.46**	**2**	P	**P**	16 01 59.8	+0.8
	16nm,0.9s						
PBKT	**Sadao Pong**	**20.46**	**2**	P	**P**	16 01 59.8	+0.8
	16nm,0.9s						
KKSI	**Kolaka, Sulawe**	**21.32**	**91**	P	**P**	16 02 10.0	+1.7
	80nm,0.7s,757nm						
APSI	**Ampana**	**21.57**	**82**	P	**P**	16 02 15.0	+4.0
	87nm,1.0s,957nm						
MRSI	**Marisa**	**22.10**	**79**	P	**P**	16 02 16.2	-0.5
	54nm,0.8s,470nm						
BBSI	**Bau Bau**	**22.27**	**95**	P	**P**	16 02 18.3	-0.2
	51nm,0.9s,553nm						
CM31	**Chiang Mai Arr**	**22.37**	**357**	P	**P**	16 02 17.5	-2.0
	20nm,0.8s						
CMAR	**Chiang Mai Arr**	**22.37**	**357**	P	**P**	16 02 17.7	-1.8
CMAR				PcP	**PcP**	16 06 15.3	+1.2
CMAR	**Chiang Mai Arr**	**22.37**	**357**	P	**P**	16 02 17.7	-1.8
	21nm,0.9s,baz=185,slow=9.8,SNR=63						
CMAR				PcP	**PcP**	16 06 15.3	+1.2
	0.1nm,0.3s,baz=213,slow=3.2,SNR=4.9						
CMAR				LR	LR	16 12 17.7	
	comp=Z,122nm,20.9s,baz=178,slow=40						
GTOI	**Gorontalo**	**23.18**	**79**	P	**P**	16 02 26.4	-1.7
	89nm,0.7s						
PAYA	**Payao**	**23.23**	**359**	P	**P**	16 02 28.6	+0.1
	24nm,0.8s,213nm						
CMAI	**Chiengmai2**	**23.83**	**357**	P	**P**	16 02 34.7	+0.3
	42nm,1.1s,7μm						
CRAI	**Chiangrai**	**24.09**	**0**	P	**P**	16 02 34.1	-2.6
	204nm,1.0s,9μm						
SOEI	**Soe**	**24.48**	**105**	P	**P**	16 02 44.4	+3.9
	54nm,1.0s,895nm						
QIZ	**Qiongzhong**	**24.76**	**22**	P	**P**	16 02 42.6	-0.2
QIZ				sP	**sP**	16 02 55.1	-1.9
QIZ				S	**S**	16 07 02.8	-0.1
QIZ				pmax	pmax		
	comp=Z,21nm,1.3s						
QIZ				pmax	pmax		
	comp=Z,110nm,3.3s						
QIZ				LR	LR		
	comp=N,510nm,11.1s						
QIZ				LR	LR		
	comp=Z,490nm,13.8s						
LBMI	**Labuha**	**27.40**	**84**	P	P	16 03 14.2	+7.4
FITZ	**Fitzroy Crossi**	**28.50**	**121**	P	**P**	16 03 15.9	-0.6
FITZ	**Fitzroy Crossi**	**28.50**	**121**	P	**P**	16 03 15.9	-0.6
	comp=Z,9.4nm,0.8s,baz=313,slow=6.7,SNR=11						
KMI	**Kunming**	**29.06**	**5**	P	**P**	16 03 22.8	+1.1
KMI				sP	**sP**	16 03 34.8	-1.1
KMI				S	**S**	16 08 10.9	-0.3
KMI				pmax	pmax		
	comp=Z,13nm,0.8s						
KMI				LR	LR		
	comp=N,490nm,14.9s						
KMI				LR	LR		
	comp=E,600nm,11.2s						
KMI				LR	LR		
	comp=Z,470nm,16.2s						
GYA	**Guiyang**	**30.92**	**11**	*i* P	**P**	16 03 37.6	-0.4
GYA				pP	**pP**	16 03 49.8	+1.8
GYA				sP	**sP**	16 03 54.0	+1.8
GYA				PP	**PnPn**	16 04 42.5	+3.1
GYA				S	**S**	16 08 41.3	+1.2
GYA				sS	**sS**	16 08 58.9	+2.2
GYA				ScP	**ScP**	16 10 14.3	-0.2
GYA				ScS	**ScS**	16 14 09.6	-1.9
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,90nm,4.8s						
GYA				LR	LR		
	comp=N,510nm,17.0s						
GYA				LR	LR		
	comp=E,490nm,18.4s						
GYA				LR	LR		
	comp=Z,480nm,17.8s						
ODAN	**Odare**	**33.12**	**339**	*e*P	**P**	16 03 58.2	+0.7
	comp=Z,34nm,0.5s						
TAPN	**Taplejung**	**33.46**	**339**	*e*P	**P**	16 04 01.6	+1.1
	comp=Z,130nm,0.9s						
RAMN	**Ramite**	**33.50**	**338**	*e*P	**P**	16 04 01.6	+0.8
	comp=Z,24nm,0.6s						
JIRN	**Jiri**	**34.30**	**337**	*e*P	**P**	16 04 08.7	+0.9
	comp=Z,42nm,0.6s						
PKI	**Pulchoki**	**34.52**	**336**	*e*P	**P**	16 04 10.2	+0.4
PKIN	**Phulchoki**	**34.53**	**336**	*e*P	**P**	16 04 09.9	+0.1
GUN	**Gumba**	**34.64**	**337**	*e*P	**P**	16 04 11.6	+0.8
	comp=Z,84nm,0.5s						
LSA	**Lhasa**	**34.64**	**346**	P	**P**	16 04 11.5	+0.6
LSA				pmax	pmax		
	comp=Z,30nm,1.0s						
DMN	**Daman**	**34.68**	**336**	*e*P	**P**	16 04 11.4	+0.4
KKN	**Kakani**	**34.77**	**336**	*e*P	**P**	16 04 12.2	+0.4
	comp=Z,27nm,0.5s						
CD2	**Chengdu**	**34.89**	**5**	P	**P**	16 04 12.3	-0.2
CD2				pP	**pP**	16 04 22.3	-0.3
CD2				sP	**sP**	16 04 26.5	-0.3
CD2				PP	**PnPn**	16 05 31.0	+1.2
CD2				S	**S**	16 09 41.0	-0.6
CD2				sS	**sS**	16 09 57.8	-0.5
CD2				pmax	pmax		
	comp=Z,40nm,0.5s						
CD2				pmax	pmax		
	comp=Z,180nm,5.4s						
CD2				LR	LR		
	comp=N,770nm,13.7s						
CD2				LR	LR		
	comp=Z,450nm,10.1s						
KOLN	**Koldanda**	**35.45**	**334**	*e*P	**P**	**16 04 18.5**	**+0.8**
	comp=Z,33nm,0.6s						
DANN	**Dangsing**	**35.89**	**335**	*e*P	**P**	**16 04 21.9**	**+0.4**
	comp=Z,54nm,0.5s						
PYUN	**Piuthan**	**36.01**	**333**	*e*P	**P**	**16 04 22.9**	**+0.5**
WRA	**Warramunga Arr**	**36.77**	**118**	P	**P**	**16 04 28.3**	**-0.6**
WRA	**Warramunga Arr**	**36.77**	**118**	P	**P**	**16 04 28.3**	**-0.6**
	comp=Z,5.1nm,0.6s,baz=303,slow=8.9,SNR=36						
WRAB	**Tennant Creek**	**36.78**	**118**	*e*P	**P**	**16 04 28.1**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,9.0nm,0.6s						
WRAB	**Tennant Creek**	**36.78**	**118**	*e*P	**P**	**16 04 28.1**	**-0.8**
	comp=Z,9.2nm,0.6s						
ASAR	**Alice Springs**	**37.88**	**124**	P	**P**	**16 04 38.0**	**-0.2**
ASAR				S	S	16 10 34.5	+6.9
ASAR	**Alice Springs**	**37.88**	**124**	P	**P**	**16 04 38.0**	**-0.2**
	comp=Z,3.2nm,0.8s,baz=294,slow=8.0,SNR=34						
ASAR				S	S	16 10 34.5	+6.9
	comp=Z,0.6nm,0.8s,baz=301,slow=14,SNR=4.5						
AS31	**Alice Springs**	**37.88**	**124**	*e*P	**P**	**16 04 37.9**	**-0.3**
XAN	**Xi'an**	**38.72**	**12**	P	**P**	**16 04 43.0**	**-2.1**
XAN				pP	**pP**	**16 04 53.3**	**-2.0**
XAN				sP	**sP**	**16 04 58.5**	**-1.0**
XAN				pmax	pmax		
	comp=Z,15nm,1.0s						
XAN				pmax	pmax		
	comp=Z,19nm,5.6s						
XAN				LR	LR		
	comp=N,280nm,12.6s						
XAN				LR	LR		
	comp=E,240nm,13.4s						
XAN				LR	LR		
	comp=Z,130nm,15.6s						
NDI	**New Delhi**	**39.35**	**327**	*e*P	P	16 04 57.0	+6.6
NJ2	**Nanjing**	**39.98**	**25**	*e*P	**P**	**16 04 57.1**	**+1.5**
NJ2				pmax	pmax		
	comp=Z,60nm,1.0s						
LZH	**Lanzhou**	**40.03**	**4**	*e*P	**P**	**16 04 57.1**	**+0.9**
LZH				pP	**pP**	**16 05 07.8**	**+1.4**
LZH				sP	**sP**	**16 05 12.1**	**+1.5**
LZH				PP	**PnPn**	**16 06 35.1**	**+2.8**
LZH				PcP	**PcP**	**16 07 00.3**	**-0.5**
LZH				*e*S	**S**	**16 11 01.1**	**+1.3**
LZH				sS	**sS**	**16 11 20.1**	**+3.4**
LZH				pmax	pmax		
	comp=Z,42nm,1.0s						
LZH				pmax	pmax		
	comp=Z,190nm,5.8s						
LZH				LR	LR		
	comp=N,650nm,12.8s						
LZH				LR	LR		
	comp=E,230nm,12.4s						
LZH				LR	LR		
	comp=Z,720nm,14.0s						
GTA	**Gaotai**	**43.21**	**359**	P	**P**	**16 05 22.3**	**+0.2**
GTA				pP	**pP**	**16 05 31.5**	**-0.9**
GTA				sP	**sP**	**16 05 35.5**	**-1.1**
GTA				S	**S**	**16 11 48.9**	**+2.1**
GTA				sS	**sS**	**16 12 05.0**	**+1.3**
GTA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,120nm,5.2s						
GTA				LR	LR		
	comp=N,260nm,12.3s						
GTA				LR	LR		
	comp=E,460nm,12.4s						
GTA				LR	LR		
	comp=Z,370nm,12.4s						
HHC	**Hu-ho-hao-te**	**45.83**	**12**	*e*P	**P**	**16 05 44.3**	**+1.3**
HHC				pP	**pP**	**16 05 54.4**	**+1.1**
HHC				sP	**sP**	**16 05 58.1**	**+0.6**
HHC				PcP	**PcP**	**16 07 21.8**	**+1.8**
HHC				PP	**PP**	**16 07 31.3**	**+0.5**
HHC				S	**S**	**16 12 24.6**	**-0.1**
HHC				sS	**sS**	**16 12 41.8**	**0.0**
HHC				SS	**ScS**	**16 15 41.4**	**+4.9**
HHC				pmax	pmax		
	comp=Z,32nm,1.1s						
HHC				pmax	pmax		
	comp=Z,230nm,5.5s						
HHC				LR	LR		
	comp=N,460nm,10.4s						
HHC				LR	LR		
	comp=E,1μm,10.5s						
HHC				LR	LR		
	comp=Z,590nm,12.7s						
BJI	**Beijing**	**46.21**	**17**	P	**P**	**16 05 45.9**	**+0.1**
BJI				pmax	pmax		
	comp=Z,26nm,0.7s						
PMG	**Port Moresby**	**46.84**	**99**	LR	LR	16 28 03.5	
	comp=Z,143nm,19.2s,baz=9.8,slow=39						
JNU	**Nakatsue**	**46.94**	**36**	LR	LR	16 28 55.8	
	comp=Z,144nm,18.8s,baz=7.1,slow=40						
CTAO	**Charters Tower**	**47.52**	**114**	*e*P	**P**	**16 05 56.2**	**-0.3**
CTAO				pmax	pmax		
	comp=Z,12nm,1.0s						
CTAO	**Charters Tower**	**47.52**	**114**	*e*P	**P**	**16 05 56.2**	**-0.3**
	comp=Z,12nm,1.0s						
STKA	**Stephens Creek**	**47.63**	**131**	*e*P	**P**	**16 05 57.7**	**+0.5**
	comp=Z,1.2nm,0.6s						
STKA	**Stephens Creek**	**47.63**	**131**	P	**P**	**16 05 58.0**	**+0.8**
	comp=Z,5.4nm,0.7s,baz=300,slow=9.5,SNR=7.8						
KBL	**Kabul**	**48.33**	**325**	P	**P**	**16 06 03.2**	**+0.5**
KBL				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KBL	**Kabul**	**48.33**	**325**	P	**P**	**16 06 03.2**	**+0.5**
	comp=Z,4.3nm,0.8s						
KSAR	**Wonju Array Be**	**48.59**	**29**	P	**P**	**16 06 04.1**	**-0.3**
KSRS	**Korea Array**	**48.61**	**29**	P	**P**	**16 06 04.1**	**-0.5**
	comp=Z,8.6nm,0.9s,baz=222,slow=8.3,SNR=28						
KSH	**Kashi**	**48.76**	**335**	P	**P**	**16 06 04.6**	**-1.3**
KSH				pP	**pP**	**16 06 14.5**	**-1.8**
KSH				PcP	**PcP**	**16 07 31.3**	**+0.8**
KSH				ScP	**ScP**	**16 11 21.8**	**-1.2**
KSH				PcS	**PcS**	**16 11 25.6**	**-1.2**
KSH				S	**S**	**16 13 00.8**	**-5.8**
KSH				pmax	pmax		
	comp=Z,15nm,0.9s						
KSH				pmax	pmax		
	comp=Z,200nm,5.7s						
KSH				LR	LR		
	comp=N,130nm,7.1s						
KSH				L

EKS2	**Erkin-Say**	**52.30**	**335**	*e*P	**P**	**16 06 32.8**	**+0.3**
EKS2				pmax	pmax		
	comp=Z,9.0nm,0.6s						
EKS2	**Erkin-Say**	**52.30**	**335**	*e*P	**P**	**16 06 32.8**	**+0.3**
	comp=Z,9.1nm,0.6s						
CN2	**Changchun**	**52.72**	**23**	*e*P	**P**	**16 06 34.6**	**-0.8**
CN2				*e*pP	**pP**	**16 06 44.6**	**-1.3**
CN2				*e*sP	**sP**	**16 06 48.5**	**-1.6**
CN2				*e*S	**S**	**16 13 59.1**	**-1.9**
CN2				pmax	pmax		
	comp=Z,20nm,0.8s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,300nm,11.0s						
CN2				LR	LR		
	comp=E,300nm,11.0s						
CN2				LR	LR		
	comp=Z,300nm,12.0s						
MK31	**Makanchi Array**	**53.03**	**345**	*ce*P	**P**	**16 06 37.6**	**-0.1**
MK31				pmax	pmax		
	comp=Z,9.0nm,0.7s						
MK31	**Makanchi Array**	**53.03**	**345**	*e*P	**P**	**16 06 37.7**	**-0.1**
MKAR	**Makanchi Array**	**53.03**	**345**	P	**P**	**16 06 37.7**	**-0.1**
MKAR	**Makanchi Array**	**53.03**	**345**	P	**P**	**16 06 37.7**	**-0.1**
MKAR	**Makanchi Array**	**53.03**	**345**	P	**P**	**16 06 37.7**	**-0.1**
	comp=Z,12nm,0.8s,baz=146,slow=8.8,SNR=109						
MAJO	**Matsushiro**	**53.67**	**38**	*e*P	P	16 06 39.3	-3.3
MAJO				pmax	pmax		
	comp=Z,17nm,1.2s						
MAJO	**Matsushiro**	**53.67**	**38**	*e*P	P	16 06 39.3	-3.3
	comp=Z,17nm,1.2s						
MAT	**Matsushiro**	**53.67**	**38**	P	**P**	**16 06 40.7**	**-1.9**
KK31	**Karatay Array**	**54.06**	**333**	*ce*P	**P**	**16 06 44.5**	**-0.9**
KK31				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KKAR	**Karatay Array**	**54.06**	**333**	*e*P	**P**	**16 06 44.4**	**-1.0**
KKAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KKAR	**Karatay Array**	**54.06**	**333**	*e*P	**P**	**16 06 44.4**	**-1.0**
	comp=Z,4.0nm,0.8s						
ZAK	**Zakamensk**	**54.24**	**2**	*e*P	**P**	**16 06 46.6**	**-0.1**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
MDJ	**Mudanjiang**	**55.07**	**25**	P	**P**	**16 06 52.6**	**-0.1**
MDJ				pP	**pP**	**16 07 01.5**	**-1.7**
MDJ				sP	**sP**	**16 07 05.3**	**-2.0**
MDJ				PcP	**PcP**	**16 07 53.6**	**-0.2**
MDJ				PP	**PP**	**16 08 53.8**	**-2.4**
MDJ				ScP	**ScP**	**16 11 50.1**	**+0.1**
MDJ				PcS	**PcS**	**16 11 53.3**	**-0.3**
MDJ				S	**S**	**16 14 33.9**	**+1.0**
MDJ				ScS	**ScS**	**16 16 39.0**	**-0.2**
MDJ				SS	**SS**	**16 18 18.1**	**+0.8**
MDJ				pmax	pmax		
	comp=Z,8.0nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,61nm,5.0s						
MDJ				LR	LR		
	comp=N,51nm,15.7s						
MDJ				LR	LR		
	comp=E,120nm,18.3s						
MDJ				LR	LR		
	comp=Z,70nm,20.4s						
TLY	**Talaya**	**55.55**	**3**	*e*P	**P**	**16 06 56.9**	**+0.9**
TLY				*e*		16 14 45.9	
TLY				pmax	pmax		
	comp=Z,8.0nm,0.8s						
TLY				MLR	MLR		
	comp=Z,181nm,15.0s						
USRK	**Ussuriysk Arra**	**55.80**	**27**	P	**P**	**16 06 57.9**	**0.0**
	comp=Z,18nm,0.8s,baz=222,slow=5.9,SNR=32						
USRK				LR	LR	16 31 36.0	
	comp=Z,134nm,20.3s,baz=87,slow=37						
KURK	**Kurchatov**	**57.60**	**344**	*ce*P	**P**	**16 07 10.3**	**-0.3**
KURK				pmax	pmax		
	comp=Z,6.0nm,1.1s						
KURK	**Kurchatov**	**57.60**	**344**	*e*P	**P**	**16 07 10.1**	**-0.5**
	comp=Z,7.3nm,0.8s						
ZAA0	**Zalesovo Array**	**59.19**	**349**	*e*P	**P**	**16 07 21.3**	**-0.2**
ZALV	**Zalesovo Beam**	**59.19**	**349**	*i* P	**P**	**16 07 21.3**	**-0.2**
ZALV				pmax	pmax		
	comp=Z,22nm,0.8s						
ZALV	**Zalesovo Beam**	**59.19**	**349**	P	**P**	**16 07 21.4**	**-0.2**
ZALV	**Zalesovo Beam**	**59.19**	**349**	P	**P**	**16 07 21.4**	**-0.2**
	comp=Z,22nm,0.8s,baz=178,slow=4.5,SNR=111						
KLR	**Kul'dur**	**59.65**	**23**	*e*P	P	16 07 20.7	-4.2
NVS	**Novosibirsk**	**60.33**	**349**	*e*P	**P**	**16 07 28.5**	**-0.9**
NVS				pmax	pmax		
	comp=Z,18nm,1.2s						
NVS				pmax	pmax		
	comp=N,11nm,1.5s						
NVS				pmax	pmax		
	comp=E,11nm,1.4s						
BVA0	**Borovoye Array**	**62.16**	**340**	*i* P	**P**	**16 07 40.9**	**-1.0**
BVA0				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BVAR	**Borovoye Array**	**62.16**	**340**	P	**P**	**16 07 40.9**	**-0.9**
BVAR	**Borovoye Array**	**62.16**	**340**	P	**P**	**16 07 40.9**	**-0.9**
BVAR	**Borovoye Array**	**62.16**	**340**	P	**P**	**16 07 40.9**	**-0.9**
	comp=Z,3.9nm,0.8s,baz=139,slow=9.2,SNR=10						
BRVK	**Borovoye**	**62.22**	**340**	*ce*P	**P**	**16 07 41.4**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.2s						
YSS	**Yuzh-Sakhalins**	**63.04**	**31⇑**	*e*P	**P**	**16 07 47.5**	**-0.3**
YSS				pmax	pmax		
	comp=Z,40nm,1.0s						
AB31	**Akbulak array**	**63.53**	**332**	*ce*P	**P**	**16 07 49.9**	**-1.1**
AB31				pmax	pmax		
	comp=Z,10.0nm,0.7s						
ABKAR	**Akbulak array**	**63.53**	**332**	*e*P	**P**	**16 07 50.1**	**-0.9**
	comp=Z,14nm,0.8s						
AKTO	**Aktyubinsk**	**65.25**	**332**	*i* P	**P**	**16 08 02.0**	**-0.3**
AKTO				pmax	pmax		
	comp=Z,14nm,1.6s						
MAW	**Mawson**	**68.42**	**194**	P	**P**	**16 08 22.6**	**+0.5**
MAW	**Mawson**	**68.42**	**194**	P	**P**	**16 08 22.6**	**+0.5**
	comp=Z,2.8nm,0.9s,baz=36,slow=5.1,SNR=8.0						
MAW				LR	LR	16 30 34.1	
	comp=Z,114nm,21.7s,baz=235,slow=29						
SVE	**Sverdlovsk**	**68.64**	**338⇑**	*e*P	**P**	**16 08 23.9**	**+0.2**
SVE				pmax	pmax		
	comp=Z,17nm,1.2s						
ZEI	**Tsey**	**68.92**	**319**	*e*P	**P**	**16 08 26.0**	**-0.1**
ZEI				pmax	pmax		
	comp=Z,10.0nm,0.9s						
ARU	**Arti**	**69.15**	**337**	*c i*P	**P**	**16 08 26.3**	**-0.6**
ARU						16 10 55.8	
ARU				S	**S**	**16 17 30.9**	**+0.8**
ARU				SS	**SS**	**16 21 53.7**	**-3.2**
ARU				pmax	pmax		
	comp=Z,17nm,2.5s						
KBZ	**Khabaz**	**70.00**	**319**	P	**P**	**16 08 32.8**	**+0.4**
KBZ	**Khabaz**	**70.00**	**319**	P	**P**	**16 08 32.8**	**+0.4**
KBZ	**Khabaz**	**70.00**	**319**	P	**P**	**16 08 32.8**	**+0.4**
	comp=Z,5.6nm,0.8s,baz=103,slow=6.1,SNR=7.5						
VRHR	**Novokhopersk**	**74.14**	**326**	*e*P	**P**	**16 08 56.1**	**-0.9**
VRHR				pmax	pmax		
	comp=Z,20nm,0.9s						
VRHR				pmax	pmax		
	comp=N,10.0nm,0.6s						
VRHR				pmax	pmax		
	comp=E,10.0nm,0.7s						
PETK	**Petropavlovsk-**	**74.43**	**32**	P	**P**	**16 08 57.9**	**-0.8**
PETK	**Petropavlovsk-**	**74.43**	**32**	P	**P**	**16 08 57.9**	**-0.8**
PETK	**Petropavlovsk-**	**74.43**	**32**	P	**P**	**16 08 57.9**	**-0.8**
	comp=E,2.9nm,0.8s,baz=212,slow=9.6,SNR=3.5						
BR131	**Keskin Array S**	**74.88**	**313**	*e*P	**P**	**16 09 00.9**	**-0.8**
	comp=E,2.3nm,0.6s						
BRTR	**Keskin Array B**	**74.88**	**313**	P	**P**	**16 09 01.1**	**-0.7**
BRTR	**Keskin Array B**	**74.88**	**313**	P	**P**	**16 09 01.1**	**-0.7**
	comp=E,3.0nm,0.7s,baz=134,slow=7.1,SNR=17						
BOSA	**Boshof**	**74.94**	**242**	LR	LR	16 34 59.2	
	comp=E,79nm,18.4s,baz=252,slow=30						
VORD	**Divnogorie**	**75.40**	**325**	*e*P	P	16 09 11.5	+7.2
VORD				pmax	pmax		
	comp=Z,10.0nm,1.3s						
VORD				pmax	pmax		
	comp=N,10.0nm,1.0s						
VORD				pmax	pmax		
	comp=E,10.0nm,0.8s						
SEY	**Seymchan**	**77.38**	**22**	*ce*P	**P**	**16 09 15.2**	**-0.1**
OBN	**Obninsk**	**78.64**	**328**	P	**P**	**16 09 23.0**	**+0.6**
OBN				*e*		16 09 30.7	
OBN				*e**SP	**sP**	**16 09 38.3**	**+0.9**
OBN				pmax	pmax		
	comp=Z,26nm,1.2s						
OBN				MLR	MLR		
	comp=Z,100nm,14.0s						
KLMR	**Klimovskoe**	**79.75**	**334**	*e*P	**P**	**16 09 27.4**	**-1.0**
KLMR				pmax	pmax		
	comp=Z,36nm,1.5s						
VNDA	**Vanda**	**80.14**	**169**	P	**P**	**16 09 29.9**	**-0.4**
VNDA	**Vanda**	**80.14**	**169**	P	**P**	**16 09 29.9**	**-0.4**
	comp=Z,1.7nm,0.9s,baz=274,slow=6.4,SNR=6.8						
AKASG	**Malin Array Be**	**81.24**	**323**	*ce*P	**P**	**16 09 34.7**	**-1.9**
AKASG	**Malin Array Be**	**81.24**	**323**	P	**P**	**16 09 35.5**	**-1.1**
AKASG	**Malin Array Be**	**81.24**	**323**	P	**P**	**16 09 35.5**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=82,slow=5.6,SNR=5.7						
TMCR	**Tamitsa**	**81.89**	**337**	*e*P	P	16 09 48.2	+8.5
TMCR				pmax	pmax		
	comp=Z,25nm,1.1s						
UZH	**Uzhgorod**	**85.08**	**319**	*e*P	P	16 09 45.9	-11
UZH				*e*		16 09 52.7	
KOLS	**Kolonicke sedl**	**85.15**	**320**	*e*P	**P**	**16 09 58.0**	**+1.1**
KOLS				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KOLS	**Kolonicke sedl**	**85.15**	**320**	*e*P	**P**	**16 09 58.0**	**+1.1**
STHS	**Stebnicka Huta**	**85.91**	**320**	*e*P	**P**	**16 10 01.7**	**+1.0**
STHS				pmax	pmax		
	comp=Z,2.0nm,0.9s						
STHS	**Stebnicka Huta**	**85.91**	**320**	*e*P	**P**	**16 10 01.7**	**+1.0**
FINES	**FINESS Array B**	**86.01**	**332**	P	**P**	**16 10 01.1**	**+0.2**
FINES	**FINESS Array B**	**86.01**	**332**	P	**P**	**16 10 01.1**	**+0.2**
	comp=Z,3.9nm,0.9s,baz=160,slow=4.4,SNR=3.8						
ARCES	**ARCESS Array B**	**88.45**	**340**	P	**P**	**16 10 12.5**	**0.0**
ARCES	**ARCESS Array B**	**88.45**	**340**	P	**P**	**16 10 12.5**	**0.0**
	comp=Z,6.3nm,0.8s,baz=108,slow=4.0,SNR=8.7						
BOJS	**Bojanci**	**89.34**	**316**	*i* P	P	16 10 26.8	+10
PERS	**Pernice**	**89.56**	**317**	*i* P	**P**	**16 10 19.2**	**+0.9**
SNAA	**Sanae**	**90.32**	**198**	*e*P	**P**	**16 10 23.3**	**+1.9**
SNAA	**Sanae**	**90.32**	**198**	LR	LR	16 44 27.6	
	comp=Z,14nm,21.9s,baz=164,slow=31						
GERES	**GERESS Array B**	**90.73**	**319**	P	**P**	**16 10 23.8**	**0.0**
GERES	**GERESS Array B**	**90.73**	**319**	P	**P**	**16 10 23.8**	**0.0**
	comp=Z,0.7nm,0.8s,baz=87,slow=5.7,SNR=6.8						
BRG	**Berggiesshubel**	**90.77**	**321**	*e*P	P	16 10 33.2	+9.4
	comp=Z,7.5nm,1.2s						
BRG	**Berggiesshubel**	**90.77**	**321**	*e*P	P	16 10 33.2	+9.4
BRG				pmax	pmax		
	comp=Z,8.0nm,1.2s						
VNA2	**Neumayer--Watz**	**91.94**	**198**	*e*P	P	16 10 24.1	-4.7
NOA	**NORSAR Array B**	**93.03**	**331**	LR	LR	16 58 17.3	
	comp=Z,65nm,19.9s,baz=5.0,slow=39						
TUL1	**Tulsa**	**144.96**	**23**	*e*PKP	**PKPab**	**16 16 57.5**	**-0.1**
WCI	**Wyandotte Cave**	**145.42**	**9**	*e*PKIKP	**PKPbc**	**16 16 58.1**	**-0.9**
WCI	**Wyandotte Cave**	**145.42**	**9**	*e*PKP	**PKPbc**	**16 16 58.1**	**-0.9**
TXAR	**Lajitas Array**	**146.10**	**39**	PKPbc	**PKPab**	**16 17 02.5**	**+0.4**
TXAR	**Lajitas Array**	**146.10**	**39**	PKPbc	**PKPab**	**16 17 02.5**	**+0.4**
	comp=Z,8.8nm,0.8s,baz=288,slow=1.6,SNR=50						
MIAR	**Mount Ida**	**147.01**	**21**	*e*PKIKP	**PKPdf**	**16 17 00.7**	**-1.1**
MIAR				*e*		16 17 03.7	
MIAR	**Mount Ida**	**147.01**	**21**	*e*PKPdf	**PKPdf**	**16 17 00.7**	**-1.1**
MIAR				*e*PKPbc	**PKPbc**	**16 17 03.7**	**-0.1**
WVT	**Waverly**	**147.18**	**12**	*e*PKP2	**PKPbc**	**16 17 03.8**	**-0.5**
WVT	**Waverly**	**147.18**	**12**	*e*PKPbc	**PKPbc**	**16 17 03.8**	**-0.5**
TZTN	**Tazewell**	**147.44**	**6**	*e*PKPbc	**PKPbc**	**16 17 04.0**	**-1.0**
JCT	**Junction City**	**147.56**	**34**	*e*PKP2	**PKPdf**	**16 17 03.8**	**+0.8**
JCT	**Junction City**	**147.56**	**34**	*e*PKPdf	**PKPdf**	**16 17 03.8**	**+0.8**
CPCT	**Cooper Cave**	**148.41**	**7**	*e*PKPbc	**PKPbc**	**16 17 07.2**	**-0.4**

NIED ***22*** *15:59:00,24.°60N×121.°80E,h5km,Mw4.2 Best double couple: M₀2.40000×10¹⁵ NP1:φs87.00000°,δ88.00000°, λ-80.00000°. NP2:φs188.00000°,δ10.00000°, λ-169.00000°.*

TAP ***22*** *15:59:53.2,24.°39N×121.°83E,h11km,ML4.0,B*

ISC 22 15:59:53.0±0.9,24.°39N±0.°02×121.°86E±0.°03,h10km±6km, n58,σ0s82/97,10C-11D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.12**	**288**	⇓*i*P	**Pg**	**15 59 55.8**	**-0.1**
ENA	baz=296			S	**Sg**	**15 59 57.5**	**-0.4**
EHP	**Heping Village**	**0.14**	**234**	⇓*i*P	**Pg**	**15 59 56.4**	**+0.1**
EHP	baz=222			*i* S	**Sg**	**15 59 58.5**	**0.0**
TWC	**Suao**	**0.22**	**357**	⇑*i*P	**Pg**	**15 59 58.1**	**+0.5**
TWC	baz=13			S	**Sg**	**16 00 00.9**	**+0.3**
ENTT	**Nioudou**	**0.37**	**313**	⇓*i*P	**Pg**	**16 00 00.7**	**+0.3**
TWE	**Neicheng**	**0.37**	**332**	⇓*i*P	**Pg**	**16 00 00.9**	**+0.5**
TWE	baz=338			*i* S	**Sg**	**16 00 05.6**	**+0.2**
ILA	**Ilan**	**0.39**	**344**	*i* P	**Pb**	**16 00 01.5**	**-0.5**
ILA	baz=342			S	**Sg**	**16 00 06.8**	**+1.0**
TWD	**Chiawan**	**0.39**	**218**	⇑*i*P	**Pg**	**16 00 00.7**	**-0.1**
TWD	baz=214			S	**Sg**	**16 00 05.9**	**-0.2**
NNS	**Nan Shan**	**0.45**	**276**	⇓*i*P	**Pg**	**16 00 01.9**	**0.0**
NNS	baz=277			S	**Sg**	**16 00 06.9**	**-0.9**
HWA	**Hwalien**	**0.47**	**210**	P	**Pg**	**16 00 02.6**	**+0.2**
NSK	**Sanguang**	**0.54**	**302**	⇓*i*P	**Pb**	**16 00 03.9**	**-0.7**
NSK	baz=304			S	**Sg**	**16 00 10.3**	**-0.4**
WHF	**Hehuan Shan**	**0.60**	**246**	⇑*i*P	**Pg**	**16 00 04.6**	**-0.2**
WHF	baz=245			S	**Sg**	**16 00 12.7**	**0.0**
ESF	**Shoufeng Towns**	**0.61**	**212**	*e*P	**Pg**	**16 00 04.8**	**-0.1**
TWB1	**Santiao Chiao**	**0.62**	**11**	⇑*i*P	**Pg**	**16 00 05.7**	**+0.5**
TWB1	baz=14			*e*S	**Sg**	**16 00 13.2**	**-0.2**
TWA	**Mucha**	**0.64**	**337**	⇓*i*P	**Pb**	**16 00 06.3**	**0.0**
TWA	baz=340			*i* S	**Sg**	**16 00 14.2**	**+0.4**
TWT	**Tachien**	**0.64**	**258**	⇓P	**Pb**	**16 00 05.9**	**-0.6**
TWT	baz=257			S	**Sg**	**16 00 14.0**	**0.0**
NWF	**Wu-fen Shan**	**0.68**	**354**	*e*P	**Pb**	**16 00 07.1**	**+0.1**
NWF	baz=347			S	**Sb**	**16 00 16.2**	**-0.3**
ESL	**Shilin**	**0.70**	**214**	⇑*i*P	**Pg**	**16 00 06.0**	**-0.6**
TAP1	**Taipei**	**0.71**	**334**	*i* P	**Pb**	**16 00 07.8**	**+0.3**
TAP1	baz=336			S	**Sb**	**16 00 16.8**	**-0.7**
TAP	**Taipei**	**0.72**	**333**	P	**Pb**	**16 00 07.7**	**0.0**
TAP	baz=336			S	**Sg**	**16 00 16.8**	**+0.3**
TWS1	**Kuangyinshan**	**0.81**	**330**	⇓*i*P	**Pn**	**16 00 10.3**	**-0.3**
TWS1	baz=332			*e*S	**Sb**	**16 00 20.4**	**+0.1**
NSTT	**Nanjuang**	**0.82**	**287**	⇓*i*P	**Pb**	**16 00 09.6**	**+0.2**
NSTT	baz=277			S	**Sb**	**16 00 20.1**	**-0.4**
NCU	**National Centr**	**0.84**	**313**	P	**Pn**	**16 00 10.6**	**-0.4**
HSN	**Hsinchu**	**0.91**	**297**	*e*P	**Pn**	**16 00 11.6**	**-0.3**
HSN	baz=301			*e*S	**Sn**	**16 00 23.6**	**-1.4**
TWY	**Chenhua**	**0.91**	**345**	P	**Pn**	**16 00 11.7**	**-0.2**
TWY	baz=347			*e*S	**Sn**	**16 00 24.0**	**-1.1**
TWQ1	**Liyutan**	**0.99**	**268**	P	**Pn**	**16 00 13.1**	**0.0**
TWQ1	baz=268			*e*S	**Sb**	**16 00 25.4**	**-0.1**
NSY	**Sanyi**	**1.00**	**272**	P	**Pn**	**16 00 13.4**	**+0.2**
NSY	baz=272			*e*S	**Sn**	**16 00 26.6**	**-0.8**
EHY	**Hungye**	**1.01**	**209**	*e*P	**Pg**	**16 00 11.9**	**-0.6**
EHY	baz=220			*e*S	**Sn**	**16 00 26.5**	**-1.0**
SMLT	**Sun Moon Lake**	**1.01**	**240**	⇑*i*P	**Pb**	**16 00 12.6**	**-0.2**
SMLT	baz=240			S	**Sg**	**16 00 25.4**	**-0.5**
TYC	**Yuchr**	**1.04**	**242**	⇑*i*P	**Pb**	**16 00 12.9**	**-0.2**
TYC	baz=242			S	**Sg**	**16 00 25.8**	**-0.8**
YOJ	**Yonaguni jima**	**1.05**	**86**	⇑*i*P	**Pb**	**16 00 13.2**	**0.0**
YOJ	baz=72			*e*S	**Sg**	**16 00 26.9**	**0.0**
TCU	**Taichung**	**1.11**	**258**	*i* P	**Pn**	**16 00 15.8**	**+1.2**
TCU	baz=257			*e*S	**Sn**	**16 00 31.1**	**+1.1**
TWF1	**Yuli**	**1.16**	**207**	*e*P	**Pb**	**16 00 13.6**	**-1.5**
WNT	baz=216						
WNT	**Mingjian**	**1.19**	**245**	⇑*i*P	**Pg**	**16 00 16.6**	**+0.7**
WNT	baz=240			S	**Sn**	**16 00 33.5**	**+1.5**
PCYT	**Pengchaiyu**	**1.25**	**9**	*e*P	**Pn**	**16 00 16.4**	**-0.1**
CHN5	**Tsauling**	**1.34**	**234**	⇑P	**Pg**	**16 00 18.8**	**0.0**
CHN5	baz=225			*i* S	**Sg**	**16 00 37.8**	**+1.5**
CHKT	**Chengkung**	**1.36**	**200**	*e*P	**Pn**	**16 00 17.9**	**-0.3**
WGK	**Gukeng**	**1.38**	**240**	*e*P	**Pg**	**16 00 19.7**	**+0.1**
WGK	baz=253			*e*S	**Sg**	**16 00 39.1**	**+1.6**
ELDTW	**Lidau**	**1.43**	**213**	*e*P	**Pn**	**16 00 18.5**	**-0.6**
WTCT	**Ta-ch'eng**	**1.54**	**250**	*e*P	**Pg**	**16 00 21.7**	**-0.8**
WTCT	baz=266			*e*S	**Sg**	**16 00 42.6**	**+0.1**
CHN4	**Tsaushan**	**1.56**	**229**	P	**Pg**	**16 00 22.7**	**-0.2**
CHN4	baz=216			*e*S	**Sg**	**16 00 46.3**	**+3.1**
CHY	**Chiayi**	**1.59**	**236**	*e*P	**Pg**	**16 00 23.5**	**0.0**
WTP	**Ta-pu**	**1.61**	**225**	⇓*i*P	**Pb**	**16 00 23.2**	**+0.2**
WTP	baz=215			*e*S	**Sg**	**16 00 45.4**	**+0.4**
WSF	**Szhu**	**1.68**	**244**	*e*P	**Pb**	**16 00 23.0**	**-1.0**
WSF	baz=244			*e*S	**Sg**	**16 00 45.8**	**-1.2**
CHN1	**Nanshi**	**1.71**	**226**	*e*P	**Pb**	**16 00 24.8**	**+0.2**
CHN1	baz=227			*e*S	**Sg**	**16 00 50.1**	**+2.0**
TWG	**Pinlang**	**1.72**	**205**	*e*P	**Pn**	**16 00 21.4**	**-1.7**
SGST	**Jiashian**	**1.75**	**222**	*e*P	**Pb**	**16 00 25.7**	**+0.4**
SGST	baz=213			*e*S	**Sg**	**16 00 50.5**	**+1.1**
CHN3	**Shinhua**	**1.90**	**227**	*e*P	**Pg**	**16 00 28.4**	**-1.1**
CHN3	baz=229			*e*S	**Sg**	**16 00 54.9**	**+0.8**
SCLT	**Jiali**	**1.95**	**232**	*e*P	**Pb**	**16 00 28.8**	**+0.2**
SCLT	baz=218			*e*S	**Sg**	**16 00 55.9**	**+0.1**
ECL	**Taimali**	**1.97**	**205**	*e*P	**Pn**	**16 00 27.0**	**+0.5**
TWM1	**Shoushan**	**2.04**	**221**	*e*P	**Pb**	**16 00 30.1**	**-0.2**
SGLT	**Jiouru**	**2.08**	**217**	*e*P	**Pb**	**16 00 31.6**	**+0.7**
EAST	**Anshuo**	**2.21**	**205**	*e*P	**Pn**	**16 00 30.9**	**+1.2**
TAW	**Tawu**	**2.21**	**204**	*e*P	**Pn**	**16 00 29.3**	**-0.5**
PNG	**Penghu**	**2.27**	**249**	*e*P	**Pn**	**16 00 31.1**	**+0.6**
PNG	baz=266			*e*S	**Sb**	**16 01 03.0**	**+0.9**
WDGT	**Dungji**	**2.31**	**241**	*e*P	**Pb**	**16 00 32.9**	**-1.9**
WDGT	baz=254			*e*S	**Sb**	**16 01 04.0**	**+0.6**
SCZT	**Fangliau**	**2.31**	**210**	*e*P	**Pn**	**16 00 32.7**	**+1.5**
TWP	**Hsiaoliuchiu**	**2.46**	**214**	*e*P	**Pb**	**16 00 36.9**	**-0.5**
KNM	**Kinmen**	**3.13**	**271**	*e*P	**Pn**	**16 00 44.2**	**+1.9**

ISCJB ***22*** *16:05:59.8±0.4,2.°05N±0.°04×98.°91E±0.°05,h132km±5km, mb3.7/6,Error ellipse: s-maj=8.9km s-min=5.8km az=143.1*

IDC ***22*** *16:05:59.7±1.5,1.°96N×98.°98E,h119km±5km,mb3.6/6, mb1 3.7/7,mb1mx3.4/25,mbtmp3.6/7,Error ellipse: s-maj=51.8km s-min=14.9km az=63.0*

DJA ***22*** *16:06:01.1±0.7,2.°N±3.°×9.°9E±.°,h116km±9km,M4.2/10, MLv4.2/10*

ISC 22 16:06:00.6±0.8,2.°06N±0.°04×98.°92E±0.°05,h126km±7km, n21,σ0s90/29,mb3.9/6,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**0.74**	**360**	P	**Pn**	**16 06 20.7**	**-0.3**
PSI	54nm,0.3s,baz=28,slow=22,SNR=359			S	**Sn**	**16 06 35.2**	**-1.2**
MNSI	**Mandailing Nat**	**1.41**	**152**	P	**Pn**	**16 06 27.6**	**+0.2**
MNSI	29nm,0.3s,baz=66,slow=22,SNR=67			S	**Sn**	**16 06 49.1**	**+1.3**
GSI	**Gunungsitoli**	**1.54**	**241**	P	**Pn**	**16 06 29.8**	**+0.9**
GSI				S	**Sn**	**16 06 51.1**	**+0.7**
KCSI	**Kotacane, Aceh**	**1.86**	**322**	P	**Pn**	**16 06 32.9**	**+0.3**
KCSI				S	**Sn**	**16 06 56.6**	**-0.5**
SNSI	**Sinabang, Aceh**	**2.62**	**278**	P	**Pn**	**16 06 43.1**	**+1.0**
SNSI				S	**Sn**	**16 07 13.3**	**-0.8**
BKNI	**Bangkinang**	**2.73**	**129**	P	**Pn**	**16 06 44.1**	**+0.6**
PPI	**Padang Panjang**	**2.90**	**149**	P	**Pn**	**16 06 46.7**	**+0.9**
IPM	**Ipoh**	**3.19**	**41**	P	**Pn**	**16 06 51.2**	**+1.6**
IPM	**Ipoh**	**3.19**	**41**	P	**Pn**	**16 06 50.6**	**+1.0**
PDSI	**Padang**	**3.33**	**152**	P	**Pn**	**16 06 51.6**	**+0.2**
PDSI				S	**Sn**	**16 07 29.7**	**-0.9**
KULM	**Kulim**	**3.65**	**28**	P	**Pn**	**16 06 56.4**	**+0.8**
KULM	**Kulim**	**3.65**	**28**	P	**Pn**	**16 06 56.0**	**+0.4**
SDSI	**Sungai Dareh**	**3.88**	**140**	P	**Pn**	**16 06 59.2**	**+0.5**
KGM	**Kluang**	**4.39**	**90**	P	**Pn**	**16 07 06.4**	**+0.9**
CMAR	**Chiang Mai Arr**	**16.30**	**0**	P	**P**	**16 09 44.0**	**+0.9**
	0.5nm,0.3s,baz=191,slow=11,SNR=13						
WRA	**Warramunga Arr**	**41.05**	**124**	P	**P**	**16 13 30.3**	**-1.7**
	1.1nm,0.4s,baz=330,slow=13,SNR=29						
WRA				PcP	**PcP**	**16 15 28.6**	**-1.0**
	0.7nm,0.9s,baz=312,slow=2.7,SNR=4.9						
ASAR	**Alice Springs**	**42.56**	**129**	P	**P**	**16 13 43.5**	**-0.8**
	0.3nm,0.4s,baz=300,slow=7.3,SNR=18						
ASAR				PcP	**PcP**	**16 15 34.0**	**-0.7**
	0.4nm,0.7s,baz=323,slow=3.5,SNR=4.5						
KSRS	**Korea Array**	**44.18**	**34**	P	**P**	**16 13 57.2**	**+0.2**
	0.6nm,0.5s,baz=220,slow=9.3,SNR=4.6						
SONM	**Songino Array**	**46.06**	**7**	P	**P**	**16 14 12.2**	**+0.3**
	0.7nm,0.4s,baz=190,slow=8.9,SNR=12						
MKAR	**Makanchi Array**	**46.86**	**344**	P	**P**	**16 14 18.5**	**+0.4**
	1.2nm,0.4s,baz=155,slow=8.7,

*MOS **22** 16:15:42.2±1.5, 48.°50N×154.°15E, h68km, mb4.3/17, Error ellipse: s-maj=13.5km s-min=8.2km az=61.1*
*SKHL **22** 16:15:42.7±3.5, 48.°35N×154.°40E, h73km±7km, mb4.2/4*
*IDC **22** 16:15:45.2±2.4, 48.°31N×154.°15E, h86km±21km, mb3.8/22, mb1 4.0/25, mb1mx3.9/30, mbtmp3.8/25, MS3.1/3, Ms1 3.1/3, ms1mx2.9/37, Error ellipse: s-maj=16.0km s-min=10.7km az=148.0*

ISC 22 16:15:44.3±0.5, 48.°37N±0.°07×154.°28E±0.°07, h77km, n82, σ1§35/82, mb4.2/30, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.61**	**27**	*e*PN	Pn	16 16 18.1	-6.1
SKR				*e*S	**Sn**	**16 16 50.0**	**-4.8**
SKR				pmax	pmax		
	comp=N,90nm,0.5s						
SKR				pmax	pmax		
	comp=E,60nm,0.5s						
SKR				pmax	pmax		
	comp=Z,230nm,0.5s						
SKR				smax	smax		
	comp=N,2μm,0.2s						
SKR				smax	smax		
	comp=E,510nm,0.2s						
SKR	**Severo-Kuril's**	**2.61**	**27**	*e*P	Pn	16 16 18.1	-6.1
SKR				AMB	AMB	16 16 19.5	
	comp=E,90nm,0.5s						
SKR				AMB	AMB	16 16 19.5	
	comp=E,10μm,0.5s						
SKR				AMB	AMB	16 16 19.5	
	comp=E,230nm,0.5s						
SKR				*e*S	**Sn**	**16 16 50.0**	**-4.8**
SKR				A	A	16 16 55.5	
	comp=E,180nm,0.2s						
SKR				A	A	16 16 55.5	
	comp=E,510nm,0.2s						
PETK	**Petropavlovsk-**	**5.22**	**23**	*e*PN	**Pn**	**16 17 00.6**	**+0.9**
PETK				pmax	pmax		
	comp=Z,17nm,0.3s						
PETK	**Petropavlovsk-**	**5.22**	**23**	P	**Pn**	**16 17 00.7**	**+0.9**
	comp=Z,17nm,0.3s,baz=185,slow=13,SNR=418						
PETK				S	Sn	16 18 10.4	+12
	comp=Z,1.4nm,0.3s,baz=230,slow=18,SNR=2.2						
PETK				LR	LR	16 19 14.3	
	comp=Z,227nm,19.6s,baz=163,slow=39						
KUR	**Kuril'sk**	**5.40**	**237**	⇑*i*PN	**Pn**	**16 17 01.8**	**-0.5**
KUR				*e*S	**Sn**	**16 18 03.8**	**+0.7**
KUR				pmax	pmax		
	comp=N,18nm,0.6s						
KUR				pmax	pmax		
	comp=Z,39nm,0.6s						
KUR				pmax	pmax		
	comp=E,25nm,0.6s						
KUR				smax	smax		
	comp=E,28nm,0.5s						
KUR				smax	smax		
	comp=N,78nm,0.5s						
KUR	**Kuril'sk**	**5.40**	**237**	*i*P	**Pn**	**16 17 01.8**	**-0.5**
KUR				AMB	AMB	16 17 16.0	
	comp=N,18nm,0.6s						
KUR				AMB	AMB	16 17 16.0	
	comp=N,25nm,0.6s						
KUR				AMB	AMB	16 17 16.0	
	comp=N,39nm,0.6s						
KUR				*e*S	**Sn**	**16 18 03.8**	**+0.7**
KUR				A	A	16 18 21.9	
	comp=N,78nm,0.5s						
KUR				A	A	16 18 21.9	
	comp=N,28nm,0.5s						
PET	**Petropavlovsk**	**5.42**	**29**	*e*PN	**Pn**	**16 17 02.7**	**+0.2**
PET				*e*S	**Sn**	**16 18 04.4**	**+0.9**
PET				pmax	pmax		
	comp=Z,69nm,0.5s						
PET				smax	smax		
	comp=E,345nm,0.7s						
PET				smax	smax		
	comp=N,362nm,0.6s						
PET	**Petropavlovsk**	**5.42**	**29**	*e*P	**Pn**	**16 17 01.5**	**-1.0**
NEM2	**Nemuro 2**	**7.78**	**233**	P	Pn	16 17 30.1	-4.6
NEM2				*e*S	Sn	16 18 53.0	-8.1
YSS	**Yuzh-Sakhalins**	**7.91**	**264**	*e*PN	**Pn**	**16 17 37.5**	**+1.1**
YSS	**Yuzh-Sakhalins**	**7.91**	**264**	*e*P	**Pn**	**16 17 37.5**	**+1.1**
YSS				*e*S	**Sn**	**16 19 01.0**	**-3.2**
YSS				A	A	16 19 04.5	
	comp=N,40nm,0.7s						
JTKR	**Abashiri--Toko**	**8.43**	**242**	P	**Pn**	**16 17 44.4**	**+0.8**
JAK	**Akkeshi**	**8.59**	**235**	P	Pn	16 17 41.7	-4.1
JAK				*e*S	Sn	16 19 12.2	-8.8
JMP	**Maruseppu**	**8.74**	**244**	P	**Pn**	**16 17 49.1**	**+1.3**
JAR	**Ashorobuto**	**8.91**	**239**	P	**Pn**	**16 17 48.2**	**-2.0**
ASAJ	**Asahikawa**	**9.14**	**247**	P	**Pn**	**16 17 54.4**	**+1.1**
	comp=N,1.2nm,0.3s,baz=69,slow=20,SNR=16						
ASAJ				LR	LR	16 20 49.1	
	comp=N,114nm,21.9s,baz=169,slow=34						
JKK2	**Kamakawa 2**	**9.18**	**245**	P	**Pn**	**16 17 53.6**	**-0.2**
JCH	**Churui**	**9.58**	**237**	P	Pn	16 17 55.3	-4.0
JCH				*e*S	Sn	16 19 35.6	-10
JFR	**Furan**	**9.68**	**242**	P	**Pn**	**16 18 01.7**	**+1.1**
ERM	**Erimo**	**10.09**	**235**	*i*PN	**Pn**	**16 18 04.9**	**-1.3**
ERM	**Erimo**	**10.09**	**235**	*e*P	**Pn**	**16 18 04.9**	**-1.3**
JNBK	**Urakawa-nobuka**	**10.14**	**237**	P	Pn	16 18 02.9	-4.0
JKB	**Kayabe**	**11.37**	**240**	P	Pn	16 18 19.2	-4.5
JANG	**Nango**	**12.12**	**233**	P	Pn	16 18 26.0	-7.9
JANG				*e*S	Sn	16 20 31.4	-16
JTH	**Tanohata**	**12.26**	**231**	*e*S	Sn	16 20 35.4	-15
HABR	**Khabarovsk**	**12.77**	**278**	*e*PN	**Pn**	**16 18 39.6**	**-3.0**
HABR				pmax	pmax		
	comp=Z,15nm,1.9s						
HABR				MLR	MLR		
	comp=Z,75nm,16.0s						
FX1	**Attu Island--F**	**12.80**	**62**	P	**Pn**	**16 18 40.8**	**-2.2**
	comp=Z,4.3nm,0.3s,baz=265,slow=15,SNR=8.2						
FX1				S	Sn	16 20 52.6	-11
	comp=Z,11nm,0.3s,baz=48,slow=23,SNR=6.9						
USRK	**Ussuriysk Arra**	**15.95**	**263**	P	**P**	**16 19 24.6**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=71,slow=6.7,SNR=4.8						
MAJO	**Matsushiro**	**16.70**	**231**	*i*P	**P**	**16 19 36.4**	**+2.0**
MAJO	**Matsushiro**	**16.70**	**231**	*e*P	**Pn**	**16 19 31.3**	**-2.0**
KSRS	**Korea Array**	**22.06**	**250**	P	**P**	**16 20 31.1**	**-1.5**
	comp=Z,4.4nm,0.7s,baz=56,slow=11,SNR=20						
SONM	**Songino Array**	**31.57**	**287**	P	**P**	**16 21 59.4**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=57,slow=8.8,SNR=2.6						
SONM				PcP	**PcP**	**16 24 49.7**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=84,slow=2.9,SNR=6.3						
ILAR	**Eielson Array**	**34.79**	**40**	*e*P	**P**	**16 22 27.4**	**+0.4**
ILAR	**Eielson Array**	**34.79**	**40**	P	**P**	**16 22 27.4**	**+0.4**
	comp=Z,1.7nm,0.9s,baz=258,slow=8.9,SNR=13						
INK	**Inuvik**	**39.86**	**34**	P	**P**	**16 23 11.1**	**+1.3**
	comp=Z,3.1nm,0.6s,baz=318,slow=3.7,SNR=7.7						
ZALV	**Zalesovo Beam**	**42.32**	**305**	P	**P**	**16 23 29.8**	**-0.3**
ZALV						16 25 22.7	
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ZALV	**Zalesovo Beam**	**42.32**	**305**	P	**P**	**16 23 29.8**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=64,slow=10,SNR=2.7						
ZALV				PcP	**PcP**	**16 25 22.7**	**+0.4**
	comp=Z,2.3nm,0.8s,baz=75,slow=3.5,SNR=9.6						
TGY	**Tagaytay City**	**43.87**	**230**	LR	LR	16 39 11.5	
	comp=Z,18nm,21.8s,baz=71,slow=32						
DLBC	**Dease Lake**	**43.91**	**47**	P	**P**	**16 23 44.7**	**+1.8**
	comp=Z,4.6nm,1.1s,baz=171,slow=6.6,SNR=3.2						
MKAR	**Makanchi Array**	**46.91**	**297**	P	**P**	**16 24 05.9**	**-0.9**
MKAR						16 25 38.3	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR	**Makanchi Array**	**46.91**	**297**	*e*P	**P**	**16 24 06.5**	**-0.3**
MKAR	**Makanchi Array**	**46.91**	**297**	P	**P**	**16 24 05.9**	**-0.9**
	comp=Z,1.1nm,0.6s,baz=72,slow=7.4,SNR=9.4						
MKAR				PcP	**PcP**	**16 25 38.3**	**+0.1**
	comp=Z,0.9nm,0.8s,baz=79,slow=7.5,SNR=3.4						
KURK	**Kurchatov**	**47.13**	**303**	P	**P**	**16 24 07.8**	**-0.6**
KURK						16 25 39.4	
KURK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KURK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KURK	**Kurchatov**	**47.13**	**303**	*e*P	**P**	**16 24 07.2**	**-1.2**
KURBB	**Kurchatov Arra**	**47.23**	**303**	P	**P**	**16 24 07.8**	**-1.3**
	comp=Z,0.4nm,0.4s,baz=69,slow=8.7,SNR=6.9						
KURBB				PcP	**PcP**	**16 25 39.4**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=68,slow=4.0,SNR=7.7						
YKA	**Yellowknife Ar**	**49.16**	**38**	*e*P	**P**	**16 24 25.0**	**+1.2**
YKA	**Yellowknife Ar**	**49.16**	**38**	P	**P**	**16 24 25.1**	**+1.2**
	comp=Z,4.3nm,0.8s,baz=297,slow=7.4,SNR=8.5						
BVAR	**Borovoye Array**	**50.45**	**309**	P	**P**	**16 24 33.4**	**-0.4**
BVAR						16 25 50.6	
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BVAR	**Borovoye Array**	**50.45**	**309**	P	**P**	**16 24 33.4**	**-0.4**
	comp=Z,2.3nm,0.4s,baz=61,slow=8.4,SNR=25						
BVAR				PcP	**PcP**	**16 25 50.6**	**-0.3**
	comp=Z,1.6nm,0.6s,baz=64,slow=5.1,SNR=5.9						
CMAR	**Chiang Mai Arr**	**53.52**	**256**	*e*P	**P**	**16 24 57.4**	**+0.4**
CMAR	**Chiang Mai Arr**	**53.52**	**256**	P	**P**	**16 24 57.5**	**+0.4**
	comp=Z,2.0nm,0.6s,baz=31,slow=7.2,SNR=15						
CMAR				PcP	**PcP**	**16 26 03.0**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=28,slow=3.5,SNR=4.3						
ARCES	**ARCESS Array B**	**56.58**	**341**	P	**P**	**16 25 17.3**	**-1.0**
	comp=Z,2.6nm,0.9s,baz=26,slow=7.4,SNR=5.5						
FINES	**FINESS Array B**	**62.91**	**335**	P	**P**	**16 26 01.1**	**-0.7**
	comp=Z,2.5nm,0.8s,baz=30,slow=7.2,SNR=9.9						
PDAR	**Pinedale Array**	**63.16**	**55**	P	**P**	**16 26 05.4**	**+1.2**
	comp=Z,1.1nm,0.8s,baz=327,slow=2.5,SNR=7.9						
NOA	**NORSAR Array B**	**66.94**	**341**	P	**P**	**16 26 28.6**	**+0.4**
	comp=Z,0.9nm,0.7s,baz=27,slow=6.3,SNR=3.1						
WRA	**Warramunga Arr**	**70.31**	**200**	P	**P**	**16 26 47.9**	**-1.5**
	comp=Z,1.9nm,0.7s,baz=16,slow=6.3,SNR=7.4						
AKASG	**Malin Array Be**	**70.63**	**327**	P	**P**	**16 26 50.6**	**-0.5**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**70.63**	**327**	P	**P**	**16 26 50.6**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=32,slow=6.0,SNR=2.3						
DZM	**Mont Dzumac**	**70.96**	**168**	*e*LR	LR	16 27 46.4	
	comp=Z,239nm,24.5s						
SCHQ	**Schefferville**	**71.51**	**24**	P	**P**	**16 26 56.1**	**-0.2**
	comp=Z,2.6nm,0.4s,baz=323,slow=4.4,SNR=5.9						
ASAR	**Alice Springs**	**74.00**	**199**	P	**P**	**16 27 10.4**	**-1.0**
	comp=Z,1.0nm,0.6s,baz=12,slow=5.5,SNR=12						
CLL	**Collm**	**75.31**	**336**	*e*P	**P**	**16 27 19.0**	**+0.3**
CLL				pmax	pmax		
	comp=Z,5.0nm,1.1s						
CLL	**Collm**	**75.31**	**336**	*e*P	**P**	**16 27 19.0**	**+0.3**
	comp=Z,5.0nm,1.1s						
TXAR	**Lajitas Array**	**76.02**	**62**	P	**P**	**16 27 24.1**	**+0.8**
	comp=Z,1.4nm,0.5s,baz=295,slow=4.8,SNR=12						
GERES	**GERESS Array B**	**77.33**	**335**	P	**P**	**16 27 30.4**	**0.0**
	comp=Z,1.0nm,0.7s,baz=28,slow=6.0,SNR=6.2						
BRTR	**Keskin Array B**	**77.74**	**317**	P	**P**	**16 27 33.5**	**+0.6**
	comp=Z,0.7nm,0.5s,baz=82,slow=2.1,SNR=5.0						
LOR	**Lormes**	**81.33**	**340**	*e*P	**P**	**16 27 52.3**	**+0.3**
	comp=Z,8.6nm,0.8s						
SGMF	**Saint Gilles**	**81.68**	**345**	*e*P	**P**	**16 27 54.4**	**+0.6**
ROSF	**Rostrenen**	**81.73**	**345**	*e*P	**P**	**16 27 54.8**	**+0.8**
	comp=Z,10nm,0.9s						
AVF	**Avril sur Loir**	**81.89**	**340**	*e*P	**P**	**16 27 55.6**	**+0.7**
	comp=Z,5.1nm,0.7s						
BGF	**Bois d'Agland**	**82.22**	**341**	*e*P	**P**	**16 27 58.4**	**+1.7**
LPL	**La Plagne**	**82.28**	**338**	*e*P	**P**	**16 27 58.5**	**+1.2**
LPG	**La Plagne**	**82.29**	**338**	*e*P	**P**	**16 27 58.6**	**+1.2**
TCF	**Toulx Ste Croi**	**82.62**	**341**	*e*P	**P**	**16 27 59.6**	**+0.8**
	comp=Z,9.9nm,1.0s						
MFF	**Saint Martin d**	**82.81**	**343**	*e*P	**P**	**16 28 00.4**	**+0.6**
	comp=Z,5.9nm,0.6s						
SBF	**Sospel**	**83.64**	**337**	*e*P	**P**	**16 28 04.7**	**+0.6**
	comp=Z,31nm,0.8s						
EPF	**Esparros**	**86.13**	**341**	*e*P	**P**	**16 28 17.1**	**+0.5**
TORD	**Torodi Ar. Bea**	**114.09**	**331**	PKP	PKPdf	16 34 13.9	-0.9
	comp=Z,0.4nm,0.4s,baz=15,slow=1.8,SNR=12						
VNDA	**Vanda**	**125.71**	**178**	PKP	**PKPdf**	**16 34 34.2**	**-0.9**
	comp=Z,0.8nm,1.1s,baz=295,slow=3.7,SNR=4.3						
CPUP	**Villa Florida**	**146.97**	**60**	PKPbc	**PKPab**	**16 35 17.9**	**-1.6**
	comp=Z,0.7nm,0.4s,baz=247,slow=5.2,SNR=4.1						
PLCA	**Paso Flores**	**147.54**	**93**	PKPbc	**PKPbc**	**16 35 18.1**	**-1.1**
	comp=Z,1.4nm,0.8s,baz=278,slow=3.9,SNR=3.5						
SNAA	**Sanae**	**154.33**	**197**	PKPbc	**PKPbc**	**16 35 32.0**	**-2.2**
	comp=Z,0.5nm,0.9s,baz=164,slow=4.5,SNR=4.7						

IDC 22 16:16:53.5±1.8, 17.°98S×178.°18W, h463km±27km, mb3.5/7, mb1 3.6/8, mb1mx3.3/20, mbtmp3.5/8, Error ellipse: s-maj=29.4km s-min=14.9km az=135.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.36**	**58**	P	P	16 18 44.2	+1.7
	4.6nm,0.3s,baz=179,slow=22,SNR=7.2						
AFI				S	S	16 20 10.4	-1.5
	0.6nm,0.3s,baz=152,slow=14,SNR=1.5						
URZ	**Urewera**	**20.63**	**191**	P	P	16 20 59.4	-0.3
	5.5nm,0.8s,baz=120,slow=14,SNR=4.0						
CTA	**Charters Tower**	**33.65**	**261**	P	P	16 22 54.5	-0.1
	2.6nm,0.4s,baz=94,slow=10.0,SNR=6.8						
STKA	**Stephens Creek**	**38.79**	**241**	P	P	16 23 37.5	+0.3
	1.4nm,0.3s,baz=92,slow=6.7,SNR=4.4						
WRA	**Warramunga Arr**	**44.84**	**260**	P	P	16 24 24.7	-0.7
	1.2nm,0.3s,baz=94,slow=7.2,SNR=48						
ASAR	**Alice Springs**	**44.99**	**254**	P	P	16 24 26.6	+0.1
	11nm,0.4s,baz=89,slow=8.1,SNR=521						
FITZ	**Fitzroy Crossi**	**53.24**	**261**	P	P	16 25 27.9	-0.1
	1.1nm,0.3s,baz=148,slow=3.3,SNR=16						
PETK	**Petropavlovsk-**	**73.80**	**345**	P	P	16 27 39.4	-0.1
	2.3nm,0.9s,baz=137,slow=6.5,SNR=4.2						
BRTR	**Keskin Array B**	**144.99**	**315**	PKP	PKPdf	16 35 37.8	+0.2
	1.1nm,0.8s,baz=124,slow=6.6,SNR=4.7						
GERES	**GERESS Array B**	**147.73**	**345**	PKPbc	PKPbc	16 35 44.7	-0.7
	0.6nm,0.5s,baz=11,slow=2.9,SNR=5.9						

WEL 22 16:32:51.5±0.2, 45.°06S×167.°48E, h118km±1km, ML3.5/11, 4C-1D, Error ellipse: s-maj=1.3km s-min=1.1km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.48**	**208**	PN	Pn	16 33 08.9	-0.1
DCZ				SN	Sn	16 33 21.6	-0.7
DCZ				AML	AML	16 33 22.6	
DCZ				AML	AML	16 33 22.6	
DCZ				AML	AML	16 33 22.7	
MSZ	**Milford Sound**	**0.50**	**40**	PN	Pn	16 33 09.2	0.0
MSZ				SN	Sn	16 33 22.3	-0.1
MSZ				AML	AML	16 33 23.1	
MSZ				AML	AML	16 33 24.2	
MSZ				AML	AML	16 33 24.6	
MLZ	**Mavora Lakes**	**0.57**	**121**	⇑PN	Pn	16 33 09.5	-0.2
MLZ				SN	Sn	16 33 23.1	-0.3
MLZ				AML	AML	16 33 24.9	
WHZ	**Wether Hill Ro**	**0.90**	**159**	PN	Pn	16 33 12.4	0.0
WHZ				SN	Sn	16 33 27.9	-0.2
WHZ				AML	AML	16 33 29.2	
WKZ	**Wanaka**	**1.12**	**79**	⇑PN	Pn	16 33 14.4	-0.2
WKZ				SN	Sn	16 33 31.0	-1.0
WKZ				AML	AML	16 33 32.3	
WKZ				AML	AML	16 33 32.4	
WKZ				AML	AML	16 33 33.4	
PYZ	**Puysegur Point**	**1.24**	**206**	PN	Pn	16 33 15.8	-0.1
EAZ	**Earnscleugh**	**1.31**	**98**	⇑PN	Pn	16 33 16.2	-0.3
EAZ				AML	AML	16 33 34.4	
EAZ				AML	AML	16 33 34.4	
EAZ				AML	AML	16 33 34.8	
EAZ				AML	AML	16 33 34.8	
JCZ	**Jackson Bay**	**1.34**	**43**	PN	Pn	16 33 16.4	-0.7
JCZ				AML	AML	16 33 35.2	
JCZ				AML	AML	16 33 35.5	
TUZ	**Tuapeka**	**1.76**	**121**	PN	Pn	16 33 21.6	-0.2
TUZ				AML	AML	16 33 44.4	
TUZ				AML	AML	16 33 44.5	
APZ	**The Paps**	**1.81**	**169**	⇑PN	Pn	16 33 22.2	-0.3
SYZ	**Scrubby Hill**	**1.88**	**142**	⇓PN	Pn	16 33 23.2	-0.1
LBZ	**Lake Benmore**	**2.04**	**72**	PN	Pn	16 33 23.4	-1.9
LBZ				AML	AML	16 33 48.2	
LBZ				AML	AML	16 33 48.6	
FOZ	**Fox Glacier**	**2.18**	**48**	PN	Pn	16 33 25.8	-1.2
ODZ	**Otahua Downs**	**2.25**	**91**	PN	Pn	16 33 26.5	-1.4
HHSZ	**Highcliff Hill**	**2.35**	**112**	PN	Pn	16 33 28.6	-0.5
RPZ	**Rata Peaks**	**2.89**	**64**	PN	Pn	16 33 33.6	-2.7
RPZ				AML	AML	16 34 07.4	
WVZ	**Waitaha Valley**	**3.07**	**51**	PN	Pn	16 33 35.6	-3.0
OXZ	**Oxford**	**3.71**	**64**	PN	Pn	16 33 43.6	-3.5
MQZ	**McQueen's Vall**	**3.95**	**72**	PN	Pn	16 33 48.5	-1.7
CRLZ	**Canterbury Las**	**3.98**	**70**	PN	Pn	16 33 48.2	-2.4
LTZ	**Lake Taylor**	**4.14**	**58**	PN	Pn	16 33 49.4	-3.5
DSZ	**Denniston Nort**	**4.57**	**45**	PN	Pn	16 33 55.5	-3.1
THZ	**Tophouse**	**5.14**	**52**	PN	Pn	16 34 03.0	-3.4
QRZ	**Quartz Range**	**5.62**	**43**	PN	Pn	16 34 10.2	-2.6

*IDC **22** 16:36:33.4±2.1, 35.°10N×141.°57E, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.6/25, mbtmp3.8/5, ML3.5/1, Error ellipse: s-maj=71.9km s-min=25.1km az=76.0*
*JMA **22** 16:36:36.1±0.3, 35.°04N×141.°39E, h50km±4km, M3.1*
*ISCJB **22** 16:36:38.0±1.1, 35.°02N±0.°05×141.°28E±0.°10, h42km±9km, mb3.8/4, Error ellipse: s-maj=13.4km s-min=7.8km az=3.5*

ISC 22 16:36:40.1±1.4, 34.°99N±0.°06×141.°19E±0.°10, h42km±11km, n16, σ1§48/20, mb3.8/4, Off east of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.38**	**207**	P	**Pn**	**16 36 47.4**	**-1.4**
BSO1				S	**Sn**	**16 36 55.8**	**+0.9**
BSO2	**Boso 2**	**0.43**	**237**	S	**Sn**	**16 36 58.9**	**+2.5**
BSO3	**Boso 3**	**0.59**	**252**	P	**Pn**	**16 36 50.9**	**-0.9**
BSO3				S	**Sn**	**16 37 01.7**	**+1.6**
BSO4	**Boso 4**	**0.70**	**270**	P	**Pn**	**16 36 52.4**	**-1.0**
KTR	**Katsuura**	**0.73**	**283**	P	**Pn**	**16 36 52.4**	**-1.6**
KTR				S	**Sn**	**16 37 03.2**	**-0.8**
CHOJ	**Chosi**	**0.76**	**339**	P	Pn	16 36 50.8	-3.6
CHOJ				S	**Sn**	**16 37 02.2**	**-2.5**
JCN	**Nagara**	**0.92**	**298**	P	**Pn**	**16 36 56.7**	**+0.2**
JIM2	**Oshima 3**	**1.47**	**260**	P	**Pn**	**16 37 02.4**	**-1.7**
JIM2				S	**Sn**	**16 37 20.1**	**-2.0**
JYT	**Yasato**	**1.48**	**327**	P	**Pn**	**16 37 03.8**	**-0.4**
JMY	**Miyakejima3**	**1.66**	**237**	S	**Sn**	**16 37 26.1**	**-0.7**
MAT	**Matsushiro**	**2.88**	**303**	P	**Pn**	**16 37 24.8**	**+1.4**
MAT				*e*S	**Sn**	**16 37 58.3**	**+1.5**
ASAJ	**Asahikawa**	**9.18**	**6**	Pn	Pn	16 38 45.0	-4.9
	0.5nm,0.3s,baz=358,slow=33,SNR=7.1						
ZALV	**Zalesovo Beam**	**43.18**	**314**	P	**P**	**16 44 37.1**	**+0.5**
	0.8nm,0.5s,baz=94,slow=6.4,SNR=4.7						
MKAR	**Makanchi Array**	**45.08**	**304**	P	**P**	**16 44 52.4**	**+0.5**
	0.4nm,0.6s,baz=94,slow=8.6,SNR=4.2						
KURBB	**Kurchatov Arra**	**47.14**	**309**	P	**P**	**16 45 08.2**	**+0.2**
	1.1nm,0.7s,baz=86,slow=8.0,SNR=15						
WRA	**Warramunga Arr**	**55.01**	**188**	P	**P**	**16 46 07.6**	**+0.2**
	1.6nm,0.6s,baz=5.6,slow=7.2,SNR=28						

*IDC **22** 16:52:26.8±2.5, 3.°24S×100.°59E, h0km, mb3.8/8, mb1 3.9/8, mb1mx3.7/25, mbtmp3.8/8, Error ellipse: s-maj=108.8km s-min=18.7km az=54.0*
*DJA **22** 16:52:34.8±1.1, 3.°5±9.9×10.°1E±1.°2, h20km, M4.1/8, MLv4.1/8*

ISC 22 16:52:34.5±1.1, 3.°0S±0.°1×100.°9E±0.°1, h46km, n18, σ1§09/21, mb3.9/8, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASI	**Maura Aman, Be**	**1.32**	**96**	P	**Pn**	**16 52 55.9**	**-0.6**
KSI	**Kapahiang**	**1.79**	**111**	P	**Pn**	**16 53 04.3**	**+1.4**
PDSI	**Padang**	**2.13**	**348**	P	**Pn**	**16 53 08.4**	**+0.7**
PDSI				S	**Sn**	**16 53 32.4**	**-0.6**
MNAI	**Manna**	**2.43**	**124**	P	**Pn**	**16 53 12.6**	**+0.8**
MNAI				S	**Sn**	**16 53 39.7**	**-0.6**
PPI	**Padang Panjang**	**2.59**	**348**	P	**Pn**	**16 53 15.5**	**+1.6**
RGRI	**Rengat**	**3.00**	**28**	P	**Pn**	**16 53 20.5**	**+1.0**
BKNI	**Bangkinang**	**3.31**	**2**	P	**Pn**	**16 53 25.6**	**+1.7**
MDSI	**Maura Dua**	**3.56**	**114**	P	**Pn**	**16 53 29.9**	**+2.6**
CMAR	**Chiang Mai Arr**	**21.42**	**355**	P	**P**	**16 57 18.9**	**+0.1**
	0.7nm,0.7s,baz=190,slow=8.9,SNR=6.6						
PKIN	**Phulchoki**	**33.89**	**335**	*e*P	**P**	**16 59 12.1**	**-1.3**
	16nm,1.1s						
WRA	**Warramunga Arr**	**36.69**	**120**	P	**P**	**16 59 36.9**	**-0.5**
	0.5nm,0.3s,baz=301,slow=8.7,SNR=15						
ASAR	**Alice Springs**	**37.92**	**126**	P	**P**	**16 59 47.9**	**+0.2**
	0.9nm,0.9s,baz=292,slow=6.1,SNR=4.9						
SONM	**Songino Array**	**50.86**	**5**	P	**P**	**17 01 31.5**	**+0.7**
	1.1nm,0.5s,baz=189,slow=9.3,SNR=5.6						
SONM				PcP	**PcP**	**17 02 46.6**	**-0.4**
	0.3nm,0.4s,baz=209,slow=4.1,SNR=2.0						
MKAR	**Makanchi Array**	**52.24**	**344**	P	**P**	**17 01 41.3**	**+0.3**
	1.1nm,0.4s,baz=157,slow=9.0,SNR=18						
KURBB	**Kurchatov Arra**	**56.77**	**343**	P	**P**	**17 02 12.9**	**-0.9**
	0.5nm,0.7s,baz=181,slow=6.5,SNR=7.4						
ZALV	**Zalesovo Beam**	**58.33**	**349**	P	**P**	**17 02 24.2**	**-0.4**
	4.3nm,0.7s,baz=166,slow=4.8,SNR=20						
BVAR	**Borovoye Array**	**61.44**	**340**	P	**P**	**17 02 45.8**	**-0.3**
	0.5nm,0.4s,baz=134,slow=10,SNR=2.9						
TXAR	**Lajitas Array**	**144.

ellipse: s-maj=36.5km s-min=13.7km az=163.0

ISC 22 17:06:10.8±0.9, 43°.97N±0°.06×147°.30E±0°.06, h110km±7km, n46, σ1°29/61, mb3.7/12, 1C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**1.04**	**274**	*d* PN	**Pn**	**17 06 32.8**	**+0.5**
YUK				*i* S	**Sn**	**17 06 48.1**	**-0.5**
YUK	comp=Z,4μm,0.2s			pmax	pmax		
YUK	comp=E,438nm,0.1s			pmax	pmax		
YUK	comp=N,538nm,0.2s			pmax	pmax		
YUK	comp=N,807nm,0.1s			smax	smax		
YUK	comp=E,1μm,0.1s			smax	smax		
YUK	**Yuzh-Kuril'sk**	**1.04**	**274**	*i* P	**Pn**	**17 06 32.8**	**+0.5**
YUK	comp=E,538nm,0.2s			AMB	AMB	17 06 33.3	
YUK	comp=E,439nm,0.2s			AMB	AMB	17 06 33.3	
YUK	comp=E,4μm,0.2s			AMB	AMB	17 06 33.3	
YUK				*i* S	**Sn**	**17 06 48.1**	**-0.5**
YUK	comp=E,807nm,0.1s			A	A	17 06 49.1	
YUK	comp=E,1μm,0.1s			A	A	17 06 49.1	
NEM2	**Nemuro 2**	**1.28**	**242**	P	**Pn**	**17 06 36.0**	**+1.0**
NEM2				*eS*	**Sn**	**17 06 53.2**	**-0.1**
KUR	**Kuril'sk**	**1.32**	**17**	*c i* PN	**Pn**	**17 06 35.7**	**+0.3**
KUR				*i* S	**Sn**	**17 06 53.6**	**-0.5**
KUR	comp=N,3.0nm,0.1s			pmax	pmax		
KUR	comp=E,11nm,0.1s			pmax	pmax		
KUR	comp=Z,111nm,0.1s			pmax	pmax		
KUR	comp=E,239nm,0.2s			smax	smax		
KUR	comp=N,522nm,0.2s			smax	smax		
KUR	**Kuril'sk**	**1.32**	**17**	*i* P	**Pn**	**17 06 35.7**	**+0.3**
KUR	comp=N,3.0nm,0.1s			AMB	AMB	17 06 35.8	
KUR	comp=N,11nm,0.1s			AMB	AMB	17 06 35.8	
KUR	comp=N,111nm,0.1s			AMB	AMB	17 06 35.8	
KUR				*i* S	**Sn**	**17 06 53.6**	**-0.5**
KUR	comp=N,522nm,0.2s			A	A	17 06 54.7	
KUR	comp=N,239nm,0.2s			A	A	17 06 54.7	
JRA	**Rausu**	**1.58**	**270**	P	**Pn**	**17 06 39.2**	**+0.8**
JRA				*eS*	**Sn**	**17 06 59.3**	**-0.1**
JNK	**Nakash**	**1.91**	**259**	P	**Pn**	**17 06 43.4**	**+0.8**
JAK	**Akkeshi**	**2.13**	**244**	P	**Pn**	**17 06 46.3**	**+0.9**
JAK				*eS*	**Sn**	**17 07 11.5**	**-0.4**
JTKR	**Abashiri--Toko**	**2.45**	**271**	P	**Pn**	**17 06 50.1**	**+0.6**
JTKR				*eS*	**Sn**	**17 07 19.0**	**-0.2**
JAR	**Ashorobuto**	**2.65**	**256**	P	**Pn**	**17 06 53.6**	**+1.5**
JOB	**Onbets**	**2.74**	**248**	P	**Pn**	**17 06 54.5**	**+1.2**
JOB				*eS*	**Sn**	**17 07 25.9**	**-0.1**
JMP	**Maruseppu**	**2.85**	**272**	P	**Pn**	**17 06 55.3**	**+0.6**
JCH	**Churui**	**3.18**	**246**	P	**Pn**	**17 07 00.0**	**+0.9**
JCH				*eS*	**Sn**	**17 07 34.6**	**-1.8**
JKK2	**Kamakawa 2**	**3.29**	**270**	P	**Pn**	**17 07 01.6**	**+1.0**
JKK2				*eS*	**Sn**	**17 07 39.4**	**+0.3**
ASAJ	**Asahikawa**	**3.40**	**274**	P	**Pn**	**17 07 03.0**	**+1.1**
ASAJ	**Asahikawa**	**3.40**	**274**	P	**Pn**	**17 07 03.0**	**+1.1**
ASAJ	comp=N,9.6nm,0.3s,baz=74,slow=19,SNR=114			S	**Sn**	**17 07 42.9**	**+1.4**
ASAJ	comp=N,1.2nm,0.3s,baz=66,slow=20,SNR=2.8						
JFR	**Furan**	**3.52**	**258**	P	**Pn**	**17 07 04.9**	**+1.3**
ERM	**Erimo**	**3.62**	**239**	*e*PN	**Pn**	**17 07 07.4**	**+2.5**
ERM	**Erimo**	**3.62**	**239**	*e*P	**Pn**	**17 07 07.4**	**+2.5**
JNBK	**Urakawa-nobuka**	**3.74**	**245**	P	**Pn**	**17 07 06.9**	**+0.4**
JNBK				*eS*	**Sn**	**17 07 47.3**	**-2.4**
JWK2	**Keihoku**	**4.09**	**291**	P	**Pn**	**17 07 12.7**	**+1.5**
YSS	**Yuzh-Sakhalins**	**4.37**	**315**	*e*PN	**Pn**	**17 07 17.0**	**+2.0**
YSS				*eS*	**Sn**	**17 08 06.0**	**+1.0**
YSS	comp=E,50nm,1.2s			smax	smax		
YSS	**Yuzh-Sakhalins**	**4.37**	**315**	*e*P	**Pn**	**17 07 17.0**	**+2.0**
YSS				*eS*	**Sn**	**17 08 06.0**	**+1.0**
YSS	comp=E,50nm,1.2s			A	A	17 08 07.0	
USRK	**Ussuriysk Arra**	**11.02**	**277**	P	**Pn**	**17 08 43.5**	**-1.6**
PETK	**Petropavlovsk-**	**11.44**	**33**	*e*PN	**Pn**	**17 08 51.8**	**+1.3**
PETK	**Petropavlovsk-**	**11.44**	**33**	P	**Pn**	**17 08 48.2**	**-2.3**
KSRS	**Korea Array**	**16.06**	**253**	P	**P**	**17 09 52.0**	**+0.6**
ULN	**Ulaanbaatar**	**28.05**	**292**	*e*P	**P**	**17 11 50.4**	**-1.3**
SONM	**Songino Array**	**28.49**	**292**	P	**P**	**17 11 54.5**	**-1.1**
KDAK	**Kodiak Island**	**39.02**	**48**	P	**P**	**17 13 26.5**	**+0.3**
ILAR	**Eielson Array**	**41.24**	**36**	P	**P**	**17 13 45.8**	**+1.3**
MKAR	**Makanchi Array**	**44.58**	**297**	P	**P**	**17 14 11.1**	**-0.7**
MKAR	comp=Z,1.0nm,0.6s			pmax	pmax		
MKAR	**Makanchi Array**	**44.58**	**297**	*e*P	**P**	**17 14 11.0**	**-0.7**
MKAR	**Makanchi Array**	**44.58**	**297**	P	**P**	**17 14 11.1**	**-0.7**
KURK	**Kurchatov**	**45.50**	**304**	P	**P**	**17 14 17.7**	**-1.1**
KURK	comp=Z,1.0nm,0.4s			pmax	pmax		
KURK	**Kurchatov**	**45.50**	**304**	*e*P	**P**	**17 14 15.7**	**-3.1**
KURBB	**Kurchatov Arra**	**45.58**	**304**	P	**P**	**17 14 17.6**	**-1.9**
CMAR	**Chiang Mai Arr**	**47.70**	**254**	*e*P	**P**	**17 14 37.6**	**+1.2**
CMAR	**Chiang Mai Arr**	**47.70**	**254**	P	**P**	**17 14 37.7**	**+1.3**
FINES	**FINESS Array B**	**64.73**	**333**	P	**P**	**17 16 35.1**	**-1.7**
NOA	**NORSAR Array B**	**69.44**	**339**	P	**P**	**17 17 05.5**	**-1.1**
PDAR	**Pinedale Array**	**69.68**	**50**	P	**P**	**17 17 09.6**	**+0.8**
AKASG	**Malin Array Be**	**71.47**	**324**	*i* P	**P**	**17 17 19.7**	**+0.6**
AKASG	**Malin Array Be**	**71.47**	**324**	P	**P**	**17 17 17.4**	**-1.7**
TXAR	**Lajitas Array**	**82.43**	**56**	P	**P**	**17 18 22.7**	**+1.7**
TORD	**Torodi Ar. Bea**	**115.09**	**323**	PKP	**PKPdf**	**17 24 39.1**	**-0.2**

*TIF **22** 17:13:52.5, 42°.48N×43°.47E, h13km±1km*
*CSEM **22** 17:13:54.4, 42°.53N×43°.60E, h12km, mb3.8, After OBN*
*MOS **22** 17:13:54.4±1.5, 42°.53N×43°.60E, h12km, mb3.8/1, Error ellipse: s-maj=14.3km s-min=5.8km az=82.1*

ISC 22 17:13:53.7±0.9, 42°.50N±0°.02×43°.49E±0°.02, h7km±6km, n48, σ0°62/96, 6C-4D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.09**	**343**	P	**Pg**	**17 13 56.0**	**0.0**
ONI				S	**Sg**	**17 13 58.0**	**+0.5**
ONI	**Oni**	**0.09**	**343**	P	**Pg**	**17 13 56.0**	**0.0**
ONI				S	**Sg**	**17 13 58.0**	**+0.5**
DIGR	**Digorskoe uzhe**	**0.40**	**10**	*i* PG	**Pg**	**17 14 00.6**	**-1.0**
DIGR				*i* S	**Sg**	**17 14 06.1**	**-0.8**
DIGR	**Digorskoe uzhe**	**0.40**	**10**	*i* Pg	**Pg**	**17 14 00.6**	**-1.0**
DIGR				*i* Sg	**Sg**	**17 14 06.1**	**-0.8**
ZEI	**Tsey**	**0.42**	**47**	*i* PG	**Pg**	**17 14 01.0**	**-0.9**
ZEI				*i* S	**Sg**	**17 14 06.8**	**-0.6**
ZEI	**Tsey**	**0.42**	**47**	*i* Pg	**Pg**	**17 14 01.0**	**-0.9**
ZEI				*i* Sg	**Sg**	**17 14 06.8**	**-0.6**
LACR	**Lac**	**0.68**	**61**	*e*PG	**Pg**	**17 14 05.8**	**-1.0**
LACR				*eS*	**Sg**	**17 14 15.0**	**-0.6**
LACR	**Lac**	**0.68**	**61**	*e*Pg	**Pg**	**17 14 05.8**	**-1.0**
LACR				*eS*g	**Sg**	**17 14 15.0**	**-0.6**
KORR	**Kora**	**0.72**	**36**	*i* PG	**Pg**	**17 14 06.7**	**-0.9**
KORR				*eS*	**Sg**	**17 14 16.5**	**-0.5**
KORR	**Kora**	**0.72**	**36**	*i* Pg	**Pg**	**17 14 06.7**	**-0.9**
KORR				*eS*g	**Sg**	**17 14 16.5**	**-0.5**
LSNR	**Lesken**	**0.81**	**18**	*i* PG	**Pg**	**17 14 09.3**	**0.0**
LSNR				*eS*	**Sg**	**17 14 20.0**	**+0.1**
LSNR	**Lesken**	**0.81**	**18**	*i* Pg	**Pg**	**17 14 09.3**	**0.0**
LSNR				*eS*g	**Sg**	**17 14 20.0**	**+0.1**
STDR	**Stavd-Durt**	**0.96**	**26**	*e*PG	**Pb**	**17 14 12.6**	**-0.1**
STDR				*eS*	**Sb**	**17 14 25.5**	**-0.1**
STDR	**Stavd-Durt**	**0.96**	**26**	*e*Pg	**Pb**	**17 14 12.6**	**-0.1**
STDR				*eS*g	**Sb**	**17 14 25.5**	**-0.1**
DUS	**Dusheti**	**0.99**	**114**	P	**Pn**	**17 14 15.2**	**+1.2**
DUS				S	**Sn**	**17 14 30.1**	**+1.9**
DUS	**Dusheti**	**0.99**	**114**	P	**Pn**	**17 14 15.2**	**+1.2**
DUS				S	**Sn**	**17 14 30.1**	**+1.9**
NCK	**Nalchik**	**0.99**	**4**	*i* PG	**Pg**	**17 14 12.8**	**0.0**
NCK				*i* S	**Sb**	**17 14 27.2**	**+0.6**
NCK	**Nalchik**	**0.99**	**4**	*i* Pg	**Pg**	**17 14 12.8**	**0.0**
NCK				*i* Sg	**Sb**	**17 14 27.2**	**+0.6**
VLKR	**Vladikavkaz**	**1.03**	**58**	*e*PG	**Pg**	**17 14 13.1**	**-0.4**
VLKR				*eS*	**Sg**	**17 14 27.0**	**+0.2**
VLKR	**Vladikavkaz**	**1.03**	**58**	*e*Pg	**Pg**	**17 14 13.1**	**-0.4**
VLKR				*eS*g	**Sg**	**17 14 27.0**	**+0.2**
CHVG	**Ch'k'valeri**	**1.06**	**282**	P	**Pg**	**17 14 13.6**	**-0.4**
CHVG				S	**Sb**	**17 14 28.3**	**0.0**
CHVG	**Ch'k'valeri**	**1.06**	**282**	P	**Pg**	**17 14 13.6**	**-0.4**
CHVG				S	**Sb**	**17 14 28.4**	**0.0**
AKH	**Akhalkalaki**	**1.09**	**180**	P	**Pg**	**17 14 14.0**	**-0.6**
AKH				S	**Sb**	**17 14 29.8**	**+0.4**
AKH	**Akhalkalaki**	**1.09**	**180**	P	**Pg**	**17 14 13.1**	**-1.5**
AKH				S	**Sb**	**17 14 29.8**	**+0.4**
BTKR	**Batakoyurt**	**1.16**	**41**	*i* PG	**Pn**	**17 14 17.2**	**+0.8**
BTKR				*eS*	**Sn**	**17 14 32.6**	**+0.1**
BTKR	**Batakoyurt**	**1.16**	**41**	*i* Pg	**Pn**	**17 14 17.2**	**+0.8**
BTKR				*eS*g	**Sn**	**17 14 32.6**	**+0.1**
TBLG	**Delisi**	**1.21**	**129**	PG	**Pb**	**17 14 15.9**	**-0.9**
TBLG				*i* S	**Sg**	**17 14 32.6**	**+0.1**
TBLG	**Delisi**	**1.21**	**129**	P	**Pb**	**17 14 15.9**	**-0.9**
TBLG				S	**Sg**	**17 14 32.6**	**+0.1**
TBLG	**Delisi**	**1.21**	**129**	Pg	**Pb**	**17 14 15.9**	**-0.9**
TBLG				*i* Sg	**Sg**	**17 14 32.6**	**+0.1**
TBLG	**Delisi**	**1.21**	**129**	P	**Pb**	**17 14 15.9**	**-0.9**
TBLG				S	**Sb**	**17 14 32.6**	**0.0**
KUBR	**Kubataba**	**1.30**	**357**	*i* PG	**Pb**	**17 14 18.3**	**-0.1**
KUBR				*i* S	**Sn**	**17 14 36.8**	**+1.0**
KUBR	**Kubataba**	**1.30**	**357**	*i* Pg	**Pb**	**17 14 18.3**	**-0.1**
KUBR				*i* Sg	**Sn**	**17 14 36.8**	**+1.0**
KZR	**Kazreti**	**1.32**	**148**	P	**Pb**	**17 14 18.5**	**-0.2**
KZR				S	**Sn**	**17 14 36.5**	**+0.2**
KZR	**Kazreti**	**1.32**	**148**	P	**Pb**	**17 14 18.5**	**-0.2**
KZR				S	**Sn**	**17 14 36.5**	**+0.2**
PRTR	**Priterechnaya**	**1.38**	**25**	*e*PG	**Pn**	**17 14 19.3**	**+0.1**
PRTR				*eS*	**Sb**	**17 14 37.6**	**+0.1**
PRTR	**Priterechnaya**	**1.38**	**25**	*e*Pg	**Pn**	**17 14 19.3**	**+0.1**
PRTR				*eS*g	**Sb**	**17 14 37.6**	**+0.1**
SHAR	**Shatzhatmas**	**1.38**	**334**	*e*PG	**Pn**	**17 14 19.0**	**-0.5**
SHAR				*i* S	**Sb**	**17 14 37.2**	**-0.5**
SHAR	**Shatzhatmas**	**1.38**	**334**	*e*Pg	**Pn**	**17 14 19.0**	**-0.5**
SHAR				*i* Sg	**Sb**	**17 14 37.2**	**-0.5**
TRKR	**Terskaya**	**1.52**	**36**	*e*PG	**Pb**	**17 14 21.8**	**-0.4**
TRKR				*eS*	**Sb**	**17 14 41.7**	**0.0**
TRKR	**Terskaya**	**1.52**	**36**	*e*Pg	**Pb**	**17 14 21.8**	**-0.4**
TRKR				*eS*g	**Sb**	**17 14 41.7**	**0.0**
PYA	**Pyatigorsk**	**1.56**	**349**	*i* PG	**Pb**	**17 14 22.5**	**-0.4**
PYA				*i* S	**Sg**	**17 14 43.7**	**-0.2**
PYA	**Pyatigorsk**	**1.56**	**349**	*i* Pg	**Pb**	**17 14 22.5**	**-0.4**
PYA				*i* Sg	**Sg**	**17 14 43.7**	**-0.2**
KIV	**Kislovodsk**	**1.57**	**338**	*i* PG	**Pn**	**17 14 22.3**	**+0.3**
KIV				*i* S	**Sg**	**17 14 43.8**	**-0.2**
KIV	**Kislovodsk**	**1.57**	**338**	*i* Pg	**Pn**	**17 14 22.3**	**+0.3**
KIV				*i* Sg	**Sg**	**17 14 43.8**	**-0.2**
DGRG	**David-gareji**	**1.75**	**126**	P	**Pb**	**17 14 25.9**	**-0.3**
DGRG				S	**Sg**	**17 14 49.9**	**-0.2**
DGRG	**David-gareji**	**1.75**	**126**	P	**Pb**	**17 14 25.9**	**-0.3**
DGRG				S	**Sg**	**17 14 49.9**	**-0.2**
GOF	**Gofitskoye**	**2.58**	**353**	*e*PN	**Pb**	**17 14 40.3**	**+0.2**
GOF				*eS*	**Sg**	**17 15 15.6**	**-0.8**
GOF	comp=Z,20nm,0.8s			pmax	pmax		
GOF	comp=N,95nm,1.0s			smax	smax		
GOF	comp=E,160nm,0.9s			smax	smax		
GOF	**Gofitskoye**	**2.58**	**353**	*e*Pn	**Pb**	**17 14 40.3**	**+0.2**
GOF	comp=E,20nm,0.8s						
GOF	comp=E,95nm,1.0s			*eS*b	**Sg**	**17 15 15.6**	**-0.8**

*ISCJB **22** 17:15:21.4±0.5, 28°.61N±0°.06×139°.4E±0°.1, h424km, mb3.6/10, Error ellipse: s-maj=13.9km s-min=6.6km az=153.0*
*JMA **22** 17:15:21.9±0.2, 28°.93N×140°.47E, h461km±4km, M3.5*
*IDC **22** 17:15:21.8±0.8, 28°.56N×139°.32E, h412km±14km, mb3.3/10, mb1 3.4/13, mb1mx3.2/25, mbtmp3.3/13, Error ellipse: s-maj=27.8km s-min=11.3km az=74.0*

ISC 22 17:15:22.4±0.7, 28°.69N±0°.09×139°.6E±0°.1, h424km, n20, σ1°34/23, mb3.6/10, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.80**	**124**	P	**P**	**17 16 25.9**	**0.0**
CBIJ				S	**S**	**17 17 16.8**	**-0.6**
CBIJ	**Chichi jima**	**2.80**	**124**	P	**P**	**17 16 26.2**	**+0.3**
CBIJ	74nm,0.3s,baz=263,slow=22,SNR=26			S	**S**	**17 17 16.7**	**-0.6**
JHHJ	**Haha-jima-NKT**	**3.08**	**131**	P	**P**	**17 16 28.4**	**+0.3**
JHHJ	203nm,0.3s,baz=130,slow=23,SNR=25			S	**S**	**17 17 20.7**	**-0.7**
JIE	**Ise**	**6.19**	**337**	P	**P**	17 17 01.0	+3.4
JOD2	**Odawara 2**	**6.57**	**356**	*e*S	**S**	**17 18 21.2**	**-1.8**
JNY	**Yasuok**	**6.81**	**348**	P	**P**	**17 17 06.1**	**+1.4**
JAO	**Obara**	**6.85**	**344**	P	**P**	**17 17 07.0**	**+1.9**
JRY	**Ryogami san**	**7.33**	**356**	P	**P**	**17 17 10.4**	**+0.1**
JRY				S	**S**	**17 18 34.9**	**-3.4**
KSRS	**Korea Array**	**13.10**	**315**	P	**P**	**17 18 14.4**	**+0.9**
USRK	**Ussuriysk Arra**	**16.63**	**341**	P	**P**	**17 18 52.6**	**+1.4**
PETK	**Petropavlovsk-**	**27.82**	**24**	P	**P**	**17 20 38.1**	**+3.1**
SONM	**Songino Array**	**31.97**	**316**	P	**P**	**17 21 11.7**	**+0.2**
ZALV	**Zalesovo Beam**	**46.77**	**319**	P	**P**	**17 23 10.9**	**-0.6**
MKAR	**Makanchi Array**	**47.68**	**309**	P	**P**	**17 23 18.0**	**-0.6**
WRA	**Warramunga Arr**	**48.61**	**187**	P	**P**	**17 23 25.2**	**-0.6**
KURBB	**Kurchatov Arra**	**50.28**	**314**	P	**P**	**17 23 37.4**	**-0.5**
ASAR	**Alice Springs**	**52.34**	**187**	P	**P**	**17 23 52.7**	**-0.6**
KBZ	**Khabaz**	**75.23**	**312**	P	**P**	**17 26 20.4**	**+0.1**
FINES	**FINESS Array B**	**75.49**	**333**	P	**P**	**17 26 20.9**	**-0.5**
BRTR	**Keskin Array B**	**83.23**	**312**	P	**P**	**17 27 02.8**	**-0.5**

CASC 22 17:15:31.7±1.5, 14°.49N×89°.13W, h6km±6km, MD3.6, 2C-6D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RBDL	**Robledal**	**0.66**	**235**	*e*P	Pg	17 15 44.2	-0.3
LFU	**La Fuente**	**0.73**	**179**	*i e*P	Pg	17 15 45.9	-0.1
LFU				*eS*	Sb	17 15 57.4	-0.1
BOQS	**Boqueron**	**0.76**	**191**	*i e*P	Pg	17 15 46.5	-0.2
BOQS				*eS*	Sb	17 15 59.1	+0.5
SNJE	**San Jose**	**0.77**	**217**	*i* P	Pg	17 15 46.4	-0.4
SNJE				*eS*	Sb	17 15 58.2	-0.6
RTR	**El Retiro**	**0.77**	**221**	*e*P	Pg	17 15 46.5	-0.3
RTR				*eS*	Sb	17 15 59.0	+0.2
MRL	**Marmol**	**0.79**	**317**	*i e*P	Pg	17 15 46.1	-1.1
SBLS	**San Blas**	**0.80**	**217**	*i* P	Pg	17 15 47.1	-0.4
SBLS				*eS*	Sb	17 15 59.1	-0.7
LFRS	**El Faro**	**0.86**	**176**	*i* P	Pg	17 15 48.0	-0.4
SNVI	**San Vicente**	**0.92**	**162**	*i e*P	Pg	17 15 49.2	-0.3
CAHU	**Cacacuatique**	**1.14**	**129**	*e*P	Pg	17 15 52.8	-1.1
CAHU				*eS*	Sg	17 16 08.5	-0.4
NBG	**Las Nubes**	**1.18**	**275**	*i e*P	Pg	17 15 54.2	-0.6
NBG				*eS*	Sb	17 16 10.9	+0.1
IXG	**Ixpaco**	**1.32**	**257**	*e*P	Pn	17 15 56.5	-0.5
IXG				*eS*	Sb	17 16 13.3	-1.3
PCG	**Pacaya**	**1.44**	**266**	*e*P	Pn	17 15 58.5	-0.2
FUG	**Fuego 3**	**1.66**	**269**	*e*P	Pb	17 16 02.6	-0.4
CNCH	**Conchagua**	**1.74**	**134**	*e*P	Pn	17 16 02.8	0.0
CNCH				*eS*	Sb	17 16 26.7	+0.1
JAT	**Jato**	**2.44**	**266**	*e*P	Pb	17 16 16.6	+0.6

MAN 22 17:27:49, 15°.98N×122°.36E, h41km, mb4.4, ML3.2, MS3.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALP	**Baler**	**0.79**	**253**	*e*P	Pn	17 28 04.8	+1.1
BALP				*eS*	Sn	17 28 16.7	+2.5
PALP	**Palanan**	**1.08**	**3**	*e*P	Pn	17 28 08.6	+0.9
CAUP	**Cauayan**	**1.09**	**332**	*e*P	Pn	17 28 07.7	-0.1
APYP	**Conner**	**2.16**	**331**	*e*P	Pn	17 28 24.2	+1.8

IDC 22 17:28:22.8±1.8, 13°.93N×93°.82E, h0km, mb3.3/3, mb1 3.4/4, mb1mx3.2/26, mbtmp3.1/4, ML3.1/1, Error ellipse: s-maj=46.7km s-min=26.0km az=73.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**6.67**	**47**	Pn	Pn	17 30 02.4	+0.2
CMAR	0.1nm,0.3s,baz=240,slow=15,SNR=4.1			Sn	Sn	17 31 19.4	+0.4
MKAR	0.2nm,0.3s,baz=242,slow=27,SNR=4.9 **Makanchi Array**	**34.16**	**346**	P	P	17 35 09.7	-0.1
WRA	0.3nm,0.5s,baz=169,slow=7.4,SNR=3.6 **Warramunga Arr**	**52.17**	**129**	P	P	17 37 35.9	+0.2
ASAR	0.2nm,0.5s,baz=312,slow=8.3,SNR=3.8 **Alice Springs**	**54.15**	**133**	P	P	17 37 49.8	-0.4
	0.1nm,0.4s,baz=307,slow=6.5,SNR=8.9						

KRSC 22 17:37:23.1±4.6, 51°.97N×160°.95E, h21km±20km, ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.26**	**334**	P	Pn	17 37 44.7	-0.8
SPN				*i* S	Sn	17 37 59.2	-2.6
NLC	**Nalytchevo**	**1.55**	**321**	P	Pb	17 37 50.4	-0.7
RUS	**Russkaya**	**1.57**	**288**	P	Pn	17 37 50.4	+0.7
RUS				*i* S	Sn	17 38 09.6	+0.2
PET	**Petropavlovsk**	**1.76**	**308**	P	Pn	17 37 53.3	+1.0
MTVR	**Mutnovka**	**1.78**	**288**	P	Pn	17 37 53.9	+1.1
MTVR				*i* S	Sn	17 38 15.5	+0.6
UGLR	**Uglovaya**	**1.79**	**315**	P	Pb	17 37 54.2	-1.2
SDLR	**Sedlovina**	**1.82**	**317**	P	Pn	17 37 54.3	+1.0
SMAR	**Somma**	**1.84**	**316**	P	Pb	17 37 55.8	-0.6
GRL	**Gorelyy**	**1.86**	**289**	P	Pb	17 37 56.0	-0.6
AVH	**Avacha**	**1.87**	**315**	P	Pb	17 37 55.5	-1.2
KRER	**Koryakskii**	**1.89**	**316**	P	Pn	17 37 55.7	+1.3
ASAK	**Asacha**	**1.92**	**284**	P	Pb	17 37 56.4	-1.1
KOK	**Koryaka**	**1.93**	**314**	P	Pn	17 37 56.2	+1.3
KRX	**Arik**	**1.98**	**316**	P	Pn	17 37 56.4	+0.9
KII	**Karymskiy**	**2.26**	**337**	P	Pn	17 38 00.4	+1.1
APC	**Apacha**	**2.51**	**294**	P	Pb	17 38 05.1	-2.3
GNL	**Ganaly**	**2.51**	**315**	P	Pb	17 38 05.6	-2.0
MIPR	**Malaya Ipel'ka**	**2.60**	**278**	P	Pn	17 38 06.0	+2.1
PAU	**Pauzhetka**	**2.62**	**261**	P	Pn	17 38 06.0	+1.8
SKR	**Severo-Kuril's**	**3.29**	**249**	P	Pn	17 38 14.6	+1.2
SKR				*i* S	Sn	17 38 52.1	+0.2
TUMR	**Tumrok**	**3.35**	**352**	P	Pn	17 38 16.2	+1.8
KMNR	**Kamenistaya**	**3.82**	**354**	P	Pn	17 38 24.5	+3.8
BZGR	**Bezymyannyi-Gr**	**3.98**	**358**	P	Pn	17 38 26.3	+3.3
KBTR	**Krutoberegovo**	**4.39**	**14**	P	Pn	17 38 29.9	+1.5

IDC 22 17:54:54.5±1.8, 14°.01N×93°.08E, h0km, mb3.4/3, mb1 3.5/4, mb1mx3.2/26, mbtmp3.3/4, ML3.1/1, Error ellipse: s-maj=45.1km s-min=26.5km az=72.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.16**	**51**	Pn	Pn	17 56 41.6	+1.0
CMAR	0.1nm,0.3s,baz=244,slow=14,SNR=3.5			Sn	Sn	17 58 01.1	-1.7
MKAR	0.3nm,0.3s,baz=264,slow=18,SNR=6.0 **Makanchi Array**	**33.92**	**347**	P	P	18 01 39.2	-0.2
WRA	0.4nm,0.7s,baz=171,slow=10,SNR=3.0 **Warramunga Arr**	**52.77**	**129**	P	P	18 04 11.8	-0.1
ASAR	0.5nm,0.9s,baz=303,slow=9.3,SNR=3.1 **Alice Springs**	**54.73**	**133**	P	P	18 04 26.0	-0.1
	0.2nm,0.4s,baz=309,slow=7.0,SNR=8.9						

IDC 22 18:27:39.5±2.5, 6°.06S×154°.94E, h130km±24km, mb3.7/7, mb1 3.8/11, mb1mx3.6/21, mbtmp3.7/11, Error ellipse: s-maj=22.3km s-min=14.8km az=179.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.99**	**124**	P	Pn	18 29 04.1	-1.9
HNR	10nm,0.3s,baz=288,slow=13,SNR=5.3			S	Sn	18 30 15.3	+2.0
PMG	3.6nm,0.3s,baz=287,slow=19,SNR=1.6 **Port Moresby**	**8.40**	**246**	P	Pn	18 29 37.5	-0.9
PMG	2.7nm,0.3s,baz=59,slow=8.1,SNR=17			S	Sn	18 31 14.2	+2.6
CTA	3.4nm,0.3s,baz=138,slow=23,SNR=9.1 **Charters Tower**	**16.30**	**210**	P	Pn	18 31 21.1	-0.1
DZM	0.1nm,0.3s,baz=47,slow=12,SNR=5.3 **Mont Dzumac**	**19.42**	**146**	P	P	18 31 56.5	+0.6
WRA	0.9nm,0.3s,baz=294,slow=12,SNR=7.2 **Warramunga Arr**	**24.31**	**234**	P	P	18 32 45.8	+0.5
ASAR	9.8nm,0.4s,baz=54,slow=9.7,SNR=44 **Alice Springs**	**26.76**	**227**	P	P	18 33 07.0	-0.5
STKA	1.6nm,0.3s,baz=57,slow=9.2,SNR=49 **Stephens Creek**	**28.56**	**204**	P	P	18 33 22.9	-0.4
FITZ	3.5nm,0.8s,baz=27,slow=6.4,SNR=5.1 **Fitzroy Crossi**	**30.99**	**245**	P	P	18 33 44.4	-0.6
CMAR	2.5nm,0.5s,baz=82,slow=8.8,SNR=26 **Chiang Mai Arr**	**60.34**	**295**	P	P	18 37 36.2	+1.0
SONM	0.4nm,0.8s,baz=124,slow=5.3,SNR=3.9 **Songino Array**	**68.52**	**327**	P	P	18 38 27.6	-0.6
MKAR	0.3nm,0.7s,ba

0.1nm,0.3s,baz=349,slow=12,SNR=3.7
OTAV Otavalo 19.40 336 *e*P **Pn 18 36 53.9 +2.8**
3.0nm,0.8s
BB16B Bebedouro 21.00 103 (P) P 18 36 57.6 -8.3
BB16B Bebedouro 21.00 103 (P) P 18 36 57.6 -8.3
TRQA Tornquist 21.68 161 *e*P **P 18 37 13.8 +0.9**
15nm,1.1s
PLCA Paso Flores 23.00 180 *e*P **P 18 37 26.8 +0.1**
10nm,1.0s
PLCA pP **pP 18 37 45.6 -0.2**
PLCA *e* 18 37 45.9
PLCA Paso Flores 23.00 180 P **P 18 37 27.0 +0.3**
8.6nm,0.9s,baz=354,slow=10,SNR=17
PLCA pP **pP 18 37 45.6 -0.2**
4.4nm,1.0s,baz=354,slow=11,SNR=3.5
TEIG Tepich 41.46 334 P **P 18 40 07.3 -0.3**
TEIG Tepich 41.46 334 P **P 18 40 07.3 -0.3**
4.3nm,0.5s,baz=153,slow=11,SNR=3.9
TXAR Lajitas Array 56.60 325 P **P 18 42 01.8 -1.3**
TXAR Lajitas Array 56.60 325 P **P 18 42 01.8 -1.3**
1.0nm,1.0s,baz=101,slow=7.4,SNR=2.9
SNAA Sanae 66.41 161 *e*P **P 18 43 09.5 +1.0**
2.4nm,0.9s
DBIC Dimbokro 69.21 76 P **P 18 43 27.7 +0.7**
SCHQ Schefferville 72.26 2 P **P 18 43 44.5 -0.1**
SCHQ Schefferville 72.26 2 P **P 18 43 44.5 -0.1**
3.1nm,0.7s,baz=202,slow=5.0,SNR=3.7
QSPA South Pole Qui 72.52 180 P **P 18 43 48.1 +1.8**
TOA0 Torodi Ar. Sit 77.58 72 *e*P **P 18 44 16.3 +0.2**
TORD Torodi Ar. Bea 77.58 72 P **P 18 44 16.6 +0.5**
TORD Torodi Ar. Bea 77.58 72 P **P 18 44 16.6 +0.5**
1.1nm,0.7s,baz=258,slow=4.9,SNR=23
SONM Songino Array 149.79 4 PKPbc **PKPbc 18 52 10.6 +1.5**
SONM PKPab **PKPab 18 52 15.2 +0.6**
SONM pPKPbc **pPKPbc 18 52 30.5 -4.6**
SONM Songino Array 149.79 4 PKPbc **PKPbc 18 52 10.6 +1.5**
0.3nm,0.5s,baz=300,slow=2.1,SNR=4.5
SONM PKPab **PKPab 18 52 15.2 +0.6**
0.4nm,0.7s,baz=327,slow=1.7,SNR=3.7
SONM pPKPbc **pPKPbc 18 52 30.5 -4.6**
0.7nm,0.6s,baz=338,slow=1.0,SNR=5.6

ISCJB ***22*** *18:49:44.2±0.7,26°.22S±0°.06×180°.0E±0°.1,h500km, mb4.2/9, Error ellipse: s-maj=12.7km s-min=7.9km az=161.9*
NEIC ***22*** *18:49:44.8±0.9,26°.24S×179°.91E,h482km±10km,mb4.5/8, Error ellipse: s-maj=14.2km s-min=13.8km az=130.0*
IDC ***22*** *18:49:46.4±1.1,26°.41S×179°.76E,h491km±12km, mb3.8/6, mb1 3.8/10,mb1mx3.5/22,mbtmp3.8/10, Error ellipse: s-maj=24.0km s-min=15.2km az=15.0*

ISC 22 18:49:46.3±0.7,26°.41S±0°.08×179°.8E±0°.1,h500km,n43, σ0.77/49,mb4.2/9,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.46**	**145**	P	**P**	**18 51 00.9**	**+0.4**
RAO				S	**S**	**18 52 00.2**	**-0.7**
RAO	**Raoul Island**	**3.46**	**145**	P	**P**	**18 51 00.9**	**+0.4**
49nm,0.3s,baz=262,slow=23,SNR=2.9							
RAO				S	**S**	**18 52 00.2**	**-0.7**
65nm,0.3s,baz=329,slow=19,SNR=2.6							
URZ	**Urewera**	**12.04**	**190**	*e*P	**P**	**18 52 24.2**	**-0.9**
16nm,0.5s							
URZ				P	P	18 52 24.7	-0.5
URZ				*e*S	**S**	**18 54 36.3**	**+0.3**
URZ				S	S	18 54 36.9	+0.9
URZ	**Urewera**	**12.04**	**190**	P	**P**	**18 52 24.7**	**-0.4**
5.7nm,0.3s,baz=337,slow=3.8,SNR=18							
URZ				S	**S**	**18 54 36.9**	**+0.9**
0.7nm,0.3s,baz=339,slow=16,SNR=5.1							
DZM	**Mont Dzumac**	**12.96**	**287**	P	**P**	**18 52 35.4**	**+0.2**
DZM	**Mont Dzumac**	**12.96**	**287**	P	**P**	**18 52 35.4**	**+0.2**
0.7nm,0.3s,baz=117,slow=17,SNR=8.5							
AFI	**Afiamalu**	**14.71**	**34**	P	P	18 52 47.8	-5.9
SNZO	**South Karori**	**15.46**	**195**	*e*P	**P**	**18 53 00.1**	**-1.0**
SNZO				*e*S	**S**	**18 55 40.7**	**-1.1**
RPZ	**Rata Peaks**	**18.69**	**200**	*e*P	**P**	**18 53 32.8**	**-0.1**
11nm,0.5s							
RPZ	**Rata Peaks**	**18.69**	**200**	P	**P**	**18 53 33.0**	**+0.2**
2.1nm,0.3s,baz=14,slow=16,SNR=8.1							
EIDS	**Eidsvold**	**25.87**	**266**	*e*P	**P**	**18 54 37.9**	**+0.2**
16nm,0.6s							
CTA	**Charters Tower**	**31.43**	**274**	P	**P**	**18 55 26.8**	**+0.5**
CTA	**Charters Tower**	**31.43**	**274**	P	**P**	**18 55 26.8**	**+0.5**
25nm,0.5s,baz=98,slow=11,SNR=76							
CTAO	**Charters Tower**	**31.43**	**274**	*e*P	**P**	**18 55 26.6**	**+0.4**
25nm,0.5s							
STKA	**Stephens Creek**	**33.72**	**252**	*e*P	**P**	**18 55 45.9**	**+0.4**
0.9nm,0.5s							
STKA				PcP	**PcP**	**18 58 11.1**	**+0.2**
STKA	**Stephens Creek**	**33.72**	**252**	P	**P**	**18 55 46.2**	**+0.6**
4.2nm,0.4s,baz=90,slow=9.7,SNR=25							
STKA				PcP	**PcP**	**18 58 11.1**	**+0.2**
2.8nm,1.0s,baz=102,slow=9.3,SNR=3.3							
PMG	**Port Moresby**	**35.25**	**293**	*e*P	**P**	**18 55 58.0**	**-0.5**
13nm,0.7s							
PMG	**Port Moresby**	**35.25**	**293**	P	**P**	**18 55 58.4**	**-0.2**
8.2nm,0.6s,baz=117,slow=4.5,SNR=6.0							
ASAR	**Alice Springs**	**41.54**	**263**	P	**P**	**18 56 49.6**	**-0.1**
ASAR	**Alice Springs**	**41.54**	**263**	P	**P**	**18 56 49.6**	**-0.1**
6.5nm,0.8s,baz=108,slow=8.2,SNR=39							
WRAB	**Tennant Creek**	**42.15**	**269**	*e*P	**P**	**18 56 53.8**	**-0.8**
7.2nm,0.8s							
WRA	**Warramunga Arr**	**42.15**	**269**	P	**P**	**18 56 53.8**	**-0.8**
WRA	**Warramunga Arr**	**42.15**	**269**	P	**P**	**18 56 53.8**	**-0.8**
6.5nm,0.8s,baz=106,slow=7.8,SNR=28							
FITZ	**Fitzroy Crossi**	**50.54**	**268**	P	**P**	**18 57 58.1**	**-0.3**
FITZ	**Fitzroy Crossi**	**50.54**	**268**	P	**P**	**18 57 58.1**	**-0.3**
2.5nm,0.6s,baz=98,slow=6.9,SNR=6.5							
QSPA	**South Pole Qui**	**63.69**	**180**	P	P	18 59 30.7	+2.7
MAJO	**Matsushiro**	**73.88**	**326**	*e*P	**P**	**19 00 29.5**	**-0.3**
5.5nm,0.9s							
MKAR	**Makanchi Array**	**113.72**	**312**	PKiKP	**PKiKP**	**19 07 27.7**	**+0.2**
MKAR	**Makanchi Array**	**113.72**	**312**	PKiKP	**PKiKP**	**19 07 27.7**	**+0.2**
0.3nm,0.7s,baz=336,slow=3.2,SNR=2.5							
KURK	**Kurchatov**	**116.90**	**316**	PKP	**PKPdf**	**19 07 33.7**	**+0.3**
KURBB	**Kurchatov Arra**	**116.94**	**316**	PKP	**PKPdf**	**19 07 33.7**	**+0.2**
0.2nm,0.4s,baz=88,slow=2.6,SNR=6.4							
BVAR	**Borovoye Array**	**122.20**	**318**	PKP	**PKPdf**	**19 07 44.0**	**+0.4**
BVAR	**Borovoye Array**	**122.20**	**318**	PKP	**PKPdf**	**19 07 44.0**	**+0.4**
0.8nm,0.6s,baz=107,slow=4.8,SNR=4.9							
FINES	**FINESS Array B**	**140.76**	**340**	PKhKP	PKPpre	19 08 12.7	
2.5nm,0.8s,baz=93,slow=4.2,SNR=7.9							
NB2	**NORSAR Subarra**	**144.52**	**350**	PKP	**PKPab**	**19 08 25.8**	**+0.5**
comp=Z,2.7nm,0.9s,baz=17,slow=2.6							
NOA	**NORSAR Array B**	**144.52**	**350**	PKP	**PKPab**	**19 08 25.8**	**+0.5**
NOA	**NORSAR Array B**	**144.52**	**350**	PKP	**PKPab**	**19 08 25.8**	**+0.5**
comp=Z,2.0nm,0.7s,baz=20,slow=4.2,SNR=5.1							
AKASG	**Malin Array Be**	**146.96**	**325**	PKPbc	**PKPab**	**19 08 32.5**	**-2.6**
AKASG	**Malin Array Be**	**146.96**	**325**	PKPbc	**PKPab**	**19 08 32.5**	**-2.6**
comp=Z,2.9nm,0.6s,baz=46,slow=4.3,SNR=11							
BRTR	**Keskin Array B**	**148.91**	**304**	PKPbc	**PKPbc**	**19 08 38.3**	**+0.7**
BRTR	**Keskin Array B**	**148.91**	**304**	PKPbc	**PKPbc**	**19 08 38.3**	**+0.7**
comp=Z,0.6nm,0.5s,baz=106,slow=0.9,SNR=7.8							
TORD	**Torodi Ar. Bea**	**166.69**	**188**	PKP	**PKPdf**	**19 08 55.8**	**+1.0**
TORD				PKPab	**PKPab**	**19 10 01.2**	**+0.5**
TORD	**Torodi Ar. Bea**	**166.69**	**188**	PKP	**PKPdf**	**19 08 55.8**	**+1.0**
comp=Z,0.2nm,0.6s,baz=27,slow=0.8,SNR=3.2							
TORD				PKPab	**PKPab**	**19 10 01.2**	**+0.5**
comp=Z,0.4nm,0.7s,baz=169,slow=2.9,SNR=2.4							

BJI ***22*** *19:17:07.1,33°.56S×179°.56W,h10km,mB5.8/6,mb5.4/5, Ms5.3/5,Ms7 5.1/5*
NEIC ***22*** *19:17:11.7±0.3,33°.35S×179°.31W,h35km,mb4.7/18, Error ellipse: s-maj=11.2km s-min=9.4km az=128.0*
MOS ***22*** *19:17:11.3±1.9,33°.20S×179°.45W,h33km,mb5.0/12, Error ellipse: s-maj=13.6km s-min=10.7km az=78.1*
ISCJB ***22*** *19:17:12.6±0.3,33°.42S±0°.05×179°.42W±0°.07,h48km, mb4.8/32,MS4.5/21, Error ellipse: s-maj=9.0km s-min=7.5km az=22.5*
IDC ***22*** *19:17:12.8±1.5,33°.25S×179°.29W,h44km±13km,mb4.5/14, mb1 4.5/15,mb1mx4.4/22,mbtmp4.5/15,MS4.4/18, Ms1 4.4/18,ms1mx4.2/32, Error ellipse: s-maj=15.9km s-min=9.9km az=109.0*
GCMT ***22*** *19:17:15.2±0.2,33°.35S×178°.99W,h56km±1km,MW5.2, Moment Tensor Solution. s41,c63; s69,c106; Moment tensor: Scale 10^16^Nm; M_{rr}5.73±.27; $M_{\theta\theta}$0.36±.22; $M_{\phi\phi}$-6.09±.18; $M_{r\theta}$-1.75±.17; $M_{\theta\phi}$-2.51±.16; $M_{\phi r}$2.37±.16; Best double couple: $M_0$7.10000×10^16^ NP1:ϕ_s358.00000°, δ57.00000°,λ63.00000°. NP2:ϕ_p221.00000°,δ42.00000°, λ124.00000°. Principal axes: T 6.9600, Plg66.0000°, Azm215.0000°; N 0.2200, Plg22.0000°, Azm13.0000°; P -7.1800, Plg8.0000°, Azm107.0000°; Data Used: II IU G IC CN.*

ISC 22 19:17:13.6±0.4,33°.35S±0°.05×179°.25W±0°.07,h48km, n156,σ1.64/151,mb4.8/32,MS4.5/21,3C-3D,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.24**	**16**	*e*Pn	Pn	19 18 12.3	-3.3
RAO				*e*Sn	**Sn**	**19 18 59.4**	**-4.4**
RAO				S	**Sn**	**19 19 01.8**	**-2.0**
RAO	**Raoul Island**	**4.24**	**16**	P	Pn	19 18 12.3	-3.3
167nm,0.3s,baz=261,slow=22,SNR=12							
RAO				S	**Sn**	**19 19 01.8**	**-2.0**
904nm,0.3s,baz=77,slow=22,SNR=7.5							
URZ	**Urewera**	**5.72**	**210**	*e*Pn	**Pn**	**19 18 34.3**	**-1.6**
287nm,0.7s							
URZ				*e*Sn	**Sn**	**19 19 39.5**	**-0.8**
URZ				S	**Sn**	**19 19 40.9**	**+0.6**
URZ	**Urewera**	**5.72**	**210**	P	**Pn**	**19 18 34.5**	**-1.4**
0.5nm,0.3s,baz=109,slow=19,SNR=3.7							
URZ				S	**Sn**	**19 19 40.9**	**+0.6**
29nm,0.3s,baz=15,slow=20,SNR=3.7							
OUZ	**Omahuta**	**6.21**	**250**	*e*Pn	Pn	19 18 45.1	+2.5
90nm,0.9s							
SNZO	**South Karori**	**9.29**	**209**	*e*Pn	Pn	19 19 19.4	-5.4
SNZO				*e*Sn	Sn	19 21 00.6	-7.2
KHZ	**Kahutara**	**10.69**	**210**	*e*Pn	Pn	19 19 37.6	-6.4
20nm,0.5s							
KHZ				*e*Sn	Sn	19 21 31.9	-10
RPZ	**Rata Peaks**	**12.82**	**213**	P	Pn	19 20 06.3	-6.8
RPZ				S	Sn	19 22 23.0	-11
RPZ	**Rata Peaks**	**12.82**	**213**	P	Pn	19 20 06.3	-6.8
3.2nm,0.3s,baz=58,slow=17,SNR=9.5							
RPZ				S	Sn	19 22 23.0	-11
3.6nm,0.3s,baz=176,slow=23,SNR=8.9							
MSVF	**Nonsavu**	**15.74**	**350**	*e*P	Pn	19 20 46.9	-5.2
MSVF				pmax	pmax		
comp=Z,56nm,1.0s							
MSVF	**Nonsavu**	**15.74**	**350**	*e*Pn	Pn	19 20 46.9	-5.2
comp=Z,64nm,1.0s							
DZM	**Mont Dzumac**	**16.91**	**308**	*e*P	**P**	**19 21 10.2**	**+1.9**
comp=Z,142nm,1.2s							
DZM				*e*LR	LR	19 25 18.1	
comp=Z,5μm,25.7s							
DZM	**Mont Dzumac**	**16.91**	**308**	P	**P**	**19 21 08.6**	**+0.3**
DZM	**Mont Dzumac**	**16.91**	**308**	P	**P**	**19 21 08.6**	**+0.3**
comp=Z,0.1nm,0.3s,baz=118,slow=14,SNR=6.5							
DZM				LR	LR	19 26 30.3	
comp=Z,2μm,18.2s,baz=172,slow=33							
RAR	**Rarotonga**	**21.07**	**60**	P	**P**	**19 21 57.1**	**+3.3**
RAR	**Rarotonga**	**21.07**	**60**	P	**P**	**19 21 57.1**	**+3.3**
comp=Z,42nm,1.0s,baz=45,slow=0.0,SNR=3.5							
RAR				LR	LR	19 27 58.4	
comp=Z,545nm,21.3s,baz=135,slow=31							
EIDS	**Eidsvold**	**26.98**	**279**	*e*P	**P**	**19 22 50.3**	**-0.6**
comp=Z,8.9nm,0.8s							
TBI	**Tubuai**	**27.96**	**77**	*e*LQ	LQ	19 28 18.7	
comp=Z,814nm,29.0s							
TBI				*e*LR	LR	19 29 57.6	
comp=Z,2μm,28.0s,baz=236							
PPT2	**Papeete2**	**30.91**	**67**	*e*S	S	19 28 17.6	-9.3
comp=Z,284nm,26.5s							
PPT2				*e*LQ	LQ	19 29 40.7	
comp=Z,631nm,26.0s							
PPT2				*e*LR	LR	19 31 14.7	
comp=Z,2μm,26.5s,baz=228							
PPT	**Papeete**	**30.92**	**67**	LR	LR	19 32 21.3	
comp=Z,634nm,20.8s,baz=218,slow=29							
STKA	**Stephens Creek**	**32.88**	**262**	P	**P**	**19 23 44.2**	**+1.1**
STKA	**Stephens Creek**	**32.88**	**262**	P	**P**	**19 23 44.2**	**+1.1**
comp=Z,2.0nm,0.5s,baz=154,slow=8.3,SNR=5.2							
STKA				LR	LR	19 36 07.6	
comp=Z,1μm,18.7s,baz=64,slow=34							
CTA	**Charters Tower**	**33.36**	**285**	P	**P**	**19 23 48.3**	**+1.0**
CTA	**Charters Tower**	**33.36**	**285**	P	**P**	**19 23 48.3**	**+1.0**
comp=Z,8.7nm,0.6s,baz=111,slow=11,SNR=26							
CTA				LR	LR	19 35 04.5	
comp=Z,645nm,20.8s,baz=190,slow=32							
CTAO	**Charters Tower**	**33.36**	**285**	*e*P	**P**	**19 23 48.1**	**+0.8**
CTAO				pmax	pmax		
comp=Z,10.0nm,0.6s							
CTAO	**Charters Tower**	**33.36**	**285**	*e*P	**P**	**19 23 48.1**	**+0.8**
comp=Z,9.6nm,0.6s							
PMG	**Port Moresby**	**39.02**	**300**	*e*P	**P**	**19 24 35.5**	**-0.2**
comp=Z,4.9nm,0.8s							
PMG	**Port Moresby**	**39.02**	**300**	P	**P**	**19 24 36.1**	**+0.4**
comp=Z,22nm,1.0s,baz=92,slow=8.5,SNR=7.3							
PMG				LR	LR	19 37 37.2	
comp=Z,768nm,18.3s,baz=198,slow=31							
COEN	**Coen**	**39.17**	**290**	*e*P	**P**	**19 24 37.1**	**+0.1**
comp=Z,13nm,0.7s							
RKT	**Rikitea**	**40.06**	**87**	*e*S	S	19 30 33.3	-14
comp=Z,264nm,27.5s							
RKT				*e*LR	LR	19 35 18.0	
comp=Z,2μm,27.0s,baz=247							
AS31	**Alice Springs**	**41.98**	**271**	*e*P	**P**	**19 24 59.7**	**-0.5**
ASAR	**Alice Springs**	**41.98**	**271**	P	**P**	**19 24 59.6**	**-0.6**
ASAR	**Alice Springs**	**41.98**	**271**	P	**P**	**19 24 59.6**	**-0.6**
comp=Z,14nm,0.7s,baz=110,slow=7.1,SNR=106							
ASAR				LR	LR	19 42 50.5	
comp=Z,385nm,19.3s,baz=135,slow=37							
WRAB	**Tennant Creek**	**43.23**	**276**	*e*P	**P**	**19 25 09.1**	**-1.2**
WRAB				pmax	pmax		
comp=Z,19nm,0.8s							
WRAB	**Tennant Creek**	**43.23**	**276**	*e*P	**P**	**19 25 09.1**	**-1.2**
comp=Z,19nm,0.8s							
WRA	**Warramunga Arr**	**43.24**	**276**	P	**P**	**19 25 09.4**	**-0.9**
WRA	**Warramunga Arr**	**43.24**	**276**	P	**P**	**19 25 09.4**	**-0.9**
comp=Z,8.6nm,0.4s,baz=118,slow=7.5,SNR=42							
WRA				LR	LR	19 41 52.9	
comp=Z,507nm,21.2s,baz=320,slow=34							
SBA	**Scott Base**	**45.03**	**184**	*e*P	**P**	**19 25 26.5**	**+2.6**
SBA				*e*		19 27 04.9	
SBA				pmax	pmax		
comp=Z,10.0nm,1.0s							
SBA	**Scott Base**	**45.03**	**184**	*e*P	**P**	**19 25 26.5**	**+2.6**
comp=Z,10nm,1.0s							
SBA				*e*PcP	**PcP**	**19 27 04.8**	**+0.8**
VNDA	**Vanda**	**45.06**	**186**	P	**P**	**19 25 25.4**	**+1.2**
VNDA				*e*PcP	**PcP**	**19 27 04.9**	**+0.7**
VNDA				ScP	**ScP**	**19 30 53.0**	**+0.3**
VNDA	**Vanda**	**45.06**	**186**	P	**P**	**19 25 25.4**	**+1.2**
comp=Z,2.0nm,0.9s,baz=24,slow=5.6,SNR=12							
VNDA				ScP	**ScP**	**19 30 53.0**	**+0.3**
comp=Z,1.5nm,1.0s,baz=356,slow=3.3,SNR=3.9							
FITZ	**Fitzroy Crossi**	**51.36**	**273**	P	**P**	**19 26 12.3**	**-1.3**
FITZ	**Fitzroy Crossi**	**51.36**	**273**	P	**P**	**19 26 12.3**	**-1.3**
comp=Z,12nm,0.7s,baz=149,slow=6.5,SNR=40							
CASY	**Casey**	**52.05**	**209**	*e*P	**P**	**19 26 16.8**	**-1.1**
comp=Z,24nm,1.0s							
NWAO	**Narrogin (SRO)**	**52.41**	**252**	P	**P**	**19 26 20.1**	**-1.2**
NWAO	**Narrogin (SRO)**	**52.41**	**252**	P	**P**	**19 26 20.1**	**-1.2**
comp=Z,6.9nm,0.8s,baz=119,slow=10,SNR=2.9							
MBWA	**Marble Bar**	**54.90**	**266**	*e*P	**P**	**19 26 37.2**	**-2.4**
comp=Z,1.8nm,0.4s							
QSPA	**South Pole Qui**	**56.77**	**180**	P	**P**	**19 26 53.5**	**+1.0**
QSPA	**South Pole Qui**	**56.77**	**180**	P	**P**	**19 26 53.5**	**+1.0**
comp=Z,20nm,0.7s,baz=36,slow=2.1,SNR=103							
MIR	**Mirnyy**	**59.02**	**208**	*e*P	**P**	**19 27 09.5**	**+1.5**
MIR				*e*		19 27 17.0	
MIR				pmax	pmax		
comp=Z,63nm,1.0s							
KAPI	**Kappang**	**63.14**	**282**	P	**P**	**19 27 34.6**	**-2.1**
KAPI	**Kappang**	**63.14**	**282**	P	**P**	**19 27 34.6**	**-2.1**
comp=Z,7.3nm,0.8s,baz=127,slow=5.1,SNR=4.5							
MAW	**Mawson**	**69.18**	**201**	*e*P	**P**	**19 28 13.5**	**-1.1**
comp=Z,4.2nm,1.3s							
MAW	**Mawson**	**69.18**	**201**	P	**P**	**19 28 13.7**	**-0.9**
comp=Z,2.5nm,0.3s,baz=130,slow=8.6,SNR=9.8							
MAW				LR	LR	19 56 35.5	
comp=Z,332nm,20.1s,baz=112,slow=34							
PMSA	**Palmer Station**	**70.03**	**156**	*e*P	P	19 28 12.4	-7.4
comp=Z,16nm,0.6s							
SYO	**Syowa Base**	**74.01**	**194**	↑*e*P	**P**	**19 28 41.0**	**-2.6**
SYO	**Syowa Base**	**74.01**	**194**	↑pP	**P**	**19 28 45.2**	**+1.6**
SYO	**Syowa Base**	**74.01**	**194**	↓*e*sP	P	19 28 48.1	+4.5
KSM	**Kuching**	**74.56**	**282**	P	P	19 28 42.2	-5.6
SNAA	**Sanae**	**75.24**	**179**	*e*P	**P**	**19 28 50.7**	**-0.2**
SNAA	**Sanae**	**75.24**	**179**	*e*P	**P**	**19 28 50.1**	**-0.8**
comp=Z,11nm,0.8s							
SNAA	**Sanae**	**75.24**	**179**	LR	LR	19 56 16.9	
comp=Z,73nm,19.1s,baz=154,slow=31							
VNA2	**Neumayer--Watz**	**75.86**	**177**	*e*P	**P**	**19 28 54.6**	**+0.3**
baz=173,slow=5.0							
MAIT	**Maitri**	**75.87**	**184**	*e*P	**P**	**19 28 52.3**	**-2.1**
VNA1	**Neumayer--Stat**	**76.10**	**177**	*e*P	**P**	**19 28 56.9**	**+1.3**
PLCA	**Paso Flores**	**81.28**	**133**	P	**P**	**19 29 25.9**	**+1.1**
PLCA	**Paso Flores**	**81.28**	**133**	P	**P**	**19 29 25.9**	**+1.1**
comp=Z,3.6nm,0.8s,baz=221,slow=3.8,SNR=11							
PLCA				LR	LR	19 57 00.1	
comp=Z,134nm,18.2s,baz=136,slow=29							
KTGM	**Kuala Trenggan**	**82.63**	**281**	P	**P**	**19 29 32.5**	**+0.4**
KSRS	**Korea Array**	**85.92**	**321**	P	**P**	**19 29 48.0**	**-0.2**
comp=Z,1.3nm,0.6s,baz=138,slow=5.6,SNR=10							
KSAR	**Wonju Array Be**	**85.93**	**320**	P	**P**	**19 29 48.0**	**-0.3**
TRQA	**Tornquist**	**88.11**	**135**	*e*P	**P**	**19 29 59.5**	**+0.3**
comp=Z,5.3nm,0.8s							
PETK	**Petropavlovsk-**	**88.40**	**346**	P	**P**	**19 30 00.0**	**+0.1**
PETK	**Petropavlovsk-**	**88.40**	**346**	P	**P**	**19 30 00.0**	**+0.1**
PETK	**Petropavlovsk-**	**88.40**	**346**	P	**P**	**19 30 00.0**	**+0.1**
comp=Z,6.3nm,0.8s,baz=145,slow=8.2,SNR=6.4							
USRK	**Ussuriysk Arra**	**89.04**	**327**	LR	LR	20 06 08.2	
comp=Z,127nm,18.2s,baz=320,slow=33							
ISA	**Isabella**	**89.13**	**45**	*e*P	**P**	**19 30 04.8**	**+0.9**
ISA				pmax	pmax		
comp=Z,7.0nm,0.9s							
ISA	**Isabella**	**89.13**	**45**	*e*P	**P**	**19 30 04.8**	**+0.9**
comp=Z,1.6nm,0.9s							
CMB	**Columbia Colle**	**89.66**	**43**	P	**P**	**19 30 06.5**	**+0.3**
CMB				pmax	pmax		
comp=Z,5.0nm,0.9s							
CMB	**Columbia Colle**	**89.66**	**43**	P	**P**	**19 30 06.5**	**+0.3**
comp=Z,5.2nm,0.9s							
GSC	**Goldstone**	**89.89**	**46**	*e*P	**P**	**19 30 08.1**	**+0.7**
GSC				pmax	pmax		
comp=Z,4.0nm,0.9s							
GSC	**Goldstone**	**89.89**	**46**	*e*P	**P**	**19 30 08.1**	**+0.7**
comp=Z,1.0nm,0.9s							
WAKR	**Walker**	**90.52**	**43**	*e*P	**P**	**19 30 10.7**	**+0.3**
comp=Z,5.7nm,1.1s							
YBH	**Yreka Blue Hor**	**91.00**	**39**	LR	LR	20 01 23.1	
comp=Z,217nm,19.7s,baz=267,slow=29							
TUC	**Tucson**	**91.77**	**52**	*e*P	**P**	**19 30 17.9**	**+1.6**
TUC				pmax	pmax		
comp=Z,2.0nm,0.8s							
TUC	**Tucson**	**91.77**	**52**	*e*P	**P**	**19 30 17.9**	**+1.6**
comp=Z,1.7nm,0.8s							
CN2	**Changchun**	**91.85**	**323**	*e*P	**P**	**19 30 16.6**	**+0.4**
CN2				pmax	pmax		
comp=Z,10.0nm,0.7s							
TXAR	**Lajitas Array**	**94.86**	**58**	LR	LR	20 02 58.0	
comp=Z,174nm,21.5s,baz=5.0,slow=29							
ATAH	**Atahualpa**	**95.11**	**102**	LR	LR	20 04 47.5	
comp=Z,131nm,19.7s,baz=329,slow=30							
CD2	**Chengdu**	**96.76**	**303**	P	**P**	**19 30 40.6**	**+1.5**
CD2				pP	PcP	19 30 45.4	+6.2
CD2				sP	sP	19 30 47.6	-11
CD2				PP	**PP**	**19 34 38.4**	**+3.5**
CD2				S	**ScS**	**19 41 59.4**	**+1.8**
CD2				sS	S	19 42 07.0	+10
CD2				SS	**SS**	**19 48 38.8**	**+5.0**
CD2				pmax	pmax		
comp=Z,130nm,5.9s							
CD2				LR	LR		
comp=N,320nm,10.1s							
CD2				LR	LR		
comp=Z,440nm,10.7s							
HHC	**Hu-ho-hao-te**	**97.52**	**314**	*e*P	Pdif	19 30 44.1	+1.7
HHC				pP	PcP	19 30 48.6	+6.2
HHC				sP	sP	19 30 52.0	-10
HHC				SKS	**SKSac**	**19 41 19.3**	**+3.6**
HHC				S	**ScS**	**19 42 05.3**	**+1.7**
HHC				sS	S	19 42 14.8	+11
HHC				SS	**SS**	**19 48 50.8**	**+6.5**
HHC				pmax	pmax		
comp=Z,140nm,4.4s							
HHC				LR	LR		
comp=N,220nm,13.5s							
HHC				LR	LR		
comp=E,410nm,17.8s							
HHC				LR	LR		
comp=Z,180nm,17.8s							
LPAZ	**La Paz**	**97.89**	**115**	LR	LR	20 05 13.4	
comp=Z,93nm,20.4s,baz=302,slow=29							
NEW	**Newport**	**98.37**	**37**	LR	LR	20 05 31.5	
comp=Z,248nm,21.5s,baz=276,slow=30							
PDAR	**Pinedale Array**	**98.99**	**44**	LR	LR	20 11 12.2	
comp=Z,128nm,18.7s,baz=276,slow=33							
LZH	**Lanzhou**	**99.62**	**307**	*e*P	**Pdif**	**19 30 52.6**	**+0.6**
LZH				pP	pP	19 30 56.8	-9.5
LZH				sP	sP	19 30 59.6	-12
LZH				pmax	pmax		
comp=Z,16nm,1.3s							
ILAR	**Eielson Array**	**101.03**	**

KIC	**Kosan Boka**	**152.67**	**168**	*e*PKP1	**PKPbc**	**19 37 05.4**	**-0.2**
	comp=Z,122nm,1.5s						
AKASG	**Malin Array Be**	**152.89**	**318**	PKIKP	**PKPbc**	**19 37 02.9**	**-2.0**
AKASG	**Malin Array Be**	**152.89**	**318**	PKPbc	**PKPbc**	**19 37 02.9**	**-2.0**
AKASG	**Malin Array Be**	**152.89**	**318**	PKPbc	**PKPbc**	**19 37 02.9**	**-2.0**
	comp=Z,3.4nm,0.7s,baz=61,slow=2.6,SNR=18						
TIC	**Toumodi**	**152.90**	**167**	*e*PKP1	**PKPbc**	**19 37 06.0**	**-0.1**
	comp=Z,6.5nm,0.2s						
BRTR	**Keskin Array B**	**152.92**	**293**	PKPbc	**PKPbc**	**19 37 04.3**	**-1.2**
BRTR	**Keskin Array B**	**152.92**	**293**	PKPbc	**PKPbc**	**19 37 04.3**	**-1.2**
	comp=Z,3.7nm,0.7s,baz=142,slow=4.4,SNR=20						
DBIC	**Dimbokro**	**152.95**	**168**	PKPbc	**PKPbc**	**19 37 07.2**	**+1.1**
DBIC	**Dimbokro**	**152.95**	**168**	PKPbc	**PKPbc**	**19 37 07.2**	**+1.1**
	comp=Z,9.3nm,0.8s,baz=157,slow=2.7,SNR=9.4						
KONO	**Kongsberg**	**153.04**	**350**	PKIKP	**PKPdf**	**19 36 57.5**	**-0.1**
KONO	**Kongsberg**	**153.04**	**350**	PKPdf	**PKPdf**	**19 36 57.5**	**-0.1**
KOLS	**Kolonicke sedl**	**157.64**	**321**	*e*PKIKP	**PKPdf**	**19 37 06.3**	**+2.1**
KOLS	**Kolonicke sedl**	**157.64**	**321**	*e*PKP	**PKPdf**	**19 37 06.3**	**+2.1**
STHS	**Stebnicka Huta**	**157.88**	**323**	*e*PKIKP	PKPdf	19 37 09.9	+5.4
STHS	**Stebnicka Huta**	**157.88**	**323**	*e*PKP	PKPdf	19 37 09.9	+5.4
DPC	**Dobruska-Polom**	**159.50**	**331**	*e*PKIKP	**PKPdf**	**19 37 09.8**	**+3.4**
DPC	**Dobruska-Polom**	**159.50**	**331**	*e*PKPDF	**PKPdf**	**19 37 09.8**	**+3.4**
TOA0	**Torodi Ar. Sit**	**159.87**	**183**	*e*PKPdf	**PKPdf**	**19 37 07.1**	**-0.7**
TOA0				*e*PKPab	**PKPab**	**19 37 45.7**	**-1.3**
TORD	**Torodi Ar. Bea**	**159.87**	**183**	PKP	**PKPdf**	**19 37 07.2**	**-0.6**
TORD				PKPab	**PKPab**	**19 37 46.4**	**-0.5**
TORD	**Torodi Ar. Bea**	**159.87**	**183**	PKP	**PKPdf**	**19 37 07.2**	**-0.6**
	comp=Z,1.9nm,1.0s,baz=214,slow=1.6,SNR=9.5						
TORD				PKPab	**PKPab**	**19 37 46.4**	**-0.5**
	comp=Z,9.9nm,0.9s,baz=171,slow=3.4,SNR=23						
CLL	**Collm**	**159.94**	**337**	⇓*e*PKIKP	**PKPdf**	**19 37 07.0**	**+0.2**
CLL				*i*		19 37 45.3	
CLL				pmax	pmax		
	comp=Z,6.0nm,1.5s						
CLL				pmax	pmax		
	comp=Z,7.0nm,1.2s						
CLL				MLR	MLR		
	comp=Z,200nm,18.9s						
CLL	**Collm**	**159.94**	**337**	*e*PKPdf	**PKPdf**	**19 37 07.0**	**+0.2**
	comp=Z,6.0nm,1.5s						
CLL				*e*		19 37 30.0	
CLL				⇓*i*PKPab	**PKPab**	**19 37 45.3**	**-1.1**
	comp=Z,7.0nm,1.2s						
CLL				LmV		20 50 00.0	
	comp=Z,200nm,18.9s						
KHC	**Kasperske Hory**	**161.56**	**333**	*e*PKIKP	**PKPdf**	**19 37 07.7**	**-1.0**
KHC	**Kasperske Hory**	**161.56**	**333**	*e*PKPDF	**PKPdf**	**19 37 07.7**	**-1.0**
GERES	**GERESS Array B**	**161.74**	**332**	PKP	**PKPdf**	**19 37 06.8**	**-2.1**
GERES				PKPab	**PKPab**	**19 37 53.9**	**-0.6**
GERES	**GERESS Array B**	**161.74**	**332**	PKP	**PKPdf**	**19 37 06.8**	**-2.1**
	comp=Z,0.8nm,0.8s,baz=349,slow=0.7,SNR=4.8						
GERES				PKPab	**PKPab**	**19 37 53.9**	**-0.6**
	comp=Z,0.7nm,0.7s,baz=46,slow=4.2,SNR=5.2						
KEST	**Kesra**	**172.51**	**291**	PKP	**PKPdf**	**19 37 17.1**	**-0.2**
KEST	**Kesra**	**172.51**	**291**	PKP	**PKPdf**	**19 37 17.1**	**-0.2**
	comp=Z,2.2nm,0.9s,baz=17,slow=3.9,SNR=6.1						
ESDC	**Sonseca Array**	**172.64**	**30**	PKP	**PKPdf**	**19 37 16.9**	**-0.3**
ESDC	**Sonseca Array**	**172.64**	**30**	PKP	**PKPdf**	**19 37 16.9**	**-0.3**
	comp=Z,0.1nm,0.4s,baz=319,slow=3.7,SNR=5.3						

*NEIC **22** 19:25:11.2±0.2, 12°.47N×120°.50E, h10km, mb5.0/25, Error ellipse: s-maj=6.0km s-min=4.4km az=77.0*
NEIC Felt [II PIVS] at Santa Cruz. Felt [I PIVS] at Coron, Palawan.
*MAN **22** 19:25:12, 12°.42N×120°.45E, h16km, mb5.4, ML4.3, MS4.6*
MAN INTENSITY II - STA CRUZ OCCIDENTAL MINDORO; INTENSITY I - CORON PALAWAN.
*BKK **22** 19:25:12.0±0.4, 13°N±4°×12°1E±°, h10km, M4.9/31, mB5.3/18, mb4.9/31, MLv5.5/1, Mw(mB)4.8/18*
*ISCJB **22** 19:25:12.5±0.6, 12°.51N±0°.02×120°.44E±0°.02, h25km±4km, mb5.0/120, MS4.4/23, Error ellipse: s-maj=3.7km s-min=3.1km az=166.7*
*MOS **22** 19:25:13.1±0.9, 12°.52N×120°.55E, h33km, mb5.4/43, MS4.8/4, Error ellipse: s-maj=10.9km s-min=4.7km az=120.9*
*GCMT **22** 19:25:13.3±0.2, 12°.54N×120°.37E, h16km±1km, MW5.1, Moment Tensor Solution. s31,c37; s74,c119; Moment tensor: Scale 10^{16}Nm; M_{rr}-0.41±.15; $M_{\theta\theta}$3.64±.14; $M_{\phi\phi}$-3.24±.14; $M_{r\theta}$-4.36±.57; $M_{\theta\phi}$-1.92±.10; $M_{\phi r}$-1.26±.36; Best double couple: $M_0$5.90000×10^{16} NP1:ϕ_s64.00000°, δ88.00000°, λ-131.00000°. NP2:ϕ_s332.00000°, δ41.00000°, λ-2.00000°. Principal axes: T 6.5200, Plg31.0000°, Azm187.0000°; N -1.1800, Plg41.0000°, Azm66.0000°; P -5.3500, Plg34.0000°, Azm301.0000°; Data Used: IU II IC G CN.*
*IDC **22** 19:25:14.8±4.1, 12°.49N×120°.48E, h32km±30km, mb4.4/28, mb1 4.6/29, mb1mx4.6/31, mbtmp4.4/29, ML3.4/1, MS4.2/9, Ms1 4.2/9, ms1mx3.9/41 Error ellipse: s-maj=16.2km s-min=9.8km az=71.0*
*BJI **22** 19:25:14.0, 12°.42N×120°.36E, h44km, mB5.0/39, mb4.8/53, Ms4.7/55, Ms7 4.5/50*
*TEH **22** 19:25:15.0, 12°.48N×120°.48E, h35km, ML5.1*
*DJA **22** 19:25:20.1±0.7, 13°N±4°×12°1E±°, h54km±6km, M4.9/63, mb5.0/63, mB5.4/41, MLv5.5/1, Mw(mB)4.8/41*
ISC 22 19:25:13.3±0.3, 12°.47N±0°.02×120°.42E±0°.03, h22km±3km, n430, σ1$43/432, mb5.1/122, MS4.5/24, 25C-22D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUSP	**Coron**	**0.51**	**205**	*e*P	**Pb**	**19 25 22.2**	**-1.3**
BUSP				*e*S	**Sb**	**19 25 30.3**	**-0.2**
SJMP	**San Jose**	**0.69**	**90**	*e*P	**Pb**	**19 25 25.5**	**-1.1**
OTRP	**Odiongan**	**1.57**	**94**	*e*P	**Pn**	**19 25 39.2**	**-0.7**
ENPP	**El Nido**	**1.58**	**218**	*e*P	**Pn**	**19 25 39.5**	**-0.6**
TGY	**Tagaytay City**	**1.70**	**17**	Pn	**Pn**	**19 25 41.6**	**-0.2**
TGY				Sn	**Sb**	**19 26 04.3**	**-0.7**
TGY	**Tagaytay City**	**1.70**	**17**	⇑*e*P	**Pb**	**19 25 43.6**	**-0.4**
TGY				*i* S	**Sb**	**19 26 04.2**	**-0.7**
TGY	**Tagaytay City**	**1.70**	**17**	Pn	**Pn**	**19 25 41.6**	**-0.2**
	2μm,0.3s,baz=180,slow=12,SNR=207						
TGY				Sn	**Sb**	**19 26 04.3**	**-0.7**
	2μm,0.3s,baz=183,slow=18,SNR=6.7						
BOAC	**Boac**	**1.71**	**54**	*e*P	**Pn**	**19 25 41.9**	**+0.2**
CUYO	**Cuyo Island**	**1.71**	**160**	*e*P	**Pn**	**19 25 40.5**	**-1.4**
LQP	**Lukban**	**1.97**	**34**	⇑*e*P	**Pn**	**19 25 44.6**	**-0.9**
KALP	**Kalibo**	**2.04**	**112**	⇑*e*P	**Pn**	**19 25 45.9**	**-0.4**
AUQP	**San Andres**	**2.36**	**69**	*e*P	**Pb**	**19 25 53.3**	**-1.9**
GQP	**Guinayangan**	**2.44**	**54**	⇑*e*P	**Pn**	**19 25 52.2**	**+0.4**
GQP				*e*S	**Sb**	**19 26 28.2**	**+2.1**
RCP	**Roxas**	**2.45**	**111**	⇑*e*P	**Pn**	**19 25 52.1**	**+0.2**
PPR	**Puerto Princes**	**3.14**	**212**	*e*P	**Pn**	**19 26 02.3**	**+0.8**
SCZP	**Santa Cruz**	**3.33**	**352**	*e*P	**Pn**	**19 26 02.1**	**-2.0**
BALP	**Baler**	**3.44**	**19**	*e*P	**Pn**	**19 26 07.4**	**+1.7**
PVCP	**Virac**	**3.81**	**72**	*e*P	**Pn**	**19 26 11.6**	**+0.8**
LLP	**Lapu-Lapu**	**4.08**	**121**	*e*P	**Pn**	**19 26 15.3**	**+0.9**
LLP				*e*S	**Sn**	**19 27 02.4**	**+0.8**
TBP	**Tagbilaran**	**4.36**	**129**	*e*P	**Pn**	**19 26 19.3**	**+1.0**
PLP	**Palo**	**4.65**	**106**	⇓*e*P	**Pn**	**19 26 22.6**	**+0.4**
PALP	**Palanan**	**4.97**	**23**	⇓*i*P	Pn	19 26 22.9	-3.7
IPIL	**Ipil**	**5.11**	**155**	⇑*e*P	**Pn**	**19 26 27.9**	**-0.7**
IPIL				*e*S	**Sn**	**19 27 23.8**	**-3.2**
SCPH	**Surigao**	**5.65**	**118**	⇓*e*P	Pn	19 26 38.0	+2.1
CGP	**Cagayan de Oro**	**5.79**	**133**	*e*P	**Pn**	**19 26 38.3**	**+0.3**
CTBH	**Cotabato--PC H**	**6.43**	**144**	⇑*i*P	**Pn**	**19 26 47.2**	**+0.4**
DAV	**Davao City (W)**	**7.39**	**136**	*e*Pn	Pn	19 27 02.9	+2.9
MYLDM	**Lahad Datu**	**7.48**	**195**	P	Pn	19 27 04.4	+3.2
MYLDM	**Lahad Datu**	**7.48**	**195**	P	Pn	19 27 04.2	+3.0
	339nm,1.1s,3μm1.0nm						
SDKM	**Sandakan**	**7.49**	**205**	P	**Pn**	**19 27 02.4**	**+1.1**
KKM	**Kota Kinabalu**	**7.61**	**213**	Pn	**Pn**	**19 27 02.0**	**-1.1**
TSM	**Tawau**	**8.50**	**197**	P	**Pn**	**19 27 16.3**	**+1.1**
SSLB	**Suanglung**	**11.27**	**3**	*e*Pn	Pn	19 27 56.6	+3.4
MRSI	**Marisa**	**12.01**	**173**	P	Pn	19 28 06.5	+3.3
	73nm,1.7s,879nm						
GTOI	**Gorontalo**	**12.03**	**167**	P	**Pn**	**19 28 02.8**	**-0.8**
	118nm,1.4s,1μm						
QIZ	**Qiongzhong**	**12.09**	**304**	P	**Pn**	**19 28 03.3**	**-1.1**
QIZ				S	**Sn**	**19 30 17.5**	**-1.1**
QIZ				pmax	pmax		
	comp=Z,47nm,1.4s						
QIZ				pmax	pmax		
	comp=Z,260nm,5.2s						
QIZ				LR	LR		
	comp=N,2μm,11.8s						
QIZ				LR	LR		
	comp=Z,1μm,15.3s						
YHNB	**Yeheng**	**12.17**	**4**	Pn	**Pn**	**19 28 02.5**	**-3.1**
QZH	**Quanzhou**	**12.53**	**352**	P	Pn	19 28 15.6	+5.2
QZH				*e*S	**Sn**	**19 30 34.6**	**+5.2**
QZH				LR	LR		
	comp=N,2μm,14.1s						
QZH				LR	LR		
	comp=E,3μm,16.9s						
QZH				LR	LR		
	comp=Z,3μm,14.7s						
SBUM	**Sibu**	**12.84**	**220**	P	**Pn**	**19 28 16.5**	**+1.8**
SBUM	**Sibu**	**12.84**	**220**	P	**P**	**19 28 22.4**	**-3.0**
	comp=Z,66nm,1.7s,comp=Z,927nm						
PCI	**Palu**	**13.30**	**183**	P	P	19 28 33.1	+2.6
	comp=Z,376nm,0.7s,comp=Z,14μm						
APSI	**Ampana**	**13.35**	**175**	P	**Pn**	**19 28 22.8**	**+1.3**
	comp=Z,126nm,1.2s,comp=Z,2μm						
TNTI	**Ternate**	**13.51**	**149**	P	**Pn**	**19 28 23.5**	**-0.3**
	comp=Z,135nm,1.3s,comp=Z,2μm						
LUWI	**Luwuk**	**13.62**	**170**	P	Pn	19 28 28.4	+3.1
	comp=Z,245nm,1.2s,comp=Z,2μm						
MTKI	**Muara Teweh, K**	**14.40**	**203**	P	P	19 28 48.0	+5.2
	comp=Z,57nm,1.4s,comp=Z,2μm						
UBPT	**Khong Chiam**	**14.78**	**283**	P	P	19 28 51.5	+4.5
	comp=Z,52nm,1.8s						
UBPT	**Khong Chiam**	**14.78**	**283**	P	P	19 28 51.5	+4.5
LBMI	**Labuha**	**14.79**	**151**	P	**Pn**	**19 28 39.9**	**-1.5**
	comp=Z,102nm,1.4s,comp=Z,1μm						
KSM	**Kuching**	**14.82**	**223**	*e*Pn	**Pn**	**19 28 40.7**	**-1.0**
	comp=Z,23nm,1.1s						
KSM	**Kuching**	**14.82**	**223**	P	**Pn**	**19 28 40.3**	**-1.4**
	comp=Z,28nm,1.3s,comp=Z,528nm						
MMSI	**Mamuju**	**15.13**	**186**	P	**P**	**19 28 49.6**	**-1.3**
	comp=Z,231nm,1.4s,comp=Z,3μm						
STKI	**Sintang**	**15.18**	**216**	P	**P**	**19 28 50.7**	**-0.7**
	comp=Z,82nm,1.2s,comp=Z,1μm						
PANO	**Nakornpanom**	**15.97**	**289**	P	**P**	**19 29 02.0**	**+1.8**
	comp=Z,65nm,1.2s,comp=Z,6μm						
MJSI	**Majene**	**15.97**	**185**	P	**P**	**19 28 58.6**	**-1.6**
	comp=Z,238nm,1.2s,comp=Z,4μm						
SPSI	**Sidrap Palu**	**16.34**	**182**	P	**Pn**	**19 29 02.3**	**+0.9**
	comp=Z,44nm,1.2s,comp=Z,700nm						
KKSI	**Kolaka, Sulawe**	**16.57**	**176**	P	**P**	**19 29 06.8**	**-0.1**
	comp=Z,134nm,1.4s,comp=Z,2μm						
BNSI	**Bone**	**16.76**	**181**	P	**P**	**19 29 10.8**	**+1.9**
	comp=Z,55nm,1.5s,comp=Z,1μm						
NLAI	**Namlea**	**16.96**	**157**	P	**P**	**19 29 10.1**	**-1.0**
	comp=Z,32nm,1.8s,comp=Z,515nm						
SWI	**Sorong**	**17.06**	**140**	P	**P**	**19 29 12.7**	**+0.4**
	comp=Z,52nm,1.3s,comp=Z,943nm						
KAPI	**Kapang**	**17.38**	**182**	P	**P**	**19 29 16.1**	**+0.3**
KAPI	**Kappang**	**17.38**	**182**	P	**P**	**19 29 16.3**	**+0.5**
	comp=Z,46nm,1.8s,comp=Z,672nm						
KAPI	**Kappang**	**17.38**	**182**	P	**P**	**19 29 16.1**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=3.9,slow=5.4,SNR=8.8						
KAPI				LR	LR	19 36 02.6	
	comp=Z,986nm,20.5s,baz=15,slow=37						
PBKI	**Pangkalan Bun**	**17.40**	**211**	P	**P**	**19 29 19.4**	**+3.4**
	comp=Z,128nm,1.4s,comp=Z,7μm						
CHBT	**CHBT**	**17.66**	**273**	P	sP	19 29 35.1	+7.4
	comp=Z,29nm,1.4s						
CHBT	**CHBT**	**17.66**	**273**	P	sP	19 29 35.1	+7.4
BKSI	**Bulukumba**	**17.67**	**181**	P	**P**	**19 29 19.8**	**+0.8**
	comp=Z,56nm,1.2s,comp=Z,557nm						
AAI	**Ambon**	**17.81**	**154**	P	**P**	**19 29 22.3**	**+1.7**
	comp=Z,79nm,1.1s,comp=Z,1μm						
MSAI	**Masohi**	**17.84**	**151**	P	**P**	**19 29 23.0**	**+2.1**
	comp=Z,171nm,0.9s,comp=Z,1μm						
BBSI	**Bau Bau**	**17.96**	**173**	P	**P**	**19 29 24.9**	**+2.6**
	comp=Z,60nm,1.2s,comp=Z,973nm						
SSE	**Sheshan**	**18.55**	**2**	*e*P	**Pn**	**19 29 32.3**	**+3.4**
SSE				S	**S**	**19 32 59.0**	**-0.2**
SSE				pmax	pmax		
	comp=Z,34nm,0.7s						
SSE				pmax	pmax		
	comp=Z,310nm,8.4s						
SSE				LR	LR		
	comp=N,900nm,22.0s						
SSE				LR	LR		
	comp=E,300nm,21.9s						
SSE				LR	LR		
	comp=Z,1μm,23.1s						
WHN	**Wuhan**	**18.85**	**344**	P	**Pn**	**19 29 32.9**	**+0.4**
WHN				S	**S**	**19 33 06.9**	**+1.9**
WHN				pmax	pmax		
	comp=Z,220nm,2.0s						
WHN				LR	LR		
	comp=N,930nm,9.5s						
WHN				LR	LR		
	comp=E,3μm,11.3s						
WHN				LR	LR		
	comp=Z,3μm,16.6s						
GYA	**Guiyang**	**19.00**	**319**	⇓*i*P	**Pn**	**19 29 34.3**	**-0.2**
GYA				pP	pP	19 29 47.6	+7.8
GYA				PP	**PnPn**	**19 29 53.0**	**+5.7**
GYA				S	**Sn**	**19 33 04.3**	**-2.6**
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,120nm,5.0s						
GYA				LR	LR		
	comp=N,610nm,15.0s						
GYA				LR	LR		
	comp=E,590nm,16.4s						
GYA				LR	LR		
	comp=Z,780nm,14.8s						
LOEI	**Loei**	**19.16**	**288**	P	**P**	**19 29 34.0**	**-1.5**
	comp=Z,183nm,1.1s,comp=Z,9μm						
PBKT	**Sadao Pong**	**19.26**	**285**	P	**Pn**	**19 29 38.6**	**+1.0**
	comp=Z,45nm,1.6s,comp=Z,2μm						
PBKT	**Sadao Pong**	**19.26**	**285**	P	**Pn**	**19 29 38.6**	**+1.0**
	comp=Z,45nm,1.6s,comp=Z,2μm						
FAKI	**Fak Fak**	**19.28**	**142**	P	**Pn**	**19 29 39.4**	**+1.5**
	comp=Z,74nm,1.2s						
BNDI	**Bandanaira**	**19.33**	**150**	P	Pn	19 29 48.9	+10
	comp=Z,426nm,1.5s,comp=Z,5μm						
MYKOM	**Kota Tinggi**	**19.54**	**238**	P	**Pn**	**19 29 44.4**	**+3.4**
MYKOM	**Kota Tinggi**	**19.54**	**238**	P	Pn	19 29 47.8	+6.8
	comp=Z,39nm,1.3s						
NJ2	**Nanjing**	**19.55**	**356**	*e*P	**Pn**	**19 29 42.8**	**+1.9**
NJ2				pP	pP	19 29 52.1	+6.5
NJ2				sP	sP	19 29 57.0	+8.6
NJ2				S	**S**	**19 33 18.5**	**-0.7**
NJ2				PcP	**PcP**	**19 33 59.0**	**-0.6**
NJ2				pmax	pmax		
	comp=Z,20nm,1.0s						
NJ2				pmax	pmax		
	comp=Z,60nm,4.2s						
NJ2				LR	LR		
	comp=N,1μm,16.0s						
NJ2				LR	LR		
	comp=E,740nm,14.2s						
NJ2				LR	LR		
	comp=Z,1μm,16.4s						
KGM	**Kluang**	**19.87**	**240**	P	**Pn**	**19 29 44.3**	**-0.6**
NANT	**Nan**	**20.00**	**291**	P	Pn	19 29 46.4	0.0
	comp=Z,82nm,0.9s						
PPBI	**Pangkal Pinang**	**20.31**	**225**	P	Pn	19 29 50.5	+0.5
	comp=Z,38nm,1.9s,comp=Z,682nm						
KMMI	**Kalianget**	**20.42**	**199**	P	Pn	19 29 53.1	+1.8
	comp=Z,341nm,1.2s						
UTHA	**Uthaitani**	**20.58**	**281**	P	Pn	19 29 52.9	-0.3
	comp=Z,14nm,1.1s,comp=Z,142nm						
CRAI	**Chiangrai**	**20.71**	**294**	P	**P**	**19 29 52.3**	**-0.1**
	comp=Z,209nm,1.1s,comp=Z,14μm						
FRIM	**Kepong**	**20.73**	**245**	P	Pn	19 29 56.0	+1.0
IPM	**Ipoh**	**20.74**	**249**	*e*P	Pn	19 29 54.6	-0.6
	comp=Z,16nm,0.8s						
IPM	**Ipoh**	**20.74**	**249**	P	Pn	19 29 55.4	+0.2
IPM	**Ipoh**	**20.74**	**249**	P	Pn	19 29 58.6	+3.4
	comp=Z,28nm,1.3s						
KMPI	**Kaimana, Papua**	**20.76**	**140**	P	Pn	19 29 56.9	+1.6
KULM	**Kulim**	**20.78**	**252**	*e*Pn	Pn	19 29 55.6	0.0
	comp=Z,63nm,1.4s						
KULM	**Kulim**	**20.78**	**252**	P	Pn	19 29 56.2	+0.6
KULM	**Kulim**	**20.78**	**252**	P	Pn	19 29 56.1	+0.5
	comp=Z,39nm,1.4s,comp=Z,978nm						
GRJI	**Gresik**	**20.81**	**203**	P	Pn	19 29 57.2	+1.3
	comp=Z,142nm,1.2s,comp=Z,1μm						
LBFI	**Labuhan Bajo,**	**20.82**	**181**	P	Pn	19 29 55.5	-0.5
	comp=Z,245nm,1.3s						
SRIT	**Nakonsritamara**	**20.82**	**261**	P	Pn	19 29 56.4	+0.3
	comp=Z,521nm,1.2s,comp=Z,47μm						
PAYA	**Payao**	**20.90**	**292**	P	Pn	19 29 56.3	-0.8
	comp=Z,20nm,0.9s,comp=Z,162nm						
KMI	**Kunming**	**20.91**	**310**	P	Pn	19 29 56.8	-0.5
KMI				pP	pP	19 30 04.3	+3.5
KMI				sP	sP	19 30 08.1	+4.5
KMI				S	**S**	**19 33 45.6**	**-1.5**
KMI				pmax	pmax		
	comp=Z,24nm,1.7s						
KMI				LR	LR		
	comp=N,1μm,13.6s						
KMI				LR	LR		
	comp=E,1μm,15.7s						
KMI				LR	LR		
	comp=Z,920nm,15.7s						
MMRI	**Maumere**	**21.04**	**175**	P	P	19 30 03.4	+7.5
SRBI	**Singaraja**	**21.06**	**194**	P	**P**	**19 29 58.7**	**+2.6**
	comp=Z,174nm,1.4s,comp=Z,2μm						
BLJI	**Banyuglugur**	**21.19**	**199**	P	**P**	**19 29 59.9**	**+2.4**
	comp=Z,131nm,1.1s,comp=Z,2μm						
SRPI	**Serui, Papua**	**21.21**	**131**	P	P	19 30 02.6	+4.9
KRAB	**Krabi**	**21.29**	**261**	P	**P**	**19 30 01.5**	**+2.8**
	comp=Z,30nm,1.0s,comp=Z,325nm						
MTNI	**Mataram**	**21.38**	**192**	P	**P**	**19 30 01.0**	**+1.4**
	comp=Z,86nm,1.3s						
CM31	**Chiang Mai Arr**	**21.53**	**289**	*e*P	**P**	**19 30 02.7**	**+1.5**
	comp=Z,108nm,1.0s						
CMAR	**Chiang Mai Arr**	**21.53**	**289**	P	**P**	**19 30 03.0**	**+1.9**
CMAR				PcP	**PcP**	**19 34 05.1**	**+1.5**
CMAR	**Chiang Mai Arr**	**21.53**	**289**	P	**P**	**19 30 03.0**	**+1.9**
	comp=Z,62nm,0.9s,baz=103,slow=8.6,SNR=273						
CMAR				PcP	**PcP**	**19 34 05.1**	**+1.5**
	comp=Z,3.9nm,0.9s,baz=129,slow=0.9,SNR=16						
CMAR				LR	LR	19 37 49.8	
	comp=Z,346nm,18.6s,baz=116,slow=35						
CHTO	**Chiang Mai**	**21.61**	**290**	*e*P	**P**	**19 30 03.0**	**+1.0**
CHTO				pmax	pmax		
	comp=Z,177nm,1.1s						
CHTO	**Chiang Mai**	**21.61**	**290**	*e*P	**P**	**19 30 03.0**	**+1.0**
	comp=Z,177nm,1.1s						
NGJI	**Ngawi**	**21.62**	**205**	P	P	19 30 07.0	+4.9
	comp=Z,140nm,1.2s						
GMJI	**Gumukmas**	**21.74**	**199**	P	sP	19 30 19.8	+7.5
	comp=Z,124nm,1.3s						
TLE	**Tual**	**21.76**	**145**	P	**P**	**19 30 04.7**	**+1.1**
	comp=Z,235nm,1.0s						
PMBI	**Palembang**	**21.80**	**226**	P	P	19 30 09.9	+5.8
CMAI	**Chiengmai2**	**21.81**	**293**	P	**P**	**19 30 05.8**	**+1.4**
	comp=Z,135nm,0.9s						
SJI	**Sawahan**	**21.83**	**204**	P	**P**	**19 30 07.2**	**+2.7**
	comp=Z,84nm,1.9s						
KRKI	**Karangkates**	**21.96**	**202**	P	P	19 30 11.1	+5.3
	comp=Z,176nm,1.8s						
RGRI	**Rengat**	**22.00**	**236**	P	P	19 30 15.9	+10
	comp=Z,115nm,0.6s,comp=Z,18μm						
PWJI	**Pagerwojo**	**22.08**	**203**	P	**P**	**19 30 09.9**	**+2.8**
	comp=Z,80nm,1.4s						
TGJI	**Tegal**	**22.25**	**211**	P	**P**	**19 30 11.2**	**+2.3**
	comp=Z,51nm,1.7s						
BJII	**Banjamegara**	**22.36**	**209**	P	**P**	**19 30 12.6**	**+2.4**
	comp=Z,78nm,1.6s,comp=Z,2μm						
SOEI	**Soe**	**22.40**	**170**	P	**P**	**19 30 11.4**	**+0.7**
	comp=Z,84nm,1.3s,comp=Z,2μm						
JNU	**Nakatsue**	**22.68**	**23**	P	**P**	**19 30 14.8**	**+1.4**
JNU	**Nakatsue**	**22.68**	**23**	P	**P**	**19 30 14.8**	**+1.4**
	comp=Z,7.3nm,0.9s,baz=240,slow=6.2,SNR=3.5						
JNU				LR	LR	19 39 50.0	
	comp=Z,751nm,20.4s,baz=216,slow=39						
KPJI	**Karang Pucung**	**22.74**	**211**	P	sP	19 30 32.4	+9.3
	comp=Z,73nm,1.6s						
MDSI	**Maura Dua**	**23.33**	**225**	P	**P**	**19 30 22.9**	**+2.7**
	comp=Z,29nm,1.8s,comp=Z,2μm						
PSI	**Prapat**	**23.34**	**247**	P	**P**	**19 30 20.6**	**+0.1**
PSI				PcP	**PcP**	**19 34 08.1**	**+0.7**
PSI	**Prapat**	**23.34**	**247**	P	**P**	**19 30 20.6**	**+0.1**
	comp=Z,8.2nm,0.9s,baz=61,slow=13,SNR=12						
PSI				PcP	**PcP**	**19 34 08.1**	**+0.7**
	comp=Z,4.2nm,0.8s,baz=90,slow=3.0,SNR=4.0						
PSI				LR	LR	19 39 56.0	
	comp=Z,957nm,18.6s,baz=70,slow=38						
CISI	**Cisompet, Garu**	**23.51**	**213**	P	**P**	**19 30 23.2**	**+1.2**
PPI	**Padang Panjang**	**23.66**	**239**	P	**P**	**19 30 24.7**	**+1.3**
	comp=Z,25nm,2.1s,comp=Z,609nm						
LWLI	**Liwa**	**23.79**	**224**	P	**P**	**19 30 26.7**	**+1.9**
	comp=Z,191nm,0.9s,comp=Z,2μm						
TIA	**Tai'an**	**23.83**	**353**	*e*P	**P**	**19 30 22.1**	**-2.8**
TIA				LR	LR		
	comp=N,1μm,20.6s						
TIA				LR	LR		
	comp=E,2μm,26.5s					

SHL Shillong 29.88 300 *i* P **P 19 31 21.0 +1.3**
SHL *i* S **PcS 19 38 07.0 +0.7**
CN2 Changchun 31.52 7 *e*P **P 19 31 36.3 +2.5**
CN2 *e*S **S 19 36 41.3 +0.3**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,500nm,17.0s
CN2 LR LR
comp=E,700nm,17.0s
CN2 LR LR
comp=Z,700nm,15.0s
LSA Lhasa 32.11 307 P **P 19 31 40.3 +0.6**
GTA Gaotai 32.45 329 ⇓P **P 19 31 42.5 +0.4**
GTA pP pP 19 31 54.5 +5.8
GTA sP sP 19 32 00.1 +8.7
GTA S **S 19 36 54.3 -1.5**
GTA sS sS 19 37 14.1 +7.4
GTA SS **SnSn 19 38 51.8 +2.3**
GTA pmax pmax
comp=Z,31nm,1.2s
GTA pmax pmax
comp=Z,220nm,4.9s
GTA LR LR
comp=N,780nm,17.5s
GTA LR LR
comp=E,1μm,14.7s
GTA LR LR
comp=Z,1μm,16.6s
MDJ Mudanjiang 32.99 12 P **P 19 31 47.3 +0.6**
MDJ pP pP 19 31 58.1 +4.9
MDJ sP sP 19 32 03.3 +7.4
MDJ PP **PP 19 33 02.0 +0.6**
MDJ PcP **PcP 19 34 30.1 -0.3**
MDJ S **S 19 37 04.8 +0.9**
MDJ ScP **ScP 19 38 10.8 -2.7**
MDJ PcS **PcS 19 38 15.8 +0.2**
MDJ ScS **ScS 19 42 11.1 -2.4**
MDJ pmax pmax
comp=Z,6.0nm,0.8s
MDJ pmax pmax
comp=Z,74nm,5.1s
MDJ LR LR
comp=N,560nm,17.2s
MDJ LR LR
comp=E,830nm,17.2s
MDJ LR LR
comp=Z,990nm,20.7s
USRK Ussuriysk Arra 33.15 15 P **P 19 31 49.2 +1.2**
comp=Z,1.4nm,0.6s,baz=209,slow=8.1,SNR=1.9
COCO West Island 33.88 225 *i* P **P 19 31 56.8 +2.1**
TAPN Taplejung 34.00 301 *e*P **P 19 31 56.6 +0.5**
comp=Z,145nm,1.1s
ODAN Odare 34.11 300 *e*P **P 19 31 57.4 +0.4**
comp=Z,157nm,1.0s
PMG Port Moresby 34.32 128 *e*P **P 19 31 56.7 -1.9**
comp=Z,19nm,1.0s
PMG Port Moresby 34.32 128 P **P 19 31 57.4 -1.2**
comp=Z,16nm,0.9s,baz=340,slow=3.8,SNR=5.0
COEN Coen 34.61 139 *e*P **P 19 32 00.1 -0.9**
RAMN Ramite 34.81 300 *e*P **P 19 32 03.8 +0.8**
comp=Z,225nm,1.2s
WRAB Tennant Creek 34.99 157 *e*P **P 19 32 02.9 -1.4**
WRAB pmax pmax
comp=Z,24nm,0.8s
WRAB Tennant Creek 34.99 157 *e*P **P 19 32 02.9 -1.4**
comp=Z,24nm,0.8s
WRAB Tennant Creek 34.99 157 P **P 19 32 03.0 -1.4**
comp=Z,193nm,0.9s,SNR=8.4
WRA Warramunga Arr 35.00 157 P **P 19 32 03.2 -1.2**
WRA Warramunga Arr 35.00 157 P **P 19 32 03.2 -1.2**
comp=Z,21nm,1.0s,baz=334,slow=9.4,SNR=33
JIRN Jiri 35.38 300 *e*P **P 19 32 08.7 +0.6**
comp=Z,182nm,1.0s
GUN Gumba 35.72 301 *e*P **P 19 32 11.6 +0.6**
comp=Z,285nm,1.1s
PKI Pulchoki 36.01 300 *e*P **P 19 32 13.4 0.0**
comp=Z,167nm,1.3s
PKIN Phulchoki 36.02 300 *e*P **P 19 32 13.3 -0.2**
comp=Z,116nm,1.3s
KKN Kakani 36.19 300 *e*P **P 19 32 14.8 0.0**
comp=Z,174nm,1.3s
DMN Daman 36.28 300 *e*P **P 19 32 15.8 +0.1**
comp=Z,161nm,1.2s
ULN Ulaanbaatar 37.02 345 *e*P **P 19 32 20.7 -0.8**
comp=Z,43nm,1.4s
ULN Ulaanbaatar 37.02 345 P **P 19 32 21.0 -0.6**
comp=Z,18nm,1.7s,comp=Z,318nm
SONM Songino Array 37.16 344 P **P 19 32 22.2 -0.6**
SONM PcP **PcP 19 34 42.3 -0.4**
SONM Songino Array 37.16 344 P **P 19 32 22.2 -0.6**
comp=Z,17nm,0.7s,baz=161,slow=9.7,SNR=156
SONM PcP **PcP 19 34 42.3 -0.4**
comp=Z,0.5nm,0.5s,baz=170,slow=3.8,SNR=2.9
KOLN Koldanda 37.60 300 *e*P **P 19 32 26.9 0.0**
comp=Z,23nm,0.8s
DANN Dangsing 37.63 300 *e*P **P 19 32 27.0 -0.2**
comp=Z,98nm,1.2s
KLR Kul'dur 37.84 12 *e*P P 19 32 23.6 -4.7
PYUN Piuthan 38.21 300 *e*P **P 19 32 32.4 +0.4**
comp=Z,130nm,0.7s
AS31 Alice Springs 38.26 160 *e*P **P 19 32 31.4 -0.8**
ASAR Alice Springs 38.26 160 P **P 19 32 31.9 -0.2**
ASAR Alice Springs 38.26 160 P **P 19 32 31.9 -0.2**
comp=Z,5.8nm,0.6s,baz=339,slow=6.8,SNR=45
ZAK Zakamensk 40.33 343 *e*P **P 19 32 48.4 -0.9**
ZAK pmax pmax
comp=Z,8.0nm,1.0s
HYB Hyderabad 40.69 282 *i* P **P 19 32 52.5 -0.1**
CTA Charters Tower 41.15 141 P **P 19 32 56.1 -0.1**
CTA Charters Tower 41.15 141 P **P 19 32 56.1 -0.1**
comp=Z,4.3nm,0.8s,baz=342,slow=9.2,SNR=4.1
CTAO Charters Tower 41.15 141 *e*P **P 19 32 55.8 -0.4**
CTAO pmax pmax
comp=Z,24nm,1.3s
CTAO Charters Tower 41.15 141 *e*P **P 19 32 55.8 -0.4**
comp=Z,24nm,1.3s
TLY Talaya 41.40 344 *e*P **P 19 32 58.1 +0.1**
TLY *e* 19 34 33.2
TLY *e*SS SS 19 42 15.9 -0.2
TLY pmax pmax
comp=Z,23nm,1.6s
IRK Irkutsk 41.75 345 *e*P **P 19 33 00.0 -0.8**
IRK *e* 19 34 46.3
IRK pmax pmax
comp=Z,28nm,1.6s
WMQ Urumqi 42.03 324 P **P 19 33 05.3 +2.0**
WMQ pP pP 19 33 17.6 +7.6
WMQ sP sP 19 33 23.0 +10
WMQ PP PP 19 34 46.4 +5.6
WMQ PcP **PcP 19 35 00.5 +2.4**
WMQ *e*S **S 19 39 21.4 +0.1**
WMQ sS sS 19 39 41.4 +9.0
WMQ SS **SS 19 42 23.3 -5.6**
WMQ pmax pmax
comp=Z,18nm,1.0s
WMQ pmax pmax
comp=Z,230nm,3.4s
WMQ LR LR
comp=N,680nm,20.0s
WMQ LR LR
comp=E,340nm,20.8s
WMQ LR LR
comp=Z,370nm,20.0s
MOY Mondy 42.14 342 *e*P **P 19 33 03.8 -0.4**
MOY pmax pmax
comp=Z,23nm,1.6s
HVS Khovu-Aksy 44.26 336 *c i*P **P 19 33 22.1 +0.9**
HVS pmax pmax
comp=Z,101nm,1.2s
HNR Honiara 44.90 117 LR LR 19 50 12.0
comp=Z,291nm,20.2s,baz=138,slow=33
NWAO Narrogin (SRO) 45.24 184 P **P 19 33 30.2 +1.1**
MK31 Makanchi Array 46.86 324 *e*P **P 19 33 42.2 +0.3**
MK31 *e* 19 35 14.8
MK31 Makanchi Array 46.86 324 *e*P **P 19 33 42.2 +0.3**
MK31 *e*PcP **PcP 19 35 14.8 +0.2**
MKAR Makanchi Array 46.86 324 P **P 19 33 42.2 +0.3**
MKAR 19 35 15.1
MKAR Makanchi Array 46.86 324 P **P 19 33 42.2 +0.3**
MKAR PcP **PcP 19 35 15.1 +0.5**
MKAR Makanchi Array 46.86 324 P **P 19 33 42.2 +0.3**
comp=Z,15nm,1.0s,baz=123,slow=8.8,SNR=59
MKAR PcP **PcP 19 35 15.1 +0.5**
comp=Z,6.5nm,0.8s,baz=106,slow=4.4,SNR=7.9
KSH Kashi 47.52 313 P **P 19 33 48.3 +1.1**
KSH pP pP 19 34 00.6 +6.6
KSH PP **PP 19 35 39.3 +0.5**
KSH PcS **PcS 19 39 12.1 -0.6**
KSH S **S 19 40 38.5 -2.7**
KSH ScS **ScS 19 43 35.3 -4.9**
KSH pmax pmax
comp=Z,33nm,1.6s
KSH pmax pmax
comp=Z,83nm,5.4s
KSH LR LR
comp=N,430nm,15.0s
KSH LR LR
comp=E,340nm,11.9s
KSH LR LR
comp=Z,380nm,14.8s
STKA Stephens Creek 48.54 156 *e*P **P 19 33 54.7 -0.2**
STKA Stephens Creek 48.54 156 P **P 19 33 55.0 +0.1**
comp=Z,6.7nm,0.9s,baz=329,slow=8.5,SNR=5.6
KZA Kyzart 49.02 316 *i* P **P 19 34 00.2 +1.1**
KZA Kyzart 49.02 316 P **P 19 34 00.2 +1.1**
SNR=12
TKM2 Tokmak 2 49.12 317 *e*P **P 19 34 00.0 +0.3**
TKM2 pmax pmax
comp=Z,16nm,1.3s
TKM2 Tokmak 2 49.12 317 P **P 19 34 00.2 +0.5**
SNR=12
TKM2 Tokmak 2 49.12 317 *e*P **P 19 33 60.0 +0.3**
comp=Z,16nm,1.3s
KBK Karagaybulak 49.45 316 *i* P **P 19 34 03.4 +1.3**
KBK Karagaybulak 49.45 316 P **P 19 34 03.4 +1.3**
SNR=13
UCH Uchtor 49.58 316 *i* P **P 19 34 04.9 +1.5**
UCH Uchtor 49.58 316 P **P 19 34 04.9 +1.5**
SNR=10
CHMS Chumysh 49.72 317 *i* P **P 19 34 04.6 +0.6**
CHMS Chumysh 49.72 317 P **P 19 34 04.6 +0.6**
SNR=11
FRU Bishkek 49.75 316 *e*P **P 19 34 04.0 -0.2**
FRU pmax pmax
comp=Z,50nm,2.2s
AAK Ala-Archa 49.75 316 *d i*P **P 19 34 05.4 +1.0**
AAK pmax pmax
comp=Z,84nm,1.8s
AAK Ala-Archa 49.75 316 P **P 19 34 05.8 +1.4**
SNR=8.3
AAK Ala-Archa 49.75 316 *e*P **P 19 34 05.2 +0.8**
comp=Z,22nm,1.1s
AAK *e*PcP **PcP 19 35 24.2 -1.1**
USP Ospenovka 50.00 317 *i* P **P 19 34 06.7 +0.6**
USP Ospenovka 50.00 317 P **P 19 34 06.7 +0.6**
SNR=13
ZAA0 Zalesovo Array 50.03 333 *e*P **P 19 34 05.1 -0.9**
ZALV Zalesovo Beam 50.03 333 P **P 19 34 05.5 -0.6**
ZALV Zalesovo Beam 50.03 333 P **P 19 34 05.5 -0.6**
ZALV Zalesovo Beam 50.03 333 P **P 19 34 05.5 -0.6**
comp=Z,8.1nm,0.6s,baz=127,slow=6.9,SNR=37
AML Almayashu 50.10 315 *i* P **P 19 34 08.5 +1.1**
AML Almayashu 50.10 315 P **P 19 34 08.5 +1.1**
SNR=12
PETK Petropavlovsk- 50.23 28 P **P 19 34 06.7 -1.0**
PETK Petropavlovsk- 50.23 28 P **P 19 34 06.7 -1.0**
PETK Petropavlovsk- 50.23 28 P **P 19 34 06.7 -1.0**
comp=Z,3.3nm,0.7s,baz=205,slow=5.6,SNR=5.1
EKS2 Erkin-Say 50.25 316 *e*P **P 19 34 08.7 +0.6**
EKS2 pmax pmax
comp=Z,34nm,1.3s
EKS2 Erkin-Say 50.25 316 P **P 19 34 09.2 +1.1**
SNR=18
EKS2 Erkin-Say 50.25 316 *e*P **P 19 34 08.7 +0.6**
comp=Z,34nm,1.3s
KURK Kurchatov 51.06 327 P **P 19 34 14.0 0.0**
comp=Z,160nm,1.0s,SNR=42
KURK Kurchatov 51.06 327 ⇓*i*P **P 19 34 14.2 +0.3**
KURK pmax pmax
comp=Z,31nm,1.0s
KURK Kurchatov 51.06 327 *e*P **P 19 34 13.9 0.0**
comp=Z,21nm,0.8s
NVS Novosibirsk 51.31 333 ⇓*i*P **P 19 34 14.7 -1.0**
NVS *e*S **S 19 41 33.1 -0.4**
NVS pmax pmax
comp=Z,37nm,1.2s
NVS pmax pmax
comp=N,24nm,1.5s
NVS pmax pmax
comp=E,29nm,1.6s
NVS smax smax
comp=E,27nm,2.8s
NVS smax smax
comp=N,25nm,2.4s
KBL Kabul 51.37 304 *e*P **P 19 34 16.6 -0.2**
KBL pmax pmax
comp=Z,7.0nm,0.8s
KBL Kabul 51.37 304 *e*P **P 19 34 16.6 -0.2**
comp=Z,7.4nm,0.8s
KKAR Karatay Array 52.65 315 *e*P **P 19 34 26.0 +0.1**
KKAR pmax pmax
comp=Z,32nm,1.0s
KKAR Karatay Array 52.65 315 *e*P **P 19 34 26.0 +0.1**
comp=Z,32nm,1.0s
SEY Seymchan 55.27 17 *ce*P **P 19 34 44.0 -0.7**
BVAR Borovoye Array 56.64 326 LR LR 19 59 33.2
comp=Z,180nm,20.1s,baz=106,slow=36
DZM Mont Dzumac 56.71 127 *e*P **P 19 34 57.6 +1.9**
comp=Z,38nm,1.3s
DZM Mont Dzumac 56.71 127 *e*LR LR 19 51 32.7
comp=Z,413nm,33.7s
DZM Mont Dzumac 56.71 127 P **P 19 34 56.4 +0.7**
DZM Mont Dzumac 56.71 127 P **P 19 34 56.4 +0.7**
comp=Z,5.3nm,0.5s,baz=324,slow=14,SNR=8.8
DZM LR LR 19 56 04.8
comp=Z,149nm,21.3s,baz=18,slow=33
BRVK Borovoye 56.71 326 P **P 19 34 55.1 -0.2**
comp=Z,172nm,0.9s,SNR=19
BRVK Borovoye 56.71 326 *d i*P **P 19 34 55.2 0.0**
BRVK pmax pmax
comp=Z,44nm,1.2s
BRVK Borovoye 56.71 326 *e*P **P 19 34 55.0 -0.2**
comp=Z,31nm,1.0s
IDAH Dahanechah 58.66 301 *e*P **P 19 35 09.7 +0.1**
IMYA Miami 58.86 305 *e*P **P 19 35 11.7 +0.8**
IMON Monand 58.87 301 *e*P **P 19 35 11.8 +0.7**
IKOO Kooshah 59.36 300 *e*P **P 19 35 15.3 +0.8**
ISRO Mashad 59.37 305 *e*P **P 19 35 14.5 +0.2**
IMOG Moghan 59.45 305 *e*P **P 19 35 15.5 +0.4**
ITEG Tejag 59.61 301 *e*P **P 19 35 17.3 +1.2**
IKRD Kardeh 60.19 305 *e*P P 19 35 15.8 -4.3
ISFR Sfrayin 60.63 306 *e*P **P 19 35 23.9 +0.7**
ISHV Shirvan 60.92 306 *e*P **P 19 35 26.6 +1.6**
ABKAR Akbulak array 61.48 320 *e*P **P 19 35 28.0 -0.3**
comp=Z,19nm,0.9s
SVE Sverdlovsk 63.29 328 *de*P **P 19 35 40.4 +0.1**
SVE pmax pmax
comp=Z,36nm,1.2s
IANJ Anjilo 63.78 303 *e*P **P 19 35 44.4 +0.1**
IKIA Kiasar 64.01 304 *e*P P 19 35 49.1 +3.3
ARU Arti 64.26 327 *d i*P **P 19 35 45.9 -0.8**
ARU 19 38 07.4
ARU S **S 19 44 23.5 +0.3**
ARU SS **SS 19 48 31.6 -1.1**
ARU pmax pmax
comp=Z,33nm,1.7s
ARU Arti 64.26 327 P **P 19 35 45.9 -0.8**
comp=Z,128nm,0.7s,SNR=11
ISRV Sarvestan 64.30 297 *e*P **P 19 35 47.0 -0.9**
IPAR Pars 64.36 297 *e*P **P 19 35 48.5 +0.2**
ILAS Lasjerd 64.56 303 *e*P **P 19 35 49.6 +0.2**
IALA Alasht 64.71 304 *e*P **P 19 35 51.4 +0.9**
IFIR Firoozkooh 64.74 304 *e*P **P 19 35 53.3 +2.7**
IDMV Damavand 65.32 303 *e*P **P 19 35 54.2 -0.2**
IKAZ Kazeroun 65.41 297 *e*P **P 19 35 54.8 -0.3**
IKLH Kolahrood 65.64 301 *e*P **P 19 35 57.5 +1.0**
SOKR Solikamsk 66.09 330 ⇑*i*P **P 19 35 58.1 -0.4**
SOKR pmax pmax
comp=Z,20nm,1.2s
SOKR MLR MLR
comp=Z,390nm,19.0s
IMHD Mahdasht 66.44 304 *e*P **P 19 36 01.4 0.0**
IRAZ Razeghan 67.03 303 *e*P **P 19 36 05.5 +0.2**
IKOM Komasi 69.03 302 *e*P **P 19 36 17.3 -0.5**
IVIS Veis 69.57 302 *e*P **P 19 36 19.7 -1.4**
GNI Garni 71.16 308 *e*P **P 19 36 31.8 +1.0**
comp=Z,38nm,1.3s
RAYN Ar Rayn 71.43 291 P **P 19 36 33.4 +0.8**
comp=Z,98nm,1.1s,SNR=14
ZEI Tsey 71.77 311 *e*P P 19 36 31.2 -3.3
ZEI pmax pmax
comp=Z,17nm,1.3s
RPZ Rata Peaks 72.45 144 P **P 19 36 38.2 0.0**
RPZ Rata Peaks 72.45 144 P **P 19 36 38.2 0.0**
comp=Z,7.1nm,0.6s,baz=334,slow=8.0,SNR=6.5
KBZ Khabaz 72.50 312 P **P 19 36 38.5 0.0**
KBZ Khabaz 72.50 312 P **P 19 36 38.5 0.0**
KBZ Khabaz 72.50 312 P **P 19 36 38.5 0.0**
comp=Z,7.4nm,1.0s,baz=43,slow=7.5,SNR=5.2
KIV Kislovodsk 72.65 312 *e*P **P 19 36 39.2 -0.4**
KIV pmax pmax
comp=Z,20nm,1.0s
VRHR Novokhopersk 73.37 320 *e*P **P 19 36 42.1 -1.4**
VRHR pmax pmax
comp=Z,30nm,0.8s
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,40nm,1.7s
MZRK Al-Mazaregh 74.57 304 *e*P **P 19 36 50.8 -0.2**
KBSD Kabsdagh 74.57 305 *e*P P 19 36 43.2 -7.8
KLMR Klimovskoe 74.77 330 *e*P **P 19 36 49.2 -2.3**
KLMR pmax pmax
comp=Z,74nm,1.3s
SFNV Sufian 74.96 305 *e*P **P 19 36 53.3 +0.1**
TMCR Tamitsa 75.55 333 *e*P **P 19 36 55.3 -0.6**
TMCR *e* 19 37 08.5
TMCR *e* 19 39 43.5
TMCR pmax pmax
comp=Z,50nm,1.1s
MALT Malatya 76.14 307 ⇓*i*P P 19 36 56.4 -3.7
OBN Obninsk 76.37 324 ⇑*i*P **P 19 37 00.3 -0.5**
OBN *e* 19 37 11.5
OBN 19 39 56.0
OBN pmax pmax
comp=Z,74nm,1.8s
OBN MLR MLR
comp=Z,200nm,15.0s
LVZ Lovozero 76.95 337 ⇑*i*P **P 19 37 02.8 -1.1**
LVZ pmax pmax
comp=Z,58nm,2.5s
APA Apatity 77.43 337 ⇓*i*P **P 19 37 06.6 0.0**
APA *i* 19 37 10.8
APA pmax pmax
comp=Z,308nm,0.9s
APA MLR MLR
comp=Z,1μm,18.0s
DRWC Darouich 77.71 305 *e*P P 19 37 00.5 -8.4
COLD Coldfoot 78.37 23 *e*P **P 19 37 11.2 -0.6**
comp=Z,7.3nm,1.0s
SIM Simferopol' 78.71 314 *e*P **P 19 37 11.2 -2.9**
SIM pmax pmax
comp=Z,22nm,0.9s
MCK McKinley 79.21 27 *e*P **P 19 37 14.5 -2.0**
MCK pmax pmax
comp=Z,15nm,0.9s
MCK McKinley 79.21 27 *e*P **P 19 37 14.5 -2.0**
comp=Z,15nm,0.9s
COLA College 79.55 26 P **P 19 37 19.1 +0.8**
COLA College 79.55 26 P **P 19 37 19.1 +0.8**
KEV Kevo 79.58 339 *e*P **P 19 37 17.9 -0.5**
KEV pmax pmax
comp=Z,15nm,0.8s
KEV Kevo 79.58 339 *e*P **P 19 37 17.9 -0.5**
comp=Z,15nm,0.8s
BRTR Keskin Array B 79.70 308 P **P 19 37 19.4 -0.4**
BRTR Keskin Array B 79.70 308 P **P 19 37 19.4 -0.4**
comp=Z,3.6nm,0.9s,baz=110,slow=4.4,SNR=6.1
ILAR Eielson Array 79.97 26 P **P 19 37 18.8 -1.8**
ILAR Eielson Array 79.97 26 P **P 19 37 18.8 -1.8**
comp=Z,1.2nm,0.8s,baz=284,slow=5.3,SNR=4.7
ILAR LR LR 20 15 42.6
comp=Z,112nm,18.7s,baz=133,slow=38
ARCES ARCESS Array B 80.13 339 P **P 19 37 21.1 -0.3**
ARCES ARCESS Array B 80.13 339 P **P 19 37 21.1 -0.3**
comp=Z,18nm,0.9s,baz=79,slow=7.5,SNR=13
ARE0 ARCESS Array S 80.13 339 *e*P **P 19 37 20.7 -0.8**
AKASG Malin Array Be 81.22 320 P **P 19 37 27.1 -0.5**
AKASG Malin Array Be 81.22 320 P **P 19 37 27.1 -0.5**
AKASG Malin Array Be 81.22 320 P **P 19 37 27.1 -0.5**
comp=Z,6.0nm,0.9s,baz=62,slow=4.0,SNR=9.3
FINES FINESS Array B 81.22 331 P **P 19 37 27.1 -0.3**
FINES FINESS Array B 81.22 331 P **P 19 37 27.1 -0.3**
comp=Z,19nm,0.9s,baz=58,slow=5.0,SNR=5.3
ISP Isparta 82.39 307 P P 19 37 29.5 -4.7
comp=Z,9.5nm,0.8s
ISP Isparta 82.39 307 ⇓*i*P P 19 37 29.9 -4.3
TLCR 82.40 315 ⇑*i*P **P 19 37 34.1 +0.2**
TIRR Tirgusor 82.81 314 ⇑*i*P **P 19 37 35.5 -0.5**
CFR Carcaliu 82.87 315 ⇓*i*P **P 19 37 35.9 -0.4**
KMBO Kilima Mbogo 83.57 267 *e*P **P 19 37 42.6 +1.7**
comp=Z,9.1nm,1.2s
KMBO Kilima Mbogo 83.57 267 P **P 19 37 42.6 +1.7**
comp=Z,1.3nm,0.4s,baz=54,slow=6.8,SNR=5.3
VRI Vrincioaia 83.71 315 ⇑*i*P **P 19 37 41.6 +0.9**
PLOR Plostina 83.77 315 ⇑*i*P **P 19 37 41.7 +0.6**
SULR 84.28 314 ⇓*i*P **P 19 37 43.8 +0.2**
MLR Muntele Rosu 84.33 315 ⇑*i*P **P 19 37 44.4 +0.4**
INK Inuvik 84.34 21 P **P 19 37 42.8 -0.7**
INK Inuvik 84.34 21 P **P 19 37 42.8 -0.7**
comp=Z,4.4nm,0.8s,baz=294,slow=6.5,SNR=4.8
LVV L'vov 84.66 320 *e*P **P 19 37 44.7 -0.8**
VOIR 84.95 315 ⇑*i*P **P 19 37 47.0 -0.1**
HYT Haines Junctio 85.02 29 *e*P **P 19 37 47.5 +0.3**
ARR Arges 85.25 315 ⇓*i*P **P 19 37 48.1 -0.5**
KWP Kalwaria Pacla 85.54 320 *e*P **P 19 37 49.6 -0.3**
KWP pmax pmax
comp=Z,38nm,1.0s
KWP Kalwaria Pacla 85.54 320 *e*P **P 19 37 49.6 -0.3**
comp=Z,38nm,1.0s
KWP Kalwaria Pacla 85.54 320 *e*P **P 19 37 50.4 +0.5**
LOT Lotru 85.83 315 ⇑*i*P **P 19 37 50.4 -1.1**
KOLS Kolonicke sedl 85.99 319 *e*P **P 19 37 51.9 -0.2**
KOLS pmax pmax
comp=Z,4.0nm,0.9s
KOLS Kolonicke sedl 85.99 319 *e*P **P 19 37 51.9 -0.2**
KOLS Kolonicke sedl 85.99 319 *e* **P 19 37 51.7 -0.4**
TRPA Tarpa 86.01 318 ⇓*i*P **P 19 37 52.5 +0.3**
UZH Uzhgorod 86.05 319 *d i*P **P 19 37 53.0 +0.6**
UZH *e* 19 38 06.2
DRGR 86.22 317 ⇓*i*P **P 19 37 53.9 +0.5**
STHS Stebnicka Huta 86.52 320 *e*P **P 19 37 55.2 +0.5**
STHS pmax pmax
comp=Z,6.0nm,0.9s
STHS Stebnicka Huta 86.52 320 *e*P **P 19 37 55.2 +0.5**
STHS Stebnicka Huta 86.52 320 *e* **P 19 37 54.9 +0.2**
VTS Vitosha 86.90 313 ⇓*i*P **P 19 37 54.8 -2.1**
SIRR Siria 87.06 317 ⇑*i*P **P 19 37 58.0 +0.6**
NIE Niedzica 87.10 320 *e*P **P 19 37 57.7 +0.1**
NIE Niedzica 87.10 320 *e*PKP **P 19 37 57.7 +0.1**
OJC Ojcow 87.21 321 *e*P **P 19 37 58.2 +0.1**
OJC Ojcow 87.21 321 *e*PKP **P 19 37 58.2 +0.1**
KECS Kecovo 87.25 319 *e*P **P 19 37 56.7 -1.6**
KECS Kecovo 87.25 319 *e*PKP **P 19 37 56.7 -1.6**
KECS Kecovo 87.25 319 *e*P **P 19 37 58.5 +0.2**
PSZ Piszkesteto 87.78 319 P **P 19 37 59.6 -1.4**
PSZ Piszkesteto 87.78 319 P **P 19 37 59.6 -1.4**
NB2 NORSAR Subarra 88.22 333 P **P 19 38 01.6 -1.1**
comp=Z,18nm,0.8s,baz=67,slow=4.8
NB2 NORSAR Subarra 88.22 333 P **P 19 38 01.6 -1.1**
baz=67,slow=4.8
NOA NORSAR Array B 88.22 333 P **P 19 38 01.8 -1.0**
NOA NORSAR Array B 88.22 333 P **P 19 38 01.8 -1.0**
comp=Z,11nm,0.8s,baz=68,slow=4.7,SNR=11
VYHS Vyhne 88.30 319 *e*P **P 19 38 03.9 +0.6**
VYHS pmax pmax
comp=Z,37nm,2.9s
VYHS Vyhne 88.30 319 *e*PKP **P 19 38 03.9 +0.6**
VYHS Vyhne 88.30 319 *e*P **P 19 38 03.9 +0.6**
OKC Ostrava-Krasne 88.34 321 *e*P P 19 38 06.9 +3.5
OKC *e* 19 38 12.3
OKC Ostrava-Krasne 88.34 321 *e*P P 19 38 06.9 +3.5
OKC *ex* x 19 38 12.3
MORC Moravsky Berou 88.73 321 *e*P **P 19 38 05.3 -0.1**
MORC pmax pmax
comp=Z,28nm,1.5s
MORC Moravsky Berou 88.73 321 *e*P **P 19 38 05.3 -0.1**
comp=Z,28nm,1.5s
KRLC Kraliky 89.10 321 *e*P **P 19 38 06.7 -0.4**
KRLC *e* 19 38 16.3
KRLC Kraliky 89.10 321 *e*P **P 19 38 06.7 -0.4**

KRLC			*e*pP	**pP**	**19 38 11.7 -2.6**
KRLC			*e*x	x	19 38 16.3
KSP	**Ksiaz**	**89.16 322**	*e*P	**P**	**19 38 06.6 -0.7**
KSP	**Ksiaz**	**89.16 322**	*e*P	**P**	**19 38 07.5 +0.2**
DPC	**Dobruska-Polom**	**89.30 322**	*e*P	**P**	**19 38 08.9 +0.9**
DPC			*e*		19 38 22.7
DPC	**Dobruska-Polom**	**89.30 322**	*e*P	**P**	**19 38 08.9 +0.9**
DPC			*e*pP	**pP**	**19 38 12.7 -2.5**
DPC			*e*x	x	19 38 22.7
UPC	**Upice**	**89.43 322**	*e*P	**P**	**19 38 08.9 +0.3**
UPC	**Upice**	**89.43 322**	*e*P	**P**	**19 38 08.9 +0.3**
UPC			*e*pP	**pP**	**19 38 12.7 -3.1**
MAW	**Mawson**	**89.84 199**	PP	PP	19 41 41.8 -0.9
MAW	**Mawson**	**89.84 199**	PP	PP	19 41 41.8 -0.9
comp=Z,0.8nm,0.4s,baz=63,slow=14,SNR=5.1					
TREC	**Trest**	**90.15 321**	*e*P	**P**	**19 38 11.2 -0.8**
TREC			*e*		19 38 16.7
TREC	**Trest**	**90.15 321**	*e*P	**P**	**19 38 11.2 -0.8**
TREC			*e*pP	**pP**	**19 38 16.7 -2.5**
PVCC	**Panska Ves**	**90.29 322**	*e*P	**P**	**19 38 13.4 +0.8**
PVCC			*e*		19 38 25.3
PVCC	**Panska Ves**	**90.29 322**	*e*P	**P**	**19 38 13.4 +0.8**
PVCC			*e*pP	**pP**	**19 38 17.2 -2.6**
PVCC			*e*x	x	19 38 25.3
PRU	**Pruhonice**	**90.50 322**	*e*P	**P**	**19 38 13.2 -0.4**
PRU			*e*		19 38 24.4
PRU	**Pruhonice**	**90.50 322**	*e*P	**P**	**19 38 13.2 -0.4**
PRU			*e*pP	**pP**	**19 38 17.9 -2.9**
PRU			*e*x	x	19 38 24.4
BRG	**Berggiesshubel**	**90.55 323**	*e*P	**P**	**19 38 14.2 +0.4**
comp=Z,20nm,1.5s					
BRG			*e*		19 38 28.0
comp=Z,19nm,1.4s					
BRG	**Berggiesshubel**	**90.55 323**	*e*P	**P**	**19 38 14.4 +0.6**
comp=Z,20nm,1.5s					
BRG	**Berggiesshubel**	**90.55 323**	*e*P	**P**	**19 38 14.2 +0.4**
BRG			*e*		19 38 28.0
BRG			pmax	pmax	
comp=Z,20nm,1.5s					
BRG			pmax	pmax	
comp=Z,19nm,1.4s					
FBE	**Freiberg**	**90.88 323**	*e*P	**P**	**19 38 16.0 +0.7**
comp=Z,50nm,1.8s					
CLL	**Collm**	**90.95 323**	*e*P	**P**	**19 38 16.0 +0.4**
comp=Z,10.0nm,1.2s					
CLL	**Collm**	**90.95 323**	⇑*i*P	**P**	**19 38 15.8 +0.2**
CLL			pmax	pmax	
comp=Z,10.0nm,1.2s					
CLL			MLR	MLR	
comp=Z,300nm,18.1s					
CLL	**Collm**	**90.95 323**	⇑*i*P	**P**	**19 38 15.8 +0.2**
comp=Z,10.0nm,1.2s					
CLL			*i*pP	**PcP**	**19 38 19.5 +2.8**
CLL			*e*		19 38 23.0
CLL			*e*PP	**PP**	**19 41 52.0 +0.5**
CLL			*e*SSSS		20 01 48.0
CLL			LmH		20 26 00.0
comp=N,200nm,18.7s					
CLL			LmH		20 26 00.0
comp=E,200nm,20.1s					
CLL			LmV		20 29 00.0
comp=Z,300nm,18.1s					
KHC	**Kasperske Hory**	**91.38 321**	*e*P	**P**	**19 38 15.8 -2.0**
KHC			*e*		19 38 26.4
KHC			*e*		19 38 31.9
KHC	**Kasperske Hory**	**91.38 321**	*e*P	**P**	**19 38 15.8 -2.0**
KHC			*e*pP	**pP**	**19 38 21.8 -3.2**
KHC			*e*x	x	19 38 26.4
KHC			*e*x	x	19 38 31.9
MOA	**Molln**	**91.40 320**	⇑*i*PcP	**P**	**19 38 17.8 -0.1**
comp=Z,26nm,2.0s					
GEC2	**GERESS Array S**	**91.41 321**	*e*P	**P**	**19 38 18.4 +0.4**
comp=Z,35nm,2.1s					
GEC2	**GERESS Array S**	**91.41 321**	*e*P	**P**	**19 38 18.4 +0.4**
GEC2			pmax	pmax	
comp=Z,35nm,2.1s					
GERES	**GERESS Array B**	**91.41 321**	P	**P**	**19 38 17.8 -0.2**
GERES	**GERESS Array B**	**91.41 321**	P	**P**	**19 38 17.8 -0.2**
comp=Z,1.1nm,0.6s,baz=56,slow=3.7,SNR=7.6					
TANN	**Tannenbergstha**	**91.59 322**	*e*P	**P**	**19 38 19.1 +0.4**
comp=Z,19nm,1.7s					
WERD	**Werda**	**91.67 323**	*e*P	**P**	**19 38 19.4 +0.3**
comp=Z,13nm,1.3s					
GUNZ	**Gunzen**	**91.69 322**	*e*P	**P**	**19 38 19.8 +0.6**
comp=Z,31nm,1.6s					
NEUB	**Neuenburg**	**91.70 323**	*e*P	**P**	**19 38 19.6 +0.5**
comp=Z,23nm,1.3s					
WET	**Wettzell**	**91.81 321**	*e*P	**P**	**19 38 20.3 +0.6**
comp=Z,31nm,1.8s					
WET	**Wettzell**	**91.81 321**	*e*P	**P**	**19 38 20.3 +0.6**
WET			pmax	pmax	
comp=Z,31nm,1.8s					
MANZ	**Manzenberg**	**91.96 322**	*e*P	**P**	**19 38 21.3 +0.9**
comp=Z,33nm,1.9s					
ROTZ	**Rotzenmuhle**	**91.99 322**	*e*P	**P**	**19 38 21.5 +1.0**
comp=Z,29nm,1.6s					
MOX	**Moxa**	**92.01 323**	*e*P	**P**	**19 38 20.9 +0.3**
comp=Z,25nm,1.5s					
MOX	**Moxa**	**92.01 323**	*e*P	**P**	**19 38 20.9 +0.3**
MOX			pmax	pmax	
comp=Z,25nm,1.5s					
NRDL	**Niedersach Rie**	**92.15 325**	*e*P	**P**	**19 38 22.0 +0.9**
comp=Z,19nm,1.5s					
CLZ	**Clausthal**	**92.26 324**	*e*P	**P**	**19 38 22.5 +0.7**
comp=Z,17nm,1.3s					
CLZ	**Clausthal**	**92.26 324**	*e*P	**P**	**19 38 22.5 +0.7**
CLZ			pmax	pmax	
comp=Z,17nm,1.3s					
GRF	**Grafenberg Arr**	**92.61 322**	*e*P	**P**	**19 38 24.3 +0.9**
comp=Z,18nm,1.4s					
GRF	**Grafenberg Arr**	**92.61 322**	*e*P	**P**	**19 38 24.3 +0.9**
GRF			pmax	pmax	
comp=Z,18nm,1.4s					
VNDA	**Vanda**	**92.87 172**	*e*P	**P**	**19 38 23.6 -0.3**
comp=Z,3.6nm,0.9s					
VNDA	**Vanda**	**92.87 172**	P	**P**	**19 38 23.8 0.0**
comp=Z,3.6nm,0.9s,baz=313,slow=4.9,SNR=12					
UBBA	**Unterbreizbach**	**92.89 323**	*e*P	**P**	**19 38 24.9 +0.4**
comp=Z,14nm,1.4s					
WTTA	**Wattenberg**	**93.28 320**	⇓*i*PcP	**P**	**19 38 26.2 -0.6**
comp=Z,16nm,1.2s					
MOTA	**Moosalm**	**93.58 320**	⇑*i*PcP	**P**	**19 38 27.7 -0.5**
comp=Z,8.0nm,1.0s					
PPT2	**Papeete2**	**93.70 107**	*e*LR	LR	20 08 40.6
comp=Z,260nm,28.8s					
FETA	**Feichten**	**93.94 320**	⇑*i*PcP	**P**	**19 38 29.2 -0.6**
comp=Z,12nm,1.5s					
YKA	**Yellowknife Ar**	**94.02 22**	P	**P**	**19 38 28.8 -0.7**
YKA	**Yellowknife Ar**	**94.02 22**	P	**P**	**19 38 28.8 -0.7**
comp=Z,2.5nm,0.8s,baz=316,slow=4.1,SNR=7.0					
TNS	**Taunus Mts**	**94.03 323**	*e*P	**P**	**19 38 30.6 +0.6**
comp=Z,13nm,1.2s					
TNS	**Taunus Mts**	**94.03 323**	*e*P	**P**	**19 38 30.6 +0.6**
TNS			pmax	pmax	
comp=Z,13nm,1.2s					
BUG	**Bochum--Univer**	**94.19 325**	*e*P	**P**	**19 38 31.1 +0.5**
comp=Z,16nm,1.0s					
TBI	**Tubuai**	**94.96 113**	*e*LR	LR	20 09 13.8
comp=Z,182nm,30.5s					
WLF	**Walferdange**	**95.61 323**	*e*P	**P**	**19 38 38.2 +1.0**
comp=Z,26nm,1.2s					
LBTB	**Lobatse**	**99.48 246**	LR	LR	20 24 51.7
comp=Z,175nm,18.9s,baz=98,slow=36					
RKT	**Rikitea**	**108.09 110**	*e*LR	LR	20 15 22.6
comp=Z,273nm,32.5s					
TORD	**Torodi Ar. Bea**	**114.13 291**	PKP	PKPdf	19 43 51.6 -0.3
TORD			PP	**PP**	**19 44 46.9 +0.3**
TORD	**Torodi Ar. Bea**	**114.13 291**	PKP	PKPdf	19 43 51.6 -0.3
comp=Z,1.0nm,0.8s,baz=15,slow=3.3,SNR=5.3					
TORD			PP	**PP**	**19 44 46.9 +0.3**
comp=Z,0.7nm,0.9s,baz=41,slow=4.5,SNR=3.8					
DBIC	**Dimbokro**	**122.38 286**	PKP	**PKPdf**	**19 44 07.8 -0.1**
DBIC	**Dimbokro**	**122.38 286**	PKP	**PKPdf**	**19 44 07.8 -0.1**
comp=Z,3.5nm,0.7s,baz=20,slow=5.2,SNR=4.0					

GUC 22 19:37:38.4±0.5, 21°.73S×68°.75W, h131km±4km, ML3.6, 4C-2D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**Plate Boundary**	**0.47 261**		⇑*i*P	Pn	19 37 58.1	+0.4
PB09				*i*S	Sn	19 38 12.8	+0.7
PB09				AML	AML	19 38 14.6	
comp=N,4μm,0.2s							
PB04	**Plate Boundary**	**0.87 232**		⇑*i*P	Pn	19 38 06.9	+6.7
PB04				*i*S	Sn	19 38 28.1	+11
PB04				AML	AML	19 38 30.8	
comp=N,1μm,0.3s							
PB01	**Plate Boundary**	**0.97 314**		⇓*i*P	Pn	19 38 02.0	+0.7
PB01				*i*S	Sn	19 38 19.7	+1.1
PB01				AML	AML	19 38 22.9	
comp=E,880nm,0.3s							
MACH	**Maria Elena**	**1.05 243**		⇑*i*P	Pn	19 38 02.8	+0.6
MACH				*i*S	Sn	19 38 21.3	+1.1
PB07	**Plate Boundary**	**1.06 270**		⇑*i*P	Pn	19 38 03.2	+1.0
PB07				*i*S	Sn	19 38 21.9	+1.6
PB07				AML	AML	19 38 22.6	
comp=N,2μm,0.3s							
HMBC	**Humberstone**	**1.79 323**		⇓*i*P	Pn	19 38 10.6	+0.5
HMBC				*i*S	Sn	19 38 35.6	+1.2
HMBC				AML	AML	19 38 37.3	
comp=N,546nm,0.5s							
CEN1	**Los Morros**	**2.13 219**		AML	AML	19 38 55.4	
comp=N,190nm,0.4s							
PB10	**Plate Boundary**	**2.44 223**		AML	AML	19 38 59.0	
comp=E,552nm,0.3s							
PSGC	**Pisagua**	**2.48 328**		AML	AML	19 38 56.0	
comp=E,112nm,0.4s							

NIED ***22*** *19:38:00,45°.80N×152°.00E,h5km,Mw5.0 Best double couple: M0 3.18000×10^16 NP1:φ0=3.00000°,δ86.00000°, λ85.00000°. NP2:φ0=233.00000°,δ7.00000°,λ140.00000°.*
SKHL ***22*** *19:38:05.2±1.0,45°.84N×152°.20E,h60km±5km,mb5.4/4, Ms4.4/2,msh5.2/1*
ISCJB ***22*** *19:38:06.9±0.5,45°.95N±0°.04×151°.65E±0°.03,h38km±4km, mb4.8/147,MS4.4/19,Error ellipse: s-maj=6.5km s-min=2.7km az=165.9*
BJI ***22*** *19:38:06.4,45°.79N×152°.01E,h48km,mB4.9/22,mb4.9/43, Ms4.6/25,Ms7 4.4/24*
JMA ***22*** *19:38:06.4±0.6,45°.80N×151°.99E,h30km,M5.2*
TEH ***22*** *19:38:08.0,46°.08N×151°.54E,h30km,ML4.9*
MOS ***22*** *19:38:08.5±1.0,46°.07N×151°.61E,h51km,mb5.1/57, MS4.2/11,Error ellipse: s-maj=7.9km s-min=5.1km az=109.0*
NEIC ***22*** *19:38:10.3±0.6,46°.11N×151°.61E,h54km±5km,mb4.8/41, Error ellipse: s-maj=6.6km s-min=3.5km az=156.0*
IDC ***22*** *19:38:10.3±1.8,46°.11N×151°.61E,h51km±15km,mb4.1/29, mb1 4.3/34,mb1mx4.3/36,mbtmp4.1/34,ML4.2/5,MS4.2/13, Ms1 4.2/13,ms1mx3.8/43,Error ellipse: s-maj=14.6km s-min=9.7km az=158.0*

ISC 22 19:38:09.5±0.4, 45°.86N±0°.06×151°.66E±0°.04, h50km±2km, h50km:pP-P,n666,σ1§22/721,mb4.8/147,MS4.4/21, 117C-103D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.74 258**		⇑*i*PN	**Pn**	**19 38 50.9**	**+0.1**
KUR				*i*S	**Sn**	**19 39 25.9**	**+3.2**
KUR				pmax	pmax		
comp=N,139nm,0.4s							
KUR				pmax	pmax		
comp=Z,591nm,0.4s							
KUR				pmax	pmax		
comp=E,24nm,0.2s							
KUR				smax	smax		
comp=N,1μm,0.5s							
KUR				smax	smax		
comp=E,2μm,0.6s							
KUR	**Kuril'sk**	**2.74 258**		*i*P	**Pn**	**19 38 50.9**	**+0.1**
KUR				AMB	AMB	19 38 53.6	
comp=E,139nm,0.4s							
KUR				AMB	AMB	19 38 53.6	
comp=E,24nm,0.4s							
KUR				AMB	AMB	19 38 53.6	
comp=E,591nm,0.4s							
KUR				*i*S	**Sn**	**19 39 25.9**	**+3.2**
KUR				A	A	19 39 31.8	
comp=E,1μm,0.5s							
KUR				A	A	19 39 31.8	
comp=E,2μm,0.5s							
YUK	**Yuzh-Kuril'sk**	**4.50 248**		*c*iPN	**Pn**	**19 39 16.2**	**+1.2**
YUK				*i*S	**Sn**	**19 40 08.7**	**+2.7**
YUK				pmax	pmax		
comp=Z,540nm,0.3s							
YUK				pmax	pmax		
comp=N,75nm,0.3s							
YUK				pmax	pmax		
comp=E,166nm,0.3s							
YUK				smax	smax		
comp=N,281nm,0.6s							
YUK				smax	smax		
comp=E,1μm,0.6s							
YUK	**Yuzh-Kuril'sk**	**4.50 248**		*i*P	**Pn**	**19 39 16.2**	**+1.2**
YUK				AMB	AMB	19 39 19.8	
comp=E,75nm,0.3s							
YUK				AMB	AMB	19 39 19.8	
comp=E,166nm,0.3s							
YUK				AMB	AMB	19 39 19.8	
comp=E,540nm,0.3s							
YUK				*i*S	**Sn**	**19 40 08.7**	**+2.7**
YUK				A	A	19 40 28.8	
comp=E,281nm,0.6s							
YUK				A	A	19 40 28.8	
comp=E,1μm,0.6s							
NEM2	**Nemuro 2**	**4.90 242**		P	**Pn**	**19 39 19.7**	**-0.9**
NEM2				*e*S	**Sn**	**19 40 14.4**	**-1.5**
JRA	**Rausu**	**5.02 250**		P	**Pn**	**19 39 24.1**	**+1.9**
JRA				*e*S	**Sn**	**19 40 22.8**	**+3.9**
JNK	**Nakash**	**5.44 248**		P	**Pn**	**19 39 28.3**	**+0.3**
JNK				*e*S	**Sn**	**19 40 30.6**	**+1.4**
SKR	**Severo-Kuril's**	**5.67**	**30**	*e*PN	Pn	19 39 24.8	-6.3
SKR				pmax	pmax		
comp=N,90nm,0.5s							
SKR				pmax	pmax		
comp=E,50nm,0.5s							
SKR				pmax	pmax		
comp=Z,310nm,0.5s							
SKR				MLR	MLR		
comp=E,3μm,12.0s							
SKR				MLR	MLR		
comp=Z,3μm,12.0s							
SKR	**Severo-Kuril's**	**5.67**	**30**	*e*P	Pn	19 39 24.8	-6.3
SKR				AMB	AMB	19 39 27.0	
comp=Z,90nm,0.5s							
SKR				AMB	AMB	19 39 27.0	
comp=Z,50nm,0.5s							
SKR				AMB	AMB	19 39 27.0	
comp=Z,310nm,0.5s							
SKR				*e*S	Sn	19 40 27.8	-7.0
SKR				A	A	19 40 51.5	
comp=Z,380nm,0.6s							
SKR				A	A	19 40 51.5	
comp=Z,110nm,0.6s							
SKR				A	A	19 40 52.0	
comp=Z,2μm,6.0s							
SKR				A	A	19 40 52.0	
comp=Z,2μm,6.0s							
SKR				AMS	AMS	19 41 46.0	
comp=Z,3μm,12.0s							
JAK	**Akkeshi**	**5.75 243**		P	**Pn**	**19 39 31.3**	**-0.8**
JAK				*e*S	**Sn**	**19 40 35.2**	**-1.5**
JTKR	**Abashiri--Toko**	**5.82 254**		P	**Pn**	**19 39 34.8**	**+1.7**
JMP	**Maruseppu**	**6.17 256**		P	**Pn**	**19 39 41.0**	**+3.0**
JAR	**Ashorobuto**	**6.19 248**		P	**Pn**	**19 39 39.5**	**+1.3**
JAR				*e*S	**Sn**	**19 40 50.1**	**+2.5**
YSS	**Yuzh-Sakhalins**	**6.25 283**		⇑*i*PN	**Pn**	**19 39 41.7**	**+2.7**
YSS				*e*S	**Sn**	**19 40 50.0**	**+0.9**
YSS				pmax	pmax		
comp=Z,50nm,0.4s							
YSS				smax	smax		
comp=N,90nm,0.6s							
YSS				smax	smax		
comp=E,70nm,0.6s							
YSS				MLR	MLR		
comp=Z,2μm,16.0s							
YSS				MLR	MLR		
comp=N,900nm,15.0s							
YSS				MLR	MLR		
comp=E,2.0nm,14.0s							
YSS	**Yuzh-Sakhalins**	**6.25 283**		*i*P	**Pn**	**19 39 41.8**	**+2.7**
YSS				AMB	AMB	19 39 43.5	
comp=E,50nm,0.4s							
YSS				*e*S	**Sn**	**19 40 50.0**	**+0.9**
YSS				A	A	19 40 57.0	
comp=E,90nm,0.6s							
YSS				A	A	19 40 57.0	
comp=E,70nm,0.6s							
YSS				AMS	AMS	19 42 06.0	
comp=E,900nm,15.0s							
YSS				AMS	AMS	19 42 06.0	
comp=E,2μm,15.0s							
YSS				AMS	AMS	19 42 06.0	
comp=E,2μm,15.0s							
JOB	**Onbets**	**6.33 245**		P	**Pn**	**19 39 40.6**	**+0.4**
JOB				*e*S	**Sn**	**19 40 50.3**	**-0.9**
JKK2	**Kamakawa 2**	**6.63 256**		P	**Pn**	**19 39 46.9**	**+2.6**
ASAJ	**Asahikawa**	**6.66 258**		P	Pn	19 39 47.8	+3.2
ASAJ	**Asahikawa**	**6.66 258**		P	**Pn**	**19 39 47.3**	**+2.7**
ASAJ				S	Sn	19 41 15.0	+16
ASAJ	**Asahikawa**	**6.66 258**		P	**Pn**	**19 39 47.3**	**+2.7**
comp=E,7.4nm,0.3s,baz=74,slow=16,SNR=90							
ASAJ				S	Sn	19 41 15.0	+16
comp=E,1.5nm,0.3s,baz=42,slow=16,SNR=1.6							
ASAJ				LR	LR	19 42 24.8	
comp=E,2μm,20.0s,baz=89,slow=38							
JCH	**Churui**	**6.78 244**		P	**Pn**	**19 39 45.9**	**-0.4**
JCH				*e*S	**Sn**	**19 40 59.6**	**-2.6**
JWK2	**Keihoku**	**6.87 269**		P	Pn	19 39 53.2	+5.7
JFR	**Furan**	**7.02 251**		P	**Pn**	**19 39 51.0**	**+1.4**
JAB	**Ashibetsu**	**7.12 254**		P	Pn	19 39 54.2	+3.2
ERM	**Erimo**	**7.24 241**		*e*PN	**Pn**	**19 39 53.8**	**+1.2**
ERM				pmax	pmax		
comp=Z,190nm,0.4s							
ERM	**Erimo**	**7.24 241**		*e*P	**Pn**	**19 39 54.2**	**+1.6**
ERM	**Erimo**	**7.24 241**		*e*Pn	**Pn**	**19 39 53.8**	**+1.2**
comp=Z,190nm,0.4s							
ERM				*e*Sn	Sn	19 41 06.2	-7.1
UGL	**Uglegorsk**	**7.25 300**		*e*PN	Pn	19 39 56.2	+3.4
UGL				*e*		19 41 18.8	
UGL				pmax	pmax		
comp=Z,60nm,0.3s							
UGL				MLR	MLR		
comp=N,1μm,16.0s							
UGL				MLR	MLR		
comp=E,2μm,16.0s							
UGL				MLR	MLR		
comp=Z,2μm,16.0s							
JBT2	**Biratori 2**	**7.34 249**		P	**Pn**	**19 39 54.1**	**+0.1**
JBT2				*e*S	**Sn**	**19 41 17.6**	**+1.7**
JNBK	**Urakawa-nobuka**	**7.34 244**		P	**Pn**	**19 39 53.3**	**-0.7**
JNBK				*e*S	**Sn**	**19 41 14.0**	**-1.9**
JEW	**Eniwo**	**7.91 251**		P	**Pn**	**19 40 03.7**	**+1.9**
PEA0B	**Petropavlovsk-**	**8.25**	**26**	*e*Pn	**Pn**	**19 40 04.5**	**-1.9**
PETK	**Petropavlovsk-**	**8.25**	**26**	PN	**Pn**	**19 40 05.1**	**-1.4**
PETK				S	**Sn**	**19 41 41.4**	**+3.2**
PETK				pmax	pmax		
comp=Z,2.0nm,0.3s							
PETK				MLR	MLR		
comp=Z,308nm,19.3s							
PETK	**Petropavlovsk-**	**8.25**	**26**	P	**Pn**	**19 40 05.1**	**-1.4**
PETK				S	**Sn**	**19 41 41.4**	**+3.2**
PETK	**Petropavlovsk-**	**8.25**	**26**	P	**Pn**	**19 40 05.1**	**-1.4**
comp=Z,2.1nm,0.3s,baz=180,slow=13,SNR=25							
PETK				S	**Sn**	**19 41 41.4**	**+3.2**
baz=200,slow=12,SNR=2.2							
PETK				LR	LR	19 43 29.6	
comp=Z,308nm,19.3s,baz=312,slow=40							
JNB	**Noboribetsu**	**8.35 250**		P	**Pn**	**19 40 07.9**	**+0.1**
JNB				*e*S	**Sn**	**19 41 39.5**	**-1.2**
JSK	**Shakotan**	**8.36 257**		P	Pn	19 40 11.5	+3.5
PET	**Petropavlovsk**	**8.49**	**30**	*e*PN	Pn	19 40 15.3	+5.6
PET				pmax	pmax		
comp=Z,37nm,0.5s							
PET				MLR	MLR		
comp=Z,500nm,15.0s							
JKB	**Kayabe**	**8.64 246**		P	**Pn**	**19 40 11.1**	**-0.6**
JKB				*e*S	**Sn**	**19 41 42.9**	**-4.8**
JSH	**Shimam**	**8.93 253**		P	**Pn**	**19 40 17.5**	**+1.7**
JYM2	**Yakumo 2**	**8.95 249**		P	**Pn**	**19 40 16.1**	**0.0**
JANG	**Nango**	**9.22 237**		P	Pn	19 40 16.1	-3.6
JANG				*e*S	Sn	19 41 52.1	-10
JSR	**Shiriuchi**	**9.22 246**		P	**Pn**	**19 40 18.7**	**-1.0**
JSR				*e*S	**Sn**	**19 41 56.2**	**-5.7**
JTM	**Tenmabayashi**	**9.23 240**		P	**Pn**	**19 40 17.9**	**-2.0**
JTM				*e*S	Sn	19 41 55.3	-6.9
JTH	**Tanohata**	**9.30 234**		P	Pn	19 40 17.3	-3.6
JTH				*e*S	Sn	19 41 53.9	-10
JOSM	**Okushiri--Mats**	**9.56 251**		P	**Pn**	**19 40 24.2**	**-0.1**
OFUJ	**Ofunato**	**10.01 231**		*e*S	Sn	19 42 12.7	-8.7
JRG	**Rokugo**	**10.37 235**		P	**Pn**	**19 40 32.5**	**-3.0**
JOG2	**Oga 2**	**10.53 240**		P	**Pn**	**19 40 36.4**	**-1.3**
JIO	**Ouri**	**10.64 230**		P	Pn	19 40 35.7	-3.4
JIO				*e*S	Sn	19 42 23.2	-13
JYA	**Atsumi**	**11.44 235**		P	**Pn**	**19 40 47.2**	**-2.9**
HABR	**Khabarovsk**	**11.60 289**		*e*PN	**Pn**	**19 40 54.0**	**+1.8**
HABR				*e*S	**Sn**	**19 43 04.5**	**+4.3**
HABR				pmax	pmax		
comp=E,11nm,0.9s							
HABR				pmax	pmax		
comp=N,5.0nm,0.9s							
HABR				pmax	pmax		
comp=Z,23nm,1.8s							
HABR				MLR	MLR		
comp=Z,1μm,17.0s							
MAJO	**Matsushiro**	**13.74 232**		*e*P	**Pn**	**19 41 18.5**	**-3.0**
MAJO				pmax	pmax		
comp=Z,16nm,0.6s							
MAJO	**Matsushiro**	**13.74 232**		*e*P	**Pn**	**19 41 19.1**	**-2.4**
MAJO	**Matsushiro**	**13.74 232**		*e*Pn	**Pn**	**19 41 18.5**	**-3.0**
comp=Z,16nm,0.6s							
MAT	**Matsushiro**	**13.74 232**		P	**Pn**	**19 41 18.9**	**-2.6**
MAT				*e*S	**Sn**	**19 43 54.4**	**+2.0**
KLR	**Kul'dur**	**13.86 291**		*e*P	**Pn**	**19 41 22.2**	**-0.8**
KLR				MLR	MLR		
comp=Z,1μm,15.5s							
USRK	**Ussuriysk Arra**	**14.01 270**		P	**Pn**	**19 41 25.3**	**+0.2**
comp=Z,1.6nm,0.3s,baz=80,slow=13,SNR=17							
MDJ	**Mudanjiang**	**15.59 273**		P	**Pn**	**19 41 46.4**	**+0.6**
MDJ				pmax	pmax		
comp=Z,7.0nm,0.5s							
MDJ				pmax	pmax		
comp=Z,140nm,7.9s							
FX1	**Attu Island--F**	**15.64**	**56**	*e*Pn	**Pn**	**19 41 42.9**	**-3.4**
FX1	**Attu Island--F**	**15.64**	**56**	P	**Pn**	**19 41 44.3**	**-2.0**
comp=Z,4.4nm,0.3s,baz=245,slow=14,SNR=7.1							
FX1				LR	LR	19 45 58.3	
comp=Z,248nm,20.1s,baz=262,slow=30							
CN2	**Changchun**	**18.68 273**		*e*P	**Pn**	**19 42 23.8**	**-0.3**
CN2				*es*P	**sP**	**19 42 39.5**	**-1.6**
CN2				*e*S	**Sn**	**19 45 45.3**	**-6.7**
CN2				pmax	pmax		
comp=Z,30nm,0.7s							
CN2				pmax	pmax		
comp=Z,200nm,6.0s							
CN2				LR	LR		
comp=N,900nm,16.0s							
CN2				LR	LR		
comp=E,700nm,16.0s							
CN2				LR	LR		
comp=Z,900nm,17.0s							
KSRS	**Korea Array**	**19.57 253**		P	**Pn**	**19 42 34.8**	**+0.1**
comp=Z,0.6nm,0.3s,baz=58,slow=10,SNR=30							
KSAR	**Wonju Array Be**	**19.60 253**		P	**Pn**	**19 42 34.8**	**-0.3**
JNU	**Nakatsue**	**20.39 239**		P	**P**	**19 42 43.4**	**+1.3**
JNU	**Nakatsue**	**20.39 239**		P	**P**	**19 42 43.4**	**+1.3**
comp=Z,10nm,0.9s,baz=43,slow=11,SNR=7.9							
JNU				LR	LR	19 51 40.8	
comp=Z,380nm,19.0s,baz=145,slow=40							
INCN	**Inchon**	**20.42 255**		*e*P	Pn	19 42 43.8	-1.0
comp=Z,18nm,0.6s							
SNY	**Shenyang**	**20.60 269**		⇑P	**P**	**19 42 44.6**	**+0.4**
SNY				S	S

HHC PP **PnPn** **19 45 01.8 -1.1**
HHC S **S** **19 48 55.1 -2.5**
HHC pmax pmax
comp=Z,26nm,1.0s
HHC pmax pmax
comp=Z,610nm,4.4s
HHC LR LR
comp=N,730nm,13.1s
HHC LR LR
comp=E,2μm,16.7s
HHC LR LR
comp=Z,2μm,15.5s
ULN Ulaanbaatar 30.25 290 *e*P **P** **19 44 16.8 +1.3**
ULN Ulaanbaatar 30.25 290 *e*P **P** **19 44 17.1 +1.6**
comp=Z,2.1nm,0.7s
SONM Songino Array 30.69 290 P **P** **19 44 18.8 -0.5**
SONM PcP **PcP** **19 47 17.2 +1.1**
SONM Songino Array 30.69 290 P **P** **19 44 18.8 -0.5**
comp=Z,0.7nm,0.3s,baz=81,slow=7.8,SNR=13
SONM PcP **PcP** **19 47 17.2 +1.1**
comp=Z,0.9nm,1.0s,baz=96,slow=5.1,SNR=3.6
SONM LR LR 19 57 36.2
comp=Z,526nm,19.2s,baz=105,slow=38
ZAK Zakamensk 32.15 296 *e*P P 19 44 28.8 -3.3
ZAK pmax pmax
comp=Z,2.0nm,1.8s
WHN Wuhan 32.73 255 P **P** **19 44 37.0 -0.2**
LZH Lanzhou 36.91 272 *e*P **P** **19 45 15.8 +2.3**
LZH pP **pP** **19 45 27.1 +0.5**
LZH sP **sP** **19 45 31.8 -0.7**
LZH PP **PnPn** **19 46 41.8 +3.2**
LZH *e*S **S** **19 50 51.8 -3.0**
LZH SS **SnSn** **19 53 30.3 -0.4**
LZH pmax pmax
comp=Z,23nm,1.1s
LZH pmax pmax
comp=Z,140nm,6.2s
LZH LR LR
comp=E,320nm,14.6s
LZH LR LR
comp=Z,520nm,17.3s
COLA College 37.46 38 *e*P **P** **19 45 17.0 -0.6**
COLA pmax pmax
comp=Z,28nm,0.6s
COLA College 37.46 38 *e*P **P** **19 45 16.4 -1.2**
COLA College 37.46 38 *e*P **P** **19 45 17.0 -0.6**
comp=Z,28nm,0.6s
ILAR Eielson Array 37.87 38 P **P** **19 45 19.9 -1.2**
ILAR Eielson Array 37.87 38 P **P** **19 45 19.9 -1.2**
comp=Z,1.6nm,0.5s,baz=260,slow=7.2,SNR=18
HVS Khovu-Aksy 37.90 300 *i* P **P** **19 45 21.3 -0.3**
HVS pmax pmax
comp=Z,14nm,0.8s
GTA Gaotai 38.12 279 *e*P **P** **19 45 25.3 +1.7**
GTA pP **pP** **19 45 38.4 +1.6**
GTA sP **sP** **19 45 44.5 +1.8**
GTA PcP **PcP** **19 47 38.9 +1.3**
GTA S **S** **19 51 14.3 +1.3**
GTA sS **sS** **19 51 34.3 -0.9**
GTA SS **SnSn** **19 53 52.5 -7.2**
GTA ScS **ScS** **19 55 33.3 +2.7**
GTA pmax pmax
comp=Z,8.0nm,0.7s
GTA pmax pmax
comp=Z,1μm,5.7s
GTA LR LR
comp=N,330nm,14.5s
GTA LR LR
comp=E,350nm,14.7s
GTA LR LR
comp=Z,380nm,14.7s
CD2 Chengdu 39.80 265 P **P** **19 45 38.5 +0.9**
CD2 pP **pP** **19 45 52.3 +1.4**
CD2 sP **sP** **19 45 58.5 +1.7**
CD2 PP **PnPn** **19 47 15.1 +1.9**
CD2 S **S** **19 51 38.8 +0.5**
CD2 sS **sS** **19 52 01.4 +0.8**
CD2 SS **SS** **19 54 29.3 -6.3**
CD2 pmax pmax
comp=Z,40nm,1.0s
CD2 pmax pmax
comp=Z,60nm,5.2s
CD2 LR LR
comp=N,310nm,11.3s
CD2 LR LR
comp=Z,440nm,14.3s
GYA Guiyang 40.53 257 *e*P **P** **19 45 45.0 +1.1**
GYA pP **pP** **19 45 58.8 +1.7**
GYA sP **sP** **19 46 06.4 +3.4**
GYA PP **PnPn** **19 47 22.0 -0.1**
GYA PcP **PcP** **19 47 48.6 +3.1**
GYA ScP **ScP** **19 51 31.3 +0.8**
GYA ScS **ScS** **19 55 43.3 -1.8**
GYA pmax pmax
comp=Z,10.0nm,1.0s
GYA pmax pmax
comp=Z,90nm,5.2s
GYA LR LR
comp=N,410nm,17.0s
GYA LR LR
comp=E,390nm,18.4s
GYA LR LR
comp=Z,420nm,17.8s
ZALV Zalesovo Beam 42.32 306 P **P** **19 45 57.2 -0.8**
ZALV 19 47 50.7
ZALV pmax pmax
comp=Z,1.0nm,0.4s
ZALV MLR MLR
comp=Z,835nm,18.1s
ZALV Zalesovo Beam 42.32 306 P **P** **19 45 57.2 -0.8**
ZALV PcP **PcP** **19 47 50.7 0.0**
ZALV ScP **ScP** **19 51 37.3 +0.3**
ZALV Zalesovo Beam 42.32 306 P **P** **19 45 57.2 -0.8**
comp=Z,0.7nm,0.4s,baz=71,slow=7.1,SNR=5.4
ZALV PcP **PcP** **19 47 50.7 0.0**
comp=Z,3.4nm,0.8s,baz=90,slow=4.4,SNR=12
ZALV ScP **ScP** **19 51 37.3 +0.3**
comp=Z,0.3nm,0.3s,baz=52,slow=2.4,SNR=3.0
ZALV LR LR 20 04 46.0
comp=Z,835nm,18.1s,baz=68,slow=38
INK Inuvik 42.94 32 *e*P **P** **19 46 02.0 -0.8**
comp=Z,8.4nm,1.0s
INK Inuvik 42.94 32 P **P** **19 46 02.1 -0.7**
comp=Z,2.9nm,0.5s,baz=264,slow=8.8,SNR=8.4
QIZ Qiongzhong 43.57 246 P **P** **19 46 05.6 -2.9**
QIZ sP **sP** **19 46 27.6 -0.1**
QIZ S **S** **19 52 35.8 +1.7**
QIZ pmax pmax
comp=Z,39nm,2.1s
QIZ pmax pmax
comp=Z,490nm,5.4s
QIZ LR LR
comp=N,230nm,13.5s
QIZ LR LR
comp=Z,320nm,20.2s
KMI Kunming 44.09 259 P **P** **19 46 14.3 +1.4**
KMI pP **pP** **19 46 23.3 -3.0**
KMI pmax pmax
comp=Z,12nm,1.3s
WMQ Urumqi 44.31 291 P **P** **19 46 16.4 +2.1**
WMQ pP **pP** **19 46 28.9 +1.2**
WMQ sP **sP** **19 46 34.4 +0.8**
WMQ PP **PP** **19 48 01.3 +3.2**
WMQ pmax pmax
comp=Z,15nm,0.7s
WMQ pmax pmax
comp=Z,230nm,5.4s
WMQ LR LR
comp=E,190nm,23.5s
WMQ LR LR
comp=Z,220nm,26.6s
MK31 Makanchi Array 46.46 297 *e*P **P** **19 46 30.6 -0.6**
MK31 *e* 19 48 04.9
MK31 Makanchi Array 46.46 297 *e*P **P** **19 46 30.6 -0.6**
MK31 *e*PcP **PcP** **19 48 04.9 -0.2**
MKAR Makanchi Array 46.46 297 P **P** **19 46 30.5 -0.7**
MKAR 19 48 05.2
MKAR pmax pmax
comp=Z,6.0nm,0.5s
MKAR MLR MLR
comp=Z,619nm,18.9s
MKAR Makanchi Array 46.46 297 *e*P **P** **19 46 30.5 -0.7**
MKAR Makanchi Array 46.46 297 P **P** **19 46 30.4 -0.7**
MKAR PcP **PcP** **19 48 05.2 +0.1**
MKAR ScP **ScP** **19 51 55.0 +0.9**

MKAR Makanchi Array 46.46 297 P **P** **19 46 30.4 -0.7**
comp=Z,6.2nm,0.5s,baz=66,slow=7.5,SNR=66
MKAR PcP **PcP** **19 48 05.2 +0.1**
comp=Z,1.8nm,0.5s,baz=60,slow=1.4,SNR=6.2
MKAR ScP **ScP** **19 51 55.0 +0.9**
comp=Z,1.0nm,0.8s,baz=60,slow=8.5,SNR=4.8
MKAR LR LR 20 07 05.8
comp=Z,619nm,18.9s,baz=267,slow=38
DLBC Dease Lake 46.94 45 P **P** **19 46 34.6 -0.2**
DLBC Dease Lake 46.94 45 P **P** **19 46 34.6 -0.2**
comp=Z,3.6nm,0.8s,baz=284,slow=9.7,SNR=5.2
KURK Kurchatov 47.02 304⇓ *e*P **P** **19 46 33.1 -2.4**
KURK pmax pmax
comp=Z,5.0nm,1.6s
KURK Kurchatov 47.02 304 *e*P **P** **19 46 33.1 -2.4**
KURK Kurchatov 47.02 304 *e*P **P** **19 46 32.7 -2.7**
comp=Z,1.8nm,0.4s
KURK PcP **PcP** **19 48 07.6 +0.7**
KURBB Kurchatov Arra 47.11 304 P **P** **19 46 34.4 -1.8**
comp=Z,2.7nm,0.5s,baz=72,slow=8.5,SNR=18
KURBB PcP **PcP** **19 48 07.6 +0.4**
comp=Z,2.1nm,1.0s,baz=64,slow=3.5,SNR=5.3
LSA Lhasa 49.31 273 P **P** **19 46 55.1 +1.1**
BBB Bella Bella 50.46 52 LR LR 20 09 33.5
comp=Z,110nm,18.0s,baz=134,slow=37
BVAR Borovoye Array 50.65 309 P **P** **19 47 02.0 -1.3**
BVAR 19 48 19.2
BVAR pmax pmax
comp=Z,2.0nm,0.5s
BVAR Borovoye Array 50.65 309 P **P** **19 47 02.0 -1.3**
BVAR PcP **PcP** **19 48 19.2 -0.8**
BVAR Borovoye Array 50.65 309 P **P** **19 47 02.0 -1.3**
comp=Z,1.9nm,0.5s,baz=52,slow=9.7,SNR=19
BVAR PcP **PcP** **19 48 19.2 -0.8**
comp=Z,1.0nm,0.4s,baz=76,slow=7.8,SNR=5.0
BRVK Borovoye 50.69 310⇓ *e*P **P** **19 47 01.9 -1.6**
BRVK pmax pmax
comp=Z,9.0nm,1.5s
BRVK Borovoye 50.69 310 *e*P **P** **19 47 01.9 -1.6**
BRVK Borovoye 50.69 310 *e*P **P** **19 47 01.7 -1.8**
comp=Z,2.3nm,0.4s
CHTO Chiang Mai 50.93 256 *e*P **P** **19 47 06.6 +0.8**
CHTO pmax pmax
comp=Z,34nm,0.8s
CHTO Chiang Mai 50.93 256 *e*P **P** **19 47 06.6 +0.8**
comp=Z,34nm,0.8s
CM31 Chiang Mai Arr 51.17 256 *e*P **P** **19 47 07.8 +0.2**
comp=Z,2.7nm,0.5s
CMAR Chiang Mai Arr 51.17 256 P **P** **19 47 09.4 +1.7**
CMAR Chiang Mai Arr 51.17 256 P **P** **19 47 09.4 +1.7**
comp=Z,2.2nm,0.6s,baz=38,slow=7.3,SNR=20
YKA Yellowknife Ar 52.24 36 P **P** **19 47 14.8 -0.2**
YKA Yellowknife Ar 52.24 36 P **P** **19 47 14.8 -0.2**
comp=Z,3.6nm,0.6s,baz=299,slow=7.0,SNR=14
TKM2 Tokmak 2 52.48 296 *e*P **P** **19 47 16.4 -1.0**
TKM2 pmax pmax
comp=Z,4.0nm,0.5s
TKM2 Tokmak 2 52.48 296 *e*P **P** **19 47 16.4 -1.0**
comp=Z,4.1nm,0.5s
TAPN Taplejung 53.14 273 *e*P **P** **19 47 23.4 +0.9**
comp=Z,24nm,0.6s
AAK Ala-Archa 53.33 296 *i* P **P** **19 47 23.7 +0.2**
AAK pmax pmax
comp=Z,7.0nm,0.6s
AAK Ala-Archa 53.33 296 *e*P **P** **19 47 23.7 +0.2**
AAK Ala-Archa 53.33 296 *e*P **P** **19 47 23.3 -0.2**
comp=Z,3.1nm,0.6s
AAK Ala-Archa 53.33 296 P **P** **19 47 24.2 +0.6**
comp=Z,3.7nm,0.6s,baz=81,slow=7.5
ODAN Odare 53.67 273 *e*P **P** **19 47 26.8 +0.5**
comp=Z,16nm,0.5s
EKS2 Erkin-Say 53.76 297 *e*P **P** **19 47 24.5 -2.2**
EKS2 pmax pmax
comp=Z,6.0nm,0.5s
EKS2 Erkin-Say 53.76 297 *e*P **P** **19 47 24.5 -2.2**
comp=Z,6.4nm,0.5s
SVE Sverdlovsk 53.80 317⇓ *e*P **P** **19 47 25.4 -1.1**
SVE pmax pmax
comp=Z,10.0nm,1.0s
JIRN Jiri 54.01 274 *e*P **P** **19 47 29.9 +0.9**
comp=Z,46nm,0.6s
KSH Kashi 54.06 292 *e*P **P** **19 47 26.6 -2.3**
KSH sP **sP** **19 47 45.6 -2.8**
KSH PP **PP** **19 49 28.8 -1.6**
KSH PcS **PcS** **19 52 31.3 -1.5**
KSH S S 19 54 53.3 -8.2
KSH sS sS 19 55 13.6 -11
KSH pmax pmax
comp=Z,160nm,4.8s
KSH LR LR
comp=N,160nm,9.7s
KSH LR LR
comp=E,230nm,11.2s
KSH LR LR
comp=Z,590nm,19.3s
GUN Gumba 54.07 275 *e*P **P** **19 47 30.1 +0.7**
comp=Z,35nm,0.5s
RAMN Ramite 54.16 273 *e*P **P** **19 47 30.7 +0.8**
comp=Z,52nm,0.5s
KKN Kakani 54.56 275 *e*P **P** **19 47 33.7 +0.9**
comp=Z,29nm,0.6s
PKI Pulchoki 54.61 275 *e*P **P** **19 47 34.0 +0.7**
comp=Z,22nm,0.6s
PKIN Phulchoki 54.61 275 *e*P **P** **19 47 33.8 +0.6**
comp=Z,20nm,0.6s
DMN Daman 54.79 275 *e*P **P** **19 47 35.2 +0.7**
comp=Z,36nm,0.6s
ARU Arti 54.99 317 *c i*P **P** **19 47 33.3 -1.9**
ARU 19 49 37.4
ARU S **S** **19 55 11.7 -1.5**
ARU SS **SS** **19 58 55.5 -1.1**
ARU pmax pmax
comp=Z,10.0nm,1.0s
ARU Arti 54.99 317 *e*P **P** **19 47 33.3 -1.9**
DANN Dangsing 55.27 276 *e*P **P** **19 47 39.1 +1.1**
KKAR Karatay Array 55.54 299 *e*P **P** **19 47 38.8 -0.7**
KKAR pmax pmax
comp=Z,1.0nm,0.4s
KKAR Karatay Array 55.54 299 *e*P **P** **19 47 38.8 -0.7**
comp=Z,1.1nm,0.4s
KOLN Koldanda 55.74 276 *e*P **P** **19 47 42.4 +1.1**
PYUN Piuthan 55.96 277 *e*P **P** **19 47 43.9 +1.0**
EDM Edmonton 57.66 45 *e*P **P** **19 47 53.3 -1.0**
EDM Edmonton 57.66 45 *e*P **P** **19 47 53.3 -1.0**
ABKAR Akbulak array 58.22 310 *e*P **P** **19 47 56.6 -1.7**
comp=Z,5.9nm,0.5s
ARCES ARCESS Array B 58.36 341 P **P** **19 47 57.6 -1.3**
ARCES ARCESS Array B 58.36 341 P **P** **19 47 57.6 -1.3**
comp=Z,1.9nm,0.6s,baz=54,slow=7.5,SNR=11
NEW Newport 58.52 52 P **P** **19 48 00.2 -0.2**
NEW Newport 58.52 52 P **P** **19 48 00.2 -0.2**
comp=Z,7.5nm,1.0s,baz=319,slow=5.0,SNR=5.8
NEW Newport 58.52 52 ⇑P **P** **19 48 00.6 +0.2**
baz=58
YBH Yreka Blue Hor 59.06 60 P **P** **19 48 04.5 +0.2**
YBH Yreka Blue Hor 59.06 60 P **P** **19 48 04.6 +0.2**
comp=Z,1.1nm,0.3s,baz=180,slow=22,SNR=5.4
NDI New Delhi 59.59 281 *e*P **P** **19 48 06.0 -2.0**
KULM Kulim 59.77 244 *e*P **P** **19 48 10.9 +1.4**
comp=Z,9.0nm,1.0s
WALA Waterton Lakes 59.79 49 *e*P **P** **19 48 09.1 -0.2**
comp=Z,0.3nm,0.7s
BSMT Bassoo Peak 60.03 51 *e*P **P** **19 48 11.3 +0.2**
comp=Z,7.3nm,1.0s
KLMR Klimovskoe 60.34 329 *e*P P 19 48 08.8 -3.9
KLMR pmax pmax
comp=Z,23nm,1.7s
SWMT Swartz Lake 60.66 51 *e*P **P** **19 48 15.9 +0.6**
comp=Z,9.2nm,1.1s
SLMT Seeley Lake 61.10 51 *e*P **P** **19 48 18.1 -0.2**
comp=Z,28nm,1.1s
MSO Missoula 61.11 51 ⇓P **P** **19 48 18.1 -0.2**
baz=61,SNR=5.6
CHMT Chamberlain Mo 61.43 51 *e*P **P** **19 48 20.1 -0.6**
comp=Z,4.2nm,0.6s
KBL Kabul 61.45 291 *e*P **P** **19 48 19.5 -1.4**
KBL pmax pmax
comp=Z,10.0nm,0.7s
KBL Kabul 61.45 291 *e*P **P** **19 48 19.5 -1.4**
comp=Z,9.6nm,0.7s
SUMG Summit 61.66 3 *e*P **P** **19 48 21.1 -0.9**
SUMG pmax pmax
comp=Z,63nm,1.0s
SUMG Summit 61.66 3 *i* P **P** **19 48 21.9 0.0**
comp=Z,39nm,0.9s
SUMG Summit 61.66 3 *e*P **P** **19 48 21.1 -0.9**

comp=Z,63nm,1.0s
JOF Joensuu 61.68 333 *e*P **P** **19 48 20.0 -1.7**
JOF pmax pmax
comp=Z,5.0nm,0.5s
JOF Joensuu 61.68 333 *e*p **P** **19 48 20.0 -1.7**
comp=Z,4.8nm,0.5s
FFC Flin Flon 62.07 39 *e*P **P** **19 48 23.5 -1.0**
FFC Flin Flon 62.07 39 *e*P **P** **19 48 23.5 -1.0**
MFID Camas Ranch 62.13 55 ⇑P **P** **19 48 25.3 +0.1**
baz=62
LRM Limekiln Ridge 62.54 52 *e*P **P** **19 48 28.2 +0.1**
comp=Z,126nm,1.0s
A19A Klindworth Far 62.56 47 ⇓P **P** **19 48 28.1 +0.1**
baz=62
HLID Hailey 62.85 55 ⇑P **P** **19 48 30.3 +0.1**
baz=62,SNR=5.7
WAKR Walker 63.00 62 *e*P **P** **19 48 31.1 -0.2**
comp=Z,12nm,1.5s
A20A Cobblestone Ra 63.01 47 ⇓P **P** **19 48 30.7 -0.2**
baz=63,SNR=8.0
BOZ Bozeman (W) 63.10 51 *e*P **P** **19 48 31.8 +0.1**
BOZ pmax pmax
comp=Z,5.0nm,0.6s
BOZ Bozeman (W) 63.10 51 *e*P **P** **19 48 31.8 +0.1**
comp=Z,4.8nm,0.6s
C19A Slack Wire Ran 63.16 48 ⇑P **P** **19 48 32.0 0.0**
baz=63,SNR=12
B20A Solberg Farm, 63.24 47 ⇑P **P** **19 48 33.0 +0.5**
baz=63
A21A Bergtoll Ranch 63.45 46 ⇑P **P** **19 48 33.9 0.0**
baz=63,SNR=7.2
D19A Cripps Ranch, 63.61 49 ⇓P **P** **19 48 35.1 +0.2**
baz=63
C20A Veseth Ranch, 63.72 48 ⇑P **P** **19 48 35.6 0.0**
baz=63,SNR=5.1
QLMT Earthquake Lak 63.72 52 *e*P **P** **19 48 34.8 -1.1**
comp=Z,0.5nm,0.3s
NVAR Mina Array Bea 63.74 61 P **P** **19 48 36.8 +0.6**
NVAR Mina Array Bea 63.74 61 P **P** **19 48 36.8 +0.6**
comp=Z,3.2nm,0.6s,baz=300,slow=7.2,SNR=6.7
B21A Ellsworth Farm 63.76 47 ⇓P **P** **19 48 36.5 +0.6**
baz=63
KAF Kangasniemi 63.82 335 *e*P **P** **19 48 33.6 -2.4**
KAF Kangasniemi 63.82 335 *e*p **P** **19 48 33.6 -2.4**
D20A Manuel Ranch, 64.05 48 ⇑P **P** **19 48 38.3 +0.4**
baz=64,SNR=11
C21A Desert Coulee 64.11 47 ⇓P **P** **19 48 38.7 +0.5**
baz=64
E19A Rath Farm, Rou 64.11 49 ⇑P **P** **19 48 39.1 +0.8**
baz=64
FIA1 FINESS Array S 64.41 334 *e*P **P** **19 48 37.0 -2.9**
FINES FINESS Array B 64.41 334 P **P** **19 48 38.0 -1.8**
FINES FINESS Array B 64.41 334 P **P** **19 48 38.0 -1.8**
comp=Z,4.4nm,0.6s,baz=46,slow=6.1,SNR=31
F19A Roth Farm, Mol 64.42 50 ⇓P **P** **19 48 40.4 0.0**
baz=64,SNR=6.1
E20A Meyer Farm, Mu 64.43 49 ⇑P **P** **19 48 40.9 +0.6**
baz=64
H17A Grant Village 64.47 52 ⇑P **P** **19 48 42.3 +1.4**
baz=64
D21A La Casta Ranch 64.66 48 ⇓P **P** **19 48 41.6 -0.2**
baz=64,SNR=6.5
RRI2 Red Ridge 64.73 53 *e*P **P** **19 48 43.4 +0.8**
comp=Z,14nm,0.8s
B23A Brockton 64.76 46 ⇑P **P** **19 48 42.5 0.0**
baz=64
C22A Vida 64.78 47 ⇓P **P** **19 48 42.7 +0.1**
baz=64
TPAW Teton Pass 64.84 53 *e*P **P** **19 48 44.2 +0.8**
comp=Z,13nm,0.9s
D22A Cohagen 65.02 47 ⇑P **P** **19 48 44.4 +0.2**
baz=65
C23A Lambert 65.10 46 ⇓P **P** **19 48 44.9 +0.3**
baz=65
DGMT Dagmar 65.15 45 ⇓P **P** **19 48 44.8 -0.2**
baz=65
G20A Bridger 65.22 50 ⇑P **P** **19 48 45.7 +0.1**
baz=65
GRAC Grapevine Rang 65.22 62 ⇓P **P** **19 48 46.4 +0.8**
baz=65
A25A Svangstu Ranch 65.37 44 ⇑P **P** **19 48 46.3 -0.1**
baz=65
R11A Troy Canyon, C 65.45 60 ⇑P **P** **19 48 47.2 -0.1**
baz=65,SNR=8.5
OBN Obninsk 65.47 325⇓ *e*P **P** **19 48 46.0 -0.8**
OBN *e**PP **pP** **19 48 59.7 -1.2**
OBN *SP **sP** **19 49 06.0 -0.6**
OBN pmax pmax
comp=Z,7.0nm,1.0s
OBN MLR MLR
comp=Z,200nm,14.0s
I19A Meeteetse 65.57 51 ⇑P **P** **19 48 48.3 +0.4**
baz=65
E22A Miles City 65.61 48 ⇓P **P** **19 48 48.4 +0.4**
baz=65
C24A Savage 65.67 46 ⇓P **P** **19 48 48.7 +0.4**
baz=65
MPMC Manual Prospec 65.75 63 ⇓P **P** **19 48 49.4 +0.1**
baz=66
FURC Furnace Creek, 65.88 62 ⇑P **P** **19 48 50.4 +0.6**
baz=66
F22A Rosebud 65.89 49 ⇑P **P** **19 48 49.2 -0.6**
baz=66,SNR=7.5
DUG Dugway 65.91 57 *e*P **P** **19 48 50.6 +0.5**
DUG pmax pmax
comp=Z,9.0nm,1.1s
DUG Dugway 65.91 57 *e*P **P** **19 48 50.6 +0.5**
comp=Z,8.6nm,1.1s
DUG Dugway 65.91 57 ⇑P **P** **19 48 50.4 +0.2**
baz=66
LRMC Laurel Mountai 66.00 63 ⇓P **P** **19 48 50.8 0.0**
baz=66
HYB Hyderabad 66.00 271 *i* P **P** **19 48 51.0 +0.1**
IMYA Miami 66.00 298 *e*P **P** **19 48 51.5 +0.7**
J19A Crowheart 66.04 52 ⇓P **P** **19 48 51.6 +0.7**
baz=66
PDAR Pinedale Array 66.09 53 P **P** **19 48 51.5 +0.1**
PDAR Pinedale Array 66.09 53 P **P** **19 48 51.5 +0.1**
comp=Z,3.8nm,0.8s,baz=291,slow=2.0,SNR=23
I20A Worland 66.10 51 ⇑P **P** **19 48 51.7 +0.5**
baz=66
VRHR Novokhopersk 66.16 320 *e*P P 19 48 47.1 -4.2
VRHR pmax pmax
comp=Z,4.0nm,0.5s
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.8s
B26A Jensen Ranch, 66.18 44 ⇑P **P** **19 48 51.9 +0.2**
baz=66
EDW2 Edwards Air Fo 66.19 64 ⇑P **P** **19 48 52.3 +0.3**
baz=66
H21A Big Horn, Sher 66.24 50 ⇓P **P** **19 48 52.4 +0.2**
baz=66
G22A Birney 66.24 49 ⇓P **P** **19 48 52.4 +0.3**
baz=66
A27A Ledoux Ranch, 66.27 43 ⇑P **P** **19 48 52.7 +0.5**
baz=66
M17A Scullys Gap (B 66.31 54 ⇓P **P** **19 48 51.9 -0.9**
baz=66
F23A Volborg 66.37 48 ⇑P **P** **19 48 52.4 -0.5**
baz=66,SNR=5.4
L18A Fontenelle, Gr 66.37 54 ⇑P **P** **19 48 53.2 0.0**
baz=66
E24A Baker 66.38 47 ⇑P **P** **19 48 53.0 +0.1**
baz=66
K19A Absolon Red Bu 66.44 52 ⇓P **P** **19 48 53.2 -0.4**
baz=66
IMOG Moghan 66.62 298 *e*P **P** **19 48 56.4 +1.4**
I21A Big Trails, Te 66.64 51 ⇓P **P** **19 48 54.3 -0.5**
baz=66,SNR=9.3
IAKL Akhelmad 66.66 299 *e*P **P** **19 48 56.0 +0.8**
IKRD Kardeh 66.70 299 *e*P **P** **19 48 52.5 -2.9**
ISHV Shirvan 66.70 300 *e*P **P** **19 48 56.4 +1.1**
G23A Biddle 66.73 49 ⇓P **P** **19 48 55.3 +0.1**
baz=66
F24A Ekalaka 66.79 48 ⇓P **P** **19 48 55.7 +0.1**
baz=66
ISFR Sfrayin 66.83 300 *e*P **P** **19 48 56.6 +0.4**
K20A Yellowstone Ra 66.83 52 ⇑P **P** **19 48 56.0 -0.1**
baz=66
J21A Lysite 66.87 51 ⇓P **P** **19 48 56.2 -0.1**
baz=66
E25A Miller Ranch, 66.88 47 ⇓P **P** **19 48 56.1 0.0**
baz=66
B28A Dugan Ranch, T 67.04 43 ⇑P **P** **19 48 57.5 +0.4**
baz=67

A29A	Manning Farm,	67.25	43	⇑P		P		19 48 58.6 +0.2
	baz=67							
L20A	Wamsutter	67.27	53	⇓P		P		19 48 58.9 0.0
	baz=67							
VORD	Divnogorie	67.30	321	eP		P		19 48 58.3 -0.3
VORD				pmax		pmax		
	comp=E,7.0nm,0.6s							
VORD				pmax		pmax		
	comp=Z,6.0nm,0.6s							
VORD				pmax		pmax		
	comp=N,10.0nm,1.7s							
WRAB	Tennant Creek	67.34	198	P		P		19 49 01.3 +2.2
WRAB				pmax		pmax		
	comp=Z,7.0nm,1.1s							
WRAB	Tennant Creek	67.34	198	P		P		19 49 01.3 +2.2
	comp=Z,6.5nm,1.1s							
WRA	Warramunga Arr	67.35	198	P		P		19 49 01.1 +1.9
WRA	Warramunga Arr	67.35	198	P		P		19 49 01.1 +1.9
	comp=Z,0.9nm,0.7s,baz=16,slow=6.4,SNR=6.1							
K21A	Alcova	67.45	52	⇓P		P		19 48 59.9 -0.1
	baz=67							
H24A	Dirks Ranch, A	67.47	49	⇓P		P		19 48 59.7 -0.3
	baz=67							
M20A	Sweetwater, Wa	67.70	53	⇑P		P		19 49 01.9 +0.2
	baz=67							
GMRC	Granite Mounta	67.71	63	⇓P		P		19 49 02.2 +0.5
	baz=67							
MDND	Maddock	67.83	44	⇑P		P		19 49 02.2 +0.2
	baz=67							
L21A	Rawlins	67.83	52	⇓P		P		19 49 02.8 +0.4
	baz=68							
E27A	Carson	67.85	46	⇑P		P		19 49 02.6 +0.3
	baz=67							
G27A	Dupree	67.88	47	⇑P		P		19 49 05.3 +2.9
	baz=68							
B30A	Myrvik Farm, E	68.01	42	⇑P		P		19 49 03.5 +0.4
	baz=68							
BELC	Belle Mtn. Jos	68.01	64	⇑P		P		19 49 03.8 +0.2
	baz=68							
M21A	Separation Pea	68.08	53	⇓P		P		19 49 03.8 -0.3
	baz=68							
N20A	Spence Gulch,	68.09	54	⇓P		P		19 49 04.5 +0.4
	baz=68							
G26A	Maurine	68.11	47	⇓P		P		19 49 03.9 0.0
	baz=68							
RSSD	Black Hills	68.17	49	eP		P		19 49 03.7 -0.8
RSSD				pmax		pmax		
	comp=Z,23nm,0.7s							
RSSD	Black Hills	68.17	49	eP		P		19 49 03.7 -0.8
	comp=Z,23nm,0.7s							
K23A	Bowen Ranch, D	68.25	51	⇓P		P		19 49 04.8 -0.1
	baz=68							
L22A	Ellis Ranch, M	68.30	52	⇑P		P		19 49 05.5 +0.2
	baz=68							
IMON	Monand	68.32	296	eP		P		19 49 06.1 +0.4
I25A	Rochford	68.40	49	⇑P		P		19 49 05.8 -0.2
	baz=68							
P19A	Cripple Cowboy	68.49	55	⇑P		P		19 49 06.6 0.0
	baz=68							
BC3	Big Chuckawall	68.58	63	⇑P		P		19 49 07.4 +0.3
	baz=68							
W13A	Hualapai Mount	68.60	61	⇓P		P		19 49 07.9 +0.6
	baz=68							
M22A	Cedar Creek Ra	68.64	52	⇓P		P		19 49 07.7 +0.1
	baz=68							
U15A	North Rim	68.69	59	⇓P		P		19 49 08.5 +0.6
	baz=68							
NB2	NORSAR Subarra	68.74	341	P		P		19 49 06.8 -0.7
	comp=Z,2.3nm,0.3s,baz=31,slow=6.5							
NOA	NORSAR Array B	68.74	341	P		P		19 49 06.5 -1.0
NOA	NORSAR Array B	68.74	341	P		P		19 49 06.5 -1.0
	comp=Z,5.6nm,0.6s,baz=28,slow=6.3,SNR=37							
NOA				LR		LR		20 20 49.9
	comp=Z,259nm,20.0s,baz=55,slow=37							
D30A	Buchanan	68.75	44	⇓P		P		19 49 08.3 +0.4
	baz=68							
I26A	New Underwood	68.85	48	⇓P		P		19 49 08.9 +0.4
	baz=68							
DZM	Mont Dzumac	68.93	165	eLR		LR		20 10 05.5
	comp=Z,197nm,24.2s							
PDMCI	Parker Dam,Lak	68.97	62	⇓P		P		19 49 10.0 +0.7
	baz=69							
ITEG	Tejag	69.10	296	eP		P		19 49 10.8 +0.4
G28A	Parade	69.12	46	⇑P		P		19 49 10.1 0.0
	baz=69							
I27A	Quinn	69.24	48	⇓P		P		19 49 11.1 +0.2
	baz=69							
IKOO	Kooshah	69.25	295	eP		P		19 49 11.4 -0.1
Q20A	Ridgley Place,	69.34	55	⇓P		P		19 49 12.5 +0.6
	baz=69							
O22A	Kremmling	69.51	53	⇓P		P		19 49 13.1 +0.1
	baz=69							
IGLO	Ghaloghah	69.70	302	eP		P		19 49 15.3 +1.2
I28A	Midland	69.74	47	⇓P		P		19 49 13.9 -0.2
	baz=69							
P22A	Eagle	69.78	54	⇑P		P		19 49 14.5 -0.1
	baz=69							
O23A	Lake Granby, G	69.83	53	⇑P		P		19 49 15.2 +0.2
	baz=70							
Q21A	Lamborn Mesa,	69.84	55	⇓P		P		19 49 15.8 +0.8
	baz=70							
Y14A	Wickenburg	69.91	62	⇑P		P		19 49 15.9 +0.6
	baz=70							
IKIA	Kiasar	69.98	302	eP		P		19 49 16.5 +0.6
S20A	Disappointment	70.07	56	⇑P		P		19 49 16.8 +0.4
	baz=70							
R21A	Cimarron	70.17	55	⇑P		P		19 49 17.3 +0.3
	baz=70							
ISCO	Idaho Springs	70.28	53	⇑P		P		19 49 18.5 +0.7
	baz=70							
IANJ	Anjilo	70.35	301	eP		P		19 49 19.2 +1.1
S21A	Coal Bank Pass	70.51	56	⇓P		P		19 49 19.8 +0.6
	baz=70							
X16A	Lo Mia Camp, P	70.55	61	⇑P		P		19 49 19.7 +0.4
	baz=70							
IALA	Alasht	70.59	302	eP		P		19 49 20.5 +0.8
J29A	Okreek	70.60	47	⇓P		P		19 49 19.3 0.0
	baz=70							
KIV	Kislovodsk	70.69	314	eP		P		19 49 19.1 -0.8
KIV				pmax		pmax		
	comp=Z,11nm,0.9s							
KIV				MLR		MLR		
	comp=Z,342nm,17.0s							
R22A	Saguache, Gunn	70.72	55	⇓P		P		19 49 21.1 +0.6
	baz=70							
KBZ	Khabaz	70.75	313	P		P		19 49 20.1 0.0
KBZ				pmax		pmax		
	comp=Z,9.0nm,0.9s							
KBZ				MLR		MLR		
	comp=Z,522nm,18.3s							
KBZ	Khabaz	70.75	313	P		P		19 49 20.1 0.0
KBZ	Khabaz	70.75	313	P		P		19 49 20.1 0.0
	comp=Z,8.9nm,0.8s,baz=184,slow=2.9,SNR=11							
KBZ				LR		LR		20 24 54.0
	comp=Z,522nm,18.2s,baz=55,slow=40							
Q23A	Hartsel	70.78	54	⇓P		P		19 49 21.4 +0.6
	baz=70							
ILAS	Lasjerd	70.98	301	eP		P		19 49 23.3 +1.3
S22A	4UR Ranch, Cre	71.01	55	⇓P		P		19 49 22.8 +0.6
	baz=71							
ASAR	Alice Springs	71.05	197	P		P		19 49 24.8 +2.7
ASAR	Alice Springs	71.05	197	P		P		19 49 24.8 +2.7
	comp=Z,0.5nm,0.5s,baz=11,slow=6.0,SNR=12							
ASAR				LR		LR		20 18 11.9
	comp=Z,139nm,18.9s,baz=287,slow=34							
K29A	Lazy Trails An	71.06	48	⇑P		P		19 49 22.7 +0.6
	baz=71							
N27A	Anderson Farm,	71.27	50	⇓P		P		19 49 23.9 +0.4
	baz=71							
R23A	Moffat	71.27	54	⇓P		P		19 49 23.7 -0.1
	baz=71							
X18A	Snowflake	71.38	60	⇑P		P		19 49 25.0 +0.6
	baz=71							
V20A	Brimhall	71.39	58	⇑P		P		19 49 24.9 +0.4
	baz=71							
IDMV	Damavand	71.39	302	eP		P		19 49 25.3 +0.7
OGNE	Ogallala	71.44	50	⇑P		P		19 49 24.9 +0.4
	baz=71							
T22A	Edith	71.47	56	⇓P		P		19 49 25.5 +0.6
	baz=71							
M28A	Bar X Bar Ranc	71.48	49	⇑P		P		19 49 25.0 +0.3
	baz=71							
K30A	Basset	71.48	47	⇓P		P		19 49 25.0 +0.4
	baz=71							
EYMN	Ely	71.50	39	eP		P		19 49 22.9 -1.7
	comp=Z,15nm,1.3s							
R24A	Sanders Place,	71.65	54	⇑P		P		19 49 26.2 +0.2
	baz=71							
Q25A	Bedland, Calha	71.66	53	⇑P		P		19 49 26.2 +0.2
	baz=71							
AKASG	Malin Array Be	71.72	326	P		P		19 49 24.5 -1.4
AKASG				pmax		pmax		
	comp=Z,4.0nm,0.4s							
AKASG				MLR		MLR		
	comp=Z,344nm,20.6s							
AKASG	Malin Array Be	71.72	326	P		P		19 49 24.5 -1.4
AKASG	Malin Array Be	71.72	326	P		P		19 49 24.5 -1.4
	comp=Z,3.8nm,0.4s,baz=34,slow=6.0,SNR=25							
AKASG				LR		LR		20 23 08.6
	comp=Z,344nm,20.6s,baz=90,slow=38							
KIEV	Kiev	71.73	326	eP		P		19 49 24.4 -1.5
KIEV				pmax		pmax		
	comp=Z,15nm,1.0s							
KIEV	Kiev	71.73	326	eP		P		19 49 24.4 -1.5
	comp=Z,15nm,1.0s							
O27A	Beecher Island	71.73	51	⇑P		P		19 49 26.8 +0.5
	baz=71							
IBAF	Bafgh	71.97	297	eP		P		19 49 28.0 +0.1
IVRN	Varamin	71.98	302	eP		P		19 49 28.9 +1.1
S24A	Houchin Ranch,	72.00	54	⇓P		P		19 49 28.5 +0.3
	baz=72							
IMHD	Mahdasht	72.13	303	eP		P		19 49 30.0 +1.3
X20A	Quemado	72.24	59	⇑P		P		19 49 30.3 +0.7
	baz=72							
GNI	Garni	72.33	310	P		P		19 49 30.9 +1.0
	comp=Z,12nm,0.8s							
U23A	El Rito	72.36	56	⇓P		P		19 49 31.0 +0.8
	baz=72							
ANN	Anapa	72.65	317	eP		P		19 49 29.3 -2.2
ANN				pmax		pmax		
	comp=Z,85nm,1.4s							
X21A	Alamocita Cree	72.73	58	⇓P		P		19 49 33.6 +1.1
	baz=72							
Y20A	Horse Springs,	72.75	59	⇓P		P		19 49 33.3 +0.7
	baz=72							
IRAZ	Razeghan	72.75	303	eP		P		19 49 33.5 +0.9
IZEF	Zefreh	73.06	300	eP		P		19 49 35.2 +0.7
IKLH	Kolahrood	73.22	301	eP		P		19 49 36.1 +0.6
T26A	Comanche Natio	73.25	54	⇑P		P		19 49 35.4 -0.1
	baz=73							
U25A	Circle Dot Ran	73.33	55	⇑P		P		19 49 35.9 0.0
	baz=73							
Q29A	Oakley	73.47	51	⇓P		P		19 49 37.3 +0.7
	baz=73							
120A	U Bar Ranch, L	73.54	60	⇑P		P		19 49 37.8 +0.6
	baz=73							
W24A	Lazy 6 Ranch,	73.59	56	⇑P		P		19 49 38.0 +0.5
	baz=73							
V25A	Rancho No Teng	73.61	55	⇓P		P		19 49 37.8 +0.2
	baz=73							
319A	Douglas	73.95	62	⇑P		P		19 49 40.2 +0.6
	baz=74							
Z22A	Elephant Butte	74.05	59	⇓P		P		19 49 40.5 +0.4
	baz=74							
220A	Playas Peak, P	74.05	61	⇑P		P		19 49 41.0 +0.8
	baz=74							
121A	Cookes Peak, D	74.06	60	⇑P		P		19 49 41.1 +0.9
	baz=74							
W25A	X Bar L Ranch,	74.14	56	⇑P		P		19 49 41.3 +0.7
	baz=74							
SCHQ	Schefferville	74.52	22	P		P		19 49 41.9 -0.5
SCHQ	Schefferville	74.52	22	P		P		19 49 41.9 -0.5
	comp=Z,2.4nm,0.4s,baz=337,slow=7.7,SNR=7.2							
Y25A	Mesa, Roswell	74.92	57	⇓P		P		19 49 46.1 +0.9
	baz=75							
X26A	CR and CF Fran	74.99	56	⇑P		P		19 49 45.4 -0.1
	baz=75							
ISRV	Sarvestan	75.02	297	eP		P		19 49 46.4 +0.3
T30A	Plains	75.04	52	⇑P		P		19 49 45.7 -0.1
	baz=75							
KWP	Kalwaria Pacla	75.06	328	⇑P		P		19 49 46.0 +0.4
KWP	Kalwaria Pacla	75.06	328	eP		P		19 49 45.8 +0.2
	comp=Z,67nm,1.0s							
KWP	Kalwaria Pacla	75.06	328	⇑iP		P		19 49 46.0 +0.4
KWP	Kalwaria Pacla	75.06	328	eP		P		19 49 45.9 +0.4
LEOM	Leova	75.46	323	⇓P		P		19 49 47.9 0.0
LEOM	Leova	75.46	323	⇓iP		P		19 49 47.9 0.0
IKAZ	Kazeroun	75.53	298	eP		P		19 49 49.4 +0.4
OJC	Ojcow	75.61	330	eP		P		19 49 48.6 -0.1
OJC	Ojcow	75.61	330	eP		P		19 49 48.6 -0.1
224A	Cornudas Mount	75.74	59	⇓P		P		19 49 50.5 +0.6
	baz=75							
BURAR	Bucovina Array	75.77	326	⇑P		P		19 49 49.6 -0.2
BURAR	Bucovina Array	75.77	326	⇑iP		P		19 49 49.6 -0.2
Z26A	Caprock	75.80	57	⇑P		P		19 49 50.5 +0.3
	baz=76							
Y27A	Causey	75.84	56	⇑P		P		19 49 50.4 -0.1
	baz=76							
125A	Gardner Draw,	75.84	58	⇓P		P		19 49 50.5 +0.1
	baz=76							
UZH	Uzhgorod	76.05	328	eP		P		19 49 46.4 -4.8
UZH				e				19 49 57.2
UZH				e				19 50 02.8
NIE	Niedzica	76.10	330	eP		P		19 49 51.8 +0.2
NIE	Niedzica	76.10	330	eP		P		19 49 51.8 +0.2
225A	Deer Hill, Car	76.13	58	⇓P		P		19 49 52.9 +0.6
	baz=76							
Z27A	Tatum	76.21	56	⇑P		P		19 49 53.2 +0.6
	baz=76							
KSP	Ksiaz	76.24	333	eP		P		19 49 51.8 -0.5
KSP	Ksiaz	76.24	333	eP		P		19 49 52.1 -0.2
TRPA	Tarpa	76.37	328	⇑iP		P		19 49 53.2 +0.2
OKC	Ostrava-Krasne	76.49	331	eP		P		19 49 53.6 -0.1
OKC	Ostrava-Krasne	76.49	331	eP		P		19 49 53.6 -0.1
226B	Tecolote Peak,	76.54	58	⇑P		P		19 49 54.6 +0.2
	baz=76							
CFR	Carcaliu	76.55	323	⇓P		P		19 49 54.3 +0.2
CFR	Carcaliu	76.55	323	⇓iP		P		19 49 54.3 +0.2
VRI	Vrincioaia	76.58	324	⇑P		P		19 49 55.0 +0.7
VRI	Vrincioaia	76.58	324	⇑iP		P		19 49 55.0 +0.7
UPC	Upice	76.62	333	eP		P		19 49 54.1 -0.3
UPC				e				19 50 12.6
UPC	Upice	76.62	333	eP		P		19 49 54.1 -0.3
UPC				epP		pP		19 50 12.6 +3.8
NRDL	Niedersach Rie	76.62	337	eP		P		19 49 53.9 -0.4
	comp=Z,13nm,1.1s							
PLOR	Plostina	76.62	324	⇑P		P		19 49 55.3 +0.7
PLOR	Plostina	76.62	324	⇑iP		P		19 49 55.3 +0.7
DPC	Dobruska-Polom	76.66	332	iP		P		19 49 54.8 +0.1
DPC				e				19 50 14.0
DPC	Dobruska-Polom	76.66	332	iP		P		19 49 54.8 +0.1
DPC				esP		sP		19 50 14.0 -0.8
KRLC	Kraliky	76.74	332	eP		P		19 49 55.2 0.0
KRLC	Kraliky	76.74	332	eP		P		19 49 55.2 0.0
MORC	Moravsky Berou	76.75	331	eP		P		19 49 55.1 -0.2
MORC				pmax		pmax		
	comp=Z,20nm,1.1s							
MORC	Moravsky Berou	76.75	331	eP		P		19 49 55.1 -0.2
	comp=Z,20nm,1.1s							
CLL	Collm	76.85	335	eP		P		19 49 54.8 -0.9
	comp=Z,29nm,1.3s							
CLL	Collm	76.85	335	⇓iP		P		19 49 55.3 -0.4
CLL				pmax		pmax		
	comp=Z,23nm,1.1s							
CLL	Collm	76.85	335	⇓iP		P		19 49 55.3 -0.4
	comp=Z,23nm,1.1s							
KBSD	Kabsdagh	76.87	310	eP		P		19 49 49.3 -6.9
BRG	Berggiesshubel	76.95	334	eP		P		19 49 55.7 -0.6
	comp=Z,9.7nm,1.1s							
BRG				e				19 50 10.6
	comp=Z,6.8nm,1.1s							
BRG	Berggiesshubel	76.95	334	eP		P		19 49 55.8 -0.5
	comp=Z,10.0nm,1.1s							
BRG	Berggiesshubel	76.95	334	eP		P		19 49 55.7 -0.6
BRG				e				19 50 10.6
BRG				pmax		pmax		
	comp=Z,10.0nm,1.1s							
425A	Indio Mountain	76.98	59	⇓P		P		19 49 56.9 -0.1
	baz=77							
TIRR	Tirgusor	77.00	322	⇑P		P		19 49 58.1 +1.4
TIRR	Tirgusor	77.00	322	⇑iP		P		19 49 58.0 +1.4
MALT	Malatya	77.01	312	⇑P		P		19 49 58.3 +1.3
MALT	Malatya	77.01	312	⇑iP		P		19 49 58.3 +1.3
PVCC	Panska Ves	77.06	334	eP		P		19 49 56.8 -0.1
PVCC	Panska Ves	77.06	334	eP		P		19 49 56.8 -0.1
FBE	Freiberg	77.09	334	eP		P		19 49 56.7 -0.3
	comp=Z,12nm,0.9s							
Z29A	Hungry Hill Ra	77.13	55	⇑P		P		19 49 58.1 +0.4
	baz=77							
CLZ	Clausthal	77.13	337	eP		P		19 49 57.3 -0.1
	comp=Z,29nm,1.2s							
CLZ	Clausthal	77.13	337	eP		P		19 49 57.3 -0.1
CLZ				pmax		pmax		
	comp=Z,29nm,1.2s							
128A	Castleberry Fa	77.14	56	⇑P		P		19 49 58.2 +0.4
	baz=77							
326A	Caldwell Ranch	77.20	58	⇓P		P		19 49 58.5 +0.3
	baz=77							
MLR	Muntele Rosu	77.21	324	⇓iP		P		19 49 58.2 +0.2
NEUB	Neuenburg	77.30	335	eP		P		19 49 57.7 -0.5
	comp=Z,25nm,1.1s							
Z30A	Sanderson Ranc	77.44	55	⇑P		P		19 49 59.6 +0.2
	baz=77							
PSZ	Piszkesteto	77.52	329	⇓P		P		19 50 00.4 +0.8
PSZ	Piszkesteto	77.52	329	eP		P		19 49 59.0 -0.6
	comp=Z,21nm,1.2s							
PSZ	Piszkesteto	77.52	329	⇓iP		P		19 50 00.4 +0.8
PSZ	Piszkesteto	77.52	329	⇓eP		P		19 49 59.9 +0.3
PRU	Pruhonice	77.54	333	iP		P		19 49 59.7 +0.1
PRU	Pruhonice	77.54	333	iP		P		19 49 59.7 +0.1
VOIR		77.61	325	⇑P		P		19 50 01.1 +0.9
VOIR		77.61	325	⇑iP		P		19 50 01.1 +0.9
MZRK	Al-Mazaregh	77.69	309	eP		P		19 50 01.7 +1.0
TANN	Tannenbergstha	77.80	335	eP		P		19 50 00.8 -0.3
	comp=Z,7.0nm,1.1s							
WERD	Werda	77.82	335	eP		P		19 50 00.8 -0.4
	comp=Z,12nm,1.2s							
ARR	Arges	77.84	325	⇓iP		P		19 50 01.9 +0.5
TREC	Trest	77.84	332	iP		P		19 50 01.5 +0.2
TREC	Trest	77.84	332	iP		P		19 50 01.5 +0.2
328A	Wristen Ranch,	77.84	57	⇑P		P		19 50 02.1 +0.4
	baz=78							
MOX	Moxa	77.85	335	eP		P		19 50 00.8 -0.5
	comp=Z,19nm,1.3s							
MOX	Moxa	77.85	335	eP		P		19 50 00.8 -0.5
MOX				pmax		pmax		
	comp=Z,19nm,1.3s							
GUNZ	Gunzen	77.89	335	eP		P		19 50 01.2 -0.4
	comp=Z,10.0nm,0.8s							
Z31A	Sharp Cattle R	77.98	54	⇓P		P		19 50 02.5 +0.1
	baz=78							
526A	Mary Lane Ranc	78.03	59	⇓P		P		19 50 03.5 +0.6
	baz=78							
LOT	Lotru	78.12	325	⇓iP		P		19 50 04.4 +1.3
UBBA	Unterbreizbach	78.16	336	eP		P		19 50 02.5 -0.4
	comp=Z,15nm,1.5s							
UMR	Umm Al-Rimmam	78.21	300	eP		P		19 50 03.9 +0.2
UMR				AMb		AMB		19 50 05.8
	comp=Z,38nm,0.7s							
SIRR	Siria	78.25	327	⇑iP		P		19 50 04.2 +0.5
MANZ	Manzenberg	78.29	335	eP		P		19 50 03.5 -0.3
	comp=Z,10.0nm,1.0s							
BUG	Bochum--Univer	78.33	338	eP		P		19 50 03.5 -0.4
	comp=Z,24nm,1.1s							
BR131	Keskin Array S	78.34	316	eP		P		19 50 03.9 -0.5
	comp=Z,7.0nm,1.0s							
BRTR	Keskin Array B	78.34	316	P		P		19 50 04.5 +0.1
BRTR	Keskin Array B	78.34	316	P		P		19 50 04.5 +0.1
	comp=Z,6.2nm,0.9s,baz=54,slow=2.6,SNR=18							
PKSN	Nyarlorinc	78.39	329	⇓eP		P		19 50 05.3 +0.9
428A	Kincaid Ranch,	78.39	58	⇑P		P		19 50 05.1 +0.3
	baz=78							
ROTZ	Rotzenmuhle	78.45	335	eP		P		19 50 04.8 +0.1
	comp=Z,12nm,1.0s							
PKSG		78.50	330	⇓eP		P		19 50 05.7 +0.7
PKS7	Kunszentmiklos	78.52	329	⇓eP		P		19 50 05.6 +0.5
GZR	Gura Zlata	78.55	326	⇓P		P		19 50 05.4 0.0
GZR	Gura Zlata	78.55	326	⇓iP		P		19 50 05.4 0.0
KHC	Kasperske Hory	78.59	333	iP		P		19 50 05.8 +0.3
KHC				e				19 50 10.2
KHC				e				19 50 25.9
KHC	Kasperske Hory	78.59	333	iP		P		19 50 05.8 +0.3
KHC				ex		x		19 50 10.2
KHC				esP		sP		19 50 25.9 +0.3
KHC	Kasperske Hory	78.59	333	eP		P		19 50 05.1 -0.4
	comp=Z,28nm,1.1s							
ANTO	Ankara	78.64	317	⇓P		P		19 50 06.5 +0.5
ANTO	Ankara	78.64	317	eP		P		19 50 05.4 -0.5
	comp=Z,4.6nm,0.7s							
ANTO	Ankara	78.64	317	⇓iP		P		19 50 06.5 +0.5
QRN	Al-Qurain	78.67	300	eP		P		19 50 06.4 +0.2
QRN				AMb		AMB		19 50 08.4
	comp=Z,67nm,0.7s							
RST	Umm Al-Ruwaisa	78.68	301	eP		P		19 50 06.4 +0.1
RST				AMb		AMB		19 50 08.4
	comp=Z,373nm,1.1s							
NAY	Al-Naaiem	78.72	300	eP		P		19 50 06.6 +0.1
NAY				AMb		AMB		19 50 08.5
	comp=Z,28nm,1.1s							
PKST	T``s	78.74	330	⇓eP		P		19 50 06.7 +0.4
528A	Cox Ranch, San	78.74	58	⇓P		P		19 50 07.2 +0.5
	baz=78							
RDF	Al-Radifah	78.76	300	eP		P		19 50 07.7 +0.9
RDF				AMb		AMB		19 50 09.9
	comp=Z,51nm,0.8s							
WET	Wettzell	78.80	334	eP		P		19 50 06.6 0.0
	comp=Z,20nm,1.1s							
WET	Wettzell	78.80	334	eP		P		19 50 06.6 0.0
WET				pmax		pmax		
	comp=Z,20nm,1.1s							
GEC2	GERESS Array S	78.81	333	eP		P		19 50 06.2 -0.6
	comp=Z,8.0nm,0.9s							
GEC2	GERESS Array S	78.81	333	eP		P		19 50 06.2 -0.6
GEC2				pmax		pmax		
	comp=Z,8.0nm,0.9s							
GERES	GERESS Array B	78.81	333	P		P		19 50 06.2 -0.6
GERES	GERESS Array B	78.81	333	P		P		19 50 06.2 -0.6
	comp=Z,2.3nm,0.4s,baz=37,slow=5.6,SNR=36							
GRF	Grafenberg Arr	78.81	335	eP		P		19 50 06.7 0.0
	comp=Z,41nm,1.3s							
GRF	Grafenberg Arr	78.81	335	eP		P		19 50 06.7 0.0
GRF				pmax		pmax		
	comp=Z,41nm,1.3s							
GRFO	Grafenberg	78.81	335	eP		P		19 50 07.1 +0.4
GRFO				pmax		pmax		
	comp=Z,18nm,0.8s							
GRFO	Grafenberg	78.81	335	eP		P		19 50 07.1 +0.4

STU	Stuttgart	80.23 336	P	P	19 50 11.8	-2.6
STU	Stuttgart	80.23 336	P	P	19 50 11.8	-2.6
DOU	Dourbes	80.25 339	P	P	19 50 10.3	-4.1
	comp=Z,10.0nm,2.2s					
JCT	Junction City	80.26 56	⇓P	P	19 50 15.6	+0.7
	baz=80					
SOKA	Soboth	80.27 331	⇑*i*P	P	19 50 14.2	-0.6
	comp=Z,24nm,1.2s,SNR=14					
PERS	Pernice	80.28 331	*i*P	P	19 50 15.0	+0.2
BAIF	Baives	80.38 339	*e*P	P	19 50 14.4	-0.7
BAIF	Baives	80.38 339	*e*P	P	19 50 14.4	-0.7
BAIF	Baives	80.38 339	*e*P	P	19 50 14.4	-0.7
LANF	Langenberg	80.43 337	*e*P	P	19 50 14.7	-0.8
532A	Rocksprings	80.46 56	⇓P	P	19 50 16.7	+0.7
	baz=80					
KBA	Koelnbreinsper	80.48 333	⇑*i*P	P	19 50 15.9	-0.1
	comp=Z,33nm,1.0s,SNR=19					
WHTX	Lake Whitney	80.48 54	⇑P	P	19 50 17.0	+1.0
	baz=80					
631A	Perdido Creek	80.59 57	⇑P	P	19 50 17.2	+0.5
	baz=80					
VTS	Vitosha	80.71 324	⇑P	P	19 50 17.8	+0.5
VTS	Vitosha	80.71 324	⇑*i*P	P	19 50 17.8	+0.5
WTTA	Wattenberg	80.85 334	⇑*i*P	P	19 50 18.3	+0.3
	comp=Z,23nm,0.8s,SNR=14					
BFO	Black Forest	80.87 336	*e*P	P	19 50 17.6	-0.3
	comp=Z,22nm,1.2s					
BFO	Black Forest	80.87 336	*e*P	P	19 50 17.3	-0.6
BFO			pmax	pmax		
	comp=Z,18nm,1.1s					
BFO	Black Forest	80.87 336	*e*P	P	19 50 17.3	-0.6
	comp=Z,18nm,1.1s					
RETA	Reutte	80.92 334	⇑*i*P	P	19 50 18.2	0.0
	comp=Z,18nm,1.2s,SNR=5.5					
MOTA	Moosalm	80.94 334	⇑*i*P	P	19 50 18.3	-0.1
	comp=Z,44nm,1.2s,SNR=17					
WLS	Welschbruch	81.07 337	*e*P	P	19 50 19.3	+0.4
CDF	Champ du Feu	81.09 337	*e*P	P	19 50 18.2	-0.9
CDF	Champ du Feu	81.09 337	*e*P	P	19 50 18.2	-0.9
CDF	Champ du Feu	81.09 337	*e*P	P	19 50 18.2	-0.9
VISS	Visnje	81.10 331	*i*P	P	19 50 18.4	-0.7
BOJS	Bojanci	81.22 331	*i*P	P	19 50 19.7	-0.1
JAVS	Javornik	81.28 332	*i*P	P	19 50 19.4	-0.8
ECH	Echery	81.30 337	*e*P	P	19 50 19.5	-0.6
ECH			pmax	pmax		
	comp=Z,17nm,1.1s					
ECH	Echery	81.30 337	*e*P	P	19 50 19.9	-0.2
ECH	Echery	81.30 337	*e*P	P	19 50 19.5	-0.6
	comp=Z,17nm,1.1s					
FETA	Feichten	81.35 334	⇑*i*P	P	19 50 20.6	0.0
	comp=Z,13nm,1.1s,SNR=6.1					
DAVA	Damuels	81.36 335	⇑*i*P	P	19 50 20.4	-0.2
	comp=Z,13nm,1.0s					
PAGF	Fort de Pagny	81.38 338	*e*P	P	19 50 20.1	-0.4
	comp=Z,7.5nm,0.6s					
PAGF	Fort de Pagny	81.38 338	*e*P	P	19 50 20.1	-0.4
	comp=Z,7.5nm,0.6s					
PMOR	Pomariorio Ree	81.43 122	*e*T	T	21 19 45.0	
	comp=Z,11nm,0.2s					
732A	Laxson Ranch,	81.45 57	⇓P	P	19 50 21.7	+0.5
	baz=81					
MEZF	Maizieres J'vi	81.60 338	*e*P	P	19 50 21.1	-0.6
MEZF	Maizieres J'vi	81.60 338	*e*P	P	19 50 21.1	-0.6
THEF	They Montfort	81.61 338	*e*P	P	19 50 21.6	-0.1
MOF	Molkenrain	81.64 337	*e*P	P	19 50 21.4	-0.6
HAU	Haudompre	81.71 337	*e*P	P	19 50 21.2	-1.1
HAU			*e*R			
	comp=Z,312nm,23.0s					
HAU	Haudompre	81.71 337	*e*P	P	19 50 21.2	-1.1
HAU	Haudompre	81.71 337	*e*P	P	19 50 21.2	-1.1
HINF	Hinteralfeld	81.75 337	*e*P	P	19 50 21.3	-1.2
HINF	Hinteralfeld	81.75 337	*e*P	P	19 50 21.3	-1.2
HINF	Hinteralfeld	81.75 337	*e*P	P	19 50 21.3	-1.2
SFTF	Sexfontaines	81.88 338	*e*P	P	19 50 22.4	-0.8
	comp=Z,32nm,0.5s					
SFTF	Sexfontaines	81.88 338	*e*P	P	19 50 22.4	-0.8
	comp=Z,32nm,0.5s					
SALA	Sala	82.16 309	*e*P	P	19 50 21.0	-4.1
LOMF	Lomont	82.18 337	*e*P	P	19 50 24.7	-0.2
TUE	Stuetta	82.26 335	*e*P	P	19 50 25.1	-0.4
	comp=Z,16nm,1.1s					
PPT	Papeete	82.47 125	LR	LR	20 20 15.0	
	comp=Z,177nm,19.5s,baz=192,slow=30					
PPT2	Papeete2	82.48 125	*e*LR	LR	20 16 19.4	
	comp=Z,289nm,22.5s					
FLN	La Foliniere	82.68 342	*e*P	P	19 50 26.4	-0.9
	comp=Z,15nm,0.6s					
FLN			*e*R			
	comp=Z,270nm,18.8s					
FLN	La Foliniere	82.68 342	*e*P	P	19 50 26.4	-0.9
FLN			pmax	pmax		
	comp=Z,15nm,0.6s					
FLN	La Foliniere	82.68 342	*e*P	P	19 50 26.4	-0.9
	comp=Z,15nm,0.6s					
LDF	La Druitiere	82.76 342	*e*P	P	19 50 26.7	-1.0
	comp=Z,15nm,0.7s					
LDF	La Druitiere	82.76 342	*e*P	P	19 50 26.7	-1.0
LDF			pmax	pmax		
	comp=Z,15nm,0.7s					
LDF	La Druitiere	82.76 342	*e*P	P	19 50 26.7	-1.0
	comp=Z,15nm,0.7s					
LOR	Lormes	83.05 339	*e*P	P	19 50 28.5	-0.8
	comp=Z,15nm,0.5s					
LOR			*e*R			
	comp=Z,367nm,22.0s					
LOR	Lormes	83.05 339	*e*P	P	19 50 28.5	-0.8
	comp=Z,15nm,0.5s					
CABF	La Chapelle	83.06 337	*e*P	P	19 50 28.5	-1.0
	comp=Z,7.0nm,0.6s					
CABF	La Chapelle	83.06 337	*e*P	P	19 50 28.5	-1.0
CABF			pmax	pmax		
	comp=Z,7.0nm,0.6s					
CABF	La Chapelle	83.06 337	*e*P	P	19 50 28.5	-1.0
	comp=Z,7.0nm,0.6s					
GRR	Gorron	83.11 342	*e*P	P	19 50 28.7	-0.8
	comp=Z,29nm,0.7s					
GRR	Gorron	83.11 342	*e*P	P	19 50 28.7	-0.8
GRR			pmax	pmax		
	comp=Z,29nm,0.7s					
GRR	Gorron	83.11 342	*e*P	P	19 50 28.7	-0.8
	comp=Z,29nm,0.7s					
SSF	Saint Saulge	83.33 339	*e*P	P	19 50 29.9	-0.8
	comp=Z,8.0nm,0.6s					
SSF	Saint Saulge	83.33 339	*e*P	P	19 50 29.9	-0.8
SSF			pmax	pmax		
	comp=Z,8.0nm,0.6s					
SSF	Saint Saulge	83.33 339	*e*P	P	19 50 29.9	-0.8
	comp=Z,8.0nm,0.6s					
SGMF	Saint Gilles	83.60 343	*e*P	P	19 50 31.2	-0.8
	comp=Z,6.0nm,0.3s					
SGMF	Saint Gilles	83.60 343	*e*P	P	19 50 31.2	-0.8
SGMF			pmax	pmax		
	comp=Z,6.0nm,0.3s					
SGMF	Saint Gilles	83.60 343	*e*P	P	19 50 31.2	-0.8
	comp=Z,6.0nm,0.3s					
AVF	Avril sur Loir	83.62 339	*e*P	P	19 50 31.6	-0.6
	comp=Z,15nm,0.6s					
AVF	Avril sur Loir	83.62 339	*e*P	P	19 50 31.6	-0.6
AVF			pmax	pmax		
	comp=Z,15nm,0.6s					
AVF	Avril sur Loir	83.62 339	*e*P	P	19 50 31.6	-0.6
	comp=Z,15nm,0.6s					
SMF	Signal de Mont	83.63 338	*e*P	P	19 50 31.6	-0.7
	comp=Z,58nm,0.9s					
SMF	Signal de Mont	83.63 338	*e*P	P	19 50 31.6	-0.7
SMF			pmax	pmax		
	comp=Z,58nm,0.9s					
SMF	Signal de Mont	83.63 338	*e*P	P	19 50 31.6	-0.7
	comp=Z,58nm,0.9s					
ROSF	Rostrenen	83.66 343	*e*P	P	19 50 31.6	-0.8
	comp=Z,7.9nm,0.6s					
ROSF	Rostrenen	83.66 343	*e*P	P	19 50 31.6	-0.8
ROSF			pmax	pmax		
	comp=Z,8.0nm,0.6s					
ROSF	Rostrenen	83.66 343	*e*P	P	19 50 31.6	-0.8
	comp=Z,7.9nm,0.6s					
LPL	La Plagne	83.89 336	*e*P	P	19 50 33.6	-0.3
	comp=Z,9.1nm,0.5s					
LPL	La Plagne	83.89 336	*e*P	P	19 50 33.6	-0.3
LPL			pmax	pmax		
	comp=Z,9.0nm,0.5s					
LPL	La Plagne	83.89 336	*e*P	P	19 50 33.6	-0.3
	comp=Z,9.1nm,0.5s					
LPG	La Plagne	83.90 336	*e*P	P	19 50 33.8	-0.2
	comp=Z,9.1nm,0.6s					
LPG	La Plagne	83.90 336	*e*P	P	19 50 33.8	-0.2
LPG			pmax	pmax		
	comp=Z,9.0nm,0.6s					
LPG	La Plagne	83.90 336	*e*P	P	19 50 33.8	-0.2
	comp=Z,9.1nm,0.6s					
BGF	Bois d'Agland	83.97 339	*e*P	P	19 50 33.7	-0.3
	comp=Z,12nm,0.6s					
BGF	Bois d'Agland	83.97 339	*e*P	P	19 50 33.7	-0.3
BGF			pmax	pmax		
	comp=Z,12nm,0.6s					
BGF	Bois d'Agland	83.97 339	*e*P	P	19 50 33.7	-0.3
	comp=Z,12nm,0.6s					
QUIF	Quistinic	84.04 343	*e*P	P	19 50 34.2	-0.1
QUIF	Quistinic	84.04 343	*e*P	P	19 50 34.2	-0.1
QUIF	Quistinic	84.04 343	*e*P	P	19 50 34.2	-0.1
PLDF	La Plantade	84.31 338	*e*P	P	19 50 36.9	+1.0
AGO	Saint Agoulin	84.36 339	*e*P	P	19 50 36.6	+0.6
TCF	Toulx Ste Croi	84.38 339	*e*P	P	19 50 35.5	-0.6
	comp=Z,4.1nm,0.6s					
TCF	Toulx Ste Croi	84.38 339	*e*P	P	19 50 35.5	-0.6
TCF			pmax	pmax		
	comp=Z,4.0nm,0.6s					
TCF	Toulx Ste Croi	84.38 339	*e*P	P	19 50 35.5	-0.6
	comp=Z,4.1nm,0.6s					
MBDF	Montbardon	84.60 336	*e*P	P	19 50 36.7	-0.7
	comp=Z,8.0nm,0.7s					
MBDF	Montbardon	84.60 336	*e*P	P	19 50 36.7	-0.7
MBDF			pmax	pmax		
	comp=Z,8.0nm,0.7s					
MBDF	Montbardon	84.60 336	*e*P	P	19 50 36.7	-0.7
	comp=Z,8.0nm,0.7s					
MFF	Saint Martin d	84.64 341	*e*P	P	19 50 36.7	-0.7
	comp=Z,14nm,0.7s					
MFF	Saint Martin d	84.64 341	*e*P	P	19 50 36.7	-0.7
MFF			pmax	pmax		
	comp=Z,14nm,0.7s					
MFF	Saint Martin d	84.64 341	*e*P	P	19 50 36.7	-0.7
	comp=Z,14nm,0.7s					
ORIF	Oris-en-Rattie	84.68 336	*e*P	P	19 50 37.6	-0.1
	comp=Z,12nm,0.6s					
ORIF			*e*R			
	comp=Z,294nm,22.2s					
ORIF	Oris-en-Rattie	84.68 336	*e*P	P	19 50 37.6	-0.1
ORIF			pmax	pmax		
	comp=Z,12nm,0.6s					
ORIF	Oris-en-Rattie	84.68 336	*e*P	P	19 50 37.6	-0.1
	comp=Z,12nm,0.6s					
PYM	Petit Puy Mans	84.68 339	*e*P	P	19 50 38.0	+0.3
VIVF	Saint-Julien-l	85.07 337	*e*P	P	19 50 39.7	+0.1
VIVF	Saint-Julien-l	85.07 337	*e*P	P	19 50 39.7	+0.1
VIVF	Saint-Julien-l	85.07 337	*e*P	P	19 50 39.7	+0.1
CAF	Calviac	85.69 339	*e*P	P	19 50 41.9	-0.8
	comp=Z,15nm,0.8s					
CAF	Calviac	85.69 339	*e*P	P	19 50 41.9	-0.8
CAF			pmax	pmax		
	comp=Z,15nm,0.8s					
CAF	Calviac	85.69 339	*e*P	P	19 50 41.9	-0.8
	comp=Z,15nm,0.8s					
MTLF	Montolieu	87.13 338	*e*P	P	19 50 49.6	-0.2
	comp=Z,6.3nm,0.7s					
MTLF	Montolieu	87.13 338	*e*P	P	19 50 49.6	-0.2
MTLF			pmax	pmax		
	comp=Z,6.0nm,0.7s					
MTLF	Montolieu	87.13 338	*e*P	P	19 50 49.6	-0.2
	comp=Z,6.3nm,0.7s					
TBI	Tubuai	87.13 128	*e*LR	LR	20 18 32.0	
	comp=Z,256nm,27.8s					
TBI	Tubuai	87.13 128	*e*T	T	21 27 04.9	
	comp=Z,10nm,0.3s					
KEST	Kesra	91.95 330	P	P	19 51 13.2	+0.6
KEST	Kesra	91.95 330	P	P	19 51 13.2	+0.6
	comp=Z,2.1nm,0.9s,baz=111,slow=5.6,SNR=7.2					
ESDC	Sonseca Array	92.09 341	P	P	19 51 11.4	-1.8
ESDC	Sonseca Array	92.09 341	P	P	19 51 11.4	-1.8
	comp=Z,0.1nm,0.3s,baz=358,slow=4.8,SNR=3.2					
TORD	Torodi Ar. Bea	115.32 327	PKP	PKPdf	19 56 44.3	-1.4
TORD	Torodi Ar. Bea	115.32 327	PKP	PKPdf	19 56 44.3	-1.4
	comp=Z,0.3nm,0.8s,baz=15,slow=2.0,SNR=6.3					
VNDA	Vanda	123.27 177	PKP	PKPdf	19 56 58.8	-0.2
VNDA	Vanda	123.27 177	PKP	PKPdf	19 56 58.8	-0.2
	comp=Z,0.5nm,0.7s,baz=285,slow=4.6,SNR=3.7					
LPAZ	La Paz	135.65 62	PKP	PKPdf	19 57 25.8	+0.7
LPAZ	La Paz	135.65 62	PKP	PKPdf	19 57 25.8	+0.7
	comp=Z,0.5nm,0.4s,baz=354,slow=4.6,SNR=3.6					
PLCA	Paso Flores	149.13 96	PKPbc	PKPbc	19 57 51.6	-0.2
PLCA	Paso Flores	149.13 96	PKPbc	PKPbc	19 57 51.6	-0.2
	comp=Z,3.1nm,0.7s,baz=303,slow=2.0,SNR=9.4					
CPUP	Villa Florida	149.79 60	PKPbc	PKPbc	19 57 53.5	-0.2
CPUP	Villa Florida	149.79 60	PKPbc	PKPbc	19 57 53.5	-0.2
	comp=Z,1.3nm,0.4s,baz=83,slow=1.1,SNR=5.2					
SNAA	Sanae	151.41 197	*e*PKP	PKPbc	19 57 55.9	-0.4
SNAA	Sanae	151.41 197	PKPbc	PKPbc	19 57 55.7	-0.6
SNAA	Sanae	151.41 197	PKPbc	PKPbc	19 57 55.7	-0.6
	comp=Z,0.5nm,0.6s,baz=174,slow=3.1,SNR=19					
VNA2	Neumayer--Watz	152.88 195	*e*PKP	PKPbc	19 57 59.7	+0.2
	baz=206,slow=1.8					
VNA1	Neumayer--Stat	153.27 195	*e*PKP	PKPbc	19 58 06.5	+6.2

BJI ***22*** *19:47:03.0,24°.10N×99°.33E,h5km,ML3.3/6*
IDC ***22*** *19:47:10.6±1.8,25°.05N×99°.13E,h0km,mb3.4/3,*
mb1 3.5/4,mb1mx3.3/28,mbtmp3.5/4,ML4.3/1,Error
ellipse: s-maj=56.8km s-min=24.3km az=87.0
ISC 22 19:47:06.0±1.2,24.44N±0.08×99.24E±0.09,h7km,n5,
σ0§95/7,mb3.5/3,Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	Kunming	3.26	77	Pg	Pb	19 48 03.8	-0.5
KMI				Sg	Sb	19 48 44.8	+0.5
KMI				smax	smax		
	comp=N,150nm,1.2s						
KMI				smax	smax		
	comp=E,120nm,0.9s						
CMAR	Chiang Mai Arr	5.96	183	Pn	Pb	19 48 49.2	-1.0
	comp=E,1.6nm,0.3s,baz=360,slow=16,SNR=22						
CMAR				Sn	Sb	19 50 03.1	+1.3
	comp=E,1.6nm,0.3s,baz=353,slow=27,SNR=12						
SONM	Songino Array	24.03	12	P	P	19 52 21.5	-0.2
	comp=E,0.9nm,0.7s,baz=191,slow=9.6,SNR=10						
MKAR	Makanchi Array	26.11	333	P	P	19 52 40.8	+0.3
	comp=E,0.8nm,0.8s,baz=128,slow=9.9,SNR=4.3						
KURBB	Kurchatov Arra	30.66	334	P	P	19 53 21.4	+0.4
	comp=E,0.2nm,0.7s,baz=136,slow=9.1,SNR=3.1						

ISCJB ***22*** *20:02:08.1±1.0,56°.6S±0°.1×26°.6W±0°.5,h101km,mb3.8/4,*
Error ellipse: s-maj=38.7km s-min=12.3km az=156.2
IDC ***22*** *20:02:10.1±11.0,56°.50S×26°.80W,h106km±103km,*
mb3.6/4,mb1 3.6/5,mb1mx3.4/17,mbtmp3.5/5,ML3.4/1,
Error ellipse: s-maj=41.3km s-min=23.8km az=65.0
ISC 22 20:02:10.0±0.9,56°.6S±0°.1×27°.0W±0°.3,h101km,n8,
σ1§21/9,mb3.9/4,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA2	Neumayer--Watz	16.67	157	*e*P	P	20 05 58.1	+0.4
SNAA	Sanae	18.23	156	*e*P	P	20 06 14.4	-0.4
SNAA	Sanae	18.23	156	P	P	20 06 14.5	-0.3
	0.1nm,0.3s,baz=310,slow=8.9,SNR=26						
SNAA				S	S	20 09 28.5	-9.4
	0.0nm,0.3s,baz=58,slow=13,SNR=2.8						
QSPA	South Pole Qui	33.68	180	P	P	20 08 41.3	+0.4
	2.1nm,0.7s,baz=202,slow=2.9,SNR=31						
VNDA	Vanda	46.06	183	P	P	20 10 22.9	0.0
	0.7nm,0.6s,baz=179,slow=6.2,SNR=11						
LPAZ	La Paz	50.76	305	P	P	20 11 00.2	-0.1
	2.7nm,0.5s,baz=133,slow=5.4,SNR=12						
TORD	Torodi Ar. Bea	73.46	29	P	P	20 13 30.2	-0.9
	0.3nm,0.8s,baz=200,slow=6.2,SNR=5.4						
TORD				pP	pP	20 13 59.2	+2.4
	0.7nm,0.5s,baz=198,slow=6.6,SNR=11						
SONM	Songino Array	150.65	87	PKPbc	PKPbc	20 21 48.0	-1.3
	0.4nm,0.6s,baz=250,slow=2.6,SNR=3.7						

IDC 22 20:10:15.6±6.5,5°.24S×129°.13E,h107km±75km,mb3.2/2,
mb1 3.6/4,mb1mx3.3/19,mbtmp3.4/4,ML4.0/2,Error
ellipse: s-maj=95.3km s-min=25.0km az=69.0,Banda
Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	15.47	161	P	P	20 13 49.4	-0.7
	0.5nm,0.3s,baz=342,slow=12,SNR=4.3						
WRA				S	Sn	20 16 34.4	-4.8
	0.6nm,0.3s,baz=326,slow=24,SNR=3.7						
ASAR	Alice Springs	18.89	166	P	P	20 14 28.3	+0.5
	0.9nm,0.3s,baz=349,slow=12,SNR=90						
TGY	Tagaytay City	20.87	337	P	P	20 14 49.2	-0.1
	91nm,0.4s,baz=144,slow=8.7,SNR=2.5						
CMAR	Chiang Mai Arr	37.95	309	P	P	20 17 23.2	0.0
	0.4nm,0.8s,baz=136,slow=6.9,SNR=3.9						
MKAR	Makanchi Array	66.29	327	P	P	20 20 52.3	-0.2
	0.3nm,0.4s,baz=113,slow=8.1,SNR=9.5						

ISCJB ***22*** *20:17:26.5±0.5,6°.04N±0°.05×126°.55E±0°.08,h71km,*
mb3.7/11,Error ellipse: s-maj=12.8km s-min=5.7km
az=154.6
IDC ***22*** *20:17:26.7±6.2,6°.09N×126°.61E,h59km±57km,mb3.6/11,*
mb1 3.8/12,mb1mx3.6/24,mbtmp3.7/12,ML4.0/1,Error
ellipse: s-maj=48.9km s-min=14.7km az=65.0
MAN ***22*** *20:17:27,6°.09N×126°.50E,h53km,mb4.9,ML3.9,MS4.0*
ISC 22 20:17:28.0±0.7,6°.08N±0°.07×126°.50E±0°.09,h71km,n25,
σ1§22/30,mb3.9/11,2C-2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	Mati	0.90	345	*e*P	Pn	20 17 43.4	-2.0
MATI				*e*S	Sn	20 17 58.4	+0.2
DMPH	Davao City--Mi	1.40	316	⇓*e*P	Pn	20 17 51.5	-0.2
DMPH				*e*S	Sn	20 18 05.0	-4.6
KCP	Kidapawan	1.68	304	⇓*e*P	Pn	20 17 54.4	-1.0
KCP				*i*S	Sn	20 18 16.2	+0.1
BUKP	Musuan	2.29	322	*e*P	Pn	20 18 04.4	+0.8
BUKP				*e*S	Sn	20 18 30.2	-0.7
CTBH	Cotabato--PC H	2.51	297	⇑*i*P	Pn	20 18 07.5	+1.0
CGP	Cagayan de Oro	2.96	323	*e*P	Pn	20 18 13.2	+0.4
BUTP	Butuan	3.00	343	*e*P	Pn	20 18 15.4	+2.1
PAGZ	Pagadian	3.56	300	*e*P	Pn	20 18 22.4	+1.6
SCPH	Surigao	3.82	345	⇑*e*P	Pn	20 18 24.8	+0.4
MSLP	Maasin	4.35	338	*e*P	Pn	20 18 32.5	+0.9
TBP	Tagbilaran	4.44	324	*e*P	Pn	20 18 33.7	+0.8
LLP	Lapu-Lapu	4.90	329	*e*P	Pn	20 18 40.1	+0.9
KAPI	Kappang	12.91	212	P	Pn	20 20 28.6	0.0
	0.9nm,0.3s,baz=36,slow=8.0,SNR=6.6						
FITZ	Fitzroy Crossi	24.04	182	P	P	20 22 36.5	-0.1
	2.2nm,0.5s,baz=350,slow=7.8,SNR=15						
WRA	Warramunga Arr	26.98	164	P	P	20 23 03.6	+0.3
	0.6nm,0.3s,baz=333,slow=11,SNR=3.4						
CMAR	Chiang Mai Arr	29.55	297	P	P	20 23 26.9	+0.7
	0.3nm,0.5s,baz=114,slow=7.9,SNR=3.7						
ASAR	Alice Springs	30.43	167	P	P	20 23 33.3	-0.7
	0.3nm,0.4s,baz=345,slow=6.9,SNR=8.8						
STKA	Stephens Creek	40.40	160	P	P	20 24 58.9	-0.3
	1.1nm,0.4s,baz=351,slow=9.9,SNR=8.0						
SONM	Songino Array	45.02	341	P	P	20 25 36.9	+0.2
	0.5nm,0.8s,baz=161,slow=6.8,SNR=3.7						
MKAR	Makanchi Array	55.52	324	P	P	20 26 56.0	+0.2
	0.5nm,0.4s,baz=120,slow=6.1,SNR=13						
MKAR				PcP	PcP	20 27 55.8	+0.7
	0.4nm,0.5s,baz=112,slow=3.8,SNR=3.3						
ZALV	Zalesovo Beam	58.41	333	P	P	20 27 16.3	+0.1
	0.4nm,0.3s,baz=104,slow=4.3,SNR=3.2						
ILAR	Eielson Array	83.10	26	P	P	20 29 45.5	-0.3
	0.3nm,0.5s,baz=244,slow=5.9,SNR=4.6						
ARCES	ARCESS Array B	88.18	340	P	P	20 30 10.8	-0.1
	1.1nm,0.7s,baz=60,slow=3.6,SNR=3.0						
FINES	FINESS Array B	89.67	332	P	P	20 30 18.5	+0.5
	2.6nm,0.9s,baz=98,slow=3.9,SNR=5.4						
TORD	Torodi Ar. Bea	121.94	289	PKP	PKPdf	20 36 15.3	0.0
	0.2nm,0.4s,baz=57,slow=1.9,SNR=10						

CSEM ***22*** *20:25:33.6,35°.18N×59°.94E,h18km,ML3.5,After THR*
THR 22 20:25:33.6±0.5,35°.18N×59°.94E,h18km±9km,ML3.5,
Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHRT	Shahrakht	1.56	169	*e*Pg	Pb	20 26 02.3	+0.2
SHRT				AML	AML	20 26 27.6	
	comp=E,627nm,0.3s						
SHRT				AML	AML	20 26 27.9	
	comp=N,766nm,0.3s						
SHRT	Shahrakht	1.56	169	*e*Pg	Pb	20 26 02.3	+0.3
TABS	Tabas	2.79	238	*e*Pn	Pn	20 26 19.1	+1.6
TABS				*e*Sg	Sg	20 27 00.7	-2.9
TABS				AML	AML	20 27 10.2	
	comp=N,173nm,0.6s						
TABS				AML	AML	20 27 10.8	
	comp=E,81nm,0.4s						
TABS	Tabas	2.79	238	*e*Pn	Pn	20 26 19.1	+1.6
TABS				*e*Sg	Sg	20 27 00.7	-2.9
BJRD	Bojnurd	3.24	322	*e*Pn	Pn	20 26 25.9	+2.2
BJRD	Bojnurd	3.24	322	*e*Pn	Pn	20 26 25.9	+2.1
MRVT	Maraveh tapeh	3.97	310	*e*Pn	Pn	20 26 35.7	+1.9
MRVT	Maraveh tapeh	3.97	310	*e*Pn	Pn	20 26 35.7	+2.0

ISCJB ***22*** *20:31:38.3±0.7,43°.58N±0°.04×77°.43E±0°.08,h10km,Error*
ellipse: s-maj=9.4km s-min=4.1km az=32.7
NNC ***22*** *20:31:38.1±0.5,43°.48N×77°.45E,h5km±2km,mb3.6,*
mpv3.2,Error ellipse: s-maj=8.4km s-min=2.2km az=143.0
ISC 22 20:31:40.2±1.1,43°.44N±0°.08×77°.43E±0°.07,h10km,n19,
σ1§43/21,12C-7D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDC	Almaty	0.41	237	⇑P	Pg	20 31 46.8	-1.5
KNDC				⇓S	Sg	20 31 54.0	+0.4
TKM2	Tokmak 2	1.44	249	⇑P	Pn	20 32 04.5	-2.0
	18nm,0.3s						
TKM2				⇑S	Sn	20 32 25.0	-0.7
	116nm,0.3s						
TKM2	Tokmak 2	1.44	249	P	Pn	20 32 04.6	-2.0
	SNR=72						
ULHL	Ulahol	1.48	217	P	Pn	20 32 02.6	-4.6
	SNR=16						
KBK	Karagaybulak	1.98	248	P	Pn	20 32 14.0	0.0
	SNR=118						
CHMS	Chumysh	2.01	258	P	Pn	20 32 14.0	-0.2
	SNR=71			

couple: M₀9.84000×10¹⁴ NP1:ϕ₀52.00000°, δ82.00000°, λ158.00000°. NP2:ϕ₀146.00000°, δ68.00000°, λ9.00000°.
*BJI **22** 20:58:15.7, 44°.28N×150°.17E, h45km, mB5.0/4, mb4.8/12*
*SKHL **22** 20:58:17.6±0.8, 44°.01N×149°.71E, h44km±4km, mb4.4/2*
*ISCJB **22** 20:58:19.7±1.0, 43°.88N±0°.06×149°.28E±0°.08, h44km±7km, mb4.3/33, MS3.8/1, Error ellipse: s-maj=11.0km s-min=7.6km az=139.7*
*JMA **22** 20:58:19.4±0.5, 44°.28N×149°.35E, h30km, M4.0*
*MOS **22** 20:58:22.1±1.3, 44°.29N×149°.19E, h48km, mb4.9/17, Error ellipse: s-maj=12.1km s-min=7.9km az=122.4*
*IDC **22** 20:58:28.8±1.8, 46°.27N×148°.50E, h0km, mb4.2/18, mb1 4.3/19, mb1mx4.2/26, mbtmp4.1/19, ML2.3/1, MS3.5/2, Ms1 3.5/2, ms1mx2.7/44, Error ellipse: s-maj=47.4km s-min=16.8km az=162.0*
*NEIC **22** 20:58:28.9±1.0, 45°.71N×148°.55E, h20km, mb4.5/7, Error ellipse: s-maj=24.3km s-min=9.0km az=151.0*

ISC 22 20:58:20.6±0.7, 43°.86N±0°.06×149°.43E±0°.08, h38km±2km, n140, σ1$42/140, mb4.4/33, 15C-12D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.77**	**321**	⇑*i*PN	**Pn**	**20 58 45.8**	**-2.8**
KUR				pmax	pmax		
	comp=E,44nm,0.4s						
KUR				pmax	pmax		
	comp=Z,187nm,0.4s						
KUR				pmax	pmax		
	comp=N,60nm,0.4s						
KUR	**Kuril'sk**	**1.77**	**321**	*i* P	**Pn**	**20 58 45.8**	**-2.8**
KUR				AMB	AMB	20 58 47.0	
	comp=N,60nm,0.4s						
KUR				AMB	AMB	20 58 47.0	
	comp=N,44nm,0.4s						
KUR				AMB	AMB	20 58 47.0	
	comp=N,187nm,0.4s						
KUR				*e*S	**Sn**	**20 59 07.6**	**-2.2**
KUR				A	A	20 59 11.3	
	comp=N,238nm,0.5s						
KUR				A	A	20 59 11.3	
	comp=N,285nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**2.58**	**275**	*d i*PN	**Pn**	**20 58 59.3**	**-0.4**
YUK				*e*S	**Sn**	**20 59 30.0**	**+0.2**
YUK				pmax	pmax		
	comp=Z,55nm,0.4s						
YUK				pmax	pmax		
	comp=E,32nm,0.4s						
YUK				pmax	pmax		
	comp=N,34nm,0.2s						
YUK				smax	smax		
	comp=E,157nm,0.3s						
YUK				smax	smax		
	comp=N,203nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**2.58**	**275**	*i* P	**Pn**	**20 58 59.3**	**-0.4**
YUK				AMB	AMB	20 59 02.7	
	comp=N,34nm,0.4s						
YUK				AMB	AMB	20 59 02.7	
	comp=N,32nm,0.4s						
YUK				AMB	AMB	20 59 02.7	
	comp=N,55nm,0.4s						
YUK				*e*S	**Sn**	**20 59 30.0**	**+0.2**
YUK				A	A	20 59 34.3	
	comp=N,203nm,0.3s						
YUK				A	A	20 59 34.3	
	comp=N,157nm,0.3s						
NEM2	**Nemuro 2**	**2.72**	**261**	P	**Pn**	**20 59 00.7**	**-0.9**
NEM2				*e*S	**Sn**	**20 59 31.0**	**-2.3**
JRA	**Rausu**	**3.11**	**273**	P	**Pn**	**20 59 07.2**	**+0.2**
JNK	**Nakash**	**3.42**	**267**	P	**Pn**	**20 59 10.8**	**-0.5**
JNK				*e*S	**Sn**	**20 59 48.8**	**-1.8**
JAK	**Akkeshi**	**3.55**	**258**	P	**Pn**	**20 59 12.7**	**-0.4**
JAK				*e*S	**Sn**	**20 59 52.2**	**-1.6**
JTKR	**Abashiri--Toko**	**3.99**	**273**	P	**Pn**	**20 59 19.3**	**+0.2**
JAR	**Ashorobuto**	**4.15**	**264**	P	**Pn**	**20 59 21.6**	**+0.3**
JOB	**Onbets**	**4.19**	**259**	P	**Pn**	**20 59 22.1**	**+0.3**
JCH	**Churui**	**4.60**	**256**	P	**Pn**	**20 59 27.7**	**+0.2**
JCH				*e*S	**Sn**	**21 00 18.0**	**-1.7**
ASAJ	**Asahikawa**	**4.94**	**275**	Pn	**Pn**	**20 59 33.9**	**+1.8**
ASAJ	**Asahikawa**	**4.94**	**275**	Pn	**Pn**	**20 59 33.9**	**+1.8**
	comp=N,1.0nm,0.3s,baz=84,slow=14,SNR=10.0						
ASAJ				LR	LR	21 01 54.0	
	comp=N,238nm,18.4s,baz=118,slow=44						
JEM	**Erimo**	**4.96**	**250**	P	**Pn**	**20 59 33.4**	**+1.0**
ERM	**Erimo**	**4.96**	**250**	⇑*i*PN	**Pn**	**20 59 34.2**	**+1.8**
ERM	**Erimo**	**4.96**	**250**	*e*P	**Pn**	**20 59 34.2**	**+1.8**
JNBK	**Urakawa-nobuka**	**5.14**	**254**	P	**Pn**	**20 59 35.0**	**+0.1**
JNBK				*e*S	**Sn**	**21 00 30.7**	**-2.2**
JBT2	**Biratori 2**	**5.27**	**261**	P	**Pn**	**20 59 36.6**	**0.0**
JNB	**Noboribetsu**	**6.29**	**260**	P	**Pn**	**20 59 51.2**	**+0.5**
JNB				*e*S	**Sn**	**21 00 59.4**	**-1.8**
JKB	**Kayabe**	**6.47**	**255**	P	**Pn**	**20 59 53.4**	**+0.2**
JKB				*e*S	**Sn**	**21 01 02.2**	**-3.6**
JANG	**Nango**	**6.84**	**242**	P	**Pn**	**20 59 57.3**	**-0.9**
JANG				*e*S	Sn	21 01 09.1	-5.6
JYM2	**Yakumo 2**	**6.87**	**258**	P	**Pn**	**20 59 58.9**	**+0.3**
JTH	**Tanohata**	**6.87**	**238**	*e*S	Sn	21 01 08.5	-7.0
JTM	**Tenmabayashi**	**6.91**	**246**	P	**Pn**	**20 59 59.5**	**+0.2**
JTM				*e*S	**Sn**	**21 01 11.5**	**-5.1**
JOSM	**Okushiri--Mats**	**7.51**	**260**	P	**Pn**	**21 00 07.8**	**+0.4**
OFUJ	**Ofunato**	**7.53**	**233**	P	**Pn**	**21 00 06.9**	**-0.8**
OFUJ				*e*S	**Sn**	**21 01 26.4**	**-5.4**
JRG	**Rokugo**	**7.95**	**239**	P	**Pn**	**21 00 13.8**	**+0.3**
JRG				*e*S	**Sn**	**21 01 37.5**	**-4.7**
JIO	**Ouri**	**8.14**	**231**	P	**Pn**	**21 00 15.0**	**-1.1**
JIO				*e*S	Sn	21 01 39.5	-7.3
PETK	**Petropavlovsk-**	**10.75**	**28**	*e*PN	**Pn**	**21 00 51.1**	**-0.7**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK	**Petropavlovsk-**	**10.75**	**28**	Pn	Pn	21 00 44.3	-7.4
PETK	**Petropavlovsk-**	**10.75**	**28**	Pn	Pn	21 00 44.3	-7.4
	baz=214,slow=16,SNR=2.2						
USRK	**Ussuriysk Arra**	**12.56**	**278**	Pn	**Pn**	**21 01 16.8**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=82,slow=14,SNR=6.8						
JNU	**Nakatsue**	**18.01**	**240**	P	P	21 02 45.5	+17
JNU	**Nakatsue**	**18.01**	**240**	P	P	21 02 45.5	+17
	comp=Z,0.1nm,0.3s,baz=214,slow=15,SNR=2.7						
SONM	**Songino Array**	**29.95**	**293**	P	**P**	**21 04 24.9**	**-0.1**
SONM	**Songino Array**	**29.95**	**293**	P	**P**	**21 04 24.9**	**-0.1**
	comp=Z,3.2nm,0.7s,baz=80,slow=8.5,SNR=29						
GTA	**Gaotai**	**36.90**	**281**	*e*P	**P**	**21 05 26.8**	**+1.2**
GTA				pP	**pP**	**21 05 35.8**	**-0.6**
GTA				sP	**sP**	**21 05 42.0**	**+1.0**
GTA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
ILAR	**Eielson Array**	**40.42**	**36**	P	**P**	**21 05 54.3**	**-0.4**
ILAR	**Eielson Array**	**40.42**	**36**	P	**P**	**21 05 54.3**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=264,slow=6.6,SNR=4.2						
ZALV	**Zalesovo Beam**	**42.24**	**307**	*i* P	**P**	**21 06 11.0**	**+1.3**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZALV	**Zalesovo Beam**	**42.24**	**307**	P	**P**	**21 06 08.0**	**-1.7**
ZALV	**Zalesovo Beam**	**42.24**	**307**	P	**P**	**21 06 08.0**	**-1.7**
	comp=Z,0.7nm,0.3s,baz=61,slow=6.8,SNR=4.2						
WMQ	**Urumqi**	**43.58**	**292**	P	P	21 06 16.9	-3.9
WMQ				pmax	pmax		
	comp=Z,10.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,150nm,5.0s						
INK	**Inuvik**	**45.47**	**31**	P	**P**	**21 06 36.2**	**+0.9**
INK	**Inuvik**	**45.47**	**31**	P	**P**	**21 06 36.2**	**+0.9**
	comp=Z,1.5nm,0.5s,baz=258,slow=5.9,SNR=5.7						
MK31	**Makanchi Array**	**45.99**	**298**	*e*P	**P**	**21 06 39.3**	**-0.6**
MK31	**Makanchi Array**	**45.99**	**298**	*e*P	**P**	**21 06 39.3**	**-0.6**
MKAR	**Makanchi Array**	**45.99**	**298**	*ce*P	**P**	**21 06 39.5**	**-0.3**
MKAR				pmax	pmax		
	comp=Z,8.0nm,0.7s						
MKAR	**Makanchi Array**	**45.99**	**298**	*e*P	**P**	**21 06 39.5**	**-0.3**
MKAR	**Makanchi Array**	**45.99**	**298**	P	**P**	**21 06 39.8**	**-0.1**
MKAR	**Makanchi Array**	**45.99**	**298**	P	**P**	**21 06 39.7**	**-0.1**
	comp=Z,7.8nm,0.7s,baz=77,slow=9.1,SNR=74						
KURK	**Kurchatov**	**46.83**	**305**	*ce*P	**P**	**21 06 44.7**	**-1.6**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KURK	**Kurchatov**	**46.83**	**305**	*e*P	**P**	**21 06 44.7**	**-1.6**
KURK	**Kurchatov**	**46.83**	**305**	*e*P	**P**	**21 06 44.1**	**-2.2**
	comp=Z,1.9nm,0.5s						
KURBB	**Kurchatov Arra**	**46.91**	**304**	P	**P**	**21 06 45.5**	**-1.5**
	comp=Z,2.3nm,0.5s,baz=74,slow=8.0,SNR=22						
CMAR	**Chiang Mai Arr**	**49.14**	**255**	P	P	21 07 20.0	+15
CMAR	**Chiang Mai Arr**	**49.14**	**255**	P	P	21 07 20.0	+15
	comp=Z,0.2nm,0.3s,baz=36,slow=7.8,SNR=3.5						
BVAR	**Borovoye Array**	**50.70**	**310**	P	**P**	**21 07 15.5**	**-0.5**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BVAR	**Borovoye Array**	**50.70**	**310**	P	**P**	**21 07 15.6**	**-0.5**
BVAR	**Borovoye Array**	**50.70**	**310**	P	**P**	**21 07 15.5**	**-0.5**
	comp=Z,1.1nm,0.7s,baz=69,slow=8.3,SNR=6.4						
BRVK	**Borovoye**	**50.75**	**310**	⇓*i*P	**P**	**21 07 16.0**	**-0.3**
BRVK	**Borovoye**	**50.75**	**310**	*e*P	**P**	**21 07 16.0**	**-0.3**
BRVK	**Borovoye**	**50.75**	**310**	*e*P	**P**	**21 07 15.5**	**-0.8**
TAPN	**Taplejung**	**51.65**	**273**	*e*P	P	21 07 27.7	+3.8
TKM2	**Tokmak 2**	**51.94**	**296**	*e*P	**P**	**21 07 25.9**	**+0.2**
TKM2				pmax	pmax		
	comp=Z,2.0nm,0.5s						
TKM2	**Tokmak 2**	**51.94**	**296**	*e*P	**P**	**21 07 25.9**	**+0.2**
	comp=Z,2.0nm,0.5s						
ODAN	**Odare**	**52.17**	**273**	*e*P	**P**	**21 07 29.7**	**+2.1**
RAMN	**Ramite**	**52.69**	**273**	*e*P	**P**	**21 07 31.8**	**+0.3**
	comp=Z,6.2nm,0.4s						
AAK	**Ala-Archa**	**52.79**	**297**	*ce*P	**P**	**21 07 32.8**	**+0.8**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
AAK	**Ala-Archa**	**52.79**	**297**	*e*P	**P**	**21 07 31.9**	**-0.1**
AAK	**Ala-Archa**	**52.79**	**297**	*e*P	**P**	**21 07 31.8**	**-0.2**
	comp=Z,2.4nm,0.5s						
AAK	**Ala-Archa**	**52.79**	**297**	P	**P**	**21 07 32.5**	**+0.6**
	comp=Z,1.2nm,0.4s,baz=67,slow=1.9,SNR=4.4						
EKS2	**Erkin-Say**	**53.24**	**297**	*e*P	**P**	**21 07 35.4**	**+0.2**
EKS2				pmax	pmax		
	comp=Z,6.0nm,0.8s						
EKS2	**Erkin-Say**	**53.24**	**297**	*e*P	**P**	**21 07 35.4**	**+0.2**
	comp=Z,5.8nm,0.8s						
DMN	**Daman**	**53.38**	**275**	*e*P	**P**	**21 07 37.2**	**+0.6**
	comp=Z,4.6nm,0.5s						
DANN	**Dangsing**	**53.92**	**276**	*e*P	**P**	**21 07 42.3**	**+1.7**
	comp=Z,8.5nm,0.5s						
SVE	**Sverdlovsk**	**54.18**	**317**	*e*P	**P**	**21 07 41.2**	**-0.5**
KOLN	**Koldanda**	**54.37**	**276**	*e*P	**P**	**21 07 44.5**	**+0.7**
	comp=Z,1.7nm,0.3s						
YKA	**Yellowknife Ar**	**54.78**	**34**	P	**P**	**21 07 46.9**	**+0.9**
YKA	**Yellowknife Ar**	**54.78**	**34**	P	**P**	**21 07 46.9**	**+0.9**
	comp=Z,1.0nm,0.7s,baz=298,slow=6.4,SNR=3.8						
KKAR	**Karatay Array**	**55.11**	**299**	*e*P	**P**	**21 07 47.7**	**-1.0**
KKAR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KKAR	**Karatay Array**	**55.11**	**299**	*e*P	**P**	**21 07 47.7**	**-1.0**
	comp=Z,5.3nm,0.7s						
ARU	**Arti**	**55.38**	**318**	*c i*P	**P**	**21 07 49.0**	**-1.4**
ARU						21 09 51.9	
ARU				S	**S**	**21 15 30.1**	**-1.8**
ARU				SS	**SS**	**21 19 12.3**	**-3.8**
ARU				pmax	pmax		
	comp=Z,9.0nm,1.2s						
ABKAR	**Akbulak array**	**58.27**	**310**	*e*P	**P**	**21 08 10.6**	**-0.4**
	comp=Z,3.6nm,0.4s						
ARCES	**ARCESS Array B**	**59.71**	**340**	P	**P**	**21 08 18.6**	**-2.0**
ARCES	**ARCESS Array B**	**59.71**	**340**	P	**P**	**21 08 18.6**	**-2.0**
	comp=Z,2.8nm,0.8s,baz=42,slow=9.6,SNR=3.6						
KBL	**Kabul**	**60.69**	**291**	*e*P	**P**	**21 08 26.4**	**-1.8**
KBL				pmax	pmax		
	comp=Z,9.0nm,1.2s						
KBL	**Kabul**	**60.69**	**291**	*e*P	**P**	**21 08 26.4**	**-1.8**
	comp=Z,8.6nm,1.2s						
KLMR	**Klimovskoe**	**61.22**	**328**	*e*P	P	21 08 28.2	-2.8
KLMR				pmax	pmax		
	comp=Z,15nm,1.0s						
JOF	**Joensuu**	**62.75**	**333**	*e*P	**P**	**21 08 39.4**	**-1.9**
JOF				pmax	pmax		
	comp=Z,8.0nm,0.5s						
JOF	**Joensuu**	**62.75**	**333**	*e*p	**P**	**21 08 39.4**	**-1.9**
	comp=Z,7.8nm,0.5s						
SUMG	**Summit**	**63.73**	**3**	*i* P	**P**	**21 08 47.6**	**-0.6**
SUMG				pmax	pmax		
	comp=Z,6.0nm,1.0s						
SUMG	**Summit**	**63.73**	**3**	*i* P	**P**	**21 08 47.6**	**-0.6**
	comp=Z,5.5nm,1.0s						
KAF	**Kangasniemi**	**64.94**	**334**	*e*P	P	21 08 52.5	-3.2
KAF				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KAF	**Kangasniemi**	**64.94**	**334**	*e*p	P	21 08 52.5	-3.2
	comp=Z,6.2nm,0.7s						
FINES	**FINESS Array B**	**65.51**	**334**	P	**P**	**21 08 58.0**	**-1.5**
FINES	**FINESS Array B**	**65.51**	**334**	P	**P**	**21 08 58.0**	**-1.5**
	comp=Z,8.3nm,0.6s,baz=39,slow=8.3,SNR=28						
OBN	**Obninsk**	**66.19**	**325**	P	**P**	**21 09 03.0**	**-0.9**
OBN				*e*		21 09 23.7	
OBN				pmax	pmax		
	comp=Z,34nm,2.3s						
OBN	**Obninsk**	**66.19**	**325**	*e*P	**P**	**21 09 02.8**	**-1.1**
PDAR	**Pinedale Array**	**68.57**	**51**	P	P	21 09 27.7	+8.2
PDAR	**Pinedale Array**	**68.57**	**51**	P	P	21 09 27.7	+8.2
	comp=Z,0.5nm,0.8s,baz=302,slow=2.0,SNR=4.4						
NB2	**NORSAR Subarra**	**70.08**	**340**	P	**P**	**21 09 27.1**	**-1.2**
	comp=Z,3.6nm,0.5s,baz=30,slow=6.5						
NOA	**NORSAR Array B**	**70.08**	**340**	*e*P	**P**	**21 09 27.2**	**-1.1**
NOA	**NORSAR Array B**	**70.08**	**340**	P	**P**	**21 09 27.5**	**-0.7**
NOA	**NORSAR Array B**	**70.08**	**340**	P	**P**	**21 09 27.5**	**-0.7**
	comp=Z,5.3nm,0.4s,baz=30,slow=6.3,SNR=32						
NOA				LR	LR	21 45 31.9	
	comp=Z,54nm,18.1s,baz=10.0,slow=42						
KBZ	**Khabaz**	**70.95**	**313**	P	**P**	**21 09 34.6**	**+0.9**
KBZ				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KBZ	**Khabaz**	**70.95**	**313**	P	**P**	**21 09 34.6**	**+0.9**
KBZ	**Khabaz**	**70.95**	**313**	P	**P**	**21 09 34.6**	**+0.9**
	comp=Z,6.2nm,0.7s,baz=204,slow=1.2,SNR=9.4						
AKASG	**Malin Array Be**	**72.45**	**325**	*ce*P	**P**	**21 09 42.0**	**-0.7**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKASG	**Malin Array Be**	**72.45**	**325**	P	**P**	**21 09 42.2**	**-0.5**
AKASG	**Malin Array Be**	**72.45**	**325**	P	**P**	**21 09 42.2**	**-0.5**
	comp=Z,0.6nm,0.3s,baz=44,slow=5.5,SNR=7.5						
BURAR	**Bucovina Array**	**76.51**	**325**	⇑P	**P**	**21 10 06.3**	**-0.2**
BURAR	**Bucovina Array**	**76.51**	**325**	⇑*i*P	**P**	**21 10 06.3**	**-0.2**
CFR	**Carcaliu**	**77.15**	**322**	⇑P	**P**	**21 10 10.1**	**+0.2**
CFR	**Carcaliu**	**77.15**	**322**	⇑*i*P	**P**	**21 10 10.1**	**+0.2**
VRI	**Vrincioaia**	**77.24**	**323**	⇑P	P	21 10 06.8	-3.7
VRI	**Vrincioaia**	**77.24**	**323**	⇑*i*P	P	21 10 06.8	-3.7
TIRR	**Tirgusor**	**77.58**	**321**	⇓P	**P**	**21 10 14.0**	**+1.6**
TIRR	**Tirgusor**	**77.58**	**321**	⇓*i*P	**P**	**21 10 14.0**	**+1.6**
MLR	**Muntele Rosu**	**77.87**	**323**	⇓*i*P	**P**	**21 10 14.2**	**0.0**
CLL	**Collm**	**77.96**	**334**	*e*P	**P**	**21 10 14.0**	**-0.4**
CLL	**Collm**	**77.96**	**334**	*e*P	**P**	**21 10 14.0**	**-0.4**
CLL				*e*PcP	**pP**	**21 10 26.0**	**-0.1**
CLL				*e*		21 10 30.0	
VOIR		**78.30**	**324**	⇓P	**P**	**21 10 17.2**	**+0.7**
VOIR		**78.30**	**324**	⇓*i*P	**P**	**21 10 17.2**	**+0.7**
ARR	**Arges**	**78.53**	**324**	⇓*i*P	**P**	**21 10 19.4**	**+1.6**
BRTR	**Keskin Array B**	**78.65**	**315**	P	**P**	**21 10 19.1**	**+0.5**
BRTR	**Keskin Array B**	**78.65**	**315**	P	**P**	**21 10 19.1**	**+0.5**
	comp=Z,0.9nm,0.8s,baz=39,slow=4.2,SNR=5.4						
GZR	**Gura Zlata**	**79.30**	**325**	⇑P	**P**	**21 10 21.6**	**-0.3**
GZR	**Gura Zlata**	**79.30**	**325**	⇑*i*P	**P**	**21 10 21.6**	**-0.3**
BZS	**Buzias**	**79.59**	**326**	⇓P	**P**	**21 10 25.5**	**+2.0**
BZS	**Buzias**	**79.59**	**326**	⇓*i*P	**P**	**21 10 25.5**	**+2.0**
KHC	**Kasperske Hory**	**79.64**	**332**	*e*P	**P**	**21 10 23.6**	**-0.1**
KHC				*e*		21 10 38.7	
KHC	**Kasperske Hory**	**79.64**	**332**	*e*P	**P**	**21 10 23.6**	**-0.1**
KHC				*ex*	x	21 10 38.7	
GERES	**GERESS Array B**	**79.85**	**332**	P	**P**	**21 10 24.9**	**0.0**
GERES	**GERESS Array B**	**79.85**	**332**	P	**P**	**21 10 24.9**	**0.0**
	comp=Z,0.4nm,0.4s,baz=46,slow=5.8,SNR=7.1						
TXAR	**Lajitas Array**	**81.21**	**58**	P	P	21 10 47.1	+15
TXAR	**Lajitas Array**	**81.21**	**58**	P	P	21 10 47.1	+15
	comp=Z,1.4nm,0.6s,baz=294,slow=4.5,SNR=6.8						
VTS	**Vitosha**	**81.37**	**323**	⇓P	**P**	**21 10 35.2**	**+1.9**
VTS	**Vitosha**	**81.37**	**323**	⇓*i*P	**P**	**21 10 35.2**	**+1.9**

FUNV 22 21:16:48.2, 11°.84N×69°.60W, h30km, MW3.6, 2C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MONV	**Montecano**	**0.38**	**287**	⇑*i*P	Pb	21 16 56.3	-0.6
MONV				*e*S	Sb	21 17 02.7	0.0
JACV	**Jacura**	**1.06**	**135**	*e*P	Pn	21 17 06.8	-0.3
JACV				*e*S	Sn	21 17 20.0	-0.8
SIQV	**Siquisique**	**1.20**	**190**	*e*P	Pn	21 17 09.3	+0.2
SIQV				*e*S	Sn	21 17 23.7	-0.7
DABV	**Dabajuro**	**1.37**	**228**	*e*P	Pn	21 17 11.5	+0.2
DABV				*e*S	Sn	21 17 27.6	-0.8
CURV	**Curarigua**	**1.85**	**191**	*e*P	Pn	21 17 18.2	+0.2
CURV				*e*S	Sn	21 17 39.0	-1.5
QARV	**Quebrada Arrib**	**1.86**	**209**	*e*P	Pn	21 17 17.2	-0.9
TEPV	**Terepaima**	**1.91**	**168**	*e*P	Pn	21 17 19.0	+0.2
TEPV				*e*S	Sn	21 17 39.7	-2.2
TURV	**Turiamo**	**2.21**	**129**	*e*P	Pn	21 17 21.7	-1.1
SANV	**Sanarito**	**2.33**	**179**	*e*P	Pn	21 17 23.8	-0.9
SANV				*e*S	Sn	21 17 49.8	-2.5
FUNV	**FUNVISIS**	**3.06**	**116**	*e*P	Pn	21 17 33.0	-1.7
VIRV	**Villa del Rosa**	**3.06**	**245**	*e*P	Pn	21 17 33.7	-0.9
VIRV				*e*S	Sn	21 18 07.5	-2.8
BAUV	**El Baul**	**3.26**	**152**	*e*S	Sn	21 18 12.5	-2.6
ORCV	**Isla La Orchil**	**3.33**	**90**	⇑*e*P	Pn	21 17 36.5	-1.8
VIGV	**El Vigia**	**3.45**	**210**	*e*P	Pn	21 17 39.2	-0.8
VIGV				*e*S	Sn	21 18 15.7	-4.2
BIRV	**Birongo**	**3.54**	**112**	*e*P	Pn	21 17 39.1	-2.0
SOCV	**Socops**	**3.75**	**199**	*e*P	Pn	21 17 43.4	-0.7
SOCV				*e*S	Sn	21 18 23.0	-4.2
CUPV	**Cœpira**	**4.14**	**115**	*e*P	Pn	21 17 48.3	-1.2
MERV	**Las Mercedes**	**4.14**	**128**	*e*P	Pn	21 17 48.9	-0.5
CAPV	**Capacho**	**4.77**	**214**	*e*P	Pn	21 17 56.7	-1.8
ELOV	**Elorza**	**4.81**	**179**	*e*P	Pn	21 17 57.7	-0.9
PCRV	**Puerto La Cruz**	**5.14**	**108**	*e*P	Pn	21 18 02.7	-0.6
ORIV	**Oritupano**	**6.68**	**114**	*e*P	Pn	21 18 22.6	-1.8
GUNV	**Guanoco**	**6.74**	**104**	*e*P	Pn	21 18 23.5	-1.7

*ISCJB **22** 21:18:46.1±0.4, 42°.25N±0°.02×13°.50E±0°.04, h13km±4km, Error ellipse: s-maj=4.7km s-min=3.4km az=147.5*
*CSEM **22** 21:18:46.7±0.1, 42°.25N×13°.50E, h2km, ML3.5/6, Error ellipse: s-maj=2.9km s-min=2.1km az=63.0*
*ROM **22** 21:18:46.4±0.1, 42°.24N×13°.51E, h9km, Md3.2/6, Ml3.0/22, Error ellipse: s-maj=1.4km s-min=0.9km az=48.0*
*PRU **22** 21:18:47.5, 42°.07N×13°.71E, h5km*

ISC 22 21:18:47.4±0.9, 42°.25N±0°.02×13°.51E±0°.02, h6km±6km, n57, σ0$96/71, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAGN	**Fagnano**	**0.06**	**76**	Pg	**Pg**	**21 18 48.6**	**-0.4**
FAGN				Sg	**Sg**	**21 18 50.1**	**-0.1**
	63μm,0.5s						
FAGN	**Fagnano**	**0.06**	**76**	Pg	**Pg**	**21 18 48.6**	**-0.4**
FAGN				Sg	**Sg**	**21 18 50.1**	**-0.1**
	63μm,0.5s						
PTQR	**Pietraquaria**	**0.24**	**200**	Pg	**Pg**	**21 18 52.1**	**-0.1**
PTQR	**Pietraquaria**	**0.24**	**200**	Pg	**Pg**	**21 18 52.1**	**-0.1**
FIAM	**Fiamignano**	**0.29**	**273**	Pg	**Pg**	**21 18 52.9**	**-0.3**
FIAM				Sg	**Sg**	**21 18 57.4**	**+0.3**
	4μm,0.9s						
FIAM	**Fiamignano**	**0.29**	**273**	Pg	**Pg**	**21 18 52.9**	**-0.3**
FIAM				Sg	**Sg**	**21 18 57.4**	**+0.3**
	4μm,0.9s						
TERO	**Teramo**	**0.38**	**10**	Pg	**Pg**	**21 18 54.1**	**-0.6**
TERO				Sg	**Sg**	**21 19 00.2**	**+0.5**
	2μm,0.6s						
TERO	**Teramo**	**0.38**	**10**	Pg	**Pg**	**21 18 54.1**	**-0.6**
TERO				Sg	**Sg**	**21 19 00.2**	**+0.5**
	2μm,0.6s						
INTR	**Introdacqua**	**0.38**	**129**	Pg	**Pg**	**21 18 54.3**	**-0.5**
INTR				Sg	**Sg**	**21 19 00.3**	**+0.6**
	2μm,0.8s						
INTR	**Introdacqua**	**0.38**	**129**	Pg	**Pg**	**21 18 54.3**	**-0.5**
INTR				Sg	**Sg**	**21 19 00.3**	**+0.6**
	2μm,0.8s						
VVLD	**Villa Vallelon**	**0.39**	**168**	Pg	**Pg**	**21 18 54.4**	**-0.6**
	864nm,0.5s						
VVLD	**Villa Vallelon**	**0.39**	**168**	Pg	**Pg**	**21 18 54.4**	**-0.6**
	864nm,0.5s						
GUAR	**Guarcino**	**0.48**	**198**	Pg	**Pg**	**21 18 56.1**	**-0.6**
	636nm,0.4s						
GUAR	**Guarcino**	**0.48**	**198**	Pg	**Pg**	**21 18 56.1**	**-0.6**
	636nm,0.4s						
LNSS	**Leonessa**	**0.49**	**315**	Pg	**Pg**	**21 18 56.4**	**-0.5**
	2μm,0.6s						
LNSS	**Leonessa**	**0.49**	**315**	Pg	**Pg**	**21 18 56.4**	**-0.5**
	2μm,0.6s						
CERT	**Cerreto**	**0.50**	**233**	Pg	**Pg**	**21 18 56.3**	**-0.7**
	705nm,0.6s						

0.5nm,0.4s,baz=111,slow=10.0,SNR=5.0
WRA Warramunga Arr 34.97 157 P P 21 31 45.0 +1.2
0.4nm,0.7s,baz=336,slow=9.6,SNR=4.0
SONM Songino Array 37.19 344 P P 21 32 01.1 -1.7
0.3nm,0.7s,baz=152,slow=6.5,SNR=3.1
ASAR Alice Springs 38.23 160 P P 21 32 10.3 -1.4
0.3nm,0.6s,baz=332,slow=6.7,SNR=5.0

WEL 22 21:55:09.7±0.3, 38°.01S×176°.25E, h157km±2km, ML3.5/14, 6C, Error ellipse: s-maj=3.3km s-min=2.9km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.72**	**111**	⇑PN	Pn	21 55 33.1	+0.1
URZ				SN	Sn	21 55 51.3	+0.3
URZ				AML	AML	21 55 52.6	
MWZ	**Matawai**	**1.06**	**109**	PN	Pn	21 55 35.9	+0.3
MWZ				SN	Sn	21 55 55.3	-0.2
MWZ				AML	AML	21 55 56.6	
BKZ	**Black Stump Fm**	**1.18**	**171**	⇑PN	Pn	21 55 36.8	+0.1
BKZ				SN	Sn	21 55 57.7	+0.2
FWVZ	**Far West T-bar**	**1.36**	**203**	*e*PN	Pn	21 55 39.2	+0.5
MOVZ	**Moawhango**	**1.45**	**195**	⇑PN	Pn	21 55 39.1	-0.2
MCHZ	**McNeill Hill**	**1.48**	**166**	PN	Pn	21 55 40.3	+0.7
BHHZ	**Black Hill Sta**	**1.49**	**186**	PN	Pn	21 55 39.6	-0.1
BHHZ				SN	Sn	21 56 02.0	-0.9
KNZ	**Kokohu**	**1.51**	**133**	PN	Pn	21 55 40.0	+0.2
PUZ	**Puketiti**	**1.59**	**93**	⇑PN	Pn	21 55 40.4	-0.3
PUZ				SN	Sn	21 56 03.6	-0.9
MXZ	**Matakaoa Point**	**1.69**	**75**	PN	Pn	21 55 41.7	0.0
MHGZ	**Mahia Peninsul**	**1.73**	**132**	PN	Pn	21 55 42.5	+0.3
CKHZ	**Cape Kidnapper**	**1.77**	**159**	PN	Pn	21 55 42.9	+0.2
KAHZ	**Kahuranaki**	**1.85**	**165**	PN	Pn	21 55 43.7	+0.1
PNHZ	**Pukenui**	**1.91**	**181**	PN	Pn	21 55 45.6	-0.6
WAZ	**Wanganui**	**2.01**	**209**	PN	Pn	21 55 45.1	-0.2
WPHZ	**Waipukurau**	**2.06**	**176**	PN	Pn	21 55 45.1	-0.8
PXZ	**Pawanui**	**2.08**	**167**	⇑PN	Pn	21 55 45.7	-0.4
PRHZ	**Porangahau**	**2.28**	**173**	⇑PN	Pn	21 55 47.6	-0.8
POWZ	**Post Office Ro**	**2.41**	**189**	PN	Pn	21 55 48.7	-1.3
MRZ	**Mangatainoka R**	**2.70**	**191**	PN	Pn	21 55 51.8	-1.8
OGWZ	**Otaki Gorge**	**2.93**	**196**	PN	Pn	21 55 54.5	-1.9
HOWZ	**Holdsworth Sta**	**2.95**	**191**	PN	Pn	21 55 54.3	-2.3
KIW	**Kapiti Island**	**3.04**	**200**	PN	Pn	21 55 55.4	-2.3
MTW	**Mount Morrison**	**3.20**	**190**	PN	Pn	21 55 57.1	-2.8
CAW	**Cannon Point**	**3.23**	**196**	PN	Pn	21 55 57.7	-2.5
PAWZ	**Paruwai Farm**	**3.43**	**190**	PN	Pn	21 55 59.9	-2.9
MSWZ	**Moikau Station**	**3.49**	**192**	PN	Pn	21 56 00.5	-3.0
TCW	**Tory Channel**	**3.55**	**205**	AML	AML	21 56 45.9	
PLWZ	**Palliser**	**3.64**	**192**	PN	Pn	21 56 02.2	-3.3
KHZ	**Kahutara**	**4.87**	**204**	AML	AML	21 56 50.7	

MOS ***22*** *22:11:23.1±1.9, 36°.24N×30°.85E, h10km, mb4.4/30, Error ellipse: s-maj=5.8km s-min=3.1km az=114.7*
IDC ***22*** *22:11:29.5±1.2, 36°.51N×30°.84E, h42km±13km, mb3.8/14, mb1 3.9/21, mb1mx3.8/30, mbtmp3.8/21, ML4.0/7, MS2.9/2, Ms1 2.9/2, ms1mx2.4/39, Error ellipse: s-maj=9.6km s-min=8.4km az=142.0*
ISK ***22*** *22:11:29.8, 36°.63N×30°.83E, h22km, ML4.4*
NIC ***22*** *22:11:30.8±0.2, 36°.62N×31°.21E, h1km, mb4.5, ML4.3*
ISCJB ***22*** *22:11:30.3±0.1, 36°.50N±0°.01×30°.83E±0°.01, h75km±2km, mb4.0/30, Error ellipse: s-maj=2.2km s-min=1.4km az=36.0*
NEIC ***22*** *22:11:30.4, 36°.65N×30°.82E, h25km, mb4.3/23, ML4.3(ISK), After ISK.*
NSSC ***22*** *22:11:30.1±1.1, 36°.58N×30°.67E, h38km±999km, ML3.7*
CSEM ***22*** *22:11:31.9±0.1, 36°.51N×30°.83E, h80km, mb4.0/24, Mw4.1, Error ellipse: s-maj=2.3km s-min=1.4km az=41.0*
DDA ***22*** *22:11:31.5, 36°.54N×30°.79E, h61km, ML4.4*
HLW ***22*** *22:11:34.0, 36°.25N×30°.90E, h31km±22km, Md3.6, Ml4.2*

ISC 22 22:11:31.5±0.6, 36°.53N±0°.03×30°.79E±0°.02, h63km±6km, n922, σ1§54/1025, mb4.0/29, 38C-21D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KORT	**Korkueli**	**0.59**	**323**	*i*P	**Pn**	**22 11 45.1**	**+0.2**
KORT				*i*S	**Sn**	**22 11 55.7**	**+1.1**
KORT	**Korkueli**	**0.59**	**323**	*i*P	**Pn**	**22 11 45.1**	**+0.2**
KORT				*i*S	**Sn**	**22 11 55.7**	**+1.1**
ELL	**Elmali**	**0.74**	**288**	P	**Pn**	**22 11 47.0**	**+0.4**
ELL						22 11 57.0	
ELL	**Elmali**	**0.74**	**288**	*e*PG	**Pn**	**22 11 45.2**	**-1.4**
ELL	**Elmali**	**0.74**	**288**	Pg	**Pn**	**22 11 47.0**	**+0.4**
ELL				Sg	**Sn**	**22 11 57.0**	**-0.7**
ELL	**Elmali**	**0.74**	**288**	P	**Pn**	**22 11 47.0**	**+0.4**
ELL				S	**Sn**	**22 11 57.0**	**-0.7**
BCK	**Bucak**	**0.95**	**350**	P	**Pn**	**22 11 48.0**	**-1.1**
BCK	**Bucak**	**0.95**	**350**	*e*PG	**Pn**	**22 11 47.0**	**-2.1**
BCK				*e*SG	**Sn**	**22 11 59.5**	**-2.5**
BCK	**Bucak**	**0.95**	**350**	Pg	**Pn**	**22 11 48.0**	**-1.1**
BCK	**Bucak**	**0.95**	**350**	P	**Pn**	**22 11 48.0**	**-1.1**
BCK				*e*Sg	**Sn**	**22 11 59.5**	**-2.5**
SUTC	**Sutluce-Ispart**	**0.96**	**10**	*e*PG	**Pn**	**22 11 47.0**	**-2.3**
SUTC				*e*SG	**Sn**	**22 11 60.0**	**-2.5**
SUTC	**Sutluce-Ispart**	**0.96**	**10**	Pg	**Pn**	**22 11 47.5**	**-1.8**
SUTC				Sg	**Sn**	**22 11 59.5**	**-3.0**
SUTC	**Sutluce-Ispart**	**0.96**	**10**	*e*Pg	**Pn**	**22 11 47.0**	**-2.3**
SUTC				Sg	**Sn**	**22 11 59.5**	**-3.0**
AKAS	**Kas**	**1.00**	**253**	*i*P	**Pn**	**22 11 50.9**	**+1.1**
AKAS				*i*S	**Sn**	**22 12 04.9**	**+1.5**
AKAS	**Kas**	**1.00**	**253**	*i*P	**Pn**	**22 11 50.9**	**+1.1**
AKAS				*i*S	**Sn**	**22 12 04.9**	**+1.5**
KSL	**Kastellorizon**	**1.04**	**249**	*e*P	**Pn**	**22 11 51.5**	**+1.3**
GOLH	**Golhisar**	**1.22**	**306**	*i*P	**Pn**	**22 11 54.8**	**+2.3**
GOLH				*i*S	**Sn**	**22 12 11.7**	**+3.4**
GOLH	**Golhisar**	**1.22**	**306**	*i*P	**Pn**	**22 11 54.8**	**+2.3**
GOLH				*i*S	**Sn**	**22 12 11.7**	**+3.4**
GAZI	**Gazipasa**	**1.26**	**103**	*i*P	**Pn**	**22 11 53.1**	**0.0**
GAZI				*i*S	**Sn**	**22 12 09.3**	**0.0**
GAZI	**Gazipasa**	**1.26**	**103**	*i*P	**Pn**	**22 11 53.1**	**0.0**
GAZI				*i*S	**Sn**	**22 12 09.3**	**0.0**
ISP	**Isparta**	**1.31**	**351**	P	**Pn**	**22 11 54.5**	**+0.6**
ISP	**Isparta**	**1.31**	**351**	*e*P	**Pn**	**22 11 53.9**	**0.0**
ISP				*e*		22 12 13.0	
ISP	**Isparta**	**1.31**	**351**	*e*PN	**Pn**	**22 11 52.7**	**-1.2**
ISP	**Isparta**	**1.31**	**351**	*e*Pn	**Pn**	**22 11 53.9**	**0.0**
ISP				*e*Sn	**Sn**	**22 12 13.0**	**+2.4**
ISP	**Isparta**	**1.31**	**351**	*e*P	**Pn**	**22 11 53.9**	**0.0**
ISP	**Isparta**	**1.31**	**351**	Pn	**Pn**	**22 11 54.2**	**+0.3**
ISP				*e*S	**Sn**	**22 12 13.0**	**+2.4**
FETY	**Fethiye**	**1.38**	**275**	*e*PN	**Pn**	**22 11 54.4**	**-0.2**
FETY	**Fethiye**	**1.38**	**275**	Pn	**Pn**	**22 11 55.6**	**+0.9**
FETY	**Fethiye**	**1.38**	**275**	Pn	**Pn**	**22 11 55.6**	**+0.9**
HDMB	**Hadim**	**1.43**	**72**	*e*PN	**Pn**	**22 11 54.5**	**-1.0**
HDMB	**Hadim**	**1.43**	**72**	Pn	**Pn**	**22 11 56.2**	**+0.7**
HDMB	**Hadim**	**1.43**	**72**	Pn	**Pn**	**22 11 56.2**	**+0.7**
ERMK	**Ermenek**	**1.71**	**85**	*i*P	**Pn**	**22 12 00.8**	**+1.5**
ERMK				*i*S	**Sn**	**22 12 23.7**	**+3.5**
ERMK	**Ermenek**	**1.71**	**85**	*i*P	**Pn**	**22 12 00.8**	**+1.5**
DALY	**Dalyan (Mu¨la**	**1.74**	**280**	*e*PN	**Pn**	**22 12 00.3**	**+0.8**
DALY	**Dalyan (Mu¨la**	**1.74**	**280**	*e*Pn	**Pn**	**22 12 00.3**	**+0.8**
TURN	**Turunc**	**1.79**	**282**	*i*P	Pn	22 12 05.0	+4.8
TURN				*i*S	Sn	22 12 30.4	+8.5
DNZL	**Cakiroluk**	**1.82**	**310**	*i*P	**Pn**	**22 12 02.1**	**+1.4**
DNZL				*i*S	**Sn**	**22 12 25.5**	**+2.7**
DNZL	**Cakiroluk**	**1.82**	**310**	*i*P	**Pn**	**22 12 02.1**	**+1.4**
DNZL				*i*S	**Sn**	**22 12 25.5**	**+2.7**
DENT	**Denizli**	**1.87**	**312**	*e*PN	**Pn**	**22 12 01.2**	**0.0**
DENT	**Denizli**	**1.87**	**312**	Pn	**Pn**	**22 12 00.9**	**-0.3**
DENT	**Denizli**	**1.87**	**312**	*e*Pn	**Pn**	**22 12 01.2**	**0.0**
KONT	**Konya--Tatoy**	**1.89**	**41**	*e*PN	**Pn**	**22 12 00.8**	**-0.7**
KONT	**Konya--Tatoy**	**1.89**	**41**	Pn	**Pn**	**22 12 00.8**	**-0.7**
KONT	**Konya--Tatoy**	**1.89**	**41**	*e*Pn	**Pn**	**22 12 00.9**	**-0.7**
AKMC	**Akamas**	**1.95**	**140**	P	**Pn**	**22 12 02.6**	**+0.3**
AKMC	**Akamas**	**1.95**	**140**	P	**Pn**	**22 12 02.6**	**+0.3**
ALFC	**Alevga**	**2.00**	**132**	⇑P	**Pn**	**22 12 03.0**	**-0.1**
ALFC				S	**Sn**	**22 12 27.2**	**+0.1**
ALFC	**Alevga**	**2.00**	**132**	⇑P	**Pn**	**22 12 03.0**	**-0.1**
ALFC				S	**Sn**	**22 12 27.2**	**+0.1**
KHL	**Karahalli**	**2.06**	**331**	*e*PN	**Pn**	**22 12 03.4**	**-0.4**
KHL	**Karahalli**	**2.06**	**331**	Pn	**Pn**	**22 12 03.4**	**-0.4**
KHL	**Karahalli**	**2.06**	**331**	*e*Pn	**Pn**	**22 12 03.4**	**-0.4**
PPCY	**Paphos**	**2.07**	**142**	⇑P	**Pn**	**22 12 05.0**	**+1.1**
PPCY	**Paphos**	**2.07**	**142**	⇑P	**Pn**	**22 12 05.0**	**+1.1**
YER	**Yerkesik**	**2.10**	**288**	P	**Pn**	**22 12 05.3**	**+0.9**
YER	**Yerkesik**	**2.10**	**288**	*e*PN	**Pn**	**22 12 04.8**	**+0.4**
YER	**Yerkesik**	**2.10**	**288**	Pn	**Pn**	**22 12 05.3**	**+0.9**
YER	**Yerkesik**	**2.10**	**288**	P	**Pn**	**22 12 05.3**	**+0.9**
KHAL	**Karahalli**	**2.11**	**331**	*i*P	**Pn**	**22 12 04.7**	**+0.1**
KHAL				*i*S	**Sn**	**22 12 26.3**	**-3.6**
KHAL	**Karahalli**	**2.11**	**331**	*i*P	**Pn**	**22 12 04.7**	**+0.1**
ARG	**Arkhangelos**	**2.17**	**263**	P	**Pn**	**22 12 06.0**	**+0.7**
ARG	**Arkhangelos**	**2.17**	**263**	P	**Pn**	**22 12 06.0**	**+0.7**
ARG	**Arkhangelos**	**2.17**	**263**	*e*P	**Pn**	**22 12 05.8**	**+0.5**
ARG	**Arkhangelos**	**2.17**	**263**	P	**Pn**	**22 12 06.0**	**+0.7**
ARG	**Arkhangelos**	**2.17**	**263**	P	**Pn**	**22 12 06.0**	**+0.7**
BOLV	**Bolvadin**	**2.19**	**3**	*i*P	**Pn**	**22 12 06.3**	**+0.6**
BOLV				*i*S	**Sn**	**22 12 32.4**	**+0.6**
BOLV	**Bolvadin**	**2.19**	**3**	*i*P	**Pn**	**22 12 06.3**	**+0.6**
BOLV				*i*S	**Sn**	**22 12 32.4**	**+0.6**
LEF	**Lefka**	**2.21**	**129**	*e*PN	**Pn**	**22 12 05.5**	**-0.3**
LEF	**Lefka**	**2.21**	**129**	Pn	**Pn**	**22 12 04.8**	**-1.0**
LEF	**Lefka**	**2.21**	**129**	*e*Pn	**Pn**	**22 12 05.5**	**-0.3**
IKL	**Isikli**	**2.35**	**96**	*e*PN	**Pn**	**22 12 08.1**	**+0.4**
IKL	**Isikli**	**2.35**	**96**	Pn	**Pn**	**22 12 09.0**	**+1.3**
IKL	**Isikli**	**2.35**	**96**	*e*Pn	**Pn**	**22 12 08.1**	**+0.4**
MAMC	**Mammari**	**2.39**	**124**	⇓P	**Pn**	**22 12 08.2**	**-0.1**
MAMC	**Mammari**	**2.39**	**124**	⇓P	**Pn**	**22 12 08.2**	**-0.1**
SZAC	**Souni-Zanaja**	**2.45**	**135**	⇑P	**Pn**	**22 12 10.8**	**+1.6**
SZAC				S	**Sn**	**22 12 40.0**	**+2.0**
SZAC	**Souni-Zanaja**	**2.45**	**135**	⇑*e*P	**Pn**	**22 12 10.8**	**+1.6**
SZAC				S	**Sn**	**22 12 40.0**	**+2.0**
KIZT	**Kizilcal**	**2.50**	**20**	*e*PN	**Pn**	**22 12 09.1**	**-0.8**
KIZT	**Kizilcal**	**2.50**	**20**	Pn	**Pn**	**22 12 09.1**	**-0.8**
KIZT	**Kizilcal**	**2.50**	**20**	*e*Pn	**Pn**	**22 12 09.1**	**-0.8**
CSS	**Prodhromos**	**2.59**	**126**	P	**Pn**	**22 12 10.5**	**-0.5**
CSS				S	**Sn**	**22 12 41.9**	**+0.6**
CSS	**Prodhromos**	**2.59**	**126**	P	**Pn**	**22 12 10.8**	**-0.2**
CSS	**Prodhromos**	**2.59**	**126**	*e*Pn	**Pn**	**22 12 10.3**	**-0.7**
CSS				*e*Sn	**Sn**	**22 12 41.1**	**-0.2**
CSS	**Prodhromos**	**2.59**	**126**	P	**Pn**	**22 12 10.5**	**-0.5**
CSS				*e*Sn	**Sn**	**22 12 41.1**	**-0.2**
AYDN	**Tasoluk**	**2.59**	**297**	*i*P	**Pn**	**22 12 12.0**	**+1.0**
AYDN				*i*S	**Sn**	**22 12 39.7**	**-1.7**
AYDN	**Tasoluk**	**2.59**	**297**	*i*P	**Pn**	**22 12 12.0**	**+1.0**
DAT	**Datca**	**2.59**	**275**	*e*PN	**Pn**	**22 12 11.8**	**+0.7**
DAT	**Datca**	**2.59**	**275**	*e*Pn	**Pn**	**22 12 11.8**	**+0.7**
KULA	**Kula-Manisa**	**2.61**	**320**	*e*PN	**Pn**	**22 12 11.1**	**-0.2**
KULA	**Kula-Manisa**	**2.61**	**320**	Pn	**Pn**	**22 12 10.9**	**-0.4**
KULA	**Kula-Manisa**	**2.61**	**320**	*e*Pn	**Pn**	**22 12 11.1**	**-0.2**
MANT	**Manisa**	**2.65**	**319**	*i*P	**Pn**	**22 12 12.4**	**+0.4**
MANT				*i*S	**Sn**	**22 12 42.3**	**-0.8**
MANT	**Manisa**	**2.65**	**319**	*i*P	**Pn**	**22 12 12.4**	**+0.4**
MANT				*i*S	**Sn**	**22 12 42.3**	**-0.8**
KIZK	**Mersin**	**2.70**	**90**	*i*P	**Pn**	**22 12 15.3**	**+2.8**
KIZK				*i*S	**Sn**	**22 12 48.4**	**+4.4**
SULT	**Sultanhani-AKS**	**2.74**	**52**	*e*PN	**Pn**	**22 12 12.5**	**-0.6**
SULT	**Sultanhani-AKS**	**2.74**	**52**	Pn	**Pn**	**22 12 12.9**	**-0.2**
SULT	**Sultanhani-AKS**	**2.74**	**52**	Pn	**Pn**	**22 12 12.9**	**-0.2**
BDRM	**Kayabasi**	**2.74**	**282**	*i*P	**Pn**	**22 12 14.0**	**+1.0**
BDRM				*i*S	**Sn**	**22 12 46.3**	**+1.2**
BDRM	**Kayabasi**	**2.74**	**282**	*i*P	**Pn**	**22 12 14.0**	**+1.0**
BDRM				*i*S	**Sn**	**22 12 46.3**	**+1.2**
GDZ	**Gediz**	**2.76**	**338**	*i*P	**Pn**	**22 12 13.8**	**+0.3**
GDZ				*i*S	**Sn**	**22 12 44.8**	**-0.9**
GDZ	**Gediz**	**2.76**	**338**	*i*P	**Pn**	**22 12 13.8**	**+0.3**
GDZ				*i*S	**Sn**	**22 12 44.8**	**-0.9**
BODT	**Bodrum**	**2.85**	**282**	*e*PN	**Pn**	**22 12 15.6**	**+1.1**
BODT	**Bodrum**	**2.85**	**282**	Pn	**Pn**	**22 12 15.6**	**+1.1**
BODT	**Bodrum**	**2.85**	**282**	*e*Pn	**Pn**	**22 12 15.6**	**+1.1**
NIS1	**Nisyros Isl.**	**2.91**	**273**	P	**Pn**	**22 12 16.1**	**+0.7**
NIS1	**Nisyros Isl.**	**2.91**	**273**	*e*P	**Pn**	**22 12 15.8**	**+0.4**
NIS1	**Nisyros Isl.**	**2.91**	**273**	P	**Pn**	**22 12 16.1**	**+0.7**
NIS1	**Nisyros Isl.**	**2.91**	**273**	P	**Pn**	**22 12 16.1**	**+0.7**
EREN	**Erenkoy**	**2.91**	**109**	*e*PN	**Pn**	**22 12 16.3**	**+0.9**
EREN	**Erenkoy**	**2.91**	**109**	Pn	**Pn**	**22 12 16.9**	**+1.6**
EREN	**Erenkoy**	**2.91**	**109**	*e*Pn	**Pn**	**22 12 16.3**	**+0.9**
SVRH	**Sivrihisar-ESK**	**2.97**	**11**	*e*PN	**Pn**	**22 12 15.6**	**-0.7**
SVRH	**Sivrihisar-ESK**	**2.97**	**11**	Pn	**Pn**	**22 12 15.4**	**-1.0**
SVRH	**Sivrihisar-ESK**	**2.97**	**11**	*e*Pn	**Pn**	**22 12 15.6**	**-0.7**
ESKT	**Eskisehir**	**2.99**	**1**	*e*PN	**Pn**	**22 12 16.0**	**-0.6**
ESKT	**Eskisehir**	**2.99**	**1**	Pn	**Pn**	**22 12 16.1**	**-0.6**
ESKT	**Eskisehir**	**2.99**	**1**	*e*Pn	**Pn**	**22 12 16.0**	**-0.6**
SEYT	**Eskypehyr**	**2.99**	**1**	*i*P	**Pn**	**22 12 16.8**	**+0.2**
SEYT				*e*S	**Sn**	**22 12 51.9**	**+0.6**
SEYT	**Eskypehyr**	**2.99**	**1**	*i*P	**Pn**	**22 12 16.8**	**+0.2**
SEYT				*e*S	**Sn**	**22 12 51.9**	**+0.6**
DEMI	**Demirci**	**3.00**	**327**	*i*P	**Pn**	**22 12 17.3**	**+0.6**
DEMI				*i*S	**Sn**	**22 12 51.1**	**-0.5**
DEMI	**Demirci**	**3.00**	**327**	*i*P	**Pn**	**22 12 17.3**	**+0.6**
DEMI				*i*S	**Sn**	**22 12 51.1**	**-0.5**
PHNC	**Paralimni**	**3.04**	**119**	⇑P	**Pn**	**22 12 18.6**	**+1.5**
PHNC				S	Sn	22 13 03.1	+11
PHNC	**Paralimni**	**3.04**	**119**	⇑P	**Pn**	**22 12 18.6**	**+1.5**
GCAM	**G?zelcaml?**	**3.08**	**293**	*i*P	**Pn**	**22 12 18.0**	**+0.4**
GCAM				*i*S	**Sn**	**22 12 51.3**	**-1.9**
GCAM	**G?zelcaml?**	**3.08**	**293**	*i*P	**Pn**	**22 12 18.0**	**+0.4**
KARP	**Karpathos**	**3.10**	**253**	P	**Pn**	**22 12 19.0**	**+1.0**
KARP	**Karpathos**	**3.10**	**253**	*e*P	**Pn**	**22 12 19.0**	**+1.0**
KARP	**Karpathos**	**3.10**	**253**	P	**Pn**	**22 12 19.0**	**+1.0**
KARP	**Karpathos**	**3.10**	**253**	P	**Pn**	**22 12 19.0**	**+1.0**
AKHS	**Akhisar**	**3.33**	**316**	*i*P	**Pn**	**22 12 21.4**	**+0.3**
AKHS				*i*S	**Sn**	**22 12 59.6**	**+0.1**
AKHS	**Akhisar**	**3.33**	**316**	*i*P	**Pn**	**22 12 21.4**	**+0.3**
AKHS				*i*S	**Sn**	**22 12 59.6**	**+0.1**
AKS	**Akhisar**	**3.33**	**316**	*e*PN	**Pn**	**22 12 21.6**	**+0.5**
AKS	**Akhisar**	**3.33**	**316**	Pn	**Pn**	**22 12 21.6**	**+0.5**
AKS	**Akhisar**	**3.33**	**316**	*e*Pn	**Pn**	**22 12 21.6**	**+0.5**
BORA	**Eskisehir**	**3.36**	**356**	*i*P	**Pn**	**22 12 21.9**	**+0.3**
BORA				*i*S	**Sn**	**22 12 59.4**	**-0.9**
BORA	**Eskisehir**	**3.36**	**356**	*i*P	**Pn**	**22 12 21.9**	**+0.3**
BORA				*i*S	**Sn**	**22 12 59.4**	**-0.9**
IZM	**Izmir**	**3.37**	**305**	P	**Pn**	**22 12 21.9**	**+0.2**
IZM	**Izmir**	**3.37**	**305**	*e*PN	**Pn**	**22 12 22.2**	**+0.5**
IZM	**Izmir**	**3.37**	**305**	Pn	**Pn**	**22 12 21.9**	**+0.2**
IZM	**Izmir**	**3.37**	**305**	P	**Pn**	**22 12 21.9**	**+0.2**
IZM	**Izmir**	**3.37**	**305**	*e*Pn	**Pn**	**22 12 22.3**	**+0.5**
SMG	**Samos**	**3.38**	**292**	P	**Pn**	**22 12 22.3**	**+0.6**
SMG	**Samos**	**3.38**	**292**	*e*P	**Pn**	**22 12 22.2**	**+0.6**
SMG	**Samos**	**3.38**	**292**	P	**Pn**	**22 12 22.3**	**+0.6**
SMG	**Samos**	**3.38**	**292**	P	**Pn**	**22 12 22.3**	**+0.6**
AFSR	**Af¨ar-Bala (A**	**3.43**	**31**	*e*PN	**Pn**	**22 12 21.8**	**-0.7**
AFSR	**Af¨ar-Bala (A**	**3.43**	**31**	*e*Pn	**Pn**	**22 12 21.8**	**-0.7**
NIG	**Nigde**	**3.43**	**61**	*e*PN	**Pn**	**22 12 22.8**	**+0.1**
NIG	**Nigde**	**3.43**	**61**	Pn	**Pn**	**22 12 22.8**	**+0.1**
NIG	**Nigde**	**3.43**	**61**	*e*Pn	**Pn**	**22 12 22.8**	**+0.1**
KARA	**Karaisali**	**3.50**	**77**	*e*PN	**Pn**	**22 12 23.9**	**+0.6**
KARA	**Karaisali**	**3.50**	**77**	*e*Pn	**Pn**	**22 12 23.9**	**+0.6**
DST	**Dursunbey**	**3.52**	**331**	P	**Pn**	**22 12 24.0**	**+0.3**
DST	**Dursunbey**	**3.52**	**331**	*e*PN	**Pn**	**22 12 24.0**	**+0.3**
DST	**Dursunbey**	**3.52**	**331**	Pn	**Pn**	**22 12 24.0**	**+0.3**
DST	**Dursunbey**	**3.52**	**331**	*e*Pn	**Pn**	**22 12 24.0**	**+0.3**
BBAL	**Bala**	**3.53**	**31**	*i*P	**Pn**	**22 12 24.2**	**+0.2**
BBAL				*i*S	**Sn**	**22 13 03.3**	**-1.2**
BBAL	**Bala**	**3.53**	**31**	*i*P	**Pn**	**22 12 24.2**	**+0.2**
BBAL				*i*S	**Sn**	**22 13 03.3**	**-1.2**
DURS	**Dursunbey**	**3.57**	**330**	*i*P	**Pn**	**22 12 25.1**	**+0.6**
DURS				*i*S	**Sn**	**22 13 04.7**	**-0.8**
DURS	**Dursunbey**	**3.57**	**330**	*i*P	**Pn**	**22 12 25.1**	**+0.6**
DURS				*i*S	**Sn**	**22 13 04.7**	**-0.8**
KAMT	**Kaman**	**3.66**	**38**	*e*PN	**Pn**	**22 12 25.3**	**-0.4**
KAMT	**Kaman**	**3.66**	**38**	Pn	Pn	22 12 22.1	-3.6
KAMT	**Kaman**	**3.66**	**38**	*e*Pn	**Pn**	**22 12 25.3**	**-0.4**
ANTO	**Ankara**	**3.69**	**25**	*e*P	**Pn**	**22 12 26.1**	**0.0**
ANTO				*e*		22 12 03.4	
ANTO	**Ankara**	**3.69**	**25**	*e*PN	**Pn**	**22 12 25.9**	**-0.2**
ANTO	**Ankara**	**3.69**	**25**	*e*Pn	**Pn**	**22 12 26.1**	**0.0**
ANTO				*e*Sn	**Sn**	**22 13 03.4**	**-5.0**
ANTO	**Ankara**	**3.69**	**25**	⇑*i*P	**Pn**	**22 12 26.0**	**0.0**
ANTO	**Ankara**	**3.69**	**25**	*e*P	**Pn**	**22 12 26.1**	**0.0**
CAVI	**Cavuskoy**	**3.75**	**349**	*e*PN	**Pn**	**22 12 26.8**	**0.0**
CAVI	**Cavuskoy**	**3.75**	**349**	*e*Pn	**Pn**	**22 12 26.8**	**0.0**
GPA	**Golpazari**	**3.78**	**354**	P	**Pn**	**22 12 27.2**	**0.0**
GPA	**Golpazari**	**3.78**	**354**	*e*PN	**Pn**	**22 12 27.2**	**0.0**
GPA	**Golpazari**	**3.78**	**354**	Pn	**Pn**	**22 12 27.2**	**0.0**
GPA	**Golpazari**	**3.78**	**354**	*e*Pn	**Pn**	**22 12 27.2**	**0.0**
URLA	**Izmir**	**3.81**	**300**	*i*P	**Pn**	**22 12 28.0**	**+0.3**
URLA				*i*S	**Sn**	**22 13 09.9**	**-1.3**
URLA	**Izmir**	**3.81**	**300**	*i*P	**Pn**	**22 12 28.0**	**+0.3**
BALB	**Balikesir**	**3.87**	**324**	*e*PN	**Pn**	**22 12 28.8**	**+0.4**
BALB	**Balikesir**	**3.87**	**324**	Pn	**Pn**	**22 12 28.8**	**+0.4**
BALB	**Balikesir**	**3.87**	**324**	*e*Pn	**Pn**	**22 12 28.8**	**+0.4**
BR131	**Keskin Array S**	**3.90**	**34**	*e*Pn	**Pn**	**22 12 28.8**	**-0.3**
BR131				*e*Sn	**Sn**	**22 13 12.1**	**-1.6**
BR131	**Keskin Array S**	**3.90**	**34**	*e*Pn	**Pn**	**22 12 28.8**	**-0.3**
BR131				*e*Sn	**Sn**	**22 13 12.1**	**-1.6**
BRTR	**Keskin Array B**	**3.90**	**34**	P	**Pn**	**22 12 28.3**	**-0.8**
BRTR				S	**Sn**	**22 13 12.3**	**-1.4**
BRTR	**Keskin Array B**	**3.90**	**34**	P	**Pn**	**22 12 28.3**	**-0.8**
BRTR	14nm,0.3s,baz=157,slow=31,SNR=1002			S	**Sn**	**22 13 12.3**	**-1.4**
BRTR	**Keskin Array B**	**3.90**	**34**	P	**Pn**	**22 12 28.3**	**-0.8**
BRTR	71nm,0.3s,baz=199,slow=28,SNR=30			S	**Sn**	**22 13 12.3**	**-1.4**
BRTR	**Keskin Array B**	**3.90**	**34**	P	**Pn**	**22 12 28.3**	**-0.8**
BRTR	14nm,0.3s			S	**Sn**	**22 13 12.3**	**-1.4**
GULT	**Gulveren**	**3.91**	**357**	*e*PN	**Pn**	**22 12 29.1**	**+0.1**
GULT	**Gulveren**	**3.91**	**357**	Pn	**Pn**	**22 12 29.1**	**+0.1**
GULT	**Gulveren**	**3.91**	**357**	*e*Pn	**Pn**	**22 12 29.1**	**+0.1**
MDUB	**Mudurnu**	**3.95**	**4**	*e*PN	**Pn**	**22 12 29.5**	**-0.2**
MDUB	**Mudurnu**	**3.95**	**4**	Pn	**Pn**	**22 12 29.5**	**-0.2**
MDUB	**Mudurnu**	**3.95**	**4**	*e*Pn	**Pn**	**22 12 29.5**	**-0.2**
ZKR	**Zakros**	**3.98**	**251**	P	Pn	22 12 34.5	+4.6
ZKR	**Zak

IDI	**Anoyia**	**4.95 257**	*e*P		**Pn**	**22 12 43.1**	**-0.2**
IDI	**Anoyia**	**4.95 257**	*e*Pn		**Pn**	**22 12 43.3**	**0.0**
IDI			*e*Sn		**Sn**	**22 13 35.6**	**-3.6**
IDI			S		**Sn**	**22 13 37.1**	**-2.1**
IDI	**Anoyia**	**4.95 257**	P		**Pn**	**22 12 43.3**	**0.0**
	comp=E,11nm,0.3s,baz=61,slow=14,SNR=123						
IDI			S		**Sn**	**22 13 37.1**	**-2.1**
	comp=E,66nm,0.3s,baz=23,slow=21,SNR=13						
IDI	**Anoyia**	**4.95 257**	*e*Pn		**Pn**	**22 12 43.3**	**0.0**
IDI	**Anoyia**	**4.95 257**	P		**Pn**	**22 12 44.2**	**+0.9**
IDI			*e*Sn		**Sn**	**22 13 35.6**	**-3.6**
LPK	**Lapseki**	**4.98 322**	*e*PN		**Pn**	**22 12 44.9**	**+1.3**
LPK	**Lapseki**	**4.98 322**	Pn		**Pn**	**22 12 44.9**	**+1.3**
LPK	**Lapseki**	**4.98 322**	*e*Pn		**Pn**	**22 12 44.9**	**+1.3**
HNTI	**Hanita**	**4.98 132**	Pn		**Pn**	**22 12 43.7**	**0.0**
HNTI			Sn		**Sn**	**22 13 36.8**	**-3.1**
KMRS	**Kahramanmaras**	**4.99 77**	*e*PN		**Pn**	**22 12 45.1**	**+1.3**
KMRS	**Kahramanmaras**	**4.99 77**	*e*Pn		**Pn**	**22 12 45.1**	**+1.3**
RKY	**Sarkoy-Tekirda**	**5.03 327**	*e*PN		**Pn**	**22 12 45.4**	**+1.0**
RKY	**Sarkoy-Tekirda**	**5.03 327**	Pn		**Pn**	**22 12 43.6**	**-0.7**
RKY	**Sarkoy-Tekirda**	**5.03 327**	*e*Pn		**Pn**	**22 12 45.4**	**+1.0**
CTKS	**Kestanelik-??a**	**5.03 340**	*e*PN		**Pn**	**22 12 45.0**	**+0.7**
CTKS	**Kestanelik-??a**	**5.03 340**	Pn		**Pn**	**22 12 45.0**	**+0.7**
CTKS	**Kestanelik-??a**	**5.03 340**	*e*Pn		**Pn**	**22 12 45.0**	**+0.7**
KUZU	**Kuzuini**	**5.06 85**	*i* P		**Pn**	**22 12 45.4**	**+0.6**
KUZU			*e*S		**Sn**	**22 13 38.4**	**-3.5**
KUZU	**Kuzuini**	**5.06 85**	*i* P		**Pn**	**22 12 45.4**	**+0.6**
KUZU			*e*S		**Sn**	**22 13 38.4**	**-3.5**
SIVA	**Sivas**	**5.09 255**	P		**Pn**	**22 12 47.0**	**+1.8**
SIVA	**Sivas**	**5.09 255**	*e*P		**Pn**	**22 12 46.4**	**+1.2**
SIVA	**Sivas**	**5.09 255**	P		**Pn**	**22 12 47.0**	**+1.8**
SIVA	**Sivas**	**5.09 255**	P		**Pn**	**22 12 47.0**	**+1.8**
SLVT	**Silivri**	**5.11 338**	*e*PN		**Pn**	**22 12 46.3**	**+0.9**
SLVT	**Silivri**	**5.11 338**	Pn		**Pn**	**22 12 46.3**	**+0.9**
SLVT	**Silivri**	**5.11 338**	*e*Pn		**Pn**	**22 12 46.3**	**+0.9**
FKH	**Fakeheh**	**5.12 115**	*e*P		**Pn**	**22 12 47.6**	**+1.9**
FKH	**Fakeheh**	**5.12 115**	*e*P		**Pn**	**22 12 47.6**	**+1.9**
RCY	**Rachaya**	**5.12 125**	*e*P		**Pn**	**22 12 45.8**	**0.0**
RCY	**Rachaya**	**5.12 125**	*e*P		**Pn**	**22 12 45.8**	**0.0**
TKR	**Tekirdag**	**5.13 331**	*e*PN		**Pn**	**22 12 46.8**	**+1.0**
TKR	**Tekirdag**	**5.13 331**	Pn		**Pn**	**22 12 46.3**	**+0.6**
TKR	**Tekirdag**	**5.13 331**	Pn		**Pn**	**22 12 46.3**	**+0.6**
GELI	**Tayfur-Gelibol**	**5.14 320**	*e*PN		**Pn**	**22 12 47.1**	**+1.3**
GELI	**Tayfur-Gelibol**	**5.14 320**	Pn		**Pn**	**22 12 46.4**	**+0.5**
GELI	**Tayfur-Gelibol**	**5.14 320**	Pn		**Pn**	**22 12 46.3**	**+0.5**
MMA0	**Mount Meron ar**	**5.16 131**	Pn		**Pn**	**22 12 45.9**	**-0.4**
MMA0			Sn		**Sn**	**22 13 41.1**	**-3.4**
MMAI	**Mount Meron Ar**	**5.16 131**	P		**Pn**	**22 12 45.5**	**-0.8**
MMAI			S		**Sn**	**22 13 41.5**	**-3.0**
MMAI	**Mount Meron Ar**	**5.16 131**	P		**Pn**	**22 12 45.5**	**-0.8**
	comp=E,29nm,0.3s,baz=310,slow=12,SNR=224						
MMAI			S		**Sn**	**22 13 41.5**	**-3.0**
	comp=E,100nm,0.3s,baz=357,slow=16,SNR=12						
MMAI	**Mount Meron Ar**	**5.16 131**	P		**Pn**	**22 12 45.5**	**-0.8**
MMAI			S		**Sn**	**22 13 41.5**	**-3.0**
TOS	**Tosya**	**5.16 28**	*e*PN		**Pn**	**22 12 46.4**	**+0.1**
TOS	**Tosya**	**5.16 28**	Pn		**Pn**	**22 12 45.6**	**-0.7**
TOS	**Tosya**	**5.16 28**	*e*Pn		**Pn**	**22 12 46.4**	**+0.1**
KSDI	**Kefar Szold**	**5.20 128**	Pn		**Pn**	**22 12 46.0**	**-0.7**
KSDI			Sn		**Sn**	**22 13 42.3**	**-3.1**
OFRI	**'Ofer**	**5.21 137**	Pn		**Pn**	**22 12 45.7**	**-1.1**
BLGI	**Bet Lehem HaGe**	**5.24 135**	Pn		**Pn**	**22 12 47.3**	**+0.1**
MARH	**Ras Al Marh**	**5.28 117**	*e*P		**Pn**	**22 12 49.5**	**+1.4**
MARH			AML		AML	22 13 54.6	
	comp=E,189nm,0.5s						
MARH			AML		AML	22 13 55.5	
	comp=N,104nm,0.3s						
MARH	**Ras Al Marh**	**5.28 117**	*e*P		**Pn**	**22 12 49.5**	**+1.4**
	SNR=90						
CTYL	**Yal??k??y-??at**	**5.31 339**	*e*PN		**Pn**	**22 12 49.3**	**+1.2**
CTYL	**Yal??k??y-??at**	**5.31 339**	Pn		**Pn**	**22 12 49.1**	**+0.9**
CTYL	**Yal??k??y-??at**	**5.31 339**	Pn		**Pn**	**22 12 49.1**	**+0.9**
QASN	**Qassioun**	**5.40 122**	*e*P		**Pn**	**22 12 51.4**	**+1.9**
QASN			*e*S		**Sn**	**22 13 48.4**	**-2.0**
QASN			AML		AML	22 13 52.6	
	comp=N,247nm,0.3s						
QASN			AML		AML	22 13 58.1	
	comp=E,433nm,0.7s						
QASN	**Qassioun**	**5.40 122**	*e*P		**Pn**	**22 12 51.4**	**+1.9**
	SNR=90						
QASN			*e*S		**Sn**	**22 13 48.4**	**-2.0**
	comp=E,433nm,0.7s,SNR=90						
VAM	**Vamos**	**5.46 260**	*e*P		**Pn**	**22 12 51.7**	**+1.4**
SLTI	**Sal'it**	**5.53 139**	Pn		**Pn**	**22 12 50.6**	**-0.6**
LIA	**Limnos Island**	**5.55 309**	P		**Pn**	**22 12 52.6**	**+1.1**
LIA	**Limnos Island**	**5.55 309**	*e*P		**Pn**	**22 12 52.6**	**+1.1**
LIA	**Limnos Island**	**5.55 309**	P		**Pn**	**22 12 52.6**	**+1.1**
LIA	**Limnos Island**	**5.55 309**	P		**Pn**	**22 12 52.6**	**+1.1**
MMLI	**Mount Malkishu**	**5.59 136**	Pn		**Pn**	**22 12 52.0**	**-0.1**
MMLI			Sn		**Sn**	**22 13 52.0**	**-2.9**
TOTH	**TOTAH**	**5.60 123**	*e*P		**Pn**	**22 12 53.8**	**+1.5**
TOTH			*e*S		**Sn**	**22 13 52.9**	**-2.4**
TOTH			AML		AML	22 13 57.2	
	comp=N,127nm,0.3s						
TOTH			AML		AML	22 14 02.6	
	comp=E,197nm,0.6s						
TOTH	**TOTAH**	**5.60 123**	*e*P		**Pn**	**22 12 53.8**	**+1.5**
	SNR=90						
TOTH			*e*S		**Sn**	**22 13 52.9**	**-2.4**
	comp=E,197nm,0.6s,SNR=90						
KARN	**Karanos**	**5.69 261**	P		**Pn**	**22 12 54.8**	**+1.4**
KARN	**Karanos**	**5.69 261**	*e*P		**Pn**	**22 12 54.3**	**+0.9**
KARN	**Karanos**	**5.69 261**	P		**Pn**	**22 12 54.8**	**+1.4**
KARN	**Karanos**	**5.69 261**	P		**Pn**	**22 12 54.8**	**+1.4**
PHSR	**Pinarhisar**	**5.70 334**	*e*PN		**Pn**	**22 12 54.3**	**+0.8**
PHSR	**Pinarhisar**	**5.70 334**	*e*Pn		**Pn**	**22 12 54.3**	**+0.8**
SMTH	**Samothraki Isl**	**5.71 315**	P		**Pn**	**22 12 54.3**	**+0.7**
SMTH	**Samothraki Isl**	**5.71 315**	*e*P		**Pn**	**22 12 54.2**	**+0.7**
SMTH	**Samothraki Isl**	**5.71 315**	P		**Pn**	**22 12 54.3**	**+0.7**
SMTH	**Samothraki Isl**	**5.71 315**	P		**Pn**	**22 12 54.3**	**+0.7**
GVD	**Gavdhos**	**5.71 255**	P		**Pn**	**22 12 53.8**	**+0.1**
GVD	**Gavdhos**	**5.71 255**	*e*P		**Pn**	**22 12 54.8**	**+1.1**
GVD	**Gavdhos**	**5.71 255**	*e*Pn		**Pn**	**22 12 54.9**	**+1.3**
GVD			*e*Sn		Sn	22 13 50.5	-7.3
GVD	**Gavdhos**	**5.71 255**	P		**Pn**	**22 12 53.8**	**+0.1**
GVD	**Gavdhos**	**5.71 255**	*e*Pn		**Pn**	**22 12 54.9**	**+1.3**
ALN	**Alexandroupoli**	**5.73 321**	P		**Pn**	**22 12 54.8**	**+0.9**
ALN	**Alexandroupoli**	**5.73 321**	P		**Pn**	**22 12 54.8**	**+0.9**
ALN	**Alexandroupoli**	**5.73 321**	*e*P		**Pn**	**22 12 54.8**	**+0.9**
ALN	**Alexandroupoli**	**5.73 321**	P		**Pn**	**22 12 54.8**	**+0.9**
ALN	**Alexandroupoli**	**5.73 321**	P		**Pn**	**22 12 54.8**	**+0.9**
PTL	**Penteli**	**5.73 287**	P		**Pn**	**22 12 55.4**	**+1.5**
PTL	**Penteli**	**5.73 287**	*e*P		**Pn**	**22 12 55.3**	**+1.4**
PTL	**Penteli**	**5.73 287**	P		**Pn**	**22 12 55.4**	**+1.5**
PTL	**Penteli**	**5.73 287**	P		**Pn**	**22 12 55.4**	**+1.5**
TCHB	**Talchebab**	**5.75 131**	*e*P		**Pn**	**22 12 54.8**	**+0.6**
TCHB			*e*S		**Sn**	**22 13 56.2**	**-2.6**
TCHB			AML		AML	22 14 04.2	
	comp=E,487nm,0.6s						
TCHB			AML		AML	22 14 16.3	
	comp=N,261nm,0.9s						
TCHB	**Talchebab**	**5.75 131**	*e*P		**Pn**	**22 12 54.8**	**+0.6**
	SNR=90						
TCHB			*e*S		**Sn**	**22 13 56.2**	**-2.6**
	comp=N,261nm,0.9s,SNR=90						
SLMH	**Al Salmeh**	**5.77 91**	*e*P		**Pn**	**22 12 56.0**	**+1.5**
SLMH			*e*S		**Sn**	**22 13 56.9**	**-2.4**
SLMH			AML		AML	22 14 20.9	
	comp=N,105nm,0.6s						
SLMH			AML		AML	22 14 21.1	
	comp=E,163nm,0.6s						
SLMH			AML		AML	22 14 28.3	
	comp=Z,176nm,0.5s						
SLMH	**Al Salmeh**	**5.77 91**	*e*P		**Pn**	**22 12 56.0**	**+1.5**
	SNR=90						
SLMH			*e*S		**Sn**	**22 13 56.8**	**-2.4**
	comp=Z,176nm,0.5s,SNR=90						
ATHU	**Athens Univers**	**5.77 287**	P		**Pn**	**22 12 56.0**	**+1.5**
ATHU	**Athens Univers**	**5.77 287**	P		**Pn**	**22 12 56.0**	**+1.5**
ATHU	**Athens Univers**	**5.77 287**	P		**Pn**	**22 12 56.0**	**+1.5**
HMDT	**Nahal Hemdat**	**5.79 136**	Pn		**Pn**	**22 12 55.1**	**+0.4**
HMDT			Sn		**Sn**	**22 13 57.7**	**-2.0**
ROOS	**tl_alroos**	**5.81 112**	*e*P		**Pn**	**22 12 56.8**	**+1.7**
ROOS			*e*S		**Sn**	**22 13 59.2**	**-1.1**
ROOS	**tl_alroos**	**5.81 112**	*e*P		**Pn**	**22 12 56.8**	**+1.7**
	SNR=90						
ROOS			*e*S		**Sn**	**22 13 59.2**	**-1.1**
	SNR=90						
ATH	**Athens Observa**	**5.83 286**	*e*P		**Pn**	**22 12 57.0**	**+1.8**
BYBT	**Boyabat**	**5.83 31**	*e*PN		**Pn**	**22 12 55.5**	**+0.3**
BYBT	**Boyabat**	**5.83 31**	Pn		**Pn**	**22 12 54.4**	**-0.8**
BYBT	**Boyabat**	**5.83 31**	*e*Pn		**Pn**	**22 12 55.5**	**+0.3**
ERET	**Eretria**	**5.88 291**	P		**Pn**	**22 12 57.7**	**+1.7**
ERET	**Eretria**	**5.88 291**	P		**Pn**	**22 12 57.7**	**+1.7**
TOKT	**Tokat**	**5.89 48**	*e*PN		**Pn**	**22 12 57.5**	**+1.3**
TOKT	**Tokat**	**5.89 48**	Pn		**Pn**	**22 12 57.5**	**+1.3**
TOKT	**Tokat**	**5.89 48**	*e*Pn		**Pn**	**22 12 57.5**	**+1.3**
SVSK	**Karacayir**	**5.94 53**	*e*PN		**Pn**	**22 12 58.1**	**+1.3**
SVSK	**Karacayir**	**5.94 53**	Pn		**Pn**	**22 12 58.1**	**+1.3**
SVSK	**Karacayir**	**5.94 53**	*e*Pn		**Pn**	**22 12 58.1**	**+1.3**
NAIG	**Nisos Aigina**	**5.96 284**	*e*P		**Pn**	**22 12 58.6**	**+1.5**
BZK	**Bozkurt**	**5.97 24**	*e*PN		**Pn**	**22 12 58.3**	**+1.0**
BZK	**Bozkurt**	**5.97 24**	Pn		**Pn**	**22 12 58.2**	**+1.0**
BZK	**Bozkurt**	**5.97 24**	Pn		**Pn**	**22 12 58.2**	**+1.0**
HBRG	**Burj al 'Arab**	**5.99 188**	P		**Pn**	**22 12 57.6**	**+0.1**
	baz=190						
HBRG			S		**Sn**	**22 13 59.4**	**-5.3**
	baz=190						
HBRG	**Burj al 'Arab**	**5.99 188**	P		**Pn**	**22 12 57.6**	**+0.1**
RSH		**6.06 155**	P		**Pn**	**22 12 58.3**	**-0.2**
	baz=155						
RSH		**6.06 155**	P		**Pn**	**22 12 58.3**	**-0.2**
AOS	**Alonnisos**	**6.07 298**	P		**Pn**	**22 13 00.4**	**+1.8**
AOS	**Alonnisos**	**6.07 298**	*e*P		**Pn**	**22 13 00.4**	**+1.8**
AOS	**Alonnisos**	**6.07 298**	P		**Pn**	**22 13 00.4**	**+1.8**
AOS	**Alonnisos**	**6.07 298**	P		**Pn**	**22 13 00.4**	**+1.8**
ANKY	**Antikythira Is**	**6.09 266**	P		**Pn**	**22 12 59.8**	**+0.9**
ANKY	**Antikythira Is**	**6.09 266**	*e*P		**Pn**	**22 12 59.9**	**+1.0**
ANKY	**Antikythira Is**	**6.09 266**	P		**Pn**	**22 12 59.8**	**+0.9**
ANKY	**Antikythira Is**	**6.09 266**	P		**Pn**	**22 12 59.8**	**+0.9**
MRKA	**Markates**	**6.12 293**	P		**Pn**	**22 13 00.9**	**+1.6**
MRKA	**Markates**	**6.12 293**	P		**Pn**	**22 13 00.9**	**+1.6**
DID	**Didima**	**6.12 281**	P		**Pn**	**22 13 01.0**	**+1.6**
DID	**Didima**	**6.12 281**	*e*P		**Pn**	**22 13 01.0**	**+1.6**
DID	**Didima**	**6.12 281**	P		**Pn**	**22 13 01.0**	**+1.6**
DID	**Didima**	**6.12 281**	P		**Pn**	**22 13 01.0**	**+1.6**
RDO	**Rodhopi**	**6.17 320**	P		**Pn**	**22 13 01.1**	**+1.2**
RDO	**Rodhopi**	**6.17 320**	*e*P		**Pn**	**22 13 00.9**	**+1.0**
RDO	**Rodhopi**	**6.17 320**	P		**Pn**	**22 13 01.1**	**+1.2**
RDO	**Rodhopi**	**6.17 320**	P		**Pn**	**22 13 01.1**	**+1.2**
EDRB	**Edirne**	**6.17 331**	P		**Pn**	**22 13 01.0**	**+1.0**
EDRB	**Edirne**	**6.17 331**	*e*PN		**Pn**	**22 13 01.0**	**+1.0**
EDRB	**Edirne**	**6.17 331**	Pn		**Pn**	**22 13 00.7**	**+0.7**
EDRB	**Edirne**	**6.17 331**	Pn		**Pn**	**22 13 00.7**	**+0.7**
EDRB	**Edirne**	**6.17 331**	P		**Pn**	**22 13 01.0**	**+1.0**
SALA	**Sala**	**6.20 126**	*e*P		**Pn**	**22 13 02.1**	**+1.5**
SALA			*e*S		**Sn**	**22 14 08.2**	**-2.0**
SALA			AML		AML	22 14 13.9	
	comp=E,18nm,0.4s						
SALA			AML		AML	22 14 21.5	
	comp=N,148nm,0.4s						
SALA	**Sala**	**6.20 126**	*e*P		**Pn**	**22 13 02.1**	**+1.5**
	SNR=90						
SALA			*e*S		**Sn**	**22 14 08.2**	**-2.0**
	comp=N,148nm,0.4s,SNR=90						
AMAG	**Maghara**	**6.20 160**	P		**Pn**	**22 13 00.1**	**-0.4**
	baz=160						
AMAG	**Maghara**	**6.20 160**	P		**Pn**	**22 13 00.1**	**-0.4**
DSI	**Dead Sea**	**6.24 141**	Pn		**Pn**	**22 13 01.2**	**+0.3**
DSI			Sn		**Sn**	**22 14 09.5**	**-1.3**
JHLN	**Al Jahlan**	**6.25 96**	*e*P		**Pn**	**22 13 02.1**	**+1.0**
JHLN			*e*S		**Sn**	**22 14 09.3**	**-1.8**
JHLN			AML		AML	22 14 29.0	
	comp=N,108nm,0.5s						
JHLN			AML		AML	22 14 30.8	
	comp=E,115nm,0.4s						
JHLN	**Al Jahlan**	**6.25 96**	*e*P		**Pn**	**22 13 02.1**	**+1.0**
	SNR=90						
JHLN			*e*S		**Sn**	**22 14 09.3**	**-1.8**
	comp=E,115nm,0.4s,SNR=90						
KYTH	**Kithira**	**6.26 270**	*e*P		**Pn**	**22 13 03.0**	**+1.8**
VLI	**Veliai**	**6.32 274**	P		**Pn**	**22 13 03.1**	**+1.1**
VLI	**Veliai**	**6.32 274**	*e*P		**Pn**	**22 13 03.0**	**+1.1**
VLI	**Veliai**	**6.32 274**	P		**Pn**	**22 13 03.1**	**+1.1**
VLI	**Veliai**	**6.32 274**	P		**Pn**	**22 13 03.1**	**+1.1**
MALT	**Malatya**	**6.33 71**	⇓*i*P		**Pn**	**22 13 03.7**	**+1.4**
MALT	**Malatya**	**6.33 71**	⇓*i*P		**Pn**	**22 13 03.7**	**+1.4**
MALT	**Malatya**	**6.33 71**	P		**Pn**	**22 13 03.7**	**+1.4**
MALT	**Malatya**	**6.33 71**	Pn		**Pn**	**22 13 04.0**	**+1.7**
RTMI	**Retamim**	**6.35 148**	Pn		**Pn**	**22 13 01.9**	**-0.5**
RTMI			Sn		**Sn**	**22 14 09.9**	**-3.6**
KZIT	**Kziot**	**6.36 151**	Pn		**Pn**	**22 13 01.9**	**-0.7**
SKIA	**Skiathos**	**6.37 297**	P		**Pn**	**22 13 04.5**	**+1.8**
SKIA	**Skiathos**	**6.37 297**	P		**Pn**	**22 13 04.5**	**+1.8**
LTK	**Loutraki**	**6.42 286**	P		**Pn**	**22 13 05.2**	**+1.9**
LTK	**Loutraki**	**6.42 286**	*e*P		**Pn**	**22 13 05.1**	**+1.8**
LTK	**Loutraki**	**6.42 286**	P		**Pn**	**22 13 05.2**	**+1.9**
LTK	**Loutraki**	**6.42 286**	P		**Pn**	**22 13 05.2**	**+1.9**
MZDA	**Masada**	**6.44 143**	Pn		**Pn**	**22 13 03.8**	**+0.2**
MZDA			Sn		**Sn**	**22 14 12.0**	**-3.7**
SMIA	**Simia**	**6.46 294**	P		**Pn**	**22 13 06.0**	**+2.1**
SMIA	**Simia**	**6.46 294**	P		**Pn**	**22 13 06.0**	**+2.1**
ACOR	**Acrocorinthos**	**6.47 285**	P		**Pn**	**22 13 04.5**	**+0.4**
ACOR	**Acrocorinthos**	**6.47 285**	P		**Pn**	**22 13 04.5**	**+0.4**
ZALF	**Zalf**	**6.47 122**	*e*P		**Pn**	**22 13 05.9**	**+1.7**
ZALF			*e*S		**Sn**	**22 14 14.5**	**-2.2**
ZALF			AML		AML	22 14 29.0	
	comp=E,48nm,0.5s						
ZALF			AML		AML	22 14 37.1	
	comp=N,47nm,0.8s						
ZALF	**Zalf**	**6.47 122**	*e*P		**Pn**	**22 13 05.9**	**+1.7**
	SNR=90						
ZALF			*e*S		**Sn**	**22 14 14.5**	**-2.2**
	comp=N,47nm,0.8s,SNR=90						
LKR	**Lokris**	**6.54 291**	*e*P		**Pn**	**22 13 06.9**	**+1.9**
PAIG	**Paliouri**	**6.55 303**	P		**Pn**	**22 13 06.4**	**+1.3**
PAIG	**Paliouri**	**6.55 303**	P		**Pn**	**22 13 06.4**	**+1.3**
PAIG	**Paliouri**	**6.55 303**	*e*P		**Pn**	**22 13 06.5**	**+1.3**
PAIG	**Paliouri**	**6.55 303**	P		**Pn**	**22 13 06.4**	**+1.3**
PAIG	**Paliouri**	**6.55 303**	P		**Pn**	**22 13 06.4**	**+1.3**
OUR	**Ouranopolis**	**6.56 307**	P		**Pn**	**22 13 06.4**	**+1.2**
OUR	**Ouranopolis**	**6.56 307**	P		**Pn**	**22 13 06.4**	**+1.2**
OUR	**Ouranopolis**	**6.56 307**	P		**Pn**	**22 13 06.4**	**+1.2**
OUR	**Ouranopolis**	**6.56 307**	P		**Pn**	**22 13 06.4**	**+1.2**
NEO	**Neokhori**	**6.60 297**	P		**Pn**	**22 13 07.6**	**+1.8**
NEO	**Neokhori**	**6.60 297**	*e*P		**Pn**	**22 13 07.4**	**+1.6**
NEO	**Neokhori**	**6.60 297**	P		**Pn**	**22 13 07.6**	**+1.8**
NEO	**Neokhori**	**6.60 297**	P		**Pn**	**22 13 07.6**	**+1.8**
KDZ	**Kurdzhali**	**6.61 322**	*i* P		**Pn**	**22 13 07.0**	**+1.1**
KDZ	**Kurdzhali**	**6.61 322**	*i* P		**Pn**	**22 13 07.0**	**+1.1**
KAVA	**Kavala**	**6.63 314**	P		**Pn**	**22 13 07.2**	**+1.0**
KAVA	**Kavala**	**6.63 314**	P		**Pn**	**22 13 07.2**	**+1.0**
KAVA	**Kavala**	**6.63 314**	P		**Pn**	**22 13 07.2**	**+1.0**
SQR		**6.63 177**	P		**Pn**	**22 13 05.7**	**-0.6**
	baz=177						
SQR		**6.63 177**	P		**Pn**	**22 13 05.7**	**-0.6**
KOT	**Kottamia**	**6.64 172**	P		**Pn**	**22 13 06.0**	**-0.4**
	baz=172						
KOT			S		**Sn**	**22 14 14.8**	**-5.8**
	baz=172						
KOT	**Kottamia**	**6.64 172**	P		**Pn**	**22 13 06.0**	**-0.4**
XOR	**Xorichti**	**6.64 298**	P		**Pn**	**22 13 09.5**	**+3.1**
XOR	**Xorichti**	**6.64 298**	P		**Pn**	**22 13 09.5**	**+3.1**
XOR	**Xorichti**	**6.64 298**	P		**Pn**	**22 13 09.5**	**+3.1**
HHAG	**Hagoal**	**6.64 170**	P		**Pn**	**22 13 05.9**	**-0.6**
	baz=170						
HHAG	**Hagoal**	**6.64 170**	P		**Pn**	**22 13 05.9**	**-0.6**
ASF	**Jabal al Asfar**	**6.66 129**	P		**Pn**	**22 13 07.7**	**+1.0**
ASF			S		**Sn**	**22 14 21.3**	**+0.1**
ASF	**Jabal al Asfar**	**6.66 129**	P		**Pn**	**22 13 07.7**	**+1.0**
	comp=N,2.1nm,0.3s,baz=293,slow=11,SNR=29						
ASF			S		**Sn**	**22 14 21.3**	**+0.1**
	comp=N,4.3nm,0.3s,baz=105,slow=20,SNR=2.8						
HLW	**Helwan**	**6.67 176**	P		**Pn**	**22 13 06.5**	**-0.2**
	baz=176						
HLW	**Helwan**	**6.67 176**	P		**Pn**	**22 13 06.5**	**-0.2**
HMYD	**Mayadein**	**6.71 180**	P		**Pn**	**22 13 07.2**	**-0.2**
	baz=181						
HMYD	**Mayadein**	**6.71 180**	P		**Pn**	**22 13 07.2**	**-0.2**
JMB	**Yambol**	**6.77 333**	P		**Pn**	**22 13 10.6**	**+2.5**
JMB	**Yambol**	**6.77 333**	P		**Pn**	**22 13 10.6**	**+2.5**
JMB	**Yambol**	**6.77 333**	P		**Pn**	**22 13 10.6**	**+2.5**
JMB	**Yambol**	**6.77 333**	*i* P		**Pn**	**22 13 10.0**	**+1.9**
JMB	**Yambol**	**6.77 333**	P		**Pn**	**22 13 10.6**	**+2.5**
RMNI	**Mount Ramon**	**6.78 150**	Pn		**Pn**	**22 13 07.9**	**-0.5**
VLX	**Vlachokerasia**	**6.79 280**	P		**Pn**	**22 13 11.1**	**+2.6**
VLX	**Vlachokerasia**	**6.79 280**	*e*P		**Pn**	**22 13 11.3**	**+2.8**
VLX	**Vlachokerasia**	**6.79 280**	P		**Pn**	**22 13 11.1**	**+2.6**
VLX	**Vlachokerasia**	**6.79 280**	P		**Pn**	**22 13 11.1**	**+2.6**
FYM	**Al Fayyum**	**6.82 178**	S		**Sn**	**22 14 19.6**	**-5.4**
	baz=178						
DIM	**Dimitrovgrad**	**6.86 325**	*i* P		**Pn**	**22 13 10.7**	**+1.4**
DIM	**Dimitrovgrad**	**6.86 325**	*i* P		**Pn**	**22 13 10.7**	**+1.4**
HNAT	**Natroun**	**6.88 181**	P		**Pn**	**22 13 09.7**	**0.0**
	baz=183						
HNAT	**Natroun**	**6.88 181**	P		**Pn**	**22 13 09.7**	**0.0**
SUZ		**6.88 165**	P		**Pn**	**22 13 09.4**	**-0.3**
	baz=165						
SUZ		**6.88 165**	P		**Pn**	**22 13 09.4**	**-0.3**
GUR	**Goura**	**6.89 284**	P		**Pn**	**22 13 12.2**	**+2.3**
GUR	**Goura**	**6.89 284**	*e*P		**Pn**	**22 13 12.1**	**+2.2**
GUR	**Goura**	**6.89 284**	P		**Pn**	**22 13 12.2**	**+2.3**
GUR	**Goura**	**6.89 284**	P		**Pn**	**22 13 12.2**	**+2.3**
HSAF	**As Saff**	**6.92 174**	P		**Pn**	**22 13 09.9**	**-0.4**
	baz=175						
HSAF	**As Saff**	**6.92 174**	P		**Pn**	**22 13 09.9**	**-0.4**
PLG	**Polygyros**	**6.93 306**	P		**Pn**	**22 13 11.9**	**+1.6**
PLG	**Polygyros**	**6.93 306**	P		**Pn**	**22 13 11.9**	**+1.6**
PLG	**Polygyros**	**6.93 306**	*e*P		**Pn**	**22 13 11.6**	**+1.3**
PLG	**Polygyros**	**6.93 306**	P		**Pn**	**22 13 11.9**	**+1.6**
PLG	**Polygyros**	**6.93 306**	P		**Pn**	**22 13 11.9**	**+1.6**
GLL	**Jalalah**	**6.97 173**	P		**Pn**	**22 13 10.4**	**-0.6**
	baz=173						
GLL	**Jalalah**	**6.97 173**	P		**Pn**	**22 13 10.4**	**-0.6**
ZFRI	**Zfri**	**6.99 147**	Pn		**Pn**	**22 13 10.4**	**-0.8**
ZFRI			Sn		**Sn**	**22 14 25.9**	**-3.3**
RZN	**Rozhen**	**6.99 319**	*i* P		**Pn**	**22 13 13.1**	**+1.8**
RZN	**Rozhen**	**6.99 319**	*i* P		**Pn**	**22 13 13.1**	**+1.8**
KLV	**Kalavryta, Ach**	**7.05 285**	P		**Pn**	**22 13 14.5**	**+2.4**
KLV	**Kalavryta, Ach**	**7.05 285**	*e*P		**Pn**	**22 13 14.2**	**+2.1**
KLV	**Kalavryta, Ach**	**7.05 285**	P		**Pn**	**22 13 14.5**	**+2.4**
KLV	**Kalavryta, Ach**	**7.05 285**	P		**Pn**	**22 13 14.5**	**+2.4**
PRNI	**Paran**	**7.09 149**	Pn		**Pn**	**22 13 11.9**	**-0.7**
HNKL	**Nakhl**	**7.10 157**	P		**Pn**	**22 13 12.2**	**-0.5**
	baz=156						
HNKL			AMP			22 14 00

KEK	Kerkira	9.23 293	P	Pn	22 13 45.9	+4.1
KEK	Kerkira	9.23 293	P	Pn	22 13 45.9	+4.1
BARS	Barje	9.34 315	⇑iPn	Pn	22 13 45.1	+1.8
PETR	Petresti	9.57 345	⇑iP	Pn	22 13 48.4	+2.0
PETR	Petresti	9.57 345	⇑iP	Pn	22 13 48.4	+2.0
MLR	Muntele Rosu	9.67 339	P	Pn	22 13 50.0	+2.1
MLR			S	Sn	22 15 38.1	+3.0
MLR	Muntele Rosu	9.67 339	⇑iP	Pn	22 13 50.5	+2.5
MLR	Muntele Rosu	9.67 339	P	Pn	22 13 50.0	+2.1
	comp=E,0.2nm,0.3s,baz=166,slow=4.8,SNR=22					
MLR			S	Sn	22 15 38.1	+3.0
	baz=246,slow=20					
MLR	Muntele Rosu	9.67 339	P	Pn	22 13 50.0	+2.1
MLR			S	Sn	22 15 38.1	+3.0
ANN	Anapa	9.68 29	eP	Pn	22 13 49.5	+1.6
ANN			pmax	pmax		
	comp=Z,58nm,1.5s					
ANN	Anapa	9.68 29	eP	Pn	22 13 49.5	+1.6
	comp=Z,58nm,1.5s					
TIR	Tirane	9.78 303	eP	Pn	22 13 49.4	+0.1
TIR	Tirane	9.78 303	ePn	Pn	22 13 49.4	+0.1
TIR	Tirane	9.78 303	eP	Pn	22 13 49.4	+0.1
VRI	Vrincioaia	9.82 343	⇑P	Pn	22 13 52.0	+2.2
VRI	Vrincioaia	9.82 343	⇑iP	Pn	22 13 52.0	+2.2
VRI	Vrincioaia	9.82 343	P	Pn	22 13 52.0	+2.2
PLOR	Plostina	9.82 343	⇓P	Pn	22 13 52.4	+2.5
PLOR	Plostina	9.82 343	⇓iP	Pn	22 13 52.4	+2.5
PLOR	Plostina	9.82 343	P	Pn	22 13 52.4	+2.5
VOIR		9.90 336	⇑P	Pn	22 13 52.9	+1.9
VOIR		9.90 336	⇑iP	Pn	22 13 52.9	+1.9
VOIR		9.90 336	P	Pn	22 13 52.9	+1.9
ARR	Arges	9.98 334	⇑iP	Pn	22 13 53.7	+1.6
ARR	Arges	9.98 334	⇑iP	Pn	22 13 53.7	+1.6
SELS	Selova	9.99 315	ePn	Pn	22 13 53.3	+1.1
LEOM	Leova	10.12 350	⇑P	Pn	22 13 55.2	+1.3
LEOM	Leova	10.12 350	⇑iP	Pn	22 13 55.2	+1.3
LEOM	Leova	10.12 350	P	Pn	22 13 55.2	+1.3
DOPR	Dopca	10.27 338	⇓iP	Pn	22 13 57.7	+1.7
DOPR	Dopca	10.27 338	⇓iP	Pn	22 13 57.7	+1.7
LOT	Lotru	10.37 331	⇓iP	Pn	22 13 59.0	+1.6
LOT	Lotru	10.37 331	⇓iP	Pn	22 13 59.0	+1.6
LJBD	Adjabya	10.45 241	iP	Pn	22 13 56.0	-2.4
	SNR=90					
GRUS	Gruza	10.65 317	ePn	Pn	22 14 03.3	+2.2
GZR	Gura Zlata	10.73 328	⇑iP	Pn	22 14 03.7	+1.4
GZR	Gura Zlata	10.73 328	⇑iP	Pn	22 14 03.7	+1.4
IVAS	Ivanjica	10.77 314	ePn	Pn	22 14 02.0	-0.8
DIVS	Divibare	11.18 316	ePn	Pn	22 14 10.0	+1.5
BZS	Buzias	11.41 326	⇓P	Pn	22 14 12.3	+0.7
BZS	Buzias	11.41 326	⇓iP	Pn	22 14 12.3	+0.7
BZS	Buzias	11.41 326	P	Pn	22 14 12.3	+0.7
KBZ	Khabaz	11.72 48	P	Pn	22 14 16.4	+0.6
KBZ	Khabaz	11.72 48	P	Pn	22 14 16.4	+0.6
KBZ	Khabaz	11.72 48	P	Pn	22 14 16.4	+0.6
	comp=Z,0.1nm,0.3s,baz=280,slow=3.2,SNR=3.5					
KBZ	Khabaz	11.72 48	P	Pn	22 14 16.4	+0.6
KIV	Kislovodsk	11.73 47	eP	Pn	22 14 19.5	+3.6
KIV			pmax	pmax		
	comp=Z,12nm,1.0s					
BURAR	Bucovina Array	11.83 341	⇑P	Pn	22 14 20.3	+3.0
BURAR	Bucovina Array	11.83 341	⇑iP	Pn	22 14 20.3	+3.0
BURAR	Bucovina Array	11.83 341	⇑iP	Pn	22 14 20.3	+3.0
SIRR	Siria	11.90 328	⇑iP	Pn	22 14 20.6	+2.4
SIRR	Siria	11.90 328	⇑iP	Pn	22 14 20.6	+2.4
CUC	Castrocucco	12.27 291	ePn	Pn	22 14 23.7	+0.3
CUC			eSn	Sn	22 16 34.3	-4.1
CUC	Castrocucco	12.27 291	ePn	Pn	22 14 23.7	+0.3
LKFR	Kufra	13.95 210	iP	Pn	22 14 43.6	-2.5
	SNR=63					
KIEV	Kiev	14.21 356	eP	Pn	22 14 50.1	+0.8
KIEV	Kiev	14.21 356	ePn	Pn	22 14 50.1	+0.8
KIEV	Kiev	14.21 356	ePn	Pn	22 14 50.1	+0.8
AKASG	Malin Array Be	14.22 356	iP	P	22 14 54.9	0.0
AKASG			pmax	pmax		
	comp=Z,8.0nm,0.6s					
AKASG	Malin Array Be	14.22 356	P	Pn	22 14 47.4	-2.1
AKASG			S	Sn	22 17 29.4	+4.0
AKASG	Malin Array Be	14.22 356	P	Pn	22 14 47.4	-2.1
	comp=Z,0.8nm,0.3s,baz=175,slow=13,SNR=8.2					
AKASG			S	Sn	22 17 29.4	+4.0
	comp=Z,1.4nm,0.3s,baz=183,slow=25,SNR=6.8					
AKASG	Malin Array Be	14.22 356	iP	P	22 14 54.9	0.0
	comp=Z,8.0nm,0.6s					
KWP	Kalwaria Pacla	14.36 338	⇓P	Pn	22 14 53.8	+2.5
KWP	Kalwaria Pacla	14.36 338	⇓iP	Pn	22 14 53.8	+2.5
KWP	Kalwaria Pacla	14.36 338	P	Pn	22 14 53.8	+2.5
VORD	Divnogorie	15.67 20	eP	P	22 15 11.6	+0.5
VORD			pmax	pmax		
	comp=Z,10.0nm,0.7s					
VORD			pmax	pmax		
	comp=N,30nm,0.9s					
VORD			pmax	pmax		
	comp=E,10.0nm,0.6s					
VORD	Divnogorie	15.67 20	eP	P	22 15 11.6	+0.5
	comp=E,30nm,0.9s					
VRHR	Novokhopersk	16.50 25	eP	Pn	22 15 18.6	0.0
VRHR			pmax	pmax		
	comp=N,10.0nm,1.1s					
VRHR			pmax	pmax		
	comp=Z,10.0nm,1.1s					
VRHR			pmax	pmax		
	comp=E,10.0nm,1.5s					
VRHR	Novokhopersk	16.50 25	eP	Pn	22 15 18.6	0.0
KRLC	Kraliky	16.91 328	ex	pP	22 15 41.8	+3.6
KRLC			ex	x	22 16 00.9	
DPC	Dobruska-Polom	17.32 327	eP	P	22 15 31.2	+1.8
DPC	Dobruska-Polom	17.32 327	eP	P	22 15 31.2	+1.8
DPC	Dobruska-Polom	17.32 327	eP	P	22 15 31.2	+1.8
KEST	Kesra	17.34 274	P	P	22 15 30.3	+0.5
KEST	Kesra	17.34 274	P	P	22 15 30.3	+0.5
	comp=E,0.1nm,0.3s,baz=151,slow=8.9,SNR=6.3					
KEST	Kesra	17.34 274	P	P	22 15 30.3	+0.5
GERES	GERESS Array B	17.54 320	P	P	22 15 32.1	+0.1
GERES	GERESS Array B	17.54 320	P	P	22 15 32.1	+0.1
	comp=E,0.1nm,0.3s,baz=134,slow=9.5,SNR=9.5					
GERES			LR	LR	22 23 11.9	
	comp=E,59nm,19.1s,baz=299,slow=40					
GERES	GERESS Array B	17.54 320	P	P	22 15 32.1	+0.1
KHC	Kasperske Hory	17.78 320	eP	P	22 15 32.6	-1.9
KHC	Kasperske Hory	17.78 320	eP	P	22 15 32.6	-1.9
KHC			epP	pP	22 15 45.0	-2.8
KHC	Kasperske Hory	17.78 320	eP	P	22 15 32.6	-1.9
PGF	Pioggiola	17.83 296	eP	P	22 15 31.5	-3.7
PGF	Pioggiola	17.83 296	eP	P	22 15 31.5	-3.7
PGF	Pioggiola	17.83 296	eP	P	22 15 31.5	-3.7
RAYN	Ar Rayn	18.14 132	ePn	Pn	22 15 39.0	0.0
	comp=E,16nm,1.9s					
RAYN	Ar Rayn	18.14 132	ePn	Pn	22 15 39.0	0.0
	comp=E,16nm,1.9s					
FETA	Feichten	18.22 311	⇓iPn	P	22 15 38.8	-0.7
	comp=E,4.1nm,0.8s					
FETA	Feichten	18.22 311	P	P	22 15 38.8	-0.7
	comp=E,4.1nm,0.8s					
DAVOX	Davos/Dischmat	18.63 310	P	Pn	22 15 44.8	-0.2
DAVOX	Davos/Dischmat	18.63 310	P	Pn	22 15 44.8	-0.2
	comp=E,0.3nm,0.3s,baz=155,slow=19,SNR=5.0					
DAVOX	Davos/Dischmat	18.63 310	P	Pn	22 15 44.8	-0.2
DAVA	Damuels	18.86 311	⇑iP	P	22 15 46.5	0.0
	comp=E,6.0nm,0.7s					
DAVA	Damuels	18.86 311	P	P	22 15 46.5	0.0
	comp=E,6.0nm,0.7s					
OBN	Obninsk	19.01 10	⇑eP	Pn	22 15 48.5	-0.7
OBN			pmax	pmax		
	comp=Z,9.0nm,0.9s					
OBN			pmax	pmax		
	comp=Z,9.0nm,1.0s					
OBN			MLR	MLR		
	comp=Z,100nm,16.0s					
OBN	Obninsk	19.01 10	eP	Pn	22 15 48.5	-0.7
	comp=Z,100nm,16.0s					
MBDF	Montbardon	19.94 302	eP	P	22 15 56.5	-1.8
	comp=Z,14nm,0.7s					
MBDF	Montbardon	19.94 302	eP	P	22 15 56.5	-1.8
MBDF			pmax	pmax		
	comp=Z,14nm,0.7s					
MBDF	Montbardon	19.94 302	eP	P	22 15 56.5	-1.8
	comp=Z,14nm,0.7s					
MBDF	Montbardon	19.94 302	eP	P	22 15 56.5	-1.8
	comp=Z,6.8nm,0.7s					
BNI	Bardonecchia	20.09 303	eP	P	22 16 00.8	+0.9
BNI			pmax	pmax		
	comp=Z,156nm,2.9s					
BNI	Bardonecchia	20.09 303	eP	P	22 16 00.8	+0.9
	comp=Z,156nm,2.9s					
BNI	Bardonecchia	20.09 303	eP	P	22 16 00.8	+0.9
	comp=Z,156nm,2.9s					
SENIN	Lac Senin/Sane	20.10 307	eP	P	22 15 59.5	-0.6
	comp=Z,7.4nm,0.8s					
SENIN	Lac Senin/Sane	20.10 307	eP	P	22 15 59.5	-0.6
	comp=Z,7.4nm,0.8s					
LPG	La Plagne	20.18 304	eP	P	22 16 00.1	-0.9
	comp=Z,11nm,0.6s					
LPG	La Plagne	20.18 304	eP	P	22 16 00.1	-0.9
LPG			pmax	pmax		
	comp=Z,11nm,0.6s					
LPG	La Plagne	20.18 304	eP	P	22 16 00.1	-0.9
	comp=Z,11nm,0.6s					
LPG	La Plagne	20.18 304	eP	P	22 16 00.1	-0.9
	comp=Z,5.6nm,0.6s					
LPL	La Plagne	20.19 304	eP	P	22 15 59.9	-1.2
	comp=Z,11nm,0.6s					
LPL	La Plagne	20.19 304	eP	P	22 15 59.9	-1.2
LPL			pmax	pmax		
	comp=Z,11nm,0.6s					
LPL	La Plagne	20.19 304	eP	P	22 15 59.9	-1.2
	comp=Z,11nm,0.6s					
LPL	La Plagne	20.19 304	eP	P	22 15 59.9	-1.2
	comp=Z,5.3nm,0.6s					
BFO	Black Forest	20.27 313	eP	P	22 16 02.2	+0.5
BFO			pmax	pmax		
	comp=Z,6.0nm,0.7s					
BFO	Black Forest	20.27 313	eP	P	22 16 02.2	+0.5
	comp=Z,6.0nm,0.7s					
BFO	Black Forest	20.27 313	eP	P	22 16 02.2	+0.5
	comp=Z,6.0nm,0.7s					
ORIF	Oris-en-Rattie	20.60 302	eP	P	22 16 03.1	-2.3
	comp=Z,11nm,1.0s					
ORIF	Oris-en-Rattie	20.60 302	eP	P	22 16 03.1	-2.3
ORIF			pmax	pmax		
	comp=Z,11nm,1.0s					
ORIF	Oris-en-Rattie	20.60 302	eP	P	22 16 03.1	-2.3
	comp=Z,11nm,1.0s					
ORIF	Oris-en-Rattie	20.60 302	eP	P	22 16 03.1	-2.3
	comp=Z,5.5nm,1.0s					
CDF	Champ du Feu	20.93 312	eP	P	22 16 08.7	-0.2
	comp=Z,22nm,1.0s					
CDF	Champ du Feu	20.93 312	eP	P	22 16 08.7	-0.2
CDF			pmax	pmax		
	comp=Z,22nm,1.0s					
CDF	Champ du Feu	20.93 312	eP	P	22 16 08.7	-0.2
	comp=Z,22nm,1.0s					
CDF	Champ du Feu	20.93 312	eP	P	22 16 08.7	-0.2
	comp=Z,11nm,1.0s					
HINF	Hinteralfeld	20.94 310	eP	P	22 16 07.3	-1.6
	comp=Z,8.3nm,0.8s					
HINF	Hinteralfeld	20.94 310	eP	P	22 16 07.3	-1.6
HINF			pmax	pmax		
	comp=Z,8.0nm,0.8s					
HINF	Hinteralfeld	20.94 310	eP	P	22 16 07.3	-1.6
	comp=Z,8.3nm,0.8s					
HINF	Hinteralfeld	20.94 310	eP	P	22 16 07.3	-1.6
	comp=Z,4.2nm,0.8s					
CABF	La Chapelle	20.97 306	eP	P	22 16 07.9	-1.5
	comp=Z,11nm,0.6s					
CABF	La Chapelle	20.97 306	eP	P	22 16 07.9	-1.5
CABF			pmax	pmax		
	comp=Z,11nm,0.6s					
CABF	La Chapelle	20.97 306	eP	P	22 16 07.9	-1.5
	comp=Z,11nm,0.6s					
CABF	La Chapelle	20.97 306	eP	P	22 16 07.9	-1.5
	comp=Z,5.6nm,0.6s					
HAU	Haudompre	21.32 310	eP	P	22 16 12.9	-0.1
	comp=Z,9.9nm,0.7s					
HAU	Haudompre	21.32 310	eP	P	22 16 12.9	-0.1
HAU			pmax	pmax		
	comp=Z,10.0nm,0.7s					
HAU	Haudompre	21.32 310	eP	P	22 16 12.9	-0.1
	comp=Z,9.9nm,0.7s					
HAU	Haudompre	21.32 310	eP	P	22 16 12.9	-0.1
	comp=Z,4.9nm,0.7s					
SMF	Signal de Mont	22.45 305	eP	P	22 16 22.7	-2.5
	comp=Z,9.6nm,0.6s					
SMF	Signal de Mont	22.45 305	eP	P	22 16 22.7	-2.5
SMF			pmax	pmax		
	comp=Z,10.0nm,0.6s					
SMF	Signal de Mont	22.45 305	eP	P	22 16 22.7	-2.5
	comp=Z,9.6nm,0.6s					
SMF	Signal de Mont	22.45 305	eP	P	22 16 22.7	-2.5
	comp=Z,4.8nm,0.6s					
LOR	Lormes	22.63 307	eP	P	22 16 24.1	-3.0
	comp=Z,12nm,0.9s					
LOR	Lormes	22.63 307	eP	P	22 16 24.1	-3.0
	comp=Z,12nm,0.9s					
LOR	Lormes	22.63 307	eP	P	22 16 24.1	-3.0
	comp=Z,6.1nm,0.9s					
SSF	Saint Saulge	22.80 306	eP	P	22 16 26.6	-2.2
	comp=Z,8.1nm,0.8s					
SSF	Saint Saulge	22.80 306	eP	P	22 16 26.6	-2.2
SSF			pmax	pmax		
	comp=Z,8.0nm,0.8s					
SSF	Saint Saulge	22.80 306	eP	P	22 16 26.6	-2.2
	comp=Z,8.1nm,0.8s					
SSF	Saint Saulge	22.80 306	eP	P	22 16 26.6	-2.2
	comp=Z,4.1nm,0.8s					
AVF	Avril sur Loir	22.82 305	eP	P	22 16 26.8	-2.2
	comp=Z,8.9nm,0.8s					
AVF	Avril sur Loir	22.82 305	eP	P	22 16 26.8	-2.2
AVF			pmax	pmax		
	comp=Z,9.0nm,0.8s					
AVF	Avril sur Loir	22.82 305	eP	P	22 16 26.8	-2.2
	comp=Z,8.9nm,0.8s					
AVF	Avril sur Loir	22.82 305	eP	P	22 16 26.8	-2.2
	comp=Z,4.4nm,0.8s					
BGF	Bois d'Agland	23.09 304	eP	P	22 16 28.9	-2.8
BGF	Bois d'Agland	23.09 304	eP	P	22 16 28.9	-2.8
BGF	Bois d'Agland	23.09 304	eP	P	22 16 28.9	-2.8
BGF	Bois d'Agland	23.09 304	eP	P	22 16 28.9	-2.8
GIVF	Givet	23.12 314	eP	P	22 16 29.2	-2.7
GIVF	Givet	23.12 314	eP	P	22 16 29.2	-2.7
GIVF	Givet	23.12 314	eP	P	22 16 29.2	-2.7
GIVF	Givet	23.12 314	eP	P	22 16 29.2	-2.7
TCF	Toulx Ste Croi	23.44 303	eP	P	22 16 33.6	-1.5
TCF	Toulx Ste Croi	23.44 303	eP	P	22 16 33.6	-1.5
TCF	Toulx Ste Croi	23.44 303	eP	P	22 16 33.6	-1.5
TCF	Toulx Ste Croi	23.44 303	eP	P	22 16 33.6	-1.5
BAIF	Baives	23.46 314	eP	P	22 16 32.7	-2.4
	comp=Z,6.0nm,0.6s					
BAIF	Baives	23.46 314	eP	P	22 16 32.7	-2.4
BAIF			pmax	pmax		
	comp=Z,6.0nm,0.6s					
BAIF	Baives	23.46 314	eP	P	22 16 32.7	-2.4
	comp=Z,6.0nm,0.6s					
BAIF	Baives	23.46 314	eP	P	22 16 32.7	-2.4
	comp=Z,3.0nm,0.6s					
RJF	Les Rejaudoux	23.70 301	eP	P	22 16 36.7	-0.7
RJF	Les Rejaudoux	23.70 301	eP	P	22 16 36.7	-0.7
RJF	Les Rejaudoux	23.70 301	eP	P	22 16 36.7	-0.7
RJF	Les Rejaudoux	23.70 301	eP	P	22 16 36.7	-0.7
AKTK	Aktyubinsk	23.99 46	P	P	22 16 40.6	+0.6
	comp=Z,1.0nm,0.3s					
AKTO	Aktyubinsk	23.99 46	P	P	22 16 40.6	+0.6
AKTO			pmax	pmax		
	comp=Z,1.0nm,0.3s					
AKTO	Aktyubinsk	23.99 46	P	P	22 16 40.5	+0.6
AKTO	Aktyubinsk	23.99 46	P	P	22 16 40.5	+0.6
	comp=Z,1.4nm,0.3s,baz=250,slow=9.1,SNR=8.2					
AKTO	Aktyubinsk	23.99 46	P	P	22 16 40.5	+0.6
LFF	La Frestale	24.17 300	eP	P	22 16 40.5	-1.1
	comp=Z,8.1nm,0.7s					
LFF	La Frestale	24.17 300	eP	P	22 16 40.5	-1.1
LFF			pmax	pmax		
	comp=Z,8.0nm,0.7s					
LFF	La Frestale	24.17 300	eP	P	22 16 40.5	-1.1
	comp=Z,8.1nm,0.7s					
LFF	La Frestale	24.17 300	eP	P	22 16 40.5	-1.1
	comp=Z,4.1nm,0.7s					
ABKAR	Akbulak array	24.69 50	eP	P	22 16 45.8	-0.5
ABKAR	Akbulak array	24.69 50	eP	P	22 16 45.8	-0.5
KLMR	Klimovskoe	24.98 10	eP	P	22 16 48.6	-0.2
KLMR			pmax	pmax		
	comp=Z,17nm,1.2s					
KLMR	Klimovskoe	24.98 10	eP	P	22 16 48.6	-0.2
	comp=Z,17nm,1.2s					
MFF	Saint Martin d	25.10 303	eP	P	22 16 48.2	-1.9
	comp=Z,6.5nm,0.5s					
MFF	Saint Martin d	25.10 303	eP	P	22 16 48.2	-1.9
MFF			pmax	pmax		
	comp=Z,7.0nm,0.5s					
MFF	Saint Martin d	25.10 303	eP	P	22 16 48.2	-1.9
	comp=Z,6.5nm,0.5s					
MFF	Saint Martin d	25.10 303	eP	P	22 16 48.2	-1.9
	comp=Z,3.2nm,0.5s					
FINES	FINESS Array B	25.12 355	P	P	22 16 49.3	-0.8
FINES	FINESS Array B	25.12 355	P	P	22 16 49.3	-0.8
	comp=Z,2.0nm,0.5s,baz=167,slow=9.4,SNR=13					
FINES	FINESS Array B	25.12 355	P	P	22 16 49.3	-0.8
	comp=Z,2.0nm,0.5s					
LDF	La Druitiere	25.58 308	eP	P	22 16 51.5	-3.0
	comp=Z,5.4nm,0.6s					
LDF	La Druitiere	25.58 308	eP	P	22 16 51.5	-3.0
LDF			pmax	pmax		
	comp=Z,5.0nm,0.6s					
LDF	La Druitiere	25.58 308	eP	P	22 16 51.5	-3.0
	comp=Z,5.4nm,0.6s					
LDF	La Druitiere	25.58 308	eP	P	22 16 51.5	-3.0
	comp=Z,2.7nm,0.6s					
TAM	Tamanrasset	25.78 245	eP	P	22 16 57.2	+0.5
TAM			pmax	pmax		
	comp=Z,5.0nm,1.0s					
TAM	Tamanrasset	25.78 245	eP	P	22 16 57.2	+0.5
	comp=Z,4.7nm,1.0s					
TAM	Tamanrasset	25.78 245	eP	P	22 16 57.2	+0.5
	comp=Z,4.7nm,1.0s					
GRR	Gorron	26.00 307	eP	P	22 16 55.5	-2.7
GRR	Gorron	26.00 307	eP	P	22 16 55.5	-2.7
GRR	Gorron	26.00 307	eP	P	22 16 55.5	-2.7
GRR	Gorron	26.00 307	eP	P	22 16 55.5	-2.7
HFS	Hagfors	26.06 340	P	P	22 16 58.8	+0.2
HFS	Hagfors	26.06 340	P	P	22 16 58.8	+0.2
	comp=Z,2.8nm,0.8s,baz=134,slow=11,SNR=7.4					
HFS	Hagfors	26.06 340	P	P	22 16 58.8	+0.2
	comp=Z,2.0nm,0.5s					
JOF	Joensuu	26.42 1	eP	P	22 17 01.9	0.0
JOF	Joensuu	26.42 1	ep	P	22 17 01.9	0.0
JOF	Joensuu	26.42 1	eP	P	22 17 01.9	0.0
ESDC	Sonseca Array	27.43 287	P	P	22 17 11.8	+0.5
ESDC	Sonseca Array	27.43 287	P	P	22 17 11.8	+0.5
	comp=Z,0.7nm,0.5s,baz=75,slow=9.6,SNR=14					
ESDC	Sonseca Array	27.43 287	P	P	22 17 11.8	+0.5
NB2	NORSAR Subarra	27.50 339	P	P	22 17 12.9	+1.3
	comp=Z,3.4nm,1.0s,baz=145,slow=10					
NB2	NORSAR Subarra	27.50 339	P	P	22 17 12.9	+1.3
	comp=Z,3.4nm,1.0s,SNR=4.7					
NOA	NORSAR Array B	27.50 339	P	P	22 17 12.4	+0.8
NOA	NORSAR Array B	27.50 339	P	P	22 17 12.4	+0.8
	comp=Z,3.2nm,0.9s,baz=145,slow=9.4,SNR=5.6					
NOA	NORSAR Array B	27.50 339	P	P	22 17 12.4	+0.8
	comp=Z,3.0nm,0.9s					
EKA	Eskdalemuir Ar	29.76 320	P	P	22 17 29.9	-1.8
EKA	Eskdalemuir Ar	29.76 320	P	P	22 17 29.9	-1.8
	comp=Z,0.5nm,0.5s,baz=118,slow=9.2,SNR=3.8					
EKA	Eskdalemuir Ar	29.76 320	P	P	22 17 29.9	-1.8
	comp=Z,1.0nm,0.5s					
VOSK	Vostochnaya	32.37 47	eP	P	22 17 54.7	0.0
VOSK			pmax	pmax		
	comp=Z,2.0nm,0.8s					
VOSK	Vostochnaya	32.37 47	eP	P	22 17 54.7	0.0
	comp=Z,2.4nm,0.8s					
VOSK	Vostochnaya	32.37 47	eP	P	22 17 54.7	0.0
	comp=Z,2.4nm,0.8s					
ARCES	ARCESS Array B	33.19 357	P	P	22 18 00.2	-1.5
ARCES			PcP	PcP	22 20 45.2	+2.2
ARCES	ARCESS Array B	33.19 357	P	P	22 18 00.2	-1.5
	comp=Z,3.2nm,0.8s,baz=169,slow=8.6,SNR=16					
ARCES			PcP	PcP	22 20 45.2	+2.2
	comp=Z,1.9nm,0.8s,baz=198,slow=2.7,SNR=5.4					
ARCES	ARCESS Array B	33.19 357	P	P	22 18 00.3	-1.5
	comp=Z,3.0nm,0.8s					
TORD	Torodi Ar. Bea	34.96 236	P	P	22 18 18.1	+0.5
TORD	Torodi Ar. Bea	34.96 236	P	P	22 18 18.1	+0.5
	comp=Z,0.9nm,0.6s,baz=22,slow=9.9,SNR=23					
TORD	Torodi Ar. Bea	34.96 236	P	P	22 18 18.1	+0.5
KURBB	Kurchatov Arra	36.69 52	P	P	22 18 31.9	-0.1
	comp=Z,4.2nm,0.5s,baz=272,slow=8.9,SNR=20					
KURK	Kurchatov	36.75 52	iP	P	22 18 36.5	+3.9
KURK			pmax	pmax		
	comp=Z,3.0nm,0.8s					
KURK	Kurchatov	36.75 52	eP	P	22 18 32.1	-0.5
	comp=Z,2.8nm,0.7s					
KURK	Kurchatov	36.75 52	eP	P	22 18 32.1	-0.5
	comp=Z,2.8nm,0.7s					
MKAR	Makanchi Array	39.19 58	P	P	22 18 52.0	-1.2
MKAR			pmax	pmax		
	comp=Z,1.0nm,0.6s					
MKAR	Makanchi Array	39.19 58	P	P	22 18 52.0	-1.2
MKAR	Makanchi Array	39.19 58	P	P	22 18 52.0	-1.2
	comp=Z,0.9nm,0.6s,baz=180,slow=11,SNR=11					
MKAR	Makanchi Array	39.19 58	P	P	22 18 52.0	-1.2
	comp=Z,1.0nm,0.6s					
NVS	Novosibirsk	39.88 46	eP	P	22 18 58.4	-0.4
NVS	Novosibirsk	39.88 46	eP	P	22 18 58.4	-0.4
ZAA0	Zalesovo Array	40.74 47	eP	P	22 19 04.5	-1.4
ZAA0	Zalesovo Array	40.74 47	eP	P	22 19 04.5	-1.4
ZALV	Zalesovo Beam	40.74 47	P	P	22 19 04.5	-1.5
ZALV			pmax	pmax		
	comp=Z,1.0nm,0.4s					
ZALV	Zalesovo Beam	40.74 47	P	P	22 19 04.5	-1.5
ZALV	Zalesovo Beam	40.74 47	P	P	22 19 04.5	-1.5
	comp=Z,1.2nm,0.4s,baz=267,slow=8.6,SNR=7.6					
ZALV	Zalesovo Beam	40.74 47	P	P	22 19 04.4	-1.5
DBIC	Dimbokro	44.06 236	P	P	22 19 33.0	-0.3
DBIC	Dimbokro	44.06 236	P	P	22 19 33.0	-0.3
	comp=Z,1.5nm,0.4s,baz=55,slow=5.6,SNR=7.6					
DBIC	Dimbokro	44.06 236	P	P	22 19 33.0	-0.3
	comp=Z,2.0nm,0.4s					
PYUN	Piuthan	44.45 85	eP	P	22 19 38.2	+1.6
	comp=Z,89nm,0.5s					
DANN	Dangsing	44.97 85	eP	P	22 19 41.1	+0.3
	comp=Z,17nm,0.3s					
KOLN	Koldanda	45.08 85	eP	P	22 19 42.5	+0.9
	comp=Z,8.6nm,0.5s					
DMN	Daman	46.36 85	eP	P	22 19 52.1	+0.4
	comp=Z,10.0nm,0.5s					
KKN	Kakani	46.42 85	eP	P	22 19 52.5	+0.3
	comp=Z,5.5nm,0.3s					
PKIN	Phulch

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**1.29**	**10**	P	**Pn**	**22 45 03.3**	**-1.2**
	SNR=257						
UCH	**Uchtor**	**1.61**	**31**	P	**Pn**	**22 45 09.4**	**+0.6**
	SNR=80						
EKS2	**Erkin-Say**	**1.83**	**9**	P	**Pb**	**22 45 12.7**	**-0.7**
	SNR=93						
KZA	**Kyzart**	**1.85**	**48**	P	**Pb**	**22 45 14.2**	**+0.2**
	SNR=58						
AAK	**Ala-Archa**	**1.96**	**24**	P	**Pb**	**22 45 15.6**	**-0.1**
	SNR=46						
KBK	**Karagaybulak**	**2.14**	**32**	P	**Pb**	**22 45 19.1**	**+0.3**
	SNR=88						
CHMS	**Chumysh**	**2.37**	**25**	P	**Pb**	**22 45 22.2**	**-0.4**
	SNR=50						
USP	**Ospenovka**	**2.54**	**18**	P	**Pb**	**22 45 24.2**	**-1.4**
	SNR=32						
ULHL	**Ulahol**	**2.55**	**56**	P	**Pb**	**22 45 24.7**	**-1.1**
	SNR=13						
TKM2	**Tokmak 2**	**2.64**	**38**	⇑Pn	**Pb**	**22 45 26.1**	**-1.2**
	75nm,0.6s						
TKM2				⇑Sn	**Sb**	**22 46 01.4**	**+1.4**
	235nm,0.5s						
TKM2	**Tokmak 2**	**2.64**	**38**	P	**Pb**	**22 45 26.1**	**-1.2**
	SNR=59						
KK31	**Karatay Array**	**3.11**	**317**	⇑Pn	**Pn**	**22 45 30.8**	**+1.7**
	114nm,0.7s,baz=128,slow=12,SNR=676						
KK31				Sn	**Sb**	**22 46 14.8**	**+1.4**
	101nm,0.3s,baz=135,slow=27,SNR=3.7						
KNDC	**Almaty**	**3.55**	**47**	⇑Pg	**Pg**	**22 45 45.4**	**-2.2**
KNDC				⇑Lg	Lg	22 46 35.6	
MK31	**Makanchi Array**	**8.74**	**44**	⇓Pn	Pn	22 46 49.7	+3.2
	1.4nm,0.6s,baz=227,slow=13,SNR=11						
MK31				⇓Lg	Lg	22 49 21.7	
	5.0nm,0.7s,baz=229,slow=28,SNR=3.7						
MKAR	**Makanchi Array**	**8.74**	**44**	Pn	**Pn**	**22 46 48.9**	**+2.4**
	0.1nm,0.3s,baz=234,slow=16,SNR=2.8						
MKAR				Lg	Lg	22 49 14.8	
	0.6nm,0.3s,baz=231,slow=26,SNR=5.6						
KURBB	**Kurchatov Arra**	**10.40**	**18**	⇑Lg	Lg	22 50 16.8	
	22nm,0.6s						
KURK	**Kurchatov**	**10.51**	**18**	⇑Lg	Lg	22 50 16.4	
	3.9nm,0.5s						
BVA0	**Borovoye Array**	**12.35**	**351**	⇓Pn	Pn	22 47 39.0	+3.3
	8.1nm,1.7s,baz=223,slow=40,SNR=4.3						
AB31	**Akbulak array**	**12.68**	**316**	⇓Pn	**Pn**	**22 47 40.0**	**-0.2**
	2.0nm,0.6s,baz=121,slow=14,SNR=22						
AKTO	**Aktyubinsk**	**14.38**	**317**	⇓Pn	**Pn**	**22 48 02.7**	**-0.7**
	3.4nm,0.9s						
ZALV	**Zalesovo Beam**	**15.18**	**27**	Pn	**Pn**	**22 48 15.0**	**+0.7**
	0.2nm,0.3s,baz=224,slow=13,SNR=3.6						
ZALV				Sn	**Sn**	**22 51 01.5**	**-1.1**
	0.1nm,0.3s,baz=208,slow=18,SNR=2.5						
ZALV				Lg	Lg	22 52 36.8	
	0.1nm,0.3s,baz=233,slow=22,SNR=2.6						
BRTR	**Keskin Array B**	**30.17**	**281**	P	**P**	**22 50 51.5**	**+1.1**
	0.4nm,0.7s,baz=61,slow=8.5,SNR=2.6						
FINES	**FINESS Array B**	**35.06**	**322**	P	**P**	**22 51 32.6**	**-0.2**
	3.1nm,1.0s,baz=118,slow=8.0,SNR=4.7						
ARCES	**ARCESS Array B**	**37.92**	**335**	P	**P**	**22 51 55.9**	**-1.2**
	1.9nm,0.8s,baz=106,slow=9.4,SNR=3.7						
GERES	**GERESS Array B**	**42.09**	**302**	P	**P**	**22 52 32.5**	**+0.3**
	0.4nm,0.6s,baz=79,slow=6.9,SNR=4.3						
TORD	**Torodi Ar. Bea**	**67.71**	**268**	P	**P**	**22 55 37.0**	**-0.9**
	0.2nm,0.7s,baz=53,slow=6.0,SNR=4.2						

*ISCJB **22** 22:46:45.7±0.4,21°.05S±0°.03×68°.29W±0°.05,h132km±5km, mb4.1/10,Error ellipse: s-maj=8.2km s-min=5.4km az=168.2*

*GUC **22** 22:46:47.8±0.4,21°.09S×68°.68W,h145km±3km,ML4.5*

*NEIC **22** 22:46:47.5±0.7,21°.04S×68°.20W,h132km±7km,mb4.1/7, Error ellipse: s-maj=9.7km s-min=7.6km az=81.0*

*IDC **22** 22:46:48.3±2.0,20°.98S×68°.12W,h134km±17km,mb3.8/5, mb1 3.9/11,mb1mx3.8/18,mbtmp3.8/11,Error ellipse: s-maj=19.4km s-min=14.1km az=63.0*

ISC 22 22:46:46.9±0.7,21°.02S±0°.04×68°.24W±0°.05,h123km±7km, n46,σ1§23/57,mb4.4/10,6C,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**Plate Boundary**	**1.16**	**269**	⇑iP	**Pn**	**22 47 10.7**	**-0.2**
PB01				*i* S	**Sn**	**22 47 28.0**	**-1.1**
PB01				AML	AML	22 47 30.0	
	comp=N,7μm,0.2s						
PB09	**Plate Boundary**	**1.21**	**230**	⇑iP	**Pn**	**22 47 11.9**	**+0.4**
PB09				*i* S	**Sn**	**22 47 30.2**	**0.0**
PB09				AML	AML	22 47 32.0	
	comp=N,14μm,0.5s						
PB07	**Plate Boundary**	**1.69**	**245**	⇑iP	**Pn**	**22 47 15.9**	**-0.9**
PB07				*i* S	**Sn**	**22 47 37.0**	**-2.7**
PB07				AML	AML	22 47 39.5	
	comp=N,4μm,0.6s						
PB04	**Plate Boundary**	**1.70**	**223**	*e*P	Pn	22 47 21.9	+5.2
PB04				*i* S	Sn	22 47 47.9	+8.3
PB04				AML	AML	22 47 53.6	
	comp=E,2μm,0.4s						
LVC	**Limon Verde**	**1.70**	**201**	*e*P	**Pn**	**22 47 17.5**	**+0.3**
LVC				*e*S	**Sn**	**22 47 39.4**	**-0.8**
HMBC	**Humberstone**	**1.71**	**295**	⇑iP	**Pn**	**22 47 16.7**	**-0.4**
HMBC				*i* S	**Sn**	**22 47 38.6**	**-1.5**
HMBC				AML	AML	22 47 40.3	
	comp=N,8μm,0.5s						
MACH	**Maria Elena**	**1.83**	**230**	⇑iP	**Pn**	**22 47 17.9**	**-0.8**
MACH				*i* S	**Sn**	**22 47 40.7**	**-2.2**
PSGC	**Pisagua**	**2.26**	**308**	*e*P	**Pn**	**22 47 23.0**	**-0.9**
PSGC				*i* S	**Sn**	**22 47 50.2**	**-2.1**
MNMC	**Minimini**	**2.27**	**326**	⇑iP	**Pn**	**22 47 25.4**	**+1.3**
MNMC				*i* S	**Sn**	**22 47 53.9**	**+1.3**
MNMC				AML	AML	22 47 57.4	
	comp=E,4μm,0.8s						
PB10	**Plate Boundary**	**3.28**	**220**	AML	AML	22 48 10.9	
	comp=E,1μm,0.2s						
LPAZ	**La Paz**	**4.71**	**1**	*e*Pn	**Pn**	**22 47 59.5**	**+2.9**
LPAZ				*e*Sn	**Sn**	**22 48 51.6**	**+1.0**
LPAZ	**La Paz**	**4.71**	**1**	P	**Pn**	**22 47 59.2**	**+2.7**
	comp=E,6.8nm,0.3s,baz=173,slow=6.8,SNR=181						
LPAZ				S	**Sn**	**22 48 51.3**	**+0.7**
	baz=236,slow=11,SNR=1.4						
LCO	**Las Campanas**	**8.26**	**195**	*e*Pn	Pn	22 48 38.8	-5.3
	comp=E,15nm,0.4s						
LCO				*e*Sn	Sn	22 50 08.1	-7.9
SIV	**San Ignacio**	**8.44**	**55**	P	**Pn**	**22 48 46.3**	**-0.1**
SIV				S	**Sn**	**22 50 17.8**	**-2.2**
SIV	**San Ignacio**	**8.44**	**55**	P	**Pn**	**22 48 46.3**	**-0.1**
	comp=E,25nm,0.3s,baz=256,slow=12,SNR=281						
SIV				S	**Sn**	**22 50 17.8**	**-2.2**
	comp=E,0.3nm,0.3s,baz=143,slow=23,SNR=3.5						
CPUP	**Villa Florida**	**11.31**	**120**	*e*Pn	**Pn**	**22 49 24.6**	**-0.3**
CPUP				*e*Sn	**Sn**	**22 51 28.1**	**-1.3**
CPUP	**Villa Florida**	**11.31**	**120**	P	**Pn**	**22 49 25.1**	**+0.2**
	comp=E,0.3nm,0.3s,baz=289,slow=15,SNR=2.5						
CPUP				S	**Sn**	**22 51 28.8**	**-0.6**
	comp=E,0.2nm,0.3s,baz=340,slow=7.7,SNR=3.4						
SAML	**Samuel**	**12.96**	**23**	*e*Pn	**Pn**	**22 49 45.7**	**-0.7**
	comp=E,4.0nm,0.8s						
ATAH	**Atahualpa**	**16.94**	**323**	P	**Pn**	**22 50 39.5**	**+2.5**
ATAH	**Atahualpa**	**16.94**	**323**	P	**Pn**	**22 50 39.5**	**+2.5**
	comp=E,0.5nm,0.3s,baz=252,slow=19,SNR=3.2						
TRQA	**Tornquist**	**17.82**	**164**	*e*P	**P**	**22 50 45.8**	**-0.3**
	comp=E,3.0nm,0.6s						
PLCA	**Paso Flores**	**19.75**	**185**	*e*P	**P**	**22 51 07.8**	**+0.7**
PLCA	**Paso Flores**	**19.75**	**185**	P	**P**	**22 51 07.1**	**0.0**
	comp=E,0.3nm,0.3s,baz=15,slow=9.6,SNR=14						
BDFB	**Brasilia**	**19.93**	**78**	P	**P**	**22 51 10.1**	**+0.9**
BDFB	**Brasilia**	**19.93**	**78**	P	**P**	**22 51 10.1**	**+0.9**
	comp=E,2.4nm,0.3s,baz=261,slow=8.8,SNR=11						
RCBR	**Riachuelo**	**34.79**	**69**	*e*P	**P**	**22 53 24.8**	**-1.1**
	comp=E,43nm,0.9s						
TEIG	**Tepich**	**45.44**	**333**	*e*P	**P**	**22 54 53.0**	**-0.5**
	comp=E,3.4nm,0.4s						
MIAR	**Mount Ida**	**60.28**	**336**	*e*P	**P**	**22 56 41.8**	**-0.6**
	comp=E,9.7nm,1.5s						
VNA2	**Neumayer--Watz**	**60.90**	**161**	*e*P	**P**	**22 56 46.7**	**+0.6**
SNAA	**Sanae**	**62.53**	**161**	*e*P	**P**	**22 56 57.2**	**+0.1**
WMOK	**Wichita Mounta**	**62.59**	**332**	*e*P	**P**	**22 56 56.7**	**-1.2**
	comp=E,0.7nm,0.6s						
ANMO	**Albuquerque**	**66.44**	**326**	*e*P	**P**	**22 57 23.0**	**-0.2**
	comp=E,1.0nm,0.7s						
DBIC	**Dimbokro**	**68.00**	**73**	P	**P**	**22 57 32.6**	**-0.7**
DBIC	**Dimbokro**	**68.00**	**73**	P	**P**	**22 57 32.6**	**-0.7**
	comp=E,4.4nm,0.7s,baz=252,slow=7.0,SNR=5.2						
PDAR	**Pinedale Array**	**74.01**	**330**	P	**P**	**22 58 09.1**	**-0.1**
PDAR	**Pinedale Array**	**74.01**	**330**	P	**P**	**22 58 09.1**	**-0.1**
	comp=E,0.8nm,1.0s,baz=140,slow=7.1,SNR=3.9						
TORD	**Torodi Ar. Bea**	**76.61**	**70**	P	**P**	**22 58 23.9**	**-0.5**
TORD	**Torodi Ar. Bea**	**76.61**	**70**	P	**P**	**22 58 23.9**	**-0.5**
	comp=E,4.4nm,0.7s,baz=254,slow=5.6,SNR=67						
VNDA	**Vanda**	**77.43**	**190**	P	**P**	**22 58 29.2**	**+1.3**
VNDA	**Vanda**	**77.43**	**190**	P	**P**	**22 58 29.2**	**+1.3**
	comp=E,0.6nm,0.9s,baz=126,slow=5.1,SNR=4.6						
YKA	**Yellowknife Ar**	**90.94**	**340**	P	**P**	**22 59 36.3**	**0.0**
YKA	**Yellowknife Ar**	**90.94**	**340**	P	**P**	**22 59 36.3**	**0.0**
	comp=E,1.6nm,0.6s,baz=131,slow=3.8,SNR=8.1						
ZALV	**Zalesovo Beam**	**141.26**	**25**	PKP	**PKPdf**	**23 06 02.7**	**+0.1**
ZALV	**Zalesovo Beam**	**141.26**	**25**	PKP	**PKPdf**	**23 06 02.7**	**+0.1**
	comp=E,1.1nm,0.5s,baz=291,slow=3.4,SNR=5.8						
MKAR	**Makanchi Array**	**144.88**	**36**	PKP	**PKPdf**	**23 06 09.3**	**0.0**
MKAR	**Makanchi Array**	**144.88**	**36**	PKP	**PKPdf**	**23 06 09.3**	**0.0**
	comp=E,2.5nm,0.7s,baz=338,slow=2.4,SNR=17						

*MOS **22** 22:58:27.8±1.0,6°.07S×154°.72E,h67km,mb5.7/11,Error ellipse: s-maj=10.4km s-min=7.9km az=65.7*

*BJI **22** 22:58:28.6,6°.15S×154°.85E,h78km,mB5.3/23,mb5.1/33, Ms4.9/22,Ms7 4.6/22*

*ISCJB **22** 22:58:29.0±1.0,6°.17S±0°.04×154°.72E±0°.03,h73km±9km, mb5.2/86,Error ellipse: s-maj=6.3km s-min=4.5km az=4.6*

*IDC **22** 22:58:30.9±1.6,6°.10S×154°.74E,h82km±13km,mb4.8/22, mb1 5.0/26,mb1mx5.0/28,mbtmp4.9/26,MS4.5/28, Ms1 4.5/28,ms1mx4.5/32,Error ellipse: s-maj=9.7km s-min=8.0km az=77.0*

*NEIC **22** 22:58:30.8±1.0,6°.13S×154°.71E,h82km±9km,mb5.5/33, MW5.6,Error ellipse: s-maj=5.1km s-min=5.0km az=53.0*

*GCMT **22** 22:58:31.1±0.1,6°.31S×154°.70E,h62km,MW5.5,Moment Tensor Solution. s103,c167; s11,c11; Moment tensor: Scale 10^17^Nm; M_{rr}1.69±.02; $M_{\theta\theta}$-0.58±.02; $M_{\phi\phi}$-1.11±.02; $M_{r\theta}$-0.30±.02; $M_{r\phi}$1.06±.02; $M_{\theta\phi}$-0.10±.02; Best double couple: $M_0$1.90000×10^17^ NP1:ϕ_s311.00000°,δ48.00000°, λ75.00000°. NP2:ϕ_s153.00000°,δ44.00000°,λ106.00000°. Principal axes: T 1.7500, Plg79.0000°, Azm150.0000°; N 0.1900, Plg11.0000°, Azm321.0000°; P -1.9400, Plg2.0000°, Azm52.0000°; Data Used: II IU CN G IC. Surface waves: sta= 98, comp=161, per= 50.*

*DJA **22** 22:58:31.3±0.9,6°.5S±5°.5×15°.5E±°.5,h57km±8km,M5.4/37, mB5.8/25,mb5.4/37,Mw(mB)5.4/25*

*BKK **22** 22:58:33.4±1.0,6°.5S±6°.5×15°.5E±°.5,h86km±9km,M5.6/23, mB5.8/16,mb5.4/23,MLv6.2/1,Mw(mB)5.4/16*

*NEIC **22** 22:58:40.3±0.0,6°.20S×154°.05E,h63km,Moment Tensor Solution. s107 Moment tensor: Scale 10^17^Nm; M_{rr}2.80; $M_{\theta\theta}$-1.25; $M_{\phi\phi}$-1.55; $M_{r\theta}$-0.60; $M_{\theta\phi}$1.81; $M_{\phi r}$0.12; Best double couple: $M_0$3.10000×10^17^ NP1:ϕ_s146.00000°, δ41.00000°,λ103.00000°. NP2:ϕ_s309.00000°,δ50.00000°, λ79.00000°. Principal axes: T 2.8900, Plg80.0000°, Azm166.0000°; N 0.3600, Plg8.0000°, Azm316.0000°; P -3.2600, Plg4.0000°, Azm46.0000°;*

ISC 22 22:58:31.0±0.3,6°.20S±0°.03×154°.77E±0°.04,h83km±2km, h83km:pP-P,n322,σ1§67/378,mb5.3/86,24C-17D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.05**	**122**	P	**Pn**	**22 59 58.9**	**+1.0**
HNR				S	**Sn**	**23 01 09.4**	**+3.6**
HNR	**Honiara**	**6.05**	**122**	P	**Pn**	**22 59 58.9**	**+1.0**
	48nm,0.3s,baz=214,slow=2.9,SNR=37						
HNR				S	**Sn**	**23 01 09.4**	**+3.6**
	107nm,0.3s,baz=18,slow=23,SNR=12						
HNR				LR	LR	23 02 09.8	
	comp=Z,6μm,21.8s,baz=295,slow=36						
PMG	**Port Moresby**	**8.18**	**247**	⇓*e*Pn	**Pn**	**23 00 25.6**	**-1.5**
PMG				*e*Sn	**Sn**	**23 01 56.1**	**-1.9**
PMG	**Port Moresby**	**8.18**	**247**	P	**Pn**	**23 00 28.0**	**+0.9**
	2μm,0.8s,14μm						
PMG	**Port Moresby**	**8.18**	**247**	P	**Pn**	**23 00 28.4**	**+1.3**
	88nm,0.3s,baz=56,slow=9.1,SNR=144						
PMG				S	**Sn**	**23 01 58.8**	**+0.8**
	10nm,0.3s,baz=350,slow=22,SNR=6.4						
PMG				LR	LR	23 03 30.8	
	comp=Z,7μm,21.9s,baz=238,slow=37						
COEN	**Coen**	**13.77**	**235**	*e*Pn	**Pn**	**23 01 41.5**	**-1.2**
COEN				*e*Sn	**Sn**	**23 04 15.8**	**+1.7**
JAY	**Jayapura**	**14.49**	**284**	P	**Pn**	**23 01 50.8**	**-1.4**
	56nm,1.6s,10μm						
CTA	**Charters Tower**	**16.09**	**210**	P	**P**	**23 02 13.7**	**-0.5**
CTA				S	**S**	**23 05 16.4**	**-2.5**
CTA	**Charters Tower**	**16.09**	**210**	P	**P**	**23 02 13.7**	**-0.5**
	0.7nm,0.3s,baz=33,slow=15,SNR=15						
CTA				S	**S**	**23 05 16.4**	**-2.5**
	0.3nm,0.3s,baz=90,slow=4.5,SNR=2.3						
CTA				LR	LR	23 07 31.3	
	comp=Z,3μm,21.3s,baz=34,slow=33						
CTAO	**Charters Tower**	**16.09**	**210**	*e*P	**Pn**	**23 02 12.1**	**-0.3**
CTAO				*e*		23 05 08.8	
CTAO				pmax	pmax		
	comp=Z,155nm,1.4s						
CTAO	**Charters Tower**	**16.09**	**210**	*e*Pn	**Pn**	**23 02 12.1**	**-0.3**
	comp=Z,155nm,1.4s						
CTAO				*e*Sn	**Sn**	**23 05 08.8**	**-1.6**
EIDS	**Eidsvold**	**19.38**	**190**	*e*P	**P**	**23 02 50.2**	**-0.1**
	comp=Z,56nm,0.9s						
EIDS				*e*S	**S**	**23 06 26.4**	**+1.0**
DZM	**Mont Dzumac**	**19.39**	**146**	*e*P	**P**	**23 02 51.4**	**+0.8**
	comp=Z,1μm,1.1s						
DZM				*e*LR	LR	23 07 39.4	
	comp=Z,6μm,25.9s						
DZM	**Mont Dzumac**	**19.39**	**146**	*e*P	**P**	**23 02 51.5**	**+0.8**
	comp=Z,474nm,0.9s						
DZM				*e*S	**S**	**23 06 26.7**	**+0.9**
DZM	**Mont Dzumac**	**19.39**	**146**	P	**P**	**23 02 51.6**	**+1.0**
	comp=Z,23nm,0.3s,baz=340,slow=9.5,SNR=183						
DZM				S	**Sn**	**23 06 29.7**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=315,slow=5.7,SNR=2.1						
DZM				LR	LR	23 09 17.7	
	comp=Z,2μm,20.7s,baz=116,slow=33						
TARA	**Tarawa**	**19.62**	**68**	*e*P	**P**	**23 02 53.4**	**+0.3**
	comp=Z,1μm,1.3s						
KWAJ	**Kwajalein Atol**	**19.65**	**41**	*e*P	**P**	**23 02 51.6**	**-1.8**
KWAJ				pmax	pmax		
	comp=Z,376nm,0.8s						
KWAJ	**Kwajalein Atol**	**19.65**	**41**	*e*P	**P**	**23 02 51.5**	**-1.8**
	comp=Z,376nm,0.8s						
TLE	**Tual**	**21.92**	**270**	*e*P	**P**	**23 03 21.3**	**+3.5**
	comp=Z,345nm,1.5s,comp=Z,8μm						
FAKI	**Fak Fak**	**22.68**	**277**	P	**P**	**23 03 26.7**	**+0.7**
	comp=Z,122nm,0.9s						
SAUI	**Saumlaki**	**23.36**	**264**	P	**P**	**23 03 33.1**	**+0.6**
	comp=Z,284nm,2.3s,comp=Z,7μm						
SWI	**Sorong**	**24.05**	**282**	P	**P**	**23 03 40.5**	**+1.8**
	comp=Z,77nm,1.4s,comp=Z,1μm						
WRAB	**Tennant Creek**	**24.08**	**234**	*e*P	**P**	**23 03 39.5**	**+0.6**
WRAB				*e*		23 07 18.8	
WRAB				pmax	pmax		
	comp=Z,809nm,1.9s						
WRAB	**Tennant Creek**	**24.08**	**234**	*e*P	**P**	**23 03 39.5**	**+0.6**
	comp=Z,809nm,1.9s						
WRAB				*e*PcP	**PcP**	**23 07 18.8**	**+0.2**
WRAB	**Tennant Creek**	**24.08**	**234**	P	**P**	**23 03 39.8**	**+0.9**
	comp=Z,645nm,1.0s,SNR=20						
WRA	**Warramunga Arr**	**24.09**	**234**	P	**P**	**23 03 39.5**	**+0.4**
WRA				PcP	**PcP**	**23 07 18.9**	**+0.3**
WRA				S	**S**	**23 07 53.1**	**+2.2**
WRA	**Warramunga Arr**	**24.09**	**234**	P	**P**	**23 03 39.5**	**+0.4**
	comp=Z,92nm,0.8s,baz=56,slow=9.2,SNR=83						
WRA				PcP	**PcP**	**23 07 18.9**	**+0.3**
	comp=Z,11nm,0.9s,baz=40,slow=1.7,SNR=5.3						
WRA				S	**S**	**23 07 53.1**	**+2.2**
	comp=Z,23nm,1.2s,baz=53,slow=15,SNR=3.2						
WRA				LR	LR	23 12 46.2	
	comp=Z,2μm,21.9s,baz=60,slow=35						
ARMA	**Armidale**	**24.27**	**187**	*e*P	**P**	**23 03 42.3**	**+1.6**
	comp=Z,126nm,0.8s						
MSVF	**Nonsavu**	**25.46**	**119**	*e*P	**P**	**23 03 52.0**	**+0.4**
MSVF	**Nonsavu**	**25.46**	**119**	*e*P	**P**	**23 03 52.0**	**+0.4**
MSAI	**Masohi**	**25.91**	**275**	P	**P**	**23 03 57.8**	**+2.2**
	comp=Z,17nm,0.8s,comp=Z,1μm						
AS01	**Alice Springs**	**26.50**	**227**	*e*P	**P**	**23 04 00.6**	**-0.3**
AS31	**Alice Springs**	**26.53**	**227**	*e*P	**P**	**23 04 00.6**	**-0.6**
AS31				*e*PcP	**PcP**	**23 07 24.9**	**+0.8**
ASAR	**Alice Springs**	**26.54**	**227**	P	**P**	**23 04 01.1**	**-0.1**
ASAR				PcP	**PcP**	**23 07 24.6**	**+0.5**
ASAR				S	**S**	**23 08 33.3**	**+3.5**
ASAR	**Alice Springs**	**26.54**	**227**	P	**P**	**23 04 01.1**	**-0.1**
	comp=Z,36nm,0.8s,baz=58,slow=8.9,SNR=237						
ASAR				PcP	**PcP**	**23 07 24.6**	**+0.5**
	comp=Z,13nm,0.8s,baz=62,slow=2.8,SNR=11						
ASAR				S	**S**	**23 08 33.3**	**+3.5**
	comp=Z,1.9nm,0.9s,baz=62,slow=16,SNR=4.1						
ASAR				LR	LR	23 14 08.7	
	comp=Z,2μm,20.7s,baz=143,slow=35						
NLAI	**Namlea**	**27.73**	**275**	P	**P**	**23 04 13.0**	**+1.0**
	comp=Z,54nm,1.0s,comp=Z,1μm						
LBMI	**Labuha**	**27.77**	**280**	P	**P**	**23 04 13.5**	**+1.2**
	comp=Z,173nm,1.1s,comp=Z,2μm						
STKA	**Stephens Creek**	**28.36**	**204**	*e*P	**P**	**23 04 17.0**	**-0.4**
	comp=Z,6.3nm,0.8s						
STKA				PcP	**PcP**	**23 07 29.4**	**+1.1**
STKA	**Stephens Creek**	**28.36**	**204**	P	**P**	**23 04 17.5**	**+0.1**
	comp=Z,29nm,0.7s,baz=16,slow=9.2,SNR=49						
STKA				PcP	**PcP**	**23 07 29.4**	**+1.1**
	comp=Z,14nm,1.0s,baz=41,slow=2.5,SNR=4.5						
STKA				LR	LR	23 15 39.2	
	comp=Z,2μm,19.1s,baz=19,slow=36						
SOEI	**Soe**	**30.40**	**261**	P	**P**	**23 04 35.6**	**-0.3**
	comp=Z,71nm,1.1s,comp=Z,2μm						
BBOO	**Buckleboo**	**31.69**	**211**	*e*P	**P**	**23 04 47.0**	**+0.2**
	comp=Z,381nm,1.1s						
BBSI	**Bau Bau**	**32.04**	**270**	P	**P**	23 05 00.1	+10
LUWI	**Luwuk**	**32.33**	**278**	P	**P**	**23 04 52.3**	**-0.4**
	comp=Z,185nm,1.3s,comp=Z,2μm						
MMRI	**Maumere**	**32.34**	**264**	*e*P	**P**	**23 04 53.0**	**+0.2**
	comp=Z,532nm,1.8s						
MMRI	**Maumere**	**32.34**	**264**	P	**P**	**23 04 52.8**	**0.0**
	comp=Z,145nm,1.0s,comp=Z,3μm						
GTOI	**Gorontalo**	**32.42**	**281**	P	**P**	**23 04 55.2**	**+1.7**
	comp=Z,161nm,0.8s,comp=Z,1μm						
KKSI	**Kolaka, Sulawe**	**33.04**	**272**	P	**P**	**23 05 01.7**	**+2.8**
	comp=Z,60nm,1.1s						
APSI	**Ampana**	**33.46**	**278**	P	**P**	**23 05 04.7**	**+2.2**
	comp=Z,135nm,0.8s,comp=Z,1μm						
OUZ	**Omahuta**	**33.68**	**152**	*e*P	**P**	**23 05 05.1**	**+0.9**
	comp=Z,64nm,0.8s						
AFI	**Afiamalu**	**33.78**	**106**	P	**P**	**23 05 04.7**	**-0.7**
AFI	**Afiamalu**	**33.78**	**106**	P	**P**	**23 05 04.7**	**-0.7**
	comp=Z,36nm,0.7s,baz=93,slow=22,SNR=3.6						
AFI				LR	LR	23 16 26.8	
	comp=Z,930nm,21.5s,baz=282,slow=32						
RAO	**Raoul Island**	**34.50**	**135**	LR	LR	23 16 51.3	
	comp=Z,353nm,19.7s,baz=333,slow=32						
LBFI	**Labuhan Bajo,**	**34.66**	**264**	P	**P**	**23 05 13.2**	**+0.3**
	comp=Z,86nm,0.8s,comp=Z,2μm						
KAPI	**Kappang**	**34.87**	**270**	*e*P	**P**	**23 05 14.0**	**-0.8**
SPSI	**Sidrap Palu**	**34.93**	**272**	P	**P**	23 05 25.0	+10
FORT	**Forrest**	**35.01**	**222**	*e*P	**P**	**23 05 15.9**	**+0.1**
	comp=Z,89nm,0.5s						
CBIJ	**Chichi jima**	**35.27**	**340**	LR	LR	23 16 54.1	
	comp=Z,426nm,18.7s,baz=145,slow=31						
MMSI	**Mamuju**	**35.91**	**274**	P	P	23 05 38.6	+15
MBWA	**Marble Bar**	**37.03**	**243**	*e*P	**P**	**23 05 31.4**	**-1.7**
	comp=Z,28nm,0.8s						
MBWA				*e*PcP	**PcP**	**23 07 52.3**	**-0.2**
TAU	**Tasmania Unive**	**37.14**	**189**	*e*P	**P**	**23 05 35.9**	**+2.1**
TAU				pmax	pmax		
	comp=Z,108nm,0.8s						
TAU	**Tasmania Unive**	**37.14**	**189**	*e*P	**P**	**23 05 35.9**	**+2.1**
	comp=Z,108nm,0.8s						
URZ	**Urewera**	**37.80**	**151**	*e*P	**P**	**23 05 40.6**	**+1.3**
	comp=Z,114nm,0.9s						
URZ	**Urewera**	**37.80**	**151**	P	**P**	**23 05 40.0**	**+0.6**
	comp=Z,139nm,1.1s,baz=291,slow=3.5,SNR=18						
URZ				LR	LR	23 19 13.9	
	comp=Z,551nm,21.0s,baz=330,slow=33						
MYLDM	**Lahad Datu**	**37.93**	**287**	P	**P**	**23 05 43.4**	**+2.6**
	comp=Z,45nm,1.5s						
BKZ	**Black Stump Fm**	**38.23**	**152**	*e*P	**P**	**23 05 44.0**	**+0.9**
	comp=Z,82nm,0.5s						
MTNI	**Mataram**	**38.34**	**264**	P	**P**	**23 05 44.2**	**-0.1**
	comp=Z,41nm,1.0s						
BFZ	**Birch Farm**	**39.35**	**154**	*e*P	**P**	**23 05 52.5**	**+0.2**
	comp=Z,230nm,1.6s						
KHZ	**Kahutara**	**39.72**	**158**	*e*P	**P**	**23 05 55.3**	**

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USRK                                LR    LR     23 27 55.9
    comp=Z,305nm,21.3s,baz=151,slow=33
IPM  Ipoh          54.70 280 eP    P     P      23 07 51.5 -0.8
IPM  Ipoh          54.70 280 P     P     P      23 07 51.9 -0.4
KULM Kulim         55.22 281 P     P     P      23 07 54.9 -1.2
POHA Pohakuloa     55.28  61 eP    P     P      23 07 58.0 +1.4
    comp=Z,60nm,0.9s
MDJ  Mudanjiang    55.43 338 P     P     P      23 07 57.9 +1.0
MDJ                          pP    pP    pP     23 08 20.0 +2.3
MDJ                          sP    sP    sP     23 08 30.3 +3.4
MDJ                          PcP   PcP   PcP    23 08 56.8 +0.6
MDJ                          PP    PP    PP     23 10 00.8 -0.9
MDJ                          ScP   ScP   ScP    23 12 46.3 -1.5
MDJ                          PcS   PcS   PcS    23 12 57.1 +0.8
MDJ                          S     S     S      23 15 34.4 -1.0
MDJ                          ScS   ScS   ScS    23 17 38.3  0.0
MDJ                          SS    SS    SS     23 19 23.1 +1.6
MDJ                          pmax  pmax
    comp=Z,2.0nm,0.3s
MDJ                          pmax  pmax
    comp=Z,170nm,10.2s
MDJ                          LR    LR
    comp=N,190nm,33.7s
MDJ                          LR    LR
    comp=E,97nm,26.0s
MDJ                          LR    LR
    comp=Z,280nm,30.9s
PPT  Papeete       55.44 107 LR    LR     23 25 44.1
    comp=Z,382nm,20.8s,baz=186,slow=29
PPT2 Papeete2      55.44 107 eS    S      23 15 47.4 +11
    comp=Z,439nm,28.5s
PPT2                         eLR   LR     23 24 15.9
    comp=Z,880nm,27.2s
TBI  Tubuai        56.20 114 eS    S      23 15 57.8 +11
    comp=Z,381nm,32.2s
TBI                          eLQ   LQ     23 22 13.7
    comp=Z,706nm,41.5s
TBI                          eLR   LR     23 24 40.3
    comp=Z,2μm,29.8s,baz=283
GYA  Guiyang       56.80 307⇑iP    P     23 08 07.8 +0.6
GYA                          pP    pP     23 08 31.3 +3.3
GYA                          PcP   PcP    23 09 02.8 +0.6
GYA                          PP    PP     23 10 17.0 +2.6
GYA                          ScP   ScP    23 12 52.5 -2.0
GYA                          S     S      23 15 52.9 -1.6
GYA                          sS    sS     23 16 30.6 +0.6
GYA                          SS    SS     23 19 41.4 -2.5
GYA                          pmax  pmax
    comp=Z,50nm,1.0s
GYA                          pmax  pmax
    comp=Z,160nm,5.4s
GYA                          LR    LR
    comp=N,3μm,18.0s
GYA                          LR    LR
    comp=E,3μm,19.4s
GYA                          LR    LR
    comp=Z,4μm,18.4s
PHET Kaeng Krachan 57.98 289 P     P      23 08 19.3 +3.8
    comp=Z,67nm,1.1s
NANT Nan           58.78 296 P     P     23 08 21.5 +0.4
    comp=Z,222nm,0.6s,comp=Z,7μm
UTHA Uthaitani     58.90 292 P     P     23 08 23.3 +1.4
    comp=Z,13nm,0.9s,comp=Z,126nm
PET  Petropavlovsk 59.09   3 eP    P     23 08 24.9 +2.4
PET                          e*PP  pP    23 08 46.8 +3.3
PET                          eS    S     23 16 18.8 -4.4
PET                          pmax  pmax
    comp=Z,20nm,0.6s
PET                          pmax  pmax
    comp=Z,100nm,10.4s
PEA0 Petropavlovsk-  59.14   2 eP    P     23 08 24.9 +2.0
PEA0B Petropavlovsk- 59.14   2 eP    P     23 08 23.3 +0.4
PETK Petropavlovsk-  59.14   2 P     P     23 08 23.3 +0.4
PETK Petropavlovsk-  59.14   2 P     P     23 08 23.2 +0.4
PETK Petropavlovsk-  59.14   2 P     P     23 08 23.2 +0.4
    comp=Z,12nm,0.7s,baz=180,slow=8.5,SNR=9.8
PETK                         LR    LR     23 30 09.0
    comp=Z,301nm,21.6s,baz=178,slow=32
KMI  Kunming       59.39 304 P     P     23 08 26.0 +0.5
KMI                          pmax  pmax
    comp=Z,42nm,1.1s
LAMP Lampang       59.65 296 P     P     23 08 28.0 +0.9
    comp=Z,22nm,0.9s,comp=Z,188nm
CM31 Chiang Mai Arr 60.24 295 eP    P     23 08 29.5 -1.7
    comp=Z,50nm,1.0s
CMAR Chiang Mai Arr 60.24 295 P     P     23 08 31.5 +0.3
CMAR Chiang Mai Arr 60.24 295 P     P     23 08 31.5 +0.3
    comp=Z,31nm,0.9s,baz=112,slow=5.1,SNR=57
CMAR                         LR    LR     23 32 15.8
    comp=Z,242nm,19.7s,baz=256,slow=34
CHTO Chiang Mai    60.36 296 eP    P     23 08 32.7 +0.8
CHTO Chiang Mai    60.36 296 eP    P     23 08 32.7 +0.8
CMAI Chiengmai2    60.63 297 P     P     23 08 35.0 +1.0
    comp=Z,189nm,1.2s
FX1  Attu Island--F 60.90  13 eP    P     23 08 36.2 +1.2
FX1  Attu Island--F 60.90  13 P     P     23 08 35.7 +0.8
    comp=Z,29nm,0.5s,baz=276,slow=4.2,SNR=13
CD2  Chengdu       61.13 310 P     P     23 08 39.6 +2.5
CD2                          pP    pP     23 08 57.5 -0.6
CD2                          sP    sP     23 09 05.3 -2.0
CD2                          PP    PP     23 10 57.4 +4.7
CD2                          S     S      23 16 52.8 +2.5
CD2                          sS    sS     23 17 22.8 -3.5
CD2                          SS    SS     23 20 55.0 +3.2
CD2                          pmax  pmax
    comp=Z,40nm,0.5s
CD2                          pmax  pmax
    comp=Z,360nm,7.1s
CD2                          LR    LR
    comp=N,330nm,8.9s
CD2                          LR    LR
    comp=Z,750nm,23.2s
DRV  Dumont d'Urvil 61.22 187 P     P      23 08 31.0 -5.9
DRV                          S     S      23 16 35.0 -15
DRV                          L     L      23 24 00.0
DRV                          R            23 28 00.0
HHC  Hu-ho-hao-te  61.33 324 eP    P      23 08 42.4 +4.2
HHC                          pP    pP     23 08 58.4 -0.9
HHC                          sP    sP     23 09 05.3 -3.2
HHC                          PP    PP     23 11 00.4 +6.1
HHC                          S     S      23 16 56.6 +4.1
HHC                          sS    sS     23 17 24.8 -3.7
HHC                          SS    SS     23 20 59.4 +4.8
HHC                          pmax  pmax
    comp=Z,32nm,1.0s
HHC                          pmax  pmax
    comp=Z,220nm,6.1s
HHC                          LR    LR
    comp=N,1μm,17.3s
HHC                          LR    LR
    comp=E,2μm,18.1s
HHC                          LR    LR
    comp=Z,2μm,20.2s
LZH  Lanzhou       63.60 315 eP    P     23 08 52.6 -0.9
LZH                          pP    pP     23 09 14.8 +0.1
LZH                          sP    sP     23 09 24.5 +0.6
LZH                          PcP   PcP    23 09 28.6 -0.7
LZH                          PP    PP     23 11 15.1 +0.6
LZH                          eS    S      23 17 16.0 -5.3
LZH                          sS    sS     23 17 58.5 +1.0
LZH                          pmax  pmax
    comp=Z,48nm,1.2s
LZH                          pmax  pmax
    comp=Z,250nm,5.5s
CASY Casey         67.27 198 eP    P     23 09 16.2 -0.3
GTA  Gaotai        68.01 317 eP    P     23 09 22.3 +0.5
GTA                          pP    PcP    23 09 46.3 -1.2
GTA                          sP    sP     23 09 57.0 +4.6
GTA                          S     S      23 18 12.5 -2.4
GTA                          SS    SS     23 22 38.8  0.0
GTA                          pmax  pmax
    comp=Z,13nm,0.9s
GTA                          pmax  pmax
    comp=Z,110nm,5.3s
GTA                          LR    LR
    comp=N,170nm,19.0s
GTA                          LR    LR
    comp=E,190nm,23.5s
GTA                          LR    LR
    comp=Z,360nm,27.8s
SONM Songino Array 68.55 327 P     P     23 09 24.8 -0.2
SONM                         ⇑e          23 37 40.6
SONM Songino Array 68.55 327 P     P     23 09 24.8 -0.2
    comp=Z,2.5nm,0.4s,baz=144,slow=5.7,SNR=12
SONM                         PKP2bc      23 37 40.6
    comp=Z,1.7nm,1.1s,baz=300,slow=3.5,SNR=6.9
SONM                         LR    LR     23 41 04.4
    comp=Z,242nm,18.3s,baz=131,slow=37
RKT  Rikitea       69.44 112 eS    S      23 18 45.4 +13
    comp=Z,311nm,37.5s
RKT                          eLQ   LQ     23 27 49.7
    comp=Z,449nm,33.8s
RKT                          eLR   LR     23 30 48.7
    comp=Z,1μm,31.2s,baz=276
VNDA Vanda         71.37 178 eP    P     23 09 41.8 +0.2
    comp=Z,53nm,1.5s
VNDA Vanda         71.37 178 P     P     23 09 42.2 +0.6
    comp=Z,10nm,0.9s,baz=335,slow=6.6,SNR=55
ZAK  Zakamensk     71.71 328 eP    P     23 09 41.6 -2.6
ZAK                          pmax  pmax
    comp=Z,13nm,1.1s
SBA  Scott Base    71.89 177 eP    P     23 09 46.4 +1.7
SBA  Scott Base    71.89 177 eP    P     23 09 46.4 +1.7
TLY  Talaya        72.27 329 eP    P     23 09 49.0 +1.5
TLY                          eS    S     23 18 59.9 -4.0
TLY                          pmax  pmax
    comp=Z,9.0nm,0.9s
TLY                          MLR   MLR
    comp=Z,148nm,20.0s
TAPN Taplejung     72.81 301 eP    P     23 09 51.9 +0.4
ODAN Odare         72.94 300 eP    P     23 09 52.5 +0.3
MIR  Mirnyy        73.34 202⇑iP    P     23 09 56.0 +2.5
MIR                          i           23 10 14.0
MIR                          pmax  pmax
    comp=Z,126nm,1.0s
RAMN Ramite        73.64 300 eP    P     23 09 56.9 +0.5
    comp=Z,24nm,0.5s
JIRN Jiri          74.19 301 eP    P     23 09 59.3 -0.4
    comp=Z,27nm,0.5s
GUN  Gumba         74.52 301 eP    P     23 10 01.3 -0.3
PKI  Pulchoki      74.83 301 eP    P     23 10 02.7 -0.7
    comp=Z,18nm,0.5s
PKIN Phulchoki     74.84 301 eP    P     23 10 03.5 +0.1
    comp=Z,16nm,0.4s
KKN  Kakani        75.00 301 eP    P     23 10 04.2  0.0
    comp=Z,19nm,0.5s
PALK Pallekele     75.09 279 eP    P     23 10 04.2 -0.6
    comp=Z,33nm,1.1s
DMN  Daman         75.10 301 eP    P     23 10 04.8  0.0
    comp=Z,34nm,0.5s
KOLN Koldanda      76.43 300 eP    P     23 10 12.0 -0.4
    comp=Z,16nm,0.5s
WMQ  Urumqi        78.10 317 P     P     23 10 23.5 +2.3
WMQ                          pP    pP     23 10 40.5 -2.6
WMQ                          sP    sP     23 10 47.1 -5.0
WMQ                          PP    PP     23 13 22.4 +3.7
WMQ                          pmax  pmax
    comp=Z,11nm,1.2s
WMQ                          pmax  pmax
    comp=Z,230nm,5.2s
WMQ                          LR    LR
    comp=N,250nm,22.7s
WMQ                          LR    LR
    comp=E,180nm,25.8s
WMQ                          LR    LR
    comp=Z,250nm,24.0s
HYB  Hyderabad     78.80 289 iP    P     23 10 23.5 -2.0
IM04 Indian Mountai 81.04  19 eP    P     23 10 37.1 +0.6
MCK  McKinley      81.41  22 eP    P     23 10 38.0 -0.6
MCK                          pmax  pmax
    comp=Z,43nm,1.3s
MCK  McKinley      81.41  22 eP    P     23 10 38.0 -0.6
    comp=Z,43nm,1.3s
COLA College       82.43  21 eP    P     23 10 42.7 -1.1
COLA College       82.43  21 eP    P     23 10 42.6 -1.1
MK31 Makanchi Array 82.67 319 eP    P     23 10 44.7 -0.8
MK31 Makanchi Array 82.67 319 eP    P     23 10 44.7 -0.8
MKAR Makanchi Array 82.67 319 P     P     23 10 45.2 -0.4
MKAR Makanchi Array 82.67 319 P     P     23 10 45.1 -0.4
MKAR Makanchi Array 82.67 319 P     P     23 10 45.1 -0.4
    comp=Z,5.7nm,0.6s,baz=96,slow=7.4,SNR=10.0
MKAR                         LR    LR     23 49 18.0
    comp=Z,148nm,19.6s,baz=265,slow=37
ILAR Eielson Array 82.72  22 P     P     23 10 45.6 +0.2
ILAR Eielson Array 82.72  22 P     P     23 10 45.6 +0.2
    comp=Z,3.2nm,0.4s,baz=250,slow=5.0,SNR=8.7
ILAR                         LR    LR     23 43 41.9
    comp=Z,905nm,21.3s,baz=273,slow=33
ZAA0 Zalesovo Array 83.40 326 eP    P     23 10 47.4 -1.7
ZALV Zalesovo Beam 83.40 326 P      P     23 10 47.6 -1.5
ZALV Zalesovo Beam 83.40 326 P      P     23 10 47.5 -1.5
ZALV                         PKKPbc PKKPbc 23 29 07.0 -3.6
ZALV Zalesovo Beam 83.40 326 P      P     23 10 47.5 -1.5
    comp=Z,9.8nm,0.9s,baz=97,slow=6.1,SNR=7.1
ZALV                         PKKPbc PKKPbc 23 29 07.0 -3.6
    comp=Z,0.2nm,0.4s,baz=298,slow=3.2,SNR=3.5
ZALV                         LR    LR     23 45 15.1
    comp=Z,181nm,21.6s,baz=249,slow=34
QSPA South Pole Qui 83.77 180 eP    P     23 10 51.3 +0.3
    comp=Z,130nm,0.9s
EGAK Eagle         84.88  23 eP    P     23 10 56.9 +0.5
    comp=Z,20nm,1.0s
MAW  Mawson        85.03 203 P      P     23 10 57.5 +0.3
MAW  Mawson        85.03 203 P      P     23 10 57.5 +0.3
    comp=Z,72nm,0.9s,baz=92,slow=5.8,SNR=156
MAW                          LR    LR     23 42 55.6
    comp=Z,702nm,20.7s,baz=84,slow=31
KSH  Kashi         85.33 310 P     P     23 11 00.3 +0.9
KSH                          pP    pP     23 11 26.0 +4.4
KSH                          PP    PP     23 14 22.1 +3.6
KSH                          SKS   S      23 21 13.8 -10
KSH                          S     SKKSac 23 21 22.6 -1.5
KSH                          SS    SS     23 27 03.8 +3.5
KSH                          pmax  pmax
    comp=Z,20nm,1.1s
KSH                          pmax  pmax
    comp=Z,160nm,6.4s
KSH                          LR    LR
    comp=N,120nm,5.7s
KSH                          LR    LR
    comp=E,120nm,5.5s
KSH                          LR    LR
    comp=Z,190nm,12.3s
KURK Kurchatov     86.08 322 P     P     23 11 01.1 -1.5
KURK Kurchatov     86.08 322 P     P     23 11 01.1 -1.5
KURBB Kurchatov Arra 86.11 322 P    P     23 11 01.1 -1.7
    comp=Z,2.9nm,0.6s,baz=101,slow=4.7,SNR=4.4
AAK  Ala-Archa     87.05 313 LR    LR     23 48 52.2
    comp=Z,154nm,19.4s,baz=281,slow=35
PAHR Pah Rah Range 90.73  50 eP    P     23 11 26.1 +0.8
    comp=Z,16nm,1.0s
EDW2 Edwards Air Fo 91.25  55 ⇓P    P     23 11 28.9 +1.3
    baz=91
NVAR Mina Array Bea 91.41  52 P     P     23 11 30.0 +1.5
NVAR Mina Array Bea 91.41  52 P     P     23 11 30.0 +1.5
    comp=Z,27nm,0.9s,baz=253,slow=6.5,SNR=22
BFSC Mount Baldy Ra 91.45  56 ⇑P    P     23 11 29.6 +1.0
    baz=92
BVAR Borovoye Array 91.53 323 P     P     23 11 26.9 -1.5
BVAR Borovoye Array 91.53 323 P     P     23 11 26.9 -1.5
BVAR Borovoye Array 91.53 323 P     P     23 11 26.9 -1.5
    comp=Z,6.3nm,0.8s,baz=115,slow=7.0,SNR=5.3
BVAR                         LR    LR     23 51 26.7
    comp=Z,180nm,21.0s,baz=100,slow=35
LRMC Laurel Mountai 91.56  55 ⇑P    P     23 11 30.8 +1.6
    baz=92
BRVK Borovoye      91.60 323 eP    P     23 11 25.7 -3.0
BRVK                         pmax  pmax
    comp=Z,11nm,1.0s
BRVK Borovoye      91.60 323 eP    P     23 11 25.7 -3.0
    comp=Z,11nm,1.0s
MURC Murrieta      91.75  57 ⇑P    P     23 11 31.6 +1.6
    baz=92
MPMC Manual Prospec 91.78  54 ⇓P    P     23 11 31.5 +1.3
    baz=92
MONP Monument Peak 92.33  57 ⇓P    P     23 11 34.2 +1.3
    baz=92
PFO  Pinyon Flat Ob 92.37  57 ⇑P    P     23 11 34.4 +1.5
    baz=92
SHOC Shoshone      92.75  54 ⇓P    P     23 11 35.9 +1.4
    baz=93
BELC Belle Mtn. Jos 92.79  56 ⇑P    P     23 11 36.6 +1.8
    baz=93
SWSC Sam W. Stewart 92.86  57 ⇓P    P     23 11 36.6 +1.6
    baz=93
TUQ  Turquoise Moun 92.99  55 ⇓P    P     23 11 37.4 +1.6
    baz=93
SYO  Syowa Base    93.00 199⇓eP    P     23 11 33.0 -1.9
GMRC Granite Mounta 93.14  56 ⇑P    P     23 11 37.9 +1.4
    baz=93
NEW  Newport       93.32  42 eP    P     23 11 36.6 -0.2
    comp=Z,8.6nm,0.9s
Y12C Blythe        93.99  57 ⇓P    P     23 11 42.5 +2.3
    baz=94
PDMCI Parker Dam,Lak 94.35 56 ⇑P    P     23 11 43.9 +2.0
    baz=94
W13A Hualapai Mount 94.62  55 ⇑P    P     23 11 44.7 +1.4
    baz=95
WALA Waterton Lakes 95.50  41 eP    P     23 11 47.1 +0.1
    comp=Z,0.4nm,0.8s
YKA  Yellowknife Ar 95.75  28 P     P     23 11 47.7 +0.1
YKA                          PKKP  PKKPbc 23 28 36.0 -3.9
YKA  Yellowknife Ar 95.75  28 P     P     23 11 47.7 +0.1
    comp=Z,6.2nm,1.1s,baz=272,slow=4.5,SNR=4.8
YKA                          PKKP  PKKPbc 23 28 36.0 -3.9
    comp=Z,1.2nm,0.8s,baz=79,slow=3.1,SNR=4.5
U15A North Rim     96.00  54 ⇓P    P     23 11 51.4 +1.7
    baz=96
WUAZ Wupatki       96.70  55 eP    P     23 11 52.7 -0.1
    comp=Z,7.9nm,1.0s
PDAR Pinedale Array 98.34  48 LR    LR     23 52 47.5
    comp=Z,341nm,18.3s,baz=248,slow=33
M19A Rock Springs  98.62  49 ⇑P    P     23 12 01.1 -0.2
    baz=99
F19A Roth Farm, Mol 98.79  45 ⇑P    Pdif   23 12 02.4 +0.5
    baz=99
AKTO Aktyubinsk    99.05 320 LR    LR     23 55 45.5
    comp=Z,129nm,21.2s,baz=258,slow=35
R21A Cimarron      99.83  52 ⇓P    Pdif  23 12 08.6 +1.7
    baz=100
A21A Bergtoll Ranch 100.10 41 ⇓P    Pdif  23 12 07.9 +0.4
    baz=100
D21A La Casta Ranch 100.12 43 ⇑P    Pdif  23 12 08.1 +0.4
    baz=100
Q22A Crested Butte, 100.34 52 ⇓P    Pdif  23 12 09.2 +0.1
    baz=100
S22A 4UR Ranch, Cre 100.40 53 ⇑P    Pdif  23 12 09.9 +0.4
    baz=100
H22A Clearmont     100.65 46 ⇑P    Pdif  23 12 10.4 +0.2
    baz=101
N22A Wattenberg Ran 100.66 50 ⇑P    Pdif  23 12 10.3 -0.2
    baz=101
F22A Rosebud       100.67 45 ⇑P    Pdif  23 12 10.5 +0.3
    baz=101
E22A Miles City    100.86 44 ⇓P    Pdif  23 12 11.5 +0.5
    baz=101
SNAA Sanae         100.89 187 ePdiff Pdif 23 12 10.1 -0.6
SNAA Sanae         100.89 187 ePdif  Pdif 23 12 10.2 -0.4
    comp=Z,6.1nm,0.9s
X23A Hourglass Bar 100.93  56 ⇑P    Pdif  23 12 11.7 -0.1
    baz=101
N23A Red Feather La 101.05 50 ⇓P    Pdif  23 12 12.6 +0.4
    baz=101
F23A Volborg       101.27 45 ⇑P    Pdif  23 12 13.7 +0.9
    baz=101
D23A Lindsay       101.33 43 ⇑P    Pdif  23 12 13.5 +0.4
    baz=101
C24A Savage        101.84 43 ⇑P    Pdif  23 12 16.2 +0.8
    baz=102
VNA2 Neumayer--Watz 102.11 186 ePdiff Pdif 23 12 15.7 -0.3
VNA2 Neumayer--Watz 102.11 186 epPdiff pPdif 23 12 32.7 -5.7
VNA1 Neumayer--Stat 102.46 186 ePdiff Pdif 23 12 17.5  0.0
TXAR Lajitas Array 103.08  61 PKKPbc PKKPbc 23 28 17.3 -0.8
TXAR Lajitas Array 103.08  61 PKKPbc PKKPbc 23 28 17.3 -0.8
    comp=Z,1.2nm,0.8s,baz=108,slow=4.1,SNR=8.3
G26A Maurine       103.27  45 ⇓P    Pdif  23 12 22.5 +0.8
    baz=103
KSCO Kaye Shedlock' 103.67 51 ⇑P    Pdif  23 12 23.6 -0.1
    baz=104
APA  Apatity       107.32 340⇓eP    Pdif  23 12 36.4 -2.7
ARCES ARCESS Array B 108.77 343 PKiKP PKiKP 23 16 49.4 -0.7
ARCES ARCESS Array B 108.77 343 PKiKP PKiKP 23 16 49.4 -0.7
    comp=Z,3.1nm,1.0s,baz=37,slow=3.0,SNR=5.0
FINES FINESS Array B 113.13 336 Pdif  Pdif  23 13 03.3 -1.8
FINES                        PKKPbc PKKPbc 23 27 43.9 -3.4
FINES FINESS Array B 113.13 336 Pdiff Pdif  23 13 03.3 -1.8
    comp=Z,4.8nm,0.7s,baz=89,slow=4.3,SNR=3.4
FINES                        PKKPbc PKKPbc 23 27 43.9 -3.4
    comp=Z,7.5nm,1.0s,baz=191,slow=5.8,SNR=6.0
AKASG Malin Array Be 116.77 325 PKIKP PKPdf 23 17 04.3 -1.5
AKASG Malin Array Be 116.77 325 PKP   PKPdf 23 17 04.3 -1.5
AKASG Malin Array Be 116.77 325 PKP   PKPdf 23 17 04.3 -1.5
    comp=Z,0.4nm,0.3s,baz=58,slow=3.3,SNR=4.6
KMBO Kilima Mbogo  117.20 266 PKP   PKPdf 23 17 07.2 -0.9
KMBO Kilima Mbogo  117.20 266 PKP   PKPdf 23 17 07.2 -0.9
    comp=Z,0.9nm,0.9s,baz=71,slow=20,SNR=4.0
PLCA Paso Flores   117.48 142 PKP   PKPdf 23 17 05.9 -1.9
PLCA Paso Flores   117.48 142 PKP   PKPdf 23 17 05.9 -1.9
    comp=Z,0.8nm,0.5s,baz=50,slow=20,SNR=3.9
BRTR Keskin Array B 117.69 312 PKP  PKPdf 23 17 05.9 -2.3
BRTR Keskin Array B 117.69 312 PKP  PKPdf 23 17 05.9 -2.3
    comp=Z,0.5nm,0.5s,baz=141,slow=4.3,SNR=5.8
HFS  Hagfors       118.69 339 PKP   PKPdf 23 17 07.4 -1.9
HFS  Hagfors       118.69 339 PKP   PKPdf 23 17 07.4 -1.9
    comp=Z,6.9nm,1.1s,baz=8.5,slow=2.9,SNR=3.4
NOA  NORSAR Array B 118.88 341 PKP  PKPdf 23 17 08.4 -1.3
NOA                          SKKPbc SKKPbc 23 31 04.8 -3.3
NOA  NORSAR Array B 118.88 341 PKP  PKPdf 23 17 08.4 -1.3
    comp=Z,2.0nm,1.1s,baz=20,slow=5.2,SNR=2.3
NOA                          SKKPbc SKKPbc 23 31 04.8 -3.3
    comp=Z,2.2nm,0.8s,baz=47,slow=7.6,SNR=3.7
BOSA Boshof        120.33 232 PKP   PKPdf 23 17 13.2 -0.4
BOSA Boshof        120.33 232 PKP   PKPdf 23 17 13.2 -0.4
    comp=Z,4.8nm,0.5s,baz=84,slow=2.2,SNR=14
SCHQ Schefferville 121.18  27 PKKPbc PKKPbc 23 27 16.3 -2.3
SCHQ Schefferville 121.18  27 PKKPbc PKKPbc 23 27 16.3 -2.3
    comp=Z,7.3nm,0.9s,baz=172,slow=3.2,SNR=4.0
BRG  Berggiesshubel 124.85 331 eP   PKPdf 23 17 21.1 -0.3
    comp=Z,4.9nm,1.1s
BRG  Berggiesshubel 124.85 331 ePKIKP PKPdf 23 17 21.1 -0.3
BRG                          pmax  pmax
    comp=Z,5.0nm,1.1s
CLL  Collm         125.01 332 eP    Pdif  23 13 55.0 -3.2
CLL                          e           23 17 21.0
CLL                          pmax  pmax
    comp=Z,5.0nm,0.9s
CLL                          MLR   MLR
    comp=Z,200nm,21.4s
CLL  Collm         125.01 332 ePdif  Pdif  23 13 59.0 +0.8
CLL                          ePKPdf PKPdf 23 17 21.0 -0.7
    comp=Z,5.0nm,0.9s
CLL                          ePP   PP     23 19 15.0 +4.2
CLL                          LmV         00 14 00.0
    comp=Z,200nm,21.4s
TREC Trest         125.06 329 ePKIKP PKPdf 23 17 21.5 -0.4
TREC Trest         125.06 329 ePKPdf PKPdf 23 17 21.5 -0.4
KHC  Kasperske Hory 126.14 329 ePKIKP PKPdf 23 17 23.0 -1.0
KHC  Kasperske Hory 126.14 329 ePKPdf PKPdf 23 17 23.0 -1.0
GERES GERESS Array B 126.26 329 PKP PKPdf 23 17 23.4 -1.0
GERES GERESS Array B 126.26 329 PKP PKPdf 23 17 23.4 -1.0
    comp=Z,2.1nm,0.8s,baz=61,slow=1.9,SNR=14
OTAV Otavalo       126.56  94 ePKPdf PKPdf 23 17 26.9 +0.5
MOTA Moosalm       128.56 329⇑iPKIKP PKPdf 23 17 28.5 -0.4
    comp=Z,4.4nm,0.7s
FETA Feichten      128.97 329 P     PKPdf 23 17 20.0 -10
    comp=Z,4.5nm,0.9s
MEZF Maizieres J'vi 130.63 334 ePKIKP PKPdf 23 17 30.9 -1.6
    comp=Z,12nm,0.8s
MEZF Maizieres J'vi 130.63 334 ePKPdf PKPdf 23 17 30.9 -1.6
LPG  La Plagne     132.02 330 ePKIKP PKPdf 23 17 34.5 -1.1
    comp=Z,15nm,1.2s
LPG  La Plagne     132.02 330 ePKPdf PKPdf 23 17 34.5 -1.1
LPAZ La Paz        132.03 118 ePKPdf PKPdf 23 17 36.5 -0.3
LOR  Lormes        132.09 334 ePKIKP PKPdf 23 17 33.9 -1.5
    comp=Z,13nm,1.0s
LOR  Lormes        132.09 334 ePKPdf PKPdf 23 17 33.9 -1.5
SSF  Saint Saulge  132.40 334 ePKIKP PKPdf 23 17 34.9 -1.0
    comp=Z,6.1nm,0.8s
SSF  Saint Saulge  132.40 334 ePKPdf PKPdf 23 17 34.9 -1.0
ORIF Oris-en-Rattie 132.87 330 ePKIKP PKPdf 23 17 35.6 -1.4
ORIF Oris-en-Rattie 132.87 330 ePKIKP PKPdf 23 17 35.6 -1.4
ORIF Oris-en-Rattie 132.87 330 ePKPdf PKPdf 23 17 35.6 -1.4
VIVF Saint-Julien-I 133.51 331 ePKIKP PKPdf 23 17 37.0 -1.1
    comp=Z,19nm,1.1s
VIVF Saint-Julien-I 133.51 331 ePKIKP PKPdf 23 17 37.0 -1.1
VIVF Saint-Julien-I 133.51 331 ePKPdf PKPdf 23 17 37.0 -1.1
TCF  Toulx Ste Croi 133.57 334 ePKIKP PKPdf 23 17 37.2 -1.0
    comp=Z,8.8nm,0.8s
TCF  Toulx Ste Croi 133.57 334 ePKPdf PKPdf 23 17 37.2 -1.0
CPUP Villa Florida 135.11 137 PKP   PKPdf 23 17 41.1 -0.5
CPUP Villa Florida 135.11 137 PKP   PKPdf 23 17 41.1 -0.5
    comp=Z,3.7nm,0.8s,baz=221,slow=2.4,SNR=7.9
MTP  Monte Pirata  138.95  70 ePKPdf PKPdf 23 17 48.3 -0.6
SAML Samuel        139.28 111 ePKPpre PKPpre 23 17 42.1
SAML                         ePKPdf PKPdf 23 17 49.4 -0.3
POLO Lamas de Olo  141.68 339 ePKP  PKPdf 23 17 48.7 -4.7
MTE  Manteigas     142.44 338 ePKP  PKPdf 23 17 51.6 -3.1
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PMRV	Marv??o	143.22 337	*e*PKP	PKPab	23 17 52.3	+0.4
PMTG	Montargil	143.85 337	*e*PKP	PKPab	23 17 54.1	-0.2
PBAR	Barrancos	144.15 335	*e*PKP	**PKPab**	23 17 55.6	+0.2
EVO	Evora	144.24 337	*e*PKIKP	PKPbc	23 17 56.1	-0.1
	comp=Z,7.0nm,0.7s					
EVO	Evora	144.24 337	*e*PKP	**PKPab**	23 17 55.7	-0.1
EVOP	Sao Brissos	144.28 337	*e*PKIKP	PKPbc	23 17 56.1	-0.2
EVOP	Sao Brissos	144.28 337	*e*PKPdf	PKPbc	23 17 56.1	-0.2
PACT	Alcochete	144.35 338	*e*PKP	PKPbc	23 17 56.5	0.0
PNCL	Nicolau / Gran	144.80 337	*e*PKP	**PKPab**	23 17 57.0	-0.9
PCVE	Castro Verde	145.02 336	*e*PKP	**PKPab**	23 17 58.7	0.0
PVAQ	Vaqueiros	145.08 335	*e*PKP	**PKPbc**	23 17 58.0	-0.9
PBDV	Barranco-do-Ve	145.31 335	*e*PKP	**PKPab**	23 18 00.1	+0.3
MORF	Marmelete	145.55 336	*e*PKP	**PKPab**	23 18 00.8	+0.1
TAM	Tamanrasset	146.08 302	*e*PKP2	**PKPdf**	23 18 01.8	+0.1
TAM	Tamanrasset	146.08 302	*e*PKPdf	**PKPdf**	23 18 01.8	+0.1
BDFB	Brasilia	148.69 134	PKPbc	**PKPbc**	23 18 09.0	-1.0
BDFB	Brasilia	148.69 134	PKPbc	**PKPbc**	23 18 09.0	-1.0
	comp=Z,16nm,0.8s,baz=16,slow=1.4,SNR=13					
TORD	Torodi Ar. Bea	152.59 287	PKP	**PKPdf**	23 18 11.1	-0.9
TORD			PKPbc	**PKPbc**	23 18 17.8	-1.3
TORD			PKPab	**PKPab**	23 18 28.9	-1.0
TORD	Torodi Ar. Bea	152.59 287	PKP	**PKPdf**	23 18 11.1	-0.9
	comp=Z,1.0nm,0.8s,baz=51,slow=1.9,SNR=3.9					
TORD			PKPbc	**PKPbc**	23 18 17.8	-1.3
	comp=Z,7.8nm,0.8s,baz=87,slow=1.9,SNR=46					
TORD			PKPab	**PKPab**	23 18 28.9	-1.0
	comp=Z,5.2nm,0.5s,baz=77,slow=3.9,SNR=18					
KIC	Kosan Boka	159.63 272	*e*PKP2	**PKPab**	23 18 59.7	-0.5
	comp=Z,59nm,1.0s					
DBIC	Dimbokro	159.75 272	PKPab	**PKPab**	23 19 00.3	-0.4
DBIC	Dimbokro	159.75 272	PKPab	**PKPab**	23 19 00.3	-0.4
	comp=Z,11nm,0.9s,baz=92,slow=2.8,SNR=8.1					
TIC	Toumodi	159.91 272	*e*PKP2	**PKPab**	23 19 00.9	-0.5
	comp=Z,5.2nm,0.2s					
LIC	Lamto	159.92 271	*e*PKP2	**PKPab**	23 19 00.9	-0.5
	comp=Z,31nm,0.8s					

SZGRF ***22*** *22:58:56.7,28˚.94N×140˚.62E,h33km,mb5.4,Bonin Islands, Japan, region*

NIED ***22*** *22:59:00,27˚.30N×140˚.70E,h380km,Mw5.2 Best double couple: M0=6.42000×10^16 NP1:φ=146.00000°, δ=64.00000°,λ=-146.00000°. NP2:φ=40.00000°,δ=60.00000°, λ=-30.00000°.*

DJA ***22*** *22:59:29.1±6.0,27°N±14°×14°0E±2°8,h369km±73km, M4.8/9,mB5.2/6,mb5.1/9,Mw(mB)4.6/6*

IDC ***22*** *22:59:32.6±0.3,27˚.10N×140˚.12E,h411km±3km,mb4.3/28, mb1 4.5/31,mb1mx4.4/33,mbtmp4.3/31,Error ellipse: s-maj=8.0km s-min=6.2km az=84.0*

ISCJB ***22*** *22:59:34.0±0.3,27˚.23N±0˚.02×140˚.04E±0˚.02, h426km±2km,mb4.9/247,Error ellipse: s-maj=3.8km s-min=2.4km az=166.0*

GCMT ***22*** *22:59:33.1±0.5,27˚.05N×140˚.33E,h418km±2km,MW5.3, Moment Tensor Solution. s45,c67; Moment tensor: Scale 10^17Nm; Mrr-1.13±.06; Mθθ0.08±.09; Mφφ1.04±.07; Mrθ-0.39±.10; Mrφ-0.42±.07; Mθφ0.28±.09; Best double couple: M0=1.30000×10^17 NP1:φs=147.00000°,δ56.00000°, λ-105.00000°. NP2:φs=352.00000°,δ37.00000°, λ-70.00000°. Principal axes: T 1.2600, Plg10.0000°, Azm248.0000°; N -0.0200, Plg12.0000°, Azm155.0000°; P -1.2500, Plg74.0000°, Azm15.0000°; Data Used: II IU G IC.*

BJI ***22*** *22:59:33.0,27˚.05N×140˚.12E,h431km,mB4.8/30, mb4.9/53*

NEIC ***22*** *22:59:34.2±0.1,27˚.15N×140˚.02E,mb5.1/133, MW5.1(NIED),Error ellipse: s-maj=4.6km s-min=2.9km az=161.0*

NEIC Recorded [2 JMA] in the Hahajima-retto and [1 JMA] in the Chichijima-retto.

MOS ***22*** *22:59:34.3±0.9,27˚.19N×140˚.02E,h436km,mb5.0/81, Error ellipse: s-maj=7.9km s-min=4.4km az=108.8*

JMA ***22*** *22:59:34.3±0.1,27˚.31N×140˚.68E,h429km,M5.7*

JMA Felt II J1.

BKK ***22*** *22:59:36.5±2.2,27°N±13°×14°0E±°,h451km±30km, M4.6/24,mB5.1/11,mb5.0/24,Mw(mB)4.5/11*

TEH ***22*** *22:59:37.0,27˚.22N×139˚.97E,h449km,ML5.1*

ISC 22:59:34.1±0.3,27˚.13N±0˚.03×140˚.18E±0˚.03,h427km±2km, h427km:pP-P,n1107,σ1s34/1294,mb5.0/254,254C-230D, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.79**	**91**	⇓P	**P**	**23 00 29.8**	**-1.5**
CBIJ				S	**S**	**23 01 12.8**	**-4.9**
CBIJ	**Chichi jima**	**1.79**	**91**	P	**P**	**23 00 29.9**	**-1.4**
CBIJ				S	**S**	**23 01 12.0**	**-5.7**
CBIJ	**Chichi jima**	**1.79**	**91**	P	**P**	**23 00 29.9**	**-1.4**
	948nm,0.3s,baz=181,slow=3.7,SNR=507						
CBIJ				S	**S**	**23 01 12.0**	**-5.7**
	3μm,0.3s,baz=266,slow=23,SNR=20						
JHHJ	**Haha-jima-NKT**	**1.85**	**105**	⇓P	**P**	**23 00 30.7**	**-1.0**
JHHJ				S	**S**	**23 01 15.2**	**-3.1**
JHCJ	**Hachijojimakas**	**5.93**	**357**	P	**P**	**23 01 06.7**	**+0.1**
JHCJ				S	**S**	**23 02 18.6**	**-3.9**
JHJ2	**Mitsune**	**5.97**	**357**	P	**P**	**23 01 06.8**	**-0.2**
JHJ2				S	**S**	**23 02 20.4**	**-2.8**
TTO1	**TONANKAI O.B.S**	**7.11**	**336**	P	**P**	**23 01 22.0**	**+2.8**
JWZ	**Kozaga**	**7.46**	**330**	P	**P**	**23 01 25.4**	**+2.1**
JWZ				S	**S**	**23 02 53.6**	**+1.1**
BSO1	**Boso 1**	**7.53**	**5**	P	**P**	**23 01 23.3**	**-0.2**
BSO1				S	**S**	**23 02 48.8**	**-4.3**
JIE	**Ise**	**7.83**	**338**	P	**P**	**23 01 29.2**	**+1.8**
JIE				S	**S**	**23 03 00.4**	**+0.3**
JYZW	**Yoshizawa**	**8.12**	**346**	P	**P**	**23 01 30.7**	**+0.3**
JMZ	**Minamidaito 2**	**8.13**	**263**	P	**P**	**23 01 29.4**	**-1.3**
MRT2	**Murotomisaki 2**	**8.13**	**322**	P	**P**	**23 01 33.1**	**+2.5**
JOD2	**Odawara 2**	**8.16**	**354**	P	**P**	**23 01 30.7**	**-0.2**
JOD2				S	**S**	**23 03 01.7**	**-5.2**
TSUJ	**Tsu 2**	**8.22**	**338**	⇑P	**P**	**23 01 33.8**	**+2.3**
JNY	**Yasuok**	**8.44**	**347**	⇓P	**P**	**23 01 34.2**	**+0.2**
JAO	**Obara**	**8.49**	**344**	P	**P**	**23 01 35.3**	**+0.8**
JAO				S	**S**	**23 03 11.0**	**-2.6**
JTO	**Tosashimizu**	**8.57**	**314**	P	**P**	**23 01 37.8**	**+2.4**
JTO				S	**S**	**23 03 15.4**	**+0.1**
JRY	**Ryogami san**	**8.93**	**353**	P	**P**	**23 01 38.4**	**-0.9**
JRY				S	S	23 03 16.4	-6.2
JAG	**Ashikaga**	**9.29**	**356**	P	**P**	**23 01 41.6**	**-1.7**
JAG				S	S	23 03 22.2	-7.7
JNG	**Nsakai**	**9.42**	**350**	⇓P	**P**	**23 01 44.0**	**-0.8**
JAM	**Amami Oshima**	**9.45**	**280**	P	**P**	**23 01 47.1**	**+1.9**
JHO	**Hitachi**	**9.46**	**2**	P	**P**	**23 01 44.0**	**-1.2**
MAJO	**Matsushiro**	**9.54**	**350**	*e*P	**P**	**23 01 45.3**	**-0.7**
MAJO				*e*S	**S**	**23 03 30.9**	**-4.0**
MAJO	**Matsushiro**	**9.54**	**350**	*e*P	**P**	**23 01 45.3**	**-0.7**
MAJO				*e*S	**S**	**23 03 30.9**	**-4.0**
MAT	**Matsushiro**	**9.54**	**350**	P	**P**	**23 01 45.0**	**-1.0**
MAT				S	S	23 03 28.7	-6.2
MAT	**Matsushiro**	**9.54**	**350**	P	**P**	**23 01 45.3**	**-0.7**
JHS	**Saijyo**	**9.91**	**324**	P	**P**	**23 01 52.3**	**+2.2**
JHS				S	**S**	**23 03 45.3**	**+2.8**
JNU	**Nakatsue**	**10.02**	**309**	*e*P	**P**	**23 01 53.5**	**+2.1**
JNU				S	**S**	**23 03 45.2**	**+0.4**
JNU	**Nakatsue**	**10.02**	**309**	P	**P**	**23 01 52.6**	**+1.2**
	3.6nm,0.3s,baz=110,slow=4.8,SNR=31						
JNU				S	**S**	**23 03 45.2**	**+0.4**
	baz=179,slow=10,SNR=1.6						
JSJ	**Shimokoshiki**	**10.19**	**299**	P	**P**	**23 01 55.3**	**+2.1**
JOW	**Kunigami**	**10.62**	**271**	P	**P**	**23 01 59.8**	**+1.7**
JOW	**Kunigami**	**10.62**	**271**	*e*P	**P**	**23 01 59.2**	**+1.1**
JMM	**Marumori**	**10.72**	**3**	P	**P**	**23 01 59.6**	**+0.6**
JIH	**Iheya**	**10.88**	**272**	P	**P**	**23 02 02.6**	**+1.7**
JYK	**Kaneyama**	**11.76**	**1**	P	**P**	**23 02 11.4**	**+1.0**
JMK	**Ichinoseki**	**11.82**	**4**	P	**P**	**23 02 11.9**	**+0.8**
JTU	**Tsushima**	**11.83**	**311**	P	**P**	**23 02 13.6**	**+2.4**
JKE	**Kume jima 2**	**12.00**	**269**	P	**P**	**23 02 14.2**	**+1.0**
JOM	**Ohasama**	**12.35**	**4**	P	**P**	**23 02 17.9**	**+1.1**
MIYJ	**Miyakonagasawa**	**12.49**	**6**	P	**P**	**23 02 19.5**	**+1.1**
JKZ	**Kuzumaki**	**12.86**	**4**	P	**P**	**23 02 23.7**	**+1.3**
JAH	**Hinai**	**13.03**	**2**	P	**P**	**23 02 26.0**	**+1.7**
GUMO	**Guam**	**14.17**	**161**	*e*P	**P**	**23 02 38.3**	**+1.4**
KSRS	**Korea Array**	**14.59**	**318**	P	**P**	**23 02 41.2**	**+0.1**
	1.2nm,0.3s,baz=126,slow=10,SNR=62						
KSRS				S	**S**	**23 05 16.1**	**+0.1**
	0.1nm,0.3s,baz=134,slow=14,SNR=2.8						
KSAR	**Wonju Array Be**	**14.61**	**318**	P	**P**	**23 02 41.2**	**-0.1**
KSAR				S	**S**	**23 05 16.1**	**-0.2**
JIJ	**Ishigaki jima**	**14.71**	**263**	P	**P**	**23 02 43.5**	**+0.9**
JKRS	**Kuro-shima**	**14.86**	**262**	P	**P**	**23 02 45.6**	**+1.4**
ERM	**Erimo**	**15.05**	**9**	P	**P**	**23 02 48.3**	**+2.2**
	1μm,0.8s,SNR=20						
ERM	**Erimo**	**15.05**	**9**	*c iP*	**P**	**23 02 47.9**	**+1.8**
ERM	**Erimo**	**15.05**	**9**	*e*P	**P**	**23 02 48.0**	**+2.0**
IRIF	**Iriomote-Funau**	**15.08**	**263**	P	**P**	**23 02 47.2**	**+0.6**
YOJ	**Yonaguni jima**	**15.69**	**264**	P	**P**	**23 02 53.4**	**+0.3**
NACB	**Ninganchiao**	**17.01**	**264**	*e*P	**P**	**23 03 06.0**	**-1.2**
	53nm,0.8s						
ASAJ	**Asahikawa**	**17.07**	**6**	*e*P	**P**	**23 03 07.9**	**+0.4**
ASAJ				S	**S**	**23 06 06.9**	**+2.9**
ASAJ	**Asahikawa**	**17.07**	**6**	P	**P**	**23 03 07.4**	**-0.1**
	5.9nm,0.3s,baz=200,slow=9.5,SNR=31						
ASAJ				S	**S**	**23 06 06.9**	**+2.9**
	0.5nm,0.3s,baz=12,slow=20,SNR=3.3						
YHNB	**Yeheng**	**17.09**	**266**	*e*P	**P**	**23 03 06.7**	**-1.4**
	85nm,0.8s						
YULB	**Yu-li**	**17.48**	**262**	*e*P	**P**	**23 03 11.4**	**-0.7**
	58nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**17.48**	**14**	*d iP*	**P**	**23 03 09.7**	**-2.2**
YUK				*i* S	**S**	**23 06 10.6**	**-1.3**
YUK				pmax	pmax		
	comp=Z,867nm,1.4s						
YUK				pmax	pmax		
	comp=E,660nm,1.4s						
YUK				pmax	pmax		
	comp=N,125nm,0.7s						
SSLB	**Suanglung**	**17.67**	**263**	*e*P	**P**	**23 03 14.7**	**+0.4**
	comp=N,140nm,0.9s						
TWG	**Pinlang**	**17.84**	**260**	*e*P	**P**	**23 03 15.2**	**-0.9**
	comp=N,529nm,0.8s						
TPUB	**Ta-pu**	**18.09**	**262**	*e*P	**P**	**23 03 18.0**	**-0.6**
	comp=N,87nm,0.9s						
USRK	**Ussuriysk Arra**	**18.27**	**341**	P	**P**	**23 03 20.6**	**+0.4**
	comp=N,4.7nm,0.3s,baz=156,slow=9.5,SNR=110						
USRK				S	**S**	**23 06 26.0**	**-0.1**
	comp=N,0.1nm,0.3s,baz=138,slow=37,SNR=1.9						
NJ2	**Nanjing**	**19.17**	**290**	*e*P	**P**	**23 03 27.3**	**-1.9**
NJ2				sP	**sP**	**23 05 25.3**	**+2.4**
NJ2				S	**S**	**23 06 38.5**	**-2.8**
NJ2				PcP	**PcP**	**23 07 32.0**	**+0.6**
NJ2				ScP	**ScP**	**23 10 25.0**	**-1.2**
NJ2				PcS	**PcS**	**23 11 09.0**	**+0.2**
NJ2				pmax	pmax		
	comp=Z,70nm,0.8s						
NJ2				pmax	pmax		
	comp=Z,1μm,4.2s						
MDJ	**Mudanjiang**	**19.41**	**337**	P	**P**	**23 03 31.3**	**+0.1**
MDJ				sP	**sP**	**23 05 24.0**	**-1.6**
MDJ				S	**S**	**23 06 46.1**	**+1.2**
MDJ				PcP	**PcP**	**23 07 31.9**	**+0.3**
MDJ				ScP	**ScP**	**23 10 26.8**	**+0.3**
MDJ				PcS	**PcS**	**23 11 10.4**	**+1.4**
MDJ				ScS	**ScS**	**23 14 08.3**	**-0.4**
MDJ				pmax	pmax		
	comp=Z,51nm,1.6s						
MDJ				pmax	pmax		
	comp=Z,620nm,5.3s						
QZH	**Quanzhou**	**19.52**	**268**	P	**P**	**23 03 30.6**	**-1.8**
QZH				sP	**sP**	**23 05 25.9**	**-0.8**
QZH				S	**S**	**23 06 40.8**	**-6.3**
QZH				pmax	pmax		
	comp=Z,190nm,1.0s						
YSS	**Yuzh-Sakhalins**	**19.89**	**5**	*e*P	**P**	**23 03 34.0**	**-1.6**
YSS				*e*S	S	23 06 45.0	-7.6
YSS				pmax	pmax		
	comp=Z,180nm,1.3s						
YSS				pmax	pmax		
	comp=Z,1μm,3.0s						
SNY	**Shenyang**	**20.00**	**321**	⇑P	**P**	**23 03 37.1**	**+0.5**
SNY				sP	**sP**	**23 05 27.5**	**-4.6**
SNY				S	**S**	**23 06 52.4**	**-2.2**
SNY				pmax	pmax		
	comp=Z,87nm,1.7s						
SNY				pmax	pmax		
	comp=Z,620nm,4.1s						
CN2	**Changchun**	**20.46**	**328**	*e*P	**P**	**23 03 42.3**	**+1.5**
CN2				*es*P	**sP**	**23 05 34.5**	**-2.6**
CN2				*e*S	**S**	**23 06 59.8**	**-2.1**
CN2				pmax	pmax		
	comp=Z,20nm,0.6s						
CN2				pmax	pmax		
	comp=Z,300nm,5.0s						
HABR	**Khabarovsk**	**21.68**	**351**	*e*P	**P**	**23 03 52.5**	**+0.7**
HABR				*e*S	**S**	**23 07 21.4**	**+0.1**
HABR				*e*		23 07 33.9	
HABR				*e*		23 14 12.7	
HABR				pmax	pmax		
	comp=E,9.0nm,0.6s						
HABR				pmax	pmax		
	comp=N,20nm,1.2s						
HABR				pmax	pmax		
	comp=Z,47nm,1.1s						
TGY	**Tagaytay City**	**22.14**	**238**	P	**P**	**23 03 58.1**	**+1.6**
TGY	**Tagaytay City**	**22.14**	**238**	P	**P**	**23 03 58.1**	**+1.6**
	comp=Z,411nm,0.6s,baz=298,slow=2.9,SNR=13						
WHN	**Wuhan**	**22.86**	**285**	P	**P**	**23 04 03.3**	**+0.5**
WHN				sP	**sP**	**23 06 01.0**	**-2.4**
WHN				S	**S**	**23 07 46.8**	**+6.2**
KLR	**Kul'dur**	**23.01**	**346**	*e*P	**P**	**23 04 00.0**	**-3.9**
KLR				pmax	pmax		
	comp=N,50nm,1.8s						
KLR				pmax	pmax		
	comp=E,50nm,1.8s						
KLR				pmax	pmax		
	comp=Z,130nm,1.8s						
BJI	**Beijing**	**23.70**	**309**	P	**P**	**23 04 09.4**	**-0.7**
BJI				sP	**sP**	**23 06 08.1**	**-4.3**
BJI				S	**S**	**23 07 50.4**	**-3.1**
BJI				ScS	**ScS**	**23 14 23.5**	**-1.2**
BJI				pmax	pmax		
	comp=Z,12nm,0.7s						
BJI				pmax	pmax		
	comp=Z,150nm,8.9s						
HHC	**Hu-ho-hao-te**	**27.25**	**307**	*e*P	**P**	**23 04 42.3**	**+0.5**
HHC				sP	**sP**	**23 06 50.3**	**+2.8**
HHC				PcP	**PcP**	**23 07 50.9**	**+2.3**
HHC				S	**S**	**23 08 46.8**	**-2.8**
HHC				ScP	**ScP**	**23 10 47.0**	**-0.9**
HHC				PcS	**PcS**	**23 11 31.0**	**+0.2**
HHC				pmax	pmax		
	comp=Z,37nm,0.8s						
HHC				pmax	pmax		
	comp=Z,240nm,6.4s						
XAN	**Xi'an**	**27.70**	**292**	P	**P**	**23 04 44.6**	**-1.3**
XAN				S	**S**	**23 08 54.9**	**-1.9**
XAN				pmax	pmax		
	comp=Z,11nm,1.0s						
QIZ	**Qiongzhong**	**28.99**	**260**	P	**P**	**23 04 57.5**	**+0.2**
QIZ				sP	**sP**	**23 07 04.9**	**+1.6**
QIZ				S	**S**	**23 09 16.4**	**-0.7**
QIZ				pmax	pmax		
	comp=Z,44nm,1.3s						
QIZ				pmax	pmax		
	comp=Z,200nm,3.4s						
PETK	**Petropavlovsk-**	**29.05**	**22**	P	**P**	**23 04 58.4**	**+1.1**
PETK						23 07 52.8	
PETK				pmax	pmax		
	comp=Z,6.0nm,0.6s						
PETK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
PETK	**Petropavlovsk-**	**29.05**	**22**	P	**P**	**23 04 58.4**	**+1.1**
PETK				PcP	**PcP**	**23 07 52.8**	**0.0**
PETK	**Petropavlovsk-**	**29.05**	**22**	P	**P**	**23 04 58.4**	**+1.1**
	comp=Z,6.2nm,0.7s,baz=202,slow=7.7,SNR=9.1						
PETK				PcP	**PcP**	**23 07 52.8**	**0.0**
	comp=Z,6.5nm,0.8s,baz=190,slow=7.5,SNR=5.2						
PET	**Petropavlovsk**	**29.30**	**23**	⇓*iP*	**P**	**23 05 00.8**	**+1.3**
PET				*e**SP	sP	23 07 11.9	+6.1
PET				*e*S	**S**	**23 09 23.9**	**+2.9**
PET				pmax	pmax		
	comp=Z,31nm,0.7s						
PET				pmax	pmax		
	comp=Z,100nm,9.3s						
GYA	**Guiyang**	**29.87**	**276**	⇑*iP*	**P**	**23 05 04.8**	**-0.3**
GYA				pP	**PP**	**23 06 25.4**	**+2.3**
GYA				PcP	**PcP**	**23 07 56.6**	**+1.0**
GYA				S	**S**	**23 09 28.3**	**-2.6**
GYA				ScP	**ScP**	**23 10 55.9**	**-0.6**
GYA				PcS	**PcS**	**23 11 38.8**	**-1.0**
GYA				ScS	**ScS**	**23 14 50.3**	**-2.7**
GYA				pmax	pmax		
	comp=Z,30nm,1.0s						
GYA				pmax	pmax		
	comp=Z,130nm,5.0s						
MYLDM	**Lahad Datu**	**30.05**	**227**	P	**P**	**23 05 07.4**	**+0.8**
SDKM	**Sandakan**	**30.59**	**230**	P	**P**	**23 05 12.0**	**+0.7**
KMSI	**Cibinong**	**30.64**	**213**	P	**P**	**23 05 11.1**	**-0.6**
	comp=Z,360nm,0.9s						
TSM	**Tawau**	**31.13**	**227**	P	**P**	**23 05 17.1**	**+1.1**
CLNS	**Chul'man**	**31.64**	**344**	*e*P	**P**	**23 05 20.6**	**+0.8**
CLNS				pmax	pmax		
	comp=Z,15nm,0.8s						
CLNS				pmax	pmax		
	comp=N,13nm,0.7s						
CLNS				pmax	pmax		
	comp=E,8.0nm,1.0s						
MRSI	**Marisa**	**31.77**	**216**	P	**P**	**23 05 22.8**	**+1.4**
	comp=E,114nm,0.8s,comp=E,1μm						
CD2	**Chengdu**	**31.98**	**286**	P	**P**	**23 05 23.5**	**+0.3**
CD2				pP	**pP**	**23 06 42.8**	**+2.5**
CD2				PP	**PP**	**23 06 50.0**	**+3.7**
CD2				sP	**sP**	**23 07 33.8**	**+3.9**
CD2				S	**S**	**23 09 59.3**	**-3.9**
CD2				sS	**sS**	**23 12 24.1**	**-1.2**
CD2				SS	**SS**	**23 12 37.3**	**-5.4**
CD2				pmax	pmax		
	comp=Z,80nm,0.5s						
CD2				pmax	pmax		
	comp=Z,200nm,6.5s						
LZH	**Lanzhou**	**32.06**	**295**	*e*P	**P**	**23 05 24.8**	**+0.9**
LZH				pP	**pP**	**23 06 41.1**	**0.0**
LZH				PP	**PP**	**23 06 50.5**	**+3.3**
LZH				sP	**sP**	**23 07 28.1**	**-2.5**
LZH				*e*S	**S**	**23 10 03.0**	**-1.5**
LZH				SS	**SS**	**23 12 38.3**	**-5.9**
LZH				pmax	pmax		
	comp=Z,53nm,1.0s						
LZH				pmax	pmax		
	comp=Z,240nm,5.5s						
SONM	**Songino Array**	**33.46**	**317**	P	**P**	**23 05 35.7**	**0.0**
SONM				PcP	**PcP**	**23 08 04.3**	**-0.8**
SONM	**Songino Array**	**33.46**	**317**	P	**P**	**23 05 35.7**	**0.0**
	comp=Z,2.6nm,0.5s,baz=132,slow=8.0,SNR=22						
SONM				PcP	**PcP**	**23 08 04.3**	**-0.8**
	comp=Z,4.2nm,1.0s,baz=114,slow=5.5,SNR=5.4						
KMI	**Kunming**	**33.59**	**275**	P	**P**	**23 05 37.8**	**+0.6**
KMI				pP	**pP**	**23 06 58.3**	**+3.4**
KMI				S	**S**	**23 10 24.4**	**-4.0**
KMI				sS	**sS**	**23 12 53.4**	**+2.2**
KMI				SS	**SS**	**23 13 18.0**	**+1.6**
KMI				pmax	pmax		
	comp=Z,25nm,0.9s						
KMI				pmax	pmax		
	comp=Z,120nm,4.5s						
PANO	**Nakornpanom**	**34.30**	**261**	P	**P**	**23 05 45.0**	**+1.9**
	comp=Z,40nm,1.2s						
SKNT	**Sakolnakorn**	**34.93**	**261**	P	**P**	**23 05 49.6**	**+1.3**
	comp=Z,62nm,1.0s						
BTM	**Bintulu**	**35.18**	**232**	P	**P**	**23 05 51.9**	**+1.4**
FX1	**Attu Island--F**	**35.53**	**35**	*e*P	**P**	**23 05 55.5**	**+2.6**
FX1	**Attu Island--F**	**35.53**	**35**	P	**P**	**23 05 54.6**	**+1.7**
	comp=Z,56nm,0.6s,baz=262,slow=2.4,SNR=17						
GTA	**Gaotai**	**35.62**	**301**	P	**P**	**23 05 54.3**	**+0.2**
GTA				pP	**pP**	**23 07 16.6**	**+4.1**
GTA				sP	**sP**	**23 08 06.8**	**+4.9**
GTA				PcP	**PcP**	**23 08 12.3**	**+0.7**
GTA				S	**S**	**23 10 56.0**	**-2.6**
GTA				sS	**sS**	**23 13 23.5**	**+1.1**
GTA				SS	**SS**	**23 13 47.9**	**-8.7**
GTA				ScS	**ScS**	**23 15 21.8**	**-0.9**
GTA				pmax	pmax		
	comp=Z,13nm,1.6s						
GTA				pmax	pmax		
	comp=Z,84nm,4.7s						
SBUM	**Sibu**	**36.31**	**232**	P	**P**	**23 06 00.5**	**+0.5**
SEY	**Seymchan**	**36.70**	**9**	⇓*iP*	**P**	**23 06 03.6**	**+1.1**
TLY	**Talaya**	**36.80**	**322**	*e*P	**P**	**23 06 04.6**	**+1.1**
TLY				pmax	pmax		
	comp=Z,8.0nm,0.6s						
KAPI	**Kappang**	**37.56**	**215**	pP	pP	23 07 26.8	-2.9
KAPI	**Kappang**	**37.56**	**215**	pP	pP	23 07 26.8	-2.9
	comp=Z,12nm,0.8s,baz=32,slow=5.7,SNR=4.7						
PBKT	**Sadao Pong**	**37.74**	**262**	P	**P**	**23 06 12.9**	**+1.2**
	comp=Z,98nm,0.9s,comp=Z,1μm						
PBKT	**Sadao Pong**	**37.74**	**262**	P	**P**	**23 06 12.8**	**+1.1**
	comp=Z,98nm,0.9s,comp=Z,1μm						
CHBT	**CHBT**	**38.18**	**256**	P	**P**	**23 06 16.3**	**+0.9**
	comp=Z,60nm,0.7s						
CHBT	**CHBT**	**38.18**	**256**	P	**P**	**23 06 16.3**	**+0.9**
	comp=Z,60nm,0.7s						
LAMP	**Lampang**	**38.20**	**266**	P	**P**	**23 06 16.5**	**+0.9**
	comp=Z,7.2nm,0.8s						
CMAI	**Chiengmai2**	**38.26**	**268**	P	**P**	**23 06 17.1**	**+0.9**
	comp=Z,225nm,1.0s						
KSM	**Kuching**	**38.35**	**233**	*e*P	**P**	**23 06 17.2**	**+0.4**
	comp=Z,33nm,0.8s						
KSM	**Kuching**	**38.35**	**233**	P	**P**	**23 06 17.7**	**+0.9**
CHTO	**Chiang Mai**	**38.72**	**267**	*e*P	**P**	**23 06 20.2**	**+0.4**
CHTO				pmax	pmax		
	comp=Z,146nm,1.3s						
CHTO	**Chiang Mai**	**38.72**	**267**	*e*P	**P**	**23 06 20.1**	**+0.4**
	comp=Z,146nm,1.3s						
CMAR	**Chiang Mai Arr**	**38.84**	**266**	P	**P**	**23 06 21.5**	**+0.7**
CMAR				PcP	**PcP**	**23 08 22.9**	**+1.1**
CMAR	**Chiang Mai Arr**	**38.84**	**266**	P	**P**	**23 06 21.5**	**+0.7**
	comp=Z,9.3nm,1.0s,baz=58,slow=8.5,SNR=44						
CMAR				PcP	**PcP**	**23 08 22.9**	**+1.1**
	comp=Z,3.6nm,0.9s,baz=67,slow=1.4,SNR=8.5						
UTHA	**Uthaitani**	**39.48**	**262**	P	**P**	**23 06 27.2**	**+1.2**
	comp=Z,11nm,0.8s,comp=Z,111nm						
PHET	**Kaeng Krachan**	**40.45**	**258**	P	**P**	**23 06 35.4**	**+1.5**
	comp=Z,119nm,0.9s						
COEN	**Coen**	**40.94**

comp=Z,25nm,0.8s
ODAN Odare 46.74 282 *e*P **P 23 07 24.2 +0.8**
comp=Z,41nm,0.5s
WRAB Tennant Creek 47.12 187 P **P 23 07 26.2 +0.2**
comp=Z,262nm,0.6s,SNR=6.9
WRA Warramunga Arr 47.13 188 P **P 23 07 26.0 -0.1**
WRA pP **PcP 23 08 47.9 -1.9**
WRA S **S 23 13 43.2 -2.7**
WRA Warramunga Arr 47.13 188 P **P 23 07 26.0 -0.1**
comp=Z,15nm,0.8s,baz=4.7,slow=12,SNR=18
WRA pP **PcP 23 08 47.9 -1.9**
comp=Z,28nm,1.1s,baz=5.0,slow=8.5,SNR=5.4
WRA S **S 23 13 43.2 -2.7**
comp=Z,9.6nm,1.0s,baz=3.4,slow=14,SNR=6.8
CTA Charters Tower 47.30 172 pP pP 23 08 48.1 -3.1
CTA Charters Tower 47.30 172 pP pP 23 08 48.1 -3.1
comp=Z,9.1nm,1.0s,baz=5.7,slow=10,SNR=3.5
RAMN Ramite 47.41 283 *e*P **P 23 07 29.4 +0.9**
comp=Z,31nm,0.8s
AKUT Akutan 47.58 40 *e*P **P 23 07 30.0 +1.0**
comp=Z,67nm,0.6s
JIRN Jiri 47.60 284 *e*P **P 23 07 31.6 +1.5**
comp=Z,73nm,0.7s
GUN Gumba 47.82 284 *e*P **P 23 07 32.8 +1.1**
comp=Z,58nm,0.6s
ZAA0 Zalesovo Array 48.30 319 *e*P **P 23 07 33.7 -0.7**
ZAA0 *e*PcP **PcP 23 08 52.7 -0.8**
ZALV Zalesovo Beam 48.30 319 P **P 23 07 34.0 -0.5**
ZALV 23 08 52.2
ZALV pmax pmax
comp=Z,5.0nm,0.4s
ZALV pmax pmax
comp=Z,5.0nm,0.5s
ZALV Zalesovo Beam 48.30 319 P **P 23 07 34.0 -0.5**
ZALV PcP **PcP 23 08 52.2 -1.3**
ZALV Zalesovo Beam 48.30 319 P **P 23 07 34.0 -0.5**
comp=Z,4.7nm,0.4s,baz=97,slow=7.2,SNR=41
ZALV PcP **PcP 23 08 52.2 -1.3**
comp=Z,5.1nm,0.5s,baz=110,slow=4.0,SNR=12
PKI Pulchoki 48.30 284 *e*P **P 23 07 35.8 +0.5**
PKIN Phulchoki 48.31 284 *e*P **P 23 07 35.9 +0.6**
KKN Kakani 48.36 284 *e*P **P 23 07 36.7 +1.0**
DMN Daman 48.55 284 *e*P **P 23 07 37.6 +0.4**
comp=Z,25nm,0.8s
MK31 Makanchi Array 49.08 310 *e*P **P 23 07 40.7 +0.2**
MK31 *e* 23 08 56.2
MK31 Makanchi Array 49.08 310 *e*P **P 23 07 40.7 +0.2**
MK31 *e*PcP **PcP 23 08 56.1 -0.4**
MKAR Makanchi Array 49.08 310 *e*P **P 23 07 40.9 +0.4**
MKAR 23 08 56.9
MKAR S **S 23 14 11.3 -1.1**
MKAR Makanchi Array 49.08 310 *e*P **P 23 07 40.9 +0.4**
MKAR PcP **PcP 23 08 56.9 +0.3**
MKAR S **S 23 14 11.2 -1.1**
MKAR Makanchi Array 49.08 310 P **P 23 07 40.8 +0.3**
comp=Z,8.5nm,0.7s,baz=86,slow=12,SNR=52
MKAR PcP **PcP 23 08 56.9 +0.3**
comp=Z,5.1nm,0.7s,baz=88,slow=6.6,SNR=7.3
MKAR S **S 23 14 11.2 -1.1**
comp=Z,1.0nm,1.0s,baz=104,slow=24,SNR=2.0
NVS Novosibirsk 49.37 320 ‖ *i*P **P 23 07 42.0 -0.4**
NVS *e**PP **PcP 23 08 56.5 -0.9**
NVS *i*S **S 23 14 14.4 -1.6**
NVS *e**SS **ScS 23 16 43.1 -4.5**
NVS pmax pmax
comp=Z,60nm,1.7s
NVS pmax pmax
comp=N,11nm,1.4s
NVS pmax pmax
comp=E,39nm,1.6s
NVS smax smax
comp=N,106nm,3.1s
DANN Dangsing 49.55 285 *e*P **P 23 07 45.8 +1.2**
comp=N,105nm,0.8s
KOLN Koldanda 49.82 285 *e*P **P 23 07 47.5 +1.0**
SDPT Sand Point 50.82 39 *e*P **P 23 07 53.2 +0.1**
comp=N,108nm,0.8s
ASAR Alice Springs 50.86 187 P **P 23 07 53.9 0.0**
ASAR PcP **PcP 23 09 04.1 +0.7**
ASAR pP **pP 23 09 17.1 -2.1**
ASAR S **S 23 14 34.7 -2.5**
ASAR Alice Springs 50.86 187 P **P 23 07 53.9 0.0**
comp=N,3.3nm,0.4s,baz=1.0,slow=5.2,SNR=13
ASAR PcP **PcP 23 09 04.1 +0.7**
comp=N,3.9nm,0.9s,baz=15,slow=3.9,SNR=4.5
ASAR pP **pP 23 09 17.1 -2.1**
comp=N,5.4nm,0.9s,baz=12,slow=6.4,SNR=3.6
ASAR S **S 23 14 34.7 -2.5**
comp=N,2.4nm,0.8s,baz=20,slow=21,SNR=7.7
KURK Kurchatov 51.69 315 P **P 23 07 59.2 -0.4**
comp=N,152nm,0.9s,SNR=23
KURK Kurchatov 51.69 315 *d i*P **P 23 07 59.5 -0.1**
KURK pmax pmax
comp=Z,53nm,1.6s
KURK Kurchatov 51.69 315 *e*P **P 23 07 59.3 -0.3**
comp=Z,15nm,0.6s
KURK *e*PcP **PcP 23 09 03.3 -2.8**
KURK S **S 23 14 45.9 -1.8**
KURBB Kurchatov Arra 51.74 314 P **P 23 07 59.9 -0.1**
comp=Z,35nm,0.6s,baz=95,slow=7.6,SNR=25
KURBB S **S 23 14 45.9 -2.6**
comp=Z,0.8nm,0.3s,baz=94,slow=10,SNR=6.1
CHGN Chignik 52.10 38 *e*P **P 23 08 02.2 -0.2**
TKM2 Tokmak 2 53.93 305 *e*P **P 23 08 16.5 +0.3**
TKM2 *e* 23 09 12.5
TKM2 pmax pmax
comp=Z,18nm,0.9s
TKM2 Tokmak 2 53.93 305 P **P 23 08 17.3 +1.1**
SNR=14
TKM2 Tokmak 2 53.93 305 *e*P **P 23 08 16.4 +0.3**
comp=Z,18nm,0.9s
TKM2 *e*PcP **PcP 23 09 12.5 -2.7**
KSH Kashi 54.02 301 P P 23 08 21.0 +4.2
KSH PcP **PcP 23 09 18.9 +3.4**
KSH pP pP 23 09 50.8 +7.5
KSH ScP **ScP 23 12 33.3 +1.3**
KSH PcS **PcS 23 13 17.4 +1.8**
KSH S **S 23 15 23.1 +3.5**
KSH pmax pmax
comp=Z,89nm,5.4s
SVW2 Sparrevohn 54.23 33 *e*P **P 23 08 19.3 +1.6**
comp=Z,113nm,1.4s
KZA Kyzart 54.27 304 *i*P **P 23 08 20.6 +1.7**
KZA Kyzart 54.27 304 P **P 23 08 20.6 +1.7**
SNR=10
KBK Karagaybulak 54.43 305 *i*P **P 23 08 20.6 +0.9**
KBK Karagaybulak 54.43 305 P **P 23 08 20.6 +0.9**
SNR=18
CHMS Chumysh 54.54 305 *i*P **P 23 08 21.4 +1.1**
CHMS Chumysh 54.54 305 P **P 23 08 21.4 +1.1**
SNR=6.2
FRU Bishkek 54.66 305 *i*P **P 23 08 22.0 +0.9**
FRU *e*S **S 23 15 33.0 +5.4**
FRU pmax pmax
comp=Z,70nm,2.0s
USP Ospenovka 54.70 305 *i*P **P 23 08 22.1 +0.7**
USP Ospenovka 54.70 305 P **P 23 08 22.1 +0.7**
SNR=8.8
AAK Ala-Archa 54.77 305 P **P 23 08 22.6 +0.5**
comp=Z,72nm,0.5s,SNR=5.6
AAK Ala-Archa 54.77 305 ‖ *i*P **P 23 08 22.5 +0.5**
AAK pmax pmax
comp=Z,55nm,1.6s
AAK Ala-Archa 54.77 305 P **P 23 08 22.6 +0.5**
SNR=8.8
AAK Ala-Archa 54.77 305 *e*P **P 23 08 22.6 +0.5**
AAK PcP **PcP 23 09 18.6 +0.2**
AAK Ala-Archa 54.77 305 P **P 23 08 22.0 -0.1**
comp=Z,8.9nm,0.6s,baz=106,slow=5.5,SNR=21
AAK PcP **PcP 23 09 18.6 +0.2**
comp=Z,1.7nm,0.4s,baz=106,slow=7.4,SNR=2.5
UCH Uchtor 54.80 304 *i*P **P 23 08 24.1 +1.5**
UCH Uchtor 54.80 304 P **P 23 08 24.1 +1.5**
SNR=9.7
OHAK Old Harbor 55.00 38 *e*P **P 23 08 23.6 +0.5**
comp=Z,39nm,0.9s
DZM Mont Dzumac 55.12 150 *e*P **P 23 08 25.3 +0.7**
DZM Mont Dzumac 55.12 150 P **P 23 08 25.4 +0.8**
comp=Z,21nm,1.1s,baz=68,slow=5.3,SNR=5.7
EKS2 Erkin-Say 55.29 305 *e*P **P 23 08 26.4 +0.7**
EKS2 *e* 23 09 21.1
EKS2 *e**PP **pP 23 09 53.1 +0.4**
EKS2 pmax pmax
comp=Z,9.0nm,0.8s
EKS2 Erkin-Say 55.29 305 P **P 23 08 26.1 +0.4**
SNR=12
EKS2 Erkin-Say 55.29 305 *e*P **P 23 08 26.4 +0.7**
comp=Z,8.9nm,0.8s
EKS2 *e*PcP **PcP 23 09 21.1 +0.7**
EKS2 *e*pP **pP 23 09 53.1 +0.4**
KDAK Kodiak Island 55.41 37 P **P 23 08 26.3 +0.3**
comp=Z,477nm,1.0s,SNR=20
KDAK Kodiak Island 55.41 37 *e*P **P 23 08 26.3 +0.3**
KDAK *e*pP **pP 23 09 55.9 +2.8**
KDAK Kodiak Island 55.41 37 P **P 23 08 26.0 -0.1**
comp=Z,15nm,0.3s,baz=280,slow=2.3,SNR=74
AML Almayashu 55.41 304 *i*P **P 23 08 28.2 +1.3**
AML Almayashu 55.41 304 P **P 23 08 28.2 +1.3**
SNR=16
RSO Redoubt South 55.53 34 *e*P **P 23 08 27.8 +0.7**
IM04 Indian Mountai 55.81 27 *e*P **P 23 08 29.6 +0.8**
IM04 *e*PcP **PcP 23 09 22.1 +0.3**
IMA2 Indian Mountai 55.86 27 *e*P **P 23 08 30.1 +0.8**
IMA2 *e*PcP **PcP 23 09 22.9 +0.8**
IMA2 *e*pP **pP 23 09 58.1 +1.6**
SPU Mount Spurr 55.94 33 *e*P **P 23 08 30.9 +1.1**
PPLA Purkeypile 56.05 31 *e*P **P 23 08 31.3 +0.6**
comp=Z,137nm,1.4s
PPLA *e*PcP **PcP 23 09 23.8 +0.8**
CAST Castle Rocks 56.16 30 *e*P **P 23 08 32.6 +1.4**
comp=Z,163nm,1.5s
BPAW Bear Paw Mtn. 56.72 29 *e*P **P 23 08 36.0 +0.9**
comp=Z,54nm,0.8s
BVAR Borovoye Array 56.81 317 P **P 23 08 36.2 +0.2**
BVAR S **S 23 15 52.8 -2.5**
BVAR pmax pmax
comp=Z,27nm,0.4s
BVAR smax smax
comp=N,2.0nm,0.8s
BVAR Borovoye Array 56.81 317 P **P 23 08 36.2 +0.2**
BVAR S **S 23 15 52.8 -2.5**
BVAR Borovoye Array 56.81 317 P **P 23 08 36.2 +0.2**
comp=N,27nm,0.4s,baz=94,slow=9.0,SNR=186
BVAR S **S 23 15 52.8 -2.5**
comp=N,2.4nm,0.8s,baz=91,slow=17,SNR=6.2
BRVK Borovoye 56.87 317 P **P 23 08 36.3 0.0**
comp=N,352nm,0.8s,SNR=22
BRVK Borovoye 56.87 317 *ce*P **P 23 08 36.5 +0.2**
BRVK pmax pmax
comp=Z,81nm,1.4s
BRVK Borovoye 56.87 317 *e*P **P 23 08 36.7 +0.4**
comp=Z,42nm,0.8s
SEW Seward 57.15 34 *e*P **P 23 08 38.8 +0.7**
comp=Z,75nm,1.1s
PMR Palmer 57.37 32 *e*P **P 23 08 39.7 +0.1**
PMR pmax pmax
comp=Z,88nm,1.0s
PMR Palmer 57.37 32 *e*P **P 23 08 39.6 +0.1**
comp=Z,88nm,1.0s
COLD Coldfoot 57.41 26 *e*P **P 23 08 41.4 +1.6**
comp=Z,48nm,1.0s
MCK McKinley 57.59 30 *e*P **P 23 08 41.7 +0.5**
MCK pmax pmax
comp=Z,117nm,0.9s
MCK McKinley 57.59 30 *e*P **P 23 08 41.7 +0.5**
comp=Z,117nm,0.9s
KKAR Karatay Array 57.61 306 *e*P **P 23 08 42.3 +0.6**
KKAR Karatay Array 57.61 306 *e*P **P 23 08 42.2 +0.6**
COLA College 58.14 29 *e*P **P 23 08 45.7 +0.9**
COLA pmax pmax
comp=Z,97nm,0.9s
COLA College 58.14 29 *e*P **P 23 08 45.7 +0.9**
comp=Z,97nm,0.9s
ILAR Eielson Array 58.54 29 P **P 23 08 47.2 -0.4**
ILAR PcP **PcP 23 09 32.0 -0.6**
ILAR Eielson Array 58.54 29 P **P 23 08 47.2 -0.4**
comp=Z,24nm,0.9s,baz=259,slow=5.6,SNR=127
ILAR PcP **PcP 23 09 32.0 -0.6**
comp=Z,4.1nm,0.9s,baz=298,slow=4.8,SNR=4.5
STKA Stephens Creek 58.69 179 P **P 23 08 49.0 0.0**
STKA pP **pP 23 10 15.6 -1.9**
STKA Stephens Creek 58.69 179 P **P 23 08 49.0 0.0**
comp=Z,6.2nm,0.9s,baz=342,slow=9.9,SNR=3.1
STKA pP **pP 23 10 15.6 -1.9**
comp=Z,14nm,0.9s,baz=4.5,slow=7.6,SNR=6.3
DIV Divide 58.98 33 *e*P **P 23 08 51.0 +0.3**
comp=Z,54nm,1.1s
BMRM Bremner River 59.55 33 *e*P **P 23 08 55.3 +0.7**
comp=Z,134nm,0.8s
MENT Mentasta 59.92 31 *e*P **P 23 08 58.3 +1.3**
MENT *e*pP **pP 23 10 27.1 +1.3**
KBL Kabul 60.40 296 *e*P **P 23 09 01.4 +0.4**
KBL pmax pmax
comp=Z,23nm,0.9s
KBL Kabul 60.40 296 *e*P **P 23 09 01.4 +0.4**
comp=Z,23nm,0.9s
EGAK Eagle 61.00 29 *e*P **P 23 09 04.4 +0.4**
comp=Z,85nm,1.8s
DAWY Dawson 61.80 29 *e*P **P 23 09 10.1 +0.6**
DAWY *e*pP **pP 23 10 39.2 +0.3**
SVE Sverdlovsk 62.11 322 ⇑ *e*P **P 23 09 11.8 +0.3**
SVE pmax pmax
comp=Z,29nm,0.9s
HYT Haines Junctio 63.02 33 *e*P **P 23 09 18.7 +1.1**
HYT *e*pP **pP 23 10 48.4 +1.0**
ARU Arti 63.30 322 *d i*P **P 23 09 19.0 -0.3**
ARU 23 09 50.9
ARU 23 11 42.8
ARU S **S 23 17 15.1 -1.7**
ARU SS **SS 23 21 36.8 +4.7**
ARU pmax pmax
comp=Z,87nm,1.7s
ARU Arti 63.30 322 P **P 23 09 19.0 -0.3**
comp=Z,236nm,0.9s,SNR=17
SOKR Solikamsk 63.72 326 *d i*P **P 23 09 21.8 -0.1**
SOKR pmax pmax
comp=Z,20nm,0.8s
INK Inuvik 63.74 24 *e*P **P 23 09 22.0 +0.1**
comp=Z,50nm,1.1s
INK *e*PcP **PcP 23 09 53.8 +0.2**
ABKAR Akbulak array 63.79 314 *e*P **P 23 09 22.5 -0.1**
SKAG Skagway 64.30 34 *e*P **P 23 09 26.4 +0.7**
comp=Z,16nm,0.9s
IMYA Miami 66.94 300 *e*P **P 23 09 43.0 0.0**
IMYA Miami 66.94 300 *e*P **P 23 09 44.6 +1.6**
DLBC Dease Lake 67.21 35 *e*P **P 23 09 44.5 +0.5**
DLBC *e*pP **pP 23 11 11.0 -4.4**
IMOG Moghan 67.60 300 *e*P **P 23 09 48.6 +1.4**
IMOG Moghan 67.60 300 *e*P **P 23 09 48.4 +1.2**
IEMG Emamgholi 67.73 302 *e*P **P 23 09 46.6 -1.4**
IEMG Emamgholi 67.73 302 *e*P **P 23 09 49.1 +1.1**
IAKL Akhelmad 67.90 301 *e*P **P 23 09 49.5 +0.5**
IAKL Akhelmad 67.90 301 *e*P **P 23 09 49.9 +0.9**
IKRD Kardeh 68.03 301 *e*P P 23 09 45.9 -3.9
IKRD Kardeh 68.03 301 *e*P **P 23 09 46.7 -3.1**
IDAH Dahanechah 68.25 297 *e*P **P 23 09 51.3 +0.1**
IDAH Dahanechah 68.25 297 *e*P **P 23 09 51.7 +0.5**
IMON Monand 68.26 297 *e*P **P 23 09 52.5 +1.2**
IMON Monand 68.26 297 *e*P **P 23 09 52.0 +0.7**
ISFR Sfrayin 68.33 301 *e*P P 23 09 48.4 -3.3
ISFR Sfrayin 68.33 301 *e*P **P 23 09 52.4 +0.7**
IKOO Kooshah 69.04 297 *e*P **P 23 09 56.9 +0.9**
IKOO Kooshah 69.04 297 *e*P **P 23 09 56.8 +0.8**
ITEG Tejag 69.09 297 *e*P **P 23 09 56.9 +0.7**
ITEG Tejag 69.09 297 *e*P **P 23 09 57.3 +1.1**
ALE Alert 70.03 3 P **P 23 09 57.8 -3.0**
comp=Z,228nm,1.1s,SNR=7.5
KBS Kingsbay 70.22 351 *ce*P **P 23 10 02.8 +0.8**
KBS pmax pmax
comp=Z,59nm,1.4s
KBS Kingsbay 70.22 351 *e*P **P 23 10 02.8 +0.8**
comp=Z,35nm,0.9s
LVZ Lovozero 70.76 337 *ce*P **P 23 10 05.0 -0.4**
LVZ pmax pmax
comp=Z,41nm,1.5s
TMCR Tamitsa 71.00 333 *e*P **P 23 10 06.8 0.0**
TMCR pmax pmax
comp=Z,47nm,0.7s
APA Apatity 71.33 337 ⇑ *i*P **P 23 10 09.0 +0.3**
APA *i* 23 10 31.0
APA pmax pmax
comp=Z,44nm,1.0s
KLMR Klimovskoe 71.65 330 *e*P **P 23 10 08.8 -1.9**
KLMR pmax pmax
comp=Z,62nm,1.5s
IGLO Ghaloghah 71.68 302 *e*P **P 23 10 12.3 +0.6**
IKIA Kiasar 71.89 302 *e*P **P 23 10 13.4 +0.4**
IANJ Anjilo 71.98 301 *e*P **P 23 10 14.2 +0.7**
IBAF Bafgh 72.07 297 *e*P **P 23 10 14.3 +0.3**
ISHM Shahmirzad 72.33 302 *e*P **P 23 10 16.0 +0.4**
KEV Kevo 72.35 340 *e*P **P 23 10 15.1 +0.4**
KEV Kevo 72.35 340 *e*P **P 23 10 15.1 +0.4**
IALA Alasht 72.59 302 *e*P **P 23 10 18.1 +1.0**
ILAS Lasjerd 72.73 301 *e*P **P 23 10 18.4 +0.5**
ICHK Chekchek 72.75 298 *e*P **P 23 10 17.8 -0.2**
IFIR Firoozkooh 72.80 302 *e*P **P 23 10 19.4 +1.1**
IPRN Peran 72.89 302 *e*P **P 23 10 19.2 +0.5**
IMEH Mehriz 72.90 297 *e*P **P 23 10 18.0 -0.9**
ARCES ARCESS Array B 72.92 340 P **P 23 10 18.4 +0.4**
ARCES ARCESS Array B 72.92 340 P **P 23 10 18.4 +0.4**
comp=Z,13nm,0.6s,baz=80,slow=9.1,SNR=62
ARE0 ARCESS Array S 72.92 340 *e*P **P 23 10 18.2 +0.2**
YKW3 Yellowknife Ar 72.92 28 *e*P **P 23 10 17.6 -0.5**
comp=Z,0.9nm,0.8s
YKW3 *e*pP **pP 23 11 47.3 -3.9**
YKA Yellowknife Ar 72.96 28 P **P 23 10 18.6 +0.3**
YKA Yellowknife Ar 72.96 28 P **P 23 10 18.6 +0.3**
comp=Z,40nm,0.7s,baz=296,slow=5.9,SNR=120
IDMV Damavand 73.37 302 *e*P **P 23 10 22.1 +0.5**
ISFB Sefidab 73.66 301 *e*P **P 23 10 23.3 +0.2**
PGC Sidney 74.11 43 *e*P **P 23 10 25.6 +0.5**
comp=Z,2.0nm,1.1s
IZEF Zefreh 74.14 299 *e*P **P 23 10 25.5 -0.5**
IR3 Iran Long-Peri 74.17 302 *e*P **P 23 10 26.6 +0.7**
JOF Joensuu 74.25 333 *e*P **P 23 10 24.7 -1.0**
JOF pmax pmax
comp=Z,30nm,0.7s
JOF Joensuu 74.25 333 *e*p **P 23 10 24.7 -1.0**
comp=Z,30nm,0.7s
NLWA Neilton Lookou 74.34 45 *e*P **P 23 10 28.7 +2.1**
comp=Z,107nm,1.4s
VRHR Novokhopersk 74.43 320 *e*P **P 23 10 25.6 -1.3**
VRHR pmax pmax
comp=Z,20nm,0.8s
VRHR pmax pmax
comp=N,10.0nm,1.3s
VRHR pmax pmax
comp=E,10.0nm,1.9s
IKLH Kolahrood 74.56 300 *e*P **P 23 10 29.3 +0.9**
MOS Moscow 74.66 325 *e*P **P 23 10 27.4 -0.8**
MOS *e**PP **pP 23 12 01.9 +0.1**
MOS pmax pmax
comp=Z,93nm,1.8s
IPAR Pars 74.73 296 *e*P **P 23 10 29.3 -0.2**
A05A Maple Falls 74.80 43 *e*P **P 23 10 30.6 +1.6**
comp=Z,33nm,1.0s
ISRV Sarvestan 74.86 295 *e*P **P 23 10 28.6 -1.6**
E03A Lebam 74.86 45 *e*P **P 23 10 31.4 +1.9**
comp=Z,65nm,0.9s
MBW Mount Baker 74.99 43 P **P 23 10 31.7 +1.3**
IRAZ Razeghan 75.02 302 *e*P **P 23 10 31.4 +0.5**
F03A Seaside 75.11 46 *e*P **P 23 10 32.9 +1.9**
comp=Z,132nm,1.2s
JCW Jim Creek 75.22 43 P **P 23 10 33.0 +1.5**
OBN Obninsk 75.48 325 ‖ *i*P **P 23 10 32.5 -0.3**
OBN *PP **pP 23 12 11.0 +4.4**
OBN pmax pmax
comp=Z,62nm,1.6s
OBN MLR MLR
comp=Z,100nm,18.0s
DAG Danmarks Havn 75.53 355 *i*P **P 23 10 33.0 +0.3**
DAG pmax pmax
comp=Z,10.0nm,0.8s
DAG Danmarks Havn 75.53 355 *i*P **P 23 10 33.0 +0.3**
comp=Z,13nm,0.8s
D05A Enumclaw 75.59 44 *e*P **P 23 10 36.0 +2.4**
comp=Z,316nm,2.2s
IKAZ Kazeroun 75.72 296 *e*P **P 23 10 33.7 -1.4**
RNO Roman Nose 75.81 48 P **P 23 10 37.1 +2.1**
COR Corvallis 75.82 47 *e*P **P 23 10 36.6 +1.7**
COR pmax pmax
comp=Z,149nm,1.5s
COR Corvallis 75.82 47 *e*P **P 23 10 36.6 +1.7**
comp=Z,149nm,1.5s
VORD Divnogorie 75.82 320 *e*P **P 23 10 34.2 -0.6**
VORD pmax pmax
comp=Z,50nm,1.8s
VORD pmax pmax
comp=N,10.0nm,0.9s
VORD pmax pmax
comp=E,20nm,1.3s
KEBM Edson Butte 75.83 49 *e*P **P 23 10 37.5 +2.4**
comp=E,106nm,1.0s
LON Longmire 75.89 45 *e*P **P 23 10 36.0 +0.6**
LON pmax pmax
comp=Z,14nm,1.0s
LON Longmire 75.89 45 *e*P **P 23 10 36.0 +0.6**
comp=Z,14nm,1.0s
WPW White Pass 76.07 45 P **P 23 10 37.5 +1.0**
KBO Bosley Butte 76.17 50 *e*P **P 23 10 38.4 +1.3**
comp=Z,131nm,1.7s
TWW Teanaway 76.31 44 P **P 23 10 39.4 +1.7**
LTY Liberty 76.38 44 *e*P **P 23 10 39.1 +1.0**
comp=Z,23nm,0.9s
ZEI Tsey 76.39 311 *e*P **P 23 10 37.2 -1.2**
ZEI pmax pmax
comp=Z,23nm,1.4s
VLL Laurance Lake 76.50 46 P **P 23 10 40.5 +1.6**
BROR Big Rock Looko 76.51 47 P **P 23 10 40.0 +1.2**
H04A Detroit Lake 76.51 47 *e*P **P 23 10 40.1 +1.3**
comp=Z,62nm,1.1s
NAC Naches 76.51 44 P **P 23 10 40.4 +1.6**
KAF Kangasniemi 76.66 334 *e*P **P 23 10 37.6 -1.6**
KAF pmax pmax
comp=Z,40nm,0.7s
KAF Kangasniemi 76.66 334 *e*p **P 23 10 37.6 -1.6**
comp=Z,40nm,0.7s
KBZ Khabaz 76.67 312 P **P 23 10 40.3 +0.7**
KBZ pmax pmax
comp=Z,16nm,0.8s
KBZ Khabaz 76.67 312 P **P 23 10 40.3 +0.7**
KBZ Khabaz 76.67 312 P **P 23 10 40.3 +0.7**
comp=Z,16nm,0.8s,baz=103,slow=3.2,SNR=25
KRMB Red Mountain 76.67 50 *e*P **P 23 10 41.2 +1.4**
comp=Z,164nm,2.2s
VFP Flag Point 76.70 46 P **P 23 10 41.6 +1.5**
KIV Kislovodsk 76.71 313 *e*P **P 23 10 40.7 +0.7**
KIV *e*S **S 23 19 50.1 -1.2**
KIV *e*SS **SS 23 24 54.1 -3.2**
KIV pmax pmax
comp=Z,24nm,1.0s
KIV MLR MLR
comp=Z,86nm,18.0s
B08A Colville Reser 76.72 42 *e*P **P 23 10 41.0 +1.0**
comp=Z,48nm,0.8s
IRO Indian Ridge 76.75 47 P **P 23 10 41.6 +1.3**
FRIS Frissel Point 76.76 47 P **P 23 10 41.8 +1.4**
HUMO Hull Mountain 76.86 49 *e*P **P 23 10 41.6 +0.8**
comp=Z,19nm,1.0s
GNI Garni 76.90 308 *e*P **P 23 10 41.6 +0.4**
comp=Z,61nm,1.4s
KHMM Horse Mountain 77.06 51 *e*P **P 23 10 44.1 +2.0**
comp=Z,90nm,1.4s
FIA1 FINESS Array S 77.12 333 *e*P **P 23 10 41.1 -0.7**
FINES FINESS Array B 77.12 333 P **P 23 10 41.5 -0.3**
FINES FINESS Array B 77.12 333 P **P 23 10 41.5 -0.3**
comp=Z,24nm,0.5s,baz=67,slow=5.4,SNR=119
E07A Sunnyside 77.19 44 P **P 23 10 44.0 +1.5**
IKOM Komasi 77.34 302 *e*P **P 23 10 43.0 -0.7**
YBH Yreka Blue Hor 77.40 50 *e*P **P 23 10 44.9 +1.1**
comp=Z,29nm,0.9s
YBH *e*pP **pP 23 12 18.7 +0.4**
HAWA Hanford 77.46 44 *e*P **P 23 10 45.4 +1.4**
comp=Z,89nm,1.7s
C09A Chrisman Ranch 77.60 43 *e*P **P 23 10 45.9 +1.2**
comp=Z,31nm,0.8s
KCPM Cahto Peak 77.66 52 *e*P **P 23 10 46.4 +1.1**
comp=Z,40nm,1.1s
KCPM *e*pP **pP 23 12 20.9 +1.0**
KIPM Iron Peak 77.68 52 *e*P **P 23 10 46.5 +1.0**
comp=Z,56nm,1.3s
IVIS Veis 77.69 302 *e*P **P 23 10 45.0 -0.6**
PINOR Pine Mountain 77.73 47 *e*P **P 23 10 48.0 +2.5**
EDM Edmonton 77.85 36 *e*P **P 23 10 46.5 +0.5**
EDM Edmonton 77.85 36 *e*P **P 23 10 46.5 +0.5**
KULLO Kullorsuaq 77.91 5 *e*P **P 23 10 46.0 +0.1**
KULLO pmax pmax
comp=Z,63nm,0.9s
IDHR Dehrash 77.97 303 *e*P **P 23 10 46.1 -1.1**
WDC Whiskeytown Da 78.00 51 *e*P **P 23 10 47.6 +0.6**
WDC *e**PP **pP 23 12 22.0 +0.4**
WDC pmax pmax
comp=Z,42nm,1.4s
WDC Whiskeytown Da 78.00 51 *e*P **P 23 10 47.6 +0.6**

comp=Z,42nm,1.4s
WDC *e*pP **pP** 23 12 22.0 +0.4
NEW Newport 78.08 42 *e*P P 23 10 48.5 +1.0
comp=Z,48nm,1.1s
NEW Newport 78.08 42 ⇓P P 23 10 48.4 +1.0
baz=78
K05A Summer Lake 78.19 48 *e*P P 23 10 50.0 +1.7
comp=Z,55nm,0.9s
E09A Wood Farm, Sta 78.26 44 *e*P P 23 10 49.6 +1.3
comp=Z,33nm,0.9s
G08A Pilot Rock 78.31 45 *e*P P 23 10 50.0 +1.2
comp=Z,78nm,1.5s
HOPS Hopland 78.31 52 *e*P P 23 10 49.8 +1.1
comp=Z,14nm,1.2s
LTIM Timbered Crate 78.47 50 P P 23 10 51.0 +1.3
I07A Izee 78.50 46 *e*P P 23 10 51.0 +1.2
comp=Z,16nm,0.8s
LBCM Butte Creek Ri 78.71 50 P P 23 10 52.1 +1.0
MOD Modoc 78.95 49 *e*P P 23 10 53.1 +0.8
comp=Z,125nm,0.9s
F10A Beach Ranch, E 79.08 44 *e*P P 23 10 53.9 +1.1
comp=Z,13nm,0.7s
UMR Umm Al-Rimmam 79.09 298 *e*P P 23 10 53.2 +0.1
OHCM Honcut 79.28 51 *e*P P 23 10 54.6 +0.8
RDF Al-Radifah 79.49 297 *e*P P 23 10 55.8 +0.5
RDF AMb AMB 23 10 56.8
comp=Z,65nm,0.7s
J08A Circle Bar Ran 79.49 47 *e*P P 23 10 56.0 +0.9
comp=Z,48nm,0.9s
BMO Blue Mountains 79.55 45 *e*P P 23 10 56.1 +0.7
BMO *e**PP **pP** 23 12 31.1 +0.7
BMO *e**SP **sP** 23 13 15.9 +0.8
BMO pmax pmax
comp=Z,71nm,1.2s
BMO Blue Mountains 79.55 45 *e*P P 23 10 56.1 +0.7
comp=Z,71nm,1.2s
BMO *e*pP **pP** 23 12 31.1 +0.7
BMO *e*sP **sP** 23 13 15.9 +0.8
WALA Waterton Lakes 79.58 40 *e*P P 23 10 56.4 +0.9
comp=Z,1.8nm,1.2s
WALA *e*pP **pP** 23 12 30.7 +0.2
WALA *e*sP **sP** 23 13 15.1 -0.2
NAY Al-Naaiem 79.59 297 *e*P P 23 10 55.5 -0.3
NAY AMb AMB 23 10 57.0
comp=Z,72nm,0.7s
BSMT Bassoo Peak 79.66 41 *e*P P 23 10 57.3 +1.2
ANN Anapa 79.72 315 *e*P P 23 10 55.7 -0.4
ANN pmax pmax
comp=Z,91nm,1.5s
WVOR Wild Horse Val 79.81 48 *e*P P 23 10 57.1 +0.2
WVOR *e**PP **pP** 23 12 33.2 +1.3
WVOR pmax pmax
comp=Z,59nm,1.4s
WVOR Wild Horse Val 79.81 48 *e*P P 23 10 57.1 +0.2
comp=Z,59nm,1.4s
WVOR *e*pP **pP** 23 12 33.2 +1.3
BEKR Beckworth 79.82 50 *e*P P 23 10 57.5 +0.5
comp=Z,29nm,0.8s
BEKR *e*pP **pP** 23 12 31.9 -0.2
BLMT Blacktail Moun 79.83 41 *e*P P 23 10 58.2 +1.3
JTMT Jette 80.01 41 *e*P P 23 10 58.9 +1.1
YBMT Yellow Bay 80.11 41 *e*P P 23 10 59.3 +1.0
comp=Z,26nm,1.4s
YBMT *e*pP **pP** 23 12 34.7 +1.3
SWMT Swartz Lake 80.29 41 *e*P P 23 11 00.1 +0.8
SUMG Summit 80.56 360 *i* P P 23 11 01.4 +0.9
SUMG pmax pmax
comp=Z,21nm,0.8s
SUMG Summit 80.56 360 *i* P P 23 11 01.4 +0.9
comp=Z,21nm,0.8s
SUMG Summit 80.56 360 *e*P P 23 11 01.4 +0.9
comp=Z,33nm,0.8s
PAHR Pah Rah Range 80.56 50 *e*P P 23 11 01.6 +0.7
comp=Z,43nm,1.1s
PAHR *e*pP **pP** 23 12 37.3 +1.1
CMB Columbia Colle 80.62 52 *e*P P 23 11 02.0 +0.9
CMB Columbia Colle 80.62 52 *e*P P 23 11 02.0 +0.9
MSO Missoula 80.66 42 *e*P P 23 11 01.6 +0.4
comp=Z,64nm,1.9s
MSO Missoula 80.66 42 ⇑P P 23 11 01.8 +0.6
baz=80
SLMT Seeley Lake 80.72 41 *e*P P 23 11 02.2 +0.6
CHMT Chamberlain Mo 81.03 42 *e*P P 23 11 03.6 +0.4
WAKR Walker 81.08 51 *e*P P 23 11 04.9 +1.2
MFID Camas Ranch 81.17 46 ⇑P P 23 11 05.5 +1.5
baz=81
AKASG Malin Array Be 81.53 323 P P 23 11 05.0 -0.4
AKASG pmax pmax
comp=Z,13nm,0.7s
AKASG Malin Array Be 81.53 323 P P 23 11 05.0 -0.4
AKASG P'P' 23 37 38.1
AKASG Malin Array Be 81.53 323 P P 23 11 05.0 -0.4
comp=Z,12nm,0.7s,baz=46,slow=5.8,SNR=53
AKASG PKPPKP **P'P'df** 23 37 38.1 -4.8
comp=Z,0.3nm,0.3s,baz=131,slow=2.0,SNR=4.3
KIEV Kiev 81.54 323 *e*P P 23 11 05.0 -0.5
KIEV pmax pmax
comp=Z,126nm,1.8s
KIEV Kiev 81.54 323 *e*P P 23 11 05.0 -0.5
comp=Z,126nm,1.8s
BMN Battle Mountai 81.69 49 *e*P P 23 11 08.0 +1.3
BMN pmax pmax
comp=Z,66nm,1.6s
BMN Battle Mountai 81.69 49 *e*P P 23 11 08.0 +1.3
comp=Z,66nm,1.6s
SIM Simferopol' 81.71 316 *e*P P 23 11 07.4 +0.9
SIM pmax pmax
comp=Z,22nm,0.7s
SCO Scoresbysund 81.83 354 *i* P P 23 11 08.2 +1.6
SCO pmax pmax
comp=Z,23nm,1.4s
SCO Scoresbysund 81.83 354 *i* P P 23 11 08.2 +1.6
comp=Z,23nm,1.4s
NVAR Mina Array Bea 81.90 51 P P 23 11 09.0 +1.1
NVAR Mina Array Bea 81.90 51 P P 23 11 09.0 +1.1
comp=Z,18nm,0.6s,baz=292,slow=5.5,SNR=192
MLAC Mammoth Lakes 81.90 52 ⇑P P 23 11 09.2 +1.2
baz=82
HRY Holter Researc 81.97 41 *e*P P 23 11 09.2 +1.2
HLID Hailey 81.99 45 *e*P P 23 11 09.5 +1.2
HLID Hailey 81.99 45 ⇓P P 23 11 09.4 +1.1
baz=82
NV11 Mina Array Sit 82.00 51 *e*P P 23 11 08.8 +0.4
NV11 *e*pP **pP** 23 12 44.9 +0.9
LRM Limekiln Ridge 82.06 42 *e*P P 23 11 09.7 +1.0
LRM *e*pP **pP** 23 12 49.2 +4.9
MALT Malatya 82.11 309 ⇑P P 23 11 09.8 +0.9
MALT Malatya 82.11 309 ⇑*i*P P 23 11 09.8 +0.9
SMMC Simmler 82.15 54 ⇓P P 23 11 10.4 +1.4
baz=82
DLMT Dillon 82.21 43 *e*P P 23 11 10.1 +0.8
comp=Z,60nm,1.3s
DLMT *e*pP **pP** 23 12 44.7 -0.3
MTUM Tungsten Hills 82.22 52 *e*P P 23 11 10.6 +1.0
RCTC Rector, Farmer 82.23 53 ⇑P P 23 11 09.9 +0.6
baz=82
PKM Peak Mountain 82.47 55 ⇑P P 23 11 12.3 +1.4
baz=82,SNR=9.3
EGMT Eagleton 82.48 39 ⇑P P 23 11 11.2 +0.6
baz=82
A19A Klindworth Far 82.56 38 ⇑P P 23 11 11.8 +0.9
baz=82,SNR=10
VES Vestal, Richgr 82.56 54 ⇑P P 23 11 11.4 +0.3
baz=82,SNR=5.9
TIN Tinemaha 82.60 52 ⇑P P 23 11 12.3 +0.9
baz=82,SNR=5.2
BOZ Bozeman (W) 82.64 42 *e*P P 23 11 12.6 +1.1
BOZ pmax pmax
comp=Z,19nm,1.1s
BOZ Bozeman (W) 82.64 42 *e*P P 23 11 12.6 +1.1
comp=Z,19nm,1.1s
FFC Flin Flon 82.65 31 P P 23 11 11.0 -0.2
comp=Z,300nm,0.9s,SNR=11
FFC Flin Flon 82.65 31 *e*P P 23 11 11.0 -0.2
FFC pmax pmax
comp=Z,107nm,0.9s
FFC Flin Flon 82.65 31 *e*P P 23 11 11.0 -0.2
comp=Z,106nm,0.9s
HFS Hagfors 82.68 336 P P 23 11 10.4 -0.8
HFS Hagfors 82.68 336 P P 23 11 10.4 -0.8
comp=Z,16nm,0.6s,baz=125,slow=2.3,SNR=56
SUW Suwalki 82.68 328 *e*P P 23 11 10.7 -0.6
B19A Brinkman Farms 82.70 39 ⇓P P 23 11 12.4 +0.8
baz=82,SNR=13
SBC Santa Barbara 82.76 55 ⇑P P 23 11 13.2 +1.1
baz=83
ELK Elko 82.86 48 *e*P P 23 11 14.1 +1.3
comp=Z,18nm,0.8s
NB2 NORSAR Subarra 82.91 338 P P 23 11 11.6 -0.8
comp=Z,30nm,0.8s,baz=45,slow=4.8
NB2 NORSAR Subarra 82.91 338 P P 23 11 11.6 -0.8
baz=45,slow=4.8
NOA NORSAR Array B 82.91 338 P P 23 11 11.5 -0.8
NOA NORSAR Array B 82.91 338 P P 23 11 11.5 -0.8
comp=Z,22nm,0.7s,baz=47,slow=4.9,SNR=56
CWC Cottonwood Cre 83.00 53 ⇓P P 23 11 14.4 +0.9
baz=83
BSC Santa Cruz Isl 83.03 55 ⇑P P 23 11 14.6 +1.1
baz=83
A20A Cobblestone Ra 83.04 38 ⇑P P 23 11 14.2 +0.9
baz=83
C19A Slack Wire Ran 83.04 39 ⇓P P 23 11 14.3 +0.9
baz=83,SNR=21
ARVC Arvin 83.08 54 ⇓P P 23 11 14.5 +0.7
baz=83
ISA Isabella 83.08 54 *e*P P 23 11 13.6 -0.3
ISA pmax pmax
comp=Z,7.0nm,0.6s
ISA Isabella 83.08 54 *e*P P 23 11 13.6 -0.3
comp=Z,7.4nm,0.6s
ISA Isabella 83.08 54 ⇑P P 23 11 14.0 +0.1
baz=83,SNR=14
QLMT Earthquake Lak 83.19 43 *e*P P 23 11 15.9 +1.5
B20A Solberg Farm, 83.23 39 ⇓P P 23 11 14.9 +0.6
baz=83,SNR=5.6
GRAC Grapevine Rang 83.23 52 ⇓P P 23 11 15.5 +1.0
baz=83,SNR=16
BLG Laguna Peak 83.39 55 ⇓P P 23 11 16.1 +0.7
baz=83
OSI Osito Adit 83.40 55 ⇓P P 23 11 16.4 +0.9
baz=83
D19A Cripps Ranch, 83.44 40 ⇓P P 23 11 16.5 +1.1
baz=83,SNR=42
RAYN Ar Rayn 83.49 293 P P 23 11 16.0 -0.1
comp=Z,298nm,0.8s,SNR=35
A21A Bergtoll Ranch 83.52 38 ⇑P P 23 11 16.4 +0.7
baz=83,SNR=46
MPMC Manual Prospec 83.59 53 ⇑P P 23 11 17.3 +0.7
baz=84,SNR=25
C20A Veseth Ranch, 83.64 39 ⇓P P 23 11 17.7 +1.4
baz=84
YNR Norris Junctio 83.70 43 *e*P P 23 11 18.4 +1.3
comp=Z,102nm,1.4s
GCMT Greycliff 83.73 41 *e*P P 23 11 18.0 +1.0
comp=Z,61nm,1.8s
LRMC Laurel Mountai 83.73 53 ⇓P P 23 11 17.9 +0.7
baz=84,SNR=22
YFT Old Faithful 83.75 43 *e*P P 23 11 19.2 +2.0
comp=Z,68nm,1.2s
B21A Ellsworth Farm 83.79 38 ⇑P P 23 11 17.8 +0.7
baz=84
EDW2 Edwards Air Fo 83.80 54 ⇓P P 23 11 18.4 +0.9
baz=84,SNR=30
R11A Troy Canyon, C 83.81 50 *e*P P 23 11 18.6 +1.0
R11A Troy Canyon, C 83.81 50 ⇓P P 23 11 18.5 +1.0
baz=84,SNR=56
FURC Furnace Creek, 83.84 52 ⇓P P 23 11 18.5 +1.0
baz=84,SNR=26
DECC Green Verdugo 83.86 55 ⇓P P 23 11 18.4 +0.7
baz=84
E19A Rath Farm, Rou 83.88 40 ⇑P P 23 11 18.5 +0.9
baz=84,SNR=33
D20A Manuel Ranch, 83.91 40 ⇑P P 23 11 18.7 +1.0
baz=84,SNR=38
HVU Hansel Valley 83.94 46 *e*P P 23 11 19.7 +1.6
HVU pmax pmax
comp=Z,23nm,0.8s
HVU Hansel Valley 83.94 46 *e*P P 23 11 19.7 +1.6
comp=Z,23nm,0.8s
H17A Grant Village 83.94 43 *e*P P 23 11 18.9 +0.8
H17A *e*pP **pP** 23 12 56.1 +1.7
H17A Grant Village 83.94 43 ⇓P P 23 11 21.0 +2.8
baz=84,SNR=13
LKWY Lake 83.95 43 *e*P P 23 11 19.6 +1.3
LKWY pmax pmax
comp=Z,16nm,0.6s
LKWY Lake 83.95 43 *e*P P 23 11 19.6 +1.3
comp=Z,16nm,0.6s
IMW Indian Meadow 83.98 43 *e*P P 23 11 20.4 +1.9
RRI2 Red Ridge 84.04 44 *e*P P 23 11 20.2 +1.5
comp=Z,26nm,0.8s
A22A Carney Farms, 84.07 37 ⇓P P 23 11 18.8 +0.3
baz=84
MWC Mount Wilson 84.07 55 *e*P P 23 11 20.1 +1.2
comp=Z,68nm,1.0s
C21A Desert Coulee 84.08 39 ⇓P P 23 11 19.2 +0.6
baz=84,SNR=32
F19A Roth Farm, Mol 84.12 41 ⇓P P 23 11 19.6 +0.7
baz=84,SNR=8.9
FMP Fort Macarthur 84.14 55 ⇓P P 23 11 20.4 +1.3
baz=84
MOOW Moose Ponds 84.18 44 *e*P P 23 11 20.9 +1.5
comp=Z,76nm,1.8s
TPAW Teton Pass 84.19 44 *e*P P 23 11 21.1 +1.7
comp=Z,22nm,0.8s
I17A Pilgrim Ck. 84.19 43 ⇓P P 23 11 21.3 +1.9
baz=84
CIS Catalina Islan 84.21 56 ⇑P P 23 11 20.2 +0.8
baz=84
BGU Big Grassy Mou 84.21 47 *e*P P 23 11 20.6 +1.1
comp=Z,58nm,1.9s
E20A Meyer Farm, Mu 84.24 40 ⇓P P 23 11 20.3 +0.9
baz=84,SNR=14
SCI San Clemente I 84.31 56 ⇓P P 23 11 20.9 +1.0
baz=84
REDW Red Top Meadow 84.32 44 *e*P P 23 11 21.6 +1.5
RLMT Red Lodge 84.33 42 *e*P P 23 11 21.0 +0.9
comp=Z,18nm,0.7s
H18A Shoshone NF, C 84.34 42 ⇓P P 23 11 21.2 +1.1
baz=84,SNR=17
LOHW Long Hollow 84.34 44 *e*P P 23 11 21.4 +1.3
BFSC Mount Baldy Ra 84.35 54 ⇑P P 23 11 20.7 +0.4
baz=84,SNR=8.6
LEOM Leova 84.39 320 ⇓P P 23 11 20.8 +0.8
LEOM Leova 84.39 320 ⇓*i*P P 23 11 20.8 +0.8
SPUT South Promonto 84.39 46 *e*P P 23 11 20.9 +0.5
comp=Z,68nm,1.8s
SPUT *e*pP **pP** 23 12 58.1 +1.4
B22A Reddig Ranch S 84.42 38 ⇓P P 23 11 20.7 +0.5
baz=84,SNR=13
GSC Goldstone 84.45 53 *e*P P 23 11 21.7 +1.0
GSC pmax pmax
comp=Z,46nm,0.9s
GSC Goldstone 84.45 53 *e*P P 23 11 21.7 +1.0
comp=Z,46nm,0.9s
GSC Goldstone 84.45 53 ⇓P P 23 11 21.4 +0.7
baz=84,SNR=23
AHID Auburn Hatcher 84.48 44 *e*P P 23 11 21.9 +1.1
comp=Z,12nm,0.8s
RRX Edison Barstow 84.52 54 ⇑P P 23 11 22.2 +1.3
baz=84
SHOC Shoshone 84.53 52 ⇓P P 23 11 21.9 +0.9
baz=84,SNR=8.0
D21A La Casta Ranch 84.57 39 ⇓P P 23 11 21.7 +0.6
baz=84,SNR=15
F20A Billings 84.62 41 ⇓P P 23 11 22.1 +0.8
baz=84
A23A Redstone 84.64 37 ⇓P P 23 11 21.9 +0.6
baz=84
BR131 Keskin Array S 84.66 312 *e*P P 23 11 21.4 -0.4
comp=Z,2.9nm,0.7s
BR131 *e*pP **pP** 23 12 57.0 -1.1
BRTR Keskin Array B 84.66 312 P P 23 11 21.1 -0.7
BRTR pP **pP** 23 12 56.2 -1.9
BRTR Keskin Array B 84.66 312 P P 23 11 21.1 -0.7
comp=Z,4.5nm,0.7s,baz=86,slow=3.6,SNR=20
BRTR pP **pP** 23 12 56.2 -1.9
comp=Z,3.5nm,0.9s,baz=78,slow=4.2,SNR=3.4
DUG Dugway 84.73 47 *e*P P 23 11 23.1 +1.0
DUG pmax pmax
comp=Z,79nm,1.6s
DUG Dugway 84.73 47 *e*P P 23 11 23.1 +1.0
comp=Z,79nm,1.6s
DUG Dugway 84.73 47 ⇓P P 23 11 23.0 +1.0
baz=85,SNR=23
H19A Powell 84.75 42 ⇓P P 23 11 23.7 +1.6
baz=85
LVV L'vov 84.77 324 *e*P P 23 11 19.8 -2.0
TLCR 84.77 319 ⇑P P 23 11 21.9 0.0
TLCR 84.77 319 ⇑*i*P P 23 11 21.9 0.0
C22A Vida 84.80 38 ⇓P P 23 11 22.4 +0.3
baz=85,SNR=6.3
E21A Keefer Ranch, 84.82 40 ⇓P P 23 11 23.2 +0.9
baz=85,SNR=5.7
B23A Brockton 84.87 37 ⇑P P 23 11 23.1 +0.6
baz=85,SNR=25
BBRC Big Bear Solar 84.87 54 ⇑P P 23 11 23.8 +0.8
baz=85
G20A Bridger 84.90 41 ⇑P P 23 11 23.3 +0.5
baz=85,SNR=14
D22A Cohagen 84.98 39 ⇑P P 23 11 23.9 +0.9
baz=85,SNR=12
MURC Murrieta 84.99 55 ⇓P P 23 11 23.9 +0.6
baz=85,SNR=8.2
TUQ Turquoise Moun 85.01 53 ⇓P P 23 11 24.5 +1.0
baz=85,SNR=13
SHPR Sheep Range 85.02 51 *e*P P 23 11 24.7 +1.1
HEC Hector,Ludlow 85.02 53 ⇑P P 23 11 24.6 +1.1
baz=85,SNR=22
I19A Meeteetse 85.09 43 ⇑P P 23 11 25.0 +1.2
baz=85,SNR=12
A24A Westby 85.13 37 ⇑P P 23 11 24.3 +0.6
baz=85,SNR=7.4
C23A Lambert 85.15 38 ⇑P P 23 11 24.6 +0.8
baz=85,SNR=13
BEL Belsk 85.16 327 *e*P P 23 11 23.7 0.0
CFR Carcaliu 85.18 319 ⇑P P 23 11 23.5 -0.4
CFR Carcaliu 85.18 319 ⇑*i*P P 23 11 23.5 -0.4
F21A Absaloka Mine, 85.20 40 ⇑P P 23 11 24.8 +0.7
baz=85
LAO LASA Array 85.22 39 *e*P P 23 11 25.2 +1.0
comp=Z,20nm,0.9s
DGMT Dagmar 85.30 37 *e*P P 23 11 25.2 +0.7
comp=Z,39nm,0.8s
DGMT Dagmar 85.30 37 ⇓P P 23 11 24.7 +0.2
baz=85,SNR=7.7
NLU North Lily Min 85.34 47 *e*P P 23 11 26.5 +1.3
comp=Z,48nm,1.7s
JLU Jordanelle 85.40 46 *e*P P 23 11 26.9 +1.4
comp=Z,75nm,1.7s
109C Camp Elliot, M 85.41 55 ⇓P P 23 11 26.2 +0.9
baz=85
TIRR Tirgusor 85.42 318 ⇑P P 23 11 24.8 -0.3
TIRR Tirgusor 85.42 318 ⇑*i*P P 23 11 24.8 -0.3
BUR08 Bucovina Ar. S 85.43 322 *e*P P 23 11 24.4 -0.9
H20A Greybull 85.44 42 ⇑P P 23 11 26.3 +0.9
baz=85
BURAR Bucovina Array 85.44 322 ⇑P P 23 11 25.1 -0.2
BURAR Bucovina Array 85.44 322 ⇑*i*P P 23 11 25.1 -0.2
BW06 Boulder Array 85.44 44 *e*P P 23 11 26.4 +0.8
comp=Z,11nm,1.0s
BW06 *e*pP **pP** 23 13 04.8 +2.6
PDAR Pinedale Array 85.44 44 P P 23 11 26.0 +0.4
PDAR Pinedale Array 85.44 44 P P 23 11 26.0 +0.4
comp=Z,7.0nm,0.9s,baz=279,slow=2.9,SNR=41
M17A Scullys Gap (B 85.44 45 ⇑P P 23 11 26.4 +0.7
baz=85,SNR=11
J19A Crowheart 85.48 43 ⇓P P 23 11 26.7 +1.0
baz=85,SNR=8.3
G21A Lodge Grass 85.49 41 ⇑P P 23 11 26.3 +0.7
baz=85,SNR=10
D23A Lindsay 85.51 38 ⇓P P 23 11 26.5 +0.9
baz=85,SNR=11
E22A Miles City 85.52 39 ⇑P P 23 11 26.4 +0.7
baz=85,SNR=5.5
GMRC Granite Mounta 85.52 53 ⇓P P 23 11 26.9 +0.9
baz=85,SNR=24
PFO Pinyon Flat Ob 85.53 55 P P 23 11 26.0 -0.1
comp=Z,350nm,0.8s,SNR=15
PFO Pinyon Flat Ob 85.53 55 P P 23 11 26.0 -0.1
comp=Z,350nm,0.8s,SNR=15
PFO Pinyon Flat Ob 85.53 55 *e*P P 23 11 26.8 +0.7
PFO Pinyon Flat Ob 85.53 55 ⇑P P 23 11 26.8 +0.7
baz=85,SNR=24
ARUT Antelope Range 85.55 50 *e*P P 23 11 27.1 +0.9
ARUT *e**PP **pP** 23 13 04.1 +1.3
ARUT pmax pmax
comp=Z,129nm,0.8s
ARUT Antelope Range 85.55 50 *e*P P 23 11 27.1 +0.9
comp=Z,129nm,0.8s
ARUT *e*pP **pP** 23 13 04.1 +1.3
KWP Kalwaria Pacla 85.57 325 ⇓P P 23 11 25.9 +0.1
KWP Kalwaria Pacla 85.57 325 *e*P P 23 11 25.3 -0.5
comp=Z,110nm,1.7s
KWP Kalwaria Pacla 85.57 325 ⇓*i*P P 23 11 25.9 +0.1
KWP Kalwaria Pacla 85.57 325 *e*P P 23 11 25.1 -0.7
A25A Svangstu Ranch 85.59 36 ⇓P P 23 11 26.7 +0.8
baz=85
MPU Maple Canyon 85.59 47 *e*P P 23 11 27.9 +1.5
comp=Z,41nm,1.4s
L18A Fontenelle, Gr 85.60 45 ⇑P P 23 11 27.2 +0.9
baz=86
VRI Vrincioaia 85.60 320 ⇓P P 23 11 27.0 +1.0
VRI Vrincioaia 85.60 320 ⇓*i*P P 23 11 27.0 +1.0
DAU Daniels Canyon 85.63 47 *e*P P 23 11 27.9 +1.2
DAU Daniels Canyon 85.63 47 *e*P P 23 11 27.9 +1.2
PLOR Plostina 85.66 320 ⇓P P 23 11 25.9 -0.4
PLOR Plostina 85.66 320 ⇓*i*P P 23 11 25.9 -0.4
I20A Worland 85.66 42 ⇑P P 23 11 27.6 +1.1
baz=86,SNR=11
BELC Belle Mtn. Jos 85.67 54 ⇑P P 23 11 27.3 +0.5
baz=86,SNR=25
F22A Rosebud 85.72 40 ⇓P P 23 11 27.1 +0.5
baz=86,SNR=12
CCUT Cedar City 85.72 50 *e*P P 23 11 28.1 +1.1
comp=Z,11nm,1.0s
C24A Savage 85.73 38 ⇑P P 23 11 27.7 +1.1
baz=86
SFJD Kangerlussuaq 85.81 4 *i* P P 23 11 26.6 0.0
comp=Z,28nm,0.8s
K19A Absolon Red Bu 85.84 44 ⇑P P 23 11 27.8 +0.3
baz=86,SNR=8.4
MONP Monument Peak 85.91 55 ⇑P P 23 11 28.8 +0.7
baz=86,SNR=11
H21A Big Horn, Sher 85.92 41 ⇑P P 23 11 28.8 +1.0
baz=86,SNR=13
B25A Knox Farm, Ray 85.97 37 ⇓P P 23 11 28.8 +1.1
baz=86,SNR=5.1
PGOR Pogoanele 86.00 319 ⇑*i*P P 23 11 28.9 +1.0
MVU Marysvale 86.01 49 *e*P P 23 11 29.7 +1.3
J20A Shoshoni 86.02 43 ⇑P P 23 11 29.1 +0.8
baz=86
G22A Birney 86.02 41 ⇓P P 23 11 28.8 +0.6
baz=86,SNR=11
D24A Glendive 86.03 38 ⇑P P 23 11 29.3 +1.2
baz=86,SNR=6.6
A26A Wade Farm, Ken 86.18 36 ⇓P P 23 11 29.6 +0.8
baz=86
KOLS Kolonicke sedl 86.22 324 *e*P P 23 11 28.4 -0.5
KOLS pmax pmax
comp=Z,9.0nm,1.4s
KOLS Kolonicke sedl 86.22 324 *e*P P 23 11 28.4 -0.5
BC3 Big Chuckawall 86.23 54 ⇑P P 23 11 30.3 +0.9
baz=86,SNR=23
I21A Big Trails, Te 86.23 42 ⇓P P 23 11 30.1 +0.8
baz=86,SNR=12
F23A Volborg 86.24 40 ⇑P P 23 11 29.8 +0.6
baz=86,SNR=9.7
K20A Yellowstone Ra 86.25 43 ⇓P P 23 11 29.5 +0.1
baz=86
C25A Freed Ranch, W 86.25 37 ⇑P P 23 11 30.1 +1.0
baz=86
DVTC Desert V Tower 86.26 55 ⇑P P 23 11 30.9 +1.3
baz=86
SWSC Sam W. Stewart 86.34 55 ⇓P P 23 11 30.5 +0.7
baz=86,SNR=5.1
H22A Clearmont 86.35 41 ⇑P P 23 11 30.4 +0.6
baz=86
E24A Baker 86.37 39 ⇓P P 23 11 30.5 +0.7
baz=86
M19A Rock Springs 86.38 45 ⇑P P 23 11 30.8 +0.7
baz=86
B26A Jensen Ranch, 86.40 36 ⇑P P 23 11 30.8 +1.0
baz=86
J21A Lysite 86.41 43 ⇓P P 23 11 31.0 +0.8
baz=86,SNR=11
STHS Stebnicka Huta 86.45 325 *e*P P 23 11 30.4 +0.4
STHS pmax pmax
comp=Z,12nm,1.8s
STHS Stebnicka Huta 86.45 325 *e*P P 23 11 30.4 +0.4
Q16A Castle Valley 86.48 48 *e*P P 23 11 31.3 +0.7
Q16A Castle Valley 86.48 48 ⇑P P 23 11 31.8 +1.1
baz=86,SNR=7.0
G23A Biddle 86.55 40 ⇓P P 23 11 31.0 +0.3
baz=86,SNR=8.9
D25A Fairfield 86.56 38 ⇑P P 23 11 31.6 +1.0
baz=86
A27A Ledoux Ranch, 86.56 35 ⇓P P 23 11 31.4 +0.9
baz=86

L20A	Wamsutter	86.61	44	⇓P	P	23 11 32.3	+1.1
	baz=86						
W13A	Hualapai Mount	86.62	52	⇑P	P	23 11 32.4	+1.0
	baz=86,SNR=5.6						
I22A	9 Mile Ranch,	86.67	42	⇑P	P	23 11 32.2	+0.9
	baz=86,SNR=13						
F24A	Ekalaka	86.71	39	⇑P	P	23 11 32.4	+1.0
	baz=86,SNR=5.5						
SRU	San Rafael	86.80	47	*e*P	P	23 11 33.2	+1.0
SRU				*e**PP	pP	23 13 14.8	+5.7
SRU	San Rafael	86.80	47	*e*P	P	23 11 33.2	+1.0
SRU				*e*pP	pP	23 13 14.8	+5.7
C26A	Wahner Farm, P	86.81	37	⇑P	P	23 11 32.8	+1.0
	baz=87						
VOIR		86.81	320	⇑P	P	23 11 31.7	-0.2
VOIR		86.81	320	⇑*i*P	P	23 11 31.7	-0.2
PDMCI	Parker Dam,Lak	86.85	53	⇑P	P	23 11 33.1	+0.9
	baz=87						
Y12C	Blythe	86.86	54	⇓P	P	23 11 33.6	+1.3
	baz=87,SNR=10						
B27A	Peters Farms,	86.89	36	⇓P	P	23 11 33.0	+0.9
	baz=87						
E25A	Miller Ranch,	86.91	38	⇓P	P	23 11 33.3	+1.0
	baz=87,SNR=5.6						
H23A	Clabaugh Cattl	86.92	41	⇑P	P	23 11 33.1	+0.6
	baz=87						
K21A	Alcova	86.93	43	⇑P	P	23 11 33.4	+0.7
	baz=87,SNR=15						
J22A	Midwest	86.95	42	⇓P	P	23 11 33.2	+0.5
	baz=87,SNR=13						
GLA	Glamis	86.99	54	*e*P	P	23 11 33.7	+0.7
	comp=Z,116nm,1.6s						
GLA				*e*pP	pP	23 13 10.2	+0.2
GLA	Glamis	86.99	54	⇑P	P	23 11 34.1	+1.1
	baz=87,SNR=9.2						
M20A	Sweetwater, Wa	86.99	44	⇓P	P	23 11 34.2	+1.2
	baz=87						
G24A	Alzada	87.03	40	⇓P	P	23 11 33.6	+0.6
	baz=87						
U15A	North Rim	87.04	50	⇓P	P	23 11 34.3	+0.9
	baz=87,SNR=14						
O19A	Miners Draw (B	87.06	46	⇓P	P	23 11 33.8	+0.4
	baz=87						
A28A	Rude Farm, Bot	87.09	35	⇓P	P	23 11 34.2	+1.1
	baz=87						
ARR	Arges	87.09	320	⇓*i*P	P	23 11 33.4	+0.2
C27A	Sayler Ranch,	87.19	37	⇓P	P	23 11 34.7	+1.2
	baz=87						
F25A	Bowman	87.22	39	⇓P	P	23 11 34.7	+0.9
	baz=87						
I23A	Meade Ranch, G	87.23	41	⇓P	P	23 11 34.4	+0.4
	baz=87						
L21A	Rawlins	87.23	44	⇓P	P	23 11 34.7	+0.6
	baz=87,SNR=9.3						
DRGR		87.30	322	⇑P	P	23 11 33.7	-0.5
DRGR		87.30	322	⇑*i*P	P	23 11 33.7	-0.5
H24A	Dirks Ranch, A	87.30	40	⇑P	P	23 11 34.4	+0.2
	baz=87,SNR=8.7						
N20A	Spence Gulch,	87.31	45	⇓P	P	23 11 35.5	+1.0
	baz=87,SNR=7.7						
B28A	Dugan Ranch, T	87.33	35	⇑P	P	23 11 35.0	+0.8
	baz=87,SNR=6.2						
K22A	Casper	87.36	43	⇑P	P	23 11 35.4	+0.8
	baz=87						
KECS	Kecovo	87.43	325	*e*P	P	23 11 34.4	-0.2
KECS				pmax	pmax		
	comp=Z,7.0nm,1.3s						
KECS	Kecovo	87.43	325	*e*P	P	23 11 34.4	-0.2
M21A	Separation Pea	87.44	44	⇑P	P	23 11 35.9	+0.7
	baz=87,SNR=9.4						
RWWY	Rawlins	87.49	44	*e*P	P	23 11 36.5	+1.0
	comp=Z,14nm,1.1s						
J23A	Dilts Ranch, B	87.50	42	⇓P	P	23 11 36.1	+0.8
	baz=87						
P19A	Cripple Cowboy	87.52	46	⇑P	P	23 11 36.2	+0.6
	baz=87,SNR=7.4						
LOT	Lotru	87.53	321	⇑*i*P	P	23 11 35.2	-0.1
D27A	Center	87.56	37	⇓P	P	23 11 36.6	+1.3
	baz=87						
A29A	Manning Farm,	87.61	35	⇓P	P	23 11 36.1	+0.6
	baz=87,SNR=11						
G25A	Newell	87.68	39	⇓P	P	23 11 36.4	+0.4
	baz=88						
O20A	White River Ci	87.72	46	⇑P	P	23 11 37.0	+0.5
	baz=88						
OKC	Ostrava-Krasne	87.73	327	*e*P	P	23 11 35.6	-0.4
OKC	Ostrava-Krasne	87.73	327	⇓*e*P	P	23 11 35.6	-0.4
L22A	Ellis Ranch, M	87.77	43	⇑P	P	23 11 37.7	+1.1
	baz=88						
C28A	Hausauer Farms	87.78	36	⇑P	P	23 11 37.5	+1.2
	baz=88						
I24A	Kuemmerle Ranc	87.78	41	⇑P	P	23 11 36.7	+0.2
	baz=88						
N21A	Black Mountain	87.82	45	⇑P	P	23 11 37.7	+0.7
	baz=88						
B29A	Wagenman Farm,	87.84	35	⇓P	P	23 11 37.2	+0.7
	baz=88						
K23A	Bowen Ranch, D	87.84	42	⇓P	P	23 11 37.4	+0.5
	baz=88						
Y14A	Wickenburg	87.84	53	⇑P	P	23 11 37.8	+0.9
	baz=88,SNR=20						
G27A	Dupree	87.84	39	⇑P	P	23 11 40.2	+3.4
	baz=88,SNR=15						
113A	Mohawk Valley,	87.90	54	⇑P	P	23 11 38.3	+1.1
	baz=88,SNR=8.9						
H25A	Fruitdale	87.92	40	⇑P	P	23 11 37.8	+0.7
	baz=88,SNR=5.4						
KSP	Ksiaz	87.95	328	⇓*e*P	P	23 11 36.7	-0.4
KSP	Ksiaz	87.95	328	*e*P	P	23 11 36.7	-0.4
E27A	Carson	87.95	38	⇑P	P	23 11 38.0	+0.8
	baz=88,SNR=5.5						
RSSD	Black Hills	87.97	40	*e*P	P	23 11 37.8	+0.2
RSSD				*e**PP	pP	23 13 15.8	+1.0
RSSD				pmax	pmax		
	comp=Z,177nm,1.5s						
RSSD	Black Hills	87.97	40	*e*P	P	23 11 37.8	+0.2
	comp=Z,177nm,1.5s						
RSSD				*e*pP	pP	23 13 15.8	+1.0
P20A	De Beque	87.97	46	⇓P	P	23 11 38.5	+0.8
	baz=88						
D28A	Regan	88.01	37	⇑P	P	23 11 38.5	+1.0
	baz=88						
M22A	Cedar Creek Ra	88.03	44	⇓P	P	23 11 38.6	+0.7
	baz=88						
F27A	Lemmon	88.05	38	⇓P	P	23 11 38.5	+0.8
	baz=88,SNR=14						
A30A	Hoffart Farm,	88.07	34	⇓P	P	23 11 38.5	+0.9
	baz=88						
MORC	Moravsky Berou	88.07	327	*e*P	P	23 11 37.3	-0.4
MORC				pmax	pmax		
	comp=Z,68nm,2.0s						
MORC	Moravsky Berou	88.07	327	*e*P	P	23 11 37.3	-0.4
	comp=Z,68nm,2.0s						
J24A	Dixon Ranch, L	88.07	41	⇑P	P	23 11 38.5	+0.5
	baz=88						
G26A	Maurine	88.08	39	⇑P	P	23 11 38.4	+0.6
	baz=88,SNR=8.4						
PSZ	Piszkesteto	88.09	324	⇑P	P	23 11 38.1	+0.2
PSZ	Piszkesteto	88.09	324	*e*P	P	23 11 37.8	0.0
	comp=Z,23nm,1.2s						
PSZ	Piszkesteto	88.09	324	⇑*i*P	P	23 11 38.1	+0.2
PSZ	Piszkesteto	88.09	324	⇑*e*	P	23 11 37.9	0.0
MDND	Maddock	88.11	36	*e*P	P	23 11 40.6	+2.7
MDND	Maddock	88.11	36	⇑P	P	23 11 39.1	+1.3
	baz=88						
GZR	Gura Zlata	88.12	321	⇑P	P	23 11 37.7	-0.3
GZR	Gura Zlata	88.12	321	⇑*i*P	P	23 11 37.7	-0.3
WUAZ	Wupatki	88.15	51	*e*P	P	23 11 38.4	-0.1
	comp=Z,17nm,1.2s						
WUAZ				*e*pP	pP	23 13 17.2	+1.4
WUAZ	Wupatki	88.15	51	⇑P	P	23 11 39.4	+0.8
	baz=88,SNR=6.0						
O21A	Pagoda	88.16	45	⇑P	P	23 11 39.7	+1.1
	baz=88						
L23A	Garrett	88.17	43	⇑P	P	23 11 39.0	+0.4
	baz=88,SNR=7.2						
Z14A	Wintersburg	88.18	53	⇓P	P	23 11 40.1	+1.6
	baz=88						
SIRR	Siria	88.19	322	⇓*i*P	P	23 11 38.1	-0.2
I25A	Rochford	88.21	40	⇓P	P	23 11 38.8	+0.2
	baz=88,SNR=13						
VYHS	Vyhne	88.26	325	*e*P	P	23 11 38.5	-0.1
VYHS				pmax	pmax		
	comp=Z,46nm,2.0s						
VYHS	Vyhne	88.26	325	*e*P	P	23 11 38.5	-0.1
DPC	Dobruska-Polom	88.27	328	⇓*i*P	P	23 11 38.5	-0.1
DPC	Dobruska-Polom	88.27	328	⇓*i*P	P	23 11 38.5	-0.1
DPC	Dobruska-Polom	88.27	328	*e*P	P	23 11 37.6	-1.0
	comp=Z,272nm,1.6s						
UPC	Upice	88.31	328	*e*P	P	23 11 38.8	+0.1
UPC	Upice	88.31	328	⇓*e*P	P	23 11 38.8	+0.1
E28A	Huff	88.33	37	⇓P	P	23 11 40.3	+1.3
	baz=88						
Q20A	Ridgley Place,	88.34	47	⇓P	P	23 11 40.1	+0.7
	baz=88,SNR=14						
K24A	Anderson Ranch	88.34	42	⇑P	P	23 11 39.4	+0.1
	baz=88						
B30A	Myrvik Farm, E	88.37	35	⇑P	P	23 11 39.7	+0.6
	baz=88,SNR=8.6						
BSEG	Bad Segeberg	88.39	333	*e*P	P	23 11 38.1	-0.9
	comp=Z,60nm,1.7s						
BSEG	Bad Segeberg	88.39	333	*e*P	P	23 11 38.1	-0.9
BSEG				pmax	pmax		
	comp=Z,60nm,1.7s						
H26A	Fairpoint	88.39	40	⇑P	P	23 11 40.3	+0.9
	baz=88						
N22A	Wattenberg Ran	88.46	44	⇓P	P	23 11 41.4	+1.4
	baz=88						
J25A	Sunshine Ranch	88.54	41	⇓P	P	23 11 40.7	+0.6
	baz=88						
P21A	Newcastle	88.56	46	⇓P	P	23 11 41.7	+1.3
	baz=88						
D29A	Pettibone, Tap	88.61	36	⇑P	P	23 11 40.9	+0.7
	baz=88						
BZS	Buzias	88.62	322	⇓P	P	23 11 39.5	-0.8
BZS	Buzias	88.62	322	⇓*i*P	P	23 11 39.5	-0.8
L24A	Wheatland	88.67	43	⇑P	P	23 11 42.1	+1.3
	baz=88						
X16A	Lo Mia Camp, P	88.69	52	⇑P	P	23 11 42.5	+1.4
	baz=89						
I26A	New Underwood	88.70	40	⇑P	P	23 11 41.8	+0.9
	baz=88						
R20A	Redvale	88.71	47	⇓P	P	23 11 42.2	+1.1
	baz=89						
N23A	Red Feather La	88.72	44	⇑P	P	23 11 42.4	+1.2
	baz=89,SNR=16						
F28A	McLaughlin	88.73	38	⇑P	P	23 11 41.8	+0.9
	baz=88						
PKSN	Nyarlorinc	88.76	324	⇓*e*	P	23 11 41.2	+0.3
O22A	Kremmling	88.77	45	⇓P	P	23 11 42.3	+0.8
	baz=89,SNR=7.8						
H27A	Howes	88.78	39	⇑P	P	23 11 42.0	+0.8
	baz=89,SNR=5.5						
C30A	Mose, Pekin	88.78	35	⇑P	P	23 11 41.9	+0.9
	baz=89						
PHWY	Pilot Hill	88.79	43	*e*P	P	23 11 42.8	+1.2
Q21A	Lamborn Mesa,	88.87	46	⇑P	P	23 11 43.1	+1.2
	baz=89,SNR=5.9						
E29A	Napoleon	88.90	37	⇑P	P	23 11 42.4	+0.8
	baz=89						
S20A	Disappointment	88.92	47	⇑P	P	23 11 42.8	+0.6
	baz=89,SNR=5.6						
SMOL	Smolenice	88.96	326	*e*P	P	23 11 41.9	+0.1
SMOL	Smolenice	88.96	326	*e*P	P	23 11 41.8	0.0
P22A	Eagle	88.96	45	⇓P	P	23 11 43.7	+1.4
	baz=89,SNR=15						
K25A	Mack Ranch, Ha	88.97	42	⇓P	P	23 11 43.3	+1.1
	baz=89						
PVCC	Panska Ves	88.97	329	*e*P	P	23 11 41.6	-0.2
PVCC	Panska Ves	88.97	329	⇓*e*P	P	23 11 41.6	-0.2
214A	Organ Pipe Nat	89.01	54	⇑P	P	23 11 43.6	+1.2
	baz=89,SNR=12						
J26A	Sides Ranch, S	89.01	41	⇑P	P	23 11 43.2	+1.0
	baz=89,SNR=6.9						
BRG	Berggiesshubel	89.02	329	*e*P	P	23 11 41.4	-0.7
	comp=Z,12nm,1.2s						
BRG	Berggiesshubel	89.02	329	*e*P	P	23 11 41.3	-0.7
	comp=Z,12nm,1.2s						
BRG	Berggiesshubel	89.02	329	*e*P	P	23 11 41.4	-0.7
D30A	Buchanan	89.02	36	⇑P	P	23 11 42.7	+0.6
	baz=89,SNR=6.2						
PKS7	Kunszentmiklos	89.03	324	⇑*e*	P	23 11 42.3	+0.2
SMCO	Snowmass	89.06	46	*e*P	P	23 11 44.2	+1.2
M24A	Cheyenne	89.08	43	⇑P	P	23 11 44.1	+1.4
	baz=89,SNR=7.0						
O23A	Lake Granby, G	89.14	44	⇑P	P	23 11 44.5	+1.3
	baz=89,SNR=10						
CLL	Collm	89.14	330	*e*P	P	23 11 41.8	-0.8
	comp=Z,20nm,1.3s						
CLL	Collm	89.14	330	⇓*i*P	P	23 11 41.8	-0.8
CLL				pmax	pmax		
	comp=Z,24nm,1.4s						
CLL	Collm	89.14	330	⇓*i*P	P	23 11 41.8	-0.8
CLL				*e*PP	PP	23 15 19.0	-0.2
	comp=Z,24nm,1.4s						
I27A	Quinn	89.14	40	⇑P	P	23 11 43.5	+0.7
	baz=89,SNR=12						
R21A	Cimarron	89.15	47	⇑P	P	23 11 44.5	+1.2
	baz=89,SNR=18						
G28A	Parade	89.15	38	⇑P	P	23 11 43.8	+0.9
	baz=89						
MVCO	Mesa Verde	89.18	48	⇑P	P	23 11 44.7	+1.3
	baz=89						
L25A	Engebretsen Ra	89.18	42	⇓P	P	23 11 44.1	+0.9
	baz=89						
PKSG		89.21	325	⇓*e*	P	23 11 42.1	-0.9
FBE	Freiberg	89.25	330	*e*P	P	23 11 42.7	-0.4
	comp=Z,58nm,1.6s						
F29A	Eureka	89.27	37	⇓P	P	23 11 43.9	+0.6
	baz=89,SNR=5.8						
Q22A	Crested Butte,	89.28	46	⇑P	P	23 11 45.3	+1.4
	baz=89,SNR=27						
K26A	Motz Farm, Whi	89.32	41	⇑P	P	23 11 44.3	+0.6
	baz=89,SNR=8.4						
E30A	Jud	89.33	36	⇑P	P	23 11 44.2	+0.6
	baz=89,SNR=12						
PRA	Prague	89.35	328	⇓P	P	23 11 44.0	+0.4
PRU	Pruhonice	89.36	328	*e*P	P	23 11 43.2	-0.4
PRU	Pruhonice	89.36	328	⇓*e*P	P	23 11 43.2	-0.4
PKS2	Kecel	89.36	324	⇓*e*	P	23 11 43.7	0.0
TREC	Trest	89.38	327	⇓*i*P	P	23 11 43.5	-0.3
TREC	Trest	89.38	327	⇓*i*P	P	23 11 43.5	-0.3
S21A	Coal Bank Pass	89.39	47	⇑P	P	23 11 45.8	+1.3
	baz=89,SNR=8.4						
N24A	Carr	89.42	43	⇑P	P	23 11 45.6	+1.3
	baz=89						
PKST	T"s	89.48	325	⇓*e*SKSac	P	23 11 43.6	-0.7
W18A	Petrified Fore	89.50	50	⇓P	P	23 11 46.2	+1.4
	baz=89						
M25A	Palm-Egli Farm	89.56	43	⇑P	P	23 11 46.5	+1.5
	baz=89						
ISCO	Idaho Springs	89.56	45	*e*P	P	23 11 46.5	+1.3
ISCO				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ISCO	Idaho Springs	89.56	45	*e*P	P	23 11 46.5	+1.3
	comp=Z,9.5nm,0.8s						
ISCO	Idaho Springs	89.56	45	⇓P	P	23 11 46.2	+1.0
	baz=89,SNR=13						
VTS	Vitosha	89.58	319	⇑P	P	23 11 45.2	+0.2
VTS	Vitosha	89.58	319	⇑*i*P	P	23 11 45.2	+0.2
G29A	Hoven	89.62	38	⇑P	P	23 11 45.5	+0.5
	baz=89						
U20A	Newcomb	89.63	49	⇑P	P	23 11 46.2	+0.8
	baz=90,SNR=5.8						
J27A	Elkhorn Farm,	89.67	40	⇑P	P	23 11 46.3	+0.9
	baz=90						
X18A	Snowflake	89.67	51	⇓P	P	23 11 46.9	+1.3
	baz=90						
P23A	Jefferson	89.67	45	⇓P	P	23 11 47.0	+1.2
	baz=90,SNR=5.8						
I28A	Midland	89.68	39	⇑P	P	23 11 45.9	+0.6
	baz=90,SNR=8.4						
F30A	Leola	89.70	37	⇓P	P	23 11 45.9	+0.6
	baz=90						
AGMN	Agassiz Nation	89.70	34	*e*P	P	23 11 45.8	+0.5
	comp=Z,75nm,1.8s						
O24A	Longmont	89.71	44	⇓P	P	23 11 47.3	+1.6
	baz=90						
R22A	Saguache, Gunn	89.74	46	⇑P	P	23 11 47.6	+1.5
	baz=90,SNR=11						
NEUB	Neuenburg	89.75	330	*e*P	P	23 11 44.6	-0.8
	comp=Z,35nm,1.5s						
L26A	Underwood Farm	89.78	42	⇑P	P	23 11 46.9	+0.9
	baz=90						
PKS9	Tamasi	89.79	324	⇓*e*SKSac	P	23 11 45.1	-0.6
K27A	Fluecking Fa	89.87	41	⇓P	P	23 11 46.6	+0.3
	baz=90,SNR=5.6						
CLZ	Clausthal	89.90	332	*e*P	P	23 11 45.6	-0.6
	comp=Z,55nm,1.9s						
CLZ	Clausthal	89.90	332	*e*P	P	23 11 45.6	-0.6
CLZ				pmax	pmax		
	comp=Z,55nm,1.9s						
T21A	Navajo Lake	89.94	48	⇑P	P	23 11 48.1	+1.2
	baz=90						
Q23A	Hartsel	89.94	45	⇑P	P	23 11 48.0	+1.0
	baz=90,SNR=25						
SOP	Sopron	89.95	326	⇑*e*	P	23 11 46.5	+0.1
S22A	4UR Ranch, Cre	89.97	47	⇑P	P	23 11 48.2	+1.1
	baz=90,SNR=14						
V20A	Brimhall	89.98	49	⇑P	P	23 11 48.1	+1.0
	baz=90,SNR=9.2						
J28A	Allard Ranch,	90.00	40	⇓P	P	23 11 47.6	+0.7
	baz=90						
TANN	Tannenbergstha	90.01	330	*e*P	P	23 11 46.1	-0.6
	comp=Z,38nm,2.1s						
WERD	Werda	90.06	330	*e*P	P	23 11 46.3	-0.6
	comp=Z,16nm,1.3s						
M26A	McRoberts Ranc	90.09	42	⇑P	P	23 11 48.2	+0.8
	baz=90						
GUNZ	Gunzen	90.11	330	*e*P	P	23 11 46.7	-0.4
	comp=Z,16nm,1.1s						
CONA	Conrad Observa	90.13	326	*i*PcP	P	23 11 47.6	+0.3
	comp=Z,34nm,1.8s,SNR=10.0						
I29A	Vivian Onida	90.16	39	⇑P	P	23 11 48.0	+0.5
	baz=90						
P24A	Kohler Place,	90.17	45	⇑P	P	23 11 49.2	+1.3
	baz=90						
U21A	Nageezi	90.17	48	⇓P	P	23 11 48.9	+0.9
	baz=90,SNR=10						
L27A	T5 Ranch, Ells	90.20	41	⇑P	P	23 11 48.6	+0.7
	baz=90						
MOX	Moxa	90.23	330	*e*P	P	23 11 46.9	-0.8
	comp=Z,34nm,1.7s						
MOX	Moxa	90.23	330	*e*P	P	23 11 46.9	-0.8
MOX				pmax	pmax		
	comp=Z,34nm,1.7s						
TUC	Tucson	90.28	53	*e*P	P	23 11 48.8	+0.4
TUC				*e*PP	PP	23 15 29.6	+0.6
	comp=Z,14nm,1.2s						
O25A	Wiggins	90.31	44	⇓P	P	23 11 49.3	+0.8
	baz=90,SNR=5.8						
W20A	Ramah	90.34	50	⇑P	P	23 11 49.5	+0.7
	baz=90,SNR=9.9						
T22A	Edith	90.34	47	⇓P	P	23 11 49.7	+0.9
	baz=90,SNR=22						
Q24A	Divide	90.34	45	⇓P	P	23 11 49.5	+0.6
	baz=90,SNR=5.5						
R23A	Moffat	90.36	46	⇓P	P	23 11 50.5	+1.6
	baz=90						
KHC	Kasperske Hory	90.40	328	⇓*i*P	P	23 11 47.9	-0.6
KHC	Kasperske Hory	90.40	328	⇓*i*P	P	23 11 47.9	-0.6
KHC	Kasperske Hory	90.40	328	*e*P	P	23 11 48.0	-0.6
	comp=Z,14nm,1.0s						
N26A	Koester Ranch,	90.43	43	⇑P	P	23 11 49.9	+0.9
	baz=90						
MANZ	Manzenberg	90.48	329	*e*P	P	23 11 48.4	-0.5
	comp=Z,8.0nm,0.7s						
M27A	Reverse DX Ran	90.50	42	⇓P	P	23 11 50.2	+0.9
	baz=90						
J29A	Okreek	90.53	39	⇓P	P	23 11 49.9	+0.6
	baz=90						
S23A	Nye Farm, Mont	90.53	47	⇑P	P	23 11 50.9	+1.2
	baz=90						
V21A	Milan	90.54	49	⇑P	P	23 11 50.4	+0.7
	baz=90,SNR=12						
GEC2	GERESS Array S	90.54	328	*e*P	P	23 11 48.5	-0.8
	comp=Z,15nm,1.0s						
GEC2	GERESS Array S	90.54	328	*e*P	P	23 11 48.5	-0.8
GEC2				pmax	pmax		
	comp=Z,15nm,1.0s						
GEC2	GERESS Array S	90.54	328	*e*P	P	23 11 48.9	-0.4
GERES	GERESS Array B	90.54	328	P	P	23 11 48.2	-1.0
GERES	GERESS Array B	90.54	328	P	P	23 11 48.2	-1.0
	comp=Z,5.7nm,0.8s,baz=52,slow=5.2,SNR=51						
ROTZ	Rotzenmuhle	90.59	329	*e*P	P	23 11 49.2	-0.1
	comp=Z,72nm,1.9s						
BRSD	Miller	90.63	38	⇑P	P	23 11 50.3	+0.6
	baz=90						
P25A	Willow Gulch B	90.64	44	⇑P	P	23 11 50.5	+0.5
	baz=90						
IBBN	Ibbenburen	90.64	333	*e*P	P	23 11 48.5	-1.0
	comp=Z,31nm,1.0s						
X20A	Quemado	90.66	50	⇓P	P	23 11 51.9	+1.6
	baz=90,SNR=27						
I30A	Oacoma	90.71	39	⇑P	P	23 11 50.8	+0.7
	baz=90						
L28A	Connealy Angus	90.72	41	⇑P	P	23 11 50.9	+0.7
	baz=91						
WET	Wettzell	90.72	329	*e*P	P	23 11 49.6	-0.4
	comp=Z,40nm,1.9s						
WET	Wettzell	90.72	329	*e*P	P	23 11 49.6	-0.4
WET				pmax	pmax		
	comp=Z,40nm,1.9s						
O26A	Horse Wrangler	90.72	43	⇑P	P	23 11 51.0	+0.7
	baz=91						
U22A	Llaves	90.74	48	⇑P	P	23 11 51.9	+1.3
	baz=91,SNR=12						
ARSA	Arzberg	90.76	326	⇑*i*PcP	P	23 11 49.3	-0.9
	comp=Z,16nm,1.2s,SNR=10.0						
R24A	Sanders Place,	90.80	46	⇓P	P	23 11 52.1	+1.3
	baz=91,SNR=40						
UBBA	Unterbreizbach	90.81	331	*e*P	P	23 11 49.6	-0.6
	comp=Z,28nm,1.7s						
N27A	Anderson Farm,	90.85	42	⇓P	P	23 11 51.6	+0.7
	baz=91						
T23A	Casias Ranch,	90.89	47	⇑P	P	23 11 52.6	+1.2
	baz=91						
W21A	San Fidel	90.92	49	⇓P	P	23 11 52.8	+1.3
	baz=91						
Q25A	Bedland, Calha	90.94	45	⇓P	P	23 11 52.5	+1.0
	baz=91						
K29A	Lazy Trails An	90.94	40	⇑P	P	23 11 51.9	+0.7
	baz=91						
V22A	San Miguel Ran	90.96	48	⇓P	P	23 11 52.5	+0.8
	baz=91,SNR=11						
MOA	Molln	90.97	327	⇑*i*PcP	P	23 11 50.6	-0.6
	comp=Z,27nm,1.9s,SNR=10						
J30A	Dallas	91.05	39	⇑P	P	23 11 52.3	+0.6
	baz=91						
OGNE	Ogallala	91.07	42	⇓P	P	23 11 52.5	+0.6
	baz=91						
S24A	Houchin Ranch,	91.08	46	⇓P	P	23 11 53.4	+1.2
	baz=91,SNR=19						
GRF	Grafenberg Arr	91.09	330	*e*P	P	23 11 51.5	-0.2
	comp=Z,43nm,1.5s						
GRF	Grafen

LAZ	Ladron	91.67	50	eP	P	23 11 55.8 +0.9
	comp=Z,16nm,1.6s					
LAZ				epP	pP	23 13 34.0 +1.4
120A	U Bar Ranch, L	91.68	52	⇓P	P	23 11 56.3 +1.3
	baz=92,SNR=11					
X22A	Bernardo	91.70	50	⇓P	P	23 11 57.3 +2.3
	baz=92					
O28A	Krutsinger Ran	91.73	43	⇓P	P	23 11 55.7 +0.7
	baz=92					
RJOB	Jochberg	91.75	328	eP	P	23 11 54.2 -0.6
	comp=Z,16nm,0.9s					
U24A	Moreno Valley	91.75	47	⇑P	P	23 11 57.3 +1.9
	baz=92					
R26A	Arlington	91.81	45	⇓P	P	23 11 55.9 +0.5
	baz=92,SNR=7.1					
ANMO	Albuquerque	91.82	49	eP	P	23 11 56.8 +1.2
	comp=Z,20nm,0.8s					
319A	Douglas	91.86	53	⇓P	P	23 11 57.1 +1.3
	baz=92,SNR=11					
T25A	Trinidad	91.89	46	⇑P	P	23 11 56.7 +0.8
	baz=92,SNR=15					
KSCO	Kaye Shedlock'	91.89	44	⇑P	P	23 11 56.6 +0.8
	baz=92					
W23A	Werner Place,	91.90	49	⇑P	P	23 11 57.1 +1.1
	baz=92,SNR=5.9					
TNS	Taunus Mts	91.92	331	eP	P	23 11 54.8 -0.7
	comp=Z,11nm,1.2s					
TNS	Taunus Mts	91.92	331	eP	P	23 11 54.8 -0.7
TNS				pmax	pmax	
	comp=Z,11nm,1.2s					
Z21A	St. Cloud Mine	91.92	51	⇓P	P	23 11 57.4 +1.2
	baz=92,SNR=31					
KBA	Koelnbreinsper	91.95	327	⇑iPcP	P	23 11 54.8 -1.2
	comp=Z,5.9nm,0.9s					
N29A	Votaw Ranch, W	91.98	42	⇑P	P	23 11 56.7 +0.6
	baz=92					
Y22D	IRIS PASSCAL I	92.00	50	⇑P	P	23 11 57.7 +1.3
	baz=92					
Y22A	Socorro	92.05	50	⇓P	P	23 11 57.6 +0.9
	baz=92,SNR=9.3					
EYMN	Ely	92.05	32	eP	P	23 11 56.3 +0.2
	comp=Z,22nm,1.1s					
LPM	Los Pinos Moun	92.06	50	eP	P	23 11 58.2 +1.4
220A	Playas Peak, P	92.11	52	⇓P	P	23 11 58.0 +1.1
	baz=92,SNR=14					
MYKA	Terra Mystica	92.12	326	iP	P	23 11 55.1 -1.5
	comp=Z,7.6nm,0.8s,SNR=5.2					
L31A	Butterfield Fa	92.16	40	⇓P	P	23 11 57.1 +0.3
	baz=92					
BNM	Barren Site	92.16	50	eP	P	23 11 57.7 +0.5
	comp=Z,18nm,1.2s					
BNM				epP	pP	23 13 36.1 +1.2
BNM				ePP	PP	23 15 44.9 +1.1
V24A	Rampart Ranch,	92.16	48	⇑P	P	23 11 58.6 +1.4
	baz=92,SNR=17					
FUR	Furstenfeldbru	92.16	329	eP	P	23 11 56.4 -0.3
	comp=Z,33nm,0.8s					
FUR	Furstenfeldbru	92.16	329	eP	P	23 11 56.4 -0.3
FUR				pmax	pmax	
	comp=Z,33nm,0.8s					
S26A	Kim	92.20	45	⇓P	P	23 11 57.8 +0.6
	baz=92,SNR=5.3					
X23A	Hourglass Bar	92.21	49	⇓P	P	23 11 58.4 +1.0
	baz=92,SNR=7.1					
R27A	Eads	92.23	45	⇓P	P	23 11 58.0 +0.7
	baz=92					
121A	Cookes Peak, D	92.28	52	⇓P	P	23 11 58.9 +1.2
	baz=92,SNR=15					
N30A	Hueftle Ranch,	92.31	41	⇑P	P	23 11 58.0 +0.5
	baz=92					
U25A	Circle Dot Ran	92.33	47	⇑P	P	23 11 59.0 +1.0
	baz=92,SNR=30					
Q28A	Sharon Springs	92.35	43	⇑P	P	23 11 58.3 +0.5
	baz=92					
W24A	Lazy 6 Ranch,	92.37	48	⇓P	P	23 11 59.6 +1.4
	baz=92,SNR=26					
ECSD	EROS Data Cent	92.37	37	eP	P	23 11 57.8 0.0
	comp=Z,12nm,1.0s					
T26A	Comanche Natio	92.39	46	⇓P	P	23 11 58.8 +0.6
	baz=92,SNR=17					
320A	Kipp Ranch, An	92.42	53	⇓P	P	23 11 59.9 +1.5
	baz=92,SNR=5.5					
Z22A	Elephant Butte	92.44	51	⇓P	P	23 11 59.5 +1.1
	baz=92,SNR=18					
V25A	Rancho No Teng	92.52	47	⇑P	P	23 11 59.9 +1.0
	baz=92,SNR=15					
S27A	Las Animas	92.53	45	⇓P	P	23 11 59.4 +0.7
	baz=92					
P29A	Atwood	92.56	43	⇑P	P	23 11 59.1 +0.3
	baz=92					
221A	Mesquite Ranch	92.58	52	⇑P	P	23 12 00.8 +1.7
	baz=92					
ABTA	Abfaltersbach	92.59	327	⇑iP	P	23 11 57.0 -1.8
	comp=Z,9.9nm,0.8s,SNR=8.5					
M31A	Lambtecht Ranc	92.61	40	⇑P	P	23 12 00.1 +1.2
	baz=92					
STU	Stuttgart	92.67	330	eP	P	23 11 58.5 -0.4
	comp=Z,25nm,1.2s					
Y23A	Lovelace Mesa,	92.67	50	⇑P	P	23 12 00.5 +1.0
	baz=93,SNR=7.5					
O30A	MW Ranch, Wils	92.72	42	⇑P	P	23 11 59.7 +0.2
	baz=93					
X24A	Lazy VL Ranch,	92.73	49	⇑P	P	23 12 00.7 +0.9
	baz=93,SNR=12					
122A	Conniff Cattle	92.73	51	⇑P	P	23 12 01.2 +1.5
	baz=93,SNR=5.1					
U26A	Atchley Ranch,	92.76	47	⇓P	P	23 12 00.8 +0.9
	baz=93,SNR=14					
R28A	Tribune	92.81	44	⇓P	P	23 11 59.9 0.0
	baz=93					
RETA	Reutte	92.89	328	⇑iPcP	P	23 11 59.7 -0.4
	comp=Z,20nm,1.8s,SNR=7.4					
Z23A	Rita Site, Whi	92.94	50	⇓P	P	23 12 01.6 +0.9
	baz=93,SNR=6.3					
N31A	Bailey Ranch,	92.96	41	⇓P	P	23 12 00.5 0.0
	baz=93					
Q29A	Oakley	92.98	43	⇑P	P	23 12 00.8 +0.1
	baz=93					
W25A	X Bar L Ranch,	92.99	48	⇑P	P	23 12 02.0 +1.1
	baz=93,SNR=9.8					
222A	Williams Famil	93.00	52	⇑P	P	23 12 01.8 +0.8
	baz=93,SNR=5.0					
P30A	Selden	93.01	42	⇑P	P	23 12 01.0 +0.2
	baz=93					
T27A	Campo	93.02	45	⇓P	P	23 12 01.8 +0.8
	baz=93					
BGNE	Belgrade	93.05	40	⇓P	P	23 12 01.7 +0.8
	baz=93					
V26A	Tequesquite Ra	93.09	47	⇑P	P	23 12 02.2 +0.9
	baz=93					
Y24A	Capitan	93.10	49	⇓P	P	23 12 02.0 +0.5
	baz=93					
R29A	Marienthal	93.17	44	⇓P	P	23 12 01.8 +0.2
	baz=93					
O31A	Woolen Ranch,	93.17	41	⇑P	P	23 12 01.9 +0.4
	baz=93					
S28A	Manter	93.21	45	⇑P	P	23 12 02.6 +0.7
	baz=93					
FETA	Feichten	93.25	328	⇓iPcP	P	23 12 01.0 -0.9
	comp=Z,6.8nm,0.9s					
X25A	Clemmons Ranch	93.27	48	⇓P	P	23 12 03.2 +1.0
	baz=93					
123A	Bell Site, Whi	93.28	51	⇑P	P	23 12 03.0 +0.7
	baz=93					
WLF	Walferdange	93.31	332	P	P	23 12 02.2 +0.3
	comp=Z,26nm,1.7s					
WLF	Walferdange	93.31	332	eP	P	23 12 01.6 -0.2
	comp=Z,61nm,1.6s					
U27A	Thompson Grove	93.34	46	⇓P	P	23 12 03.2 +0.7
	baz=93,SNR=5.4					
SPMN	St. Paul	93.34	34	eP	P	23 12 02.8 +0.7
SPMN	St. Paul	93.34	34	⇑P	P	23 12 02.6 +0.5
	baz=93					
T28A	Walsh	93.37	45	⇑P	P	23 12 03.0 +0.5
	baz=93					
BFO	Black Forest	93.38	330	eP	P	23 12 01.5 -0.8
	comp=Z,42nm,1.8s					
BFO	Black Forest	93.38	330	eP	P	23 12 00.8 -1.5
BFO				pmax	pmax	
	comp=Z,45nm,1.8s					
BFO	Black Forest	93.38	330	eP	P	23 12 00.8 -1.5
	comp=Z,45nm,1.8s					
DAVA	Damuels	93.45	329	⇓iPcP	P	23 12 02.1 -0.7
	comp=Z,16nm,1.0s					
Z24A	Sheeppen Canyo	93.49	50	⇓P	P	23 12 04.1 +0.8
	baz=93,SNR=5.5					
GIVF	Givet	93.52	333	eP	P	23 12 01.3 -1.5
GIVF	Givet	93.52	333	eP	P	23 12 01.3 -1.5
	baz=93					
223A	Chaparral, Ant	93.52	51	⇓P	P	23 12 04.3 +1.0
	baz=93					
W26A	Owens Ranch, T	93.53	48	⇓P	P	23 12 04.5 +1.1
	baz=93					
P31A	Stockton	93.55	42	⇑P	P	23 12 03.6 +0.4
	baz=93					
Y25A	Mesa, Roswell	93.60	49	⇑P	P	23 12 04.1 +0.4
	baz=94,SNR=6.7					
DOU	Dourbes	93.61	333	P	P	23 12 02.6 -0.6
	comp=Z,11nm,2.3s					
S29A	Ulysses	93.68	44	⇓P	P	23 12 04.7 +0.7
	baz=94					
O32A	Brockman Farm,	93.72	41	⇓P	P	23 12 04.2 +0.2
	baz=94					
V27A	Dan Oppiter Fa	93.73	47	⇑P	P	23 12 05.4 +1.1
	baz=94					
U28A	Mallet	93.75	46	⇑P	P	23 12 04.9 +0.6
	baz=94					
CDF	Champ du Feu	93.78	331	eP	P	23 12 02.9 -1.3
	comp=Z,43nm,1.4s					
CDF	Champ du Feu	93.78	331	eP	P	23 12 02.9 -1.3
CDF				pmax	pmax	
	comp=Z,43nm,1.4s					
CDF	Champ du Feu	93.78	331	eP	P	23 12 02.9 -1.3
	comp=Z,43nm,1.4s					
R30A	Dighton	93.79	43	⇓P	P	23 12 04.4 0.0
	baz=94					
124A	Stringfield Ra	93.80	50	⇑P	P	23 12 05.6 +0.8
	baz=94,SNR=6.9					
BAIF	Baives	93.80	333	eP	P	23 12 02.7 -1.4
BAIF	Baives	93.80	333	eP	P	23 12 02.7 -1.4
BAIF	Baives	93.80	333	eP	P	23 12 02.7 -1.4
X26A	CR and CF Fran	93.82	48	⇓P	P	23 12 05.7 +1.0
	baz=94					
Q31A	Ellis	93.86	42	⇑P	P	23 12 04.6 -0.1
	baz=94					
Z25A	Roswell	93.96	49	⇓P	P	23 12 06.3 +0.9
	baz=94					
W27A	Bowe Ranch, En	94.00	47	⇓P	P	23 12 06.4 +0.9
	baz=94,SNR=7.6					
S30A	Montezuma	94.08	44	⇑P	P	23 12 06.1 +0.4
	baz=94					
224A	Cornudas Mount	94.11	51	⇓P	P	23 12 06.9 +0.8
	baz=94,SNR=8.8					
V28A	Channing	94.13	46	⇑P	P	23 12 06.9 +0.9
	baz=94					
Y26A	Elida	94.18	49	⇑P	P	23 12 08.0 +1.6
	baz=94					
R31A	Burdett	94.24	43	⇑P	P	23 12 06.4 0.0
	baz=94					
TUE	Stuetta	94.30	328	eP	P	23 12 05.7 -1.0
	comp=Z,81nm,2.2s					
PAGF	Fort de Pagny	94.34	332	eP	P	23 12 05.7 -0.9
	comp=Z,6.4nm,0.8s					
PAGF	Fort de Pagny	94.34	332	eP	P	23 12 05.7 -0.9
	comp=Z,6.4nm,0.8s					
125A	Gardner Draw,	94.36	50	⇑P	P	23 12 07.9 +0.7
	baz=94,SNR=6.1					
HINF	Hinteralfeld	94.42	331	eP	P	23 12 05.4 -1.6
HINF	Hinteralfeld	94.42	331	eP	P	23 12 05.4 -1.6
HINF	Hinteralfeld	94.42	331	eP	P	23 12 05.4 -1.6
MNTX	Cornudas Mount	94.43	51	eP	P	23 12 07.7 +0.3
	comp=Z,13nm,1.7s					
MNTX				epP	pP	23 13 43.3 -1.9
Z26A	Caprock	94.46	49	⇑P	P	23 12 08.1 +0.4
	baz=94,SNR=9.4					
HAU	Haudompre	94.50	331	eP	P	23 12 05.9 -1.5
HAU	Haudompre	94.50	331	eP	P	23 12 05.9 -1.5
HAU	Haudompre	94.50	331	eP	P	23 12 05.9 -1.5
324A	Moseley Ranch,	94.50	51	⇑P	P	23 12 08.5 +0.6
	baz=94,SNR=5.6					
V29A	Stinnett	94.51	46	⇓P	P	23 12 08.1 +0.4
	baz=94					
225A	Deer Hill, Car	94.57	50	⇑P	P	23 12 09.1 +0.9
	baz=94					
Y27A	Causey	94.64	48	⇓P	P	23 12 09.2 +0.8
	baz=94					
MEZF	Maizieres J'vi	94.67	332	eP	P	23 12 07.2 -0.9
	comp=Z,38nm,1.3s					
MEZF	Maizieres J'vi	94.67	332	eP	P	23 12 07.2 -0.9
	comp=Z,38nm,1.3s					
S31A	Mullinville	94.69	43	⇑P	P	23 12 09.4 +0.9
	baz=94					
126A	Clayton Basin,	94.81	50	⇑P	P	23 12 10.0 +0.8
	baz=95					
MSTX	Muleshoe	94.85	48	⇑P	P	23 12 10.4 +1.0
	baz=95					
X28A	Dimmitt	94.90	47	⇓P	P	23 12 10.3 +0.7
	baz=95					
SFTF	Sexfontaines	94.90	332	eP	P	23 12 08.0 -1.2
	comp=Z,20nm,0.7s					
SFTF	Sexfontaines	94.90	332	eP	P	23 12 08.0 -1.2
	comp=Z,20nm,0.7s					
T31A	Randall Ranch,	94.90	44	⇑P	P	23 12 10.0 +0.5
	baz=95					
Z27A	Tatum	94.95	49	⇑P	P	23 12 10.5 +0.6
	baz=95					
226B	Tecolote Peak,	95.04	50	⇑P	P	23 12 11.2 +1.0
	baz=95					
425A	Indio Mountain	95.23	52	⇑P	P	23 12 12.0 +0.8
	baz=95,SNR=6.7					
KSU1	Kansas State U	95.45	41	eP	P	23 12 11.9 0.0
	comp=Z,9.4nm,0.9s					
Z28A	Tucker Farm, M	95.52	48	⇑P	P	23 12 13.3 +0.9
	baz=95					
W30A	Crocket Farms	95.54	46	⇓P	P	23 12 13.6 +1.1
	baz=95					
CABF	La Chapelle	95.68	330	eP	P	23 12 11.3 -1.5
	comp=Z,40nm,1.4s					
CABF	La Chapelle	95.68	330	eP	P	23 12 11.3 -1.5
CABF				pmax	pmax	
	comp=Z,40nm,1.4s					
CABF	La Chapelle	95.68	330	eP	P	23 12 11.3 -1.5
	comp=Z,40nm,1.4s					
128A	Castleberry Fa	95.86	49	⇑P	P	23 12 14.7 +0.8
	baz=96					
W31A	Holland Ranch,	95.94	46	⇓P	P	23 12 15.8 +1.6
	baz=96					
426A	McDonald Obser	95.97	51	⇓P	P	23 12 15.8 +1.2
	baz=96					
Z29A	Hungry Hill Ra	95.99	48	⇑P	P	23 12 15.7 +1.1
	baz=96					
LOR	Lormes	96.13	332	eP	P	23 12 13.4 -1.4
	comp=Z,34nm,1.3s					
LOR	Lormes	96.13	332	eP	P	23 12 13.4 -1.4
	comp=Z,34nm,1.3s					
LPL	La Plagne	96.22	329	eP	P	23 12 14.2 -1.3
	comp=Z,10.0nm,0.9s					
LPL	La Plagne	96.22	329	eP	P	23 12 14.2 -1.3
LPL				pmax	pmax	
	comp=Z,10.0nm,0.9s					
LPL	La Plagne	96.22	329	eP	P	23 12 14.2 -1.3
	comp=Z,10.0nm,0.9s					
LPG	La Plagne	96.23	329	eP	P	23 12 14.3 -1.3
	comp=Z,12nm,0.8s					
LPG	La Plagne	96.23	329	eP	P	23 12 14.3 -1.3
LPG				pmax	pmax	
	comp=Z,12nm,0.8s					
LPG	La Plagne	96.23	329	eP	P	23 12 14.3 -1.3
	comp=Z,12nm,0.8s					
526A	Mary Lane Ranc	96.28	52	⇓P	P	23 12 17.1 +1.1
	baz=96					
427A	Hayter Ranch,	96.30	51	⇑P	P	23 12 16.3 +0.3
	baz=96,SNR=5.6					
Z30A	Sanderson Ranc	96.36	48	⇓P	P	23 12 16.7 +0.5
	baz=96					
SSF	Saint Saulge	96.44	332	eP	P	23 12 14.7 -1.4
SSF	Saint Saulge	96.44	332	eP	P	23 12 14.7 -1.4
SSF	Saint Saulge	96.44	332	eP	P	23 12 14.7 -1.4
626A	Big Bend Ranch	96.55	52	⇑P	P	23 12 18.5 +1.3
	baz=96					
527A	Woodward Ranch	96.57	51	⇓P	P	23 12 18.5 +1.3
	baz=96					
SMF	Signal de Mont	96.63	331	eP	P	23 12 15.7 -1.3
SMF	Signal de Mont	96.63	331	eP	P	23 12 15.7 -1.3
SMF	Signal de Mont	96.63	331	eP	P	23 12 15.7 -1.3
AVF	Avril sur Loir	96.72	332	eP	P	23 12 16.1 -1.3
	comp=Z,79nm,1.7s					
AVF	Avril sur Loir	96.72	332	eP	P	23 12 16.1 -1.3
AVF				pmax	pmax	
	comp=Z,79nm,1.7s					
AVF	Avril sur Loir	96.72	332	eP	P	23 12 16.1 -1.3
	comp=Z,79nm,1.7s					
428A	Kincaid Ranch,	96.86	51	⇑P	P	23 12 19.7 +1.2
	baz=97					
329A	Wagon Wheel Ra	96.89	50	⇑P	P	23 12 19.7 +1.2
	baz=97					
Z31A	Sharp Cattle R	96.98	47	⇑P	P	23 12 19.7 +0.8
	baz=97					
TXAR	Lajitas Array	97.01	52	P	Pdif	23 12 20.4 +1.2
TXAR				P'P'		23 37 08.7
TXAR	Lajitas Array	97.01	52	P	Pdif	23 12 20.4 +1.2
	comp=Z,5.1nm,0.7s,baz=304,slow=2.5,SNR=36					
TXAR				PKPPKP	P'P'df	23 37 08.7 -5.1
	comp=Z,0.7nm,0.8s,baz=107,slow=12,SNR=4.1					
528A	Cox Ranch, San	97.13	51	⇑Pdiff	Pdif	23 12 20.5 +0.8
	baz=97					
627A	Terlingua Ranc	97.13	52	⇓Pdiff	Pdif	23 12 20.7 +0.9
	baz=97					
Z32A	Haskell	97.42	47	⇑Pdiff	Pdif	23 12 21.7 +0.8
	baz=97					
628A	Black Gap, Mar	97.46	52	⇓Pdiff	Pdif	23 12 21.5 +0.4
	baz=97					
429A	Davenport Ranc	97.47	50	⇑Pdiff	Pdif	23 12 21.9 +0.7
	baz=97					
330A	Mertzon	97.48	49	⇑Pdiff	Pdif	23 12 21.8 +0.5
	baz=97					
529A	Stev Forest Ra	97.54	51	⇓Pdiff	Pdif	23 12 22.0 +0.4
	baz=97					
TCF	Toulx Ste Croi	97.60	332	eP	P	23 12 20.2 -1.2
TCF	Toulx Ste Croi	97.60	332	eP	P	23 12 20.2 -1.2
TCF	Toulx Ste Croi	97.60	332	eP	P	23 12 20.2 -1.2
430A	Baggett Ranch,	97.82	50	⇓Pdiff	P	23 12 22.5 -0.2
	baz=98					
TUL1	Tulsa	98.05	43	⇑Pdiff	P	23 12 23.2 -0.4
	baz=98					
530A	J-C Ranch, Com	98.14	50	⇓Pdiff	Pdif	23 12 24.8 +0.7
	baz=98					
332A	Millersview	98.45	48	⇑Pdiff	Pdif	23 12 25.8 +0.3
	baz=98					
531A	Rocksprings	98.67	50	⇑Pdiff	P	23 12 26.9 +0.4
	baz=99					
JCT	Junction City	98.98	49	⇓Pdiff	P	23 12 28.8 +0.9
	baz=99					
532A	Rocksprings	99.13	50	⇑Pdiff	Pdif	23 12 29.3 +0.8
	baz=99					
WHTX	Lake Whitney	99.57	47	⇑Pdiff	Pdif	23 12 30.7 +0.3
	baz=99					
SFIN	Scholer Farm	99.75	35	⇓Pdiff	Pdif	23 12 30.9 -0.1
	baz=100					
KMSC	Kings Mountain	106.68	35	ePKiKP	PKiKP	23 17 10.2 +0.3
TIGA	Tifton	108.34	39	⇓Pdiff	PKiKP	23 17 13.0 -0.1
	baz=108					
QSPA	South Pole Qui	116.90	180	PKKPbc	PKKPbc	23 27 55.3 -2.7
QSPA	South Pole Qui	116.90	180	PKKPbc	PKKPbc	23 27 55.3 -2.7
	comp=Z,1.0nm,0.5s,baz=176,slow=3.1,SNR=13					
TORD	Torodi Ar. Bea	123.20	309	PKP	PKPdf	23 17 41.4 -0.5
TORD				PKKPbc	PKKPbc	23 27 31.8 -1.7
TORD	Torodi Ar. Bea	123.20	309	PKP	PKPdf	23 17 41.4 -0.5
	comp=Z,3.0nm,0.8s,baz=67,slow=0.9,SNR=25					
TORD				PKKPbc	PKKPbc	23 27 31.8 -1.7
	comp=Z,0.6nm,0.7s,baz=223,slow=3.2,SNR=6.7					
SNAA	Sanae	130.96	195	eP	SKPbc	23 20 38.4 -0.5
DBIC	Dimbokro	132.31	310	PKP	PKPdf	23 17 58.8 -0.5
DBIC	Dimbokro	132.31	310	PKP	PKPdf	23 17 58.8 -0.5
	comp=Z,3.2nm,0.6s,baz=12,slow=7.7,SNR=5.1					
VNA2	Neumayer--Watz	132.50	194	eP	SKPbc	23 20 43.6 -0.6
	baz=119,slow=3.1					
VNA1	Neumayer--Stat	132.90	194	eP	SKPbc	23 20 45.7 +0.2
PLCA	Paso Flores	151.28	126	PKPbc	PKPbc	23 18 39.1 +0.8
PLCA				pPKPbc	pPKPbc	23 20 17.4 -3.8
PLCA	Paso Flores	151.28	126	PKPbc	PKPbc	23 18 39.1 +0.8
	comp=Z,22nm,0.6s,baz=205,slow=1.6,SNR=41					
PLCA				pPKPbc	pPKPbc	23 20 17.4 -3.8
	comp=Z,5.7nm,0.9s,baz=222,slow=4.4,SNR=2.9					
SAML	Samuel	151.46	55	ePKPdf	PKPdf	23 18 32.7 0.0
SAML				ePKPbc	PKiKP	23 18 39.6 0.0
LPAZ	La Paz	151.64	73	ePKPdf	PKPdf	23 18 34.7 +1.0
LPAZ				ePKPbc	PKiKP	23 18 40.9 +0.2
LPAZ				PKPbc	PKPbc	23 18 41.4 +1.0
LPAZ				pPKPbc	pPKPbc	23 20 19.6 -3.7
LPAZ	La Paz	151.64	73	PKPbc	PKPbc	23 18 41.4 +1.0
	comp=Z,33nm,0.7s,baz=312,slow=2.2,SNR=54					
LPAZ				pPKPbc	pPKPbc	23 20 19.6 -3.7
	comp=Z,9.4nm,0.8s,baz=324,slow=3.2,SNR=3.2					
CPUP	Villa Florida	164.34	91	PKP	PKPdf	23 18 47.8 -0.1
CPUP				PKPab	PKPab	23 19 45.6 +0.5
CPUP	Villa Florida	164.34	91	PKP	PKPdf	23 18 47.8 -0.1
	comp=Z,5.9nm,0.8s,baz=297,slow=1.9,SNR=5.8					
CPUP				PKPab	PKPab	23 19 45.6 +0.5
	comp=Z,3.7nm,0.6s,baz=269,slow=4.9,SNR=6.4					

IDC 22 23:13:56.1±2.0, 28°79S×178°35W, h0km, mb3.4/1, mb1 3.5/1, mb1mx3.3/15, mbtmp3.4/1, Error ellipse: s-maj=79.7km s-min=17.3km az=42.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	0.60	141	Pn	Pb	23 14 10.6	+1.2
	216nm,0.3s,baz=70,slow=11,SNR=8.3						
RAO				Sn	Sn	23 14 25.0	+2.7
	345nm,0.3s,baz=112,slow=22,SNR=7.6						
ASAR	Alice Springs	42.92	265	P	P	23 21 56.0	-0.8
	0.3nm,0.7s,baz=101,slow=7.3,SNR=3.8						
AKASG	Malin Array Be	149.83	324	PKPbc	PKPbc	23 33 47.9	0.0
	0.3nm,0.3s,baz=42,slow=4.2,SNR=4.1						
TORD	Torodi Ar. Bea	164.44	180	PKPab	PKPab	23 34 58.1	+1.4
	0.3nm,0.9s,baz=188,slow=3.0,SNR=2.5						

*ISCJB **22** 23:44:42.0±0.8, 25°0N±0°1×95°0E±0°1, h104km, mb3.5/8, Error ellipse: s-maj=19.9km s-min=10.3km az=29.4*
*IDC **22** 23:44:46.1±3.6, 24°99N×95°19E, h134km±36km, mb3.4/8, mb1 3.5/9, mb1mx3.2/29, mbtmp3.4/9, Error ellipse: s-maj=54.7km s-min=18.6km az=58.0*
ISC 22 23:44:43.7±0.9, 25°0N±0°2×94°9E±0°1, h104km, n10, σ1900/11, mb3.6/8, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	Shillong	2.83	282	ePN	Pn	23 45 28.0	+0.6
SHL				eSN	Sn	23 46 00.0	-1.0
CMAR	Chiang Mai Arr	7.48	149	P	Pn	23 46 31.2	+1.0
	0.7nm,0.3s,baz=324,slow=14,SNR=17						
MKAR	Makanchi Array	24.00	338	P	P	23 49 49.4	+0.8
	0.4nm,0.4s,baz=166,slow=8.6,SNR=6.8						
KURBB	Kurchatov Arra	28.56	338	P	P	23 50 30.0	+0.4
	0.4nm,0.2s,baz=145,slow=8.8,SNR=2.2						
BRTR	Keskin Array B	52.88	302	P	P	23 53 49.4	+0.3
	0.3nm,0.6s,baz=128,slow=6.3,SNR=4.6						
ASAR	Alice Springs	61.36	139	P	P	23 54 47.0	-1.7
	0.3nm,0.5s,baz=328,slow=6.8,SNR=6.2						
HFS	Hagfors	64.36	327	P	P	23 55 08.0	-0.2
	4.3nm,0.9s,baz=88,slow=14,SNR=4.3						
NOA	NORSAR Array B	65.47	328	P	P	23

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA				Sn	Sn	23 56 30.9	-13
	1.2nm,0.3s,baz=324,slow=25,SNR=7.9						
ASAR	**Alice Springs**	**17.36**	**168**	P	Pn	23 54 53.8	-0.6
	0.5nm,0.3s,baz=347,slow=11,SNR=18						
ASAR				S	Sn	23 57 56.0	-12
	0.3nm,0.3s,baz=345,slow=24,SNR=5.2						
MKAR	**Makanchi Array**	**67.91**	**327**	P	P	00 01 51.0	0.0
	0.3nm,0.3s,baz=115,slow=7.6,SNR=4.8						

*IDC **22** 23:58:49.7±0.4, 1°.50S×99°.43E, h0km, mb4.2/31, mb1 4.3/33, mb1mx4.3/37, mbtmp4.2/33, ML4.1/2, Error ellipse: s-maj=17.8km s-min=9.7km az=52.0*
*BJI **22** 23:58:49.8, 1°.89S×98°.58E, h22km, mB5.0/7, mb4.6/17, Ms4.6/8, Ms7 4.3/8*
*NEIC **22** 23:58:50.9±0.3, 1°.62S×99°.28E, h10km, mb4.6/10, Error ellipse: s-maj=10.9km s-min=5.5km az=54.0*
*ISCJB **22** 23:58:52.2±1.5, 1°.55S±0°.04×99°.32E±0°.04, h28km±10km, mb4.5/43, MS3.7/2, Error ellipse: s-maj=7.9km s-min=4.9km az=142.3*
*DJA **22** 23:58:54.0±0.5, 1°.5S±3°×9°.9E±°, h20km, M4.7/10, mb4.7/5, mB5.0/3, MLv4.7/10, Mw(mB)4.3/3*

ISC 22 23:58:52.6±0.6, 1°.44S±0°.04×99°.43E±0°.05, h17km±3km, n115, σ1°.33/132, mb4.4/43, 4C-1D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.16**	**63**	P	**Pg**	**23 59 15.0**	**0.0**
PDSI				S	**Sg**	**23 59 31.8**	**+1.6**
PPI	**Padang Panjang**	**1.38**	**45**	P	**Pg**	**23 59 18.7**	**-0.5**
PPI				S	**Sg**	**23 59 38.3**	**+1.1**
RGRI	**Rengat**	**3.10**	**69**	P	**Pb**	**23 59 45.6**	**-1.8**
GSI	**Gunungsitoli**	**3.30**	**326**	P	**Pn**	**23 59 44.4**	**+0.8**
KSI	**Kapahiang**	**3.84**	**125**	P	**Pn**	**23 59 53.1**	**+1.9**
PSI	**Prapat**	**4.25**	**353**	Pn	**Pn**	**23 59 56.6**	**-0.1**
PSI	**Prapat**	**4.25**	**353**	Pn	**Pn**	**23 59 56.6**	**-0.1**
	2.4nm,0.3s,baz=166,slow=10,SNR=13						
MNAI	**Manna**	**4.56**	**130**	*e*Pn	**Pn**	**00 00 01.8**	**+0.8**
MNAI				*e*Sn	**Sn**	**00 00 53.6**	**0.0**
EGSI	**Enggano, Bengk**	**4.81**	**144**	P	**Pn**	**00 00 03.8**	**-0.6**
KCSI	**Kotacane, Aceh**	**5.21**	**341**	P	**Pn**	**00 00 10.6**	**+0.8**
	0.4nm1μm46nm,0.8s						
MYKOM	**Kota Tinggi**	**5.46**	**54**	P	Pb	00 00 21.0	-6.7
MDSI	**Maura Dua**	**5.62**	**123**	P	**Pn**	**00 00 18.5**	**+3.0**
	0.2nm54nm,1.0s						
LWLI	**Liwa**	**5.83**	**128**	P	**Pn**	**00 00 20.0**	**+1.5**
	1.3nm2μm237nm,0.7s						
IPM	**Ipoh**	**6.10**	**15**	*e*Pn	Pn	00 00 25.6	+3.5
IPM				*e*Sn	**Sb**	**00 01 47.9**	**-3.4**
IPM	**Ipoh**	**6.10**	**15**	P	**Pn**	**00 00 23.9**	**+1.8**
	0.2nm587nm52nm,0.9s						
KULM	**Kulim**	**6.80**	**10**	*e*Pn	Pn	00 00 35.1	+3.4
KULM				*e*Sn	**Sb**	**00 02 08.0**	**-3.5**
KULM	**Kulim**	**6.80**	**10**	P	**Pn**	**00 00 33.9**	**+2.2**
UGM	**Wanagama**	**12.78**	**121**	*e*Pn	**Pn**	**00 01 52.6**	**-1.2**
CMAR	**Chiang Mai Arr**	**19.78**	**359**	P	**Pn**	**00 03 23.2**	**-0.6**
CMAR	**Chiang Mai Arr**	**19.78**	**359**	P	**Pn**	**00 03 23.2**	**-0.6**
	0.6nm,0.3s,baz=187,slow=9.7,SNR=20						
CHTO	**Chiang Mai**	**20.14**	**359**	*e*P	Pn	00 03 29.5	+1.5
	25nm,1.0s						
KAPI	**Kappang**	**20.59**	**100**	*e*P	**P**	**00 03 32.3**	**+1.2**
KAPI	**Kappang**	**20.59**	**100**	P	**P**	**00 03 32.2**	**+1.0**
	3.5nm,0.6s,baz=299,slow=19,SNR=1.9						
KMI	**Kunming**	**26.60**	**7**	P	**P**	**00 04 34.0**	**+3.4**
KMI				pmax	pmax		
	comp=Z,11nm,1.0s						
GYA	**Guiyang**	**28.61**	**14**	*e*P	P	00 04 52.8	+4.4
GYA				pP	pP	00 05 02.5	+9.0
GYA				PP	**PP**	**00 05 48.8**	**-4.4**
GYA				PcP	**PcP**	**00 08 02.3**	**+2.8**
GYA				S	**S**	**00 09 41.0**	**+4.6**
GYA				ScP	**SS**	**00 11 35.6**	**-2.2**
GYA				ScS	**ScS**	**00 15 30.0**	**-3.8**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
LSA	**Lhasa**	**31.96**	**346**	P	**P**	**00 05 18.1**	**-0.4**
LZH	**Lanzhou**	**37.56**	**6**	*e*P	P	00 06 10.8	+4.4
LZH				pP	pP	00 06 20.1	+8.5
LZH				sP	sP	00 06 24.0	+10
LZH				pmax	pmax		
	comp=Z,13nm,1.0s						
WRA	**Warramunga Arr**	**38.76**	**121**	P	**P**	**00 06 16.1**	**-0.6**
WRA				PcP	**PcP**	**00 08 29.0**	**+0.8**
WRA	**Warramunga Arr**	**38.76**	**121**	P	**P**	**00 06 16.1**	**-0.6**
	comp=Z,3.5nm,0.6s,baz=297,slow=9.2,SNR=9.2						
WRA				PcP	**PcP**	**00 08 29.0**	**+0.8**
	comp=Z,0.5nm,0.4s,baz=304,slow=3.0,SNR=3.2						
WRAB	**Tennant Creek**	**38.77**	**121**	*e*P	**P**	**00 06 15.3**	**-1.3**
	comp=Z,9.8nm,0.6s						
WRAB				*e*PcP	**PcP**	**00 08 25.8**	**-2.4**
AS31	**Alice Springs**	**40.04**	**126**	*e*P	**P**	**00 06 25.1**	**-2.1**
ASAR	**Alice Springs**	**40.04**	**126**	P	**P**	**00 06 27.0**	**-0.2**
ASAR				PcP	**PcP**	**00 08 32.2**	**0.0**
ASAR				S	**S**	**00 12 31.8**	**-0.9**
ASAR	**Alice Springs**	**40.04**	**126**	P	**P**	**00 06 27.0**	**-0.2**
	comp=Z,1.4nm,0.8s,baz=305,slow=8.0,SNR=12						
ASAR				PcP	**PcP**	**00 08 32.2**	**0.0**
	comp=Z,1.2nm,0.9s,baz=305,slow=2.5,SNR=5.7						
ASAR				S	**S**	**00 12 31.8**	**-0.9**
	comp=Z,0.9nm,1.0s,baz=301,slow=14,SNR=6.3						
GTA	**Gaotai**	**40.66**	**0**	P	**P**	**00 06 34.1**	**+1.9**
GTA				pP	**pP**	**00 06 38.6**	**+1.2**
GTA				sP	**sP**	**00 06 41.1**	**+1.6**
GTA				S	S	00 12 48.8	+7.1
GTA				sS	sS	00 12 56.1	+5.9
GTA				SS	**SnSn**	**00 15 48.1**	**-0.4**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,52nm,5.7s						
GTA				LR	LR		
	comp=N,95nm,9.7s						
GTA				LR	LR		
	comp=E,130nm,13.5s						
GTA				LR	LR		
	comp=Z,100nm,10.0s						
JNU	**Nakatsue**	**45.41**	**38**	P	**P**	**00 07 10.7**	**0.0**
JNU	**Nakatsue**	**45.41**	**38**	P	**P**	**00 07 10.7**	**0.0**
	comp=Z,3.3nm,0.6s,baz=84,slow=18,SNR=2.9						
KSH	**Kashi**	**46.09**	**335**	P	**P**	**00 07 15.3**	**-0.8**
KSH				sP	**sP**	**00 07 22.1**	**-1.3**
KSH				PP	**PP**	**00 09 03.8**	**-0.6**
KSH				PcS	**PcS**	**00 12 44.6**	**-2.2**
KSH				S	**S**	**00 14 00.3**	**-1.0**
KSH				sS	**sS**	**00 14 08.0**	**-1.9**
KSH				pmax	pmax		
	comp=Z,100nm,5.3s						
KSH				LR	LR		
	comp=N,150nm,5.3s						
KSH				LR	LR		
	comp=E,140nm,5.0s						
KSH				LR	LR		
	comp=Z,200nm,6.6s						
WMQ	**Urumqi**	**46.27**	**348**	P	**P**	**00 07 19.8**	**+2.4**
WMQ				pP	pP	00 07 29.8	+7.2
WMQ				sP	sP	00 07 33.8	+9.1
WMQ				PcP	**PcP**	**00 08 53.8**	**+1.1**
WMQ				PP	**PP**	**00 09 09.0**	**+2.8**
WMQ				pmax	pmax		
	comp=Z,23nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,200nm,6.0s						
WMQ				LR	LR		
	comp=E,48nm,18.3s						
WMQ				LR	LR		
	comp=Z,44nm,16.6s						
BBOO	**Buckleboo**	**46.44**	**136**	*e*P	**P**	**00 07 18.5**	**-0.3**
	comp=Z,1μm,1.5s						
KSAR	**Wonju Array Be**	**46.81**	**31**	P	**P**	**00 07 21.4**	**-0.3**
KSRS	**Korea Array**	**46.84**	**31**	P	**P**	**00 07 21.4**	**-0.5**
	comp=Z,0.8nm,0.5s,baz=223,slow=8.6,SNR=4.6						
TKM2	**Tokmak 2**	**49.10**	**337**	*e*P	**P**	**00 07 40.7**	**+1.1**
	comp=Z,7.9nm,0.8s						
AAK	**Ala-Archa**	**49.30**	**336**	P	**P**	**00 07 39.6**	**-1.5**
AAK	**Ala-Archa**	**49.30**	**336**	P	**P**	**00 07 39.6**	**-1.5**
	comp=Z,1.0nm,0.4s,baz=190,slow=3.8,SNR=4.7						
CTA	**Charters Tower**	**49.35**	**115**	P	**P**	**00 07 39.9**	**-1.7**
CTA	**Charters Tower**	**49.35**	**115**	P	**P**	**00 07 39.9**	**-1.7**
	comp=Z,3.1nm,0.8s,baz=270,slow=11,SNR=3.4						
SONM	**Songino Array**	**49.45**	**6**	P	**P**	**00 07 42.7**	**+0.6**
SONM				PcP	**PcP**	**00 09 04.6**	**+0.5**
SONM	**Songino Array**	**49.45**	**6**	P	**P**	**00 07 42.7**	**+0.6**
	comp=Z,1.4nm,0.5s,baz=192,slow=8.6,SNR=11						
SONM				PcP	**PcP**	**00 09 04.6**	**+0.5**
	comp=Z,1.5nm,0.6s,baz=188,slow=3.3,SNR=5.1						
EKS2	**Erkin-Say**	**49.62**	**335**	*e*P	**P**	**00 07 44.9**	**+1.5**
	comp=Z,8.7nm,0.8s						
STKA	**Stephens Creek**	**49.94**	**132**	P	**P**	**00 07 46.3**	**+0.4**
STKA	**Stephens Creek**	**49.94**	**132**	P	**P**	**00 07 46.3**	**+0.4**
	comp=Z,4.6nm,0.7s,baz=287,slow=7.0,SNR=6.3						
MK31	**Makanchi Array**	**50.35**	**345**	*e*P	**P**	**00 07 48.9**	**+0.2**
MKAR	**Makanchi Array**	**50.35**	**345**	*e*P	**P**	**00 07 49.5**	**+0.7**
MKAR	**Makanchi Array**	**50.35**	**345**	P	**P**	**00 07 49.5**	**+0.7**
	comp=Z,10.0nm,0.6s,baz=149,slow=8.1,SNR=68						
CN2	**Changchun**	**50.71**	**24**	*e*P	P	00 07 56.9	+5.4
KKAR	**Karatay Array**	**51.40**	**333**	*e*P	**P**	**00 07 56.0**	**-0.8**
USRK	**Ussuriysk Arra**	**53.94**	**29**	P	**P**	**00 08 15.6**	**+0.1**
	comp=Z,2.8nm,0.7s,baz=238,slow=8.5,SNR=6.8						
KURBB	**Kurchatov Arra**	**54.86**	**344**	P	**P**	**00 08 22.7**	**+0.7**
	comp=Z,3.1nm,0.8s,baz=165,slow=7.2,SNR=31						
KURK	**Kurchatov**	**54.92**	**344**	*e*P	**P**	**00 08 22.7**	**+0.2**
	comp=Z,4.4nm,0.9s						
ZAA0	**Zalesovo Array**	**56.52**	**350**	*e*P	**P**	**00 08 34.3**	**+0.3**
ZALV	**Zalesovo Beam**	**56.52**	**350**	P	**P**	**00 08 34.2**	**+0.3**
ZALV	**Zalesovo Beam**	**56.52**	**350**	P	**P**	**00 08 34.2**	**+0.3**
	comp=Z,14nm,0.8s,baz=180,slow=5.7,SNR=59						
RAYN	**Ar Rayn**	**57.97**	**299**	*e*P	**P**	**00 08 44.7**	**-0.1**
	comp=Z,60nm,2.8s						
VOSK	**Vostochnaya**	**59.02**	**340**	*e*P	**P**	**00 08 50.9**	**-0.6**
	comp=Z,3.5nm,0.8s						
BVAR	**Borovoye Array**	**59.47**	**340**	P	**P**	**00 08 54.4**	**-0.3**
BVAR	**Borovoye Array**	**59.47**	**340**	P	**P**	**00 08 54.4**	**-0.3**
	comp=Z,2.3nm,0.7s,baz=138,slow=9.1,SNR=16						
ABKAR	**Akbulak array**	**60.88**	**332**	*e*P	**P**	**00 09 04.2**	**-0.2**
KMBO	**Kilima Mbogo**	**62.16**	**269**	*e*P	P	00 09 09.6	-4.4
	comp=Z,4.2nm,1.0s						
KMBO	**Kilima Mbogo**	**62.16**	**269**	P	**P**	**00 09 14.2**	**+0.2**
	comp=Z,2.6nm,0.8s,baz=63,slow=8.8,SNR=10						
AKTO	**Aktyubinsk**	**62.60**	**332**	P	**P**	**00 09 15.5**	**-0.5**
AKTO	**Aktyubinsk**	**62.60**	**332**	P	**P**	**00 09 15.5**	**-0.5**
	comp=Z,2.6nm,1.0s,baz=126,slow=3.4,SNR=6.6						
KBZ	**Khabaz**	**67.52**	**319**	P	**P**	**00 09 47.5**	**-0.5**
KBZ	**Khabaz**	**67.52**	**319**	P	**P**	**00 09 47.5**	**-0.5**
	comp=Z,3.7nm,0.8s,baz=113,slow=7.8,SNR=6.6						
ASF	**Jabal al Asfar**	**67.81**	**306**	P	**P**	**00 09 50.5**	**+0.2**
ASF	**Jabal al Asfar**	**67.81**	**306**	P	**P**	**00 09 50.5**	**+0.2**
	comp=Z,3.0nm,1.2s,baz=5.7,slow=6.7,SNR=3.8						
MMAI	**Mount Meron Ar**	**69.25**	**306**	P	**P**	**00 09 59.4**	**+0.2**
MMAI	**Mount Meron Ar**	**69.25**	**306**	P	**P**	**00 09 59.4**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=97,slow=12,SNR=2.9						
MAW	**Mawson**	**70.68**	**194**	*e*P	P	00 10 01.7	-5.5
	comp=Z,6.1nm,2.3s						
MAW	**Mawson**	**70.68**	**194**	P	**P**	**00 10 07.1**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=285,slow=16,SNR=4.7						
CSS	**Prodhromos**	**71.44**	**308**	*e*P	P	00 10 09.0	-3.5
	comp=Z,26nm,1.5s						
BRTR	**Keskin Array B**	**72.53**	**312**	P	**P**	**00 10 17.6**	**-1.6**
BRTR	**Keskin Array B**	**72.53**	**312**	P	**P**	**00 10 17.6**	**-1.6**
	comp=Z,1.1nm,0.8s,baz=149,slow=7.5,SNR=5.8						
PETK	**Petropavlovsk-**	**72.72**	**32**	P	**P**	**00 10 19.8**	**0.0**
PETK	**Petropavlovsk-**	**72.72**	**32**	P	**P**	**00 10 19.8**	**0.0**
	comp=Z,1.5nm,0.7s,baz=236,slow=28,SNR=2.5						
RPZ	**Rata Peaks**	**75.77**	**135**	P	**P**	**00 10 37.5**	**-0.4**
RPZ	**Rata Peaks**	**75.77**	**135**	P	**P**	**00 10 37.5**	**-0.4**
	comp=Z,9.9nm,0.9s,baz=268,slow=9.6,SNR=2.6						
AKASG	**Malin Array Be**	**78.70**	**322**	P	**P**	**00 10 52.5**	**-1.5**
AKASG	**Malin Array Be**	**78.70**	**322**	P	**P**	**00 10 52.5**	**-1.5**
	comp=Z,0.4nm,0.4s,baz=87,slow=5.4,SNR=4.8						
VRI	**Vrincioaia**	**79.06**	**317**	⇑*i*P	**P**	**00 10 56.4**	**+0.2**
MLR	**Muntele Rosu**	**79.51**	**317**	P	**P**	**00 10 58.7**	**-0.1**
MLR	**Muntele Rosu**	**79.51**	**317**	P	**P**	**00 10 58.7**	**-0.1**
	comp=Z,1.1nm,0.9s,baz=299,slow=3.2,SNR=8.4						
BURAR	**Bucovina Array**	**80.47**	**319**	⇓*i*P	**P**	**00 11 05.2**	**+1.3**
VTS	**Vitosha**	**80.86**	**313**	⇑*i*P	**P**	**00 11 05.8**	**-0.4**
BZS	**Buzias**	**82.52**	**316**	⇑*i*P	**P**	**00 11 14.7**	**+0.1**
SIRR	**Siria**	**82.60**	**317**	⇑*i*P	**P**	**00 11 15.5**	**+0.4**
VNDA	**Vanda**	**82.81**	**169**	P	**P**	**00 11 15.9**	**+0.4**
VNDA	**Vanda**	**82.81**	**169**	P	**P**	**00 11 15.9**	**+0.4**
	comp=Z,0.8nm,0.9s,baz=304,slow=6.5,SNR=4.1						
FINES	**FINESS Array B**	**83.36**	**332**	P	**P**	**00 11 19.1**	**+0.4**
FINES	**FINESS Array B**	**83.36**	**332**	P	**P**	**00 11 19.1**	**+0.4**
	comp=Z,3.5nm,0.8s,baz=158,slow=5.6,SNR=7.3						
ARCES	**ARCESS Array B**	**85.76**	**340**	P	**P**	**00 11 31.5**	**+0.8**
ARCES	**ARCESS Array B**	**85.76**	**340**	P	**P**	**00 11 31.5**	**+0.8**
	comp=Z,2.6nm,0.9s,baz=98,slow=5.8,SNR=3.7						
GERES	**GERESS Array B**	**88.26**	**319**	P	**P**	**00 11 43.3**	**-0.1**
GERES	**GERESS Array B**	**88.26**	**319**	P	**P**	**00 11 43.3**	**-0.1**
	comp=Z,0.9nm,0.8s,baz=104,slow=5.6,SNR=9.5						
QSPA	**South Pole Qui**	**88.51**	**180**	P	**P**	**00 11 44.7**	**+0.5**
QSPA	**South Pole Qui**	**88.51**	**180**	P	**P**	**00 11 44.7**	**+0.5**
	comp=Z,1.2nm,0.6s,baz=212,slow=22,SNR=8.8						
SPITS	**Spitsbergen Ar**	**89.98**	**348**	P	**P**	**00 11 50.4**	**-0.4**
SPITS	**Spitsbergen Ar**	**89.98**	**348**	P	**P**	**00 11 50.4**	**-0.4**
	comp=Z,13nm,0.9s,baz=83,slow=6.8,SNR=4.1						
CPUP	**Villa Florida**	**144.42**	**217**	*e*PKPdf	**PKPab**	**00 18 25.2**	**-1.8**
CPUP				PKP	PKPbc	00 18 27.8	+0.5
CPUP	**Villa Florida**	**144.42**	**217**	PKP	PKPbc	00 18 27.8	+0.5
	comp=Z,4.3nm,0.8s,baz=125,slow=1.3,SNR=9.3						
TXAR	**Lajitas Array**	**144.60**	**36**	PKP	**PKPdf**	**00 18 28.9**	**-0.4**
TXAR	**Lajitas Array**	**144.60**	**36**	PKP	**PKPdf**	**00 18 28.9**	**-0.4**
	comp=Z,5.2nm,0.7s,baz=263,slow=1.4,SNR=36						
MIAR	**Mount Ida**	**144.90**	**19**	*e*PKPdf	PKPbc	00 18 28.7	+0.1
TZTN	**Tazewell**	**144.97**	**4**	*e*PKPdf	**PKPab**	**00 18 28.5**	**-0.2**
JCT	**Junction City**	**145.84**	**30**	*e*PKPdf	**PKPab**	**00 18 32.3**	**+0.1**
CPCT	**Cooper Cave**	**145.97**	**6**	*e*PKPdf	**PKPbc**	**00 18 32.1**	**+0.1**

WEL 23 00:07:20.4±0.2, 44°.47S×168°.15E, h5km, ML2.9/6, 1C, Error ellipse: s-maj=1.5km s-min=1.1km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.26**	**217**	⇑PG	Pg	00 07 25.8	+0.4
MSZ				SG	Sg	00 07 29.7	+0.9
MSZ				AML	AML	00 07 29.9	
JCZ	**Jackson Bay**	**0.59**	**48**	P*	Pg	00 07 32.3	+0.4
JCZ				SG	Sg	00 07 40.9	+1.2
JCZ				AML	AML	00 07 45.3	
WKZ	**Wanaka**	**0.72**	**120**	P*	Pg	00 07 34.5	+0.3
WKZ				AML	AML	00 07 44.9	
WKZ				AML	AML	00 07 45.0	
MLZ	**Mavora Lakes**	**0.88**	**179**	P*	Pg	00 07 37.5	+0.1
MLZ				AML	AML	00 07 53.5	
MLZ				AML	AML	00 07 54.3	
EAZ	**Earnscleugh**	**1.13**	**133**	P*	Pg	00 07 41.4	-0.6
EAZ				AML	AML	00 08 02.1	
DCZ	**Deep Cove**	**1.23**	**215**	P*	Pg	00 07 42.8	-1.2
DCZ				AML	AML	00 07 59.3	
DCZ				AML	AML	00 08 00.3	
FOZ	**Fox Glacier**	**1.43**	**51**	PN	Pg	00 07 48.7	+0.8
LBZ	**Lake Benmore**	**1.46**	**88**	PN	Pg	00 07 48.6	+0.1
TUZ	**Tuapeka**	**1.82**	**145**	PN	Pb	00 07 53.9	-0.3
ODZ	**Otahua Downs**	**1.87**	**109**	PN	Pb	00 07 54.4	-0.6

IDC 23 00:22:21.5±2.9, 23°.50S×179°.94W, h505km±29km, mb3.4/6, mb1 3.7/7, mb1mx3.4/17, mbtmp3.5/7, 1C, Error ellipse: s-maj=22.4km s-min=21.0km az=2.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.93**	**189**	P	P	00 25 30.0	-0.7
	3.7nm,0.3s,baz=53,slow=4.3,SNR=15						
ASAR	**Alice Springs**	**42.15**	**260**	P	P	00 29 29.6	+0.1
	1.7nm,0.5s,baz=101,slow=7.2,SNR=21						
ASAR				ScP	ScP	00 34 14.7	+0.1
	1.3nm,0.7s,baz=109,slow=4.2,SNR=8.5						
WRA	**Warramunga Arr**	**42.49**	**266**	P	P	00 29 31.7	-0.4
	4.3nm,0.5s,baz=102,slow=8.2,SNR=15						
VNDA	**Vanda**	**54.78**	**185**	P	P	00 31 03.0	+0.4
	1.0nm,0.8s,baz=355,slow=6.4,SNR=8.6						
MAW	**Mawson**	**78.14**	**200**	P	P	00 33 27.6	0.0
	1.6nm,0.8s,baz=102,slow=7.9,SNR=7.8						
SYO	**Syowa Base**	**83.41**	**193**	⇑*e*P	P	00 33 52.5	-2.4
SNAA	**Sanae**	**85.06**	**179**	*e*P	P	00 34 01.8	-1.3
VNA2	**Neumayer--Watz**	**85.69**	**178**	*e*P	P	00 34 05.0	-1.1
	baz=186,slow=3.8						
TXAR	**Lajitas Array**	**90.18**	**58**	P	P	00 34 29.1	+1.2
	1.3nm,0.7s,baz=218,slow=5.5,SNR=9.9						
PDAR	**Pinedale Array**	**92.37**	**44**	P	P	00 34 37.2	-0.7
	0.4nm,0.6s,baz=188,slow=5.5,SNR=4.1						
ARCES	**ARCESS Array B**	**131.51**	**348**	PKP	PKPdf	00 40 34.0	-1.6
	1.6nm,0.8s,baz=46,slow=2.6,SNR=3.7						
HFS	**Hagfors**	**142.17**	**349**	PKhKP	PKPpre	00 40 50.9	
	1.6nm,0.3s,baz=64,slow=3.4,SNR=16						
AKASG	**Malin Array Be**	**144.66**	**328**	PKP	PKPdf	00 40 58.7	-1.4
	0.8nm,0.5s,baz=43,slow=3.8,SNR=7.7						
MMAI	**Mount Meron Ar**	**147.58**	**295**	PKPbc	PKPbc	00 41 09.4	+0.3
	1.4nm,0.4s,baz=64,slow=7.0,SNR=7.8						
EKA	**Eskdalemuir Ar**	**148.12**	**3**	PKPbc	PKPbc	00 41 08.5	-1.1
	0.4nm,0.3s,baz=339,slow=2.5,SNR=6.3						
TORD	**Torodi Ar. Bea**	**169.59**	**189**	PKP	PKPdf	00 41 29.4	-2.0
	0.8nm,1.1s,baz=334,slow=1.3,SNR=3.5						
TORD				PKPab	PKPab	00 42 47.0	-1.2
	0.5nm,0.6s,baz=162,slow=5.0,SNR=7.9						

*HLW **23** 00:33:16.6, 35°.67N×23°.60E, h33km±19km, Md3.5, Ml3.7*
*ISCJB **23** 00:33:17.6±0.3, 35°.45N±0°.02×23°.29E±0°.04, h70km±4km, mb3.5/7, Error ellipse: s-maj=5.4km s-min=3.2km az=146.0*
*CSEM **23** 00:33:18.9±0.2, 35°.45N×23°.26E, h40km, ML3.2/4, Error ellipse: s-maj=6.1km s-min=3.6km az=55.0*
*ATH **23** 00:33:18.5, 35°.58N×23°.25E, h42km±1km, MD3.6/35, ML3.2*
*THE **23** 00:33:21.1, 35°.64N×23°.40E, h36km±4km, ML3.2/4, Error ellipse: s-maj=4.2km s-min=0.9km az=240.0*
*IDC **23** 00:33:22.4±1.5, 35°.53N×23°.51E, h93km±19km, mb3.4/7, mb1 3.4/12, mb1mx3.2/30, mbtmp3.2/12, Error ellipse: s-maj=25.7km s-min=19.3km az=99.0*

ISC 23 00:33:18.0±0.8, 35°.50N±0°.03×23°.24E±0°.04, h49km±7km, n135, σ1°.66/165, mb3.5/7, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANKY	**Antikythira Is**	**0.37**	**8**	P	**Pn**	**00 33 27.9**	**+0.2**
ANKY				S	**Sn**	**00 33 33.6**	**-1.1**
ANKY	**Antikythira Is**	**0.37**	**8**	*e*P	**Pn**	**00 33 28.0**	**+0.2**
ANKY				*e*S	**Sn**	**00 33 33.9**	**-0.8**
ANKY	**Antikythira Is**	**0.37**	**8**	*e*P	**Pn**	**00 33 28.0**	**+0.2**
ANKY				*e*S	**Sn**	**00 33 33.9**	**-0.8**
KARN	**Karanos**	**0.56**	**100**	P	**Pn**	**00 33 30.2**	**+0.2**
KARN				S	**Sn**	**00 33 39.2**	**+0.6**
KARN	**Karanos**	**0.56**	**100**	*e*P	**Pn**	**00 33 30.9**	**+0.9**
KARN				*e*S	**Sn**	**00 33 39.7**	**+1.1**
KARN	**Karanos**	**0.56**	**100**	P	**Pn**	**00 33 30.2**	**+0.2**
KARN				S	**Sn**	**00 33 39.2**	**+0.6**
VAM	**Vamos**	**0.79**	**96**	P	**Pn**	**00 33 34.1**	**+1.2**
VAM				S	**Sn**	**00 33 43.5**	**-0.2**
VAM	**Vamos**	**0.79**	**96**	*e*P	**Pn**	**00 33 34.3**	**+1.4**
VAM				*e*S	**Sn**	**00 33 45.5**	**+1.8**
VAM	**Vamos**	**0.79**	**96**	P	**Pn**	**00 33 34.1**	**+1.2**
VAM				S	**Sn**	**00 33 43.5**	**-0.2**
KYTH	**Kithira**	**0.80**	**348**	P	**Pn**	**00 33 34.2**	**+1.2**
KYTH	**Kithira**	**0.80**	**348**	*e*P	**Pn**	**00 33 34.3**	**+1.2**
KYTH	**Kithira**	**0.80**	**348**	P	**Pn**	**00 33 34.2**	**+1.2**
GVD	**Gavdhos**	**0.95**	**133**	P	**Pn**	**00 33 37.3**	**+2.2**
GVD				S	**Sn**	**00 33 51.2**	**+3.5**
GVD	**Gavdhos**	**0.95**	**133**	*e*P	**Pn**	**00 33 37.3**	**+2.2**
GVD	**Gavdhos**	**0.95**	**133**	P	**Pn**	**00 33 37.3**	**+2.2**
VLI	**Veliai**	**1.24**	**349**	P	**Pn**	**00 33 40.6**	**+1.6**
VLI				S	**Sn**	**00 33 55.2**	**+0.5**
VLI	**Veliai**	**1.24**	**349**	*e*P	**Pn**	**00 33 40.6**	**+1.6**
VLI	**Veliai**	**1.24**	**349**	P	**Pn**	**00 33 40.6**	**+1.6**
VLI				S	**Sn**	**00 33 55.2**	**+0.5**
IDI	**Anoyia**	**1.36**	**98**	P	**Pn**	**00 33 43.0**	**+2.3**
IDI				S	**Sn**	**00 33 58.7**	**+1.0**
IDI	**Anoyia**	**1.36**	**98**	*e*P	**Pn**	**00 33 43.3**	**+2.6**

CHOS	Chios island	3.66	37	P	Pn	00 34 12.5	+0.3
AOS	Alonnisos	3.70	8	P	Pn	00 34 13.0	+0.3
AOS	Alonnisos	3.70	8	*e*P	Pn	00 34 12.8	+0.1
AOS	Alonnisos	3.70	8	P	Pn	00 34 13.0	+0.3
NEO	Neokhori	3.80	360	*e*P	Pn	00 34 14.5	+0.4
NEO	Neokhori	3.80	360	*e*P	Pn	00 34 14.5	+0.4
ARG	Arkhangelos	4.03	78	P	Pn	00 34 18.4	+1.2
ARG				S	Sn	00 35 02.0	-1.2
ARG	Arkhangelos	4.03	78	*e*P	Pn	00 34 18.4	+1.2
ARG	Arkhangelos	4.03	78	P	Pn	00 34 18.4	+1.2
ARG				S	Sn	00 35 02.0	-1.2
THL	Klokotos Trika	4.17	347	*e*P	Pn	00 34 20.5	+1.3
THL	Klokotos Trika	4.17	347	*e*P	Pn	00 34 20.5	+1.3
SLUM		4.32	157	S	Sn	00 35 09.1	-1.2
baz=161							
SLUM		4.32	157	P	Pn	00 34 21.0	-0.2
SLUM				S	Sn	00 35 09.1	-1.2
SWA2		6.51	163	P	Pn	00 34 52.2	+0.9
baz=165							
SWA2				AMP		00 36 00.0	
comp=E,50μm,0.3s,logA/T=5.2,baz=165							
SWA2				S	Sn	00 36 03.2	-1.0
baz=165							
SWA2		6.51	163	P	Pn	00 34 52.2	+0.9
SWA2				S	Sn	00 36 03.2	-1.0
LUJL	Ujela	6.57	195	*i* P	Pn	00 34 52.3	+0.3
SNR=70							
HBRG	Burj al 'Arab	7.40	130	P	Pn	00 35 01.5	-2.0
baz=132							
HBRG				S	Sn	00 36 20.7	-5.3
baz=132							
AWBH		8.62	145	P	Pn	00 35 19.9	-0.3
baz=147							
AWBH		8.62	145	P	Pn	00 35 19.9	-0.3
BRTR	Keskin Array B	9.27	60	P	Pn	00 35 31.3	+2.2
comp=E,0.1nm,0.3s,baz=244,slow=15,SNR=4.4							
GLL	Jalalah	9.27	127	P	Pn	00 35 27.5	-1.6
baz=129							
GLL	Jalalah	9.27	127	P	Pn	00 35 27.5	-1.6
AMAG	Maghara	9.66	117	P	Pn	00 35 32.4	-2.1
baz=119							
AMAG	Maghara	9.66	117	P	Pn	00 35 32.4	-2.1
RSH		9.88	114	P	Pn	00 35 35.1	-2.2
baz=116							
MLR	Muntele Rosu	10.19	11	P	Pn	00 35 44.4	+2.7
comp=E,0.0nm,0.3s,baz=210,slow=14,SNR=2.5							
MMAI	Mount Meron Ar	10.37	100	P	Pn	00 35 44.9	+0.8
comp=E,0.6nm,0.3s,baz=171,slow=31,SNR=3.7							
MMAI				S	Sn	00 37 30.7	-8.2
comp=E,0.9nm,0.3s,baz=287,slow=26,SNR=3.5							
UDBI	Udbina	10.68	330	*e*Pn	Pn	00 35 47.5	-0.9
UDBI				Sn	Sn	00 37 39.4	-7.1
EIL	Elat	11.46	117	P	Pn	00 35 58.6	-0.3
comp=E,0.3nm,0.3s,baz=216,slow=17,SNR=3.0							
EIL				S	Sn	00 37 56.5	-8.9
comp=E,0.7nm,0.3s,baz=355,slow=10,SNR=4.4							
GERES	GERESS Array B	15.08	335	P	P	00 36 52.1	-0.1
comp=E,0.1nm,0.3s,baz=143,slow=13,SNR=5.4							
HFS	Hagfors	25.42	349	P	P	00 38 39.4	-1.3
comp=E,1.5nm,0.6s,baz=170,slow=8.8,SNR=5.4							
FINES	FINESS Array B	26.03	3	P	P	00 38 46.9	+0.6
comp=E,2.0nm,0.8s,baz=201,slow=26,SNR=2.5							
NOA	NORSAR Array B	26.70	347	P	P	00 38 54.1	+1.8
comp=E,1.0nm,0.9s,baz=141,slow=10.0,SNR=2.9							
EKA	Eskdalemuir Ar	26.87	326	P	P	00 38 55.7	+1.8
comp=E,0.9nm,0.6s,baz=126,slow=8.4,SNR=3.3							
TORD	Torodi Ar. Bea	29.54	227	P	P	00 39 20.1	+2.1
comp=E,0.4nm,0.6s,baz=34,slow=9.6,SNR=10							
ARCES	ARCESS Array B	34.12	1	P	P	00 39 55.8	-1.9
comp=E,1.2nm,0.8s,baz=182,slow=9.0,SNR=4.6							
MKAR	Makanchi Array	44.90	57	P	P	00 41 26.7	-1.0
comp=E,0.2nm,0.3s,baz=285,slow=6.9,SNR=2.9							

IDC **23** *00:56:18.2±10.0,* **16°.43S×173°.43W, h0**^{km}**, mb3.6/3, mb1 4.0/3, mb1mx3.6/17, mbtmp3.6/3, Error ellipse: s-maj=459.0km s-min=35.8km az=140.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	49.59	258	P	P	01 05 10.9	-0.7
0.6nm,0.8s,baz=99,slow=6.7,SNR=2.1							
ASAR	Alice Springs	49.78	253	P	P	01 05 13.4	+0.4
0.8nm,0.3s,baz=87,slow=8.4,SNR=13							
ILAR	Eielson Array	83.45	11	P	P	01 08 47.2	0.0
0.2nm,0.5s,baz=215,slow=6.2,SNR=3.1							

MOS **23** *01:03:42.0±0.7, 53°.58N×160°.85E, h34*^{km}*, mb4.2/1, Error ellipse: s-maj=24.2km s-min=10.0km az=73.0*

KRSC 23 01:03:40.4±3.3, 53°.56N×160°.79E, h37^{km}**±37**^{km}**, ML4.0, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.65	225	PN	Pn	01 03 55.3	+2.1
SPN				S	Sn	01 04 04.4	+2.2
SPN	Mys Shipunski	0.65	225	*e*P	Pn	01 03 55.3	+2.1
SPN				*i* S	Sn	01 04 04.4	+2.2
KII	Karymskiy	0.93	301	*e*P	Pn	01 03 58.8	+1.8
KII				*i* S	Sn	01 04 10.4	+1.2
NLC	Nalytchevo	0.95	246	PN	Pn	01 03 59.2	+2.1
NLC				S	Sn	01 04 11.1	+1.7
NLC	Nalytchevo	0.95	246	*i* P	Pn	01 03 59.2	+2.1
NLC				*i* S	Sn	01 04 11.1	+1.7
MKZ	Mys Kozlova	1.14	29	PN	Pn	01 04 01.5	+1.7
MKZ				S	Sn	01 04 15.9	+1.8
MKZ	Mys Kozlova	1.14	29	*e*P	Pn	01 04 01.5	+1.7
MKZ				*i* S	Sn	01 04 15.9	+1.8
SDLR	Sedlovina	1.18	257	*e*P	Pn	01 04 02.7	+2.3
SDLR				*i* S	Sn	01 04 17.0	+1.7
SMAR	Somma	1.23	257	*e*P	Pn	01 04 03.3	+2.0
SMAR				*i* S	Sn	01 04 18.3	+1.5
UGLR	Uglovaya	1.23	254	*i* P	Pn	01 04 03.4	+2.3
UGLR				*i* S	Sn	01 04 18.6	+2.0
KRER	Koryakskii	1.25	259	*i* P	Pn	01 04 04.0	+2.5
KRER				*i* S	Sn	01 04 18.7	+1.4
AVH	Avacha	1.26	257	*i* P	Pn	01 04 04.0	+2.4
AVH				*i* S	Sn	01 04 19.4	+2.0
KRX	Arik	1.30	262	*e*P	Pn	01 04 04.4	+2.3
KRX				*i* S	Sn	01 04 19.9	+1.6
KOK	Koryaka	1.32	259	*i* P	Pn	01 04 04.7	+2.4
PET	Petropavlovsk	1.39	248	PN	Pn	01 04 05.6	+2.4
PET				S	Sn	01 04 22.2	+1.9
PET	Petropavlovsk	1.39	248	*e*P	Pn	01 04 05.6	+2.4
PET				*i* S	Sn	01 04 22.2	+1.9
GNL	Ganaly	1.70	276	*e*P	Pn	01 04 09.8	+2.1
TUMR	Tumrok	1.77	348	*i* P	Pn	01 04 11.5	+2.9
RUS	Russkaya	1.78	232	PN	Pn	01 04 11.2	+2.7
RUS				S	Sn	01 04 31.8	+1.9
RUS	Russkaya	1.78	232	*e*P	Pn	01 04 11.2	+2.7
RUS				*i* S	Sn	01 04 31.8	+1.9
MTVR	Mutnovka	1.91	237	*e*P	Pn	01 04 12.9	+2.4
MTVR				*i* S	Sn	01 04 36.7	+3.3
GRL	Gorelyy	1.93	239	*e*P	Pn	01 04 13.5	+2.8
GRL				*i* S	Sn	01 04 37.7	+3.9
ASAK	Asacha	2.11	237	*i* P	Pn	01 04 16.4	+3.2
ASAK				*i* S	Sn	01 04 41.7	+3.5
KMNR	Kamenistaya	2.22	352	*e*P	Pn	01 04 18.1	+3.3
KMNR				*i* S	Sn	01 04 44.9	+3.8
APC	Apacha	2.27	255	*e*P	Pn	01 04 18.5	+3.2
APC				*i* S	Sn	01 04 46.0	+4.0
BZGR	Bezymyannyi-Gr	2.39	359	*e*P	Pn	01 04 20.0	+3.0
BZGR				*i* S	Sn	01 04 48.6	+3.5
KIRR	Kirishev	2.41	354	*e*P	Pn	01 04 20.6	+3.1
KIRR				*i* S	Sn	01 04 48.4	+2.5
BZWR	Bezymyannyi-We	2.42	356	*e*P	Pn	01 04 21.0	+3.5
BZWR				*i* S	Sn	01 04 48.8	+2.8
KPT	Kopyto	2.43	352	*e*P	Pn	01 04 20.6	+2.9
ZLN	Zelenaya	2.46	0	*i* P	Pn	01 04 21.5	+3.4
ZLN				*i* S	Sn	01 04 49.8	+2.8
LGNR	Loginova	2.53	359	*e*P	Pn	01 04 23.2	+4.0
LGNR				*i* S	Sn	01 04 53.1	+4.1
KOZ	Kozyrevsk	2.56	348	*e*P	Pn	01 04 21.8	+2.5
KOZ				*i* S	Sn	01 04 51.0	+1.8
CIRR	Tsirk	2.56	359	*e*P	Pn	01 04 22.4	+2.9
CIRR				*i* S	Sn	01 04 51.5	+2.0
KOZR	Kozyr	2.56	349	PN	Pn	01 04 21.8	+2.4
KOZR				S	Sn	01 04 51.0	+1.7
ESO	Esso	2.66	334	PN	Pn	01 04 23.8	+3.1
ESO	Esso	2.66	334	*i* P	Pn	01 04 23.8	+3.1
KRSR	Krestovskiy	2.67	357	*e*P	Pn	01 04 23.8	+2.9
KRSR				*i* S	Sn	01 04 54.6	+2.6
MIPR	Malaya Ipel'ka	2.76	244	*e*P	Pn	01 04 25.8	+3.8
KLY	Klyuchi	2.76	358	PN	Pn	01 04 24.3	+2.3
KLY				S	Sn	01 04 57.0	+3.0
KLY	Klyuchi	2.76	358	*e*P	Pn	01 04 24.3	+2.3
KLY				*i* S	Sn	01 04 57.0	+3.0
SRDR	Sredinnyy	2.83	348	*e*P	Pn	01 04 25.9	+2.8
SRDR				*i* S	Sn	01 04 59.0	+3.0
KBTR	Krutoberegovo	2.90	23	PN	Pn	01 04 26.8	+2.8
KBTR				S	Sn	01 05 02.3	+4.8
KBTR	Krutoberegovo	2.90	23	*e*P	Pn	01 04 26.8	+2.8
KBTR				*i* S	Sn	01 05 02.3	+4.8
BDR	Baidarnaya	3.02	4	*i* P	Pn	01 04 29.1	+3.3
SMKR	Semkarok	3.05	7	*e*P	Pn	01 04 30.1	+3.9
SMKR				*i* S	Sn	01 05 05.9	+4.4
SRKR	Sorokina	3.11	4	*e*P	Pn	01 04 30.8	+3.9
SRKR				*i* S	Sn	01 05 07.3	+4.5
PAU	Pauzhetka	3.21	231	PN	Pn	01 04 33.4	+5.2
PAU	Pauzhetka	3.21	231	*e*P	Pn	01 04 33.4	+5.2
PAU				*i* S	Sn	01 05 07.6	+2.5
BKI	Bering	3.45	59	PN	Pn	01 04 33.9	+2.5
BKI	Bering	3.45	59	*i* P	Pn	01 04 33.9	+2.5
BKI				*i* S	Sn	01 05 10.8	-0.2

ISCJB **23** *01:05:51.0±0.9, 9°.3S±0°.1×122°.93E±0°.09, h92*^{km}*, mb3.4/1, Error ellipse: s-maj=21.4km s-min=8.7km az=30.9*
IDC **23** *01:05:52.8±4.2, 8°.88S×123°.54E, h87*^{km}*±51*^{km}*, mb3.3/1, mb1 3.3/4, mb1mx3.1/20, mbtmp3.1/4, ML3.2/3, Error ellipse: s-maj=249.9km s-min=25.3km az=52.0*
DJA **23** *01:05:53.9±1.0, 9°.S±12°.×12°.3E±°, h16*^{km}*±15*^{km}*, M3.8/4, MLv3.8/4*

ISC 23 01:05:53.5±1.1, 9°.2S±0°.1×122°.80E±0°.07, h92^{km}**, n8, σ2°.30/10, Savu Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	Maumere	0.78	315	P	Pn	01 06 08.9	-2.1
MMRI				S	Sn	01 06 20.2	-3.8
SOEI	Soe	1.56	112	P	Pn	01 06 20.2	0.0
SOEI				S	Sn	01 06 42.2	+1.7
WSI	Waingapu	2.51	259	P	Pn	01 06 32.6	0.0
LBFI	Labuhan Bajo,	2.96	283	P	Pn	01 06 39.4	+0.9
LBFI				S	Sn	01 07 15.2	+2.0
KAPI	Kappang	5.13	324	P	Pn	01 07 10.8	+2.9
0.7nm,0.3s,baz=135,slow=10.0,SNR=4.4							
WRA	Warramunga Arr	15.46	135	P	Pn	01 09 21.6	-4.9
0.1nm,0.3s,baz=312,slow=13,SNR=2.9							
WRA				S	Sn	01 12 03.3	-14
0.4nm,0.3s,baz=311,slow=15,SNR=6.7							
ASAR	Alice Springs	17.90	145	P	P	01 09 54.5	-1.5
0.2nm,0.3s,baz=326,slow=12,SNR=7.7							
ASAR				S	Sn	01 12 59.1	-17
0.1nm,0.3s,baz=315,slow=21,SNR=3.8							
MKAR	Makanchi Array	66.38	331	P	P	01 16 33.0	+0.3
0.3nm,0.5s,baz=143,slow=6.2,SNR=4.8							

IDC **23** *02:01:15.4±1.2, 26°.54N×88°.89E, h0*^{km}*, mb3.5/5, mb1 3.6/5, mb1mx3.4/27, mbtmp3.5/5, Error ellipse: s-maj=41.7km s-min=25.3km az=67.0*
ISCJB **23** *02:01:18.7±1.2, 26°.6N±0°.2×88°.9E±0°.1, h33*^{km}*, mb3.3/4, Error ellipse: s-maj=28.8km s-min=10.2km az=34.5*

ISC 23 02:01:20.7±1.3, 26°.6N±0°.2×89°.0E±0°.2, h35^{km}**, n6, σ0°.45/7, mb3.4/4, India-Bangladesh border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	Shillong	2.82	110	*e*PN	Pn	02 02 03.0	-0.4
SHL				*e*SN	Sn	02 02 36.5	+0.2
MKAR	Makanchi Array	20.86	347	P	P	02 05 59.1	-0.4
2.1nm,0.6s,baz=175,slow=9.3,SNR=21							
SONM	Songino Array	25.24	28	P	P	02 06 44.0	+0.5
0.3nm,0.4s,baz=205,slow=8.6,SNR=4.5							
KURBB	Kurchatov Arra	25.30	344	P	P	02 06 43.5	-0.3
0.9nm,0.5s,baz=165,slow=8.8,SNR=9.5							
ASAR	Alice Springs	66.20	135	P	P	02 12 05.3	+0.1
0.2nm,0.5s,baz=312,slow=6.4,SNR=3.4							
TORD	Torodi Ar. Bea	81.82	281	P	P	02 13 36.8	+0.1
0.2nm,0.7s,baz=67,slow=6.3,SNR=2.3							

IDC 23 02:16:33.8±0.8, 2°.67N×79°.69W, h0^{km}**, mb3.6/10, mb1 4.0/10, mb1mx3.9/22, mbtmp3.7/10, Error ellipse: s-maj=39.6km s-min=16.4km az=54.0, South of Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	22.03	149	P	P	02 21 31.6	+0.6
1.8nm,0.8s,baz=310,slow=9.8,SNR=4.2							
SIV	San Ignacio	26.13	136	P	P	02 22 09.8	-0.1
0.6nm,0.7s,baz=314,slow=11,SNR=2.5							
TXAR	Lajitas Array	34.96	322	P	P	02 23 27.3	-0.7
0.4nm,0.8s,baz=129,slow=7.1,SNR=2.9							
TXAR				PcP	PcP	02 26 01.3	+0.6
0.8nm,0.8s,baz=114,slow=4.4,SNR=5.1							
PLCA	Paso Flores	44.00	170	P	P	02 24 42.5	-0.7
1.5nm,0.7s,baz=344,slow=7.5,SNR=4.7							
PDAR	Pinedale Array	47.99	330	P	P	02 25 14.4	-0.5
0.6nm,0.8s,baz=121,slow=6.4,SNR=6.3							
PDAR				PcP	PcP	02 26 42.2	-0.9
0.4nm,0.5s,baz=134,slow=5.2,SNR=3.6							
NVAR	Mina Array Bea	50.08	320	P	P	02 25 31.7	+0.7
0.7nm,0.6s,baz=136,slow=6.9,SNR=6.1							
NVAR				PcP	PcP	02 26 51.0	+0.2
1.0nm,0.6s,baz=107,slow=4.8,SNR=8.3							
YKA	Yellowknife Ar	65.08	343	P	P	02 27 16.0	+0.1
0.8nm,0.8s,baz=214,slow=32,SNR=3.7							
ESDC	Sonseca Array	77.32	50	P	P	02 28 30.6	-0.1
0.2nm,0.5s,baz=266,slow=5.9,SNR=3.0							
ILAR	Eielson Array	78.01	336	P	P	02 28 34.0	+0.1
0.7nm,0.8s,baz=119,slow=3.6,SNR=7.4							
TORD	Torodi Ar. Bea	81.01	77	P	P	02 28 51.4	+0.1
0.7nm,0.7s,baz=277,slow=4.8,SNR=9.7							
ASAR	Alice Springs	141.39	234	PKhKP	PKPpre	02 35 56.9	
0.3nm,0.6s,baz=132,slow=3.6,SNR=3.5							

ISCJB **23** *02:25:11.8±0.4, 21°.18S±0°.03×68°.56W±0°.06, h119*^{km}*±3*^{km}*, mb4.1/23, Error ellipse: s-maj=8.5km s-min=5.3km az=172.6*
GUC **23** *02:25:12.6±0.7, 21°.19S×68°.82W, h127*^{km}*±4*^{km}*, ML4.5*
IDC **23** *02:25:13.9±2.4, 21°.14S×68°.43W, h121*^{km}*±19*^{km}*, mb3.8/8, mb1 3.9/12, mb1mx3.8/18, mbtmp3.7/12, Error ellipse: s-maj=22.4km s-min=14.9km az=56.0*
NEIC **23** *02:25:13.2±0.6, 21°.13S×68°.45W, h115*^{km}*±5*^{km}*, mb4.3/15, Error ellipse: s-maj=8.3km s-min=5.7km az=76.0*

ISC 23 02:25:12.8±0.7, 21°.15S±0°.04×68°.62W±0°.06, h113^{km}**±6**^{km}**, n81, σ1°.06/92, mb4.2/23, 9C-2D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	Plate Boundary	0.82	277	⇑*i* P	Pn	02 25 32.6	0.0
PB01				*i* S	Sn	02 25 47.5	0.0
PB01				AML	AML	02 25 48.4	
comp=N,13μm,0.3s							
PB09	Plate Boundary	0.86	222	⇑*i* P	Pn	02 25 33.6	+0.4
PB09				*i* S	Sn	02 25 49.4	+0.9
PB09				AML	AML	02 25 49.9	
comp=N,44μm,1.0s							
PB07	Plate Boundary	1.31	244	⇑*i* P	Pn	02 25 37.6	-0.2
PB07				*i* S	Sn	02 25 56.1	-0.7
PB07				AML	AML	02 25 58.4	
comp=E,12μm,0.4s							
PB04	Plate Boundary	1.37	216	⇑*i* P	Pn	02 25 43.5	+5.2
PB04				*i* S	Sn	02 26 07.0	+9.4
PB04				AML	AML	02 26 11.1	
comp=N,5μm,0.4s							
HMBC	Humberstone	1.47	306	⇓*i* P	Pn	02 25 39.7	+0.1
HMBC				*i* S	Sn	02 25 60.0	0.0
HMBC				AML	AML	02 26 01.4	
comp=N,8μm,0.7s							
LVC	Limon Verde	1.48	190	*e*Pn	Pn	02 25 40.2	+0.4
LVC				*e*Sn	Sn	02 26 00.8	+0.4
MACH	Maria Elena	1.48	225	⇑*i* P	Pn	02 25 39.5	-0.4
MACH				*i* S	Sn	02 25 59.9	-0.5
SPCH	San Pedro de A	1.79	167	*e*P	Pn	02 25 45.2	+1.5
SPCH				*i* S	Sn	02 26 10.4	+3.2
SPCH				AML	AML	02 26 22.8	
comp=E,2μm,0.5s							
MNMC	Minimini	2.21	335	⇓*i* P	Pn	02 25 49.6	+0.7
MNMC				*i* S	Sn	02 26 18.5	+2.0
MNMC				AML	AML	02 26 21.6	
comp=E,4μm,0.9s							
CEN1	Los Morros	2.67	213	⇑*i* P	Pn	02 25 57.5	+2.8
CEN1				AML	AML	02 26 40.6	
comp=N,1μm,0.7s							
PB10	Plate Boundary	2.96	217	*e*P	Pn	02 25 57.1	-1.2
ANCH	Antofagasta	3.02	213	⇑*i* P	Pn	02 25 58.2	-0.9
LPAZ	La Paz	4.86	6	P	Pn	02 26 26.8	+2.3
LPAZ				S	Sn	02 27 21.3	+1.4
LPAZ	La Paz	4.86	6	P	Pn	02 26 26.8	+2.3
comp=N,7.0nm,0.3s,baz=178,slow=13,SNR=145							
LPAZ				S	Sn	02 27 21.3	+1.4
comp=N,1.7nm,0.3s,baz=202,slow=5.4,SNR=3.6							
SIV	San Ignacio	8.81	56	P	Pn	02 27 14.9	-2.5
SIV	San Ignacio	8.81	56	P	Pn	02 27 14.9	-2.5
comp=N,38nm,0.3s,baz=248,slow=17,SNR=506							
CFAA	Coronel Fontan	10.42	178	P	Pn	02 27 34.8	-4.3
CFAA				S	Sn	02 29 22.7	-11
CFAA	Coronel Fontan	10.42	178	P	Pn	02 27 34.8	-4.3
comp=N,0.2nm,0.3s,baz=357,slow=14,SNR=14							
CFAA				S	Sn	02 29 22.7	-11
comp=N,0.5nm,0.3s,baz=164,slow=17,SNR=9.5							
CPUP	Villa Florida	11.55	119	P	Pn	02 27 52.6	-1.7
CPUP	Villa Florida	11.55	119	P	Pn	02 27 52.6	-1.7
comp=N,0.5nm,0.3s,baz=243,slow=11,SNR=4.1							
SAML	Samuel	13.21	24	*e*Pn	Pn	02 28 14.0	-2.2
comp=N,3.5nm,0.5s							
TRQA	Tornquist	17.80	163	*e*P	P	02 29 12.5	0.0
comp=N,11nm,1.3s							
BB16B	Bebedouro	18.70	93	⇑*i* P	P	02 29 21.9	-0.6
BB16B				*i*		02 29 22.4	
BB16B				*i*		02 29 24.7	
BB16B	Bebedouro	18.70	93	⇑*i* P	P	02 29 21.9	-0.6
BB16B				*i*		02 29 22.4	
BB16B				*i*		02 29 24.7	
PLCA	Paso Flores	19.59	184	*e*P	Pn	02 29 34.1	-0.5
comp=N,5.2nm,1.2s							
PLCA	Paso Flores	19.59	184	P	P	02 29 32.8	+0.7
comp=N,0.1nm,0.3s,baz=358,slow=12,SNR=4.4							
BDFB	Brasilia	20.30	78	P	P	02 29 39.1	-0.9
BDFB	Brasilia	20.30	78	P	P	02 29 39.1	-0.9
comp=N,8.4nm,0.5s,baz=244,slow=9.5,SNR=27							
OTAV	Otavalo	23.33	334	*e*P	P	02 30 13.8	+2.1
comp=N,4.6nm,1.1s							
HKT	Hockley	57.16	332	*e*P	P	02 34 48.4	+0.5
comp=N,4.7nm,1.0s							
SWET	Sewanee	58.42	343	*e*P	P	02 34 55.7	-1.0
comp=N,6.4nm,0.6s							
WVT	Waverly	59.80	342	*e*P	P	02 35 05.2	-1.0
comp=N,6.9nm,0.7s							
MIAR	Mount Ida	60.26	336	*e*P	P	02 35 09.1	-0.2
comp=N,2.8nm,0.5s							
TXAR	Lajitas Array	60.50	325	P	P	02 35 11.3	+0.1
TXAR	Lajitas Array	60.50	325	P	P	02 35 11.3	+0.1
comp=N,0.2nm,0.4s,baz=155,slow=8.8,SNR=2.5							
VNA2	Neumayer--Watz	60.89	161	*e*P	P	02 35 13.8	+0.6
SNAA	Sanae	62.52	161	*e*P	P	02 35 24.4	+0.2
SNAA	Sanae	62.52	161	*e*P	P	02 35 24.1	0.0
comp=N,1.2nm,0.6s							
WMOK	Wichita Mounta	62.54	332	*e*P	P	02 35 24.8	+0.1
comp=N,4.3nm,1.3s							
MNTX	Cornudas Mount	63.27	325	*e*P	P	02 35 29.5	0.0
comp=N,0.8nm,0.7s							
ANMO	Albuquerque	66.36	327	*e*P	P	02 35 50.2	+0.4
comp=N,1.3nm,0.9s							
DBIC	Dimbokro	68.38	73	*e*P	P	02 36 02.3	-0.4
comp=N,9.6nm,1.0s							
DBIC	Dimbokro	68.38	73	P	P	02 36 01.0	-1.7
comp=N,1.9nm,0.4s,baz=232,slow=8.5,SNR=6.8							
SRU	San Rafael	71.63	327	*e*P	P	02 36 23.4	+1.0
comp=N,2.6nm,0.7s							
RSSD	Black Hills	72.60	334	*e*P	P	02 36 28.7	+0.7
comp=N,11nm,0.9s							
BW06	Boulder Array	73.94	330	*e*P	P	02 36 36.9	+0.9
comp=N,4.3nm,1.4s							
PDAR	Pinedale Array	73.94	330	P	P	02 36 36.1	+0.2
PDAR	Pinedale Array	73.94	330	P	P	02 36 36.1	+0.2
comp=N,0.4nm,0.5s,baz=138,slow=7.3,SNR=3.5							
MDND	Maddock	74.10	339	*e*P	P	02 36 36.8	+0.4
LOHW	Long Hollow	75.08	330	*e*P	P	02 36 43.5	+1.0
comp=N,3.1nm,1.3s							
TPAW	Teton Pass	75.15	330	*e*P	P	02 36 43.4	+0.4
comp=N,2.8nm,1.1s							
MOOW	Moose Ponds	75.25	330	*e*P	P	02 36 43.9	+0.4
comp=N,2.5nm,1.2s							
ELK	Elko	75.29	325	*e*P	P	02 36 44.4	+0.6
NVAR	Mina Array Bea	75.39	322	P	P	02 36 45.6	+1.2
NVAR	Mina Array Bea	75.39	322	P	P	02 36 45.6	+1.2
comp=N,0.9nm,0.8s,baz=153,slow=6.8,SNR=6.3							
HLID	Hailey	76.89	328	*e*P	P	02 36 54.2	+1.5
comp=N,5.4nm,1.0s							
TORD	Torodi Ar. Bea	76.98	70	P	P	02 36 52.9	-0.7
TORD	Torodi Ar. Bea	76.98	70	P	P

48nm,0.7s,812nm0.2nm
KAPI Kappang 5.83 44 P **Pn 02 28 10.4 0.0**
9.1nm,0.3s,baz=209,slow=6.2,SNR=21
KAPI S **Sn 02 29 12.8 -3.1**
2.0nm,0.3s,baz=273,slow=18,SNR=7.3
BKSI Bulukumba 5.87 48 P **Pn 02 28 11.9 +0.8**
BNSI Bone 6.51 42 P **Pn 02 28 22.8 +3.0**
XMIS Christmas Isla 9.98 262 S Sn 02 30 49.3 -8.0
baz=10,SNR=3.6
FITZ Fitzroy Crossi 13.04 133 P **Pn 02 29 50.7 +2.5**
0.2nm,0.3s,baz=316,slow=11,SNR=9.7
FITZ S Sn 02 32 04.8 -6.8
0.6nm,0.3s,baz=197,slow=17,SNR=8.1
FITZ Fitzroy Crossi 13.04 133 S **Sn 02 32 07.1 -4.5**
baz=13,SNR=4.8
GIRL Giralia 13.38 186 P **Pn 02 29 54.5 +2.0**
baz=13,SNR=10
GIRL S **Sn 02 32 16.0 -3.7**
baz=13,SNR=5.8
MEEK Meekatharra 17.50 171 P **Pn 02 30 48.7 +4.2**
baz=17,SNR=11
MEEK S Sn 02 33 50.9 -8.4
baz=17,SNR=12
FAKI Fak Fak 17.61 70 P **P 02 30 43.5 -2.2**
baz=18,SNR=5.1
MORW Morawa 19.70 179 P Pn 02 31 16.9 +6.2
baz=20,SNR=3.4
MORW S **S 02 34 44.2 -1.4**
baz=20,SNR=5.8
WRA Warramunga Arr 20.89 123 P **P 02 31 21.0 -0.4**
1.6nm,0.4s,baz=293,slow=11,SNR=11
WRA S **S 02 35 11.5 +2.3**
0.3nm,0.4s,baz=304,slow=18,SNR=3.4
ASAR Alice Springs 22.53 132 P **P 02 31 40.6 +1.8**
4.0nm,0.7s,baz=304,slow=9.1,SNR=36
CMAR Chiang Mai Arr 32.14 329 P **P 02 33 03.7 -1.5**
0.6nm,0.3s,baz=153,slow=8.1,SNR=4.2
STKA Stephens Creek 32.90 137 P **P 02 33 14.0 +2.2**
1.9nm,0.5s,baz=321,slow=8.3,SNR=5.5
STKA Stephens Creek 32.90 137 P P 02 33 15.3 +3.5
baz=33,SNR=4.2
YNG Young 38.97 135 P P 02 34 07.1 +3.5
baz=39,SNR=7.2
SONM Songino Array 57.45 353 P P 02 36 22.8 -2.8
1.8nm,0.6s,baz=172,slow=7.0,SNR=16
MKAR Makanchi Array 63.27 335 P **P 02 37 03.0 -2.2**
0.4nm,0.4s,baz=148,slow=6.2,SNR=5.0
ZALV Zalesovo Beam 68.18 341 P P 02 37 32.8 -3.7
0.8nm,0.6s,baz=152,slow=6.4,SNR=3.9

IDC 23 02:48:51.2±7.2, 32.12S×179.31E, h512km±96km, mb3.1/3, mb1 3.3/4, mb1mx3.0/16, mbtmp3.2/4, Error ellipse: s-maj=122.5km s-min=38.1km az=4.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.39**	**196**	P	P	02 50 32.3	+0.8
	3.3nm,0.3s,baz=20,slow=2.9,SNR=10						
URZ				S	S	02 51 53.3	-0.5
	3.8nm,0.3s,baz=70,slow=22,SNR=15						
ASAR	**Alice Springs**	**40.76**	**270**	P	P	02 55 47.8	+0.2
	0.6nm,0.4s,baz=104,slow=7.7,SNR=6.6						
WRA	**Warramunga Arr**	**41.91**	**276**	P	P	02 55 56.5	-0.3
	2.6nm,0.5s,baz=112,slow=8.1,SNR=9.1						
FITZ	**Fitzroy Crossi**	**50.09**	**273**	P	P	02 56 58.8	-0.2
	0.7nm,0.4s,baz=108,slow=6.4,SNR=5.1						
FINES	**FINESS Array B**	**145.90**	**337**	PKPbc	PKPdf	03 07 31.5	+0.9
	3.8nm,0.8s,baz=49,slow=4.2,SNR=6.2						

*ISCJB **23** 02:59:29.0±0.3, 52.98S±0.04×159.89E±0.08, h10km, mb5.2/42, MS5.3/175, Error ellipse: s-maj=7.1km s-min=5.1km az=24.2*
*IDC **23** 02:59:28.9±0.4, 52.97S×159.87E, h0km, mb5.0/13, mb1 5.0/15, mb1mx4.9/20, mbtmp4.9/15, ML4.0/2, MS5.2/13, Ms1 5.2/13, ms1mx5.1/17, Error ellipse: s-maj=19.2km s-min=12.8km az=87.0*
*MOS **23** 02:59:28.9±4.3, 52.97S×159.87E, h33km, mb5.3/13, MS5.3/26, Error ellipse: s-maj=24.6km s-min=10.0km az=72.9*
*BJI **23** 02:59:30.3, 52.67S×160.71E, h10km, mB5.8/17, mb5.8/15, Ms5.6/23, Ms7 5.3/20*
*NEIC **23** 02:59:30.5±0.2, 52.96S×159.91E, h10km, mb5.3/33, MS5.4/142, MW6.0, MW6.0, MW6.0(USGS), Error ellipse: s-maj=5.9km s-min=4.9km az=124.0, Moment Tensor Solution. s18 Moment tensor: Scale 10^{18}Nm; M_{rr}0.13; $M_{\theta\theta}$0.96; $M_{\phi\phi}$-1.08; $M_{r\theta}$0.05; $M_{\theta\phi}$0.57; $M_{\phi r}$-0.05; Best double couple: $M_0$1.20000×10^{18} NP1:ϕ_s30.00000°, δ87.00000°, λ-180.00000°. NP2:ϕ_s300.00000°, δ90.00000°, λ-3.00000°. Principal axes: T 1.1100, Plg2.0000°, Azm345.0000°; N 0.1300, Plg86.0000°, Azm111.0000°; P -1.2300, Plg2.0000°, Azm255.0000°;*
*BKK **23** 02:59:36.3±0.8, 53.S±8.×16.0E±2.2, h10km, M5.1/17, mB6.0/1, mb5.1/17, Mw(mB)5.6/1*
*DJA **23** 02:59:37.7±1.7, 53.S±4.×15.9E±1.3, h45km±15km, M5.2/19, mB5.8/4, mb5.1/19, Mw(mB)5.4/4*
*GCMT **23** 02:59:38.3±0.1, 52.95S×159.58E, h21km, MW6.0, Moment Tensor Solution. s112,c240; s92,c143; Moment tensor: Scale 10^{18}Nm; M_{rr}0.00±.01; $M_{\theta\theta}$1.12±.01; $M_{\phi\phi}$-1.12±.01; $M_{r\theta}$0.04±.02; $M_{\theta\phi}$0.49±.01; $M_{\phi r}$0.02±.02; Best double couple: $M_0$1.20000×10^{18} NP1:ϕ_s33.00000°, δ89.00000°, λ178.00000°. NP2:ϕ_s123.00000°, δ88.00000°, λ1.00000°. Principal axes: T 1.2200, Plg2.0000°, Azm348.0000°; N 0.0000, Plg88.0000°, Azm179.0000°; P -1.2200, Plg0.0000°, Azm78.0000°; Data Used: II IU G CN IC. Surface waves: sta=112, comp=236, per= 50.*
*NEIC **23** 03:00:00.2±0.0, 52.90S×158.78E, h10km, Moment Tensor Solution. s86 Moment tensor: Scale 10^{18}Nm; M_{rr}0.10; $M_{\theta\theta}$1.02; $M_{\phi\phi}$-1.12; $M_{r\theta}$-0.47; $M_{\theta\phi}$0.37; $M_{\phi r}$-0.10; Best double couple: $M_0$1.20000×10^{18} NP1:ϕ_s308.00000°, δ74.00000°, λ16.00000°. NP2:ϕ_s213.00000°, δ75.00000°, λ163.00000°. Principal axes: T 1.2800, Plg22.0000°, Azm170.0000°; N -0.0900, Plg67.0000°, Azm352.0000°; P -1.1800, Plg0.0000°, Azm260.0000°;*

ISC 23 02:59:31.9±0.5, 53.10S±0.05×160.04E±0.06, h17km±2km, h17km: pP-P, n760, σ1$26/646, mb5.2/42, MS5.4/174, 156C-128D, Macquarie Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MCQ	**Macquarie Isla**	**1.55**	**204**	*e*P	Pn	02 59 54.4	-4.1
MCQ				*e*		03 00 10.5	
MCQ	**Macquarie Isla**	**1.55**	**204**	*e*Pn	Pn	02 59 54.4	-4.1
MCQ				*e*Sn	Sn	03 00 10.5	-7.7
WHZ	**Wether Hill Ro**	**8.85**	**39**	*e*Pn	**Pn**	**03 01 36.4**	**-2.5**
WHZ				*e*Sn	Sn	03 03 11.4	-6.8
ODZ	**Otahua Downs**	**10.63**	**45**	*e*Pn	**Pn**	**03 02 01.1**	**-2.2**
ODZ				*e*Sn	Sn	03 03 47.2	-15
RPZ	**Rata Peaks**	**11.89**	**42**	*e*Pn	**Pn**	**03 02 18.7**	**-1.8**
RPZ				*e*Sn	Sn	03 04 13.6	-19
RPZ	**Rata Peaks**	**11.89**	**42**	Pn	**Pn**	**03 02 18.0**	**-2.5**
	1.7nm,0.3s,baz=284,slow=18,SNR=8.0						
RPZ				Sn	Sn	03 04 21.4	-11
	6.6nm,0.3s,baz=204,slow=20,SNR=3.8						
RPZ				LR	LR	03 05 52.5	
	comp=Z,32μm,19.6s,baz=207,slow=32						
TAU	**Tasmania Unive**	**13.26**	**315**	Pn	Pn	03 02 35.4	-3.8
	829nm,1.0s,SNR=18						
TAU	**Tasmania Unive**	**13.26**	**315**	*e*P	Pn	03 02 35.3	-3.9
TAU				*e*		03 04 58.4	
TAU	**Tasmania Unive**	**13.26**	**315**	*e*Pn	Pn	03 02 35.3	-3.9
TAU				*e*Sn	Sn	03 04 58.4	-7.6
KHZ	**Kahutara**	**13.99**	**46**	*e*Pn	**Pn**	**03 02 48.0**	**-1.2**
KHZ				*e*Sn	Sn	03 05 18.8	-5.2
SNZO	**South Karori**	**15.40**	**46**	*e*Pn	**Pn**	**03 03 07.8**	**-0.4**
	270nm,1.3s						
BFZ	**Birch Farm**	**16.59**	**48**	*e*Pn	**Pn**	**03 03 23.3**	**-0.2**
	195nm,1.3s						
DRV	**Dumont d'Urvil**	**16.79**	**208**	P	**Pn**	**03 03 22.0**	**-3.8**
DRV				S	**Sn**	**03 06 31.0**	**-0.6**
DRV				R		03 07 00.0	
BKZ	**Black Stump Fm**	**17.94**	**46**	*e*Pn	**P**	**03 03 41.9**	**+1.0**
	1μm,2.5s						
URZ	**Urewera**	**18.96**	**45**	*e*P	**P**	**03 03 50.4**	**-1.6**
	477nm,1.8s						
URZ	**Urewera**	**18.96**	**45**	P	**P**	**03 03 52.0**	**0.0**
	0.2nm,0.3s,baz=214,slow=15,SNR=2.9						
URZ				LR	LR	03 11 06.5	
	comp=Z,49μm,18.2s,baz=227,slow=37						
CAN	**Canberra**	**19.41**	**332**	*e*P	**P**	**03 03 56.5**	**-0.6**
CAN				pmax	pmax		
	comp=Z,100nm,1.3s						
CAN	**Canberra**	**19.41**	**332**	*e*P	**P**	**03 03 56.5**	**-0.6**
	comp=Z,100nm,1.3s						
ARMA	**Armidale**	**23.48**	**342**	*e*P	**P**	**03 04 39.3**	**-1.3**
	comp=Z,521nm,2.6s						
VNDA	**Vanda**	**24.53**	**179**	*e*P	**P**	**03 04 51.0**	**+1.0**
	comp=Z,56nm,1.2s						
VNDA				PcP	**PcP**	**03 08 28.2**	**+0.7**
VNDA	**Vanda**	**24.53**	**179**	P	**P**	**03 04 50.9**	**+0.9**
	comp=Z,22nm,1.1s,baz=345,slow=9.7,SNR=66						
VNDA				PcP	**PcP**	**03 08 28.2**	**+0.7**
	comp=Z,2.9nm,0.7s,baz=347,slow=5.3,SNR=5.8						
VNDA				LR	LR	03 12 36.9	
	comp=Z,7μm,21.5s,baz=356,slow=32						
SBA	**Scott Base**	**24.98**	**177**	*e*P	**P**	**03 04 56.8**	**+2.8**
SBA				pmax	pmax		
	comp=Z,119nm,1.4s						
SBA				MLR	MLR		
	comp=Z,6μm,20.0s						
SBA	**Scott Base**	**24.98**	**177**	*e*P	**P**	**03 04 56.8**	**+2.8**
	comp=Z,119nm,1.4s						
SBA				LR	LR		
	comp=Z,6μm,20.0s						
STKA	**Stephens Creek**	**25.05**	**321**	*e*P	**P**	**03 04 54.4**	**-0.6**
	comp=Z,13nm,1.1s						
STKA	**Stephens Creek**	**25.05**	**321**	P	**P**	**03 04 53.4**	**-1.7**
	comp=Z,54nm,1.1s,baz=138,slow=10,SNR=15						
CASY	**Casey**	**27.39**	**222**	*e*P	**P**	**03 05 15.1**	**-0.7**
	comp=Z,60nm,1.5s						
CASY				LR	LR		
	comp=Z,2μm,20.0s						
EIDS	**Eidsvold**	**28.50**	**343**	*e*P	**P**	**03 05 28.0**	**+1.9**
	comp=Z,43nm,1.4s						
RAO	**Raoul Island**	**28.80**	**43**	PFAKE		03 05 40.0	+11
RAO				LR	LR		
	comp=Z,5μm,21.0s						
DZM	**Mont Dzumac**	**31.36**	**11**	*e*P	**P**	**03 05 52.4**	**+0.8**
	comp=Z,104nm,1.2s						
DZM				*e*S	**S**	**03 10 57.6**	**-0.4**
	comp=Z,4μm,28.8s						
DZM				*e*LQ	LQ	03 12 33.5	
	comp=Z,7μm,24.8s						
DZM				*e*LR	LR	03 14 09.2	
	comp=Z,9μm,25.2s						
DZM	**Mont Dzumac**	**31.36**	**11**	*e*P	**P**	**03 05 51.6**	**0.0**
	comp=Z,45nm,1.1s						
DZM	**Mont Dzumac**	**31.36**	**11**	P	**P**	**03 05 51.7**	**+0.2**
	comp=Z,20nm,0.8s,baz=212,slow=9.5,SNR=12						
FORT	**Forrest**	**32.17**	**301**	*e*P	**P**	**03 05 56.9**	**-1.7**
	comp=Z,52nm,1.0s						
MIR	**Mirnyy**	**34.39**	**221**	||*i*P	P	03 06 21.0	+3.5
MIR				*i*		03 06 33.0	
MIR				pmax	pmax		
	comp=Z,56nm,1.5s						
CTA	**Charters Tower**	**34.63**	**337**	P	**P**	**03 06 19.1**	**-0.9**
CTA	**Charters Tower**	**34.63**	**337**	P	**P**	**03 06 19.1**	**-0.9**
	comp=Z,40nm,1.1s,baz=173,slow=10,SNR=15						
CTAO	**Charters Tower**	**34.63**	**337**	*e*P	**P**	**03 06 19.3**	**-0.8**
CTAO				pmax	pmax		
	comp=Z,98nm,1.3s						
CTAO				MLR	MLR		
	comp=Z,5μm,20.0s						
CTAO	**Charters Tower**	**34.63**	**337**	*e*P	**P**	**03 06 19.3**	**-0.8**
	comp=Z,98nm,1.3s						
CTAO				LR	LR		
	comp=Z,5μm,20.0s						
AS31	**Alice Springs**	**35.43**	**316**	*e*P	**P**	**03 06 25.6**	**-1.4**
ASAR	**Alice Springs**	**35.43**	**316**	P	**P**	**03 06 25.5**	**-1.5**
ASAR				PcP	**PcP**	**03 08 54.9**	**-1.6**
ASAR	**Alice Springs**	**35.43**	**316**	P	**P**	**03 06 25.5**	**-1.5**
	comp=Z,36nm,1.0s,baz=151,slow=8.7,SNR=108						
ASAR				PcP	**PcP**	**03 08 54.9**	**-1.6**
	comp=Z,2.5nm,0.9s,baz=150,slow=4.1,SNR=2.3						
ASAR				LR	LR	03 19 40.3	
	comp=Z,7μm,18.1s,baz=154,slow=34						
NWAO	**Narrogin (SRO)**	**36.52**	**286**	LR	LR	03 18 10.1	
	comp=Z,808nm,19.9s,baz=303,slow=31						
QSPA	**South Pole Qui**	**37.02**	**180**	*e*P	**P**	**03 06 42.0**	**+1.7**
	comp=Z,77nm,1.0s						
QSPA				PcP	**PcP**	**03 09 01.1**	**+0.4**
QSPA				LR	LR		
	comp=Z,6μm,22.0s						
QSPA	**South Pole Qui**	**37.02**	**180**	P	**P**	**03 06 41.8**	**+1.5**
	comp=Z,58nm,0.8s,baz=3.2,slow=5.2,SNR=122						
QSPA				PcP	**PcP**	**03 09 01.1**	**+0.4**
	comp=Z,10nm,0.9s,baz=337,slow=2.0,SNR=5.6						
MSVF	**Nonsavu**	**37.99**	**29**	PFAKE		03 07 00.0	+11
MSVF				LR	LR		
	comp=Z,8μm,21.0s						
WRA	**Warramunga Arr**	**38.59**	**319**	P	**P**	**03 06 51.3**	**-2.5**
WRA				PcP	**PcP**	**03 09 04.6**	**-1.4**
WRA	**Warramunga Arr**	**38.59**	**319**	P	**P**	**03 06 51.3**	**-2.5**
	comp=Z,22nm,0.9s,baz=154,slow=7.5,SNR=41						
WRA				PcP	**PcP**	**03 09 04.6**	**-1.4**
	comp=Z,3.6nm,1.0s,baz=155,slow=3.2,SNR=3.7						
WRA				LR	LR	03 22 04.1	
	comp=Z,4μm,18.9s,baz=145,slow=35						
WRAB	**Tennant Creek**	**38.59**	**319**	*e*P	**P**	**03 06 51.0**	**-2.8**
WRAB				pmax	pmax		
	comp=Z,27nm,1.0s						
WRAB				MLR	MLR		
	comp=Z,5μm,21.0s						
WRAB	**Tennant Creek**	**38.59**	**319**	*e*P	**P**	**03 06 51.0**	**-2.8**
	comp=Z,27nm,1.0s						
WRAB				LR	LR		
	comp=Z,5μm,21.0s						
WRAB	**Tennant Creek**	**38.59**	**319**	P	**P**	**03 06 51.8**	**-2.0**
	comp=Z,156nm,1.0s,SNR=9.3						
COEN	**Coen**	**41.28**	**335**	*e*P	**P**	**03 07 14.2**	**-2.0**
	comp=Z,354nm,1.2s						
HNR	**Honiara**	**43.54**	**360**	PFAKE		03 07 40.0	+5.5
HNR				LR	LR		
	comp=Z,192nm,19.0s						
FITZ	**Fitzroy Crossi**	**43.98**	**309**	P	**P**	**03 07 36.7**	**-1.4**
FITZ	**Fitzroy Crossi**	**43.98**	**309**	P	**P**	**03 07 36.7**	**-1.4**
	comp=Z,15nm,0.8s,baz=150,slow=9.9,SNR=18						
RAR	**Rarotonga**	**44.21**	**60**	P	**P**	**03 07 39.6**	**-0.3**
RAR				LR	LR		
	comp=Z,5μm,21.0s						
RAR	**Rarotonga**	**44.21**	**60**	P	**P**	**03 07 39.6**	**-0.3**
	comp=Z,15nm,0.9s,baz=224,slow=0.0,SNR=2.1						
MBWA	**Marble Bar**	**44.32**	**300**	*e*P	**P**	**03 07 39.0**	**-1.8**
	comp=Z,42nm,1.1s						
MBWA				LR	LR		
	comp=Z,3μm,21.0s						
PMG	**Port Moresby**	**44.80**	**342**	*e*P	**P**	**03 07 44.3**	**-0.3**
	comp=Z,22nm,0.9s						
PMG				LR	LR		
	comp=Z,3μm,21.0s						
PMG	**Port Moresby**	**44.80**	**342**	P	**P**	**03 07 46.3**	**+1.7**
	comp=Z,26nm,1.9s						
PMG	**Port Moresby**	**44.80**	**342**	P	**P**	**03 07 43.5**	**-1.1**
	comp=Z,17nm,0.8s,baz=213,slow=8.2,SNR=6.3						
MAW	**Mawson**	**44.93**	**213**	*e*P	**P**	**03 07 45.9**	**+0.8**
	comp=Z,7.1nm,1.1s						
MAW	**Mawson**	**44.93**	**213**	P	**P**	**03 07 46.4**	**+1.3**
	comp=Z,26nm,1.1s,baz=120,slow=9.9,SNR=36						
MAW				LR	LR	03 25 28.3	
	comp=Z,2μm,18.7s,baz=298,slow=35						
AFI	**Afiamalu**	**45.03**	**40**	PFAKE		03 08 00.0	+13
AFI				LR	LR		
	comp=Z,2μm,21.0s						
FUNA	**Funafuti**	**47.08**	**26**	PFAKE		03 08 10.0	+7.4
FUNA				LR	LR		
	comp=Z,7μm,19.0s						
TBI	**Tubuai**	**48.17**	**72**	*e*S	**S**	**03 15 10.7**	**+1.4**
	comp=Z,6μm,29.0s						
TBI				*e*LQ	LQ	03 19 46.2	
	comp=Z,6μm,26.8s						
TBI				*e*LR	LR	03 21 56.4	
	comp=Z,16μm,31.5s,baz=221						
SYO	**Syowa Base**	**50.65**	**204**	||*e*P	**P**	**03 08 28.8**	**-0.6**
SYO	**Syowa Base**	**50.65**	**204**	||*pP	**P**	**03 08 32.0**	**+2.6**
PPT2	**Papeete2**	**52.67**	**68**	*e*S	**S**	**03 16 12.0**	**-0.1**
	comp=Z,7μm,28.0s						
PPT2				*e*LQ	LQ	03 21 42.2	
	comp=Z,7μm,30.0s						
PPT2				*e*LR	LR	03 23 37.4	
	comp=Z,11μm,34.5s						
PPT	**Papeete**	**52.69**	**68**	LR	LR	03 29 02.9	
	comp=Z,2μm,18.5s,baz=232,slow=34						
PAF	**Port-aux-Franc**	**52.79**	**235**	PFAKE		03 09 00.0	+14
PAF				LR	LR		
	comp=Z,4μm,19.0s						
MAIT	**Maitri**	**54.36**	**192**	*e*P	**P**	**03 08 55.3**	**-1.6**
SNAA	**Sanae**	**54.94**	**187**	*e*P	**P**	**03 09 01.4**	**+0.2**
SNAA	**Sanae**	**54.94**	**187**	*e*P	**P**	**03 09 00.8**	**-0.5**
	comp=Z,25nm,1.0s						
TARA	**Tarawa**	**55.32**	**16**	PFAKE		03 09 20.0	+16
TARA				LR	LR		
	comp=Z,2μm,19.0s						
VNA2	**Neumayer--Watz**	**55.95**	**185**	*e*P	**P**	**03 09 09.1**	**+0.7**
VNA2	**Neumayer--Watz**	**55.95**	**185**	*e*I	pP	03 09 14.5	+0.6
VNA1	**Neumayer--Stat**	**56.27**	**185**	*e*P	**P**	**03 09 12.1**	**+1.5**
VNA1	**Neumayer--Stat**	**56.27**	**185**	*e*I	pP	03 09 16.3	+0.1
RKT	**Rikitea**	**56.89**	**85**	*e*S	**S**	**03 17 10.0**	**+1.4**
	comp=Z,5μm,31.5s						
RKT				*e*LQ	LQ	03 23 21.4	
	comp=Z,5μm,28.0s						
RKT				*e*LR	LR	03 25 44.3	
	comp=Z,8μm,33.5s,baz=217						
PMSA	**Palmer Station**	**57.65**	**159**	PFAKE		03 09 30.0	+10
PMSA				LR	LR		
	comp=Z,1μm,21.0s						
KAPI	**Kappang**	**58.16**	**311**	*e*P	**P**	**03 09 23.6**	**-1.1**
	comp=Z,16nm,1.1s						
KAPI				LR	LR		
	comp=Z,3μm,19.0s						
COCO	**West Island**	**64.33**	**284**	PFAKE		03 10 20.0	+14
COCO				LR	LR		
	comp=Z,2μm,22.0s						
XMAS	**Kiritimati**	**65.42**	**48**	PFAKE		03 10 30.0	+16
XMAS				LR	LR		
	comp=Z,4μm,19.0s						
DAV	**Davao City (W)**	**66.67**	**322**	PFAKE		03 10 30.0	+8.4
DAV				LR	LR		
	comp=Z,3μm,21.0s						
GUMO	**Guam**	**67.68**	**344**	PFAKE		03 10 40.0	+12
GUMO				LR	LR		
	comp=Z,1μm,22.0s						
KSM	**Kuching**	**68.33**	**305**	*e*P	**P**	**03 10 31.4**	**-0.7**
	comp=Z,45nm,1.1s						
KSM				LR	LR		
	comp=Z,1μm,20.0s						
KKM	**Kota Kinabalu**	**69.56**	**313**	PFAKE		03 10 50.0	+10
KKM				LR	LR		
	comp=Z,2μm,22.0s						
EFI	**East Falkland**	**70.81**	**156**	PFAKE		03 11 00.0	+13
EFI				LR	LR		
	comp=Z,578nm,19.0s						
WAKE	**Wake Island**	**72.30**	**7**	PFAKE		03 11 10.0	+14
WAKE				LR	LR		
	comp=Z,2μm,20.0s						
IPM	**Ipoh**	**75.66**	**298**	*e*P	**P**	**03 11 17.4**	**+1.4**
	comp=Z,20nm,1.0s						
KULM	**Kulim**	**76.54**	**298**	*e*P	**P**	**03 11 18.4**	**-2.7**
	comp=Z,51nm,1.4s						
KULM				LR	LR		
	comp=Z,1μm,20.0s						
PLCA	**Paso Flores**	**76.84**	**143**	*e*P	**P**	**03 11 22.6**	**0.0**
	comp=Z,20nm,1.3s						
PLCA	**Paso Flores**	**76.84**	**143**	P	**P**	**03 11 21.0**	**-1.7**
	comp=Z,2.4nm,1.0s,baz=198,slow=3.2,SNR=3.5						
PLCA				LR	LR	03 38 35.6	
	comp=Z,857nm,18.5s,baz=138,slow=30						
KRAB	**Krabi**	**79.78**	**299**	P	P	03 11 43.9	+5.0
	comp=Z,29nm,0.9s						
RER	**Riviere de l'E**	**81.53**	**246**	*e*P	**P**	**03 11 49.7**	**+1.2**
	comp=Z,55nm,1.0s						
POHA	**Pohakuloa**	**82.09**	**42**	PFAKE		03 12 00.0	+8.6
POHA				LR	LR		
	comp=Z,2μm,21.0s						
TRQA	**Tornquist**	**82.18**	**148**	*e*P	**P**	**03 11 52.8**	**+1.1**
	comp=Z,8.1nm,0.8s						
TRQA				LR	LR		
	comp=Z,799nm,20.0s						
DGAR	**Diego Garcia**	**82.68**	**267**	PFAKE		03 12 10.0	+16
DGAR				LR	LR		
	comp=Z,2μm,19.0s						
MIDW	**Midway**	**83.33**	**20**	PFAKE		03 12 10.0	+13
MIDW				LR	LR		
	comp=Z,3μm,20.0s						
QIZ	**Qiongzhong**	**83.88**	**313**	P	**P**	**03 11 57.8**	**-2.6**
QIZ				S	**S**	**03 22 18.8**	**-4.2**
QIZ				pmax	pmax		
	comp=Z,39nm,1.8s						
QIZ				pmax	pmax		
	comp=Z,170nm,3.7s						
QIZ				LR	LR		
	comp=E,1μm,22.9s						
QIZ				LR	LR		
	comp=Z,1μm,23.1s						
YHNB	**Yeheng**	**84.42**	**325**	PFAKE		03 12 10.0	+6.9
YHNB				LR	LR		
	comp=Z,1μm,22.0s						
TATO	**Taipei**	**84.66**	**325**	PFAKE		03 12 10.0	+5.8
TATO				LR	LR		
	comp=Z,982nm,19.0s						
CFAA	**Coronel Fontan**	**85.78**	**140**	LR	LR	03 42 49.8	
	comp=Z,61nm,19.3s,baz=216,slow=30						
UTHA	**Uthaitani**	**85.83**	**303**	P	P	03 12 15.8	+5.5
	comp=Z,3.7nm,1.5s						
PBKT	**Sadao Pong**	**85.92**	**304**	P	P	03 12 16.5	+5.8
LCO	**Las Campanas**	**87.10**	**137**	PFAKE		03 12 30.0	+13
LCO				LR	LR		
	comp=Z,1μm,21.0s						
SUR	**Sutherland**	**87.78**	**214**	*e*P	**P**	**03 12 20.6**	**+0.5**
	comp=Z,37nm,0.9s						
SUR				LR	LR		
	comp=Z,841nm,21.0s						
ABPO	**Ambohimpanom**	**87.87**	**241**	PFAKE		03 12 30.0	+9.4
ABPO				LR	LR		
	comp=Z,993nm,21.0s						
CHTO	**Chiang Mai**	**88.83**	**304**	*e*P	**P**	**03 12 24.9**	**+0.1**
CHTO				MLR	MLR		
	comp=Z,515nm,21.0s						
CHTO	**Chiang Mai**	**88.83**	**304**	*e*P	**P**	**03 12 24.9**	**+0.1**
	comp=Z,163nm,1.4s						
CHTO				LR	LR		
	comp=Z,515nm,21.0s						
BOSA	**Boshof**	**89.63**	**219**	*e*P	**P**	**03 12 28.1**	**-0.6**
	comp=Z,22nm,1.2s						
BOSA	**Boshof**	**89.63**	**219**	P	**P**	**03 12 28.2**	**-0.6**
	comp=Z,8.5nm,0.7s,baz=161,slow=6.3,SNR=15						
BOSA				LR	LR	03 45 12.7	
	comp=Z,717nm,21.7s,baz=159,slow=31						
SSE	**Sheshan**	**90.41**	**327**	*e*P	**P**	**03 12 33.4**	**+1.6**
SSE				sP	**sP**	**03 12 38.1**	**-1.5**
SSE				S	**ScS**	**03 23 28.3**	**-0.8**
SSE				sS	**sS**	**03 23 33.8**	**-1.2**
SSE				pmax	pmax		
	comp=Z,52nm,0.7s						
SSE				pmax	pmax		
	comp=Z,60nm,3.8s						
SSE				LR	LR		
	comp=N,620nm,24.6s						
SSE				LR	LR		
	comp=E,220nm,24.5s						
SSE				LR	LR		
	comp=E,830nm,23.6s						
MAJO	**Matsushiro**	**91.27**	**343**	*e*P	**P**	**03 12 35.4**	**-0.3**
MAJO				pmax	pmax		
	comp=Z,25nm,1.3s						
MAJO				MLR	MLR		
	comp=Z,730nm,20.0s						
MAJO	**Matsushiro**	**91.27**	**343**	*e*P	**P**	**03 12 35.4**	**-0.3**
	comp=Z,25nm,1.3s						
MAJO	

NJ2			PP	PP	03 16 21.6	+1.8
NJ2	**Nanjing**	**92.06 326**	S	**S**	**03 23 45.0**	**+4.6**
NJ2	**Nanjing**	**92.06 326**	ScS	S	03 23 47.0	+6.6
NJ2			pmax	pmax		
	comp=Z,480nm,0.5s					
NJ2			pmax	pmax		
	comp=Z,190nm,3.7s					
NJ2			LR	LR		
	comp=N,2μm,19.1s					
NJ2			LR	LR		
	comp=E,1μm,28.6s					
NJ2			LR	LR		
	comp=Z,760nm,22.7s					
WHN	**Wuhan**	**92.29 322**	⇑P	P	03 12 52.8	+12
WHN	**Wuhan**	**92.29 322**	S	**S**	**03 23 39.8**	**-2.7**
WHN			LR	LR		
	comp=Z,1μm,21.2s					
KMI	**Kunming**	**92.38 310**	P	P	03 12 44.8	+3.4
KMI			pP	pP	03 12 47.1	-0.1
KMI			sP	sP	03 12 48.1	-1.1
KMI			PP	PP	03 16 27.4	+4.7
KMI			SKS	**SKSac**	**03 23 16.5**	**+2.6**
KMI			S	**ScS**	**03 23 46.3**	**0.0**
KMI			SS	**SS**	**03 30 00.8**	**+5.0**
KMI			pmax	pmax		
	comp=Z,10.0nm,0.6s					
KMI			pmax	pmax		
	comp=Z,93nm,4.7s					
KMI			LR	LR		
	comp=N,1μm,24.0s					
KMI			LR	LR		
	comp=E,1μm,24.6s					
KMI			LR	LR		
	comp=Z,1μm,21.0s					
LBTB	**Lobatse**	**92.73 220**	*e*P	**P**	**03 12 42.8**	**-0.4**
	comp=Z,7.5nm,1.1s					
LVC	**Limon Verde**	**93.50 136**	PFAKE		03 13 00.0	+13
LVC			LR	LR		
	comp=Z,727nm,20.0s					
KSAR	**Wonju Array Be**	**94.39 335**	P	**P**	**03 12 50.5**	**+0.4**
KSRS	**Korea Array**	**94.39 335**	P	**P**	**03 12 50.5**	**+0.5**
	comp=Z,0.8nm,0.5s,baz=152,slow=5.0,SNR=3.6					
KSRS			LR	LR	03 55 31.1	
	comp=Z,596nm,19.8s,baz=170,slow=36					
CPUP	**Villa Florida**	**94.48 147**	LR	LR	03 50 02.7	
	comp=Z,997nm,19.5s,baz=179,slow=32					
INCN	**Inchon**	**94.75 334**	PFAKE		03 13 00.0	+8.2
INCN			LR	LR		
	comp=Z,541nm,22.0s					
MSEY	**Mahe Island**	**94.97 256**	PFAKE		03 13 00.0	+6.5
MSEY			LR	LR		
	comp=Z,1μm,22.0s					
ERM	**Erimo**	**95.85 347**	PFAKE		03 13 10.0	+13
ERM			LR	LR		
	comp=Z,2μm,21.0s					
CD2	**Chengdu**	**96.89 314**	P	**P**	**03 13 04.5**	**+2.8**
CD2			pP	**pP**	**03 13 09.3**	**+1.8**
CD2			sP	**sP**	**03 13 11.5**	**+1.9**
CD2			PP	PP	03 17 03.0	+5.4
CD2			SKS	**SKSac**	**03 23 40.4**	**+2.8**
CD2			S	**ScS**	**03 24 24.1**	**+0.8**
CD2			sS	**sS**	**03 24 31.8**	**-0.8**
CD2			SS	**SS**	**03 31 04.5**	**+4.8**
CD2			pmax	pmax		
	comp=Z,20nm,0.5s					
CD2			pmax	pmax		
	comp=Z,170nm,5.7s					
CD2			LR	LR		
	comp=N,1μm,25.6s					
CD2			LR	LR		
	comp=Z,1μm,27.6s					
DL2	**Dalian**	**97.48 331**	PP	PP	03 17 06.8	+4.8
DL2	**Dalian**	**97.48 331**	SKS	S	03 24 33.9	+6.4
DL2	**Dalian**	**97.48 331**	P	Pdif	03 13 07.3	+3.1
DL2			PP	PP	03 17 06.8	+4.8
DL2			LR	LR		
	comp=N,420nm,25.0s					
DL2			LR	LR		
	comp=Z,460nm,24.9s					
USRK	**Ussuriysk Arra**	**99.87 340**	LR	LR	03 57 41.8	
	comp=Z,786nm,20.0s,baz=160,slow=35					
BJI	**Beijing**	**100.22 327**	P	**Pdif**	**03 13 15.4**	**-0.9**
BJI			Pdif	**Pdif**	**03 13 18.0**	**+1.7**
BJI			PP	**PP**	**03 17 24.5**	**+1.6**
BJI			SKS	**SKSac**	**03 23 57.5**	**+3.8**
BJI			S	**Sdif**	**03 24 50.9**	**+0.5**
BJI			SS	**SS**	**03 31 46.6**	**+0.6**
BJI			pmax	pmax		
	comp=Z,11nm,0.5s					
BJI			pmax	pmax		
	comp=Z,68nm,5.1s					
BJI			LR	LR		
	comp=N,510nm,22.3s					
BJI			LR	LR		
	comp=E,1μm,25.4s					
BJI			LR	LR		
	comp=Z,1μm,33.2s					
LSZ	**Lusaka**	**100.34 227**	PFAKE		03 13 30.0	+12
LSZ			LR	LR		
	comp=Z,1μm,20.0s					
MDJ	**Mudanjiang**	**100.78 338**	P	**Pdif**	**03 13 17.6**	**-1.1**
MDJ			S	**Sdif**	**03 24 54.4**	**-0.6**
MDJ			SS	**SS**	**03 31 52.1**	**-1.7**
MDJ			pmax	pmax		
	comp=Z,9.0nm,0.5s					
MDJ			pmax	pmax		
	comp=Z,84nm,4.7s					
MDJ			LR	LR		
	comp=E,1μm,42.4s					
MDJ			LR	LR		
	comp=Z,2μm,41.2s					
CN2	**Changchun**	**101.00 335**	*e*P	**Pdif**	**03 13 22.4**	**+2.7**
CN2			*e*pP	pP	03 13 27.3	+1.7
CN2			PP	PP	03 17 34.1	+5.4
CN2			*e*S	**Sdif**	**03 24 57.4**	**+0.6**
CN2			pmax	pmax		
	comp=Z,10.0nm,0.6s					
CN2			pmax	pmax		
	comp=Z,200nm,4.0s					
CN2			LR	LR		
	comp=N,900nm,24.0s					
CN2			LR	LR		
	comp=E,900nm,24.0s					
CN2			LR	LR		
	comp=Z,900nm,24.0s					
TSUM	**Tsumeb**	**101.02 216**	PFAKE		03 13 30.0	+9.2
TSUM			LR	LR		
	comp=Z,838nm,20.0s					
PAYG	**Puerto Ayora**	**101.17 106**	PFAKE		03 13 30.0	+8.7
PAYG			LR	LR		
	comp=Z,685nm,21.0s					
LZH	**Lanzhou**	**101.31 317**	*e*P	**Pdif**	**03 13 28.1**	**+6.6**
LZH			pP	pP	03 13 33.1	+5.7
LZH			sP		03 13 36.8	
LZH			*e*S	**Sdif**	**03 25 05.1**	**+5.0**
LZH			sS	**sS**	**03 25 09.0**	**-0.9**
LZH			SS	**SS**	**03 32 07.1**	**+5.4**
LZH			pmax	pmax		
	comp=Z,25nm,1.0s					
LZH			pmax	pmax		
	comp=Z,91nm,4.0s					
LZH			LR	LR		
	comp=N,1μm,18.0s					
LZH			LR	LR		
	comp=E,750nm,15.2s					
LZH			LR	LR		
	comp=Z,1μm,19.3s					
HHC	**Hu-ho-hao-te**	**102.50 324**	*e*P	**Pdif**	**03 13 27.1**	**+0.5**
HHC			pP		03 13 31.8	
HHC			PP	**PP**	**03 17 42.5**	**+2.2**
HHC			SKS	**SKSac**	**03 24 03.1**	**-1.9**
HHC			S	**Sdif**	**03 25 07.3**	**-2.5**
HHC			sS	sS	03 25 18.0	-1.8
HHC			SS	**SS**	**03 32 19.4**	**+1.4**
HHC			pmax	pmax		
	comp=Z,26nm,1.0s					
HHC			pmax	pmax		
	comp=Z,240nm,5.2s					
HHC			LR	LR		
	comp=N,2μm,12.8s					
HHC			LR	LR		
	comp=E,2μm,12.3s					
HHC			LR	LR		
	comp=Z,1μm,19.0s					
SAML	**Samuel**	**108.11 135**	PFAKE		03 18 10.0	
SAML			LR	LR		
	comp=Z,500nm,21.0s					
KMBO	**Kilima Mbogo**	**108.12 242**	*e*PKP	**PKiKP**	**03 17 60.0**	**+0.8**
KMBO			LR	LR		
	comp=Z,432nm,20.0s					
OTAV	**Otavalo**	**108.57 116**	PFAKE		03 18 10.0	
OTAV			LR	LR		
	comp=Z,400nm,21.0s					
SHEL	**Horse Pasture**	**110.14 195**	PFAKE		03 18 10.0	
SHEL			LR	LR		
	comp=Z,1μm,20.0s					
PKM	**Peak Mountain**	**111.68 61**	⇓PKiKP	**PKiKP**	**03 18 07.1**	**+1.9**
	baz=112					
PFO	**Pinyon Flat Ob**	**112.49 64**	PFAKE		03 18 20.0	
PFO			LR	LR		
	comp=Z,1μm,19.0s					
EDW2	**Edwards Air Fo**	**112.63 62**	⇓PKiKP	**PKiKP**	**03 18 08.6**	**+1.9**
	baz=113					
BELC	**Belle Mtn. Jos**	**113.04 64**	⇓PKiKP	**PKiKP**	**03 18 08.9**	**+1.2**
	baz=113					
BC3	**Big Chuckawall**	**113.07 64**	⇑PKiKP	**PKiKP**	**03 18 09.5**	**+1.7**
	baz=113					
JTS	**JuntasAbangare**	**113.11 104**	PFAKE		03 18 20.0	
JTS			LR	LR		
	comp=Z,1μm,22.0s					
214A	**Organ Pipe Nat**	**113.24 68**	⇑PKiKP	**PKiKP**	**03 18 09.8**	**+1.8**
	baz=114					
HEC	**Hector,Ludlow**	**113.48 63**	⇑PKiKP	**PKiKP**	**03 18 10.0**	**+1.6**
	baz=114					
MPMC	**Manual Prospec**	**113.79 61**	⇓PKiKP	**PKiKP**	**03 18 10.6**	**+1.5**
	baz=114					
TUC	**Tucson**	**114.64 69**	PFAKE		03 18 20.0	+9.3
TUC			LR	LR		
	comp=Z,1μm,19.0s					
WMQ	**Urumqi**	**114.71 311**	*e*PKP	PKPdf	03 18 11.6	+1.1
WMQ			PP	PP	03 19 13.9	+4.8
WMQ			PKS	**PKSdf**	**03 21 47.0**	**-0.1**
WMQ			SKS	**SKSdf**	**03 25 18.8**	**-2.6**
WMQ			SKKS	**SKKSac**	**03 26 02.9**	**-5.9**
WMQ			SS	**SS**	**03 35 01.6**	**-1.0**
WMQ			AMB	AMB		
	comp=Z,230nm,7.0s					
WMQ			LR	LR		
	comp=N,2μm,32.7s					
WMQ			LR	LR		
	comp=E,2μm,40.4s					
WMQ			LR	LR		
	comp=Z,900nm,28.0s					
TGUH	**Tegucigalpa,Un**	**114.72 100**	PFAKE		03 18 20.0	+8.8
TGUH			LR	LR		
	comp=Z,539nm,20.0s					
W13A	**Hualapai Mount**	**115.01 65**	⇑PKiKP	**PKiKP**	**03 18 12.5**	**+0.9**
	baz=115					
BCIP	**Isla Barro Col**	**115.16 109**	PFAKE		03 18 20.0	+7.8
BCIP			LR	LR		
	comp=Z,567nm,19.0s					
TPH	**Tonopah**	**115.45 60**	PFAKE		03 18 20.0	+7.7
TPH			LR	LR		
	comp=Z,713nm,19.0s					
220A	**Playas Peak, P**	**115.62 71**	⇓PKiKP	**PKiKP**	**03 18 13.9**	**+1.1**
	baz=116					
Z20A	**Nine Sixteen R**	**116.47 70**	⇑PKiKP	**PKiKP**	**03 18 16.0**	**+1.6**
	baz=117					
121A	**Cookes Peak, D**	**116.50 71**	⇑PKiKP	**PKiKP**	**03 18 15.8**	**+1.3**
	baz=117					
R11A	**Troy Canyon, C**	**116.51 61**	⇑PKiKP	**PKiKP**	**03 18 15.2**	**+0.9**
	baz=117					
WUAZ	**Wupatki**	**116.69 66**	PFAKE		03 18 30.0	+15
WUAZ			LR	LR		
	comp=Z,1μm,22.0s					
627A	**Terlingua Ranc**	**116.77 76**	⇓PKiKP	**PKiKP**	**03 18 15.8**	**+0.8**
	baz=117					
526A	**Mary Lane Ranc**	**116.81 75**	⇑PKiKP	**PKiKP**	**03 18 15.9**	**+0.8**
	baz=117					
425A	**Indio Mountain**	**116.83 74**	⇓PKiKP	**PKiKP**	**03 18 15.9**	**+0.9**
	baz=117					
U15A	**North Rim**	**116.86 65**	⇑PKiKP	**PKiKP**	**03 18 16.3**	**+1.1**
	baz=117					
324A	**Moseley Ranch,**	**117.02 73**	⇓PKiKP	**PKPdf**	**03 18 15.6**	**+0.2**
	baz=117					
KDAK	**Kodiak Island**	**117.05 26**	PFAKE		03 18 30.0	+16
KDAK			LR	LR		
	comp=Z,2μm,21.0s					
Z21A	**St. Cloud Mine**	**117.14 70**	⇓PKiKP	**PKiKP**	**03 18 16.3**	**+0.6**
	baz=117					
Y20A	**Horse Springs,**	**117.18 69**	⇑PKiKP	**PKiKP**	**03 18 16.4**	**+0.6**
	baz=117					
BMN	**Battle Mountai**	**117.20 58**	PFAKE		03 18 30.0	+14
BMN			LR	LR		
	comp=Z,864nm,20.0s					
KSH	**Kashi**	**117.22 300**	*e*PKP	**PKPdf**	**03 18 15.5**	**0.0**
KSH			PKS	**PKSdf**	**03 21 51.0**	**-1.2**
KSH			SKS	**SKSdf**	**03 25 26.6**	**0.0**
KSH			AMB	AMB		
	comp=Z,70nm,3.5s					
KSH			LR	LR		
	comp=N,130nm,5.5s					
KSH			LR	LR		
	comp=E,170nm,8.8s					
KSH			LR	LR		
	comp=Z,540nm,19.8s					
MNTX	**Cornudas Mount**	**117.27 73**	PFAKE		03 18 30.0	+14
MNTX			LR	LR		
	comp=Z,978nm,20.0s					
426A	**McDonald Obser**	**117.29 75**	⇑PKiKP	**PKiKP**	**03 18 16.8**	**+0.7**
	baz=118					
KBL	**Kabul**	**117.32 292**	*e*PKIKP	**PKPdf**	**03 18 16.5**	**+0.5**
KBL	**Kabul**	**117.32 292**	*e*PKPdf	**PKPdf**	**03 18 16.5**	**+0.5**
224A	**Cornudas Mount**	**117.46 73**	⇑PKiKP	**PKiKP**	**03 18 16.7**	**+0.4**
	baz=118					
Z22A	**Elephant Butte**	**117.50 71**	⇑PKiKP	**PKiKP**	**03 18 17.9**	**+1.6**
	baz=118					
528A	**Cox Ranch, San**	**117.64 76**	⇑PKiKP	**PKiKP**	**03 18 18.2**	**+1.5**
	baz=118					
Y21A	**Point of Rocks**	**117.65 70**	⇑PKiKP	**PKiKP**	**03 18 17.8**	**+1.0**
	baz=118					
X21A	**Alamocita Cree**	**117.91 69**	⇓PKiKP	**PKiKP**	**03 18 17.8**	**+0.6**
	baz=118					
124A	**Stringfield Ra**	**117.96 72**	⇓PKiKP	**PKiKP**	**03 18 18.1**	**+0.8**
	baz=118					
WVOR	**Wild Horse Val**	**117.96 56**	PFAKE		03 18 30.0	+13
WVOR			LR	LR		
	comp=Z,2μm,20.0s					
Y22A	**Socorro**	**118.00 70**	⇓PKiKP	**PKiKP**	**03 18 18.4**	**+1.1**
	baz=118					
428A	**Kincaid Ranch,**	**118.12 76**	⇑PKiKP	**PKiKP**	**03 18 18.2**	**+0.6**
	baz=118					
226B	**Tecolote Peak,**	**118.25 73**	⇓PKiKP	**PKiKP**	**03 18 18.9**	**+1.2**
	baz=118					
732A	**Laxson Ranch,**	**118.25 79**	⇑PKiKP	**PKiKP**	**03 18 18.4**	**+0.7**
	baz=118					
125A	**Gardner Draw,**	**118.39 73**	⇑PKiKP	**PKiKP**	**03 18 18.7**	**+0.7**
	baz=119					
631A	**Perdido Creek**	**118.39 78**	⇑PKiKP	**PKiKP**	**03 18 18.9**	**+0.9**
	baz=119					
MVU	**Marysvale**	**118.42 63**	PFAKE		03 18 30.0	+12
MVU			LR	LR		
	comp=Z,1μm,19.0s					
530A	**J-C Ranch, Com**	**118.48 77**	⇓PKiKP	**PKiKP**	**03 18 19.6**	**+1.4**
	baz=119					
Y23A	**Lovelace Mesa,**	**118.51 71**	⇑PKiKP	**PKiKP**	**03 18 19.6**	**+1.3**
	baz=119					
KVTX	**Kingsville**	**118.61 82**	PFAKE		03 18 30.0	+12
KVTX			LR	LR		
	comp=Z,2μm,19.0s					
126A	**Clayton Basin,**	**118.75 73**	⇓PKiKP	**PKiKP**	**03 18 19.4**	**+0.7**
	baz=119					
Y24A	**Capitan**	**118.86 71**	⇓PKiKP	**PKiKP**	**03 18 19.4**	**+0.4**
	baz=119					
U20A	**Newcomb**	**118.90 67**	⇓PKiKP	**PKiKP**	**03 18 20.4**	**+1.4**
	baz=119					
TEIG	**Tepich**	**118.91 95**	PFAKE		03 18 30.0	+11
TEIG			LR	LR		
	comp=Z,1μm,20.0s					
632A	**Uvalde**	**118.93 79**	⇓PKiKP	**PKiKP**	**03 18 19.9**	**+0.9**
	baz=119					
531A	**Rocksprings**	**118.96 78**	⇓PKiKP	**PKiKP**	**03 18 19.8**	**+0.6**
	baz=119					
430A	**Baggett Ranch,**	**119.01 77**	⇓PKiKP	**PKiKP**	**03 18 19.6**	**+0.4**
	baz=119					
ANMO	**Albuquerque**	**119.02 70**	PFAKE		03 18 30.0	+11
ANMO			LR	LR		
	comp=Z,1μm,20.0s					
ASCN	**Ascension**	**119.02 186**	PFAKE		03 18 30.0	+10
ASCN			LR	LR		
	comp=Z,314nm,20.0s					
NLWA	**Neilton Lookou**	**119.13 49**	PFAKE		03 18 30.0	+11
NLWA			LR	LR		
	comp=Z,1μm,21.0s					
Y25A	**Mesa, Roswell**	**119.28 72**	⇓PKiKP	**PKiKP**	**03 18 20.6**	**+0.9**
	baz=120					
532A	**Rocksprings**	**119.31 78**	⇑PKiKP	**PKiKP**	**03 18 20.4**	**+0.6**
	baz=120					
DUG	**Dugway**	**119.33 61**	PFAKE		03 18 30.0	+10
DUG			LR	LR		
	comp=Z,812nm,19.0s					
DUG	**Dugway**	**119.33 61**	⇑PKiKP	**PKiKP**	**03 18 20.5**	**+0.9**
	baz=120					
U21A	**Nageezi**	**119.42 68**	⇑PKiKP	**PKiKP**	**03 18 21.1**	**+1.1**
	baz=120					
MK31	**Makanchi Array**	**119.45 310**	*e*PKIKP	**PKPdf**	**03 18 18.7**	**-0.7**
MK31	**Makanchi Array**	**119.45 310**	*e*PKPdf	**PKPdf**	**03 18 18.7**	**-0.7**
MKAR	**Makanchi Array**	**119.45 310**	PKIKP	**PKPdf**	**03 18 17.8**	**-1.7**
MKAR	**Makanchi Array**	**119.45 310**	PKP	**PKPdf**	**03 18 17.8**	**-1.7**
MKAR	**Makanchi Array**	**119.45 310**	PKP	**PKPdf**	**03 18 17.8**	**-1.7**
	comp=Z,2.9nm,1.0s,baz=151,slow=3.3,SNR=6.7					
V22A	**San Miguel Ran**	**119.47 69**	⇑PKiKP	**PKiKP**	**03 18 21.5**	**+1.3**
	baz=120					
MVCO	**Mesa Verde**	**119.51 67**	PFAKE		03 18 30.0	+10
MVCO			LR	LR		
	comp=Z,1μm,19.0s					
MVCO	**Mesa Verde**	**119.51 67**	⇓PKiKP	**PKiKP**	**03 18 21.3**	**+1.1**
	baz=120					
128A	**Castleberry Fa**	**119.62 74**	⇓PKiKP	**PKiKP**	**03 18 21.5**	**+1.1**
	baz=120					
JCT	**Junction City**	**119.63 78**	PFAKE		03 18 30.0	+10
JCT			LR	LR		
	comp=Z,2μm,22.0s					
JCT	**Junction City**	**119.63 78**	⇑PKiKP	**PKiKP**	**03 18 21.8**	**+1.3**
	baz=120					
Z27A	**Tatum**	**119.69 73**	⇓PKiKP	**PKiKP**	**03 18 21.2**	**+0.6**
	baz=120					
V23A	**Ortiz Mt. (NFS**	**119.75 69**	⇓PKiKP	**PKiKP**	**03 18 21.8**	**+1.1**
	baz=120					
RCBR	**Riachuelo**	**119.77 162**	PFAKE		03 18 30.0	+8.8
RCBR			LR	LR		
	comp=Z,429nm,19.0s					
Y26A	**Elida**	**119.78 72**	⇓PKiKP	**PKiKP**	**03 18 21.1**	**+0.4**
	baz=120					
W24A	**Lazy 6 Ranch,**	**119.81 70**	⇑PKiKP	**PKiKP**	**03 18 21.4**	**+0.6**
	baz=120					
U22A	**Llaves**	**119.83 68**	⇑PKiKP	**PKiKP**	**03 18 21.7**	**+0.8**
	baz=120					
331A	**San Angelo**	**119.87 77**	⇑PKiKP	**PKiKP**	**03 18 22.2**	**+1.3**
	baz=120					
TKM2	**Tokmak 2**	**119.89 303**	*e*PKIKP	**PKPdf**	**03 18 20.3**	**-0.4**
TKM2			MLR	MLR		
	comp=Z,379nm,19.0s					
TKM2	**Tokmak 2**	**119.89 303**	*e*PKPdf	**PKPdf**	**03 18 20.3**	**-0.4**
TKM2			LR	LR		
	comp=Z,379nm,19.0s					
S20A	**Disappointment**	**120.03 66**	⇓PKiKP	**PKiKP**	**03 18 22.1**	**+0.8**
	baz=120					
MFID	**Camas Ranch**	**120.09 57**	⇓PKiKP	**PKiKP**	**03 18 22.7**	**+1.7**
	baz=120					
Y27A	**Causey**	**120.14 73**	⇓PKiKP	**PKiKP**	**03 18 22.7**	**+1.3**
	baz=120					
Z28A	**Tucker Farm, M**	**120.15 74**	⇑PKiKP	**PKiKP**	**03 18 22.8**	**+1.3**
	baz=120					
U23A	**El Rito**	**120.17 69**	⇓PKiKP	**PKiKP**	**03 18 22.3**	**+0.8**
	baz=120					
S21A	**Coal Bank Pass**	**120.23 67**	⇓PKiKP	**PKiKP**	**03 18 22.5**	**+0.8**
	baz=120					
AAK	**Ala-Archa**	**120.25 302**	*e*PKIKP	**PKPdf**	**03 18 21.7**	**+0.4**
AAK			MLR	MLR		
	comp=Z,394nm,22.0s					
AAK	**Ala-Archa**	**120.25 302**	*e*PKPdf	**PKPdf**	**03 18 21.7**	**+0.4**
AAK			LR	LR		
	comp=Z,394nm,22.0s					
T22A	**Edith**	**120.26 68**	⇑PKiKP	**PKiKP**	**03 18 22.3**	**+0.6**
	baz=120					
R20A	**Redvale**	**120.28 66**	⇓PKiKP	**PKiKP**	**03 18 22.3**	**+0.7**
	baz=120					
332A	**Millersview**	**120.32 77**	⇑PKiKP	**PKiKP**	**03 18 22.4**	**+0.6**
	baz=120					
W25A	**X Bar L Ranch,**	**120.35 71**	⇑PKiKP	**PKiKP**	**03 18 22.2**	**+0.4**
	baz=121					
BMO	**Blue Mountains**	**120.39 55**	PFAKE		03 18 30.0	+8.6
BMO			LR	LR		
	comp=Z,2μm,20.0s					
HAWA	**Hanford**	**120.42 52**	*e*PKPdf	**PKPdf**	**03 18 21.8**	**+0.5**
HAWA			LR	LR		
	comp=Z,1μm,20.0s					
MSTX	**Muleshoe**	**120.42 73**	*e*PKPdf	**PKPdf**	**03 18 21.5**	**-0.4**
MSTX	**Muleshoe**	**120.42 73**	⇓PKiKP	**PKiKP**	**03 18 22.8**	**+0.9**
	baz=121					
130A	**Snyder**	**120.48 75**	⇓PKiKP	**PKiKP**	**03 18 23.2**	**+1.1**
	baz=121					
Z29A	**Hungry Hill Ra**	**120.53 74**	⇑PKiKP	**PKiKP**	**03 18 23.2**	**+1.1**
	baz=121					
EKS2	**Erkin-Say**	**120.64 301**	*e*PKIKP	**PKPdf**	**03 18 22.3**	**+0.3**
EKS2			MLR	MLR		
	comp=Z,541nm,22.0s					
EKS2	**Erkin-Say**	**120.64 301**	*e*PKPdf	**PKPdf**	**03 18 22.3**	**+0.3**
EKS2			LR	LR		
	comp=Z,541nm,22.0s					
W26A	**Owens Ranch, T**	**120.65 71**	⇑PKiKP	**PKiKP**	**03 18 23.0**	**+0.6**
	baz=121					
Y28A	**McKinney Farm,**	**120.68 73**	⇑PKiKP	**PKiKP**	**03 18 23.5**	**+1.1**
	baz=121					
V25A	**Rancho No Teng**	**120.70 70**	⇓PKiKP	**PKiKP**	**03 18 23.4**	**+0.8**
	baz=121					
X27A	**F and S Farms,**	**120.72 72**	⇓PKiKP	**PKiKP**	**03 18 23.4**	**+0.8**
	baz=121					
232A	**Coleman**	**120.74 77**	⇓PKiKP	**PKiKP**	**03 18 24.1**	**+1.6**
	baz=121					
S22A	**4UR Ranch, Cre**	**120.82 67**	⇑PKiKP	**PKiKP**	**03 18 23.6**	**+0.7**
	baz=121					
Q20A	**Ridgley Place,**	**120.87 65**	⇓PKiKP	**PKiKP**	**03 18 23.7**	**+0.9**
	baz=121					
Z30A	**Sanderson Ranc**	**120.88 75**	⇓PKiKP	**PKiKP**	**03 18 23.2**	**+0.4**
	baz=121					
HLID	**Hailey**	**120.91 58**	PFAKE		03 18 30.0	+7.4
HLID			LR	LR		
	comp=Z,1μm,22.0s					
HLID	**Hailey**	**120.91 58**	⇑PKiKP	**PKiKP**	**03 18 24.0**	**+1.3**
	baz=121					
Y29A	**Porterfield Fa**	**120.98 74**	⇑PKiKP	**PKiKP**	**03 18 23.6**	**+0.6**
	baz=121					
P19A	**Cripple Cowboy**	**120.98 64**	⇓PKiKP	**PKiKP**	**03 18 23.9**	**+0.9**
	baz=121					
V26A	**Tequesquite Ra**	**121.15 71**	⇑PKiKP	**PKiKP**	**03 18 23.7**	**+0.4**
	baz=121					
U25A	**Circle Dot Ran**	**121.22 70**	⇓PKiKP	**PKiKP**	**03 18 23.9**	**+0.3**
	baz=121					
ABTX	**Abilene, Hawle**	**121.28 76**	⇓PKiKP	**PKiKP**	**03 18 24.2**	**+0.6**
	baz=122					
O19A	**Miners Draw (B**	**121.38 64**	⇓PKiKP	**PKiKP**	**03 18 24.4**	**+0.7**
	baz=122					
X29A	**Tulia**	**121.38 73**	⇑PKiKP	**PKiKP**	**03 18 24.6**	**+0.8**
	baz=122					
Z31A	**Sharp Cattle R**	**121.48 75**	⇓PKiKP	**PKiKP**	**03 18 24.4**	**+0.4**
	baz=122					
S24A	**Houchin Ranch,**	**121.65 68**	⇑PKiKP	**PKiKP**	**03 18 25.5**	**+1.0**
	baz=122					
W28A	**Vega**	**121.67 72**	⇑PKiKP	**PKiKP**	**03 18 25.9**	**+1.6**
	baz=122					
O20A	**White River Ci**	**121.74 64**	⇑PKiKP	**PKiKP**	**03 18 25.6**	**+1.2**
	baz=122					
X30A	**Coker Ranch, T**	**121.86 74**	⇑PKiKP	**PKiKP**	**03 18 25.6**	**+0.9**
	baz=122					
Z32A	**Haskell**	**121.86 76**	⇑PKiKP	**PKiKP**	**03 18 25.4**	**+0.7**
	baz=122					
Y31A	**Rekieta Farm,**	**121.87 75**	⇑PKiKP	**PKiKP**	**03 18 25.9**	**+1.2**
	baz=122					
AHID	**Auburn Hatcher**	**122.06 60**	PFAKE		03 18 40.0	+15
AHID			LR	LR		
	comp=Z,929nm,20.0s					
S25A	**Robets Cordova**	**122.10 69**	⇑PKiKP	**PKiKP**	**03 18 26.1**	**+0.9**
	baz=122					
N20A	**Spence Gulch,**	**122.22 64**	⇓PKiKP	**PKiKP**	**03 18 26.8**	**+1.4**
	baz=122					
Y32A	**R-V Farms, Ver**	**122.38 75**	⇓PKiKP	**PKiKP**	**03 18 26.4**	**+0.7**
	baz=123					
WRAK	**Wrangell Islan**	**122.38 37**	P

KKAR	Karatay Array	122.65	300	ePKPdf	PKPdf	03 18 25.2	-0.5
BW06	Boulder Array	122.87	61	PFAKE		03 18 40.0	+14
BW06				LR	LR		
comp=Z,1µm,21.0s							
PDAR	Pinedale Array	122.87	61	PKP	PKPdf	03 18 26.1	-0.3
PDAR	Pinedale Array	122.87	61	PKP	PKPdf	03 18 26.1	-0.3
comp=Z,1.4nm,0.9s,baz=225,slow=0.9,SNR=10							
NEW	Newport	122.90	52	ePKPdf	PKPdf	03 18 25.6	-0.5
NEW				LR	LR		
comp=Z,2µm,20.0s							
NEW	Newport	122.90	52	⇑PKiKP	PKiKP	03 18 26.9	+0.6
baz=123							
W31A	Holland Ranch,	122.92	74	⇑PKiKP	PKiKP	03 18 27.2	+0.4
baz=123							
IMW	Indian Meadow	122.94	59	ePKPdf	PKPdf	03 18 27.1	+0.5
ISCO	Idaho Springs	122.94	66	PFAKE		03 18 40.0	+13
ISCO				LR	LR		
comp=Z,2µm,22.0s							
ISCO	Idaho Springs	122.94	66	⇓PKiKP	PKiKP	03 18 27.6	+0.6
baz=123							
L20A	Wamsutter	123.00	63	⇑PKiKP	PKiKP	03 18 27.8	+1.0
baz=123							
O23A	Lake Granby, G	123.06	66	⇑PKiKP	PKiKP	03 18 27.6	+0.4
baz=123							
MCK	McKinley	123.07	24	ePKIKP	PKPdf	03 18 25.8	-0.1
MCK	McKinley	123.07	24	ePKPdf	PKPdf	03 18 25.8	-0.1
DLMT	Dillon	123.11	57	ePKPdf	PKPdf	03 18 27.5	+0.8
R26A	Arlington	123.11	69	⇓PKiKP	PKiKP	03 18 27.8	+0.7
baz=123							
N22A	Wattenberg Ran	123.18	65	⇑PKiKP	PKiKP	03 18 28.1	+0.7
baz=123							
M21A	Separation Pea	123.24	64	⇑PKiKP	PKiKP	03 18 28.0	+0.5
baz=124							
WMOK	Wichita Mounta	123.28	75	ePKIKP	PKPdf	03 18 26.5	-0.7
WMOK				MLR	MLR		
comp=Z,1µm,20.0s							
WMOK	Wichita Mounta	123.28	75	ePKPdf	PKPdf	03 18 26.5	-0.7
WMOK				LR	LR		
comp=Z,1µm,20.0s							
K19A	Absolon Red Bu	123.29	62	⇑PKiKP	PKiKP	03 18 27.8	+0.4
baz=124							
K20A	Yellowstone Ra	123.44	62	⇓PKiKP	PKiKP	03 18 28.3	+0.5
baz=124							
MSO	Missoula	123.45	55	⇑PKiKP	PKiKP	03 18 28.1	+0.6
baz=124							
U30A	WK&E Inc. Balk	123.46	72	⇑PKiKP	PKiKP	03 18 28.2	+0.4
baz=124							
R27A	Eads	123.46	69	⇑PKiKP	PKiKP	03 18 28.3	+0.5
baz=124							
O24A	Longmont	123.47	66	⇑PKiKP	PKiKP	03 18 29.0	+1.1
baz=124							
H17A	Grant Village	123.47	59	⇑PKiKP	PKiKP	03 18 29.0	+1.2
baz=124							
J19A	Crowheart	123.49	61	⇓PKiKP	PKiKP	03 18 28.4	+0.7
baz=124							
L21A	Rawlins	123.49	63	⇑PKiKP	PKiKP	03 18 28.4	+0.6
baz=124							
S28A	Manter	123.49	71	⇑PKiKP	PKPdf	03 18 27.8	+0.2
baz=124							
LRM	Limekiln Ridge	123.50	57	ePKPdf	PKPdf	03 18 28.0	+0.5
Q26A	Hugo	123.50	68	⇑PKiKP	PKiKP	03 18 28.6	+0.7
baz=124							
M22A	Cedar Creek Ra	123.52	64	⇑PKiKP	PKiKP	03 18 28.8	+0.8
baz=124							
N23A	Red Feather La	123.52	65	⇓PKiKP	PKiKP	03 18 29.0	+1.0
baz=124							
ZALV	Zalesovo Beam	123.54	317	PKIKP	PKPdf	03 18 24.4	-2.6
ZALV	Zalesovo Beam	123.54	317	PKP	PKPdf	03 18 24.4	-2.6
ZALV	Zalesovo Beam	123.54	317	PKP	PKPdf	03 18 24.4	-2.6
comp=Z,0.3nm,0.3s,baz=126,slow=2.0,SNR=2.2							
P25A	Willow Gulch B	123.54	67	⇑PKiKP	PKiKP	03 18 29.0	+1.0
baz=124							
NATX	Nacogdoches	123.60	81	PFAKE		03 18 40.0	+12
NATX				LR	LR		
comp=Z,1µm,22.0s							
LKWY	Lake	123.68	59	PFAKE		03 18 40.0	+12
LKWY				LR	LR		
comp=Z,1µm,19.0s							
IMYA	Miami	123.69	287	eP	PKPdf	03 18 25.1	-3.0
BSMT	Bassoo Peak	123.74	54	ePKPdf	PKPdf	03 18 27.7	-0.2
BOZ	Bozeman (W)	123.79	58	ePKIKP	PKPdf	03 18 28.1	+0.1
BOZ				MLR	MLR		
comp=Z,1µm,21.0s							
BOZ	Bozeman (W)	123.79	58	ePKPdf	PKPdf	03 18 28.1	+0.1
BOZ				LR	LR		
comp=Z,1µm,21.0s							
SWMT	Swartz Lake	123.89	55	ePKPdf	PKPdf	03 18 27.9	-0.2
JTMT	Jette	123.92	54	ePKPdf	PKPdf	03 18 28.2	0.0
KURBB	Kurchatov Arra	123.93	311	PKP	PKPdf	03 18 26.9	-0.9
comp=Z,1.6nm,0.5s,baz=143,slow=1.5,SNR=10							
SLMT	Seeley Lake	123.95	55	ePKPdf	PKPdf	03 18 27.5	-0.8
KURK	Kurchatov	123.96	311	c iPKIKP	PKPdf	03 18 26.4	-1.5
KURK				pmax	pmax		
comp=Z,4.0nm,1.2s							
KURK	Kurchatov	123.96	311	ePKPdf	PKPdf	03 18 26.6	-1.3
KURK				LR	LR		
comp=Z,228nm,22.0s							
O25A	Wiggins	123.99	67	⇓PKiKP	PKiKP	03 18 29.6	+0.7
baz=124							
K21A	Alcova	124.01	63	⇑PKiKP	PKiKP	03 18 29.5	+0.7
baz=124							
L22A	Ellis Ranch, M	124.04	64	⇑PKiKP	PKiKP	03 18 29.9	+1.0
baz=124							
M23A	Laramie	124.04	65	⇓PKiKP	PKiKP	03 18 29.7	+0.7
baz=124							
I19A	Meeteetse	124.05	60	⇑PKiKP	PKiKP	03 18 29.4	+0.5
baz=124							
N24A	Carr	124.06	66	⇓PKiKP	PKiKP	03 18 30.1	+1.1
baz=124							
BLMT	Blacktail Moun	124.06	54	ePKPdf	PKPdf	03 18 28.1	-0.4
R28A	Tribune	124.06	70	⇓PKiKP	PKiKP	03 18 29.6	+0.7
baz=124							
KSCO	Kaye Shedlock'	124.06	69	⇓PKiKP	PKiKP	03 18 29.6	+0.6
baz=124							
J20A	Shoshoni	124.06	62	⇑PKiKP	PKiKP	03 18 29.4	+0.6
baz=124							
YBMT	Yellow Bay	124.13	54	ePKPdf	PKPdf	03 18 28.7	+0.2
H18A	Shoshone NF, C	124.14	60	⇑PKiKP	PKiKP	03 18 29.8	+0.7
baz=124							
COLA	College	124.28	24	ePKIKP	PKPdf	03 18 26.9	-1.2
COLA				MLR	MLR		
comp=Z,2µm,22.0s							
COLA	College	124.28	24	ePKPdf	PKPdf	03 18 26.9	-1.2
COLA				LR	LR		
comp=Z,2µm,22.0s							
J21A	Lysite	124.39	62	⇑PKiKP	PKiKP	03 18 30.5	+0.9
baz=125							
K22A	Casper	124.41	63	⇑PKiKP	PKiKP	03 18 30.1	+0.5
baz=125							
ILAR	Eielson Array	124.43	25	PKP	PKPdf	03 18 28.0	-0.4
ILAR	Eielson Array	124.43	25	PKP	PKPdf	03 18 28.0	-0.4
comp=Z,9.6nm,1.3s,baz=235,slow=3.2,SNR=19							
I20A	Worland	124.44	61	⇑PKiKP	PKiKP	03 18 30.4	+0.8
baz=125							
H19A	Powell	124.49	60	⇑PKiKP	PKiKP	03 18 30.7	+1.0
baz=125							
L23A	Garrett	124.49	64	⇓PKiKP	PKiKP	03 18 30.5	+0.6
baz=125							
O26A	Horse Wrangler	124.52	67	⇑PKiKP	PKiKP	03 18 30.7	+0.9
baz=125							
RLMT	Red Lodge	124.65	59	ePKPdf	PKPdf	03 18 28.7	-1.1
RLMT				LR	LR		
comp=Z,843nm,21.0s							
I21A	Big Trails, Te	124.79	62	⇓PKiKP	PKiKP	03 18 31.3	+0.9
baz=125							
H20A	Greybull	124.88	61	⇓PKiKP	PKiKP	03 18 31.0	+0.6
baz=125							
R30A	Dighton	124.89	71	⇑PKiKP	PKiKP	03 18 31.2	+0.6
baz=125							
Q29A	Oakley	124.91	70	⇓PKiKP	PKiKP	03 18 31.5	+0.9
baz=125							
IKRD	Kardeh	124.91	286	eP	PKPdf	03 18 26.1	-4.5
P28A	Saint Francis	124.94	69	⇓PKiKP	PKiKP	03 18 31.5	+0.9
baz=125							
O27A	Beecher Island	124.95	68	⇑PKiKP	PKiKP	03 18 31.1	+0.4
baz=125							
J22A	Midwest	124.96	63	⇑PKiKP	PKPdf	03 18 30.4	+0.1
baz=125							
K23A	Bowen Ranch, D	124.97	64	⇑PKiKP	PKiKP	03 18 30.9	+0.2
baz=125							
G20A	Bridger	125.26	60	⇓PKiKP	PKiKP	03 18 31.7	+0.5
baz=126							
I22A	9 Mile Ranch,	125.28	62	⇓PKiKP	PKiKP	03 18 31.5	+0.2
baz=126							
O28A	Krutsinger Ran	125.30	68	⇑PKiKP	PKiKP	03 18 31.5	+0.2
baz=126							
F19A	Roth Farm, Mol	125.31	59	⇑PKiKP	PKiKP	03 18 32.2	+1.0
baz=126							
R31A	Burdett	125.32	72	⇑PKiKP	PKiKP	03 18 32.0	+0.6
baz=126							
N27A	Anderson Farm,	125.34	67	⇑PKiKP	PKiKP	03 18 31.6	+0.2
baz=126							
Q30A	Quinter	125.40	70	⇓PKiKP	PKiKP	03 18 32.2	+0.6
baz=126							
ISFR	Sfrayin	125.40	286	eP	PKPdf	03 18 30.6	-0.9
P29A	Atwood	125.42	69	⇑PKiKP	PKiKP	03 18 32.4	+0.8
baz=126							
H21A	Big Horn, Sher	125.48	61	⇓PKiKP	PKiKP	03 18 31.9	+0.3
baz=126							
F20A	Billings	125.69	59	⇑PKiKP	PKiKP	03 18 33.2	+1.2
baz=126							
OGNE	Ogallala	125.72	68	PFAKE		03 18 40.0	+8.2
OGNE				LR	LR		
comp=Z,1µm,21.0s							
OGNE	Ogallala	125.72	68	⇑PKiKP	PKiKP	03 18 33.5	+1.3
baz=126							
P30A	Selden	125.77	70	⇑PKiKP	PKiKP	03 18 32.6	+0.4
baz=126							
G21A	Lodge Grass	125.79	60	⇓PKiKP	PKiKP	03 18 32.9	+0.7
baz=126							
E19A	Rath Farm, Rou	125.80	58	⇑PKiKP	PKiKP	03 18 33.6	+1.5
baz=126							
H22A	Clearmont	125.82	62	⇑PKiKP	PKiKP	03 18 33.7	+1.4
baz=126							
K25A	Mack Ranch, Ha	125.83	65	⇑PKiKP	PKiKP	03 18 33.9	+1.5
baz=126							
TUL1	Tulsa	125.85	76	⇑PKiKP	PKiKP	03 18 33.2	+0.8
baz=126							
O29A	4D Ranch, Culb	125.85	69	⇑PKiKP	PKiKP	03 18 33.3	+0.8
baz=126							
DAWY	Dawson	125.88	28	ePKPdf	PKPdf	03 18 31.4	+0.1
EGAK	Eagle	125.94	27	PFAKE		03 18 40.0	+8.7
EGAK				LR	LR		
comp=Z,852nm,22.0s							
E20A	Meyer Farm, Mu	126.17	59	⇓PKiKP	PKiKP	03 18 34.1	+1.3
baz=126							
MIAR	Mount Ida	126.21	79	PFAKE		03 18 40.0	+7.2
MIAR				LR	LR		
comp=Z,921nm,20.0s							
D19A	Cripps Ranch,	126.22	58	⇓PKiKP	PKiKP	03 18 34.0	+1.0
baz=126							
P31A	Stockton	126.25	71	⇓PKiKP	PKiKP	03 18 34.2	+1.0
baz=126							
I24A	Kuemmerle Ranc	126.25	63	⇑PKiKP	PKiKP	03 18 33.8	+0.6
baz=126							
K26A	Motz Farm, Whi	126.26	65	⇓PKiKP	PKiKP	03 18 33.4	+0.2
baz=126							
G22A	Birney	126.27	61	⇓PKiKP	PKiKP	03 18 33.8	+0.7
baz=126							
O30A	MW Ranch, Wils	126.31	69	⇑PKiKP	PKiKP	03 18 33.9	+0.6
baz=126							
EGMT	Eagleton	126.35	56	PFAKE		03 18 40.0	+7.3
EGMT				LR	LR		
comp=Z,1µm,21.0s							
J25A	Sunshine Ranch	126.38	64	⇑PKiKP	PKiKP	03 18 33.8	+0.4
baz=127							
VBMS	Vicksburg	126.40	83	PFAKE		03 18 40.0	+6.8
VBMS				LR	LR		
comp=Z,687nm,20.0s							
GTBY	Guantanamo Bay	126.47	106	PFAKE		03 18 50.0	+16
GTBY				LR	LR		
comp=Z,479nm,21.0s							
C19A	Slack Wire Ran	126.51	57	⇓PKiKP	PKiKP	03 18 34.5	+1.0
baz=127							
D20A	Manuel Ranch,	126.55	58	⇑PKiKP	PKiKP	03 18 34.6	+1.0
baz=127							
F22A	Rosebud	126.66	61	⇑PKiKP	PKiKP	03 18 34.3	+0.5
baz=127							
O31A	Woolen Ranch,	126.70	70	⇓PKiKP	PKiKP	03 18 34.6	+0.6
baz=127							
J26A	Sides Ranch, S	126.73	65	⇑PKiKP	PKiKP	03 18 34.5	+0.4
baz=127							
G23A	Biddle	126.73	62	⇓PKiKP	PKiKP	03 18 34.7	+0.7
baz=127							
RSSD	Black Hills	126.74	63	ePKIKP	PKPdf	03 18 33.5	-0.3
RSSD	Black Hills	126.74	63	ePKPdf	PKPdf	03 18 33.5	-0.3
K27A	Flueckinger Fa	126.78	66	⇓PKiKP	PKiKP	03 18 35.0	+0.8
baz=127							
M29A	Burnside Ranch	126.80	68	⇑PKiKP	PKiKP	03 18 34.8	+0.5
baz=127							
I25A	Rochford	126.84	64	⇑PKiKP	PKiKP	03 18 34.7	+0.3
baz=127							
H24A	Dirks Ranch, A	126.88	62	⇓PKiKP	PKPdf	03 18 34.3	+0.4
baz=127							
B19A	Brinkman Farms	127.04	56	⇓PKiKP	PKiKP	03 18 34.8	+0.3
baz=127							
F23A	Volborg	127.07	61	⇑PKiKP	PKiKP	03 18 35.4	+0.7
baz=127							
D21A	La Casta Ranch	127.12	59	⇓PKiKP	PKiKP	03 18 35.7	+1.0
baz=127							
E22A	Miles City	127.25	60	⇑PKiKP	PKiKP	03 18 35.7	+0.7
baz=128							
K28A	Ten Mile Ranch	127.27	66	⇓PKiKP	PKiKP	03 18 35.9	+0.8
baz=128							
LAO	LASA Array	127.28	60	ePKPdf	PKPdf	03 18 35.2	+0.6
LAO				LR	LR		
comp=Z,854nm,21.0s							
H25A	Fruitdale	127.31	63	⇓PKiKP	PKiKP	03 18 36.0	+0.8
baz=128							
I26A	New Underwood	127.32	64	⇑PKiKP	PKiKP	03 18 35.6	+0.4
baz=128							
L29A	Maesberg Ranch	127.33	67	⇑PKiKP	PKiKP	03 18 36.3	+1.0
baz=128							
G24A	Alzada	127.34	62	⇑PKiKP	PKiKP	03 18 35.9	+0.6
baz=128							
GRGR	Grenville	127.37	125	PFAKE		03 18 50.0	+14
GRGR				LR	LR		
comp=Z,438nm,22.0s							
A19A	Klindworth Far	127.45	56	⇓PKiKP	PKiKP	03 18 36.3	+1.0
baz=128							
KSU1	Kansas State U	127.55	73	PFAKE		03 18 50.0	+15
KSU1				LR	LR		
comp=Z,1µm,22.0s							
C21A	Desert Coulee	127.57	58	⇓PKiKP	PKiKP	03 18 36.5	+1.0
baz=128							
D22A	Cohagen	127.60	59	⇓PKiKP	PKiKP	03 18 36.6	+0.9
baz=128							
BRAL	Brewton	127.62	87	PFAKE		03 18 50.0	+14
BRAL				LR	LR		
comp=Z,840nm,20.0s							
F24A	Ekalaka	127.66	62	⇓PKiKP	PKiKP	03 18 36.5	+0.6
baz=128							
M31A	Lambtecht Ranc	127.69	69	⇓PKiKP	PKiKP	03 18 36.5	+0.5
baz=128							
H26A	Fairpoint	127.75	64	⇑PKiKP	PKiKP	03 18 36.4	+0.3
baz=128							
G25A	Newell	127.78	63	⇓PKiKP	PKiKP	03 18 36.5	+0.4
baz=128							
I27A	Quinn	127.78	65	⇑PKiKP	PKiKP	03 18 36.9	+0.8
baz=128							
J28A	Allard Ranch,	127.81	66	⇓PKiKP	PKiKP	03 18 36.5	+0.3
baz=128							
A20A	Cobblestone Ra	127.83	57	⇓PKiKP	PKiKP	03 18 37.5	+1.4
baz=128							
SDDR	Presa de Saban	127.92	111	PFAKE		03 18 50.0	+13
SDDR				LR	LR		
comp=Z,433nm,19.0s							
B21A	Ellsworth Farm	128.00	58	⇑PKiKP	PKiKP	03 18 37.3	+1.0
baz=128							
EDM	Edmonton	128.02	50	ePKIKP	PKPdf	03 18 34.4	-1.3
EDM	Edmonton	128.02	50	ePKPdf	PKPdf	03 18 34.4	-1.3
D23A	Lindsay	128.12	60	⇑PKiKP	PKiKP	03 18 37.6	+0.9
baz=128							
H27A	Howes	128.14	64	⇓PKiKP	PKiKP	03 18 36.9	+0.1
baz=128							
G27A	Dupree	128.16	63	⇑PKiKP	PKiKP	03 18 38.2	+1.4
baz=129							
BGNE	Belgrade	128.20	70	ePKPdf	PKPdf	03 18 35.0	-1.4
BGNE	Belgrade	128.20	70	⇓PKiKP	PKiKP	03 18 37.5	+0.5
baz=128							
K30A	Basset	128.22	67	⇑PKiKP	PKiKP	03 18 37.5	+0.5
baz=128							
I28A	Midland	128.22	65	⇓PKiKP	PKiKP	03 18 37.3	+0.3
baz=128							
F25A	Bowman	128.24	62	⇓PKiKP	PKiKP	03 18 37.6	+0.6
baz=128							
G26A	Maurine	128.29	63	⇑PKiKP	PKPdf	03 18 37.0	+0.5
baz=128							
J29A	Okreek	128.30	66	⇑PKiKP	PKPdf	03 18 36.7	+0.2
baz=128							
L31A	Butterfield Fa	128.32	68	⇓PKiKP	PKPdf	03 18 37.0	+0.4
baz=128							
A21A	Bergtoll Ranch	128.41	57	⇓PKiKP	PKiKP	03 18 37.6	+0.4
baz=129							
B22A	Reddig Ranch S	128.44	58	⇓PKiKP	PKiKP	03 18 38.2	+0.9
baz=129							
C23A	Lambert	128.54	59	⇓PKiKP	PKiKP	03 18 38.4	+0.9
baz=129							
F26A	Lodgepole	128.61	63	⇓PKiKP	PKiKP	03 18 38.3	+0.5
baz=129							
E25A	Miller Ranch,	128.64	61	⇑PKiKP	PKiKP	03 18 39.0	+1.2
baz=129							
OXF	Oxford	128.66	82	PFAKE		03 18 50.0	+13
OXF				LR	LR		
comp=Z,944nm,20.0s							
J30A	Dallas	128.71	67	⇓PKiKP	PKiKP	03 18 38.7	+0.7
baz=129							
H28A	Mission Ridge	128.74	65	⇑PKiKP	PKiKP	03 18 38.5	+0.5
baz=129							
A22A	Carney Farms,	128.92	58	⇓PKiKP	PKiKP	03 18 38.2	-0.1
baz=129							
B23A	Brockton	129.06	59	⇑PKiKP	PKiKP	03 18 39.1	+0.6
baz=129							
LRAL	Lakeview Retre	129.08	85	PFAKE		03 18 50.0	+12
LRAL				LR	LR		
comp=Z,571nm,22.0s							
E26A	Carlson Angus	129.12	62	⇑PKiKP	PKiKP	03 18 39.4	+0.7
baz=129							
H29A	Onida	129.15	65	⇓PKiKP	PKiKP	03 18 39.0	+0.2
baz=129							
BBGH	Gun Hill	129.26	127	PFAKE		03 18 50.0	+11
BBGH				LR	LR		
comp=Z,964nm,19.0s							
BVAR	Borovoye Array	129.31	309	PKIKP	PKPdf	03 18 36.6	-1.5
BVAR	Borovoye Array	129.31	309	PKP	PKPdf	03 18 36.6	-1.5
BVAR	Borovoye Array	129.31	309	PKP	PKPdf	03 18 36.6	-1.5
comp=Z,5.3nm,1.1s,baz=116,slow=3.4,SNR=9.0							
BRVK	Borovoye	129.38	309	c iPKIKP	PKPdf	03 18 37.9	-0.3
BRVK				pmax	pmax		
comp=Z,7.0nm,1.2s							
BRVK	Borovoye	129.38	309	ePKPdf	PKPdf	03 18 38.1	-0.1
BRVK				LR	LR		
comp=Z,553nm,20.0s							
DGMT	Dagmar	129.47	59	PFAKE		03 18 50.0	+11
DGMT				LR	LR		
comp=Z,815nm,20.0s							
E27A	Carson	129.57	63	⇓PKiKP	PKiKP	03 18 39.8	+0.2
baz=130							
F28A	McLaughlin	129.61	64	⇓PKiKP	PKiKP	03 18 39.9	+0.2
baz=130							
BRSD	Miller	129.72	66	⇓PKiKP	PKiKP	03 18 40.4	+0.4
baz=130							
GRTK	Grand Turk	130.01	109	PFAKE		03 18 50.0	+10
GRTK				LR	LR		
comp=Z,653nm,21.0s							
G30A	Faulkton	130.06	65	⇓PKiKP	PKiKP	03 18 41.2	+0.6
baz=130							
E28A	Huff	130.13	63	⇓PKiKP	PKiKP	03 18 41.6	+0.9
baz=130							
C26A	Wahner Farm, P	130.16	61	⇑PKiKP	PKiKP	03 18 41.2	+0.4
baz=130							
A25A	Svangstu Ranch	130.32	59	⇑PKiKP	PKiKP	03 18 41.5	+0.5
baz=130							
C27A	Sayler Ranch,	130.41	61	⇑PKiKP	PKiKP	03 18 41.6	+0.4
baz=131							
ECSD	EROS Data Cent	130.57	68	PFAKE		03 18 50.0	+9.2
ECSD				LR	LR		
comp=Z,1µm,19.0s							
INK	Inuvik	130.61	27	ePKPdf	PKPdf	03 18 39.8	-0.3
A26A	Wade Farm, Ken	130.86	60	⇑PKiKP	PKiKP	03 18 42.9	+0.8
baz=131							
C28A	Hausauer Farms	131.00	62	⇑PKiKP	PKiKP	03 18 42.8	+0.3
baz=131							
D29A	Pettibone, Tap	131.02	63	⇑PKiKP	PKiKP	03 18 42.8	+0.3
baz=131							
E30A	Jud	131.04	64	⇓PKiKP	PKiKP	03 18 43.1	+0.5
baz=131							
A27A	Ledoux Ranch,	131.31	60	⇓PKiKP	PKiKP	03 18 43.1	+0.1
baz=132							
SCIA	State Center	131.34	72	PFAKE		03 18 50.0	+7.7
SCIA				LR	LR		
comp=Z,1µm,20.0s							
B28A	Dugan Ranch, T	131.46	61	⇓PKiKP	PKiKP	03 18 43.8	+0.5
baz=132							
MDND	Maddock	131.50	62	⇓PKiKP	PKiKP	03 18 43.7	+0.3
baz=132							
A28A	Rude Farm, Bot	131.79	61	⇓PKiKP	PKiKP	03 18 44.2	+0.2
baz=132							
ANWB	Willy Bob	132.00	121	PFAKE		03 19 00.0	+16
ANWB				LR	LR		
comp=Z,365nm,22.0s							
B29A	Wagenman Farm,	132.01	62	⇓PKiKP	PKiKP	03 18 44.6	+0.2
baz=132							
C30A	Mose, Pekin	132.01	63	⇑PKiKP	PKiKP	03 18 45.1	+0.6
baz=132							
DBIC	Dimbokro	132.10	200	ePKPdf	PKPdf	03 18 44.7	+0.1
DBIC	Dimbokro	132.10	200	PKP	PKPdf	03 18 44.4	-0.2
comp=Z,3.6nm,0.7s,baz=164,slow=1.7,SNR=6.7							
B30A	Myrvik Farm, E	132.54	62	⇓PKiKP	PKiKP	03 18 46.1	+0.6
baz=133							
A30A	Hoffart Farm,	132.85	62	⇓PKiKP	PKiKP	03 18 46.2	+0.1
baz=133							
WCI	Wyandotte Cave	133.02	81	ePKIKP	PKPdf	03 18 45.3	-0.3
WCI	Wyandotte Cave	133.02	81	ePKPdf	PKPdf	03 18 45.3	-0.3
YKA	Yellowknife Ar	133.14	39	PKP	PKPdf	03 18 43.9	-1.2
YKA	Yellowknife Ar	133.14	39	PKP	PKPdf	03 18 43.8	-1.2
comp=Z,2.6nm,1.0s,baz=245,slow=1.3,SNR=5.5							
YKW3	Yellowknife Ar	133.18	39	ePKPdf	PKPdf	03 18 45.8	+0.7
JFWS	Jewell Farm	133.68	73	PFAKE		03 19 00.0	+13
JFWS				LR	LR		
comp=Z,1µm,20.0s							
AGMN	Agassiz Nation	133.78	64	PFAKE		03 19 00.0	+13
AGMN				LR	LR		
comp=Z,804nm,20.0s							
KMSC	Kings Mountain	133.94	87	⇓PKiKP	PKiKP	03 18 48.4	-0.3
baz=134							
FFC	Flin Flon	134.29	53	ePKIKP	PK

BRTR Keskin Array B 141.61 272 PKhKP PKPpre 03 18 57.5
comp=Z,1.7nm,0.9s,baz=116,slow=3.4,SNR=4.0
BINY Binghamton 141.65 83 PFAKE 03 19 10.0 +8.6
BINY LR LR
comp=Z,1μm,21.0s
SACV Santiago Islan 141.85 174 PFAKE 03 19 10.0 +7.4
SACV LR LR
comp=Z,687nm,22.0s
BBSR BB Station 141.96 105 PFAKE 03 19 10.0 +7.8
BBSR LR LR
comp=Z,435nm,19.0s
ANTO Ankara 142.21 271 PFAKE 03 19 10.0 +7.4
ANTO LR LR
comp=Z,454nm,20.0s
ISP Isparta 142.28 267 PFAKE 03 19 10.0 +7.2
ISP LR LR
comp=Z,423nm,22.0s
VRHR Novokhopersk 143.14 292 *e*PKIKP **PKPdf 03 19 06.5 +2.8**
VRHR pmax pmax
comp=Z,10.0nm,1.2s
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,30nm,0.8s
NCB Newcomb 143.73 82 PFAKE 03 19 20.0 +15
NCB LR LR
comp=Z,2μm,21.0s
LONY Lake Ozonia 143.87 81 PFAKE 03 19 20.0 +15
LONY LR LR
comp=Z,1μm,20.0s
TAM Tamanrasset 144.06 223 *e*PKIKP PKPbc 03 19 04.3 -0.1
TAM MLR MLR
comp=Z,612nm,21.0s
TAM Tamanrasset 144.06 223 *e*PKPdf PKPbc 03 19 04.3 -0.1
TAM LR LR
comp=Z,612nm,21.0s
SANT Santorini 144.35 261 PFAKE 03 19 20.0 +14
SANT LR LR
comp=Z,284nm,21.0s
VORD Divnogorie 144.38 291 *e*PKIKP **PKPdf 03 19 08.0 +2.1**
VORD pmax pmax
comp=N,10.0nm,0.9s
VORD pmax pmax
comp=E,10.0nm,0.9s
VORD pmax pmax
comp=Z,9.0nm,0.9s
LBNH Lisbon 145.25 83 PFAKE 03 19 20.0 +12
LBNH LR LR
comp=Z,2μm,21.0s
KYTH Kithira 145.73 258 *e*P PKPab 03 19 16.4 +6.8
PRK Paraskevi 145.75 265 P **PKPab 03 19 09.2 -0.3**
PRK Paraskevi 145.75 265 PKP2 **PKPab 03 19 09.2 -0.3**
PRK Paraskevi 145.75 265 P **PKPab 03 19 09.2 -0.3**
VLI Veliai 146.08 259 *e*P **PKPbc 03 19 10.0 -0.3**
DID Didima 146.43 260 *e*P **PKPdf 03 19 08.6 -1.4**
NAIG Nisos Aigina 146.45 260 *e*P **PKPdf 03 19 10.4 +0.5**
ALN Alexandroupoli 146.91 267 P **PKPdf 03 19 11.3 +0.7**
ALN Alexandroupoli 146.91 267 PKP2 **PKPdf 03 19 11.3 +0.7**
ALN Alexandroupoli 146.91 267 P **PKPdf 03 19 11.3 +0.7**
PYL PYLOS 146.91 258 P **PKPdf 03 19 11.3 +0.5**
PYL PYLOS 146.91 258 *e*P **PKPdf 03 19 11.2 +0.5**
PYL PYLOS 146.91 258 P **PKPdf 03 19 11.3 +0.5**
LTK Loutraki 146.94 260 *e*P **PKPdf 03 19 09.3 -1.5**
ITM Ithomi 146.99 258 *e*P **PKPdf 03 19 10.2 -0.7**
MOS Moscow 147.21 298 *e*PKP2 **PKPbc 03 19 12.2 -0.7**
GUR Goura 147.25 260 P **PKPbc 03 19 13.1 -0.6**
GUR Goura 147.25 260 *e*P **PKPbc 03 19 13.3 -0.4**
GUR Goura 147.25 260 P **PKPbc 03 19 13.1 -0.6**
AMT Artemida-Makis 147.36 258 *e*P **PKPab 03 19 16.6 +0.7**
RDO Rodhopi 147.36 267 P **PKPbc 03 19 13.1 -0.7**
RDO Rodhopi 147.36 267 P **PKPbc 03 19 13.1 -0.7**
PKME Peaks-Kenny Pk 147.38 84 *e*PKPbc **PKPbc 03 19 13.6 -0.2**
PKME LR LR
comp=Z,2μm,21.0s
KLV Kalavryta, Ach 147.43 260 P **PKPbc 03 19 13.8 -0.4**
KLV Kalavryta, Ach 147.43 260 *e*P **PKPbc 03 19 13.9 -0.3**
KLV Kalavryta, Ach 147.43 260 P **PKPbc 03 19 13.8 -0.4**
TIRR Tirgusor 147.53 274 ⇑PKP2 **PKPbc 03 19 13.5 -0.7**
TIRR Tirgusor 147.53 274 ⇑*i*P **PKPbc 03 19 13.4 -0.7**
OBN Obninsk 147.56 297 ⇓*i*PKP2 **PKPdf 03 19 12.1 +1.0**
OBN *e* 03 22 34.0
OBN *e*SS SS 03 41 37.9 -6.1
OBN pmax pmax
comp=Z,107nm,1.6s
OBN MLR MLR
comp=Z,600nm,24.0s
AXAR Agios Charalam 147.60 261 P **PKPbc 03 19 13.8 -0.8**
AXAR Agios Charalam 147.60 261 P **PKPbc 03 19 13.8 -0.8**
NEO Neokhori 147.61 262 P **PKPbc 03 19 13.8 -0.8**
NEO Neokhori 147.61 262 *e*P **PKPbc 03 19 13.9 -0.7**
NEO Neokhori 147.61 262 P **PKPbc 03 19 13.8 -0.8**
LAKA Lakka 147.66 260 *e*P **PKPbc 03 19 15.1 +0.3**
KALE Kalithea 147.67 260 *e*P **PKPdf 03 19 11.7 -0.3**
XOR Xorichti 147.67 262 P **PKPbc 03 19 13.7 -1.1**
XOR Xorichti 147.67 262 P **PKPbc 03 19 13.7 -1.1**
TLCR 147.68 276 ⇑PKP2 **PKPbc 03 19 13.5 -1.0**
TLCR 147.68 276 ⇑*i*P **PKPbc 03 19 14.1 -0.4**
TRIZ Trizonia 147.69 260 *e*P **PKPdf 03 19 09.7 -2.3**
KLMR Klimovskoe 147.73 308 *e*PKP2 **PKPdf 03 19 10.8 -0.5**
KLMR pmax pmax
comp=Z,94nm,1.7s
AGG Agios Georgios 147.96 261 P **PKPdf 03 19 13.9 +1.4**
AGG Agios Georgios 147.96 261 PKP2 **PKPdf 03 19 13.9 +1.4**
AGG Agios Georgios 147.96 261 *e*P **PKPbc 03 19 14.2 -1.4**
AGG Agios Georgios 147.96 261 P **PKPdf 03 19 13.9 +1.4**
CFR Carcaliu 148.08 275 ⇓PKP2 **PKPbc 03 19 15.4 -0.2**
CFR Carcaliu 148.08 275 ⇑*i*P **PKPbc 03 19 15.2 -0.4**
EVR Evrytania 148.21 261 P **PKPbc 03 19 16.4 +0.1**
EVR Evrytania 148.21 261 *e*P **PKPbc 03 19 16.2 -0.1**
EVR Evrytania 148.21 261 P **PKPbc 03 19 16.4 +0.1**
PLD Plovdiv 148.44 268 P **PKPbc 03 19 15.4 -1.2**
PLD Plovdiv 148.44 268 PKP2 **PKPbc 03 19 15.4 -1.2**
PLD Plovdiv 148.44 268 P **PKPbc 03 19 15.4 -1.2**
VLS Valsamata 148.45 258 *e*P **PKPbc 03 19 16.7 -0.1**
NVR Nevrokopi 148.50 266 P **PKPbc 03 19 16.1 -0.8**
NVR Nevrokopi 148.50 266 P **PKPbc 03 19 16.1 -0.8**
THL Klokotos Trika 148.50 262 P **PKPbc 03 19 15.3 -1.6**
THL Klokotos Trika 148.50 262 *e*P **PKPbc 03 19 15.7 -1.2**
KIS Kishinev 148.60 279 *e*PKP **PKPab 03 19 22.0 +1.5**
comp=Z,100nm,1.2s
KIS *e*SKP 03 22 45.0
KIS Kishinev 148.60 279 *e*PP PP 03 23 11.0 +24
KIS LRM MLR 04 19 42.0
comp=Z,300nm,21.0s
KIS Kishinev 148.60 279 *e*PKP2 **PKPab 03 19 22.0 +1.5**
KIS *e* 03 22 45.0
KIS pmax pmax
comp=Z,110nm,1.2s
LEOM Leova 148.68 278 ⇓PKP2 **PKPbc 03 19 17.0 -0.1**
KNT Kendrikon 148.96 265 P **PKPbc 03 19 17.2 -0.8**
KNT Kendrikon 148.96 265 PKP2 **PKPbc 03 19 17.2 -0.8**
KNT Kendrikon 148.96 265 P **PKPbc 03 19 17.2 -0.8**
TMCR Tamitsa 148.99 314 *e*PKP2 **PKPbc 03 19 16.3 -1.0**
TMCR pmax pmax
comp=Z,24nm,1.0s
KZN Kozani 149.11 263 P **PKPbc 03 19 17.4 -1.1**
KZN Kozani 149.11 263 PKP2 **PKPbc 03 19 17.4 -1.1**
KZN Kozani 149.11 263 P **PKPbc 03 19 17.4 -1.1**
VRI Vrincioaia 149.28 276 ⇑PKP2 **PKPbc 03 19 19.2 +0.5**
VRI Vrincioaia 149.28 276 ⇑*i*P **PKPbc 03 19 18.6 -0.1**
PLOR Plostina 149.32 275 ⇓PKP2 **PKPbc 03 19 19.4 +0.6**
PLOR Plostina 149.32 275 ⇑*i*P **PKPbc 03 19 19.5 +0.6**
MLR Muntele Rosu 149.56 274 PKPbc **PKPbc 03 19 18.8 -0.7**
MLR Muntele Rosu 149.56 274 PKPbc **PKPbc 03 19 18.8 -0.7**
comp=Z,2.7nm,0.7s,baz=155,slow=3.1,SNR=20
NEST Nestorio 149.61 262 P **PKPbc 03 19 19.9 +0.1**
VTS Vitosha 149.62 267 P **PKPbc 03 19 19.4 -0.4**
VTS Vitosha 149.62 267 ⇓PKP2 **PKPbc 03 19 19.4 -0.4**
VTS Vitosha 149.62 267 P **PKPbc 03 19 19.4 -0.4**
VTS Vitosha 149.62 267 ⇑*i*P **PKPbc 03 19 19.1 -0.7**
BIA Bitola 149.82 263 P **PKPbc 03 19 19.2 -1.0**
BIA Bitola 149.82 263 P **PKPbc 03 19 19.2 -1.0**
KBN Korca 149.90 262 *e*P **PKPbc 03 19 20.2 -0.2**
KBN Korca 149.90 262 P **PKPbc 03 19 20.1 -0.3**
KBN Korca 149.90 262 PKP2 **PKPbc 03 19 20.1 -0.3**
KBN Korca 149.90 262 P **PKPbc 03 19 20.1 -0.3**
KEK Kerkira 149.91 260 P **PKPbc 03 19 19.6 -0.8**
KEK Kerkira 149.91 260 P **PKPbc 03 19 19.6 -0.8**
AKASG Malin Array Be 150.03 286 PKP2 **PKPbc 03 19 19.7 -0.6**
AKASG Malin Array Be 150.03 286 PKPbc **PKPbc 03 19 19.6 -0.6**
AKASG Malin Array Be 150.03 286 PKPbc **PKPbc 03 19 19.6 -0.6**
comp=Z,8.5nm,0.7s,baz=73,slow=3.1,SNR=24
KIEV Kiev 150.04 286 *e*PKP2 **PKPbc 03 19 19.3 -1.0**
KIEV MLR MLR
comp=Z,750nm,19.0s
KIEV Kiev 150.04 286 *e*PKPbc **PKPbc 03 19 19.3 -1.0**
KIEV LR LR
comp=Z,750nm,19.0s
VOIR 150.07 274 ⇑PKP2 **PKPbc 03 19 19.9 -0.8**
VOIR 150.07 274 ⇑*i*P **PKPbc 03 19 20.6 -0.1**
ARR Arges 150.29 273 ⇑*i*P **PKPbc 03 19 21.1 -0.1**
LVZ Lovozero 150.52 321 *c i*PKIKP **PKPbc 03 19 20.8 -0.2**
LVZ pmax pmax
comp=Z,33nm,1.2s
PHP Peshkopia 150.75 263 *e*P **PKPbc 03 19 21.9 -0.6**
PHP Peshkopia 150.75 263 P **PKPbc 03 19 21.8 -0.6**
PHP Peshkopia 150.75 263 PKIKP **PKPbc 03 19 21.8 -0.6**
PHP Peshkopia 150.75 263 P **PKPbc 03 19 21.8 -0.6**
TIR Tirane 150.89 262 *e*P **PKPbc 03 19 23.5 +0.8**
TIR Tirane 150.89 262 *e*PKIKP **PKPbc 03 19 23.1 +0.4**
TIR MLR MLR
comp=Z,623nm,21.0s
TIR Tirane 150.89 262 *e*PKPbc **PKPbc 03 19 23.1 +0.4**
TIR LR LR
comp=Z,623nm,21.0s
APA Apatity 151.01 321 ⇑*i*PKIKP **PKPbc 03 19 22.0 -0.1**
APA *i* 03 26 24.0
APA *i* PPS PPS 03 35 46.0
APA pmax pmax
comp=Z,29nm,1.0s
BURAR Bucovina Array 151.05 278 ⇓PKIKP **PKPbc 03 19 23.6 +0.6**
BURAR Bucovina Array 151.05 278 ⇓*i*P **PKPbc 03 19 23.6 +0.6**
PUK Puka 151.29 264 *e*P **PKPbc 03 19 23.8 +0.1**
BCI Bajram Curri 151.38 264 *e*P **PKPbc 03 19 23.9 +0.1**
GZR Gura Zlata 151.42 272 ⇑PKIKP **PKPdf 03 19 19.5 +1.7**
KBS Kingsbay 151.84 347 PFAKE 03 19 30.0 -3.0
KBS LR LR
comp=Z,720nm,21.0s
DRGR 152.16 274 ⇑PKIKP **PKPbc 03 19 25.5 0.0**
DRGR 152.16 274 ⇓*i*P **PKPbc 03 19 25.5 0.0**
BZS Buzias 152.23 271 ⇑PKIKP **PKPbc 03 19 24.7 -0.9**
BZS Buzias 152.23 271 ⇓*i*P **PKPbc 03 19 25.5 -0.1**
DIVS Divibare 152.41 267 P **PKPbc 03 19 26.2 0.0**
CUC Castrocucco 152.44 256 PFAKE 03 19 30.0 +3.6
CUC LR LR
comp=Z,598nm,21.0s
SIRR Siria 152.53 273 ⇑*i*P **PKPbc 03 19 26.0 -0.3**
LVV L'vov 152.72 281 *e*PKIKP **PKPbc 03 19 26.2 -0.4**
SCHQ Schefferville 152.77 67 PKPbc **PKPbc 03 19 26.8 +0.2**
SCHQ Schefferville 152.77 67 PKPbc **PKPbc 03 19 26.8 +0.2**
comp=Z,9.8nm,0.8s,baz=244,slow=5.3,SNR=6.4
KEV Kevo 153.01 326 PFAKE 03 19 30.0 +3.4
KEV LR LR
comp=Z,695nm,20.0s
KEST Kesra 153.08 242 *e*PKPbc **PKPbc 03 19 28.5 +0.5**
KEST Kesra 153.08 242 PKPbc **PKPbc 03 19 28.3 +0.3**
comp=Z,5.3nm,1.0s,baz=150,slow=3.0,SNR=8.8
UZH Uzhgorod 153.25 278 *i* PKIKP **PKPdf 03 19 20.6 +0.3**
UZH *e* 03 19 28.2
UZH *e* 03 26 21.2
UZH *e*PPP PPP 03 26 44.6
UZH *e* 03 43 21.2
KOLS Kolonicke sedl 153.40 278 *e*PKIKP **PKPbc 03 19 28.8 +0.7**
KOLS *e* 03 19 38.1
KOLS Kolonicke sedl 153.40 278 *e*PKP **PKPbc 03 19 28.8 +0.7**
KOLS *e* 03 19 38.1
KWP Kalwaria Pacla 153.43 280 ⇑PKIKP **PKPbc 03 19 29.2 +1.0**
KWP Kalwaria Pacla 153.43 280 *e*PKPbc **PKPbc 03 19 28.1 -0.1**
KWP LR LR
comp=Z,695nm,22.0s
KWP Kalwaria Pacla 153.43 280 ⇑*i*P **PKPbc 03 19 29.9 +1.7**
ARCES ARCESS Array B 153.57 326 PKPbc **PKPbc 03 19 26.4 -1.5**
ARCES ARCESS Array B 153.57 326 PKPbc **PKPbc 03 19 26.4 -1.5**
comp=Z,6.2nm,0.8s,baz=90,slow=2.7,SNR=10.0
STHS Stebnicka Huta 154.21 279 *e*PKIKP **PKPdf 03 19 21.6 -0.1**
STHS *e* 03 19 28.8
STHS *e* 03 19 43.9
STHS Stebnicka Huta 154.21 279 *e*PKP **PKPdf 03 19 21.6 -0.1**
STHS *e* 03 19 28.8
STHS *e* 03 19 43.8
FINES FINESS Array B 154.25 307 PKPbc **PKPbc 03 19 28.8 -0.7**
FINES FINESS Array B 154.25 307 PKPbc **PKPbc 03 19 28.8 -0.7**
comp=Z,7.6nm,0.8s,baz=126,slow=2.4,SNR=8.9
KECS Kecovo 154.27 276 *e*PKIKP **PKPbc 03 19 29.7 -0.3**
KECS *e* 03 19 41.8
KECS Kecovo 154.27 276 *e*PKP **PKPbc 03 19 29.7 -0.3**
KECS *e* 03 19 41.8
PSZ Piszkesteto 154.38 275 ⇑PKIKP **PKPbc 03 19 31.0 +0.6**
PSZ Piszkesteto 154.38 275 *e*PKPbc **PKPbc 03 19 30.2 -0.1**
PSZ LR LR
comp=Z,695nm,21.0s
VYHS Vyhne 155.27 275 *e*PKIKP PKPdf 03 19 32.1 +9.0
VYHS *e* 03 19 47.9
VYHS Vyhne 155.27 275 *e*PKP PKPdf 03 19 32.1 +9.0
VYHS *e* 03 19 47.9
VSL Villasalto 155.80 248 PFAKE 03 19 40.0 -11
VSL LR LR
comp=Z,625nm,21.0s
OKC Ostrava-Krasne 156.23 278 AMS AMS 04 41 00.0
comp=Z,700nm,18.1s
ARSA Arzberg 156.71 270 ⇑*i*PKPab **PKPab 03 19 53.0 -1.6**
comp=Z,16nm,1.1s
MDT Midelt 156.92 215 PKPab **PKPab 03 19 56.1 +0.1**
MDT Midelt 156.92 215 PKPab **PKPab 03 19 56.1 +0.1**
comp=Z,3.6nm,0.8s,baz=170,slow=3.9,SNR=7.8
DPC Dobruska-Polom 157.51 278 *e*PKIKP **PKPdf 03 19 25.5 -0.6**
DPC Dobruska-Polom 157.51 278 *e*PKPDF **PKPdf 03 19 25.5 -0.6**
DPC *e*PKPAB **PKPab 03 19 58.0 -0.1**
DPC AMS AMS 04 38 40.0
TREC Trest 157.61 275 *e*PKP2 **PKPab 03 19 57.4 -1.1**
TREC MLR MLR
comp=Z,800nm,25.8s
TREC Trest 157.61 275 *e*PKPAB **PKPab 03 19 57.4 -1.1**
TREC AMS AMS 04 38 20.0
comp=Z,800nm,25.8s
UPC Upice 157.75 278 *e*pPKP PKPab 03 20 04.7 +5.6
VLC Villacollemand 158.18 258 PFAKE 03 19 40.0 +13
VLC LR LR
comp=Z,723nm,20.0s
PRU Pruhonice 158.44 276 *e*PKIKP **PKPdf 03 19 27.2 +0.1**
PRU *e* 03 20 01.2
PRU MLR MLR
comp=Z,900nm,22.1s
PRU Pruhonice 158.44 276 *e*PKPDF **PKPdf 03 19 27.2 +0.1**
PRU *e*PKPAB **PKPab 03 20 01.2 -0.9**
PRU AMS AMS 04 39 20.0
comp=Z,900nm,22.1s
GERES GERESS Array B 158.50 272 PKP **PKPdf 03 19 27.0 -0.4**
GERES PKPab **PKPab 03 20 00.8 -1.7**
GERES GERESS Array B 158.50 272 PKP **PKPdf 03 19 27.0 -0.4**
comp=Z,0.3nm,0.6s,baz=85,slow=2.1,SNR=3.9
GERES PKPab **PKPab 03 20 00.8 -1.7**
comp=Z,0.8nm,0.7s,baz=131,slow=2.7,SNR=7.1
PRA Prague 158.54 276 PKPDF **PKPdf 03 19 27.0 -0.2**
PRA PKPAB **PKPab 03 20 01.0 -1.5**
PVCC Panska Ves 158.62 277 AMS AMS 04 35 50.0
comp=Z,1μm,29.0s
KHC Kasperske Hory 158.69 273 *e*PKP2 **PKPab 03 20 00.7 -2.5**
KHC Kasperske Hory 158.69 273 ⇑*e*PKP PKPab 03 19 46.6 -17
KHC *e*PKPAB **PKPab 03 20 01.6 -1.6**
KHC AMS AMS 04 36 30.0
comp=Z,800nm,20.0s
KHC Kasperske Hory 158.69 273 *e*PKPab **PKPab 03 20 00.7 -2.5**
RTC Rabat Centre 158.73 211 PFAKE 03 19 40.0 +12
RTC LR LR
comp=Z,844nm,21.0s
BRG Berggiesshubel 159.11 278 *e*P **PKPab 03 20 04.3 -0.6**
comp=Z,7.5nm,1.3s
BRG *e* 03 20 12.1
comp=Z,8.8nm,1.4s
BRG *e* 03 25 43.2
comp=Z,7.9nm,1.2s
BRG SS SS 03 43 54.0 +3.4
BRG
comp=N,695nm,27.8s
BRG
comp=E,480nm,25.2s
BRG
comp=Z,811nm,24.0s
BRG Berggiesshubel 159.11 278 *e*PKP2 **PKPab 03 20 04.3 -0.6**
BRG pmax pmax
comp=Z,8.0nm,1.3s
BRG pmax pmax
comp=Z,9.0nm,1.4s
BRG pmax pmax
comp=Z,8.0nm,1.2s
BRG MLR MLR
comp=N,695nm,27.8s
BRG MLR MLR
comp=E,480nm,25.2s
BRG MLR MLR
comp=Z,811nm,24.0s
SFJD Kangerlussuaq 159.62 35 PFAKE 03 19 40.0 +12
SFJD LR LR
comp=Z,1μm,20.0s
RETA Reutte 159.69 266 ⇑*i*PKPab **PKPab 03 20 06.0 -1.7**
CLL Collm 159.81 278 ⇓*i*PKP2 **PKPab 03 20 07.0 -1.0**
CLL pmax pmax
comp=Z,10.0nm,1.5s
CLL MLR MLR
CLL Collm 159.81 278 ⇓*i*PKPab **PKPab 03 20 07.0 -1.0**
comp=Z,10.0nm,1.5s
CLL *i* pPKPab **pPKPab 03 20 12.1 -1.7**
comp=Z,8.0nm,1.0s
CLL *e*PP PP 03 23 43.0 -7.5
CLL *e*SKKSac SKKSac 03 30 38.0 +0.8
CLL *e*SKKSacre 03 33 45.0
CLL *e*PSKS 03 34 14.0
CLL *e*PPS PPS 03 37 16.0
CLL *e* 03 38 59.0
CLL *e* 03 43 04.0
CLL *e*SS **SS 03 43 55.0 -3.0**
CLL *e*PSS PSS 03 45 01.0
CLL *e*SSS SSS 03 50 17.0
CLL *e* 03 54 06.0
CLL LmV 04 41 00.0
comp=Z,1μm,21.8s
TUE Stuetta 160.05 262 PFAKE 03 19 40.0 +11
TUE LR LR
comp=Z,763nm,20.0s
DAVA Damuels 160.12 265 ⇑*i*PKPab **PKPab 03 20 08.0 -1.7**
comp=Z,14nm,1.4s
HFS Hagfors 160.36 304 PKPab **PKPab 03 20 09.4 -0.7**
HFS Hagfors 160.36 304 PKPab **PKPab 03 20 09.4 -0.7**
comp=Z,5.5nm,0.7s,baz=90,slow=3.6,SNR=3.0
BNI Bardonecchia 160.87 256 *e*PKIKP **PKPdf 03 19 30.6 +0.3**
BNI MLR MLR
comp=Z,1μm,21.0s
BNI Bardonecchia 160.87 256 *e*PKPdf **PKPdf 03 19 30.6 +0.3**
BNI LR LR
comp=Z,1μm,21.0s
BFO Black Forest 161.53 266 PFAKE 03 19 40.0 +9.3
BFO LR LR
comp=Z,967nm,20.0s
PBDV Barranco-do-Ve 162.06 213 *e*SS SS 03 44 31.5 +11
PVAQ Vaqueiros 162.14 213 *e*SS SS 03 44 34.8 +14
PVAQ Vaqueiros 162.14 213 A A 04 45 13.1
comp=Z,876nm,22.0s
ECH Echery 162.18 265 PFAKE 03 19 40.0 +8.6
ECH LR LR
comp=Z,975nm,22.0s
SSB Saint Sauveur 162.24 254 PFAKE 03 19 40.0 +8.4
SSB LR LR
comp=Z,857nm,20.0s
PCVE Castro Verde 162.45 213 *e*SS SS 03 44 29.1 +4.7
KONO Kongsberg 162.47 304 PFAKE 03 19 40.0 +8.8
KONO LR LR
comp=Z,1μm,20.0s
PBAR Barrancos 162.60 216 *e*PKPab **PKPab 03 20 20.9 +0.5**
ESDC Sonseca Array 162.68 226 PKP **PKPdf 03 19 32.2 0.0**
ESDC PKPab **PKPab 03 20 19.8 -1.1**
ESDC Sonseca Array 162.68 226 PKP **PKPdf 03 19 32.3 0.0**
comp=Z,1.4nm,0.8s,baz=168,slow=1.3,SNR=8.4
ESDC PKPab **PKPab 03 20 19.8 -1.1**
comp=Z,1.0nm,0.7s,baz=145,slow=4.7,SNR=5.3
PAB San Pablo 162.74 225 PFAKE 03 19 40.0 +7.7
PAB LR LR
comp=Z,1μm,22.0s
PNCL Nicolau / Gran 163.05 212 *e*P PKPab 03 20 27.6 +5.3
PNCL Nicolau / Gran 163.05 212 *e*SS SS 03 44 42.2 +12
EVO Evora 163.26 214 *e*PKPdf **PKPdf 03 19 33.4 +0.7**
EVO Evora 163.26 214 *e*PKPab **PKPab 03 20 24.0 +0.7**
WLF Walferdange 163.38 269 *e*PKP2 **PKPab 03 20 22.2 -1.4**
WLF MLR MLR
comp=Z,814nm,21.0s
WLF Walferdange 163.38 269 *e*PKPab **PKPab 03 20 22.2 -1.4**
WLF LR LR
comp=Z,814nm,21.0s
PESTR Estremoz 163.41 216 *e*PKPdf **PKPdf 03 19 33.3 +0.4**
PESTR Estremoz 163.41 216 *e*PKPab **PKPab 03 20 24.7 +0.7**
PESTR Estremoz 163.41 216 *e*SS SS 03 44 46.2 +12
PMTG Montargil 163.81 215 *e*PKPab **PKPab 03 20 26.4 +0.7**
PMTG Montargil 163.81 215 *e*SS SS 03 44 47.9 +9.4
PMRV Marv??o 163.84 217 *e*PKPab **PKPab 03 20 26.2 +0.4**
PMRV Marv??o 163.84 217 *e*SS SS 03 44 48.3 +9.4
PMRV Marv??o 163.84 217 *e*LQ LQ 04 07 37.3
PMRV A A 04 40 06.2
comp=Z,836nm,22.0s
PMAFR Mafra 164.06 212 *e*SS SS 03 44 47.2 +6.2
CMLA Cha da Macela 164.19 164 PFAKE 03 19 40.0 +6.4
CMLA LR LR
comp=Z,1μm,22.0s
MTE Manteigas 164.74 219 *e*SS SS 03 44 58.0 +10
MTE Manteigas 164.74 219 *e*LQ LQ 04 08 43.0
MTE Manteigas 164.74 219 *e*LR LR 04 19 30.4
comp=Z,840nm,20.0s
MTE Manteigas 164.74 219 PFAKE 03 19 40.0 +5.9
MTE LR LR
comp=Z,1μm,22.0s
MVO Moncorvo 165.20 221 *e*PKPab **PKPab 03 20 32.4 +0.5**
MVO Moncorvo 165.20 221 *e*SS SS 03 45 04.1 +11
MVO Moncorvo 165.20 221 *e*LQ LQ 04 08 10.9
MVO Moncorvo 165.20 221 *e*LR LR 04 20 58.5
comp=Z,612nm,22.0s
POLO Lamas de Olo 165.68 220 *e*PKPab **PKPab 03 20 34.5 +0.5**
POLO Lamas de Olo 165.68 220 *e*SS SS 03 45 05.3 +7.3
PGAV Gavieira, Arco 166.37 220 *e*SS SS 03 45 17.4 +12
PGAV Gavieira, Arco 166.37 220 *e*LQ LQ 04 08 31.6
PGAV Gavieira, Arco 166.37 220 *e*LR LR 04 21 52.7
comp=Z,728nm,24.0s
ESK Eskdalemuir 169.94 289 PFAKE 03 19 50.0 +13
ESK LR LR
comp=Z,1μm,20.0s

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*IDC **23** 03:15:41.0±0.6, 17°.47N×46°.52W, h0km, mb4.0/15, mb1 4.2/15, mb1mx4.1/24, mbtmp4.0/15, MS4.2/8, Ms1 4.2/8, ms1mx3.8/37, Error ellipse: s-maj=21.0km s-min=14.4km az=124.0*

*ISCJB **23** 03:15:44.8±0.4, 17°.26N±0°.07×46°.94W±0°.03, h10km, mb4.6/47, MS4.2/8, Error ellipse: s-maj=10.4km s-min=4.2km az=172.0*

*NEIC **23** 03:15:46.3±0.3, 17°.18N×46°.97W, h10km, mb4.7/16, Error ellipse: s-maj=9.3km s-min=4.8km az=162.0*

ISC 23 03:15:46.2±0.8, 17°.2N±0°.1×46°.9W±0°.1, h10km, n376, σ0s87/343, mb4.7/47, MS4.1/8, 123C-126D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CELP	**Cerrillos**	**18.74**	**276**	*e*P	**Pn**	**03 20 06.4**	**+0.7**
SDDR	**Presa de Saban**	**23.21**	**278**	*e*P	**P**	**03 20 54.9**	**+1.2**
	13nm,0.9s						
BBTS	**Babate**	**29.34**	**91**	LR	LR	03 30 02.1	
	comp=Z,537nm,20.6s,baz=22,slow=30						
BDFB	**Brasilia**	**32.62**	**182**	P	**P**	**03 22 17.6**	**-0.9**
BDFB	**Brasilia**	**32.62**	**182**	P	**P**	**03 22 17.6**	**-0.9**
	2.2nm,0.8s,baz=356,slow=14,SNR=3.1						
SIV	**San Ignacio**	**35.78**	**204**	P	**P**	**03 22 45.6**	**-0.2**
SIV	**San Ignacio**	**35.78**	**204**	P	**P**	**03 22 45.6**	**-0.2**
	3.8nm,1.1s,baz=32,slow=9.3,SNR=6.8						
LPAZ	**La Paz**	**39.27**	**213**	P	**P**	**03 23 16.9**	**+0.9**
LPAZ	**La Paz**	**39.27**	**213**	P	**P**	**03 23 16.9**	**+0.9**
	3.7nm,0.8s,baz=34,slow=5.5,SNR=11						
MDT	**Midelt**	**41.11**	**60**	LR	LR	03 37 07.8	
	comp=Z,149nm,18.1s,baz=95,slow=32						
SFIN	**Scholer Farm**	**41.62**	**312**	⇑P	**P**	**03 23 33.5**	**-1.1**
	baz=42						
DBIC	**Dimbokro**	**42.39**	**99**	LR	LR	03 37 24.8	
	comp=Z,278nm,21.7s,baz=150,slow=31						
CPUP	**Villa Florida**	**44.41**	**193**	*e*P	**P**	**03 23 57.2**	**0.0**
	20nm,0.8s						
CPUP	**Villa Florida**	**44.41**	**193**	P	**P**	**03 23 56.6**	**-0.6**
	6.0nm,0.7s,baz=2.3,slow=9.6,SNR=13						
SJPF	**Ste Jean**	**46.48**	**46**	*e*P	**P**	**03 24 14.5**	**+0.9**
	8.8nm,0.8s						
SJPF	**Ste Jean**	**46.48**	**46**	*e*P	**P**	**03 24 14.5**	**+0.9**

8.8nm,0.8s
ETSF Etsaut 46.87 47 eP P 03 24 17.4 +0.6
ETSF Etsaut 46.87 47 eP P 03 24 17.4 +0.6
TUL1 Tulsa 47.00 303 ⇑P P 03 24 17.0 -0.8
baz=47
TORD Torodi Ar. Bea 47.02 88 P P 03 24 11.1 -7.2
TORD Torodi Ar. Bea 47.02 88 P P 03 24 11.0 -7.2
1.8nm,1.1s,baz=289,slow=6.9,SNR=4.7
TORD LR LR 03 40 46.6
comp=Z,449nm,21.4s,baz=280,slow=32
ROSF Rostrenen 47.16 39 eP P 03 24 18.6 -0.2
3.7nm,0.7s
ROSF Rostrenen 47.16 39 eP P 03 24 18.6 -0.2
3.7nm,0.6s
SPMN St. Paul 47.30 316 ⇓P P 03 24 18.7 -1.3
baz=47
EPF Esparros 47.54 47 eP P 03 24 22.6 +0.7
41nm,1.4s
EPF Esparros 47.54 47 eP P 03 24 22.6 +0.7
41nm,1.4s
WHTX Lake Whitney 47.84 298 ⇑P P 03 24 24.7 +0.4
baz=48
MFF Saint Martin d 48.41 42 eP P 03 24 28.7 +0.2
26nm,1.2s
MFF Saint Martin d 48.41 42 eP P 03 24 28.7 +0.2
26nm,1.2s
LFF La Frestale 48.42 45 eP P 03 24 29.5 +0.9
LFF La Frestale 48.42 45 eP P 03 24 29.5 +0.9
MTLF Montolieu 48.94 47 eP P 03 24 32.8 +0.1
10nm,1.0s
MTLF Montolieu 48.94 47 eP P 03 24 32.8 +0.1
10nm,1.0s
FLN La Foliniere 49.02 39 eP P 03 24 32.9 -0.3
FLN La Foliniere 49.02 39 eP P 03 24 32.9 -0.3
LDF La Druitiere 49.17 40 eP P 03 24 34.0 -0.4
LDF La Druitiere 49.17 40 eP P 03 24 34.0 -0.4
WMOK Wichita Mounta 49.24 301 eP P 03 24 34.8 -0.3
9.4nm,1.2s
CAF Calviac 49.31 45 eP P 03 24 35.6 +0.1
CAF Calviac 49.31 45 eP P 03 24 35.6 +0.1
TAM Tamanrasset 49.42 74 eP P 03 24 31.9 -4.9
Z32A Haskell 49.66 299 ⇑P P 03 24 37.8 -0.6
baz=50
632A Uvalde 49.68 294 ⇑P P 03 24 38.6 0.0
baz=50
232A Coleman 49.68 297 ⇓P P 03 24 37.9 -0.7
baz=50
332A Millersview 49.73 297 ⇑P P 03 24 38.6 -0.3
baz=50
JCT Junction City 49.73 296 ⇑P P 03 24 38.8 -0.1
baz=50
ABTX Abilene, Hawle 49.74 298 eP P 03 24 39.9 +0.9
ABTX Abilene, Hawle 49.74 298 ⇓P P 03 24 40.5 +1.5
baz=50
432A Menard 49.74 296 ⇑P P 03 24 38.7 -0.4
baz=50
532A Rocksprings 49.80 295 ⇓P P 03 24 39.5 -0.1
baz=50
732A Laxson Ranch, 49.81 293 ⇓P P 03 24 40.2 +0.6
baz=50,SNR=5.0
TCF Toulx Ste Croi 49.83 43 eP P 03 24 39.6 +0.1
24nm,1.2s
TCF Toulx Ste Croi 49.83 43 eP P 03 24 39.6 +0.1
24nm,1.2s
X31A McDonald Ranch 50.21 301 ⇑P P 03 24 41.7 -0.9
baz=50
Z31A Sharp Cattle R 50.22 299 ⇑P P 03 24 42.2 -0.4
baz=50,SNR=13
V31A Spring Creek L 50.23 302 ⇓P P 03 24 41.9 -0.8
baz=50
W31A Holland Ranch, 50.24 302 ⇑P P 03 24 42.1 -0.7
baz=50
T31A Randall Ranch, 50.28 304 ⇑P P 03 24 42.3 -0.7
baz=50
LASF Ste Croix 50.29 47 eP P 03 24 43.6 +0.6
26nm,1.1s
LASF Ste Croix 50.29 47 eP P 03 24 43.6 +0.6
26nm,1.1s
331A San Angelo 50.31 297 ⇓P P 03 24 42.6 -0.8
baz=50
BGF Bois d'Agland 50.34 43 eP P 03 24 43.4 +0.1
26nm,1.1s
BGF Bois d'Agland 50.34 43 eP P 03 24 43.4 +0.1
26nm,1.1s
R31A Burdett 50.35 306 ⇑P P 03 24 43.0 -0.5
baz=50,SNR=5.1
531A Rocksprings 50.36 295 ⇓P P 03 24 43.6 -0.2
baz=50
631A Perdido Creek 50.36 294 ⇑P P 03 24 43.7 -0.1
baz=50
131A Roby 50.37 298 ⇓P P 03 24 43.7 -0.1
baz=50
Y31A Rekieta Farm, 50.37 300 ⇑P P 03 24 43.1 -0.7
baz=50
431A Sonora 50.43 296 ⇓P P 03 24 44.3 0.0
baz=50,SNR=5.2
P31A Stockton 50.45 307 ⇓P P 03 24 42.5 -1.8
baz=50
BORG Borgarnes 50.59 14 LR LR 03 39 53.3
comp=Z,118nm,20.5s,baz=193,slow=29
L31A Butterfield Fa 50.59 311 ⇑P P 03 24 43.7 -1.7
baz=50
AVF Avril sur Loir 50.74 43 eP P 03 24 46.3 0.0
AVF Avril sur Loir 50.74 43 eP P 03 24 46.3 0.0
130A Snyder 50.85 298 ⇑P P 03 24 48.8 +1.4
baz=51
Y30A Stafford Cattl 50.89 300 ⇑P P 03 24 47.9 +0.1
baz=51
X30A Coker Ranch, T 50.92 301 ⇓P P 03 24 49.5 +1.5
baz=51
SSF Saint Saulge 50.92 43 eP P 03 24 47.4 -0.3
SSF Saint Saulge 50.92 43 eP P 03 24 47.4 -0.3
R30A Dighton 50.93 306 ⇑P P 03 24 48.1 +0.1
baz=51,SNR=6.2
330A Mertzon 50.95 297 ⇑P P 03 24 49.4 +1.1
baz=51
U30A WK&E Inc. Balk 50.98 303 ⇓P P 03 24 48.6 +0.2
baz=51
S30A Montezuma 50.98 305 ⇓P P 03 24 48.9 +0.6
baz=51
430A Baggett Ranch, 50.98 296 ⇓P P 03 24 49.7 +1.2
baz=51
Q30A Quinter 51.00 306 ⇓P P 03 24 47.5 -0.9
baz=51,SNR=6.0
SMF Signal de Mont 51.02 43 eP P 03 24 48.3 -0.1
14nm,1.0s
SMF Signal de Mont 51.02 43 eP P 03 24 48.3 -0.1
14nm,1.0s
Z30A Sanderson Ranc 51.03 299 ⇑P P 03 24 49.1 +0.2
baz=51,SNR=11
530A J-C Ranch, Com 51.04 295 ⇓P P 03 24 50.8 +1.9
baz=51
VIVF Saint-Julien-I 51.06 46 eP P 03 24 49.5 +0.7
29nm,1.2s
VIVF Saint-Julien-I 51.06 46 eP P 03 24 49.5 +0.7
29nm,1.2s
O30A MW Ranch, Wils 51.08 308 ⇑P P 03 24 49.4 +0.4
baz=51
P30A Selden 51.11 307 ⇓P P 03 24 49.7 +0.4
baz=51
L30A Spencer Herefo 51.19 310 ⇓P P 03 24 49.6 -0.3
baz=51
LOR Lormes 51.22 43 eP P 03 24 49.7 -0.2
LOR Lormes 51.22 43 eP P 03 24 49.7 -0.2
BRSD Miller 51.23 314 eP P 03 24 49.8 -0.3
J30A Dallas 51.33 312 ⇑P P 03 24 51.6 +0.7
baz=51
S29A Ulysses 51.49 305 ⇑P P 03 24 53.2 +1.0
baz=51
Z29A Hungry Hill Ra 51.52 299 ⇑P P 03 24 52.3 -0.2
baz=52,SNR=5.1
G30A Faulkton 51.54 314 ⇑P P 03 24 52.6 +0.2
baz=52
429A Davenport Ranc 51.54 296 ⇓P P 03 24 52.9 +0.2
baz=52
Q29A Oakley 51.57 306 ⇓P P 03 24 53.2 +0.4
baz=52
129A Stewart Farms, 51.61 298 ⇑P P 03 24 52.8 -0.4
baz=52,SNR=11
R29A Marienthal 51.62 306 ⇓P P 03 24 54.1 +0.9
baz=52
W29A Amraillo 51.62 301 ⇓P P 03 24 54.1 +0.8
baz=52
N29A Votaw Ranch, W 51.63 309 ⇓P P 03 24 53.4 +0.2
baz=52
O29A 4D Ranch, Culb 51.63 308 ⇓P P 03 24 54.0 +0.8
baz=52
P29A Atwood 51.64 307 ⇓P P 03 24 53.2 -0.2
baz=52
329A Wagon Wheel Ra 51.65 297 ⇓P P 03 24 55.0 +1.5
baz=52
E30A Jud 51.75 316 ⇑P P 03 24 55.2 +1.2
baz=52
D30A Buchanan 51.83 317 ⇓P P 03 24 54.3 -0.3
baz=52
LMR La Mourre 51.97 48 eP P 03 24 56.8 +1.2
LMR La Mourre 51.97 48 eP P 03 24 56.8 +1.2
Y28A McKinney Farm, 52.01 300 ⇑P P 03 24 57.7 +1.5
baz=52
Z28A Tucker Farm, M 52.09 299 ⇓P P 03 24 57.3 +0.6
baz=52
S28A Manter 52.10 304 ⇑P P 03 24 56.3 -0.5
baz=52,SNR=6.8
A30A Hoffart Farm, 52.10 319 ⇑P P 03 24 56.3 -0.2
baz=52
FRF La Foret Royal 52.12 48 eP P 03 24 57.9 +1.2
39nm,1.3s
FRF La Foret Royal 52.12 48 eP P 03 24 57.9 +1.2
39nm,1.3s
128A Castleberry Fa 52.13 298 ⇑P P 03 24 58.8 +1.7
baz=52
R28A Tribune 52.13 305 ⇓P P 03 24 57.4 +0.4
baz=52
T28A Walsh 52.21 304 ⇓P P 03 24 57.6 0.0
baz=52
U28A Mallet 52.22 303 ⇓P P 03 24 58.8 +1.1
baz=52
428A Kincaid Ranch, 52.22 296 ⇓P P 03 24 59.4 +1.6
baz=52
Q28A Sharon Springs 52.25 306 ⇑P P 03 24 57.7 -0.2
baz=52,SNR=5.3
E29A Napoleon 52.26 316 ⇓P P 03 24 57.4 -0.4
baz=52
SFTF Sexfontaines 52.27 42 eP P 03 24 57.6 -0.1
28nm,1.1s
SFTF Sexfontaines 52.27 42 eP P 03 24 57.6 -0.1
28nm,1.0s
P28A Saint Francis 52.27 307 ⇓P P 03 24 57.3 -0.8
baz=52
528A Cox Ranch, San 52.30 295 ⇑P P 03 25 00.6 +2.2
baz=52
BAIF Baives 52.35 39 eP P 03 24 57.8 -0.5
BAIF Baives 52.35 39 eP P 03 24 57.8 -0.5
328A Wrisen Ranch, 52.35 297 ⇑P P 03 25 00.7 +2.0
baz=52
MEZF Maizieres J'vi 52.36 41 eP P 03 24 58.5 +0.1
51nm,1.2s
MEZF Maizieres J'vi 52.36 41 eP P 03 24 58.5 +0.1
51nm,1.2s
O28A Krutsinger Ran 52.37 308 ⇑P P 03 24 59.0 +0.2
baz=52
628A Black Gap, Mar 52.38 294 ⇑P P 03 24 59.8 +0.9
baz=52,SNR=5.3
MSTX Muleshoe 52.45 300 eP P 03 25 00.5 +1.0
MSTX Muleshoe 52.45 300 ⇓P P 03 25 00.9 +1.4
baz=52
MBDF Montbardon 52.48 46 eP P 03 25 00.4 +0.9
30nm,1.2s
MBDF Montbardon 52.48 46 eP P 03 25 00.4 +0.9
30nm,1.2s
CABF La Chapelle 52.49 44 eP P 03 24 59.8 +0.3
16nm,1.1s
CABF La Chapelle 52.49 44 eP P 03 24 59.8 +0.3
16nm,1.0s
K28A Ten Mile Ranch 52.54 311 ⇓P P 03 25 00.5 +0.6
baz=52
J28A Allard Ranch, 52.59 312 ⇑P P 03 25 01.4 +1.1
baz=52
LPL La Plagne 52.64 45 eP P 03 25 01.7 +0.9
6.7nm,0.9s
LPL La Plagne 52.64 45 eP P 03 25 01.7 +0.9
6.7nm,0.9s
LPG La Plagne 52.65 45 eP P 03 25 01.9 +0.9
26nm,1.3s
LPG La Plagne 52.65 45 eP P 03 25 01.9 +0.9
26nm,1.3s
I28A Midland 52.67 313 ⇑P P 03 25 00.4 -0.4
baz=53
OGNE Ogallala 52.70 309 ⇑P P 03 25 01.8 +0.6
baz=53
U27A Thompson Grove 52.70 303 ⇑P P 03 25 01.8 +0.5
baz=53
H28A Mission Ridge 52.72 313 ⇓P P 03 25 01.8 +0.6
baz=53
G28A Parade 52.74 314 ⇑P P 03 25 01.4 +0.1
baz=53
SBF Sospel 52.74 48 eP P 03 25 02.8 +1.4
SBF Sospel 52.74 48 eP P 03 25 02.8 +1.4
X27A F and S Farms, 52.77 301 ⇓P P 03 25 02.6 +0.7
baz=53
Y27A Causey 52.77 300 ⇓P P 03 25 02.1 +0.2
baz=53,SNR=5.5
W27A Bowe Ranch, En 52.77 301 ⇑P P 03 25 02.6 +0.7
baz=53
Z27A Tatum 52.78 299 ⇓P P 03 25 01.9 0.0
baz=53
PAGF Fort de Pagny 52.81 42 eP P 03 25 01.6 -0.1
PAGF Fort de Pagny 52.81 42 eP P 03 25 01.6 -0.1
627A Terlingua Ranc 52.81 294 ⇓P P 03 25 04.6 +2.4
baz=53,SNR=5.3
427A Hayter Ranch, 52.84 296 ⇑P P 03 25 04.3 +1.9
baz=53,SNR=5.3
R27A Eads 52.89 305 ⇑P P 03 25 02.5 -0.2
baz=53
P27A Ficken Ranch, 52.89 307 ⇓P P 03 25 03.4 +0.7
baz=53
O27A Beecher Island 52.91 308 ⇓P P 03 25 02.9 +0.1
baz=53
KEST Kesra 52.97 58 P P 03 24 55.8 -7.5
KEST Kesra 52.97 58 P P 03 24 55.8 -7.5
1.7nm,0.9s,baz=27,slow=6.8,SNR=2.8
527A Woodward Ranch 53.01 295 ⇑P P 03 25 03.8 +0.1
baz=53,SNR=5.3
HAU Haudompre 53.05 42 eP P 03 25 03.0 -0.5
HAU Haudompre 53.05 42 eP P 03 25 03.0 -0.5
TXAR Lajitas Array 53.06 294 P P 03 25 02.9 -1.1
TXAR Lajitas Array 53.06 294 P P 03 25 02.9 -1.1
0.3nm,0.6s,baz=61,slow=7.3,SNR=2.7
K27A Flueckinger Fa 53.16 311 ⇑P P 03 25 04.6 0.0
baz=53
I27A Quinn 53.30 312 ⇓P P 03 25 06.1 +0.5
baz=53
HINF Hinteralfeld 53.32 43 eP P 03 25 05.0 -0.6
HINF Hinteralfeld 53.32 43 eP P 03 25 05.0 -0.6
Y26A Elida 53.32 300 ⇓P P 03 25 06.8 +0.8
baz=53
S26A Kim 53.34 304 ⇓P P 03 25 06.4 +0.3
baz=53
X26A CR and CF Fran 53.35 301 ⇑P P 03 25 06.3 +0.2
baz=53
426A McDonald Obser 53.38 296 ⇑P P 03 25 07.4 +0.9
baz=53,SNR=6.0
T26A Comanche Natio 53.39 304 ⇓P P 03 25 06.6 +0.1
baz=53,SNR=7.0
R26A Arlington 53.40 305 ⇓P P 03 25 06.5 0.0
baz=53,SNR=5.1
Z26A Caprock 53.42 299 ⇑P P 03 25 07.6 +0.9
baz=53
526A Mary Lane Ranc 53.43 295 ⇑P P 03 25 07.7 +0.9
baz=53,SNR=6.8
U26A Atchley Ranch, 53.44 303 ⇓P P 03 25 06.1 -0.7
baz=53,SNR=5.3
H27A Howes 53.44 313 ⇑P P 03 25 06.5 0.0
baz=53
P26A Davis Ranch, A 53.48 307 ⇓P P 03 25 07.7 +0.6
baz=53
226B Tecolote Peak, 53.53 297 ⇓P P 03 25 09.1 +1.7
baz=54
O26A Horse Wrangler 53.55 308 ⇑P P 03 25 08.1 +0.5
baz=54
F27A Lemmon 53.68 315 ⇑P P 03 25 07.8 -0.5
baz=54
CDF Champ du Feu 53.75 42 eP P 03 25 08.4 -0.4
CDF Champ du Feu 53.75 42 eP P 03 25 08.4 -0.4
K26A Motz Farm, Whi 53.85 311 ⇓P P 03 25 10.1 +0.4
baz=54
J26A Sides Ranch, S 53.88 311 ⇑P P 03 25 10.3 +0.4
baz=54
G26A Maurine 53.95 314 ⇓P P 03 25 10.2 -0.1
baz=54
125A Gardner Draw, 53.96 298 ⇑P P 03 25 11.1 +0.5
baz=54
U25A Circle Dot Ran 53.97 303 ⇓P P 03 25 11.1 +0.3
baz=54,SNR=14
R25A Fountain Ranch 54.04 305 ⇑P P 03 25 10.8 -0.3
baz=54
T25A Trinidad 54.04 304 ⇑P P 03 25 12.0 +0.7
baz=54
Y25A Mesa, Roswell 54.04 300 ⇑P P 03 25 11.5 +0.2
baz=54
225A Deer Hill, Car 54.09 297 ⇓P P 03 25 12.6 +1.0
baz=54
V25A Rancho No Teng 54.10 302 ⇓P P 03 25 13.1 +1.4
baz=54
S25A Robets Cordova 54.11 304 ⇓P P 03 25 12.3 +0.5
baz=54,SNR=5.7
F26A Lodgepole 54.12 315 ⇑P P 03 25 10.4 -1.1
baz=54
O25A Wiggins 54.15 307 ⇓P P 03 25 12.4 +0.5
baz=54
G27A Dupree 54.19 314 ⇓P P 03 25 07.0 -5.0
baz=54
425A Indio Mountain 54.20 296 ⇑P P 03 25 13.7 +1.2
baz=54,SNR=15
BFO Black Forest 54.41 42 eP P 03 25 12.4 -1.1
2.7nm,0.9s
A26A Wade Farm, Ken 54.45 318 ⇑P P 03 25 12.8 -1.0
baz=54
I25A Rochford 54.48 312 ⇓P P 03 25 13.6 -0.8
baz=54
G25A Newell 54.49 314 ⇓P P 03 25 13.6 -0.6
baz=54
H25A Fruitdale 54.50 313 ⇓P P 03 25 13.7 -0.6
baz=54
MNTX Cornudas Mount 54.55 297 eP P 03 25 13.6 -1.2
9.2nm,1.2s
Z24A Sheeppen Canyo 54.58 299 ⇑P P 03 25 17.0 +1.7
baz=54
V24A Rampart Ranch, 54.62 302 ⇑P P 03 25 15.9 +0.3
baz=55
124A Stringfield Ra 54.63 298 ⇓P P 03 25 17.0 +1.3
baz=55
324A Moseley Ranch, 54.64 297 ⇓P P 03 25 15.4 -0.2
baz=55,SNR=16
Y24A Capitan 54.66 300 ⇑P P 03 25 16.9 +1.1
baz=55
224A Cornudas Mount 54.68 297 ⇓P P 03 25 15.4 -0.5
baz=55
R24A Sanders Place, 54.69 305 ⇑P P 03 25 15.0 -1.0
baz=55
W24A Lazy 6 Ranch, 54.70 301 ⇑P P 03 25 16.4 +0.3
baz=55,SNR=5.4
S24A Houchin Ranch, 54.72 304 ⇑P P 03 25 16.8 +0.5
baz=55
E25A Miller Ranch, 54.76 315 ⇑P P 03 25 16.0 -0.1
baz=55
T24B San Luis 54.81 303 ⇑P P 03 25 17.4 +0.5
baz=55,SNR=6.0
N24A Carr 54.82 308 ⇑P P 03 25 16.7 -0.1
baz=55
M24A Cheyenne 54.86 309 ⇑P P 03 25 18.0 +0.8
baz=55
J24A Dixon Ranch, L 55.03 311 ⇑P P 03 25 19.0 +0.8
baz=55
DAVOX Davos/Dischmat 55.06 45 P P 03 25 12.3 -6.1
DAVOX Davos/Dischmat 55.06 45 P P 03 25 12.3 -6.1
1.3nm,0.8s,baz=270,slow=6.1,SNR=2.4
Y23A Lovelace Mesa, 55.17 300 ⇓P P 03 25 21.6 +2.1
baz=55
H24A Dirks Ranch, A 55.20 313 ⇓P P 03 25 19.7 +0.3
baz=55
ISCO Idaho Springs 55.25 307 ⇓P P 03 25 20.4 +0.2
baz=55,SNR=5.7
R23A Moffat 55.25 305 ⇓P P 03 25 21.1 +0.9
baz=55
X23A Hourglass Bar 55.31 300 ⇓P P 03 25 21.5 +1.0
baz=55
Q23A Hartsel 55.33 306 ⇑P P 03 25 22.0 +1.3
baz=55
T23A Casias Ranch, 55.33 303 ⇓P P 03 25 21.7 +1.1
baz=55
V23A Ortiz Mt. (NFS 55.36 302 ⇓P P 03 25 22.7 +1.8
baz=55
P23A Jefferson 55.38 306 ⇑P P 03 25 22.3 +1.2
baz=55
U23A El Rito 55.40 303 ⇑P P 03 25 21.4 +0.2
baz=55,SNR=14
O23A Lake Granby, G 55.53 307 ⇓P P 03 25 22.3 +0.2
baz=56
L23A Garrett 55.60 310 ⇑P P 03 25 22.7 +0.2
baz=56
N23A Red Feather La 55.62 308 ⇓P P 03 25 23.5 +0.7
baz=56
K23A Bowen Ranch, D 55.63 310 ⇓P P 03 25 22.4 -0.3
baz=56
Y22A Socorro 55.93 300 ⇓P P 03 25 26.5 +1.6
baz=56
V22A San Miguel Ran 55.96 302 ⇓P P 03 25 26.0 +0.8
baz=56,SNR=6.3
F23A Volborg 55.97 314 ⇑P P 03 25 25.2 +0.3
baz=56
R22A Saguache, Gunn 55.99 305 ⇑P P 03 25 25.8 +0.3
baz=56
N22A Wattenberg Ran 56.00 308 ⇑P P 03 25 26.3 +0.9
baz=56,SNR=5.5
O22A Kremmling 56.00 307 ⇑P P 03 25 27.6 +2.1
baz=56,SNR=5.6
S22A 4UR Ranch, Cre 56.01 304 ⇓P P 03 25 26.3 +0.7
baz=56,SNR=5.0
T22A Edith 56.02 303 ⇓P P 03 25 26.3 +0.7
baz=56,SNR=5.8
D23A Lindsay 56.11 316 ⇓P P 03 25 25.7 -0.2
baz=56
Q22A Crested Butte, 56.16 306 ⇑P P 03 25 27.5 +0.8
baz=56,SNR=5.2
C23A Lambert 56.22 316 ⇑P P 03 25 27.0 +0.3
baz=56
B23A Brockton 56.24 317 ⇓P P 03 25 27.6 +0.9
baz=56
K22A Casper 56.28 310 ⇓P P 03 25 27.0 -0.3
baz=56
I22A 9 Mile Ranch, 56.42 312 ⇑P P 03 25 27.9 -0.3
baz=56
E22A Miles City 56.47 315 ⇑P P 03 25 28.2 -0.2
baz=56
Z21A St. Cloud Mine 56.51 299 ⇑P P 03 25 29.7 +0.6
baz=56
T21A Navajo Lake 56.52 303 ⇓P P 03 25 28.7 -0.5
baz=56
Y21A Point of Rocks 56.52 300 ⇑P P 03 25 29.7 +0.4
baz=56
F22A Rosebud 56.56 314 ⇑P P 03 25 29.4 +0.2
baz=56
U21A Nageezi 56.59 303 ⇑P P 03 25 30.8 +1.1
baz=56
121A Cookes Peak, D 56.60 298 ⇑P P 03 25 31.5 +1.7
baz=56
R21A Cimarron 56.62 305 ⇑P P 03 25 30.2 +0.3
baz=56,SNR=5.2
X21A Alamocita Cree 56.62 300 ⇓P P 03 25 30.8 +0.8
baz=56,SNR=5.3
C22A Vida 56.67 316 ⇑P P 03 25 29.1 -0.7
baz=57,SNR=6.6
LAO LASA Array 56.70 315 eP P 03 25 31.9 +1.8
2.5nm,0.6s
D22A Cohagen 56.76 315 ⇓P P 03 25 28.6 -1.9
baz=57,SNR=5.5
S21A Coal Bank Pass 56.76 304 ⇓P P 03 25 30.9 -0.2
baz=57
M21A Separation Pea 56.77 309 ⇓P P 03 25 30.0 -0.9
baz=57
N21A Black Mountain 56.80 308 ⇓P P 03 25 31.8 +0.7
baz=57
K21A Alcova 56.81 310 ⇓P P 03 25 31.7 +0.6
baz=57
L21A Rawlins 56.81 309 ⇑P P 03 25 30.5 -0.7
baz=57,SNR=6.6
B22A Reddig Ranch S 56.86 317 ⇑P P 03 25 31.0 -0.2
baz=57
I21A Big Trails, Te 56.99 311 ⇓P P 03 25 29.2 -3.1
baz=57,SNR=5.8
J21A Lysite 57.04 311 ⇓P P 03 25 33.3 +0.6
baz=57
Y20A Horse Springs, 57.10 300 ⇑P P 03 25 33.8 +0.4
baz=57
X20A Quemado 57.21 300 ⇓P P 03 25 34.0 -0.2
baz=57
V20A Brimhall 57.22 302 ⇓P P 03 25 34.3 +0.2
baz=57
S20A Disappointment 57.22 304 ⇓P P 03 25 34.6 +0.4
baz=57
W20A Ramah 57.23 301 ⇑P P 03 25 35.5 +1.2

	baz=57						
220A	Playas Peak, P	57.23 297	⇓P		P	03 25 35.5	+1.3
	baz=57						
Q20A	Ridgley Place,	57.24 306	⇓P		P	03 25 34.4	+0.2
	baz=57,SNR=5.2						
R20A	Redvale	57.26 305	⇓P		P	03 25 33.5	-0.9
	baz=57,SNR=6.6						
Z20A	Nine Sixteen R	57.28 299	⇑P		P	03 25 35.7	+1.1
	baz=57						
U20A	Newcomb	57.28 302	⇓P		P	03 25 34.7	+0.1
	baz=57						
D21A	La Casta Ranch	57.29 315	⇑P		P	03 25 33.5	-0.8
	baz=57						
O20A	White River Ci	57.29 307	⇓P		P	03 25 34.8	+0.2
	baz=57						
MVCO	Mesa Verde	57.30 303	⇑P		P	03 25 35.2	+0.5
	baz=57						
120A	U Bar Ranch, L	57.32 298	⇑P		P	03 25 35.5	+0.7
	baz=57						
P20A	De Beque	57.36 306	⇓P		P	03 25 34.7	-0.3
	baz=57,SNR=5.8						
N20A	Spence Gulch,	57.37 308	⇓P		P	03 25 35.3	+0.1
	baz=57						
M20A	Sweetwater, Wa	57.37 309	⇓P		P	03 25 35.8	+0.6
	baz=57						
J20A	Shoshoni	57.50 311	⇓P		P	03 25 34.5	-1.4
	baz=57						
L20A	Wamsutter	57.54 309	⇑P		P	03 25 35.4	-0.9
	baz=58						
A21A	Bergtoll Ranch	57.60 318	⇓P		P	03 25 35.2	-1.2
	baz=58						
I20A	Worland	57.61 311	⇑P		P	03 25 33.6	-3.0
	baz=58,SNR=5.1						
P19A	Cripple Cowboy	57.82 306	⇓P		P	03 25 38.5	+0.2
	baz=58						
G20A	Bridger	57.84 313	⇓P		P	03 25 35.6	-2.7
	baz=58,SNR=5.4						
E20A	Meyer Farm, Mu	57.97 314	⇑P		P	03 25 39.2	+0.2
	baz=58						
O19A	Miners Draw (B	57.98 307	⇑P		P	03 25 37.2	-2.1
	baz=58,SNR=6.2						
K19A	Absolon Red Bu	58.00 310	⇑P		P	03 25 39.5	+0.1
	baz=58						
GERES	GERESS Array B	58.00 43	P		P	03 25 33.3	-6.0
GERES	GERESS Array B	58.00 43	P		P	03 25 33.3	-6.0
	0.2nm,0.3s,baz=249,slow=8.3,SNR=2.6						
D20A	Manuel Ranch,	58.06 315	⇓P		P	03 25 40.4	+0.7
	baz=58						
CLL	Collm	58.06 40	*i* P		P	03 25 40.2	+0.7
	comp=Z,6.0nm,0.9s						
J19A	Crowheart	58.19 311	⇓P		P	03 25 39.4	-1.5
	baz=58						
B20A	Solberg Farm,	58.21 317	⇑P		P	03 25 39.4	-1.3
	baz=58						
I19A	Meeteetse	58.24 311	⇓P		P	03 25 40.1	-1.0
	baz=58						
L19A	Farson	58.30 309	⇓P		P	03 25 42.7	+1.1
	baz=58						
H19A	Powell	58.31 312	⇑P		P	03 25 41.1	-0.5
	baz=58						
E19A	Rath Farm, Rou	58.41 314	⇑P		P	03 25 42.3	+0.1
	baz=58						
F19A	Roth Farm, Mol	58.43 314	⇑P		P	03 25 42.4	+0.1
	baz=58						
JMIC	Jan Mayen	58.49 14	LR		LR	03 44 52.1	
	comp=Z,121nm,21.7s,baz=262,slow=30						
PDAR	Pinedale Array	58.51 310	P		P	03 25 42.1	-1.0
PDAR	Pinedale Array	58.51 310	P		P	03 25 42.1	-1.0
	comp=Z,1.6nm,0.9s,baz=97,slow=6.0,SNR=6.4						
BW06	Boulder Array	58.51 310	*e*P		P	03 25 42.2	-1.0
	comp=Z,12nm,1.4s						
A19A	Klindworth Far	58.77 317	⇓P		P	03 25 43.8	-0.8
	baz=59						
H18A	Shoshone NF, C	58.79 312	⇑P		P	03 25 45.9	+0.9
	baz=59						
L18A	Fontenelle, Gr	58.79 309	⇑P		P	03 25 47.1	+2.0
	baz=59						
B19A	Brinkman Farms	58.82 317	⇓P		P	03 25 45.6	+0.7
	baz=59						
EGMT	Eagleton	59.29 316	⇓P		P	03 25 48.8	+0.6
	baz=59						
WUAZ	Wupatki	59.58 301	*e*P		P	03 25 50.3	-0.3
	comp=Z,24nm,1.1s						
WUAZ	Wupatki	59.58 301	⇑P		P	03 25 49.3	-1.3
	baz=60,SNR=5.4						
DAU	Daniels Canyon	59.61 307	*e*P		P	03 25 49.5	-1.4
IMW	Indian Meadow	59.62 311	*e*P		P	03 25 48.9	-2.0
	comp=Z,5.5nm,0.6s						
X16A	Lo Mia Camp, P	59.65 300	⇓P		P	03 25 51.3	+0.2
	baz=60						
VRAC	Vranov	59.95 43	LR		LR	03 50 22.4	
	comp=Z,331nm,18.7s,baz=275,slow=35						
MVU	Marysvale	60.28 305	*e*P		P	03 25 56.4	+0.9
	comp=Z,4.8nm,1.0s						
U15A	North Rim	60.33 302	⇑P		P	03 25 57.2	+1.3
	baz=60						
HRY	Holter Researc	60.52 314	*e*P		P	03 25 56.6	-0.2
	comp=Z,4.6nm,0.9s						
SPUT	South Promonto	60.56 308	*e*P		P	03 25 56.6	-0.6
	comp=Z,17nm,1.1s						
DUG	Dugway	60.79 307	⇑P		P	03 25 58.9	+0.1
	baz=61						
214A	Organ Pipe Nat	60.87 297	⇑P		P	03 26 00.6	+1.2
	baz=61						
Y14A	Wickenburg	60.95 300	⇓P		P	03 26 01.3	+1.4
	baz=61						
ARUT	Antelope Range	61.24 304	*e*P		P	03 26 02.5	+0.6
	comp=Z,370nm,1.5s						
W13A	Hualapai Mount	61.64 301	⇓P		P	03 26 04.7	0.0
	baz=62						
HLID	Hailey	62.11 311	⇑P		P	03 26 07.1	-0.6
	baz=62						
ELK	Elko	62.65 307	*e*P		P	03 26 09.7	-1.7
	comp=Z,8.0nm,1.0s						
R11A	Troy Canyon, C	62.93 305	*e*P		P	03 26 14.8	+1.5
R11A	Troy Canyon, C	62.93 305	⇓P		P	03 26 11.6	-1.6
	baz=63,SNR=6.7						
BC3	Big Chuckawall	63.00 299	⇓P		P	03 26 14.5	+0.8
	baz=63						
GMRC	Granite Mounta	63.11 301	⇑P		P	03 26 13.1	-1.4
	baz=63,SNR=5.1						
TUQ	Turquoise Moun	63.30 301	⇑P		P	03 26 16.2	+0.5
	baz=63						
SWSC	Sam W. Stewart	63.33 299	⇓P		P	03 26 16.8	+1.0
	baz=63						
BELC	Belle Mtn. Jos	63.43 300	⇓P		P	03 26 17.3	+0.7
	baz=63						
HEC	Hector,Ludlow	63.66 301	⇓P		P	03 26 18.2	+0.1
	baz=64						
PFO	Pinyon Flat Ob	63.84 299	⇑P		P	03 26 18.0	-1.3
	baz=64						
MONP	Monument Peak	63.86 299	⇓P		P	03 26 20.8	+1.2
	baz=64						
FURC	Furnace Creek,	64.01 303	⇓P		P	03 26 21.2	+1.1
	baz=64						
GSC	Goldstone	64.02 301	⇑P		P	03 26 22.0	+1.5
	baz=64						
NEW	Newport	64.22 316	⇑P		P	03 26 21.4	-0.1
	baz=64						
MPMC	Manual Prospec	64.54 302	⇓P		P	03 26 25.7	+1.8
	baz=64						
YKA	Yellowknife Ar	64.62 332	P		P	03 26 17.7	-6.0
YKA	Yellowknife Ar	64.62 332	P		P	03 26 17.7	-6.0
	comp=Z,1.3nm,0.6s,baz=102,slow=6.7,SNR=6.0						
LRMC	Laurel Mountai	64.73 302	⇓P		P	03 26 26.6	+1.4
	baz=65						
EDW2	Edwards Air Fo	65.02 301	⇑P		P	03 26 27.0	+0.1
	baz=65						
ISA	Isabella	65.36 302	*e*P		P	03 26 28.9	-0.3
	comp=Z,14nm,1.2s						
ISA	Isabella	65.36 302	⇑P		P	03 26 28.6	-0.6
	baz=65,SNR=5.5						
FINES	FINESS Array B	66.95 30	P		P	03 26 33.2	-5.5
FINES	FINESS Array B	66.95 30	P		P	03 26 33.2	-5.5
	comp=Z,1.9nm,0.8s,baz=157,slow=25,SNR=2.4						
AKASG	Malin Array Be	68.17 42	P		P	03 26 39.3	-7.4
AKASG	Malin Array Be	68.17 42	P		P	03 26 39.3	-7.4
	comp=Z,0.2nm,0.2s,baz=279,slow=5.2,SNR=3.1						
BRTR	Keskin Array B	72.09 53	P		P	03 27 04.5	-6.6
BRTR	Keskin Array B	72.09 53	P		P	03 27 04.5	-6.6
	comp=Z,1.2nm,0.9s,baz=265,slow=5.2,SNR=4.9						
ILAR	Eielson Array	78.79 335	P		P	03 27 44.1	-4.8
ILAR	Eielson Array	78.79 335	P		P	03 27 44.1	-4.8
	comp=Z,3.2nm,0.9s,baz=75,slow=4.7,SNR=33						
ZALV	Zalesovo Beam	98.03 26	LR		LR	04 10 11.1	
	comp=Z,386nm,21.3s,baz=71,slow=34						
ASAR	Alice Springs	173.49 187	PKP		PKPdf	03 35 51.3	-5.4
ASAR	Alice Springs	173.49 187	PKP		PKPdf	03 35 51.3	-5.4
	comp=Z,0.9nm,1.0s,baz=174,slow=2.8,SNR=5.1						
WRA	Warramunga Arr	176.99 204	PKP		PKPdf	03 35 52.1	-5.6
WRA	Warramunga Arr	176.99 204	PKP		PKPdf	03 35 52.1	-5.6
	comp=Z,0.4nm,0.4s,baz=226,slow=1.5,SNR=4.1						

*CSEM **23** 03:17:34.6, 44.°10N×11.°07E, h8km, MD2.2/13, After ROM*

ROM 23 03:17:34.6±0.1, 44.°10N×11.°07E, h8km±1km, Md2.2/13, Ml1.4/6, Error ellipse: s-maj=1.4km s-min=1.3km az=23.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNVD	Fontana Vidola	0.08	28	Pg	Pg	03 17 37.0	+0.2
FNVD				Sg	Sg	03 17 38.8	+0.5
	685nm,0.1s						
FNVD	Fontana Vidola	0.08	28	Pg	Pg	03 17 37.0	+0.2
FNVD				Sg	Sg	03 17 38.8	+0.5
	685nm,0.1s						
SEI	Scarperia	0.21	102	Pg	Pg	03 17 39.1	+0.2
SEI				Sg	Sg	03 17 42.9	+1.1
	236nm,0.2s						
SEI	Scarperia	0.21	102	Pg	Pg	03 17 39.1	+0.2
SEI				Sg	Sg	03 17 42.9	+1.1
	236nm,0.2s						
ZCCA	Zocca	0.26	345	Pg	Pg	03 17 40.7	+0.8
	78nm,0.5s						
ZCCA	Zocca	0.26	345	Pg	Pg	03 17 40.7	+0.8
	78nm,0.5s						
CRMI	Carmignano	0.32	193	Pg	Pg	03 17 41.4	+0.5
CRMI				Sg	Sb	03 17 47.4	-0.5
CRMI	Carmignano	0.32	193	Pg	Pg	03 17 41.4	+0.5
CRMI				Sg	Sb	03 17 47.4	-0.5
BDI	Bagni Di Lucca	0.34	264	Pg	Pg	03 17 41.7	+0.2
	52nm,0.4s						
BDI	Bagni Di Lucca	0.34	264	Pg	Pg	03 17 41.7	+0.2
	52nm,0.4s						
VMG	Vicchio	0.37	112	Pg	Pg	03 17 42.4	+0.6
	18nm,0.2s						
VMG	Vicchio	0.37	112	Pg	Pg	03 17 42.4	+0.6
	18nm,0.2s						
MTRZ	Monterenzio	0.40	45	Pg	Pg	03 17 42.3	-0.1
MTRZ	Monterenzio	0.40	45	Pg	Pg	03 17 42.3	-0.1
GSCL	Gusciola	0.43	306	Pg	Pg	03 17 43.3	+0.2
	1.0nm,0.2s						
GSCL	Gusciola	0.43	306	Pg	Pg	03 17 43.3	+0.2
	1.0nm,0.2s						
VLC	Villacollemand	0.50	277	Pg	Pg	03 17 44.8	+0.5
VLC				Sg	Sb	03 17 53.0	-0.2
	15nm,0.4s						
VLC	Villacollemand	0.50	277	Pg	Pg	03 17 44.8	+0.5
VLC				Sg	Sb	03 17 53.0	-0.2
	15nm,0.4s						
PII	Pisa	0.55	227	Pg	Pb	03 17 46.1	-0.3
	47nm,0.2s						
PII	Pisa	0.55	227	Pg	Pb	03 17 46.1	-0.3
	47nm,0.2s						
SFI	Santa Sofia	0.59	109	Pg	Pb	03 17 46.8	-0.5
SFI				Sg	Sb	03 17 55.5	-0.4
	22nm,0.5s						
SFI	Santa Sofia	0.59	109	Pg	Pb	03 17 46.8	-0.5
SFI				Sg	Sb	03 17 55.5	-0.4
	22nm,0.5s						
ASQU	Asqua	0.60	120	Pg	Pb	03 17 47.0	-0.5
ASQU				Sg	Sg	03 17 55.2	+1.0
	23nm,0.6s						
ASQU	Asqua	0.60	120	Pg	Pb	03 17 47.0	-0.5
ASQU				Sg	Sg	03 17 55.2	+1.0
	23nm,0.6s						
CRE	Caprese Michel	0.80	127	Pg	Pb	03 17 50.8	-0.1
	7.0nm,0.6s						
CRE	Caprese Michel	0.80	127	Pg	Pb	03 17 50.8	-0.1
	7.0nm,0.6s						

TIR 23 03:18:59.2, 41.°51N×20.°40E, h7km, ML2.4, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHP	Peshkopia	0.18	10	*i* PG	Pg	03 19 03.4	+0.5
PHP				*i* SG	Sg	03 19 06.6	+1.1
PUK	Puka	0.65	325	*i* PG	Pg	03 19 12.5	+0.5
PUK				*i* SG	Sb	03 19 22.6	+0.1

WEL 23 03:30:55.9±0.1, 37.°82S×176.°64E, h5km, ML3.6/11, 7C, Error ellipse: s-maj=0.8km s-min=0.8km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPRZ	Ohinepanea	0.08	249	PG	Pg	03 30 57.8	+0.3
OPRZ				SG	Sg	03 30 59.3	+0.6
MARZ	Manawahe	0.17	172	⇑PG	Pg	03 30 59.7	+0.3
MARZ				SG	Sg	03 31 02.6	+1.0
LIRZ	Lichensteins R	0.28	228	⇑PG	Pg	03 31 01.9	+0.6
EDRZ	Edgecumbe	0.30	166	⇑PG	Pg	03 31 02.0	+0.2
EDRZ				AML	AML	03 31 08.5	
EDRZ				AML	AML	03 31 09.7	
TGRZ	Tauranga	0.32	286	⇑PG	Pg	03 31 02.5	+0.5
TGRZ				AML	AML	03 31 08.6	
TGRZ				AML	AML	03 31 11.5	
MKRZ	Makatiti	0.35	204	PG	Pg	03 31 03.6	+0.9
MKRZ				AML	AML	03 31 12.8	
MKRZ				AML	AML	03 31 13.2	
OMRZ	Omania	0.36	217	⇑PG	Pg	03 31 03.4	+0.4
KARZ	Kaharoa	0.38	237	⇑PG	Pg	03 31 03.7	+0.5
KARZ				SG	Sg	03 31 09.1	+0.9
TARZ	Mount Tarawera	0.43	195	⇑PG	Pg	03 31 05.0	+0.7
HLRZ	Highlands Stat	0.49	208	PG	Pg	03 31 06.1	+0.7
UTU	Utuhina	0.51	225	PG	Pb	03 31 07.5	+0.2
UTU				AML	AML	03 31 19.3	
UTU				AML	AML	03 31 19.8	
WIZ	White Island	0.52	56	PG	Pg	03 31 06.2	+0.4
RRRZ	Republican Roa	0.53	191	PG	Pg	03 31 06.2	0.0
URZ	Urewera	0.57	140	AML	AML	03 31 07.5	
URZ				AML	AML	03 31 09.6	
MYRZ	Mayor Island	0.62	329	P*	Pg	03 31 08.3	+0.4
PRRZ	Plateau Road	0.71	196	P*	Pg	03 31 09.7	+0.2
ALRZ	Allen Road	0.78	198	P*	Pg	03 31 11.1	+0.2
MWZ	Matawai	0.87	127	P*	Pg	03 31 12.3	-0.3
MWZ				AML	AML	03 31 27.4	
MWZ				AML	AML	03 31 27.9	
TOZ	Tahuroa Road	0.91	275	P*	Pg	03 31 12.4	-0.8
TOZ				S*	Sb	03 31 25.8	-0.7
TLZ	Tolley Road	1.01	239	P*	Pg	03 31 14.9	-0.5
RAHZ	Arahi	1.15	163	P*	Pg	03 31 17.5	-0.5
NMHZ	Naumai	1.28	174	P*	Pn	03 31 19.8	-0.8
KUZ	Kuaotunu	1.30	325	P*	Pn	03 31 19.1	-1.5
KUZ				AML	AML	03 31 22.0	
KUZ				AML	AML	03 31 37.4	
KUZ				AML	AML	03 31 37.4	
PUZ	Puketiti	1.30	102	P*	Pn	03 31 19.8	-0.9
PUZ				AML	AML	03 31 41.7	
PUZ				AML	AML	03 31 42.0	
BKZ	Black Stump Fm	1.35	185	P*	Pn	03 31 20.7	-0.8
BKZ				AML	AML	03 31 42.0	
BKZ				AML	AML	03 31 48.4	
MKAZ	Moumakai	1.37	301	PN	Pn	03 31 18.9	-2.7
MKAZ				AML	AML	03 31 41.2	
MKAZ				AML	AML	03 31 42.5	
CNGZ	Carnagh Statio	1.40	119	PN	Pb	03 31 22.5	0.0
KNZ	Kokohu	1.45	146	PN	Pn	03 31 22.2	-0.4
HIZ	Hauiti	1.57	243	PN	Pn	03 31 22.5	-1.9
HIZ				AML	AML	03 31 50.7	
HIZ				AML	AML	03 31 50.9	
MHGZ	Mahia Peninsul	1.66	144	PN	Pn	03 31 25.2	-0.4
WHVZ	Whangaehu Hut	1.68	209	P*	Pn	03 31 26.2	0.0
BHHZ	Black Hill Sta	1.73	195	P*	Pb	03 31 27.7	-0.5
KAHZ	Kahuranaki	1.98	175	PN	Pn	03 31 30.6	+0.5
PNHZ	Pukenui	2.12	189	PN	Pn	03 31 33.1	+1.0

*CSEM **23** 03:37:01.6±0.3, 37.°00N×5.°49W, h2km, ML1.1, Error ellipse: s-maj=6.8km s-min=6.2km az=172.0*

MDD 23 03:37:02.1±0.6, 36.°97N×5.°51W, h0km, mbLg1.1/4, Error ellipse: s-maj=5.3km s-min=4.2km az=166.0, PRXIMO, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESPR	Espera	0.30	250	Pg	Pg	03 37 07.0	-0.9
	1.8nm,0.3s,SNR=7.9						
ESPR				Lg	Lg	03 37 12.4	
	12nm,0.2s,SNR=7.9						
ESPR	Espera	0.30	250	Pg	Pg	03 37 07.0	-0.8
	1.8nm,0.3s,SNR=7.9						
ESPR				Lg	Lg	03 37 12.4	
	12nm,0.2s,SNR=7.9						
EMIJ	Mijas	0.72	124	Pg	Pg	03 37 16.0	+0.1
	0.4nm,0.2s,SNR=7.9						
EMIJ				Lg	Lg	03 37 24.1	
	4.4nm,0.4s,SNR=7.9						
EMIJ	Mijas	0.72	124	Pg	Pg	03 37 16.0	+0.1
	0.4nm,0.2s,SNR=7.9						
EMIJ				Lg	Lg	03 37 24.1	
	4.4nm,0.4s,SNR=7.9						
ECAB	El Cabril	1.10	4	Pg	Pg	03 37 23.1	-0.3
	0.7nm,0.2s,SNR=8.6						
ECAB				Lg	Lg	03 37 37.8	
	1.0nm,0.2s,SNR=7.9						
ECAB	El Cabril	1.10	4	Pg	Pg	03 37 23.1	-0.3
	0.7nm,0.2s,SNR=8.6						
ECAB				Lg	Lg	03 37 37.8	
	1.0nm,0.2s,SNR=7.9						
EMIN	Mina Concepcio	1.22	311	Pg	Pg	03 37 24.7	-0.9
	0.5nm,0.4s,SNR=7.9						
EMIN				Lg	Lg	03 37 40.8	
	0.7nm,0.1s,SNR=7.9						
EMIN	Mina Concepcio	1.22	311	Pg	Pg	03 37 24.7	-0.9
	0.5nm,0.4s,SNR=7.9						
EMIN				Lg	Lg	03 37 40.8	
	0.7nm,0.1s,SNR=7.9						
EADA	Adamuz	1.41	31	Pg	Pn	03 37 26.9	-2.2
	0.2nm,0.2s,SNR=7.9						
EADA				Lg	Lg	03 37 46.9	
	1.2nm,0.2s,SNR=7.9						
EADA	Adamuz	1.41	31	Pg	Pn	03 37 26.9	-2.2
	0.2nm,0.2s,SNR=7.9						
EADA				Lg	Lg	03 37 46.9	
	1.2nm,0.2s,SNR=7.9						
EGRO	El Granado	1.67	290	Lg	Lg	03 37 54.5	
	0.7nm,0.1s,SNR=7.9						
EGRO	El Granado	1.67	290	Lg	Lg	03 37 54.5	
	0.7nm,0.1s,SNR=7.9						
PVAQ	Vaqueiros	1.82	284	*e*P	Pn	03 37 34.9	+0.2
PVAQ	Vaqueiros	1.82	284	*e*P	Pn	03 37 34.9	+0.2

*ISCJB **23** 03:37:37.4±0.8, 37.°13N±0.°06×5.°50W±0.°06, h10km, Error ellipse: s-maj=9.4km s-min=6.4km az=174.6*
*CSEM **23** 03:37:38.1±0.1, 37.°11N×5.°45W, h19km±2km, ML1.4, Error ellipse: s-maj=3.2km s-min=3.0km az=117.0*
*MDD **23** 03:37:39.5±0.5, 37.°11N×5.°45W, h0km, mbLg1.4/6, Error ellipse: s-maj=4.6km s-min=4.3km az=130.0, PRXIMO*

ISC 23 03:37:38.1±1.0, 37.°10N±0.°07×5.°45W±0.°04, h10km, n35, σ1§27/24, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESPR	Espera	0.40	235	Pg	**Pg**	**03 37 47.0**	**+1.1**
	0.4nm,0.1s,SNR=7.9						
ESPR				Lg	Lg	03 37 52.6	
	4.8nm,0.2s,SNR=7.9						
ESPR	Espera	0.40	235	Pg	**Pg**	**03 37 47.0**	**+1.1**
	0.4nm,0.1s,SNR=7.9						
ESPR				Lg	Lg	03 37 52.6	
	4.8nm,0.2s,SNR=7.9						
EMIJ	Mijas	0.76	134	Pg	**Pg**	**03 37 53.1**	**+0.2**
	0.5nm,0.1s,SNR=7.9						
EMIJ				Lg	Lg	03 38 04.6	
	2.6nm,0.2s,SNR=7.9						
EMIJ	Mijas	0.76	134	Pg	**Pg**	**03 37 53.1**	**+0.2**
	0.5nm,0.1s,SNR=7.9						
EMIJ				Lg	Lg	03 38 04.6	
	2.6nm,0.2s,SNR=7.9						
ECAB	El Cabril	0.97	2	Pg	**Pb**	**03 37 57.5**	**+0.3**
	1.6nm,0.1s,SNR=11						
ECAB				Lg	Lg	03 38 11.5	
	4.1nm,0.1s,SNR=9.1						
ECAB	El Cabril	0.97	2	Pg	**Pb**	**03 37 57.5**	**+0.3**
	1.6nm,0.1s,SNR=11						
ECAB				Lg	Lg	03 38 11.5	
	4.1nm,0.1s,SNR=9.1						
EMIN	Mina Concepcio	1.18	305	Pg	**Pb**	**03 38 00.0**	**-0.6**
	0.2nm,0.1s,SNR=7.9						
EMIN				Lg	Lg	03 38 17.4	
	1.6nm,0.1s,SNR=7.9						
EMIN	Mina Concepcio	1.18	305	Pg	**Pb**	**03 38 00.0**	**-0.6**
	0.2nm,0.1s,SNR=7.9						
EMIN				Lg	Lg	03 38 17.4	
	1.6nm,0.1s,SNR=7.9						
EADA	Adamuz	1.27	33	Pg	**Pn**	**03 38 02.4**	**+0.4**
	0.4nm,0.1s,SNR=7.9						
EADA				Lg	Lg	03 38 19.3	
	1.8nm,0.1s,SNR=7.9						
EADA	Adamuz	1.27	33	Pg	**Pn**	**03 38 02.4**	**+0.4**
	0.4nm,0.1s,SNR=7.9						
EADA				Lg	Lg	03 38 19.3	
	1.8nm,0.1s,SNR=7.9						
PBAR	Barrancos	1.65	311	*e*Sn	**Sg**	**03 38 31.3**	**-0.1**
PBAR	Barrancos	1.65	311	Lg	Lg	03 38 31.3	
PBAR	Barrancos	1.65	311	*e*Sn	**Sg**	**03 38 31.3**	**-0.1**
EGRO	El Granado	1.68	286	Lg	Lg	03 38 31.5	
	1.2nm,0.1s,SNR=7.9						
EGRO	El Granado	1.68	286	Lg	Lg	03 38 31.5	
	1.2nm,0.1s,SNR=7.9						
PVAQ	Vaqueiros	1.83	280	*e*Sn	**Sn**	**03 38 31.4**	**-1.4**
PVAQ	Vaqueiros	1.83	280	Sn	**Sn**	**03 38 31.5**	**-1.4**
PVAQ	Vaqueiros	1.83	280	*e*S	**Sn**	**03 38 31.5**	**-1.4**
PVAQ	Vaqueiros	1.83	280	*e*S	**Sn**	**03 38 31.5**	**-1.4**
PBDV	Barranco-do-Ve	1.98	275	*e*S	**Sn**	**03 38 35.1**	**-1.6**
PBDV	Barranco-do-Ve	1.98	275	*e*Sn	**Sn**	**03 38 35.1**	**-1.6**
PBDV	Barranco-do-Ve	1.98	275	Sn	**Sn**	**03 38 35.1**	**-1.6**
PBDV	Barranco-do-Ve	1.98	275	*e*S	**Sn**	**03 38 35.1**	**-1.6**
EQES	Quesada	2.02	69	Lg	Lg	03 38 43.0	
	0.5nm,0.3s,SNR=7.9						
EQES	Quesada	2.02	69	Lg	Lg	03 38 43.0	
	0.5nm,0.3s,SNR=7.9						
EBAD	Badajoz	2.06	324	Lg	Lg	03 38 45.0	
	0.8nm,0.1s,SNR=7.9						
EBAD	Badajoz	2.06	324	Lg	Lg	03 38 45.0	
	0.8nm,0.1s,SNR=7.9						
PCVE	Castro Verde	2.13	285	*e*Pn	Pn	03 38 09.1	-4.6
PCVE				*e*Sn	**Sg**	**03 38 49.1**	**+2.6**
PCVE	Castro Verde	2.13	285	Pn	Pn	03 38 09.1	-4.6
PCVE				Lg	Lg	03 38 49.1	
PCVE	Castro Verde	2.13	285	*e*Pn	Pn	03 38 09.1	-4.6
PCVE				Lg	Lg	03 38 49.1	
PFVI	Vila Bisbo	2.70	272	*e*Sn	**Sn**	**03 38 52.9**	**-1.4**
PFVI	Vila

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.44**	**151**	P	P	04 05 52.1	+0.2
	32nm,0.3s,baz=69,slow=23,SNR=3.3						
URZ	**Urewera**	**13.04**	**189**	P	P	04 07 18.2	-0.9
	2.2nm,0.3s,baz=146,slow=5.7,SNR=6.3						
RPZ	**Rata Peaks**	**19.61**	**199**	P	P	04 08 23.9	-0.6
	1.0nm,0.3s,baz=268,slow=5.0,SNR=2.4						
ASAR	**Alice Springs**	**41.50**	**262**	P	P	04 11 33.1	+0.5
	0.8nm,0.4s,baz=87,slow=7.0,SNR=16						
WRA	**Warramunga Arr**	**42.01**	**268**	P	P	04 11 35.7	-0.9
	1.6nm,0.3s,baz=102,slow=8.2,SNR=7.6						
FITZ	**Fitzroy Crossi**	**50.41**	**267**	P	P	04 12 42.2	+1.6
	baz=29,SNR=3.6						
VNDA	**Vanda**	**52.91**	**185**	P	P	04 12 58.5	+0.8
	0.6nm,0.5s,baz=5.6,slow=6.8,SNR=4.7						
ARCES	**ARCESS Array B**	**133.24**	**348**	PKP	PKPdf	04 22 47.5	+0.3
	3.4nm,0.9s,baz=29,slow=2.1,SNR=4.4						
NB2	**NORSAR Subarra**	**143.46**	**351**	PKP	PKPab	04 23 03.9	-0.5
	comp=Z,1.5nm,0.5s,baz=20,slow=3.8						
NOA	**NORSAR Array B**	**143.46**	**351**	PKP	PKPab	04 23 04.1	-0.3
	comp=Z,0.7nm,0.6s,baz=22,slow=3.8,SNR=8.5						
AKASG	**Malin Array Be**	**146.00**	**326**	PKP	PKPdf	04 23 11.5	+0.7
	comp=Z,1.0nm,0.4s,baz=39,slow=4.9,SNR=4.6						
BRTR	**Keskin Array B**	**148.17**	**305**	PKPbc	PKPbc	04 23 18.4	-0.5
	comp=Z,0.4nm,0.4s,baz=138,slow=4.9,SNR=7.0						
TORD	**Torodi Ar. Bea**	**167.70**	**189**	PKPab	PKPab	04 24 46.8	-1.5
	comp=Z,0.6nm,0.7s,baz=168,slow=5.6,SNR=5.9						

IDC 23 04:39:58.1±3.9, 17°.08S×68°.89W, h181km±17km, mb3.3/2, mb1 3.5/3, mb1mx3.1/16, mbtmp3.4/3, Error ellipse: s-maj=86.0km s-min=36.2km az=17.0, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.07**	**43**	P	Pn	04 40 27.0	-0.3
	9.0nm,0.3s,baz=226,slow=5.7,SNR=237						
LPAZ				S	Sn	04 40 49.9	+0.1
	3.1nm,0.3s,baz=320,slow=23,SNR=25						
SIV	**San Ignacio**	**7.58**	**83**	P	Pn	04 41 46.1	+0.1
	3.2nm,0.3s,baz=286,slow=13,SNR=32						
TORD	**Torodi Ar. Bea**	**75.89**	**71**	P	P	04 51 25.2	0.0
	0.2nm,0.4s,baz=261,slow=4.9,SNR=9.6						
YKA	**Yellowknife Ar**	**87.05**	**341**	P	P	04 52 22.8	+0.1
	0.4nm,0.5s,baz=132,slow=4.7,SNR=4.2						

FUNV 23 04:58:03.2, 10°.79N×67°.91W, h9km, MW3.6, 3C-3D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TURV	**Turiamo**	**0.34**	**168**	⇓*i*P	Pg	04 58 10.0	0.0
TURV				*e*S	Sg	04 58 14.1	-0.5
JACV	**Jacura**	**0.95**	**288**	*e*P	Pg	04 58 21.6	0.0
JACV				*e*S	Sg	04 58 33.3	-0.7
FUNV	**FUNVISIS**	**1.13**	**106**	*e*P	Pg	04 58 23.9	-1.2
FUNV				*e*S	Sg	04 58 39.4	-0.5
TEPV	**Terepaima**	**1.50**	**237**	*e*P	Pn	04 58 29.1	-1.4
TEPV				*e*S	Sn	04 58 49.3	-1.0
BIRV	**Birongo**	**1.64**	**101**	*e*P	Pn	04 58 31.1	-1.2
BIRV				*e*S	Sn	04 58 52.6	-1.0
BAUV	**El Baul**	**1.84**	**184**	*e*P	Pn	04 58 34.4	-0.6
BAUV				*e*S	Sn	04 58 57.6	-0.8
SIQV	**Siquisique**	**1.87**	**266**	*e*P	Pn	04 58 34.0	-1.5
SIQV				*e*S	Sn	04 58 57.6	-1.7
ORCV	**Isla La Orchil**	**1.97**	**59**	*e*P	Pn	04 58 35.4	-1.3
CURV	**Curarigua**	**2.16**	**249**	*e*P	Pn	04 58 38.6	-0.9
CURV				*e*S	Sn	04 59 06.1	-0.4
MERV	**Las Mercedes**	**2.20**	**134**	*e*P	Pn	04 58 39.1	-1.0
CUPV	**Cœpira**	**2.21**	**109**	⇑*e*P	Pn	04 58 40.2	0.0
CUPV				*e*S	Sn	04 59 06.1	-1.7
MONV	**Montecano**	**2.33**	**300**	⇓*e*P	Pn	04 58 40.5	-1.3
QARV	**Quebrada Arrib**	**2.63**	**258**	*e*P	Pn	04 58 46.1	0.0
QARV				*e*S	Sn	04 59 16.3	-1.9
DABV	**Dabajuro**	**2.68**	**273**	⇑*i*P	Pn	04 58 45.0	-1.5
DABV				*e*S	Sn	04 59 17.8	-1.4
PCRV	**Puerto La Cruz**	**3.28**	**100**	*e*P	Pn	04 58 55.1	+0.2
PCRV				*e*S	Sn	04 59 32.4	-1.7
SOCV	**Socops**	**3.83**	**230**	*e*P	Pn	04 59 01.3	-1.1
VIGV	**El Vigia**	**3.92**	**241**	*e*P	Pn	04 59 02.5	-1.2
ELOV	**Elorza**	**4.07**	**203**	*e*P	Pn	04 59 04.9	-0.9
VIRV	**Villa del Rosa**	**4.43**	**267**	⇓*e*P	Pn	04 59 08.6	-2.0
CAPV	**Capacho**	**5.23**	**237**	⇑*e*P	Pn	04 59 20.0	-1.9
LUEV	**Luepa**	**8.05**	**127**	*e*P	Pn	04 59 58.7	-2.0

*ISCJB **23** 05:56:04.8±0.5, 24°.36N±0°.03×122°.58E±0°.02, h66km±8km, Error ellipse: s-maj=5.4km s-min=2.9km az=177.3*
*TAP **23** 05:56:04.8, 24°.39N×122°.54E, h78km, ML3.6, C*
*JMA **23** 05:56:04.9±0.2, 24°.39N×122°.61E, h75km±2km, M2.9*

ISC 23 05:56:05.3±1.4, 24°.35N±0°.04×122°.58E±0°.02, h65km±13km, n37, σ0°.84/68, 1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.41**	**74**	P	Pn	05 56 17.2	+0.4
YOJ				S	Sn	05 56 26.2	+1.0
TWC	**Suao**	**0.71**	**291**	P	Pn	05 56 20.0	+0.1
	baz=294						
TWC				S	Sn	05 56 30.4	-0.3
	baz=294						
ENA	**Nanau**	**0.77**	**276**	P	Pn	05 56 20.8	+0.2
	baz=267						
ENA				S	Sn	05 56 31.9	0.0
	baz=267						
TWB1	**Santiao Chiao**	**0.85**	**321**	*e*P	Pn	05 56 21.3	-0.3
	baz=323						
TWB1				S	Sn	05 56 32.7	-0.9
	baz=323						
TWE	**Neicheng**	**0.91**	**294**	P	Pn	05 56 22.5	+0.2
	baz=298						
TWE				S	Sn	05 56 34.7	-0.2
	baz=298						
TWD	**Chiawan**	**0.94**	**253**	P	Pn	05 56 22.4	-0.2
	baz=250						
TWD				S	Sn	05 56 35.4	-0.2
	baz=250						
HWA	**Hwalien**	**0.96**	**247**	*e*P	Pn	05 56 23.1	0.0
	baz=238						
ENTT	**Nioudou**	**0.96**	**288**	P	Pn	05 56 23.5	+0.4
	baz=290						
ENTT				S	Sn	05 56 36.7	+0.4
	baz=290						
NWF	**Wu-fen Shan**	**1.02**	**315**	P	Pn	05 56 23.6	-0.2
	baz=308						
NWF				*e*S	Sn	05 56 36.8	-0.9
	baz=308						
IRIF	**Iriomote-Funau**	**1.05**	**91**	P	Pn	05 56 24.0	-0.2
IRIF				S	Sn	05 56 38.8	+0.6
TWA	**Mucha**	**1.10**	**305**	*e*S	Sn	05 56 38.1	-1.3
	baz=304						
NNS	**Nan Shan**	**1.10**	**275**	P	Pn	05 56 24.9	-0.1
	baz=273						
NNS				S	Sn	05 56 39.4	-0.2
	baz=273						
NSK	**Sanguang**	**1.16**	**287**	P	Pn	05 56 25.7	+0.1
	baz=278						
NSK				S	Sn	05 56 40.9	+0.1
	baz=278						
HATJ	**Hateruma jima**	**1.16**	**104**	P	Pn	05 56 25.4	-0.2
HATJ				*e*S	Sn	05 56 41.1	+0.4
ESL	**Shilin**	**1.17**	**243**	P	Pn	05 56 25.4	-0.4
	baz=234						
ESL				*e*S	Sn	05 56 40.7	-0.4
	baz=234						
WHF	**Hehuan Shan**	**1.21**	**261**	⇓*i*P	Pn	05 56 26.5	-0.2
	baz=258						
WHF				S	Sn	05 56 42.3	-0.4
	baz=258						
TWY	**Chenhua**	**1.28**	**316**	*e*P	Pn	05 56 26.8	-0.3
	baz=308						
TWY				*e*S	Sn	05 56 43.4	-0.1
	baz=308						
TWT	**Tachien**	**1.28**	**266**	P	Pn	05 56 28.2	+0.9
	baz=259						
TWT				S	Sn	05 56 44.1	+0.3
	baz=259						
TWS1	**Kuangyinshan**	**1.29**	**306**	*e*P	Pn	05 56 26.9	-0.4
	baz=305						
TWS1				*e*S	Sn	05 56 43.3	-0.6
	baz=305						
JKRS	**Kuro-shima**	**1.31**	**95**	P	Pn	05 56 27.9	+0.3
JKRS				S	Sn	05 56 45.4	+1.1
EHY	**Hungye**	**1.42**	**234**	P	Pn	05 56 28.6	-0.5
	baz=241						
EHY				*e*S	Sn	05 56 44.8	-2.1
	baz=241						
JIJ	**Ishigaki jima**	**1.43**	**89**	P	Pn	05 56 28.8	-0.3
JIJ				S	Sn	05 56 46.4	-0.7
NSTT	**Nanjuang**	**1.46**	**281**	P	Pn	05 56 29.5	-0.1
	baz=280						
NSTT				*e*S	Sn	05 56 48.0	+0.1
	baz=280						
TWF1	**Yuli**	**1.54**	**230**	*i*P	Pn	05 56 30.2	-0.4
	baz=238						
TWF1				*e*S	Sn	05 56 49.2	-0.4
	baz=238						
SMLT	**Sun Moon Lake**	**1.60**	**253**	P	Pn	05 56 31.9	+0.4
	baz=247						
SMLT				*e*S	Sn	05 56 51.6	+0.2
	baz=247						
TYC	**Yuchr**	**1.63**	**255**	*e*P	Pn	05 56 32.5	+0.6
	baz=248						
TYC				*e*S	Sn	05 56 52.2	+0.2
	baz=248						
TWQ1	**Liyutan**	**1.65**	**270**	*e*P	Pn	05 56 33.6	+1.5
	baz=279						
TWQ1				*e*S	Sn	05 56 52.6	+0.3
	baz=279						
CHKT	**Chengkung**	**1.67**	**222**	*e*P	Pn	05 56 31.4	-0.9
	baz=215						
CHKT				*e*S	Sn	05 56 50.6	-2.2
	baz=215						
WNT	**Mingjian**	**1.79**	**255**	*e*S	Sn	05 56 57.7	+1.9
	baz=253						
ELDTW	**Lidau**	**1.84**	**231**	*e*P	Pn	05 56 34.3	-0.4
	baz=232						
ELDTW				*e*S	Sn	05 56 55.9	-1.2
	baz=232						
CHN5	**Tsauling**	**1.89**	**247**	*e*P	Pn	05 56 36.5	+1.1
	baz=237						
CHN5				*e*S	Sn	05 56 58.8	+0.5
	baz=237						
JTJ	**Tarama**	**1.96**	**81**	P	Pn	05 56 36.0	-0.2
JTJ				*e*S	Sn	05 56 59.3	-0.5
TWG	**Pinlang**	**2.06**	**222**	*e*P	Pn	05 56 36.7	-0.9
	baz=220						
TWG				*e*S	Sn	05 57 02.6	+0.4
	baz=220						
CHN4	**Tsaushan**	**2.07**	**242**	*e*P	Pn	05 56 39.2	+1.4
	baz=233						
CHN4				*e*S	Sn	05 57 05.0	+2.4
	baz=233						
CHN1	**Nanshi**	**2.21**	**239**	*e*S	Sn	05 57 07.1	+1.2
	baz=237						
SGST	**Jiashian**	**2.22**	**236**	*e*S	Sn	05 57 08.2	+2.0
	baz=234						
EAST	**Anshuo**	**2.52**	**219**	*e*P	Pn	05 56 43.0	-1.0
	baz=217						

IDC 23 05:56:10.3±7.3, 11°.16N×142°.62E, h118km±69km, mb3.2/7, mb1 3.5/8, mb1mx3.4/23, mbtmp3.4/8, Error ellipse: s-maj=34.2km s-min=17.1km az=97.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**15.86**	**359**	P	P	05 59 47.8	-0.4
	8.8nm,0.3s,baz=290,slow=18,SNR=3.8						
KAPI	**Kappang**	**27.86**	**236**	P	P	06 01 47.4	-1.6
	11nm,0.6s,baz=197,slow=19,SNR=6.8						
WRA	**Warramunga Arr**	**31.97**	**195**	P	P	06 02 25.6	+0.4
	0.7nm,0.8s,baz=16,slow=9.5,SNR=2.4						
ASAR	**Alice Springs**	**35.65**	**194**	P	P	06 02 57.8	+0.8
	0.4nm,0.7s,baz=17,slow=13,SNR=4.3						
SONM	**Songino Array**	**47.51**	**327**	P	P	06 04 34.0	+0.5
	0.2nm,0.4s,baz=126,slow=7.3,SNR=3.2						
MKAR	**Makanchi Array**	**61.73**	**317**	P	P	06 06 17.4	+1.2
	0.7nm,0.7s,baz=90,slow=8.6,SNR=4.3						
ZALV	**Zalesovo Beam**	**62.34**	**326**	P	P	06 06 19.4	-0.6
	0.4nm,0.4s,baz=100,slow=8.1,SNR=2.6						
ILAR	**Eielson Array**	**71.69**	**25**	P	P	06 07 17.9	-1.2
	0.5nm,0.7s,baz=252,slow=6.2,SNR=8.0						
ILAR				pP	pP	06 07 56.8	+8.2
	0.3nm,0.6s,baz=241,slow=6.1,SNR=2.3						
YKA	**Yellowknife Ar**	**86.01**	**27**	P	P	06 08 37.8	+0.6
	0.4nm,0.8s,baz=294,slow=5.2,SNR=2.8						

KRSC 23 06:23:13.1±10.0, 52°.89N×157°.29E, h267km±107km, ML3.5, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GNL	**Ganaly**	**0.90**	**26**	*e*P	Pn	06 23 49.8	+0.3
KOK	**Koryaka**	**0.91**	**63**	*e*P	Pn	06 23 50.5	+1.0
AVH	**Avacha**	**0.95**	**66**	*e*P	Pn	06 23 50.8	+1.1
KRER	**Koryakskii**	**0.97**	**64**	*e*P	Pn	06 23 50.9	+0.9
UGLR	**Uglovaya**	**0.98**	**70**	*e*P	Pn	06 23 50.6	+0.7
SMAR	**Somma**	**0.98**	**67**	*e*P	Pn	06 23 51.0	+0.9
SDLR	**Sedlovina**	**1.04**	**67**	*e*P	Pn	06 23 51.2	+1.0
SPN	**Mys Shipunski**	**1.67**	**82**	*e*P	Pn	06 23 54.9	+0.7
SPN				*i*S	S	06 24 26.1	-0.6
MKZ	**Mys Kozlova**	**3.12**	**56**	*e*P	Pn	06 24 09.4	+1.6
MKZ				*i*S	S	06 24 50.3	-1.0
KBTR	**Krutoberegovo**	**4.63**	**42**	*e*P	Pn	06 24 25.5	+0.7

TAP 23 06:27:19.6, 23°.06N×120°.26E, h18km, ML3.6, 4C-10D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAI1	**Yung-k'ang**	**0.03**	**242**	⇓*i*P	Pg	06 27 23.2	+0.5
	baz=231						
TAI1				*i*S	Sg	06 27 26.1	+1.3
	baz=231						
CHN3	**Shinhua**	**0.10**	**78**	⇑*i*P	Pg	06 27 24.2	+1.0
	baz=79						
CHN3				*i*S	Sg	06 27 27.9	+2.2
	baz=79						
SCLT	**Jiali**	**0.13**	**333**	⇓*i*P	Pg	06 27 24.3	+0.7
	baz=344						
SCLT				*i*S	Sg	06 27 28.3	+2.0
	baz=344						
TWM1	**Shoushan**	**0.28**	**147**	⇓*i*P	Pn	06 27 27.5	-1.3
	baz=156						
CHN1	**Nanshi**	**0.28**	**62**	⇑*i*P	Pb	06 27 26.6	+0.5
	baz=62						
CHN1				S	Sb	06 27 31.6	+1.1
	baz=62						
SGST	**Jiashian**	**0.30**	**85**	⇓*i*P	Pb	06 27 27.5	+1.1
	baz=77						
SGST				*e*S	Sn	06 27 33.2	-2.0
	baz=77						
WTP	**Ta-pu**	**0.38**	**60**	⇑*i*P	Pb	06 27 28.2	+0.3
	baz=61						
WTP				*e*S	Sb	06 27 34.5	+1.0
	baz=61						
SGLT	**Jiouru**	**0.39**	**147**	*e*P	Pn	06 27 29.7	-0.7
	baz=147						
CHN4	**Tsaushan**	**0.42**	**46**	⇑*i*P	Pb	06 27 29.1	+0.5
	baz=46						
CHN4				S	Sb	06 27 35.9	+1.2
	baz=46						
CHY	**Chiayi**	**0.47**	**19**	*e*P	Pb	06 27 29.8	+0.5
	baz=20						
CHY				*e*S	Sn	06 27 37.8	-1.4
	baz=20						
KAU	**Kaohsiung**	**0.49**	**175**	*e*P	Pn	06 27 30.8	-0.9
	baz=184						
WSF	**Szhu**	**0.58**	**357**	*e*P	Pb	06 27 31.6	+0.3
	baz=357						
WSF				S	Sn	06 27 41.0	-1.1
	baz=357						
WDGT	**Dungji**	**0.59**	**290**	⇓*i*P	Pg	06 27 31.3	0.0
	baz=290						
WDGT				*i*S	Sb	06 27 39.5	+0.1
	baz=290						
CHN5	**Tsauling**	**0.66**	**35**	⇓*i*P	Pg	06 27 33.1	+0.3
	baz=35						
CHN5				*i*S	Sn	06 27 43.2	-1.1
	baz=35						
WGK	**Gukeng**	**0.69**	**24**	*e*P	Pn	06 27 33.9	-0.5
	baz=24						
WGK				*e*S	Sn	06 27 44.6	-0.1
	baz=24						
ELDTW	**Lidau**	**0.71**	**79**	P	Pg	06 27 34.3	+0.6
	baz=89						
ELDTW				S	Sn	06 27 45.1	-0.4
	baz=89						
TWP	**Hsiaoliuchiu**	**0.71**	**172**	*e*P	Pn	06 27 35.5	+0.7
	baz=184						
TWP				*e*S	Sn	06 27 47.3	+2.0
	baz=184						
SCZT	**Fangliau**	**0.76**	**154**	⇓*i*P	Pn	06 27 35.7	+0.3
	baz=139						
SCZT				*e*S	Sn	06 27 47.2	+0.8
	baz=139						
TWG	**Pinlang**	**0.78**	**107**	⇓*i*P	Pn	06 27 35.8	0.0
	baz=113						
TWG				*e*S	Sn	06 27 47.3	+0.2
	baz=113						
ECL	**Taimali**	**0.79**	**125**	*e*P	Pn	06 27 35.7	-0.1
	baz=125						
WTCT	**Ta-ch'eng**	**0.81**	**1**	*e*P	Pg	06 27 35.6	+0.2
	baz=2.0						
WTCT				*e*S	Sn	06 27 47.4	-0.2
	baz=2.0						
PNG	**Penghu**	**0.82**	**308**	*e*P	Pb	06 27 34.9	-0.5
	baz=308						
PNG				*e*S	Sb	06 27 45.8	-0.3
	baz=308						
EAST	**Anshuo**	**0.86**	**141**	⇓*i*P	Pn	06 27 37.3	+0.4
	baz=131						
EAST				*i*S	Sn	06 27 50.1	+1.0
	baz=131						
TTN	**Taitung**	**0.87**	**110**	*e*P	Pn	06 27 37.4	+0.4
	baz=110						
WNT	**Mingjian**	**0.91**	**25**	*e*P	Pn	06 27 37.5	0.0
	baz=25						
WNT				*e*S	Sn	06 27 50.5	+0.3
	baz=25						
TWF1	**Yuli**	**1.00**	**73**	⇓*i*P	Pg	06 27 39.2	+0.2
	baz=65						
TWF1				S	Sn	06 27 52.7	+0.3
	baz=65						
TYC	**Yuchr**	**1.01**	**33**	*e*P	Pb	06 27 38.5	-0.1
	baz=33						
TYC				S	Sn	06 27 53.5	+0.9
	baz=33						
SMLT	**Sun Moon Lake**	**1.01**	**35**	P	Pb	06 27 38.8	0.0
	baz=35						
SMLT				*e*S	Sn	06 27 53.1	+0.2
	baz=35						
CHKT	**Chengkung**	**1.02**	**87**	*e*P	Pg	06 27 39.8	+0.4
	baz=88						
CHKT				S	Sn	06 27 55.6	+2.8
	baz=88						
EHY	**Hungye**	**1.07**	**65**	*i*P	Pg	06 27 40.3	-0.1
	baz=64						
EHY				*i*S	Sg	06 27 54.8	+0.2
	baz=64						
HEN	**Hengchun**	**1.14**	**157**	*e*P	Pg	06 27 41.6	0.0
	baz=177						
HEN				*e*S	Sg	06 27 57.3	+0.9
	baz=177						
TCU	**Taichung**	**1.15**	**19**	*e*P	Pg	06 27 42.9	+1.0
	baz=20						
TWK1	**Hengchun**	**1.22**	**155**	*e*P	Pb	06 27 41.9	-0.2
	baz=156						
TSEB	**Hengchuen, Pin**	**1.29**	**153**	*e*P	Pb	06 27 43.2	-0.2
	baz=171						
ESL	**Shilin**	**1.31**	**55**	*e*P	Pb	06 27 43.8	0.0
	baz=55						
TWQ1	**Liyutan**	**1.37**	**20**	*e*P	Pb	06 27 44.8	+0.1
	baz=19						
TWQ1				*e*S	Sg	06 28 03.5	-0.5
	baz=19						
WHF	**Hehuan Shan**	**1.42**	**40**	P	Pb	06 27 46.3	+0.1
	baz=39						
WHF				*e*S	Sb	06 28 05.2	+0.8
	baz=39						
NSY	**Sanyi**	**1.43**	**19**	*e*P	Pb	06 27 46.0	+0.2
	baz=19						
TWT	**Tachien**	**1.46**	**35**	*e*P	Pn	06 27 45.7	+0.4
	baz=45						
TWT				*e*S	Sb	06 28 05.6	+0.7
	baz=45						
NSTT	**Nanjuang**	**1.71**	**23**	*e*P	Pb	06 27 49.8	-0.7
	baz=24						
NNS	**Nan Shan**	**1.71**	**36**	*e*P	Pb	06 27 51.3	+0.5
	baz=24						
NSK	**Sanguang**	**1.90**	**32**	*e*P	Pn	06 27 52.3	+1.0
	baz=30						
NSK				*e*S	Sb	06 28 18.0	+0.6
	baz=30						
ENTT	**Nioudou**	**1.98**	**37**	*e*P	Pb	06 27 55.4	+0.2
	baz=24						
TWE	**Neicheng**	**2.10**	**38**	*e*P	Pb	06 27 58.0	+0.9
	baz=21						
TWC	**Suao**	**2.12**	**43**	*e*P	Pb	06 27 57.7	+0.1
	baz=59						
KNM	**Kinmen**	**2.15**	**309**	*e*P	Pb	06 27 58.4	+0.3
	baz=310						

CASC 23 06:32:10.8±1.8, 15°.53N×88°.58W, h14km±24km, MD3.7, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRL	**Marmol**	**1.17**	**247**	*e*P	Pn	06 32 30.8	-2.2
RBDL	**Robledal**	**1.77**	**218**	*e*P	Pn	06 32 40.2	-1.1
RBDL				*e*S	Sn	06 33 03.9	+0.2
CAHU	**Cacacuatique**	**1.78**	**169**	*e*P	Pn	06 32 41.7	+0.2
CAHU				*e*S	Sb	06 33 05.4	-0.6
LBRS	**Las Brisas**	**1.84**	**194**	*e*P	Pn	06 32 41.6	-0.4
LFU	**La Fuente**	**1.84**	**196**	*e*P	Pn	06 32 41.7	-0.5
BOQS	**Boqueron**	**1.91**	**201**	*e*P	Pn	06 32 42.7	-0.5
BOQS				*e*S	Sn	06 33 07.8	+0.5
RTR	**El Retiro**	**1.93**	**213**	*e*P	Pn	06 32 43.4	0.0
RTR				*e*S	Sn	06 33 07.7	+0.1
SNJE	**San Jose**	**1.93**	**211**	*e*P	Pn	06 32 43.2	-0.2
SNJE				*e*S	Sn	06 33 08.0	+0.3
TGUH	**Tegucigalpa,Un**	**1.93**	**139**	*e*P	Pn	06 32 42.2	-1.0
TGUH				*e*S	Sn	06 33 06.6	-0.6
NBG	**Las Nubes**	**1.95**	**242**	*e*P	Pn	06 32 44.0	+0.2
NBG				*e*S	Sg	06 33 14.0	-0.3
LFRS	**El Faro**	**1.95**	**194**	*e*P	Pn	06 32 43.0	-0.6
LFRS				*e*S	Sn	06 33 09.0	+0.9
SBLS	**San Blas**	**1.96**	**211**	*e*P	Pn	06 32 44.0	0.0
SBLS				*e*S	Sn	06 33 09.6	+1.0

*ISCJB **23** 06:56:30.0±1.4, 11°.67N±0°.04×88°.32W±0°.04, h33km±13km, mb3.7/6, MS2.5/1, Error ellipse: s-maj=8.9km s-min=3.4km az=42.2*
*CASC **23** 06:56:30.8±2.5, 11°.71N×88°.35W, h37km±999km, MD4.0*
*IDC **23** 06:56:37.2±6.7, 12°.14N×88°.05W, h64km±43km, mb3.4/6, mb1 3.8/8, mb1mx3.6/23, mbtmp3.5/8, ML3.3/2, MS2.7/1, Ms1 2.7/1, ms1mx2.5/21, Error ellipse: s-maj=70.4km s-min=34.3km az=10.0*

ISC 23 06:56:30.5±2.7, 11°.66N±0°.05×88°.31W±0°.05, h23km±21km, n39, σ1°.75/48, mb3.7/6, 1C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**1.67**	**16**	*e*P	Pn	06 56 57.2	-1.3
CNCH				*e*S	Sn	06 57 18.7	-0.7
COPN	**Copaltepe**	**1.76**	**73**	*e*P	Pn	06 56 58.5	-1.1
COPN				*e*S	Sn	06 57 21.4	+0.1
VSM	**San Miguel**	**1.76**	**1**	*e*P	Pn	06 56 58.6	-1.2
BLLM	**Bellamira**	**1.78**	**2**	*e*P	Pn	06 56 58.1	-1.8
BLLM				*e*S	Sn	06 57 20.3	-1.5
LFRS	**El Faro**	**2.09**	**339**	*e*P	Pn	06 57 02.4	-1.9
CAHU	**C

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
JCR	**Jicaral**	3.62	119	*e*P		**Pn**	06 57 25.1	-0.1
JCR				*e*S		**Sn**	06 58 05.9	-1.3
MRL	**Marmol**	3.65	338	*e*P		**Pn**	06 57 27.5	+1.8
MRL				*e*S		**Sn**	06 58 13.0	+4.9
FUG	**Fuego 3**	3.71	319	*e*P		**Pn**	06 57 26.6	0.0
FUG				*e*S		**Sn**	06 58 07.7	-2.2
APG	**El Apazote**	3.93	328	P		**Pn**	06 57 30.1	+0.3
	1.4nm,0.3s,baz=164,slow=21,SNR=11							
CGA2	**Cerro Gallo 2**	4.11	113	*e*P		**Pn**	06 57 33.3	+1.2
CGA2				*e*S		**Sn**	06 58 18.7	-0.9
SJS	**Escuela Geolog**	4.51	112	*e*P		**Pn**	06 57 40.1	+2.5
SJS				*e*S		**Sn**	06 58 32.4	+2.9
QCR	**Quepos**	4.64	118	*e*P		**Pn**	06 57 39.6	+0.4
QCR				*e*S		**Sn**	06 58 29.5	-2.9
URSC	**Urasca**	4.80	112	*e*P		**Pn**	06 57 43.5	+1.9
BUS	**Buena Vista**	4.94	115	*e*P		**Pn**	06 57 44.7	+1.0
BUS				*e*S		**Sn**	06 58 36.4	-4.0
ACR	**Cerro Adams**	5.87	120⇑	*e*P		**Pn**	06 57 57.6	+1.4
TEIG	**Tepich**	8.52	0	P		**Pn**	06 58 32.9	+0.3
	0.8nm,0.3s,baz=164,slow=11,SNR=9.7							
ATAH	**Atahualpa**	21.11	152	LR		LR	07 08 13.4	
	comp=Z,22nm,19.4s,baz=213,slow=32							
TXAR	**Lajitas Array**	22.68	323	P		**P**	07 01 31.4	+0.9
	1.1nm,0.7s,baz=134,slow=11,SNR=11							
PDAR	**Pinedale Array**	36.08	333	P		**P**	07 03 31.7	+0.9
	0.2nm,0.5s,baz=117,slow=9.3,SNR=3.4							
NVAR	**Mina Array Bea**	37.76	320	P		**P**	07 03 46.6	+1.5
	1.0nm,0.8s,baz=133,slow=8.7,SNR=10							
SCHQ	**Schefferville**	46.28	17	P		P	07 04 51.3	-2.8
	3.3nm,0.6s,baz=211,slow=7.8,SNR=9.9							
ILAR	**Eielson Array**	66.41	336	P		**P**	07 07 15.8	-1.7
	0.5nm,0.8s,baz=116,slow=6.1,SNR=5.5							
TORD	**Torodi Ar. Bea**	87.40	77	P		**P**	07 09 17.7	+1.1
	0.5nm,1.1s,baz=273,slow=3.5,SNR=2.6							
CMAR	**Chiang Mai Arr**	149.23	346	PKPbc		**PKPbc**	07 16 17.3	-0.9
	1.2nm,0.6s,baz=324,slow=2.7,SNR=8.0							

MOS ***23*** *07:29:52.7±3.0, 60°.28S×33°.16W, h10km, mb5.4/5, Error ellipse: s-maj=29.0km s-min=11.6km az=102.8*
IDC ***23*** *07:29:52.7±0.4, 60°.28S×33°.16W, h0km, mb4.9/14, mb1 5.0/16, mb1mx4.9/18, mbtmp4.9/16, ML4.9/2, MS4.7/19, Ms1 4.7/19, ms1mx4.6/22, Error ellipse: s-maj=17.5km s-min=13.9km az=61.0*
ISCJB ***23*** *07:29:52.2±0.3, 60°.33S±0°.06×32°.9W±0°.1, h10km, mb5.0/28, MS4.8/23, Error ellipse: s-maj=10.1km s-min=6.6km az=142.9*
NEIC ***23*** *07:29:54.5±0.2, 60°.31S×33°.19W, h10km, mb5.3/11, Error ellipse: s-maj=10.9km s-min=8.6km az=45.0*
BJI ***23*** *07:29:57.0, 60°.30S×33°.70W, h10km, mB5.4/10, Ms5.3/12, Ms7 4.9/13*
GCMT ***23*** *07:29:59.3±0.1, 60°.57S×33°.10W, h18km, MW5.4, Moment Tensor Solution. s81,c138; s99,c191; Moment tensor: Scale 10^17^Nm; Mrr-0.39±.02; Mθθ0.39±.02; Mφφ0.01±.02; Mrθ0.33±.05; Mθφ 1.36±.02; Mφr-0.20±.05; Best double couple: M0 1.50000×10^17^ NP1:φ272.00000°, δ77.00000°, λ-18.00000°. NP2:φ6.00000°, δ72.00000°, λ-167.00000°. Principal axes: T 1.5800, Plg4.0000°, Azm319.0000°; N -0.2500, Plg68.0000°, Azm58.0000°; P -1.3200, Plg22.0000°, Azm228.0000°; Data Used: II IU G CN IC. Surface waves from 105 sta.*

ISC 23 07:29:55.4±0.3, 60°.26S±0°.07×33°.49W±0°.06, h10km, n212, σ2.9 08/221, mb5.1/27, MS4.8/24, 1C-2D, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	14.63	146	*e*Pn		Pn	07 33 15.4	-6.6
VNA1	**Neumayer--Stat**	14.63	146	*e*Sn		Sn	07 35 46.0	-18
PMSA	**Palmer Station**	14.72	239	*e*Pn		**Pn**	07 33 24.5	+1.2
	318nm,1.0s							
PMSA	**Palmer Station**	14.72	239	Pn		**Pn**	07 33 24.9	+1.6
	2.8nm,0.3s,baz=81,slow=13,SNR=32							
PMSA				LR		LR	07 38 21.9	
	comp=Z,3μm,19.6s,baz=68,slow=34							
VNA2	**Neumayer--Watz**	15.02	146	*e*Pn		Pn	07 33 19.8	-7.5
VNA2	**Neumayer--Watz**	15.02	146	*e*Sn		Sn	07 35 54.7	-19
EFI	**East Falkland**	16.13	291	P		**P**	07 33 47.8	+2.6
	2μm,0.5s,SNR=26							
EFI	**East Falkland**	16.13	291	*e*P		**Pn**	07 33 43.5	+1.6
EFI				pmax		pmax		
	comp=Z,477nm,0.6s							
EFI	**East Falkland**	16.13	291	*e*Pn		**Pn**	07 33 43.5	+1.6
	comp=Z,477nm,0.6s							
SNAA	**Sanae**	16.66	146	*e*Pn		Pn	07 33 42.5	-6.1
SNAA	**Sanae**	16.66	146	*e*Sn		Sn	07 36 38.8	-15
SNAA	**Sanae**	16.66	146	Pn		Pn	07 33 42.5	-6.1
SNAA				Sn		Sn	07 36 37.3	-16
SNAA	**Sanae**	16.66	146	Pn		Pn	07 33 42.5	-6.1
	comp=Z,1.8nm,0.3s,baz=308,slow=12,SNR=180							
SNAA				Sn		Sn	07 36 37.3	-16
	comp=Z,0.4nm,0.3s,baz=260,slow=18,SNR=5.4							
SNAA				LR		LR	07 38 39.1	
	comp=Z,1μm,21.3s,baz=313,slow=32							
USHA	**Ushuaia**	19.36	271	P		**Pn**	07 34 22.1	+0.3
USHA	**Ushuaia**	19.36	271	P		**Pn**	07 34 22.1	+0.3
	comp=Z,0.6nm,0.3s,baz=109,slow=9.3,SNR=13							
USHA				LR		LR	07 39 58.3	
	comp=Z,5μm,18.9s,baz=97,slow=31							
MAIT	**Maitri**	20.90	139	*e*P		**P**	07 34 32.6	-4.8
TRQA	**Tornquist**	28.59	308	*e*P		**P**	07 35 52.1	+0.7
	comp=Z,55nm,0.9s							
QSPA	**South Pole Qui**	29.98	180	*e*P		**P**	07 36 03.5	-0.2
QSPA	**South Pole Qui**	29.98	180	P		**P**	07 36 03.1	-0.6
	comp=Z,52nm,0.8s,baz=198,slow=3.7,SNR=223							
QSPA				LR		LR	07 47 29.0	
	comp=Z,2μm,20.4s,baz=12,slow=35							
PLCA	**Paso Flores**	30.02	294	*e*P		**P**	07 36 05.8	+1.6
PLCA	**Paso Flores**	30.02	294	P		**P**	07 36 04.8	+0.6
	comp=Z,4.6nm,1.0s,baz=152,slow=9.4,SNR=6.1							
PLCA				LR		LR	07 47 59.2	
	comp=Z,854nm,18.9s,baz=136,slow=36							
SYO	**Syowa Base**	30.59	137⇑	*i*P		P	07 36 04.8	-3.9
CPUP	**Villa Florida**	37.66	324	P		**P**	07 37 10.1	-0.3
CPUP	**Villa Florida**	37.66	324	P		**P**	07 37 10.1	-0.3
	comp=Z,33nm,0.7s,baz=144,slow=7.6,SNR=69							
CPUP				LR		LR	07 50 47.4	
	comp=Z,771nm,21.3s,baz=148,slow=33							
MAW	**Mawson**	38.79	143	P		**P**	07 37 17.0	-2.5
MAW	**Mawson**	38.79	143	P		**P**	07 37 17.0	-2.5
	comp=Z,11nm,0.8s,baz=227,slow=10.0,SNR=19							
MAW				LR		LR	07 50 45.3	
	comp=Z,993nm,19.3s,baz=238,slow=32							
LCO	**Las Campanas**	40.00	304	*e*P		**P**	07 37 30.8	+0.5
	comp=Z,31nm,1.0s							
BB16B	**Bebedouro**	40.62	338⇓	*i*P		**P**	07 37 34.5	-0.8
BB16B				*i*			07 37 37.7	
BB16B				*i*			07 37 43.5	
BB16B				*i*			07 37 48.5	
BB16B	**Bebedouro**	40.62	338⇓	*i*P		**P**	07 37 34.5	-0.8
BB16B				*i*			07 37 37.7	
BB16B				*i*			07 37 43.5	
BB16B				*i*			07 37 48.5	
SBA	**Scott Base**	41.58	186	*e*P		**P**	07 37 42.5	0.0
SBA				pmax		pmax		
	comp=Z,32nm,1.0s							
SBA	**Scott Base**	41.58	186	*e*P		**P**	07 37 42.5	0.0
	comp=Z,32nm,1.0s							
VNDA	**Vanda**	42.15	185	*e*P		**P**	07 37 47.0	-0.1
VNDA	**Vanda**	42.15	185	P		**P**	07 37 46.8	-0.4
	comp=Z,28nm,0.8s,baz=173,slow=6.6,SNR=155							
LVC	**Limon Verde**	45.02	311	*e*P		**P**	07 38 12.0	+0.8
	comp=Z,20nm,0.9s							
BDFB	**Brasilia**	45.79	340	*e*P		**P**	07 38 16.6	-0.6
BDFB	**Brasilia**	45.79	340	P		**P**	07 38 15.8	-1.4
	comp=Z,21nm,1.0s,baz=152,slow=5.0,SNR=18							
BDFB				LR		LR	07 55 43.0	
	comp=Z,473nm,18.8s,baz=171,slow=34							
MIR	**Mirnyy**	47.49	154	*e*P		**P**	07 38 32.5	+2.7
MIR				pmax		pmax		
	comp=Z,42nm,1.0s							
BOSA	**Boshof**	50.17	78	P		**P**	07 38 48.7	-2.4
BOSA	**Boshof**	50.17	78	P		**P**	07 38 48.7	-2.4
	comp=Z,2.1nm,0.6s,baz=216,slow=12,SNR=4.8							
BOSA				LR		LR	07 56 45.9	
	comp=Z,582nm,18.5s,baz=218,slow=32							
LPAZ	**La Paz**	50.54	315	*e*P		**P**	07 38 55.2	+0.8
LPAZ	**La Paz**	50.54	315	P		**P**	07 38 55.0	+0.5
	comp=Z,17nm,0.8s,baz=155,slow=6.3,SNR=69							
LPAZ				LR		LR	07 59 25.0	
	comp=Z,485nm,21.9s,baz=153,slow=35							
CASY	**Casey**	50.99	162	*e*P		**P**	07 38 55.7	-0.8
	comp=Z,30nm,1.1s							
LBTB	**Lobatse**	53.35	76	P		**P**	07 39 14.0	-0.8
LBTB	**Lobatse**	53.35	76	P		**P**	07 39 14.0	-0.8
	comp=Z,3.0nm,0.8s,baz=240,slow=8.9,SNR=1.7							
RCBR	**Riachuelo**	54.33	357	*e*P		**P**	07 39 21.4	-0.5
	comp=Z,45nm,1.2s							
SAML	**Samuel**	55.81	324	*e*P		**P**	07 39 31.6	-1.0
	comp=Z,40nm,0.9s							
OTAV	**Otavalo**	69.56	311	*e*P		**P**	07 41 06.4	+1.6
	comp=Z,53nm,1.4s							
LIC	**Lamto**	69.97	30	*e*PKP2		**P**	07 41 05.3	-1.5
	comp=Z,58nm,0.7s							
KIC	**Kosan Boka**	70.18	31	*e*PKP2		**P**	07 41 06.0	-2.0
	comp=Z,46nm,1.0s							
TIC	**Toumodi**	70.38	30	*e*PKP2		**P**	07 41 07.2	-2.1
	comp=Z,36nm,0.8s							
DBIC	**Dimbokro**	70.44	30	*e*P		**P**	07 41 11.4	+1.8
DBIC	**Dimbokro**	70.44	30	P		**P**	07 41 08.1	-1.6
	comp=Z,9.1nm,0.9s,baz=135,slow=6.2,SNR=5.0							
DBIC				LR		LR	08 05 00.0	
	comp=Z,252nm,20.6s,baz=278,slow=30							
RKT	**Rikitea**	75.70	249	*e*S		**S**	07 51 23.4	+1.3
	comp=Z,298nm,38.5s							
RKT	**Rikitea**	75.70	249	*e*LQ		LQ	08 01 53.4	
	comp=Z,578nm,30.5s							
RKT				*e*LR		LR	08 05 01.9	
	comp=Z,1μm,26.5s,baz=149							
TOA0	**Torodi Ar. Sit**	78.40	35	*e*P		**P**	07 41 54.4	-1.5
TORD	**Torodi Ar. Bea**	78.40	35	P		**P**	07 41 54.2	-1.7
TORD	**Torodi Ar. Bea**	78.40	35	P		**P**	07 41 54.2	-1.7
	comp=Z,15nm,0.9s,baz=200,slow=6.9,SNR=69							
TBI	**Tubuai**	81.90	237	*e*S		**S**	07 52 28.2	-0.2
	comp=Z,158nm,24.2s							
TBI	**Tubuai**	81.90	237	*e*LQ		LQ	08 04 22.7	
	comp=Z,326nm,30.5s							
TBI				*e*LR		LR	08 07 46.2	
	comp=Z,732nm,28.2s,baz=154							
CBYP	**Canovanas**	82.53	329	*e*P		**P**	07 42 19.5	+1.4
	comp=Z,56nm,1.2s							
NWAO	**Narrogin (SRO)**	84.08	156	LR		LR	08 15 13.8	
	comp=Z,551nm,19.2s,baz=275,slow=32							
PPT2	**Papeete2**	87.06	239	*e*S		**S**	07 53 18.0	-2.2
	comp=Z,128nm,24.0s							
PPT2	**Papeete2**	87.06	239	*e*LR		LR	08 10 13.5	
	comp=Z,847nm,23.0s,baz=154							
PPT	**Papeete**	87.08	239	LR		LR	08 13 02.9	
	comp=Z,588nm,18.2s,baz=150,slow=30							
STKA	**Stephens Creek**	88.12	176	P		**P**	07 42 44.2	-1.8
STKA	**Stephens Creek**	88.12	176	P		**P**	07 42 44.2	-1.8
	comp=Z,8.7nm,0.8s,baz=160,slow=4.5,SNR=10							
STKA				LR		LR	08 20 24.7	
	comp=Z,617nm,18.5s,baz=306,slow=34							
TAM	**Tamanrasset**	88.64	36	*e*P		**P**	07 42 51.1	+2.6
TAM				pmax		pmax		
	comp=Z,42nm,1.6s							
TAM	**Tamanrasset**	88.64	36	*e*P		**P**	07 42 51.1	+2.6
	comp=Z,42nm,1.6s							
TEIG	**Tepich**	91.60	310	LR		LR	08 25 34.5	
	comp=Z,199nm,18.1s,baz=94,slow=36							
MDT	**Midelt**	95.73	24	LR		LR	08 19 43.6	
	comp=Z,590nm,21.7s,baz=191,slow=31							
ASAR	**Alice Springs**	95.75	168	P		**P**	07 43 18.6	-2.9
ASAR				PP		**PP**	07 47 14.3	+2.2
ASAR	**Alice Springs**	95.75	168	P		**P**	07 43 18.6	-2.9
	comp=Z,3.0nm,0.7s,baz=181,slow=4.0,SNR=35							
ASAR				PP		**PP**	07 47 14.3	+2.2
	comp=Z,2.6nm,1.0s,baz=179,slow=8.1,SNR=6.5							
ASAR				LR		LR	08 23 33.1	
	comp=Z,661nm,20.8s,baz=183,slow=34							
DZM	**Mont Dzumac**	96.37	199	*e*LR		LR	08 14 42.3	
	comp=Z,470nm,24.0s							
DZM	**Mont Dzumac**	96.37	199	LR		LR	08 20 26.0	
	comp=Z,247nm,21.6s,baz=180,slow=32							
WRA	**Warramunga Arr**	99.48	168	P		**Pdif**	07 43 35.3	-3.1
WRA				PP		**PP**	07 47 42.7	+1.9
WRA	**Warramunga Arr**	99.48	168	P		**Pdif**	07 43 35.3	-3.1
	comp=Z,2.0nm,0.8s,baz=187,slow=3.9,SNR=11							
WRA				PP		**PP**	07 47 42.7	+1.9
	comp=Z,4.3nm,1.2s,baz=187,slow=7.4,SNR=3.6							
WRA				LR		LR	08 26 10.6	
	comp=Z,539nm,19.7s,baz=105,slow=34							
CLL	**Collm**	117.34	31	*e*PS		PS	07 59 41.0	+6.2
CLL				*e*PPS		PPS	08 00 58.0	
CLL				*e*SS		SS	08 06 18.0	+16
CLL				*e*			08 09 55.0	
CLL				*e*SSS		SSS	08 10 36.0	
CLL				*e*			08 14 30.0	
CLL				LmV			08 31 00.0	
	comp=Z,200nm,21.8s							
UZH	**Uzhgorod**	117.55	38	*e*PKIKP		**PKPdf**	07 48 41.0	+0.8
UZH				*e*			07 48 47.4	
VES	**Vestal, Richgr**	118.31	293	P		**PKPdf**	07 48 37.5	-4.5
	baz=119							
H26A	**Fairpoint**	118.74	310	P		**PKPdf**	07 48 38.9	-3.8
	baz=119							
J22A	**Midwest**	119.16	307	P		**PKPdf**	07 48 39.5	-4.2
	baz=120							
I22A	**9 Mile Ranch,**	119.57	307	P		**PKPdf**	07 48 39.6	-4.8
	baz=120							
PDAR	**Pinedale Array**	119.87	304	PKP		**PKPdf**	07 48 42.2	-3.0
PDAR				PP		**PP**	07 50 10.0	+0.2
PDAR	**Pinedale Array**	119.87	304	PKP		**PKPdf**	07 48 42.2	-3.0
	comp=Z,0.5nm,1.0s,baz=132,slow=1.3,SNR=3.0							
PDAR				PP		**PP**	07 50 10.0	+0.2
	comp=Z,0.5nm,0.9s,baz=144,slow=5.3,SNR=3.9							
NVAR	**Mina Array Bea**	120.08	295	PKP		**PKPdf**	07 48 44.2	-1.5
NVAR	**Mina Array Bea**	120.08	295	PKP		**PKPdf**	07 48 44.2	-1.5
	comp=Z,0.6nm,0.8s,baz=158,slow=2.6,SNR=3.6							
I20A	**Worland**	120.27	306	P		**PKPdf**	07 48 41.9	-3.9
	baz=121							
B30A	**Myrvik Farm, E**	120.38	316	P		**PKPdf**	07 48 42.1	-3.6
	baz=121							
CMB	**Columbia Colle**	120.70	294	*e*PKIKP		**PKPdf**	07 48 45.7	-1.0
CMB	**Columbia Colle**	120.70	294	*e*PKPdf		**PKPdf**	07 48 45.7	-1.0
A30A	**Hoffart Farm,**	120.78	316	P		**PKPdf**	07 48 42.9	-3.6
	baz=121							
KIV	**Kislovodsk**	120.90	55	*i* PKIKP		PKPdf	07 48 52.5	+5.6
KIV				*e*			07 50 20.4	
KIV				*e*SS		SS	08 06 57.7	+10
KIV				pmax		pmax		
	comp=Z,9.0nm,1.1s							
LOHW	**Long Hollow**	121.00	304	*e*PKPdf		**PKPdf**	07 48 47.9	+0.6
TPAW	**Teton Pass**	121.04	304	*e*PKPdf		**PKPdf**	07 48 47.2	-0.2
MOOW	**Moose Ponds**	121.17	304	*e*PKPdf		**PKPdf**	07 48 46.1	-1.6
G20A	**Bridger**	121.36	307	P		**PKPdf**	07 48 45.2	-2.6
	baz=122							
IMW	**Indian Meadow**	121.37	304	*e*PKPdf		PKPdf	07 48 54.2	+6.1
D24A	**Glendive**	121.42	311	P		**PKPdf**	07 48 45.2	-2.5
	baz=122							
AKASG	**Malin Array Be**	121.57	42	PKIKP		**PKPdf**	07 48 48.8	+0.9
AKASG	**Malin Array Be**	121.57	42	PKP		**PKPdf**	07 48 48.8	+0.9
AKASG	**Malin Array Be**	121.57	42	PKP		**PKPdf**	07 48 48.8	+0.9
	comp=Z,0.2nm,0.3s,baz=254,slow=1.8,SNR=3.1							
D22A	**Cohagen**	122.16	310	P		**PKPdf**	07 48 45.2	-4.0
	baz=123							
BEKR	**Beckworth**	122.17	295	*e*PKPdf		**PKPdf**	07 48 49.0	-0.6
E20A	**Meyer Farm, Mu**	122.38	308	P		**PKPdf**	07 48 48.1	-1.5
	baz=123							
D21A	**La Casta Ranch**	122.40	309	P		**PKPdf**	07 48 47.2	-2.5
	baz=123							
E19A	**Rath Farm, Rou**	122.61	307	P		**PKPdf**	07 48 47.0	-3.1
	baz=123							
A24A	**Westby**	122.81	312	P		**PKPdf**	07 48 48.3	-2.0
	baz=123							
D20A	**Manuel Ranch,**	122.87	308	P		**PKPdf**	07 48 48.3	-2.2
	baz=123							
MFID	**Camas Ranch**	123.04	301	P		**PKPdf**	07 48 49.4	-1.7
	baz=123							
WVOR	**Wild Horse Val**	123.47	298	*e*PKIKP		**PKPdf**	07 48 51.1	-0.9
WVOR	**Wild Horse Val**	123.47	298	*e*PKPdf		**PKPdf**	07 48 51.1	-0.9
B21A	**Ellsworth Farm**	123.53	310	P		**PKPdf**	07 48 49.5	-2.2
	baz=124							
LRM	**Limekiln Ridge**	123.56	305	*e*PKPdf		**PKPdf**	07 48 53.1	+0.9
A22A	**Carney Farms,**	123.58	311	P		**PKPdf**	07 48 49.8	-2.0
	baz=124							
C19A	**Slack Wire Ran**	123.75	308	P		**PKPdf**	07 48 50.8	-1.4
	baz=124							
MOD	**Modoc**	123.78	296	*e*PKPdf		**PKPdf**	07 48 51.5	-1.1
B20A	**Solberg Farm,**	123.93	309	P		**PKPdf**	07 48 51.2	-1.4
	baz=124							
A21A	**Bergtoll Ranch**	123.96	310	P		**PKPdf**	07 48 51.1	-1.5
	baz=124							
HRY	**Holter Researc**	124.03	306	*e*PKPdf		**PKPdf**	07 48 56.6	+3.7
A20A	**Cobblestone Ra**	124.25	310	P		**PKPdf**	07 48 52.0	-1.2
	baz=125							
EGMT	**Eagleton**	124.26	308	P		**PKPdf**	07 48 52.7	-0.6
	baz=125							
B19A	**Brinkman Farms**	124.30	309	P		**PKPdf**	07 48 51.9	-1.3
	baz=125							
A19A	**Klindworth Far**	124.60	309	P		**PKPdf**	07 48 52.5	-1.3
	baz=125							
CHMT	**Chamberlain Mo**	124.77	305	*e*PKPdf		**PKPdf**	07 48 53.1	-1.3
BMO	**Blue Mountains**	124.83	301	*e*PKIKP		**PKPdf**	07 48 52.7	-1.8
BMO	**Blue Mountains**	124.83	301	*e*PKPdf		**PKPdf**	07 48 52.7	-1.8
MSO	**Missoula**	124.99	304	P		**PKPdf**	07 48 53.7	-1.0
	baz=125							
SWMT	**Swartz Lake**	125.56	305	*e*PKPdf		**PKPdf**	07 48 53.9	-1.9
NOA	**NORSAR Array B**	125.78	25	PKP		**PKPdf**	07 48 56.7	+1.0
NOA	**NORSAR Array B**	125.78	25	PKP		**PKPdf**	07 48 56.7	+1.0
	comp=Z,1.1nm,0.8s,baz=214,slow=1.7,SNR=2.7							
JTMT	**Jette**	125.86	305	*e*PKPdf		**PKPdf**	07 48 58.1	+1.7
CMAR	**Chiang Mai Arr**	126.31	120	PKP		**PKPdf**	07 48 56.4	-1.6
CMAR	**Chiang Mai Arr**	126.31	120	PKP		**PKPdf**	07 48 56.4	-1.6
	comp=Z,1.9nm,0.7s,baz=228,slow=3.5,SNR=6.6							
OBN	**Obninsk**	127.72	43	*i* PKIKP		**PKPdf**	07 49 03.2	+3.8
OBN				pmax		pmax		
	comp=Z,11nm,1.2s							
LON	**Longmire**	128.27	299	*e*PKIKP		**PKPdf**	07 49 04.8	+3.9
LON	**Longmire**	128.27	299	*e*PKPdf		**PKPdf**	07 49 04.8	+3.9
FINES	**FINESS Array B**	129.70	33	PKP		**PKPdf**	07 49 03.7	+0.7
FINES	**FINESS Array B**	129.70	33	PKP		**PKPdf**	07 49 03.7	+0.7
	comp=Z,5.3nm,0.9s,baz=211,slow=0.8,SNR=4.7							
EDM	**Edmonton**	129.78	310	*e*PKIKP		**PKPdf**	07 49 03.1	-0.4
EDM	**Edmonton**	129.78	310	*e*PKPdf		**PKPdf**	07 49 03.1	-0.4
QIZ	**Qiongzhong**	131.25	131	PKP		**PKPdf**	07 49 08.3	+0.9
QIZ				SS		SS	08 09 04.5	+7.7
QIZ				AMB		AMB		
	comp=Z,160nm,3.2s							
QIZ				LR		LR		
	comp=N,320nm,15.9s							
QIZ				LR		LR		
	comp=Z,420nm,15.8s							
ABKAR	**Akbulak array**	132.41	62	*e*PKPdf		**PKPdf**	07 49 12.3	+3.8
SUMG	**Summit**	132.60	358	*e*PKIKP		**PKPdf**	07 49 11.5	+2.7
SUMG	**Summit**	132.60	358	*e*PKPdf		**PKPdf**	07 49 11.5	+2.7
KSH	**Kashi**	132.68	83	PKP		**PKPdf**	07 49 10.3	+0.7
KSH				SKS		**SKSdf**	07 56 20.1	-0.6
KSH				AMB		AMB		
	comp=Z,91nm,5.1s							
KSH				LR		LR		
	comp=N,74nm,7.0s							
KSH				LR		LR		
	comp=E,110nm,6.1s							
KSH				LR		LR		
	comp=Z,220nm,15.2s							
KMI	**Kunming**	133.82	120	PKP		**PKPdf**	07 49 15.5	+3.2
EKS2	**Erkin-Say**	133.98	78	*e*PKIKP		PKPdf	07 49 17.2	+5.2
EKS2	**Erkin-Say**	133.98	78	*e*PKPdf		PKPdf	07 49 17.2	+5.2
AAK	**Ala-Archa**	134.31	79	*e*PKIKP		**PKPdf**	07 49 13.0	+0.4
AAK	**Ala-Archa**	134.31	79	*e*PKPdf		**PKPdf**	07 49 13.0	+0.4
ARCES	**ARCESS Array B**	136.15	26	PKP		**PKPdf**	07 49 14.8	-0.1
ARCES	**ARCESS Array B**	136.15	26	PKP		**PKPdf**	07 49 14.8	-0.1
	comp=Z,1.5nm,0.8s,baz=242,slow=1.9,SNR=3.7							
GYA	**Guiyang**	136.66	123	*e*Pdif		**Pdif**	07 46 24.3	+0.8
GYA				PKP		**PKPdf**	07 49 18.5	+1.0
GYA				PP		**PP**	07 52 04.3	+4.6
GYA				PKS		**PKSdf**	07 52 53.1	-0.8
GYA	**Guiyang**	136.66	123	PKP		**PKPdf**	07 49 18.5	+1.0
GYA				PP		**PP**	07 52 04.3	+4.6
GYA				PKS		**PKSdf**	07 52 53.1	-0.8
GYA				S

JNU	Nakatsue	150.97	152	PKPab	PKPab	07 49 54.9	-0.3
	comp=Z,12nm,0.9s,baz=144,slow=11,SNR=6.1						
HHC	Hu-ho-hao-te	151.03	116	*e*PKPbc	PKPdf	07 49 40.4	-1.5
HHC				pPKP	PKiKP	07 49 50.9	+2.6
HHC				PKS	PKSdf	07 53 13.5	-3.1
HHC				PP	PP	07 53 26.6	+0.7
HHC				SS	SS	08 12 45.9	-2.0
HHC				AMB	AMB		
	comp=Z,87nm,4.2s						
HHC				LR	LR		
	comp=N,250nm,15.5s						
HHC				LR	LR		
	comp=E,320nm,14.3s						
HHC				LR	LR		
	comp=Z,390nm,17.8s						
CHGN	Chignik	151.50	287	*e*PKPbc	PKPbc	07 49 47.8	-0.3
BPAW	Bear Paw Mtn.	151.62	305	*e*PKPbc	PKPbc	07 49 46.5	-1.8
PPLA	Purkeypile	151.67	302	*e*PKPbc	PKPbc	07 49 46.8	-1.8
COLD	Coldfoot	152.34	311	*e*PKPbc	PKPbc	07 49 48.6	-1.1
BJI	Beijing	152.35	123	PKPbc	PKPdf	07 49 45.8	+2.1
BJI				LR	LR		
	comp=N,180nm,15.1s						
BJI				LR	LR		
	comp=E,150nm,21.1s						
BJI				LR	LR		
	comp=Z,150nm,28.2s						
IMA2	Indian Mountai	153.34	308	*e*PKPbc	PKPbc	07 49 50.5	-1.6
IM04	Indian Mountai	153.36	308	*e*PKPbc	PKPbc	07 49 50.5	-1.6
SONM	Songino Array	153.83	100	PKPbc	PKPbc	07 49 50.9	-2.9
SONM	Songino Array	153.83	100	PKPbc	PKPbc	07 49 50.9	-2.9
	comp=Z,1.2nm,0.8s,baz=204,slow=3.2,SNR=7.9						
ZAK	Zakamensk	153.96	93	*e*PKIKP	PKPbc	07 49 50.0	-3.9
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.4s						
KSAR	Wonju Array Be	154.27	144	PKPbc	PKPbc	07 49 52.2	-2.6
KSRS	Korea Array	154.29	144	PKPbc	PKPbc	07 49 52.2	-2.7
	comp=Z,0.5nm,0.4s,baz=229,slow=2.0,SNR=4.5						
CN2	Changchun	159.19	133	*e*PKP	PKPdf	07 49 51.5	-1.2
MDJ	Mudanjiang	161.34	139	PKP	PKPdf	07 49 57.3	+2.2
MDJ				LR	LR		
	comp=E,100nm,63.3s						
MDJ				LR	LR		
	comp=Z,190nm,69.1s						
PETK	Petropavlovsk-	170.57	226	PKP2	PKPab	07 51 18.8	-0.9
PETK	Petropavlovsk-	170.57	226	PKPab	PKPab	07 51 18.8	-0.9
PETK	Petropavlovsk-	170.57	226	PKPab	PKPab	07 51 18.8	-0.9
	comp=Z,3.8nm,0.8s,baz=134,slow=8.5,SNR=6.0						

IDC 23 07:29:57.6±1.9, 2°.05N×126°.23E, $h0^{km}$, mb3.6/4, mb1 3.9/4, mb1mx3.6/21, mbtmp3.7/4, Error ellipse: s-maj=117.5km s-min=23.6km az=68.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	20.04	182	P	P	07 34 32.2	-0.1
	2.3nm,1.0s,baz=7.1,slow=10,SNR=4.9						
WRA	Warramunga Arr	23.26	160	P	P	07 35 05.9	-1.1
	1.3nm,0.6s,baz=339,slow=10,SNR=10						
ASAR	Alice Springs	26.63	164	P	P	07 35 39.0	+0.7
	0.4nm,0.4s,baz=344,slow=7.5,SNR=14						
MKAR	Makanchi Array	58.65	326	P	P	07 39 56.8	0.0
	0.4nm,0.4s,baz=124,slow=7.6,SNR=6.7						

*NEIC **23** 07:33:30.0, 44°.03S×167°.70E, $h0^{km}$, ML4.5(WEL), After WEL.*

WEL 23 07:33:34.9±0.3, 44°.28S×167°.93E, $h12^{km}$, ML4.4/16, 2C-1D, Error ellipse: s-maj=2.3km s-min=1.3km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	Milford Sound	0.40	180	⇑P*	Pg	07 33 42.7	-0.1
MSZ				S*	Sg	07 33 48.7	+0.6
MSZ				AML	AML	07 33 49.3	
MSZ				AML	AML	07 33 51.4	
MSZ				AML	AML	07 33 51.5	
MSZ	Milford Sound	0.40	180	Pg	Pg	07 33 42.7	-0.1
JCZ	Jackson Bay	0.63	72	P*	Pg	07 33 45.7	-1.6
JCZ				AML	AML	07 33 56.9	
JCZ				AML	AML	07 33 56.9	
JCZ	Jackson Bay	0.63	72	P*	Pg	07 33 45.7	-1.6
WKZ	Wanaka	0.95	126	P*	Pg	07 33 52.2	-1.1
WKZ				S*	Sg	07 34 04.9	-0.9
WKZ				AML	AML	07 34 05.4	
WKZ				AML	AML	07 34 05.5	
WKZ				AML	AML	07 34 05.6	
WKZ	Wanaka	0.95	126	P*	Pg	07 33 51.9	-1.4
MLZ	Mavora Lakes	1.08	171	P*	Pb	07 33 54.5	-1.1
MLZ				AML	AML	07 34 15.4	
MLZ				AML	AML	07 34 16.8	
MLZ	Mavora Lakes	1.08	171	P*	Pb	07 33 54.7	-0.9
DCZ	Deep Cove	1.32	204	PN	Pn	07 33 57.1	-2.0
DCZ				SN	Sb	07 34 16.2	-0.2
DCZ				AML	AML	07 34 17.3	
DCZ				AML	AML	07 34 22.0	
DCZ				AML	AML	07 34 22.0	
DCZ	Deep Cove	1.32	204	Pn	Pn	07 33 57.1	-2.0
EAZ	Earnscleugh	1.37	135	PN	Pn	07 33 59.4	-0.4
EAZ				AML	AML	07 34 20.4	
EAZ				AML	AML	07 34 20.4	
EAZ				AML	AML	07 34 21.2	
EAZ				AML	AML	07 34 21.2	
EAZ	Earnscleugh	1.37	135	Pn	Pn	07 33 59.4	-0.4
FOZ	Fox Glacier	1.46	61	PN	Pb	07 34 01.6	-0.3
FOZ				AML	AML	07 34 23.0	
FOZ				AML	AML	07 34 23.0	
FOZ				AML	AML	07 34 23.2	
FOZ				AML	AML	07 34 23.2	
FOZ	Fox Glacier	1.46	61	Pn	Pn	07 33 58.9	-2.1
WHZ	Wether Hill Ro	1.62	180	⇑PN	Pn	07 34 03.2	0.0
WHZ				AML	AML	07 34 27.2	
WHZ				AML	AML	07 34 32.4	
WHZ	Wether Hill Ro	1.62	180	Pn	Pn	07 34 03.2	0.0
LBZ	Lake Benmore	1.62	95	PN	Pn	07 34 02.8	-0.5
LBZ				AML	AML	07 34 26.2	
LBZ				AML	AML	07 34 26.2	
LBZ				AML	AML	07 34 28.5	
LBZ				AML	AML	07 34 28.6	
LBZ	Lake Benmore	1.62	95	Pn	Pn	07 34 02.8	-0.5
TUZ	Tuapeka	2.07	145	PN	Pn	07 34 09.4	+0.1
TUZ				AML	AML	07 34 39.6	
TUZ				AML	AML	07 34 40.3	
TUZ	Tuapeka	2.07	145	Pn	Pn	07 34 09.4	+0.1
ODZ	Otahua Downs	2.08	113	PN	Pn	07 34 09.4	-0.2
ODZ	Otahua Downs	2.08	113	Pn	Pn	07 34 09.4	-0.2
PYZ	Puysegur Point	2.09	205	PN	Pn	07 34 09.5	-0.1
PYZ	Puysegur Point	2.09	205	Pn	Pn	07 34 09.7	0.0
RPZ	Rata Peaks	2.32	77	PN	Pn	07 34 11.0	-2.0
RPZ				AML	AML	07 35 03.1	
RPZ				AML	AML	07 35 03.3	
RPZ	Rata Peaks	2.32	77	Pn	Pn	07 34 11.3	-1.7
WVZ	Waitaha Valley	2.36	60	PN	Pn	07 34 09.6	-3.8
WVZ				AML	AML	07 34 49.3	
WVZ				AML	AML	07 34 49.4	
WVZ	Waitaha Valley	2.36	60	Pn	Pn	07 34 09.7	-3.8
SYZ	Scrubby Hill	2.42	160	PN	Pn	07 34 14.2	+0.1
SYZ	Scrubby Hill	2.42	160	Pn	Pn	07 34 14.2	+0.1
HHSZ	Highcliff Hill	2.48	131	⇓PN	Pn	07 34 15.5	+0.4
APZ	The Paps	2.56	179	PN	Pn	07 34 16.1	0.0
APZ	The Paps	2.56	179	Pn	Pn	07 34 16.1	0.0
OXZ	Oxford	3.12	74	PN	Pn	07 34 20.6	-3.3
MQZ	McQueen's Vall	3.46	82	PN	Pn	07 34 25.4	-3.1
MQZ	McQueen's Vall	3.46	82	Pn	Pn	07 34 25.4	-3.1
LTZ	Lake Taylor	3.49	66	PN	Pn	07 34 26.1	-2.9
LTZ				AML	AML	07 35 39.0	
LTZ				AML	AML	07 35 44.9	
LTZ	Lake Taylor	3.49	66	Pn	Pn	07 34 26.1	-2.9
DSZ	Denniston Nort	3.80	50	PN	Pn	07 34 29.7	-3.6
DSZ	Denniston Nort	3.80	50	Pn	Pn	07 34 29.7	-3.6
THZ	Tophouse	4.43	57	PN	Pn	07 34 39.1	-2.9
THZ				AML	AML	07 35 33.1	
THZ				AML	AML	07 35 33.3	
THZ	Tophouse	4.43	57	Pn	Pn	07 34 39.1	-2.8
KHZ	Kahutara	4.49	68	PN	Pn	07 34 40.4	-2.3
KHZ	Kahutara	4.49	68	Pn	Pn	07 34 40.4	-2.3
QRZ	Quartz Range	4.84	46	PN	Pn	07 34 44.0	-3.5
QRZ	Quartz Range	4.84	46	Pn	Pn	07 34 44.0	-3.5
NNZ	Nelson	5.04	55	PN	Pn	07 34 47.9	-2.4
NNZ	Nelson	5.04	55	Pn	Pn	07 34 47.9	-2.4
TUWZ	Tuamarina	5.26	59	PN	Pn	07 34 52.0	-1.2
TUWZ				AML	AML	07 35 54.0	
TUWZ	Tuamarina	5.26	59	Pn	Pn	07 34 52.2	-1.0
TCW	Tory Channel	5.59	59	PN	Pn	07 34 56.4	-1.3
TCW				AML	AML	07 36 01.6	
TCW	Tory Channel	5.59	59	Pn	Pn	07 34 56.0	-1.7
DUWZ	D'Urville Isla	5.62	54	PN	Pn	07 34 57.1	-1.3
DUWZ	D'Urville Isla	5.62	54	Pn	Pn	07 34 56.5	-1.9
CAW	Cannon Point	6.14	61	PN	Pn	07 35 04.5	-0.9
KIW	Kapiti Island	6.18	59	PN	Pn	07 35 05.9	0.0
KIW	Kapiti Island	6.18	59	Pn	Pn	07 35 04.1	-1.8
KHEZ	Kahui Hut	6.74	44	PN	Pn	07 35 10.4	-3.3
NEZ	North Egmont	6.80	45	Pn	Pn	07 35 11.8	-2.7
WAZ	Wanganui	6.93	52	PN	Pn	07 35 15.1	-1.1
WAZ	Wanganui	6.93	52	Pn	Pn	07 35 15.5	-0.7
VRZ	Vera Road	7.25	47	PN	Pn	07 35 19.1	-1.5

IDC 23 08:27:55.3±11.0, 11°.75S×166°.42E, $h0^{km}$, mb3.9/3, mb1 4.0/3, mb1mx3.6/17, mbtmp3.8/3, MS3.6/1, Ms1 3.5/1, ms1mx2.6/25, Error ellipse: s-maj=360.3km s-min=56.6km az=126.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	30.40	225	LR	LR	08 44 16.8	
	comp=Z,101nm,19.0s,baz=205,slow=32						
WRA	Warramunga Arr	31.88	251	P	P	08 34 21.9	-0.7
	0.8nm,0.9s,baz=85,slow=9.0,SNR=4.1						
ASAR	Alice Springs	33.08	245	P	P	08 34 33.8	+0.6
	0.8nm,0.7s,baz=66,slow=10,SNR=10						
MKAR	Makanchi Array	94.49	317	P	P	08 41 17.5	-0.1
	0.8nm,0.7s,baz=107,slow=5.7,SNR=4.0						

NNC 23 08:31:54.4±0.8, 48°.22N×67°.09E, $h0^{km}$, mb3.5, mpv3.1, 11C-7D, Error ellipse: s-maj=7.7km s-min=6.9km az=128.0, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AB31	Akbulak array	4.84	285	Pn	Pn	08 33 08.3	-0.2
	0.2nm,0.2s,baz=115,slow=7.5,SNR=35						
AB31				⇑Pg	Pb	08 33 22.7	+2.6
	0.7nm,0.4s,baz=103,slow=15,SNR=5.5						
AB31				⇓Sn	Sn	08 34 04.4	-0.9
	0.3nm,0.3s						
AB31				⇑Lg	Lg	08 34 31.7	
	1.3nm,0.3s						
VOSK	Vostochnaya	5.15	27	⇑Pn	Pn	08 33 11.9	-0.9
	1.8nm,0.6s						
VOSK				⇓Sn	Sn	08 34 13.1	+0.3
	1.7nm,0.5s						
VOSK				⇑Lg	Lg	08 34 37.4	
	9.3nm,0.9s						
BVA0	Borovoye Array	5.25	22	Pn	Pn	08 33 14.2	+0.1
	1.2nm,0.2s,baz=198,slow=9.4,SNR=62						
BVA0				⇑Pg	Pb	08 33 29.0	+1.9
	2.6nm,0.7s,baz=201,slow=20,SNR=5.2						
BVA0				⇑Sn	Sn	08 34 16.8	+1.4
	2.3nm,0.5s						
BVA0				Lg	Lg	08 34 40.1	
	2.8nm,0.6s,baz=184,slow=26,SNR=3.5						
BRVK	Borovoye	5.25	22	⇓Pn	Pn	08 33 14.1	0.0
	3.8nm,0.4s						
BRVK				⇓Sn	Sn	08 34 17.8	+2.4
	1.0nm,0.3s						
BRVK				⇑Lg	Lg	08 34 40.5	
	8.5nm,0.9s						
KK31	Karatay Array	5.65	154	⇑Pn	Pn	08 33 21.0	+1.5
	0.8nm,0.5s,baz=337,slow=17,SNR=8.9						
KK31				⇑Pg	Pg	08 33 38.9	-3.7
	0.5nm,0.4s						
KK31				⇓Sn	Sn	08 34 25.7	+0.6
	2.0nm,0.5s						
KK31				⇓Lg	Lg	08 34 49.5	
	3.8nm,0.6s						
AKTO	Aktyubinsk	6.33	294	⇑Pn	Pn	08 33 29.7	+0.7
	0.5nm,0.3s						
AKTO				⇑Sn	Sn	08 34 45.6	+3.5
	1.2nm,0.6s						
AKTO				⇓Lg	Lg	08 35 12.5	
	4.6nm,1.4s						

*MOS **23** 08:46:06.6±3.6, 6°.34N×124°.54E, $h33^{km}$, mb5.2/20, Error ellipse: s-maj=29.0km s-min=11.6km az=102.8*
*IDC **23** 08:46:06.6±0.5, 6°.34N×124°.54E, $h0^{km}$, mb4.5/21, mb1 4.5/21, mb1mx4.4/28, mbtmp4.4/21, MS3.8/6, Ms1 3.8/6, ms1mx3.3/39, Error ellipse: s-maj=21.0km s-min=11.7km az=71.0*
*MAN **23** 08:46:07, 6°.42N×124°.53E, $h6^{km}$, mb5.3, ML4.3, MS4.3*
MAN INTENSITY III - KORONADAL CITY; SURALLAH S. COTABATO; ISULAN & TACURONG CITY SULTAN KUDARAT.
*ISCJB **23** 08:46:08.3±0.6, 6°.38N±0°.02×124°.60E±0°.03, $h17^{km}$±4km, mb4.7/64, MS4.1/13, Error ellipse: s-maj=4.6km s-min=3.7km az=170.2*
*DJA **23** 08:46:08.6±0.5, 6°N±4°×12°5E±°, $h10^{km}$, M5.0/7, mb5.2/6, mB5.3/6, MLv5.2/7, Mw(mB)4.7/6*
*AUST **23** 08:46:10.4±0.8, 6°.44N×124°.94E, $h22^{km}$, Error ellipse: s-maj=1.1km s-min=1.0km az=226.0*
*BKK **23** 08:46:12.4±0.4, 7°N±6°×12°5E±°, $h10^{km}$, M4.9/13, mB5.3/2, mb4.6/13, MLv5.1/3, Mw(mB)4.8/2*
*NEIC **23** 08:46:13.2±0.9, 6°.39N×124°.68E, $h46^{km}$±9km, mb4.8/12, Error ellipse: s-maj=7.3km s-min=5.9km az=56.0*
NEIC Felt [III PIVS] at Isulan, Koronadal, Surallah and Tacurong.
*BJI **23** 08:46:13.4, 6°.57N×124°.41E, $h38^{km}$, mB4.9/27, mb4.9/44, Ms4.3/25, Ms7 4.1/26*

ISC 23 08:46:09.6±1.0, 6°.43N±0°.03×124°.56E±0°.03, $h16^{km}$±6km, n181, σ1≥54/203, mb4.8/64, MS4.0/15, 7C-13D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	General Santos	0.52	131	*e*P	Pn	08 46 22.3	-0.3
GSPH				*e*S	Sn	08 46 33.0	+1.8
KCP	Kidapawan	0.78	43	⇑*i*P	Pg	08 46 22.8	-2.1
KCP				*i* S	Sg	08 46 34.8	-0.4
CTBH	Cotabato--PC H	0.84	339	⇓*e*P	Pg	08 46 23.3	-2.7
DMPH	Davao City--Mi	1.15	56	⇓*e*P	Pb	08 46 29.1	-2.0
DAV	Davao City (W)	1.20	58	*e*Pn	Pn	08 46 30.8	-1.0
DAV				*e*Sn	Sb	08 46 46.0	-1.3
DAV	Davao City (W)	1.20	58	P	Pn	08 46 29.9	-1.9
BUKP	Musuan	1.52	19	*e*P	Pn	08 46 34.6	-1.7
MATI	Mati	1.77	73	*e*P	Pg	08 46 43.7	+0.2
PAGZ	Pagadian	1.82	320	*e*P	Pn	08 46 39.9	-0.6
CGP	Cagayan de Oro	2.01	4	*e*P	Pn	08 46 42.2	-0.8
IPIL	Ipil	2.38	304	⇓*e*P	Pn	08 46 48.5	+0.4
IPIL				*i* S	Sb	08 47 19.0	-2.5
DCPH	Dipolog City	2.45	331	⇑*e*P	Pn	08 46 50.2	+1.2
ZMPH	Zamboanga City	2.53	282	⇓*i*P	Pn	08 46 49.0	-1.1
ZMPH				*i* S	Sn	08 47 20.7	+0.1
BUTP	Butuan	2.73	23	*e*P	Pb	08 46 57.4	-0.8
SGSI	Sangihe	2.90	160	P	Pn	08 46 55.0	-0.2
SGSI				S	Sn	08 47 30.2	+0.5
SNPH	Sibulan	3.17	336	*i* S	Sn	08 47 34.5	-2.2
TBP	Tagbilaran	3.31	348	*e*P	Pb	08 47 04.4	-3.6
SCPH	Surigao	3.45	15	⇑*e*P	Pb	08 47 08.9	-1.6
LLP	Lapu-Lapu	3.90	351	*e*P	Pn	08 47 09.1	+0.1
PLP	Palo	4.72	5	⇓*e*P	Pn	08 47 21.3	+1.0
GTOI	Gorontalo	5.96	195	P	Pn	08 47 34.8	-2.6
	362nm,0.9s,3μm1.1nm						
MYLDM	Lahad Datu	6.15	259	P	Pn	08 47 38.0	-2.0
MYLDM	Lahad Datu	6.15	259	P	Pn	08 47 40.9	+0.9
	78nm,1.3s,2μm0.5nm						
MRSI	Marisa	6.47	204	P	Pn	08 47 43.3	-1.0
	105nm,0.6s,4μm1.3nm						
MRSI				S	Sn	08 48 52.9	-4.9
	105nm,0.6s,4μm1.3nm						
TSM	Tawau	6.99	253	P	Sn	08 49 10.1	-0.6
SDKM	Sandakan	7.36	264	P	Pn	08 47 56.7	+0.1
LUWI	Luwuk	7.64	194	P	Pn	08 48 01.4	+1.0
	394nm,1.1s,3μm2.4nm						
LUWI	Luwuk	7.64	194	P	Pn	08 48 03.2	+2.8
	baz=7.8,SNR=8.4						
LUWI				S	Sn	08 49 26.9	+0.2
	baz=7.8,SNR=6.5						
APSI	Ampana	7.85	202	P	Pn	08 48 04.6	+1.3
	98nm,1.0s,1μm0.9nm						
NLAI	Namlea	9.94	165	P	Pn	08 48 32.7	+0.7
BNSI	Bone	11.64	203	P	Pn	08 48 58.6	+3.3
KAPI	Kappang	12.34	203	LR	LR	08 53 59.3	
	comp=Z,431nm,19.8s,baz=12,slow=39						
SBUM	Sibu	12.92	253	*e*Pn	Pn	08 49 17.0	+4.2
SBUM	Sibu	12.92	253	P	P	08 49 17.5	-5.9
KSM	Kuching	15.04	251	*e*Pn	P	08 49 44.4	-2.7
	31nm,1.2s						
KSM	Kuching	15.04	251	P	P	08 49 44.0	-3.1
KSM	Kuching	15.04	251	P	P	08 49 51.7	+4.7
	baz=15,SNR=5.5						
JAY	Jayapura	18.41	118	S	Sn	08 53 32.4	-18
	baz=18,SNR=5.5						
QIZ	Qiongzhong	19.02	313	P	P	08 50 30.8	-0.3
QIZ				S	Sn	08 54 01.8	-3.0
QIZ				pmax	pmax		
	comp=Z,31nm,1.7s						
QIZ				pmax	pmax		
	comp=Z,140nm,3.4s						
QIZ				LR	LR		
	comp=N,290nm,14.6s						
QIZ				LR	LR		
	comp=Z,420nm,16.4s						
KDU	Kakadu	20.56	157	P	P	08 50 47.8	-0.1
	baz=20,SNR=6.6						
KTGM	Kuala Trenggan	21.34	268	P	P	08 50 58.6	+2.3
KNRA	Kununurra	22.36	169	P	P	08 51 07.5	+0.3
	baz=22,SNR=7.1						
CHBT	CHBT	22.79	288	P	P	08 51 13.7	+1.9
	comp=Z,23nm,1.4s						
KULM	Kulim	23.81	269	*e*P	P	08 51 23.0	+0.9
	comp=Z,57nm,1.3s						
KULM	Kulim	23.81	269	P	P	08 51 19.0	-3.1
CHAI	Chaiyaphum	24.03	295	P	P	08 51 25.7	+1.5
	comp=Z,5.0nm,1.3s						
MANU	Manus Island	24.28	110	S	S	08 55 42.1	-3.0
	baz=24,SNR=6.4						
FITZ	Fitzroy Crossi	24.40	178	*e*P	P	08 51 27.3	-0.3
FITZ	Fitzroy Crossi	24.40	178	P	P	08 51 26.3	-1.3
	comp=Z,6.3nm,0.8s,baz=16,slow=13,SNR=9.8						
FITZ	Fitzroy Crossi	24.40	178	P	P	08 51 27.3	-0.3
	baz=25,SNR=5.7						
PBKT	Sadao Pong	25.18	296	P	P	08 51 37.2	+2.5
	comp=Z,14nm,1.4s						
PSI	Prapat	25.80	263	P	P	08 51 41.3	+0.8
PSI	Prapat	25.80	263	P	P	08 51 41.3	+0.8
	comp=Z,26nm,1.0s,baz=57,slow=6.4,SNR=11						
PSI	Prapat	25.80	263	P	P	08 51 42.5	+2.0
	baz=26,SNR=8.5						
WHN	Wuhan	25.83	339	P	P	08 51 41.8	+1.4
NJ2	Nanjing	26.04	349	*e*P	P	08 51 45.3	+3.0
NJ2				pmax	pmax		
	comp=Z,20nm,0.8s						
NJ2				LR	LR		
	comp=Z,310nm,13.0s						
GYA	Guiyang	26.22	321	*e*P	P	08 51 46.4	+2.2
GYA				pP	pP	08 51 56.8	+7.9
GYA				PcP	PcP	08 55 12.3	+1.3
GYA				S	S	08 56 15.0	-1.0
GYA				sS	sS	08 56 32.5	+8.6
GYA				ScP	ScP	08 58 48.9	-1.5
GYA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
GYA				pmax	pmax		
	comp=Z,90nm,4.8s						
GYA				LR	LR		
	comp=N,480nm,17.3s						
GYA				LR	LR		
	comp=E,360nm,18.0s						
GYA				LR	LR		
	comp=Z,490nm,17.5s						
UTHA	Uthaitani	26.24	292	P	P	08 51 47.4	+3.1
	comp=Z,4.7nm,0.9s						
CBIJ	Chichi jima	26.52	37	LR	LR	09 00 59.1	
	comp=Z,120nm,19.9s,baz=244,slow=34						
COEN	Coen	27.42	138	*e*P	P	08 51 53.5	-1.5
	comp=Z,237nm,1.6s						
COEN	Coen	27.42	138	P	P	08 51 54.6	-0.4
	baz=27,SNR=4.7						
PMG	Port Moresby	27.48	125	*e*P	P	08 51 54.9	-0.6
PMG	Port Moresby	27.48	125	P	P	08 51 54.4	-1.0
	comp=Z,4.7nm,0.4s,baz=357,slow=12,SNR=4.8						
WRAB	Tennant Creek	27.92	160	*e*P	P	08 51 57.9	-1.4
WRAB				pmax	pmax		
	comp=Z,12nm,1.0s						
WRAB	Tennant Creek	27.92	160	*e*P	P	08 51 57.9	-1.4
	comp=Z,12nm,1.0s						
WRA	Warramunga Arr	27.92	160	P	P	08 51 57.6	-1.8
WRA	Warramunga Arr	27.92	160	P	P	08 51 57.6	-1.8
	comp=Z,4.1nm,1.0s,baz=333,slow=10,SNR=14						
KMI	Kunming	27.95	314	P	P	08 52 03.8	+3.9
KMI				pP	pP	08 52 13.4	+8.7
KMI				PP	PnPn	08 52 54.3	+7.4
KMI				S	S	08 56 44.4	+0.8
KMI				pmax	pmax		
	comp=Z,13nm,1.1s						
KMI				pmax	pmax		
	comp=Z,77nm,7.5s						
KMI				LR	LR		
	comp=N,190nm,11.0s						
KMI				LR	LR		
	comp=E,140nm,13.7s						
KMI				LR	LR		
	comp=Z,150nm,12.1s						
KSAR	Wonju Array Be	31.01	5	P	P	08 52 27.5	+0.9
KSRS	Korea Array	31.03	5	P	P	08 52 27.5	+0.8
	comp=Z,4.1nm,0.8s,baz=182,slow=9.9,SNR=18						
KSRS				LR	LR	09 04 05.4	
	comp=Z,138nm,20.0s,baz=155,slow=35						
CD2	Chengdu	31.20	324	P	P	08 52 29.8	+1.4
CD2				pP	pP	08 52 39.6	+6.4
CD2				sP	sP	08 52 43.8	+8.7
CD2				PP	PnPn	08 53 33.6	+3.2
CD2				S	S	08 57 33.3	-0.9
CD2				sS	sS	08 57 50.0	+8.0
CD2				pmax	pmax		
	comp=Z,30nm,1.0s						
CD2				pmax	pmax		
	comp=Z,170nm,7.4s						
CD2				LR	LR		
	comp=N,210nm,10.1s						
CD2				LR	LR		
	comp=Z,280nm,14.3s						
MTSU	Mount Surprise	31.25	142	P	P	08 52 31.5	+2.6
	baz=31,SNR=4.4						
ASAR	Alice Springs	31.28	163	P	P	08 52 27.7	-1.5
ASAR	Alice Springs	31.28	163	P	P	08 52 27.7	-1.5
	comp=Z,0.4nm,0.4s,baz=338,slow=6.8,SNR=12						
CTA	Charters Tower	33.91	141	P	P	08 52 51.3	-1.0
CTA	Charters Tower	33.91	141	P	P	08 52 51.3	-1.0
	comp=Z,3.3nm,0.7s,baz=319,slow=11,SNR=3.8						
BJI	Beij

CN2 LR LR
comp=N,200nm,17.0s
CN2 LR LR
comp=E,200nm,17.0s
CN2 LR LR
comp=Z,200nm,14.0s
USRK Ussuriysk Arra 38.18 9 P **P 08 53 29.4 +0.9**
comp=Z,3.1nm,0.8s,baz=181,slow=6.0,SNR=9.5
MDJ Mudanjiang 38.29 6 P **P 08 53 31.8 +2.4**
MDJ sP sP 08 53 44.8 +8.7
MDJ PP **PnPn 08 55 00.0 +1.2**
MDJ S **S 08 59 21.3 -1.6**
MDJ pmax pmax
comp=Z,11nm,1.5s
MDJ pmax pmax
comp=Z,96nm,6.1s
LSA Lhasa 39.04 310 P **P 08 53 38.3 +1.8**
GTA Gaotai 39.68 329 P **P 08 53 43.6 +2.3**
GTA pP pP 08 53 52.8 +6.6
GTA sP sP 08 53 57.3 +9.2
GTA PcP **PcP 08 55 48.4 +0.4**
GTA S **S 08 59 46.6 +2.2**
GTA sS sS 09 00 01.3 +8.9
GTA pmax pmax
comp=Z,35nm,1.0s
GTA pmax pmax
comp=Z,69nm,4.6s
GTA LR LR
comp=N,120nm,17.3s
GTA LR LR
comp=E,120nm,17.3s
GTA LR LR
comp=Z,180nm,18.0s
ASAJ Asahikawa 40.73 20 P **P 08 53 49.6 -0.2**
ASAJ Asahikawa 40.73 20 P **P 08 53 49.6 -0.2**
comp=Z,12nm,1.2s,baz=247,slow=16,SNR=4.0
STKA Stephens Creek 41.42 158 *eP* **P 08 53 56.3 +0.7**
STKA Stephens Creek 41.42 158 P **P 08 53 56.0 +0.4**
comp=Z,9.5nm,1.1s,baz=10,slow=2.0,SNR=5.4
YSS Yuzh-Sakhalins 43.30 18 *eP* P 08 54 13.8 +3.1
SONM Songino Array 44.07 342 P **P 08 54 18.0 +0.9**
SONM Songino Array 44.07 342 P **P 08 54 18.0 +0.9**
comp=Z,7.3nm,1.1s,baz=162,slow=8.7,SNR=29
WMQ Urumqi 49.28 325 P **P 08 54 59.6 +1.6**
WMQ pP pP 08 55 09.6 +6.7
WMQ sP sP 08 55 13.6 +8.8
WMQ PcP **PcP 08 56 22.6 +1.9**
WMQ PP **PP 08 56 53.8 +1.9**
WMQ pmax pmax
comp=Z,31nm,1.0s
WMQ pmax pmax
comp=Z,150nm,4.0s
WMQ LR LR
comp=E,100nm,25.0s
WMQ LR LR
comp=Z,79nm,19.0s
HVS Khovu-Aksy 51.40 336⇓ *eP* **P 08 55 15.0 +1.2**
HVS pmax pmax
comp=Z,226nm,1.3s
PETK Petropavlovsk- 53.81 24 P **P 08 55 32.4 +0.8**
PETK Petropavlovsk- 53.81 24 P **P 08 55 32.4 +0.8**
PETK Petropavlovsk- 53.81 24 P **P 08 55 32.4 +0.8**
comp=Z,4.7nm,0.7s,baz=198,slow=6.5,SNR=12
MK31 Makanchi Array 54.11 325 *eP* **P 08 55 34.9 +0.9**
MK31 Makanchi Array 54.11 325 *eP* **P 08 55 34.9 +0.9**
MKAR Makanchi Array 54.11 325 *ceP* **P 08 55 35.2 +1.3**
MKAR pmax pmax
comp=Z,16nm,0.9s
MKAR Makanchi Array 54.11 325 P **P 08 55 35.3 +1.3**
MKAR PcP **PcP 08 56 37.7 -0.9**
MKAR Makanchi Array 54.11 325 P **P 08 55 35.3 +1.3**
comp=Z,16nm,0.9s,baz=124,slow=7.9,SNR=77
MKAR PcP **PcP 08 56 37.7 -0.9**
comp=Z,8.0nm,0.8s,baz=118,slow=4.7,SNR=13
MKAR LR LR 09 19 46.9
comp=Z,132nm,19.1s,baz=11,slow=37
KSH Kashi 54.61 315 P **P 08 55 40.3 +2.4**
KSH sP sP 08 55 54.3 +10
KSH PP **PP 08 57 44.3 +3.9**
KSH PcS **PcS 09 00 41.3 +0.7**
KSH S **S 09 03 16.1 -1.2**
KSH ScS **ScS 09 05 23.6 -3.4**
KSH pmax pmax
comp=Z,15nm,1.5s
KSH pmax pmax
comp=Z,110nm,4.6s
KSH LR LR
comp=N,120nm,11.7s
KSH LR LR
comp=E,120nm,5.8s
KSH LR LR
comp=Z,170nm,8.0s
TKM2 Tokmak 2 56.30 318 *eP* **P 08 55 51.0 +0.9**
TKM2 pmax pmax
comp=Z,7.0nm,0.8s
TKM2 Tokmak 2 56.30 318 P **P 08 55 51.5 +1.4**
SNR=7.0
TKM2 Tokmak 2 56.30 318 *eP* **P 08 55 51.0 +0.9**
comp=Z,6.6nm,0.8s
UCH Uchtor 56.73 317 *i* P **P 08 55 55.5 +2.0**
UCH Uchtor 56.73 317 P **P 08 55 55.5 +2.0**
SNR=5.7
AAK Ala-Archa 56.91 318⇓ *eP* **P 08 55 55.3 +0.9**
AAK pmax pmax
comp=Z,22nm,1.7s
AAK MLR MLR
comp=Z,143nm,16.0s
AAK Ala-Archa 56.91 318 *eP* **P 08 55 54.8 +0.4**
comp=Z,5.2nm,0.9s
AAK Ala-Archa 56.91 318 LR LR 09 22 03.1
comp=Z,75nm,19.5s,baz=211,slow=38
USP Ospenovka 57.17 318 *i* P **P 08 55 57.3 +1.3**
USP Ospenovka 57.17 318 P **P 08 55 57.3 +1.3**
SNR=8.9
ZAA0 Zalesovo Array 57.21 333 *eP* **P 08 55 55.9 -0.2**
ZALV Zalesovo Beam 57.21 333 P **P 08 55 56.2 +0.2**
ZALV 08 56 48.4
ZALV Zalesovo Beam 57.21 333 P **P 08 55 56.2 +0.2**
ZALV PcP **PcP 08 56 48.4 -2.0**
ZALV Zalesovo Beam 57.21 333 P **P 08 55 56.2 +0.2**
comp=Z,10nm,0.9s,baz=115,slow=7.0,SNR=24
ZALV PcP **PcP 08 56 48.4 -2.0**
comp=Z,1.5nm,0.5s,baz=108,slow=4.8,SNR=4.4
AML Almayashu 57.25 317 *i* P **P 08 55 58.8 +1.8**
AML Almayashu 57.25 317 P **P 08 55 58.8 +1.8**
SNR=5.2
EKS2 Erkin-Say 57.41 317 *eP* **P 08 55 59.0 +1.2**
EKS2 pmax pmax
comp=Z,8.0nm,0.8s
EKS2 Erkin-Say 57.41 317 P **P 08 55 59.5 +1.7**
SNR=7.0
EKS2 Erkin-Say 57.41 317 *eP* **P 08 55 59.0 +1.2**
comp=Z,8.2nm,0.8s
KBL Kabul 58.17 307 *eP* **P 08 56 03.6 +0.1**
KBL Kabul 58.17 307 *eP* **P 08 56 03.6 +0.1**
KURK Kurchatov 58.31 328 *d iP* **P 08 56 04.3 +0.5**
KURK pmax pmax
comp=Z,34nm,1.2s
KURK Kurchatov 58.31 328 *eP* **P 08 56 04.5 +0.7**
comp=Z,41nm,1.3s
NVS Novosibirsk 58.50 333⇓ *iP* **P 08 56 04.5 -0.5**
NVS pmax pmax
comp=Z,32nm,1.1s
NVS pmax pmax
comp=N,18nm,1.2s
NVS pmax pmax
comp=E,22nm,1.1s
KK31 Karatay Array 59.79 317 *ceP* **P 08 56 14.8 +0.5**
KK31 pmax pmax
comp=Z,6.0nm,0.6s
KKAR Karatay Array 59.79 317 *eP* **P 08 56 15.0 +0.7**
KKAR pmax pmax
comp=Z,4.0nm,0.6s
KKAR Karatay Array 59.79 317 *eP* **P 08 56 15.0 +0.7**
comp=Z,4.5nm,0.6s
SEY Seymchan 59.93 14 *i* P **P 08 56 15.8 +1.0**
VOSK Vostochnaya 63.43 327 P **P 08 56 38.2 -0.5**
VOSK pmax pmax
comp=Z,13nm,0.9s
VOSK Vostochnaya 63.43 327 *eP* **P 08 56 38.4 -0.3**
BVA0 Borovoye Array 63.89 327 *i* P **P 08 56 41.7 0.0**
BVA0 pmax pmax
comp=Z,25nm,1.2s
BRVK Borovoye 63.96 327 *d iP* **P 08 56 42.3 +0.2**
BRVK pmax pmax
comp=Z,50nm,1.7s
BRVK Borovoye 63.96 327 *eP* **P 08 56 42.1 0.0**
comp=Z,26nm,1.0s
BKZ Black Stump Fm 66.03 138 *eP* **P 08 56 55.7 -0.2**
comp=Z,48nm,1.3s
AB31 Akbulak array 68.70 321 *ceP* **P 08 57 12.3 -0.3**
AB31 pmax pmax
comp=Z,3.0nm,0.6s
ABKAR Akbulak array 68.70 321 *eP* **P 08 57 12.5 -0.1**
comp=Z,3.3nm,0.7s
AKTO Aktyubinsk 70.21 321 P **P 08 57 21.4 -0.5**
AKTO Aktyubinsk 70.21 321 P **P 08 57 21.4 -0.5**
AKTO Aktyubinsk 70.21 321 P **P 08 57 21.4 -0.5**
baz=91,slow=7.9
SVE Sverdlovsk 70.54 328⇓ *eP* **P 08 57 24.0 +0.2**
SVE pmax pmax
comp=Z,39nm,0.9s
ARU Arti 71.51 328 *d iP* **P 08 57 29.0 -0.7**
ARU 09 00 04.3
ARU S **S 09 06 45.3 -2.5**
ARU pmax pmax
comp=Z,29nm,1.0s
ZEI Tsey 78.81 312 *eP* **P 08 58 10.6 -1.7**
ZEI pmax pmax
comp=Z,19nm,1.4s
SVW2 Sparrevohn 79.50 29 *eP* P 08 58 21.0 +5.5
KBZ Khabaz 79.56 313 P **P 08 58 15.9 -0.2**
KBZ Khabaz 79.56 313 P **P 08 58 15.9 -0.2**
KBZ Khabaz 79.56 313 P **P 08 58 15.9 -0.2**
comp=Z,4.2nm,1.1s,baz=49,slow=20,SNR=3.6
KIV Kislovodsk 79.72 313 *eP* **P 08 58 18.3 +1.2**
KIV pmax pmax
comp=Z,7.0nm,0.9s
VRHR Novokhopersk 80.59 321 *eP* **P 08 58 21.9 +0.4**
VRHR pmax pmax
comp=Z,10.0nm,0.7s
VRHR pmax pmax
comp=N,9.0nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.5s
CAST Castle Rocks 81.31 27 *eP* **P 08 58 25.9 +0.8**
BPAW Bear Paw Mtn. 81.83 26 *eP* **P 08 58 28.6 +0.7**
KLMR Klimovskoe 82.00 330 *eP* **P 08 58 27.4 -1.4**
KLMR pmax pmax
comp=Z,56nm,1.4s
VORD Divnogorie 82.06 320 *eP* **P 08 58 28.4 -0.9**
VORD pmax pmax
comp=Z,10.0nm,1.2s
VORD pmax pmax
comp=N,7.0nm,0.6s
VORD pmax pmax
comp=E,7.0nm,0.6s
ANN Anapa 83.47 314 *eP* P 08 58 27.8 -9.0
ANN *e*PP* pP 08 58 38.2 -3.8
ANN *e* 09 01 41.9
ANN pmax pmax
comp=Z,36nm,1.1s
ILAR Eielson Array 83.61 26 P **P 08 58 36.4 -0.7**
ILAR Eielson Array 83.61 26 P **P 08 58 36.4 -0.7**
comp=Z,0.8nm,0.8s,baz=236,slow=5.7,SNR=7.4
OBN Obninsk 83.62 325⇓ *iP* **P 08 58 37.1 -0.2**
OBN pmax pmax
comp=Z,39nm,1.6s
APA Apatity 84.54 337⇓ *iP* **P 08 58 43.4 +1.6**
APA MLR MLR
comp=Z,900nm,14.0s
MAW Mawson 85.54 200 LR LR 09 30 19.9
comp=Z,52nm,20.8s,baz=205,slow=31
BRTR Keskin Array B 86.64 309 P **P 08 58 52.5 -0.5**
BRTR Keskin Array B 86.64 309 P **P 08 58 52.5 -0.5**
comp=Z,1.5nm,0.8s,baz=102,slow=5.3,SNR=6.0
KMBO Kilima Mbogo 87.44 269 P **P 08 58 56.9 -0.7**
KMBO Kilima Mbogo 87.44 269 P **P 08 58 56.9 -0.7**
comp=Z,1.1nm,0.5s,baz=54,slow=22,SNR=5.1
FINES FINESS Array B 88.44 332 P **P 08 58 59.9 -1.1**
FINES FINESS Array B 88.44 332 P **P 08 58 59.9 -1.1**
comp=Z,9.9nm,0.8s,baz=98,slow=5.8,SNR=14
AKASG Malin Array Be 88.44 321 P **P 08 58 59.5 -1.8**
AKASG Malin Array Be 88.44 321 P **P 08 58 59.5 -1.8**
AKASG Malin Array Be 88.44 321 P **P 08 58 59.5 -1.8**
comp=Z,0.5nm,0.4s,baz=67,slow=5.5,SNR=6.1
NB2 NORSAR Subarra 95.42 333 P **P 08 59 31.4 -2.0**
comp=Z,6.4nm,0.9s,baz=68,slow=4.4
NB2 NORSAR Subarra 95.42 333 P **P 08 59 31.4 -2.0**
baz=68,slow=4.4
NOA NORSAR Array B 95.42 333 P **P 08 59 31.6 -1.9**
NOA NORSAR Array B 95.42 333 P **P 08 59 31.6 -1.9**
comp=Z,4.7nm,0.9s,baz=67,slow=4.5,SNR=5.7
BRG Berggiesshubel 97.79 323 *eP* **P 08 59 43.5 -0.8**
comp=Z,3.3nm,0.8s
BRG Berggiesshubel 97.79 323 *eP* **P 08 59 43.5 -0.8**
BRG pmax pmax
comp=Z,3.0nm,0.9s
CLL Collm 98.19 324 *eP* **P 08 59 45.0 -1.1**
CLL Collm 98.19 324 *ePdif* **P 08 59 45.0 -1.1**
TORD Torodi Ar. Bea 120.01 289 PKP **PKPdf 09 04 58.6 -2.1**
TORD Torodi Ar. Bea 120.01 289 PKP **PKPdf 09 04 58.6 -2.1**
comp=Z,0.6nm,0.8s,baz=351,slow=1.1,SNR=3.9
TXAR Lajitas Array 121.59 50 PKP **PKPdf 09 05 02.4 -1.1**
TXAR Lajitas Array 121.59 50 PKP **PKPdf 09 05 02.4 -1.1**
comp=Z,0.7nm,1.0s,baz=243,slow=0.3,SNR=5.0

BYKL 23 08:58:07.6±0.4, 50°.46N×107°.44E
MOS 23 08:58:06.1±1.7, 50°.47N×107°.64E, h10km, mb4.4/1, 9C-7D,
Error ellipse: s-maj=19.0km s-min=10.2km az=101.8,
Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRMR	**Khuramsha**	**1.24**	**340**	⇑ *iPg*	Pb	08 58 29.7	+0.1
HRMR				*ePb*	Pg	08 58 30.5	+0.6
HRMR				*i Sg*	Sb	08 58 45.8	+0.1
HRMR				Pmax			
	4μm,0.1s						
HRMR				Smax			
	8μm,0.2s						
UUDB	**Ulan-Yde**	**1.40**	**1**	⇑ *iPg*	Pg	08 58 33.5	+0.5
UUDB				*ePb*	Pb	08 58 34.4	+2.0
UUDB				*i Sg*	Sg	08 58 52.4	+1.1
UUDB				Pmax			
	254nm,0.3s						
UUDB				Smax			
	3μm,0.5s						
KAB	**Kabansk**	**1.70**	**339**	⇑ *iPg*	Pb	08 58 37.3	-0.2
KAB				*e*		08 58 57.5	
KAB				*eSg*	Sb	08 58 59.1	+0.2
KAB				Pmax			
	348nm,0.4s						
KAB				Smax			
	2μm,1.3s						
KAB	**Kabansk**	**1.70**	**339**	⇑ *iPN*	Pb	08 58 37.3	-0.2
KAB				*e*		08 58 59.7	
KAB				pmax	pmax		
	comp=Z,700nm,0.4s						
KAB				smax	smax		
	comp=N,2μm,0.5s						
ZRHB	**Zarechye**	**2.11**	**352**	⇑ *iPg*	Pb	08 58 44.7	+0.2
ZRHB				*e*		08 58 52.7	
ZRHB				*eSg*	Sb	08 59 11.9	+1.2
ZRHB				Pmax			
	comp=N,164nm,0.2s						
ZRHB				Smax			
	comp=N,5μm,0.5s						
LSTR	**Listvyanka**	**2.25**	**310**	⇓ *iPn*	Pn	08 58 42.2	-1.2
LSTR				⇑ *iPg*	Pb	08 58 46.3	-0.6
LSTR				*i Sn*	Sn	08 59 08.7	-2.6
LSTR				*eSg*	Sb	08 59 15.2	+0.4
LSTR				Pmax			
	comp=N,49nm,0.4s						
LSTR				Smax			
	comp=N,224nm,0.6s						
LSTR	**Listvyanka**	**2.25**	**310**	*ePN*	Pn	08 58 42.6	-0.8
LSTR				*e*		08 58 46.3	
LSTR				*e*		08 59 13.9	
LSTR				pmax	pmax		
	comp=Z,41nm,0.2s						
LSTR				smax	smax		
	comp=N,322nm,0.3s						
TRG	**Tyrgan**	**2.43**	**341**	⇑ *iPn*	Pn	08 58 45.7	-0.2
TRG				*e*		08 58 48.6	
TRG				*ePg*	Pb	08 58 50.0	0.0
TRG				*e*		08 58 52.5	
TRG				*eSg*	Sb	08 59 21.0	+1.0
TRG				max			
	comp=N,200nm,0.3s						
TRG				Smax			
	comp=N,594nm,0.3s						
TRG	**Tyrgan**	**2.43**	**341**	*ePN*	Pn	08 58 45.7	-0.2
TRG				*e*		08 58 49.2	
TRG				*eS*	Sn	08 59 15.8	+0.1
TRG				*e*		08 59 21.0	
TRG				pmax	pmax		
	comp=Z,201nm,0.2s						
TRG				smax	smax		
	comp=E,585nm,0.2s						
ULN	**Ulaanbaatar**	**2.63**	**189**	*ePg*	Pg	08 58 55.7	-1.1
ULN				*e*		08 58 59.9	
ULN				*eSg*	Sg	08 59 29.7	-1.5
IRK	**Irkutsk**	**2.76**	**311**	*ePn*	Pn	08 58 49.9	-0.5
IRK				*ePg*	Pb	08 58 54.9	-0.6
IRK				*eSn*	Sn	08 59 20.7	-3.0
IRK				*i Sg*	Sb	08 59 29.6	+0.3
IRK				Pmax			
	comp=E,337nm,0.1s						
IRK				Smax			
	comp=E,1μm,0.4s						
IRK	**Irkutsk**	**2.76**	**311**	*ePN*	Pb	08 58 55.8	+0.3
IRK				*e*		08 59 29.6	
IRK				pmax	pmax		
	comp=Z,330nm,0.1s						
IRK				smax	smax		
	comp=N,1μm,0.4s						
ZAK	**Zakamensk**	**2.79**	**270**	*ePn*	Pn	08 58 50.6	-0.3
ZAK				⇓ *iPg*	Pb	08 58 55.0	-1.1
ZAK				*e*		08 59 03.3	
ZAK				*i Sg*	Sb	08 59 30.0	-0.4
ZAK				*e*		08 59 33.6	
ZAK				max			
	comp=N,57nm,0.5s						
ZAK				max			
	comp=N,178nm,0.1s						
ZAK	**Zakamensk**	**2.79**	**270**	*ePN*	Pb	08 58 54.8	-1.3
ZAK				*eS*	Sb	08 59 30.9	+0.5
ZAK				pmax	pmax		
	comp=Z,48nm,0.2s						
ZAK				smax	smax		
	comp=E,232nm,0.2s						
TLY	**Talaya**	**2.79**	**297**	⇑ *iPn*	Pn	08 58 50.3	-0.6
TLY				*ePg*	Pb	08 58 55.8	-0.3
TLY				*eSg*	Sb	08 59 31.5	+1.0
TLY				Pmax			
	comp=E,68nm,0.2s						
TLY				Smax			
	comp=E,567nm,0.1s						
TLY	**Talaya**	**2.79**	**297**	*ePN*	Pn	08 58 50.2	-0.7
TLY				*e*		08 58 55.1	
TLY				*eS*	Sn	08 59 23.9	-0.8
TLY				*e*		08 59 31.0	
TLY				pmax	pmax		
	comp=Z,69nm,0.3s						
TLY				smax	smax		
	comp=N,566nm,0.2s						
KPC	**Khapcheranga**	**3.15**	**102**	⇓ *iPn*	Pn	08 58 58.7	+2.8
KPC				⇓ *iPg*	Pg	08 59 05.8	-0.8
KPC				*ePgPg*	PbPb	08 59 08.5	+3.1
KPC				*e*		08 59 11.3	
KPC				*e*		08 59 36.3	
KPC				*eSg*	Sg	08 59 49.5	+2.0
KPC				*eSgSg*	SbSb	08 59 51.9	+6.0
KPC				max			
	comp=N,29nm,0.3s						
KPC				max			
	comp=N,413nm,0.6s						
OGRR	**Ongureny**	**3.18**	**360**	⇑ *iPn*	Pn	08 58 57.4	+1.2
OGRR				*ePg*	Pb	08 59 03.8	+1.1
OGRR				*ePgPg*	Pg	08 59 06.6	-0.4
OGRR				*e*		08 59 32.4	
OGRR				*eSg*	Sg	08 59 46.0	-2.3
OGRR				max			
	comp=N,17nm,0.3s						
OGRR				Smax			
	comp=N,187nm,0.7s						
OGRR	**Ongureny**	**3.18**	**360**	*ePN*	Pn	08 58 57.2	+1.0
OGRR				*e*		08 59 03.6	
OGRR				*eS*	Sn	08 59 32.3	-1.8
OGRR				*e*		08 59 43.8	
OGRR				pmax	pmax		
	comp=Z,18nm,0.4s						
OGRR				smax	smax		
	comp=E,199nm,1.2s						
SYVR	**Suvo**	**3.51**	**24**	⇓ *iPn*	Pn	08 59 03.1	+2.4
SYVR				⇓ *iPg*	Pg	08 59 12.2	-1.2
SYVR				*e*		08 59 41.5	
SYVR				*e*		08 59 47.4	
SYVR				*i Sg*	Sg	08 59 58.7	-0.2
SYVR				Pmax			
	comp=E,30nm,0.3s						
SYVR				Smax			
	comp=E,217nm,1.3s						
SYVR	**Suvo**	**3.51**	**24**	*ePN*	Pn	08 59 03.2	+2.5
SYVR				*e*		08 59 10.9	
SYVR				*e*		08 59 58.4	
SYVR				pmax	pmax		
	comp=Z,30nm,0.3s						
SYVR				smax	smax		
	comp=N,120nm,0.6s						
ARS	**Arshan**	**3.58**	**296**	*ePn*	Pn	08 59 01.5	-0.3
ARS				*ePg*	Pb	08 59 10.5	+0.8
ARS				*eSn*	Sn	08 59 41.0	-3.3
ARS				*eSg*	Sb	08 59 56.3	+3.0
ARS				*e*		09 00 03.0	
ARS				Pmax			
	comp=N,60nm,0.6s						
ARS				Smax			
	comp=N,654nm,0.7s						
ARS	**Arshan**	**3.58**	**296**	*ePN*	Pb	08 59 09.8	+0.1
ARS				*eS*	Sn	08 59 40.9	-3.4
ARS				*e*		08 59 55.9	
ARS				pmax	pmax		
	comp=Z,46nm,0.3s						
ARS				smax	smax		
	comp=E,496nm,0.4s						
CIT	**Chita**	**4.03**	**65**	*eSg*	Sg	09 00 14.0	-1.6
CIT				*e*		09 00 17.7	
CIT				max			
	comp=E,354nm,0.7s						
MOY	**Mondy**	**4.36**	**289**	*e*	Pb	08 59 18.4	-4.5
MOY				*ePg*	Pg	08 59 24.5	-5.2
MOY				*i Sg*	Sb	09 00 20.0	+4.4
MOY				Pmax			
	comp=E,15nm,0.4s						
MOY				Smax			
	comp=E,282nm,1.3s						
MOY	**Mondy**	**4.36**	**289**	*ePN*	Pn	08 59 12.3	-0.2
MOY				*e*		08 59 23.7	
MOY				*e*		09 00 19.2	
MOY				pmax	pmax		
	comp=Z,20nm,0.2s						
MOY				smax	smax		
	comp=N,283nm,1.0s						
ORL	**Orlik**	**5.31**	**296**	*ePg*	Pb	08 59 39.6	+0.5
ORL				*e*		09 00 05.9	
ORL				*eSg*	Sb	09 00 47.5	+4.5
ORL				*e*		09 00 52.0	
ORL				Pmax			
	comp=N,11nm,0.8s						
ORL				max			
	comp=N,98nm,1.0s						
ORL	**Orlik**	**5.31**	**296**	*ePN*	Pb	08 59 40.5	+1.4
ORL				*e*		09 00 48.1	
ORL				pmax	pmax		
	comp=Z,11nm,0.5s						
ORL				smax	smax		
	comp=N,98nm,1.0s						
NIZ	**Nizh Angarsk**	**5.44**	**11**	*e*	Pb	08 59 38.5	-2.6
NIZ				*e*		08 59 46.7	
NIZ				*e*		09 00 42.8	
NIZ				*eSg*	Sg	09 00 55.2	-5.4
NIZ				max			
	comp=N,3.0nm,0.1s						
NIZ				Smax			
	comp=N,51nm,0.6s						
NIZ	**Nizh Angarsk**	**5.44**	**11**	*ePN*	Pn	08 59 30.8	+3.6
NIZ				*e*		08 59 46.5	
NIZ				*eS*	Sn	09 00 31.2	+1.4
NIZ				*e*		09 00 55.5	
NIZ				pmax	pmax		
	comp=Z,5.0nm,0.4s						

NIZ					smax	smax		
	comp=N,49nm,0.5s							
KMO	**Kumora**	**5.83**	**20**	*e*Pn		Pn	08 59 32.6	0.0
KMO				*e*			08 59 40.4	
KMO				*i* Pg		Pb	08 59 52.8	+4.9
KMO				*e*			09 01 02.5	
KMO				*e*Sg		Sg	09 01 10.9	-2.5
KMO				Pmax				
	comp=N,19nm,0.4s							
KMO				Smax				
	comp=N,209nm,1.1s							
YOA	**Uoyan**	**6.18**	**22**	*e*Sg		Sg	09 01 21.2	-3.2
YOA				*e*			09 01 54.0	
YOA				Smax				
	comp=N,390nm,2.2s							
UKT	**Uakit**	**6.19**	**33**	⇓*i*Pn		Pn	08 59 39.7	+2.0
UKT				*e*Pg		Pg	09 00 00.5	-4.3
UKT				*e*Sg		Sg	09 01 22.6	-2.4
UKT				Pmax				
	comp=N,2.0nm,0.6s							
UKT				Smax				
	comp=N,83nm,1.1s							
SVKR	**Severomuysk**	**6.68**	**30**	*e*Sg		Sg	09 01 39.7	-0.8
SVKR				Smax				
	comp=N,289nm,1.4s							
BOD	**Bodaibo**	**8.25**	**24**	*e*Sg		Sg	09 02 26.0	-4.8
BOD				*e*			09 02 34.6	
BOD				max				
	comp=N,16nm,0.1s							
TUP	**Tupik**	**8.50**	**57**	*e*			09 02 09.0	
TUP				*e*Sg		Sg	09 02 33.5	-5.3
TUP				Smax				
	comp=N,51nm,1.7s							
TUP	**Tupik**	**8.50**	**57**	*e*PN		Pn	09 00 11.2	+2.0
TUP				*e*			09 00 42.0	
CRS	**Chara**	**9.01**	**40**	*e*Sg		Sn	09 02 50.4	+53
CRS				*e*			09 03 13.3	

JMA 23 08:58:08.4±0.2, 28°.02N×129°.45E, h40km±5km, M3.5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAMN	**Amaminishikomi**	**0.33**	**313**	P	Pn	08 58 17.0	0.0
JAMN				S	Sn	08 58 23.4	+0.4
JAM	**Amami Oshima**	**0.41**	**19**	P	Pn	08 58 17.7	-0.3
JAM				S	Sn	08 58 24.1	-0.7
JTK	**Tokunoshima**	**0.50**	**242**	P	Pn	08 58 18.9	-0.3
JTK				S	Sn	08 58 26.2	-0.5
JZK	**Kikaishima**	**0.55**	**57**	P	Pn	08 58 20.0	+0.2
JZK				*e*S	Sn	08 58 28.2	+0.4
JOW	**Kunigami**	**1.58**	**222**	P	Pn	08 58 34.7	+0.8
JOW				*e*S	Sn	08 58 54.3	+1.2
JIH	**Iheya**	**1.64**	**234**	P	Pn	08 58 35.9	+1.1
JIH				*e*S	Sn	08 58 56.6	+1.9
JNN	**Nakanoshima**	**1.85**	**11**	P	Pn	08 58 39.5	+1.8
JNN				S	Sn	08 59 02.8	+2.9
JAGN	**Aguni-jima**	**2.43**	**235**	P	Pn	08 58 46.7	+1.1
JAGN				S	Sn	08 59 15.7	+1.7
JKE	**Kume jima 2**	**2.91**	**235**	P	Pn	08 58 53.1	+0.9
JKE				*e*S	Sn	08 59 27.0	+1.0
JTN	**Tanegashima 3**	**2.94**	**27**	P	Pn	08 58 54.3	+1.6
JTN				S	Sn	08 59 30.0	+3.1

IDC 23 09:03:10.8±1.5, 4°.89S×153°.52E, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.8/19, mbtmp3.9/6, ML3.0/1, MS3.2/1, Ms1 3.2/1, ms1mx2.5/28, Error ellipse: s-maj=67.8km s-min=24.3km az=126.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.75**	**234**	Pn	Pn	09 05 07.0	+2.1
	1.3nm,0.3s,baz=42,slow=16,SNR=4.7						
PMG				Sn	Sn	09 06 25.6	-7.9
	1.2nm,0.3s,baz=132,slow=14,SNR=3.4						
PMG				LR	LR	09 07 41.0	
	comp=Z,152nm,19.7s,baz=224,slow=35						
WRA	**Warramunga Arr**	**23.93**	**230**	P	P	09 08 26.7	-0.2
	4.0nm,0.5s,baz=56,slow=9.5,SNR=54						
ASAR	**Alice Springs**	**26.58**	**223**	P	P	09 08 51.5	+0.6
	0.5nm,0.5s,baz=56,slow=9.0,SNR=12						
STKA	**Stephens Creek**	**29.09**	**201**	P	P	09 09 13.1	-0.2
	2.6nm,0.9s,baz=16,slow=7.4,SNR=2.8						
FITZ	**Fitzroy Crossi**	**30.25**	**242**	P	P	09 09 22.1	-1.7
	0.9nm,0.6s,baz=51,slow=7.4,SNR=4.8						
ILAR	**Eielson Array**	**81.97**	**22**	P	P	09 15 32.0	-0.3
	0.3nm,0.7s,baz=240,slow=5.6,SNR=4.8						
TORD	**Torodi Ar. Bea**	**151.02**	**288**	PKPbc	PKPbc	09 23 07.5	+0.6
	0.3nm,0.4s,baz=72,slow=1.8,SNR=10						

*ISCJB **23** 09:12:54.1±0.4, 0°.03N±0°.04×123°.16E±0°.04, h100km, mb3.9/11, Error ellipse: s-maj=6.8km s-min=5.3km az=35.1*
*AUST **23** 09:12:54.4±1.1, 0°.10N×122°.96E, h115km, Error ellipse: s-maj=2.3km s-min=1.3km az=352.0*
*IDC **23** 09:12:56.3±1.9, 0°.12S×123°.04E, h111km±17km, mb3.7/11, mb1 3.8/13, mb1mx3.7/24, mbtmp3.7/13, Error ellipse: s-maj=22.2km s-min=11.1km az=81.0*
*DJA **23** 09:12:57.8±0.6, 0°.5S±3°.×12°.3E±°, h100km±6km, M4.6/10, mb4.6/3, mB5.1/3, MLv4.6/10, Mw(mB)4.4/3*
ISC 23 09:12:55.2±0.5, 0°.01S±0°.05×123°.10E±0°.07, h100km, n35, σ1°.24/43, mb3.9/11, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**0.65**	**352**	P	Pn	09 13 17.3	+5.2
KMSI	**Cibinong**	**1.06**	**57**	P	Pn	09 13 21.3	+5.1
LUWI	**Luwuk**	**1.08**	**198**	P	**Pn**	**09 13 18.1**	**+1.6**
LUWI				S	**Sn**	**09 13 33.6**	**+1.1**
LUWI	**Luwuk**	**1.08**	**198**	P	**Pn**	**09 13 17.7**	**+1.3**
	baz=1.2,SNR=86						
LUWI				S	**Sn**	**09 13 33.6**	**+1.1**
	baz=1.2,SNR=14						
MRSI	**Marisa**	**1.25**	**293**	P	**Pn**	**09 13 20.4**	**+2.0**
MRSI				S	**Sn**	**09 13 37.5**	**+1.5**
APSI	**Ampana**	**1.70**	**238**	P	**Pn**	**09 13 25.7**	**+1.7**
APSI				S	**Sn**	**09 13 46.3**	**+0.4**
TOLI	**Toli-Toli**	**2.56**	**296**	P	**Pn**	**09 13 33.2**	**-1.9**
TOLI				S	**Sn**	**09 14 06.7**	**+0.9**
MMSI	**Mamuju**	**4.96**	**237**	P	**Pn**	**09 14 08.2**	**+0.8**
NLAI	**Namlea**	**5.13**	**129**	P	**Pn**	**09 14 11.2**	**+1.5**
SPSI	**Sidrap Palu**	**5.15**	**220**	P	**Pn**	**09 14 11.5**	**+1.6**
	54nm,0.6s,1μm0.4nm						
BNSI	**Bone**	**5.29**	**214**	P	**Pn**	**09 14 13.9**	**+2.1**
	43nm,0.8s,1μm0.2nm						
KAPI	**Kappang**	**5.99**	**214**	P	**Pn**	**09 14 22.2**	**+0.9**
	4.8nm,0.3s,baz=18,slow=5.8,SNR=18						
KAPI				S	**Sn**	**09 15 26.0**	**-2.7**
	5.3nm,0.3s,baz=48,slow=20,SNR=11						
FAKI	**Fak Fak**	**9.59**	**108**	P	**Pn**	**09 15 10.8**	**+0.4**
	baz=9.8,SNR=3.6						
KDU	**Kakadu**	**15.66**	**144**	P	**P**	**09 16 32.0**	**-0.3**
	baz=16,SNR=4.7						
KNRA	**Kununurra**	**16.54**	**160**	P	**P**	**09 16 43.3**	**+1.2**
	baz=17,SNR=4.4						
FITZ	**Fitzroy Crossi**	**18.15**	**172**	P	**Pn**	**09 17 00.2**	**-0.6**
	1.0nm,0.3s,baz=357,slow=9.0,SNR=27						
FITZ	**Fitzroy Crossi**	**18.15**	**172**	P	**Pn**	**09 17 00.3**	**-0.6**
	baz=18,SNR=7.6						
WRA	**Warramunga Arr**	**22.67**	**152**	P	**P**	**09 17 47.3**	**-1.0**
	4.8nm,0.7s,baz=332,slow=10,SNR=61						
WRA				ScP	**ScP**	**09 25 05.1**	**-1.4**
	0.7nm,0.5s,baz=327,slow=2.8,SNR=14						
COEN	**Coen**	**24.23**	**126**	P	**P**	**09 18 02.8**	**-0.1**
	baz=24,SNR=8.4						
ASAR	**Alice Springs**	**25.75**	**157**	P	**P**	**09 18 16.2**	**-0.5**
	1.5nm,0.6s,baz=340,slow=14,SNR=23						
ASAR				PcP	**PcP**	**09 21 43.0**	**-1.3**
	0.5nm,0.5s,baz=343,slow=1.9,SNR=5.9						
ASAR				ScP	**ScP**	**09 25 13.2**	**-1.7**
	0.7nm,0.7s,baz=343,slow=2.7,SNR=10						
MEEK	**Meekatharra**	**26.83**	**189**	P	**P**	**09 18 25.1**	**-1.2**
	baz=27,SNR=3.4						
MORW	**Morawa**	**29.67**	**193**	P	**P**	**09 18 50.6**	**-1.0**
	baz=30,SNR=4.8						
CMAR	**Chiang Mai Arr**	**30.00**	**309**	P	**P**	**09 18 55.7**	**+1.1**
	1.3nm,0.3s,baz=134,slow=8.9,SNR=4.6						
BLDU	**Ballidu**	**31.04**	**191**	P	**P**	**09 19 02.4**	**-1.2**
	baz=31,SNR=9.5						
STKA	**Stephens Creek**	**36.21**	**153**	P	**P**	**09 19 48.1**	**-0.3**
	3.7nm,0.6s,baz=313,slow=8.6,SNR=16						
STKA	**Stephens Creek**	**36.21**	**153**	P	**P**	**09 19 48.6**	**+0.2**
	baz=36,SNR=13						
CMSA	**Cobar Meteorol**	**37.96**	**148**	P	**P**	**09 20 04.1**	**+0.8**
	baz=38,SNR=12						
USRK	**Ussuriysk Arra**	**44.72**	**9**	P	**P**	**09 20 59.8**	**+1.4**
	0.5nm,0.5s,baz=187,slow=11,SNR=3.7						
ASAJ	**Asahikawa**	**47.25**	**19**	P	**P**	**09 21 19.4**	**+1.2**
	3.3nm,0.7s,baz=241,slow=10,SNR=4.7						
SONM	**Songino Array**	**49.82**	**345**	P	**P**	**09 21 38.8**	**+0.8**
	1.4nm,0.7s,baz=157,slow=9.2,SNR=9.1						
SONM				PcP	**PcP**	**09 22 56.8**	**-0.5**
	0.4nm,0.5s,baz=158,slow=4.7,SNR=2.5						
MKAR	**Makanchi Array**	**58.67**	**328**	P	**P**	**09 22 42.6**	**+0.4**
	1.1nm,0.7s,baz=119,slow=7.9,SNR=9.3						
MAW	**Mawson**	**79.02**	**200**	P	**P**	**09 24 47.5**	**-0.4**
	1.1nm,0.7s,baz=0.9,slow=5.1,SNR=3.4						
VNDA	**Vanda**	**80.23**	**172**	P	**P**	**09 24 53.9**	**-0.3**
	1.0nm,0.6s,baz=316,slow=7.4,SNR=8.8						
ILAR	**Eielson Array**	**90.01**	**25**	P	**P**	**09 25 41.8**	**-1.5**
	0.2nm,0.7s,baz=249,slow=4.7,SNR=4.9						
TORD	**Torodi Ar. Bea**	**120.50**	**285**	PKP	**PKPdf**	**09 31 35.2**	**-1.0**
	0.2nm,0.3s,baz=65,slow=2.0,SNR=7.2						

IDC 23 09:35:36.7±4.4, 12°.82N×92°.38E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.6/26, mbtmp3.8/5, Error ellipse: s-maj=257.0km s-min=20.1km az=61.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**34.91**	**348**	P	P	09 42 29.1	-1.0
	0.9nm,0.7s,baz=165,slow=9.4,SNR=4.3						
KURBB	**Kurchatov Arra**	**39.36**	**346**	P	P	09 43 08.5	+0.7
	0.8nm,0.6s,baz=156,slow=7.3,SNR=6.4						
ZALV	**Zalesovo Beam**	**41.46**	**353**	P	P	09 43 25.2	0.0
	0.4nm,0.4s,baz=179,slow=8.6,SNR=2.8						
WRA	**Warramunga Arr**	**52.58**	**128**	P	P	09 44 52.2	-0.4
	0.3nm,0.2s,baz=308,slow=8.9,SNR=12						
WRA				PcP	PcP	09 46 02.2	-0.8
	0.3nm,0.5s,baz=322,slow=3.1,SNR=7.4						
ASAR	**Alice Springs**	**54.44**	**132**	P	P	09 45 06.7	+0.4
	0.9nm,0.4s,baz=307,slow=6.7,SNR=32						

*NEIC **23** 10:16:37.0±4.3, 24°.59N×122°.67E, h10km, ML4.5(TAP), Error ellipse: s-maj=44.4km s-min=13.8km az=61.0*
NEIC Recorded [3 TAP] in I-lan, [2 TAP] in Hua-lien and [1 TAP] in T'ai-chung.
*ISCJB **23** 10:16:47.6±0.3, 24°.54N±0°.02×121°.91E±0°.02, h54km±4km, Error ellipse: s-maj=3.7km s-min=2.8km az=151.1*
*JMA **23** 10:16:47.9±0.2, 24°.51N×121°.94E, h68km, M3.0*
*TAP **23** 10:16:47.5, 24°.53N×121°.85E, h51km, ML3.9, B*
ISC 23 10:16:48.4±1.2, 24°.53N±0°.03×121°.90E±0°.02, h48km±6km, n65, σ0°.93/103, 5C-9D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.09**	**328**	⇓*i*P	**Pn**	**10 16 55.9**	**-0.1**
	baz=16						
TWC				*i* S	**Sn**	**10 17 01.6**	**+0.2**
	baz=16						
ENA	**Nanau**	**0.18**	**234**	⇓*i*P	**Pn**	**10 16 56.2**	**-0.3**
	baz=221						
ENA				*e*S	**Sn**	**10 17 02.4**	**+0.3**
	baz=221						
EHP	**Heping Village**	**0.27**	**213**	P	**Pn**	**10 16 56.8**	**-0.3**
	baz=202						
EHP				S	**Sn**	**10 17 03.9**	**+0.7**
	baz=202						
ILA	**Ilan**	**0.27**	**329**	P	**Pn**	**10 16 57.1**	**0.0**
	baz=339						
ILA				*i* S	**Sn**	**10 17 04.2**	**+0.9**
	baz=339						
TWE	**Neicheng**	**0.28**	**311**	⇓*i*P	**Pn**	**10 16 57.1**	**-0.1**
	baz=320						
TWE				*i* S	**Sn**	**10 17 03.9**	**+0.5**
	baz=320						
ENTT	**Nioudou**	**0.32**	**289**	⇓*i*P	**Pn**	**10 16 57.3**	**-0.3**
	baz=287						
NACB	**Ninganchiao**	**0.45**	**218**	*e*Pg	**Pn**	**10 16 57.8**	**-1.2**
NACB				*e*Sg	**Sn**	**10 17 06.0**	**-0.6**
TWB1	**Santiao Chiao**	**0.48**	**10**	⇑*i*P	**Pn**	**10 16 59.1**	**-0.2**
	baz=25						
TWB1				S	**Sn**	**10 17 08.1**	**+1.0**
	baz=25						
NNS	**Nan Shan**	**0.49**	**259**	⇓*i*P	**Pn**	**10 16 59.0**	**-0.6**
	baz=254						
NNS				S	**Sn**	**10 17 06.9**	**-0.7**
	baz=254						
YHNB	**Yeheng**	**0.50**	**286**	*e*P	**Pn**	**10 16 58.8**	**-0.8**
YHNB				*e*Sg	**Sn**	**10 17 07.0**	**-0.6**
NSK	**Sanguang**	**0.51**	**286**	⇓*i*P	**Pn**	**10 16 59.1**	**-0.7**
	baz=288						
NSK				*i* S	**Sn**	**10 17 06.9**	**-1.1**
	baz=288						
TWA	**Mucha**	**0.53**	**327**	⇑*i*P	**Pn**	**10 16 59.7**	**-0.3**
	baz=339						
TWA				*i* S	**Sn**	**10 17 08.3**	**+0.1**
	baz=339						
TWD	**Chiawan**	**0.53**	**212**	⇓*i*P	**Pn**	**10 16 59.2**	**-0.7**
	baz=218						
TWD				S	**Sn**	**10 17 08.2**	**0.0**
	baz=218						
NWF	**Wu-fen Shan**	**0.55**	**349**	⇑*i*P	**Pn**	**10 17 00.3**	**0.0**
	baz=353						
NWF				*i* S	**Sn**	**10 17 09.0**	**+0.4**
	baz=353						
TATO	**Taipei**	**0.58**	**320**	*e*Pg	**Pn**	**10 16 59.6**	**-1.0**
TAP1	**Taipei**	**0.61**	**326**	P	**Pn**	**10 17 00.2**	**-0.7**
	baz=328						
TAP1				S	**Sn**	**10 17 09.6**	**-0.3**
	baz=328						
HWA	**Hwalien**	**0.62**	**206**	P	**Pn**	**10 17 00.8**	**-0.2**
	baz=189						
HWA				*e*S	**Sn**	**10 17 12.2**	**+2.2**
	baz=189						
TAP	**Taipei**	**0.62**	**325**	P	**Pn**	**10 17 00.2**	**-0.8**
	baz=328						
TAP				*e*S	**Sn**	**10 17 09.7**	**-0.4**
	baz=328						
WHF	**Hehuan Shan**	**0.70**	**236**	⇓*i*P	**Pn**	**10 17 01.7**	**-0.8**
	baz=234						
WHF				S	**Sn**	**10 17 11.8**	**-0.8**
	baz=234						
TWS1	**Kuangyinshan**	**0.71**	**322**	⇑*i*P	**Pn**	**10 17 01.8**	**-0.5**
	baz=326						
TWS1				S	**Sn**	**10 17 12.5**	**+0.2**
	baz=326						
TWT	**Tachien**	**0.72**	**247**	⇓*i*P	**Pn**	**10 17 02.4**	**-0.1**
	baz=246						
TWT				*i* S	**Sn**	**10 17 12.7**	**0.0**
	baz=246						
TWY	**Chenhua**	**0.79**	**340**	⇑*i*P	**Pn**	**10 17 02.9**	**-0.4**
	baz=343						
TWY				*e*S	**Sn**	**10 17 14.0**	**0.0**
	baz=343						
NSTT	**Nanjuang**	**0.82**	**277**	P	**Pn**	**10 17 03.4**	**-0.4**
	baz=288						
NSTT				S	**Sn**	**10 17 14.4**	**-0.5**
	baz=288						
ESL	**Shilin**	**0.83**	**211**	*e*P	**Pn**	**10 17 02.2**	**-1.7**
	baz=215						
HSN	**Hsinchu**	**0.89**	**288**	*e*P	**Pn**	**10 17 03.5**	**-1.1**
	baz=291						
HSN				*e*S	**Sn**	**10 17 15.4**	**-1.1**
	baz=291						
YOJ	**Yonaguni jima**	**1.01**	**94**	*i* P	**Pn**	**10 17 06.3**	**0.0**
	baz=85						
YOJ				*i* S	**Sn**	**10 17 19.9**	**+0.5**
	baz=85						
YOJ	**Yonaguni jima**	**1.01**	**94**	P	**Pn**	**10 17 06.2**	**0.0**
YOJ				*e*S	**Sn**	**10 17 19.7**	**+0.2**
TWQ1	**Liyutan**	**1.04**	**260**	*e*P	**Pn**	**10 17 06.8**	**+0.1**
	baz=259						
TWQ1				*e*S	**Sn**	**10 17 20.4**	**+0.1**
	baz=259						
NSY	**Sanyi**	**1.04**	**264**	*e*P	**Pn**	**10 17 06.8**	**0.0**
	baz=263						
NSY				*e*S	**Sn**	**10 17 20.6**	**+0.3**
	baz=263						
PCYT	**Pengchaiyu**	**1.10**	**8**	P	**Pn**	**10 17 07.0**	**-0.5**
	baz=12						
SMLT	**Sun Moon Lake**	**1.12**	**235**	*e*P	**Pn**	**10 17 07.8**	**0.0**
	baz=222						
SSLB	**Suanglung**	**1.14**	**230**	*e*Pn	**Pn**	**10 17 07.5**	**-0.6**
SSLB				*e*Sn	**Sn**	**10 17 22.1**	**-0.5**
TYC	**Yuchr**	**1.14**	**237**	P	**Pn**	**10 17 08.2**	**+0.2**
	baz=235						
TYC				S	**Sn**	**10 17 22.9**	**+0.4**
	baz=235						
EHY	**Hungye**	**1.15**	**207**	*e*P	**Pn**	**10 17 06.7**	**-1.5**
	baz=204						
TCU	**Taichung**	**1.18**	**251**	*e*P	**Pn**	**10 17 09.0**	**+0.4**
	baz=249						
YULB	**Yu-li**	**1.26**	**206**	*e*Pn	**Pn**	**10 17 07.0**	**-2.7**
YULB				Sn	**Sn**	**10 17 25.2**	**-0.4**
WNT	**Mingjian**	**1.29**	**240**	*e*P	**Pn**	**10 17 10.5**	**+0.5**
	baz=237						
TWF1	**Yuli**	**1.30**	**205**	*e*P	**Pn**	**10 17 08.3**	**-1.9**
	baz=210						
CHN5	**Tsauling**	**1.46**	**230**	P	**Pn**	**10 17 13.1**	**+0.7**
	baz=240						
CHN5				S	**Sn**	**10 17 31.7**	**+1.4**
	baz=240						
CHKT	**Chengkung**	**1.51**	**199**	*e*P	**Pn**	**10 17 11.6**	**-1.4**
	baz=186						
ELDTW	**Lidau**	**1.56**	**211**	*e*P	**Pn**	**10 17 13.1**	**-0.8**
	baz=200						
WTCT	**Ta-ch'eng**	**1.62**	**246**	*e*P	**Pn**	**10 17 14.0**	**-0.5**
	baz=254						
CHN4	**Tsaushan**	**1.68**	**226**	*e*P	**Pn**	**10 17 16.2**	**+0.9**
	baz=223						
CHN4				S	**Sn**	**10 17 38.2**	**+2.5**
	baz=223						
IRIF	**Iriomote-Funau**	**1.68**	**96**	P	**Pn**	**10 17 14.9**	**-0.4**
IRIF				*e*S	**Sn**	**10 17 35.4**	**-0.3**
TPUB	**Ta-pu**	**1.69**	**224**	Pn	**Pn**	**10 17 15.3**	**-0.3**
TPUB				*e*Sn	**Sn**	**10 17 36.6**	**+0.5**
CHY	**Chiayi**	**1.70**	**233**	*e*P	**Pn**	**10 17 16.0**	**+0.4**
	baz=241						
WTP	**Ta-pu**	**1.74**	**223**	*e*P	**Pn**	**10 17 16.9**	**+0.6**
	baz=233						
WTP				S	**Sn**	**10 17 39.4**	**+2.1**
	baz=233						
WSF	**Szhu**	**1.77**	**240**	*e*P	**Pn**	**10 17 16.1**	**-0.6**
	baz=237						
HATJ	**Hateruma jima**	**1.80**	**105**	*e*S	**Sn**	**10 17 38.7**	**0.0**
CHN1	**Nanshi**	**1.84**	**223**	*e*P	**Pn**	**10 17 17.5**	**-0.1**
	baz=221						
CHN1				*e*S	**Sn**	**10 17 42.5**	**+2.8**
	baz=221						
TWG	**Pinlang**	**1.87**	**204**	*e*P	**Pn**	**10 17 16.3**	**-1.6**
	baz=190						
TWG	**Pinlang**	**1.87**	**204**	*e*Pn	**Pn**	**10 17 15.0**	**-2.9**
SGST	**Jiashian**	**1.88**	**220**	*e*P	**Pn**	**10 17 19.2**	**+1.0**
	baz=217						
JKRS	**Kuro-shima**	**1.94**	**98**	P	**Pn**	**10 17 19.1**	**+0.1**
JKRS				*e*S	**Sn**	**10 17 42.4**	**+0.2**
JIJ	**Ishigaki jima**	**2.05**	**94**	P	**Pn**	**10 17 20.2**	**-0.2**
JIJ				*e*S	**Sn**	**10 17 43.6**	**-1.2**
SCLT	**Jiali**	**2.07**	**229**	*e*P	**Pn**	**10 17 21.2**	**+0.5**
	baz=237						
ECL	**Taimali**	**2.11**	**204**	*e*P	**Pn**	**10 17 20.0**	**-1.3**
	baz=194						
TWM1	**Shoushan**	**2.18**	**219**	*e*P	**Pn**	**10 17 23.5**	**+1.3**
	baz=216						
EAST	**Anshuo**	**2.35**	**205**	*e*P	**Pn**	**10 17 23.9**	**-0.7**
	baz=193						
PNG	**Penghu**	**2.35**	**246**	*e*P	**Pn**	**10 17 23.6**	**-1.0**
	baz=244						
WDGT	**Dungji**	**2.41**	**239**	*e*P	**Pn**	**10 17 24.9**	**-0.4**
	baz=236						
SCZT	**Fangliau**	**2.45**	**209**	*e*P	**Pn**	**10 17 27.0**	**+1.1**
	baz=195						
JTJ	**Tarama**	**2.55**	**87**	P	**Pn**	**10 17 27.9**	**+0.6**
JTJ				*e*S	**Sn**	**10 17 57.1**	**-0.1**
TWK1	**Hengchun**	**2.77**	**202**	*e*P	**Pn**	**10 17 29.5**	**-0.8**
	baz=191						
KNM	**Kinmen**	**3.16**	**269**	*e*P	**Pn**	**10 17 36.4**	**+0.8**
	baz=267						

KRSC 23 10:39:55.6±3.2, 56°.34N×164°.24E, h23km±22km, ML3.8, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.80**	**261**	*i* P	Pn	10 40 11.9	+0.4
KBTR				*i* S	Sb	10 40 21.6	+0.3
BKI	**Bering**	**1.50**	**139**	*e*P	Pb	10 40 22.5	-0.2
BKI				*i* S	Sn	10 40 40.5	+0.6
MKZ	**Mys Kozlova**	**2.29**	**220**	*i* S	Sn	10 40 58.9	-0.4

*KRSC **23** 10:40:15.6±4.8, 55°.30N×162°.69E, h21km±20km, ML4.0*
*ISCJB **23** 10:40:16.6±1.3, 55°.29N±0°.02×162°.69E±0°.05, h13km±9km, mb3.3/2, Error ellipse: s-maj=4.8km s-min=3.9km az=157.7*
*IDC **23** 10:40:16.3±1.9, 55°.28N×162°.72E, h0km, mb3.4/2, mb1 3.8/4, mb1mx3.4/27, mbtmp3.4/4, ML2.8/2, Error ellipse: s-maj=38.2km s-min=26.8km az=178.0*
ISC 23 10:40:16.6±1.3, 55°.32N±0°.03×162°.66E±0°.04, h6km±10km, n39, σ0°.98/57, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.89**	**6**	*e*P	**Pb**	**10 40 34.7**	**+0.2**
KBTR				*i* S	**Sn**	**10 40 49.1**	**+0.2**
MKZ	**Mys Kozlova**	**0.94**	**215**	*e*P	**Pg**	**10 40 33.4**	**-1.1**
MKZ				*i* S	**Sg**	**10 40 46.2**	**-0.4**
ZLN	**Zelenaya**	**1.26**	**304**	*e*P	**Pn**	**10 40 40.0**	**-0.8**
ZLN				*i* S	**Sb**	**10 40 57.8**	**+0.5**
CIRR	**Tsirk**	**1.34**	**307**	*e*P	**Pg**	**10 40 42.9**	**+0.6**
LGNR	**Loginova**	**1.35**	**305**	*e*P	**Pg**	**10 40 42.9**	**+0.4**
BZMR	**Bezymyannaya**	**1.38**	**297**	*e*P	**Pn**	**10 40 40.9**	**-1.5**
BZWR	**Bezymyannyi-We**	**1.39**	**299**	*e*P	**Pn**	**10 40 41.9**	**-0.7**
BZWR				*i* S	**Sb**	**10 41 01.0**	**+0.1**
SMKR	**Semkarok**	**1.43**	**333**	*e*P	**Pb**	**10 40 43.7**	**0.0**
SMKR				*i* S	**Sg**	**10 41 02.9**	**+0.4**
TUMR	**Tumrok**	**1.44**	**270**	*e*P	**Pn**	**10 40 42.6**	**-0.6**
KMNR	**Kamenistaya**	**1.44**	**289**	*i* P	**Pn**	**10 40 42.7**	**-0.6**
KMNR				*i* S	**Sb**	**10 41 03.1**	**+0.6**
KIRR	**Kirishev**	**1.46**	**297**	*e*P	**Pn**	**10 40 43.3**	**-0.2**
KIRR				*i* S	**Sn**	**10 41 02.2**	**-0.8**
KRSR	**Krestovskiy**	**1.48**	**308**	*e*P	**Pn**	**10 40 43.3**	**-0.6**
KRSR				*i* S	**Sn**	**10 41 02.7**	**-0.9**
BDR	**Baidarnaya**	**1.49**	**

*ISCJB **23** 10:44:58.0±0.6, 5°.78N±0°.09×123°.8E±0°.1, h550km, mb3.8/13, Error ellipse: s-maj=17.7km s-min=8.6km az=150.6*
*IDC **23** 10:44:59.0±1.7, 5°.85N×124°.00E, h542km±19km, mb3.3/13, mb1 3.4/13, mb1mx3.2/26, mbtmp3.3/13, Error ellipse: s-maj=45.6km s-min=7.8km az=66.0*

ISC 23 10:44:59.7±0.7, 5°.8N±0°.1×123°.8E±0°.2, h550km, n18, σ1§05/23, mb3.9/13, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MYLDM	**Lahd Datu**	**5.32**	**264**	P	**P**	**10 46 32.8**	**+0.5**
SDKM	**Sandakan**	**6.58**	**269**	P	**P**	**10 46 43.0**	**-0.8**
KKM	**Kota Kinabalu**	**7.56**	**272**	P	**P**	**10 46 52.7**	**-0.5**
BTM	**Bintulu**	**11.00**	**257**	P	P	10 47 25.2	-2.8
FITZ	**Fitzroy Crossi**	**23.82**	**176**	P	**P**	**10 49 29.3**	**-0.8**
	1.7nm,0.9s,baz=6.3,slow=9.2,SNR=6.4						
CMAR	**Chiang Mai Arr**	**27.32**	**300**	P	**P**	**10 50 02.6**	**+1.5**
	1.3nm,0.7s,baz=120,slow=7.5,SNR=8.8						
WRA	**Warramunga Arr**	**27.60**	**158**	P	**P**	**10 50 03.0**	**-0.5**
	3.5nm,0.5s,baz=341,slow=9.2,SNR=90						
WRA				S	**S**	**10 54 05.5**	**-1.4**
	1.3nm,1.2s,baz=328,slow=14,SNR=3.8						
WRA				ScP	**ScP**	**10 55 53.9**	**+1.9**
	0.4nm,0.5s,baz=340,slow=3.1,SNR=9.4						
ASAR	**Alice Springs**	**30.90**	**162**	P	**P**	**10 50 32.6**	**+0.6**
	3.8nm,0.5s,baz=344,slow=7.0,SNR=88						
ASAR				PcP	**PcP**	**10 53 12.2**	**+0.6**
	0.2nm,0.5s,baz=350,slow=3.9,SNR=3.8						
ASAR				S	**S**	**10 54 56.9**	**-1.0**
	1.0nm,0.8s,baz=334,slow=12,SNR=9.7						
ASAR				ScP	**ScP**	**10 56 05.0**	**+2.5**
	0.2nm,0.4s,baz=337,slow=3.5,SNR=4.2						
STKA	**Stephens Creek**	**41.13**	**157**	P	**P**	**10 51 56.6**	**+0.3**
	3.3nm,0.6s,baz=351,slow=7.8,SNR=4.5						
SONM	**Songino Array**	**44.46**	**343**	P	**P**	**10 52 22.2**	**-0.1**
	1.9nm,0.9s,baz=153,slow=7.5,SNR=8.5						
MKAR	**Makanchi Array**	**54.21**	**326**	P	**P**	**10 53 34.6**	**+0.6**
	3.6nm,0.4s,baz=116,slow=7.3,SNR=43						
MKAR				PcP	**PcP**	**10 54 29.9**	**+0.2**
	0.8nm,0.5s,baz=106,slow=2.7,SNR=4.7						
ZALV	**Zalesovo Beam**	**57.45**	**334**	P	**P**	**10 53 55.4**	**-0.7**
	0.9nm,0.4s,baz=121,slow=7.6,SNR=3.7						
KURBB	**Kurchatov Arra**	**58.44**	**328**	P	**P**	**10 54 03.1**	**+0.1**
	4.7nm,0.8s,baz=127,slow=6.4,SNR=52						
BVAR	**Borovoye Array**	**64.01**	**327**	P	**P**	**10 54 38.4**	**-1.0**
	0.7nm,0.5s,baz=137,slow=9.3,SNR=4.6						
BRTR	**Keskin Array B**	**86.47**	**309**	P	**P**	**10 56 44.4**	**-0.4**
	0.6nm,0.4s,baz=90,slow=5.8,SNR=3.1						
ARCES	**ARCESS Array B**	**87.51**	**340**	P	**P**	**10 56 48.4**	**-0.5**
	1.6nm,0.8s,baz=86,slow=4.8,SNR=2.6						
FINES	**FINESS Array B**	**88.64**	**332**	P	**P**	**10 56 52.9**	**-1.4**
	4.0nm,1.0s,baz=119,slow=4.9,SNR=3.3						
TORD	**Torodi Ar. Bea**	**119.51**	**289**	PKP	**PKPdf**	**11 02 48.6**	**+0.4**
	0.3nm,0.4s,baz=89,slow=1.7,SNR=5.3						

*VIE **23** 10:45:50.0±0.9, 42°.91N×13°.73E, h10km, mb2.8/3, ML3.0/3, Error ellipse: s-maj=7.2km s-min=6.1km az=177.0 152 km NE of Rome*
*CSEM **23** 10:45:55.6±0.2, 43°.07N×13°.52E, h20km, ML3.6/8, Error ellipse: s-maj=3.4km s-min=2.4km az=63.0*
*ISCJB **23** 10:45:56.1±0.3, 43°.09N±0°.02×13°.52E±0°.03, h22km±4km, Error ellipse: s-maj=4.2km s-min=3.0km az=165.1*
*ROM **23** 10:45:56.3±0.1, 43°.06N×13°.47E, h22km±2km, Md3.0/28, Ml2.9/32, Error ellipse: s-maj=1.8km s-min=1.3km az=65.0*

ISC 23 10:45:56.0±1.0, 43°.08N±0°.02×13°.52E±0°.02, h19km±2km, n83, σ0§89/110, 1C-1D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFFI	**Offida**	**0.18**	**139**	Pg	**Pg**	**10 46 01.8**	**+0.9**
OFFI				Sg	**Sg**	**10 46 07.7**	**+3.6**
	5μm,0.5s						
OFFI	**Offida**	**0.18**	**139**	Pg	**Pg**	**10 46 01.8**	**+0.9**
GUMA	**Gualdo di Mace**	**0.30**	**92**	Pg	**Pg**	**10 46 00.4**	**-2.3**
GUMA				Sg	**Sg**	**10 46 04.2**	**-3.1**
GUMA	**Gualdo di Mace**	**0.30**	**92**	Pg	**Pg**	**10 46 00.4**	**-2.3**
FDMO	**Fiordimonte**	**0.32**	**263**	Pg	**Pg**	**10 46 02.6**	**-0.4**
FDMO				Sg	**Sb**	**10 46 08.1**	**+0.1**
	2μm,0.2s						
FDMO	**Fiordimonte**	**0.32**	**263**	Pg	**Pg**	**10 46 02.6**	**-0.4**
FDMO				Sg	**Sb**	**10 46 08.1**	**+0.1**
	2μm,0.2s						
CING	**Cingoli**	**0.38**	**322**	Pg	**Pg**	**10 46 03.9**	**-0.2**
CING				Sg	**Sb**	**10 46 10.4**	**+0.4**
	734nm,0.2s						
CING	**Cingoli**	**0.38**	**322**	Pg	**Pg**	**10 46 03.9**	**-0.2**
CING				Sg	**Sb**	**10 46 10.4**	**+0.4**
	734nm,0.2s						
NRCA	**Norcia**	**0.38**	**231**	Pg	**Pg**	**10 46 03.5**	**-0.6**
NRCA				Sg	**Sb**	**10 46 09.8**	**-0.2**
	3μm,0.1s						
NRCA	**Norcia**	**0.38**	**231**	Pg	**Pg**	**10 46 03.5**	**-0.6**
NRCA				Sg	**Sb**	**10 46 09.8**	**-0.2**
	3μm,0.1s						
TRTR	**Tortoreto Alta**	**0.39**	**133**	Pg	**Pb**	**10 46 05.0**	**+0.5**
TRTR	**Tortoreto Alta**	**0.39**	**133**	Pg	**Pb**	**10 46 05.0**	**+0.5**
TERO	**Teramo**	**0.46**	**172**	Pg	**Pg**	**10 46 04.6**	**-0.8**
TERO				Sg	**Sb**	**10 46 12.2**	**+0.2**
	702nm,0.1s						
TERO	**Teramo**	**0.46**	**172**	Pg	**Pg**	**10 46 04.6**	**-0.8**
TERO				Sg	**Sb**	**10 46 12.2**	**+0.2**
	702nm,0.1s						
CESI	**CESI - Serrava**	**0.46**	**261**	Pg	**Pg**	**10 46 04.8**	**-0.6**
CESI				Sg	**Sb**	**10 46 12.3**	**+0.2**
CESI	**CESI - Serrava**	**0.46**	**261**	Pg	**Pg**	**10 46 04.8**	**-0.6**
CESI				Sg	**Sb**	**10 46 12.3**	**+0.2**
SNTG	**Esanatoglia**	**0.46**	**293**	Pg	**Pg**	**10 46 05.0**	**-0.5**
SNTG				Sg	**Sb**	**10 46 12.8**	**+0.6**
SNTG	**Esanatoglia**	**0.46**	**293**	Pg	**Pg**	**10 46 05.0**	**-0.5**
SNTG				Sg	**Sb**	**10 46 12.8**	**+0.6**
AOI	**Ancona**	**0.48**	**7**	Pg	**Pg**	**10 46 05.7**	**-0.1**
AOI				Sg	**Sb**	**10 46 14.7**	**+2.0**
	542nm,0.3s						
AOI	**Ancona**	**0.48**	**7**	Pg	**Pg**	**10 46 05.7**	**-0.1**
CAMP	**Campotosto**	**0.55**	**189**	Pg	**Pg**	**10 46 06.0**	**-1.0**
CAMP				Sg	**Sb**	**10 46 15.1**	**+0.6**
	353nm,0.3s						
CAMP	**Campotosto**	**0.55**	**189**	Pg	**Pg**	**10 46 06.0**	**-1.0**
CAMP				Sg	**Sb**	**10 46 15.1**	**+0.6**
	353nm,0.3s						
LNSS	**Leonessa**	**0.59**	**217**	Pg	**Pb**	**10 46 06.9**	**-0.8**
LNSS				Sg	**Sg**	**10 46 16.2**	**+0.4**
	906nm,0.4s						
LNSS	**Leonessa**	**0.59**	**217**	Pg	**Pb**	**10 46 06.9**	**-0.8**
LNSS				Sg	**Sg**	**10 46 16.2**	**+0.4**
	906nm,0.4s						
ARVD	**Arcevia**	**0.60**	**315**	Pg	**Pb**	**10 46 07.4**	**-0.5**
ARVD				Sg	**Sg**	**10 46 16.8**	**+0.8**
	185nm,0.5s						
ARVD	**Arcevia**	**0.60**	**315**	Pg	**Pb**	**10 46 07.4**	**-0.5**
ARVD				Sg	**Sg**	**10 46 16.8**	**+0.8**
	185nm,0.5s						
MURB	**Monte Urbino**	**0.75**	**285**	Pg	**Pb**	**10 46 10.0**	**-0.6**
	773nm,0.3s						
MURB	**Monte Urbino**	**0.75**	**285**	Pg	**Pb**	**10 46 10.0**	**-0.6**
	773nm,0.3s						
FAGN	**Fagnano**	**0.81**	**177**	Pg	**Pb**	**10 46 11.4**	**-0.2**
	978nm,0.4s						
FAGN	**Fagnano**	**0.81**	**177**	Pg	**Pb**	**10 46 11.4**	**-0.2**
	978nm,0.4s						
FSSB	**Fossombrone**	**0.82**	**319**	Pg	**Pb**	**10 46 11.7**	**-0.1**
	624nm,0.3s						
FSSB	**Fossombrone**	**0.82**	**319**	Pg	**Pb**	**10 46 11.7**	**-0.1**
	624nm,0.3s						
CESX	**Cesi**	**0.83**	**236**	Pg	**Pb**	**10 46 10.9**	**-1.0**
	365nm,0.5s						
CESX	**Cesi**	**0.83**	**236**	Pg	**Pb**	**10 46 10.9**	**-1.0**
	365nm,0.5s						
PIEI	**Pieia**	**0.85**	**303**	Pg	**Pb**	**10 46 11.5**	**-0.8**
	149nm,0.4s						
PIEI	**Pieia**	**0.85**	**303**	Pg	**Pb**	**10 46 11.5**	**-0.8**
	149nm,0.4s						
FIAM	**Fiamignano**	**0.86**	**200**	Pg	**Pb**	**10 46 11.5**	**-0.9**
	428nm,0.8s						
FIAM	**Fiamignano**	**0.86**	**200**	Pg	**Pb**	**10 46 11.5**	**-0.9**
	428nm,0.8s						
PESA	**Pesaro**	**1.00**	**330**	Pg	**Pg**	**10 46 15.8**	**+0.4**
	271nm,0.4s						
PESA	**Pesaro**	**1.00**	**330**	Pg	**Pg**	**10 46 15.8**	**+0.4**
	271nm,0.4s						
BADI	**Badiali**	**1.03**	**295**	Pg	**Pg**	**10 46 14.8**	**-0.5**
	322nm,0.7s						
BADI	**Badiali**	**1.03**	**295**	Pg	**Pb**	**10 46 14.8**	**-0.5**
	322nm,0.7s						
MGAB	**Montegabbione**	**1.05**	**262**	Pg	**Pn**	**10 46 15.7**	**-0.1**
	299nm,0.6s						
MGAB	**Montegabbione**	**1.05**	**262**	Pg	**Pn**	**10 46 15.7**	**-0.1**
	299nm,0.6s						
PTQR	**Pietraquaria**	**1.06**	**185**	Pg	**Pg**	**10 46 16.6**	**0.0**
	27nm,0.3s						
PTQR	**Pietraquaria**	**1.06**	**185**	Pg	**Pg**	**10 46 16.6**	**0.0**
	27nm,0.3s						
PARC	**Parchiule**	**1.10**	**302**	Pg	**Pn**	**10 46 16.0**	**-0.5**
	205nm,0.8s						
PARC	**Parchiule**	**1.10**	**302**	Pg	**Pn**	**10 46 16.0**	**-0.5**
	205nm,0.8s						
INTR	**Introdacqua**	**1.10**	**165**	Pg	**Pn**	**10 46 16.5**	**0.0**
INTR				Sg	**Sg**	**10 46 32.7**	**+0.9**
	372nm,0.6s						
INTR	**Introdacqua**	**1.10**	**165**	Pg	**Pn**	**10 46 16.5**	**0.0**
INTR				Sg	**Sg**	**10 46 32.7**	**+0.9**
	372nm,0.6s						
LPEL	**Lama dei Pelig**	**1.14**	**154**	Pg	**Pg**	**10 46 17.5**	**-0.6**
	329nm,0.6s						
LPEL	**Lama dei Pelig**	**1.14**	**154**	Pg	**Pg**	**10 46 17.5**	**-0.6**
	329nm,0.6s						
CAFI	**Castiglion Fio**	**1.17**	**283**	Pg	**Pn**	**10 46 17.3**	**-0.1**
	101nm,0.6s						
CAFI	**Castiglion Fio**	**1.17**	**283**	Pg	**Pn**	**10 46 17.3**	**-0.1**
	101nm,0.6s						
CERT	**Cerreto**	**1.19**	**200**	Pg	**Pb**	**10 46 18.0**	**-0.1**
	203nm,0.5s						
CERT	**Cerreto**	**1.19**	**200**	Pg	**Pb**	**10 46 18.0**	**-0.1**
	203nm,0.5s						
MTCE	**Montecelio**	**1.20**	**209**	Pg	**Pb**	**10 46 18.2**	**0.0**
	179nm,0.5s						
MTCE	**Montecelio**	**1.20**	**209**	Pg	**Pb**	**10 46 18.2**	**0.0**
	179nm,0.5s						
SACS	**San Casciano d**	**1.20**	**260**	Pg	**Pb**	**10 46 18.2**	**-0.1**
	165nm,1.0s						
GUAR	**Guarcino**	**1.29**	**187**	Pg	**Pg**	**10 46 20.3**	**-0.7**
	162nm,0.5s						
GUAR	**Guarcino**	**1.29**	**187**	Pg	**Pg**	**10 46 20.3**	**-0.7**
	162nm,0.5s						
POFI	**Posta Fibreno**	**1.36**	**174**	Pg	**Pb**	**10 46 20.9**	**-0.1**
	212nm,1.2s						
POFI	**Posta Fibreno**	**1.36**	**174**	Pg	**Pb**	**10 46 20.9**	**-0.1**
	212nm,1.2s						
SDI	**San Donato**	**1.38**	**171**	Pg	**Pb**	**10 46 21.3**	**0.0**
SDI	**San Donato**	**1.38**	**171**	Pg	**Pb**	**10 46 21.3**	**0.0**
FRES	**Fresagrandinar**	**1.39**	**142**	Pg	**Pn**	**10 46 20.7**	**+0.2**
	265nm,0.5s						
FRES	**Fresagrandinar**	**1.39**	**142**	Pg	**Pn**	**10 46 20.7**	**+0.2**
	265nm,0.5s						
SFI	**Santa Sofia**	**1.47**	**305**	Pg	**Pb**	**10 46 23.5**	**+0.6**
	78nm,0.8s						
SFI	**Santa Sofia**	**1.47**	**305**	Pg	**Pb**	**10 46 23.5**	**+0.6**
	78nm,0.8s						
TOLF	**Tolfa**	**1.51**	**229**	Pg	**Pn**	**10 46 22.4**	**+0.3**
	86nm,0.8s						
TOLF	**Tolfa**	**1.51**	**229**	Pg	**Pn**	**10 46 22.4**	**+0.3**
	86nm,0.8s						
MIDA	**Miranda**	**1.53**	**159**	Pg	**Pb**	**10 46 23.2**	**-0.7**
	111nm,0.7s						
MIDA	**Miranda**	**1.53**	**159**	Pg	**Pb**	**10 46 23.2**	**-0.7**
	111nm,0.7s						
NVLJ	**Novalja**	**1.78**	**33**	*i* Pn	**Pn**	**10 46 25.6**	**-0.2**
NVLJ				Sn	**Sn**	**10 46 47.3**	**-0.7**
UDBI	**Udbina**	**2.18**	**47**	*e*Pn	**Pn**	**10 46 30.7**	**-0.7**
UDBI				Sn	**Sn**	**10 46 59.6**	**+1.7**
SKDS	**Skadanscina**	**2.50**	**8**	*i* Pn	**Pn**	**10 46 35.1**	**-0.6**
SKDS	**Skadanscina**	**2.50**	**8**	*i* Pn	**Pn**	**10 46 35.1**	**-0.6**
BOJS	**Bojanci**	**2.73**	**27**	*i* Pn	**Pn**	**10 46 40.0**	**+1.1**
BOJS	**Bojanci**	**2.73**	**27**	*i* Pn	**Pn**	**10 46 40.0**	**+1.1**
VOY	**Vojsko**	**2.97**	**5**	*e*Pn	**Pn**	**10 46 41.7**	**-0.6**
VOY				*e*		10 46 56.3	
VOY				*e*		10 47 17.7	
VOY	**Vojsko**	**2.97**	**5**	*e*Pn	**Pn**	**10 46 41.7**	**-0.6**
MOA	**Molln**	**4.80**	**6**	‖ *i* Pn	**Pn**	**10 47 05.0**	**-2.4**
MOA				‖ *i* Sn	**Sn**	**10 48 02.9**	**+0.4**
MOA	**Molln**	**4.80**	**6**	Pn	**Pn**	**10 47 05.0**	**-2.4**
MOA				Sn	**Sn**	**10 48 02.9**	**+0.4**

*CSEM **23** 11:09:26.0, 35°.57N×26°.36E, h15km, MD3.0, After ATH*

ATH 23 11:09:26.0, 35°.57N×26°.36E, h15km±4km, MD3.0/8, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.47**	**194**	*e*PB	Pg	11 09 35.3	-0.1
ZKR				*e*SB	Sg	11 09 41.7	0.0
ZKR	**Zakros**	**0.47**	**194**	*e*Pb	Pg	11 09 35.3	-0.1
ZKR				*e*Sb	Sg	11 09 41.7	0.0
NPS	**Neapolis**	**0.68**	**244**	*e*PN	Pb	11 09 39.8	+0.1
NPS				*e*SN	Sg	11 09 48.1	-0.4
NPS	**Neapolis**	**0.68**	**244**	*e*Pn	Pb	11 09 39.8	+0.1
NPS				*e*Sn	Sg	11 09 48.1	-0.4
LAST	**Lasithi**	**0.83**	**241**	*e*PN	Pb	11 09 42.2	0.0
LAST				*e*SN	Sg	11 09 52.6	-0.6
LAST	**Lasithi**	**0.83**	**241**	*e*Pn	Pb	11 09 42.2	0.0
LAST				*e*Sn	Sg	11 09 52.6	-0.6
IDI	**Anoyia**	**1.23**	**257**	*e*PN	Pg	11 09 49.7	-0.2
IDI	**Anoyia**	**1.23**	**257**	*e*Pn	Pg	11 09 49.7	-0.2
SIVA	**Sivas**	**1.38**	**247**	*e*PN	Pg	11 09 52.9	+0.3
SIVA				*e*SN	Sg	11 10 10.2	-0.4
SIVA	**Sivas**	**1.38**	**247**	*e*Pn	Pg	11 09 52.9	+0.3
SIVA				*e*Sn	Sg	11 10 10.2	-0.4
APE	**Apeiranthos**	**1.64**	**336**	*e*PN	Pb	11 09 56.1	+0.1
APE	**Apeiranthos**	**1.64**	**336**	*e*Pn	Pb	11 09 56.1	+0.1
VAM	**Vamos**	**1.77**	**265**	*e*PN	Pg	11 09 59.2	-0.8
VAM	**Vamos**	**1.77**	**265**	*e*Pn	Pg	11 09 59.2	-0.8
KARN	**Karanos**	**2.00**	**266**	*e*PN	Pb	11 10 01.6	-0.5
KARN	**Karanos**	**2.00**	**266**	*e*Pn	Pb	11 10 01.6	-0.5

*CSEM **23** 11:11:07.4±0.8, 38°.84N×34°.95E, h2km, MD2.8, Error ellipse: s-maj=15.9km s-min=10.4km az=172.0*

ISK 23 11:11:06.5, 38°.84N×34°.95E, h2km, MD2.8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AVNT	**Avonos**	**0.09**	**231**	*i* P	Pg	11 11 13.2	+4.6
AVNT				*i* S	Sg	11 11 17.5	+7.5
AVNT	**Avonos**	**0.09**	**231**	*i* P	Pg	11 11 13.2	+4.6
YOZ	**Yozgat**	**0.85**	**20**	*e*PG	Pb	11 11 23.7	-0.6
YOZ				*e*SG	Sb	11 11 36.3	0.0
YOZ	**Yozgat**	**0.85**	**20**	*e*Pg	Pb	11 11 23.7	-0.5
YOZ				*e*Sg	Sb	11 11 36.3	0.0
CDAG	**Cicekdag**	**0.90**	**330**	*i* P	Pg	11 11 22.8	-1.2
CDAG				*i* S	Sg	11 11 34.7	-1.2
CDAG	**Cicekdag**	**0.90**	**330**	*i* P	Pg	11 11 22.8	-1.2
CDAG				*i* S	Sg	11 11 34.7	-1.2
CORM	**Corum**	**1.36**	**350**	*e*PN	Pb	11 11 33.3	+0.4
CORM				*e*SN	Sn	11 11 52.8	+1.4
CORM	**Corum**	**1.36**	**350**	*e*Pn	Pb	11 11 33.3	+0.4
CORM				*e*Sn	Sn	11 11 52.8	+1.3
AFSR	**Af¯ar-Bala (A**	**1.58**	**293**	*e*PN	Pb	11 11 36.3	-0.3
AFSR				*e*SN	Sg	11 11 58.4	+0.8
AFSR	**Af¯ar-Bala (A**	**1.58**	**293**	*e*Pn	Pb	11 11 36.3	-0.3
AFSR				*e*Sn	Sg	11 11 58.4	+0.8
SVSK	**Karacayir**	**1.92**	**55**	*e*PN	Pb	11 11 41.2	-0.9
SVSK	**Karacayir**	**1.92**	**55**	*e*Pn	Pb	11 11 41.2	-1.0

*AUST **23** 11:13:35.4±11.0, 23°.64S×178°.55W, h65km±1km, Error ellipse: s-maj=3.5km s-min=2.6km az=258.0*
*ISCJB **23** 11:13:59.4±0.8, 22°.2S±0°.3×178°.3W±0°.2, h400km, mb3.5/8, Error ellipse: s-maj=39.8km s-min=13.3km az=153.1*
*IDC **23** 11:14:01.3±7.2, 22°.2S±0°.3×178°.23W, h411km±72km, mb3.2/8, mb1 3.5/8, mb1mx3.3/17, mbtmp3.2/8, Error ellipse: s-maj=35.8km s-min=23.0km az=134.0*

ISC 23 11:13:59.7±0.8, 22°.1S±0°.2×178°.3W±0°.2, h400km, n21, σ1§20/19, mb3.5/8, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**8.42**	**70**	P	Pn	11 15 45.7	-14
	baz=9.2,SNR=11						
NIUE				S	S	11 17 12.7	-25
	baz=9.2,SNR=22						
CMSA	**Cobar Meteorol**	**33.34**	**246**	P	**P**	**11 20 03.2**	**+0.9**
	baz=32,SNR=11						
QLP	**Quilpie**	**34.33**	**255**	P	**P**	**11 20 12.4**	**+1.6**
	baz=34,SNR=4.2						
MTSU	**Mount Surprise**	**35.25**	**270**	P	**P**	**11 20 16.9**	**-1.8**
	baz=35,SNR=4.5						
STKA	**Stephens Creek**	**36.84**	**246**	P	**P**	**11 20 32.7**	**+0.8**
	4.3nm,0.5s,baz=101,slow=9.9,SNR=23						
STKA	**Stephens Creek**	**36.84**	**246**	P	**P**	**11 20 32.9**	**+1.0**
	baz=36,SNR=20						
ASAR	**Alice Springs**	**43.88**	**258**	P	**P**	**11 21 30.1**	**+1.1**
	3.1nm,0.8s,baz=90,slow=8.1,SNR=27						
WRA	**Warramunga Arr**	**44.11**	**264**	P	**P**	**11 21 31.3**	**+0.6**
	1.2nm,0.7s,baz=97,slow=6.8,SNR=24						
FORT	**Forrest**	**48.40**	**248**	P	**P**	**11 22 03.7**	**+0.2**
	baz=48,SNR=13						
KNRA	**Kununurra**	**50.28**	**268**	P	**P**	**11 22 19.3**	**+1.7**
	baz=50,SNR=3.8						
FITZ	**Fitzroy Crossi**	**52.54**	**264**	P	P	11 22 36.6	+2.4
	baz=52,SNR=4.8						
MAW	**Mawson**	**79.95**	**200**	P	**P**	**11 25 25.3**	**+0.2**
	0.9nm,0.7s,baz=127,slow=8.8,SNR=4.2						
NVAR	**Mina Array Bea**	**82.40**	**43**	P	**P**	**11 25 39.4**	**+0.7**
	0.6nm,0.8s,baz=220,slow=9.4,SNR=5.1						
TXAR	**Lajitas Array**	**88.17**	**57**	P	P	11 26 08.0	+1.1
	0.2nm,0.6s,baz=240,slow=5.1,SNR=3.2						
ILAR	**Eielson Array**	**89.95**	**13**	P	**P**	**11 26 14.8**	**+0.6**
	0.6nm,1.0s,baz=217,slow=6.2,SNR=6.7						
PDAR	**Pinedale Array**	**90.33**	**43**	P	**P**	**11 26 17.5**	**+0.7**
	0.5nm,0.6s,baz=191,slow=4.4,SNR=4.8						
ARCES	**ARCESS Array B**	**130.45**	**349**	PKP	**PKPdf**	**11 32 23.1**	**+0.4**
	2.8nm,0.9s,baz=15,slow=1.0,SNR=5.4						
AKASG	**Malin Array Be**	**144.26**	**330**	PKP	**PKPdf**	**11 32 48.5**	**0.0**
	1.0nm,0.3s,baz=38,slow=4.7,SNR=4.8						
BRTR	**Keskin Array B**	**147.68**	**310**	PKPbc	**PKPab**	**11 32 59.6**	**-2.3**
	0.5nm,0.5s,baz=144,slow=5.1,SNR=3.3						
GERES	**GERESS Array B**	**151.66**	**343**	PKPbc	**PKPbc**	**11 33 07.4**	**-0.1**
	0.5nm,0.4s,baz=20,slow=3.1,SNR=4.8						
TORD	**Torodi Ar. Bea**	**171.08**	**180**	PKP	**PKPdf**	**11 33 20.4**	**-1.2**
	0.5nm,0.8s,baz=320,slow=1.8,SNR=3.8						
TORD				PKPab	**PKPab**	**11 34 41.8**	**-1.4**
	0.4nm,0.7s,baz=160,slow=2.4,SNR=3.7						

DJA 23 11:18:05.2±1.5, 1°.S±9°.×9°.9E±°, h10km, M4.0/3, MLv4.0/3, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.17**	**75**	P	Pb	11 18 26.6	-1.0
PDSI				S	Sg	11 18 43.1	+0.1
PPI	**Padang Panjang**	**1.30**	**55**	P	Pn	11 18 29.3	-0.2
PPI				S	Sg	11 18 47.4	+0.2
SDSI	**Sungai Dareh**	**2.12**	**83**	P	Pn	11 18 41.7	+1.0
SDSI				S	Sb	11 19 10.3	+0.3

GUC 23 11:47:11.4±0.4, 28°.14S×71°.28W, h29km±3km, MD3.7, ML3.4, 2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.63**	**134**	*i* P	Pb	11 47 23.8	-0.3
VACH				*i* S	Sb	11 47 32.8	+0.2
VACH				AML	AML	11 47 34.0	
	comp=N,12μm,0.1s						
LCO	**Las Campanas**	**1.01**	**150**	*e*P	Pn	11 47 29.9	0.0
LCO				*i* S	Sb	11 47 43.9	0.0
LCO				AML	AML	11 47 45.0	
	comp=E,2μm,0.4s						
CPCH	**Copiapo**	**1.13**	**47**	*i* P	Pn	11 47 31.4	+0.1
CPCH				*e*S	Sb	11 47 46.5	-0.3
CDCH	**Caldera**	**1.14**	**21**	‖ *i* P	Pn	11 47 31.2	-0.2
CDCH				*i* S	Sn	11 47 46.4	+0.3
TLL	**Tololo Astrono**	**2.06**	**168**	‖ *i* P	Pn	11 47 46.1	+1.6
TLL				*i* S	Sb	11 48 12.4	-1.6
TLL				AML	AML	11 48 20.3	
	comp=E,194nm,0.6s						

*ISCJB **23** 12:08:23.3±0.6, 59°.33N±0°.02×27°.11E±0°.08, h0km, Error ellipse: s-maj=5.7km s-min=3.5km az=7.6*
*NAO **23** 12:08:24.8±1.1, 59°.29N×27°.08E, ML2.2*
*HEL **23** 12:08:25.4±0.5, 59°.26N×27°.25E, h0km, ML1.9, Explosion*
*BER **23** 12:08:25.6±1.9, 59°.31N×27°.13E, h0km, ML2.2(NAO), Suspected explosion*
*CSEM **23** 12:08:25.1±0.3, 59°.32N×27°.07E, h2km, ML2.2, Error ellipse: s-maj=7.4km s-min=4.6km az=92.0, Mining explosion.*
*IDC **23** 12:08:27.8±1.1, 59°.44N×26°.87E, h0km, mb1 3.2/3, mb1mx3.0/23, mbtmp3.1/3, ML2.5/3, Error ellipse: s-maj=36.8km s-min=10.8km az=81.0*

ISC 23 12:08:25.1±0.8, 59°.30N±0°.02×27°.01E±0°.04, h0km, n38, σ1§39/52, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSU	**Vasula**	**0.85**	**190**	Pg	**Pg**	**12 08 40.0**	**-1.3**
VSU				Lg	Lg	12 08 53.2	
VSU	**Vasula**	**0.85**	**190**	Pg	**Pg**	**12 08 40.0**	**-1.3**
VSU				Lg	Lg	12 08 53.2	
VSU	**Vasula**	**0.85**	**190**	Pg	**Pg**	**12 08 40.0**	**-1.3**
VSU	**Vasula**	**0.85**	**190**	*e*P	**Pb**	**12 08 43.0**	**+0.3**
	SNR=90						
VSU				*e*S	**Sg**	**12 08 53.0**	**+0.6

RAF	Rauma	3.14	306	eP	Pn	12 09 18.2	+2.5
	SNR=50						
RAF				eS	Sb	12 09 58.3	-2.2
	SNR=50						
RAF				Sg	Sg	12 10 05.1	-0.8
SUF	Sumiainen	3.46	353	SG	Sb	12 10 11.6	+2.0
SUF				MSG		12 10 11.6	
	comp=Z,5.1nm,0.4s						
AAL	Aland	3.66	287	SG	Sg	12 10 21.9	-0.6
AAL	Aland	3.66	287	Sg	Sg	12 10 21.9	-0.6
JOF	Joensuu	4.19	28	PN	Pn	12 09 30.7	+0.6
	baz=205						
JOF				SG	Sb	12 10 31.7	+1.1
JOF				MSG	Sb	12 10 31.7	+1.1
	comp=Z,4.2nm,0.4s						
JOF				SG	Sb	12 10 31.7	+1.1
JOF				MSG		12 10 31.7	
	comp=Z,4.2nm,0.4s						
JOF	Joensuu	4.19	28	Pn	Pn	12 09 30.7	+0.6
HFS	Hagfors	6.79	283	Sn	Sn	12 11 20.2	-3.5
	baz=83,slow=28						
HFS				Lg	Lg	12 11 56.2	
	baz=94,slow=37						
HFS	Hagfors	6.79	283	Sn	Sn	12 11 20.2	-3.5
	baz=83,slow=28						
HFS				Lg	Lg	12 11 56.2	
	baz=94,slow=37						
HFS	Hagfors	6.79	283	Lg	Lg	12 11 56.2	
	baz=94,slow=29,SNR=3.9						
NB2	NORSAR Subarra	8.07	289	Lg	Lg	12 12 36.0	
	baz=94,slow=37						
NB2	NORSAR Subarra	8.07	289	Lg	Lg	12 12 36.0	
	baz=94,slow=37						
NB2	NORSAR Subarra	8.07	289	Lg	Lg	12 12 36.0	
	baz=94,slow=35,SNR=2.8						
AKASG	Malin Array Be	8.71	171	Pn	Pn	12 10 32.1	0.0
	comp=Z,0.5nm,0.3s,baz=357,slow=13,SNR=3.1						
ARA0	ARCESS Array S	10.30	357	Pn	Pn	12 10 52.4	-1.5
	baz=176,slow=14						
ARA0	ARCESS Array S	10.30	357	Pn	Pn	12 10 52.4	-1.5
	baz=176,slow=14						
ARA0	ARCESS Array S	10.30	357	Pn	Pn	12 10 52.4	-1.5
	baz=176,slow=14,SNR=7.2						
ARCES	ARCESS Array B	10.30	357	Pn	Pn	12 10 52.4	-1.4
	comp=Z,0.1nm,0.3s,baz=173,slow=14,SNR=5.0						

IDC 23 12:21:51.0±2.1, 60°.42S×33°.03W, h0km, mb4.2/2, mb1 4.2/2, mb1mx3.7/14, mbtmp4.2/2, MS3.4/2, Ms1 3.4/2, ms1mx3.0/21, Error ellipse: s-maj=86.6km s-min=42.9km az=3.0, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDFB	Brasilia	46.02	340	LR	LR	12 45 54.6	
	comp=Z,57nm,21.1s,baz=336,slow=31						
LPAZ	La Paz	50.81	315	P	P	12 30 53.2	-0.6
	1.0nm,0.7s,baz=198,slow=6.4,SNR=5.2						
LPAZ				LR	LR	12 50 14.9	
	comp=Z,38nm,21.4s,baz=76,slow=34						
TORD	Torodi Ar. Bea	78.40	34	P	P	12 33 53.4	+0.2
	3.0nm,0.7s,baz=197,slow=6.6,SNR=21						
ZALV	Zalesovo Beam	146.85	73	PKPbc	PKPdf	12 41 32.5	+0.6
	1.0nm,0.6s,baz=223,slow=3.7,SNR=4.6						
ILAR	Eielson Array	150.51	307	PKPbc	PKPbc	12 41 42.5	-0.4
	3.9nm,0.9s,baz=108,slow=2.8,SNR=34						
ILAR				PKPab	PKPab	12 41 50.0	+0.2
	2.0nm,0.9s,baz=173,slow=2.6,SNR=9.6						

IDC 23 12:39:03.7±63.0, 20°.50S×178°.15W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/16, mbtmp3.9/3, Error ellipse: s-maj=1142.0km s-min=164.0km az=83.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	37.67	244	P	P	12 46 20.6	-0.3
	3.7nm,1.0s,baz=90,slow=9.1,SNR=3.9						
ASAR	Alice Springs	44.38	257	P	P	12 47 15.9	-0.5
	1.3nm,0.8s,baz=100,slow=8.3,SNR=14						
WRA	Warramunga Arr	44.46	262	P	P	12 47 17.3	+0.3
	0.4nm,0.3s,baz=95,slow=8.3,SNR=31						

*ISCJB **23** 12:55:52.4±0.5, 4°.94S±0°.05×145°.65E±0°.06, h200km, mb3.7/11, Error ellipse: s-maj=8.7km s-min=5.8km az=153.0*
*AUST **23** 12:55:52.3±3.7, 4°.82S×145°.80E, h224km, Error ellipse: s-maj=4.3km s-min=1.0km az=232.0*
*IDC **23** 12:55:55.5±1.4, 5°.13S×145°.65E, h224km±15km, mb3.4/10, mb1 3.6/12, mb1mx3.5/17, mbtmp3.4/12, Error ellipse: s-maj=21.2km s-min=7.9km az=104.0*
ISC 23 12:55:54.0±0.7, 5°.01S±0°.06×145°.63E±0°.08, h200km, n24, σ1§73/27, mb3.8/11, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.63	161	P	Pn	12 57 04.9	+1.2
	22nm,0.3s,baz=28,slow=4.3,SNR=84						
PMG				S	Sn	12 57 58.1	-0.5
	26nm,0.3s,baz=315,slow=20,SNR=11						
JAY	Jayapura	5.51	297	P	Pn	12 57 15.4	+0.4
	baz=5.6,SNR=11						
JAY				S	Sn	12 58 17.3	-1.6
	baz=5.6,SNR=4.0						
COEN	Coen	9.22	195	P	Pn	12 58 05.0	+1.8
	baz=9.5,SNR=4.3						
TLE	Tual	12.86	267	P	P	12 58 55.1	+1.9
	baz=13,SNR=3.6						
TLE				S	Sn	13 01 16.4	+3.0
	baz=13,SNR=7.0						
MTSU	Mount Surprise	13.11	186	P	P	12 58 58.5	+2.4
	baz=13,SNR=14						
FAKI	Fak Fak	13.51	278	P	Pn	12 58 57.2	-0.9
	baz=14,SNR=6.9						
FAKI				S	S	13 01 23.4	-5.4
	baz=14,SNR=4.7						
SWI	Sorong	14.93	286	P	Pn	12 59 16.7	+1.2
	baz=15,SNR=3.4						
SWI				S	S	13 01 34.2	-27
	baz=15,SNR=60						
CTA	Charters Tower	15.01	178	P	P	12 59 18.4	+1.4
	0.2nm,0.3s,baz=4.8,slow=12,SNR=4.4						
KDU	Kakadu	15.07	239	P	Pn	12 59 15.9	-1.3
	baz=15,SNR=16						
WRA	Warramunga Arr	18.48	216	P	P	12 59 54.6	-0.5
	2.4nm,0.3s,baz=34,slow=11,SNR=152						
WRA				S	S	13 03 10.5	-5.1
	0.2nm,0.3s,baz=41,slow=19,SNR=4.7						
KNRA	Kununurra	19.68	236	P	P	13 00 03.2	-4.8
	baz=20,SNR=6.8						
QLP	Quilpie	21.50	183	P	P	13 00 27.6	+0.3
	baz=22,SNR=9.6						
ASAR	Alice Springs	21.73	210	P	P	13 00 29.2	-0.5
	2.4nm,0.7s,baz=43,slow=8.2,SNR=52						
ASAR				S	S	13 04 13.6	-2.8
	3.8nm,0.9s,baz=30,slow=20,SNR=13						
FITZ	Fitzroy Crossi	23.48	235	P	P	13 00 44.6	-1.3
	1.8nm,0.3s,baz=61,slow=9.0,SNR=13						
FITZ	Fitzroy Crossi	23.48	235	P	P	13 00 44.6	-1.3
	baz=24,SNR=3.7						
CBIJ	Chichi jima	32.09	354	P	P	13 02 02.8	+0.4
	56nm,0.6s,baz=198,slow=16,SNR=3.1						
KSRS	Korea Array	45.35	340	P	P	13 03 51.6	-0.7
	1.2nm,0.6s,baz=160,slow=8.4,SNR=7.8						
USRK	Ussuriysk Arra	50.50	347	P	P	13 04 31.6	-0.1
	0.8nm,0.5s,baz=177,slow=8.6,SNR=4.0						
CMAR	Chiang Mai Arr	51.59	298	P	P	13 04 40.4	+0.1
	1.6nm,0.4s,baz=120,slow=5.9,SNR=10.0						
PETK	Petropavlovsk-	58.79	8	P	P	13 05 31.1	0.0
	2.6nm,0.5s,baz=174,slow=8.4,SNR=18						
SONM	Songino Array	62.88	331	P	P	13 05 58.6	-0.3
	0.3nm,0.7s,baz=127,slow=3.8,SNR=2.7						
VNDA	Vanda	72.98	176	P	P	13 07 00.3	-0.9
	0.5nm,0.6s,baz=348,slow=10,SNR=5.1						
MKAR	Makanchi Array	75.87	321	P	P	13 07 17.6	-0.9
	0.2nm,0.5s,baz=96,slow=6.7,SNR=2.6						
ILAR	Eielson Array	85.11	23	P	P	13 08 04.9	-2.2
	1.4nm,0.7s,baz=250,slow=5.0,SNR=26						

KRSC 23 12:57:15.8±7.9, 49°.62N×159°.14E, h47km±47km, ML3.7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	2.22	300	eP	Pn	12 57 50.3	+0.3
SKR				iS	Sn	12 58 15.7	-0.5
PAU	Pauzhetka	2.37	322	eP	Pn	12 57 54.3	+2.1
PAU				iS	Sn	12 58 20.2	+0.2
RUS	Russkaya	2.84	352	eP	Pn	12 58 00.4	+1.8
RUS				iS	Sn	12 58 32.0	+0.4
ASAK	Asacha	2.88	345	eP	Pn	12 58 01.4	+2.2
ASAK				iS	Sn	12 58 34.6	+2.0
MTVR	Mutnovka	2.93	348	eP	Pn	12 58 01.8	+1.8
MTVR				iS	Sn	12 58 34.4	+0.3
GRL	Gorelyy	3.01	348	eP	Pn	12 58 03.8	+2.7
GRL				iS	Sn	12 58 36.7	+0.6
MIPR	Malaya Ipel'ka	3.06	331	eP	Pn	12 58 03.5	+1.9
PET	Petropavlovsk	3.42	355	eP	Pn	12 58 09.0	+2.4
PET				iS	Sn	12 58 46.9	+1.1
SPN	Mys Shipunski	3.53	9	eP	Pn	12 58 10.8	+2.8
SPN				iS	Sn	12 58 50.0	+1.6
APC	Apacha	3.54	340	eP	Pn	12 58 10.3	+2.2
APC				iS	Sn	12 58 51.0	+2.4
NLC	Nalytchevo	3.56	2	eP	Pn	12 58 12.1	+3.7
NLC				iS	Sn	12 58 50.5	+1.3
UGLR	Uglovaya	3.60	357	eP	Pn	12 58 13.0	+3.8
SMAR	Sömma	3.66	357	eP	Pn	12 58 13.4	+3.3
AVH	Avacha	3.66	356	eP	Pn	12 58 13.4	+3.5
AVH				iS	Sn	12 58 53.2	+1.3
SDLR	Sedlovina	3.67	358	eP	Pn	12 58 12.0	+1.9
KOK	Koryaka	3.69	355	eP	Pn	12 58 13.0	+2.6
KRER	Koryakskii	3.70	356	eP	Pn	12 58 13.7	+3.1
KRX	Arik	3.76	356	eP	Pn	12 58 14.1	+2.7
GNL	Ganaly	4.15	350	eP	Pn	12 58 19.6	+2.9
MKZ	Mys Kozlova	5.20	17	eP	Pn	12 58 33.0	+2.2
MKZ				iS	Sn	12 59 31.0	+1.6
TUMR	Tumrok	5.71	6	eP	Pn	12 58 42.0	+3.9
KMNR	Kamenistaya	6.18	6	eP	Pn	12 58 48.5	+3.9
KBTR	Krutoberegovo	6.96	17	eP	Pn	12 58 56.9	+1.8

IDC 23 12:57:54.2±1.8, 7°.13S×125°.15E, h532km±26km, mb3.0/5, mb1 3.1/9, mb1mx2.9/21, mbtmp3.0/9, Error ellipse: s-maj=46.6km s-min=15.0km az=61.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	Kappang	5.76	291	P	P	12 59 30.1	+0.3
	1.3nm,0.3s,baz=138,slow=5.7,SNR=7.5						
FITZ	Fitzroy Crossi	10.92	178	P	P	13 00 21.1	-0.3
	0.2nm,0.3s,baz=169,slow=15,SNR=17						
FITZ				S	S	13 02 16.5	-6.0
	0.1nm,0.3s,baz=0.0,slow=20,SNR=2.2						
WRA	Warramunga Arr	15.55	146	P	P	13 01 07.8	-1.9
	1.3nm,0.3s,baz=326,slow=7.0,SNR=10.0						
ASAR	Alice Springs	18.47	154	P	P	13 01 37.5	+0.1
	0.6nm,0.3s,baz=330,slow=7.6,SNR=18						
STKA	Stephens Creek	29.01	150	P	P	13 03 11.5	+0.4
	1.2nm,0.3s,baz=299,slow=4.8,SNR=7.0						
SONM	Songino Array	57.18	345	P	P	13 06 50.6	+0.1
	0.4nm,0.6s,baz=167,slow=7.0,SNR=4.0						
MKAR	Makanchi Array	65.78	329	P	P	13 07 46.8	+0.2
	0.5nm,0.5s,baz=146,slow=7.2,SNR=3.6						
PETK	Petropavlovsk-	66.05	21	P	P	13 07 48.2	+0.1
	0.6nm,0.5s,baz=214,slow=5.1,SNR=5.0						
ZALV	Zalesovo Beam	69.65	336	P	P	13 08 09.4	-0.6
	1.0nm,0.4s,baz=127,slow=4.4,SNR=4.6						
TORD	Torodi Ar. Bea	124.11	281	PKP	PKPdf	13 15 52.9	-0.3
	0.3nm,0.6s,baz=93,slow=1.7,SNR=3.2						

*ISCJB **23** 13:21:31.2±0.6, 37°.64N±0°.07×95°.51E±0°.06, h10km, mb3.5/6, MS3.0/3, Error ellipse: s-maj=10.3km s-min=6.7km az=17.7*
*IDC **23** 13:21:31.8±0.9, 37°.63N×95°.63E, h0km, mb3.6/6, mb1 3.8/11, mb1mx3.6/30, mbtmp3.6/11, ML3.8/5, MS3.2/5, Ms1 3.2/5, ms1mx2.8/26, Error ellipse: s-maj=29.4km s-min=17.0km az=51.0*
*BJI **23** 13:21:33.7, 37°.67N×95°.71E, h6km, mb3.8/1, ML3.9/7, Ms3.7/5, Ms7 3.5/4*
ISC 23 13:21:32.7±0.8, 37°.62N±0°.08×95°.51E±0°.05, h10km, n16, σ1§39/22, mb3.6/6, MS3.1/3, 1C, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	Gaotai	3.82	61	Pn	Pn	13 22 32.5	+0.8
GTA				Pg	Pb	13 22 40.0	-0.3
GTA				Sn	Sn	13 23 16.3	-0.5
GTA				Sg	Sb	13 23 27.3	+0.6
GTA				smax	smax		
	comp=N,80nm,0.9s						
GTA				smax	smax		
	comp=E,47nm,0.9s						
GTA				LR	LR		
	comp=N,770nm,10.0s						
GTA				LR	LR		
	comp=E,360nm,7.8s						
GTA				LR	LR		
	comp=Z,210nm,7.1s						
LZH	Lanzhou	6.85	100	ePn	Pn	13 23 14.5	+1.1
LZH				eSn	Sn	13 24 27.5	-4.1
LZH				smax	smax		
	comp=N,25nm,0.6s						
LZH				smax	smax		
	comp=E,48nm,0.8s						
LZH				LR	LR		
	comp=N,440nm,6.9s						
LZH				LR	LR		
	comp=E,110nm,5.6s						
LZH				LR	LR		
	comp=Z,250nm,8.0s						
WMQ	Urumqi	8.58	319	Pn	Pn	13 23 37.3	+0.3
WMQ				smax	smax		
	comp=N,32nm,0.7s						
WMQ				smax	smax		
	comp=E,38nm,0.9s						
SONM	Songino Array	12.96	35	Pn	Pn	13 24 38.0	+1.0
	comp=E,0.2nm,0.3s,baz=215,slow=13,SNR=6.1						
SONM				LR	LR	13 29 58.6	
	comp=E,61nm,18.9s,baz=91,slow=39						
MK31	Makanchi Array	13.40	317	P	Pn	13 24 42.6	-0.4
	comp=E,2.3nm,0.6s,baz=127,slow=14,SNR=42						
MK31				⇑S	Sn	13 27 09.4	-2.6
	comp=E,1.3nm,0.6s,baz=127,slow=26						
MKAR	Makanchi Array	13.40	317	Pn	Pn	13 24 42.9	-0.1
	comp=E,1.0nm,0.3s,baz=125,slow=14,SNR=39						
MKAR				Sn	Sn	13 27 10.0	-2.0
	comp=E,0.1nm,0.3s,baz=122,slow=23,SNR=3.1						
AAK	Ala-Archa	16.82	294	Pn	P	13 25 30.2	-0.5
	comp=E,0.4nm,0.3s,baz=124,slow=3.6,SNR=3.2						
AAK				LR	LR	13 32 46.7	
	comp=E,99nm,19.7s,baz=36,slow=40						
KURBB	Kurchatov Arra	17.77	322	P	Pn	13 25 39.6	-0.4
	comp=E,0.2nm,0.3s,baz=136,slow=11,SNR=14						
ZALV	Zalesovo Beam	17.92	339	P	P	13 25 42.6	+0.1
	comp=E,0.3nm,0.3s,baz=146,slow=11,SNR=13						
CMAR	Chiang Mai Arr	19.32	170	P	Pn	13 25 59.6	+0.4
	comp=E,0.1nm,0.3s,baz=341,slow=11,SNR=6.9						
BVAR	Borovoye Array	23.27	320	P	P	13 26 40.6	+0.4
	comp=E,1.0nm,0.6s,baz=113,slow=11,SNR=5.3						
BVAR				LR	LR	13 36 16.2	
	comp=E,84nm,19.4s,baz=203,slow=38						
KSRS	Korea Array	25.64	80	P	P	13 27 01.6	-0.9
	comp=E,1.0nm,0.8s,baz=267,slow=10.0,SNR=6.3						
KSRS				LR	LR	13 38 24.1	
	comp=E,51nm,18.7s,baz=280,slow=40						
AKTO	Aktyubinsk	29.52	308	P	P	13 27 38.8	+1.7
	comp=E,0.8nm,0.3s,baz=72,slow=9.6,SNR=4.3						
AKTO				LR	LR	13 39 27.8	
	comp=E,26nm,18.9s,baz=294,slow=36						
ILAR	Eielson Array	66.95	24	P	P	13 32 25.8	+0.7
	comp=E,0.7nm,0.9s,baz=291,slow=4.8,SNR=5.7						
WRA	Warramunga Arr	67.92	140	P	P	13 32 32.2	+0.5
	comp=E,0.3nm,1.0s,baz=326,slow=10,SNR=3.6						
ASAR	Alice Springs	70.85	143	P	P	13 32 49.3	-0.5
	comp=E,0.4nm,0.7s,baz=331,slow=5.9,SNR=4.4						

NNC 23 13:40:37.1±5.7, 36°.82N×70°.74E, h179km±74km, mb3.0, mpv3.9, 3C-3D, Error ellipse: s-maj=51.2km s-min=28.1km az=20.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	6.28	358	⇑P	Pn	13 42 08.2	+0.5
	2.8nm,0.3s,baz=189,slow=18,SNR=55						
KK31				⇓S	Sn	13 43 19.4	+0.3
	2.1nm,0.3s,baz=190,slow=27,SNR=5.2						
TKM2	Tokmak 2	7.14	30	⇑P	Pn	13 42 18.2	-1.2
	5.8nm,0.6s						
TKM2				⇑S	Sn	13 43 40.8	+0.7
	3.0nm,0.8s						
MK31	Makanchi Array	13.15	37	⇓P	Pn	13 43 37.2	0.0
	0.6nm,0.6s,baz=208,slow=10,SNR=10						
AB31	Akbulak array	14.70	331	P	P	13 43 57.9	0.0
	2.3nm,0.6s,baz=152,slow=12,SNR=48						
AB31				⇓S	Sn	13 46 38.5	-1.7
	0.3nm,0.4s,baz=148,slow=23,SNR=7.3						

MAN 23 13:48:38.8°.27N×122°.46E, h28km, mb4.2, ML3.1, MS2.8, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPIL	Ipil	0.49	167	⇑iP	Pn	13 48 49.9	+0.7
IPIL				iS	Sn	13 48 58.0	+1.2
DCPH	Dipolog City	0.93	71	⇑eP	Pn	13 48 55.3	+0.1
PAGZ	Pagadian	1.00	115	eP	Pn	13 48 56.2	0.0
PAGZ				eS	Sn	13 49 04.9	-4.5

*ISCJB **23** 14:00:30.4±0.5, 6°.67N±0°.06×72°.94W±0°.04, h166km, mb4.4/18, Error ellipse: s-maj=7.9km s-min=6.1km az=12.9*
*IDC **23** 14:00:31.4±0.6, 6°.76N×72°.92W, h160km±4km, mb4.0/15, mb1 4.2/17, mb1mx4.0/24, mbtmp4.0/17, MS2.9/1, Ms1 2.9/1, ms1mx2.5/36, Error ellipse: s-maj=16.0km s-min=10.6km az=52.0*
*FUNV **23** 14:00:38.4, 7°.06N×72°.73W, h147km, MW4.1*
ISC 23 14:00:32.1±0.5, 6°.84N±0°.07×72°.88W±0°.07, h166km, n54, σ1§51/70, mb4.2/18, 4C-7D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	Capacho	1.16	29	eS	Sn	14 01 18.6	-2.8
SOCV	Socops	2.46	54	⇓eP	Pn	14 01 15.3	+1.7
SOCV				eS	Sn	14 01 42.3	-3.4
VIGV	El Vigia	2.48	37	⇓iP	Pn	14 01 15.7	+1.8
VIGV				eS	Sn	14 01 42.5	-3.8
ELOV	Elorza	3.37	87	⇓iP	Pn	14 01 27.2	+2.4
VIRV	Villa del Rosa	3.67	7	eS	Sn	14 02 07.7	-4.8
QARV	Quebrada Arrib	4.07	35	⇑eP	Pn	14 01 35.6	+1.9
SANV	Sanarito	4.23	51	⇑eP	Pn	14 01 37.5	+1.7
CURV	Curarigua	4.27	42	⇑iP	Pn	14 01 37.8	+1.4
DABV	Dabajuro	4.62	28	eP	Pn	14 01 41.9	+1.2
TEPV	Terepaima	4.78	49	⇓iP	Pn	14 01 44.8	+1.8
SIQV	Siquisique	4.85	39	⇑iP	Pn	14 01 44.6	+0.8
BAUV	El Baul	5.22	66	⇓iP	Pn	14 01 49.2	+0.5
MONV	Montecano	5.83	29	⇓eP	Pn	14 01 57.0	+0.3
TURV	Turiamo	6.13	54	eP	Pn	14 02 01.1	+0.3
MERV	Las Mercedes	6.94	69	eP	Pn	14 02 11.8	+0.4
BIRV	Birongo	7.46	61	⇓eP	Pn	14 02 19.1	+0.8
CUPV	Cecpira	7.70	65	eP	Pn	14 02 22.1	+0.5
ORCV	Isla La Orchil	8.23	53	eP	Pn	14 02 29.2	+0.6
YHJ	Yallahs	11.53	343	iP	Pn	14 03 14.8	+2.9
PCJ	Portland Cotta	11.61	339	iP	Pn	14 03 14.8	+2.0
HOJ	Hope	11.72	342	iP	Pn	14 03 17.2	+2.9
GWJ	Greenwich	11.78	342	iP	Pn	14 03 16.1	+0.9
STH	Stony Hill	11.80	341	iP	Pn	14 03 17.6	+2.2
MCJ	Malvern	11.97	337	iP	Pn	14 03 19.3	+1.7
BBJ	Bamboo Saint A	12.24	340	iP	Pn	14 03 21.8	+0.7
JTS	JuntasAbangare	12.42	287	P	Pn	14 03 22.2	-1.2
	1.5nm,0.3s,baz=290,slow=4.8,SNR=12						
JTS				LR	LR	14 08 14.7	
	comp=Z,57nm,21.8s,baz=150,slow=37						
APG	El Apazote	19.07	297	P	P	14 04 40.5	-1.6
	1.2nm,0.3s,baz=105,slow=7.3,SNR=22						
TEIG	Tepich	20.00	313	P	P	14 04 52.0	0.0
	16nm,0.4s,baz=326,slow=3.0,SNR=14						
LPAZ	La Paz	23.46	168	P	P	14 05 27.2	-0.2
	3.5nm,0.7s,baz=348,slow=9.1,SNR=15						
SIV	San Ignacio	25.52	153	P	P	14 05 45.6	+0.1
	0.7nm,0.4s,baz=337,slow=9.7,SNR=4.7						
TXAR	Lajitas Array	36.63	311	P	P	14 07 22.8	+0.1
	2.4nm,0.6s,baz=128,slow=9.0,SNR=18						
TXAR				pP	pP	14 07 57.8	-0.5
	0.5nm,0.5s,baz=113,slow=6.9,SNR=2.4						
TXAR				PcP	PcP	14 09 43.7	+1.4
	1.4nm,0.7s,baz=125,slow=4.1,SNR=8.2						
PLCA	Paso Flores	47.39	178	P	P	14 08 48.5	-1.2
	1.0nm,0.6s,baz=356,slow=7.1,SNR=3.3						
SCHQ	Schefferville	48.10	5	P	P	14 08 56.2	+1.4
	38nm,0.7s,baz=189,slow=6.6,SNR=49						
PDAR	Pinedale Array	48.20	324	P	P	14 08 56.1	0.0
	2.6nm,0.9s,baz=129,slow=8.8,SNR=16						
PDAR				pP	pP	14 09 31.9	-1.4
	1.4nm,0.9s,baz=128,slow=12,SNR=3.0						
PDAR				PcP	PcP	14 10 20.8	0.0
	0.6nm,0.4s,baz=117,slow=7.2,SNR=5.8						
PDAR				ScP	ScP	14 14 00.6	+0.8
	0.5nm,0.8s,baz=160,slow=2.9,SNR=3.7						
YKA	Yellowknife Ar	63.33	340	P	P	14 10 43.2	+0.2
	9.0nm,0.6s,baz=132,slow=6.5,SNR=70						
YKA				pP	pP	14 11 22.9	+0.7
	1.5nm,0.5s,baz=132,slow=6.4,SNR=2.0						
TIC	Toumodi	67.33	86	eP	P	14 11 09.3	-0.5
	26nm,0.8s						
LIC	Lamto	67.36	86	eP	P	14 11 09.9	0.0
	46nm,0.6s						
DBIC	Dimbokro	67.49	86	P	P	14 11 10.9	+0.2
	13nm,0.7s,baz=262,slow=6.1,SNR=18						
KIC	Kosan Boka	67.63	86	eP	P	14 11 11.6	-0.1
	40nm,0.7s						
SUMG	Summit	68.92	11	iP	P	14 11 20.2	+1.1
	34nm,0.8s						
TORD	Torodi Ar. Bea	73.49	78	P	P	14 11 46.6	-0.6
	1.4nm,0.4s,baz=285,slow=6.5,SNR=27						
ILAR	Eielson Array	77.05	335	P	P	14 12 06.6	+0.1
	1.9nm,0.7s,baz=113,slow=4.6,SNR=23						
ILAR				pP	pP	14 12 45.9	-1.2
	0.4nm,0.6s,baz=100,slow=4.9,SNR=2.3						
NB2	NORSAR Subarra	81.19	29	P	P	14 12 30.1	+1.0
	comp=Z,3.4nm,0.6s,baz=267,slow=5.3						
NOA	NORSAR Array B	81.19	29	P	P	14 12 29.9	+0.8
	comp=Z,3.0nm,0.7s,baz=268,slow=5.4,SNR=8.9						
GERES	GERESS Array B	82.64	42	P	P	14 12 36.9	-0.1
	comp=Z,1.1nm,0.5s,baz=245,slow=2.8,SNR=8.8						
ARCES	ARCESS Array B	86.56	20	P	P	14 12 57.0	+0.8
	comp=Z,2.7nm,0.7

4.1nm,0.3s,baz=73,slow=7.2,SNR=18
PMG S Sn 14 10 47.9 +4.8
0.7nm,0.3s,baz=261,slow=20,SNR=2.5
WRA Warramunga Arr 24.16 234 P P 14 12 25.6 +0.9
1.1nm,0.5s,baz=57,slow=9.7,SNR=26
WRA pP pP 14 12 35.5 -0.2
0.5nm,0.5s,baz=57,slow=9.9,SNR=3.9
WRA PcP PcP 14 16 04.5 -0.5
0.1nm,0.4s,baz=73,slow=3.5,SNR=6.5
ASAR Alice Springs 26.56 228 P P 14 12 46.6 +0.1
0.1nm,0.3s,baz=56,slow=9.0,SNR=9.8
ASAR pP pP 14 12 56.4 -1.1
0.5nm,0.5s,baz=58,slow=9.4,SNR=3.5
FITZ Fitzroy Crossi 30.90 245 P P 14 13 25.1 -0.1
2.0nm,0.9s,baz=66,slow=13,SNR=3.8
PETK Petropavlovsk- 59.35 2 P P 14 17 10.7 +0.7
0.9nm,0.7s,baz=149,slow=8.5,SNR=4.5
CMAR Chiang Mai Arr 60.56 295 P P 14 17 19.6 +0.6
1.2nm,0.8s,baz=120,slow=5.3,SNR=5.4
CMAR pP pP 14 17 34.3 +3.6
1.2nm,0.7s,baz=126,slow=5.1,SNR=5.2
SONM Songino Array 68.87 327 P P 14 18 12.9 +0.1
0.3nm,0.4s,baz=145,slow=5.3,SNR=2.6
MKAR Makanchi Array 82.99 319 P P 14 19 32.6 -0.5
0.5nm,0.6s,baz=93,slow=5.0,SNR=4.0
MKAR pP pP 14 19 44.7 -0.7
0.4nm,0.6s,baz=94,slow=4.3,SNR=2.5
QSPA South Pole Qui 83.54 180 P P 14 19 35.6 -0.2
0.6nm,0.5s,baz=285,slow=1.3,SNR=21
QSPA pP pP 14 19 49.7 +1.6
0.9nm,0.8s,baz=321,slow=3.1,SNR=2.2
MAW Mawson 84.92 203 P P 14 19 42.4 -0.2
0.8nm,0.5s,baz=69,slow=8.6,SNR=4.2
TORD Torodi Ar. Bea 152.89 286 PKPbc PKPbc 14 27 04.2 -1.8
0.3nm,0.5s,baz=62,slow=1.6,SNR=4.5

*IDC **23** 14:18:07.0±3.7, 38°.75N×141°.57E, h51km±34km, mb3.2/7, mb1 3.4/9, mb1mx3.3/25, mbtmp3.2/9, ML2.5/2, Error ellipse: s-maj=26.6km s-min=18.5km az=124.0*
*ISCJB **23** 14:18:08.3±0.5, 38°.82N±0°.03×141°.66E±0°.07, h79km±3km, mb3.4/7, Error ellipse: s-maj=9.1km s-min=4.6km az=18.9*
*JMA **23** 14:18:09.5, 38°.82N×141°.58E, h75km±1km, M3.5*
Broadband fault plane solution: P waves. NP1: ϕ_s=162.00000°, δ=67.00000°, λ=84.00000°. NP2: ϕ_s=358.00000°, δ=23.00000°, λ=105.00000°. Principal axes: T Plg=67.0000°, Azm=61.0000°; N Plg=6.0000°, Azm=165.0000°; P Plg=22.0000°, Azm=257.0000°;
JMA Felt I J1.
ISC 23 14:18:09.4±0.8, 38°.81N±0°.04×141°.67E±0°.06, h74km±6km, n24, σ0°.78/39, mb3.5/7, 9C-2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.27**	**0**	⇑P	**Pn**	**14 18 21.1**	**+0.2**
OFUJ				S	**Sn**	**14 18 29.3**	**0.0**
JMK	**Ichinoseki**	**0.38**	**292**	⇑P	**Pn**	**14 18 21.1**	**-0.5**
JMK				S	**Sn**	**14 18 29.9**	**-0.6**
JIO	**Ouri**	**0.44**	**215**	⇑P	**Pn**	**14 18 21.9**	**-0.2**
JIO				S	**Sn**	**14 18 30.8**	**-0.5**
JOM	**Ohasama**	**0.72**	**336**	⇑P	**Pn**	**14 18 24.7**	**-0.2**
JOM				S	**Sn**	**14 18 35.8**	**-0.5**
JOU	**Okura**	**0.91**	**241**	⇑P	**Pn**	**14 18 26.6**	**-0.4**
JOU				S	**Sn**	**14 18 39.6**	**-0.5**
JRG	**Rokugo**	**0.99**	**306**	⇑P	**Pn**	**14 18 27.7**	**-0.3**
JRG				S	**Sn**	**14 18 41.7**	**-0.2**
JYK	**Kaneyama**	**1.03**	**276**	⇑P	**Pn**	**14 18 27.9**	**-0.6**
JYK				S	**Sn**	**14 18 42.0**	**-0.7**
JMM	**Marumori**	**1.17**	**216**	⇑P	**Pn**	**14 18 29.5**	**-0.8**
JMM				S	**Sn**	**14 18 45.1**	**-0.7**
JYS	**Shirataka**	**1.39**	**245**	⇓P	**Pn**	**14 18 32.8**	**-0.3**
JYS				S	**Sn**	**14 18 50.5**	**-0.4**
JYA	**Atsumi**	**1.54**	**262**	⇓P	**Pn**	**14 18 34.6**	**-0.5**
JYA				S	**Sn**	**14 18 53.7**	**-0.8**
JANG	**Nango**	**1.56**	**356**	P	**Pn**	**14 18 35.0**	**-0.3**
JANG				S	**Sn**	**14 18 54.7**	**-0.2**
JFK	**Kawauchi**	**1.57**	**204**	P	**Pn**	**14 18 35.3**	**-0.3**
JFK				S	**Sn**	**14 18 54.2**	**-1.1**
JAH	**Hinai**	**1.59**	**330**	⇑P	**Pn**	**14 18 35.9**	**+0.2**
JAH				S	**Sn**	**14 18 55.4**	**-0.1**
MAT	**Matsushiro**	**3.56**	**232**	P	**Pn**	**14 19 03.2**	**+0.9**
MAT				S	**Sn**	**14 19 43.9**	**+0.7**
ASAJ	**Asahikawa**	**5.34**	**7**	P	**Pn**	**14 19 25.6**	**-0.9**
	0.3nm,0.3s,baz=339,slow=18,SNR=5.5						
ASAJ				S	**Sn**	**14 20 25.4**	**-1.4**
	0.2nm,0.3s,baz=330,slow=33,SNR=1.7						
USRK	**Ussuriysk Arra**	**9.03**	**310**	P	**Pn**	**14 20 16.4**	**-0.4**
	0.1nm,0.3s,baz=126,slow=18,SNR=2.4						
KSRS	**Korea Array**	**10.91**	**267**	P	**Pn**	**14 20 44.8**	**+2.2**
	0.1nm,0.3s,baz=83,slow=13,SNR=4.7						
ZALV	**Zalesovo Beam**	**40.88**	**311**	P	**P**	**14 25 43.4**	**-0.6**
	0.9nm,0.5s,baz=91,slow=8.9,SNR=5.4						
MKAR	**Makanchi Array**	**43.37**	**301**	P	**P**	**14 26 03.7**	**-0.6**
	1.5nm,0.7s,baz=84,slow=9.4,SNR=14						
ILAR	**Eielson Array**	**47.89**	**33**	P	**P**	**14 26 40.0**	**+0.3**
	0.4nm,0.8s,baz=266,slow=6.1,SNR=5.6						
WRA	**Warramunga Arr**	**58.85**	**188**	P	**P**	**14 27 58.9**	**-1.5**
	0.2nm,0.5s,baz=7.8,slow=7.7,SNR=5.0						
ASAR	**Alice Springs**	**62.58**	**188**	P	**P**	**14 28 25.2**	**-0.5**
	0.1nm,0.7s,baz=359,slow=6.1,SNR=3.3						
NVAR	**Mina Array Bea**	**73.77**	**54**	P	**P**	**14 29 37.5**	**+1.5**
	0.1nm,0.3s,baz=304,slow=7.0,SNR=2.4						
PDAR	**Pinedale Array**	**76.28**	**46**	P	**P**	**14 29 51.2**	**+0.8**
	0.4nm,0.7s,baz=297,slow=4.0,SNR=3.2						

*ISCJB **23** 14:27:24.3±0.7, 7°.50S±0°.05×28°.13E±0°.07, h10km, mb3.9/6, Error ellipse: s-maj=10.6km s-min=7.4km az=0.3*
*IDC **23** 14:27:24.6±0.8, 7°.43S×27°.94E, h0km, mb3.9/6, mb1 4.0/8, mb1mx3.8/25, mbtmp4.0/8, ML4.1/2, Error ellipse: s-maj=27.1km s-min=14.8km az=100.0*
*BUL **23** 14:27:34.5±10.0, 7°.73S×28°.54E, h0km±145km, MD4.6*
ISC 23 14:27:26.7±0.8, 7°.49S±0°.06×28°.25E±0°.08, h10km, n15, σ2°.07/18, mb4.0/6, Zaire

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MZM	**Mzuzu**	**6.91**	**125**	*i* P	Pn	14 29 13.2	+5.1
MZM				*i* S	**Sn**	**14 30 28.5**	**+1.6**
MBAR	**Mbarara**	**7.28**	**20**	*i* P	**Pn**	**14 29 15.2**	**+1.9**
MBAR				*i* S	**Sn**	**14 30 38.7**	**+2.5**
DODT	**Dodoma, Tanzan**	**7.56**	**81**	*i* P	Pn	14 29 21.3	+4.1
DODT				*i* S	**Sn**	**14 30 41.7**	**-1.4**
LSZ	**Lusaka**	**7.74**	**180**	Pn	**Pn**	**14 29 22.8**	**+3.1**
	2.5nm,0.3s,baz=4.9,slow=12,SNR=16						
LSZ				Sn	**Sn**	**14 30 44.3**	**-3.3**
	6.2nm,0.3s,baz=11,slow=16,SNR=6.6						
LSZ				Lg	Lg	14 31 29.1	
	19nm,0.3s,baz=288,slow=18,SNR=9.1						
KMBO	**Kilima Mbogo**	**10.97**	**55**	Pn	**Pn**	**14 30 05.1**	**+0.9**
	1.5nm,0.3s,baz=221,slow=20,SNR=12						
KMBO				Sn	**Sn**	**14 32 03.4**	**-3.9**
	1.1nm,0.3s,baz=147,slow=23,SNR=3.1						
KMBO				Lg	Lg	14 33 10.5	
	1.7nm,0.3s,baz=322,slow=19,SNR=13						
KMBO	**Kilima Mbogo**	**10.97**	**55**	*i* P	**Pn**	**14 30 04.9**	**+0.8**
KMBO				*i* S	**Sn**	**14 32 05.4**	**-1.9**
TSUM	**Tsumeb**	**15.59**	**221**	Pn	Pn	14 31 01.3	-5.5
	0.6nm,0.3s,baz=29,slow=12,SNR=11						
TSUM				Sn	Sn	14 33 44.0	-16
	0.4nm,0.3s,baz=343,slow=19,SNR=2.0						
LBTB	**Lobatse**	**17.61**	**188**	P	**P**	**14 31 33.3**	**-0.2**
	0.5nm,0.3s,baz=16,slow=10,SNR=5.4						
LBTB				S	**Sn**	**14 34 49.1**	**+0.2**
	0.4nm,0.3s,baz=277,slow=18,SNR=1.7						
LBTB				Lg	Lg	14 36 42.4	
	baz=112,slow=14,SNR=2.2						
BOSA	**Boshof**	**21.20**	**187**	P	**P**	**14 32 13.5**	**+0.7**
	5.9nm,0.9s,baz=342,slow=9.0,SNR=9.7						
BOSA				Lg	Lg	14 38 35.7	
	8.5nm,1.0s,baz=73,slow=12,SNR=2.9						
TORD	**Torodi Ar. Bea**	**33.41**	**308**	P	**P**	**14 34 03.1**	**-2.8**
	0.4nm,0.3s,baz=120,slow=8.4,SNR=7.6						
DBIC	**Dimbokro**	**35.89**	**292**	P	P	14 34 23.3	-4.1
	0.9nm,0.4s,baz=80,slow=11,SNR=3.0						
BRTR	**Keskin Array B**	**47.24**	**6**	P	**P**	**14 35 59.9**	**-0.2**
	0.7nm,0.7s,baz=157,slow=8.5,SNR=3.0						
MKAR	**Makanchi Array**	**72.18**	**36**	P	**P**	**14 38 52.5**	**+0.7**
	1.5nm,0.8s,baz=240,slow=4.9,SNR=13						
ZALV	**Zalesovo Beam**	**77.38**	**30**	P	**P**	**14 39 20.9**	**-0.8**
	0.9nm,0.5s,baz=257,slow=5.9,SNR=5.9						
ILAR	**Eielson Array**	**122.71**	**358**	PKP	**PKPdf**	**14 46 22.3**	**-0.2**
	0.6nm,0.8s,baz=318,slow=3.6,SNR=3.4						

IDC 23 14:47:08.1±7.4, 8°.47S×123°.68E, h275km±71km, mb3.4/2, mb1 3.2/5, mb1mx2.9/21, mbtmp3.1/5, Error ellipse: s-maj=98.2km s-min=59.9km az=89.0, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**9.76**	**169**	P	Pn	14 49 23.8	+0.3
	0.1nm,0.3s,baz=5.6,slow=13,SNR=11						
FITZ				S	S	14 51 13.7	+0.1
	0.7nm,0.3s,baz=117,slow=16,SNR=9.8						
WRA	**Warramunga Arr**	**15.38**	**139**	P	P	14 50 29.5	-1.2
	0.3nm,0.3s,baz=312,slow=13,SNR=19						
WRA				S	S	14 53 21.9	+2.7
	0.1nm,0.3s,baz=230,slow=26,SNR=5.2						
ASAR	**Alice Springs**	**18.00**	**148**	P	P	14 50 59.6	+0.3
	0.3nm,0.3s,baz=331,slow=12,SNR=27						
CTA	**Charters Tower**	**24.70**	**120**	P	P	14 52 04.8	+0.1
	1.7nm,0.7s,baz=300,slow=16,SNR=2.5						
STKA	**Stephens Creek**	**28.63**	**147**	P	P	14 52 39.3	-0.3
	2.5nm,1.0s,baz=325,slow=8.8,SNR=4.7						

NNC 23 14:52:22.2±3.1, 50°.07N×87°.56E, h0km, mb4.2, mpv3.8, 8C-1D, Error ellipse: s-maj=23.1km s-min=13.9km az=71.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**4.80**	**229**	⇓Pn	Pn	14 53 36.5	+0.7
	11nm,0.7s,baz=59,slow=13,SNR=190						
MK31				⇑Sn	Sn	14 54 33.1	+1.0
	2.5nm,0.3s,baz=62,slow=25,SNR=4.2						
MK31				⇑Lg	Lg	14 54 53.5	
	15nm,0.6s,baz=52,slow=28,SNR=11						
KURK	**Kurchatov**	**5.76**	**280**	⇑Pn	Pn	14 53 48.3	-0.6
	2.2nm,0.5s						
KURK				⇑Sn	Sn	14 54 57.2	+1.6
	2.1nm,0.5s						
KURK				⇑Lg	Lg	14 55 24.6	
	6.3nm,0.6s						
KURBB	**Kurchatov Arra**	**5.81**	**279**	⇑Pn	Pn	14 53 49.3	-0.3
	7.0nm,0.3s						
KURBB				⇑Sn	Sn	14 54 57.7	+0.9
	13nm,0.6s						
KURBB				⇑Lg	Lg	14 55 27.0	
	37nm,0.6s						

IDC 23 14:56:30.4±3.4, 6°.31S×147°.13E, h0km, mb2.9/1, mb1 3.3/3, mb1mx3.1/17, mbtmp3.1/3, ML2.6/2, Error ellipse: s-maj=77.6km s-min=35.5km az=86.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.07**	**179**	Pn	Pn	14 57 20.9	+0.7
	2.3nm,0.3s,baz=345,slow=12,SNR=9.4						
PMG				Sn	Sn	14 57 59.6	+1.8
	3.0nm,0.3s,baz=311,slow=22,SNR=1.9						
WRA	**Warramunga Arr**	**18.38**	**221**	P	Pn	15 00 45.4	-1.5
	0.0nm,0.3s,baz=48,slow=11,SNR=2.8						
ASAR	**Alice Springs**	**21.43**	**215**	P	P	15 01 19.8	-0.5
	0.4nm,0.5s,baz=33,slow=13,SNR=7.7						
TORD	**Torodi Ar. Bea**	**145.29**	**284**	PKPbc	PKPbc	15 16 10.8	-0.2
	0.5nm,0.7s,baz=65,slow=4.6,SNR=3.5						

*CSEM **23** 15:11:05.6±0.2, 40°.27N×24°.15E, h8km, ML1.8/5, Error ellipse: s-maj=3.7km s-min=3.2km az=124.0*
*ATH **23** 15:11:05.7, 40°.27N×24°.07E, h28km±4km, MD2.7/6*
*ISCJB **23** 15:11:06.3±0.6, 40°.28N±0°.02×24°.10E±0°.04, h11km±4km, Error ellipse: s-maj=5.0km s-min=4.0km az=19.3*
*THE **23** 15:11:06.7, 40°.26N×24°.09E, h10km±1km, ML1.8/5, Error ellipse: s-maj=1.5km s-min=0.6km az=316.0*
ISC 23 15:11:05.9±0.9, 40°.27N±0°.02×24°.10E±0°.03, h13km±5km, n34, σ0°.61/58, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	**Ouranopolis**	**0.11**	**306**	P	**Pg**	**15 11 09.4**	**+0.4**
OUR				S	**Sg**	**15 11 10.9**	**-0.3**
OUR	**Ouranopolis**	**0.11**	**306**	P	**Pg**	**15 11 09.4**	**+0.4**
OUR				S	**Sg**	**15 11 10.9**	**-0.3**
PAIG	**Paliouri**	**0.47**	**223**	P	**Pb**	**15 11 15.8**	**-0.3**
PAIG				S	**Sb**	**15 11 22.6**	**-0.2**
PAIG	**Paliouri**	**0.47**	**223**	*e*PB	**Pb**	**15 11 15.7**	**-0.3**
PAIG				*e*SB	**Sg**	**15 11 22.0**	**+0.5**
PAIG	**Paliouri**	**0.47**	**223**	P	**Pb**	**15 11 15.8**	**-0.3**
PAIG				*e*Sb	**Sg**	**15 11 22.0**	**+0.5**
PLG	**Polygyros**	**0.51**	**282**	P	**Pg**	**15 11 16.3**	**+0.3**
PLG				S	**Sb**	**15 11 23.9**	**-0.2**
PLG	**Polygyros**	**0.51**	**282**	*e*PB	**Pg**	**15 11 16.3**	**+0.3**
PLG				*e*SB	**Sg**	**15 11 22.8**	**0.0**
PLG	**Polygyros**	**0.51**	**282**	P	**Pg**	**15 11 16.3**	**+0.3**
PLG				*e*Sb	**Sg**	**15 11 22.8**	**0.0**
PLG				S	**Sb**	**15 11 23.9**	**-0.2**
SOH	**Sokhos**	**0.79**	**314**	P	**Pb**	**15 11 22.0**	**+0.5**
SOH				S	**Sb**	**15 11 33.1**	**+0.9**
SOH	**Sokhos**	**0.79**	**314**	*e*PN	**Pb**	**15 11 22.0**	**+0.5**
SOH				*e*SN	**Sg**	**15 11 31.3**	**-0.3**
SOH	**Sokhos**	**0.79**	**314**	P	**Pb**	**15 11 22.0**	**+0.5**
SOH				*e*Sn	**Sg**	**15 11 31.3**	**-0.3**
SOH				S	**Sb**	**15 11 33.1**	**+0.9**
KAVA	**Kavala**	**0.79**	**23**	P	**Pb**	**15 11 21.6**	**+0.1**
KAVA	**Kavala**	**0.79**	**23**	P	**Pb**	**15 11 21.6**	**+0.1**
HORT	**Hortiatis**	**0.83**	**294**	P	**Pg**	**15 11 22.0**	**0.0**
HORT	**Hortiatis**	**0.83**	**294**	P	**Pg**	**15 11 22.0**	**0.0**
SRS	**Serrai**	**0.93**	**336**	P	**Pg**	**15 11 24.0**	**+0.1**
SRS				S	**Sn**	**15 11 37.9**	**0.0**
SRS	**Serrai**	**0.93**	**336**	P	**Pg**	**15 11 24.0**	**+0.1**
SRS				S	**Sn**	**15 11 37.9**	**0.0**
NVR	**Nevrokopi**	**1.09**	**351**	*e*PN	**Pb**	**15 11 26.8**	**+0.1**
NVR				*e*SN	**Sg**	**15 11 41.5**	**+0.2**
NVR	**Nevrokopi**	**1.09**	**351**	*e*Pn	**Pb**	**15 11 26.8**	**+0.1**
NVR				*e*Sn	**Sg**	**15 11 41.5**	**+0.2**
AOS	**Alonnisos**	**1.11**	**189**	P	**Pb**	**15 11 27.0**	**0.0**
AOS	**Alonnisos**	**1.11**	**189**	*e*PN	**Pb**	**15 11 27.0**	**0.0**
AOS	**Alonnisos**	**1.11**	**189**	P	**Pb**	**15 11 27.0**	**0.0**
SMTH	**Samothraki Isl**	**1.11**	**79**	P	**Pn**	**15 11 27.1**	**-0.1**
SMTH				S	**Sn**	**15 11 44.3**	**+1.9**
SMTH	**Samothraki Isl**	**1.11**	**79**	*e*PN	**Pb**	**15 11 26.8**	**-0.2**
SMTH				*e*SN	**Sn**	**15 11 43.4**	**+1.0**
SMTH	**Samothraki Isl**	**1.11**	**79**	*e*Pn	**Pb**	**15 11 26.8**	**-0.2**
SMTH	**Samothraki Isl**	**1.11**	**79**	P	**Pn**	**15 11 27.1**	**-0.1**
SMTH				*e*Sn	**Sn**	**15 11 43.4**	**+1.0**
XOR	**Xorichti**	**1.14**	**218**	P	**Pg**	**15 11 28.0**	**+0.1**
XOR				S	**Sn**	**15 11 43.7**	**+0.6**
XOR	**Xorichti**	**1.14**	**218**	P	**Pg**	**15 11 28.0**	**+0.1**
XOR				S	**Sn**	**15 11 43.7**	**+0.6**
SKIA	**Skiathos**	**1.21**	**204**	P	**Pb**	**15 11 28.6**	**0.0**
SKIA				S	**Sg**	**15 11 44.9**	**+0.1**
SKIA	**Skiathos**	**1.21**	**204**	P	**Pb**	**15 11 28.6**	**0.0**
SKIA				S	**Sg**	**15 11 44.9**	**+0.1**
KNT	**Kendrikon**	**1.27**	**315**	P	**Pg**	**15 11 30.2**	**-0.2**
KNT	**Kendrikon**	**1.27**	**315**	P	**Pg**	**15 11 30.2**	**-0.2**
ALN	**Alexandroupoli**	**1.61**	**66**	*e*PN	**Pn**	**15 11 31.9**	**-2.1**
ALN	**Alexandroupoli**	**1.61**	**66**	*e*Pn	**Pn**	**15 11 31.9**	**-2.1**

*ISCJB **23** 15:45:58.9±0.3, 60°.03N±0°.03×153°.36W±0°.06, h150km±3km, mb3.4/2, Error ellipse: s-maj=5.2km s-min=3.4km az=37.7*
*NEIC **23** 15:46:00.8, 60°.01N×153°.42W, h144km, MG3.5(AEIC), After AEIC.*
*IDC **23** 15:46:02.4±8.1, 60°.39N×153°.24W, h142km±67km, mb3.2/2, mb1 3.5/4, mb1mx3.1/23, mbtmp3.3/4, MS2.9/1, Ms1 2.9/1, ms1mx2.5/12, Error ellipse: s-maj=71.0km s-min=36.7km az=19.0*
ISC 23 15:45:59.9±0.8, 60°.06N±0°.04×153°.35W±0°.04, h148km±5km, n113, σ1°.09/124, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILW	**Iliamna West**	**0.11**	**87**	P	**Pn**	**15 46 19.6**	**-0.4**
ILW				S	**Sn**	**15 46 34.8**	**-0.5**
ILIM	**Iliamna**	**0.20**	**83**	P	**Pn**	**15 46 19.8**	**-0.2**
ILIM				S	**Sn**	**15 46 34.6**	**-0.6**
OPT	**Oil Point**	**0.41**	**171**	P	**Pn**	**15 46 20.5**	**-0.1**
PDB	**Pedro Bay**	**0.50**	**238**	P	**Pn**	**15 46 20.1**	**-0.9**
RDWB	**Redoubt West**	**0.50**	**30**	P	**Pn**	**15 46 21.1**	**-0.1**
RDWB				S	**Sn**	**15 46 36.5**	**-1.0**
RSO	**Redoubt South**	**0.51**	**36**	*e*Pn	**Pn**	**15 46 21.2**	**-0.1**
NCT	**North Crescent**	**0.55**	**22**	P	**Pn**	**15 46 21.5**	**+0.1**
DFR	**Drift River**	**0.63**	**31**	P	**Pn**	**15 46 21.9**	**0.0**
AUL	**Augustine Lava**	**0.68**	**184**	P	**Pn**	**15 46 21.8**	**-0.2**
AUL				S	**Sn**	**15 46 38.2**	**-0.7**
AUE	**Augustine Isla**	**0.70**	**181**	P	**Pn**	**15 46 21.8**	**-0.4**
RDT	**Redoubt**	**0.70**	**42**	P	**Pn**	**15 46 22.4**	**+0.2**
AUI	**Augustine Isla**	**0.72**	**183**	P	**Pn**	**15 46 21.9**	**-0.5**
AUI				S	**Sn**	**15 46 38.0**	**-1.4**
HOM	**Homer**	**0.95**	**114**	P	**Pn**	**15 46 24.2**	**+0.2**
HOM				S	**Sn**	**15 46 42.9**	**+0.5**
MCNL	**McNeil River**	**1.01**	**210**	P	**Pn**	**15 46 23.8**	**-0.8**
CNPM	**China Poot**	**1.19**	**116**	P	**Pn**	**15 46 26.2**	**0.0**
CNPM				S	**Sn**	**15 46 45.4**	**-0.9**
CKL	**Chakachamna La**	**1.25**	**23**	P	**Pn**	**15 46 27.5**	**+0.7**
NKA	**Nikishka**	**1.25**	**56**	P	**Pn**	**15 46 28.9**	**+2.2**
BRLK	**Bradley Lake**	**1.27**	**102**	P	**Pn**	**15 46 27.2**	**+0.2**
BRLK				S	**Sn**	**15 46 47.1**	**-0.6**
SPU	**Mount Spurr**	**1.30**	**29**	P	**Pn**	**15 46 27.7**	**+0.5**
BGL	**Barrier Glacie**	**1.30**	**21**	P	**Pn**	**15 46 28.2**	**+0.9**
SPBG	**Spurr Blockage**	**1.30**	**21**	P	**Pn**	**15 46 28.2**	**+0.9**
SPBG				S	**Sn**	**15 46 48.9**	**+0.6**
SVW2	**Sparrevohn**	**1.52**	**314**	P	**Pn**	**15 46 28.8**	**-0.6**
KAPH	**Katmai Pasha**	**1.55**	**200**	P	**Pn**	**15 46 29.2**	**-0.6**
KAPH				S	**Sn**	**15 46 51.2**	**-1.6**
SLKM	**Skilak Lake**	**1.62**	**72**	P	**Pn**	**15 46 31.1**	**+0.5**
STLK	**Strandline Lak**	**1.63**	**27**	P	**Pn**	**15 46 31.4**	**+0.7**
SUA	**Susitna One**	**1.91**	**41**	P	**Pn**	**15 46 34.5**	**+0.6**
SEW	**Seward**	**1.96**	**87**	P	**Pn**	**15 46 34.8**	**+0.5**
KAKN	**Katmai Knife C**	**1.97**	**207**	P	**Pn**	**15 46 33.8**	**-0.8**
KELA	**Mount Kelaz**	**2.03**	**218**	P	**Pn**	**15 46 34.6**	**-1.1**
KABR	**Katmai Barrier**	**2.10**	**204**	P	**Pn**	**15 46 35.3**	**-0.9**
SKT	**Skwentna**	**2.12**	**24**	P	**Pn**	**15 46 36.9**	**+0.5**
ANCK	**Angle Creek**	**2.17**	**212**	P	**Pn**	**15 46 36.2**	**-0.7**
CAHL	**Cahill**	**2.25**	**208**	P	**Pn**	**15 46 37.2**	**-0.6**
PTE	**Portage**	**2.29**	**67**	P	**Pn**	**15 46 38.0**	**-0.3**
KJL	**Kejulik**	**2.31**	**211**	P	**Pn**	**15 46 38.2**	**-0.4**
KDAK	**Kodiak Island**	**2.31**	**170**	P	**Pn**	**15 46 36.7**	**-1.9**
PMR	**Palmer**	**2.58**	**51**	*e*Pn	**Pn**	**15 46 40.8**	**-1.0**
TRAP	**Trapper Creek**	**2.74**	**32**	P	**Pn**	**15 46 44.3**	**+0.6**
LTI	**Latouche**	**2.76**	**88**	P	**Pn**	**15 46 45.1**	**+1.0**
PLK3	**Peulik 3**	**2.82**	**214**	P	**Pn**	**15 46 46.3**	**+1.5**
OHAK	**Old Harbor**	**2.84**	**179**	P	**Pn**	**15 46 42.8**	**-2.3**
PLK4	**Peulik 4**	**2.89**	**214**	P	**Pn**	**15 46 46.7**	**+0.9**
PPLA	**Purkeypile**	**2.91**	**11**	*e*Pn	**Pn**	**15 46 47.4**	**+1.4**
TT01	**Tatalina**	**3.13**	**337**	P	**Pn**	**15 46 48.6**	**-0.2**
GL1	**Glacier Island**	**3.21**	**72**	P	**Pn**	**15 46 48.4**	**-1.3**
CAST	**Castle Rocks**	**3.43**	**10**	P	**Pn**	**15 46 53.2**	**+0.6**
SCM	**Sheep Creek Mo**	**3.44**	**56**	P	**Pn**	**15 46 52.2**	**-0.5**
MID	**Middleton Isla**	**3.60**	**97**	*e*Pn	**Pn**	**15 46 54.9**	**+0.1**
VLZ	**Valdez**	**3.63**	**70**	P	**Pn**	**15 46 54.7**	**-0.4**
KTH	**Kantishna Hill**	**3.69**	**17**	P	**Pn**	**15 46 56.3**	**+0.3**
EYAK	**Cordova Ski Ar**	**3.81**	**79**	P	**Pn**	**15 46 58.0**	**+0.5**
CHUM	**Lake Minchumin**	**3.87**	**7**	P	**Pn**	**15 46 59.0**	**+0.7**
DIV	**Divide**	**3.89**	**71**	*e*Pn	**Pn**	**15 46 58.0**	**-0.6**
KLU	**Klutina**	**3.92**	**65**	P	**Pn**	**15 46 58.5**	**-0.5**
RND	**Reindeer**	**3.98**	**31**	P	**Pn**	**15 47 00.0**	**+0.2**
ANNW	**Aniakchak Nort**	**4.01**	**222**	P	**Pn**	**15 47 00.1**	**-0.2**
ANPK	**Aniakchak Peak**	**4.08**	**220**	P	**Pn**	**15 47 00.4**	**-0.8**
DHY	**Denali Highway**	**4.17**	**41**	P	**Pn**	**15 47 02.2**	**-0.1**
BPAW	**Bear Paw Mtn.**	**4.21**	**14**	*e*Pn	**Pn**	**15 47 01.9**	**-0.8**
MCK	**McKinley**	**4.24**	**28**	P	**Pn**	**15 47 03.6**	**+0.5**
GOAT	**Goat Mountain**	**4.32**	**79**	P	**Pn**	**15 47 03.9**	**-0.3**
RAGM	**Ragged Mountai**	**4.34**	**82**	P	**Pn**	**15 47 05.2**	**+0.7**
BMRM	**Bremner River**	**4.42**	**74**	P	**Pn**	**15 47 04.9**	**-0.6**
BWN	**Browne**	**4.52**	**22**	P	**Pn**	**15 47 07.6**	**+0.9**
HARP	**HAARP**	**4.61**	**56**	P	**Pn**	**15 47 08.2**	**+0.3**
CHGN	**Chignik**	**4.62**	**218**	*e*Pn	**Pn**	**15 47 06.5**	**-1.7**
NICHA	**Nichawak Mount**	**4.69**	**84**	P	**Pn**	**15 47 09.1**	**0.0**
PAX	**Paxson**	**4.77**	**49**	P	**Pn**	**15 47 10.5**	**+0.3**
GLB	**Gilahina Butte**	**4.88**	**69**	P	**Pn**	**15 47 11.7**	**+0.1**
VNHG	**Veniaminof 1**	**4.93**	**221**

0.5nm,0.7s,baz=168,slow=7.6,SNR=3.2
ASAR Alice Springs 80.81 117 P **P 15 58 15.2 -0.3**
0.4nm,0.7s,baz=207,slow=5.1,SNR=8.3
WRA Warramunga Arr 84.05 115 P **P 15 58 32.0 -0.5**
1.4nm,1.2s,baz=220,slow=4.0,SNR=4.4
NVAR Mina Array Bea 152.34 252 PKPbc **PKPbc 16 05 56.9 -0.4**
0.2nm,0.5s,baz=123,slow=3.3,SNR=3.8

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*ISCJB **23** 16:14:50.2±0.5,39°.54S±0°.04×174°.22E±0°.06,h226km±4km, mb3.0/2,Error ellipse: s-maj=8.4km s-min=5.3km az=44.2*
*IDC **23** 16:14:50.3±1.4,39°.67S×174°.47E,h225km±22km,mb2.8/2, mb1 3.0/4,mb1mx2.9/16,mbtmp2.9/4,Error ellipse: s-maj=51.1km s-min=23.3km az=144.0*
*WEL **23** 16:14:52.2±0.3,39°.55S×174°.35E,h219km±2km,ML4.1/18, Error ellipse: s-maj=2.2km s-min=1.6km az=90.0*
ISC 23 16:14:49.9±1.0,39°.55S±0°.06×174°.27E±0°.06,h231km±6km, n89,σ1§27/99,14C-1D,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DFE	**Dawson Falls**	**0.26**	**330**	PN	**Pn**	**16 15 20.9**	**+0.8**
RAEZ	**Rainy Point**	**0.28**	**21**	PN	**Pn**	**16 15 20.7**	**+0.6**
NEZ	**North Egmont**	**0.31**	**334**	PN	**Pn**	**16 15 21.1**	**+0.9**
KHEZ	**Kahui Hut**	**0.32**	**322**	PN	**Pn**	**16 15 21.0**	**+0.7**
KHEZ				SN	**S**	**16 15 43.8**	**-0.2**
DREZ	**Durham Road**	**0.36**	**352**	PN	**Pn**	**16 15 20.6**	**+0.4**
NWEZ	**Newall Road**	**0.41**	**311**	PN	**Pn**	**16 15 21.2**	**+0.8**
PKE	**Pukeiti**	**0.41**	**328**	PN	**Pn**	**16 15 21.0**	**+0.6**
VRZ	**Vera Road**	**0.57**	**42**	PN	**Pn**	**16 15 20.7**	**-0.1**
VRZ				SN	**S**	**16 15 43.2**	**-1.8**
WAZ	**Wanganui**	**0.59**	**111**	PN	**Pn**	**16 15 22.1**	**+1.2**
WAZ				SN	**S**	**16 15 45.1**	**0.0**
PKVZ	**Pokaka**	**0.87**	**73**	PN	**Pn**	**16 15 22.5**	**+0.3**
MTVZ	**Mangateitei**	**0.94**	**81**	PN	**Pn**	**16 15 23.1**	**+0.5**
TRVZ	**Turoa**	**1.02**	**76**	PN	**Pn**	**16 15 23.7**	**+0.4**
TWVZ	**Taurewa**	**1.02**	**63**	PN	**Pn**	**16 15 23.2**	**+0.1**
FWVZ	**Far West T-bar**	**1.04**	**74**	PN	**Pn**	**16 15 23.7**	**+0.3**
DRZ	**Dome Shelter**	**1.04**	**75**	PN	**Pn**	**16 15 24.0**	**+0.5**
WPVZ	**Whakapapa**	**1.05**	**71**	⇑PN	**Pn**	**16 15 23.7**	**+0.4**
WNVZ	**Wahianoa**	**1.05**	**78**	⇑PN	**Pn**	**16 15 23.9**	**+0.5**
WHVZ	**Whangaehu Hut**	**1.06**	**76**	PN	**Pn**	**16 15 23.8**	**+0.2**
NGZ	**Ngauruhoe**	**1.10**	**71**	PN	**Pn**	**16 15 24.0**	**+0.4**
NGZ				SN	**S**	**16 15 47.8**	**-2.2**
TUVZ	**Tukino**	**1.11**	**76**	PN	**Pn**	**16 15 24.4**	**+0.6**
TUVZ				SN	**S**	**16 15 47.9**	**-2.2**
WTVZ	**West Tongariro**	**1.11**	**68**	⇑PN	**Pn**	**16 15 24.1**	**+0.4**
HIZ	**Hauiti**	**1.13**	**24**	PN	**Pn**	**16 15 23.5**	**-0.2**
HIZ				SN	**S**	**16 15 47.8**	**-2.4**
OTVZ	**Oturere**	**1.15**	**71**	PN	**Pn**	**16 15 24.6**	**+0.6**
KRVZ	**Karewarewa**	**1.16**	**67**	PN	**Pn**	**16 15 24.4**	**+0.4**
KRVZ				SN	**S**	**16 15 48.3**	**-2.3**
MOVZ	**Moawhango**	**1.16**	**84**	PN	**Pn**	**16 15 24.1**	**+0.2**
MOVZ				SN	**S**	**16 15 47.3**	**-3.3**
KATZ	**Kakaramea**	**1.25**	**63**	⇓PN	**Pn**	**16 15 25.1**	**+0.4**
DUWZ	**D'Urville Isla**	**1.28**	**192**	PN	**Pn**	**16 15 25.7**	**+1.0**
BHHZ	**Black Hill Sta**	**1.39**	**88**	PN	**Pn**	**16 15 25.7**	**+0.1**
KIW	**Kapiti Island**	**1.40**	**160**	PN	**Pn**	**16 15 26.3**	**+0.8**
KIW				AML	AML	16 15 51.9	
KIW				AML	AML	16 15 53.1	
TSZ	**Takapari Road**	**1.40**	**112**	PN	**Pn**	**16 15 26.4**	**+0.8**
TSZ				AML	AML	16 15 53.5	
TSZ				AML	AML	16 15 54.0	
POWZ	**Post Office Ro**	**1.43**	**127**	⇑PN	**Pn**	**16 15 26.6**	**+0.8**
OGWZ	**Otaki Gorge**	**1.45**	**152**	⇑PN	**Pn**	**16 15 26.9**	**+1.0**
MRZ	**Mangatainoka R**	**1.50**	**138**	PN	**Pn**	**16 15 27.0**	**+0.7**
MRZ				AML	AML	16 15 54.2	
MRZ				AML	AML	16 15 54.7	
PNHZ	**Pukenui**	**1.53**	**104**	⇑PN	**Pn**	**16 15 27.5**	**+0.8**
DVHZ	**Dannevirke**	**1.64**	**118**	⇑PN	**Pn**	**16 15 28.3**	**+0.8**
PRWZ	**Pori Road**	**1.65**	**128**	⇑PN	**Pn**	**16 15 28.7**	**+1.1**
HOWZ	**Holdsworth Sta**	**1.65**	**145**	⇑PN	**Pn**	**16 15 28.3**	**+0.7**
TCW	**Tory Channel**	**1.66**	**180**	PN	**Pn**	**16 15 28.7**	**+1.1**
TCW				AML	AML	16 15 57.4	
TCW				AML	AML	16 15 57.4	
CAW	**Cannon Point**	**1.67**	**159**	PN	**Pn**	**16 15 28.6**	**+0.8**
CAW				AML	AML	16 15 56.9	
CAW				AML	AML	16 15 59.0	
TIWZ	**Tintock**	**1.75**	**135**	⇑PN	**Pn**	**16 15 29.3**	**+0.8**
WPHZ	**Waipukurau**	**1.75**	**108**	⇑PN	**Pn**	**16 15 29.5**	**+1.0**
BKZ	**Black Stump Fm**	**1.77**	**78**	PN	**Pn**	**16 15 28.9**	**+0.2**
BKZ				AML	AML	16 15 59.2	
BKZ				AML	AML	16 16 00.6	
WEL	**Wellington**	**1.78**	**168**	PN	**Pn**	**16 15 29.5**	**+0.9**
SNZO	**South Karori**	**1.79**	**169**	PN	**Pn**	**16 15 29.5**	**+0.7**
SNZO				AML	AML	16 15 59.5	
SNZO				AML	AML	16 15 59.7	
NNZ	**Nelson**	**1.80**	**202**	PN	**Pn**	**16 15 29.8**	**+0.9**
QRZ	**Quartz Range**	**1.84**	**226**	PN	**Pn**	**16 15 29.5**	**+0.2**
MTW	**Mount Morrison**	**1.86**	**150**	PN	**Pn**	**16 15 30.1**	**+0.7**
MTW				AML	AML	16 16 00.2	
MTW				AML	AML	16 16 00.6	
MCHZ	**McNeill Hill**	**1.88**	**88**	PN	**Pn**	**16 15 31.1**	**+1.4**
BFZ	**Birch Farm**	**1.89**	**127**	PN	**Pn**	**16 15 30.5**	**+0.7**
TUWZ	**Tuamarina**	**1.90**	**187**	PN	**Pn**	**16 15 30.6**	**+0.9**
TUWZ				AML	AML	16 15 59.6	
TUWZ				AML	AML	16 16 02.0	
ANWZ	**Angora Road**	**1.93**	**119**	PN	**Pn**	**16 15 31.2**	**+1.2**
PRHZ	**Porangahau**	**1.96**	**112**	⇑PN	**Pn**	**16 15 31.5**	**+1.1**
TMWZ	**Te Maipa**	**1.99**	**142**	⇑PN	**Pn**	**16 15 31.5**	**+0.8**
CPWZ	**Castlepoint**	**2.01**	**133**	PN	**Pn**	**16 15 32.2**	**+1.4**
MSWZ	**Moikau Station**	**2.01**	**158**	PN	**Pn**	**16 15 31.4**	**+0.6**
MSWZ				AML	AML	16 16 02.7	
MSWZ				AML	AML	16 16 03.0	
NMHZ	**Naumai**	**2.02**	**78**	PN	**Pn**	**16 15 32.2**	**+1.2**
KAHZ	**Kahuranaki**	**2.03**	**98**	PN	**Pn**	**16 15 32.3**	**+1.2**
PAWZ	**Paruwai Farm**	**2.03**	**155**	PN	**Pn**	**16 15 31.6**	**+0.6**
PAWZ				AML	AML	16 16 02.8	
PAWZ				AML	AML	16 16 03.2	
PXZ	**Pawanui**	**2.06**	**104**	PN	**Pn**	**16 15 32.3**	**+1.0**
PXZ				AML	AML	16 15 34.0	
PXZ				AML	AML	16 16 05.8	
TRWZ	**Traveller**	**2.14**	**150**	PN	**Pn**	**16 15 32.8**	**+0.8**
TRWZ				AML	AML	16 16 04.9	
TRWZ				AML	AML	16 16 05.1	
PLWZ	**Palliser**	**2.16**	**160**	PN	**Pn**	**16 15 32.8**	**+0.5**
CKHZ	**Cape Kidnapper**	**2.17**	**94**	PN	**Pn**	**16 15 33.6**	**+1.2**
BSWZ	**Blackbirch Sta**	**2.19**	**188**	PN	**Pn**	**16 15 33.6**	**+1.1**
BSWZ				AML	AML	16 16 06.4	
BSWZ				AML	AML	16 16 07.1	
RAHZ	**Arahi**	**2.28**	**75**	PN	**Pn**	**16 15 34.1**	**+0.6**
THZ	**Tophouse**	**2.44**	**205**	PN	**Pn**	**16 15 36.0**	**+0.8**
URZ	**Urewera**	**2.56**	**61**	PN	**Pn**	**16 15 35.7**	**-0.7**
URZ				AML	AML	16 16 10.7	
URZ				AML	AML	16 16 10.8	
URZ	**Urewera**	**2.56**	**61**	P	**Pn**	**16 15 35.8**	**-0.7**
	4.9nm,0.3s,baz=247,slow=7.6,SNR=55						
URZ				S	**S**	**16 16 07.5**	**-5.4**
	27nm,0.3s,baz=140,slow=23,SNR=13						
KNZ	**Kokohu**	**2.69**	**80**	⇑PN	**Pn**	**16 15 38.2**	**+0.4**
MWZ	**Matawai**	**2.82**	**66**	PN	**Pn**	**16 15 38.8**	**-0.4**
MWZ				AML	AML	16 16 17.9	
MWZ				AML	AML	16 16 22.1	
MHGZ	**Mahia Peninsul**	**2.85**	**83**	PN	**Pn**	**16 15 40.2**	**+0.7**
PRGZ	**Paritu Road**	**2.88**	**79**	PN	**Pn**	**16 15 40.4**	**+0.6**
KHZ	**Kahutara**	**2.92**	**191**	PN	**Pn**	**16 15 40.9**	**+0.7**
KHZ				AML	AML	16 16 19.6	
KHZ				AML	AML	16 16 20.1	
CNGZ	**Carnagh Statio**	**3.25**	**72**	PN	**Pn**	**16 15 44.6**	**+0.7**
PUZ	**Puketiti**	**3.45**	**66**	PN	**Pn**	**16 15 45.9**	**-0.4**
PUZ				AML	AML	16 16 28.1	
PUZ				AML	AML	16 16 30.6	
LTZ	**Lake Taylor**	**3.57**	**204**	PN	**Pn**	**16 15 48.1**	**+0.5**
OXZ	**Oxford**	**4.13**	**203**	PN	**Pn**	**16 15 54.1**	**-0.2**
CRLZ	**Canterbury Las**	**4.21**	**197**	PN	**Pn**	**16 15 55.2**	**0.0**
MQZ	**McQueen's Vall**	**4.33**	**196**	PN	**Pn**	**16 15 56.1**	**-0.6**
WVZ	**Waitaha Valley**	**4.42**	**216**	PN	**Pn**	**16 15 57.4**	**-0.3**
RPZ	**Rata Peaks**	**4.81**	**209**	PN	**Pn**	**16 16 02.3**	**-0.3**
RPZ	**Rata Peaks**	**4.81**	**209**	P	**Pn**	**16 16 02.4**	**-0.3**
	1.4nm,0.3s,baz=61,slow=13,SNR=46						
RPZ				S	**S**	**16 16 54.9**	**-5.4**
	11nm,0.3s,baz=327,slow=21,SNR=8.2						
FOZ	**Fox Glacier**	**5.28**	**219**	PN	**Pn**	**16 16 07.2**	**-1.2**
LBZ	**Lake Benmore**	**5.71**	**211**	PN	**Pn**	**16 16 13.6**	**-0.3**
ODZ	**Otahua Downs**	**6.11**	**205**	PN	**Pn**	**16 16 19.6**	**+0.6**
WKZ	**Wanaka**	**6.56**	**215**	PN	**Pn**	**16 16 24.0**	**-0.6**
EAZ	**Earnscleugh**	**6.76**	**211**	PN	**Pn**	**16 16 26.4**	**-0.8**
ASAR	**Alice Springs**	**37.51**	**283**	P	**P**	**16 21 44.3**	**+2.6**
	0.3nm,0.4s,baz=119,slow=6.6,SNR=16						
WRA	**Warramunga Arr**	**39.39**	**288**	P	**P**	**16 21 59.6**	**+2.2**

0.2nm,0.5s,baz=125,slow=8.2,SNR=9.4
ARCES ARCESS Array B 145.71 341 PKPbc **PKPdf 16 34 01.2 +1.7**
2.1nm,0.8s,baz=44,slow=4.0,SNR=2.8

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*IDC **23** 16:22:30.8±1.0,31°.78N×104°.41E,h0km,mb3.6/6, mb1 3.8/8,mb1mx3.6/27,mbtmp3.6/8,ML3.5/2,Error ellipse: s-maj=34.4km s-min=19.5km az=66.0*
*BJI **23** 16:22:32.9,31°.81N×104°.29E,h21km,ML3.4/12,Ms3.2/2, Ms7 3.1/1*
ISC 23 16:22:33.3±0.7,31°.79N±0°.05×104°.24E±0°.06,h15km,n11, σ2§21/17,mb3.9/5,Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**0.97**	**205**	Pg	**Pg**	**16 22 51.6**	**-0.4**
CD2				Sg	**Sn**	**16 23 05.5**	**-0.4**
CD2				smax	smax		
	comp=N,3μm,0.3s						
CD2				smax	smax		
	comp=E,3μm,0.5s						
LZH	**Lanzhou**	**4.30**	**356**	*e*Pn	Pn	16 23 41.6	+3.3
LZH				Pg	**Pb**	**16 23 50.9**	**+2.2**
LZH				Sn	**Sn**	**16 24 31.9**	**+3.6**
LZH				Sg	**Sg**	**16 24 45.8**	**-5.6**
LZH				smax	smax		
	comp=N,47nm,0.6s						
LZH				smax	smax		
	comp=E,89nm,0.5s						
LZH				LR	LR		
	comp=N,120nm,4.2s						
LZH				LR	LR		
	comp=E,200nm,5.6s						
LZH				LR	LR		
	comp=Z,130nm,6.2s						
XAN	**Xi'an**	**4.53**	**59**	Pn	**Pn**	**16 23 39.5**	**-1.9**
XAN				Pg	**Pb**	**16 23 54.9**	**+2.3**
XAN				Sn	**Sn**	**16 24 34.5**	**+0.6**
XAN				Sg	**Sb**	**16 24 48.3**	**+1.2**
XAN				smax	smax		
	comp=N,97nm,0.5s						
XAN				smax	smax		
	comp=E,40nm,0.5s						
CMAR	**Chiang Mai Arr**	**14.11**	**201**	Pn	**Pn**	**16 25 54.5**	**+1.8**
	comp=E,0.1nm,0.3s,baz=8.1,slow=9.9,SNR=3.0						
SONM	**Songino Array**	**16.11**	**5**	Pn	**Pn**	**16 26 19.0**	**-0.3**
	comp=E,0.1nm,0.3s,baz=171,slow=10,SNR=2.9						
KSRS	**Korea Array**	**20.27**	**67**	P	**P**	**16 27 07.3**	**-1.0**
	comp=E,2.0nm,0.7s,baz=256,slow=11,SNR=12						
MKAR	**Makanchi Array**	**22.54**	**318**	P	**P**	**16 27 34.1**	**+1.4**
	comp=E,0.2nm,0.5s,baz=120,slow=10,SNR=3.5						
FINES	**FINESS Array B**	**57.06**	**326**	P	**P**	**16 32 18.6**	**+0.1**
	comp=E,3.9nm,1.0s,baz=114,slow=3.4,SNR=3.3						
WRA	**Warramunga Arr**	**58.98**	**147**	P	**P**	**16 32 31.3**	**-1.1**
	comp=E,1.3nm,0.6s,baz=339,slow=7.5,SNR=27						
ASAR	**Alice Springs**	**62.02**	**149**	P	**P**	**16 32 52.5**	**-0.6**
	comp=E,0.5nm,0.5s,baz=334,slow=6.6,SNR=18						
YKA	**Yellowknife Ar**	**81.00**	**17**	P	**P**	**16 34 46.5**	**-0.6**
	comp=E,0.3nm,0.5s,baz=330,slow=5.7,SNR=3.6						

IDC 23 17:10:08.4±4.4,16°.04S×174°.35W,h0km,mb3.7/3, mb1 4.1/4,mb1mx3.7/19,mbtmp3.8/4,ML2.7/1,MS3.3/3, Ms1 3.3/3,ms1mx2.9/26,Error ellipse: s-maj=279.1km s-min=24.7km az=149.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.27**	**50**	Pn	Pn	17 10 59.3	-1.8
	48nm,0.3s,baz=241,slow=7.5,SNR=53						
AFI				Sn	Sn	17 11 36.9	-3.9
	55nm,0.3s,baz=78,slow=21,SNR=7.8						
AFI				LR	LR	17 12 08.3	
	comp=Z,335nm,19.6s,baz=89,slow=37						
DZM	**Mont Dzumac**	**19.11**	**249**	LR	LR	17 20 29.0	
	comp=Z,106nm,21.0s,baz=216,slow=32						
PPT	**Papeete**	**23.76**	**97**	LR	LR	17 23 04.7	
	comp=Z,63nm,18.7s,baz=254,slow=33						
WRA	**Warramunga Arr**	**48.81**	**257**	P	P	17 18 57.3	+1.4
	0.8nm,0.9s,baz=95,slow=7.0,SNR=2.9						
ASAR	**Alice Springs**	**49.04**	**252**	P	P	17 18 56.4	-1.3
	0.8nm,0.6s,baz=86,slow=8.0,SNR=19						
NVAR	**Mina Array Bea**	**75.42**	**42**	P	P	17 21 55.8	+1.2
	0.5nm,0.7s,baz=227,slow=9.2,SNR=2.4						
BRTR	**Keskin Array B**	**146.06**	**320**	PKPbc	PKPdf	17 29 49.3	-0.8
	1.1nm,1.0s,baz=64,slow=3.4,SNR=3.0						
GERES	**GERESS Array B**	**146.63**	**350**	PKPbc	PKPbc	17 29 52.0	-0.2
	0.5nm,0.7s,baz=46,slow=2.8,SNR=2.0						

IDC 23 17:15:14.5±2.8,2°.24S×97°.36E,h0km,mb3.6/4,mb1 3.7/4, mb1mx3.4/24,mbtmp3.6/4,Error ellipse: s-maj=105.4km s-min=27.9km az=48.0,Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**22.51**	**98**	P	P	17 20 17.1	+1.0
	7.4nm,0.6s,baz=219,slow=18,SNR=4.7						
WRA	**Warramunga Arr**	**40.17**	**119**	P	P	17 22 51.6	-1.2
	0.4nm,0.7s,baz=301,slow=9.1,SNR=4.8						
ASAR	**Alice Springs**	**41.27**	**124**	P	P	17 23 02.8	+0.8
	0.4nm,0.6s,baz=301,slow=7.8,SNR=8.1						
MKAR	**Makanchi Array**	**50.60**	**347**	P	P	17 24 16.5	+1.3
	0.4nm,0.7s,baz=147,slow=6.9,SNR=4.1						
TXAR	**Lajitas Array**	**146.44**	**35**	PKPbc	PKPdf	17 34 55.2	-2.0
	0.1nm,0.3s,baz=304,slow=0.7,SNR=4.2						

IDC 23 17:27:25.4±1.7,23°.73S×66°.54W,h172km±24km,mb3.2/2, mb1 3.1/5,mb1mx3.1/18,mbtmp3.1/5,Error ellipse: s-maj=50.6km s-min=13.8km az=95.0,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**7.55**	**348**	P	Pn	17 29 15.0	+1.3
	1.0nm,0.3s,baz=169,slow=12,SNR=14						
LPAZ				S	Sn	17 30 37.1	-1.8
	baz=140,slow=19,SNR=2.7						
CFAA	**Coronel Fontan**	**7.99**	**190**	P	Pn	17 29 19.9	+1.2
	0.1nm,0.3s,baz=18,slow=12,SNR=7.3						
CFAA				S	Sn	17 30 44.5	-3.6
	0.1nm,0.3s,baz=320,slow=22,SNR=6.5						
SIV	**San Ignacio**	**9.26**	**35**	P	Pn	17 29 36.3	+0.9
	0.5nm,0.3s,baz=231,slow=15,SNR=5.5						
SNAA	**Sanae**	**59.47**	**161**	P	P	17 37 11.1	+1.1
	0.2nm,0.5s,baz=286,slow=8.2,SNR=5.9						
TORD	**Torodi Ar. Bea**	**76.08**	**69**	P	P	17 38 53.8	-0.8
	0.7nm,0.5s,baz=257,slow=5.6,SNR=12						
MKAR	**Makanchi Array**	**146.05**	**40**	PKPbc	PKPdf	17 46 44.0	+0.1
	0.3nm,0.8s,baz=310,slow=3.7,SNR=3.6						

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*IDC **23** 17:28:47.8±0.6,27°.57S×176°.54W,h0km,mb4.3/16, mb1 4.4/19,mb1mx4.4/22,mbtmp4.3/19,ML4.4/3,MS4.0/14, Ms1 4.0/14,ms1mx3.7/24,Error ellipse: s-maj=20.3km s-min=14.8km az=119.0*
*ISCJB **23** 17:28:51.8±0.4,27°.62S±0°.07×176°.66W±0°.09,h34km, mb4.3/20,MS4.0/12,Error ellipse: s-maj=12.5km s-min=9.4km az=23.4*
*NEIC **23** 17:28:54.2±1.7,27°.65S×176°.60W,h47km±14km,mb4.7/7, Error ellipse: s-maj=12.9km s-min=11.1km az=73.0*
ISC 23 17:28:53.2±0.4,27°.65S±0°.06×176°.60W±0°.09,h34km,n80, σ1§49/77,mb4.4/20,MS4.1/12,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.97**	**216**	Pn	**Pn**	**17 29 25.5**	**+1.3**
RAO				Sn	**Sb**	**17 29 51.8**	**-0.9**
RAO	**Raoul Island**	**1.97**	**216**	Pn	**Pn**	**17 29 25.5**	**+1.3**
	246nm,0.3s,baz=68,slow=17,SNR=9.9						
RAO				Sn	**Sb**	**17 29 51.8**	**-0.9**
	398nm,0.3s,baz=72,slow=23,SNR=5.2						
URZ	**Urewera**	**11.82**	**205**	Pn	**Pn**	**17 31 40.4**	**+1.1**
URZ				Sn	**Sn**	**17 33 46.9**	**-3.0**
URZ	**Urewera**	**11.82**	**205**	Pn	**Pn**	**17 31 40.4**	**+1.1**
	1.6nm,0.3s,baz=124,slow=16,SNR=4.9						
URZ				Sn	**Sn**	**17 33 46.9**	**-3.0**
	1.9nm,0.3s,baz=171,slow=20,SNR=8.0						
DZM	**Mont Dzumac**	**16.36**	**286**	*e*P	**P**	**17 32 45.4**	**+2.4**
	60nm,1.1s						
DZM				*e*LR	LR	17 36 29.4	
	1μm,23.6s						
DZM	**Mont Dzumac**	**16.36**	**286**	*e*P	P	17 32 48.2	+5.3
	46nm,1.3s						
DZM	**Mont Dzumac**	**16.36**	**286**	LR	LR	17 37 44.1	
	comp=Z,782nm,21.1s,baz=84,slow=33						
RAR	**Rarotonga**	**16.60**	**71**	LR	LR	17 37 13.3	
	comp=Z,327nm,21.4s,baz=135,slow=31						
RPZ	**Rata Peaks**	**18.87**	**209**	P	**P**	**17 33 08.8**	**-1.6**
RPZ	**Rata Peaks**	**18.87**	**209**	P	**P**	**17 33 08.8**	**-1.6**
	0.8nm,0.3s,baz=49,slow=9.3,SNR=5.3						
TBI	**Tubuai**	**24.84**	**86**	*e*LR	LR	17 40 11.8	
	481nm,28.8s,baz=250						
PPT2	**Papeete2**	**26.82**	**74**	*e*S	**S**	**17 39 03.9**	**-0.9**
	291nm,25.0s						
PPT2				*e*LR	LR	17 41 03.3	
	459nm,26.5s,baz=244						
PPT	**Papeete**	**26.83**	**74**	LR	LR	17 41 54.8	
	comp=Z,188nm,19.5s,baz=242,slow=29						
HNR	**Honiara**	**28.59**	**305**	LR	LR	17 44 40.4	
	comp=Z,283nm,19.4s,baz=155,slow=33						
CTA	**Charters Tower**	**34.70**	**274**	P	**P**	**17 35 40.0**	**+0.1**
CTA	**Charters Tower**	**34.70**	**274**	P	**P**	**17 35 40.0**	**+0.1**
	3.9nm,0.8s,baz=105,slow=12,SNR=3.4						
STKA	**Stephens Creek**	**36.38**	**253**	P	**P**	**17 35 55.0**	**+0.7**
STKA	**Stephens Creek**	**36.38**	**253**	P	**P**	**17 35 55.0**	**+0.7**
	2.7nm,0.7s,baz=100,slow=12,SNR=3.1						
STKA				LR	LR	17 48 55.5	
	comp=Z,324nm,19.0s,baz=35,slow=33						
RKT	**Rikitea**	**37.75**	**93**	*e*LR	LR	17 46 10.4	
	209nm,28.2s						
PMG	**Port Moresby**	**38.66**	**291**	P	**P**	**17 36 12.6**	**-1.2**
PMG	**Port Moresby**	**38.66**	**291**	P	**P**	**17 36 12.6**	**-1.2**
	9.2nm,0.8s,baz=148,slow=1.3,SNR=5.3						
ASAR	**Alice Springs**	**44.56**	**264**	P	**P**	**17 37 01.6**	**-0.5**
ASAR	**Alice Springs**	**44.56**	**264**	P	**P**	**17 37 01.6**	**-0.5**
	1.8nm,0.8s,baz=102,slow=7.5,SNR=13						
ASAR				LR	LR	17 54 20.4	
	comp=Z,289nm,19.1s,baz=170,slow=34						
WRA	**Warramunga Arr**	**45.31**	**269**	P	**P**	**17 37 07.4**	**-0.6**
WRA	**Warramunga Arr**	**45.31**	**269**	P	**P**	**17 37 07.4**	**-0.6**
	2.9nm,0.7s,baz=108,slow=6.1,SNR=17						
SBA	**Scott Base**	**50.86**	**184**	*e*P	**P**	**17 37 53.1**	**+3.0**
	14nm,1.3s						
VNDA	**Vanda**	**50.94**	**186**	P	**P**	**17 37 50.8**	**0.0**
VNDA				ScP	**ScP**	**17 43 06.8**	**+6.4**
VNDA	**Vanda**	**50.94**	**186**	P	**P**	**17 37 50.8**	**0.0**
	0.8nm,0.9s,baz=356,slow=6.7,SNR=4.3						
VNDA				ScP	**ScP**	**17 43 06.8**	**+6.4**
	0.6nm,1.0s,baz=322,slow=2.4,SNR=3.1						
CASY	**Casey**	**58.14**	**207**	*e*P	**P**	**17 38 43.1**	**+0.1**
	16nm,1.1s						
QSPA	**South Pole Qui**	**62.45**	**180**	*e*P	**P**	**17 39 12.0**	**-0.8**
	6.5nm,0.9s						
KAPI	**Kappang**	**64.39**	**278**	LR	LR	18 08 08.9	
	comp=Z,94nm,18.4s,baz=164,slow=37						
MAW	**Mawson**	**75.30**	**200**	*e*P	**P**	**17 40 33.2**	**+0.8**
	4.1nm,1.5s						
MAW	**Mawson**	**75.30**	**200**	P	**P**	**17 40 33.7**	**+1.3**
	2.4nm,0.9s,baz=97,slow=9.3,SNR=5.9						
MAW				LR	LR	18 13 50.8	
	comp=Z,99nm,20.3s,baz=340,slow=36						
MAJO	**Matsushiro**	**76.72**	**324**	*e*P	**P**	**17 40 39.8**	**-1.1**
	7.7nm,0.8s						
MAT	**Matsushiro**	**76.72**	**324**	P	**P**	**17 40 40.7**	**-0.2**
SNAA	**Sanae**	**80.85**	**178**	*e*P	**P**	**17 41 03.3**	**0.0**
SNAA	**Sanae**	**80.85**	**178**	*e*P	**P**	**17 41 03.1**	**-0.2**
	8.8nm,1.0s						
SNAA	**Sanae**	**80.85**	**178**	P	**P**	**17 41 03.2**	**-0.1**
	4.0nm,1.1s,baz=186,slow=3.9,SNR=21						
VNA2	**Neumayer--Watz**	**81.40**	**176**	*e*P	**P**	**17 41 06.7**	**+0.6**
	baz=175,slow=4.6						
VNA1	**Neumayer--Stat**	**81.62**	**176**	*e*P	**P**	**17 41 07.9**	**+0.7**
KSRS	**Korea Array**	**83.08**	**319**	P	**P**	**17 41 15.7**	**+0.4**
	3.5nm,0.9s,baz=143,slow=6.2,SNR=11						
KSRS				LR	LR	18 11 19.7	
	comp=Z,39nm,20.3s,baz=16,slow=31						
KSAR	**Wonju Array Be**	**83.10**	**319**	P	**P**	**17 41 15.7**	**+0.3**
PLCA	**Paso Flores**	**83.47**	**133**	LR	LR	18 11 02.7	
	comp=Z,95nm,20.6s,baz=135,slow=30						
PETK	**Petropavlovsk-**	**83.48**	**345**	P	**P**	**17 41 16.7**	**-0.3**
PETK	**Petropavlovsk-**	**83.48**	**345**	P	**P**	**17 41 16.7**	**-0.3**
	4.3nm,0.9s,baz=153,slow=8.0,SNR=8.9						
NVAR

RAO LR LR 17 41 03.0
comp=Z,638nm,20.8s,baz=156,slow=37
URZ Urewera 11.78 205 P Pn 17 42 27.4 -4.0
URZ S **Sn 17 44 38.5 -3.1**
URZ Urewera 11.78 205 P Pn 17 42 27.4 -4.0
0.6nm,0.3s,baz=120,slow=18,SNR=4.9
URZ S **Sn 17 44 38.5 -3.1**
1.8nm,0.3s,baz=162,slow=21,SNR=9.4
DZM Mont Dzumac 16.42 286 *e*P P 17 43 40.6 +4.2
51nm,1.4s
DZM *e*LR LR 17 47 25.1
700nm,23.9s
DZM Mont Dzumac 16.42 286 P P 17 43 41.6 +5.2
DZM Mont Dzumac 16.42 286 P P 17 43 41.6 +5.2
0.6nm,0.3s,baz=93,slow=18,SNR=9.3
DZM LR LR 17 48 46.4
comp=Z,509nm,18.9s,baz=204,slow=33
TBI Tubuai 24.80 86 *e*LR LR 17 51 04.2
240nm,28.0s
PPT2 Papeete2 26.80 74 *e*LQ LQ 17 50 44.4
235nm,22.0s
PPT2 *e*LR LR 17 51 52.4
257nm,27.0s
PPT Papeete 26.81 74 LR LR 17 52 37.7
comp=Z,207nm,19.5s,baz=192,slow=29
HNR Honiara 28.67 305 LR LR 17 55 51.0
comp=Z,287nm,18.3s,baz=210,slow=34
CTA Charters Tower 34.75 274 P **P 17 46 33.7 +0.5**
CTA Charters Tower 34.75 274 P **P 17 46 33.7 +0.5**
5.3nm,1.0s,baz=103,slow=22,SNR=4.6
CTAO Charters Tower 34.75 274 *e*P **P 17 46 34.2 +1.1**
25nm,1.4s
STKA Stephens Creek 36.40 253 P **P 17 46 48.2 +1.0**
STKA Stephens Creek 36.40 253 P **P 17 46 48.2 +1.0**
1.4nm,0.4s,baz=96,slow=9.6,SNR=14
STKA LR LR 17 59 27.2
comp=Z,182nm,19.0s,baz=207,slow=32
RKT Rikitea 37.70 93 *e*LR LR 17 57 07.5
332nm,38.2s
AS31 Alice Springs 44.60 264 *e*P **P 17 47 53.5 -1.7**
ASAR Alice Springs 44.60 264 P **P 17 47 54.4 -0.7**
ASAR Alice Springs 44.60 264 P **P 17 47 54.4 -0.7**
0.7nm,0.4s,baz=92,slow=7.3,SNR=15
ASAR LR LR 18 07 07.6
comp=Z,164nm,18.2s,baz=61,slow=37
WRAB Tennant Creek 45.34 269 *e*P **P 17 47 59.6 -1.4**
2.0nm,0.7s
WRA Warramunga Arr 45.35 269 P **P 17 47 59.9 -1.2**
WRA Warramunga Arr 45.35 269 P **P 17 47 59.9 -1.2**
1.9nm,0.6s,baz=108,slow=7.5,SNR=21
SBA Scott Base 50.79 185 P **P 17 48 43.9 +1.5**
7.3nm,1.2s
FITZ Fitzroy Crossi 53.70 267 P **P 17 49 04.3 -0.4**
FITZ Fitzroy Crossi 53.70 267 P **P 17 49 04.3 -0.4**
2.3nm,0.9s,baz=106,slow=6.0,SNR=6.3
CASY Casey 58.09 207 *e*P **P 17 49 36.4 +0.9**
2.8nm,0.6s
MAW Mawson 75.25 200 P **P 17 51 24.8 -0.1**
MAW Mawson 75.25 200 P **P 17 51 24.8 -0.1**
1.4nm,0.8s,baz=139,slow=11,SNR=4.3
SNAA Sanae 80.78 178 *e*P **P 17 51 56.0 +0.4**
SNAA Sanae 80.78 178 *e*P **P 17 51 55.7 0.0**
6.6nm,1.3s
VNA2 Neumayer--Watz 81.33 176 *e*P **P 17 51 59.4 +0.9**
KSRS Korea Array 83.16 319 P **P 17 52 08.5 +0.1**
1.4nm,0.8s,baz=143,slow=6.0,SNR=7.8
KSAR Wonju Array Be 83.18 319 P **P 17 52 08.5 0.0**
PETK Petropavlovsk- 83.56 345 P **P 17 52 10.1 0.0**
PETK Petropavlovsk- 83.56 345 P **P 17 52 10.1 0.0**
1.5nm,0.8s,baz=118,slow=5.7,SNR=3.9
NVAR Mina Array Bea 85.41 42 P **P 17 52 20.2 +0.1**
NVAR Mina Array Bea 85.41 42 P **P 17 52 20.2 +0.1**
0.5nm,0.8s,baz=225,slow=5.0,SNR=3.7
BVAR Borovoye Array 125.35 317 PKP **PKPdf 17 58 42.8 0.0**
BVAR Borovoye Array 125.35 317 PKP **PKPdf 17 58 42.8 0.0**
0.3nm,0.5s,baz=101,slow=1.5,SNR=3.2
FINES FINESS Array B 143.04 342 PKP **PKPdf 17 59 15.1 -0.3**
FINES FINESS Array B 143.04 342 PKP **PKPdf 17 59 15.1 -0.3**
1.4nm,0.7s,baz=38,slow=3.4,SNR=4.0
AKASG Malin Array Be 149.86 327 PKPbc **PKPbc 17 59 31.2 -0.9**
AKASG Malin Array Be 149.86 327 PKPbc **PKPbc 17 59 31.2 -0.9**
1.5nm,0.7s,baz=42,slow=2.7,SNR=8.1
BRTR Keskin Array B 152.32 303 PKPbc **PKPbc 17 59 38.5 0.0**
BRTR PKPab **PKPab 17 59 47.9 -0.7**
BRTR Keskin Array B 152.32 303 PKPbc **PKPbc 17 59 38.5 0.0**
0.4nm,0.6s,baz=147,slow=7.1,SNR=3.1
BRTR PKPab **PKPab 17 59 47.9 -0.7**
1.5nm,0.7s,baz=109,slow=3.8,SNR=7.1
TORD Torodi Ar. Bea 165.41 173 PKPab **PKPab 18 00 45.1 -0.2**
TORD Torodi Ar. Bea 165.41 173 PKPab **PKPab 18 00 45.1 -0.2**
2.5nm,0.9s,baz=186,slow=4.4,SNR=9.3

*IDC **23** 17:46:28.2±10.0, 26°.82N×93°.81E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.3/27, mbtmp3.5/4, Error ellipse: s-maj=236.6km s-min=85.3km az=111.0*

ISC 23 17:46:30.2±8.1, 26°.9N±0°.7×93°.8E±0°.8, h10km, n5, σ0^{s}79/5, mb3.4/4, Northeastern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**2.17**	**233**	*e*PN	Pg	17 47 17.0	+5.2
SHL				*e*SN	**Sg**	**17 47 40.0**	**0.0**
MKAR	**Makanchi Array**	**21.85**	**338**	P	**P**	**17 51 22.6**	**-0.3**
1.0nm,0.6s,baz=150,slow=12,SNR=9.9							
KURBB	**Kurchatov Arra**	**26.42**	**338**	P	**P**	**17 52 07.9**	**+1.0**
0.4nm,0.6s,baz=148,slow=10,SNR=5.8							
ZALV	**Zalesovo Beam**	**27.84**	**349**	P	**P**	**17 52 19.4**	**-0.2**
0.2nm,0.3s,baz=176,slow=9.5,SNR=2.1							
GERES	**GERESS Array B**	**63.95**	**314**	P	**P**	**17 57 03.5**	**-0.2**
0.8nm,0.9s,baz=79,slow=8.3,SNR=4.1							

DJA 23 17:48:23.5±0.6, 9°S±7°×12°3E±°, h157km±7km, M3.5/4, MLv3.5/4, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**0.32**	**271**	P	Pn	17 48 46.2	+1.3
MMRI				S	Sn	17 49 03.6	+2.4
SOEI	**Soe**	**2.02**	**123**	P	Pn	17 48 59.5	+0.1
SOEI				S	Sn	17 49 28.1	+1.0
WSI	**Waingapu**	**2.46**	**245**	P	Pn	17 49 05.7	+1.3
WSI				S	Sn	17 49 37.0	+0.9
LBFI	**Labuhan Bajo,**	**2.65**	**273**	P	Pn	17 49 07.3	+0.5
LBFI				S	Sn	17 49 41.4	+1.2
BKSI	**Bulukumba**	**4.09**	**324**	P	Pn	17 49 24.9	-0.2

IDC 23 17:49:19.2±3.6, 6°.03N×124°.60E, h617km±59km, mb3.0/10, mb1 3.0/10, mb1mx2.8/27, mbtmp3.0/10, Error ellipse: s-maj=104.2km s-min=14.1km az=67.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**8.25**	**334**	*e*P	P	17 51 27.6	+6.1
WRA	**Warramunga Arr**	**27.53**	**160**	P	P	17 54 18.1	-0.8
1.9nm,0.3s,baz=341,slow=9.2,SNR=30							
ASAR	**Alice Springs**	**30.88**	**163**	P	P	17 54 47.9	+0.2
1.9nm,0.5s,baz=342,slow=7.1,SNR=40							
STKA	**Stephens Creek**	**41.03**	**158**	P	P	17 56 11.7	+0.9
1.2nm,0.5s,baz=329,slow=11,SNR=6.0							
SONM	**Songino Array**	**44.47**	**343**	P	P	17 56 37.8	+0.4
0.6nm,0.8s,baz=166,slow=7.3,SNR=4.5							
MKAR	**Makanchi Array**	**54.47**	**325**	P	P	17 57 50.5	+0.1
1.1nm,0.3s,baz=121,slow=7.5,SNR=9.5							
AAK	**Ala-Archa**	**57.24**	**318**	P	P	17 58 10.1	+0.4
0.5nm,0.3s,baz=135,slow=4.3,SNR=2.8							
ZALV	**Zalesovo Beam**	**57.59**	**333**	P	P	17 58 11.1	-0.5
0.4nm,0.5s,baz=125,slow=9.0,SNR=2.6							
KURBB	**Kurchatov Arra**	**58.67**	**328**	P	P	17 58 19.1	+0.1
1.9nm,0.5s,baz=129,slow=7.3,SNR=33							
BVAR	**Borovoye Array**	**64.25**	**327**	P	P	17 58 54.9	-0.2
0.3nm,0.3s,baz=110,slow=8.1,SNR=3.7							
AKTO	**Aktyubinsk**	**70.55**	**322**	P	P	17 59 33.4	-0.1
1.2nm,0.4s,baz=90,slow=7.7,SNR=5.0							
TORD	**Torodi Ar. Bea**	**120.18**	**289**	PKP	PKPdf	18 07 02.0	-0.3
0.2nm,0.6s,baz=40,slow=1.7,SNR=2.4							

*MAN **23** 17:51:37, 12°.40N×120°.41E, h21km, mb4.8, ML3.7, MS3.7*
*ISCJB **23** 17:51:38.3±0.6, 12°.46N±0°.05×120°.38E±0°.07, h23km, mb3.3/4, Error ellipse: s-maj=10.6km s-min=4.9km az=34.2*
*IDC **23** 17:51:39.6±3.6, 12°.36N×120°.72E, h55km±41km, mb3.2/4, mb1 3.4/4, mb1mx3.1/24, mbtmp3.2/4, Error ellipse: s-maj=36.8km s-min=19.9km az=66.0*

ISC 23 17:51:37.3±0.8, 12°.31N±0°.06×120°.55E±0°.06, h23km, n15, σ1^{s}20/19, mb3.3/4, 2C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUSP	**Coron**	**0.46**	**228**	*e*P	**Pb**	**17 51 47.8**	**+0.9**
BUSP				*e*S	**Sn**	**17 51 56.4**	**+0.3**
OTRP	**Odiongan**	**1.44**	**88**	*e*P	**Pb**	**17 52 04.3**	**+0.9**
ENPP	**El Nido**	**1.56**	**225**	*e*P	**Pn**	**17 52 04.8**	**+1.2**
BOAC	**Boac**	**1.70**	**48**	*e*P	**Pn**	**17 52 06.6**	**+1.0**
BOAC				*e*S	**Sb**	**17 52 29.6**	**+0.8**
TGY	**Tagaytay City**	**1.82**	**12**	*e*P	**Pn**	**17 52 07.1**	**-0.2**
TGY	**Tagaytay City**	**1.82**	**12**	P	**Pn**	**17 52 06.6**	**-0.7**
407nm,0.3s,baz=198,slow=10,SNR=55							
TGY				S	**Sn**	**17 52 29.2**	**-0.4**
236nm,0.3s,baz=196,slow=17,SNR=9.4							
LQP	**Lukban**	**2.03**	**28**	*e*P	**Pn**	**17 52 12.1**	**+1.7**
RCP	**Roxas**	**2.27**	**109**	*e*P	**Pb**	**17 52 17.2**	**-0.5**
AUQP	**San Andres**	**2.30**	**64**	*e*P	**Pb**	**17 52 19.5**	**+1.3**
GQP	**Guinayangan**	**2.43**	**49**	*e*P	**Pn**	**17 52 17.2**	**+1.5**
GQP				*e*S	**Sb**	**17 52 50.2**	**+0.2**
BALP	**Baler**	**3.55**	**16**	*e*P	**Pn**	**17 52 31.7**	**+0.6**
CMAR	**Chiang Mai Arr**	**21.70**	**289**	P	**P**	**17 56 28.5**	**+1.5**
1.6nm,0.8s,baz=96,slow=8.4,SNR=8.1							
WRA	**Warramunga Arr**	**34.81**	**157**	P	**P**	**17 58 24.9**	**-1.7**
0.1nm,0.6s,baz=338,slow=9.1,SNR=3.1							
SONM	**Songino Array**	**37.34**	**344**	P	**P**	**17 58 46.4**	**-1.7**
0.8nm,0.6s,baz=162,slow=10,SNR=8.7							
ASAR	**Alice Springs**	**38.07**	**160**	P	**P**	**17 58 53.1**	**-1.3**
0.3nm,0.8s,baz=344,slow=6.5,SNR=3.0							

*IDC **23** 18:44:49.9±0.8, 19°.07S×176°.69W, h0km, mb4.1/9, mb1 4.3/11, mb1mx4.1/19, mbtmp4.1/11, ML2.5/2, MS3.9/14, Ms1 3.9/14, ms1mx3.8/21, Error ellipse: s-maj=32.8km s-min=19.1km az=142.0*
*ISCJB **23** 18:45:01.5±0.5, 19°.2S±0°.1×176°.92W±0°.09, h100km, mb4.1/12, Error ellipse: s-maj=16.2km s-min=12.1km az=171.1*
*NEIC **23** 18:45:02.5±2.9, 19°.10S×176°.92W, h97km±23km, mb4.6/3, Error ellipse: s-maj=25.5km s-min=17.0km az=133.0*

ISC 23 18:45:02.9±0.6, 19°.2S±0°.1×176°.94W±0°.10, h100km, n55, σ1^{s}54/45, mb4.1/12, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.97**	**286**	*e*P	**Pn**	**18 46 15.3**	**+0.1**
AFI	**Afiamalu**	**7.20**	**44**	Pn	Pn	18 46 33.5	-12
AFI	**Afiamalu**	**7.20**	**44**	Pn	Pn	18 46 33.5	-12
1.2nm,0.3s,baz=261,slow=13,SNR=3.0							
AFI				LR	LR	18 48 45.6	
comp=Z,615nm,18.2s,baz=215,slow=34							
RAO	**Raoul Island**	**10.08**	**185**	LR	LR	18 50 44.9	
comp=Z,1μm,19.9s,baz=354,slow=35							
DZM	**Mont Dzumac**	**15.82**	**257**	*e*P	**P**	**18 48 41.5**	**-0.4**
62nm,1.4s							
DZM				*e*LR	LR	18 52 27.5	
2μm,24.9s							
DZM	**Mont Dzumac**	**15.82**	**257**	Pn	**Pn**	**18 48 39.1**	**-1.0**
DZM	**Mont Dzumac**	**15.82**	**257**	Pn	**Pn**	**18 48 39.1**	**-1.0**
0.1nm,0.3s,baz=75,slow=16,SNR=3.2							
RAR	**Rarotonga**	**16.24**	**100**	LR	LR	18 52 56.9	
comp=Z,413nm,19.1s,baz=225,slow=30							
URZ	**Urewera**	**19.72**	**194**	LR	LR	18 56 13.9	
comp=Z,445nm,19.6s,baz=23,slow=34							
HNR	**Honiara**	**24.37**	**290**	LR	LR	18 58 08.1	
comp=Z,220nm,18.5s,baz=120,slow=32							
TBI	**Tubuai**	**25.93**	**104**	*e*LQ	LQ	18 55 24.7	
898nm,26.8s							
TBI				*e*LR	LR	18 56 34.7	
382nm,28.5s,baz=276							
PPT2	**Papeete2**	**26.00**	**91**	*e*LQ	LQ	18 55 23.5	
641nm,26.5s							
PPT2				*e*LR	LR	18 56 32.4	
1μm,26.5s,baz=257							
PPT	**Papeete**	**26.01**	**91**	LR	LR	18 57 39.6	
comp=Z,270nm,20.9s,baz=205,slow=30							
PMG	**Port Moresby**	**36.05**	**281**	*e*P	**P**	**18 51 52.9**	**-2.2**
17nm,1.0s							
RKT	**Rikitea**	**39.24**	**103**	*e*LR	LR	19 02 26.9	
368nm,32.2s							
STKA	**Stephens Creek**	**39.27**	**243**	*e*P	**P**	**18 52 23.1**	**+1.1**
STKA	**Stephens Creek**	**39.27**	**243**	P	**P**	**18 52 22.4**	**+0.4**
6.7nm,0.9s,baz=63,slow=8.7,SNR=7.0							
WRA	**Warramunga Arr**	**45.79**	**261**	P	**P**	**18 53 14.9**	**-0.1**
WRA	**Warramunga Arr**	**45.79**	**261**	P	**P**	**18 53 14.9**	**-0.1**
1.7nm,0.9s,baz=96,slow=7.7,SNR=7.6							
WRA				LR	LR	19 11 46.0	
comp=Z,425nm,20.3s,baz=180,slow=35							
AS31	**Alice Springs**	**45.81**	**255**	*e*P	**P**	**18 53 15.6**	**+0.5**
ASAR	**Alice Springs**	**45.81**	**255**	P	**P**	**18 53 15.8**	**+0.7**
ASAR	**Alice Springs**	**45.81**	**255**	P	**P**	**18 53 15.8**	**+0.7**
5.2nm,0.9s,baz=93,slow=8.3,SNR=50							
VNDA	**Vanda**	**59.32**	**185**	P	**P**	**18 54 54.5**	**+0.7**
VNDA	**Vanda**	**59.32**	**185**	P	**P**	**18 54 54.5**	**+0.7**
1.7nm,1.1s,baz=11,slow=8.2,SNR=6.4							
QSPA	**South Pole Qui**	**70.90**	**180**	*e*P	**P**	**18 56 09.7**	**+0.7**
11nm,1.2s							
PETK	**Petropavlovsk-**	**75.25**	**345**	P	**P**	**18 56 35.3**	**+0.8**
PETK	**Petropavlovsk-**	**75.25**	**345**	P	**P**	**18 56 35.3**	**+0.8**
1.0nm,0.4s,baz=142,slow=7.3,SNR=3.0							
PETK				LR	LR	19 22 14.6	
comp=Z,59nm,21.5s,baz=238,slow=30							
KSRS	**Korea Array**	**76.56**	**318**	LR	LR	19 25 53.4	
comp=Z,27nm,18.9s,baz=130,slow=32							
WVOR	**Wild Horse Val**	**81.47**	**40**	*e*P	**P**	**18 57 09.8**	**+0.5**
10nm,1.5s							
MAW	**Mawson**	**83.15**	**199**	LR	LR	19 30 11.0	
comp=Z,81nm,21.5s,baz=333,slow=33							
TXAR	**Lajitas Array**	**85.50**	**57**	P	**P**	**18 57 28.5**	**-1.6**
TXAR	**Lajitas Array**	**85.50**	**57**	P	**P**	**18 57 28.5**	**-1.6**
1.8nm,0.9s,baz=237,slow=6.9,SNR=7.6							
TXAR				LR	LR	19 27 13.5	
comp=Z,41nm,19.0s,baz=0.0,slow=30							
ILAR	**Eielson Array**	**86.80**	**12**	P	**P**	**18 57 34.0**	**-1.6**
ILAR	**Eielson Array**	**86.80**	**12**	P	**P**	**18 57 34.0**	**-1.6**
0.9nm,1.0s,baz=201,slow=4.8,SNR=4.1							
ILAR				LR	LR	19 33 15.7	
comp=Z,54nm,18.1s,baz=258,slow=34							
PDAR	**Pinedale Array**	**87.31**	**43**	P	**P**	**18 57 39.5**	**+0.7**
PDAR	**Pinedale Array**	**87.31**	**43**	P	**P**	**18 57 39.5**	**+0.7**
0.3nm,0.7s,baz=230,slow=7.0,SNR=2.4							
PDAR				LR	LR	19 31 20.5	
comp=Z,74nm,18.3s,baz=54,slow=32							
SNAA	**Sanae**	**89.31**	**178**	*e*P	**P**	**18 57 46.1**	**-1.6**
VNA2	**Neumayer--Watz**	**89.85**	**177**	*e*P	**P**	**18 57 50.2**	**+0.1**
VNA1	**Neumayer--Stat**	**90.07**	**176**	*e*P	**P**	**18 57 50.4**	**-0.7**
CMAR	**Chiang Mai Arr**	**90.62**	**289**	P	**P**	**18 57 56.3**	**+1.6**
CMAR	**Chiang Mai Arr**	**90.62**	**289**	P	**P**	**18 57 56.3**	**+1.6**
0.7nm,1.0s,baz=106,slow=2.3,SNR=2.9							
ULM	**Lac du Bonnet**	**98.97**	**40**	LR	LR	19 34 42.8	
comp=Z,84nm,20.2s,baz=309,slow=30							
BRTR	**Keskin Array B**	**146.65**	**314**	PKPbc	**PKPab**	**19 04 34.9**	**+0.2**
BRTR	**Keskin Array B**	**146.65**	**314**	PKPbc	**PKPab**	**19 04 34.9**	**+0.2**
1.2nm,1.0s,baz=108,slow=4.0,SNR=4.2							
UPC	**Upice**	**147.07**	**345**	*e*PKPab	**PKPab**	**19 04 39.6**	**+3.8**
OKC	**Ostrava-Krasne**	**147.10**	**342**	*e*PKPab	**PKPab**	**19 04 39.7**	**+3.8**
DPC	**Dobruska-Polom**	**147.14**	**344**	*e*PKPab	**PKPab**	**19 04 38.7**	**+2.6**
DPC				*ex*	x	19 04 49.3	
DPC				*e*pPKP	**pPKPdf**	**19 05 00.6**	**+1.0**
PVCC	**Panska Ves**	**147.39**	**346**	*e*PKPab	**PKPab**	**19 04 40.6**	**+3.5**
PVCC				*ex*	x	19 04 50.1	
PRU	**Pruhonice**	**147.91**	**346**	*e*PKPab	**PKPab**	**19 04 41.5**	**+2.4**
PRU				*ex*	x	19 04 45.9	
TREC	**Trest**	**148.32**	**344**	*e*PKPab	**PKPab**	**19 04 42.9**	**+2.1**
TREC				*ex*	x	19 04 46.3	
KHC	**Kasperske Hory**	**148.93**	**347**	*e*PKPab	**PKPab**	**19 04 43.5**	**+0.2**
KHC				*ex*	x	19 04 49.4	
KHC				*ex*	x	19 04 52.5	
GERES	**GERESS Array B**	**149.17**	**346**	PKPbc	**PKPbc**	**19 04 38.0**	**-1.7**
GERES	**GERESS Array B**	**149.17**	**346**	PKPbc	**PKPbc**	**19 04 38.0**	**-1.7**
0.4nm,0.6s,baz=348,slow=1.4,SNR=3.9							
TORD	**Torodi Ar. Bea**	**173.87**	**167**	PKP	**PKPdf**	**19 05 00.3**	**-1.3**
TORD				PKPab	**PKPab**	**19 06 32.2**	**+0.1**
TORD	**Torodi Ar. Bea**	**173.87**	**167**	PKP	**PKPdf**	**19 05 00.3**	**-1.3**
0.3nm,0.8s,baz=268,slow=2.4,SNR=3.1							
TORD				PKPab	**PKPab**	**19 06 32.2**	**+0.1**
0.9nm,1.0s,baz=201,slow=2.2,SNR=3.5							

*MOS **23** 18:47:57.8±1.0, 45°.13N×149°.71E, h71km, mb4.3/4, Error ellipse: s-maj=20.7km s-min=13.9km az=179.1*
*JMA **23** 18:48:00.8±0.5, 45°.15N×149°.36E, h30km, M4.5*
*NIED **23** 18:48:00, 45°.20N×149°.40E, h68km, Mw3.6 Best double couple: Mδ3.24000×10^{14} NP1:φs323.00000°, δ73.00000°, λ-32.00000°. NP2:φs63.00000°, δ59.00000°, λ-160.00000°.*
*SKHL **23** 18:48:01.4±0.2, 45°.07N×149°.41E, h86km±4km, mb4.8/3, msh5.8/2*
*IDC **23** 18:48:04.3±3.9, 45°.49N×149°.08E, h79km±26km, mb3.4/8, mb1 3.5/11, mb1mx3.4/26, mbtmp3.4/11, Error ellipse: s-maj=68.4km s-min=24.1km az=139.0*

ISC 23 18:47:57.2±3.2, 44°.91N±0°.07×149°.8E±0°.2, h53km±22km, n57, σ1^{s}79/70, mb3.7/9, 3C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.40**	**284**	*c i*PN	**Pn**	**18 48 21.0**	**+0.7**
KUR				*i* S	**Sn**	**18 48 35.8**	**-1.9**
KUR				pmax	pmax		
comp=N,35nm,0.2s							
KUR				pmax	pmax		
comp=E,46nm,0.2s							
KUR				pmax	pmax		
comp=Z,240nm,0.2s							
KUR				smax	smax		
comp=E,1μm,0.4s							
KUR				smax	smax		
comp=N,2μm,0.5s							
KUR	**Kuril'sk**	**1.40**	**284**	*i* P	**Pn**	**18 48 21.0**	**+0.7**
KUR				AMB	AMB	18 48 21.4	
comp=N,35nm,0.2s							
KUR				AMB	AMB	18 48 21.4	
comp=N,46nm,0.2s							
KUR				AMB	AMB	18 48 21.4	
comp=N,240nm,0.2s							
KUR				*i* S	**Sn**	**18 48 35.8**	**-1.9**
KUR				A	A	18 48 36.4	
comp=N,2μm,0.4s							
KUR				A	A	18 48 36.4	
comp=N,1μm,0.4s							
YUK	**Yuzh-Kuril'sk**	**2.95**	**254**	*c i*PN	**Pn**	**18 48 43.5**	**+2.1**
YUK				*i* S	**Sn**	**18 49 15.2**	**-0.4**
YUK				pmax	pmax		
comp=N,27nm,0.2s							
YUK				pmax	pmax		
comp=E,51nm,0.2s							
YUK				pmax	pmax		
comp=Z,162nm,0.2s							
YUK				smax	smax		
comp=N,456nm,0.4s							
YUK				smax	smax		
comp=E,579nm,0.4s							
YUK	**Yuzh-Kuril'sk**	**2.95**	**254**	*i* P	**Pn**	**18 48 43.5**	**+2.1**
YUK				AMB	AMB	18 48 45.6	
comp=E,27nm,0.2s							
YUK				AMB	AMB	18 48 45.6	
comp=E,51nm,0.2s							
YUK				AMB	AMB	18 48 45.6	
comp=E,162nm,0.2s							
YUK				*i* S	**Sn**	**18 49 15.2**	**-0.4**
YUK				A	A	18 49 19.0	
comp=E,456nm,0.4s							
YUK				A	A	18 49 19.0	
comp=E,579nm,0.4s							
NEM2	**Nemuro 2**	**3.30**	**243**	P	**Pn**	**18 48 47.3**	**+1.0**
NEM2				*e*S	**Sn**	**18 49 21.6**	**-2.6**
JRA	**Rausu**	**3.48**	**255**	P	**Pn**	**18 48 51.4**	**+2.6**
JRA				*e*S	**Sn**	**18 49 29.4**	**+0.7**
JNK	**Nakash**	**3.88**	**252**	P	**Pn**	**18 48 56.5**	**+2.3**
JNK				*e*S	**Sn**	**18 49 37.4**	**-1.1**
JAK	**Akkeshi**	**4.15**	**244**	P	**Pn**	**18 48 59.2**	**+1.3**
JAK				*e*S	**Sn**	**18 49 42.5**	**-2.6**
JTKR	**Abashiri--Toko**	**4.32**	**259**	P	**Pn**	**18 49 02.6**	**+2.4**
JAR	**Ashorobuto**	**4.63**	**252**	P	**Pn**	**18 49 07.3**	**+2.8**
JAR				*e*S	**Sn**	**18 49 57.0**	**+0.1**
JMP	**Maruseppu**	**4.69**	**261**	P	**Pn**	**18 49 07.9**	**+2.5**
JOB	**Onbets**	**4.75**	**247**	P	**Pn**	**18 49 08.1**	**+1.9**
JOB				*e*S	**Sn**	**18 49 58.2**	**-1.7**
JKK2	**Kamakawa 2**	**5.15**	**261**	P	**Pn**	**18 49 14.5**	**+2.8**
JCH	**Churui**	**5.19**	**246**	P	**Pn**	**18 49 13.8**	**+1.6**
JCH				*e*S	**Sn**	**18 50 07.7**	**-3.1**
ASAJ	**Asahikawa**	**5.21**	**264**	P	**Pn**	**18 49 15.4**	**+3.0**
ASAJ	**Asahikawa**	**5.21**	**264**	P	**Pn**	**18 49 14.3**	**+1.9**
comp=E,0.9nm,0.3s,baz=89,slow=23,SNR=13							
YSS	**Yuzh-Sakhalins**	**5.32**	**295**	*e*PN	**Pn**	**18 49 15.5**	**+1.6**
YSS	**Yuzh-Sakhalins**	**5.32**	**295**	*i* P	**Pn**	**18 49 15.0**	**+1.1**
YSS				AMB	AMB	18 49 16.7	
comp=E,20nm,0.8s							
YSS				*e*S	**Sn**	**18 50 10.0**	**-3.8**
YSS				A	A	18 50 13.8	
comp=E,20nm,1.0s							
JFR	**Furan**	**5.47**	**254**	P	**Pn**	**18 49 19.2**	**+3.1**
JFR				*e*S	**Sn**	**18 50 18.0**	**+0.2**
ERM	**Erimo**	**5.63**	**241**	*c i*PN	**Pn**	**18 49 21.2**	**+3.0**
ERM	**Erimo**	**5.63**	**241**	*e*P	**Pn**	**18 49 21.2**	**+3.0**
JNBK	**Urakawa-nobuka**	**5.75**	**245**	P	**Pn**	**18 49 20.9**	**+1.0**
JBT2	**Biratori 2**	**5.78**	**251**	*e*S	**Sn**	**18 50 23.6**	**-1.6**
JNB	**Noboribetsu**	**6.80**	**252**	P	**Pn**	**18 49 35.5**	**+1.2**
JKB	**Kayabe**	**7.06**	**248**	P	**Pn**	**18 49 38.8**	**+1.0**
JKB				*e*S	**Sn**	**18 50 51.1**	**-5.5**
JYM2	**Yakumo 2**	**7.39**	**251**	P	**Pn**	**18 49 43.7**	**+1.3**
JANG	**Nango**	**7.60**	**236**	P	**Pn**	**18 49 44.5**	**-0.8**
JANG				*e*S	Sn	18 51 02.1	-7.9
JTM	**Tenmabayashi**	**7.62**	**240**	P	**Pn**	**18 49 46.4**	**+0.9**
JTM				*e*S	Sn	18 51 02.5	-7.9
JSR	**Shiriuchi**	**7.63**	**247**	P	**Pn**	**18 49 46.4**	**+0.7**
JTH	**Tanohata**	**7.68**	**232**	P	**Pn**	**18 49 45.6**	**-0.8**
JOSM	**Okushiri--Mats**	**8.01**	**253**	P	**Pn**	**18 49 52.1**	**+1.2**
JRG	**Rokugo**	**8.75**	**234**	P	**Pn**	**18 50 01.1**	**+0.1**
JIO	**Ouri**	**9.03**	**227**	P	**Pn**	**18 50 04.3**	**-0.5**
PETK	**Petropavlovs

ellipse: s-maj=4.3km s-min=2.6km az=151.0
*LDG **23** 18:48:36.7±0.1,51°.57N×7°.80E, h1km, Md3.3/2, Ml2.9/11, Error ellipse: s-maj=3.2km s-min=2.0km az=159.0, Suspected Mining induced.*
*BGR **23** 18:48:37.7±0.2,51°.62N×7°.77E, h1km, ML2.7/14, Error ellipse: s-maj=3.3km s-min=2.2km az=149.0*
*PRU **23** 18:48:39.1,51°.57N×7°.79E, h13km*
*STR **23** 18:48:42.0±0.4,51°.38N×7°.91E, h10km, Ml2.6, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 23 18:48:36.5±0.7,**51°.62N**±0°.02×**7°.75E**±0°.02,**h0km,n117,** σ**1**§**38**/171,**Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAHL	**Ahlen**	**0.13**	**20**	Pg	**Pg**	**18 48 38.9**	**-0.1**
BAHL				Sg	**Sg**	**18 48 40.9**	**+0.3**
BAHL	**Ahlen**	**0.13**	**20**	Pg	**Pg**	**18 48 38.9**	**-0.1**
BAHL				Sg	**Sg**	**18 48 40.9**	**+0.3**
SORT	**Sorpetalsperre**	**0.30**	**153**	*i* Pg	**Pg**	**18 48 43.3**	**+1.1**
SORT				*e*Sg	**Sg**	**18 48 47.9**	**+1.8**
	233nm,0.2s						
SORT	**Sorpetalsperre**	**0.30**	**153**	Pg	**Pg**	**18 48 43.3**	**+1.1**
SORT				Sg	**Sg**	**18 48 47.9**	**+1.8**
	233nm,0.2s						
BUG	**Bochum--Univer**	**0.35**	**240**	*e*Pg	**Pg**	**18 48 43.8**	**+0.6**
BUG				Sg	**Sg**	**18 48 49.6**	**+1.9**
ENTS	**Ennepetalsperr**	**0.43**	**210**	*e*Pg	**Pg**	**18 48 45.6**	**+0.8**
ENTS				*e*Sg	**Sg**	**18 48 51.8**	**+1.5**
ENTS	**Ennepetalsperr**	**0.43**	**210**	Pg	**Pg**	**18 48 45.6**	**+0.8**
ENTS				Sg	**Sg**	**18 48 51.8**	**+1.5**
LAUG	**Laupendahl**	**0.57**	**243**	*e*Pg	**Pg**	**18 48 47.6**	**+0.2**
LAUG				*e*Sg	**Sg**	**18 48 56.2**	**+1.4**
	121nm,0.4s						
LAUG	**Laupendahl**	**0.57**	**243**	Pg	**Pg**	**18 48 47.6**	**+0.2**
LAUG				Sg	**Sg**	**18 48 56.2**	**+1.4**
	121nm,0.4s						
HOBG	**Hohbusch**	**0.69**	**203**	*e*Pg	**Pg**	**18 48 50.7**	**+1.1**
HOBG				*e*Sg	**Sb**	**18 49 00.9**	**-0.4**
HOBG	**Hohbusch**	**0.69**	**203**	Pg	**Pg**	**18 48 50.7**	**+1.1**
WTSB	**Winterswijk**	**0.69**	**301**	*e*Pg	**Pg**	**18 48 50.0**	**+0.3**
	baz=119						
IBBN	**Ibbenburen**	**0.69**	**0**	*e*Pg	**Pg**	**18 48 50.3**	**+0.6**
IBBN				*e*Sg	**Sg**	**18 48 59.5**	**+0.8**
IBBN	**Ibbenburen**	**0.69**	**0**	Pg	**Pg**	**18 48 50.3**	**+0.6**
IBBN				Sg	**Sg**	**18 48 59.5**	**+0.8**
WBS	**Wahnbachtalspe**	**0.86**	**200**	*e*Pg	**Pg**	**18 48 53.6**	**+0.6**
WBS				*e*Sg	**Sg**	**18 49 05.1**	**+0.9**
	78nm,0.2s						
WBS	**Wahnbachtalspe**	**0.86**	**200**	Pg	**Pg**	**18 48 53.6**	**+0.6**
WBS				Sg	**Sg**	**18 49 05.1**	**+0.9**
	78nm,0.2s						
JCK	**Jackerath**	**1.01**	**235**	*e*Pg	**Pg**	**18 48 56.2**	**+0.3**
JCK				*e*Sg	**Sg**	**18 49 10.1**	**+1.1**
	286nm,0.2s						
JCK	**Jackerath**	**1.01**	**235**	Pg	**Pg**	**18 48 56.2**	**+0.3**
JCK				Sg	**Sg**	**18 49 10.1**	**+1.1**
	286nm,0.2s						
TDN	**Todenfeld**	**1.16**	**206**	*e*Pg	**Pg**	**18 48 58.9**	**+0.2**
TDN	**Todenfeld**	**1.16**	**206**	Pg	**Pg**	**18 48 58.9**	**+0.2**
STB	**Steinbach**	**1.17**	**210**	*e*Pg	**Pg**	**18 48 59.6**	**+0.6**
STB	**Steinbach**	**1.17**	**210**	Pg	**Pg**	**18 48 59.6**	**+0.6**
KOE	**Koeppel**	**1.19**	**181**	*e*Pg	**Pg**	**18 48 59.7**	**+0.4**
KOE	**Koeppel**	**1.19**	**181**	Pg	**Pg**	**18 48 59.7**	**+0.4**
GSH	**Grosshau**	**1.23**	**225**	*e*Pg	**Pg**	**18 49 00.2**	**+0.1**
GSH				*e*Sg	**Sg**	**18 49 16.8**	**+0.7**
	68nm,0.2s						
GSH	**Grosshau**	**1.23**	**225**	Pg	**Pg**	**18 49 00.2**	**+0.1**
GSH				Sg	**Sg**	**18 49 16.8**	**+0.7**
	68nm,0.2s						
KLL	**Kalltalsperre**	**1.33**	**224**	*e*Pg	**Pg**	**18 49 01.3**	**-0.6**
KLL	**Kalltalsperre**	**1.33**	**224**	Pg	**Pg**	**18 49 01.3**	**-0.6**
DREG	**Dreilaegerbach**	**1.35**	**226**	*e*Pg	**Pg**	**18 49 01.7**	**-0.7**
DREG	**Dreilaegerbach**	**1.35**	**226**	Pg	**Pg**	**18 49 01.7**	**-0.7**
GTTG	**Gvttingen**	**1.38**	**92**	*e*Pn	**Pg**	**18 49 02.7**	**-0.3**
GTTG				*e*Sg	**Sn**	**18 49 21.8**	**-0.2**
GTTG	**Gvttingen**	**1.38**	**92**	Pn	**Pg**	**18 49 02.7**	**-0.3**
GTTG				Sg	**Sn**	**18 49 21.8**	**-0.2**
OLFT	**Oleftalsperre**	**1.40**	**217**	*e*Pg	**Pn**	**18 49 02.8**	**-0.5**
OLFT				*e*Sg	**Sg**	**18 49 21.3**	**-0.2**
OLFT	**Oleftalsperre**	**1.40**	**217**	Pg	**Pn**	**18 49 02.8**	**-0.5**
OLFT				Sg	**Sg**	**18 49 21.3**	**-0.2**
HGN	**Heimansgroeve**	**1.43**	**234**	*e*Pg	**Pn**	**18 49 02.8**	**-0.8**
	17nm,0.2s,baz=56						
HGN				*e*Sg	**Sg**	**18 49 22.2**	**-0.1**
HGN	**Heimansgroeve**	**1.43**	**234**	*e*Pg	**Pn**	**18 49 02.8**	**-0.8**
	17nm,0.2s						
HGN				*e*Sg	**Sg**	**18 49 22.2**	**-0.1**
BGG	**Burgeitz**	**1.44**	**191**	*e*Pg	**Pn**	**18 49 03.3**	**-0.4**
BGG	**Burgeitz**	**1.44**	**191**	Pg	**Pn**	**18 49 03.3**	**-0.4**
TNS	**Taunus Mts**	**1.46**	**162**	*e*Pn	**Pn**	**18 49 03.5**	**-0.7**
TNS				*e*Sn	**Sg**	**18 49 22.4**	**-1.1**
TNS	**Taunus Mts**	**1.46**	**162**	Pn	**Pn**	**18 49 03.5**	**-0.7**
TNS				Sn	**Sg**	**18 49 22.4**	**-1.1**
HILG	**Hillesheim**	**1.49**	**208**	*e*Pg	**Pn**	**18 49 04.1**	**-0.4**
HILG	**Hillesheim**	**1.49**	**208**	Pg	**Pn**	**18 49 04.1**	**-0.4**
MEM	**Membach**	**1.49**	**228**	P	**Pn**	**18 49 04.3**	**-0.3**
MEM	**Membach**	**1.49**	**228**	P	**Pn**	**18 49 04.2**	**-0.3**
UBBA	**Unterbreizbach**	**1.62**	**119**	*e*Pn	**Pb**	**18 49 06.9**	**-0.3**
UBBA				*e*Sg	**Sg**	**18 49 28.2**	**-0.4**
UBBA	**Unterbreizbach**	**1.62**	**119**	Pn	**Pb**	**18 49 06.9**	**-0.3**
UBBA				Sg	**Sg**	**18 49 28.2**	**-0.4**
LOH	**Wallersheim-Lo**	**1.63**	**209**	*e*Sg	**Sn**	**18 49 26.8**	**-1.3**
	49nm,0.3s						
LOH	**Wallersheim-Lo**	**1.63**	**209**	Sg	**Sn**	**18 49 26.8**	**-1.3**
	49nm,0.3s						
CLZ	**Clausthal**	**1.65**	**81**	*e*Pn	**Pn**	**18 49 05.4**	**-1.3**
CLZ				*e*Sg	**Sg**	**18 49 29.6**	**+0.3**
CLZ	**Clausthal**	**1.65**	**81**	Pn	**Pn**	**18 49 05.4**	**-1.3**
CLZ				Sg	**Sg**	**18 49 29.6**	**+0.3**
NRDL	**Niedersach Rie**	**1.70**	**58**	*e*Pn	**Pb**	**18 49 08.6**	**+0.1**
NRDL	**Niedersach Rie**	**1.70**	**58**	Pn	**Pb**	**18 49 08.6**	**+0.1**
ABH	**Alteburg**	**1.74**	**184**	Pn	**Pn**	**18 49 08.8**	**+0.8**
ABH				Sg	**Sb**	**18 49 32.1**	**+0.3**
BCLA	**Clavier**	**1.96**	**233**	P	**Pn**	**18 49 11.0**	**+0.1**
BCLA	**Clavier**	**1.96**	**233**	P	**Pn**	**18 49 11.0**	**+0.1**
RUP	**Ruppelstein**	**1.97**	**193**	Pn	**Pn**	**18 49 11.0**	**-0.1**
TOD	**Tromm**	**2.12**	**161**	Pn	**Pn**	**18 49 12.8**	**-0.4**
TOD				Sg	**Sb**	**18 49 43.1**	**+0.4**
WLF	**Walferdange**	**2.20**	**208**	P	**Pn**	**18 49 14.9**	**+0.6**
WLF	**Walferdange**	**2.20**	**208**	*e*Pg	**Pg**	**18 49 18.6**	**-0.1**
WLF	**Walferdange**	**2.20**	**208**	P	**Pn**	**18 49 14.9**	**+0.6**
WLF	**Walferdange**	**2.20**	**208**	Pg	**Pg**	**18 49 18.6**	**-0.1**
KTD	**Kalmit**	**2.31**	**175**	Pn	**Pn**	**18 49 15.2**	**-0.6**
GIVF	**Givet**	**2.40**	**232**	*e*Pg	**Pb**	**18 49 20.0**	**-0.5**
GIVF				*e*Sg	**Sb**	**18 49 50.5**	**0.0**
	30nm,0.3s						
GIVF	**Givet**	**2.40**	**232**	*e*Pg	**Pb**	**18 49 20.0**	**-0.5**
GIVF				*e*Sg	**Sb**	**18 49 50.5**	**0.0**
	15nm,0.3s						
DOU	**Dourbes**	**2.51**	**234**	P	**Pn**	**18 49 20.4**	**+1.8**
DOU	**Dourbes**	**2.51**	**234**	P	**Pn**	**18 49 20.3**	**+1.8**
NEUB	**Neuenburg**	**2.55**	**98**	*e*Sg	**Sg**	**18 49 58.2**	**-0.2**
NEUB	**Neuenburg**	**2.55**	**98**	Sg	**Sg**	**18 49 58.2**	**-0.2**
MOX	**Moxa**	**2.62**	**110**	*e*Pn	**Pn**	**18 49 20.2**	**+0.1**
MOX	**Moxa**	**2.62**	**110**	Pn	**Pn**	**18 49 20.2**	**+0.1**
LANF	**Langenberg**	**2.64**	**179**	Pn	**Pn**	**18 49 19.5**	**-0.8**
LANF	**Langenberg**	**2.64**	**179**	Pn	**Pn**	**18 49 19.5**	**-0.8**
BAIF	**Baives**	**2.73**	**237**	*e*P	**Pn**	**18 49 21.1**	**-0.5**
BAIF	**Baives**	**2.73**	**237**	*e*Pg	**Pb**	**18 49 26.0**	**-0.2**
BAIF				*e*Sg	**Sb**	**18 50 01.9**	**+1.6**
	16nm,0.5s						
BAIF	**Baives**	**2.73**	**237**	*e*P	**Pn**	**18 49 21.1**	**-0.5**
BAIF	**Baives**	**2.73**	**237**	*e*Pg	**Pb**	**18 49 26.0**	**-0.2**
BAIF				*e*Sg	**Sb**	**18 50 01.9**	**+1.6**
	8.0nm,0.5s						
GRA1	**Grafenberg Arr**	**2.93**	**130**	Pn	**Pn**	**18 49 24.4**	**+0.1**
GRF	**Grafenberg Arr**	**2.93**	**130**	*e*Pn	**Pn**	**18 49 24.4**	**+0.1**
PLN	**Plauen**	**3.00**	**110**	*e*Pn	**Pn**	**18 49 25.7**	**+0.4**
PLN	**Plauen**	**3.00**	**110**	Pn	**Pn**	**18 49 25.7**	**+0.4**
WERD	**Werda**	**3.10**	**110**	*e*Pn	**Pn**	**18 49 27.0**	**+0.3**
WERD	**Werda**	**3.10**	**110**	Pn	**Pn**	**18 49 27.0**	**+0.3**
GUNZ	**Gunzen**	**3.15**	**112**	*e*Pn	**Pn**	**18 49 27.6**	**+0.2**
GUNZ	**Gunzen**	**3.15**	**112**	Pn	**Pn**	**18 49 27.6**	**+0.2**
TANN	**Tannenbergstha**	**3.21**	**110**	*e*Pn	**Pn**	**18 49 28.5**	**+0.3**
TANN	**Tannenbergstha**	**3.21**	**110**	Pn	**Pn**	**18 49 28.5**	**+0.3**
MANZ	**Manzenberg**	**3.21**	**119**	*e*Pn	**Pn**	**18 49 28.0**	**-0.2**
MANZ	**Manzenberg**	**3.21**	**119**	Pn	**Pn**	**18 49 28.0**	**-0.2**
CLL	**Collm**	**3.30**	**93**	*i* Pn	**Pn**	**18 49 30.7**	**+1.3**
CLL				*e*Pg	**Pg**	**18 49 38.0**	**-1.7**
CLL				*e*Sg	**Sg**	**18 50 24.0**	**+1.6**
	comp=Z,17nm,0.7s						
BFO	**Black Forest**	**3.31**	**173**	*e*Pn	**Pn**	**18 49 28.8**	**-0.8**
BFO	**Black Forest**	**3.31**	**173**	Pn	**Pn**	**18 49 28.8**	**-0.8**
PAGF	**Fort de Pagny**	**3.33**	**204**	*e*Pn	**Pn**	**18 49 27.2**	**-2.6**
PAGF				*e*Sg	**Sb**	**18 50 20.7**	**+3.3**
	comp=Z,2.5nm,0.4s						
PAGF	**Fort de Pagny**	**3.33**	**204**	*e*Pn	**Pn**	**18 49 27.2**	**-2.6**
PAGF				*e*Sg	**Sb**	**18 50 20.7**	**+3.3**
	comp=Z,1.2nm,0.4s						
HAU	**Haudompre**	**3.73**	**195**	*e*Pn	**Pn**	**18 49 32.7**	**-2.6**
HAU				*e*Sg	**Sb**	**18 50 32.1**	**+3.2**
	comp=Z,12nm,0.4s						
HAU	**Haudompre**	**3.73**	**195**	*e*Pn	**Pn**	**18 49 32.7**	**-2.6**
HAU				*e*Sg	**Sb**	**18 50 32.1**	**+3.2**
	comp=Z,5.9nm,0.4s						
HINF	**Hinteralfeld**	**3.85**	**189**	*e*Pn	**Pn**	**18 49 34.3**	**-2.7**
HINF				*e*Sg	**Sb**	**18 50 36.0**	**+3.6**
	comp=Z,10nm,0.5s						
HINF	**Hinteralfeld**	**3.85**	**189**	*e*Pn	**Pn**	**18 49 34.3**	**-2.7**
HINF				*e*Sg	**Sb**	**18 50 36.0**	**+3.6**
	comp=Z,5.2nm,0.5s						
BRG	**Berggiesshubel**	**3.96**	**98**	PG	**Pg**	**18 49 52.5**	**+0.1**
BRG				SG	**Sg**	**18 50 42.4**	**-1.3**
	comp=Z,6.7nm,0.4s						
KHC	**Kasperske Hory**	**4.48**	**121**	*e*PN	**Pn**	**18 49 45.9**	**+0.2**
KHC				*ex*	x	18 49 59.1	
KHC				*e*PG	**Pg**	**18 50 02.0**	**-0.4**
KHC				*e*SN	**Sn**	**18 50 37.0**	**-1.5**
KHC				*e*SG	**Sg**	**18 50 59.8**	**-0.6**
	comp=Z,2.6nm,0.4s						
KHC	**Kasperske Hory**	**4.48**	**121**	Pn	**Pn**	**18 49 45.9**	**+0.2**
KHC	**Kasperske Hory**	**4.48**	**121**	Pg	**Pb**	**18 49 59.1**	**+3.0**
KHC				Sg	**Sg**	**18 50 59.8**	**-0.6**
	comp=Z,2.6nm,0.4s						
PRA	**Prague**	**4.51**	**107**	PN	**Pn**	**18 49 49.0**	**+3.0**
PRA				SG	**Sg**	**18 51 03.0**	**+1.8**
PRU	**Pruhonice**	**4.61**	**108**	*e*PN	**Pn**	**18 49 47.5**	**+0.2**
PRU				*e*PG	**Pg**	**18 50 01.5**	**-3.2**
PRU				*e*SG	**Sg**	**18 51 03.8**	**-0.5**
	comp=Z,4.6nm,0.7s						
PRU	**Pruhonice**	**4.61**	**108**	Pn	**Pn**	**18 49 47.5**	**+0.2**
LOR	**Lormes**	**5.04**	**212**	*e*Pn	**Pn**	**18 49 52.0**	**-1.3**
	baz=38						
LOR				*e*Sg	**Sg**	**18 51 13.8**	**-4.4**
	comp=Z,3.0nm,0.3s						
LOR	**Lormes**	**5.04**	**212**	*e*Pn	**Pn**	**18 49 52.0**	**-1.3**
	baz=38						
LOR				*e*Sg	**Sg**	**18 51 13.8**	**-4.4**
	comp=Z,1.5nm,0.3s						
CABF	**La Chapelle**	**5.13**	**193**	*e*Pn	**Pn**	**18 49 52.7**	**-1.9**
CABF	**La Chapelle**	**5.13**	**193**	*e*Pn	**Pn**	**18 49 52.7**	**-1.9**
SSF	**Saint Saulge**	**5.34**	**213**	*e*Pn	**Pn**	**18 49 56.2**	**-1.2**
SSF				*e*Sg	**Sg**	**18 51 22.3**	**-5.5**
	comp=Z,3.5nm,0.4s						
SSF	**Saint Saulge**	**5.34**	**213**	*e*Pn	**Pn**	**18 49 56.2**	**-1.2**
DPC	**Dobruska-Polom**	**5.56**	**100**	*e*SG	**Sg**	**18 51 35.1**	**+0.1**
DPC	**Dobruska-Polom**	**5.56**	**100**	Sg	**Sg**	**18 51 35.1**	**+0.1**
LDF	**La Druitiere**	**5.90**	**242**	*e*Pn	**Pn**	**18 50 02.7**	**-2.4**
LDF	**La Druitiere**	**5.90**	**242**	*e*Pn	**Pn**	**18 50 02.7**	**-2.4**
FLN	**La Foliniere**	**6.01**	**245**	*e*Pn	**Pn**	**18 50 05.7**	**-0.9**
	baz=61						
FLN				*e*Sn	Sn	18 51 08.3	-7.7
	comp=Z,2.1nm,0.4s						
FLN	**La Foliniere**	**6.01**	**245**	*e*Pn	**Pn**	**18 50 05.7**	**-0.9**
	baz=61						
GRR	**Gorron**	**6.42**	**243**	*e*Sn	Sn	18 51 18.8	-7.4
	comp=Z,3.2nm,0.3s						

MAN 23 19:17:54,16°.28N×120°.55E, h8km, mb3.9, ML2.7, MS2.4, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCPH	**Baguio City Da**	**0.11**	**19**‖	*i* P	Pg	19 17 58.2	+1.5
BCPH				*i* S	Sg	19 18 01.4	+2.8
BOLP	**Bolinao**	**0.61**	**280**	*e*P	Pg	19 18 06.3	+0.4
BALP	**Baler**	**1.13**	**118**	*e*P	Pg	19 18 15.0	-0.6
BALP				*e*S	Sn	19 18 32.0	+0.2
APYP	**Conner**	**1.71**	**23**	*e*P	Pn	19 18 23.8	-0.3
APYP				*e*S	Sn	19 18 41.7	-4.5

*ATH **23** 20:24:07.7, 40°.48N×23°.40E, h35km±2km, MD2.7/5*
*ISCJB **23** 20:24:08.7±0.5, 40°.47N±0°.03×23°.62E±0°.06, h26km±5km, Error ellipse: s-maj=7.3km s-min=4.8km az=161.9*
*CSEM **23** 20:24:09.0±0.1, 40°.51N×23°.66E, h15km, MD2.7, Error ellipse: s-maj=2.6km s-min=2.0km az=69.0*
*THE **23** 20:24:09.8, 40°.51N×23°.66E, h2km±23km, ML1.1/4, Error ellipse: s-maj=23.6km s-min=0.5km az=229.0*

ISC 23 20:24:09.0±0.9,**40°.51N**±0°.03×**23°.66E**±0°.03,**h17**km±7km, **n22,** σ0§**11**/37,**Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLG	**Polygyros**	**0.21**	**230**	P	**Pg**	**20 24 14.2**	**+0.1**
PLG				S	**Sg**	**20 24 17.3**	**-0.2**
PLG	**Polygyros**	**0.21**	**230**	*e*PB	**Pg**	**20 24 14.1**	**0.0**
PLG				*e*SB	**Sg**	**20 24 17.3**	**-0.2**
PLG	**Polygyros**	**0.21**	**230**	*e*Pb	**Pg**	**20 24 14.1**	**0.0**
PLG				S	**Sg**	**20 24 17.3**	**-0.2**
OUR	**Ouranopolis**	**0.30**	**126**	P	**Pg**	**20 24 15.6**	**+0.2**
OUR				S	**Sg**	**20 24 19.8**	**0.0**
OUR	**Ouranopolis**	**0.30**	**126**	P	**Pg**	**20 24 15.6**	**+0.2**
OUR				S	**Sg**	**20 24 19.8**	**0.0**
SOH	**Sokhos**	**0.39**	**323**	P	**Pg**	**20 24 17.0**	**0.0**
SOH				S	**Sb**	**20 24 23.1**	**-0.1**
SOH	**Sokhos**	**0.39**	**323**	*e*PB	**Pg**	**20 24 17.0**	**0.0**
SOH				*e*SB	**Sg**	**20 24 22.6**	**+0.2**
SOH	**Sokhos**	**0.39**	**323**	P	**Pg**	**20 24 17.0**	**0.0**
SOH				*e*Sb	**Sg**	**20 24 22.6**	**+0.2**
SOH				S	**Sb**	**20 24 23.1**	**-0.1**
HORT	**Hortiatis**	**0.44**	**282**	P	**Pg**	**20 24 17.9**	**0.0**
HORT				S	**Sg**	**20 24 24.1**	**+0.2**
HORT	**Hortiatis**	**0.44**	**282**	P	**Pg**	**20 24 17.9**	**0.0**
HORT				S	**Sg**	**20 24 24.1**	**+0.2**
PAIG	**Paliouri**	**0.58**	**179**	P	**Pg**	**20 24 20.6**	**0.0**
PAIG				S	**Sb**	**20 24 28.7**	**0.0**
PAIG	**Paliouri**	**0.58**	**179**	*e*PN	**Pg**	**20 24 20.5**	**0.0**
PAIG				*e*SN	**Sb**	**20 24 28.8**	**0.0**
PAIG	**Paliouri**	**0.58**	**179**	*e*Pn	**Pg**	**20 24 20.5**	**0.0**
PAIG				S	**Sb**	**20 24 28.7**	**0.0**
SRS	**Serrai**	**0.61**	**355**	P	**Pg**	**20 24 20.9**	**-0.1**
SRS	**Serrai**	**0.61**	**355**	P	**Pg**	**20 24 20.9**	**-0.1**
KAVA	**Kavala**	**0.81**	**53**	P	**Pn**	**20 24 25.5**	**-0.1**
KAVA	**Kavala**	**0.81**	**53**	P	**Pn**	**20 24 25.5**	**-0.1**
NVR	**Nevrokopi**	**0.85**	**10**	*e*PN	**Pn**	**20 24 26.2**	**0.0**
NVR				*e*SN	**Sn**	**20 24 38.4**	**0.0**
NVR	**Nevrokopi**	**0.85**	**10**	*e*Pn	**Pn**	**20 24 26.2**	**0.0**
NVR				*e*Sn	**Sn**	**20 24 38.4**	**0.0**
KNT	**Kendrikon**	**0.87**	**319**	P	**Pb**	**20 24 25.7**	**+0.1**
KNT	**Kendrikon**	**0.87**	**319**	P	**Pb**	**20 24 25.7**	**+0.1**
THL	**Klokotos Trika**	**1.58**	**234**	*e*PN	Pn	20 24 32.5	-3.7

IDC 23 20:29:36.0±6.1,**5°.38S×148°.65E, h166km**±49km, **mb3.2**/3, **mb1 3.3**/4, **mb1mx3.0**/17, **mbtmp3.1**/4, **Error ellipse: s-maj=92.4km s-min=51.7km az=123.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.26**	**200**	P	Pn	20 30 41.1	+1.0
	1.0nm,0.3s,baz=29,slow=19,SNR=3.6						
PMG				S	Sn	20 31 29.8	-0.4
	1.5nm,0.3s,baz=46,slow=4.2,SNR=3.9						
WRA	**Warramunga Arr**	**20.08**	**223**	P	P	20 33 57.1	+0.4
	1.0nm,0.4s,baz=48,slow=11,SNR=20						
ASAR	**Alice Springs**	**23.07**	**217**	P	P	20 34 27.4	+0.3
	0.4nm,0.3s,baz=48,slow=8.5,SNR=12						
FITZ	**Fitzroy Crossi**	**25.78**	**239**	P	P	20 34 51.6	-0.2
	1.4nm,0.5s,baz=61,slow=13,SNR=6.0						
TORD	**Torodi Ar. Bea**	**146.51**	**286**	PKPbc	PKPdf	20 48 57.6	+0.5
	0.1nm,0.3s,baz=83,slow=2.7,SNR=7.2						

*DJA **23** 20:29:22.6±0.6, 1°.S±7°×9°.9E±°, h10km, M4.9/5, mb5.0/1, MLv4.9/5*
*IDC **23** 20:29:57.1±1.2, 1°.32N×96°.97E, h0km, mb4.1/11, mb1 4.2/13, mb1mx3.9/28, mbtmp4.1/13, ML3.6/2, Error ellipse: s-maj=34.1km s-min=18.6km az=51.0*
*ISCJB **23** 20:29:59.6±0.8, 1°.33N±0°.08×97°.02E±0°.06, h28km, mb4.1/11, Error ellipse: s-maj=13.7km s-min=6.8km az=31.6*

ISC 23 20:30:00.7±1.0,**1°.28N**±0°.09×**96°.92E**±0°.07,**h28**km,**n27,** σ0§**99**/29,**mb4.3**/11,**Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**0.66**	**88**	P	**Pb**	**20 30 13.5**	**-0.2**
GSI				S	**Sn**	**20 30 23.5**	**-0.2**
SNSI	**Sinabang, Aceh**	**1.27**	**332**	P	**Pb**	**20 30 23.6**	**-0.4**
SNSI	**Sinabang, Aceh**	**1.27**	**332**	S	**Sn**	**20 30 38.6**	**-0.1**
KCSI	**Kotacane, Aceh**	**2.38**	**21**	P	**Pn**	**20 30 37.3**	**-0.7**
KCSI				S	**Sb**	**20 31 14.9**	**+2.9**
PSI	**Prapat**	**2.51**	**53**	Pn	**Pn**	**20 30 37.3**	**-2.5**
	3.1nm,0.3s,baz=238,slow=9.5,SNR=28						
FRIM	**Kepong**	**5.09**	**67**	P	**Pn**	**20 31 15.1**	**-0.2**
IPM	**Ipoh**	**5.19**	**52**	P	**Pn**	**20 31 16.6**	**0.0**
IPM	**Ipoh**	**5.19**	**52**	P	**Pn**	**20 31 16.2**	**-0.4**
KULM	**Kulim**	**5.45**	**43**	P	**Pn**	**20 31 19.7**	**-0.5**
KULM	**Kulim**	**5.45**	**43**	P	**Pn**	**20 31 19.7**	**-0.5**
KGM	**Kluang**	**6.44**	**83**	P	**Pn**	**20 31 34.2**	**+0.4**
MYKOM	**Kota Tinggi**	**6.95**	**86**	P	**Pn**	**20 31 41.3**	**+0.5**
KTGM	**Kuala Trenggan**	**7.39**	**57**	P	**Pn**	**20 31 46.4**	**-0.5**
CMAR	**Chiang Mai Arr**	**17.18**	**7**	P	**Pn**	**20 33 57.5**	**-1.5**
	0.2nm,0.3s,baz=198,slow=11,SNR=17						
SDKM	**Sandakan**	**20.69**	**77**	P	**P**	**20 34 37.0**	**-2.0**
TSM	**Tawau**	**21.14**	**81**	P	**P**	**20 34 42.9**	**-0.8**
WRA	**Warramunga Arr**	**42.32**	**122**	P	**P**	**20 37 52.6**	**+0.1**
	0.7nm,0.6s,baz=301,slow=9.0,SNR=9.9						
ASAR	**Alice Springs**	**43.67**	**127**	P	**P**	**20 38 04.0**	**+0.6**
	0.8nm,0.8s,baz=303,slow=8.3,SNR=6.6						
KSRS	**Korea Array**	**45.94**	**35**	P	**P**	**20 38 21.1**	**-0.2**
	3.7nm,0.9s,baz=220,slow=8.9,SNR=19						
SONM	**Songino Array**	**47.09**	**9**	P	**P**	**20 38 30.4**	**+0.1**
	2.8nm,0.8s,baz=189,slow=9.0,SNR=21						
MKAR	**Makanchi Array**	**47.10**	**346**	P	**P**	**20 38 30.9**	**+0.7**
	1.8nm,0.5s,baz=160,slow=8.5,SNR=19						
KURBB	**Kurchatov Arra**	**51.58**	**345**	P	**P**	**20 39 04.6**	**+0.2**
	0.8nm,0.5s,baz=167,slow=7.0,SNR=5.3						
USRK	**Ussuriysk Arra**	**52.85**	**31**	P	**P**	**20 39 14.2**	**+0.3**
	8.1nm,0.9s,baz=230,slow=5.3,SNR=23						
ZALV	**Zalesovo Beam**	**53.44**	**351**	P	**P**	**20 39 18.7**	**+0.6**
	3.0nm,0.5s,baz=179,slow=6.6,SNR=21						
BVAR	**Borovoye Array**	**56.08**	**341**	P	**P**	**20 39 37.6**	**+0.3**
	0.8nm,0.5s,baz=142,slow=8.7,SNR=8.7						
FINES	**FINESS Array B**	**79.80**	**333**	P	**P**	**20 42 06.6**	**+0.4**
	2.6nm,0.8s,baz=108,slow=4.5,SNR=4.1						
ARCES	**ARCESS Array B**	**82.36**	**340**	P	**P**	**20 42 20.6**	**+0.8**
	2.6nm,0.9s,baz=91,slow=5.0,SNR=6.6						

*ISCJB **23** 20:32:33.8±0.5, 6°.19N±0°.05×126°.27E±0°.06, h68km, mb3.7/12, Error ellipse: s-maj=9.8km s-min=5.6km az=144.2*
*IDC **23** 20:32:33.1±7.6, 6°.30N×126°.29E, h51km±68km, mb3.6/12, mb1 3.8/12, mb1mx3.6/26, mbtmp3.6/12, Error ellipse: s-maj=61.7km s-min=13.0km az=66.0*
*AUST **23** 20:33:35.8±2.8, 3°.13N×127°.50E, h460km, Error ellipse: s-maj=2.3km s-min

URZ				SN	Sn	21 05 10.1	-0.5
URZ				AML	AML	21 05 11.6	
TGRZ	**Tauranga**	**0.63**	**268**	⇓PN	Pn	21 04 56.1	+0.1
TGRZ				SN	Sn	21 05 12.3	+1.0
TARZ	**Mount Tarawera**	**0.68**	**219**	PN	Pn	21 04 57.0	+0.4
MWZ	**Matawai**	**0.73**	**150**	⇑PN	Pn	21 04 56.5	-0.3
MWZ				SN	Sn	21 05 13.1	+0.3
MWZ				AML	AML	21 05 13.9	
MWZ				AML	AML	21 05 16.8	
MXZ	**Matakaoa Point**	**1.00**	**82**	PN	Pn	21 04 59.1	+0.2
MXZ				SN	Sn	21 05 16.9	+0.4
MXZ				AML	AML	21 05 55.4	
PUZ	**Puketiti**	**1.02**	**111**	PN	Pn	21 04 58.9	-0.2
PUZ				AML	AML	21 05 19.3	
CNGZ	**Carnagh Statio**	**1.19**	**131**	PN	Pn	21 05 01.4	+0.6
RAHZ	**Arahi**	**1.21**	**179**	PN	Pn	21 05 01.1	+0.1
PRGZ	**Paritu Road**	**1.38**	**152**	PN	Pn	21 05 02.6	-0.2
KNZ	**Kokohu**	**1.40**	**160**	⇑PN	Pn	21 05 02.7	-0.2
NMHZ	**Naumai**	**1.40**	**188**	PN	Pn	21 05 03.3	+0.2
KUZ	**Kuaotunu**	**1.44**	**312**	⇓PN	Pn	21 05 03.1	-0.2
BKZ	**Black Stump Fm**	**1.52**	**197**	PN	Pn	21 05 03.5	-0.9
BKZ				AML	AML	21 05 26.1	
BKZ				AML	AML	21 05 27.4	
MHGZ	**Mahia Peninsul**	**1.59**	**155**	PN	Pn	21 05 05.1	0.0
MCHZ	**McNeill Hill**	**1.76**	**189**	PN	Pn	21 05 06.7	-0.4
TUVZ	**Tukino**	**1.91**	**215**	PN	Pn	21 05 09.5	+0.5
BHHZ	**Black Hill Sta**	**1.94**	**203**	PN	Pn	21 05 08.2	-1.2
FWVZ	**Far West T-bar**	**1.95**	**217**	PN	Pn	21 05 08.7	-0.9
CKHZ	**Cape Kidnapper**	**1.95**	**180**	PN	Pn	21 05 08.7	-0.6
WHVZ	**Whangaehu Hut**	**1.95**	**216**	PN	Pn	21 05 08.7	-0.9
MOVZ	**Moawhango**	**1.98**	**211**	PN	Pn	21 05 08.5	-1.3
WNVZ	**Wahianoa**	**1.98**	**215**	PN	Pn	21 05 08.9	-1.0
KAHZ	**Kahuranaki**	**2.09**	**184**	PN	Pn	21 05 10.3	-0.8
PNHZ	**Pukenui**	**2.30**	**197**	PN	Pn	21 05 12.0	-1.7
PXZ	**Pawanui**	**2.33**	**184**	PN	Pn	21 05 12.4	-1.5
PXZ				AML	AML	21 05 42.9	
PXZ				AML	AML	21 05 42.9	
WPHZ	**Waipukurau**	**2.40**	**191**	PN	Pn	21 05 13.2	-1.7
TSZ	**Takapari Road**	**2.50**	**200**	PN	Pn	21 05 14.1	-2.1
PRHZ	**Porangahau**	**2.58**	**187**	PN	Pn	21 05 15.3	-1.8
DVHZ	**Dannevirke**	**2.68**	**195**	PN	Pn	21 05 15.9	-2.5
POWZ	**Post Office Ro**	**2.86**	**200**	PN	Pn	21 05 19.0	-1.8
PRWZ	**Pori Road**	**2.97**	**196**	PN	Pn	21 05 19.8	-2.3
BFZ	**Birch Farm**	**3.04**	**192**	PN	Pn	21 05 20.3	-2.7
MRZ	**Mangatainoka R**	**3.17**	**201**	PN	Pn	21 05 21.7	-3.0
MRZ				AML	AML	21 05 55.4	
MRZ				AML	AML	21 06 00.1	
TIWZ	**Tintock**	**3.20**	**196**	PN	Pn	21 05 22.4	-2.7
OGWZ	**Otaki Gorge**	**3.44**	**205**	PN	Pn	21 05 24.9	-3.2
TMWZ	**Te Maipa**	**3.52**	**195**	PN	Pn	21 05 26.1	-3.1
KIW	**Kapiti Island**	**3.56**	**207**	PN	Pn	21 05 26.5	-3.3
MTW	**Mount Morrison**	**3.65**	**199**	PN	Pn	21 05 27.4	-3.6
CAW	**Cannon Point**	**3.73**	**204**	PN	Pn	21 05 28.2	-3.8
THZ	**Tophouse**	**5.16**	**217**	PN	Pn	21 05 47.2	-3.9
KHZ	**Kahutara**	**5.42**	**209**	PN	Pn	21 05 50.2	-4.3

*IDC **23** 21:07:05.7±0.7, 39°.40N×67°.10E, h0km, mb4.0/16, mb1 4.2/23, mb1mx4.1/33, mbtmp4.0/23, ML4.4/7, MS2.8/3, Ms1 2.8/3, ms1mx2.5/43, Error ellipse: s-maj=13.2km s-min=9.3km az=169.0*
*ISCJB **23** 21:07:05.9±0.3, 39°.69N±0°.03×67°.15E±0°.04, h10km, mb4.0/24, MS5.0/1, Error ellipse: s-maj=4.1km s-min=3.7km az=164.8*
*NNC **23** 21:07:09.7±2.3, 40°.06N×66°.80E, h0km, mb4.6, mpv4.2, Error ellipse: s-maj=19.8km s-min=12.8km az=7.0*
*BJI **23** 21:07:09.8, 39°.50N×67°.18E, h32km, mB4.4/1, mb4.3/9, ML3.9/2*
*MOS **23** 21:07:10.2±1.0, 39°.72N×67°.13E, h42km, mb4.3/15, Error ellipse: s-maj=8.4km s-min=5.5km az=55.6*
*NEIC **23** 21:07:11.5±0.8, 39°.71N×67°.15E, h38km±8km, mb4.0/4, Error ellipse: s-maj=8.2km s-min=6.9km az=203.0*

ISC 23 21:07:07.9±0.4, 39°.70N±0°.04×67°.14E±0°.04, h10km, n125, σ1§71/143, mb4.0/24, 23C-7D, Southeastern Uzbekistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**4.24**	**36**	⇑Pn	**Pn**	**21 08 14.7**	**+2.2**
	8.7nm,0.4s,baz=225,slow=14,SNR=564						
KK31				⇑Pg	**Pb**	**21 08 24.7**	**+2.2**
	22nm,0.3s,baz=220,slow=18,SNR=12						
KK31				⇑Sn	**Sn**	**21 09 05.2**	**+3.1**
	22nm,0.3s						
KK31				⇑Lg	Lg	21 09 23.5	
	242nm,0.6s,baz=215,slow=28,SNR=8.7						
KKAR	**Karatay Array**	**4.24**	**36**	*e*PN	**Pn**	**21 08 14.6**	**+2.0**
KKAR	**Karatay Array**	**4.24**	**36**	*e*Pn	**Pn**	**21 08 14.6**	**+2.0**
KKAR				Sn	**Sn**	**21 08 59.7**	**-2.4**
KBL	**Kabul**	**5.37**	**163**	*e*PN	**Pn**	**21 08 31.2**	**+2.9**
KBL				pmax	pmax		
	comp=Z,27nm,0.4s						
KBL	**Kabul**	**5.37**	**163**	*e*Pn	**Pn**	**21 08 31.2**	**+2.9**
	comp=Z,27nm,0.4s						
KBL				*e*Sn	**Sn**	**21 09 28.4**	**-1.9**
AML	**Almayashu**	**5.52**	**62**	*i* PN	**Pn**	**21 08 32.5**	**+2.0**
AML	**Almayashu**	**5.52**	**62**	P	**Pn**	**21 08 32.5**	**+2.0**
	SNR=91						
EKS2	**Erkin-Say**	**5.81**	**57**	*e*PN	**Pn**	**21 08 36.8**	**+2.5**
EKS2				pmax	pmax		
	comp=Z,41nm,0.5s						
EKS2	**Erkin-Say**	**5.81**	**57**	P	**Pn**	**21 08 36.9**	**+2.7**
	SNR=60						
EKS2	**Erkin-Say**	**5.81**	**57**	*e*Pn	**Pn**	**21 08 36.8**	**+2.5**
	comp=Z,41nm,0.5s						
EKS2				*e*Sn	**Sn**	**21 09 39.6**	**-1.4**
UCH	**Uchtor**	**6.12**	**63**	*i* PN	**Pn**	**21 08 40.8**	**+2.0**
UCH	**Uchtor**	**6.12**	**63**	P	**Pn**	**21 08 40.8**	**+2.0**
	SNR=23						
AAK	**Ala-Archa**	**6.27**	**60**	*ce*PN	**Pn**	**21 08 43.4**	**+2.8**
AAK	**Ala-Archa**	**6.27**	**60**	P	**Pn**	**21 08 43.6**	**+2.9**
	SNR=24						
AAK	**Ala-Archa**	**6.27**	**60**	*e*Pn	**Pn**	**21 08 41.6**	**+1.0**
	comp=Z,44nm,0.6s						
AAK				*e*Sn	**Sn**	**21 09 50.3**	**-2.1**
AAK	**Ala-Archa**	**6.27**	**60**	Pn	**Pn**	**21 08 43.3**	**+2.7**
	comp=Z,12nm,0.3s,baz=207,slow=4.5,SNR=51						
AAK				Sn	**Sn**	**21 09 57.1**	**+4.7**
	comp=Z,5.1nm,0.3s,baz=256,slow=12,SNR=2.3						
AAK				LR	LR	21 11 33.9	
	comp=Z,106nm,19.6s,baz=218,slow=42						
FRU	**Bishkek**	**6.44**	**59**	*e*PN	**Pn**	**21 08 45.0**	**+2.2**
USP	**Ospenovka**	**6.57**	**55**	*i* PN	**Pn**	**21 08 46.5**	**+1.9**
USP	**Ospenovka**	**6.57**	**55**	P	**Pn**	**21 08 46.5**	**+1.9**
	SNR=12						
KZA	**Kyzart**	**6.58**	**66**	*i* PN	**Pn**	**21 08 47.7**	**+2.5**
KZA	**Kyzart**	**6.58**	**66**	P	**Pn**	**21 08 47.7**	**+2.5**
	SNR=38						
KBK	**Karagaybulak**	**6.58**	**61**	*i* PN	**Pn**	**21 08 47.8**	**+2.9**
KBK	**Karagaybulak**	**6.58**	**61**	P	**Pn**	**21 08 47.8**	**+2.9**
	SNR=23						
CHMS	**Chumysh**	**6.60**	**58**	*i* PN	**Pn**	**21 08 47.0**	**+2.0**
CHMS	**Chumysh**	**6.60**	**58**	P	**Pn**	**21 08 47.0**	**+2.0**
	SNR=16						
KSH	**Kashi**	**6.82**	**89**	Pn	**Pn**	**21 08 46.3**	**-1.8**
KSH				Sn	Sn	21 09 57.9	-8.0
KSH				smax	smax		
	comp=N,84nm,0.7s						
KSH				smax	smax		
	comp=E,97nm,0.9s						
CEP	**Cherat**	**7.00**	**145**	P	**Pn**	**21 08 52.6**	**+1.9**
CEP				S	**Sn**	**21 10 11.0**	**+0.6**
TKM2	**Tokmak 2**	**7.13**	**60**	⇓Pn	**Pn**	**21 08 54.0**	**+1.6**
	comp=E,10nm,0.4s						
TKM2				⇑Lg	Lg	21 10 53.0	
	comp=E,65nm,0.7s						
TKM2	**Tokmak 2**	**7.13**	**60**	*e*PN	**Pn**	**21 08 53.5**	**+1.1**
TKM2				pmax	pmax		
	comp=Z,22nm,0.4s						
TKM2	**Tokmak 2**	**7.13**	**60**	P	**Pn**	**21 08 54.3**	**+1.8**
	SNR=12						
TKM2	**Tokmak 2**	**7.13**	**60**	*e*Pn	**Pn**	**21 08 53.5**	**+1.1**
	comp=Z,22nm,0.4s						
TKM2				*e*Sn	Sn	21 10 07.4	-6.1
ULHL	**Ulahol**	**7.34**	**67**	*i* P	**Pn**	**21 08 57.5**	**+2.2**
ULHL	**Ulahol**	**7.34**	**67**	P	**Pn**	**21 08 57.5**	**+2.2**
	SNR=26						
CHCP	**Chirah Chowk**	**7.78**	**139**	P	**Pn**	**21 09 01.9**	**+0.7**
THW	**Thamme Wali**	**7.83**	**150**	P	**Pn**	**21 09 03.0**	**+1.1**
KNDC	**Almaty**	**8.17**	**61**	⇑Pn	**Pn**	**21 09 09.1**	**+2.5**
KNDC				⇓Lg	Lg	21 11 27.5	
AB31	**Akbulak array**	**10.84**	**334**	Pn	**Pn**	**21 09 42.7**	**-0.3**
	comp=Z,6.7nm,0.4s,baz=155,slow=14,SNR=454						
AB31				⇑Sn	Sn	21 11 35.6	-8.8
	comp=Z,10.0nm,0.4s,baz=152,slow=26,SNR=6.8						
AB31				⇑Lg	Lg	21 12 41.2	
	comp=Z,30nm,0.8s						
ABKAR	**Akbulak array**	**10.84**	**334**	*e*Pn	**Pn**	**21 09 42.8**	**-0.2**
	comp=Z,11nm,0.3s						
AKTO	**Aktyubinsk**	**12.51**	**332**	⇑Pn	**Pn**	**21 10 05.4**	**-0.4**
	comp=Z,3.9nm,0.5s						
AKTO				⇑Sn	Sn	21 12 17.6	-7.6
	comp=Z,12nm,0.5s						
AKTO				⇑Lg	Lg	21 13 33.6	
	comp=Z,20nm,0.8s						
AKTO	**Aktyubinsk**	**12.51**	**332**	P	**Pn**	**21 10 06.2**	**+0.3**
AKTO						21 12 19.1	
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKTO				smax	smax		
	comp=N,2.0nm,0.3s						
AKTO	**Aktyubinsk**	**12.51**	**332**	Pn	**Pn**	**21 10 06.2**	**+0.3**
AKTO				Sn	Sn	21 12 19.1	-6.0
AKTO	**Aktyubinsk**	**12.51**	**332**	Pn	**Pn**	**21 10 06.2**	**+0.3**
	comp=N,1.0nm,0.3s,baz=147,slow=13,SNR=15						
AKTO				Sn	Sn	21 12 19.1	-6.0
	comp=N,1.6nm,0.3s,baz=301,slow=20,SNR=6.3						
MK31	**Makanchi Array**	**13.11**	**52**	Pn	**Pn**	**21 10 14.9**	**+0.8**
	comp=N,2.9nm,0.5s,baz=241,slow=13,SNR=53						
MK31				⇓Lg	Lg	21 14 04.8	
	comp=N,3.6nm,0.6s,baz=233,slow=28,SNR=4.1						
MK31	**Makanchi Array**	**13.11**	**52**	*e*P	**Pn**	**21 10 14.6**	**+0.5**
MK31				*e*		21 12 38.9	
MK31	**Makanchi Array**	**13.11**	**52**	*e*Pn	**Pn**	**21 10 14.6**	**+0.5**
MK31				*e*Sn	**Sn**	**21 12 38.9**	**-1.0**
MKAR	**Makanchi Array**	**13.11**	**52**	P	**Pn**	**21 10 14.3**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR	**Makanchi Array**	**13.11**	**52**	Pn	**Pn**	**21 10 14.3**	**+0.2**
MKAR				Lg	Lg	21 14 03.7	
MKAR	**Makanchi Array**	**13.11**	**52**	Pn	**Pn**	**21 10 14.3**	**+0.2**
	comp=Z,0.9nm,0.3s,baz=243,slow=13,SNR=27						
MKAR				Lg	Lg	21 14 03.7	
	comp=Z,0.3nm,0.3s,baz=233,slow=28,SNR=4.1						
VOSK	**Vostochnaya**	**13.29**	**10**	⇑Pn	**Pn**	**21 10 15.6**	**-0.9**
	comp=Z,2.7nm,0.3s						
VOSK				⇑Sn	Sn	21 12 36.9	-7.3
	comp=Z,8.2nm,0.6s						
VOSK				⇓Lg	Lg	21 14 06.9	
	comp=Z,19nm,0.9s						
BVA0	**Borovoye Array**	**13.51**	**8**	Pn	**Pn**	**21 10 18.9**	**-0.6**
	comp=Z,12nm,0.4s,baz=184,slow=13,SNR=187						
BVA0				⇑Sn	**Sn**	**21 12 44.7**	**-4.9**
	comp=Z,6.8nm,0.5s,baz=217,slow=23,SNR=8.0						
BVA0				⇑Lg	Lg	21 14 11.0	
	comp=Z,31nm,0.8s						
BVAR	**Borovoye Array**	**13.51**	**8**	P	**Pn**	**21 10 19.0**	**-0.5**
BVAR						21 12 45.5	
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
BVAR				smax	smax		
	comp=N,2.0nm,0.3s						
BVAR	**Borovoye Array**	**13.51**	**8**	Pn	**Pn**	**21 10 19.0**	**-0.5**
BVAR				Sn	**Sn**	**21 12 45.5**	**-4.1**
BVAR	**Borovoye Array**	**13.51**	**8**	Pn	**Pn**	**21 10 19.0**	**-0.5**
	comp=N,1.7nm,0.3s,baz=173,slow=13,SNR=34						
BVAR				Sn	**Sn**	**21 12 45.5**	**-4.1**
	comp=N,2.4nm,0.3s,baz=188,slow=20,SNR=5.5						
BRVK	**Borovoye**	**13.53**	**8**	⇓Pn	**Pn**	**21 10 20.8**	**+1.0**
	comp=N,22nm,0.5s						
BRVK				⇑Sn	Sn	21 12 42.7	-7.4
	comp=N,25nm,0.9s						
BRVK				⇑Lg	Lg	21 14 10.4	
	comp=N,36nm,1.1s						
BRVK	**Borovoye**	**13.53**	**8**	*i* P	**Pn**	**21 10 20.5**	**+0.7**
BRVK	**Borovoye**	**13.53**	**8**	*e*Pn	**Pn**	**21 10 20.0**	**+0.2**
	comp=N,20nm,0.4s						
BRVK				*e*Sn	**Sn**	**21 12 45.4**	**-4.8**
KURBB	**Kurchatov Arra**	**13.54**	**33**	⇑Pn	**Pn**	**21 10 19.8**	**-0.1**
	comp=N,12nm,0.8s						
KURBB				⇑Lg	Lg	21 14 16.3	
	comp=N,73nm,0.8s						
KURBB	**Kurchatov Arra**	**13.54**	**33**	Pn	**Pn**	**21 10 18.4**	**-1.4**
	comp=N,0.4nm,0.3s,baz=219,slow=13,SNR=21						
KURBB				Lg	Lg	21 14 21.6	
	comp=N,0.4nm,0.3s,baz=222,slow=30,SNR=5.9						
KURK	**Kurchatov**	**13.64**	**32**	⇑Pn	**Pn**	**21 10 21.0**	**-0.3**
	comp=N,6.8nm,1.2s						
KURK				⇓Lg	Lg	21 14 15.2	
	comp=N,40nm,1.4s						
KURK	**Kurchatov**	**13.64**	**32**	⇓*e*P	**Pn**	**21 10 20.9**	**-0.4**
KURK	**Kurchatov**	**13.64**	**32**	*e*Pn	**Pn**	**21 10 21.3**	**0.0**
KURK				*e*Sn	**Sn**	**21 12 52.6**	**-0.3**
KURK				Lg	Lg	21 14 21.6	
WMQ	**Urumqi**	**15.87**	**68**	*e*P	**P**	**21 10 54.6**	**-0.5**
SVE	**Sverdlovsk**	**17.66**	**348**	*e*P	**P**	**21 11 15.3**	**+0.6**
SVE				*e*S	Sn	21 14 19.4	-11
SVE				pmax	pmax		
	comp=Z,9.0nm,0.8s						
ARU	**Arti**	**17.67**	**344**	*c i* P	**P**	**21 11 17.6**	**+2.8**
ARU				S	**Sn**	**21 14 34.8**	**+4.2**
ARU				pmax	pmax		
	comp=Z,8.0nm,1.2s						
DANN	**Dangsing**	**17.80**	**124**	*e*P	**Pn**	**21 11 14.8**	**-1.2**
	comp=Z,19nm,0.4s						
KOLN	**Koldanda**	**18.10**	**126**	*e*P	**Pn**	**21 11 16.8**	**-2.9**
	comp=Z,12nm,0.4s						
KBZ	**Khabaz**	**18.52**	**290**	P	**Pn**	**21 11 25.2**	**+0.7**
KBZ	**Khabaz**	**18.52**	**290**	P	**Pn**	**21 11 25.1**	**+0.7**
KBZ	**Khabaz**	**18.52**	**290**	P	**Pn**	**21 11 25.1**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=202,slow=11,SNR=3.3						
KBZ				LR	LR	21 20 29.7	
	comp=Z,56nm,19.9s,baz=192,slow=43						
NVS	**Novosibirsk**	**18.60**	**30**	*e*P	**P**	**21 11 24.9**	**-0.2**
NVS				*e*S	Sn	21 14 46.0	-7.1
NVS				pmax	pmax		
	comp=N,7.0nm,1.0s						
NVS				pmax	pmax		
	comp=Z,9.0nm,1.0s						
NVS				pmax	pmax		
	comp=E,7.0nm,1.1s						
NVS				smax	smax		
	comp=N,5.0nm,1.3s						
NVS				smax	smax		
	comp=E,10.0nm,1.5s						
ZAA0	**Zalesovo Array**	**18.61**	**34**	*e*P	**P**	**21 11 24.6**	**-0.7**
ZALV	**Zalesovo Beam**	**18.61**	**34**	*e*P	**Pn**	**21 11 26.2**	**+0.7**
ZALV				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ZALV	**Zalesovo Beam**	**18.61**	**34**	P	**Pn**	**21 11 26.4**	**+0.9**
ZALV	**Zalesovo Beam**	**18.61**	**34**	P	**Pn**	**21 11 26.4**	**+0.9**
	comp=Z,4.1nm,0.3s,baz=229,slow=11,SNR=96						
ZALV				LR	LR	21 18 08.3	
	comp=Z,14nm,19.3s,baz=159,slow=35						
KKN	**Kakani**	**19.16**	**123**	*e*P	**P**	**21 11 30.2**	**-1.5**
	comp=Z,16nm,0.5s						
PKIN	**Phulchoki**	**19.38**	**123**	*e*P	**P**	**21 11 33.7**	**-0.5**
	comp=Z,13nm,0.4s						
PKI	**Pulchoki**	**19.39**	**123**	*e*P	**P**	**21 11 34.0**	**-0.4**
	comp=Z,21nm,0.7s						
JIRN	**Jiri**	**19.84**	**121**	*e*P	**P**	**21 11 38.9**	**-0.4**
	comp=Z,25nm,0.4s						
RAMN	**Ramite**	**20.59**	**122**	*e*P	**P**	**21 11 46.7**	**-0.6**
	comp=Z,16nm,0.4s						
TAPN	**Taplejung**	**21.06**	**120**	*e*P	**P**	**21 11 52.7**	**+0.3**
	comp=Z,18nm,0.6s						
VRHR	**Novokhopersk**	**21.12**	**311**	*e*P	**P**	**21 11 52.9**	**+0.3**
VRHR				pmax	pmax		
	comp=Z,10.0nm,1.3s						
VRHR				pmax	pmax		
	comp=N,10.0nm,0.8s						
VRHR				pmax	pmax		
	comp=E,9.0nm,1.4s						
ODAN	**Odare**	**21.17**	**121**	*e*P	**P**	**21 11 53.8**	**+0.2**
	comp=E,21nm,0.6s						
HVS	**Khovu-Aksy**	**21.74**	**50**	*c i* P	**P**	**21 12 00.5**	**+1.1**
HVS				pmax	pmax		
	comp=Z,108nm,1.0s						
HVS				MLR	MLR		
	comp=Z,9μm,30.0s						
LSA	**Lhasa**	**22.06**	**110**	P	**P**	**21 12 03.0**	**-0.4**
ANN	**Anapa**	**22.50**	**293**	*e*P	**P**	**21 12 06.5**	**-1.0**
ANN				*e**PP	pP	21 12 17.6	+7.3
ANN				*e*		21 12 32.1	
ANN				*e*S	**S**	**21 16 11.6**	**-2.7**
ANN				*e*SS	**SnSn**	**21 16 44.1**	**+1.4**
ANN				pmax	pmax		
	comp=Z,16nm,0.7s						
GTA	**Gaotai**	**25.12**	**80**	*e*P	**P**	**21 12 34.8**	**+1.8**
GTA				pP	**pP**	**21 12 38.3**	**+2.2**
GTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BRTR	**Keskin Array B**	**25.69**	**281**	P	**P**	**21 12 38.0**	**-0.2**
BRTR	**Keskin Array B**	**25.69**	**281**	P	**P**	**21 12 38.0**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=66,slow=8.1,SNR=3.5						
AKASG	**Malin Array Be**	**28.59**	**305**	P	**P**	**21 13 04.4**	**+0.4**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**28.59**	**305**	P	**P**	**21 13 04.4**	**+0.4**
AKASG	**Malin Array Be**	**28.59**	**305**	P	**P**	**21 13 04.4**	**+0.4**
	comp=Z,0.9nm,0.5s,baz=79,slow=7.8,SNR=5.1						
SONM	**Songino Array**	**29.23**	**61**	P	**P**	**21 13 10.7**	**+0.8**
SONM	**Songino Array**	**29.23**	**61**	P	**P**	**21 13 10.7**	**+0.8**
	comp=Z,0.3nm,0.5s,baz=270,slow=9.2,SNR=4.3						
FINES	**FINESS Array B**	**33.12**	**325**	P	**P**	**21 13 45.1**	**+1.3**
FINES	**FINESS Array B**	**33.12**	**325**	P	**P**	**21 13 45.2**	**+1.3**
	comp=Z,1.6nm,0.6s,baz=135,slow=9.3,SNR=9.2						
CMAR	**Chiang Mai Arr**	**34.66**	**118**	P	**P**	**21 13 56.2**	**-1.4**
CMAR	**Chiang Mai Arr**	**34.66**	**118**	P	**P**	**21 13 56.2**	**-1.4**
	comp=Z,0.6nm,0.3s,baz=308,slow=8.9,SNR=2.8						
ARCES	**ARCESS Array B**	**37.02**	**337**	P	**P**	**21 14 18.7**	**+1.3**
ARCES	**ARCESS Array B**	**37.02**	**337**	P	**P**	**21 14 18.7**	**+1.3**
	comp=Z,4.2nm,0.9s,baz=136,slow=9.6,SNR=9.7						
HFS	**Hagfors**	**38.67**	**320**	P	**P**	**21 14 32.2**	**+0.9**
HFS	**Hagfors**	**38.67**	**320**	P	**P**	**21 14 32.2**	**+0.9**
	comp=Z,3.7nm,0.5s,baz=98,slow=11,SNR=18						
CLL	**Collm**	**38.83**	**306**	*e*P	**P**	**21 14 34.0**	**+1.1**
CLL	**Collm**	**38.83**	**306**	*e*P	**P**	**21 14 34.0**	**+1.1**
NB2	**NORSAR Subarra**	**39.99**	**321**	P	**P**	**21 14 42.8**	**+0.4**
	comp=Z,0.9nm,0.5s,baz=96,slow=8.6						
NOA	**NORSAR Array B**	**39.99**	**321**	P	**P**	**21 14 43.0**	**+0.6**
NOA	**NORSAR Array B**	**39.99**	**321**	P	**P**	**21 14 43.0**	**+0.6**
	comp=Z,1.0nm,0.5s,baz=98,slow=8.3,SNR=4.5						
KSAR	**Wonju Array Be**	**46.74**	**72**	P	**P**	**21 15 37.0**	**-0.1**
KSRS	**Korea Array**	**46.77**	**72**	P	**P**	**21 15 37.0**	**-0.3**
	comp=Z,1.0nm,0.8s,baz=299,slow=5.4,SNR=5.7						
USRK	**Ussuriysk Arra**	**47.32**	**62**	P	**P**	**21 15 41.8**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=292,slow=7.9,SNR=4.1						
ESDC	**Sonseca Array**	**53.32**	**294**	P	**P**	**21 16 27.7**	**+0.5**
ESDC	**Sonseca Array**	**53.32**	**294**	P	**P**	**21 16 27.7**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=70,slow=8.3,SNR=6.0						
TORD	**Torodi Ar. Bea**	**62.87**	**265**	P	**P**	**21 17 33.7**	**-0.6**
TORD	**Torodi Ar. Bea**	**62.87**	**265**	P	**P**	**21 17 33.7**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=42,slow=6.9,SNR=15						
DBIC	**Dimbokro**	**71.93**	**264**	*e*P	**P**	**21 18 30.7**	**-1.0**
	comp=Z,0.6nm,0.5s						
ILAR	**Eielson Array**	**72.49**	**15**	P	**P**	**21 18 33.6**	**-0.7**
ILAR	**Eielson Array**	**72.49**	**15**	P	**P**	**21 18 33.6**	**-0.7**
	comp=Z,0.9nm,0.8s,baz=335,slow=4.6,SNR=6.6						
TSUM	**Tsumeb**	**74.64**	**228**	*e*P	**P**	**21 18 46.6**	**-1.1**
	comp=Z,0.9nm,0.4s						
LBTB	**Lobatse**	**75.15**	**218**	*e*P	**P**	**21 18 49.0**	**-1.4**
	comp=Z,3.0nm,1.0s						
YKA	**Yellowknife Ar**	**78.14**	**1**	P	**P**	**21 19 06.8**	**0.0**
YKA	**Yellowknife Ar**	**78.14**	**1**	P	**P**	**21 19 06.8**	**0.0**
	comp=Z,1.6nm,0.8s,baz=358,slow=5.8,SNR=6.1						
BOSA	**Boshof**	**78.36**	**217**	*e*P	**P**	**21 19 06.5**	**-2.1**
	comp=Z,0.7nm,0.7s						
WRA	**Warramunga Arr**	**86.24**	**120**	P	**P**	**21 19 48.7**	**-1.2**
WRA	**Warramunga Arr**	**86.24**	**120**	P	**P**	**21 19 48.7**	**-1.2**
	comp=Z,1.7nm,0.6s,baz=321,slow=4.7,SNR=20						
ASAR	**Alice Springs**	**88.56**	**123**	P	**P**	**21 19 59.8**	**-1.2**
ASAR	**Alice Springs**	**88.56**	**123**	P	**P**	**21 19 59.8**	**-1.2**
	comp=Z,1.4nm,0.7s,baz=313,slow=4.6,SNR=14						

*ISCJB **23** 23:01:46.9±0.6, 37°.19N±0°.04×71°.80E±0°.09, h142km, mb3.3/1, Error ellipse: s-maj=11.1km s-min=4.1km az=163.1*
*IDC **23** 23:01:50.5±6.6, 37°.43N×71°.64E, h151km±60km, mb3.0/1, mb1 3.4/7, mb1mx3.0/31, mbtmp3.4/7, Error ellipse: s-maj=67.8km s-min=40.7km az=149.0*
*NNC **23** 23:01:58.9±4.3, 38°.09N×71°.74E, h219km±36km, mb2.9, mpv4.2,

comp=N,2.6nm,0.8s,baz=225,slow=41,SNR=9.2
BVAR Borovoye Array 15.86 357 P **Pn 23 05 22.0 -1.0**
comp=N,0.4nm,0.3s,baz=159,slow=11,SNR=7.3
RAMN Ramite 16.07 125 *e*P **P 23 05 27.1 +0.3**
comp=N,3.1nm,0.3s
RAMN *e*S Sn 23 08 14.6 -11
TAPN Taplejung 16.54 122 *e*P **Pn 23 05 32.9 +0.9**
comp=N,5.5nm,0.5s
AKTO Aktyubinsk 16.57 327 ⇑P **P 23 05 31.4 -0.4**
comp=N,3.3nm,0.9s
AKTO ⇓S S 23 08 22.7 -14
comp=N,0.2nm,0.3s
AKTO Aktyubinsk 16.57 327 P **Pn 23 05 30.3 -1.5**
comp=N,0.4nm,0.3s,baz=143,slow=10,SNR=7.0
AKTO S S 23 08 24.6 -12
comp=N,0.1nm,0.3s,baz=149,slow=20,SNR=3.5
ODAN Odare 16.65 124 *e*P **Pn 23 05 34.7 +1.5**
comp=N,4.7nm,0.5s
ZALV Zalesovo Beam 18.96 24 P **P 23 05 59.4 +1.5**
comp=N,0.6nm,0.3s,baz=224,slow=10,SNR=12
TORD Torodi Ar. Bea 66.49 269 P **P 23 12 22.5 0.0**
comp=N,0.2nm,0.4s,baz=49,slow=5.7,SNR=10

CSEM ***23*** *23:12:12.5±0.1, 38°.29N×5°.26W, h2km, ML3.9/36, Error ellipse: s-maj=1.5km s-min=1.1km az=10.0*
MDD ***23*** *23:12:13.6±0.3, 38°.27N×5°.26W, h10km±4km, mbLg3.2/53, Error ellipse: s-maj=3.5km s-min=2.6km az=6.0, PRXIMO*
MDD EMS: III INTENSIDAD MAXIMA.
SFS ***23*** *23:12:13.0, 38°.26N×5°.24W, h0km, ML3.2*
INMG ***23*** *23:12:14.6±1.4, 38°.24N×5°.22W, h12km±2km, MD3.4, ML3.3, Error ellipse: s-maj=1.2km s-min=1.1km az=55.0*
LDG ***23*** *23:12:14.3±0.1, 38°.24N×5°.26W, h2km, Ml3.4/6*
IGIL ***23*** *23:12:14.5, 38°.29N×5°.25W, h0km, ML3.0*
ISC 23 23:12:13.4±1.0, 38°.30N±0°.02×5°.22W±0°.01, h9km±9km, n222, σ1§27/360, 2C-6D, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECAB	**El Cabril**	**0.28 214**		⇑Pg	**Pg**	**23 12 18.7**	**-0.2**
	422nm,0.1s,SNR=18						
ECAB				Lg	Lg	23 12 21.7	
	2μm,0.1s,SNR=5.0						
ECAB	**El Cabril**	**0.28 214**		Pg	**Pg**	**23 12 18.7**	**-0.2**
	422nm,0.1s,SNR=18						
ECAB				Lg	Lg	23 12 21.7	
	2μm,0.1s,SNR=5.0						
EADA	**Adamuz**	**0.53 105**		⇑Pg	**Pg**	**23 12 24.0**	**+0.4**
	138nm,0.1s,SNR=18						
EADA				Lg	Lg	23 12 30.7	
	1μm,0.1s,SNR=5.0						
EADA	**Adamuz**	**0.53 105**		Pg	**Pg**	**23 12 24.0**	**+0.4**
	138nm,0.1s,SNR=18						
EADA				Lg	Lg	23 12 30.7	
	1μm,0.1s,SNR=5.0						
ELUQ	**Luque**	**1.06 134**		Pg	**Pb**	**23 12 33.5**	**-0.4**
	25nm,0.1s,SNR=7.9						
ELUQ				Lg	Lg	23 12 48.1	
	494nm,0.2s,SNR=7.9						
ELUQ	**Luque**	**1.06 134**		Pg	**Pb**	**23 12 33.5**	**-0.4**
	25nm,0.1s,SNR=7.9						
ELUQ				Lg	Lg	23 12 48.1	
	494nm,0.2s,SNR=7.9						
EBAN	**Banos Encina**	**1.14 97**		Pg	**Pb**	**23 12 35.3**	**0.0**
	110nm,0.1s,SNR=166						
EBAN				Lg	Lg	23 12 50.4	
	348nm,0.2s,SNR=5.0						
EBAN	**Banos Encina**	**1.14 97**		Pg	**Pb**	**23 12 35.3**	**0.0**
	110nm,0.1s,SNR=166						
EBAN				Lg	Lg	23 12 50.4	
	348nm,0.2s,SNR=5.0						
EMIN	**Mina Concepcio**	**1.27 245**		Pg	**Pn**	**23 12 36.1**	**-1.2**
	9.7nm,0.1s,SNR=381						
EMIN				Lg	Lg	23 12 52.8	
	147nm,0.2s,SNR=5.0						
EMIN	**Mina Concepcio**	**1.27 245**		Pg	**Pn**	**23 12 36.1**	**-1.2**
	9.7nm,0.1s,SNR=381						
EMIN				Lg	Lg	23 12 52.8	
	147nm,0.2s,SNR=5.0						
LIJA	**Lijar**	**1.40 186**		⇓Pg	**Pb**	**23 12 40.6**	**+0.8**
LIJA				Lg	Lg	23 12 57.9	
LIJA	**Lijar**	**1.40 186**		*i* P	**Pb**	**23 12 40.6**	**+0.8**
LIJA				*e*S	**Sn**	**23 12 57.8**	**-0.2**
PBAR	**Barrancos**	**1.44 265**		*e*Pn	**Pn**	**23 12 39.0**	**-0.7**
PBAR	**Barrancos**	**1.44 265**		*e*Pg	**Pn**	**23 12 40.2**	**+0.5**
PBAR				*e*Sn	**Sn**	**23 12 57.5**	**-1.2**
PBAR				*e*Sg	**Sb**	**23 12 58.6**	**-0.2**
PBAR				A	A	23 13 00.6	
	325nm,0.4s						
PBAR	**Barrancos**	**1.44 265**		Pn	**Pn**	**23 12 39.0**	**-0.7**
PBAR				Pg	**Pn**	**23 12 40.2**	**+0.5**
PBAR				Sn	**Sn**	**23 12 57.5**	**-1.2**
PBAR				Lg	Lg	23 12 58.6	
	325nm,0.4s						
PBAR	**Barrancos**	**1.44 265**		Pn	**Pn**	**23 12 39.0**	**-0.7**
PBAR	**Barrancos**	**1.44 265**		Pg	**Pn**	**23 12 40.2**	**+0.5**
PBAR				Sn	**Sn**	**23 12 57.5**	**-1.2**
PBAR				*e*Sg	**Sb**	**23 12 58.6**	**-0.2**
	325nm,0.4s						
EBAD	**Badajoz**	**1.48 288**		Pn	**Pn**	**23 12 39.8**	**-0.4**
	6.4nm,0.1s,SNR=584						
EBAD				Pg	**Pb**	**23 12 41.1**	**+0.1**
	130nm,0.1s,SNR=7.9						
EBAD				Lg	Lg	23 13 00.6	
	2μm,0.2s,SNR=20						
EBAD	**Badajoz**	**1.48 288**		Pn	**Pn**	**23 12 39.8**	**-0.4**
	6.4nm,0.1s,SNR=584						
ESPR	**Espera**	**1.52 200**		Pg	**Pn**	**23 12 41.0**	**+0.2**
	9.4nm,0.2s,SNR=7.9						
ESPR				Lg	Lg	23 13 01.2	
	326nm,0.3s,SNR=7.9						
ESPR	**Espera**	**1.52 200**		Pg	**Pn**	**23 12 41.0**	**+0.2**
	9.4nm,0.2s,SNR=7.9						
ESPR				Lg	Lg	23 13 01.2	
	326nm,0.3s,SNR=7.9						
ESDC	**Sonseca Array**	**1.68 35**		Pg	**Pb**	**23 12 45.2**	**+0.6**
	0.5nm,0.1s,baz=217,slow=17,SNR=158						
ESDC				Lg	Lg	23 13 07.9	
	151nm,0.3s,baz=219,slow=28,SNR=7.9						
ESDC	**Sonseca Array**	**1.68 35**		Pg	**Pb**	**23 12 45.2**	**+0.6**
	0.5nm,0.1s,baz=217,slow=17,SNR=158						
ESDC				Lg	Lg	23 13 07.9	
	151nm,0.3s,SNR=7.9						
EQES	**Quesada**	**1.77 106**		⇓Pn	**Pn**	**23 12 44.0**	**-0.3**
	9.3nm,0.1s,SNR=18						
EQES				Pg	**Pb**	**23 12 47.1**	**+1.0**
	8.4nm,0.1s,SNR=7.9						
EQES				Lg	Lg	23 13 10.0	
	67nm,0.2s,SNR=13						
EQES	**Quesada**	**1.77 106**		Pn	**Pn**	**23 12 44.0**	**-0.3**
	9.3nm,0.1s,SNR=18						
EQES	**Quesada**	**1.77 106**		Pg	**Pb**	**23 12 47.1**	**+1.0**
	8.4nm,0.1s,SNR=7.9						
EQES				Lg	Lg	23 13 10.0	
	67nm,0.2s,SNR=13						
EMIJ	**Mijas**	**1.77 168**		Pn	**Pn**	**23 12 44.4**	**+0.1**
	0.6nm,0.1s,SNR=7.9						
EMIJ				Pg	**Pb**	**23 12 46.4**	**+0.3**
	14nm,0.2s,SNR=100						
EMIJ				Lg	Lg	23 13 08.7	
	21nm,0.2s,SNR=9.6						
EMIJ	**Mijas**	**1.77 168**		Pn	**Pn**	**23 12 44.4**	**+0.1**
	0.6nm,0.1s,SNR=7.9						
EQUE	**Quentar**	**1.79 127**		Pn	**Pn**	**23 12 44.6**	**0.0**
	3.4nm,0.3s,SNR=7.9						
EQUE				Pg	**Pb**	**23 12 47.2**	**+0.8**
	17nm,0.2s,SNR=7.9						
EQUE				Lg	Lg	23 13 10.4	
	117nm,0.3s,SNR=7.9						
EQUE	**Quentar**	**1.79 127**		Pn	**Pn**	**23 12 44.6**	**0.0**
	3.4nm,0.3s,SNR=7.9						
REAL	**Reales**	**1.82 180**		Pg	**Pb**	**23 12 48.5**	**+1.6**
REAL				Lg	Lg	23 13 12.2	
REAL	**Reales**	**1.82 180**		*e*P	**Pb**	**23 12 48.5**	**+1.6**
REAL				Lg	Lg	23 13 12.2	
EJIF	**Jimena Fronter**	**1.86 186**		Pn	**Pn**	**23 12 45.7**	**+0.2**
	0.8nm,0.1s,SNR=7.9						
EJIF				Pg	**Pb**	**23 12 48.9**	**+1.3**
	2.6nm,0.1s,SNR=7.9						
EJIF				Lg	Lg	23 13 12.4	
	38nm,0.2s,SNR=7.9						
EJIF	**Jimena Fronter**	**1.86 186**		Pn	**Pn**	**23 12 45.7**	**+0.2**
	0.8nm,0.1s,SNR=7.9						
EPLA	**Plasencia**	**1.88 339**		Pn	**Pn**	**23 12 46.4**	**+0.5**
	1.9nm,0.1s,SNR=74						
EPLA				Pg	**Pb**	**23 12 48.8**	**+0.8**
	9.4nm,0.1s,SNR=7.9						
EPLA				Lg	Lg	23 13 13.4	
	154nm,0.2s,SNR=22						
EPLA	**Plasencia**	**1.88 339**		Pn	**Pn**	**23 12 46.3**	**+0.5**
	1.9nm,0.1s,SNR=74						
PESTR	**Estremoz**	**1.94 288**		*e*Pn	**Pn**	**23 12 46.1**	**-0.5**
PESTR	**Estremoz**	**1.94 288**		*e*Pg	**Pb**	**23 12 49.4**	**+0.4**
PESTR				*e*Sg	**Sb**	**23 13 15.1**	**+1.8**
PESTR				A	A	23 13 22.5	
	185nm,0.7s						
PESTR	**Estremoz**	**1.94 288**		Pn	**Pn**	**23 12 46.1**	**-0.5**
PESTR				Pg	**Pb**	**23 12 49.4**	**+0.4**
PESTR				Lg	Lg	23 13 15.1	
	185nm,0.7s						
PESTR	**Estremoz**	**1.94 288**		Pn	**Pn**	**23 12 46.1**	**-0.5**
PESTR	**Estremoz**	**1.94 288**		Pg	**Pb**	**23 12 49.4**	**+0.4**
PESTR				*e*Sg	**Sb**	**23 13 15.1**	**+1.8**
	185nm,0.7s						
EGRO	**El Granado**	**1.95 247**		Pn	**Pn**	**23 12 45.4**	**-1.2**
	2.3nm,0.1s,SNR=37						
EGRO				Pg	**Pb**	**23 12 49.0**	**0.0**
	8.1nm,0.1s,SNR=7.9						
EGRO				Lg	Lg	23 13 13.5	
	80nm,0.2s,SNR=5.0						
EGRO	**El Granado**	**1.95 247**		Pn	**Pn**	**23 12 45.4**	**-1.2**
	2.3nm,0.1s,SNR=37						
EGUA	**Guajares**	**1.97 138**		Pn	**Pn**	**23 12 46.3**	**-0.7**
	1.3nm,0.1s,SNR=7.9						
EGUA				Pg	**Pb**	**23 12 50.2**	**+0.7**
	8.8nm,0.2s,SNR=7.9						
EGUA				Lg	Lg	23 13 15.9	
	187nm,0.4s,SNR=7.9						
EGUA	**Guajares**	**1.97 138**		Pn	**Pn**	**23 12 46.3**	**-0.7**
	1.3nm,0.1s,SNR=7.9						
SFS	**San Fernando**	**2.00 203**		Pg	**Pg**	**23 12 52.1**	**+0.4**
SFS				Lg	Lg	23 13 19.5	
SFS	**San Fernando**	**2.00 203**		Pg	**Pg**	**23 12 52.1**	**+0.4**
SFS				Lg	Lg	23 13 19.5	
PMRV	**Marv??o**	**2.03 304**		*i* Pn	**Pn**	**23 12 47.7**	**-0.2**
PMRV	**Marv??o**	**2.03 304**		*e*Pg	**Pb**	**23 12 51.0**	**+0.5**
PMRV				*e*Sg	**Sb**	**23 13 18.2**	**+2.2**
PMRV				A	A	23 13 21.1	
	200nm,0.3s						
PMRV	**Marv??o**	**2.03 304**		⇓Pn	**Pn**	**23 12 47.7**	**-0.2**
PMRV				Pg	**Pb**	**23 12 51.0**	**+0.5**
PMRV				Lg	Lg	23 13 18.2	
	200nm,0.3s						
PMRV	**Marv??o**	**2.03 304**		Pn	**Pn**	**23 12 47.7**	**-0.2**
PMRV	**Marv??o**	**2.03 304**		Pg	**Pb**	**23 12 51.0**	**+0.5**
PMRV				*e*Sg	**Sb**	**23 13 18.2**	**+2.2**
	200nm,0.3s						
CNIL	**Conil**	**2.04 199**		Pg	**Pg**	**23 12 54.4**	**+1.9**
CNIL				Lg	Lg	23 13 20.9	
CNIL	**Conil**	**2.04 199**		Lg	Lg	23 13 21.0	
PBEJ	**Beja**	**2.10 263**		*e*Pn	**Pn**	**23 12 47.9**	**-0.9**
PBEJ	**Beja**	**2.10 263**		*e*Pg	**Pn**	**23 12 51.2**	**+2.4**
PBEJ				*e*Sg	**Sb**	**23 13 19.0**	**+1.0**
PBEJ				A	A	23 13 23.1	
	156nm,0.5s						
PBEJ	**Beja**	**2.10 263**		Pn	**Pn**	**23 12 47.9**	**-0.9**
PBEJ				Pg	**Pn**	**23 12 51.2**	**+2.4**
PBEJ				Lg	Lg	23 13 19.0	
	78nm,0.5s						
PBEJ	**Beja**	**2.10 263**		Pn	**Pn**	**23 12 47.9**	**-0.9**
PBEJ	**Beja**	**2.10 263**		Pg	**Pn**	**23 12 51.2**	**+2.4**
PBEJ				*e*Sg	**Sb**	**23 13 19.0**	**+1.0**
	156nm,0.5s						
EHUE	**Huescar**	**2.13 102**		Pn	**Pn**	**23 12 48.9**	**-0.4**
	2.9nm,0.2s,SNR=7.9						
EHUE				Pg	**Pb**	**23 12 53.2**	**+0.9**
	8.0nm,0.1s,SNR=7.9						
EHUE				Lg	Lg	23 13 20.9	
	33nm,0.1s,SNR=7.9						
EHUE	**Huescar**	**2.13 102**		Pn	**Pn**	**23 12 48.9**	**-0.4**
	2.9nm,0.2s,SNR=7.9						
EVIA	**Vianos**	**2.16 80**		Pn	**Pn**	**23 12 49.5**	**-0.2**
	3.1nm,0.1s,SNR=19						
EVIA				Pg	**Pb**	**23 12 54.7**	**+2.0**
	15nm,0.1s,SNR=7.9						
EVIA				Sn	**Sb**	**23 13 20.0**	**+0.3**
	244nm,0.2s,SNR=5.0						
EVIA	**Vianos**	**2.16 80**		Pn	**Pn**	**23 12 49.5**	**-0.2**
	3.1nm,0.1s,SNR=19						
PVAQ	**Vaqueiros**	**2.17 246**		*e*Pn	**Pn**	**23 12 48.5**	**-1.3**
PVAQ				*e*Sg	**Sb**	**23 13 20.8**	**+0.9**
PVAQ				A	A	23 13 23.6	
	112nm,0.2s						
PVAQ	**Vaqueiros**	**2.17 246**		Pn	**Pn**	**23 12 48.5**	**-1.3**
PVAQ				Lg	Lg	23 13 20.8	
	112nm,0.2s						
PVAQ	**Vaqueiros**	**2.17 246**		Pn	**Pn**	**23 12 48.5**	**-1.3**
PVAQ				*e*Sg	**Sb**	**23 13 20.8**	**+0.9**
	112nm,0.2s						
EVO	**Evora**	**2.21 277**		*e*Pn	**Pn**	**23 12 50.8**	**+0.6**
EVO	**Evora**	**2.21 277**		*e*Pg	**Pb**	**23 12 55.1**	**+1.6**
EVO				*e*Sg	**Sg**	**23 13 26.5**	**+2.2**
	286nm,0.2s						
EVO	**Evora**	**2.21 277**		*e*Pg	**Pn**	**23 12 51.2**	**+1.0**
EVO				*e*Sg	**Sb**	**23 13 23.0**	**+2.1**
EVO				A	A	23 13 31.1	
	163nm,0.3s						
EVO	**Evora**	**2.21 277**		Pg	**Pn**	**23 12 51.2**	**+1.0**
EVO				Lg	Lg	23 13 23.0	
	163nm,0.3s						
EVO	**Evora**	**2.21 277**		*e*Pg	**Pn**	**23 12 51.2**	**+1.0**
EVO				*e*Sg	**Sb**	**23 13 23.0**	**+2.1**
	163nm,0.3s						
EVOP	**Sao Brissos**	**2.29 276**		*e*Pn	**Pn**	**23 12 50.8**	**-0.6**
EVOP	**Sao Brissos**	**2.29 276**		*e*Pg	**Pb**	**23 12 55.1**	**+0.2**
EVOP				*e*Sg	**Sg**	**23 13 26.5**	**-0.5**
	143nm,0.2s						
EBER	**Berja**	**2.32 126**		Pn	**Pn**	**23 12 53.0**	**+1.0**
	5.8nm,0.2s,SNR=37						
EBER				Pg	**Pb**	**23 12 56.8**	**+1.2**
	6.7nm,0.2s,SNR=7.9						
EBER				Sn	**Sn**	**23 13 21.1**	**+0.3**
	29nm,0.2s,SNR=7.9						
EBER				Lg	Lg	23 13 27.9	
	145nm,0.3s,SNR=5.2						
EBER	**Berja**	**2.32 126**		Pn	**Pn**	**23 12 53.0**	**+1.0**
	5.8nm,0.2s,SNR=37						
PCVE	**Castro Verde**	**2.33 254**		*e*Pn	**Pn**	**23 12 50.6**	**-1.3**
PCVE				*e*Sg	**Sb**	**23 13 24.6**	**+0.2**
PCVE				A	A	23 13 28.8	
	107nm,0.5s						
PCVE	**Castro Verde**	**2.33 254**		Pn	**Pn**	**23 12 50.6**	**-1.3**
PCVE				Lg	Lg	23 13 24.6	
	107nm,0.5s						
PCVE	**Castro Verde**	**2.33 254**		Pn	**Pn**	**23 12 50.6**	**-1.3**
PCVE				*e*Sg	**Sb**	**23 13 24.6**	**+0.2**
	107nm,0.5s						
PCBR	**Castelo Branco**	**2.33 312**		*e*Pn	**Pn**	**23 12 52.2**	**+0.2**
PCBR	**Castelo Branco**	**2.33 312**		*e*Pg	**Pb**	**23 12 57.2**	**+1.6**
PCBR				*e*Sg	**Sg**	**23 13 28.0**	**-0.3**
PCBR				A	A	23 13 37.1	
	94nm,0.7s						
PCBR	**Castelo Branco**	**2.33 312**		Pn	**Pn**	**23 12 52.2**	**+0.2**
PCBR				Pg	**Pb**	**23 12 57.2**	**+1.6**
PCBR				Lg	Lg	23 13 28.0	
	47nm,0.7s						
PCBR	**Castelo Branco**	**2.33 312**		Pn	**Pn**	**23 12 52.2**	**+0.2**
PCBR	**Castelo Branco**	**2.33 312**		Pg	**Pb**	**23 12 57.2**	**+1.6**
PCBR				*e*Sg	**Sg**	**23 13 28.0**	**-0.3**
	94nm,0.7s						
PBDV	**Barranco-do-Ve**	**2.40 245**		*e*Pn	**Pn**	**23 12 52.5**	**-0.4**
PBDV				*e*Sg	**Sb**	**23 13 27.2**	**+0.8**
PBDV				A	A	23 13 36.6	
	90nm,0.5s						
PBDV	**Barranco-do-Ve**	**2.40 245**		Pn	**Pn**	**23 12 52.5**	**-0.4**
PBDV				Lg	Lg	23 13 27.2	
	90nm,0.5s						
PBDV	**Barranco-do-Ve**	**2.40 245**		Pn	**Pn**	**23 12 52.5**	**-0.4**
PBDV				*e*Sg	**Sb**	**23 13 27.2**	**+0.8**
	90nm,0.5s						
MOE	**Montemor**	**2.47 276**		*e*Pg	**Pb**	**23 12 58.8**	**+0.8**
MOE				*e*Sg	**Sb**	**23 13 31.5**	**+3.0**
MOE	**Montemor**	**2.47 276**		Pg	**Pb**	**23 12 58.8**	**+0.8**
MOE				Lg	Lg	23 13 31.5	
MOE	**Montemor**	**2.47 276**		Pg	**Pb**	**23 12 58.8**	**+0.8**
MOE				*e*Sg	**Sb**	**23 13 31.5**	**+3.0**
PMTG	**Montargil**	**2.47 289**		*e*Pn	**Pn**	**23 12 53.3**	**-0.6**
PMTG	**Montargil**	**2.47 289**		*e*Pg	**Pb**	**23 12 59.5**	**+1.5**
PMTG				*e*Sg	**Sg**	**23 13 31.9**	**-0.9**
PMTG				A	A	23 13 35.0	
	225nm,0.8s						
PMTG	**Montargil**	**2.47 289**		*e*Pn	**Pn**	**23 12 53.3**	**-0.6**
PMTG	**Montargil**	**2.47 289**		*e*Pg	**Pb**	**23 12 59.5**	**+1.5**
PMTG				*e*Sg	**Sg**	**23 13 31.9**	**-0.9**
	225nm,0.8s						
GUD	**Guadarrama**	**2.48 19**		Pn	**Pn**	**23 12 55.2**	**+1.1**
	0.2nm,0.1s,SNR=15						
GUD				Pg	**Pb**	**23 13 00.5**	**+2.3**
	1.6nm,0.1s,SNR=7.9						
GUD				Sn	**Sn**	**23 13 23.4**	**-1.1**
	12nm,0.1s,SNR=7.9						
GUD				Lg	Lg	23 13 31.3	
	70nm,0.3s,SNR=12						
GUD	**Guadarrama**	**2.48 19**		Pn	**Pn**	**23 12 55.2**	**+1.1**
	0.2nm,0.1s,SNR=15						
PNCL	**Nicolau / Gran**	**2.61 267**		*e*Pn	**Pn**	**23 12 55.4**	**-0.4**
PNCL				*e*Sg	**Sb**	**23 13 34.1**	**+1.5**
PNCL				A	A	23 13 40.1	
	143nm,0.6s						
PNCL	**Nicolau / Gran**	**2.61 267**		*e*Pn	**Pn**	**23 12 55.4**	**-0.4**
PNCL				*e*Sg	**Sb**	**23 13 34.1**	**+1.5**
	143nm,0.6s						
ENIJ	**Nijar**	**2.74 118**		Pn	**Pn**	**23 12 57.9**	**+0.3**
	10nm,0.3s,SNR=7.9						
ENIJ				Pg	**Pb**	**23 13 04.2**	**+1.7**
	24nm,0.3s,SNR=7.9						
ENIJ	**Nijar**	**2.74 118**		Pn	**Pn**	**23 12 57.9**	**+0.3**
	10nm,0.3s,SNR=7.9						
ALMR	**Almeirim**	**2.76 289**		*e*P	**Pn**	**23 12 58.0**	**+0.2**
ALMR				*e*S	**Sn**	**23 13 30.3**	**-1.0**
ALMR				AML	AML	23 13 31.9	
	comp=E,62nm,0.3s						
ALMR	**Almeirim**	**2.76 289**		*e*P	**Pn**	**23 12 58.0**	**+0.2**
ALMR				*e*S	**Sn**	**23 13 30.3**	**-1.0**
ALMR	**Almeirim**	**2.76 289**		Pn	**Pn**	**23 12 58.0**	**+0.2**
ALMR				Sn	**Sn**	**23 13 30.3**	**-1.0**
ALMR	**Almeirim**	**2.76 289**		*e*P	**Pn**	**23 12 58.0**	**+0.2**
ALMR				*e*S	**Sn**	**23 13 30.3**	**-1.0**
MTE	**Manteigas**	**2.76 320**		*e*Pn	**Pn**	**23 12 58.3**	**+0.4**
MTE	**Manteigas**	**2.76 320**		*e*Pg	**Pb**	**23 13 04.4**	**+1.4**
MTE				*e*Sg	**Sb**	**23 13 40.5**	**+3.5**
MTE				A	A	23 13 45.7	
	comp=E,304nm,0.5s						
MTE	**Manteigas**	**2.76 320**		Pn	**Pn**	**23 12 58.3**	**+0.4**
MTE				Pg	**Pb**	**23 13 04.4**	**+1.4**
MTE				Lg	Lg	23 13 40.5	
	comp=E,152nm,0.5s						
MTE	**Manteigas**	**2.76 320**		Pn	**Pn**	**23 12 58.3**	**+0.4**
MTE	**Manteigas**	**2.76 320**		Pg	**Pb**	**23 13 04.4**	**+1.4**
MTE				*e*Sg	**Sb**	**23 13 40.5**	**+3.5**
	comp=E,304nm,0.5s						
PTOM	**Tomar**	**2.81 299**		*e*Pn	**Pn**	**23 12 58.2**	**-0.4**
PTOM				*e*Sg	**Sb**	**23 13 41.5**	**+3.1**
PTOM				A	A	23 13 47.5	
	comp=E,252nm,0.5s						
PTOM	**Tomar**	**2.81 299**		Pn	**Pn**	**23 12 58.2**	**-0.4**
PTOM				Lg	Lg	23 13 41.5	
	comp=E,126nm,0.5s						
PTOM	**Tomar**	**2.81 299**		Pn	**Pn**	**23 12 58.2**	**-0.4**
PTOM				*e*Sg	**Sb**	**23 13 41.5**	**+3.1**
	comp=E,252nm,0.5s						
PACT	**Alcochete**	**2.87 280**		*e*Pn	**Pn**	**23 13 00.0**	**+0.6**
PACT				*e*Sn	**Sn**	**23 13 34.3**	**+0.3**
PACT				*e*Sg	**Sg**	**23 13 45.5**	**-0.1**
PACT				A	A	23 13 48.8	
	comp=E,171nm,0.5s						
PACT	**Alcochete**	**2.87 280**		*e*Pn	**Pn**	**23 13 00.0**	**+0.6**
PACT				*e*Sn	**Sn**	**23 13 34.3**	**+0.3**
PACT				*e*Sg	**Sg**	**23 13 45.5**	**-0.1**
	comp=E,171nm,0.5s						
PTEO	**Sao Teotonio**	**2.87 256**		*e*Pn	**Pn**	**23 12 58.9**	**-0.5**
PTEO				*e*Sn	**Sn**	**23 13 32.6**	**-1.5**
PTEO				*e*Sg	**Sb**	**23 13 42.3**	**+2.2**
PTEO				A	A	23 13 56.1	
	comp=E,76nm,0.6s						
PTEO	**Sao Teotonio**	**2.87 256**		Pn	**Pn**	**23 12 58.9**	**-0.5**
PTEO				Sn	**Sn**	**23 13 32.6**	**-1.5**
PTEO				Lg	Lg	23 13 42.3	
	comp=E,38nm,0.6s						
PTEO	**Sao Teotonio**	**2.87 256**		Pn	**Pn**	**23 12 58.9**	**-0.5**
PTEO				Sn	**Sn**	**23 13 32.6**	**-1.5**
PTEO				*e*Sg	**Sb**	**23 13 42.3**	**+2.2**
	comp=E,76nm,0.6s						
MORF	**Marmelete**	**2.89 251**		*e*Pn	**Pn**	**23 12 58.9**	**-0.8**
MORF				*e*Sn	**Sn**	**23 13 33.1**	**-1.6**
MORF				A	A	23 13 54.4	
	comp=E,30nm,0.2s						
MORF	**Marmelete**	**2.89 251**		Pn	**Pn**	**23 12 58.9**	**-0.8**
MORF				Sn	**Sn**	**23 13 33.1**	**-1.6**
	comp=E,30nm,0.2s						
MORF	**Marmelete**	**2.89 251**		Pn	**Pn**	**23 12 58.9**	**-0.8**
MORF				*e*Sn	**Sn**	**23 13 33.1**	**-1.6**
	comp=E,30nm,0.2s						
ETOB	**Tobarra**	**2.90 82**		Pn	**Pn**	**23 12 59.5**	**-0.4**
	comp=E,5.0nm,0.2s,SNR=45						
ETOB				Pg	**Pb**	**23 13 07.8**	**+2.4**
	comp=E,2.0nm,0.1s,SNR=7.9						
ETOB				Sn	**Sn**	**23 13 35.1**	**+0.1**
	comp=E,5.2nm,0.1s,SNR=7.9						
ETOB				Lg	Lg	23 13 46.2	
	comp=E,54nm,0.2s,SNR=13						
ETOB	**Tobarra**	**2.90 82**		Pn	**Pn**	**23 12 59.5**	**-0.4**
	comp=E,5.0nm,0.2s,SNR=45						
EALB	**Alboran**	**2.94 143**		Pn	**Pn**	**23 13 00.7**	**+0.5**
	comp=E,4.1nm,0.2s,SNR=7.9						
EALB				Sn	**Sn**	**23 13 34.7**	**-1

PVIS Viseu 3.17 320 Pn **Pn 23 13 03.9 +0.3**
PVIS Sn **Sn 23 13 40.8 -0.8**
PVIS Lg Lg 23 13 53.9
comp=E,35nm,0.5s
MVO Moncorvo 3.18 335 *i* Pn **Pn 23 13 04.3 +0.6**
MVO *e*Sn **Sn 23 13 41.7 -0.1**
MVO *e*Sg **Sg 23 13 54.2 -1.3**
MVO A A 23 14 01.2
comp=E,129nm,0.6s
MVO Moncorvo 3.18 335 ⇓Pn **Pn 23 13 04.3 +0.6**
comp=E,6.4nm,0.1s,SNR=18
MVO Pg **Pg 23 13 13.3 -1.0**
comp=E,3.8nm,0.1s,SNR=7.9
MVO Sn **Sn 23 13 41.2 -0.6**
comp=E,8.6nm,0.1s,SNR=7.9
MVO Lg Lg 23 13 53.1
comp=E,64nm,0.3s,SNR=10
MVO Moncorvo 3.18 335 Pn **Pn 23 13 04.3 +0.6**
comp=E,6.4nm,0.1s,SNR=18
MVO Moncorvo 3.18 335 Pg **Pg 23 13 13.3 -1.0**
comp=E,3.8nm,0.1s,SNR=7.9
MVO Sn **Sn 23 13 41.2 -0.6**
comp=E,8.6nm,0.1s,SNR=7.9
MVO Lg Lg 23 13 53.1
comp=E,64nm,0.3s,SNR=10
MVO *e*Sg **Sg 23 13 54.2 -1.3**
comp=E,129nm,0.6s
PMAFR Mafra 3.25 283 *e*Pn **Pn 23 13 04.8 +0.3**
PMAFR *e*Sn **Sn 23 13 41.4 -2.0**
PMAFR *e*Sg **Sg 23 13 55.8 -1.9**
PMAFR A A 23 14 07.1
comp=E,156nm,0.5s
PMAFR Mafra 3.25 283 Pn **Pn 23 13 04.8 +0.3**
comp=E,7.4nm,0.1s,SNR=15
PMAFR Pg **Pb 23 13 13.9 +2.7**
comp=E,5.8nm,0.1s,SNR=7.9
PMAFR Sn **Sn 23 13 41.3 -2.0**
comp=E,12nm,0.1s,SNR=9.1
PMAFR Lg Lg 23 13 54.0
comp=E,144nm,0.3s,SNR=8.7
PMAFR Mafra 3.25 283 Pn **Pn 23 13 04.8 +0.3**
comp=E,7.4nm,0.1s,SNR=15
PVRL Vila Real 3.54 328 *e*Pn **Pn 23 13 09.0 +0.4**
PVRL *e*Sn **Sn 23 13 50.3 -0.2**
PVRL A A 23 14 12.9
comp=E,66nm,0.6s
PVRL Vila Real 3.54 328 Pn **Pn 23 13 09.0 +0.4**
PVRL Sn **Sn 23 13 50.3 -0.2**
comp=E,33nm,0.6s
PVRL Vila Real 3.54 328 Pn **Pn 23 13 09.0 +0.4**
PVRL Sn **Sn 23 13 50.3 -0.2**
comp=E,33nm,0.6s
POLO Lamas de Olo 3.65 328 *i* Pn **Pn 23 13 10.7 +0.5**
POLO *e*Sn **Sn 23 13 52.8 -0.6**
POLO *e*Sg **Sg 23 14 08.7 -1.9**
POLO A A 23 14 10.9
comp=E,14nm,0.5s
PBRG Braganca 3.69 342 *e*Pn **Pn 23 13 11.1 +0.5**
PBRG *e*Sn **Sn 23 13 53.9 -0.3**
PBRG *e*Sg **Sg 23 14 09.4 -2.4**
PBRG A A 23 14 15.1
comp=E,32nm,0.3s
PBRG Braganca 3.69 342 Pn **Pn 23 13 11.1 +0.5**
PBRG Sn **Sn 23 13 53.9 -0.3**
PBRG Lg Lg 23 14 09.4
comp=E,16nm,0.3s
PBRG Braganca 3.69 342 Pn **Pn 23 13 11.1 +0.5**
PBRG Sn **Sn 23 13 53.9 -0.3**
PBRG *e*Sg **Sg 23 14 09.4 -2.4**
comp=E,32nm,0.3s
ECAL Calabor 3.81 343 Pn **Pn 23 13 12.8 +0.4**
comp=E,2.5nm,0.1s,SNR=28
ECAL Sn **Sn 23 13 57.3 -0.1**
comp=E,17nm,0.2s,SNR=4.8
ECAL Lg Lg 23 14 15.2
comp=E,66nm,0.4s,SNR=5.0
ECAL Calabor 3.81 343 Pn **Pn 23 13 12.8 +0.4**
comp=E,2.5nm,0.1s,SNR=28
ECAL Sn **Sn 23 13 57.3 -0.1**
comp=E,17nm,0.2s,SNR=4.8
ECAL Lg Lg 23 14 15.2
comp=E,66nm,0.4s,SNR=5.0
EBEN Beniarda 3.94 83 Pn **Pn 23 13 14.2 +0.1**
comp=E,0.6nm,0.2s,SNR=7.9
EBEN Pg **Pb 23 13 25.5 +2.4**
comp=E,0.3nm,0.1s,SNR=7.9
EBEN Sn **Sn 23 14 00.3 -0.2**
comp=E,1.2nm,0.1s,SNR=7.9
EBEN Lg Lg 23 14 19.0
comp=E,23nm,0.4s,SNR=7.9
EBEN Beniarda 3.94 83 Pn **Pn 23 13 14.2 +0.1**
comp=E,0.6nm,0.2s,SNR=7.9
EBEN Sn **Sn 23 14 00.3 -0.2**
comp=E,1.2nm,0.1s,SNR=7.9
EBEN Lg Lg 23 14 19.0
comp=E,23nm,0.4s,SNR=7.9
PCAB Cabril 4.03 329 *e*Pn **Pn 23 13 15.8 +0.5**
PCAB *e*Sn **Sn 23 14 01.8 -0.8**
PCAB *e*Sg **Sg 23 14 21.1 -1.6**
PCAB A A 23 14 25.9
comp=E,65nm,0.4s
PCAB Cabril 4.03 329 ⇓Pn **Pn 23 13 15.8 +0.5**
PCAB Sn **Sn 23 14 01.8 -0.8**
PCAB Lg Lg 23 14 21.1
comp=E,32nm,0.4s
PCAB Cabril 4.03 329 Pn **Pn 23 13 15.8 +0.5**
PCAB Sn **Sn 23 14 01.8 -0.8**
PCAB *e*Sg **Sg 23 14 21.1 -1.6**
comp=E,65nm,0.4s
ELOB Lobios 4.17 329 Pn **Pn 23 13 17.4 +0.1**
comp=E,5.3nm,0.1s,SNR=50
ELOB Pg Pb 23 13 31.3 +4.2
comp=E,0.8nm,0.1s,SNR=7.9
ELOB Sn **Sn 23 14 04.1 -2.2**
comp=E,4.9nm,0.2s,SNR=7.9
ELOB Lg Lg 23 14 24.5
comp=E,36nm,0.3s,SNR=5.0
ELOB Lobios 4.17 329 Pn **Pn 23 13 17.4 +0.1**
comp=E,5.3nm,0.1s,SNR=50
EMOS Mosqueruela 4.22 59 Pn **Pn 23 13 19.4 +1.3**
comp=E,0.4nm,0.1s,SNR=8.4
EMOS Lg Lg 23 14 28.2
comp=E,6.8nm,0.3s,SNR=7.9
EMOS Mosqueruela 4.22 59 Pn **Pn 23 13 19.4 +1.3**
comp=E,0.4nm,0.1s,SNR=8.4
EMOS Lg Lg 23 14 28.2
comp=E,6.8nm,0.3s,SNR=7.9
PGAV Gavieira, Arco 4.34 328 *i* Pn **Pn 23 13 20.2 +0.5**
PGAV *e*Sn **Sn 23 14 09.7 -0.7**
PGAV *e*Sg **Sg 23 14 30.6 -2.1**
PGAV A A 23 14 38.1
comp=E,64nm,0.4s
EZAM Zamans 4.67 326 Pn **Pn 23 13 23.8 -0.3**
comp=E,2.3nm,0.2s,SNR=7.9
EZAM Lg Lg 23 14 43.2
comp=E,19nm,0.4s,SNR=7.9
EZAM Zamans 4.67 326 Pn **Pn 23 13 23.8 -0.3**
comp=E,2.3nm,0.2s,SNR=7.9
EZAM Lg Lg 23 14 43.2
comp=E,19nm,0.4s,SNR=7.9
EARI Arriondas 4.99 0 Pn **Pn 23 13 29.5 +0.9**
comp=E,1.0nm,0.3s,SNR=6.1
EARI Sn **Sn 23 14 23.5 -3.0**
comp=E,0.6nm,0.1s,SNR=7.9
EARI Lg Lg 23 14 49.8
comp=E,5.8nm,0.4s,SNR=5.0
EARI Arriondas 4.99 0 Pn **Pn 23 13 29.5 +0.9**
comp=E,1.0nm,0.3s,SNR=6.1
EARI Lg Lg 23 14 49.8
comp=E,5.8nm,0.4s,SNR=5.0
ESAC San Caprasio 5.00 45 Pn **Pn 23 13 30.0 +1.4**
comp=E,3.6nm,0.2s,SNR=7.9
ESAC Lg Lg 23 14 54.6
comp=E,47nm,0.3s,SNR=7.9
ESAC San Caprasio 5.00 45 Pn **Pn 23 13 30.0 +1.4**
comp=E,3.6nm,0.2s,SNR=7.9
ESAC Lg Lg 23 14 54.6
comp=E,47nm,0.3s,SNR=7.9
ERTA Horta de San J 5.04 57 Pn **Pn 23 13 29.3 +0.1**
comp=E,0.6nm,0.3s,SNR=7.9
ERTA Lg Lg 23 14 54.9
comp=E,8.9nm,0.3s,SNR=7.9
ERTA Horta de San J 5.04 57 Pn **Pn 23 13 29.3 +0.1**
comp=E,0.6nm,0.3s,SNR=7.9
ERTA Lg Lg 23 14 54.9
comp=E,8.9nm,0.3s,SNR=7.9
ELAN Lanestosa 5.11 15 Pn **Pn 23 13 30.8 +0.8**
comp=E,0.4nm,0.2s,SNR=7.9
ELAN Sn **Sn 23 14 25.9 -3.2**
comp=E,1.3nm,0.1s,SNR=7.9
ELAN Lg Lg 23 14 56.7
comp=E,6.5nm,0.2s,SNR=7.9
ELAN Lanestosa 5.11 15 Pn **Pn 23 13 30.8 +0.8**
comp=E,0.4nm,0.2s,SNR=7.9
ELAN Lg Lg 23 14 56.7
comp=E,6.5nm,0.2s,SNR=7.9
EIBI Ibiza 5.19 80 Pn **Pn 23 13 31.3 +0.1**
comp=E,13nm,0.7s,SNR=4.0
EIBI Sn **Sn 23 14 28.5 -2.7**
comp=E,2.2nm,0.2s,SNR=7.9
EIBI Ibiza 5.19 80 Pn **Pn 23 13 31.3 +0.1**
comp=E,13nm,0.7s,SNR=4.0
EPON Pontenova 5.23 344 Pn **Pn 23 13 32.5 +0.7**
comp=E,2.4nm,0.1s,SNR=7.9
EPON Sn **Sn 23 14 28.4 -3.7**
comp=E,0.8nm,0.1s,SNR=7.9
EPON Lg Lg 23 14 57.6
comp=E,7.3nm,0.2s,SNR=7.9
EPON Pontenova 5.23 344 Pn **Pn 23 13 32.5 +0.7**
comp=E,2.4nm,0.1s,SNR=7.9
EPON Lg Lg 23 14 57.6
comp=E,7.3nm,0.2s,SNR=7.9
STS Santiago 5.23 332 Pn **Pn 23 13 32.6 +0.8**
comp=E,3.9nm,0.1s,SNR=7.9
STS Sn **Sn 23 14 28.9 -3.3**
comp=E,1.5nm,0.1s,SNR=7.9
STS Lg Lg 23 14 59.6
comp=E,8.2nm,0.2s,SNR=7.9
STS Santiago 5.23 332 Pn **Pn 23 13 32.6 +0.8**
comp=E,3.9nm,0.1s,SNR=7.9
STS Lg Lg 23 14 59.6
comp=E,8.2nm,0.2s,SNR=7.9
EARA Aranguren 5.25 31 Sn **Sn 23 14 31.2 -1.7**
comp=E,2.2nm,0.1s,SNR=7.9
EARA Lg Lg 23 15 03.0
comp=E,17nm,0.4s,SNR=7.9
EARA Aranguren 5.25 31 Lg Lg 23 15 03.0
comp=E,17nm,0.4s,SNR=7.9
IUNC Unciti 5.27 31 Lg Lg 23 15 03.2
comp=E,10nm,0.3s,SNR=7.9
IUNC Unciti 5.27 31 Lg Lg 23 15 03.2
comp=E,10nm,0.3s,SNR=7.9
IEPA Eparoz 5.39 33 Pn **Pn 23 13 36.0 +2.0**
comp=E,0.4nm,0.1s,SNR=7.9
IEPA Sn **Sn 23 14 32.8 -3.4**
comp=E,1.1nm,0.2s,SNR=7.9
IEPA Lg Lg 23 15 06.8
comp=E,11nm,0.4s,SNR=7.9
IEPA Eparoz 5.39 33 Pn **Pn 23 13 36.0 +2.0**
comp=E,0.4nm,0.1s,SNR=7.9
IEPA Lg Lg 23 15 06.8
comp=E,11nm,0.4s,SNR=7.9
IUSE Utxeti 5.41 30 Sn **Sn 23 14 36.4 -0.5**
comp=E,0.2nm,0.0s,SNR=7.9
IUSE Lg Lg 23 15 06.6
comp=E,1.6nm,0.2s,SNR=7.9
IUSE Utxeti 5.41 30 Sn **Sn 23 14 36.4 -0.5**
comp=E,0.2nm,0.0s,SNR=7.9
IUSE Lg Lg 23 15 06.6
comp=E,1.6nm,0.2s,SNR=7.9
EMAZ Mazaricos 5.45 330 Pn **Pn 23 13 35.3 +0.5**
comp=E,1.0nm,0.1s,SNR=6.7
EMAZ Sn **Sn 23 14 34.5 -3.1**
comp=E,1.0nm,0.1s,SNR=7.9
EMAZ Lg Lg 23 15 05.4
comp=E,7.7nm,0.3s,SNR=7.9
EMAZ Mazaricos 5.45 330 Pn **Pn 23 13 35.3 +0.5**
comp=E,1.0nm,0.1s,SNR=6.7
EMAZ Lg Lg 23 15 05.4
comp=E,7.7nm,0.3s,SNR=7.9
ELIZ Elizondo 5.61 29 Pn **Pn 23 13 37.6 +0.6**
comp=E,0.3nm,0.1s,SNR=7.9
ELIZ Sn **Sn 23 14 39.4 -2.1**
comp=E,2.8nm,0.3s,SNR=7.9
ELIZ Elizondo 5.61 29 Pn **Pn 23 13 37.6 +0.6**
comp=E,0.3nm,0.1s,SNR=7.9
EALK Alkurruntz 5.66 29 Pn **Pn 23 13 38.6 +0.9**
comp=E,0.8nm,0.3s,SNR=7.9
EALK Sn **Sn 23 14 40.0 -2.8**
comp=E,0.8nm,0.1s,SNR=7.9
EALK Lg Lg 23 15 15.0
comp=E,17nm,0.4s,SNR=7.9
EALK Alkurruntz 5.66 29 Pn **Pn 23 13 38.6 +0.9**
comp=E,0.8nm,0.3s,SNR=7.9
EALK Lg Lg 23 15 15.0
comp=E,17nm,0.4s,SNR=7.9
SJPF Ste Jean 5.68 31 *e*Pn **Pn 23 13 39.6 +1.6**
SJPF *e*Sn **Sn 23 14 40.9 -2.5**
SJPF *e*Sg **Sg 23 15 14.2 -1.6**
comp=E,6.6nm,0.4s
SJPF Ste Jean 5.68 31 Pn **Pn 23 13 39.6 +1.6**
SJPF *e*Sg **Sg 23 15 14.2 -1.6**
comp=E,3.3nm,0.4s
EPOB Poblet 5.72 56 Lg Lg 23 15 15.8
comp=E,2.8nm,0.3s,SNR=7.9
EPOB Poblet 5.72 56 Lg Lg 23 15 15.8
comp=E,2.8nm,0.3s,SNR=7.9
ETSF Etsaut 5.80 36 *e*Pn **Pn 23 13 40.9 +1.2**
ETSF *e*Sn **Sn 23 14 43.8 -2.6**
ETSF *e*Sg **Sg 23 15 18.5 -1.0**
comp=E,4.7nm,0.3s
ETSF Etsaut 5.80 36 Pn **Pn 23 13 40.9 +1.2**
ETSF *e*Sg **Sg 23 15 18.5 -1.0**
comp=E,2.3nm,0.3s
EBIE Bielsa 5.99 41 Pn **Pn 23 13 43.5 +1.1**
comp=E,0.7nm,0.2s,SNR=7.9
EBIE Sn **Sn 23 14 50.5 -0.8**
comp=E,0.4nm,0.1s,SNR=7.9
EBIE Bielsa 5.99 41 Pn **Pn 23 13 43.5 +1.1**
comp=E,0.7nm,0.2s,SNR=7.9
EBIE Sn **Sn 23 14 50.5 -0.8**
comp=E,0.4nm,0.1s,SNR=7.9
EMIR Miracle 6.30 53 Pn **Pn 23 13 47.2 +0.6**
comp=E,1.2nm,0.2s,SNR=7.9
EMIR Lg Lg 23 15 36.6
comp=E,5.4nm,0.3s,SNR=7.9
EMIR Miracle 6.30 53 Pn **Pn 23 13 47.2 +0.6**
comp=E,1.2nm,0.2s,SNR=7.9
EMIR Lg Lg 23 15 36.6
comp=E,5.4nm,0.3s,SNR=7.9
CSOR Sort 6.33 48 Pn **Pn 23 13 48.2 +1.1**
comp=E,0.3nm,0.1s,SNR=8.5
CSOR Lg Lg 23 15 35.1
comp=E,3.1nm,0.4s,SNR=7.9
CSOR Sort 6.33 48 Pn **Pn 23 13 48.2 +1.1**
comp=E,0.3nm,0.1s,SNR=8.5
CSOR Lg Lg 23 15 35.1
comp=E,3.1nm,0.4s,SNR=7.9
EPF Esparros 6.34 40 *e*Pn **Pn 23 13 48.5 +1.5**
EPF *e*Sg **Sg 23 15 34.2 -2.5**
comp=E,6.5nm,0.4s
EPF Esparros 6.34 40 Pn **Pn 23 13 48.5 +1.5**
EPF Lg Lg 23 15 34.2
comp=E,3.2nm,0.4s
CFON Fontmartina 6.81 57 Pn **Pn 23 13 54.7 +1.1**
comp=E,0.2nm,0.1s,SNR=7.9
CFON Fontmartina 6.81 57 Pn **Pn 23 13 54.7 +1.1**
comp=E,0.2nm,0.1s,SNR=7.9
CLLI Llivia 6.89 51 Pn **Pn 23 13 55.4 +0.6**
comp=E,1.0nm,0.4s,SNR=7.9
CLLI Sn **Sn 23 15 10.7 -2.8**
comp=E,0.7nm,0.4s,SNR=7.9
CLLI Llivia 6.89 51 Pn **Pn 23 13 55.4 +0.6**
comp=E,1.0nm,0.4s,SNR=7.9
EJON La Jonquera 7.45 54 Pn **Pn 23 14 01.8 -0.4**
comp=E,1.1nm,0.3s,SNR=7.9
EJON La Jonquera 7.45 54 Pn **Pn 23 14 01.8 -0.4**
comp=E,1.1nm,0.3s,SNR=7.9
MTLF Montolieu 7.56 46 *e*Pn **Pn 23 14 04.3 +0.6**
MTLF *e*Sg **Sg 23 16 12.7 -3.1**
comp=E,1.2nm,0.3s
MTLF Montolieu 7.56 46 Pn **Pn 23 14 04.3 +0.6**
MTLF Lg Lg 23 16 12.7
comp=E,0.6nm,0.3s
CAF Calviac 8.57 37 *e*Pn **Pn 23 14 17.6 -0.1**
CAF Calviac 8.57 37 Pn **Pn 23 14 17.6 -0.1**
LASF Ste Croix 8.95 47 *e*Pn **Pn 23 14 22.8 0.0**
LASF Ste Croix 8.95 47 Pn **Pn 23 14 22.8 0.0**
QUIF Quistinic 9.72 8 *e*Pn **Pn 23 14 33.3 -0.1**
QUIF Quistinic 9.72 8 *e*P Pn 23 14 39.2 +5.8
QUIF *e*Sn Sn 23 16 17.3 -5.4
comp=E,2.1nm,0.4s
QUIF Quistinic 9.72 8 Pn **Pn 23 14 33.3 -0.1**
SGMF Saint Gilles 10.13 10 *e*Pn **Pn 23 14 38.9 -0.1**
SGMF Saint Gilles 10.13 10 Pn **Pn 23 14 38.9 -0.1**

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*IDC **23** 23:31:50.7±2.7, 9°.38S×115°.20E, h0km, mb3.1/4, mb1 3.3/4, mb1mx3.3/20, mbtmp3.2/4, Error ellipse: s-maj=137.6km s-min=23.6km az=50.0*
*ISCJB **23** 23:31:59.7±0.9, 9°.5S±0°.1×115°.03E±0°.08, h98km, mb3.2/4, Error ellipse: s-maj=15.9km s-min=10.9km az=14.7*
*AUST **23** 23:32:00.6±5.0, 9°.63S×115°.83E, h44km, Error ellipse: s-maj=1.6km s-min=1.0km az=289.0*
ISC 23 23:32:01.7±1.1, 9°.5S±0°.1×115°.1E±0°.1, h98km, n9, σ1§84/7, mb3.1/4, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGM	**Wanagama**	**4.76**	**289**	P	Pn	23 33 20.0	+8.8
	baz=5.5,SNR=5.3						
XMIS	**Christmas Isla**	**9.32**	**263**	S	**Sn**	**23 35 54.8**	**-1.4**
	baz=10,SNR=4.2						
GIRL	**Giralia**	**13.08**	**183**	P	**Pn**	**23 35 04.2**	**+0.5**
	baz=13,SNR=6.7						
GIRL				S	Sn	23 37 08.2	-19
	baz=13,SNR=6.9						
MEEK	**Meekatharra**	**17.36**	**169**	P	**P**	**23 35 59.4**	**+1.6**
	baz=17,SNR=7.9						
FAKI	**Fak Fak**	**18.29**	**70**	P	P	23 36 01.3	-6.8
	baz=18,SNR=3.6						
WRA	**Warramunga Arr**	**21.31**	**121**	P	**P**	**23 36 38.3**	**-2.5**
	0.3nm,0.3s,baz=297,slow=12,SNR=3.8						
ASAR	**Alice Springs**	**22.85**	**130**	P	**P**	**23 36 55.8**	**-1.2**
	0.3nm,0.4s,baz=305,slow=8.6,SNR=5.2						
SONM	**Songino Array**	**57.61**	**353**	P	**P**	**23 41 41.4**	**-0.1**
	0.3nm,0.6s,baz=176,slow=9.2,SNR=3.5						
MKAR	**Makanchi Array**	**63.22**	**335**	P	**P**	**23 42 20.7**	**+1.1**
	0.1nm,0.4s,baz=153,slow=6.5,SNR=2.8						

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*IDC **23** 23:37:26.0±7.4, 36°.61N×70°.00E, h109km±67km, mb3.2/2, mb1 3.1/5, mb1mx2.9/29, mbtmp3.1/5, Error ellipse: s-maj=107.1km s-min=44.0km az=136.0*
*NNC **23** 23:37:32.0±6.8, 36°.86N×70°.88E, h268km±61km, mb2.4, mpv3.7, Error ellipse: s-maj=63.0km s-min=49.0km az=38.0*
ISC 23 23:37:31.7±1.7, 36°.8N±0°.1×70°.6E±0°.1, h200km, n15, σ1§45/19, 4C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.85**	**23**	P	**Pn**	**23 38 56.1**	**-1.2**
	SNR=23						
KK31	**Karatay Array**	**6.31**	**359**	⇑P	**Pn**	**23 39 02.5**	**-0.5**
	2.5nm,0.3s,baz=176,slow=12,SNR=138						
KK31				S	**Sn**	**23 40 17.8**	**+2.5**
	1.6nm,0.3s,baz=196,slow=34,SNR=3.8						
EKS2	**Erkin-Say**	**6.36**	**22**	P	**Pn**	**23 39 02.9**	**-0.8**
	SNR=7.9						
AAK	**Ala-Archa**	**6.57**	**26**	P	**Pn**	**23 39 05.8**	**-0.6**
	SNR=6.5						
AAK	**Ala-Archa**	**6.57**	**26**	P	**Pn**	**23 39 05.7**	**-0.7**
	1.6nm,0.3s,baz=250,slow=13,SNR=16						
AAK				S	**Sn**	**23 40 22.9**	**+1.5**
	0.1nm,0.3s,baz=279,slow=16,SNR=4.5						
CHMS	**Chumysh**	**6.98**	**26**	P	**Pn**	**23 39 11.2**	**-0.4**
	SNR=5.2						
USP	**Ospenovka**	**7.13**	**24**	P	**Pn**	**23 39 13.2**	**-0.4**
	SNR=5.7						
TKM2	**Tokmak 2**	**7.23**	**31**	⇓P	**Pn**	**23 39 13.7**	**-1.3**
	2.0nm,0.5s						
TKM2				⇑S	**Sn**	**23 40 36.0**	**-1.2**
	2.3nm,0.8s						
TKM2	**Tokmak 2**	**7.23**	**31**	P	**Pn**	**23 39 14.8**	**-0.3**
	SNR=5.4						
MKAR	**Makanchi Array**	**13.26**	**37**	P	**P**	**23 40 35.4**	**+0.3**
	0.1nm,0.3s,baz=217,slow=15,SNR=3.7						
AB31	**Akbulak array**	**14.68**	**331**	P	**P**	**23 40 51.2**	**+0.3**
	0.2nm,0.3s,baz=159,slow=12,SNR=17						
AB31				⇑S	**S**	**23 43 31.3**	**-1.5**
	0.7nm,0.5s,baz=160,slow=23,SNR=4.3						
BVAR	**Borovoye Array**	**16.24**	**360**	P	**Pn**	**23 41 09.9**	**+1.2**
	0.1nm,0.3s,baz=187,slow=10,SNR=2.5						
AKTO	**Aktyubinsk**	**16.38**	**330**	⇑P	**P**	**23 41 06.0**	**-3.6**
	2.5nm,0.9s						
AKTO				⇓S	S	23 44 02.1	-8.6
	0.5nm,0.7s						
ZALV	**Zalesovo Beam**	**19.79**	**25**	P	**Pn**	**23 41 51.8**	**+1.1**
	2.8nm,0.4s,baz=222,slow=11,SNR=20						
TORD	**Torodi Ar. Bea**	**65.41**	**268**	P	**P**	**23 47 54.0**	**+0.8**
	0.2nm,0.5s,baz=46,slow=6.3,SNR=5.4						

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*ISCJB **23** 23:39:17.3±0.5, 51°.44N±0°.03×16°.09E±0°.04, h0km, Error ellipse: s-maj=3.6km s-min=3.1km az=14.4*
*WAR **23** 23:39:18.8, 51°.52N×16°.11E*
*IPEC **23** 23:39:19.2±0.4, 51°.46N×16°.17E, h0km, ML2.3/2, Error ellipse: s-maj=2.3km s-min=1.6km az=45.0*
*CSEM **23** 23:39:19.2±0.4, 51°.43N×16°.06E, h2km, ML3.4/11, Error ellipse: s-maj=6.6km s-min=4.0km az=168.0*
*IDC **23** 23:39:19.7±0.8, 51°.43N×16°.03E, h0km, mb1 3.5/6, mb1mx3.3/25, mbtmp3.4/6, ML2.8/6, Error ellipse: s-maj=16.9km s-min=7.0km az=101.0*
*PRU **23** 23:39:19.9, 51°.42N×16°.10E, h0km, Felt In Harrachov*
*VIE **23** 23:39:20.7±0.4, 51°.29N×16°.09E, h0km, mb2.2/4, ML2.8/4, Error ellipse: s-maj=2.5km s-min=1.9km az=169.0 68 km WNW of Wroclaw Suspected Mining induced.*
ISC 23 23:39:17.8±0.8, 51°.51N±0°.03×16°.10E±0°.02, h0km, n42, σ1§03/78, 5C-8D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.68**	**170**	*e*Pg	**Pb**	**23 39 31.6**	**-0.9**
KSP				*e*Sg	**Sg**	**23 39 40.1**	**+0.6**
KSP	**Ksiaz**	**0.68**	**170**	⇓*i*Pg	**Pb**	**23 39 31.6**	**-0.9**
KSP				*i* Sg	**Sg**	**23 39 40.2**	**+0.7**
UPC	**Upice**	**1.00**	**183**	⇓*e*PG	**Pg**	**23 39 37.4**	**+0.3**
UPC				*e*SG	**Sg**	**23 39 49.1**	**-0.9**
	55nm,0.3s						
UPC	**Upice**	**1.00**	**183**	Pg	**Pg**	**23 39 37.4**	**+0.3**
UPC				Sg	**Sg**	**23 39 49.1**	**-0.9**
	55nm,0.3s						
DPC	**Dobruska-Polom**	**1.17**	**173**	*e*PG	**Pg**	**23 39 40.4**	**+0.2**
DPC				*e*SG	**Sg**	**23 39 54.4**	**-0.9**
DPC	**Dobruska-Polom**	**1.17**	**173**	Pg	**Pg**	**23 39 40.4**	**+0.2**
DPC				Sg	**Sg**	**23 39 54.4**	**-0.9**
PVCC	**Panska Ves**	**1.38**	**225**	⇓*e*PG	**Pb**	**23 39 44.5**	**0.0**
PVCC				*e*SG	**Sb**	**23 40 02.6**	**0.0**
	154nm,0.3s						
PVCC	**Panska Ves**	**1.38**	**225**	Pg	**Pb**	**23 39 44.5**	**0.0**
PVCC				Sg	**Sb**	**23 40 02.6**	**0.0**
	154nm,0.3s						
BRG	**Berggiesshubel**	**1.50**	**246**	PN	**Pn**	**23 39 45.8**	**-0.2**
BRG				PG	**Pg**	**23 39 47.4**	**+0.8**
BRG				SG	**Sn**	**23 40 07.3**	**+1.0**
	82nm,0.3s						
PRA	**Prague**	**1.79**	**217**	⇓PG	**Pb**	**23 39 51.0**	**-0.4**
PRA				SG	**Sn**	**23 40 13.0**	**-0.3**
PRU	**Pruhonice**	**1.82**	**214**	⇓*e*PN	**Pn**	**23 39 50.4**	**+0.1**
PRU				*e*PG	**Pb**	**23 39 52.2**	**+0.3**
PRU				*e*SG	**Sb**	**23 40 14.6**	**-0.6**
	21nm,0.3s						
PRU	**Pruhonice**	**1.82**	**214**	Pn	**Pn**	**23 39 50.4**	**+0.1**
CLL	**Collm**	**1.95**	**265**	*e*Pn	**Pn**	**23 39 52.0**	**-0.2**
CLL				*e*Pg	**Pg**	**23 39 56.0**	**+0.8**
CLL				*i*		23 40 00.0	
CLL				*e*		23 40 10.0	
CLL				*e*Sg	**Sg**	**23 40 21.0**	**+0.5**
	comp=Z,18nm,0.4s						
OKC	**Ostrava-Krasne**	**2.12**	**141**	⇓*e*PN	**Pn**	**23 39 54.8**	**+0.3**
OKC				*e*PG	**Pb**	**23 39 57.4**	**+0.3**
OKC				*e*SG	**Sb**	**23 40 24.6**	**+0.7**
	comp=Z,24nm,0.5s						
OKC	**Ostrava-Krasne**	**2.12**	**141**	Pn	**Pn**	**23 39 54.8**	**+0.3**
VRAC	**Vranov**	**2.23**	**172**	Pn	**Pn**	**23 39 56.5**	**+0.6**
	comp=Z,1.5nm,0.3s,baz=347,slow=15,SNR=12						
VRAC				Lg	Lg	23 40 27.7	
	comp=Z,2.6nm,0.3s,baz=288,slow=20,SNR=3.8						
VRAC	**Vranov**	**2.23**	**172**	*e*Pn	**Pn**	**23 39 56.7**	**+0.7**
	baz=353						
VRAC				*e*Sg	**Sb**	**23 40 27.3**	**+0.3**
	comp=Z,17nm,0.3s,baz=353						
TREC	**Trest**	**2.25**	**190**	⇓*e*PN	**Pn**	**23 39 57.1**	**+0.8**
TREC				*e*PG	**Pb**	**23 39 59.7**	**+0.3**
TREC				*e*SG	**Sg**	**23 40 29.0**	**-1.1**
	comp=Z,23nm,0.3s						

TREC	**Trest**	**2.25**	**190**	Pn	**Pn**	**23 39 57.1**	**+0.8**
KRUC	**Moravsky**	**2.46**	**176**	*e*Pn	**Pn**	**23 40 00.0**	**+0.9**
	baz=357						
KRUC				*e*Sg	**Sb**	**23 40 34.4**	**+0.8**
	comp=Z,12nm,0.3s,baz=357						
OJC	**Ojcow**	**2.67**	**117**	*e*Pg	**Pg**	**23 40 10.8**	**+1.7**
OJC				*e*Sg	**Sg**	**23 40 46.6**	**+2.9**
OJC	**Ojcow**	**2.67**	**117**	*e*Pg	**Pg**	**23 40 10.8**	**+1.7**
OJC				*e*Sg	**Sg**	**23 40 46.6**	**+2.9**
KHC	**Kasperske Hory**	**2.88**	**215**	*e*PN	**Pn**	**23 40 05.9**	**+0.9**
KHC				*e*PG	**Pb**	**23 40 11.2**	**+1.1**
KHC				*e*SN	**Sn**	**23 40 40.0**	**-0.3**
KHC				*e*SG	**Sg**	**23 40 48.4**	**-1.8**
	comp=Z,15nm,0.3s						
KHC	**Kasperske Hory**	**2.88**	**215**	Pn	**Pn**	**23 40 05.9**	**+0.9**
GERES	**GERESS Array B**	**3.08**	**211**	Pn	**Pn**	**23 40 08.6**	**+0.8**
	comp=Z,0.8nm,0.3s,baz=27,slow=12,SNR=25						
GERES				Pg	**Pb**	**23 40 14.2**	**+0.6**
	comp=Z,2.1nm,0.3s,baz=28,slow=17,SNR=38						
GERES				Sn	**Sn**	**23 40 44.6**	**-0.7**
	comp=Z,3.3nm,0.3s,baz=30,slow=27,SNR=9.8						
GERES				Lg	Lg	23 40 52.9	
	comp=Z,4.5nm,0.3s,baz=34,slow=26,SNR=10						
NIE	**Niedzica**	**3.41**	**126**	*e*P	**Pg**	**23 40 21.7**	**-1.4**
NIE				*e*S	**Sg**	**23 41 06.2**	**-1.1**
VYHS	**Vyhne**	**3.50**	**149**	*e*PN	Pn	23 40 08.2	-5.2
CONA	**Conrad Observa**	**3.59**	**183**	⇑*i*Pn	**Pn**	**23 40 15.0**	**+0.2**
CONA				⇑*i*Sg	**Sg**	**23 41 11.8**	**-1.2**
	comp=Z,14nm,0.4s						
CONA	**Conrad Observa**	**3.59**	**183**	Pn	**Pn**	**23 40 15.0**	**+0.2**
CONA				Sg	**Sg**	**23 41 11.8**	**-1.2**
	comp=Z,14nm,0.4s						
BSD	**Bornholm Skovb**	**3.68**	**349**	*i* P	**Pn**	**23 40 15.9**	**0.0**
BSD				*e*S	**Sn**	**23 40 56.8**	**-3.2**
BSD	**Bornholm Skovb**	**3.68**	**349**	*i* P	**Pn**	**23 40 15.9**	**0.0**
	SNR=49						
MOA	**Molln**	**3.85**	**199**	⇑*i*Pn	**Pn**	**23 40 17.8**	**-0.5**
MOA				⇑*i*Sg	**Sg**	**23 41 21.3**	**-0.2**
	comp=Z,10.0nm,0.3s						
MOA	**Molln**	**3.85**	**199**	Pn	**Pn**	**23 40 17.8**	**-0.5**
MOA				Sg	**Sg**	**23 41 21.3**	**-0.2**
	comp=Z,10.0nm,0.3s						
STHS	**Stebnicka Huta**	**3.90**	**121**	*e*PN	**Pn**	**23 40 19.7**	**+0.8**
STHS				*e*PG	**Pg**	**23 40 32.8**	**+0.4**
ARSA	**Arzberg**	**4.28**	**185**	⇑*i*Pn	**Pn**	**23 40 24.1**	**-0.1**
ARSA				⇓*i*Sg	**Sg**	**23 41 35.5**	**+0.3**
	comp=Z,15nm,0.7s						
ARSA	**Arzberg**	**4.28**	**185**	Pn	**Pn**	**23 40 24.1**	**-0.1**
ARSA				Sg	**Sg**	**23 41 35.5**	**+0.3**
	comp=Z,15nm,0.7s						
CRVS	**Cervenica-Dubn**	**4.32**	**125**	*e*PN	**Pn**	**23 40 22.5**	**-2.2**
CRVS	**Cervenica-Dubn**	**4.32**	**125**	*e*Pn	**Pn**	**23 40 22.6**	**-2.2**
DAVOX	**Davos/Dischmat**	**6.25**	**223**	Pn	**Pn**	**23 40 53.3**	**+1.9**
	comp=Z,0.2nm,0.3s,baz=141,slow=14,SNR=3.5						
HFS	**Hagfors**	**8.75**	**352**	Pn	**Pn**	**23 41 26.0**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=160,slow=14,SNR=3.2						
NOA	**NORSAR Array B**	**9.93**	**346**	Pn	**Pn**	**23 41 41.5**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=165,slow=12,SNR=2.7						
FINES	**FINES Array B**	**11.37**	**25**	Pn	**Pn**	**23 42 00.0**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=219,slow=12,SNR=6.2						

*MDD **23** 23:48:04.5±0.5, 36°.61N×9°.90W, h41km±7km, mb4.0/3, Error ellipse: s-maj=4.3km s-min=3.6km az=168.0, PRXIMO*
*CSEM **23** 23:48:05.2±0.2, 36°.75N×9°.73W, h30km, ML1.5, Error ellipse: s-maj=4.7km s-min=3.8km az=22.0*
*INMG **23** 23:48:05.0±1.1, 36°.70N×9°.77W, h19km±4km, ML1.5, Error ellipse: s-maj=4.9km s-min=4.2km az=43.0*

ISC 23 23:48:01.8±2.4, 36°.69N±0°.08×9°.82W±0°.08, h10km, n60, σ1§46/108, 4C, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**0.91**	**61**	*i* P	**Pg**	**23 48 20.7**	**+1.5**
PFVI				*e*S	**Sg**	**23 48 32.7**	**+1.6**
PFVI				A	A	23 48 33.7	
	4.1nm,0.3s						
PFVI	**Vila Bisbo**	**0.91**	**61**	⇑P	**Pg**	**23 48 20.7**	**+1.5**
	5.8nm,0.1s,SNR=18						
PFVI				S	**Sg**	**23 48 32.6**	**+1.6**
	4.8nm,0.1s,SNR=10						
PFVI	**Vila Bisbo**	**0.91**	**61**	P	**Pg**	**23 48 20.7**	**+1.5**
	5.8nm,0.1s,SNR=18						
PFVI				*e*S	**Sg**	**23 48 32.7**	**+1.6**
	4.1nm,0.3s						
MORF	**Marmelete**	**1.12**	**56**	*i* P	**Pb**	**23 48 23.7**	**+0.5**
MORF				*e*S	**Sg**	**23 48 38.1**	**+0.3**
MORF				A	A	23 48 38.7	
	4.6nm,0.3s						
MORF	**Marmelete**	**1.12**	**56**	⇑P	**Pb**	**23 48 23.7**	**+0.5**
MORF				S	**Sg**	**23 48 38.1**	**+0.3**
	4.6nm,0.3s						
MORF	**Marmelete**	**1.12**	**56**	P	**Pb**	**23 48 23.7**	**+0.5**
MORF				S	**Sg**	**23 48 38.1**	**+0.3**
	4.6nm,0.3s						
PTEO	**Sao Teotonio**	**1.22**	**45**	*e*P	**Pb**	**23 48 25.1**	**+0.2**
PTEO				*e*S	**Sb**	**23 48 40.8**	**+0.1**
PTEO				A	A	23 48 46.9	
	5.1nm,0.8s						
PTEO	**Sao Teotonio**	**1.22**	**45**	P	**Pb**	**23 48 25.1**	**+0.2**
PTEO				S	**Sb**	**23 48 40.8**	**+0.1**
	2.6nm,0.8s						
PTEO	**Sao Teotonio**	**1.22**	**45**	*e*P	**Pb**	**23 48 25.1**	**+0.2**
PTEO				S	**Sb**	**23 48 40.8**	**+0.1**
	2.6nm,0.8s						
PBDV	**Barranco-do-Ve**	**1.61**	**69**	*i* P	**Pn**	**23 48 30.5**	**+0.3**
PBDV				*e*S	**Sn**	**23 48 49.2**	**-1.8**
PBDV				A	A	23 48 53.3	
	2.5nm,0.6s						
PBDV	**Barranco-do-Ve**	**1.61**	**69**	⇑P	**Pn**	**23 48 30.5**	**+0.3**
PBDV				S	**Sn**	**23 48 49.2**	**-1.8**
	2.5nm,0.6s						
PBDV	**Barranco-do-Ve**	**1.61**	**69**	P	**Pn**	**23 48 30.5**	**+0.3**
PBDV				S	**Sn**	**23 48 49.2**	**-1.8**
	2.5nm,0.6s						
PCVE	**Castro Verde**	**1.70**	**56**	*e*Pn	**Pn**	**23 48 31.9**	**+0.4**
PCVE				*e*Sn	**Sn**	**23 48 51.9**	**-1.5**
PCVE				A	A	23 48 53.5	
	2.5nm,0.8s						
PCVE	**Castro Verde**	**1.70**	**56**	P	**Pn**	**23 48 31.9**	**+0.4**
PCVE				S	**Sn**	**23 48 51.9**	**-1.5**
	2.5nm,0.8s						
PCVE	**Castro Verde**	**1.70**	**56**	P	**Pn**	**23 48 31.9**	**+0.4**
PCVE				S	**Sn**	**23 48 51.9**	**-1.5**
	2.5nm,0.8s						
PNCL	**Nicolau / Gran**	**1.75**	**35**	*e*Pn	**Pn**	**23 48 32.4**	**+0.2**
PNCL				*e*Sn	**Sn**	**23 48 53.0**	**-1.5**
PNCL				A	A	23 49 07.2	
	1.7nm,0.7s						
PNCL	**Nicolau / Gran**	**1.75**	**35**	*e*Pn	**Pn**	**23 48 32.4**	**+0.2**
PNCL				*e*Sn	**Sn**	**23 48 53.0**	**-1.5**
	1.7nm,0.7s						
PVAQ	**Vaqueiros**	**1.82**	**66**	*i* Pn	**Pn**	**23 48 33.3**	**+0.1**
PVAQ				*e*Sn	**Sn**	**23 48 54.4**	**-1.9**
PVAQ				A	A	23 48 56.2	
	2.5nm,0.4s						
PVAQ	**Vaqueiros**	**1.82**	**66**	⇑P	**Pn**	**23 48 33.3**	**+0.1**
PVAQ				S	**Sn**	**23 48 54.4**	**-1.9**
	2.5nm,0.4s						
PVAQ	**Vaqueiros**	**1.82**	**66**	P	**Pn**	**23 48 33.3**	**+0.1**
PVAQ				S	**Sn**	**23 48 54.4**	**-1.9**
	2.5nm,0.4s						
EGRO	**El Granado**	**2.04**	**65**	P	**Pn**	**23 48 36.5**	**+0.3**
	0.4nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**23 49 00.4**	**-1.4**
	2.1nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**2.04**	**65**	P	**Pn**	**23 48 36.5**	**+0.3**
	0.4nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**23 49 00.4**	**-1.4**
	2.1nm,0.1s,SNR=7.9						
PBEJ	**Beja**	**2.05**	**49**	*e*Pn	**Pn**	**23 48 36.1**	**-0.2**
PBEJ				*e*Sn	**Sn**	**23 49 00.1**	**-1.8**
PBEJ				A	A	23 49 00.8	
	0.9nm,0.3s						
PBEJ	**Beja**	**2.05**	**49**	P	**Pn**	**23 48 36.1**	**-0.2**
PBEJ				S	**Sn**	**23 49 00.1**	**-1.8**
	0.4nm,0.3s						
PBEJ	**Beja**	**2.05**	**49**	P	**Pn**	**23 48 36.1**	**-0.2**
PBEJ				S	**Sn**	**23 49 00.1**	**-1.8**
	0.4nm,0.3s						
PMAFR	**Mafra**	**2.30**	**10**	*e*Pn	**Pn**	**23 48 40.1**	**+0.3**
PMAFR				*e*Sn	**Sn**	**23 49 06.3**	**-1.8**
PMAFR				A	A	23 49 06.8	
	7.0nm,0.7s						
PMAFR	**Mafra**	**2.30**	**10**	P	**Pn**	**23 48 39.9**	**+0.1**
	0.9nm,0.1s,SNR=7.9						
PMAFR				S	**Sn**	**23 49 06.3**	**-1.8**
	1.9nm,0.1s,SNR=7.9						
PMAFR	**Mafra**	**2.30**	**10**	*e*Pn	**Pn**	**23 48 40.1**	**+0.3**
PMAFR				S	**Sn**	**23 49 06.3**	**-1.8**
	1.9nm,0.1s,SNR=7.9						
EVO	**Evora**	**2.33**	**37**	*e*Pn	**Pn**	**23 48 40.1**	**-0.1**
EVO				*e*Sn	**Sn**	**23 49 06.8**	**-2.0**
EVO				A	A	23 49 08.5	
	1.6nm,0.3s						
EVO	**Evora**	**2.33**	**37**	P	**Pn**	**23 48 40.1**	**-0.1**
EVO				S	**Sn**	**23 49 06.8**	**-2.0**
	1.6nm,0.3s						
EVO	**Evora**	**2.33**	**37**	P	**Pn**	**23 48 40.1**	**-0.1**
EVO				S	**Sn**	**23 49 06.8**	**-2.0**
	1.6nm,0.3s						
PBAR	**Barrancos**	**2.66**	**55**	*e*Pn	**Pn**	**23 48 45.0**	**+0.3**
PBAR				*e*Sn	**Sn**	**23 49 15.0**	**-2.0**
PBAR				A	A	23 49 19.7	
	1.4nm,0.9s						
PBAR	**Barrancos**	**2.66**	**55**	P	**Pn**	**23 48 45.0**	**+0.3**
PBAR				S	**Sn**	**23 49 15.0**	**-2.0**
	1.4nm,0.9s						
PBAR	**Barrancos**	**2.66**	**55**	P	**Pn**	**23 48 45.0**	**+0.3**
PBAR				S	**Sn**	**23 49 15.0**	**-2.0**
	1.4nm,0.9s						
PMTG	**Montargil**	**2.69**	**27**	*e*Pn	**Pn**	**23 48 45.1**	**0.0**
PMTG				A	A	23 49 14.8	
	2.5nm,0.8s						
PMTG				*e*Sn	**Sn**	**23 49 15.0**	**-2.6**
PMTG	**Montargil**	**2.69**	**27**	*e*Pn	**Pn**	**23 48 45.1**	**0.0**
	2.5nm,0.8s						
PMTG				*e*Sn	**Sn**	**23 49 15.0**	**-2.6**
EMIN	**Mina Concepcio**	**2.73**	**66**	P	**Pn**	**23 48 45.9**	**+0.2**
	0.5nm,0.1s,SNR=7.7						
EMIN				S	**Sn**	**23 49 15.9**	**-2.8**
	0.4nm,0.1s						
EMIN	**Mina Concepcio**	**2.73**	**66**	P	**Pn**	**23 48 45.9**	**+0.2**
	0.5nm,0.1s,SNR=7.7						
EMIN				S	**Sn**	**23 49 15.9**	**-2.8**
	0.4nm,0.1s						
PESTR	**Estremoz**	**2.80**	**38**	*e*Pn	**Pn**	**23 48 47.3**	**+0.7**
PESTR				*e*Sn	**Sn**	**23 49 18.5**	**-1.9**
PESTR				A	A	23 49 37.8	
	1.8nm,0.6s						
PESTR	**Estremoz**	**2.80**	**38**	P	**Pn**	**23 48 47.3**	**+0.7**
PESTR				S	**Sn**	**23 49 18.5**	**-1.9**
	1.8nm,0.6s						
PESTR	**Estremoz**	**2.80**	**38**	P	**Pn**	**23 48 47.3**	**+0.7**
PESTR				S	**Sn**	**23 49 18.5**	**-1.9**
	1.8nm,0.6s						
EBAD	**Badajoz**	**3.03**	**46**	P	Pn	23 48 49.3	-0.5
	1.3nm,0.1s,SNR=14						
EBAD				S	**Sn**	**23 49 23.8**	**-2.3**
	0.4nm,0.0s						
EBAD	**Badajoz**	**3.03**	**46**	P	Pn	23 48 49.3	-0.5
	1.3nm,0.1s,SNR=14						
EBAD				S	**Sn**	**23 49 23.8**	**-2.3**
	0.4nm,0.0s						
ESPR	**Espera**	**3.18**	**86**	S	**Sn**	**23 49 26.8**	**-3.1**
	2.6nm,0.2s,SNR=7.9						
ESPR	**Espera**	**3.18**	**86**	S	**Sn**	**23 49 26.8**	**-3.1**
	2.6nm,0.2s,SNR=7.9						
PMRV	**Marv??o**	**3.33**	**34**	*e*Pn	**Pn**	**23 48 54.1**	**+0.1**
PMRV				*e*Sn	**Sn**	**23 49 30.6**	**-3.1**
PMRV	**Marv??o**	**3.33**	**34**	P	**Pn**	**23 48 54.1**	**+0.1**
PMRV				S	**Sn**	**23 49 30.6**	**-3.1**
PMRV	**Marv??o**	**3.33**	**34**	P	**Pn**	**23 48 54.1**	**+0.1**
PMRV				S	**Sn**	**23 49 30.6**	**-3.1**
PCBR	**Castelo Branco**	**3.64**	**30**	*e*Pn	**Pn**	**23 48 58.4**	**+0.2**
PCBR	**Castelo Branco**	**3.64**	**30**	P	**Pn**	**23 48 58.4**	**+0.2**
PCBR	**Castelo Branco**	**3.64**	**30**	P	**Pn**	**23 48 58.4**	**+0.2**
ECAB	**El Cabril**	**3.76**	**67**	P	**Pn**	**23 48 59.7**	**-0.2**
	0.1nm,0.0s,SNR=7.9						
ECAB				S	Sn	23 49 40.6	-3.6
	0.4nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**3.76**	**67**	P	**Pn**	**23 48 59.7**	**-0.2**
	0.1nm,0.0s,SNR=7.9						
ECAB				S	Sn	23 49 40.7	-3.6
	0.4nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**4.42**	**69**	P	**Pn**	**23 49 09.1**	**+0.2**
	0.2nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**23 49 57.6**	**-2.9**
	0.3nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**4.42**	**69**	P	**Pn**	**23 49 09.1**	**+0.2**
	0.2nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**23 49 57.6**	**-2.9**
	0.3nm,0.1s,SNR=7.9						
MVO	**Moncorvo**	**4.97**	**25**	*e*Pn	**Pn**	**23 49 16.5**	**0.0**
MVO	**Moncorvo**	**4.97**	**25**	P	**Pn**	**23 49 16.3**	**-0.2**
	0.4nm,0.1s,SNR=4.0						
MVO	**Moncorvo**	**4.97**	**25**	*e*Pn	**Pn**	**23 49 16.5**	**0.0**
ESDC	**Sonseca Array**	**5.49**	**55**	P	**Pn**	**23 49 23.6**	**0.0**
	0.1nm,0.2s,baz=242,slow=14,SNR=3.9						
ESDC				S	**Sn**	**23 50 24.8**	**-2.0**
	0.8nm,0.1s,baz=240,slow=23,SNR=4.6						
ESDC	**Sonseca Array**	**5.49**	**55**	P	**Pn**	**23 49 23.6**	**0.0**
	0.1nm,0.2s,slow=14,SNR=3.9						
ESDC				S	**Sn**	**23 50 24.8**	**-2.0**
	0.8nm,0.1s,baz=240,slow=23,SNR=4.6						

MEX 23 23:52:05.1±0.8, 17°.23N×100°.48W, h11km±10km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.27**	**132**	*e*P	Pg	23 52 09.9	-0.7
CAIG				*i* S	Sg	23 52 14.7	+0.4
ZIIG	**Zihuatanejo**	**1.02**	**292**	*i* P	Pg	23 52 22.1	-2.6
ZIIG				*i* S	Sg	23 52 34.2	-3.8
ARIG	**Puente Sto Nin**	**1.05**	**7**	*e*P	Pb	23 52 22.6	-2.9
ARIG				*i* S	Sg	23 52 35.9	-3.3
PLIG	**Platanillo**	**1.48**	**39**	*i* P	Pn	23 52 27.8	-4.1
PLIG				*i* S	Sn	23 52 46.1	-5.3
YAIG	**Yautepec**	**2.10**	**39**	*i* P	Pn	23 52 36.5	-4.1
YAIG				*i* S	Sn	23 53 02.5	-4.3
PNIG	**Pinotepa**	**2.40**	**110**	*i* P	Pn	23 52 40.5	-3.9
PNIG				*i* S	Sn	23 53 09.8	-4.0
PPM	**Popocatepetl**	**2.54**	**44**	*i* P	Pn	23 52 43.3	-3.6
PPM				*i* S	Sn	23 53 14.6	-3.7

KRSC 23 23:52:43.6±6.8, 49°.68N×156°.77E, h48km±47km, ML4.2, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.09**	**338**	*i* P	Pn	23 53 04.4	+2.0
SKR				*i* S	Sn	23 53 18.4	+2.0
PAU	**Pauzhetka**	**1.79**	**1**	*e*P	Pn	23 53 14.7	+2.7
PAU				*i* S	Sn	23 53 36.8	+3.3
MIPR	**Malaya Ipel'ka**	**2.60**	**360**	*e*P	Pn	23 53 24.9	+1.8
MIPR				*i* S	Sn	23 53 54.7	+1.2
ASAK	**Asacha**	**2.80**	**14**	*e*P	Pn	23 53 29.6	+3.6
ASAK				*i* S	Sn	23 54 02.2	+3.6
MTVR	**Mutnovka**	**2.94**	**17**	*e*P	Pn	23 53 31.8	+3.8
MTVR				*i* S	Sn	23 54 05.6	+3.3
RUS	**Russkaya**	**2.97**	**21**	*e*P	Pn	23 53 31.0	+2.9
RUS				*i* S	Sn	23 54 04.3	+1.8
APC	**Apacha**	**3.26**	**4**	*e*P	Pn	23 53 35.2	+3.1
UGLR	**Uglovaya**	**3.76**	**19**	*e*P	Pn	23 53 43.4	+4.2
AVH	**Avacha**	**3.79**	**18**	*e*P	Pn	23 53 44.0	+4.4
KOK	**Koryaka**	**3.80**	**17**	*e*P	Pn	23 53 44.5	+4.8
SMAR	**Somma**	**3.81**	**19**	*e*P	Pn	23 53 43.7	+3.8
KRER	**Koryakskii**	**3.83**	**18**	*e*P	Pn	23 53 44.1	+3.8
SDLR	**Sedlovina**	**3.84**	**19**	*i* P	Pn	23 53 43.9	+3.6
SDLR				*i* S	Sn	23 54 27.8	+3.6
KRX	**Arik**	**3.87**	**17**	*e*P	Pn	23 53 44.9	+4.2
GNL	**Ganaly**	**4.09**	**10**	*e*P	Pn	23 53 48.8	+5.1
MKZ	**Mys Kozlova**	**5.76**	**30**	*e*P	Pn	23 54 08.4	+2.0
MKZ				*i* S	Sn	23 55 11.2	+0.1

IDC 24 00:28:44.9±2.1, 1°.80N×99°.26E, h137km±5km, mb3.5/6, mb1 3.6/7, mb1mx3.3/27, mbtmp3.4/7, Error ellipse: s-maj=95.3km s-min=15.9km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**1.05**	**341**	P	Pn	00 29 09.1	0.0
	34nm,0.3s,baz=186,slow=9.2,SNR=160						
PSI				S	Sn	00 29 26.3	-1.2
	3.0nm,0.3s,baz=296,slow=20,SNR=18						
CMAR	**Chiang Mai Arr**	**16.56**	**359**	P	Pn	00 32 29.2	0.0
	0.1nm,0.3s,baz=191,slow=12,SNR=5.7						
WRA	**Warramunga Arr**	**40.63**	**124**	P	P	00 36 11.7	-0.1
	2.1nm,0.3s,baz=302,slow=9.0,SNR=21						
ASAR	**Alice Springs**	**42.14**	**129**	P	P	00 36 23.3	-0.7
	0.2nm,0.4s,baz=301,slow=7.4,SNR=3.0						
SONM	**Songino Array**	**46.27**	**7**	P	P	00 36 56.9	+0.3
	0.4nm,0.4s,baz=189,slow=9.2,SNR=3.9						
MKAR	**Makanchi Array**	**47.20**	**344**	P	P	00 37 03.7	-0.1
	0.8nm,0.4s,baz=157,slow=8.6,SNR=25						
KURBB	**Kurchatov Arra**	**51.72**	**343**	P	P	00 37 37.5	-0.4
	0.4nm,0.5s,baz=158,slow=7.0,SNR=4.8						
ZALV	**Zalesovo Beam**	**53.33**	**349**	P	P	00 37 49.5	-0.2
	1.1nm,0.4s,baz=163,slow=6.3,SNR=8.7						

*ISCJB **24** 00:34:04.7±0.4, 53°.71S±0°.05×140°.8E±0°.2, h10km, mb4.6/15, MS4.3/12, Error ellipse: s-maj=15.9km s-min=6.7km az=6.2*
*IDC **24** 00:34:05.4±0.7, 53°.70S×140°.94E, h0km, mb4.3/10, mb1 4.5/10, mb1mx4.4/18, mbtmp4.3/10, MS4.4/12, Ms1 4.4/12, ms1mx4.1/24, Error ellipse: s-maj=33.0km s-min=14.5km az=87.0*
*NEIC **24** 00:34:07.0±0.4, 53°.69S×140°.73E, h10km, mb4.8/10, Error ellipse: s-maj=17.8km s-min=6.4km az=100.0*
*GCMT **24** 00:34:10.8±0.2, 53°.69S×140°.80E, h13km±1km, MW5.1, Moment Tensor Solution. s40,c55; s78,c126; Moment tensor: Scale 10^{16}Nm; M_{rr}-1.02±.15; $M_{\theta\theta}$0.90±.14; $M_{\phi\phi}$0.12±.14; $M_{r\theta}$-0.32±.31; $M_{\theta\phi}$-5.09±.13; $M_{r\phi}$0.93±.31; Best double couple: $M_0$5.20000×10^{16} NP1:ϕ_s178.00000°, δ90.00000°, λ-11.00000°. NP2:ϕ_s268.00000°, δ79.00000°, λ-180.0000°. Principal axes: T 5.7300, Plg7.0000°, Azm223.0000°; N -1.0700, Plg79.0000°, Azm357.0000°; P -4.6600, Plg7.0000°, Azm132.0000°; Data Used: II IU G IC CN.*
*DJA **24** 00:34:12.3±5.3, 54°S±8°×14°0E±2°1, h33km±47km, M4.7/5, mb4.7/5*

ISC 24 00:34:07.4±0.5, 53°.80S±0°.06×140°.9E±0°.1, h10km, n81, σ1§42/70, mb4.5/15, MS4.4/12, 6C, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAU	**Tasmania Unive**	**11.70**	**24**	Pn	**Pn**	**00 36 54.0**	**-0.3**
DRV	**Dumont d'Urvil**	**12.92**	**182**	P	**Pn**	**00 37 10.0**	**-0.8**
DRV				S	**Sn**	**00 39 33.0**	**-1.4**
DRV				R		00 40 00.0	
CAN	**Canberra**	**19.34**	**20**	*e*P	**P**	**00 38 31.4**	**-1.3**
	243nm,1.9s						
CASY	**Casey**	**19.38**	**218**	*e*P	**P**	**00 38 33.5**	**+0.6**
	19nm,1.0s						
BBOO	**Buckleboo**	**21.26**	**349**	*e*P	**P**	**00 38 51.8**	**-1.8**
	967nm,1.1s						
STKA	**Stephens Creek**	**21.91**	**2**	*e*P	**P**	**00 39 00.0**	**-0.6**
	10nm,0.9s						
STKA	**Stephens Creek**	**21.91**	**2**	P	**P**	**00 39 00.3**	**-0.3**
	31nm,0.9s,baz=171,slow=11,SNR=25						
STKA				LR	LR	00 45 37.8	
	comp=Z,902nm,18.3s,baz=180,slow=32						
RPZ	**Rata Peaks**	**22.15**	**75**	P	**P**	**00 39 02.0**	**-1.2**
	19nm,1.0s,baz=239,slow=5.9,SNR=3.1						
RPZ				LR	LR	00 45 58.7	
	comp=Z,2μm,19.4s,baz=235,slow=32						
ARMA	**Armidale**	**24.63**	**23**	*e*P	**P**	**00 39 27.7**	**-0.3**
	193nm,2.3s						
FORT	**Forrest**	**24.80**	**333**	*e*P	**P**	**00 39 27.8**	**-1.5**
	71nm,0.8s						
VNDA	**Vanda**	**25.01**	**169**	P	**P**	**00 39 31.2**	**+0.3**
	2.3nm,0.6s,baz=330,slow=11,SNR=19						
VNDA				LR	LR	00 47 58.5	
	comp=Z,390nm,21.1s,baz=331,slow=33						
SBA	**Scott Base**	**25.87**	**168**	*e*P	**P**	**00 39 38.7**	**0.0**
	11nm,0.9s						
URZ	**Urewera**	**29.18**	**73**	LR	LR	00 51 01.1	
	comp=Z,823nm,18.4s,baz=6.3,slow=35						
ASAR	**Alice Springs**	**30.54**	**347**	P	P	00 40 18.3	-2.6
ASAR				PcP	**PcP**	**00 43 18.9**	**-0.7**
ASAR	**Alice Springs**	**30.54**	**347**	P	P	00 40 18.3	-2.6
	5.0nm,0.6s,baz=165,slow=10,SNR=35						
ASAR				PcP	**PcP**	**00 43 18.9**	**-0.7**
	0.4nm,0.7s,baz=160,slow=3.1,SNR=3.7						
ASAR				LR	LR	00 50 27.2	
	comp=Z,283nm,18.0s,baz=168,slow=32						
AS31	**Alice Springs**	**30.54**	**347**	*e*P	P	00 40 18.4	-2.5
CTAO	**Charters Tower**	**33.90**	**9**	*e*P	**P**	**00 40 48.8**	**-1.6**
WRA	**Warramunga Arr**	**34.16**	**349**	P	P	00 40 49.9	-2.7
WRA	**Warramunga Arr**	**34.16**	**349**	P	P	00 40 49.9	-2.7
	22nm,1.1s,baz=171,slow=7.6,SNR=30						
WRA				LR	LR	00 54 10.4	
	comp=Z,312nm,18.1s,baz=205,slow=35						
WRAB	**Tennant Creek**	**34.17**	**349**	*e*P	P	00 40 50.0	-2.6
	33nm,1.0s						
QSPA	**South Pole Qui**	**36.31**	**180**	*e*P

1.2nm,0.8s,baz=108,slow=3.2,SNR=9.8
PRU Pruhonice 147.32 286 *e*PKP **PKPab 00 53 55.7 +3.7**
ARCES ARCESS Array B 147.45 324 PKPbc **PKPbc 00 53 50.5 +0.6**
ARCES ARCESS Array B 147.45 324 PKPbc **PKPbc 00 53 50.5 +0.6**
1.2nm,0.6s,baz=90,slow=4.5,SNR=5.2
KHC Kasperske Hory 147.46 284 *e*PKP **PKPbc 00 53 52.2 +1.6**
KHC *ex* x 00 54 03.9
MDT Midelt 147.76 243 PKPbc **PKPbc 00 53 52.8 +0.8**
MDT Midelt 147.76 243 PKPbc **PKPbc 00 53 52.8 +0.8**
3.7nm,1.0s,baz=109,slow=2.5,SNR=4.0
MOTA Moosalm 148.02 279 ⇑*i*PKPbc **PKPbc 00 53 52.1 -0.2**
7.5nm,0.8s
BRG Berggiesshubel 148.06 287 *e*P **PKPab 00 53 55.4 +0.4**
6.4nm,1.4s
FETA Feichten 148.07 278 ⇑*i*PKPbc **PKPdf 00 53 51.9 +2.6**
7.0nm,1.0s
SBF Sospel 148.30 271 *e*PKIKP **PKPab 00 53 56.1 -0.2**
29nm,1.0s
LMR La Mourre 148.55 269 *e*PKIKP **PKPab 00 53 57.1 0.0**
11nm,0.9s
FRF La Foret Royal 148.60 270 *e*PKIKP **PKPab 00 53 57.5 +0.1**
17nm,0.9s
NKC Novy Kostel 148.63 285 *e*pPKP **PKPab 00 53 59.0 +1.7**
CLL Collm 148.78 287 *e*PKPab **PKPab 00 53 59.0 +1.2**
CLL *e*(pPKPab) 00 54 03.0
CLL *e* 00 54 10.0
MBDF Montbardon 149.19 272 *e*PKIKP **PKPab 00 53 59.7 -0.2**
12nm,0.9s
LPG La Plagne 149.62 273 *e*PKIKP **PKPbc 00 53 58.6 +2.0**
7.3nm,0.9s
LPL La Plagne 149.64 273 *e*PKIKP **PKPbc 00 53 58.8 +2.2**
ORIF Oris-en-Rattie 149.82 272 *e*PKIKP **PKPbc 00 53 58.6 +1.7**
47nm,1.7s
VIVF Saint-Julien-l 150.50 270 *e*PKIKP **PKPbc 00 53 59.7 +1.3**
14nm,1.2s
LASF Ste Croix 150.55 268 *e*PKIKP **PKPbc 00 53 59.9 +1.3**
36nm,1.4s
CABF La Chapelle 150.60 275 *e*PKIKP **PKPbc 00 53 59.9 +1.2**
39nm,1.4s
MTLF Montolieu 151.10 266 *e*PKIKP **PKPbc 00 54 02.1 +2.2**
20nm,1.3s
EPF Esparros 152.02 264 *e*PKIKP **PKPbc 00 54 03.9 +1.8**
28nm,1.5s
ESDC Sonseca Array 152.39 254 PKPbc **PKPbc 00 54 02.0 -1.0**
ESDC Sonseca Array 152.39 254 PKPbc **PKPbc 00 54 02.0 -1.0**
0.3nm,0.4s,baz=145,slow=1.4,SNR=5.9
SJPF Ste Jean 152.99 262 *e*PKIKP **PKPbc 00 54 05.8 +1.6**
22nm,1.1s

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*ISCJB **24** 00:48:32.2±0.5, 47.°84N±0.°06×147.°6E±0.°1, h400km, mb3.3/6, Error ellipse: s-maj=14.1km s-min=5.7km az=29.5*
*SKHL **24** 00:48:33.2±0.7, 47.°92N×147.°60E, h418km±25km, mb3.9/2, msh4.0/1*
*MOS **24** 00:48:33.4±1.2, 47.°99N×147.°40E, h415km, mb3.6/3, Error ellipse: s-maj=34.3km s-min=15.6km az=61.3*
*IDC **24** 00:48:35.0±4.0, 48.°04N×147.°41E, h420km±55km, mb3.0/5, mb1 3.2/7, mb1mx2.9/25, mbtmp2.9/7, Error ellipse: s-maj=52.9km s-min=23.9km az=155.0*
ISC 24 00:48:33.6±0.7, 47.°91N±0.°08×147.°55E±0.°09, h400km, n34, σ2°04/36, mb3.4/6, 2C, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.69**	**175**	PN	Pn	00 49 36.7	+2.3
KUR				S	**S**	**00 50 26.7**	**+3.3**
KUR	**Kuril'sk**	**2.69**	**175**	*e*P	Pn	00 49 36.7	+2.3
KUR				*e*S	**S**	**00 50 26.8**	**+3.3**
YSS	**Yuzh-Sakhalins**	**3.39**	**255**	⇑*i*PN	Pn	00 49 43.1	+3.0
YSS				*e*S	**S**	**00 50 37.1**	**+3.1**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS				smax	smax		
	comp=N,30nm,1.0s						
YSS	**Yuzh-Sakhalins**	**3.39**	**255**	*i* P	Pn	00 49 43.1	+3.0
YSS				AMB	AMB	00 49 44.0	
	comp=N,30nm,1.0s						
YSS				*e*S	**S**	**00 50 37.1**	**+3.1**
YSS				A	A	00 50 38.4	
	comp=N,30nm,1.0s						
TYV	**Tymovskoe**	**4.36**	**315**	*e*P	Pn	00 49 51.0	+2.0
TYV				AMB	AMB	00 49 52.5	
	comp=N,20nm,0.8s						
JSE	**Soyaes**	**4.53**	**231**	P	Pn	00 49 53.8	+3.0
JTKR	**Abashiri--Toko**	**4.69**	**214**	P	**Pn**	**00 49 53.3**	**+0.8**
NEM2	**Nemuro 2**	**4.72**	**196**	P	**Pn**	**00 49 51.2**	**-1.6**
NEM2				*e*S	**S**	**00 50 53.3**	**-3.7**
JAK	**Akkeshi**	**5.31**	**203**	P	**Pn**	**00 49 57.4**	**-1.5**
JAK				*e*S	**S**	**00 51 03.8**	**-4.4**
JAR	**Ashorobuto**	**5.32**	**211**	P	**Pn**	**00 49 58.9**	**-0.1**
JAR				*e*S	**S**	**00 51 06.9**	**-1.6**
JCH	**Churui**	**6.06**	**211**	P	**Pn**	**00 50 05.7**	**-1.3**
JCH				*e*S	**S**	**00 51 17.3**	**-5.7**
JNBK	**Urakawa-nobuka**	**6.57**	**213**	P	**Pn**	**00 50 11.1**	**-1.5**
JNBK				*e*S	S	00 51 26.0	-7.2
ERM	**Erimo**	**6.67**	**209**	*ce*PN	**P**	**00 50 13.7**	**-0.5**
ERM	**Erimo**	**6.67**	**209**	*e*P	**P**	**00 50 13.7**	**-0.5**
JKB	**Kayabe**	**7.59**	**220**	P	**Pn**	**00 50 22.7**	**-1.3**
JKB				*e*S	S	00 51 46.9	-7.3
JOT	**Ohata**	**8.00**	**218**	P	**Pn**	**00 50 27.4**	**-1.2**
JOT				*e*S	S	00 51 54.7	-8.1
JANG	**Nango**	**8.69**	**212**	P	**Pn**	**00 50 35.3**	**-1.3**
JANG				*e*S	S	00 52 08.6	-8.8
USRK	**Ussuriysk Arra**	**11.43**	**257**	P	**Pn**	**00 51 07.8**	**-0.3**
	comp=N,0.3nm,0.3s,baz=58,slow=11,SNR=3.4						
MAJO	**Matsushiro**	**13.29**	**215**	*i* PN	**Pn**	**00 51 28.7**	**-1.1**
MAJO	**Matsushiro**	**13.29**	**215**	*e*P	**Pn**	**00 51 28.7**	**-1.1**
KSRS	**Korea Array**	**17.77**	**241**	P	**P**	**00 52 16.1**	**+0.5**
	comp=N,0.3nm,0.3s,baz=45,slow=9.4,SNR=7.6						
KDAK	**Kodiak Island**	**36.33**	**51**	*e*P	**P**	**00 55 01.2**	**+0.3**
COLA	**College**	**37.60**	**39**	*i* P	**P**	**00 55 11.6**	**+0.1**
COLA	**College**	**37.60**	**39**	*e*P	**P**	**00 55 11.6**	**+0.1**
ILAR	**Eielson Array**	**38.03**	**39**	*e*P	**P**	**00 55 14.5**	**-0.5**
ILAR	**Eielson Array**	**38.03**	**39**	P	**P**	**00 55 14.5**	**-0.5**
	comp=N,1.7nm,0.8s,baz=272,slow=8.2,SNR=13						
MKAR	**Makanchi Array**	**43.03**	**294**	P	**P**	**00 55 54.3**	**-1.3**
MKAR	**Makanchi Array**	**43.03**	**294**	*e*P	**P**	**00 55 54.0**	**-1.6**
MKAR	**Makanchi Array**	**43.03**	**294**	P	**P**	**00 55 54.3**	**-1.3**
	comp=N,0.3nm,0.6s,baz=69,slow=6.8,SNR=4.0						
AAK	**Ala-Archa**	**49.91**	**293**	*i* P	**P**	**00 56 47.2**	**-1.4**
AAK				pmax	pmax		
	comp=Z,7.0nm,2.0s						
AAK	**Ala-Archa**	**49.91**	**293**	*e*P	**P**	**00 56 47.2**	**-1.4**
YKA	**Yellowknife Ar**	**52.22**	**36**	P	**P**	**00 57 03.7**	**-1.2**
	comp=Z,0.9nm,0.6s,baz=302,slow=8.0,SNR=3.4						
PDAR	**Pinedale Array**	**67.05**	**51**	P	**P**	**00 58 44.9**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=270,slow=0.8,SNR=7.5						
TXAR	**Lajitas Array**	**80.13**	**57**	P	**P**	**01 00 00.3**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=298,slow=3.8,SNR=8.9						

IDC 24 01:08:38.5±6.6, 8.°35S×155.°79E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/17, mbtmp3.7/3, Error ellipse: s-maj=114.4km s-min=85.0km az=7.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.74**	**239**	P	P	01 13 53.0	+0.3
	0.5nm,0.6s,baz=64,slow=9.9,SNR=4.5						
ASAR	**Alice Springs**	**25.91**	**231**	P	P	01 14 12.4	-0.2
	0.5nm,0.7s,baz=62,slow=9.4,SNR=6.6						
STKA	**Stephens Creek**	**26.88**	**207**	P	P	01 14 21.0	-0.2
	3.1nm,0.9s,baz=12,slow=9.3,SNR=2.9						

LJU 24 01:11:23.8, 45.°78N×14.°69E, h4km, ML0.3, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VISS	**Visnje**	**0.11**	**77**	*i* Pg	Pg	01 11 26.0	0.0
VISS				*i* Sg	Sg	01 11 27.7	+0.1
VISS							
	comp=Z,4.0nm,0.1s						
CEY	**Cerknica**	**0.19**	**258**	*e*Pg	Pg	01 11 27.7	+0.1

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*MOS **24** 01:13:57.9±0.9, 33.°64N×141.°46E, h33km, mb4.8/32, Error ellipse: s-maj=12.1km s-min=5.6km az=116.3*
*BJI **24** 01:13:59.7, 33.°70N×141.°11E, h47km, mB4.8/28, mb4.5/38, Ms4.1/30, Ms7 3.8/31*

*NIED **24** 01:14:00, 33.°70N×141.°00E, h50km, Mw4.6 Best double couple: M₀1.01000×10¹⁶ NP1:φ₀=337.00000°, δ53.00000°, λ54.00000°. NP2:φ₀=208.00000°, δ49.00000°, λ128.00000°.*
*NEIC **24** 01:14:00.0±2.2, 33.°55N×141.°00E, h25km±15km, mb4.7/22, MW4.6(NIED), Error ellipse: s-maj=7.3km s-min=6.5km az=87.0*
NEIC Recorded [1 JMA] on Hachijo-jima.
*JMA **24** 01:14:01.3±0.2, 33.°66N×141.°12E, h53km±5km, M4.8*
JMA Felt I J1.
*ISCJB **24** 01:14:01.9±0.5, 33.°59N±0.°03×141.°04E±0.°03, h54km±3km, mb4.7/86, MS3.9/14, Error ellipse: s-maj=4.8km s-min=4.6km az=171.1*
*IDC **24** 01:14:02.5±1.8, 33.°57N×141.°05E, h48km±15km, mb4.2/20, mb1 4.3/24, mb1mx4.3/29, mbtmp4.4/24, ML4.0/2, MS3.6/8, Ms1 3.7/8, ms1mx3.5/34, Error ellipse: s-maj=17.7km s-min=10.4km az=74.0*
ISC 24 01:14:03.0±0.5, 33.°59N±0.°04×141.°09E±0.°04, h52km±2km, n234, σ1°33/280, mb4.7/87, MS4.0/14, 15C-9D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.06**	**355**	⇑P	**Pn**	**01 14 19.4**	**-1.7**
JHJ2	**Mitsune**	**1.17**	**246**	⇓P	**Pn**	**01 14 22.6**	**-0.5**
JHJ2				S	**Sn**	**01 14 37.9**	**-0.1**
JHCJ	**Hachijojimakas**	**1.20**	**245**	⇓P	**Pn**	**01 14 22.8**	**-0.7**
JHCJ				S	**Sn**	**01 14 38.4**	**-0.4**
BSO3	**Boso 3**	**1.30**	**338**	P	**Pn**	**01 14 23.0**	**-1.6**
JMY	**Miyakejima3**	**1.40**	**290**	P	**Pn**	**01 14 25.3**	**-0.9**
BSO4	**Boso 4**	**1.53**	**336**	P	**Pn**	**01 14 26.6**	**-1.2**
KTR	**Katsuura**	**1.68**	**338**	P	**Pn**	**01 14 29.0**	**-1.0**
KTR				S	**Sn**	**01 14 49.5**	**-0.8**
JKO	**Kozu shima**	**1.73**	**291**	⇓P	**Pn**	**01 14 29.9**	**-0.8**
JKO				*e*S	**Sn**	**01 14 50.8**	**-0.8**
JIM2	**Oshima 3**	**1.78**	**310**	P	**Pn**	**01 14 29.8**	**-1.5**
JIM2				S	**Sn**	**01 14 51.2**	**-1.6**
JIZS	**Izushimoda**	**2.15**	**302**	⇓P	**Pn**	**01 14 35.7**	**-0.7**
JIZS				*e*S	**Sn**	**01 15 00.9**	**-1.0**
JOD2	**Odawara 2**	**2.35**	**316**	⇓P	**Pn**	**01 14 37.8**	**-1.4**
JOD2				S	**Sn**	**01 15 04.9**	**-1.9**
TK04	**Tokai 4**	**2.79**	**287**	P	**Pn**	**01 14 45.3**	**+0.3**
SHZ3	**Shizuoka 3**	**2.80**	**302**	⇓P	**Pn**	**01 14 45.9**	**+0.5**
TK02	**Tokai 2**	**2.80**	**278**	P	**Pn**	**01 14 45.4**	**+0.3**
TK02				S	**Sn**	**01 15 19.1**	**+1.5**
JYN	**Shimob**	**2.83**	**313**	P	**Pn**	**01 14 45.8**	**-0.1**
JYN				S	**Sn**	**01 15 18.8**	**0.0**
JRY	**Ryogami san**	**3.02**	**324**	P	**Pn**	**01 14 47.2**	**-1.1**
MJAR	**Matsushiro Arr**	**3.77**	**322**	P	**Pn**	**01 14 58.3**	**-0.4**
	34nm,0.3s,baz=151,slow=10,SNR=267						
MJAR				S	**Sn**	**01 15 41.4**	**-0.5**
	31nm,0.3s,baz=150,slow=22,SNR=6.8						
MAJO	**Matsushiro**	**3.78**	**322**	*e*P	**Pn**	**01 14 59.1**	**+0.4**
MAJO				*e*		01 15 41.4	
MAJO	**Matsushiro**	**3.78**	**322**	*e*Pn	**Pn**	**01 14 59.1**	**+0.4**
MAJO				*e*Sn	**Sn**	**01 15 41.4**	**-0.5**
MAT	**Matsushiro**	**3.78**	**322**	P	**Pn**	**01 14 58.5**	**-0.2**
MAT				S	**Sn**	**01 15 41.1**	**-0.8**
CBIJ	**Chichi jima**	**6.54**	**171**	P	**Pn**	**01 15 34.1**	**-2.6**
	129nm,0.3s,baz=303,slow=17,SNR=35						
CBIJ				S	Sn	01 16 42.6	-7.3
	57nm,0.3s,baz=345,slow=12,SNR=4.4						
CBI	**Chichi jima**	**6.55**	**171**	*e*Pn	**Pn**	**01 15 34.1**	**-2.7**
CBI				*e*Sn	Sn	01 16 42.6	-7.5
JNU	**Nakatsue**	**8.56**	**270**	*e*Pn	**Pn**	**01 16 01.9**	**-2.4**
JNU	**Nakatsue**	**8.56**	**270**	P	**Pn**	**01 16 03.9**	**-0.4**
	0.9nm,0.3s,baz=76,slow=2.8,SNR=6.2						
JNU				LR	LR	01 18 19.8	
	comp=Z,90nm,20.2s,baz=83,slow=30						
ERM	**Erimo**	**8.56**	**10**	*e*P	Pn	01 16 00.6	-3.6
ERM				*e*		01 17 34.6	
ERM	**Erimo**	**8.56**	**10**	*e*Pn	Pn	01 16 00.6	-3.6
ERM				*e*Sn	**Sn**	**01 17 34.6**	**-4.8**
ASAJ	**Asahikawa**	**10.57**	**6**	*e*Pn	**Pn**	**01 16 29.2**	**-2.5**
ASAJ				*e*Sn	Sn	01 18 19.4	-9.2
ASAJ	**Asahikawa**	**10.57**	**6**	P	Pn	01 16 27.8	-4.0
	2.4nm,0.3s,baz=194,slow=12,SNR=3.9						
ASAJ				S	Sn	01 18 19.4	-9.2
	2.5nm,0.3s,baz=311,slow=19,SNR=3.3						
YUK	**Yuzh-Kuril'sk**	**11.07**	**18**	P	Pn	01 16 34.7	-3.8
YUK				*e*S	Sn	01 18 28.9	-12
YUK				pmax	pmax		
	comp=E,36nm,0.2s						
YUK				pmax	pmax		
	comp=Z,66nm,0.2s						
YUK				pmax	pmax		
	comp=N,22nm,0.1s						
KSRS	**Korea Array**	**11.40**	**293**	P	**Pn**	**01 16 45.4**	**+2.3**
	comp=N,0.5nm,0.3s,baz=109,slow=14,SNR=25						
KSRS				LR	LR	01 21 06.8	
	comp=N,376nm,18.8s,baz=104,slow=37						
KS15	**Wonju Array Si**	**11.43**	**293**	*e*Pn	**Pn**	**01 16 45.4**	**+1.9**
KS01	**Wonju Array Si**	**11.43**	**294**	*e*Pn	**Pn**	**01 16 46.1**	**+2.6**
TJN	**Taejon**	**11.60**	**288**	*e*P	**Pn**	**01 16 48.5**	**+2.7**
USRK	**Ussuriysk Arra**	**12.73**	**329**	P	**Pn**	**01 16 59.1**	**-2.2**
	comp=N,0.1nm,0.3s,baz=148,slow=14,SNR=4.2						
USRK				LR	LR	01 21 33.2	
	comp=N,161nm,21.6s,baz=274,slow=35						
YSS	**Yuzh-Sakhalins**	**13.40**	**5**	*e*P	Pn	01 17 06.1	-4.3
YSS				pmax	pmax		
	comp=Z,20nm,0.9s						
MDJ	**Mudanjiang**	**14.16**	**324**	P	**Pn**	**01 17 20.4**	**-0.2**
MDJ				pP	**P**	**01 17 29.1**	**+2.4**
MDJ				sP		01 17 35.6	
MDJ				S	**Sn**	**01 19 55.8**	**-0.3**
MDJ				ScP	**ScP**	**01 26 03.4**	**-2.1**
MDJ				PcS	**PcS**	**01 26 12.6**	**+1.6**
MDJ				ScS	**ScS**	**01 29 41.5**	**-1.2**
MDJ				pmax	pmax		
	comp=Z,7.0nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,30nm,4.0s						
MDJ				LR	LR		
	comp=N,160nm,16.0s						
MDJ				LR	LR		
	comp=E,240nm,20.6s						
MDJ				LR	LR		
	comp=Z,180nm,22.5s						
HABR	**Khabarovsk**	**15.54**	**345**	P	**Pn**	**01 17 36.3**	**-2.3**
HABR				*e*S	**Sn**	**01 20 28.6**	**-1.0**
HABR				pmax	pmax		
	comp=Z,18nm,1.3s						
HABR				MLR	MLR		
	comp=Z,162nm,15.0s						
CN2	**Changchun**	**15.88**	**314**	*e*P	**P**	**01 17 44.8**	**-1.1**
CN2				*e*S	**Sn**	**01 20 38.4**	**+0.4**
CN2				LR	LR		
	comp=N,100nm,11.0s						
CN2				LR	LR		
	comp=E,100nm,11.0s						
CN2				LR	LR		
	comp=Z,200nm,13.0s						
DL2	**Dalian**	**16.57**	**294**	*e*P	P	01 18 10.9	+17
DL2				S	S	01 21 12.4	+8.5
KLR	**Kul'dur**	**17.10**	**339**	*e*P	Pn	01 17 50.8	-7.4
NJ2	**Nanjing**	**18.75**	**271**	*e*P	**P**	**01 18 17.4**	**-0.2**
NJ2				pP	**pP**	**01 18 29.0**	**-0.4**
NJ2				sP	**sP**	**01 18 37.8**	**+1.9**
NJ2				S	**Sn**	**01 21 44.5**	**-3.1**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,83nm,4.9s						
NJ2				LR	LR		
	comp=N,1μm,11.9s						
NJ2				LR	LR		
	comp=E,590nm,12.5s						
NJ2				LR	LR		
	comp=Z,230nm,11.4s						
PETK	**Petropavlovsk-**	**22.84**	**26**	P	**P**	**01 19 03.1**	**+1.6**
PETK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
PETK	**Petropavlovsk-**	**22.84**	**26**	P	**P**	**01 19 03.1**	**+1.6**
	comp=Z,5.1nm,0.9s,baz=199,slow=8.5,SNR=6.5						
WHN	**Wuhan**	**22.84**	**270**	P	P	01 19 15.9	+14
WHN				S	Sn	01 23 17.1	-8.6
WHN				LR	LR		
	comp=Z,410nm,11.8s						
HHC	**Hu-ho-hao-te**	**24.53**	**296**	*e*P	**P**	**01 19 15.5**	**-2.2**
HHC				pP	**pP**	**01 19 26.8**	**-4.1**
HHC				sP	**sP**	**01 19 34.4**	**-2.7**
HHC				PP	**PnPn**	**01 19 50.8**	**0.0**
HHC				S	**S**	**01 23 30.9**	**-3.9**
HHC				sS	sS	01 23 47.3	-10
HHC				ScP	**ScP**	**01 26 30.1**	**+0.9**
HHC				pmax	pmax		
	comp=Z,30nm,0.6s						
HHC				pmax	pmax		
	comp=Z,210nm,7.7s						
HHC				LR	LR		
	comp=N,940nm,9.4s						
HHC				LR	LR		
	comp=E,990nm,11.4s						
HHC				LR	LR		
	comp=Z,940nm,12.0s						
SONA1	**Songino Array**	**29.62**	**309**	*e*P	**P**	**01 20 03.5**	**+0.1**
SONA0	**Songino Array**	**29.62**	**309**	*e*P	**P**	**01 20 03.5**	**+0.1**
SONM	**Songino Array**	**29.62**	**309**	P	**P**	**01 20 03.5**	**+0.1**
	comp=Z,4.6nm,0.8s,baz=110,slow=8.5,SNR=25						
SONM				LR	LR	01 32 20.6	
	comp=Z,176nm,19.3s,baz=135,slow=37						
GYA	**Guiyang**	**30.55**	**266**	P	**P**	**01 20 12.5**	**+0.7**
GYA				pP	**pP**	**01 20 25.3**	**+0.2**
GYA				sP	**sP**	**01 20 31.8**	**+0.6**
GYA				PP	**PnPn**	**01 21 12.0**	**-0.4**
GYA				PcP	**PcP**	**01 23 11.4**	**+1.8**
GYA				S	**S**	**01 25 07.6**	**-2.4**
GYA				sS	**sS**	**01 25 31.8**	**-0.7**
GYA				ScP	**ScP**	**01 26 47.3**	**-0.5**
GYA				ScS	**ScS**	**01 30 42.5**	**-1.8**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
LZH	**Lanzhou**	**30.56**	**285**	*e*P	**P**	**01 20 14.9**	**+3.1**
LZH				*e*S	**S**	**01 25 10.0**	**-0.1**
LZH				SS	**ScP**	**01 26 46.3**	**-1.4**
LZH				pmax	pmax		
	comp=Z,9.0nm,1.0s						
LZH				pmax	pmax		
	comp=Z,67nm,5.6s						
LZH				LR	LR		
	comp=N,1μm,14.1s						
LZH				LR	LR		
	comp=E,240nm,12.5s						
LZH				LR	LR		
	comp=Z,1μm,15.7s						
QIZ	**Qiongzhong**	**31.40**	**250**	P	P	01 20 14.8	-4.4
QIZ				S	**S**	**01 25 20.3**	**-2.9**
QIZ				pmax	pmax		
	comp=Z,23nm,1.6s						
QIZ				pmax	pmax		
	comp=Z,160nm,4.5s						
CD2	**Chengdu**	**31.58**	**276**	P	**P**	**01 20 20.8**	**0.0**
CD2				pP	**pP**	**01 20 34.1**	**0.0**
CD2				sP	**sP**	**01 20 40.5**	**+0.3**
CD2				PP	**PnPn**	**01 21 25.8**	**+0.1**
CD2				S	**S**	**01 25 23.1**	**-2.9**
CD2				sS	**sS**	**01 25 45.9**	**-2.6**
CD2				SS	**SnSn**	**01 27 12.8**	**-2.5**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,140nm,7.1s						
CD2				LR	LR		
	comp=N,230nm,4.2s						
CD2				LR	LR		
	comp=Z,250nm,15.5s						
ZAK	**Zakamensk**	**32.30**	**313**	*e*P	**P**	**01 20 26.2**	**-0.8**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.4s						
TLY	**Talaya**	**32.49**	**315**	*e*P	**P**	**01 20 29.3**	**+0.9**
TLY				*e*S	S	01 25 50.7	+11
TLY				pmax	pmax		
	comp=Z,22nm,0.9s						
TLY				MLR	MLR		
	comp=Z,76nm,17.0s						
GTA	**Gaotai**	**33.47**	**292**	*e*P	**P**	**01 20 38.1**	**+0.8**
GTA				pP	**pP**	**01 20 52.3**	**+1.6**
GTA				S	**S**	**01 25 55.3**	**-0.1**
GTA				sS	**sS**	**01 26 20.4**	**+2.4**
GTA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
GTA				pmax	pmax		
	comp=Z,95nm,4.3s						
GTA				LR	LR		
	comp=N,140nm,20.9s						
GTA				LR	LR		
	comp=E,100nm,23.3s						
GTA				LR	LR		
	comp=Z,130nm,20.0s						
MOY	**Mondy**	**34.05**	**314**	*e*P	**P**	**01 20 42.9**	**+0.7**
KMI	**Kunming**	**34.32**	**266**	P	**P**	**01 20 45.6**	**+0.7**
KMI				pP	**pP**	**01 20 59.3**	**+0.9**
KMI				S	**S**	**01 26 06.8**	**-2.2**
KMI				pmax	pmax		
	comp=Z,6.0nm,0.6s						
KMI				LR	LR		
	comp=Z,160nm,11.7s						
HVS	**Khovu-Aksy**	**38.40**	**312**	*c i*P	**P**	**01 21 20.2**	**+0.9**
HVS				pmax	pmax		
	comp=Z,71nm,1.0s						
CM31	**Chiang Mai Arr**	**40.48**	**259**	*e*P	**P**	**01 21 36.6**	**-0.2**
CMAR	**Chiang Mai Arr**	**40.48**	**259**	P	**P**	**01 21 36.6**	**-0.2**
	comp=Z,1.7nm,0.4s,baz=50,slow=8.4,SNR=3.7						
CMAR				LR	LR	01 40 34.9	
	comp=Z,54nm,18.9s,baz=340,slow=39						
WMQ	**Urumqi**	**42.25**	**300**	P	**P**	**01 21 52.3**	**+1.1**
WMQ				pP	**pP**	**01 22 06.3**	**+1.4**
WMQ				sP	**sP**	**01 22 12.3**	**+1.3**
WMQ				PP	**PP**	**01 23 33.4**	**+3.8**
WMQ				PcP	**PcP**	**01 23 47.5**	**+3.2**
WMQ				pmax	pmax		
	comp=Z,18nm,1.0s						
WMQ				pmax	pmax		
	comp=Z,130nm,5.0s						
WMQ				LR	LR		
	comp=E,68nm,26.2s						
WMQ				LR	LR		
	comp=Z,85nm,26.6s						
ZAA0	**Zalesovo Array**	**44.10**	**315**	*e*P	**P**	**01 22 05.5**	**-0.4**
ZAA0				*e*PP	**PcP**	**01 23 49.8**	**-0.4**
ZALV	**Zalesovo Beam**	**44.10**	**315**	P	**P**	**01 22 05.3**	**-0.6**
ZALV						01 23 49.8	
ZALV				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ZALV				pmax	pmax		
	comp=Z,5.0nm,0.5s						
ZALV	**Zalesovo Beam**	**44.10**	**315**	P	**P**	**01 22 05.3**	**-0.6**
	comp=Z,2.6nm,0.5s,baz=106,slow=7.0,SNR=16						
ZALV				PcP	**PcP**	**01 23 49.8**	**-0.4**
	comp=Z,5.4nm,0.5s,baz=98,slow=3.0,SNR=11						
NVS	**Novosibirsk**	**45.08**	**316**	*e*P	**P**	**01 22 14.0**	**+0.3**
NVS				pmax	pmax		
	comp=Z,19nm,1.1s						
MK01	**Makanchi Array**	**45.79**	**305**	*e*P	**P**	**01 22 19.4**	**-0.1**
MK31	**Makanchi Array**	**45.80**	**305**	*e*P	**P**	**01 22 19.1**	**-0.4**
MK31				pmax	pmax		
	comp=Z,7.0nm,0.7s						
MK32	**Makanchi Array**	**45.80**	**305**	*e*P	**P**	**01 22 19.1**	**-0.4**
MKAR	**Makanchi Array**	**45.80**	**305**	*e*P	**P**	**01 22 19.6**	**+0.1**
MKAR	**Makanchi Array**	**45.80**	**305**	*e*P	**P**	**01 22 19.6**	**+0.1**
MKAR	**Makanchi Array**	**45.80**	**305**	P	**P**	**01 22 19.1**	**-0.4**
	comp=Z,4.3nm,0.7s,baz=87,slow=10,SNR=44						
**T

TKM2	**Tokmak 2**	51.10	301	*e*P	**P**	**01 23 01.4 +0.8**
TKM2				pmax	pmax	
comp=Z,8.0nm,0.7s						
TKM2	**Tokmak 2**	51.10	301	*e*P	**P**	**01 23 01.4 +0.8**
comp=Z,7.8nm,0.7s						
KSH	**Kashi**	51.64	296	P	P	01 23 08.3 +3.8
KSH				pP	pP	01 23 20.8 +2.2
KSH				PP	**PP**	**01 25 06.8 +4.6**
KSH				PcS	**PcS**	**01 28 17.9 +2.1**
KSH				S	**S**	**01 30 24.5 +2.5**
KSH				ScS	**ScS**	**01 32 51.1 +0.7**
KSH				pmax	pmax	
comp=Z,120nm,5.9s						
KSH				LR	LR	
comp=N,97nm,6.1s						
KSH				LR	LR	
comp=E,91nm,5.7s						
KSH				LR	LR	
comp=Z,140nm,7.4s						
AAK	**Ala-Archa**	51.95	301⇑	*i*P	**P**	**01 23 07.0 +0.1**
AAK				pmax	pmax	
comp=Z,6.0nm,0.8s						
AAK				MLR	MLR	
comp=Z,214nm,21.0s						
AAK	**Ala-Archa**	51.95	301	*e*P	**P**	**01 23 07.0 +0.1**
comp=Z,4.9nm,1.0s						
VOSK	**Vostochnaya**	52.42	314	*e*P	**P**	**01 23 09.7 -0.3**
VOSK				pmax	pmax	
comp=Z,16nm,1.0s						
VOSK	**Vostochnaya**	52.42	314	*e*P	**P**	**01 23 09.7 -0.3**
comp=Z,16nm,1.0s						
ILAR	**Eielson Array**	52.55	31	P	**P**	**01 23 09.9 -0.9**
comp=Z,1.0nm,0.8s,baz=263,slow=6.3,SNR=8.0						
ILB	**Eielson Array**	52.55	31	*e*P	**P**	**01 23 09.9 -0.9**
IL1	**Eielson Array**	52.55	31	*e*P	P	01 23 13.9 +3.1
BVA0	**Borovoye Array**	52.74	314	*i* P	**P**	**01 23 12.2 -0.1**
BVA0				pmax	pmax	
comp=Z,10.0nm,1.1s						
BRVK	**Borovoye**	52.79	314⇑	*e*P	**P**	**01 23 14.8 +2.0**
BRVK				pmax	pmax	
comp=Z,13nm,1.2s						
BRVK	**Borovoye**	52.79	314	*e*P	**P**	**01 23 12.8 0.0**
comp=Z,8.4nm,0.9s						
CTA	**Charters Tower**	53.61	174	*e*P	**P**	**01 23 18.4 -0.6**
CTA	**Charters Tower**	53.61	174	P	**P**	**01 23 18.4 -0.6**
comp=Z,3.3nm,0.5s,baz=352,slow=7.9,SNR=3.9						
WRAB	**Tennant Creek**	53.61	188	*e*P	**P**	**01 23 18.4 -0.7**
WRAB				pmax	pmax	
comp=Z,57nm,0.6s						
WRAB	**Tennant Creek**	53.61	188	*e*P	**P**	**01 23 18.4 -0.7**
comp=Z,57nm,0.6s						
WRA	**Warramunga Arr**	53.62	188	*e*P	**P**	**01 23 18.4 -0.8**
WRA	**Warramunga Arr**	53.62	188	P	**P**	**01 23 18.4 -0.8**
comp=Z,62nm,0.5s,baz=3.1,slow=7.4,SNR=477						
KK31	**Karatay Array**	54.68	302	*i* P	**P**	**01 23 26.3 -0.4**
KK31				pmax	pmax	
comp=Z,11nm,0.9s						
KKAR	**Karatay Array**	54.68	302	*e*P	**P**	**01 23 26.6 -0.1**
KKAR	**Karatay Array**	54.68	302	*e*P	**P**	**01 23 26.6 -0.1**
AS01	**Alice Springs**	57.34	188	*e*P	**P**	**01 23 45.3 -0.6**
AS12	**Alice Springs**	57.35	188	*e*P	**P**	**01 23 45.4 -0.5**
ASAR	**Alice Springs**	57.35	188	P	**P**	**01 23 45.4 -0.5**
comp=Z,18nm,0.6s,baz=1.8,slow=6.7,SNR=146						
SVE	**Sverdlovsk**	57.58	320	*e*P	**P**	**01 23 47.9 +0.7**
SVE				pmax	pmax	
comp=Z,22nm,1.1s						
ARU	**Arti**	58.79	320*d*	*i*P	**P**	**01 23 55.5 -0.1**
ARU						01 24 42.6
ARU						01 26 03.6
ARU				S	**S**	**01 32 01.7 +4.9**
ARU				SS	**SS**	**01 35 48.4 -1.7**
ARU				pmax	pmax	
comp=Z,20nm,1.0s						
AB31	**Akbulak array**	59.99	312	*i* P	**P**	**01 24 03.5 -0.5**
AB31				pmax	pmax	
comp=Z,5.0nm,0.5s						
ABKAR	**Akbulak array**	59.99	312	*e*P	**P**	**01 24 03.6 -0.4**
AKTO	**Aktyubinsk**	60.81	313	P	**P**	**01 24 09.4 -0.2**
AKTO				pmax	pmax	
comp=Z,3.0nm,0.6s						
AKTO				MLR	MLR	
comp=Z,57nm,19.1s						
AKTO	**Aktyubinsk**	60.81	313	P	**P**	**01 24 09.4 -0.2**
comp=Z,2.3nm,0.6s,baz=95,slow=11,SNR=9.7						
AKTO				LR	LR	01 50 03.9
comp=Z,57nm,19.1s,baz=242,slow=36						
STKA	**Stephens Creek**	65.12	180	*e*P	**P**	**01 24 38.3 +0.1**
comp=Z,13nm,1.9s						
STKA	**Stephens Creek**	65.12	180	P	**P**	**01 24 38.4 +0.1**
comp=Z,7.8nm,0.6s,baz=345,slow=8.0,SNR=16						
FORT	**Forrest**	65.20	192	*e*P	**P**	**01 24 39.0 +0.2**
comp=Z,55nm,0.5s						
KEV	**Kevo**	66.56	340	*e*P	**P**	**01 24 44.7 -2.4**
KEV	**Kevo**	66.56	340	*e*p	**P**	**01 24 44.7 -2.4**
comp=Z,0.3nm,0.4s						
ARA0	**ARCESS Array S**	67.12	340	*e*P	**P**	**01 24 50.3 -0.4**
ARCES	**ARCESS Array B**	67.12	340	P	**P**	**01 24 50.3 -0.4**
comp=Z,1.6nm,0.8s,baz=69,slow=7.8,SNR=3.6						
JOF	**Joensuu**	68.88	333	*e*P	**P**	**01 25 02.1 +0.3**
JOF				pmax	pmax	
comp=Z,1.0nm,0.4s						
JOF	**Joensuu**	68.88	333	*e*p	**P**	**01 25 02.1 +0.3**
comp=Z,1.4nm,0.4s						
VRHR	**Novokhopersk**	70.07	319	*e*P	P	01 25 23.6 +14
VRHR				pmax	pmax	
comp=Z,10.0nm,0.6s						
VRHR				pmax	pmax	
comp=N,4.0nm,0.5s						
VRHR				pmax	pmax	
comp=E,9.0nm,1.1s						
KAF	**Kangasniemi**	71.25	333	*e*P	**P**	**01 25 16.4 +0.1**
KAF				pmax	pmax	
comp=Z,1.0nm,0.4s						
KAF	**Kangasniemi**	71.25	333	*e*p	**P**	**01 25 16.4 +0.1**
comp=Z,1.2nm,0.4s						
VORD	**Divnogorie**	71.42	319	*e*P	P	01 25 32.2 +15
VORD				pmax	pmax	
comp=Z,10.0nm,1.0s						
VORD				pmax	pmax	
comp=N,10.0nm,0.7s						
VORD				pmax	pmax	
comp=E,10.0nm,0.8s						
FIA0	**FINESS Array S**	71.74	333	*e*P	**P**	**01 25 18.8 -0.5**
FIA0	**FINESS Array S**	71.74	333	*e*P	**P**	**01 25 18.8 -0.5**
FINES	**FINESS Array B**	71.74	333	P	**P**	**01 25 18.8 -0.5**
comp=E,2.8nm,0.7s,baz=46,slow=6.0,SNR=9.0						
KBZ	**Khabaz**	72.96	311	*e*P	**P**	**01 25 27.2 +0.3**
KBZ	**Khabaz**	72.96	311	*e*P	**P**	**01 25 27.2 +0.3**
KBZ	**Khabaz**	72.96	311	P	**P**	**01 25 27.2 +0.3**
comp=E,10nm,0.9s,baz=58,slow=3.6,SNR=12						
KIV	**Kislovodsk**	72.98	312	*e*P	**P**	**01 25 28.3 +1.1**
KIV				*e*		01 25 42.9
KIV				*e*S	**SKiKP**	**01 34 52.8 -2.5**
KIV				pmax	pmax	
comp=Z,17nm,0.9s						
K05A	**Summer Lake**	73.35	50	*e*P	**P**	**01 25 31.3 +1.8**
comp=Z,23nm,1.5s						
SUMG	**Summit**	74.12	360	*e*P	**P**	**01 25 34.6 +0.9**
SUMG				*e*		01 25 50.1
SUMG				pmax	pmax	
comp=Z,3.0nm,0.7s						
SUMG	**Summit**	74.12	360	*i* P	**P**	**01 25 34.6 +0.9**
comp=Z,3.2nm,0.7s						
SUMG				*e*		01 25 50.1
J08A	**Circle Bar Ran**	74.54	48	*e*P	**P**	**01 25 39.0 +2.6**
comp=Z,4.5nm,0.8s						
LRM	**Limekiln Ridge**	76.80	44	*e*P	**P**	**01 25 50.7 +1.3**
AKASG	**Malin Array Be**	76.86	323*c*	*e*P	**P**	**01 25 48.9 -0.4**
AKASG				pmax	pmax	
comp=Z,5.0nm,0.7s						
AKASG	**Malin Array Be**	76.86	323	P	**P**	**01 25 48.5 -0.8**
comp=Z,3.7nm,0.6s,baz=46,slow=7.6,SNR=5.9						
AKBB	**Malin Array Si**	76.86	323	*e*P	**P**	**01 25 48.5 -0.8**
AKBB	**Malin Array Si**	76.86	323	*e*P	**P**	**01 25 48.5 -0.8**
KIEV	**Kiev**	76.87	323	*i* P	**P**	**01 25 49.5 +0.1**
HLID	**Hailey**	76.92	46	*e*P	**P**	**01 25 51.5 +1.5**
comp=Z,8.1nm,1.4s						
DLMT	**Dillon**	76.98	44	*e*P	**P**	**01 25 51.8 +1.4**
comp=Z,6.1nm,0.8s						
HFS	**Hagfors**	77.11	336	P	**P**	**01 25 50.0 -0.6**
comp=Z,1.9nm,0.4s,baz=76,slow=6.1,SNR=9.0						
NB2	**NORSAR Subarra**	77.25	337	P	**P**	**01 25 51.1 -0.3**
comp=Z,5.8nm,0.8s,baz=42,slow=5.9						
NB200	**NORSAR Array S**	77.25	337	*e*P	**P**	**01 25 51.0 -0.4**
NOA	**NORSAR Array B**	77.25	337	P	**P**	**01 25 51.0 -0.4**
comp=Z,3.9nm,0.7s,baz=41,slow=5.7,SNR=13						
NOA				LR	LR	02 07 32.3
comp=Z,73nm,19.2s,baz=0.0,slow=42						
NV01	**Mina Array Sit**	77.28	52	*e*P	**P**	**01 25 53.2 +1.0**
RDF	**Al-Radifah**	77.31	296	*e*P	**P**	**01 25 52.4 +0.2**
RDF				AMb	AMB	01 25 57.4
comp=Z,26nm,1.0s						
NAY	**Al-Naaiem**	77.37	297	*e*P	**P**	**01 25 52.3 -0.2**
NAY				AMb	AMB	01 25 57.0
comp=Z,18nm,0.8s						
RST	**Umm Al-Ruwaisa**	77.42	297	*e*P	**P**	**01 25 52.3 -0.6**
RST				AMb	AMB	01 25 57.7
comp=Z,194nm,0.8s						
IMW	**Indian Meadow**	78.79	45	*e*P	**P**	**01 26 02.5 +2.0**
comp=Z,4.4nm,0.9s						
RVCM	**Rose Valley Ce**	78.87	54	*e*P	**P**	**01 26 00.4 -0.5**
WWPM	**Walker Pass**	78.89	55	*e*P	P	01 26 04.0 +3.0
URZ	**Urewera**	78.94	152	LR	LR	01 58 52.4
comp=Z,73nm,18.4s,baz=286,slow=34						
MOOW	**Moose Ponds**	78.99	45	*e*P	**P**	**01 26 03.7 +2.1**
comp=Z,29nm,2.5s						
TPAW	**Teton Pass**	79.02	45	*e*P	**P**	**01 26 03.5 +1.7**
comp=Z,30nm,2.1s						
R11A	**Troy Canyon, C**	79.10	51	*e*P	**P**	**01 26 03.2 +0.9**
comp=Z,3.2nm,1.1s						
LOHW	**Long Hollow**	79.16	45	*e*P	**P**	**01 26 04.0 +1.5**
comp=Z,8.1nm,1.5s						
BGU	**Big Grassy Mou**	79.26	48	*e*P	**P**	**01 26 03.8 +0.7**
comp=Z,42nm,2.9s						
DUG	**Dugway**	79.82	48	*e*P	**P**	**01 26 07.6 +1.5**
DUG				pmax	pmax	
comp=Z,3.0nm,0.7s						
DUG	**Dugway**	79.82	48	*e*P	**P**	**01 26 07.6 +1.5**
comp=Z,3.4nm,0.7s						
BREC	**Barre Substati**	80.02	56	*e*P	**P**	**01 26 05.0 -2.0**
PD31	**Pinedale Array**	80.27	45	*e*P	**P**	**01 26 08.8 +0.2**
PDAR	**Pinedale Array**	80.27	45	P	**P**	**01 26 08.8 +0.2**
comp=Z,1.2nm,0.7s,baz=297,slow=4.0,SNR=8.5						
RVR	**Riverside**	80.34	56	*e*P	**P**	**01 26 10.6 +1.8**
RVR	**Riverside**	80.34	56	*e*P	**P**	**01 26 10.6 +1.8**
TESR	**Tescani**	80.81	320⇑	*i*P	**P**	**01 26 11.5 +0.4**
CFR	**Caraliu**	80.85	319⇑	*i*P	**P**	**01 26 09.6 -1.7**
BR101	**Keskin Array S**	80.94	312	*e*P	**P**	**01 26 12.2 +0.2**
BRTR	**Keskin Array B**	80.94	312	P	**P**	**01 26 12.2 +0.2**
comp=Z,3.3nm,0.9s,baz=129,slow=3.1,SNR=13						
VRI	**Vrincioaia**	81.18	320⇓	*i*P	**P**	**01 26 14.4 +1.3**
PLOR	**Plostina**	81.23	320⇑	*i*P	**P**	**01 26 13.4 0.0**
BR231	**Keskin MP Arra**	81.41	312	*e*P	**P**	**01 26 12.9 -1.6**
RAYN	**Ar Rayn**	81.72	293	*e*P	**P**	**01 26 16.3 -0.1**
comp=Z,9.3nm,0.9s						
TRPA	**Tarpa**	81.86	324⇑	*i*P	**P**	**01 26 17.0 +0.4**
ARR	**Arges**	82.62	320⇑	*i*P	**P**	**01 26 22.2 +1.5**
DPC	**Dobruska-Polom**	83.23	328	*e*P	**P**	**01 26 25.2 +1.4**
DPC				pmax	pmax	
comp=Z,146nm,2.0s						
DPC	**Dobruska-Polom**	83.23	328	*e*P	**P**	**01 26 25.2 +1.4**
comp=Z,146nm,2.0s						
PSZ	**Piszkesteto**	83.30	325	*e*P	**P**	**01 26 24.4 +0.2**
PSZ				pmax	pmax	
comp=Z,12nm,1.1s						
PSZ	**Piszkesteto**	83.30	325	*e*P	**P**	**01 26 24.4 +0.2**
comp=Z,12nm,1.1s						
PSZ	**Piszkesteto**	83.30	325⇑	*i*P	**P**	**01 26 24.9 +0.7**
WUAZ	**Wupatki**	83.49	52	*e*P	**P**	**01 26 26.9 +1.4**
comp=Z,3.9nm,0.9s						
SIRR	**Siria**	83.56	323⇑	*i*P	**P**	**01 26 26.1 +0.6**
CLL	**Collm**	83.94	330	*i* P	**P**	**01 26 27.1 -0.2**
CLL				*e*		01 26 42.0
CLL				pmax	pmax	
comp=Z,4.0nm,0.8s						
CLL	**Collm**	83.94	330	*i* P	**P**	**01 26 27.1 -0.2**
comp=Z,4.0nm,0.8s						
BZS	**Buzias**	84.03	322⇑	*i*P	**P**	**01 26 27.5 -0.4**
CONA	**Conrad Observa**	85.20	327⇓	*i*PcP	**P**	**01 26 34.3 +0.4**
comp=Z,5.0nm,0.8s						
VTS	**Vitosha**	85.23	319⇑	*i*P	**P**	**01 26 33.4 -0.8**
KHC	**Kasperske Hory**	85.33	328	*e*P	**P**	**01 26 34.8 +0.4**
GEC2	**GERESS Array S**	85.49	328	*e*P	**P**	**01 26 34.8 -0.5**
GEC2	**GERESS Array S**	85.49	328	*e*P	**P**	**01 26 34.8 -0.5**
GERES	**GERESS Array B**	85.49	328	P	**P**	**01 26 34.8 -0.5**
comp=Z,1.3nm,0.7s,baz=32,slow=5.8,SNR=13						
SOKA	**Soboth**	86.50	326⇑	*i*P	**P**	**01 26 38.8 -1.5**
comp=Z,3.0nm,0.8s						
BAIF	**Baives**	88.38	334	*e*P	**P**	**01 26 48.8 -0.3**
CDF	**Champ du Feu**	88.53	331	*e*P	**P**	**01 26 50.2 +0.2**
LPL	**La Plagne**	91.07	330	*e*P	**P**	**01 27 01.6 -0.5**
LPG	**La Plagne**	91.08	330	*e*P	**P**	**01 27 01.9 -0.4**
comp=Z,3.9nm,0.7s						
SSF	**Saint Saulge**	91.11	333	*e*P	**P**	**01 27 01.6 -0.4**
comp=Z,5.7nm,0.9s						
LDF	**La Driutiere**	91.15	335	*e*P	**P**	**01 27 01.6 -0.5**
comp=Z,16nm,1.2s						
AVF	**Avril sur Loir**	91.39	332	*e*P	**P**	**01 27 02.8 -0.5**
comp=Z,5.3nm,0.8s						
GRR	**Gorron**	91.58	336	*e*P	**P**	**01 27 03.8 -0.3**
comp=Z,11nm,1.0s						
MBDF	**Montbardon**	91.69	329	*e*P	**P**	**01 27 03.7 -1.2**
comp=Z,6.5nm,0.8s						
ORIF	**Oris-en-Rattie**	91.91	330	*e*P	**P**	**01 27 05.3 -0.6**
comp=Z,5.1nm,0.8s						
SBF	**Sospel**	92.09	328	*e*P	**P**	**01 27 05.7 -1.0**
comp=Z,11nm,0.7s						
TCF	**Toulx Ste Croi**	92.25	333	*e*P	**P**	**01 27 07.2 -0.1**
LTX	**Lajitas**	92.43	52	*e*P	**P**	**01 27 09.2 +0.6**
LTX	**Lajitas**	92.43	52	*e*P	**P**	**01 27 09.2 +0.6**
TX31	**Lajitas Ar. Si**	92.43	52	*e*P	**P**	**01 27 09.2 +0.6**
TXAR	**Lajitas Array**	92.43	52	P	**P**	**01 27 09.2 +0.6**
comp=Z,1.6nm,0.7s,baz=293,slow=2.8,SNR=19						
VIVF	**Saint-Julien-l**	92.46	331	*e*P	**P**	**01 27 07.8 -0.5**
comp=Z,3.0nm,0.6s						
FRF	**La Foret Royal**	92.68	329	*e*P	**P**	**01 27 08.2 -1.1**
SMRF	**Simiane la Rot**	92.80	330	*e*P	**P**	**01 27 09.3 -0.6**
MFF	**Saint Martin d**	92.86	334	*e*P	**P**	**01 27 09.9 -0.2**
comp=Z,7.3nm,0.9s						
RJF	**Les Rejaudoux**	93.34	333	*e*P	**P**	**01 27 12.3 0.0**
comp=Z,9.2nm,1.0s						
LASF	**Ste Croix**	93.44	331	*e*P	**P**	**01 27 12.0 -0.8**
CAF	**Calviac**	93.45	332	*e*P	**P**	**01 27 13.1 +0.2**
ETSF	**Etsaut**	96.17	333	*e*P	**P**	**01 27 24.7 -0.7**
comp=Z,6.1nm,0.9s						
TOA0	**Torodi Ar. Sit**	119.53	313	*e*PKPdf	**PKPdf**	**01 32 46.4 -1.1**
TORD	**Torodi Ar. Bea**	119.53	313	PKP	**PKPdf**	**01 32 46.4 -1.1**
comp=Z,0.6nm,0.9s,baz=21,slow=1.7,SNR=5.1						
BOSA	**Boshof**	125.61	257	*e*PKPdf	**PKPdf**	**01 32 58.8 -0.1**
BOSA	**Boshof**	125.61	257	PKP	**PKPdf**	**01 32 58.8 -0.1**
comp=Z,1.1nm,0.8s,baz=180,slow=2.0,SNR=2.9						
SNAA	**Sanae**	137.38	196	*e*P	PKPdf	01 33 07.2 -13
SNAA	**Sanae**	137.38	196	*e*P	**PKPdf**	**01 33 18.5 -1.3**
VNA2	**Neumayer--Watz**	138.94	195	*e*P	PKPdf	01 33 11.4 -11
VNA2	**Neumayer--Watz**	138.94	195	*e*P	**PKPdf**	**01 33 21.6 -1.0**
comp=Z,97.slow=1.8						
LPAZ	**La Paz**	148.55	64	*e*PKPbc	**PKPbc**	**01 33 46.1 +0.7**
LPAZ	**La Paz**	148.55	64	PKPbc	**PKPbc**	**01 33 46.1 +0.7**
comp=Z,6.3nm,0.7s,baz=90,slow=1.0,SNR=24						

BUC 24 01:27:25.1±0.7, 45°.27N×24°.26E, h7km±4km, MD2.4/4, 10C-8D, Error ellipse: s-maj=7.6km s-min=2.8km az=0.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARR	**Arges**	0.28	70⇑	*i*P	Pg	01 27 31.3	+0.5
ARR	**Arges**	0.28	70⇑	*i*P	Pg	01 27 31.3	+0.5
ARR				*i* S	Sg	01 27 35.2	+0.5
LOT	**Lotru**	0.39	298⇑	*i*P	Pg	01 27 33.1	+0.3
LOT	**Lotru**	0.39	298⇑	*i*P	Pg	01 27 33.1	+0.3
LOT				*i* S	Sg	01 27 38.0	-0.1
VOIR		0.58	73⇑	*i*P	Pg	01 27 37.0	+0.5
VOIR		0.58	73⇑	*i*P	Pg	01 27 37.0	+0.5
VOIR				*i* S	Sg	01 27 44.8	+0.5
MDB	**Medias**	0.88	6⇑	*i*P	Pn	01 27 43.4	-0.5
MDB	**Medias**	0.88	6⇑	*i*P	Pn	01 27 43.4	-0.5
MDB				*i* S	Sb	01 27 55.5	+0.9
DOPR	**Dopca**	1.06	48⇓	*i*P	Pb	01 27 45.7	-0.1
DOPR	**Dopca**	1.06	48⇓	*i*P	Pb	01 27 45.7	-0.1
DOPR				*i* S	Sb	01 28 00.1	+0.2
DEV	**Deva**	1.13	303⇓	*i*P	Pg	01 27 46.8	0.0
DEV	**Deva**	1.13	303⇓	*i*P	Pg	01 27 46.8	0.0
DEV				*i* S	Sb	01 28 01.9	0.0
DRGR		1.86	325⇓	*i*P	Pb	01 27 58.7	-0.9
DRGR		1.86	325⇓	*i*P	Pb	01 27 58.7	-0.9
BZS	**Buzias**	1.89	282⇑	*i*P	Pb	01 27 59.3	-0.6
BZS	**Buzias**	1.89	282⇑	*i*P	Pb	01 27 59.3	-0.6
BZS				*i* S	Sb	01 28 23.2	-0.5
SIRR	**Siria**	2.07	300⇓	*i*P	Pn	01 28 01.1	+0.8
SIRR	**Siria**	2.07	300⇓	*i*P	Pn	01 28 01.1	+0.8

IDC 24 01:34:30.2±12.0, 21°.45S×179°.31W, h597km±110km, mb3.2/3, mb1 3.4/4, mb1mx3.0/18, mbtmp3.2/4, Error ellipse: s-maj=123.0km s-min=77.9km az=121.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	13.26	265	P	P	01 37 22.5	+0.7
0.4nm,0.3s,baz=77,slow=18,SNR=5.7							
STKA	**Stephens Creek**	36.28	245	P	P	01 40 44.5	-0.3
1.7nm,0.4s,baz=73,slow=8.6,SNR=8.7							
ASAR	**Alice Springs**	43.12	258	P	P	01 41 39.8	+0.2
1.8nm,0.4s,baz=99,slow=8.0,SNR=25							
WRA	**Warramunga Arr**	43.27	263	P	P	01 41 40.2	-0.5
1.3nm,0.3s,baz=96,slow=8.3,SNR=59							
AKASG	**Malin Array Be**	143.22	330	PKP	PKPab	01 52 55.3	-0.1
0.5nm,0.4s,baz=41,slow=5.7,SNR=4.9							
BRTR	**Keskin Array B**	146.54	310	PKPbc	PKPbc	01 53 06.3	+0.3
0.4nm,0.7s,baz=117,slow=4.4,SNR=2.9							

WEL 24 01:36:31.5±0.2, 45°.84S×166°.84E, h90km±1km, ML3.0/6, 2C-1D, Error ellipse: s-maj=1.3km s-min=0.9km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	0.35	198	⇓PN	Pn	01 36 45.1	-0.2
PYZ				SN	Sn	01 36 55.1	-0.3
DCZ	**Deep Cove**	0.42	32	PN	Pn	01 36 45.4	-0.2
DCZ				SN	Sn	01 36 55.7	-0.4
WHZ	**Wether Hill Ro**	0.78	95	⇑PN	Pn	01 36 48.5	-0.2
WHZ				AML	AML	01 36 48.9	
WHZ				SN	Sn	01 37 01.5	-0.2
MLZ	**Mavora Lakes**	1.05	63	⇑PN	Pn	01 36 51.3	-0.6
MLZ				SN	Sn	01 37 06.3	-0.9
APZ	**The Paps**	1.28	142	PN	Pn	01 36 54.4	-0.1
SYZ	**Scrubby Hill**	1.75	115	PN	Pn	01 36 59.8	-0.5
EAZ	**Earnscleugh**	1.84	72	PN	Pn	01 37 01.0	-0.6
EAZ				AML	AML	01 37 23.1	
WKZ	**Wanaka**	1.84	58	PN	Pn	01 37 01.6	0.0
TUZ	**Tuapeka**	1.95	95	PN	Pn	01 37 02.3	-0.7
JCZ	**Jackson Bay**	2.23	38	PN	Pn	01 37 06.5	-0.3
JCZ				AML	AML	01 37 33.2	
LBZ	**Lake Benmore**	2.77	60	PN	Pn	01 37 11.9	-2.1
ODZ	**Otahua Downs**	2.79	75	PN	Pn	01 37 12.0	-2.1

IDC 24 01:52:19.1±5.0, 32°.73S×179°.97W, h238km±38km, mb3.3/2, mb1 3.5/4, mb1mx3.3/18, mbtmp3.4/4, Error ellipse: s-maj=56.5km s-min=27.1km az=47.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	6.01	203	P	Pn	01 53 46.6	-0.4
1.2nm,0.3s,baz=278,slow=22,SNR=11							
URZ				S	S	01 54 51.2	-5.9
5.7nm,0.3s,baz=331,slow=3.3,SNR=6.7							
RPZ	**Rata Peaks**	13.03	210	P	Pn	01 55 10.6	-5.0
0.5nm,0.3s,baz=142,slow=19,SNR=4.9							
RPZ				S	S	01 57 23.7	-16
2.3nm,0.3s,baz=70,slow=22,SNR=16							
DZM	**Mont Dzumac**	16.06	308	P	Pn	01 55 53.2	+0.6
0.2nm,0.3s,baz=302,slow=24,SNR=5.8							
ASAR	**Alice Springs**	41.38	270	P	P	01 59 42.1	-0.2
0.4nm,0.4s,baz=118,slow=7.8,SNR=7.7							
WRA	**Warramunga Arr**	42.58	276	P	P	01 59 51.7	-0.3
0.8nm,0.3s,baz=115,slow=7.9,SNR=25							
FINES	**FINESS Array B**	146.70	337	PKPbc	PKPdf	02 11 30.7	+0.8
3.6nm,1.0s,baz=117,slow=6.6,SNR=4.0							
TORD	**Torodi Ar. Bea**	160.45	185	PKPab	PKPab	02 12 33.0	+0.1
0.7nm,0.7s,baz=168,slow=4.5,SNR=12							

*AUST **24** 02:04:43.4±0.0, 1°.18S×141°.91E, h227km, Error ellipse: s-maj=2.3km s-min=1.2km az=337.0*
*IDC **24** 02:04:49.2±1.6, 3°.73S×142°.17E, h0km, mb3.6/4, mb1 4.0/5, mb1mx3.7/18, mbtmp3.8/5, ML4.2/1, Error ellipse: s-maj=65.3km s-min=24.0km az=110.0*
*ISCJB **24** 02:05:00.7±1.2, 4°.0S±0°.2×141°.9E±0°.2, h109km, mb3.5/4, Error ellipse: s-maj=37.1km s-min=12.4km az=35.6*

**

JCT	Junction City	21.45 348	⇑P	P	02 22 15.0 +1.8
	baz=21				
TXAR	Lajitas Array	21.49 338	P	P	02 22 15.3 +1.6
TXAR			PcP	PcP	02 26 13.8 -2.9
TXAR	Lajitas Array	21.49 338	P	P	02 22 15.3 +1.6
	3.8nm,0.9s,baz=149,slow=11,SNR=27				
TXAR			PcP	PcP	02 26 13.8 -2.9
	0.1nm,0.7s,baz=142,slow=4.5,SNR=3.0				
TXAR			LR	LR	02 30 25.4
	comp=Z,266nm,18.3s,baz=180,slow=37				
627A	Terlingua Ranc	21.50 339	⇑P	P	02 22 15.6 +1.8
	baz=22,SNR=8.5				
530A	J-C Ranch, Com	21.50 344	⇑P	P	02 22 15.4 +1.7
	baz=22				
529A	Stev Forest Ra	21.73 342	⇓P	P	02 22 17.9 +1.6
	baz=22,SNR=6.9				
431A	Sonora	21.83 346	⇑P	P	02 22 19.0 +1.7
	baz=22				
432A	Menard	21.84 348	⇑P	P	02 22 19.4 +2.1
	baz=22				
626A	Big Bend Ranch	21.86 337	⇑P	P	02 22 19.5 +1.8
	baz=22,SNR=13				
528A	Cox Ranch, San	21.95 341	⇓P	P	02 22 20.5 +1.9
	baz=22,SNR=10.0				
430A	Baggett Ranch,	22.08 345	⇓P	P	02 22 22.1 +2.1
	baz=22				
429A	Davenport Ranc	22.11 343	⇓P	P	02 22 22.4 +2.1
	baz=22				
527A	Woodward Ranch	22.21 339	⇑P	P	02 22 23.2 +1.7
	baz=22,SNR=12				
526A	Mary Lane Ranc	22.30 338	⇑P	P	02 22 24.5 +2.1
	baz=22,SNR=13				
332A	Millersview	22.32 349	⇓P	P	02 22 24.5 +2.0
	baz=22,SNR=7.0				
331A	San Angelo	22.39 347	⇓P	P	02 22 25.0 +1.8
	baz=22				
428A	Kincaid Ranch,	22.44 342	⇑P	P	02 22 25.8 +2.0
	baz=22,SNR=5.8				
330A	Mertzon	22.66 345	⇓P	P	02 22 27.5 +1.4
	baz=23,SNR=9.2				
427A	Hayter Ranch,	22.78 340	⇓P	P	02 22 29.1 +1.6
	baz=23				
232A	Coleman	22.79 349	⇑P	P	02 22 29.0 +1.5
	baz=23,SNR=8.5				
426A	McDonald Obser	22.83 339	⇑P	P	02 22 29.4 +1.3
	baz=23				
329A	Wagon Wheel Ra	22.95 344	⇑P	P	02 22 30.4 +1.2
	baz=23,SNR=8.1				
328A	Wristen Ranch,	23.09 342	⇑P	P	02 22 31.8 +1.2
	baz=23				
230A	Sterling City	23.10 346	⇑P	P	02 22 32.0 +1.2
	baz=23				
ATAH	Atahualpa	23.14 135	P	P	02 22 35.8 +4.2
ATAH	Atahualpa	23.14 135	P	P	02 22 35.8 +4.2
	5.5nm,0.6s,baz=328,slow=12,SNR=2.6				
ATAH			LR	LR	02 29 41.7
	comp=Z,176nm,20.0s,baz=98,slow=31				
425A	Indio Mountain	23.29 337	⇓P	P	02 22 33.4 +0.6
	baz=23,SNR=8.6				
326A	Caldwell Ranch	23.40 340	⇓P	P	02 22 34.8 +0.9
	baz=23				
ABTX	Abilene, Hawle	23.51 349	eP	P	02 22 34.5 -0.3
ABTX	Abilene, Hawle	23.51 349	⇑P	P	02 22 35.9 +1.1
	baz=24				
131A	Roby	23.70 348	⇑P	P	02 22 37.8 +1.1
	baz=24				
228A	UT Block 9, Go	23.71 343	⇑P	P	02 22 37.7 +0.9
	baz=24				
130A	Snyder	23.75 347	⇓P	P	02 22 37.9 +0.7
	baz=24				
SDV	Santo Domingo	23.76 89	eP	P	02 22 39.3 +1.6
	4.1nm,0.8s				
129A	Stewart Farms,	24.00 345	⇑P	P	02 22 40.4 +0.7
	baz=24				
324A	Moseley Ranch,	24.07 337	⇓P	P	02 22 40.2 -0.1
	baz=24,SNR=8.0				
Z32A	Haskell	24.14 350	⇓P	P	02 22 41.3 +0.3
	baz=24				
128A	Castleberry Fa	24.15 344	⇓P	P	02 22 41.3 +0.2
	baz=24,SNR=6.0				
226B	Tecolote Peak,	24.16 340	⇓P	P	02 22 41.9 +0.7
	baz=24,SNR=11				
Z31A	Sharp Cattle R	24.27 349	⇓P	P	02 22 42.3 +0.2
	baz=24				
225A	Deer Hill, Car	24.42 339	⇑P	P	02 22 44.0 +0.3
	baz=24,SNR=5.7				
Z30A	Sanderson Ranc	24.45 347	⇓P	P	02 22 44.3 +0.6
	baz=24				
127A	Arkansas Junct	24.46 342	⇑P	P	02 22 44.6 +0.6
	baz=24				
Z29A	Hungry Hill Ra	24.56 346	⇓P	P	02 22 45.3 +0.6
	baz=25				
126A	Clayton Basin,	24.64 341	⇑P	P	02 22 46.0 +0.4
	baz=25				
224A	Cornudas Mount	24.65 338	⇓P	P	02 22 45.8 +0.1
	baz=25				
Z28A	Tucker Farm, M	24.76 344	⇓P	P	02 22 47.5 +0.9
	baz=25				
Y32A	R-V Farms, Ver	24.82 351	⇓P	P	02 22 47.8 +0.7
	baz=25				
Y31A	Rekieta Farm,	24.92 349	⇑P	P	02 22 49.0 +1.0
	baz=25				
Y30A	Stafford Cattl	24.97 348	⇓P	P	02 22 49.0 +0.6
	baz=25				
Z27A	Tatum	25.01 343	⇓P	P	02 22 49.1 +0.2
	baz=25,SNR=5.6				
Y29A	Porterfield Fa	25.12 346	⇓P	P	02 22 50.1 +0.2
	baz=25				
124A	Stringfield Ra	25.18 338	⇑P	P	02 22 51.0 +0.4
	baz=25				
Z26A	Caprock	25.20 341	⇓P	P	02 22 50.6 0.0
	baz=25,SNR=6.6				
320A	Kipp Ranch, An	25.29 331	⇓P	P	02 22 52.2 +0.7
	baz=25,SNR=5.9				
222A	Williams Famil	25.30 335	⇓P	P	02 22 52.5 +0.9
	baz=25				
Y28A	McKinney Farm,	25.31 345	⇓P	P	02 22 52.4 +0.8
	baz=25				
Z25A	Roswell	25.45 340	⇑P	P	02 22 53.6 +0.7
	baz=26				
MSTX	Muleshoe	25.50 344	⇑P	P	02 22 54.2 +0.8
	baz=26				
221A	Mesquite Ranch	25.51 333	⇑P	P	02 22 54.3 +0.9
	baz=26				
X30A	Coker Ranch, T	25.51 348	⇓P	P	02 22 54.3 +1.0
	baz=26				
X31A	McDonald Ranch	25.52 350	⇓P	P	02 22 54.4 +1.0
	baz=26				
Y27A	Causey	25.53 343	⇑P	P	02 22 54.4 +0.8
	baz=26				
319A	Douglas	25.68 330	⇓P	P	02 22 55.7 +0.7
	baz=26				
220A	Playas Peak, P	25.76 332	⇓P	P	02 22 56.3 +0.6
	baz=26				
121A	Cookes Peak, D	25.96 334	⇓P	P	02 22 58.5 +0.9
	baz=26,SNR=7.9				
Y25A	Mesa, Roswell	26.03 341	⇑P	P	02 22 59.3 +1.1
	baz=26				
Z22A	Elephant Butte	26.25 336	⇓P	P	02 23 00.9 +0.7
	baz=26				
Y24A	Capitan	26.28 340	⇓P	P	02 23 01.2 +0.7
	baz=26,SNR=5.2				
120A	U Bar Ranch, L	26.35 333	⇑P	P	02 23 01.9 +0.8
	baz=26				
Y23A	Lovelace Mesa,	26.50 338	⇑P	P	02 23 03.2 +0.7
	baz=26				
Z21A	St. Cloud Mine	26.58 335	⇑P	P	02 23 03.6 +0.4
	baz=27				
W27A	Bowe Ranch, En	26.61 345	⇑P	P	02 23 04.1 +0.6
	baz=27				
Z20A	Nine Sixteen R	26.81 333	⇑P	P	02 23 05.7 +0.4
	baz=27				
Y22A	Socorro	26.85 337	⇓P	P	02 23 07.4 +1.8
	baz=27,SNR=7.0				
X24A	Lazy VL Ranch,	26.86 340	⇓P	P	02 23 06.5 +0.8
	baz=27				
BNM	Barren Site	26.91 338	eP	P	02 23 07.1 +0.9
	2.9nm,1.0s				
TUC	Tucson	27.19 329	eP	P	02 23 08.4 -0.2
	2.4nm,0.8s				
Y20A	Horse Springs,	27.40 335	⇓P	P	02 23 11.0 +0.4
	baz=27				
V26A	Tequesquite Ra	27.50 344	⇓P	P	02 23 12.2 +0.8
	baz=28				
ANMO	Albuquerque	27.56 339	P	P	02 23 11.7 -0.4
ANMO	Albuquerque	27.56 339	P	P	02 23 11.7 -0.4
	0.5nm,0.6s,baz=306,slow=14,SNR=3.3				
ANMO			LR	LR	02 34 03.9
	comp=Z,182nm,18.5s,baz=153,slow=37				
X21A	Alamocita Cree	27.62 336	⇓P	P	02 23 13.4 +0.8
	baz=28				
V25A	Rancho No Teng	27.77 343	⇓P	P	02 23 15.0 +1.0
	baz=28				
X20A	Quemado	27.99 335	⇑P	P	02 23 16.4 +0.4
	baz=28				
U26A	Atchley Ranch,	28.05 344	⇓P	P	02 23 16.9 +0.5
	baz=28				
V22A	San Miguel Ran	28.59 339	⇓P	P	02 23 22.0 +0.7
	baz=29				
X18A	Snowflake	28.61 333	⇓P	P	02 23 22.1 +0.7
	baz=29				
T26A	Comanche Natio	28.75 345	⇑P	P	02 23 23.5 +0.9
	baz=29				
T25A	Trinidad	28.93 344	⇑P	P	02 23 25.4 +1.1
	baz=29				
S26A	Kim	29.14 346	⇓P	P	02 23 27.2 +1.2
	baz=29				
X16A	Lo Mia Camp, P	29.21 331	⇑P	P	02 23 27.7 +1.0
	baz=29				
S25A	Robets Cordova	29.43 344	⇑P	P	02 23 29.9 +1.2
	baz=29				
T22A	Edith	29.58 340	⇓P	P	02 23 31.2 +1.2
	baz=30				
R27A	Eads	29.62 347	⇓P	P	02 23 31.0 +0.8
	baz=30				
S24A	Houchin Ranch,	29.62 343	⇑P	P	02 23 31.6 +1.1
	baz=30				
R26A	Arlington	29.78 346	⇑P	P	02 23 32.7 +1.1
	baz=30				
WUAZ	Wupatki	30.07 332	eP	P	02 23 35.2 +0.9
WUAZ	Wupatki	30.07 332	⇑P	P	02 23 34.7 +0.3
	baz=30,SNR=5.9				
S22A	4UR Ranch, Cre	30.22 341	⇑P	P	02 23 36.6 +0.9
	baz=30				
R22A	Saguache, Gunn	30.64 341	⇓P	P	02 23 39.8 +0.3
	baz=31				
R20A	Redvale	31.15 339	⇓P	P	02 23 45.0 +1.2
	baz=31				
U15A	North Rim	31.25 332	⇓P	P	02 23 45.6 +0.7
	baz=31				
Q22A	Crested Butte,	31.26 341	⇑P	P	02 23 46.3 +1.3
	baz=31				
P24A	Kohler Place,	31.29 345	⇑P	P	02 23 46.3 +1.2
	baz=31				
O27A	Beecher Island	31.38 349	⇓P	P	02 23 46.9 +1.2
	baz=31				
P23A	Jefferson	31.42 343	⇑P	P	02 23 47.0 +0.7
	baz=31				
ISCO	Idaho Springs	31.75 344	⇑P	P	02 23 50.2 +0.9
	baz=32				
P19A	Cripple Cowboy	32.65 339	⇑P	P	02 23 58.1 +1.1
	baz=33				
Q16A	Castle Valley	32.84 336	⇑P	P	02 23 59.8 +1.1
	baz=33				
N23A	Red Feather La	32.86 344	⇑P	P	02 23 59.8 +0.8
	baz=33				
EDW2	Edwards Air Fo	33.08 323	⇑P	P	02 24 01.1 +0.3
	baz=33				
LRMC	Laurel Mountai	33.33 325	⇑P	P	02 24 03.4 +0.5
	baz=33				
N20A	Spence Gulch,	33.49 341	⇓P	P	02 24 05.1 +0.7
	baz=34				
MPMC	Manual Prospec	33.63 325	⇓P	P	02 24 05.5 -0.2
	baz=34				
ISA	Isabella	33.91 324	⇓P	P	02 24 07.8 -0.1
	baz=34				
L23A	Garrett	33.94 345	⇓P	P	02 24 08.9 +0.5
	baz=34				
PKM	Peak Mountain	34.19 322	⇑P	P	02 24 10.6 +0.1
	baz=34				
R11A	Troy Canyon, C	34.35 330	⇑P	P	02 24 12.1 +0.2
	baz=34				
DUG	Dugway	34.60 335	⇓P	P	02 24 14.5 +0.5
	baz=35				
K20A	Yellowstone Ra	35.17 342	⇓P	P	02 24 19.5 +0.5
	baz=35				
K19A	Absolon Red Bu	35.48 342	⇑P	P	02 24 22.2 +0.6
	baz=36				
MLAC	Mammoth Lakes	35.51 326	⇓P	P	02 24 22.5 +0.5
	baz=36				
J21A	Lysite	35.55 344	⇑P	P	02 24 22.9 +0.7
	baz=36				
PDAR	Pinedale Array	35.65 341	P	P	02 24 23.1 0.0
PDAR			PcP	PcP	02 26 49.0 -2.6
PDAR	Pinedale Array	35.65 341	P	P	02 24 23.1 0.0
	1.7nm,0.9s,baz=156,slow=9.6,SNR=10				
PDAR			PcP	PcP	02 26 49.0 -2.6
	0.4nm,0.6s,baz=148,slow=5.3,SNR=3.6				
J20A	Shoshoni	35.73 343	⇑P	P	02 24 24.6 +0.9
	baz=36				
I21A	Big Trails, Te	35.94 344	⇓P	P	02 24 26.3 +0.8
	baz=36				
H24A	Dirks Ranch, A	36.18 348	⇑P	P	02 24 28.8 +1.3
	baz=36				
I20A	Worland	36.30 344	⇓P	P	02 24 29.4 +0.9
	baz=36				
SAML	Samuel	36.31 119	eP	P	02 24 29.5 +0.6
	3.9nm,0.7s				
LPAZ	La Paz	36.68 134	eP	P	02 24 34.8 +2.2
	14nm,1.1s				
LPAZ	La Paz	36.68 134	P	P	02 24 35.9 +3.3
	6.2nm,0.8s,baz=315,slow=8.5,SNR=21				
LPAZ			LR	LR	02 38 22.2
	comp=Z,80nm,20.3s,baz=337,slow=34				
H19A	Powell	37.20 343	⇑P	P	02 24 37.4 +1.2
	baz=37				
HLID	Hailey	38.08 337	⇑P	P	02 24 44.1 +0.5
	baz=38				
F19A	Roth Farm, Mol	38.28 344	⇓P	P	02 24 45.7 +0.5
	baz=38				
MFID	Camas Ranch	38.52 335	⇓P	P	02 24 48.1 +0.7
	baz=38				
E19A	Rath Farm, Rou	38.79 344	⇑P	P	02 24 50.5 +1.0
	baz=39				
D22A	Cohagen	38.81 347	⇑P	P	02 24 50.4 +0.8
	baz=39				
D19A	Cripps Ranch,	39.47 345	⇓P	P	02 24 56.0 +0.8
	baz=40				
C19A	Slack Wire Ran	40.04 345	⇑P	P	02 25 00.5 +0.5
	baz=40				
B19A	Brinkman Farms	40.68 345	⇑P	P	02 25 05.4 +0.2
	baz=41				
MSO	Missoula	40.69 340	⇑P	P	02 25 05.5 +0.1
	baz=41				
SIV	San Ignacio	41.80 127	P	P	02 25 17.2 +2.4
SIV	San Ignacio	41.80 127	P	P	02 25 17.2 +2.4
	5.1nm,1.0s,baz=306,slow=10.0,SNR=10.0				
NEW	Newport	43.05 338	⇓P	P	02 25 23.8 -0.8
	baz=43				
SCHQ	Schefferville	50.38 21	LR	LR	02 51 45.4
	comp=Z,60nm,18.2s,baz=322,slow=41				
PLCA	Paso Flores	54.69 158	P	P	02 26 55.4 +1.4
PLCA	Paso Flores	54.69 158	P	P	02 26 55.4 +1.4
	2.0nm,0.9s,baz=351,slow=9.6,SNR=3.5				
ILAR	Eielson Array	66.00 338	P	P	02 28 09.6 -1.4
ILAR	Eielson Array	66.00 338	P	P	02 28 09.6 -1.4
	5.9nm,0.8s,baz=123,slow=5.8,SNR=45				
FINES	FINESS Array B	95.71 25	LR	LR	03 13 50.6
	comp=Z,65nm,19.7s,baz=90,slow=35				
VRAC	Vranov	96.38 38	LR	LR	03 11 03.5
	comp=Z,28nm,18.7s,baz=174,slow=33				
MKAR	Makanchi Array	123.94 2	PKP	PKPdf	02 36 20.5 -2.9
MKAR	Makanchi Array	123.94 2	PKP	PKPdf	02 36 20.5 -2.9
	0.4nm,0.7s,baz=0.0,slow=1.6,SNR=3.2				
ASAR	Alice Springs	131.56 247	PKP	PKPdf	02 36 35.2 -3.3
ASAR	Alice Springs	131.56 247	PKP	PKPdf	02 36 35.2 -3.3
	0.5nm,0.8s,baz=126,slow=1.3,SNR=4.0				
WRA	Warramunga Arr	131.59 252	PKP	PKPdf	02 36 36.7 -1.9
WRA	Warramunga Arr	131.59 252	PKP	PKPdf	02 36 36.7 -1.9
	0.7nm,0.9s,baz=97,slow=4.0,SNR=4.1				
CMAR	Chiang Mai Arr	149.17 334	PKPbc	PKPdf	02 37 12.1 +1.9
CMAR	Chiang Mai Arr	149.17 334	PKPbc	PKPdf	02 37 12.1 +1.9
	1.8nm,0.3s,baz=7.4,slow=2.1,SNR=4.9				

IDC ***24*** *02:24:02.0±2.4, 6.˙16S×130.˙92E, h0km, mb3.4/1, mb1 4.1/4, mb1mx3.7/19, mbtmp3.9/4, ML4.1/3, Error ellipse: s-maj=77.7km s-min=30.5km az=78.0*
ISCJB ***24*** *02:24:08.8±0.6, 6.˙48S±0.˙04×130.˙81E±0.˙05, h62km, mb3.5/1, Error ellipse: s-maj=8.0km s-min=5.5km az=27.3*
AUST ***24*** *02:24:12.1, 6.˙47S×131.˙04E, h100km*
ISC 24 02:24:10.9±0.7,**6.˙53S**±0.˙05×**130.˙92E**±0.˙07,**h62**km,**n17,**
σ2^{2}25/19,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLE	Tual	2.01	64	P	Pn	02 24 44.5	+1.9
	baz=1.9,SNR=26						
TLE				S	Sn	02 25 08.2	+1.5
	baz=1.9,SNR=8.1						
BNDI	Bandanaira	2.24	333	P	Pn	02 24 47.8	+2.1
	baz=2.3,SNR=4.7						
BNDI				S	Sn	02 25 14.3	+2.1
	baz=2.3,SNR=5.1						
FAKI	Fak Fak	3.83	20	P	Pn	02 25 05.0	-2.3
	baz=3.8,SNR=47						
FAKI				S	Sn	02 25 41.3	-10
	baz=3.8,SNR=6.6						
SWI	Sorong	5.64	3	P	Pn	02 25 30.2	-2.0
	baz=5.6,SNR=6.0						
SWI				S	Sn	02 26 23.5	-12
	baz=5.6,SNR=9.9						
KDU	Kakadu	6.30	166	P	Pn	02 25 45.2	+3.9
	baz=6.4,SNR=26						
KDU				S	Sn	02 26 55.1	+3.2
	baz=6.4,SNR=7.8						
KNRA	Kununurra	9.33	193	P	Pn	02 26 26.9	+4.2
	baz=9.5,SNR=16						
KNRA				S	Sn	02 28 08.0	+1.9
	baz=9.5,SNR=7.3						
JAY	Jayapura	10.54	68	S	Sn	02 28 45.1	+9.2
	baz=10,SNR=3.6						
WSI	Waingapu	10.97	253	S	Sn	02 28 46.8	+0.5
	baz=11,SNR=8.0						
FITZ	Fitzroy Crossi	12.60	204	Pn	Pn	02 27 08.5	+1.1
	1.7nm,0.3s,baz=26,slow=11,SNR=69						
FITZ				Sn	Sn	02 29 21.1	-5.0
	0.4nm,0.3s,baz=245,slow=19,SNR=3.9						
FITZ	Fitzroy Crossi	12.60	204	P	Pn	02 27 08.8	+1.5
	baz=13,SNR=37						
FITZ				S	Sn	02 29 25.0	-1.1
	baz=13,SNR=4.4						
WRA	Warramunga Arr	13.74	166	Pn	Pn	02 27 22.5	-0.3
	0.6nm,0.3s,baz=346,slow=10,SNR=24						
WRA				Sn	Sn	02 29 47.7	-6.1
	1.3nm,0.3s,baz=341,slow=21,SNR=9.3						
COEN	Coen	14.13	122	P	Pn	02 27 27.3	-0.7
	baz=14,SNR=25						
COEN				S	Sn	02 29 54.1	-9.4
	baz=14,SNR=5.9						
ASAR	Alice Springs	17.28	171	P	Pn	02 28 08.9	+0.8
	0.4nm,0.3s,baz=2.5,slow=10,SNR=13						
ASAR				S	Sn	02 31 14.5	-5.2
	0.4nm,0.3s,baz=352,slow=26,SNR=6.8						
MTSU	Mount Surprise	17.43	133	P	P	02 28 12.2	+1.8
	baz=17,SNR=5.6						
MTSU				S	Sn	02 31 15.4	-7.9
	baz=17,SNR=3.7						
PATS	Pohnpei	30.39	65	S	S	02 35 26.4	+13
	baz=30,SNR=3.9						
MGCD	Mangrove Creek	32.50	147	P	P	02 30 36.1	+0.4
	baz=33,SNR=6.1						
MKAR	Makanchi Array	68.34	326	P	P	02 35 03.3	-2.4
	0.2nm,0.4s,baz=123,slow=5.3,SNR=3.0						

PRU ***24*** *02:28:02.4, 40.˙77N×16.˙81E, h0km*
ROM ***24*** *02:28:22.0±0.2, 42.˙55N×16.˙42E, h6km, Ml3.5/43, Error ellipse: s-maj=2.5km s-min=2.2km az=74.0*
ISCJB ***24*** *02:28:23.6±0.3, 42.˙43N±0.˙02×16.˙06E±0.˙02, h2km±3km, mb3.4/1, Error ellipse: s-maj=3.1km s-min=2.2km az=23.1*
BEO ***24*** *02:28:24.9±0.5, 42.˙38N×16.˙05E, h0km, ML3.3/1*
CSEM ***24*** *02:28:24.7±0.1, 42.˙40N×16.˙05E, h5km, ML3.5, Error ellipse: s-maj=2.9km s-min=2.2km az=155.0*
LDG ***24*** *02:28:25.7±0.1, 42.˙46N×16.˙16E, h10km, Ml3.3/5, Error ellipse: s-maj=1.9km s-min=1.4km az=9.0*
PDG ***24*** *02:28:25.0±0.5, 42.˙44N×16.˙20E, h7km, ML3.2/12, Error ellipse: s-maj=0.5km s-min=0.5km az=0.0*
IDC ***24*** *02:28:26.2±1.8, 42.˙64N×16.˙08E, h0km, mb3.3/1, mb1 3.5/6, mb1mx3.3/27, mbtmp3.4/6, ML3.1/5, MS2.6/1, Ms1 2.6/1, ms1mx2.0/25, Error ellipse: s-maj=24.9km s-min=16.6km az=43.0*
ISC 24 02:28:24.5±1.1,**42.˙41N**±0.˙02×**16.˙09E**±0.˙02,**h7**km±9km,
n219,σ1^{5}55/286,14C-21D,Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGRT	San Giovanni R	0.70	201	Pg	Pn	02 28 39.5	-1.4
SGRT				Sg	Sn	02 28 53.5	+1.4
	4μm,1.0s						
MSAG	Monte S. Angel	0.71	191	Pg	Pn	02 28 39.7	-1.3
MSAG				Sg	Sn	02 28 53.5	+1.3
	3μm,0.5s						
MS1	Monte Sant'Ang	0.71	189	eSg	Sn	02 28 53.4	+1.1
MELA	Melanico ??? S	1.00	226	Pg	Pn	02 28 45.2	+0.3
MELA				Sg	Sn	02 29 03.3	+4.0
	2μm,0.5s						
MELA	Melanico ??? S	1.00	226	Pg	Pn	02 28 45.2	+0.3
FRES	Fresagrandinar	1.14	248	Pg	Pn	02 28 48.3	+1.5
FRES				Sg	Sn	02 29 08.1	+5.4
FRES	Fresagrandinar	1.14	248	Pg	Pn	02 28 48.3	+1.5
CIGN	Sant'Elia a Pi	1.16	230	Pg	Pn	02 28 48.6	+1.5
CIGN				Sg	Sn	02 29 07.8	+4.6
	822nm,0.9s						
CIGN	Sant'Elia a Pi	1.16	230	Pg	Pn	02 28 48.6	+1.5
MOCO	Biccari - m.te	1.25	214	Pg	Pn	02 28 50.5	+2.1
MOCO				Sg	Sn	02 29 10.2	+4.7
	624nm,0.9s						
STON	Ston	1.28	68	ePg	Pn	02 28 48.7	0.0
STON				i Sg	Sn	02 29 07.4	+1.4
STON	Ston	1.28	68	i Pg	Pn	02 28 48.3	-0.4
STON				Sg	Sn	02 29 06.8	+0.8
STON	Ston	1.28	68	ePg	Pn	02 28 48.7	0.0
STON				i Sg	Sn	02 29 07.4	+1.4
CAFR	Castel Frentan	1.30	262	Pg	Pb	02 28 50.6	+1.4
CAFR	Castel Frentan	1.30	262	Pg	Pb	02 28 50.6	+1.4
TRIV	Trivento	1.31	241	Pg	Pb	02 28 51.1	+1.7
	700nm,0.8s						
TRIV	Trivento	1.31	241	Pg	Pb	02 28 51.1	+1.7
	700nm,0.8s						
CDT	Castel del Mon	1.34	174	ePg	Pg	02 28 50.7	+0.6
CDT				eSg	Sn	02 29 09.6	+2.0
MRVN	Minervino Murg	1.35	176	Pg	Pg	02 28 49.9	-0.5
MRVN				Sg	Sn	02 29 09.6	+1.6
	217nm,0.4s						
MRVN	Minervino Murg	1.35	176	Pg	Pg	02 28 49.9	-0.5
MRVN				Sg	Sn	02 29 09.6	+1.6
	217nm,0.4s						
SGTA	Sant Agata di	1.39	203	Pg	Pg	02 28 51.3	+0.3
SGTA				Sg	Sn	02 29 14.4	+5.6
	471nm,0.5s						
SGTA	Sant Agata di	1.39	203	Pg	Pg	02 28 51.3	+0.3
BSSO	Busso	1.41	233	Pg	Pg	02 28 51.9	+0.4
	1μm,1.0s						
BSSO	Busso	1.41	233	Pg	Pg	02 28 51.9	+0.4
	1μm,1.0s						
BAI	Bari	1.43	155	ePn	Pb	02 28 51.1	-0.3
SACR	S. Croce Del S	1.45	226	Pg	Pg	02 28 53.6	+1.4
SACR	S. Croce Del S	1.45	226	Pg	Pg	02 28 53.6	+1.4
LPEL	Lama dei Pelig	1.46	256	Pg	Pg	02 28 53.4	+1.0
	318nm,0.5s						
LPEL	Lama dei Pelig	1.46	256	Pg	Pg	02 28 53.4	+1.0
	318nm,0.5s						
PALZ	Palazzo San Ge	1.47	184	Pg	Pg	02 28 51.8	-0.8
	781nm,0.9s						
PALZ	Palazzo San Ge	1.47	184	Pg	Pg	02 28 51.8	-0.8
	781nm,0.9s						
VULT	Monte Vulture	1.50	194	Pg	Pg	02 28 53.5	+0.3
	670nm,0.5s						
VULT	Monte Vulture	1.50	194	Pg	Pg	02 28 53.5	+0.3
	670nm,0.5s						
IPES	Pescosannita	1.50	219	Pg	Pg	02 28 53.2	-0.1
CAFE	Carife	1.52	205	Pg	Pg	02 28 53.5	-0.1
	368nm,0.6s						
CAFE	Carife	1.52	205	Pg	Pg	02 28 53.5	-0.1
	368nm,0.6s						
PSB1	Pescosannita	1.52	219	Pg	Pg	02 28 54.7	+1.0

PTRJ	**Pietraroja**	1.56 228	Pg		Pg	02 28 54.7 +0.2
	1μm,0.8s					
MIDA	**Miranda**	1.57 241	Pg		Pg	02 28 54.0 -0.5
	334nm,0.5s					
MIDA	**Miranda**	1.57 241	Pg		Pg	02 28 54.0 -0.5
	334nm,0.5s					
RNI2	**Rionero Sannit**	1.60 244	Pg		Pg	02 28 56.1 +0.9
	551nm,1.1s					
RNI2	**Rionero Sannit**	1.60 244	Pg		Pg	02 28 56.1 +0.9
	551nm,1.1s					
SNAL	**S. Angelo Dei**	1.62 204	Pg		Pg	02 28 54.7 -0.9
	490nm,0.7s					
SNAL	**S. Angelo Dei**	1.62 204	Pg		Pg	02 28 54.7 -0.9
	490nm,0.7s					
ACER	**Acerenza**	1.63 184	Pg		Pb	02 28 54.1 -0.7
	863nm,0.5s					
ACER	**Acerenza**	1.63 184	Pg		Pb	02 28 54.1 -0.7
	863nm,0.5s					
SGG	**Gregorio Mates**	1.64 232	Pg		Pg	02 28 56.2 +0.4
	427nm,1.0s					
SGG	**Gregorio Mates**	1.64 232	Pg		Pg	02 28 56.2 +0.4
	427nm,1.0s					
INTR	**Introdacqua**	1.67 257	Pg		Pg	02 28 55.4 -1.1
	526nm,0.7s					
INTR	**Introdacqua**	1.67 257	Pg		Pg	02 28 55.4 -1.1
	526nm,0.7s					
TREB	**Trebinje**	1.70 79	*e*Pn		Pn	02 28 55.1 +0.6
TREB			*i* Sg		Sg	02 29 20.0 +0.9
TREB	**Trebinje**	1.70 79	*e*Pn		Pn	02 28 55.1 +0.6
TREB			*i* Sg		Sg	02 29 20.0 +0.9
VAGA	**Valle Agricola**	1.70 235	Pg		Pg	02 28 56.6 -0.5
	445nm,1.0s					
VAGA	**Valle Agricola**	1.70 235	Pg		Pg	02 28 56.6 -0.5
	445nm,1.0s					
MRLC	**Muro Lucano**	1.71 195	Pg		Pb	02 28 55.0 -1.3
	373nm,0.6s					
MRLC	**Muro Lucano**	1.71 195	Pg		Pb	02 28 55.0 -1.3
	373nm,0.6s					
CERA	**Filignano**	1.74 243	Pg		Pg	02 28 58.9 +1.0
	513nm,0.9s					
MCRV	**Calabrutti - M**	1.77 203	Pg		Pb	02 28 56.2 -1.0
	271nm,0.5s					
MCRV	**Calabrutti - M**	1.77 203	Pg		Pb	02 28 56.2 -1.0
	271nm,0.5s					
NOCI	**Noci**	1.78 155	Pg		Pn	02 28 55.7 +0.1
	737nm,0.9s					
NOCI	**Noci**	1.78 155	Pg		Pn	02 28 55.7 +0.1
	737nm,0.9s					
HCY	**Herceg Novi**	1.78 88	⇓*i*Pn		Pn	02 28 56.2 +0.5
HCY			*e*Sn		Sb	02 29 21.0 +1.0
HCY	**Herceg Novi**	1.78 88	⇓*i*Pn		Pn	02 28 56.2 +0.5
HCY			*e*Sn		Sb	02 29 21.0 +1.0
MATE	**Matera**	1.82 165	Pg		Pn	02 28 56.6 +0.4
	498nm,0.5s					
MATE	**Matera**	1.82 165	Pg		Pn	02 28 56.6 +0.4
	498nm,0.5s					
MIGL	**Miglionico**	1.83 171	Pg		Pn	02 28 56.8 +0.5
	1μm,0.5s					
MIGL	**Miglionico**	1.83 171	Pg		Pn	02 28 56.8 +0.5
	1μm,0.5s					
TERO	**Teramo**	1.85 277	Pg		Pb	02 28 57.8 -0.8
	128nm,0.7s					
TERO	**Teramo**	1.85 277	Pg		Pb	02 28 57.8 -0.8
	128nm,0.7s					
BRY	**Bratogost**	1.87 74	⇓*i*Pn		Pn	02 28 57.5 +0.5
BRY			*e*Sn		Sb	02 29 22.9 +0.1
BRY	**Bratogost**	1.87 74	⇓*i*Pn		Pn	02 28 57.5 +0.5
BRY			*e*Sn		Sb	02 29 22.9 +0.1
PE1	**Pezze di Greco**	1.89 148	*e*Pn		Pn	02 28 57.1 0.0
POFI	**Posta Fibreno**	1.90 249	Pg		Pg	02 28 59.9 -0.9
	135nm,0.6s					
POFI	**Posta Fibreno**	1.90 249	Pg		Pg	02 28 59.9 -0.9
	135nm,0.6s					
CDRU	**Civita di Ruta**	2.01 197	Pg		Pn	02 28 59.0 +0.1
	94nm,0.5s					
CDRU	**Civita di Ruta**	2.01 197	Pg		Pn	02 28 59.0 +0.1
	94nm,0.5s					
CRAC	**Craco**	2.06 173	Pg		Pb	02 29 01.4 -0.8
	671nm,0.6s					
CRAC	**Craco**	2.06 173	Pg		Pb	02 29 01.4 -0.8
	671nm,0.6s					
BUM	**Brajici-Budva**	2.08 92	⇓*i*Pn		Pn	02 29 00.3 +0.4
BUM			*e*Sn		Sn	02 29 27.9 +1.8
BUM	**Brajici-Budva**	2.08 92	⇓*i*Pn		Pn	02 29 00.3 +0.4
BUM			*e*Sn		Sn	02 29 27.9 +1.8
UDBI	**Udbina**	2.13 354	*i* Pn		Pb	02 29 02.3 -1.1
UDBI			Sn		Sb	02 29 29.5 -0.5
NKME	**Niksic**	2.15 80	⇓*i*Pn		Pn	02 29 01.2 +0.5
NKME			*e*Sn		Sn	02 29 29.0 +1.4
NKME	**Niksic**	2.15 80	⇓*i*Pn		Pn	02 29 01.2 +0.5
NKME			*e*Sn		Sn	02 29 29.0 +1.4
AOI	**Ancona**	2.15 303	Pg		Pn	02 29 01.4 +0.7
	173nm,0.9s					
AOI	**Ancona**	2.15 303	Pg		Pn	02 29 01.4 +0.7
	173nm,0.9s					
MTSN	**Montesano sull**	2.16 187	Pg		Pn	02 29 01.3 +0.4
	127nm,0.5s					
MTSN	**Montesano sull**	2.16 187	Pg		Pn	02 29 01.3 +0.4
	127nm,0.5s					
CMPR	**Campora**	2.17 196	Pg		Pn	02 29 01.2 +0.1
	119nm,0.5s					
CMPR	**Campora**	2.17 196	Pg		Pn	02 29 01.2 +0.1
	119nm,0.5s					
NKY	**Niksic**	2.18 78	⇑*i*Pn		Pn	02 29 02.0 +0.7
NKY			*e*Sn		Sn	02 29 30.2 +1.6
NKY	**Niksic**	2.18 78	⇑*i*Pn		Pn	02 29 02.0 +0.7
NKY			*e*Sn		Sn	02 29 30.2 +1.6
FIAM	**Fiamignano**	2.21 267	Pg		Pb	02 29 04.5 -0.2
	151nm,0.9s					
FIAM	**Fiamignano**	2.21 267	Pg		Pb	02 29 04.5 -0.2
	151nm,0.9s					
UPM	**Unac-Piva**	2.22 68	*e*Pn		Pn	02 29 03.0 +1.2
UPM			*e*Sn		Sn	02 29 31.4 +1.8
UPM	**Unac-Piva**	2.22 68	*e*Pn		Pn	02 29 03.0 +1.2
UPM			*e*Sn		Sn	02 29 31.4 +1.8
NRCA	**Norcia**	2.23 282	Pg		Pb	02 29 03.2 -2.0
	78nm,0.8s					
NRCA	**Norcia**	2.23 282	Pg		Pb	02 29 03.2 -2.0
	78nm,0.8s					
SIRI	**Monte Sirino -**	2.23 184	Pg		Pb	02 29 03.2 -2.0
	158nm,0.8s					
SIRI	**Monte Sirino -**	2.23 184	Pg		Pb	02 29 03.2 -2.0
	158nm,0.8s					
FDMO	**Fiordimonte**	2.30 287	Pg		Pn	02 29 03.9 +1.2
	85nm,0.7s					
FDMO	**Fiordimonte**	2.30 287	Pg		Pn	02 29 03.9 +1.2
	85nm,0.7s					
DRME	**Dracevica, Mon**	2.31 95	*e*Pn		Pn	02 29 03.9 +1.0
DRME			*e*Sn		Sn	02 29 33.5 +2.0
DRME	**Dracevica, Mon**	2.31 95	*e*Pn		Pn	02 29 03.9 +1.0
DRME			*e*Sn		Sn	02 29 33.5 +2.0
NVLJ	**Novalja**	2.33 338	*i* Pn		Pn	02 29 04.2 +1.2
NVLJ			Sn		Sb	02 29 33.7 -1.8
CING	**Cingoli**	2.33 295	Pg		Pn	02 29 04.1 +0.9
	131nm,1.0s					
CING	**Cingoli**	2.33 295	Pg		Pn	02 29 04.1 +0.9
	131nm,1.0s					
PDG	**Podgorica**	2.35 89	*e*Pn		Pn	02 29 04.5 +1.1
PDG	**Podgorica**	2.35 89	*e*Pn		Pn	02 29 04.5 +1.1
PDG			*e*Sn		Sn	02 29 34.6 +2.2
TTG	**Podgorica**	2.35 89	⇓*i*Pn		Pn	02 29 04.4 +1.1
TTG			*e*Sn		Sn	02 29 34.6 +2.2
CERT	**Cerreto**	2.35 260	Pg		Pb	02 29 05.8 -1.4
	76nm,0.7s					
CERT	**Cerreto**	2.35 260	Pg		Pb	02 29 05.8 -1.4
	76nm,0.7s					
ULC	**Ulcinj**	2.39 100	⇑*i*Pn		Pn	02 29 04.3 +0.3
ULC			*e*Sn		Sn	02 29 35.3 +1.7
ULC	**Ulcinj**	2.39 100	⇑*i*Pn		Pn	02 29 04.3 +0.3
ULC			*e*Sn		Sn	02 29 35.3 +1.7
CUC	**Castrocucco**	2.43 185	Pg		Pn	02 29 05.4 +0.9
	102nm,0.6s					
CUC	**Castrocucco**	2.43 185	Pg		Pn	02 29 05.4 +0.9
	102nm,0.6s					
BLY	**Banja Luka**	2.47 18	*e*Pn		Pb	02 29 07.6 -1.5
BLY			*e*Sg		Sg	02 29 45.0 +1.3
BLY	**Banja Luka**	2.47 18	*e*Pn		Pb	02 29 07.6 -1.5
BLY			*e*Sg		Sg	02 29 45.0 +1.3
PLE	**Pljevlja**	2.59 68	⇓*i*Pn		Pn	02 29 07.3 +0.4
PLE			*e*Sn		Sn	02 29 40.6 +1.8
PLE	**Pljevlja**	2.59 68	⇓*i*Pn		Pn	02 29 07.3 +0.4
PLE			*e*Sn		Sn	02 29 40.6 +1.8
BBLS	**Lazići**	2.83 58	*e*Pn		Pn	02 29 11.5 +1.4
BBLS			*e*Sg		Sg	02 29 55.8 +0.4
BBLS	**Lazići**	2.83 58	*e*Pn		Pn	02 29 11.5 +1.4
BBLS			*e*Sg		Sg	02 29 55.8 +0.4
BEY	**Berane**	2.85 79	*e*Pn		Pn	02 29 11.4 +1.0
BEY			*e*Sn		Sn	02 29 46.0 +1.1
IVA	**Berane**	2.85 79	*e*Pn		Pn	02 29 11.4 +1.0
IVA			*e*Sn		Sn	02 29 46.0 +1.1
PUK	**Puka**	2.85 96	*e*PN		Pn	02 29 11.9 +1.5
PUK			*e*SN		Sn	02 29 46.2 +1.2
PUK	**Puka**	2.85 96	*e*Pn		Pn	02 29 11.9 +1.5
PUK			*e*Sn		Sn	02 29 46.2 +1.2
PVY	**Plav**	2.87 85	⇓*i*Pn		Pn	02 29 11.9 +1.2
PVY			*e*Sn		Sn	02 29 47.2 +1.7
BCI	**Bajram Curri**	2.95 90	*e*PN		Pn	02 29 13.7 +2.0
BCI			*e*SN		Sn	02 29 48.0 +0.6
BCI	**Bajram Curri**	2.95 90	*e*Pn		Pn	02 29 13.7 +2.0
BCI			*e*Sn		Sn	02 29 48.0 +0.6
SJES	**Sjenica**	2.98 72	*e*Pn		Pn	02 29 14.9 +2.7
SJES			*e*Sg		Sg	02 29 59.5 -0.7
TIR	**Tirane**	3.02 109	*e*PN		Pn	02 29 13.3 +0.7
TIR			*e*SN		Sn	02 29 46.5 -2.5
TIR	**Tirane**	3.02 109	*e*Pn		Pn	02 29 13.5 +0.9
TIR	**Tirane**	3.02 109	*e*Pn		Pn	02 29 13.5 +0.9
TIR			*e*Sn		Sn	02 29 46.5 -2.5
SISC	**Sisak**	3.06 4	Sn		Sn	02 29 51.7 +1.6
BOJS	**Bojanci**	3.15 349	*i* Pn		Pn	02 29 15.7 +1.3
BOJS	comp=Z,65nm,0.5s					
BOJS	**Bojanci**	3.15 349	Pn		Pn	02 29 15.7 +1.3
	comp=Z,65nm,0.5s					
IVAS	**Ivanjica**	3.20 67	*e*Pn		Pn	02 29 16.9 +1.7
IVAS	**Ivanjica**	3.20 67	*e*Pn		Pn	02 29 16.9 +1.7
TEKS	**Tekeris**	3.29 48	*e*Sn		Sn	02 29 59.7 +3.9
TEKS	**Tekeris**	3.29 48	*e*Sn		Sn	02 29 59.7 +3.9
DIVS	**Divibare**	3.31 58	*e*Pn		Pn	02 29 17.4 +0.6
DIVS			*e*Sn		Sn	02 29 58.1 +1.7
DIVS	**Divibare**	3.31 58	*e*Pn		Pn	02 29 17.4 +0.6
DIVS			*e*Sn		Sn	02 29 58.1 +1.7
PHP	**Peshkopia**	3.32 101	*e*PN		Pn	02 29 18.8 +1.9
PHP			*e*SN		Sn	02 29 56.9 +0.3
PHP	**Peshkopia**	3.32 101	*e*Pn		Pn	02 29 18.8 +1.9
PHP			*e*Sn		Sn	02 29 56.9 +0.3
SKDS	**Skadanscina**	3.47 335	*i* Pn		Pn	02 29 19.9 +1.0
SKDS	**Skadanscina**	3.47 335	*i* Pn		Pn	02 29 19.9 +1.0
VISS	**Visnje**	3.51 346	*i* Pn		Pn	02 29 20.9 +1.6
VISS			*i* Sn		Sn	02 30 02.6 +1.5
VISS	**Visnje**	3.51 346	*i* Pn		Pn	02 29 20.9 +1.6
VISS			*i* Sn		Sn	02 30 02.6 +1.5
TRUS	**Trudelj**	3.63 59	*e*Pn		Pn	02 29 22.2 +1.1
TRUS	**Trudelj**	3.63 59	*e*Pn		Pn	02 29 22.2 +1.1
GRUS	**Gruza**	3.69 65	*e*Pn		Pn	02 29 22.4 +0.5
GRUS	**Gruza**	3.69 65	*e*Pn		Pn	02 29 22.4 +0.5
SELS	**Selova**	3.79 76	*e*Pn		Pn	02 29 24.3 +1.0
SELS	**Selova**	3.79 76	*e*Pn		Pn	02 29 24.3 +1.0
SRN	**Sarande**	3.89 129	*e*PN		Pn	02 29 25.1 +0.5
SRN			*e*SN		Sn	02 30 08.4 -2.1
SRN	**Sarande**	3.89 129	*e*Pn		Pn	02 29 25.1 +0.5
SRN			*e*Sn		Sn	02 30 08.4 -2.1
VOY	**Vojsko**	3.95 337	*e*Pn		Pn	02 29 26.3 +0.8
VOY			*e*(Sn)		Sn	02 30 08.2 -3.8
VOY			*e*			02 30 12.2
VOY	**Vojsko**	3.95 337	*e*Pn		Pn	02 29 26.3 +0.8
BIA	**Bitola**	4.16 108	*i* Pn		Pn	02 29 29.9 +1.5
BIA	**Bitola**	4.16 108	*i* Pn		Pn	02 29 29.4 +1.0
OBKA	**Obir**	4.24 345	⇑*i*Pn		Pn	02 29 30.8 +1.3
	SNR=12					
OBKA			⇓*i*Sn		Sn	02 30 20.5 +1.2
OBKA	**Obir**	4.24 345	Pn		Pn	02 29 30.8 +1.3
	SNR=12					
OBKA			Sn		Sn	02 30 20.5 +1.2
BARS	**Barje**	4.25 83	*e*Pn		Pn	02 29 30.7 +1.2
BARS			*e*Sn		Sn	02 30 19.9 +0.5
SOKA	**Soboth**	4.33 350	⇓*i*Pn		Pn	02 29 32.1 +1.4
	SNR=11					
SOKA			⇓*i*Sn		Sn	02 30 25.5 +4.0
SOKA	**Soboth**	4.33 350	Pn		Pn	02 29 32.1 +1.4
	SNR=11					
SOKA			Sn		Sn	02 30 21.4 -0.1
MYKA	**Terra Mystica**	4.56 338	⇑*i*Pn		Pn	02 29 35.0 +1.1
MYKA	**Terra Mystica**	4.56 338	Pn		Pn	02 29 35.0 +1.1
ARSA	**Arzberg**	4.85 355	⇓*i*Pn		Pn	02 29 39.0 +1.1
ARSA	**Arzberg**	4.85 355	*e*Pn		Pn	02 29 39.9 +2.0
ARSA	**Arzberg**	4.85 355	*e*Pn		Pn	02 29 39.9 +2.0
ZAPS	**Zavoj**	4.89 78	*e*Pn		Pn	02 29 40.7 +2.3
ZAPS			*e*Sn		Sn	02 30 36.1 +0.8
VAY	**Valandovo**	4.96 101	*i* Pn		Pn	02 29 39.6 +0.3
VAY	**Valandovo**	4.96 101	*i* Pn		Pn	02 29 39.1 -0.2
ABTA	**Abfaltersbach**	5.03 331	⇑*i*Pn		Pn	02 29 41.3 +0.9
ABTA			⇓*i*Sn		Sn	02 30 39.1 +0.4
ABTA	**Abfaltersbach**	5.03 331	Pn		Pn	02 29 41.3 +0.9
ABTA			Sn		Sn	02 30 39.1 +0.4
KBA	**Koelnbreinsper**	5.06 338	⇑*i*Pn		Pn	02 29 41.0 +0.2
	SNR=8.0					
KBA			⇓*i*Sn		Sn	02 30 42.7 +3.2
KBA	**Koelnbreinsper**	5.06 338	Pn		Pn	02 29 41.0 +0.2
	SNR=8.0					
KBA			Sn		Sn	02 30 35.4 -4.1
BZS	**Buzias**	5.12 49	⇑*i*P		Pn	02 29 45.5 +4.1
BZS	**Buzias**	5.12 49	⇑*i*P		Pn	02 29 45.5 +4.1
PGF	**Pioggiola**	5.24 274	*e*Pn		Pn	02 29 42.6 -0.7
PGF	**Pioggiola**	5.24 274	*e*Pn		Pn	02 29 42.6 -0.7
VTS	**Vitosha**	5.27 86	⇑*i*P		Pn	02 29 47.5 +3.8
VTS	**Vitosha**	5.27 86	*e*Pn		Pn	02 29 46.4 +2.7
VTS	**Vitosha**	5.27 86	*e*Pn		Pn	02 29 46.4 +2.7
VTS	**Vitosha**	5.27 86	⇑*i*P		Pn	02 29 47.5 +3.8
CONA	**Conrad Observa**	5.52 358	⇓*i*Pn		Pn	02 29 48.4 +1.4
CONA	**Conrad Observa**	5.52 358	Pn		Pn	02 29 48.4 +1.4
MOA	**Molln**	5.59 347	⇑*i*Pn		Pn	02 29 49.6 +1.7
	SNR=9.6					
MOA	**Molln**	5.59 347	Pn		Pn	02 29 49.6 +1.7
	SNR=9.6					
FETA	**Feichten**	5.98 322	⇓*i*Pn		Pn	02 29 54.6 +1.1
FETA			⇓*i*Sn		Sn	02 31 05.6 +3.3
FETA	**Feichten**	5.98 322	Pn		Pn	02 29 54.6 +1.1
DAVOX	**Davos/Dischmat**	6.22 317	Pn		Pn	02 29 58.8 +2.0
	comp=Z,0.5nm,0.3s,baz=144,slow=18,SNR=9.8					
DAVOX			Sn		Sn	02 31 09.2 +1.1
	comp=Z,0.3nm,0.3s,baz=322,slow=19,SNR=2.8					
DAVOX			LR		LR	02 32 51.3
	comp=Z,52nm,20.3s,baz=304,slow=44					
DRGR		6.44 45	⇑*i*P		Pn	02 30 03.6 +3.9
GERES	**GERESS Array B**	6.65 346	Pn		Pn	02 30 03.5 +0.9
	comp=Z,0.4nm,0.3s,baz=168,slow=14,SNR=18					
GERES			Sn		Sn	02 31 15.9 -2.6
	comp=Z,0.7nm,0.3s,baz=160,slow=23,SNR=5.5					
KHC	**Kasperske Hory**	6.94 346	*e*PN		Pn	02 30 07.9 +1.3
KHC			*e*x		x	02 30 21.4
KHC			*e*x		x	02 31 14.0
KHC			*e*SN		Sn	02 31 27.5 +1.7
KHC			*e*x		x	02 31 42.2
FRF	**La Foret Royal**	7.02 283	*e*Pn		Pn	02 30 06.3 -1.3
FRF	**La Foret Royal**	7.02 283	*e*P		Pn	02 30 11.6 +4.0
FRF	**La Foret Royal**	7.02 283	*e*Pn		Pn	02 30 06.3 -1.3
FRF	**La Foret Royal**	7.02 283	*e*P		Pn	02 30 11.6 +4.0
MBDF	**Montbardon**	7.15 292	*e*Pn		Pn	02 30 08.9 -0.6
MBDF			*e*Sn		Sn	02 31 25.7 -5.3
	comp=Z,1.7nm,0.3s					
MBDF	**Montbardon**	7.15 292	*e*Pn		Pn	02 30 08.9 -0.6
MBDF			*e*Sn		Sn	02 31 25.7 -5.3
	comp=Z,0.9nm,0.3s					
LPG	**La Plagne**	7.41 298	*e*Pn		Pn	02 30 12.7 -0.5
LPG			*e*Sn		Sn	02 31 32.0 -5.6
	comp=Z,8.3nm,0.6s					
LPG	**La Plagne**	7.41 298	*e*Pn		Pn	02 30 12.7 -0.5
LPG			*e*Sn		Sn	02 31 32.0 -5.6
	comp=Z,4.2nm,0.6s					
MLR	**Muntele Rosu**	7.75 63	Pn		Pn	02 30 21.7 +3.9
	comp=Z,0.1nm,0.3s,baz=131,slow=16,SNR=2.3					
ORIF	**Oris-en-Rattie**	7.81 292	*e*Pn		Pn	02 30 17.4 -1.2
ORIF	**Oris-en-Rattie**	7.81 292	*e*Pn		Pn	02 30 17.4 -1.2
HINF	**Hinteralfeld**	8.47 313	*e*Pn		Pn	02 30 25.6 -1.9
HINF			*e*Sn		Sn	02 31 56.4 -7.0
	comp=Z,2.9nm,0.3s					
HINF	**Hinteralfeld**	8.47 313	*e*Pn		Pn	02 30 25.6 -1.9
HINF			*e*Sn		Sn	02 31 56.4 -7.0
	comp=Z,1.5nm,0.3s					
KEST	**Kesra**	8.48 220	Pn		Pn	02 30 32.6 +4.8
	comp=Z,0.1nm,0.3s,baz=230,slow=18,SNR=8.2					
CDF	**Champ du Feu**	8.62 317	*e*Pn		Pn	02 30 27.7 -1.9
CDF			*e*Sn		Sn	02 31 59.8 -7.3
	comp=Z,1.3nm,0.4s					
CDF	**Champ du Feu**	8.62 317	*e*Pn		Pn	02 30 27.7 -1.9
CDF			*e*Sn		Sn	02 31 59.8 -7.3
	comp=Z,0.6nm,0.4s					
HAU	**Haudompre**	8.86 312	*e*Pn		Pn	02 30 31.6 -1.2
HAU			*e*Sn		Sn	02 32 05.5 -7.3
	comp=Z,6.7nm,0.5s					
HAU	**Haudompre**	8.86 312	*e*Pn		Pn	02 30 31.6 -1.2
HAU			*e*Sn		Sn	02 32 05.5 -7.3
	comp=Z,3.3nm,0.5s					
FINES	**FINESS Array B**	19.99 14	P		P	02 32 56.7 -0.5
	comp=Z,0.2nm,0.3s,baz=188,slow=9.4,SNR=7.0					
MKAR	**Makanchi Array**	46.09 61	P		P	02 36 49.5 +0.6
	comp=Z,0.3nm,0.6s,baz=280,slow=9.8,SNR=3.2					

IDC 24 02:40:02.6±1.6, 53°21S×144°04E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.8/14, mbtmp3.7/4, MS3.8/1, Ms1 3.7/1, ms1mx2.9/21, Error ellipse: s-maj=148.7km s-min=23.4km az=80.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	21.39	354	P	P	02 44 53.0	+1.3
	2.9nm,0.9s,baz=156,slow=12,SNR=2.2						
VNDA	**Vanda**	25.27	171	P	P	02 45 29.5	-0.4
	1.4nm,1.0s,baz=318,slow=8.2,SNR=6.0						
ASAR	**Alice Springs**	30.48	341	P	P	02 46 16.4	-0.8
	0.7nm,0.7s,baz=166,slow=10,SNR=6.7						
WRA	**Warramunga Arr**	34.04	344	P	P	02 46 47.4	-1.0
	0.9nm,0.9s,baz=170,slow=7.8,SNR=6.0						
MAW	**Mawson**	39.35	217	LR	LR	03 01 34.6	
	comp=Z,110nm,18.1s,baz=281,slow=33						
GERES	**GERESS Array B**	148.98	282	PKPbc	PKPbc	02 59 52.2	+0.6
	0.5nm,0.7s,baz=127,slow=2.9,SNR=5.3						

IDC 24 02:40:36.1±8.0, 18°54S×177°50W, h446km±88km, mb2.9/4, mb1 3.2/5, mb1mx3.0/20, mbtmp2.9/5, Error ellipse: s-maj=119.8km s-min=35.4km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	15.47	254	P	P	02 43 52.8	+0.3
	0.2nm,0.3s,baz=52,slow=19,SNR=3.1						
WRA	**Warramunga Arr**	45.37	260	P	P	02 48 12.8	-0.7
	0.6nm,0.9s,baz=96,slow=8.4,SNR=6.3						
ASAR	**Alice Springs**	45.46	255	P	P	02 48 14.2	+0.1
	1.0nm,0.5s,baz=90,slow=8.7,SNR=20						
TXAR	**Lajitas Array**	85.61	57	P	P	02 52 26.7	-0.1
	0.5nm,0.9s,baz=238,slow=5.2,SNR=4.3						
ILAR	**Eielson Array**	86.31	13	P	P	02 52 29.1	0.0
	0.2nm,0.4s,baz=218,slow=5.7,SNR=6.2						

IDC 24 02:42:46.2±1.4, 16°07S×178°40E, h0km, mb4.0/7, mb1 4.4/7, mb1mx4.1/18, mbtmp4.0/7, MS3.8/9, Ms1 3.8/9, ms1mx3.5/26, Error ellipse: s-maj=95.7km s-min=20.5km az=148.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	9.73	79	LR	LR	02 48 08.3	
	comp=Z,418nm,21.2s,baz=250,slow=33						
DZM	**Mont Dzumac**	12.78	240	*e*LR	LR	02 48 52.8	
	443nm,24.9s						
DZM	**Mont Dzumac**	12.78	240	LR	LR	02 50 00.9	
	comp=Z,310nm,18.2s,baz=22,slow=34						
RAO	**Raoul Island**	13.55	166	LR	LR	02 50 33.7	
	comp=Z,246nm,18.2s,baz=271,slow=34						
HNR	**Honiara**	19.16	288	LR	LR	02 53 30.1	
	comp=Z,364nm,18.3s,baz=104,slow=34						
RAR	**Rarotonga**	21.30	107	LR	LR	02 53 56.6	
	comp=Z,214nm,19.9s,baz=225,slow=32						
PPT2	**Papeete2**	30.67	97	*e*LR	LR	02 57 08.0	
	427nm,30.0s						
PPT	**Papeete**	30.67	97	LR	LR	02 57 36.4	
	comp=Z,178nm,21.0s,baz=182,slow=29						
TBI	**Tubuai**	31.06	109	*e*LR	LR	02 57 24.2	
	513nm,29.0s						
STKA	**Stephens Creek**	36.92	238	P	P	02 49 57.6	+0.7
	7.5nm,1.0s,baz=56,slow=6.3,SNR=4.7						
STKA				LR	LR	03 02 55.1	
	comp=Z,170nm,18.1s,baz=33,slow=33						
WRA	**Warramunga Arr**	41.99	258	P	P	02 50 40.5	+1.0
	0.7nm,0.8s,baz=91,slow=8.3,SNR=3.1						
ASAR	**Alice Springs**	42.39	252	P	P	02 50 41.6	-1.1
	2.1nm,0.8s,baz=80,slow=8.8,SNR=13						
ASAR				LR	LR	03 05 52.8	
	comp=Z,188nm,21.6s,baz=96,slow=33						
VNDA	**Vanda**	62.03	184	P	P	02 53 10.2	+2.2
	0.5nm,0.7s,baz=3.7,slow=7.8,SNR=4.1						
KSRS	**Korea Array**	71.32	320	LR	LR	03 19 51.3	
	comp=Z,50nm,20.5s,baz=155,slow=31						
NVAR	**Mina Array Bea**	80.27	45	P	P

s-maj=2.4km s-min=1.8km az=318.0

ISC 24 02:57:33.5±1.2, 17°.8S±0°.4×178°.4W±0°.2, h579km, n21, σ0963/17, mb3.9/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.88**	**251**	P	P	03 00 37.4	-3.9
	0.2nm,0.3s,baz=105,slow=16,SNR=2.9						
EIDS	**Eidsvold**	**29.33**	**250**	P	**P**	**03 02 50.4**	**-0.2**
	baz=26,SNR=3.9						
ARMA	**Armidale**	**30.02**	**240**	S	S	03 06 49.4	-26
	baz=27,SNR=5.3						
RMQ	**Roma**	**31.57**	**248**	P	**P**	**03 03 10.0**	**+0.2**
	baz=28,SNR=6.5						
PATS	**Pohnpei**	**33.58**	**315**	P	P	03 03 35.2	+8.2
	baz=32,SNR=3.2						
QLP	**Quilpie**	**35.59**	**249**	P	**P**	**03 03 43.1**	**-0.5**
	baz=32,SNR=3.3						
MANU	**Manus Island**	**37.07**	**291**	P	P	03 04 05.4	+10
	baz=34,SNR=3.3						
COEN	**Coen**	**37.12**	**270**	P	**P**	**03 03 56.9**	**+0.6**
	baz=34,SNR=6.7						
STKA	**Stephens Creek**	**38.71**	**241**	P	**P**	**03 04 08.7**	**-0.3**
	3.1nm,0.5s,baz=91,slow=9.6,SNR=12						
STKA	**Stephens Creek**	**38.71**	**241**	P	**P**	**03 04 09.0**	**+0.1**
	baz=36,SNR=9.6						
BBOO	**Buckleboo**	**43.48**	**241**	P	**P**	**03 04 46.4**	**-0.3**
	baz=40,SNR=11						
WRA	**Warramunga Arr**	**44.67**	**259**	P	**P**	**03 04 55.2**	**-0.9**
	3.5nm,0.5s,baz=94,slow=6.7,SNR=110						
ASAR	**Alice Springs**	**44.84**	**254**	P	**P**	**03 04 57.2**	**-0.1**
	24nm,0.5s,baz=88,slow=8.2,SNR=455						
KDU	**Kakadu**	**47.58**	**269**	P	**P**	**03 05 18.2**	**+0.2**
	baz=44,SNR=3.2						
FITZ	**Fitzroy Crossi**	**53.06**	**260**	P	**P**	**03 05 58.6**	**+0.7**
	baz=50,SNR=5.1						
ILAR	**Eielson Array**	**85.76**	**13**	P	**P**	**03 09 10.4**	**-1.2**
	0.2nm,0.4s,baz=224,slow=5.3,SNR=5.8						
TXAR	**Lajitas Array**	**85.91**	**58**	P	**P**	**03 09 13.9**	**+0.6**
	0.9nm,0.7s,baz=224,slow=5.0,SNR=9.8						
PDAR	**Pinedale Array**	**87.25**	**43**	P	**P**	**03 09 19.4**	**-0.2**
	0.4nm,0.7s,baz=225,slow=1.5,SNR=4.7						
BRTR	**Keskin Array B**	**144.70**	**315**	PKP	**PKPab**	**03 16 07.2**	**+0.7**
	0.4nm,0.4s,baz=105,slow=3.3,SNR=4.1						
GERES	**GERESS Array B**	**147.49**	**345**	PKPbc	**PKPbc**	**03 16 14.2**	**+1.0**
	0.2nm,0.4s,baz=354,slow=3.0,SNR=4.3						
TORD	**Torodi Ar. Bea**	**175.39**	**181**	PKP	**PKPdf**	**03 16 38.4**	**-0.1**
	0.4nm,0.9s,baz=180,slow=0.9,SNR=2.9						

DJA 24 03:09:27.2±1.0, 8°S±7°×10°7E±°, h11km±8km, M3.6/7, MLv3.6/7, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.75**	**47**	P	Pg	03 09 41.1	-0.7
CISI				S	Sg	03 09 51.3	-0.4
SKJI	**Sukabumi**	**1.27**	**327**	P	Pn	03 09 49.3	-1.6
LEM	**Lembang**	**1.28**	**16**	P	Pn	03 09 50.0	-1.3
LEM				S	Sn	03 10 08.6	-0.1
DBJI	**Dramaga**	**1.59**	**341**	P	Pn	03 09 54.6	-0.7
KPJI	**Karang Pucung**	**1.81**	**66**	P	Pn	03 09 57.2	-1.1
TNG	**Tangerang**	**1.98**	**342**	P	Pn	03 10 00.4	-0.3
TGJI	**Tegal**	**2.20**	**57**	P	Pn	03 09 57.4	-6.3

*IDC **24** 03:19:39.8±0.6, 8°.01S×123°.19E, h0km, mb4.2/14, mb1 4.3/17, mb1mx4.2/27, mbtmp4.3/17, ML3.9/3, MS3.5/8, Ms1 3.5/8, ms1mx3.3/27, Error ellipse: s-maj=30.8km s-min=12.4km az=58.0*

*ISCJB **24** 03:19:39.3±1.1, 8°.08S±0°.03×123°.29E±0°.03, h9km±7km, mb4.5/28, MS3.7/10, Error ellipse: s-maj=6.4km s-min=4.0km az=145.7*

*BJI **24** 03:19:39.8, 8°.10S×123°.20E, h10km, mB5.0/19, mb4.7/27, Ms4.6/12, Ms7 4.1/10*

*NEIC **24** 03:19:41.6±2.4, 8°.02S×123°.24E, h10km±2km, mb4.8/11, Error ellipse: s-maj=13.9km s-min=10.7km az=155.0*

DJA 24 03:19:44.7±0.4, 8°S±3°×12°3E±°, h61km±13km, M4.6/10, mb4.6/4, mB5.0/4, MLv4.6/10, Mw(mB)4.4/4

*AUST **24** 03:19:46.9±0.0, 8°.01S×123°.22E, h84km, Error ellipse: s-maj=1.2km s-min=0.7km az=232.0*

ISC 24 03:19:42.8±0.4, 8°.13S±0°.03×123°.26E±0°.04, h17km±2km, n90, σ1982/134, mb4.5/29, MS3.8/11, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**1.13**	**243**	*e*Pb	**Pn**	**03 20 03.6**	**-0.2**
MMRI	**Maumere**	**1.13**	**243**	P	**Pn**	**03 20 03.5**	**-0.4**
MMRI				S	**Sg**	**03 20 21.0**	**+1.6**
SOEI	**Soe**	**1.90**	**148**	P	**Pb**	**03 20 16.5**	**-0.6**
SOEI				S	**Sb**	**03 20 41.3**	**+0.7**
SOEI	**Soe**	**1.90**	**148**	P	**Pb**	**03 20 16.7**	**-0.5**
	baz=2.0,SNR=193						
SOEI				S	**Sg**	**03 20 49.9**	**+5.8**
	baz=2.0,SNR=4.6						
BBSI	**Bau Bau**	**2.71**	**345**	P	**Pn**	**03 20 24.2**	**-1.5**
BBSI				S	**Sn**	**03 20 55.3**	**-2.9**
WSI	**Waingapu**	**3.30**	**242**	P	**Pn**	**03 20 33.8**	**0.0**
WSI				S	**Sn**	**03 21 11.5**	**-1.1**
LBFI	**Labuhan Bajo,**	**3.35**	**264**	P	**Pn**	**03 20 34.2**	**-0.3**
LBFI				S	**Sn**	**03 21 13.8**	**-0.1**
BKSI	**Bulukumba**	**4.18**	**312**	P	**Pn**	**03 20 44.2**	**-1.7**
KKSI	**Kolaka, Sulawe**	**4.24**	**338**	P	**Pn**	**03 20 45.2**	**-1.6**
KAPI	**Kappang**	**4.66**	**311**	*e*Pn	**Pn**	**03 20 50.9**	**-1.6**
KAPI				*e*Sn	**Sn**	**03 21 48.8**	**+2.6**
KAPI	**Kappang**	**4.66**	**311**	P	**Pn**	**03 20 50.2**	**-2.3**
KAPI	**Kappang**	**4.66**	**311**	**Pn**	**Pn**	**03 20 50.4**	**-2.1**
	2.8nm,0.3s,baz=174,slow=9.3,SNR=8.5						
KAPI				Sn	**Sn**	**03 21 48.8**	**+2.6**
	3.4nm,0.3s,baz=138,slow=19,SNR=3.7						
KAPI				LR	LR	03 22 46.7	
	comp=Z,1μm,19.8s,baz=26,slow=41						
BNSI	**Bone**	**4.85**	**320**	P	**Pn**	**03 20 53.9**	**-1.2**
BNSI				S	**Sn**	**03 21 48.3**	**-2.7**
SPSI	**Sidrap Palu**	**5.40**	**320**	P	**Pn**	**03 21 01.3**	**-1.4**
	40nm,1.2s,894nm0.3nm						
SPSI				S	**Sn**	**03 22 01.5**	**-3.0**
	40nm,1.2s,894nm0.3nm						
LUWI	**Luwuk**	**7.06**	**356**	P	**Pn**	**03 21 23.8**	**-1.7**
	110nm,0.8s,1μm						
LUWI	**Luwuk**	**7.06**	**356**	P	**Pn**	**03 21 26.6**	**+1.1**
	baz=7.0,SNR=3.2						
APSI	**Ampana**	**7.35**	**347**	P	**Pn**	**03 21 27.4**	**-2.1**
	166nm,0.9s,2μm						
MRSI	**Marisa**	**8.65**	**351**	P	**Pn**	**03 21 46.0**	**-1.3**
KNRA	**Kununurra**	**9.23**	**145**	P	**Pn**	**03 21 55.4**	**0.0**
	baz=9.4,SNR=17						
KNRA				S	**Sn**	**03 23 40.1**	**+1.2**
	baz=9.4,SNR=5.2						
KDU	**Kakadu**	**10.13**	**117**	P	**Pn**	**03 22 07.8**	**+0.1**
	baz=10,SNR=6.7						
FITZ	**Fitzroy Crossi**	**10.18**	**167**	Pn	**Pn**	**03 22 07.8**	**-0.5**
	1.4nm,0.3s,baz=1.2,slow=11,SNR=31						
FITZ				Sn	**Sn**	**03 23 58.6**	**-3.5**
	1.4nm,0.3s,baz=153,slow=9.3,SNR=13						
FITZ				LR	LR	03 26 10.7	
	comp=Z,20nm,18.4s,baz=326,slow=38						
WRA	**Warramunga Arr**	**15.91**	**139**	*e*Pn	**Pn**	**03 23 22.7**	**-3.4**
WRA				*e*Sn	Sn	03 26 12.8	-9.5
WRA	**Warramunga Arr**	**15.91**	**139**	Pn	**Pn**	**03 23 22.7**	**-3.4**
	0.4nm,0.3s,baz=322,slow=13,SNR=25						
WRA				Sn	Sn	03 26 12.8	-9.5
	0.4nm,0.3s,baz=315,slow=25,SNR=9.4						
WRA				LR	LR	03 30 26.2	
	comp=Z,160nm,18.4s,baz=260,slow=40						
WRAB	**Tennant Creek**	**15.91**	**139**	*e*Pn	**Pn**	**03 23 23.1**	**-3.0**
	19nm,0.9s						
MMPI	**Merauke**	**16.95**	**92**	P	**Pn**	**03 23 38.0**	**-1.4**
	baz=17,SNR=3.2						
AS12	**Alice Springs**	**18.52**	**148**	*e*P	**P**	**03 23 58.0**	**-0.6**
AS12				*e*Sn	**Sn**	**03 27 18.6**	**-6.8**
ASAR	**Alice Springs**	**18.52**	**148**	P	**P**	**03 23 58.0**	**-0.6**
	0.4nm,0.3s,baz=320,slow=12,SNR=44						
ASAR				S	**Sn**	**03 27 18.6**	**-6.8**
	0.2nm,0.3s,baz=314,slow=20,SNR=9.4						
ASAR				LR	LR	03 32 29.8	
	comp=Z,50nm,18.3s,baz=295,slow=41						
AS01	**Alice Springs**	**18.54**	**148**	*e*P	**Pn**	**03 23 59.6**	**+0.6**
MEEK	**Meekatharra**	**18.93**	**193**	P	Pn	03 24 09.9	+6.2
	baz=19,SNR=4.2						
COEN	**Coen**	**20.38**	**108**	*e*P	**P**	**03 24 19.5**	**+0.5**
	161nm,0.9s						
COEN	**Coen**	**20.38**	**108**	P	**P**	**03 24 19.3**	**+0.3**
	baz=20,SNR=12						
MORW	**Morawa**	**21.91**	**197**	P	**P**	**03 24 35.6**	**+0.3**
	baz=22,SNR=4.2						
BLDU	**Ballidu**	**23.19**	**194**	P	**P**	**03 24 48.9**	**-0.1**
	baz=23,SNR=6.3						
PMG	**Port Moresby**	**23.66**	**95**	*e*P	**P**	**03 24 54.5**	**+0.8**
PMG	**Port Moresby**	**23.66**	**95**	P	**P**	**03 24 54.5**	**+0.8**
	5.1nm,0.6s,baz=270,slow=5.1,SNR=3.7						
CTA	**Charters Tower**	**25.23**	**121**	*e*P	**P**	**03 25 09.1**	**+0.9**
CTA	**Charters Tower**	**25.23**	**121**	P	**P**	**03 25 09.1**	**+0.9**
	12nm,1.0s,baz=296,slow=14,SNR=6.5						
CTAO	**Charters Tower**	**25.23**	**121**	*e*P	**P**	**03 25 10.2**	**+2.1**
	20nm,1.1s						
KULM	**Kulim**	**26.20**	**300**	*e*P	**P**	**03 25 15.3**	**-1.7**
	23nm,1.3s						
PSI	**Prapat**	**26.59**	**293**	LR	LR	03 36 07.0	
	comp=Z,125nm,19.6s,baz=105,slow=37						
QLP	**Quilpie**	**27.08**	**135**	P	**P**	**03 25 24.7**	**-0.1**
	baz=27,SNR=3.6						
BBOO	**Buckleboo**	**27.28**	**156**	P	**P**	**03 25 27.9**	**+1.4**
	baz=28,SNR=5.1						
STKA	**Stephens Creek**	**29.14**	**147**	*e*P	**P**	**03 25 43.9**	**+0.7**
STKA	**Stephens Creek**	**29.14**	**147**	P	**P**	**03 25 43.9**	**+0.7**
	4.1nm,0.8s,baz=312,slow=10.0,SNR=6.4						
STKA	**Stephens Creek**	**29.14**	**147**	P	**P**	**03 25 44.6**	**+1.4**
	baz=29,SNR=5.2						
QIZ	**Qiongzhong**	**30.05**	**334**	P	**P**	**03 25 51.3**	**0.0**
QIZ				S	**S**	**03 30 50.8**	**+1.7**
QIZ				pmax	pmax		
	comp=Z,27nm,2.0s						
QIZ				LR	LR		
	comp=Z,290nm,23.6s						
CM31	**Chiang Mai Arr**	**35.69**	**318**	*e*P	**P**	**03 26 40.8**	**+0.2**
CMAR	**Chiang Mai Arr**	**35.69**	**318**	P	**P**	**03 26 40.8**	**+0.2**
	comp=Z,1.1nm,0.4s,baz=139,slow=8.3,SNR=6.5						
CMAR				LR	LR	03 41 27.6	
	comp=Z,117nm,19.7s,baz=17,slow=37						
GYA	**Guiyang**	**37.97**	**335**	*e*P	**P**	**03 27 01.3**	**+1.2**
GYA				PP	**PnPn**	**03 28 31.0**	**+2.6**
GYA				S	**S**	**03 32 52.3**	**+0.7**
GYA				ScP	**ScP**	**03 33 03.6**	**+0.7**
GYA				ScS	**ScS**	**03 37 11.0**	**-1.3**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,110nm,4.9s						
GYA				LR	LR		
	comp=N,580nm,18.3s						
GYA				LR	LR		
	comp=E,460nm,19.0s						
GYA				LR	LR		
	comp=Z,590nm,18.5s						
KMI	**Kunming**	**38.63**	**329**	P	**P**	**03 27 07.8**	**+2.1**
KMI				pmax	pmax		
	comp=Z,15nm,0.8s						
WHN	**Wuhan**	**39.39**	**348**	P	**P**	03 27 16.4	+4.6
NJ2	**Nanjing**	**40.18**	**354**	*e*P	**P**	**03 27 19.6**	**+1.3**
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
CD2	**Chengdu**	**43.09**	**335**	P	**P**	**03 27 44.3**	**+2.1**
CD2				pP	**pP**	**03 27 48.8**	**+1.2**
CD2				sP	**sP**	**03 27 51.3**	**+1.6**
CD2				PP	**PP**	**03 29 26.9**	**+4.4**
CD2				S	**S**	**03 34 10.3**	**+2.6**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CD2				pmax	pmax		
	comp=Z,90nm,3.5s						
CD2				LR	LR		
	comp=N,180nm,8.3s						
CD2				LR	LR		
	comp=Z,170nm,8.9s						
KSRS	**Korea Array**	**45.55**	**5**	LR	LR	03 48 26.8	
	comp=Z,15nm,18.2s,baz=200,slow=38						
LZH	**Lanzhou**	**47.62**	**339**	*e*P	**P**	**03 28 19.8**	**+1.5**
LZH				pP	**pP**	**03 28 22.5**	**-1.2**
LZH				sP	**sP**	**03 28 25.3**	**-0.5**
LZH				pmax	pmax		
	comp=Z,13nm,1.0s						
HHC	**Hu-ho-hao-te**	**49.91**	**348**	*e*P	**P**	**03 28 36.0**	**+0.2**
HHC				pP	**pP**	**03 28 40.8**	**-0.3**
HHC				sP	**sP**	**03 28 42.3**	**-0.9**
HHC				PP	**PP**	**03 30 32.5**	**+1.7**
HHC				PcS	**PcS**	**03 33 53.6**	**+0.7**
HHC				S	**S**	**03 35 44.9**	**-0.5**
HHC				ScS	**ScS**	**03 38 24.9**	**-1.9**
HHC				pmax	pmax		
	comp=Z,50nm,0.6s						
HHC				pmax	pmax		
	comp=Z,340nm,6.5s						
HHC				LR	LR		
	comp=N,210nm,16.7s						
HHC				LR	LR		
	comp=E,240nm,15.5s						
HHC				LR	LR		
	comp=Z,98nm,14.3s						
GTA	**Gaotai**	**52.06**	**337**	*e*P	**P**	**03 28 52.9**	**+0.9**
GTA				pP	**pP**	**03 28 57.4**	**0.0**
GTA				sP	**sP**	**03 29 00.0**	**+0.6**
GTA				S	**S**	**03 36 15.6**	**+0.4**
GTA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,55nm,9.0s						
GTA				LR	LR		
	comp=N,120nm,20.4s						
GTA				LR	LR		
	comp=E,190nm,22.8s						
GTA				LR	LR		
	comp=Z,80nm,21.4s						
USRK	**Ussuriysk Arra**	**52.68**	**8**	P	**P**	**03 28 55.5**	**-0.7**
	comp=Z,1.7nm,0.6s,baz=189,slow=7.6,SNR=5.3						
MDJ	**Mudanjiang**	**52.81**	**6**	P	**P**	**03 28 57.6**	**+0.3**
MDJ				pP	**pP**	**03 29 00.8**	**-1.9**
MDJ				sP	**sP**	**03 29 01.9**	**-2.9**
MDJ				ScP	**ScP**	**03 34 04.1**	**+0.7**
MDJ				PcS	**PcS**	**03 34 05.3**	**+0.3**
MDJ				S	**S**	**03 36 27.3**	**+2.3**
MDJ				ScS	**ScS**	**03 38 47.5**	**+1.2**
MDJ				pmax	pmax		
	comp=Z,9.0nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,30nm,4.0s						
MDJ				LR	LR		
	comp=N,30nm,27.5s						
MDJ				LR	LR		
	comp=E,34nm,25.3s						
SONA0	**Songino Array**	**57.69**	**347**	*e*P	**P**	**03 29 29.8**	**-2.7**
SONM	**Songino Array**	**57.69**	**347**	P	**P**	**03 29 29.8**	**-2.7**
	comp=E,3.9nm,1.1s,baz=166,slow=8.0,SNR=16						
SONA1	**Songino Array**	**57.70**	**347**	*e*P	**P**	**03 29 31.7**	**-0.9**
WMQ	**Urumqi**	**60.92**	**331**	*e*P	**P**	**03 29 56.0**	**+1.1**
WMQ				pP	**pP**	**03 30 01.0**	**+0.6**
WMQ				sP	**sP**	**03 30 03.0**	**+0.5**
WMQ				PcP	**PcP**	**03 30 39.5**	**+1.1**
WMQ				pmax	pmax		
	comp=Z,8.0nm,1.0s						
WMQ				pmax	pmax		
	comp=Z,70nm,4.0s						
WMQ				LR	LR		
	comp=E,100nm,28.0s						
KSH	**Kashi**	**64.50**	**321**	P	**P**	**03 30 19.1**	**+0.1**
KSH				pP	**pP**	**03 30 23.8**	**-0.7**
KSH				PP	**PP**	**03 32 42.3**	**+1.2**
KSH				PcS		03 34 56.1	
KSH				S	**S**	**03 38 55.0**	**-2.7**
KSH				ScS	**SKSac**	**03 40 08.9**	**-4.0**
KSH				pmax	pmax		
	comp=Z,81nm,4.9s						
KSH				LR	LR		
	comp=N,74nm,7.3s						
KSH				LR	LR		
	comp=E,120nm,5.3s						
KSH				LR	LR		
	comp=Z,140nm,6.3s						
MK01	**Makanchi Array**	**65.67**	**330**	*e*P	**P**	**03 30 25.3**	**-1.1**
MK32	**Makanchi Array**	**65.70**	**330**	*e*P	**P**	**03 30 25.7**	**-0.8**
MKAR	**Makanchi Array**	**65.70**	**330**	*e*P	**P**	**03 30 26.0**	**-0.5**
MKAR	**Makanchi Array**	**65.70**	**330**	P	**P**	**03 30 25.7**	**-0.8**
	comp=Z,3.0nm,0.8s,baz=130,slow=7.7,SNR=32						
TKM2	**Tokmak 2**	**66.77**	**324**	*e*P	**P**	**03 30 33.4**	**-0.3**
	comp=Z,30nm,2.0s						
AAK	**Ala-Archa**	**67.24**	**323**	*e*P	**P**	**03 30 36.4**	**-0.3**
AAK	**Ala-Archa**	**67.24**	**323**	P	**P**	**03 30 36.1**	**-0.6**
	comp=Z,1.0nm,0.4s,baz=144,slow=7.2,SNR=7.7						
PETK	**Petropavlovsk-**	**67.66**	**22**	P	**P**	**03 30 37.8**	**-1.0**
	comp=Z,1.4nm,0.5s,baz=172,slow=2.9,SNR=3.6						
EKS2	**Erkin-Say**	**67.69**	**323**	*e*P	**P**	**03 30 39.2**	**-0.2**
	comp=Z,11nm,1.4s						
ZAA0	**Zalesovo Array**	**69.81**	**337**	*e*P	**P**	**03 30 50.0**	**-2.2**
ZALV	**Zalesovo Beam**	**69.81**	**337**	P	**P**	**03 30 50.6**	**-1.6**
	comp=Z,1.3nm,0.6s,baz=148,slow=6.5,SNR=8.8						
KURBB	**Kurchatov Arra**	**70.14**	**332**	P	**P**	**03 30 52.9**	**-1.4**
	comp=Z,2.4nm,0.9s,baz=145,slow=5.4,SNR=18						
KURK	**Kurchatov**	**70.16**	**332**	*e*P	**P**	**03 30 53.5**	**-0.9**
MAW	**Mawson**	**71.50**	**201**	LR	LR	03 55 34.4	
	comp=Z,61nm,20.8s,baz=233,slow=30						
VNDA	**Vanda**	**72.21**	**172**	*e*P	**P**	**03 31 06.6**	**0.0**
VNDA	**Vanda**	**72.21**	**172**	P	**P**	**03 31 06.6**	**0.0**
	comp=Z,1.4nm,0.8s,baz=303,slow=7.7,SNR=6.5						
VNDA				LR	LR	04 03 00.2	
	comp=Z,34nm,19.5s,baz=322,slow=36						
VOSK	**Vostochnaya**	**75.11**	**330**	*e*P	**P**	**03 31 22.6**	**-1.3**
	comp=Z,4.2nm,1.0s						
BVAR	**Borovoye Array**	**75.58**	**330**	P	**P**	**03 31 25.4**	**-1.2**
	comp=Z,1.6nm,0.9s,baz=142,slow=4.9,SNR=5.9						
AKTO	**Aktyubinsk**	**80.96**	**324**	P	**P**	**03 31 54.8**	**-1.6**
	comp=Z,1.7nm,0.8s,baz=67,slow=7.7,SNR=4.5						
QSPA	**South Pole Qui**	**81.86**	**180**	*e*P	**P**	**03 32 01.9**	**+0.8**
	comp=Z,147nm,3.0s						
TOA0	**Torodi Ar. Sit**	**122.45**	**280**	*e*PKPdf	**PKPdf**	**03 38 36.4**	**-1.9**
TORD	**Torodi Ar. Bea**	**122.45**	**280**	PKP	**PKPdf**	**03 38 36.4**	**-1.9**
	comp=Z,0.8nm,0.9s,baz=93,slow=0.9,SNR=4.2						
CPUP	**Villa Florida**	**145.74**	**179**	*e*PKPdf	**PKPbc**	**03 39 21.6**	**-0.1**
CPUP	**Villa Florida**	**145.74**	**179**	PKPbc	**PKPbc**	**03 39 21.6**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=175,slow=0.9,SNR=3.4						
LPAZ	**La Paz**	**153.25**	**155**	*e*PKPbc	**PKPbc**	**03 39 43.2**	**+1.4**
LPAZ				*e*PKPab	**PKPab**	**03 39 54.3**	**+1.0**
LPAZ	**La Paz**	**153.25**	**155**	PKPbc	**PKPbc**	**03 39 43.2**	**+1.4**
	comp=Z,0.7nm,0.5s,baz=132,slow=11,SNR=4.0						
LPAZ				PKPab	**PKPab**	**03 39 54.3**	**+1.0**
	comp=Z,1.6nm,0.6s,baz=226,slow=3.2,SNR=9.1						

IDC 24 03:57:09.5±3.0, 18°.74S×179°.71W, h0km, mb3.7/3, mb1 4.1/3, mb1mx3.7/18, mbtmp3.7/3, Error ellipse: s-maj=345.5km s-min=35.6km az=160.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.27**	**261**	P	P	04 05 12.3	-0.9
	0.7nm,1.0s,baz=96,slow=7.6,SNR=3.9						
ASAR	**Alice Springs**	**43.38**	**255**	P	P	04 05 14.4	+0.3
	1.4nm,0.5s,baz=89,slow=8.2,SNR=21						
TXAR	**Lajitas Array**	**87.48**	**58**	P	P	04 09 59.6	0.0
	0.2nm,0.6s,baz=208,slow=5.1,SNR=3.4						

IDC 24 03:57:28.0±10.0, 15°.75S×174°.58W, h308km±88km, mb3.4/4, mb1 3.5/5, mb1mx3.2/20, mbtmp3.3/5, Error ellipse: s-maj=160.1km s-min=40.3km az=135.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**19.01**	**248**	P	P	04 01 28.2	0.0
	0.2nm,0.3s,baz=24,slow=19,SNR=4.1						
STKA	**Stephens Creek**	**42.88**	**240**	P	P	04 04 56.7	-0.2
	2.4nm,0.9s,baz=90,slow=9.1,SNR=4.2						
WRA	**Warramunga Arr**	**48.66**	**257**	P	P	04 05 41.8	-0.3
	0.7nm,0.5s,baz=92,slow=6.8,SNR=13						
ASAR	**Alice Springs**	**48.92**	**252**	P	P	04 05 44.1	+0.1
	4.6nm,0.4s,baz=89,slow=8.1,SNR=52						
ILAR	**Eielson Array**	**83.01**	**12**	P	P	04 09 18.8	0.0
	0.6nm,1.1s,baz=226,slow=7.2,SNR=4.2						

*ISCJB **24** 04:01:41.0±0.7, 37°.94N±0°.03×32°.52E±0°.03, h2km±6km, Error ellipse: s-maj=4.5km s-min=3.8km az=164.6*

*DDA **24** 04:01:40.0, 37°.93N×32°.52E, h5km, MD3.4*

*ISK **24** 04:01:40.7, 37°.91N×32°.51E, h6km, MD3.5*

*CSEM **24** 04:01:41.5±0.1, 37°.92N×32°.53E, h5km, MD3.5, Error ellipse: s-maj=3.0km s-min=2.6km az=158.0*

ISC 24 04:01:41.6±1.2, 37°.92N±0°.02×32°.52E±0°.02, h2km±11km, n83, σ0966/94, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KONT	**Konya--Tatoy**	**0.13**	**283**	*e*PG	**Pg**	**04 01 44.0**	**-0.1**
KONT				*e*SG	**Sg**	**04 01 46.3**	**+0.4**
KONT	**Konya--Tatoy**	**0.13**	**283**	*e*Pg	**Pg**	**04 01 44.1**	**-0.1**
KONT				*e*Sg	**Sg**	**04 01 46.3**	**+0.4**
SULT	**Sultanhani-AKS**	**0.83**	**70**	*e*PG	**Pg**	**04 01 57.3**	**-0.2**
SULT				*e*SG	**Sb**	**04 02 09.5**	**-1.0**
SULT	**Sultanhani-AKS**	**0.83**	**70**	*e*Pg	**Pg**	**04 01 57.3**	**-0.2**
SULT				*e*Sg	**Sb**	**04 02 09.5**	**-1.0**
HDMB	**Hadim**	**0.95**	**182**	*e*PG	**Pg**	**04 01 59.2**	**-0.6**
HDMB	**Hadim**	**0.95**	**182**	*e*Pg	**Pg**	**04 01 59.2**	**-0.6**
KIZT	**Kizilcal**	**1.09**	**332**	*e*PN	**Pg**	**04 02 02.0**	**-0.4**
KIZT	**Kizilcal**	**1.09**	**332**	*e*Pn	**Pg**	**04 02 02.0**	**-0.4**
SUTC	**Sutluce-Ispart**	**1.29**	**251**	*e*PN	**Pg**	**04 02 05.2**	**-1.0**
SUTC	**Sutluce-Ispart**	**1.29**	**251**	*e*Pn	**Pg**	**04 02 05.2**	**-1.0**
ERMK	**Ermenek**	**1.31**	**166**	*i* P	**Pn**	**04 02 05.9**	**-1.2**
ERMK				*i* S	**Sn**	**04 02 26.2**	**+1.0**
ERMK	**Ermenek**	**1.31**	**166**	*i* P	**Pn**	**04 02 05.9**	**-1.2**
ERMK				*i* S	**Sn**	**04 02 26.2**	**+1.0**
BOLV	**Bolvadin**	**1.48**	**303**	*i* P	**Pn**	**04 02 09.0**	**-0.3**
BOLV				*i* S	**Sg**	**04 02 29.7**	**+0.7**
BOLV	**Bolvadin**	**1.48**	**303**	*i* P	**Pn**	**04 02 09.0**	**-0.3**
BOLV				*i* S	**Sg**	**04 02 29.7**	**+0.7**
ISP	**Isparta**	**1.59**	**267**	*e*PN	**Pn**	**04 02 10.1**	**-0.7**
ISP	**Isparta**	**1.59**	**267**	*e*Pn	**Pn**	**04 02 10.1**	**-0.7**
AFSR	**Af ar-Bala (A**	**1.59**	**15**	*e*PN	**Pn**	**04 02 10.2**	**-0.7**
AFSR	**Af ar-Bala (A**	**1.59**	**15**	*e*Pn	**Pn**	**04 02 10.2**	**-0.7**
BCK	**Bucak**	**1.60**	**254**	*e*PN	**Pn**	**04 02 10.2**	**-0

KULA	**Kula-Manisa**	**3.10 282**	*e*Pn	**Pn**	**04 02 31.6**	**0.0**
CTKT	**Corum**	**3.23 32**	*i* P	**Pb**	**04 02 40.0**	**+0.3**
DALY	**Dalyan (Mu˘la**	**3.27 252**	*e*PN	**Pn**	**04 02 33.7**	**-0.1**
DALY	**Dalyan (Mu˘la**	**3.27 252**	*e*Pn	**Pn**	**04 02 33.7**	**-0.1**
ADVT	**Abdulvahap**	**3.32 320**	*e*PN	**Pn**	**04 02 34.6**	**+0.2**
ADVT	**Abdulvahap**	**3.32 320**	*e*Pn	**Pn**	**04 02 34.7**	**+0.2**
SAFT	**Safranbolu**	**3.32 2**	*e*PN	**Pn**	**04 02 34.9**	**+0.3**
SAFT	**Safranbolu**	**3.32 2**	*e*Pn	**Pn**	**04 02 34.9**	**+0.3**
TOS	**Tosya**	**3.33 20**	*e*PN	**Pn**	**04 02 35.0**	**+0.3**
TOS	**Tosya**	**3.33 20**	*e*Pn	**Pn**	**04 02 35.0**	**+0.3**
YER	**Yerkesik**	**3.46 258**	*e*PN	**Pn**	**04 02 36.5**	**-0.1**
YER	**Yerkesik**	**3.46 258**	*e*Pn	**Pn**	**04 02 36.5**	**-0.1**
ARMT	**Armutlu**	**3.88 314**	*e*PN	**Pn**	**04 02 41.9**	**-0.4**
ARMT	**Armutlu**	**3.88 314**	*e*Pn	**Pn**	**04 02 41.9**	**-0.4**

*ISCJB **24** 04:08:03.6±0.4, 51˚.51N±0˚.02×16˚.08E±0˚.02, h0km, Error ellipse: s-maj=3.2km s-min=2.2km az=9.2*
*IPEC **24** 04:08:04.3±0.4, 51˚.61N×16˚.25E, h0km, ML2.6/2, Error ellipse: s-maj=5.0km s-min=1.9km az=72.0*
*IDC **24** 04:08:06.2±0.7, 51˚.54N×16˚.02E, h0km, mb1 3.5/7, mb1mx3.3/28, mbtmp3.4/7, ML2.8/7, Error ellipse: s-maj=12.8km s-min=6.5km az=105.0*
*WAR **24** 04:08:06.4, 51˚.53N×16˚.09E*
*CSEM **24** 04:08:06.1±0.2, 51˚.49N×16˚.06E, h2km, ML3.7/9, Error ellipse: s-maj=3.5km s-min=1.8km az=15.0*
*VIE **24** 04:08:08.0±0.4, 51˚.34N×15˚.99E, h0km, mb2.6/3, ML3.1/3, Error ellipse: s-maj=2.8km s-min=2.7km az=164.0 76 km WNW of Wroclaw Suspected Mining induced.*
*BGR **24** 04:08:07.1±0.4, 51˚.49N×16˚.07E, h1km, ML3.1/16, Error ellipse: s-maj=4.4km s-min=2.2km az=18.0*
*PRU **24** 04:08:07.0, 51˚.48N×16˚.07E, h0km*

ISC 24 04:08:04.8±0.7, 51˚.57N±0˚.03×16˚.09E±0˚.02, h0km, n75, σ0:92/136, 3C-1D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.74**	**170**	*e*Pg	**Pg**	**04 08 19.5**	**+0.6**
KSP				*e*Sg	**Sg**	**04 08 29.0**	**+0.6**
KSP	**Ksiaz**	**0.74**	**170**	*e*Pg	**Pg**	**04 08 19.4**	**+0.6**
KSP				*e*Sg	**Sg**	**04 08 28.9**	**+0.6**
KSP	**Ksiaz**	**0.74**	**170**	Pg	**Pg**	**04 08 19.5**	**+0.6**
KSP				Sg	**Sg**	**04 08 29.0**	**+0.6**
UPC	**Upice**	**1.06**	**183**	*e*PG	**Pg**	**04 08 25.4**	**+0.3**
UPC	**Upice**	**1.06**	**183**	Pg	**Pg**	**04 08 25.4**	**+0.3**
DPC	**Dobruska-Polom**	**1.23**	**173**	*e*Pg	**Pg**	**04 08 28.3**	**0.0**
DPC				*e*Sg	**Sg**	**04 08 44.1**	**0.0**
DPC	**Dobruska-Polom**	**1.23**	**173**	*e*PG	**Pg**	**04 08 28.2**	**-0.1**
DPC				*e*SG	**Sg**	**04 08 43.5**	**-0.7**
DPC	**Dobruska-Polom**	**1.23**	**173**	Pg	**Pg**	**04 08 28.3**	**0.0**
DPC				Sg	**Sg**	**04 08 43.5**	**-0.7**
PVCC	**Panska Ves**	**1.42**	**223**	*e*PG	**Pg**	**04 08 31.9**	**0.0**
PVCC				*e*SG	**Sn**	**04 08 51.4**	**+0.2**
	232nm,0.2s						
PVCC	**Panska Ves**	**1.42**	**223**	Pg	**Pg**	**04 08 31.9**	**0.0**
PVCC				Sg	**Sn**	**04 08 51.4**	**+0.2**
	232nm,0.2s						
BRG	**Berggiesshubel**	**1.52**	**244**	PN	**Pb**	**04 08 33.7**	**-0.1**
BRG				PG	**Pg**	**04 08 34.3**	**+0.4**
BRG				SG	**Sn**	**04 08 54.7**	**+1.0**
	258nm,0.4s						
BRG	**Berggiesshubel**	**1.52**	**244**	*e*Pn	**Pb**	**04 08 33.8**	**-0.1**
BRG				*e*Pg	**Pg**	**04 08 34.4**	**+0.5**
BRG				*e*Sg	**Sn**	**04 08 54.9**	**+1.2**
BRG	**Berggiesshubel**	**1.52**	**244**	Pn	**Pb**	**04 08 33.8**	**-0.1**
PRA	**Prague**	**1.83**	**216**	PG	**Pb**	**04 08 39.0**	**-0.2**
PRA				SG	**Sb**	**04 09 02.0**	**-0.6**
FBE	**Freiberg**	**1.84**	**250**	*e*Pg	**Pg**	**04 08 40.2**	**+0.2**
FBE				*e*Sg	**Sg**	**04 09 04.6**	**+0.7**
FBE	**Freiberg**	**1.84**	**250**	Pg	**Pg**	**04 08 40.2**	**+0.2**
FBE				Sg	**Sg**	**04 09 04.6**	**+0.7**
PRU	**Pruhonice**	**1.86**	**213**	*e*PN	**Pn**	**04 08 37.8**	**-0.1**
PRU				*e*PG	**Pb**	**04 08 39.7**	**0.0**
PRU				*e*SG	**Sb**	**04 09 03.5**	**0.0**
	67nm,0.4s						
PRU	**Pruhonice**	**1.86**	**213**	Sg	**Sb**	**04 09 03.5**	**0.0**
	67nm,0.4s						
PRU	**Pruhonice**	**1.86**	**213**	Pn	**Pn**	**04 08 37.8**	**-0.1**
CLL	**Collm**	**1.95**	**264**	*e*Pn	**Pn**	**04 08 39.1**	**-0.1**
CLL				*e*Pg	**Pg**	**04 08 42.3**	**+0.1**
CLL				*e*Sg	**Sg**	**04 09 08.5**	**+1.0**
CLL	**Collm**	**1.95**	**264**	*e*Pn	**Pn**	**04 08 39.0**	**-0.1**
CLL				*e*Pg	**Pg**	**04 08 42.0**	**-0.2**
CLL				*e*Sg	**Sg**	**04 09 08.0**	**+0.5**
	comp=Z,73nm,0.7s						
CLL	**Collm**	**1.95**	**264**	Pn	**Pn**	**04 08 39.1**	**-0.1**
OKC	**Ostrava-Krasne**	**2.17**	**142**	*e*Pg	**Pg**	**04 08 46.0**	**-0.3**
OKC				*e*Sg	**Sg**	**04 09 14.3**	**-0.1**
OKC	**Ostrava-Krasne**	**2.17**	**142**	*e*PG	**Pb**	**04 08 45.0**	**+0.1**
OKC				*e*SG	**Sg**	**04 09 14.0**	**-0.4**
	comp=Z,39nm,0.5s						
OKC	**Ostrava-Krasne**	**2.17**	**142**	Pg	**Pg**	**04 08 46.0**	**-0.3**
OKC				Sg	**Sg**	**04 09 14.0**	**-0.4**
	comp=Z,39nm,0.5s						
VRAC	**Vranov**	**2.28**	**172**	Pn	**Pn**	**04 08 44.5**	**+0.8**
	comp=Z,1.6nm,0.3s,baz=356,slow=16,SNR=25						
VRAC				Lg	Lg	04 09 15.3	
	comp=Z,6.9nm,0.3s,baz=79,slow=20,SNR=7.6						
VRAC	**Vranov**	**2.28**	**172**	*e*Pn	**Pn**	**04 08 43.8**	**+0.1**
VRAC				*e*Sg	**Sb**	**04 09 16.8**	**+1.2**
	comp=Z,58nm,0.6s,baz=355						
TREC	**Trest**	**2.31**	**190**	*e*PN	**Pn**	**04 08 44.3**	**+0.2**
TREC				*e*PG	**Pb**	**04 08 47.9**	**+0.6**
TREC				*e*SG	**Sb**	**04 09 17.6**	**+1.3**
	comp=Z,43nm,0.2s						
TREC	**Trest**	**2.31**	**190**	Pn	**Pn**	**04 08 44.3**	**+0.2**
KRUC	**Moravsky**	**2.52**	**175**	*e*Pn	**Pn**	**04 08 46.8**	**-0.1**
	baz=358						
KRUC				*e*Sg	**Sg**	**04 09 24.1**	**-1.5**
	comp=Z,15nm,0.2s,baz=358						
TANN	**Tannenbergstha**	**2.57**	**245**	*e*Pn	**Pn**	**04 08 48.3**	**+0.6**
TANN				*e*Sg	**Sg**	**04 09 27.1**	**-0.2**
TANN	**Tannenbergstha**	**2.57**	**245**	Pn	**Pn**	**04 08 48.3**	**+0.6**
TANN				Sg	**Sg**	**04 09 27.1**	**-0.2**
WERD	**Werda**	**2.64**	**246**	*e*Pn	**Pn**	**04 08 49.1**	**+0.4**
WERD				*e*Sg	**Sg**	**04 09 28.8**	**-0.8**
WERD	**Werda**	**2.64**	**246**	Pn	**Pn**	**04 08 49.1**	**+0.4**
WERD				Sg	**Sg**	**04 09 28.8**	**-0.8**
NKC	**Novy Kostel**	**2.67**	**241**	*e*PN	**Pn**	**04 08 49.6**	**+0.6**
NKC				*e*PG	**Pg**	**04 08 55.6**	**-0.3**
NKC				*e*SG	**Sg**	**04 09 31.6**	**+1.2**
	comp=Z,109nm,0.3s						
NKC	**Novy Kostel**	**2.67**	**241**	Pn	**Pn**	**04 08 49.6**	**+0.6**
OJC	**Ojcow**	**2.71**	**118**	*e*Pg	**Pg**	**04 08 56.4**	**-0.2**
OJC				*e*Sg	**Sg**	**04 09 32.4**	**+0.7**
KHC	**Kasperske Hory**	**2.92**	**214**	*e*PN	**Pn**	**04 08 52.5**	**-0.1**
KHC				*e*PG	**Pb**	**04 08 58.9**	**+1.1**
KHC				*e*SG	**Sg**	**04 09 37.3**	**-1.3**
	comp=Z,18nm,0.3s						
KHC	**Kasperske Hory**	**2.92**	**214**	Pn	**Pn**	**04 08 52.5**	**-0.1**
MOX	**Moxa**	**2.97**	**254**	*e*Pn	**Pn**	**04 08 53.4**	**+0.2**
MOX				*e*Pg	**Pg**	**04 09 01.8**	**+0.1**
MOX				*e*Sg	**Sg**	**04 09 40.2**	**+0.1**
MOX	**Moxa**	**2.97**	**254**	Pn	**Pn**	**04 08 53.4**	**+0.2**
MANZ	**Manzenberg**	**2.98**	**240**	*e*Pn	**Pn**	**04 08 54.1**	**+0.7**
MANZ				*e*Pg	**Pg**	**04 09 02.8**	**+0.8**
MANZ				*e*Sg	**Sg**	**04 09 40.4**	**-0.2**
MANZ	**Manzenberg**	**2.98**	**240**	Pn	**Pn**	**04 08 54.1**	**+0.7**
ROTZ	**Rotzenmuhle**	**3.06**	**235**	*e*Pn	**Pn**	**04 08 55.3**	**+0.9**
ROTZ				*e*Sg	**Sg**	**04 09 43.1**	**+0.1**
ROTZ	**Rotzenmuhle**	**3.06**	**235**	Pn	**Pn**	**04 08 55.3**	**+0.9**
ROTZ				Sg	**Sg**	**04 09 43.1**	**+0.1**
GEC2	**GERESS Array S**	**3.13**	**210**	*e*Pn	**Pn**	**04 08 56.3**	**+0.9**
GEC2				*e*Pg	**Pg**	**04 09 04.1**	**-0.6**
GEC2				*e*Sg	**Sg**	**04 09 43.4**	**-1.8**
GEC2	**GERESS Array S**	**3.13**	**210**	Pn	**Pn**	**04 08 56.3**	**+0.9**
GERES	**GERESS Array B**	**3.13**	**210**	Pn	**Pn**	**04 08 56.4**	**+1.0**
	comp=Z,1.8nm,0.3s,baz=30,slow=13,SNR=45						
GERES				Pg	**Pb**	**04 09 02.5**	**+1.2**
	comp=Z,2.8nm,0.3s,baz=28,slow=17,SNR=23						
GERES				Lg	Lg	04 09 43.4	
	comp=Z,7.4nm,0.3s,baz=32,slow=26,SNR=7.8						
WET	**Wettzell**	**3.18**	**222**	*e*Pn	**Pn**	**04 08 56.7**	**+0.6**
WET				*e*Sg	**Sg**	**04 09 45.0**	**-2.0**
WET	**Wettzell**	**3.18**	**222**	Pn	**Pn**	**04 08 56.7**	**+0.6**
WET				Sg	**Sg**	**04 09 45.0**	**-2.0**
NIE	**Niedzica**	**3.45**	**127**	*e*P	**Pg**	**04 09 10.4**	**-0.4**
NIE				*e*S	**Sg**	**04 09 55.2**	**-0.3**
VYHS	**Vyhne**	**3.55**	**149**	*e*PN	**Pn**	**04 09 01.1**	**0.0**
VYHS				*e*PG	**Pg**	**04 09 13.3**	**+0.5**
VYHS				*e*SG	**Sg**	**04 09 55.5**	**-3.2**
VYHS	**Vyhne**	**3.55**	**149**	*e*Pn	**Pn**	**04 09 01.1**	**0.0**
CLZ	**Clausthal**	**3.57**	**277**	*e*Pn	**Pn**	**04 09 02.8**	**+1.4**
CLZ				*e*Sg	**Sg**	**04 10 01.3**	**+1.9**
CLZ	**Clausthal**	**3.57**	**277**	Pn	**Pn**	**04 09 02.8**	**+1.4**
CLZ				Sg	**Sg**	**04 10 01.3**	**+1.9**
BSD	**Bornholm Skovb**	**3.62**	**349**	*i* P	**Pn**	**04 09 01.6**	**-0.5**
BSD				*i* S	**Sn**	**04 09 42.5**	**-3.0**
BSD	**Bornholm Skovb**	**3.62**	**349**	*i* P	**Pn**	**04 09 01.6**	**-0.5**
GRA1	**Grafenberg Arr**	**3.62**	**241**	Pn	**Pn**	**04 09 03.1**	**+0.9**
GRA1	**Grafenberg Arr**	**3.62**	**241**	Pg	**Pg**	**04 09 14.8**	**+0.5**
GRA1				Sg	**Sg**	**04 10 01.3**	**+0.1**
GRF	**Grafenberg Arr**	**3.62**	**241**	*e*Pn	**Pn**	**04 09 03.1**	**+0.9**
GRF				*e*Pg	**Pg**	**04 09 14.8**	**+0.5**
GRF				*e*Sg	**Sg**	**04 10 01.3**	**+0.1**
CONA	**Conrad Observa**	**3.65**	**182**	⇓*i*Pn	**Pn**	**04 09 02.9**	**+0.3**
CONA				⇑*i*Sg	**Sg**	**04 10 00.9**	**-1.0**
	comp=Z,29nm,0.5s						
MOA	**Molln**	**3.91**	**198**	⇑*i*Pn	**Pn**	**04 09 06.6**	**+0.5**
MOA				⇑*i*Sg	**Sg**	**04 10 10.0**	**-0.2**
	comp=Z,27nm,0.6s						
MOA	**Molln**	**3.91**	**198**	Pn	**Pn**	**04 09 06.6**	**+0.5**
MOA				Sg	**Sg**	**04 10 10.0**	**-0.2**
	comp=Z,27nm,0.6s						
STHS	**Stebnicka Huta**	**3.93**	**121**	*e*PG	**Pg**	**04 09 21.0**	**+0.9**
STHS				*e*SG	**Sg**	**04 10 14.0**	**+3.0**
STHS	**Stebnicka Huta**	**3.93**	**121**	*e*Pg	**Pg**	**04 09 21.0**	**+0.9**
STHS				*e*Sg	**Sg**	**04 10 14.0**	**+3.0**
CRVS	**Cervenica-Dubn**	**4.36**	**126**	*e*PG	**Pg**	**04 09 29.2**	**+0.9**
CRVS	**Cervenica-Dubn**	**4.36**	**126**	*e*Pg	**Pg**	**04 09 29.2**	**+0.9**
KOLS	**Kolonicke sedl**	**4.76**	**121**	*e*PN	Pn	04 09 14.5	-3.3
KOLS				*e*PG	**Pg**	**04 09 36.6**	**+0.6**
KOLS	**Kolonicke sedl**	**4.76**	**121**	*e*Pn	Pn	04 09 14.5	-3.3
DAVOX	**Davos/Dischmat**	**6.29**	**223**	Pn	**Pn**	**04 09 39.3**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=344,slow=19,SNR=2.3						
DAVOX				Lg	Lg	04 11 24.2	
	comp=Z,0.3nm,0.3s,baz=218,slow=19,SNR=3.2						
AKASG	**Malin Array Be**	**8.31**	**91**	Pn	**Pn**	**04 10 04.9**	**-1.5**
	comp=Z,1.0nm,0.3s,baz=279,slow=12,SNR=6.1						
HFS	**Hagfors**	**8.69**	**352**	Pn	**Pn**	**04 10 10.8**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=158,slow=15,SNR=4.1						
HFS				Sn	Sn	04 11 43.6	-6.7
	comp=Z,0.1nm,0.3s,baz=174,slow=29,SNR=2.1						
FINES	**FINESS Array B**	**11.32**	**25**	Pn	**Pn**	**04 10 46.8**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=222,slow=12,SNR=4.7						
FINES				Sn	Sn	04 12 46.0	-8.5
	comp=Z,0.2nm,0.3s,baz=225,slow=20,SNR=3.1						
EKA	**Eskdalemuir Ar**	**12.07**	**296**	Pn	**Pn**	**04 10 55.0**	**-2.9**
	baz=103,slow=13,SNR=3.5						
ARCES	**ARCESS Array B**	**18.57**	**10**	P	**P**	**04 12 22.8**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=200,slow=12,SNR=3.5						

*IDC **24** 04:08:48.9±4.5, 36˚.40N×71˚.68E, h175km±40km, mb3.3/8, mb1 3.4/13, mb1mx3.2/33, mbtmp3.4/13, Error ellipse: s-maj=44.5km s-min=29.2km az=139.0*
*NNC **24** 04:08:54.9±8.8, 37˚.03N×70˚.99E, h163km±92km, mb3.0, mpv3.9, Error ellipse: s-maj=73.4km s-min=41.4km az=19.0*

ISC 24 04:08:52.4±1.5, 36˚.9N±0˚.1×71˚.1E±0˚.1, h150km, n41, σ1:72/31, mb3.7/8, 8C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.13**	**167**	⇑P	Pn	04 09 41.0	-0.5
CEP				S	Sn	04 10 18.0	-1.5
CHCP	**Chirah Chowk**	**3.68**	**150**	P	Pn	04 09 48.0	-0.5
THW	**Thamme Wali**	**4.12**	**172**	⇑P	Pn	04 09 53.0	-1.2
SARP	**Sargodha**	**5.12**	**165**	⇓P	Pn	04 10 05.9	-1.5
AML	**Almayashu**	**5.61**	**20**	P	**Pn**	**04 10 16.2**	**+2.0**
	SNR=24						
UCH	**Uchtor**	**5.95**	**25**	P	**Pn**	**04 10 20.6**	**+1.8**
	SNR=8.3						
EKS2	**Erkin-Say**	**6.13**	**19**	P	**Pn**	**04 10 23.1**	**+2.3**
	SNR=13						
KK31	**Karatay Array**	**6.23**	**356**	⇑P	**Pn**	**04 10 24.4**	**+2.3**
	4.2nm,0.3s,baz=176,slow=12,SNR=78						
KK31				⇑S	**Sn**	**04 11 33.3**	**+1.0**
	6.7nm,0.3s,baz=184,slow=23,SNR=16						
AAK	**Ala-Archa**	**6.31**	**23**	P	**Pn**	**04 10 25.5**	**+2.2**
	SNR=9.9						
AAK	**Ala-Archa**	**6.31**	**23**	P	**Pn**	**04 10 25.7**	**+2.4**
	4.4nm,0.3s,baz=164,slow=4.6,SNR=20						
AAK				S	**Sn**	**04 11 35.7**	**+1.3**
	2.3nm,0.3s,baz=124,slow=23,SNR=12						
ULHL	**Ulahol**	**6.67**	**35**	P	**Pn**	**04 10 29.9**	**+1.8**
	SNR=5.9						
USP	**Ospenovka**	**6.89**	**21**	P	**Pn**	**04 10 32.9**	**+2.0**
	SNR=5.6						
TKM2	**Tokmak 2**	**6.95**	**28**	⇑P	**Pn**	**04 10 33.3**	**+1.5**
	5.6nm,0.6s						
TKM2				⇓S	**Sn**	**04 11 48.7**	**-1.1**
	15nm,1.1s						
TKM2	**Tokmak 2**	**6.95**	**28**	P	**Pn**	**04 10 33.6**	**+1.7**
	SNR=8.8						
MK31	**Makanchi Array**	**12.94**	**37**	P	**Pn**	**04 11 49.6**	**-1.0**
	0.7nm,0.4s,baz=227,slow=9.6,SNR=15						
MKAR	**Makanchi Array**	**12.94**	**37**	P	**Pn**	**04 11 49.6**	**-1.0**
	0.5nm,0.3s,baz=203,slow=9.7,SNR=13						
PYUN	**Piuthan**	**13.31**	**128**	*e*P	Pn	04 11 46.2	-10
DANN	**Dangsing**	**13.64**	**125**	*e*P	Pn	04 11 52.3	-7.8
	9.7nm,0.4s						
KOLN	**Koldanda**	**13.93**	**127**	*e*P	Pn	04 11 53.5	-10
	7.9nm,0.5s						
GKN	**Gorkha**	**14.45**	**124**	*e*P	Pn	04 12 03.3	-6.9
	12nm,0.3s						
KURBB	**Kurchatov Arra**	**14.73**	**19**	P	**Pn**	**04 12 11.7**	**-1.6**
	0.3nm,0.3s,baz=207,slow=11,SNR=3.9						
AB31	**Akbulak array**	**14.79**	**330**	⇑P	**Pn**	**04 12 14.2**	**+0.3**
	0.3nm,0.3s,baz=139,slow=13,SNR=26						
AB31				⇓S	**Sn**	**04 14 53.4**	**-4.5**
	1.3nm,0.5s,baz=146,slow=23,SNR=7.5						
KKN	**Kakani**	**15.02**	**123**	*e*P	Pn	04 12 11.1	-6.2
	6.5nm,0.3s						
DMN	**Daman**	**15.02**	**124**	*e*P	Pn	04 12 09.6	-7.8
	7.2nm,0.3s						
PKIN	**Phulchoki**	**15.24**	**123**	*e*P	Pn	04 12 12.7	-7.4
	16nm,0.5s						
PKI	**Pulchoki**	**15.25**	**123**	*e*P	Pn	04 12 13.4	-6.9
	14nm,0.5s						
JIRN	**Jiri**	**15.72**	**121**	*e*P	Pn	04 12 20.4	-5.7
	20nm,0.4s						
VOSK	**Vostochnaya**	**15.84**	**360**	⇑P	**Pn**	**04 12 26.7**	**-0.2**
	3.4nm,1.1s						
AKTO	**Aktyubinsk**	**16.49**	**329**	⇓P	**P**	**04 12 35.5**	**+0.7**
	1.3nm,0.7s						
AKTO				⇑S	**Sn**	**04 15 39.3**	**+0.6**
	4.2nm,1.3s						
AKTO	**Aktyubinsk**	**16.49**	**329**	P	**P**	**04 12 36.4**	**+1.6**
	0.4nm,0.3s,baz=180,slow=11,SNR=4.1						
TAPN	**Taplejung**	**16.96**	**119**	*e*P	P	04 12 33.8	-6.9
ZALV	**Zalesovo Beam**	**19.53**	**25**	P	**P**	**04 13 06.3**	**-1.7**
	0.9nm,0.3s,baz=228,slow=10,SNR=12						
BRTR	**Keskin Array B**	**29.39**	**287**	P	**P**	**04 14 42.2**	**+0.7**
	0.5nm,0.5s,baz=127,slow=9.0,SNR=3.8						
AKASG	**Malin Array Be**	**32.76**	**308**	P	**P**	**04 15 10.6**	**-0.3**
	0.6nm,0.3s,baz=77,slow=8.7,SNR=3.7						
MLR	**Muntele Rosu**	**34.66**	**299**	P	**P**	**04 15 29.1**	**+1.6**
	0.8nm,0.9s,baz=167,slow=3.4,SNR=5.1						
FINES	**FINESS Array B**	**37.21**	**326**	P	**P**	**04 15 48.1**	**-0.7**
	1.1nm,0.7s,baz=131,slow=8.1,SNR=6.1						
ARCES	**ARCESS Array B**	**40.82**	**337**	P	**P**	**04 16 17.9**	**-0.8**
	1.3nm,0.7s,baz=98,slow=8.9,SNR=5.6						
HFS	**Hagfors**	**42.81**	**322**	P	**P**	**04 16 34.3**	**-0.7**
	1.8nm,0.5s,baz=103,slow=9.6,SNR=14						
NB2	**NORSAR Subarra**	**44.12**	**323**	P	**P**	**04 16 44.2**	**-1.3**
	comp=Z,0.9nm,0.5s,baz=97,slow=7.9						
NOA	**NORSAR Array B**	**44.12**	**323**	P	**P**	**04 16 44.5**	**-1.0**
	comp=Z,0.8nm,0.5s,baz=96,slow=7.7,SNR=5.2						
TORD	**Torodi Ar. Bea**	**65.80**	**269**	P	P	04 19 17.4	-4.4
	comp=Z,0.9nm,0.5s,baz=49,slow=6.1,SNR=12						

*IDC **24** 04:13:51.2±6.7, 36˚.21N×70˚.70E, h175km±64km, mb3.3/4, mb1 3.4/8, mb1mx3. 1/31, mbtmp3.2/8, MS3.3/1, Ms1 3.3/1, ms1mx2.3/31, Error ellipse: s-maj=48.8km s-min=23.9km az=11.0*
*ISCJB **24** 04:13:53.3±0.5, 36˚.47N±0˚.03×70˚.69E±0˚.08, h204km, mb3.4/3, Error ellipse: s-maj=9.1km s-min=4.1km az=164.8*
*NNC **24** 04:13:58.1±3.2, 36˚.86N×70˚.51E, h171km±35km, mb3.0, mpv3.7, Error ellipse: s-maj=27.4km s-min=16.1km az=28.0*

ISC 24 04:13:53.7±0.7, 36˚.50N±0˚.05×70˚.64E±0˚.09, h204km, n31, σ1:57/37, mb3.4/3, 7C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.87**	**158**	⇑P	**Pn**	**04 14 42.5**	**+0.3**
CEP				S	**S**	**04 15 18.0**	**-1.4**
CHCP	**Chirah Chowk**	**3.56**	**142**	⇑P	**Pn**	**04 14 50.6**	**+0.3**
THW	**Thamme Wali**	**3.81**	**166**	⇑P	**Pn**	**04 14 53.4**	**+0.1**
THW				S	**S**	**04 15 37.0**	**-2.6**
SARP	**Sargodha**	**4.87**	**159**	P	**Pn**	**04 15 06.9**	**+0.3**
KK31	**Karatay Array**	**6.60**	**359**	⇑P	**Pn**	**04 15 29.1**	**+0.5**
	5.2nm,0.5s,baz=177,slow=11,SNR=79						
KK31				S	**S**	**04 16 39.5**	**-4.4**
	12nm,0.5s,baz=186,slow=21,SNR=16						
AAK	**Ala-Archa**	**6.81**	**25**	P	**Pn**	**04 15 32.2**	**+0.7**
	1.1nm,0.3s,baz=200,slow=5.5,SNR=4.8						
AAK				S	**S**	**04 16 47.0**	**-2.2**
	0.7nm,0.3s,baz=127,slow=21,SNR=5.9						
TKM2	**Tokmak 2**	**7.46**	**29**	⇑P	**Pn**	**04 15 40.2**	**+0.1**
	1.8nm,0.6s						
TKM2				⇓S	**S**	**04 17 02.7**	**-1.9**
	2.6nm,0.7s						
PYUN	**Piuthan**	**13.38**	**125**	*e*P	**Pn**	**04 16 54.3**	**-1.7**
MK31	**Makanchi Array**	**13.46**	**37**	P	**P**	**04 17 00.1**	**+1.0**
	0.5nm,0.4s,baz=212,slow=9.4,SNR=10						
MKAR	**Makanchi Array**	**13.46**	**37**	P	**Pn**	**04 16 57.7**	**+1.0**
	0.2nm,0.3s,baz=216,slow=8.6,SNR=10						
DANN	**Dangsing**	**13.73**	**123**	*e*P	**Pn**	**04 16 59.9**	**-0.6**
KOLN	**Koldanda**	**14.00**	**125**	*e*P	**Pn**	**04 17 01.7**	**-2.0**
	5.3nm,0.3s						
GKN	**Gorkha**	**14.55**	**122**	*e*P	**Pn**	**04 17 10.4**	**-0.1**
	13nm,0.3s						
AB31	**Akbulak array**	**14.94**	**332**	⇑P	**Pn**	**04 17 15.1**	**+0.2**
	0.9nm,0.4s,baz=144,slow=12,SNR=26						
AB31				⇓S	**S**	**04 19 57.2**	**-3.2**
	0.7nm,0.5s,baz=152,slow=24,SNR=4.8						
DMN	**Daman**	**15.12**	**122**	*e*P	**Pn**	**04 17 17.2**	**-0.3**
	15nm,0.5s						
KKN	**Kakani**	**15.13**	**121**	*e*P	**Pn**	**04 17 17.7**	**+0.2**
	16nm,0.5s						
PKIN	**Phulchoki**	**15.34**	**121**	*e*P	**P**	**04 17 20.7**	**+0.3**
	14nm,0.4s						
PKI	**Pulchoki**	**15.35**	**121**	*e*P	**P**	**04 17 20.6**	**0.0**
	16nm,0.5s						
GUN	**Gumba**	**15.47**	**119**	*e*P	**P**	**04 17 23.6**	**+1.7**
	13nm,0.4s						
JIRN	**Jiri**	**15.84**	**119**	*e*P	**Pn**	**04 17 27.0**	**+0.7**
	29nm,0.4s						
BVAR	**Borovoye Array**	**16.52**	**359**	P	**Pn**	**04 17 36.6**	**+2.7**
	0.5nm,0.3s,baz=172,slow=11,SNR=3.5						
RAMN	**Ramite**	**16.57**	**121**	*e*P	**Pn**	**04 17 34.4**	**-0.5**
	9.4nm,0.5s						
AKTO	**Aktyubinsk**	**16.64**	**331**	⇑P	**Pn**	**04 17 37.1**	**+1.9**
	7.8nm,1.0s						
AKTO				⇓S	**S**	**04 20 39.3**	**+1.8**
	4.4nm,1.3s						
AKTO	**Aktyubinsk**	**16.64**	**331**	P	**Pn**	**04 17 37.4**	**+2.2**
	0.7nm,0.3s,baz=138,slow=9.2,SNR=11						
TAPN	**Taplejung**	**17.11**	**117**	*e*P	**Pn**	**04 17 42.1**	**+0.8

mb4.0/7, Error ellipse: s-maj=29.8km s-min=4.7km az=168.9
*NEIC **24** 04:48:07.8, 51°.55N×173°.45W, h46km, ML3.5(AEIC), After AEIC.*

ISC 24 04:48:07.6±1.8, 51°.8N±0°.2×173°.53W±0°.06, h54km±15km, n28, σ0s83/33, mb4.1/7, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.59**	**316**	P	**Pn**	**04 48 19.1**	**-1.0**
NIKH	**Nikolski High**	**3.10**	**66**	P	**Pn**	**04 48 53.2**	**-0.8**
NIKH				S	**Sn**	**04 49 29.6**	**-0.2**
OKSO	**Okmok South**	**3.64**	**62**	P	**Pn**	**04 49 01.8**	**+0.4**
OKSO				S	**Sn**	**04 49 44.0**	**+1.1**
CESW	**Semis' Southwe**	**4.28**	**274**	P	**Pn**	**04 49 10.2**	**0.0**
MSOM	**Makushin Julie**	**4.48**	**60**	P	**Pn**	**04 49 13.5**	**+0.6**
AMKA	**Amchitka**	**4.49**	**268**	*e*Pn	**Pn**	**04 49 12.7**	**-0.3**
AMKA				*e*S	**Sn**	**04 50 04.6**	**+0.8**
MSW	**Makushin Switc**	**4.61**	**60**	P	**Pn**	**04 49 14.8**	**+0.1**
MSW				S	**Sn**	**04 50 08.8**	**+1.9**
UNV	**Unalaska Valle**	**4.74**	**61**	*e*Pn	**Pn**	**04 49 17.0**	**+0.7**
UNV				*e*S	**Sn**	**04 50 11.2**	**+1.3**
FX1	**Attu Island--F**	**8.22**	**283**	Pn	**Pn**	**04 50 03.7**	**-0.4**
FX1				Sn	**Sn**	**04 51 36.2**	**+0.7**
FX1	**Attu Island--F**	**8.22**	**283**	Pn	**Pn**	**04 50 03.7**	**-0.4**
	2.1nm,0.3s,baz=124,slow=17,SNR=19						
FX1				Sn	**Sn**	**04 51 36.2**	**+0.7**
	0.7nm,0.3s,baz=102,slow=20,SNR=2.7						
KDAK	**Kodiak Island**	**13.47**	**55**	Pn	Pn	04 51 11.1	-4.5
KDAK	**Kodiak Island**	**13.47**	**55**	Pn	Pn	04 51 11.1	-4.5
	0.5nm,0.3s,baz=3.8,slow=3.8,SNR=17						
ILAR	**Eielson Array**	**18.92**	**36**	P	**P**	**04 52 21.9**	**-1.6**
ILAR	**Eielson Array**	**18.92**	**36**	P	**P**	**04 52 21.9**	**-1.6**
	1.2nm,0.3s,baz=233,slow=10,SNR=82						
DLBC	**Dease Lake**	**25.38**	**58**	P	**P**	**04 53 29.9**	**+0.4**
DLBC	**Dease Lake**	**25.38**	**58**	P	**P**	**04 53 29.9**	**+0.4**
	2.7nm,0.7s,baz=308,slow=17,SNR=3.3						
YKA	**Yellowknife Ar**	**32.55**	**48**	P	**P**	**04 54 32.8**	**-0.3**
YKA	**Yellowknife Ar**	**32.55**	**48**	P	**P**	**04 54 32.8**	**-0.3**
	3.5nm,0.9s,baz=274,slow=9.7,SNR=3.1						
NEW	**Newport**	**35.64**	**73**	P	**P**	**04 55 00.5**	**+0.4**
NEW	**Newport**	**35.64**	**73**	P	**P**	**04 55 00.5**	**+0.4**
	2.0nm,0.5s,baz=294,slow=10,SNR=8.7						
PDAR	**Pinedale Array**	**43.04**	**76**	P	**P**	**04 56 02.1**	**+0.2**
PDAR	**Pinedale Array**	**43.04**	**76**	P	**P**	**04 56 02.1**	**+0.2**
	1.9nm,0.5s,baz=318,slow=3.0,SNR=34						
ULM	**Lac du Bonnet**	**46.68**	**60**	P	**P**	**04 56 30.3**	**-0.2**
ULM	**Lac du Bonnet**	**46.68**	**60**	P	**P**	**04 56 30.3**	**-0.2**
	1.6nm,0.4s,baz=334,slow=8.9,SNR=2.9						
SONM	**Songino Array**	**49.36**	**299**	P	**P**	**04 56 52.2**	**+0.8**
SONM	**Songino Array**	**49.36**	**299**	P	**P**	**04 56 52.2**	**+0.8**
	0.3nm,0.3s,baz=57,slow=10,SNR=2.5						
TXAR	**Lajitas Array**	**55.34**	**85**	P	**P**	**04 57 35.1**	**-0.8**
TXAR	**Lajitas Array**	**55.34**	**85**	P	**P**	**04 57 35.1**	**-0.8**
	0.3nm,0.7s,baz=311,slow=4.6,SNR=4.0						

KRSC 24 04:50:46.1±3.2, 52°.56N×158°.83E, h92km±31km, ML3.5, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.23**	**237**	*e*P	Pn	04 50 59.6	+0.2
RUS				*i* S	Sn	04 51 09.1	-0.2
MTVR	**Mutnovka**	**0.40**	**259**	*e*P	Pn	04 51 01.1	+0.6
MTVR				*i* S	Sn	04 51 12.0	+0.7
GRL	**Gorelyy**	**0.46**	**269**	*e*P	Pn	04 51 01.3	+0.4
GRL				*i* S	Sn	04 51 12.9	+1.0
PET	**Petropavlovsk**	**0.48**	**347**	*e*P	Pn	04 51 01.2	+0.4
PET				*i* S	Sn	04 51 11.9	+0.1
ASAK	**Asacha**	**0.60**	**253**	*e*P	Pn	04 51 02.5	+0.6
ASAK				*i* S	Sn	04 51 15.2	+1.5
UGLR	**Uglovaya**	**0.65**	**360**	*e*P	Pn	04 51 03.3	+0.8
UGLR				*i* S	Sn	04 51 15.6	+0.9
NLC	**Nalytchevo**	**0.69**	**27**	*e*P	Pn	04 51 03.1	+0.5
NLC				*i* S	Sn	04 51 15.4	+0.5
SMAR	**Somma**	**0.70**	**359**	*e*P	Pn	04 51 04.0	+0.9
SMAR				*i* S	Sn	04 51 17.0	+1.2
AVH	**Avacha**	**0.71**	**356**	*e*P	Pn	04 51 03.8	+0.8
AVH				*i* S	Sn	04 51 17.2	+1.6
SDLR	**Sedlovina**	**0.72**	**3**	*e*P	Pn	04 51 03.5	+0.4
SDLR				*i* S	Sn	04 51 16.0	+0.2
KOK	**Koryaka**	**0.74**	**351**	*e*P	Pn	04 51 04.2	+0.9
KOK				*i* S	Sn	04 51 17.1	+0.9
KRER	**Koryakskii**	**0.75**	**356**	*e*P	Pn	04 51 04.4	+0.9
KRER				*i* S	Sn	04 51 17.3	+0.8
KRX	**Arik**	**0.81**	**352**	*e*P	Pn	04 51 04.6	+0.6
KRX				*i* S	Sn	04 51 17.2	-0.3
SPN	**Mys Shipunski**	**0.90**	**53**	*e*P	Pn	04 51 06.0	+1.2
SPN				*i* S	Sn	04 51 20.3	+1.4
APC	**Apacha**	**1.08**	**290**	*e*P	Pn	04 51 07.2	+0.4
APC				*i* S	Sn	04 51 22.9	+0.5
GNL	**Ganaly**	**1.26**	**335**	*e*P	Pn	04 51 09.0	-0.1
GNL				*i* S	Sn	04 51 26.5	+0.1
MIPR	**Malaya Ipel'ka**	**1.30**	**258**	*e*P	Pn	04 51 10.4	+0.9
MIPR				*i* S	Sn	04 51 27.5	+0.4
PAU	**Pauzhetka**	**1.66**	**230**	*e*P	Pn	04 51 14.9	+1.0
PAU				*i* S	Sn	04 51 35.2	+0.2
SKR	**Severo-Kuril's**	**2.53**	**223**	*e*P	Pn	04 51 29.1	+3.8
SKR				*i* S	Sn	04 51 59.4	+4.1
MKZ	**Mys Kozlova**	**2.64**	**40**	*e*P	Pn	04 51 27.7	+0.9
MKZ				*i* S	Sn	04 51 57.5	-0.6
TUMR	**Tumrok**	**2.84**	**15**	*e*P	Pn	04 51 32.2	+2.6
KMNR	**Kamenistaya**	**3.31**	**14**	*e*P	Pn	04 51 39.1	+3.2
KPT	**Kopyto**	**3.51**	**13**	*e*P	Pn	04 51 39.7	+1.1
SRDR	**Sredinnyy**	**3.80**	**7**	*e*P	Pn	04 51 44.6	+2.1
BDR	**Baidarnaya**	**4.25**	**18**	*e*P	Pn	04 51 53.3	+4.8
SMKR	**Semkarok**	**4.31**	**20**	*e*P	Pn	04 51 52.8	+3.4
SMKR				*i* S	Sn	04 52 42.6	+4.0
SRKR	**Sorokina**	**4.32**	**17**	*e*P	Pn	04 51 49.9	+0.4

*ISCJB **24** 04:54:36.0±0.5, 51°.42N±0°.03×16°.06E±0°.03, h0km, mb2.8/1, Error ellipse: s-maj=4.0km s-min=2.3km az=12.3*
*IDC **24** 04:54:36.0±1.0, 51°.58N×16°.10E, h0km, mb3.1/1, mb1 3.4/5, mb1mx3.3/24, mbtmp3.3/5, ML2.9/4, Error ellipse: s-maj=17.0km s-min=8.7km az=126.0*
*IPEC **24** 04:54:36.3±0.4, 51°.54N×16°.26E, h0km, ML2.7/2, Error ellipse: s-maj=5.7km s-min=1.9km az=73.0*
*WAR **24** 04:54:37.2, 51°.53N×16°.14E*
*CSEM **24** 04:54:37.0±0.3, 51°.46N×16°.11E, h2km, ML3.7/10, Error ellipse: s-maj=5.1km s-min=2.6km az=11.0*
*BGR **24** 04:54:38.3±0.4, 51°.47N×16°.11E, h1km, ML3.0/15, Error ellipse: s-maj=4.4km s-min=2.2km az=13.0*
*PRU **24** 04:54:38.2, 51°.45N×16°.07E, h0km, Felt In Harrachov*
*VIE **24** 04:54:38.9±0.4, 51°.32N×16°.04E, h0km, mb2.6/3, ML3.1/3, Error ellipse: s-maj=2.9km s-min=2.8km az=118.0 72 km WNW of Wroclaw Suspected Mining induced.*

ISC 24 04:54:37.2±0.9, 51°.46N±0°.04×16°.10E±0°.02, h0km, n64, σ0s80/121, 3C-1D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.63**	**169**	*e*Pg	**Pb**	**04 54 50.3**	**-0.9**
KSP				*e*Sg	**Sb**	**04 54 59.6**	**-0.9**
KSP	**Ksiaz**	**0.63**	**169**	*e*Pg	**Pb**	**04 54 50.2**	**-0.9**
KSP				*e*Sg	**Sb**	**04 54 59.5**	**-1.0**
KSP	**Ksiaz**	**0.63**	**169**	Pg	**Pb**	**04 54 50.3**	**-0.9**
KSP				Sg	**Sb**	**04 54 59.6**	**-0.9**
UPC	**Upice**	**0.96**	**183**	*e*PG	**Pg**	**04 54 56.0**	**+0.5**
UPC				*e*SG	**Sg**	**04 55 08.5**	**+0.5**
	63nm,0.2s						
UPC	**Upice**	**0.96**	**183**	Pg	**Pg**	**04 54 56.0**	**+0.5**
UPC				Sg	**Sg**	**04 55 08.5**	**+0.5**
	63nm,0.2s						
DPC	**Dobruska-Polom**	**1.12**	**173**	*e*Pg	**Pb**	**04 54 59.2**	**-0.3**
DPC				*e*Sg	**Sb**	**04 55 15.1**	**+0.4**
DPC	**Dobruska-Polom**	**1.12**	**173**	*e*PG	**Pg**	**04 54 58.8**	**+0.1**
DPC				*e*SG	**Sb**	**04 55 14.0**	**-0.7**
DPC	**Dobruska-Polom**	**1.12**	**173**	Pg	**Pg**	**04 54 58.8**	**+0.1**
DPC				Sg	**Sb**	**04 55 14.0**	**-0.7**
PVCC	**Panska Ves**	**1.35**	**227**	*e*PG	**Pg**	**04 55 02.6**	**-0.4**
PVCC				*e*SG	**Sb**	**04 55 21.5**	**+0.4**
	359nm,0.2s						
PVCC	**Panska Ves**	**1.35**	**227**	Pg	**Pg**	**04 55 02.6**	**-0.4**
PVCC				Sg	**Sb**	**04 55 21.5**	**+0.4**
	359nm,0.2s						
BRG	**Berggiesshubel**	**1.48**	**247**	PN	**Pn**	**04 55 04.3**	**-0.8**
BRG				PG	**Pn**	**04 55 05.2**	**+0.1**
BRG				SG	**Sn**	**04 55 26.0**	**+0.8**
	141nm,0.5s						
BRG	**Berggiesshubel**	**1.48**	**247**	*e*Pn	**Pn**	**04 55 05.2**	**+0.1**
BRG				*e*Sg	**Sn**	**04 55 26.2**	**+1.0**
BRG	**Berggiesshubel**	**1.48**	**247**	Pn	**Pn**	**04 55 05.2**	**+0.1**
BRG				Sg	**Sn**	**04 55 26.2**	**+1.0**
PRU	**Pruhonice**	**1.78**	**214**	*e*PG	**Pb**	**04 55 10.6**	**0.0**
PRU				*e*SG	**Sg**	**04 55 34.2**	**-0.1**
	48nm,0.3s						
PRU	**Pruhonice**	**1.78**	**214**	Pg	**Pb**	**04 55 10.6**	**0.0**
PRU				Sg	**Sg**	**04 55 34.2**	**-0.1**
	48nm,0.3s						
FBE	**Freiberg**	**1.81**	**254**	*e*Pn	**Pb**	**04 55 11.3**	**+0.1**
FBE				*e*Sg	**Sg**	**04 55 35.6**	**+0.2**
FBE	**Freiberg**	**1.81**	**254**	Pn	**Pb**	**04 55 11.3**	**+0.1**
FBE				Sg	**Sg**	**04 55 35.6**	**+0.2**
CLL	**Collm**	**1.95**	**267**	*i* Pn	**Pn**	**04 55 09.7**	**-1.8**
CLL				*i* Pg	**Pb**	**04 55 13.4**	**-0.1**
CLL				*i*		04 55 16.7	
CLL				*e*Sg	**Sg**	**04 55 40.0**	**+0.2**
	comp=Z,43nm,0.4s						
OKC	**Ostrava-Krasne**	**2.08**	**141**	*e*Sg	**Sg**	**04 55 43.5**	**-0.6**
OKC	**Ostrava-Krasne**	**2.08**	**141**	*e*PN	**Pn**	**04 55 12.3**	**-1.1**
OKC				*e*PG	**Pb**	**04 55 15.6**	**-0.2**
OKC				*e*SG	**Sg**	**04 55 43.2**	**-0.9**
	comp=Z,37nm,0.4s						
OKC	**Ostrava-Krasne**	**2.08**	**141**	Pn	**Pn**	**04 55 12.3**	**-1.1**
VRAC	**Vranov**	**2.18**	**172**	Pn	**Pn**	**04 55 14.6**	**-0.1**
	comp=Z,1.7nm,0.3s,baz=342,slow=17,SNR=6.6						
VRAC				Lg	Lg	04 55 47.4	
	comp=Z,10nm,0.3s,baz=249,slow=18,SNR=8.8						
VRAC	**Vranov**	**2.18**	**172**	*e*Pn	**Pn**	**04 55 14.6**	**-0.1**
	baz=355						
VRAC				*e*Sg	**Sg**	**04 55 46.5**	**-0.7**
	comp=Z,46nm,0.6s,baz=355						
TREC	**Trest**	**2.21**	**191**	*e*PN	**Pn**	**04 55 15.0**	**-0.1**
TREC				*e*PG	**Pb**	**04 55 18.0**	**0.0**
TREC				*e*SG	**Sg**	**04 55 48.3**	**+0.3**
	comp=Z,37nm,0.2s						
TREC	**Trest**	**2.21**	**191**	Pn	**Pn**	**04 55 15.0**	**-0.1**
KRUC	**Moravsky**	**2.41**	**175**	*e*Pn	**Pn**	**04 55 18.0**	**+0.1**
	baz=358						
KRUC				*e*Sg	**Sg**	**04 55 54.0**	**-0.6**
	comp=Z,24nm,0.4s,baz=358						
TANN	**Tannenbergstha**	**2.53**	**247**	*e*Pn	**Pn**	**04 55 19.0**	**-0.6**
TANN				*e*Pg	**Pg**	**04 55 25.4**	**-0.3**
TANN				*e*Sg	**Sg**	**04 55 58.1**	**-0.4**
TANN	**Tannenbergstha**	**2.53**	**247**	Pn	**Pn**	**04 55 19.0**	**-0.6**
WERD	**Werda**	**2.61**	**249**	*e*Pn	**Pn**	**04 55 20.1**	**-0.5**
WERD				*e*Pg	**Pg**	**04 55 26.4**	**-0.7**
WERD				*e*Sg	**Sg**	**04 56 00.8**	**-0.1**
WERD	**Werda**	**2.61**	**249**	Pn	**Pn**	**04 55 20.1**	**-0.5**
NKC	**Novy Kostel**	**2.62**	**243**	*e*PN	**Pn**	**04 55 20.5**	**-0.3**
NKC				*e*PG	**Pb**	**04 55 25.2**	**+0.1**
NKC				*e*SG	**Sg**	**04 56 00.8**	**-0.6**
	comp=Z,66nm,0.4s						
NKC	**Novy Kostel**	**2.62**	**243**	Pn	**Pn**	**04 55 20.5**	**-0.3**
OJC	**Ojcow**	**2.65**	**117**	*e*Pg	**Pg**	**04 55 27.9**	**-0.1**
OJC				*e*Sg	**Sg**	**04 56 02.1**	**-0.2**
OJC	**Ojcow**	**2.65**	**117**	*e*Pg	**Pg**	**04 55 27.9**	**-0.1**
OJC				*e*Sg	**Sg**	**04 56 02.9**	**+0.5**
OJC	**Ojcow**	**2.65**	**117**	Pg	**Pg**	**04 55 27.9**	**-0.1**
OJC				Sg	**Sg**	**04 56 02.1**	**-0.2**
KHC	**Kasperske Hory**	**2.84**	**216**	*e*PN	**Pn**	**04 55 23.6**	**-0.2**
KHC				*e*PG	**Pb**	**04 55 29.5**	**+0.7**
KHC				*e*SN	**Sn**	**04 55 58.4**	**-0.4**
KHC				*e*SG	**Sg**	**04 56 07.5**	**-0.9**
	comp=Z,22nm,0.2s						
KHC	**Kasperske Hory**	**2.84**	**216**	Pn	**Pn**	**04 55 23.6**	**-0.2**
MANZ	**Manzenberg**	**2.94**	**241**	*e*Pn	**Pn**	**04 55 25.1**	**-0.1**
MANZ				*e*Pg	**Pg**	**04 55 33.9**	**+0.5**
MANZ				*e*Sg	**Sg**	**04 56 11.9**	**+0.4**
MANZ	**Manzenberg**	**2.94**	**241**	Pn	**Pn**	**04 55 25.0**	**-0.1**
MOX	**Moxa**	**2.95**	**256**	*e*Pg	**Pg**	**04 55 32.7**	**-1.0**
MOX				*e*Sg	**Sg**	**04 56 12.3**	**+0.5**
MOX	**Moxa**	**2.95**	**256**	Pg	**Pg**	**04 55 32.7**	**-1.0**
MOX				Sg	**Sg**	**04 56 12.3**	**+0.5**
ROTZ	**Rotzenmuhle**	**3.01**	**237**	*e*Pn	**Pn**	**04 55 26.1**	**0.0**
ROTZ				*e*Sg	**Sg**	**04 56 13.3**	**-0.4**
ROTZ	**Rotzenmuhle**	**3.01**	**237**	Pn	**Pn**	**04 55 26.1**	**0.0**
ROTZ				Sg	**Sg**	**04 56 13.3**	**-0.4**
GEC2	**GERESS Array S**	**3.04**	**211**	*e*Pn	**Pn**	**04 55 27.3**	**+0.6**
GEC2				*e*Sg	**Sg**	**04 56 14.0**	**-0.9**
GEC2	**GERESS Array S**	**3.04**	**211**	Pn	**Pn**	**04 55 27.3**	**+0.6**
GEC2				Sg	**Sg**	**04 56 14.0**	**-0.9**
GERES	**GERESS Array B**	**3.04**	**211**	Pn	**Pn**	**04 55 27.1**	**+0.4**
	comp=Z,2.1nm,0.3s,baz=28,slow=12,SNR=42						
GERES				Pg	**Pb**	**04 55 33.7**	**+1.4**
	comp=Z,3.3nm,0.3s,baz=27,slow=15,SNR=29						
GERES				Sn	**Sn**	**04 56 04.1**	**+0.3**
	comp=Z,2.6nm,0.3s,baz=26,slow=25,SNR=6.3						
GERES				Lg	Lg	04 56 13.8	
	comp=Z,6.4nm,0.3s,baz=36,slow=26,SNR=6.8						
WET	**Wettzell**	**3.11**	**223**	*e*Pn	**Pn**	**04 55 27.6**	**+0.1**
WET				*e*Sg	**Sg**	**04 56 16.0**	**-1.0**
WET	**Wettzell**	**3.11**	**223**	Pn	**Pn**	**04 55 27.6**	**+0.1**
WET				Sg	**Sg**	**04 56 16.0**	**-1.0**
NIE	**Niedzica**	**3.38**	**126**	*e*P	**Pg**	**04 55 41.8**	**-0.1**
NIE				*e*S	**Sg**	**04 56 25.6**	**-0.1**
CONA	**Conrad Observa**	**3.54**	**183**	⇓*i*Pn	**Pn**	**04 55 33.1**	**-0.4**
CONA				⇑*i*Sg	**Sg**	**04 56 30.8**	**-0.1**
	comp=Z,23nm,0.4s						
CONA	**Conrad Observa**	**3.54**	**183**	Pn	**Pn**	**04 55 33.1**	**-0.4**
CONA				Sg	**Sg**	**04 56 30.8**	**-0.1**
	comp=Z,23nm,0.4s						
GRA1	**Grafenberg Arr**	**3.58**	**242**	Pn	**Pn**	**04 55 33.6**	**-0.4**
GRA1	**Grafenberg Arr**	**3.58**	**242**	Pg	**Pg**	**04 55 47.1**	**+1.3**
GRA1				Sg	**Sg**	**04 56 32.7**	**+0.5**
GRF	**Grafenberg Arr**	**3.58**	**242**	*e*Pn	**Pn**	**04 55 33.6**	**-0.4**
GRF				*e*Pg	**Pg**	**04 55 47.1**	**+1.3**
GRF				*e*Sg	**Sg**	**04 56 32.7**	**+0.5**
MOA	**Molln**	**3.81**	**199**	⇑*i*Pn	**Pn**	**04 55 37.4**	**+0.3**
MOA				⇑*i*Sg	**Sg**	**04 56 40.3**	**+0.8**
	comp=Z,16nm,0.6s						
MOA	**Molln**	**3.81**	**199**	Pn	**Pn**	**04 55 37.4**	**+0.3**
MOA				Sg	**Sg**	**04 56 40.3**	**+0.8**
	comp=Z,16nm,0.6s						
STHS	**Stebnicka Huta**	**3.87**	**120**	*e*PG	**Pg**	**04 55 50.1**	**-1.3**
STHS				*e*SG	**Sg**	**04 56 45.5**	**+4.0**
STHS	**Stebnicka Huta**	**3.87**	**120**	*e*Pg	**Pg**	**04 55 50.1**	**-1.3**
STHS				*e*Sg	**Sg**	**04 56 45.5**	**+4.0**
CRVS	**Cervenica-Dubn**	**4.29**	**125**	*e*PG	**Pg**	**04 56 00.1**	**+0.7**
CRVS	**Cervenica-Dubn**	**4.29**	**125**	*e*Pg	**Pg**	**04 56 00.1**	**+0.7**
AKASG	**Malin Array Be**	**8.30**	**90**	Pn	Pn	04 56 34.1	-4.6
	comp=Z,0.8nm,0.3s,baz=279,slow=12,SNR=3.5						
FINES	**FINESS Array B**	**11.41**	**25**	Pn	Pn	04 57 13.3	-7.8
	comp=Z,0.1nm,0.3s,baz=187,slow=21,SNR=2.6						
EKA	**Eskdalemuir Ar**	**12.12**	**296**	Pn	Pn	04 57 24.8	-6.1
	baz=102,slow=14,SNR=3.2						
TORD	**Torodi Ar. Bea**	**39.96**	**202**	P	**P**	**05 02 13.2**	**0.0**
	comp=Z,0.2nm,0.8s,baz=11,slow=9.0,SNR=2.6						

*IDC **24** 05:13:22.9±5.2, 15°.83S×14°.24W, h0km, mb3.8/4, mb1 3.8/4, mb1mx3.6/23, mbtmp3.8/4, MS3.4/2, Ms1 3.3/2, ms1mx2.8/24, Error ellipse: s-maj=352.6km s-min=30.0km az=103.0*
*ISCJB **24** 05:13:23.2±4.7, 15°.9S±0°.5×1°.4W±°, h10km, mb3.9/4, MS3.3/2, Error ellipse: s-maj=322.0km s-min=20.1km az=13.4*

ISC 24 05:13:25.1±5.0, 15°.8S±0°.6×1°.4W±°, h10km, n7, σ0s50/6, mb4.0/4, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**32.75**	**29**	P	**P**	**05 19 58.5**	**+0.1**
	3.5nm,0.7s,baz=210,slow=9.0,SNR=28						
TORD				LR	LR	05 30 18.1	
	comp=Z,71nm,18.1s,baz=190,slow=31						
BOSA	**Boshof**	**38.44**	**116**	LR	LR	05 33 46.6	
	comp=Z,37nm,19.3s,baz=92,slow=32						
VNA2	**Neumayer--Watz**	**55.25**	**177**	*e*P	**P**	**05 22 58.2**	**+0.1**
	baz=350,slow=12						
SNAA	**Sanae**	**56.25**	**176**	*e*P	**P**	**05 23 05.9**	**+0.5**
SNAA	**Sanae**	**56.25**	**176**	P	**P**	**05 23 04.7**	**-0.6**
	0.5nm,1.0s,baz=307,slow=5.1,SNR=4.2						
BRTR	**Keskin Array B**	**70.93**	**37**	P	**P**	**05 24 42.8**	**-0.1**
	0.8nm,0.9s,baz=196,slow=8.3,SNR=3.9						
AKASG	**Malin Array Be**	**76.33**	**27**	P	**P**	**05 25 14.1**	**0.0**
	0.8nm,0.5s,baz=224,slow=5.2,SNR=4.7						

*JMA **24** 05:15:03.0±0.1, 47°.05N×142°.08E, h24km, M3.1*
*SKHL **24** 05:15:03.5±0.2, 46°.80N×142°.20E, h10km, mb4.0/1*

ISC 24 05:15:04.6±3.3, 46°.9N±0°.2×142°.2E±0°.2, h12km, n3, σ0s75/5, 1D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**0.39**	**75**	⇓*i*Pg	**Pg**	**05 15 11.9**	**-0.6**
YSS				AMB	AMB	05 15 14.7	
	158nm,0.5s						
YSS				*e*Sg	**Sg**	**05 15 18.0**	**+0.3**
YSS				A	A	05 15 18.7	
	3μm,0.3s						
JWK2	**Keihoku**	**1.55**	**188**	P	**Pn**	**05 15 32.5**	**+0.5**
JWK2				*e*S	**Sg**	**05 15 53.9**	**-0.6**
JSE	**Soyaes**	**1.91**	**172**	*e*S	**Sb**	**05 16 03.6**	**+0.4**

MEX 24 05:15:20.9±1.2, 17°.19N×100°.13W, h11km±7km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.19**	**223**	*e*P	Pg	05 15 23.6	-1.5
CAIG				*i* S	Sg	05 15 28.3	+0.3
MEIG	**Mezcala**	**0.88**	**34**	*e*P	Pg	05 15 35.3	-2.7
MEIG				*i* S	Sg	05 15 46.1	-3.4
ARIG	**Puente Sto Nin**	**1.10**	**349**	*e*P	Pb	05 15 39.5	-2.6
ARIG				*i* S	Sb	05 15 51.4	-5.1
PLIG	**Platanillo**	**1.34**	**26**	*e*P	Pn	05 15 42.3	-3.3
PLIG				*i* S	Sb	05 15 58.1	-5.2
ZIIG	**Zihuatanejo**	**1.34**	**288**	*e*P	Pn	05 15 42.2	-3.3
ZIIG				*i* S	Sb	05 15 57.9	-5.3
YAIG	**Yautepec**	**1.95**	**31**	*e*P	Pn	05 15 50.9	-3.2
YAIG				*i* S	Sn	05 16 14.1	-4.6
PNIG	**Pinotepa**	**2.08**	**112**	*e*P	Pn	05 15 53.2	-2.5
PNIG				*i* S	Sn	05 16 16.6	-5.0
PPM	**Popocatepetl**	**2.35**	**37**	*i* P	Pn	05 15 56.0	-4.1
PPM				*i* S	Sn	05 16 24.9	-4.5
MOIG	**Morelia**	**2.67**	**338**	*i* P	Pn	05 16 01.2	-2.9
MOIG				*i* S	Sn	05 16 33.2	-3.6
VHO	**Vista Hermosa**	**3.25**	**92**	*e*P	Pn	05 16 09.4	-2.7
VHO				*i* S	Sn	05 16 46.8	-4.2
MMIG	**Aquila**	**3.25**	**290**	*e*P	Pn	05 16 08.3	-3.5
MMIG				*i* S	Sn	05 16 46.7	-3.9

*AUST **24** 05:19:47.7±0.0, 6°.35S×133°.07E, h86km, Error ellipse: s-maj=2.7km s-min=0.9km az=264.0*
*IDC **24** 05:19:50.9±1.9, 7°.06S×132°.75E, h0km, mb3.7/2, mb1 3.7/4, mb1mx3.5/17, mbtmp3.6/4, ML3.5/2, Error ellipse: s-maj=120.6km s-min=23.9km az=71.0*

ISC 24 05:19:45.2±1.6, 6°.40S±0°.07×133°.4E±0°.2, h35km, n13, σ2s25/12, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLE	**Tual**	**1.02**	**317**	P	**Pn**	**05 20 03.6**	**+0.5**
	baz=0.8,SNR=68						
TLE				S	**Sn**	**05 20 19.3**	**+3.1**
	baz=0.8,SNR=6.4						
FAKI	**Fak Fak**	**3.65**	**341**	P	**Pn**	**05 20 40.6**	**+1.3**
	baz=3.5,SNR=8.2						
FAKI				S	**Sn**	**05 21 16.9**	**-4.2**
	baz=3.5,SNR=6.4						
BNDI	**Bandanaira**	**3.97**	**298**	P	**Pn**	**05 20 42.8**	**-1.0**
	baz=3.6,SNR=14						
SWI	**Sorong**	**5.91**	**338**	P	**Pn**	**05 21 11.7**	**+1.3**
	baz=5.8,SNR=4.3						
SWI				S	Sn	05 22 08.7	-8.1
	baz=5.8,SNR=6.5						
KDU	**Kakadu**	**6.32**	**189**	P	**Pn**	**05 21 19.0**	**+2.9**
	baz=6.4,SNR=7.0						
MMPI	**Merauke**	**7.19**	**107**	S	Sn	05 23 16.2	+28
	baz=7.5,SNR=6.1						
KNRA	**Kununurra**	**10.30**	**206**	P	**Pn**	**05 22 11.4**	**+0.8**
	baz=10,SNR=7.6						
KNRA				S	**Sn**	**05 24 03.4**	**-1.5**
	baz=10,SNR=3.6	

MRSI	Marisa	6.39	221	P	Pn	05 47 45.3 -1.0
	327nm,0.9s,4μm1.3nm					
LUWI	Luwuk	7.18	208	P	Pn	05 47 59.1 +2.1
LUWI	Luwuk	7.18	208	P	Pn	05 47 60.0 +2.9
	baz=7.3,SNR=13					
MYLDM	Lahad Datu	7.56	269	P	Pn	05 48 01.7 -0.4
MYLDM	Lahad Datu	7.56	269	P	Pn	05 48 02.8 +0.7
	146nm,1.2s,0.4nm					
APSI	Ampana	7.66	215	P	Pn	05 48 04.6 +1.1
	478nm,1.2s,4μm1.4nm					
SWI	Sorong	8.07	140	P	Pn	05 48 08.4 -0.7
	70nm,0.8s,1μm0.3nm					
SWI	Sorong	8.07	140	P	Pn	05 48 08.6 -0.4
	baz=8.1,SNR=3.7					
TSM	Tawau	8.25	263	P	Pn	05 48 10.8 -0.8
PALU	Palau	8.56	76	P	Pn	05 48 15.8 0.0
	baz=8.5,SNR=4.8					
NLAI	Namlea	8.62	173	P	Pn	05 48 13.6 -2.9
	123nm,0.5s,5μm					
SDKM	Sandakan	8.85	272	P	Pn	05 48 21.0 +1.2
KKM	Kota Kinabalu	9.85	274	ePn	Pn	05 48 34.5 +1.3
KKM	Kota Kinabalu	9.85	274	P	Pn	05 48 35.6 +2.3
KKM	Kota Kinabalu	9.85	274	P	Pn	05 48 34.6 +1.3
	30nm,1.5s					
FAKI	Fak Fak	10.28	143	P	Pn	05 48 38.4 -0.7
	baz=10,SNR=6.6					
BNSI	Bone	11.40	212	P	Pn	05 48 56.2 +2.1
	43nm,1.1s					
KAPI	Kappang	12.10	212	ePn	Pn	05 49 02.0 -1.3
KAPI	Kappang	12.10	212	P	Pn	05 49 02.5 -0.9
	45nm,1.1s,562nm					
KAPI	Kappang	12.10	212	P	Pn	05 49 02.1 -1.3
	1.5nm,0.3s,baz=43,slow=7.5,SNR=11					
BKSI	Bulukumba	12.18	209	P	Pn	05 49 03.8 -0.6
	17nm,1.1s,639nm					
SBUM	Sibu	14.13	259	ePn	P	05 49 32.3 -1.5
SBUM	Sibu	14.13	259	P	P	05 49 32.2 -1.5
SBUM	Sibu	14.13	259	P	P	05 49 32.0 -1.8
	63nm,1.4s,798nm					
SOEI	Soe	15.14	187	P	Pn	05 49 42.3 -0.3
	64nm,0.9s					
WSI	Waingapu	16.02	201	S	Sn	05 52 51.0 -0.2
	baz=16,SNR=5.5					
KSM	Kuching	16.22	257	Pn	Pn	05 49 56.3 +0.4
	36nm,1.2s					
KSM	Kuching	16.22	257	P	P	05 49 58.5 +1.7
KSM	Kuching	16.22	257	P	P	05 49 58.6 +1.7
KSM	Kuching	16.22	257	P	P	05 49 59.2 +2.3
	baz=16,SNR=8.5					
KDU	Kakadu	19.03	161	P	P	05 50 27.8 0.0
	baz=19,SNR=7.6					
QIZ	Qiongzhong	20.86	312	P	P	05 50 47.4 -0.1
QIZ				sP	sP	05 51 20.8 -2.6
QIZ				S	S	05 54 35.8 +1.9
QIZ				pmax	pmax	
	comp=Z,31nm,1.8s					
QIZ				LR	LR	
	comp=Z,220nm,15.8s					
KNRA	Kununurra	21.08	173	P	P	05 50 49.3 -0.6
	baz=21,SNR=18					
MYKOM	Kota Tinggi	22.47	262	P	P	05 51 05.3 +0.7
KGM	Kluang	22.96	262	P	P	05 51 10.0 +0.5
FITZ	Fitzroy Crossi	23.33	181	P	P	05 51 12.7 0.0
FITZ	Fitzroy Crossi	23.33	181	P	P	05 51 12.7 0.0
	comp=Z,5.1nm,0.4s,baz=6.6,slow=7.1,SNR=54					
CHBT	CHBT	24.56	289	P	P	05 51 26.3 +2.3
	comp=Z,22nm,0.3s					
IPM	Ipoh	24.98	269	eP	P	05 51 27.5 -0.4
	comp=Z,4.0nm,0.4s					
IPM	Ipoh	24.98	269	P	P	05 51 28.1 +0.2
KULM	Kulim	25.32	271	eP	P	05 51 30.6 -0.3
	comp=Z,15nm,1.2s					
KULM	Kulim	25.32	271	P	P	05 51 32.4 +1.5
COEN	Coen	25.62	139	eP	P	05 51 32.8 -0.8
	comp=Z,164nm,1.0s					
COEN	Coen	25.62	139	P	P	05 51 33.3 -0.3
	baz=26,SNR=13					
CHAI	Chaiyaphum	25.86	296	P	P	05 51 38.6 +2.8
	comp=Z,4.1nm,1.2s					
NAYO	Nakonayok	25.94	292	P	P	05 51 45.4 +8.9
WRAB	Tennant Creek	26.43	162	eP	P	05 51 39.4 -1.5
	comp=Z,18nm,0.9s					
WRA	Warramunga Arr	26.43	162	P	P	05 51 40.3 -0.6
WRA	Warramunga Arr	26.43	162	P	P	05 51 40.3 -0.6
	comp=Z,7.0nm,1.0s,baz=338,slow=10,SNR=56					
CBIJ	Chichi jima	26.50	34	LR	LR	06 00 01.2
	comp=Z,158nm,21.9s,baz=140,slow=31					
MBWA	Marble Bar	27.09	193	eP	P	05 51 44.9 -1.9
	comp=Z,42nm,1.3s					
LOEI	Loei	27.11	298	P	P	05 51 51.7 +4.7
WHN	Wuhan	27.37	338	P	P	05 51 48.0 -1.1
NJ2	Nanjing	27.39	347	eP	P	05 51 51.9 +2.6
NJ2				pmax	pmax	
	comp=Z,10.0nm,0.8s					
JNU	Nakatsue	27.97	9	P	P	05 51 54.4 -0.1
JNU	Nakatsue	27.97	9	P	P	05 51 54.4 -0.1
	comp=Z,4.1nm,0.5s,baz=235,slow=12,SNR=8.1					
GYA	Guiyang	28.00	321	P	P	05 51 56.0 +1.1
GYA				pP	pP	05 52 21.8 +1.8
GYA				sP	sP	05 52 34.5 +1.1
GYA				PP	PnPn	05 52 50.9 +2.2
GYA				PcP	PcP	05 55 08.3 +1.0
GYA				S	S	05 56 31.0 0.0
GYA				sS	sS	05 57 16.8 +1.9
GYA				ScP	ScP	05 58 37.3 -0.6
GYA				PcS	PcS	05 58 49.4 -0.4
GYA				ScS	ScS	06 02 28.9 -1.8
GYA				pmax	pmax	
	comp=Z,10.0nm,0.8s					
MTSU	Mount Surprise	29.48	143	P	P	05 52 10.8 +2.7
	baz=30,SNR=7.0					
CMAR	Chiang Mai Arr	29.51	298	P	P	05 52 06.2 -2.1
CMAR	Chiang Mai Arr	29.51	298	P	P	05 52 06.2 -2.1
	comp=Z,1.1nm,0.4s,baz=123,slow=7.4,SNR=4.7					
CMAR				LR	LR	06 04 29.2
	comp=Z,53nm,18.5s,baz=100,slow=38					
KMI	Kunming	29.78	314	P	P	05 52 13.4 +2.5
KMI				S	S	05 57 01.0 +1.7
KMI				LR	LR	
	comp=N,110nm,7.2s					
KMI				LR	LR	
	comp=E,110nm,8.4s					
KMI				LR	LR	
	comp=Z,93nm,6.5s					
AS31	Alice Springs	29.85	165	eP	P	05 52 10.9 -0.4
ASAR	Alice Springs	29.85	165	P	P	05 52 11.1 -0.2
ASAR				PcP	PcP	05 55 11.7 -0.2
ASAR				S	S	05 57 02.8 +2.7
ASAR				ScP	ScP	05 58 43.7 0.0
ASAR	Alice Springs	29.85	165	P	P	05 52 11.1 -0.2
	comp=Z,2.1nm,0.6s,baz=342,slow=7.5,SNR=16					
ASAR				PcP	PcP	05 55 11.7 -0.2
	comp=Z,0.8nm,0.6s,baz=344,slow=3.2,SNR=4.0					
ASAR				S	S	05 57 02.8 +2.7
	comp=Z,1.3nm,1.1s,baz=346,slow=19,SNR=4.7					
ASAR				ScP	ScP	05 58 43.7 0.0
	comp=Z,0.6nm,0.5s,baz=343,slow=3.2,SNR=8.0					
KSAR	Wonju Array Be	31.96	3	P	P	05 52 30.5 +0.9
KSRS	Korea Array	31.98	3	P	P	05 52 30.5 +0.8
	comp=Z,1.8nm,0.6s,baz=177,slow=9.9,SNR=9.0					
KSRS				LR	LR	06 03 25.0
	comp=Z,51nm,21.3s,baz=191,slow=32					
PATS	Pohnpei	32.07	86	P	P	05 52 30.3 -0.7
	baz=32,SNR=3.2					
CTA	Charters Tower	32.15	142	P	P	05 52 33.6 +2.1
CTA	Charters Tower	32.15	142	P	P	05 52 33.6 +2.1
	comp=Z,1.8nm,0.3s,baz=309,slow=14,SNR=2.3					
MEEK	Meekatharra	32.63	192	P	P	05 52 34.7 -1.0
	baz=33,SNR=4.4					
CD2	Chengdu	32.95	323	P	P	05 52 40.1 +1.6
CD2				pP	pP	05 53 05.1 +1.2
CD2				sP	sP	05 53 18.4 +1.3
CD2				PP	PP	05 53 54.8 -0.4
CD2				S	S	05 57 49.8 +1.5
CD2				sS	sS	05 58 33.5 +1.0
CD2				SS	SnSn	05 59 57.9 -0.9
CD2				pmax	pmax	
	comp=Z,10.0nm,0.5s					
CD2				LR	LR	
	comp=N,190nm,5.0s					
CD2				LR	LR	
	comp=Z,180nm,8.9s					
MJAR	Matsushiro Arr	32.95	18	P	P	05 52 38.4 +0.1
MJAR	Matsushiro Arr	32.95	18	P	P	05 52 38.4 +0.1
	comp=Z,0.6nm,0.4s,baz=192,slow=8.7,SNR=2.6					
MJAR				LR	LR	06 04 02.8
	comp=Z,49nm,20.5s,baz=155,slow=32					
FORT	Forrest	36.00	177	P	P	05 53 04.3 -0.3
	baz=36,SNR=24					
LZH	Lanzhou	36.77	329	eP	P	05 53 11.5 +0.1
LZH				pP	pP	05 53 38.3 +1.2
LZH				sP	sP	05 53 50.6 +0.3
LZH				PP	PnPn	05 54 39.8 +0.9
LZH				PcP	PcP	05 55 32.9 +1.5
LZH				eS	S	05 58 48.1 +1.0
LZH				sS	sS	05 59 30.8 -1.0
LZH				SS	SnSn	06 01 19.3 -12
LZH				pmax	pmax	
	comp=Z,25nm,1.0s					
LZH				pmax	pmax	
	comp=Z,100nm,5.0s					
HNR	Honiara	36.81	113	LR	LR	06 05 43.5
	comp=Z,119nm,21.6s,baz=160,slow=32					
HHC	Hu-ho-hao-te	37.65	342	eP	P	05 53 18.3 -0.3
HHC				pP	pP	05 53 42.8 -1.7
HHC				sP	sP	05 53 56.8 -0.8
HHC				S	S	05 59 01.5 +1.4
HHC				PcS	PcS	05 59 20.9 -1.8
HHC				sS	sS	05 59 44.6 -0.3
HHC				SS	SS	06 01 43.6 -6.4
HHC				ScS	ScS	06 03 15.3 -4.5
HHC				pmax	pmax	
	comp=Z,55nm,0.6s					
HHC				pmax	pmax	
	comp=Z,160nm,7.3s					
HHC				LR	LR	
	comp=N,190nm,11.3s					
HHC				LR	LR	
	comp=E,410nm,12.5s					
HHC				LR	LR	
	comp=Z,140nm,13.1s					
CN2	Changchun	38.28	359	eP	P	05 53 26.1 +2.4
CN2				pmax	pmax	
	comp=Z,10.0nm,0.5s					
NWAO	Narrogin (SRO)	39.01	192	P	P	05 53 29.6 -0.3
NWAO	Narrogin (SRO)	39.01	192	P	P	05 53 29.6 -0.3
	comp=Z,6.8nm,0.6s,baz=60,slow=8.1,SNR=5.5					
USRK	Ussuriysk Arra	39.02	7	P	P	05 53 31.2 +1.3
	comp=Z,2.2nm,0.6s,baz=182,slow=7.5,SNR=7.9					
USRK				LR	LR	06 10 36.3
	comp=Z,62nm,18.9s,baz=18,slow=37					
BBOO	Buckleboo	39.14	167	P	P	05 53 31.4 +0.3
	baz=39,SNR=7.3					
MDJ	Mudanjiang	39.21	4	P	P	05 53 32.6 +1.1
MDJ				pP	pP	05 53 57.5 0.0
MDJ				sP	sP	05 54 10.1 -0.5
MDJ				ScP	ScP	05 59 16.9 +0.3
MDJ				S	S	05 59 26.3 +3.0
MDJ				sS	sS	06 00 10.4 +2.1
MDJ				pmax	pmax	
	comp=Z,6.0nm,1.5s					
MDJ				pmax	pmax	
	comp=Z,42nm,3.9s					
STKA	Stephens Creek	39.88	159	eP	P	05 53 37.6 +0.3
	comp=Z,2.3nm,0.8s					
STKA				PcP	PcP	05 55 40.5 -0.4
STKA	Stephens Creek	39.88	159	P	P	05 53 37.5 +0.3
	comp=Z,12nm,0.9s,baz=319,slow=8.9,SNR=12					
STKA				PcP	PcP	05 55 40.5 -0.4
	comp=Z,4.1nm,0.8s,baz=4.3,slow=4.5,SNR=3.2					
STKA				LR	LR	06 10 09.7
	comp=Z,142nm,20.9s,baz=214,slow=36					
STKA	Stephens Creek	39.88	159	P	P	05 53 38.0 +0.7
	baz=40,SNR=8.6					
GTA	Gaotai	41.37	329	eP	P	05 53 49.3 -0.3
GTA				pP	pP	05 54 14.8 -1.0
GTA				sP	sP	05 54 27.8 -1.0
GTA				S	S	05 59 57.0 +1.1
GTA				sS	sS	06 00 41.3 +0.1
GTA				SS	SS	06 03 00.9 -3.4
GTA				pmax	pmax	
	comp=Z,5.0nm,0.9s					
GTA				pmax	pmax	
	comp=Z,37nm,5.7s					
GTA				LR	LR	
	comp=N,220nm,19.0s					
GTA				LR	LR	
	comp=E,320nm,18.5s					
GTA				LR	LR	
	comp=Z,130nm,16.6s					
ULN	Ulaanbaatar	45.37	342	P	P	05 54 19.5 -2.1
	comp=Z,2.2nm,0.4s					
SONM	Songino Array	45.55	341	P	P	05 54 22.3 -0.7
SONM				PcP	PcP	05 55 59.6 -0.2
SONM	Songino Array	45.55	341	P	P	05 54 22.3 -0.7
	comp=Z,0.7nm,0.3s,baz=158,slow=7.1,SNR=4.4					
SONM				PcP	PcP	05 55 59.6 -0.2
	comp=Z,1.9nm,0.8s,baz=148,slow=4.1,SNR=4.6					
DZM	Mont Dzumac	48.01	126	P	P	05 54 43.8 +1.3
DZM	Mont Dzumac	48.01	126	P	P	05 54 43.8 +1.3
	comp=Z,4.8nm,0.8s,baz=51,slow=23,SNR=5.3					
WMQ	Urumqi	51.02	325	eP	P	05 55 06.3 +1.3
WMQ				pP	pP	05 55 32.5 +0.4
WMQ				sP	sP	05 55 45.3 +0.4
WMQ				PcP	PcP	05 56 21.3 +1.8
WMQ				pmax	pmax	
	comp=Z,9.0nm,0.8s					
WMQ				pmax	pmax	
	comp=Z,82nm,3.6s					
WMQ				LR	LR	
	comp=E,210nm,32.0s					
WMQ				LR	LR	
	comp=Z,44nm,24.6s					
PETK	Petropavlovsk-	54.17	23	P	P	05 55 29.1 +1.2
PETK	Petropavlovsk-	54.17	23	P	P	05 55 29.1 +1.2
	comp=Z,2.2nm,0.6s,baz=193,slow=6.0,SNR=5.9					
MKAR	Makanchi Array	55.85	325	P	P	05 55 38.7 -1.5
MKAR	Makanchi Array	55.85	325	P	P	05 55 38.7 -1.5
	comp=Z,2.8nm,0.3s,baz=118,slow=7.3,SNR=45					
MKAR				LR	LR	06 20 05.6
	comp=Z,38nm,19.8s,baz=270,slow=36					
KSH	Kashi	56.44	315	eP	P	05 55 45.6 +0.9
KSH				pP	pP	05 56 12.9 +0.7
KSH				PP	PP	05 57 54.8 +3.3
KSH				PcS	PcS	06 00 41.0 -0.2
KSH				S	S	06 03 26.3 -0.7
KSH				ScS	ScS	06 05 20.8 -2.3
KSH				pmax	pmax	
	comp=Z,60nm,5.2s					
KSH				LR	LR	
	comp=N,190nm,6.7s					
KSH				LR	LR	
	comp=E,95nm,7.8s					
KSH				LR	LR	
	comp=Z,110nm,7.1s					
ZALV	Zalesovo Beam	58.84	333	P	P	05 55 58.6 -2.5
ZALV	Zalesovo Beam	58.84	333	P	P	05 55 58.6 -2.5
	comp=Z,2.5nm,0.4s,baz=130,slow=6.5,SNR=9.0					
KURBB	Kurchatov Arra	60.02	327	P	P	05 56 07.1 -2.1
	comp=Z,2.8nm,0.5s,baz=126,slow=6.0,SNR=23					
KURK	Kurchatov	60.02	327	P	P	05 56 07.1 -2.1
FX1	Attu Island--F	60.99	30	P	P	05 56 16.9 +1.2
FX1	Attu Island--F	60.99	30	P	P	05 56 16.9 +1.2
	comp=Z,5.9nm,0.6s,baz=270,slow=14,SNR=5.1					
BVAR	Borovoye Array	65.60	327	P	P	05 56 44.7 -1.5
BVAR	Borovoye Array	65.60	327	P	P	05 56 44.7 -1.5
	comp=Z,1.3nm,0.4s,baz=116,slow=6.8,SNR=11					
ABKAR	Akbulak array	70.48	321	eP	P	05 57 15.4 -1.4
	comp=Z,0.6nm,0.3s					
KDAK	Kodiak Island	80.86	32	P	P	05 58 17.0 +1.3
KDAK	Kodiak Island	80.86	32	P	P	05 58 17.0 +1.3
	comp=Z,4.1nm,0.6s,baz=259,slow=5.2,SNR=6.0					
IMA2	Indian Mountai	81.15	24	eP	P	05 58 18.2 +0.9
BPAW	Bear Paw Mtn.	82.10	26	eP	P	05 58 22.8 +0.6
	comp=Z,5.9nm,1.0s					
ILAR	Eielson Array	83.91	25	P	P	05 58 31.2 -0.2
ILAR	Eielson Array	83.91	25	P	P	05 58 31.2 -0.2
	comp=Z,0.5nm,0.6s,baz=238,slow=4.9,SNR=7.1					
MAW	Mawson	85.06	200	P	P	05 58 36.8 -0.3
MAW	Mawson	85.06	200	P	P	05 58 36.8 -0.3
	comp=Z,3.1nm,0.9s,baz=55,slow=8.4,SNR=4.8					
MAW				LR	LR	06 33 04.0
	comp=Z,62nm,18.9s,baz=209,slow=33					
VNDA	Vanda	85.13	173	P	P	05 58 37.2 -0.1
VNDA	Vanda	85.13	173	P	P	05 58 37.2 -0.1
	comp=Z,2.1nm,0.9s,baz=299,slow=5.1,SNR=12					
BRTR	Keskin Array B	88.48	310	P	P	05 58 51.7 -2.9
BRTR	Keskin Array B	88.48	310	P	P	05 58 51.7 -2.9
	comp=Z,0.3nm,0.3s,baz=113,slow=3.7,SNR=3.5					
ARCES	ARCESS Array B	88.69	340	P	P	05 58 52.0 -2.8
ARCES	ARCESS Array B	88.69	340	P	P	05 58 52.0 -2.8
	comp=Z,3.3nm,0.8s,baz=68,slow=6.7,SNR=6.2					
FINES	FINESS Array B	90.09	332	P	P	05 58 59.7 -1.7
FINES	FINESS Array B	90.09	332	P	P	05 58 59.7 -1.7
	comp=Z,3.3nm,1.0s,baz=65,slow=6.6,SNR=12					
TXAR	Lajitas Array	121.09	51	PKP	PKPdf	06 04 54.0 -0.7
TXAR	Lajitas Array	121.09	51	PKP	PKPdf	06 04 54.0 -0.7
	comp=Z,0.2nm,0.8s,baz=302,slow=1.7,SNR=2.5					
TORD	Torodi Ar. Bea	121.79	289	PKP	PKPdf	06 04 55.3 -0.9
TORD	Torodi Ar. Bea	121.79	289	PKP	PKPdf	06 04 55.3 -0.9
	comp=Z,2.4nm,1.0s,baz=55,slow=2.1,SNR=11					

*BJI **24** 05:47:00.2, 37°.82N×95°.73E, h5km, mB4.4/1, mb4.1/1, ML3.9/5, Ms3.5/3, Ms7 3.2/3*
*IDC **24** 05:47:03.1±1.7, 37°.77N×95°.81E, h0km, mb3.4/2, mb1 3.7/6, mb1mx3.5/31, mbtmp3.6/6, ML3.9/4, MS3.0/3, Ms1 3.0/3, ms1mx2.7/21, Error ellipse: s-maj=39.9km s-min=26.8km az=59.0*

ISC 24 05:47:03.1±1.2, 37°.8N±0°.1×95°.57E±0°.06, h10km, n11, σ2°.14/13, 1D, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	Gaotai	3.71	63	Pn	Pn	05 48 00.1	-0.4
GTA				Pg	Pb	05 48 07.6	-1.1
GTA				Sn	Sn	05 48 43.8	-0.5
GTA				Sg	Sb	05 48 55.4	+1.7
GTA				smax	smax		
	comp=N,46nm,0.6s						
GTA				smax	smax		
	comp=E,30nm,0.8s						
GTA				LR	LR		
	comp=N,200nm,10.9s						
GTA				LR	LR		
	comp=E,270nm,9.0s						
GTA				LR	LR		
	comp=Z,320nm,10.9s						
LZH	Lanzhou	6.84	102	ePn	Pn	05 48 40.3	-3.3
LZH				eSn	Sn	05 49 57.3	-4.2
LZH				smax	smax		
	comp=N,58nm,0.5s						
LZH				smax	smax		
	comp=E,72nm,1.0s						
LZH				LR	LR		
	comp=N,410nm,8.2s						
LZH				LR	LR		
	comp=E,180nm,9.2s						
LZH				LR	LR		
	comp=Z,440nm,9.5s						
WMQ	Urumqi	8.49	318	Pn	Pn	05 48 58.3	-7.9
WMQ				smax	smax		
	comp=N,32nm,0.8s						
WMQ				smax	smax		
	comp=E,53nm,1.2s						
SONM	Songino Array	12.80	35	Pn	Pn	05 50 06.9	+1.7
	comp=E,0.3nm,0.3s,baz=215,slow=14,SNR=4.3						
SONM				LR	LR	05 55 17.9	
	comp=E,69nm,20.3s,baz=14,slow=39						
MK31	Makanchi Array	13.32	317	Pn	Pn	05 50 11.0	-1.2
	comp=E,0.8nm,0.5s,baz=126,slow=14,SNR=24						
MK31				‖Sn	Sn	05 52 38.2	-2.2
	comp=E,3.4nm,0.8s,baz=122,slow=26,SNR=5.9						
MKAR	Makanchi Array	13.32	317	Pn	Pn	05 50 11.7	-0.5
	comp=E,0.5nm,0.3s,baz=123,slow=14,SNR=16						
MKAR				Sn	Sn	05 52 37.4	-3.0
	comp=E,0.1nm,0.3s,baz=122,slow=30,SNR=4.5						
KURBB	Kurchatov Arra	17.67	322	Pn	Pn	05 51 09.2	0.0
	comp=E,0.1nm,0.3s,baz=134,slow=10,SNR=7.2						
ZALV	Zalesovo Beam	17.79	339	LR	LR	05 59 08.5	
	comp=E,18nm,18.7s,baz=64,slow=41						
CMAR	Chiang Mai Arr	19.47	170	P	P	05 51 31.6	+1.5
	comp=E,0.4nm,0.3s,baz=349,slow=8.2,SNR=4.9						
BVAR	Borovoye Array	23.18	319	P	P	05 52 11.6	+1.9
	comp=E,0.6nm,0.4s,baz=144,slow=11,SNR=3.6						
BVAR				LR	LR	06 01 42.4	
	comp=E,69nm,18.8s,baz=117,slow=38						
ILAR	Eielson Array	66.79	24	P	P	05 57 55.3	+1.0
	comp=E,0.3nm,0.7s,baz=289,slow=5.5,SNR=3.8						

CASC 24 06:06:22.8±2.9, 8°.99N×84°.04W, h0km±7km, MD3.5, 1C-2D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QCR	Quepos	0.45	344‖	eP	Pb	06 06 32.6	-0.9
QCR				eS	Sb	06 06 40.8	0.0
BUS	Buena Vista	0.62	27‖	eP	Pg	06 06 35.7	+0.3
BUS				eS	Sb	06 06 46.1	-0.8
URSC	Urasca	0.88	17	eP	Pg	06 06 40.0	+0.1
URSC				eS	Sb	06 06 52.8	-0.8
ACR	Cerro Adams	0.93	111	eP	Pg	06 06 40.9	+0.2
ACR				eS	Sg	06 06 53.3	+0.6
SJS	Escuela Geolog	0.94	359	eP	Pg	06 06 41.0	0.0
CGA2	Cerro Gallo 2	1.10	338‖	eP	Pg	06 06 44.2	+0.1
CGA2				eS	Sn	06 07 02.4	+0.7
CAO	Cobano	1.26	304	eP	Pg	06 06 45.1	-2.0
CTCR	Cotoan	1.27	94	eP	Pg	06 06 46.7	-0.8
BRU2	Volcan	1.35	98	eP	Pb	06 06 55.4	+6.3
BRU2				eS	Sn	06 07 07.5	-0.3
TBS2		1.38	98	eP	Pb	06 06 50.0	+0.3
TBS2				eS	Sb	06 07 08.3	+0.1
CNI	Changuinola	1.56	74	eP	Pn	06 06 52.2	+0.4
CNI				eS	Sg	06 07 15.8	+2.7

IDC 24 06:14:59.4±4.1, 30°.14S×138°.72E, h0km, mb1 3.1/3, mb1mx3.1/16, mbtmp2.8/3, ML2.4/3, Error ellipse: s-maj=149.3km s-min=16.9km az=45.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	3.01	126	Pn	Pn	06 15 47.8	-0.7
	0.1nm,0.3s,baz=303,slow=15,SNR=3.6						
STKA				Pg	Pg	06 15 56.1	-1.1
	0.9nm,0.3s,baz=302,slow=14,SNR=9.2						
STKA				Sn	Sn	06 16 25.5	+0.2
	1.1nm,0.3s,baz=307,slow=9.7,SNR=5.5						
STKA				Lg	Lg	06 16 34.1	
	1.4nm,0.3s,baz=228,slow=18,SNR=5.0						
ASAR	Alice Springs	7.75	325	Pn	Pn	06 16 53.9	+0.3
	0.1nm,0.3s,baz=149,slow=13,SNR=4.2						
WRA	Warramunga Arr	10.90	338	Pn	Pn	06 17 36.2	-0.7
	0.1nm,0.3s,baz=162,slow=10,SNR=3.2						

*IDC **24** 06:20:26.7±1.0, 0°.75S×133°.78E, h0km, mb3.9/6, mb1 4.2/8, mb1mx4.0/22, mbtmp4.0/8, ML4.0/2, MS3.4/1, Ms1 3.4/1, ms1mx2.4/29, Error ellipse: s-maj=58.2km s-min=18.0km az=82.0*
*ISCJB **24** 06:20:30.1±0.7, 0°.89S±0°.06×133°.52E±0°.09, h29km, mb3.9/6, MS3.4/1, Error ellipse: s-maj=12.9km s-min=8.8km az=3.6*
*AUST **24** 06:20:30.0, 0°.49S×133°.50E, h60km*

ISC 24 06:20:31.5±0.8, 0°.94S±0°.06×133°.5E±0°.1, h29km, n19, σ2°.49/19, mb4.0/6, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	Sorong	2.24	272	P	Pn	06 21 07.7	+1.1
	baz=2.3,SNR=30						
FAKI	Fak Fak	2.33	212	P	Pn	06 21 10.6	+2.7
	baz=2.7,SNR=59						
FAKI				S	Sb	06 21 44.2	+3.0
	baz=2.7,SNR=5.1						
TLE	Tual	4.73	189	P	Pn	06 21 45.1	+4.2
	baz=5.2,SNR=4.9						
TLE				S

baz=19,SNR=13
WRA Warramunga Arr 18.91 178 P Pn 06 24 50.9 +0.1
0.3nm,0.3s,baz=356,slow=11,SNR=30
WRA S Sn 06 28 18.4 -3.2
0.1nm,0.3s,baz=351,slow=24,SNR=3.5
ASAR Alice Springs 22.60 179 P P 06 25 31.2 +1.3
7.3nm,0.8s,baz=4.4,slow=12,SNR=48
CISI Cisompet, Garu 26.43 255 P P 06 26 03.1 -3.0
baz=27,SNR=4.0
STKA Stephens Creek 31.71 167 P P 06 26 53.2 +0.4
1.7nm,0.7s,baz=22,slow=5.4,SNR=2.5
MJAR Matsushiro Arr 37.55 6 LR LR 06 40 05.0
comp=Z,54nm,19.5s,baz=240,slow=32
SONM Songino Array 54.01 338 P P 06 29 54.2 +1.0
0.2nm,0.3s,baz=124,slow=6.2,SNR=3.6
MKAR Makanchi Array 65.26 324 P P 06 31 09.5 -1.1
0.7nm,0.5s,baz=115,slow=9.9,SNR=4.6
VNDA Vanda 78.04 174 P P 06 32 28.1 +1.2
1.2nm,0.8s,baz=322,slow=5.7,SNR=8.4
ILAR Eielson Array 86.42 25 P P 06 33 08.6 -2.4
0.5nm,0.7s,baz=245,slow=4.8,SNR=5.0

IDC 24 06:30:11.3±3.2, 12°.63S×167°.01E, h211km±27km, mb3.8/21, mb1 3.9/21, mb1mx3.9/25, mbtmp3.8/21, Error ellipse: s-maj=18.9km s-min=12.0km az=112.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.40**	**183**	P	Pn	06 32 26.4	+3.5
	2.2nm,0.3s,baz=24,slow=20,SNR=31						
DZM				S	S	06 34 11.0	+2.4
	0.3nm,0.3s,baz=142,slow=19,SNR=3.1						
CTA	**Charters Tower**	**21.24**	**247**	P	P	06 34 41.3	+0.1
	3.7nm,0.4s,baz=74,slow=13,SNR=8.0						
STKA	**Stephens Creek**	**30.20**	**227**	P	P	06 36 03.6	+1.3
	0.9nm,0.4s,baz=33,slow=9.5,SNR=3.4						
STKA				PcP	PcP	06 38 57.2	-0.7
	3.0nm,1.0s,baz=45,slow=4.3,SNR=3.4						
WRA	**Warramunga Arr**	**32.15**	**253**	P	P	06 36 18.7	-0.8
	0.2nm,0.3s,baz=89,slow=11,SNR=14						
ASAR	**Alice Springs**	**33.24**	**246**	P	P	06 36 28.2	-0.7
	0.8nm,0.6s,baz=71,slow=10,SNR=7.4						
ASAR				pP	pP	06 37 09.9	-2.1
	1.6nm,0.7s,baz=73,slow=9.3,SNR=9.2						
ASAR				PcP	PcP	06 39 05.1	-1.3
	0.4nm,0.7s,baz=77,slow=4.2,SNR=4.1						
ASAR				ScP	ScP	06 42 31.1	+0.3
	1.2nm,0.9s,baz=80,slow=2.8,SNR=6.0						
FITZ	**Fitzroy Crossi**	**40.20**	**257**	P	P	06 37 27.8	+0.1
	2.4nm,0.7s,baz=104,slow=9.8,SNR=4.5						
MJAR	**Matsushiro Arr**	**55.94**	**332**	P	P	06 39 27.2	-0.6
	3.2nm,0.7s,baz=167,slow=9.1,SNR=11						
MAT	**Matsushiro**	**55.95**	**332**	P	P	06 39 27.0	-0.8
JNU	**Nakatsue**	**57.09**	**324**	P	P	06 39 35.7	-0.2
	5.6nm,0.7s,baz=105,slow=8.5,SNR=4.1						
ASAJ	**Asahikawa**	**60.70**	**340**	P	P	06 40 01.6	+1.2
	7.0nm,0.4s,baz=311,slow=32,SNR=6.4						
KSRS	**Korea Array**	**61.88**	**325**	P	P	06 40 08.6	+0.1
	1.8nm,0.7s,baz=148,slow=7.2,SNR=9.2						
USRK	**Ussuriysk Arra**	**64.92**	**333**	P	P	06 40 28.9	+0.7
	4.4nm,1.0s,baz=153,slow=6.4,SNR=7.5						
VNDA	**Vanda**	**64.94**	**181**	P	P	06 40 28.6	+0.6
	1.4nm,0.8s,baz=330,slow=6.3,SNR=9.1						
PETK	**Petropavlovsk-**	**65.96**	**354**	P	P	06 40 35.0	+0.3
	3.4nm,0.6s,baz=146,slow=8.2,SNR=5.0						
SONM	**Songino Array**	**80.67**	**323**	P	P	06 42 00.7	-0.3
	0.7nm,0.4s,baz=126,slow=5.6,SNR=7.0						
MAW	**Mawson**	**83.72**	**202**	P	P	06 42 16.2	-0.1
	0.4nm,0.3s,baz=90,slow=6.1,SNR=4.4						
YBH	**Yreka Blue Hor**	**84.12**	**45**	P	P	06 42 18.7	-0.2
	1.2nm,0.8s,baz=320,slow=3.3,SNR=4.4						
ILAR	**Eielson Array**	**84.62**	**18**	P	P	06 42 19.9	-0.9
	8.1nm,0.7s,baz=247,slow=5.1,SNR=138						
NVAR	**Mina Array Bea**	**86.10**	**49**	P	P	06 42 28.7	-0.2
	1.0nm,0.7s,baz=236,slow=9.6,SNR=8.5						
NEW	**Newport**	**90.14**	**40**	P	P	06 42 47.2	-0.4
	1.6nm,0.8s						
TXAR	**Lajitas Array**	**95.50**	**61**	P	P	06 43 12.7	-0.1
	0.3nm,0.6s,baz=224,slow=5.2,SNR=3.5						
MKAR	**Makanchi Array**	**95.52**	**317**	P	P	06 43 12.4	0.0
	1.8nm,0.6s,baz=91,slow=7.0,SNR=20						
ZALV	**Zalesovo Beam**	**95.56**	**324**	P	P	06 43 10.8	-1.6
	0.9nm,0.6s,baz=108,slow=4.8,SNR=4.8						
ARCES	**ARCESS Array B**	**118.17**	**346**	PKP	PKPdf	06 48 32.1	-0.6
	3.4nm,0.8s,baz=82,slow=1.8,SNR=9.0						
BRTR	**Keskin Array B**	**130.94**	**312**	PKP	PKPdf	06 48 56.7	-1.5
	0.4nm,0.6s,baz=119,slow=1.8,SNR=2.7						
ESDC	**Sonseca Array**	**151.91**	**345**	PKPbc	PKPbc	06 49 41.8	+0.1
	1.9nm,0.7s,baz=11,slow=2.9,SNR=7.4						
ESDC				PKPab	PKPab	06 49 52.2	+0.7
	2.4nm,0.7s,baz=9.5,slow=4.2,SNR=9.3						
TORD	**Torodi Ar. Bea**	**165.68**	**274**	PKP	PKPdf	06 49 50.7	-1.0
	0.6nm,0.8s,baz=104,slow=1.2,SNR=3.1						
TORD				PKPab	PKPab	06 50 51.9	-0.1
	1.2nm,0.9s,baz=74,slow=5.4,SNR=5.6						

IDC 24 06:37:39.7±11.0, 19°.49N×108°.33W, h0km, mb3.0/2, mb1 3.7/3, mb1mx3.6/20, mbtmp3.3/3, ML4.1/1, MS3.5/2, Ms1 3.5/2, ms1mx2.9/10, Error ellipse: s-maj=249.4km s-min=30.6km az=136.0, Revilla Gigedo Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**10.68**	**23**	Pn	Pn	06 40 14.8	+0.7
	0.4nm,0.3s,baz=202,slow=14,SNR=21						
ANMO	**Albuquerque**	**15.49**	**6**	Pn	P	06 41 26.2	+1.9
	0.1nm,0.3s,baz=196,slow=7.7,SNR=4.8						
PFO	**Pinyon Flat Ob**	**15.82**	**334**	LR	LR	06 47 01.4	
	comp=Z,164nm,20.6s,baz=176,slow=36						
PDAR	**Pinedale Array**	**23.23**	**358**	P	P	06 42 49.5	+0.8
	0.2nm,0.5s,baz=176,slow=13,SNR=2.4						
ATAH	**Atahualpa**	**39.61**	**129**	LR	LR	06 57 43.2	
	comp=Z,86nm,21.7s,baz=118,slow=30						
ILAR	**Eielson Array**	**51.99**	**340**	P	P	06 46 49.9	-0.5
	0.3nm,0.8s,baz=144,slow=6.7,SNR=4.2						

*ISCJB **24** 07:16:18.0±0.7, 18°.84N±0°.02×107°.37W±0°.02, h8km±4km, mb5.7/300, MS6.2/237, Error ellipse: s-maj=3.7km s-min=2.3km az=44.1*

*IDC **24** 07:16:17.7±0.5, 18°.86N×107°.68W, h0km, mb4.9/29, mb1 5.0/34, mb1mx5.0/35, mbtmp4.9/34, ML4.2/5, MS6.2/40, Ms1 6.2/40, ms1mx6.1/45, Error ellipse: s-maj=16.6km s-min=8.2km az=57.0*

*IGIL **24** 07:16:20.6, 19°.09N×107°.32W, h5km, MS6.2*

*NEIC **24** 07:16:20.3±0.2, 18°.83N×107°.34W, h13km, mb5.8/244, ME6.6, MS6.2/139, MW6.3, MW6.3, MW6.4(USGS), Error ellipse: s-maj=5.2km s-min=2.9km az=37.0, Moment Tensor Solution. s25 Moment tensor: Scale 10^18Nm; Mrr0.19; Mθθ-1.82; Mφφ1.63; Mrθ-0.53; Mφφ-2.22; Mφr-1.40; Best double couple: M0=3.20000×10^18 NP1:φs200.00000°, δ88.00000°, λ28.00000°. NP2:φs109.00000°, δ62.00000°, λ178.00000°. Principal axes: T 3.1000, Plg20.0000°, Azm67.0000°; N 0.1700, Plg61.0000°, Azm202.0000°; P -3.2700, Plg18.0000°, Azm330.0000°; Broadband fault plane solution: P waves. NP1:φs110.00000°, δ85.00000°, λ178.00000°. NP2:φs200.00000°, δ88.00000°, λ5.00000°. Principal axes: T Plg5.0000°, Azm65.0000°; N Plg0.0000°, Azm0.0000°; P Plg2.0000°, Azm335.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt at Jalisco, Puerto Vallarta and Tepic.

*MOS **24** 07:16:22.2±1.2, 18°.97N×107°.38W, h33km, mb6.0/77, MS6.2/42 Error ellipse: s-maj=7.2km s-min=3.9km az=87.5*

*BJI **24** 07:16:22.0, 19°.15N×107°.14W, h27km, mB6.2/30, mb5.7/11, Ms6.6/43, Ms7 6.3/43*

*MEX **24** 07:16:24.7±2.3, 18°.77N×107°.01W, h20km±30km, MD5.5*

*GCMT **24** 07:16:24.6±0.1, 18°.90N×107°.50W, h14km, MW6.4, Moment Tensor Solution. s115,c274; s99,c205; Moment tensor: Scale 10^18Nm; Mrr0.50±.02; Mθθ-3.06±.03; Mφφ2.56±.03; Mrθ-0.12±.05; Mφφ-3.50±.02; Mφr0.25±.05; Best double couple: M0=4.50000×10^18 NP1:φs289.00000°, δ87.00000°, λ177.00000°. NP2: φs19.00000°, δ87.00000°, λ3.00000°. Principal axes: T 4.2600, Plg4.0000°, Azm244.0000°; N 0.4800, Plg86.0000°, Azm64.0000°; P -4.7400, Plg0.0000°, Azm334.0000°; Data Used: II IU CN G IC. Mantle waves from 101 sta. Surface waves: sta=116, comp=245, per=50.*

*SZGRF **24** 07:16:33.3, 20°.34N×105°.35W, h33km, mb5.5, Near coast of Jalisco, Mexico*

*NEIC **24** 07:16:40.7±0.0, 19°.04N×107°.42W, h10km, Moment Tensor Solution. s122 Moment tensor: Scale 10^18Nm; Mrr0.15; Mθθ-2.57; Mφφ2.42; Mrθ-0.46; Mφθ-2.93; Mφr-0.90; Best double couple: M0=4.00000×10^18 NP1:φs110.00000°, δ75.00000°, λ-178.00000°. NP2:φs20.00000°, δ89.00000°, λ-14.00000°. Principal axes: T 3.8800, Plg9.0000°, Azm66.0000°; N 0.2000, Plg75.0000°, Azm197.0000°; P -4.0700, Plg10.0000°, Azm334.0000°;*

ISC 24 07:16:23.0±0.4, 18°.81N±0°.03×107°.21W±0°.02, h30km±2km, h30km:pP-P, n1381, σ1°.74/1420, mb5.8/298, MS6.2/237, 170C-221D, Off coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CJM	**Chamela**	**2.16**	**71**	*e*P	Pn	07 16 54.5	-2.4
CJM				*i* S	Sn	07 17 18.1	-4.6
CJM	**Chamela**	**2.16**	**71**	*e*P	Pn	07 16 54.5	-2.4
CJM				*i* S	Sn	07 17 18.1	-4.6
ANIG	**Ahuacatlan**	**3.37**	**48**	*e*P	**Pn**	**07 17 12.5**	**-1.2**
ANIG				*i* S	**Sn**	**07 17 51.0**	**-1.8**
ANIG	**Ahuacatlan**	**3.37**	**48**	*e*P	**Pn**	**07 17 12.5**	**-1.2**
ANIG				*i* S	**Sn**	**07 17 51.0**	**-1.8**
MMIG	**Aquila**	**3.70**	**97**	*e*P	**Pn**	**07 17 16.7**	**-1.4**
MMIG				*i* S	**Sn**	**07 17 56.5**	**-4.2**
MMIG	**Aquila**	**3.70**	**97**	*e*P	**Pn**	**07 17 16.7**	**-1.4**
MMIG				*i* S	**Sn**	**07 17 56.5**	**-4.2**
MAIG	**Mazatlaan**	**4.42**	**9**	*i* P	**Pn**	**07 17 25.5**	**-2.4**
MAIG				*i* S	**Sn**	**07 18 18.8**	**+0.5**
MAIG	**Mazatlaan**	**4.42**	**9**	*i* P	**Pn**	**07 17 25.5**	**-2.4**
MAIG				*i* S	**Sn**	**07 18 18.8**	**+0.5**
ZIIG	**Zihuatanejo**	**5.59**	**101**	*e*P	**Pn**	**07 17 42.0**	**-2.1**
ZIIG				*i* S	Sn	07 18 42.2	-5.1
ZIIG	**Zihuatanejo**	**5.59**	**101**	*e*P	**Pn**	**07 17 42.0**	**-2.1**
ZIIG				*i* S	Sn	07 18 42.2	-5.1
MOIG	**Morelia**	**5.75**	**80**	*e*P	**Pn**	**07 17 45.7**	**-0.9**
MOIG				*i* S	Sn	07 18 47.2	-4.5
MOIG	**Morelia**	**5.75**	**80**	*e*P	**Pn**	**07 17 45.7**	**-0.9**
MOIG				*i* S	Sn	07 18 47.2	-4.5
ZAIG	**Zacatecas**	**5.86**	**47**	*e*P	**Pn**	**07 17 47.3**	**-0.8**
ZAIG				*i* S	**Sn**	**07 18 51.9**	**-2.5**
ZAIG	**Zacatecas**	**5.86**	**47**	*e*P	**Pn**	**07 17 47.3**	**-0.8**
ZAIG				*i* S	**Sn**	**07 18 51.9**	**-2.5**
IGIG	**Irapuato, Guan**	**5.87**	**70**	*e*P	**Pn**	**07 17 46.5**	**-1.5**
IGIG				*i* S	**Sn**	**07 18 50.9**	**-3.5**
LPIG	**La Paz**	**6.00**	**332**	*e*P	**Pn**	**07 17 52.0**	**+2.3**
LPIG				*i* S	**Sn**	**07 19 00.9**	**+3.4**
LPIG	**La Paz**	**6.00**	**332**	*e*P	**Pn**	**07 17 52.0**	**+2.3**
LPIG				*i* S	**Sn**	**07 19 00.9**	**+3.4**
LPIG	**La Paz**	**6.00**	**332**	Pn	Pn	07 17 43.8	-6.0
	0.7nm,0.3s,baz=162,slow=3.2,SNR=4.8						
LPIG				Sn	**Sn**	**07 19 01.4**	**+4.0**
	baz=155,slow=19,SNR=1.3						
LPIG				LR	LR	07 19 36.4	
	comp=Z,612μm,18.7s,baz=163,slow=34						
ARIG	**Puente Sto Nin**	**6.53**	**94**	*e*P	**Pn**	**07 17 56.7**	**-0.4**
ARIG				*i* S	**Sn**	**07 19 06.3**	**-4.3**
CAIG	**El Cayaco**	**6.84**	**104**	*e*P	**Pn**	**07 17 59.1**	**-2.1**
CAIG				*i* S	Sn	07 19 12.2	-5.9
CAIG	**El Cayaco**	**6.84**	**104**	*e*P	**Pn**	**07 17 59.1**	**-2.1**
CAIG				*i* S	Sn	07 19 12.2	-5.9
MEIG	**Mezcala**	**7.26**	**96**	*e*P	**Pn**	**07 18 08.0**	**+0.8**
MEIG				*i* S	**Sn**	**07 19 25.1**	**-3.5**
MEIG	**Mezcala**	**7.26**	**96**	*e*P	**Pn**	**07 18 08.0**	**+0.8**
MEIG				*i* S	**Sn**	**07 19 25.1**	**-3.5**
PLIG	**Platanillo**	**7.32**	**92**	*e*P	**Pn**	**07 18 07.2**	**-0.8**
PLIG				*e*S	Sn	07 19 25.4	-4.7
PLIG	**Platanillo**	**7.32**	**92**	*e*P	**Pn**	**07 18 07.2**	**-0.8**
PLIG				*e*S	Sn	07 19 25.4	-4.7
UNM	**Universidad Na**	**7.61**	**85**	*e*P	**Pn**	**07 18 11.3**	**-0.9**
UNM				*e*S	**Sn**	**07 19 34.2**	**-3.4**
UNM	**Universidad Na**	**7.61**	**85**	*e*P	**Pn**	**07 18 11.3**	**-0.9**
UNM				*e*S	**Sn**	**07 19 34.2**	**-3.4**
UNM	**Universidad Na**	**7.61**	**85**	*e*P	**Pn**	**07 18 11.3**	**-0.9**
UNM				*e*S	**Sn**	**07 19 34.2**	**-3.4**
YAIG	**Yautepec**	**7.71**	**88**	*e*P	**Pn**	**07 18 12.2**	**-1.2**
YAIG				*e*S	**Sn**	**07 19 35.6**	**-4.2**
YAIG	**Yautepec**	**7.71**	**88**	*e*P	**Pn**	**07 18 12.2**	**-1.2**
YAIG				*e*S	**Sn**	**07 19 35.6**	**-4.2**
DEIG	**Demacu**	**7.85**	**78**	*e*P	**Pn**	**07 18 14.5**	**-0.8**
DEIG				*e*S	**Sn**	**07 19 40.4**	**-2.9**
DEIG	**Demacu**	**7.85**	**78**	*e*P	**Pn**	**07 18 14.5**	**-0.8**
DEIG				*e*S	**Sn**	**07 19 40.4**	**-2.9**
PPM	**Popocatepetl**	**8.13**	**87**	*e*P	**Pn**	**07 18 18.7**	**-0.7**
PPM				*i* S	**Sn**	**07 19 49.0**	**-1.5**
PPM	**Popocatepetl**	**8.13**	**87**	*e*P	**Pn**	**07 18 18.7**	**-0.7**
PPM				*i* S	**Sn**	**07 19 49.0**	**-1.5**
PPM	**Popocatepetl**	**8.13**	**87**	*e*P	**Pn**	**07 18 18.7**	**-0.7**
PPM				*i* S	**Sn**	**07 19 49.0**	**-1.5**
HPIG		**8.21**	**10**	*e*P	**Pn**	**07 18 22.0**	**+1.7**
HPIG				*i* S	**Sn**	**07 19 53.6**	**+1.5**
HPIG		**8.21**	**10**	*e*P	**Pn**	**07 18 22.0**	**+1.7**
HPIG				*i* S	**Sn**	**07 19 53.6**	**+1.5**
PNIG	**Pinotepa**	**8.99**	**104**	*e*P	**Pn**	**07 18 29.3**	**-1.5**
PNIG				*i* S	**Sn**	**07 20 07.8**	**-3.3**
PNIG	**Pinotepa**	**8.99**	**104**	*e*P	**Pn**	**07 18 29.3**	**-1.5**
PNIG				*i* S	**Sn**	**07 20 07.8**	**-3.3**
TPIG	**Tehuac#an**	**9.35**	**91**	*e*P	**Pn**	**07 18 34.8**	**-1.0**
TPIG				*i* S	**Sn**	**07 20 17.1**	**-2.9**
TPIG	**Tehuac#an**	**9.35**	**91**	*e*P	**Pn**	**07 18 34.8**	**-1.0**
TPIG				*i* S	**Sn**	**07 20 17.1**	**-2.9**
SRIG	**Santa Rosalia**	**9.65**	**332**	*i* P	**Pn**	**07 18 41.4**	**+1.6**
SRIG				*i* S	**Sn**	**07 20 30.3**	**+3.0**
SRIG	**Santa Rosalia**	**9.65**	**332**	*i* P	**Pn**	**07 18 41.4**	**+1.6**
SRIG				*i* S	**Sn**	**07 20 30.3**	**+3.0**
VHO	**Vista Hermosa**	**10.12**	**98**	*e*P	**Pn**	**07 18 45.9**	**-0.5**
VHO				*i* S	**Sn**	**07 20 37.1**	**-2.0**
VHO	**Vista Hermosa**	**10.12**	**98**	*e*P	**Pn**	**07 18 45.9**	**-0.5**
VHO				*i* S	**Sn**	**07 20 37.1**	**-2.0**
LVIG	**Laguna Verde**	**10.23**	**83**	*i* P	**Pn**	**07 18 47.7**	**-0.1**
LVIG				*i* S	**Sn**	**07 20 38.7**	**-2.9**
LVIG	**Laguna Verde**	**10.23**	**83**	*i* P	**Pn**	**07 18 47.7**	**-0.1**
LVIG				*i* S	**Sn**	**07 20 38.7**	**-2.9**
HSIG		**10.72**	**342**	*e*P	**Pn**	**07 18 54.6**	**+0.2**
HSIG				*i* S	**Sn**	**07 20 57.3**	**+3.8**
HSIG		**10.72**	**342**	*e*P	**Pn**	**07 18 54.6**	**+0.2**
HSIG				*i* S	**Sn**	**07 20 57.3**	**+3.8**
TXAR	**Lajitas Array**	**10.96**	**16**	Pn	**Pn**	**07 18 57.0**	**-0.9**
TXAR				Sn	Sn	07 21 13.9	+14
TXAR				PKKKP		07 56 02.3	
TXAR	**Lajitas Array**	**10.96**	**16**	Pn	**Pn**	**07 18 57.0**	**-0.9**
	2.0nm,0.3s,baz=198,slow=14,SNR=56						
TXAR				Sn	Sn	07 21 13.9	+14
	baz=183,slow=30,SNR=1.8						
TXAR				LR	LR	07 22 58.0	
	comp=Z,108μm,21.7s,baz=225,slow=36						
TXAR				P3KP		07 56 02.3	
	0.0nm,0.3s,baz=80,slow=1.4,SNR=7.1						
HUIG	**Huatulco**	**11.03**	**104**	*e*P	**Pn**	**07 18 58.4**	**-0.3**
HUIG				*i* S	**Sn**	**07 20 56.6**	**-4.4**
HUIG	**Huatulco**	**11.03**	**104**	*e*P	**Pn**	**07 18 58.4**	**-0.3**
HUIG				*i* S	**Sn**	**07 20 56.6**	**-4.4**
626A	**Big Bend Ranch**	**11.06**	**14**	⇓P	**Pn**	**07 18 58.9**	**-0.2**
	baz=11,SNR=136						
626A				⇓S	**Sn**	**07 20 59.9**	**-1.9**
	baz=11						
627A	**Terlingua Ranc**	**11.15**	**17**	⇓P	**Pn**	**07 19 00.4**	**-0.1**
	baz=11,SNR=105						
628A	**Black Gap, Mar**	**11.33**	**20**	P	**Pn**	**07 19 02.7**	**-0.2**
	baz=11,SNR=109						
628A				⇑S	**Sn**	**07 21 06.3**	**-2.3**
	baz=11						
CGIG		**11.53**	**357**	*e*P	**Pn**	**07 19 05.7**	**+0.1**
CGIG		**11.53**	**357**	*e*P	**Pn**	**07 19 05.7**	**+0.1**
526A	**Mary Lane Ranc**	**11.55**	**14**	P	**Pn**	**07 19 05.7**	**-0.3**
	baz=12,SNR=230						
527A	**Woodward Ranch**	**11.75**	**15**	⇓P	**Pn**	**07 19 08.7**	**+0.1**
	baz=12,SNR=81						
732A	**Laxson Ranch,**	**11.89**	**32**	⇓P	**Pn**	**07 19 12.5**	**+2.1**
	baz=12,SNR=146						
425A	**Indio Mountain**	**12.09**	**9**	P	**Pn**	**07 19 12.9**	**-0.4**
	baz=12,SNR=220						
529A	**Stev Forest Ra**	**12.14**	**21**	⇓P	**Pn**	**07 19 15.1**	**+1.1**
	baz=12,SNR=32						
426A	**McDonald Obser**	**12.15**	**13**	P	**Pn**	**07 19 14.1**	**-0.2**
	baz=12,SNR=149						
631A	**Perdido Creek**	**12.16**	**29**	⇑P	**Pn**	**07 19 15.7**	**+1.5**
	baz=12,SNR=84						
KVTX	**Kingsville**	**12.20**	**43**	*e*Pn	P	07 19 23.2	-3.6
427A	**Hayter Ranch,**	**12.47**	**15**	⇑P	**Pn**	**07 19 19.4**	**+0.9**
	baz=12,SNR=75						
530A	**J-C Ranch, Com**	**12.48**	**24**	⇓P	**Pn**	**07 19 20.0**	**+1.4**
	baz=13,SNR=71						
320A	**Kipp Ranch, An**	**12.53**	**355**	⇓P	**Pn**	**07 19 19.1**	**-0.2**
	baz=13,SNR=86						
428A	**Kincaid Ranch,**	**12.55**	**18**	⇑P	**Pn**	**07 19 20.7**	**+1.1**
	baz=13,SNR=18						
632A	**Uvalde**	**12.62**	**31**	⇑P	**Pn**	**07 19 21.7**	**+1.2**
	baz=13,SNR=247						
319A	**Douglas**	**12.65**	**352**	⇑P	**Pn**	**07 19 20.6**	**-0.4**
	baz=13						
324A	**Moseley Ranch,**	**12.67**	**7**	P	**Pn**	**07 19 21.6**	**+0.3**
	baz=13,SNR=72						
429A	**Davenport Ranc**	**12.71**	**21**	⇓P	**Pn**	**07 19 23.3**	**+1.5**
	baz=13,SNR=53						
326A	**Caldwell Ranch**	**12.79**	**13**	P	**Pn**	**07 19 23.2**	**+0.3**
	baz=13,SNR=39						
531A	**Rocksprings**	**12.82**	**27**	⇓P	**Pn**	**07 19 24.5**	**+1.2**
	baz=13,SNR=60						
MNTX	**Cornudas Mount**	**12.94**	**7**	*e*Pn	**Pn**	**07 19 24.8**	**-0.1**
	257nm,1.5s						
327A	**Balmorhea Ranc**	**12.95**	**14**	⇑P	**Pn**	**07 19 25.0**	**0.0**
	baz=13						
532A	**Rocksprings**	**13.08**	**29**	⇑P	**Pn**	**07 19 28.5**	**+1.7**
	baz=13,SNR=260						
220A	**Playas Peak, P**	**13.09**	**355**	P	**Pn**	**07 19 26.6**	**-0.4**
	baz=13,SNR=131						
430A	**Baggett Ranch,**	**13.09**	**23**	⇑P	**Pn**	**07 19 28.4**	**+1.4**
	baz=13,SNR=157						
328A	**Wristen Ranch,**	**13.13**	**17**	⇓P	**Pn**	**07 19 28.5**	**+1.0**
	baz=13,SNR=39						
221A	**Mesquite Ranch**	**13.15**	**358**	⇓P	**Pn**	**07 19 27.5**	**-0.3**
	baz=13,SNR=105						
223A	**Chaparral, Ant**	**13.16**	**3**	⇑P	**Pn**	**07 19 28.0**	**+0.1**
	baz=13,SNR=14						
222A	**Williams Famil**	**13.24**	**0**	⇓P	**Pn**	**07 19 29.0**	**0.0**
	baz=13,SNR=12						
431A	**Sonora**	**13.25**	**26**	⇓P	**Pn**	**07 19 31.2**	**+2.2**
	baz=13,SNR=129						
224A	**Cornudas Mount**	**13.30**	**6**	⇑P	**Pn**	**07 19 29.5**	**-0.3**
	baz=13,SNR=163						
225A	**Deer Hill, Car**	**13.42**	**9**	⇑P	**Pn**	**07 19 31.7**	**+0.2**
	baz=14,SNR=16						
JCT	**Junction City**	**13.42**	**29**	*e*P	**Pn**	**07 19 33.4**	**+1.9**
JCT				*e*		07 22 05.7	
JCT	**Junction City**	**13.42**	**29**	*e*Pn	**Pn**	**07 19 33.4**	**+1.9**
JCT				*e*Sn	Sn	07 22 05.7	+6.0
JCT	**Junction City**	**13.42**	**29**	⇑P	**Pn**	**07 19 32.8**	**+1.4**
	baz=14,SNR=112						
329A	**Wagon Wheel Ra**	**13.48**	**20**	⇓P	**Pn**	**07 19 33.7**	**+1.5**
	baz=14,SNR=28						
226B	**Tecolote Peak,**	**13.49**	**11**	P	**Pn**	**07 19 33.0**	**+0.5**
	baz=14,SNR=148						
TGIG		**13.57**	**96**	*e*P	Pn	07 19 30.8	-2.7
TGIG				*i* S	Sn	07 21 58.7	-4.7
TGIG		**13.57**	**96**	*e*P	Pn	07 19 30.8	-2.7
TGIG				*i* S	Sn	07 21 58.7	-4.7
GDL2	**Guadalupe Moun**	**13.58**	**10**	*e*Pn	**Pn**	**07 19 34.0**	**+0.4**
227A	**Bennet, Jal**	**13.61**	**14**	⇓P	**Pn**	**07 19 34.2**	**+0.2**
	baz=14,SNR=12						
121A	**Cookes Peak, D**	**13.67**	**358**	P	**Pn**	**07 19 35.1**	**+0.1**
	baz=14,SNR=108						
330A	**Mertzon**	**13.68**	**22**	⇓P	**Pn**	**07 19 35.6**	**+0.7**
	baz=14,SNR=56						
PCIG		**13.71**	**101**	*e*P	**Pn**	**07 19 38.5**	**+3.0**
PCIG				*e*S	**Sn**	**07 22 04.9**	**-2.0**
PCIG		**13.71**	**101**	*e*P	**Pn**	**07 19 38.5**	**+3.0**
PCIG				*e*S	**Sn**	**07 22 04.9**	**-2.0**
CLNB	**Carlsbad**	**13.73**	**12**	*e*Pn	**Pn**	**07 19 36.1**	**+0.5**
	10nm,0.6s						
120A	**U Bar Ranch, L**	**13.74**	**355**	P	**Pn**	**07 19 35.5**	**-0.3**
	baz=14,SNR=126						
432A	**Menard**	**13.76**	**28**	⇑P	**Pn**	**07 19 37.0**	**+0.9**
	baz=14,SNR=284						
123A	**Bell Site, Whi**	**13.79**	**3**	⇓P	**Pn**	**07 19 36.5**	**-0.1**
	baz=14,SNR=11						
TUC	**Tucson**	**13.82**	**347**	*e*P	**Pn**	**07 19 35.3**	**-1.6**
TUC	**Tucson**	**13.82**	**347**	*e*Pn	**Pn**	**07 19 35.3**	**-1.6**
122A	**Conniff Cattle**	**13.83**	**1**	⇓P	**Pn**	**07 19 37.3**	**+0.2**
	baz=14,SNR=70						
331A	**San Angelo**	**13.87**	**25**	⇓P	**Pn**	**07 19 39.0**	**+1.4**
	baz=14,SNR=146						
228A	**UT Block 9,

ABTX	Abilene, Hawle	15.34	25	⇓P	Pn	07 19 56.2	-1.2	
	baz=15,SNR=69							
Y26A	Elida	15.35	11	⇓P	Pn	07 19 57.4	-0.2	
	baz=15,SNR=28							
Z14A	Wintersburg	15.38	342	⇑P	Pn	07 19 56.2	-1.6	
	baz=15,SNR=32							
Z30A	Sanderson Ranc	15.41	20	⇑P	Pn	07 19 57.2	-1.1	
	baz=16,SNR=45							
Y27A	Causey	15.44	13	⇑P	Pn	07 19 58.5	-0.3	
	baz=16,SNR=176							
LPM	Los Pinos Moun	15.45	2	*e*Pn	Pn	07 19 58.6	-0.3	
LPM				*e*Sn	Sn	07 22 47.6	-1.6	
LAZ	Ladron	15.53	0	*e*Pn	Pn	07 19 59.1	-0.9	
	comp=Z,189nm,0.5s							
LAZ				*e*Sn	Sn	07 22 48.9	-2.3	
X21A	Alamocita Cree	15.58	358	⇓P	Pn	07 20 00.0	-0.7	
	baz=16,SNR=86							
MSTX	Muleshoe	15.61	14	*e*Pn	Pn	07 20 00.6	-0.3	
	comp=Z,26μm,1.0s							
MSTX				*e*Sn	Sn	07 22 56.6	+3.7	
MSTX	Muleshoe	15.61	14	⇓P	Pn	07 20 00.6	-0.3	
	baz=16,SNR=241							
X22A	Bernardo	15.63	1	⇓P	Pn	07 20 00.8	-0.5	
	baz=16,SNR=16							
Y28A	McKinney Farm,	15.68	15	⇓P	Pn	07 20 01.2	-0.6	
	baz=16,SNR=216							
X20A	Quemado	15.71	356	⇓P	Pn	07 20 02.0	-0.3	
	baz=16,SNR=49							
X23A	Hourglass Bar	15.73	3	⇑P	Pn	07 20 02.8	+0.1	
	baz=16,SNR=99							
GLA	Glamis	15.74	336	*e*P	Pn	07 20 00.0	-2.6	
GLA				pmax	pmax			
	comp=Z,2μm,1.6s							
GLA	Glamis	15.74	336	*e*Pn	Pn	07 20 00.0	-2.6	
	comp=Z,566nm,1.6s							
GLA	Glamis	15.74	336	⇓P	Pn	07 20 00.7	-1.9	
	baz=16,SNR=117							
X24A	Lazy VL Ranch,	15.77	5	⇑P	Pn	07 20 03.2	+0.1	
	baz=16							
Z31A	Sharp Cattle R	15.77	22	⇓P	Pn	07 20 02.2	-0.7	
	baz=16,SNR=50							
Y29A	Porterfield Fa	15.78	17	⇑P	Pn	07 20 03.4	+0.2	
	baz=16,SNR=160							
WHTX	Lake Whitney	15.79	32	*e*Pn	Pn	07 20 01.2	-2.1	
	comp=Z,1μm,1.5s							
WHTX	Lake Whitney	15.79	32	⇑P	Pn	07 20 02.8	-0.4	
	baz=16,SNR=152							
X25A	Clemmons Ranch	15.82	8	⇓P	Pn	07 20 03.3	-0.4	
	baz=16							
X18A	Snowflake	15.85	352	⇑P	Pn	07 20 03.4	-0.7	
	baz=16,SNR=113							
Y14A	Wickenburg	15.93	342	⇓P	Pn	07 20 03.2	-1.8	
	baz=16,SNR=120							
DVTC	Desert V Tower	15.94	332	⇓P	Pn	07 20 02.4	-2.7	
	baz=16,SNR=50							
X26A	CR and CF Fran	15.97	10	⇓P	Pn	07 20 05.9	+0.3	
	baz=16,SNR=100							
X16A	Lo Mia Camp, P	15.99	347	⇓P	Pn	07 20 04.7	-1.3	
	baz=16,SNR=100							
Z32A	Haskell	16.01	24	P	Pn	07 20 05.3	-0.7	
	baz=16,SNR=84							
Y30A	Stafford Cattl	16.03	19	⇓P	Pn	07 20 06.0	-0.3	
	baz=16,SNR=18							
SWSC	Sam W. Stewart	16.04	333	P	Pn	07 20 04.1	-2.3	
	baz=16,SNR=92							
ANMO	Albuquerque	16.09	2	*e*Pn	Pn	07 20 06.0	-1.1	
	comp=Z,2μm,2.3s							
ANMO	Albuquerque	16.09	2	Pn	Pn	07 20 07.6	+0.5	
	comp=Z,0.3nm,0.3s,baz=186,slow=9.1,SNR=40							
ANMO				Sn	S	07 23 18.1	+0.5	
	baz=246,slow=18,SNR=1.9							
ANMO				LR	LR	07 26 51.4		
	comp=Z,20μm,20.5s,baz=190,slow=40							
X27A	F and S Farms,	16.19	12	⇑P	Pn	07 20 08.3	-0.1	
	baz=16,SNR=28							
W22A	Albuquerque	16.20	1	⇓P	Pn	07 20 08.6	0.0	
	baz=16,SNR=10							
BAR	Barrett	16.22	330	*e*Pn	Pn	07 20 05.5	-3.2	
	comp=Z,685nm,2.6s							
W21A	San Fidel	16.25	359	⇓P	Pn	07 20 09.0	-0.2	
	baz=16,SNR=42							
Y12C	Blythe	16.25	338	P	Pn	07 20 07.1	-1.9	
	baz=16,SNR=191							
X28A	Dimmitt	16.27	15	⇓P	Pn	07 20 09.3	-0.1	
	baz=16,SNR=73							
MONP	Monument Peak	16.27	331	P	Pn	07 20 07.1	-2.5	
	baz=16,SNR=64							
W20A	Ramah	16.29	356	P	Pn	07 20 09.8	0.0	
	baz=16,SNR=198							
W23A	Werner Place,	16.31	3	⇓P	Pn	07 20 10.2	+0.2	
	baz=16,SNR=148							
Y31A	Rekieta Farm,	16.31	21	⇓P	Pn	07 20 10.0	+0.1	
	baz=16,SNR=120							
X29A	Tulia	16.33	16	⇓P	Pn	07 20 10.5	+0.4	
	baz=16,SNR=114							
W18A	Petrified Fore	16.40	353	*e*P	Pn	07 20 11.5	+0.4	
	comp=Z,22μm,1.3s							
W18A	Petrified Fore	16.40	353	⇓P	Pn	07 20 10.5	-0.6	
	baz=16,SNR=9.9							
W24A	Lazy 6 Ranch,	16.41	5	⇓P	Pn	07 20 11.1	-0.2	
	baz=16,SNR=147							
APG	El Apazote	16.46	101	Pn	P	07 20 15.2	+0.7	
APG				Sn	S	07 23 38.9	+13	
APG	El Apazote	16.46	101	Pn	P	07 20 15.2	+0.7	
	comp=Z,0.7nm,0.3s,baz=307,slow=13,SNR=16							
APG				Sn	S	07 23 38.9	+13	
	comp=Z,0.1nm,0.3s,baz=19,slow=18,SNR=1.5							
W26A	Owens Ranch, T	16.50	10	⇑P	Pn	07 20 12.2	-0.2	
	baz=17,SNR=136							
BC3	Big Chuckawall	16.52	335	⇓P	Pn	07 20 11.0	-1.6	
	baz=16,SNR=380							
W25A	X Bar L Ranch,	16.52	8	⇑P	Pn	07 20 12.7	0.0	
	baz=17,SNR=81							
X30A	Coker Ranch, T	16.56	19	P	Pn	07 20 12.7	-0.4	
	baz=17,SNR=79							
109C	Camp Elliot, M	16.59	330	⇓P	Pn	07 20 11.2	-2.3	
	baz=17,SNR=9.3							
W27A	Bowe Ranch, En	16.60	12	⇑P	Pn	07 20 12.8	-0.8	
	baz=17							
PDMCI	Parker Dam,Lak	16.62	340	P	Pn	07 20 12.4	-1.2	
	baz=17,SNR=58							
Y32A	R-V Farms, Ver	16.64	23	⇑P	Pn	07 20 14.0	0.0	
	baz=17,SNR=79							
V23A	Ortiz Mt. (NFS	16.89	3	⇑P	Pn	07 20 17.8	+0.4	
	baz=17,SNR=44							
PFO	Pinyon Flat Ob	16.90	333	*e*Pn	Pn	07 20 14.9	-2.5	
	comp=Z,944nm,1.4s							
PFO	Pinyon Flat Ob	16.90	333	Pn	Pn	07 20 15.3	-2.1	
	comp=Z,0.4nm,0.3s,baz=155,slow=11,SNR=44							
PFO				LR	LR	07 25 56.0		
	comp=Z,209μm,21.0s,baz=206,slow=35							
PFO	Pinyon Flat Ob	16.90	333	P	Pn	07 20 15.8	-1.6	
	baz=17,SNR=150							
V21A	Milan	16.93	359	⇓P	Pn	07 20 18.2	+0.3	
	baz=17,SNR=9.8							
V24A	Rampart Ranch,	16.94	5	⇑P	Pn	07 20 18.4	+0.5	
	baz=17,SNR=71							
V20A	Brimhall	16.96	356	⇓P	Pn	07 20 17.9	-0.4	
	baz=17,SNR=57							
W28A	Vega	16.97	14	⇑P	Pn	07 20 18.0	-0.3	
	baz=17,SNR=20							
W29A	Amraillo	16.98	16	⇑P	Pn	07 20 18.0	-0.3	
	baz=17,SNR=51							
X31A	McDonald Ranch	17.02	21	⇑P	Pn	07 20 18.4	-0.4	
	baz=17,SNR=37							
V22A	San Miguel Ran	17.04	1	⇑P	Pn	07 20 19.7	+0.5	
	baz=17,SNR=109							
BELC	Belle Mtn. Jos	17.04	334	⇓P	Pn	07 20 17.8	-1.4	
	baz=17,SNR=612							
WUAZ	Wupatki	17.05	348	*e*Pn	Pn	07 20 17.5	-1.7	
	comp=Z,378nm,1.2s							
WUAZ	Wupatki	17.05	348	P	Pn	07 20 18.1	-1.1	
	baz=17,SNR=107							
V25A	Rancho No Teng	17.12	7	⇑P	Pn	07 20 20.1	0.0	
	baz=17,SNR=139							
NATX	Nacogdoches	17.15	39	*e*P	P	07 20 21.7	-0.2	
	comp=Z,2μm,1.6s							
V26A	Tequesquite Ra	17.19	9	⇓P	Pn	07 20 21.2	+0.2	
	baz=17,SNR=121							
MURC	Murrieta	17.23	331	⇓P	Pn	07 20 19.3	-2.0	
	baz=17,SNR=126							
W13A	Hualapai Mount	17.27	341	P	Pn	07 20 20.9	-1.2	
	baz=17,SNR=196							
V27A	Dan Oppiter Fa	17.32	12	⇑P	Pn	07 20 22.4	-0.2	
	baz=17,SNR=52							
W30A	Crocket Farms	17.34	19	⇓P	Pn	07 20 22.4	-0.3	
	baz=17,SNR=7.1							
SCI	San Clemente I	17.39	326	⇓P	Pn	07 20 21.6	-1.8	
	baz=17,SNR=17							
V28A	Channing	17.44	14	⇓P	P	07 20 24.9	-0.3	
	baz=18,SNR=13							
U23A	El Rito	17.47	3	P	P	07 20 25.6	-0.1	
	baz=18,SNR=75							
U22A	Llaves	17.50	1	⇑P	Pn	07 20 25.4	+0.4	
	baz=18,SNR=66							
U20A	Newcomb	17.54	356	⇓P	Pn	07 20 24.9	-0.4	
	baz=18,SNR=24							
W31A	Holland Ranch,	17.54	20	⇑P	Pn	07 20 24.8	-0.5	
	baz=18,SNR=20							
WMOK	Wichita Mounta	17.54	24	*e*P	Pn	07 20 23.8	-1.5	
WMOK				pmax	pmax			
	comp=Z,354nm,1.5s							
WMOK	Wichita Mounta	17.54	24	*e*P	Pn	07 20 23.8	-1.5	
	comp=Z,354nm,1.5s							
U21A	Nageezi	17.55	359	⇑P	Pn	07 20 26.1	+0.4	
	baz=18,SNR=69							
GMRC	Granite Mounta	17.59	336	⇑P	Pn	07 20 24.8	-1.2	
	baz=18,SNR=252							
U24A	Moreno Valley	17.61	5	⇑P	Pn	07 20 26.6	+0.2	
	baz=18							
CIS	Catalina Islan	17.65	328	⇓P	Pn	07 20 24.4	-2.3	
	baz=18,SNR=20							
BBRC	Big Bear Solar	17.66	333	P	Pn	07 20 26.2	-0.7	
	baz=18,SNR=54							
LDFC	Landfair	17.66	338	*e*P	Pn	07 20 26.8	0.0	
	comp=Z,2μm,1.3s							
U25A	Circle Dot Ran	17.70	7	P	Pn	07 20 27.6	+0.3	
	baz=18,SNR=135							
V29A	Stinnett	17.72	15	⇑P	Pn	07 20 27.3	-0.3	
	baz=18,SNR=26							
U26A	Atchley Ranch,	17.78	9	⇑P	Pn	07 20 28.1	-0.3	
	baz=18,SNR=66							
FMP	Fort Macarthur	17.84	328	⇑P	Pn	07 20 25.9	-3.1	
	baz=18							
V30A	Spur Ranch, Mi	17.84	18	⇑P	Pn	07 20 29.3	+0.3	
	baz=18,SNR=18							
HEC	Hector,Ludlow	17.89	335	⇓P	Pn	07 20 27.9	-1.8	
	baz=18,SNR=258							
TEIG	Tepich	17.90	82	*e*P	P	07 20 31.3	+1.1	
	comp=Z,2μm,1.9s							
TEIG				S	S	07 24 06.6	+12	
TEIG	Tepich	17.90	82	P	P	07 20 31.6	+1.3	
	comp=Z,2.2nm,0.3s,baz=265,slow=12,SNR=24							
TEIG				S	S	07 24 06.6	+12	
	comp=Z,0.1nm,0.3s,baz=324,slow=19,SNR=1.5							
TEIG				LR	LR	07 28 21.8		
	comp=Z,45μm,18.1s,baz=270,slow=40							
U27A	Thompson Grove	17.96	12	⇑P	Pn	07 20 30.8	+0.2	
	baz=18,SNR=93							
BFSC	Mount Baldy Ra	17.97	331	⇓P	Pn	07 20 28.8	-1.8	
	baz=18,SNR=134							
U28A	Mallet	18.04	13	⇑P	Pn	07 20 30.8	-0.7	
	baz=18							
V31A	Spring Creek L	18.11	20	P	Pn	07 20 31.6	-0.6	
	baz=18,SNR=33							
U15A	North Rim	18.11	347	⇑P	Pn	07 20 32.0	-0.5	
	baz=18,SNR=151							
T21A	Navajo Lake	18.11	359	⇑P	Pn	07 20 32.7	+0.1	
	baz=18,SNR=46							
T22A	Edith	18.14	1	⇓P	Pn	07 20 32.8	0.0	
	baz=18,SNR=198							
MWC	Mount Wilson	18.14	330	*e*P	Pn	07 20 30.8	-2.0	
MWC				pmax	pmax			
	comp=Z,9μm,3.0s							
MWC	Mount Wilson	18.14	330	*e*P	Pn	07 20 30.8	-2.0	
	comp=Z,9μm,3.0s							
PASC	Pasadena Art C	18.16	330	*e*P	Pn	07 20 30.9	-1.9	
	comp=Z,3μm,2.4s							
T23A	Casias Ranch,	18.19	3	⇓P	Pn	07 20 33.1	-0.3	
	baz=18,SNR=69							
RRX	Edison Barstow	18.21	333	⇑P	Pn	07 20 32.4	-1.2	
	baz=18,SNR=11							
T24B	San Luis	18.25	5	⇓P	P	07 20 34.4	+0.1	
	baz=18,SNR=129							
TUQ	Turquoise Moun	18.27	337	P	P	07 20 33.3	-1.0	
	baz=18,SNR=168							
DECC	Green Verdugo	18.29	329	⇑P	P	07 20 32.7	-1.7	
	baz=18							
U29A	Oasis Ranch, S	18.34	15	⇓P	P	07 20 34.9	-0.1	
	baz=18,SNR=12							
MVCO	Mesa Verde	18.37	357	*e*P	P	07 20 34.5	-1.0	
	comp=Z,554nm,1.4s							
MVCO	Mesa Verde	18.37	357	⇓P	P	07 20 35.0	-0.5	
	baz=18,SNR=63							
T25A	Trinidad	18.42	7	⇑P	P	07 20 35.5	-0.6	
	baz=18,SNR=93							
GSC	Goldstone	18.50	335	*e*P	P	07 20 35.4	-1.4	
GSC				pmax	pmax			
	comp=Z,661nm,1.4s							
GSC	Goldstone	18.50	335	*e*P	P	07 20 35.4	-1.4	
	comp=Z,159nm,1.4s							
GSC	Goldstone	18.50	335	⇑P	P	07 20 36.1	-0.7	
	baz=18,SNR=64							
BLG	Laguna Peak	18.54	328	⇑P	P	07 20 35.8	-1.5	
	baz=18,SNR=20							
T26A	Comanche Natio	18.57	9	⇓P	P	07 20 37.9	+0.3	
	baz=19,SNR=67							
U30A	WK&E Inc. Balk	18.57	17	⇓P	P	07 20 37.6	+0.1	
	baz=19,SNR=38							
T27A	Campo	18.60	11	⇓P	P	07 20 37.5	-0.5	
	baz=19,SNR=68							
EDW2	Edwards Air Fo	18.65	331	⇓P	P	07 20 36.8	-1.7	
	baz=19,SNR=64							
U31A	Nine Bar Ranch	18.66	19	⇓P	P	07 20 38.2	-0.2	
	baz=19,SNR=24							
OSI	Osito Adit	18.78	329	*e*P	Pn	07 20 40.0	-0.4	
	comp=Z,149nm,1.3s							
OSI	Osito Adit	18.78	329	⇑P	P	07 20 37.4	-2.5	
	baz=19							
T28A	Walsh	18.78	13	⇓P	P	07 20 40.0	+0.1	
	baz=19,SNR=16							
S21A	Coal Bank Pass	18.79	359	⇑P	P	07 20 40.1	-0.1	
	baz=19,SNR=122							
SHOC	Shoshone	18.82	337	P	P	07 20 39.3	-0.9	
	baz=19,SNR=108							
S24A	Houchin Ranch,	18.84	5	⇓P	P	07 20 40.4	-0.3	
	baz=19,SNR=61							
S22A	4UR Ranch, Cre	18.87	1	⇓P	P	07 20 41.0	-0.1	
	baz=19,SNR=74							
S25A	Robets Cordova	18.94	7	⇓P	P	07 20 42.0	+0.3	
	baz=19,SNR=34							
SHPR	Sheep Range	18.97	340	*e*P	P	07 20 39.9	-2.2	
S20A	Disappointment	18.98	357	⇑P	P	07 20 41.8	-0.4	
	baz=19,SNR=77							
T29A	Hugoton	19.00	15	⇑P	P	07 20 42.0	-0.2	
	baz=19,SNR=39							
LRMC	Laurel Mountai	19.02	333	⇑P	P	07 20 40.8	-1.7	
	baz=19,SNR=202							
S26A	Kim	19.02	9	⇓P	P	07 20 42.3	-0.3	
	baz=19,SNR=118							
T30A	Plains	19.10	17	⇑P	P	07 20 42.9	-0.4	
	baz=19,SNR=22							
SBC	Santa Barbara	19.14	327	⇓P	P	07 20 42.3	-1.4	
	baz=19,SNR=11							
S27A	Las Animas	19.18	10	⇓P	P	07 20 43.0	-1.3	
	baz=19,SNR=13							
ARVC	Arvin	19.24	330	⇓P	P	07 20 42.9	-2.0	
	baz=19,SNR=58							
S28A	Manter	19.28	13	⇑P	P	07 20 45.2	-0.2	
	baz=19,SNR=49							
R20A	Redvale	19.34	357	P	P	07 20 45.7	-0.4	
	baz=19,SNR=126							
R23A	Moffat	19.35	3	⇓P	P	07 20 46.1	-0.2	
	baz=19,SNR=116							
R22A	Saguache, Gunn	19.35	1	⇓P	P	07 20 45.9	-0.4	
	baz=19							
T31A	Randall Ranch,	19.38	18	⇑P	P	07 20 45.6	-0.8	
	baz=20,SNR=32							
MPMC	Manual Prospec	19.43	334	⇑P	P	07 20 46.1	-1.0	
	baz=19,SNR=232							
CCUT	Cedar City	19.43	345	*e*P	P	07 20 47.2	+0.1	
	comp=Z,855nm,1.8s							
R25A	Fountain Ranch	19.43	7	⇓P	P	07 20 47.4	+0.3	
	baz=20,SNR=55							
R24A	Sanders Place,	19.44	5	⇑P	P	07 20 47.3	+0.1	
	baz=20,SNR=31							
S29A	Ulysses	19.48	15	⇑P	P	07 20 47.7	+0.2	
	baz=20,SNR=44							
R21A	Cimarron	19.49	359	⇓P	P	07 20 47.6	-0.2	
	baz=20,SNR=58							
ISA	Isabella	19.52	332	*e*P	P	07 20 46.6	-1.4	
ISA				pmax	pmax			
	comp=Z,230nm,1.2s							
ISA	Isabella	19.52	332	*e*P	P	07 20 46.6	-1.4	
	comp=Z,56nm,1.2s							
ISA	Isabella	19.52	332	⇑P	P	07 20 46.1	-1.9	
	baz=20,SNR=80							
FURC	Furnace Creek,	19.54	336	P	P	07 20 47.1	-0.9	
	baz=20,SNR=84							
PKM	Peak Mountain	19.55	328	P	P	07 20 46.7	-1.7	
	baz=20,SNR=59							
S30A	Montezuma	19.67	16	P	P	07 20 48.3	-1.2	
	baz=20,SNR=62							
ARUT	Antelope Range	19.68	345	*e*P	P	07 20 50.3	+0.5	
ARUT	Antelope Range	19.68	345	*e*P	P	07 20 50.2	+0.5	
	comp=Z,684nm,1.6s							
TGUH	Tegucigalpa,Un	19.69	101	*e*P	Pn	07 20 53.5	+2.0	
	comp=Z,2μm,1.5s							
R26A	Arlington	19.70	9	⇓P	P	07 20 50.5	+0.6	
	baz=20,SNR=129							
R27A	Eads	19.78	10	P	P	07 20 50.7	-0.2	
	baz=20,SNR=146							
TUL1	Tulsa	19.79	28	*e*P	P	07 20 49.6	-1.3	
	comp=Z,2μm,1.1s							
TUL1	Tulsa	19.79	28	P	P	07 20 49.9	-1.0	
	baz=20,SNR=48							
MIAR	Mount Ida	19.82	35	*e*P	P	07 20 50.1	-1.0	
MIAR				pmax	pmax			
	comp=Z,226nm,1.0s							
MIAR	Mount Ida	19.82	35	*e*P	P	07 20 50.1	-1.0	
	comp=Z,226nm,1.0s							
S31A	Mullinville	19.92	18	P	P	07 20 52.8	+0.4	
	baz=20,SNR=25							
VES	Vestal, Richgr	19.95	331	⇑P	P	07 20 50.4	-2.1	
	baz=20,SNR=90							
Q21A	Lamborn Mesa,	19.95	359	⇑P	P	07 20 52.7	-0.1	
	baz=20,SNR=69							
SMMC	Simmler	19.96	328	P	P	07 20 51.3	-1.5	
	baz=20,SNR=38							
Q22A	Crested Butte,	19.98	1	⇓P	P	07 20 53.4	+0.2	
	baz=20,SNR=67							
CWC	Cottonwood Cre	20.00	334	⇓P	P	07 20 52.5	-0.9	
	baz=20,SNR=52							
R28A	Tribune	20.02	12	⇑P	P	07 20 53.7	+0.3	
	baz=20,SNR=69							
Q23A	Hartsel	20.06	3	⇓P	P	07 20 54.1	0.0	
	baz=20,SNR=48							
VBMS	Vicksburg	20.09	45	*e*P	P	07 20 55.4	+1.3	
	comp=Z,3μm,1.7s							
VBMS				LR	LR			
	comp=Z,61μm,21.0s							
Q20A	Ridgley Place,	20.09	358	P	P	07 20 54.4	+0.1	
	baz=20,SNR=102							
MVU	Marysvale	20.10	349	*e*P	P	07 20 53.8	-0.6	
	comp=Z,688nm,1.6s							
MVU				LR	LR			
	comp=Z,115μm,21.0s							
Q24A	Divide	20.16	5	⇑P	P	07 20 54.9	-0.3	
	baz=20,SNR=22							
Q25A	Bedland, Calha	20.20	7	⇑P	P	07 20 54.8	-0.7	
	baz=20,SNR=49							
GRAC	Grapevine Rang	20.20	336	⇓P	P	07 20 54.6	-0.7	
	baz=20,SNR=148							
R29A	Marienthal	20.25	14	P	P	07 20 55.1	-0.8	
	baz=20,SNR=102							
Q26A	Hugo	20.30	8	⇑P	P	07 20 56.2	-0.3	
	baz=20,SNR=45							
SMCO	Snowmass	20.30	1	*e*P	P	07 20 56.5	-0.3	
	comp=Z,248nm,1.0s							
R30A	Dighton	20.32	16	P	P	07 20 55.5	-1.2	
	baz=20,SNR=100							
Q16A	Castle Valley	20.33	351	*e*P	P	07 20 57.2	+0.3	
Q16A	Castle Valley	20.33	351	⇓P	P	07 20 56.3	-0.6	
	baz=20,SNR=72							
PTRM	Twissleman Ran	20.34	328	*e*Pn	P	07 20 55.4	-1.5	
RCTC	Rector, Farmer	20.40	331	⇓P	P	07 20 56.4	-1.1	
	baz=20,SNR=63							
SRU	San Rafael	20.43	353	*e*P	P	07 20 57.7	-0.3	
SRU				pmax	pmax			
	comp=Z,1μm,2.2s							
SRU	San Rafael	20.43	353	*e*P	P	07 20 57.6	-0.3	
	comp=Z,1μm,2.2s							
KSCO	Kaye Shedlock'	20.52	10	*e*P	P	07 20 58.3	-0.6	
	comp=Z,328nm,1.9s							
KSCO	Kaye Shedlock'	20.52	10	P	P	07 20 58.5	-0.4	
	baz=21,SNR=97							
P23A	Jefferson	20.53	3	⇓P	P	07 20 58.9	-0.3	
	baz=21,SNR=43							
R31A	Burdett	20.53	17	⇓P	P	07 20 58.0	-0.9	
	baz=21,SNR=91							
TIN	Tinemaha	20.59	334	⇓P	P	07 20 59.4	-0.3	
	baz=21,SNR=28							
P20A	De Beque	20.64	357	⇓P	P	07 20 59.7	-0.6	
	baz=21,SNR=67							
P21A	Newcastle	20.64	359	P	P	07 21 00.2	-0.1	
	baz=21,SNR=121							
UALR	University of	20.67	37	*e*P	P	07 21 00.1	-0.3	
	comp=Z,2μm,2.3s							
TMUT	Trail Mountain	20.71	351	*e*P	P	07 21 01.0	-0.1	
	comp=Z,1μm,1.7s							
Q28A	Sharon Springs	20.71	12	P	P	07 21 00.5	-0.5	
	baz=21,SNR=95							
P22A	Eagle	20.72	1	⇑P	P	07 21 01.4	+0.3	
	baz=21,SNR=111							
P24A	Kohler Place,	20.73	5	⇓P	P	07 21 00.9	-0.3	
	baz=21,SNR=30							
Q29A	Oakley	20.73	14	⇓P	P	07 21 00.4	-0.7	
	baz=21							
R11A	Troy Canyon, C	20.79	341	*e*P	P	07 21 00.1	-1.7	
	comp=Z,5μm,1.5s							
R11A	Troy Canyon, C	20.79	341	P	P	07 21 01.3	-0.6	
	baz=21,SNR=238							
P25A	Willow Gulch B	20.80	7	⇓P	P	07 21 01.4	-0.5	
	baz=21,SNR=105							
P19A	Cripple Cowboy	20.81	356	⇑P	P	07 21 01.4	-0.7	
	baz=21,SNR=41						

NVAR S S 07 25 14.2 +1.6
NVAR Mina Array Bea 21.80 336 P P 07 21 12.1 -0.8
comp=Z,39nm,1.2s,baz=150,slow=7.3,SNR=106
NVAR S S 07 25 14.2 +1.6
comp=Z,1.8nm,1.0s,baz=134,slow=6.4,SNR=1.9
NVAR LR LR 07 29 06.7
comp=Z,60µm,19.1s,baz=212,slow=36
DAU Daniels Canyon 21.81 352 eP P 07 21 12.6 -0.4
DAU Daniels Canyon 21.81 352 eP P 07 21 12.6 -0.4
SAO San Andreas Ge 21.83 328 eP P 07 21 11.3 -1.6
SAO pmax pmax
comp=Z,1µm,1.9s
SAO San Andreas Ge 21.83 328 eP P 07 21 11.3 -1.6
comp=Z,336nm,1.9s
DUG Dugway 21.85 348 eP P 07 21 12.5 -0.7
DUG pmax pmax
comp=Z,924nm,1.5s
DUG MLR MLR
comp=Z,94µm,19.0s
DUG Dugway 21.85 348 eP P 07 21 12.5 -0.7
comp=Z,924nm,1.5s
DUG LR LR
comp=Z,94µm,19.0s
DUG Dugway 21.85 348 P P 07 21 12.6 -0.7
baz=22,SNR=147
N21A Black Mountain 21.88 359 ⇑P P 07 21 13.3 -0.3
baz=22,SNR=63
BRAL Brewton 21.90 52 eP P 07 21 17.0 +3.3
comp=Z,4µm,2.0s
BRAL LR LR
comp=Z,40µm,22.0s
N22A Wattenberg Ran 21.93 2 ⇓P P 07 21 13.9 -0.3
baz=22,SNR=74
O29A 4D Ranch, Culb 21.95 13 ⇑P P 07 21 13.8 -0.4
baz=22
N20A Spence Gulch, 21.97 358 P P 07 21 13.6 -1.0
baz=22,SNR=120
JLU Jordanelle 22.02 351 eP P 07 21 14.5 -0.7
comp=Z,898nm,1.5s
N24A Carr 22.03 5 ⇓P P 07 21 15.2 0.0
baz=22,SNR=26
N23A Red Feather La 22.04 3 ⇑P P 07 21 14.8 -0.5
baz=22,SNR=101
N25A Grover 22.09 6 ⇑P P 07 21 15.5 -0.3
baz=22,SNR=30
P33A Williams Farm, 22.14 20 ⇓P P 07 21 14.8 -1.4
baz=22
CTU Camp Tracy 22.16 351 eP P 07 21 16.2 -0.4
comp=Z,784nm,1.8s
O30A MW Ranch, Wils 22.17 15 ⇑P P 07 21 15.6 -0.9
baz=22,SNR=36
HBAR Harrisburg 22.19 38 eP P 07 21 17.5 +0.7
KSU1 Kansas State U 22.21 22 eP P 07 21 16.2 -0.7
comp=Z,458nm,1.0s
KSU1 LR LR
comp=Z,35µm,21.0s
N26A Koester Ranch, 22.21 8 ⇓P P 07 21 16.7 -0.4
baz=22,SNR=18
OXF Oxford 22.25 42 eP P 07 21 17.5 +0.1
OXF pmax pmax
comp=Z,527nm,1.1s
OXF MLR MLR
comp=Z,38µm,19.0s
OXF Oxford 22.25 42 eP P 07 21 17.5 +0.1
comp=Z,527nm,1.1s
OXF LR LR
comp=Z,38µm,19.0s
N27A Anderson Farm, 22.29 9 P P 07 21 16.9 -1.0
baz=22,SNR=56
WAKR Walker 22.32 334 eP P 07 21 16.6 -1.8
O31A Woolen Ranch, 22.33 16 ⇑P P 07 21 18.3 +0.1
baz=22,SNR=25
CMB Columbia Colle 22.34 332 eP P 07 21 15.3 -3.1
CMB pmax pmax
comp=Z,409nm,1.4s
CMB Columbia Colle 22.34 332 eP P 07 21 15.3 -3.1
comp=Z,409nm,1.4s
N28A Pribbeno Ranch 22.34 11 P P 07 21 17.3 -1.1
baz=22,SNR=49
PHWY Pilot Hill 22.47 3 eP P 07 21 19.2 -0.8
comp=Z,246nm,1.1s
OGNE Ogallala 22.50 10 eP P 07 21 18.9 -1.2
OGNE LR LR
comp=Z,101µm,22.0s
OGNE Ogallala 22.50 10 P P 07 21 19.1 -1.0
baz=23,SNR=62
M22A Cedar Creek Ra 22.52 1 P P 07 21 20.9 +0.3
baz=23,SNR=33
BGU Big Grassy Mou 22.60 348 eP P 07 21 20.5 -0.8
comp=Z,527nm,1.3s
M23A Laramie 22.62 3 ⇑P P 07 21 20.8 -0.8
baz=23,SNR=99
M20A Sweetwater, Wa 22.62 358 ⇓P P 07 21 20.5 -1.0
baz=23,SNR=24
N29A Votaw Ranch, W 22.65 13 ⇓P P 07 21 20.8 -0.9
baz=23
M24A Cheyenne 22.67 5 ⇓P P 07 21 21.0 -1.1
baz=23,SNR=70
M19A Rock Springs 22.68 356 ⇓P P 07 21 20.9 -1.3
baz=23
M25A Palm-Egli Farm 22.71 6 ⇓P P 07 21 21.1 -1.4
baz=23,SNR=39
O32A Brockman Farm, 22.72 18 ⇑P P 07 21 20.7 -1.7
baz=23,SNR=37
M21A Separation Pea 22.72 360 ⇓P P 07 21 21.4 -1.2
baz=23,SNR=27
N30A Hueftle Ranch, 22.75 14 ⇓P P 07 21 21.9 -0.8
baz=23
M17A Scullys Gap (B 22.78 353 ⇑P P 07 21 22.0 -1.2
baz=23,SNR=21
RWWY Rawlins 22.80 360 eP P 07 21 28.4 +4.9
comp=Z,523nm,1.5s
M26A McRoberts Ranc 22.85 8 ⇓P P 07 21 23.3 -0.5
baz=23,SNR=8.9
GNAR Gosnell 22.85 38 eP P 07 21 23.9 +0.1
comp=Z,6µm,1.1s
SPUT South Promonto 22.87 350 eP P 07 21 22.6 -1.5
comp=Z,475nm,1.7s
ELK Elko 22.92 344 eP P 07 21 24.1 -0.7
comp=Z,438nm,1.6s
SAC San Andreas 22.95 328 eP P 07 21 26.3 +1.5
SAC pmax pmax
comp=Z,1µm,1.9s
SAC San Andreas 22.95 328 eP P 07 21 26.3 +1.5
comp=Z,1µm,1.9s
LRAL Lakeview Retre 22.99 48 eP P 07 21 25.2 0.0
comp=Z,311nm,1.1s
LRAL LR LR
comp=Z,11µm,22.0s
M27A Reverse DX Ran 23.02 9 ⇓P P 07 21 24.0 -1.5
baz=23
N31A Bailey Ranch, 23.05 16 ⇑P P 07 21 24.9 -0.9
baz=23
M28A Bar X Bar Ranc 23.06 11 ⇓P P 07 21 24.1 -1.8
baz=23,SNR=23
L21A Rawlins 23.08 360 ⇑P P 07 21 24.6 -1.7
baz=23
JTS JuntasAbangare 23.13 108 eP P 07 21 29.8 +3.0
comp=Z,3µm,2.7s
JTS S Sn 07 25 48.3 -6.2
JTS LR LR
comp=Z,42µm,19.0s
JTS JuntasAbangare 23.13 108 P P 07 21 29.2 +2.4
comp=Z,7.6nm,1.0s,baz=304,slow=8.8,SNR=18
JTS S Sn 07 25 48.3 -6.2
comp=Z,9.1nm,1.1s,baz=281,slow=12,SNR=2.0
L20A Wamsutter 23.14 358 ⇑P P 07 21 24.9 -2.0
baz=23,SNR=17
L22A Ellis Ranch, M 23.16 1 ⇑P P 07 21 25.8 -1.3
baz=23,SNR=57
L18A Fontenelle, Gr 23.16 355 ⇓P P 07 21 25.3 -1.8
baz=23,SNR=56
N32A Stulken Farm, 23.18 17 ⇑P P 07 21 25.3 -1.8
baz=23
BMN Battle Mountai 23.20 340 eP P 07 21 27.3 -0.3
BMN pmax pmax
comp=Z,843nm,1.5s
BMN MLR MLR
comp=Z,45µm,19.0s
BMN Battle Mountai 23.20 340 eP P 07 21 27.3 -0.3
comp=Z,843nm,1.5s
BMN LR LR
comp=Z,45µm,19.0s
HALT Halls 23.21 39 eP P 07 21 28.1 +0.7
M29A Burnside Ranch 23.24 12 ⇑P P 07 21 26.4 -1.3
baz=23
L24A Wheatland 23.24 4 ⇓P P 07 21 26.4 -1.5
baz=23,SNR=11
L23A Garrett 23.26 3 ⇓P P 07 21 26.7 -1.5
baz=23,SNR=55
L19A Farson 23.29 356 ⇑P P 07 21 25.9 -2.5
baz=23
PAHR Pah Rah Range 23.33 336 eP P 07 21 27.2 -1.6
comp=Z,2µm,1.9s
HVU Hansel Valley 23.38 349 eP P 07 21 29.2 -0.1
HVU pmax pmax
comp=Z,4µm,2.5s
HVU Hansel Valley 23.38 349 eP P 07 21 29.2 -0.1
comp=Z,3µm,2.5s
L26A Underwood Farm 23.42 8 ⇑P P 07 21 27.8 -1.7
baz=24,SNR=10.0
L25A Engebretsen Ra 23.43 6 ⇑P P 07 21 27.9 -1.8
baz=24,SNR=12
GLAT Glass 23.49 39 eP P 07 21 30.7 +0.5
PARMO Parma 23.49 37 eP P 07 21 30.4 +0.2
M30A Dale-Ortello V 23.50 14 ⇓P P 07 21 29.3 -1.0
baz=24
M31A Lambtecht Ranc 23.54 16 ⇓P P 07 21 29.3 -1.4
baz=24,SNR=13
L27A T5 Ranch, Ells 23.57 9 ⇑P P 07 21 29.0 -2.1
baz=24,SNR=5.8
MCCM Marconi Confer 23.62 328 eP P 07 21 30.9 -0.4
comp=Z,2µm,2.3s
L28A Connealy Angus 23.62 11 ⇑P P 07 21 30.7 -0.8
baz=24
K21A Alcova 23.75 360 ⇓P P 07 21 31.5 -1.3
baz=24,SNR=44
K22A Casper 23.77 1 ⇓P P 07 21 32.4 -0.7
baz=24,SNR=69
K20A Yellowstone Ra 23.79 358 ⇑P P 07 21 32.0 -1.2
baz=24,SNR=76
BGNE Belgrade 23.82 17 eP P 07 21 32.6 -0.7
comp=Z,4µm,1.1s
BGNE Belgrade 23.82 17 ⇓P P 07 21 31.9 -1.4
baz=24,SNR=12
BEKR Beckworth 23.86 334 eP P 07 21 32.6 -1.2
comp=Z,1µm,2.3s
L29A Maesberg Ranch 23.88 12 ⇓P P 07 21 33.1 -0.8
baz=24,SNR=8.9
K25A Mack Ranch, Ha 23.89 6 ⇑P P 07 21 32.7 -1.4
baz=24
OHCM Honcut 23.90 332 eP P 07 21 33.3 -0.7
K23A Bowen Ranch, D 23.91 3 ⇑P P 07 21 31.9 -2.4
baz=24,SNR=19
K24A Anderson Ranch 23.92 4 ⇓P P 07 21 33.0 -1.5
baz=24
L30A Spencer Herefo 23.93 14 ⇓P P 07 21 33.2 -1.2
baz=24,SNR=11
BW06 Boulder Array 23.96 356 eP P 07 21 32.4 -2.5
comp=Z,315nm,1.7s
BW06 LR LR
comp=Z,85µm,19.0s
PDAR Pinedale Array 23.96 356 P P 07 21 32.5 -2.5
PDAR PcP **PcP 07 25 15.1 -1.6**
PDAR Pinedale Array 23.96 356 P P 07 21 32.5 -2.5
comp=Z,5.8nm,0.7s,baz=170,slow=9.8,SNR=37
PDAR PcP **PcP 07 25 15.1 -1.6**
comp=Z,4.5nm,1.1s,baz=159,slow=2.8,SNR=2.4
PDAR LR LR 07 30 35.6
comp=Z,75µm,19.5s,baz=192,slow=36
K19A Absolon Red Bu 23.98 357 ⇓P P 07 21 33.3 -1.7
baz=24,SNR=46
K26A Motz Farm, Whi 24.06 7 ⇓P P 07 21 34.4 -1.3
baz=24,SNR=28
AHID Auburn Hatcher 24.11 353 eP P 07 21 37.0 +0.8
comp=Z,2µm,2.5s
AHID LR LR
comp=Z,81µm,19.0s
K27A Flueckinger Fa 24.19 9 ⇓P P 07 21 35.7 -1.1
baz=24,SNR=81
WVT Waverly 24.28 41 eP P 07 21 36.2 -1.4
WVT pmax pmax
comp=Z,148nm,1.1s
WVT Waverly 24.28 41 eP P 07 21 36.2 -1.4
comp=Z,148nm,1.1s
K28A Ten Mile Ranch 24.34 10 ⇓P P 07 21 37.6 -0.6
baz=24,SNR=50
L31A Butterfield Fa 24.35 15 ⇑P P 07 21 38.1 -0.2
baz=24,SNR=34
HOPS Hopland 24.37 329 eP P 07 21 39.9 +1.5
comp=Z,421nm,2.4s
J19A Crowheart 24.43 357 ⇓P P 07 21 37.9 -1.2
baz=24,SNR=68
J21A Lysite 24.46 360 ⇑P P 07 21 39.2 -0.2
baz=24,SNR=44
J20A Shoshoni 24.48 358 P P 07 21 39.7 +0.2
baz=24,SNR=41
SIUC Southern Illin 24.53 36 eP P 07 21 40.1 +0.2
comp=Z,307nm,1.3s
J22A Midwest 24.53 1 ⇓P P 07 21 39.3 -0.7
baz=25,SNR=51
J24A Dixon Ranch, L 24.54 4 ⇓P P 07 21 39.6 -0.5
baz=25,SNR=15
J23A Dilts Ranch, B 24.56 3 ⇑P P 07 21 39.3 -0.9
baz=25
K29A Lazy Trails An 24.58 12 ⇓P P 07 21 39.5 -0.9
baz=25
K30A Basset 24.64 14 ⇓P P 07 21 40.1 -0.8
baz=25,SNR=58
SLM Saint Louis 24.66 33 eP P 07 21 43.1 +2.1
SLM pmax pmax
comp=Z,3µm,2.6s
SLM Saint Louis 24.66 33 eP P 07 21 43.1 +2.1
comp=Z,3µm,2.6s
REDW Red Top Meadow 24.67 354 eP P 07 21 39.5 -1.8
comp=Z,548nm,1.4s
J25A Sunshine Ranch 24.67 6 ⇓P P 07 21 40.4 -0.8
baz=25,SNR=6.7
J26A Sides Ranch, S 24.68 7 ⇑P P 07 21 40.6 -0.6
baz=25,SNR=55
RRI2 Red Ridge 24.71 353 eP P 07 21 41.0 -0.8
comp=Z,1µm,1.5s
TIGA Tifton 24.74 55 eP P 07 21 42.1 +0.2
comp=Z,487nm,1.0s
TIGA Tifton 24.74 55 ⇓P P 07 21 42.3 +0.4
baz=25,SNR=65
SNOW Snow King Moun 24.76 354 eP P 07 21 40.4 -1.8
comp=Z,640nm,1.3s
J27A Elkhorn Farm, 24.76 9 ⇓P P 07 21 42.2 +0.2
baz=25,SNR=25
TPAW Teton Pass 24.81 353 eP P 07 21 42.0 -0.6
comp=Z,833nm,1.5s
LOHW Long Hollow 24.89 354 eP P 07 21 43.3 -0.1
comp=Z,454nm,1.0s
I21A Big Trails, Te 24.93 360 ⇑P P 07 21 42.6 -1.0
baz=25,SNR=48
SWET Sewanee 24.94 45 eP P 07 21 43.5 -0.2
comp=Z,907nm,1.9s
I22A 9 Mile Ranch, 25.01 1 P P 07 21 43.6 -0.8
baz=25,SNR=68
MOOW Moose Ponds 25.04 354 eP P 07 21 44.6 -0.1
comp=Z,247nm,1.1s
J28A Allard Ranch, 25.05 10 ⇓P P 07 21 44.0 -0.6
baz=25,SNR=56
I24A Kuemmerle Ranc 25.07 4 ⇑P P 07 21 44.0 -0.8
baz=25,SNR=18
I20A Worland 25.07 358 P P 07 21 44.0 -1.0
baz=25,SNR=86
LBCM Butte Creek Ri 25.08 334 P P 07 21 45.5 +0.5
I23A Meade Ranch, G 25.12 3 ⇓P P 07 21 44.7 -0.6
baz=25
KCPM Cahto Peak 25.16 329 eP P 07 21 46.1 +0.5
comp=Z,156nm,1.5s
I17A Pilgrim Ck. 25.19 354 ⇑P P 07 21 45.6 -0.5
baz=25,SNR=17
I19A Meeteetse 25.20 357 P P 07 21 46.1 0.0
baz=25,SNR=58
J29A Okreek 25.20 12 P P 07 21 46.4 +0.5
baz=25,SNR=65
KIPM Iron Peak 25.20 330 eP P 07 21 45.7 -0.4
comp=Z,460nm,1.5s
IMW Indian Meadow 25.21 354 eP P 07 21 44.6 -1.7
comp=Z,262nm,1.3s
J30A Dallas 25.29 13 ⇓P P 07 21 46.7 0.0
baz=25,SNR=69
I25A Rochford 25.30 6 ⇓P P 07 21 46.7 -0.3
baz=25,SNR=52
DWPF Disney 25.35 64 eP P 07 21 48.4 +1.1
comp=Z,1µm,1.4s
FLWY Flagg Ranch 25.37 354 eP P 07 21 49.6 +1.9
comp=Z,2µm,2.3s
RSSD Black Hills 25.38 5 eP P 07 21 46.9 -0.8
RSSD pmax pmax
comp=Z,639nm,1.1s
RSSD Black Hills 25.38 5 eP P 07 21 46.9 -0.8
comp=Z,160nm,1.1s
WDC Whiskeytown Da 25.38 332 eP P 07 21 44.8 -2.7
WDC pmax pmax
comp=Z,92nm,1.2s
WDC Whiskeytown Da 25.38 332 eP P 07 21 44.8 -2.7
comp=Z,92nm,1.2s
I26A New Underwood 25.41 7 ⇓P P 07 21 47.5 -0.3
baz=26
HLID Hailey 25.41 348 eP P 07 21 46.3 -1.7
comp=Z,1µm,2.4s
HLID LR LR
comp=Z,76µm,20.0s
HLID Hailey 25.41 348 ⇑P P 07 21 47.8 -0.2
baz=25,SNR=96
WVOR Wild Horse Val 25.47 340 eP P 07 21 46.8 -1.7
WVOR MLR MLR
comp=Z,42µm,21.0s
WVOR Wild Horse Val 25.47 340 eP P 07 21 46.8 -1.7
comp=Z,11µm,1.4s
WVOR LR LR
comp=Z,42µm,21.0s
PAYG Puerto Ayora 25.52 138 eP P 07 21 55.3 +6.3
comp=Z,103nm,1.4s
PAYG LR LR
comp=Z,70µm,19.0s
I27A Quinn 25.55 9 ⇑P P 07 21 49.4 +0.2
baz=26,SNR=20
MOD Modoc 25.58 337 eP P 07 21 48.7 -0.8
comp=Z,264nm,1.1s
MFID Camas Ranch 25.58 345 ⇓P P 07 21 48.7 -0.9
baz=26,SNR=95
USIN University of 25.59 38 eP P 07 21 51.0 +1.5
comp=Z,439nm,1.3s
H20A Greybull 25.61 359 P P 07 21 49.9 +0.2
baz=26,SNR=84
I28A Midland 25.62 10 ⇑P P 07 21 49.5 -0.2
baz=26,SNR=24
H17A Grant Village 25.66 354 eP P 07 21 50.5 +0.1
comp=Z,398nm,1.7s
H17A Grant Village 25.66 354 ⇓P P 07 21 50.2 -0.2
baz=26,SNR=17
H22A Clearmont 25.72 1 P P 07 21 49.5 -1.2
baz=26,SNR=32
H23A Clabaugh Cattl 25.72 3 ⇑P P 07 21 50.0 -0.7
baz=26
H21A Big Horn, Sher 25.74 0 ⇓P P 07 21 50.3 -0.7
baz=26,SNR=17
YFT Old Faithful 25.75 354 eP P 07 21 52.3 +1.2
comp=Z,221nm,1.4s
I29A Vivian Onida 25.80 11 P P 07 21 51.8 +0.5
baz=26,SNR=40
LKWY Lake 25.82 355 eP P 07 21 52.8 +1.0
LKWY pmax pmax
comp=Z,228nm,1.4s
LKWY MLR MLR
comp=Z,83µm,19.0s
LKWY Lake 25.82 355 eP P 07 21 52.8 +1.0
comp=Z,228nm,1.4s
LKWY LR LR
comp=Z,83µm,19.0s
H19A Powell 25.83 357 P P 07 21 52.0 +0.3
baz=26,SNR=47
I30A Oacoma 25.87 13 ⇓P P 07 21 51.1 -0.9
baz=26,SNR=24
H18A Shoshone NF, C 25.87 356 ⇑P P 07 21 51.3 -1.0
baz=26,SNR=18
OLIL Olney 25.88 36 eP P 07 21 51.4 -0.7
comp=Z,215nm,1.1s
H25A Fruitdale 25.91 6 P P 07 21 52.5 +0.1
baz=26,SNR=19
SCIA State Center 25.92 24 PFAKE 07 22 00.0 +7.5
SCIA LR LR
comp=Z,39µm,19.0s
H24A Dirks Ranch, A 25.96 4 P P 07 21 51.2 -1.7
baz=26,SNR=43
YMR Madison River 25.97 354 eP P 07 21 53.3 +0.1
comp=Z,1µm,2.0s
YNR Norris Junctio 25.99 354 eP P 07 21 53.8 +0.4
comp=Z,179nm,1.3s
H26A Fairpoint 26.00 7 ⇑P P 07 21 52.6 -0.6
baz=26,SNR=17
CPCT Cooper Cave 26.02 46 eP P 07 21 52.5 -1.0
H27A Howes 26.10 8 ⇓P P 07 21 54.3 +0.2
baz=26,SNR=22
KHMM Horse Mountain 26.16 331 eP P 07 21 52.4 -2.4
comp=Z,184nm,1.1s
QLMT Earthquake Lak 26.18 353 eP P 07 21 54.4 -0.6
J08A Circle Bar Ran 26.25 341 P P 07 21 55.3 -0.2
RLMT Red Lodge 26.29 357 eP P 07 21 57.7 +1.6
comp=Z,141nm,1.4s
RLMT LR LR
comp=Z,66µm,22.0s
H28A Mission Ridge 26.30 10 ⇑P P 07 21 55.2 -0.7
baz=26
G21A Lodge Grass 26.34 0 ⇑P P 07 21 55.2 -1.1
baz=26,SNR=7.4
G22A Birney 26.34 1 ⇓P P 07 21 55.0 -1.3
baz=26,SNR=23
G20A Bridger 26.35 358 ⇑P P 07 21 54.9 -1.6
baz=26,SNR=41
G23A Biddle 26.36 3 ⇑P P 07 21 55.7 -0.8
baz=26,SNR=42
MCMT McKenzie Canyo 26.37 351 eP P 07 21 56.8 +0.1
comp=Z,89nm,1.3s
YBH Yreka Blue Hor 26.39 333 eP P 07 21 54.1 -2.7
comp=Z,48nm,1.1s
YBH Yreka Blue Hor 26.39 333 P P 07 21 53.4 -3.5
comp=Z,5.6nm,1.2s,baz=158,slow=9.7,SNR=7.9
YBH LR LR 07 31 58.2
comp=Z,70µm,21.4s,baz=155,slow=36
H29A Onida 26.40 11 ⇑P P 07 21 56.9 +0.2
baz=26,SNR=14
ECSD EROS Data Cent 26.40 17 eP P 07 21 54.1 -2.7
comp=Z,1.9nm,0.5s
ECSD LR LR
comp=Z,83µm,21.0s
BRSD Miller 26.47 13 eP P 07 21 57.7 +0.3
comp=Z,2µm,1.1s
BRSD Miller 26.47 13 ⇑P P 07 21 57.1 -0.4
baz=27,SNR=12
G25A Newell 26.50 6 P P 07 21 56.4 -1.3
baz=27,SNR=20
K05A Summer Lake 26.51 337 P P 07 21 58.5 +0.4
G24A Alzada 26.54 4 P P 07 21 56.8 -1.4
baz=27,SNR=67
WCI Wyandotte Cave 26.57 39 eP P 07 21 58.9 +0.5
WCI pmax pmax
comp=Z,267nm,1.5s
WCI Wyandotte Cave 26.57 39 eP P 07 21 58.9 +0.5
comp=Z,267nm,1.5s
G26A Maurine 26.68 7 P P 07 21 58.2 -1.2
baz=27,SNR=95
G28A Parade 26.71 10 ⇑P P 07 21 59.3 -0.3
baz=27,SNR=7.2
G27A Dupree 26.73 7 P P 07 21 59.5 -0.3
baz=27,SNR=47
KRMB Red Mountain 26.75 331 eP P 07 21 58.7 -1.4
comp=Z,3µm,2.3s
DLMT Dillon 26.85 352 eP P 07 22 00.2 -0.8
comp=Z,258nm,1.6s
F23A Volborg 26.88 3 P P 07 21 59.1 -2.1
baz=27,SNR=42
F22A Rosebud 26.91 1 ⇓P P 07 21 59.2 -2.2
baz=27,SNR=22
F20A Billings 26.93 359 ⇓P P 07 21 59.8 -1.8
baz=27,SNR=30
F21A Absaloka Mine, 26.94 0 ⇓P P 07 22 01.3 -0.3
baz=27
GCMT Greycliff 26.98 356 eP P 07 22 00.6 -1.6
comp=Z,59nm,1.0s
G29A Hoven 27.00 11 ⇑P P 07 22 01.2 -0.9
baz=27
F19A Roth Farm, Mol 27.01 357 ⇓P P 07 22 01.4 -0.9
baz=27,SNR=24
BOZ Bozeman (W) 27.01 353 eP P 07 22 01.5 -0.9
BOZ pmax pmax
comp=Z,58nm,1.1s
BOZ MLR MLR
comp=Z,34µm,19.0s
BOZ Bozeman (W) 27.01 353 eP P 07 22 01.5 -0.9
comp=Z,65nm,1.1s
BOZ LR LR
comp=Z,31µm,19.0s
F24A Ekalaka 27.06 4 ⇓P P 07 22 01.4 -1.4
baz=27,SNR=34
BLO Bloomington 27.07 37 eP P 07 22 03.5 +0.7
BLO pmax pmax
comp=Z,660nm,2.1s

BLO	Bloomington	27.07	37	eP		P	07 22 03.5	+0.7
	comp=Z,592nm,2.1s							
G30A	Faulkton	27.09	13	⇑P		P	07 22 02.6	-0.4
	baz=27,SNR=7.9							
F25A	Bowman	27.22	6	⇑P		P	07 22 03.1	-1.1
	baz=27,SNR=11							
F26A	Lodgepole	27.23	7	⇓P		P	07 22 03.2	-1.0
	baz=27							
I07A	Izee	27.23	340	eP		P	07 22 04.2	-0.1
	comp=Z,80nm,1.1s							
LRM	Limekiln Ridge	27.28	352	eP		P	07 22 01.8	-3.2
TZTN	Tazewell	27.29	45	eP		P	07 22 04.5	-0.4
	comp=Z,143nm,1.0s							
BMO	Blue Mountains	27.30	344	eP		P	07 22 02.6	-2.4
	comp=Z,259nm,1.5s							
BMO				LR	LR			
	comp=Z,60µm,21.0s							
F27A	Lemmon	27.33	8	⇓P		P	07 22 04.5	-0.6
	baz=27,SNR=21							
BBOR	Butler Butte	27.34	335	P		P	07 22 03.6	-1.8
PINOR	Pine Mountain	27.45	338	P		P	07 22 06.4	+0.3
KBO	Bosley Butte	27.45	332	eP		P	07 22 05.4	-0.9
	comp=Z,206nm,1.3s							
F28A	McLaughlin	27.48	10	⇓P		P	07 22 05.4	-1.1
	baz=28,SNR=18							
E22A	Miles City	27.57	2	⇑P		P	07 22 05.7	-1.7
	baz=28,SNR=41							
SFIN	Scholer Farm	27.59	35	eP		P	07 22 06.2	-1.3
	comp=Z,8µm,2.0s							
SFIN	Scholer Farm	27.59	35	⇓P		P	07 22 07.0	-0.5
	baz=28,SNR=15							
E19A	Rath Farm, Rou	27.61	358	⇓P		P	07 22 06.3	-1.4
	baz=28,SNR=69							
E20A	Meyer Farm, Mu	27.63	359	⇓P		P	07 22 06.8	-1.1
	baz=28							
F29A	Eureka	27.63	11	⇑P		P	07 22 06.1	-1.8
	baz=28							
E21A	Keefer Ranch,	27.66	0	⇑P		P	07 22 06.3	-1.8
	baz=28,SNR=22							
E24A	Baker	27.78	4	⇑P		P	07 22 07.7	-1.5
	baz=28							
F30A	Leola	27.79	12	⇑P		P	07 22 07.7	-1.5
	baz=28							
E25A	Miller Ranch,	27.79	6	P		P	07 22 07.7	-1.7
	baz=28,SNR=14							
LAO	LASA Array	27.81	1	eP		P	07 22 06.8	-2.7
	comp=Z,344nm,1.5s							
LAO				LR	LR			
	comp=Z,174µm,19.0s							
BEND	Bend	27.83	338	P		P	07 22 09.8	0.0
E26A	Carlson Angus	27.86	7	⇓P		P	07 22 09.4	-0.5
	baz=28,SNR=12							
E27A	Carson	27.93	8	⇑P		P	07 22 09.9	-0.6
	baz=28,SNR=8.5							
JFWS	Jewell Farm	27.98	27	eP		P	07 22 09.4	-1.6
JFWS				pmax	pmax			
	comp=Z,383nm,1.7s							
JFWS				MLR	MLR			
	comp=Z,28µm,21.0s							
JFWS	Jewell Farm	27.98	27	eP		P	07 22 09.4	-1.6
	comp=Z,383nm,1.7s							
JFWS				LR	LR			
	comp=Z,28µm,21.0s							
KEBM	Edson Butte	28.02	333	eP		P	07 22 10.9	-0.5
	comp=Z,502nm,1.3s							
GMO	Grizzlie Mount	28.02	339	P		P	07 22 11.6	+0.1
HRY	Holter Researc	28.08	353	eP		P	07 22 10.6	-1.4
KMSC	Kings Mountain	28.10	49	eP		P	07 22 13.4	+1.3
	comp=Z,448nm,0.9s							
KMSC	Kings Mountain	28.10	49	⇓P		P	07 22 12.6	+0.5
	baz=28,SNR=12							
MTDJ	Mount Denham	28.13	86	eP		P	07 22 16.7	+4.0
	comp=Z,784nm,1.5s							
MTDJ				LR	LR			
	comp=Z,21µm,21.0s							
G08A	Pilot Rock	28.16	342	eP		P	07 22 12.8	+0.1
	comp=Z,460nm,2.8s							
D21A	La Casta Ranch	28.18	0	P		P	07 22 11.6	-1.2
	baz=28,SNR=33							
BCIP	Isla Barro Col	28.20	106	eP		P	07 22 16.1	+2.9
BCIP				LR	LR			
	comp=Z,24µm,20.0s							
E28A	Huff	28.20	10	⇓P		P	07 22 10.9	-2.1
	baz=28,SNR=20							
D20A	Manuel Ranch,	28.21	359	P		P	07 22 11.5	-1.6
	baz=28,SNR=38							
D22A	Cohagen	28.28	1	⇓P		P	07 22 12.0	-1.6
	baz=28,SNR=97							
D19A	Cripps Ranch,	28.31	358	⇑P		P	07 22 12.5	-1.5
	baz=28,SNR=47							
D24A	Glendive	28.33	4	⇑P		P	07 22 13.4	-0.7
	baz=28,SNR=18							
F10A	Beach Ranch, E	28.33	345	P		P	07 22 13.4	-0.7
D23A	Lindsay	28.34	3	⇓P		P	07 22 12.8	-1.4
	baz=28,SNR=35							
E29A	Napoleon	28.38	11	⇑P		P	07 22 13.1	-1.4
	baz=28,SNR=6.4							
D26A	Manning	28.42	7	⇑P		P	07 22 13.5	-1.4
	baz=28,SNR=5.3							
D25A	Fairfield	28.44	6	⇑P		P	07 22 13.9	-1.2
	baz=28,SNR=20							
E30A	Jud	28.45	12	⇓P		P	07 22 13.0	-2.1
	baz=28							
CHMT	Chamberlain Mo	28.46	351	eP		P	07 22 15.0	-0.5
MSO	Missoula	28.49	350	eP		P	07 22 13.6	-2.0
	comp=Z,183nm,1.2s							
MSO	Missoula	28.49	350	⇑P		P	07 22 13.5	-2.1
	baz=28,SNR=66							
D27A	Center	28.61	8	⇑P		P	07 22 15.2	-1.4
	baz=29							
H04A	Detroit Lake	28.67	337	eP		P	07 22 16.1	-1.1
	comp=Z,261nm,1.1s							
C24A	Savage	28.73	4	⇑P		P	07 22 16.1	-1.6
	baz=29,SNR=30							
SLMT	Seeley Lake	28.82	351	eP		P	07 22 17.6	-1.0
D28A	Regan	28.83	9	⇑P		P	07 22 17.4	-1.1
	baz=29,SNR=9.0							
C20A	Veseth Ranch,	28.84	359	P		P	07 22 17.4	-1.1
	baz=29,SNR=88							
D29A	Pettibone, Tap	28.86	11	⇓P		P	07 22 16.6	-2.2
	baz=29							
C22A	Vida	28.88	2	P		P	07 22 17.6	-1.3
	baz=29,SNR=31							
C19A	Slack Wire Ran	28.89	357	⇑P		P	07 22 16.4	-2.7
	baz=29,SNR=17							
SPMN	St. Paul	28.94	21	eP		P	07 22 17.7	-1.8
	comp=Z,686nm,1.1s							
SPMN	St. Paul	28.94	21	⇓P		P	07 22 18.1	-1.3
	baz=29							
C21A	Desert Coulee	28.94	0	⇑P		P	07 22 18.1	-1.4
	baz=29,SNR=48							
C23A	Lambert	28.96	3	P		P	07 22 18.3	-1.4
	baz=29,SNR=48							
VFP	Flag Point	28.97	339	P		P	07 22 19.8	-0.2
C25A	Freed Ranch, W	29.01	6	⇓P		P	07 22 19.7	-0.4
	baz=29,SNR=23							
COR	Corvallis	29.01	336	eP		P	07 22 20.5	+0.4
COR				pmax	pmax			
	comp=Z,654nm,1.6s							
COR	Corvallis	29.01	336	eP		P	07 22 20.4	+0.4
	comp=Z,109nm,1.6s							
D30A	Buchanan	29.06	12	⇑P		P	07 22 18.8	-1.7
	baz=29,SNR=21							
E09A	Wood Farm, Sta	29.06	344	eP		P	07 22 19.6	-0.9
	comp=Z,251nm,2.1s							
SWMT	Swartz Lake	29.16	351	eP		P	07 22 20.5	-1.0
EGMT	Eagleton	29.21	356	eP		P	07 22 22.6	+0.6
	comp=Z,307nm,1.6s							
EGMT				LR	LR			
	comp=Z,52µm,20.0s							
EGMT	Eagleton	29.21	356	⇑P		P	07 22 20.6	-1.4
	baz=29,SNR=21							
C26A	Wahner Farm, P	29.24	7	P		P	07 22 20.6	-1.5
	baz=29,SNR=35							
HAWA	Hanford	29.32	342	eP		P	07 22 22.6	-0.3
HAWA				LR	LR			
	comp=Z,47µm,20.0s							
C28A	Hausauer Farms	29.36	9	⇑P		P	07 22 21.3	-1.9
	baz=29							
B22A	Reddig Ranch S	29.43	2	⇓P		P	07 22 21.8	-2.1
	baz=30,SNR=27							
JTMT	Jette	29.43	350	eP		P	07 22 24.3	+0.3
YBMT	Yellow Bay	29.50	351	eP		P	07 22 23.8	-0.9
	comp=Z,53nm,1.4s							
TRW	Toppenish Ridg	29.53	341	P		P	07 22 25.3	+0.5
B21A	Ellsworth Farm	29.54	0	⇑P		P	07 22 22.8	-2.0
	baz=30,SNR=25							
B20A	Solberg Farm,	29.56	359	⇓P		P	07 22 23.1	-1.9
	baz=30,SNR=73							
B25A	Knox Farm, Ray	29.57	5	⇑P		P	07 22 24.2	-0.9
	baz=30,SNR=18							
B19A	Brinkman Farms	29.60	358	⇓P		P	07 22 24.4	-0.9
	baz=30,SNR=5.5							
BSMT	Bassoo Peak	29.62	350	eP		P	07 22 26.1	+0.4
MDND	Maddock	29.62	10	eP		P	07 22 23.5	-2.0
	comp=Z,4µm,1.0s							
MDND	Maddock	29.62	10	⇓P		P	07 22 23.9	-1.6
	baz=30,SNR=16							
B23A	Brockton	29.63	3	⇓P		P	07 22 24.8	-0.8
	baz=30,SNR=32							
C30A	Mose, Pekin	29.69	12	⇓P		P	07 22 24.6	-1.5
	baz=30,SNR=16							
DGMT	Dagmar	29.69	4	eP		P	07 22 24.8	-1.3
	comp=Z,2µm,2.6s							
DGMT				LR	LR			
	comp=Z,120µm,20.0s							
DGMT	Dagmar	29.69	4	⇑P		P	07 22 24.8	-1.3
	baz=30,SNR=23							
BLMT	Blacktail Moun	29.70	350	eP		P	07 22 25.6	-0.9
BLA	Blacksburg	29.76	46	eP		P	07 22 29.4	+2.5
BLA				pmax	pmax			
	comp=Z,96nm,1.3s							
BLA				MLR	MLR			
	comp=Z,51µm,22.0s							
BLA	Blacksburg	29.76	46	eP		P	07 22 29.4	+2.5
	comp=Z,96nm,1.3s							
BLA				LR	LR			
	comp=Z,51µm,22.0s							
B26A	Jensen Ranch,	29.77	7	⇓P		P	07 22 25.9	-0.9
	baz=30,SNR=11							
ACSO	Alum Creek Sta	29.83	39	eP		P	07 22 29.1	+1.7
	comp=Z,230nm,1.5s							
ACSO				LR	LR			
	comp=Z,34µm,20.0s							
B27A	Peters Farms,	29.91	8	P		P	07 22 26.9	-1.2
	baz=30,SNR=19							
A20A	Cobblestone Ra	30.00	359	P		P	07 22 27.5	-1.4
	baz=30,SNR=44							
A19A	Klindworth Far	30.07	358	⇓P		P	07 22 28.1	-1.5
	baz=30,SNR=15							
B28A	Dugan Ranch, T	30.08	9	⇑P		P	07 22 28.6	-1.0
	baz=30,SNR=46							
A21A	Bergtoll Ranch	30.11	0	⇓P		P	07 22 28.6	-1.3
	baz=30,SNR=14							
A22A	Carney Farms,	30.13	2	⇓P		P	07 22 28.8	-1.2
	baz=30,SNR=58							
A23A	Redstone	30.13	3	⇑P		P	07 22 29.0	-1.1
	baz=30							
A24A	Westby	30.15	4	⇓P		P	07 22 28.7	-1.5
	baz=30,SNR=28							
WPW	White Pass	30.21	340	P		P	07 22 30.3	-0.6
A25A	Svangstu Ranch	30.24	5	⇑P		P	07 22 29.7	-1.3
	baz=30,SNR=23							
F03A	Seaside	30.24	337	eP		P	07 22 31.9	+0.9
	comp=Z,178nm,1.0s							
B29A	Wagenman Farm,	30.26	10	⇑P		P	07 22 29.7	-1.5
	baz=30,SNR=15							
C09A	Chrisman Ranch	30.29	345	eP		P	07 22 31.7	+0.2
	comp=Z,261nm,2.1s							
A26A	Wade Farm, Ken	30.30	7	⇓P		P	07 22 30.2	-1.4
	baz=30,SNR=6.2							
LON	Longmire	30.34	340	eP		P	07 22 31.1	-0.9
LON				pmax	pmax			
	comp=Z,110nm,1.2s							
LON	Longmire	30.34	340	eP		P	07 22 31.1	-0.9
	comp=Z,110nm,1.2s							
B30A	Myrvik Farm, E	30.43	12	⇓P		P	07 22 31.4	-1.3
	baz=30,SNR=33							
LTY	Liberty	30.44	342	eP		P	07 22 32.2	-0.7
	comp=Z,330nm,1.6s							
A27A	Ledoux Ranch,	30.45	8	⇑P		P	07 22 31.5	-1.3
	baz=30,SNR=16							
NEW	Newport	30.46	347	eP		P	07 22 32.7	-0.3
	comp=Z,237nm,1.5s							
NEW				PcP		PcP	07 25 31.0	-0.9
NEW				S		S	07 27 34.3	+2.1
NEW	Newport	30.46	347	P		P	07 22 31.0	-2.0
	comp=Z,5.4nm,0.8s,baz=156,slow=8.9,SNR=15							
NEW				PcP		PcP	07 25 31.0	-0.9
	comp=Z,11nm,1.1s,baz=137,slow=6.0,SNR=3.5							
NEW				S		S	07 27 34.3	+2.1
	comp=Z,1.2nm,0.9s,baz=112,slow=19,SNR=2.1							
NEW				LR	LR			
	comp=Z,44µm,18.7s,baz=165,slow=37							
NEW	Newport	30.46	347	⇑P		P	07 22 32.1	-1.0
	baz=30,SNR=31							
A28A	Rude Farm, Bot	30.55	9	⇑P		P	07 22 31.9	-1.8
	baz=31,SNR=19							
WALA	Waterton Lakes	30.66	351	eP		P	07 22 34.1	-0.7
	comp=Z,114nm,1.5s							
CNNC	Cliffs of the	30.66	52	eP		P	07 22 36.3	+1.5
	comp=Z,161nm,1.4s							
CNNC				LR	LR			
	comp=Z,47µm,22.0s							
A29A	Manning Farm,	30.72	10	⇑P		P	07 22 33.3	-1.9
	baz=31,SNR=23							
E03A	Lebam	30.77	338	eP		P	07 22 36.0	+0.4
	comp=Z,539nm,1.1s							
D05A	Enumclaw	30.79	340	eP		P	07 22 36.0	+0.2
	comp=Z,435nm,1.5s							
AGMN	Agassiz Nation	30.82	15	eP		P	07 22 35.0	-1.1
	comp=Z,177nm,1.5s							
AGMN				LR	LR			
	comp=Z,94µm,20.0s							
A30A	Hoffart Farm,	30.91	11	⇑P		P	07 22 34.7	-2.1
	baz=31,SNR=43							
COWI	Conover	31.04	25	eP		P	07 22 36.5	-1.6
	comp=Z,114nm,1.3s							
COWI				LR	LR			
	comp=Z,45µm,20.0s							
B08A	Colville Reser	31.07	344	eP		P	07 22 37.0	-1.4
	comp=Z,255nm,1.2s							
MCWV	Mont Chateau	31.44	43	eP		P	07 22 43.6	+1.9
	comp=Z,142nm,1.1s							
MCWV				LR	LR			
	comp=Z,34µm,19.0s							
NLWA	Neilton Lookou	31.60	338	eP		P	07 22 43.8	+0.8
	comp=Z,151nm,1.1s							
NLWA				LR	LR			
	comp=Z,73µm,19.0s							
EYMN	Ely	31.75	20	eP		P	07 22 41.7	-2.7
	comp=Z,89nm,1.0s							
EYMN				LR	LR			
	comp=Z,77µm,20.0s							
CBN	Corbin	32.35	47	eP		P	07 22 50.5	+0.8
	comp=Z,351nm,1.2s							
CBN				LR	LR			
	comp=Z,35µm,22.0s							
A05A	Maple Falls	32.42	342	eP		P	07 22 50.1	0.0
	comp=Z,211nm,1.3s							
PGC	Sidney	32.54	340	eP		P	07 22 51.0	-0.2
ULM	Lac du Bonnet	32.65	14	eP		P	07 22 48.9	-3.2
	comp=Z,318nm,1.3s							
ULM				S		S	07 28 03.2	-2.9
ULM	Lac du Bonnet	32.65	14	P		P	07 22 50.7	-1.4
	comp=Z,52nm,1.0s,baz=201,slow=9.0,SNR=27							
ULM				S		S	07 28 03.2	-2.9
	comp=Z,2.2nm,0.5s,baz=90,slow=20,SNR=1.6							
ULM				LR	LR			
	comp=Z,29µm,20.1s,baz=201,slow=38							
ERPA	Erie	32.77	39	eP		P	07 22 55.6	+2.3
	comp=Z,130nm,1.2s							
ERPA				LR	LR			
	comp=Z,26µm,20.0s							
SSPA	Standing Stone	33.23	43	eP		P	07 22 57.4	+0.1
	comp=Z,99nm,1.2s							
SDMD	Soldier's Deli	33.30	46	eP		P	07 22 59.3	+1.3
	comp=Z,323nm,1.3s							
OTAV	Otavalo	33.72	120	eP		P	07 23 04.8	+2.3
	comp=Z,378nm,1.5s							
OTAV				LR	LR			
	comp=Z,17µm,21.0s							
MVL	Millersville	33.92	45	eP		P	07 23 03.1	-0.2
	comp=Z,123nm,1.3s							
GRTK	Grand Turk	33.93	79	PFAKE			07 23 10.0	+6.4
GRTK				LR	LR			
	comp=Z,29µm,19.0s							
SDDR	Presa de Saban	33.95	84	eP		P	07 23 05.9	+2.0
	comp=Z,252nm,1.6s							
SDDR				LR	LR			
	comp=Z,23µm,21.0s							
EDM	Edmonton	34.67	354	eP		P	07 23 07.5	-2.3
EDM	Edmonton	34.67	354	eP		P	07 23 07.5	-2.3
SADO	Sadowa	34.88	36	S		S	07 28 45.1	+4.3
	comp=Z,6.3nm,0.9s,baz=151,slow=19,SNR=2.4							
BINY	Binghamton	35.27	42	eP		P	07 23 14.5	-0.6
	comp=Z,141nm,1.2s							
BINY				LR	LR			
	comp=Z,39µm,22.0s							
PAL	Palisades	36.03	45	eP		P	07 23 23.1	+1.6
PAL				pmax	pmax			
	comp=Z,522nm,1.1s							
PAL	Palisades	36.03	45	eP		P	07 23 23.1	+1.6
	comp=Z,522nm,1.1s							
FFC	Flin Flon	36.07	5	eP		P	07 23 18.7	-3.0
FFC				MLR	MLR			
	comp=Z,17µm,21.0s							
FFC	Flin Flon	36.07	5	eP		P	07 23 18.7	-3.0
FFC				LR	LR			
	comp=Z,28µm,21.0s							
SDV	Santo Domingo	36.78	100	eP		P	07 23 30.1	+1.6
SDV				LR	LR			
	comp=Z,2µm,22.0s							
YLE	Yale	36.83	45	eP		P	07 23 29.3	+1.0
	comp=Z,102nm,1.1s							
BBB	Bella Bella	37.12	339	S		S	07 29 21.5	+6.6
	comp=Z,11nm,0.9s,baz=108,slow=20,SNR=2.1							
BBB				LR	LR			
	comp=Z,33µm,19.0s,baz=160,slow=37							
NCB	Newcomb	37.30	40	PFAKE			07 23 40.0	+7.6
NCB				LR	LR			
	comp=Z,30µm,19.0s							
ACCN	Adirondack Com	37.35	42	eP		P	07 23 33.2	+0.5
LONY	Lake Ozonia	37.43	39	eP		P	07 23 33.3	-0.1
	comp=Z,326nm,2.4s							
LONY				LR	LR			
	comp=Z,28µm,20.0s							
QUA2	Belchertown	37.66	44	eP		P	07 23 37.6	+2.2
	comp=Z,85nm,1.6s							
AGPR	Aguadilla, PR	37.94	84	eP		P	07 23 42.9	+4.9
	comp=Z,587nm,1.5s							
MPR	Mayaguez	37.95	84	eP		P	07 23 41.3	+3.2
	comp=Z,762nm,2.5s							
MDV	Middlebury	37.96	41	eP		P	07 23 41.1	+3.2
CRPR	Cabo Rojo, PR	38.00	85	eP		P	07 23 41.9	+3.4
	comp=Z,90nm,1.2s							
LSP	Las Mesas	38.00	84	eP		P	07 23 41.4	+2.8
BRYW	Bryant College	38.03	45	eP		P	07 23 44.1	+5.6
	comp=Z,94nm,1.2s							
LRS	Lares	38.21	84	eP		P	07 23 43.0	+2.5
HRV	Adam Dziewonsk	38.28	44	eP		P	07 23 42.2	+1.5
HRV				pmax	pmax			
	comp=Z,98nm,1.4s							
HRV	Adam Dziewonsk	38.28	44	eP		P	07 23 42.2	+1.5
	comp=Z,98nm,1.4s							
AOPR	Arecibo Observ	38.29	84	eP		P	07 23 44.7	+3.7
	comp=Z,158nm,1.3s							
ATAH	Atahualpa	38.37	130	P		P	07 23 44.0	+1.9
ATAH				S		S	07 29 51.3	+16
ATAH	Atahualpa	38.37	130	P		P	07 23 44.0	+1.9
	comp=Z,43nm,1.1s,baz=320,slow=7.4,SNR=18							
ATAH				S		S	07 29 51.3	+16
	comp=Z,2.5nm,0.6s,baz=130,slow=15,SNR=2.7							
HNH	Hanover	38.38	42	eP		P	07 23 44.6	+3.1
WES	Weston	38.38	44	eP		P	07 23 45.8	+4.3
WES				pmax	pmax			
	comp=Z,247nm,1.4s							
WES	Weston	38.38	44	eP		P	07 23 45.8	+4.3
	comp=Z,115nm,1.4s							
OBIP	Obispado Ponce	38.47	84	eP		P	07 23 44.9	+2.4
	comp=Z,112nm,0.9s							
CELP	Cerrillos	38.49	84	eP		P	07 23 45.6	+2.9
FFD	Franklin Falls	38.67	43	eP		P	07 23 48.2	+4.3
	comp=Z,60nm,1.2s							
LBNH	Lisbon	38.87	41	eP		P	07 23 50.2	+4.7
LBNH				pmax	pmax			
	comp=Z,87nm,1.4s							
LBNH				MLR	MLR			
	comp=Z,37µm,22.0s							
LBNH	Lisbon	38.87	41	eP		P	07 23 50.2	+4.7
	comp=Z,87nm,1.4s							
LBNH				LR	LR			
	comp=Z,37µm,22.0s							
CBYP	Canovanas	39.15	84	eP		P	07 23 49.6	+1.3
	comp=Z,530nm,1.7s							
HUMP	Col San Antoni	39.17	84	eP		P	07 23 50.3	+1.9
	comp=Z,792nm,1.8s							
MTP	Monte Pirata	39.46	84	eP		P	07 23 51.6	+0.9
	comp=Z,563nm,1.3s							
STVI	Saint Thomas	39.99	84	eP		P	07 23 58.5	+3.4
CDVI	St. Croix	40.24	85	eP		P	07 23 59.2	+1.9
	comp=Z,630nm,1.5s							
BBSR	BB Station	40.39	62	eP		P	07 24 00.9	+2.5
	comp=Z,303nm,1.4s							
BBSR				LR	LR			
	comp=Z,13µm,22.0s							
WVL	Waterville	40.45	42	eP		P	07 24 00.7	+2.0
	comp=Z,93nm,1.3s							
PKME	Peaks-Kenny Pk	41.00	41	eP		P	07 24 05.0	+1.8
	comp=Z,104nm,1.5s							
PKME				LR	LR			
	comp=Z,37µm,19.0s							
FCC	Fort Churchill	41.03	10	eP		P	07 24 01.8	-1.5
FCC	Fort Churchill	41.03	10	eP		P	07 24 01.8	-1.5
	comp=Z,202nm,1.1s							
CRAG	Craig	41.53	338	eP		P	07 24 09.8	+2.5
	comp=Z,231nm,1.2s							
WRAK	Wrangell Islan	42.01	339	eP		P	07 24 08.8	-2.6
	comp=Z,219nm,1.1s							
WRAK				LR	LR			
	comp=Z,15µm,19.0s							
SKI	Saint Kitts	42.22	85	eP		P	07 24 13.3	-0.3
SKI	Saint Kitts	42.22	85	eP		P	07 24 14.6	+1.0
PQI	Presque Isle	42.44	40	eP		P	07 24 16.4	+1.4
	comp=Z,571nm,2.4s							
TAOE	Nuku Hiva Isla	42.56	233	eLR		LR	07 35 46.5	
	comp=Z,108µm,25.6s							
DLBC	Dease Lake	42.96	343	eP		P	07 24 18.5	-0.6
	comp=Z,292nm,1.2s							
DLBC				S		S	07 30 51.6	+9.3
DLBC	Dease Lake	42.96	343	P		P	07 24 18.4	-0.8
	baz=160,slow=7.9							
DLBC				S		S	07 30 51.6	+9.3
	comp=Z,2.0nm,0.9s,baz=222,slow=14,SNR=2.3							
DLBC				LR	LR			
	comp=Z,64µm,21.9s,baz=152,slow=36							
ANWB	Willy Bob	43.07	84	eP		P	07 24 19.6	-0.8
ANWB	Willy Bob	43.07	84	eP		P	07 24 20.9	+0.4
	comp=Z,915nm,1.6s							
ANWB				LR	LR			
	comp=Z,18µm,22.0s							
BPA	Boggy Peak	43.10	85	eP		P	07 24 20.0	-0.8
LZG	Guadaloupe-1	43.33	86	eP		P	07 24 24.2	+1.5
MLG	Mont-d'or	43.41	86	eP		P	07 24 26.1	+2.8
FNG	Fond-Bernard	43.43	86	eP		P	07 24 25.0	+1.4
HMG	Houelmont	43.43	86	eP		P	07 24 23.4	-0.1
SSG	Sans Toucher	43.43	86	eP		P	07 24 24.4	+0.8
SCG	Saint Claude	43.44	86	eP		P	07 24 25.8	+2.2
TAG	Tarade	43.45	86	eP		P	07 24 25.5	+1.7
CRG	Carmichael	43.46	86	eP	

BBGH LR LR
comp=Z,22μm,22.0s
HYT Haines Junctio 47.15 340 *e*P **P 07 24 53.2 +0.8**
SCHQ Schefferville 47.24 31 *e*P **P 07 24 53.1 0.0**
comp=Z,96nm,1.1s
SCHQ Schefferville 47.24 31 P **P 07 24 53.5 +0.3**
comp=Z,13nm,0.7s,baz=244,slow=5.1,SNR=12
SCHQ LR LR 07 46 57.5
comp=Z,15μm,19.4s,baz=244,slow=39
HON Honolulu 47.61 282 *e*P **P 07 24 56.4 -0.1**
HON Honolulu 47.61 282 *e*P **P 07 24 56.4 -0.1**
KIP Kipapa 47.61 282 *d i*P **P 07 24 56.0 -0.5**
KIP pmax pmax
comp=Z,109nm,1.7s
KIP Kipapa 47.61 282 *e*P **P 07 24 55.5 -1.0**
comp=Z,766nm,1.8s
KIP LR LR
comp=Z,17μm,21.0s
BMRM Bremner River 49.69 337 *e*P **P 07 25 12.2 +0.2**
comp=Z,192nm,1.3s
RKT Rikitea 49.72 214 *e*P P 07 25 20.2 +7.7
comp=Z,57nm,1.1s
RKT *e*S **S 07 32 22.0 +2.2**
comp=Z,8μm,29.2s
RKT *e*LQ LQ 07 36 58.6
comp=Z,28μm,27.8s
RKT *e*LR LR 07 39 14.4
comp=Z,47μm,28.5s
DIV Divide 50.23 337 *e*P **P 07 25 16.7 +0.6**
SEW Seward 51.05 334 *e*P **P 07 25 21.3 -0.8**
comp=Z,141nm,1.1s
KDAK Kodiak Island 51.16 331 *e*P **P 07 25 21.3 -1.7**
comp=Z,308nm,1.4s
KDAK LR LR
comp=Z,26μm,21.0s
KDAK Kodiak Island 51.16 331 P **P 07 25 21.1 -1.9**
comp=Z,75nm,1.1s,baz=116,slow=4.8,SNR=18
OHAK Old Harbor 51.22 330 *e*P P 07 25 20.1 -3.4
comp=Z,218nm,1.3s
EGAK Eagle 51.22 342 *e*P **P 07 25 22.9 -0.5**
comp=Z,169nm,1.0s
EGAK LR LR
comp=Z,28μm,22.0s
PAX Paxson 51.32 339 *e*P **P 07 25 22.1 -2.2**
PAX pmax pmax
comp=Z,128nm,1.0s
PAX Paxson 51.32 339 *e*P **P 07 25 22.1 -2.2**
comp=Z,128nm,1.0s
SAML Samuel 51.44 119 *e*P **P 07 25 24.2 -1.5**
comp=Z,47nm,1.4s
SAML LR LR
comp=Z,15μm,20.0s
PMR Palmer 51.79 336 *e*P **P 07 25 26.7 -1.0**
PMR Palmer 51.79 336 *e*P **P 07 25 26.7 -1.0**
LPAZ La Paz 51.91 130 *e*P **P 07 25 29.9 0.0**
LPAZ La Paz 51.91 130 P **P 07 25 31.8 +1.9**
comp=Z,29nm,0.9s,baz=319,slow=4.7,SNR=74
LPAZ LR LR 07 45 06.3
comp=Z,25μm,21.6s,baz=74,slow=33
XMAS Kiritimati 51.91 257 PFAKE 07 25 40.0 +11
XMAS LR LR
comp=Z,32μm,22.0s
FRB Frobisher Bay 51.97 21 P P 07 25 34.4 +5.4
FRB S **S 07 32 53.4 +3.3**
FRB Frobisher Bay 51.97 21 P P 07 25 34.4 +5.4
comp=Z,42nm,1.2s,baz=210,slow=6.8,SNR=4.4
FRB S **S 07 32 53.4 +3.3**
comp=Z,8.3nm,0.9s,baz=78,slow=9.3,SNR=2.0
VAH Vaihoa 52.23 232 *e*P P 07 25 38.7 +7.1
comp=Z,126nm,1.1s
RSO Redoubt South 52.62 334 *e*P **P 07 25 33.1 -1.0**
comp=Z,292nm,1.1s
SPU Mount Spurr 52.72 335 *e*P **P 07 25 33.8 -0.8**
ILAR Eielson Array 52.98 340 P **P 07 25 35.0 -1.5**
ILAR S **S 07 33 04.1 +0.2**
ILAR P'P' 07 56 03.0
ILAR Eielson Array 52.98 340 P **P 07 25 35.0 -1.5**
comp=Z,18nm,1.0s,baz=147,slow=4.1,SNR=59
ILAR S **S 07 33 04.1 +0.2**
comp=Z,0.4nm,1.0s,baz=207,slow=5.8,SNR=2.8
ILAR LR LR 07 46 35.3
comp=Z,20μm,21.9s,baz=138,slow=34
ILAR PKPPKP **P'P'df 07 56 03.0 -3.2**
comp=Z,1.1nm,1.1s,baz=234,slow=4.3,SNR=5.2
MCK McKinley 53.02 338 *e*P **P 07 25 36.1 -0.7**
MCK pmax pmax
comp=Z,181nm,1.1s
MCK McKinley 53.02 338 *e*P **P 07 25 36.1 -0.7**
comp=Z,181nm,1.1s
COLA College 53.37 340 *e*P **P 07 25 37.9 -1.4**
COLA pmax pmax
comp=Z,63nm,1.0s
COLA MLR MLR
comp=Z,16μm,22.0s
COLA College 53.37 340 *e*P **P 07 25 37.9 -1.4**
comp=Z,17nm,1.0s
COLA LR LR
comp=Z,16μm,22.0s
PPLA Purkeypile 53.71 336 *e*P P 07 25 38.5 -3.6
comp=Z,704nm,1.4s
BPAW Bear Paw Mtn. 53.96 338 *e*P **P 07 25 42.5 -1.2**
comp=Z,125nm,1.1s
PPT Papeete 55.15 232 LR LR 07 43 01.4
comp=Z,24μm,20.3s,baz=62,slow=29
PPT2 Papeete2 55.16 232 *e*P P 07 26 00.8 +7.7
comp=Z,101nm,1.3s
PPT2 *e*S **S 07 33 38.2 +3.6**
comp=Z,17μm,27.2s
PPT2 *e*LR LR 07 41 37.6
comp=Z,100μm,26.2s
COLD Coldfoot 55.60 341 *e*P **P 07 25 54.9 -0.6**
comp=Z,187nm,1.2s
LVC Limon Verde 55.64 136 *e*P **P 07 25 58.4 +1.7**
comp=Z,105nm,1.1s
LVC LR LR
comp=Z,26μm,22.0s
IM04 Indian Mountai 56.01 339 *e*P **P 07 25 55.5 -3.0**
IMA2 Indian Mountai 56.03 339 *e*P **P 07 25 57.6 -1.2**
RES Resolute Bay 56.29 4 P **P 07 26 00.7 +0.3**
RES S **S 07 33 48.5 +0.4**
RES Resolute Bay 56.29 4 P **P 07 26 00.7 +0.3**
comp=Z,12nm,0.7s,baz=158,slow=2.5,SNR=2.3
RES S **S 07 33 48.5 +0.4**
comp=Z,18nm,0.9s,baz=94,slow=13,SNR=2.1
AKUT Akutan 56.64 323 *e*P **P 07 26 03.6 +0.5**
comp=Z,289nm,1.0s
UNV Unalaska Valle 56.99 323 *e*P **P 07 26 05.9 +0.3**
comp=Z,1μm,2.2s
TBI Tubuai 58.80 226 *e*S S 07 34 28.5 +6.3
comp=Z,13μm,27.0s
TBI *e*LQ LQ 07 41 11.3
comp=Z,16μm,26.2s
TBI *e*LR LR 07 43 13.8
comp=Z,76μm,28.0s
LCO Las Campanas 59.19 143 *e*P **P 07 26 23.3 +1.7**
comp=Z,49nm,1.0s
LCO LR LR
comp=Z,41μm,19.0s
LCO Las Campanas 59.19 143 *e*P **P 07 26 20.4 -1.2**
TLL Tololo Astrono 60.00 144 *e*P **P 07 26 28.8 +1.6**
SFJD Kangerlussuaq 60.02 22 *i*P **P 07 26 28.2 +1.7**
SFJD
comp=Z,29μm,14.0s
SFJD Kangerlussuaq 60.02 22 P **P 07 26 25.7 -0.8**
SFJD LR LR
comp=Z,29μm,21.0s
SFJD Kangerlussuaq 60.02 22 P **P 07 26 25.7 -0.8**
comp=Z,11nm,1.1s,baz=236,slow=9.7,SNR=2.2
NRS Narsarsuaq 60.17 30 *i*P P 07 26 32.9 +5.3
NRS *i*S S 07 34 48.4 +9.4
NRS MLR MLR
comp=Z,13μm,15.0s
ILULI Ilulissat 60.79 20 *i*P P 07 26 35.5 +3.8
ILULI MLR MLR
comp=Z,28μm,15.0s
KULLO Kullorsuaq 61.85 13 *i*P **P 07 26 41.8 +3.0**
KULLO *i*S **S 07 35 04.8 +4.7**
KULLO MLR MLR
comp=Z,36μm,16.0s
CLCH Cerro Calan 62.61 146 *e*P **P 07 26 42.8 -1.8**
LMEL Las Melosas 63.14 146 *e*P **P 07 26 45.6 -2.5**
MIDW Midway 64.25 293 PFAKE 07 27 00.0 +4.4
MIDW LR LR
comp=Z,7μm,20.0s
RAR Rarotonga 65.04 235 PFAKE 07 27 10.0 +9.3
RAR LR LR
comp=Z,34μm,22.0s
SUMG Summit 65.86 18 *e*P **P 07 27 03.4 -2.3**
SUMG pmax pmax
comp=Z,897nm,2.1s
SUMG Summit 65.86 18 *i*P **P 07 27 08.1 +2.4**
SUMG
comp=Z,30μm,14.0s
SUMG Summit 65.86 18 *e*P **P 07 27 03.4 -2.3**
comp=Z,897nm,2.1s
CPUP Villa Florida 66.02 131 *e*P **P 07 27 07.7 +0.7**
comp=Z,7.6nm,0.9s
CPUP Villa Florida 66.02 131 P **P 07 27 08.1 +1.2**
comp=Z,14nm,0.8s,baz=307,slow=7.1,SNR=16
CPUP LR LR 07 55 38.9
comp=Z,13μm,19.2s,baz=309,slow=36
ALE Alert 66.05 6 P P 07 27 03.0 -3.4
comp=Z,111nm,1.7s,SNR=7.5
BDFB Brasilia 67.57 116 P **P 07 27 19.8 +2.6**
BDFB Brasilia 67.57 116 P **P 07 27 19.8 +2.6**
comp=Z,40nm,1.0s,baz=297,slow=7.1,SNR=31
PLCA Paso Flores 68.34 151 *e*P **P 07 27 23.8 +2.3**
comp=Z,176nm,1.6s
PLCA S S 07 36 31.0 +10
PLCA Paso Flores 68.34 151 P **P 07 27 22.5 +1.0**
comp=Z,18nm,1.1s,baz=324,slow=7.1,SNR=17
PLCA S S 07 36 31.0 +10
comp=Z,1.0nm,0.9s,baz=66,slow=20,SNR=1.7
PLCA LR LR 07 51 07.3
comp=Z,57μm,18.9s,baz=327,slow=30
FX1 Attu Island--F 69.00 320 *e*P **P 07 27 22.8 -2.6**
BB16B Bebedouro 69.73 122 ⇑*i*P **P 07 27 29.7 -0.9**
BB16B *i* 07 27 49.1
BB16B *i* 07 28 16.5
BB16B Bebedouro 69.73 122 ⇑*i*P **P 07 27 29.7 -0.9**
BB16B *i* 07 27 49.1
BB16B *i* 07 28 16.5
ROSA Rosais 70.03 55 *e*P **P 07 27 33.7 +1.6**
comp=Z,104nm,1.4s
PMAN Manadas 70.16 55 *e*P **P 07 27 34.7 +1.8**
comp=Z,27nm,0.6s
PGRA Graciosa 70.19 54 *e*P **P 07 27 34.8 +1.7**
comp=Z,43nm,0.4s
TRQA Tornquist 70.74 144 *e*P **P 07 27 37.8 +1.5**
comp=Z,94nm,1.4s
TRQA LR LR
comp=Z,34μm,19.0s
LPA La Plata 71.02 139 *de*P **P 07 27 40.0 +2.0**
LPA PPP PPP 07 32 08.0
LPA PKIKP **PKiKP 07 33 49.0 +2.6**
LPA sS **SKiKP 07 37 15.0 -2.8**
BORG Borgarnes 71.42 27 PFAKE 07 27 50.0 +10
BORG LR LR
comp=Z,16μm,20.0s
AFI Afiamalu 71.43 248 LR LR 07 50 17.8
comp=Z,16μm,21.7s,baz=95,slow=29
DAG Danmarks Havn 71.49 14 *i*P **P 07 27 42.7 +2.4**
DAG MLR MLR
comp=Z,40μm,17.0s
DAG Danmarks Havn 71.49 14 *i*P **P 07 27 42.7 +2.4**
DAG
comp=Z,39μm,16.0s
COYC Coyhaique 71.58 155 *e*P **P 07 27 43.4 +2.3**
PSET Sete Cidades 72.14 55 *e*P **P 07 27 46.7 +1.8**
comp=Z,140nm,1.6s
CMLA Cha da Macela 72.30 55 *e*P **P 07 27 47.6 +1.7**
comp=Z,154nm,1.9s
CMLA Cha da Macela 72.30 55 *e*P **P 07 27 48.9 +3.0**
CMLA MLR MLR
comp=Z,7μm,19.0s
CMLA Cha da Macela 72.30 55 *e*P **P 07 27 48.9 +3.0**
CMLA LR LR
comp=Z,18μm,19.0s
BART Pico Bartolome 72.57 55 *e*P **P 07 27 49.4 +1.8**
comp=Z,53nm,0.7s
CHRN Cochrane 72.61 156 *e*P P 07 27 50.7 +3.4
PSMN Pico do Norte, 72.80 56 *e*P **P 07 27 50.7 +1.8**
comp=Z,37nm,1.0s
RCBR Riachuelo 74.35 102 *e*P **P 07 28 01.0 +2.6**
comp=Z,144nm,1.4s
RCBR LR LR
comp=Z,7μm,19.0s
JMIC Jan Mayen 75.18 20 *e*P P 07 28 05.6 +3.5
JMIC *e*S **S 07 37 42.4 +3.9**
JMIC AMS AMS 08 01 38.3
comp=Z,18μm,16.3s
KBS Kingsbay 76.98 10 *e*P P 07 28 16.3 +4.0
KBS *e*S **S 07 38 01.2 +3.0**
KBS *e*SS **SS 07 42 56.9 +2.3**
KBS AMS AMS 08 03 17.6
comp=Z,26μm,17.9s
KBS Kingsbay 76.98 10 ⇓*e*P **P 07 28 13.5 +1.2**
KBS pmax pmax
comp=Z,43nm,1.2s
KBS Kingsbay 76.98 10 PFAKE 07 28 20.0 +7.7
KBS LR LR
comp=Z,24μm,19.0s
FUNA Funafuti 77.44 256 PFAKE 07 28 30.0 +14
FUNA LR LR
comp=Z,20μm,19.0s
PET Petropavlovsk 77.64 322 *d i*P **P 07 28 15.9 -0.4**
PET *e* 07 31 14.9
PET *i*S **S 07 38 05.3 -0.7**
PET *e*PS **PnS 07 38 47.4 -1.0**
PET *e*PPS PPS 07 39 01.6
PET pmax pmax
comp=Z,2μm,12.7s
PET pmax pmax
comp=Z,82nm,1.5s
PET pmax pmax
comp=Z,700nm,12.8s
PET MLR MLR
comp=Z,5μm,17.0s
SEY Seymchan 78.07 333 ⇓*e*P **P 07 28 18.4 -0.2**
SPA0 Spitsbergen Ar 78.14 10 *e*P **P 07 28 19.4 +0.7**
SPA0 *e*S **S 07 38 12.1 +1.3**
SPA0 *e*SS **SS 07 43 15.0 +3.0**
SPITS Spitsbergen Ar 78.14 10 P **P 07 28 19.0 +0.3**
SPITS Spitsbergen Ar 78.14 10 P **P 07 28 19.0 +0.3**
comp=Z,18nm,0.9s,baz=243,slow=5.5,SNR=5.9
SPITS LR LR 08 02 22.6
comp=Z,32μm,21.0s,baz=270,slow=35
PETK Petropavlovsk- 78.17 322 P **P 07 28 17.5 -1.9**
PETK Petropavlovsk- 78.17 322 P **P 07 28 17.5 -1.9**
PETK Petropavlovsk- 78.17 322 P **P 07 28 17.5 -1.9**
comp=Z,10nm,0.7s,baz=99,slow=9.2,SNR=16
PETK LR LR 07 55 54.3
comp=Z,8μm,21.9s,baz=79,slow=30
SOFL Sornfelli, Far 78.26 28 AMS AMS 08 01 27.6
comp=Z,24μm,14.3s
SACV Santiago Islan 79.38 78 PFAKE 07 28 40.0 +13
SACV LR LR
comp=Z,9μm,21.0s
VAL Valentia 79.59 39 ⇓*i*S S 07 38 33.5 +6.5
VAL *e*SS SS 07 43 50.9 +16
VAL *e*LQ LQ 07 49 34.1
SKR Severo-Kuril's 79.79 320 *e*P P 07 28 21.0 -7.2
SKR *e* 07 28 38.0
SKR *e*S **S 07 38 24.0 -5.1**
SKR *e*PS **PnS 07 39 12.0 -3.6**
SKR *e*SS **SS 07 43 36.0 -1.9**
SKR pmax pmax
comp=Z,3μm,10.0s
SKR pmax pmax
comp=Z,130nm,1.0s
SKR smax smax
comp=N,4μm,14.0s
SKR smax smax
comp=E,5μm,14.0s
SKR MLR MLR
comp=E,4μm,20.0s
SKR MLR MLR
comp=Z,4μm,20.0s
TARA Tarawa 79.97 268 PFAKE 07 28 40.0 +10
TARA LR LR
comp=Z,12μm,22.0s
PMOZ Porto Moniz, M 80.05 59 *e*P P 07 28 34.5 +4.3
PMOZ Porto Moniz, M 80.05 59 *e*S S 07 38 44.9 +12
PMOZ Porto Moniz, M 80.05 59 *e*LR LR 07 54 13.5
comp=Z,6μm,20.0s
PMAR Madeira 80.31 59 *e*P **P 07 28 34.1 +2.4**
comp=Z,156nm,1.4s
KPL Plockton 80.42 33 AMS AMS 08 05 37.4
comp=Z,16μm,15.0s
WAKE Wake Island 80.47 287 PFAKE 07 28 40.0 +7.5
WAKE LR LR
comp=Z,8μm,20.0s
PMPST Porto Santo, M 80.68 58 *e*P **P 07 28 36.2 +2.7**
comp=Z,272nm,1.8s
PMPS Porto Santo 80.69 58 *e*P **P 07 28 36.1 +2.6**
comp=Z,297nm,1.7s
MCD Coleburn Disti 81.55 32 *e*P **P 07 28 38.1 +0.6**
PGBU Glenifferbraes 81.56 34 AMS AMS 08 03 53.0
comp=Z,14μm,17.7s
LRW Lerwick 81.57 29 AMS AMS 08 05 45.1
comp=Z,15μm,17.0s
GAL1 Galloway 81.78 35 *e*P **P 07 28 38.9 +0.1**
GAL1 AMS AMS 08 00 30.9
comp=Z,14μm,24.2s
MSVF Nonsavu 81.92 248 *e*P **P 07 28 41.0 +0.7**
MSVF pmax pmax
comp=Z,80nm,1.2s
MSVF MLR MLR
comp=Z,20μm,20.0s
MSVF Nonsavu 81.92 248 *e*P **P 07 28 41.0 +0.7**
comp=Z,91nm,1.2s
MSVF LR LR
comp=Z,22μm,20.0s
TIXI Tiksi 82.15 345 ⇓*i*P **P 07 28 39.8 -0.7**
TIXI pmax pmax
comp=Z,83nm,1.7s
DRUM Mains of Drumt 82.19 32 AMS AMS 08 06 38.9
comp=Z,15μm,15.8s
EDI Edinburgh 82.20 33 AMS AMS 08 04 11.3
comp=Z,14μm,18.6s
EFI East Falkland 82.24 152 PFAKE 07 28 50.0 +9.0
EFI LR LR
comp=Z,24μm,21.0s
ESK Eskdalemuir 82.42 34 AMS AMS 08 00 38.7
comp=Z,12μm,23.8s
ESK Eskdalemuir 82.42 34 *e*P **P 07 28 43.5 +1.3**
ESK pmax pmax
comp=Z,160nm,1.4s
ESK MLR MLR
comp=Z,7μm,20.0s
ESK Eskdalemuir 82.42 34 *e*P **P 07 28 43.5 +1.3**
comp=Z,45nm,1.4s
ESK LR LR
comp=Z,8μm,20.0s
EKA Eskdalemuir Ar 82.44 34 LR LR 08 04 47.1
comp=Z,11μm,18.6s,baz=270,slow=35
ESY Stoneypath 82.50 33 *e*P **P 07 28 43.5 +0.9**
ECK Cauldkaine Hil 82.51 34 *e*P **P 07 28 41.0 -1.6**
WLF1 Llynfaes 82.52 36 *e*P **P 07 28 43.7 +1.0**
WLF1 AMB AMB 07 28 51.2
comp=Z,61nm,4.5s
WLF1 AMS AMS 08 02 34.8
comp=Z,15μm,19.2s
KESW Keswick, Cumbr 82.75 35 *e*P **P 07 28 42.1 -1.8**
KESW AMS AMS 08 00 59.6
comp=Z,13μm,22.6s
WPM1 Penmaenmawr 82.80 36 *e*P **P 07 28 44.0 -0.2**
LPW Lampeter 83.14 37 *e*P **P 07 28 46.7 +0.8**
LPW AMB AMB 07 28 52.9
comp=Z,536nm,3.4s
LPW AMS AMS 07 59 24.9
comp=Z,214μm,28.0s
CCA1 Carnmenellis 83.16 39 AMS AMS 07 59 20.9
comp=Z,10μm,28.9s
RAO Raoul Island 83.24 236 LR LR 07 56 20.1
comp=Z,14μm,21.8s,baz=64,slow=29
HTL Hartland 83.31 38 *e*P **P 07 28 44.9 -2.0**
HTL AMS AMS 08 03 32.4
comp=Z,16μm,17.5s
FOEL Foel Wylfa 83.34 36 *e*P **P 07 28 48.2 +1.2**
FOEL AMB AMB 07 28 55.1
comp=Z,62nm,2.1s
FOEL AMS AMS 08 03 09.5
comp=Z,13μm,20.0s
HLM1 Long Mynd 83.66 37 *e*P **P 07 28 49.3 +0.6**
HLM1 AMB AMB 07 28 51.2
comp=Z,94nm,3.1s
HPK Haverah Park 83.79 35 *e*P **P 07 28 50.3 +1.0**
HPK AMB AMB 07 28 57.8
comp=Z,142nm,2.4s
HPK AMS AMS 08 01 41.3
comp=Z,15μm,22.6s
MCH1 Michaelchurch 83.79 37 *e*P **P 07 28 50.2 +0.9**
MCH1 AMB AMB 07 28 57.7
comp=Z,90nm,3.0s
MCH1 AMS AMS 07 59 53.7
comp=Z,16μm,24.1s
STNC Stoke 83.81 36 *e*P **P 07 28 50.5 +1.1**
STNC AMB AMB 07 28 58.2
comp=Z,192nm,2.3s
STNC AMS AMS 08 03 25.1
comp=Z,16μm,20.0s
DYA Yadsworthy 83.84 39 AMB AMB 07 28 53.6
comp=Z,58nm,3.2s
DYA AMS AMS 08 03 58.7
comp=Z,15μm,16.3s
TRO Tromso 83.99 17 *e* P 07 28 54.9 +4.9
TRO *e*S **S 07 39 16.7 +4.9**
TRO *e*SS **SS 07 44 39.8 +0.5**
PGAV Gavieira, Arco 84.04 48 *e*P **P 07 28 52.7 +1.7**
comp=Z,195nm,1.8s
PGAV Gavieira, Arco 84.04 48 *e*SKS **S 07 39 19.3 +5.7**
PGAV *e*SS SS 07 44 54.8 +13
PGAV *e*LQ LQ 07 51 12.5
PGAV *e*LR LR 07 56 11.0
comp=Z,8μm,18.0s
KBI1 Birley Grange 84.12 36 *e*P **P 07 28 50.8 -0.2**
MOL Molde 84.24 25 *e*SKS **S 07 39 11.7 -2.8**
MOL *e*SS **SS 07 44 45.2 +1.9**
MOL AMS AMS 08 01 08.7
comp=Z,10μm,24.8s
PCAB Cabril 84.30 48 *e*P **P 07 28 53.5 +1.3**
comp=Z,191nm,1.9s
PMAFR Mafra 84.33 51 *e*P **P 07 28 53.8 +1.4**
comp=Z,223nm,1.6s
BER Bergen 84.39 27 *e*P **P 07 28 54.1 +1.9**
BER *e*S **S 07 39 15.0 -1.0**
BER *e*SS **SS 07 44 47.0 +1.4**
BER AMS AMS 08 03 59.5
comp=Z,14μm,20.5s
PMST Lisbon--Monsan 84.47 51 *e*P **P 07 28 55.8 +2.7**
comp=Z,271nm,1.8s
LIS Lisbon 84.50 51 *e*P **P 07 28 54.4 +1.2**
LIS AMS AMS 08 05 21.1
comp=Z,11μm,19.6s
LIS Lisbon 84.50 51 *e*P **P 07 28 54.4 +1.2**
LIS A A 08 05 21.1
comp=Z,11μm,19.6s
LIS Lisbon 84.50 51 *e*P **P 07 28 54.4 +1.2**
PCAS Casmilo, Conde 84.53 50 *e*P **P 07 28 55.0 +1.6**
comp=Z,231nm,1.9s
POLO Lamas de Olo 84.58 48 *e*P **P 07 28 54.9 +1.2**
comp=Z,88nm,1.6s
SWN1 Swindon 84.67 37 AMS AMS 08 00 31.5
comp=Z,17μm,26.3s
PVRL Vila Real 84.67 48 *e*P **P 07 28 55.7 +1.6**
comp=Z,155nm,1.6s
LMK Market Rasen 84.70 35 AMS AMS 08 02 19.4
comp=Z,14μm,23.1s
PACT Alcochete 84.72 51 *e*P **P 07 28 56.8 +2.5**
comp=Z,469nm,1.7s
PVIS Viseu 84.74 49 *e*P **P 07 28 55.8 +1.3**
comp=Z,140nm,1.6s
PTOM Tomar 84.74 50 *e*P **P 07 28 55.7 +1.3**
comp=Z,210nm,1.8s
KMY Karmoy 84.91 29 *e*SKS **S 07 39 21.5 +0.2**
KMY AMS AMS 08 06 59.6
comp=Z,14μm,16.4s
ROSF Rostrenen 85.04 41 *e*P **P 07 28 56.1 +0.4**
comp=Z,13nm,0.7s
ROSF Rostrenen 85.04 41 *e*P **P 07 28 56.1 +0.4**
ROSF pmax pmax
comp=Z,13nm,0.7s
ROSF Rostrenen 85.04 41 *e*P **P 07 28 56.1 +0.4**
comp=Z,13nm,0.7s
PMTG Montargil 85.06 51 *e*P **P 07 28 57.7 +1.6**
comp=Z,161nm,2.0s
WOL Wolverton 85.08 37 AMS AMS 08 00 43.6
comp=Z,15μm,26.3s
MTE Manteigas 85.10 49 *e*P **P 07 28 57.2 +0.9**
comp=Z,128nm,1.2s
MTE Manteigas 85.10 49 *e*SKS **S 07 39 25.6 +1.5**
MTE *e*SS SS 07 45 12.2 +15
MTE *e*LQ LQ 07 51 37.3
MTE *e*LR LR 07 56 52.0
comp=Z,7μm,18.0s
MTE Manteigas 85.10 49 *e*P **P 07 28 57.1 +0.9**

comp=Z,65nm,0.9s
MTE LR LR
comp=Z,8μm,20.0s
PNCL Nicolau / Gran 85.17 51 *e*P **P 07 28 58.5 +1.9**
comp=Z,89nm,2.0s
PBRG Braganca 85.17 48 *e*P **P 07 28 58.0 +1.4**
comp=Z,77nm,1.8s
ODD1 Odda 85.18 28 *e*S **S 07 39 24.2 +0.1**
MVO Moncorvo 85.19 48 *e*P **P 07 28 58.4 +1.6**
comp=Z,155nm,1.7s
MVO Moncorvo 85.19 48 *e*SKS **S 07 39 27.1 +2.1**
MVO *e*SS SS 07 45 14.2 +15
MVO *e*LQ LQ 07 51 41.8
MVO *e*LR LR 07 56 37.2
comp=Z,6μm,18.0s
PTEO Sao Teotonio 85.22 52 *e*P **P 07 28 58.0 +1.2**
comp=Z,7.9nm,0.7s
QUIF Quistinic 85.27 41 *e*P **P 07 28 56.6 -0.3**
comp=Z,248nm,1.7s
QUIF Quistinic 85.27 41 *e*P **P 07 28 56.6 -0.3**
QUIF pmax pmax
comp=Z,248nm,1.7s
QUIF Quistinic 85.27 41 *e*P **P 07 28 56.6 -0.3**
comp=Z,248nm,1.7s
PFVI Vila Bisbo 85.28 52 *e*P **P 07 28 56.5 -0.7**
comp=Z,16nm,0.8s
EVOP Sao Brissos 85.32 51 *e*P **P 07 28 58.1 +0.7**
EVOP pmax pmax
comp=Z,141nm,1.1s
EVOP Sao Brissos 85.32 51 *e*P **P 07 28 58.1 +0.7**
comp=Z,141nm,1.1s
PCBR Castelo Branco 85.34 50 *e*P **P 07 28 58.5 +1.1**
comp=Z,104nm,2.3s
MORF Marmelete 85.35 52 *e*P **P 07 28 59.9 +2.3**
comp=Z,86nm,2.1s
MORF Marmelete 85.35 52 *e*P **P 07 28 58.7 +1.1**
JSA Saint Aubin 85.38 39 *e*P **P 07 28 56.0 -1.4**
JSA AMS AMS 08 04 58.5
comp=Z,9μm,16.4s
EVO Evora 85.40 51 *e*P **P 07 28 58.1 +0.3**
comp=Z,141nm,1.1s
EVO *e*R
comp=Z,13μm,21.2s
EVO Evora 85.40 51 *e*P **P 07 28 59.0 +1.2**
comp=Z,138nm,1.7s
SGMF Saint Gilles 85.51 40 *e*P **P 07 28 57.8 -0.3**
comp=Z,108nm,1.3s
SGMF Saint Gilles 85.51 40 *e*P **P 07 28 57.8 -0.3**
SGMF pmax pmax
comp=Z,108nm,1.3s
SGMF Saint Gilles 85.51 40 *e*P **P 07 28 57.8 -0.3**
comp=Z,108nm,1.3s
PMRV Marv??o 85.55 50 *e*P **P 07 28 59.9 +1.4**
comp=Z,151nm,1.6s
PMRV Marv??o 85.55 50 *e*SKS **S 07 39 28.8 +0.3**
PMRV *e*SS SS 07 45 22.4 +18
PMRV *e*LQ LQ 07 51 57.2
PMRV *e*LR LR 07 57 01.7
comp=Z,8μm,16.0s
KTK1 Kautokeino 85.55 16 *e*S **S 07 39 25.8 -1.6**
PESTR Estremoz 85.60 51 *e*P **P 07 29 00.1 +1.3**
comp=Z,80nm,1.5s
PBEJ Beja 85.69 51 *e*P **P 07 29 00.7 +1.5**
comp=Z,88nm,1.7s
PCVE Castro Verde 85.70 52 *e*P **P 07 29 00.8 +1.5**
comp=Z,94nm,1.9s
ARCES ARCESS Array B 85.75 15 P **P 07 29 00.1 +1.2**
ARCES ARCESS Array B 85.75 15 P **P 07 29 00.1 +1.2**
comp=Z,7.6nm,0.9s,baz=322,slow=3.7,SNR=7.7
ARCES LR LR 08 06 28.7
comp=Z,18μm,20.9s,baz=314,slow=35
ARE0 ARCESS Array S 85.75 15 *e*P P 07 29 02.5 +3.6
ARE0 *e*S **S 07 39 29.1 -0.3**
ARE0 *e*SS **SS 07 45 06.4 +1.1**
PBDV Barranco-do-Ve 85.91 52 *e*P **P 07 29 01.7 +1.3**
comp=Z,143nm,1.7s
KEV Kevo 85.95 14 PFAKE 07 29 10.0 +10
KEV LR LR
comp=Z,19μm,22.0s
BBTS Babate 86.00 76 P **P 07 29 03.3 +2.2**
BBTS Babate 86.00 76 P **P 07 29 03.3 +2.2**
comp=Z,39nm,0.9s,baz=258,slow=1.2,SNR=7.9
PVAQ Vaqueiros 86.02 52 *e*P **P 07 29 02.2 +1.4**
comp=Z,66nm,1.6s
PVAQ Vaqueiros 86.02 52 *e*SKS **S 07 39 32.1 -1.0**
PVAQ *e*SS SS 07 45 33.9 +23
PVAQ *e*LQ LQ 07 51 53.1
PVAQ *e*LR LR 07 56 39.5
comp=Z,8μm,20.0s
HMNX Herstmonceux 86.16 37 *e*P **P 07 29 00.8 -0.5**
HMNX AMS AMS 08 01 28.6
comp=Z,20μm,26.4s
PBAR Barrancos 86.25 51 *e*P **P 07 29 03.5 +1.5**
comp=Z,58nm,1.5s
ELSH Elham, Standar 86.49 37 *e*P **P 07 29 01.4 -1.5**
ELSH AMS AMS 08 01 25.2
comp=Z,19μm,28.1s
GRR Gorron 86.49 40 *e*P **P 07 29 02.7 -0.2**
comp=Z,179nm,1.4s
GRR Gorron 86.49 40 *e*P **P 07 29 02.7 -0.2**
GRR pmax pmax
comp=Z,179nm,1.4s
GRR Gorron 86.49 40 *e*P **P 07 29 02.7 -0.2**
comp=Z,179nm,1.4s
NB2 NORSAR Subarra 86.53 25 P P 07 29 11.6 +8.7
comp=Z,58nm,1.7s,baz=309,slow=5.1
NB2 NORSAR Subarra 86.53 25 P P 07 29 11.6 +8.7
baz=309,slow=5.1
NOA NORSAR Array B 86.53 25 P **P 07 29 04.8 +1.8**
NOA NORSAR Array B 86.53 25 P **P 07 29 04.8 +1.8**
comp=Z,1.3nm,0.8s,baz=305,slow=4.7,SNR=2.7
NOA LR LR 08 04 44.9
comp=Z,7μm,20.8s,baz=305,slow=34
FLN La Foliniere 86.56 39 *e*P **P 07 29 02.9 -0.4**
comp=Z,109nm,1.2s
FLN *e*R
comp=Z,15μm,19.5s
FLN La Foliniere 86.56 39 *e*P **P 07 29 02.9 -0.4**
FLN pmax pmax
comp=Z,109nm,1.2s
FLN La Foliniere 86.56 39 *e*P **P 07 29 02.9 -0.4**
comp=Z,109nm,1.2s
KONO Kongsberg 86.61 27 AMS AMS 08 04 43.9
comp=Z,13μm,18.6s
KONO Kongsberg 86.61 27 PFAKE 07 29 10.0 +6.7
KONO LR LR
comp=Z,17μm,20.0s
NC602 NORSAR Array S 86.83 26 *e*P P 07 29 10.5 +6.1
NC602 *e*SS SS 07 45 24.8 +3.3
LDF La Druitiere 86.85 39 *e*P **P 07 29 04.2 -0.5**
comp=Z,75nm,1.1s
LDF La Druitiere 86.85 39 *e*P **P 07 29 04.2 -0.5**
LDF pmax pmax
comp=Z,75nm,1.1s
LDF La Druitiere 86.85 39 *e*P **P 07 29 04.2 -0.5**
comp=Z,75nm,1.1s
KUR Kuril'sk 86.88 317 *d i*P P 07 28 57.6 -7.3
KUR *e* 07 32 26.9
KUR *i* S **SKSac 07 39 25.5 -4.4**
KUR pmax pmax
comp=Z,285nm,1.7s
MFF Saint Martin d 87.68 41 *e*P **P 07 29 08.0 -0.8**
comp=Z,65nm,1.4s
MFF Saint Martin d 87.68 41 *e*P **P 07 29 08.0 -0.8**
MFF pmax pmax
comp=Z,65nm,1.4s
MFF Saint Martin d 87.68 41 *e*P **P 07 29 08.0 -0.8**
comp=Z,65nm,1.4s
PAB San Pablo 87.69 49 *e*P **P 07 29 09.0 -0.1**
PAB pmax pmax
comp=Z,166nm,1.2s
PAB MLR MLR
comp=Z,11μm,20.0s
PAB San Pablo 87.69 49 *e*P **P 07 29 09.0 -0.1**
comp=Z,27nm,1.2s
PAB LR LR
comp=Z,7μm,20.0s
YAK Yakutsk 87.78 337 *e*P **P 07 29 07.0 -1.9**
YAK *e* 07 32 28.6
YAK *e*S **SKSac 07 39 36.4 +1.7**
YAK *e*SS **SS 07 45 36.4 +1.2**
YAK pmax pmax
comp=Z,90nm,1.5s
YAK pmax pmax
comp=N,13nm,1.3s
YAK pmax pmax
comp=E,36nm,1.6s
YAK pmax pmax
comp=Z,166nm,3.4s
YAK pmax pmax
comp=E,293nm,5.9s
YAK pmax pmax
comp=N,108nm,3.4s
YAK smax smax
comp=N,1μm,6.5s
YAK smax smax
comp=E,972nm,6.1s
RTC Rabat Centre 87.88 55 PFAKE 07 29 20.0 +10
RTC LR LR
comp=Z,4μm,19.0s
ESDC Sonseca Array 87.92 49 P **P 07 29 12.0 +1.9**
ESDC Sonseca Array 87.92 49 P **P 07 29 12.0 +1.9**
comp=Z,0.3nm,0.3s,baz=298,slow=5.8,SNR=7.7
ESDC LR LR 08 12 33.6
comp=Z,5μm,18.1s,baz=290,slow=38
ESLA Sonseca Array 87.92 49 *e*P **P 07 29 11.6 +1.4**
comp=Z,17nm,1.6s
SJPF Ste Jean 88.44 45 *e*P **P 07 29 11.8 -0.7**
comp=Z,78nm,1.7s
SJPF Ste Jean 88.44 45 *e*P **P 07 29 11.8 -0.7**
SJPF pmax pmax
comp=Z,78nm,1.7s
SJPF Ste Jean 88.44 45 *e*P **P 07 29 11.8 -0.7**
comp=Z,78nm,1.7s
YUK Yuzh-Kuril'sk 88.68 316 *d i*P P 07 29 05.2 -8.3
YUK *i* S **SKSac 07 39 37.6 -3.2**
YUK *i* 07 39 57.4
YUK *i* SSS SSS 07 49 19.3
YUK pmax pmax
comp=N,301nm,1.4s
YUK pmax pmax
comp=Z,601nm,1.4s
YUK pmax pmax
comp=E,391nm,1.4s
BAIF Baives 88.73 37 *e*P **P 07 29 13.2 -0.5**
comp=E,161nm,1.4s
BAIF Baives 88.73 37 *e*P **P 07 29 13.2 -0.5**
BAIF pmax pmax
comp=Z,161nm,1.4s
BAIF Baives 88.73 37 *e*P **P 07 29 13.2 -0.5**
comp=Z,161nm,1.4s
DOU Dourbes 88.93 37 P P 07 29 18.0 +3.4
comp=Z,25nm,1.7s
DOU Dourbes 88.93 37 AP pP 07 29 26.8 +2.4
LFF La Frestale 88.95 43 *e*P **P 07 29 14.0 -0.8**
comp=Z,112nm,1.3s
LFF La Frestale 88.95 43 *e*P **P 07 29 14.0 -0.8**
LFF pmax pmax
comp=Z,112nm,1.3s
LFF La Frestale 88.95 43 *e*P **P 07 29 14.0 -0.8**
comp=Z,112nm,1.3s
ETSF Etsaut 88.97 45 *e*P **P 07 29 14.5 -0.6**
comp=Z,78nm,1.5s
ETSF Etsaut 88.97 45 *e*P **P 07 29 14.5 -0.6**
ETSF pmax pmax
comp=Z,78nm,1.5s
ETSF Etsaut 88.97 45 *e*P **P 07 29 14.5 -0.6**
comp=Z,78nm,1.5s
GIVF Givet 89.06 37 *e*P **P 07 29 14.8 -0.4**
comp=Z,324nm,1.8s
GIVF Givet 89.06 37 *e*P **P 07 29 14.8 -0.4**
GIVF pmax pmax
comp=Z,325nm,1.8s
GIVF Givet 89.06 37 *e*P **P 07 29 14.8 -0.4**
comp=Z,324nm,1.8s
APA Apatity 89.14 14 *i*P **P 07 29 15.0 -0.2**
APA *i* 07 29 28.0
APA *i* 07 32 50.0
APA *i* S S 07 39 56.0 -5.9
APA MLR MLR
comp=Z,25μm,18.0s
LVZ Lovozero 89.16 14 *e*P **P 07 29 15.4 0.0**
LVZ pmax pmax
comp=Z,28nm,1.4s
BCLA Clavier 89.18 36 AP pP 07 29 27.1 +1.6
comp=Z,29nm,1.9s
TCF Toulx Ste Croi 89.28 41 *e*P **P 07 29 15.2 -1.2**
comp=Z,55nm,1.0s
TCF Toulx Ste Croi 89.28 41 *e*P **P 07 29 15.2 -1.2**
TCF pmax pmax
comp=Z,55nm,1.0s
TCF Toulx Ste Croi 89.28 41 *e*P **P 07 29 15.2 -1.2**
comp=Z,55nm,1.0s
RJF Les Rejaudoux 89.28 42 *e*P **P 07 29 15.4 -1.0**
comp=Z,60nm,1.1s
RJF *e*R
comp=Z,14μm,21.2s
RJF Les Rejaudoux 89.28 42 *e*P **P 07 29 15.4 -1.0**
RJF pmax pmax
comp=Z,60nm,1.1s
RJF Les Rejaudoux 89.28 42 *e*P **P 07 29 15.4 -1.0**
comp=Z,60nm,1.1s
YSS Yuzh-Sakhalins 89.36 320 *e*P **P 07 29 14.6 -2.1**
YSS *e**PP **pP 07 29 23.8 -2.6**
YSS *e* 07 32 48.0
YSS *i* 07 39 47.0
YSS *e*S S 07 39 57.0 -7.7
YSS *e*PS **PnS 07 41 12.0 -0.2**
YSS pmax pmax
comp=Z,20nm,0.9s
YSS pmax pmax
comp=Z,1μm,8.0s
YSS MLR MLR
comp=Z,2μm,18.0s
YSS MLR MLR
comp=E,2μm,20.0s
EPF Esparros 89.51 44 *e*P **P 07 29 16.7 -0.9**
comp=E,72nm,1.5s
EPF Esparros 89.51 44 *e*P **P 07 29 16.7 -0.9**
EPF pmax pmax
comp=Z,72nm,1.5s
EPF Esparros 89.51 44 *e*P **P 07 29 16.7 -0.9**
comp=Z,72nm,1.5s
BGF Bois d'Agland 89.55 40 *e*P **P 07 29 16.4 -1.2**
comp=Z,84nm,1.3s
BGF Bois d'Agland 89.55 40 *e*P **P 07 29 16.4 -1.2**
BGF pmax pmax
comp=Z,84nm,1.3s
BGF Bois d'Agland 89.55 40 *e*P **P 07 29 16.4 -1.2**
comp=Z,84nm,1.3s
PMSA Palmer Station 89.63 163 *e*P P 07 29 20.8 +3.5
comp=Z,105nm,1.5s
PMSA LR LR
comp=Z,5μm,20.0s
SSF Saint Saulge 89.72 40 *e*P **P 07 29 17.3 -1.1**
comp=Z,107nm,1.4s
SSF Saint Saulge 89.72 40 *e*P **P 07 29 17.3 -1.1**
SSF pmax pmax
comp=Z,107nm,1.4s
SSF Saint Saulge 89.72 40 *e*P **P 07 29 17.3 -1.1**
comp=Z,107nm,1.4s
AVF Avril sur Loir 89.75 40 *e*P **P 07 29 17.2 -1.3**
comp=Z,30nm,1.0s
AVF Avril sur Loir 89.75 40 *e*P **P 07 29 17.2 -1.3**
AVF pmax pmax
comp=Z,30nm,1.0s
AVF Avril sur Loir 89.75 40 *e*P **P 07 29 17.2 -1.3**
comp=Z,30nm,1.0s
CAF Calviac 89.80 42 *e*P **P 07 29 17.6 -1.3**
comp=Z,51nm,1.4s
CAF Calviac 89.80 42 *e*P **P 07 29 17.6 -1.3**
CAF pmax pmax
comp=Z,51nm,1.4s
CAF Calviac 89.80 42 *e*P **P 07 29 17.6 -1.3**
comp=Z,51nm,1.4s
LOR Lormes 89.84 39 *e*P **P 07 29 18.1 -0.9**
comp=Z,132nm,1.4s
LOR *e*R
comp=Z,11μm,19.2s
LOR Lormes 89.84 39 *e*P **P 07 29 18.1 -0.9**
comp=Z,132nm,1.4s
MEZF Maizieres J'vi 89.96 38 *e*P **P 07 29 18.7 -0.8**
MEZF Maizieres J'vi 89.96 38 *e*P **P 07 29 18.7 -0.8**
WLF Walferdange 90.03 37 P **P 07 29 20.9 +1.1**
comp=Z,39nm,2.1s
WLF Walferdange 90.03 37 *e*P **P 07 29 21.4 +1.7**
WLF *e**SP **sP 07 29 38.0 +5.0**
WLF pmax pmax
comp=Z,23nm,1.0s
WLF MLR MLR
comp=Z,11μm,20.0s
WLF Walferdange 90.03 37 *e*P **P 07 29 21.4 +1.7**
comp=Z,23nm,1.0s
WLF *e*sP **sP 07 29 38.0 +5.0**
WLF LR LR
comp=Z,11μm,20.0s
MDT Midelt 90.06 55 P **P 07 29 20.0 -0.4**
MDT Midelt 90.06 55 P **P 07 29 20.0 -0.4**
comp=Z,2.7nm,1.1s,baz=288,slow=7.2,SNR=2.9
MDT LR LR 08 09 49.3
comp=Z,6μm,18.7s,baz=227,slow=36
SFTF Sexfontaines 90.09 38 *e*P **P 07 29 19.3 -0.8**
comp=Z,83nm,1.2s
SFTF Sexfontaines 90.09 38 *e*P **P 07 29 19.3 -0.8**
comp=Z,83nm,1.2s
SMF Signal de Mont 90.12 40 *e*P **P 07 29 18.9 -1.4**
comp=Z,52nm,1.4s
SMF Signal de Mont 90.12 40 *e*P **P 07 29 18.9 -1.4**
SMF pmax pmax
comp=Z,53nm,1.4s
SMF Signal de Mont 90.12 40 *e*P **P 07 29 18.9 -1.4**
comp=Z,52nm,1.4s
PLDF La Plantade 90.30 41 *e*P **P 07 29 24.4 +3.2**
PAGF Fort de Pagny 90.33 38 *e*P **P 07 29 20.8 -0.4**
comp=Z,41nm,1.4s
PAGF Fort de Pagny 90.33 38 *e*P **P 07 29 20.8 -0.4**
comp=Z,41nm,1.4s
LBL Lubilhac 90.41 41 *e*P **P 07 29 23.0 +1.3**
MTLF Montolieu 90.61 43 *e*P **P 07 29 21.6 -1.0**
comp=Z,59nm,1.7s
MTLF Montolieu 90.61 43 *e*P **P 07 29 21.6 -1.0**
MTLF pmax pmax
comp=Z,59nm,1.7s
MTLF Montolieu 90.61 43 *e*P **P 07 29 21.6 -1.0**
comp=Z,59nm,1.7s
THEF They Montfort 90.64 38 *e*P **P 07 29 22.8 +0.1**
ASAJ Asahikawa 90.75 317 *e*P **P 07 29 22.0 -1.2**
comp=Z,12nm,0.8s
ASAJ Asahikawa 90.75 317 P **P 07 29 20.9 -2.4**
baz=292,slow=4.3
ASAJ LR LR 08 02 28.0
comp=Z,6μm,21.0s,baz=27,slow=31
URZ Urewera 90.76 230 LR LR 08 00 26.0
comp=Z,21μm,22.0s,baz=358,slow=29
HAU Haudompre 90.96 38 *e*P **P 07 29 23.5 -0.7**
comp=Z,198nm,1.6s
HAU *e*R
comp=Z,27μm,20.5s
HAU Haudompre 90.96 38 *e*P **P 07 29 23.5 -0.7**
HAU pmax pmax
comp=Z,198nm,1.6s
HAU Haudompre 90.96 38 *e*P **P 07 29 23.5 -0.7**
comp=Z,198nm,1.6s
SSB Saint Sauveur 91.19 41 PFAKE 07 29 40.0 +15
SSB LR LR
comp=Z,9μm,20.0s
CDF Champ du Feu 91.29 37 *e*P **P 07 29 24.9 -0.9**
comp=Z,143nm,1.8s
CDF Champ du Feu 91.29 37 *e*P **P 07 29 24.9 -0.9**
CDF pmax pmax
comp=Z,143nm,1.8s
CDF Champ du Feu 91.29 37 *e*P **P 07 29 24.9 -0.9**
comp=Z,143nm,1.8s
LANF Langenberg 91.30 37 *e*P **P 07 29 25.0 -0.7**
ECH Echery 91.32 38 *e*P **P 07 29 26.7 +0.8**
ECH pmax pmax
comp=Z,26nm,1.3s
ECH MLR MLR
comp=Z,13μm,19.0s
ECH Echery 91.32 38 *e*P **P 07 29 24.8 -1.1**
ECH Echery 91.32 38 *e*P **P 07 29 26.7 +0.8**
comp=Z,26nm,1.3s
ECH LR LR
comp=Z,13μm,19.0s
LASF Ste Croix 91.33 42 *e*P **P 07 29 25.3 -0.7**
comp=Z,106nm,1.5s
LASF Ste Croix 91.33 42 *e*P **P 07 29 25.3 -0.7**
comp=Z,106nm,1.5s
ERM Erimo 91.34 315 *e*P **P 07 29 25.3 -0.7**
ERM pmax pmax
comp=Z,30nm,1.5s
ERM Erimo 91.34 315 *e*P **P 07 29 26.2 +0.2**
comp=Z,114nm,1.2s
ERM LR LR
comp=Z,8μm,21.0s
VIVF Saint-Julien-l 91.48 41 *e*P **P 07 29 26.1 -0.6**
VIVF Saint-Julien-l 91.48 41 *e*P **P 07 29 26.1 -0.6**
VIVF Saint-Julien-l 91.48 41 *e*P **P 07 29 26.1 -0.6**
MOF Molkenrain 91.49 38 *e*P **P 07 29 26.7 0.0**
CABF La Chapelle 91.49 39 *e*P **P 07 29 25.9 -0.9**
comp=Z,61nm,1.3s
CABF La Chapelle 91.49 39 *e*P **P 07 29 25.9 -0.9**
CABF pmax pmax
comp=Z,61nm,1.3s
CABF La Chapelle 91.49 39 *e*P **P 07 29 25.9 -0.9**
comp=Z,61nm,1.3s
LOMF Lomont 91.57 38 *e*P **P 07 29 25.9 -1.2**
FINES FINESS Array B 91.78 20 P **P 07 29 29.0 +1.4**
FINES PP **PP 07 33 05.7 -0.2**
FINES FINESS Array B 91.78 20 P **P 07 29 29.0 +1.4**
comp=Z,4.0nm,1.0s,baz=20,slow=4.4,SNR=3.7
FINES PP **PP 07 33 05.7 -0.2**
comp=Z,4.3nm,0.9s,baz=345,slow=5.9,SNR=3.9
FINES LR LR 08 10 27.0
comp=Z,19μm,18.5s,baz=270,slow=35
BFO Black Forest 91.94 37 *e*P **P 07 29 30.0 +1.3**
BFO *e**SP **sP 07 29 46.1 +4.1**
BFO pmax pmax
comp=Z,64nm,1.8s
BFO MLR MLR
comp=Z,10μm,19.0s
BFO Black Forest 91.94 37 *e*P **P 07 29 30.0 +1.3**
comp=Z,64nm,1.8s
BFO *e*sP **sP 07 29 46.0 +4.1**
BFO LR LR
comp=Z,10μm,19.0s
BNI Bardonecchia 92.63 40 *e*P **P 07 29 33.7 +1.6**
BNI pmax pmax
comp=Z,28nm,1.6s
BNI MLR MLR
comp=Z,13μm,19.0s
BNI Bardonecchia 92.63 40 *e*P **P 07 29 33.7 +1.6**
comp=Z,28nm,1.6s
BNI LR LR
comp=Z,13μm,19.0s
GRF Grafenberg Arr 92.82 35 *e*P **P 07 29 31.5 -1.2**
comp=Z,51nm,2.2s
GRF Grafenberg Arr 92.82 35 *e*P **P 07 29 31.5 -1.2**
GRF pmax pmax
comp=Z,51nm,2.2s
MBDF Montbardon 92.84 41 *e*P **P 07 29 32.3 -0.8**
comp=Z,41nm,1.3s
MBDF Montbardon 92.84 41 *e*P **P 07 29 32.3 -0.8**
MBDF pmax pmax
comp=Z,41nm,1.3s
MBDF Montbardon 92.84 41 *e*P **P 07 29 32.3 -0.8**
comp=Z,41nm,1.3s
CLL Collm 92.85 33 *e*P P 07 29 38.0 +5.2
CLL *e* 07 29 46.0
CLL *e*S **ScS 07 40 42.0 +3.8**
CLL MLR MLR
comp=Z,12μm,21.0s
CLL Collm 92.85 33 *e*(sP) P 07 29 38.0 +5.2
CLL *e* 07 29 46.0
CLL *e* 07 30 24.0
CLL *e*PP **PP 07 33 14.0 -0.7**
CLL *e* 07 34 18.0
CLL *e*PPP PPP 07 35 12.0
CLL *e*SKSac **SKSac 07 40 04.0 -0.5**
CLL *e*S **ScS 07 40 42.0 +3.8**
CLL *e*PS PnS 07 41 53.0 +0.3
CLL *e*PPS PPS 07 42 20.0
CLL *e* 07 46 12.0
CLL *e*SS **SS 07 46 50.0 +1.1**
CLL *e*SSSS 07 53 48.0
CLL *e* 07 57 24.0
CLL LmV 08 13 00.0
comp=Z,12μm,21.0s
CLL LmV(360 09 27 00.0
comp=Z,1μm,20.6s
HABR Khabarovsk 93.11 324 *de*P **P 07 29 32.6 -1.4**
HABR *e**PP **pP 07 29 42.8 -0.9**
HABR *e**SP **sP 07 29 46.7 -0.5**
HABR 07 33 14.2
HABR *e*S **SKSac 07 40 02.9 -3.1**
HABR *e* 07 40 37.0
HABR *e*PS **PS 07 41 51.9 -2.4**
HABR *e*SS **SS 07 46 50.5 -2.3**

HABR MLR MLR
comp=Z,4μm,22.0s
LMR La Mourre 93.37 42 *e*P **P 07 29 34.3 -1.1**
comp=Z,35nm,1.1s
LMR La Mourre 93.37 42 *e*P **P 07 29 34.3 -1.1**
LMR pmax pmax
comp=Z,35nm,1.1s
LMR La Mourre 93.37 42 *e*P **P 07 29 34.3 -1.1**
comp=Z,35nm,1.1s
DAVA Damuels 93.38 37 ‖ *i*PcP **PcP 07 29 36.2 +0.1**
comp=Z,44nm,1.4s
TUE Stuetta 93.50 38 *e*P **P 07 29 37.7 +1.5**
comp=Z,126nm,1.8s
TUE LR LR
comp=Z,22μm,19.0s
BRG Berggiesshubel 93.58 33 *e*P P 07 29 51.3 +15
comp=Z,22nm,1.7s
BRG *e* 07 29 56.4
comp=Z,18nm,1.6s
BRG PP **PP 07 33 19.0 -1.5**
BRG SKS **SKSac 07 40 09.0 +0.4**
BRG S **S 07 40 46.0 +3.2**
BRG PS **PS 07 41 51.0 -8.5**
BRG SS **SS 07 47 06.0 +6.5**
BRG
comp=N,9μm,21.0s
BRG
comp=E,9μm,24.2s
BRG
comp=Z,15μm,23.6s
SNZO South Karori 93.64 228 PFAKE 07 29 50.0 +14
SNZO LR LR
comp=Z,13μm,22.0s
DAVOX Davos/Dischmat 93.65 38 P **P 07 29 36.2 -0.7**
DAVOX Davos/Dischmat 93.65 38 P **P 07 29 36.2 -0.7**
comp=Z,3.0nm,0.7s,baz=280,slow=10,SNR=5.6
DAVOX LR LR 08 10 16.8
comp=Z,19μm,21.6s,baz=302,slow=34
DZM Mont Dzumac 93.66 248 *e*PP PP 07 33 17.2 -5.4
comp=Z,716nm,24.9s
DZM *e*SKSac **SKSac 07 40 12.8 +2.7**
comp=Z,3μm,29.2s
DZM *e*SP **SP 07 41 56.0 -2.0**
comp=Z,9μm,26.9s
DZM *e*SS **SS 07 47 08.2 +4.9**
comp=Z,8μm,27.3s
DZM Mont Dzumac 93.66 248 *e*LR LR 07 59 48.8
comp=Z,69μm,27.0s
DZM Mont Dzumac 93.66 248 *e*P **P 07 29 38.8 +1.7**
comp=Z,40nm,1.3s
DZM Mont Dzumac 93.66 248 P **P 07 29 35.0 -2.2**
comp=Z,5.1nm,1.0s,baz=128,slow=17,SNR=2.6
DZM LR LR 08 02 03.0
comp=Z,21μm,21.4s,baz=132,slow=29
FETA Feichten 94.01 37 ‖ *i*PcP **P 07 29 37.6 -0.8**
comp=Z,44nm,1.3s
MOTA Moosalm 94.04 37 ‖ *i*PcP **PcP 07 29 39.2 +0.2**
comp=Z,36nm,1.1s
PVCC Panska Ves 94.11 33 *e*PP PP 07 33 26.6 +2.0
PVCC *e*SKS **SKSac 07 40 10.2 -1.3**
PVCC *e*S **ScS 07 40 51.3 +2.5**
PVCC *e*PS **PS 07 42 06.5 +1.2**
PVCC *e*x x 07 46 18.1
PVCC *e*SS **SS 07 47 10.3 +3.3**
PVCC AMS AMS 08 07 20.0
comp=Z,15μm,25.2s
PRA Prague 94.31 33 PP PP 07 33 25.0 -1.1
PRA SKS SKSac 07 40 21.0 +8.4
PRA SS SS 07 47 21.0 +11
WTTA Wattenberg 94.39 37 ‖ *i*PcP **P 07 29 39.9 -0.3**
comp=Z,45nm,1.2s
KHC Kasperske Hory 94.40 34 *e*PP PP 07 33 28.5 +1.5
KHC *e*SKS **SKSac 07 40 17.9 +4.6**
KHC *e*S **ScS 07 40 55.5 +4.1**
KHC *e*PS **PS 07 42 13.6 +4.9**
KHC *e*PKKP **PKKPdf 07 46 35.2 -3.8**
KHC *e*SS **SS 07 47 14.1 +2.7**
KHC AMS AMS 08 09 00.0
comp=Z,12μm,21.5s
PRU Pruhonice 94.41 33 *e*PP PP 07 33 24.8 -2.2
PRU *e*SKS **SKSac 07 40 19.1 +5.9**
PRU *e*S **ScS 07 40 53.2 +1.9**
PRU *e*PS **PS 07 42 10.1 +1.4**
PRU *e*x x 07 46 19.4
PRU *e*SS SS 07 47 19.1 +7.8
PRU AMS AMS 08 07 50.0
comp=Z,16μm,24.3s
KLR Kul'dur 94.48 326 *e*P P 07 29 35.8 -4.6
KLR *e*S **SKSac 07 40 12.0 -1.6**
KLR *e*PS **PS 07 42 09.5 0.0**
KLR *e*SS SS 07 47 21.5 +9.1
GERES GERESS Array B 94.64 35 P **P 07 29 43.7 +2.5**
GERES GERESS Array B 94.64 35 P **P 07 29 43.7 +2.5**
comp=Z,0.3nm,0.3s,baz=5.7,slow=2.0,SNR=4.8
GERES LR LR 08 11 40.8
comp=Z,12μm,19.2s,baz=305,slow=35
DPC Dobruska-Polom 95.11 32 *e*PP PP 07 33 35.1 +2.6
DPC *e*SKS **SKSac 07 40 19.7 +2.7**
DPC *e*S **ScS 07 41 00.5 +3.2**
DPC *e*PS **PS 07 42 17.3 +0.8**
DPC *e*SS **SS 07 47 23.0 +1.7**
DPC AMS AMS 08 12 20.0
ASCN Ascension 95.20 97 PFAKE 07 29 50.0 +5.7
ASCN LR LR
comp=Z,3μm,20.0s
TREC Trest 95.32 34 *e*PP PP 07 33 35.7 +1.6
TREC *e*SKS **SKSac 07 40 22.3 +4.2**
TREC *e*S **ScS 07 41 02.6 +3.6**
TREC *e*PS **PS 07 42 16.3 -2.4**
TREC *e*SS **SS 07 47 26.3 +2.0**
TREC AMS AMS 08 08 40.0
comp=Z,17μm,23.1s
VLC Villacollemand 95.35 40 PFAKE 07 29 50.0 +5.5
VLC LR LR
comp=Z,8μm,20.0s
HNR Honiara 95.66 262 LR LR 08 03 06.7
comp=Z,8μm,21.0s,baz=68,slow=30
VRAC Vranov 95.89 33 LR LR 08 10 38.4
comp=Z,14μm,21.9s,baz=304,slow=34
KLMR Klimovskoe 96.21 16 *e*P **P 07 29 45.4 -2.6**
KLMR *e* 07 33 36.3
KLMR pmax pmax
comp=Z,19nm,1.2s
KLMR MLR MLR
comp=Z,13μm,22.0s
OKC Ostrava-Krasne 96.35 32 *e*PP PP 07 33 45.1 +3.1
OKC *e*SKS **SKSac 07 40 28.9 +5.4**
OKC *e*S **ScS 07 41 08.9 +1.4**
OKC *e*PS **PS 07 42 39.3 +9.4**
OKC *e*SS **SS 07 47 40.7 +1.9**
OKC AMS AMS 08 13 00.0
comp=Z,10μm,18.8s
JAVS Javornik 96.55 37 *e*P **P 07 29 50.1 +0.1**
PERS Pernice 96.70 36 *e*P **P 07 29 50.0 -0.6**
NACGM Naroch 96.80 25 *e*PP PP 07 34 06.0 +21
VISS Visnje 97.04 37 *e*P **P 07 29 52.1 0.0**
VSL Villasalto 97.18 44 PFAKE 07 30 00.0 +7.0
VSL LR LR
comp=Z,4μm,21.0s
USRK Ussuriysk Arra 97.25 321 P Pdif 07 29 53.8 +0.7
comp=Z,2.1nm,0.7s,baz=338,slow=2.1,SNR=6.1
USRK LR LR 08 07 34.4
comp=Z,6μm,21.5s,baz=45,slow=32
MJAR Matsushiro Arr 97.32 312 P **P 07 29 50.9 -2.7**
MJAR Matsushiro Arr 97.32 312 P **P 07 29 50.9 -2.7**
comp=Z,1.9nm,0.6s,baz=58,slow=2.4,SNR=5.8
MJAR LR LR 08 03 46.0
comp=Z,9μm,22.0s,baz=70,slow=29
MAJO Matsushiro 97.32 312 *e*P Pdif 07 29 54.8 +1.1
MAJO pmax pmax
comp=Z,32nm,1.0s
MAJO MLR MLR
comp=Z,11μm,22.0s
MAJO Matsushiro 97.32 312 *e*P Pdif 07 29 54.8 +1.1
comp=Z,5.4nm,1.0s
MAJO LR LR
comp=Z,8μm,22.0s
MAT Matsushiro 97.32 312 P Pdif 07 29 54.5 +0.8
MAT S **S 07 41 13.8 -2.0**
BOJS Bojanci 97.45 37 *e*P **P 07 29 51.1 -2.8**
BOJS *e*PP **PP 07 33 51.5 +0.9**
BOJS *e*SKSac **SKSac 07 40 34.8 +5.4**
BOJS *e*S **ScS 07 41 22.7 +5.9**
MNK Minsk 97.51 25 *e*P P 07 29 50.0 -4.0
MNK *e*PPP PPP 07 35 56.0
MNK *e* 07 40 30.0
MICGM Minsk 97.52 25 *e*P P 07 29 50.0 -4.1
KECS Kecovo 98.40 32 *e*P Pdif 07 30 01.6 +3.4
KECS Kecovo 98.40 32 PDIF Pdif 07 30 01.6 +3.4
MDJ Mudanjiang 98.40 323 P **P 07 29 57.9 -0.3**
MDJ pP **pP 07 30 07.5 -0.5**
MDJ sP **sP 07 30 11.3 -0.2**
MDJ S **S 07 41 22.3 -2.4**
MDJ sS **sS 07 41 38.8 -2.1**
MDJ pmax pmax
comp=Z,2.0nm,0.4s
MDJ LR LR
comp=N,3μm,28.5s
MDJ LR LR
comp=E,4μm,29.3s
MDJ LR LR
comp=Z,6μm,30.1s
PSZ Piszkesteto 98.47 33 PFAKE 07 30 10.0 +11
PSZ LR LR
comp=Z,13μm,20.0s
KWP Kalwaria Pacla 98.73 30 PFAKE 07 30 10.0 +10
KWP LR LR
comp=Z,10μm,21.0s
CBIJ Chichi jima 98.74 302 LR LR 08 04 58.3
comp=Z,4μm,21.9s,baz=318,slow=30
KEST Kesra 99.10 47 P **Pdif 07 30 02.9 +1.2**
KEST Kesra 99.10 47 P **Pdif 07 30 02.9 +1.2**
comp=Z,4.1nm,1.0s,baz=243,slow=2.8,SNR=3.7
KEST LR LR 08 12 47.6
comp=Z,4μm,21.4s,baz=73,slow=34
UZH Uzhgorod 99.20 31 *e*P **Pdif 07 30 04.0 +2.3**
UZH *e* 07 34 05.6
UZH *e*S **S 07 41 27.9 -3.3**
UZH *e*SP SP 07 43 07.4 +11
UZH *e*SS **SS 07 48 18.5 -0.3**
UZH MLR MLR
comp=N,5μm,17.0s
UZH MLR MLR
comp=E,4μm,17.0s
UZH MLR MLR
comp=Z,3μm,17.0s
LVV L'vov 99.22 30 *e*P **Pdif 07 30 07.6 +5.8**
LVV *e* 07 34 03.2
LVV *e* 07 36 15.0
LVV *e* 07 40 37.2
LVV *e*S **S 07 41 35.0 +3.6**
LVV *e* 07 42 57.8
LVV *e* 07 48 21.8
LVV MLR MLR
comp=N,5μm,18.0s
LVV MLR MLR
comp=E,4μm,18.0s
LVV MLR MLR
comp=Z,6μm,18.0s
LIC Lamto 99.45 80 *e*P **Pdif 07 30 01.0 -2.5**
comp=Z,51nm,1.3s
LIC *e*R
comp=Z,8μm,21.8s
LIC Lamto 99.45 80 *e*P **Pdif 07 30 01.0 -2.5**
comp=Z,51nm,1.3s
DBIC Dimbokro 99.46 80 P **Pdif 07 30 05.2 +1.7**
DBIC Dimbokro 99.46 80 P **Pdif 07 30 05.2 +1.7**
comp=Z,6.6nm,1.0s,baz=303,slow=3.6,SNR=2.6
DBIC LR LR 08 13 47.1
comp=Z,8μm,20.7s,baz=274,slow=34
OBN Obninsk 100.18 20 ‖ P Pdif 07 30 16.7 +11
OBN *e* 07 34 13.0
OBN *i* S **Sdif 07 41 36.1 -3.0**
OBN *i* SS **SS 07 48 25.7 -6.1**
OBN pmax pmax
comp=Z,59nm,1.8s
OBN MLR MLR
comp=Z,19μm,17.0s
KIEV Kiev 100.90 27 PFAKE 07 30 20.0 +11
KIEV LR LR
comp=Z,10μm,20.0s
AKASG Malin Array Be 100.90 27 P **Pdif 07 30 08.4 -0.8**
AKASG Malin Array Be 100.90 27 P **Pdif 07 30 08.3 -0.8**
AKASG Malin Array Be 100.90 27 P **Pdif 07 30 08.3 -0.8**
comp=Z,0.2nm,0.3s,baz=291,slow=3.8,SNR=3.7
CUC Castrocucco 101.04 41 PFAKE 07 30 20.0 +10
CUC LR LR
comp=Z,7μm,22.0s
CN2 Changchun 101.24 324 *e*P **Pdif 07 30 11.8 +0.9**
CN2 *e*pP pP 07 30 22.3 +1.5
CN2 SKS **SKSac 07 40 46.8 -1.5**
CN2 *e*S **Sdif 07 41 43.3 -5.2**
CN2 SS **SS 07 48 45.3 -2.3**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 pmax pmax
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,3μm,20.0s
CN2 LR LR
comp=E,4μm,20.0s
CN2 LR LR
comp=Z,7μm,23.0s
GUMO Guam 102.04 289 PFAKE 07 30 20.0 +5.0
GUMO LR LR
comp=Z,476nm,22.0s
TAM Tamanrasset 102.38 61 PFAKE 07 30 30.0 +13
TAM LR LR
comp=Z,5μm,19.0s
TIR Tirane 102.65 38 PFAKE 07 30 30.0 +13
TIR LR LR
comp=Z,9μm,19.0s
TORD Torodi Ar. Bea 103.09 71 Pdif **Pdif 07 30 22.7 +3.0**
TORD PP **PP 07 34 32.8 -1.7**
TORD PKKP **PKKPbc 07 46 18.2 +2.8**
TORD Torodi Ar. Bea 103.09 71 Pdiff **Pdif 07 30 22.7 +3.0**
comp=Z,0.5nm,0.9s,baz=267,slow=4.3,SNR=3.3
TORD PP **PP 07 34 32.8 -1.7**
comp=Z,4.4nm,1.0s,baz=300,slow=6.6,SNR=6.5
TORD PKKP **PKKPbc 07 46 18.2 +2.8**
comp=Z,1.7nm,1.2s,baz=120,slow=1.2,SNR=4.6
KIS Kishinev 103.47 29 *e*P **Pdif 07 30 19.0 -1.7**
KIS Kishinev 103.47 29 *e*PP PP 07 34 33.0 -2.9
KIS Kishinev 103.47 29 *e*PS PS 07 43 50.0 +3.8
KIS Kishinev 103.47 29 *e*PPS PPS 07 44 43.0
KIS LRM MLR 08 18 44.0
comp=Z,13μm,19.0s
KIS Kishinev 103.47 29 *e*P **Pdif 07 30 19.0 -1.7**
KIS *e* 07 34 33.0
KIS *e*PPP PPP 07 36 50.0
KIS *e* 07 41 54.0
KIS *e*PS **PS 07 43 50.0 +3.8**
KIS *e*PPS PPS 07 44 43.0
KIS MLR MLR
comp=N,8μm,17.0s
KIS MLR MLR
comp=E,6μm,17.0s
KIS MLR MLR
comp=Z,13μm,17.0s
KIS MLR MLR
comp=Z,13μm,19.0s
ARU Arti 104.10 8 P **Pdif 07 30 27.0 +3.7**
ARU 07 34 41.3
ARU S **SKSac 07 41 04.1 +2.9**
ARU PS **PS 07 43 47.5 -4.8**
INCN Inchon 104.50 318 PFAKE 07 30 40.0 +14
INCN LR LR
comp=Z,5μm,19.0s
TRIS Tristan da Cun 104.89 124 PFAKE 07 34 50.0
TRIS LR LR
comp=Z,9μm,22.0s
SHEL Horse Pasture 105.58 102 PFAKE 07 34 50.0
SHEL LR LR
comp=Z,4μm,22.0s
ZAK Zakamensk 106.04 340 *e*P Pdif 07 30 20.4 -12
ZAK pmax pmax
comp=Z,3.0nm,1.6s
DL2 Dalian 106.62 322 Pdif **Pdif 07 30 39.4 +4.5**
DL2 PP **PP 07 34 57.6 -1.9**
DL2 Dalian 106.62 322 SS SS 07 50 02.0 +0.5
DL2 AMB AMB
comp=Z,400nm,6.4s
DL2 LR LR
comp=N,2μm,23.5s
DL2 LR LR
comp=Z,2μm,22.6s
ZALV Zalesovo Beam 106.80 353 PP PP 07 34 56.2 -4.0
ZALV PKKPab **PKKPab 07 46 20.2 -1.8**
comp=Z,0.4nm,0.3s,baz=228,slow=1.7,SNR=2.2
ZALV PKKPab **PKKPab 07 46 20.2 -1.8**
comp=Z,0.4nm,0.3s,baz=197,slow=4.6,SNR=3.9
ULN Ulaanbaatar 106.87 337 PFAKE 07 35 00.0
ULN LR LR
comp=Z,10μm,22.0s
SONM Songino Array 107.14 337 Pdif **Pdif 07 30 37.0 -0.3**
SONM PP PP 07 34 56.7 -6.4
SONM PKKPbc **PKKPbc 07 46 04.9 +0.6**
SONM Songino Array 107.14 337 Pdiff **Pdif 07 30 37.0 -0.3**
comp=Z,0.4nm,0.3s,baz=90,slow=1.5,SNR=4.2
SONM PP PP 07 34 56.7 -6.4
comp=Z,0.5nm,0.7s,baz=11,slow=2.9,SNR=3.6
SONM PKKPbc **PKKPbc 07 46 04.9 +0.6**
comp=Z,0.7nm,0.8s,baz=180,slow=4.3,SNR=2.5
SBA Scott Base 107.42 193 PFAKE 07 35 00.0
SBA LR LR
comp=Z,2μm,19.0s
PMG Port Moresby 107.69 266 PFAKE 07 35 00.0
PMG LR LR
comp=Z,12μm,20.0s
BRVK Borovoye 108.40 2 PFAKE 07 35 00.0
BRVK LR LR
comp=Z,23μm,20.0s
BVAR Borovoye Array 108.44 2 P **Pdif 07 30 50.2 +7.5**
BVAR 07 35 14.6
BVAR Borovoye Array 108.44 2 Pdif **Pdif 07 30 50.2 +7.5**
BVAR PP **PP 07 35 14.6 +2.5**
BVAR PKKPbc **PKKPbc 07 45 58.5 -1.8**
BVAR Borovoye Array 108.44 2 Pdiff **Pdif 07 30 50.2 +7.5**
comp=Z,1.2nm,0.8s,baz=356,slow=1.9,SNR=3.1
BVAR PP **PP 07 35 14.6 +2.5**
comp=Z,8.2nm,1.1s,baz=357,slow=4.9,SNR=8.7
BVAR PKKPbc **PKKPbc 07 45 58.5 -1.8**
comp=Z,0.8nm,0.7s,baz=180,slow=3.0,SNR=6.4
QSPA South Pole Qui 108.72 180 PFAKE 07 35 00.0
QSPA LR LR
comp=Z,5μm,20.0s
BJI Beijing 108.85 326 Pdif **Pdif 07 30 49.5 +4.7**
BJI PP **PP 07 35 18.8 +3.0**
BJI Beijing 108.85 326 SS SS 07 50 21.4 -10
BJI LR LR
comp=N,3μm,22.8s
BJI LR LR
comp=E,7μm,22.4s
BJI LR LR
comp=Z,10μm,23.5s
HHC Hu-ho-hao-te 110.57 330 *e*PKP **PKiKP 07 34 52.5 -0.5**
HHC sPKP 07 35 06.4
HHC PP **PP 07 35 29.9 +1.6**
HHC AMB AMB
comp=Z,2μm,10.3s
HHC LR LR
comp=N,8μm,23.0s
HHC LR LR
comp=E,6μm,19.6s
HHC LR LR
comp=Z,13μm,22.6s
KURK Kurchatov 110.59 356 PKKPbc PKKPbc 07 45 50.8 -2.4
KURK LR LR
comp=Z,13μm,19.0s
KURBB Kurchatov Arra 110.69 356 PKKPbc PKKPbc 07 45 50.8 -2.1
comp=Z,2.0nm,1.0s,baz=209,slow=3.3,SNR=7.1
ANTO Ankara 110.72 32 PFAKE 07 35 00.0
ANTO LR LR
comp=Z,6μm,20.0s
VNA2 Neumayer--Watz 110.84 160 *e*PKiKP **PKiKP 07 34 53.4 +1.1**
VNA2 Neumayer--Watz 110.84 160 *e*PP PP 07 35 33.8 +3.5
VNA2 Neumayer--Watz 110.84 160 *e*PKKPbc PKKPbc 07 45 49.3 -3.7
VNA2 Neumayer--Watz 110.84 160 *e*PKKPab PKKPab 07 46 00.9 +1.4
SOC Sochi 110.89 25 *e*P Pdif 07 30 39.5 -14
SOC *i* 07 34 49.2
SOC *e*PPP PPP 07 37 47.7
SOC MLR MLR
comp=Z,16μm,18.0s
SOC MLR MLR
comp=N,17μm,18.0s
SOC MLR MLR
comp=E,5μm,18.0s
ISP Isparta 111.06 35 PFAKE 07 35 00.0
ISP LR LR
comp=Z,10μm,21.0s
BRTR Keskin Array B 111.25 31 PKiKP **PKiKP 07 34 54.0 -0.4**
BRTR PP PP 07 35 39.2 +6.0
BRTR PKKPbc **PKKPbc 07 45 49.1 -1.8**
BRTR Keskin Array B 111.25 31 PKiKP **PKiKP 07 34 54.0 -0.4**
comp=Z,2.1nm,1.1s,baz=328,slow=5.1,SNR=4.1
BRTR PP PP 07 35 39.2 +6.0
comp=Z,2.0nm,0.9s,baz=336,slow=2.7,SNR=4.0
BRTR PKKPbc **PKKPbc 07 45 49.1 -1.8**
comp=Z,0.9nm,0.8s,baz=186,slow=5.0,SNR=4.4
CTAO Charters Tower 111.28 255 PFAKE 07 35 00.0
CTAO LR LR
comp=Z,6μm,20.0s
CAN Canberra 111.66 239 PFAKE 07 35 00.0
CAN LR LR
comp=Z,8μm,20.0s
KIV Kislovodsk 111.72 23 *i* PKIKP **PKiKP 07 34 52.5 -2.6**
KIV *e* 07 35 34.9
KIV *e*PS **PS 07 45 09.0 -0.6**
KIV *e*SS SS 07 51 08.7 -1.0
KIV pmax pmax
comp=Z,9.0nm,1.1s
SSE Sheshan 112.01 316 PKP PKiKP 07 35 26.4 +31
SSE SKKS 07 43 23.1
SSE Sheshan 112.01 316 SS SS 07 51 24.0 +9.5
SSE LR LR
comp=N,3μm,21.6s
SSE LR LR
comp=E,3μm,21.6s
SSE LR LR
comp=Z,5μm,19.8s
SNAA Sanae 112.24 161 *e*PKKPbc PKKPbc 07 45 47.2 -1.2
SNAA Sanae 112.24 161 *e*PKKPab PKKPab 07 45 55.7 +2.3
NJ2 Nanjing 112.88 318 *e*Pdif **Pdif 07 31 02.5 -0.4**
NJ2 SKS **SKSdf 07 42 06.0 -1.7**
NJ2 AMB AMB
comp=Z,430nm,6.5s
NJ2 LR LR
comp=N,6μm,22.5s
NJ2 LR LR
comp=E,7μm,21.1s
NJ2 LR LR
comp=Z,6μm,21.1s
ONI Oni 113.18 23 P **PP 07 35 51.0 +4.3**
TAU Tasmania Unive 113.77 231 PFAKE 07 35 10.0
TAU LR LR
comp=Z,16μm,22.0s
MKAR Makanchi Array 114.14 353 PKIKP **PKiKP 07 34 58.6 -0.9**
MKAR 07 35 53.0
MKAR Makanchi Array 114.14 353 PKP **PKiKP 07 34 58.6 -0.9**
MKAR PP **PP 07 35 53.0 -0.2**
MKAR PKKPbc **PKKPbc 07 45 38.5 -2.9**
MKAR Makanchi Array 114.14 353 PKhKP PKPpre 07 34 44.5
comp=Z,1.2nm,1.0s,baz=20,slow=4.6,SNR=4.4
MKAR PKP **PKiKP 07 34 58.6 -0.9**
comp=Z,0.9nm,0.8s,baz=21,slow=4.9,SNR=3.6
MKAR PP **PP 07 35 53.0 -0.2**
comp=Z,2.5nm,0.9s,baz=26,slow=5.9,SNR=5.1
MKAR PKKPbc **PKKPbc 07 45 38.5 -2.9**
comp=Z,1.4nm,0.9s,baz=132,slow=1.8,SNR=8.0
AKH Akhalkalaki 114.22 24 P **PP 07 35 56.0 +1.8**
MAK Makhachkala 114.27 20 *i* PKIKP PKPdf 07 35 00.2 +0.4
MAK *e* 07 35 54.8
MAK *e* 07 41 44.2
MAK *e* 07 42 06.7
MAK *e*PS **PS 07 45 31.2 -1.5**
MAK *e*SS SS 07 51 43.5 +0.5
MAK pmax pmax
comp=Z,22nm,0.4s
MAK MLR MLR
comp=N,9μm,17.0s
MAK MLR MLR
comp=Z,12μm,18.0s
MAK MLR MLR
comp=N,15μm,18.0s
TBLG Delisi 114.40 23 P **PP 07 36 00.4 +5.1**
CSS Prodhromos 114.70 35 PFAKE 07 35 10.0 +9.1
CSS LR LR
comp=Z,2μm,21.0s
DGRG David-gareji 114.88 22 P **PP 07 36 02.7 +4.0**
TATO Taipei 115.65 311 PFAKE 07 35 10.0 +7.1
TATO LR LR
comp=Z,6μm,22.0s

GNI	**Garni**	**115.78**	**24**	PFAKE		07 35 10.0	+7.0
GNI				LR	LR		
comp=Z,9μm,21.0s							
YHNB	**Yeheng**	**115.92**	**311**	PFAKE		07 35 10.0	+6.4
YHNB				LR	LR		
comp=Z,6μm,22.0s							
DRV	**Dumont d'Urvil**	**116.11**	**204**	PP	PP	07 35 58.0	-10
DRV				SKKS		07 45 54.0	
DRV				SS	SS	07 51 55.0	-13
WMQ	**Urumqi**	**116.19**	**348**	PKP	**PKPdf**	**07 35 05.8**	**+2.2**
WMQ				PP	**PP**	**07 36 10.3**	**+2.6**
WMQ				PKS	**PKSdf**	**07 38 41.3**	**+1.0**
WMQ				AMB	AMB		
comp=Z,730nm,6.8s							
WMQ				LR	LR		
comp=N,8μm,22.8s							
WMQ				LR	LR		
comp=E,6μm,22.0s							
WMQ				LR	LR		
comp=Z,8μm,22.8s							
WHN	**Wuhan**	**116.71**	**320**	PKP	PKPdf	07 34 59.0	-5.8
WHN				LR	LR		
comp=N,7μm,16.4s							
WHN				LR	LR		
comp=E,4μm,20.4s							
WHN				LR	LR		
comp=Z,10μm,20.0s							
GTA	**Gaotai**	**116.81**	**337**	PKP	**PKPdf**	**07 35 04.6**	**-0.4**
GTA				sPKP		07 35 19.3	
GTA				PP	PP	07 36 17.8	+5.4
GTA				SKS	**SKSdf**	**07 42 11.8**	**-3.5**
GTA				SKKS	SKKSac	07 43 04.6	-8.0
GTA				SS	**SS**	**07 52 17.6**	**+0.8**
GTA				AMB	AMB		
comp=Z,920nm,10.9s							
GTA				LR	LR		
comp=N,5μm,23.3s							
GTA				LR	LR		
comp=E,5μm,25.2s							
GTA				LR	LR		
comp=Z,9μm,23.3s							
LZH	**Lanzhou**	**117.99**	**332**	*e*PKP	**PKPdf**	**07 35 08.5**	**+1.1**
LZH				sPKP		07 35 21.9	
LZH				PP	**PP**	**07 36 20.3**	**-0.5**
LZH				AMB	AMB		
comp=Z,370nm,4.8s							
LZH				LR	LR		
comp=N,1μm,15.0s							
LZH				LR	LR		
comp=E,8μm,19.5s							
LZH				LR	LR		
comp=Z,8μm,19.9s							
TKM2	**Tokmak 2**	**118.52**	**358**	*e*PKIKP	**PKPdf**	**07 35 06.8**	**-1.5**
TKM2				MLR	MLR		
comp=Z,16μm,20.0s							
TKM2	**Tokmak 2**	**118.52**	**358**	*e*PKPdf	**PKPdf**	**07 35 06.8**	**-1.5**
TKM2				LR	LR		
comp=Z,16μm,20.0s							
EKS2	**Erkin-Say**	**118.83**	**359**	*e*PKIKP	**PKPdf**	**07 35 08.5**	**-0.3**
EKS2				MLR	MLR		
comp=Z,18μm,19.0s							
EKS2	**Erkin-Say**	**118.83**	**359**	*e*PKPdf	**PKPdf**	**07 35 08.5**	**-0.3**
EKS2				LR	LR		
comp=Z,18μm,19.0s							
AAK	**Ala-Archa**	**118.84**	**359**	⇑*i*PKIKP	**PKPdf**	**07 35 08.8**	**-0.1**
AAK				pmax	pmax		
comp=Z,12nm,1.7s							
AAK	**Ala-Archa**	**118.84**	**359**	PKKPab	PKKPab	07 45 25.6	-3.2
AAK				LR	LR		
comp=Z,21μm,20.0s							
AAK	**Ala-Archa**	**118.84**	**359**	PKKPab	PKKPab	07 45 25.6	-3.2
comp=Z,3.0nm,0.7s,baz=155,slow=5.9,SNR=5.3							
KSH	**Kashi**	**121.90**	**357**	*e*PKP	**PKPdf**	**07 35 14.8**	**0.0**
KSH				sPKP		07 35 29.1	
KSH				PP	**PP**	**07 36 49.4**	**+2.3**
KSH				PKS	**PKSdf**	**07 38 50.1**	**-1.5**
KSH				SKS	**SKSdf**	**07 42 21.8**	**-3.2**
KSH				SKKS	SKKSac	07 43 37.5	-8.5
KSH				AMB	AMB		
comp=Z,190nm,4.1s							
KSH				LR	LR		
comp=N,15μm,17.5s							
KSH				LR	LR		
comp=E,13μm,18.2s							
KSH				LR	LR		
comp=Z,22μm,19.0s							
DAV	**Davao City (W)**	**121.96**	**291**	PFAKE		07 35 30.0	+15
DAV				LR	LR		
comp=Z,5μm,22.0s							
WRAB	**Tennant Creek**	**122.21**	**258**	*e*PKIKP	**PKPdf**	**07 35 13.0**	**-2.6**
WRAB				MLR	MLR		
comp=Z,7μm,20.0s							
WRAB	**Tennant Creek**	**122.21**	**258**	*e*PKPdf	**PKPdf**	**07 35 13.0**	**-2.6**
WRAB				LR	LR		
comp=Z,7μm,20.0s							
WRA	**Warramunga Arr**	**122.22**	**258**	PKP	**PKPdf**	**07 35 13.0**	**-2.7**
WRA				PKKPab	**PKKPab**	**07 45 13.1**	**+1.4**
WRA	**Warramunga Arr**	**122.22**	**258**	PKP	**PKPdf**	**07 35 13.0**	**-2.7**
comp=Z,4.8nm,0.7s,baz=78,slow=2.2,SNR=31							
WRA				PKKPab	**PKKPab**	**07 45 13.1**	**+1.4**
comp=Z,0.5nm,0.8s,baz=259,slow=3.0,SNR=3.9							
CD2	**Chengdu**	**122.30**	**328**	Pdif	**Pdif**	**07 31 46.3**	**+1.4**
CD2				PKP	**PKiKP**	**07 35 16.3**	**+0.5**
CD2				sPKP		07 35 30.8	
CD2				PP	**PP**	**07 36 49.8**	**-0.5**
CD2				PKS	**PKSdf**	**07 38 51.8**	**-0.7**
CD2				SKS	**SKSdf**	**07 42 26.5**	**+0.6**
CD2				SS	**SS**	**07 53 28.0**	**+0.2**
CD2				AMB	AMB		
comp=Z,980nm,10.1s							
CD2				LR	LR		
comp=N,8μm,20.2s							
CD2				LR	LR		
comp=Z,6μm,20.2s							
AS31	**Alice Springs**	**123.19**	**254**	*e*PKPdf	**PKPdf**	**07 35 14.8**	**-2.7**
ASAR	**Alice Springs**	**123.20**	**254**	PKP	**PKPdf**	**07 35 14.4**	**-3.1**
ASAR				PKKPab	**PKKPbc**	**07 45 08.4**	**+0.7**
ASAR				SKKPbc	SKKPbc	07 48 54.6	-1.1
ASAR	**Alice Springs**	**123.20**	**254**	PKP	**PKPdf**	**07 35 14.4**	**-3.1**
comp=Z,5.2nm,0.8s,baz=84,slow=2.0,SNR=29							
ASAR				PKKPab	**PKKPbc**	**07 45 08.4**	**+0.7**
comp=Z,2.0nm,0.9s,baz=261,slow=3.8,SNR=9.6							
ASAR				SKKPbc	SKKPbc	07 48 54.6	-1.1
comp=Z,0.4nm,0.8s,baz=267,slow=3.4,SNR=4.1							
GYA	**Guiyang**	**124.26**	**323**	Pdif	**Pdif**	**07 31 52.3**	**-1.5**
GYA				PKP	**PKPdf**	**07 35 18.9**	**-0.8**
GYA				PP	**PP**	**07 37 06.8**	**+2.9**
GYA				PKS	**PKSdf**	**07 38 54.3**	**-2.3**
GYA				SKKS		07 43 54.0	
GYA				SS	**SS**	**07 53 49.9**	**-3.4**
GYA				LR	LR		
comp=N,7μm,23.3s							
GYA				LR	LR		
comp=E,6μm,24.0s							
GYA				LR	LR		
comp=Z,8μm,23.5s							
CASY	**Casey**	**126.59**	**198**	PFAKE		07 35 30.0	+7.4
CASY				LR	LR		
comp=Z,4μm,20.0s							
KMI	**Kunming**	**127.49**	**325**	PKP	**PKPdf**	**07 35 24.8**	**-1.2**
KMI				sPKP		07 35 38.0	
KMI				PP	**PP**	**07 37 24.5**	**-0.9**
KMI				PKS	**PKSdf**	**07 39 00.9**	**-2.1**
KMI				SKS	**SKSdf**	**07 42 32.0**	**-4.2**
KMI				SKKS	**SKKSac**	**07 44 15.8**	**-6.7**
KMI				SS	**SS**	**07 54 29.1**	**-4.7**
KMI				AMB	AMB		
comp=Z,560nm,7.2s							
KMI				LR	LR		
comp=N,4μm,20.6s							
KMI				LR	LR		
comp=E,4μm,19.0s							
KMI				LR	LR		
comp=Z,5μm,20.8s							
QIZ	**Qiongzhong**	**127.68**	**314**	PKP	**PKPdf**	**07 35 24.5**	**-1.7**
QIZ				AMB	AMB		
comp=Z,690nm,9.0s							
QIZ				LR	LR		
comp=N,2μm,25.3s							
QIZ				LR	LR		
comp=Z,6μm,28.9s							
TSUM	**Tsumeb**	**127.99**	**100**	*e*PKPdf	**PKPdf**	**07 35 27.4**	**+0.6**
TSUM				LR	LR		
comp=Z,5μm,20.0s							
LSA	**Lhasa**	**128.62**	**339**	PKP	**PKPdf**	**07 35 24.5**	**-3.9**
MIR	**Mirnyy**	**130.50**	**190**	*e*PKIKP	PKPdf	07 35 37.0	+7.0
MIR				pmax	pmax		
comp=Z,30nm,1.5s							
KKM	**Kota Kinabalu**	**130.59**	**296**	PFAKE		07 35 40.0	+8.0
KKM				LR	LR		
comp=Z,3μm,21.0s							
MAW	**Mawson**	**130.81**	**175**	PKP	**PKPdf**	**07 35 29.7**	**-0.9**
MAW	**Mawson**	**130.81**	**175**	PKP	**PKPdf**	**07 35 29.7**	**-0.9**
comp=Z,10nm,1.1s,baz=254,slow=3.0,SNR=11							
SUR	**Sutherland**	**131.64**	**117**	PFAKE		07 35 40.0	+6.4
SUR				LR	LR		
comp=Z,7μm,22.0s							
SHL	**Shillong**	**132.14**	**337**	*e*PKP	**PKPdf**	**07 35 34.0**	**-0.8**
SHL				*e*PP	**SKiKP**	**07 39 13.0**	**+3.1**
KAPI	**Kappang**	**132.21**	**281**	PFAKE		07 35 40.0	+5.1
KAPI				LR	LR		
comp=Z,3μm,20.0s							
CHTO	**Chiang Mai**	**134.64**	**324**	*e*PKIKP	**PKPdf**	**07 35 39.4**	**0.0**
CHTO				*e*		07 35 52.7	
CHTO				MLR	MLR		
comp=Z,5μm,19.0s							
CHTO	**Chiang Mai**	**134.64**	**324**	*e*PKPdf	**PKPdf**	**07 35 39.4**	**0.0**
CHTO				*ep*PKPdf	**pPKPdf**	**07 35 52.7**	**+3.3**
CHTO				LR	LR		
comp=Z,5μm,19.0s							
CMAR	**Chiang Mai Arr**	**134.93**	**324**	PKP	**PKPdf**	**07 35 39.1**	**-0.8**
CMAR	**Chiang Mai Arr**	**134.93**	**324**	PKP	**PKPdf**	**07 35 39.1**	**-0.8**
comp=Z,4.2nm,0.9s,baz=354,slow=2.7,SNR=20							
MBAR	**Mbarara**	**134.96**	**71**	PFAKE		07 35 50.0	+10
MBAR				LR	LR		
comp=Z,774nm,22.0s							
BOSA	**Boshof**	**135.64**	**112**	PKPpre	PKPpre	07 35 36.2	
BOSA				PKP	**PKPdf**	**07 35 42.0**	**+0.9**
BOSA				*e*PKPdf	**PKiKP**	**07 35 42.6**	**-0.1**
BOSA	**Boshof**	**135.64**	**112**	PKhKP	PKPpre	07 35 36.2	
comp=Z,6.3nm,0.8s,baz=179,slow=4.3,SNR=6.5							
BOSA				PKP	**PKPdf**	**07 35 42.0**	**+0.9**
comp=Z,18nm,1.1s,baz=318,slow=2.7,SNR=8.4							
MBWA	**Marble Bar**	**135.95**	**259**	PFAKE		07 35 50.0	+8.3
MBWA				LR	LR		
comp=Z,7μm,20.0s							
LSZ	**Lusaka**	**137.29**	**92**	PKP	**PKPdf**	**07 35 45.5**	**+1.0**
LSZ				LR	LR		
comp=Z,5μm,19.0s							
LSZ	**Lusaka**	**137.29**	**92**	PKP	**PKPdf**	**07 35 45.5**	**+1.0**
comp=Z,4.1nm,0.6s,baz=14,slow=5.4							
NWAO	**Narrogin (SRO)**	**137.92**	**241**	PFAKE		07 35 50.0	+5.0
NWAO				LR	LR		
comp=Z,10μm,19.0s							
KSM	**Kuching**	**137.98**	**295**	PFAKE		07 36 00.0	+14
KSM				LR	LR		
comp=Z,2μm,19.0s							
KMBO	**Kilima Mbogo**	**140.98**	**67**	PKP	**PKPdf**	**07 35 52.5**	**+1.0**
KMBO				*e*PKPdf	**PKiKP**	**07 35 52.9**	**-1.3**
KMBO				*ep*PKPdf	**pPKPdf**	**07 36 05.1**	**+3.6**
KMBO				LR	LR		
comp=Z,5μm,20.0s							
KMBO	**Kilima Mbogo**	**140.98**	**67**	PKP	**PKPdf**	**07 35 52.5**	**+1.0**
comp=Z,1.9nm,0.6s,baz=33,slow=5.0,SNR=7.1							
POO	**Poona**	**142.88**	**358**	*e*PKP	**PKPdf**	**07 35 53.0**	**-1.5**
comp=Z,3.0nm,1.2s							
POO				*e*PP	PP	07 38 34.0	-28
POO				*e*PKS	**PKSdf**	**07 39 28.0**	**-2.5**
POO				*e*PPP	PPP	07 41 41.0	
POO				*e*SKKS		07 45 31.0	
POO				*i* LR	LR	08 21 40.0	
POO				*i M*		08 31 58.0	
HYB	**Hyderabad**	**143.56**	**351**	*i* PKP	PKPab	07 35 50.0	-2.1
KULM	**Kulim**	**143.57**	**308**	*e*PKPdf	**PKPdf**	**07 35 55.0**	**-0.8**
KULM				*ep*PKPdf	**pPKPdf**	**07 36 07.1**	**+1.3**
KULM				LR	LR		
comp=Z,4μm,19.0s							
IPM	**Ipoh**	**143.82**	**307**	*e*PKPdf	**PKPdf**	**07 35 55.5**	**-0.8**
IPM				*ep*PKPdf	**pPKPdf**	**07 36 09.5**	**+3.3**
OPO	**Ambohidratompo**	**155.75**	**94**	PKP	**PKPdf**	**07 36 16.9**	**+1.9**
OPO	**Ambohidratompo**	**155.75**	**94**	PKP	**PKPdf**	**07 36 16.9**	**+1.9**
comp=Z,1.3nm,0.5s,baz=233,slow=5.1,SNR=2.1							
ABPO	**Ambohimpanom**	**155.82**	**95**	*e*PKIKP	**PKPdf**	**07 36 17.0**	**+1.9**
ABPO				MLR	MLR		
comp=Z,6μm,20.0s							
ABPO	**Ambohimpanom**	**155.82**	**95**	*e*PKPdf	**PKPdf**	**07 36 17.0**	**+1.9**
ABPO				LR	LR		
comp=Z,6μm,20.0s							
COCO	**West Island**	**155.93**	**282**	PFAKE		07 36 20.0	+4.9
COCO				LR	LR		
comp=Z,6μm,22.0s							
MSEY	**Mahe Island**	**158.02**	**52**	PFAKE		07 36 30.0	+12
MSEY				LR	LR		
comp=Z,9μm,21.0s							
RER	**Riviere de l'E**	**163.81**	**101**	PFAKE		07 36 30.0	+6.0
RER				LR	LR		
comp=Z,5μm,20.0s							
DGAR	**Diego Garcia**	**168.66**	**2**	PFAKE		07 36 40.0	+12
DGAR				LR	LR		
comp=Z,6μm,21.0s							

*ISCJB **24** 07:32:27.0±0.8, 33°.13N±0°.07×138°.6E±0°.1, h300km, mb2.9/3, Error ellipse: s-maj=13.2km s-min=8.9km az=15.6*
*JMA **24** 07:32:26.1±0.4, 33°.08N×138°.65E, h310km, M3.2*
*IDC **24** 07:32:27.1±1.7, 33°.07N×138°.52E, h282km±23km, mb2.8/3, mb1 3.1/5, mb1mx2.8/27, mbtmp2.8/5, Error ellipse: s-maj=48.4km s-min=18.5km az=111.0*
ISC 24 07:32:28.4±1.1, 33°.21N±0°.10×138°.5E±0°.1, h300km, n14, σ0§94/18, mb2.8/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO1	**TONANKAI O.B.S**	**1.49**	**286**	P	**Pn**	**07 33 11.3**	**+0.2**
JOD2	**Odawara 2**	**2.10**	**13**	P	**Pn**	**07 33 16.1**	**+0.2**
JOD2				*e*S	**S**	**07 33 55.3**	**+1.5**
BSO1	**Boso 1**	**2.51**	**54**	*e*S	**S**	**07 33 58.5**	**-0.6**
JRY	**Ryogami san**	**2.82**	**7**	P	**Pn**	**07 33 23.0**	**+0.7**
JGM	**Miyama**	**2.89**	**330**	P	**Pn**	**07 33 23.3**	**+0.3**
JWT	**Wachi**	**3.30**	**310**	P	**Pn**	**07 33 26.7**	**-0.3**
JAG	**Ashikaga**	**3.30**	**13**	P	**Pn**	**07 33 26.4**	**-0.7**
JAG				S	**S**	**07 34 11.5**	**-2.5**
MJAR	**Matsushiro Arr**	**3.33**	**356**	P	**Pn**	**07 33 27.0**	**-0.5**
2.8nm,0.3s,baz=175,slow=12,SNR=26							
MJAR				S	**S**	**07 34 13.8**	**-0.8**
baz=284,slow=19,SNR=2.8							
MAT	**Matsushiro**	**3.33**	**356**	P	**Pn**	**07 33 27.6**	**+0.2**
MAT				S	**S**	**07 34 14.8**	**+0.2**
MAT	**Matsushiro**	**3.33**	**356**	P	**Pn**	**07 33 27.6**	**+0.2**
KSRS	**Korea Array**	**9.62**	**299**	P	**Pn**	**07 34 42.0**	**+0.2**
0.1nm,0.3s,baz=107,slow=13,SNR=5.0							
WRA	**Warramunga Arr**	**53.00**	**185**	P	**P**	**07 41 14.3**	**-0.7**
0.5nm,0.3s,baz=360,slow=7.5,SNR=17							
ILAR	**Eielson Array**	**53.99**	**31**	P	**P**	**07 41 22.9**	**+1.2**
0.3nm,0.9s,baz=262,slow=6.3,SNR=3.2							
ASAR	**Alice Springs**	**56.73**	**185**	P	**P**	**07 41 41.0**	**-0.5**
0.1nm,0.3s,baz=13,slow=11,SNR=7.8							

*NEIC **24** 07:40:29.2, 55°.74N×135°.44W, h24km, ML2.8(AEIC), ML3.6(PGC), After AEIC.*
*PGC **24** 07:40:29.4±5.1, 55°.67N×135°.41W, h20km, ML3.6/7, 153km south of Sitka, Ak Off Coast Of Southeastern Alaska*
ISC 24 07:40:26.3±1.6, 55°.77N±0°.04×135°.28W±0°.06, h3km±12km, n17, σ1§54/35, 9D, Off coast of southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRAG	**Craig**	**1.26**	**103**	P	**Pb**	**07 40 50.6**	**0.0**
CRAG				S	**Sb**	**07 41 07.5**	**+0.4**
SIT	**Sitka**	**1.29**	**359**	P	**Pg**	**07 40 50.7**	**-0.4**
SIT				S	**Sg**	**07 41 06.7**	**-1.1**
WRAK	**Wrangell Islan**	**1.77**	**67**	P	**Pn**	**07 40 58.6**	**+0.9**
WRAK				S	**Sn**	**07 41 21.3**	**+0.7**
NDB	**Naden**	**2.26**	**142**	*e*Pn	**Pn**	**07 41 04.7**	**+0.2**
NDB				*e*Sn	**Sn**	**07 41 32.5**	**-0.4**
NDB	**Naden**	**2.26**	**142**	⇓Pn	**Pn**	**07 41 04.7**	**+0.2**
NDB				⇑Sn	**Sn**	**07 41 32.5**	**-0.4**
NDB				⇓Sg	**Sg**	**07 41 39.5**	**+0.6**
BESE	**Bessie Mountai**	**2.83**	**5**	P	**Pn**	**07 41 12.8**	**+0.4**
DIB	**Dawson Inlet,**	**3.05**	**146**	⇓Sn	**Sn**	**07 41 47.8**	**-4.3**
DIB				⇑Sg	**Sb**	**07 42 00.7**	**+2.2**
RUBB	**Prince Rupert**	**3.23**	**114**	*e*Pn	**Pn**	**07 41 18.7**	**+0.9**
RUBB				*e*Sn	**Sn**	**07 41 55.1**	**-1.6**
RUBB	**Prince Rupert**	**3.23**	**114**	⇓Pn	**Pn**	**07 41 18.7**	**+0.9**
RUBB				⇑Pg	**Pg**	**07 41 28.7**	**+0.5**
RUBB				⇑Sn	**Sn**	**07 41 55.1**	**-1.6**
RUBB				⇓Sg	**Sg**	**07 42 09.5**	**-0.6**
MOBC	**Moresby Island**	**3.26**	**142**	*e*Pn	**Pn**	**07 41 19.7**	**+1.5**
MOBC				*e*Sn	**Sn**	**07 41 55.1**	**-2.4**
MOBC	**Moresby Island**	**3.26**	**142**	⇑Pn	**Pn**	**07 41 19.7**	**+1.5**
MOBC				⇓Sn	**Sn**	**07 41 55.1**	**-2.4**
DLBC	**Dease Lake**	**3.92**	**45**	P	**Pn**	**07 41 28.9**	**+1.6**
DLBC	**Dease Lake**	**3.92**	**45**	⇓Pn	**Pn**	**07 41 29.4**	**+2.1**
DLBC				⇑Pg	**Pg**	**07 41 40.9**	**-0.4**
DLBC				⇓Sg	**Sg**	**07 42 30.2**	**-1.9**
WHY	**Whitehorse**	**4.91**	**2**	P	**Pn**	**07 41 42.0**	**+1.0**
WHY				*e*Pn	**Pn**	**07 41 42.8**	**+1.8**
WHY				*e*Sg	**Sg**	**07 43 03.3**	**-0.6**
WHY	**Whitehorse**	**4.91**	**2**	⇓Pn	**Pn**	**07 41 42.8**	**+1.8**
WHY				⇑Sg	**Sg**	**07 43 03.3**	**-0.6**
HYT	**Haines Junctio**	**5.21**	**348**	*e*Pn	**Pn**	**07 41 46.4**	**+1.3**
HYT	**Haines Junctio**	**5.21**	**348**	⇑Pn	**Pn**	**07 41 46.4**	**+1.3**

NNC 24 07:47:27.5±3.1, 53°.38N×88°.16E, h0km, mb3.7, mpv3.4, 7C-4D, Error ellipse: s-maj=24.1km s-min=17.6km az=62.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**6.46**	**249**	⇑Pn	Pn	07 49 04.4	+0.6
1.5nm,0.9s							
KURK				⇑Sn	Sn	07 50 20.7	+2.6
2.1nm,1.4s							
KURK				⇓Lg	Lg	07 50 52.4	
2.6nm,0.8s							
KURBB	**Kurchatov Arra**	**6.55**	**249**	⇑Pn	Pn	07 49 05.6	+0.6
2.9nm,0.2s,baz=64,slow=15							
KURBB				⇑Sn	Sn	07 50 23.8	+3.3
3.2nm,0.7s							
KURBB				⇑Lg	Lg	07 50 55.4	
4.2nm,0.6s,baz=62,slow=32							
MK31	**Makanchi Array**	**7.59**	**212**	⇑Pn	Pn	07 49 22.6	+3.2
0.6nm,0.7s,baz=25,slow=12,SNR=20							
MK31				⇓Sn	Sn	07 50 51.8	+5.6
0.2nm,0.4s,baz=35,slow=26,SNR=3.1							
MK31				⇑Lg	Lg	07 51 27.1	
3.1nm,0.8s							
VOSK	**Vostochnaya**	**10.37**	**273**	⇓Pn	Pn	07 49 54.3	-3.0
2.3nm,1.4s							
VOSK				⇓Sn	Sn	07 51 50.6	-3.5
5.1nm,1.4s							

*ISCJB **24** 07:52:58.1±0.7, 5°.76S±0°.05×147°.07E±0°.10, h78km, mb3.8/8, Error ellipse: s-maj=13.9km s-min=7.5km az=4.1*
*IDC **24** 07:53:02.2±1.9, 5°.94S×147°.00E, h104km±19km, mb3.7/8, mb1 3.9/11, mb1mx3.8/20, mbtmp3.8/11, Error ellipse: s-maj=27.9km s-min=9.7km az=108.0*
*AUST **24** 07:53:07.3±1.4, 6°.22S×146°.67E, h116km, Error ellipse: s-maj=2.7km s-min=1.1km az=232.0*
ISC 24 07:53:00.2±0.8, 5°.80S±0°.07×146°.9E±0°.1, h78km, n22, σ1§26/23, mb3.9/8, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.60**	**175**	P	**Pn**	**07 53 53.7**	**+0.1**
82nm,0.3s,baz=346,slow=5.9,SNR=169							
PMG				S	**Sn**	**07 54 34.2**	**-0.8**
49nm,0.3s,baz=302,slow=21,SNR=13							
JAY	**Jayapura**	**6.95**	**298**	P	Pn	07 54 45.4	+6.0
baz=7.0,SNR=3.8							
COEN	**Coen**	**8.88**	**204**	P	**Pn**	**07 55 06.9**	**+1.2**
baz=8.5,SNR=22							
COEN				S	**Sn**	**07 56 42.6**	**-1.6**
baz=8.5,SNR=8.1							
MTSU	**Mount Surprise**	**12.51**	**191**	P	**Pn**	**07 55 56.4**	**+1.1**
baz=12,SNR=11							
CTA	**Charters Tower**	**14.22**	**182**	P	**Pn**	**07 56 19.1**	**+1.2**
1.3nm,0.3s,baz=1.4,slow=15,SNR=9.5							
KDU	**Kakadu**	**15.75**	**243**	P	**P**	**07 56 39.0**	**-0.9**
baz=15,SNR=4.4							
WRA	**Warramunga Arr**	**18.59**	**220**	P	**P**	**07 57 11.6**	**+0.2**
0.6nm,0.3s,baz=41,slow=12,SNR=31							
WRA				S	**S**	**08 00 37.5**	**-1.4**
0.1nm,0.3s,baz=41,slow=23,SNR=3.2							
EIDS	**Eidsvold**	**19.88**	**169**	P	**P**	**07 57 26.1**	**+0.9**
baz=20,SNR=3.6							
ASAR	**Alice Springs**	**21.70**	**214**	P	**P**	**07 57 45.2**	**+0.3**
1.1nm,0.5s,baz=54,slow=8.4,SNR=30							
ASAR				S	**S**	**08 01 38.7**	**-2.4**
0.6nm,0.8s,baz=35,slow=26,SNR=3.2							
FITZ	**Fitzroy Crossi**	**24.05**	**238**	P	**P**	**07 58 09.3**	**+1.0**
6.1nm,0.5s,baz=88,slow=7.0,SNR=15							
ARMA	**Armidale**	**24.90**	**170**	P	**P**	**07 58 16.4**	**+0.4**
baz=25,SNR=5.2							
STKA	**Stephens Creek**	**26.41**	**190**	P	**P**	**07 58 28.0**	**-1.5**
2.4nm,0.5s,baz=352,slow=7.4,SNR=12							
STKA	**Stephens Creek**	**26.41**	**190**	P	**P**	**07 58 29.4**	**-0.1**
baz=26,SNR=9.6							
WSI	**Waingapu**	**26.59**	**260**	S	S	08 02 42.1	-19
baz=26,SNR=5.4							
MEEK	**Meekatharra**	**33.97**	**229**	P	**P**	**07 59 37.8**	**+1.4**
baz=34,SNR=3.5							
MJAR	**Matsushiro Arr**	**42.89**	**350**	P	**P**	**08 00 50.8**	**-0.2**
1.4nm,0.7s,baz=174,slow=7.7,SNR=3.9							
KSRS	**Korea Array**	**46.51**	**339**	P	**P**	**08 01 19.8**	**0.0**
0.9nm,0.4s,baz=156,slow=8.6,SNR=5.5							
DRV	**Dumont d'Urvil**	**60.95**	**183**	L	L	08 03 00.0	
DRV				R		08 10 00.0	
SONM	**Songino Array**	**64.16**	**331**	P	**P**	**08 03 28.2**	**+1.6**
2.7nm,0.8s,baz=122,slow=5.4,SNR=2.4							
VNDA	**Vanda**	**72.12**	**177**	P	**P**	**08 04 15.9**	**+0.1**
0.4nm,0.6s,baz=316,slow=7.2,SNR=5.2							
ILAR	**Eielson Array**	**85.36**	**23**	P	**P**	**08 05 26.1**	**-2.4**
0.7nm,0.6s,baz=254,slow=4.8,SNR=20							
TORD	**Torodi Ar. Bea**	**144.90**	**285**	PKPbc	**PKPab**	**08 12 27.6**	**-1.1**
0.3nm,0.4s,baz=76,slow=4.4,SNR=5.6							

*LDG **24** 07:57:07.2±0.1, 41°.85N×77°.37E, h10km, Mb4.7/12, Error ellipse: s-maj=5.0km s-min=4.3km az=5.0*
*NNC **24** 07:57:07.1±2.3, 41°.95N×77°.76E, h0km, mb5.4, mpv5.2, Error ellipse: s-maj=16.2km s-min=11.6km az=174.0*
*IDC **24** 07:57:08.2±0.4, 41°.85N×77°.50E, h0km, mb4.4/30, mb1 4.5/36, mb1mx4.4/43, mbtmp4.4/36, ML4.5/6, Error ellipse: s-maj=9.2km s-min=8.2km az=27.0*
*MOS **24** 07:57:09.6±1.

TKM2 *e* 07 58 04.4
TKM2 Tokmak 2 1.66 302 P **Pn** **07 57 41.5 +0.9**
comp=N,4μm,0.4s,SNR=2679
TKM2 ⇓S **Sb** **07 58 04.3 +0.1**
comp=N,34μm,0.3s
TKM2 Tokmak 2 1.66 302 *e*Pn **Pn** **07 57 41.5 +0.9**
TKM2 *e*Sn **Sb** **07 58 04.4 +0.1**
KZA Kyzart 1.69 271 *i* PN **Pn** **07 57 42.1 +0.9**
KZA Kyzart 1.69 271 ⇓P **Pn** **07 57 41.8 +0.6**
comp=N,2μm,0.3s,SNR=724
KZA ⇑S **Sn** **07 58 04.4 +2.5**
comp=N,9μm,0.6s
KBK Karagaybulak 2.00 288 *i* PN **Pn** **07 57 47.1 +1.9**
KBK Karagaybulak 2.00 288 P **Pn** **07 57 47.0 +1.9**
comp=N,1μm,0.2s,SNR=797
KBK ⇓S **Sb** **07 58 14.2 +0.4**
comp=N,18μm,0.4s
UCH Uchtor 2.24 275 *i* PN **Pn** **07 57 51.2 +2.4**
UCH Uchtor 2.24 275 ⇓P **Pn** **07 57 51.4 +2.5**
comp=N,254nm,0.2s,SNR=384
CHMS Chumysh 2.25 295 *i* PN **Pn** **07 57 50.5 +2.0**
CHMS Chumysh 2.25 295 P **Pn** **07 57 50.4 +1.8**
comp=N,1μm,0.5s,SNR=915
FRU Bishkek 2.28 291 ⇓*i*PN **Pb** **07 57 51.6 -2.5**
FRU *i* 07 57 59.0
FRU *i* S **Sb** **07 58 23.0 +1.1**
FRU pmax pmax
comp=Z,6μm,0.8s
FRU smax smax
comp=E,24μm,1.0s
AAK Ala-Archa 2.31 285 *e*PN **Pn** **07 57 51.9 +2.4**
AAK 07 58 22.5
AAK *e* 07 58 23.4
AAK Ala-Archa 2.31 285 P **Pn** **07 57 51.9 +2.4**
comp=E,560nm,0.2s,SNR=461
AAK Ala-Archa 2.31 285 *e*Pn **Pn** **07 57 51.9 +2.4**
AAK Lg Lg 07 58 22.5
AAK *e*Sn **Sb** **07 58 23.4 +0.4**
AAK Ala-Archa 2.31 285 Pn **Pn** **07 57 52.0 +2.4**
comp=E,278nm,0.3s,baz=100,slow=11,SNR=2060
AAK Lg Lg 07 58 22.5
comp=E,1μm,0.3s,baz=298,slow=20,SNR=26
USP Ospenovka 2.53 299 *i* PN **Pn** **07 57 54.1 +1.7**
USP Ospenovka 2.53 299 P **Pn** **07 57 54.1 +1.7**
comp=E,416nm,0.3s,SNR=535
KSH Kashi 2.81 205 ⇑*i*Pn **Pb** **07 58 05.1 +2.0**
KSH Sn Sb 07 58 44.1 +7.1
KSH smax smax
comp=N,2μm,0.7s
KSH smax smax
comp=E,5μm,0.9s
EKS2 Erkin-Say 2.84 283 *e*PN **Pn** **07 57 58.9 +2.2**
EKS2 *e* 07 58 40.9
EKS2 Erkin-Say 2.84 283 *e*Pn **Pn** **07 57 58.9 +2.2**
EKS2 *e*Sn **Sb** **07 58 40.9 +2.9**
AML Almayashu 2.85 273 *i* PN **Pn** **07 57 59.6 +2.5**
KK31 Karatay Array 5.28 284 ⇑Pn **Pn** **07 58 30.9 +0.8**
comp=E,64nm,1.2s,baz=96,slow=12,SNR=1367
KK31 ⇑Pg **Pb** **07 58 46.8 +1.8**
comp=E,106nm,0.5s,baz=84,slow=15,SNR=118
KK31 ⇑Lg Lg 07 59 55.5
comp=E,499nm,0.6s,baz=98,slow=28,SNR=15
KK31 Karatay Array 5.28 284 *i* PN **Pn** **07 58 31.2 +1.0**
KK31 pmax pmax
comp=Z,1.0nm,0.2s
KKAR Karatay Array 5.28 284 *e*PN **Pn** **07 58 30.9 +0.8**
KKAR *e* 07 59 56.2
KKAR Karatay Array 5.28 284 *e*Pn **Pn** **07 58 30.9 +0.8**
KKAR *e*Sg Sb 07 59 56.2 +8.3
MK31 Makanchi Array 5.83 34 ⇑Pn **Pn** **07 58 39.8 +2.1**
comp=Z,74nm,0.6s,baz=215,slow=16,SNR=528
MK31 ⇑Sn **Sn** **07 59 44.7 +1.2**
comp=Z,195nm,0.6s,baz=223,slow=19
MK31 ⇑Lg Lg 08 00 07.8
comp=Z,598nm,0.8s,baz=213,slow=25,SNR=4.0
MK31 Makanchi Array 5.83 34 PN **Pn** **07 58 40.2 +2.5**
MK31 08 00 08.0
MK31 pmax pmax
comp=Z,50nm,0.3s
MK31 smax smax
comp=N,677nm,0.8s
MK31 Makanchi Array 5.83 34 *e*Pn **Pn** **07 58 39.8 +2.1**
MK31 *e*Sn **Sn** **07 59 45.0 +1.6**
MKAR Makanchi Array 5.83 34 PN Pn 07 58 40.8 +3.1
MKAR 08 00 17.9
MKAR Makanchi Array 5.83 34 Pn Pn 07 58 40.8 +3.1
MKAR Lg Lg 08 00 17.9
MKAR Makanchi Array 5.83 34 Pn Pn 07 58 40.8 +3.1
comp=N,8.1nm,0.3s,baz=217,slow=16,SNR=400
MKAR Lg Lg 08 00 17.9
comp=N,78nm,0.3s,baz=212,slow=29,SNR=8.6
WMQ Urumqi 7.67 73 Pn **Pn** **07 59 04.0 +1.0**
WMQ smax smax
comp=N,440nm,1.1s
WMQ smax smax
comp=E,350nm,1.0s
KURBB Kurchatov Arra 8.59 4 ⇑Pn **Pn** **07 59 16.8 +1.3**
comp=E,85nm,0.6s
KURBB ⇑Lg Lg 08 01 41.4
comp=E,2μm,0.7s
KURBB Kurchatov Arra 8.59 4 Pn **Pn** **07 59 15.9 +0.4**
comp=E,3.9nm,0.3s,baz=188,slow=12,SNR=111
KURBB Sn **Sn** **08 00 55.4 +4.3**
comp=E,9.1nm,0.3s,baz=181,slow=28,SNR=5.4
KURBB Lg Lg 08 01 43.1
comp=E,26nm,0.3s,baz=190,slow=28,SNR=7.6
KURK Kurchatov 8.68 5 ⇑Pn **Pn** **07 59 16.4 -0.4**
comp=E,64nm,1.1s
KURK ⇑Lg Lg 08 01 46.5
comp=E,534nm,1.0s
KURK Kurchatov 8.68 5*d i*P **Pn** **07 59 17.1 +0.3**
KURK *i* S **Sn** **08 00 54.5 +1.0**
KURK pmax pmax
comp=Z,3.0nm,0.5s
KURK Kurchatov 8.68 5 *e*Pn **Pn** **07 59 16.8 0.0**
KURK Sn **Sn** **08 00 55.4 +1.9**
KURK Lg Lg 08 01 43.1
CEP Cherat 9.34 210 P **Pn** **07 59 26.4 +0.3**
CEP S Sn 08 01 04.0 -6.1
DLH Dalhousie 9.59 188 *e*P **Pn** **07 59 32.0 +2.5**
DLH *ex* x 07 59 43.0
THN Thein Dam 9.72 189 *e*P Pn 07 59 35.2 +4.1
THN *e*4 x 08 04 48.0
DHRM DHARAMSHALA 9.85 186 *e*P **Pn** **07 59 33.9 +0.9**
SMLA Simla 10.92 182 *e*P **Pn** **07 59 48.0 +0.5**
VOSK Vostochnaya 11.54 340 ⇓Pn **Pn** **07 59 54.5 -1.4**
comp=Z,56nm,1.1s
VOSK ⇓Lg Lg 08 03 16.0
comp=Z,955nm,1.4s
VOSK Vostochnaya 11.54 340 *e*P **Pn** **07 59 54.9 -1.0**
VOSK Vostochnaya 11.54 340 *e*Pn **Pn** **07 59 54.9 -1.0**
DDI Dehra Dun 11.73 178 *e*P **Pn** **08 00 00.9 +2.3**
BVA0 Borovoye Array 11.97 339 ⇓Pn **Pn** **08 00 00.1 -1.7**
comp=Z,46nm,0.7s,baz=0.0,slow=0.1,SNR=178
BVA0 ⇑Lg Lg 08 03 31.1
comp=Z,7.4nm,0.4s,baz=151,slow=30,SNR=5.7
BVA0 Borovoye Array 11.97 339 P **Pn** **08 00 00.0 -1.7**
BVA0 pmax pmax
comp=Z,46nm,0.7s
BVA0 pmax pmax
comp=N,385nm,1.0s
BVAR Borovoye Array 11.97 339 P **Pn** **08 00 00.9 -0.8**
BVAR 08 02 17.2
BVAR Borovoye Array 11.97 339 Pn **Pn** **08 00 00.9 -0.8**
BVAR Sn **Sn** **08 02 17.2 +3.2**
BVAR Lg Lg 08 03 29.4
BVAR Borovoye Array 11.97 339 Pn **Pn** **08 00 00.9 -0.8**
comp=N,3.9nm,0.3s,baz=150,slow=12,SNR=49
BVAR Sn **Sn** **08 02 17.2 +3.2**
comp=N,4.1nm,0.3s,baz=151,slow=21,SNR=4.1
BVAR Lg Lg 08 03 29.4
comp=N,24nm,0.3s,baz=156,slow=29,SNR=7.0
BRVK Borovoye 12.03 339 ⇓Pn **Pn** **08 00 00.6 -1.9**
comp=N,107nm,0.6s
BRVK ⇓Lg Lg 08 03 30.4
comp=N,3.0nm,0.3s
BRVK Borovoye 12.03 339*c i*P **Pn** **08 00 01.9 -0.6**
BRVK pmax pmax
comp=Z,42nm,1.7s
BRVK Borovoye 12.03 339 *e*Pn **Pn** **08 00 01.6 -0.9**
BRVK *e*Sn **Sn** **08 02 19.9 +4.5**
ZAA0 Zalesovo Array 12.84 20 *e*Pn **Pn** **08 00 14.3 +0.6**
ZAA0 *e*Sn **Sn** **08 02 30.4 -5.0**
ZALV Zalesovo Beam 12.84 20 P **Pn** **08 00 13.2 -0.5**
ZALV 08 02 36.6

ZALV Zalesovo Beam 12.84 20 Pn **Pn** **08 00 13.2 -0.5**
ZALV Sn **Sn** **08 02 36.6 +1.2**
ZALV Lg Lg 08 04 01.3
ZALV Zalesovo Beam 12.84 20 Pn **Pn** **08 00 13.2 -0.5**
comp=Z,3.4nm,0.3s,baz=211,slow=14,SNR=54
ZALV Sn **Sn** **08 02 36.6 +1.2**
comp=Z,3.1nm,0.3s,baz=212,slow=19,SNR=3.9
ZALV Lg Lg 08 04 01.3
comp=Z,1.6nm,0.3s,baz=218,slow=25,SNR=3.5
NVS Novosibirsk 13.33 14 *e*P **Pn** **08 00 21.0 +0.7**
NVS *e* 08 02 48.2
NDI New Delhi 13.36 181 *ex* Pn 08 00 16.0 -4.9
NDI *ex* x 08 00 46.9
AB31 Akbulak array 14.22 306 ⇑Pn **Pn** **08 00 30.4 -2.1**
comp=Z,7.0nm,0.6s
AB31 ⇓Sn **Sn** **08 03 15.0 +6.0**
comp=Z,12nm,0.6s,baz=111,slow=25,SNR=4.6
AB31 Akbulak array 14.22 306 *i* P **Pn** **08 00 30.2 -2.3**
AB31 *i* 08 03 13.9
AB31 pmax pmax
comp=Z,9.0nm,0.5s
AB31 smax smax
comp=N,35nm,0.8s
ABKAR Akbulak array 14.22 306 *e*Pn **Pn** **08 00 31.1 -1.4**
ABKAR *e*Sn **Sn** **08 03 08.2 -0.8**
HVS Khovu-Aksy 14.33 45 ⇓*e*P **Pn** **08 00 33.4 -0.6**
HVS pmax pmax
comp=Z,51nm,1.2s
DANN Dangsing 14.60 158 *e*P Pn 08 00 34.7 -3.4
comp=Z,78nm,0.9s
PYUN Piuthan 14.63 161 *e*P Pn 08 00 34.6 -3.8
KOLN Koldanda 15.10 159 *e*P **Pn** **08 00 41.3 -3.5**
comp=Z,50nm,0.9s
GKN Gorkha 15.18 155 *e*P **Pn** **08 00 42.1 -3.7**
comp=Z,64nm,0.7s
KKN Kakani 15.59 154 *e*P **Pn** **08 00 47.5 -3.6**
comp=Z,134nm,1.2s
GUN Gumba 15.68 152 *e*P **Pn** **08 00 49.3 -3.2**
comp=Z,268nm,1.1s
DMN Daman 15.70 154 *e*P **Pn** **08 00 49.4 -3.2**
comp=Z,102nm,1.0s
PKIN Phulchoki 15.82 154 *e*P **Pn** **08 00 50.5 -3.7**
comp=Z,67nm,0.9s
PKI Pulchoki 15.83 153 *e*P **Pn** **08 00 50.8 -3.6**
comp=Z,123nm,1.0s
AKTO Aktyubinsk 15.84 309 ⇓Pn **Pn** **08 00 51.8 -2.3**
comp=Z,38nm,0.8s
AKTO Aktyubinsk 15.84 309 P **Pn** **08 00 52.4 -1.6**
AKTO Aktyubinsk 15.84 309 Pn **Pn** **08 00 52.4 -1.6**
AKTO Lg Lg 08 05 32.0
AKTO Aktyubinsk 15.84 309 Pn **Pn** **08 00 52.4 -1.6**
comp=Z,0.4nm,0.3s,baz=102,slow=15,SNR=9.9
AKTO Lg Lg 08 05 32.0
comp=Z,0.9nm,0.3s,baz=189,slow=19,SNR=3.1
JIRN Jiri 16.02 151 *e*P **Pn** **08 00 54.3 -2.5**
comp=Z,123nm,0.7s
LSA Lhasa 16.54 134 P **Pn** **08 01 03.6 +0.2**
RAMN Ramite 16.82 151 *e*P **Pn** **08 01 04.3 -2.5**
comp=Z,120nm,0.8s
TAPN Taplejung 16.88 147 *e*P **Pn** **08 01 05.3 -2.4**
comp=Z,91nm,1.1s
GTA Gaotai 17.10 91 P **Pn** **08 01 08.3 -1.8**
GTA pP **pP** **08 01 16.3 -3.8**
GTA sP **sP** **08 01 21.3 -2.9**
GTA S **Sn** **08 04 15.1 -4.2**
GTA sS **S** **08 04 28.9 +0.8**
GTA SS **SnSn** **08 04 36.0 +3.6**
GTA pmax pmax
comp=Z,7.0nm,1.1s
GTA LR LR
comp=N,2μm,18.5s
GTA LR LR
comp=E,1μm,19.5s
GTA LR LR
comp=Z,1μm,17.1s
ODAN Odare 17.19 149 *e*P **Pn** **08 01 09.8 -1.7**
comp=Z,163nm,1.1s
SVE Sverdlovsk 18.32 329 *e*P **Pn** **08 01 25.8 +0.8**
SVE pmax pmax
comp=Z,36nm,1.0s
MOY Mondy 18.63 51 *e*P Pn 08 01 34.6 +5.7
BHPL Bhopal 18.77 180 *e*P **P** **08 01 29.1 -1.0**
BHPL AMB AMB 08 01 39.4
comp=Z,94nm,1.2s
ARU Arti 18.87 326*c i*P **Pn** **08 01 32.6 +1.0**
ARU S **S** **08 05 05.0 +1.6**
ARU pmax pmax
comp=Z,19nm,0.8s
ARU Arti 18.87 326 P **P** **08 01 30.3 -0.6**
comp=Z,162nm,0.8s,SNR=5.2
ZAK Zakamensk 19.59 56 *e*P **Pn** **08 01 40.4 0.0**
ZAK pmax pmax
comp=Z,10.0nm,1.0s
SHL Shillong 20.28 140 *e*P **P** **08 01 46.7 0.0**
NGP Nagpur 20.89 176 *ex* P 08 01 43.0 -10
NGP AMB AMB 08 01 59.0
comp=Z,38nm,0.7s
NGP *ex* x 08 03 03.3
SONM Songino Array 21.16 64 P **P** **08 01 57.4 +1.4**
SONM Songino Array 21.16 64 P **P** **08 01 57.4 +1.4**
comp=Z,11nm,0.9s,baz=267,slow=11,SNR=47
LZH Lanzhou 21.25 98 *e*P **P** **08 01 58.3 +1.3**
LZH pP **pP** **08 02 01.8 -3.9**
LZH PP PnPn 08 02 25.4 +8.4
LZH *e*S **S** **08 05 48.0 -3.5**
LZH SS SnSn 08 06 24.0 +10
LZH pmax pmax
comp=Z,62nm,1.0s
LZH pmax pmax
comp=Z,200nm,4.4s
LZH LR LR
comp=N,2μm,14.6s
LZH LR LR
comp=E,1μm,13.9s
LZH LR LR
comp=Z,2μm,16.8s
AKL Akola 21.30 181 *e*P **P** **08 01 57.3 -0.2**
ULN Ulaanbaatar 21.61 64 *e*P **P** **08 02 02.0 +1.2**
comp=Z,24nm,1.2s
SOKR Solikamsk 21.73 331*c i*P **P** **08 02 02.8 +1.0**
SOKR pmax pmax
comp=Z,20nm,1.3s
CD2 Chengdu 23.76 109 P **P** **08 02 24.4 +1.3**
CD2 pP **pP** **08 02 34.1 +1.9**
CD2 sP **sP** **08 02 38.3 +2.1**
CD2 PP **PnPn** **08 02 57.8 +6.5**
CD2 PcP **PcP** **08 06 09.6 +3.4**
CD2 S **S** **08 06 33.8 -2.6**
CD2 sS **sS** **08 06 49.6 -2.1**
CD2 SS **SnSn** **08 07 23.8 +7.8**
CD2 pmax pmax
comp=Z,60nm,1.0s
CD2 pmax pmax
comp=Z,530nm,11.8s
CD2 LR LR
comp=N,3μm,20.8s
CD2 LR LR
comp=Z,4μm,25.6s
DGRG David-gareji 23.92 279 P **P** **08 02 25.7 +1.2**
TBLG Delisi 24.32 280 *e*P **P** **08 02 24.3 -3.9**
TBLG Delisi 24.32 280 P **P** **08 02 24.3 -3.9**
HYB Hyderabad 24.58 178 *i* P **P** **08 02 29.5 -1.2**
GNI Garni 24.69 277 *e*P **P** **08 02 34.3 +2.5**
comp=Z,89nm,1.1s
VIS Vishakhapatnam 24.77 167 *e*P **P** **08 02 32.3 0.0**
KIV Kislovodsk 25.43 286 *e*P **P** **08 02 39.8 +1.5**
KIV pmax pmax
comp=Z,17nm,0.7s
HHC Hu-ho-hao-te 25.45 81 *e*P **P** **08 02 36.4 -2.1**
HHC pP **pP** **08 02 44.5 -3.3**
HHC sP **sP** **08 02 50.4 -1.3**
HHC PP **PnPn** **08 03 15.6 +1.3**
HHC S **S** **08 06 57.4 -6.1**
HHC sS sS 08 07 12.8 -6.0
HHC SS **SnSn** **08 08 01.6 +4.5**
HHC ScS **ScS** **08 13 30.4 -5.2**
HHC pmax pmax
comp=Z,45nm,0.6s
HHC pmax pmax
comp=Z,1μm,7.1s
HHC LR LR
comp=N,4μm,15.5s
HHC LR LR
comp=E,1μm,15.5s
HHC LR LR

comp=Z,3μm,15.7s
XAN Xi'an 25.89 98 P **P** **08 02 43.0 +0.5**
XAN pP **pP** **08 02 50.5 -1.2**
XAN pmax pmax
comp=Z,6.0nm,1.2s
GOA Goa 26.67 188 *e*P **P** **08 02 49.6 0.0**
KMI Kunming 26.81 121 P **P** **08 02 52.0 +0.9**
KMI pmax pmax
comp=Z,17nm,1.0s
RDF Al-Radifah 27.55 251 *e*P **P** **08 02 57.5 +0.1**
NAY Al-Naaiem 27.57 252 *e*P **P** **08 02 57.5 -0.1**
NAY AMb AMB 08 03 12.8
comp=Z,22nm,1.3s
RST Umm Al-Ruwaisa 27.60 253 *e*P **P** **08 02 57.4 -0.4**
GYA Guiyang 28.50 114 *e*P **P** **08 03 07.8 +1.7**
GYA pP **pP** **08 03 17.8 +2.4**
GYA PP **PnPn** **08 04 01.9 +5.7**
GYA PcP **PcP** **08 06 20.3 +3.0**
GYA S **S** **08 07 51.4 -0.4**
GYA sS **sS** **08 08 09.0 +1.8**
GYA SS **SnSn** **08 09 17.3 +5.3**
GYA ScP **ScP** **08 09 55.6 -0.3**
GYA pmax pmax
comp=Z,10.0nm,0.7s
GYA pmax pmax
comp=Z,110nm,4.8s
GYA LR LR
comp=N,550nm,17.3s
GYA LR LR
comp=E,480nm,18.0s
GYA LR LR
comp=Z,520nm,17.5s
CMAI Chiengmai2 28.61 134 P **P** **08 03 07.9 +0.8**
comp=Z,16nm,0.8s
CHTO Chiang Mai 29.48 135 *e*P **P** **08 03 14.4 -0.2**
CHTO pmax pmax
comp=Z,16nm,0.6s
CHTO Chiang Mai 29.48 135 *e*P **P** **08 03 14.4 -0.2**
comp=Z,16nm,0.6s
KLMR Klimovskoe 29.62 322 *e*P P 08 03 21.7 +6.2
KLMR pmax pmax
comp=Z,30nm,1.5s
CMAR Chiang Mai Arr 29.77 136 P **P** **08 03 17.3 0.0**
CMAR Chiang Mai Arr 29.77 136 P **P** **08 03 17.3 0.0**
comp=Z,6.2nm,0.3s,baz=316,slow=9.0,SNR=12
LAMP Lampang 30.08 135 P **P** **08 03 20.8 +0.8**
comp=Z,11nm,0.8s,comp=Z,91nm
SUKH Sukhothai 30.94 136 P **P** **08 03 29.0 +1.4**
comp=Z,3.7nm,0.9s
WHN Wuhan 31.60 99 ⇓P **P** **08 03 33.8 +0.5**
DGPR DIGLIPUR 31.75 151 *e*P **P** **08 03 33.0 -1.7**
LOEI Loei 31.79 133 P **P** **08 03 37.2 +2.1**
comp=Z,13nm,1.3s
PBKT Sadao Pong 32.41 135 P **P** **08 03 41.5 +1.1**
comp=Z,22nm,1.0s
BR131 Keskin Array S 32.98 281 *e*P **P** **08 03 46.1 +0.6**
comp=Z,1.0nm,0.5s
BRTR Keskin Array B 32.98 281 P **P** **08 03 46.1 +0.6**
BRTR Keskin Array B 32.98 281 P **P** **08 03 46.1 +0.6**
comp=Z,1.9nm,0.6s,baz=100,slow=8.8,SNR=11
CHAI Chaiyaphum 33.50 134 P **P** **08 03 50.6 +0.6**
comp=Z,7.2nm,1.2s
AKASG Malin Array Be 33.88 302 P **P** **08 03 52.6 -0.5**
AKASG Malin Array Be 33.88 302 P **P** **08 03 52.6 -0.5**
AKASG Malin Array Be 33.88 302 P **P** **08 03 52.6 -0.5**
comp=Z,0.3nm,0.3s,baz=79,slow=8.0,SNR=2.0
NJ2 Nanjing 34.18 93 *e*P **P** **08 03 57.0 +1.2**
NJ2 pP **pP** **08 04 06.9 +1.7**
NJ2 sP **sP** **08 04 10.8 +1.7**
NJ2 S **S** **08 09 18.0 -2.1**
NJ2 pmax pmax
comp=Z,9.0nm,0.7s
NJ2 LR LR
comp=N,7μm,11.9s
NJ2 LR LR
comp=E,6μm,20.6s
NJ2 LR LR
comp=Z,6μm,21.1s
CN2 Changchun 34.75 71 *e*P **P** **08 04 02.9 +2.3**
QIZ Qiongzhong 35.75 120 P **P** **08 04 09.9 +0.4**
QIZ S S 08 09 34.4 -10
QIZ pmax pmax
comp=Z,31nm,1.6s
QIZ pmax pmax
comp=Z,380nm,5.3s
FINES FINESS Array B 36.06 320 P **P** **08 04 11.8 +0.2**
FINES FINESS Array B 36.06 320 P **P** **08 04 11.8 +0.2**
comp=Z,1.9nm,0.7s,baz=101,slow=9.9,SNR=5.1
EIL Elat 36.29 264 P **P** **08 04 13.8 -0.2**
EIL Elat 36.29 264 P **P** **08 04 13.8 -0.2**
comp=Z,13nm,1.1s,baz=37,slow=4.1,SNR=4.0
YAK Yakutsk 36.48 39 *e*P **P** **08 04 15.2 -0.1**
YAK pmax pmax
comp=Z,16nm,0.9s
MLR Muntele Rosu 36.87 293 P **P** **08 04 20.4 +1.4**
MLR Muntele Rosu 36.87 293 P **P** **08 04 20.4 +1.4**
comp=Z,0.4nm,0.6s,baz=135,slow=7.1,SNR=2.7
MDJ Mudanjiang 37.43 68 P **P** **08 04 23.5 -0.1**
MDJ pP **pP** **08 04 32.4 -0.6**
MDJ sP **sP** **08 04 36.3 -0.6**
MDJ S **S** **08 10 09.1 -0.6**
MDJ sS **sS** **08 10 24.5 -0.8**
MDJ ScP **ScP** **08 10 27.4 +1.0**
MDJ PcS **PcS** **08 10 31.1 +1.1**
MDJ pmax pmax
comp=Z,2.0nm,0.5s
MDJ LR LR
comp=N,3μm,15.6s
MDJ LR LR
comp=E,3μm,20.0s
MDJ LR LR
comp=Z,3μm,18.2s
ARCES ARCESS Array B 38.18 333 P **P** **08 04 30.0 +0.4**
ARCES PcP **PcP** **08 06 43.9 +0.3**
ARCES ARCESS Array B 38.18 333 P **P** **08 04 30.0 +0.4**
comp=Z,4.3nm,0.8s,baz=106,slow=8.5,SNR=10
ARCES PcP **PcP** **08 06 43.9 +0.3**
comp=Z,4.0nm,0.9s,baz=105,slow=5.7,SNR=3.4
KSAR Wonju Array Be 38.54 80 P **P** **08 04 33.4 +0.4**
KSAR PcP **PcP** **08 06 45.8 +0.6**
KSRS Korea Array 38.56 80 P **P** **08 04 33.4 +0.2**
comp=Z,3.9nm,0.8s,baz=278,slow=7.7,SNR=18
KSRS PcP **PcP** **08 06 45.8 +0.5**
comp=Z,1.7nm,0.8s,baz=298,slow=3.2,SNR=12
HFS Hagfors 42.07 318 P **P** **08 05 02.4 +0.4**
HFS Hagfors 42.07 318 P **P** **08 05 02.4 +0.4**
comp=Z,3.6nm,0.8s,baz=120,slow=10,SNR=12
NB2 NORSAR Subarra 43.22 319 P **P** **08 05 11.1 -0.2**
comp=Z,7.0nm,0.7s,baz=87,slow=8.6
NOA NORSAR Array B 43.22 319 P **P** **08 05 11.6 +0.2**
NOA NORSAR Array B 43.22 319 P **P** **08 05 11.6 +0.2**
comp=Z,2.0nm,0.6s,baz=87,slow=8.0,SNR=5.0
MAT Matsushiro 46.42 76 P **P** **08 05 36.6 -0.5**
MJAR Matsushiro Arr 46.43 76 P **P** **08 05 37.4 +0.3**
MJAR Matsushiro Arr 46.43 76 P **P** **08 05 37.4 +0.3**
comp=Z,4.6nm,0.9s,baz=290,slow=9.2,SNR=11
BNI Bardonecchia 49.91 299 *e*P **P** **08 06 03.2 -0.9**
BNI pmax pmax
comp=Z,10.0nm,1.0s
BNI Bardonecchia 49.91 299 *e*P **P** **08 06 03.2 -0.9**
comp=Z,9.9nm,1.0s
MBDF Montbardon 49.97 298 *e*P **P** **08 06 03.8 -0.8**
comp=Z,12nm,0.7s
MBDF Montbardon 49.97 298 *e*P **P** **08 06 03.8 -0.8**
MBDF pmax pmax
comp=Z,12nm,0.7s
MBDF Montbardon 49.97 298 *e*P **P** **08 06 03.8 -0.8**
comp=Z,12nm,0.7s
SMF Signal de Mont 51.10 302 *e*P **P** **08 06 12.3 -0.6**
SMF Signal de Mont 51.10 302 *e*P **P** **08 06 12.3 -0.6**
SMF Signal de Mont 51.10 302 *e*P **P** **08 06 12.3 -0.6**
SSF Saint Saulge 51.15 302 *e*P **P** **08 06 12.7 -0.5**
comp=Z,6.5nm,0.8s
SSF Saint Saulge 51.15 302 *e*P **P** **08 06 12.7 -0.5**
SSF pmax pmax
comp=Z,7.0nm,0.8s
SSF Saint Saulge 51.15 302 *e*P **P** **08 06 12.7 -0.5**
comp=Z,6.5nm,0.8s
VIVF Saint-Julien-I 51.29 299 *e*P **P** **08 06 14.1 -0.2**
comp=Z,12nm,0.9s
VIVF Saint-Julien-I 51.29 299 *e*P **P** **08 06 14.1 -0.2**
VIVF pmax pmax
comp=Z,12nm,0.9s
VIVF Saint-Julien-I 51.29 299 *e*P **P** **08 06 14.1 -0.2**
comp=Z,12nm,0.9s

AVF	Avril sur Loir	51.35	302	eP		P	08 06 14.3 -0.4
	comp=Z,25nm,0.8s						
AVF	Avril sur Loir	51.35	302	eP		P	08 06 14.3 -0.4
AVF				pmax	pmax		
	comp=Z,25nm,0.8s						
AVF	Avril sur Loir	51.35	302	eP		P	08 06 14.3 -0.4
	comp=Z,25nm,0.8s						
TCF	Toulx Ste Croi	52.27	302	eP		P	08 06 20.7 -1.0
	comp=Z,17nm,1.0s						
TCF	Toulx Ste Croi	52.27	302	eP		P	08 06 20.7 -1.0
TCF				pmax	pmax		
	comp=Z,17nm,1.0s						
TCF	Toulx Ste Croi	52.27	302	eP		P	08 06 20.7 -1.0
	comp=Z,17nm,1.0s						
LDF	La Druitiere	52.77	305	eP		P	08 06 24.7 -0.6
	comp=Z,14nm,0.9s						
LDF	La Druitiere	52.77	305	eP		P	08 06 24.7 -0.6
LDF				pmax	pmax		
	comp=Z,14nm,0.9s						
LDF	La Druitiere	52.77	305	eP		P	08 06 24.7 -0.6
	comp=Z,14nm,0.9s						
RJF	Les Rejaudoux	53.13	301	eP		P	08 06 27.5 -0.5
	comp=Z,13nm,0.7s						
RJF	Les Rejaudoux	53.13	301	eP		P	08 06 27.5 -0.5
RJF				pmax	pmax		
	comp=Z,13nm,0.7s						
RJF	Les Rejaudoux	53.13	301	eP		P	08 06 27.5 -0.5
	comp=Z,13nm,0.7s						
GRR	Gorron	53.30	305	eP		P	08 06 28.4 -0.8
	comp=Z,33nm,1.1s						
GRR	Gorron	53.30	305	eP		P	08 06 28.4 -0.8
GRR				pmax	pmax		
	comp=Z,33nm,1.1s						
GRR	Gorron	53.30	305	eP		P	08 06 28.4 -0.8
	comp=Z,33nm,1.1s						
SGMF	Saint Gilles	54.39	306	eP		P	08 06 36.8 -0.3
	comp=Z,11nm,0.7s						
SGMF	Saint Gilles	54.39	306	eP		P	08 06 36.8 -0.3
SGMF				pmax	pmax		
	comp=Z,11nm,0.7s						
SGMF	Saint Gilles	54.39	306	eP		P	08 06 36.8 -0.3
	comp=Z,11nm,0.7s						
QUIF	Quistinic	54.90	306	eP		P	08 06 40.4 -0.4
QUIF	Quistinic	54.90	306	eP		P	08 06 40.4 -0.4
QUIF	Quistinic	54.90	306	eP		P	08 06 40.4 -0.4
SUMG	Summit	57.44	341	eP		P	08 07 03.7 +4.6
SUMG	Summit	57.44	341	i P		P	08 07 03.7 +4.6
ESDC	Sonseca Array	59.37	297	P		P	08 07 12.5 -0.1
ESDC	Sonseca Array	59.37	297	P		P	08 07 12.5 -0.1
	comp=Z,0.7nm,0.5s,baz=50,slow=8.2,SNR=5.8						
MDT	Midelt	63.52	291	P		P	08 07 40.6 -0.2
MDT	Midelt	63.52	291	P		P	08 07 40.6 -0.2
	comp=Z,0.5nm,0.6s,baz=14,slow=8.3,SNR=2.1						
IMA2	Indian Mountai	65.22	20	eP		P	08 07 51.5 0.0
ILAR	Eielson Array	67.97	19	P		P	08 08 08.3 -0.5
ILAR	Eielson Array	67.97	19	P		P	08 08 08.3 -0.5
	comp=Z,2.3nm,0.8s,baz=321,slow=5.2,SNR=29						
TORD	Torodi Ar. Bea	70.82	271	P		P	08 08 26.1 -1.2
TORD	Torodi Ar. Bea	70.82	271	P		P	08 08 26.1 -1.2
	comp=Z,4.4nm,0.7s,baz=43,slow=5.4,SNR=35						
KDAK	Kodiak Island	72.07	26	eP		P	08 08 34.7 +0.6
KDAK	Kodiak Island	72.07	26	P		P	08 08 34.0 -0.1
	comp=Z,5.4nm,0.6s,baz=352,slow=6.9,SNR=9.4						
HYT	Haines Junctio	73.55	17	eP		P	08 08 43.9 +0.8
FITZ	Fitzroy Crossi	74.54	133	P		P	08 08 48.1 -0.9
FITZ	Fitzroy Crossi	74.54	133	P		P	08 08 48.1 -0.9
	comp=Z,2.4nm,0.8s,baz=256,slow=4.2,SNR=4.3						
YKA	Yellowknife Ar	75.33	6	P		P	08 08 56.9 +3.7
YKA	Yellowknife Ar	75.33	6	P		P	08 08 56.8 +3.7
	comp=Z,7.7nm,1.0s,baz=344,slow=6.5,SNR=2.7						
DBIC	Dimbokro	79.91	270	P		P	08 09 18.8 -0.7
DBIC	Dimbokro	79.91	270	P		P	08 09 18.8 -0.7
	comp=Z,2.0nm,0.7s,baz=61,slow=10,SNR=2.5						
WRAB	Tennant Creek	80.96	127	eP		P	08 09 24.2 -0.7
WRAB				pmax	pmax		
	comp=Z,19nm,1.1s						
WRAB	Tennant Creek	80.96	127	eP		P	08 09 24.2 -0.7
	comp=Z,19nm,1.1s						
WRA	Warramunga Arr	80.97	127	P		P	08 09 24.1 -0.8
WRA	Warramunga Arr	80.97	127	P		P	08 09 24.1 -0.8
	comp=Z,7.2nm,0.8s,baz=333,slow=6.1,SNR=42						
NWAO	Narrogin (SRO)	83.07	147	P		P	08 09 33.9 -1.8
NWAO	Narrogin (SRO)	83.07	147	P		P	08 09 33.9 -1.8
	comp=Z,19nm,0.8s,baz=349,slow=10,SNR=5.4						
ASAR	Alice Springs	83.60	130	P		P	08 09 37.5 -1.1
ASAR	Alice Springs	83.60	130	P		P	08 09 37.5 -1.1
	comp=Z,2.5nm,0.8s,baz=320,slow=4.8,SNR=22						
BOSA	Boshof	85.26	224	P		P	08 09 45.6 -1.4
BOSA	Boshof	85.26	224	P		P	08 09 45.6 -1.4
	comp=Z,3.5nm,1.0s,baz=339,slow=6.4,SNR=2.6						
ULM	Lac du Bonnet	87.88	356	P		P	08 10 00.2 +0.7
ULM	Lac du Bonnet	87.88	356	P		P	08 10 00.2 +0.7
	comp=Z,1.2nm,0.4s,baz=37,slow=5.1,SNR=2.3						
CTA	Charters Tower	88.52	119	P		P	08 10 02.3 -0.6
CTA	Charters Tower	88.52	119	P		P	08 10 02.3 -0.6
	comp=Z,8.9nm,0.6s,baz=311,slow=5.6,SNR=8.6						
CTAO	Charters Tower	88.52	119	eP		P	08 10 02.5 -0.4
CTAO				pmax	pmax		
	comp=Z,9.0nm,0.7s						
CTAO	Charters Tower	88.52	119	eP		P	08 10 02.5 -0.4
	comp=Z,9.2nm,0.7s						
NEW	Newport	89.13	10	P		P	08 10 05.8 +0.2
NEW	Newport	89.13	10	P		P	08 10 05.8 +0.2
	comp=Z,0.9nm,0.6s,baz=330,slow=12,SNR=4.8						
A21A	Bergtoll Ranch	89.24	3	P		P	08 10 05.1 -1.0
	baz=89						
A30A	Hoffart Farm,	89.30	357	P		P	08 10 05.5 -0.9
	baz=89						
A26A	Wade Farm, Ken	89.42	360	P		P	08 10 05.4 -1.5
	baz=89						
B19A	Brinkman Farms	89.68	4	P		P	08 10 07.0 -1.2
	baz=89						
B30A	Myrvik Farm, E	89.79	357	P		P	08 10 07.8 -0.8
	baz=89						
BSMT	Bassoo Peak	89.80	8	eP		P	08 10 09.3 +0.4
	comp=Z,5.3nm,0.8s						
AGMN	Agassiz Nation	89.83	356	eP		P	08 10 08.5 -0.3
	comp=Z,4.9nm,0.8s						
MSO	Missoula	90.90	8	P		P	08 10 12.8 -1.2
	baz=90						
D19A	Cripps Ranch,	90.97	4	P		P	08 10 13.2 -1.1
	baz=91						
SADO	Sadowa	91.06	344	P		P	08 10 15.9 +1.3
SADO	Sadowa	91.06	344	P		P	08 10 15.9 +1.3
	comp=Z,4.8nm,0.9s,baz=310,slow=7.9,SNR=3.1						
D20A	Manuel Ranch,	91.08	4	P		P	08 10 13.3 -1.5
	baz=91						
F19A	Roth Farm, Mol	92.27	5	P		P	08 10 19.0 -1.3
	baz=92						
F28A	McLaughlin	92.46	359	P		P	08 10 19.9 -1.2
	baz=92						
F26A	Lodgepole	92.47	0	P		P	08 10 19.9 -1.3
	baz=92						
G26A	Maurine	93.02	0	P		P	08 10 22.6 -1.2
	baz=93						
G25A	Newell	93.12	1	P		P	08 10 22.9 -1.3
	baz=93						
H28A	Mission Ridge	93.63	359	P		P	08 10 25.1 -1.5
	baz=93						
I20A	Worland	94.22	4	P		P	08 10 29.1 -0.3
	baz=94						
STKA	Stephens Creek	94.23	130	P		P	08 10 27.4 -1.8
STKA	Stephens Creek	94.23	130	P		P	08 10 27.4 -1.8
	comp=Z,3.1nm,0.9s,baz=270,slow=11,SNR=3.2						
I27A	Quinn	94.25	360	P		P	08 10 28.8 -0.7
	baz=94						
I29A	Vivian Onida	94.27	358	P		P	08 10 28.7 -0.7
	baz=94						
I21A	Big Trails, Te	94.39	3	P		P	08 10 29.3 -1.0
	baz=94						
J22A	Midwest	94.83	3	P		P	08 10 31.4 -0.9
	baz=94						
J30A	Dallas	94.95	358	P		P	08 10 31.8 -0.8
	baz=95						
PDAR	Pinedale Array	95.31	5	P		P	08 10 34.3 -0.2
PDAR	Pinedale Array	95.31	5	P		P	08 10 34.3 -0.2
	comp=Z,0.5nm,0.8s,baz=51,slow=4.7,SNR=3.1						
K20A	Yellowstone Ra	95.49	4	P		P	08 10 34.1 -1.2
	baz=95						
L23A	Garrett	96.15	2	P		P	08 10 36.7 -1.7
	baz=96						
M17A	Scullys Gap (B	96.51	6	P		P	08 10 38.2 -1.8
	baz=96						
ISCO	Idaho Springs	98.46	2	eP		P	08 10 48.2 -0.7
ISCO	Idaho Springs	98.46	2	eP		P	08 10 48.2 -0.7
NVAR	Mina Array Bea	98.60	13	P	Pdif		08 10 50.1 +0.6
NVAR	Mina Array Bea	98.60	13	P	Pdif		08 10 50.1 +0.6
	comp=Z,0.3nm,0.7s,baz=38,slow=4.6,SNR=2.5						
VNDA	Vanda	129.46	164	PKP		PKPdf	08 16 17.0 -0.5
VNDA	Vanda	129.46	164	PKP		PKPdf	08 16 17.0 -0.5
	comp=Z,1.3nm,0.3s,baz=17,slow=3.3,SNR=30						
LPAZ	La Paz	140.94	301	PKP		PKPdf	08 16 41.1 -0.3
LPAZ	La Paz	140.94	301	PKP		PKPdf	08 16 41.1 -0.3
	comp=Z,1.1nm,0.8s,baz=34,slow=3.8,SNR=3.6						
LVC	Limon Verde	145.94	294	ePKPbc		PKPbc	08 16 50.5 +0.2
TRQA	Tornquist	148.95	264	ePKPbc		PKPbc	08 16 57.2 -0.7
PLCA	Paso Flores	156.08	262	PKPab		PKPab	08 17 30.2 -1.8
PLCA	Paso Flores	156.08	262	PKPab		PKPab	08 17 30.2 -1.8
	comp=Z,2.5nm,1.0s,baz=104,slow=4.7,SNR=3.8						

*ISCJB **24** 07:57:16.6±0.5, 42.°05N±0.°06×77.°40E±0.°09, h11km, mb4.6/27, Error ellipse: s-maj=11.0km s-min=7.3km az=36.8*

*IDC **24** 07:57:16.3±0.7, 41.°97N×77.°35E, h0km, mb4.5/23, mb1 4.7/27, mb1mx4.5/40, mbtmp4.6/27, ML4.9/4, Error ellipse: s-maj=15.3km s-min=12.0km az=139.0*

ISC 24 07:57:18.3±0.5, 41.98N±0.06×77.39E±0.09, h11km, n45, σ1.22/46, mb4.6/27, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	Makanchi Array	5.96	34	Pn	Pn	07 58 47.8	+1.5
	18nm,0.3s,baz=211,slow=14,SNR=61						
KURBB	Kurchatov Arra	8.68	5	Pn	Pn	07 59 23.7	0.0
	8.6nm,0.3s,baz=192,slow=12,SNR=48						
SDNR	Sundarnagar	10.47	182	e4	Pn	07 59 48.6	+0.3
SDNR				eS	Sn	08 01 44.0	-1.5
BHK	Bhakra	10.57	185	ex	Pn	07 59 53.8	+4.1
BVAR	Borovoye Array	12.01	339	Pn	Pn	08 00 08.3	-1.1
	9.3nm,0.3s,baz=153,slow=13,SNR=35						
BVAR				Sn	Sn	08 02 27.5	+4.3
	5.3nm,0.3s,baz=148,slow=22,SNR=5.1						
BVAR				Lg	Lg	08 03 37.4	
	16nm,0.3s,baz=149,slow=28,SNR=8.6						
BVAR	Borovoye Array	12.01	339	Lg	Lg	08 03 37.4	
ZALV	Zalesovo Beam	12.96	20	Pn	Pn	08 00 21.3	-0.9
	3.4nm,0.3s,baz=210,slow=14,SNR=24						
ZALV				Sn	Sn	08 02 46.5	+0.3
	2.6nm,0.3s,baz=205,slow=19,SNR=6.1						
HYB	Hyderabad	24.50	177	epP		P	08 02 40.0	+2.3
KAD	Karad	24.74	187	ex		P	08 02 42.0	+2.1
AKH	Akhalkalaki	25.23	280	P		P	08 02 46.5	+2.3
KBZ	Khabaz	25.24	286	P		P	08 02 45.1	+1.0
KBZ				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KBZ	Khabaz	25.24	286	P		P	08 02 45.0	+0.9
	comp=Z,3.2nm,0.7s,baz=99,slow=5.6,SNR=6.6						
BRTR	Keskin Array B	32.91	281	P		P	08 03 53.2	+0.7
	comp=Z,4.9nm,0.7s,baz=93,slow=7.5,SNR=18						
AKASG	Malin Array Be	33.85	302	P		P	08 03 59.6	-0.8
	comp=Z,1.7nm,0.5s,baz=74,slow=6.4,SNR=5.3						
FINES	FINESS Array B	36.06	320	P		P	08 04 18.9	-0.5
	comp=Z,4.7nm,0.8s,baz=104,slow=9.0,SNR=9.8						
EIL	Elat	36.19	264	P		P	08 04 22.6	+1.7
	comp=Z,14nm,0.9s,baz=64,slow=7.2,SNR=6.1						
MLR	Muntele Rosu	36.82	293	P		P	08 04 25.9	-0.4
	comp=Z,1.9nm,0.7s,baz=88,slow=4.5,SNR=12						
ARCES	ARCESS Array B	38.22	333	P		P	08 04 37.6	-0.1
	comp=Z,9.9nm,0.8s,baz=106,slow=6.3,SNR=16						
NOA	NORSAR Array B	43.22	319	P		P	08 05 18.8	-0.4
	comp=Z,7.6nm,0.9s,baz=86,slow=8.1,SNR=11						
SPITS	Spitsbergen Ar	43.40	345	P		P	08 05 20.0	-0.3
	comp=Z,18nm,1.0s,baz=83,slow=12,SNR=3.5						
CLL	Collm	43.86	305	eP		P	08 05 23.0	-1.3
BOJS	Bojanci	44.04	297	i P		P	08 05 25.8	0.0
VISS	Visnje	44.22	297	i P		P	08 05 27.8	+0.5
JAVS	Javornik	44.71	297	i P		P	08 05 31.5	+0.1
DAVOX	Davos/Dischmat	47.15	300	P		P	08 05 50.4	-0.3
	comp=Z,2.7nm,0.5s,baz=60,slow=14,SNR=5.0						
EKA	Eskdalemuir Ar	51.91	314	P		P	08 06 25.2	-1.4
EKA	Eskdalemuir Ar	51.91	314	P		P	08 06 25.2	-1.4
	comp=Z,5.8nm,0.8s,baz=70,slow=9.1,SNR=8.1						
PETK	Petropavlovsk-	52.60	48	P		P	08 06 31.4	-0.4
PETK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
PETK	Petropavlovsk-	52.60	48	P		P	08 06 31.4	-0.4
	comp=Z,2.7nm,0.8s,baz=310,slow=5.1,SNR=3.7						
ESDC	Sonseca Array	59.32	297	P		P	08 07 18.9	-1.3
	comp=Z,3.2nm,0.8s,baz=55,slow=7.0,SNR=13						
MDT	Midelt	63.46	291	P		P	08 07 47.5	-0.9
	comp=Z,2.2nm,0.8s,baz=0.7,slow=6.6,SNR=6.0						
ILAR	Eielson Array	68.08	19	P		P	08 08 16.4	-1.1
	comp=Z,3.2nm,0.9s,baz=318,slow=6.4,SNR=13						
TORD	Torodi Ar. Bea	70.73	270	P		P	08 08 34.2	-0.4
	comp=Z,14nm,0.8s,baz=45,slow=5.7,SNR=42						
KDAK	Kodiak Island	72.19	26	P		P	08 08 42.5	-0.2
	comp=Z,10nm,0.6s,baz=3.4,slow=4.8,SNR=10						
DBIC	Dimbokro	79.82	270	P		P	08 09 26.2	-0.7
	comp=Z,6.8nm,0.8s,baz=36,slow=6.2,SNR=7.3						
KIC	Kosan Boka	79.93	269	ePKP2		P	08 09 27.2	-0.4
	comp=Z,37nm,1.0s						
TIC	Toumodi	79.95	270	ePKP2		P	08 09 27.1	-0.6
	comp=Z,13nm,0.6s						
LIC	Lamto	80.24	270	ePKP2		P	08 09 28.4	-0.8
	comp=Z,27nm,0.9s						
WRA	Warramunga Arr	80.99	127	P		P	08 09 34.8	+1.7
	comp=Z,5.4nm,0.9s,baz=334,slow=6.1,SNR=6.9						
BOSA	Boshof	85.13	224	P		P	08 09 54.2	-0.2
	comp=Z,5.2nm,1.1s,baz=360,slow=10,SNR=3.8						
ULM	Lac du Bonnet	87.96	356	P		P	08 10 09.0	+1.0
	comp=Z,7.1nm,1.1s,baz=315,slow=1.4,SNR=4.2						
CTA	Charters Tower	88.56	119	P		P	08 10 10.9	-0.2
	comp=Z,2.5nm,0.4s,baz=340,slow=7.0,SNR=3.6						
NEW	Newport	89.23	10	P		P	08 10 13.5	-0.6
	comp=Z,3.5nm,1.0s,baz=350,slow=4.7,SNR=5.9						
PDAR	Pinedale Array	95.40	5	P		P	08 10 42.1	-0.9
	comp=Z,0.9nm,0.6s,baz=60,slow=3.6,SNR=3.5						
PLCA	Paso Flores	155.97	262	PKPab		PKPab	08 17 39.2	-0.4
	comp=Z,3.4nm,0.8s,baz=81,slow=5.2,SNR=6.4						

IDC 24 07:58:57.9±17.0, 4.°83N×96.°15E, h0km, mb3.5/2, mb1 4.1/3, mb1mx3.6/26, mbtmp3.9/3, Error ellipse: s-maj=470.9km s-min=45.7km az=79.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	Chiang Mai Arr	13.82	11	Pn	Pn	08 02 15.1	-0.2
	0.7nm,0.3s,baz=213,slow=13,SNR=6.2						
WRA	Warramunga Arr	44.89	124	P		08 07 14.8	+0.1
	0.6nm,0.9s,baz=304,slow=9.2,SNR=6.2						
ASAR	Alice Springs	46.45	129	P	P	08 07 26.6	-0.4
	0.2nm,0.4s,baz=299,slow=7.8,SNR=4.9						

MEX 24 08:01:26.4±0.6, 15.°69N×96.°49W, h20km±35km, MD3.8, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	Huatulco	0.38	78	i P	Pb	08 01 33.0	-1.4
HUIG				eS	Sb	08 01 38.2	-1.6
VHO	Vista Hermosa	1.39	350	eP	Pn	08 01 48.0	-3.0
VHO				i S	Sn	08 02 04.4	-4.6
PNIG	Pinotepa	1.72	294	eP	Pn	08 01 52.9	-2.4
PNIG				i S	Sn	08 02 12.2	-4.6
MEIG	Mezcala	3.73	307	i P	Pn	08 02 20.2	-2.8
MEIG				i S	Sn	08 03 02.5	-4.0
PLIG	Platanillo	3.94	313	i S	Sn	08 03 07.9	-3.8
ZIIG	Zihuatanejo	5.13	292	eP	Pn	08 02 40.6	-1.6
ZIIG				i S	Sn	08 03 38.0	-2.9

*IDC **24** 08:03:09.0±5.7, 18.°72N×107.°85W, h0km, mb3.5/3, mb1 4.2/6, mb1mx3.9/23, mbtmp3.8/6, ML3.8/3, Error ellipse: s-maj=90.4km s-min=25.1km az=143.0*

*NEIC **24** 08:03:09.3±2.2, 18.°42N×107.°77W, h10km, mb4.5/25, Error ellipse: s-maj=30.2km s-min=14.0km az=175.0*

ISC 24 08:03:15.6±3.0, 19.0N±0.3×107.7W±0.1, h16km, n239, σ0.96/237, mb4.4/16, 101C-83D, Off coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPIG	La Paz	5.59	335	Pn	Pn	08 04 37.1	-1.0
LPIG	La Paz	5.59	335	Pn	Pn	08 04 37.1	-1.0
	1.6nm,0.3s,baz=172,slow=7.1,SNR=4.2						
TXAR	Lajitas Array	10.90	19	Pn	Pn	08 05 49.9	-1.1
TXAR	Lajitas Array	10.90	19	Pn	Pn	08 05 49.9	-1.1
	0.4nm,0.3s,baz=198,slow=13,SNR=12						
626A	Big Bend Ranch	10.97	17	⇑P		Pn	08 05 50.2 -1.9
	baz=12						
627A	Terlingua Ranc	11.10	20	⇓P		Pn	08 05 52.1 -1.7
	baz=12						
628A	Black Gap, Mar	11.30	22	⇑P		Pn	08 05 55.0 -1.5
	baz=12						
526A	Mary Lane Ranc	11.46	16	⇓P		Pn	08 05 57.5 -1.4
	baz=12						
527A	Woodward Ranch	11.68	18	⇑P		Pn	08 06 00.7 -1.1
	baz=12						
425A	Indio Mountain	11.96	11	⇓P		Pn	08 06 04.3 -1.3
	baz=13						
426A	McDonald Obser	12.06	15	⇓P		Pn	08 06 05.3 -1.7
	baz=13						
529A	Stev Forest Ra	12.12	23	⇑P		Pn	08 06 06.6 -1.1
	baz=13						
631A	Perdido Creek	12.21	31	⇓P		Pn	08 06 08.4 -0.5
	baz=13						
320A	Kipp Ranch, An	12.28	357	⇑P		Pn	08 06 08.7 -1.2
	baz=13						
319A	Douglas	12.37	354	⇓P		Pn	08 06 10.5 -0.7
	baz=13						
427A	Hayter Ranch,	12.40	18	⇑P		Pn	08 06 10.8 -0.8
	baz=13						
324A	Moseley Ranch,	12.52	9	⇑P		Pn	08 06 12.7 -0.6
	baz=13						
632A	Uvalde	12.69	33	⇓P		Pn	08 06 15.2 -0.2
	baz=13						
326A	Caldwell Ranch	12.69	15	⇑P		Pn	08 06 15.2 -0.3
	baz=13						
429A	Davenport Ranc	12.69	23	⇑P		Pn	08 06 14.9 -0.6
	baz=13						
MNTX	Cornudas Mount	12.79	9	ePn		Pn	08 06 19.2 +2.4
	32nm,1.8s						
220A	Playas Peak, P	12.84	357	⇓P		Pn	08 06 16.4 -1.2
	baz=14,SNR=8.7						
531A	Rocksprings	12.86	29	⇓P		Pn	08 06 17.8 0.0
	baz=14						
221A	Mesquite Ranch	12.92	360	⇓P		Pn	08 06 17.7 -1.0
	baz=14,SNR=7.1						
328A	Wristen Ranch,	13.07	19	⇑P		Pn	08 06 19.4 -1.3
	baz=14						
430A	Baggett Ranch,	13.09	25	⇑P		Pn	08 06 20.2 -0.8
	baz=14						
532A	Rocksprings	13.13	31	⇓P		Pn	08 06 21.2 -0.3
	baz=14						
224A	Cornudas Mount	13.14	8	⇑P		Pn	08 06 20.8 -1.0
	baz=14						
431A	Sonora	13.27	28	⇓P		Pn	08 06 22.2 -1.2
	baz=14						
226B	Tecolote Peak,	13.38	13	⇑P		Pn	08 06 24.2 -0.7
	baz=14						
329A	Wagon Wheel Ra	13.44	22	⇓P		Pn	08 06 24.9 -0.9
	baz=14						
JCT	Junction City	13.47	31	ePn		Pn	08 06 27.4 +1.3
JCT	Junction City	13.47	31	⇑P		Pn	08 06 26.0 -0.2
	baz=14						
120A	U Bar Ranch, L	13.48	357	⇑P		Pn	08 06 25.5 -0.9
	baz=14						
TUC	Tucson	13.51	349	ePn		Pn	08 06 29.1 +2.5
	11nm,1.2s						
214A	Organ Pipe Nat	13.66	341	⇑P		Pn	08 06 29.8 +1.1
	baz=14						
330A	Mertzon	13.66	24	⇑P		Pn	08 06 31.1 +2.3
	baz=14						
124A	Stringfield Ra	13.76	8	⇓P		Pn	08 06 31.6 +1.4
	baz=14,SNR=9.5						
432A	Menard	13.80	30	⇑P		Pn	08 06 32.0 +1.3
	baz=14						
125A	Gardner Draw,	13.85	11	⇑P		Pn	08 06 33.7 +2.4
	baz=14						
331A	San Angelo	13.89	27	⇓P		Pn	08 06 32.9 +1.1
	baz=14						
Z20A	Nine Sixteen R	14.05	357	⇑P		Pn	08 06 35.3 +1.2
	baz=15						
Z22A	Elephant Butte	14.18	3	⇓P		Pn	08 06 37.1 +1.1
	baz=15						
Z21A	St. Cloud Mine	14.22	0	⇓P		Pn	08 06 37.7 +1.1
	baz=15						
Z23A	Rita Site, Whi	14.23	5	⇑P		Pn	08 06 37.8 +1.1
	baz=15						
332A	Millersview	14.25	29	⇓P		Pn	08 06 38.2 +1.4
	baz=15						
128A	Castleberry Fa	14.33	18	⇑P		Pn	08 06 39.2 +1.3
	baz=15						
Z24A	Sheeppen Canyo	14.39	8	⇓P		Pn	08 06 39.3 +0.4
	baz=15						
Z25A	Roswell	14.44	10	⇓P		Pn	08 06 40.5 +1.0
	baz=15						
Z26A	Caprock	14.57	13	⇑P		Pn	08 06 41.7 +0.5
	baz=15						
113A	Mohawk Valley,	14.72	340	⇑P		Pn	08 06 44.1 +1.0
	baz=15,SNR=11						
232A	Coleman	14.72	28	⇓P		Pn	08 06 44.0 +0.7
	baz=15						
Z27A	Tatum	14.79	15	⇑P		Pn	08 06 44.7 +0.5
	baz=15						
Y20A	Horse Springs,	14.83	358	⇑P		Pn	08 06 45.5 +0.6
	baz=16						
Y22A	Socorro	14.86	2	⇑P		Pn	08 06 45.3 +0.1
	baz=16						
Y23A	Lovelace Mesa,	14.91	5	⇑P		Pn	08 06 46.9 +0.9
	baz=16						
Y21A	Point of Rocks

baz=17
PDMCI Parker Dam,Lak 16.25 341 ⇓P Pn 08 07 03.7 +0.6
baz=17
Y31A Rekieta Farm, 16.29 23 ⇑P Pn 08 07 04.9 +1.1
baz=17
W25A X Bar L Ranch, 16.38 10 ⇑P Pn 08 07 05.8 +0.8
baz=17
PFO Pinyon Flat Ob 16.48 333 ePn P 08 07 08.4 -0.5
PFO Pinyon Flat Ob 16.48 333 Pn Pn 08 07 05.2 -1.1
0.2nm,0.3s,baz=163,slow=15,SNR=3.6
PFO Pinyon Flat Ob 16.48 333 ⇓P Pn 08 07 07.6 +1.3
baz=17,SNR=11
W27A Bowe Ranch, En 16.50 14 ⇑P P 08 07 07.9 -1.1
baz=17
BELC Belle Mtn. Jos 16.64 335 ⇓P Pn 08 07 09.5 +1.2
baz=17,SNR=31
Y32A R-V Farms, Ver 16.64 25 ⇑P Pn 08 07 09.1 +0.9
baz=17
V23A Ortiz Mt. (NFS 16.70 4 ⇓P Pn 08 07 10.0 +0.8
baz=17
V20A Brimhall 16.72 358 ⇓P Pn 08 07 09.7 +0.4
baz=17
WUAZ Wupatki 16.74 350 eP P 08 07 12.1 +0.3
105nm,1.5s
WUAZ Wupatki 16.74 350 ⇑P Pn 08 07 09.6 0.0
baz=17
V24A Rampart Ranch, 16.77 7 ⇑P Pn 08 07 10.6 +0.5
baz=17
MURC Murrieta 16.80 332 ⇑P Pn 08 07 11.5 +1.2
baz=17
W13A Hualapai Mount 16.91 342 ⇑P Pn 08 07 12.4 +0.6
baz=18
V25A Rancho No Teng 16.96 9 ⇓P Pn 08 07 12.9 +0.5
baz=18
X31A McDonald Ranch 16.99 22 ⇑P Pn 08 07 13.3 +0.7
baz=18
V26A Tequesquite Ra 17.06 11 ⇓P Pn 08 07 14.1 +0.5
baz=18
GMRC Granite Mounta 17.20 337 ⇓P Pn 08 07 15.7 +0.4
baz=18,SNR=11
BBRC Big Bear Solar 17.24 333 ⇑P Pn 08 07 16.0 0.0
baz=18
LDFC Landfair 17.27 339 ePn P 08 07 18.7 +1.0
87nm,1.4s
U23A El Rito 17.28 4 ⇓P Pn 08 07 16.3 -0.2
baz=18
HEC Hector,Ludlow 17.49 336 ⇑P Pn 08 07 19.0 0.0
baz=18,SNR=7.2
BFSC Mount Baldy Ra 17.54 332 ⇓P Pn 08 07 19.8 +0.2
baz=18
WMOK Wichita Mounta 17.54 25 eP P 08 07 21.3 +0.7
12nm,1.3s
U25A Circle Dot Ran 17.55 9 ⇑P Pn 08 07 20.3 +0.6
baz=18
U15A North Rim 17.79 348 ⇓P Pn 08 07 23.0 +0.1
baz=18
U27A Thompson Grove 17.85 13 ⇑P P 08 07 24.4 +0.4
baz=18
TUQ Turquoise Moun 17.88 338 ⇓P P 08 07 24.8 +0.4
baz=18,SNR=7.6
T22A Edith 17.93 2 ⇓P Pn 08 07 24.7 +0.2
baz=19
GSC Goldstone 18.09 335 ePn P 08 07 27.5 +0.8
233nm,2.8s
GSC Goldstone 18.09 335 ⇑P Pn 08 07 26.5 +0.1
baz=19
MVCO Mesa Verde 18.12 358 eP Pn 08 07 27.1 +0.2
MVCO Mesa Verde 18.12 358 ⇑P Pn 08 07 26.6 -0.3
baz=19
EDW2 Edwards Air Fo 18.23 332 ⇑P P 08 07 27.7 -0.4
baz=19
SHOC Shoshone 18.42 338 ⇓P P 08 07 30.4 +0.1
baz=19
T26A Comanche Natio 18.43 10 ⇓P P 08 07 30.2 -0.3
baz=19
U30A WK&E Inc. Balk 18.51 18 ⇑P Pn 08 07 32.1 +0.7
baz=19
SHPR Sheep Range 18.60 341 eP Pn 08 07 33.5 +0.9
LRMC Laurel Mountai 18.61 334 ⇑P Pn 08 07 33.0 +0.3
baz=19,SNR=14
S22A 4UR Ranch, Cre 18.66 2 ⇑P P 08 07 32.8 -0.4
baz=19
S24A Houchin Ranch, 18.67 6 ⇑P P 08 07 32.9 -0.3
baz=19
S20A Disappointment 18.74 358 ⇓P P 08 07 33.7 -0.3
baz=19
S25A Robets Cordova 18.78 8 ⇓P P 08 07 34.3 -0.1
baz=20
ARVC Arvin 18.81 331 ⇓P P 08 07 34.9 +0.4
baz=19
S26A Kim 18.89 10 ⇑P P 08 07 35.3 -0.2
baz=20
MPMC Manual Prospec 19.03 335 ⇓P P 08 07 37.0 0.0
baz=20,SNR=16
R20A Redvale 19.10 358 ⇓P P 08 07 37.3 -0.6
baz=20
ISA Isabella 19.10 332 ePn Pn 08 07 39.6 +1.0
ISA Isabella 19.10 332 ⇑P P 08 07 37.8 0.0
baz=20,SNR=8.8
CCUT Cedar City 19.10 346 ePn Pn 08 07 41.5 +2.8
69nm,2.3s
FURC Furnace Creek, 19.14 337 ⇑P P 08 07 38.2 +0.1
baz=20
R22A Saguache, Gunn 19.15 2 ⇓P P 08 07 38.1 -0.4
baz=20
R23A Moffat 19.16 5 ⇓P P 08 07 38.1 -0.6
baz=20
S28A Manter 19.18 14 ⇑P P 08 07 38.3 -0.3
baz=20
R21A Cimarron 19.27 0 ⇓P P 08 07 39.0 -0.8
baz=20
ARUT Antelope Range 19.34 346 eP Pn 08 07 41.6 0.0
111nm,1.1s
VES Vestal, Richgr 19.52 331 ⇑P P 08 07 42.0 -0.2
baz=20
SMMC Simmler 19.52 329 ⇑P P 08 07 42.2 -0.2
baz=20
R26A Arlington 19.56 10 ⇑P P 08 07 42.4 -0.3
baz=20
S30A Montezuma 19.59 17 ⇑P P 08 07 43.3 +0.2
baz=20
R27A Eads 19.66 12 ⇓P P 08 07 43.7 -0.2
baz=20
Q21A Lamborn Mesa, 19.73 0 ⇓P P 08 07 44.4 -0.4
baz=20
Q22A Crested Butte, 19.77 2 ⇑P P 08 07 44.5 -0.9
baz=20
MVU Marysvale 19.79 350 ePn Pn 08 07 47.4 +0.4
GRAC Grapevine Rang 19.80 337 ⇑P P 08 07 44.9 -0.5
baz=20
SMCO Snowmass 20.09 2 ePn Pn 08 07 51.8 +1.0
29nm,1.9s
SRU San Rafael 20.16 354 ePn P 08 07 50.4 +1.0
65nm,2.4s
R30A Dighton 20.25 17 ⇓P P 08 07 50.2 0.0
baz=21
P23A Jefferson 20.34 4 ⇓P P 08 07 50.5 -1.0
baz=21
KSCO Kaye Shedlock' 20.39 11 eP P 08 07 51.8 -0.1
KSCO Kaye Shedlock' 20.39 11 ⇓P P 08 07 51.6 -0.3
baz=21
P20A De Beque 20.41 359 ⇓P P 08 07 51.1 -1.0
baz=21
P21A Newcastle 20.42 1 ⇓P P 08 07 51.2 -1.1
baz=21
R11A Troy Canyon, C 20.43 342 eP P 08 07 52.0 -0.3
R11A Troy Canyon, C 20.43 342 ⇑P P 08 07 51.4 -1.0
baz=21
R31A Burdett 20.47 19 ⇑P P 08 07 52.7 +0.1
baz=21
P22A Eagle 20.51 2 ⇓P P 08 07 52.6 -0.6
baz=21
MTUM Tungsten Hills 20.57 335 ePn Pn 08 07 57.9 +1.6
Q28A Sharon Springs 20.60 13 ⇓P P 08 07 54.0 -0.2
baz=21
Q29A Oakley 20.64 15 ⇑P P 08 07 54.6 +0.1
baz=21
P25A Willow Gulch B 20.64 8 ⇓P P 08 07 54.5 -0.2
baz=21
ISCO Idaho Springs 20.78 5 eP P 08 07 57.0 +0.8
6.8nm,1.0s
ISCO Idaho Springs 20.78 5 ⇑P P 08 07 56.0 -0.2
baz=22
Q30A Quinter 20.91 17 ⇑P P 08 07 57.7 +0.3
baz=22
MLAC Mammoth Lakes 20.92 335 ⇓P P 08 07 57.6 -0.2
baz=22
O20A White River Ci 21.04 359 ⇑P P 08 07 58.7 -0.2
baz=22
O22A Kremmling 21.08 2 ⇓P P 08 07 59.3 -0.2
baz=22
P28A Saint Francis 21.11 13 ⇓P P 08 07 59.6 0.0
baz=22
O24A Longmont 21.14 6 ⇑P P 08 07 59.8 -0.3
baz=22
O19A Miners Draw (B 21.23 357 ⇑P P 08 08 00.9 -0.1
baz=22
O25A Wiggins 21.24 8 ⇓P P 08 08 00.9 -0.1
baz=22
NVAR Mina Array Bea 21.41 337 P P 08 08 01.9 -1.1
NVAR Mina Array Bea 21.41 337 P P 08 08 01.9 -1.1
3.9nm,1.1s,baz=142,slow=9.1,SNR=8.8
DAU Daniels Canyon 21.52 353 eP P 08 08 05.0 +0.7
DUG Dugway 21.54 349 eP P 08 08 04.3 0.0
33nm,1.6s
DUG Dugway 21.54 349 ⇓P P 08 08 04.1 -0.2
baz=22,SNR=6.7
O27A Beecher Island 21.56 11 ⇑P P 08 08 04.2 -0.3
baz=22
O28A Krutsinger Ran 21.64 12 ⇓P P 08 08 04.9 -0.4
baz=22
N21A Black Mountain 21.66 0 ⇑P P 08 08 05.0 -0.6
baz=22
N22A Wattenberg Ran 21.73 3 ⇓P P 08 08 05.7 -0.7
baz=22
N20A Spence Gulch, 21.73 359 ⇓P P 08 08 05.1 -1.3
baz=22
JLU Jordanelle 21.74 352 eP P 08 08 07.6 +1.1
17nm,1.4s
N23A Red Feather La 21.84 4 ⇑P P 08 08 06.4 -1.3
baz=22
WAKR Walker 21.92 335 eP P 08 08 08.8 +0.4
CMB Columbia Colle 21.92 332 eP P 08 08 08.6 +0.4
14nm,1.4s
N27A Anderson Farm, 22.15 10 ⇑P P 08 08 10.5 -0.3
baz=23
BGU Big Grassy Mou 22.29 349 eP P 08 08 12.5 +0.2
23nm,2.0s
M19A Rock Springs 22.43 357 ⇑P P 08 08 14.0 +0.1
baz=23
M24A Cheyenne 22.50 6 ⇑P P 08 08 14.5 -0.1
baz=23
M21A Separation Pea 22.50 1 ⇓P P 08 08 14.2 -0.6
baz=23
ELK Elko 22.58 345 eP P 08 08 19.0 +3.4
12nm,1.4s
L18A Fontenelle, Gr 22.91 356 ⇓P P 08 08 18.4 -0.5
baz=24
PAHR Pah Rah Range 22.93 336 eP P 08 08 20.9 +1.8
76nm,2.1s
M30A Dale-Ortello V 23.41 15 ⇑P P 08 08 23.5 -0.4
baz=24
K20A Yellowstone Ra 23.56 359 ⇓P P 08 08 24.5 -1.0
baz=24
K22A Casper 23.57 2 ⇑P P 08 08 24.5 -1.1
baz=24
PDAR Pinedale Array 23.71 357 P P 08 08 26.3 -0.7
PDAR Pinedale Array 23.71 357 P P 08 08 26.3 -0.7
0.5nm,0.9s,baz=178,slow=8.1,SNR=3.2
REDW Red Top Meadow 24.40 354 eP P 08 08 32.9 -0.6
24nm,1.4s
RRI2 Red Ridge 24.43 354 eP P 08 08 33.0 -0.8
29nm,1.4s
SNOW Snow King Moun 24.49 355 eP P 08 08 37.6 +3.3
30nm,1.5s
J26A Sides Ranch, S 24.52 8 ⇑P P 08 08 34.7 +0.3
baz=25
TPAW Teton Pass 24.54 354 eP P 08 08 34.4 -0.4
15nm,1.3s
K30A Basset 24.55 14 ⇓P P 08 08 34.6 0.0
baz=25
LOHW Long Hollow 24.63 355 eP P 08 08 34.5 -1.1
MOOW Moose Ponds 24.77 355 eP P 08 08 37.4 +0.5
I22A 9 Mile Ranch, 24.81 2 ⇑P P 08 08 36.6 -0.5
baz=26
I20A Worland 24.85 359 ⇓P P 08 08 37.0 -0.4
baz=26
HLID Hailey 25.10 348 eP P 08 08 39.6 -0.1
21nm,1.8s
HLID Hailey 25.10 348 ⇓P P 08 08 39.3 -0.4
baz=26
WVOR Wild Horse Val 25.10 341 eP P 08 08 39.7 0.0
25nm,1.4s
MOD Modoc 25.19 338 eP P 08 08 42.2 +1.7
MFID Camas Ranch 25.25 346 ⇓P P 08 08 40.9 -0.1
baz=26
H18A Shoshone NF, C 25.62 357 ⇑P P 08 08 43.8 -0.7
baz=26
J08A Circle Bar Ran 25.89 342 eP P 08 08 47.1 +0.2
11nm,1.1s
G25A Newell 26.33 7 ⇓P P 08 08 50.9 +0.1
baz=27
G24A Alzada 26.36 5 ⇓P P 08 08 50.8 -0.3
baz=27
G26A Maurine 26.53 8 ⇑P P 08 08 52.2 -0.3
baz=27
F24A Ekalaka 26.88 5 ⇑P P 08 08 55.4 -0.3
baz=28
F27A Lemmon 27.18 9 ⇑P P 08 08 57.4 -0.9
baz=28
E19A Rath Farm, Rou 27.37 358 ⇑P P 08 08 59.2 -0.9
baz=28
D21A La Casta Ranch 27.97 1 ⇑P P 08 09 04.6 -0.9
baz=29
MSO Missoula 28.19 351 ⇑P P 08 09 07.0 -0.5
baz=29
B20A Solberg Farm, 29.34 360 ⇑P P 08 09 17.6 0.0
baz=30
B30A Myrvik Farm, E 30.32 12 ⇑P P 08 09 24.5 -1.7
baz=31
ILAR Eielson Array 52.61 340 P P 08 12 26.6 -1.8
ILAR Eielson Array 52.61 340 P P 08 12 26.6 -1.8
1.8nm,1.1s,baz=162,slow=6.0,SNR=4.9

*ISCJB **24** 08:27:00.1±0.6, 47.°1N±0.°1×152.°7E±0.°1, h56km, mb3.8/8, Error ellipse: s-maj=21.0km s-min=4.5km az=143.4*
*JMA **24** 08:27:00.4±0.6, 47.°10N×153.°14E, h30km, M4.2*
*IDC **24** 08:27:03.2±0.9, 47.°15N×152.°83E, h65km±8km, mb3.5/9, mb1 3.8/12, mb1mx3.6/28, mbtmp3.6/12, Error ellipse: s-maj=27.4km s-min=16.4km az=130.0*
ISC 24 08:27:01.9±0.7, 47.0N±0.°1×152.9E±0.°1, h56km, n28, σ1°63/30, mb3.8/8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	6.19	237	P	Pn	08 28 32.1	+1.5
NEM2				eS	Sn	08 29 39.5	-0.4
PETK	Petropavlovsk-	6.88	25	P	Pn	08 28 41.3	+1.2
	0.4nm,0.3s,baz=202,slow=14,SNR=6.0						
JTKR	Abashiri--Toko	6.97	248	P	Pn	08 28 46.2	+4.9
JAK	Akkeshi	7.02	238	P	Pn	08 28 43.5	+1.5
JAK				eS	Sn	08 29 59.7	-0.6
JMP	Maruseppu	7.30	249	P	Pn	08 28 51.1	+5.2
JAR	Ashorobuto	7.40	243	P	Pn	08 28 50.7	+3.5
JAR				eS	Sn	08 30 13.3	+3.6
JOB	Onbets	7.58	241	eS	Sn	08 30 14.2	+0.1
ASAJ	Asahikawa	7.75	252	P	Pn	08 28 57.0	+5.1
	0.7nm,0.3s,baz=88,slow=20,SNR=5.8						
JKK2	Kamakawa 2	7.75	250	P	Pn	08 28 57.1	+5.0
JCH	Churui	8.03	241	P	Pn	08 28 58.0	+2.1
JCH				eS	Sn	08 30 24.0	-1.2
JNBK	Urakawa-nobuka	8.60	241	eS	Sn	08 30 37.6	-1.4
JNB	Noboribetsu	9.54	246	eS	Sn	08 31 03.5	+1.4
JKB	Kayabe	9.86	243	P	Pn	08 29 21.8	+0.9
JKB				eS	Sn	08 31 08.0	-2.0
JTM	Tenmabayashi	10.51	238	P	Pn	08 29 30.1	+0.3
JTM				eS	Sn	08 31 22.3	-3.6
JANG	Nango	10.53	235	P	Pn	08 29 28.6	-1.4
JANG				eS	Sn	08 31 19.9	-6.5
JTH	Tanohata	10.64	233	eS	Sn	08 31 21.5	-7.5
FX1	Attu Island--F	14.33	58	P	Pn	08 30 19.7	-1.9
	1.8nm,0.3s,baz=98,slow=23,SNR=7.6						
FX1				S	Sn	08 32 46.5	-12
	1.2nm,0.3s,baz=283,slow=23,SNR=6.9						
USRK	Ussuriysk Arra	14.86	267	P	P	08 30 33.0	0.0
	0.2nm,0.3s,baz=60,slow=10,SNR=3.9						
MJAR	Matsushiro Arr	15.08	231	P	P	08 30 34.6	-1.0
	0.2nm,0.3s,baz=49,slow=15,SNR=2.9						
KSRS	Korea Array	20.70	252	P	Pn	08 31 39.6	-0.5
	1.1nm,0.5s,baz=51,slow=12,SNR=5.2						
ILAR	Eielson Array	36.48	39	P	P	08 34 00.9	-0.2
	0.9nm,0.9s,baz=264,slow=8.1,SNR=6.9						
ILAR				pP	pP	08 34 16.4	+1.0
	0.3nm,0.5s,baz=258,slow=7.7,SNR=2.4						
FINES	FINESS Array B	63.76	335	P	P	08 37 26.9	-0.5
	2.6nm,0.9s,baz=46,slow=8.2,SNR=4.5						
PDAR	Pinedale Array	64.76	54	P	P	08 37 33.5	-1.0
	0.8nm,0.9s,baz=301,slow=0.9,SNR=6.2						
PDAR				pP	pP	08 37 51.2	+1.3
	0.7nm,0.8s,baz=321,slow=1.9,SNR=4.5						
NOA	NORSAR Array B	67.95	341	P	P	08 37 53.5	-0.9
	1.6nm,0.9s,baz=25,slow=5.9,SNR=3.2						
WRA	Warramunga Arr	68.67	199	P	P	08 37 59.4	+0.1
	0.3nm,0.5s,baz=17,slow=6.7,SNR=5.7						
AKASG	Malin Array Be	71.25	326	P	P	08 38 12.8	-2.0
	0.5nm,0.4s,baz=38,slow=5.7,SNR=3.6						
ASAR	Alice Springs	72.37	198	P	P	08 38 23.9	+2.1
	0.6nm,0.8s,baz=16,slow=5.6,SNR=5.7						
TXAR	Lajitas Array	77.54	60	P	P	08 38 52.4	+0.5
	1.4nm,0.7s,baz=293,slow=4.1,SNR=13						
TXAR				pP	pP	08 39 09.5	+2.0
	0.4nm,0.5s,baz=299,slow=4.9,SNR=3.5						

SKHL 24 08:36:16.9±1.5, 52.°00N×142.°00E, h10km, mb4.0/5, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TYV	Tymovskoe	1.21	160	ePg	Pg	08 36 41.0	+0.9
TYV				AMB	AMB	08 36 43.0	
	157nm,0.4s						
TYV				eSg	Sn	08 36 57.3	+1.0
TYV				A	A	08 36 59.0	
	210nm,0.4s						
NKL	Nikolayevsk	1.41	326	i Pg	Pg	08 36 44.8	+0.9
NKL				AMB	AMB	08 36 45.1	
	35nm,0.5s						
NKL				AMB	AMB	08 36 45.1	
	30nm,0.5s						
NKL				AMB	AMB	08 36 45.1	
	70nm,0.5s						
NKL				eSg	Sg	08 37 05.5	+3.4
NKL				A	A	08 37 08.5	
	210nm,0.5s						
NKL				A	A	08 37 08.5	
	270nm,0.5s						
OKH	Okha	1.65	20	ePg	Pg	08 36 51.3	+2.7
OKH				AMB	AMB	08 36 52.0	
	100nm,0.5s						
OKH				eSg	Sg	08 37 16.0	+6.0
OKH				A	A	08 37 16.2	
	200nm,0.8s						
GRNR	Gornyy	3.71	253	ePg	Pg	08 37 30.9	+3.0
GRNR				AMB	AMB	08 37 34.0	
	9.0nm,0.3s						
GRNR				eSg	Sg	08 38 21.6	+5.7
GRNR				A	A	08 38 30.0	
	29nm,0.7s						
GRNR				A	A	08 38 30.0	
	24nm,0.7s						
EKMR	Ekimchan	5.63	285	ePg	Pg	08 38 06.0	+1.3
EKMR				AMB	AMB	08 38 06.7	
	4.0nm,0.5s						
EKMR				eSg	Sg	08 39 24.5	+6.9
EKMR				A	A	08 39 35.8	
	40nm,0.9s						
EKMR				A	A	08 39 35.8	
	8.0nm,0.9s						
EKMR				A	A	08 39 35.8	
	7.0nm,0.9s						

IDC 24 08:37:50.6±0.9, 30.°01N×138.°98E, h395km±13km, mb3.2/9, mb1 3.2/13, mb1mx3.1/27, mbtmp3.1/13, Error ellipse: s-maj=34.2km s-min=10.4km az=69.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	4.04	135	P	Pn	08 39 03.9	+1.0
	35nm,0.3s,baz=291,slow=16,SNR=10						
CBIJ				S	S	08 40 00.6	-0.8
	27nm,0.3s,baz=300,slow=23,SNR=12						
MJAR	Matsushiro Arr	6.55	355	P	P	08 39 30.4	+0.7
	0.3nm,0.3s,baz=174,slow=11,SNR=4.3						
MJAR				S	S	08 40 49.6	+0.2
	0.4nm,0.3s,baz=173,slow=18,SNR=4.2						
KSRS	Korea Array	11.82	312	P	Pn	08 40 29.9	+0.2
	0.1nm,0.3s,baz=125,slow=11,SNR=9.5						
USRK	Ussuriysk Arra	15.22	341	P	P	08 41 06.7	+1.2
	0.3nm,0.3s,baz=148,slow=12,SNR=5.4						
SONM	Songino Array	30.67	315	P	P	08 43 30.4	-0.2
	0.5nm,0.5s,baz=115,slow=8.7,SNR=2.2						
ZALV	Zalesovo Beam	45.45	318	P	P	08 45 31.6	-0.3
	1.1nm,0.5s,baz=94,slow=11,SNR=3.7						
MKAR	Makanchi Array	46.47	308	P	P	08 45 38.9	-1.0
	1.7nm,0.5s,baz=92,slow=10,SNR=9.8						
WRA	Warramunga Arr	49.86	186	P	P	08 46 05.9	+0.2
	0.5nm,0.3s,baz=4.6,slow=8.1,SNR=8.0						
ASAR	Alice Springs	53.59	186	P	P	08 46 33.2	+0.3
	0.3nm,0.5s,baz=21,slow=11,SNR=6.8						
ARCES	ARCESS Array B	69.86	340	P	P	08 48 19.6	0.0
	2.6nm,0.9s,baz=60,slow=7.2,SNR=4.7						
FINES	FINESS Array B	74.09	333	P	P	08 48 43.8	-0.6
	0.6nm,0.3s,baz=61,slow=3.5,SNR=5.9						
NOA	NORSAR Array B	79.86	337	P	P	08 49 16.0	-0.3
	1.6nm,0.9s,baz=48,slow=4.7,SNR=2.9						
BRTR	Keskin Array B	81.97	311	P	P	08 49 27.8	0.0
	0.9nm,0.8s,baz=53,slow=4.8,SNR=4.5						
LPAZ	La Paz	151.67	67	PKPbc	PKPbc	08 57 01.1	+0.7
	0.3nm,0.4s,baz=301,slow=5.9,SNR=2.9						

*DDA **24** 08:56:28.4, 37.°91N×32.°36E, h7km, MD2.8*
*CSEM **24** 08:56:30.8±0.5, 37.°89N×32.°42E, h0km±5km, MD2.6, Error ellipse: s-maj=9.7km s-min=8.3km az=68.0*
*ISK **24** 08:56:30.2, 37.°86N×32.°49E, h12km, MD2.6*
*ISCJB **24** 08:56:31.0±0.7, 37.°88N±0.°03×32.°48E±0.°05, h3km±6km, Error ellipse: s-maj=6.5km s-min=5.4km az=159.4*
ISC 24 08:56:31.1±0.9, 37.87N±0.°03×32.47E±0.°04, h12km±7km, n14, σ0°42/25, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KONT	Konya--Tatoy	0.12	312	ePG	Pg	08 56 33.9	-0.3
KONT				eSG	Sg	08 56 36.7	+0.2
KONT	Konya--Tatoy	0.12	312	ePG	Pg	08 56 33.9	-0.3
SULT	Sultanhani-AKS	0.89	68	ePG	Pg	08 56 47.7	-0.5
SULT				eSG	Sg	08 57 00.2	+0.4
SULT	Sultanhani-AKS	0.89	68	ePg	Pg	08 56 47.7	-0.5
SULT				eSg	Sg	08 57 00.2	+0.4
HDMB	Hadim	0.90	179	ePG	Pg	08 56 47.7	-0.8
HDMB				eSG	Sg	08 57 00.8	+0.5
HDMB	Hadim	0.90	179	ePg	Pg	08 56 47.7	-0.8
HDMB				eSg	Sg	08 57 00.8	+0.5
KIZT	Kizilcal	1.11	335	ePN	Pn	08 56 52.3	-0.3
KIZT				eSN	Sn	08 57 08.2	+0.1
KIZT	Kizilcal	1.11	335	ePn	Pn	08 56 52.3	-0.3
KIZT				eSn	Sn	08 57 08.2	+0.1
SUTC	Sutluce-Ispart	1.23	252	ePN	Pn	08 56 54.4	+0.1
SUTC	Sutluce-Ispart	1.23	252	ePn	Pn	08 56 54.4	+0.1
GAZI	Gazipasa	1.63	184	i P	Pg	08 57 02.1	-0.3
GAZI				i S	Sg	08 57 23.6	0.0
GAZI	Gazipasa	1.63	184	i P	Pg	08 57 02.1	-0.3
GAZI				i S	Sg	08 57 23.6	0.0
GULE	Gulek	1.92	107	eP	Pb	08 57 06.5	+0.4
GULE				i S	Sg	08 57 33.1	+0.3
GULE	Gulek	1.92	107	eP	Pb	08 57 06.5	+0.4
GULE				i S	Sg	08 57 33.1	+0.3

*SKHL **24** 09:08:37.4, 48.°75N×154.°75E, h33km±7km, mb4.5/2, msh4.5/1*
*MOS **24** 09:08:38.1±2.1, 48.°49N×154.°82E, h37km, mb4.0/6, Error ellipse: s-maj=16.2km s-min=9.2km az=61.0*
*IDC **24** 09:08:40.8±1.0, 48.°80N×154.°58E, h38km±7km, mb3.6/10, mb1 4.0/13, mb1mx3.8/30, mbtmp3.8/13, ML3.5/3, Error ellipse: s-maj=40.9km s-min=12.6km az=164.0*
ISC 24 09:08:41.7±0.7, 48.67N±0.°10×154.63E±0.°09, h51km, n50, σ1°48/49, mb3.7/11, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	2.24	25	ePN	Pn	09 09 10.7	-5.5
SKR				eS	Sn	09 09 41.0	-1.6
SKR				pmax	pmax		

comp=N,60nm,0.5s
SKR pmax pmax
comp=Z,90nm,0.5s
SKR smax smax
comp=N,2μm,2.0s
SKR smax smax
comp=E,2μm,2.0s
SKR smax smax
comp=N,2μm,0.3s
SKR smax smax
comp=E,820nm,0.3s
SKR Severo-Kuril's 2.24 25 *e*P Pn 09 09 10.7 -5.5
SKR AMB AMB 09 09 12.0
comp=E,60nm,0.5s
SKR AMB AMB 09 09 12.0
comp=E,90nm,0.5s
SKR *e*S **Sn** **09 09 41.0 -1.6**
SKR A A 09 09 41.0
comp=E,2μm,2.5s
SKR A A 09 09 46.5
comp=E,530nm,0.3s
SKR A A 09 09 46.5
comp=E,820nm,0.3s
PETK Petropavlovsk- 4.85 22 PN **Pn** **09 09 54.9 +2.8**
PETK pmax pmax
comp=Z,4.0nm,0.3s
PETK Petropavlovsk- 4.85 22 Pn **Pn** **09 09 54.9 +2.8**
comp=Z,4.3nm,0.3s,baz=201,slow=17,SNR=20
PET Petropavlovsk 5.05 29 *e*PN **Pn** **09 09 55.9 +1.2**
PET *e*S **Sn** **09 10 54.4 +2.7**
PET pmax pmax
comp=Z,54nm,0.5s
PET smax smax
comp=N,205nm,0.6s
PET smax smax
comp=E,288nm,0.6s
PET MLR MLR
comp=Z,600nm,18.0s
PET Petropavlovsk 5.05 29 *e*P **Pn** **09 09 56.2 +1.5**
KUR Kuril'sk 5.76 236 *e*PN **Pn** **09 10 04.5 0.0**
KUR S **Sn** **09 11 09.8 +0.5**
KUR pmax pmax
comp=Z,35nm,0.5s
KUR pmax pmax
comp=N,11nm,0.5s
KUR smax smax
comp=N,22nm,0.8s
KUR smax smax
comp=E,32nm,0.8s
KUR Kuril'sk 5.76 236 *e*P **Pn** **09 10 04.5 0.0**
KUR AMB AMB 09 10 05.3
comp=E,12nm,0.5s
KUR AMB AMB 09 10 05.3
comp=E,35nm,0.5s
KUR *e*S **Sn** **09 11 09.8 +0.5**
KUR A A 09 11 25.7
comp=E,22nm,0.8s
KUR A A 09 11 25.7
comp=E,32nm,0.8s
NEM2 Nemuro 2 8.14 233 P Pn 09 10 32.2 -4.9
NEM2 *e*S Sn 09 11 58.5 -9.2
YSS Yuzh-Sakhalins 8.18 262 *e*PN **Pn** **09 10 36.4 -1.1**
YSS Yuzh-Sakhalins 8.18 262 *e*P **Pn** **09 10 36.4 -1.1**
JNK Nakash 8.55 237 P **Pn** **09 10 40.4 -2.3**
JNK *e*S Sn 09 12 10.6 -7.2
JTKR Abashiri--Toko 8.78 242 P **Pn** **09 10 45.2 -0.6**
JAK Akkeshi 8.95 234 P Pn 09 10 44.1 -4.1
JAK *e*S Sn 09 12 18.2 -9.4
JMP Maruseppu 9.08 243 P **Pn** **09 10 50.2 +0.2**
JAR Ashorobuto 9.27 239 P **Pn** **09 10 50.8 -1.8**
JAR *e*S **Sn** **09 12 32.8 -2.5**
ASAJ Asahikawa 9.47 246 P **Pn** **09 10 56.9 +1.5**
ASAJ Asahikawa 9.47 246 Pn **Pn** **09 10 56.5 +1.2**
comp=E,0.6nm,0.3s,baz=45,slow=11,SNR=13
JKK2 Kamakawa 2 9.52 244 P **Pn** **09 10 56.5 +0.5**
JCH Churui 9.94 237 P Pn 09 10 57.6 -4.1
JCH *e*S Sn 09 12 42.4 -9.3
JBT2 Biratori 2 10.40 240 P **Pn** **09 11 06.8 -1.2**
ERM Erimo 10.45 235 *i* PN **Pn** **09 11 08.8 +0.1**
ERM Erimo 10.45 235 *e*P **Pn** **09 11 08.8 +0.1**
JNBK Urakawa-nobuka 10.50 237 P Pn 09 11 05.4 -3.9
JNBK *e*S Sn 09 12 54.1 -11
JKB Kayabe 11.72 240 P Pn 09 11 20.9 -5.2
JTM Tenmabayashi 12.44 236 P Pn 09 11 29.5 -6.3
FX1 Attu Island--F 12.46 63 Pn Pn 09 11 33.0 -3.0
comp=E,2.3nm,0.3s,baz=244,slow=8.2,SNR=7.8
FX1 Sn Sn 09 13 37.7 -16
comp=E,1.4nm,0.3s,baz=246,slow=20,SNR=4.3
JOSM Okushiri--Mats 12.51 244 P **Pn** **09 11 34.0 -2.8**
JRG Rokugo 13.66 232 P Pn 09 11 46.9 -5.7
SEY Seymchan 14.35 356 *i* P **P** **09 12 06.7 -0.7**
SEY Seymchan 14.35 356 *e*P **P** **09 12 06.7 -0.7**
USRK Ussuriysk Arra 16.21 262 Pn **P** **09 12 27.1 -1.1**
comp=E,0.2nm,0.3s,baz=67,slow=12,SNR=20
KSRS Korea Array 22.38 250 P **P** **09 13 34.9 -0.6**
comp=E,3.0nm,0.7s,baz=48,slow=10,SNR=12
ULN Ulaanbaatar 31.28 287 *e*P **P** **09 14 58.4 +1.8**
SONM Songino Array 31.70 287 P **P** **09 15 01.0 +0.6**
comp=E,0.8nm,0.7s,baz=69,slow=9.7,SNR=4.1
COLA College 34.00 40 *i* P **P** **09 15 21.1 +1.1**
COLA College 34.00 40 *e*P **P** **09 15 21.1 +1.1**
ILAR Eielson Array 34.42 40 P **P** **09 15 24.1 +0.4**
comp=E,0.4nm,0.8s,baz=263,slow=7.4,SNR=5.6
ILAR pP **pP** **09 15 34.2 -2.6**
comp=E,0.4nm,0.7s,baz=256,slow=6.9,SNR=2.9
MKAR Makanchi Array 46.98 296 P **P** **09 17 06.7 -0.7**
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 46.98 296 P **P** **09 17 06.7 -0.7**
comp=Z,0.9nm,0.7s,baz=68,slow=9.8,SNR=9.0
KURK Kurchatov 47.17 303 *i* P **P** **09 17 09.1 +0.4**
KURK pmax pmax
comp=Z,2.0nm,2.2s
KURK Kurchatov 47.17 303 *e*P **P** **09 17 09.1 +0.4**
KURBB Kurchatov Arra 47.26 303 P **P** **09 17 07.0 -2.4**
comp=Z,0.5nm,0.5s,baz=67,slow=8.5,SNR=4.9
BVAR Borovoye Array 50.44 309 P **P** **09 17 34.1 +0.3**
BVAR pmax pmax
comp=Z,1.0nm,0.7s
BVAR Borovoye Array 50.44 309 P **P** **09 17 34.1 +0.3**
comp=Z,0.8nm,0.7s,baz=58,slow=7.6,SNR=3.8
CMAR Chiang Mai Arr 53.82 256 *e*P **P** **09 18 01.9 +2.6**
CMAR Chiang Mai Arr 53.82 256 P **P** **09 18 00.1 +0.8**
comp=Z,0.9nm,0.5s,baz=24,slow=8.0,SNR=6.9
NVAR Mina Array Bea 60.66 64 P **P** **09 18 47.6 +0.1**
comp=Z,0.2nm,0.3s,baz=308,slow=6.3,SNR=5.5
PDAR Pinedale Array 62.80 55 P **P** **09 19 02.7 +0.7**
comp=Z,1.0nm,0.9s,baz=307,slow=3.0,SNR=6.6
PDAR pP **pP** **09 19 14.0 -2.1**
comp=Z,1.3nm,0.9s,baz=335,slow=2.4,SNR=7.2
TXAR Lajitas Array 75.67 62 P **P** **09 20 21.6 0.0**
comp=Z,0.5nm,0.8s,baz=270,slow=1.3,SNR=4.3
TXAR pP **PcP** **09 20 33.1 -1.1**
comp=Z,1.3nm,0.9s,baz=281,slow=3.5,SNR=7.7

DJA 24 09:13:13.6±0.9, 3°.5S±7°.×12°.9E±°, h20km, M3.7/4, MLv3.7/4, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.61**	**187**	P	Pb	09 13 24.7	-0.9
MSAI				S	Sb	09 13 33.6	-0.1
AAI	**Ambon**	**1.24**	**221**	P	Pn	09 13 33.6	-2.2
AAI				S	Sn	09 13 54.5	+2.6
BNDI	**Bandanaira**	**1.99**	**153**	P	Pb	09 13 48.0	-1.1
FAKI	**Fak Fak**	**3.25**	**93**	P	Pn	09 14 04.3	+0.8

*ISCJB **24** 09:18:33.3±0.7, 7°.73S±0°.05×130°.93E±0°.07, h33km, mb3.7/1, Error ellipse: s-maj=10.3km s-min=5.9km az=23.0*
*AUST **24** 09:18:34.2, 7°.47S×130°.55E, h20km*
*IDC **24** 09:18:38.9±6.0, 8°.28S×130°.89E, h0km, mb3.9/1, mb1 4.4/4, mb1mx3.8/19, mbtmp4.2/4, ML4.4/3, Error ellipse: s-maj=70.6km s-min=63.8km az=170.0*
ISC 24 09:18:35.1±0.9, 7°.67S±0°.05×130°.97E±0°.08, h35km, n14, σ2°.72/15, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLE	**Tual**	**2.67**	**41**	P	Pn	09 19 21.2	+5.6
TLE	baz=2.8,SNR=20						
	baz=2.8,SNR=4.5			S	**Sn**	**09 19 48.8**	**+1.9**
FAKI	**Fak Fak**	**4.88**	**15**	P	**Pn**	**09 19 46.8**	**+0.7**
FAKI	baz=4.9,SNR=14			S	**Sn**	**09 20 37.9**	**-3.6**
	baz=4.9,SNR=13						
KDU	**Kakadu**	**5.20**	**164**	P	Pn	09 19 55.9	+5.5
KDU	baz=5.5,SNR=285			S	**Sn**	**09 20 53.5**	**+4.2**
	baz=5.5,SNR=7.8						
SWI	**Sorong**	**6.77**	**2**	P	**Pn**	**09 20 12.8**	**+0.8**
	baz=6.6,SNR=5.0						
SOEI	**Soe**	**6.95**	**252**	S	**Sn**	**09 21 33.1**	**+0.6**
	baz=6.6,SNR=5.4						
KNRA	**Kununurra**	**8.25**	**195**	P	Pn	09 20 35.5	+3.2
KNRA	baz=8.4,SNR=26			S	**Sn**	**09 22 02.1**	**-2.2**
	baz=8.4,SNR=6.2						
FITZ	**Fitzroy Crossi**	**11.60**	**206**	Pn	**Pn**	**09 21 18.1**	**-0.2**
	4.1nm,0.3s,baz=32,slow=11,SNR=109						
FITZ				Sn	Sn	09 23 17.9	-8.7
	3.1nm,0.3s,baz=31,slow=12,SNR=12						
FITZ	**Fitzroy Crossi**	**11.60**	**206**	P	**Pn**	**09 21 18.8**	**+0.5**
	baz=12,SNR=28						
WRA	**Warramunga Arr**	**12.63**	**165**	Pn	**Pn**	**09 21 33.1**	**+0.7**
	1.5nm,0.3s,baz=335,slow=15,SNR=39						
WRA				Sn	**Sn**	**09 23 47.2**	**-4.7**
	2.2nm,0.3s,baz=343,slow=22,SNR=8.9						
COEN	**Coen**	**13.52**	**119**	S	**Sn**	**09 24 11.4**	**-2.1**
	baz=14,SNR=7.0						
ASAR	**Alice Springs**	**16.16**	**170**	Pn	**Pn**	**09 22 20.5**	**+0.8**
	1.5nm,0.3s,baz=360,slow=12,SNR=69						
ASAR				Sn	**Sn**	**09 25 14.9**	**-3.0**
	0.4nm,0.3s,baz=353,slow=26,SNR=6.6						
STKA	**Stephens Creek**	**26.04**	**159**	P	**P**	**09 24 08.6**	**+3.4**
	2.0nm,0.9s,baz=334,slow=10,SNR=3.7						
PMBI	**Palembang**	**26.50**	**279**	P	P	09 24 03.4	-6.2
	baz=26,SNR=3.4						
PATS	**Pohnpei**	**30.84**	**63**	P	P	09 24 56.2	+8.0
	baz=31,SNR=4.3						

*NEIC **24** 09:30:25.8, 16°.57N×99°.21W, h7km, MD4.0(MEX), After MEX.*
MEX 24 09:30:25.8±0.9, 16°.57N×99°.21W, h7km±8km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**1.05**	**100**	*i* P	Pg	09 30 43.2	-2.8
PNIG				*e*S	Sg	09 30 56.4	-3.4
PNIG	**Pinotepa**	**1.05**	**100**	*i* P	Pg	09 30 43.2	-2.8
PNIG				*e*S	Sg	09 30 56.4	-3.4
CAIG	**El Cayaco**	**1.12**	**295**	*e*P	Pg	09 30 43.8	-3.5
CAIG				*i* S	Sg	09 30 58.5	-3.5
CAIG	**El Cayaco**	**1.12**	**295**	*e*P	Pg	09 30 43.8	-3.5
CAIG				*i* S	Sg	09 30 58.5	-3.5
MEIG	**Mezcala**	**1.41**	**344**	*e*P	Pn	09 30 47.5	-4.5
MEIG				*i* S	Sb	09 31 04.9	-5.8
MEIG	**Mezcala**	**1.41**	**344**	*e*P	Pn	09 30 47.5	-4.5
MEIG				*i* S	Sb	09 31 04.9	-5.8
PLIG	**Platanillo**	**1.83**	**351**	*e*P	Pn	09 30 54.2	-3.7
PLIG				*i* S	Sn	09 31 16.6	-5.0
PLIG	**Platanillo**	**1.83**	**351**	*e*P	Pn	09 30 54.2	-3.7
PLIG				*i* S	Sn	09 31 16.6	-5.0
ARIG	**Puente Sto Nin**	**2.02**	**328**	*e*P	Pn	09 30 57.5	-2.9
ARIG				*i* S	Sn	09 31 21.5	-4.5
YAIG	**Yautepec**	**2.28**	**3**	*e*P	Pn	09 31 00.7	-3.5
YAIG				*e*S	Sn	09 31 29.1	-3.6
YAIG	**Yautepec**	**2.28**	**3**	*e*P	Pn	09 31 00.7	-3.5
YAIG				*e*S	Sn	09 31 29.1	-3.6
ZIIG	**Zihuatanejo**	**2.39**	**296**	*e*P	Pn	09 31 02.8	-2.7
ZIIG				*i* S	Sn	09 31 31.5	-3.5
ZIIG	**Zihuatanejo**	**2.39**	**296**	*e*P	Pn	09 31 02.8	-2.7
ZIIG				*i* S	Sn	09 31 31.5	-3.5
VHO	**Vista Hermosa**	**2.42**	**78**	*i* P	Pn	09 31 03.3	-2.8
VHO				*i* S	Sn	09 31 31.1	-5.1
VHO	**Vista Hermosa**	**2.42**	**78**	*i* P	Pn	09 31 03.3	-2.8
VHO				*i* S	Sn	09 31 31.1	-5.1
PPM	**Popocatepetl**	**2.54**	**12**	*e*P	Pn	09 31 05.2	-3.0
PPM				*i* S	Sn	09 31 35.8	-4.1
PPM	**Popocatepetl**	**2.54**	**12**	*e*P	Pn	09 31 05.2	-3.0
PPM				*i* S	Sn	09 31 35.8	-4.1
MOIG	**Morelia**	**3.62**	**329**	*i* P	Pn	09 31 19.6	-3.1
MOIG				*i* S	Sn	09 32 01.5	-4.5
MOIG	**Morelia**	**3.62**	**329**	*i* P	Pn	09 31 19.6	-3.1
MOIG				*i* S	Sn	09 32 01.5	-4.5

MAN 24 10:03:15, 18°.79N×121°.03E, h0km, mb4.5, ML3.3, MS3.2, 2C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.60**	**220**	*i* P	Pg	10 03 26.9	+0.3
APYP	**Conner**	**0.95**	**167**	*e*P	Pb	10 03 34.9	+0.6
APYP				*e*S	Sn	10 03 54.3	+4.5
SIPP	**Brgy, Tapao**	**1.02**	**212**	*i* P	Pn	10 03 37.0	+0.4
ABRA	**Dolores**	**1.18**	**195**	*e*P	Pg	10 03 37.5	-0.1
CVP	**Callao Caves**	**1.32**	**145**	*e*P	Pg	10 03 39.8	-0.6
CAUP	**Cauayan**	**1.99**	**157**	*e*P	Pb	10 03 52.4	+0.3
PALP	**Palanan**	**2.18**	**142**	*i* P	Pb	10 03 54.4	-0.9
BOLP	**Bolinao**	**2.62**	**204**	*e*P	Pb	10 04 02.2	-0.7
BALP	**Baler**	**3.08**	**170**	*e*P	Pn	10 04 06.0	+1.1
SCZP	**Santa Cruz**	**3.18**	**200**	*e*P	Pb	10 04 10.4	-2.0

IDC 24 10:04:35.6±3.6, 1°.52S×99°.67E, h0km, mb3.5/3, mb1 3.7/5, mb1mx3.4/25, mbtmp3.5/5, ML3.7/2, Error ellipse: s-maj=143.7km s-min=22.8km az=60.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.35**	**350**	Pn	Pn	10 05 41.0	-2.3
	1.1nm,0.3s,baz=172,slow=19,SNR=4.3						
CMAR	**Chiang Mai Arr**	**19.86**	**358**	P	P	10 09 08.3	-0.2
	0.2nm,0.3s,baz=180,slow=11,SNR=4.2						
WRA	**Warramunga Arr**	**38.52**	**121**	P	P	10 11 59.9	-0.3
	0.4nm,0.7s,baz=295,slow=8.7,SNR=6.9						
ASAR	**Alice Springs**	**39.80**	**126**	P	P	10 12 11.2	+0.3
	0.2nm,0.5s,baz=298,slow=8.1,SNR=4.7						
ZALV	**Zalesovo Beam**	**56.63**	**350**	P	P	10 14 21.3	+0.9
	0.8nm,0.5s,baz=157,slow=4.1,SNR=2.2						
TXAR	**Lajitas Array**	**144.52**	**37**	PKP	PKPab	10 24 13.0	-0.4
	0.3nm,0.5s,baz=185,slow=1.5,SNR=7.1						

*IDC **24** 10:25:55.9±1.4, 0°.36N×98°.20E, h0km, mb3.8/7, mb1 4.0/9, mb1mx3.8/26, mbtmp3.9/9, ML4.3/2, MS3.0/1, Ms1 3.0/1, ms1mx2.5/34, Error ellipse: s-maj=42.6km s-min=20.2km az=61.0*
*ISCJB **24** 10:26:03.5±0.9, 0°.67N±0°.09×98°.48E±0°.07, h43km, mb3.8/7, Error ellipse: s-maj=14.5km s-min=7.6km az=26.2*
*DJA **24** 10:26:05.5±1.8, 1°.N±10°.×9°.8E±1°.5, h66km±28km, M4.3/6, mb4.4/1, MLv4.2/6*
ISC 24 10:26:04.5±0.8, 0°.70N±0°.07×98°.41E±0°.06, h43km, n23, σ2°.04/19, mb4.0/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**1.02**	**306**	P	**Pn**	**10 26 24.1**	**+1.7**
GSI				S	**Sn**	**10 26 37.8**	**+2.2**
PSI	**Prapat**	**2.15**	**14**	Pn	**Pn**	**10 26 39.1**	**+1.2**
	34nm,0.3s,baz=202,slow=1.6,SNR=95						
PSI				Sn	Sn	10 26 55.1	-8.4
	17nm,0.3s,baz=179,slow=14,SNR=17						
PSI				LR	LR	10 27 46.0	
	comp=Z,304nm,18.8s,baz=205,slow=45						
PPI	**Padang Panjang**	**2.30**	**120**	P	**Pn**	**10 26 42.0**	**+2.1**
PDSI	**Padang**	**2.61**	**128**	P	**Pn**	**10 26 46.6**	**+2.5**
BKNI	**Bangkinang**	**2.66**	**98**	P	Pn	10 26 47.7	+2.9
KCSI	**Kotacane, Aceh**	**2.87**	**347**	P	**Pn**	**10 26 49.5**	**+1.7**
FRIM	**Kepong**	**4.08**	**52**	P	Pn	10 27 07.9	+3.4
IPM	**Ipoh**	**4.57**	**35**	P	Pn	10 27 14.9	+3.7
IPM	**Ipoh**	**4.57**	**35**	P	Pn	10 27 14.8	+3.6
KULM	**Kulim**	**5.08**	**26**	P	**Pn**	**10 27 21.0**	**+2.9**
KULM	**Kulim**	**5.08**	**26**	P	**Pn**	**10 27 20.6**	**+2.5**
KGM	**Kluang**	**5.08**	**75**	P	**Pn**	**10 27 15.7**	**-2.5**
MYKOM	**Kota Tinggi**	**5.55**	**79**	P	Pn	10 27 20.1	-4.4
KTGM	**Kuala Trenggan**	**6.59**	**46**	P	**Pn**	**10 27 37.8**	**-1.0**
CMAR	**Chiang Mai Arr**	**17.65**	**2**	P	**Pn**	**10 30 07.5**	**+0.2**
	0.6nm,0.3s,baz=189,slow=11,SNR=5.2						
SDKM	**Sandakan**	**19.39**	**75**	P	**Pn**	**10 30 28.8**	**+0.4**
WRA	**Warramunga Arr**	**40.75**	**122**	P	**P**	**10 33 38.8**	**-2.8**
	0.6nm,0.8s,baz=328,slow=13,SNR=6.2						
ASAR	**Alice Springs**	**42.13**	**127**	P	**P**	**10 33 50.3**	**-2.7**
	0.5nm,0.8s,baz=295,slow=7.3,SNR=5.8						
KSRS	**Korea Array**	**45.59**	**33**	P	**P**	**10 34 19.2**	**-1.1**
	1.8nm,0.8s,baz=223,slow=8.7,SNR=12						
SONM	**Songino Array**	**47.46**	**7**	P	**P**	**10 34 36.3**	**+1.2**
	1.2nm,0.6s,baz=184,slow=8.1,SNR=6.6						
MKAR	**Makanchi Array**	**48.02**	**345**	P	**P**	**10 34 37.7**	**-1.6**
	1.3nm,0.5s,baz=149,slow=8.2,SNR=16						
ZALV	**Zalesovo Beam**	**54.24**	**350**	P	**P**	**10 35 25.8**	**-0.1**
	0.8nm,0.3s,baz=167,slow=7.0,SNR=2.6						
BRTR	**Keskin Array B**	**70.34**	**312**	P	**P**	**10 37 13.0**	**-1.1**
	0.5nm,0.7s,baz=116,slow=5.0,SNR=2.8						

*IDC **24** 11:22:04.3±1.1, 2°.89S×101°.04E, h0km, mb4.2/13, mb1 4.3/13, mb1mx4.1/25, mbtmp4.2/13, MS3.1/1, Ms1 3.1/1, ms1mx2.5/31, Error ellipse: s-maj=43.0km s-min=14.9km az=55.0*
*ISCJB **24** 11:22:09.8±0.4, 2°.96S±0°.05×100°.93E±0°.05, h46km, mb4.2/17, Error ellipse: s-maj=8.7km s-min=3.7km az=137.4*
*NEIC **24** 11:22:09.6±0.7, 2°.88S×101°.15E, h35km, mb4.5/4, Error ellipse: s-maj=26.8km s-min=9.0km az=60.0*
*DJA **24** 11:22:10.8±1.2, 3°.S±4°.×10°.1E±°, h17km±14km, M4.4/12, mb4.4/2, mB4.8/1, MLv4.4/12, Mw(mB)4.1/1*
*AUST **24** 11:22:13.7±2.0, 2°.92S×101°.10E, h76km, Error ellipse: s-maj=3.2km s-min=1.0km az=240.0*
ISC 24 11:22:11.0±0.6, 2°.93S±0°.06×100°.97E±0°.07, h46km, n86, σ1°.40/79, mb4.4/17, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASI	**Maura Aman, Be**	**1.29**	**99**	P	**Pn**	**11 22 31.9**	**-0.7**
MASI				S	**Sn**	**11 22 48.7**	**0.0**
KSI	**Kapahiang**	**1.77**	**114**	P	**Pn**	**11 22 39.9**	**+0.6**
KSI				S	**Sn**	**11 23 03.7**	**+3.0**
PDSI	**Padang**	**2.07**	**346**	P	**Pn**	**11 22 44.3**	**+1.0**
PDSI				S	**Sn**	**11 23 08.7**	**+0.7**
MNAI	**Manna**	**2.44**	**126**	P	**Pn**	**11 22 49.8**	**+1.4**
MNAI				S	**Sn**	**11 23 19.1**	**+2.1**
MNAI	**Manna**	**2.44**	**126**	P	**Pn**	**11 22 49.4**	**+1.0**
	baz=2.3,SNR=16						
PPI	**Padang Panjang**	**2.52**	**347**	P	**Pn**	**11 22 50.6**	**+1.0**
PPI	**Padang Panjang**	**2.52**	**347**	P	**Pn**	**11 22 51.6**	**+2.1**
	baz=2.6,SNR=17						
EGSI	**Enggano, Bengk**	**2.73**	**152**	P	**Pn**	**11 22 54.2**	**+1.8**
RGRI	**Rengat**	**2.91**	**28**	P	**Pn**	**11 22 55.9**	**+1.1**
BKNI	**Bangkinang**	**3.24**	**1**	P	**Pn**	**11 23 00.9**	**+1.5**
BKNI	**Bangkinang**	**3.24**	**1**	P	Pn	11 23 06.7	+7.3
	baz=3.2,SNR=5.2						
MDSI	**Maura Dua**	**3.56**	**116**	P	**Pn**	**11 23 05.3**	**+1.6**
LWLI	**Liwa**	**3.71**	**124**	P	**Pn**	**11 23 07.5**	**+1.5**
KASI	**Kota Agung**	**4.36**	**126**	P	**Pn**	**11 23 16.0**	**+1.3**
BTDF	**Bukit Timah Da**	**5.10**	**33**	P	**Pn**	**11 23 26.3**	**+1.3**
	baz=5.0,SNR=9.3						
BTDF				P	**Pn**	**11 23 26.3**	**+1.3**
	baz=5.0,SNR=9.3						
GSI	**Gunungsitoli**	**5.41**	**321**	P	**Pn**	**11 23 30.7**	**+1.6**
	32nm,0.7s,0.3nm						
KGM	**Kluang**	**5.45**	**26**	P	**Pn**	**11 23 31.5**	**+1.8**
MYKOM	**Kota Tinggi**	**5.50**	**32**	P	**Pn**	**11 23 32.2**	**+1.7**
MYKOM	**Kota Tinggi**	**5.50**	**32**	P	**Pn**	**11 23 31.6**	**+1.1**
PSI	**Prapat**	**6.05**	**340**	LR	LR	11 26 32.6	
	comp=Z,159nm,18.4s,baz=135,slow=45						
FRIM	**Kepong**	**6.16**	**6**	P	**Pn**	**11 23 41.9**	**+2.3**
KCSI	**Kotacane, Aceh**	**7.16**	**333**	P	Pn	11 23 49.5	-3.8
IPM	**Ipoh**	**7.36**	**0**	Pn	**Pn**	**11 23 58.1**	**+2.0**
	19nm,0.4s						
IPM	**Ipoh**	**7.36**	**0**	P	**Pn**	**11 23 59.0**	**+3.0**
IPM	**Ipoh**	**7.36**	**0**	P	Pn	11 23 50.1	-5.9
KULM	**Kulim**	**8.17**	**358**	*e*Pn	Pn	11 24 04.0	-3.2
KULM	**Kulim**	**8.17**	**358**	P	**Pn**	**11 24 08.5**	**+1.4**
KULM	**Kulim**	**8.17**	**358**	P	Pn	11 24 01.3	-5.8
KTGM	**Kuala Trenggan**	**8.49**	**15**	P	**Pn**	**11 24 13.1**	**+1.7**
KSM	**Kuching**	**10.31**	**65**	P	Pn	11 24 44.2	+7.8
UGM	**Wanagama**	**10.72**	**118**	P	**Pn**	**11 24 43.8**	**+1.8**
	baz=11,SNR=3.3						
KKM	**Kota Kinabalu**	**17.64**	**60**	P	Pn	11 26 05.7	-8.0
SDKM	**Sandakan**	**18.31**	**62**	P	**P**	**11 26 20.5**	**-1.0**
SDKM	**Sandakan**	**18.31**	**62**	P	**P**	**11 26 20.9**	**-0.6**
TSM	**Tawau**	**18.35**	**67**	P	P	11 26 16.6	-5.3
TSM	**Tawau**	**18.35**	**67**	P	**Pn**	**11 26 23.5**	**+1.1**
CMAR	**Chiang Mai Arr**	**21.35**	**355**	P	**P**	**11 26 51.9**	**-2.6**
CMAR	**Chiang Mai Arr**	**21.35**	**355**	P	**P**	**11 26 51.9**	**-2.6**
	1.3nm,0.7s,baz=183,slow=9.8,SNR=7.0						
FITZ	**Fitzroy Crossi**	**28.49**	**124**	P	**P**	**11 28 01.3**	**-0.9**
FITZ	**Fitzroy Crossi**	**28.49**	**124**	P	**P**	**11 28 01.3**	**-0.9**
	0.8nm,0.4s,baz=311,slow=14,SNR=5.9						
FITZ	**Fitzroy Crossi**	**28.49**	**124**	P	P	11 28 06.1	+3.9
	baz=28,SNR=3.2						
KNRA	**Kununurra**	**30.15**	**117**	P	**P**	**11 28 17.6**	**+0.7**
	baz=30,SNR=3.3						
SWI	**Sorong**	**30.34**	**87**	S	**S**	**11 33 16.9**	**+0.8**
	baz=30,SNR=5.3						
FAKI	**Fak Fak**	**31.24**	**91**	S	S	11 33 10.1	-20
	baz=31,SNR=3.7						
ODAN	**Odare**	**32.39**	**337**	*e*P	**P**	**11 28 38.2**	**+1.4**
	23nm,0.6s						
TAPN	**Taplejung**	**32.71**	**338**	*e*P	**P**	**11 28 40.1**	**+0.4**
	48nm,0.9s						
RAMN	**Ramite**	**32.79**	**336**	*e*P	**P**	**11 28 42.1**	**+1.8**
	7.0nm,0.4s						
JIRN	**Jiri**	**33.58**	**336**	*e*P	**P**	**11 28 48.9**	**+1.5**
	40nm,0.8s						
PKI	**Pulchoki**	**33.83**	**335**	*e*P	**P**	**11 28 50.6**	**+1.1**
PKIN	**Phulchoki**	**33.84**	**335**	*e*P	**P**	**11 28 50.6**	**+1.1**
	3.5nm,0.4s						
GUN	**Gumba**	**33.93**	**336**	*e*P	**P**	**11 28 51.7**	**+1.3**
	40nm,0.4s						
DMN	**Daman**	**34.00**	**334**	*e*P	**P**	**11 28 52.3**	**+1.5**
	5.9nm,0.3s						
KKN	**Kakani**	**34.08**	**335**	*e*P	**P**	**11 28 52.5**	**+1.0**
	20nm,0.4s						
GKN	**Gorkha**	**34.54**	**334**	*e*P	**P**	**11 28 57.0**	**+1.6**
	17nm,0.3s						
KOLN	**Koldanda**	**34.81**	**332**	*e*P	**P**	**11 28 59.2**	**+1.4**
	6.7nm,0.3s						
DANN	**Dangsing**	**35.23**	**333**	*e*P	**P**	**11 29 02.7**	**+1.2**
	29nm,0.4s						
WRA	**Warramunga Arr**	**36.69**	**120**	P	**P**	**11 29 12.6**	**-1.3**
WRA	**Warramunga Arr**	**36.69**	**120**	P	**P**	**11 29 12.6**	**-1.3**
	1.7nm,0.4s,baz=301,slow=8.8,SNR=47						
ASAR	**Alice Springs**	**37.92**	**126**	P	**P**	**11 29 23.6**	**-0.7**
ASAR	**Alice Springs**	**37.92**	**126**	P	**P**	**11 29 23.6**	**-0.7**
	1.1nm,0.5s,baz=301,slow=7.8,SNR=21						
AS31	**Alice Springs**	**37.93**	**126**	*e*P	**P**	**11 29 21.3**	**-3.0**
KSAR	**Wonju Array Be**	**47.31**	**29**	P	**P**	**11 30

1.9nm,0.9s,baz=116,slow=4.4,SNR=4.4
ARCES ARCESS Array B 87.67 340 P **P 11 34 54.3 -0.1**
ARCES ARCESS Array B 87.67 340 P **P 11 34 54.3 -0.1**
1.6nm,0.6s,baz=98,slow=3.7,SNR=5.3
TXAR Lajitas Array 144.83 39 PKP PKPbc 11 41 43.0 +0.1
TXAR Lajitas Array 144.83 39 PKP PKPbc 11 41 43.0 +0.1
1.4nm,0.5s,baz=273,slow=0.8,SNR=15

*ISK **24** 13:34:09.9, 37.°10N×35.°94E, h11km, MD2.9*
*ISCJB **24** 13:34:11.4±0.6, 37.°20N±0.°03×35.°92E±0.°03, h14km±5km, Error ellipse: s-maj=4.9km s-min=4.2km az=138.2*
*CSEM **24** 13:34:11.4±0.2, 37.°18N×35.°92E, h15km, MD2.9, Error ellipse: s-maj=4.7km s-min=4.3km az=172.0*
*DDA **24** 13:34:11.3, 37.°19N×35.°98E, h7km, MD3.0*
ISC 24 13:34:11.1±1.1, 37.°19N±0.°02×35.°92E±0.°02, h11km±9km, n32, σ0.9±71/53, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOZT	**Kozan**	**0.30**	**346**	*e*PG	**Pb**	**13 34 18.5**	**-0.1**
KOZT				*e*SG	**Sb**	**13 34 23.9**	**+0.4**
KOZT	**Kozan**	**0.30**	**346**	*e*Pg	**Pb**	**13 34 18.5**	**-0.1**
KOZT				*e*Sg	**Sb**	**13 34 24.0**	**+0.4**
ANDN	**Andirin**	**0.52**	**41**	*i* P	**Pg**	**13 34 21.2**	**0.0**
ANDN				*i* S	**Sg**	**13 34 29.1**	**+1.0**
ANDN	**Andirin**	**0.52**	**41**	*i* P	**Pg**	**13 34 21.2**	**0.0**
ANDN				*i* S	**Sg**	**13 34 29.1**	**+1.0**
KARA	**Karaisali**	**0.69**	**276**	*e*PG	**Pg**	**13 34 24.4**	**-0.1**
KARA				*e*SG	**Sb**	**13 34 35.0**	**+0.1**
KARA	**Karaisali**	**0.69**	**276**	*e*Pg	**Pg**	**13 34 24.4**	**-0.1**
KARA				*e*Sg	**Sb**	**13 34 35.0**	**+0.1**
COBT	**Iskenderun**	**0.72**	**158**	*i* P	**Pg**	**13 34 25.6**	**+0.5**
COBT				*i* S	**Sb**	**13 34 36.0**	**+0.3**
COBT	**Iskenderun**	**0.72**	**158**	*i* P	**Pg**	**13 34 25.6**	**+0.5**
COBT				*i* S	**Sb**	**13 34 36.0**	**+0.3**
AYKD	**Aykdinkavak**	**0.74**	**72**	*i* P	**Pg**	**13 34 24.7**	**-0.7**
AYKD				*i* S	**Sg**	**13 34 34.3**	**-0.9**
KMRS	**Kahramanmaras**	**0.84**	**68**	*e*PG	**Pg**	**13 34 27.0**	**-0.4**
KMRS				*e*SG	**Sb**	**13 34 39.5**	**+0.3**
KMRS	**Kahramanmaras**	**0.84**	**68**	*e*Pg	**Pg**	**13 34 27.0**	**-0.4**
KMRS				*e*Sg	**Sb**	**13 34 39.5**	**+0.3**
GULE	**Gulek**	**0.92**	**276**	*i* P	**Pg**	**13 34 27.8**	**-1.0**
GULE				*i* S	**Sn**	**13 34 44.9**	**+1.4**
GULE	**Gulek**	**0.92**	**276**	*i* P	**Pg**	**13 34 27.8**	**-1.0**
KUZU	**Kuzuini**	**1.01**	**114**	*i* P	**Pn**	**13 34 31.2**	**-0.1**
KUZU				*i* S	**Sb**	**13 34 44.4**	**+0.3**
KUZU	**Kuzuini**	**1.01**	**114**	*i* P	**Pn**	**13 34 31.2**	**-0.1**
KUZU				*i* S	**Sb**	**13 34 44.4**	**+0.3**
YAYL	**Yayladag**	**1.16**	**172**	*i* P	**Pb**	**13 34 33.1**	**-0.2**
YAYL				*i* S	**Sg**	**13 34 49.0**	**+0.5**
YAYL	**Yayladag**	**1.16**	**172**	*i* P	**Pb**	**13 34 33.1**	**-0.2**
YAYL				*i* S	**Sg**	**13 34 49.0**	**+0.5**
GZT	**Gaziantep**	**1.32**	**82**	*i* P	**Pn**	**13 34 34.2**	**-1.5**
GZT				*i* S	**Sb**	**13 34 51.1**	**-2.0**
NIG	**Nigde**	**1.39**	**312**	*e*PN	**Pn**	**13 34 35.9**	**-0.8**
NIG	**Nigde**	**1.39**	**312**	*e*Pn	**Pn**	**13 34 35.9**	**-0.8**
PINB	**Pinarbasi**	**1.54**	**14**	*i* P	**Pn**	**13 34 38.7**	**-0.1**
PINB				*i* S	**Sn**	**13 34 58.8**	**-0.1**
PINB	**Pinarbasi**	**1.54**	**14**	*i* P	**Pn**	**13 34 38.7**	**-0.1**
PINB				*i* S	**Sn**	**13 34 58.8**	**-0.1**
BNN	**Bunyan**	**1.66**	**358**	*e*PN	**Pn**	**13 34 41.4**	**+1.0**
BNN	**Bunyan**	**1.66**	**358**	*e*Pn	**Pn**	**13 34 41.4**	**+1.0**
DARE	**Darende-Malaty**	**1.85**	**41**	*e*PN	**Pn**	**13 34 43.1**	**+0.2**
DARE	**Darende-Malaty**	**1.85**	**41**	*e*Pn	**Pn**	**13 34 43.2**	**+0.2**
AKCD	**Akcadag**	**1.94**	**55**	*e*P	**Pn**	**13 34 42.8**	**-1.3**
AKCD				*e*S	**Sn**	**13 35 08.9**	**+0.4**
AKCD	**Akcadag**	**1.94**	**55**	*e*P	**Pn**	**13 34 42.8**	**-1.3**
AKCD				*e*S	**Sn**	**13 35 08.9**	**+0.4**
IKL	**Isikli**	**2.03**	**243**	*e*PN	**Pn**	**13 34 44.6**	**-0.7**
IKL	**Isikli**	**2.03**	**243**	*e*Pn	**Pn**	**13 34 44.6**	**-0.7**
MALT	**Malatya**	**2.28**	**60**	*e*PN	**Pn**	**13 34 49.5**	**+0.6**
MALT	**Malatya**	**2.28**	**60**	*e*Pn	**Pn**	**13 34 49.5**	**+0.6**

*ISK **24** 13:35:30.0, 37.°27N×28.°19E, h6km, MD2.7*
*CSEM **24** 13:35:31.1±0.2, 37.°25N×28.°19E, h5km, MD2.7, Error ellipse: s-maj=4.1km s-min=3.7km az=8.0*
*DDA **24** 13:35:31.3, 37.°26N×28.°18E, h11km, MD3.0*
ISC 24 13:35:31.2±1.0, 37.°26N±0.°03×28.°17E±0.°02, h5km±10km, n32, σ0.9±99/51, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.15**	**144**	*e*PG	**Pg**	**13 35 33.7**	**-0.5**
YER	**Yerkesik**	**0.15**	**144**	*e*Pg	**Pg**	**13 35 33.7**	**-0.5**
AYDN	**Tasoluk**	**0.47**	**330**	*i* P	**Pg**	**13 35 40.8**	**+0.6**
AYDN				*i* S	**Sg**	**13 35 47.4**	**+1.1**
TURN	**Turunc**	**0.51**	**138**	*i* P	**Pg**	**13 35 39.7**	**-1.4**
TURN				*i* S	**Sg**	**13 35 47.4**	**-0.4**
TURN	**Turunc**	**0.51**	**138**	*i* P	**Pg**	**13 35 39.7**	**-1.4**
DALY	**Dalyan (Mu¨la**	**0.58**	**139**	*e*PG	**Pg**	**13 35 42.0**	**-0.4**
DALY				*e*SG	**Sg**	**13 35 50.6**	**+0.7**
DALY	**Dalyan (Mu¨la**	**0.58**	**139**	*e*Pg	**Pg**	**13 35 42.0**	**-0.4**
DALY				*e*Sg	**Sg**	**13 35 50.6**	**+0.7**
BDRM	**Kayabasi**	**0.61**	**252**	*i* P	**Pg**	**13 35 42.5**	**-0.5**
BDRM				*i* S	**Sb**	**13 35 53.4**	**0.0**
BDRM	**Kayabasi**	**0.61**	**252**	*i* P	**Pg**	**13 35 42.5**	**-0.5**
BDRM				*i* S	**Sb**	**13 35 53.4**	**0.0**
DAT	**Datca**	**0.71**	**222**	*e*PG	**Pg**	**13 35 44.6**	**-0.2**
DAT				*e*SG	**Sg**	**13 35 55.1**	**+1.1**
DAT	**Datca**	**0.71**	**222**	*e*Pg	**Pg**	**13 35 44.7**	**-0.2**
DAT				*e*Sg	**Sg**	**13 35 55.1**	**+1.1**
BODT	**Bodrum**	**0.72**	**255**	*e*PG	**Pg**	**13 35 44.4**	**-0.5**
BODT				*e*SG	**Sg**	**13 35 55.1**	**+0.8**
BODT	**Bodrum**	**0.72**	**255**	*e*Pg	**Pg**	**13 35 44.4**	**-0.5**
BODT				*e*Sg	**Sg**	**13 35 55.1**	**+0.8**
DNZL	**Cakiroluk**	**0.82**	**58**	*i* P	**Pg**	**13 35 46.9**	**+0.1**
DNZL				*i* S	**Sg**	**13 35 56.9**	**-0.6**
GCAM	**G?zelcaml?**	**0.87**	**301**	*i* P	**Pb**	**13 35 48.4**	**-0.4**
GCAM				*i* S	**Sb**	**13 36 00.3**	**-0.4**
GCAM	**G?zelcaml?**	**0.87**	**301**	*i* P	**Pb**	**13 35 48.4**	**-0.4**
GCAM				*i* S	**Sb**	**13 36 00.3**	**-0.4**
FETY	**Fethiye**	**0.96**	**130**	*e*PG	**Pg**	**13 35 48.7**	**-0.8**
FETY	**Fethiye**	**0.96**	**130**	*e*Pg	**Pg**	**13 35 48.7**	**-0.8**
GOLH	**Golhisar**	**1.11**	**91**	*i* P	**Pb**	**13 35 52.6**	**-0.3**
GOLH				*i* S	**Sn**	**13 36 10.9**	**+1.8**
MANT	**Manisa**	**1.27**	**14**	*i* P	**Pn**	**13 35 55.4**	**-0.4**
MANT				*i* S	**Sn**	**13 36 13.9**	**+0.5**
MANT	**Manisa**	**1.27**	**14**	*i* P	**Pn**	**13 35 55.4**	**-0.4**
MANT				*i* S	**Sn**	**13 36 13.9**	**+0.5**
KULA	**Kula-Manisa**	**1.31**	**17**	*e*PN	**Pn**	**13 35 55.3**	**-1.0**
KULA	**Kula-Manisa**	**1.31**	**17**	*e*Pn	**Pn**	**13 35 55.3**	**-1.0**
ELL	**Elmali**	**1.48**	**110**	*e*PN	**Pn**	**13 35 57.8**	**-0.8**
ELL	**Elmali**	**1.48**	**110**	*e*Pn	**Pn**	**13 35 57.8**	**-0.8**
KHL	**Karahalli**	**1.51**	**45**	*e*PN	**Pn**	**13 35 58.1**	**-0.9**
KHL	**Karahalli**	**1.51**	**45**	*e*Pn	**Pn**	**13 35 58.1**	**-0.9**
KHAL	**Karahalli**	**1.52**	**43**	*i* P	**Pb**	**13 35 59.6**	**-0.4**
KHAL				*i* S	**Sg**	**13 36 21.1**	**+0.9**
KHAL	**Karahalli**	**1.52**	**43**	*i* P	**Pb**	**13 35 59.6**	**-0.4**
KHAL				*i* S	**Sg**	**13 36 21.1**	**+0.9**
AKAS	**Kas**	**1.54**	**131**	*i* P	**Pg**	**13 36 00.9**	**+0.2**
AKAS				*i* S	**Sg**	**13 36 23.8**	**+3.2**
AKAS	**Kas**	**1.54**	**131**	*i* S	**Sg**	**13 36 23.8**	**+3.2**
AKAS	**Kas**	**1.54**	**131**	*i* P	**Pg**	**13 36 00.9**	**+0.2**

MAN 24 13:59:48, 17.°72N×120.°56E, h29km, mb4.2, ML3.0, MS2.8, 2C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**0.16**	**115**	*e*P	Pn	13 59 55.6	+1.1
ABRA				*e*S	Sb	14 00 02.4	+4.9
SIPP	**Brgy, Tapao**	**0.23**	**334**	⇑*i*P	Pn	13 59 56.2	+0.7
PIP	**Pasuquin**	**0.61**	**5**	⇑*i*P	Pn	14 00 00.7	0.0
APYP	**Conner**	**0.66**	**77**	*e*P	Pb	14 00 00.9	-0.2
APYP				*e*S	Sn	14 00 11.4	+0.5
CAUP	**Cauayan**	**1.43**	**122**	*e*P	Pn	14 00 12.7	+0.7
BOLP	**Bolinao**	**1.47**	**205**	*e*P	Pn	14 00 12.5	0.0
BALP	**Baler**	**2.19**	**154**	*e*P	Pn	14 00 22.6	+0.1

*IDC **24** 14:08:47.1±3.1, 1.°56S×99.°42E, h0km, mb3.9/5, mb1 3.9/6, mb1mx3.7/24, mbtmp3.8/6, ML4.1/1, Error ellipse: s-maj=142.4km s-min=20.0km az=57.0*
*ISCJB **24** 14:08:49.2±0.8, 1.°58S±0.°06×99.°32E±0.°08, h30km, mb3.9/5, Error ellipse: s-maj=10.8km s-min=8.3km az=9.3*
*DJA **24** 14:08:51.9±1.4, 2.°S±4.°×10.°0E±.°, h12km±12km, M4.3/7,*
MLv4.3/7
ISC 24 14:08:51.1±0.9, 1.°48S±0.°06×99.°43E±0.°07, h30km, n15, σ1.9±24/17, mb3.9/5, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.17**	**61**	P	**Pn**	**14 09 12.0**	**+0.5**
PDSI				S	**Sb**	**14 09 29.1**	**+1.4**
PPI	**Padang Panjang**	**1.40**	**44**	P	**Pn**	**14 09 14.4**	**-0.2**
PPI				S	**Sb**	**14 09 34.1**	**0.0**
BKNI	**Bangkinang**	**2.41**	**42**	P	**Pb**	**14 09 31.5**	**-2.3**
RGRI	**Rengat**	**3.11**	**69**	P	**Pn**	**14 09 38.4**	**+0.3**
GSI	**Gunungsitoli**	**3.33**	**326**	P	**Pb**	**14 09 47.0**	**-2.5**
PSI	**Prapat**	**4.28**	**353**	Pn	**Pn**	**14 09 56.2**	**+1.9**
baz=207,slow=6.8,SNR=2.9							
MNAI	**Manna**	**4.54**	**129**	P	**Pn**	**14 09 58.9**	**+1.1**
EGSI	**Enggano, Bengk**	**4.78**	**144**	P	**Pn**	**14 10 00.6**	**-0.6**
CMAR	**Chiang Mai Arr**	**19.82**	**359**	P	**Pn**	**14 13 20.8**	**-0.3**
0.2nm,0.3s,baz=191,slow=8.8,SNR=3.4							
WRA	**Warramunga Arr**	**38.74**	**121**	P	**P**	**14 16 12.9**	**-0.2**
1.0nm,0.5s,baz=303,slow=9.1,SNR=17							
ASAR	**Alice Springs**	**40.02**	**126**	P	**P**	**14 16 23.8**	**+0.1**
0.4nm,0.6s,baz=302,slow=7.9,SNR=8.2							
STKA	**Stephens Creek**	**49.92**	**132**	P	**P**	**14 17 42.8**	**+0.5**
4.1nm,1.0s,baz=307,slow=17,SNR=3.6							
MKAR	**Makanchi Array**	**50.38**	**345**	P	**P**	**14 17 47.0**	**+1.4**
0.8nm,0.6s,baz=148,slow=9.3,SNR=7.1							
ZALV	**Zalesovo Beam**	**56.56**	**350**	P	**P**	**14 18 31.2**	**+0.5**
0.5nm,0.6s,baz=170,slow=9.8,SNR=3.7							
TXAR	**Lajitas Array**	**144.63**	**36**	PKP	**PKPdf**	**14 28 25.9**	**+0.1**
0.5nm,0.7s,baz=222,slow=1.7,SNR=4.7							

MEX 24 14:11:46.3±0.3, 16.°02N×97.°04W, h15km±3km, MD3.5, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.93**	**105**	*i* P	Pb	14 12 01.1	-3.1
HUIG				*i* S	Sb	14 12 12.4	-3.9
VHO	**Vista Hermosa**	**1.09**	**16**	*i* P	Pb	14 12 03.5	-3.7
VHO				*i* S	Sb	14 12 17.0	-4.4
PNIG	**Pinotepa**	**1.11**	**290**	*e*P	Pb	14 12 03.7	-3.6
PNIG				*e*S	Sb	14 12 17.2	-4.4

*CSEM **24** 14:22:59.3, 37.°05N×24.°64W, h10km, ML3.4, After PDA*
PDA 24 14:22:59.3±1.0, 37.°05N×24.°64W, h10km, MD3.8, ML3.4, Error ellipse: s-maj=5.2km s-min=3.4km az=102.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.35**	**263**	*i* P	Pg	14 23 05.2	-1.0
PSMN				*e*S	Sg	14 23 10.2	-0.6
PSMN				A	A	14 23 10.7	
898nm,0.2s							
PSMA	**Santa Maria**	**0.40**	**262**	*i* P	Pg	14 23 05.8	-1.3
PSMA				*e*S	Sg	14 23 11.2	-1.2
PSMA				A	A	14 23 12.5	
406nm,0.2s							
BART	**Pico Bartolome**	**0.84**	**330**	*i* P	Pg	14 23 12.2	-3.5
BART				*e*S	Sg	14 23 22.4	-4.4
BART				A	A	14 23 23.3	
472nm,0.1s							
CMLA	**Cha da Macela**	**1.00**	**316**	*i* P	Pg	14 23 14.7	-4.0
CMLA				*e*S	Sg	14 23 26.3	-5.5
CMLA				A	A	14 23 30.9	
942nm,0.3s							
GRON	**Grota Negra**	**1.01**	**315**	*e*P	Pg	14 23 13.6	-5.3
GRON				*e*S	Sg	14 23 24.9	-7.2
GRON				A	A	14 23 28.6	
104nm,0.3s							
PDA	**Ponta Delgada**	**1.07**	**311**	*e*P	Pg	14 23 15.6	-4.4
PDA				*e*S	Sg	14 23 27.9	-6.0
PDA				A	A	14 23 30.4	
169nm,0.2s							
PDA	**Ponta Delgada**	**1.07**	**311**	*e*P	Pg	14 23 15.6	-4.4
PDA				*e*S	Sg	14 23 27.9	-6.0
PSET	**Sete Cidades**	**1.16**	**312**	*e*P	Pb	14 23 16.9	-4.6
PSET				*e*S	Sb	14 23 30.3	-6.3
PSET				A	A	14 23 35.3	
200nm,0.2s							
PSET	**Sete Cidades**	**1.16**	**312**	*e*P	Pb	14 23 16.9	-4.6
PSET				*e*S	Sb	14 23 30.3	-6.3
ADH	**Angra Heroismo**	**2.61**	**309**	*e*P	Pn	14 23 36.9	-4.6
ADH				*e*S	Sn	14 24 05.5	-7.7
ADH				A	A	14 24 07.9	
63nm,0.4s							
ADH	**Angra Heroismo**	**2.61**	**309**	*e*P	Pn	14 23 36.9	-4.6
ADH				*e*S	Sn	14 24 05.5	-7.7
PMAN	**Manadas**	**3.16**	**301**	*e*P	Pn	14 23 44.9	-4.2
PMAN				*e*S	Sn	14 24 18.3	-8.5
PMAN				A	A	14 24 24.7	
28nm,0.2s							
PMAN	**Manadas**	**3.16**	**301**	*e*P	Pn	14 23 44.9	-4.2
PMAN				*e*S	Sn	14 24 18.3	-8.5
PPNO	**Prainha do Nor**	**3.21**	**297**	*e*P	Pn	14 23 45.8	-4.0
PPNO				*e*S	Sn	14 24 19.9	-8.3
PPNO				A	A	14 24 24.8	
34nm,0.2s							
PPNO	**Prainha do Nor**	**3.21**	**297**	*e*P	Pn	14 23 45.8	-4.0
PPNO				*e*S	Sn	14 24 19.9	-8.3
ROSA	**Rosais**	**3.30**	**301**	*e*P	Pn	14 23 47.3	-3.8
ROSA				*e*S	Sn	14 24 22.5	-8.0
ROSA				A	A	14 24 25.4	
18nm,0.3s							
ROSA	**Rosais**	**3.30**	**301**	*e*P	Pn	14 23 47.3	-3.8
ROSA				*e*S	Sn	14 24 22.5	-8.0
PICO	**Pico**	**3.33**	**297**	*e*P	Pn	14 23 47.9	-3.7
PICO	**Pico**	**3.33**	**297**	*e*P	Pn	14 23 47.9	-3.7
PCAN	**Candelaria**	**3.36**	**296**	*e*P	Pn	14 23 47.7	-4.2
PCAN				*e*S	Sn	14 24 23.7	-8.2
PCAN				A	A	14 24 25.4	
25nm,0.2s							
PCAN	**Candelaria**	**3.36**	**296**	*e*P	Pn	14 23 47.7	-4.2
PCAN				*e*S	Sn	14 24 23.7	-8.2
CALA	**Caldeira**	**3.56**	**297**	*e*P	Pn	14 23 51.3	-3.5
CALA				*e*S	Sn	14 24 28.7	-8.3
CALA	**Caldeira**	**3.56**	**297**	*e*P	Pn	14 23 51.3	-3.5
CALA				*e*S	Sn	14 24 28.7	-8.3
PCED	**Cedros**	**3.58**	**297**	*e*P	Pn	14 23 51.1	-3.8
PCED				*e*S	Sn	14 24 29.0	-8.3
PCED				A	A	14 24 35.9	
23nm,0.4s							
PCED	**Cedros**	**3.58**	**297**	*e*P	Pn	14 23 51.1	-3.8
PCED				*e*S	Sn	14 24 29.0	-8.3

*ISCJB **24** 14:29:07.4±0.6, 52.°47S±0.°08×28.°1E±0.°2, h10km, mb3.9/10, MS3.2/5, Error ellipse: s-maj=18.2km s-min=10.8km az=166.8*
*IDC **24** 14:29:07.0±0.8, 52.°53S×27.°84E, h0km, mb4.0/11, mb1 4.1/11, mb1mx3.9/22, mbtmp4.0/11, MS3.4/5, Ms1 3.3/5, ms1mx3.2/17, Error ellipse: s-maj=27.5km s-min=16.9km az=73.0*
ISC 24 14:29:08.4±0.9, 52.°5S±0.°1×28.°3E±0.°2, h10km, n17, σ1.9±71/14, mb4.0/10, MS3.2/5, 1C, South of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SYO	**Syowa Base**	**17.36**	**166**	*e*P	**Pn**	**14 33 08.8**	**-1.5**
SUR	**Sutherland**	**20.88**	**342**	P	**P**	**14 33 50.0**	**-0.7**
9.9nm,0.9s,baz=160,slow=11,SNR=3.6							
SUR				LR	LR	14 40 16.6	
comp=Z,96nm,18.2s,baz=160,slow=32							
MAW	**Mawson**	**22.46**	**145**	P	**P**	**14 34 09.7**	**+2.5**
4.4nm,0.9s,baz=303,slow=7.9,SNR=7.7							
MAW				S	**S**	**14 38 09.9**	**-3.4**
0.7nm,0.4s,baz=284,slow=10,SNR=3.3							
MAW				LR	LR	14 41 12.2	
comp=Z,55nm,18.0s,baz=134,slow=32							
SNAA	**Sanae**	**23.58**	**204**	*e*P	**P**	**14 34 19.0**	**+0.2**
SNAA	**Sanae**	**23.58**	**204**	P	**P**	**14 34 19.1**	**+0.2**
1.6nm,0.8s,baz=28,slow=5.2,SNR=33							
BOSA	**Boshof**	**24.01**	**353**	P	**P**	**14 34 22.9**	**-0.5**
3.9nm,0.8s,baz=159,slow=6.5,SNR=4.0							
BOSA				LR	LR	14 41 51.5	
comp=Z,68nm,21.5s,baz=165,slow=32							
VNA2	**Neumayer--Watz**	**24.38**	**208**	*e*P	**P**	**14 34 27.1**	**+0.8**
baz=49,slow=11							
VNA1	**Neumayer--Stat**	**24.49**	**209**	*e*P	**P**	**14 34 28.8**	**+1.5**
LBTB	**Lobatse**	**27.57**	**355**	LR	LR	14 44 10.1	
comp=Z,78nm,20.4s,baz=110,slow=33							

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QSPA	**South Pole Qui**	**37.67**	**180**	P	**P**	**14 36 23.2**	**-0.3**
2.3nm,0.5s,baz=243,slow=1.2,SNR=78							
VNDA	**Vanda**	**47.05**	**168**	P	**P**	**14 37 40.3**	**+0.9**
1.4nm,0.6s,baz=235,slow=7.5,SNR=17							
VNDA				LR	LR	14 58 03.0	
comp=Z,66nm,19.0s,baz=316,slow=37							
CPUP	**Villa Florida**	**66.99**	**256**	P	P	14 39 59.3	-1.9
2.6nm,0.8s,baz=146,slow=3.6,SNR=4.3							
TORD	**Torodi Ar. Bea**	**69.34**	**332**	P	**P**	**14 40 16.1**	**+0.2**
0.8nm,0.7s,baz=171,slow=6.9,SNR=5.7							
FITZ	**Fitzroy Crossi**	**80.18**	**107**	P	P	14 41 21.3	+2.3
1.6nm,1.0s,baz=214,slow=7.3,SNR=4.3							
ASAR	**Alice Springs**	**80.47**	**116**	P	P	14 41 22.1	+1.6
0.9nm,0.9s,baz=215,slow=4.4,SNR=10.0							
WRA	**Warramunga Arr**	**83.69**	**115**	P	**P**	**14 41 38.6**	**+1.1**
0.7nm,0.8s,baz=214,slow=3.5,SNR=4.7							
PDAR	**Pinedale Array**	**150.38**	**268**	PKPbc	**PKPbc**	**14 48 57.2**	**-2.3**
0.2nm,0.4s,baz=123,slow=3.3,SNR=2.5							

*IDC **24** 14:46:14.1±2.3, 40.°59N×62.°86E, h0km, mb3.5/3, mb1 3.8/5, mb1mx3.5/27, mbtmp3.6/5, ML2.8/2, Error ellipse: s-maj=70.4km s-min=23.9km az=157.0*
*NNC **24** 14:46:14.5±5.1, 41.°16N×62.°56E, h0km, mb3.9, mpv3.2, Error ellipse: s-maj=48.1km s-min=22.6km az=20.0*
ISC 24 14:46:19.1±1.3, 41.°4N±0.°1×62.°52E±0.°07, h10km, n14, σ1.9±59/17, mb3.6/3, 10C-7D, Northwestern Uzbekistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.19**	**71**	Pn	**Pn**	**14 47 50.9**	**+0.4**
1.4nm,0.6s,baz=242,slow=15,SNR=18							
KK31				⇓Sn	**Sn**	**14 49 02.6**	**+1.3**
7.2nm,0.6s,baz=251,slow=26							
KK31				⇓Lg	Lg	14 49 30.5	
28nm,0.8s,baz=270,slow=28,SNR=3.9							
AB31	**Akbulak array**	**8.11**	**348**	⇑Pn	**Pn**	**14 48 15.9**	**-0.9**
0.3nm,0.2s,baz=152,slow=13,SNR=19							
AB31				⇑Sn	**Sn**	**14 49 48.0**	**-0.4**
3.7nm,0.5s,baz=184,slow=25,SNR=6.6							
AB31				⇑Lg	Lg	14 50 38.2	
11nm,0.5s,baz=166,slow=28,SNR=3.9							
AKTO	**Aktyubinsk**	**9.61**	**342**	⇓Pn	**Pn**	**14 48 38.2**	**+0.9**
2.5nm,0.7s							
AKTO				⇓Sn	**Sn**	**14 50 23.5**	**-1.8**
3.7nm,0.5s							
AKTO				⇓Lg	Lg	14 51 23.7	
21nm,1.2s							
VOSK	**Vostochnaya**	**12.74**	**24**	⇑Pn	**Pn**	**14 49 19.6**	**-0.6**
2.4nm,0.7s							
VOSK				⇑Sn	**Sn**	**14 51 40.8**	**-1.2**
6.3nm,0.8s							
VOSK				⇑Lg	Lg	14 53 00.5	
9.3nm,1.0s							
BRVK	**Borovoye**	**12.83**	**22**	⇑Pn	Pn	14 49 24.5	+3.1
4.5nm,0.8s							
BVA0	**Borovoye Array**	**12.83**	**22**	Pn	**Pn**	**14 49 23.7**	**+2.3**
2.1nm,0.6s,baz=226,slow=41,SNR=5.6							
KURBB	**Kurchatov Arra**	**14.46**	**45**	⇑Pn	**Pn**	**14 49 44.5**	**+0.9**
1.8nm,0.8s							
KURK	**Kurchatov**	**14.56**	**45**	⇓Pn	**Pn**	**14 49 44.2**	**-0.8**
1.1nm,1.1s							
MK31	**Makanchi Array**	**15.20**	**62**	⇓Pn	**Pn**	**14 49 52.9**	**-0.9**
1.3nm,0.8s,baz=0.0,slow=0.1,SNR=5.8							
MK31				⇑Sn	S	14 52 51.0	-8.2
0.6nm,0.6s							
MK31				⇑Lg	Lg	14 54 10.3	
3.0nm,1.0s,baz=252,slow=30,SNR=3.5							
MKAR	**Makanchi Array**	**15.20**	**62**	Pn	Pn	14 49 46.0	-7.8
0.0nm,0.3s,baz=249,slow=16,SNR=2.7							
MKAR				Sn	**Sn**	**14 52 39.7**	**-2.5**
0.1nm,0.3s,baz=250,slow=21,SNR=2.5							
ZALV	**Zalesovo Beam**	**19.50**	**42**	P	**Pn**	**14 50 48.7**	**+1.3**
0.1nm,0.3s,baz=232,slow=11,SNR=3.4							
NOA	**NORSAR Array B**	**36.48**	**320**	P	**P**	**14 53 26.5**	**+2.5**
0.6nm,0.6s,baz=98,slow=8.6,SNR=2.5							
TORD	**Torodi Ar. Bea**	**59.58**	**260**	P	**P**	**14 56 20.8**	**-2.4**
0.3nm,0.6s,baz=37,slow=7.4,SNR=3.8							
ILAR	**Eielson Array**	**71.72**	**13**	P	**P**	**14 57 41.4**	**+0.5**
0.4nm,0.7s,baz=323,slow=4.4,SNR=4.2							

**IDC 24 14:53:38.5±3.8, 5.°82S×150.°08E, h0km, mb3.0/2, mb1 3.4/2, mb1mx

n49,σ1$29/46,mb3.9/7,MS3.9/16,1C,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**1.06**	**92⇑**	*eP*	**Pn**	**15 47 12.1**	**+0.6**
PCIG		**1.42**	**341**	*eP*	**Pn**	**15 47 15.3**	**-1.1**
PCIG				*i* S	**Sn**	**15 47 32.2**	**-1.8**
FUG	**Fuego 3**	**1.83**	**87**	*eP*	**Pn**	**15 47 21.9**	**-0.4**
CCIG	**Comitan**	**1.99**	**17**	*eP*	**Pn**	**15 47 25.9**	**+1.3**
CCIG				*i* S	**Sn**	**15 47 48.8**	**+0.4**
PCG	**Pacaya**	**2.06**	**89**	*eP*	**Pn**	**15 47 25.7**	**+0.3**
IXG	**Ixpaco**	**2.21**	**95**	*eP*	**Pn**	**15 47 27.8**	**+0.2**
IXG				*eS*	**Sn**	**15 47 51.1**	**-2.7**
APG	**El Apazote**	**2.28**	**73**	Pn	**Pn**	**15 47 28.9**	**+0.3**
	89nm,0.3s,baz=253,slow=6.8,SNR=459						
APG				Sn	**Sn**	**15 47 57.4**	**+1.8**
	189nm,0.3s,baz=275,slow=11,SNR=7.1						
NBG	**Las Nubes**	**2.32**	**84**	*eP*	**Pn**	**15 47 30.5**	**+1.4**
TGIG		**2.43**	**351**	*eP*	**Pn**	**15 47 30.9**	**+0.4**
TGIG				*i* S	**Sn**	**15 47 59.2**	**+0.1**
RBDL	**Robledal**	**2.96**	**94**	*eP*	**Pn**	**15 47 37.8**	**0.0**
MRL	**Marmol**	**3.02**	**76**	*eP*	**Pn**	**15 47 39.6**	**+1.0**
RTR	**El Retiro**	**3.03**	**98**	*eP*	**Pn**	**15 47 39.2**	**+0.5**
SBLS	**San Blas**	**3.06**	**99**	*eP*	**Pn**	**15 47 39.0**	**-0.2**
SBLS				*eS*	**Sn**	**15 48 13.5**	**-1.2**
SNJE	**San Jose**	**3.07**	**99**	*eP*	**Pn**	**15 47 39.2**	**-0.1**
BOQS	**Boqueron**	**3.40**	**100**	*eP*	**Pn**	**15 47 44.1**	**+0.1**
BOQS				*eS*	**Sn**	**15 48 22.0**	**-1.2**
SNET	**Serv Nac Est T**	**3.46**	**101**	AML	**AML**	15 48 44.6	
	comp=Z,2μm,0.2s						
HUIG	**Huatulco**	**3.55**	**294**	*eP*	**Pn**	**15 47 45.3**	**-0.5**
HUIG				*i* S	**Sn**	**15 48 26.2**	**-0.4**
LFU	**La Fuente**	**3.56**	**99**	*eP*	**Pn**	**15 47 46.4**	**+0.4**
LBRS	**Las Brisas**	**3.63**	**99**	*eP*	**Pn**	**15 47 47.1**	**+0.2**
LFRS	**El Faro**	**3.63**	**101**	*eP*	**Pn**	**15 47 46.9**	**-0.2**
SNVI	**San Vicente**	**3.85**	**101**	*eP*	**Pn**	**15 47 49.8**	**-0.2**
VSM	**San Miguel**	**4.42**	**102**	*eP*	**Pn**	**15 47 58.8**	**+0.8**
VHO	**Vista Hermosa**	**4.71**	**305**	*i* P	**Pn**	**15 48 03.0**	**+1.2**
VHO				*i* S	**Sn**	**15 48 55.2**	**-0.1**
CNCH	**Conchagua**	**4.88**	**102**	*eP*	**Pn**	**15 48 04.8**	**+0.7**
CNGN	**Cerro Negro**	**6.15**	**107**	*eP*	**Pn**	**15 48 23.1**	**+1.5**
CNGN				AML	AML	15 49 50.7	
TEIG	**Tepich**	**7.22**	**35**	Pn	**Pn**	**15 48 35.2**	**-0.9**
	comp=Z,52nm,0.3s,baz=233,slow=3.8,SNR=159						
TEIG				Sn	**Sn**	**15 49 53.0**	**-3.9**
	baz=288,slow=20,SNR=3.4						
TEIG				LR	LR	15 52 00.2	
	comp=Z,820nm,18.2s,baz=339,slow=42						
JTS	**JuntasAbangare**	**8.61**	**117**	Pn	**Pn**	**15 48 54.2**	**-1.0**
	comp=Z,0.9nm,0.3s,baz=283,slow=14,SNR=9.1						
JTS				Sn	**Sn**	**15 50 34.3**	**+3.2**
	baz=307,slow=20,SNR=1.9						
TXAR	**Lajitas Array**	**18.01**	**328**	P	**P**	**15 51 01.4**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=140,slow=6.4,SNR=17						
ANMO	**Albuquerque**	**23.94**	**331**	P	**P**	**15 52 05.9**	**+2.3**
	comp=Z,1.4nm,0.4s,baz=147,slow=12,SNR=3.4						
ATAH	**Atahualpa**	**25.66**	**145**	P	**P**	**15 52 21.0**	**+1.4**
	comp=Z,6.5nm,0.7s,baz=313,slow=8.0,SNR=3.7						
ATAH				LR	LR	16 00 44.6	
	comp=Z,74nm,18.4s,baz=312,slow=33						
PFO	**Pinyon Flat Ob**	**28.81**	**316**	LR	LR	16 04 34.8	
	comp=Z,172nm,20.9s,baz=178,slow=37						
PDAR	**Pinedale Array**	**31.80**	**336**	P	**P**	**15 53 13.4**	**-0.4**
	comp=Z,0.9nm,0.9s,baz=134,slow=15,SNR=4.2						
SADO	**Sadowa**	**32.44**	**18**	LR	LR	16 07 51.7	
	comp=Z,166nm,20.6s,baz=198,slow=39						
LPAZ	**La Paz**	**38.96**	**141**	P	**P**	**15 54 15.2**	**-0.9**
	comp=Z,0.7nm,0.6s,baz=300,slow=12,SNR=2.9						
LPAZ				LR	LR	16 10 05.3	
	comp=Z,44nm,21.8s,baz=267,slow=36						
SIV	**San Ignacio**	**43.45**	**133**	P	**P**	**15 54 50.3**	**-2.0**
	comp=Z,1.9nm,0.8s,baz=303,slow=11,SNR=4.8						
SCHQ	**Schefferville**	**45.13**	**21**	LR	LR	16 15 04.3	
	comp=Z,183nm,19.9s,baz=217,slow=38						
YKA	**Yellowknife Ar**	**50.52**	**347**	P	**P**	**15 55 47.2**	**+0.5**
	comp=Z,1.8nm,0.4s,baz=134,slow=8.7,SNR=8.2						
CPUP	**Villa Florida**	**53.11**	**139**	LR	LR	16 18 23.6	
	comp=Z,57nm,19.6s,baz=92,slow=36						
PLCA	**Paso Flores**	**58.55**	**160**	LR	LR	16 16 03.8	
	comp=Z,97nm,18.8s,baz=139,slow=30						
SFJD	**Kangerlussuaq**	**59.39**	**18**	LR	LR	16 23 59.3	
	comp=Z,84nm,19.5s,baz=32,slow=38						
ILAR	**Eielson Array**	**62.23**	**337**	P	**P**	**15 57 10.5**	**+0.2**
	comp=Z,0.8nm,0.8s,baz=133,slow=7.5,SNR=5.7						
ILAR				LR	LR	16 26 29.0	
	comp=Z,101nm,18.6s,baz=130,slow=38						
BORG	**Borgarnes**	**69.19**	**26**	LR	LR	16 28 13.6	
	comp=Z,84nm,19.8s,baz=221,slow=36						
NOA	**NORSAR Array B**	**84.17**	**28**	LR	LR	16 36 06.6	
	comp=Z,31nm,21.1s,baz=305,slow=35						
ARCES	**ARCESS Array B**	**86.02**	**18**	LR	LR	16 37 32.5	
	comp=Z,94nm,18.1s,baz=88,slow=35						
DBIC	**Dimbokro**	**86.32**	**84**	LR	LR	16 31 43.1	
	comp=Z,50nm,21.2s,baz=186,slow=31						
GERES	**GERESS Array B**	**89.77**	**39**	LR	LR	16 38 38.2	
	comp=Z,78nm,18.6s,baz=312,slow=35						
FINES	**FINESS Array B**	**90.47**	**25**	LR	LR	16 39 38.3	
	comp=Z,61nm,20.5s,baz=90,slow=35						
TORD	**Torodi Ar. Bea**	**90.98**	**76**	LR	LR	16 36 54.5	
	comp=Z,76nm,18.7s,baz=160,slow=33						
CMAR	**Chiang Mai Arr**	**145.42**	**340**	PKPbc	**PKPbc**	**16 06 27.1**	**-0.2**
	comp=Z,1.3nm,0.9s,baz=1.6,slow=3.2,SNR=6.6						

STR ***24*** *16:14:47.0±0.5, 42°.07N×13°.36E, h10km, MI3.7, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
LDG ***24*** *16:14:56.4±0.1, 42°.47N×13°.36E, h2km, MI3.7/11, Error ellipse: s-maj=2.3km s-min=1.5km az=35.0*
IDC ***24*** *16:14:56.2±1.0, 42°.53N×13°.15E, h0km, mb4.0/7, mb1 4.0/18, mb1mx3.8/35, mbtmp3.8/18, ML3.9/9, MS2.8/1, Ms1 2.8/1, ms1mx2.3/35, Error ellipse: s-maj=16.9km s-min=12.0km az=80.0*
SZGRF ***24*** *16:14:56.6, 42°.19N×13°.68E, h10km, mb4.5, Central Italy*
PDG ***24*** *16:14:57.6±0.8, 42°.47N×13°.34E, h11km, ML4.1/11, Error ellipse: s-maj=0.6km s-min=0.9km az=0.0*
ROM ***24*** *16:14:57.5±0.1, 42°.45N×13°.35E, h16km±1km, MI4.1/37, Error ellipse: s-maj=0.9km s-min=0.7km az=67.0*
ISCJB ***24*** *16:14:57.6±0.2, 42°.47N±0°.01×13°.29E±0°.01, h23km±2km, mb3.9/8, Error ellipse: s-maj=2.3km s-min=1.3km az=37.3*
PRU ***24*** *16:14:58.7, 42°.64N×13°.36E, h0km*
CSEM ***24*** *16:14:59.4±0.1, 42°.49N×13°.25E, h20km, ML4.1, Ms3.5, Error ellipse: s-maj=2.4km s-min=1.4km az=25.0*
THE ***24*** *16:14:59.5, 42°.53N×13°.51E, h10km±31km, ML4.5/12, Error ellipse: s-maj=31.6km s-min=2.6km az=0.0*
VIE ***24*** *16:15:00.2±0.3, 42°.64N×13°.39E, h10km±3km, mb3.7/15, ML3.9/16, Ms3.5/1, Error ellipse: s-maj=4.4km s-min=2.0km az=165.0*
GEN ***24*** *16:15:03.3, 42°.46N×13°.08E, h30km, ML3.8*
BEO ***24*** *16:15:08.5±0.8, 42°.85N×14°.35E, h0km, ML3.8/7*

ISC 24 16:14:58.5±0.8, 42°.45N±0°.02×13°.33E±0°.02, h15km±5km, n423,σ1$61/567,mb4.0/8,42C-26D,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FIAM	**Fiamignano**	**0.24**	**221**	Pg	**Pg**	**16 15 03.6**	**-0.2**
FIAM				Sg	**Sg**	**16 15 07.8**	**+0.4**
	32μm,1.1s						
FIAM	**Fiamignano**	**0.24**	**221**	Pg	**Pg**	**16 15 03.6**	**-0.2**
FIAM				Sg	**Sg**	**16 15 07.8**	**+0.4**
	32μm,1.1s						
FAGN	**Fagnano**	**0.26**	**134**	Pg	**Pg**	**16 15 03.7**	**-0.4**
FAGN				Sg	**Sg**	**16 15 08.3**	**+0.3**
	106μm,0.4s						
LNSS	**Leonessa**	**0.26**	**306⇑**	*i* Pg	**Pg**	**16 15 03.7**	**-0.5**
LNSS				Sg	**Sg**	**16 15 08.2**	**+0.1**
	61μm,0.6s						
LNSS	**Leonessa**	**0.26**	**306⇑**	*i* Pg	**Pg**	**16 15 03.7**	**-0.5**
LNSS				Sg	**Sg**	**16 15 08.2**	**+0.1**
	61μm,0.6s						
TERO	**Teramo**	**0.27**	**49⇑**	*i* Pg	**Pg**	**16 15 03.3**	**-0.9**
TERO				Sg	**Sg**	**16 15 07.4**	**-0.7**
	49μm,0.2s						
VCEL	**Villa Celiera**	**0.38**	**98**	Pg	**Pg**	**16 15 05.4**	**-0.8**
VCEL				Sg	**Sg**	**16 15 11.9**	**+0.4**
NRCA	**Norcia**	**0.42**	**337**	Pg	**Pg**	**16 15 06.0**	**-0.9**
NRCA				Sg	**Sg**	**16 15 12.4**	**-0.2**
	15μm,0.1s						
NRCA	**Norcia**	**0.42**	**337**	Pg	**Pg**	**16 15 06.0**	**-0.9**
NRCA				Sg	**Sg**	**16 15 12.4**	**-0.2**
	15μm,0.1s						
PTQR	**Pietraquaria**	**0.43**	**173**	Pg	**Pg**	**16 15 06.5**	**-0.6**
OFFI	**Offida**	**0.55**	**28**	Pg	**Pg**	**16 15 08.9**	**-0.4**
	18μm,0.5s						
OFFI	**Offida**	**0.55**	**28**	Pg	**Pg**	**16 15 08.9**	**-0.4**
	18μm,0.5s						
TRTR	**Tortoreto Alta**	**0.56**	**50**	Pg	**Pg**	**16 15 09.1**	**-0.4**
	36μm,0.8s						
TRTR	**Tortoreto Alta**	**0.56**	**50**	Pg	**Pg**	**16 15 09.1**	**-0.4**
	36μm,0.8s						
CERT	**Cerreto**	**0.56**	**208**	Pg	**Pg**	**16 15 08.9**	**-0.7**
	12μm,0.5s						
CERT	**Cerreto**	**0.56**	**208**	Pg	**Pg**	**16 15 08.9**	**-0.7**
	12μm,0.5s						
CESX	**Cesi**	**0.58**	**286**	Pg	**Pg**	**16 15 08.8**	**-1.0**
	14μm,0.6s						
CESX	**Cesi**	**0.58**	**286**	Pg	**Pg**	**16 15 08.8**	**-1.0**
	14μm,0.6s						
INTR	**Introdacqua**	**0.61**	**136**	Pg	**Pg**	**16 15 09.0**	**-1.5**
INTR				Sg	**Sg**	**16 15 18.5**	**-0.1**
	16μm,0.7s						
MTCE	**Montecelio**	**0.61**	**226**	Pg	**Pg**	**16 15 09.6**	**-0.8**
	6μm,0.7s						
MTCE	**Montecelio**	**0.61**	**226**	Pg	**Pg**	**16 15 09.6**	**-0.8**
	6μm,0.7s						
FDMO	**Fiordimonte**	**0.61**	**343**	Pg	**Pg**	**16 15 09.2**	**-1.3**
FDMO				Sg	**Sg**	**16 15 18.3**	**-0.4**
	5μm,0.4s						
FDMO	**Fiordimonte**	**0.61**	**343**	Pg	**Pg**	**16 15 09.2**	**-1.3**
FDMO				Sg	**Sg**	**16 15 18.3**	**-0.4**
	5μm,0.4s						
VVLD	**Villa Vallelon**	**0.62**	**159**	Pg	**Pg**	**16 15 09.4**	**-1.2**
	5μm,0.5s						
CESI	**CESI - Serrava**	**0.64**	**331**	Pg	**Pg**	**16 15 09.9**	**-1.1**
CESI				Sg	**Sb**	**16 15 20.1**	**-0.1**
	2μm,0.4s						
CESI	**CESI - Serrava**	**0.64**	**331**	Pg	**Pg**	**16 15 09.9**	**-1.1**
CESI				Sg	**Sb**	**16 15 20.1**	**-0.1**
	2μm,0.4s						
GUAR	**Guarcino**	**0.66**	**181**	Pg	**Pg**	**16 15 10.4**	**-0.9**
	5μm,0.5s						
LPEL	**Lama dei Pelig**	**0.75**	**122**	Pg	**Pg**	**16 15 11.0**	**-2.1**
LPEL				Sg	**Sg**	**16 15 22.1**	**-0.8**
	10μm,0.2s						
GUMA	**Gualdo di Mace**	**0.76**	**36**	Pg	Pg	16 15 09.6	-3.6
	21μm,0.4s						
CAFR	**Castel Frentan**	**0.79**	**106**	Pg	**Pg**	**16 15 12.2**	**-1.5**
	10μm,0.6s						
POFI	**Posta Fibreno**	**0.79**	**159**	Pg	**Pg**	**16 15 12.1**	**-1.6**
	4μm,0.7s						
RMP	**Rome, Mte Porz**	**0.79**	**216**	Pg	**Pg**	**16 15 13.0**	**-0.8**
	7μm,0.6s						
RMP	**Rome, Mte Porz**	**0.79**	**216**	Pg	**Pg**	**16 15 13.0**	**-0.8**
	7μm,0.6s						
SDI	**San Donato**	**0.82**	**154**	Pg	**Pg**	**16 15 12.5**	**-1.9**
RDP	**Rocca di Papa**	**0.83**	**214**	Pg	**Pg**	**16 15 13.7**	**-0.8**
	14μm,0.5s						
RDP	**Rocca di Papa**	**0.83**	**214**	Pg	**Pg**	**16 15 13.7**	**-0.8**
	14μm,0.5s						
SNTG	**Esanatoglia**	**0.85**	**340**	Pg	**Pg**	**16 15 13.6**	**-1.5**
SNTG	**Esanatoglia**	**0.85**	**340**	Pg	**Pb**	**16 15 13.6**	**-1.5**
CING	**Cingoli**	**0.93**	**354**	Pg	**Pb**	**16 15 14.8**	**-1.6**
	5μm,0.6s						
CING	**Cingoli**	**0.93**	**354**	Pg	**Pb**	**16 15 14.8**	**-1.6**
	5μm,0.6s						
CERA	**Filignano**	**0.99**	**149**	Pg	**Pb**	**16 15 15.2**	**-2.2**
	5μm,0.7s						
MURB	**Monte Urbino**	**1.01**	**324**	Pg	**Pb**	**16 15 16.4**	**-1.3**
	10μm,0.4s						
MURB	**Monte Urbino**	**1.01**	**324**	Pg	**Pb**	**16 15 16.4**	**-1.3**
	10μm,0.4s						
MGAB	**Montegabbione**	**1.01**	**298**	Pg	**Pb**	**16 15 16.6**	**-1.1**
	5μm,0.4s						
MGAB	**Montegabbione**	**1.01**	**298**	Pg	**Pb**	**16 15 16.6**	**-1.1**
	5μm,0.4s						
MIDA	**Miranda**	**1.06**	**139**	Pg	**Pb**	**16 15 16.2**	**-2.4**
	3μm,0.7s						
ARVD	**Arcevia**	**1.09**	**345**	Pg	**Pb**	**16 15 17.6**	**-1.4**
	6μm,1.1s						
ARVD	**Arcevia**	**1.09**	**345**	Pg	**Pb**	**16 15 17.6**	**-1.4**
	6μm,1.1s						
AOI	**Ancona**	**1.12**	**10**	Pg	**Pb**	**16 15 18.1**	**-1.5**
	2μm,0.4s						
AOI	**Ancona**	**1.12**	**10**	Pg	**Pb**	**16 15 18.1**	**-1.5**
	2μm,0.4s						
SACS	**San Casciano d**	**1.12**	**291**	Pg	**Pb**	**16 15 18.6**	**-1.0**
	2μm,0.7s						
FSSB	**Fossombrone**	**1.31**	**342**	Pg	**Pn**	**16 15 21.4**	**-0.9**
	5μm,0.4s						
FSSB	**Fossombrone**	**1.31**	**342**	Pg	**Pn**	**16 15 21.4**	**-0.9**
	5μm,0.4s						
BADI	**Badiali**	**1.33**	**323**	Pg	**Pn**	**16 15 22.0**	**-0.5**
	1180μm,31.0s						
BADI	**Badiali**	**1.33**	**323**	Pg	**Pn**	**16 15 22.0**	**-0.5**
	1180μm,31.0s						
CAFI	**Castiglion Fio**	**1.33**	**312**	Pg	**Pn**	**16 15 22.1**	**-0.5**
	1μm,0.5s						
CAFI	**Castiglion Fio**	**1.33**	**312**	Pg	**Pn**	**16 15 22.1**	**-0.5**
	1μm,0.5s						
CIGN	**Sant'Elia a Pi**	**1.42**	**124**	Pg	**Pn**	**16 15 22.2**	**-1.5**
	2μm,1.1s						
PARC	**Parchiule**	**1.44**	**327**	Pg	**Pn**	**16 15 23.8**	**-0.3**
	2μm,0.7s						
PARC	**Parchiule**	**1.44**	**327**	Pg	**Pn**	**16 15 23.8**	**-0.3**
	2μm,0.7s						
CRE	**Caprese Michel**	**1.55**	**320**	Pg	**Pn**	**16 15 24.8**	**-0.8**
	463nm,0.5s						
CRE	**Caprese Michel**	**1.55**	**320**	Pg	**Pn**	**16 15 24.8**	**-0.8**
	463nm,0.5s						
MAON	**Monte Argentar**	**1.63**	**270**	Pg	**Pn**	**16 15 26.4**	**-0.3**
	548nm,0.9s						
MAON	**Monte Argentar**	**1.63**	**270**	Pg	**Pn**	**16 15 26.4**	**-0.3**
	548nm,0.9s						
MS1	**Monte Sant'Ang**	**2.08**	**110**	*e*Pn	**Pn**	**16 15 33.9**	**+1.0**
MS1				*e*Sn	**Sb**	**16 16 02.2**	**+0.5**
NVLJ	**Novalja**	**2.39**	**27**	*i* Pn	**Pn**	**16 15 36.7**	**-0.4**
NVLJ				Sn	**Sn**	**16 16 05.4**	**-0.8**
CDT	**Castel del Mon**	**2.59**	**121**	*e*Pn	**Pn**	**16 15 40.7**	**+0.8**
CDT				*e*Sn	**Sn**	**16 16 12.5**	**+1.3**
UDBI	**Udbina**	**2.73**	**40**	*i* Pn	**Pn**	**16 15 43.1**	**+1.2**
UDBI				Sn	**Sn**	**16 16 15.5**	**+0.9**
BAI	**Bari**	**2.97**	**116**	*e*Pn	**Pn**	**16 15 45.9**	**+0.8**
BAI				*e*Sn	**Sn**	**16 16 21.8**	**+1.3**
BACM	**Baccana**	**3.00**	**309**	P	**Pn**	**16 15 45.6**	**+0.1**
GRAM	**Graiana**	**3.13**	**312**	P	**Pn**	**16 15 48.0**	**+0.6**
SKDS	**Skadanscina**	**3.13**	**9**	*e*Pn	**Pn**	**16 15 47.0**	**-0.4**
SKDS							
	comp=Z,168nm,0.4s						
SKDS	**Skadanscina**	**3.13**	**9**	*e*Pn	**Pn**	**16 15 47.0**	**-0.4**
	comp=Z,168nm,0.4s						
OSPF	**L'Ospedale**	**3.18**	**257**	P	**Pn**	**16 15 47.5**	**-0.6**
OSPF	**L'Ospedale**	**3.18**	**257**	P	**Pn**	**16 15 47.5**	**-0.6**
CODM	**Codolo**	**3.19**	**309**	P	**Pn**	**16 15 48.5**	**+0.3**
PGF	**Pioggiola**	**3.21**	**273**	*e*P	**Pn**	**16 15 49.1**	**+0.7**
	SNR=1.0						
PGF				*e*Sn	**Sn**	**16 16 23.1**	**-3.3**
	comp=Z,27nm,0.4s						
PGF	**Pioggiola**	**3.21**	**273**	*e*P	**Pn**	**16 15 49.1**	**+0.7**
	SNR=1.0						
PGF				*e*Sn	**Sn**	**16 16 23.1**	**-3.3**
	comp=Z,14nm,0.4s						
STON	**Ston**	**3.25**	**81**	*e*Pn	**Pn**	**16 15 48.9**	**0.0**
STON				Sn	**Sn**	**16 16 25.9**	**-1.4**
BOJS	**Bojanci**	**3.35**	**24**	*i* Pn	**Pn**	**16 15 50.9**	**+0.5**
BOJS	**Bojanci**	**3.35**	**24**	*i* Pn	**Pn**	**16 15 50.9**	**+0.5**
CEY	**Cerknica**	**3.38**	**13**	*i* Pn	**Pn**	**16 15 50.9**	**+0.1**
CEY	**Cerknica**	**3.38**	**13**	*i* Pn	**Pn**	**16 15 50.9**	**+0.1**
SC2M	**Scurtabo**	**3.39**	**307**	P	**Pn**	**16 15 51.5**	**+0.6**
PE1	**Pezze di Greco**	**3.48**	**117**	*e*Pn	**Pn**	**16 15 53.0**	**+0.9**
TAR1	**Taranto**	**3.54**	**122**	*e*Pn	**Pn**	**16 15 53.9**	**+1.0**
VOY	**Vojsko**	**3.60**	**6**	*e*Pn	**Pn**	**16 15 53.3**	**-0.6**
VOY				*e*		16 15 54.4	
VOY				*e*Sn	**Sn**	**16 16 36.5**	**+0.2**
VOY	**Vojsko**	**3.60**	**6**	*e*Pn	**Pn**	**16 15 53.3**	**-0.6**
VOY				*e*Sn	**Sn**	**16 16 36.5**	**+0.2**
BLY	**Banja Luka**	**3.62**	**49**	*e*Pn	**Pn**	**16 15 55.1**	**+1.1**
BLY	**Banja Luka**	**3.62**	**49**	*e*Pn	**Pn**	**16 15 55.1**	**+1.1**
LJU	**Ljubljana**	**3.69**	**13**	*e*Pn	**Pn**	**16 15 55.0**	**-0.1**
LJU				*e*Pg	**Pg**	**16 16 11.5**	**+2.3**
LJU				*e*Sn	**Sn**	**16 16 39.0**	**+0.6**
TREB	**Trebinje**	**3.72**	**84**	*e*Pn	**Pn**	**16 15 56.0**	**+0.7**
TREB				*i* Sg	**Sn**	**16 16 39.4**	**+0.5**
TREB	**Trebinje**	**3.72**	**84**	*e*Pn	**Pn**	**16 15 56.0**	**+0.7**
TREB				*i* Sg	**Sn**	**16 16 39.4**	**+0.5**
HCY	**Herceg Novi**	**3.82**	**88**	*e*Pn	**Pn**	**16 15 57.2**	**+0.4**
HCY				*e*Sn	**Sn**	**16 16 42.5**	**+1.0**
HCY	**Herceg Novi**	**3.82**	**88**	*e*Pn	**Pn**	**16 15 57.2**	**+0.4**
HCY				*e*Sn	**Sn**	**16 16 42.5**	**+1.0**
BRY	**Bratogost**	**3.87**	**82**	*e*Pn	**Pn**	**16 15 57.8**	**+0.2**
BRY				*e*Sn	**Sn**	**16 16 44.2**	**+1.4**
BRY	**Bratogost**	**3.87**	**82**	*e*Pn	**Pn**	**16 15 57.8**	**+0.2**
BRY				*e*Sn	**Sn**	**16 16 44.2**	**+1.4**
PCP	**Piancastagn**	**4.06**	**303**	P	**Pn**	**16 15 59.8**	**-0.4**
BUM	**Brajici-Budva**	**4.12**	**90⇑**	*i*Pn	**Pn**	**16 16 01.4**	**+0.4**
BUM				*e*Sn	**Sn**	**16 16 50.3**	**+1.3**
BUM	**Brajici-Budva**	**4.12**	**90⇑**	*i*Pn	**Pn**	**16 16 01.4**	**+0.4**
BUM				*e*Sn	**Sn**	**16 16 50.3**	**+1.3**
OBKA	**Obir**	**4.15**	**12⇑**	*i*Pn	**Pn**	**16 16 00.8**	**-0.6**
	SNR=25						
OBKA				⇓*i*Sn	**Sn**	**16 16 49.0**	**-0.7**
OBKA	**Obir**	**4.15**	**12**	Pn	**Pn**	**16 16 00.8**	**-0.6**
	SNR=25						
OBKA				Sn	**Sn**	**16 16 49.0**	**-0.7**
NKME	**Niksic**	**4.16**	**84⇓**	*i*Pn	**Pn**	**16 16 02.7**	**+1.2**
NKME				*e*Sn	**Sn**	**16 16 51.7**	**+1.8**
NKME	**Niksic**	**4.16**	**84⇓**	*i*Pn	**Pn**	**16 16 02.7**	**+1.2**
NKME				*e*Sn	**Sn**	**16 16 51.7**	**+1.8**
UPM	**Unac-Piva**	**4.17**	**78**	*e*Pn	**Pn**	**16 16 02.9**	**+1.2**
UPM				*e*Sn	**Sn**	**16 16 52.2**	**+1.9**
UPM	**Unac-Piva**	**4.17**	**78**	*e*Pn	**Pn**	**16 16 02.9**	**+1.2**
UPM				*e*Sn	**Sn**	**16 16 52.2**	**+1.9**
MYKA	**Terra Mystica**	**4.19**	**3⇑**	*i*Pn	**Pn**	**16 16 01.5**	**-0.4**
	SNR=21						
MYKA				⇑*i*Sn	**Sn**	**16 16 49.0**	**-1.6**
MYKA	**Terra Mystica**	**4.19**	**3**	Pn	**Pn**	**16 16 01.5**	**-0.4**
	SNR=21						
MYKA				Sn	**Sn**	**16 16 49.0**	**-1.6**
NKY	**Niksic**	**4.19**	**83⇑**	*i*Pn	**Pn**	**16 16 02.5**	**+0.5**
NKY				*e*Sn	**Sn**	**16 16 52.0**	**+1.2**
NKY	**Niksic**	**4.19**	**83⇑**	*i*Pn	**Pn**	**16 16 02.5**	**+0.5**
NKY				*e*Sn	**Sn**	**16 16 52.0**	**+1.2**
ABTA	**Abfaltersbach**	**4.34**	**353⇓**	*i*Pn	**Pn**	**16 16 04.4**	**+0.4**
	SNR=47						
ABTA				⇓*i*Sn	**Sn**	**16 16 53.9**	**-0.4**
ABTA	**Abfaltersbach**	**4.34**	**353**	Pn	**Pn**	**16 16 04.4**	**+0.4**
	SNR=47						
ABTA				Sn	**Sn**	**16 16 53.9**	**-0.4**
DRME	**Dracevica, Mon**	**4.35**	**91**	*e*Pn	**Pn**	**16 16 04.7**	**+0.7**
DRME				*e*Sn	**Sn**	**16 16 55.3**	**+0.8**
DRME	**Dracevica, Mon**	**4.35**	**91**	*e*Pn	**Pn**	**16 16 04.7**	**+0.7**
DRME				*e*Sn	**Sn**	**16 16 55.3**	**+0.8**
PDG	**Podgorica**	**4.38**	**88**	P	**Pn**	**16 16 05.0**	**+0.5**
PDG				S	**Sn**	**16 16 55.2**	**-0.1**
PDG	**Podgorica**	**4.38**	**88**	*e*Pn	**Pn**	**16 16 06.0**	**+1.5**
PDG	**Podgorica**	**4.38**	**88**	P	**Pn**	**16 16 05.0**	**+0.5**
PDG	**Podgorica**	**4.38**	**88⇑**	*i*Pn	**Pn**	**16 16 05.6**	**+1.1**
PDG				S	**Sn**	**16 16 55.2**	**-0.1**
PDG				*e*Sn	**Sn**	**16 16 56.9**	**+1.6**
TTG	**Podgorica**	**4.38**	**88⇑**	*i*Pn	**Pn**	**16 16 05.6**	**+1.1**
TTG				*e*Sn	**Sn**	**16 16 56.9**	**+1.6**
SOKA	**Soboth**	**4.40**	**15⇑**	*i*Pn	**Pn**	**16 16 04.8**	**0.0**
	SNR=11						
SOKA				⇓*i*Sn	**Sn**	**16 16 54.9**	**-1.0**
SOKA	**Soboth**	**4.40**	**15**	Pn	**Pn**	**16 16 04.8**	**0.0**
	SNR=11						
SOKA				Sn	**Sn**	**16 16 54.9**	**-1.0**
ULC	**Ulcinj**	**4.42**	**94⇑**	*i*Pn	**Pn**	**16 16 05.3**	**+0.3**
ULC				*e*Sn	**Sn**	**16 16 57.7**	**+1.4**
ULC	**Ulcinj**	**4.42

MOTA Moosalm 5.14 343⇓*i*Pn Pn 16 16 15.1 0.0
SNR=28
MOTA ⇑*i*Sn Sn 16 17 14.2 -0.1
MOTA Moosalm 5.14 343 Pn Pn 16 16 15.1 0.0
SNR=28
MOTA Sn Sn 16 17 14.2 -0.1
MBDF Montbardon 5.28 298 *e*P Pn 16 16 18.9 +1.9
SNR=1.0
MBDF *e*Sn Sn 16 17 12.3 -5.4
comp=Z,14nm,0.5s
MBDF Montbardon 5.28 298 *e*P Pn 16 16 18.9 +1.9
SNR=1.0
MBDF *e*Sn Sn 16 17 12.3 -5.4
comp=Z,6.9nm,0.5s
RJOB Jochberg 5.30 356 *e*Pn Pn 16 16 18.5 +1.3
RJOB *e*Sn Sn 16 17 18.7 +0.7
PHP Peshkopia 5.35 96 *e*PN Pn 16 16 19.4 +1.5
PHP *e*SN Sn 16 17 13.6 -5.6
PHP Peshkopia 5.35 96 P Pn 16 16 19.3 +1.5
PHP S Sn 16 17 18.7 -0.5
PHP Peshkopia 5.35 96 P Pn 16 16 19.3 +1.5
PHP S Sn 16 17 18.7 -0.5
OBER Oberstdorf 5.41 338 *e*Pn Pn 16 16 21.3 +2.7
OBER *e*Sn Sn 16 17 22.5 +1.9
FGSL Fruska Gora 5.41 58 *e*Pn Pn 16 16 18.6 -0.1
FRGS Fruska Gora 5.41 58 *e*Pn Pn 16 16 18.6 -0.1
DAVA Damuels 5.42 334⇓*i*Pn Pn 16 16 19.2 +0.2
SNR=14
DAVA ⇓*i*Sn Sn 16 17 21.2 0.0
DAVA Damuels 5.42 334 Pn Pn 16 16 19.2 +0.2
SNR=14
DAVA Sn Sn 16 17 21.2 0.0
MOA Molln 5.44 7⇓*i*Pn Pn 16 16 18.9 -0.2
SNR=29
MOA Molln 5.44 7 Pn Pn 16 16 18.9 -0.2
SNR=29
GRUS Gruza 5.59 73 *e*Pn Pn 16 16 21.8 +0.7
GRUS Gruza 5.59 73 *e*Pn Pn 16 16 21.8 +0.7
KEK Kerkira 5.60 117 P Pn 16 16 22.5 +1.3
KEK Kerkira 5.60 117 *e*P Pn 16 16 22.5 +1.3
KEK Kerkira 5.60 117 P Pn 16 16 22.5 +1.3
LPG La Plagne 5.64 305 *e*P Pn 16 16 23.4 +1.3
SNR=1.0
LPG La Plagne 5.64 305 *e*P Pn 16 16 23.4 +1.3
SNR=1.0
SRN Sarande 5.65 115 *e*PN Pn 16 16 23.1 +1.2
SRN Sarande 5.65 115 P Pn 16 16 23.0 +1.1
SRN Sarande 5.65 115 *e*Pn Pn 16 16 23.1 +1.2
LPL La Plagne 5.66 305 *e*P Pn 16 16 23.2 +0.9
SNR=1.0
LPL *e*Sn Sn 16 17 21.0 -6.2
comp=Z,18nm,0.5s
LPL La Plagne 5.66 305 *e*P Pn 16 16 23.2 +0.9
SNR=1.0
CONA Conrad Observa 5.76 17⇑*i*Pn Pn 16 16 23.7 +0.1
SNR=12
CONA ⇑*i*Sn Sn 16 17 27.9 -1.6
CONA Conrad Observa 5.76 17 Pn Pn 16 16 23.7 +0.1
SNR=12
CONA Sn Sn 16 17 27.9 -1.6
SELS Selova 5.78 80 *e*Pn Pn 16 16 23.6 -0.1
SELS Selova 5.78 80 *e*Pn Pn 16 16 23.6 -0.1
RSL Roselend 5.81 306 P Pn 16 16 25.1 +0.8
RSL Roselend 5.81 306 P Pn 16 16 25.1 +0.8
SMRF Simiane la Rot 5.87 288 *e*P Pn 16 16 26.0 +1.0
SNR=1.0
SMRF Simiane la Rot 5.87 288 *e*P Pn 16 16 26.0 +1.0
SNR=1.0
KBN Korca 5.88 106 P Pn 16 16 26.7 +1.5
KBN S Sn 16 17 33.4 +0.9
KBN Korca 5.88 106 P Pn 16 16 26.7 +1.5
KBN S Sn 16 17 33.4 +0.9
ORIF Oris-en-Rattie 5.94 297 *e*P Pn 16 16 27.4 +1.4
SNR=1.0
ORIF Oris-en-Rattie 5.94 297 *e*P Pn 16 16 27.4 +1.4
SNR=1.0
SKO Skopje 6.04 92 P Pn 16 16 29.2 +1.9
SKO Skopje 6.04 92 *e*Pn Pn 16 16 29.0 +1.7
SKO Skopje 6.04 92⇓*i*Pn Pn 16 16 30.3 +3.0
SKO Skopje 6.04 92 *e*Pn Pn 16 16 29.0 +1.7
IGT Igoumenitsa 6.04 116 P Pn 16 16 28.6 +1.2
IGT S Sn 16 17 39.0 +2.7
IGT Igoumenitsa 6.04 116 P Pn 16 16 28.6 +1.2
IGT S Sn 16 17 39.0 +2.7
OG01 Vacheresse 6.14 311 P Pn 16 16 28.5 -0.3
OG01 Vacheresse 6.14 311 P Pn 16 16 28.5 -0.3
NEST Nestorio 6.15 107 P Pn 16 16 30.7 +1.9
NEST S Sn 16 17 39.6 +0.7
NEST Nestorio 6.15 107 P Pn 16 16 30.7 +1.9
NEST S Sn 16 17 39.6 +0.7
BIA Bitola 6.15 101 P Pn 16 16 29.2 +0.4
BIA S Sn 16 17 39.9 +1.0
BIA Bitola 6.15 101 *i*Pn Pn 16 16 29.7 +0.9
BIA Bitola 6.15 101 P Pn 16 16 29.2 +0.4
BIA S Sn 16 17 39.9 +1.0
OG26 St.-Nazaire-De 6.21 293 P Pn 16 16 31.0 +1.3
OG26 St.-Nazaire-De 6.21 293 P Pn 16 16 31.0 +1.3
FNA Florina 6.25 103 P Pn 16 16 31.4 +1.1
FNA S Sn 16 17 43.6 +2.1
FNA Florina 6.25 103 *e*P Pn 16 16 31.5 +1.1
FNA Florina 6.25 103 P Pn 16 16 31.4 +1.1
FNA S Sn 16 17 43.6 +2.1
BARS Barje 6.27 84 *e*Pn Pn 16 16 31.4 +1.0
BARS *e*Sn Sn 16 17 34.4 -7.4
BARS Barje 6.27 84 *e*Pn Pn 16 16 31.4 +1.0
JAN Janina 6.33 114 P Pn 16 16 32.6 +1.3
JAN Janina 6.33 114 *e*P Pn 16 16 33.0 +1.7
JAN Janina 6.33 114 P Pn 16 16 32.6 +1.3
GEC2 GERESS Array S 6.40 2 *e*Pn Pn 16 16 31.6 -0.7
GEC2 *e*Sn Sn 16 17 42.7 -2.5
GERES GERESS Array B 6.40 2 Pn Pn 16 16 32.0 -0.3
comp=Z,2.5nm,0.3s,baz=166,slow=13,SNR=44
GERES Sn Sn 16 17 41.8 -3.4
comp=Z,7.7nm,0.3s,baz=182,slow=27,SNR=13
BBS Basel-Blauen 6.50 323 P Pn 16 16 33.5 -0.1
FELD Feldberg im Sc 6.60 327 P Pn 16 16 34.1 -1.0
CABF La Chapelle 6.64 311 *e*Pn Pn 16 16 35.5 -0.1
SNR=1.0
CABF La Chapelle 6.64 311 *e*Pn Pn 16 16 35.5 -0.1
SNR=1.0
KHC Kasperske Hory 6.69 1 *e*PN Pn 16 16 35.6 -0.6
KHC *ex* x 16 16 44.0
KHC *e*SN Sn 16 17 48.6 -3.5
KHC *ex* x 16 18 16.5
KHC Kasperske Hory 6.69 1 Pn Pn 16 16 35.6 -0.6
KHC Sn Sn 16 17 48.6 -3.5
KZN Kozani 6.70 106 P Pn 16 16 38.2 +1.8
KZN S Sn 16 17 54.1 +1.6
KZN Kozani 6.70 106 *e*P Pn 16 16 38.0 +1.6
KZN Kozani 6.70 106 P Pn 16 16 38.2 +1.8
KZN S Sn 16 17 54.1 +1.6
WET Wettzell 6.70 357 *e*Pn Pn 16 16 36.3 -0.1
WET *e*Sn Sn 16 17 47.9 -4.6
VIVF Saint-Julien-l 6.72 294 *e*Pn Pn 16 16 35.9 -0.8
SNR=1.0
VIVF Saint-Julien-l 6.72 294 *e*Pn Pn 16 16 35.9 -0.8
SNR=1.0
LOMF Lomont 6.73 319 P Pn 16 16 36.6 -0.2
LOMF Lomont 6.73 319 P Pn 16 16 36.6 -0.2
BZS Buzias 6.76 59⇑*i*P Pn 16 16 37.9 +0.8
BZS Buzias 6.76 59 *e*Pn Pn 16 16 37.5 +0.4
BZS Buzias 6.76 59 *e*Pn Pn 16 16 37.5 +0.4
BZS Buzias 6.76 59⇑*i*P Pn 16 16 37.9 +0.8
BFO Black Forest 6.85 331 *e*Pn Pn 16 16 38.1 -0.3
BFO *e*Sn Sn 16 17 54.0 -2.2
ZAPS Zavoj 6.89 80 *e*Pn Pn 16 16 40.6 +1.7
MOF Molkenrain 6.95 323 P Pn 16 16 39.1 -0.8
MOF Molkenrain 6.95 323 P Pn 16 16 39.1 -0.8
VAY Valandovo 6.99 96 *e*Pn Pn 16 16 40.3 0.0
VAY Valandovo 6.99 96 *i*Pn Pn 16 16 40.2 0.0
VAY Valandovo 6.99 96 *e*Pn Pn 16 16 40.3 0.0
VLS Valsamata 7.00 125 P Pn 16 16 41.9 +1.5
VLS S Sn 16 18 01.4 +1.6
VLS Valsamata 7.00 125 *e*P Pn 16 16 42.0 +1.5
VLS Valsamata 7.00 125 P Pn 16 16 41.9 +1.5
VLS S Sn 16 18 01.4 +1.6
HINF Hinteralfeld 7.05 322 *e*Pn Pn 16 16 40.1 -1.1
HINF *e*Sn Sn 16 17 53.6 -7.6
comp=Z,25nm,0.4s,SNR=1.0
HINF Hinteralfeld 7.05 322 *e*Pn Pn 16 16 40.1 -1.1
SIRR Siria 7.08 55⇓*i*P Pn 16 16 43.2 +1.6
SIRR Siria 7.08 55⇓*i*P Pn 16 16 43.2 +1.6

LASF Ste Croix 7.11 286 *e*Pn Pn 16 16 41.2 -0.7
LASF Ste Croix 7.11 286 *e*Pn Pn 16 16 41.2 -0.7
KFL Anninata 7.16 125 P Pn 16 16 44.7 +2.0
KFL Anninata 7.16 125 P Pn 16 16 44.7 +2.0
THL Klokotos Trika 7.17 111 *e*P Pn 16 16 44.0 +1.2
ECH Echery 7.22 325 P Pn 16 16 42.8 -0.7
ECH Echery 7.22 325 P Pn 16 16 42.8 -0.7
VRAC Vranov 7.23 17 Pn Pn 16 16 43.3 -0.3
comp=Z,1.5nm,0.3s,baz=212,slow=14,SNR=5.9
VRAC Vranov 7.23 17 *e*Pn Pn 16 16 43.1 -0.5
LIT Litokhoron 7.29 106 P Pn 16 16 45.3 +0.9
LIT S Sn 16 18 08.6 +1.7
LIT Litokhoron 7.29 106 *e*P Pn 16 16 45.0 +0.6
LIT Litokhoron 7.29 106 P Pn 16 16 45.3 +0.9
LIT S Sn 16 18 08.6 +1.7
VTS Vitosha 7.30 86 P Pn 16 16 45.5 +0.8
VTS S Sn 16 18 09.1 +1.7
VTS Vitosha 7.30 86⇓*i*P Pn 16 16 45.9 +1.2
VTS Vitosha 7.30 86 *e*Pn Pn 16 16 45.3 +0.6
VTS Vitosha 7.30 86 P Pn 16 16 45.5 +0.8
VTS S Sn 16 18 09.1 +1.7
PVO Paravola 7.32 119 P Pn 16 16 47.2 +2.3
PVO S Sn 16 18 09.8 +2.1
PVO Paravola 7.32 119 P Pn 16 16 47.2 +2.3
PVO S Sn 16 18 09.8 +2.1
CDF Champ du Feu 7.33 327 *e*Pn Pn 16 16 43.6 -1.4
CDF *e*Sn Sn 16 18 01.3 -6.6
comp=Z,22nm,0.5s
CDF Champ du Feu 7.33 327 *e*Pn Pn 16 16 43.6 -1.4
EVR Evrytania 7.34 116 P Pn 16 16 47.4 +2.1
EVR S Sn 16 18 11.8 +3.4
EVR Evrytania 7.34 116 *e*P Pn 16 16 48.0 +2.7
EVR Evrytania 7.34 116 P Pn 16 16 47.4 +2.1
EVR S Sn 16 18 11.8 +3.4
KEST Kesra 7.39 206 Pn Pn 16 16 50.1 +4.3
comp=Z,1.1nm,0.3s,baz=41,slow=13,SNR=24
KEST Sn Sn 16 18 08.3 -1.1
baz=7.1,slow=16,SNR=1.9
KEST LR LR 16 19 53.0
comp=Z,60nm,18.3s,baz=157,slow=40
GRF Grafenberg Arr 7.39 349 *e*Sn Sn 16 18 05.9 -3.5
HAU Haudompre 7.42 321 *e*Pn Pn 16 16 44.7 -1.6
HAU *e*Sn Sn 16 18 02.8 -7.5
comp=Z,50nm,0.6s,SNR=1.0
HAU Haudompre 7.42 321 *e*Pn Pn 16 16 44.7 -1.6
MAKR Makrakomi, Fth 7.51 114 P Pn 16 16 49.3 +1.8
MAKR S Sn 16 18 15.3 +2.8
MAKR Makrakomi, Fth 7.51 114 P Pn 16 16 49.3 +1.8
MAKR S Sn 16 18 15.3 +2.8
PRU Pruhonice 7.59 6 *e*PN Pn 16 16 48.0 -0.5
PRU *e*SN Sn 16 18 09.5 -4.7
PRU Pruhonice 7.59 6 Pn Pn 16 16 48.0 -0.5
RLS Riolos of Patr 7.61 122 P Pn 16 16 51.1 +2.3
RLS Riolos of Patr 7.61 122 *e*P Pn 16 16 51.5 +2.7
RLS Riolos of Patr 7.61 122 P Pn 16 16 51.1 +2.3
AGG Agios Georgios 7.64 114 P Pn 16 16 51.5 +2.2
AGG S Sn 16 18 17.7 +2.0
AGG Agios Georgios 7.64 114 *e*P Pn 16 16 51.5 +2.2
AGG Agios Georgios 7.64 114 P Pn 16 16 51.5 +2.2
AGG S Sn 16 18 17.7 +2.0
EFP Efpalio 7.67 119 *e*P Pn 16 16 52.5 +2.8
SOH Sokhos 7.68 99 *e*P Pn 16 16 50.0 +0.1
SJAF Saint Jean de 7.73 274 P Pn 16 16 49.2 -1.2
SJAF Saint Jean de 7.73 274 P Pn 16 16 49.2 -1.2
THEF They Montfort 7.75 321 P Pn 16 16 50.2 -0.6
THEF They Montfort 7.75 321 P Pn 16 16 50.2 -0.6
SRS Serrai 7.78 96 P Pn 16 16 51.5 +0.3
SRS Serrai 7.78 96 P Pn 16 16 51.5 +0.3
NKC Novy Kostel 7.81 356 *e*PN Pn 16 16 51.9 +0.3
NKC *e*SN Sn 16 18 14.8 -4.9
NKC Novy Kostel 7.81 356 Pn Pn 16 16 51.9 +0.3
TRIZ Trizonia 7.82 119 P Pn 16 16 54.2 +2.5
TRIZ S Sn 16 18 23.4 +3.5
TRIZ Trizonia 7.82 119 *e*P Pn 16 16 54.5 +2.8
TRIZ Trizonia 7.82 119 P Pn 16 16 54.2 +2.5
TRIZ S Sn 16 18 23.4 +3.5
LAKA Lakka 7.83 120 P Pn 16 16 53.9 +2.1
LAKA S Sn 16 18 23.3 +3.1
LAKA Lakka 7.83 120 *e*P Pn 16 16 54.5 +2.7
LAKA Lakka 7.83 120 P Pn 16 16 53.9 +2.1
LAKA S Sn 16 18 23.3 +3.1
KALE Kalithea 7.85 118 P Pn 16 16 55.1 +3.0
KALE S Sn 16 18 22.9 +2.2
KALE Kalithea 7.85 118 *e*P Pn 16 16 55.5 +3.4
KALE Kalithea 7.85 118 P Pn 16 16 55.1 +3.0
KALE S Sn 16 18 22.9 +2.2
KECS Kecovo 7.85 37 *e*PN Pn 16 16 53.8 +1.7
KECS Kecovo 7.85 37 *e*Pn Pn 16 16 53.8 +1.7
PLG Polygyros 7.88 102 *e*P Pn 16 16 52.5 -0.1
MORC Moravsky Berou 7.89 20 *e*Pn Pn 16 16 53.9 +1.2
NVR Nevrokopi 7.93 94 *e*P Pn 16 16 54.5 +1.2
SMF Signal de Mont 7.97 305 *e*Pn Pn 16 16 53.1 -0.7
SNR=1.0
SMF *e*Sn Sn 16 18 15.6 -8.0
comp=Z,11nm,0.5s
SMF Signal de Mont 7.97 305 *e*Pn Pn 16 16 53.1 -0.7
SNR=1.0
DRGR 7.97 54⇑*i*P Pn 16 16 56.9 +3.0
DRGR 7.97 54⇑*i*P Pn 16 16 56.9 +3.0
TANN Tannenbergstha 7.99 356 *e*Pn Pn 16 16 55.3 +1.2
TANN *e*Sn Sn 16 18 19.7 -4.5
KLV Kalavryta, Ach 8.05 120 P Pn 16 16 57.4 +2.4
KLV S Sn 16 18 29.2 +3.4
KLV Kalavryta, Ach 8.05 120 *e*P Pn 16 16 57.0 +2.0
KLV Kalavryta, Ach 8.05 120 P Pn 16 16 57.4 +2.4
KLV S Sn 16 18 29.2 +3.4
XOR Xorichti 8.08 109 P Pn 16 16 56.1 +0.8
XOR Xorichti 8.08 109 P Pn 16 16 56.1 +0.8
AMT Artemida-Makis 8.09 125 *e*P Pn 16 16 59.0 +3.6
LOT Lotru 8.11 65⇑*i*P Pn 16 16 57.9 +2.2
LOT Lotru 8.11 65⇑*i*P Pn 16 16 57.9 +2.2
PAGF Fort de Pagny 8.11 321 *e*Pn Pn 16 16 54.4 -1.3
PAGF *e*Sn Sn 16 18 20.2 -6.9
comp=Z,11nm,0.8s
PAGF Fort de Pagny 8.11 321 *e*Pn Pn 16 16 54.4 -1.3
PVCC Panska Ves 8.13 6 *e*PN Pn 16 16 55.5 -0.4
PVCC *e*SN Sn 16 18 22.5 -4.9
PVCC Panska Ves 8.13 6 Pn Pn 16 16 55.5 -0.4
DPC Dobruska-Polom 8.17 14 *e*PN Pn 16 16 55.0 -1.5
DPC *e*SN Sn 16 18 22.9 -5.6
DPC Dobruska-Polom 8.17 14 Pn Pn 16 16 55.0 -1.5
PAIG Paliouri 8.20 104 *e*P Pn 16 16 57.0 +0.1
MTLF Montolieu 8.21 280 *e*Pn Pn 16 16 54.9 -2.2
MTLF Montolieu 8.21 280 *e*Pn Pn 16 16 54.9 -2.2
GUR Goura 8.24 120 P Pn 16 16 58.9 +1.4
GUR S Sn 16 18 33.8 +3.4
GUR Goura 8.24 120 *e*P Pn 16 16 59.0 +1.4
GUR Goura 8.24 120 P Pn 16 16 58.9 +1.4
GUR S Sn 16 18 33.8 +3.4
UPC Upice 8.27 12 *e*PN Pn 16 16 57.7 -0.1
UPC *e*SN Sn 16 18 26.1 -4.9
UPC Upice 8.27 12 Pn Pn 16 16 57.7 -0.1
LOR Lormes 8.27 309 *e*Pn Pn 16 16 56.8 -1.1
SNR=1.0
LOR *e*Sn Sn 16 18 24.3 -6.8
comp=Z,11nm,0.5s
LOR Lormes 8.27 309 *e*Pn Pn 16 16 56.8 -1.1
SNR=1.0
LKR Lokris 8.28 114 P Pn 16 16 59.6 +1.6
LKR Lokris 8.28 114 P Pn 16 16 59.6 +1.6
MOX Moxa 8.28 352 *e*Pn Pn 16 16 57.2 -0.8
MOX *e*Sn Sn 16 18 24.2 -7.1
AVF Avril sur Loir 8.33 305 *e*Pn Pn 16 16 57.3 -1.4
SNR=1.0
AVF Avril sur Loir 8.33 305 *e*Pn Pn 16 16 57.3 -1.4
SNR=1.0
VALF Valcebollere 8.37 273 P Pn 16 16 59.3 -0.1
VALF Valcebollere 8.37 273 P Pn 16 16 59.3 -0.1
SSF Saint Saulge 8.37 307 *e*Pn Pn 16 16 57.5 -1.8
SNR=1.0
SSF Saint Saulge 8.37 307 *e*Pn Pn 16 16 57.5 -1.8
SNR=1.0
BRG Berggiesshubel 8.44 3 PN Pn 16 16 58.8 -1.3
BRG SG Sn 16 18 26.0 -9.1
comp=Z,14nm,0.7s
ITM Ithomi 8.45 126 *e*P Pn 16 17 03.0 +2.6
PYL PYLOS 8.53 128 P Pn 16 17 03.0 +1.5
PYL PYLOS 8.53 128 *e*P Pn 16 17 03.0 +1.5
PYL PYLOS 8.53 128 P Pn 16 17 03.0 +1.5
CAF Calviac 8.53 291 *e*P Pn 16 17 03.2 +1.7
CAF Calviac 8.53 291 *e*P Pn 16 17 03.2 +1.7

LTK Loutraki 8.59 118 *e*P Pn 16 17 02.0 -0.3
VLX Vlachokerasia 8.60 123 *e*P Pn 16 17 05.5 +2.9
VLX Vlachokerasia 8.60 123 *e*P Pn 16 17 06.5 +3.9
VLX Vlachokerasia 8.60 123 P Pn 16 17 05.5 +2.9
AOS Alonnisos 8.64 109 *e*P Pn 16 17 02.0 -1.0
ARR Arges 8.66 66⇑*i*P Pn 16 17 05.7 +2.3
ARR Arges 8.66 66⇑*i*P Pn 16 17 05.7 +2.3
CLL Collm 8.87 359 *e*Pn Pn 16 17 07.0 +1.0
CLL *e*Sn Sn 16 18 39.0 -6.6
CLL *e*(Sg) Sg 16 19 59.0 +16
VOIR 8.97 67⇑*i*P Pn 16 17 10.0 +2.5
VOIR 8.97 67⇑*i*P Pn 16 17 10.0 +2.5
MLS Moulis 9.03 277 P Pn 16 17 08.1 -0.2
MLS Moulis 9.03 277 P Pn 16 17 08.1 -0.2
DID Didima 9.06 120 P Pn 16 17 10.4 +1.6
DID Didima 9.06 120 *e*P Pn 16 17 10.0 +1.2
DID Didima 9.06 120 P Pn 16 17 10.4 +1.6
NAIG Nisos Aigina 9.08 118 *e*P Pn 16 17 10.5 +1.5
VLI Veliai 9.36 125 *e*P Pn 16 17 16.0 +3.1
MLR Muntele Rosu 9.59 67 Pn Pn 16 17 18.3 +2.2
comp=Z,0.2nm,0.3s,baz=219,slow=5.2,SNR=13
ALN Alexandroupoli 9.64 95 *e*P Pn 16 17 17.5 +0.8
JMB Yambol 9.80 85 P Pn 16 17 19.9 +1.1
JMB Yambol 9.80 85 P Pn 16 17 19.9 +1.1
BURAR Bucovina Array 9.87 54⇑*i*P Pn 16 17 23.0 +3.1
PLOR Plostina 10.16 66⇑*i*P Pn 16 17 25.8 +2.0
PLOR Plostina 10.16 66⇑*i*P Pn 16 17 25.8 +2.0
VRI Vrincioaia 10.21 66⇑*i*P Pn 16 17 26.5 +2.0
VRI Vrincioaia 10.21 66⇑*i*P Pn 16 17 26.5 +2.0
CHOS Chios island 10.51 108 *e*P Pn 16 17 28.5 -0.2
CFR Carcaliu 11.04 71⇑*i*P Pn 16 17 36.1 +0.3
CFR Carcaliu 11.04 71⇑*i*P Pn 16 17 36.1 +0.3
IDI Anoyia 11.49 125 Pn Pn 16 17 42.0 -0.1
comp=Z,0.3nm,0.3s,baz=318,slow=15,SNR=4.7
IDI Sn Sn 16 19 42.0 -8.3
comp=Z,0.4nm,0.3s,baz=284,slow=8.3,SNR=3.3
TLCR 11.52 71⇑*i*P Pn 16 17 43.4 +1.1
TLCR 11.52 71⇑*i*P Pn 16 17 43.4 +1.1
ESDC Sonseca Array 13.34 264 Pn Pn 16 18 06.5 -0.8
comp=Z,0.3nm,0.3s,baz=65,slow=14,SNR=3.7
AKASG Malin Array Be 13.68 47 Pn Pn 16 18 13.6 +1.9
comp=Z,0.3nm,0.3s,baz=238,slow=11,SNR=2.4
BRTR Keskin Array B 15.55 93 Pn Pn 16 18 38.4 +1.1
comp=Z,0.1nm,0.3s,baz=298,slow=11,SNR=3.8
EKA Eskdalemuir Ar 16.79 326 Pn Pn 16 18 52.2 -0.7
baz=130,slow=13,SNR=2.8
HFS Hagfors 17.71 1 P Pn 16 19 01.5 -2.9
comp=Z,0.1nm,0.3s,baz=202,slow=19,SNR=2.8
NOA NORSAR Array B 18.66 357 P P 16 19 14.2 -1.5
comp=Z,0.1nm,0.3s,baz=176,slow=11,SNR=3.4
MALT Malatya 19.54 94⇓*i*P Pn 16 19 26.9 +0.1
MALT Malatya 19.54 94⇓*i*P Pn 16 19 26.9 +0.1
MMAI Mount Meron Ar 19.79 111 P P 16 19 27.8 -0.4
baz=309,slow=7.3,SNR=2.8
FINES FINESS Array B 20.51 18 P P 16 19 35.4 -0.4
comp=Z,5.4nm,0.6s,baz=218,slow=12,SNR=11
KAF Kangasniemi 21.15 17 *e*p P 16 19 41.4 -1.4
comp=Z,0.5nm,0.3s
KAF Kangasniemi 21.15 17 *e*P P 16 19 41.4 -1.4
comp=Z,0.5nm,0.3s
KBZ Khabaz 21.58 77 P P 16 19 48.9 +1.4
comp=Z,4.7nm,0.8s,baz=302,slow=8.9,SNR=12
JOF Joensuu 23.06 21 *e*p P 16 20 05.9 +2.9
comp=Z,0.6nm,0.4s
TORD Torodi Ar. Bea 30.89 203 P P 16 21 14.8 +0.3
comp=Z,2.4nm,0.7s,baz=16,slow=8.8,SNR=18
ZALV Zalesovo Beam 47.05 50 P P 16 23 28.8 -0.5
comp=Z,1.3nm,0.8s,baz=274,slow=7.3,SNR=4.8
MKAR Makanchi Array 47.84 60 P P 16 23 36.0 +0.4
comp=Z,1.4nm,0.6s,baz=265,slow=6.5,SNR=19
SONM Songino Array 61.95 50 P P 16 25 19.0 +1.3
comp=Z,1.0nm,0.6s,baz=291,slow=9.5,SNR=6.3
CMAR Chiang Mai Arr 74.61 79 P P 16 26 37.5 +0.1
comp=Z,0.9nm,0.9s,baz=306,slow=7.2,SNR=4.3

KRSC 24 16:18:01.5±3.5, 55°78'N×162°19'E, h23km±22km, ML3.6,
Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.56**	**39**	*e*P		Pn	16 18 14.1	+0.1
KBTR				*i*S		Sn	16 18 23.0	+0.5
ZLN	**Zelenaya**	**0.82**	**287**	*e*P		Pn	16 18 18.4	+0.7
ZLN				*i*S		Sn	16 18 30.3	+1.1
BZGR	**Bezymyannyi-Gr**	**0.86**	**281**	*i*P		Pn	16 18 18.7	+0.4
BZGR				*i*S		Sn	16 18 30.4	+0.2
CIRR	**Tsirk**	**0.88**	**293**	*i*P		Pb	16 18 18.1	-0.2
CIRR				*i*S		Sn	16 18 31.2	+0.4
LGNR	**Loginova**	**0.90**	**290**	*e*P		Pn	16 18 19.6	+0.5
LGNR				*i*S		Sn	16 18 32.7	+1.1
SMKR	**Semkarok**	**0.90**	**334**	*i*P		Pn	16 18 19.2	+0.3
SMKR				*i*S		Sn	16 18 31.7	+0.5
BZWR	**Bezymyannyi-We**	**0.97**	**282**	*i*P		Pn	16 18 20.7	+0.7
BZWR				*i*S		Sn	16 18 34.0	+0.8
KRSR	**Krestovskiy**	**1.01**	**296**	*e*P		Pb	16 18 20.7	+0.2
KRSR				*i*S		Sb	16 18 33.3	-0.2
KLY	**Klyuchi**	**1.01**	**302**	*i*P		Pn	16 18 19.5	-0.8
KLY				*i*S		Sb	16 18 31.7	-1.6
SRKR	**Sorokina**	**1.05**	**327**	*e*P		Pb	16 18 21.5	+0.5
SRKR				*i*S		Sn	16 18 35.3	+0.5
KIRR	**Kirishev**	**1.06**	**280**	*i*P		Pb	16 18 21.6	+0.3
KIRR				*i*S		Sn	16 18 36.5	+1.3
KMNR	**Kamenistaya**	**1.10**	**270**	*i*P		Pb	16 18 23.2	+1.2
KMNR				*i*S		Sn	16 18 37.0	+0.7
KPT	**Kopyto**	**1.12**	**280**	*i*P		Pb	16 18 23.3	+0.9
KPT				*i*S		Sn	16 18 38.3	+1.5
MKZ	**Mys Kozlova**	**1.25**	**192**	*e*P		Pb	16 18 24.7	+0.3
MKZ				*i*S		Sb	16 18 41.2	+1.1
TUMR	**Tumrok**	**1.26**	**248**	*e*P		Pb	16 18 25.4	+0.6
TUMR				*i*S		Sb	16 18 42.2	+1.5
KOZ	**Kozyrevsk**	**1.33**	**283**	*i*P		Pb	16 18 26.7	+0.9
KOZ				*i*S		Sb	16 18 44.4	+1.9
SRDR	**Sredinnyy**	**1.49**	**292**	*e*P		Pb	16 18 28.2	-0.3
SRDR				*i*S		Sb	16 18 47.0	-0.1
ESO	**Esso**	**1.97**	**276**	*i*P		Pb	16 18 35.7	-1.0
ESO				*i*S		Sb	16 19 00.4	-0.5
BKI	**Bering**	**2.23**	**103**	*e*P		Pb	16 18 40.2	-0.8
BKI				*i*S		Sn	16 19 04.4	+0.7
KII	**Karymskiy**	**2.36**	**223**	*e*P		Pb	16 18 41.5	-1.9
SPN	**Mys Shipunski**	**2.97**	**206**	*e*P		Pn	16 18 48.5	+1.3
SPN				*i*S		Sn	16 19 22.3	+0.2
NLC	**Nalytchevo**	**3.10**	**214**	*e*P		Pn	16 18 51.8	+2.9
NLC				*i*S		Sn	16 19 27.0	+1.9
SDLR	**Sedlovina**	**3.16**	**219**	*e*P		Pn	16 18 52.1	+2.1
KRX	**Arik**	**3.18**	**222**	*e*P		Pn	16 18 53.0	+2.7
KRER	**Koryakskii**	**3.19**	**220**	*e*P		Pn	16 18 53.2	+2.7
SMAR	**Somma**	**3.20**	**219**	*e*P		Pn	16 18 53.3	+2.6
GNL	**Ganaly**	**3.23**	**231**	*i*P		Pn	16 18 53.5	+2.6
UGLR	**Uglovaya**	**3.24**	**219**	*e*P		Pn	16 18 53.8	+2.8
KOK	**Koryaka**	**3.24**	**221**	*e*P		Pn	16 18 53.9	+2.9
RUS	**Russkaya**	**3.99**	**214**	*e*P		Pn	16 19 02.6	+1.4
RUS				*i*S		Sn	16 19 48.5	+1.3
MTVR	**Mutnovka**	**4.06**	**217**	*e*P		Pn	16 19 04.8	+2.5

MAN 24 16:27:03, 9°85N×126°08E, h16km, mb4.7, ML3.6, MS3.5,
2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.59**	**264**	*i*P		Pb	16 27 15.2	+0.3
SCPH				*i*S		Sn	16 27 25.0	-0.9
BUTP	**Butuan**	**0.98**	**207**	*e*P		Pb	16 27 21.4	-0.3
BUTP				*e*S		Sn	16 27 36.9	+1.1
MSLP	**Maasin**	**1.24**	**283**	*e*P		Pn	16 27 25.8	+0.1
MSLP				*e*S		Sg	16 27 43.1	+0.1
PLP	**Palo**	**1.70**	**320**	⇓*e*P		Pn	16 27 31.9	-0.1
PLP				*e*S		Sn	16 27 51.0	-2.5
OCLP	**Ormoc**	**1.88**	**310**	*e*P		Pn	16 27 34.8	+0.3
CGP	**Cagayan de Oro**	**1.95**	**225**	*e*P		Pn	16 27 35.6	+0.1
CGP				*i*S		Sn	16 28 00.1	+0.6
TBP	**Tagbilaran**	**2.19**	**266**	*e*P		Pn	16 27 39.6	+0.8
TBP				*e*S		Sb	16 28 07.6	-1.7
BUKP	**

Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.01**	**332**	*eP*	Pn	16 38 43.2	-1.6
PCIG				*i* S	Sn	16 38 58.6	-1.3
CCIG	**Comitan**	**1.56**	**21**	*eP*	Pn	16 38 50.7	-1.1
CCIG				*i* S	Sn	16 39 10.4	-1.8
TGIG		**1.99**	**349**	*i* P	Pn	16 38 56.5	-0.6
TGIG				*i* S	Sn	16 39 19.9	-1.9

*ISCJB **24** 16:42:44.1±0.7, 33°.02N±0°.09×136°.3E±0°.1, h450km, mb3.3/5, Error ellipse: s-maj=16.1km s-min=10.3km az=30.7*
*IDC **24** 16:42:44.8±0.9, 33°.02N×136°.35E, h438km±14km, mb3.0/5, mb1 3.0/8, mb1mx2.8/29, mbtmp2.8/8, Error ellipse: s-maj=26.1km s-min=14.4km az=73.0*
*JMA **24** 16:42:45.6±0.2, 32°.98N×136°.21E, h435km, M2.7*

ISC 24 16:42:45.1±1.1, 33°.0N±0°.1×136°.3E±0°.1, h450km, n15, σ1§14/18, mb3.1/5, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKN2	**Miekihoku**	**1.20**	**358**	P	**P**	**16 43 41.3**	**-0.5**
JWY	**Kouya**	**1.32**	**333**	P	**P**	**16 43 42.1**	**-0.3**
JIE	**Ise**	**1.39**	**13**	P	**P**	**16 43 42.5**	**-0.1**
JAI	**Aioi**	**1.74**	**296**	P	**P**	**16 43 43.4**	**-0.8**
JMN	**Monobe**	**2.16**	**289**	P	**P**	**16 43 46.0**	**-0.5**
JWT	**Wachi**	**2.37**	**341**	P	**P**	**16 43 47.4**	**-0.2**
JWT				S	**S**	**16 44 36.1**	**-2.5**
MJAR	**Matsushiro Arr**	**3.82**	**23**	P	**P**	**16 43 59.1**	**+0.5**
0.7nm,0.3s,baz=201,slow=9.3,SNR=10							
MJAR				S	**S**	**16 44 56.6**	**-2.0**
baz=138,slow=13,SNR=4.3							
MAT	**Matsushiro**	**3.82**	**23**	P	**P**	**16 43 59.2**	**+0.6**
MAT				*e*S	**S**	**16 44 56.7**	**-1.8**
JNU	**Nakatsue**	**4.57**	**273**	P	**P**	**16 44 04.5**	**-0.9**
0.5nm,0.3s,baz=90,slow=1.0,SNR=6.2							
KSRS	**Korea Array**	**8.16**	**305**	P	**P**	**16 44 43.4**	**+1.2**
0.1nm,0.3s,baz=125,slow=10.0,SNR=6.1							
MKAR	**Makanchi Array**	**42.84**	**305**	P	**P**	**16 50 02.5**	**+0.6**
0.3nm,0.7s,baz=86,slow=8.2,SNR=4.0							
KURBB	**Kurchatov Arra**	**45.30**	**311**	P	**P**	**16 50 21.1**	**+0.1**
0.3nm,0.3s,baz=89,slow=8.9,SNR=7.0							
WRA	**Warramunga Arr**	**52.72**	**182**	P	**P**	**16 51 16.9**	**+0.3**
0.9nm,0.3s,baz=0.2,slow=7.6,SNR=32							
ASAR	**Alice Springs**	**56.44**	**183**	P	**P**	**16 51 43.2**	**+0.4**
0.3nm,0.4s,baz=356,slow=5.6,SNR=16							
ARCES	**ARCESS Array B**	**66.23**	**339**	P	**P**	**16 52 47.9**	**+1.2**
5.0nm,1.1s,baz=55,slow=7.8,SNR=3.9							

MAN 24 16:43:23, 18°.45N×120°.86E, h9km, mb4.3, ML3.1, MS2.9, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.26**	**242**	⇑*i*P	Pb	16 43 29.7	-0.1
ABRA	**Dolores**	**0.80**	**190**	*e*P	Pb	16 43 39.3	+0.1
ABRA				*e*S	Sn	16 43 53.0	+0.4
CAUP	**Cauayan**	**1.75**	**148**	*e*P	Pb	16 43 55.8	+0.4

*ISCJB **24** 17:15:01.4±0.5, 31°.78S±0°.03×69°.34W±0°.06, h115km±5km, mb3.6/4, Error ellipse: s-maj=8.1km s-min=5.3km az=9.8*
*IDC **24** 17:15:01.8±1.9, 31°.94S×69°.23W, h111km±12km, mb3.4/4, mb1 3.6/6, mb1mx3.5/15, mbtmp3.4/6, Error ellipse: s-maj=36.5km s-min=31.1km az=34.0*
*GUC **24** 17:15:02.1±0.4, 31°.79S×69°.55W, h140km±6km, ML3.8*

ISC 24 17:15:02.2±0.8, 31°.79S±0°.04×69°.35W±0°.05, h112km±7km, n21, σ0§64/32, mb3.5/4, 4C-3D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**0.97**	**80**	P	**Pn**	**17 15 23.4**	**+0.2**
14nm,0.3s,baz=254,slow=10.0,SNR=1235							
CFAA				S	**Sn**	**17 15 38.2**	**-0.8**
35nm,0.3s,baz=239,slow=5.1,SNR=46							
CMCH	**Combarbala**	**1.54**	**293**	⇓*i*P	**Pn**	**17 15 29.5**	**-0.1**
CMCH				*i* S	**Sn**	**17 15 50.6**	**+0.2**
PEL	**Peldehue**	**1.76**	**219**	⇓*i*P	**Pn**	**17 15 32.3**	**0.0**
PEL				*i* S	**Sn**	**17 15 55.3**	**0.0**
PEL				AML	AML	17 15 57.5	
comp=E,1μm,0.3s							
CHNG	**Los Chungos**	**1.83**	**266**	*e*P	**Pn**	**17 15 32.4**	**-0.7**
CHNG				*i* S	**Sn**	**17 15 55.4**	**-1.2**
ROCH	**El Roble**	**1.84**	**229**	⇑*i*P	**Pn**	**17 15 32.9**	**-0.5**
ROCH				*i* S	**Sn**	**17 15 56.8**	**-0.4**
ROCH				AML	AML	17 16 00.1	
comp=N,964nm,0.4s							
CLCH	**Cerro Calan**	**1.89**	**212**	⇓*i*P	**Pn**	**17 15 34.3**	**+0.4**
CLCH				*i* S	**Sn**	**17 15 58.9**	**+0.7**
TLL	**Tololo Astrono**	**2.04**	**322**	⇑*i*P	**Pn**	**17 15 36.5**	**+0.5**
TLL				*i* S	**Sn**	**17 16 02.3**	**+0.6**
RCDM	**Rinconada Maip**	**2.10**	**215**	*e*P	**Pn**	**17 15 36.8**	**+0.3**
RCDM				*i* S	**Sn**	**17 16 02.9**	**+0.2**
RCDM				AML	AML	17 16 04.9	
comp=E,596nm,0.4s							
CHCH	**Chadas Angostu**	**2.41**	**207**	*i* P	**Pn**	**17 15 40.6**	**+0.2**
CHCH				*i* S	**Sn**	**17 16 09.9**	**+0.1**
CACH	**El Canelo**	**2.55**	**204**	⇑*i*P	**Pn**	**17 15 42.9**	**+0.5**
CACH				*i* S	**Sn**	**17 16 14.1**	**+0.8**
LCO	**Las Campanas**	**3.00**	**337**	⇑*i*P	**Pn**	**17 15 48.5**	**0.0**
LCO				*i* S	**Sn**	**17 16 24.1**	**-0.1**
LPAZ	**La Paz**	**15.47**	**4**	P	**Pn**	**17 18 35.6**	**+0.7**
comp=E,0.1nm,0.3s,baz=179,slow=5.9,SNR=9.8							
SIV	**San Ignacio**	**17.44**	**28**	P	**P**	**17 18 58.4**	**+0.2**
comp=E,0.4nm,0.3s,baz=208,slow=9.8,SNR=6.2							
TXAR	**Lajitas Array**	**68.98**	**328**	P	**P**	**17 25 56.3**	**+0.8**
comp=E,0.4nm,0.6s,baz=154,slow=8.7,SNR=6.5							
DBIC	**Dimbokro**	**72.32**	**70**	P	**P**	**17 26 15.6**	**-0.5**
comp=E,1.1nm,0.5s,baz=180,slow=10,SNR=2.3							
TORD	**Torodi Ar. Bea**	**81.32**	**69**	P	**P**	**17 27 06.1**	**-0.4**
comp=E,0.5nm,0.6s,baz=286,slow=6.4,SNR=4.4							
PDAR	**Pinedale Array**	**82.86**	**331**	P	**P**	**17 27 15.1**	**+0.8**
comp=E,0.4nm,0.8s,baz=135,slow=9.0,SNR=3.7							
ASAR	**Alice Springs**	**120.54**	**205**	PKP	**PKPdf**	**17 33 39.8**	**-1.4**
comp=E,0.6nm,1.1s,baz=173,slow=1.6,SNR=3.8							
WRA	**Warramunga Arr**	**123.77**	**207**	PKP	**PKPdf**	**17 33 46.1**	**-1.4**
comp=E,0.4nm,0.6s,baz=152,slow=1.8,SNR=8.7							
ZALV	**Zalesovo Beam**	**151.15**	**32**	PKPbc	**PKPbc**	**17 34 41.8**	**+0.1**
comp=E,1.5nm,0.5s,baz=302,slow=1.8,SNR=8.8							
MKAR	**Makanchi Array**	**153.61**	**47**	PKPab	**PKPab**	**17 35 00.3**	**-0.3**
comp=E,0.4nm,0.7s,baz=290,slow=5.2,SNR=4.6							

*ISCJB **24** 17:15:37.3±0.6, 19°.74S±0°.08×175°.5W±0°.1, h100km, mb3.9/10, Error ellipse: s-maj=16.1km s-min=10.2km az=29.7*
*IDC **24** 17:15:39.8±2.6, 19°.70S×175°.47W, h112km±23km, mb3.7/10, mb1 3.8/12, mb1mx3.7/21, mbtmp4.1/12, Error ellipse: s-maj=24.1km s-min=14.3km az=122.0*
*AUST **24** 17:16:07.4, 20°.98S×177°.69W, h200km*

ISC 24 17:15:38.2±0.5, 19°.68S±0°.09×175°.36W±0°.09, h100km, n27, σ1§07/27, mb3.9/10, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**5.17**	**84**	P	**Sn**	**17 17 50.4**	**-1.2**
baz=7.5,SNR=11							
AFI	**Afiamalu**	**6.69**	**31**	P	**Pn**	**17 17 16.5**	**+2.5**
1.3nm,0.3s,baz=214,slow=7.3,SNR=2.4							
AFI				S	**Sn**	**17 18 26.0**	**-2.8**
3.8nm,0.3s,baz=198,slow=20,SNR=4.8							
RAO	**Raoul Island**	**9.81**	**193**	P	**Pn**	**17 17 56.6**	**+0.3**
30nm,0.3s,baz=73,slow=19,SNR=2.3							
DZM	**Mont Dzumac**	**17.17**	**259**	P	P	17 19 37.0	+4.8
1.5nm,0.3s,baz=73,slow=15,SNR=28							
URZ	**Urewera**	**19.63**	**198**	P	**P**	**17 19 58.7**	**-0.2**
1.1nm,0.3s,baz=19,slow=4.6,SNR=6.3							
RPZ	**Rata Peaks**	**26.53**	**202**	P	**P**	**17 21 07.7**	**+1.1**
25nm,1.1s,baz=21,slow=8.6,SNR=3.3							
QLP	**Quilpie**	**37.67**	**252**	P	**P**	**17 22 43.8**	**-0.2**
baz=35,SNR=3.5							
MTSU	**Mount Surprise**	**38.12**	**265**	P	**P**	**17 22 48.3**	**+0.4**
baz=36,SNR=11							
COEN	**Coen**	**40.02**	**272**	P	**P**	**17 23 04.7**	**+0.9**
baz=38,SNR=4.6							
STKA	**Stephens Creek**	**40.37**	**244**	P	**P**	**17 23 05.9**	**-0.6**
2.3nm,0.9s,baz=56,slow=6.9,SNR=2.1							
MANU	**Manus Island**	**40.43**	**291**	P	P	17 23 19.7	+13
baz=39,SNR=4.1							
ASAR	**Alice Springs**	**47.12**	**256**	P	**P**	**17 24 00.3**	**-0.3**
1.8nm,0.4s,baz=84,slow=9.1,SNR=50							
ASAR				PcP	**PcP**	**17 25 30.7**	**-0.3**
1.5nm,0.8s,baz=107,slow=3.8,SNR=8.9							
WRA	**Warramunga Arr**	**47.17**	**261**	P	**P**	**17 24 00.1**	**-1.0**
1.1nm,0.4s,baz=97,slow=7.6,SNR=42							
WRA				PcP	**PcP**	**17 25 30.1**	**-1.2**
0.3nm,0.5s,baz=95,slow=3.2,SNR=4.6							
KDU	**Kakadu**	**50.42**	**270**	P	**P**	**17 24 25.5**	**-0.5**
baz=48,SNR=4.0							
KNRA	**Kununurra**	**53.19**	**265**	P	**P**	**17 24 47.3**	**+0.7**
baz=51,SNR=5.4							
FITZ	**Fitzroy Crossi**	**55.60**	**261**	P	**P**	**17 25 04.1**	**+0.2**
baz=53,SNR=6.3							
VNDA	**Vanda**	**58.95**	**186**	P	**P**	**17 25 26.6**	**-0.1**
0.5nm,0.7s,baz=343,slow=5.5,SNR=4.3							
MJAR	**Matsushiro Arr**	**71.06**	**322**	P	**P**	**17 26 46.1**	**+0.4**
1.5nm,0.6s,baz=164,slow=6.8,SNR=5.9							
PETK	**Petropavlovsk-**	**76.15**	**344**	P	**P**	**17 27 15.4**	**+0.3**
1.1nm,0.7s,baz=138,slow=8.0,SNR=4.4							
MAW	**Mawson**	**83.16**	**199**	P	**P**	**17 27 52.3**	**-0.5**
0.4nm,0.3s,baz=95,slow=10,SNR=3.5							
TXAR	**Lajitas Array**	**84.54**	**56**	P	**P**	**17 28 01.9**	**+1.2**
0.9nm,0.9s,baz=207,slow=7.9,SNR=6.6							
PDAR	**Pinedale Array**	**86.68**	**42**	P	**P**	**17 28 11.0**	**-0.1**
0.2nm,0.5s,baz=197,slow=2.8,SNR=2.7							
MKAR	**Makanchi Array**	**112.44**	**313**	PKiKP	**PKiKP**	**17 34 01.0**	**-1.6**
0.2nm,0.4s,baz=96,slow=1.4,SNR=4.9							
ARCES	**ARCESS Array B**	**128.54**	**351**	PKP	**PKPdf**	**17 34 32.5**	**-0.3**
1.7nm,0.7s,baz=343,slow=3.8,SNR=4.4							
AKASG	**Malin Array Be**	**143.44**	**334**	PKhKP	PKPpre	17 34 57.5	
0.9nm,0.5s,baz=41,slow=4.2,SNR=4.5							
BRTR	**Keskin Array B**	**148.07**	**315**	PKPbc	**PKPbc**	**17 35 11.8**	**-0.9**
0.9nm,0.6s,baz=142,slow=5.5,SNR=6.1							
GERES	**GERESS Array B**	**150.00**	**348**	PKPbc	**PKPbc**	**17 35 17.1**	**0.0**
0.5nm,0.6s,baz=350,slow=1.6,SNR=6.3							

*ISCJB **24** 17:23:43.7±0.5, 53°.0N±0°.1×174°.37W±0°.08, h209km, mb3.4/7, Error ellipse: s-maj=17.8km s-min=5.0km az=162.9*
*IDC **24** 17:23:43.8±2.5, 52°.90N×174°.37W, h209km±23km, mb3.2/7, mb1 3.5/11, mb1mx3.3/30, mbtmp3.3/11, Error ellipse: s-maj=30.7km s-min=12.9km az=170.0*
*NEIC **24** 17:23:46.1, 52°.35N×174°.18W, h212km, MG3.5(AEIC), After AEIC.*

ISC 24 17:23:44.1±0.8, 52°.9N±0°.2×174°.38W±0°.07, h209km, n28, σ1§49/28, mb3.3/7, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CERAA	**Semis' Rag'd T**	**3.77**	**257**	P	**Pn**	**17 24 45.1**	**+1.9**
CERB	**Semis' Cerberu**	**3.79**	**258**	P	**Pn**	**17 24 46.4**	**+2.8**
CESW	**Semis' Southwe**	**3.84**	**257**	P	**Pn**	**17 24 46.1**	**+2.0**
AMKA	**Amchitka**	**4.18**	**251**	P	**Pn**	**17 24 49.0**	**+0.7**
LSNW	**Little Sitkin**	**4.45**	**261**	P	**Pn**	**17 24 54.0**	**+2.3**
MSOM	**Makushin Julie**	**4.55**	**75**	P	**Pn**	**17 24 54.7**	**+1.9**
DT1	**Dutton Round H**	**7.47**	**68**	P	**Pn**	**17 25 31.1**	**+0.9**
DTNA	**Dutton South F**	**7.49**	**68**	P	**Pn**	**17 25 32.0**	**+1.4**
FX1	**Attu Island--F**	**7.54**	**275**	P	**Pn**	**17 25 33.6**	**+2.5**
FX1	**Attu Island--F**	**7.54**	**275**	P	**Pn**	**17 25 32.8**	**+1.6**
0.9nm,0.3s,baz=119,slow=19,SNR=8.0							
FX1				S	**S**	**17 26 53.9**	**-2.6**
1.3nm,0.3s,baz=125,slow=18,SNR=5.6							
SDPT	**Sand Point**	**8.53**	**68**	P	**Pn**	**17 25 44.4**	**+0.4**
OHAK	**Old Harbor**	**12.82**	**62**	*e*P	**Pn**	**17 26 37.0**	**-1.8**
KDAK	**Kodiak Island**	**13.31**	**60**	P	**Pn**	**17 26 43.5**	**-1.3**
4.1nm,0.3s,baz=308,slow=18,SNR=36							
PPLA	**Purkeypile**	**15.39**	**41**	*e*P	Pn	17 27 15.7	+5.3
SEW	**Seward**	**15.47**	**52**	*e*P	**P**	**17 27 11.0**	**-0.2**
BPAW	**Bear Paw Mtn.**	**16.48**	**38**	*e*P	**Pn**	**17 27 24.7**	**+1.4**
7.6nm,0.4s							
IMA2	**Indian Mountai**	**16.75**	**30**	*e*P	**Pn**	**17 27 27.9**	**+1.3**
PETK	**Petropavlovsk-**	**16.77**	**282**	P	**Pn**	**17 27 27.3**	**+0.4**
0.7nm,0.3s,baz=89,slow=15,SNR=39							
MCK	**McKinley**	**17.08**	**41**	*e*P	**Pn**	**17 27 30.9**	**+0.4**
8.3nm,0.5s							
PAX	**Paxson**	**18.20**	**45**	*e*P	**Pn**	**17 27 43.6**	**-0.1**
3.8nm,0.6s							
ILAR	**Eielson Array**	**18.35**	**39**	P	**P**	**17 27 41.8**	**-1.0**
0.5nm,0.3s,baz=232,slow=9.6,SNR=16							
PDAR	**Pinedale Array**	**43.28**	**76**	P	**P**	**17 31 24.7**	**-0.4**
1.4nm,0.6s,baz=312,slow=4.5,SNR=10							
TXAR	**Lajitas Array**	**55.77**	**85**	P	**P**	**17 32 59.4**	**+0.1**
0.4nm,0.7s,baz=288,slow=5.1,SNR=4.0							
MKAR	**Makanchi Array**	**61.18**	**310**	P	**P**	**17 33 35.5**	**-0.7**
0.3nm,0.5s,baz=46,slow=7.0,SNR=4.6							
AKTO	**Aktyubinsk**	**67.96**	**327**	P	**P**	**17 34 20.3**	**+0.3**
1.5nm,0.5s,baz=18,slow=6.6,SNR=5.2							
CMAR	**Chiang Mai Arr**	**73.52**	**279**	P	**P**	**17 34 53.7**	**-0.3**
0.4nm,0.7s,baz=24,slow=7.2,SNR=3.6							
WRA	**Warramunga Arr**	**85.02**	**227**	P	**P**	**17 35 54.5**	**-1.4**
0.7nm,1.1s,baz=33,slow=5.6,SNR=4.2							
ASAR	**Alice Springs**	**88.47**	**226**	P	**P**	**17 36 12.2**	**-0.3**
0.4nm,0.7s,baz=25,slow=5.3,SNR=6.6							

IDC 24 17:29:08.8±9.2, 12°.41S×166°.62E, h170km±85km, mb3.5/2, mb1 3.5/3, mb1mx3.1/19, mbtmp3.5/3, Error ellipse: s-maj=71.3km s-min=54.6km az=166.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.61**	**181**	P	Pn	17 31 25.1	+1.5
0.6nm,0.3s,baz=340,slow=15,SNR=23							
DZM				S	Sn	17 33 07.5	-3.0
0.2nm,0.3s,baz=60,slow=20,SNR=2.7							
ASAR	**Alice Springs**	**32.98**	**246**	P	P	17 35 27.8	-0.1
0.4nm,0.9s,baz=76,slow=9.4,SNR=4.0							
ASAR				PcP	PcP	17 38 08.7	+0.7
0.2nm,0.6s,baz=73,slow=2.8,SNR=3.8							
MKAR	**Makanchi Array**	**95.10**	**317**	P	P	17 42 11.9	-0.7
1.0nm,0.6s,baz=89,slow=6.3,SNR=12							
ARCES	**ARCESS Array B**	**117.86**	**346**	PKP	PKPdf	17 47 34.0	-0.6
2.3nm,0.8s,baz=49,slow=2.7,SNR=6.8							

*CSEM **24** 17:36:46.2±0.3, 43°.16N×46°.35E, h10km, mb3.8, Error ellipse: s-maj=7.8km s-min=3.3km az=22.0*
*MOS **24** 17:36:46.1±1.4, 43°.13N×46°.38E, h12km, mb3.8/1, Error ellipse: s-maj=9.8km s-min=6.0km az=36.8*

ISC 24 17:36:46.4±0.8, 43°.16N±0°.03×46°.35E±0°.02, h13km±6km, n54, σ1§00/97, 3C-3D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLMR	**Dylym**	**0.22**	**113**	*e*PG	**Pb**	**17 36 52.0**	**-0.3**
DLMR				*e*S	**Sb**	**17 36 56.5**	**+0.2**
DLMR				pmax	pmax		
comp=Z,737nm,0.3s							
DLMR	**Dylym**	**0.22**	**113**	*e*Pg	**Pb**	**17 36 52.0**	**-0.3**
comp=Z,737nm,0.3s							
DLMR				*e*Sg	**Sb**	**17 36 56.5**	**+0.2**
DBC	**Dubki**	**0.38**	**111**	⇓*i*PG	**Pg**	**17 36 53.1**	**-0.9**
DBC				*i* S	**Sg**	**17 36 59.2**	**+0.1**
DBC	**Dubki**	**0.38**	**111**	*i* Pg	**Pg**	**17 36 53.1**	**-0.9**
DBC				*i* Sg	**Sg**	**17 36 59.2**	**+0.1**
GRO	**Groznyy**	**0.47**	**291**	*e*PG	**Pg**	**17 36 54.8**	**-0.9**
GRO	**Groznyy**	**0.47**	**291**	*e*Pg	**Pg**	**17 36 54.8**	**-0.9**
BTLR	**Botlikh**	**0.50**	**191**	⇑*i*PG	**Pg**	**17 36 55.2**	**-1.1**
BTLR				*e*S	**Sg**	**17 37 03.5**	**+0.6**
BTLR				pmax	pmax		
comp=Z,73nm,0.3s							
BTLR	**Botlikh**	**0.50**	**191**	*i* Pg	**Pg**	**17 36 55.2**	**-1.1**
comp=Z,73nm,0.3s							
BTLR				*e*Sg	**Sg**	**17 37 03.5**	**+0.6**
KRNR	**Karanay**	**0.52**	**129**	⇓*i*PG	**Pg**	**17 36 55.2**	**-1.5**
KRNR				*i* S	**Sg**	**17 37 03.8**	**+0.1**
KRNR				pmax	pmax		
comp=Z,34nm,0.2s							
KRNR	**Karanay**	**0.52**	**129**	*i* Pg	**Pg**	**17 36 55.2**	**-1.5**
comp=Z,34nm,0.2s							
KRNR				*i* Sg	**Sg**	**17 37 03.8**	**+0.1**
UNCR	**Uncukul**	**0.55**	**143**	⇑*i*PG	**Pg**	**17 36 56.8**	**-0.4**
UNCR				*i* S	**Sb**	**17 37 05.8**	**+0.1**
UNCR				pmax	pmax		
comp=Z,101nm,0.2s							
UNCR	**Uncukul**	**0.55**	**143**	*i* Pg	**Pg**	**17 36 56.8**	**-0.4**
comp=Z,101nm,0.2s							
UNCR				*i* Sg	**Sb**	**17 37 05.8**	**+0.1**
BUJR	**Buynaksk**	**0.65**	**120**	PG	**Pb**	**17 37 00.0**	**+0.4**
BUJR				*i* S	**Sn**	**17 37 10.2**	**-1.2**
BUJR	**Buynaksk**	**0.65**	**120**	Pg	**Pb**	**17 37 00.0**	**+0.4**
BUJR				*i* Sg	**Sn**	**17 37 10.2**	**-1.2**
XNZR	**Khunzakh**	**0.67**	**157**	*e*PG	**Pg**	**17 36 58.5**	**-0.9**
XNZR				*e*S	**Sb**	**17 37 09.5**	**+0.3**
XNZR	**Khunzakh**	**0.67**	**157**	*e*Pg	**Pg**	**17 36 58.5**	**-0.9**
XNZR				*e*Sg	**Sb**	**17 37 09.5**	**+0.3**
MAK	**Makhachkala**	**0.87**	**103**	*e*PG	**Pg**	**17 37 01.6**	**-1.6**
MAK				*e*		17 37 18.9	
MAK				pmax	pmax		
comp=Z,72nm,0.3s							
MAK				smax	smax		
comp=N,446nm,0.4s							
MAK				smax	smax		
comp=E,448nm,0.5s							
MAK	**Makhachkala**	**0.87**	**103**	*e*Pg	**Pg**	**17 37 01.6**	**-1.6**
comp=E,72nm,0.3s							
MAK				*e*Sg	**Sn**	**17 37 18.9**	**+2.1**
comp=E,446nm,0.4s							
GNBR	**Gunib**	**0.89**	**149**	*i* PG	**Pb**	**17 37 03.9**	**+0.2**
GNBR				*e*S	**Sn**	**17 37 17.2**	**-0.3**
GNBR	**Gunib**	**0.89**	**149**	*i* Pg	**Pb**	**17 37 03.9**	**+0.2**
GNBR				*e*Sg	**Sn**	**17 37 17.2**	**-0.3**
MNSR	**Manas**	**1.10**	**114**	*e*PG	**Pg**	**17 37 08.5**	**+0.9**
MNSR				*e*S	**Sn**	**17 37 25.5**	**+2.9**
MNSR				pmax	pmax		
comp=Z,41nm,0.3s							
MNSR	**Manas**	**1.10**	**114**	*e*Pg	**Pg**	**17 37 08.5**	**+0.9**
comp=Z,41nm,0.3s							
MNSR				*e*Sg	**Sn**	**17 37 25.5**	**+2.9**
VLKR	**Vladikavkaz**	**1.23**	**265**	*e*PG	**Pn**	**17 37 09.1**	**-0.3**
VLKR				*e*S	**Sn**	**17 37 26.0**	**+0.1**
VLKR	**Vladikavkaz**	**1.23**	**265**	*e*Pg	**Pn**	**17 37 09.1**	**-0.3**
VLKR				*e*Sg	**Sn**	**17 37 26.0**	**+0.1**
TRKR	**Terskaya**	**1.31**	**296**	*e*PG	**Pb**	**17 37 11.0**	**+0.2**
TRKR				*e*S	**Sg**	**17 37 29.2**	**+0.6**
TRKR	**Terskaya**	**1.31**	**296**	*e*Pg	**Pb**	**17 37 11.0**	**+0.2**
TRKR				*e*Sg	**Sg**	**17 37 29.2**	**+0.6**
BTKR	**Batakoyurt**	**1.34**	**280**	*e*PG	**Pg**	**17 37 13.6**	**+1.5**
BTKR				*e*S	**Sg**	**17 37 31.7**	**+2.1**
BTKR	**Batakoyurt**	**1.34**	**280**	*e*Pg	**Pg**	**17 37 13.6**	**+1.5**
BTKR				*e*Sg	**Sg**	**17 37 31.7**	**+2.1**
URKR	**Urkarakh**	**1.37**	**136**	*e*PG	**Pn**	**17 37 11.0**	**-0.3**
URKR				*e*S	**Sg**	**17 37 32.0**	**+1.5**
URKR	**Urkarakh**	**1.37**	**136**	*e*Pg	**Pn**	**17 37 11.0**	**-0.3**
URKR				*e*Sg	**Sg**	**17 37 32.0**	**+1.5**
LACR	**Lac**	**1.54**	**258**	⇑*i*PG	**Pn**	**17 37 13.5**	**-0.2**
LACR				*e*S	**Sb**	**17 37 34.3**	**-0.1**
LACR	**Lac**	**1.54**	**258**	*i* Pg	**Pn**	**17 37 13.5**	**-0.2**
LACR				*e*Sg	**Sb**	**17 37 34.3**	**-0.1**
PRTR	**Priterechnaya**	**1.62**	**292**	*e*PN	**Pb**	**17 37 15.8**	**-0.3**
PRTR				*e*S	**Sg**	**17 37 38.0**	**-0.5**
PRTR	**Priterechnaya**	**1.62**	**292**	*e*Pn	**Pb**	**17 37 15.8**	**-0.3**
PRTR				*e*Sg	**Sg**	**17 37 38.0**	**-0.5**
KORR	**Kora**	**1.67**	**268**	*e*PN	**Pn**	**17 37 15.6**	**+0.1**
KORR				*e*S	**Sb**	**17 37 38.0**	**-0.1**
KORR	**Kora**	**1.67**	**268**	*e*Pn	**Pn**	**17 37 15.6**	**+0.1**
KORR				*e*Sg	**Sb**	**17 37 38.0**	**-0.1**
STDR	**Stavd-Durt**	**1.69**	**278**	*e*PN	**Pg**	**17 37 18.1**	**-0.6**
STDR				*e*S	**Sg**	**17 37 40.9**	**+0.3**
STDR	**Stavd-Durt**	**1.69**	**278**	*e*Pn	**Pg**	**17 37 18.1**	**-0.6**
STDR				*e*Sg	**Sg**	**17 37 40.9**	**+0.3**
ZEI	**Tsey**	**1.83**	**259**	*e*PN	**Pn**	**17 37 17.6**	**-0.2**
ZEI	**Tsey**	**1.83**	**259**	*e*Pn	**Pn**	**17 37 17.6**	**-0.2**
DGRG	**David-gareji**	**1.85**	**203**	P	**Pg**	**17 37 21.6**	**-0.4**
DGRG				S	**Sg**	**17 37 49.4**	**+3.4**
TBLG	**Delisi**	**1.86**	**221**	PN	**Pb**	**17 37 20.2**	**0.0**
TBLG				S	**Sg**	**17 37 46.0**	**-0.1**
TBLG	**Delisi**	**1.86**	**221**	P	**Pb**	**17 37 20.2**	**0.0**
TBLG				S	**Sg**	**17 37 46.0**	**-0.1**
TBLG	**Delisi**	**1.86**	**221**	Pn	**Pb**	**17 37 20.2**	**0.0**
TBLG				Sg	**Sg**	**17 37 46.0**	**-0.1**
AKT	**Akhty**	**1.96**	**148**	*e*PN	**Pn**	**17 37 20.0**	**+0.5**
AKT				*e*S	**Sg**	**17 37 49.5**	**0.0**
AKT	**Akhty**	**1.96**	**148**	*e*

BHD	**Baghdad**	**3.26**	**272**	*e*Pg		**Pn**		**18 02 04.4**	**+2.9**
	SNR=91								
BHD				*e*Sg		**Sb**		**18 02 50.8**	**+2.7**
	SNR=91								
IGAR	**Gharneh**	**3.28**	**104**	*e*				18 02 16.1	
	comp=Z,952nm,0.1s								
IGAR				*e*Pn		**Pn**		**18 02 03.4**	**+1.3**
IVRN	**Varamin**	**3.36**	**58**	*e*				18 02 16.3	
	comp=Z,2μm,0.2s								
IVRN				*e*Pn		**Pn**		**18 02 04.5**	**+1.4**
IZEF	**Zefreh**	**3.43**	**95**	*e*Pn		**Pn**		**18 02 05.4**	**+1.3**
IZEF				*e*				18 03 10.8	
	comp=Z,840nm,0.4s								
IZEF	**Zefreh**	**3.43**	**95**	*e*Pn		**Pn**		**18 02 05.4**	**+1.3**
THKV	**Tehran--Karaj**	**3.43**	**38**	*e*Pn		**Pn**		**18 02 05.6**	**+1.5**
THKV	**Tehran--Karaj**	**3.43**	**38**	*e*Pn		**Pn**		**18 02 05.6**	**+1.5**
ZNJK	**Zanjan**	**3.44**	**6**	*e*Pn		**Pn**		**18 02 06.2**	**+1.9**
ZNJK	**Zanjan**	**3.44**	**6**	*e*Pn		**Pn**		**18 02 06.2**	**+1.9**
ISFB	**Sefidab**	**3.49**	**70**	*e*Pn		**Pn**		**18 02 06.1**	**+1.3**
ISFB	**Sefidab**	**3.49**	**70**	*e*Pn		**Pn**		**18 02 06.1**	**+1.3**
IGZV	**Ghazvin**	**3.53**	**26**	*e*				18 02 20.0	
	comp=Z,1μm,0.3s								
IGZV				*e*Pn		**Pn**		**18 02 06.9**	**+1.4**
NASN	**Na'in**	**3.84**	**95**	*e*Pn		**Pn**		**18 02 10.8**	**+0.9**
NASN	**Na'in**	**3.84**	**95**	*e*Pn		**Pn**		**18 02 10.8**	**+0.9**
IDMV	**Damavand**	**3.89**	**52**	*e*Pn		**Pn**		**18 02 11.8**	**+1.3**
IDMV				*e*				18 02 26.9	
	comp=Z,1μm,0.2s								
IDMV	**Damavand**	**3.89**	**52**	*e*Pn		**Pn**		**18 02 11.8**	**+1.3**
NAY	**Al-Naaiem**	**4.07**	**193**	*e*P		**Pn**		**18 02 14.5**	**+1.7**
NAY				AML		AML		18 03 11.9	
	comp=Z,18nm,0.5s								
KBD	**Kabd**	**4.08**	**187**	*e*P		**Pn**		**18 02 15.3**	**+2.5**
KBD				AML		AML		18 03 11.0	
	comp=Z,31nm,0.5s								
RDF	**Al-Radifah**	**4.34**	**188**	*e*P		**Pn**		**18 02 19.0**	**+2.5**
IFIR	**Firoozkooh**	**4.42**	**56**	*e*Pn		**Pn**		**18 02 18.9**	**+1.2**
IFIR				*e*				18 02 39.3	
	comp=Z,600nm,0.2s								
IFIR	**Firoozkooh**	**4.42**	**56**	*e*Pn		**Pn**		**18 02 18.9**	**+1.2**
QRN	**Al-Qurain**	**4.49**	**184**	*e*P		**Pn**		**18 02 20.4**	**+2.0**
QRN				AML		AML		18 03 09.3	
	comp=Z,40nm,0.5s								
ASF	**Jabal al Asfar**	**9.64**	**267**	Pn		**Pn**		**18 03 28.3**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=180,slow=19,SNR=3.6								
ASF				Sn		**Sn**		**18 05 15.5**	**-2.6**
	comp=Z,0.2nm,0.3s,baz=230,slow=8.5,SNR=2.3								
BRTR	**Keskin Array B**	**13.43**	**303**	Pn		**Pn**		**18 04 22.2**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=110,slow=16,SNR=3.0								
AKTO	**Aktyubinsk**	**18.63**	**20**	P		**P**		**18 05 29.6**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=195,slow=15,SNR=5.5								
IDI	**Anoyia**	**19.43**	**283**	P		**P**		**18 05 35.9**	**-1.1**
	comp=Z,0.5nm,0.3s,baz=72,slow=14,SNR=6.5								
MLR	**Muntele Rosu**	**21.08**	**312**	P		**P**		**18 05 57.7**	**+2.7**
	comp=Z,0.7nm,0.8s,baz=122,slow=2.7,SNR=7.1								
AKASG	**Malin Array Be**	**22.36**	**327**	P		**P**		**18 06 09.2**	**+0.6**
	comp=Z,0.6nm,0.4s,baz=131,slow=9.3,SNR=7.4								
BVAR	**Borovoye Array**	**25.35**	**32**	P		**P**		**18 06 36.8**	**-0.8**
	comp=Z,5.2nm,0.7s,baz=225,slow=8.2,SNR=20								
KURBB	**Kurchatov Arra**	**28.16**	**43**	P		**P**		**18 07 02.4**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=247,slow=9.3,SNR=2.6								
MKAR	**Makanchi Array**	**29.12**	**52**	P		**P**		**18 07 11.3**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=253,slow=8.5,SNR=5.8								
FINES	**FINESS Array B**	**31.65**	**340**	P		**P**		**18 07 32.3**	**-1.3**
	comp=Z,1.3nm,0.6s,baz=146,slow=8.2,SNR=4.2								
ZALV	**Zalesovo Beam**	**33.07**	**40**	P		**P**		**18 07 46.3**	**+0.1**
	comp=Z,1.6nm,0.8s,baz=254,slow=9.1,SNR=6.0								
NOA	**NORSAR Array B**	**36.67**	**331**	P		**P**		**18 08 17.8**	**+0.5**
	comp=Z,0.9nm,0.8s,baz=125,slow=8.7,SNR=2.7								
TORD	**Torodi Ar. Bea**	**46.80**	**256**	P		**P**		**18 09 39.0**	**-1.7**
	comp=Z,1.4nm,0.8s,baz=46,slow=8.1,SNR=12								
CMAR	**Chiang Mai Arr**	**47.48**	**95**	P		**P**		**18 09 44.2**	**-1.8**
	comp=Z,0.6nm,0.6s,baz=289,slow=8.1,SNR=4.6								
KSRS	**Korea Array**	**63.25**	**61**	P		**P**		**18 11 39.1**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=278,slow=7.1,SNR=4.7								
USRK	**Ussuriysk Arra**	**63.58**	**53**	P		**P**		**18 11 41.4**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=264,slow=6.5,SNR=4.3								

*ISCJB **24** 18:03:05.7±0.5,32°.81N±0°.05×105°.42E±0°.08,h14km, mb3.7/10,Error ellipse: s-maj=10.4km s-min=6.3km az=28.3*

*IDC **24** 18:03:05.5±0.8,32°.78N×105°.38E,h0km,mb3.7/10, mb1 3.8/12,mb1mx3.7/30,mbtmp3.7/12,ML3.7/1,MS2.8/1, Ms1 2.8/1,ms1mx2.2/37,Error ellipse: s-maj=37.9km s-min=15.2km az=52.0*

*BJI **24** 18:03:06.2,32°.89N×105°.49E,h14km,mB4.3/2,mb4.1/3, ML3.5/16,Ms3.5/7,Ms7 3.4/4*

ISC 24 18:03:07.1±0.6,32°.78N±0°.05×105°.46E±0°.05,h14km,n16, σ1§17/21,mb3.7/10,Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**2.36**	**218**	Pn	**Pb**	**18 03 48.8**	**-0.7**
CD2				Pg	**Pg**	**18 03 52.0**	**-0.5**
CD2				Sn	**Sg**	**18 04 21.1**	**-2.0**
CD2				Sg	Sb	18 04 24.9	+6.3
CD2				smax	smax		
	comp=N,940nm,0.6s						
CD2				smax	smax		
	comp=E,880nm,0.6s						
XAN	**Xi'an**	**3.15**	**66**	Pn	**Pn**	**18 03 56.5**	**+0.1**
XAN				Pg	**Pb**	**18 04 01.5**	**-1.5**
XAN				Sg	**Sb**	**18 04 40.9**	**-0.4**
XAN				smax	smax		
	comp=N,340nm,0.7s						
XAN				smax	smax		
	comp=E,210nm,0.9s						
XAN				LR	LR		
	comp=N,150nm,4.2s						
XAN				LR	LR		
	comp=E,56nm,4.9s						
XAN				LR	LR		
	comp=Z,67nm,3.4s						
LZH	**Lanzhou**	**3.56**	**338**	*e*Pg	**Pn**	**18 04 04.0**	**+1.9**
LZH				Sg	**Sb**	**18 04 50.6**	**-2.5**
LZH				smax	smax		
	comp=N,210nm,0.5s						
LZH				smax	smax		
	comp=E,370nm,0.6s						
LZH				LR	LR		
	comp=N,410nm,4.5s						
LZH				LR	LR		
	comp=E,180nm,5.2s						
LZH				LR	LR		
	comp=Z,440nm,5.5s						
GTA	**Gaotai**	**8.04**	**327**	*e*P	**Pn**	**18 05 03.6**	**0.0**
GTA				pP	pP	18 05 07.3	
GTA				sP	sP	18 05 09.8	
GTA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**15.42**	**204**	Pn	**Pn**	**18 06 46.0**	**+1.6**
	baz=14,slow=11,SNR=2.8						
KSRS	**Korea Array**	**18.94**	**69**	P	**Pn**	**18 07 29.2**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=256,slow=10,SNR=15						
KSRS				LR	LR	18 15 15.4	
	comp=Z,30nm,19.2s,baz=337,slow=38						
MKAR	**Makanchi Array**	**22.54**	**315**	P	**P**	**18 08 07.1**	**+0.4**
	comp=Z,0.9nm,0.5s,baz=112,slow=13,SNR=12						
ZALV	**Zalesovo Beam**	**25.76**	**331**	P	**P**	**18 08 37.3**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=148,slow=8.7,SNR=4.3						
KURBB	**Kurchatov Arra**	**26.65**	**320**	P	**P**	**18 08 46.1**	**+0.8**
	comp=Z,1.0nm,0.6s,baz=142,slow=8.6,SNR=15						
BVAR	**Borovoye Array**	**32.23**	**319**	P	**P**	**18 09 35.3**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=128,slow=9.3,SNR=3.6						
AKTO	**Aktyubinsk**	**38.87**	**311**	P	**P**	**18 10 30.8**	**-1.1**
	comp=Z,0.7nm,0.4s,baz=345,slow=12,SNR=3.0						
FINES	**FINESS Array B**	**56.83**	**326**	P	**P**	**18 12 51.2**	**+0.4**
	comp=Z,2.9nm,0.9s,baz=93,slow=7.8,SNR=7.8						
AKASG	**Malin Array Be**	**57.09**	**313**	P	**P**	**18 12 53.5**	**+0.6**
	comp=Z,0.3nm,0.4s,baz=66,slow=7.3,SNR=2.6						
WRA	**Warramunga Arr**	**59.25**	**148**	P	**P**	**18 13 08.8**	**+0.5**
	comp=Z,0.7nm,0.7s,baz=339,slow=8.0,SNR=12						
ASAR	**Alice Springs**	**62.35**	**150**	P	**P**	**18 13 30.1**	**+0.8**
	comp=Z,0.2nm,0.4s,baz=336,slow=6.6,SNR=17						
NOA	**NORSAR Array B**	**63.87**	**327**	P	**P**	**18 13 38.6**	**-0.5**
	comp=Z,1.1nm,0.8s,baz=71,slow=7.0,SNR=3.3						

IDC 24 18:25:53.1±1.1,4°.30S×153°.33E,h0km,mb3.8/7, mb1 4.1/7,mb1mx3.7/19,mbtmp3.9/7,Error ellipse: s-maj=34.0km s-min=24.3km az=123.0,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**21.76**	**145**	P	P	18 30 46.5	-0.1
	2.0nm,0.7s,baz=288,slow=18,SNR=4.0						
WRA	**Warramunga Arr**	**24.17**	**228**	P	P	18 31 12.4	+1.1
	2.9nm,0.7s,baz=52,slow=9.8,SNR=43						
ASAR	**Alice Springs**	**26.88**	**222**	P	P	18 31 36.1	+0.2
	0.2nm,0.3s,baz=55,slow=9.2,SNR=11						
STKA	**Stephens Creek**	**29.57**	**201**	P	P	18 32 00.3	+0.6
	2.5nm,0.9s,baz=18,slow=9.6,SNR=3.1						
FITZ	**Fitzroy Crossi**	**30.37**	**241**	P	P	18 32 06.7	-0.3
	2.1nm,0.5s,baz=61,slow=7.0,SNR=11						
VNDA	**Vanda**	**73.31**	**178**	P	P	18 37 25.5	-0.6
	0.8nm,0.8s,baz=12,slow=5.1,SNR=6.9						
ILAR	**Eielson Array**	**81.50**	**22**	P	P	18 38 13.4	+1.3
	0.3nm,0.5s,baz=231,slow=8.0,SNR=3.5						
TORD	**Torodi Ar. Bea**	**150.65**	**289**	PKPbc	PKPbc	18 45 46.0	-2.3
	0.8nm,0.7s,baz=90,slow=2.1,SNR=8.7						

IDC 24 18:27:20.2±1.0,45°.78N×154°.37E,h0km,mb3.7/5, mb1 3.9/6,mb1mx3.6/25,mbtmp3.7/6,ML3.5/1,Error ellipse: s-maj=37.7km s-min=21.8km az=102.0,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**7.65**	**15**	Pn	Pn	18 29 12.7	-0.1
	0.7nm,0.3s,baz=189,slow=14,SNR=12						
PETK				Sn	Sn	18 30 40.9	+0.8
	0.1nm,0.3s,baz=112,slow=21,SNR=2.0						
MKAR	**Makanchi Array**	**48.16**	**299**	P	P	18 36 01.4	-0.6
	0.2nm,0.5s,baz=80,slow=7.4,SNR=3.4						
FINES	**FINESS Array B**	**65.28**	**335**	P	P	18 38 03.9	+0.6
	1.8nm,0.9s,baz=40,slow=7.5,SNR=5.3						
WRA	**Warramunga Arr**	**67.89**	**200**	P	P	18 38 19.8	-0.6
	0.4nm,0.6s,baz=22,slow=6.6,SNR=3.7						
ASAR	**Alice Springs**	**71.58**	**200**	P	P	18 38 43.9	+0.7
	0.6nm,0.7s,baz=16,slow=5.5,SNR=7.6						
TXAR	**Lajitas Array**	**77.20**	**61**	P	P	18 39 16.0	-0.1
	0.5nm,0.6s,baz=323,slow=6.3,SNR=5.0						

*IDC **24** 18:39:59.1±0.8,23°.21S×169°.27E,h0km,mb4.5/16, mb1 4.6/17,mb1mx4.5/23,mbtmp4.5/17,ML3.9/1,MS4.1/24, Ms1 4.1/24,ms1mx4.0/37,Error ellipse: s-maj=21.9km s-min=17.0km az=70.0*

*ISCJB **24** 18:40:02.3±0.4,23°.20S±0°.05×169°.21E±0°.06,h28km, mb4.8/27,MS4.1/20,Error ellipse: s-maj=8.2km s-min=6.6km az=136.9*

*BKK **24** 18:40:04.8±0.6,23°.S±11°×16°.9E±1°.1,h10km,M5.1/15, mB5.3/1,mb5.1/15,Mw(mB)4.8/1*

*GCMT **24** 18:40:04.2±0.3,23°.14S×169°.21E,h14km±1km,MW4.9, Moment Tensor Solution. s24,c33; s67,c92; Moment tensor: Scale 10^16Nm; Mrr-0.90±.11; Mθθ2.76±.12; Mφφ-1.86±.09; Mrθ-0.14±.20; Mθφ1.48±.09; Mφr-0.99±.24; Best double couple: M0 3.00000×10^16 NP1:φs32.00000°, δ76.00000°,λ-156.00000°. NP2:φs296.00000°, δ67.00000°,λ-15.00000°. Principal axes: T 3.2400, Plg6.0000°, Azm163.0000°; N -0.4900, Plg63.0000°, Azm61.0000°; P -2.7500, Plg27.0000°, Azm256.0000°; Data Used: II G IU IC.*

*NEIC **24** 18:40:05.8±1.1,23°.21S×169°.15E,h41km±10km,mb4.9/14 Error ellipse: s-maj=9.7km s-min=8.8km az=221.0*

*AUST **24** 18:40:09.9±1.8,23°.43S×169°.47E,h100km,Error ellipse: s-maj=1.9km s-min=1.1km az=306.0*

*DJA **24** 18:40:21.8±5.6,23°.S±11°×16°.9E±3°.9,h175km±34km, M4.7/10,mB5.2/1,mb4.7/10,Mw(mB)4.6/1*

ISC 24 18:40:04.0±0.5,23°.20S±0°.07×169°.17E±0°.07,h28km,n117, σ1§16/115,mb4.7/27,MS4.1/20,3C-8D,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.76**	**293**	*e*Pn	**Pn**	**18 40 44.4**	**-2.0**
	171nm,0.2s						
DZM				*e*Sn	**Sn**	**18 41 18.3**	**-0.6**
	468nm,0.2s						
DZM	**Mont Dzumac**	**2.76**	**293**	Pn	**Pn**	**18 40 44.5**	**-2.0**
DZM				Sn	**Sn**	**18 41 18.1**	**-0.9**
DZM	**Mont Dzumac**	**2.76**	**293**	Pn	**Pn**	**18 40 44.5**	**-2.0**
	16nm,0.3s,baz=115,slow=12,SNR=412						
DZM				Sn	**Sn**	**18 41 18.1**	**-0.9**
	79nm,0.3s,baz=173,slow=23,SNR=6.5						
DZM				LR	LR	18 41 39.2	
	comp=Z,2μm,18.9s,baz=162,slow=35						
NFK	**Norfolk Island**	**5.92**	**191**	P	**Pn**	**18 41 29.2**	**-0.7**
	baz=5.8,SNR=22						
MSVF	**Nonsavu**	**9.94**	**58**	P	**Pn**	**18 42 26.9**	**+1.8**
	59nm,1.4s						
RAO	**Raoul Island**	**13.06**	**120**	LR	LR	18 46 49.9	
	comp=Z,987nm,19.1s,baz=340,slow=32						
HNR	**Honiara**	**16.29**	**326**	Pn	**P**	**18 43 53.3**	**-0.4**
HNR	**Honiara**	**16.29**	**326**	Pn	**P**	**18 43 53.3**	**-0.4**
	4.4nm,0.3s,baz=207,slow=2.3,SNR=5.1						
HNR				LR	LR	18 48 48.5	
	comp=Z,635nm,21.2s,baz=156,slow=32						
URZ	**Urewera**	**16.48**	**157**	Pn	**P**	**18 43 54.8**	**-0.8**
URZ	**Urewera**	**16.48**	**157**	Pn	**P**	**18 43 54.8**	**-0.8**
	0.4nm,0.3s,baz=90,slow=5.1,SNR=3.4						
URZ				LR	LR	18 49 27.9	
	comp=Z,1μm,18.6s,baz=148,slow=35						
EIDS	**Eidsvold**	**16.64**	**259**	*e*P	**Pn**	**18 43 54.8**	**-0.4**
	141nm,1.0s						
EIDS	**Eidsvold**	**16.64**	**259**	P	**P**	**18 43 59.9**	**+2.4**
	baz=17,SNR=47						
ARMA	**Armidale**	**17.22**	**242**	*e*P	**P**	**18 44 05.2**	**+1.1**
	76nm,1.2s						
ARMA	**Armidale**	**17.22**	**242**	P	**P**	**18 44 05.3**	**+1.3**
	baz=17,SNR=22						
RMQ	**Roma**	**18.81**	**256**	P	**Pn**	**18 44 24.4**	**+2.3**
	baz=19,SNR=83						
AFI	**Afiamalu**	**20.27**	**66**	LR	LR	18 50 31.5	
	comp=Z,393nm,20.6s,baz=230,slow=31						
RPZ	**Rata Peaks**	**20.52**	**176**	P	**P**	**18 44 40.7**	**+0.7**
RPZ	**Rata Peaks**	**20.52**	**176**	P	**P**	**18 44 40.7**	**+0.7**
	8.3nm,0.8s,baz=345,slow=20,SNR=2.2						
RPZ				LR	LR	18 51 52.0	
	comp=Z,2μm,19.5s,baz=2.7,slow=35						
CNB	**Canberra Magne**	**21.04**	**231**	P	**P**	**18 44 48.0**	**+2.3**
	baz=21,SNR=18						
YNG	**Young**	**21.27**	**234**	P	**P**	**18 44 50.5**	**+2.3**
	baz=21,SNR=12						
CAN	**Canberra**	**21.30**	**231**	*e*P	**P**	**18 44 50.1**	**+1.6**
	54nm,1.1s						
CTA	**Charters Tower**	**21.52**	**274**	P	**P**	**18 44 52.5**	**+1.5**
CTA	**Charters Tower**	**21.52**	**274**	P	**P**	**18 44 52.5**	**+1.5**
	9.4nm,0.7s,baz=94,slow=12,SNR=20						
CTAO	**Charters Tower**	**21.52**	**274**	*e*P	**P**	**18 44 52.4**	**+1.4**
	140nm,1.5s						
CMSA	**Cobar Meteorol**	**22.41**	**243**	P	**P**	**18 45 01.6**	**+1.2**
	baz=22,SNR=98						
QLP	**Quilpie**	**22.86**	**256**	P	**P**	**18 45 06.2**	**+1.0**
	baz=23,SNR=46						
MTSU	**Mount Surprise**	**23.78**	**278**	P	**P**	**18 45 15.3**	**+0.9**
	baz=24,SNR=12						
PMG	**Port Moresby**	**25.14**	**299**	*e*P	**P**	**18 45 27.8**	**+1.0**
	29nm,1.1s						
PMG				*e*pP	**pP**	**18 45 39.7**	**+4.7**
PMG	**Port Moresby**	**25.14**	**299**	P	**P**	**18 45 28.8**	**+2.0**
	26nm,1.5s						
PMG	**Port Moresby**	**25.14**	**299**	P	**P**	**18 45 28.2**	**+1.3**
	13nm,1.0s,baz=104,slow=10,SNR=6.6						
STKA	**Stephens Creek**	**25.88**	**244**	*e*P	**P**	**18 45 34.1**	**+0.6**
	17nm,1.3s						
STKA	**Stephens Creek**	**25.88**	**244**	P	**P**	**18 45 34.2**	**+0.7**
	26nm,0.8s,baz=85,slow=12,SNR=26						
STKA				LR	LR	18 55 13.4	
	comp=Z,709nm,19.7s,baz=77,slow=35						
STKA	**Stephens Creek**	**25.88**	**244**	P	**P**	**18 45 34.5**	**+1.0**
	baz=26,SNR=26						
COEN	**Coen**	**26.26**	**286**	*e*P	**P**	**18 45 37.5**	**+0.4**
	223nm,0.9s						
COEN	**Coen**	**26.26**	**286**	P	**P**	**18 45 37.9**	**+0.8**
	baz=27,SNR=20						
AS31	**Alice Springs**	**32.31**	**262**	*e*P	**P**	**18 46 30.5**	**-0.4**
ASAR	**Alice Springs**	**32.31**	**262**	P	**P**	**18 46 30.4**	**-0.5**
ASAR				PcP	**PcP**	**18 49 17.6**	**-1.0**
ASAR	**Alice Springs**	**32.31**	**262**	P	**P**	**18 46 30.4**	**-0.5**
	9.6nm,1.0s,baz=84,slow=9.2,SNR=46						
ASAR				PcP	**PcP**	**18 49 17.6**	**-1.0**
	2.5nm,0.9s,baz=109,slow=3.6,SNR=6.3						
ASAR				LR	LR	18 59 04.4	
	comp=Z,621nm,21.9s,baz=133,slow=35						
WRA	**Warramunga Arr**	**32.51**	**269**	P	**P**	**18 46 31.1**	**-1.5**
WRA				PcP	**PcP**	**18 49 18.6**	**-0.6**
WRA	**Warramunga Arr**	**32.51**	**269**	P	**P**	**18 46 31.1**	**-1.5**
	3.7nm,0.8s,baz=100,slow=7.9,SNR=22						
WRA				PcP	**PcP**	**18 49 18.6**	**-0.6**
	2.3nm,0.7s,baz=95,slow=2.7,SNR=8.4						
KDU	**Kakadu**	**36.35**	**280**	P	**P**	**18 47 05.1**	**-0.8**
	baz=37,SNR=3.8						
KDU				S	S	18 52 26.5	-19
	baz=37,SNR=4.4						
TBI	**Tubuai**	**37.91**	**99**	*e*LQ	LQ	18 55 45.3	
	440nm,31.2s						
TBI				*e*LR	LR	18 57 44.3	
	334nm,28.2s						
KNRA	**Kununurra**	**38.74**	**274**	P	**P**	**18 47 25.2**	**-0.8**
	baz=39,SNR=5.8						
PPT2	**Papeete2**	**38.97**	**90**	*e*LQ	LQ	18 56 10.4	
	480nm,28.0s						
PPT2				*e*LR	LR	18 58 15.4	
	359nm,27.0s						
PPT	**Papeete**	**38.98**	**90**	LR	LR	18 59 11.3	
	comp=Z,198nm,19.2s,baz=218,slow=30						
FITZ	**Fitzroy Crossi**	**40.94**	**269**	*e*P	**P**	**18 47 44.0**	**-0.4**
	11nm,0.8s						
FITZ	**Fitzroy Crossi**	**40.94**	**269**	P	**P**	**18 47 44.2**	**-0.2**
	10nm,0.7s,baz=112,slow=7.6,SNR=24						
FITZ				LR	LR	19 05 25.4	
	comp=Z,437nm,19.0s,baz=351,slow=37						
FITZ	**Fitzroy Crossi**	**40.94**	**269**	P	**P**	**18 47 44.3**	**0.0**
	baz=41,SNR=14						
MBWA	**Marble Bar**	**45.65**	**263**	*e*P	**P**	**18 48 21.9**	**-0.5**
	32nm,0.8s						
MEEK	**Meekatharra**	**45.74**	**255**	P	**P**	**18 48 22.5**	**-0.7**
	baz=46,SNR=3.2						
KAPI	**Kappang**	**50.93**	**283**	P	**P**	**18 49 02.5**	**-0.7**
KAPI	**Kappang**	**50.93**	**283**	P	**P**	**18 49 02.5**	**-0.7**
	20nm,0.9s,baz=141,slow=6.9,SNR=8.7						
KAPI				LR	LR	19 09 08.6	
	comp=Z,272nm,19.8s,baz=31,slow=34						
VNDA	**Vanda**	**54.49**	**182**	P	**P**	**18 49 27.9**	**-0.8**
VNDA	**Vanda**	**54.49**	**182**	P	**P**	**18 49 27.9**	**-0.8**
	0.5nm,0.6s,baz=4.3,slow=9.1,SNR=7.2						
VNDA				LR	LR	19 10 27.1	
	comp=Z,100nm,18.8s,baz=9.7,slow=34						
SBA	**Scott Base**	**54.72**	**181**	*e*P	**P**	**18 49 31.1**	**+0.8**
	13nm,1.1s						
CBIJ	**Chichi jima**	**56.40**	**331**	LR	LR	19 10 16.9	
	comp=Z,169nm,19.7s,baz=113,slow=32						
KSM	**Kuching**	**62.25**	**285**	P	**P**	**18 50 24.4**	**+0.6**
	baz=63,SNR=4.6						
MJAR	**Matsushiro Arr**	**66.22**	**333**	P	**P**	**18 50 48.3**	**-1.0**
MJAR	**Matsushiro Arr**	**66.22**	**333**	P	**P**	**18 50 48.3**	**-1.0**
	3.3nm,0.8s,baz=174,slow=7.7,SNR=15						
MJAR				LR	LR	19 19 53.1	
	comp=Z,106nm,18.5s,baz=165,slow=36						
MAT	**Matsushiro**	**66.22**	**333**	P	**P**	**18 50 48.6**	**-0.8**
JNU	**Nakatsue**	**66.86**	**326**	LR	LR	19 18 24.4	
	comp=Z,95nm,18.9s,baz=310,slow=34						
QSPA	**South Pole Qui**	**66.87**	**180**	P	**P**	**18 50 52.2**	**-1.2**
QSPA	**South Pole Qui**	**66.87**	**180**	P	**P**	**18 50 52.2**	**-1.2**
	4.3nm,1.0s,baz=40,slow=1.4,SNR=7.5						
ASAJ	**Asahikawa**	**71.28**	**340**	LR	LR	19 19 45.1	
	comp=Z,239nm,19.5s,baz=185,slow=34						
KSRS	**Korea Array**	**71.74**	**326**	P	**P**	**18 51 24.1**	**+0.5**
	3.2nm,0.9s,baz=144,slow=6.2,SNR=15						
KSRS				LR	LR	19 22 35.5	
	comp=Z,98nm,18.9s,baz=134,slow=36						
KSAR	**Wonju Array Be**	**71.75**	**326**	P	**P**	**18 51 24.1**	**+0.5**
MAW	**Mawson**	**74.76**	**202**	LR	LR	19 22 12.9	
	comp=Z,64nm,18.8s,baz=244,slow=34						
SKNT	**Sakolnakorn**	**75.18**	**296**	P	**P**	**18 51 45.8**	**+1.5**
	34nm,1.0s						
USRK	**Ussuriysk Arra**	**75.22**	**333**	P	**P**	**18 51 43.4**	**-0.5**
	2.5nm,0.7s,baz=156,slow=5.2,SNR=7.5						
USRK				LR	LR	19 22 08.1	
	comp=Z,98nm,20.1s,baz=195,slow=34						
PETK	**Petropavlovsk-**	**76.64**	**353**	LR	LR	19 20 29.9	
	comp=Z,78nm,20.1s,baz=343,slow=32						
LAMP	**Lampang**	**79.54**	**295**	P	**P**	**18 52 10.2**	**+1.5**
	6.5nm,0.9s						
CRAI	**Chiangrai**	**79.76**	**297**	P	**P**	**18 52 09.2**	**-0.7**
	158nm,1.9s						
CM31	**Chiang Mai Arr**	**80.09**	**295**	*e*P	**P**	**18 52 13.1**	**+1.4**
	12nm,1.0s						
CMAR	**Chiang Mai Arr**	**80.09**	**295**	P	**P**	**18 52 12.9**	**+1.3**
CMAR	**Chiang Mai Arr**	**80.09**	**295**	P	**P**	**18 52 12.9**	**+1.3**
	7.0nm,0.8s,baz=135,slow=4.1,SNR=46						
CHTO	**Chiang Mai**	**80.25**	**295**	*e*P	**P**	**18 52 13.5**	**+0.9**
	70nm,1.1s						
CHTO

comp=Z,0.3nm,0.7s,baz=99,slow=3.2,SNR=2.8

IDC 24 18:49:55.3±1.6, 1°36'N×125°57'1E, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.6/23, mbtmp3.8/5, ML3.5/1, Error ellipse: s-maj=55.2km s-min=25.1km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**8.69**	**223**	Pn	Pn	18 52 02.2	-0.2
	0.5nm,0.3s,baz=65,slow=14,SNR=3.7						
WRA	**Warramunga Arr**	**22.80**	**159**	P	P	18 54 59.5	-0.4
	1.4nm,0.5s,baz=338,slow=10,SNR=15						
ASAR	**Alice Springs**	**26.13**	**163**	P	P	18 55 31.1	-0.2
	1.3nm,0.5s,baz=342,slow=9.3,SNR=28						
STKA	**Stephens Creek**	**36.33**	**157**	P	P	18 57 01.4	+0.4
	2.2nm,0.8s,baz=328,slow=10,SNR=5.5						
MKAR	**Makanchi Array**	**58.93**	**327**	P	P	18 59 56.5	+0.1
	0.1nm,0.3s,baz=116,slow=8.1,SNR=4.1						

*ISCJB **24** 18:52:27.2±0.6, 32°53'N±0°06'×105°39'E±0°06, h15km, mb3.6/9, Error ellipse: s-maj=10.4km s-min=5.9km az=145.6*
*IDC **24** 18:52:27.3±0.9, 32°76'N×105°61'E, h0km, mb3.6/9, mb1 3.7/10, mb1mx3.6/28, mbtmp3.6/10, ML3.5/1, Error ellipse: s-maj=70.5km s-min=16.1km az=57.0*
*BJI **24** 18:52:28.5, 32°43'N×105°05'E, h17km, mb3.7/1, ML3.6/13, Ms3.5/5, Ms7 3.3/4*
ISC 24 18:52:29.2±0.7, 32°55'N±0°05'×105°24'E±0°06, h15km, n14, σ1§72/18, mb3.7/9, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**2.07**	**218**	Pn	**Pn**	**18 53 03.4**	**0.0**
CD2				Sn	**Sn**	**18 53 27.9**	**-1.0**
CD2				Sg	**Sb**	**18 53 29.3**	**-2.6**
CD2				smax	smax		
	comp=N,3μm,0.6s						
CD2				smax	smax		
	comp=E,2μm,0.8s						
XAN	**Xi'an**	**3.42**	**63**	Pn	Pb	18 53 26.0	-3.5
XAN				Pg	**Pg**	**18 53 33.9**	**-0.8**
XAN				Sg	**Sg**	**18 54 17.0**	**-2.1**
XAN				smax	smax		
	comp=N,190nm,0.7s						
XAN				smax	smax		
	comp=E,130nm,0.8s						
XAN				LR	LR		
	comp=Z,44nm,4.7s						
LZH	**Lanzhou**	**3.71**	**342**	*e*Pg	Pb	18 53 30.6	-4.0
LZH				Sn	**Sb**	**18 54 19.3**	**-0.2**
LZH				Sg	**Sg**	**18 54 24.1**	**-4.4**
LZH				smax	smax		
	comp=N,310nm,0.7s						
LZH				smax	smax		
	comp=E,410nm,0.6s						
LZH				LR	LR		
	comp=N,390nm,6.4s						
LZH				LR	LR		
	comp=E,550nm,6.8s						
LZH				LR	LR		
	comp=Z,310nm,9.0s						
GTA	**Gaotai**	**8.14**	**329**	*e*P	**Pn**	**18 54 28.8**	**+1.9**
GTA				pP	pP	18 54 33.8	
GTA				sP	sP	18 54 37.1	
GTA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**15.13**	**204**	Pn	**P**	**18 56 07.8**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=7.5,slow=9.5,SNR=7.9						
MKAR	**Makanchi Array**	**22.57**	**316**	P	**P**	**18 57 30.3**	**+1.4**
	comp=Z,1.4nm,0.8s,baz=118,slow=12,SNR=12						
ZALV	**Zalesovo Beam**	**25.88**	**332**	P	**P**	**18 58 01.2**	**+1.1**
	comp=Z,0.6nm,0.6s,baz=120,slow=10,SNR=3.2						
KURBB	**Kurchatov Arra**	**26.71**	**320**	P	**P**	**18 58 09.1**	**+1.4**
	comp=Z,0.5nm,0.6s,baz=131,slow=9.2,SNR=6.8						
BVAR	**Borovoye Array**	**32.29**	**320**	P	**P**	**18 58 57.5**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=125,slow=14,SNR=2.9						
FINES	**FINESS Array B**	**56.92**	**326**	P	**P**	**19 02 14.3**	**+1.0**
	comp=Z,0.8nm,0.6s,baz=101,slow=13,SNR=4.9						
AKASG	**Malin Array Be**	**57.11**	**313**	P	**P**	**19 02 14.9**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=66,slow=6.0,SNR=2.8						
WRA	**Warramunga Arr**	**59.15**	**148**	P	**P**	**19 02 30.8**	**+1.4**
	comp=Z,0.7nm,0.5s,baz=339,slow=7.5,SNR=13						
ASAR	**Alice Springs**	**62.24**	**150**	P	**P**	**19 02 50.5**	**0.0**
	comp=Z,0.5nm,0.7s,baz=332,slow=6.6,SNR=11						
NOA	**NORSAR Array B**	**63.97**	**327**	P	**P**	**19 03 01.5**	**0.0**
	comp=Z,0.7nm,0.7s,baz=72,slow=6.8,SNR=2.7						

IDC 24 18:52:37.0±2.0, 23°88S×66°81W, h203km±22km, mb3.1/1, mb1 3.1/4, mb1mx3.0/16, mbtmp3.0/4, Error ellipse: s-maj=34.7km s-min=19.2km az=92.0, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**7.66**	**350**	P	Pn	18 54 28.2	+1.6
	0.7nm,0.3s,baz=144,slow=8.1,SNR=7.7						
LPAZ				S	S	18 55 51.5	-2.3
	baz=65,slow=19,SNR=1.9						
CFAA	**Coronel Fontan**	**7.80**	**189**	P	Pn	18 54 27.1	-0.6
	0.1nm,0.3s,baz=48,slow=19,SNR=12						
BDFB	**Brasilia**	**19.48**	**69**	P	P	18 56 49.6	+0.7
	0.4nm,0.3s,baz=221,slow=10.0,SNR=4.5						
TORD	**Torodi Ar. Bea**	**76.36**	**69**	P	P	19 04 03.5	-0.8
	0.4nm,0.7s,baz=257,slow=5.8,SNR=8.9						
WRA	**Warramunga Arr**	**131.81**	**207**	PKP	PKPdf	19 11 27.5	+0.8
	0.5nm,1.0s,baz=154,slow=2.2,SNR=3.3						
MKAR	**Makanchi Array**	**146.32**	**40**	PKPbc	PKPbc	19 11 53.6	-0.1
	0.3nm,0.5s,baz=311,slow=2.9,SNR=4.0						

*ISCJB **24** 18:57:48.7±1.0, 6°87N±0°08×72°9W±0°1, h166km, mb3.7/4, Error ellipse: s-maj=16.7km s-min=10.4km az=20.9*
*FUNV **24** 18:57:52.0, 6°99N×72°93W, h163km, MW3.7*
*IDC **24** 18:58:01.4±17.0, 6°52N×72°72W, h280km±158km, mb3.4/4, mb1 3.5/4, mb1mx3.2/19, mbtmp3.4/4, Error ellipse: s-maj=76.6km s-min=25.5km az=139.0*
ISC 24 18:57:49.5±0.9, 6°99N±0°09×72°90W±0°10, h166km, n25, σ1§49/29, mb3.9/4, 1C-10D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.05**	**34**	||*i*P	**Pn**	**18 58 17.6**	**+1.2**
CAPV				*e*S	**Sn**	**18 58 38.0**	**+0.7**
VIGV	**El Vigia**	**2.39**	**40**	||*i*P	**Pn**	**18 58 32.0**	**+1.8**
VIGV				*e*S	**Sn**	**18 59 00.6**	**-1.1**
SOCV	**Socops**	**2.41**	**57**	||*i*P	**Pn**	**18 58 31.7**	**+1.4**
SOCV				*e*S	**Sn**	**18 59 01.2**	**-0.7**
ELOV	**Elorza**	**3.40**	**90**	*e*P	**Pn**	**18 58 43.5**	**+1.0**
VIRV	**Villa del Rosa**	**3.53**	**8**	||*i*P	**Pn**	**18 58 44.5**	**+0.3**
VIRV				*e*S	**Sn**	**18 59 24.3**	**-2.5**
SANV	**Sanarito**	**4.17**	**53**	*e*P	**Pn**	**18 58 54.2**	**+1.8**
CURV	**Curarigua**	**4.18**	**44**	||*i*P	**Pn**	**18 58 54.2**	**+1.5**
DABV	**Dabajuro**	**4.51**	**30**	||*e*P	**Pn**	**18 58 58.5**	**+1.8**
TEPV	**Terepaima**	**4.71**	**51**	||*i*P	**Pn**	**18 59 01.1**	**+1.6**
SIQV	**Siquisique**	**4.75**	**40**	||*i*P	**Pn**	**18 59 01.2**	**+1.2**
BAUV	**El Baul**	**5.19**	**68**	||*i*P	**Pn**	**18 59 05.7**	**0.0**
MAPV	**Macapo**	**5.23**	**57**	||*i*P	**Pn**	**18 59 07.4**	**+1.1**
MONV	**Montecano**	**5.72**	**30**	||*e*P	**Pn**	**18 59 13.5**	**+0.8**
TURV	**Turiamo**	**6.07**	**55**	*e*P	**Pn**	**18 59 17.9**	**+0.6**
LPAZ	**La Paz**	**23.60**	**168**	P	**P**	**19 02 44.0**	**-2.1**
	0.8nm,0.3s,baz=5.2,slow=5.7,SNR=4.0						
TXAR	**Lajitas Array**	**36.51**	**311**	PcP	**PcP**	**19 07 00.1**	**+0.7**
	0.6nm,0.9s,baz=144,slow=5.7,SNR=3.7						
PDAR	**Pinedale Array**	**48.07**	**324**	PcP	**PcP**	**19 07 36.4**	**-1.4**
	0.5nm,0.8s,baz=126,slow=4.6,SNR=2.0						
DBIC	**Dimbokro**	**67.51**	**86**	P	**P**	**19 08 27.6**	**-0.7**
	2.0nm,0.6s,baz=270,slow=7.4,SNR=7.8						
TORD	**Torodi Ar. Bea**	**73.49**	**78**	P	**P**	**19 09 03.6**	**-0.9**
	0.2nm,0.4s,baz=281,slow=7.0,SNR=11						
ARCES	**ARCESS Array B**	**86.44**	**20**	P	**P**	**19 10 13.9**	**+1.0**
	2.4nm,0.8s,baz=260,slow=5.4,SNR=2.5						
ZALV	**Zalesovo Beam**	**116.46**	**14**	PKP	**PKPdf**	**19 16 12.6**	**-0.9**
	0.7nm,0.4s,baz=326,slow=0.5,SNR=4.0						
MKAR	**Makanchi Array**	**122.09**	**20**	PKP	**PKPdf**	**19 16 23.7**	**-0.9**
	0.3nm,0.4s,baz=304,slow=2.9,SNR=7.4						
ASAR	**Alice Springs**	**149.38**	**234**	PKPbc	**PKPdf**	**19 17 17.6**	**+2.4**
	1.6nm,0.5s,baz=122,slow=3.6,SNR=9.3						
WRA	**Warramunga Arr**	**150.60**	**241**	PKPbc	**PKPdf**	**19 17 20.3**	**+3.2**
	1.8nm,0.4s,baz=281,slow=0.5,SNR=4.8						
CMAR	**Chiang Mai Arr**	**153.47**	**18**	PKPbc	**PKPbc**	**19 17 28.9**	**-0.3**
	0.6nm,0.5s,baz=324,slow=3.3,SNR=4.7						

*IDC **24** 19:10:02.8±1.5, 3°42S×135°61E, h0km, mb4.1/5, mb1 4.3/7, mb1mx3.9/19, mbtmp4.1/7, ML4.1/2, Error ellipse: s-maj=64.0km s-min=23.3km az=89.0*
*ISCJB **24** 19:10:06.6±0.7, 3°50S±0°04×135°52E±0°04, h36km±7km, mb4.0/4, Error ellipse: s-maj=6.7km s-min=5.9km az=7.4*
*NEIC **24** 19:10:09.1±0.8, 3°38S×135°25E, h35km, mb4.0/1, Error ellipse: s-maj=29.3km s-min=13.3km az=84.0*
NEIC Felt [III] at Nabire.
*AUST **24** 19:10:09.3, 3°46S×135°52E, h35km*
*DJA **24** 19:10:10.2±1.4, 3°S±3°×13°5E±°, h18km±17km, M4.5/10, mb4.7/7, MLv4.4/10*
ISC 24 19:10:09.8±1.3, 3°49S±0°07×135°53E±0°07, h49km±14km, n57, σ1§53/38, mb4.0/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRPI	**Serui, Papua**	**1.76**	**24**	P	Pn	19 10 35.4	-2.4
SRPI				S	Sn	19 10 53.7	-5.4
KMPI	**Kaimana, Papua**	**1.83**	**265**	P	**Pn**	**19 10 40.2**	**+1.4**
BAKI	**Biak**	**2.35**	**14**	P	Pn	19 10 44.1	-1.9
BAKI				S	**Sn**	**19 11 11.8**	**-1.9**
FAKI	**Fak Fak**	**3.33**	**280**	P	Pn	19 10 58.5	-0.8
FAKI				S	**Sn**	**19 11 36.3**	**-1.4**
FAKI	**Fak Fak**	**3.33**	**280**	P	Pn	19 10 58.6	-0.7
	baz=3.3,SNR=37						
FAKI				S	**Sn**	**19 11 36.3**	**-1.4**
	baz=3.3,SNR=9.9						
TLE	**Tual**	**3.51**	**232**	P	Pn	19 11 04.4	+2.6
TLE	**Tual**	**3.51**	**232**	P	Pn	19 11 05.2	+3.4
	baz=3.5,SNR=9.6						
SWI	**Sorong**	**5.00**	**301**	P	Pn	19 11 21.4	-0.9
SWI				S	Sn	19 12 14.9	-4.0
SWI	**Sorong**	**5.00**	**301**	P	Pn	19 11 21.1	-1.3
	baz=5.0,SNR=52						
SWI				S	Sn	19 12 15.3	-3.6
	baz=5.0,SNR=8.8						
JAY	**Jayapura**	**5.26**	**80**	P	Pn	19 11 29.6	+3.7
	20nm,0.3s,0.1nm						
BNDI	**Bandanaira**	**5.71**	**259**	S	**Sn**	**19 12 36.3**	**+0.1**
MSAI	**Masohi**	**6.59**	**271**	P	Pn	19 11 43.8	-0.4
MMPI	**Merauke**	**6.91**	**136**	P	Pn	19 11 51.6	+3.1
	baz=7.0,SNR=3.2						
AAI	**Ambon**	**7.33**	**268**	P	Pn	19 11 54.2	0.0
	39nm,0.5s,0.2nm						
AAI				S	Sn	19 13 13.4	-2.7
	39nm,0.5s,0.2nm						
AAI	**Ambon**	**7.33**	**268**	P	**Pn**	**19 11 54.9**	**+0.7**
	baz=7.3,SNR=6.9						
NLAI	**Namlea**	**8.42**	**271**	P	Pn	19 12 08.6	-0.7
	28nm,0.6s						
LBMI	**Labuha**	**8.51**	**289**	P	Pn	19 12 10.0	-0.5
	48nm,0.9s						
KDU	**Kakadu**	**9.63**	**198**	P	Pn	19 12 25.4	-0.4
	baz=9.7,SNR=111						
SOEI	**Soe**	**12.80**	**240**	P	Pn	19 13 09.4	+0.1
SOEI	**Soe**	**12.80**	**240**	P	Pn	19 13 13.9	+4.6
	baz=13,SNR=3.6						
COEN	**Coen**	**12.85**	**145**	P	**Pn**	**19 13 09.3**	**-0.6**
	baz=13,SNR=31						
COEN				S	Sn	19 15 26.3	-5.2
	baz=13,SNR=4.5						
KNRA	**Kununurra**	**13.82**	**208**	P	Pn	19 13 21.6	-1.5
	baz=14,SNR=38						
KNRA				S	Sn	19 15 48.8	-6.4
	baz=14,SNR=6.9						
APSI	**Ampana**	**14.11**	**280**	P	Pn	19 13 26.7	-0.3
WSI	**Waingapu**	**16.32**	**247**	S	S	19 17 18.8	+12
	baz=16,SNR=3.1						
WRAB	**Tennant Creek**	**16.38**	**184**	*e*P	Pn	19 13 53.5	-3.0
	11nm,0.8s						
WRA	**Warramunga Arr**	**16.39**	**184**	Pn	Pn	19 13 53.8	-2.9
WRA				Sn	Sn	19 16 47.3	-10
WRA	**Warramunga Arr**	**16.39**	**184**	Pn	Pn	19 13 53.8	-2.9
	0.6nm,0.3s,baz=357,slow=13,SNR=39						
WRA				Sn	Sn	19 16 47.3	-10
	0.7nm,0.3s,baz=9.3,slow=22,SNR=7.1						
MTSU	**Mount Surprise**	**16.91**	**150**	P	**Pn**	**19 14 02.6**	**-0.4**
	baz=17,SNR=7.7						
FITZ	**Fitzroy Crossi**	**17.46**	**213**	P	**Pn**	**19 14 08.3**	**-1.5**
FITZ				S	Sn	19 17 08.7	-15
FITZ	**Fitzroy Crossi**	**17.46**	**213**	P	**Pn**	**19 14 08.3**	**-1.5**
	0.7nm,0.3s,baz=30,slow=11,SNR=48						
FITZ				S	Sn	19 17 08.7	-15
	0.7nm,0.3s,baz=201,slow=15,SNR=6.3						
FITZ	**Fitzroy Crossi**	**17.46**	**213**	P	**Pn**	**19 14 08.6**	**-1.2**
	baz=18,SNR=28						
FITZ				S	Sn	19 17 09.4	-14
	baz=18,SNR=6.3						
CTA	**Charters Tower**	**19.53**	**148**	P	**Pn**	**19 14 37.1**	**+2.1**
CTA	**Charters Tower**	**19.53**	**148**	P	**Pn**	**19 14 37.1**	**+2.1**
	0.2nm,0.3s,baz=312,slow=12,SNR=4.1						
AS31	**Alice Springs**	**20.12**	**184**	*e*P	**P**	**19 14 42.2**	**+2.4**
ASAR	**Alice Springs**	**20.12**	**184**	P	**P**	**19 14 40.5**	**+0.7**
ASAR				S	**S**	**19 18 19.2**	**-4.0**
ASAR	**Alice Springs**	**20.12**	**184**	P	**P**	**19 14 40.5**	**+0.7**
	9.3nm,0.6s,baz=6.3,slow=11,SNR=114						
ASAR				S	**S**	**19 18 19.2**	**-4.0**
	1.4nm,0.8s,baz=6.0,slow=27,SNR=4.3						
QLP	**Quilpie**	**24.43**	**161**	P	**P**	**19 15 27.0**	**+3.1**
	baz=25,SNR=12						
MCQ	**Macquarie Isla**	**54.31**	**163**	P	P	19 19 41.0	+10
	baz=54,SNR=3.3						
ODAN	**Odare**	**55.40**	**306**	*e*P	**P**	**19 19 40.1**	**+0.4**
	11nm,0.8s						
RAMN	**Ramite**	**56.08**	**306**	*e*P	**P**	**19 19 45.4**	**+0.8**
	14nm,0.7s						
JIRN	**Jiri**	**56.71**	**306**	*e*P	**P**	**19 19 48.9**	**-0.3**
	6.0nm,0.6s						
GUN	**Gumba**	**57.06**	**307**	*e*P	**P**	**19 19 52.2**	**+0.5**
	15nm,0.6s						
PKI	**Pulchoki**	**57.30**	**306**	*e*P	**P**	**19 19 53.7**	**+0.4**
PKIN	**Phulchoki**	**57.31**	**306**	*e*P	**P**	**19 19 53.4**	**+0.1**
	4.9nm,0.7s						
KKN	**Kakani**	**57.49**	**306**	*e*P	**P**	**19 19 54.8**	**+0.2**
	5.9nm,0.7s						
DMN	**Daman**	**57.56**	**306**	*e*P	**P**	**19 19 55.5**	**+0.4**
	12nm,0.8s						
GKN	**Gorkha**	**58.10**	**306**	*e*P	**P**	**19 19 59.2**	**+0.5**
	12nm,0.7s						
KOLN	**Koldanda**	**58.84**	**305**	*e*P	**P**	**19 20 04.7**	**+0.7**
	11nm,0.7s						
DANN	**Dangsing**	**58.95**	**306**	*e*P	**P**	**19 20 05.3**	**+0.5**
	6.4nm,0.5s						
MKAR	**Makanchi Array**	**68.50**	**324**	P	**P**	**19 21 07.4**	**+0.3**
MKAR	**Makanchi Array**	**68.50**	**324**	P	**P**	**19 21 07.4**	**+0.3**
	0.9nm,0.6s,baz=114,slow=8.0,SNR=13						
ZALV	**Zalesovo Beam**	**71.05**	**331**	P	**P**	**19 21 22.1**	**-0.4**
ZALV	**Zalesovo Beam**	**71.05**	**331**	P	**P**	**19 21 22.1**	**-0.4**
	0.7nm,0.6s,baz=108,slow=8.0,SNR=4.3						
KURK	**Kurchatov**	**72.56**	**326**	P	**P**	**19 21 31.9**	**+0.3**
KURBB	**Kurchatov Arra**	**72.56**	**326**	P	**P**	**19 21 31.9**	**+0.2**
	0.8nm,0.3s,baz=127,slow=4.7,SNR=5.9						
ILAR	**Eielson Array**	**87.86**	**25**	P	**P**	**19 22 52.9**	**-0.8**
ILAR	**Eielson Array**	**87.86**	**25**	P	**P**	**19 22 52.9**	**-0.8**
	0.4nm,0.4s,baz=272,slow=4.7,SNR=4.1						

IDC 24 19:34:59.0±2.2, 28°24S×177°06W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.6/16, mbtmp3.6/2, Error ellipse: s-maj=65.4km s-min=23.9km az=118.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.26**	**216**	Pn	Pn	19 35 24.0	+0.1
	246nm,0.3s,baz=72,slow=7.0,SNR=27						
RAO				Sn	Sn	19 35 41.9	+0.3
	576nm,0.3s,baz=250,slow=23,SNR=11						
ASAR	**Alice Springs**	**44.09**	**264**	P	P	19 43 08.9	-0.4
	0.5nm,0.6s,baz=96,slow=7.1,SNR=16						
WRA	**Warramunga Arr**	**44.89**	**269**	P	P	19 43 15.5	-0.1
	1.0nm,0.9s,baz=109,slow=7.8,SNR=10						
AKASG	**Malin Array Be**	**150.03**	**326**	PKPbc	PKPbc	19 54 49.8	-1.4
	0.4nm,0.4s,baz=44,slow=2.8,SNR=4.2						
BRTR	**Keskin Array B**	**152.21**	**302**	PKPbc	PKPbc	19 54 56.9	0.0
	0.2nm,0.5s,baz=97,slow=4.9,SNR=2.9						
BRTR				PKPab	PKPab	19 55 07.5	+0.8
	0.9nm,1.0s,baz=20,slow=4.6,SNR=4.5						

IDC 24 19:38:07.6±2.9, 28°55S×176°41W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.7/16, mbtmp3.7/3, Error ellipse: s-maj=112.0km s-min=29.7km az=146.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.50**	**242**	Pn	Pg	19 38 36.9	+0.5
	227nm,0.3s,baz=59,slow=9.1,SNR=11						
RAO				Sn	Sg	19 38 55.1	-0.7
	608nm,0.3s,baz=110,slow=20,SNR=8.1						
STKA	**Stephens Creek**	**36.28**	**254**	P	P	19 45 12.3	-0.6
	1.2nm,0.6s,baz=76,slow=12,SNR=2.9						
ASAR	**Alice Springs**	**44.64**	**264**	P	P	19 46 22.4	+0.2
	0.7nm,0.6s,baz=105,slow=7.5,SNR=11						
WRA	**Warramunga Arr**	**45.46**	**269**	P	P	19 46 28.6	-0.1
	0.6nm,0.6s,baz=109,slow=8.0,SNR=7.5						
FINES	**FINESS Array B**	**143.86**	**342**	PKP	PKPdf	19 57 44.6	+0.4
	2.2nm,0.9s,baz=8.5,slow=2.8,SNR=3.4						
BRTR	**Keskin Array B**	**152.87**	**302**	PKPbc	PKPbc	19 58 06.3	-0.6
	0.4nm,0.7s,baz=323,slow=0.7,SNR=3.4						

MAN 24 20:25:40.7±13N×123°89E, h32km, mb3.8, ML2.6, MS2.2, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**0.37**	**76**	||*i*P	Pn	20 25 50.1	+1.0
CTBH				*i*S	Sn	20 25 58.7	+3.5
PAGZ	**Pagadian**	**0.87**	**325**	*e*P	Pb	20 25 57.8	+1.2
PAGZ				*e*S	Sb	20 26 08.4	+0.4
BUKP	**Musuan**	**1.38**	**57**	*e*P	Pb	20 26 04.6	-0.7
IPIL	**Ipil**	**1.46**	**297**	*e*P	Pb	20 26 05.4	-1.1
SCPH	**Surigao**	**3.07**	**31**	*i*P	Pn	20 26 17.2	-9.1

*JMA **24** 20:53:52.7±0.4, 32°22N×137°82E, h428km, M3.1*
*ISCJB **24** 20:53:54.6±1.1, 32°3N±0°1×137°8E±0°2, h400km, mb2.6/2, Error ellipse: s-maj=21.4km s-min=11.9km az=34.6*
*IDC **24** 20:53:55.9±2.1, 32°43N×137°72E, h412km±44km, mb2.5/2, mb1 2.7/4, mb1mx2.5/28, mbtmp2.5/4, Error ellipse: s-maj=81.1km s-min=27.7km az=56.0*
ISC 24 20:53:55.2±1.3, 32°4N±0°1×137°8E±0°2, h400km, n13, σ1§64/15, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIE	**Ise**	**2.18**	**335**	P	**Pn**	**20 54 53.9**	**+1.7**
JNY	**Yasuok**	**2.93**	**0**	P	**Pn**	**20 54 59.6**	**+1.8**
JOD2	**Odawara 2**	**3.02**	**20**	P	**Pn**	**20 55 00.8**	**+2.3**
JGM	**Miyama**	**3.40**	**345**	P	**Pn**	**20 55 03.9**	**+2.2**
JHU	**Hanno**	**3.63**	**19**	P	**Pn**	**20 55 05.7**	**+2.0**
MJAR	**Matsushiro Arr**	**4.12**	**4**	P	**Pn**	**20 55 09.6**	**+1.3**
	1.5nm,0.3s,baz=182,slow=11,SNR=23						
MAT	**Matsushiro**	**4.12**	**4**	P	**Pn**	**20 55 09.9**	**+1.5**
MAT	**Matsushiro**	**4.12**	**4**	P	**Pn**	**20 55 10.2**	**+1.8**
JAG	**Ashikaga**	**4.21**	**18**	P	**Pn**	**20 55 09.9**	**+0.7**
JAG				*e*S	**S**	**20 56 08.3**	**-1.1**
JHO	**Hitachi**	**4.75**	**28**	P	**Pn**	**20 55 15.0**	**+0.5**
JHO				*e*S	**S**	**20 56 17.8**	**-1.3**
KSRS	**Korea Array**	**9.56**	**304**	P	**Pn**	**20 56 07.8**	**-0.2**
	0.3nm,0.3s,baz=116,slow=9.2,SNR=4.6						
MKAR	**Makanchi Array**	**44.24**	**306**	P	**P**	**21 01 25.6**	**-1.1**
	0.1nm,0.4s,baz=91,slow=9.7,SNR=3.6						
WRA	**Warramunga Arr**	**52.17**	**184**	P	**P**	**21 02 26.4**	**-0.4**
	0.4nm,0.6s,baz=360,slow=7.7,SNR=6.4						

IDC 24 21:10:11.8±1.1, 28°11S×177°37W, h0km, mb3.6/3, mb1 4.0/3, mb1mx3.7/17, mbtmp3.6/3, MS4.1/2, Ms1 4.1/2, ms1mx3.1/30, Error ellipse: s-maj=38.2km s-min=20.5km az=113.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.23**	**203**	Pn	Pn	21 10 36.2	-0.1
	231nm,0.3s,baz=137,slow=15,SNR=16						
RAO				Sn	Sb	21 10 52.9	+0.3
	628nm,0.3s,baz=250,slow=22,SNR=15						
PMG	**Port Moresby**	**38.19**	**292**	LR	LR	21 28 55.6	
	comp=Z,450nm,18.7s,baz=29,slow=29						
ASAR	**Alice Springs**	**43.83**	**264**	P	P	21 18 18.9	-1.1
	0.5nm,0.7s,baz=95,slow=7.5,SNR=5.2						
WRA	**Warramunga Arr**	**44.61**	**270**	P	P	21 18 27.4	+1.2
	0.7nm,0.9s,baz=107,slow=8.0,SNR=6.6						
LPIG	**La Paz**	**82.86**	**58**	LR	LR	21 49 12.4	
	comp=Z,47nm,19.8s,baz=60,slow=28						
NVAR	**Mina Array Bea**	**86.19**	**42**	P	P	21 22 54.4	-0.9
	0.6nm,0.8s,baz=231,slow=9.8,SNR=5.3						
FINES	**FINESS Array B**	**143.17**	**341**	PKP	PKPdf	21 29 47.3	0.0
	3.3nm,0.9s,baz=93,slow=2.8,SNR=4.4						
AKASG	**Malin Array Be**	**149.77**	**326**	PKPbc	PKPbc	21 30 02.6	-0.8
	0.3nm,0.3s,baz=45,slow=3.1,SNR=6.4						
BRTR	**Keskin Array B**	**151.91**	**302**	PKPbc	PKPbc	21 30 09.7	+0.6
	0.2nm,0.5s,baz=38,slow=7.3,SNR=2.5						
BRTR				PKPab	PKPab	21 30 16.5	-1.8
	0.6nm,0.6s,baz=148,slow=3.9,SNR=4.6						
TORD	**Torodi Ar. Bea**	**165.09**	**176**	PKPab	PKPab	21 31 16.6	+1.4
	0.3nm,0.7s,baz=183,slow=5.8,SNR=2.5						

*ISCJB **24** 21:23:57.1±0.8, 36°08N±0°04×21°84E±0°06, h2km±7km, Error ellipse: s

GUR	**Goura**	**1.90**	**11**	P	**Pn**	**21 24 31.5**	**+0.1**
GUR				S	**Sn**	**21 24 55.7**	**-0.2**
GUR	**Goura**	**1.90**	**11**	*e*PN	**Pn**	**21 24 31.5**	**+0.1**
GUR	**Goura**	**1.90**	**11**	P	**Pn**	**21 24 31.5**	**+0.1**
GUR				S	**Sn**	**21 24 55.7**	**-0.2**
VAM	**Vamos**	**1.98**	**109**	P	**Pb**	**21 24 34.0**	**-0.7**
VAM	**Vamos**	**1.98**	**109**	*e*PB	**Pn**	**21 24 31.4**	**-1.0**
VAM	**Vamos**	**1.98**	**109**	*e*Pb	**Pn**	**21 24 31.4**	**-1.0**
KLV	**Kalavryta, Ach**	**1.98**	**6**	P	**Pn**	**21 24 33.2**	**+0.7**
KLV	**Kalavryta, Ach**	**1.98**	**6**	*e*PB	**Pn**	**21 24 32.7**	**+0.2**
KLV	**Kalavryta, Ach**	**1.98**	**6**	*e*Pb	**Pn**	**21 24 32.7**	**+0.2**
KLV	**Kalavryta, Ach**	**1.98**	**6**	P	**Pn**	**21 24 33.2**	**+0.7**
RLS	**Riolos of Patr**	**2.02**	**350**	P	**Pn**	**21 24 32.8**	**-0.1**
RLS	**Riolos of Patr**	**2.02**	**350**	*e*PN	**Pn**	**21 24 32.4**	**-0.5**
RLS	**Riolos of Patr**	**2.02**	**350**	*e*Pn	**Pn**	**21 24 32.4**	**-0.5**
RLS	**Riolos of Patr**	**2.02**	**350**	P	**Pn**	**21 24 32.8**	**-0.1**
NAIG	**Nisos Aigina**	**2.12**	**37**	*e*PN	**Pn**	**21 24 33.7**	**-0.5**
NAIG	**Nisos Aigina**	**2.12**	**37**	*e*Pn	**Pn**	**21 24 33.7**	**-0.5**
LTK	**Loutraki**	**2.13**	**23**	P	**Pn**	**21 24 35.1**	**+0.6**
LTK				S	**Sn**	**21 25 02.2**	**+0.8**
LTK	**Loutraki**	**2.13**	**23**	*e*PB	**Pn**	**21 24 35.2**	**+0.7**
LTK	**Loutraki**	**2.13**	**23**	P	**Pn**	**21 24 35.1**	**+0.6**
LTK				S	**Sn**	**21 25 02.2**	**+0.8**
AXS	**Araxos**	**2.17**	**349**	P	**Pn**	**21 24 35.3**	**+0.4**
AXS	**Araxos**	**2.17**	**349**	P	**Pn**	**21 24 35.3**	**+0.4**
LAKA	**Lakka**	**2.17**	**2**	P	**Pn**	**21 24 34.9**	**-0.1**
LAKA				S	**Sn**	**21 25 02.5**	**+0.1**
LAKA	**Lakka**	**2.17**	**2**	*e*PB	**Pn**	**21 24 35.1**	**+0.1**
LAKA	**Lakka**	**2.17**	**2**	*e*Pb	**Pn**	**21 24 35.1**	**+0.1**
LAKA				S	**Sn**	**21 25 02.5**	**+0.1**
TRIZ	**Trizonia**	**2.30**	**3**	P	**Pn**	**21 24 37.6**	**+0.9**
TRIZ				S	**Sn**	**21 25 06.3**	**+0.8**
TRIZ	**Trizonia**	**2.30**	**3**	*e*PN	**Pn**	**21 24 36.7**	**0.0**
TRIZ	**Trizonia**	**2.30**	**3**	*e*Pn	**Pn**	**21 24 36.7**	**0.0**
TRIZ	**Trizonia**	**2.30**	**3**	P	**Pn**	**21 24 37.6**	**+0.9**
TRIZ				S	**Sn**	**21 25 06.3**	**+0.8**
KALE	**Kalithea**	**2.33**	**5**	P	**Pn**	**21 24 37.2**	**0.0**
KALE	**Kalithea**	**2.33**	**5**	*e*PN	**Pn**	**21 24 37.2**	**0.0**
KALE	**Kalithea**	**2.33**	**5**	P	**Pn**	**21 24 37.2**	**0.0**
VLS	**Valsamata**	**2.35**	**334**	P	**Pn**	**21 24 37.9**	**+0.4**
VLS	**Valsamata**	**2.35**	**334**	*e*PN	**Pn**	**21 24 36.6**	**-0.9**
VLS	**Valsamata**	**2.35**	**334**	*e*Pn	**Pn**	**21 24 36.6**	**-0.9**
VLS	**Valsamata**	**2.35**	**334**	P	**Pn**	**21 24 37.9**	**+0.4**
EFP	**Efpalio**	**2.36**	**0**	P	**Pn**	**21 24 37.5**	**0.0**
EFP				S	**Sn**	**21 25 07.4**	**+0.5**
EFP	**Efpalio**	**2.36**	**0**	*e*PN	**Pn**	**21 24 37.6**	**0.0**
EFP	**Efpalio**	**2.36**	**0**	*e*Pn	**Pn**	**21 24 37.6**	**0.0**
EFP				S	**Sn**	**21 25 07.4**	**+0.5**
IDI	**Anoyia**	**2.56**	**107**	P	**Pn**	**21 24 41.9**	**+1.6**
IDI	**Anoyia**	**2.56**	**107**	*e*PN	**Pn**	**21 24 39.2**	**-1.1**
IDI	**Anoyia**	**2.56**	**107**	*e*Pn	**Pn**	**21 24 39.2**	**-1.1**
IDI	**Anoyia**	**2.56**	**107**	P	**Pn**	**21 24 41.9**	**+1.6**
PVO	**Paravola**	**2.56**	**353**	P	**Pn**	**21 24 41.3**	**+0.9**
PVO	**Paravola**	**2.56**	**353**	P	**Pn**	**21 24 41.3**	**+0.9**
SIVA	**Sivas**	**2.59**	**113**	P	**Pn**	**21 24 42.6**	**+1.8**
LKR	**Lokris**	**2.73**	**18**	P	**Pn**	**21 24 42.8**	**+0.2**
LKR	**Lokris**	**2.73**	**18**	*e*PN	**Pn**	**21 24 42.3**	**-0.3**
LKR	**Lokris**	**2.73**	**18**	*e*Pn	**Pn**	**21 24 42.3**	**-0.3**
LKR	**Lokris**	**2.73**	**18**	P	**Pn**	**21 24 42.8**	**+0.2**
EVR	**Evrytania**	**2.85**	**359**	*e*PN	**Pn**	**21 24 44.5**	**+0.1**
EVR	**Evrytania**	**2.85**	**359**	*e*Pn	**Pn**	**21 24 44.5**	**+0.1**
MAKR	**Makrakomi, Fth**	**2.95**	**4**	P	**Pn**	**21 24 46.1**	**+0.4**
MAKR	**Makrakomi, Fth**	**2.95**	**4**	P	**Pn**	**21 24 46.1**	**+0.4**
AGG	**Agios Georgios**	**2.97**	**7**	P	**Pn**	**21 24 46.4**	**+0.4**
AGG	**Agios Georgios**	**2.97**	**7**	*e*PN	**Pn**	**21 24 46.7**	**+0.7**
AGG	**Agios Georgios**	**2.97**	**7**	P	**Pn**	**21 24 46.4**	**+0.4**
AGG	**Agios Georgios**	**2.97**	**7**	*e*Pn	**Pn**	**21 24 46.7**	**+0.7**
APE	**Apeiranthos**	**3.09**	**70**	*e*PN	**Pn**	**21 24 48.4**	**+0.7**
APE	**Apeiranthos**	**3.09**	**70**	*e*Pn	**Pn**	**21 24 48.4**	**+0.7**
NPS	**Neapolis**	**3.13**	**104**	*e*PN	**Pn**	**21 24 48.0**	**-0.2**
NPS	**Neapolis**	**3.13**	**104**	*e*Pn	**Pn**	**21 24 48.0**	**-0.2**
NEO	**Neokhori**	**3.40**	**18**	*e*PN	**Pn**	**21 24 51.7**	**-0.2**
NEO	**Neokhori**	**3.40**	**18**	*e*Pn	**Pn**	**21 24 51.7**	**-0.2**
XOR	**Xorichti**	**3.45**	**17**	P	**Pn**	**21 24 52.8**	**+0.2**
XOR	**Xorichti**	**3.45**	**17**	P	**Pn**	**21 24 52.8**	**+0.2**
AOS	**Alonnisos**	**3.48**	**26**	*e*PN	**Pn**	**21 24 52.8**	**-0.1**
AOS	**Alonnisos**	**3.48**	**26**	*e*Pn	**Pn**	**21 24 52.8**	**-0.1**
THL	**Klokotos Trika**	**3.49**	**1**	*e*PN	**Pn**	**21 24 52.9**	**-0.3**
THL	**Klokotos Trika**	**3.49**	**1**	*e*Pn	**Pn**	**21 24 52.9**	**-0.3**
KEK	**Kerkira**	**4.00**	**336**	*e*PN	**Pn**	**21 24 59.9**	**-0.3**
KEK	**Kerkira**	**4.00**	**336**	*e*Pn	**Pn**	**21 24 59.9**	**-0.3**

*ATH **24** 21:27:51.8, 35.°93N×21.°77E, h18km±1km, MD3.5/19*
*CSEM **24** 21:27:52.8±0.4, 36.°01N×21.°84E, h2km, ML2.9/7, Error ellipse: s-maj=10.2km s-min=4.5km az=52.0*
*THE **24** 21:27:55.4, 36.°10N×21.°95E, h6km±1km, ML2.9/7, Error ellipse: s-maj=1.6km s-min=0.8km az=50.0*

ISC 24 21:27:53.0±1.6, **36.°00N**±0.°05×**21.°85E**±0.°05, **h6**km±10km, **n70**, σ0.°77/105, **Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.90**	**354**	P	**Pg**	**21 28 10.3**	**+0.1**
PYL				S	**Sg**	**21 28 22.3**	**+0.5**
PYL	**PYLOS**	**0.90**	**354**	*e*PN	**Pg**	**21 28 09.9**	**-0.3**
PYL				*e*SN	**Sn**	**21 28 24.5**	**-0.9**
PYL	**PYLOS**	**0.90**	**354**	*e*Pn	**Pg**	**21 28 09.9**	**-0.3**
PYL	**PYLOS**	**0.90**	**354**	P	**Pg**	**21 28 10.3**	**+0.1**
PYL				S	**Sg**	**21 28 22.3**	**+0.5**
KYTH	**Kithira**	**1.00**	**73**	P	**Pb**	**21 28 12.6**	**-0.1**
KYTH	**Kithira**	**1.00**	**73**	*e*PN	**Pb**	**21 28 12.7**	**0.0**
KYTH	**Kithira**	**1.00**	**73**	P	**Pb**	**21 28 12.6**	**-0.1**
VLI	**Veliai**	**1.13**	**50**	P	**Pg**	**21 28 14.1**	**-0.6**
VLI				S	**Sg**	**21 28 28.9**	**-0.4**
VLI	**Veliai**	**1.13**	**50**	*e*PB	**Pg**	**21 28 14.2**	**-0.5**
VLI				*e*SN	**Sn**	**21 28 32.6**	**+1.4**
VLI	**Veliai**	**1.13**	**50**	P	**Pg**	**21 28 14.1**	**-0.6**
VLI				S	**Sg**	**21 28 28.9**	**-0.4**
VLI				*e*Sn	**Sn**	**21 28 32.6**	**+1.4**
ITM	**Ithomi**	**1.18**	**3**	P	**Pg**	**21 28 15.4**	**-0.2**
ITM				S	**Sg**	**21 28 30.6**	**-0.2**
ITM	**Ithomi**	**1.18**	**3**	*e*PN	**Pg**	**21 28 15.0**	**-0.6**
ITM				*e*SN	**Sn**	**21 28 32.1**	**-0.3**
ITM	**Ithomi**	**1.18**	**3**	*e*Pn	**Pg**	**21 28 15.0**	**-0.6**
ITM	**Ithomi**	**1.18**	**3**	P	**Pg**	**21 28 15.4**	**-0.2**
ITM				S	**Sg**	**21 28 30.6**	**-0.2**
ITM				*e*Sn	**Sn**	**21 28 32.1**	**-0.3**
ANKY	**Antikythira Is**	**1.18**	**96**	P	**Pn**	**21 28 16.4**	**+0.3**
ANKY				S	**Sn**	**21 28 32.9**	**+0.4**
ANKY	**Antikythira Is**	**1.18**	**96**	*e*PN	**Pn**	**21 28 16.0**	**-0.1**
ANKY	**Antikythira Is**	**1.18**	**96**	*e*Pn	**Pn**	**21 28 16.0**	**-0.1**
ANKY	**Antikythira Is**	**1.18**	**96**	P	**Pn**	**21 28 16.4**	**+0.3**
VLX	**Vlachokerasia**	**1.43**	**17**	P	**Pn**	**21 28 19.4**	**-0.2**
VLX				S	**Sb**	**21 28 37.8**	**-0.8**
VLX	**Vlachokerasia**	**1.43**	**17**	*e*PN	**Pn**	**21 28 19.4**	**-0.2**
VLX				*e*SN	**Sg**	**21 28 40.4**	**+1.4**
VLX	**Vlachokerasia**	**1.43**	**17**	P	**Pn**	**21 28 19.4**	**-0.2**
VLX				S	**Sb**	**21 28 37.8**	**-0.8**
VLX				*e*Sn	**Sg**	**21 28 40.4**	**+1.4**
AMT	**Artemida-Makis**	**1.53**	**356**	P	**Pn**	**21 28 20.6**	**-0.3**
AMT				S	**Sn**	**21 28 40.9**	**-0.2**
AMT	**Artemida-Makis**	**1.53**	**356**	*e*PN	**Pb**	**21 28 22.0**	**+0.2**
AMT				*e*SN	**Sg**	**21 28 44.5**	**+2.3**
AMT	**Artemida-Makis**	**1.53**	**356**	P	**Pn**	**21 28 20.6**	**-0.3**
AMT	**Artemida-Makis**	**1.53**	**356**	*e*Pn	**Pb**	**21 28 22.0**	**+0.2**
AMT				S	**Sn**	**21 28 40.9**	**-0.2**
AMT				*e*Sn	**Sg**	**21 28 44.5**	**+2.3**
KARN	**Karanos**	**1.78**	**109**	P	**Pn**	**21 28 24.7**	**+0.4**
KARN				S	**Sb**	**21 28 48.5**	**-0.2**
KARN	**Karanos**	**1.78**	**109**	*e*PN	**Pn**	**21 28 24.5**	**+0.2**
KARN				*e*SN	**Sb**	**21 28 48.5**	**-0.2**
KARN	**Karanos**	**1.78**	**109**	P	**Pn**	**21 28 24.7**	**+0.4**
KARN				S	**Sb**	**21 28 48.5**	**-0.2**
DIDY	**Didyma**	**1.83**	**36**	P	**Pn**	**21 28 25.2**	**+0.1**
DIDY				S	**Sn**	**21 28 47.6**	**-1.1**
DIDY	**Didyma**	**1.83**	**36**	P	**Pn**	**21 28 25.2**	**+0.1**
DIDY				S	**Sn**	**21 28 47.6**	**-1.1**
DID	**Didima**	**1.87**	**36**	P	**Pn**	**21 28 25.8**	**+0.2**
DID				S	**Sn**	**21 28 49.4**	**0.0**
DID	**Didima**	**1.87**	**36**	*e*PB	**Pn**	**21 28 25.7**	**+0.2**
DID				*e*SN	**Sb**	**21 28 51.9**	**+0.7**
DID	**Didima**	**1.87**	**36**	P	**Pn**	**21 28 25.8**	**+0.2**
DID				S	**Sn**	**21 28 49.4**	**0.0**
DID				*e*Sn	**Sb**	**21 28 51.9**	**+0.7**
GUR	**Goura**	**1.97**	**11**	P	**Pn**	**21 28 27.8**	**+0.8**
GUR	**Goura**	**1.97**	**11**	*e*PN	**Pb**	**21 28 28.4**	**-0.9**
GUR				*e*SN	**Sb**	**21 28 53.8**	**-0.4**
GUR	**Goura**	**1.97**	**11**	P	**Pn**	**21 28 27.8**	**+0.8**
GUR	**Goura**	**1.97**	**11**	*e*Pn	**Pb**	**21 28 28.4**	**-0.9**
GUR				*e*Sn	**Sb**	**21 28 53.8**	**-0.4**
VAM	**Vamos**	**2.00**	**107**	P	**Pn**	**21 28 28.0**	**+0.7**
VAM	**Vamos**	**2.00**	**107**	*e*PN	**Pn**	**21 28 27.4**	**+0.1**
VAM	**Vamos**	**2.00**	**107**	*e*Pn	**Pn**	**21 28 27.4**	**+0.1**
VAM	**Vamos**	**2.00**	**107**	P	**Pn**	**21 28 28.0**	**+0.7**
KLV	**Kalavryta, Ach**	**2.05**	**7**	P	**Pn**	**21 28 29.1**	**+1.0**
KLV	**Kalavryta, Ach**	**2.05**	**7**	*e*PN	**Pb**	**21 28 29.4**	**-1.3**
KLV				*e*SN	**Sb**	**21 28 56.1**	**-0.4**
KLV	**Kalavryta, Ach**	**2.05**	**7**	P	**Pn**	**21 28 29.1**	**+1.0**
KLV	**Kalavryta, Ach**	**2.05**	**7**	*e*Pn	**Pb**	**21 28 29.4**	**-1.3**
KLV				*e*Sn	**Sb**	**21 28 56.1**	**-0.4**
RLS	**Riolos of Patr**	**2.08**	**352**	P	**Pn**	**21 28 28.9**	**+0.6**
RLS	**Riolos of Patr**	**2.08**	**352**	*e*PN	**Pn**	**21 28 29.3**	**+1.0**
RLS	**Riolos of Patr**	**2.08**	**352**	P	**Pn**	**21 28 28.9**	**+0.6**
RLS	**Riolos of Patr**	**2.08**	**352**	*e*Pn	**Pn**	**21 28 29.3**	**+1.0**
LTK	**Loutraki**	**2.21**	**24**	P	**Pn**	**21 28 30.8**	**+0.6**
LTK	**Loutraki**	**2.21**	**24**	*e*PB	**Pn**	**21 28 30.8**	**+0.6**
LTK	**Loutraki**	**2.21**	**24**	P	**Pn**	**21 28 30.8**	**+0.6**
LAKA	**Lakka**	**2.24**	**3**	P	**Pn**	**21 28 30.8**	**+0.2**
LAKA	**Lakka**	**2.24**	**3**	*e*PN	**Pn**	**21 28 31.6**	**+1.0**
LAKA				*e*SN	**Sn**	**21 28 59.6**	**+1.1**
LAKA	**Lakka**	**2.24**	**3**	P	**Pn**	**21 28 30.8**	**+0.2**
LAKA	**Lakka**	**2.24**	**3**	*e*Pn	**Pn**	**21 28 31.6**	**+1.0**
LAKA				*e*Sn	**Sn**	**21 28 59.6**	**+1.1**
TRIZ	**Trizonia**	**2.37**	**4**	*e*PB	**Pb**	**21 28 34.4**	**-1.6**
TRIZ	**Trizonia**	**2.37**	**4**	*e*Pb	**Pb**	**21 28 34.4**	**-1.6**
VLS	**Valsamata**	**2.39**	**335**	*e*PB	**Pn**	**21 28 32.6**	**-0.1**
VLS	**Valsamata**	**2.39**	**335**	*e*Pb	**Pn**	**21 28 32.6**	**-0.1**
KALE	**Kalithea**	**2.40**	**5**	P	**Pn**	**21 28 33.7**	**+0.9**
KALE	**Kalithea**	**2.40**	**5**	*e*PB	**Pn**	**21 28 34.0**	**+1.2**
KALE	**Kalithea**	**2.40**	**5**	P	**Pn**	**21 28 33.7**	**+0.9**
KALE	**Kalithea**	**2.40**	**5**	*e*Pb	**Pn**	**21 28 34.0**	**+1.2**
EFP	**Efpalio**	**2.42**	**1**	P	**Pn**	**21 28 33.5**	**+0.4**
EFP	**Efpalio**	**2.42**	**1**	*e*PB	**Pn**	**21 28 34.4**	**+1.3**
EFP	**Efpalio**	**2.42**	**1**	P	**Pn**	**21 28 33.5**	**+0.4**
EFP	**Efpalio**	**2.42**	**1**	*e*Pb	**Pn**	**21 28 34.4**	**+1.3**
IDI	**Anoyia**	**2.57**	**105**	*e*PN	**Pn**	**21 28 35.5**	**+0.2**
IDI	**Anoyia**	**2.57**	**105**	*e*Pn	**Pn**	**21 28 35.5**	**+0.2**

*IDC **24** 21:33:44.1±2.2, 9.°58S×118.°94E, h0km, mb3.3/2, mb1 3.6/5, mb1mx3.4/22, mbtmp3.4/5, ML3.4/3, Error ellipse: s-maj=78.6km s-min=23.7km az=61.0*
*ISCJB **24** 21:33:56.5±0.7, 8.°96S±0.°05×120.°67E±0.°06, h26km, mb3.5/1, Error ellipse: s-maj=9.7km s-min=5.8km az=148.6*
*DJA **24** 21:33:59.2±0.9, 9.°S±5.°×12.°1E±.°, h17km±17km, M3.6/3, MLv3.6/3*

ISC 24 21:33:56.6±0.8, **9.°01S**±0.°04×**120.°69E**±0.°06, **h26**km, **n11**, σ2.°47/16, **Sumba region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**0.76**	**210**	P	**Pn**	**21 34 11.6**	**0.0**
WSI				S	**Sn**	**21 34 26.2**	**+3.9**
LBFI	**Labuhan Bajo,**	**0.95**	**304**	P	**Pn**	**21 34 11.3**	**-3.0**
LBFI				S	**Sb**	**21 34 26.1**	**-0.5**
MMRI	**Maumere**	**1.58**	**76**	P	**Pb**	**21 34 26.4**	**+1.3**
BKSI	**Bulukumba**	**3.71**	**351**	P	**Pn**	**21 34 54.5**	**+2.3**
BKSI				S	**Sn**	**21 35 37.3**	**+2.2**
KAPI	**Kappang**	**4.08**	**347**	Pn	**Pn**	**21 34 55.8**	**-1.6**
1.5nm,0.3s,baz=222,slow=8.2,SNR=19							
KAPI				Sn	**Sn**	**21 35 42.7**	**-1.6**
5.7nm,0.3s,baz=43,slow=23,SNR=19							
BNSI	**Bone**	**4.62**	**353**	P	**Pn**	**21 35 06.9**	**+2.2**
DNP	**Denpasar**	**5.42**	**273**	P	**Pn**	**21 35 18.5**	**+2.7**
FITZ	**Fitzroy Crossi**	**10.24**	**152**	Pn	**Pn**	**21 36 20.2**	**-1.7**
0.3nm,0.3s,baz=337,slow=14,SNR=23							
FITZ				Sn	**Sn**	**21 38 11.6**	**-4.3**
0.7nm,0.3s,baz=176,slow=19,SNR=12							
WRA	**Warramunga Arr**	**17.10**	**131**	P	**P**	**21 37 55.7**	**+0.2**
0.1nm,0.3s,baz=304,slow=12,SNR=8.3							
WRA				S	**Sn**	**21 41 05.3**	**+1.8**
0.1nm,0.3s,baz=302,slow=26,SNR=3.7							
ASAR	**Alice Springs**	**19.29**	**141**	P	**P**	**21 38 18.5**	**-1.2**
0.8nm,0.7s,baz=314,slow=10,SNR=11							
MKAR	**Makanchi Array**	**65.24**	**332**	P	P	21 44 25.3	-11
0.4nm,0.9s,baz=136,slow=6.1,SNR=3.0							

GUC 24 21:35:57.3±0.5, **32.°44S**×**71.°45W**, **h14**km±2km, **MD3.7**, **ML3.5**, **4C-1D**, **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.55**	**356**	⇓*i*P	Pg	21 36 08.0	-0.1
CHNG				*i* S	Sg	21 36 15.8	+0.2
ROCH	**El Roble**	**0.65**	**145**	*i* P	Pg	21 36 09.8	-0.6
JACH	**Jahuel**	**0.77**	**109**	*i* P	Pg	21 36 11.6	-0.8
JACH				*i* S	Sg	21 36 22.1	-0.4
PEL	**Peldehue**	**0.96**	**138**	⇑*i*P	Pb	21 36 14.8	-0.9
PEL				*e*S	Sb	21 36 27.5	-0.8
PEL				AML	AML	21 36 28.4	
comp=N,7μm,0.3s							
LCCH	**Las Cruces**	**1.04**	**185**	*i* P	Pb	21 36 15.6	-1.5
LCCH				*i* S	Sb	21 36 29.6	-1.0
SAN	**Santiago**	**1.21**	**147**	⇑*i*P	Pn	21 36 18.4	-1.5
SAN				*i* S	Sb	21 36 34.6	-1.1
SAN				AML	AML	21 36 36.2	
comp=N,1μm,0.2s							
TACH	**Talagante**	**1.29**	**161**	⇑*i*P	Pn	21 36 19.6	-1.3
TACH				*i* S	Sb	21 36 36.8	-1.0
FCH	**Farellones**	**1.32**	**133**	AML	AML	21 36 39.0	
comp=N,1μm,0.3s							
ANTU	**Antumapu**	**1.32**	**149**	*i* P	Pn	21 36 20.2	-1.2
ANTU				*i* S	Sb	21 36 37.7	-1.2
ANTU				AML	AML	21 36 39.1	
comp=N,1μm,0.4s							
PCH	**Pirque**	**1.42**	**147**	*e*P	Pn	21 36 21.9	-0.9
PCH				*i* S	Sn	21 36 40.8	-0.6
LNV	**Longovilo**	**1.52**	**179**	*e*P	Pn	21 36 23.2	-0.8
LNV				*i* S	Sn	21 36 42.7	-0.8
LMEL	**Las Melosas**	**1.75**	**144**	⇑*i*P	Pn	21 36 27.0	-0.5
LMEL				*i* S	Sn	21 36 50.2	+0.4
LMEL				AML	AML	21 36 55.2	
comp=N,1μm,0.3s							

*IDC **24** 21:36:19.2±2.6, 8.°89S×112.°29E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/21, mbtmp3.5/3, Error ellipse: s-maj=147.2km s-min=25.0km az=48.0*
*ISCJB **24** 21:36:21.4±0.9, 9.°68S±0.°07×111.°62E±0.°05, h33km, mb3.5/3, Error ellipse: s-maj=10.3km s-min=7.1km az=22.9*
*DJA **24** 21:36:23.0±1.1, 10.°S±6.°×11.°2E±.°, h22km±12km, M3.4/12, MLv3.4/12*

ISC 24 21:36:22.8±1.3, **9.°6S**±0.°1×**111.°65E**±0.°05, **h35**km, **n15**, σ1.°37/17, **mb3.2/3**, **South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCJI	**Pacitan**	**1.49**	**342**	P	Pn	21 36 44.3	-2.8
PWJI	**Pagerwojo**	**1.59**	**6**	P	**Pn**	**21 36 48.7**	**-0.4**
KRKI	**Karangkates**	**1.65**	**29**	P	**Pn**	**21 36 50.5**	**+1.1**
KRKI				S	**Sn**	**21 37 09.3**	**-0.1**
SJI	**Sawahan**	**1.87**	**4**	P	**Pn**	**21 36 51.6**	**-0.9**
UGM	**Wanagama**	**2.03**	**327**	P	**Pn**	**21 36 54.4**	**-0.2**
UGM				S	**Sn**	**21 37 21.5**	**+2.8**
GMJI	**Gumukmas**	**2.22**	**53**	P	**Pn**	**21 36 58.6**	**+1.4**
GMJI				S	**Sn**	**21 37 20.9**	**-2.5**
NGJI	**Ngawi**	**2.24**	**355**	P	Pn	21 37 01.0	+3.5
BLJI	**Banyuglugur**	**2.68**	**46**	P	**Pn**	**21 37 05.3**	**+1.9**
GRJI	**Gresik**	**2.81**	**17**	P	**Pn**	**21 37 06.0**	**+0.7**
BJII	**Banjamegara**	**2.97**	**320**	P	**Pn**	**21 37 08.3**	**+0.7**
BJII				S	**Sn**	**21 37 42.7**	**+0.6**
KPJI	**Karang Pucung**	**3.52**	**310**	P	**Pn**	**21 37 15.1**	**+0.1**
CISI	**Cisompet, Garu**	**4.31**	**298**	P	**Pn**	**21 37 25.9**	**-0.1**
WRA	**Warramunga Arr**	**24.19**	**118**	P	**P**	**21 41 35.7**	**-0.6**
0.4nm,0.6s,baz=292,slow=11,SNR=4.7							
ASAR	**Alice Springs**	**25.44**	**126**	P	**P**	**21 41 48.5**	**+1.0**
0.5nm,0.7s,baz=306,slow=9.3,SNR=5.4							
MKAR	**Makanchi Array**	**61.97**	**338**	P	**P**	**21 46 38.0**	**-1.3**
1.1nm,0.5s,baz=153,slow=7.7,SNR=20							

*MOS **24** 21:37:57.3±2.2, 55.°38N×110.°44E, h2km, mb4.2/1, Error ellipse: s-maj=35.7km s-min=11.4km az=54.0*
*BYKL **24** 21:37:57.4±0.3, 55.°40N×110.°37E*
*IDC **24** 21:38:01.4±8.4, 55.°24N×109.°79E, h0km, mb1 3.1/3, mb1mx3.0/28, mbtmp3.1/3, ML3.0/3, Error ellipse: s-maj=106.9km s-min=35.7km az=74.0*

ISC 24 21:37:57.5±1.2, **55.°41N**±0.°03×**110.°44E**±0.°03, **h2**km±10km, **n36**, σ2.°07/59, **2C-4D**, **Lake Baykal region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.63**	**306**	⇑*i*Pg	**Pg**	**21 38 08.3**	**-1.3**
NIZ				*e*		21 38 14.1	
NIZ				*i* Sg	**Sg**	**21 38 17.2**	**-0.6**
NIZ				*e*Sb	**Sn**	**21 38 21.9**	**-2.2**
NIZ				Pmax			
25nm,0.3s							
NIZ				Smax			
186nm,0.5s							
KMO	**Kumora**	**0.64**	**41**	*e*PG	**Pg**	**21 38 08.8**	**-1.1**
KMO				*e*		21 38 17.6	
KMO				pmax	pmax		
comp=Z,227nm,0.3s							
KMO				smax	smax		
comp=N,414nm,1.2s							
YOA	**Uoyan**	**1.03**	**44**	Pg	**Pg**	**21 38 16.4**	**-0.8**
YOA				*e*Sg	**Sg**	**21 38 31.9**	**+1.5**
YOA				Smax			
comp=N,711nm,0.7s							
SYVR	**Suvo**	**1.77**	**189**	⇓*i*Pg	**Pn**	**21 38 28.7**	**-0.4**
SYVR				*i* Sg	**Sn**	**21 38 52.8**	**+0.6**
SYVR				*e*		21 38 55.8	
SYVR				Pmax			
comp=N,51nm,0.4s							
SYVR				max			
comp=N,232nm,0.7s							
UKT	**Uakit**	**1.81**	**86**	*i* Sg	**Sn**	**21 38 54.9**	**+1.5**
UKT				Smax			
comp=N,152nm,0.6s							
SVKR	**Severomuysk**	**1.90**	**67**	*e*Pg	**Pn**	**21 38 32.5**	**+1.6**
SVKR				*e*		21 38 36.8	
SVKR				*e*Sg	**Sb**	**21 38 58.2**	**+1.2**
SVKR				*e*		21 39 03.0	
SVKR				Pmax			
comp=N,82nm,0.3s							
SVKR				max			
comp=N,421nm,0.4s							
SVKR	**Severomuysk**	**1.90**	**67**	*e*PN	**Pn**	**21 38 31.6**	**+0.7**
SVKR				*e*		21 38 57.8	
SVKR				pmax	pmax		
comp=Z,82nm,0.2s							
SVKR				smax	smax		
comp=N,421nm,0.4s							
MXMB	**Maximikha**	**2.37**	**206**	*e*Pn	**Pn**	**21 38 37.8**	**+0.5**
MXMB				*e*Pg	**Pb**	**21 38 39.9**	**-0.9**
MXMB				*i* Sg	**Sb**	**21 39 11.5**	**+1.0**
MXMB				Pmax			
comp=N,90nm,0.9s							
MXMB				Smax			
comp=N,530nm,0.7s							
OGRR	**Ongureny**	**2.42**	**224**	*e*Pn	**Pn**	**21 38 37.9**	**-0.2**
OGRR				*e*Pg	**Pb**	**21 38 39.9**	**-1.9**
OGRR				*e*		21 38 42.0	
OGRR				*i* Sg	**Sb**	**21 39 12.2**	**+0.1**
OGRR				max			
comp=N,28nm,0.5s							
OGRR				Smax			
comp=N,198nm,0.6s							
OGRR	**Ongureny**

comp=E,116nm,1.1s
ARS Arshan 5.91 237 *e*PN **Pn 21 39 25.9 -0.1**
ARS *e* 21 39 42.6
ARS *e* 21 40 58.2
ARS pmax pmax
comp=Z,2.0nm,0.1s
ARS smax smax
comp=E,116nm,0.9s
ZAK Zakamensk 6.64 224 *e*Pg Pb 21 39 56.7 +3.1
ZAK *e* 21 39 58.5
ZAK *e* 21 40 56.7
ZAK *e*Sg Sg 21 41 21.9 -8.7
ZAK *e* 21 41 25.0
ZAK max
comp=E,1.0nm,0.3s
ZAK max
comp=E,16nm,1.8s
MOY Mondy 6.76 240 ⇓*i*Pn **Pn 21 39 37.2 -0.6**
MOY *e* 21 40 55.0
MOY *e*Sg Sg 21 41 25.3 -9.2
MOY max
comp=E,5.0nm,1.1s
MOY Smax
comp=E,36nm,1.9s
MOY Mondy 6.76 240 *e*PN **Pn 21 39 38.7 +0.9**
MOY *e* 21 40 00.5
MOY *e* 21 41 28.6
MOY pmax pmax
comp=Z,1.0nm,0.1s
MOY smax smax
comp=N,36nm,1.8s
ORL Orlik 6.90 250 *i*Pn **Pn 21 39 40.0 +0.3**
ORL *i* 21 39 49.1
ORL *e* 21 40 04.6
ORL *e* 21 40 57.4
ORL *e*Sg Sg 21 41 30.5 -8.4
ORL max
comp=N,7.0nm,0.9s
ORL Smax
comp=N,25nm,1.1s
ORL Orlik 6.90 250 *e*PN **Pn 21 39 39.4 -0.3**
ORL *e* 21 40 01.6
ORL *e* 21 41 31.1
ORL pmax pmax
comp=Z,5.0nm,0.8s
ORL smax smax
comp=N,25nm,1.5s
SONM Songino Array 7.99 200 Pn **Pn 21 39 55.2 +0.5**
comp=N,0.2nm,0.3s,baz=11,slow=14,SNR=2.7
SONM Pg Pb 21 40 21.5 +4.9
comp=N,0.3nm,0.3s,baz=11,slow=15,SNR=4.3
SONM Lg Lg 21 42 06.7
comp=N,0.8nm,0.3s,baz=16,slow=28,SNR=16
ZALV Zalesovo Beam 14.87 275 P **Pn 21 41 27.6 -0.9**
ZALV Zalesovo Beam 14.87 275 Pn **Pn 21 41 27.6 -0.9**
comp=N,0.1nm,0.3s,baz=76,slow=9.1,SNR=4.8
MKAR Makanchi Array 19.55 256 P **P 21 42 26.1 -0.2**
MKAR Makanchi Array 19.55 256 P **P 21 42 26.1 -0.2**
comp=N,0.1nm,0.3s,baz=60,slow=10,SNR=4.1

IDC 24 21:42:15.2±2.6, 23°.24N×142°.85E, h0^{km}, mb3.7/6, mb1 3.9/7, mb1mx3.6/26, mbtmp3.8/7, ML4.1/1, MS3.4/1, Ms1 3.4/1, ms1mx2.4/41, Error ellipse: s-maj=106.2km s-min=20.1km az=79.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.89**	**351**	Pn	Pn	21 43 17.0	+0.7
	12nm,0.3s,baz=281,slow=19,SNR=3.8						
CBIJ				Sn	Sn	21 43 57.3	-5.5
	11nm,0.3s,baz=294,slow=20,SNR=4.2						
WRA	**Warramunga Arr**	**43.71**	**192**	P	P	21 50 22.7	+0.3
	0.7nm,0.3s,baz=5.3,slow=9.6,SNR=44						
FITZ	**Fitzroy Crossi**	**44.40**	**204**	P	P	21 50 28.6	+0.8
	1.1nm,0.4s,baz=25,slow=8.8,SNR=7.7						
ASAR	**Alice Springs**	**47.43**	**191**	P	P	21 50 51.3	-0.4
	0.2nm,0.3s,baz=11,slow=7.4,SNR=6.9						
ZALV	**Zalesovo Beam**	**52.82**	**321**	LR	LR	22 16 15.2	
	comp=Z,37nm,19.3s,baz=71,slow=39						
MKAR	**Makanchi Array**	**53.44**	**312**	P	P	21 51 36.5	-0.6
	0.1nm,0.4s,baz=85,slow=8.5,SNR=3.5						
STKA	**Stephens Creek**	**54.81**	**181**	P	P	21 51 45.6	-1.5
	1.9nm,0.6s,baz=352,slow=7.1,SNR=3.8						
KURBB	**Kurchatov Arra**	**56.20**	**316**	P	P	21 51 56.9	0.0
	0.2nm,0.5s,baz=92,slow=7.8,SNR=5.4						

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*IDC **24** 22:03:32.8±3.4, 37°.33N×69°.59E, h0^{km}, mb3.2/1, mb1 3.4/5, mb1mx3.2/30, mbtmp3.4/5, ML3.5/4, Error ellipse: s-maj=113.0km s-min=17.9km az=136.0*
*ISCJB **24** 22:03:33.1±1.4, 37°.19N±0°.09×69°.79E±0°.10, h27^{km}, mb3.2/1, Error ellipse: s-maj=13.8km s-min=10.3km az=150.8*
*NNC **24** 22:03:39.6±3.0, 37°.76N×69°.68E, h0^{km}, mb3.7, mpv3.2, Error ellipse: s-maj=23.1km s-min=21.4km az=145.0*
ISC 24 22:03:36.3±1.7, 37°.3N±0°.1×69°.6E±0°.1, h27^{km}, n9, σ2°37/12, 4C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.84**	**6**	Pn	Pn	22 05 04.0	+2.8
	0.5nm,0.5s,baz=196,slow=16,SNR=15						
KK31				⇓Sn	**Sn**	**22 06 10.4**	**+3.1**
	0.9nm,0.3s,baz=188,slow=22,SNR=3.7						
KK31				⇑Lg	Lg	22 06 30.9	
	3.9nm,0.6s,baz=184,slow=27,SNR=4.0						
AAK	**Ala-Archa**	**6.52**	**34**	**Pn**	**Pn**	**22 05 12.6**	**+2.1**
	2.8nm,0.3s,baz=193,slow=7.2,SNR=23						
AAK				Sn	**Sn**	**22 06 24.1**	**+0.1**
	0.4nm,0.3s,baz=351,slow=19,SNR=3.5						
AAK				Lg	Lg	22 06 59.1	
	0.2nm,0.3s,baz=351,slow=19,SNR=3.0						
TKM2	**Tokmak 2**	**7.25**	**37**	⇓Pn	**Pn**	**22 05 21.6**	**+0.9**
	2.4nm,0.5s						
TKM2				⇓Sn	**Sn**	**22 06 40.7**	**-1.5**
	5.3nm,0.8s						
TKM2				⇑Lg	Lg	22 07 21.0	
	3.6nm,0.9s						
MKAR	**Makanchi Array**	**13.36**	**41**	Pn	**Pn**	**22 06 43.1**	**-0.9**
	0.0nm,0.3s,baz=234,slow=12,SNR=4.1						
AB31	**Akbulak array**	**13.86**	**333**	⇑Pn	**Pn**	**22 06 49.9**	**-1.0**
	0.5nm,0.6s,baz=151,slow=14,SNR=9.0						
AB31				⇓Sn	**Sn**	**22 09 19.1**	**-4.7**
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**14.77**	**23**	Pn	Pn	22 06 59.9	-3.4
	0.1nm,0.3s,baz=215,slow=12,SNR=3.5						
AKTO	**Aktyubinsk**	**15.55**	**331**	⇓Pn	**P**	**22 07 19.1**	**+1.5**
	2.4nm,0.8s						
AKTO				⇑Sn	**Sn**	**22 10 07.4**	**+2.6**
	3.1nm,1.1s						
ZALV	**Zalesovo Beam**	**19.69**	**27**	P	**P**	**22 08 02.5**	**-0.7**
	0.1nm,0.3s,baz=219,slow=9.5,SNR=4.5						
TORD	**Torodi Ar. Bea**	**64.64**	**267**	P	**P**	**22 14 12.0**	**+0.2**
	0.2nm,0.7s,baz=45,slow=5.8,SNR=4.1						

IDC 24 22:08:43.1±3.5, 3°.79S×152°.35E, h0^{km}, mb3.7/3, mb1 4.0/3, mb1mx3.5/18, mbtmp3.8/3, Error ellipse: s-maj=131.9km s-min=47.8km az=121.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.79**	**226**	P	P	22 13 57.5	-0.3
	1.5nm,0.5s,baz=53,slow=9.6,SNR=24						
ASAR	**Alice Springs**	**26.60**	**220**	P	P	22 14 24.9	+1.4
	0.5nm,0.5s,baz=56,slow=8.9,SNR=7.0						
FITZ	**Fitzroy Crossi**	**29.76**	**239**	P	P	22 14 50.1	-1.5
	0.5nm,0.3s,baz=48,slow=8.6,SNR=4.4						
TORD	**Torodi Ar. Bea**	**149.56**	**290**	PKPbc	PKPbc	22 28 35.3	-0.3
	0.3nm,0.6s,baz=70,slow=3.0,SNR=4.8						

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*IDC **24** 22:09:51.0±31.0, 13°.86N×50°.87E, h0^{km}, mb3.6/3, mb1 3.6/3, mb1mx3.3/26, mbtmp3.6/3, Error ellipse: s-maj=1054.0km s-min=32.0km az=152.0*
ISC 24 22:09:52.2±1.7, 13°.8N±0°.3×50°.98E±0°.10, h10^{km}, n5, σ0°47/6, mb3.8/3, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MUKL	**Al Mukalla**	**2.00**	**290**	*i* P	**Pb**	**22 10 28.9**	**+0.2**
MUKL				*e*		22 10 29.0	
	baz=94,slow=10						
MUKL				*i* S	**Sg**	**22 10 56.5**	**-0.2**
MUKL				AML	AML	22 10 57.7	
	comp=N,678nm,0.3s						
TRBA	**At Turbah**	**6.70**	**266**	*i* P	**Pn**	**22 11 31.2**	**+0.4**
MKAR	**Makanchi Array**	**42.08**	**32**	P	**P**	**22 17 44.6**	**+0.3**
	comp=N,0.2nm,0.5s,baz=219,slow=7.1,SNR=5.5						
TORD	**Torodi Ar. Bea**	**47.86**	**275**	P	**P**	**22 18 30.2**	**-0.6**
	comp=N,0.9nm,0.7s,baz=87,slow=7.9,SNR=9.4						
ZALV	**Zalesovo Beam**	**48.09**	**26**	P	**P**	**22 18 31.8**	**-0.2**
	comp=N,0.5nm,0.6s,baz=232,slow=7.1,SNR=2.5						

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*ATH **24** 22:10:30.9, 37°.42N×25°.83E, h4^{km}, MD3.1/3*
*CSEM **24** 22:10:31.1±0.6, 36°.66N×25°.69E, h15^{km}, ML2.3/1, Error ellipse: s-maj=16.7km s-min=7.0km az=90.0*
*THE **24** 22:10:31.9, 36°.72N×25°.39E, h16^{km}±1^{km}, ML2.3/1, Error ellipse: s-maj=2.3km s-min=0.7km az=100.0*
*ISCJB **24** 22:10:32.0±0.7, 36°.67N±0°.03×25°.59E±0°.07, h15^{km}±8^{km}, Error ellipse: s-maj=10.0km s-min=4.9km az=7.5*
ISC 24 22:10:31.3±1.2, 36°.70N±0°.03×25°.60E±0°.04, h18^{km}±3^{km}, n39, σ0°62/53, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THR2	**Thira island,**	**0.28**	**208**	P	**Pg**	**22 10 37.5**	**0.0**
THR2	**Thira island,**	**0.28**	**208**	P	**Pg**	**22 10 37.5**	**0.0**
THR3	**Thira Island,**	**0.33**	**209**	P	**Pg**	**22 10 38.7**	**+0.4**
THR3				S	**Sg**	**22 10 43.8**	**+0.8**
THR3	**Thira Island,**	**0.33**	**209**	P	**Pg**	**22 10 38.7**	**+0.4**
THR3				S	**Sg**	**22 10 43.8**	**+0.8**
THR1	**Thera Island**	**0.34**	**199**	P	**Pg**	**22 10 38.6**	**0.0**
THR1				S	**Sg**	**22 10 44.1**	**+0.6**
THR1	**Thera Island**	**0.34**	**199**	P	**Pg**	**22 10 38.6**	**0.0**
THR1				S	**Sg**	**22 10 44.1**	**+0.6**
THR5	**Thira Island,**	**0.34**	**216**	P	**Pg**	**22 10 37.7**	**-0.8**
THR5				S	**Sg**	**22 10 42.4**	**-1.1**
THR5	**Thira Island,**	**0.34**	**216**	P	**Pg**	**22 10 37.7**	**-0.8**
THR5				S	**Sg**	**22 10 42.4**	**-1.1**
THR6	**Thira Island,**	**0.37**	**205**	P	**Pg**	**22 10 39.3**	**+0.2**
THR6				S	**Sg**	**22 10 45.1**	**+0.7**
THR6	**Thira Island,**	**0.37**	**205**	P	**Pg**	**22 10 39.3**	**+0.2**
THR6				S	**Sg**	**22 10 45.1**	**+0.7**
APE	**Apeiranthos**	**0.38**	**352**	P	**Pb**	**22 10 39.4**	**-0.1**
APE				S	**Sb**	**22 10 45.4**	**+0.3**
APE	**Apeiranthos**	**0.38**	**352**	*e*PG	**Pb**	**22 10 39.3**	**-0.2**
APE				*e*SG	**Sb**	**22 10 45.4**	**+0.3**
APE	**Apeiranthos**	**0.38**	**352**	P	**Pb**	**22 10 39.4**	**-0.1**
APE				S	**Sb**	**22 10 45.4**	**+0.3**
NIS3	**Nisyros Isl.**	**1.26**	**95**	P	**Pg**	**22 10 56.2**	**+0.6**
SMG	**Samos**	**1.42**	**44**	*e*PG	Pn	22 10 47.0	-9.1
NPS	**Neapolis**	**1.43**	**179**	P	**Pn**	**22 10 56.4**	**+0.1**
NPS				S	**Sb**	**22 11 15.5**	**+0.3**
NPS	**Neapolis**	**1.43**	**179**	*e*PN	**Pg**	**22 10 58.5**	**-0.3**
NPS				*e*SN	**Sn**	**22 11 14.5**	**-0.1**
NPS	**Neapolis**	**1.43**	**179**	P	**Pn**	**22 10 56.4**	**+0.1**
NPS				S	**Sb**	**22 11 15.5**	**+0.3**
NPS	**Neapolis**	**1.43**	**179**	*e*Pn	**Pg**	**22 10 58.5**	**-0.3**
NPS				*e*Sn	**Sn**	**22 11 14.5**	**-0.1**
IDI	**Anoyia**	**1.52**	**202**	P	**Pn**	**22 10 57.4**	**-0.1**
IDI	**Anoyia**	**1.52**	**202**	*e*PN	**Pn**	**22 10 57.8**	**+0.3**
IDI	**Anoyia**	**1.52**	**202**	P	**Pn**	**22 10 57.4**	**-0.1**
IDI	**Anoyia**	**1.52**	**202**	*e*Pn	**Pn**	**22 10 57.8**	**+0.3**
LAST	**Lasithi**	**1.53**	**184**	P	**Pn**	**22 10 57.3**	**-0.5**
LAST				S	**Sn**	**22 11 17.6**	**+0.3**
LAST	**Lasithi**	**1.53**	**184**	*e*PN	**Pn**	**22 10 57.1**	**-0.7**
LAST	**Lasithi**	**1.53**	**184**	P	**Pn**	**22 10 57.3**	**-0.5**
LAST				S	**Sn**	**22 11 17.6**	**+0.3**
LAST	**Lasithi**	**1.53**	**184**	*e*Pn	**Pn**	**22 10 57.1**	**-0.7**
ZKR	**Zakros**	**1.66**	**162**	*e*PN	**Pb**	**22 11 00.4**	**-0.8**
ZKR	**Zakros**	**1.66**	**162**	*e*Pn	**Pb**	**22 11 00.4**	**-0.8**
VAM	**Vamos**	**1.71**	**222**	*e*PN	**Pb**	**22 11 02.9**	**+0.7**
VAM	**Vamos**	**1.71**	**222**	*e*Pn	**Pb**	**22 11 02.9**	**+0.7**
SIVA	**Sivas**	**1.79**	**201**	*e*PN	Pn	22 10 54.1	-7.1
SIVA	**Sivas**	**1.79**	**201**	*e*Pn	Pn	22 10 54.1	-7.1
KARN	**Karanos**	**1.88**	**227**	P	**Pn**	**22 11 00.8**	**-1.6**
KARN	**Karanos**	**1.88**	**227**	*e*PN	**Pb**	**22 11 05.6**	**+0.6**
KARN	**Karanos**	**1.88**	**227**	P	**Pn**	**22 11 00.8**	**-1.6**
KARN	**Karanos**	**1.88**	**227**	*e*Pn	**Pb**	**22 11 05.6**	**+0.6**
DID	**Didima**	**2.05**	**294**	*e*PN	**Pb**	**22 11 08.5**	**+0.5**
DID	**Didima**	**2.05**	**294**	*e*Pn	**Pb**	**22 11 08.5**	**+0.5**

ATH 24 22:20:21.6, 33°.46N×25°.23E, h35^{km}±19^{km}, MD3.5/4, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**1.59**	**347**	*e*PB	Pn	22 20 49.4	+2.1
SIVA				*e*SN	Sn	22 21 09.4	+2.8
LAST	**Lasithi**	**1.71**	**7**	*e*PN	Pn	22 20 50.8	+1.8
NPS	**Neapolis**	**1.83**	**10**	*e*PN	Pn	22 20 52.0	+1.5
ZKR	**Zakros**	**1.84**	**26**	*e*PN	Pn	22 20 52.8	+2.1
IDI	**Anoyia**	**1.84**	**351**	*e*PN	Pn	22 20 52.9	+2.0
KARN	**Karanos**	**2.22**	**331**	*e*PN	Pn	22 20 58.0	+2.0

KRSC 24 22:26:52.2±7.2, 52°.92N×157°.17E, h260^{km}±60^{km}, ML3.8, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APC	**Apacha**	**0.01**	**305**	*i* P	Pn	22 27 25.1	-0.3
APC				*i* S	S	22 27 50.3	-1.4
MIPR	**Malaya Ipel'ka**	**0.69**	**201**	*i* P	Pn	22 27 26.5	-0.4
ASAK	**Asacha**	**0.70**	**140**	*e*P	Pn	22 27 27.7	+0.7
MTVR	**Mutnovka**	**0.76**	**125**	*e*P	Pn	22 27 28.4	+1.1
MTVR				*i* S	S	22 27 56.7	+1.7
GNL	**Ganaly**	**0.90**	**31**	*e*P	Pn	22 27 28.2	+0.3
RUS	**Russkaya**	**0.95**	**120**	*e*P	Pn	22 27 28.2	+0.2
RUS				*i* S	S	22 27 56.5	+0.3
KOK	**Koryaka**	**0.96**	**67**	*i* P	Pn	22 27 29.2	+1.1
KRX	**Arik**	**0.99**	**63**	*e*P	Pn	22 27 29.2	+0.8
AVH	**Avacha**	**1.01**	**69**	*e*P	Pn	22 27 29.2	+0.8
KRER	**Koryakskii**	**1.03**	**67**	*i* P	Pn	22 27 29.7	+1.1
UGLR	**Uglovaya**	**1.04**	**73**	*e*P	Pn	22 27 29.8	+1.2
SMAR	**Somma**	**1.04**	**70**	*e*P	Pn	22 27 29.7	+1.0
SDLR	**Sedlovina**	**1.09**	**70**	*e*P	Pn	22 27 29.7	+0.8
SPN	**Mys Shipunski**	**1.73**	**83**	*e*P	Pn	22 27 33.2	0.0
SPN				*i* S	S	22 28 04.7	-0.9
TUMR	**Tumrok**	**2.94**	**35**	*e*P	Pn	22 27 46.0	+1.2
MKZ	**Mys Kozlova**	**3.17**	**57**	*e*P	Pn	22 27 47.2	+0.3
MKZ				*i* S	S	22 28 28.5	-1.9
KBTR	**Krutoberegovo**	**4.65**	**43**	*e*P	Pn	22 28 04.6	+0.6
KBTR				*i* S	S	22 28 59.3	-2.0
BKI	**Bering**	**5.67**	**63**	*i* P	Pn	22 28 17.0	+0.8
BKI				*i* S	S	22 29 22.5	-1.0

IDC 24 22:39:14.2±3.1, 3°.42S×138°.06E, h0^{km}, mb3.7/3, mb1 4.0/5, mb1mx3.7/18, mbtmp3.8/5, ML3.6/2, Error ellipse: s-maj=111.5km s-min=26.2km az=91.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.82**	**192**	Pn	Pn	22 43 11.4	+0.1
	0.4nm,0.3s,baz=15,slow=12,SNR=24						
WRA				Sn	Sn	22 46 07.5	-11
	0.2nm,0.3s,baz=14,slow=22,SNR=4.1						
FITZ	**Fitzroy Crossi**	**19.00**	**219**	P	P	22 43 37.0	-0.6
	0.1nm,0.3s,baz=58,slow=15,SNR=3.3						
FITZ				S	Sn	22 46 59.6	-12
	0.1nm,0.3s,baz=151,slow=19,SNR=4.7						
ASAR	**Alice Springs**	**20.52**	**191**	P	P	22 43 54.6	+0.3
	5.1nm,0.6s,baz=16,slow=10,SNR=60						
ASAR				S	S	22 47 35.3	-10
	1.2nm,1.0s,baz=18,slow=25,SNR=4.7						
MKAR	**Makanchi Array**	**69.96**	**323**	P	P	22 50 27.6	+0.1
	0.3nm,0.8s,baz=118,slow=7.4,SNR=4.2						
BVAR	**Borovoye Array**	**79.53**	**325**	P	P	22 51 22.9	0.0
	0.7nm,0.7s,baz=116,slow=6.6,SNR=3.6						

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*CSEM **24** 22:41:34.6±0.2, 67°.83N×15°.03E, h1^{km}, ML2.5, Error ellipse: s-maj=4.2km s-min=3.0km az=135.0, Suspected Mining explosion.*
*ISCJB **24** 22:41:34.3±0.4, 67°.73N±0°.02×15°.48E±0°.06, h0^{km}, Error ellipse: s-maj=3.9km s-min=2.6km az=41.0*
*IDC **24** 22:41:35.2±1.4, 67°.87N×14°.82E, h0^{km}, mb1 3.3/4, mb1mx3.1/28, mbtmp3.2/4, ML2.9/4, Error ellipse: s-maj=18.6km s-min=6.7km az=124.0*
*HEL **24** 22:41:35.8±0.1, 67°.88N×14°.99E, h10^{km}±1^{km}, ML2.5, ML2.3(UPP), ML2.5(BER)*
*UPP **24** 22:41:36.7, 67°.80N×15°.29E, h0^{km}, ML2.3, Suspected Mining explosion.*
*BER **24** 22:41:37.9, 67°.93N×14°.86E, h15^{km}, MD2.4, ML2.5, ML2.8(NAO)*
*NAO **24** 22:41:37.6±1.6, 67°.77N×15°.32E, ML2.8*
ISC 24 22:41:34.4±0.7, 67°.79N±0°.03×15°.06E±0°.03, h0^{km}, n100, σ1°51/172, 5C, Northern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STEI	**Steigen**	**0.16**	**26**	⇑*i*P	**Pg**	**22 41 38.4**	**+1.0**
STEI				*e*S	**Sg**	**22 41 40.4**	**+0.9**
STEI				AML	AML	22 41 41.8	
	comp=Z,671nm,0.3s						
STEI	**Steigen**	**0.16**	**26**	⇑*i*P	**Pg**	**22 41 38.4**	**+1.0**
STEI				*i* S	**Sg**	**22 41 40.4**	**+0.9**
STEI				AML	AML	22 41 41.8	
	comp=Z,671nm,0.3s						
STEI	**Steigen**	**0.16**	**26**	P	**Pg**	**22 41 38.4**	**+1.0**
STEI				S	**Sg**	**22 41 40.3**	**+0.9**
	comp=Z,671nm,0.3s						
LOF	**Lofoten**	**0.67**	**302**	⇑*i*P	**Pg**	**22 41 46.5**	**-0.7**
LOF				*e*S	**Sg**	**22 41 54.9**	**-0.8**
LOF				IAML		22 41 55.9	
	comp=Z,326nm,0.2s						
LOF	**Lofoten**	**0.67**	**302**	⇑*i*P	**Pg**	**22 41 46.5**	**-0.7**
LOF				*i* S	**Sg**	**22 41 54.9**	**-0.8**
LOF				AML	AML	22 41 55.9	
	comp=Z,326nm,0.2s						
LOF	**Lofoten**	**0.67**	**302**	⇑*i*P	**Pg**	**22 41 46.5**	**-0.7**
	SNR=96						
LOF				*e*S	**Sg**	**22 41 54.9**	**-0.8**
	comp=Z,102nm,0.2s,SNR=96						
KONS	**Konsvik**	**1.50**	**211**	*e*P	**Pn**	**22 42 02.3**	**-0.2**
KONS				*e*S	**Sn**	**22 42 24.1**	**+1.3**
KONS				AML	AML	22 42 26.7	
	comp=Z,102nm,0.2s						
KONS	**Konsvik**	**1.50**	**211**	*e*P	**Pn**	**22 42 02.3**	**-0.2**
KONS				*e*S	**Sn**	**22 42 24.1**	**+1.3**
KONS				AML	AML	22 42 26.7	
	comp=Z,102nm,0.2s						
KONS	**Konsvik**	**1.50**	**211**	P	**Pn**	**22 42 02.3**	**-0.2**
KONS				S	**Sn**	**22 42 24.0**	**+1.3**
	comp=Z,102nm,0.2s						
FLOS	**Flostrand**	**1.60**	**205**	*e*P	**Pn**	**22 42 04.2**	**+0.3**
FLOS				*e*S	**Sg**	**22 42 27.6**	**+1.8**
FLOS				AML	AML	22 42 30.2	
	comp=Z,136nm,0.3s						
FLOS	**Flostrand**	**1.60**	**205**	*e*P	**Pn**	**22 42 04.2**	**+0.3**
FLOS				*e*S	**Sg**	**22 42 27.6**	**+1.8**
FLOS				AML	AML	22 42 30.2	
	comp=Z,136nm,0.3s						
FLOS	**Flostrand**	**1.60**	**205**	P	**Pn**	**22 42 04.2**	**+0.3**
FLOS				S	**Sg**	**22 42 27.6**	**+1.8**
	comp=Z,136nm,0.3s						
MOR8	**Moi Rana**	**1.64**	**189**	*e*P	**Pn**	**22 42 03.2**	**-1.3**
MOR8				*e*S	**Sn**	**22 42 24.8**	**-1.5**
MOR8				AML	AML	22 42 31.9	
	comp=Z,91nm,0.1s						
MOR8	**Moi Rana**	**1.64**	**189**	*e*P	**Pn**	**22 42 03.2**	**-1.3**
MOR8				*e*S	**Sn**	**22 42 24.8**	**-1.5**
MOR8				AML	AML	22 42 31.9	
	comp=Z,91nm,0.1s						
MOR8	**Moi Rana**	**1.64**	**189**	*e*P	**Pn**	**22 42 03.2**	**-1.3**
	SNR=55						
MOR8				*e*S	**Sn**	**22 42 24.8**	**-1.5**
	comp=Z,136nm,0.3s,SNR=55						
STOK	**Stokkvaagen**	**1.67**	**210**	*e*P	**Pn**	**22 42 05.0**	**+0.2**
STOK				*e*S	**Sg**	**22 42 28.6**	**+0.7**
STOK	**Stokkvaagen**	**1.67**	**210**	*e*P	**Pn**	**22 42 05.0**	**+0.2**
STOK				*e*S	**Sg**	**22 42 28.6**	**+0.7**
STOK	**Stokkvaagen**	**1.67**	**210**	P	**Pn**	**22 42 05.0**	**+0.2**
STOK				S	**Sg**	**22 42 28.5**	**+0.7**
KIF	**Kilpisjarvi**	**2.45**	**58**	*e*P	**Pn**	**22 42 16.6**	**+1.0**
KIF				*e*SG	**Sb**	**22 42 50.7**	**+0.8**
KIF				MSG		22 42 54.5	
	comp=Z,38nm,0.3s						
KIF	**Kilpisjarvi**	**2.45**	**58**	P	**Pn**	**22 42 16.5**	**+1.0**
KIF				Sg	**Sb**	**22 42 50.7**	**+0.8**
LANU	**Lannavaara**	**2.63**	**81**	*e*P	**Pn**	**22 42 19.4**	**+1.2**
LANU				*e*SB	**Sb**	**22 42 55.0**	**-0.2**
LANU	**Lannavaara**	**2.63**	**81**	P	**Pn**	**22 42 19.3**	**+1.2**
HARU	**Harads**	**2.84**	**122**	*e*P	**Pn**	**22 42 21.9**	**+1.0**
HARU	**Harads**	**2.84**	**122**	P	**Pn**	**22 42 21.9**	**+1.0**
ERTU	**Ertsjaerv**	**3.04**	**111**	*e*P	**Pn**	**22 42 25.1**	**+1.4**
ERTU	**Ertsjaerv**	**3.04**	**111**	P	**Pn**	**22 42 25.1**	**+1.4**
LILU	**Lilltraesk**	**3.16**	**140**	*e*P	**Pn**	**22 42 26.7**	**+1.4**
LILU	**Lilltraesk**	**3.16**	**140**	P	**Pn**	**22 42 26.7**	**+1.4**
KTK1	**Kautokeino**	**3.27**	**64**	*e*P	**Pn**	**22 42 27.2**	**+0.4**
KTK1				*e*S	**Sn**	**22 43 06.2**	**-0.1**
KTK1	**Kautokeino**	**3.27**	**64**	*e*P	**Pn**	**22 42 27.5**	**+0.7**
KTK1				*e*S	**Sn**	**22 43 05.3**	**-1.0**
KTK1	**Kautokeino**	**3.27**	**64**	*e*P	**Pn**	**22 42 27.2**	**+0.4**
	SNR=55						
KTK1				S	**Sn**	**22 43 05.2**	**-1.0**
HEF	**Hetta**	**3.28**	**75**	*e*P	**Pn**	**22 42 27.9**	**+0.8**
HEF				*e*S	**Sn**	**22 43 06.8**	**0.0**
HEF				MSG		22 43 25.5	
	comp=Z,8.2nm,0.3s						
HEF	**Hetta**	**3.28**	**75**	P	**Pn**	**22 42 27.8**	**+0.8**
HEF				S	**Sn**	**22 43 06.7**	**0.0**
SJUU	**Sjulsmark**	**3.47**	**128**	*e*P	**Pn**	**22 42 30.8**	**+1.2**
SJUU	**Sjulsmark**	**3.47**	**128**	P	**Pn**	**22 42 30.8**	**+1.2**
SVAU	**Svanoeiden**	**3.78**	**149**	*e*P	**Pn**	**22 42 35.3**	**+1.5**
SVAU				*e*S	**Sn**	**22 43 20.4**	**+1.4**
SVAU	**Svanoeiden**	**3.78**	**149**	P	**Pn**	**22 42 35.3**	**+1.5**
SVAU				S	**Sn**	**22 43 20.4**	**+1.4**
KALU	**Kalix**	**3.81**	**117**	*e*P	**Pn**	**22 42 35.4**	**+1.2**
KALU	**Kalix**	**3.81**	**117**	P	**Pn**	**22 42 35.4**	**+1.2**
BURU	**Burvik**	**4.11**	**139**	*e*P	**Pn**	**22 42 40.5**	**+2.1**
BURU	**Burvik**	**4.11**	**139**	P	**Pn**	**22 42 40.4**	**+2.1**
ARA0	**ARCESS Array S**	**4.20**	**61**	Pn	**Pn**	**22 42 39.1**	**-0.5**
	baz=245,slow=14						
ARA0			

KEV			S	Sn	22 43 41.1	-2.1
OUL	**Oulu**	**5.12 117**	*e*P	**Pn**	**22 42 52.9**	**+0.6**
OUL			*e*S	**Sn**	**22 43 51.0**	**-1.0**
OUL	**Oulu**	**5.12 117**	P	**Pn**	**22 42 52.9**	**+0.6**
OUL			S	**Sn**	**22 43 51.0**	**-1.0**
HEMU	**Hemsoen**	**5.29 165**	*e*P	**Pn**	**22 42 55.5**	**+1.0**
HEMU	**Hemsoen**	**5.29 165**	P	**Pn**	**22 42 55.5**	**+1.0**
VRF	**Varrio**	**5.53 84**	*e*P	**Pn**	**22 42 57.8**	**0.0**
VRF			*e*S	**Sn**	**22 43 58.0**	**-3.9**
VRF	**Varrio**	**5.53 84**	P	**Pn**	**22 42 57.8**	**0.0**
VAF	**Ylistaro**	**5.73 143**	*e*P	**Pn**	**22 43 02.7**	**+2.2**
VAF			*e*S	**Sn**	**22 44 05.9**	**-0.9**
VAF	**Ylistaro**	**5.73 143**	P	**Pn**	**22 43 02.7**	**+2.2**
MSF	**Maaselka**	**5.83 102**	*e*P	**Pn**	**22 43 02.2**	**+0.3**
MSF			*e*S	**Sn**	**22 44 06.8**	**-2.5**
MSF	**Maaselka**	**5.83 102**	P	**Pn**	**22 43 02.2**	**+0.3**
KU6	**Riekki**	**6.10 100**	*e*P	**Pn**	**22 43 05.7**	**0.0**
KU6			*e*S	**Sn**	**22 44 12.7**	**-3.3**
KU6	**Riekki**	**6.10 100**	P	**Pn**	**22 43 05.6**	**0.0**
KJN	**Kajaani**	**6.37 120**	*e*P	**Pn**	**22 43 10.1**	**+0.7**
KJN			*e*S	**Sn**	**22 44 19.1**	**-3.5**
KJN	**Kajaani**	**6.37 120**	P	**Pn**	**22 43 10.0**	**+0.7**
SUF	**Sumiainen**	**6.89 132**	*e*P	**Pn**	**22 43 17.9**	**+1.4**
SUF			*e*S	**Sn**	**22 44 33.8**	**-1.7**
SUF	**Sumiainen**	**6.89 132**	P	**Pn**	**22 43 17.8**	**+1.4**
NB2	**NORSAR Subarra**	**6.98 196**	Pn	**Pn**	**22 43 18.6**	**+0.8**
baz=9.8,slow=14						
NB2			Sn	**Sn**	**22 44 37.6**	**-0.1**
NB2			Lg	Lg	22 45 12.9	
baz=11,slow=37						
NB2	**NORSAR Subarra**	**6.98 196**	Pn	**Pn**	**22 43 18.6**	**+0.8**
baz=9.8,slow=14						
NB2			Sn	**Sn**	**22 44 37.6**	**-0.1**
NB2			Lg	Lg	22 45 12.9	
baz=11,slow=37						
NB2	**NORSAR Subarra**	**6.98 196**	*e*P	**Pn**	**22 43 18.6**	**+0.8**
NB2			*e*S	**Sn**	**22 44 37.6**	**-0.1**
NB2			*e*SG4		22 45 12.9	
NB2	**NORSAR Subarra**	**6.98 196**	Pn	**Pn**	**22 43 18.6**	**+0.8**
baz=9.8,slow=13,SNR=55						
NB2			Sn	**Sn**	**22 44 37.7**	**-0.1**
SNR=55						
NB2			Lg	Lg	22 45 12.9	
baz=11,slow=30,SNR=2.9						
NOA	**NORSAR Array B**	**6.98 196**	Pn	**Pn**	**22 43 16.6**	**-1.1**
comp=Z,0.4nm,0.3s,baz=2.1,slow=13,SNR=8.5						
NOA			Sn	**Sn**	**22 44 35.1**	**-2.7**
comp=Z,0.4nm,0.3s,baz=17,slow=6.1,SNR=3.7						
NOA			Lg	Lg	22 45 13.8	
comp=Z,1.3nm,0.3s,baz=62,slow=17,SNR=5.2						
RAF	**Rauma**	**7.38 154**	*e*P	**Pn**	**22 43 22.8**	**-0.5**
RAF			*e*S	**Sn**	**22 44 44.5**	**-3.0**
RAF	**Rauma**	**7.38 154**	P	**Pn**	**22 43 22.7**	**-0.5**
KAF	**Kangasniemi**	**7.42 135**	*e*P	**Pn**	**22 43 24.7**	**+0.9**
KAF			*e*S	**Sn**	**22 44 45.0**	**-3.6**
KAF	**Kangasniemi**	**7.42 135**	P	**Pn**	**22 43 24.7**	**+0.9**
HFS	**Hagfors**	**7.71 185**	Pn	**Pn**	**22 43 28.8**	**+1.1**
baz=358,slow=12						
HFS			Sn	**Sn**	**22 44 53.6**	**-2.1**
baz=18,slow=22						
HFS			Lg	Lg	22 45 32.8	
baz=3.8,slow=37						
HFS	**Hagfors**	**7.71 185**	Pn	**Pn**	**22 43 28.8**	**+1.1**
baz=358,slow=12						
HFS			Sn	**Sn**	**22 44 53.6**	**-2.1**
baz=18,slow=22						
HFS			Lg	Lg	22 45 32.8	
baz=3.8,slow=37						
HFS	**Hagfors**	**7.71 185**	*e*P	**Pn**	**22 43 28.8**	**+1.1**
HFS			*e*S	**Sn**	**22 44 53.6**	**-2.1**
HFS			*e*SG4		22 45 32.8	
HFS	**Hagfors**	**7.71 185**	Pn	**Pn**	**22 43 28.3**	**+0.5**
comp=Z,0.3nm,0.3s,baz=5.9,slow=11,SNR=15						
HFS			Sn	**Sn**	**22 44 54.5**	**-1.2**
comp=Z,0.5nm,0.3s,baz=16,slow=27,SNR=6.2						
HFS			Lg	Lg	22 45 36.6	
comp=Z,0.9nm,0.3s,baz=0.6,slow=27,SNR=6.1						
HFS	**Hagfors**	**7.71 185**	P	**Pn**	**22 43 28.8**	**+1.1**
HFS			Lg	Lg	22 45 32.8	
baz=3.8,slow=29						
FIA0	**FINESS Array S**	**7.92 138**	Pn	**Pn**	**22 43 31.8**	**+1.1**
baz=327,slow=14						
FIA0			Sn	**Sn**	**22 44 57.6**	**-3.3**
baz=342,slow=28						
FIA0			Lg	Lg	22 45 39.8	
baz=338,slow=28						
FIA0	**FINESS Array S**	**7.92 138**	Pn	**Pn**	**22 43 31.8**	**+1.1**
baz=327,slow=14						
FIA0			Sn	**Sn**	**22 44 57.6**	**-3.3**
baz=342,slow=28						
FIA0			Lg	Lg	22 45 39.8	
baz=338,slow=28						
FIA0	**FINESS Array S**	**7.92 138**	*e*P	**Pn**	**22 43 32.1**	**+1.4**
FIA0			*e*S	**Sn**	**22 44 58.7**	**-2.2**
FIA0	**FINESS Array S**	**7.92 138**	Pn	**Pn**	**22 43 31.8**	**+1.1**
baz=327,slow=13,SNR=55						
FIA0			Lg	Lg	22 45 39.8	
baz=338,slow=26						
FINES	**FINESS Array B**	**7.92 138**	Pn	**Pn**	**22 43 31.7**	**+1.1**
comp=Z,0.3nm,0.3s,baz=336,slow=13,SNR=17						
FINES			Sn	**Sn**	**22 44 58.6**	**-2.3**
comp=Z,0.6nm,0.3s,baz=336,slow=21,SNR=7.9						
FINES			Lg	Lg	22 45 45.0	
comp=Z,0.9nm,0.3s,baz=330,slow=30,SNR=8.8						
AAL	**Aland**	**7.94 162**	*e*P	**Pn**	**22 43 30.3**	**-0.6**
AAL			*e*S	**Sn**	**22 44 59.8**	**-1.5**
AAL	**Aland**	**7.94 162**	P	**Pn**	**22 43 30.3**	**-0.6**
JOF	**Joensuu**	**8.35 118**	*e*P	**Pn**	**22 43 37.0**	**+0.4**
JOF			*e*S	**Sn**	**22 45 06.1**	**-5.3**
JOF	**Joensuu**	**8.35 118**	P	**Pn**	**22 43 36.9**	**+0.4**
MEF	**Metsahovi**	**8.62 147**	*e*P	**Pn**	**22 43 40.4**	**+0.1**
MEF			*e*S	**Sn**	**22 45 15.4**	**-2.7**
MEF	**Metsahovi**	**8.62 147**	P	**Pn**	**22 43 40.4**	**+0.1**
PVF	**Pernaja**	**8.65 142**	*e*P	**Pn**	**22 43 41.4**	**+0.7**
PVF			*e*S	**Sn**	**22 45 15.4**	**-3.4**
PVF	**Pernaja**	**8.65 142**	P	**Pn**	**22 43 41.3**	**+0.7**
VJF	**Virojoki**	**9.07 137**	*e*P	**Pn**	**22 43 46.3**	**-0.2**
VJF			*e*S	**Sn**	**22 45 24.2**	**-4.9**
VJF	**Virojoki**	**9.07 137**	P	**Pn**	**22 43 46.2**	**-0.2**

IDC ***24*** *23:02:53.5±0.5, 46°.66N×90°.30E, h0km, mb4.2/26, mb1 4.3/31, mb1mx4.3/40, mbtmp4.2/31, ML4.3/5, MS3.4/10, Ms1 3.4/10, ms1mx3.2/34, Error ellipse: s-maj=15.3km s-min=9.0km az=24.0*

LDG ***24*** *23:02:54.0±0.2, 46°.74N×90°.02E, h10km, Mb4.7/26, Ms3.1/2, Error ellipse: s-maj=9.3km s-min=5.3km az=165.0*

ISCJB ***24*** *23:02:55.7±0.9, 46°.66N±0°.02×90°.07E±0°.03, h20km±6km, mb4.5/72, MS3.7/14, Error ellipse: s-maj=3.9km s-min=3.1km az=2.4*

NEIC ***24*** *23:02:56.3±2.7, 46°.64N×90°.20E, h17km±4km, mb5.0/11, Error ellipse: s-maj=16.6km s-min=9.4km az=207.0*

BJI ***24*** *23:02:56.5, 46°.66N×90°.26E, h17km, mB4.6/24, mb4.6/29, ML4.6/7, Ms4.2/31, Ms7 3.9/32*

MOS ***24*** *23:02:57.2±1.2, 46°.57N×90°.12E, h33km, mb4.5/20, Error ellipse: s-maj=6.8km s-min=5.5km az=40.6*

TEH ***24*** *23:02:57.0, 46°.76N×89°.98E, h16km, ML4.9*

NNC ***24*** *23:02:57.6±2.2, 46°.68N×89°.67E, h0km, mb4.9, mpv4.8, Error ellipse: s-maj=19.7km s-min=18.4km az=19.0*

ASRS ***24*** *23:03:01.5±1.2, 46°.80N×90°.18E, h15km, Ms4.2/4*

ISC 24 23:02:57.3±0.4,**46°.76N**±0°.03×**90°.03E**±0°.02,**h17**km±2km, **h16**km**:pP-P,n364,**σ1§**66**/407,**mb4.5**/74,**MS3.7**/15, **28C-20D,Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMQ	**Urumqi**	**3.37**	**210**	Pn	**Pn**	**23 03 49.3**	**+0.1**
WMQ				smax	smax		
comp=N,2μm,0.5s							
WMQ				smax	smax		
comp=E,2μm,0.7s							
AKAR	**Aktash**	**3.91**	**337**	*e*P	Pb	23 04 02.1	-3.7
AKAR	**Aktash**	**3.91**	**337**	*e*Pn	Pb	23 04 02.1	-3.7
AKAR				*e*Pg	**Pg**	**23 04 13.6**	**+1.5**
AKAR				*e*Sg	**Sg**	**23 05 02.8**	**+0.1**
HVS	**Khovu-Aksy**	**5.00**	**28**	*d i*P	**Pn**	**23 04 13.2**	**+1.5**
MK01	**Makanchi Array**	**5.32**	**273**	*e*Pn	**Pn**	**23 04 17.8**	**+1.9**
MK01				*e*Sg	**Sg**	**23 05 43.1**	**-4.7**
MK31	**Makanchi Array**	**5.32**	**273**	Pn	**Pn**	**23 04 17.8**	**+1.8**
comp=E,16nm,0.3s,baz=93,slow=15,SNR=868							
MK31				⇓Pg	Pg	23 04 35.1	-4.0
comp=E,49nm,0.5s,baz=87,slow=19,SNR=8.5							
MK31				⇓Sn	**Sn**	**23 05 20.5**	**+3.6**
comp=E,62nm,0.4s,baz=94,slow=28,SNR=5.0							
MK31				⇓Lg	Lg	23 05 39.3	
comp=E,286nm,0.7s,baz=96,slow=25,SNR=5.5							
MK31	**Makanchi Array**	**5.32**	**273**	*i* P	**Pn**	**23 04 17.8**	**+1.8**
MK31				pmax	pmax		
comp=Z,34nm,0.3s							
MK32	**Makanchi Array**	**5.32**	**273**	*e*Pn	**Pn**	**23 04 17.9**	**+1.9**
MK32				*e*Sn	**Sn**	**23 05 22.1**	**+5.2**
MK32				*e*Sg	**Sg**	**23 05 45.2**	**-2.8**
MKAR	**Makanchi Array**	**5.32**	**273**	*e*P	**Pn**	**23 04 18.0**	**+2.0**
MKAR	**Makanchi Array**	**5.32**	**273**	*e*Pn	**Pn**	**23 04 18.0**	**+2.0**
MKAR				*e*Sg	**Sg**	**23 05 43.9**	**-4.1**
MKAR	**Makanchi Array**	**5.32**	**273**	Pn	**Pn**	**23 04 17.9**	**+1.9**
comp=Z,13nm,0.3s,baz=95,slow=15,SNR=477							
MKAR				Sn	**Sn**	**23 05 22.1**	**+5.2**
comp=Z,78nm,0.3s,baz=91,slow=29,SNR=5.2							
MKAR				Lg	Lg	23 05 45.2	
comp=Z,53nm,0.3s,baz=87,slow=32,SNR=8.7							
CERR	**Cheremushki**	**6.17**	**8**	*e*Pg	**Pg**	**23 04 53.4**	**-1.9**
CERR				*e*Sg	**Sg**	**23 06 11.3**	**-3.8**
TASR	**Tashtagol**	**6.17**	**348**	*e*Pg	**Pg**	**23 04 53.3**	**-2.0**
TASR				*e*Sg	**Sg**	**23 06 15.0**	**-0.1**
ABNR	**Abakan**	**7.03**	**7**	⇓*e*P	Pn	23 04 42.5	+3.1
ZAA0	**Zalesovo Array**	**7.93**	**337**	*e*Pn	**Pn**	**23 04 53.3**	**+1.5**
ZALV	**Zalesovo Beam**	**7.93**	**337**	P	**Pn**	**23 04 54.0**	**+2.3**
ZALV				pmax	pmax		
comp=Z,1.0nm,0.3s							
ZALV				MLR	MLR		
comp=Z,201nm,20.6s							
ZALV	**Zalesovo Beam**	**7.93**	**337**	Pn	**Pn**	**23 04 54.0**	**+2.3**
comp=Z,1.4nm,0.3s,baz=156,slow=13,SNR=23							
ZALV				Lg	Lg	23 07 07.9	
comp=Z,6.9nm,0.3s,baz=157,slow=26,SNR=3.6							
ZALV				LR	LR	23 08 14.1	
comp=Z,200nm,20.6s,baz=68,slow=40							
KURK	**Kurchatov**	**8.52**	**302**	⇑Pn	**Pn**	**23 05 01.1**	**+1.3**
comp=Z,55nm,0.8s							
KURK				⇑Sn	**Sn**	**23 06 36.3**	**+0.8**
comp=Z,46nm,0.8s							
KURK				⇑Lg	Lg	23 07 26.6	
comp=Z,166nm,0.6s							
KURK	**Kurchatov**	**8.52**	**302**	*c i*P	**Pn**	**23 05 00.9**	**+1.1**
KURK				pmax	pmax		
comp=Z,29nm,1.0s							
KURK	**Kurchatov**	**8.52**	**302**	*e*Pn	**Pn**	**23 04 59.9**	**+0.1**
KURK				*e*Sn	**Sn**	**23 06 33.1**	**-2.3**
KURBB	**Kurchatov Arra**	**8.54**	**301**	⇑Pn	**Pn**	**23 05 01.1**	**+1.1**
comp=Z,50nm,0.3s							
KURBB				⇑Sn	**Sn**	**23 06 36.6**	**+0.7**
comp=Z,252nm,0.7s							
KURBB				⇓Lg	Lg	23 07 28.1	
comp=Z,544nm,0.6s							
KURBB	**Kurchatov Arra**	**8.54**	**301**	Pn	**Pn**	**23 05 00.8**	**+0.8**
comp=Z,2.9nm,0.3s,baz=110,slow=14,SNR=12							
KURBB				Sn	**Sn**	**23 06 36.6**	**+0.7**
comp=Z,6.5nm,0.3s,baz=106,slow=26,SNR=7.1							
KURBB				Lg	Lg	23 07 28.6	
comp=Z,12nm,0.3s,baz=107,slow=31,SNR=6.9							
MOY	**Mondy**	**8.69**	**52**	*e*P	**Pn**	**23 05 05.0**	**+2.7**
MOY				pmax	pmax		
comp=Z,59nm,1.1s							
NVS	**Novosibirsk**	**9.16**	**335**	*e*P	**Pn**	**23 05 09.1**	**+0.5**
NVS				*e*		23 07 04.0	
NVS	**Novosibirsk**	**9.16**	**335**	*e*Pg	Pn	23 05 47.4	+39
NVS				*e*Sg	Sn	23 07 47.5	+56
ZAK	**Zakamensk**	**9.50**	**63**	*e*P	Pn	23 05 17.9	+4.5
ZAK				pmax	pmax		
comp=Z,24nm,1.1s							
AAA	**Alma-Ata**	**9.90**	**254**	*i* P	Pn	23 05 21.9	+3.1
AAA				*i* S	**Sn**	**23 07 09.6**	**0.0**
AAA				pmax	pmax		
comp=Z,29nm,0.4s							
AAA				smax	smax		
comp=E,86nm,0.8s							
KNDC	**Almaty**	**9.91**	**254**	⇑Pn	**Pn**	**23 05 20.7**	**+1.7**
comp=E,26nm,0.5s							
KNDC				⇑Sn	**Sn**	**23 07 09.4**	**-0.5**
comp=E,84nm,0.6s							
TLY	**Talaya**	**10.17**	**56**	*e*P	**Pn**	**23 05 25.1**	**+2.6**
GTA	**Gaotai**	**10.24**	**132**	*e*P	**Pn**	**23 05 22.1**	**-1.5**
GTA				pP		23 05 25.1	
GTA				sP		23 05 28.3	
GTA				S	**Sn**	**23 07 18.8**	**+0.7**
GTA				pmax	pmax		
comp=Z,3.0nm,0.5s							
GTA				pmax	pmax		
comp=Z,60nm,5.2s							
GTA				LR	LR		
comp=N,650nm,9.0s							
GTA				LR	LR		
comp=E,750nm,10.4s							
GTA				LR	LR		
comp=Z,650nm,9.0s							
ULHL	**Ulahol**	**10.83**	**250**	*i* P	**Pn**	**23 05 34.0**	**+2.3**
ULHL	**Ulahol**	**10.83**	**250**	P	**Pn**	**23 05 34.0**	**+2.3**
SNR=14							
TKM2	**Tokmak 2**	**10.95**	**255**	⇑Pn	**Pn**	**23 05 34.2**	**+0.9**
comp=Z,13nm,0.6s							
TKM2				⇓Sn	**Sn**	**23 07 32.7**	**-2.7**
comp=Z,15nm,0.5s							
TKM2	**Tokmak 2**	**10.95**	**255**	*e*P	**Pn**	**23 05 34.8**	**+1.5**
TKM2	**Tokmak 2**	**10.95**	**255**	P	Pn	23 05 36.5	+3.2
SNR=15							
TKM2	**Tokmak 2**	**10.95**	**255**	*e*Pn	**Pn**	**23 05 34.8**	**+1.5**
SONA0	**Songino Array**	**11.17**	**79**	*e*Pn	**Pn**	**23 05 36.0**	**-0.2**
SONM	**Songino Array**	**11.17**	**79**	Pn	**Pn**	**23 05 36.0**	**-0.2**
comp=Z,0.2nm,0.3s,baz=311,slow=23,SNR=3.8							
SONM				Pg		23 06 14.1	
comp=Z,0.4nm,0.3s,baz=274,slow=15,SNR=2.4							
SONM				Lg	Lg	23 08 39.5	
comp=Z,1.9nm,0.3s,baz=267,slow=24,SNR=6.2							
SONA1	**Songino Array**	**11.17**	**78**	*e*Pn	**Pn**	**23 05 38.5**	**+2.2**
KBK	**Karagaybulak**	**11.49**	**255**	*i* P	**Pn**	**23 05 42.4**	**+1.7**
KBK	**Karagaybulak**	**11.49**	**255**	P	**Pn**	**23 05 42.4**	**+1.7**
SNR=22							
USP	**Ospenovka**	**11.54**	**258**	*i* P	**Pn**	**23 05 42.4**	**+1.2**
USP	**Ospenovka**	**11.54**	**258**	P	**Pn**	**23 05 42.4**	**+1.2**
SNR=27							
ULN	**Ulaanbaatar**	**11.61**	**78**	*e*Pn	**Pn**	**23 05 41.9**	**-0.4**
FRU	**Bishkek**	**11.63**	**256**	*e*P	**Pn**	**23 05 43.5**	**+1.0**
FRU				pmax	pmax		
comp=N,190nm,2.0s							
AAK	**Ala-Archa**	**11.80**	**255**	⇓*i*P	**Pn**	**23 05 46.2**	**+1.2**
AAK				pmax	pmax		
comp=Z,9.0nm,0.7s							
AAK	**Ala-Archa**	**11.80**	**255**	P	**Pn**	**23 05 46.8**	**+1.8**
SNR=14							
AAK	**Ala-Archa**	**11.80**	**255**	*e*Pn	**Pn**	**23 05 46.5**	**+1.6**
AAK	**Ala-Archa**	**11.80**	**255**	Pn	**Pn**	**23 05 46.6**	**+1.6**
comp=Z,1.9nm,0.3s,baz=85,slow=7.4,SNR=31							
AAK				Lg	Lg	23 09 13.8	
comp=Z,0.6nm,0.3s,baz=323,slow=20,SNR=2.5							
AAK				LR	LR	23 10 37.3	
comp=Z,127nm,21.1s,baz=37,slow=39							
UCH	**Uchtor**	**11.97**	**253**	P	Pn	23 05 51.3	+3.8
SNR=9.5							
EKS2	**Erkin-Say**	**12.27**	**256**	*e*P	**Pn**	**23 05 52.2**	**+0.9**
EKS2	**Erkin-Say**	**12.27**	**256**	P	**Pn**	**23 05 52.6**	**+1.4**
SNR=7.0							
EKS2	**Erkin-Say**	**12.27**	**256**	*e*Pn	**Pn**	**23 05 52.2**	**+0.9**
KSH	**Kashi**	**12.55**	**240**	*e*P	P	23 06 02.8	-4.0
KSH				pP	pP	23 06 06.1	
KSH				PP	PnPn	23 06 13.3	+10
KSH				S	Sn	23 08 27.3	+13
KSH				SS	SnSn	23 08 42.3	+16
KSH				pmax	pmax		
comp=Z,9.0nm,0.6s							
KSH				pmax	pmax		
comp=Z,75nm,5.1s							
KSH				LR	LR		
comp=N,210nm,5.4s							
KSH				LR	LR		
comp=E,370nm,5.8s							
KSH				LR	LR		
comp=Z,530nm,14.3s							
AML	**Almayashu**	**12.56**	**254**	P	Pn	23 05 58.6	+3.1
SNR=10							
VOSK	**Vostochnaya**	**13.67**	**303**	⇓Pn	**Pn**	**23 06 10.4**	**+0.1**
comp=Z,13nm,0.5s							
VOSK				⇓Sn	**Sn**	**23 08 40.4**	**-1.3**
comp=Z,19nm,1.0s							
VOSK	**Vostochnaya**	**13.67**	**303**	*e*P	**Pn**	**23 06 09.6**	**-0.7**
VOSK	**Vostochnaya**	**13.67**	**303**	*e*Pn	**Pn**	**23 06 09.6**	**-0.7**
BVA0	**Borovoye Array**	**14.11**	**304**	⇑Pn	**Pn**	**23 06 16.3**	**0.0**
comp=Z,24nm,0.7s,baz=93,slow=14,SNR=162							
BVA0				⇓Sn	**Sn**	**23 08 48.5**	**-3.7**
comp=Z,23nm,1.2s,baz=104,slow=20,SNR=5.6							
BVAR	**Borovoye Array**	**14.11**	**304**	P	**Pn**	**23 06 16.0**	**-0.2**
BVAR						23 08 47.5	
BVAR				pmax	pmax		
comp=Z,1.0nm,0.3s							
BVAR				smax	smax		
comp=N,1.0nm,0.3s							
BVAR	**Borovoye Array**	**14.11**	**304**	Pn	**Pn**	**23 06 16.0**	**-0.2**
comp=N,1.2nm,0.3s,baz=103,slow=13,SNR=25							
BVAR				Sn	**Sn**	**23 08 47.5**	**-4.7**
comp=N,1.2nm,0.3s,baz=103,slow=18,SNR=4.6							
BVAR				Lg	Lg	23 10 26.0	
baz=111,slow=24,SNR=2.3							
BVAR				LR	LR	23 11 54.8	
comp=N,95nm,19.4s,baz=92,slow=38							
BRVK	**Borovoye**	**14.18**	**304**	⇓Pn	**Pn**	**23 06 16.4**	**-0.8**
comp=N,48nm,0.7s							
BRVK				⇓Sn	**Sn**	**23 08 50.7**	**-3.3**
comp=N,35nm,1.0s							
BRVK	**Borovoye**	**14.18**	**304**	*d i*P	**Pn**	**23 06 17.7**	**+0.5**
BRVK				pmax	pmax		
comp=Z,14nm,0.8s							
BRVK	**Borovoye**	**14.18**	**304**	*e*Pn	**Pn**	**23 06 15.3**	**-1.9**
KK31	**Karatay Array**	**14.30**	**262**	⇓Pn	**Pn**	**23 06 18.2**	**-0.8**
comp=Z,2.2nm,0.5s,baz=62,slow=14,SNR=83							
KKAR	**Karatay Array**	**14.30**	**262**	*e*P	**Pn**	**23 06 17.4**	**-1.6**
KKAR	**Karatay Array**	**14.30**	**262**	*e*Pn	**Pn**	**23 06 17.4**	**-1.6**
LZH	**Lanzhou**	**14.84**	**131**	*e*P	**Pn**	**23 06 28.8**	**+2.3**
LZH				pP	pP	23 06 32.8	
LZH				sP		23 06 35.6	
LZH				PP	PnPn	23 06 42.0	+7.6
LZH				*e*S	Sn	23 09 16.8	+6.2
LZH				sS	**S**	**23 09 23.3**	**-5.5**
LZH				SS	**SnSn**	**23 09 25.3**	**+2.3**
LZH				pmax	pmax		
comp=Z,28nm,1.0s							
LZH				pmax	pmax		
comp=Z,90nm,4.0s							
LZH				LR	LR		
comp=N,560nm,12.1s							
LZH				LR	LR		
comp=E,410nm,9.8s							
LZH				LR	LR		
comp=Z,530nm,11.6s							
HHC	**Hu-ho-hao-te**	**16.60**	**103**	*e*P	**Pn**	**23 06 48.8**	**-0.5**
HHC				sP	**sP**	**23 06 56.4**	**-2.2**
HHC				PP	**PnPn**	**23 07 02.8**	**+4.4**
HHC				S	**Sn**	**23 09 51.8**	**-1.5**
HHC				sS	**S**	**23 09 58.4**	**-6.3**
HHC				SS	**SnSn**	**23 10 14.4**	**+8.3**
HHC				pmax	pmax		
comp=Z,25nm,0.7s							
HHC				pmax	pmax		
comp=Z,270nm,5.0s							
HHC				LR	LR		
comp=N,2μm,11.3s							
HHC				LR	LR		
comp=E,3μm,11.3s							
HHC				LR	LR		
comp=Z,3μm,11.7s							
LSA	**Lhasa**	**17.05**	**177**	P	**P**	**23 06 59.4**	**+2.3**
DHRM	**DHARAMSHALA**	**17.91**	**221**	*e*P	**Pn**	**23 07 04.2**	**-1.6**
DHRM				AMB	AMB	23 07 17.3	
comp=Z,23nm,0.6s							
CHCP	**Chirah Chowk**	**18.26**	**230**	P	**P**	**23 07 10.6**	**+0.6**
SMLA	**Simla**	**18.50**	**217**	*e*P	**P**	**23 07 10.6**	**-1.9**
DDI	**Dehra Dun**	**18.86**	**214**	*e*P	**P**	**23 07 13.7**	**-2.9**
DDI				AMB	AMB	23 07 23.2	
comp=Z,64nm,0.5s							
CEP	**Cherat**	**18.86**	**233**	P	**P**	**23 07 16.4**	**-0.3**
CEP				S	**Sn**	**23 10 42.0**	**-6.1**
DANN	**Dangsing**	**19.02**	**197**	*e*P	**P**	**23 07 17.1**	**-1.6**
comp=Z,32nm,0.6s							
CD2	**Chengdu**	**19.05**	**141**	P	**Pn**	**23 07 21.5**	**+2.0**
CD2				pP	**pP**	**23 07 25.3**	**+1.9**
CD2				sP	**sP**	**23 07 28.8**	**+3.2**
CD2				PP	**PnPn**	**23 07 38.3**	**+6.3**
CD2				S	**Sn**	**23 10 50.6**	**-1.9**
CD2				sS	**S**	**23 10 56.5**	**+2.2**
CD2				pmax	pmax		
comp=Z,20nm,0.6s							
CD2				pmax	pmax		
comp=Z,60nm,5.3s							
CD2				LR	LR		
comp=N,400nm,12.5s							
CD2				LR	LR		
comp=Z,300nm,8.3s							
GUN	**Gumba**	**19.10**	**191**	*e*P	**P**	**23 07 19.5**	**0.0**
comp=Z,46nm,0.7s							
GKN	**Gorkha**	**19.20**	**195**	*e*P	**P**	**23 07 19.6**	**-0.8**
comp=Z,55nm,0.8s							
KKN	**Kakani**	**19.30**	**193**	*e*P	**P**	**23 07 20.5**	**-1.1**
comp=Z,41nm,0.7s							
JIRN	**Jiri**	**19.30**	**190**	*e*P	**P**	**23 07 21.6**	**-0.2**
comp=Z,41nm,0.5s							
PYUN	**Piuthan**	**19.43**	**199**	*e*P	**P**	**23 07 20.2**	**-2.8**
TAPN	**Taplejung**	**19.46**	**186**	*e*P	**Pn**	**23 07 28.4**	**+3.7**
comp=Z,16nm,0.6s							
PKIN	**Phulchoki**	**19.49**	**192**	*e*P	**P**	**23 07 22.8**	**-1.0**
comp=Z,16nm,0.5s							
PKI	**Pulchoki**	**19.50**	**192**	*e*P	**P**	**23 07 23.5**	**-0.4**
comp=Z,19nm,0.6s							
KOLN	**Koldanda**	**19.62**	**197**	*e*P	**P**	**23 07 21.7**	**-3.4**
comp=Z,12nm,0.4s							
THW	**Thamme Wali**	**19.74**	**232**	P	**P

GYA S **S** **23 12 28.5 -1.7**
GYA ScP **ScP** **23 15 31.0 +0.1**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,4.8s
GYA LR LR
comp=N,650nm,16.3s
GYA LR LR
comp=E,580nm,17.0s
GYA LR LR
comp=Z,620nm,16.5s
SNY Shenyang 24.39 89 ⇑P **P** **23 08 12.6 -2.0**
SNY S **S** **23 12 33.8 +0.5**
SNY pmax pmax
comp=Z,14nm,0.6s
SNY LR LR
comp=N,130nm,9.3s
SNY LR LR
comp=E,220nm,14.2s
SNY LR LR
comp=Z,260nm,16.7s
IMYA Miami 24.56 256 *eP* **P** **23 08 17.8 +1.4**
WHN Wuhan 24.81 122 P **P** **23 08 21.9 +3.5**
WHN S **S** **23 12 41.1 +0.9**
WHN LR LR
comp=Z,640nm,11.1s
IMOG Moghan 25.20 256 *eP* P 23 08 29.6 +7.3
IKRD Kardeh 25.39 258 *eP* P 23 08 17.9 -6.0
NJ2 Nanjing 26.49 113 *eP* **P** **23 08 34.6 +1.0**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
NJ2 LR LR
comp=N,940nm,17.1s
NJ2 LR LR
comp=E,770nm,21.4s
NJ2 LR LR
comp=Z,140nm,19.2s
NGP Nagpur 27.07 203 *eP* **P** **23 08 36.7 -2.2**
MDJ Mudanjiang 27.52 80 P **P** **23 08 43.1 +0.3**
MDJ pP **pP** **23 08 46.1 -1.8**
MDJ S **S** **23 13 24.6 +1.6**
MDJ sS **sS** **23 13 29.8 -1.6**
MDJ ScP **ScP** **23 15 41.8 +1.7**
MDJ PcS **PcS** **23 15 43.0 +0.8**
MDJ pmax pmax
comp=Z,4.0nm,0.8s
MDJ pmax pmax
comp=Z,40nm,6.5s
MDJ LR LR
comp=N,100nm,12.4s
MDJ LR LR
comp=E,150nm,13.3s
MDJ LR LR
comp=Z,200nm,12.6s
AKL Akola 28.08 207 *eP* **P** **23 08 48.0 +0.1**
CM31 Chiang Mai Arr 29.16 162 *eP* **P** **23 08 55.1 -2.6**
CMAR Chiang Mai Arr 29.16 162 P **P** **23 08 55.1 -2.6**
comp=Z,0.5nm,0.4s,baz=331,slow=8.6,SNR=2.9
USRK Ussuriysk Arra 29.28 79 LR LR 23 21 23.2
comp=Z,148nm,18.8s,baz=15,slow=38
KS01 Wonju Array Si 29.33 95 *eP* **P** **23 08 57.5 -1.5**
KS15 Wonju Array Si 29.34 95 *eP* **P** **23 08 57.2 -1.8**
KSRS Korea Array 29.36 95 P **P** **23 08 57.2 -2.0**
comp=Z,1.2nm,0.8s,baz=290,slow=7.2,SNR=3.5
KSRS LR LR 23 21 32.7
comp=Z,108nm,19.4s,baz=300,slow=38
QIZ Qiongzhong 32.08 143 P **P** **23 09 24.8 +1.4**
QIZ S **S** **23 14 37.9 +3.0**
QIZ pmax pmax
comp=Z,35nm,2.2s
QIZ LR LR
comp=Z,220nm,13.4s
KLMR Klimovskoe 32.09 315 *eP* **P** **23 09 22.8 -0.3**
KLMR pmax pmax
comp=Z,37nm,1.8s
ZEI Tsey 32.62 280 *eP* P 23 09 31.9 +3.6
ZEI pmax pmax
comp=Z,5.0nm,0.7s
KIV Kislovodsk 33.00 283 *eP* **P** **23 09 30.7 -0.7**
KIV pmax pmax
comp=Z,7.0nm,0.9s
OBN Obninsk 33.95 304 ⇓*iP* **P** **23 09 39.4 0.0**
OBN *i* 23 09 45.4
OBN *e* 23 10 54.0
OBN pmax pmax
comp=Z,13nm,0.9s
JOF Joensuu 36.00 318 *eP* **P** **23 09 58.5 +1.5**
JOF Joensuu 36.00 318 *ep* **P** **23 09 58.5 +1.5**
comp=Z,0.4nm,0.3s
MALT Malatya 38.35 276 ⇓*iP* P 23 10 20.7 +3.3
KAF Kangasniemi 38.37 317 *eP* **P** **23 10 19.1 +2.0**
KAF pmax pmax
comp=Z,1.0nm,0.3s
KAF Kangasniemi 38.37 317 *ep* **P** **23 10 19.1 +2.0**
comp=Z,0.5nm,0.3s
ARA0 ARCESS Array S 38.39 329 *eP* **P** **23 10 18.4 +1.1**
ARCES ARCESS Array B 38.39 329 P **P** **23 10 18.4 +1.1**
comp=Z,2.8nm,0.9s,baz=79,slow=9.3,SNR=2.6
ARCES LR LR 23 28 06.6
comp=Z,112nm,18.8s,baz=325,slow=39
FIA0 FINESS Array S 38.57 316 *eP* **P** **23 10 18.6 -0.2**
FIA0 FINESS Array S 38.57 316 *eP* **P** **23 10 18.6 -0.2**
FINES FINESS Array B 38.57 316 P **P** **23 10 18.6 -0.2**
comp=Z,3.4nm,0.8s,baz=74,slow=6.9,SNR=14
FINES LR LR 23 26 48.9
comp=Z,30nm,21.4s,baz=90,slow=37
AKASG Malin Array Be 39.32 299 P **P** **23 10 25.8 +0.6**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKASG Malin Array Be 39.32 299 *ceP* **P** **23 10 26.5 +1.3**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKASG Malin Array Be 39.32 299 P **P** **23 10 25.8 +0.6**
comp=Z,1.7nm,0.4s,baz=59,slow=8.7,SNR=8.3
AKBB Malin Array Si 39.32 299 *eP* **P** **23 10 25.8 +0.6**
AKBB Malin Array Si 39.32 299 *eP* **P** **23 10 25.8 +0.6**
KIEV Kiev 39.33 299 *eP* **P** **23 10 26.8 +1.5**
BR101 Keskin Array S 40.91 281 *eP* **P** **23 10 40.4 +1.7**
BRTR Keskin Array B 40.91 281 P **P** **23 10 40.4 +1.7**
comp=Z,4.7nm,0.7s,baz=78,slow=7.3,SNR=16
SPA0 Spitsbergen Ar 41.37 343 *eP* **P** **23 10 43.1 +1.2**
SPITS Spitsbergen Ar 41.37 343 P **P** **23 10 43.1 +1.2**
comp=Z,7.1nm,0.9s,baz=114,slow=10,SNR=5.1
BR231 Keskin MP Arra 41.44 282 *eP* **P** **23 10 40.4 -2.6**
BR231 *epP* **pP** **23 10 45.7 -2.6**
CFR Carcaliu 42.06 291 ⇑*iP* **P** **23 10 45.7 -2.2**
TESR Tescani 42.45 294 ⇑*iP* **P** **23 10 53.2 +2.1**
PETK Petropavlovsk- 42.53 56 LR LR 23 29 25.5
comp=Z,56nm,21.4s,baz=239,slow=38
VRI Vrincioaia 42.67 293 ⇑*iP* **P** **23 10 55.5 +2.6**
PLOR Plostina 42.72 293 ⇑*iP* **P** **23 10 54.7 +1.3**
ASF Jabal al Asfar 42.73 270 *eP* **P** **23 10 54.8 +1.2**
ASF Jabal al Asfar 42.73 270 P **P** **23 10 54.8 +1.2**
comp=Z,1.4nm,0.6s,baz=354,slow=8.7,SNR=5.1
BURAR Bucovina Array 42.89 296 ⇑*iP* **P** **23 10 55.0 +0.2**
BUR04 Bucovina Ar. S 42.89 296 *eP* **P** **23 10 54.5 -0.3**
BUR04 *epP* **pP** **23 11 01.3 +1.3**
MLR Muntele Rosu 43.33 293 *eP* **P** **23 10 59.9 +1.6**
MLR Muntele Rosu 43.33 293 P **P** **23 10 59.9 +1.6**
comp=Z,0.3nm,0.4s,baz=30,slow=20
KWP Kalwaria Pacla 43.61 300 ⇑*iP* **P** **23 11 02.8 +2.4**
VOIR 43.92 293 ⇑*iP* **P** **23 11 05.2 +2.2**
ARR Arges 44.21 293 ⇓*iP* P 23 11 13.0 +7.6
TRPA Tarpa 44.32 298 ⇓*iP* **P** **23 11 08.3 +2.2**
OJC Ojcow 45.10 301 *eP* **P** **23 11 11.5 -0.9**
OJC *e**PP **pP** **23 11 19.0 +1.4**
OJC pmax pmax
comp=Z,7.0nm,0.6s
OJC Ojcow 45.10 301 *eP* **P** **23 11 11.4 -0.9**
comp=Z,7.4nm,0.6s
OJC *ep*P **pP** **23 11 19.0 +1.4**
OJC Ojcow 45.10 301 *eP* **P** **23 11 13.8 +1.5**
NIE Niedzica 45.13 300 *eP* **P** **23 11 14.0 +1.4**
NIE Niedzica 45.13 300 *eP* **P** **23 11 14.0 +1.4**
NB2 NORSAR Subarra 45.63 318 P **P** **23 11 16.4 -0.1**
comp=Z,3.9nm,0.6s,baz=71,slow=7.9
NB200 NORSAR Array S 45.63 318 *eP* **P** **23 11 16.6 +0.1**
NOA NORSAR Array B 45.63 318 P **P** **23 11 16.6 +0.1**
comp=Z,3.6nm,0.6s,baz=67,slow=7.5,SNR=14
NOA LR LR 23 29 52.3
comp=Z,25nm,20.2s,baz=90,slow=35
SIRR Siria 45.67 296 ⇑*iP* **P** **23 11 19.2 +2.3**
NBO02 NORSAR Array S 45.80 318 *eP* **P** **23 11 17.4 -0.3**
OKC Ostrava-Krasne 46.23 302 *eP* **P** **23 11 24.1 +2.9**
OKC Ostrava-Krasne 46.23 302 *eP* **P** **23 11 24.1 +2.9**
KSP Ksiaz 46.87 303 *eP* **P** **23 11 27.6 +1.3**
KRLC Kraliky 46.92 302 *eP* **P** **23 11 26.9 +0.2**
KRLC Kraliky 46.92 302 *eP* **P** **23 11 26.9 +0.2**
KRLC *epP* **pP** **23 11 31.6 -0.4**
DPC Dobruska-Polom 47.07 303 *eP* **P** **23 11 29.5 +1.6**
DPC *e* 23 11 34.7
DPC Dobruska-Polom 47.07 303 *eP* **P** **23 11 29.5 +1.6**
DPC *epP* **pP** **23 11 34.7 +1.5**
DPC Dobruska-Polom 47.07 303 *eP* **P** **23 11 28.0 +0.1**
comp=Z,28nm,0.8s
UPC Upice 47.18 303 *eP* **P** **23 11 30.5 +1.8**
UPC *e* 23 11 35.7
UPC Upice 47.18 303 *eP* **P** **23 11 30.5 +1.8**
UPC *epP* **pP** **23 11 35.7 +1.7**
VRAC Vranov 47.37 301 *eP* **P** **23 11 31.0 +0.8**
VRAC Vranov 47.37 301 P **P** **23 11 31.0 +0.8**
comp=Z,2.3nm,0.6s,baz=59,slow=8.4,SNR=4.8
PVCC Panska Ves 48.00 304 *eP* **P** **23 11 36.2 +1.2**
PVCC Panska Ves 48.00 304 *eP* **P** **23 11 36.2 +1.2**
PVCC *epP* **pP** **23 11 41.1 +0.8**
TREC Trest 48.02 302 *eP* **P** **23 11 37.1 +1.8**
TREC *e* 23 11 42.2
TREC Trest 48.02 302 *eP* **P** **23 11 37.1 +1.8**
TREC *epP* **pP** **23 11 42.2 +1.6**
BRG Berggiesshubel 48.20 304 *eP* **P** **23 11 37.6 +1.0**
comp=Z,2.2nm,0.7s
BRG *e* 23 11 43.1
comp=Z,4.0nm,0.9s
BRG Berggiesshubel 48.20 304 *eP* **P** **23 11 37.6 +1.0**
BRG *e* 23 11 43.1
BRG pmax pmax
comp=Z,2.0nm,0.7s
BRG pmax pmax
comp=Z,4.0nm,0.9s
PRU Pruhonice 48.26 303 *eP* **P** **23 11 38.4 +1.4**
PRU Pruhonice 48.26 303 *eP* **P** **23 11 38.4 +1.4**
PRU *epP* **pP** **23 11 42.8 +0.5**
CONA Conrad Observa 48.43 300 ⇑*ipP* **P** **23 11 40.6 +2.1**
comp=Z,5.8nm,0.6s
CLL Collm 48.54 305 ⇑*iP* **P** **23 11 40.2 +1.0**
CLL *i* 23 11 45.3
CLL pmax pmax
comp=Z,8.0nm,0.6s
CLL Collm 48.54 305 ⇑*iP* **P** **23 11 40.2 +1.0**
comp=Z,8.0nm,0.6s
CLL *i* pP **pP** **23 11 45.3 +0.9**
CLL *i* (sP) **sP** **23 11 47.6 +1.1**
IDI Anoyia 49.15 281 *eP* **P** **23 11 42.6 -1.7**
comp=Z,119nm,2.6s
IDI Anoyia 49.15 281 P **P** **23 11 42.7 -1.5**
comp=Z,4.0nm,0.8s,baz=41,slow=10,SNR=6.0
KHC Kasperske Hory 49.21 302 *eP* **P** **23 11 45.6 +1.2**
KHC *e* 23 11 51.1
KHC Kasperske Hory 49.21 302 *eP* **P** **23 11 45.6 +1.2**
KHC *epP* **pP** **23 11 51.1 +1.4**
KHC Kasperske Hory 49.21 302 *eP* **P** **23 11 44.6 +0.1**
comp=Z,24nm,2.2s
GEC2 GERESS Array S 49.27 302 *eP* **P** **23 11 45.7 +0.7**
GEC2 GERESS Array S 49.27 302 *eP* **P** **23 11 45.7 +0.7**
GERES GERESS Array B 49.27 302 P **P** **23 11 46.3 +1.3**
comp=Z,1.0nm,0.5s,baz=64,slow=7.6,SNR=16
SOKA Soboth 49.52 299 ⇑*iP* **P** **23 11 48.0 +1.1**
comp=Z,2.2nm,0.6s,SNR=5.2
GVD Gavdhos 49.95 281 *eP* **P** **23 11 50.2 0.0**
comp=Z,104nm,1.7s
RETA Reutte 51.65 302 ⇑*ipP* **P** **23 12 04.4 +1.5**
comp=Z,2.9nm,0.8s,SNR=4.2
FETA Feichten 51.91 301 *i* P **P** **23 12 06.0 +1.0**
comp=Z,3.7nm,0.6s,SNR=6.8
DAVOX Davos/Dischmat 52.53 301 *eP* **P** **23 12 09.6 0.0**
DAVOX Davos/Dischmat 52.53 301 P **P** **23 12 09.6 0.0**
comp=Z,2.6nm,0.7s,baz=78,slow=13,SNR=4.3
TUE Stuetta 53.01 301 *eP* **P** **23 12 13.4 +0.2**
comp=Z,5.0nm,0.7s
CDF Champ du Feu 53.18 304 *eP* **P** **23 12 14.5 +0.2**
GIVF Givet 53.66 307 *eP* **P** **23 12 17.9 +0.2**
HINF Hinteralfeld 53.74 304 *eP* **P** **23 12 18.4 0.0**
HAU Haudompre 53.92 304 *eP* **P** **23 12 20.0 +0.3**
comp=Z,4.1nm,0.5s
PAGF Fort de Pagny 53.98 305 *eP* **P** **23 12 21.5 +1.4**
BAIF Baives 54.02 307 *eP* **P** **23 12 21.3 +1.0**
comp=Z,16nm,1.0s
MEZF Maizieres J'vi 54.39 305 *eP* **P** **23 12 24.2 +1.2**
comp=Z,21nm,0.8s
SFTF Sexfontaines 54.56 305 *eP* **P** **23 12 24.8 +0.5**
CABF La Chapelle 54.83 303 *eP* **P** **23 12 26.4 0.0**
comp=Z,6.3nm,0.5s
EKA Eskdalemuir Ar 54.97 316 *eP* **P** **23 12 27.4 +0.3**
EKA Eskdalemuir Ar 54.97 316 P **P** **23 12 27.4 +0.3**
comp=Z,0.5nm,0.5s,baz=303,slow=30,SNR=4.2
LPG La Plagne 55.06 302 *eP* **P** **23 12 29.4 +1.1**
comp=Z,16nm,0.7s
LPL La Plagne 55.06 302 *eP* **P** **23 12 29.4 +1.2**
comp=Z,15nm,0.7s
PGF Pioggiola 55.36 297 *eP* **P** **23 12 30.2 -0.1**
MBDF Montbardon 55.47 301 *eP* **P** **23 12 32.8 +1.7**
comp=Z,26nm,0.7s
SBF Sospel 55.56 300 *eP* **P** **23 12 32.8 +1.1**
comp=Z,34nm,0.9s
LOR Lormes 55.74 305 *eP* **P** **23 12 32.4 -0.4**
comp=Z,7.0nm,0.7s
ORIF Oris-en-Rattie 55.89 301 *eP* **P** **23 12 35.3 +1.3**
comp=Z,9.5nm,0.8s
SSF Saint Saulge 56.05 305 *eP* **P** **23 12 34.9 -0.2**
SMF Signal de Mont 56.10 304 *eP* **P** **23 12 35.4 0.0**
FRF La Foret Royal 56.21 300 *eP* **P** **23 12 36.3 +0.1**
AVF Avril sur Loir 56.29 304 *eP* **P** **23 12 36.6 -0.2**
comp=Z,3.9nm,0.7s
SMRF Simiane la Rot 56.61 301 *eP* **P** **23 12 39.3 +0.2**
VIVF Saint-Julien-l 56.63 302 *eP* **P** **23 12 39.4 +0.1**
comp=Z,4.5nm,0.6s
BGF Bois d'Agland 56.71 304 *eP* **P** **23 12 39.7 -0.1**
comp=Z,4.5nm,0.7s
LDF La Druitiere 57.19 308 *eP* **P** **23 12 43.3 +0.2**
comp=Z,38nm,1.1s
TCF Toulx Ste Croi 57.23 304 *eP* **P** **23 12 43.7 +0.2**
comp=Z,6.9nm,0.8s
FLN La Foliniere 57.29 308 *eP* **P** **23 12 44.0 +0.2**
comp=Z,26nm,0.5s
LASF Ste Croix 57.56 302 *eP* **P** **23 12 46.4 +0.6**
comp=Z,9.9nm,0.9s
COLD Coldfoot 57.59 24 *eP* **P** **23 12 44.2 -1.4**
comp=Z,5.4nm,1.0s
GRR Gorron 57.71 308 *eP* **P** **23 12 46.9 +0.1**
comp=Z,18nm,0.9s
CAF Calviac 58.10 303 *eP* **P** **23 12 50.7 +1.1**
RJF Les Rejaudoux 58.20 304 *eP* **P** **23 12 50.7 +0.5**
MFF Saint Martin d 58.37 306 *eP* **P** **23 12 52.0 +0.6**
SGMF Saint Gilles 58.71 309 *eP* **P** **23 12 54.2 +0.5**
LFF La Frestale 58.85 304 *eP* **P** **23 12 55.6 +0.8**
comp=Z,9.1nm,0.9s
ROSF Rostrenen 59.04 309 *eP* **P** **23 12 56.3 +0.2**
comp=Z,5.0nm,0.6s
KEST Kesra 59.16 291 P **P** **23 12 57.9 +0.7**
comp=Z,6.2nm,1.3s,baz=158,slow=5.4,SNR=3.9
QUIF Quistinic 59.24 309 *eP* **P** **23 12 57.8 +0.4**
comp=Z,12nm,0.7s
EPF Esparros 60.23 302 *eP* **P** **23 13 04.1 -0.4**
comp=Z,9.7nm,0.8s
IL1 Eielson Array 60.31 24 *eP* **P** **23 13 03.1 -1.5**
ILAR Eielson Array 60.31 24 P **P** **23 13 03.3 -1.2**
comp=Z,2.3nm,0.7s,baz=313,slow=4.9,SNR=18
ILB Eielson Array 60.31 24 *eP* **P** **23 13 03.3 -1.2**
SFJD Kangerlussuaq 62.69 344 *eP* **P** **23 13 19.2 -1.3**
SFJD Kangerlussuaq 62.69 344 P **P** **23 13 19.3 -1.3**
comp=Z,6.4nm,0.7s,baz=345,slow=12,SNR=3.1
ES19 SONSECA Array 64.81 302 *eP* **P** **23 13 35.5 +0.4**
ES19 *epP* **pP** **23 13 41.5 +1.1**
ESDC Sonseca Array 64.86 302 *eP* **P** **23 13 35.8 +0.4**
ESDC Sonseca Array 64.86 302 P **P** **23 13 35.8 +0.4**
comp=Z,1.9nm,0.7s,baz=47,slow=6.4,SNR=21
KMBO Kilima Mbogo 66.32 240 *eP* **P** **23 13 44.3 -1.1**
KMBO *epP* **pP** **23 13 50.1 -0.7**
KMBO Kilima Mbogo 66.32 240 P **P** **23 13 44.7 -0.6**
comp=Z,0.5nm,0.3s,baz=40,slow=7.9,SNR=3.0
SCHQ Schefferville 76.91 347 *eP* **P** **23 14 46.9 -1.3**
comp=Z,323nm,3.0s
SCHQ Schefferville 76.91 347 P **P** **23 14 48.5 +0.2**
comp=Z,2.8nm,0.8s,baz=255,slow=16,SNR=2.5
WRA Warramunga Arr 77.49 138 *eP* **P** **23 14 48.9 -3.0**
WRA Warramunga Arr 77.49 138 P **P** **23 14 48.9 -3.0**
comp=Z,2.1nm,0.7s,baz=341,slow=6.1,SNR=21
FFC Flin Flon 78.38 7 *eP* **P** **23 14 55.4 -1.0**
FFC pmax pmax
comp=Z,19nm,0.7s
FFC Flin Flon 78.38 7 *eP* **P** **23 14 55.4 -1.0**
comp=Z,19nm,0.7s
TOA0 Torodi Ar. Sit 79.42 278 *eP* **P** **23 15 01.4 -1.4**
TORD Torodi Ar. Bea 79.42 278 P **P** **23 15 02.5 -0.3**
comp=Z,1.7nm,0.8s,baz=35,slow=4.5,SNR=14
AS12 Alice Springs 80.53 140 *eP* **P** **23 15 06.0 -2.5**
ASAR Alice Springs 80.53 140 P **P** **23 15 06.0 -2.5**
comp=Z,1.6nm,0.6s,baz=332,slow=5.3,SNR=14
A19A Klindworth Far 83.31 12 P **P** **23 15 22.3 -0.7**
baz=83
A21A Bergtoll Ranch 83.50 11 P **P** **23 15 23.2 -0.7**
baz=83
A24A Westby 83.92 9 P **P** **23 15 25.8 -0.2**
baz=84
EGMT Eagleton 84.03 13 P **P** **23 15 25.6 -1.1**
baz=84
B23A Brockton 84.26 10 P **P** **23 15 27.5 -0.4**
baz=84
DGMT Dagmar 84.35 9 P **P** **23 15 27.9 -0.4**
baz=84
C19A Slack Wire Ran 84.42 13 P **P** **23 15 27.3 -1.4**
baz=84
MSO Missoula 84.46 16 P **P** **23 15 28.2 -0.7**
baz=84
C20A Veseth Ranch, 84.60 12 P **P** **23 15 28.6 -1.0**
baz=84
C21A Desert Coulee 84.62 12 P **P** **23 15 29.0 -0.6**
baz=84
C22A Vida 84.86 11 P **P** **23 15 30.4 -0.4**
baz=85
C23A Lambert 84.89 10 P **P** **23 15 31.0 -0.1**
baz=85
B30A Myrvik Farm, E 84.89 6 P **P** **23 15 30.2 -0.7**
baz=85
D19A Cripps Ranch, 85.01 13 P **P** **23 15 30.7 -1.0**
baz=85
D21A La Casta Ranch 85.38 12 P **P** **23 15 32.8 -0.7**
baz=85
D22A Cohagen 85.40 11 P **P** **23 15 33.3 -0.4**
baz=85
E19A Rath Farm, Rou 85.71 13 P **P** **23 15 34.3 -0.9**
baz=85
D25A Fairfield 85.75 9 P **P** **23 15 35.3 -0.1**
baz=86
E20A Meyer Farm, Mu 85.76 12 P **P** **23 15 34.5 -0.9**
baz=86
D30A Buchanan 86.20 6 P **P** **23 15 36.3 -1.2**
baz=86
F19A Roth Farm, Mol 86.27 13 P **P** **23 15 37.0 -1.0**
baz=86
F20A Billings 86.45 13 P **P** **23 15 37.6 -1.3**
baz=86
E28A Huff 86.58 7 P **P** **23 15 38.6 -0.8**
baz=86
G20A Bridger 87.00 13 P **P** **23 15 40.5 -1.2**
baz=87
F27A Lemmon 87.15 8 P **P** **23 15 41.9 -0.3**
baz=87
H18A Shoshone NF, C 87.30 14 P **P** **23 15 42.0 -1.2**
baz=87
HLID Hailey 87.50 18 P **P** **23 15 42.6 -1.5**
baz=87
G27A Dupree 87.54 9 P **P** **23 15 43.2 -0.9**
baz=87
G26A Maurine 87.66 9 P **P** **23 15 43.7 -1.0**
baz=87
G25A Newell 87.67 9 P **P** **23 15 44.0 -0.8**
baz=87
H21A Big Horn, Sher 87.76 12 P **P** **23 15 44.1 -1.2**
baz=88
H24A Dirks Ranch, A 87.97 10 P **P** **23 15 45.2 -1.1**
baz=88
G28A Parade 88.04 8 P **P** **23 15 46.2 -0.4**
baz=88
H25A Fruitdale 88.21 10 P **P** **23 15 46.6 -0.8**
baz=88
H28A Mission Ridge 88.43 8 P **P** **23 15 47.8 -0.6**
baz=88
I21A Big Trails, Te 88.52 12 P **P** **23 15 48.1 -0.9**
baz=88
H29A Onida 88.55 7 P **P** **23 15 48.3 -0.6**
baz=88
I22A 9 Mile Ranch, 88.56 12 P **P** **23 15 48.5 -0.7**
baz=88
J19A Crowheart 88.78 14 P **P** **23 15 50.1 -0.1**
baz=88
I25A Rochford 88.79 10 P **P** **23 15 49.5 -0.8**
baz=88
BRSD Miller 88.84 6 P **P** **23 15 49.4 -0.8**
baz=89
I24A Kuemmerle Ranc 88.84 11 P **P** **23 15 49.6 -0.8**
baz=89
J21A Lysite 88.95 13 P **P** **23 15 50.4 -0.6**
baz=89
LIC Lamto 88.97 278 *eP* **P** **23 15 51.3 0.0**
J22A Midwest 89.03 12 P **P** **23 15 50.5 -0.9**
baz=89
I28A Midland 89.08 8 P **P** **23 15 50.5 -1.0**
baz=89
I29A Vivian Onida 89.14 7 P **P** **23 15 51.3 -0.4**
baz=89
PD31 Pinedale Array 89.18 14 *eP* **P** **23 15 51.0 -1.2**
PDAR Pinedale Array 89.18 14 P **P** **23 15 51.0 -1.2**
comp=Z,0.7nm,0.6s,baz=20,slow=2.7,SNR=6.2
I30A Oacoma 89.32 7 P **P** **23 15 51.8 -0.8**
baz=89
K20A Yellowstone Ra 89.49 13 P **P** **23 15 52.7 -0.9**
baz=89
J28A Allard Ranch, 89.65 8 P **P** **23 15 53.5 -0.7**
baz=89
K21A Alcova 89.68 13 P **P** **23 15 53.7 -0.8**
baz=89
K22A Casper 89.77 12 P **P** **23 15 53.8 -1.1**
baz=90
J30A Dallas 89.90 7 P **P** **23 15 54.6 -0.7**
baz=90
L18A Fontenelle, Gr 89.92 15 P **P** **23 15 54.3 -1.3**
baz=90
L22A Ellis Ranch, M 90.39 12 P **P** **23 15 56.5 -1.4**
baz=90
M21A Separation Pea 90.67 13 P **P** **23 15 58.2 -1.0**
baz=90
DUG Dugway 91.06 17 P **P** **23 16 00.9 0.0**
baz=91
N20A Spence Gulch, 91.28 14 P **P** **23 16 01.9 -0.1**
baz=91
NV01 Mina Array Sit 91.48 22 *eP* **P** **23 16 01.1 -1.8**
N23A Red Feather La 91.58 12 P **P** **23 16 01.6 -1.8**
baz=91
R11A Troy Canyon, C 92.22 20 P **P** **23 16 06.1 -0.2**
baz=92
ISCO Idaho Springs 92.70 12 P **P** **23 16 08.0 -0.7**
baz=92
P26A Davis Ranch, A 93.23 10 P **P** **23 16 10.4 -0.5**
baz=93
R20A Redvale 93.84 14 P **P** **23 16 13.9 0.0**
baz=94
S20A Disappointment 94.19 15 P **P** **23 16 15.8 +0.3**
baz=94
R23A Moffat 94.24 12 P **P** **23 16 15.8 0.0**
baz=94
LRMC Laurel Mountai 94.42 22 P **P** **23 16 16.7 +0.2**
baz=94
S21A Coal Bank Pass 94.45 14 P **P** **23 16 16.9 +0.1**
baz=94
R26A Arlington 94.46 11 P **P** **23 16 16.2 -0.4**
baz=94
S22A 4UR Ranch, Cre 94.53 13 P **P** **23 16 17.0 -0.1**
baz=94
R28A Tribune 94.62 9 P **P** **23 16 16.7 -0.5**
baz=94
U15A North Rim 94.80 18 P **P** **23 16 18.1 -0.2**
baz=94
GSC Goldstone 94.82 22 P **P** **23 16 18.0 -0.3**
baz=94
EDW2 Edwards Air Fo 94.91 23 P **P** **23 16 18.6 0.0**
baz=95
S25A Robets Cordova 94.96 11 P **P** **23 16 18.1 -0.8**
baz=95
T25A Trinidad 95.48 12 P **P** **23 16 20.8 -0.6**
baz=95
T26A Comanche Natio 95.55 11 P **P** **23 16 21.1 -0.6**
baz=95
U20A Newcomb 95.58 15 P **P** **23 16 21.7 -0.1**
baz=95
GMRC Granite Mounta 95.60 21 P **P** **23 16 21.8 -0.1**
baz=95

T27A	Campo	95.78	10	P	P	23 16 22.3	-0.3
	baz=96						
T28A	Walsh	95.79	10	P	P	23 16 22.6	-0.1
	baz=96						
WUAZ	Wupatki	95.86	17	P	P	23 16 23.1	0.0
	baz=96						
V20A	Brimhall	96.15	15	P	P	23 16 24.1	-0.3
	baz=96						
U25A	Circle Dot Ran	96.21	12	P	P	23 16 24.2	-0.5
	baz=96						
U26A	Atchley Ranch,	96.30	11	P	P	23 16 24.3	-0.9
	baz=96						
U27A	Thompson Grove	96.39	10	P	P	23 16 24.7	-0.7
	baz=96						
X20A	Quemado	97.37	15	P	Pdif	23 16 30.4	+0.3
	baz=97						
SNAA	Sanae	134.41	206	ePKP	PKPdf	23 22 12.3	-0.7
SNAA	Sanae	134.41	206	eP	PKPdf	23 22 22.2	+9.2
VNA2	Neumayer--Watz	135.65	208	ePKP	PKPdf	23 22 15.0	-0.2
VNA2	Neumayer--Watz	135.65	208	eP	PKPdf	23 22 20.9	+5.7
	baz=18,slow=3.7						
LPAZ	La Paz	144.62	322	ePKPdf	PKPab	23 22 30.4	-2.1
LPAZ	La Paz	144.62	322	PKP	PKPab	23 22 30.4	-2.1
	comp=Z,1.6nm,0.8s,baz=345,slow=3.8,SNR=7.2						
CPUP	Villa Florida	147.13	297	PKPbc	PKPdf	23 22 37.1	-0.1
	comp=Z,2.9nm,0.6s,baz=70,slow=3.5,SNR=6.6						

*CSEM **24** 23:39:04.2±0.2, 76°.76N×18°.29E, h2km, ML3.9, Error ellipse: s-maj=40.4km s-min=4.2km az=67.0*
*ISCJB **24** 23:39:08.6±0.6, 76°.90N±0°.06×18°.6E±0°.3, h16km, mb3.5/2, Error ellipse: s-maj=11.2km s-min=5.5km az=143.4*
*NAO **24** 23:39:08.3±0.9, 76°.95N×18°.77E, ML3.8*
*IDC **24** 23:39:08.7±0.8, 77°.01N×18°.62E, h0km, mb3.5/2, mb1 3.6/5, mb1mx3.3/26, mbtmp3.6/5, ML2.9/2, Error ellipse: s-maj=17.1km s-min=8.5km az=71.0*
*BER **24** 23:39:11.9±3.0, 77°.04N×18°.96E, h20km±46km, ML3.9, ML3.8(NAO)*

ISC 24 23:39:08.7±0.8, 76°.97N±0°.06×18°.5E±0°.1, h16km, n27, σ1§90/35, 2C, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSP	Hornsund	0.68	275	eP	Pn	23 39 23.1	-0.5
HSP				eS	Sb	23 39 31.1	-0.1
SPA0	Spitsbergen Ar	1.30	340	Pg	Pg	23 39 32.9	-0.8
	baz=156,slow=22						
SPA0				Lg	Lg	23 39 50.9	
	baz=156,slow=37						
SPA0	Spitsbergen Ar	1.30	340	Pg	Pg	23 39 32.9	-0.8
	baz=156,slow=22						
SPA0				Lg	Lg	23 39 50.9	
	baz=156,slow=37						
SPA0	Spitsbergen Ar	1.30	340	Pg	Pg	23 39 32.9	-0.8
	baz=156,slow=21,SNR=95						
SPA0				Lg	Lg	23 39 50.9	
	baz=156,slow=31						
SPITS	Spitsbergen Ar	1.30	340	Pn	Pg	23 39 32.9	-0.8
	baz=159,slow=21,SNR=1464						
SPITS				Sn	Sg	23 39 50.9	+0.2
	baz=155,slow=38,SNR=12						
KBS	Kingsbay	2.40	328	Pn	Pn	23 39 48.0	+0.7
KBS				Pg	Pg	23 39 53.3	-1.4
KBS				Lg	Lg	23 40 24.1	
KBS	Kingsbay	2.40	328	↑iP	Pn	23 39 47.8	+0.5
KBS				ePg	Pg	23 39 53.5	-1.2
KBS				eSg	Sg	23 40 24.3	-1.5
KBS				AML	AML	23 40 30.6	
	comp=Z,1μm,0.4s						
KBS	Kingsbay	2.40	328	↑iP	Pn	23 39 47.8	+0.5
	SNR=62						
KBS	Kingsbay	2.40	328	Pg	Pg	23 39 53.3	-1.4
KBS				Lg	Lg	23 40 24.1	
KBS				eSg	Sg	23 40 24.3	-1.5
	comp=Z,1μm,0.4s,SNR=92						
ARA0	ARCESS Array S	7.73	162	Pn	Pn	23 41 01.4	+1.0
	baz=353,slow=12						
ARA0				Sn	Sn	23 42 23.6	-3.9
	baz=358,slow=22						
ARA0	ARCESS Array S	7.73	162	Pn	Pn	23 41 01.4	+1.0
	baz=353,slow=12						
ARA0				Sn	Sn	23 42 23.6	-3.9
	baz=358,slow=22						
ARA0	ARCESS Array S	7.73	162	Sn	Sn	23 42 23.6	-3.9
	baz=358,slow=21,SNR=62						
ARCES	ARCESS Array B	7.73	162	Pn	Pn	23 41 01.0	+0.6
	comp=Z,0.3nm,0.3s,baz=348,slow=12,SNR=28						
ARCES				Sn	Sn	23 42 22.8	-4.8
	comp=Z,4.1nm,0.3s,baz=355,slow=19,SNR=4.7						
KTK1	Kautokeino	8.12	168	eP	Pn	23 41 07.8	+2.1
JOF	Joensuu	14.72	157	ep	Pn	23 42 36.9	+1.1
	comp=Z,0.5nm,0.3s						
JOF	Joensuu	14.72	157	eP	Pn	23 42 36.9	+1.1
	comp=Z,0.5nm,0.3s						
KAF	Kangasniemi	15.15	166	ep	Pn	23 42 42.3	+0.6
	comp=Z,1.2nm,0.3s						
KAF	Kangasniemi	15.15	166	eP	Pn	23 42 42.3	+0.6
	comp=Z,1.2nm,0.3s						
FIA0	FINESS Array S	15.80	167	P	Pn	23 42 49.4	-0.8
	slow=14						
FIA0	FINESS Array S	15.80	167	P	Pn	23 42 49.4	-0.8
	slow=14						
FIA0	FINESS Array S	15.80	167	P	Pn	23 42 49.4	-0.8
	slow=12,SNR=57						
FINES	FINESS Array B	15.80	167	Pn	Pn	23 42 49.1	-1.1
	comp=Z,0.1nm,0.3s,baz=357,slow=11,SNR=7.1						
FINES				Sn	Sn	23 45 31.6	-13
	comp=Z,0.2nm,0.3s,baz=7.0,slow=24,SNR=3.4						
NOA	NORSAR Array B	16.20	193	Pn	P	23 43 00.8	+2.4
	comp=Z,0.1nm,0.3s,baz=5.5,slow=12,SNR=2.6						
HFS	Hagfors	17.00	188	P	P	23 43 09.6	+2.4
	comp=Z,0.2nm,0.3s,baz=8.9,slow=10,SNR=7.4						
MKAR	Makanchi Array	39.05	102	P	P	23 46 37.5	+3.2
	comp=Z,0.2nm,0.4s,baz=341,slow=6.6,SNR=6.8						
TORD	Torodi Ar. Bea	64.43	198	P	P	23 49 46.2	+2.3
	comp=Z,0.3nm,0.4s,baz=3.8,slow=5.4,SNR=7.8						
ASAR	Alice Springs	118.55	71	PKP	PKPdf	23 57 56.2	+1.2
	comp=Z,0.2nm,0.5s,baz=0.1,slow=1.6,SNR=4.6						

*IDC **25** 00:12:20.0±2.5, 8°.85S×112°.49E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/21, mbtmp3.3/3, Error ellipse: s-maj=132.6km s-min=25.8km az=48.0*
*ISCJB **25** 00:12:26.4±1.0, 9°.25S±0°.09×112°.09E±0°.04, h69km±14km, mb3.3/3, Error ellipse: s-maj=15.3km s-min=6.5km az=7.1*
*DJA **25** 00:12:27.5±0.8, 9°.S±4°.×11°.2E±°, h25km±8km, M3.9/13, MLv3.9/13*

ISC 25 00:12:26.3±1.9, 9°.3S±0°.1×112°.09E±0°.05, h53km±22km, n17, σ1§20/22, mb3.4/3, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRKI	Karangkates	1.20	18	P	Pn	00 12 46.7	0.0
KRKI				S	Sn	00 13 02.4	+0.4
PWJI	Pagerwojo	1.31	348	S	Sn	00 13 03.6	-1.0
PCJI	Pacitan	1.43	321	P	Pn	00 12 49.2	-0.6
PCJI				S	Sn	00 13 06.3	-1.2
SJI	Sawahan	1.59	348	P	Pn	00 12 52.0	-0.2
SJI				S	Sn	00 13 11.3	-0.4
GMJI	Gumukmas	1.69	53	P	Pn	00 12 52.1	-1.3
GMJI				S	Sn	00 13 13.2	-0.7
NGJI	Ngawi	2.02	342	P	Pn	00 13 01.7	+3.7
UGM	Wanagama	2.08	312	P	Pn	00 12 59.2	+0.5
UGM				S	Sn	00 13 23.5	0.0
BLJI	Banyuglugur	2.15	44	P	Pn	00 13 00.8	+1.1
YOGI	Yogyakarta	2.31	310	P	Pn	00 13 03.4	+1.5
YOGI				S	Sn	00 13 28.7	-0.5
GRJI	Gresik	2.41	9	P	Pn	00 13 05.1	+1.8
GRJI				S	Sn	00 13 32.7	+1.1
BYJI	Banyuwangi	2.49	64	P	Pn	00 13 05.4	+1.0
ABJI	Asem Bagus	2.60	55	P	Pn	00 13 07.9	+2.0
BJII	Banjamegara	3.06	310	P	Pn	00 13 14.7	+2.4
KPJI	Karang Pucung	3.69	302	P	Pn	00 13 24.4	+3.6
WRA	Warramunga Arr	23.95	119	P	P	00 17 35.2	-0.6
	0.8nm,0.6s,baz=294,slow=11,SNR=8.5						
ASAR	Alice Springs	25.27	127	P	P	00 17 47.8	0.0
	0.4nm,0.6s,baz=302,slow=9.6,SNR=4.2						
MKAR	Makanchi Array	61.85	337	P	P	00 22 39.2	-0.8
	0.2nm,0.4s,baz=144,slow=7.4,SNR=6.9						

IDC 25 00:32:06.3±12.0, 20°.41S×178°.19W, h498km±92km, mb3.3/4, mb1 3.5/6, mb1mx3.1/20, mbtmp3.3/6, Error ellipse: s-maj=138.2km s-min=24.0km az=40.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	14.42	261	P	P	00 35 12.2	+1.6
	0.4nm,0.3s,baz=74,slow=18,SNR=4.2						
URZ	Urewera	18.25	192	P	P	00 35 47.5	-1.4
	1.2nm,0.3s,baz=3.4,slow=19,SNR=4.8						
STKA	Stephens Creek	37.67	244	P	P	00 38 38.3	-0.2
	1.8nm,0.4s,baz=84,slow=8.4,SNR=5.0						
ASAR	Alice Springs	44.37	257	P	P	00 39 32.0	0.0
	6.0nm,0.5s,baz=94,slow=7.9,SNR=77						
WRA	Warramunga Arr	44.44	262	P	P	00 39 32.1	-0.4
	1.6nm,0.3s,baz=96,slow=8.3,SNR=108						
VNDA	Vanda	57.98	185	P	P	00 41 11.0	+0.9
	0.4nm,0.6s,baz=23,slow=7.7,SNR=4.6						
TORD	Torodi Ar. Bea	172.78	179	PKPab	PKPab	00 52 46.8	-1.1
	0.4nm,0.9s,baz=198,slow=3.8,SNR=2.9						

*ISCJB **25** 00:46:45.1±0.5, 24°.61N±0°.02×121°.87E±0°.02, h72km±4km, Error ellipse: s-maj=4.6km s-min=3.2km az=144.6*
*JMA **25** 00:46:45.3±0.2, 24°.84N×121°.97E, h76km, M2.9*
*TAP **25** 00:46:45.2, 24°.61N×121°.81E, h71km, ML3.5, B*

ISC 25 00:46:45.5±1.3, 24°.61N±0°.03×121°.86E±0°.03, h72km±7km, n44, σ0§67/82, 1C-3D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWC	Suao	0.01	260	↓iP	Pn	00 46 56.0	+0.3
	baz=73						
TWC				eS	Sn	00 47 04.0	+0.6
	baz=73						
ILA	Ilan	0.19	326	eP	Pn	00 46 56.6	+0.4
	baz=330						
ILA				eS	Sn	00 47 05.2	+1.1
	baz=330						
TWE	Neicheng	0.21	302	iP	Pn	00 46 56.5	+0.2
	baz=305						
TWE				S	Sn	00 47 04.7	+0.4
	baz=305						
ENA	Nanau	0.21	211	iP	Pn	00 46 56.6	+0.3
	baz=205						
ENA				S	Sn	00 47 04.8	+0.5
	baz=205						
ENTT	Nioudou	0.27	276	P	Pn	00 46 56.6	0.0
	baz=278						
ENTT				S	Sn	00 47 04.9	0.0
	baz=278						
TWB1	Santiao Chiao	0.41	16	↓iP	Pn	00 46 57.9	+0.2
	baz=31						
TWB1				iS	Sn	00 47 06.7	+0.1
	baz=31						
TWA	Mucha	0.45	325	iP	Pn	00 46 58.0	0.0
	baz=323						
TWA				iS	Sn	00 47 07.0	-0.2
	baz=323						
NSK	Sanguang	0.46	278	iP	Pn	00 46 57.7	-0.5
	baz=289						
NSK				S	Sn	00 47 06.8	-0.7
	baz=289						
NWF	Wu-fen Shan	0.46	351	iP	Pn	00 46 58.4	+0.1
	baz=356						
NWF				iS	Sn	00 47 07.9	+0.3
	baz=356						
NNS	Nan Shan	0.48	249	P	Pn	00 46 58.2	-0.1
	baz=247						
NNS				eS	Sn	00 47 06.9	-0.9
	baz=247						
TAP1	Taipei	0.53	324	iP	Pn	00 46 58.5	-0.2
	baz=319						
TAP1				S	Sn	00 47 07.8	-0.5
	baz=319						
TAP	Taipei	0.54	323	P	Pn	00 46 58.7	-0.1
	baz=319						
TAP				S	Sn	00 47 08.2	-0.4
	baz=319						
TWD	Chiawan	0.58	205	eP	Pn	00 46 58.3	-0.9
	baz=209						
TWD				eS	Sn	00 47 08.0	-1.4
	baz=209						
TWS1	Kuangyinshan	0.63	320	iP	Pn	00 46 59.9	+0.1
	baz=315						
TWS1				S	Sn	00 47 10.4	+0.1
	baz=315						
HWA	Hwalien	0.67	200	eP	Pn	00 47 01.4	+1.1
	baz=206						
TWY	Chenhua	0.70	340	iP	Pn	00 47 00.8	+0.3
	baz=334						
TWY				eS	Sn	00 47 11.2	-0.5
	baz=334						
NCU	National Centr	0.71	300	eP	Pn	00 47 00.3	-0.3
	baz=292						
NCU				S	Sn	00 47 11.5	-0.3
	baz=292						
WHF	Hehuan Shan	0.72	230	↓iP	Pn	00 47 01.0	-0.1
	baz=223						
WHF				iS	Sn	00 47 11.9	-0.8
	baz=223						
TWT	Tachien	0.72	240	P	Pn	00 47 01.4	+0.4
	baz=233						
TWT				eS	Sn	00 47 12.5	+0.2
	baz=233						
NSTT	Nanjuang	0.79	272	iP	Pn	00 47 00.8	-0.6
	baz=271						
NSTT				S	Sn	00 47 12.4	-0.9
	baz=271						
HSN	Hsinchu	0.83	283	eP	Pn	00 47 01.1	-0.9
	baz=286						
ESL	Shilin	0.89	206	eP	Pn	00 47 02.8	+0.1
	baz=203						
ESL				eS	Sn	00 47 14.7	-0.7
	baz=203						
NSY	Sanyi	1.02	259	iP	Pn	00 47 04.4	+0.1
	baz=257						
NSY				S	Sn	00 47 18.4	0.0
	baz=257						
TWQ1	Liyutan	1.03	255	P	Pn	00 47 03.6	-0.8
	baz=254						
TWQ1				eS	Sn	00 47 17.5	-1.0
	baz=254						
PCYT	Pengchaiyu	1.03	11	P	Pn	00 47 04.8	+0.4
	baz=13						
PCYT				eS	Sn	00 47 19.2	+0.6
	baz=13						
YOJ	Yonaguni jima	1.06	98	P	Pn	00 47 04.5	-0.2
YOJ				S	Sn	00 47 18.8	-0.3
SMLT	Sun Moon Lake	1.14	231	↑iP	Pn	00 47 06.4	+0.5
	baz=223						
SMLT				S	Sn	00 47 21.8	+0.6
	baz=223						
TYC	Yuchr	1.16	233	iP	Pn	00 47 06.2	+0.2
	baz=239						
TYC				iS	Sn	00 47 21.5	+0.1
	baz=239						
TCU	Taichung	1.18	247	eP	Pn	00 47 05.8	-0.4
	baz=245						
EHY	Hungye	1.21	204	eP	Pn	00 47 05.5	-1.2
	baz=202						
EHY				eS	Sn	00 47 20.7	-1.8
	baz=202						
TWF1	Yuli	1.36	203	eP	Pn	00 47 07.8	-0.8
	baz=201						
TWF1				eS	Sn	00 47 25.3	-0.7
	baz=201						
CHN5	Tsauling	1.48	227	P	Pn	00 47 10.6	+0.3
	baz=235						
CHN5				eS	Sn	00 47 29.3	+0.3
	baz=235						
WGK	Gukeng	1.50	232	eP	Pn	00 47 10.5	0.0
	baz=240						
CHKT	Chengkung	1.57	197	eP	Pn	00 47 11.3	-0.2
	baz=186						
CHKT				eS	Sn	00 47 31.3	+0.2
	baz=186						
ELDTW	Lidau	1.61	209	eP	Pn	00 47 12.2	+0.1
	baz=200						
ELDTW				eS	Sn	00 47 32.7	+0.4
	baz=200						
CHN4	Tsaushan	1.71	223	eP	Pn	00 47 13.7	+0.4
	baz=222						
CHN4				eS	Sn	00 47 36.5	+2.1
	baz=222						
IRIF	Iriomote-Funau	1.72	99	P	Pn	00 47 13.1	-0.3
IRIF				S	Sn	00 47 34.0	-0.6
WTP	Ta-pu	1.78	220	eP	Pn	00 47 15.0	+0.8
	baz=229						
WTP				eS	Sn	00 47 38.0	+2.0
	baz=229						
HATJ	Hateruma jima	1.86	107	P	Pn	00 47 15.5	+0.3
HATJ				eS	Sn	00 47 37.5	-0.3
CHN1	Nanshi	1.87	221	eP	Pn	00 47 15.8	+0.3
	baz=231						
CHN1				eS	Sn	00 47 39.6	+1.3
	baz=231						
SGST	Jiashian	1.92	218	eP	Pn	00 47 16.4	+0.3
	baz=227						
TWG	Pinlang	1.92	202	eP	Pn	00 47 16.5	+0.3
	baz=191						
JKRS	Kuro-shima	1.99	100	P	Pn	00 47 17.4	+0.4
JKRS				S	Sn	00 47 41.3	+0.2
JIJ	Ishigaki jima	2.09	96	P	Pn	00 47 17.8	-0.6
JIJ				S	Sn	00 47 42.9	-0.6

MAN 25 00:48:25.8±3.0N×125°.14E, h0km, mb4.8, ML3.8, MS3.8, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	Musuan	0.17	207	eP	Pg	00 48 29.6	+1.3
BUKP				eS	Sg	00 48 36.1	+5.6
CGP	Cagayan de Oro	0.61	314	eP	Pg	00 48 36.3	-0.5
CGP				i S	Sb	00 48 46.5	-1.3
BUTP	Butuan	1.05	27	eP	Pg	00 48 44.1	-1.1
CTBH	Cotabato--PC H	1.19	228	↑iP	Pg	00 48 47.0	-1.0
CTBH				i S	Sb	00 49 05.2	+0.7
PAGZ	Pagadian	1.75	264	eP	Pb	00 48 57.6	-0.4
SCPH	Surigao	1.78	11	eP	Pn	00 48 57.5	+0.5
SCPH				eS	Sn	00 49 17.7	-2.6
TBP	Tagbilaran	2.08	323	eP	Pn	00 49 00.1	-1.0
TBP				eS	Sn	00 49 28.2	+0.4

*ISCJB **25** 00:58:19.8±1.1, 32°.4N±0°.1×137°.9E±0°.2, h376km, mb2.7/2, Error ellipse: s-maj=27.5km s-min=12.3km az=19.4*
*JMA **25** 00:58:19.1±0.5, 32°.39N×137°.96E, h380km, M3.1*
*IDC **25** 00:58:21.4±3.8, 32°.50N×137°.92E, h370km±120km, mb2.6/2, mb1 2.7/3, mb1mx2.5/27, mbtmp2.5/3, Error ellipse: s-maj=264.1km s-min=29.1km az=62.0*

ISC 25 00:58:21.5±1.3, 32°.5N±0°.1×137°.9E±0°.2, h376km, n9, σ0§86/11, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO2	TONANKAI O.B.S	1.40	331	P	Pn	00 59 11.3	0.0
JWZ	Kozaga	2.06	300	P	Pn	00 59 14.4	-1.2
JIE	Ise	2.10	333	P	Pn	00 59 15.3	-0.5
JRY	Ryogami san	3.60	14	P	Pn	00 59 28.5	+0.3
JRY				eS	S	01 00 21.7	-0.4
MJAR	Matsushiro Arr	4.03	4	P	Pn	00 59 31.8	-0.5
	0.6nm,0.3s,baz=182,slow=10,SNR=5.0						
MJAR				S	S	01 00 30.5	+0.9
	0.1nm,0.3s,baz=168,slow=16,SNR=2.9						
JAG	Ashikaga	4.12	18	P	Pn	00 59 31.6	-1.6
JHO	Hitachi	4.66	28	P	Pn	00 59 38.3	-0.4
MKAR	Makanchi Array	44.20	306	P	P	01 05 55.3	+0.6
	0.3nm,0.5s,baz=86,slow=9.5,SNR=4.4						
WRA	Warramunga Arr	52.27	184	P	P	01 06 56.1	+0.2
	0.5nm,0.9s,baz=360,slow=7.5,SNR=5.2						

*IDC **25** 01:11:35.6±0.6, 18°.09N×121°.09E, h0km, mb3.9/18, mb1 4.1/19, mb1mx4.0/30, mbtmp4.0/19, ML4.1/1, MS3.3/2, Ms1 3.3/2, ms1mx2.8/46, Error ellipse: s-maj=24.6km s-min=14.2km az=75.0*
*ISCJB **25** 01:11:39.9±0.3, 18°.34N±0°.02×120°.89E±0°.05, h28km, mb4.0/21, MS3.2/1, Error ellipse: s-maj=7.0km s-min=3.0km az=0.2*
*MAN **25** 01:11:41, 18°.19N×120°.79E, h9km, mb4.8, ML3.8, MS3.8*
MAN INTENSITY III - LAOAG PASUQUIN & SAN NICOLAS ILOCOS NORTE; INTENSITY II - CABUGAO & SINAIT ILOCOS SUR.
*NEIC **25** 01:11:42.3±0.7, 18°.21N×121°.23E, h47km±7km, mb4.4/5, Error ellipse: s-maj=12.2km s-min=6.2km az=89.0*
NEIC Felt [III PIVS] at Laoag and San Nicolas and [II PIVS] at Cabuyao and Sinait.

ISC 25 01:11:40.5±0.5, 18°.23N±0°.03×120°.85E±0°.05, h28km, n70, σ1§53/76, mb3.9/21, 5C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	Pasuquin	0.23	294	↑iP	Pb	01 11 46.1	-0.8
SIPP	Brgy, Tapao	0.48	230	↑iP	Pb	01 11 50.1	-0.4
APYP	Conner	0.53	134	eP	Pb	01 11 51.4	+0.1
APYP				eS	Sb	01 11 59.6	+1.1
ABRA	Dolores	0.59	192	eP	Pb	01 11 52.1	-0.3
ABRA				eS	Sn	01 12 01.7	-0.1
CVP	Callao Caves	1.07	119	↓iP	Pn	01 12 00.3	+0.7
CAUP	Cauayan	1.58	144	eP	Pb	01 12 09.9	+0.8
PALP	Palanan	1.90	127	↑iP	Pb	01 12 15.3	+0.8
BOLP	Bolinao	2.04	206	eP	Pb	01 12 15.1	-1.9
BALP	Baler	2.57	164	eP	Pb	01 12 23.3	-2.6
SCZP	Santa Cruz	2.60	200	eP	Pn	01 12 22.6	+1.9
PCPH	Palayan	2.66	175	↑eP	Pn	01 12 24.3	+2.7
TGY	Tagaytay City	4.11	179	Pn	Pb	01 12 49.5	-2.6
TGY				Lg	Lg	01 13 50.1	
TGY	Tagaytay City	4.11	179	Pn	Pb	01 12 49.5	-2.6
	47nm,0.3s,baz=243,slow=6.8,SNR=3.5						
TGY				Lg	Lg	01 13 50.1	
	38nm,0.3s,baz=146,slow=19,SNR=4.1						
LQP	Lukban	4.15	171	eP	Pb	01 12 57.4	+4.4
GQP	Guinayangan	4.57	160	↑eP	Pn	01 12 47.8	0.0
TWG	Pinlang	4.57	3	ePn	Pn	01 12 48.0	+0.2
TWG				eSn	Sn	01 13 38.2	-1.9
TPUB	Ta-pu	5.05	358	ePn	Pn	01 12 54.6	+0.2
	54nm,0.5s						
TPUB				eSn	Sn	01 13 50.4	-1.5
YULB	Yu-li	5.15	5	ePn	Pn	01 12 57.4	+1.5
	36nm,0.3s						
YULB				eSn	Sn	01 13 51.7	-2.8
SSLB	Suanglung	5.53	1	ePn	Pn	01 13 02.6	+1.6
	35nm,0.4s						
SSLB				eSn	Sn	01 14 03.3	-0.5
NACB	Ninganchiao	5.96	7	ePn	Pn	01 13 07.8	+1.0
	43nm,0.4s						
NACB				eSn	Sn	01 14 11.8	-2.4
YHNB	Yeheng	6.43	4	ePn	Pn	01 13 15.9	+2.5
	70nm,0.6s						
YHNB				eSn	Sn	01 14 25.8	-0.1
KKM	Kota Kinabalu	12.93	201	ePn	Pn	01 14 46.3	+3.8
JNU	Nakatsue	17.35	29	eP	P	01 15 42.9	+1.0
	18nm,1.1s						
JNU	Nakatsue	17.35	29	P	Pn	01 15 40.6	-0.1
	0.5nm,0.3s,baz=184,slow=4.4,SNR=14						
JNU				LR	LR	01 22 08.2	
	comp=Z,91nm,18.1s,baz=104,slow=36						
KSAR	Wonju Array Be	20.11	16	P	P	01 16 12.2	0.0
KSRS	Korea Array	20.14	17	P	P	01 16 12.2	-0.2
	4.1nm,0.7s,baz=201,slow=11,SNR=17						
IPM	Ipoh	23.71	237	eP	P	01 16 52.3	+1.9
	6.1nm,0.6s						
MJAR	Matsushiro Arr	23.81	37	P	P	01 16 48.9	-2.3
MJAR	Matsushiro Arr	23.81	37	P	P	01 16 48.8	-2.3
	0.5nm,0.3s,baz=233,slow=10,SNR=2.9						
USRK	Ussuriysk Arra	27.54	17	P	P	01 17 25.5	+0.7
	1.9nm,0.7s,baz=218,slow=9.1,SNR=8.7						
LSA	Lhasa	29.35	298	eP	P	01 17 44.3	+2.6
	7.9nm,0.6s						
ASAJ	Asahikawa	31.62	31	LR	LR	01 30 09.3	
	comp=Z,47nm,19.8s,baz=190,slow=35						
FITZ	Fitzroy Crossi	36.41	172	P	P	01 18 40.7	-2.1
FITZ	Fitzroy Crossi	36.41	172	P	P	01 18 40.7	-2.1
	0.5nm,0.3s,baz=0.0,slow=4.0,SNR=5.5						
WRAB	Tennant Creek	40.17	160	eP	P	01 19 14.0	-0.5
	9.4nm,1.3s						
WRA	Warramunga Arr

ZALV	Zalesovo Beam	45.16	331	P		P	01 19 55.9 +1.3
ZALV	Zalesovo Beam	45.16	331	P		P	01 19 55.9 +1.3
	0.7nm,0.4s,baz=118,slow=6.6,SNR=5.1						
KURK	Kurchatov	46.57	324	eP		P	01 20 07.0 +1.2
	3.3nm,0.8s						
KURBB	Kurchatov Arra	46.58	324	P		P	01 20 08.0 +2.2
	6.1nm,0.7s,baz=121,slow=8.2,SNR=51						
BVAR	Borovoye Array	52.17	324	P		P	01 20 50.4 +1.9
BVAR	Borovoye Array	52.17	324	P		P	01 20 50.4 +1.9
	0.8nm,0.6s,baz=123,slow=5.3,SNR=2.8						
BRVK	Borovoye	52.24	324	eP		P	01 21 08.1 +19
ILAR	Eielson Array	74.64	26	P		P	01 23 16.4 -0.7
ILAR	Eielson Array	74.64	26	P		P	01 23 16.4 -0.7
	0.4nm,0.6s,baz=279,slow=4.9,SNR=4.5						
ARCES	ARCESS Array B	74.93	339	P		P	01 23 19.0 +0.4
ARCES	ARCESS Array B	74.93	339	P		P	01 23 19.0 +0.4
	2.4nm,1.0s,baz=79,slow=4.7,SNR=2.7						
FINES	FINESS Array B	76.42	330	P		P	01 23 29.1 +1.9
FINES	FINESS Array B	76.42	330	P		P	01 23 29.1 +1.9
	2.3nm,0.9s,baz=256,slow=3.1,SNR=4.6						
BRTR	Keskin Array B	76.49	308	P		P	01 23 28.6 +0.3
BRTR	Keskin Array B	76.49	308	P		P	01 23 28.6 +0.3
	0.4nm,0.5s,baz=119,slow=1.9,SNR=4.1						
AKASG	Malin Array Be	77.12	319	P		P	01 23 31.4 0.0
AKASG	Malin Array Be	77.12	319	P		P	01 23 31.4 0.0
	0.2nm,0.3s,baz=65,slow=6.0,SNR=2.9						
BUR08	Bucovina Ar. S	80.45	317	eP		P	01 23 50.6 +0.6
MLR	Muntele Rosu	80.57	315	P		P	01 23 52.0 +1.4
MLR	Muntele Rosu	80.57	315	P		P	01 23 52.0 +1.4
	baz=45,slow=1.4						
NB2	NORSAR Subarra	83.33	333	P		P	01 24 04.3 -0.4
	comp=Z,2.7nm,1.0s,baz=62,slow=4.8						
NOA	NORSAR Array B	83.33	333	P		P	01 24 04.3 -0.4
NOA	NORSAR Array B	83.33	333	P		P	01 24 04.3 -0.4
	comp=Z,1.4nm,0.7s,baz=64,slow=5.0,SNR=5.9						
IDI	Anoyia	84.37	305	P		P	01 24 10.2 -0.4
IDI	Anoyia	84.37	305	P		P	01 24 10.2 -0.4
	comp=Z,1.6nm,0.5s,baz=187,slow=8.1,SNR=5.7						
GERES	GERESS Array B	87.23	321	P		P	01 24 25.1 +0.6
GERES	GERESS Array B	87.23	321	P		P	01 24 25.1 +0.6
	comp=Z,0.2nm,0.3s,baz=63,slow=4.8,SNR=4.5						
YKW3	Yellowknife Ar	88.51	22	eP		P	01 24 29.7 -0.5

ISCJB ***25*** *01:14:10.9±0.2, 24°.71N±0°.03×98°.00E±0°.03, h10km, mb4.5/50, MS3.3/7, Error ellipse: s-maj=5.3km s-min=4.2km az=32.1*

IDC ***25*** *01:14:11.4±0.6, 24°.90N×98°.12E, h0km, mb4.2/19, mb1 4.3/20, mb1mx4.2/33, mbtmp4.2/20, ML4.8/1, MS3.3/8, Ms1 3.3/8, ms1mx3.0/51, Error ellipse: s-maj=20.5km s-min=11.9km az=50.0*

BJI ***25*** *01:14:11.6, 24°.93N×98°.09E, h6km, mB4.6/3, mb4.5/8, ML4.4/6, Ms4.1/7, Ms7 4.0/6*

NEIC ***25*** *01:14:17.6±0.5, 24°.87N×98°.10E, h44km±4km, mb4.5/22, Error ellipse: s-maj=5.2km s-min=3.2km az=58.0*

ISC 25 01:14:13.1±0.4, 24°.78N±0°.04×97°.99E±0°.05, h10km, n147, σ1§20/156, mb4.5/50, MS3.2/8, 4C-4D, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	Kunming	4.33	85	Pn	Pn	01 15 20.3	+1.1
KMI				Sg	Sb	01 16 25.0	+3.2
KMI				smax	smax		
	comp=N,630nm,0.8s						
KMI				smax	smax		
	comp=E,750nm,0.8s						
KMI				LR	LR		
	comp=N,2μm,7.1s						
KMI				LR	LR		
	comp=E,4μm,8.1s						
KMI				LR	LR		
	comp=Z,4μm,9.0s						
SHL	Shillong	5.58	279	eP	Pn	01 15 38.5	+2.1
SHL				AMB	AMB	01 15 39.4	
	comp=Z,12nm,0.9s						
CHTO	Chiang Mai	6.01	171	ePn	Pn	01 15 44.5	+2.4
	comp=Z,180nm,0.7s						
CHTO				ePg	Pg	01 16 07.3	-0.9
CHTO				eSg	Sg	01 17 23.1	-3.0
CM31	Chiang Mai Arr	6.36	172	ePn	Pn	01 15 49.2	+2.3
	comp=Z,38nm,0.5s						
CM31				ePg	Pg	01 16 13.6	-1.3
CM31				eSg	Sg	01 17 37.1	-0.2
CMAR	Chiang Mai Arr	6.36	172	Pn	Pn	01 15 49.8	+2.8
CMAR				Pg	Pg	01 16 12.2	-2.8
CMAR				Lg	Lg	01 17 38.0	
CMAR	Chiang Mai Arr	6.36	172	Pn	Pn	01 15 49.8	+2.8
	comp=Z,4.8nm,0.3s,baz=349,slow=13,SNR=25						
CMAR				Pg	Pg	01 16 12.2	-2.8
	comp=Z,3.2nm,0.3s,baz=349,slow=18,SNR=24						
CMAR				Lg	Lg	01 17 38.0	
	comp=Z,6.9nm,0.3s,baz=346,slow=30,SNR=6.7						
CMAR				LR	LR	01 18 14.3	
	comp=Z,108nm,21.6s,baz=96,slow=38						
LSA	Lhasa	7.81	310	Pn	Pn	01 16 09.1	+1.9
LSA				Sg	Sg	01 18 22.4	-1.4
LSA				LR	LR		
	comp=E,1μm,10.5s						
LSA				LR	LR		
	comp=Z,1μm,10.5s						
LSA	Lhasa	7.81	310	ePn	Pn	01 16 09.4	+2.1
	comp=Z,21nm,0.4s						
GYA	Guiyang	8.01	76	P	Pn	01 16 08.3	-1.4
GYA				S	Sn	01 17 48.8	+8.4
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GYA				pmax	pmax		
	comp=Z,80nm,6.8s						
GYA				LR	LR		
	comp=N,780nm,7.0s						
GYA				LR	LR		
	comp=E,2μm,9.4s						
GYA				LR	LR		
	comp=Z,2μm,10.2s						
TAPN	Taplejung	9.59	288	eP	Pn	01 16 32.1	+0.6
	comp=Z,85nm,0.7s						
ODAN	Odare	9.77	284	eP	Pn	01 16 35.3	+1.4
	comp=Z,92nm,0.9s						
RAMN	Ramite	10.48	284	eP	Pn	01 16 45.0	+1.3
	comp=Z,85nm,0.7s						
JIRN	Jiri	10.97	288	eP	Pn	01 16 51.3	+0.8
	comp=Z,42nm,0.4s						
BOK	Bokaro	11.08	267	eP	Pn	01 16 53.2	+1.5
BOK				AMB	AMB	01 16 56.1	
	comp=Z,14nm,0.7s						
GUN	Gumba	11.30	289	eP	Pn	01 16 55.1	+0.2
	comp=Z,77nm,0.5s						
ENH	Enshi	11.57	59	ePn	Pn	01 16 58.8	+0.4
	comp=Z,15nm,0.7s						
PKI	Pulchoki	11.63	287	eP	Pn	01 16 59.4	-0.1
	comp=Z,45nm,0.6s						
PKIN	Phulchoki	11.64	287	eP	Pn	01 16 59.3	-0.3
	comp=Z,28nm,0.4s						
KKN	Kakani	11.79	287	eP	Pn	01 17 01.4	-0.2
	comp=Z,33nm,0.4s						
DMN	Daman	11.90	286	eP	Pn	01 17 02.7	-0.5
	comp=Z,47nm,0.9s						
GKN	Gorkha	12.39	288	eP	Pn	01 17 09.1	-0.6
	comp=Z,55nm,0.6s						
DANN	Dangsing	13.22	289	eP	Pn	01 17 18.6	-2.6
	comp=Z,33nm,0.6s						
KOLN	Koldanda	13.25	286	eP	Pn	01 17 20.5	-1.0
	comp=Z,22nm,0.7s						
PYUN	Piuthan	13.84	287	eP	Pn	01 17 27.7	-1.8
	comp=Z,140nm,0.5s						
GTA	Gaotai	14.66	6	eP	Pn	01 17 40.8	0.0
GTA				pP	P	01 17 44.0	-3.1
GTA				sP		01 17 46.8	
GTA				S	Sn	01 20 26.1	+2.7
GTA				SS	S	01 20 43.3	+0.8
GTA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
GTA				LR	LR		
	comp=N,420nm,10.9s						
GTA				LR	LR		
	comp=E,370nm,12.3s						
GTA				LR	LR		
	comp=Z,440nm,9.5s						
NGP	Nagpur	17.81	262	eP	Pn	01 18 20.0	-1.2
NGP				AMB	AMB	01 18 22.2	
	comp=Z,20nm,0.8s						
DDI	Dehra Dun	18.51	292	eP	P	01 18 29.2	-0.4
BHPL	Bhopal	18.85	270	eP	Pn	01 18 35.1	+1.2
BHPL				AMB	AMB	01 18 38.8	
	comp=Z,50nm,1.0s						
SMLA	Simla	19.43	294	eP	P	01 18 40.3	+0.6
SMLA				AMB	AMB	01 18 44.0	
	comp=Z,29nm,0.9s						
HYB	Hyderabad	19.54	252	i P	Pn	01 18 46.0	+3.7
KULM	Kulim	19.55	172	eP	Pn	01 18 43.8	+1.4
	comp=Z,27nm,1.2s						
AKL	Akola	19.76	262	eP	P	01 18 40.3	-3.1
DHRM	DHARAMSHALA	20.43	296	eP	Pn	01 18 52.1	-1.0
DHRM				AMB	AMB	01 18 53.4	
	comp=Z,71nm,0.9s						
KSH	Kashi	23.64	314	⇑P	P	01 19 26.3	+1.6
KSH				PP	PnPn	01 19 59.3	+7.5
KSH				PcP	PcP	01 23 11.5	+2.2
KSH				S	S	01 23 39.4	-0.1
KSH				SS	SnSn	01 24 28.3	+12
KSH				ScP	ScP	01 26 49.6	+1.9
KSH				pmax	pmax		
	comp=Z,22nm,0.8s						
KSH				LR	LR		
	comp=N,180nm,6.2s						
KSH				LR	LR		
	comp=E,150nm,10.0s						
KSH				LR	LR		
	comp=Z,220nm,9.3s						
SONM	Songino Array	23.95	14	P	P	01 19 26.2	-1.4
SONM	Songino Array	23.95	14	P	P	01 19 26.2	-1.4
	comp=Z,1.4nm,0.7s,baz=197,slow=9.7,SNR=5.5						
ULN	Ulaanbaatar	24.13	15	eP	P	01 19 28.2	-1.0
	comp=Z,3.4nm,0.6s						
ULHL	Ulahol	25.02	319	P	P	01 19 39.4	+1.9
	SNR=6.8						
MK31	Makanchi Array	25.29	334	eP	P	01 19 40.3	+0.6
MKAR	Makanchi Array	25.29	334	LR	LR	01 32 04.6	
	comp=Z,42nm,18.6s,baz=163,slow=42						
KKM	Kota Kinabalu	25.55	134	eP	P	01 19 42.8	+0.4
	comp=Z,56nm,1.4s						
TKM2	Tokmak 2	25.81	320	eP	P	01 19 45.6	+1.0
	comp=Z,8.5nm,0.9s						
KBK	Karagaybulak	26.04	319	P	P	01 19 48.2	+1.5
	SNR=6.8						
AAK	Ala-Archa	26.30	318	P	P	01 19 50.5	+1.5
	SNR=6.0						
AAK	Ala-Archa	26.30	318	eP	P	01 19 50.2	+1.2
AAK	Ala-Archa	26.30	318	P	P	01 19 50.7	+1.7
	comp=Z,7.0nm,0.7s,baz=103,slow=4.7,SNR=7.1						
AML	Almayashu	26.51	317	P	P	01 19 53.0	+1.8
	SNR=7.5						
EKS2	Erkin-Say	26.75	318	P	P	01 19 54.9	+1.9
	SNR=8.8						
EKS2	Erkin-Say	26.75	318	eP	P	01 19 54.7	+1.6
	comp=Z,18nm,1.0s						
KBL	Kabul	26.89	298	eP	P	01 19 55.1	+0.6
	comp=Z,9.4nm,0.7s						
KSAR	Wonju Array Be	28.41	56	P	P	01 20 07.7	-0.1
KSRS	Korea Array	28.44	56	P	P	01 20 07.7	-0.4
	comp=Z,0.5nm,0.3s,baz=255,slow=10.0,SNR=4.2						
KSRS				LR	LR	01 32 07.5	
	comp=Z,58nm,19.6s,baz=235,slow=38						
ZAA0	Zalesovo Array	30.75	345	eP	P	01 20 28.0	-0.4
ZALV	Zalesovo Beam	30.75	345	P	P	01 20 27.9	-0.5
ZALV	Zalesovo Beam	30.75	345	P	P	01 20 27.9	-0.5
	comp=Z,3.4nm,0.8s,baz=164,slow=8.9,SNR=10						
ZALV				LR	LR	01 33 43.2	
	comp=Z,50nm,20.2s,baz=339,slow=38						
USRK	Ussuriysk Arra	33.73	46	P	P	01 20 52.1	-2.5
	comp=Z,2.7nm,0.7s,baz=244,slow=9.8,SNR=16						
BVAR	Borovoye Array	35.03	331	LR	LR	01 38 15.2	
	comp=Z,38nm,20.5s,baz=109,slow=41						
MJAR	Matsushiro Arr	36.29	61	LR	LR	01 38 12.4	
	comp=Z,49nm,18.7s,baz=235,slow=40						
ABKAR	Akbulak array	38.38	319	eP	P	01 21 34.4	0.0
	comp=Z,4.9nm,0.7s						
AKTO	Aktyubinsk	40.01	320	P	P	01 21 47.8	-0.2
AKTO	Aktyubinsk	40.01	320	P	P	01 21 47.8	-0.2
	comp=Z,2.0nm,0.6s,baz=104,slow=14,SNR=3.5						
ASAJ	Asahikawa	40.95	51	P	P	01 21 53.6	-2.3
ASAJ	Asahikawa	40.95	51	P	P	01 21 53.6	-2.3
	comp=Z,3.3nm,0.3s,baz=194,slow=12,SNR=4.3						
NAY	Al-Naaiem	45.15	287	eP	P	01 22 30.4	+0.3
NAY				AMb	AMB	01 22 35.7	
	comp=Z,28nm,1.2s						
RST	Umm Al-Ruwaisa	45.33	288	eP	P	01 22 31.1	-0.5
RST				AMb	AMB	01 22 32.6	
	comp=Z,202nm,1.0s						
KBZ	Khabaz	48.37	307	LR	LR	01 46 31.2	
	comp=Z,56nm,18.9s,baz=92,slow=40						
FITZ	Fitzroy Crossi	50.43	145	P	P	01 23 10.7	-0.3
FITZ	Fitzroy Crossi	50.43	145	P	P	01 23 10.7	-0.3
	comp=Z,3.2nm,0.7s,baz=343,slow=8.0,SNR=10.0						
BR131	Keskin Array S	55.33	302	eP	P	01 23 47.0	-0.4
	comp=Z,2.3nm,0.8s						
BRTR	Keskin Array B	55.33	302	P	P	01 23 47.2	-0.1
BRTR	Keskin Array B	55.33	302	P	P	01 23 47.2	-0.1
	comp=Z,1.8nm,0.8s,baz=115,slow=8.3,SNR=9.9						
WRA	Warramunga Arr	56.81	138	P	P	01 23 57.5	-0.4
WRA	Warramunga Arr	56.81	138	P	P	01 23 57.5	-0.4
	comp=Z,6.5nm,0.7s,baz=326,slow=7.5,SNR=45						
WRAB	Tennant Creek	56.81	138	eP	P	01 23 57.8	-0.2
	comp=Z,3.8nm,0.6s						
AKASG	Malin Array Be	57.92	316	P	P	01 24 04.4	-0.9
AKASG	Malin Array Be	57.92	316	P	P	01 24 04.4	-0.9
	comp=Z,2.0nm,0.6s,baz=78,slow=6.5,SNR=12						
KIEV	Kiev	57.93	316	eP	P	01 24 03.9	-1.5
	comp=Z,3.4nm,0.8s						
PMG	Port Moresby	58.76	119	eP	P	01 24 11.8	+0.1
	comp=Z,12nm,0.8s						
PMG	Port Moresby	58.76	119	P	P	01 24 12.1	+0.4
	comp=Z,8.4nm,0.7s,baz=337,slow=7.7,SNR=3.7						
AS31	Alice Springs	59.43	141	eP	P	01 24 16.3	0.0
ASAR	Alice Springs	59.43	141	P	P	01 24 16.2	0.0
ASAR	Alice Springs	59.43	141	P	P	01 24 16.2	0.0
	comp=Z,1.8nm,0.7s,baz=321,slow=6.5,SNR=22						
VRI	Vrincioaia	59.85	310 ‖	iP	P	01 24 19.8	+0.9
PLOR	Plostina	59.90	310 ‖	iP	P	01 24 20.3	+1.0
FINES	FINESS Array B	59.92	328	P	P	01 24 18.9	-0.1
FINES	FINESS Array B	59.92	328	P	P	01 24 18.9	-0.1
	comp=Z,3.4nm,0.8s,baz=116,slow=8.9,SNR=3.5						
FINES				LR	LR	01 54 58.9	
	comp=Z,29nm,19.0s,baz=90,slow=41						
BUR08	Bucovina Ar. S	60.72	312	eP	P	01 24 24.7	-0.2
ARR	Arges	61.36	310 ‖	iP	P	01 24 29.2	-0.1
KWP	Kalwaria Pacla	62.17	315	eP	P	01 24 34.7	+0.2
	comp=Z,14nm,1.0s						
KWP	Kalwaria Pacla	62.17	315 ⇑	iP	P	01 24 35.1	+0.5
DRGR		62.51	311 ‖	iP	P	01 24 37.4	+0.4
VTS	Vitosha	62.78	307 ‖	iP	P	01 24 39.2	+0.2
SIRR	Siria	63.30	311 ⇑	iP	P	01 24 42.6	+0.4
KMBO	Kilima Mbogo	64.14	256	eP	P	01 24 48.5	0.0
	comp=Z,5.1nm,1.3s						
PSZ	Piszkesteto	64.24	313	eP	P	01 24 48.7	+0.2
	comp=Z,16nm,1.4s						
MORC	Moravsky Berou	65.47	315	eP	P	01 24 56.2	-0.2
	comp=Z,4.9nm,1.1s						
NB2	NORSAR Subarra	67.10	328	P	P	01 25 05.9	-0.7
	comp=Z,2.0nm,0.7s,baz=82,slow=6.5						
NOA	NORSAR Array B	67.10	328	P	P	01 25 05.7	-1.0
NOA	NORSAR Array B	67.10	328	P	P	01 25 05.7	-1.0
	comp=Z,1.3nm,0.6s,baz=81,slow=6.3,SNR=5.4						
NAO01	NORSAR Array S	67.29	328	eP	P	01 25 07.2	-0.6
	comp=Z,22nm,1.2s						
GERES	GERESS Array B	68.11	315	P	P	01 25 13.3	0.0
GERES	GERESS Array B	68.11	315	P	P	01 25 13.3	0.0
	comp=Z,1.0nm,0.6s,baz=65,slow=5.5,SNR=10						
STKA	Stephens Creek	70.07	141	P	P	01 25 24.8	-0.6
STKA	Stephens Creek	70.07	141	P	P	01 25 24.8	-0.6
	comp=Z,4.8nm,0.8s,baz=313,slow=9.1,SNR=4.5						
CDF	Champ du Feu	72.34	316	eP	P	01 25 38.8	-0.4
	comp=Z,7.0nm,1.0s						
CDF	Champ du Feu	72.34	316	eP	P	01 25 38.8	-0.4
	comp=Z,7.0nm,1.0s						
WLF	Walferdange	72.66	317	eP	P	01 25 40.9	-0.1
	comp=Z,7.0nm,0.8s						
HAU	Haudompre	73.06	315	eP	P	01 25 43.0	-0.4
HAU				eR			
	comp=Z,57nm,19.0s						
HAU	Haudompre	73.06	315	eP	P	01 25 43.0	-0.4
LPG	La Plagne	73.59	313	eP	P	01 25 47.0	+0.1
	comp=Z,6.3nm,0.6s						
LPG	La Plagne	73.59	313	eP	P	01 25 47.0	+0.1
	comp=Z,6.3nm,0.6s						
LPL	La Plagne	73.59	313	eP	P	01 25 47.0	+0.1
	comp=Z,5.3nm,0.6s						
LPL	La Plagne	73.59	313	eP	P	01 25 47.0	+0.1
	comp=Z,5.3nm,0.6s						
MEZF	Maizieres J'vi	73.72	316	eP	P	01 25 47.3	0.0
	comp=Z,9.7nm,0.8s						
MEZF	Maizieres J'vi	73.72	316	eP	P	01 25 47.3	0.0
	comp=Z,9.7nm,0.8s						
BAIF	Baives	73.73	318	eP	P	01 25 47.4	+0.1
BAIF	Baives	73.73	318	eP	P	01 25 47.4	+0.1
BNI	Bardonecchia	73.78	312	eP	P	01 25 48.2	+0.3
	comp=Z,7.2nm,1.1s						
MBDF	Montbardon	73.82	312	eP	P	01 25 47.6	-0.5
	comp=Z,5.1nm,0.7s						
MBDF	Montbardon	73.82	312	eP	P	01 25 47.6	-0.5
	comp=Z,5.1nm,0.7s						
ORIF	Oris-en-Rattie	74.36	312	eP	P	01 25 50.6	-0.6
ORIF				eR			
	comp=Z,48nm,20.2s						
ORIF	Oris-en-Rattie	74.36	312	eP	P	01 25 50.6	-0.6
LOR	Lormes	74.89	315	eP	P	01 25 53.6	-0.5
LOR				eR			
	comp=Z,52nm,20.0s						
LOR	Lormes	74.89	315	eP	P	01 25 53.6	-0.5
SMF	Signal de Mont	75.11	315	eP	P	01 25 55.0	-0.4
	comp=Z,2.5nm,0.5s						
SMF	Signal de Mont	75.11	315	eP	P	01 25 55.0	-0.4
	comp=Z,2.5nm,0.5s						
SSF	Saint Saulge	75.19	315	eP	P	01 25 55.5	-0.3
	comp=Z,2.6nm,0.5s						
SSF	Saint Saulge	75.19	315	eP	P	01 25 55.5	-0.3
	comp=Z,2.6nm,0.4s						
VIVF	Saint-Julien-l	75.19	313	eP	P	01 25 55.6	-0.3
VIVF	Saint-Julien-l	75.19	313	eP	P	01 25 55.6	-0.3
BGF	Bois d'Agland	75.79	315	eP	P	01 25 59.3	0.0
BGF	Bois d'Agland	75.79	315	eP	P	01 25 59.3	0.0
TCF	Toulx Ste Croi	76.30	315	eP	P	01 26 01.7	-0.5
	comp=Z,5.3nm,0.7s						
TCF	Toulx Ste Croi	76.30	315	eP	P	01 26 01.7	-0.5
	comp=Z,5.3nm,0.7s						
GRR	Gorron	77.43	318	eP	P	01 26 08.4	-0.1
GRR	Gorron	77.43	318	eP	P	01 26 08.4	-0.1
SGMF	Saint Gilles	78.53	318	eP	P	01 26 14.5	-0.1
	comp=Z,7.5nm,0.7s						
SGMF	Saint Gilles	78.53	318	eP	P	01 26 14.5	-0.1
	comp=Z,7.5nm,0.7s						
LSZ	Lusaka	78.83	247	eP	P	01 26 17.2	+0.3
	comp=Z,5.6nm,1.1s						
ETSF	Etsaut	79.43	312	eP	P	01 26 19.2	-0.6
	comp=Z,6.9nm,0.9s						
ETSF	Etsaut	79.43	312	eP	P	01 26 19.2	-0.6
	comp=Z,6.9nm,0.9s						
TAM	Tamanrasset	82.85	292	eP	P	01 26 38.8	+0.3
	comp=Z,2.6nm,1.2s						
ESDC	Sonseca Array	83.12	310	P	P	01 26 39.4	0.0
ESDC	Sonseca Array	83.12	310	P	P	01 26 39.4	0.0
	comp=Z,0.6nm,0.6s,baz=48,slow=4.9,SNR=5.9						
LBTB	Lobatse	85.75	240	eP	P	01 26 53.7	+0.7
	comp=Z,18nm,1.2s						
TORD	Torodi Ar. Bea	90.16	284	P	P	01 27 14.3	0.0
TORD	Torodi Ar. Bea	90.16	284	P	P	01 27 14.3	0.0
	comp=Z,0.7nm,0.9s,baz=75,slow=4.6,SNR=4.6						

NNC 25 01:14:59.7±4.3, 42°.08N×68°.59E, h0km, mb3.5, mpv3.1, 7C, Error ellipse: s-maj=48.4km s-min=26.8km az=164.0, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	1.75	53	⇑P	Pb	01 15 32.8	+0.1
	3.6nm,0.2s,baz=220,slow=14,SNR=239						
KK31				⇑S	Sn	01 15 54.7	+0.4
	70nm,0.3s,baz=237,slow=28,SNR=33						
TKM2	Tokmak 2	5.25	78	⇑Pn	Pn	01 16 20.6	+0.9
	1.2nm,0.5s						
TKM2				⇑Pg	Pg	01 16 36.8	-3.7
	2.5nm,0.5s						
TKM2				⇑Lg	Lg	01 17 41.4	
	28nm,0.8s						
AB31	Akbulak array	9.39	323	⇑Pn	Pn	01 17 18.3	+2.2
	0.9nm,0.5s,baz=163,slow=14,SNR=12						
AB31				⇑Sn	Sn	01 19 00.2	-2.1
	0.3nm,0.3s,baz=147,slow=19,SNR=4.5						
MK31	Makanchi Array	10.87	60	Pn	Pn	01 17 36.3	-0.1
	0.4nm,0.5s,baz=240,slow=14,SNR=9.5						

KRSC 25 01:20:38.8±3.7, 55°.46N×161°.64E, h86km±85km, ML3.9, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BZGR	Bezymyannyi-Gr	0.72	312	eP	Pn	01 20 58.5	+3.2
BZGR				i S	Sn	01 21 11.0	+3.4
ZLN	Zelenaya	0.73	320	eP	Pn	01 20 58.8	+3.4
ZLN				i S	Sn	01 21 12.1	+4.3
BZMR	Bezymyannaya	0.81	307	eP	Pn	01 20 58.6	+2.4
BZMR				i S	Sn	01 21 11.2	+1.9
BZWR	Bezymyannyi-We	0.82	308	eP	Pn	01 20 59.7	+3.3
BZWR				i S	Sn	01 21 13.2	+3.6
LGNR	Loginova	0.82	320	eP	Pn	01 21 00.0	+3.4
LGNR				i S	Sn	01 21 14.2	+4.3
CIRR	Tsirk	0.83	323	eP	Pn	01 21 00.2	+3.7
CIRR				i S	Sn	01 21 13.7	+4.1
KMNR	Kamenistaya	0.85	291	eP	Pn	01 20 59.7	+3.1
KMNR				i S	Sn	01 21 12.7	+2.7
TUMR	Tumrok	0.87	259	i P	Pn	01 20 59.8	+2.9
TUMR				i S	Sn	01 21 12.4	+2.0
KIRR	Kirishev	0.89	304	i P	Pn	01 20 58.7	+1.6
KIRR				i S	Sn	01 21 14.8	+4.0
MKZ	Mys Kozlova	0.91	177	i P	Pn	01 20 59.7	+2.6
MKZ				i S	Sn	01 21 14.2	+3.4
KPT	Kopyto	0.95	303	eP	Pn	01 21 00.3	+2.6
KPT				i S	Sn	01 21 14.9	+3.0
KRSR	Krestovskiy	0.97	322	eP	Pn	01 21 01.2	+3.2
KRSR				i S	Sn	01 21 15.4	+3.0
KBTR	Krutoberegovo	1.00	41	i P	Pn	01 21 02.8	+4

2.4nm,0.3s,baz=44,slow=3.9,SNR=14
URZ S S 01 31 26.4 -5.5
6.9nm,0.3s,baz=273,slow=23,SNR=22
ASAR Alice Springs 41.39 268 P P 01 35 21.2 -0.2
0.2nm,0.3s,baz=95,slow=8.5,SNR=4.1
WRA Warramunga Arr 42.42 274 P P 01 35 29.6 -0.1
0.4nm,0.3s,baz=112,slow=7.9,SNR=27
JOF Joensuu 142.23 337 *ep* PKPdf 01 47 06.2 +8.7
0.5nm,0.3s
KBZ Khabaz 143.96 303 PKP PKPbc 01 47 00.6 +0.5
0.7nm,0.4s,baz=135,slow=2.9,SNR=2.8
KAF Kangasniemi 144.42 339 *ep* PKPbc 01 46 57.3 -3.6
0.4nm,0.3s
FINES FINESS Array B 145.00 338 PKPbc PKPdf 01 47 02.2 -0.2
1.5nm,0.4s,baz=51,slow=4.4,SNR=22
HFS Hagfors 149.36 347 PKPbc PKPbc 01 47 13.7 -0.8
1.8nm,0.7s,baz=108,slow=6.5,SNR=3.4

IDC 25 01:35:45.6±39.0, 23°.40S×179°.51E, h651km±373km, mb2.8/3, mb1 3.0/3, mb1mx2.7/17, mbtmp2.8/3, Error ellipse: s-maj=369.5km s-min=146.2km az=118.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**31.02**	**270**	P	P	01 41 14.0	+0.4
1.5nm,0.4s,baz=90,slow=13,SNR=3.1							
ASAR	**Alice Springs**	**41.67**	**260**	P	P	01 42 40.6	+0.3
0.6nm,0.5s,baz=99,slow=7.5,SNR=8.0							
WRA	**Warramunga Arr**	**41.99**	**266**	P	P	01 42 42.6	-0.3
0.6nm,0.3s,baz=103,slow=8.4,SNR=37							
HFS	**Hagfors**	**141.97**	**349**	PKP	PKPdf	01 54 01.8	-2.9
1.2nm,0.4s,baz=46,slow=4.2,SNR=9.8							
AKASG	**Malin Array Be**	**144.31**	**327**	PKP	PKPdf	01 54 09.1	+0.1
0.4nm,0.4s,baz=40,slow=4.1,SNR=4.0							

IDC 25 01:54:24.8±2.4, 20°.40S×177°.92W, h479km±27km, mb3.2/3, mb1 3.5/5, mb1mx3.1/19, mbtmp3.4/5, Error ellipse: s-maj=38.7km s-min=18.8km az=141.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.72**	**43**	P	P	01 56 29.0	+0.4
5.3nm,0.3s,baz=72,slow=23,SNR=4.3							
AFI				S	S	01 58 05.3	-4.8
2.2nm,0.3s,baz=14,slow=19,SNR=4.0							
URZ	**Urewera**	**18.32**	**193**	P	P	01 58 08.7	-0.2
1.8nm,0.3s,baz=265,slow=11,SNR=6.6							
ASAR	**Alice Springs**	**44.62**	**257**	P	P	02 01 53.8	-0.1
3.2nm,0.6s,baz=94,slow=7.9,SNR=30							
ASAR				PcP	PcP	02 03 26.6	-0.1
0.7nm,0.5s,baz=104,slow=3.8,SNR=6.9							
WRA	**Warramunga Arr**	**44.69**	**262**	P	P	02 01 54.0	-0.4
0.9nm,0.4s,baz=97,slow=6.8,SNR=38							
WRA				PcP	PcP	02 03 26.8	-0.1
0.6nm,0.8s,baz=97,slow=2.9,SNR=3.9							
ILAR	**Eielson Array**	**88.20**	**13**	P	P	02 06 23.2	-0.3
0.3nm,0.5s,baz=224,slow=3.8,SNR=2.5							
ARCES	**ARCESS Array B**	**128.83**	**350**	PKP	PKPdf	02 12 35.9	-0.6
3.3nm,1.0s,baz=48,slow=1.3,SNR=4.5							
AKASG	**Malin Array Be**	**142.96**	**331**	PKhKP	PKPpre	02 12 59.3	
0.4nm,0.3s,baz=46,slow=4.5,SNR=7.6							
BRTR	**Keskin Array B**	**146.83**	**312**	PKPbc	PKPbc	02 13 12.5	-0.5
0.6nm,0.6s,baz=112,slow=4.2,SNR=5.4							
MLR	**Muntele Rosu**	**148.18**	**327**	PKPbc	PKPbc	02 13 16.3	0.0
0.2nm,0.6s,baz=166,slow=4.2,SNR=3.2							
GERES	**GERESS Array B**	**150.12**	**345**	PKPbc	PKPbc	02 13 19.9	-1.0
0.5nm,0.7s,baz=46,slow=2.8,SNR=5.7							

*IDC **25** 02:04:28.7±0.7, 32°.40S×71°.79W, h0km, mb4.3/6, mb1 4.5/10, mb1mx4.3/16, mbtmp4.3/10, ML4.4/4, MS3.8/8, Ms1 3.8/8, ms1mx3.6/18, Error ellipse: s-maj=27.4km s-min=24.6km az=119.0*
*ISCJB **25** 02:04:32.2±0.8, 32°.32S±0°.03×71°.90W±0°.05, h30km±5km, mb4.3/25, MS3.8/5, Error ellipse: s-maj=8.1km s-min=3.5km az=160.0*
*GUC **25** 02:04:32.9±0.5, 32°.37S×71°.81W, h30km±2km, ML4.9*
*NEIC **25** 02:04:36.3±0.9, 32°.37S×71°.75W, h52km±7km, mb4.4/22, Error ellipse: s-maj=10.8km s-min=6.3km az=81.0*
NEIC Felt [IV] at Papudo and Zapallar; [III] at La Ligua, Puchuncavi, Quintero, Valparaiso and Vina del Mar; [II] at Melipilla, Quillota, Quilpue, Rancagua, San Antonio, Santiago and Villa Alemana. Also felt [II] in Chacabuco and Maipo.

ISC 25 02:04:33.0±1.4, 32°.30S±0°.03×71°.74W±0°.07, h25km±9km, n108, σ1§02/115, mb4.5/25, MS3.9/5, 9C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.35**	**133**	*i* P	Pb	02 04 41.0	+0.2
PACH				*i* S	Sb	02 04 47.0	+0.7
CHNG	**Los Chungos**	**0.46**	**26**	*i* P	Pn	02 04 44.1	+0.1
CHNG				*i* S	Sn	02 04 51.9	+0.6
ROCH	**El Roble**	**0.91**	**138**	⇓*i* P	Pn	02 04 49.5	-0.9
ROCH				*i* S	Sn	02 05 02.6	-0.3
JACH	**Jahuel**	**1.04**	**112**	⇑*i* P	Pn	02 04 52.2	+0.1
LCCH	**Las Cruces**	**1.19**	**173**	⇓*i* P	Pn	02 04 52.6	-1.4
PEL	**Peldehue**	**1.23**	**134**	*e*	Pn	02 04 54.3	-0.3
baz=327,slow=8.6							
PEL				⇑*i* P	Pn	02 04 54.8	+0.2
PEL				*i* S	Sb	02 05 10.9	-0.1
PEL				AML	AML	02 05 12.2	
comp=E,57μm,0.7s							
PEL	**Peldehue**	**1.23**	**134**	⇑*i* P	Pn	02 04 54.8	+0.2
PEL				*i* S	Sb	02 05 10.9	-0.1
PEL				AML	AML	02 05 13.2	
comp=E,58μm,0.5s							
SAN	**Santiago**	**1.47**	**142**	⇑*i* P	Pn	02 04 58.0	+0.1
SAN				*e* S	Sn	02 05 16.8	+0.4
SAN				AML	AML	02 05 23.5	
comp=N,14μm,0.4s							
CLCH	**Cerro Calan**	**1.49**	**138**	⇓*i* P	Pn	02 04 58.5	+0.2
CLCH				*i* S	Sb	02 05 17.8	-0.9
CLCH				AML	AML	02 05 26.5	
comp=E,22μm,0.6s							
TACH	**Talagante**	**1.51**	**154**	⇓*i* P	Pn	02 04 58.3	-0.2
TACH				*i* S	Sn	02 05 17.3	-0.1
FSR	**Penalolen**	**1.56**	**139**	⇑*i* P	Pb	02 05 00.8	-0.4
FSR				*i* S	Sb	02 05 21.0	+0.5
ANTU	**Antumapu**	**1.57**	**144**	*i* P	Pn	02 04 59.6	+0.2
ANTU				*i* S	Sn	02 05 19.7	+0.7
ANTU				AML	AML	02 05 25.5	
comp=E,18μm,0.4s							
FCH	**Farellones**	**1.60**	**131**	AML	AML	02 05 21.9	
comp=E,12μm,0.5s							
PCH	**Pirque**	**1.68**	**142**	*i* P	Pn	02 05 01.4	+0.6
LMEL	**Las Melosas**	**2.02**	**141**	⇓*i* P	Pn	02 05 06.4	+0.8
LMEL				*i* S	Sn	02 05 31.8	+1.7
LMEL				AML	AML	02 05 38.2	
comp=N,9μm,0.2s							
CACH	**El Canelo**	**2.05**	**153**	⇑*i* P	Pn	02 05 07.3	+1.2
TLL	**Tololo Astrono**	**2.27**	**21**	⇑*i* P	Pn	02 05 11.2	+2.1
TLL				AML	AML	02 05 51.6	
comp=N,4μm,0.6s							
NICH	**Los Niches**	**2.73**	**171**	*e* P	Pn	02 05 15.1	-0.2
NICH				AML	AML	02 06 01.6	
comp=N,10μm,0.8s							
CFAA	**Coronel Fontan**	**3.06**	**78**	Pn	Pb	02 05 24.0	-2.7
CFAA				Lg	Lg	02 06 05.8	
CFAA	**Coronel Fontan**	**3.06**	**78**	Pn	Pb	02 05 24.0	-2.7
comp=N,13nm,0.3s,baz=251,slow=12,SNR=1103							
CFAA				Lg	Lg	02 06 05.8	
comp=N,8.9nm,0.3s,baz=351,slow=19,SNR=9.7							
TALC	**Talca**	**3.10**	**178**	*e* P	Pn	02 05 19.8	-0.4
TALC				*i* S	Sn	02 05 55.8	-0.6
TALC				AML	AML	02 06 13.7	
comp=N,8μm,0.4s							
LCO	**Las Campanas**	**3.39**	**16**	*e* Pn	Pb	02 05 29.1	-3.5
LCO				*e* Sn	Sn	02 06 04.9	+0.8
LNCH	**Linares**	**3.54**	**178**	*e* P	Pn	02 05 26.0	-0.4
LNCH				AML	AML	02 06 43.5	
comp=N,4μm,0.6s							
PLCA	**Paso Flores**	**8.47**	**174**	*e* Pn	Pn	02 06 34.1	-0.1
comp=N,9.5nm,0.8s							
PLCA				Lg	Lg	02 08 48.7	
PLCA	**Paso Flores**	**8.47**	**174**	Pn	Pn	02 06 33.5	-0.7
comp=N,1.7nm,0.3s,baz=332,slow=12,SNR=32							
PLCA				Lg	Lg	02 08 48.7	
comp=N,0.3nm,0.3s,baz=150,slow=20,SNR=2.0							
PLCA				LR	LR	02 09 58.5	
comp=N,386nm,19.8s,baz=132,slow=39							
TRQA	**Tornquist**	**9.84**	**128**	*e* Pn	Pn	02 06 53.9	+1.1
comp=N,86nm,1.3s							
TRQA				*e* Lg	Lg	02 09 33.8	
LVC	**Limon Verde**	**9.97**	**15**	*e* Pn	Pn	02 06 53.0	-1.8
comp=N,20nm,0.6s							
LVC				*e* Lg	Lg	02 09 19.3	
CPUP	**Villa Florida**	**13.90**	**68**	*e* Pn	Pn	02 07 51.3	+2.9
comp=N,37nm,0.7s							
CPUP				Sn	Sn	02 10 31.4	+9.4
CPUP	**Villa Florida**	**13.90**	**68**	Pn	Pn	02 07 48.8	+0.4
comp=N,0.4nm,0.3s,baz=220,slow=12,SNR=3.5							
CPUP				Sn	Sn	02 10 31.4	+9.4
comp=N,0.9nm,0.3s,baz=205,slow=14,SNR=3.6							
CPUP				LR	LR	02 13 53.3	
comp=N,338nm,18.6s,baz=123,slow=40							
LPAZ	**La Paz**	**16.27**	**12**	*e* Pn	Pn	02 08 21.8	+1.3
comp=N,22nm,0.8s							
LPAZ	**La Paz**	**16.27**	**12**	Pn	Pn	02 08 21.6	+1.2
comp=N,0.6nm,0.3s,baz=183,slow=7.2,SNR=66							
SIV	**San Ignacio**	**18.91**	**33**	P	P	02 08 51.9	0.0
SIV	**San Ignacio**	**18.91**	**33**	P	P	02 08 51.9	0.0
comp=N,0.3nm,0.3s,baz=235,slow=12,SNR=21							
SIV				LR	LR	02 17 39.4	
comp=N,329nm,18.9s,slow=42							
USHA	**Ushuaia**	**22.65**	**175**	LR	LR	02 18 12.2	
comp=N,174nm,18.8s,baz=338,slow=36							
BB16B	**Bebedouro**	**23.48**	**67**	⇑*i* P	P	02 09 37.2	-3.7
BB16B				*i*		02 09 40.6	
BB16B				*i*		02 09 42.3	
BB16B				*i*		02 09 46.7	
BB16B				*i*		02 09 52.4	
BB16B	**Bebedouro**	**23.48**	**67**	⇑*i* P	P	02 09 37.2	-3.7
BB16B				*i*		02 09 40.6	
BB16B				*i*		02 09 42.3	
BB16B				*i*		02 09 46.7	
BB16B				*i*		02 09 52.4	
SAML	**Samuel**	**24.55**	**21**	*e* P	P	02 09 51.1	+0.3
comp=N,11nm,0.8s							
ATAH	**Atahualpa**	**25.79**	**345**	LR	LR	02 19 00.8	
comp=N,135nm,19.2s,baz=17,slow=34							
BDFB	**Brasilia**	**27.20**	**58**	P	P	02 10 14.2	-0.7
BDFB	**Brasilia**	**27.20**	**58**	P	P	02 10 14.2	-0.7
comp=N,10nm,0.9s,baz=217,slow=10,SNR=9.6							
BDFB				LR	LR	02 22 36.6	
comp=N,325nm,18.9s,baz=356,slow=40							
OTAV	**Otavalo**	**32.97**	**348**	*e* P	P	02 11 09.8	+3.4
comp=N,1.8nm,0.6s							
VNA2	**Neumayer--Watz**	**51.49**	**158**	*e* P	P	02 13 36.6	+0.7
baz=293,slow=9.6							
VNA2	**Neumayer--Watz**	**51.49**	**158**	*e* I	P	02 13 39.9	+4.0
baz=293,slow=9.6							
SNAA	**Sanae**	**53.07**	**158**	*e* P	P	02 13 47.4	-0.4
SNAA	**Sanae**	**53.07**	**158**	*e* I	P	02 13 50.0	+2.3
SNAA	**Sanae**	**53.07**	**158**	*e* P	P	02 13 47.4	-0.4
comp=N,4.1nm,1.0s							
QSPA	**South Pole Qui**	**57.94**	**180**	*e* P	P	02 14 23.1	+0.2
comp=N,7.0nm,0.9s							
VNDA	**Vanda**	**65.82**	**191**	*e* P	P	02 15 17.7	+2.2
comp=N,1.5nm,1.0s							
HKT	**Hockley**	**65.99**	**337**	*e* P	P	02 15 16.5	-0.5
comp=N,2.8nm,0.7s							
TXAR	**Lajitas Array**	**68.38**	**330**	P	P	02 15 33.3	+0.8
TXAR	**Lajitas Array**	**68.38**	**330**	P	P	02 15 33.3	+0.8
comp=N,0.5nm,0.8s,baz=148,slow=7.4,SNR=6.1							
WVT	**Waverly**	**69.72**	**346**	*e* P	P	02 15 40.5	0.0
comp=N,8.8nm,1.0s							
MNTX	**Cornudas Mount**	**71.16**	**330**	*e* P	P	02 15 48.8	-0.7
comp=N,1.3nm,0.8s							
WMOK	**Wichita Mounta**	**71.36**	**337**	*e* P	P	02 15 50.7	+0.1
comp=N,2.0nm,1.0s							
WCI	**Wyandotte Cave**	**71.46**	**348**	*e* P	P	02 15 51.0	-0.1
comp=N,6.4nm,0.6s							
DBIC	**Dimbokro**	**74.40**	**72**	*e* P	P	02 16 09.2	+0.1
comp=N,13nm,1.0s							
DBIC	**Dimbokro**	**74.40**	**72**	P	P	02 16 09.3	+0.3
comp=N,7.7nm,0.8s,baz=215,slow=6.0,SNR=6.9							
ANMO	**Albuquerque**	**74.41**	**331**	*e* P	P	02 16 09.6	+0.6
comp=N,3.0nm,1.1s							
MAW	**Mawson**	**74.74**	**164**	LR	LR	02 46 39.8	
comp=N,78nm,19.6s,baz=16,slow=38							
SMCO	**Snowmass**	**78.28**	**333**	*e* P	P	02 16 32.3	+1.3
comp=N,3.9nm,1.1s							
ECSD	**EROS Data Cent**	**79.01**	**342**	*e* P	P	02 16 34.5	0.0
comp=N,6.6nm,0.9s							
BOSA	**Boshof**	**80.64**	**118**	*e* P	P	02 16 44.2	+0.2
comp=N,9.9nm,1.0s							
BOSA	**Boshof**	**80.64**	**118**	LR	LR	02 48 04.5	
comp=N,84nm,19.9s,baz=268,slow=32							
DUG	**Dugway**	**81.53**	**329**	*e* P	P	02 16 48.8	+0.5
comp=N,3.0nm,1.2s							
RSSD	**Black Hills**	**81.56**	**337**	*e* P	P	02 16 48.7	+0.3
comp=N,11nm,1.0s							
PDAR	**Pinedale Array**	**82.36**	**333**	P	P	02 16 52.5	-0.3
PDAR	**Pinedale Array**	**82.36**	**333**	P	P	02 16 52.5	-0.3
comp=N,0.5nm,0.8s,baz=114,slow=6.8,SNR=4.6							
ELK	**Elko**	**83.05**	**328**	*e* P	P	02 16 56.1	-0.2
comp=N,3.9nm,1.1s							
AGMN	**Agassiz Nation**	**83.09**	**344**	*e* P	P	02 16 56.0	0.0
comp=N,5.2nm,0.8s							
TORD	**Torodi Ar. Bea**	**83.39**	**70**	P	P	02 16 58.5	+0.1
TORD	**Torodi Ar. Bea**	**83.39**	**70**	P	P	02 16 58.5	+0.1
comp=N,3.5nm,0.9s,baz=261,slow=4.7,SNR=16							
LOHW	**Long Hollow**	**83.48**	**333**	*e* P	P	02 16 57.9	-0.6
comp=N,2.6nm,1.1s							
ULM	**Lac du Bonnet**	**84.92**	**345**	*e* P	P	02 17 05.1	-0.2
comp=N,6.0nm,0.9s							
ULM	**Lac du Bonnet**	**84.92**	**345**	P	P	02 17 04.8	-0.5
comp=N,3.1nm,0.7s,baz=199,slow=5.9,SNR=3.8							
BUR08	**Bucovina Ar. S**	**117.45**	**49**	*e* PKPdf	**PKPdf**	02 23 17.4	+1.2
ASAR	**Alice Springs**	**119.20**	**207**	PKP	**PKPdf**	02 23 18.9	-1.5
ASAR	**Alice Springs**	**119.20**	**207**	PKP	**PKPdf**	02 23 18.9	-1.5
comp=N,0.5nm,0.7s,baz=147,slow=1.4,SNR=4.7							
BR131	**Keskin Array S**	**120.78**	**60**	*e* PKPdf	**PKPdf**	02 23 23.0	0.0
BRTR	**Keskin Array B**	**120.78**	**60**	PKP	**PKPdf**	02 23 22.3	-0.7
BRTR	**Keskin Array B**	**120.78**	**60**	PKP	**PKPdf**	02 23 22.3	-0.7
comp=N,0.3nm,0.8s,baz=216,slow=1.2,SNR=3.7							
AKASG	**Malin Array Be**	**120.85**	**47**	PKP	**PKPdf**	02 23 20.8	-1.7
AKASG	**Malin Array Be**	**120.85**	**47**	PKP	**PKPdf**	02 23 20.8	-1.7
comp=N,0.2nm,0.4s,baz=267,slow=1.9,SNR=4.1							
WRA	**Warramunga Arr**	**122.37**	**209**	PKP	**PKPdf**	02 23 25.2	-1.3
WRA	**Warramunga Arr**	**122.37**	**209**	PKP	**PKPdf**	02 23 25.2	-1.3
comp=N,1.4nm,0.7s,baz=171,slow=1.6,SNR=17							
WRAB	**Tennant Creek**	**122.37**	**209**	*e* PKPdf	**PKPdf**	02 23 25.8	-0.8
PMG	**Port Moresby**	**124.34**	**229**	*e* PKPdf	**PKPdf**	02 23 30.1	-0.3
ABKAR	**Akbulak array**	**140.42**	**50**	*e* PKPdf	**PKPdf**	02 23 59.2	-0.2
PALK	**Pallekele**	**144.27**	**128**	*e* PKPdf	**PKPdf**	02 24 07.2	-0.3
BRVK	**Borovoye**	**145.78**	**41**	*e* PKPbc	**PKPbc**	02 24 09.2	-0.1
BVAR	**Borovoye Array**	**145.85**	**41**	PKPbc	**PKPab**	02 24 09.9	-0.2
BVAR	**Borovoye Array**	**145.85**	**41**	PKPbc	**PKPab**	02 24 09.9	-0.2
comp=N,2.9nm,0.6s,baz=288,slow=3.0,SNR=12							
KBL	**Kabul**	**147.33**	**75**	*e* PKPbc	**PKPdf**	02 24 13.1	+0.8
KKAR	**Karatay Array**	**148.48**	**59**	*e* PKPbc	**PKPbc**	02 24 17.3	0.0
EKS2	**Erkin-Say**	**150.92**	**59**	*e* PKPbc	**PKPbc**	02 24 24.1	+0.7
KURBB	**Kurchatov Arra**	**151.44**	**41**	PKPbc	**PKPbc**	02 24 24.6	+0.4
comp=N,5.7nm,0.7s,baz=299,slow=3.0,SNR=60							
AAK	**Ala-Archa**	**151.45**	**59**	*e* PKPbc	**PKPbc**	02 24 25.4	+0.7
AAK	**Ala-Archa**	**151.45**	**59**	PKPbc	**PKPbc**	02 24 25.4	+0.7
comp=N,6.8nm,0.7s,baz=175,slow=2.0,SNR=19							
KURK	**Kurchatov**	**151.45**	**41**	*e* PKPbc	**PKPbc**	02 24 24.3	+0.1
IPM	**Ipoh**	**151.51**	**165**	*e* PKPbc	**PKPbc**	02 24 24.7	-0.8
TKM2	**Tokmak 2**	**152.19**	**58**	*e* PKPbc	**PKPbc**	02 24 26.6	+0.2
ZAA0	**Zalesovo Array**	**152.65**	**31**	*e* PKPbc	**PKPbc**	02 24 26.8	0.0
ZALV	**Zalesovo Beam**	**152.65**	**31**	PKPbc	**PKPbc**	02 24 26.9	+0.1
ZALV	**Zalesovo Beam**	**152.65**	**31**	PKPbc	**PKPbc**	02 24 26.9	+0.1
comp=N,6.4nm,0.6s,baz=299,slow=3.2,SNR=27							
MK31	**Makanchi Array**	**155.43**	**46**	*e* PKPbc	**PKPdf**	02 24 24.1	+0.1
MK31				*e* PKPab	**PKPab**	02 24 49.8	+0.2
MKAR	**Makanchi Array**	**155.43**	**46**	PKPab	**PKPab**	02 24 50.1	+0.4
MKAR	**Makanchi Array**	**155.43**	**46**	PKPab	**PKPab**	02 24 50.1	+0.4
comp=N,0.8nm,0.6s,baz=283,slow=4.3,SNR=5.1							
SONM	**Songino Array**	**164.41**	**5**	PKPab	**PKPab**	02 25 29.7	+1.0
SONM	**Songino Array**	**164.41**	**5**	PKPab	**PKPab**	02 25 29.7	+1.0
comp=N,0.6nm,0.8s,baz=2.9,slow=2.9,SNR=2.4							

DJA 25 03:01:38.7±2.2, 8°S±9°×107°E±°, h10km±14km, M4.0/6, MLv4.0/6, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.78**	**39**	P	Pg	03 01 53.7	-0.1
CISI				S	Sg	03 02 03.4	-0.6
LEM	**Lembang**	**1.36**	**13**	P	Pn	03 02 03.1	-0.8
SKJI	**Sukabumi**	**1.38**	**327**	P	Pn	03 02 01.4	-2.6
DBJI	**Dramaga**	**1.69**	**340**	P	Pn	03 02 07.5	-0.9
KPJI	**Karang Pucung**	**1.80**	**63**	P	Pn	03 02 09.4	-0.4
PCJI	**Pacitan**	**3.82**	**91**	P	Pn	03 02 37.2	-0.4
PWJI	**Pagerwojo**	**4.44**	**89**	P	Pn	03 02 45.7	-0.5

IDC 25 03:11:17.3±4.8, 15°.14S×173°.18W, h76km±61km, mb3.4/2, mb1 3.7/2, mb1mx3.3/20, mbtmp3.4/2, MS3.6/1, Ms1 3.6/1, ms1mx3.0/14, Error ellipse: s-maj=337.2km s-min=34.4km az=139.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.82**	**48**	P	Pn	03 11 47.7	+0.9
57nm,0.3s,baz=216,slow=6.5,SNR=48							
AFI				S	Sn	03 12 09.4	+0.1
98nm,0.3s,baz=33,slow=18,SNR=17							
RAO	**Raoul Island**	**14.71**	**197**	LR	LR	03 18 50.7	
comp=Z,211nm,19.5s,baz=352,slow=31							
WRA	**Warramunga Arr**	**50.11**	**257**	P	P	03 20 04.8	-0.4
0.6nm,0.9s,baz=95,slow=7.0,SNR=3.7							
ASAR	**Alice Springs**	**50.40**	**252**	P	P	03 20 07.2	-0.2
1.4nm,0.5s,baz=87,slow=8.1,SNR=26							
BRTR	**Keskin Array B**	**146.09**	**321**	PKPbc	PKPbc	03 30 48.9	-0.4
0.4nm,0.7s,baz=20,slow=4.6,SNR=3.7							

*ISCJB **25** 03:18:51.8±0.8, 36°.43N±0°.06×70°.83E±0°.10, h188km, mb3.5/5, Error ellipse: s-maj=11.3km s-min=8.2km az=155.4*
*IDC **25** 03:18:52.9±4.5, 36°.22N×71°.07E, h205km±42km, mb3.3/6, mb1 3.3/11, mb1mx3.0/32, mbtmp3.2/11, Error ellipse: s-maj=30.8km s-min=20.3km az=26.0*
*NNC **25** 03:19:01.6±3.9, 37°.05N×70°.87E, h223km±49km, mb2.5, mpv3.2, Error ellipse: s-maj=39.2km s-min=19.5km az=7.0*

ISC 25 03:18:53.4±1.1, 36°.49N±0°.09×71°.0E±0°.1, h188km, n16, σ1§90/18, mb3.5/5, 2C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**5.65**	**134**	*e* P	Pn	03 20 20.5	+4.6
THN				*e* S	**Sn**	**03 21 20.0**	**-0.8**
KK31	**Karatay Array**	**6.62**	**357**	⇓P	**Pn**	**03 20 30.6**	**+2.1**
0.9nm,0.3s,baz=178,slow=12,SNR=22							
KK31				⇑S	**Sn**	**03 21 40.6**	**-3.1**
5.5nm,0.4s,baz=178,slow=21,SNR=4.8							
AAK	**Ala-Archa**	**6.72**	**23**	P	**Pn**	**03 20 32.7**	**+2.7**
1.7nm,0.3s,baz=141,slow=4.1,SNR=8.1							
AAK				S	**Sn**	**03 21 42.1**	**-4.2**
1.2nm,0.3s,baz=143,slow=2.3,SNR=4.6							
TKM2	**Tokmak 2**	**7.36**	**28**	⇓P	**Pn**	**03 20 40.2**	**+1.9**
0.8nm,0.4s							
TKM2				⇓S	**Sn**	**03 22 00.4**	**-1.1**
4.7nm,0.8s							
MKAR	**Makanchi Array**	**13.33**	**36**	P	**Pn**	**03 21 56.5**	**+1.3**
0.1nm,0.3s,baz=215,slow=12,SNR=6.4							
AB31	**Akbulak array**	**15.07**	**331**	⇑P	**Pn**	**03 22 16.3**	**-0.5**
0.7nm,0.6s,baz=139,slow=12,SNR=13							
KURBB	**Kurchatov Arra**	**15.15**	**19**	P	**Pn**	**03 22 18.2**	**+0.6**
0.2nm,0.3s,baz=211,slow=11,SNR=5.6							
BVAR	**Borovoye Array**	**16.54**	**359**	P	**Pn**	**03 22 35.3**	**+0.7**
0.3nm,0.3s,baz=171,slow=10,SNR=3.4							
AKTO	**Aktyubinsk**	**16.77**	**330**	⇓P	**P**	**03 22 37.5**	**+1.2**
1.9nm,0.5s							
AKTO	**Aktyubinsk**	**16.77**	**330**	P	**P**	**03 22 37.6**	**+1.2**
0.9nm,0.3s,baz=130,slow=12,SNR=9.3							
ZALV	**Zalesovo Beam**	**19.95**	**25**	P	**P**	**03 23 11.0**	**+0.3**
1.2nm,0.3s,baz=223,slow=11,SNR=5.7							
FINES	**FINESS Array B**	**37.47**	**326**	P	**P**	**03 25 48.4**	**0.0**
1.0nm,0.4s,baz=124,slow=10,SNR=9.4							
ARCES	**ARCESS Array B**	**41.14**	**338**	P	**P**	**03 26 19.3**	**+0.6**
1.1nm,0.4s,baz=116,slow=7.9,SNR=17							
NOA	**NORSAR Array B**	**44.36**	**323**	P	**P**	**03 26 44.1**	**-0.6**
1.2nm,0.8s,baz=101,slow=7.7,SNR=3.5							
TORD	**Torodi Ar. Bea**	**65.67**	**269**	P	**P**	**03 29 16.2**	**-1.6**
0.3nm,0.4s,baz=50,slow=5.8,SNR=19							
WRA	**Warramunga Arr**	**82.02**	**122**	P	P	03 30 49.1	-3.6
0.2nm,0.6s,baz=326,slow=4.8,SNR=3.6							

**IDC 25 03:20:08.3±6.9, 19°.13S×176°.01W, h0km, mb4.2

az=54.0
*ISCJB **25** 05:06:08.7±1.0,2°.4N±0°.1×96°.1E±0°.1,h25km,mb3.8/7, Error ellipse: s-maj=18.7km s-min=12.7km az=135.9*
*NEIC **25** 05:06:12.1±0.8,2°.40N×96°.16E,h35km,mb4.0/1,Error ellipse: s-maj=14.4km s-min=9.8km az=53.0*

ISC 25 05:06:10.6±1.6,2°.4N±0°.2×96°.1E±0°.2,h25km,n18, σ0§31/18,mb3.9/7,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.85**	**81**	Pn	**Pn**	**05 06 54.9**	**+0.3**
PSI	**Prapat**	**2.85**	**81**	Pn	**Pn**	**05 06 54.9**	**+0.3**
	1.4nm,0.3s,baz=131,slow=21,SNR=8.0						
PSI				LR	LR	05 08 21.0	
	comp=Z,254nm,20.4s,baz=69,slow=46						
IPM	**Ipoh**	**5.34**	**67**	*e*Pn	**Pn**	**05 07 28.4**	**-0.4**
	16nm,0.4s						
KULM	**Kulim**	**5.38**	**57**	*e*Pn	**Pn**	**05 07 29.1**	**-0.2**
	18nm,0.8s						
CMAR	**Chiang Mai Arr**	**16.22**	**10**	Pn	**Pn**	**05 09 57.5**	**+0.5**
CMAR	**Chiang Mai Arr**	**16.22**	**10**	Pn	**Pn**	**05 09 57.5**	**+0.5**
	0.2nm,0.3s,baz=197,slow=12,SNR=6.8						
WRA	**Warramunga Arr**	**43.58**	**122**	P	**P**	**05 14 12.8**	**-0.3**
WRA	**Warramunga Arr**	**43.58**	**122**	P	**P**	**05 14 12.8**	**-0.3**
	0.6nm,0.6s,baz=302,slow=9.0,SNR=6.8						
WRAB	**Tennant Creek**	**43.59**	**122**	*e*P	**P**	**05 14 13.2**	**+0.1**
	2.5nm,0.9s						
ASAR	**Alice Springs**	**44.97**	**127**	P	**P**	**05 14 24.2**	**0.0**
ASAR	**Alice Springs**	**44.97**	**127**	P	**P**	**05 14 24.2**	**0.0**
	0.3nm,0.6s,baz=298,slow=7.9,SNR=5.7						
MKAR	**Makanchi Array**	**45.85**	**347**	P	**P**	**05 14 30.6**	**-0.2**
MKAR	**Makanchi Array**	**45.85**	**347**	P	**P**	**05 14 30.6**	**-0.2**
	2.4nm,0.7s,baz=161,slow=7.7,SNR=17						
SONM	**Songino Array**	**46.15**	**10**	P	**P**	**05 14 32.9**	**-0.3**
SONM	**Songino Array**	**46.15**	**10**	P	**P**	**05 14 32.9**	**-0.3**
	1.2nm,0.8s,baz=187,slow=10,SNR=7.4						
KURBB	**Kurchatov Arra**	**50.32**	**346**	P	**P**	**05 15 05.5**	**+0.3**
	0.6nm,0.7s,baz=168,slow=7.3,SNR=7.4						
ZALV	**Zalesovo Beam**	**52.24**	**352**	P	**P**	**05 15 19.6**	**+0.1**
ZALV	**Zalesovo Beam**	**52.24**	**352**	P	**P**	**05 15 19.6**	**+0.1**
	1.8nm,0.5s,baz=177,slow=6.6,SNR=7.9						

*ISCJB **25** 05:12:18.9±0.4, 17°.6S±0°.1×178°.71W±0°.08,h547km, mb4.2/11,Error ellipse: s-maj=19.1km s-min=6.9km az=157.1*
*IDC **25** 05:12:20.1±1.8, 17°.46S×178°.76W,h550km±23km, mb3.6/10,mb1 3.8/12,mb1mx3.5/24,mbtmp3.6/12,Error ellipse: s-maj=27.9km s-min=11.4km az=151.0*
*AUST **25** 05:12:21.1±0.0, 17°.65S×178°.39W,h589km,Error ellipse: s-maj=2.7km s-min=1.6km az=354.0*

ISC 25 05:12:19.7±0.6,17°.6S±0°.2×178°.66W±0°.09,h547km,n30, σ0§84/30,mb4.1/11,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.56**	**62**	P	**P**	**05 14 12.7**	**-0.4**
	8.0nm,0.3s,baz=68,slow=18,SNR=7.3						
AFI				S	**S**	**05 15 46.2**	**+0.2**
	1.1nm,0.3s,baz=168,slow=20,SNR=2.1						
NIUE	**Niue**	**8.43**	**102**	P	**P**	**05 14 21.6**	**0.0**
	baz=8.2,SNR=7.6						
DZM	**Mont Dzumac**	**14.72**	**250**	P	**P**	**05 15 27.3**	**+0.9**
	2.0nm,0.3s,baz=76,slow=16,SNR=23						
URZ	**Urewera**	**20.95**	**189**	P	**P**	**05 16 25.5**	**+1.1**
	7.5nm,0.7s,baz=304,slow=3.6,SNR=4.9						
ARMA	**Armidale**	**29.91**	**239**	P	**P**	**05 17 43.9**	**+0.2**
	baz=30,SNR=9.5						
RMQ	**Roma**	**31.41**	**248**	P	**P**	**05 17 57.0**	**+0.5**
	baz=32,SNR=6.7						
PATS	**Pohnpei**	**33.25**	**315**	S	S	05 22 37.0	-17
	baz=34,SNR=3.2						
CTA	**Charters Tower**	**33.27**	**260**	P	**P**	**05 18 12.5**	**+0.2**
	8.7nm,0.6s,baz=87,slow=11,SNR=9.6						
CNB	**Canberra Magne**	**33.45**	**232**	P	**P**	**05 18 13.6**	**-0.1**
	baz=34,SNR=12						
PMG	**Port Moresby**	**34.17**	**279**	P	**P**	**05 18 21.8**	**+1.9**
	17nm,0.9s,baz=58,slow=10,SNR=4.3						
CMSA	**Cobar Meteorol**	**35.11**	**240**	P	**P**	**05 18 27.3**	**-0.3**
	baz=35,SNR=9.6						
MTSU	**Mount Surprise**	**35.21**	**263**	P	**P**	**05 18 29.1**	**+0.5**
	baz=35,SNR=6.8						
QLP	**Quilpie**	**35.44**	**249**	P	**P**	**05 18 30.1**	**-0.3**
	baz=36,SNR=13						
COEN	**Coen**	**36.87**	**270**	P	**P**	**05 18 43.7**	**+1.4**
	baz=37,SNR=9.3						
STKA	**Stephens Creek**	**38.59**	**241**	P	**P**	**05 18 56.1**	**0.0**
	14nm,0.5s,baz=93,slow=9.2,SNR=34						
STKA	**Stephens Creek**	**38.59**	**241**	P	**P**	**05 18 56.2**	**0.0**
	baz=39,SNR=26						
BBOO	**Buckleboo**	**43.37**	**241**	P	**P**	**05 19 33.4**	**-0.7**
	baz=44,SNR=16						
WRA	**Warramunga Arr**	**44.46**	**259**	P	**P**	**05 19 41.9**	**-0.9**
	8.3nm,0.7s,baz=94,slow=6.9,SNR=125						
WRA				PcP	**PcP**	**05 21 12.9**	**-1.5**
	0.9nm,0.7s,baz=92,slow=3.3,SNR=3.3						
ASAR	**Alice Springs**	**44.66**	**254**	P	**P**	**05 19 43.9**	**-0.3**
	66nm,0.6s,baz=88,slow=8.4,SNR=765						
KDU	**Kakadu**	**47.33**	**269**	P	**P**	**05 20 04.7**	**+0.1**
	baz=48,SNR=7.3						
KNRA	**Kununurra**	**50.29**	**264**	P	**P**	**05 20 26.4**	**-0.1**
	baz=50,SNR=5.9						
FITZ	**Fitzroy Crossi**	**52.85**	**260**	P	**P**	**05 20 44.5**	**-0.4**
	1.3nm,0.3s,baz=140,slow=4.1,SNR=15						
MEEK	**Meekatharra**	**58.33**	**249**	P	**P**	**05 21 21.5**	**-1.4**
	baz=58,SNR=6.0						
KLBR	**Kellerberrin**	**58.77**	**243**	P	**P**	**05 21 24.2**	**-1.5**
	baz=59,SNR=9.4						
NWAO	**Narrogin (SRO)**	**59.16**	**242**	P	**P**	**05 21 27.1**	**-1.3**
	10nm,0.9s,baz=49,slow=9.3,SNR=4.8						
NVAR	**Mina Array Bea**	**79.34**	**44**	P	**P**	**05 23 29.6**	**+0.3**
	2.3nm,0.8s,baz=225,slow=8.6,SNR=18						
ILAR	**Eielson Array**	**85.61**	**13**	P	**P**	**05 23 59.5**	**-0.5**
	0.6nm,0.4s,baz=226,slow=5.1,SNR=15						
TXAR	**Lajitas Array**	**86.01**	**58**	P	**P**	**05 24 03.6**	**+0.8**
	1.8nm,0.7s,baz=221,slow=5.9,SNR=16						
PDAR	**Pinedale Array**	**87.27**	**44**	P	**P**	**05 24 08.8**	**+0.1**
	1.3nm,0.6s,baz=225,slow=3.6,SNR=14						
BRTR	**Keskin Array B**	**144.37**	**315**	PKP	PKPbc	05 30 53.7	-0.4
	0.8nm,0.8s,baz=132,slow=2.1,SNR=4.3						

*IDC **25** 06:16:41.5±6.7,6°.90S×129°.90E,h89km±57km,mb3.6/3, mb1 4.0/7,mb1mx3.7/21,mbtmp3.9/7,ML4.5/4,Error ellipse: s-maj=78.2km s-min=21.9km az=57.0*
*ISCJB **25** 06:16:42.6±0.5,7°.06S±0°.05×129°.82E±0°.04,h104km, mb3.7/3,Error ellipse: s-maj=7.4km s-min=5.3km az=138.1*
*AUST **25** 06:16:44.6±0.0,7°.01S×129°.80E,h101km,Error ellipse: s-maj=1.1km s-min=0.7km az=315.0*

ISC 25 06:16:43.6±0.7,7°.09S±0°.06×129°.83E±0°.06,h104km,n19, σ2§16/23,mb3.7/3,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLE	**Tual**	**3.23**	**64**	P	Pn	06 17 37.0	+4.5
	baz=3.2,SNR=15						
TLE				S	**Sn**	**06 18 12.4**	**+2.0**
	baz=3.2,SNR=5.6						
FAKI	**Fak Fak**	**4.79**	**30**	P	**Pn**	**06 17 53.7**	**+0.1**
	baz=4.8,SNR=25						
FAKI				S	**Sn**	**06 18 45.3**	**-2.8**
	baz=4.8,SNR=13						
SOEI	**Soe**	**6.10**	**244**	P	**Pn**	**06 18 13.9**	**+2.4**
	baz=6.1,SNR=9.6						
SOEI				S	**Sn**	**06 19 20.9**	**+0.9**
	baz=6.1,SNR=4.4						
KDU	**Kakadu**	**6.14**	**155**	P	**Pn**	**06 18 14.1**	**+2.2**
	baz=6.3,SNR=109						
KDU				S	**Sn**	**06 19 19.9**	**-0.9**
	baz=6.3,SNR=10						
SWI	**Sorong**	**6.35**	**13**	P	**Pn**	**06 18 14.5**	**-0.2**
	baz=6.3,SNR=23						
SWI				S	**Sn**	**06 19 22.9**	**-2.9**
	baz=6.3,SNR=3.5						
BATI	**Baumata**	**6.83**	**243**	P	**Pn**	**06 18 23.0**	**+1.7**
	22nm,0.3s,baz=142,slow=8.9,SNR=7.8						
BATI				S	**Sn**	**06 19 37.4**	**-0.3**
	18nm,0.3s,baz=78,slow=20,SNR=6.2						
KNRA	**Kununurra**	**8.60**	**187**	P	**Pn**	**06 18 46.2**	**+0.9**
	baz=8.7,SNR=28						
KNRA				S	**Sn**	**06 20 16.0**	**-4.6**
	baz=8.7,SNR=15						
WSI	**Waingapu**	**9.77**	**254**	P	**Pn**	**06 19 03.0**	**+1.9**
	baz=9.8,SNR=8.7						
WSI				S	Sn	06 20 36.5	-13
	baz=9.8,SNR=3.5						
FITZ	**Fitzroy Crossi**	**11.68**	**200**	P	**Pn**	**06 19 25.9**	**-1.1**
	2.0nm,0.3s,baz=30,slow=11,SNR=77						
FITZ				S	Sn	06 21 26.5	-9.1
	4.4nm,0.3s,baz=99,slow=21,SNR=10.0						
FITZ	**Fitzroy Crossi**	**11.68**	**200**	P	Pn	06 19 30.8	+3.8
	baz=12,SNR=3.1						
FITZ				S	**Sn**	**06 21 31.3**	**-4.3**
	baz=12,SNR=4.9						
WRA	**Warramunga Arr**	**13.51**	**162**	P	**Pn**	**06 19 49.7**	**-1.4**
	1.9nm,0.3s,baz=333,slow=15,SNR=48						
WRA				S	Sn	06 22 11.6	-8.3
	3.9nm,0.3s,baz=343,slow=20,SNR=12						
COEN	**Coen**	**14.79**	**119**	P	**P**	**06 20 11.3**	**+0.4**
	baz=15,SNR=7.6						
ASAR	**Alice Springs**	**16.94**	**167**	P	**Pn**	**06 20 35.0**	**+0.6**
	1.4nm,0.3s,baz=341,slow=9.3,SNR=39						
MEEK	**Meekatharra**	**22.18**	**207**	P	P	06 21 49.8	+18
	baz=22,SNR=3.9						
RABL	**Rabaul**	**22.41**	**84**	P	P	06 21 22.7	-11
	baz=22,SNR=4.7						
QLP	**Quilpie**	**23.75**	**146**	P	**P**	**06 21 48.9**	**+2.4**
	baz=24,SNR=3.7						
STKA	**Stephens Creek**	**27.00**	**158**	P	**P**	**06 22 17.6**	**+1.7**
	4.2nm,0.8s,baz=347,slow=9.7,SNR=5.8						
MKAR	**Makanchi Array**	**68.20**	**327**	P	**P**	**06 27 31.6**	**-1.4**
	0.3nm,0.3s,baz=119,slow=7.5,SNR=11						
VNDA	**Vanda**	**72.38**	**173**	P	**P**	**06 27 58.3**	**+0.4**
	0.3nm,0.5s,baz=339,slow=7.4,SNR=4.6						

IDC 25 06:44:37.9±1.0,9°.64N×39°.83W,h0km,mb3.8/7, mb1 4.0/7,mb1mx3.8/23,mbtmp3.8/7,MS3.3/1,Ms1 3.3/1, ms1mx2.7/22,Error ellipse: s-maj=39.2km s-min=21.3km az=167.0,Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**34.74**	**92**	P	P	06 51 29.9	-0.3
	1.1nm,0.5s,baz=266,slow=8.5,SNR=2.6						
LPAZ	**La Paz**	**38.05**	**228**	P	P	06 51 59.3	0.0
	1.2nm,0.7s,baz=304,slow=6.2,SNR=7.5						
CPUP	**Villa Florida**	**39.59**	**205**	LR	LR	07 07 09.2	
	comp=Z,40nm,19.0s,baz=116,slow=34						
TORD	**Torodi Ar. Bea**	**40.83**	**81**	P	P	06 52 21.6	-0.2
	2.4nm,0.6s,baz=278,slow=9.5,SNR=14						
TXAR	**Lajitas Array**	**62.56**	**298**	P	P	06 55 03.7	-0.6
	0.5nm,0.7s,baz=103,slow=5.4,SNR=4.7						
AKASG	**Malin Array Be**	**69.36**	**39**	P	P	06 55 48.0	+0.5
	0.3nm,0.3s,baz=252,slow=7.7,SNR=3.4						
BRTR	**Keskin Array B**	**71.20**	**51**	P	P	06 55 58.9	-0.3
	1.0nm,0.8s,baz=232,slow=6.1,SNR=5.2						
ILAR	**Eielson Array**	**88.49**	**336**	P	P	06 57 32.4	+0.3
	0.5nm,0.8s,baz=67,slow=3.8,SNR=4.3						

IDC 25 06:50:42.4±2.0,4°.79N×127°.28E,h0km,mb3.6/4, mb1 3.8/4,mb1mx3.5/24,mbtmp3.6/4,Error ellipse: s-maj=108.6km s-min=25.8km az=70.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.80**	**184**	P	P	06 55 47.7	+0.8
	1.4nm,0.8s,baz=5.1,slow=13,SNR=6.1						
WRA	**Warramunga Arr**	**25.54**	**164**	P	P	06 56 12.8	-0.2
	1.5nm,0.6s,baz=344,slow=10.0,SNR=21						
ASAR	**Alice Springs**	**29.01**	**167**	P	P	06 56 43.7	-0.5
	0.2nm,0.5s,baz=353,slow=7.8,SNR=4.2						
MKAR	**Makanchi Array**	**57.01**	**325**	P	P	07 00 30.0	-0.1
	0.2nm,0.4s,baz=110,slow=6.9,SNR=4.7						

*NEIC **25** 07:14:36.6±0.3,1°.65S×99°.54E,h10km,mb4.5/13,Error ellipse: s-maj=10.5km s-min=6.8km az=70.0*
*ISCJB **25** 07:14:38.2±0.3,1°.64S±0°.03×99°.48E±0°.04,h30km, mb4.5/30,MS3.6/2,Error ellipse: s-maj=5.9km s-min=4.0km az=136.5*
*DJA **25** 07:14:38.9±1.0,2°.5±3°.×10°.0E±°,h12km±9km,M4.7/13, mb4.8/9,mB5.2/5,MLv4.8/13,Mw(mB)4.5/5*
*AUST **25** 07:14:40.7±1.2,1°.59S×99°.59E,h37km,Error ellipse: s-maj=2.1km s-min=0.8km az=244.0*
*BJI **25** 07:14:40.1,1°.30S×99°.60E,h28km,mB5.0/4,mb4.7/10, Ms4.3/2,Ms7 4.1/2*
*IDC **25** 07:14:41.4±2.8,1°.53S×99°.61E,h41km±25km,mb4.2/19, mb1 4.3/21,mb1mx4.1/27,mbtmp4.2/21,ML4.2/2,MS3.2/2, Ms1 3.2/2,ms1mx2.7/33,Error ellipse: s-maj=16.1km s-min=11.4km az=49.0*
*BKK **25** 07:14:49.2±0.7,1°.5±6°.×10°.0E±°,h10km,M4.5/9,mB4.2/1, mb4.5/9,MLv4.4/5,Mw(mB)3.3/1*

ISC 25 07:14:40.1±0.4,1°.54S±0°.05×99°.59E±0°.05,h30km,n127, σ1§25/128,mb4.5/30,MS3.7/3,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.07**	**54**	P	**Pn**	**07 14 58.6**	**-0.5**
PPI	**Padang Panjang**	**1.34**	**37**	P	**Pn**	**07 15 02.8**	**0.0**
PPI	**Padang Panjang**	**1.34**	**37**	P	**Pn**	**07 15 02.9**	**+0.1**
	baz=1.4,SNR=148						
BKNI	**Bangkinang**	**2.35**	**38**	P	**Pn**	**07 15 18.1**	**+1.4**
BKNI	**Bangkinang**	**2.35**	**38**	P	**Pn**	**07 15 18.3**	**+1.6**
	baz=2.4,SNR=38						
RGRI	**Rengat**	**2.99**	**67**	P	**Pn**	**07 15 26.7**	**+1.2**
RGRI				S	**Sb**	**07 16 06.1**	**-2.6**
MASI	**Maura Aman, Be**	**3.09**	**121**	P	**Pn**	**07 15 28.3**	**+1.4**
PSI	**Prapat**	**4.36**	**351**	P	**Pn**	**07 15 43.6**	**-0.9**
PSI	**Prapat**	**4.36**	**351**	P	**Pn**	**07 15 43.6**	**-0.9**
	2.0nm,0.3s,baz=156,slow=9.9,SNR=10						
PSI				LR	LR	07 17 14.7	
	comp=Z,208nm,20.0s,baz=174,slow=36						
PSI	**Prapat**	**4.36**	**351**	P	**Pn**	**07 15 46.2**	**+1.6**
	baz=4.3,SNR=5.3						
MNAI	**Manna**	**4.38**	**130**	P	**Pn**	**07 15 45.8**	**+1.2**
MNAI				S	**Sn**	**07 16 36.8**	**+2.2**
MNAI	**Manna**	**4.38**	**130**	P	**Pn**	**07 15 45.5**	**+0.9**
	baz=4.4,SNR=36						
MNAI				S	**Sn**	**07 16 34.3**	**-0.4**
	baz=4.4,SNR=7.7						
KGM	**Kluang**	**5.13**	**47**	P	**Pn**	**07 15 56.9**	**+1.8**
FRIM	**Kepong**	**5.16**	**23**	P	**Pn**	**07 15 56.8**	**+1.4**
KCSI	**Kotacane, Aceh**	**5.34**	**340**	P	**Pn**	**07 15 58.3**	**+0.3**
	62nm,1.1s,2μm0.6nm						
MYKOM	**Kota Tinggi**	**5.39**	**52**	P	Pn	07 16 02.7	+4.1
MYKOM	**Kota Tinggi**	**5.39**	**52**	P	Pn	07 16 02.0	+3.4
	42nm,1.1s,948nm0.4nm						
MDSI	**Maura Dua**	**5.44**	**123**	P	**Pn**	**07 16 00.7**	**+1.5**
	65nm,0.8s,1μm0.3nm						
LWLI	**Liwa**	**5.64**	**128**	P	**Pn**	**07 16 03.2**	**+1.1**
	302nm,0.7s,16μm1.4nm						
IPM	**Ipoh**	**6.15**	**13**	*e*Pn	**Pn**	**07 16 11.8**	**+2.8**
	67nm,1.0s						
IPM	**Ipoh**	**6.15**	**13**	P	**Pn**	**07 16 11.9**	**+3.0**
IPM	**Ipoh**	**6.15**	**13**	P	**Pn**	**07 16 12.1**	**+3.1**
	76nm,1.1s,0.3nm						
KASI	**Kota Agung**	**6.30**	**129**	P	**Pn**	**07 16 11.4**	**+0.4**
	107nm,0.8s,2μm0.4nm						
KULM	**Kulim**	**6.87**	**9**	*e*Pn	**Pn**	**07 16 19.8**	**+0.9**
	41nm,0.9s						
KULM	**Kulim**	**6.87**	**9**	P	**Pn**	**07 16 19.6**	**+0.8**
KULM	**Kulim**	**6.87**	**9**	P	**Pn**	**07 16 20.0**	**+1.2**
	51nm,0.9s,0.2nm						
KTGM	**Kuala Trenggan**	**7.68**	**27**	P	**Pn**	**07 16 32.7**	**+2.6**
KTGM	**Kuala Trenggan**	**7.68**	**27**	P	**Pn**	**07 16 32.7**	**+2.6**
SKLT	**Songkhla**	**8.71**	**7**	P	**Pn**	**07 16 46.7**	**+2.5**
	58nm,1.1s						
SKLT	**Songkhla**	**8.71**	**7**	P	Pn	07 16 50.2	+6.0
	58nm,1.1s						
CISI	**Cisompet, Garu**	**10.14**	**126**	P	**Pn**	**07 17 01.7**	**-2.2**
CISI	**Cisompet, Garu**	**10.14**	**126**	P	**Pn**	**07 17 01.9**	**-2.0**
	baz=10,SNR=3.6						
KSM	**Kuching**	**11.13**	**74**	P	Pn	07 17 34.9	+18
SBUM	**Sibu**	**13.23**	**73**	P	P	07 17 51.4	-4.3
BTM	**Bintulu**	**14.29**	**71**	P	**P**	**07 18 08.1**	**+0.7**
SUKH	**Sukhothai**	**18.90**	**0**	P	**Pn**	**07 19 02.2**	**+3.0**
	2.9nm,1.0s,127nm						
SDKM	**Sandakan**	**18.97**	**68**	P	**Pn**	**07 19 01.2**	**+1.1**
TSM	**Tawau**	**19.16**	**72**	P	**Pn**	**07 19 03.9**	**+1.4**
CMAR	**Chiang Mai Arr**	**19.88**	**358**	P	**P**	**07 19 07.4**	**-1.8**
CMAR	**Chiang Mai Arr**	**19.88**	**358**	P	**P**	**07 19 07.4**	**-1.8**
	1.0nm,0.3s,baz=189,slow=10,SNR=18						
LAMP	**Lampang**	**19.93**	**0**	P	Pn	07 19 17.2	+5.6
	5.1nm,0.9s						
MYLDM	**Lahad Datu**	**20.03**	**70**	P	Pn	07 19 15.2	+2.4
CHTO	**Chiang Mai**	**20.23**	**358**	*e*P	Pn	07 19 16.0	+0.9
	16nm,0.8s						
CHTO	**Chiang Mai**	**20.23**	**358**	P	Pn	07 19 17.8	+2.7
KAPI	**Kappang**	**20.42**	**100**	*e*P	Pn	07 19 16.6	-0.7
	32nm,1.1s						
KAPI	**Kappang**	**20.42**	**100**	P	**P**	**07 19 15.9**	**+0.9**
	17nm,0.9s,baz=307,slow=6.6,SNR=6.3						
WSI	**Waingapu**	**22.12**	**112**	P	P	07 19 41.5	+8.1
	baz=22,SNR=4.4						
WSI				S	S	07 23 06.2	-30
	baz=22,SNR=4.8						
QIZ	**Qiongzhong**	**22.79**	**26**	P	**P**	**07 19 41.5**	**+1.0**
QIZ				S	**S**	**07 23 45.3**	**-2.5**
QIZ				pmax	pmax		
	comp=Z,49nm,2.1s						
QIZ				LR	LR		
	comp=Z,280nm,20.6s						
SHL	**Shillong**	**27.96**	**345**	*e*P	**P**	**07 20 29.0**	**+0.6**
FITZ	**Fitzroy Crossi**	**30.41**	**124**	P	**P**	**07 20 49.0**	**-1.1**
	baz=30,SNR=6.2						
ODAN	**Odare**	**30.59**	**338**	*e*P	**P**	**07 20 51.4**	**-0.4**
TAPN	**Taplejung**	**30.92**	**339**	*e*P	**P**	**07 20 55.5**	**+0.8**
	comp=Z,35nm,0.9s						
RAMN	**Ramite**	**30.97**	**337**	*e*P	**P**	**07 20 55.3**	**+0.2**
JIRN	**Jiri**	**31.76**	**337**	*e*P	**P**	**07 21 03.0**	**+0.7**
	comp=Z,23nm,0.8s						
PKIN	**Phulchoki**	**32.01**	**336**	*e*P	**P**	**07 21 04.6**	**+0.3**
LSA	**Lhasa**	**32.09**	**346**	P	P	07 21 00.5	-4.8
LSA	**Lhasa**	**32.09**	**346**	*e*P	**P**	**07 21 05.8**	**+0.6**
	comp=Z,8.0nm,0.6s						
GUN	**Gumba**	**32.11**	**337**	*e*P	**P**	**07 21 05.9**	**+0.6**
	comp=Z,16nm,0.4s						
DMN	**Daman**	**32.16**	**335**	*e*P	**P**	**07 21 06.6**	**+1.0**
KKN	**Kakani**	**32.24**	**336**	*e*P	**P**	**07 21 06.6**	**+0.3**
	comp=Z,10nm,0.7s						
GKN	**Gorkha**	**32.70**	**335**	*e*P	**P**	**07 21 11.0**	**+0.8**
	comp=Z,5.9nm,0.4s						
KOLN	**Koldanda**	**32.95**	**333**	*e*P	**P**	**07 21 13.4**	**+0.9**
	comp=Z,10.0nm,0.7s						
DANN	**Dangsing**	**33.38**	**334**	*e*P	**P**	**07 21 17.1**	**+0.8**
	comp=Z,19nm,0.9s						
WRA	**Warramunga Arr**	**38.58**	**121**	P	**P**	**07 21 59.2**	**-1.5**
WRA				PcP	**PcP**	**07 24 13.0**	**0.0**
WRA	**Warramunga Arr**	**38.58**	**121**	P	**P**	**07 21 59.2**	**-1.5**
	comp=Z,7.8nm,0.8s,baz=302,slow=9.0,SNR=96						
WRA				PcP	**PcP**	**07 24 13.0**	**0.0**
	comp=Z,0.8nm,1.0s,baz=312,slow=2.4,SNR=3.7						
WRAB	**Tennant Creek**	**38.58**	**121**	*e*P	**P**	**07 21 59.0**	**-1.7**
	comp=Z,13nm,0.7s						
ASAR	**Alice Springs**	**39.85**	**126**	P	**P**	**07 22 10.7**	**-0.6**
ASAR				PcP	**PcP**	**07 24 17.4**	**+0.4**
ASAR				S	**S**	**07 28 12.7**	**-1.7**
ASAR	**Alice Springs**	**39.85**	**126**	P	**P**	**07 22 10.7**	**-0.6**
	comp=Z,5.2nm,0.6s,baz=303,slow=7.9,SNR=88						
ASAR				PcP	**PcP**	**07 24 17.4**	**+0.4**
	comp=Z,1.1nm,0.9s,baz=291,slow=2.8,SNR=3.1						
ASAR				S	**S**	**07 28 12.7**	**-1.7**
	comp=Z,1.0nm,1.0s,baz=300,slow=15,SNR=5.1						
GTA	**Gaotai**	**40.75**	**0**	*e*P	**P**	**07 22 21.0**	**+2.4**
GTA				pP	**pP**	**07 22 24.8**	**-2.7**
GTA				sP	**sP**	**07 22 27.8**	**-3.4**
GTA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
JNU	**Nakatsue**	**45.38**	**38**	*e*P	**P**	**07 22 55.6**	**-0.4**
	comp=Z,3.4nm,0.7s						
WMQ	**Urumqi**	**46.40**	**348**	P	**P**	**07 23 05.0**	**+1.0**
WMQ				pP	**pP**	**07 23 15.0**	**+2.0**
WMQ				sP	**sP**	**07 23 19.0**	**+2.4**
WMQ				pmax	pmax		
	comp=Z,21nm,1.0s						
WMQ				pmax	pmax		
	comp=Z,150nm,5.4s						
WMQ				LR	LR		
	comp=E,100nm,28.0s						
KSAR	**Wonju Array Be**	**46.81**	**31**	P	**P**	**07 23 06.7**	**-0.5**
KSRS	**Korea Array**	**46.84**	**31**	P	**P**	**07 23 06.7**	**-0.7**
	comp=E,3.1nm,0.8s,baz=224,slow=8.8,SNR=12						
KSRS				LR	LR	07 42 45.3	
	comp=E,45nm,19.9s,baz=225,slow=36						
CTAO	**Charters Tower**	**49.16**	**115**	*e*P	**P**	**07 23 24.9**	**-0.9**
	comp=E,4.1nm,0.7s						
TKM2	**Tokmak 2**	**49.25**	**337**	*e*P	**P**	**07 23 26.9**	**+0.6**
	comp=E,3.7nm,0.7s						
AAK	**Ala-Archa**	**49.45**	**336**	*e*P	**P**	**07 23 28.1**	**+0.3**
	comp=E,4.2nm,1.0s						
SONM	**Songino Array**	**49.53**	**6**	P	**P**	**07 23 28.5**	**+0.2**
SONM				PcP	**PcP**	**07 24 49.1**	**-0.7**
SONM	**Songino Array**	**49.53**	**6**	P	**P**	**07 23 28.5**	**+0.2**
	comp=E,2.9nm,0.7s,baz=188,slow=9.2,SNR=19						
SONM				PcP	**PcP**	**07 24 49.1**	**-0.7**
	comp=E,1.2nm,0.7s,baz=178,slow=4.5,SNR=3.6						
QLP	**Quilpie**	**49

IDC 25 07:26:42.1±2.1, 3°.23N×129°.08E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.6/22, mbtmp3.8/4, MS4.1/1, Ms1 4.1/1, ms1mx2.7/27, Error ellipse: s-maj=147.1km s-min=24.6km az=67.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**14.39**	**202**	LR	LR	07 35 56.4	
	comp=Z,619nm,18.2s,baz=290,slow=38						
WRA	**Warramunga Arr**	**23.60**	**168**	P	P	07 31 54.8	0.0
	2.4nm,0.8s,baz=348,slow=10,SNR=19						
ASAR	**Alice Springs**	**27.14**	**170**	P	P	07 32 26.2	-1.0
	0.3nm,0.4s,baz=354,slow=8.3,SNR=6.4						
STKA	**Stephens Creek**	**36.88**	**162**	P	P	07 33 53.0	+0.4
	3.8nm,1.0s,baz=329,slow=9.0,SNR=2.7						
MKAR	**Makanchi Array**	**59.32**	**324**	P	P	07 36 46.2	+0.2
	0.5nm,0.6s,baz=121,slow=6.3,SNR=5.2						

NNC 25 07:50:22.1±5.3, 53°.97N×86°.76E, h0km, mb4.0, mpv3.5, 8C-6D, Error ellipse: s-maj=42.6km s-min=27.3km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**5.95**	**240**	⇓Pn	Pn	07 51 53.1	+1.7
	3.3nm,0.7s						
KURK				⇑Sn	Sn	07 53 06.5	+6.2
	4.2nm,0.8s						
KURK				⇑Lg	Lg	07 53 36.0	
	10nm,0.9s						
KURBB	**Kurchatov Arra**	**6.05**	**240**	⇑Pn	Pn	07 51 54.8	+2.0
	7.6nm,0.5s						
KURBB				⇑Sn	Sn	07 53 05.4	+2.6
	17nm,0.7s						
KURBB				⇑Lg	Lg	07 53 42.7	
	15nm,0.7s						
MK31	**Makanchi Array**	**7.73**	**203**	Pn	Pn	07 52 19.6	+3.8
	0.4nm,0.3s,baz=30,slow=14,SNR=12						
MK31				⇓Sn	Sn	07 53 47.3	+3.3
	1.7nm,0.7s,baz=29,slow=28,SNR=4.4						
MK31				⇓Lg	Lg	07 54 32.5	
	9.6nm,0.8s,baz=27,slow=28,SNR=4.8						
VOSK	**Vostochnaya**	**9.52**	**269**	⇓Pn	Pn	07 52 40.4	0.0
	2.9nm,0.8s						
VOSK				⇓Sn	Sn	07 54 21.9	-6.0
	8.0nm,0.8s						
BVA0	**Borovoye Array**	**9.80**	**271**	⇑Pn	Pn	07 52 41.4	-2.8
	1.0nm,0.5s,baz=60,slow=17,SNR=5.5						
BVA0				⇑Sn	Sn	07 54 34.0	-0.8
	2.8nm,0.8s						
BRVK	**Borovoye**	**9.86**	**271**	⇓Pn	Pn	07 52 44.1	-0.8
	5.4nm,1.1s						
BRVK				⇑Sn	Sn	07 54 32.8	-3.4
	6.4nm,1.1s						

*IDC **25** 07:56:43.3±1.2, 55°.27N×157°.93W, h0km, mb3.8/6, mb1 3.9/9, mb1mx3.7/28, mbtmp3.8/9, ML3.8/3, Error ellipse: s-maj=30.3km s-min=18.9km az=2.0*
*ISCJB **25** 07:56:47.1±0.7, 55°.29N±0°.06×157°.50W±0°.07, h33km, mb3.8/6, Error ellipse: s-maj=9.2km s-min=5.3km az=159.5*
*NEIC **25** 07:56:47.7, 55°.34N×157°.49W, h27km, ML3.6(AEIC), After AEIC.*

ISC 25 07:56:48.9±0.8, 55°.41N±0°.08×157°.51W±0°.06, h35km, n31, σ1§27/34, mb3.8/6, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHGN	**Chignik**	**1.03**	**331**	P	**Pn**	**07 57 06.2**	**-0.5**
CHGN				S	**Sn**	**07 57 20.1**	**+0.3**
VNHG	**Veniaminof 1**	**1.23**	**312**	P	**Pn**	**07 57 10.0**	**+0.3**
VNWF	**Veniaminof 8**	**1.38**	**303**	P	**Pn**	**07 57 12.0**	**+0.4**
VNFG	**Veniaminof 2**	**1.45**	**308**	P	**Pn**	**07 57 13.7**	**+1.1**
SDPT	**Sand Point**	**1.69**	**269**	P	**Pn**	**07 57 15.0**	**-0.9**
SDPT				S	**Sn**	**07 57 38.3**	**+2.0**
PLK4	**Peulik 4**	**2.31**	**16**	P	**Pn**	**07 57 26.1**	**+1.6**
PLK3	**Peulik 3**	**2.38**	**16**	P	**Pn**	**07 57 27.1**	**+1.7**
PLK3				S	Sn	07 57 58.4	+5.0
PLK5	**Peulik 5**	**2.62**	**7**	P	**Pn**	**07 57 30.1**	**+1.5**
OHAK	**Old Harbor**	**2.97**	**51**	P	**Pn**	**07 57 33.9**	**+0.4**
MGLS	**Mageik Landsli**	**3.02**	**24**	P	**Pn**	**07 57 35.3**	**+1.2**
KABR	**Katmai Barrier**	**3.06**	**26**	P	**Pn**	**07 57 35.9**	**+1.1**
KELA	**Mount Kelaz**	**3.19**	**17**	P	**Pn**	**07 57 37.1**	**+0.6**
FALS	**False Pass**	**3.43**	**263**	P	**Pn**	**07 57 39.1**	**-0.7**
FALS				S	**Sn**	**07 58 19.5**	**+0.3**
KDAK	**Kodiak Island**	**3.62**	**47**	Pn	**Pn**	**07 57 42.8**	**+0.6**
KDAK				Pg		07 57 57.5	
KDAK				Lg	Lg	07 58 44.3	
KDAK	**Kodiak Island**	**3.62**	**47**	Pn	**Pn**	**07 57 42.8**	**+0.6**
	1.5nm,0.3s,baz=152,slow=16,SNR=15						
KDAK				Pg		07 57 57.5	
	18nm,0.3s,baz=259,slow=10.0,SNR=26						
KDAK				Lg	Lg	07 58 44.3	
	0.5nm,0.3s,baz=124,slow=23,SNR=3.4						
ILAR	**Eielson Array**	**10.76**	**25**	Pn	**Pn**	**07 59 17.9**	**-2.4**
ILAR				Sn	Sn	08 01 10.8	-8.4
ILAR	**Eielson Array**	**10.76**	**25**	Pn	**Pn**	**07 59 17.9**	**-2.4**
	0.3nm,0.3s,baz=218,slow=13,SNR=14						
ILAR				Sn	Sn	08 01 10.8	-8.4
	0.1nm,0.3s,baz=222,slow=19,SNR=2.3						
INK	**Inuvik**	**17.00**	**31**	P	**Pn**	**08 00 43.6**	**+0.1**
INK	**Inuvik**	**17.00**	**31**	P	**Pn**	**08 00 43.6**	**+0.1**
	0.9nm,0.3s,baz=244,slow=12,SNR=22						
PETK	**Petropavlovsk-**	**25.92**	**284**	P	**P**	**08 02 16.0**	**-1.4**
PETK	**Petropavlovsk-**	**25.92**	**284**	P	**P**	**08 02 16.0**	**-1.4**
	2.3nm,0.8s,baz=104,slow=6.1,SNR=3.2						
PDAR	**Pinedale Array**	**33.17**	**92**	P	**P**	**08 03 23.4**	**+1.3**
PDAR	**Pinedale Array**	**33.17**	**92**	P	**P**	**08 03 23.4**	**+1.3**
	0.2nm,0.6s,baz=318,slow=5.3,SNR=2.6						
TXAR	**Lajitas Array**	**46.04**	**102**	P	**P**	**08 05 10.7**	**+1.7**
TXAR	**Lajitas Array**	**46.04**	**102**	P	**P**	**08 05 10.7**	**+1.7**
	0.7nm,0.7s,baz=302,slow=6.3,SNR=8.1						
SONM	**Songino Array**	**55.51**	**306**	P	**P**	**08 06 20.0**	**-0.2**
SONM	**Songino Array**	**55.51**	**306**	P	**P**	**08 06 20.0**	**-0.2**
	0.3nm,0.5s,baz=46,slow=6.2,SNR=2.6						
MKAR	**Makanchi Array**	**66.43**	**320**	P	**P**	**08 07 33.0**	**-1.2**
MKAR	**Makanchi Array**	**66.43**	**320**	P	**P**	**08 07 33.0**	**-1.2**
	1.6nm,0.4s,baz=41,slow=7.5,SNR=5.4						
AKASG	**Malin Array Be**	**74.11**	**356**	P	**P**	**08 08 19.6**	**-1.3**
AKASG	**Malin Array Be**	**74.11**	**356**	P	**P**	**08 08 19.6**	**-1.3**
	0.6nm,0.4s,baz=6.5,slow=5.7,SNR=3.9						

IDC 25 08:22:16.0±1.7, 17°.85S×178°.35W, h575km±22km, mb2.9/6, mb1 3.2/7, mb1mx3.0/19, mbtmp3.0/7, Error ellipse: s-maj=46.0km s-min=16.2km az=147.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.44**	**59**	P	P	08 24 09.6	+0.2
	1.9nm,0.3s,baz=222,slow=12,SNR=3.6						
AFI				S	S	08 25 42.1	+0.1
	1.1nm,0.3s,baz=66,slow=20,SNR=3.1						
WRA	**Warramunga Arr**	**44.69**	**259**	P	P	08 29 38.5	-0.5
	0.3nm,0.5s,baz=95,slow=7.4,SNR=8.3						
ASAR	**Alice Springs**	**44.86**	**254**	P	P	08 29 40.3	+0.1
	0.7nm,0.4s,baz=89,slow=8.8,SNR=24						
ASAR				PcP	PcP	08 31 08.6	-0.9
	0.3nm,0.4s,baz=108,slow=3.6,SNR=5.1						
MJAR	**Matsushiro Arr**	**67.89**	**323**	P	P	08 32 18.1	+0.2
	0.5nm,0.4s,baz=185,slow=6.8,SNR=4.2						
PETK	**Petropavlovsk-**	**73.63**	**345**	P	P	08 32 51.4	+0.1
	2.6nm,0.8s,baz=177,slow=7.9,SNR=3.3						
ILAR	**Eielson Array**	**85.81**	**13**	P	P	08 33 53.9	-0.9
	0.4nm,0.4s,baz=219,slow=5.1,SNR=13						
TXAR	**Lajitas Array**	**85.92**	**58**	P	P	08 33 56.8	+0.5
	0.5nm,0.8s,baz=220,slow=5.4,SNR=4.5						
BRTR	**Keskin Array B**	**144.78**	**315**	PKP	PKPdf	08 40 48.4	0.0
	0.6nm,0.6s,baz=145,slow=4.5,SNR=4.0						
GERES	**GERESS Array B**	**147.56**	**345**	PKPbc	PKPbc	08 40 55.8	-0.5
	0.7nm,0.5s,baz=35,slow=3.7,SNR=3.7						

MEX 25 08:45:05.1±0.3, 18°.18N×101°.33W, h80km±7km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.58**	**193**	*i* P	Pn	08 45 18.2	-1.4
ZIIG				*i* S	Sn	08 45 28.6	-1.6
ARIG	**Puente Sto Nin**	**0.94**	**84**	*e*P	Pn	08 45 22.3	-1.2
ARIG				*i* S	Sn	08 45 35.3	-1.9
CAIG	**El Cayaco**	**1.51**	**138**	*i* P	Pn	08 45 29.1	-1.5
CAIG				*i* S	Sn	08 45 48.2	-1.6
PLIG	**Platanillo**	**1.75**	**83**	*i* P	Pn	08 45 32.0	-1.8
PLIG				*i* S	Sn	08 45 54.4	-1.3

*ISCJB **25** 08:59:53.1±0.7, 64°.66N±0°.02×30°.6E±0°.1, h0km, Error ellipse: s-maj=6.8km s-min=3.2km az=177.7*
*IDC **25** 08:59:54.2±2.9, 64°.64N×31°.84E, h0km, mb1 3.2/4, mb1mx3.1/27, mbtmp3.2/4, ML2.4/4, Error ellipse: s-maj=34.7km s-min=12.7km az=103.0*
*HEL **25** 08:59:56.2±0.2, 64°.69N×30°.70E, h0km, ML1.8, Explosion*
*CSEM **25** 08:59:56.2, 64°.69N×30°.70E, h0km, ML1.8, Mining explosion. After HEL*

ISC 25 08:59:55.7±1.0, 64°.71N±0°.03×30°.76E±0°.06, h0km, n24, σ1§02/39, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KU6	**Riekki**	**1.38**	**345**	PG	**Pg**	**09 00 20.8**	**-1.2**
	baz=171						
KU6				SG	**Sg**	**09 00 39.6**	**-0.2**
KU6				MSG		09 00 39.6	
	comp=Z,4.8nm,0.2s						
KU6				RG	Rg	09 00 44.3	
KU6	**Riekki**	**1.38**	**345**	Pg	**Pg**	**09 00 20.8**	**-1.2**
KU6				Sg	**Sg**	**09 00 39.6**	**-0.2**
MSF	**Maaselka**	**1.41**	**330**	PG	**Pn**	**09 00 21.2**	**-1.4**
MSF				SG	**Sg**	**09 00 40.6**	**-0.3**
MSF	**Maaselka**	**1.41**	**330**	Pg	**Pn**	**09 00 21.2**	**-1.4**
MSF				Sg	**Sg**	**09 00 40.6**	**-0.3**
JOF	**Joensuu**	**1.81**	**172**	PG	**Pn**	**09 00 28.0**	**-0.1**
JOF				SG	**Sn**	**09 00 51.7**	**0.0**
JOF				MSG		09 00 51.7	
	comp=Z,5.1nm,0.4s						
JOF	**Joensuu**	**1.81**	**172**	Pg	**Pn**	**09 00 28.0**	**-0.1**
JOF				Sg	**Sn**	**09 00 51.7**	**0.0**
OUL	**Oulu**	**2.11**	**283**	PN	**Pn**	**09 00 32.7**	**+0.5**
	baz=94						
OUL				SG	**Sn**	**09 00 59.7**	**+0.7**
OUL	**Oulu**	**2.11**	**283**	Pn	**Pn**	**09 00 32.7**	**+0.5**
OUL				Sg	**Sn**	**09 00 59.7**	**+0.7**
RNF	**Rovaniemi**	**2.74**	**316**	PN	**Pn**	**09 00 42.7**	**+1.8**
RNF				SG	**Sg**	**09 01 24.4**	**+0.7**
RNF				MSG		09 01 24.4	
	comp=Z,4.8nm,0.4s						
RNF	**Rovaniemi**	**2.74**	**316**	Pn	**Pn**	**09 00 42.7**	**+1.8**
RNF				Sg	**Sg**	**09 01 24.4**	**+0.7**
SUF	**Sumiainen**	**2.86**	**228**	PN	**Pn**	**09 00 45.1**	**+2.6**
SUF				SG	**Sb**	**09 01 22.0**	**-1.1**
SUF				MSG		09 01 22.0	
	comp=Z,2.7nm,0.2s						
SUF	**Sumiainen**	**2.86**	**228**	Pn	**Pn**	**09 00 45.1**	**+2.6**
SUF				Sg	**Sb**	**09 01 21.9**	**-1.1**
VRF	**Varrio**	**3.09**	**352**	PN	**Pn**	**09 00 46.5**	**+0.8**
VRF				SG	**Sg**	**09 01 35.4**	**+0.5**
VRF				MSG		09 01 35.4	
	comp=Z,4.0nm,0.4s						
VRF	**Varrio**	**3.09**	**352**	Pn	**Pn**	**09 00 46.5**	**+0.8**
VRF				Sg	**Sg**	**09 01 35.4**	**+0.5**
SGF	**Sodankyl**	**3.24**	**330**	PN	**Pn**	**09 00 48.0**	**+0.2**
SGF	**Sodankyl**	**3.24**	**330**	Pn	**Pn**	**09 00 48.0**	**+0.2**
FIA0	**FINESS Array S**	**3.91**	**215**	SG	**Sg**	**09 02 00.5**	**-0.5**
FIA0				MSG		09 02 00.5	
	comp=Z,2.2nm,0.3s						
FIA0	**FINESS Array S**	**3.91**	**215**	Sg	**Sg**	**09 02 00.5**	**-0.5**
FINES	**FINESS Array B**	**3.91**	**215**	Pn	**Pn**	**09 00 57.5**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=36,slow=14,SNR=2.3						
FINES				Pg	**Pb**	**09 01 06.5**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=34,slow=15,SNR=2.0						
FINES				Lg	Lg	09 01 54.0	
	comp=Z,0.6nm,0.3s,baz=26,slow=25,SNR=3.8						
VAF	**Ylistaro**	**3.95**	**249**	PN	Pn	09 01 01.2	+3.8
VAF	**Ylistaro**	**3.95**	**249**	Pn	Pn	09 01 01.2	+3.8
ARCES	**ARCESS Array B**	**5.26**	**339**	Pn	**Pn**	**09 01 14.8**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=150,slow=12,SNR=1.7						
ARCES				Sn	**Sn**	**09 02 16.1**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=158,slow=22,SNR=2.1						
ARCES				Lg	Lg	09 02 36.7	
	comp=Z,0.6nm,0.3s,baz=158,slow=24,SNR=2.9						
HFS	**Hagfors**	**9.13**	**248**	Pn	**Pn**	**09 02 07.9**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=59,slow=14,SNR=1.2						
HFS				Sn	**Sn**	**09 03 51.4**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=62,slow=22,SNR=2.9						
HFS				Lg	Lg	09 04 41.0	
	comp=Z,0.2nm,0.3s,baz=56,slow=30,SNR=3.8						
NOA	**NORSAR Array B**	**9.63**	**257**	Pn	**Pn**	**09 02 15.5**	**0.0**
	comp=Z,0.1nm,0.3s,baz=54,slow=13,SNR=1.7						
NOA				Lg	Lg	09 04 55.4	
	comp=Z,0.2nm,0.3s,baz=36,slow=8.3,SNR=2.6						

*MOS **25** 09:06:10.8±1.0, 6°.26S×130°.13E, h108km, mb5.8/39, MS4.4/8, Error ellipse: s-maj=9.4km s-min=5.4km az=115.1*
*AUST **25** 09:06:11.4, 6°.48S×130°.03E, h100km*
*ISCJB **25** 09:06:12.3±0.3, 6°.38S±0°.02×130°.32E±0°.02, h133km±2km, mb5.6/174, Error ellipse: s-maj=3.3km s-min=3.1km az=14.6*
*NEIC **25** 09:06:12.8±0.0, 6°.86S×130°.38E, h98km, Moment Tensor Solution. s124 Moment tensor: Scale 10^{17}Nm; M_{rr}2.37; $M_{\theta\theta}$-3.35; $M_{\phi\phi}$0.98; $M_{r\theta}$0.54; $M_{\theta\phi}$-0.05; $M_{\phi r}$0.95; Best double couple: $M_0$3.10000×10^{17} NP1:ϕ_s294.00000°, δ46.00000°, λ128.00000°. NP2:ϕ_s66.00000°, δ56.00000°, λ58.00000°. Principal axes: T 2.8900, Plg63.0000°, Azm279.0000°; N 0.5200, Plg26.0000°, Azm85.0000°; P -3.4000, Plg5.0000°, Azm178.0000°;*
*NEIC **25** 09:06:13.2±0.6, 6°.37S×130°.22E, h123km±5km, mb5.6/45, MW5.5, MW5.6 Error ellipse: s-maj=4.5km s-min=3.4km az=59.0, Moment Tensor Solution. s23 Moment tensor: Scale 10^{17}Nm; M_{rr}1.44; $M_{\theta\theta}$-2.51; $M_{\phi\phi}$1.06; $M_{r\theta}$0.63; $M_{\theta\phi}$-0.17; $M_{\phi r}$1.07; Best double couple: $M_0$2.50000×10^{17} NP1:ϕ_s56.00000°, δ65.00000°, λ48.00000°. NP2: ϕ_s301.00000°, δ48.00000°, λ145.00000°. Principal axes: T 2.3700, Plg50.0000°, Azm277.0000°; N 0.2600, Plg37.0000°, Azm76.0000°; P -2.6400, Plg10.0000°, Azm174.0000°;*
NEIC Felt [III] at Saumlaki, Indonesia. Also felt at Darwin, Australia.
*BKK **25** 09:06:13.3±0.4, 6°.S±4°.×13°.0E±°, h128km±4km, M5.7/52, mb5.8/52, mB6.0/40, MLv6.2/3, Mw(mB)5.6/40*
*DJA **25** 09:06:13.6±0.2, 6°.S±2°.×13°.0E±°, h129km±2km, M5.7/112, mb5.8/112, mB6.0/83, MLv6.2/13, Mw(mB)5.7/83, Mwp5.6/2*
*GCMT **25** 09:06:13.9±0.1, 6°.41S×130°.23E, h125km, MW5.6, Moment Tensor Solution. s95,c157; s24,c25; Moment tensor: Scale 10^{17}Nm; M_{rr}1.43±.03; $M_{\theta\theta}$-2.76±.03; $M_{\phi\phi}$1.33±.04; $M_{r\theta}$0.50±.03; $M_{\theta\phi}$0.13±.03; $M_{\phi r}$1.16±.03; Best double couple: $M_0$2.70000×10^{17} NP1:ϕ_s58.00000°, δ65.00000°, λ41.00000°. NP2:ϕ_s307.00000°, δ53.00000°, λ148.00000°. Principal axes: T 2.5800, Plg47.0000°, Azm277.0000°; N 0.2400, Plg43.0000°, Azm84.0000°; P -2.8200, Plg7.0000°, Azm180.0000°; Data Used: II IU IC G CN. Surface waves: sta=103, comp=216, per= 50.*
*IDC **25** 09:06:14.9±0.9, 6°.38S×130°.19E, h137km±7km, mb5.1/36, mb1 5.1/39, mb1mx5.1/40, mbtmp5.1/39, MS4.6/18, Ms1 4.5/18, ms1mx4.3/39 Error ellipse: s-maj=9.8km s-min=6.2km az=65.0*
*TEH **25** 09:06:14.0, 6°.39S×130°.21E, h135km, ML5.5*

ISC 25 09:06:13.9±0.3, 6°.38S±0°.03×130°.27E±0°.03, h132km±1km, h132km:pP-P, n1399, σ1§34/1587, mb5.7/172, 255C-230D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.88**	**349**	P	**Pn**	**09 06 46.3**	**-0.2**
BNDI				S	**Sn**	**09 07 13.1**	**+1.6**
BNDI	**Bandanaira**	**1.88**	**349**	P	**Pn**	**09 06 46.0**	**-0.6**
	baz=2.0,SNR=272						
BNDI	**Bandanaira**	**1.88**	**349**	P	**Pn**	**09 06 46.0**	**-0.6**
	baz=2.0,SNR=272						
SAUI	**Saumlaki**	**1.89**	**147**	P	**Sn**	**09 07 06.7**	**-5.1**
SAUI				S	**Sn**	**09 07 06.8**	**-5.1**
TLE	**Tual**	**2.57**	**73**	P	**Sn**	**09 07 24.8**	**-1.8**
TLE				S	**Sn**	**09 07 24.9**	**-1.7**
TLE	**Tual**	**2.57**	**73**	P	**Pn**	**09 06 54.0**	**-0.9**
	baz=2.6,SNR=1000						
TLE				S	**Sn**	**09 07 25.4**	**-1.2**
	baz=2.6,SNR=9.4						
TLE	**Tual**	**2.57**	**73**	P	**Pn**	**09 06 54.0**	**-0.9**
	baz=2.8,SNR=1000						
TLE				S	**Sn**	**09 07 25.4**	**-1.2**
	baz=2.8,SNR=9.4						
MSAI	**Masohi**	**3.29**	**336**	P	**Pn**	**09 07 05.2**	**+0.8**
MSAI				S	Sn	09 07 35.3	-8.2
AAI	**Ambon**	**3.38**	**322**	P	**Pn**	**09 07 06.2**	**+0.6**
AAI	**Ambon**	**3.38**	**322**	P	**Pn**	**09 07 06.1**	**+0.6**
	baz=3.5,SNR=78						
AAI	**Ambon**	**3.38**	**322**	P	**Pn**	**09 07 06.1**	**+0.6**
	baz=3.3,SNR=78						
FAKI	**Fak Fak**	**3.96**	**30**	P	**Pn**	**09 07 10.4**	**-2.9**
FAKI				S	**Sn**	**09 07 54.2**	**-5.1**
FAKI	**Fak Fak**	**3.96**	**30**	P	**Pn**	**09 07 10.3**	**-3.0**
	baz=4.1,SNR=1000						
FAKI				S	**Sn**	**09 07 54.3**	**-5.1**
	baz=4.1,SNR=50						
FAKI	**Fak Fak**	**3.96**	**30**	P	**Pn**	**09 07 10.3**	**-3.0**
	baz=4.2,SNR=1000						
FAKI				S	**Sn**	**09 07 54.3**	**-5.1**
	baz=4.2,SNR=50						
KMPI	**Kaimana, Papua**	**4.36**	**52**	P	**Pn**	**09 07 16.2**	**-2.3**
NLAI	**Namlea**	**4.44**	**315**	P	**Pn**	**09 07 20.8**	**+1.3**
SWI	**Sorong**	**5.57**	**10**	P	**Pn**	**09 07 31.7**	**-2.9**
	2μm,0.9s,92μm21nm						
SWI	**Sorong**	**5.57**	**10**	P	**Pn**	**09 07 31.8**	**-2.8**
	baz=5.7,SNR=162						
SWI				S	Sn	09 08 30.8	-6.9
	baz=5.7,SNR=9.7						
SWI	**Sorong**	**5.57**	**10**	P	**Pn**	**09 07 31.8**	**-2.8**
	baz=5.7,SNR=162						
SWI				S	Sn	09 08 30.8	-6.9
	baz=5.7,SNR=9.7						
LBMI	**Labuha**	**6.34**	**334**	P	**Pn**	**09 07 45.0**	**0.0**
	5μm,1.1s,55μm22μm14nm						
KDU	**Kakadu**	**6.63**	**161**	P	Pn	09 07 44.7	-4.2
	baz=6.6,SNR=1000						
KDU				S	Sn	09 08 55.1	-8.2
	baz=6.6,SNR=8.7						
KDU	**Kakadu**	**6.63**	**161**	P	Pn	09 07 44.7	-4.2
	baz=6.7,SNR=1000						
KDU				S	Sn	09 08 55.1	-8.2
	baz=6.7,SNR=8.7						
SOEI	**Soe**	**6.82**	**240**	P	**Pn**	**09 07 50.9**	**-0.7**
	5μm,1.0s,106μm44nm						
SOEI	**Soe**	**6.82**	**240**	P	**Pn**	**09 07 51.4**	**-0.2**
	baz=6.8,SNR=154						
SOEI				S	**Sn**	**09 09 09.7**	**+1.7**
	baz=6.8,SNR=5.8						
SOEI	**Soe**	**6.82**	**240**	P	**Pn**	**09 07 51.4**	**-0.2**
	baz=6.6,SNR=154						
SOEI				S	**Sn**	**09 09 09.7**	**+1.7**
	baz=6.6,SNR=5.8						
SRPI	**Serui, Papua**	**7.45**	**53**	P	Pn	09 07 56.2	-3.8
	825nm,0.7s,41μm13nm						
BATI	**Baumata**	**7.56**	**239**	P	**Pn**	**09 08 00.7**	**-0.8**
BATI				S	**Sn**	**09 09 23.0**	**-2.8**
BATI	**Baumata**	**7.56**	**239**	P	**Pn**	**09 08 00.9**	**-0.6**
	2μm,1.0s,42μm14nm						
BATI	**Baumata**	**7.56**	**239**	P	**Pn**	**09 08 00.7**	**-0.8**
	724nm,0.3s,baz=120,slow=2.5,SNR=227						
BATI				S	**Sn**	**09 09 23.0**	**-2.8**
	1μm,0.3s,baz=317,slow=23,SNR=14						
BATI				LR	LR	09 10 54.6	
	comp=Z,5μm,20.4s,baz=281,slow=37						
TNTI	**Ternate**	**7.67**	**338**	*e*Pn	**Pn**	**09 08 02.2**	**-0.8**
TNTI	**Ternate**	**7.67**	**338**	P	**Pn**	**09 08 02.2**	**-0.8**
	4μm,0.8s,32μm13nm						
BBSI	**Bau Bau**	**7.71**	**276**	P	Pn	09 08 06.7	+3.3
	837nm,1.2s,12μm2.8nm						
BAKI	**Biak**	**7.78**	**49**	P	**Pn**	**09 08 03.5**	**-0.9**
	6μm,0.8s						
MMRI	**Maumere**	**8.27**	**254**	*e*Pn	**Pn**	**09 08 11.0**	**0.0**
MMRI	**Maumere**	**8.27**	**254**	P	**Pn**	**09 08 11.8**	**+0.8**
	827nm,1.0s,10μm						
WAMI	**Wamena**	**8.77**	**74**	P	**Pn**	**09 08 18.5**	**+0.8**
	2μm,0.9s,19μm						
KKSI	**Kolaka, Sulawe**	**8.85**	**284**	P	Pn	09 08 14.1	-4.8
	178nm,1.5s,5μm						
LUWI	**Luwuk**	**9.17**	**305**	P	**Pn**	**09 08 24.0**	**+1.0**
	568nm,1.1s,6μm						
KMSI	**Cibinong**	**9.33**	**318**	P	Pn	09 08 22.0	-3.3
	1μm,1.2s,28μm						
KNRA	**Kununurra**	**9.36**	**189**	P	Pn	09 08 20.7	-4.9
	baz=9.3,SNR=1000						
KNRA				S	Sn	09 09 58.3	-11
	baz=9.3,SNR=14						
KNRA	**Kununurra**	**9.36**	**189**	P	Pn	09 08 20.7	-4.9
	baz=9.3,SNR=1000						
KNRA				S	Sn	09 09 58.3	-11
	baz=9.3,SNR=14						
GTOI	**Gorontalo**	**10.05**	**314**	P	Pn	09 08 38.3	+3.4
	915nm,0.8s,7μm15μm						
BKSI	**Bulukumba**	**10.15**	**275**	P	**Pn**	**09 08 37.2**	**+1.0**
	392nm,0.7s,4μm						
APSI	**Ampana**	**10.17**	**302**	P	Pn	09 08 39.8	+3.3
	672nm,1.0s,6μm						
MMPI	**Merauke**	**10.24**	**102**	P	Pn	09 08 30.0	-7.5
MMPI	**Merauke**	**10.24**	**102**	P	**Pn**	**09 08 35.9**	**-1.6**
	baz=10,SNR=4.0						
MMPI				S	Sn	09 10 19.9	-11
	baz=10,SNR=8.6						
MMPI	**Merauke**	**10.24**	**102**	P	**Pn**	**09 08 35.9**	**-1.6**
	baz=10,SNR=4.0						
MMPI				S	Sn	09 10 19.9	-11
	baz=10,SNR=8.6						
BNSI	**Bone**	**10.30**	**280**	P	Pn	**09 08 41.0**	**+2.7**
	503nm,1.1s,4μm						
WSI	**Waingapu**	**10.40**	**251**

WRAB	**Tennant Creek**	**14.04 164**	*e*P	Pn	09 09 20.3	-6.9
WRAB			pmax	pmax		
	comp=Z,2μm,0.8s					
WRAB	**Tennant Creek**	**14.04 164**	*e*Pn	Pn	09 09 20.3	-6.9
	comp=Z,2μm,0.8s					
WRAB			*e*Sn	Sn	09 11 49.0	-14
WRA	**Warramunga Arr**	**14.05 164**	P	Pn	09 09 20.4	-6.8
WRA			S	Sn	09 11 48.2	-14
WRA			*e*		09 45 14.3	
WRA	**Warramunga Arr**	**14.05 164**	P	Pn	09 09 20.4	-6.8
	comp=Z,13nm,0.3s,baz=35,slow=12,SNR=504					
WRA			S	Sn	09 11 48.2	-14
	comp=Z,134nm,0.3s,baz=349,slow=22,SNR=12					
WRA			P3KPbc		09 45 14.3	
	comp=Z,0.0nm,0.3s,baz=166,slow=4.2,SNR=9.1					
MTNI	**Mataram**	**14.15 260**	P	**Pn**	**09 09 30.0**	**+1.4**
	comp=Z,202nm,0.8s,comp=Z,2μm					
DAV	**Davao City (W)**	**14.15 341**	P	P	09 09 39.3	+7.3
PALU	**Palau**	**14.26 17**	P	**Pn**	**09 09 29.9**	**-0.1**
	baz=14,SNR=18					
PALU	**Palau**	**14.26 17**	P	**Pn**	**09 09 29.9**	**-0.1**
	baz=14,SNR=18					
BKB	**Balikpapan**	**14.27 290**	P	**P**	**09 09 35.3**	**+2.0**
COEN	**Coen**	**14.76 122**	*e*Pn	Pn	09 09 31.3	-4.9
COEN			*e*Sn	Sn	09 12 04.1	-16
COEN	**Coen**	**14.76 122**	P	**Pn**	**09 09 36.2**	**0.0**
	baz=15,SNR=20					
COEN			S	Sn	09 12 04.0	-16
	baz=15,SNR=7.4					
COEN	**Coen**	**14.76 122**	P	**Pn**	**09 09 36.2**	**0.0**
	baz=15,SNR=20					
COEN			S	Sn	09 12 04.0	-16
	baz=15,SNR=7.4					
CTBH	**Cotabato--PC H**	**14.79 336**⇑	*i*P	**Pn**	**09 09 35.0**	**-1.5**
SRBI	**Singaraja**	**15.03 263**	P	**Pn**	**09 09 39.9**	**+0.3**
	comp=Z,306nm,1.0s,comp=Z,3μm					
CGP	**Cagayan de Oro**	**15.75 339**	*e*P	**Pn**	**09 09 47.7**	**-0.8**
BYJI	**Banyuwangi**	**15.89 262**	P	**P**	**09 09 52.1**	**+0.9**
	comp=Z,846nm,0.9s,comp=Z,31μm					
ABJI	**Asem Bagus**	**15.97 264**	P	**P**	**09 09 52.2**	**0.0**
	comp=Z,552nm,1.1s,comp=Z,6μm					
KMMI	**Kalianget**	**16.20 267**	P	**P**	**09 09 57.4**	**+2.7**
	comp=Z,2μm,0.9s,comp=Z,15μm					
MTKI	**Muara Teweh, K**	**16.26 289**	P	**P**	**09 09 57.0**	**+1.6**
	comp=Z,1μm,0.8s,comp=Z,13μm					
TSM	**Tawau**	**16.30 310**	P	**Pn**	**09 09 55.3**	**0.0**
TSM	**Tawau**	**16.30 310**	P	**P**	**09 09 57.1**	**+1.4**
MYLDM	**Lahad Datu**	**16.43 314**	P	**P**	**09 10 00.3**	**+3.1**
MYLDM	**Lahad Datu**	**16.43 314**	P	**P**	**09 10 00.4**	**+3.1**
MYLDM	**Lahad Datu**	**16.43 314**	P	**P**	**09 10 00.4**	**+3.2**
MYLDM	**Lahad Datu**	**16.43 314**	P	**P**	**09 10 00.0**	**+2.8**
	comp=Z,258nm,1.4s,comp=Z,6μm					
BLJI	**Banyuglugur**	**16.60 264**	P	**P**	**09 09 59.6**	**+0.5**
	comp=Z,1μm,0.8s,comp=Z,9μm					
GMJI	**Gumukmas**	**16.79 263**	P	**Pn**	**09 10 02.2**	**+0.9**
	comp=Z,232nm,1.0s,comp=Z,3μm					
PMG	**Port Moresby**	**17.00 101**	*e*P	**P**	**09 10 03.1**	**-0.5**
	comp=Z,265nm,1.0s					
PMG			S	Sn	09 13 03.2	-10
PMG			*e*S	S	09 13 03.3	-11
PMG	**Port Moresby**	**17.00 101**	P	**Pn**	**09 10 04.8**	**+1.0**
	comp=Z,271nm,1.1s,comp=Z,4μm					
PMG	**Port Moresby**	**17.00 101**	P	**Pn**	**09 10 04.3**	**+0.5**
	comp=Z,13nm,0.3s,baz=293,slow=6.9,SNR=34					
PMG			S	Sn	09 13 03.2	-10
	comp=Z,12nm,0.3s,baz=17,slow=23,SNR=7.2					
ASAR	**Alice Springs**	**17.54 169**	P	**P**	**09 10 06.3**	**-3.1**
ASAR			S	S	09 13 13.1	-12
ASAR			*e*		09 45 00.0	
ASAR	**Alice Springs**	**17.54 169**	P	**P**	**09 10 06.3**	**-3.1**
	comp=Z,54nm,0.3s,baz=335,slow=8.5,SNR=1100					
ASAR			S	S	09 13 13.1	-12
	comp=Z,29nm,0.3s,baz=348,slow=24,SNR=7.1					
ASAR			P3KPbc		09 45 00.0	
	comp=Z,0.1nm,0.3s,baz=172,slow=4.5,SNR=8.1					
GRJI	**Gresik**	**17.68 267**	P	**Pn**	**09 10 12.6**	**+0.6**
	comp=Z,464nm,1.0s,comp=Z,4μm					
SDKM	**Sandakan**	**17.69 312**	P	**Pn**	**09 10 14.6**	**+2.5**
SDKM	**Sandakan**	**17.69 312**	P	**Pn**	**09 10 15.5**	**+3.4**
LLP	**Lapu-Lapu**	**17.73 339**⇑	*e*P	**Pn**	**09 10 13.6**	**+1.0**
KRKI	**Karangkates**	**17.76 263**	P	**Pn**	**09 10 13.2**	**+0.2**
	comp=Z,520nm,1.0s					
MBWA	**Marble Bar**	**17.89 214**	P	**P**	**09 10 12.1**	**-1.1**
	SNR=26					
MBWA	**Marble Bar**	**17.89 214**	*e*P	**P**	**09 10 11.6**	**-1.6**
	comp=Z,265nm,0.6s					
MBWA			*e*S	**S**	**09 13 32.0**	**-0.1**
MTSU	**Mount Surprise**	**18.01 132**	P	**P**	**09 10 13.6**	**-1.0**
	baz=18,SNR=114					
MTSU	**Mount Surprise**	**18.01 132**	P	**P**	**09 10 13.6**	**-1.0**
	baz=18,SNR=114					
PLP	**Palo**	**18.21 343**⇓	*e*P	**Pn**	**09 10 18.0**	**-0.3**
PWJI	**Pagerwojo**	**18.39 264**	P	**P**	**09 10 18.1**	**-0.7**
	comp=Z,229nm,0.8s					
SJI	**Sawahan**	**18.41 265**	P	**P**	**09 10 18.8**	**-0.3**
	comp=Z,323nm,0.9s,comp=Z,4μm					
KKM	**Kota Kinabalu**	**18.68 311**	*e*P	**P**	**09 10 22.9**	**+0.9**
KKM	**Kota Kinabalu**	**18.68 311**	P	**Pn**	**09 10 23.3**	**-0.7**
KKM	**Kota Kinabalu**	**18.68 311**	P	**Pn**	**09 10 23.9**	**-0.1**
KKM	**Kota Kinabalu**	**18.68 311**	P	**P**	**09 10 23.1**	**+1.0**
	comp=Z,540nm,1.0s,comp=Z,5μm					
KKM	**Kota Kinabalu**	**18.68 311**	P	**Pn**	**09 10 23.2**	**-0.8**
	baz=19,SNR=32					
KKM	**Kota Kinabalu**	**18.68 311**	P	**Pn**	**09 10 23.2**	**-0.8**
	baz=19,SNR=32					
NGJI	**Ngawi**	**18.70 266**	P	**Pn**	**09 10 23.7**	**-0.4**
	comp=Z,411nm,0.9s					
KDM	**Kudat**	**18.82 314**	P	**P**	**09 10 23.0**	**-0.4**
KDM	**Kudat**	**18.82 314**	P	**Pn**	**09 10 24.6**	**-0.9**
PBKI	**Pangkalan Bun**	**18.89 280**	P	**Pn**	**09 10 26.4**	**0.0**
	comp=Z,2μm,1.1s,comp=Z,17μm					
PCJI	**Pacitan**	**19.02 263**	P	**P**	**09 10 23.5**	**-2.2**
	comp=Z,353nm,1.0s,comp=Z,4μm					
RCP	**Roxas**	**19.33 337**⇓	*e*P	**P**	**09 10 29.6**	**+0.6**
BTM	**Bintulu**	**19.62 299**	P	**Pn**	**09 10 33.9**	**-1.0**
BTM	**Bintulu**	**19.62 299**	P	**Pn**	**09 10 34.3**	**-0.6**
UGM	**Wanagama**	**19.65 264**	*e*P	**P**	**09 10 32.5**	**0.0**
	comp=Z,618nm,1.3s					
UGM	**Wanagama**	**19.65 264**	P	**P**	**09 10 33.3**	**+0.7**
	baz=20,SNR=4.6					
UGM			S	**S**	**09 14 09.9**	**+2.6**
	baz=20,SNR=4.8					
UGM	**Wanagama**	**19.65 264**	P	**P**	**09 10 33.3**	**+0.7**
	baz=19,SNR=4.6					
UGM			S	**S**	**09 14 09.9**	**+2.6**
	baz=19,SNR=4.8					
STKI	**Sintang**	**19.81 288**	P	**P**	**09 10 35.8**	**+1.5**
	comp=Z,220nm,1.5s					
YOGI	**Yogyakarta**	**19.87 265**	P	**P**	**09 10 33.7**	**-1.2**
	comp=Z,826nm,1.2s					
SBUM	**Sibu**	**20.04 295**	P	Pn	09 10 38.8	-1.0
SBUM	**Sibu**	**20.04 295**	P	Pn	09 10 38.8	-0.9
SBUM	**Sibu**	**20.04 295**	P	Pn	09 10 39.0	-0.8
SBUM	**Sibu**	**20.04 295**	P	**P**	**09 10 38.0**	**+1.3**
	comp=Z,453nm,1.5s,comp=Z,6μm					
BJII	**Banjamegara**	**20.43 266**	P	**P**	**09 10 41.7**	**+0.7**
	comp=Z,413nm,1.4s,comp=Z,6μm					
CTA	**Charters Tower**	**20.66 133**	P	**P**	**09 10 43.9**	**+0.6**
CTA			S	**S**	**09 14 29.9**	**+2.9**
CTA	**Charters Tower**	**20.66 133**	P	**P**	**09 10 43.9**	**+0.6**
	comp=Z,211nm,1.0s,baz=308,slow=12,SNR=149					
CTA			S	**S**	**09 14 29.9**	**+2.9**
	comp=Z,20nm,0.5s,baz=41,slow=15,SNR=5.3					
CTA			LR	LR	09 19 20.3	
	comp=Z,2μm,18.2s,baz=313,slow=38					
CTAO	**Charters Tower**	**20.66 133**	*e*P	**P**	**09 10 43.6**	**+0.3**
CTAO			pmax	pmax		
	comp=Z,252nm,1.0s					
CTAO	**Charters Tower**	**20.66 133**	*e*P	**P**	**09 10 43.6**	**+0.3**
	comp=Z,252nm,1.0s					
CTAO			*e*S	S	09 14 12.9	-14
TGJI	**Tegal**	**21.01 267**	P	**P**	**09 10 44.9**	**-2.2**
	comp=Z,493nm,1.0s,comp=Z,4μm					
CLJI	**Cilicap**	**21.13 265**	P	**P**	**09 10 50.2**	**+1.8**
	comp=Z,347nm,0.8s,comp=Z,4μm					
KPJI	**Karang Pucung**	**21.20 266**	P	**P**	**09 10 47.8**	**-1.4**
	comp=Z,602nm,0.8s,comp=Z,5μm					
KSM	**Kuching**	**21.40 291**	*e*P	**P**	**09 10 51.8**	**+0.5**
	comp=Z,115nm,0.7s					
KSM	**Kuching**	**21.40 291**	P	**P**	**09 10 52.3**	**+1.0**
KSM	**Kuching**	**21.40 291**	P	**P**	**09 10 52.4**	**+1.1**
KSM	**Kuching**	**21.40 291**	P	**P**	**09 10 51.8**	**+0.5**
	comp=Z,181nm,0.8s,comp=Z,2μm					
KSM	**Kuching**	**21.40 291**	P	**P**	**09 10 51.9**	**+0.6**
	baz=21,SNR=20					
KSM	**Kuching**	**21.40 291**	P	**P**	**09 10 51.9**	**+0.6**
	baz=21,SNR=20					
LQP	**Lukban**	**22.12 337**	*e*P	**P**	**09 10 60.0**	**+0.9**
CISI	**Cisompet, Garu**	**22.32 266**	P	**P**	**09 11 00.1**	**-0.8**
	comp=Z,3μm,0.9s,comp=Z,18μm					
CISI	**Cisompet, Garu**	**22.32 266**	P	**P**	**09 10 58.5**	**-2.4**
	baz=22,SNR=71					
CISI			S	**S**	**09 14 52.7**	**-4.4**
	baz=22,SNR=7.7					
CISI	**Cisompet, Garu**	**22.32 266**	P	**P**	**09 10 58.5**	**-2.4**
	baz=22,SNR=71					
CISI			S	**S**	**09 14 52.7**	**-4.4**
	baz=22,SNR=7.7					
TGY	**Tagaytay City**	**22.36 336**	P	**P**	**09 11 02.4**	**+1.2**
TGY	**Tagaytay City**	**22.36 336**	P	**P**	**09 11 02.4**	**+1.2**
	comp=Z,969nm,0.7s,baz=207,slow=2.5,SNR=30					
GIRL	**Giralia**	**22.37 222**	P	**P**	**09 11 02.0**	**+0.7**
	baz=22,SNR=26					
GIRL	**Giralia**	**22.37 222**	P	**P**	**09 11 02.0**	**+0.7**
	baz=22,SNR=26					
LEM	**Lembang**	**22.50 268**	P	**P**	**09 11 02.1**	**-0.8**
	comp=Z,1μm,0.9s,comp=Z,10μm					
LEM	**Lembang**	**22.50 268**	P	**P**	**09 11 01.6**	**-1.3**
	baz=22,SNR=28					
LEM	**Lembang**	**22.50 268**	P	**P**	**09 11 01.6**	**-1.3**
	baz=22,SNR=28					
TPI	**Tanjungpandan**	**22.82 278**	P	**P**	**09 11 06.3**	**+0.5**
	comp=Z,273nm,0.9s,comp=Z,3μm					
MEEK	**Meekatharra**	**23.00 208**	P	**P**	**09 11 06.7**	**-0.6**
	baz=23,SNR=17					
MEEK	**Meekatharra**	**23.00 208**	P	**P**	**09 11 06.7**	**-0.6**
	baz=23,SNR=17					
CBJI	**Citeko**	**23.27 269**	P	**P**	**09 11 09.6**	**-0.3**
	comp=Z,3μm,0.9s,comp=Z,22μm					
DBJI	**Dramaga**	**23.37 268**	P	**P**	**09 11 09.5**	**-1.3**
	comp=Z,480nm,1.3s,comp=Z,5μm					
SKJI	**Sukabumi**	**23.56 267**	P	**P**	**09 11 09.6**	**-2.9**
	comp=Z,2μm,0.7s,comp=Z,13μm					
SBJI	**Serang**	**23.99 269**	P	**P**	**09 11 16.4**	**-0.1**
	comp=Z,359nm,1.4s					
QLP	**Quilpie**	**24.10 148**	P	**P**	**09 11 16.8**	**-0.6**
	baz=24,SNR=219					
QLP	**Quilpie**	**24.10 148**	P	**P**	**09 11 16.8**	**-0.6**
	baz=24,SNR=219					
FORT	**Forrest**	**24.36 185**	*e*P	**P**	**09 11 19.1**	**-0.5**
	comp=Z,977nm,0.7s					
FORT			*e*S	S	09 15 45.7	+16
FORT	**Forrest**	**24.36 185**	P	**P**	**09 11 19.2**	**-0.4**
	baz=24,SNR=186					
FORT	**Forrest**	**24.36 185**	P	**P**	**09 11 19.2**	**-0.4**
	baz=24,SNR=186					
PPBI	**Pangkal Pinang**	**24.42 279**	P	**P**	**09 11 20.7**	**+0.3**
	comp=Z,330nm,1.0s,comp=Z,32μm					
XMI	**Christmas Isla**	**24.64 259**	P	**P**	**09 11 21.4**	**-1.0**
	baz=25,SNR=14					
XMI	**Christmas Isla**	**24.64 259**	P	**P**	**09 11 21.4**	**-1.0**
	baz=24,SNR=14					
XMIS	**Christmas Isla**	**24.68 259**	*e*P	**P**	**09 11 21.2**	**-1.6**
	comp=Z,3μm,0.9s					
XMIS	**Christmas Isla**	**24.68 259**	P	**P**	**09 11 21.5**	**-1.2**
	baz=25,SNR=6.7					
XMIS	**Christmas Isla**	**24.68 259**	P	**P**	**09 11 21.5**	**-1.2**
	baz=24,SNR=6.7					
KLI	**Kotabumi**	**25.33 272**	P	**P**	**09 11 29.0**	**+0.4**
	comp=Z,309nm,1.3s,comp=Z,20μm					
PMBI	**Palembang**	**25.64 277**	P	**P**	**09 11 34.2**	**+2.8**
	comp=Z,2μm,1.0s,comp=Z,15μm					
KASI	**Kota Agung**	**25.64 271**	P	**P**	**09 11 29.8**	**-1.7**
	comp=Z,363nm,1.1s,comp=Z,3μm					
MDSI	**Maura Dua**	**26.04 273**	P	**P**	**09 11 35.1**	**+0.1**
	comp=Z,104nm,1.1s					
LWLI	**Liwa**	**26.11 272**	P	**P**	**09 11 37.6**	**+1.8**
	comp=Z,327nm,0.8s,comp=Z,3μm					
MORW	**Morawa**	**26.27 209**	P	**P**	**09 11 37.1**	**+0.2**
	baz=26,SNR=32					
MORW	**Morawa**	**26.27 209**	P	**P**	**09 11 37.1**	**+0.2**
	baz=26,SNR=32					
RMQ	**Roma**	**26.65 141**	P	**P**	**09 11 40.5**	**0.0**
	baz=27,SNR=15					
RMQ	**Roma**	**26.65 141**	P	**P**	**09 11 40.5**	**0.0**
	baz=27,SNR=15					
BBOO	**Buckleboo**	**26.85 169**	*e*P	**P**	**09 11 41.6**	**-0.5**
	comp=Z,6μm,0.8s					
BBOO			*e*S	S	09 16 38.6	+30
BBOO	**Buckleboo**	**26.85 169**	P	**P**	**09 11 41.3**	**-0.8**
	baz=27,SNR=68					
BBOO	**Buckleboo**	**26.85 169**	P	**P**	**09 11 41.3**	**-0.8**
	baz=27,SNR=68					
MNAI	**Manna**	**27.26 273**	P	**P**	**09 11 44.0**	**-2.1**
	baz=27,SNR=7.2					
MNAI	**Manna**	**27.26 273**	P	**P**	**09 11 44.0**	**-2.1**
	baz=27,SNR=7.2					
BLDU	**Ballidu**	**27.27 206**	P	**P**	**09 11 45.9**	**+0.1**
	baz=27,SNR=35					
BLDU	**Ballidu**	**27.27 206**	P	**P**	**09 11 45.9**	**+0.1**
	baz=27,SNR=35					
EIDS	**Eidsvold**	**27.44 136**	*e*P	**P**	**09 11 46.4**	**-1.1**
	comp=Z,232nm,1.1s					
EIDS	**Eidsvold**	**27.44 136**	P	**P**	**09 11 46.5**	**-1.0**
	baz=27,SNR=5.9					
EIDS	**Eidsvold**	**27.44 136**	P	**P**	**09 11 46.5**	**-1.0**
	baz=28,SNR=5.9					
STKA	**Stephens Creek**	**27.49 159**	*e*P	**P**	**09 11 47.5**	**-0.3**
STKA	**Stephens Creek**	**27.49 159**	P	**P**	**09 11 47.5**	**-0.3**
	comp=Z,102nm,0.7s,baz=331,slow=8.8,SNR=155					
STKA			LR	LR	09 24 49.8	
	comp=Z,2μm,19.0s,baz=326,slow=40					
STKA	**Stephens Creek**	**27.49 159**	P	**P**	**09 11 47.1**	**-0.7**
	baz=28,SNR=95					
STKA	**Stephens Creek**	**27.49 159**	P	**P**	**09 11 47.1**	**-0.7**
	baz=28,SNR=95					
BTDF	**Bukit Timah Da**	**27.54 285**	P	**P**	**09 11 52.5**	**+4.0**
	baz=28,SNR=4.4					
BTDF			P	**P**	**09 11 52.5**	**+4.0**
	baz=28,SNR=4.4					
BTDF	**Bukit Timah Da**	**27.54 285**	P	**P**	**09 11 52.5**	**+4.0**
	baz=27,SNR=4.4					
BTDF			P	**P**	**09 11 52.5**	**+4.0**
	baz=27,SNR=4.4					
MYKOM	**Kota Tinggi**	**27.59 286**	P	**P**	**09 11 49.4**	**+0.5**
MYKOM	**Kota Tinggi**	**27.59 286**	P	**P**	**09 11 49.2**	**+0.2**
	comp=Z,199nm,1.0s,comp=Z,3μm					
KLBR	**Kellerberrin**	**27.68 203**	P	**P**	**09 11 49.5**	**0.0**
	baz=28,SNR=18					
KLBR	**Kellerberrin**	**27.68 203**	P	**P**	**09 11 49.5**	**0.0**
	baz=28,SNR=18					
KSI	**Kapahiang**	**27.70 274**	P	**P**	**09 11 50.3**	**+0.3**
	comp=Z,273nm,1.0s,comp=Z,22μm					
MASI	**Maura Aman, Be**	**28.11 275**	P	**P**	**09 11 52.0**	**-1.6**
	comp=Z,316nm,0.7s					
KGM	**Kluang**	**28.17 286**	P	**P**	**09 11 54.3**	**+0.3**
RGRI	**Rengat**	**28.51 281**	P	**P**	**09 11 55.8**	**-1.3**
	comp=Z,292nm,1.1s					
CMSA	**Cobar Meteorol**	**28.89 152**	P	**P**	**09 12 00.2**	**-0.1**
	baz=29,SNR=222					
CMSA	**Cobar Meteorol**	**28.89 152**	P	**P**	**09 12 00.2**	**-0.1**
	baz=29,SNR=222					
NWAO	**Narrogin (SRO)**	**29.07 203**	*e*P	**P**	**09 12 02.0**	**+0.2**
NWAO	**Narrogin (SRO)**	**29.07 203**	P	**P**	**09 12 01.6**	**-0.2**
	comp=Z,21nm,0.5s,baz=32,slow=6.9,SNR=32					
NWAO			LR	LR	09 23 18.4	
	comp=Z,1μm,20.4s,baz=195,slow=35					
KTGM	**Kuala Trenggan**	**29.48 293**	P	**P**	**09 12 06.1**	**+0.4**
BKNI	**Bangkinang**	**29.92 282**	P	**P**	**09 12 09.0**	**-0.6**
	comp=Z,425nm,0.9s,comp=Z,3μm					
FRIM	**Kepong**	**30.15 288**	P	**P**	**09 12 11.2**	**-0.5**
PDSI	**Padang**	**30.22 279**	P	**P**	**09 12 10.2**	**-2.1**
	comp=Z,358nm,1.0s,comp=Z,3μm					
PPI	**Padang Panjang**	**30.38 280**	P	**P**	**09 12 12.2**	**-1.4**
	comp=Z,552nm,1.0s,comp=Z,4μm					
PPI	**Padang Panjang**	**30.38 280**	P	**P**	**09 12 12.2**	**-1.4**
	baz=30,SNR=29					
PPI	**Padang Panjang**	**30.38 280**	P	**P**	**09 12 12.2**	**-1.4**
	baz=30,SNR=29					
RKGY	**Rocky Gully**	**30.66 202**	P	**P**	**09 12 17.4**	**+1.6**
	baz=31,SNR=13					
RKGY	**Rocky Gully**	**30.66 202**	P	**P**	**09 12 17.4**	**+1.6**
	baz=31,SNR=13					
TPUB	**Ta-pu**	**30.96 343**	*e*P	**P**	**09 12 17.6**	**-1.1**
	comp=Z,33nm,0.9s					
IPM	**Ipoh**	**31.12 290**	*e*P	**P**	**09 12 17.6**	**-2.6**
	comp=Z,52nm,0.6s					
IPM			*e*PcP	**PcP**	**09 15 13.9**	**+1.4**
IPM			*e*ScP	**ScP**	**09 18 44.5**	**+1.1**
IPM	**Ipoh**	**31.12 290**	P	**P**	**09 12 19.8**	**-0.4**
IPM	**Ipoh**	**31.12 290**	P	**P**	**09 12 17.6**	**-2.6**
	comp=Z,88nm,0.9s					
ARMA	**Armidale**	**31.22 143**	*e*P	**P**	**09 12 21.9**	**+0.9**
	comp=Z,20nm,0.7s					
ARMA	**Armidale**	**31.22 143**	P	**P**	**09 12 21.7**	**+0.7**
	baz=31,SNR=26					
ARMA	**Armidale**	**31.22 143**	P	**P**	**09 12 21.7**	**+0.7**
	baz=31,SNR=26					
SSLB	**Suanglung**	**31.33 343**	*e*P	**P**	**09 12 19.2**	**-2.7**
	comp=Z,44nm,1.0s					
SSLB			*e*PcP	**PcP**	**09 15 13.4**	**+0.5**
SSLB			*e*ScP	**ScP**	**09 18 44.0**	**+0.2**
KULM	**Kulim**	**31.75 291**	*e*P	**P**	**09 12 25.2**	**-0.5**
	comp=Z,154nm,0.9s					
KULM	**Kulim**	**31.75 291**	P	**P**	**09 12 25.2**	**-0.5**
KULM	**Kulim**	**31.75 291**	P	**P**	**09 12 25.1**	**-0.7**
	comp=Z,186nm,0.9s,comp=Z,2μm					
YHNB	**Yeheng**	**32.05 345**	*e*P	**P**	**09 12 27.7**	**-0.5**
QIZ	**Qiongzhong**	**32.29 322**	P	**P**	**09 12 30.5**	**+0.2**
QIZ			S	**S**	**09 17 36.5**	**+2.1**
QIZ			pmax	pmax		
	comp=Z,110nm,1.1s					
QIZ			pmax	pmax		
	comp=Z,800nm,3.7s					
QIZ	**Qiongzhong**	**32.29 322**	*e*P	**P**	**09 12 30.4**	**+0.2**
	comp=Z,116nm,1.0s					
YNG	**Young**	**32.45 151**	P	**P**	**09 12 32.0**	**+0.4**
	baz=32,SNR=94					
YNG	**Young**	**32.45 151**	P	**P**	**09 12 32.0**	**+0.4**
	baz=33,SNR=94					
SKLT	**Songkhla**	**32.49 294**	P	**P**	**09 12 32.0**	**-0.3**
SKLT	**Songkhla**	**32.49 294**	P	**P**	**09 12 31.9**	**-0.3**
	comp=Z,80nm,1.2s					
PSI	**Prapat**	**32.59 285**	P	**P**	**09 12 31.4**	**-1.9**
PSI			ScP	**ScP**	**09 18 46.2**	**-2.4**
PSI	**Prapat**	**32.59 285**	P	**P**	**09 12 31.4**	**-1.9**
	comp=Z,154nm,0.7s,baz=126,slow=5.1,SNR=45					
PSI			ScP	**ScP**	**09 18 46.2**	**-2.4**
	comp=Z,14nm,0.7s,baz=174,slow=1.6,SNR=5.2					
PSI			LR	LR	09 25 13.1	
	comp=Z,1μm,21.3s,baz=120,slow=35					
PSI	**Prapat**	**32.59 285**	P	**P**	**09 12 31.6**	**-1.7**
	baz=33,SNR=21					
PSI	**Prapat**	**32.59 285**	P	**P**	**09 12 31.6**	**-1.7**
	baz=32,SNR=21					
MGCD	**Mangrove Creek**	**32.98 147**	P	**P**	**09 12 37.5**	**+1.3**
	baz=33,SNR=12					
MGCD	**Mangrove Creek**	**32.98 147**	P	**P**	**09 12 37.5**	**+1.3**
	baz=33,SNR=12					
JOW	**Kunigami**	**33.07 357**	*e*P	**P**	**09 12 38.2**	**+1.2**
	comp=Z,26nm,0.8s					
JOW			*e*PcP	**PcP**	**09 15 18.9**	**+1.3**
JOW			*e*ScP	**ScP**	**09 18 50.7**	**+1.0**
QZH	**Quanzhou**	**33.14 340**⇑	*i*P	**P**	**09 12 34.5**	**-3.2**
QZH			S	S	09 17 41.3	-6.1
QZH			sS	sS	09 18 29.5	-8.2
QZH			pmax	pmax		
	comp=Z,140nm,1.0s					
CAN	**Canberra**	**33.57 152**	*e*P	**P**	**09 12 42.4**	**+1.0**
CAN			pmax	pmax		
	comp=Z,111nm,0.8s					
CAN	**Canberra**	**33.57 152**	*e*P	**P**	**09 12 42.4**	**+1.0**
	comp=Z,111nm,0.8s					
CHBT	**CHBT**	**33.65 304**	P	**P**	**09 12 42.1**	**-0.1**
CHBT	**CHBT**	**33.65 304**	P	**P**	**09 12 42.1**	**-0.1**
	comp=Z,173nm,1.0s					
CNB	**Canberra Magne**	**33.74 151**	P	**P**	**09 12 43.5**	**+0.7**
	baz=34,SNR=39					
CNB	**Canberra Magne**	**33.74 151**	P	**P**	**09 12 43.5**	**+0.7**
	baz=34,SNR=39					
KCSI	**Kotacane, Aceh**	**33.90 286**	P	**P**	**09 12 41.5**	**-3.0**
	comp=Z,87nm,0.6s,comp=Z,1μm					
TOO	**Toolangi**	**34.00 158**	P	**P**	**09 12 46.4**	**+1.4**
	baz=34,SNR=3.8					
TOO	**Toolangi**	**34.00 158**	P	**P**	**09 12 46.4**	**+1.4**
	baz=34,SNR=3.8					
SURA	**Surathani**	**34.22 297**	P	**P**	**09 12 47.5**	**+0.4**
	comp=Z,65nm,1.3s,comp=Z,5μm					
PANO	**Nakornpanom**	**34.49 313**	P	**P**	**09 12 49.8**	**+0.4**
	comp=Z,458nm,1.0s,comp=Z,14μm					
SKNT	**Sakolnakorn**	**34.84 312**	P	**P**	**09 12 52.5**	**0.0**
	comp=Z,347nm,0.9s					
SNSI	**Sinabang, Aceh**	**34.99 283**	P	**P**	**09 12 51.6**	**-2.3**
	comp=Z,239nm,0.9s					
MILA	**Mila**	**35.06 153**	P	**P**	**09 12 55.5**	**+1.3**
	baz=35,SNR=8.6					
MILA	**Mila**	**35.06 153**	P	**P**	**09 12 55.5**	**+1.3**
	baz=35,SNR=8.6					
LHMI	**Lhok Sumawe**	**35.20 288**	P	**P**	**09 12 54.6**	**-1.0**
	comp=Z,906nm,0.8s,comp=Z,7μm					
LHMI	**Lhok Sumawe**	**35.20 288**	P	**P**	**09 12 54.9**	**-0.7**
	baz=35,SNR=15					
LHMI	**Lhok Sumawe**	**35.20 288**	P	**P**	**09 12 54.9**	**-0.7**
	baz=35,SNR=15					
CBIJ	**Chichi jima**	**35.22 19**	P	**P**	**09 12 54.3**	**-1.3**
CBIJ	**Chichi jima**	**35.22 19**	P	**P**	**09 12 54.3**

NJ2			sP	**sP**	**09 14 19.0**	**+1.0**
NJ2			PP	**PP**	**09 15 09.0**	**+1.4**
NJ2			S	**S**	**09 19 27.0**	**-0.6**
NJ2			ScS	**sS**	**09 20 18.0**	**-0.8**
NJ2			pmax	pmax		
	comp=Z,80nm,0.8s					
NJ2			pmax	pmax		
	comp=Z,340nm,4.5s					
NJ2			LR	LR		
	comp=N,3μm,26.0s					
NJ2			LR	LR		
	comp=E,1μm,27.6s					
NJ2			LR	LR		
	comp=Z,440nm,18.1s					
CHTO	**Chiang Mai**	**39.75 310**	*e*P	**P**	**09 13 34.2**	**+0.3**
CHTO			*e*		09 15 39.4	
CHTO	**Chiang Mai**	**39.75 310**	P	**P**	**09 13 34.4**	**+0.5**
	SNR=82					
CHTO	**Chiang Mai**	**39.75 310**	*e*P	**P**	**09 13 34.1**	**+0.3**
	comp=Z,1μm,0.9s					
CHTO			*e*PcP	**PcP**	**09 15 39.4**	**+1.5**
CHTO	**Chiang Mai**	**39.75 310**	P	**P**	**09 13 34.7**	**+0.8**
	comp=Z,2μm,1.0s,comp=Z,17μm					
CHTO	**Chiang Mai**	**39.75 310**	P	**P**	**09 13 33.9**	**0.0**
	comp=Z,2μm,1.0s,comp=Z,17μm					
WHN	**Wuhan**	**39.76 338**	⇑P	**P**	**09 13 35.0**	**+1.3**
WHN			sP	sP	09 14 02.8	-15
WHN			S	**S**	**09 19 27.0**	**-0.9**
WHN			LR	LR		
	comp=N,280nm,4.8s					
WHN			LR	LR		
	comp=E,730nm,11.0s					
WHN			LR	LR		
	comp=Z,2μm,37.5s					
GYA	**Guiyang**	**39.87 326**	⇑*i*P	**P**	**09 13 34.8**	**-0.1**
GYA			pP	**pP**	**09 14 06.0**	**+1.6**
GYA			sP	**sP**	**09 14 22.3**	**+2.9**
GYA			PP	**PnPn**	**09 15 12.5**	**-1.4**
GYA			PcP	**PcP**	**09 15 37.0**	**-1.2**
GYA			ScP	**ScP**	**09 19 14.3**	**-0.8**
GYA			S	**S**	**09 19 26.5**	**-3.5**
GYA			PcS	**PcS**	**09 19 30.0**	**+1.2**
GYA			sS	**sS**	**09 20 22.8**	**+1.6**
GYA			SS	**SS**	**09 22 25.5**	**-6.5**
CMAI	**Chiengmai2**	**40.34 311**	P	**P**	**09 13 39.4**	**+0.5**
	comp=Z,260nm,0.9s,comp=Z,4μm					
KMI	**Kunming**	**41.20 321**	P	**P**	**09 13 47.0**	**+1.0**
KMI			pP	**pP**	**09 14 13.5**	**-2.2**
KMI			sP	**sP**	**09 14 27.5**	**-3.1**
KMI			PP	**PnPn**	**09 15 29.0**	**-0.7**
KMI			S	**S**	**09 19 48.8**	**-1.3**
KMI			sS	sS	09 20 35.8	-5.7
KMI			SS	**SS**	**09 22 55.5**	**-3.1**
KMI			pmax	pmax		
	comp=Z,140nm,1.1s					
KMI			pmax	pmax		
	comp=Z,460nm,4.3s					
KMI			LR	LR		
	comp=N,460nm,18.3s					
KMI			LR	LR		
	comp=E,450nm,21.1s					
KMI			LR	LR		
	comp=Z,840nm,24.2s					
ENH	**Enshi**	**41.54 332**	*e*P	**P**	**09 13 48.4**	**0.0**
	comp=Z,90nm,0.8s					
ENH			*e*PcP	**PcP**	**09 15 44.4**	**+0.9**
ENH			*e*ScP	**ScP**	**09 19 22.3**	**+0.9**
DGPR	**DIGLIPUR**	**41.87 298**	*e*P	**P**	**09 13 49.0**	**-2.3**
DGPR			AMB	AMB	09 14 35.2	
	comp=Z,121nm,1.5s					
TJN	**Taejon**	**42.62 357**	*i*P	**P**	**09 13 57.7**	**+0.7**
MAJO	**Matsushiro**	**43.34 9**	*e*P	**P**	**09 14 01.9**	**-1.0**
MAJO			pmax	pmax		
	comp=Z,48nm,0.8s					
MAJO	**Matsushiro**	**43.34 9**	*e*P	**P**	**09 14 01.9**	**-1.0**
	comp=Z,48nm,0.8s					
MJAR	**Matsushiro Arr**	**43.34 9**	P	**P**	**09 14 01.9**	**-1.0**
MJAR			PcP	**PcP**	**09 15 49.7**	**+0.3**
MJAR			ScP	**ScP**	**09 19 29.7**	**+1.2**
MJAR	**Matsushiro Arr**	**43.34 9**	P	**P**	**09 14 01.9**	**-1.0**
	comp=Z,22nm,0.8s,baz=194,slow=10,SNR=62					
MJAR			PcP	**PcP**	**09 15 49.7**	**+0.3**
	comp=Z,8.8nm,0.8s,baz=180,slow=4.6,SNR=4.6					
MJAR			ScP	**ScP**	**09 19 29.7**	**+1.2**
	comp=Z,8.0nm,1.0s,baz=207,slow=6.1,SNR=8.2					
MJAR			LR	LR	09 30 32.7	
	comp=Z,682nm,19.1s,baz=185,slow=34					
KSAR	**Wonju Array Be**	**43.65 357**	P	**P**	**09 14 06.2**	**+0.8**
KSAR			PcP	**PcP**	**09 15 51.0**	**+0.8**
KSAR			ScP	**ScP**	**09 19 30.5**	**+0.8**
KSRS	**Korea Array**	**43.66 357**	P	**P**	**09 14 06.2**	**+0.8**
	comp=Z,7.7nm,0.7s,baz=176,slow=9.5,SNR=46					
KSRS			PcP	**PcP**	**09 15 51.0**	**+0.7**
	comp=Z,13nm,0.7s,baz=183,slow=3.0,SNR=13					
KSRS			ScP	**ScP**	**09 19 30.5**	**+0.8**
	comp=Z,9.0nm,0.8s,baz=180,slow=3.9,SNR=18					
KSRS			LR	LR	09 30 53.8	
	comp=Z,654nm,21.4s,baz=190,slow=34					
CD2	**Chengdu**	**44.93 327**	⇑*i*P	**P**	**09 14 15.0**	**-0.7**
CD2			pP	**pP**	**09 14 45.8**	**+0.1**
CD2			sP	**sP**	**09 15 01.5**	**+0.9**
CD2			PP	**PP**	**09 16 03.0**	**-0.4**
CD2			S	**S**	**09 20 43.0**	**-1.0**
CD2			sS	**sS**	**09 21 37.3**	**+1.3**
CD2			SS	**ScS**	**09 24 00.5**	**+0.9**
CD2			pmax	pmax		
	comp=Z,170nm,0.7s					
CD2			pmax	pmax		
	comp=Z,330nm,7.7s					
CD2			LR	LR		
	comp=N,760nm,13.1s					
CD2			LR	LR		
	comp=Z,1μm,16.1s					
XAN	**Xi'an**	**44.99 335**	P	**P**	**09 14 15.8**	**-0.3**
XAN			pP	**pP**	**09 14 46.3**	**+0.1**
XAN			sP	**sP**	**09 15 02.5**	**+1.4**
XAN			PP	**PP**	**09 16 02.0**	**-2.0**
XAN			S	**S**	**09 20 40.0**	**-4.8**
XAN			SS	**ScS**	**09 23 54.5**	**-5.3**
XAN			pmax	pmax		
	comp=Z,58nm,1.0s					
XAN			pmax	pmax		
	comp=Z,76nm,9.9s					
XAN			LR	LR		
	comp=N,460nm,45.0s					
XAN			LR	LR		
	comp=E,130nm,27.5s					
XAN			LR	LR		
	comp=Z,200nm,40.0s					
DL2	**Dalian**	**45.76 351**	P	**P**	**09 14 22.5**	**+0.5**
DL2			pP	**pP**	**09 14 48.5**	**-3.7**
DL2			sP	sP	09 15 01.3	-5.7
DL2			S	**S**	**09 20 53.3**	**-2.3**
DL2			pmax	pmax		
	comp=Z,59nm,1.1s					
DL2			pmax	pmax		
	comp=Z,97nm,3.3s					
MSVF	**Nonsavu**	**47.94 108**	*e*P	**P**	**09 14 40.9**	**+1.4**
MSVF			pmax	pmax		
	comp=Z,43nm,1.2s					
MSVF	**Nonsavu**	**47.94 108**	*e*P	**P**	**09 14 40.9**	**+1.4**
	comp=Z,43nm,1.2s					
BJT	**Baijiatuau**	**47.97 345**	*e*P	**P**	**09 14 39.6**	**+0.4**
	comp=Z,123nm,0.6s					
BJI	**Beijing**	**47.98 345**	P	**P**	**09 14 39.3**	**0.0**
BJI			pP	**pP**	**09 15 05.5**	**-4.2**
BJI			sP	sP	09 15 18.0	-6.5
BJI			PcP	**PcP**	**09 16 06.5**	**+1.1**
BJI			S	S	09 21 19.8	-7.3
BJI			pmax	pmax		
	comp=Z,230nm,0.9s					
BJI			pmax	pmax		
	comp=Z,410nm,3.5s					
BJI			LR	LR		
	comp=N,250nm,21.3s					
BJI			LR	LR		
	comp=E,260nm,15.1s					
BJI			LR	LR		
	comp=Z,320nm,42.6s					
SNY	**Shenyang**	**48.36 353**	⇑P	**P**	**09 14 42.0**	**-0.2**
SNY			PP	**pP**	**09 15 14.8**	**+2.2**
SNY			S	**S**	**09 21 31.0**	**-1.4**
SNY			sS	sS	09 22 14.3	-11
SNY			ScS	**ScS**	**09 24 18.5**	**-3.0**
SNY	**Shenyang**	**48.36 353**	SS	SS	09 24 58.0	-6.0
SNY			pmax	pmax		
	comp=Z,49nm,1.3s					
SNY			pmax	pmax		
	comp=Z,1μm,5.9s					
SNY			LR	LR		
	comp=N,530nm,20.6s					
SNY			LR	LR		
	comp=E,250nm,15.5s					
SNY			LR	LR		
	comp=Z,670nm,23.0s					
SHL	**Shillong**	**48.98 312**	*i*P	**P**	**09 14 47.0**	**-0.4**
SHL			AMB	AMB	09 14 48.6	
	comp=Z,214nm,0.8s					
SHL			*i*x	x	09 21 35.0	
LZH	**Lanzhou**	**48.99 331**	⇑P	**P**	**09 14 48.3**	**+1.0**
LZH			pP	**pP**	**09 15 19.3**	**+1.5**
LZH			sP	**sP**	**09 15 35.0**	**+2.5**
LZH			PcP	**PcP**	**09 16 11.0**	**+1.6**
LZH			PP	**PP**	**09 16 44.5**	**+2.4**
LZH			ScP	**ScP**	**09 19 53.5**	**+1.2**
LZH			S	**S**	**09 21 39.5**	**-2.2**
LZH			sS	**sS**	**09 22 36.3**	**+1.8**
LZH	**Lanzhou**	**48.99 331**	SS	SS	09 25 14.5	-0.2
LZH			pmax	pmax		
	comp=Z,210nm,1.5s					
LZH			pmax	pmax		
	comp=Z,500nm,6.0s					
LZH			LR	LR		
	comp=N,470nm,13.0s					
LZH			LR	LR		
	comp=E,500nm,14.5s					
LZH			LR	LR		
	comp=Z,730nm,18.0s					
VLA	**Vladivostok**	**49.29 2**	⇓*i*P	**P**	**09 14 48.1**	**-1.1**
VLA			*i*S	**S**	**09 21 46.2**	**+0.9**
VLA			pmax	pmax		
	comp=Z,40nm,0.8s					
ERM	**Erimo**	**49.58 13**	*i*P	**P**	**09 14 53.6**	**+2.2**
ERM			pmax	pmax		
	comp=Z,17nm,1.1s					
HHC	**Hu-ho-hao-te**	**50.04 341**	⇑*i*P	**P**	**09 14 55.8**	**+0.7**
HHC			pP	**pP**	**09 15 27.0**	**+1.3**
HHC			sP	**sP**	**09 15 43.5**	**+3.0**
HHC			PcP	**PcP**	**09 16 13.5**	**+0.4**
HHC			PP	**PP**	**09 16 53.8**	**+2.2**
HHC			ScP	**ScP**	**09 19 53.5**	**-3.1**
HHC			S	**S**	**09 21 56.0**	**-0.2**
HHC			sS	**sS**	**09 22 51.8**	**+2.7**
HHC			ScS	**ScS**	**09 24 29.3**	**-3.9**
HHC	**Hu-ho-hao-te**	**50.04 341**	SS	**SS**	**09 25 28.8**	**-2.4**
HHC			pmax	pmax		
	comp=Z,160nm,0.9s					
HHC			pmax	pmax		
	comp=Z,480nm,4.8s					
HHC			LR	LR		
	comp=N,3μm,16.7s					
HHC			LR	LR		
	comp=E,2μm,16.7s					
HHC			LR	LR		
	comp=Z,3μm,16.7s					
CN2	**Changchun**	**50.14 355**	⇑*i*P	**P**	**09 14 55.5**	**-0.1**
CN2			*e*pP	**pP**	**09 15 24.8**	**-1.5**
CN2			*e*sP	**sP**	**09 15 39.0**	**-2.0**
CN2			PcP	**PcP**	**09 16 14.0**	**+0.8**
CN2			*e*S	**S**	**09 21 54.8**	**-2.3**
CN2			pmax	pmax		
	comp=Z,40nm,0.7s					
CN2			pmax	pmax		
	comp=Z,300nm,5.0s					
CN2			LR	LR		
	comp=N,200nm,17.0s					
CN2			LR	LR		
	comp=E,400nm,17.0s					
CN2			LR	LR		
	comp=Z,600nm,19.0s					
BTO	**Baotou**	**50.33 340**	*e*P	**P**	**09 14 56.0**	**-1.3**
USRK	**Ussuriysk Arra**	**50.37 2**	P	**P**	**09 14 57.8**	**+0.4**
	comp=Z,19nm,0.7s,baz=183,slow=7.1,SNR=94					
USRK			ScP	**ScP**	**09 19 57.9**	**+0.1**
	comp=Z,3.6nm,0.9s,baz=194,slow=2.9,SNR=4.2					
USRK			PKP2ab		09 46 27.5	
	comp=Z,2.1nm,0.9s,baz=36,slow=11,SNR=4.2					
MDJ	**Mudanjiang**	**50.77 359**	P	**P**	**09 15 01.0**	**+0.6**
MDJ			sP	**sP**	**09 15 46.0**	**+0.3**
MDJ			PP	**PP**	**09 17 02.5**	**+4.6**
MDJ			S	**S**	**09 22 06.8**	**+1.0**
MDJ			sS	sS	09 22 52.8	-6.1
MDJ			ScS	**ScS**	**09 24 38.8**	**+1.1**
MDJ	**Mudanjiang**	**50.77 359**	SS	**SS**	**09 25 47.5**	**+5.2**
MDJ			pmax	pmax		
	comp=Z,40nm,0.8s					
MDJ			pmax	pmax		
	comp=Z,140nm,5.5s					
MDJ			LR	LR		
	comp=N,340nm,24.5s					
MDJ			LR	LR		
	comp=E,170nm,17.0s					
MDJ			LR	LR		
	comp=Z,470nm,24.5s					
MDJ	**Mudanjiang**	**50.77 359**	*e*P	**P**	**09 15 00.9**	**+0.6**
	comp=Z,18nm,0.6s					
PALK	**Pallekele**	**51.27 285**	*e*P	**P**	**09 15 04.0**	**-0.8**
	comp=Z,58nm,0.6s					
PALK			*e*PcP	**PcP**	**09 16 20.0**	**+1.8**
PALK	**Pallekele**	**51.27 285**	P	**P**	**09 15 03.8**	**-1.0**
	comp=Z,97nm,1.0s					
ASAJ	**Asahikawa**	**51.48 11**	P	**P**	**09 15 06.2**	**+0.5**
ASAJ	**Asahikawa**	**51.48 11**	P	**P**	**09 15 06.2**	**+0.5**
	comp=Z,22nm,0.7s,baz=220,slow=13,SNR=21					
ASAJ			LR	LR	09 37 42.6	
	comp=Z,361nm,19.7s,baz=78,slow=37					
RPZ	**Rata Peaks**	**51.56 143**	P	**P**	**09 15 07.2**	**+0.8**
RPZ	**Rata Peaks**	**51.56 143**	P	**P**	**09 15 07.2**	**+0.8**
	comp=Z,40nm,0.9s,baz=82,slow=7.9,SNR=8.9					
LSA	**Lhasa**	**51.94 316**	P	**P**	**09 15 10.8**	**+0.8**
LSA			S	**S**	**09 22 21.0**	**-2.4**
LSA			pmax	pmax		
	comp=Z,330nm,0.8s					
LSA			pmax	pmax		
	comp=Z,370nm,4.1s					
LSA	**Lhasa**	**51.94 316**	*e*P	**P**	**09 15 10.4**	**+0.5**
LSA			pmax	pmax		
	comp=Z,236nm,0.7s					
LSA	**Lhasa**	**51.94 316**	*e*P	**P**	**09 15 10.4**	**+0.5**
	comp=Z,236nm,0.7s					
YUK	**Yuzh-Kuril'sk**	**52.12 14**	*c i*P	**P**	**09 15 07.4**	**-3.0**
YUK			*e**PP	**pP**	**09 15 37.4**	**-3.9**
YUK			*e*		09 16 25.9	
YUK			*e*		09 17 16.2	
YUK			*i* PPP	PPP	09 18 10.7	
YUK			*i* S	**S**	**09 22 23.4**	**-1.0**
YUK			*i* *SS	sS	09 23 06.9	-11
YUK			*e*SS	**SS**	**09 26 01.2**	**-2.5**
YUK			*e*SSS	SSS	09 27 45.1	
YUK			MLR	MLR		
	comp=E,323nm,17.0s					
YUK			MLR	MLR		
	comp=Z,253nm,17.0s					
YUK			MLR	MLR		
	comp=N,101nm,17.0s					
VIS	**Vishakhapatnam**	**52.16 298**	*e*P	**P**	**09 15 11.5**	**+0.3**
VIS			AMB	AMB	09 15 12.1	
	comp=Z,332nm,0.0s					
BOK	**Bokaro**	**52.67 306**	*e*P	**P**	**09 15 15.2**	**+0.3**
BOK			AMB	AMB	09 15 15.8	
	comp=Z,104nm,1.2s					
URZ	**Urewera**	**52.90 134**	P	**P**	**09 15 16.4**	**+0.1**
URZ	**Urewera**	**52.90 134**	P	**P**	**09 15 16.4**	**+0.1**
	comp=Z,7.2nm,0.9s,baz=270,slow=2.0,SNR=3.2					
ODAN	**Odare**	**53.05 310**	*e*P	**P**	**09 15 18.1**	**+0.1**
	comp=Z,870nm,0.7s					
TAPN	**Taplejung**	**53.08 311**	*e*P	**P**	**09 15 18.1**	**-0.1**
	comp=Z,1μm,0.9s					
MDRS	**Chennai**	**53.31 291**	*e*P	**P**	**09 15 17.1**	**-2.7**
MDRS			AMB	AMB	09 15 19.2	
	comp=Z,286nm,1.7s					
GTA	**Gaotai**	**53.56 331**	⇑P	**P**	**09 15 22.3**	**+1.0**
GTA			pP	**pP**	**09 15 53.0**	**+0.7**
GTA			sP	**sP**	**09 16 07.0**	**+0.1**
GTA			PcP	**PcP**	**09 16 28.0**	**+1.7**
GTA			ScP	**ScP**	**09 20 13.3**	**+1.4**
GTA			PcS	**PcS**	**09 20 25.0**	**-0.6**
GTA			S	**S**	**09 22 42.0**	**-2.5**
GTA			sS	**sS**	**09 23 34.0**	**-4.0**
GTA			ScS	**ScS**	**09 24 56.0**	**-1.8**
GTA	**Gaotai**	**53.56 331**	SS	**SKiKP**	**09 26 23.3**	**+0.4**
GTA			pmax	pmax		
	comp=Z,160nm,0.8s					
GTA			pmax	pmax		
	comp=Z,370nm,6.5s					
GTA			LR	LR		
	comp=N,260nm,19.2s					
GTA			LR	LR		
	comp=E,400nm,21.2s					
GTA			LR	LR		
	comp=Z,420nm,21.9s					
RAMN	**Ramite**	**53.70 310**	*e*P	**P**	**09 15 23.2**	**+0.5**
	comp=Z,1μm,0.7s					
YSS	**Yuzh-Sakhalins**	**54.24 11**	⇑*e*P	**P**	**09 15 25.5**	**-0.4**
YSS			*e**SP	sP	09 16 02.6	-9.0
YSS			*e*S	**S**	**09 22 50.0**	**-3.0**
YSS			*e*PS	**PKiKP**	**09 23 08.0**	**+5.1**
YSS			*e**SS	sS	09 23 35.0	-12
YSS			*e*		09 25 02.0	
YSS			*e*SS	**SS**	**09 26 33.0**	**-4.1**
YSS			pmax	pmax		
	comp=Z,30nm,0.9s					
YSS			MLR	MLR		
	comp=N,300nm,16.0s					
YSS			MLR	MLR		
	comp=Z,300nm,16.0s					
JIRN	**Jiri**	**54.38 311**	*e*P	**P**	**09 15 27.6**	**-0.2**
	comp=Z,784nm,0.7s					
GUN	**Gumba**	**54.75 311**	*e*P	**P**	**09 15 30.2**	**-0.2**
	comp=Z,1μm,0.7s					
HABR	**Khabarovsk**	**54.78 4**	*e*P	**P**	**09 15 29.1**	**-0.7**
HABR			*e**PP	pP	09 15 54.8	-6.1
HABR			*e**SP	sP	09 16 07.3	-8.2
HABR			*e*		09 17 32.3	
HABR			*e*PPP	PPP	09 18 45.2	
HABR			*e*S	**S**	**09 23 01.5**	**+1.3**
HABR			*e**SS	sS	09 23 47.3	-6.6
HABR			*e*		09 25 06.4	
HABR			*e*SS	**SS**	**09 26 47.3**	**+1.8**
HABR			pmax	pmax		
	comp=N,30nm,1.4s					
HABR			pmax	pmax		
	comp=E,16nm,1.4s					
HABR			pmax	pmax		
	comp=Z,76nm,1.4s					
PKI	**Pulchoki**	**54.93 310**	*e*P	**P**	**09 15 31.4**	**-0.3**
	comp=Z,483nm,0.7s					
PKIN	**Phulchoki**	**54.94 310**	*e*P	**P**	**09 15 31.2**	**-0.5**
	comp=Z,333nm,0.7s					
KKN	**Kakani**	**55.14 310**	*e*P	**P**	**09 15 33.0**	**-0.1**
	comp=Z,685nm,0.8s					
DMN	**Daman**	**55.18 310**	*e*P	**P**	**09 15 33.6**	**+0.2**
	comp=Z,1μm,0.9s					
GKN	**Gorkha**	**55.74 310**	*e*P	**P**	**09 15 37.2**	**-0.1**
	comp=Z,1μm,0.8s					
HYB	**Hyderabad**	**56.28 296**	*i*P	**P**	**09 15 40.0**	**-1.2**
HYB	**Hyderabad**	**56.28 296**	*e*P	**P**	**09 15 40.2**	**-1.0**
KOLN	**Koldanda**	**56.41 309**	*e*P	**P**	**09 15 42.3**	**+0.2**
	comp=Z,854nm,0.8s					
DANN	**Dangsing**	**56.58 310**	*e*P	**P**	**09 15 43.3**	**-0.1**
	comp=Z,911nm,0.9s					
DGAR	**Diego Garcia**	**57.37 265**	*e*P	**P**	**09 15 47.9**	**-1.0**
DGAR	**Diego Garcia**	**57.37 265**	*e*P	**P**	**09 15 47.8**	**-1.0**
	comp=Z,434nm,0.8s					
KAAM	**Kaadhehdhoo**	**57.56 275**	P	**P**	**09 15 50.8**	**+0.6**
	comp=Z,504nm,1.1s,comp=Z,5μm					
KAAM	**Kaadhehdhoo**	**57.56 275**	P	**P**	**09 15 51.0**	**+0.8**
	baz=58,SNR=4.3					
ULN	**Ulaanbaatar**	**57.76 342**	P	**P**	**09 15 52.7**	**+1.5**
	SNR=60					
ULN	**Ulaanbaatar**	**57.76 342**	*e*P	**P**	**09 15 52.2**	**+1.0**
	comp=Z,168nm,0.8s					
ULN	**Ulaanbaatar**	**57.76 342**	P	**P**	**09 15 52.7**	**+1.5**
	comp=Z,254nm,0.9s,comp=Z,2μm					
SONM	**Songino Array**	**57.94 341**	P	**P**	**09 15 53.4**	**+1.0**
SONM			S	**S**	**09 23 42.8**	**+0.5**
SONM			P'P'		09 45 35.6	
SONM	**Songino Array**	**57.94 341**	P	**P**	**09 15 53.4**	**+1.0**
	comp=Z,52nm,0.7s,baz=160,slow=6.1,SNR=223					
SONM			S	**S**	**09 23 42.8**	**+0.5**
	comp=Z,0.3nm,0.4s,baz=161,slow=9.2,SNR=4.3					
SONM			PKPPKP	**P'P'df**	**09 45 35.6**	**+2.6**
	comp=Z,1.2nm,0.9s,baz=318,slow=2.0,SNR=3.8					
AKL	**Akola**	**58.81 299**	*e*P	**P**	**09 15 57.7**	**-1.1**
AKL			*i*x	x	09 17 28.0	
BHPL	**Bhopal**	**59.41 302**	*e*P	**P**	**09 16 02.4**	**-0.6**
BHPL			AMB	AMB	09 16 02.8	
	comp=Z,116nm,0.8s					
GOA	**Goa**	**59.97 292**	*e*P	**P**	**09 16 06.5**	**-0.4**
GOA			AMB	AMB	09 16 07.2	
	comp=Z,177nm,0.7s					
KAD	**Karad**	**60.19 294**	*e*P	P	09 16 05.0	-3.3
DRV	**Dumont d'Urvil**	**60.56 176**	S	S	09 24 05.0	-10
DRV			SS	SS	09 27 56.0	-20
DRV			L	L	09 30 00.0	
DRV			R		09 35 00.0	
POO	**Poona**	**60.87 295**	⇑*i*P	**P**	**09 16 11.0**	**-2.0**
	comp=Z,23nm,1.0s					
POO			*e*P	**P**	**09 16 11.8**	**-1.2**
POO			AMB	AMB	09 16 12.4	
	comp=Z,154nm,0.8s					
ZAK	**Zakamensk**	**61.17 341**	⇓*i*P	**P**	**09 16 14.7**	**+0.3**
ZAK			*e*		09 16 55.5	
ZAK			*e*		09 24 21.0	
ZAK			pmax	pmax		
	comp=Z,41nm,1.1s					
CASY	**Casey**	**61.35 189**	*e*P	**P**	**09 16 15.9**	**+0.6**
NDI	**New Delhi**	**61.82 307**	*e*x	P	09 16 15.0	-4.1
	comp=Z,70nm,0.5s					
NDI			*e*x	x	09 16 40.0	
NDI			*e*x	x	09 24 22.0	
DDI	**Dehra Dun**	**61.89 309**	*e*P	**P**	**09 16 19.5**	**-0.1**
TLY	**Talaya**	**62.17 342**	*c i*P	**P**	**09 16 22.2**	**+1.2**
TLY			*e*S	**S**	**09 24 37.5**	**+1.5**
TLY			*e*		09 25 07.6	
TLY			*e*SS	**SS**	**09 28 35.5**	**-6.1**
TLY			pmax	pmax		
	comp=Z,63nm,0.9s					
TLY			MLR	MLR		
	comp=Z,163nm,19.0s					
TLY	**Talaya**	**62.17 342**	P	**P**	**09 16 22.5**	**+1.5**
	comp=Z,429nm,1.0s,SNR=18					
IRK	**Irkutsk**	**62.47 342**	*e*P	**P**	**09 16 22.6**	**-0.4**
IRK			pmax	pmax		
	comp=Z,218nm,1.2s					
SMLA	**Simla**	**62.94 310**	*i*P	**P**	**09 16 27.4**	**+0.9**
WMQ	**Urumqi**	**63.02 327**	P	**P**	**09 16 27.3**	**+0.4**
WMQ			pP	**pP**	**09 17 01.0**	**+2.2**
WMQ			PcP	**PcP**	**09 17 03.5**	**-0.1**
WMQ			sP	**sP**	**09 17 16.5**	**+3.3**
WMQ			PP	**PP**	**09 18 49.0**	**+1.7**
WMQ			S	**S**	**09 24 44.5**	**-2.5**
WMQ			sS	**sS**	**09 25 43.0**	**+1.0**
WMQ	**Urumqi**	**63.02 327**	SS	SS	09 28 54.5	-0.8
WMQ			pmax	pmax		
	comp=Z,310nm,0.8s					
WMQ			pmax	pmax		
	comp=Z,1μm,3.6s					
WMQ			LR	LR		
	comp=N,620nm,20.8s					
WMQ			LR	LR		
	comp=E,260nm,26.3s					
WMQ			LR	LR		
	comp=Z,360nm,28.4s					
MOY	**Mondy**	**63.03 340**	*e*P	**P**	**09 16 28.1**	**+1.3**
MOY			pmax	pmax		
	comp=Z,196nm,2.1s					
CLNS	**Chul'man**	**63.15 357**	*e*P	**P**	**09 16 27.6**	**+0.2**
CLNS			*e**PP	pP	09 16 52.1	-7.3
CLNS			*e*		09 17 04.7	
CLNS			*e*		09 18 46.0	
CLNS			*e*S	**S**	**09 24 49.4**	**+1.3**
CLNS			*e**SS	sS	09 25 30.1	-13
CLNS			*e*		09 26 03.7	
CLNS			*e*SS	**SS**	**09 29 02.6**	**+5.8**
CLNS			pmax	pmax		
	comp=Z,44nm,0.8s					
CLNS			pmax	pmax		
	comp=E,13nm,0.9s					
CLNS			pmax	pmax		
	comp=N,31nm,1.0s					
CLNS			pmax	pmax		
	comp=N,11nm,0.9s					
CLNS			pmax	pmax		
	comp=Z,5.0nm,1.2s					

CLNS pmax pmax
comp=E,7.0nm,0.9s
CLNS smax smax
comp=E,161nm,15.5s
CLNS smax smax
comp=N,186nm,11.3s
SDNR Sundarnagar 63.26 310 *e*P **P 09 16 29.0 +0.4**
PETK Petropavlovsk- 63.66 18 P **P 09 16 31.7 +0.9**
PETK Petropavlovsk- 63.66 18 P **P 09 16 31.7 +0.9**
PETK Petropavlovsk- 63.66 18 P **P 09 16 31.7 +0.9**
comp=N,64nm,0.8s,baz=192,slow=6.7,SNR=58
PET Petropavlovsk 63.88 19 *e*P **P 09 16 33.0 +0.8**
PET *e**PP **PcP 09 17 05.5 -1.3**
PET *e*S **S 09 24 57.0 -0.1**
PET *e*PS **PnS 09 25 28.5 -6.9**
PET pmax pmax
comp=Z,121nm,1.1s
DHRM DHARAMSHALA 64.10 310 *e*P **P 09 16 34.5 +0.1**
DLH Dalhousie 64.48 311 *e*P **P 09 16 36.0 -0.9**
DLH *ex* x 09 16 40.0
HVS Khovu-Aksy 65.34 336 *i*P **P 09 16 42.7 +0.8**
HVS pmax pmax
comp=Z,1μm,1.0s
BHJ Bhuj 66.09 299 *e*P **P 09 16 46.2 -0.9**
BHJ AMB AMB 09 16 47.2
comp=Z,61nm,1.9s
KSH Kashi 67.74 317⇑ *i*P **P 09 16 59.0 +1.5**
KSH pP **pP 09 17 32.5 +2.7**
KSH PP **PP 09 19 32.0 +3.3**
KSH PcS 09 21 27.8
KSH S **S 09 25 43.5 -1.4**
KSH ScS **SKiKP 09 26 40.0 -1.4**
KSH pmax pmax
comp=Z,570nm,2.8s
KSH LR LR
comp=N,150nm,5.1s
KSH LR LR
comp=E,140nm,6.2s
KSH LR LR
comp=Z,320nm,20.3s
KSH pmax pmax
comp=Z,140nm,1.0s
MK31 Makanchi Array 67.86 327*ce*P **P 09 16 58.8 +0.9**
MK31 pmax pmax
comp=Z,436nm,0.9s
MK31 Makanchi Array 67.86 327 *e*P **P 09 16 59.0 +1.1**
MKAR Makanchi Array 67.86 327 P **P 09 16 58.6 +0.7**
MKAR S **S 09 25 45.4 -0.3**
MKAR Makanchi Array 67.86 327 P **P 09 16 58.6 +0.7**
MKAR S **S 09 25 45.4 -0.3**
MKAR Makanchi Array 67.86 327 P **P 09 16 58.6 +0.7**
comp=Z,260nm,0.7s,baz=126,slow=8.2,SNR=1056
MKAR S **S 09 25 45.4 -0.3**
comp=Z,2.2nm,1.0s,baz=128,slow=9.3,SNR=4.4
YAK Yakutsk 68.21 360*c i*P **P 09 17 00.2 +0.5**
YAK *e**PP **PcP 09 17 25.8 +1.2**
YAK *e* 09 17 37.6
YAK *e* 09 19 30.0
YAK *e*PPP PPP 09 21 09.7
YAK *e*S **S 09 25 50.6 +1.4**
YAK *e**SS SKiKP 09 26 27.6 -14
YAK *e* 09 26 44.3
YAK *e*SS **SS 09 30 14.6 -0.3**
YAK pmax pmax
comp=Z,300nm,0.9s
YAK pmax pmax
comp=E,10.0nm,0.9s
YAK pmax pmax
comp=N,84nm,1.0s
YAK pmax pmax
comp=Z,119nm,3.2s
YAK pmax pmax
comp=N,165nm,3.3s
YAK pmax pmax
comp=E,45nm,2.4s
YAK smax smax
comp=N,49nm,1.4s
YAK smax smax
comp=E,96nm,1.4s
ULHL Ulahol 68.93 320 P **P 09 17 06.3 +1.4**
SNR=6.0
KZA Kyzart 69.48 319 P **P 09 17 10.3 +1.7**
SNR=66
TKM2 Tokmak 2 69.68 320 *e*P **P 09 17 09.9 +0.4**
TKM2 pmax pmax
comp=Z,159nm,0.8s
TKM2 Tokmak 2 69.68 320 P **P 09 17 10.4 +0.9**
SNR=141
TKM2 Tokmak 2 69.68 320 *e*P **P 09 17 09.9 +0.4**
comp=Z,158nm,0.8s
KBK Karagaybulak 69.96 320 P **P 09 17 12.8 +1.5**
SNR=17
UCH Uchtor 70.03 319 P **P 09 17 13.6 +1.6**
SNR=92
AAK Ala-Archa 70.24 320*ce*P **P 09 17 14.1 +1.2**
AAK pmax pmax
comp=Z,520nm,1.0s
AAK Ala-Archa 70.24 320 P **P 09 17 14.4 +1.4**
SNR=108
AAK Ala-Archa 70.24 320 P **P 09 17 14.1 +1.2**
SNR=130
AAK Ala-Archa 70.24 320 *e*P **P 09 17 14.0 +1.1**
comp=Z,209nm,1.0s
AAK Ala-Archa 70.24 320 P **P 09 17 14.3 +1.4**
comp=Z,153nm,0.9s,baz=115,slow=5.1,SNR=216
CHMS Chumysh 70.25 320 P **P 09 17 13.8 +1.0**
SNR=23
FRU Bishkek 70.26 320⇑ *i*P **P 09 17 14.0 +1.1**
FRU *i* 09 17 37.0
FRU *e* 09 26 14.0
FRU *e* 09 27 06.0
FRU pmax pmax
comp=Z,300nm,2.2s
AML Almayashu 70.52 319 P **P 09 17 16.4 +1.5**
SNR=130
USP Ospenovka 70.55 320 P **P 09 17 15.6 +1.0**
SNR=248
KBL Kabul 70.57 310 *e*P **P 09 17 15.5 +0.4**
KBL pmax pmax
comp=Z,231nm,1.1s
KBL Kabul 70.57 310 *e*P **P 09 17 15.5 +0.4**
comp=Z,231nm,1.1s
KBL Kabul 70.57 310 P **P 09 17 15.7 +0.5**
baz=71,SNR=32
EKS2 Erkin-Say 70.72 319 *e*P **P 09 17 16.9 +1.2**
EKS2 pmax pmax
comp=Z,224nm,0.9s
EKS2 Erkin-Say 70.72 319 P **P 09 17 17.0 +1.3**
SNR=188
EKS2 Erkin-Say 70.72 319 *e*P **P 09 17 16.9 +1.2**
comp=Z,224nm,0.9s
ZAA0 Zalesovo Array 71.15 334 *e*P **P 09 17 17.4 -0.5**
ZALV Zalesovo Beam 71.15 334 P **P 09 17 17.7 -0.2**
ZALV S **S 09 26 20.7 -3.3**
ZALV Zalesovo Beam 71.15 334 P **P 09 17 17.7 -0.2**
ZALV S **S 09 26 20.6 -3.3**
ZALV P'P' 09 45 09.3
ZALV Zalesovo Beam 71.15 334 P **P 09 17 17.7 -0.2**
comp=Z,88nm,0.7s,baz=120,slow=5.0,SNR=245
ZALV S **S 09 26 20.6 -3.3**
comp=Z,1.5nm,0.6s,baz=134,slow=11,SNR=4.6
ZALV PKPPKP **P'P'df 09 45 09.3 -2.0**
comp=Z,0.6nm,0.4s,baz=320,slow=4.4,SNR=3.9
ZALV LR LR 09 49 36.2
comp=Z,170nm,21.4s,baz=238,slow=37
SEY Seymchan 71.15 10*c i*P **P 09 17 18.8 +1.1**
MRIV Mauritius Mete 71.67 251 *e*P **P 09 17 23.0 +1.1**
KURBB Kurchatov Arra 72.12 328 P **P 09 17 24.1 +0.3**
comp=Z,64nm,0.7s,baz=128,slow=4.9,SNR=574
KURBB S S 09 26 28.6 -6.6
comp=Z,1.6nm,0.9s,baz=133,slow=12,SNR=10
KURK Kurchatov 72.13 328*c i*P **P 09 17 24.3 +0.4**
KURK pmax pmax
comp=Z,101nm,1.1s
KURK Kurchatov 72.13 328 P **P 09 17 24.6 +0.7**
SNR=83
KURK Kurchatov 72.13 328 P **P 09 17 24.1 +0.3**
KURK S S 09 26 28.6 -6.7
NVS Novosibirsk 72.43 334⇑ *i*P **P 09 17 25.1 -0.5**
NVS *e**PP **pP 09 17 55.2 -3.1**
NVS *e*S **S 09 26 36.4 -2.2**
NVS *e**SS SKSac 09 27 06.3 -11
NVS pmax pmax
comp=Z,130nm,1.1s
NVS pmax pmax
comp=N,63nm,1.2s
NVS pmax pmax
comp=E,66nm,1.1s
NVS smax smax
comp=N,19nm,1.4s
NVS smax smax
comp=E,93nm,1.8s
VNDA Vanda 73.03 173 *e*P **P 09 17 29.2 +0.5**
comp=E,28nm,0.8s
VNDA Vanda 73.03 173 P **P 09 17 29.4 +0.5**
comp=E,32nm,0.9s,baz=321,slow=6.4,SNR=207
VNDA LR LR 09 47 35.4
comp=E,643nm,21.3s,baz=351,slow=34
KK31 Karatay Array 73.05 319*c i*P **P 09 17 30.0 +0.5**
KK31 pmax pmax
comp=Z,192nm,1.1s
KKAR Karatay Array 73.05 319 *e*P **P 09 17 30.3 +0.7**
KKAR pmax pmax
comp=Z,145nm,1.0s
KKAR Karatay Array 73.05 319 *e*P **P 09 17 30.3 +0.7**
comp=Z,145nm,1.0s
RER Riviere de l'E 73.31 250 *e*P **P 09 17 32.4 +0.8**
comp=Z,189nm,0.8s
SBA Scott Base 73.91 172 *e*P **P 09 17 35.8 +1.9**
SBA pmax pmax
comp=Z,33nm,0.9s
SBA Scott Base 73.91 172 *e*P **P 09 17 35.8 +1.9**
comp=Z,33nm,0.9s
WBK Wadi Bani Khal 75.39 295 P **P 09 17 44.8 +1.3**
SNR=29
MAW Mawson 75.62 201 *e*P **P 09 17 44.6 +0.7**
comp=Z,28nm,1.1s
MAW P'P' 09 44 58.3
MAW Mawson 75.62 201 P **P 09 17 44.8 +0.9**
comp=Z,42nm,0.7s,baz=76,slow=6.2,SNR=192
MAW PKPPKP P'P'df 09 44 58.3 -5.8
comp=Z,1.8nm,0.9s,baz=334,slow=5.5,SNR=4.1
MAW LR LR 09 47 40.2
comp=Z,515nm,19.3s,baz=66,slow=33
MAW Mawson 75.62 201 P **P 09 17 44.7 +0.8**
baz=76,SNR=145
JMDO Jabal Madar 76.11 295 P **P 09 17 48.2 +0.5**
SNR=20
SMDO Samad 76.31 295 P **P 09 17 49.8 +0.9**
SNR=44
BSY Bisya 77.01 295 P **P 09 17 53.4 +0.7**
SNR=25
HOQ Hoqain 77.09 296 P **P 09 17 54.1 +1.0**
SNR=48
IDAH Dahanechah 77.20 305 *e*P **P 09 17 55.1 +1.2**
IMON Monand 77.49 306 *e*P **P 09 17 55.7 +0.3**
BVAR Borovoye Array 77.68 328 P **P 09 17 56.0 +0.2**
BVAR S **S 09 27 35.4 -1.5**
BVAR Borovoye Array 77.68 328 P **P 09 17 56.0 +0.2**
BVAR S **S 09 27 35.4 -1.5**
BVAR Borovoye Array 77.68 328 P **P 09 17 56.0 +0.2**
comp=Z,57nm,0.9s,baz=134,slow=4.3,SNR=159
BVAR S **S 09 27 35.4 -1.5**
comp=Z,2.2nm,1.0s,baz=133,slow=8.5,SNR=4.7
ARQ Araqi 77.75 295 P **P 09 17 57.3 +0.5**
SNR=24
BRVK Borovoye 77.75 328 P **P 09 17 56.3 +0.1**
comp=Z,675nm,0.9s,SNR=34
BRVK Borovoye 77.75 328*c i*P **P 09 17 56.4 +0.3**
BRVK pmax pmax
comp=Z,136nm,1.1s
BRVK Borovoye 77.75 328 P **P 09 17 56.6 +0.4**
SNR=48
BRVK Borovoye 77.75 328 *e*P **P 09 17 56.5 +0.3**
comp=Z,112nm,0.9s
IKOO Kooshah 77.81 305 *e*P **P 09 17 57.8 +0.5**
TIXI Tiksi 77.88 360*c i*P **P 09 17 55.5 -0.9**
TIXI *i* *PP pP 09 18 22.7 -6.8
TIXI pmax pmax
comp=Z,69nm,0.9s
IMYA Miami 78.04 309 *e*P **P 09 17 59.2 +0.8**
ITEG Tejag 78.15 305 *e*P **P 09 18 00.2 +1.2**
ASHO Ashiyiah 78.45 297 P **P 09 18 01.6 +0.9**
SNR=20
BANOM Banah 78.51 298 P **P 09 18 02.6 +1.6**
SNR=11
ISRO Mashad 78.52 309 *e*P **P 09 18 01.3 +0.4**
IMOG Moghan 78.57 309 *e*P **P 09 18 01.9 +0.5**
TBI Tubuai 78.59 112 *e*S **S 09 27 47.3 -0.4**
comp=Z,307nm,27.2s
TBI Tubuai 78.59 112 *e*LQ LQ 09 39 27.7
comp=Z,618nm,32.2s
TBI *e*LR LR 09 42 49.4
comp=Z,376nm,33.0s
IBND Bandar-abas 78.64 300 *e*P **P 09 18 04.0 +2.4**
IBND *e*P **P 09 18 04.0 +2.4**
RBK Rabkut 78.73 289 P **P 09 18 03.1 +0.8**
SNR=22
PPT2 Papeete2 78.74 107 *e*S **S 09 27 54.9 +5.2**
comp=Z,195nm,24.2s
PPT2 Papeete2 78.74 107 *e*LR LR 09 42 52.4
comp=Z,699nm,37.8s
IAKL Akhelmad 79.16 309 *e*P **P 09 18 04.7 +0.1**
IKRD Kardeh 79.39 309 *e*P **P 09 18 03.1 -2.7**
IEMG Emamgholi 79.47 310 *e*P **P 09 18 07.2 +0.9**
ABTO Aybut 79.56 289 P **P 09 18 07.5 +0.7**
SNR=26
ISFR Sfrayin 79.86 309 *e*P **P 09 18 09.1 +0.7**
ISHV Shirvan 80.22 310 *e*P **P 09 18 10.5 +0.2**
IBAF Bafgh 80.43 303 *e*P **P 09 18 11.4 0.0**
ABPO Ambohimpanom 81.39 252 *e*P **P 09 18 17.3 +0.5**
ABPO pmax pmax
comp=Z,34nm,1.1s
ABPO Ambohimpanom 81.39 252 *e*P **P 09 18 17.3 +0.5**
comp=Z,34nm,1.1s
OPO Ambohidratompo 81.46 252 P **P 09 18 17.4 +0.3**
OPO Ambohidratompo 81.46 252 P **P 09 18 17.4 +0.3**
comp=Z,40nm,0.7s,baz=105,slow=4.7
ICHK Chekchek 81.54 304 *e*P **P 09 18 16.0 -1.4**
ISAD Sadrabad 82.06 303 *e*P **P 09 18 19.6 -0.6**
AB31 Akbulak array 82.19 321*ce*P **P 09 18 19.6 -0.5**
AB31 pmax pmax
comp=Z,43nm,0.8s
ABKAR Akbulak array 82.19 321 *e*P **P 09 18 19.9 -0.2**
comp=Z,22nm,0.6s
IANJ Anjilo 82.67 307 *e*P **P 09 18 22.7 -0.5**
IGLO Ghaloghah 82.97 308 *e*P **P 09 18 24.2 -0.5**
IKIA Kiasar 83.02 308 *e*P **P 09 18 24.7 -0.3**
MUKL Al Mukalla 83.14 285⇑ *i*P **P 09 18 26.8 +1.1**
ISHM Shahmirzad 83.23 307 *e*P **P 09 18 25.7 -0.5**
ILAS Lasjerd 83.41 307 *e*P **P 09 18 26.8 -0.2**
IGAR Gharneh 83.53 304 *e*P **P 09 18 27.5 -0.2**
QSPA South Pole Qui 83.59 180 P **P 09 18 26.9 -0.3**
QSPA S **S 09 28 32.4 -5.8**
QSPA South Pole Qui 83.59 180 P **P 09 18 26.9 -0.3**
comp=Z,91nm,0.9s,baz=314,slow=2.0
QSPA S **S 09 28 32.3 -5.8**
comp=Z,6.8nm,1.0s,baz=331,slow=6.1,SNR=4.4
QSPA LR LR 09 56 46.8
comp=Z,530nm,21.1s,baz=192,slow=36
IFIR Firoozkooh 83.63 307 *e*P **P 09 18 28.1 -0.1**
AKTO Aktyubinsk 83.75 322 P **P 09 18 28.4 +0.3**
AKTO Aktyubinsk 83.75 322 P **P 09 18 28.4 +0.3**
AKTO Aktyubinsk 83.75 322 P **P 09 18 28.4 +0.3**
comp=Z,36nm,0.8s,baz=108,slow=6.7,SNR=61
ISFB Sefidab 83.77 305 *e*P **P 09 18 28.9 +0.2**
IPRN Peran 84.08 307 *e*P **P 09 18 30.2 -0.1**
IKLH Kolahrood 84.09 304 *e*P **P 09 18 30.7 +0.1**
IVRN Varamin 84.31 306 *e*P **P 09 18 31.1 -0.3**
SYO Syowa Base 84.33 201 ||*i*P **P 09 18 29.8 -0.9**
SYO Syowa Base 84.33 201 ||*i*P P 09 18 37.8 +7.1
SVE Sverdlovsk 84.38 329*de*P **P 09 18 31.1 0.0**
SVE *e* 09 21 47.3
SVE *e*S **S 09 28 46.8 +0.8**
SVE pmax pmax
comp=Z,216nm,1.2s
IR3 Iran Long-Peri 84.97 306 *e*P **P 09 18 34.6 -0.1**
ARU Arti 85.32 328 P **P 09 18 35.2 -0.7**
ARU Arti 85.32 328 P **P 09 18 35.5 -0.4**
comp=Z,640nm,0.8s,SNR=24
IRAZ Razeghan 85.84 306 *e*P **P 09 18 39.0 -0.2**
KBD Kabd 86.63 300 *e*P **P 09 18 42.7 -0.3**
KBD AMb AMB 09 18 45.1
comp=Z,118nm,1.6s
UMR Umm Al-Rimmam 86.67 300 *e*P **P 09 18 43.1 0.0**
UMR AMb AMB 09 18 45.3
comp=Z,248nm,1.3s
RDF Al-Radifah 86.71 299 *e*P **P 09 18 43.9 +0.5**
RDF AMb AMB 09 18 46.0
comp=Z,191nm,1.1s
NAY Al-Naaiem 87.03 300 *e*P **P 09 18 44.6 -0.3**
NAY AMb AMB 09 18 46.9
comp=Z,174nm,0.8s
SOKR Solikamsk 87.21 331*c i*P **P 09 18 43.9 -1.0**
SOKR pmax pmax
comp=Z,80nm,1.0s
RST Umm Al-Ruwaisa 87.28 300 *e*P **P 09 18 45.6 -0.5**
RST AMb AMB 09 18 48.4
comp=Z,2μm,0.8s
DAMY Dhamar 87.61 285 P **P 09 18 50.7 +2.4**
baz=88,SNR=9.3
TRBA At Turbah 87.72 283⇑ *i*P **P 09 18 50.1 +1.4**
ILIN Lien 88.15 305 *e*P **P 09 18 49.4 -1.0**
IDHR Dehrash 88.58 305 *e*P **P 09 18 51.0 -1.4**
ATD Arta Tunnel 88.74 282 P **P 09 18 55.2 +1.8**
ATD Arta Tunnel 88.74 282 P **P 09 18 55.2 +1.8**
comp=Z,39nm,0.8s,baz=113,slow=4.3,SNR=18
MAK Makhachkala 89.03 313 *e*P **P 09 18 53.6 -0.4**
MAK *e* 09 22 26.3
MAK *e*S **SKSac 09 29 08.5 -3.0**
MAK *e*SS **SS 09 35 30.2 +2.4**
MAK pmax pmax
comp=Z,97nm,1.0s
IAZR Azarshahr 89.35 308 *e*P **P 09 18 56.4 +0.4**
IMRD Marand 89.72 309 *e*P **P 09 18 57.9 +0.3**
IM04 Indian Mountai 90.11 23 *e*P **P 09 18 57.7 -0.9**
IMA2 Indian Mountai 90.17 23 *e*P **P 09 18 58.8 -0.2**
DGRG David-gareji 90.36 312 P **P 09 19 01.8 +1.4**
TBLG Delisi 90.87 312 P **P 09 19 03.2 +0.5**
TBLG Delisi 90.87 312 P **P 09 19 03.2 +0.5**
MCK McKinley 91.61 26 *e*P **P 09 19 05.0 -0.6**
MCK pmax pmax
comp=Z,44nm,1.3s
MCK McKinley 91.61 26 *e*P **P 09 19 05.0 -0.6**
comp=Z,44nm,1.3s
ZEI Tsey 91.62 313 *e*P **P 09 19 05.3 -1.1**
ZEI pmax pmax
comp=Z,12nm,0.6s
AKH Akhalkalaki 91.76 311 P **P 09 19 08.1 +1.0**
COLD Coldfoot 91.80 23 *e*P **P 09 19 06.8 +0.4**
comp=Z,27nm,0.9s
RKT Rikitea 91.88 113 *e*S **S 09 29 56.5 -1.9**
comp=Z,297nm,28.0s
RKT Rikitea 91.88 113 *e*LR LR 09 48 57.6
comp=Z,473nm,38.2s
ONI Oni 91.93 312 P **P 09 19 07.9 +0.3**
COLA College 92.29 25 *e*P **P 09 19 07.2 -1.4**
COLA pmax pmax
comp=Z,45nm,0.8s
COLA College 92.29 25 *e*P **P 09 19 07.2 -1.4**
comp=Z,45nm,0.8s
KBZ Khabaz 92.46 314 P **P 09 19 10.1 +0.2**
KBZ 09 22 51.9
KBZ Khabaz 92.46 314 P **P 09 19 10.1 +0.2**
KBZ PP **PP 09 22 51.9 -0.9**
KBZ Khabaz 92.46 314 P **P 09 19 10.1 +0.2**
comp=Z,4.2nm,0.8s,baz=174,slow=2.0,SNR=6.7
KBZ PP **PP 09 22 51.9 -0.9**
comp=Z,2.1nm,0.7s,baz=106,slow=16,SNR=3.7
KIV Kislovodsk 92.64 314*c i*P **P 09 19 10.0 -0.9**
KIV *i* *PP pP 09 19 34.9 -10
KIV *i* 09 19 48.9
KIV *i* 09 22 54.2
KIV *e*S **S 09 30 07.0 +2.5**
KIV *e* 09 31 35.7
KIV pmax pmax
comp=Z,24nm,2.3s
ILAR Eielson Array 92.68 25 P **P 09 19 08.9 -1.6**
ILAR PP **PP 09 22 58.1 +4.1**
ILAR PKiKP **PKiKP 09 23 56.4 -1.6**
ILAR PKKPbc **PKKPdf 09 36 22.4 0.0**
ILAR Eielson Array 92.68 25 P **P 09 19 08.9 -1.6**
comp=Z,12nm,0.8s,baz=275,slow=4.3,SNR=109
ILAR PP **PP 09 22 58.1 +4.1**
comp=Z,1.8nm,1.1s,baz=267,slow=7.9,SNR=4.3
ILAR PKiKP **PKiKP 09 23 56.4 -1.6**
comp=Z,1.1nm,0.9s,baz=259,slow=3.8,SNR=3.8
ILAR PKKPbc **PKKPdf 09 36 22.4 0.0**
comp=Z,1.1nm,0.7s,baz=277,slow=0.6,SNR=11
KMBO Kilima Mbogo 92.87 269 P **P 09 19 14.0 +1.2**
SNR=16
KMBO Kilima Mbogo 92.87 269 P **P 09 19 13.8 +0.9**
KMBO Kilima Mbogo 92.87 269 P **P 09 19 13.8 +0.9**
comp=Z,15nm,0.8s,baz=61,slow=7.3,SNR=32
VRHR Novokhopersk 94.06 321 *e*P **P 09 19 15.1 -2.0**
VRHR pmax pmax
comp=Z,20nm,0.8s
VRHR pmax pmax
comp=N,9.0nm,0.6s
VRHR pmax pmax
comp=E,20nm,0.6s
EGAK Eagle 95.11 25 *e*P **P 09 19 21.9 +0.2**
comp=E,27nm,0.9s
VORD Divnogorie 95.52 321 *e*P **P 09 19 22.2 -1.6**
VORD pmax pmax
comp=Z,20nm,1.0s
VORD pmax pmax
comp=N,10.0nm,0.8s
VORD pmax pmax
comp=E,20nm,1.0s
DAWY Dawson 95.84 26 *e*P **P 09 19 25.6 +0.5**
KLMR Klimovskoe 95.89 331 *e*P **P 09 19 22.4 -2.8**
KLMR pmax pmax
comp=Z,85nm,1.5s
ASF Jabal al Asfar 96.20 302 P **P 09 19 28.2 +0.7**
ASF PP **PP 09 23 23.0 +0.6**
ASF Jabal al Asfar 96.20 302 P **P 09 19 28.2 +0.7**
comp=Z,12nm,0.8s,baz=48,slow=4.0,SNR=23
ASF PP **PP 09 23 23.0 +0.6**
comp=Z,6.2nm,1.1s,baz=306,slow=2.0,SNR=4.0
SNAA Sanae 96.33 193 *e*P **P 09 19 28.0 +0.8**
SNAA Sanae 96.33 193 P **P 09 19 27.7 +0.5**
SNAA PKKPbc **PKKPdf 09 36 11.1 -4.1**
SNAA Sanae 96.33 193 P **P 09 19 27.7 +0.5**
comp=Z,9.3nm,0.7s,baz=147,slow=4.1,SNR=24
SNAA PKKPbc **PKKPdf 09 36 11.1 -4.1**
comp=Z,1.6nm,1.0s,baz=31,slow=1.6,SNR=8.1
ANN Anapa 96.46 314 *e*P **P 09 19 29.5 +1.3**
ANN pmax pmax
comp=Z,40nm,1.1s
TMCR Tamitsa 96.67 334 *e*P **P 09 19 27.4 -1.3**
TMCR *e* 09 23 21.5
TMCR pmax pmax
comp=Z,22nm,0.4s
OBN Obninsk 97.31 325*c i*P **P 09 19 30.3 -1.5**
OBN *e* 09 19 54.2
OBN *e* 09 23 28.5
OBN pmax pmax
comp=Z,56nm,1.1s
MMAI Mount Meron Ar 97.51 302 P Pdif 09 19 33.9 +0.4
MMAI Mount Meron Ar 97.51 302 P Pdif 09 19 33.9 +0.4
comp=Z,11nm,0.8s,baz=103,slow=7.2,SNR=11
EIL Elat 97.73 299 P **P 09 19 34.0 -0.3**
EIL Elat 97.73 299 P **P 09 19 34.0 -0.3**
comp=Z,7.6nm,0.7s,baz=344,slow=5.1,SNR=7.2
VNA2 Neumayer--Watz 97.89 193 *e*P Pdif 09 19 35.1 +0.9
INK Inuvik 98.19 22 *e*P **P 09 19 34.9 -0.6**
comp=Z,17nm,1.2s
VNA1 Neumayer--Stat 98.29 193 *e*P Pdif 09 19 37.2 +1.2
APA Apatity 98.48 337⇑ *e*P P 09 19 32.8 -4.0
BR131 Keskin Array S 99.13 309 *e*P **Pdif 09 19 39.6 -1.0**
comp=Z,2.4nm,0.7s
BRTR Keskin Array B 99.13 309 P **Pdif 09 19 39.4 -1.2**
BRTR PP **PP 09 23 42.6 -2.2**
BRTR PKKPbc **PKKPbc 09 36 06.6 -0.1**
BRTR Keskin Array B 99.13 309 P **Pdif 09 19 39.4 -1.2**
comp=Z,3.8nm,0.8s,baz=121,slow=4.8,SNR=22
BRTR PP **PP 09 23 42.6 -2.2**
comp=Z,2.5nm,0.9s,baz=123,slow=9.0,SNR=4.5
BRTR PKKPbc **PKKPbc 09 36 06.6 -0.1**
comp=Z,1.2nm,0.9s,baz=222,slow=1.7,SNR=5.8
JOF Joensuu 99.73 333 *e*P **Pdif 09 19 41.4 -1.0**
JOF pmax pmax
comp=Z,19nm,0.7s
JOF Joensuu 99.73 333 *ep* **Pdif 09 19 41.4 -1.0**
comp=Z,19nm,0.7s
LSZ Lusaka 99.89 253 *e*P **Pdif 09 19 44.5 +0.1**
comp=Z,14nm,1.0s
BOSA Boshof 100.00 240 P **Pdif 09 19 44.3 -0.4**
BOSA Boshof 100.00 240 P **Pdif 09 19 44.3 -0.4**
comp=Z,2.4nm,0.7s,baz=158,slow=6.6,SNR=6.2
BOSA LR LR 09 58 06.9
comp=Z,164nm,18.4s,baz=346,slow=31
LBTB Lobatse 100.48 243 P **Pdif 09 19 46.8 -0.1**
LBTB Lobatse 100.48 243 P **Pdif 09 19 46.8 -0.1**

comp=Z,11nm,0.8s,baz=162,slow=3.4,SNR=13
KEV Kevo 100.53 340 eP Pdif 09 19 48.9 +3.0
KEV Kevo 100.53 340 ep Pdif 09 19 48.9 +3.0
SPITS Spitsbergen Ar 101.01 349 P Pdif 09 19 47.2 -0.8
SPITS Spitsbergen Ar 101.01 349 P Pdif 09 19 47.2 -0.8
comp=Z,13nm,0.7s,baz=90,slow=5.3,SNR=7.4
ARCES ARCESS Array B 101.09 340 P Pdif 09 19 47.8 -0.6
ARCES PKiKP PKiKP 09 24 13.7 +1.0
ARCES PKKPbc PKKPbc 09 35 59.1 -2.9
ARCES ARCESS Array B 101.09 340 P Pdif 09 19 47.8 -0.6
comp=Z,12nm,0.8s,baz=78,slow=6.8,SNR=16
ARCES PKiKP PKiKP 09 24 13.7 +1.0
comp=Z,3.5nm,0.9s,baz=79,slow=2.6,SNR=4.6
ARCES PKKPbc PKKPbc 09 35 59.1 -2.9
comp=Z,2.6nm,0.9s,baz=289,slow=3.7,SNR=4.1
AKASG Malin Array Be 101.90 320 P Pdif 09 19 51.0 -1.4
AKASG 09 24 04.0
AKASG Malin Array Be 101.90 320 P Pdif 09 19 51.0 -1.4
AKASG PP PP 09 24 04.0 -1.1
AKASG Malin Array Be 101.90 320 P Pdif 09 19 51.0 -1.4
comp=Z,2.1nm,0.7s,baz=70,slow=4.9,SNR=8.3
AKASG PP PP 09 24 04.0 -1.1
comp=Z,1.7nm,0.6s,baz=101,slow=7.6,SNR=4.9
KAF Kangasniemi 102.13 332 eP Pdif 09 19 52.0 -1.2
KAF pmax pmax
comp=Z,11nm,0.7s
KAF Kangasniemi 102.13 332 ep Pdif 09 19 52.0 -1.2
comp=Z,11nm,0.7s
FINES FINESS Array B 102.35 332 P Pdif 09 19 53.0 -1.1
FINES PP PP 09 24 07.2 -0.9
FINES FINESS Array B 102.35 332 P Pdif 09 19 53.0 -1.1
comp=Z,6.5nm,0.7s,baz=72,slow=6.2,SNR=16
FINES PP PP 09 24 07.2 -0.9
comp=Z,5.9nm,0.9s,baz=93,slow=15,SNR=5.0
SUR Sutherland 102.78 235 P Pdif 09 19 56.3 -0.8
SUR PKKPbc PKKPbc 09 35 56.1 +0.2
SUR Sutherland 102.78 235 P Pdif 09 19 56.3 -0.8
comp=Z,4.0nm,0.8s,baz=222,slow=6.5,SNR=3.5
SUR PKKPbc PKKPbc 09 35 56.1 +0.2
comp=Z,8.2nm,0.9s,baz=99,slow=3.1,SNR=5.2
TIRR Tirgusor 102.90 314 ⇑iP PP 09 24 04.5 -8.2
CFR Carcaliu 103.05 315 ⇑iP PKiK 09 24 16.0 -0.9
TESR Tescani 103.97 316 ⇑iP PP 09 24 22.6 +1.9
VRI Vrincioaia 103.98 316 ⇑iP PKiK 09 24 17.4 -1.3
PLOR Plostina 104.03 316 ⇓iP PKiK 09 24 18.9 +0.1
MLR Muntele Rosu 104.56 315 Pdif Pdif 09 20 04.2 -0.3
MLR PKiKP PKiKP 09 24 19.2 -0.7
MLR PP PP 09 24 28.7 +3.5
MLR Muntele Rosu 104.56 315 Pdiff Pdif 09 20 04.2 -0.3
comp=Z,0.7nm,0.6s,baz=220,slow=2.9,SNR=6.0
MLR PKiKP PKiKP 09 24 19.2 -0.7
comp=Z,2.9nm,1.0s,baz=150,slow=3.9,SNR=5.5
MLR PP PP 09 24 28.7 +3.5
comp=Z,6.7nm,0.9s,baz=346,slow=3.0,SNR=9.2
BURAR Bucovina Array 104.83 317 ⇑iP PP 09 24 31.6 +4.5
BUR08 Bucovina Ar. S 104.83 318 ePdif Pdif 09 20 06.0 +0.4
BMR Baia Mare 105.97 318 ⇑iP PP 09 24 30.0 -5.4
IDI Anoyia 106.20 305 PKiKP PKiKP 09 24 23.8 +0.6
IDI Anoyia 106.20 305 PKiKP PKiKP 09 24 23.8 +0.6
comp=Z,3.9nm,0.5s,baz=59,slow=5.9,SNR=4.8
KOLS Kolonicke sedl 106.58 319 eP Pdif 09 20 13.8 +0.5
KOLS Kolonicke sedl 106.58 319 PDIF Pdif 09 20 13.8 +0.5
VTS Vitosha 106.84 312 ⇓iP PP 09 24 35.5 -6.7
YKA Yellowknife Ar 107.08 26 PKiKP PKiKP 09 24 23.7 -0.2
YKA PKKPbc PKKPbc 09 35 41.0 -2.8
YKA Yellowknife Ar 107.08 26 PKiKP PKiKP 09 24 23.7 -0.2
comp=Z,6.4nm,0.7s,baz=298,slow=1.8,SNR=20
YKA PKKPbc PKKPbc 09 35 41.0 -2.8
comp=Z,1.6nm,0.6s,baz=110,slow=3.4,SNR=7.4
CRVS Cervenica-Dubn 107.12 319 eP Pdif 09 20 16.4 +0.7
CRVS Cervenica-Dubn 107.12 319 PDIF Pdif 09 20 16.4 +0.7
STHS Stebnicka Huta 107.17 320 eP Pdif 09 20 17.2 +1.3
STHS Stebnicka Huta 107.17 320 PDIF Pdif 09 20 17.1 +1.2
BZS Buzias 107.56 316 ⇑iP PP 09 24 55.0 +7.9
KECS Kecovo 107.83 319 eP Pdif 09 20 18.9 0.0
KECS Kecovo 107.83 319 PDIF Pdif 09 20 18.9 0.0
BEKR Beckworth 108.92 50 ePKPdf PKiKP 09 24 29.0 +0.7
OKC Ostrava-Krasne 109.05 321 ePP PP 09 25 05.9 +8.1
OKC ex x 09 35 06.0
NB2 NORSAR Subarra 109.35 333 P Pdif 09 20 23.9 -1.5
comp=Z,5.8nm,0.8s,baz=68,slow=4.4
NB2 NORSAR Subarra 109.35 333 P Pdif 09 20 23.9 -1.5
baz=68,slow=4.4
NOA NORSAR Array B 109.35 333 Pdif Pdif 09 20 24.3 -1.1
NOA PKiKP PKiKP 09 24 27.9 -0.4
NOA PP PP 09 24 59.3 -0.2
NOA NORSAR Array B 109.35 333 Pdiff Pdif 09 20 24.3 -1.1
comp=Z,4.4nm,0.9s,baz=69,slow=4.5,SNR=3.4
NOA PKiKP PKiKP 09 24 27.9 -0.4
comp=Z,3.2nm,0.9s,baz=45,slow=1.9,SNR=5.1
NOA PP PP 09 24 59.3 -0.2
comp=Z,5.5nm,1.0s,baz=66,slow=7.3,SNR=4.6
MORC Moravsky Berou 109.45 321 ePKPdf PKiKP 09 24 29.2 +0.4
NEW Newport 109.72 41 ⇓PKiKP PKiKP 09 24 29.5 +0.2
baz=110
PKM Peak Mountain 109.95 55 ⇓PKiKP PKiKP 09 24 31.1 +0.8
baz=110
DPC Dobruska-Polom 110.07 321 ePKP PKiKP 09 24 30.8 +0.9
DPC ePP PP 09 24 57.8 -7.4
UPC Upice 110.22 322 ePKIKP PKiKP 09 24 30.7 +0.6
UPC e 09 25 05.1
UPC Upice 110.22 322 ePKP PKiKP 09 24 30.7 +0.6
UPC ePP PP 09 25 05.1 -1.1
RCTC Rector, Farmer 110.25 54 ⇓PKiKP PKiKP 09 24 31.4 +0.8
baz=110
VES Vestal, Richgr 110.43 54 ⇓PKiKP PKiKP 09 24 31.4 +0.4
baz=110
EDM Edmonton 110.72 35 ePKIKP PKiKP 09 24 31.6 +0.6
EDM Edmonton 110.72 35 ePKPdf PKiKP 09 24 31.6 +0.6
ARVC Arvin 110.73 55 ⇓PKiKP PKiKP 09 24 31.8 +0.3
baz=111
TREC Trest 110.86 320 ePKIKP PKiKP 09 24 31.7 +0.3
TREC Trest 110.86 320 ePKP PKiKP 09 24 31.7 +0.3
ISA Isabella 110.95 54 ⇑PKiKP PKiKP 09 24 32.5 +0.4
baz=111
CWC Cottonwood Cre 111.16 53 ⇓PKiKP PKiKP 09 24 33.0 +0.5
baz=111
SCI San Clemente I 111.21 57 ⇓PKiKP PKiKP 09 24 32.7 +0.2
baz=111
PRU Pruhonice 111.27 321 ePKIKP PKiKP 09 24 32.0 -0.1
PRU MLR MLR
comp=Z,300nm,24.6s
PRU Pruhonice 111.27 321 ePKP PKiKP 09 24 32.0 -0.1
PRU ex x 09 35 04.9
PRU AMS AMS 10 18 10.0
comp=Z,300nm,24.6s
CIS Catalina Islan 111.28 57 ⇓PKiKP PKiKP 09 24 32.6 -0.1
baz=111
PRA Prague 111.31 321 PKP PKiKP 09 24 33.0 +0.8
BSMT Bassoo Peak 111.34 41 ePKPdf PKiKP 09 24 32.8 +0.2
BRG Berggiesshubel 111.39 322 i PKP 09 24 32.8
comp=Z,17nm,1.4s
BRG ePP PP 09 25 15.9 +1.4
comp=Z,13nm,1.7s
BRG Berggiesshubel 111.39 322 i PKIKP PKiKP 09 24 32.8 +0.5
BRG e 09 25 15.9
BRG pmax pmax
comp=Z,17nm,1.4s
BRG pmax pmax
comp=Z,13nm,1.7s
EDW2 Edwards Air Fo 111.44 55 ⇑PKiKP PKiKP 09 24 33.9 +0.9
baz=112
GROS Grobnik 111.56 318 ePKiKP PKiKP 09 24 32.6 -0.3
LRMC Laurel Mountai 111.61 54 ⇑PKiKP PKiKP 09 24 34.4 +1.0
baz=112
GRAC Grapevine Rang 111.65 53 ⇓PKiKP PKiKP 09 24 34.6 +1.3
baz=112
MFID Camas Ranch 111.66 46 ⇓PKiKP PKiKP 09 24 34.3 +1.1
baz=112
MPMC Manual Prospec 111.69 54 ⇑PKiKP PKiKP 09 24 34.8 +1.2
baz=112
BFSC Mount Baldy Ra 111.79 56 ⇑PKiKP PKiKP 09 24 34.3 +0.6
baz=112
CLL Collm 111.82 323 ePKIKP PKiKP 09 24 33.0 -0.1
CLL e 09 25 16.0
CLL pmax pmax
comp=Z,5.0nm,0.8s
CLL Collm 111.82 323 ePKiKP PKiKP 09 24 33.0 -0.1
comp=Z,5.0nm,0.8s
CLL e 09 24 55.0
CLL ePP PP 09 25 16.0 -1.6
CLL epPP 09 25 42.0
CLL esPP 09 25 57.0
CLL eSKKSac SKKSac 09 32 03.0 -4.1
CLL eSdif Sdif 09 32 47.0 +1.2
CLL eSP SP 09 34 35.0 -1.0
CLL epSP 09 35 19.0
CLL ePPS PPS 09 35 56.0
CLL esPPS 09 36 32.0
CLL eSSS SSS 09 44 54.0
CLL e 09 48 00.0
CLL e 09 51 48.0
SWMT Swartz Lake 111.94 41 ePKPdf PKiKP 09 24 33.5 -0.2
BOJS Bojanci 111.96 317 ePKiKP PKiKP 09 24 33.8 +0.2
KHC Kasperske Hory 112.11 321 ePKIKP PKiKP 09 24 34.2 +0.4
KHC MLR MLR
comp=Z,300nm,25.5s
KHC Kasperske Hory 112.11 321 ePKP PKiKP 09 24 34.2 +0.4
KHC ePKKP PKKPbc 09 35 26.2 -1.1
KHC AMS AMS 10 18 50.0
comp=Z,300nm,25.5s
GERES GERESS Array B 112.12 320 PKiKP PKiKP 09 24 34.1 +0.2
GERES GERESS Array B 112.12 320 PKiKP PKiKP 09 24 34.1 +0.2
comp=Z,4.3nm,0.5s,baz=78,slow=1.5,SNR=29
FURC Furnace Creek, 112.13 53 ⇑PKiKP PKiKP 09 24 35.6 +1.5
baz=112
MSO Missoula 112.16 42 ⇓PKiKP PKiKP 09 24 34.5 +0.4
baz=112
MURC Murrieta 112.25 56 ⇓PKiKP PKiKP 09 24 35.4 +0.8
baz=112
LJU Ljubljana 112.32 317 ePKiKP PKiKP 09 24 34.4 +0.2
GSC Goldstone 112.35 55 ePKiKP PKiKP 09 24 36.3 +1.6
GSC Goldstone 112.35 55 ePKPdf PKiKP 09 24 36.3 +1.6
GSC Goldstone 112.35 55 ⇑PKiKP PKiKP 09 24 36.0 +1.3
baz=112
SLMT Seeley Lake 112.35 41 ePKPdf PKiKP 09 24 34.5 0.0
CHMT Chamberlain Mo 112.59 42 ePKPdf PKiKP 09 24 35.2 +0.1
HLID Hailey 112.63 45 ePKPdf PKiKP 09 24 36.4 +1.3
HLID Hailey 112.63 45 ⇓PKiKP PKiKP 09 24 36.6 +1.5
baz=113
SHOC Shoshone 112.68 54 ⇑PKiKP PKiKP 09 24 36.5 +1.3
baz=113
HEC Hector,Ludlow 112.80 55 ⇓PKiKP PKiKP 09 24 37.0 +1.4
baz=113
R11A Troy Canyon, C 112.82 51 ePKPdf PKiKP 09 24 37.1 +1.4
R11A Troy Canyon, C 112.82 51 ⇑PKiKP PKiKP 09 24 36.7 +1.0
baz=113
PFO Pinyon Flat Ob 112.87 56 ePKPdf PKiKP 09 24 37.2 +1.4
PFO Pinyon Flat Ob 112.87 56 ⇓PKiKP PKiKP 09 24 36.9 +1.0
baz=113
MONP Monument Peak 112.99 57 ⇑PKiKP PKiKP 09 24 37.2 +1.0
baz=113
TUQ Turquoise Moun 113.04 54 ⇓PKiKP PKiKP 09 24 37.2 +1.1
baz=113
BELC Belle Mtn. Jos 113.19 56 ⇓PKiKP PKiKP 09 24 37.8 +1.3
baz=113
DVTC Desert V Tower 113.29 57 ⇓PKiKP PKiKP 09 24 37.8 +1.2
baz=113
GMRC Granite Mounta 113.35 55 ⇑PKiKP PKiKP 09 24 38.1 +1.3
baz=113
DLMT Dillon 113.45 43 ePKPdf PKiKP 09 24 38.0 +1.4
SHPR Sheep Range 113.48 53 ePKPdf PKiKP 09 24 38.8 +1.8
ABTA Abfaltersbach 113.48 318 ⇑iPKiKP PKiKP 09 24 36.1 -0.5
comp=Z,14nm,1.1s,SNR=5.3
SWSC Sam W. Stewart 113.51 57 ⇓PKiKP PKiKP 09 24 38.2 +1.4
baz=114
SUMG Summit 113.51 356 i PKIKP PKiKP 09 24 37.1 +0.8
SUMG pmax pmax
comp=Z,14nm,1.0s
SUMG Summit 113.51 356 i P PKiKP 09 24 37.1 +0.8
comp=Z,14nm,1.0s
SCO Scoresbysund 113.55 350 i PKIKP PKiKP 09 24 36.6 +0.8
SCO pmax pmax
comp=Z,16nm,1.0s
SCO Scoresbysund 113.55 350 i P PKiKP 09 24 36.6 +0.8
comp=Z,16nm,1.0s
BC3 Big Chuckawall 113.69 56 ⇓PKiKP PKiKP 09 24 39.1 +1.7
baz=114
WTTA Wattenberg 113.90 319 ⇑iPKiKP PKiKP 09 24 37.4 0.0
comp=Z,30nm,0.5s,SNR=12
BOZ Bozeman (W) 114.02 43 ePKIKP PKiKP 09 24 38.7 +1.0
BOZ Bozeman (W) 114.02 43 ePKPdf PKiKP 09 24 38.7 +1.0
HVU Hansel Valley 114.22 47 ePKIKP PKPdf 09 24 39.3 +1.1
HVU Hansel Valley 114.22 47 ePKPdf PKPdf 09 24 39.3 +1.1
MOTA Moosalm 114.22 319 ⇓iPKPdf PKPdf 09 24 37.8 -0.3
comp=Z,8.5nm,0.5s,SNR=6.8
GLA Glamis 114.30 57 ⇑PKiKP PKiKP 09 24 40.1 +1.6
baz=114
Y12C Blythe 114.44 56 ⇓PKiKP PKiKP 09 24 40.3 +1.6
baz=114
EGMT Eagleton 114.53 40 ePKPdf PKPdf 09 24 39.1 +0.6
EGMT Eagleton 114.53 40 ⇓PKiKP PKiKP 09 24 39.5 +1.0
baz=114
DUG Dugway 114.56 49 ePKIKP PKPdf 09 24 40.3 +1.4
DUG Dugway 114.56 49 ePKPdf PKPdf 09 24 40.3 +1.4
DUG Dugway 114.56 49 ⇓PKiKP PKiKP 09 24 40.2 +1.3
baz=115
FETA Feichten 114.56 319 ⇑iPKiKP PKPdf 09 24 38.7 0.0
comp=Z,7.0nm,0.7s
ARUT Antelope Range 114.59 51 ePKIKP PKPdf 09 24 39.0 -0.1
ARUT Antelope Range 114.59 51 ePKPdf PKPdf 09 24 39.0 -0.1
PDMCI Parker Dam,Lak 114.67 55 ⇑PKiKP PKiKP 09 24 40.3 +1.2
baz=115
W13A Hualapai Mount 114.74 54 ⇓PKiKP PKiKP 09 24 41.2 +1.7
baz=115
YMR Madison River 114.75 44 ePKPdf PKPdf 09 24 41.3 +2.1
A19A Klindworth Far 114.86 39 ⇓PKiKP PKPdf 09 24 39.5 +0.4
baz=115
RRI2 Red Ridge 114.87 45 ePKPdf PKPdf 09 24 40.9 +1.3
YFT Old Faithful 114.90 44 ePKPdf PKPdf 09 24 42.2 +2.6
B19A Brinkman Farms 114.90 39 ⇑PKiKP PKPdf 09 24 40.0 +0.8
baz=115
IMW Indian Meadow 114.98 44 ePKPdf PKPdf 09 24 41.2 +1.4
DAVA Damuels 115.03 320 ⇑iPKiKP PKiKP 09 24 39.6 0.0
comp=Z,15nm,0.5s,SNR=8.2
C19A Slack Wire Ran 115.08 40 ⇑PKiKP PKPdf 09 24 40.5 +1.0
baz=115
TPAW Teton Pass 115.09 45 ePKPdf PKPdf 09 24 41.3 +1.3
H17A Grant Village 115.09 44 ePKPdf PKPdf 09 24 42.3 +2.4
H17A Grant Village 115.09 44 ⇓PKiKP PKPdf 09 24 41.8 +1.9
baz=115
MOOW Moose Ponds 115.16 44 ePKPdf PKPdf 09 24 41.2 +1.2
REDW Red Top Meadow 115.19 45 ePKPdf PKPdf 09 24 41.5 +1.4
DAVOX Davos/Dischmat 115.19 319 PKP PKPdf 09 24 40.0 +0.1
DAVOX Davos/Dischmat 115.19 319 PKP PKPdf 09 24 40.0 +0.1
comp=Z,10nm,0.5s,baz=190,slow=2.6,SNR=11
113A Mohawk Valley, 115.22 57 ⇑PKiKP PKiKP 09 24 40.0 -0.2
baz=115
I17A Pilgrim Ck. 115.23 44 ⇓PKiKP PKPdf 09 24 41.7 +1.5
baz=115
SNOW Snow King Moun 115.23 45 ePKPdf PKPdf 09 24 41.5 +1.3
LOHW Long Hollow 115.30 45 ePKPdf PKPdf 09 24 41.3 +1.0
D19A Cripps Ranch, 115.37 40 ⇓PKiKP PKPdf 09 24 40.7 +0.6
baz=115
A20A Cobblestone Ra 115.39 38 ⇓PKiKP PKPdf 09 24 40.8 +0.6
baz=115
MVU Marysvale 115.39 50 ePKPdf PKPdf 09 24 42.4 +1.8
JLU Jordanelle 115.48 48 ePKPdf PKPdf 09 24 41.5 +0.7
B20A Solberg Farm, 115.48 39 ⇓PKiKP PKPdf 09 24 41.2 +0.9
baz=116
H18A Shoshone NF, C 115.64 43 ⇓PKiKP PKPdf 09 24 41.8 +0.8
baz=116
TUE Stuetta 115.64 319 ePKPdf PKPdf 09 24 40.8 -0.1
Y14A Wickenburg 115.66 55 ⇑PKiKP PKiKP 09 24 42.0 +0.9
baz=116
E19A Rath Farm, Rou 115.66 41 ⇑PKiKP PKPdf 09 24 41.7 +0.9
baz=116
C20A Veseth Ranch, 115.75 40 ⇓PKiKP PKPdf 09 24 41.8 +1.0
baz=116
F19A Roth Farm, Mol 115.75 42 ⇓PKiKP PKiKP 09 24 41.7 +0.7
baz=116
U15A North Rim 115.76 53 ⇓PKiKP PKiKP 09 24 43.0 +1.5
baz=116
Z14A Wintersburg 115.80 56 ⇓PKiKP PKiKP 09 24 42.7 +1.4
baz=116
M17A Scullys Gap (B 115.83 47 ⇓PKiKP PKiKP 09 24 42.1 +0.7
baz=116
D20A Manuel Ranch, 115.88 40 ⇓PKiKP PKiKP 09 24 41.8 +0.7
baz=116
A21A Bergtoll Ranch 115.96 38 ⇑PKiKP PKiKP 09 24 41.7 +0.5
baz=116
TMUT Trail Mountain 115.97 49 ePKPdf PKPdf 09 24 43.2 +1.3
E20A Meyer Farm, Mu 116.08 41 ⇑PKiKP PKiKP 09 24 42.2 +0.7
baz=116
Q16A Castle Valley 116.09 50 ePKPdf PKPdf 09 24 43.1 +1.2
Q16A Castle Valley 116.09 50 ⇑PKiKP PKiKP 09 24 43.3 +1.3
baz=116
H19A Powell 116.10 43 ⇑PKiKP PKiKP 09 24 42.6 +0.9
baz=116
B21A Ellsworth Farm 116.11 39 ⇑PKiKP PKiKP 09 24 42.1 +0.6
baz=116
214A Organ Pipe Nat 116.15 58 ⇓PKiKP PKiKP 09 24 43.2 +1.1
baz=116
L18A Fontenelle, Gr 116.16 46 ⇑PKiKP PKiKP 09 24 43.1 +1.1
baz=116
BW06 Boulder Array 116.27 45 ePKPdf PKPdf 09 24 42.7 +0.4
PDAR Pinedale Array 116.27 45 PKP PKPdf 09 24 42.6 +0.4
PDAR SKP 09 28 06.2
PDAR PKKPbc PKKPbc 09 35 11.4 -1.8
PDAR Pinedale Array 116.27 45 PKP PKPdf 09 24 42.6 +0.4
comp=Z,5.4nm,0.7s,baz=239,slow=1.2,SNR=50
PDAR SKP 09 28 06.2
comp=Z,1.3nm,0.7s,baz=224,slow=1.3,SNR=5.1
PDAR PKKPbc PKKPbc 09 35 11.4 -1.8
comp=Z,2.2nm,0.9s,baz=109,slow=4.8,SNR=12
C21A Desert Coulee 116.28 39 ⇑PKiKP PKiKP 09 24 42.6 +0.7
baz=116
I19A Meeteetse 116.29 44 ⇑PKiKP PKiKP 09 24 43.2 +1.0
baz=116
CDF Champ du Feu 116.29 321 ePKIKP PKPdf 09 24 41.3 -0.6
CDF Champ du Feu 116.29 321 ePKIKP PKPdf 09 24 41.3 -0.6
CDF Champ du Feu 116.29 321 ePKPdf PKPdf 09 24 41.3 -0.6
F20A Billings 116.30 42 ⇓PKiKP PKiKP 09 24 43.0 +1.0
baz=116
G20A Bridger 116.44 42 ⇑PKiKP PKiKP 09 24 43.4 +1.0
baz=116
J19A Crowheart 116.48 45 ⇑PKiKP PKiKP 09 24 43.7 +1.2
baz=116
SRU San Rafael 116.53 49 ePKIKP PKPdf 09 24 43.8 +1.0
SRU San Rafael 116.53 49 ePKPdf PKPdf 09 24 43.8 +1.0
A22A Carney Farms, 116.58 38 ⇓PKiKP PKiKP 09 24 43.4 +1.0
baz=117
L19A Farson 116.60 46 ⇑PKiKP PKiKP 09 24 43.7 +0.9
baz=117
D21A La Casta Ranch 116.62 40 ⇓PKiKP PKiKP 09 24 43.2 +0.7
baz=117
WUAZ Wupatki 116.68 53 ePKPdf PKPdf 09 24 44.5 +1.3
WUAZ Wupatki 116.68 53 ⇓PKiKP PKPdf 09 24 44.4 +1.3
baz=117
E21A Keefer Ranch, 116.75 41 ⇑PKiKP PKiKP 09 24 43.6 +0.8
baz=117
K19A Absolon Red Bu 116.75 45 ⇑PKiKP PKiKP 09 24 43.9 +0.8
baz=117
HINF Hinteralfeld 116.77 321 ePKIKP PKPdf 09 24 42.4 -0.4
comp=Z,18nm,0.6s
HINF Hinteralfeld 116.77 321 ePKIKP PKPdf 09 24 42.4 -0.4
HINF Hinteralfeld 116.77 321 ePKPdf PKPdf 09 24 42.4 -0.4
B22A Reddig Ranch S 116.79 38 ⇑PKiKP PKiKP 09 24 43.7 +0.8
baz=117
H20A Greybull 116.83 43 ⇑PKiKP PKiKP 09 24 43.9 +0.8
baz=117
X16A Lo Mia Camp, P 116.84 55 ⇓PKiKP PKiKP 09 24 44.9 +1.3
baz=117
I20A Worland 116.91 44 ⇓PKiKP PKiKP 09 24 44.2 +0.9
baz=117
M19A Rock Springs 116.91 46 ⇓PKiKP PKiKP 09 24 44.5 +0.9
baz=117
F21A Absaloka Mine, 116.97 41 ⇓PKiKP PKiKP 09 24 44.0 +0.7
baz=117
HAU Haudompre 117.02 321 ePKIKP PKPdf 09 24 43.0 -0.2
comp=Z,31nm,1.0s
HAU eR
comp=Z,273nm,20.2s
HAU Haudompre 117.02 321 ePKIKP PKPdf 09 24 43.0 -0.2
HAU Haudompre 117.02 321 ePKPdf PKPdf 09 24 43.0 -0.2
C22A Vida 117.07 39 ⇓PKiKP PKiKP 09 24 44.5 +1.1
baz=117
PGF Pioggiola 117.10 315 ePKIKP PKPdf 09 24 43.7 0.0
PGF Pioggiola 117.10 315 ePKIKP PKPdf 09 24 43.7 0.0
PGF Pioggiola 117.10 315 ePKPdf PKPdf 09 24 43.7 0.0
GIVF Givet 117.10 324 ePKIKP PKPdf 09 24 43.7 +0.4
GIVF Givet 117.10 324 ePKIKP PKPdf 09 24 43.7 +0.4
GIVF Givet 117.10 324 ePKPdf PKPdf 09 24 43.7 +0.4
D22A Cohagen 117.11 40 ⇓PKiKP PKiKP 09 24 44.7 +1.2
baz=117
G21A Lodge Grass 117.11 42 ⇓PKiKP PKiKP 09 24 44.4 +0.8
baz=117
J20A Shoshoni 117.12 44 ⇓PKiKP PKiKP 09 24 44.7 +1.0
baz=117
K20A Yellowstone Ra 117.16 45 ⇓PKiKP PKiKP 09 24 44.4 +0.5
baz=117
A23A Redstone 117.22 37 ⇑PKiKP PKiKP 09 24 44.4 +0.8
baz=117
LAO LASA Array 117.25 40 ePKPdf PKPdf 09 24 45.1 +1.3
O19A Miners Draw (B 117.27 48 ⇓PKiKP PKiKP 09 24 45.1 +1.0
baz=117
B23A Brockton 117.35 38 ⇑PKiKP PKiKP 09 24 44.9 +1.0
baz=117
L20A Wamsutter 117.35 46 ⇓PKiKP PKiKP 09 24 45.3 +0.9
baz=117
H21A Big Horn, Sher 117.42 43 ⇓PKiKP PKiKP 09 24 44.8 +0.5
baz=117
C23A Lambert 117.48 39 ⇑PKiKP PKiKP 09 24 45.4 +1.2
baz=118
E22A Miles City 117.51 40 ⇑PKiKP PKiKP 09 24 45.3 +1.0
baz=118
I21A Big Trails, Te 117.52 44 ⇑PKiKP PKiKP 09 24 45.0 +0.4
baz=118
F22A Rosebud 117.55 41 ⇓PKiKP PKiKP 09 24 45.3 +0.9
baz=118
P19A Cripple Cowboy 117.55 48 ⇑PKiKP PKiKP 09 24 45.9 +1.1
baz=118
J21A Lysite 117.57 44 ⇓PKiKP PKiKP 09 24 45.3 +0.6
baz=118
M20A Sweetwater, Wa 117.61 46 ⇑PKiKP PKiKP 09 24 45.8 +0.9
baz=118
LPG La Plagne 117.67 319 ePKIKP PKPdf 09 24 45.0 +0.1
comp=Z,16nm,0.6s
LPG La Plagne 117.67 319 ePKIKP PKPdf 09 24 45.0 +0.1
LPG La Plagne 117.67 319 ePKPdf PKPdf 09 24 45.0 +0.1
LPL La Plagne 117.68 319 ePKIKP PKPdf 09 24 44.9 +0.1
comp=Z,27nm,0.5s
LPL La Plagne 117.68 319 ePKIKP PKPdf 09 24 44.9 +0.1
LPL La Plagne 117.68 319 ePKPdf PKPdf 09 24 44.9 +0.1
CABF La Chapelle 117.70 320 ePKIKP PKPdf 09 24 44.9 +0.2
comp=Z,33nm,0.5s
CABF La Chapelle 117.70 320 ePKIKP PKPdf 09 24 44.9 +0.2
CABF La Chapelle 117.70 320 ePKPdf PKPdf 09 24 44.9 +0.2
D23A Lindsay 117.71 39 ⇓PKiKP PKiKP 09 24 45.7 +1.0
baz=118
G22A Birney 117.72 42 ⇑PKiKP PKiKP 09 24 45.4 +0.5
baz=118
N20A Spence Gulch, 117.75 47 ⇓PKiKP PKiKP 09 24 46.4 +1.2
baz=118
A24A Westby 117.76 37 ⇓PKiKP PKiKP 09 24 45.4 +0.7
baz=118
SBF Sospel 117.77 317 ePKIKP PKPdf 09 24 44.6 -0.3
comp=Z,29nm,0.9s
SBF Sospel 117.77 317 ePKIKP PKPdf 09 24 44.6 -0.3
SBF Sospel 117.77 317 ePKPdf PKPdf 09 24 44.6 -0.3
TUC Tucson 117.78 57 ePKIKP PKPdf 09 24 46.5 +1.3
TUC Tucson 117.78 57 ePKPdf PKPdf 09 24 46.5 +1.3
DGMT Dagmar 117.83 38 ePKPdf PKPdf 09 24 45.3 +0.5
DGMT Dagmar 117.83 38 ⇑PKiKP PKiKP 09 24 45.7 +0.8
baz=118
BNI Bardonecchia 117.88 318 ePKIKP PKPdf 09 24 45.3 +0.2
BNI Bardonecchia 117.88 318 ePKPdf PKPdf 09 24 45.3 +0.2
H22A Clearmont 117.90 42 ⇑PKiKP PKiKP 09 24 45.6 +0.4
baz=118
K21A Alcova 117.93 45 ⇑PKiKP PKiKP 09 24 46.0 +0.6
baz=118
MBDF Montbardon 117.93 318 ePKIKP PKPdf 09 24 44.9 -0.4
comp=Z,13nm,0.6s
MBDF Montbardon 117.93 318 ePKIKP PKPdf 09 24 44.9 -0.4
MBDF Montbardon 117.93 318 ePKPdf PKPdf 09 24 44.9 -0.4
O20A White River Ci 117.96 48 ePKPdf PKPdf 09 24 46.8 +1.3
O20A White River Ci 117.96 48 ⇓PKiKP PKiKP 09 24 47.1 +1.5
baz=118
X18A Snowflake 118.03 54 ⇓PKiKP PKiKP 09 24 47.1 +1.3
baz=118
P20A De Beque 118.03 48 ⇑PKiKP PKiKP 09 24 47.1 +1.4
baz=118
I22A 9 Mile Ranch, 118.05 43 ⇑PKiKP PKiKP 09 24 45.6 +0.1
baz=118
L21A Rawlins 118.06 46 ⇓PKiKP PKiKP 09 24 47.1 +1.4
baz=118
C24A Savage 118.06 39 ⇑PKiKP PKiKP 09 24 46.2 +0.9
baz=118
W18A Petrified Fore 118.07 54 ⇑PKiKP PKiKP 09 24 46.9 +1.0
baz=118
F23A Volborg 118.13 41 ⇓PKiKP PKiKP 09 24 46.0 +0.5
baz=118
M21A Separation Pea 118.17 46 ⇑PKiKP PKiKP 09 24 46.7 +0.7
baz=118
J22A Midwest 118.21 44 ⇑PKiKP PKiKP 09 24 45.9 0.0

	baz=118						
Q20A	Ridgley Place,	118.25	49	⇓PKiKP	PKiKP	09 24 47.9	+1.8
	baz=118						
A25A	Svangstu Ranch	118.29	37	⇓PKiKP	PKiKP	09 24 46.7	+1.0
	baz=118						
D24A	Glendive	118.29	39	⇑PKiKP	PKiKP	09 24 46.8	+1.0
	baz=118						
N21A	Black Mountain	118.31	47	⇑PKiKP	PKiKP	09 24 47.7	+1.5
	baz=118						
G23A	Biddle	118.33	42	⇑PKiKP	PKiKP	09 24 46.8	+0.8
	baz=118						
R20A	Redvale	118.39	50	⇓PKiKP	PKiKP	09 24 47.9	+1.4
	baz=118						
FRF	La Foret Royal	118.41	317	*e*PKIKP	PKPdf	09 24 45.9	-0.1
	comp=Z,17nm,0.7s						
FRF	La Foret Royal	118.41	317	*e*PKIKP	PKPdf	09 24 45.9	-0.1
FRF	La Foret Royal	118.41	317	*e*PKPdf	PKPdf	09 24 45.9	-0.1
K22A	Casper	118.43	45	⇓PKiKP	PKiKP	09 24 46.8	+0.5
	baz=118						
ORIF	Oris-en-Rattie	118.46	318	*e*PKIKP	PKPdf	09 24 46.2	0.0
	comp=Z,14nm,0.6s						
ORIF				*e*R			
	comp=Z,226nm,23.0s						
ORIF	Oris-en-Rattie	118.46	318	*e*PKIKP	PKPdf	09 24 46.2	0.0
ORIF	Oris-en-Rattie	118.46	318	*e*PKPdf	PKPdf	09 24 46.2	0.0
S20A	Disappointment	118.50	50	⇓PKiKP	PKiKP	09 24 48.1	+1.4
	baz=118						
O21A	Pagoda	118.51	47	⇑PKiKP	PKiKP	09 24 47.7	+1.1
	baz=118						
E24A	Baker	118.52	40	⇓PKiKP	PKiKP	09 24 47.1	+0.8
	baz=118						
B25A	Knox Farm, Ray	118.54	38	⇓PKiKP	PKiKP	09 24 47.4	+1.2
	baz=118						
H23A	Clabaugh Cattl	118.55	42	⇓PKiKP	PKiKP	09 24 47.6	+1.1
	baz=118						
MVCO	Mesa Verde	118.55	51	*e*PKPdf	PKPdf	09 24 48.0	+1.2
MVCO	Mesa Verde	118.55	51	⇓PKiKP	PKiKP	09 24 48.3	+1.5
	baz=119						
KEST	Kesra	118.67	307	PKP	PKPdf	09 24 47.5	+0.7
KEST				*e*PKPdf	PKiKP	09 24 47.7	+0.8
KEST				PP	PP	09 26 02.0	-4.3
KEST				PKKP	PKKPdf	09 35 33.8	+0.1
KEST	Kesra	118.67	307	PKP	PKPdf	09 24 47.5	+0.7
	comp=Z,5.9nm,0.9s,baz=332,slow=2.1,SNR=8.9						
KEST				PP	PP	09 26 02.0	-4.3
	comp=Z,12nm,1.0s,baz=210,slow=1.1,SNR=8.7						
KEST				PKKP	PKKPdf	09 35 33.8	+0.1
	comp=Z,0.8nm,0.4s,baz=51,slow=3.9,SNR=5.2						
L22A	Ellis Ranch, M	118.70	45	⇑PKiKP	PKiKP	09 24 48.0	+1.0
	baz=119						
F24A	Ekalaka	118.70	41	⇓PKiKP	PKiKP	09 24 47.1	+0.4
	baz=119						
C25A	Freed Ranch, W	118.71	38	⇓PKiKP	PKiKP	09 24 47.7	+1.1
	baz=119						
I23A	Meade Ranch, G	118.72	43	⇓PKiKP	PKiKP	09 24 47.0	+0.2
	baz=119						
P21A	Newcastle	118.72	48	⇓PKiKP	PKiKP	09 24 48.7	+1.6
	baz=119						
U20A	Newcomb	118.74	52	⇓PKiKP	PKiKP	09 24 48.3	+1.2
	baz=119						
EKA	Eskdalemuir Ar	118.75	332	PKP	PKPdf	09 24 46.3	0.0
EKA	Eskdalemuir Ar	118.75	332	PKP	PKPdf	09 24 46.3	0.0
	comp=Z,3.6nm,0.5s,baz=29,slow=2.9,SNR=9.9						
Q21A	Lamborn Mesa,	118.82	49	⇓PKiKP	PKiKP	09 24 48.7	+1.5
	baz=119						
LOR	Lormes	118.85	321	*e*PKIKP	PKPdf	09 24 46.8	0.0
	comp=Z,15nm,0.9s						
LOR				*e*R			
	comp=Z,244nm,21.2s						
LOR	Lormes	118.85	321	*e*PKPdf	PKPdf	09 24 46.8	0.0
D25A	Fairfield	118.90	39	⇓PKiKP	PKiKP	09 24 48.2	+1.2
	baz=119						
G24A	Alzada	118.92	41	⇑PKiKP	PKiKP	09 24 47.1	0.0
	baz=119						
V20A	Brimhall	118.92	53	⇓PKiKP	PKiKP	09 24 48.6	+1.0
	baz=119						
A26A	Wade Farm, Ken	118.95	37	⇑PKiKP	PKiKP	09 24 47.7	+0.7
	baz=119						
R21A	Cimarron	118.97	50	⇑PKiKP	PKiKP	09 24 49.3	+1.6
	baz=119						
S21A	Coal Bank Pass	118.98	50	⇑PKiKP	PKiKP	09 24 49.8	+2.0
	baz=119						
SMRF	Simiane la Rot	119.00	317	*e*PKIKP	PKPdf	09 24 47.6	+0.4
	comp=Z,19nm,0.8s						
SMRF	Simiane la Rot	119.00	317	*e*PKPdf	PKPdf	09 24 47.6	+0.4
K23A	Bowen Ranch, D	119.02	44	⇑PKiKP	PKiKP	09 24 47.5	0.0
	baz=119						
H24A	Dirks Ranch, A	119.05	42	⇓PKiKP	PKiKP	09 24 47.5	+0.1
	baz=119						
B26A	Jensen Ranch,	119.06	37	⇑PKiKP	PKiKP	09 24 48.0	+0.8
	baz=119						
W20A	Ramah	119.06	53	⇓PKiKP	PKiKP	09 24 49.2	+1.3
	baz=119						
N22A	Wattenberg Ran	119.07	47	⇓PKiKP	PKiKP	09 24 49.1	+1.3
	baz=119						
E25A	Miller Ranch,	119.11	40	⇑PKiKP	PKiKP	09 24 48.1	+0.7
	baz=119						
SMF	Signal de Mont	119.12	321	*e*PKIKP	PKPdf	09 24 47.1	-0.2
	comp=Z,11nm,0.7s						
SMF	Signal de Mont	119.12	321	*e*PKIKP	PKPdf	09 24 47.1	-0.2
SMF	Signal de Mont	119.12	321	*e*PKPdf	PKPdf	09 24 47.1	-0.2
SSF	Saint Saulge	119.16	321	*e*PKIKP	PKPdf	09 24 47.6	+0.3
	comp=Z,24nm,0.6s						
SSF	Saint Saulge	119.16	321	*e*PKIKP	PKPdf	09 24 47.6	+0.3
SSF	Saint Saulge	119.16	321	*e*PKPdf	PKPdf	09 24 47.6	+0.3
L23A	Garrett	119.18	45	⇑PKiKP	PKiKP	09 24 47.9	0.0
	baz=119						
X20A	Quemado	119.19	54	⇓PKiKP	PKiKP	09 24 49.7	+1.5
	baz=119						
O22A	Kremmling	119.20	47	⇑PKiKP	PKiKP	09 24 48.6	+0.5
	baz=119						
SSB	Saint Sauveur	119.20	319	*e*PKIKP	PKPdf	09 24 47.3	-0.2
SSB	Saint Sauveur	119.20	319	*e*PKPdf	PKPdf	09 24 47.3	-0.2
319A	Douglas	119.21	58	⇓PKiKP	PKiKP	09 24 49.6	+1.5
	baz=119						
P22A	Eagle	119.21	48	⇓PKiKP	PKiKP	09 24 49.8	+1.8
	baz=119						
VIVF	Saint-Julien-l	119.28	318	*e*PKIKP	PKPdf	09 24 47.7	0.0
	comp=Z,36nm,1.1s						
VIVF	Saint-Julien-l	119.28	318	*e*PKIKP	PKPdf	09 24 47.7	0.0
VIVF	Saint-Julien-l	119.28	318	*e*PKPdf	PKPdf	09 24 47.7	0.0
F25A	Bowman	119.31	40	⇓PKiKP	PKiKP	09 24 48.4	+0.5
	baz=119						
Q22A	Crested Butte,	119.31	49	⇓PKiKP	PKiKP	09 24 50.0	+1.7
	baz=119						
I24A	Kuemmerle Ranc	119.32	43	⇓PKiKP	PKPdf	09 24 47.9	0.0
	baz=119						
T21A	Navajo Lake	119.35	51	⇑PKiKP	PKiKP	09 24 50.2	+1.9
	baz=119						
AVF	Avril sur Loir	119.36	321	*e*PKIKP	PKPdf	09 24 47.6	-0.1
	comp=Z,10.0nm,0.6s						
AVF	Avril sur Loir	119.36	321	*e*PKIKP	PKPdf	09 24 47.6	-0.1
AVF	Avril sur Loir	119.36	321	*e*PKPdf	PKPdf	09 24 47.6	-0.1
C26A	Wahner Farm, P	119.38	38	⇓PKiKP	PKiKP	09 24 48.9	+1.0
	baz=119						
M23A	Laramie	119.38	46	⇑PKiKP	PKiKP	09 24 49.0	+0.7
	baz=119						
A27A	Ledoux Ranch,	119.39	36	⇑PKiKP	PKiKP	09 24 48.6	+0.8
	baz=119						
U21A	Nageezi	119.40	52	⇑PKiKP	PKiKP	09 24 50.5	+1.9
	baz=119						
N23A	Red Feather La	119.41	46	⇑PKiKP	PKiKP	09 24 49.2	+0.8
	baz=119						
Z20A	Nine Sixteen R	119.43	56	⇑PKiKP	PKiKP	09 24 50.3	+1.7
	baz=120						
Y20A	Horse Springs,	119.43	55	⇑PKiKP	PKiKP	09 24 50.2	+1.5
	baz=120						
SFJD	Kangerlussuaq	119.48	0	*i* P	PKPdf	09 24 47.0	-0.3
	comp=Z,28nm,0.8s						
SFJD	Kangerlussuaq	119.48	0	*e*PKPdf	PKPdf	09 24 47.4	0.0
J24A	Dixon Ranch, L	119.49	43	⇑PKiKP	PKiKP	09 24 48.6	+0.3
	baz=120						
D26A	Manning	119.50	39	⇑PKiKP	PKiKP	09 24 48.9	+0.7
	baz=120						
120A	U Bar Ranch, L	119.52	56	⇓PKiKP	PKiKP	09 24 50.1	+1.3
	baz=120						
V21A	Milan	119.58	52	⇑PKiKP	PKiKP	09 24 49.8	+0.9
	baz=120						
K24A	Anderson Ranch	119.59	44	⇓PKiKP	PKiKP	09 24 48.8	+0.2
	baz=120						
R22A	Saguache, Gunn	119.61	49	⇑PKiKP	PKiKP	09 24 50.9	+1.9
	baz=120						
RSSD	Black Hills	119.62	42	*e*PKIKP	PKPdf	09 24 48.7	+0.1
RSSD	Black Hills	119.62	42	*e*PKPdf	PKPdf	09 24 48.7	+0.1
G25A	Newell	119.62	41	⇑PKiKP	PKiKP	09 24 48.8	+0.4
	baz=120						
PHWY	Pilot Hill	119.62	46	*e*PKPdf	PKPdf	09 24 49.1	+0.3
B27A	Peters Farms,	119.63	37	⇑PKiKP	PKiKP	09 24 49.2	+0.9
	baz=120						
O23A	Lake Granby, G	119.64	47	⇓PKiKP	PKiKP	09 24 50.4	+1.4
	baz=120						
S22A	4UR Ranch, Cre	119.69	50	⇑PKiKP	PKiKP	09 24 50.9	+1.8
	baz=120						
E26A	Carlson Angus	119.72	39	⇑PKiKP	PKiKP	09 24 49.3	+0.7
	baz=120						
H25A	Fruitdale	119.72	42	⇓PKiKP	PKiKP	09 24 48.9	+0.2
	baz=120						
W21A	San Fidel	119.74	53	⇑PKiKP	PKiKP	09 24 50.6	+1.4
	baz=120						
220A	Playas Peak, P	119.74	57	⇑PKiKP	PKiKP	09 24 50.5	+1.3
	baz=120						
L24A	Wheatland	119.75	45	⇓PKiKP	PKiKP	09 24 49.4	+0.4
	baz=120						
BGF	Bois d'Agland	119.78	321	*e*PKIKP	PKPdf	09 24 48.9	+0.3
	comp=Z,6nm,0.6s						
BGF	Bois d'Agland	119.78	321	*e*PKIKP	PKPdf	09 24 48.9	+0.3
BGF	Bois d'Agland	119.78	321	*e*PKPdf	PKPdf	09 24 48.9	+0.3
C27A	Sayler Ranch,	119.78	38	⇓PKiKP	PKiKP	09 24 49.5	+0.9
	baz=120						
X21A	Alamocita Cree	119.79	54	⇓PKiKP	PKiKP	09 24 51.1	+1.7
	baz=120						
T22A	Edith	119.83	51	⇑PKiKP	PKiKP	09 24 51.2	+1.8
	baz=120						
F26A	Lodgepole	119.84	40	⇓PKiKP	PKiKP	09 24 49.4	+0.5
	baz=120						
320A	Kipp Ranch, An	119.85	58	⇓PKiKP	PKiKP	09 24 51.2	+1.8
	baz=120						
I25A	Rochford	119.86	42	⇑PKiKP	PKiKP	09 24 49.4	+0.3
	baz=120						
G27A	Dupree	119.86	41	⇓PKiKP	PKiKP	09 24 50.7	+1.8
	baz=120						
P23A	Jefferson	119.96	48	⇑PKiKP	PKiKP	09 24 51.1	+1.5
	baz=120						
Y21A	Point of Rocks	119.98	54	⇓PKiKP	PKiKP	09 24 51.3	+1.6
	baz=120						
A28A	Rude Farm, Bot	119.98	36	⇓PKiKP	PKiKP	09 24 49.6	+0.6
	baz=120						
ISCO	Idaho Springs	119.99	47	*e*PKIKP	PKPdf	09 24 50.7	+1.1
ISCO	Idaho Springs	119.99	47	*e*PKPdf	PKPdf	09 24 50.7	+1.1
ISCO	Idaho Springs	119.99	47	⇑PKiKP	PKPdf	09 24 50.7	+1.1
	baz=120						
M24A	Cheyenne	120.02	45	⇑PKiKP	PKiKP	09 24 50.2	+0.7
	baz=120						
D27A	Center	120.03	38	⇑PKiKP	PKiKP	09 24 50.0	+0.8
	baz=120						
U22A	Llaves	120.04	52	⇓PKiKP	PKiKP	09 24 51.9	+2.2
	baz=120						
J25A	Sunshine Ranch	120.05	43	⇓PKiKP	PKiKP	09 24 49.8	+0.4
	baz=120						
Q23A	Hartsel	120.10	48	⇑PKiKP	PKiKP	09 24 51.4	+1.5
	baz=120						
LASF	Ste Croix	120.11	318	*e*PKIKP	PKPdf	09 24 49.4	+0.1
	comp=Z,46nm,1.2s						
LASF	Ste Croix	120.11	318	*e*PKPdf	PKPdf	09 24 49.4	+0.1
G26A	Maurine	120.11	41	⇑PKiKP	PKiKP	09 24 49.7	+0.2
	baz=120						
V22A	San Miguel Ran	120.12	52	⇓PKiKP	PKiKP	09 24 52.0	+2.0
	baz=120						
B28A	Dugan Ranch, T	120.14	37	⇓PKiKP	PKiKP	09 24 49.9	+0.6
	baz=120						
Z21A	St. Cloud Mine	120.14	55	⇓PKiKP	PKiKP	09 24 51.5	+1.5
	baz=120						
N24A	Carr	120.19	46	⇓PKiKP	PKiKP	09 24 50.8	+1.0
	baz=120						
121A	Cookes Peak, D	120.22	56	⇓PKiKP	PKiKP	09 24 51.6	+1.4
	baz=120						
F27A	Lemmon	120.25	40	⇓PKiKP	PKiKP	09 24 50.4	+0.8
	baz=120						
H26A	Fairpoint	120.27	41	⇓PKiKP	PKiKP	09 24 50.3	+0.6
	baz=120						
O24A	Longmont	120.28	47	⇓PKiKP	PKiKP	09 24 51.1	+1.1
	baz=120						
K25A	Mack Ranch, Ha	120.28	44	⇑PKiKP	PKiKP	09 24 50.1	+0.2
	baz=120						
TCF	Toulx Ste Croi	120.29	321	*e*PKIKP	PKPdf	09 24 49.8	+0.2
	comp=Z,20nm,0.7s						
TCF	Toulx Ste Croi	120.29	321	*e*PKIKP	PKPdf	09 24 49.8	+0.2
TCF	Toulx Ste Croi	120.29	321	*e*PKPdf	PKPdf	09 24 49.8	+0.2
E27A	Carson	120.30	39	⇓PKiKP	PKiKP	09 24 50.4	+0.7
	baz=120						
R23A	Moffat	120.32	49	⇑PKiKP	PKiKP	09 24 52.2	+1.9
	baz=120						
221A	Mesquite Ranch	120.34	57	⇓PKiKP	PKiKP	09 24 51.7	+1.3
	baz=120						
W22A	Albuquerque	120.37	53	⇓PKiKP	PKiKP	09 24 52.1	+1.7
	baz=120						
L25A	Engebretsen Ra	120.38	44	⇑PKiKP	PKiKP	09 24 51.4	+1.3
	baz=120						
X22A	Bernardo	120.39	54	⇑PKiKP	PKiKP	09 24 51.9	+1.4
	baz=120						
I26A	New Underwood	120.44	42	⇑PKiKP	PKiKP	09 24 50.5	+0.4
	baz=120						
C28A	Hausauer Farms	120.46	37	⇓PKiKP	PKiKP	09 24 50.7	+0.7
	baz=120						
T23A	Casias Ranch,	120.49	51	⇑PKiKP	PKiKP	09 24 52.4	+1.7
	baz=120						
LENM	Lemitar	120.51	54	*e*PKPdf	PKPdf	09 24 52.1	+1.5
J26A	Sides Ranch, S	120.57	43	⇓PKiKP	PKiKP	09 24 50.7	+0.3
	baz=121						
U23A	El Rito	120.57	51	⇑PKiKP	PKiKP	09 24 52.4	+1.6
	baz=121						
Y22A	Socorro	120.57	54	⇓PKiKP	PKiKP	09 24 52.3	+1.5
	baz=121						
Y22D	IRIS PASSCAL I	120.57	54	⇑PKiKP	PKiKP	09 24 52.5	+1.7
	baz=121						
M25A	Palm-Egli Farm	120.57	45	⇓PKiKP	PKiKP	09 24 51.3	+0.7
	baz=121						
A29A	Manning Farm,	120.58	36	⇓PKiKP	PKiKP	09 24 50.6	+0.5
	baz=120						
D28A	Regan	120.58	38	⇑PKiKP	PKiKP	09 24 50.4	+0.2
	baz=121						
Q24A	Divide	120.59	48	⇓PKiKP	PKiKP	09 24 51.2	+0.3
	baz=121						
P24A	Kohler Place,	120.60	48	⇑PKiKP	PKiKP	09 24 51.2	+0.5
	baz=121						
LDF	La Druitiere	120.67	324	*e*PKIKP	PKPdf	09 24 50.3	+0.1
	comp=Z,37nm,1.2s						
LDF	La Druitiere	120.67	324	*e*PKIKP	PKPdf	09 24 50.3	+0.1
LDF	La Druitiere	120.67	324	*e*PKPdf	PKPdf	09 24 50.3	+0.1
SDCO	Great Sand Dun	120.70	50	*e*PKPdf	PKPdf	09 24 52.2	+1.2
H27A	Hoes	120.72	41	⇓PKiKP	PKiKP	09 24 50.6	0.0
	baz=121						
ANMO	Albuquerque	120.72	53	*e*PKPdf	PKPdf	09 24 52.4	+1.4
B29A	Wagenman Farm,	120.73	36	⇓PKiKP	PKiKP	09 24 51.2	+0.7
	baz=121						
K26A	Motz Farm, Whi	120.73	44	⇑PKiKP	PKiKP	09 24 51.0	+0.2
	baz=121						
Z22A	Elephant Butte	120.73	55	⇑PKiKP	PKiKP	09 24 52.6	+1.5
	baz=121						
V23A	Ortiz Mt. (NFS	120.73	52	⇑PKiKP	PKiKP	09 24 53.6	+2.5
	baz=121						
LPM	Los Pinos Moun	120.75	54	*e*PKPdf	PKPdf	09 24 52.3	+1.3
N25A	Grover	120.76	46	⇑PKiKP	PKiKP	09 24 51.5	+0.6
	baz=121						
E28A	Huff	120.78	39	⇓PKiKP	PKiKP	09 24 50.9	+0.3
	baz=121						
BNM	Barren Site	120.79	54	*e*PKPdf	PKPdf	09 24 52.7	+1.5
FLN	La Foliniere	120.80	324	*e*PKIKP	PKPdf	09 24 50.5	+0.1
FLN				*e*R			
	comp=Z,286nm,20.5s						
FLN	La Foliniere	120.80	324	*e*PKIKP	PKPdf	09 24 50.5	+0.1
FLN	La Foliniere	120.80	324	*e*PKPdf	PKPdf	09 24 50.5	+0.1
122A	Conniff Cattle	120.83	56	⇓PKiKP	PKiKP	09 24 53.0	+1.7
	baz=121						
R24A	Sanders Place,	120.85	49	⇓PKiKP	PKiKP	09 24 52.5	+1.2
	baz=121						
MDND	Maddock	120.87	37	*e*PKPdf	PKPdf	09 24 50.9	+0.2
MDND	Maddock	120.87	37	⇓PKiKP	PKiKP	09 24 50.7	0.0
	baz=121						
222A	Williams Famil	120.88	56	⇓PKiKP	PKiKP	09 24 52.7	+1.3
	baz=121						
W23A	Werner Place,	120.91	53	⇑PKiKP	PKiKP	09 24 52.7	+1.2
	baz=121						
S24A	Houchin Ranch,	120.95	50	⇓PKiKP	PKiKP	09 24 53.0	+1.4
	baz=121						
CAF	Calviac	120.95	319	*e*PKIKP	PKPdf	09 24 51.4	+0.5
	comp=Z,37nm,1.1s						
CAF	Calviac	120.95	319	*e*PKIKP	PKPdf	09 24 51.4	+0.5
CAF	Calviac	120.95	319	*e*PKPdf	PKPdf	09 24 51.4	+0.5
I27A	Quinn	120.96	42	⇓PKiKP	PKiKP	09 24 51.5	+0.4
	baz=121						
O25A	Wiggins	120.98	47	⇑PKiKP	PKiKP	09 24 52.7	+1.3
	baz=121						
T24B	San Luis	120.99	50	⇑PKiKP	PKiKP	09 24 53.4	+1.7
	baz=121						
F28A	McLaughlin	121.03	39	⇑PKiKP	PKiKP	09 24 51.2	0.0
	baz=121						
L26A	Underwood Farm	121.04	44	⇓PKiKP	PKiKP	09 24 51.7	+0.3
	baz=121						
A30A	Hoffart Farm,	121.11	35	⇓PKiKP	PKiKP	09 24 51.5	+0.3
	baz=121						
P25A	Willow Gulch B	121.14	47	⇓PKiKP	PKiKP	09 24 53.0	+1.2
	baz=121						
RJF	Les Rejaudoux	121.15	320	*e*PKIKP	PKPdf	09 24 51.6	+0.4
RJF				*e*R			
	comp=Z,246nm,20.0s						
RJF	Les Rejaudoux	121.15	320	*e*PKIKP	PKPdf	09 24 51.6	+0.4
RJF	Les Rejaudoux	121.15	320	*e*PKPdf	PKPdf	09 24 51.6	+0.4
GRR	Gorron	121.20	324	*e*PKIKP	PKPdf	09 24 51.3	+0.1
	comp=Z,36nm,1.2s						
GRR	Gorron	121.20	324	*e*PKIKP	PKPdf	09 24 51.3	+0.1
GRR	Gorron	121.20	324	*e*PKPdf	PKPdf	09 24 51.3	+0.1
M26A	McRoberts Ranc	121.20	45	⇑PKiKP	PKiKP	09 24 52.5	+0.7
	baz=121						
D29A	Pettibone, Tap	121.24	38	⇑PKiKP	PKiKP	09 24 51.7	+0.1
	baz=121						
U24A	Moreno Valley	121.25	51	⇑PKiKP	PKiKP	09 24 53.1	+0.9
	baz=121						
Q25A	Bedland, Calha	121.28	48	⇓PKiKP	PKiKP	09 24 52.5	+0.4
	baz=121						
G28A	Parade	121.29	40	⇓PKiKP	PKiKP	09 24 51.8	+0.1
	baz=121						
Y23A	Lovelace Mesa,	121.30	54	⇓PKiKP	PKiKP	09 24 53.4	+1.1
	baz=121						
J27A	Elkhorn Farm,	121.31	43	⇓PKiKP	PKiKP	09 24 52.7	+0.8
	baz=121						
Z23A	Rita Site, Whi	121.33	55	⇑PKiKP	PKiKP	09 24 53.5	+1.3
	baz=121						
B30A	Myrvik Farm, E	121.33	36	⇑PKiKP	PKiKP	09 24 51.8	+0.2
	baz=121						
K27A	Flueckinger Fa	121.37	43	⇑PKiKP	PKiKP	09 24 51.9	-0.1
	baz=121						
N26A	Koester Ranch,	121.37	46	⇓PKiKP	PKiKP	09 24 52.6	+0.5
	baz=121						
H28A	Mission Ridge	121.39	41	⇓PKiKP	PKiKP	09 24 52.1	+0.2
	baz=121						
E29A	Napoleon	121.43	38	⇓PKiKP	PKiKP	09 24 52.2	+0.2
	baz=121						
123A	Bell Site, Whi	121.45	56	⇓PKiKP	PKiKP	09 24 54.0	+1.5
	baz=122						
V24A	Rampart Ranch,	121.45	52	⇑PKiKP	PKiKP	09 24 54.5	+1.9
	baz=122						
223A	Chaparral, Ant	121.46	56	⇑PKiKP	PKiKP	09 24 54.7	+2.1
	baz=122						
W24A	Lazy 6 Ranch,	121.49	52	⇑PKiKP	PKiKP	09 24 54.5	+1.8
	baz=122						
MTLF	Montolieu	121.49	318	*e*PKIKP	PKPdf	09 24 52.0	0.0
	comp=Z,44nm,1.1s						
MTLF	Montolieu	121.49	318	*e*PKIKP	PKPdf	09 24 52.0	0.0
MTLF	Montolieu	121.49	318	*e*PKPdf	PKPdf	09 24 52.0	0.0
R25A	Fountain Ranch	121.49	49	⇓PKiKP	PKiKP	09 24 53.3	+0.9
	baz=122						
O26A	Horse Wrangler	121.51	46	⇑PKiKP	PKiKP	09 24 53.0	+0.6
	baz=122						
S25A	Robets Cordova	121.53	49	⇓PKiKP	PKiKP	09 24 53.9	+1.3
	baz=122						
I28A	Midland	121.57	41	⇓PKiKP	PKiKP	09 24 52.7	+0.4
	baz=122						
C30A	Mose, Pekin	121.61	37	⇑PKiKP	PKiKP	09 24 52.7	+0.5
	baz=122						
MFF	Saint Martin d	121.61	322	*e*PKIKP	PKPdf	09 24 52.2	+0.1
	comp=Z,38nm,0.6s						
MFF	Saint Martin d	121.61	322	*e*PKIKP	PKPdf	09 24 52.2	+0.1
MFF	Saint Martin d	121.61	322	*e*PKPdf	PKPdf	09 24 52.2	+0.1
X24A	Lazy VL Ranch,	121.64	53	⇓PKiKP	PKiKP	09 24 53.2	+0.3
	baz=122						
F29A	Eureka	121.65	39	⇑PKiKP	PKiKP	09 24 52.6	+0.2
	baz=122						
T25A	Trinidad	121.71	50	⇓PKiKP	PKiKP	09 24 54.1	+1.1
	baz=122						
M27A	Reverse DX Ran	121.71	45	⇑PKiKP	PKiKP	09 24 53.2	+0.5
	baz=122						
D30A	Buchanan	121.72	37	⇓PKiKP	PKiKP	09 24 52.5	0.0
	baz=122						
P26A	Davis Ranch, A	121.72	47	⇑PKiKP	PKiKP	09 24 53.9	+1.0
	baz=122						
J28A	Allard Ranch,	121.76	42	⇓PKiKP	PKiKP	09 24 53.1	+0.3
	baz=122						

ROSF	Rostrenen	122.62	325	ePKIKP	PKPdf	09 24 53.8	-0.1
ROSF	Rostrenen	122.62	325	ePKPdf	PKPdf	09 24 53.8	-0.1
K29A	Lazy Trails An	122.64	43	⇑PKiKP	PKiKP	09 24 54.7	+0.3
	baz=123						
S27A	Las Animas	122.68	49	⇓PKiKP	PKiKP	09 24 55.6	+0.8
	baz=123						
I30A	Oacoma	122.75	41	⇓PKiKP	PKiKP	09 24 54.8	+0.2
	baz=123						
125A	Gardner Draw,	122.76	55	⇑PKiKP	PKiKP	09 24 55.9	+0.8
	baz=123						
225A	Deer Hill, Car	122.76	56	⇓PKiKP	PKiKP	09 24 56.4	+1.2
	baz=123						
QUIF	Quistinic	122.77	324	ePKIKP	PKPdf	09 24 54.3	+0.1
	comp=Z,9.9nm,0.6s						
QUIF	Quistinic	122.77	324	ePKIKP	PKPdf	09 24 54.3	+0.1
QUIF	Quistinic	122.77	324	ePKPdf	PKPdf	09 24 54.3	+0.1
W26A	Owens Ranch, T	122.81	52	⇑PKiKP	PKiKP	09 24 55.6	+0.5
	baz=123						
BRSD	Miller	122.82	40	ePKPdf	PKPdf	09 24 54.6	+0.1
BRSD	Miller	122.82	40	⇑PKiKP	PKiKP	09 24 54.9	+0.2
	baz=123						
L29A	Maesberg Ranch	122.82	43	⇑PKiKP	PKiKP	09 24 54.8	0.0
	baz=123						
P28A	Saint Francis	122.87	46	⇑PKiKP	PKiKP	09 24 55.7	+0.6
	baz=123						
EPF	Esparros	122.87	318	ePKIKP	PKPdf	09 24 54.8	+0.1
	comp=Z,13nm,0.6s						
EPF	Esparros	122.87	318	ePKIKP	PKPdf	09 24 54.8	+0.1
EPF	Esparros	122.87	318	ePKPdf	PKPdf	09 24 54.8	+0.1
M29A	Burnside Ranch	122.92	44	⇓PKiKP	PKiKP	09 24 55.0	-0.1
	baz=123						
X26A	CR and CF Fran	122.93	53	⇓PKiKP	PKiKP	09 24 56.0	+0.6
	baz=123						
425A	Indio Mountain	122.94	57	⇓PKiKP	PKiKP	09 24 56.4	+0.9
	baz=123						
J30A	Dallas	122.96	42	⇓PKiKP	PKPdf	09 24 54.8	0.0
	baz=123						
Q28A	Sharon Springs	123.00	47	⇓PKiKP	PKiKP	09 24 56.1	+0.7
	baz=123						
T27A	Campo	123.01	50	⇑PKiKP	PKiKP	09 24 56.4	+0.9
	baz=123						
Y26A	Elida	123.09	54	⇓PKiKP	PKiKP	09 24 56.2	+0.4
	baz=123						
GDL2	Guadalupe Moun	123.11	56	ePKPdf	PKPdf	09 24 56.6	+1.0
U27A	Thompson Grove	123.14	50	⇓PKiKP	PKiKP	09 24 56.2	+0.5
	baz=123						
Z26A	Caprock	123.15	54	⇑PKiKP	PKiKP	09 24 55.9	+0.1
	baz=123						
K30A	Basset	123.15	42	⇓PKiKP	PKiKP	09 24 55.7	+0.2
	baz=123						
N29A	Votaw Ranch, W	123.21	45	⇑PKiKP	PKiKP	09 24 55.6	-0.1
	baz=123						
R28A	Tribune	123.27	48	⇑PKiKP	PKiKP	09 24 56.7	+0.8
	baz=123						
126A	Clayton Basin,	123.28	55	⇓PKiKP	PKiKP	09 24 56.6	+0.6
	baz=123						
226B	Tecolote Peak,	123.31	56	⇑PKiKP	PKiKP	09 24 56.9	+0.8
	baz=123						
O29A	4D Ranch, Culb	123.35	46	⇑PKiKP	PKiKP	09 24 56.4	+0.4
	baz=123						
W27A	Bowe Ranch, En	123.37	52	⇑PKiKP	PKiKP	09 24 56.9	+0.7
	baz=123						
L30A	Spencer Herefo	123.38	43	⇑PKiKP	PKiKP	09 24 56.1	+0.2
	baz=123						
P29A	Atwood	123.45	46	⇑PKiKP	PKiKP	09 24 56.7	+0.5
	baz=123						
T28A	Walsh	123.45	49	⇓PKiKP	PKiKP	09 24 56.9	+0.6
	baz=124						
S28A	Manter	123.46	49	⇑PKiKP	PKiKP	09 24 57.1	+0.8
	baz=124						
X27A	F and S Farms,	123.47	52	⇑PKiKP	PKiKP	09 24 56.9	+0.4
	baz=124						
ETSF	Etsaut	123.53	318	ePKIKP	PKPdf	09 24 56.9	+0.9
	comp=Z,34nm,1.1s						
ETSF	Etsaut	123.53	318	ePKIKP	PKPdf	09 24 56.9	+0.9
ETSF	Etsaut	123.53	318	ePKPdf	PKPdf	09 24 56.9	+0.9
N30A	Hueftle Ranch,	123.58	45	⇓PKiKP	PKiKP	09 24 56.9	+0.5
	baz=124						
U28A	Mallet	123.61	50	⇑PKiKP	PKiKP	09 24 57.0	+0.3
	baz=124						
Y27A	Causey	123.63	53	⇓PKiKP	PKiKP	09 24 57.3	+0.5
	baz=124						
326A	Caldwell Ranch	123.65	57	⇑PKiKP	PKiKP	09 24 57.3	+0.5
	baz=124						
Q29A	Oakley	123.68	47	⇓PKiKP	PKiKP	09 24 57.4	+0.7
	baz=124						
R29A	Marienthal	123.73	48	⇓PKiKP	PKiKP	09 24 57.5	+0.7
	baz=124						
Z27A	Tatum	123.75	54	⇓PKiKP	PKiKP	09 24 57.4	+0.4
	baz=124						
426A	McDonald Obser	123.77	57	⇑PKiKP	PKiKP	09 24 57.6	+0.3
	baz=124						
127A	Arkansas Junct	123.81	55	⇑PKiKP	PKiKP	09 24 57.5	+0.4
	baz=124						
V28A	Channing	123.81	51	⇓PKiKP	PKiKP	09 24 58.0	+0.9
	baz=124						
O30A	MW Ranch, Wils	123.86	45	⇑PKiKP	PKiKP	09 24 57.3	+0.4
	baz=124						
526A	Mary Lane Ranc	123.86	58	⇑PKiKP	PKiKP	09 24 58.1	+0.8
	baz=124						
SJPF	Ste Jean	123.87	319	ePKIKP	PKPdf	09 24 57.4	+0.8
	comp=Z,44nm,1.2s						
SJPF	Ste Jean	123.87	319	ePKIKP	PKPdf	09 24 57.4	+0.8
SJPF	Ste Jean	123.87	319	ePKPdf	PKPdf	09 24 57.4	+0.8
L31A	Butterfield Fa	123.88	43	⇑PKiKP	PKiKP	09 24 56.8	-0.1
	baz=124						
MSTX	Muleshoe	123.92	53	ePKPdf	PKPdf	09 24 57.5	+0.4
MSTX	Muleshoe	123.92	53	⇓PKiKP	PKiKP	09 24 58.0	+0.6
	baz=124						
626A	Big Bend Ranch	123.94	59	⇑PKiKP	PKiKP	09 24 58.0	+0.6
	baz=124						
P30A	Selden	123.97	46	⇓PKiKP	PKiKP	09 24 57.5	+0.3
	baz=124						
W28A	Vega	123.98	52	⇑PKiKP	PKiKP	09 24 58.2	+0.8
	baz=124						
S29A	Ulysses	124.03	48	⇓PKiKP	PKiKP	09 24 58.2	+0.8
	baz=124						
227A	Bennet, Jal	124.04	56	⇑PKiKP	PKiKP	09 24 58.2	+0.6
	baz=124						
327A	Balmorhea Ranc	124.04	56	⇑PKiKP	PKiKP	09 24 58.3	+0.8
	baz=124						
T29A	Hugoton	124.06	49	⇑PKiKP	PKiKP	09 24 58.2	+0.7
	baz=124						
M31A	Lambtecht Ranc	124.14	44	⇓PKiKP	PKiKP	09 24 57.6	+0.1
	baz=124						
Q30A	Quinter	124.20	47	⇑PKiKP	PKiKP	09 24 58.1	+0.4
	baz=124						
X28A	Dimmitt	124.21	52	⇓PKiKP	PKiKP	09 24 58.6	+0.7
	baz=124						
527A	Woodward Ranch	124.24	58	⇑PKiKP	PKiKP	09 24 59.0	+0.8
	baz=124						
427A	Hayter Ranch,	124.25	57	⇑PKiKP	PKiKP	09 24 58.9	+0.8
	baz=124						
V29A	Stinnett	124.31	51	⇓PKiKP	PKiKP	09 24 58.6	+0.6
	baz=124						
U29A	Oasis Ranch, S	124.31	50	⇑PKiKP	PKiKP	09 24 58.3	+0.3
	baz=124						
Y28A	McKinney Farm,	124.36	53	⇑PKiKP	PKiKP	09 24 58.5	+0.4
	baz=124						
N31A	Bailey Ranch,	124.37	44	⇑PKiKP	PKiKP	09 24 58.2	+0.2
	baz=124						
O31A	Woolen Ranch,	124.38	45	⇓PKiKP	PKiKP	09 24 58.1	+0.1
	baz=124						
TXAR	Lajitas Array	124.38	59	PKP	PKPdf	09 24 58.0	-0.1
TXAR				PKKPbc	PKKPbc	09 34 42.1	-0.3
TXAR	Lajitas Array	124.38	59	PKP	PKPdf	09 24 58.0	-0.1
	comp=Z,9.9nm,0.9s,baz=256,slow=1.3,SNR=69						
TXAR				PKKPbc	PKKPbc	09 34 42.1	-0.3
	comp=Z,0.9nm,0.8s,baz=119,slow=6.6,SNR=6.0						
R30A	Dighton	124.41	47	⇓PKiKP	PKiKP	09 24 58.8	+0.6
	baz=124						
TAM	Tamanrasset	124.42	293	ePKIKP	PKPdf	09 24 59.5	+1.2
TAM	Tamanrasset	124.42	293	ePKPdf	PKPdf	09 24 59.5	+1.2
Z28A	Tucker Farm, M	124.42	54	⇓PKiKP	PKiKP	09 24 58.7	+0.3
	baz=124						
W29A	Amraillo	124.46	51	⇑PKiKP	PKiKP	09 24 58.9	+0.5
	baz=124						
S30A	Montezuma	124.51	48	⇑PKiKP	PKiKP	09 24 59.1	+0.7
	baz=124						
128A	Castleberry Fa	124.53	55	⇑PKiKP	PKiKP	09 24 58.5	0.0
	baz=124						
228A	UT Block 9, Go	124.58	55	⇑PKiKP	PKiKP	09 24 59.2	+0.6
	baz=125						
627A	Terlingua Ranc	124.59	59	⇓PKiKP	PKiKP	09 24 59.4	+0.6
	baz=125						
P31A	Stockton	124.59	46	⇑PKiKP	PKiKP	09 24 59.0	+0.6
	baz=125						
328A	Wristen Ranch,	124.60	56	⇑PKiKP	PKiKP	09 24 59.3	+0.6
	baz=125						
X29A	Tulia	124.63	52	⇓PKiKP	PKiKP	09 24 59.3	+0.6
	baz=125						
ECSD	EROS Data Cent	124.64	40	ePKPdf	PKPdf	09 24 57.9	-0.1
T30A	Plains	124.67	49	⇓PKiKP	PKiKP	09 24 59.4	+0.7
	baz=125						
BGNE	Belgrade	124.68	43	ePKPdf	PKPdf	09 24 58.1	-0.1
BGNE	Belgrade	124.68	43	⇓PKiKP	PKiKP	09 24 58.5	0.0
	baz=125						
U30A	WK&E Inc. Balk	124.76	50	⇑PKiKP	PKiKP	09 24 59.5	+0.7
	baz=125						
Q31A	Ellis	124.78	46	⇓PKiKP	PKiKP	09 24 58.7	-0.1
	baz=125						
Y29A	Porterfield Fa	124.83	53	⇓PKiKP	PKiKP	09 24 59.9	+0.8
	baz=125						
N32A	Stulken Farm,	124.85	44	⇑PKiKP	PKiKP	09 24 58.7	-0.2
	baz=125						
428A	Kincaid Ranch,	124.87	57	⇑PKiKP	PKiKP	09 25 00.0	+0.8
	baz=125						
528A	Cox Ranch, San	124.93	58	⇑PKiKP	PKiKP	09 25 00.2	+0.7
	baz=125						
R31A	Burdett	124.96	47	⇓PKiKP	PKiKP	09 24 59.8	+0.6
	baz=125						
Z29A	Hungry Hill Ra	124.98	54	⇓PKiKP	PKiKP	09 24 59.7	+0.3
	baz=125						
V30A	Spur Ranch, Mi	124.99	50	⇓PKiKP	PKiKP	09 25 00.2	+0.9
	baz=125						
628A	Black Gap, Mar	125.01	58	⇑PKiKP	PKiKP	09 25 00.3	+0.8
	baz=125						
129A	Stewart Farms,	125.03	54	⇑PKiKP	PKiKP	09 24 59.7	+0.2
	baz=125						
O32A	Brockman Farm,	125.07	44	⇑PKiKP	PKiKP	09 24 59.2	-0.1
	baz=125						
S31A	Mullinville	125.24	48	⇓PKiKP	PKiKP	09 24 60.0	+0.2
	baz=125						
NRS	Narsarsuaq	125.25	357	*i* PKIKP	PKPdf	09 24 58.6	0.0
NRS				pmax	pmax		
	comp=Z,150nm,0.8s						
329A	Wagon Wheel Ra	125.26	56	⇑PKiKP	PKiKP	09 25 00.0	0.0
	baz=125						
W30A	Crocket Farms	125.27	51	⇓PKiKP	PKiKP	09 25 00.1	+0.2
	baz=125						
X30A	Coker Ranch, T	125.27	52	⇓PKiKP	PKiKP	09 25 00.3	+0.4
	baz=125						
T31A	Randall Ranch,	125.29	49	⇓PKiKP	PKiKP	09 25 00.4	+0.6
	baz=125						
529A	Stev Forest Ra	125.41	57	⇑PKiKP	PKiKP	09 25 00.7	+0.4
	baz=125						
U31A	Nine Bar Ranch	125.42	49	⇓PKiKP	PKiKP	09 25 00.9	+0.8
	baz=125						
Z30A	Sanderson Ranc	125.43	53	⇑PKiKP	PKiKP	09 25 00.3	+0.1
	baz=125						
Y30A	Stafford Cattl	125.43	53	⇑PKiKP	PKiKP	09 25 00.8	+0.6
	baz=125						
429A	Davenport Ranc	125.56	57	⇑PKiKP	PKiKP	09 25 01.1	+0.5
	baz=126						
V31A	Spring Creek L	125.63	50	⇑PKiKP	PKiKP	09 25 01.5	+0.9
	baz=126						
W31A	Holland Ranch,	125.75	51	⇑PKiKP	PKiKP	09 25 01.3	+0.5
	baz=126						
130A	Snyder	125.77	54	⇓PKiKP	PKiKP	09 25 01.0	0.0
	baz=126						
230A	Sterling City	125.86	55	⇑PKiKP	PKiKP	09 25 01.3	+0.1
	baz=126						
Y31A	Rekieta Farm,	125.91	52	⇓PKiKP	PKiKP	09 25 01.5	+0.3
	baz=126						
X31A	McDonald Ranch	125.91	52	⇓PKiKP	PKiKP	09 25 01.4	+0.2
	baz=126						
330A	Mertzon	125.94	56	⇑PKiKP	PKiKP	09 25 01.3	0.0
	baz=126						
430A	Baggett Ranch,	126.06	56	⇓PKiKP	PKiKP	09 25 01.9	+0.3
	baz=126						
530A	J-C Ranch, Com	126.15	57	⇑PKiKP	PKiKP	09 25 02.0	+0.2
	baz=126						
Z31A	Sharp Cattle R	126.21	53	⇓PKiKP	PKiKP	09 25 02.1	+0.3
	baz=126						
131A	Roby	126.21	54	⇑PKiKP	PKiKP	09 25 01.9	+0.1
	baz=126						
SPMN	St. Paul	126.24	37	ePKPdf	PKPdf	09 25 01.1	+0.1
SPMN	St. Paul	126.24	37	⇑PKiKP	PKiKP	09 25 01.7	+0.2
	baz=126						
231A	Bronte	126.49	55	⇑PKiKP	PKiKP	09 25 02.5	+0.1
	baz=126						
Y32A	R-V Farms, Ver	126.54	52	⇓PKiKP	PKiKP	09 25 02.6	+0.1
	baz=126						
331A	San Angelo	126.58	56	⇓PKiKP	PKiKP	09 25 02.7	0.0
	baz=127						
431A	Sonora	126.61	56	⇑PKiKP	PKiKP	09 25 03.0	+0.3
	baz=127						
KSU1	Kansas State U	126.72	45	ePKPdf	PKPdf	09 25 02.7	+0.5
Z32A	Haskell	126.74	53	⇓PKiKP	PKiKP	09 25 03.4	+0.6
	baz=127						
531A	Rocksprings	126.80	57	⇓PKiKP	PKiKP	09 25 03.2	+0.1
	baz=127						
WMOK	Wichita Mounta	126.81	51	ePKIKP	PKPdf	09 25 02.9	+0.5
WMOK	Wichita Mounta	126.81	51	ePKPdf	PKPdf	09 25 02.9	+0.5
ABTX	Abilene, Hawle	126.82	54	ePKPdf	PKPdf	09 25 03.4	+0.9
ABTX	Abilene, Hawle	126.82	54	⇑PKiKP	PKPdf	09 25 03.5	+0.9
	baz=127						
631A	Perdido Creek	126.98	58	⇑PKiKP	PKiKP	09 25 03.8	+0.4
	baz=127						
232A	Coleman	127.05	55	⇓PKiKP	PKiKP	09 25 03.8	+0.3
	baz=127						
332A	Millersview	127.12	55	⇑PKiKP	PKiKP	09 25 03.7	0.0
	baz=127						
432A	Menard	127.23	56	⇑PKiKP	PKiKP	09 25 03.9	0.0
	baz=127						
ESDC	Sonseca Array	127.25	316	PKP	PKPdf	09 25 03.3	+0.1
ESDC				PP	PP	09 27 04.7	+1.0
ESDC	Sonseca Array	127.25	316	PKP	PKPdf	09 25 03.3	+0.1
	comp=Z,5.3nm,1.0s,baz=9.1,slow=3.1,SNR=17						
ESDC				PP	PP	09 27 04.7	+1.0
	comp=Z,8.4nm,0.8s,baz=64,slow=6.7,SNR=18						
JCT	Junction City	127.33	56	ePKIKP	PKPdf	09 25 04.3	+0.7
JCT	Junction City	127.33	56	ePKPdf	PKPdf	09 25 04.3	+0.7
JCT	Junction City	127.33	56	⇑PKiKP	PKiKP	09 25 04.5	+0.3
	baz=127						
532A	Rocksprings	127.35	57	⇑PKiKP	PKiKP	09 25 04.0	-0.2
	baz=127						
632A	Uvalde	127.62	58	⇓PKiKP	PKiKP	09 25 05.0	+0.3
	baz=128						
732A	Laxson Ranch,	127.67	59	⇓PKiKP	PKiKP	09 25 04.9	+0.1
	baz=128						
SCIA	State Center	127.72	40	ePKPdf	PKPdf	09 25 04.6	+0.7
MVO	Moncorvo	128.59	319	ePKP	PKPdf	09 25 07.5	+1.8
TUL1	Tulsa	128.63	48	ePKPdf	PKPdf	09 25 04.7	-1.1
TUL1	Tulsa	128.63	48	⇑PKiKP	PKPdf	09 25 06.0	+0.2
	baz=129						
WHTX	Lake Whitney	128.78	54	ePKPdf	PKPdf	09 25 07.8	+1.6
WHTX	Lake Whitney	128.78	54	⇑PKiKP	PKPdf	09 25 06.3	+0.1
	baz=129						
TOA0	Torodi Ar. Sit	128.95	282	ePKPdf	PKPdf	09 25 07.4	+0.4
TORD	Torodi Ar. Bea	128.95	282	PKP	PKPdf	09 25 07.0	0.0
TORD				SKPbc	SKiKP	09 28 15.9	-16
TORD	Torodi Ar. Bea	128.95	282	PKP	PKPdf	09 25 07.0	0.0
	comp=Z,15nm,0.6s,baz=74,slow=1.7,SNR=47						
TORD				SKPbc	SKiKP	09 28 15.9	-16
	comp=Z,20nm,0.8s,baz=71,slow=3.5,SNR=16						
PGAV	Gavieira, Arco	128.97	321	ePKP	PKPdf	09 25 07.8	+1.3
POLO	Lamas de Olo	128.98	320	ePKP	PKPdf	09 25 08.0	+1.5
PVRL	Vila Real	128.98	320	ePKP	PKPdf	09 25 08.1	+1.7
JFWS	Jewell Farm	129.05	38	ePKIKP	PKPdf	09 25 06.1	-0.3
JFWS	Jewell Farm	129.05	38	ePKPdf	PKPdf	09 25 06.1	-0.3
MTE	Manteigas	129.32	318	ePKP	PKPdf	09 25 08.9	+1.8
MTE				eSKP		09 28 28.7	
PLCA	Paso Flores	129.36	160	PKP	PKPdf	09 25 07.2	-0.1
PLCA				SKPbc	SKPbc	09 28 17.8	+0.8
PLCA	Paso Flores	129.36	160	PKP	PKPdf	09 25 07.2	-0.1
	comp=Z,15nm,1.0s,baz=198,slow=4.0,SNR=16						
PLCA				SKPbc	SKPbc	09 28 17.8	+0.8
	comp=Z,13nm,1.1s,baz=211,slow=5.6,SNR=6.1						
PVIS	Viseu	129.39	319	ePKP	PKPdf	09 25 08.8	+1.6
PCBR	Castelo Branco	129.56	318	ePKP	PKPdf	09 25 09.2	+1.7
PMRV	Marv??o	129.70	317	ePKP	PKPdf	09 25 09.1	+1.3
PMRV				eSKP		09 28 19.5	
SCHQ	Schefferville	129.76	13	PKP	PKPdf	09 25 07.7	+0.3
SCHQ				SKPbc	SKPab	09 28 16.9	-0.4
SCHQ	Schefferville	129.76	13	PKP	PKPdf	09 25 07.7	+0.3
	comp=Z,14nm,0.9s,baz=50,slow=3.0,SNR=7.7						
SCHQ				SKPbc	SKPab	09 28 16.9	-0.3
	comp=Z,15nm,0.8s,baz=339,slow=4.8,SNR=8.4						
PBAR	Barrancos	130.06	316	ePKP	PKPdf	09 25 10.2	+1.7
PBAR				eSKP		09 28 20.6	
PESTR	Estremoz	130.11	317	ePKP	PKPdf	09 25 10.2	+1.6
PESTR				eSKP		09 28 20.7	
PTOM	Tomar	130.29	318	eSKP	SKPbc	09 28 21.7	+1.6
PMTG	Montargil	130.44	317	eSKP	SKPbc	09 28 21.7	+1.1
EVO	Evora	130.56	317	ePKIKP	PKPdf	09 25 10.5	+1.1
	comp=Z,84nm,1.6s						
EVO				eR		09 28 22.7	
	comp=Z,235nm,20.8s						
EVO	Evora	130.56	317	eSKP	SKPbc	09 28 22.7	+1.6
EVOP	Sao Brissos	130.64	317	ePKIKP	PKPdf	09 25 10.5	+0.9
EVOP	Sao Brissos	130.64	317	ePKPdf	PKPdf	09 25 10.5	+0.9
PBEJ	Beja	130.71	316	eSKP	SKPbc	09 28 23.3	+1.6
MIAR	Mount Ida	130.85	49	ePKIKP	PKPdf	09 25 10.9	+0.8
MIAR	Mount Ida	130.85	49	ePKPdf	PKPdf	09 25 10.9	+0.8
PVAQ	Vaqueiros	130.90	315	eSKP	SKPbc	09 28 24.1	+1.7
PCVE	Castro Verde	131.02	316	ePKP	PKPdf	09 25 11.6	+1.3
PCVE				eSKP		09 28 24.1	
PNCL	Nicolau / Gran	131.12	316	ePKP	PKPdf	09 25 11.7	+1.2
PNCL	Nicolau / Gran	131.12	316	ePP	PP	09 27 27.3	-1.6
PNCL				eSKP		09 28 24.9	
PBDV	Barranco-do-Ve	131.13	315	ePKP	PKPdf	09 25 13.5	+2.9
PBDV	Barranco-do-Ve	131.13	315	ePP	PP	09 27 30.7	+1.6
PBDV				eSKP		09 28 25.3	
PTEO	Sao Teotonio	131.54	316	ePKP	PKPdf	09 25 13.7	+2.4
MORF	Marmelete	131.60	316	ePKP	PKPdf	09 25 12.8	+1.3
UALR	University of	131.67	48	ePKPdf	PKPdf	09 25 12.4	+0.7
PFVI	Vila Bisbo	131.81	315	ePKP	PKPdf	09 25 13.8	+2.0
SFIN	Scholer Farm	132.43	39	ePKPdf	PKPdf	09 25 14.4	+1.5
SFIN	Scholer Farm	132.43	39	⇑PKiKP	PKiKP	09 25 13.9	-0.1
	baz=132						
SIUC	Southern Illin	132.50	43	ePKPdf	PKPdf	09 25 13.6	+0.5
PARMO	Parma	132.66	45	ePKPdf	PKPdf	09 25 14.2	+0.7
OLIL	Olney	132.71	41	ePKPdf	PKPdf	09 25 14.0	+0.5
USIN	University of	133.41	42	ePKPdf	PKPdf	09 25 16.1	+1.3
BLO	Bloomington	133.48	40	ePKIKP	PKPdf	09 25 16.6	+1.7
BLO	Bloomington	133.48	40	ePKPdf	PKPdf	09 25 16.6	+1.7
OXF	Oxford	133.94	47	ePKIKP	PKPdf	09 25 18.1	+2.2
OXF	Oxford	133.94	47	ePKPdf	PKPdf	09 25 18.1	+2.2
VBMS	Vicksburg	134.14	50	ePKPdf	PKPdf	09 25 18.4	+2.1
WCI	Wyandotte Cave	134.17	41	ePKIKP	PKPdf	09 25 17.7	+1.4
WCI	Wyandotte Cave	134.17	41	ePKPdf	PKPdf	09 25 17.7	+1.4
WVT	Waverly	134.27	44	ePKIKP	PKPdf	09 25 16.6	+0.1
WVT	Waverly	134.27	44	ePKPdf	PKPdf	09 25 16.6	+0.1
KIC	Kosan Boka	135.30	273	ePKP1	PKPdf	09 25 18.5	-0.5
	comp=Z,46nm,0.8s						
KIC	Kosan Boka	135.30	273	ePKP1	SKPbc	09 28 37.8	-0.2
	comp=Z,124nm,1.4s						
DBIC	Dimbokro	135.42	273	PKP	PKPdf	09 25 18.9	-0.4
DBIC				SKPbc	SKPbc	09 28 38.2	-0.1
DBIC	Dimbokro	135.42	273	PKhKP	PKPpre	09 25 06.3	
	comp=Z,6.2nm,0.7s,baz=114,slow=4.6,SNR=8.1						
DBIC				PKP	PKPdf	09 25 18.9	-0.4
	comp=Z,19nm,0.6s,baz=89,slow=2.3,SNR=17						
DBIC				SKPbc	SKPbc	09 28 38.2	-0.1
	comp=Z,10nm,0.6s,baz=60,slow=2.9,SNR=9.4						
LIC	Lamto	135.57	272	ePKIKP	PKPdf	09 25 18.6	-1.0
	comp=Z,37nm,0.5s						
LIC	Lamto	135.57	272	ePKP1	PKPdf	09 25 19.4	-0.2
	comp=Z,66nm,0.5s						
LIC	Lamto	135.57	272	ePKP1	SKPbc	09 28 38.5	-0.4
	comp=Z,63nm,1.2s						
LIC	Lamto	135.57	272	ePKPdf	PKPdf	09 25 18.6	-1.0
TIC	Toumodi	135.59	273	ePKP1	PKPdf	09 25 19.1	-0.5
	comp=Z,111nm,1.2s						
TIC	Toumodi	135.59	273	ePKP1	SKPbc	09 28 38.8	-0.1
	comp=Z,46nm,0.8s						
SWET	Sewanee	136.06	44	ePKPdf	PKPdf	09 25 19.6	-0.3
LONY	Lake Ozonia	136.16	26	ePKPdf	PKPdf	09 25 21.6	+1.8
LRAL	Lakeview Retre	136.41	48	ePKPdf	PKPdf	09 25 20.9	+0.4
CPCT	Cooper Cave	136.90	43	ePKPdf	PKPdf	09 25 21.7	+0.2
TZTN	Tazewell	136.92	41	ePKPdf	PKPdf	09 25 23.9	+2.4
MDV	Middlebury	137.26	25	ePKPdf	PKPdf	09 25 24.2	+2.4
BINY	Binghamton	137.41	29	ePKPdf

MSAI				S	Sn	09 40 23.5	+3.8
AAI	**Ambon**	**0.63**	**261**	P	Pn	09 40 14.2	+1.2
AAI				S	Sn	09 40 26.0	+1.5
NLAI	**Namlea**	**1.75**	**281**	P	Pn	09 40 28.0	+1.6
NLAI				S	Sn	09 40 49.4	+1.1
FAKI	**Fak Fak**	**3.49**	**79**	P	Pn	09 40 49.8	+0.1
SWI	**Sorong**	**3.64**	**42**	P	Pn	09 40 53.4	+1.6
SWI				S	Sn	09 41 32.9	-0.8

BJI ***25*** *09:45:27.4, 67.°00N×170.°20W, h16km, mB5.2/25, mb4.9/38, Ms5.3/35, Ms7 5.0/35*
IDC ***25*** *09:45:29.7±0.4, 66.°97N×170.°77W, h0km, mb4.6/32, mb1 4.8/33, mb1mx4.8/36, mbtmp4.6/33, ML3.7/1, MS4.4/36, Ms1 4.4/36, ms1mx4.3/50, Error ellipse: s-maj=14.3km s-min=9.3km az=10.0*
ISCJB ***25*** *09:45:29.3±0.9, 66.°78N±0.°03×170.°39W±0.°04, h0km±5km, mb5.1/166, MS4.6/55, Error ellipse: s-maj=5.1km s-min=2.5km az=21.4*
MOS ***25*** *09:45:30.9±1.2, 66.°66N×170.°45W, h15km, mb5.4/69, MS4.7/13, Error ellipse: s-maj=11.9km s-min=4.6km az=93.0*
NERS ***25*** *09:45:31.4, 66.°75N×170.°53W, h15km, MPV5.3*
GCMT ***25*** *09:45:31.7±0.3, 66.°96N×170.°75W, h18km±1km, MW5.1, Moment Tensor Solution. s25,c27; s83,c126; Moment tensor: Scale 10^{16}Nm; M_{rr}-2.74±.28; $M_{\theta\theta}$6.30±.26; $M_{\phi\phi}$-3.56±.19; $M_{r\theta}$-0.74±.45; $M_{\theta\phi}$-1.39±.16; $M_{\phi r}$1.61±.54; Best double couple: $M_0$5.70000×10^{16} NP1:ϕ_s136.00000°, δ70.00000°, λ-32.00000°. NP2:ϕ_s238.00000°, δ61.00000°, λ-157.00000°. Principal axes: T 6.5900, Plg6.0000°, Azm189.0000°; N -1.7400, Plg53.0000°, Azm287.0000°; P -4.8500, Plg36.0000°, Azm94.0000°; Data Used: II IU IC G CN.*
NEIC ***25*** *09:45:32.8±0.3, 66.°86N×170.°34W, h10km, mb5.2/62 Error ellipse: s-maj=7.7km s-min=4.0km az=213.0*
BKK ***25*** *09:45:35.5±2.3, 67°N±27°×17°1W±3°8, h10km, M4.9/10, mB5.5/4, mb4.9/10, Mw(mB)5.0/4*
ISC 25 09:45:33.2±0.3, 66.°86N±0.°05×170.°34W±0.°03, h15km±1km, h14km:pP-P, n876, σ1$29/906, mb5.1/170, MS4.6/57, 239C-212D, Near north coast of eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IM04	**Indian Mountai**	**6.70**	**90**	*e*Pn	**Pn**	**09 47 09.3**	**-1.7**
IM3	**Indian Mountai**	**6.71**	**90**	P	**Pn**	**09 47 09.6**	**-1.5**
IMA2	**Indian Mountai**	**6.71**	**89**	P	**Pn**	**09 47 10.0**	**-1.2**
TT01	**Tatalina**	**7.26**	**116**	P	**Pn**	**09 47 18.6**	**0.0**
COLD	**Coldfoot**	**7.87**	**78**	*e*Pn	**Pn**	**09 47 26.1**	**-0.9**
	68nm,1.1s						
CAST	**Castle Rocks**	**8.42**	**106**	P	**Pn**	**09 47 34.0**	**-0.5**
BPAW	**Bear Paw Mtn.**	**8.50**	**100**	P	**Pn**	**09 47 35.8**	**+0.2**
PPLA	**Purkeypile**	**8.67**	**109**	P	**Pn**	**09 47 38.2**	**+0.1**
PPLA				*e*Pn	**Pn**	**09 47 38.2**	**+0.1**
SVW2	**Sparrevohn**	**8.67**	**125**	P	**Pn**	**09 47 38.3**	**+0.4**
KTH	**Kantishna Hill**	**8.79**	**103**	P	**Pn**	**09 47 39.9**	**+0.2**
NEA	**Nenana**	**9.04**	**95**	P	**Pn**	**09 47 42.5**	**-0.4**
MDM	**Murphy Dome**	**9.22**	**92**	P	**Pn**	**09 47 45.1**	**-0.4**
COLA	**College**	**9.40**	**92**	P	**Pn**	**09 47 47.4**	**-0.5**
COLA	**College**	**9.40**	**92**	P	**Pn**	**09 47 47.4**	**-0.5**
SKT	**Skwentna**	**9.47**	**112**	P	**Pn**	**09 47 49.7**	**+0.8**
WRH	**Wood River Hil**	**9.47**	**94**	P	**Pn**	**09 47 48.0**	**-0.8**
CCB	**Clear Creek Bu**	**9.51**	**93**	P	**Pn**	**09 47 48.5**	**-0.9**
BGL	**Barrier Glacie**	**9.63**	**117**	P	**Pn**	**09 47 52.0**	**+0.8**
RND	**Reindeer**	**9.66**	**101**	P	**Pn**	**09 47 51.7**	**+0.1**
RND	**Reindeer**	**9.66**	**101**	P	**Pn**	**09 47 51.7**	**+0.1**
STLK	**Strandline Lak**	**9.67**	**115**	P	**Pn**	**09 47 52.5**	**+0.8**
CKL	**Chakachamna La**	**9.70**	**117**	P	**Pn**	**09 47 53.0**	**+0.8**
SPIA	**Saint Paul Isl**	**9.72**	**180**	P	Pn	09 47 56.0	+3.7
SPU	**Mount Spurr**	**9.81**	**117**	P	**Pn**	**09 47 54.8**	**+1.2**
IL1	**Eielson Array**	**9.82**	**91**	P	**Pn**	**09 47 52.8**	**-0.9**
ILAR	**Eielson Array**	**9.82**	**91**	Pn	**Pn**	**09 47 52.9**	**-0.9**
ILAR				Lg	Lg	09 50 51.9	
ILAR	**Eielson Array**	**9.82**	**91**	Pn	**Pn**	**09 47 52.9**	**-0.9**
	3.1nm,0.3s,baz=290,slow=13,SNR=298						
ILAR				Lg	Lg	09 50 51.9	
	baz=294,slow=32,SNR=4.2						
NCT	**North Crescent**	**9.95**	**121**	P	**Pn**	**09 47 55.9**	**+0.4**
BM3	**Burnt Mountain**	**10.00**	**75**	P	**Pn**	**09 47 54.0**	**-2.1**
RDWB	**Redoubt West**	**10.03**	**121**	P	**Pn**	**09 47 58.3**	**+1.6**
SUA	**Susitna One**	**10.09**	**113**	P	**Pn**	**09 47 58.1**	**+0.6**
SML	**Sawmill**	**10.76**	**108**	*e*Pn	Pn	09 48 25.5	+19
MENT	**Mentasta**	**11.91**	**97**	*e*Pn	**Pn**	**09 48 24.6**	**+2.4**
KDAK	**Kodiak Island**	**12.23**	**130**	Pn	**Pn**	**09 48 28.9**	**+2.3**
KDAK	**Kodiak Island**	**12.23**	**130**	Pn	**Pn**	**09 48 28.9**	**+2.3**
	1.7nm,0.3s,baz=121,slow=1.6,SNR=13						
KDAK				LR	LR	09 52 37.3	
	comp=Z,2μm,19.4s,baz=336,slow=34						
DAWY	**Dawson**	**13.08**	**88**	*e*Pn	**Pn**	**09 48 38.9**	**+0.7**
INK	**Inuvik**	**13.98**	**67**	Pn	Pn	09 48 45.8	-4.7
INK				*e*Pn	**Pn**	**09 48 48.0**	**-2.4**
INK				*e*Sn	**Sn**	**09 51 24.6**	**-0.5**
INK	**Inuvik**	**13.98**	**67**	Pn	Pn	09 48 45.8	-4.7
	0.5nm,0.3s,baz=300,slow=5.1,SNR=29						
INK				LR	LR	09 55 10.0	
	comp=Z,4μm,18.5s,baz=284,slow=41						
SEY	**Seymchan**	**16.12**	**274**	*e*P	**Pn**	**09 49 19.7**	**+0.8**
SEY				Pmax		09 49 23.9	
	40nm,1.1s						
SEY				*e*		09 53 41.8	
SEY	**Seymchan**	**16.12**	**274⇑**	*e*P	**Pn**	**09 49 19.3**	**+0.4**
FX1	**Attu Island--F**	**16.19**	**218**	Pn	**Pn**	**09 49 19.5**	**-0.4**
FX1	**Attu Island--F**	**16.19**	**218**	Pn	**Pn**	**09 49 19.5**	**-0.4**
	0.9nm,0.3s,baz=167,slow=16,SNR=4.1						
FX1				LR	LR	09 55 15.1	
	comp=Z,1μm,19.5s,baz=35,slow=36						
TLAR	**Talaya**	**17.10**	**268**	*e*P	P	09 49 45.2	+12
TLAR				Pmax		09 49 46.0	
	50nm,0.9s						
TLAR				*e*		09 54 22.0	
SUUS	**Susuman**	**17.86**	**276**	*e*P	**P**	**09 49 41.6**	**+0.2**
SUUS				Pmax		09 49 44.9	
	20nm,0.8s						
SUUS				*e*		09 54 54.0	
MGD	**Magadan 1**	**18.41**	**267**	*e*P	**P**	**09 49 47.1**	**-0.3**
MGD				Pmax		09 49 49.4	
	10.0nm,0.8s						
MGD				*e*		09 54 54.3	
OCHR	**Omchak**	**18.58**	**274**	*e*P	**Pn**	**09 49 51.9**	**+2.3**
OCHR				Pmax		09 49 53.3	
	10.0nm,0.5s						
OCHR				*e*		09 54 56.5	
DLBC	**Dease Lake**	**19.99**	**95**	P	**Pn**	**09 50 06.0**	**-0.5**
DLBC				*e*P	**P**	**09 50 06.3**	**+1.5**
DLBC	**Dease Lake**	**19.99**	**95**	P	**Pn**	**09 50 06.0**	**-0.5**
	36nm,1.0s,baz=292,slow=10,SNR=28						
WRAK	**Wrangell Islan**	**20.48**	**102**	*e*P	Pn	09 50 11.6	-0.7
	137nm,1.0s						
PET	**Petropavlovsk**	**20.50**	**243**	*e*P	**P**	**09 50 10.1**	**-0.2**
PET				*e*S	**S**	**09 53 56.7**	**-2.2**
PET				pmax	pmax		
	comp=Z,500nm,2.2s						
PET				pmax	pmax		
	comp=Z,79nm,1.1s						
PET				pmax	pmax		
	comp=Z,100nm,3.4s						
PET				MLR	MLR		
	comp=Z,2μm,14.0s						
PET				MLR	MLR		
	comp=Z,2μm,12.0s						
PETK	**Petropavlovsk-**	**20.77**	**244**	P	**P**	**09 50 10.5**	**-2.7**
PETK	**Petropavlovsk-**	**20.77**	**244**	P	**P**	**09 50 10.5**	**-2.7**
PETK	**Petropavlovsk-**	**20.77**	**244**	P	**P**	**09 50 10.5**	**-2.7**
	comp=Z,48nm,0.8s,baz=91,slow=8.0,SNR=13						
PETK				LR	LR	09 58 40.1	
	comp=Z,1μm,18.2s,baz=254,slow=38						
TIXI	**Tiksi**	**21.19**	**310**	*c i*P	**P**	**09 50 16.3**	**-1.3**
TIXI				pmax	pmax		
	comp=Z,141nm,1.0s						
SKR	**Severo-Kuril's**	**23.32**	**243**	*e*P	P	09 50 34.0	-6.3
SKR				*e*		09 54 40.0	
SKR				MLR	MLR		
	comp=N,3μm,14.0s						
SKR				MLR	MLR		
	comp=Z,3μm,14.0s						
YKW3	**Yellowknife Ar**	**23.48**	**74**	*e*P	**P**	**09 50 42.7**	**+0.9**
	comp=Z,1.4nm,1.3s						
YKA	**Yellowknife Ar**	**23.52**	**74**	P	**P**	**09 50 42.1**	**-0.2**
YKA	**Yellowknife Ar**	**23.52**	**74**	P	**P**	**09 50 42.1**	**-0.2**
	comp=Z,13nm,0.8s,baz=304,slow=12,SNR=16						
RES	**Resolute Bay**	**24.22**	**39**	P	**P**	**09 50 47.9**	**-0.9**
	comp=Z,9.1nm,0.6s,baz=281,slow=10,SNR=2.8						
RES				LR	LR	10 00 52.8	
	comp=Z,328nm,21.3s,baz=31,slow=38						
BBB	**Bella Bella**	**25.31**	**105**	P	**P**	**09 50 59.2**	**+0.5**
BBB	**Bella Bella**	**25.31**	**105**	P	**P**	**09 50 59.2**	**+0.5**
	comp=Z,20nm,1.0s,baz=19,slow=5.7,SNR=5.2						
BBB				LR	LR	10 01 19.1	
	comp=Z,620nm,20.0s,baz=303,slow=37						
YAK	**Yakutsk**	**25.40**	**288**	*e*P	**P**	**09 50 58.2**	**-1.3**
YAK				*e**PP	**pP**	**09 51 06.9**	**+2.8**
YAK				*e*PPP	PPP	09 51 43.4	
YAK				*e*		09 54 29.5	
YAK				*e*S	**S**	**09 55 23.3**	**-1.9**
YAK				*e*SS	**SnSn**	**09 56 20.0**	**+2.9**
YAK				pmax	pmax		
	comp=Z,36nm,1.1s						
YAK				pmax	pmax		
	comp=N,12nm,1.2s						
YAK				pmax	pmax		
	comp=E,25nm,1.4s						
YAK				smax	smax		
	comp=E,318nm,10.3s						
YAK				smax	smax		
	comp=N,147nm,10.6s						
YAK				MLR	MLR		
	comp=Z,2μm,10.0s						
YAK				MLR	MLR		
	comp=N,410nm,14.0s						
YAK				MLR	MLR		
	comp=E,2μm,13.0s						
CLNS	**Chul'man**	**30.68**	**283**	*e*P	**P**	**09 51 46.0**	**-0.8**
CLNS				*e**PP	**pP**	**09 51 55.2**	**+3.8**
CLNS				*e*		09 52 50.4	
CLNS				*e*S	**S**	**09 56 47.0**	**-1.5**
CLNS				*e*SS	SnSn	09 58 37.4	+11
CLNS				pmax	pmax		
	comp=Z,12nm,0.9s						
CLNS				pmax	pmax		
	comp=E,8.0nm,1.1s						
CLNS				pmax	pmax		
	comp=N,11nm,0.9s						
CLNS				pmax	pmax		
	comp=E,7.0nm,1.2s						
CLNS				pmax	pmax		
	comp=Z,8.0nm,1.3s						
CLNS				pmax	pmax		
	comp=N,5.0nm,0.9s						
CLNS				smax	smax		
	comp=N,91nm,18.6s						
CLNS				smax	smax		
	comp=E,185nm,14.9s						
CLNS				MLR	MLR		
	comp=E,424nm,10.0s						
CLNS				MLR	MLR		
	comp=N,1μm,10.0s						
CLNS				MLR	MLR		
	comp=Z,1μm,11.0s						
YSS	**Yuzh-Sakhalins**	**31.33**	**254**	*e*P	**P**	**09 51 52.4**	**-0.2**
YSS				*e*S	**S**	**09 57 02.0**	**+3.3**
YSS				MLR	MLR		
	comp=N,1μm,12.0s						
YSS				MLR	MLR		
	comp=E,900nm,12.0s						
YSS				MLR	MLR		
	comp=Z,2μm,12.0s						
ETW	**Entiat**	**31.98**	**102**	P	**P**	**09 51 58.9**	**+0.4**
WPW	**White Pass**	**32.27**	**104**	P	**P**	**09 52 02.7**	**+1.8**
NEW	**Newport**	**32.70**	**98**	P	**P**	**09 52 04.9**	**+0.3**
NEW	**Newport**	**32.70**	**98**	P	**P**	**09 52 04.9**	**+0.3**
	comp=Z,7.4nm,0.9s,baz=327,slow=8.8,SNR=6.1						
NEW				LR	LR	10 06 02.3	
	comp=Z,925nm,19.2s,baz=318,slow=38						
NEW	**Newport**	**32.70**	**98**	⇑P	**P**	**09 52 04.5**	**-0.2**
	baz=33,SNR=7.8						
ASR	**Mount Adams--S**	**32.70**	**105**	P	**P**	**09 52 05.9**	**+1.1**
OD2	**Odessa Site #2**	**32.79**	**100**	P	**P**	**09 52 05.5**	**+0.1**
TRW	**Toppenish Ridg**	**32.99**	**103**	P	**P**	**09 52 08.0**	**+0.8**
HABR	**Khabarovsk**	**33.07**	**264**	*e*P	**P**	**09 52 05.2**	**-2.6**
HABR				*e**SP	**sP**	**09 52 11.8**	**-2.5**
HABR				*e*		09 53 14.3	
HABR				*e*		09 54 48.6	
HABR				*e*S	**S**	**09 57 23.8**	**-2.0**
HABR				*e**SS	**sS**	**09 57 31.7**	**-1.7**
HABR				*e*SS	**SnSn**	**09 59 22.9**	**-1.2**
HABR				*e*		10 02 32.3	
HABR				pmax	pmax		
	comp=Z,55nm,2.0s						
HABR				MLR	MLR		
	comp=Z,997nm,17.0s						
WALA	**Waterton Lakes**	**33.32**	**94**	*e*P	**P**	**09 52 10.9**	**+0.8**
	comp=Z,0.8nm,1.3s						
VFP	**Flag Point**	**33.45**	**105**	P	**P**	**09 52 12.7**	**+1.3**
FFC	**Flin Flon**	**33.62**	**77**	*e*P	**P**	**09 52 13.3**	**+0.8**
FFC				pmax	pmax		
	comp=Z,22nm,1.0s						
FFC	**Flin Flon**	**33.62**	**77**	*e*P	**P**	**09 52 13.3**	**+0.8**
	comp=Z,22nm,1.0s						
KLR	**Kul'dur**	**33.77**	**268**	*e*P	P	09 52 08.2	-5.7
KLR				MLR	MLR		
	comp=E,1μm,16.0s						
KLR				MLR	MLR		
	comp=N,2μm,12.0s						
KLR				MLR	MLR		
	comp=Z,5μm,12.0s						
BSMT	**Bassoo Peak**	**33.95**	**96**	*e*PcP	**PcP**	**09 54 57.1**	**+3.5**
FRIS	**Frissel Point**	**34.15**	**107**	P	**P**	**09 52 18.4**	**+1.0**
KBS	**Kingsbay**	**34.42**	**359⇑**	*i*P	**P**	**09 52 21.4**	**+2.1**
KBS				pmax	pmax		
	comp=Z,78nm,2.3s						
VIPM	**Ingram Point**	**34.46**	**105**	P	**P**	**09 52 20.8**	**+0.7**
VIPM	**Ingram Point**	**34.46**	**105**	P	**P**	**09 52 20.8**	**+0.7**
MSO	**Missoula**	**35.11**	**96**	⇑P	**P**	**09 52 25.6**	**-0.1**
	baz=35,SNR=12						
SPITS	**Spitsbergen Ar**	**35.12**	**358**	LR	LR	10 06 27.8	
	comp=Z,300nm,18.7s,baz=30,slow=36						
ERM	**Erimo**	**35.39**	**249**	*c i*P	**P**	**09 52 26.8**	**-1.1**
ERM				pmax	pmax		
	comp=Z,36nm,1.1s						
BMO	**Blue Mountains**	**35.44**	**101**	*e*P	**P**	**09 52 28.8**	**+0.3**
	comp=Z,18nm,1.0s						
A19A	**Klindworth Far**	**35.46**	**89**	⇓P	**P**	**09 52 28.7**	**+0.1**
	baz=35,SNR=7.5						
B19A	**Brinkman Farms**	**35.76**	**90**	⇑P	**P**	**09 52 31.0**	**-0.2**
	baz=36,SNR=7.7						
EGMT	**Eagleton**	**35.79**	**91**	⇑P	**P**	**09 52 31.7**	**+0.2**
	baz=36						
A20A	**Cobblestone Ra**	**35.83**	**88**	⇑P	**P**	**09 52 31.8**	**+0.1**
	baz=36,SNR=22						
YBH	**Yreka Blue Hor**	**36.05**	**110**	P	**P**	**09 52 34.6**	**+0.8**
YBH	**Yreka Blue Hor**	**36.05**	**110**	P	**P**	**09 52 34.6**	**+0.8**
	comp=Z,11nm,0.9s,baz=318,slow=1.9,SNR=13						
YBH				LR	LR	10 07 44.8	
	comp=Z,272nm,19.4s,baz=327,slow=37						
A21A	**Bergtoll Ranch**	**36.13**	**87**	⇓P	**P**	**09 52 34.6**	**+0.2**
	baz=36,SNR=17						
C19A	**Slack Wire Ran**	**36.30**	**91**	⇑P	**P**	**09 52 36.0**	**+0.1**
	baz=36,SNR=6.0						
A22A	**Carney Farms,**	**36.53**	**87**	⇑P	**P**	**09 52 37.8**	**+0.1**
	baz=36						
B21A	**Ellsworth Farm**	**36.55**	**88**	⇑P	**P**	**09 52 38.3**	**+0.4**
	baz=36,SNR=7.2						
C20A	**Veseth Ranch,**	**36.73**	**90**	⇓P	**P**	**09 52 39.6**	**+0.1**
	baz=37,SNR=13						
D19A	**Cripps Ranch,**	**36.84**	**91**	⇓P	**P**	**09 52 40.3**	**-0.1**
	baz=37,SNR=13						
A23A	**Redstone**	**36.96**	**86**	⇓P	**P**	**09 52 41.3**	**-0.2**
	baz=37						
WVOR	**Wild Horse Val**	**36.98**	**105**	*e*P	**P**	**09 52 42.4**	**+0.7**
WVOR				pmax	pmax		
	comp=Z,18nm,1.1s						
WVOR	**Wild Horse Val**	**36.98**	**105**	*e*P	**P**	**09 52 42.4**	**+0.7**
	comp=Z,18nm,1.1s						
BOZ	**Bozeman (W)**	**37.00**	**95**	*e*P	**P**	**09 52 43.0**	**+1.1**
BOZ				pmax	pmax		
	comp=Z,42nm,1.3s						
BOZ	**Bozeman (W)**	**37.00**	**95**	*e*P	**P**	**09 52 43.0**	**+1.1**
	comp=Z,42nm,1.3s						
C21A	**Desert Coulee**	**37.00**	**89**	⇑P	**P**	**09 52 41.3**	**-0.5**
	baz=37						
B22A	**Reddig Ranch S**	**37.05**	**87**	⇓P	**P**	**09 52 41.7**	**-0.5**
	baz=37						
WDC	**Whiskeytown Da**	**37.11**	**111**	*e*P	**P**	**09 52 44.0**	**+1.3**
WDC				pmax	pmax		
	comp=Z,12nm,0.9s						
WDC	**Whiskeytown Da**	**37.11**	**111**	*e*P	**P**	**09 52 44.0**	**+1.3**
	comp=Z,12nm,0.9s						
D20A	**Manuel Ranch,**	**37.19**	**90**	⇑P	**P**	**09 52 43.8**	**+0.4**
	baz=37,SNR=9.5						
MCMT	**McKenzie Canyo**	**37.20**	**97**	P	**P**	**09 52 44.2**	**+0.5**
SUMG	**Summit**	**37.21**	**22**	*e*P	**P**	**09 52 44.1**	**+0.4**
SUMG				pmax	pmax		
	comp=Z,26nm,0.8s						
SUMG	**Summit**	**37.21**	**22**	*i*P	**P**	**09 52 44.1**	**+0.4**
	comp=Z,26nm,0.8s						
MFID	**Camas Ranch**	**37.22**	**101**	⇓P	**P**	**09 52 43.8**	**+0.1**
	baz=37,SNR=11						
B23A	**Brockton**	**37.32**	**86**	⇓P	**P**	**09 52 44.2**	**-0.3**
	baz=37,SNR=7.5						
A24A	**Westby**	**37.34**	**85**	⇑P	**P**	**09 52 44.2**	**-0.4**
	baz=37,SNR=8.6						
E19A	**Rath Farm, Rou**	**37.45**	**92**	⇑P	**P**	**09 52 45.7**	**+0.1**
	baz=37,SNR=11						
C22A	**Vida**	**37.55**	**88**	⇑P	**P**	**09 52 46.2**	**-0.1**
	baz=37,SNR=8.2						
DGMT	**Dagmar**	**37.63**	**86**	⇓P	**P**	**09 52 47.3**	**+0.2**
	baz=38,SNR=10						
HLID	**Hailey**	**37.65**	**100**	⇑P	**P**	**09 52 47.8**	**+0.3**
	baz=38,SNR=48						
D21A	**La Casta Ranch**	**37.66**	**89**	⇓P	**P**	**09 52 47.4**	**0.0**
	baz=38,SNR=10.0						
E20A	**Meyer Farm, Mu**	**37.67**	**91**	⇑P	**P**	**09 52 47.6**	**+0.1**
	baz=38,SNR=16						
A25A	**Svangstu Ranch**	**37.68**	**84**	⇓P	**P**	**09 52 46.9**	**-0.6**
	baz=38						
C23A	**Lambert**	**37.78**	**87**	⇓P	**P**	**09 52 47.8**	**-0.5**
	baz=38						
USRK	**Ussuriysk Arra**	**37.80**	**263**	P	P	09 52 44.8	-3.6
	comp=Z,9.2nm,0.9s,baz=39,slow=7.2,SNR=17						
USRK				LR	LR	10 09 20.8	
	comp=Z,546nm,19.4s,baz=26,slow=38						
F19A	**Roth Farm, Mol**	**37.89**	**92**	⇑P	**P**	**09 52 49.2**	**-0.1**
	baz=38,SNR=11						
D22A	**Cohagen**	**37.91**	**89**	⇓P	**P**	**09 52 49.7**	**+0.2**
	baz=38,SNR=8.0						
E21A	**Keefer Ranch,**	**38.06**	**90**	⇓P	**P**	**09 52 51.0**	**+0.3**
	baz=38,SNR=10						
YMR	**Madison River**	**38.07**	**95**	*e*P	**P**	**09 52 52.6**	**+1.5**
	comp=Z,56nm,1.4s						
FRB	**Frobisher Bay**	**38.11**	**45**	LR	LR	10 10 47.1	
	comp=Z,1μm,18.4s,baz=296,slow=40						
A26A	**Wade Farm, Ken**	**38.13**	**83**	⇑P	**P**	**09 52 50.9**	**-0.4**
	baz=38						
B25A	**Knox Farm, Ray**	**38.19**	**85**	⇓P	**P**	**09 52 51.8**	**-0.1**
	baz=38						
F20A	**Billings**	**38.24**	**92**	⇓P	**P**	**09 52 52.7**	**+0.3**
	baz=38						
LAO	**LASA Array**	**38.27**	**89**	*e*P	**P**	**09 52 52.8**	**+0.2**
	comp=Z,29nm,1.0s						
D23A	**Lindsay**	**38.28**	**88**	⇓P	**P**	**09 52 53.4**	**+0.8**
	baz=38						
C24A	**Savage**	**38.30**	**87**	⇑P	**P**	**09 52 52.4**	**-0.3**
	baz=38,SNR=8.9						
MDJ	**Mudanjiang**	**38.39**	**265**	P	**P**	**09 52 52.5**	**-1.0**
MDJ				pP	**pP**	**09 52 55.5**	**-2.6**
MDJ				PP	**PP**	**09 54 19.8**	**-1.3**
MDJ				S	**S**	**09 58 49.8**	**+2.4**
MDJ				pmax	pmax		
	comp=Z,10.0nm,0.7s						
MDJ				pmax	pmax		
	comp=Z,71nm,5.5s						
MDJ				LR	LR		
	comp=N,740nm,12.2s						
MDJ				LR	LR		
	comp=E,740nm,12.2s						
MDJ				LR	LR		
	comp=Z,2μm,14.4s						
A27A	**Ledoux Ranch,**	**38.40**	**82**	⇓P	**P**	**09 52 53.5**	**0.0**
	baz=38,SNR=6.4						
H17A	**Grant Village**	**38.45**	**95**	*e*P	**P**	**09 52 56.5**	**+2.1**
H17A	**Grant Village**	**38.45**	**95**	⇓P	**P**	**09 52 56.3**	**+2.0**
	baz=38,SNR=8.1						
H18A	**Shoshone NF, C**	**38.58**	**94**	⇓P	**P**	**09 52 55.8**	**+0.5**
	baz=38,SNR=13						
E22A	**Miles City**	**38.59**	**89**	⇓P	**P**	**09 52 55.2**	**0.0**
	baz=38						
C25A	**Freed Ranch, W**	**38.61**	**85**	⇑P	**P**	**09 52 55.6**	**+0.2**
	baz=38,SNR=5.7						
F21A	**Absaloka Mine,**	**38.63**	**91**	⇑P	**P**	**09 52 56.1**	**+0.5**
	baz=38						
D24A	**Glendive**	**38.67**	**87**	⇑P	**P**	**09 52 56.2**	**+0.3**
	baz=38,SNR=18						
G20A	**Bridger**	**38.70**	**92**	⇑P	**P**	**09 52 55.9**	**-0.3**
	baz=38,SNR=11						
A28A	**Rude Farm, Bot**	**38.81**	**82**	⇑P	**P**	**09 52 57.0**	**-0.1**
	baz=39,SNR=8.7						
B27A	**Peters Farms,**	**38.83**	**83**	⇓P	**P**	**09 52 57.4**	**+0.2**
	baz=39,SNR=7.0						
H19A	**Powell**	**38.85**	**93**	⇓P	**P**	**09 52 58.1**	**+0.6**
	baz=39,SNR=24						
I17A	**Pilgrim Ck.**	**38.85**	**96**	⇓P	**P**	**09 52 59.3**	**+1.7**
	baz=39,SNR=8.0						
C26A	**Wahner Farm, P**	**38.98**	**84**	⇓P	**P**	**09 52 58.5**	**+0.1**
	baz=39						
F22A	**Rosebud**	**39.01**	**90**	⇑P	**P**	**09 52 59.0**	**+0.3**
	baz=39,SNR=5.1						
D25A	**Fairfield**	**39.04**	**86**	⇑P	**P**	**09 52 59.4**	**+0.4**
	baz=39,SNR=5.9						
G21A	**Lodge Grass**	**39.09**	**91**	⇓P	**P**	**09 52 59.6**	**+0.1**
	baz=39						
E24A	**Baker**	**39.14**	**87**	⇑P	**P**	**09 53 00.1**	**+0.3**
	baz=39						
B28A	**Dugan Ranch, T**	**39.15**	**82**	⇓P	**P**	**09 52 59.9**	**+0.1**
	baz=39,SNR=12						
A29A	**Manning Farm,**	**39.21**	**81**	⇑P	**P**	**09 53 00.5**	**+0.2**
	baz=39,SNR=12						
C27A	**Sayler Ranch,**	**39.30**	**84**	⇑P	**P**	**09 53 01.0**	**-0.1**
	baz=39						
I19A	**Meeteetse**	**39.38**	**94**	⇑P	**P**	**09 53 02.7**	**+0.7**
	baz=39,SNR=14						
F23A	**Volborg**	**39.39**	**89**	⇑P	**P**	**09 53 01.7**	**-0.3**
	baz=39						
H20A	**Greybull**	**39.39**	**93**	⇑P	**P**	**09 53 02.3**	**+0.3

PDAR LR LR 10 11 11.6
comp=Z,705nm,18.0s,baz=349,slow=38
I21A Big Trails, Te 40.24 93 ⇑P P 09 53 09.5 +0.5
baz=40,SNR=25
J20A Shoshoni 40.31 94 ⇓P P 09 53 10.7 +1.0
baz=40,SNR=15
E27A Carson 40.33 85 ⇓P P 09 53 09.9 +0.2
baz=40,SNR=9.5
SPUT South Promonto 40.33 100 *e*P P 09 53 10.7 +0.8
comp=Z,40nm,1.2s
F26A Lodgepole 40.37 87 ⇓P P 09 53 10.1 0.0
baz=40
K19A Absolon Red Bu 40.45 95 ⇓P P 09 53 11.5 +0.5
baz=40
I22A 9 Mile Ranch, 40.49 92 ⇓P P 09 53 11.6 +0.5
baz=40,SNR=26
C30A Mose, Pekin 40.49 81 ⇓P P 09 53 10.9 -0.1
baz=40
H24A Dirks Ranch, A 40.54 89 ⇑P P 09 53 11.4 -0.2
baz=40,SNR=11
E28A Huff 40.55 84 ⇑P P 09 53 11.7 +0.2
baz=40,SNR=5.2
J21A Lysite 40.57 93 ⇑P P 09 53 13.2 +1.3
baz=40,SNR=12
D29A Pettibone, Tap 40.58 83 ⇓P P 09 53 12.0 +0.2
baz=40,SNR=11
F27A Lemmon 40.60 86 ⇑P P 09 53 12.5 +0.5
baz=40
G25A Newell 40.62 88 ⇑P P 09 53 12.3 +0.2
baz=40,SNR=8.4
NV11 Mina Array Sit 40.63 108 *e*P P 09 53 13.3 +0.9
G27A Dupree 40.65 87 ⇓P P 09 53 15.4 +3.0
baz=41,SNR=13
CN2 Changchun 40.70 269 *e*P P 09 53 12.3 -0.5
CN2 *e*S S 09 59 21.3 -0.8
CN2 pmax pmax
comp=Z,20nm,1.0s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,1μm,12.0s
CN2 LR LR
comp=E,1μm,12.0s
CN2 LR LR
comp=Z,2μm,13.0s
L18A Fontenelle, Gr 40.75 97 ⇑P P 09 53 13.8 +0.4
baz=41,SNR=11
K20A Yellowstone Ra 40.79 95 ⇑P P 09 53 13.5 -0.3
baz=41,SNR=9.4
G26A Maurine 40.86 87 ⇑P P 09 53 14.2 +0.1
baz=41,SNR=18
L19A Farson 40.87 96 ⇑P P 09 53 14.7 +0.4
baz=41
D30A Buchanan 40.87 82 ⇑P P 09 53 14.0 -0.2
baz=41
M17A Scullys Gap (B 40.89 98 ⇑P P 09 53 14.6 0.0
baz=41,SNR=7.7
J22A Midwest 40.89 92 ⇓P P 09 53 14.7 +0.2
baz=41,SNR=12
E29A Napoleon 40.97 83 ⇑P P 09 53 14.5 -0.4
baz=41,SNR=6.1
H25A Fruitdale 41.02 88 ⇓P P 09 53 15.3 -0.1
baz=41,SNR=16
F28A McLaughlin 41.10 85 ⇓P P 09 53 16.6 +0.5
baz=41,SNR=18
DUG Dugway 41.14 101 ⇑P P 09 53 16.9 +0.3
baz=41,SNR=37
K21A Alcova 41.24 93 ⇑P P 09 53 17.4 -0.1
baz=41,SNR=15
I24A Kuemmerle Ranc 41.25 90 ⇓P P 09 53 17.2 -0.2
baz=41
RSSD Black Hills 41.26 89 *e*PcP PcP 09 55 19.2 +3.1
E30A Jud 41.31 83 ⇑P P 09 53 17.5 -0.3
baz=41,SNR=9.1
L20A Wamsutter 41.34 95 ⇑P P 09 53 18.0 -0.3
baz=41,SNR=7.4
H26A Fairpoint 41.35 88 ⇑P P 09 53 18.0 -0.1
baz=41,SNR=26
M19A Rock Springs 41.45 96 ⇓P P 09 53 19.1 -0.1
baz=41
I25A Rochford 41.47 89 ⇑P P 09 53 19.1 -0.2
baz=41
F29A Eureka 41.50 84 ⇑P P 09 53 19.2 -0.1
baz=41,SNR=13
K22A Casper 41.52 93 ⇑P P 09 53 19.5 -0.1
baz=41,SNR=5.1
H27A Howes 41.61 87 ⇑P P 09 53 20.2 -0.1
baz=41,SNR=6.0
R11A Troy Canyon, C 41.68 105 ⇓P P 09 53 21.2 +0.2
baz=42,SNR=17
J24A Dixon Ranch, L 41.68 91 ⇓P P 09 53 20.9 0.0
baz=42
G28A Parade 41.70 86 ⇑P P 09 53 21.3 +0.3
baz=42
L21A Rawlins 41.76 94 ⇑P P 09 53 21.5 -0.3
baz=42,SNR=7.3
K23A Bowen Ranch, D 41.78 92 ⇓P P 09 53 21.2 -0.6
baz=42,SNR=6.3
I26A New Underwood 41.80 88 ⇑P P 09 53 21.8 0.0
baz=42
F30A Leola 41.81 83 ⇓P P 09 53 21.6 -0.3
baz=42
M20A Sweetwater, Wa 41.84 95 ⇓P P 09 53 22.7 +0.2
baz=42,SNR=11
JMIC Jan Mayen 41.86 9 LR LR 10 09 27.0
comp=Z,350nm,20.8s,baz=67,slow=34
IRK Irkutsk 41.93 293 *e*P P 09 53 19.1 -3.6
IRK pmax pmax
comp=Z,88nm,1.4s
J25A Sunshine Ranch 41.97 90 ⇑P P 09 53 23.5 +0.2
baz=42
H28A Mission Ridge 41.99 86 ⇓P P 09 53 23.2 -0.2
baz=42
G29A Hoven 41.99 85 ⇓P P 09 53 23.5 +0.1
baz=42
MAJO Matsushiro 42.02 250 *i*P P 09 53 22.3 -1.4
MAT Matsushiro 42.02 250 P P 09 53 23.7 +0.1
MAT S S 09 59 47.0 +5.2
MJAR Matsushiro Arr 42.02 250 P P 09 53 22.4 -1.2
MJAR Matsushiro Arr 42.02 250 P P 09 53 22.4 -1.2
comp=Z,4.7nm,0.8s,baz=8.6,slow=7.9,SNR=9.2
MJAR LR LR 10 11 50.9
comp=Z,296nm,18.7s,baz=30,slow=38
M21A Separation Pea 42.07 94 ⇑P P 09 53 24.4 +0.1
baz=42
L22A Ellis Ranch, M 42.08 93 ⇓P P 09 53 24.9 +0.6
baz=42,SNR=10.0
I27A Quinn 42.09 88 ⇑P P 09 53 24.5 +0.3
baz=42,SNR=9.9
RCTC Rector, Farmer 42.09 110 ⇓P P 09 53 24.9 +0.7
baz=42,SNR=8.4
GRAC Grapevine Rang 42.18 108 ⇑P P 09 53 26.1 +1.1
baz=42,SNR=6.4
L23A Garrett 42.30 92 ⇓P P 09 53 26.2 +0.1
baz=42
J26A Sides Ranch, S 42.32 89 ⇓P P 09 53 26.3 +0.2
baz=42,SNR=32
H29A Onida 42.35 85 ⇓P P 09 53 26.1 -0.2
baz=42,SNR=22
G30A Faulkton 42.35 84 ⇑P P 09 53 25.9 -0.4
baz=42,SNR=14
N20A Spence Gulch, 42.38 96 ⇑P P 09 53 27.1 +0.4
baz=42,SNR=19
CWC Cottonwood Cre 42.41 109 ⇑P P 09 53 28.0 +0.9
baz=42
O19A Miners Draw (B 42.49 97 ⇓P P 09 53 28.1 +0.4
baz=42
I28A Midland 42.50 87 ⇓P P 09 53 27.2 -0.3
baz=42,SNR=10
VES Vestal, Richgr 42.57 110 ⇑P P 09 53 28.4 +0.3
baz=42
K25A Mack Ranch, Ha 42.60 90 ⇑P P 09 53 27.9 -0.6
baz=42
TLY Talaya 42.62 293 *e*P P 09 53 27.5 -0.8
TLY pmax pmax
comp=Z,20nm,1.9s
TLY MLR MLR
comp=Z,706nm,13.0s
L24A Wheatland 42.66 92 ⇓P P 09 53 29.2 +0.2
baz=42
SMMC Simmler 42.70 112 ⇓P P 09 53 29.9 +0.6
baz=43,SNR=8.1
N21A Black Mountain 42.73 95 ⇓P P 09 53 29.9 +0.2
baz=43,SNR=6.2
J27A Elkhorn Farm, 42.79 88 ⇑P P 09 53 30.0 0.0
baz=43,SNR=11
K26A Motz Farm, Whi 42.80 90 ⇑P P 09 53 30.0 0.0
baz=43,SNR=5.7
I29A Vivian Onida 42.82 86 ⇑P P 09 53 29.9 -0.2
baz=43,SNR=27
M23A Laramie 42.84 93 ⇓P P 09 53 30.8 +0.3
baz=43,SNR=7.5
FURC Furnace Creek, 42.84 108 ⇓P P 09 53 31.2 +1.0
baz=43,SNR=8.2
Q16A Castle Valley 42.88 100 *e*P P 09 53 31.6 +0.7
Q16A Castle Valley 42.88 100 ⇑P P 09 53 31.5 +0.7
baz=43,SNR=12
L25A Engebretsen Ra 42.95 91 ⇓P P 09 53 31.0 -0.3
baz=43
ISA Isabella 42.95 110 ⇑P P 09 53 31.5 +0.2
baz=43,SNR=10
J28A Allard Ranch, 42.95 87 ⇓P P 09 53 30.9 -0.3
baz=43,SNR=9.2
MPMC Manual Prospec 42.97 109 ⇓P P 09 53 32.4 +0.8
baz=43,SNR=15
O20A White River Ci 42.98 96 ⇓P P 09 53 32.3 +0.7
baz=43
ARUT Antelope Range 42.99 103 *e*P P 09 53 31.9 +0.2
ARUT pmax pmax
comp=Z,334nm,0.9s
ARUT Antelope Range 42.99 103 *e*P P 09 53 31.9 +0.2
comp=Z,334nm,0.9s
BRSD Miller 43.00 84 *e*PcP PcP 09 55 24.8 +3.3
BRSD Miller 43.00 84 ⇓P P 09 53 31.0 -0.6
baz=43,SNR=7.2
N22A Wattenberg Ran 43.11 94 ⇑P P 09 53 32.7 -0.1
baz=43,SNR=8.2
P19A Cripple Cowboy 43.12 97 ⇑P P 09 53 32.8 -0.1
baz=43,SNR=10
KEV Kevo 43.13 351 *e*P P 09 53 32.6 +0.4
KEV pmax pmax
comp=Z,36nm,0.7s
KEV Kevo 43.13 351 *e*p P 09 53 32.6 +0.4
comp=Z,36nm,0.7s
PKM Peak Mountain 43.14 112 ⇑P P 09 53 33.9 +1.0
baz=43
K27A Flueckinger Fa 43.17 89 ⇓P P 09 53 32.6 -0.4
baz=43,SNR=9.5
M24A Cheyenne 43.19 92 ⇑P P 09 53 33.4 +0.1
baz=43
O21A Pagoda 43.22 96 ⇑P P 09 53 33.7 +0.1
baz=43
N23A Red Feather La 43.24 94 ⇑P P 09 53 33.7 -0.1
baz=43,SNR=13
I30A Oacoma 43.26 85 ⇑P P 09 53 33.3 -0.3
baz=43,SNR=54
J29A Okreek 43.33 87 ⇓P P 09 53 33.8 -0.4
baz=43,SNR=7.6
L26A Underwood Farm 43.40 90 ⇑P P 09 53 34.7 -0.2
baz=43
LRMC Laurel Mountai 43.41 109 ⇑P P 09 53 35.5 +0.5
baz=43,SNR=16
ARCES ARCESS Array B 43.43 352 P P 09 53 33.7 -1.0
ARCES ARCESS Array B 43.43 352 P P 09 53 33.7 -1.0
comp=Z,12nm,0.7s,baz=23,slow=9.5,SNR=16
ARCES LR LR 10 12 28.3
comp=Z,710nm,20.1s,baz=24,slow=37
P20A De Beque 43.47 97 ⇓P P 09 53 35.6 0.0
baz=43,SNR=7.9
K28A Ten Mile Ranch 43.50 88 ⇑P P 09 53 35.8 +0.2
baz=43,SNR=12
M25A Palm-Egli Farm 43.52 91 ⇓P P 09 53 36.3 +0.3
baz=43
SHOC Shoshone 43.56 107 ⇓P P 09 53 37.0 +0.8
baz=43,SNR=11
MOY Mondy 43.58 295 *e*P P 09 53 36.8 +0.5
MOY pmax pmax
comp=Z,76nm,2.4s
O22A Kremmling 43.62 95 ⇓P P 09 53 37.8 +0.8
baz=44,SNR=6.9
N24A Carr 43.71 93 ⇓P P 09 53 38.2 +0.6
baz=44,SNR=15
J30A Dallas 43.73 86 ⇑P P 09 53 37.4 -0.1
baz=44
ZAK Zakamensk 43.81 293 *e*P P 09 53 37.2 -0.9
ZAK *e* 09 55 23.0
ZAK pmax pmax
comp=Z,7.0nm,1.8s
P21A Newcastle 43.82 96 ⇑P P 09 53 38.9 +0.4
baz=44,SNR=8.3
EDW2 Edwards Air Fo 43.83 110 ⇓P P 09 53 38.7 +0.3
baz=44
O23A Lake Granby, G 43.83 94 ⇑P P 09 53 39.3 +0.7
baz=44,SNR=11
M26A McRoberts Ranc 43.86 91 ⇑P P 09 53 39.2 +0.6
baz=44
K29A Lazy Trails An 43.88 87 ⇑P P 09 53 38.3 -0.3
baz=44
GSC Goldstone 43.90 108 ⇑P P 09 53 39.7 +0.7
baz=44,SNR=13
Q20A Ridgley Place, 43.98 97 ⇓P P 09 53 39.7 0.0
baz=44,SNR=20
P22A Eagle 44.03 95 ⇓P P 09 53 40.7 +0.5
baz=44,SNR=6.0
L28A Connealy Angus 44.04 89 ⇑P P 09 53 40.1 +0.1
baz=44
TUQ Turquoise Moun 44.11 107 ⇓P P 09 53 41.5 +0.8
baz=44,SNR=11
K30A Basset 44.23 86 ⇓P P 09 53 41.2 -0.3
baz=44,SNR=12
O24A Longmont 44.24 93 ⇓P P 09 53 42.6 +0.8
baz=44,SNR=8.2
DECC Green Verdugo 44.27 111 ⇑P P 09 53 42.8 +1.0
baz=44
ISCO Idaho Springs 44.30 94 ⇓P P 09 53 42.8 +0.4
baz=44,SNR=16
Q21A Lamborn Mesa, 44.36 97 ⇑P P 09 53 43.4 +0.6
baz=44
PASC Pasadena Art C 44.39 111 *e*P P 09 53 43.7 +0.9
comp=Z,11nm,0.8s
L29A Maesberg Ranch 44.40 88 ⇓P P 09 53 42.7 -0.2
baz=44,SNR=7.1
HEC Hector,Ludlow 44.49 108 ⇓P P 09 53 44.6 +0.9
baz=44
BFSC Mount Baldy Ra 44.52 110 ⇓P P 09 53 44.9 +0.9
baz=44,SNR=13
P23A Jefferson 44.58 95 ⇑P P 09 53 45.6 +0.9
baz=44,SNR=15
Q22A Crested Butte, 44.60 96 ⇓P P 09 53 44.6 -0.2
baz=44,SNR=6.9
R20A Redvale 44.60 98 ⇑P P 09 53 45.1 +0.4
baz=44,SNR=37
U15A North Rim 44.62 103 ⇑P P 09 53 45.9 +1.0
baz=44,SNR=15
O25A Wiggins 44.62 92 ⇑P P 09 53 44.9 +0.1
baz=44
N27A Anderson Farm, 44.66 91 ⇓P P 09 53 45.2 +0.2
baz=44,SNR=5.6
OGNE Ogallala 44.74 90 ⇑P P 09 53 45.6 0.0
baz=45
SPMN St. Paul 44.75 79 ⇑P P 09 53 45.2 -0.3
baz=45,SNR=8.4
SONM Songino Array 44.76 288 P P 09 53 43.9 -1.9
SONM Songino Array 44.76 288 P P 09 53 43.9 -1.9
comp=Z,8.8nm,0.8s,baz=50,slow=7.8,SNR=36
SONM LR LR 10 13 46.3
comp=Z,1μm,18.1s,baz=32,slow=38
R21A Cimarron 44.77 97 ⇓P P 09 53 46.5 +0.3
baz=45,SNR=18
BBRC Big Bear Solar 44.78 109 ⇓P P 09 53 46.7 +0.5
baz=45,SNR=12
GMRC Granite Mounta 44.79 108 ⇑P P 09 53 46.8 +0.6
baz=45,SNR=14
L30A Spencer Herefo 44.80 87 ⇓P P 09 53 45.9 -0.2
baz=45,SNR=6.4
APA Apatity 44.81 347 ⇑ *i*P P 09 53 57.0 +11
APA *i*S S 10 00 38.0 +16
APA MLR MLR
comp=Z,800nm,11.0s
O26A Horse Wrangler 44.83 92 ⇑P P 09 53 46.9 +0.5
baz=45
M29A Burnside Ranch 44.84 88 ⇓P P 09 53 46.2 -0.3
baz=45,SNR=6.4
S20A Disappointment 44.92 98 ⇑P P 09 53 47.6 +0.2
baz=45,SNR=9.6
L31A Butterfield Fa 44.95 86 ⇑P P 09 53 47.1 -0.2
baz=45,SNR=12
Q23A Hartsel 44.99 95 ⇑P P 09 53 48.7 +0.8
baz=45,SNR=15
CIS Catalina Islan 44.99 111 ⇑P P 09 53 48.6 +1.0
baz=45
P25A Willow Gulch B 45.12 93 ⇑P P 09 53 49.2 +0.4
baz=45,SNR=6.3
N28A Pribbeno Ranch 45.15 90 ⇓P P 09 53 48.9 0.0
baz=45,SNR=8.1
KSRS Korea Array 45.16 261 P P 09 53 46.1 -2.8
comp=Z,4.5nm,0.8s,baz=22,slow=8.4,SNR=17
KSRS LR LR 10 11 27.1
comp=Z,292nm,21.4s,baz=165,slow=35
W13A Hualapai Mount 45.18 106 ⇓P P 09 53 50.0 +0.6
baz=45,SNR=6.4
KSAR Wonju Array Be 45.18 261 P P 09 53 46.1 -3.0
Q24A Divide 45.20 94 ⇓P P 09 53 49.9 +0.2
baz=45
O27A Beecher Island 45.21 91 ⇑P P 09 53 49.4 0.0
baz=45,SNR=7.2
R22A Saguache, Gunn 45.21 96 ⇓P P 09 53 50.8 +1.1
baz=45,SNR=14
MURC Murrieta 45.26 110 ⇓P P 09 53 49.9 0.0
baz=45
S21A Coal Bank Pass 45.29 98 ⇓P P 09 53 51.0 +0.7
baz=45,SNR=19
SCI San Clemente I 45.32 112 ⇓P P 09 53 50.2 0.0
baz=45
BELC Belle Mtn. Jos 45.35 108 ⇑P P 09 53 50.8 +0.1
baz=45,SNR=6.4
N29A Votaw Ranch, W 45.40 89 ⇑P P 09 53 50.9 0.0
baz=45,SNR=6.7
P26A Davis Ranch, A 45.40 92 ⇓P P 09 53 51.0 0.0
baz=45,SNR=17
MVCO Mesa Verde 45.41 99 ⇓P P 09 53 51.2 0.0
baz=45
PFO Pinyon Flat Ob 45.53 109 P P 09 53 51.5 -0.5
PFO Pinyon Flat Ob 45.53 109 P P 09 53 51.5 -0.5
comp=Z,4.9nm,0.8s,baz=321,slow=5.1,SNR=6.0
PFO Pinyon Flat Ob 45.53 109 ⇑P P 09 53 52.2 +0.1
baz=45
O28A Krutsinger Ran 45.54 90 ⇑P P 09 53 51.8 -0.2
baz=45,SNR=15
S22A 4UR Ranch, Cre 45.60 97 ⇓P P 09 53 53.5 +0.8
baz=46,SNR=13
Q25A Bedland, Calha 45.60 93 ⇓P P 09 53 52.3 -0.4
baz=45
M31A Lambtecht Ranc 45.60 87 ⇓P P 09 53 51.8 -0.6
baz=45,SNR=14
R23A Moffat 45.61 95 ⇑P P 09 53 53.4 +0.6
baz=46,SNR=16
N30A Hueftle Ranch, 45.63 88 ⇓P P 09 53 52.9 +0.2
baz=46
P27A Ficken Ranch, 45.71 91 ⇓P P 09 53 53.9 +0.5
baz=46,SNR=16
WUAZ Wupatki 45.77 103 *e*P P 09 53 54.7 +0.7
comp=Z,23nm,1.0s
WUAZ Wupatki 45.77 103 ⇑P P 09 53 54.9 +0.9
baz=46,SNR=16
PDMCI Parker Dam,Lak 45.79 106 ⇓P P 09 53 54.5 +0.6
baz=46,SNR=5.0
R24A Sanders Place, 45.85 95 ⇓P P 09 53 54.5 -0.1
baz=46
BC3 Big Chuckawall 45.87 108 ⇑P P 09 53 55.2 +0.5
baz=46
BGNE Belgrade 45.88 86 ⇑P P 09 53 54.4 -0.2
baz=46
Q26A Hugo 45.88 93 ⇑P P 09 53 55.0 +0.2
baz=46,SNR=17
SCHQ Schefferville 45.91 52 P P 09 53 53.4 -1.2
SCHQ Schefferville 45.91 52 P P 09 53 53.4 -1.2
comp=Z,13nm,1.0s,baz=314,slow=7.5,SNR=5.8
SCHQ LR LR 10 14 33.7
comp=Z,466nm,20.0s,baz=360,slow=38
T21A Navajo Lake 45.98 98 ⇓P P 09 53 56.9 +1.3
baz=46,SNR=6.4
P28A Saint Francis 46.02 91 ⇑P P 09 53 55.6 -0.2
baz=46,SNR=18
SDCO Great Sand Dun 46.12 95 *e*P P 09 53 57.6 +0.7
comp=Z,7.7nm,1.3s
U20A Newcomb 46.13 99 ⇑P P 09 53 57.5 +0.7
baz=46
Y12C Blythe 46.13 107 ⇓P P 09 53 57.1 +0.5
baz=46,SNR=7.0
KSCO Kaye Shedlock' 46.16 92 *e*P P 09 53 57.2 +0.3
KSCO Kaye Shedlock' 46.16 92 ⇑P P 09 53 57.2 +0.3
baz=46,SNR=18
O30A MW Ranch, Wils 46.17 89 ⇑P P 09 53 56.5 -0.5
baz=46,SNR=9.9
MONP Monument Peak 46.19 110 ⇑P P 09 53 58.0 +0.7
baz=46,SNR=14
T22A Edith 46.20 97 ⇑P P 09 53 58.7 +1.3
baz=46,SNR=13
R25A Fountain Ranch 46.25 94 ⇑P P 09 53 57.7 0.0
baz=46
TJN Taejon 46.31 261 *i*P P 09 53 58.4 +0.4
P29A Atwood 46.32 90 ⇓P P 09 53 57.9 -0.2
baz=46,SNR=25
S24A Houchin Ranch, 46.32 95 ⇑P P 09 53 58.4 -0.1
baz=46
N32A Stulken Farm, 46.37 87 ⇑P P 09 53 57.6 -0.9
baz=46
SWSC Sam W. Stewart 46.38 109 ⇓P P 09 53 59.0 +0.5
baz=46,SNR=5.5
U21A Nageezi 46.42 98 ⇑P P 09 53 59.7 +0.6
baz=46,SNR=15
Q28A Sharon Springs 46.43 91 ⇓P P 09 53 59.6 +0.5
baz=46,SNR=13
R26A Arlington 46.45 93 ⇑P P 09 53 59.3 +0.1
baz=46,SNR=15
O31A Woolen Ranch, 46.48 88 ⇓P P 09 53 58.8 -0.6
baz=46,SNR=12
DVTC Desert V Tower 46.51 109 ⇓P P 09 54 00.1 +0.4
baz=46
T23A Casias Ranch, 46.52 96 ⇑P P 09 54 00.6 +0.6
baz=46,SNR=9.5
Y14A Wickenburg 46.54 105 ⇓P P 09 54 00.7 +0.8
baz=46,SNR=14
HVS Khovu-Aksy 46.57 300 *d i*P P 09 54 00.7 +0.7
HVS pmax pmax
comp=Z,182nm,1.5s
S25A Robets Cordova 46.61 95 ⇓P P 09 54 00.3 -0.3
baz=46
GLA Glamis 46.64 108 ⇓P P 09 54 01.3 +0.6
baz=46,SNR=7.3
P30A Selden 46.64 89 ⇓P P 09 54 00.6 -0.1
baz=46,SNR=9.3
V20A Brimhall 46.65 100 ⇑P P 09 54 01.3 +0.4
baz=46,SNR=5.7
R27A Eads 46.72 93 ⇑P P 09 54 01.5 +0.2
baz=47,SNR=23
X16A Lo Mia Camp, P 46.72 103 ⇑P P 09 54 02.6 +1.2
baz=47,SNR=15
W18A Petrified Fore 46.76 101 ⇓P P 09 54 02.9 +1.2
baz=47
T24B San Luis 46.76 96 ⇑P P 09 54 02.4 +0.5
baz=47,SNR=9.9
U22A Llaves 46.78 98 ⇑P P 09 54 02.6 +0.7
baz=47,SNR=8.3
O32A Brookman Farm, 46.81 87 ⇓P P 09 54 01.0 -0.9
baz=47
BORG Borgarnes 46.81 18 LR LR 10 14 26.9
comp=Z,258nm,18.9s,baz=9.1,slow=37
Q29A Oakley 46.91 90 ⇑P P 09 54 02.6 -0.2
baz=47,SNR=14
V21A Milan 46.97 99 ⇓P P 09 54 03.6 +0.2
baz=47
P31A Stockton 47.01 89 ⇑P P 09 54 02.9 -0.6
baz=47,SNR=7.7
S26A Kim 47.03 94 ⇓P P 09 54 03.7 -0.1
baz=47,SNR=24
R28A Tribune 47.06 92 ⇑P P 09 54 04.0 +0.1
baz=47,SNR=42
ZALV Zalesovo Beam 47.07 309 *i*P P 09 54 04.0 +0.3
ZALV pmax pmax
comp=Z,5.0nm,0.9s
ZALV Zalesovo Beam 47.07 309 P P 09 53 60.0 -3.7
ZALV Zalesovo Beam 47.07 309 P P 09 53 60.0 -3.7
comp=Z,4.7nm,0.9s,baz=28,slow=6.7,SNR=15
ZALV LR LR 10 16 50.4
comp=Z,437nm,18.6s,baz=69,slow=40
T25A Trinidad 47.08 95 ⇑P P 09 54 04.6 +0.4
baz=47
Z14A Wintersburg 47.08 106 ⇑P P 09 54 04.9 +0.9
baz=47,SNR=7.5
U23A El Rito 47.08 97 ⇓P P 09 54 04.9 +0.6
baz=47,SNR=14
Q30A Quinter 47.14 90 ⇑P P 09 54 04.1 -0.4
baz=47,SNR=11
V22A San Miguel Ran 47.16 98 ⇓P P 09 54 05.3 +0.3
baz=47,SNR=11
X18A Snowflake 47.19 102 ⇓P P 09 54 05.8 +0.6
baz=47,SNR=14
S27A Las Animas 47.20 93 ⇑P P 09 54 05.3 +0.2
baz=47
W20A Ramah 47.23 100 ⇓P P 09 54 05.8 +0.3
baz=47,SNR=20
R29A Marienthal 47.25 91 ⇑P P 09 54 05.3 -0.2

baz=47,SNR=29
113A Mohawk Valley, 47.29 107 ⇓P P 09 54 06.3 +0.6
baz=47,SNR=7.5
T26A Comanche Natio 47.37 94 ⇓P P 09 54 06.4 -0.1
baz=47,SNR=16
Q31A Ellis 47.44 89 ⇑P P 09 54 06.2 -0.7
baz=47,SNR=7.5
V23A Ortiz Mt. (NFS 47.59 97 ⇓P P 09 54 09.6 +1.3
baz=48,SNR=9.0
TMCR Tamitsa 47.67 344 *eP* P 09 54 09.6 +1.3
TMCR *e* 09 55 42.0
TMCR pmax pmax
comp=Z,38nm,0.4s
S28A Manter 47.67 92 ⇑P P 09 54 08.7 0.0
baz=48,SNR=15
R30A Dighton 47.71 90 ⇑P P 09 54 08.4 -0.6
baz=48,SNR=9.2
U25A Circle Dot Ran 47.72 95 ⇓P P 09 54 09.6 +0.3
baz=48,SNR=33
X20A Quemado 47.74 100 ⇓P P 09 54 09.7 +0.2
baz=48,SNR=7.3
T27A Campo 47.81 93 ⇓P P 09 54 10.1 +0.2
baz=48,SNR=15
S29A Ulysses 47.96 91 ⇑P P 09 54 10.9 0.0
baz=48
V24A Rampart Ranch, 47.97 97 ⇑P P 09 54 12.0 +0.8
baz=48,SNR=14
U26A Atchley Ranch, 47.98 95 ⇓P P 09 54 11.2 -0.1
baz=48,SNR=17
T28A Walsh 48.00 93 ⇑P P 09 54 10.9 -0.4
baz=48,SNR=7.7
R31A Burdett 48.01 90 ⇑P P 09 54 10.6 -0.6
baz=48,SNR=7.5
X21A Alamocita Cree 48.11 100 ⇓P P 09 54 13.1 +0.8
baz=48,SNR=32
W23A Werner Place, 48.12 98 ⇑P P 09 54 12.9 +0.5
baz=48,SNR=8.3
V25A Rancho No Teng 48.13 96 ⇑P P 09 54 12.4 0.0
baz=48,SNR=24
ANMO Albuquerque 48.19 98 P P 09 54 12.8 -0.1
ANMO *e*PcP **PcP** 09 55 39.5 -0.4
ANMO Albuquerque 48.19 98 P P 09 54 12.8 -0.1
comp=Z,3.6nm,0.8s,baz=329,slow=8.3,SNR=22
ANMO PcP **PcP** 09 55 39.5 -0.4
comp=Z,4.2nm,0.8s,baz=333,slow=3.1,SNR=4.0
S30A Montezuma 48.20 91 ⇓P P 09 54 12.3 -0.5
baz=48,SNR=17
T29A Hugoton 48.29 92 ⇑P P 09 54 13.4 -0.1
baz=48,SNR=5.2
U27A Thompson Grove 48.32 94 ⇓P P 09 54 13.6 -0.2
baz=48,SNR=9.3
Y20A Horse Springs, 48.35 101 ⇓P P 09 54 15.3 +1.1
baz=48,SNR=11
X22A Bernardo 48.36 99 ⇓P P 09 54 14.8 +0.6
baz=48
W24A Lazy 6 Ranch, 48.37 97 ⇑P P 09 54 15.0 +0.8
baz=48,SNR=12
214A Organ Pipe Nat 48.38 106 ⇑P P 09 54 14.8 +0.6
baz=48
LAZ Ladron 48.40 99 *eP* P 09 54 15.9 +1.4
comp=Z,40nm,2.3s
V26A Tequesquite Ra 48.49 95 ⇓P P 09 54 15.4 +0.3
baz=48,SNR=18
Y21A Point of Rocks 48.53 100 ⇓P P 09 54 16.6 +0.9
baz=48,SNR=13
U28A Mallet 48.60 93 ⇓P P 09 54 15.6 -0.3
baz=48,SNR=5.2
S31A Mullinville 48.60 90 ⇑P P 09 54 15.2 -0.7
baz=48
HHC Hu-ho-hao-te 48.67 279 ⇓P P 09 54 17.3 +0.8
HHC pP **pP** 09 54 22.0 +0.8
HHC sP **sP** 09 54 24.3 +1.3
HHC PP **PP** 09 56 09.0 -0.2
HHC S **S** 10 01 18.0 +0.1
HHC sS **sS** 10 01 24.0 -1.7
HHC pmax pmax
comp=Z,61nm,1.4s
HHC pmax pmax
comp=Z,250nm,8.3s
HHC LR LR
comp=N,2μm,14.3s
HHC LR LR
comp=E,2μm,15.5s
HHC LR LR
comp=Z,2μm,17.2s
W25A X Bar L Ranch, 48.73 96 ⇑P P 09 54 17.8 +0.8
baz=49,SNR=18
BNM Barren Site 48.82 99 *eP* P 09 54 18.3 +0.5
comp=Z,21nm,1.3s
TUC Tucson 48.84 104 *eP* P 09 54 18.2 +0.5
TUC pmax pmax
comp=Z,8.0nm,1.1s
TUC Tucson 48.84 104 *eP* P 09 54 18.2 +0.5
comp=Z,8.5nm,1.1s
Y22A Socorro 48.87 99 ⇓P P 09 54 18.5 +0.4
baz=49,SNR=11
V27A Dan Oppiter Fa 48.90 94 ⇑P P 09 54 18.3 0.0
baz=49
X24A Lazy VL Ranch, 48.92 97 ⇓P P 09 54 19.1 +0.5
baz=49,SNR=5.6
Z20A Nine Sixteen R 48.97 101 ⇓P P 09 54 19.6 +0.7
baz=49
T31A Randall Ranch, 48.98 90 ⇑P P 09 54 17.6 -1.2
baz=49,SNR=6.0
U30A WK&E Inc. Balk 49.09 92 ⇑P P 09 54 19.7 +0.1
baz=49,SNR=5.0
W26A Owens Ranch, T 49.12 96 ⇓P P 09 54 20.2 +0.2
baz=49,SNR=5.8
V28A Channing 49.15 94 ⇑P P 09 54 20.5 +0.4
baz=49
SOKR Solikamsk 49.15 330 ⇑*iP* P 09 54 20.5 +0.9
SOKR pmax pmax
comp=Z,30nm,1.3s
SOKR MLR MLR
comp=Z,610nm,26.0s
Z21A St. Cloud Mine 49.15 100 ⇓P P 09 54 21.0 +0.6
baz=49,SNR=14
Y23A Lovelace Mesa, 49.23 98 ⇓P P 09 54 21.4 +0.5
baz=49,SNR=9.5
X25A Clemmons Ranch 49.26 97 ⇓P P 09 54 21.3 +0.2
baz=49,SNR=7.5
V29A Stinnett 49.31 93 ⇑P P 09 54 21.2 -0.2
baz=49
W27A Bowe Ranch, En 49.41 95 ⇓P P 09 54 21.8 -0.4
baz=49,SNR=6.9
120A U Bar Ranch, L 49.45 102 ⇑P P 09 54 23.0 +0.4
baz=49,SNR=7.1
Z22A Elephant Butte 49.48 100 ⇓P P 09 54 23.1 +0.3
baz=49,SNR=9.1
Y24A Capitan 49.48 98 ⇓P P 09 54 23.2 +0.3
baz=49,SNR=25
U31A Nine Bar Ranch 49.54 91 ⇓P P 09 54 22.3 -0.8
baz=49,SNR=7.5
JOF Joensuu 49.56 347 *eP* P 09 54 23.4 +0.6
JOF pmax pmax
comp=Z,8.0nm,0.5s
JOF Joensuu 49.56 347 *ep* P 09 54 23.4 +0.6
comp=Z,8.0nm,0.5s
X26A CR and CF Fran 49.57 96 ⇓P P 09 54 23.4 0.0
baz=49,SNR=7.2
W28A Vega 49.58 94 ⇑P P 09 54 23.9 +0.4
baz=49
Z23A Rita Site, Whi 49.76 99 ⇓P P 09 54 25.2 +0.3
baz=50
X27A F and S Farms, 49.77 95 ⇑P P 09 54 24.9 0.0
baz=50,SNR=12
Y25A Mesa, Roswell 49.77 97 ⇑P P 09 54 25.0 0.0
baz=50,SNR=11
121A Cookes Peak, D 49.80 101 ⇑P P 09 54 25.6 +0.3
baz=50,SNR=9.9
W29A Amraillo 49.92 94 ⇑P P 09 54 26.1 0.0
baz=50
122A Conniff Cattle 49.95 100 ⇓P P 09 54 27.3 +1.0
baz=50
Z24A Sheeppen Canyo 50.03 98 ⇑P P 09 54 27.8 +0.7
baz=50
V31A Spring Creek L 50.06 91 ⇑P P 09 54 26.4 -0.6
baz=50,SNR=11
220A Playas Peak, P 50.07 102 ⇑P P 09 54 27.4 +0.2
baz=50,SNR=8.2
X28A Dimmitt 50.23 94 ⇑P P 09 54 27.9 -0.5
baz=50,SNR=11
319A Douglas 50.24 103 ⇓P P 09 54 29.2 +0.6
baz=50
221A Mesquite Ranch 50.26 101 ⇓P P 09 54 29.4 +0.7
baz=50,SNR=6.4
SADO Sadowa 50.29 68 LR LR 10 17 19.3
comp=Z,412nm,20.3s,baz=355,slow=38

123A Bell Site, Whi 50.30 99 ⇓P P 09 54 29.6 +0.6
baz=50
Z25A Roswell 50.33 98 ⇓P P 09 54 29.5 +0.3
baz=50,SNR=8.4
Y27A Causey 50.41 96 ⇑P P 09 54 29.7 -0.1
baz=50,SNR=14
MSTX Muleshoe 50.49 95 ⇑P P 09 54 29.8 -0.6
baz=50,SNR=28
X29A Tulia 50.49 94 ⇓P P 09 54 29.8 -0.6
baz=50,SNR=14
W31A Holland Ranch, 50.54 92 ⇑P P 09 54 29.8 -0.8
baz=50,SNR=6.7
124A Stringfield Ra 50.55 99 ⇓P P 09 54 31.0 0.0
baz=50,SNR=11
320A Kipp Ranch, An 50.57 102 ⇓P P 09 54 31.0 0.0
baz=50,SNR=5.5
Z26A Caprock 50.63 97 ⇑P P 09 54 31.4 0.0
baz=50,SNR=17
KLMR Klimovskoe 50.71 342 *eP* P 09 54 29.4 -2.1
KLMR pmax pmax
comp=Z,112nm,1.3s
Y28A McKinney Farm, 50.75 95 ⇓P P 09 54 31.6 -0.7
baz=51,SNR=8.1
KAF Kangasniemi 50.75 350 *eP* P 09 54 33.2 +1.4
KAF pmax pmax
comp=Z,16nm,0.7s
KAF Kangasniemi 50.75 350 *ep* P 09 54 33.2 +1.4
comp=Z,16nm,0.7s
X30A Coker Ranch, T 50.82 93 ⇑P P 09 54 32.5 -0.3
baz=51,SNR=9.6
Z27A Tatum 50.89 96 ⇑P P 09 54 33.4 -0.1
baz=51,SNR=10
125A Gardner Draw, 50.90 98 ⇑P P 09 54 33.8 +0.2
baz=51,SNR=12
SVE Sverdlovsk 50.91 327 ⇓*eP* P 09 54 34.4 +1.3
SVE *eS* **S** 10 01 47.6 -1.0
SVE pmax pmax
comp=Z,65nm,1.6s
SVE MLR MLR
comp=Z,637nm,17.0s
X31A McDonald Ranch 51.01 92 ⇑P P 09 54 33.8 -0.4
baz=51,SNR=18
Y29A Porterfield Fa 51.02 94 ⇓P P 09 54 33.6 -0.7
baz=51,SNR=16
SFIN Scholer Farm 51.08 77 ⇓P P 09 54 33.8 -0.8
baz=51,SNR=8.3
224A Cornudas Mount 51.08 99 ⇓P P 09 54 35.8 +0.9
baz=51,SNR=18
126A Clayton Basin, 51.16 97 ⇑P P 09 54 35.0 -0.5
baz=51,SNR=5.6
Z28A Tucker Farm, M 51.24 95 ⇑P P 09 54 35.8 -0.2
baz=51
Y30A Stafford Cattl 51.31 94 ⇑P P 09 54 36.1 -0.4
baz=51
225A Deer Hill, Car 51.32 98 ⇑P P 09 54 36.7 0.0
baz=51,SNR=19
WMOK Wichita Mounta 51.39 91 *eP* P 09 54 35.8 -1.2
WMOK pmax pmax
comp=Z,25nm,0.9s
WMOK Wichita Mounta 51.39 91 *eP* P 09 54 35.8 -1.2
comp=Z,24nm,0.9s
127A Arkansas Junct 51.40 97 ⇓P P 09 54 37.0 -0.3
baz=51,SNR=7.4
FIA1 FINESS Array S 51.43 350 *eP* P 09 54 37.9 +1.0
FINES FINESS Array B 51.43 350 P P 09 54 34.1 -2.8
FINES FINESS Array B 51.43 350 P P 09 54 34.1 -2.8
comp=Z,7.2nm,0.5s,baz=13,slow=7.2,SNR=14
FINES LR LR 10 18 28.7
comp=Z,443nm,19.9s,baz=90,slow=39
MNTX Cornudas Mount 51.47 99 *eP* P 09 54 37.9 +0.2
comp=Z,17nm,1.1s
Y31A Rekieta Farm, 51.48 93 ⇑P P 09 54 36.8 -1.0
baz=51
Z29A Hungry Hill Ra 51.53 95 ⇑P P 09 54 37.7 -0.5
baz=51,SNR=17
TUL1 Tulsa 51.55 88 ⇓P P 09 54 36.7 -1.5
baz=51,SNR=7.6
CLNB Carlsbad 51.56 97 *eP* P 09 54 36.5 -1.9
comp=Z,1.4nm,0.7s
226B Tecolote Peak, 51.61 98 ⇑P P 09 54 38.3 -0.4
baz=52,SNR=13
324A Moseley Ranch, 51.66 99 ⇓P P 09 54 38.9 -0.3
baz=52,SNR=19
ARU Arti 51.72 328 *diP* P 09 54 39.5 +0.3
ARU 09 56 36.6
ARU S **S** 10 02 03.2 +3.4
ARU SS **SS** 10 05 37.9 +2.6
ARU pmax pmax
comp=Z,60nm,1.2s
ARU Arti 51.72 328 P P 09 54 40.3 +1.1
comp=Z,234nm,1.1s,SNR=6.5
Z30A Sanderson Ranc 51.74 94 ⇓P P 09 54 38.4 -1.2
baz=52,SNR=11
KURK Kurchatov 51.77 311 *diP* P 09 54 39.5 -0.1
KURK pmax pmax
comp=Z,16nm,1.4s
Y32A R-V Farms, Ver 51.77 92 ⇑P P 09 54 38.9 -1.0
baz=52,SNR=18
128A Castleberry Fa 51.79 96 ⇑P P 09 54 39.8 -0.4
baz=52,SNR=11
227A Bennet, Jal 52.01 97 ⇑P P 09 54 41.6 -0.1
baz=52
BRVK Borovoye 52.02 318 P P 09 54 41.0 -0.5
comp=Z,101nm,1.0s,SNR=5.7
BRVK Borovoye 52.02 318 *diP* P 09 54 41.6 +0.1
BRVK pmax pmax
comp=Z,32nm,1.7s
BVA0 Borovoye Array 52.02 318 P P 09 54 40.7 -0.8
BVA0 pmax pmax
comp=Z,12nm,0.8s
129A Stewart Farms, 52.02 95 ⇑P P 09 54 41.4 -0.4
baz=52
Z31A Sharp Cattle R 52.10 93 ⇑P P 09 54 41.1 -1.2
baz=52,SNR=7.8
VOSK Vostochnaya 52.14 317 P P 09 54 40.8 -1.6
VOSK pmax pmax
comp=Z,14nm,1.5s
228A UT Block 9, Go 52.19 96 ⇑P P 09 54 42.8 -0.3
baz=52
326A Caldwell Ranch 52.36 98 ⇑P P 09 54 44.0 -0.4
baz=52,SNR=28
Z32A Haskell 52.37 93 ⇓P P 09 54 43.0 -1.3
baz=52,SNR=12
NB2 NORSAR Subarra 52.40 359 P P 09 54 42.7 -1.5
comp=Z,5.6nm,0.8s,baz=359,slow=7.4
NOA NORSAR Array B 52.40 359 P P 09 54 41.7 -2.6
NOA PcP **PcP** 09 55 54.3 -0.6
NOA NORSAR Array B 52.40 359 P P 09 54 41.7 -2.6
comp=Z,2.6nm,0.8s,baz=360,slow=7.3,SNR=8.5
NOA PcP **PcP** 09 55 54.3 -0.6
comp=Z,2.2nm,0.7s,baz=356,slow=2.8,SNR=4.2
130A Snyder 52.41 94 ⇓P P 09 54 44.0 -0.7
baz=52,SNR=9.3
425A Indio Mountain 52.43 99 ⇓P P 09 54 45.2 +0.2
baz=52,SNR=11
131A Roby 52.57 94 ⇓P P 09 54 44.8 -1.1
baz=52,SNR=7.3
ALLY Alegheny Colle 52.62 71 *eP* P 09 54 44.7 -1.4
comp=Z,29nm,1.0s
328A Wristen Ranch, 52.76 97 ⇑P P 09 54 47.0 -0.3
baz=53,SNR=12
ABTX Abilene, Hawle 52.91 93 *eP* P 09 54 46.9 -1.4
ABTX Abilene, Hawle 52.91 93 ⇑P P 09 54 47.1 -1.2
baz=53,SNR=9.5
426A McDonald Obser 52.91 98 ⇑P P 09 54 48.5 -0.1
baz=53,SNR=9.8
230A Sterling City 52.98 95 ⇑P P 09 54 48.0 -0.9
baz=53,SNR=7.5
329A Wagon Wheel Ra 52.99 96 ⇑P P 09 54 48.4 -0.7
baz=53,SNR=20
427A Hayter Ranch, 53.00 98 ⇑P P 09 54 48.8 -0.3
baz=53,SNR=21
WCI Wyandotte Cave 53.25 78 *eP* P 09 54 49.3 -1.5
WCI pmax pmax
comp=Z,27nm,0.9s
WCI Wyandotte Cave 53.25 78 *eP* P 09 54 49.3 -1.5
comp=Z,27nm,0.9s
231A Bronte 53.25 94 ⇓P P 09 54 49.5 -1.4
baz=53,SNR=9.5
HFS Hagfors 53.28 357 LR LR 10 18 28.1
comp=Z,227nm,18.3s,baz=40,slow=37
LBNH Lisbon 53.34 62 *eP* P 09 54 50.5 -0.8
LBNH pmax pmax
comp=Z,33nm,1.3s
LBNH Lisbon 53.34 62 *eP* P 09 54 50.5 -0.8
comp=Z,33nm,1.3s
330A Mertzon 53.38 95 ⇑P P 09 54 50.6 -1.3

baz=53,SNR=8.0
428A Kincaid Ranch, 53.39 97 ⇑P P 09 54 51.8 -0.1
baz=53,SNR=17
526A Mary Lane Ranc 53.43 99 ⇑P P 09 54 52.3 0.0
baz=53,SNR=26
NJ2 Nanjing 53.45 267 *eP* P 09 54 52.0 -0.3
NJ2 pmax pmax
comp=Z,20nm,0.9s
527A Woodward Ranch 53.54 98 ⇑P P 09 54 52.8 -0.4
baz=53,SNR=15
232A Coleman 53.55 94 ⇑P P 09 54 52.1 -1.0
baz=53,SNR=20
BINY Binghamton 53.67 67 *eP* P 09 54 52.4 -1.4
comp=Z,10nm,1.1s
331A San Angelo 53.76 95 ⇓P P 09 54 53.7 -0.9
baz=54
429A Davenport Ranc 53.79 96 ⇑P P 09 54 53.8 -1.1
baz=54,SNR=15
528A Cox Ranch, San 53.85 98 ⇑P P 09 54 55.4 0.0
baz=54
626A Big Bend Ranch 53.86 99 ⇑P P 09 54 55.3 -0.2
baz=54,SNR=16
430A Baggett Ranch, 53.90 96 ⇑P P 09 54 55.1 -0.6
baz=54,SNR=17
332A Millersview 53.96 94 ⇑P P 09 54 55.2 -0.9
baz=54,SNR=29
MK31 Makanchi Array 54.10 306 *eP* P 09 54 52.8 -4.1
MK31 Makanchi Array 54.10 306 *eP* P 09 54 52.8 -4.1
MKAR Makanchi Array 54.10 306 P P 09 54 52.7 -4.2
MKAR Makanchi Array 54.10 306 P P 09 54 52.7 -4.2
MKAR Makanchi Array 54.10 306 P P 09 54 52.7 -4.2
comp=Z,2.1nm,0.8s,baz=44,slow=7.5,SNR=11
MKAR LR LR 10 21 27.0
comp=Z,560nm,19.2s,baz=14,slow=40
529A Stev Forest Ra 54.10 97 ⇓P P 09 54 56.6 -0.6
baz=54,SNR=13
TXAR Lajitas Array 54.24 99 P P 09 54 58.0 -0.2
TXAR Lajitas Array 54.24 99 P P 09 54 58.0 -0.2
comp=Z,11nm,0.9s,baz=328,slow=5.4,SNR=69
TXAR LR LR 10 18 55.3
comp=Z,340nm,19.8s,baz=30,slow=37
431A Sonora 54.24 95 ⇑P P 09 54 57.6 -0.6
baz=54,SNR=47
627A Terlingua Ranc 54.24 99 ⇑P P 09 54 58.5 +0.2
baz=54,SNR=33
WHTX Lake Whitney 54.33 92 *eP* P 09 54 57.5 -1.3
WHTX Lake Whitney 54.33 92 ⇑P P 09 54 58.0 -0.7
baz=54
VSU Vasula 54.35 349 *c iP* P 09 54 59.4 +0.9
VSU pmax pmax
comp=Z,128nm,1.0s
432A Menard 54.39 94 ⇓P P 09 54 58.0 -1.2
baz=54,SNR=6.3
628A Black Gap, Mar 54.41 98 ⇓P P 09 54 59.2 -0.3
baz=54,SNR=17
530A J-C Ranch, Com 54.43 96 ⇓P P 09 54 59.0 -0.6
baz=54
GTA Gaotai 54.43 288 *eP* P 09 54 59.5 -0.1
GTA pP **pP** 09 55 04.3 0.0
GTA sP **sP** 09 55 06.5 +0.4
GTA S **S** 10 02 35.5 -1.8
GTA sS **sS** 10 02 44.0 -1.2
GTA pmax pmax
comp=Z,21nm,1.5s
GTA pmax pmax
comp=Z,170nm,5.9s
GTA LR LR
comp=N,650nm,17.6s
GTA LR LR
comp=E,1μm,17.1s
GTA LR LR
comp=Z,1μm,11.6s
WVT Waverly 54.48 80 *eP* P 09 54 58.6 -1.2
WVT pmax pmax
comp=Z,26nm,1.2s
WVT Waverly 54.48 80 *eP* P 09 54 58.6 -1.2
comp=Z,26nm,1.2s
531A Rocksprings 54.73 95 ⇓P P 09 55 00.6 -1.1
baz=55,SNR=5.4
JCT Junction City 54.74 95 ⇓P P 09 55 01.3 -0.5
baz=55,SNR=33
WMQ Urumqi 54.94 300 P P 09 55 04.0 +0.9
WMQ pP **pP** 09 55 08.5 +0.7
WMQ sP **sP** 09 55 11.0 +1.3
WMQ *e*S **S** 10 02 43.3 -0.6
WMQ sS **sS** 10 02 51.0 -0.7
WMQ pmax pmax
comp=Z,140nm,3.0s
WMQ LR LR
comp=N,600nm,23.3s
WMQ LR LR
comp=E,350nm,18.0s
WMQ LR LR
comp=Z,350nm,18.0s
532A Rocksprings 55.01 95 ⇑P P 09 55 02.6 -1.2
baz=55,SNR=9.2
WES Weston 55.18 63 *eP* P 09 55 04.1 -0.6
WES pmax pmax
comp=Z,34nm,0.8s
WES Weston 55.18 63 *eP* P 09 55 04.0 -0.6
comp=Z,34nm,0.8s
OXF Oxford 55.28 83 *eP* P 09 55 04.8 -0.8
OXF pmax pmax
comp=Z,88nm,1.0s
OXF Oxford 55.28 83 *eP* P 09 55 04.8 -0.8
comp=Z,88nm,1.0s
631A Perdido Creek 55.38 96 ⇓P P 09 55 04.9 -1.5
baz=55,SNR=32
BRYW Bryant College 55.51 63 *eP* P 09 55 06.2 -1.0
comp=Z,86nm,1.2s
632A Uvalde 55.61 95 ⇑P P 09 55 07.2 -0.8
baz=56
LZH Lanzhou 55.80 282 *eP* P 09 55 10.0 +0.5
LZH pP **pP** 09 55 14.8 +0.5
LZH sP **sP** 09 55 17.0 +0.9
LZH PP **PP** 09 57 15.8 +2.1
LZH *e*S **S** 10 02 53.5 -2.3
LZH sS **sS** 10 03 01.5 -2.2
LZH *e*SS **SS** 10 06 38.5 -2.3
LZH pmax pmax
comp=Z,38nm,1.3s
LZH pmax pmax
comp=Z,200nm,6.2s
LZH LR LR
comp=N,840nm,14.5s
LZH LR LR
comp=E,900nm,14.2s
LZH LR LR
comp=Z,1μm,18.5s
MOS Moscow 55.93 341 *eP* P 09 55 09.7 -0.3
MOS *e*S **S** 10 02 54.8 -1.9
MOS pmax pmax
comp=Z,81nm,0.8s
732A Laxson Ranch, 56.23 96 ⇑P P 09 55 11.4 -1.0
baz=56,SNR=6.4
BLA Blacksburg 56.38 73 *eP* P 09 55 12.6 -0.9
BLA pmax pmax
comp=Z,12nm,1.0s
BLA Blacksburg 56.38 73 *eP* P 09 55 12.6 -0.9
comp=Z,12nm,1.0s
OBN Obninsk 56.68 342 *diP* P 09 55 16.4 +1.2
OBN *i* *PP **pP** 09 55 24.3 +4.3
OBN *e* 09 57 21.0
OBN *e*S **S** 10 03 12.1 +5.6
OBN pmax pmax
comp=Z,100nm,1.6s
OBN MLR MLR
comp=Z,400nm,22.0s
AKTO Aktyubinsk 57.44 325 *i* P P 09 55 20.6 -0.1
AKTO pmax pmax
comp=Z,36nm,1.0s
LRAL Lakeview Retre 57.53 81 *eP* P 09 55 20.0 -1.6
comp=Z,4.0nm,0.7s
KMSC Kings Mountain 57.86 75 ⇑P P 09 55 22.5 -1.4
baz=58,SNR=9.0
AB31 Akbulak array 58.10 324 *i* P P 09 55 21.6 -3.8
AB31 pmax pmax
comp=Z,49nm,1.0s
ENH Enshi 58.73 274 *eP* P 09 55 29.8 -0.3
comp=Z,15nm,0.8s
TKM2 Tokmak 2 59.67 309 *eP* P 09 55 34.8 -1.9
VRHR Novokhopersk 59.90 337 *eP* P 09 55 37.2 -0.6
VRHR pmax pmax
comp=Z,40nm,0.8s
VRHR pmax pmax
comp=N,60nm,1.2s

VRHR pmax pmax
comp=E,10.0nm,0.5s
FRU Bishkek 60.05 310 ⇓*i*P **P 09 55 40.0 +0.9**
FRU pmax pmax
comp=Z,140nm,2.0s
AAK Ala-Archa 60.27 310 P **P 09 55 38.7 -2.1**
comp=Z,133nm,1.2s,SNR=6.0
AAK Ala-Archa 60.27 310*c i*P **P 09 55 41.6 +0.8**
AAK pmax pmax
comp=Z,109nm,1.6s
VORD Divnogorie 60.37 339 *e*P **P 09 55 41.6 +0.6**
VORD pmax pmax
comp=Z,40nm,0.8s
VORD pmax pmax
comp=N,40nm,0.9s
VORD pmax pmax
comp=E,10.0nm,0.9s
CD2 Chengdu 60.41 280 P **P 09 55 43.5 +1.8**
CD2 pP **pP 09 55 48.0 +1.5**
CD2 sP **sP 09 55 50.5 +2.2**
CD2 PP **PP 09 57 58.3 +3.8**
CD2 S **S 10 03 55.5 -0.4**
CD2 sS **sS 10 04 03.0 -0.8**
CD2 Chengdu 60.41 280 SS SS 10 07 53.8 +0.7
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.3s
CD2 LR LR
comp=N,1µm,12.5s
CD2 LR LR
comp=Z,2µm,18.4s
CLZ Clausthal 61.62 359 *e*pP pP 09 55 52.2 -2.3
comp=Z,14nm,0.8s
AKASG Malin Array Be 61.83 346 P **P 09 55 48.2 -2.7**
AKASG Malin Array Be 61.83 346 P **P 09 55 48.2 -2.7**
AKASG Malin Array Be 61.83 346 P **P 09 55 48.2 -2.7**
comp=Z,23nm,0.8s,baz=10,slow=6.4,SNR=27
AKASG LR LR 10 24 33.1
comp=Z,396nm,20.6s,baz=45,slow=38
CLL Collm 62.13 358 *e*pP **P 09 55 54.7 +1.8**
comp=Z,8.0nm,1.0s
CLL Collm 62.13 358 ⇓*i*P **P 09 55 54.8 +1.8**
CLL *e* 09 56 03.0
CLL pmax pmax
comp=Z,19nm,1.6s
CLL Collm 62.13 358 ⇓*i*P **P 09 55 54.8 +1.8**
comp=Z,19nm,1.6s
CLL *e* 09 56 03.0
KSP Ksiaz 62.52 355 *e*P **P 09 55 57.8 +2.2**
BRG Berggiesshubel 62.55 357 *e*P **P 09 55 57.5 +1.7**
comp=Z,9.6nm,0.9s
BRG Berggiesshubel 62.55 357 *e*pP **P 09 55 57.6 +1.7**
comp=Z,10.0nm,0.9s
BRG Berggiesshubel 62.55 357 *e*P **P 09 55 57.5 +1.7**
BRG pmax pmax
comp=Z,10.0nm,0.9s
UBBA Unterbreizbach 62.65 360 *e*pP pP 09 56 00.1 -1.1
comp=Z,48nm,1.9s
KSH Kashi 62.66 307 *e*P P 09 56 00.8 +3.9
KSH sP sP 09 56 07.8 +4.3
KSH PP PP 09 58 20.5 +6.3
KSH S **S 10 04 27.3 +3.0**
KSH pmax pmax
comp=Z,42nm,1.2s
KSH pmax pmax
comp=Z,150nm,4.4s
KSH LR LR
comp=N,280nm,12.0s
KSH LR LR
comp=E,750nm,11.7s
KSH LR LR
comp=Z,420nm,19.3s
MEM Membach 62.83 3 P **P 09 56 00.1 +2.4**
comp=Z,10.0nm,1.2s
UPC Upice 62.86 355 *e*P **P 09 56 00.2 +2.3**
UPC Upice 62.86 355 *e*P **P 09 56 00.2 +2.3**
BCLA Clavier 63.00 3 P **P 09 56 01.4 +2.6**
comp=Z,12nm,1.8s
DPC Dobruska-Polom 63.01 355 *e*P **P 09 56 01.0 +2.1**
DPC Dobruska-Polom 63.01 355 *e*P **P 09 56 01.0 +2.1**
TANN Tannenbergstha 63.03 358 *e*pP pP 09 56 01.6 -2.3
comp=Z,19nm,1.3s
LVV L'vov 63.14 350 *e*P **P 09 56 00.8 +1.1**
GYA Guiyang 63.24 275 ⇓*i*P **P 09 56 01.0 +0.1**
GYA PP **PP 09 58 20.5 +0.9**
GYA S **S 10 04 31.3 -0.6**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,100nm,5.6s
GYA LR LR
comp=N,490nm,14.3s
GYA LR LR
comp=E,250nm,15.3s
GYA LR LR
comp=Z,780nm,15.9s
TNS Taunus Mts 63.24 1 *e*pP **P 09 56 02.6 +2.1**
comp=Z,8.0nm,0.8s
DOU Dourbes 63.31 4 P **P 09 56 03.3 +2.4**
GIVF Givet 63.31 3 *e*P **P 09 56 02.3 +1.4**
GIVF Givet 63.31 3 *e*P **P 09 56 02.3 +1.4**
GIVF Givet 63.31 3 *e*P **P 09 56 02.3 +1.4**
BAIF Baives 63.34 4 *e*P **P 09 56 02.9 +1.9**
comp=Z,35nm,1.1s
BAIF Baives 63.34 4 *e*P **P 09 56 02.9 +1.9**
BAIF pmax pmax
comp=Z,35nm,1.1s
BAIF Baives 63.34 4 *e*P **P 09 56 02.9 +1.9**
comp=Z,35nm,1.1s
PRA Prague 63.34 357 P P 09 56 05.0 +3.9
KWP Kalwaria Pacla 63.41 351 ⇓P **P 09 56 03.9 +2.3**
KWP Kalwaria Pacla 63.41 351 *e*P **P 09 56 03.6 +2.0**
comp=Z,30nm,1.1s
KWP Kalwaria Pacla 63.41 351 ⇓*i*P **P 09 56 03.9 +2.3**
KWP Kalwaria Pacla 63.41 351 *e*P **P 09 56 03.8 +2.2**
PRU Pruhonice 63.42 356 *e*P **P 09 56 03.9 +2.3**
PRU Pruhonice 63.42 356 *e*P **P 09 56 03.9 +2.3**
OKC Ostrava-Krasne 63.45 354 *e*P **P 09 56 04.0 +2.2**
OKC Ostrava-Krasne 63.45 354 *e*P **P 09 56 04.0 +2.2**
STHS Stebnicka Huta 63.72 352 *e*P **P 09 56 06.7 +3.1**
STHS pmax pmax
comp=Z,9.0nm,1.0s
STHS Stebnicka Huta 63.72 352 *e*P **P 09 56 06.7 +3.1**
GRF Grafenberg Arr 63.77 359 *e*P **P 09 56 03.1 -0.9**
GRF *e*pP **pP 09 56 06.9 -1.9**
GRF Grafenberg Arr 63.77 359 *e*P **P 09 56 03.1 -0.9**
GRF *e**PP **pP 09 56 06.9 -1.9**
TREC Trest 64.09 356 *e*P **P 09 56 08.3 +2.2**
TREC Trest 64.09 356 *e*P **P 09 56 08.3 +2.2**
KOLS Kolonicke sedl 64.14 351 *e*P **P 09 56 08.4 +2.0**
KOLS pmax pmax
comp=Z,59nm,2.1s
KOLS Kolonicke sedl 64.14 351 *e*P **P 09 56 08.4 +2.0**
CRVS Cervenica-Dubn 64.22 351 *e*P **P 09 56 09.2 +2.3**
CRVS pmax pmax
comp=Z,19nm,1.5s
CRVS Cervenica-Dubn 64.22 351 *e*P **P 09 56 09.2 +2.3**
KHC Kasperske Hory 64.30 357 *e*P **P 09 56 10.2 +2.7**
KHC *e* 09 56 18.1
KHC Kasperske Hory 64.30 357 *e*P **P 09 56 10.2 +2.7**
KHC *ex* x 09 56 18.1
UZH Uzhgorod 64.44 351 *e*P **P 09 56 06.0 -2.3**
UZH *i* 09 56 10.0
UZH *e* 09 58 36.8
UZH *e*S **S 10 04 41.2 -4.8**
FLN La Foliniere 64.45 7 *e*P **P 09 56 09.7 +1.3**
comp=Z,32nm,0.8s
FLN La Foliniere 64.45 7 *e*P **P 09 56 09.7 +1.3**
FLN pmax pmax
comp=Z,32nm,0.8s
FLN La Foliniere 64.45 7 *e*P **P 09 56 09.7 +1.3**
comp=Z,32nm,0.8s
GEC2 GERESS Array S 64.58 357 *e*pP **P 09 56 11.6 +2.2**
comp=Z,14nm,0.9s
GERES GERESS Array B 64.58 357 P **P 09 56 07.9 -1.5**
GERES GERESS Array B 64.58 357 P **P 09 56 07.9 -1.5**
comp=Z,5.3nm,0.7s,baz=15,slow=5.5,SNR=32
GERES LR LR 10 23 52.0
comp=Z,144nm,19.8s,baz=354,slow=36
LDF La Druitiere 64.64 7 *e*P **P 09 56 10.8 +1.2**
comp=Z,37nm,1.0s
LDF La Druitiere 64.64 7 *e*P **P 09 56 10.8 +1.2**
LDF pmax pmax
comp=Z,37nm,1.0s
LDF La Druitiere 64.64 7 *e*P **P 09 56 10.8 +1.2**
comp=Z,37nm,1.0s
KECS Kecovo 64.69 352 *e*P **P 09 56 12.2 +2.2**
KECS pmax pmax
comp=Z,5.0nm,0.9s
KECS Kecovo 64.69 352 *e*P **P 09 56 12.2 +2.2**
ROSF Rostrenen 64.71 10 *e*P **P 09 56 11.7 +1.6**
ROSF Rostrenen 64.71 10 *e*P **P 09 56 11.7 +1.6**
ROSF Rostrenen 64.71 10 *e*P **P 09 56 11.7 +1.6**
GRR Gorron 64.80 8 *e*P **P 09 56 12.2 +1.5**
comp=Z,36nm,0.9s
GRR Gorron 64.80 8 *e*P **P 09 56 12.2 +1.5**
GRR pmax pmax
comp=Z,36nm,0.9s
GRR Gorron 64.80 8 *e*P **P 09 56 12.2 +1.5**
comp=Z,36nm,0.9s
SMOL Smolenice 64.80 354 *e*P **P 09 56 13.9 +3.2**
SMOL Smolenice 64.80 354 *e*P **P 09 56 13.9 +3.2**
SGMF Saint Gilles 64.84 9 *e*P **P 09 56 12.6 +1.7**
comp=Z,32nm,0.8s
SGMF Saint Gilles 64.84 9 *e*P **P 09 56 12.6 +1.7**
SGMF pmax pmax
comp=Z,32nm,0.8s
SGMF Saint Gilles 64.84 9 *e*P **P 09 56 12.6 +1.7**
comp=Z,32nm,0.8s
PAGF Fort de Pagny 64.88 3 *e*P **P 09 56 13.4 +2.2**
comp=Z,8.9nm,0.8s
PAGF Fort de Pagny 64.88 3 *e*P **P 09 56 13.4 +2.2**
comp=Z,8.9nm,0.8s
MEZF Maizieres J'vi 64.92 3 *e*P **P 09 56 13.3 +1.9**
MEZF Maizieres J'vi 64.92 3 *e*P **P 09 56 13.3 +1.9**
TRPA Tarpa 64.92 351 ⇑*i*P **P 09 56 13.8 +2.4**
CDF Champ du Feu 65.04 2 *e*P **P 09 56 14.0 +1.6**
CDF Champ du Feu 65.04 2 *e*P **P 09 56 14.0 +1.6**
CDF Champ du Feu 65.04 2 *e*P **P 09 56 14.0 +1.6**
QUIF Quistinic 65.14 9 *e*P **P 09 56 14.5 +1.7**
QUIF Quistinic 65.14 9 *e*P **P 09 56 14.5 +1.7**
QUIF Quistinic 65.14 9 *e*P **P 09 56 14.5 +1.7**
SFTF Sexfontaines 65.21 3 *e*P **P 09 56 15.1 +1.7**
comp=Z,25nm,0.8s
SFTF Sexfontaines 65.21 3 *e*P **P 09 56 15.1 +1.7**
comp=Z,25nm,0.8s
BUR08 Bucovina Ar. S 65.21 348 *e*P **P 09 56 15.2 +1.7**
BURAR Bucovina Array 65.24 348 ⇓P **P 09 56 14.7 +1.0**
BURAR Bucovina Array 65.24 348 ⇓*i*P **P 09 56 14.7 +1.0**
HAU Haudompre 65.44 2 *e*P **P 09 56 16.4 +1.5**
HAU Haudompre 65.44 2 *e*P **P 09 56 16.4 +1.5**
HAU Haudompre 65.44 2 *e*P **P 09 56 16.4 +1.5**
CONA Conrad Observa 65.44 355 ⇑*i*P **P 09 56 14.1 -0.9**
comp=Z,20nm,1.5s
GOF Gofitskoye 65.54 335 *e*P **P 09 56 14.0 -1.5**
MOA Molln 65.57 357 ⇑*i*P **P 09 56 14.3 -1.5**
comp=Z,20nm,1.6s
HINF Hinteralfeld 65.63 2 *e*P **P 09 56 17.5 +1.3**
HINF Hinteralfeld 65.63 2 *e*P **P 09 56 17.5 +1.3**
HINF Hinteralfeld 65.63 2 *e*P **P 09 56 17.5 +1.3**
RJOB Jochberg 65.71 358 *e*pP **P 09 56 18.9 +2.2**
comp=Z,6.0nm,0.9s
KMI Kunming 65.98 278 P **P 09 56 18.3 -0.6**
KMI pP **pP 09 56 24.5 +0.8**
KMI sP **sP 09 56 26.3 +0.8**
KMI PP **PP 09 58 44.5 +0.7**
KMI S **S 10 05 07.0 +1.1**
KMI pmax pmax
comp=Z,20nm,1.8s
KMI pmax pmax
comp=Z,280nm,3.4s
KMI LR LR
comp=N,980nm,13.0s
KMI LR LR
comp=E,400nm,11.5s
KMI LR LR
comp=Z,1µm,12.6s
LOR Lormes 66.12 4 *e*P **P 09 56 20.8 +1.5**
comp=Z,28nm,1.0s
LOR Lormes 66.12 4 *e*P **P 09 56 20.8 +1.5**
comp=Z,28nm,1.0s
WTTA Wattenberg 66.20 359 ⇑*i*P **P 09 56 19.3 -0.6**
comp=Z,17nm,0.8s
LSA Lhasa 66.30 290 P **P 09 56 22.0 +0.8**
LSA Lhasa 66.30 290 *e*P **P 09 56 23.0 +1.8**
LSA pmax pmax
comp=Z,99nm,1.7s
LSA Lhasa 66.30 290 *e*P **P 09 56 23.0 +1.8**
comp=Z,99nm,1.7s
SSF Saint Saulge 66.31 5 *e*P **P 09 56 22.2 +1.7**
comp=Z,23nm,0.9s
SSF Saint Saulge 66.31 5 *e*P **P 09 56 22.2 +1.7**
SSF pmax pmax
comp=Z,23nm,0.9s
SSF Saint Saulge 66.31 5 *e*P **P 09 56 22.2 +1.7**
comp=Z,23nm,0.9s
KBA Koelnbreinsper 66.36 357 ⇑*i*sP sP 09 56 23.9 -3.8
comp=Z,12nm,1.3s
FETA Feichten 66.45 359 ⇓*i*pP **P 09 56 23.1 +1.5**
comp=Z,19nm,1.2s
AVF Avril sur Loir 66.58 5 *e*P **P 09 56 23.7 +1.5**
comp=Z,24nm,0.8s
AVF Avril sur Loir 66.58 5 *e*P **P 09 56 23.7 +1.5**
AVF pmax pmax
comp=Z,24nm,0.8s
AVF Avril sur Loir 66.58 5 *e*P **P 09 56 23.7 +1.5**
comp=Z,24nm,0.8s
MFF Saint Martin d 66.62 7 *e*P **P 09 56 24.2 +1.8**
comp=Z,16nm,0.8s
MFF Saint Martin d 66.62 7 *e*P **P 09 56 24.2 +1.8**
MFF pmax pmax
comp=Z,16nm,0.8s
MFF Saint Martin d 66.62 7 *e*P **P 09 56 24.2 +1.8**
comp=Z,16nm,0.8s
KIV Kislovodsk 66.67 335*d i*P **P 09 56 24.3 +1.4**
KIV *i* 09 56 34.3
KIV *e*S **S 10 05 18.2 +4.6**
KIV pmax pmax
comp=Z,77nm,1.5s
KIV MLR MLR
comp=Z,200nm,18.0s
SMF Signal de Mont 66.74 4 *e*P **P 09 56 24.6 +1.4**
comp=Z,34nm,0.9s
SMF Signal de Mont 66.74 4 *e*P **P 09 56 24.6 +1.4**
SMF pmax pmax
comp=Z,34nm,0.9s
SMF Signal de Mont 66.74 4 *e*P **P 09 56 24.6 +1.4**
comp=Z,34nm,0.9s
BGF Bois d'Agland 66.79 5 *e*P **P 09 56 25.2 +1.6**
comp=Z,44nm,1.1s
BGF Bois d'Agland 66.79 5 *e*P **P 09 56 25.2 +1.6**
BGF pmax pmax
comp=Z,44nm,1.1s
BGF Bois d'Agland 66.79 5 *e*P **P 09 56 25.2 +1.6**
comp=Z,44nm,1.1s
KBZ Khabaz 66.85 334 P **P 09 56 22.0 -1.9**
KBZ Khabaz 66.85 334 P **P 09 56 22.0 -1.9**
KBZ Khabaz 66.85 334 P **P 09 56 22.0 -1.9**
comp=Z,11nm,1.0s,baz=324,slow=3.5,SNR=24
KBZ LR LR 10 32 12.5
comp=Z,206nm,19.9s,baz=8.3,slow=42
OBKA Obir 66.90 356 ⇑*i*P **P 09 56 24.3 -0.1**
comp=Z,48nm,0.9s
TCF Toulx Ste Croi 67.04 6 *e*P **P 09 56 26.6 +1.4**
comp=Z,19nm,0.9s
TCF Toulx Ste Croi 67.04 6 *e*P **P 09 56 26.6 +1.4**
TCF pmax pmax
comp=Z,19nm,0.9s
TCF Toulx Ste Croi 67.04 6 *e*P **P 09 56 26.6 +1.4**
comp=Z,19nm,0.9s
MOZS Mozjanca 67.12 356 *e*P **P 09 56 27.1 +1.4**
DOBS Dobrina 67.23 356 *e*P **P 09 56 27.5 +1.1**
MLR Muntele Rosu 67.29 348 LR LR 10 27 34.5
comp=Z,151nm,20.7s,baz=26,slow=38
CFR Carcaliu 67.40 346 ⇑P **P 09 56 28.4 +1.0**
CFR Carcaliu 67.40 346 ⇑*i*P **P 09 56 28.4 +1.0**
VOIR 67.42 348 ⇓P **P 09 56 29.7 +2.1**
VOIR 67.42 348 ⇓*i*P **P 09 56 29.6 +2.0**
BZS Buzias 67.48 351 ⇑P **P 09 56 29.9 +2.0**
BZS Buzias 67.48 351 ⇑*i*P **P 09 56 29.9 +2.0**
ZEI Tsey 67.59 333 *e*P **P 09 56 25.8 -3.1**
ZEI pmax pmax
comp=Z,41nm,1.5s
LPG La Plagne 67.95 2 *e*P **P 09 56 32.2 +0.9**
LPG La Plagne 67.95 2 *e*P **P 09 56 32.2 +0.9**
LPG La Plagne 67.95 2 *e*P **P 09 56 32.2 +0.9**
RJF Les Rejaudoux 67.99 6 *e*P **P 09 56 32.7 +1.5**
comp=Z,20nm,1.1s
RJF Les Rejaudoux 67.99 6 *e*P **P 09 56 32.7 +1.5**
RJF pmax pmax
comp=Z,20nm,1.1s
RJF Les Rejaudoux 67.99 6 *e*P **P 09 56 32.7 +1.5**
comp=Z,20nm,1.1s
TIRR Tirgusor 68.09 346 ⇓P **P 09 56 32.8 +1.1**
TIRR Tirgusor 68.09 346 ⇓*i*P **P 09 56 32.8 +1.1**
LFF La Frestale 68.32 7 *e*P **P 09 56 35.1 +1.9**
comp=Z,34nm,0.9s
LFF La Frestale 68.32 7 *e*P **P 09 56 35.1 +1.9**
LFF pmax pmax
comp=Z,34nm,0.9s
LFF La Frestale 68.32 7 *e*P **P 09 56 35.1 +1.9**
comp=Z,34nm,0.9s
CAF Calviac 68.39 6 *e*P **P 09 56 35.6 +1.9**
comp=Z,28nm,0.9s
CAF Calviac 68.39 6 *e*P **P 09 56 35.6 +1.9**
CAF pmax pmax
comp=Z,28nm,0.9s
CAF Calviac 68.39 6 *e*P **P 09 56 35.6 +1.9**
comp=Z,28nm,0.9s
ORIF Oris-en-Rattie 68.52 3 *e*P **P 09 56 35.8 +1.2**
comp=Z,40nm,1.2s
ORIF Oris-en-Rattie 68.52 3 *e*P **P 09 56 35.8 +1.2**
ORIF pmax pmax
comp=Z,40nm,1.2s
ORIF Oris-en-Rattie 68.52 3 *e*P **P 09 56 35.8 +1.2**
comp=Z,40nm,1.2s
VIVF Saint-Julien-l 68.55 4 *e*P **P 09 56 36.6 +1.9**
comp=Z,23nm,0.9s
VIVF Saint-Julien-l 68.55 4 *e*P **P 09 56 36.6 +1.9**
VIVF pmax pmax
comp=Z,23nm,0.9s
VIVF Saint-Julien-l 68.55 4 *e*P **P 09 56 36.6 +1.9**
comp=Z,23nm,0.9s
QIZ Qiongzhong 68.67 268 P **P 09 56 35.3 -0.4**
QIZ S **S 10 05 40.5 +2.6**
QIZ pmax pmax
comp=Z,27nm,2.2s
QIZ LR LR
comp=N,770nm,17.1s
QIZ LR LR
comp=Z,980nm,16.6s
MBDF Montbardon 68.72 2 *e*P **P 09 56 37.2 +1.3**
comp=Z,18nm,0.8s
MBDF Montbardon 68.72 2 *e*P **P 09 56 37.2 +1.3**
MBDF pmax pmax
comp=Z,18nm,0.8s
MBDF Montbardon 68.72 2 *e*P **P 09 56 37.2 +1.3**
comp=Z,18nm,0.8s
LASF Ste Croix 69.31 4 *e*P **P 09 56 40.9 +1.5**
comp=Z,14nm,0.8s
LASF Ste Croix 69.31 4 *e*P **P 09 56 40.9 +1.5**
comp=Z,14nm,0.8s
SBF Sospel 69.59 2 *e*P **P 09 56 42.8 +1.5**
comp=Z,42nm,0.8s
SBF Sospel 69.59 2 *e*P **P 09 56 42.8 +1.5**
SBF pmax pmax
comp=Z,42nm,0.8s
SBF Sospel 69.59 2 *e*P **P 09 56 42.8 +1.5**
comp=Z,42nm,0.8s
FRF La Foret Royal 69.89 2 *e*P **P 09 56 44.6 +1.6**
FRF La Foret Royal 69.89 2 *e*P **P 09 56 44.6 +1.6**
FRF La Foret Royal 69.89 2 *e*P **P 09 56 44.6 +1.6**
MTLF Montolieu 69.98 6 *e*P **P 09 56 45.6 +2.0**
comp=Z,20nm,0.9s
MTLF Montolieu 69.98 6 *e*P **P 09 56 45.6 +2.0**
MTLF pmax pmax
comp=Z,20nm,0.9s
MTLF Montolieu 69.98 6 *e*P **P 09 56 45.6 +2.0**
comp=Z,20nm,0.9s
LMR La Mourre 70.11 2 *e*P **P 09 56 46.0 +1.7**
LMR La Mourre 70.11 2 *e*P **P 09 56 46.0 +1.7**
LMR La Mourre 70.11 2 *e*P **P 09 56 46.0 +1.7**
EPF Esparros 70.21 7 *e*P **P 09 56 46.1 +1.1**
comp=Z,13nm,0.8s
EPF Esparros 70.21 7 *e*P **P 09 56 46.1 +1.1**
EPF pmax pmax
comp=Z,13nm,0.8s
EPF Esparros 70.21 7 *e*P **P 09 56 46.1 +1.1**
comp=Z,13nm,0.8s
ETSF Etsaut 70.29 8 *e*P **P 09 56 47.8 +2.2**
comp=Z,22nm,1.0s
ETSF Etsaut 70.29 8 *e*P **P 09 56 47.8 +2.2**
ETSF pmax pmax
comp=Z,22nm,1.0s
ETSF Etsaut 70.29 8 *e*P **P 09 56 47.8 +2.2**
comp=Z,22nm,1.0s
VTS Vitosha 70.39 349 ⇓P **P 09 56 46.9 +0.7**
VTS Vitosha 70.39 349 ⇓*i*P **P 09 56 46.9 +0.7**
PGAV Gavieira, Arco 70.64 14 *e*P **P 09 56 50.8 +3.1**
comp=Z,37nm,1.2s
POLO Lamas de Olo 71.27 14 *e*P P 09 56 54.8 +3.2
comp=Z,11nm,1.2s
CRAI Chiangrai 71.31 278 P **P 09 56 51.6 -0.4**
comp=Z,25nm,1.0s,comp=Z,1µm
MVO Moncorvo 71.55 13 *e*P **P 09 56 55.9 +2.7**
comp=Z,28nm,1.8s
PVIS Viseu 71.91 14 *e*P **P 09 56 58.3 +2.9**
comp=Z,17nm,0.9s
ANTO Ankara 72.13 341 ⇑P **P 09 56 57.8 +1.1**
ANTO Ankara 72.13 341 ⇑*i*P **P 09 56 57.8 +1.1**
BR131 Keskin Array S 72.17 341 *e*P **P 09 56 54.7 -2.4**
comp=Z,4.2nm,0.7s
BRTR Keskin Array B 72.17 341 P **P 09 56 54.6 -2.4**
BRTR PP **PP 09 59 34.6 -2.1**
BRTR Keskin Array B 72.17 341 P **P 09 56 54.6 -2.4**
comp=Z,4.6nm,0.8s,baz=29,slow=2.9,SNR=20
BRTR PP **PP 09 59 34.6 -2.1**
comp=Z,1.1nm,0.8s,baz=14,slow=5.7,SNR=3.9
BRTR LR LR 10 33 01.4
comp=Z,198nm,20.6s,baz=123,slow=40
MTE Manteigas 72.26 14 *e*P **P 09 57 00.3 +2.8**
comp=Z,26nm,1.1s
MTE Manteigas 72.26 14 *e*P **P 09 56 56.5 -0.9**
comp=Z,15nm,0.8s
PAYA Payao 72.30 278 P **P 09 56 58.7 +0.8**
comp=Z,8.0nm,1.0s,comp=Z,401nm
APG El Apazote 72.33 93 P **P 09 56 57.7 -0.7**
APG El Apazote 72.33 93 P **P 09 56 57.7 -0.7**
comp=Z,13nm,1.1s,baz=331,slow=9.4,SNR=7.2
PCBR Castelo Branco 72.82 14 *e*P **P 09 57 03.6 +2.9**
comp=Z,28nm,1.8s
LAMP Lampang 73.15 278 P **P 09 57 03.6 +0.6**
comp=Z,6.9nm,0.9s,comp=Z,112nm
CHTO Chiang Mai 73.16 278 P **P 09 57 03.0 0.0**
comp=Z,51nm,2.2s
PMRV Marv??o 73.24 14 *e*P **P 09 57 05.6 +2.4**
ESDC Sonseca Array 73.28 11 P **P 09 57 02.4 -1.2**
ESDC Sonseca Array 73.28 11 P **P 09 57 02.4 -1.2**
comp=Z,9.0nm,0.7s,baz=354,slow=5.8,SNR=18
ESDC LR LR 10 27 25.4
comp=Z,116nm,20.7s,baz=40,slow=34
ESLA Sonseca Array 73.28 11 *e*P **P 09 57 02.0 -1.5**
comp=Z,4.7nm,0.9s
CMAR Chiang Mai Arr 73.48 278 P **P 09 57 02.4 -2.5**
CMAR Chiang Mai Arr 73.48 278 P **P 09 57 02.4 -2.5**
comp=Z,5.5nm,0.7s,baz=5.0,slow=6.7,SNR=33
CMAR LR LR 10 31 53.0
comp=Z,524nm,19.3s,baz=219,slow=38
PMTG Montargil 73.51 14 *e*P **P 09 57 07.1 +2.3**
PMAFR Mafra 73.52 15 *e*P P 09 57 08.1 +3.2
PESTR Estremoz 73.77 14 *e*P **P 09 57 09.3 +2.9**
comp=Z,21nm,1.2s
EVOP Sao Brissos 74.06 14 *e*P **P 09 57 06.8 -1.2**
EVOP pmax pmax
comp=Z,42nm,1.1s
EVOP Sao Brissos 74.06 14 *e*P **P 09 57 06.8 -1.2**
comp=Z,42nm,1.1s
EVO Evora 74.06 14 *e*P **P 09 57 06.8 -1.3**
comp=Z,42nm,1.1s
PBKT Sadao Pong 74.39 275 P **P 09 57 11.6 +1.4**
PNCL Nicolau / Gran 74.43 15 *e*P **P 09 57 13.0 +2.8**
comp=Z,44nm,1.1s
PBAR Barrancos 74.51 14 *e*P **P 09 57 13.4 +2.7**
comp=Z,38nm,1.7s
PVAQ Vaqueiros 75.21 14 *e*P **P 09 57 17.7 +3.0**
comp=Z,33nm,1.2s
MORF Marmelete 75.22 15 *e*P **P 09 57 17.9 +3.1**
comp=Z,56nm,1.5s
KEST Kesra 77.73 0 P **P 09 57 28.0 -1.1**
KEST Kesra 77.73 0 P **P 09 57 28.0 -1.1**
comp=Z,3.8nm,0.9s,baz=333,slow=14,SNR=3.3
MDT Midelt 80.04 12 P **P 09 57 40.9 -1.1**
MDT Midelt 80.04 12 P **P 09 57 40.9 -1.1**
comp=Z,4.2nm,0.8s,baz=355,slow=6.0,SNR=4.4
HYB Hyderabad 82.10 296 *i*P **P 09 57 53.0 0.0**

PPT	Papeete	85.59	160	LR	LR	10 27 32.8		
	comp=Z,185nm,20.8s,baz=0.1,slow=29							
DZM	Mont Dzumac	90.36	201	LR	LR	10 32 33.9		
	comp=Z,386nm,20.9s,baz=0.7,slow=31							
RAO	Raoul Island	95.98	187	LR	LR	10 38 50.8		
	comp=Z,186nm,18.1s,baz=207,slow=33							
TORD	Torodi Ar. Bea	100.00	8	P	Pdif	09 59 16.9	-0.7	
TORD	Torodi Ar. Bea	100.00	8	P	Pdif	09 59 16.9	-0.7	
	comp=Z,1.3nm,1.3s,baz=337,slow=6.2,SNR=2.3							
BOSA	Boshof	140.56	338	PKP	PKPdf	10 05 00.9	-0.5	
BOSA	Boshof	140.56	338	PKP	PKPdf	10 05 00.9	-0.5	
	comp=Z,1.6nm,0.6s,baz=78,slow=17,SNR=3.8							
SUR	Sutherland	144.85	343	PKP	PKPab	10 05 07.4	-0.7	
SUR	Sutherland	144.85	343	PKP	PKPab	10 05 07.4	-0.7	
	comp=Z,13nm,1.0s,baz=0.0,slow=5.1,SNR=2.4							
VNDA	Vanda	145.14	190	PKPbc	PKPbc	10 05 05.8	-1.7	
VNDA	Vanda	145.14	190	PKPbc	PKPbc	10 05 05.8	-1.7	
	comp=Z,2.8nm,0.9s,baz=344,slow=4.3,SNR=10							
SBA	Scott Base	145.15	188	*e*PKIKP	PKPbc	10 05 06.4	-1.1	
SBA	Scott Base	145.15	188	*e*P	PKPbc	10 05 06.4	-1.1	

IDC ***25*** *09:46:55.3±0.3, 54°.86S×144°.21W, h0km, mb5.1/24, mb1 5.1/24, mb1mx5.1/25, mbtmp5.0/24, MS4.3/14, Ms1 4.3/14, ms1mx4.2/20, Error ellipse: s-maj=14.8km s-min=11.6km az=166.0*

ISCJB ***25*** *09:46:56.2±0.2, 55°.11S±0°.05×144°.06W±0°.10, h10km, mb5.2/59, MS4.7/114, Error ellipse: s-maj=8.3km s-min=6.8km az=17.1*

MOS ***25*** *09:46:56.6±0.9, 54°.92S×144°.29W, h10km, mb5.4/21, MS4.7/7, Error ellipse: s-maj=20.4km s-min=12.8km az=80.8*

NEIC ***25*** *09:46:57.2±0.1, 55°.04S×144°.08W, h10km, mb5.3/39, Error ellipse: s-maj=7.6km s-min=6.3km az=152.0*

BJI ***25*** *09:46:58.4, 54°.90S×143°.90W, h10km, mB5.5/8, Ms5.3/14, Ms7 4.9/13*

GCMT ***25*** *09:47:00.0±0.2, 55°.02S×144°.18W, h13km, MW5.1, Moment Tensor Solution. s41,c56; s65,c106; Moment tensor: Scale 10^16^Nm; Mrr5.38±.30; Mθθ0.96±.22; Mφφ-6.34±.21; Mrθ-0.39±.58; Mrφ-0.05±.16; Mθφ-0.94±.44; Best double couple: M0 6.00000×10^16^ NP1:φs185.00000°, δ50.00000°, λ96.00000°. NP2:φs355.00000°, δ41.00000°, λ83.00000°. Principal axes: T 5.4900, Plg83.0000°, Azm137.0000°; N 0.9300, Plg5.0000°, Azm1.0000°; P -6.4200, Plg5.0000°, Azm271.0000°; Data Used: II IU IC G CN.*

ISC 25 09:46:57.5±0.2, 54°.99S±0°.07×143°.87W±0°.06, h10km, n660, σ1$13/633, mb5.2/58, MS4.7/114, 90C-102D, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SBA	Scott Base	28.57	200	*e*P	P	09 52 56.3	+3.3
SBA				pmax	pmax		
	comp=Z,24nm,1.6s						
SBA	Scott Base	28.57	200	*e*P	P	09 52 56.3	+3.3
	comp=Z,24nm,1.6s						
VNDA	Vanda	29.44	201	P	P	09 53 02.4	+1.6
VNDA				PcP	PcP	09 56 05.9	-0.1
VNDA	Vanda	29.44	201	P	P	09 53 02.4	+1.6
	comp=Z,0.8nm,0.8s,baz=67,slow=8.5,SNR=4.3						
VNDA				PcP	PcP	09 56 05.9	-0.1
	comp=Z,3.4nm,1.0s,baz=87,slow=3.2,SNR=7.5						
VNDA				LR	LR	10 01 17.9	
	comp=Z,246nm,20.5s,baz=94,slow=29						
URZ	Urewera	31.08	286	LR	LR	10 02 32.8	
	comp=Z,963nm,19.9s,baz=105,slow=30						
TBI	Tubuai	31.88	350	*e*LR	LR	10 01 26.9	
	comp=Z,490nm,27.8s						
TBI	Tubuai	31.88	350	*e*T	T	10 26 05.0	
	comp=Z,108nm,0.4s						
RKT	Rikitea	32.52	15	*e*T	T	10 27 14.1	
	comp=Z,11nm,0.2s						
QSPA	South Pole Qui	35.16	180	*e*P	P	09 53 53.9	+2.7
	comp=Z,27nm,1.0s						
QSPA				PcP	PcP	09 56 22.2	+0.2
QSPA	South Pole Qui	35.16	180	P	P	09 53 53.4	+2.2
	comp=Z,28nm,1.0s,baz=71,slow=3.4,SNR=70						
QSPA				PcP	PcP	09 56 22.2	+0.2
	comp=Z,14nm,1.0s,baz=121,slow=0.6,SNR=8.7						
QSPA				LR	LR	10 07 05.6	
	comp=Z,354nm,18.5s,baz=288,slow=34						
RAO	Raoul Island	35.46	302	LR	LR	10 04 12.3	
	comp=Z,360nm,21.0s,baz=58,slow=29						
RAR	Rarotonga	35.80	334	LR	LR	10 03 53.2	
	comp=Z,407nm,22.0s,baz=90,slow=29						
DRV	Dumont d'Urvil	36.42	221	S	S	09 59 32.0	-11
DRV				L	L	10 02 00.0	
DRV				R		10 04 00.0	
MEH	Mehetia	37.19	353	*e*T	T	10 33 08.3	
	comp=Z,97nm,0.3s						
TVO	Taravao	37.37	352	*e*T	T	10 33 12.8	
	comp=Z,16nm,0.4s						
PAE	Paea	37.52	351	*e*T	T	10 33 24.0	
	comp=Z,4.7nm,0.3s						
PPT2	Papeete2	37.59	351	*e*S	S	10 00 04.7	+3.1
	comp=Z,128nm,25.0s						
PPT2				*e*LR	LR	10 04 17.2	
	comp=Z,415nm,25.5s,baz=171						
PPT2	Papeete2	37.59	351	*e*T	T	10 33 23.3	
	comp=Z,10nm,0.4s						
TIAR	Tiarei	37.60	351	*e*T	T	10 33 29.5	
	comp=Z,22nm,0.3s						
PPT	Papeete	37.61	351	LR	LR	10 05 49.4	
	comp=Z,212nm,18.3s,baz=58,slow=30						
PMSA	Palmer Station	38.55	137	*e*P	P	09 54 18.1	-1.6
	comp=Z,31nm,0.9s						
PMSA	Palmer Station	38.55	137	LR	LR	10 07 39.0	
	comp=Z,502nm,18.4s,baz=232,slow=32						
VAH	Vaihoa	39.78	354	*e*T	T	10 36 18.2	
	comp=Z,52nm,0.3s						
PMOR	Pomariorio Ree	40.03	354	*e*T	T	10 36 37.3	
	comp=Z,7.6nm,0.4s						
USHA	Ushuaia	41.37	122	P	P	09 54 42.8	-0.4
USHA	Ushuaia	41.37	122	P	P	09 54 42.8	-0.4
	comp=Z,28nm,1.1s,baz=208,slow=5.6,SNR=4.5						
USHA				LR	LR	10 07 31.7	
	comp=Z,661nm,19.1s,baz=215,slow=30						
CASY	Casey	46.78	212	*e*P	P	09 55 28.9	+2.4
	comp=Z,38nm,1.1s						
CASY				LR	LR		
	comp=Z,869nm,22.0s						
MSVF	Nonsavu	47.18	307	*e*P	P	09 55 29.4	-0.8
MSVF				pmax	pmax		
	comp=Z,20nm,1.1s						
MSVF				MLR	MLR		
	comp=Z,627nm,20.0s						
MSVF	Nonsavu	47.18	307	*e*P	P	09 55 29.4	-0.8
	comp=Z,20nm,1.1s						
MSVF				LR	LR		
	comp=Z,627nm,20.0s						
PLCA	Paso Flores	48.93	105	*e*P	P	09 55 45.5	+1.8
PLCA				PcP	PcP	09 57 07.3	-0.5
PLCA	Paso Flores	48.93	105	P	P	09 55 45.0	+1.4
	comp=Z,16nm,0.9s,baz=217,slow=8.7,SNR=22						
PLCA				PcP	PcP	09 57 07.3	-0.5
	comp=Z,4.3nm,0.8s,baz=210,slow=2.6,SNR=3.8						
PLCA				LR	LR	10 11 13.4	
	comp=Z,330nm,20.3s,baz=136,slow=30						
DZM	Mont Dzumac	49.37	291	*e*LR	LR	10 09 47.2	
	comp=Z,2μm,26.6s						
VNA2	Neumayer--Watz	50.62	163	*e*P	P	09 55 57.2	+1.2
SNAA	Sanae	50.69	165	*e*P	P	09 55 57.2	+0.6
SNAA	Sanae	50.69	165	*e*P	P	09 55 57.1	+0.6
	comp=Z,113nm,1.3s						
VNA1	Neumayer--Stat	50.71	162	*e*P	P	09 55 57.9	+1.3
EIDS	Eidsvold	55.38	275	*e*P	P	09 56 32.1	+0.5
	comp=Z,18nm,1.1s						
TRQA	Tornquist	55.54	109	*e*P	P	09 56 33.9	+1.2
	comp=Z,79nm,1.1s						
STKA	Stephens Creek	55.93	262	*e*P	P	09 56 35.4	-0.2
	comp=Z,3.7nm,0.9s						
STKA	Stephens Creek	55.93	262	P	P	09 56 35.1	-0.4
	comp=Z,23nm,1.0s,baz=116,slow=7.2,SNR=10						
STKA				LR	LR	10 17 00.7	
	comp=Z,289nm,18.8s,baz=95,slow=32						
MAW	Mawson	56.10	192	*e*P	P	09 56 37.5	+1.3
MAW	Mawson	56.10	192	P	P	09 56 37.6	+1.4
	comp=Z,20nm,1.0s,baz=163,slow=8.9,SNR=28						
SYO	Syowa Base	56.28	182	⇓*e*P	P	09 56 36.6	-0.9
SYO	Syowa Base	56.28	182	⇓*e*PcP	PcP	09 57 33.2	-1.6
CFAA	Coronel Fontan	56.76	99	LR	LR	10 14 11.3	
	comp=Z,18nm,19.2s,baz=171,slow=29						
LCO	Las Campanas	57.28	95	*e*P	P	09 56 45.3	-0.2
	comp=Z,15nm,0.9s						
LCO				LR	LR		
	comp=Z,1μm,22.0s						
CTA	Charters Tower	62.26	274	P	P	09 57 18.4	-1.2
CTA	Charters Tower	62.26	274	P	P	09 57 18.4	-1.2
	comp=Z,9.2nm,0.8s,baz=157,slow=5.5,SNR=8.9						
CTAO	Charters Tower	62.26	274	*e*P	P	09 57 18.7	-0.9
CTAO				pmax	pmax		
	comp=Z,23nm,1.1s						
CTAO	Charters Tower	62.26	274	*e*P	P	09 57 18.7	-0.9
	comp=Z,23nm,1.1s						
LVC	Limon Verde	63.22	92	*e*P	P	09 57 27.2	+1.0
	comp=Z,77nm,0.8s						
LVC				LR	LR		
	comp=Z,455nm,20.0s						
ASAR	Alice Springs	66.56	262	P	P	09 57 45.8	-2.0
ASAR	Alice Springs	66.56	262	P	P	09 57 45.8	-2.0
	comp=Z,14nm,0.8s,baz=137,slow=6.9,SNR=77						
CPUP	Villa Florida	66.94	103	P	P	09 57 50.5	+0.4
CPUP	Villa Florida	66.94	103	P	P	09 57 50.5	+0.4
	comp=Z,25nm,0.9s,baz=218,slow=6.2,SNR=26						
LPAZ	La Paz	68.65	88	*e*P	P	09 58 02.6	+1.0
	comp=Z,74nm,1.1s						
LPAZ	La Paz	68.65	88	P	P	09 58 02.8	+1.1
	comp=Z,50nm,1.0s,baz=203,slow=3.3,SNR=101						
LPAZ				LR	LR	10 21 19.6	
	comp=Z,264nm,21.7s,baz=182,slow=30						
COEN	Coen	68.91	276	*e*P	P	09 58 03.4	+0.9
	comp=Z,154nm,1.1s						
WRA	Warramunga Arr	69.24	265	P	P	09 58 01.9	-2.7
WRA	Warramunga Arr	69.24	265	P	P	09 58 01.9	-2.7
	comp=Z,9.6nm,0.7s,baz=145,slow=5.7,SNR=51						
WRA				LR	LR	10 25 54.8	
	comp=Z,591nm,18.0s,baz=130,slow=34						
WRAB	Tennant Creek	69.24	265	*e*P	P	09 58 04.4	-0.2
WRAB				pmax	pmax		
	comp=Z,31nm,1.2s						
WRAB				MLR	MLR		
	comp=Z,839nm,20.0s						
WRAB	Tennant Creek	69.24	265	*e*P	P	09 58 04.4	-0.2
	comp=Z,32nm,1.2s						
WRAB				LR	LR		
	comp=Z,839nm,20.0s						
WRAB	Tennant Creek	69.24	265	P	P	09 58 04.3	-0.3
	comp=Z,98nm,0.9s,SNR=5.9						
ATAH	Atahualpa	70.23	74	P	P	09 58 12.2	+1.0
ATAH	Atahualpa	70.23	74	P	P	09 58 12.2	+1.0
	comp=Z,26nm,1.2s,baz=278,slow=5.0,SNR=10						
PMG	Port Moresby	70.32	282	*e*P	P	09 58 08.9	-2.3
PMG				LR	LR		
	comp=Z,535nm,19.0s						
PMG	Port Moresby	70.32	282	P	P	09 58 09.2	-2.0
	comp=Z,12nm,0.9s,baz=224,slow=12,SNR=3.2						
SIV	San Ignacio	72.95	94	P	P	09 58 27.2	+0.1
SIV	San Ignacio	72.95	94	P	P	09 58 27.2	+0.1
	comp=Z,22nm,0.9s,baz=230,slow=5.0,SNR=43						
SPB	Sao Paulo	74.58	109	PFAKE		09 58 50.0	+13
SPB				LR	LR		
	comp=Z,483nm,19.0s						
BB16B	Bebedouro	75.99	107	⇓*i*P	P	09 58 44.6	-0.2
BB16B				*i*		10 00 47.7	
BB16B				*i*		10 00 54.7	
BB16B				*i*		10 00 55.4	
BB16B	Bebedouro	75.99	107	⇓*i*P	P	09 58 44.6	-0.2
BB16B				*i*		10 00 47.7	
BB16B				*i*		10 00 54.7	
BB16B				*i*		10 00 55.4	
OTAV	Otavalo	76.33	69	*e*P	P	09 58 48.0	+0.8
	comp=Z,49nm,1.4s						
OTAV				LR	LR		
	comp=Z,158nm,19.0s						
MBWA	Marble Bar	76.50	253	*e*P	P	09 58 46.8	-0.8
	comp=Z,29nm,1.2s						
SAML	Samuel	77.38	88	*e*P	P	09 58 52.1	-0.6
	comp=Z,36nm,1.1s						
SAML				LR	LR		
	comp=Z,375nm,20.0s						
BDFB	Brasilia	80.66	104	*e*P	P	09 59 11.1	+0.3
BDFB	Brasilia	80.66	104	P	P	09 59 10.9	+0.1
	comp=Z,7.3nm,0.8s,baz=8.6,slow=2.0,SNR=7.2						
BDFB				LR	LR	10 31 32.1	
	comp=Z,499nm,20.5s,baz=76,slow=33						
JTS	JuntasAbangare	81.51	58	*e*P	P	09 59 16.3	+1.2
JTS				LR	LR		
	comp=Z,368nm,19.0s						
JTS	JuntasAbangare	81.51	58	P	P	09 59 15.3	+0.3
	comp=Z,12nm,1.0s,baz=228,slow=2.2,SNR=6.1						
APG	El Apazote	83.01	51	P	P	09 59 23.9	+0.8
APG	El Apazote	83.01	51	P	P	09 59 23.9	+0.8
	comp=Z,11nm,1.1s,baz=229,slow=12,SNR=4.4						
BCIP	Isla Barro Col	83.12	63	PFAKE		09 59 40.0	+17
BCIP				LR	LR		
	comp=Z,279nm,19.0s						
TGUH	Tegucigalpa,Un	83.65	55	*e*P	P	09 59 27.1	+1.0
	comp=Z,44nm,1.0s						
TGUH				LR	LR		
	comp=Z,266nm,20.0s						
LPIG	La Paz	83.86	31	P	P	09 59 27.4	+0.5
LPIG	La Paz	83.86	31	P	P	09 59 27.4	+0.5
	comp=Z,26nm,1.0s,baz=14,slow=0.4,SNR=4.8						
TEIG	Tepich	88.58	51	*e*P	P	09 59 50.6	+0.3
TEIG				LR	LR		
	comp=Z,307nm,19.0s						
TEIG	Tepich	88.58	51	P	P	09 59 51.2	+1.0
	comp=Z,36nm,1.0s,baz=222,slow=2.1,SNR=7.8						
KAPI	Kappang	89.59	262	*e*P	P	09 59 53.5	-1.8
	comp=Z,51nm,1.4s						
KAPI				LR	LR		
	comp=Z,349nm,22.0s						
SCI	San Clemente I	90.28	21	⇓P	P	09 59 59.0	+1.0
	baz=91						
BAR	Barrett	90.40	23	*e*P	P	09 59 59.3	+0.7
	comp=Z,34nm,1.3s						
109C	Camp Elliot, M	90.50	22	⇑P	P	10 00 00.3	+1.3
	baz=91						
DVTC	Desert V Tower	90.51	23	⇓P	P	10 00 00.2	+1.0
	baz=91,SNR=8.5						
214A	Organ Pipe Nat	90.62	26	⇑P	P	10 00 00.8	+1.2
	baz=91,SNR=18						
MONP	Monument Peak	90.66	23	⇓P	P	10 00 00.8	+0.7
	baz=91,SNR=15						
CIS	Catalina Islan	90.73	21	⇑P	P	10 00 00.8	+0.7
	baz=91						
TXAR	Lajitas Array	90.81	34	P	P	10 00 01.1	+0.5
TXAR	Lajitas Array	90.81	34	P	P	10 00 01.1	+0.5
	comp=Z,4.1nm,0.8s,baz=195,slow=8.5,SNR=20						
SWSC	Sam W. Stewart	90.85	23	⇓P	P	10 00 01.4	+0.8
	baz=91,SNR=15						
626A	Big Bend Ranch	90.86	34	⇓P	P	10 00 01.6	+0.7
	baz=91						
627A	Terlingua Ranc	91.01	34	⇑P	P	10 00 02.2	+0.5
	baz=91,SNR=13						
319A	Douglas	91.01	29	⇑P	P	10 00 02.5	+0.9
	baz=91						
113A	Mohawk Valley,	91.16	25	⇓P	P	10 00 02.8	+0.8
	baz=92,SNR=21						
MURC	Murrieta	91.17	22	⇑P	P	10 00 02.8	+0.6
	baz=92						
GLA	Glamis	91.18	24	*e*P	P	10 00 03.1	+0.9
GLA				pmax	pmax		
	comp=Z,25nm,1.0s						
GLA	Glamis	91.18	24	*e*P	P	10 00 03.1	+0.9
	comp=Z,25nm,1.0s						
GLA	Glamis	91.18	24	⇓P	P	10 00 03.2	+0.9
	baz=92,SNR=8.7						
320A	Kipp Ranch, An	91.19	30	⇑P	P	10 00 03.3	+0.8
	baz=92						
628A	Black Gap, Mar	91.20	35	⇑P	P	10 00 03.2	+0.7
	baz=92,SNR=14						
PFO	Pinyon Flat Ob	91.34	23	*e*P	P	10 00 04.0	+1.0
	comp=Z,25nm,1.4s						
PFO	Pinyon Flat Ob	91.34	23	P	P	10 00 03.5	+0.4
	comp=Z,4.4nm,0.8s,baz=106,slow=1.1,SNR=9.9						
PFO	Pinyon Flat Ob	91.34	23	⇑P	P	10 00 03.8	+0.7
	baz=92,SNR=6.0						
526A	Mary Lane Ranc	91.34	34	⇑P	P	10 00 03.5	+0.3
	baz=92,SNR=12						
SBC	Santa Barbara	91.47	20	⇓P	P	10 00 04.8	+1.3
	baz=92						
TUC	Tucson	91.48	28	*e*P	P	10 00 04.7	+1.0
TUC				pmax	pmax		
	comp=Z,19nm,1.0s						
TUC	Tucson	91.48	28	*e*P	P	10 00 04.7	+1.0
	comp=Z,19nm,1.0s						
732A	Laxson Ranch,	91.50	38	⇓P	P	10 00 04.8	+1.0
	baz=92,SNR=11						
527A	Woodward Ranch	91.57	34	⇓P	P	10 00 04.4	+0.1
	baz=92,SNR=5.6						
MWC	Mount Wilson	91.59	21	*e*P	P	10 00 05.1	+0.8
MWC				pmax	pmax		
	comp=Z,24nm,1.3s						
MWC	Mount Wilson	91.59	21	*e*P	P	10 00 05.1	+0.8
	comp=Z,24nm,1.3s						
BC3	Big Chuckawall	91.61	23	⇓P	P	10 00 05.1	+0.7
	baz=92,SNR=10						
BFSC	Mount Baldy Ra	91.69	21	⇓P	P	10 00 05.2	+0.5
	baz=92,SNR=5.7						
220A	Playas Peak, P	91.72	29	⇓P	P	10 00 05.3	+0.4
	baz=92,SNR=16						
425A	Indio Mountain	91.73	33	⇑P	P	10 00 05.2	+0.2
	baz=92,SNR=26						
BELC	Belle Mtn. Jos	91.82	23	⇑P	P	10 00 05.8	+0.5
	baz=92,SNR=16						
528A	Cox Ranch, San	91.86	35	⇑P	P	10 00 06.0	+0.4
	baz=92						
BBRC	Big Bear Solar	91.87	22	⇑P	P	10 00 06.1	+0.5
	baz=92						
PKM	Peak Mountain	91.89	20	⇓P	P	10 00 06.2	+0.6
	baz=92,SNR=6.6						
631A	Perdido Creek	91.91	37	⇓P	P	10 00 05.8	+0.2
	baz=92,SNR=11						
Y12C	Blythe	91.92	24	⇑P	P	10 00 06.3	+0.8
	baz=92,SNR=8.8						
426A	McDonald Obser	91.92	34	⇑P	P	10 00 06.1	+0.1
	baz=92,SNR=15						
Z14A	Wintersburg	91.93	25	⇑P	P	10 00 06.5	+0.9
	baz=92,SNR=6.7						
SUR	Sutherland	91.99	167	P	P	10 00 05.8	-0.8
SUR	Sutherland	91.99	167	P	P	10 00 05.8	-0.8
	comp=Z,17nm,0.9s,baz=176,slow=6.0,SNR=4.7						
SUR				LR	LR	10 35 35.1	
	comp=Z,91nm,18.9s,baz=111,slow=32						
529A	Stev Forest Ra	92.01	35	⇓P	P	10 00 06.7	+0.5
	baz=92,SNR=9.2						
221A	Mesquite Ranch	92.04	30	⇓P	P	10 00 07.2	+0.9
	baz=92,SNR=9.9						
324A	Moseley Ranch,	92.19	32	⇓P	P	10 00 07.2	+0.1
	baz=93,SNR=9.7						
EDW2	Edwards Air Fo	92.24	21	⇑P	P	10 00 07.3	+0.2
	baz=93,SNR=12						
SMMC	Simmler	92.25	19	⇑P	P	10 00 07.9	+0.8
	baz=93,SNR=6.2						
632A	Uvalde	92.27	37	⇓P	P	10 00 07.9	+0.5
	baz=93,SNR=7.8						
427A	Hayter Ranch,	92.29	34	⇓P	P	10 00 08.0	+0.5
	baz=93,SNR=11						
120A	U Bar Ranch, L	92.30	29	⇑P	P	10 00 08.2	+0.6
	baz=93,SNR=21						
ARVC	Arvin	92.30	20	⇓P	P	10 00 08.3	+0.9
	baz=93						
530A	J-C Ranch, Com	92.33	36	⇓P	P	10 00 08.6	+1.0
	baz=93,SNR=14						
428A	Kincaid Ranch,	92.41	35	⇓P	P	10 00 08.9	+0.8
	baz=93,SNR=12						
MNTX	Cornudas Mount	92.46	32	*e*P	P	10 00 08.3	+0.1
MNTX				LR	LR		
	comp=Z,105nm,20.0s						
Y14A	Wickenburg	92.46	25	⇓P	P	10 00 08.9	+0.7
	baz=93,SNR=17						
121A	Cookes Peak, D	92.53	30	⇑P	P	10 00 09.0	+0.3
	baz=93,SNR=10						
PDMCI	Parker Dam,Lak	92.53	24	⇓P	P	10 00 09.2	+0.8
	baz=93,SNR=7.6						
326A	Caldwell Ranch	92.54	33	⇑P	P	10 00 09.0	+0.4
	baz=93						
HEC	Hector,Ludlow	92.54	22	⇑P	P	10 00 09.1	+0.6
	baz=93,SNR=7.6						
PTRM	Twissleman Ran	92.55	19	*e*P	P	10 00 09.5	+1.0
429A	Davenport Ranc	92.58	35	⇑P	P	10 00 09.1	+0.2
	baz=93,SNR=13						
531A	Rocksprings	92.61	37	⇑P	P	10 00 09.7	+0.7
	baz=93,SNR=7.8						
GMRC	Granite Mounta	92.64	23	⇓P	P	10 00 10.0	+0.9
	baz=93,SNR=9.0						
224A	Cornudas Mount	92.77	32	⇑P	P	10 00 10.5	+0.7
	baz=93,SNR=27						
532A	Rocksprings	92.80	37	⇓P	P	10 00 10.6	+0.7
	baz=93,SNR=17						
Z20A	Nine Sixteen R	92.84	29	⇓P	P	10 00 10.8	+0.7
	baz=93						
LRMC	Laurel Mountai	92.88	21	⇓P	P	10 00 10.5	+0.4
	baz=93,SNR=6.3						
GSC	Goldstone	92.89	22	*e*P	P	10 00 10.6	+0.4
GSC				pmax	pmax		
	comp=Z,11nm,1.1s						
GSC	Goldstone	92.89	22	*e*P	P	10 00 10.6	+0.4
	comp=Z,11nm,1.1s						
GSC	Goldstone	92.89	22	⇓P	P	10 00 10.6	+0.4
	baz=93,SNR=8.7						
ISA	Isabella	92.89	20	*e*P	P	10 00 11.1	+0.9
ISA				pmax	pmax		
	comp=Z,14nm,1.1s						
ISA	Isabella	92.89	20	*e*P	P	10 00 11.1	+0.9
	comp=Z,14nm,1.1s						
ISA	Isabella	92.89	20	⇑P	P	10 00 10.9	+0.7
	baz=93,SNR=12						
122A	Conniff Cattle	92.91	30	⇑P	P	10 00 11.7	+1.4
	baz=93,SNR=7.2						
VES	Vestal, Richgr	92.94	20	⇑P	P	10 00 10.6	+0.4
	baz=93,SNR=6.0						
430A	Baggett Ranch,	92.95	36	⇓P	P	10 00 10.9	+0.4
	baz=93,SNR=16						
328A	Wristen Ranch,	92.97	34	⇓P	P	10 00 10.6	0.0
	baz=93						
225A	Deer Hill, Car	93.01	32	⇑P	P	10 00 10.8	-0.1
	baz=93,SNR=7.6						
LDFC	Landfair	93.05	23	*e*P	P	10 00 12.4	+1.5
	comp=Z,28nm,1.2s						
123A	Bell Site, Whi	93.06	31	⇑P	P	10 00 12.1	+1.0
	baz=94,SNR=7.1						
431A	Sonora	93.06	36	⇑P	P	10 00 11.0	0.0
	baz=94,SNR=9.7						
JCT	Junction City	93.16	37	*e*P	P	10 00 11.8	+0.3
JCT				pmax	pmax		
	comp=Z,23nm,0.9s						
JCT				MLR	MLR		
	comp=Z,197nm,21.0s						
JCT	Junction City	93.16	37	*e*P	P	10 00 11.8	+0.3
	comp=Z,23nm,0.9s						
JCT				LR	LR		
	comp=Z,197nm,21.0s						
JCT	Junction City	93.16	37	⇓P	P	10 00 12.1	+0.6
	baz=94,SNR

X18A	Snowflake	93.81	28	⇑P		P	10 00 15.4 +0.9
	baz=94,SNR=8.3						
Y21A	Point of Rocks	93.94	29	⇓P		P	10 00 16.0 +0.8
	baz=94,SNR=14						
Z24A	Sheeppen Canyo	93.98	32	⇑P		P	10 00 15.8 +0.4
	baz=94						
127A	Arkansas Junct	94.00	33	⇓P		P	10 00 15.6 +0.2
	baz=94						
332A	Millersview	94.00	37	⇑P		P	10 00 15.5 +0.1
	baz=94,SNR=10						
FURC	Furnace Creek,	94.01	22	⇑P		P	10 00 16.1 +1.0
	baz=94,SNR=8.3						
Y22A	Socorro	94.08	30	⇓P		P	10 00 16.2 +0.5
	baz=94,SNR=5.1						
HKT	Hockley	94.10	40	eP		P	10 00 17.3 +1.6
HKT					pmax	pmax	
	comp=Z,15nm,1.3s						
HKT	Hockley	94.10	40	eP		P	10 00 17.3 +1.6
	comp=Z,15nm,1.3s						
Z25A	Roswell	94.13	32	⇑P		P	10 00 16.8 +0.9
	baz=95,SNR=23						
X20A	Quemado	94.21	29	⇑P		P	10 00 16.9 +0.4
	baz=95,SNR=6.2						
128A	Castleberry Fa	94.22	34	⇓P		P	10 00 16.5 +0.1
	baz=95,SNR=9.0						
231A	Bronte	94.31	36	⇓P		P	10 00 16.8 0.0
	baz=95,SNR=7.0						
X21A	Alamocita Cree	94.32	29	⇓P		P	10 00 17.6 +0.6
	baz=95,SNR=18						
Y23A	Lovelace Mesa,	94.34	31	⇑P		P	10 00 17.2 +0.2
	baz=95						
Z26A	Caprock	94.35	33	⇓P		P	10 00 16.6 -0.4
	baz=95,SNR=7.1						
WUAZ	Wupatki	94.37	26	eP		P	10 00 17.8 +0.7
	comp=Z,11nm,1.1s						
WUAZ	Wupatki	94.37	26	⇓P		P	10 00 17.6 +0.5
	baz=95,SNR=6.3						
SHPR	Sheep Range	94.41	23	eP		P	10 00 18.2 +1.0
W18A	Petrified Fore	94.42	27	⇓P		P	10 00 17.8 +0.5
	baz=95						
232A	Coleman	94.50	37	⇓P		P	10 00 17.7 +0.1
	baz=95,SNR=8.4						
Y24A	Capitan	94.52	31	⇓P		P	10 00 18.4 +0.5
	baz=95						
LPM	Los Pinos Moun	94.52	30	eP		P	10 00 18.4 +0.6
GTBY	Guantanamo Bay	94.62	62	PFAKE			10 00 30.0 +12
GTBY				LR		LR	
	comp=Z,166nm,20.0s						
Z27A	Tatum	94.63	33	⇑P		P	10 00 18.4 +0.1
	baz=95						
130A	Snyder	94.70	35	⇑P		P	10 00 18.7 +0.2
	baz=95						
MLAC	Mammoth Lakes	94.72	20	⇑P		P	10 00 19.3 +0.5
	baz=95						
Y25A	Mesa, Roswell	94.74	32	⇓P		P	10 00 19.1 +0.4
	baz=95,SNR=7.0						
W20A	Ramah	94.76	28	⇑P		P	10 00 19.2 +0.3
	baz=95,SNR=7.0						
CMB	Columbia Colle	94.83	18	eP		P	10 00 19.5 +0.5
CMB					pmax	pmax	
	comp=Z,7.0nm,1.1s						
CMB	Columbia Colle	94.83	18	eP		P	10 00 19.5 +0.5
	comp=Z,6.9nm,1.1s						
Z28A	Tucker Farm, M	94.87	34	⇓P		P	10 00 19.4 +0.1
	baz=95						
131A	Roby	94.96	36	⇓P		P	10 00 19.7 0.0
	baz=95						
W21A	San Fidel	94.99	29	⇓P		P	10 00 20.3 +0.3
	baz=95						
U15A	North Rim	95.01	25	⇑P		P	10 00 20.9 +0.8
	baz=95,SNR=17						
Z29A	Hungry Hill Ra	95.06	34	⇑P		P	10 00 20.4 +0.2
	baz=96						
X24A	Lazy VL Ranch,	95.11	31	⇓P		P	10 00 20.8 +0.3
	baz=96						
ANMO	Albuquerque	95.17	30	eP		P	10 00 21.1 +0.3
ANMO				LR		LR	
	comp=Z,107nm,20.0s						
ANMO	Albuquerque	95.17	30	P		P	10 00 20.8 0.0
	comp=Z,4.2nm,1.0s,baz=190,slow=6.1,SNR=11						
ABTX	Abilene, Hawle	95.17	36	eP		P	10 00 21.0 +0.4
ABTX	Abilene, Hawle	95.17	36	⇓P		P	10 00 21.3 +0.7
	baz=96,SNR=14						
Y27A	Causey	95.17	33	⇑P		P	10 00 20.6 -0.2
	baz=96,SNR=8.7						
Z30A	Sanderson Ranc	95.28	35	⇓P		P	10 00 21.3 +0.1
	baz=96						
X25A	Clemmons Ranch	95.31	32	⇑P		P	10 00 21.3 0.0
	baz=96,SNR=6.5						
WHTX	Lake Whitney	95.36	38	⇑P		P	10 00 21.5 0.0
	baz=96						
MSTX	Muleshoe	95.38	33	⇑P		P	10 00 21.8 +0.1
	baz=96						
V20A	Brimhall	95.40	28	⇑P		P	10 00 22.0 +0.2
	baz=96						
GRGR	Grenville	95.41	77	PFAKE			10 00 30.0 +7.8
GRGR				LR		LR	
	comp=Z,272nm,21.0s						
RCBR	Riachuelo	95.42	108	PFAKE			10 00 30.0 +7.6
RCBR				LR		LR	
	comp=Z,535nm,19.0s						
W23A	Werner Place,	95.45	30	⇓P		P	10 00 22.1 0.0
	baz=96						
WAKR	Walker	95.46	19	eP		P	10 00 22.8 +0.7
TPH	Tonopah	95.48	21	PFAKE			10 00 30.0 +7.9
TPH				LR		LR	
	comp=Z,211nm,20.0s						
X26A	CR and CF Fran	95.59	32	⇑P		P	10 00 22.5 -0.2
	baz=96						
NVAR	Mina Array Bea	95.60	20	P		P	10 00 21.9 -0.8
NVAR				PP		PP	10 04 14.3 -0.2
NVAR				PKKPbc		PKKPbc	10 17 13.4 +0.5
NVAR	Mina Array Bea	95.60	20	P		P	10 00 21.9 -0.8
	comp=Z,3.2nm,1.0s,baz=201,slow=6.6,SNR=15						
NVAR				PP		PP	10 04 14.3 -0.2
	comp=Z,0.8nm,0.9s,baz=199,slow=9.5,SNR=5.0						
NVAR				PKKPbc		PKKPbc	10 17 13.4 +0.5
	comp=Z,0.3nm,0.7s,baz=27,slow=3.6,SNR=3.9						
Y29A	Porterfield Fa	95.63	34	⇓P		P	10 00 22.9 +0.1
	baz=96						
Z31A	Sharp Cattle R	95.63	36	⇓P		P	10 00 23.0 +0.3
	baz=96						
W24A	Lazy 6 Ranch,	95.72	31	⇓P		P	10 00 23.5 +0.2
	baz=96						
SDDR	Presa de Saban	95.80	65	eP		P	10 00 24.7 +0.9
	comp=Z,55nm,1.6s						
SDDR				LR		LR	
	comp=Z,433nm,21.0s						
CCUT	Cedar City	95.82	24	eP		P	10 00 24.9 +1.2
	comp=Z,3.8nm,1.1s						
Z32A	Haskell	95.85	36	⇓P		P	10 00 24.2 +0.5
	baz=96,SNR=11						
OHCM	Honcut	95.90	17	eP		P	10 00 24.2 +0.5
X27A	F and S Farms,	95.90	33	⇓P		P	10 00 24.5 +0.5
	baz=96						
V22A	San Miguel Ran	95.94	29	⇓P		P	10 00 24.8 +0.5
	baz=96,SNR=11						
V23A	Ortiz Mt. (NFS	95.99	30	⇑P		P	10 00 25.1 +0.5
	baz=96						
W25A	X Bar L Ranch,	96.01	32	⇓P		P	10 00 24.4 -0.2
	baz=96						
ARUT	Antelope Range	96.03	24	eP		P	10 00 25.3 +0.7
ARUT					pmax	pmax	
	comp=Z,69nm,1.1s						
ARUT	Antelope Range	96.03	24	eP		P	10 00 25.3 +0.7
	comp=Z,69nm,1.1s						
X28A	Dimmitt	96.06	34	⇓P		P	10 00 24.9 +0.1
	baz=96						
R11A	Troy Canyon, C	96.08	22	eP		P	10 00 25.6 +0.8
	comp=Z,5.2nm,1.3s						
R11A	Troy Canyon, C	96.08	22	⇓P		P	10 00 25.3 +0.4
	baz=96,SNR=5.7						
W26A	Owens Ranch, T	96.10	32	⇓P		P	10 00 25.0 +0.1
	baz=96						
X29A	Tulia	96.15	34	⇑P		P	10 00 25.2 0.0
	baz=97						
NATX	Nacogdoches	96.17	40	PFAKE			10 00 40.0 +15
NATX				LR		LR	
	comp=Z,341nm,21.0s						
Y31A	Rekieta Farm,	96.18	35	⇑P		P	10 00 25.5 +0.3
	baz=97,SNR=8.2						
BOSA	Boshof	96.21	170	P		P	10 00 24.4 -1.5
BOSA	Boshof	96.21	170	P		P	10 00 24.4 -1.5
	comp=Z,8.0nm,1.0s,baz=186,slow=9.0,SNR=4.3						
U21A	Nageezi	96.21	29	⇑P		P	10 00 25.7 +0.1
	baz=97,SNR=6.1						
V24A	Rampart Ranch,	96.24	31	⇓P		P	10 00 25.7 0.0
	baz=97,SNR=6.7						
W27A	Bowe Ranch, En	96.29	33	⇑P		P	10 00 26.2 +0.3
	baz=97						
U22A	Llaves	96.39	29	⇓P		P	10 00 26.6 +0.3
	baz=97						
Y32A	R-V Farms, Ver	96.49	36	⇑P		P	10 00 27.0 +0.4
	baz=97						
U23A	El Rito	96.53	30	⇓P		P	10 00 27.4 +0.4
	baz=97						
V25A	Rancho No Teng	96.54	31	⇑P		P	10 00 27.1 +0.1
	baz=97						
PAHR	Pah Rah Range	96.63	19	eP		P	10 00 28.2 +1.0
	comp=Z,9.8nm,1.1s						
MVCO	Mesa Verde	96.72	28	eP		P	10 00 27.9 +0.1
	comp=Z,5.2nm,0.9s						
MVCO				LR		LR	
	comp=Z,187nm,19.0s						
MVCO	Mesa Verde	96.72	28	⇓P		P	10 00 28.1 +0.3
	baz=97						
V26A	Tequesquite Ra	96.75	32	⇓P		P	10 00 27.6 -0.3
	baz=97,SNR=5.2						
T21A	Navajo Lake	96.78	29	⇑P		P	10 00 28.5 +0.4
	baz=97						
W29A	Amraillo	96.79	34	⇑P		P	10 00 28.3 +0.2
	baz=97						
X31A	McDonald Ranch	96.89	35	⇓P		P	10 00 28.8 +0.4
	baz=97						
T22A	Edith	96.97	29	⇓P		P	10 00 29.4 +0.4
	baz=97,SNR=5.6						
MVU	Marysvale	97.00	25	eP		Pdif	10 00 30.2 +1.0
	comp=Z,11nm,1.3s						
MVU				LR		LR	
	comp=Z,241nm,20.0s						
U25A	Circle Dot Ran	97.12	31	⇓P		Pdif	10 00 29.9 +0.2
	baz=98						
T23A	Casias Ranch,	97.24	30	⇑P		Pdif	10 00 30.8 +0.5
	baz=98						
U26A	Atchley Ranch,	97.31	32	⇑P		Pdif	10 00 31.1 +0.5
	baz=98						
S21A	Coal Bank Pass	97.33	28	⇑P		P	10 00 30.6 -0.1
	baz=98,SNR=5.8						
S20A	Disappointment	97.34	28	⇑P		Pdif	10 00 30.8 0.0
	baz=98						
WMOK	Wichita Mounta	97.39	36	PFAKE			10 00 40.0 +9.3
WMOK				LR		LR	
	comp=Z,172nm,20.0s						
BBGH	Gun Hill	97.41	78	PFAKE			10 00 40.0 +8.7
BBGH				LR		LR	
	comp=Z,646nm,20.0s						
T24B	San Luis	97.45	30	⇓P		Pdif	10 00 31.7 +0.4
	baz=98						
U27A	Thompson Grove	97.62	32	⇓P		Pdif	10 00 32.4 +0.5
	baz=98						
Q16A	Castle Valley	97.65	25	⇓P		Pdif	10 00 32.5 +0.5
	baz=98						
R20A	Redvale	97.67	27	⇓P		Pdif	10 00 32.4 +0.2
	baz=98						
S22A	4UR Ranch, Cre	97.68	29	⇓P		Pdif	10 00 33.3 +1.0
	baz=98						
BMN	Battle Mountai	97.75	20	PFAKE			10 00 40.0 +7.6
BMN				LR		LR	
	comp=Z,211nm,19.0s						
GRTK	Grand Turk	97.97	64	PFAKE			10 00 40.0 +6.4
GRTK				LR		LR	
	comp=Z,339nm,21.0s						
V31A	Spring Creek L	97.97	35	⇓P		Pdif	10 00 34.7 +1.3
	baz=98						
S24A	Houchin Ranch,	98.04	30	⇓P		Pdif	10 00 34.9 +0.9
	baz=98						
SDCO	Great Sand Dun	98.05	30	PFAKE			10 00 50.0 +16
SDCO				LR		LR	
	comp=Z,124nm,20.0s						
R21A	Cimarron	98.06	28	⇓P		Pdif	10 00 34.5 +0.5
	baz=98						
R22A	Saguache, Gunn	98.15	29	⇓Pdiff		Pdif	10 00 34.6 +0.2
	baz=99						
VBMS	Vicksburg	98.17	43	PFAKE			10 00 50.0 +16
VBMS				LR		LR	
	comp=Z,288nm,19.0s						
S26A	Kim	98.53	31	⇓Pdiff		Pdif	10 00 37.3 +1.4
	baz=99						
P19A	Cripple Cowboy	98.87	27	⇓Pdiff		Pdif	10 00 38.2 +0.7
	baz=99						
P20A	De Beque	98.90	27	⇓Pdiff		Pdif	10 00 38.1 +0.6
	baz=99						
P21A	Newcastle	99.17	28	⇑Pdiff		Pdif	10 00 40.2 +1.4
	baz=100						
R27A	Eads	99.35	32	⇓Pdiff		Pdif	10 00 40.7 +1.2
	baz=100						
WVOR	Wild Horse Val	99.41	19	PFAKE			10 00 50.0 +10
WVOR				LR		LR	
	comp=Z,218nm,20.0s						
P22A	Eagle	99.42	28	⇓Pdiff		Pdif	10 00 40.7 +0.7
	baz=100						
O20A	White River Ci	99.54	27	⇑Pdiff		Pdif	10 00 42.3 +1.9
	baz=100						
ANWB	Willy Bob	99.84	73	PFAKE			10 00 50.0 +8.0
ANWB				LR		LR	
	comp=Z,350nm,20.0s						
ISCO	Idaho Springs	99.93	29	PFAKE			10 00 50.0 +7.7
ISCO				LR		LR	
	comp=Z,253nm,20.0s						
O22A	Kremmling	100.01	28	⇓Pdiff		Pdif	10 00 43.3 +0.6
	baz=100						
KSM	Kuching	100.25	258	PFAKE			10 00 50.0 +6.0
KSM				LR		LR	
	comp=Z,450nm,20.0s						
LRAL	Lakeview Retre	100.31	46	PFAKE			10 01 00.0 +16
LRAL				LR		LR	
	comp=Z,203nm,21.0s						
KKM	Kota Kinabalu	100.61	265	PFAKE			10 01 00.0 +14
KKM				LR		LR	
	comp=Z,344nm,20.0s						
OXF	Oxford	100.62	43	PFAKE			10 01 00.0 +15
OXF				LR		LR	
	comp=Z,225nm,19.0s						
L18A	Fontenelle, Gr	100.77	25	⇓Pdiff		Pdif	10 00 48.0 +2.2
	baz=101						
M20A	Sweetwater, Wa	100.82	26	⇑Pdiff		Pdif	10 00 48.6 +2.5
	baz=101						
AHID	Auburn Hatcher	101.31	24	PFAKE			10 01 00.0 +12
AHID				LR		LR	
	comp=Z,218nm,20.0s						
PDAR	Pinedale Array	101.68	25	P		Pdif	10 00 49.8 -0.1
PDAR	Pinedale Array	101.68	25	P		Pdif	10 00 49.8 -0.1
	comp=Z,0.5nm,0.8s,baz=191,slow=4.5,SNR=3.7						
BMO	Blue Mountains	102.00	19	PFAKE			10 01 00.0 +8.9
BMO				LR		LR	
	comp=Z,170nm,19.0s						
OGNE	Ogallala	102.02	31	PFAKE			10 01 00.0 +8.7
OGNE				LR		LR	
	comp=Z,132nm,20.0s						
KSU1	Kansas State U	102.07	36	PFAKE			10 01 00.0 +8.6
KSU1				LR		LR	
	comp=Z,211nm,19.0s						
LKWY	Lake	103.18	24	PFAKE			10 01 10.0 +13
LKWY				LR		LR	
	comp=Z,426nm,20.0s						
BOZ	Bozeman (W)	103.92	23	PFAKE			10 01 10.0 +10
BOZ				LR		LR	
	comp=Z,174nm,19.0s						
RLMT	Red Lodge	103.97	24	PFAKE			10 01 10.0 +10
RLMT				LR		LR	
	comp=Z,292nm,20.0s						
NEW	Newport	105.32	18	PFAKE			10 05 30.0
NEW				LR		LR	
	comp=Z,304nm,20.0s						
CNNC	Cliffs of the	106.11	51	PFAKE			10 05 30.0
CNNC				LR		LR	
	comp=Z,223nm,20.0s						
LAO	LASA Array	106.18	26	PFAKE			10 05 30.0
LAO				LR		LR	
	comp=Z,143nm,19.0s						
ECSD	EROS Data Cent	106.23	34	PFAKE			10 05 30.0
ECSD				LR		LR	
	comp=Z,254nm,19.0s						
EGMT	Eagleton	106.59	23	PFAKE			10 05 30.0
EGMT				LR		LR	
	comp=Z,207nm,20.0s						
BLA	Blacksburg	106.65	48	PFAKE			10 05 30.0
BLA				LR		LR	
	comp=Z,293nm,19.0s						
JFWS	Jewell Farm	107.66	38	PFAKE			10 05 40.0
JFWS				LR		LR	
	comp=Z,178nm,19.0s						
ACSO	Alum Creek Sta	108.13	45	PFAKE			10 05 40.0
ACSO				LR		LR	
	comp=Z,218nm,20.0s						
KULM	Kulim	108.77	252	PFAKE			10 05 40.0
KULM				LR		LR	
	comp=Z,478nm,21.0s						
CBN	Corbin	108.80	50	PFAKE			10 05 40.0
CBN				LR		LR	
	comp=Z,214nm,21.0s						
MCWV	Mont Chateau	108.95	47	PFAKE			10 05 40.0
MCWV				LR		LR	
	comp=Z,188nm,21.0s						
LSZ	Lusaka	109.68	172	PFAKE			10 05 40.0
LSZ				LR		LR	
	comp=Z,148nm,20.0s						
BBSR	BB Station	110.11	62	PFAKE			10 05 40.0
BBSR				LR		LR	
	comp=Z,127nm,20.0s						
AGMN	Agassiz Nation	110.55	32	PFAKE			10 05 40.0
AGMN				LR		LR	
	comp=Z,187nm,19.0s						
ERPA	Erie	110.94	46	PFAKE			10 05 40.0
ERPA				LR		LR	
	comp=Z,145nm,19.0s						
BINY	Binghamton	112.69	48	PFAKE			10 05 40.0
BINY				LR		LR	
	comp=Z,248nm,20.0s						
MAJO	Matsushiro	112.79	301	PFAKE			10 05 40.0
MAJO				LR		LR	
	comp=Z,172nm,20.0s						
FFC	Flin Flon	114.64	25	PFAKE			10 05 50.0 +13
FFC				LR		LR	
	comp=Z,113nm,19.0s						
ERM	Erimo	114.79	308	PFAKE			10 05 50.0 +13
ERM				LR		LR	
	comp=Z,284nm,19.0s						
LONY	Lake Ozonia	115.25	48	PFAKE			10 05 50.0 +12
LONY				LR		LR	
	comp=Z,212nm,20.0s						
LBNH	Lisbon	116.09	50	PFAKE			10 05 50.0 +10
LBNH				LR		LR	
	comp=Z,292nm,19.0s						
PETK	Petropavlovsk-	118.05	324	PKIKP		PKPdf	10 05 41.7 -1.6
PETK	Petropavlovsk-	118.05	324	PKP		PKPdf	10 05 41.7 -1.6
PETK	Petropavlovsk-	118.05	324	PKP		PKPdf	10 05 41.7 -1.6
	comp=Z,6.8nm,0.8s,baz=136,slow=4.5,SNR=8.1						
PKME	Peaks-Kenny Pk	118.06	50	PFAKE			10 06 00.0 +16
PKME				LR		LR	
	comp=Z,173nm,19.0s						
MSEY	Mahe Island	118.41	202	PFAKE			10 06 00.0 +15
MSEY				LR		LR	
	comp=Z,188nm,19.0s						
YKA	Yellowknife Ar	119.37	15	PKP		PKPdf	10 05 43.9 -1.7
YKA				PKKPbc		PKKPab	10 15 57.2 +0.4
YKA	Yellowknife Ar	119.37	15	PKP		PKPdf	10 05 43.9 -1.7
	comp=Z,2.3nm,1.0s,baz=180,slow=1.2,SNR=3.5						
YKA				PKKPbc		PKKPab	10 15 57.2 +0.4
	comp=Z,1.0nm,0.8s,baz=20,slow=5.1,SNR=3.8						
SACV	Santiago Islan	119.37	107	PFAKE			10 06 00.0 +13
SACV				LR		LR	
	comp=Z,275nm,22.0s						
INCN	Inchon	119.42	294	PFAKE			10 06 00.0 +13
INCN				LR		LR	
	comp=Z,158nm,19.0s						
ILAR	Eielson Array	119.46	359	PKP		PKPdf	10 05 44.3 -1.4
ILAR				PKKPbc		PKKPab	10 15 56.2 0.0
ILAR	Eielson Array	119.46	359	PKP		PKPdf	10 05 44.3 -1.4
	comp=Z,8.2nm,1.0s,baz=230,slow=1.4,SNR=41						
ILAR				PKKPbc		PKKPab	10 15 56.2 0.0
	comp=Z,0.6nm,0.8s,baz=334,slow=4.0,SNR=6.8						
COLA	College	119.58	358	ePKIKP		PKPdf	10 05 44.7 -1.2
COLA	College	119.58	358	ePKPdf		PKPdf	10 05 44.7 -1.2
CMAR	Chiang Mai Arr	120.47	258	PKP		PKPdf	10 05 47.8 -1.3
CMAR	Chiang Mai Arr	120.47	258	PKP		PKPdf	10 05 47.8 -1.3
	comp=Z,1.2nm,0.4s,baz=198,slow=1.8,SNR=10						
CHTO	Chiang Mai	120.75	259	PFAKE			10 06 00.0 +10
CHTO				LR		LR	
	comp=Z,182nm,21.0s						
IM04	Indian Mountai	120.88	355	ePKPdf		PKPdf	10 05 48.0 -0.5
IMA2	Indian Mountai	120.97	355	ePKPdf		PKPdf	10 05 48.2 -0.5
DBIC	Dimbokro	121.76	130	PKP		PKPdf	10 05 50.7 -1.1
DBIC	Dimbokro	121.76	130	PKP		PKPdf	10 05 50.7 -1.1
	comp=Z,6.6nm,0.9s,baz=188,slow=2.9,SNR=4.0						
GYA	Guiyang	122.30	271	ePdif		Pdif	10 02 23.3 +1.4
GYA				PKP		PKiKP	10 05 53.8 +1.1
GYA				PP		PP	10 07 35.0 +6.4
GYA				PKS		PKSdf	10 09 31.5 +2.1
GYA				SKKS			10 14 25.5
GYA				SS		SS	10 24 11.3 +2.7
GYA				AMB		AMB	
	comp=Z,140nm,7.9s						
GYA				LR		LR	
	comp=N,290nm,20.2s						
GYA				LR		LR	
	comp=E,150nm,21.8s						
GYA				LR		LR	
	comp=Z,280nm,20.3s						
MDJ	Mudanjiang	123.17	302	PKP		PKPdf	10 05 56.0 +2.5
MDJ				PP		PP	10 07 37.3 +3.0
MDJ				PKS		PKSdf	10 09 32.8 +2.9
MDJ				SKS		SKSdf	10 13 10.3 +5.4
MDJ				LR		LR	
	comp=N,26nm,16.9s						
MDJ				LR		LR	
	comp=E,42nm,15.9s						
MDJ				LR		LR	
	comp=Z,29nm,17.4s						
MDJ	Mudanjiang	123.17	302	PFAKE			10 06 00.0 +6.5
MDJ				LR		LR	
	comp=Z,124nm,20.0s						
KMI	Kunming	123.53	267	PKP		PKPdf	10 05 55.3 +0.2
KMI				LR		LR	
	comp=Z,170nm,31.1s						
KMBO	Kilima Mbogo	124.06	181	PFAKE			10 06 10.0 +13
KMBO				LR		LR	
	comp=Z,162nm,22.0s						
MBAR	Mbarara	124.41	173	PFAKE			10 06 10.0 +13
MBAR				LR		LR	
	comp=Z,843nm,22.0s						
CN2	Changchun	124.66	298	ePKP		PKPdf	10 05 53.5 -2.8
CN2				PP		PP	10 07 46.0 +1.7
CN2				LR		LR	
	comp=N,200nm,17.0s						
CN2				LR		LR	
	comp=E,200nm,17.0s						
CN2				LR		LR	
	comp=Z,200nm,19.0s						
BJT	Baijiatuau	126.87	289	PFAKE			10 06 10.0 +9.3
BJT				LR		LR	
	comp=Z,183nm,21.0s						
CD2	Chengdu	127.32	272	PKP		PKPdf	10 06 03.5 +1.6
CD2				PP		PP	10 08 07.5 +5.4
CD2				PKS		PKSdf	10 09 38.8 +0.2
CD2				SKS		SKSdf	10 13 12.8 -0.7
CD2				SKKS		SKKSac	10 14 58.5 -0.7
CD2				SS		SS	10 25 15.0 +3.3
CD2				AMB		AMB	
	comp=Z,90nm,8.3s						
CD2				LR		LR	
	comp=N,310nm,10.1s						
CD2				LR		LR	
	comp=Z,380nm,13.1s						
HHC	Hu-ho-hao-te	129.97	287	ePKP		PKPdf	10 06 10.8 +4.1
HHC				PP		PP	10 08 26.8 +7.2
HHC				PKS		PKSdf	10 09 46.5 +3.3
HHC				SKS		SKSdf	10 13 22.0 +3.9
HHC				SKKS		SKKSac	10 15 19.3 +3.8
HHC				AMB		AMB	
	comp=Z,83nm,8.3s						
HHC				LR		LR	
	comp=N,670nm,16.7s						
HHC				LR		LR	
	comp=E,720nm,17.8s						
HHC				LR		LR	
	comp=Z,580nm,20.2s						
TORD	Torodi Ar. Bea	130.37	134	PKPpre		PKPpre	10 05 56.6
TORD				PKP		PKPdf	10 06 06.8 -1.3
TORD	Torodi Ar. Bea	130.37	134	PKhKP		PKPpre	10 05 56.6
	comp=Z,1.4nm,1.0s,baz=210,slow=1.8,SNR=4.1						
TORD				PKP		PKPdf	10 06 06.8 -1.3
	comp=Z,5.4nm,1.1s,baz=229,slow=1.7,SNR=12						
LZH	Lanzhou	131

comp=Z,140nm,5.0s
LZH LR LR
comp=N,170nm,18.0s
LZH LR LR
comp=E,220nm,18.3s
LZH LR LR
comp=Z,230nm,20.1s
HIA Hailar 131.26 300 PFAKE 10 06 20.0 +11
HIA LR LR
comp=Z,185nm,19.0s
LSA Lhasa 133.65 260 PFAKE 10 06 30.0 +15
LSA LR LR
comp=Z,197nm,20.0s
GTA Gaotai 135.62 277 PKP **PKPdf 10 06 17.8 +0.3**
GTA sPKP 10 06 24.8
ULN Ulaanbaatar 136.97 291 PFAKE 10 06 30.0 +10
ULN LR LR
comp=Z,122nm,20.0s
SONM Songino Array 137.31 291 PKPpre PKPpre 10 06 08.0
SONM Songino Array 137.31 291 PKhKP PKPpre 10 06 07.9
comp=Z,0.5nm,0.7s,baz=141,slow=4.8,SNR=3.0
ZAK Zakamensk 140.45 292 *e*PKHKP PKPpre 10 06 15.4
ZAK pmax pmax
comp=Z,3.0nm,1.2s
TAM Tamanrasset 140.58 132 PFAKE 10 06 40.0 +13
TAM LR LR
comp=Z,153nm,21.0s
TLY Talaya 140.97 294 *e*PKHKP PKPpre 10 06 18.5
TLY pmax pmax
comp=Z,8.0nm,1.5s
RTC Rabat Centre 143.61 107 PFAKE 10 06 40.0 +8.0
RTC LR LR
comp=Z,194nm,20.0s
MDT Midelt 143.95 111 PKP PKPbc 10 06 31.1 +0.5
MDT Midelt 143.95 111 PKP PKPbc 10 06 31.1 +0.5
comp=Z,27nm,1.1s,baz=209,slow=3.3,SNR=39
PFVI Vila Bisbo 144.80 102 *e*PKP PKPbc 10 06 33.4 +0.4
MORF Marmelete 145.02 102 *e*PKP **PKPdf 10 06 34.4 0.0**
PTEO Sao Teotonio 145.15 101 *e*PKP **PKPdf 10 06 35.0 +0.5**
PBDV Barranco-do-Ve 145.38 102 *e*PKP **PKPab 10 06 35.6 +0.5**
WMQ Urumqi 145.40 273 PKPbc **PKPbc 10 06 33.3 -1.6**
WMQ LR LR
comp=N,110nm,26.0s
WMQ LR LR
comp=E,290nm,36.0s
WMQ LR LR
comp=Z,74nm,28.0s
PCVE Castro Verde 145.60 102 *e*PKP **PKPab 10 06 36.3 +0.4**
PVAQ Vaqueiros 145.62 102 *e*PKP **PKPbc 10 06 35.6 0.0**
SUMG Summit 145.63 31⇑ *i*PKP2 **PKPdf 10 06 34.8 0.0**
SUMG pmax pmax
comp=Z,63nm,1.0s
SUMG Summit 145.63 31⇑ *i*P **PKPdf 10 06 34.8 0.0**
comp=Z,63nm,1.0s
SUMG Summit 145.63 31 *e*PKPbc **PKPdf 10 06 34.7 -0.1**
PNCL Nicolau / Gran 145.66 101 *e*PKP **PKPab 10 06 36.2 +0.2**
PBEJ Beja 145.97 101 *e*PKP **PKPab 10 06 37.3 +0.1**
HVS Khovu-Aksy 146.03 288*c i*PKP2 **PKPdf 10 06 34.7 -1.0**
EVOP Sao Brissos 146.17 101 *e*PKIKP **PKPdf 10 06 36.4 +0.2**
EVOP Sao Brissos 146.17 101 *e*PKPdf **PKPdf 10 06 36.4 +0.2**
EVO Evora 146.24 101 *e*PKIKP **PKPdf 10 06 36.4 0.0**
comp=Z,76nm,1.1s
EVO *e*R
comp=Z,170nm,20.5s
PMTG Montargil 146.49 100 *e*PKP **PKPbc 10 06 38.2 0.0**
PBAR Barrancos 146.54 102 *e*PKP **PKPbc 10 06 38.5 +0.1**
PESTR Estremoz 146.71 101 *e*PKP **PKPbc 10 06 39.1 +0.2**
PTOM Tomar 146.75 99 *e*PKP **PKPbc 10 06 39.4 +0.4**
PMRV Marv??o 147.21 100 *e*PKP **PKPbc 10 06 39.6 -0.7**
PCBR Castelo Branco 147.44 99 *e*PKP **PKPbc 10 06 41.1 +0.2**
MTE Manteigas 147.77 99 *e*PKP **PKPbc 10 06 41.5 -0.4**
MTE Manteigas 147.77 99 *e*PKPdf **PKPdf 10 06 38.9 -0.1**
MTE *e*PKPbc **PKPbc 10 06 41.9 +0.1**
MTE *e*PKPab **PKPab 10 06 45.1 +0.8**
MTE LR LR
comp=Z,216nm,19.0s
PVIS Viseu 147.78 98 *e*PKP **PKPbc 10 06 41.7 -0.2**
PVRL Vila Real 148.25 97 *e*PKP **PKPbc 10 06 43.3 +0.2**
PGAV Gavieira, Arco 148.38 96 *e*PKP **PKPbc 10 06 43.1 -0.4**
MVO Moncorvo 148.57 98 *e*PKP **PKPbc 10 06 44.0 +0.1**
PAB San Pablo 149.00 103 *e*PKIKP **PKPdf 10 06 41.2 +0.1**
PAB *e* 10 06 45.4
PAB *e* 10 06 50.2
PAB MLR MLR
comp=Z,319nm,22.0s
PAB San Pablo 149.00 103 *e*PKPdf **PKPdf 10 06 41.1 +0.1**
PAB *e*PKPbc **PKPbc 10 06 45.4 +0.2**
PAB *e*PKPab **PKPab 10 06 50.2 +0.8**
PAB LR LR
comp=Z,319nm,22.0s
PBRG Braganca 149.15 97 *e*PKP **PKPbc 10 06 45.3 -0.1**
ESDC Sonseca Array 149.31 103 PKPbc **PKPbc 10 06 46.1 +0.3**
ESDC Sonseca Array 149.31 103 PKPbc **PKPbc 10 06 46.1 +0.3**
comp=Z,23nm,0.8s,baz=244,slow=1.7,SNR=50
ESLA Sonseca Array 149.31 103 *e*PKPdf **PKPdf 10 06 42.1 +0.6**
ESLA *e*PKPbc **PKPbc 10 06 46.1 +0.3**
ESLA *e*PKPab **PKPab 10 06 51.2 +0.7**
KSH Kashi 149.34 256 PKPbc **PKPbc 10 06 45.5 -0.5**
KSH PKS **PP 10 10 19.0 +0.3**
KSH PP PP 10 10 26.0 +7.3
KSH SKS **SKSdf 10 13 52.3 +2.7**
KSH SKKS **SKKSac 10 17 14.5 +5.2**
KSH AMB AMB
comp=Z,97nm,5.3s
KSH LR LR
comp=N,68nm,6.7s
KSH LR LR
comp=E,89nm,7.1s
KSH LR LR
comp=Z,71nm,10.0s
KBL Kabul 149.38 242 *e*PKIKP **PKPdf 10 06 41.6 -0.4**
KBL *e* 10 06 45.5
KBL Kabul 149.38 242 *e*PKPdf **PKPdf 10 06 41.6 -0.4**
KBL *e*PKPbc **PKPbc 10 06 45.5 -0.9**
KBL *e*PKPab **PKPab 10 06 51.3 +0.1**
MK31 Makanchi Array 150.23 273 *e*PKPbc **PKPbc 10 06 45.9 -1.9**
MKAR Makanchi Array 150.23 273 PKIKP **PKPbc 10 06 45.8 -2.0**
MKAR Makanchi Array 150.23 273 PKPbc **PKPbc 10 06 45.8 -2.0**
MKAR Makanchi Array 150.23 273 PKPbc **PKPbc 10 06 45.8 -2.0**
comp=Z,23nm,0.8s,baz=52,slow=2.0,SNR=16
ULHL Ulahol 151.00 261 P **PKPbc 10 06 49.5 -0.6**
SNR=16
TKM2 Tokmak 2 151.80 261 *e*PKIKP **PKPdf 10 06 45.4 -0.1**
TKM2 *e* 10 06 49.9
TKM2 MLR MLR
comp=Z,125nm,20.0s
TKM2 Tokmak 2 151.80 261 P **PKPbc 10 06 50.3 -1.6**
SNR=13
TKM2 Tokmak 2 151.80 261 *e*PKPdf **PKPdf 10 06 45.4 -0.1**
TKM2 *e*PKPbc **PKPbc 10 06 49.9 -1.9**
TKM2 *e*PKPab **PKPab 10 07 01.1 +0.1**
TKM2 LR LR
comp=Z,125nm,20.0s
UCH Uchtor 151.97 259 P **PKPbc 10 06 51.8 -0.8**
SNR=7.2
KBK Karagaybulak 152.00 260 P **PKPbc 10 06 51.3 -1.0**
SNR=5.8
ZALV Zalesovo Beam 152.14 288 PKIKP **PKPdf 10 06 41.3 -4.0**
ZALV 10 06 49.2
ZALV 10 06 59.1
ZALV Zalesovo Beam 152.14 288 PKP **PKPdf 10 06 41.2 -4.0**
ZALV PKPbc **PKPbc 10 06 49.1 -2.8**
ZALV PKPab **PKPab 10 06 59.1 -2.6**
ZALV Zalesovo Beam 152.14 288 PKP **PKPdf 10 06 41.2 -4.0**
comp=Z,0.6nm,0.4s,baz=52,slow=2.4,SNR=4.3
ZALV PKPbc **PKPbc 10 06 49.1 -2.8**
comp=Z,4.6nm,0.8s,baz=163,slow=1.5,SNR=11
ZALV PKPab **PKPab 10 06 59.1 -2.6**
comp=Z,9.9nm,0.9s,baz=126,slow=3.6,SNR=7.8
AAK Ala-Archa 152.25 260*c i*PKIKP **PKPbc 10 06 51.5 -1.3**
AAK pmax pmax
comp=Z,51nm,1.2s
AAK Ala-Archa 152.25 260 P **PKPbc 10 06 51.8 -1.1**
SNR=9.2
AAK Ala-Archa 152.25 260 *e*PKPdf **PKPdf 10 06 45.1 -1.0**
AAK *e*PKPbc **PKPbc 10 06 51.6 -1.3**
AAK *e*PKPab **PKPab 10 07 01.7 -1.1**
AAK LR LR
comp=Z,82nm,22.0s
FRU Bishkek 152.30 260 *e*PKIKP **PKPbc 10 06 52.0 -0.8**
FRU pmax pmax
comp=Z,40nm,1.3s
AML Almayashu 152.37 258 P **PKPbc 10 06 52.5 -0.9**
SNR=11
USP Ospenovka 152.64 261 P **PKPbc 10 06 52.2 -1.4**
SNR=15
EKS2 Erkin-Say 152.67 259 *e*PKIKP **PKPdf 10 06 45.8 -0.9**
EKS2 *e* 10 06 52.7
EKS2 MLR MLR
comp=Z,120nm,22.0s
EKS2 Erkin-Say 152.67 259 P **PKPbc 10 06 52.8 -0.9**
SNR=9.5
EKS2 Erkin-Say 152.67 259 *e*PKPdf **PKPdf 10 06 45.8 -0.9**
EKS2 *e*PKPbc **PKPbc 10 06 52.6 -1.1**
EKS2 *e*PKPab **PKPab 10 07 06.1 +1.6**
EKS2 LR LR
comp=Z,120nm,22.0s
NVS Novosibirsk 153.32 289 *e*PKIKP **PKPdf 10 06 43.9 -3.1**
NVS *e* 10 10 42.8
NVS pmax pmax
comp=Z,13nm,1.3s
NVS pmax pmax
comp=N,3.0nm,0.8s
NVS pmax pmax
comp=E,8.0nm,1.3s
KEST Kesra 153.34 125 PKP **PKPdf 10 06 47.4 -0.4**
KEST PKPab **PKPab 10 07 07.7 +0.2**
KEST Kesra 153.34 125 PKP **PKPdf 10 06 47.4 -0.4**
comp=E,1.6nm,1.0s,baz=32,slow=4.8,SNR=3.6
KEST PKPab **PKPab 10 07 07.7 +0.2**
comp=E,6.0nm,0.8s,baz=266,slow=1.3,SNR=11
ETSF Etsaut 153.37 102 *e*PKIKP **PKPdf 10 06 46.8 -0.8**
comp=E,19nm,0.9s
ETSF Etsaut 153.37 102 *e*PKIKP **PKPdf 10 06 46.8 -0.8**
ETSF Etsaut 153.37 102 *e*PKPdf **PKPdf 10 06 46.8 -0.8**
EPF Esparros 153.96 102 *e*PKIKP **PKPdf 10 06 48.0 -0.4**
comp=E,16nm,1.0s
EPF Esparros 153.96 102 *e*PKIKP **PKPdf 10 06 48.0 -0.4**
EPF Esparros 153.96 102 *e*PKPdf **PKPdf 10 06 48.0 -0.4**
KURK Kurchatov 154.29 278*c i*PKIKP **PKPbc 10 06 54.4 -2.4**
KURK pmax pmax
comp=Z,12nm,1.2s
KURK Kurchatov 154.29 278 *e*PKPdf **PKPdf 10 06 46.2 -2.3**
KURK *e*PKPbc **PKPbc 10 06 54.7 -2.1**
KURK *e*PKPab **PKPab 10 07 08.8 -2.1**
KURK LR LR
comp=Z,60nm,19.0s
EIL Elat 154.68 178 PKPbc **PKPbc 10 06 57.5 -0.7**
EIL PKPab **PKPab 10 07 13.6 +0.5**
EIL Elat 154.68 178 PKPbc **PKPbc 10 06 57.5 -0.7**
comp=Z,5.6nm,0.8s,baz=77,slow=3.6,SNR=4.4
EIL PKPab **PKPab 10 07 13.6 +0.5**
comp=Z,3.3nm,0.7s,baz=114,slow=5.9,SNR=4.7
KKAR Karatay Array 154.79 256 *e*PKIKP **PKPbc 10 06 56.9 -1.2**
KKAR Karatay Array 154.79 256 *e*PKPbc **PKPbc 10 06 56.9 -1.2**
MTLF Montolieu 155.21 104 *e*PKIKP **PKPdf 10 06 49.5 -0.6**
MTLF Montolieu 155.21 104 *e*PKPbc **PKPdf 10 06 49.5 -0.6**
MTLF Montolieu 155.21 104 *e*PKPdf **PKPdf 10 06 49.5 -0.6**
MFF Saint Martin d 155.82 95 *e*PKIKP **PKPdf 10 06 50.2 -0.5**
comp=Z,24nm,1.0s
MFF Saint Martin d 155.82 95 *e*PKIKP **PKPdf 10 06 50.2 -0.5**
MFF Saint Martin d 155.82 95 *e*PKPdf **PKPdf 10 06 50.2 -0.5**
RJF Les Rejaudoux 156.03 99 *e*PKIKP **PKPdf 10 06 50.8 -0.3**
comp=Z,38nm,1.3s
RJF *e*R
comp=Z,198nm,21.0s
RJF Les Rejaudoux 156.03 99 *e*PKIKP **PKPdf 10 06 50.8 -0.3**
RJF Les Rejaudoux 156.03 99 *e*PKPdf **PKPdf 10 06 50.8 -0.3**
CAF Calviac 156.11 101 *e*PKIKP **PKPdf 10 06 51.3 0.0**
comp=Z,29nm,1.2s
CAF Calviac 156.11 101 *e*PKIKP **PKPdf 10 06 51.3 0.0**
CAF Calviac 156.11 101 *e*PKPdf **PKPdf 10 06 51.3 0.0**
GRR Gorron 156.35 91 *e*PKIKP **PKPdf 10 06 50.5 -0.9**
comp=Z,29nm,1.2s
GRR Gorron 156.35 91 *e*PKIKP **PKPdf 10 06 50.5 -0.9**
GRR Gorron 156.35 91 *e*PKPdf **PKPdf 10 06 50.5 -0.9**
LASF Ste Croix 156.59 104 *e*PKIKP **PKPdf 10 06 51.7 -0.2**
LASF Ste Croix 156.59 104 *e*PKPdf **PKPdf 10 06 51.7 -0.2**
FLN La Foliniere 156.76 90 *e*PKIKP **PKPdf 10 06 50.9 -1.0**
comp=Z,54nm,1.4s
FLN *e*R
comp=Z,138nm,23.0s
FLN La Foliniere 156.76 90 *e*PKIKP **PKPdf 10 06 50.9 -1.0**
FLN La Foliniere 156.76 90 *e*PKPdf **PKPdf 10 06 50.9 -1.0**
LDF La Druitiere 156.88 91 *e*PKIKP **PKPdf 10 06 51.1 -1.0**
comp=Z,34nm,1.1s
LDF La Druitiere 156.88 91 *e*PKIKP **PKPdf 10 06 51.1 -1.0**
LDF La Druitiere 156.88 91 *e*PKPdf **PKPdf 10 06 51.1 -1.0**
LBL Lubilhac 156.96 101 PKP **PKPdf 10 06 53.2 +0.8**
TCF Toulx Ste Croi 156.99 98 *e*PKIKP **PKPdf 10 06 51.8 -0.5**
comp=Z,26nm,1.2s
TCF Toulx Ste Croi 156.99 98 *e*PKIKP **PKPdf 10 06 51.8 -0.5**
TCF Toulx Ste Croi 156.99 98 *e*PKPdf **PKPdf 10 06 51.8 -0.5**
PYM Petit Puy Mans 157.13 100 PKP **PKPdf 10 06 53.2 +0.6**
ASF Jabal al Asfar 157.18 182 PKPab **PKPab 10 07 23.6 -0.3**
ASF Jabal al Asfar 157.18 182 PKPab **PKPab 10 07 23.6 -0.3**
comp=Z,2.2nm,0.3s,baz=283,slow=2.4,SNR=6.8
AGO Saint Agoulin 157.38 100 PKP **PKPdf 10 06 53.2 +0.4**
SMRF Simiane la Rot 157.48 107 *e*PKIKP **PKPdf 10 06 52.1 -1.0**
SMRF Simiane la Rot 157.48 107 *e*PKPdf **PKPdf 10 06 52.1 -1.0**
BGF Bois d'Agland 157.51 98 *e*PKIKP **PKPdf 10 06 52.7 -0.3**
comp=Z,111nm,1.3s
BGF Bois d'Agland 157.51 98 *e*PKIKP **PKPdf 10 06 52.7 -0.3**
BGF Bois d'Agland 157.51 98 *e*PKPdf **PKPdf 10 06 52.7 -0.3**
VIVF Saint-Julien-l 157.54 104 *e*PKIKP **PKPdf 10 06 53.0 -0.1**
VIVF Saint-Julien-l 157.54 104 *e*PKIKP **PKPdf 10 06 53.0 -0.1**
VIVF Saint-Julien-l 157.54 104 *e*PKPdf **PKPdf 10 06 53.0 -0.1**
LMR La Mourre 157.57 109 *e*PKIKP **PKPdf 10 06 52.7 -0.4**
LMR La Mourre 157.57 109 *e*PKIKP **PKPdf 10 06 52.7 -0.4**
LMR La Mourre 157.57 109 *e*PKPdf **PKPdf 10 06 52.7 -0.4**
EKA Eskdalemuir Ar 157.75 73 PKPab **PKPab 10 07 24.9 -0.8**
EKA Eskdalemuir Ar 157.75 73 PKPab **PKPab 10 07 24.9 -0.8**
comp=Z,7.4nm,1.0s,baz=270,slow=0.8,SNR=7.3
FRF La Foret Royal 157.80 109 *e*PKIKP **PKPdf 10 06 53.0 -0.4**
comp=Z,42nm,1.3s
FRF La Foret Royal 157.80 109 *e*PKIKP **PKPdf 10 06 53.0 -0.4**
FRF La Foret Royal 157.80 109 *e*PKPdf **PKPdf 10 06 53.0 -0.4**
AVF Avril sur Loir 157.93 98 *e*PKIKP **PKPdf 10 06 52.8 -0.6**
comp=Z,42nm,1.3s
AVF Avril sur Loir 157.93 98 *e*PKIKP **PKPdf 10 06 52.8 -0.6**
AVF Avril sur Loir 157.93 98 *e*PKPdf **PKPdf 10 06 52.8 -0.6**
SMF Signal de Mont 158.12 99 *e*PKIKP **PKPdf 10 06 53.4 -0.3**
comp=Z,56nm,1.5s
SMF Signal de Mont 158.12 99 *e*PKIKP **PKPdf 10 06 53.4 -0.3**
SMF Signal de Mont 158.12 99 *e*PKPdf **PKPdf 10 06 53.4 -0.3**
SSF Saint Saulge 158.16 98 *e*PKIKP **PKPdf 10 06 53.2 -0.5**
comp=Z,36nm,1.3s
SSF Saint Saulge 158.16 98 *e*PKIKP **PKPdf 10 06 53.2 -0.5**
SSF Saint Saulge 158.16 98 *e*PKPdf **PKPdf 10 06 53.2 -0.5**
ORIF Oris-en-Rattie 158.25 105 *e*PKIKP **PKPdf 10 06 53.7 -0.3**
ORIF *e*R
comp=Z,183nm,22.5s
ORIF Oris-en-Rattie 158.25 105 *e*PKIKP **PKPdf 10 06 53.7 -0.3**
ORIF Oris-en-Rattie 158.25 105 *e*PKPdf **PKPdf 10 06 53.7 -0.3**
SBF Sospel 158.43 109 *e*PKIKP **PKPdf 10 06 53.7 -0.6**
comp=Z,52nm,1.3s
SBF Sospel 158.43 109 *e*PKIKP **PKPdf 10 06 53.7 -0.6**
SBF Sospel 158.43 109 *e*PKPdf **PKPdf 10 06 53.7 -0.6**
LOR Lormes 158.48 98 *e*PKIKP **PKPdf 10 06 53.9 -0.2**
comp=Z,51nm,1.3s
LOR *e*R
comp=Z,202nm,20.8s
LOR Lormes 158.48 98 *e*PKPdf **PKPdf 10 06 53.9 -0.2**
BNI Bardonecchia 158.78 106 PFAKE 10 07 10.0 +15
BNI LR LR
comp=Z,208nm,19.0s
IDI Anoyia 158.81 154 PKP **PKPdf 10 06 54.7 -0.3**
IDI PKPab **PKPab 10 07 30.7 -0.1**
IDI Anoyia 158.81 154 PKP **PKPdf 10 06 54.7 -0.3**
comp=Z,7.8nm,0.9s,baz=129,slow=4.8,SNR=5.6
IDI PKPab **PKPab 10 07 30.7 -0.1**
comp=Z,12nm,1.0s,baz=214,slow=10,SNR=6.4
LPG La Plagne 159.09 105 *e*PKIKP **PKPdf 10 06 55.7 +0.4**
comp=Z,21nm,0.9s
LPG La Plagne 159.09 105 *e*PKIKP **PKPdf 10 06 55.7 +0.4**
LPG La Plagne 159.09 105 *e*PKPdf **PKPdf 10 06 55.7 +0.4**
LPL La Plagne 159.09 105 *e*PKIKP **PKPdf 10 06 55.6 +0.4**
comp=Z,26nm,0.9s
LPL La Plagne 159.09 105 *e*PKIKP **PKPdf 10 06 55.6 +0.4**
LPL La Plagne 159.09 105 *e*PKPdf **PKPdf 10 06 55.6 +0.4**
SFTF Sexfontaines 159.65 97 *e*PKIKP **PKPdf 10 06 55.5 0.0**
comp=Z,54nm,1.3s
SFTF Sexfontaines 159.65 97 *e*PKPdf **PKPdf 10 06 55.5 0.0**
CUC Castrocucco 159.78 130 PFAKE 10 07 10.0 +14
CUC LR LR
comp=Z,118nm,19.0s
MEZF Maizieres J'vi 159.81 96 *e*PKIKP **PKPdf 10 06 55.6 0.0**
MEZF Maizieres J'vi 159.81 96 *e*PKPdf **PKPdf 10 06 55.6 0.0**
CSS Prodhromos 159.87 173 PFAKE 10 07 10.0 +14
CSS LR LR
comp=Z,134nm,22.0s
BRVK Borovoye 159.96 279 PFAKE 10 07 10.0 +14
BRVK LR LR
comp=Z,149nm,21.0s
SANT Santorini 159.98 154 PFAKE 10 07 10.0 +14
SANT LR LR
comp=Z,87nm,20.0s
BAIF Baives 160.07 91 *e*PKIKP **PKPdf 10 06 55.6 -0.2**
BAIF Baives 160.07 91 *e*PKIKP **PKPdf 10 06 55.6 -0.2**
BAIF Baives 160.07 91 *e*PKPdf **PKPdf 10 06 55.6 -0.2**
THEF They Montfort 160.21 97 PKP **PKPdf 10 06 56.4 +0.3**
LOMF Lomont 160.21 101 PKP **PKPdf 10 06 56.8 +0.6**
VLC Villacollemand 160.22 113 PFAKE 10 07 10.0 +14
VLC LR LR
comp=Z,95nm,19.0s
HAU Haudompre 160.29 98 *e*PKIKP **PKPdf 10 06 55.8 -0.4**
HAU *e*R
comp=Z,167nm,22.0s
HAU Haudompre 160.29 98 *e*PKIKP **PKPdf 10 06 55.8 -0.4**
HAU Haudompre 160.29 98 *e*PKPdf **PKPdf 10 06 55.8 -0.4**
GIVF Givet 160.44 92 *e*PKIKP **PKPdf 10 06 55.8 -0.5**
GIVF Givet 160.44 92 *e*PKIKP **PKPdf 10 06 55.8 -0.5**
GIVF Givet 160.44 92 *e*PKPdf **PKPdf 10 06 55.8 -0.5**
HINF Hinteralfeld 160.48 99 *e*PKIKP **PKPdf 10 06 57.0 +0.5**
comp=Z,13nm,1.0s
HINF Hinteralfeld 160.48 99 *e*PKIKP **PKPdf 10 06 57.0 +0.5**
HINF Hinteralfeld 160.48 99 *e*PKPdf **PKPdf 10 06 57.0 +0.5**
MOF Molkenrain 160.66 100 PKP **PKPdf 10 06 56.8 +0.1**
ECH Echery 160.87 99 PKP **PKPdf 10 06 57.0 +0.2**
WLF Walferdange 161.01 94 *e*PKPdf **PKPdf 10 06 56.8 -0.1**
WLF *e*PKPab **PKPab 10 07 41.0 +1.0**
WLF Walferdange 161.01 94 PFAKE 10 07 10.0 +13
WLF LR LR
comp=Z,175nm,21.0s
CDF Champ du Feu 161.04 98 *e*PKIKP **PKPdf 10 06 56.9 -0.2**
CDF Champ du Feu 161.04 98 *e*PKIKP **PKPdf 10 06 56.9 -0.2**
CDF Champ du Feu 161.04 98 *e*PKPdf **PKPdf 10 06 56.9 -0.2**
TUE Stuetta 161.12 106 *e*PKPdf **PKPdf 10 06 57.6 +0.1**
TUE LR LR
comp=Z,152nm,19.0s
BFO Black Forest 161.59 100 *e*PKPdf **PKPdf 10 06 57.1 -0.5**
BFO Black Forest 161.59 100 *e*PKIKP **PKPdf 10 06 57.1 -0.5**
BFO Black Forest 161.59 100 PFAKE 10 07 10.0 +12
BFO LR LR
comp=Z,78nm,20.0s
DAVOX Davos/Dischmat 161.60 106 PKP **PKPdf 10 06 57.6 -0.3**
DAVOX PKPab **PKPab 10 07 42.1 -0.9**
DAVOX Davos/Dischmat 161.60 106 PKP **PKPdf 10 06 57.6 -0.3**
comp=Z,13nm,0.9s,baz=194,slow=4.2,SNR=13
DAVOX PKPab **PKPab 10 07 42.1 -0.9**
comp=Z,7.5nm,0.8s,baz=295,slow=1.6,SNR=5.3
DAVA Damuels 161.90 104⇑ *i*PKPdf **PKPdf 10 06 58.0 -0.1**
comp=Z,16nm,0.8s,SNR=5.9
FETA Feichten 162.21 106⇑ *i*PKPdf **PKPdf 10 06 58.2 -0.3**
comp=Z,21nm,1.3s,SNR=7.9
STU Stuttgart 162.31 99 *e*PKPdf **PKPdf 10 06 57.8 -0.5**
ISP Isparta 162.40 165 PFAKE 10 07 10.0 +11
ISP LR LR
comp=Z,128nm,20.0s
BUG Bochum--Univer 162.42 90 *e*PKPdf **PKPdf 10 06 57.7 -0.6**
BUG *e*PKPab **PKPab 10 07 46.7 +0.6**
RETA Reutte 162.50 105⇑ *i*PKPdf **PKPdf 10 06 58.3 -0.3**
comp=Z,17nm,1.1s,SNR=5.5
TNS Taunus Mts 162.58 94 *e*PKPdf **PKPdf 10 06 58.2 -0.4**
TNS *e*PKPab **PKPab 10 07 47.8 +0.8**
TNS Taunus Mts 162.58 94 *e*PKIKP **PKPdf 10 06 58.2 -0.4**
MOTA Moosalm 162.61 106⇑ *i*PKPdf **PKPdf 10 06 58.4 -0.4**
comp=Z,22nm,0.9s,SNR=7.9
TIR Tirane 162.62 135 PFAKE 10 07 10.0 +11
TIR LR LR
comp=Z,126nm,19.0s
WTTA Wattenberg 162.86 107⇑ *i*PKPdf **PKPdf 10 06 58.5 -0.6**
comp=Z,25nm,1.2s,SNR=7.0
ABTA Abfaltersbach 163.03 109⇑ *i*PKPdf **PKPdf 10 06 58.5 -0.7**
comp=Z,14nm,1.0s
ROBS Robic 163.25 112 *e*PKPdf **PKPdf 10 06 58.4 -0.9**
UBBA Unterbreizbach 163.74 94 *e*PKPdf **PKPdf 10 06 58.6 -0.8**
UBBA *e*PKPab **PKPab 10 07 52.7 +0.9**
RJOB Jochberg 163.77 107 *e*PKPdf **PKPdf 10 06 58.4 -1.4**
RJOB *e*PKPab **PKPab 10 07 52.0 -0.3**
GRF Grafenberg Arr 163.93 99 *e*PKPdf **PKPdf 10 06 59.3 -0.5**
GRF *e*PKPab **PKPab 10 07 53.7 +0.8**
GRF Grafenberg Arr 163.93 99 *e*PKIKP **PKPdf 10 06 59.3 -0.5**
OBKA Obir 163.97 113⇑ *i*PKPdf **PKPdf 10 06 59.5 -0.6**
comp=Z,11nm,0.9s
SOKA Soboth 164.34 113⇑ *i*PKPdf **PKPdf 10 06 59.9 -0.5**
comp=Z,16nm,1.1s,SNR=6.0
PERS Pernice 164.35 114 *i* PKPdf **PKPdf 10 06 59.8 -0.6**
CLZ Clausthal 164.36 91 *e*PKPdf **PKPdf 10 06 59.3 -0.9**
CLZ *e*PKPab **PKPab 10 07 55.5 +0.8**
CLZ Clausthal 164.36 91 *e*PKIKP **PKPdf 10 06 59.3 -0.9**
NRDL Niedersach Rie 164.44 89 *e*PKPdf **PKPdf 10 06 59.0 -1.0**
NRDL *e*PKPab **PKPab 10 07 56.3 +1.4**
GROS Grobnik 164.44 115 *e*PKPdf **PKPdf 10 06 59.7 -0.8**
GROS *e*PKPab **PKPab 10 07 55.0 -0.3**
ROTZ Rotzenmuhle 164.52 100 *e*PKPdf **PKPdf 10 06 58.9 -1.4**
ROTZ *e*PKPab **PKPab 10 07 56.2 +0.7**
ROTZ *e*PP **PP 10 11 42.8 +0.5**
MOX Moxa 164.59 96 *e*PKPdf **PKPdf 10 06 59.2 -1.2**
MOX *e*PKPab **PKPab 10 07 56.4 +0.7**
MOX Moxa 164.59 96 *e*PKIKP **PKPdf 10 06 59.2 -1.2**
WET Wettzell 164.59 103 *e*PKPdf **PKPdf 10 06 59.3 -1.2**
WET *e*PKPab **PKPab 10 07 56.1 +0.3**
WET Wettzell 164.59 103 *e*PKIKP **PKPdf 10 06 59.3 -1.2**
BR131 Keskin Array S 164.63 173 *e*PKPdf **PKPdf 10 06 59.8 -1.2**
BRTR Keskin Array B 164.63 173 PKP **PKPdf 10 06 59.4 -1.6**
BRTR PKPab **PKPab 10 07 55.4 -0.9**
BRTR PP **PP 10 11 43.0 +0.7**
BRTR Keskin Array B 164.63 173 PKP **PKPdf 10 06 59.4 -1.6**
comp=Z,3.0nm,1.0s,baz=169,slow=1.3,SNR=14
BRTR PKPab **PKPab 10 07 55.4 -0.9**
comp=Z,6.3nm,1.1s,baz=183,slow=6.8,SNR=12
BRTR PP **PP 10 11 43.0 +0.7**
comp=Z,0.4nm,0.6s,baz=164,slow=6.4,SNR=3.7
ARCES ARCESS Array B 164.63 14 PKPab **PKPab 10 07 53.2 -2.1**
ARCES ARCESS Array B 164.63 14 PKPab **PKPab 10 07 53.2 -2.1**
comp=Z,5.4nm,1.1s,baz=290,slow=3.6,SNR=5.0
ANTO Ankara 164.70 170 PFAKE 10 07 10.0 +9.1
ANTO LR LR
comp=Z,77nm,22.0s
GEC2 GERESS Array S 164.89 105 *e*PKPdf **PKPdf 10 06 59.5 -1.3**
GEC2 *e*PKPab **PKPab 10 07 57.2 0.0**
GEC2 GERESS Array S 164.89 105 *e*PKIKP **PKPdf 10 06 59.5 -1.3**
GERES GERESS Array B 164.89 105 PKP **PKPdf 10 06 59.1 -1.7**
GERES PKPab **PKPab 10 07 57.3 0.0**
GERES GERESS Array B 164.89 105 PKP **PKPdf 10 06 59.1 -1.7**
comp=Z,2.4nm,0.9s,baz=190,slow=0.8,SNR=15
GERES PKPab **PKPab 10 07 57.3 0.0**
comp=Z,3.1nm,1.0s,baz=219,slow=3.4,SNR=8.4
TANN Tannenbergstha 164.97 98 *e*PKPdf **PKPdf 10 06 59.6 -1.2**
TANN *e*PKPab **PKPab 10 07 58.6 +1.1**
TANN *e*PP **PP 10 11 45.3 +0.5**
BSEG Bad Segeberg 164.98 83 *e*PKPdf **PKPdf 10 06 59.0 -1.5**
BSEG Bad Segeberg 164.98 83 *e*PKIKP **PKPdf 10 06 59.0 -1.5**
NB2 NORSAR Subarra165.54 55 PKP **PKPab 10 07 59.3 -0.4**
comp=Z,17nm,1.1s,baz=284,slow=4.4
NB2 NORSAR Subarra165.54 55 PKP **PKPab 10 07 59.3 -0.4**
baz=284,slow=4.4
NOA NORSAR Array B165.54 55 PKPab **PKPab 10 07 59.5 -0.1**
NOA NORSAR Array B165.54 55 PKPab **PKPab 10 07 59.5 -0.1**
comp=Z,5.9nm,0.9s,baz=286,slow=4.1,SNR=6.3
CONA Conrad Observa 165.56 111⇑ *i*PKPdf **PKPdf 10 06 59.8 -1.6**
comp=Z,11nm,1.4s
CLL Collm 165.66 95 *e*PKPdf **PKPdf 10 06 59.9 -1.3**
CLL *e*PKPab **PKPab 10 08 01.4 +1.0**
CLL Collm 165.66 95 *e*PKIKP **PKPdf 10 07 00.0 -1.3**
CLL *e* 10 08 01.0
CLL pmax pmax
comp=Z,18nm,1.3s
CLL pmax pmax
comp=Z,25nm,1.6s
CLL Collm 165.66 95 *e*PKPdf **PKPdf 10 07 00.0 -1.3**
comp=Z,18nm,1.3s
CLL *e*PKPab **PKPab 10 08 01.0 +0.6**
comp=Z,25nm,1.6s
CLL *e*PP **PP 10 11 48.0 -0.3**
BRG Berggiesshubel 166.02 98 *e*P **PKPdf 10 07 01.0 -0.6**
comp=Z,14nm,1.2s
BRG *e* 10 08 02.6
comp=Z,11nm,1.3s
BRG

comp=N,234nm,21.4s
BRG
comp=E,169nm,22.7s
BRG
comp=Z,276nm,19.4s
BRG Berggiesshubel 166.02 98 *e*PKPdf **PKPdf 10 07 00.3 -1.2**
BRG *e*PKPab **PKPab 10 08 02.7 +0.7**
BRG Berggiesshubel 166.02 98 *e*PKIKP **PKPdf 10 07 01.0 -0.6**
BRG *e* 10 08 02.6
BRG pmax pmax
comp=Z,14nm,1.2s
BRG pmax pmax
comp=Z,11nm,1.3s
BRG MLR MLR
comp=N,234nm,21.4s
BRG MLR MLR
comp=E,169nm,22.7s
BRG MLR MLR
comp=Z,276nm,19.4s
VRAC Vranov 166.74 107 PKP **PKPdf 10 07 00.0 -2.2**
VRAC Vranov 166.74 107 PKP **PKPdf 10 07 00.0 -2.2**
comp=Z,2.9nm,0.6s,baz=298,slow=1.3,SNR=6.0
PSZ Piszkesteto 167.66 118 PFAKE 10 07 10.0 +7.0
PSZ LR LR
comp=Z,140nm,21.0s
KBZ Khabaz 167.90 204 PKP2 **PKPab 10 08 09.3 -1.1**
KBZ Khabaz 167.90 204 PKPab **PKPab 10 08 09.2 -1.1**
KBZ Khabaz 167.90 204 PKPab **PKPab 10 08 09.2 -1.1**
comp=Z,3.9nm,1.0s,baz=192,slow=7.4,SNR=4.5
KIV Kislovodsk 168.16 204 ⇓*i*PKP2 **PKPab 10 08 10.0 -1.7**
KIV pmax pmax
comp=Z,20nm,1.3s
KECS Kecovo 168.33 118 *e*PKIKP **PKPdf 10 07 06.4 +3.1**
KECS *e* 10 08 12.0
KECS Kecovo 168.33 118 *e*PKP **PKPdf 10 07 06.4 +3.1**
KECS *e* 10 08 12.0
MLR Muntele Rosu 168.48 141 PKP **PKPdf 10 07 01.1 -2.6**
MLR PKPab **PKPab 10 08 12.6 -0.5**
MLR Muntele Rosu 168.48 141 PKP **PKPdf 10 07 01.1 -2.6**
comp=Z,2.2nm,1.1s,baz=237,slow=3.4,SNR=9.2
MLR PKPab **PKPab 10 08 12.6 -0.5**
comp=Z,5.8nm,1.1s,baz=95,slow=1.6,SNR=12
CRVS Cervenica-Dubn 169.09 118 *e*PKIKP **PKPdf 10 07 04.0 +0.2**
CRVS *e* 10 08 15.8
CRVS Cervenica-Dubn 169.09 118 *e*PKP **PKPdf 10 07 04.0 +0.2**
CRVS *e* 10 08 15.8
STHS Stebnicka Huta 169.30 115 *e*PKIKP **PKPdf 10 07 04.6 +0.6**
STHS Stebnicka Huta 169.30 115 *e*PKP **PKPdf 10 07 04.6 +0.6**
UZH Uzhgorod 169.34 121 *e*PKIKP **PKPdf 10 07 05.3 +1.4**
UZH *e* 10 08 15.0
KWP Kalwaria Pacla 170.19 118 PFAKE 10 07 10.0 +5.5
KWP LR LR
comp=Z,327nm,19.0s
FINES FINESS Array B 171.64 35 PKPab **PKPab 10 08 25.7 -0.9**
FINES FINESS Array B 171.64 35 PKPab **PKPab 10 08 25.7 -0.9**
comp=Z,5.5nm,0.8s,baz=339,slow=4.7,SNR=8.1
KLMR Klimovskoe 173.85 344 *e*PKIKP PKPdf 10 07 00.3 -5.4
KLMR pmax pmax
comp=Z,42nm,1.9s
AKASG Malin Array Be 174.00 133 PKIKP **PKPdf 10 07 03.9 -2.2**
AKASG 10 08 36.3
AKASG 10 12 25.9
AKASG Malin Array Be 174.00 133 PKP **PKPdf 10 07 03.9 -2.2**
AKASG PKPab **PKPab 10 08 36.3 -1.0**
AKASG PP **PP 10 12 25.9 -3.9**
AKASG Malin Array Be 174.00 133 PKP **PKPdf 10 07 03.9 -2.2**
comp=Z,1.2nm,0.6s,baz=280,slow=0.8,SNR=20
AKASG PKPab **PKPab 10 08 36.3 -1.0**
comp=Z,0.4nm,0.4s,baz=218,slow=4.5,SNR=11
AKASG PP **PP 10 12 25.9 -3.9**
comp=Z,0.3nm,0.3s,baz=218,slow=4.5,SNR=6.7

*IDC **25** 10:13:19.9±1.6, 51°.25N×178°.50E, h0km, mb3.9/12, mb1 4.1/15, mb1mx3.9/33, mbtmp4.0/15, ML3.7/3, MS3.5/2, Ms1 3.5/2, ms1mx2.9/44, Error ellipse: s-maj=40.9km s-min=10.8km az=10.0*
*ISCJB **25** 10:13:21.5±0.7, 50°.95N±0°.07×178°.18E±0°.06, h33km, mb3.9/12, MS4.1/1, Error ellipse: s-maj=10.5km s-min=5.3km az=178.6*
*NEIC **25** 10:13:23.0, 51°.11N×178°.32E, h5km, ML3.5(AEIC), After AEIC.*
ISC 25 10:13:23.5±0.8, 51°.12N±0°.10×178°.16E±0°.04, h33km, n45,
σ1§61/49, mb4.0/12, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.76**	**69**	P	**Pn**	**10 13 36.5**	**-1.4**
AMKA				S	**Sb**	**10 13 47.7**	**-0.7**
LSSE	**Little Sitkin**	**0.86**	**17**	P	**Pb**	**10 13 39.8**	**-0.1**
LSSA	**Little Sitkin**	**0.86**	**14**	P	**Pb**	**10 13 39.6**	**-0.4**
LSPA	**Little Sitkin**	**0.88**	**17**	P	**Pb**	**10 13 39.5**	**-0.8**
LSPA				S	**Sb**	**10 13 52.9**	**+1.2**
LSNW	**Little Sitkin**	**0.88**	**14**	P	**Pb**	**10 13 39.8**	**-0.5**
CESW	**Semis' Southwe**	**1.18**	**48**	P	**Pb**	**10 13 44.2**	**-1.1**
CETU	**Semis' Tuman**	**1.19**	**44**	P	**Pb**	**10 13 44.5**	**-1.0**
CERAA	**Semis' Rag'd T**	**1.24**	**50**	P	**Pb**	**10 13 45.0**	**-1.3**
CEAP	**Semis' Anvil P**	**1.25**	**44**	P	**Pb**	**10 13 45.6**	**-0.9**
SMY	**Shemya**	**2.99**	**304**	P	Pb	10 14 12.1	-3.9
SMY				S	**Sb**	**10 14 51.0**	**-1.1**
ADK	**Adak**	**3.31**	**75**	P	**Pn**	**10 14 13.3**	**+0.4**
ADK				S	**Sn**	**10 14 52.5**	**+1.5**
FX1	**Attu Island--F**	**3.56**	**302**	P	Pb	10 14 20.9	-4.8
FX1				S	**Sb**	**10 15 05.6**	**-2.8**
FX1	**Attu Island--F**	**3.56**	**302**	Pn	**Pn**	**10 14 16.6**	**+0.3**
	20nm,0.3s,baz=165,slow=3.3,SNR=50						
FX1				Sn	**Sn**	**10 14 59.4**	**+2.2**
	12nm,0.3s,baz=320,slow=21,SNR=3.4						
FX1				LR	LR	10 15 33.3	
	comp=Z,190nm,18.9s,baz=320,slow=36						
PETK	**Petropavlovsk-**	**12.73**	**287**	Pn	**Pn**	**10 16 24.6**	**+2.6**
PETK				Sn	**Sn**	**10 18 37.7**	**-4.8**
PETK	**Petropavlovsk-**	**12.73**	**287**	Pn	**Pn**	**10 16 24.6**	**+2.6**
	0.1nm,0.3s,baz=99,slow=19,SNR=3.0						
PETK				Sn	**Sn**	**10 18 37.7**	**-4.8**
	0.2nm,0.3s,baz=88,slow=16,SNR=5.1						
KDAK	**Kodiak Island**	**18.17**	**57**	P	**Pn**	**10 17 30.8**	**-2.0**
KDAK	**Kodiak Island**	**18.17**	**57**	P	**Pn**	**10 17 30.8**	**-2.0**
	0.8nm,0.3s,baz=92,slow=16,SNR=9.1						
WRH	**Wood River Hil**	**22.06**	**40**	P	**P**	**10 18 17.7**	**+2.6**
IL1	**Eielson Array**	**22.65**	**40**	P	**P**	**10 18 23.3**	**+1.9**
ILAR	**Eielson Array**	**22.65**	**40**	P	**P**	**10 18 19.6**	**-1.8**
ILAR	**Eielson Array**	**22.65**	**40**	P	**P**	**10 18 19.6**	**-1.8**
	1.1nm,0.8s,baz=236,slow=8.0,SNR=11						
INK	**Inuvik**	**28.77**	**35**	P	**P**	**10 19 16.9**	**-0.7**
INK	**Inuvik**	**28.77**	**35**	P	**P**	**10 19 16.9**	**-0.7**
	0.7nm,0.3s,baz=354,slow=30,SNR=18						
YKA	**Yellowknife Ar**	**36.79**	**46**	P	**P**	**10 20 27.5**	**-0.1**
YKA	**Yellowknife Ar**	**36.79**	**46**	P	**P**	**10 20 27.5**	**-0.1**
	0.9nm,0.8s,baz=280,slow=8.7,SNR=3.4						
SONM	**Songino Array**	**45.05**	**295**	P	**P**	**10 21 37.6**	**+1.7**
SONM	**Songino Array**	**45.05**	**295**	P	**P**	**10 21 37.6**	**+1.7**
	0.3nm,0.5s,baz=68,slow=13,SNR=2.7						
NVAR	**Mina Array Bea**	**45.48**	**80**	P	**P**	**10 21 39.5**	**-0.1**
NVAR	**Mina Array Bea**	**45.48**	**80**	P	**P**	**10 21 39.5**	**-0.1**
	0.2nm,0.4s,baz=286,slow=8.0,SNR=3.3						
PDAR	**Pinedale Array**	**48.20**	**70**	P	**P**	**10 22 00.7**	**-0.1**
PDAR	**Pinedale Array**	**48.20**	**70**	P	**P**	**10 22 00.7**	**-0.1**
	1.8nm,0.8s,baz=300,slow=4.5,SNR=16						
SPITS	**Spitsbergen Ar**	**50.49**	**355**	P	**P**	**10 22 17.9**	**+0.4**
SPITS	**Spitsbergen Ar**	**50.49**	**355**	P	**P**	**10 22 17.9**	**+0.4**
	14nm,1.0s,baz=53,slow=7.4,SNR=8.1						
ARCES	**ARCESS Array B**	**58.01**	**349**	P	**P**	**10 23 12.7**	**+0.4**
ARCES	**ARCESS Array B**	**58.01**	**349**	P	**P**	**10 23 12.7**	**+0.4**
	3.1nm,0.9s,baz=31,slow=7.5,SNR=5.1						
TXAR	**Lajitas Array**	**60.58**	**79**	P	**P**	**10 23 30.6**	**-0.2**
TXAR	**Lajitas Array**	**60.58**	**79**	P	**P**	**10 23 30.6**	**-0.2**
	0.2nm,0.5s,baz=356,slow=2.7,SNR=3.3						
FINES	**FINESS Array B**	**65.59**	**346**	P	**P**	**10 24 03.9**	**+0.5**
FINES	**FINESS Array B**	**65.59**	**346**	P	**P**	**10 24 03.9**	**+0.5**
	1.5nm,0.7s,baz=46,slow=4.0,SNR=3.3						
HFS	**Hagfors**	**68.40**	**352**	P	**P**	**10 24 21.7**	**+0.4**
HFS	**Hagfors**	**68.40**	**352**	P	**P**	**10 24 21.7**	**+0.4**
	2.5nm,0.8s,baz=60,slow=8.5,SNR=3.2						
PPT2	**Papeete2**	**74.03**	**148**	*e*LR	LR	10 25 19.6	
	408nm,31.8s						
AKASG	**Malin Array Be**	**75.18**	**340**	P	**P**	**10 25 02.5**	**+0.5**
AKASG	**Malin Array Be**	**75.18**	**340**	P	**P**	**10 25 02.5**	**+0.5**
	3.3nm,0.8s,baz=23,slow=5.9,SNR=5.1						
KEST	**Kesra**	**92.96**	**351**	LR	LR	11 05 58.0	
	comp=Z,75nm,21.6s,baz=248,slow=34						

*IDC **25** 10:16:01.8±0.8, 66°.67N×170°.59W, h0km, mb3.9/16, mb1 4.2/16, mb1mx4.1/27, mbtmp4.0/16, MS3.7/10, Ms1 3.7/10, ms1mx3.4/45, Error ellipse: s-maj=25.1km s-min=15.9km az=7.0*
*MOS **25** 10:16:02.1±0.9, 66°.91N×170°.20W, h10km, mb4.8/10, Error ellipse: s-maj=28.3km s-min=10.8km az=107.4*
*NEIC **25** 10:16:03.6, 67°.03N×169°.63W, h16km, mb4.7/6, ML4.3(AEIC), After AEIC.*
ISC 25 10:16:03.0±0.6, 66°.7N±0°.1×170°.32W±0°.06, h10km, n77,
σ1§39/72, mb4.3/30, MS3.8/8, 2C-5D, Near north coast of eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IM04	**Indian Mountai**	**6.69**	**89**	*e*Pn	**Pn**	**10 17 40.8**	**-0.4**
IM3	**Indian Mountai**	**6.70**	**89**	P	**Pn**	**10 17 41.1**	**-0.2**
IMA2	**Indian Mountai**	**6.71**	**88**	P	**Pn**	**10 17 40.6**	**-1.0**
TT01	**Tatalina**	**7.20**	**116**	P	**Pn**	**10 17 49.6**	**+1.4**
COLD	**Coldfoot**	**7.89**	**77**	P	**Pn**	**10 17 56.5**	**-1.2**
COLA	**College**	**9.39**	**91**	*i* P	**Pn**	**10 18 19.5**	**+1.4**
ILAR	**Eielson Array**	**9.81**	**91**	Pn	**Pn**	**10 18 23.8**	**-0.1**
ILAR				Sn	**Sn**	**10 20 13.2**	**-0.8**
ILAR				Lg	Lg	10 21 23.3	
ILAR	**Eielson Array**	**9.81**	**91**	Pn	**Pn**	**10 18 23.8**	**-0.1**
	0.9nm,0.3s,baz=290,slow=13,SNR=45						
ILAR				Sn	**Sn**	**10 20 13.2**	**-0.8**
	0.0nm,0.3s,baz=295,slow=20,SNR=2.5						
ILAR				Lg	Lg	10 21 23.3	
	baz=290,slow=32,SNR=3.3						
ILAR				LR	LR	10 22 39.7	
	comp=Z,175nm,19.8s,baz=81,slow=40						
BM3	**Burnt Mountain**	**10.02**	**74**	P	**Pn**	**10 18 25.0**	**-1.8**
KDAK	**Kodiak Island**	**12.14**	**129**	*e*Pn	Pn	10 19 00.0	+4.2
	204nm,1.8s						
HYT	**Haines Junctio**	**15.51**	**97**	*e*Pn	**Pn**	**10 19 37.7**	**-3.9**
FX1	**Attu Island--F**	**16.10**	**218**	LR	LR	10 25 24.6	
	comp=Z,301nm,19.2s,baz=46,slow=35						
SEY	**Seymchan**	**16.14**	**274**	⇓*i*P	**P**	**10 19 54.6**	**+1.8**
PETK	**Petropavlovsk-**	**20.72**	**244**	P	**P**	**10 20 40.5**	**-2.7**
PETK	**Petropavlovsk-**	**20.72**	**244**	P	**P**	**10 20 40.5**	**-2.7**
PETK	**Petropavlovsk-**	**20.72**	**244**	P	**P**	**10 20 40.5**	**-2.7**
	4.0nm,0.9s,baz=36,slow=11,SNR=3.8						
PETK				LR	LR	10 29 11.6	
	comp=Z,167nm,19.5s,baz=46,slow=38						
TIXI	**Tiksi**	**21.28**	**310**	*d* iP	**P**	**10 20 49.2**	**+0.1**
TIXI				pmax	pmax		
	comp=Z,29nm,1.0s						
YKA	**Yellowknife Ar**	**23.55**	**74**	P	**P**	**10 21 14.2**	**+1.1**
YKA	**Yellowknife Ar**	**23.55**	**74**	P	**P**	**10 21 14.2**	**+1.1**
	comp=Z,0.6nm,0.7s,baz=304,slow=9.8,SNR=1.8						
RES	**Resolute Bay**	**24.32**	**39**	LR	LR	10 30 19.1	
	comp=Z,126nm,21.1s,baz=205,slow=35						
HLID	**Hailey**	**37.62**	**100**	*e*P	**P**	**10 23 19.5**	**+1.7**
	comp=Z,6.1nm,1.1s						
QLMT	**Earthquake Lak**	**37.73**	**95**	*e*P	**P**	**10 23 16.1**	**-2.6**
USRK	**Ussuriysk Arra**	**37.78**	**263**	P	**P**	**10 23 17.5**	**-1.4**
	comp=Z,1.8nm,0.8s,baz=145,slow=34,SNR=3.2						
PDAR	**Pinedale Array**	**40.20**	**95**	P	**P**	**10 23 40.8**	**+1.3**
PDAR	**Pinedale Array**	**40.20**	**95**	P	**P**	**10 23 40.8**	**+1.3**
	comp=Z,4.1nm,1.1s,baz=340,slow=6.1,SNR=4.1						
PDAR				LR	LR	10 40 55.7	
	comp=Z,115nm,20.3s,baz=336,slow=37						
NVAR	**Mina Array Bea**	**40.53**	**108**	P	**P**	**10 23 43.5**	**+1.3**
NVAR	**Mina Array Bea**	**40.53**	**108**	P	**P**	**10 23 43.5**	**+1.3**
	comp=Z,1.7nm,0.9s,baz=320,slow=7.2,SNR=4.4						
MJAR	**Matsushiro Art**	**41.99**	**250**	LR	LR	10 43 45.4	
	comp=Z,140nm,19.1s,baz=20,slow=40						
MVU	**Marysvale**	**42.80**	**101**	*e*P	**P**	**10 23 58.8**	**-2.0**
	comp=Z,6.5nm,1.2s						
Q16A	**Castle Valley**	**42.85**	**100**	*e*P	**P**	**10 23 59.6**	**-1.6**
ARCES	**ARCESS Array B**	**43.56**	**352**	LR	LR	10 42 36.0	
	comp=Z,103nm,20.9s,baz=230,slow=37						
ZAK	**Zakamensk**	**43.87**	**293**	*e*P	**P**	**10 24 09.2**	**+0.1**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.4s						
SONM	**Songino Array**	**44.81**	**288**	P	**P**	**10 24 17.1**	**+0.4**
SONM	**Songino Array**	**44.81**	**288**	P	**P**	**10 24 17.1**	**+0.4**
	comp=Z,3.1nm,0.9s,baz=40,slow=7.1,SNR=16						
HVS	**Khovu-Aksy**	**46.64**	**300**	*i* P	**P**	**10 24 31.6**	**+0.5**
HVS				pmax	pmax		
	comp=Z,44nm,1.7s						
ZAA0	**Zalesovo Array**	**47.16**	**309**	*e*P	**P**	**10 24 34.8**	**-0.1**
ZALV	**Zalesovo Beam**	**47.16**	**309**	LR	LR	10 49 04.4	
	comp=Z,95nm,18.3s,baz=251,slow=42						
KLMR	**Klimovskoe**	**50.84**	**342**	*e*P	**P**	**10 25 02.5**	**-0.5**
KLMR				pmax	pmax		
	comp=Z,14nm,0.9s						
FINES	**FINESS Array B**	**51.56**	**350**	P	**P**	**10 25 08.3**	**-0.1**
FINES	**FINESS Array B**	**51.56**	**350**	P	**P**	**10 25 08.3**	**-0.1**
	comp=Z,3.5nm,0.9s,baz=30,slow=16,SNR=4.0						
ARU	**Arti**	**51.84**	**328**	*c* iP	**P**	**10 25 11.3**	**+0.7**
ARU						10 27 05.0	
ARU				S	**S**	**10 32 32.8**	**+0.4**
ARU				SS	**SS**	**10 36 04.8**	**-3.3**
ARU				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KURK	**Kurchatov**	**51.86**	**311**	⇓*i*P	**P**	**10 25 11.2**	**+0.4**
KURK				pmax	pmax		
	comp=Z,3.0nm,1.2s						
BRVK	**Borovoye**	**52.12**	**318**	*d* iP	**P**	**10 25 13.7**	**+0.9**
BRVK				pmax	pmax		
	comp=Z,6.0nm,1.2s						
BVAR	**Borovoye Array**	**52.12**	**318**	LR	LR	10 49 57.2	
	comp=Z,121nm,19.2s,baz=231,slow=39						
MKAR	**Makanchi Array**	**54.18**	**306**	P	**P**	**10 25 28.5**	**+0.4**
MKAR	**Makanchi Array**	**54.18**	**306**	P	**P**	**10 25 28.5**	**+0.4**
MKAR	**Makanchi Array**	**54.18**	**306**	P	**P**	**10 25 28.5**	**+0.4**
	comp=Z,1.6nm,1.0s,baz=38,slow=2.2,SNR=5.1						
TXAR	**Lajitas Array**	**54.21**	**99**	P	**P**	**10 25 28.9**	**+0.4**
TXAR	**Lajitas Array**	**54.21**	**99**	P	**P**	**10 25 28.9**	**+0.4**
	comp=Z,0.5nm,0.8s,baz=309,slow=4.2,SNR=4.6						
JCT	**Junction City**	**54.72**	**94**	*e*P	**P**	**10 25 30.2**	**-2.0**
JCT	**Junction City**	**54.72**	**94**	*e*P	**P**	**10 25 30.1**	**-2.0**
	comp=Z,7.7nm,0.9s						
OBN	**Obninsk**	**56.80**	**342**	*e*P	**P**	**10 25 46.1**	**-0.6**
OBN				pmax	pmax		
	comp=Z,7.0nm,0.9s						
EKA	**Eskdalemuir Ar**	**57.87**	**9**	P	**P**	**10 25 55.7**	**+1.4**
EKA	**Eskdalemuir Ar**	**57.87**	**9**	P	**P**	**10 25 55.7**	**+1.4**
	comp=Z,3.0nm,0.8s,baz=4.5,slow=5.3,SNR=5.5						
ABKAR	**Akbulak array**	**58.20**	**324**	*e*P	**P**	**10 25 54.0**	**-2.7**
	comp=Z,14nm,1.0s						
AAK	**Ala-Archa**	**60.36**	**310**	*c* iP	**P**	**10 26 13.2**	**+1.3**
AAK	**Ala-Archa**	**60.36**	**310**	*e*P	**P**	**10 26 12.4**	**+0.4**
	comp=Z,11nm,1.1s						
EKS2	**Erkin-Say**	**60.55**	**310**	*e*P	**P**	**10 26 13.9**	**+0.7**
EKS2				pmax	pmax		
	comp=Z,6.0nm,0.9s						
EKS2	**Erkin-Say**	**60.55**	**310**	*e*P	**P**	**10 26 13.9**	**+0.7**
	comp=Z,6.1nm,0.9s						
AKASG	**Malin Array Be**	**61.95**	**346**	P	**P**	**10 26 21.6**	**-0.7**
AKASG	**Malin Array Be**	**61.95**	**346**	P	**P**	**10 26 21.6**	**-0.7**
AKASG	**Malin Array Be**	**61.95**	**346**	P	**P**	**10 26 21.6**	**-0.7**
	comp=Z,1.2nm,0.4s,baz=11,slow=6.7,SNR=9.2						
KIEV	**Kiev**	**61.96**	**346**	*e*P	**P**	**10 26 21.3**	**-1.1**
GERES	**GERESS Array B**	**64.71**	**357**	P	**P**	**10 26 40.8**	**0.0**
GERES	**GERESS Array B**	**64.71**	**357**	P	**P**	**10 26 40.8**	**0.0**
	comp=Z,1.3nm,0.7s,baz=4.3,slow=5.4,SNR=5.7						
KIV	**Kislovodsk**	**66.79**	**335**	⇓*i*P	**P**	**10 26 55.3**	**+1.0**
KIV				pmax	pmax		
	comp=Z,17nm,0.9s						
KBZ	**Khabaz**	**66.97**	**334**	P	**P**	**10 26 56.1**	**+0.8**
KBZ	**Khabaz**	**66.97**	**334**	P	**P**	**10 26 56.1**	**+0.8**
KBZ	**Khabaz**	**66.97**	**334**	P	**P**	**10 26 56.1**	**+0.8**
	comp=Z,6.1nm,1.0s,baz=277,slow=3.1,SNR=8.6						
BRTR	**Keskin Array B**	**72.29**	**341**	P	**P**	**10 27 29.1**	**+0.8**
BRTR	**Keskin Array B**	**72.29**	**341**	P	**P**	**10 27 29.1**	**+0.8**
	comp=Z,1.3nm,0.7s,baz=37,slow=3.7,SNR=5.6						
ESDC	**Sonseca Array**	**73.41**	**11**	P	**P**	**10 27 37.0**	**+2.2**
ESDC	**Sonseca Array**	**73.41**	**11**	P	**P**	**10 27 37.0**	**+2.2**
	comp=Z,0.4nm,0.3s,baz=360,slow=6.4,SNR=7.8						
CMAR	**Chiang Mai Arr**	**73.50**	**278**	P	**P**	**10 27 36.2**	**+0.6**
CMAR	**Chiang Mai Arr**	**73.50**	**278**	P	**P**	**10 27 36.2**	**+0.6**
	comp=Z,0.6nm,0.4s,baz=14,slow=5.2,SNR=8.1						
MDT	**Midelt**	**80.16**	**12**	LR	LR	11 04 30.9	
	comp=Z,106nm,20.1s,baz=58,slow=36						
TBI	**Tubuai**	**91.17**	**161**	*e*LR	LR	10 27 58.2	
	comp=Z,249nm,33.5s						

IDC 25 10:39:33.0±3.1, 66°.33N×172°.29W, h0km, mb3.6/4, mb1 4.0/5, mb1mx3.6/26, mbtmp3.6/5, ML4.0/1, Error ellipse: s-maj=99.7km s-min=27.3km az=32.0, Near north coast of eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAR	**Eielson Array**	**10.61**	**87**	Pn	Pn	10 42 00.2	-5.8
	0.4nm,0.3s,baz=288,slow=13,SNR=35						
ILAR				Sn	Sn	10 43 49.4	-16
	baz=301,slow=29,SNR=2.2						
PDAR	**Pinedale Array**	**40.96**	**93**	P	P	10 47 15.8	-1.5
	0.7nm,0.9s,baz=327,slow=7.9,SNR=4.6						
NVAR	**Mina Array Bea**	**41.17**	**105**	P	P	10 47 19.7	+0.7
	0.6nm,0.7s,baz=337,slow=6.8,SNR=4.3						
TXAR	**Lajitas Array**	**54.94**	**97**	P	P	10 49 05.5	+0.1
	0.5nm,0.8s,baz=324,slow=7.8,SNR=5.2						
AKASG	**Malin Array Be**	**62.15**	**345**	P	P	10 49 55.2	0.0
	0.2nm,0.3s,baz=4.5,slow=5.9,SNR=2.7						

*AZER **25** 10:48:13.5±0.4, 42°.74N×43°.20E, h83km±75km, Error ellipse: s-maj=33.2km s-min=14.5km az=11.0*
*TIF **25** 10:48:14.3, 42°.51N×43°.46E, h9km±2km*
*CSEM **25** 10:48:15.0±0.2, 42°.53N×43°.45E, h2km, mb4.2, Error ellipse: s-maj=3.4km s-min=2.9km az=106.0*
*MOS **25** 10:48:16.0±1.3, 42°.56N×43°.56E, h11km, mb4.2/1, Error ellipse: s-maj=8.1km s-min=5.4km az=89.1*
*DDA **25** 10:48:28.1, 41°.65N×43°.00E, h7km, ML3.9*
ISC 25 10:48:14.8±0.9, 42°.51N±0°.01×43°.45E±0°.02, h5km±6km,
n82, σ0§84/141, 12C-7D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.08**	**2**	*i* PG	**Pg**	**10 48 16.7**	**-0.1**
ONI	**Oni**	**0.08**	**2**	P	**Pg**	**10 48 16.7**	**-0.1**
ONI				S	**Sg**	**10 48 18.4**	**+0.2**
ONI	**Oni**	**0.08**	**2**	P	**Pg**	**10 48 16.7**	**-0.1**
ONI				S	**Sg**	**10 48 18.4**	**+0.2**
DIGR	**Digorskoe uzhe**	**0.41**	**14**	⇓*i*PG	**Pg**	**10 48 21.9**	**-0.8**
DIGR				*i* S	**Sg**	**10 48 27.8**	**-0.3**
DIGR	**Digorskoe uzhe**	**0.41**	**14**	*i* Pg	**Pg**	**10 48 21.9**	**-0.8**
DIGR				*i* Sg	**Sg**	**10 48 27.8**	**-0.3**
ZEI	**Tsey**	**0.44**	**50**	⇓*i*PG	**Pg**	**10 48 22.6**	**-0.7**
ZEI				*i* S	**Sg**	**10 48 29.3**	**+0.2**
ZEI	**Tsey**	**0.44**	**50**	*i* Pg	**Pg**	**10 48 22.6**	**-0.7**
ZEI				*i* Sg	**Sg**	**10 48 29.3**	**+0.2**
KORR	**Kora**	**0.74**	**38**	⇑*i*PG	**Pg**	**10 48 28.1**	**-0.9**
KORR				*e*S	**Sg**	**10 48 38.7**	**+0.1**
KORR	**Kora**	**0.74**	**38**	*i* Pg	**Pg**	**10 48 28.1**	**-0.9**
KORR				*e*Sg	**Sg**	**10 48 38.7**	**+0.1**
LSNR	**Lesken**	**0.82**	**20**	⇓*i*PG	**Pg**	**10 48 30.0**	**-0.6**
LSNR				*i* S	**Sg**	**10 48 41.2**	**0.0**
LSNR	**Lesken**	**0.82**	**20**	*i* Pg	**Pg**	**10 48 30.0**	**-0.6**
LSNR				*i* Sg	**Sg**	**10 48 41.2**	**0.0**
STDR	**Stavd-Durt**	**0.97**	**27**	⇑*i*PG	**Pb**	**10 48 34.2**	**0.0**
STDR				*e*S	**Sb**	**10 48 47.6**	**+0.3**
STDR	**Stavd-Durt**	**0.97**	**27**	*i* Pg	**Pb**	**10 48 34.2**	**0.0**
STDR				*e*Sg	**Sb**	**10 48 47.6**	**+0.3**
NCK	**Nalchik**	**0.99**	**6**	⇑*i*PG	**Pg**	**10 48 34.0**	**+0.1**
NCK				*e*S	**Sb**	**10 48 48.5**	**+0.5**
NCK	**Nalchik**	**0.99**	**6**	*i* Pg	**Pg**	**10 48 34.0**	**+0.1**
NCK				*e*Sg	**Sb**	**10 48 48.5**	**+0.5**
DUS	**Dusheti**	**1.02**	**114**	*i* PG	**Pg**	**10 48 34.0**	**-0.4**
DUS	**Dusheti**	**1.02**	**114**	P	**Pg**	**10 48 33.9**	**-0.4**
DUS	**Dusheti**	**1.02**	**114**	*i* Pg	**Pg**	**10 48 34.0**	**-0.4**
DUS	**Dusheti**	**1.02**	**114**	P	**Pb**	**10 48 35.3**	**+0.3**
DUS				S	**Sb**	**10 48 49.5**	**+0.8**
CHVG	**Ch'k'valeri**	**1.03**	**282**	P	**Sg**	**10 48 48.3**	**+0.4**
CHVG				S	**Pg**	**10 48 33.8**	**-0.8**
CHVG	**Ch'k'valeri**	**1.03**	**282**	P	**Pg**	**10 48 34.0**	**-0.6**
CHVG				S	**Sg**	**10 48 47.7**	**-0.2**
VLKR	**Vladikavkaz**	**1.05**	**59**	*i* PG	**Pg**	**10 48 35.3**	**+0.2**
VLKR				*e*S	**Sb**	**10 48 50.2**	**+0.5**
VLKR				pmax	pmax		
	comp=Z,74nm,0.4s						
VLKR				smax	smax		
	comp=E,82nm,0.3s						
VLKR	**Vladikavkaz**	**1.05**	**59**	*i* Pg	**Pg**	**10 48 35.3**	**+0.2**
	comp=E,74nm,0.4s						
VLKR				*e*Sg	**Sb**	**10 48 50.2**	**+0.5**
AKH	**Akhalkalaki**	**1.10**	**178**	*i* PG	Pg	10 48 26.2	-10
AKH	**Akhalkalaki**	**1.10**	**178**	P	**Pg**	**10 48 35.1**	**-0.8**
AKH				S	**Sg**	**10 48 50.7**	**+0.6**
BTKR	**Batakoyurt**	**1.18**	**42**	*e*PG	**Pn**	**10 48 38.7**	**+0.7**
BTKR				*e*S	**Sn**	**10 48 55.1**	**+0.6**
BTKR	**Batako

GOF *i* S **Sn** **10 49 25.9 -2.7**
GOF pmax pmax
comp=Z,13nm,0.4s
GOF smax smax
comp=N,99nm,0.9s
GOF smax smax
comp=E,30nm,0.9s
GNBR Gunib 2.60 91 *i* PN **Pg** **10 49 04.3 -0.4**
GNBR *e*S **Sg** **10 49 37.6 -0.9**
GNBR Gunib 2.60 91 *e*Sb **Sg** **10 49 37.6 -0.9**
HOMI Horasan 2.72 206 *e*P **Pb** **10 49 02.4 -1.6**
GANJ Ganja 2.85 130 ⇑Pn **Pn** **10 49 01.8 +0.9**
GANJ ⇑S **Sb** **10 49 39.6 -1.6**
GANJ Ganja 2.85 130 Pn **Pn** **10 49 01.8 +0.9**
GANJ S **Sb** **10 49 39.6 -1.6**
SOC Sochi 2.94 293 *e*PN **Pb** **10 49 06.2 -1.4**
SOC *e* 10 49 10.9
SOC *e* 10 49 44.5
SOC *e* 10 49 53.1
SOC pmax pmax
comp=Z,31nm,0.8s
SOC pmax pmax
comp=Z,30nm,0.6s
SOC smax smax
comp=N,157nm,0.7s
SOC smax smax
comp=E,121nm,0.6s
SOC Sochi 2.94 293 *e*Pb **Pg** **10 49 10.9 -0.2**
SEKA Sheki 3.09 114 ⇑Pn **Pn** **10 49 05.4 +1.2**
SEKA ⇓S **Sn** **10 49 44.5 +3.0**
SEKA Sheki 3.09 114 Pn **Pn** **10 49 05.4 +1.2**
SEKA S **Sn** **10 49 44.5 +3.0**
KELT Kelkit 3.94 235 *e*P **Pn** **10 49 16.7 +0.6**
KELT Kelkit 3.94 235 *e*P **Pn** **10 49 16.7 +0.6**
PQL Pirkuli 4.22 112 ⇓Pn **Pn** **10 49 20.2 +0.3**
SNR=4.4
PQL ⇑S **Sn** **10 50 08.2 -1.3**
PQL Pirkuli 4.22 112 Pn **Pn** **10 49 20.2 +0.3**
SNR=4.4
PQL S **Sn** **10 50 08.2 -1.3**
ATGJ Altiaghaj 4.43 110 ⇓Pn **Pn** **10 49 24.3 +1.6**
ATGJ Altiaghaj 4.43 110 Pn **Pn** **10 49 24.3 +1.6**
ANN Anapa 4.93 300 *e*PN Pb 10 49 36.3 -5.2
ANN pmax pmax
comp=Z,15nm,0.4s
BRVK Borovoye 20.77 50 *c i*P **P** **10 52 56.4 0.0**
BRVK pmax pmax
comp=Z,3.0nm,0.9s

JMA ***25*** *11:35:27.8±0.3, 32°.22N×138°.03E, h405km, M3.1*
ISCJB ***25*** *11:35:29.6±0.5, 32°.27N±0°.06×138°.17E±0°.08, h379km±6km, mb3.3/5, Error ellipse: s-maj=10.4km s-min=9.3km az=162.6*
IDC ***25*** *11:35:31.2±1.8, 32°.34N×138°.03E, h374km±17km, mb3.0/5, mb1 3.0/8, mb1mx2.8/27, mbtmp2.9/8, Error ellipse: s-maj=37.4km s-min=15.7km az=77.0*
ISC 25 11:35:30.1±0.9,**32°.27N**±0°.08×**138°.16E**±0°.08,**h371**km±9km,
n30,σ1º**48**/35,**mb3.2**/5,**Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO2	**TONANKAI O.B.S**	**1.74**	**327**	P	**Pn**	**11 36 23.3**	**+2.1**
JWZ	**Kozaga**	**2.41**	**302**	P	**Pn**	**11 36 26.4**	**+0.3**
JIE	**Ise**	**2.44**	**330**	P	**Pn**	**11 36 27.4**	**+1.1**
JKN2	**Miekihoku**	**2.52**	**322**	P	**Pn**	**11 36 27.5**	**+0.6**
HMMJ	**Hamamatsu 2**	**2.60**	**352**	P	**Pn**	**11 36 29.0**	**+1.4**
JWY	**Kouya**	**2.90**	**313**	P	**Pn**	**11 36 30.8**	**+0.7**
JAO	**Obara**	**3.08**	**346**	P	**Pn**	**11 36 32.9**	**+1.3**
JOD2	**Odawara 2**	**3.08**	**14**	P	**Pn**	**11 36 33.4**	**+1.8**
JNY	**Yasuok**	**3.09**	**355**	P	**Pn**	**11 36 33.3**	**+1.6**
BSO4	**Boso 4**	**3.26**	**33**	*e*S	**S**	**11 37 23.5**	**-0.5**
BSO1	**Boso 1**	**3.34**	**44**	*e*S	**S**	**11 37 24.7**	**+0.1**
JAI	**Aioi**	**3.46**	**297**	P	**Pn**	**11 36 35.1**	**0.0**
JGM	**Miyama**	**3.62**	**341**	P	**Pn**	**11 36 37.5**	**+0.9**
JHU	**Hanno**	**3.69**	**14**	P	**Pn**	**11 36 38.8**	**+1.6**
JHU				*e*S	**S**	**11 37 30.5**	**-1.0**
JWT	**Wachi**	**3.78**	**323**	P	**Pn**	**11 36 38.4**	**+0.3**
JRY	**Ryogami san**	**3.78**	**9**	P	**Pn**	**11 36 39.6**	**+1.5**
JRY				*e*S	**S**	**11 37 33.5**	**+0.3**
JMN	**Monobe**	**3.88**	**293**	P	**Pn**	**11 36 39.2**	**+0.1**
MJAR	**Matsushiro Arr**	**4.26**	**1**	P	**Pn**	**11 36 43.1**	**+0.3**
	1.0nm,0.3s,baz=181,slow=11,SNR=16						
MAT	**Matsushiro**	**4.26**	**0**	P	**Pn**	**11 36 43.4**	**+0.6**
MAT				S	**S**	**11 37 43.0**	**+1.2**
JAG	**Ashikaga**	**4.28**	**14**	P	**Pn**	**11 36 43.2**	**+0.2**
JYT	**Yasato**	**4.29**	**23**	P	**Pn**	**11 36 43.8**	**+0.7**
JYT				*e*S	**S**	**11 37 37.7**	**-4.5**
JHO	**Hitachi**	**4.76**	**24**	P	**Pn**	**11 36 48.2**	**+0.2**
JHO				*e*S	**S**	**11 37 47.2**	**-4.0**
JNU	**Nakatsue**	**6.20**	**280**	P	**Pn**	**11 37 03.5**	**-0.4**
	0.5nm,0.3s,baz=180,slow=14,SNR=5.3						
JNU				S	S	11 38 05.0	-15
	0.4nm,0.3s,baz=212,slow=23,SNR=7.4						
CBIJ	**Chichi jima**	**6.23**	**145**	S	**S**	**11 38 19.4**	**-1.6**
	13nm,0.3s,baz=283,slow=22,SNR=7.3						
KSRS	**Korea Array**	**9.87**	**304**	P	**P**	**11 37 47.1**	**+0.1**
	0.2nm,0.3s,baz=124,slow=9.8,SNR=4.1						
MKAR	**Makanchi Array**	**44.55**	**306**	P	**P**	**11 43 05.8**	**-0.7**
	0.4nm,0.4s,baz=87,slow=9.8,SNR=7.8						
WRA	**Warramunga Arr**	**52.05**	**185**	P	**P**	**11 44 04.4**	**+1.1**
	0.4nm,0.3s,baz=0.2,slow=7.7,SNR=13						
ASAR	**Alice Springs**	**55.77**	**185**	P	**P**	**11 44 31.3**	**+1.4**
	0.3nm,0.8s,baz=12,slow=13,SNR=4.5						
ARCES	**ARCESS Array B**	**67.50**	**339**	P	**P**	**11 45 47.1**	**+0.3**
	2.2nm,0.9s,baz=38,slow=9.1,SNR=3.0						
FINES	**FINESS Array B**	**71.76**	**332**	P	**P**	**11 46 12.8**	**+0.2**
	2.5nm,1.0s,baz=66,slow=6.7,SNR=4.5						

TIR ***25*** *11:57:11.6±0.9, 41°.52N×20°.47E, h24km±40km, ML3.0*
CSEM ***25*** *11:57:11.8±0.3, 41°.48N×20°.46E, h2km, ML3.0, Error ellipse: s-maj=5.3km s-min=3.8km az=20.0*
SKO ***25*** *11:57:11.8, 41°.50N×20°.44E, h15km, M2.5, ML2.9*
PDG ***25*** *11:57:11.9±0.5, 41°.52N×20°.45E, h11km, ML3.2/12, Error ellipse: s-maj=0.7km s-min=0.7km az=0.0*
THE ***25*** *11:57:11.9, 41°.53N×20°.49E, h11km±1km, ML3.5/1, Error ellipse: s-maj=1.6km s-min=0.4km az=335.0*
BEO ***25*** *11:57:12.9±0.4, 41°.46N×20°.47E, h8km±2km, ML2.7/1*
ISC 25 11:57:11.8±1.0,**41°.49N**±0°.02×**20°.46E**±0°.02,**h8**km±7km,
n67,σ1º**17**/124,**5C-11D,Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHP	**Peshkopia**	**0.19**	**355**	*e*PG	**Pg**	**11 57 15.4**	**-0.4**
PHP				*e*SG	**Sg**	**11 57 18.3**	**-0.2**
PHP	**Peshkopia**	**0.19**	**355**	P	**Pg**	**11 57 15.4**	**-0.4**
PHP				S	**Sg**	**11 57 18.3**	**-0.2**
PHP	**Peshkopia**	**0.19**	**355**	P	**Pg**	**11 57 15.4**	**-0.4**
PHP				S	**Sg**	**11 57 18.3**	**-0.2**
TIR	**Tirane**	**0.47**	**252**	*e*PG	**Pg**	**11 57 21.2**	**+0.3**
TIR				*e*SG	**Sg**	**11 57 28.7**	**+1.6**
TIR	**Tirane**	**0.47**	**252**	P	**Pg**	**11 57 21.3**	**+0.3**
TIR				S	**Sb**	**11 57 28.9**	**-0.6**
TIR	**Tirane**	**0.47**	**252**	*e*Pg	**Pg**	**11 57 21.5**	**+0.6**
TIR				*i* Sg	**Sb**	**11 57 29.3**	**-0.2**
TIR	**Tirane**	**0.47**	**252**	*e*Pg	**Pg**	**11 57 21.5**	**+0.6**
TIR				*e*Sg	**Sg**	**11 57 28.7**	**+1.6**
	SNR=93						
PUK	**Puka**	**0.69**	**322**	*e*PG	**Pg**	**11 57 24.0**	**-1.2**
PUK				*e*SG	**Sg**	**11 57 34.8**	**+0.5**
PUK	**Puka**	**0.69**	**322**	*e*Pg	**Pg**	**11 57 24.0**	**-1.2**
	SNR=93						
PUK				*e*Sg	**Sg**	**11 57 34.8**	**+0.5**
	SNR=93						
PRZK	**Prizren**	**0.75**	**17**	P	**Pg**	**11 57 25.7**	**-0.6**
BIA	**Bitola**	**0.80**	**126**	P	**Pg**	**11 57 27.0**	**-0.3**
BIA				S	**Sb**	**11 57 39.1**	**-0.1**
BIA	**Bitola**	**0.80**	**126**	⇓*i*Pg	**Pg**	**11 57 27.5**	**+0.3**
BIA				*i* Sg	**Sn**	**11 57 40.8**	**-0.9**
BIA	**Bitola**	**0.80**	**126**	P	**Pg**	**11 57 27.0**	**-0.3**
BIA				*i* Sg	**Sn**	**11 57 40.3**	**-1.5**
SKO	**Skopje**	**0.88**	**56**	P	**Pg**	**11 57 28.7**	**+0.1**
SKO				S	**Sn**	**11 57 42.1**	**-1.4**
SKO	**Skopje**	**0.88**	**56**	*e*Pg	**Pg**	**11 57 28.7**	**+0.1**
SKO				*i* Sg	**Sn**	**11 57 42.5**	**-1.0**
SKO	**Skopje**	**0.88**	**56**	*i* Pg	**Pn**	**11 57 29.9**	**-0.7**
SKO				*i* Sg	**Sn**	**11 57 42.7**	**-0.8**
SKO				*e*Lg	Lg	11 57 43.7	
	comp=E,319nm,0.5s						
SKO				*e*Lg	Lg	11 57 43.7	
	comp=N,511nm,0.3s						
SKO	**Skopje**	**0.88**	**56**	P	**Pg**	**11 57 28.7**	**+0.1**
SKO				*i* Sg	**Sb**	**11 57 41.7**	**+0.5**
SKO				*e*Lg	Lg	11 57 42.7	
	comp=N,511nm,0.3s						
FNA	**Florina**	**0.99**	**135**	P	**Pb**	**11 57 31.0**	**-0.3**
FNA				S	**Sn**	**11 57 45.7**	**-0.6**
FNA	**Florina**	**0.99**	**135**	P	**Pb**	**11 57 31.0**	**-0.3**
FNA				S	**Sn**	**11 57 45.7**	**-0.6**
ULC	**Ulcinj**	**1.02**	**298**	⇑*i*Pg	**Pg**	**11 57 29.9**	**-1.6**
ULC				*e*Sg	**Sn**	**11 57 46.4**	**-0.8**
ULC	**Ulcinj**	**1.02**	**298**	P	**Pg**	**11 57 30.1**	**-1.4**
ULC				*e*Sg	**Sn**	**11 57 46.4**	**-0.8**
PEJK	**Peje**	**1.16**	**353**	P	**Pb**	**11 57 32.3**	**-1.9**
PVY	**Plav**	**1.16**	**341**	⇓*i*Pg	**Pb**	**11 57 32.5**	**-1.8**
PVY				*e*Sg	**Sn**	**11 57 50.8**	**0.0**
PVY	**Plav**	**1.16**	**341**	⇓*i*Pg	**Pb**	**11 57 32.5**	**-1.8**
PVY				*e*Sg	**Sn**	**11 57 50.8**	**0.0**
DRME	**Dracevica, Mon**	**1.18**	**306**	⇓*i*Pg	**Pb**	**11 57 33.0**	**-1.5**
DRME				*e*Sg	**Sn**	**11 57 51.6**	**+0.6**
DRME	**Dracevica, Mon**	**1.18**	**306**	⇓*i*Pg	**Pb**	**11 57 33.0**	**-1.5**
DRME				*e*Sg	**Sn**	**11 57 51.6**	**+0.6**
PDG	**Podgorica**	**1.30**	**317**	*e*Pg	**Pn**	**11 57 35.5**	**-0.8**
PDG				*i* Sn	**Sg**	**11 57 55.9**	**+2.3**
PDG	**Podgorica**	**1.30**	**317**	*e*Pg	**Pn**	**11 57 35.5**	**-0.8**
PDG				*i* Sn	**Sg**	**11 57 55.9**	**+2.3**
PDG				*e*Sg	**Sg**	**11 57 56.3**	**+2.7**
TTG	**Podgorica**	**1.30**	**317**	⇑*i*Pg	**Pn**	**11 57 35.0**	**-1.3**
TTG				*e*Sg	**Sg**	**11 57 56.3**	**+2.7**
BUM	**Brajici-Budva**	**1.42**	**305**	⇓*i*Pg	**Pn**	**11 57 37.5**	**-0.6**
BUM				*e*Sg	**Sg**	**11 57 59.5**	**+1.9**
BUM	**Brajici-Budva**	**1.42**	**305**	⇓*i*Pg	**Pn**	**11 57 37.5**	**-0.6**
BUM				*e*Sg	**Sg**	**11 57 59.5**	**+1.9**
SMRK	**Smrekonice**	**1.42**	**14**	P	**Pg**	**11 57 39.8**	**+0.6**
SMRK				S	**Sg**	**11 58 00.0**	**+2.4**
BEY	**Berane**	**1.44**	**343**	⇑*i*Pg	**Pn**	**11 57 38.0**	**-0.4**
BEY	**Berane**	**1.44**	**343**	P	**Pb**	**11 57 39.1**	**+0.1**
BEY				*e*Sg	**Sg**	**11 57 59.8**	**+1.6**
IVA	**Berane**	**1.44**	**343**	⇑*i*Pg	**Pn**	**11 57 38.0**	**-0.4**
IVA				*e*Sg	**Sg**	**11 57 59.8**	**+1.6**
VAY	**Valandovo**	**1.60**	**95**	⇓*i*Pn	**Pn**	**11 57 40.5**	**+0.1**
VAY				*i* Sg	**Sg**	**11 58 02.7**	**-0.4**
VAY	**Valandovo**	**1.60**	**95**	*i* Pn	**Pn**	**11 57 40.6**	**+0.2**
VAY				*e*Lg	Lg	11 58 01.3	
	comp=E,64nm,0.6s						
VAY				*i* Sg	**Sb**	**11 58 01.3**	**-0.6**
VAY				*e*Lg	Lg	11 58 01.6	
	comp=N,89nm,0.7s						
VAY	**Valandovo**	**1.60**	**95**	⇓*i*Pn	**Pn**	**11 57 40.5**	**+0.1**
VAY				*i* Sg	**Sg**	**11 58 02.7**	**-0.4**
VAY				*e*Lg	Lg	11 58 04.7	
	comp=N,64nm,0.6s						
BARS	**Barje**	**1.66**	**37**	*e*Pg	**Pg**	**11 57 44.9**	**+1.2**
BARS				*i* Sg	**Sg**	**11 58 06.7**	**+1.4**
BARS	**Barje**	**1.66**	**37**	*e*Pg	**Pg**	**11 57 44.9**	**+1.2**
BARS				*i* Sg	**Sg**	**11 58 06.7**	**+1.4**
NKME	**Niksic**	**1.70**	**319**	*e*Pn	**Pn**	**11 57 41.9**	**0.0**
NKME				*e*Sn	**Sg**	**11 58 06.0**	**-0.4**
NKY	**Niksic**	**1.71**	**321**	⇑*i*Pn	**Pn**	**11 57 42.6**	**+0.5**
NKY				*e*Sn	**Sb**	**11 58 05.9**	**+0.5**
HCY	**Herceg Novi**	**1.75**	**304**	⇓*i*Pn	**Pn**	**11 57 42.8**	**+0.3**
HCY				*e*Sn	**Sg**	**11 58 07.8**	**-0.3**
HCY	**Herceg Novi**	**1.75**	**304**	⇓*i*Pn	**Pn**	**11 57 42.8**	**+0.3**
HCY				*e*Sn	**Sg**	**11 58 07.8**	**-0.3**
SELS	**Selova**	**1.79**	**16**	*e*Pg	**Pb**	**11 57 45.2**	**+0.2**
SELS				*i* Sg	**Sg**	**11 58 10.2**	**+0.7**
SJES	**Sjenica**	**1.80**	**349**	*e*Pg	**Pb**	**11 57 45.0**	**-0.2**
SJES				*i* Sg	**Sg**	**11 58 11.3**	**+1.5**
SJES	**Sjenica**	**1.80**	**349**	*e*Pg	**Pb**	**11 57 45.0**	**-0.2**
SJES				*i* Sg	**Sg**	**11 58 11.3**	**+1.5**
TREB	**Trebinje**	**1.99**	**309**	*e*Pn	**Pb**	**11 57 47.5**	**-0.8**
TREB				*i* Sg	**Sg**	**11 58 17.2**	**+1.4**
TREB	**Trebinje**	**1.99**	**309**	*e*Pn	**Pb**	**11 57 47.5**	**-0.8**
TREB				*i* Sg	**Sg**	**11 58 17.2**	**+1.4**
PLE	**Pljevlja**	**2.00**	**337**	*e*Pn	**Pn**	**11 57 46.4**	**+0.3**
PLE				*e*Sn	**Sb**	**11 58 13.4**	**-0.3**
BRY	**Bratogost**	**2.01**	**315**	*e*Pn	**Pn**	**11 57 47.0**	**+0.8**
BRY				*e*Sn	**Sb**	**11 58 13.6**	**-0.3**
BRY	**Bratogost**	**2.01**	**315**	*e*Pn	**Pn**	**11 57 47.0**	**+0.8**
BRY				*e*Sn	**Sb**	**11 58 13.6**	**-0.3**
UPM	**Unac-Piva**	**2.06**	**327**	*e*Pn	**Pb**	**11 57 48.2**	**-1.5**
UPM				*e*Sn	**Sb**	**11 58 14.8**	**-0.7**
UPM	**Unac-Piva**	**2.06**	**327**	*e*Pn	**Pb**	**11 57 48.2**	**-1.5**
UPM	**Unac-Piva**	**2.06**	**327**	P	**Pb**	**11 57 49.9**	**+0.2**
UPM				*e*Sn	**Sb**	**11 58 14.8**	**-0.7**
GRUS	**Gruza**	**2.40**	**4**	*e*Pn	**Pn**	**11 57 52.7**	**+1.2**
GRUS	**Gruza**	**2.40**	**4**	*e*Pn	**Pn**	**11 57 52.7**	**+1.2**
STON	**Ston**	**2.47**	**305**	*e*Pn	**Pn**	**11 57 53.4**	**+1.0**
STON				Sn	**Sb**	**11 58 25.6**	**-1.5**
BBLS	**Lazići**	**2.50**	**342**	*e*Sn	**Sn**	**11 58 24.5**	**+0.9**
BBLS	**Lazići**	**2.50**	**342**	*e*Sn	**Sn**	**11 58 24.5**	**+0.9**
DIVS	**Divibare**	**2.63**	**353**	*e*Pn	**Pn**	**11 57 56.5**	**+1.8**
DIVS				*e*Sn	**Sb**	**11 58 29.9**	**-1.8**
DIVS	**Divibare**	**2.63**	**353**	*e*Pn	**Pn**	**11 57 56.5**	**+1.8**
DIVS				*e*Sn	**Sb**	**11 58 29.9**	**-1.8**
UDBI	**Udbina**	**4.59**	**313**	*e*Pn	**Pn**	**11 58 24.2**	**+2.6**
NVLJ	**Novalja**	**5.12**	**309**	*i* Pn	**Pn**	**11 58 29.2**	**+0.5**
NVLJ				Sn	**Sn**	**11 59 28.5**	**+0.5**
BOJS	**Bojanci**	**5.52**	**318**	*i* Pn	**Pn**	**11 58 36.1**	**+1.9**
BOJS				*i* Sn	**Sn**	**11 59 35.0**	**-2.9**
BOJS	**Bojanci**	**5.52**	**318**	Pn	**Pn**	**11 58 36.1**	**+1.9**
GBRS	**Gornja Briga**	**5.76**	**316**	*i* Pn	**Pn**	**11 58 40.1**	**+2.4**

CSEM ***25*** *12:00:30.5, 39°.13N×28°.02W, h1km, ML2.7, After PDA*
PDA 25 12:00:30.5±0.8,**39°.13N**×**28°.02W,h1**km±4km,**MD3.5,**
ML2.7,Error ellipse: s-maj=6.9km s-min=2.9km az=72.0,
Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGRA	**Graciosa**	**0.10**	**163**	*i* P	Pg	12 00 32.5	0.0
PGRA				*e*S	Sg	12 00 34.1	+0.3
PGRA				A	A	12 00 37.2	
	3μm,0.3s						
ROSA	**Rosais**	**0.44**	**203**	*e*P	Pg	12 00 38.7	-0.3
ROSA				*e*S	Sg	12 00 45.0	+0.2
ROSA				A	A	12 00 46.0	
	330nm,0.5s						
ROSA	**Rosais**	**0.44**	**203**	*e*P	Pg	12 00 38.7	-0.3
ROSA				*e*S	Sg	12 00 45.0	+0.2
PMAN	**Manadas**	**0.50**	**186**	*e*P	Pg	12 00 39.4	-0.7
PMAN				*e*S	Sg	12 00 46.4	-0.1
PMAN				A	A	12 00 48.1	
	1μm,0.2s						
PMAN	**Manadas**	**0.50**	**186**	*e*P	Pg	12 00 39.4	-0.7
PMAN				*e*S	Sg	12 00 46.4	-0.1
PPNO	**Prainha do Nor**	**0.68**	**196**	*e*P	Pg	12 00 42.6	-1.1
PPNO				*e*S	Sg	12 00 51.3	-1.3
PPNO				A	A	12 00 53.5	
	119nm,0.2s						
PPNO	**Prainha do Nor**	**0.68**	**196**	*e*P	Pg	12 00 42.6	-1.1
PPNO				*e*S	Sg	12 00 51.3	-1.3
PID	**Ribeirinha**	**0.69**	**187**	*e*P	Pg	12 00 42.9	-0.9
PID				*e*S	Sg	12 00 51.3	-1.4
PID	**Ribeirinha**	**0.69**	**187**	*e*P	Pg	12 00 42.9	-0.9
PID				*e*S	Sg	12 00 51.3	-1.4
PICO	**Pico**	**0.70**	**207**	*e*P	Pg	12 00 42.8	-1.3
PICO				*e*S	Sg	12 00 52.1	-1.2
PICO	**Pico**	**0.70**	**207**	*e*P	Pg	12 00 42.8	-1.3
PICO				*e*S	Sg	12 00 52.1	-1.2
PCED	**Cedros**	**0.73**	**227**	*e*P	Pg	12 00 42.7	-1.8
PCED				*e*S	Sg	12 00 52.3	-1.7
PCED				A	A	12 00 53.7	
	56nm,0.3s						
PCED	**Cedros**	**0.73**	**227**	*e*P	Pg	12 00 42.7	-1.8
PCED				*e*S	Sg	12 00 52.3	-1.7
PCAN	**Candelaria**	**0.76**	**209**	*e*P	Pg	12 00 43.5	-1.6
PCAN				*e*S	Sg	12 00 52.8	-2.1
PCAN				A	A	12 00 57.6	
	45nm,0.3s						
PCAN	**Candelaria**	**0.76**	**209**	*e*P	Pg	12 00 43.5	-1.6
PCAN				*e*S	Sg	12 00 52.8	-2.1
CALA	**Caldeira**	**0.76**	**225**	*e*P	Pg	12 00 43.7	-1.6
CALA				*e*S	Sg	12 00 53.5	-1.7
CALA	**Caldeira**	**0.76**	**225**	*e*P	Pg	12 00 43.7	-1.6
CALA				*e*S	Sg	12 00 53.5	-1.7

BJI ***25*** *12:20:31.0, 14°.10N×92°.00W, h29km, mB5.3/4, Ms5.2/5, Ms7 4.7/5*
CASC ***25*** *12:20:33.1±2.7, 13°.87N×92°.15W, h18km±31km, MD4.3*
MEX ***25*** *12:20:33.2±0.7, 13°.93N×92°.55W, h20km, MD4.6*
ISCJB ***25*** *12:20:36.0±0.5, 14°.17N±0°.03×91°.95W±0°.03, h86km±4km, mb4.6/76, Error ellipse: s-maj=7.2km s-min=3.3km az=44.3*
NEIC ***25*** *12:20:37.5±0.7, 14°.16N×91°.80W, h88km±5km, mb4.7/67, MD4.4(MEX), Error ellipse: s-maj=7.9km s-min=3.9km az=222.0*
NEIC Felt at Panajachel and Santa Catarina Pinula.
IDC ***25*** *12:20:39.3±1.8, 14°.24N×91°.79W, h103km±15km, mb4.0/16, mb1 4.3/19, mb1mx4.2/25, mbtmp4.1/19, MS3.9/18, Ms1 3.9/18, ms1mx3.8/31, Error ellipse: s-maj=21.1km s-min=10.4km az=64.0*
ISC 25 12:20:32.8±0.9,**13°.96N**±0°.04×**92°.36W**±0°.03,**h51**km±7km,
n509,σ1º**75**/523,**mb4.7**/76,**MS4.1**/20,**136C-135D,Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.79**	**63**	*e*P	**Pn**	**12 20 47.2**	**-0.5**
FUG	**Fuego 3**	**1.55**	**72**	*e*P	**Pn**	**12 20 56.6**	**-1.6**
PCG	**Pacaya**	**1.75**	**76**	*e*P	**Pn**	**12 21 00.0**	**-1.1**
GCG	**Guatemala City**	**1.88**	**70**	*e*P	**Pn**	**12 21 03.0**	**+0.3**
GCG				*e*S	**Sn**	**12 21 24.6**	**-0.8**
PCIG		**1.92**	**335**	*i* P	**Pn**	**12 21 00.8**	**-2.4**
PCIG				*i* S	**Sn**	**12 21 23.0**	**-3.1**
PCIG		**1.92**	**335**	*i* P	**Pn**	**12 21 00.8**	**-2.4**
PCIG				*i* S	**Sn**	**12 21 23.0**	**-3.1**
NBG	**Las Nubes**	**2.05**	**72**	*e*P	**Pn**	**12 21 05.3**	**+0.2**
NBG				*e*S	**Sn**	**12 21 32.1**	**+2.4**
APG	**El Apazote**	**2.11**	**60**	P	**Pn**	**12 21 05.2**	**-0.8**
APG				S	**Sn**	**12 21 31.0**	**-0.1**
APG	**El Apazote**	**2.11**	**60**	P	**Pn**	**12 21 05.2**	**-0.8**
	471nm,0.3s,baz=248,slow=4.6,SNR=2358						
APG				S	**Sn**	**12 21 31.0**	**-0.1**
	886nm,0.3s,baz=143,slow=21,SNR=15						
CCIG	**Comitan**	**2.32**	**5**	*e*P	**Pn**	**12 21 08.9**	**+0.2**
CCIG				*i* S	**Sn**	**12 21 36.8**	**+0.6**
CCIG	**Comitan**	**2.32**	**5**	*e*P	**Pn**	**12 21 08.9**	**+0.2**
CCIG				*i* S	**Sn**	**12 21 36.8**	**+0.6**
RBDL	**Robledal**	**2.60**	**86**	*i* P	**Pn**	**12 21 11.4**	**-1.1**
RTR	**El Retiro**	**2.64**	**91**	*i* P	**Pn**	**12 21 11.9**	**-1.1**
SBLS	**San Blas**	**2.66**	**92**	*i* P	**Pn**	**12 21 11.8**	**-1.6**
SBLS				*e*S	**Sn**	**12 21 42.0**	**-2.7**
SNJE	**San Jose**	**2.68**	**92**	*i* P	**Pn**	**12 21 12.6**	**-1.0**
SNJE				*e*S	**Sn**	**12 21 43.6**	**-1.4**
MRL	**Marmol**	**2.81**	**67**	*e*P	**Pn**	**12 21 15.4**	**0.0**
TGIG		**2.90**	**345**	*e*P	**Pn**	**12 21 15.8**	**-0.8**
TGIG				*i* S	**Sn**	**12 21 49.6**	**-0.6**
TGIG		**2.90**	**345**	*e*P	**Pn**	**12 21 15.8**	**-0.8**
TGIG				*i* S	**Sn**	**12 21 49.6**	**-0.6**
LFRS	**El Faro**	**3.22**	**96**	*i* P	**Pn**	**12 21 20.1**	**-0.9**
LBRS	**Las Brisas**	**3.23**	**93**	*i* P	**Pn**	**12 21 20.4**	**-0.7**
SNVI	**San Vicente**	**3.44**	**95**	*e*P	**Pn**	**12 21 24.3**	**+0.3**
SNVI				*e*S	**Sn**	**12 22 02.0**	**-1.7**
VSM	**San Miguel**	**4.01**	**97**	*i* P	**Pn**	**12 21 31.7**	**-0.3**
HUIG	**Huatulco**	**4.04**	**297**	*e*P	**Pn**	**12 21 31.1**	**-1.2**
HUIG				*i* S	**Sn**	**12 22 14.0**	**-4.4**
HUIG	**Huatulco**	**4.04**	**297**	*e*P	**Pn**	**12 21 31.1**	**-1.2**
HUIG				*i* S	**Sn**	**12 22 14.0**	**-4.4**
TGUH	**Tegucigalpa,Un**	**4.94**	**88**	*e*Pn	**Pn**	**12 21 42.2**	**-2.3**
TGUH				*e*Sn	Sn	12 22 26.8	-14
SCIG	**Sabancuy**	**5.11**	**13**	*e*P	**Pn**	**12 21 45.7**	**-1.1**
SCIG				*i* S	**Sn**	**12 22 44.4**	**-0.1**
SCIG	**Sabancuy**	**5.11**	**13**	*e*P	**Pn**	**12 21 45.7**	**-1.1**
SCIG				*i* S	**Sn**	**12 22 44.4**	**-0.1**
VHO	**Vista Hermosa**	**5.23**	**307**	*e*P	**Pn**	**12 21 47.4**	**-1.3**
VHO				*i* S	**Sn**	**12 22 45.4**	**-2.4**
VHO	**Vista Hermosa**	**5.23**	**307**	*e*P	**Pn**	**12 21 47.4**	**-1.3**
VHO				*i* S	**Sn**	**12 22 45.4**	**-2.4**
PNIG	**Pinotepa**	**6.07**	**294**	*e*P	Pn	12 21 57.5	-2.5
PNIG				*i* S	**Sn**	**12 23 04.5**	**-3.8**
PNIG	**Pinotepa**	**6.07**	**294**	*e*P	Pn	12 21 57.5	-2.5
PNIG				*i* S	**Sn**	**12 23 04.5**	**-3.8**
TPIG	**Tehuac#an**	**6.54**	**313**	*e*P	**Pn**	**12 22 05.4**	**-1.2**
TPIG				*e*S	**Sn**	**12 23 17.3**	**-2.6**
TPIG	**Tehuac#an**	**6.54**	**313**	*e*P	**Pn**	**12 22 05.4**	**-1.2**
TPIG				*e*S	**Sn**	**12 23 17.3**	**-2.6**

baz=19,SNR=18
527A Woodward Ranch 19.17 329 ⇑P Pn 12 24 54.8 +1.2
baz=19,SNR=25
TIGA Tifton 19.17 23 eP Pn 12 24 53.6 +0.2
TIGA Tifton 19.17 23 ⇑P P 12 24 51.6 -0.6
baz=19
428A Kincaid Ranch, 19.21 332 ⇑P Pn 12 24 55.9 +1.9
baz=19,SNR=15
231A Bronte 19.32 339 ⇑P Pn 12 24 55.5 +0.2
baz=19,SNR=7.9
526A Mary Lane Ranc 19.34 328 ⇓P Pn 12 24 56.7 +1.0
baz=20,SNR=41
329A Wagon Wheel Ra 19.55 335 ⇓P Pn 12 24 59.2 +1.1
baz=20,SNR=12
230A Sterling City 19.56 337 ⇑P Pn 12 24 57.8 -0.4
baz=20,SNR=15
LRAL Lakeview Retre 19.61 14 eP P 12 24 56.9 -0.1
31nm,0.9s
427A Hayter Ranch, 19.64 331 ⇓P Pn 12 24 59.9 +0.7
baz=20,SNR=21
LPIG La Paz 19.72 303 P Pn 12 25 04.5 +4.5
LPIG La Paz 19.72 303 P Pn 12 25 04.5 +4.5
42nm,0.3s,baz=65,slow=17,SNR=3.5
ABTX Abilene, Hawle 19.73 342 eP Pn 12 24 59.8 -0.4
ABTX Abilene, Hawle 19.73 342 ⇑P Pn 12 24 59.5 -0.7
baz=20,SNR=10
426A McDonald Obser 19.80 329 ⇑P Pn 12 25 02.3 +1.1
baz=20,SNR=61
328A Wristen Ranch, 19.82 333 ⇓P Pn 12 25 01.6 +0.3
baz=20,SNR=30
131A Roby 20.02 340 ⇓P P 12 25 02.4 +1.0
baz=20
130A Snyder 20.15 338 ⇓P P 12 25 03.8 +0.9
baz=20,SNR=5.6
326A Caldwell Ranch 20.30 330 ⇑P Pn 12 25 07.2 +0.2
baz=20,SNR=100
Z32A Haskell 20.32 343 ⇑P P 12 25 06.0 +1.3
baz=20,SNR=21
228A UT Block 9, Go 20.36 334 ⇓P P 12 25 06.4 +1.2
baz=20,SNR=12
425A Indio Mountain 20.38 327 ⇑P Pn 12 25 07.8 -0.2
baz=21,SNR=39
129A Stewart Farms, 20.51 337 ⇑P P 12 25 08.0 +1.1
baz=21,SNR=9.5
Z31A Sharp Cattle R 20.53 341 ⇑P P 12 25 07.7 +0.7
baz=21,SNR=6.7
227A Bennet, Jal 20.57 333 ⇑P Pn 12 25 09.2 -0.9
baz=21,SNR=18
OXF Oxford 20.64 7 eP P 12 25 07.6 -0.5
58nm,0.9s
UALR University of 20.73 0 eP P 12 25 10.0 +1.0
73nm,0.8s
128A Castleberry Fa 20.75 335 ⇑P P 12 25 10.2 +0.8
baz=21,SNR=40
Z30A Sanderson Ranc 20.83 339 ⇑P P 12 25 10.2 -0.1
baz=21,SNR=10
Y32A R-V Farms, Ver 20.96 343 ⇓P P 12 25 11.9 +0.3
baz=21
GOGA Godfrey 20.99 21 eP P 12 25 10.3 -1.5
Z29A Hungry Hill Ra 21.01 338 ⇑P P 12 25 12.3 +0.1
baz=21,SNR=19
226B Tecolote Peak, 21.02 331 ⇑P P 12 25 14.3 +2.0
baz=21,SNR=84
324A Moseley Ranch, 21.16 327 ⇓P P 12 25 15.2 +1.3
baz=21,SNR=55
127A Arkansas Junct 21.16 334 ⇓P P 12 25 14.8 +0.8
baz=21
Y31A Rekieta Farm, 21.17 342 ⇓P P 12 25 14.3 +0.5
baz=21,SNR=23
GDL2 Guadalupe Moun 21.22 331 eP P 12 25 16.3 +1.8
Y30A Stafford Cattl 21.29 340 ⇑P P 12 25 15.7 +0.5
baz=21
Z28A Tucker Farm, M 21.30 336 ⇓P P 12 25 16.2 +0.9
baz=21,SNR=11
MNTX Cornudas Mount 21.31 328 eP P 12 25 16.4 +1.0
24nm,0.9s
225A Deer Hill, Car 21.36 330 ⇓P P 12 25 17.8 +1.7
baz=22,SNR=63
126A Clayton Basin, 21.43 332 ⇓P P 12 25 17.9 +1.2
baz=22,SNR=18
WMOK Wichita Mounta 21.49 345 eP P 12 25 17.1 -0.1
28nm,1.1s
Y29A Porterfield Fa 21.54 338 ⇑P P 12 25 18.2 +0.3
baz=22,SNR=7.8
Z27A Tatum 21.65 335 ⇑P P 12 25 19.6 +0.5
baz=22,SNR=30
224A Cornudas Mount 21.69 328 ⇑P P 12 25 20.9 +1.4
baz=22,SNR=69
X31A McDonald Ranch 21.70 343 ⇑P P 12 25 19.7 +0.1
baz=22,SNR=22
125A Gardner Draw, 21.74 331 ⇓P P 12 25 21.3 +1.2
baz=22,SNR=104
Y28A McKinney Farm, 21.79 337 ⇑P P 12 25 21.1 +0.5
baz=22,SNR=8.7
X30A Coker Ranch, T 21.80 341 ⇓P P 12 25 20.9 +0.3
baz=22,SNR=12
SDV Santo Domingo 21.88 101 eP P 12 25 18.4 -3.5
12nm,0.8s
Z26A Caprock 21.94 333 ⇓P P 12 25 23.2 +1.0
baz=22,SNR=21
SWET Sewanee 21.95 14 eP P 12 25 20.7 -1.5
27nm,0.9s
MSTX Muleshoe 22.05 336 eP P 12 25 23.4 0.0
MSTX Muleshoe 22.05 336 ⇓P P 12 25 23.9 +0.5
baz=22,SNR=12
TUL1 Tulsa 22.08 353 eP P 12 25 26.2 +2.7
TUL1 Tulsa 22.08 353 ⇓P P 12 25 23.3 -0.3
baz=22
X29A Tulia 22.08 339 ⇑P P 12 25 23.6 -0.1
baz=22
Y27A Causey 22.13 336 ⇓P P 12 25 25.0 +0.8
baz=22,SNR=20
124A Stringfield Ra 22.15 330 ⇑P P 12 25 26.5 +1.9
baz=22,SNR=150
W31A Holland Ranch, 22.21 343 ⇑P P 12 25 25.7 +0.6
baz=22
Z25A Roswell 22.28 332 ⇓P P 12 25 27.0 +1.1
baz=22,SNR=32
X28A Dimmitt 22.32 338 ⇓P P 12 25 26.8 +0.5
baz=22
W30A Crocket Farms 22.39 342 ⇑P P 12 25 27.5 +0.5
baz=22
Y26A Elida 22.43 334 ⇑P P 12 25 28.3 +0.8
baz=23
WVT Waverly 22.45 10 eP P 12 25 25.7 -1.8
12nm,0.9s
123A Bell Site, Whi 22.51 328 ⇓P P 12 25 29.6 +1.2
baz=23
CPCT Cooper Cave 22.53 17 eP P 12 25 27.8 -0.7
Z24A Sheeppen Canyo 22.62 331 ⇑P P 12 25 31.3 +1.7
baz=23,SNR=105
W29A Amraillo 22.68 340 ⇑P P 12 25 30.0 -0.1
baz=23,SNR=8.8
V31A Spring Creek L 22.74 344 ⇓P P 12 25 31.0 +0.3
baz=23,SNR=7.3
X27A F and S Farms, 22.77 337 ⇑P P 12 25 31.0 -0.1
baz=23
320A Kipp Ranch, An 22.79 322 ⇑P P 12 25 33.8 +2.4
baz=23,SNR=8.7
Y25A Mesa, Roswell 22.81 333 ⇓P P 12 25 33.1 +1.6
baz=23,SNR=50
221A Mesquite Ranch 22.85 324 ⇓P P 12 25 33.9 +2.0
baz=23,SNR=13
X26A CR and CF Fran 22.97 335 ⇓P P 12 25 33.6 +0.4
baz=23,SNR=12
W28A Vega 22.99 339 ⇑P P 12 25 33.9 +0.5
baz=23
Z23A Rita Site, Whi 22.99 329 ⇓P P 12 25 35.7 +2.3
baz=23,SNR=58
W27A Bowe Ranch, En 23.13 337 ⇑P P 12 25 35.1 +0.4
baz=23,SNR=24
Y24A Capitan 23.15 331 ⇑P P 12 25 36.6 +1.6
baz=23,SNR=62
220A Playas Peak, P 23.20 323 ⇓P P 12 25 37.2 +1.7
baz=23,SNR=15
121A Cookes Peak, D 23.24 325 ⇑P P 12 25 38.1 +2.1
baz=24,SNR=35
319A Douglas 23.27 321 ⇓P P 12 25 38.4 +2.2
baz=24,SNR=5.4
X25A Clemmons Ranch 23.31 334 ⇓P P 12 25 37.7 +1.2
baz=23
KMSC Kings Mountain 23.32 23 eP P 12 25 34.7 -1.7
KMSC Kings Mountain 23.32 23 ⇓P P 12 25 34.7 -1.7
baz=23,SNR=7.2
Z22A Elephant Butte 23.36 328 ⇑P P 12 25 39.3 +2.3
baz=24,SNR=21
W26A Owens Ranch, T 23.42 336 ⇓P P 12 25 38.4 +0.8
baz=24

V28A Channing 23.44 339 ⇓P P 12 25 38.7 +1.0
baz=24
Y23A Lovelace Mesa, 23.45 330 ⇓P P 12 25 40.1 +2.2
baz=24,SNR=55
V27A Dan Oppiter Fa 23.66 338 ⇓P P 12 25 40.7 +1.0
baz=24,SNR=8.0
U30A WK&E Inc. Balk 23.67 343 ⇓P P 12 25 40.7 +0.8
baz=24,SNR=14
X24A Lazy VL Ranch, 23.68 332 ⇑P P 12 25 42.1 +2.0
baz=24,SNR=12
120A U Bar Ranch, L 23.73 324 ⇓P P 12 25 42.7 +2.2
baz=24,SNR=17
Z21A St. Cloud Mine 23.77 327 ⇓P P 12 25 43.8 +2.8
baz=24,SNR=8.1
U29A Oasis Ranch, S 23.78 342 ⇓P P 12 25 41.8 +1.0
baz=24
W25A X Bar L Ranch, 23.81 335 ⇓P P 12 25 42.8 +1.5
baz=24,SNR=24
SIUC Southern Illin 23.82 6 eP P 12 25 39.7 -1.4
43nm,1.0s
Y22A Socorro 23.90 329 ⇑P P 12 25 44.6 +2.5
baz=24,SNR=25
BNM Barren Site 23.90 330 eP P 12 25 44.6 +2.4
71nm,1.3s
T31A Randall Ranch, 23.95 345 ⇓P P 12 25 42.8 +0.4
baz=24
U28A Mallet 24.01 340 ⇑P P 12 25 43.6 +0.6
baz=24,SNR=5.2
LPM Los Pinos Moun 24.03 330 eP P 12 25 45.7 +2.4
V26A Tequesquite Ra 24.05 337 ⇑P P 12 25 44.5 +1.1
baz=24,SNR=11
LENM Lemitar 24.08 329 eP P 12 25 47.2 +3.5
Z20A Nine Sixteen R 24.13 325 ⇓P P 12 25 46.6 +2.4
baz=24
W24A Lazy 6 Ranch, 24.21 333 ⇓P P 12 25 46.9 +2.0
baz=24,SNR=32
U27A Thompson Grove 24.25 339 ⇑P P 12 25 47.1 +1.9
baz=24,SNR=12
USIN University of 24.27 9 eP P 12 25 45.1 -0.1
62nm,1.1s
Y21A Point of Rocks 24.32 328 ⇑P P 12 25 48.6 +2.6
baz=24,SNR=30
LAZ Ladron 24.36 329 eP P 12 25 48.7 +2.5
21nm,1.3s
X22A Bernardo 24.37 330 ⇓P P 12 25 48.9 +2.5
baz=24,SNR=17
V25A Rancho No Teng 24.41 335 ⇓P P 12 25 48.3 +1.6
baz=24,SNR=23
T29A Hugoton 24.44 343 ⇑P P 12 25 47.3 +0.5
baz=24
ANMO Albuquerque 24.47 331 eP P 12 25 49.0 +1.7
14nm,0.8s
ANMO P pP 12 25 49.3 -11
ANMO Albuquerque 24.47 331 P P 12 25 49.3 +2.1
10nm,0.6s,baz=152,slow=12,SNR=45
W23A Werner Place, 24.50 332 ⇓P P 12 25 49.5 +1.9
baz=25,SNR=6.7
U26A Atchley Ranch, 24.56 337 ⇓P P 12 25 49.0 +0.9
baz=25,SNR=13
V24A Rampart Ranch, 24.59 334 ⇑P P 12 25 50.1 +1.7
baz=25,SNR=19
Y20A Horse Springs, 24.61 327 ⇑P P 12 25 51.5 +2.9
baz=25,SNR=26
T28A Walsh 24.66 341 ⇑P P 12 25 48.0 -0.9
baz=25,SNR=7.1
S30A Montezuma 24.66 344 ⇓P P 12 25 49.3 +0.4
baz=25
X21A Alamocita Cree 24.71 328 ⇓P P 12 25 52.7 +3.1
baz=25,SNR=41
W22A Albuquerque 24.76 331 ⇓P P 12 25 53.2 +3.2
baz=25,SNR=12
WCI Wyandotte Cave 24.77 11 eP P 12 25 47.5 -2.2
31nm,0.8s
T27A Campo 24.80 340 ⇓P P 12 25 50.7 +0.5
baz=25
U25A Circle Dot Ran 24.82 336 ⇓P P 12 25 51.5 +1.1
baz=25,SNR=16
S29A Ulysses 24.82 343 ⇓P P 12 25 51.4 +1.1
baz=25,SNR=24
TUC Tucson 24.84 320 eP P 12 25 53.1 +2.5
10.0nm,1.0s
OLIL Olney 24.96 8 eP P 12 25 50.7 -0.8
43nm,0.8s
V23A Ortiz Mt. (NFS 25.00 333 ⇑P P 12 25 55.2 +3.0
baz=25,SNR=33
S28A Manter 25.02 342 ⇑P P 12 25 52.5 +0.4
baz=25,SNR=5.7
R31A Burdett 25.05 347 ⇑P P 12 25 51.8 -0.6
baz=25,SNR=5.5
ATAH Atahualpa 25.13 146 P P 12 25 55.9 +2.2
ATAH Atahualpa 25.13 146 P P 12 25 55.9 +2.2
19nm,0.9s,baz=12,slow=5.7,SNR=8.4
ATAH LR LR 12 34 26.7
comp=Z,190nm,20.9s,baz=293,slow=33
X20A Quemado 25.16 327 ⇓P P 12 25 55.8 +2.2
baz=25,SNR=13
U24A Moreno Valley 25.18 335 ⇑P P 12 25 55.0 +1.2
baz=25
W21A San Fidel 25.18 329 ⇓P P 12 25 54.6 +0.9
baz=25
T26A Comanche Natio 25.20 339 ⇑P P 12 25 54.5 +0.6
baz=25
R30A Dighton 25.23 345 ⇓P P 12 25 53.8 -0.2
baz=25,SNR=12
KSU1 Kansas State U 25.32 352 eP P 12 25 54.4 -0.4
17nm,0.7s
S27A Las Animas 25.42 340 ⇑P P 12 25 56.9 +1.0
baz=26
T25A Trinidad 25.47 337 ⇓P P 12 25 58.1 +1.8
baz=26,SNR=13
V22A San Miguel Ran 25.47 332 ⇓P P 12 25 58.3 +1.9
baz=26,SNR=14
U23A El Rito 25.49 333 ⇓P P 12 25 58.5 +1.9
baz=26,SNR=39
S26A Kim 25.56 339 ⇓P P 12 25 58.3 +1.2
baz=26
R29A Marienthal 25.58 344 ⇑P P 12 25 58.0 +0.8
baz=26,SNR=6.9
W20A Ramah 25.61 328 ⇑P P 12 25 60.0 +2.3
baz=26,SNR=29
BLO Bloomington 25.64 11 eP P 12 25 56.6 -1.0
R28A Tribune 25.69 343 ⇑P P 12 25 57.8 -0.4
baz=26,SNR=6.5
Q31A Ellis 25.71 347 ⇓P P 12 25 58.6 +0.2
baz=26
V21A Milan 25.72 330 ⇓P P 12 26 00.3 +1.6
baz=26,SNR=8.0
T24B San Luis 25.78 336 ⇑P P 12 26 01.0 +1.7
baz=26,SNR=7.5
U22A Llaves 25.83 332 ⇓P P 12 26 02.3 +2.6
baz=26,SNR=25
X18A Snowflake 25.93 325 ⇑P P 12 26 02.6 +2.0
baz=26,SNR=12
S25A Robets Cordova 25.94 338 ⇑P P 12 26 02.0 +1.4
baz=26
R27A Eads 25.94 341 ⇓P P 12 26 01.3 +0.8
baz=26
Q29A Oakley 25.98 345 ⇓P P 12 26 02.0 +1.2
baz=26,SNR=5.9
T23A Casias Ranch, 26.03 334 ⇑P P 12 26 03.2 +1.7
baz=26
V20A Brimhall 26.12 329 ⇑P P 12 26 04.3 +2.0
baz=26,SNR=8.6
R26A Arlington 26.16 340 ⇑P P 12 26 03.8 +1.3
baz=26
P31A Stockton 26.20 348 ⇓P P 12 26 03.9 +1.1
baz=26
S24A Houchin Ranch, 26.21 336 ⇑P P 12 26 04.7 +1.4
baz=26
U21A Nageezi 26.24 331 ⇑P P 12 26 06.3 +2.9
baz=26,SNR=16
W18A Petrified Fore 26.25 326 eP P 12 26 06.1 +2.6
W18A Petrified Fore 26.25 326 ⇑P P 12 26 05.9 +2.4
baz=26
Q28A Sharon Springs 26.37 343 ⇓P P 12 26 04.7 +0.3
baz=26
T22A Edith 26.38 333 ⇑P P 12 26 06.5 +1.9
baz=26,SNR=8.7
P30A Selden 26.42 346 ⇑P P 12 26 04.9 +0.1
baz=26
SDCO Great Sand Dun 26.42 336 eP P 12 26 06.7 +1.7
4.4nm,1.0s
KSCO Kaye Shedlock' 26.55 342 eP P 12 26 06.7 +0.6
KSCO Kaye Shedlock' 26.55 342 ⇓P P 12 26 06.4 +0.3
baz=27
U20A Newcomb 26.61 330 ⇑P P 12 26 08.9 +2.3
baz=27,SNR=6.3
P29A Atwood 26.64 345 ⇓P P 12 26 07.0 +0.3

baz=27
T21A Navajo Lake 26.64 332 ⇓P P 12 26 09.3 +2.3
baz=27,SNR=9.6
R24A Sanders Place, 26.69 337 ⇑P P 12 26 08.7 +1.3
baz=27,SNR=5.9
X16A Lo Mia Camp, P 26.70 323 ⇑P P 12 26 09.6 +2.1
baz=27,SNR=12
SFIN Scholer Farm 26.72 9 eP P 12 26 05.6 -1.8
SFIN Scholer Farm 26.72 9 ⇓P P 12 26 05.7 -1.7
baz=26,SNR=6.3
Q26A Hugo 26.75 340 ⇑P P 12 26 08.7 +0.9
baz=27
O31A Woolen Ranch, 26.80 348 ⇑P P 12 26 09.1 +1.0
baz=27
P28A Saint Francis 26.82 344 ⇑P P 12 26 09.1 +0.7
baz=27
R23A Moffat 26.93 336 ⇑P P 12 26 11.1 +1.5
baz=27
S22A 4UR Ranch, Cre 26.96 334 ⇑P P 12 26 11.6 +1.7
baz=27,SNR=12
113A Mohawk Valley, 27.05 317 ⇑P P 12 26 12.2 +1.8
baz=27
O29A 4D Ranch, Culb 27.10 346 ⇓P P 12 26 11.9 +1.0
baz=27
MVCO Mesa Verde 27.27 331 ⇑P P 12 26 14.4 +1.8
baz=27,SNR=26
P26A Davis Ranch, A 27.28 341 ⇓P P 12 26 13.8 +1.2
baz=27
S21A Coal Bank Pass 27.31 333 ⇑P P 12 26 15.4 +2.3
baz=28
Y14A Wickenburg 27.31 320 ⇑P P 12 26 15.3 +2.4
baz=28
R22A Saguache, Gunn 27.34 335 ⇑P P 12 26 16.0 +2.6
baz=28
Q24A Divide 27.35 338 ⇑P P 12 26 16.0 +2.5
baz=28
WUAZ Wupatki 27.45 325 eP P 12 26 16.9 +2.7
8.0nm,0.9s
WUAZ Wupatki 27.45 325 ⇓P P 12 26 16.6 +2.4
baz=28
O27A Beecher Island 27.60 343 ⇑P P 12 26 16.7 +1.3
baz=28
S20A Disappointment 27.70 332 ⇓P P 12 26 18.7 +2.1
baz=28
GLA Glamis 27.92 317 ⇑P P 12 26 20.9 +2.6
baz=28
Q22A Crested Butte, 27.94 335 ⇓P P 12 26 21.0 +2.2
baz=28
P23A Jefferson 27.96 337 ⇑P P 12 26 21.1 +2.1
baz=28
N27A Anderson Farm, 28.19 344 ⇑P P 12 26 22.2 +1.6
baz=28
Q21A Lamborn Mesa, 28.19 334 ⇑P P 12 26 22.6 +1.8
baz=28
SMCO Snowmass P 12 26 25.1 +3.6
14nm,1.4s
ISCO Idaho Springs 28.26 338 ⇓P P 12 26 23.7 +2.1
baz=28
PDMCI Parker Dam,Lak 28.26 320 ⇑P P 12 26 24.0 +2.8
baz=28
SWSC Sam W. Stewart 28.51 316 ⇑P P 12 26 25.3 +1.9
baz=29
DVTC Desert V Tower 28.55 315 ⇓P P 12 26 26.1 +2.1
baz=29,SNR=7.0
U15A North Rim 28.62 325 ⇑P P 12 26 26.6 +1.8
baz=29,SNR=6.5
W13A Hualapai Mount 28.63 321 ⇓P P 12 26 27.4 +2.6
baz=29
BC3 Big Chuckawall 28.70 317 ⇓P P 12 26 27.5 +2.2
baz=29,SNR=8.2
P21A Newcastle 28.72 335 ⇓P P 12 26 28.3 +2.7
baz=29
MONP Monument Peak 28.90 315 ⇑P P 12 26 29.8 +2.5
baz=29
O22A Kremmling 28.92 337 ⇑P P 12 26 28.3 +0.9
baz=29
P20A De Beque 29.09 334 ⇓P P 12 26 30.8 +1.9
baz=29
BELC Belle Mtn. Jos 29.27 317 ⇑P P 12 26 33.1 +2.6
baz=30
N23A Red Feather La 29.34 339 ⇑P P 12 26 33.0 +1.9
baz=29
PFO Pinyon Flat Ob 29.34 316 LR LR 12 38 51.8
comp=Z,230nm,22.0s,baz=140,slow=37
PFO Pinyon Flat Ob 29.34 316 ⇑P P 12 26 33.9 +2.8
baz=30
LDFC Landfair 29.37 320 eP P 12 26 35.0 +3.8
K29A Lazy Trails An 29.51 348 ⇓P P 12 26 34.3 +2.0
baz=30
GMRC Granite Mounta 29.53 319 ⇓P P 12 26 35.1 +2.4
baz=30
O20A White River Ci 29.56 335 ⇓P P 12 26 35.1 +2.1
baz=30
SRU San Rafael 29.74 331 eP P 12 26 36.7 +2.1
9.0nm,1.1s
N21A Black Mountain 29.81 336 ⇑P P 12 26 37.0 +1.8
baz=30
Q16A Castle Valley 29.90 330 eP P 12 26 38.8 +2.7
Q16A Castle Valley 29.90 330 ⇑P P 12 26 37.8 +1.8
baz=30,SNR=5.6
HEC Hector,Ludlow 30.00 318 ⇑P P 12 26 39.6 +2.8
baz=30
CCUT Cedar City 30.02 325 eP P 12 26 40.5 +3.4
9.4nm,1.0s
CCUT eP cP cP 12 29 43.2 +4.8
O19A Miners Draw (B 30.07 334 ⇑P P 12 26 39.9 +2.5
baz=30
MVU Marysvale 30.11 328 eP P 12 26 42.2 +4.3
MVU eP cP cP 12 29 40.8 +2.2
TUQ Turquoise Moun 30.11 319 ⇓P P 12 26 39.9 +2.1
baz=30
N20A Spence Gulch, 30.16 336 ⇓P P 12 26 39.3 +1.0
baz=30,SNR=7.1
TMUT Trail Mountain 30.21 330 eP P 12 26 43.2 +4.3
8.3nm,1.0s
ARUT Antelope Range 30.24 326 eP P 12 26 41.8 +2.9
248nm,1.0s
SHPR Sheep Range 30.34 322 eP P 12 26 42.6 +2.7
J28A Allard Ranch, 30.34 347 ⇓P P 12 26 41.3 +1.7
baz=30
L23A Garrett 30.34 340 ⇑P P 12 26 41.4 +1.4
baz=30
GSC Goldstone 30.59 318 eP cP cP 12 29 41.6 +1.9
J26A Sides Ranch, S 30.67 345 ⇑P P 12 26 43.7 +1.1
baz=31
L21A Rawlins 30.79 338 ⇓P P 12 26 45.5 +1.7
baz=31
MPU Maple Canyon 30.98 330 eP P 12 26 47.9 +2.4
15nm,1.0s
K22A Casper 31.10 340 ⇓P P 12 26 48.1 +1.7
baz=31
DAU Daniels Canyon 31.12 331 eP P 12 26 49.3 +2.5
LRMC Laurel Mountai 31.27 318 ⇑P P 12 26 50.4 +2.3
baz=32
H29A Onida 31.29 349 ⇓P P 12 26 48.5 +0.5
baz=31
FURC Furnace Creek, 31.35 320 ⇓P P 12 26 51.0 +2.4
baz=32
JLU Jordanelle P 12 26 52.5 +3.6
16nm,1.6s
MPMC Manual Prospec 31.50 319 ⇓P P 12 26 51.4 +1.2
baz=32,SNR=6.3
I25A Rochford 31.50 344 ⇓P P 12 26 51.0 +1.0
baz=32
I24A Kuemmerle Ranc 31.60 343 ⇓P P 12 26 52.4 +1.6
baz=32
RSSD Black Hills 31.68 344 eP P 12 26 52.4 +0.8
DUG Dugway 31.69 329 eP P 12 26 54.3 +2.5
8.7nm,1.1s
DUG Dugway 31.69 329 ⇑P P 12 26 54.6 +2.8
baz=32
M17A Scullys Gap (B 31.70 333 ⇓P P 12 26 53.7 +1.8
baz=32
K20A Yellowstone Ra 31.75 337 ⇓P P 12 26 54.1 +1.8
baz=32
L18A Fontenelle, Gr 31.80 335 ⇑P P 12 26 54.8 +2.0
baz=32
R11A Troy Canyon, C 31.83 324 eP P 12 26 56.1 +3.0
R11A Troy Canyon, C 31.83 324 ⇑P P 12 26 55.6 +2.5
baz=32
H25A Fruitdale 32.03 345 ⇓P P 12 26 55.1 +0.6
baz=32
J21A Lysite 32.03 339 ⇑P P 12 26 56.3 +1.6
baz=32
I22A 9 Mile Ranch, 32.19 341 ⇑P P 12 26 56.8 +0.8
baz=32
PDAR Pinedale Array 32.31 336 P P 12 26 58.1 +0.8
PDAR P cP cP 12 29 44.2 -0.2

PDAR Pinedale Array 32.31 336 P P 12 26 58.1 +0.8
1.2nm,0.8s,baz=130,slow=11,SNR=4.0
PDAR PcP **PcP 12 29 44.2 -0.2**
0.8nm,0.7s,baz=134,slow=6.4,SNR=3.9
PDAR LR LR 12 42 24.9
comp=Z,147nm,19.4s,baz=158,slow=40
BGU Big Grassy Mou 32.36 330 *e*P **P 12 27 00.1 +2.5**
9.3nm,0.8s
H24A Dirks Ranch, A 32.40 344 ⇊P **P 12 26 58.9 +1.1**
baz=32
I20A Worland 32.80 339 ⇑P **P 12 27 02.8 +1.5**
baz=33
G24A Alzada 32.90 344 ⇑P **P 12 27 02.4 +0.2**
baz=33
HVU Hansel Valley 32.90 331 *e*P **P 12 27 04.9 +2.6**
16nm,0.9s
F26A Lodgepole 32.96 347 ⇑P **P 12 27 02.8 +0.2**
baz=33
G23A Biddle 33.05 343 ⇑P **P 12 27 04.3 +0.9**
baz=33
I19A Meeteetse 33.18 338 ⇑P **P 12 27 06.6 +1.8**
baz=33
F25A Bowman 33.21 346 ⇑P **P 12 27 05.8 +0.9**
baz=33
G22A Birney 33.33 342 ⇑P **P 12 27 06.7 +0.8**
baz=33
REDW Red Top Meadow 33.33 335 *e*P **P 12 27 07.7 +1.5**
14nm,0.8s
ELK Elko 33.34 327 *e*P **P 12 27 09.0 +2.8**
5.3nm,0.7s
SNOW Snow King Moun 33.38 335 *e*P **P 12 27 08.3 +1.8**
NV11 Mina Array Sit 33.40 322 *e*P P 12 27 10.0 +3.3
LOHW Long Hollow 33.44 336 *e*P P **12 27 08.2 +1.2**
TPAW Teton Pass 33.48 335 *e*P **P 12 27 09.2 +1.7**
9.3nm,0.9s
NVAR Mina Array Bea 33.48 321 LR LR 12 42 17.3
comp=Z,288nm,19.2s,baz=144,slow=39
E26A Carlson Angus 33.51 347 ⇊P **P 12 27 07.9 +0.5**
baz=34
MOOW Moose Ponds 33.61 336 *e*P **P 12 27 09.9 +1.4**
19nm,1.9s
IMW Indian Meadow 33.81 336 *e*P **P 12 27 11.6 +1.2**
19nm,1.8s
H18A Shoshone NF, C 33.98 338 ⇑P **P 12 27 12.2 +0.5**
baz=34,SNR=8.2
E24A Baker 34.02 345 ⇊P **P 12 27 12.5 +0.7**
baz=34
D26A Manning 34.03 348 ⇑P **P 12 27 11.8 -0.1**
baz=34
BMN Battle Mountai 34.18 325 *e*P **P 12 27 16.4 +2.9**
14nm,1.1s
WAKR Walker 34.22 321 *e*P **P 12 27 16.8 +2.9**
12nm,1.4s
E22A Miles City 34.34 343 ⇊P **P 12 27 15.2 +0.7**
baz=34
D25A Fairfield 34.34 347 ⇊P **P 12 27 15.4 +0.8**
baz=34
CMB Columbia Colle 34.53 319 *e*P **P 12 27 19.4 +2.9**
9.3nm,1.3s
D24A Glendive 34.54 346 ⇊P **P 12 27 17.3 +0.9**
baz=35
F19A Roth Farm, Mol 34.74 340 ⇑P **P 12 27 19.0 +0.8**
baz=35
B30A Myrvik Farm, E 34.74 353 ⇑P **P 12 27 18.9 +0.8**
baz=35
PAHR Pah Rah Range 34.95 322 *e*P **P 12 27 23.3 +3.2**
12nm,1.2s
B28A Dugan Ranch, T 35.02 351 ⇑P **P 12 27 21.1 +0.7**
baz=35
HLID Hailey 35.04 332 *e*P **P 12 27 22.9 +2.0**
13nm,0.8s
HLID Hailey 35.04 332 ⇑P **P 12 27 22.4 +1.4**
baz=35,SNR=30
D22A Cohagen 35.05 344 ⇑P **P 12 27 21.0 +0.3**
baz=35,SNR=12
D21A La Casta Ranch 35.20 343 ⇑P **P 12 27 23.2 +1.1**
baz=35
E19A Rath Farm, Rou 35.22 340 ⇊P **P 12 27 23.8 +1.6**
baz=35
A29A Manning Farm, 35.32 352 ⇑P **P 12 27 23.8 +0.7**
baz=35
MCMT McKenzie Canyo 35.36 335 *e*P **P 12 27 25.2 +1.6**
9.5nm,0.9s
C23A Lambert 35.39 345 ⇊P **P 12 27 24.4 +0.7**
baz=35
C22A Vida 35.52 344 ⇑P **P 12 27 25.5 +0.7**
baz=36
BOZ Bozeman (W) 35.54 337 *e*P **P 12 27 26.5 +1.4**
3.5nm,1.1s
D20A Manuel Ranch, 35.57 341 ⇑P **P 12 27 25.8 +0.6**
baz=36,SNR=6.0
MFID Camas Ranch 35.60 330 ⇊P **P 12 27 27.2 +1.5**
baz=36,SNR=11
DLMT Dillon 35.69 335 *e*P **P 12 27 28.4 +2.0**
A26A Wade Farm, Ken 35.74 349 ⇊P **P 12 27 26.7 +0.1**
baz=36,SNR=5.8
DGMT Dagmar 35.78 346 *e*PcP **PcP 12 29 55.0 +1.2**
DGMT Dagmar 35.78 346 ⇊P **P 12 27 27.0 +0.1**
baz=36
D19A Cripps Ranch, 35.87 341 ⇑P **P 12 27 28.4 +0.6**
baz=36
C21A Desert Coulee 35.92 343 ⇑P **P 12 27 28.9 +0.6**
baz=36
B23A Brockton 35.96 346 ⇊P **P 12 27 29.6 +1.1**
baz=36
LRM Limekiln Ridge 36.01 336 *e*P **P 12 27 31.0 +1.8**
B22A Reddig Ranch S 36.06 344 ⇊P **P 12 27 30.1 +0.7**
baz=36
C20A Veseth Ranch, 36.09 342 ⇊P **P 12 27 30.6 +0.9**
baz=36
A24A Westby 36.16 347 ⇊P **P 12 27 31.0 +0.8**
baz=36
ULM Lac du Bonnet 36.30 356 LR LR 12 44 51.3
comp=Z,151nm,18.1s,baz=226,slow=40
WVOR Wild Horse Val 36.33 326 *e*P **P 12 27 34.0 +2.1**
18nm,1.0s
A23A Redstone 36.40 346 ⇊P **P 12 27 33.0 +0.8**
baz=36
C19A Slack Wire Ran 36.43 341 ⇑P **P 12 27 33.3 +0.7**
baz=36
A22A Carney Farms, 36.68 345 ⇑P **P 12 27 35.5 +0.8**
baz=37
B20A Solberg Farm, 36.74 343 ⇊P **P 12 27 36.0 +0.8**
baz=37
SAML Samuel 36.83 127 *e*P **P 12 27 34.8 -1.5**
14nm,1.1s
J08A Circle Bar Ran 36.89 328 *e*P **P 12 27 38.6 +2.0**
45nm,0.8s
MOD Modoc 36.89 324 *e*P **P 12 27 38.6 +1.9**
EGMT Eagleton 36.91 340 ⇊P **P 12 27 37.2 +0.6**
baz=37
B19A Brinkman Farms 37.03 342 ⇑P **P 12 27 38.4 +0.7**
baz=37
A20A Cobblestone Ra 37.11 343 ⇊P **P 12 27 38.8 +0.4**
baz=37
BMO Blue Mountains 37.38 330 *e*P **P 12 27 41.9 +1.1**
11nm,1.0s
A19A Klindworth Far 37.40 342 ⇊P **P 12 27 41.0 +0.3**
baz=38
MSO Missoula 37.43 335 *e*P **P 12 27 44.0 +2.8**
7.0nm,1.0s
MSO Missoula 37.43 335 ⇊P **P 12 27 41.8 +0.6**
baz=38
I07A Izee 37.93 328 *e*P **P 12 27 47.0 +1.5**
16nm,1.1s
SWMT Swartz Lake 38.00 336 *e*P **P 12 27 45.8 -0.1**
F10A Beach Ranch, E 38.18 332 *e*P **P 12 27 47.3 -0.2**
49nm,0.7s
LPAZ La Paz 38.42 141 P **P 12 27 50.6 +0.2**
LPAZ *e*P pP 12 27 51.1 -13
LPAZ La Paz 38.42 141 P **P 12 27 50.6 +0.2**
4.8nm,0.7s,baz=320,slow=6.8,SNR=23
LPAZ LR LR 12 43 20.6
comp=Z,132nm,19.3s,baz=39,slow=36
G08A Pilot Rock 38.50 329 *e*P **P 12 27 53.0 +2.8**
33nm,2.3s
BSMT Bassoo Peak 38.59 336 *e*P **P 12 27 53.6 +2.5**
E09A Wood Farm, Sta 39.01 331 *e*P **P 12 27 55.7 +1.4**
11nm,0.8s
HAWA Hanford 39.57 330 *e*P **P 12 28 01.5 +2.5**
H04A Detroit Lake 39.75 326 *e*P **P 12 28 02.4 +1.8**
33nm,1.0s
NEW Newport 39.88 334 *e*P **P 12 28 03.3 +1.7**
3.0nm,0.7s
NEW Newport 39.88 334 ⇊P **P 12 28 02.3 +0.7**
baz=40
C09A Chrisman Ranch 40.03 333 *e*P **P 12 28 04.5 +1.7**
16nm,0.8s

LTY Liberty 40.74 330 *e*P **P 12 28 10.9 +2.2**
35nm,1.4s
ETW Entiat 40.82 331 P **P 12 28 11.6 +2.0**
LON Longmire 40.94 329 *e*P **P 12 28 12.2 +1.8**
14nm,0.8s
RPW Rockport 41.98 331 P **P 12 28 21.2 +2.3**
EDM Edmonton 42.56 341 *e*P **P 12 28 23.7 +0.1**
OSD Olympics--Snow 42.62 329 P P 12 28 28.3 +4.1
A05A Maple Falls 42.64 331 *e*P **P 12 28 25.9 +1.8**
31nm,1.1s
LVC Limon Verde 43.00 147 *e*P **P 12 28 28.1 +0.5**
12nm,1.2s
PGC Sidney 43.05 330 *e*P **P 12 28 29.2 +1.7**
1.8nm,0.8s
SCHQ Schefferville 45.38 21 P **P 12 28 43.9 -2.2**
SCHQ Schefferville 45.38 21 P **P 12 28 43.9 -2.2**
2.2nm,0.6s,baz=228,slow=14,SNR=2.3
SCHQ LR LR 12 48 56.4
comp=Z,285nm,18.6s,baz=246,slow=38
YKA Yellowknife Ar 50.99 347 P **P 12 29 28.9 -0.2**
YKA Yellowknife Ar 50.99 347 P **P 12 29 28.9 -0.2**
3.4nm,0.6s,baz=151,slow=7.3,SNR=15
DLBC Dease Lake 52.55 336 *e*P **P 12 29 43.9 +2.9**
TAOE Nuku Hiva Isla 52.56 247 *e*T T 13 26 13.5
103nm,0.3s
CPUP Villa Florida 52.58 140 *e*P **P 12 29 40.3 -1.2**
9.5nm,0.5s
CPUP P **P 12 29 40.8 -0.7**
CPUP Villa Florida 52.58 140 P **P 12 29 40.8 -0.7**
4.2nm,0.6s,baz=309,slow=7.2,SNR=11
CPUP LR LR 12 53 24.9
comp=Z,197nm,19.4s,baz=116,slow=38
BDFB Brasilia 52.80 122 LR LR 12 54 48.8
comp=Z,142nm,18.4s,baz=329,slow=39
RKT Rikitea 55.65 229 *e*LR LR 12 46 20.2
218nm,25.2s
RKT Rikitea 55.65 229 *e*T T 13 30 02.7
3.6nm,0.3s
PLCA Paso Flores 58.05 161 P **P 12 30 22.5 +1.7**
PLCA Paso Flores 58.05 161 P **P 12 30 22.5 +1.7**
5.2nm,1.0s,baz=337,slow=5.4,SNR=4.8
PLCA LR LR 12 50 53.1
comp=Z,292nm,20.6s,baz=319,slow=31
PMOR Pomariorio Ree 62.01 244 *e*T T 13 38 19.1
5.0nm,0.4s
ILAR Eielson Array 62.74 337 P **P 12 30 52.7 +0.3**
ILAR Eielson Array 62.74 337 P **P 12 30 52.7 +0.3**
4.0nm,0.9s,baz=129,slow=4.7,SNR=26
ILAR LR LR 13 00 24.9
comp=Z,166nm,18.1s,baz=129,slow=38
RSO Redoubt South 63.52 331 *e*P **P 12 30 59.1 +1.2**
72nm,0.7s
PPT2 Papeete2 64.57 243 *e*LR LR 12 50 27.1
104nm,21.2s
TBI Tubuai 67.03 237 *e*LR LR 12 51 35.6
104nm,26.5s
TBI Tubuai 67.03 237 *e*T T 13 44 22.4
2.6nm,0.2s
ESDC Sonseca Array 80.02 52 P **P 12 32 34.0 -3.2**
ESDC Sonseca Array 80.02 52 P **P 12 32 34.0 -3.2**
1.5nm,0.8s,baz=295,slow=5.6,SNR=6.0
GRR Gorron 80.69 42 *e*P **P 12 32 38.1 -2.4**
12nm,0.6s
GRR Gorron 80.69 42 *e*P **P 12 32 38.1 -2.4**
12nm,0.6s
FLN La Foliniere 80.87 42 *e*P **P 12 32 40.0 -1.5**
FLN La Foliniere 80.87 42 *e*P **P 12 32 40.0 -1.5**
MFF Saint Martin d 81.50 44 *e*P **P 12 32 42.3 -2.6**
17nm,1.0s
MFF Saint Martin d 81.50 44 *e*P **P 12 32 42.3 -2.6**
17nm,1.0s
TCF Toulx Ste Croi 83.16 44 *e*P P 12 32 50.0 -3.6
TCF Toulx Ste Croi 83.16 44 *e*P P 12 32 50.0 -3.6
BGF Bois d'Agland 83.53 44 *e*P **P 12 32 52.9 -2.5**
BGF Bois d'Agland 83.53 44 *e*P **P 12 32 52.9 -2.5**
AVF Avril sur Loir 83.81 43 *e*P **P 12 32 54.1 -2.8**
6.4nm,0.8s
AVF Avril sur Loir 83.81 43 *e*P **P 12 32 54.1 -2.8**
6.4nm,0.8s
SSF Saint Saulge 83.85 43 *e*P **P 12 32 54.4 -2.7**
6.4nm,0.7s
SSF Saint Saulge 83.85 43 *e*P **P 12 32 54.4 -2.7**
6.4nm,0.7s
LOR Lormes 84.04 43 *e*P P 12 32 54.8 -3.2
14nm,1.0s
LOR Lormes 84.04 43 *e*P P 12 32 54.8 -3.2
14nm,1.0s
SMF Signal de Mont 84.18 44 *e*P **P 12 32 55.9 -2.9**
SMF Signal de Mont 84.18 44 *e*P **P 12 32 55.9 -2.9**
NOA NORSAR Array B 84.35 28 P **P 12 32 58.0 -1.4**
NOA NORSAR Array B 84.35 28 P **P 12 32 58.0 -1.4**
1.3nm,0.8s,baz=291,slow=4.9,SNR=3.3
NOA LR LR 13 09 55.1
comp=Z,31nm,19.4s,baz=190,slow=35
VIVF Saint-Julien-l 85.19 45 *e*P **P 12 33 01.4 -2.5**
31nm,1.3s
VIVF Saint-Julien-l 85.19 45 *e*P **P 12 33 01.4 -2.5**
31nm,1.3s
HAU Haudompre 85.47 42 *e*P **P 12 33 02.4 -2.9**
HAU Haudompre 85.47 42 *e*P **P 12 33 02.4 -2.9**
ARCES ARCESS Array B 86.28 18 P **P 12 33 07.5 -1.3**
ARCES ARCESS Array B 86.28 18 P **P 12 33 07.5 -1.3**
1.4nm,0.6s,baz=308,slow=6.0,SNR=5.5
ARCES LR LR 13 10 29.3
comp=Z,115nm,19.4s,baz=266,slow=35
GERES GERESS Array B 89.86 39 P **P 12 33 23.6 -2.8**
GERES GERESS Array B 89.86 39 P **P 12 33 23.6 -2.8**
0.6nm,0.7s,baz=321,slow=3.4,SNR=4.4
FINES FINESS Array B 90.68 25 P **P 12 33 27.5 -2.3**
FINES FINESS Array B 90.68 25 P **P 12 33 27.5 -2.3**
4.9nm,1.1s,baz=288,slow=10,SNR=3.4
FINES LR LR 13 15 06.9
comp=Z,51nm,19.6s,baz=90,slow=36
TORD Torodi Ar. Bea 90.73 76 P **P 12 33 28.6 -2.3**
TORD Torodi Ar. Bea 90.73 76 P **P 12 33 28.6 -2.3**
0.3nm,0.5s,baz=291,slow=3.5,SNR=4.7
TORD LR LR 13 11 44.4
comp=Z,71nm,18.2s,baz=255,slow=34
AKASG Malin Array Be 97.95 33 LR LR 13 21 50.4
comp=Z,46nm,18.1s,baz=280,slow=38
CN2 Changchun 112.96 331 *e*PKP **PKiKP 12 39 03.5 -0.9**
CN2 LR LR
comp=N,200nm,19.0s
CN2 LR LR
comp=E,200nm,19.0s
CN2 LR LR
comp=Z,200nm,21.0s
KURK Kurchatov 115.12 6 PKP **PKPdf 12 39 06.4 -1.9**
KURBB Kurchatov Arra 115.20 6 PKP **PKPdf 12 39 06.4 -2.1**
comp=Z,0.7nm,0.7s,baz=345,slow=2.0,SNR=6.4
SONM Songino Array 116.25 346 PKP **PKPdf 12 39 09.6 -1.3**
SONM Songino Array 116.25 346 PKP **PKPdf 12 39 09.6 -1.3**
comp=Z,0.6nm,0.8s,baz=20,slow=4.6,SNR=3.3
MKAR Makanchi Array 119.34 4 PKP **PKPdf 12 39 14.1 -2.6**
MKAR Makanchi Array 119.34 4 PKP **PKPdf 12 39 14.1 -2.6**
comp=Z,0.3nm,0.5s,baz=10,slow=1.4,SNR=4.1
BOSA Boshof 120.66 115 PKP **PKPdf 12 39 19.0 -0.8**
BOSA Boshof 120.66 115 PKP **PKPdf 12 39 19.0 -0.8**
comp=Z,4.1nm,0.8s,baz=80,slow=4.4,SNR=3.6
HHC Hu-ho-hao-te 121.13 339 *e*PKP **PKPdf 12 39 21.0 +0.6**
HHC PKS **PKSdf 12 42 56.0 -1.2**
HHC SKS **SKSdf 12 46 28.5 0.0**
HHC SKKS **SKKSac 12 47 43.0 -3.2**
HHC AMB AMB
comp=Z,150nm,9.5s
HHC LR LR
comp=N,230nm,17.8s
HHC LR LR
comp=E,230nm,17.8s
HHC LR LR
comp=Z,230nm,16.7s
WMQ Urumqi 122.50 360 *e*PKP **PKPdf 12 39 24.0 +1.1**
WMQ LR LR
comp=E,58nm,21.8s
WMQ LR LR
comp=Z,52nm,26.7s
MAW Mawson 124.00 169 PKP **PKPdf 12 39 25.3 +0.5**
MAW Mawson 124.00 169 PKP **PKPdf 12 39 25.3 +0.5**
comp=Z,2.0nm,0.8s,baz=238,slow=8.3,SNR=6.1
KSH Kashi 125.70 11 *e*PKP **PKPdf 12 39 29.5 +0.2**
KSH sPKP 12 39 43.8
KSH PP **PP 12 41 23.5 +3.3**
KSH PKS **PKSdf 12 43 04.8 -1.2**
KSH SKS **SKSdf 12 46 36.3 -0.9**
KSH AMB AMB
comp=Z,59nm,4.3s

KSH LR LR
comp=N,95nm,5.0s
KSH LR LR
comp=E,75nm,6.7s
KSH LR LR
comp=Z,120nm,6.0s
GTA Gaotai 125.71 348 PKP **PKPdf 12 39 30.0 +0.7**
GTA sPKP 12 39 44.3
STKA Stephens Creek 127.73 240 PKP **PKPdf 12 39 33.8 +0.7**
STKA Stephens Creek 127.73 240 PKP **PKPdf 12 39 33.8 +0.7**
comp=Z,3.8nm,0.8s,baz=359,slow=22,SNR=5.0
LZH Lanzhou 127.92 343 *e*PKP PKPdf 12 39 24.8 -8.8
LZH pPKP **PKiKP 12 39 35.3 +1.1**
LZH sPKP 12 39 38.8
LZH LR LR
comp=N,140nm,18.0s
LZH LR LR
comp=E,140nm,18.2s
LZH LR LR
comp=Z,170nm,20.0s
CD2 Chengdu 132.77 341 PKP **PKPdf 12 39 44.0 +1.2**
WRA Warramunga Arr 135.04 256 PKP **PKPdf 12 39 47.6 +0.4**
WRA Warramunga Arr 135.04 256 PKP **PKPdf 12 39 47.6 +0.4**
comp=Z,2.0nm,0.8s,baz=84,slow=1.8,SNR=12
ASAR Alice Springs 135.32 250 PKP **PKPdf 12 39 49.0 +1.2**
ASAR Alice Springs 135.32 250 PKP **PKPdf 12 39 49.0 +1.2**
comp=Z,1.1nm,0.8s,baz=89,slow=2.6,SNR=7.7
GYA Guiyang 135.77 335 *e*Pdif **Pdif 12 36 51.5 -0.8**
GYA PKP **PKPdf 12 39 48.8 +0.1**
GYA sPKP 12 40 01.3
GYA PP **PP 12 42 30.5 +4.8**
GYA AMB AMB
comp=Z,90nm,7.4s
KMI Kunming 138.46 339 PKP **PKPdf 12 39 54.5 +0.7**
CMAR Chiang Mai Arr 145.92 341 PKPbc **PKPab 12 40 08.0 0.0**
CMAR Chiang Mai Arr 145.92 341 PKPbc **PKPab 12 40 08.0 0.0**
comp=Z,21nm,0.9s,baz=342,slow=4.0,SNR=59

IDC 25 12:31:30.9±1.8, 16°.74S×178°.17E, h0km, mb4.1/8, mb1 4.3/8, mb1mx4.1/17, mbtmp4.1/8, MS3.7/3, Ms1 3.7/3, ms1mx3.3/23, Error ellipse: s-maj=69.2km s-min=24.3km az=143.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**10.10**	**75**	LR		LR	LR	12 36 44.5	
	comp=Z,120nm,19.0s,baz=258,slow=31								
HNR	**Honiara**	**19.16**	**290**	LR		LR	LR	12 42 26.9	
	comp=Z,236nm,18.3s,baz=231,slow=34								
STKA	**Stephens Creek**	**36.38**	**239**	P		P	P	12 38 38.3	+1.1
	3.4nm,0.8s,baz=53,slow=10,SNR=3.2								
WRA	**Warramunga Arr**	**41.64**	**259**	P		P	P	12 39 20.0	-1.4
	0.9nm,0.7s,baz=92,slow=9.1,SNR=8.7								
ASAR	**Alice Springs**	**41.98**	**253**	P		P	P	12 39 23.9	-0.3
	4.2nm,0.8s,baz=78,slow=9.1,SNR=23								
KSRS	**Korea Array**	**71.68**	**320**	P		P	P	12 42 55.6	+0.9
	0.8nm,0.8s,baz=134,slow=7.1,SNR=4.1								
CMAR	**Chiang Mai Arr**	**85.41**	**291**	P		P	P	12 44 10.7	-0.3
	1.5nm,0.9s,baz=107,slow=3.5,SNR=4.3								
ILAR	**Eielson Array**	**85.52**	**14**	P		P	P	12 44 08.9	-1.5
	2.9nm,1.0s,baz=232,slow=5.6,SNR=5.6								
PMSA	**Palmer Station**	**86.15**	**158**	LR		LR	LR	13 16 27.9	
	comp=Z,123nm,18.0s,baz=234,slow=31								
PDAR	**Pinedale Array**	**88.79**	**45**	P		P	P	12 44 27.7	+0.6
	0.6nm,0.9s,baz=256,slow=2.7,SNR=3.1								
SONM	**Songino Array**	**90.55**	**320**	P		P	P	12 44 36.2	+1.1
	1.4nm,0.9s,baz=114,slow=6.6,SNR=4.3								
GERES	**GERESS Array B**	**145.56**	**342**	PKPbc		PKPdf		12 51 10.1	-1.3
	1.4nm,0.8s,baz=349,slow=2.7,SNR=7.9								

IDC 25 12:47:12.7±6.5, 12°.30S×14°.70W, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.6/22, mbtmp3.9/3, MS3.5/4, Ms1 3.5/4, ms1mx3.1/24, Error ellipse: s-maj=513.1km s-min=111.6km az=122.0, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**21.23**	**28**	P		P	P	12 52 01.1	+0.6
	6.0nm,0.8s,baz=206,slow=8.1,SNR=6.3								
DBIC				LR		LR		12 58 15.5	
	comp=Z,75nm,19.8s,baz=232,slow=31								
BBTS	**Babate**	**26.85**	**356**	LR		LR		13 01 11.8	
	comp=Z,88nm,18.3s,baz=316,slow=31								
TORD	**Torodi Ar. Bea**	**30.06**	**33**	P		P		12 53 23.2	-0.7
	0.9nm,0.8s,baz=218,slow=9.0,SNR=5.8								
SUR	**Sutherland**	**38.19**	**127**	LR		LR		13 06 55.1	
	comp=Z,78nm,20.9s,baz=68,slow=31								
BOSA	**Boshof**	**40.58**	**120**	LR		LR		13 08 33.2	
	comp=Z,104nm,20.2s,baz=349,slow=32								
AKASG	**Malin Array Be**	**73.48**	**27**	P		P		12 58 47.3	+0.3
	0.2nm,0.3s,baz=221,slow=7.3,SNR=4.5								

MDD ***25*** *12:53:59.9±3.0, 32°.37N×7°.59W, h0km, mb4.0/3, Error ellipse: s-maj=40.2km s-min=26.2km az=90.0, PRXIMO CSEM* ***25*** *12:54:03.7±0.4, 32°.66N×7°.54W, h10km, ML2.5, Error ellipse: s-maj=9.7km s-min=6.7km az=88.0*

INMG 25 12:54:01.3±0.9, 32°.42N×7°.59W, h10km, ML2.5, Error ellipse: s-maj=6.8km s-min=5.2km az=43.0, Morocco

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MORF	**Marmelete**	**4.95**	**350**	*e*Pn		Pn	Pn	12 55 15.2	-0.6
MORF				*e*Sn		Sn	Sn	12 56 09.9	-3.4
MORF				A		A	A	12 56 13.8	
	4.4nm,0.3s								
MORF	**Marmelete**	**4.95**	**350**	P		Pn	Pn	12 55 15.2	-0.6
MORF				S		Sn	Sn	12 56 09.9	-3.4
	4.4nm,0.3s								
MORF	**Marmelete**	**4.95**	**350**	P		Pn	Pn	12 55 15.2	-0.6
MORF				S		Sn	Sn	12 56 09.9	-3.4
	4.4nm,0.3s								
PVAQ	**Vaqueiros**	**4.97**	**359**	*e*Pn		Pn	Pn	12 55 15.3	-0.8
PVAQ				*e*Sn		Sn	Sn	12 56 11.4	-2.2
PVAQ				A		A	A	12 56 12.7	
	4.9nm,0.4s								
PVAQ	**Vaqueiros**	**4.97**	**359**	P		Pn	Pn	12 55 15.3	-0.8
PVAQ				S		Sn	Sn	12 56 11.4	-2.2
	4.9nm,0.4s								
PVAQ	**Vaqueiros**	**4.97**	**359**	P		Pn	Pn	12 55 15.3	-0.8
PVAQ				S		Sn	Sn	12 56 11.4	-2.2
	4.9nm,0.4s								
EGRO	**El Granado**	**5.10**	**1**	P		Pn	Pn	12 55 17.3	-0.6
	3.0nm,0.3s,SNR=4.6								
EGRO				S		Sn	Sn	12 56 13.0	-3.8
	2.1nm,0.3s,SNR=4.8								
EGRO	**El Granado**	**5.10**	**1**	P		Pn	Pn	12 55 17.3	-0.5
	3.0nm,0.3s,SNR=4.6								
EGRO				S		Sn	Sn	12 56 13.0	-3.8
	2.1nm,0.3s,SNR=4.8								
PTEO	**Sao Teotonio**	**5.20**	**350**	*e*Pn		Pn	Pn	12 55 18.0	-1.1
PTEO				*e*Sn		Sn	Sn	12 56 17.4	-1.8
PTEO				A		A	A	12 56 20.0	
	4.3nm,0.6s								
PTEO	**Sao Teotonio**	**5.20**	**350**	P		Pn	Pn	12 55 18.0	-1.1
PTEO				S		Sn	Sn	12 56 17.4	-1.8
	2.2nm,0.6s								
PTEO	**Sao Teotonio**	**5.20**	**350**	P		Pn	Pn	12 55 18.0	-1.1
PTEO				S		Sn	Sn	12 56 17.4	-1.8
	2.2nm,0.6s								
PCVE	**Castro Verde**	**5.21**	**356**	*e*Pn		Pn	Pn	12 55 18.3	-1.1
PCVE				*e*Sn		Sn	Sn	12 56 16.6	-3.0
PCVE				A		A	A	12 56 19.4	
	4.5nm,0.3s								
PCVE	**Castro Verde**	**5.21**	**356**	P		Pn	Pn	12 55 18.3	-1.1
PCVE				S		Sn	Sn	12 56 16.6	-3.0
	4.5nm,0.3s								
PCVE	**Castro Verde**	**5.21**	**356**	P		Pn	Pn	12 55 18.3	-1.1
PCVE				S		Sn	Sn	12 56 16.6	-3.0
	4.5nm,0.3s								
EMIN	**Mina Concepcio**	**5.39**	**8**	P		Pn	Pn	12 55 20.9	-0.9
	0.7nm,0.3s,SNR=8.3								
EMIN				S		Sn	Sn	12 56 19.7	-4.1
	2.9nm,0.4s,SNR=7.3								
EMIN	**Mina Concepcio**	**5.39**	**8**	P		Pn	Pn	12 55 20.9	-0.8
	0.7nm,0.3s,SNR=8.3								
EMIN				S		Sn	Sn	12 56 19.7	-4.2
	2.9nm,0.4s,SNR=7.3								
PNCL	**Nicolau / Gran**	**5.73**	**353**	*e*Pn		Pn	Pn	12 55 25.4	-1.0
PNCL				*e*Sn		Sn	Sn	12 56 29.2	-3.1
PNCL				A		A	A	12 56 33.7	
	1.9nm,0.6s								
PNCL	**Nicolau / Gran**	**5.73**	**353**	*e*Pn		Pn	Pn	12 55 25.4	-1.0
PNCL				*e*Sn		Sn	Sn	12 56 29.2	-3.1

1.9nm,0.6s
PBAR Barrancos 5.76 4 *e*Pn Pn 12 55 26.2 -0.7
PBAR *e*Sn Sn 12 56 30.3 -2.7
PBAR A A 12 56 35.3
2.4nm,0.3s
PBAR Barrancos 5.76 4 P Pn 12 55 26.2 -0.7
PBAR S Sn 12 56 30.3 -2.7
2.4nm,0.3s
PBAR Barrancos 5.76 4 P Pn 12 55 26.2 -0.7
PBAR S Sn 12 56 30.3 -2.7
2.4nm,0.3s
ECAB El Cabril 5.92 17 P Pn 12 55 28.4 -0.6
1.1nm,0.5s,SNR=5.9
ECAB S Sn 12 56 31.9 -5.0
0.4nm,0.2s,SNR=6.6
ECAB El Cabril 5.92 17 P Pn 12 55 28.4 -0.6
1.1nm,0.5s,SNR=5.9
ECAB S Sn 12 56 32.0 -4.9
0.4nm,0.2s,SNR=6.6
EADA Adamuz 6.24 22 P Pn 12 55 33.2 -0.3
1.1nm,0.1s,SNR=7.9
EADA S Sn 12 56 41.3 -3.6
1.7nm,0.3s,SNR=7.9
EADA Adamuz 6.24 22 P Pn 12 55 33.2 -0.3
1.1nm,0.1s,SNR=7.9
EADA S Sn 12 56 41.3 -3.6
1.7nm,0.3s,SNR=7.9
EBAD Badajoz 6.34 4 P Pn 12 55 34.0 -0.8
0.6nm,0.1s,SNR=7.9
EBAD S Sn 12 56 43.2 -4.1
2.4nm,0.2s,SNR=7.9
EBAD Badajoz 6.34 4 P Pn 12 55 34.0 -0.8
0.6nm,0.1s,SNR=7.9
EBAD S Sn 12 56 43.2 -4.1
2.4nm,0.2s,SNR=7.9

*MDD **25** 13:07:44.0±1.7, 38.°25N×13.°54W, h0km, mb4.6/14, Error ellipse: s-maj=15.5km s-min=11.9km az=71.0, PRXIMO*
*INMG **25** 13:07:47.0±1.4, 37.°94N×13.°82W, h10km, ML2.9, Error ellipse: s-maj=9.3km s-min=8.0km az=160.0*
*CSEM **25** 13:07:48.2±0.4, 38.°35N×13.°15W, h10km, ML3.8/9, Error ellipse: s-maj=8.3km s-min=5.7km az=65.0*

ISC 25 13:07:41.8±3.2, 38.°22N±0.°07×13.°6W±0.°2, h10km, n101, σ1°87/144, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMAFR	**Mafra**	**3.46**	**76**	*e*Pn	**Pn**	**13 08 38.5**	**+2.8**
PMAFR				*e*Sn	**Sn**	**13 09 17.6**	**+0.9**
PMAFR				A	A	13 09 20.3	
52nm,0.4s							
PMAFR	**Mafra**	**3.46**	**76**	P	**Pn**	**13 08 38.2**	**+2.5**
9.8nm,0.1s,SNR=7.6							
PMAFR				S	**Sn**	**13 09 17.1**	**+0.4**
43nm,0.1s,SNR=8.1							
PMAFR	**Mafra**	**3.46**	**76**	P	**Pn**	**13 08 38.2**	**+2.5**
9.8nm,0.1s,SNR=7.6							
PMAFR	**Mafra**	**3.46**	**76**	*e*Pn	**Pn**	**13 08 38.5**	**+2.8**
PMAFR				S	**Sn**	**13 09 17.1**	**+0.4**
43nm,0.1s,SNR=8.1							
PMAFR				*e*Sn	Sb	13 09 17.6	-7.6
52nm,0.4s							
PACT	**Alcochete**	**3.77**	**80**	*e*Pn	**Pn**	**13 08 42.9**	**+2.9**
PACT				*e*Sn	**Sn**	**13 09 24.6**	**+0.1**
PACT				A	A	13 09 35.9	
54nm,0.7s							
PACT	**Alcochete**	**3.77**	**80**	*e*Pn	**Pn**	**13 08 42.9**	**+2.9**
PACT				*e*Sn	**Sn**	**13 09 24.6**	**+0.1**
54nm,0.7s							
PTEO	**Sao Teotonio**	**3.91**	**98**	*e*Pn	**Pn**	**13 08 43.3**	**+1.4**
PTEO				*e*Sn	Sn	13 09 24.9	-3.0
PTEO				A	A	13 09 28.6	
15nm,0.2s							
PTEO	**Sao Teotonio**	**3.91**	**98**	P	**Pn**	**13 08 43.3**	**+1.4**
PTEO				S	Sn	13 09 24.9	-3.0
7.7nm,0.2s							
PTEO	**Sao Teotonio**	**3.91**	**98**	P	**Pn**	**13 08 43.3**	**+1.4**
PTEO				*e*Sn	Sn	13 09 24.9	-3.0
15nm,0.2s							
PFVI	**Vila Bisbo**	**3.93**	**105**	*e*Pn	**Pn**	**13 08 43.1**	**+0.9**
PFVI				*e*Sn	Sn	13 09 24.8	-3.7
PFVI				A	A	13 09 28.9	
17nm,0.1s							
PFVI	**Vila Bisbo**	**3.93**	**105**	P	**Pn**	**13 08 43.3**	**+1.0**
8.2nm,0.1s,SNR=16							
PFVI				S	**Sn**	**13 09 28.1**	**-0.4**
22nm,0.1s,SNR=6.8							
PFVI	**Vila Bisbo**	**3.93**	**105**	P	**Pn**	**13 08 43.3**	**+1.0**
8.2nm,0.1s,SNR=16							
PFVI				*e*Sn	Sn	13 09 24.8	-3.7
17nm,0.1s							
PFVI				S	Sb	13 09 28.1	-11
22nm,0.1s,SNR=6.8							
PNCL	**Nicolau / Gran**	**3.99**	**90**	*e*Pn	**Pn**	**13 08 44.4**	**+1.4**
PNCL				*e*Sn	**Sn**	**13 09 27.7**	**-2.2**
PNCL				A	A	13 09 31.6	
20nm,0.1s							
PNCL	**Nicolau / Gran**	**3.99**	**90**	*e*Pn	**Pn**	**13 08 44.4**	**+1.4**
PNCL				*e*Sn	**Sn**	**13 09 27.7**	**-2.2**
20nm,0.1s							
MORF	**Marmelete**	**4.02**	**102**	*e*Pn	**Pn**	**13 08 44.3**	**+0.8**
MORF				*e*Sn	Sn	13 09 27.1	-3.6
MORF				A	A	13 09 31.0	
23nm,0.1s							
MORF	**Marmelete**	**4.02**	**102**	P	**Pn**	**13 08 44.1**	**+0.6**
MORF				S	Sn	13 09 26.9	-3.7
MORF	**Marmelete**	**4.02**	**102**	*e*Pn	**Pn**	**13 08 44.3**	**+0.8**
MORF				*e*Sn	Sn	13 09 27.1	-3.6
23nm,0.1s							
ALMR	**Almeirim**	**4.03**	**75**	P	**Pn**	**13 08 43.1**	**-0.5**
ALMR	**Almeirim**	**4.03**	**75**	P	**Pn**	**13 08 43.1**	**-0.5**
PTOM	**Tomar**	**4.28**	**69**	*e*Pn	**Pn**	**13 08 49.9**	**+3.0**
PTOM	**Tomar**	**4.28**	**69**	P	**Pn**	**13 08 49.9**	**+3.0**
PTOM	**Tomar**	**4.28**	**69**	P	**Pn**	**13 08 49.9**	**+3.0**
PMTG	**Montargil**	**4.29**	**77**	*e*Pn	**Pn**	**13 08 49.3**	**+2.2**
PMTG				*e*Sn	**Sn**	**13 09 36.0**	**-1.1**
PMTG				A	A	13 09 38.8	
14nm,0.2s							
PMTG	**Montargil**	**4.29**	**77**	*e*Pn	**Pn**	**13 08 49.3**	**+2.2**
PMTG				*e*Sn	**Sn**	**13 09 36.0**	**-1.1**
14nm,0.2s							
PCVE	**Castro Verde**	**4.43**	**96**	*e*Pn	**Pn**	**13 08 50.2**	**+1.1**
PCVE				*e*Sn	**Sn**	**13 09 38.4**	**-2.3**
PCVE				A	A	13 09 47.0	
8.1nm,0.1s							
PCVE	**Castro Verde**	**4.43**	**96**	P	**Pn**	**13 08 50.2**	**+1.1**
PCVE				S	**Sn**	**13 09 38.4**	**-2.3**
8.1nm,0.1s							
PCVE	**Castro Verde**	**4.43**	**96**	P	**Pn**	**13 08 50.2**	**+1.1**
PCVE				S	**Sn**	**13 09 38.4**	**-2.3**
8.1nm,0.1s							
PBEJ	**Beja**	**4.52**	**91**	*e*Pn	**Pn**	**13 08 52.9**	**+2.6**
PBEJ				*e*Sn	**Sn**	**13 09 41.0**	**-1.9**
PBEJ				A	A	13 09 43.8	
8.7nm,0.1s							
PBEJ	**Beja**	**4.52**	**91**	P	**Pn**	**13 08 52.9**	**+2.6**
PBEJ				S	**Sn**	**13 09 41.0**	**-1.9**
4.3nm,0.1s							
PBEJ	**Beja**	**4.52**	**91**	P	**Pn**	**13 08 52.9**	**+2.6**
PBEJ				S	**Sn**	**13 09 41.0**	**-1.9**
4.3nm,0.1s							
PBDV	**Barranco-do-Ve**	**4.59**	**101**	*e*Pn	**Pn**	**13 08 53.1**	**+1.8**
PBDV				*e*Sn	**Sn**	**13 09 42.6**	**-2.2**
PBDV				A	A	13 09 47.1	
11nm,0.1s							
PBDV	**Barranco-do-Ve**	**4.59**	**101**	P	**Pn**	**13 08 53.1**	**+1.8**
PBDV				S	**Sn**	**13 09 42.6**	**-2.2**
11nm,0.1s							
PBDV	**Barranco-do-Ve**	**4.59**	**101**	P	**Pn**	**13 08 53.1**	**+1.8**
PBDV				S	**Sn**	**13 09 42.6**	**-2.2**
11nm,0.1s							
PVAQ	**Vaqueiros**	**4.72**	**98**	*e*Pn	**Pn**	**13 08 54.8**	**+1.7**
PVAQ				*e*Sn	Sn	13 09 44.5	-3.4
PVAQ				A	A	13 09 50.0	
12nm,0.1s							
PVAQ	**Vaqueiros**	**4.72**	**98**	P	**Pn**	**13 08 54.8**	**+1.7**
PVAQ				S	Sn	13 09 44.5	-3.4
12nm,0.1s							
PVAQ	**Vaqueiros**	**4.72**	**98**	P	**Pn**	**13 08 54.8**	**+1.7**
PVAQ				*e*Sn	Sn	13 09 44.5	-3.4
12nm,0.1s							
PESTR	**Estremoz**	**4.75**	**80**	*e*Pn	**Pn**	**13 08 55.8**	**+2.3**
PESTR				*e*Sn	**Sn**	**13 09 47.1**	**-1.5**
PESTR				A	A	13 09 52.4	
9.9nm,0.7s							
PESTR	**Estremoz**	**4.75**	**80**	P	**Pn**	**13 08 55.8**	**+2.3**
PESTR				S	**Sn**	**13 09 47.1**	**-1.5**
9.9nm,0.7s							
PESTR	**Estremoz**	**4.75**	**80**	P	**Pn**	**13 08 55.8**	**+2.3**
PESTR				S	**Sn**	**13 09 47.1**	**-1.5**
9.9nm,0.7s							
EGRO	**El Granado**	**4.88**	**96**	P	**Pn**	**13 08 56.7**	**+1.4**
2.7nm,0.1s,SNR=5.8							
EGRO				S	**Sn**	**13 09 49.0**	**-2.8**
16nm,0.1s,SNR=5.1							
EGRO	**El Granado**	**4.88**	**96**	P	**Pn**	**13 08 56.7**	**+1.4**
2.7nm,0.1s,SNR=5.8							
EGRO				S	**Sn**	**13 09 49.0**	**-2.8**
16nm,0.1s,SNR=5.1							
PMRV	**Marv??o**	**4.99**	**74**	*e*Pn	**Pn**	**13 08 58.7**	**+1.9**
PMRV				*e*Sn	**Sn**	**13 09 53.2**	**-1.3**
PMRV				A	A	13 09 56.1	
18nm,0.7s							
PMRV	**Marv??o**	**4.99**	**74**	P	**Pn**	**13 08 58.7**	**+1.9**
PMRV				S	**Sn**	**13 09 53.2**	**-1.3**
18nm,0.7s							
PMRV	**Marv??o**	**4.99**	**74**	P	**Pn**	**13 08 58.7**	**+1.9**
PMRV				S	**Sn**	**13 09 53.2**	**-1.3**
18nm,0.7s							
PCBR	**Castelo Branco**	**5.03**	**69**	*e*Pn	**Pn**	**13 08 59.7**	**+2.4**
PCBR				*e*Sn	**Sn**	**13 09 53.9**	**-1.5**
PCBR				A	A	13 09 56.9	
5.5nm,0.1s							
PCBR	**Castelo Branco**	**5.03**	**69**	P	**Pn**	**13 08 59.7**	**+2.4**
PCBR				S	**Sn**	**13 09 53.9**	**-1.5**
2.8nm,0.1s							
PCBR	**Castelo Branco**	**5.03**	**69**	P	**Pn**	**13 08 59.7**	**+2.4**
PCBR				S	**Sn**	**13 09 53.9**	**-1.5**
2.8nm,0.1s							
PVIS	**Viseu**	**5.06**	**59**	*e*Pn	**Pn**	**13 08 59.6**	**+1.8**
PVIS				*e*Sn	**Sn**	**13 09 54.2**	**-2.2**
PVIS				A	A	13 09 59.3	
10.0nm,0.1s							
PVIS	**Viseu**	**5.06**	**59**	P	**Pn**	**13 08 59.6**	**+1.8**
PVIS				S	**Sn**	**13 09 54.2**	**-2.2**
5.0nm,0.1s							
PVIS	**Viseu**	**5.06**	**59**	P	**Pn**	**13 08 59.6**	**+1.8**
PVIS				S	**Sn**	**13 09 54.2**	**-2.2**
5.0nm,0.1s							
PBAR	**Barrancos**	**5.16**	**88**	*e*Pn	**Pn**	**13 09 01.0**	**+1.9**
PBAR				*e*Sn	**Sn**	**13 09 56.3**	**-2.4**
PBAR				A	A	13 10 01.6	
7.9nm,0.1s							
PBAR	**Barrancos**	**5.16**	**88**	P	**Pn**	**13 09 01.0**	**+1.9**
PBAR				S	**Sn**	**13 09 56.3**	**-2.4**
7.9nm,0.1s							
PBAR	**Barrancos**	**5.16**	**88**	P	**Pn**	**13 09 01.0**	**+1.9**
PBAR				S	**Sn**	**13 09 56.3**	**-2.4**
7.9nm,0.1s							
MTE	**Manteigas**	**5.17**	**63**	*e*Sn	**Sn**	**13 09 59.5**	**+0.5**
MTE				A	A	13 10 03.1	
17nm,0.5s							
MTE	**Manteigas**	**5.17**	**63**	S	**Sn**	**13 09 59.5**	**+0.5**
8.6nm,0.5s							
MTE	**Manteigas**	**5.17**	**63**	*e*Sn	**Sn**	**13 09 59.5**	**+0.5**
17nm,0.5s							
EBAD	**Badajoz**	**5.19**	**82**	P	**Pn**	**13 09 01.2**	**+1.7**
2.0nm,0.1s,SNR=19							
EBAD				S	**Sn**	**13 09 57.6**	**-1.8**
3.2nm,0.2s,SNR=9.4							
EBAD	**Badajoz**	**5.19**	**82**	P	**Pn**	**13 09 01.2**	**+1.7**
2.0nm,0.1s,SNR=19							
EBAD				S	**Sn**	**13 09 57.6**	**-1.8**
3.2nm,0.2s,SNR=9.4							
EZAM	**Zamans**	**5.43**	**42**	P	**Pn**	**13 09 03.5**	**+0.7**
1.6nm,0.1s,SNR=4.0							
EZAM	**Zamans**	**5.43**	**42**	P	**Pn**	**13 09 03.5**	**+0.7**
1.6nm,0.1s,SNR=4.0							
POLO	**Lamas de Olo**	**5.46**	**53**	*e*Pn	**Pn**	**13 09 05.0**	**+1.6**
POLO				*e*Sn	**Sn**	**13 10 05.3**	**-1.0**
POLO				A	A	13 10 08.6	
1.6nm,0.1s							
POLO	**Lamas de Olo**	**5.46**	**53**	*e*Pn	**Pn**	**13 09 05.0**	**+1.6**
POLO				*e*Sn	**Sn**	**13 10 05.3**	**-1.0**
1.6nm,0.1s							
EMIN	**Mina Concepcio**	**5.48**	**93**	P	**Pn**	**13 09 05.3**	**+1.7**
2.8nm,0.1s,SNR=8.4							
EMIN				S	**Sn**	**13 10 04.5**	**-2.2**
3.6nm,0.1s,SNR=6.7							
EMIN	**Mina Concepcio**	**5.48**	**93**	P	**Pn**	**13 09 05.3**	**+1.7**
2.8nm,0.1s,SNR=8.4							
EMIN				S	**Sn**	**13 10 04.5**	**-2.2**
3.6nm,0.1s,SNR=6.7							
PCAB	**Cabril**	**5.51**	**49**	*e*Pn	**Pn**	**13 09 05.4**	**+1.4**
PCAB				*e*Sn	**Sn**	**13 10 05.0**	**-2.5**
PCAB				A	A	13 10 08.9	
13nm,0.1s							
PCAB	**Cabril**	**5.51**	**49**	P	**Pn**	**13 09 05.4**	**+1.4**
PCAB				S	**Sn**	**13 10 05.0**	**-2.5**
6.7nm,0.1s							
PCAB	**Cabril**	**5.51**	**49**	P	**Pn**	**13 09 05.4**	**+1.4**
PCAB				S	**Sn**	**13 10 05.0**	**-2.5**
6.7nm,0.1s							
PGAV	**Gavieira, Arco**	**5.53**	**46**	*e*Pn	**Pn**	**13 09 05.8**	**+1.5**
PGAV				*e*Sn	**Sn**	**13 10 05.6**	**-2.5**
PGAV				A	A	13 10 10.5	
5.0nm,0.3s							
PGAV	**Gavieira, Arco**	**5.53**	**46**	*e*Pn	**Pn**	**13 09 05.8**	**+1.5**
PGAV				*e*Sn	**Sn**	**13 10 05.6**	**-2.5**
5.0nm,0.3s							
ELOB	**Lobios**	**5.59**	**48**	P	**Pn**	**13 09 06.4**	**+1.3**
3.6nm,0.1s,SNR=7.9							
ELOB	**Lobios**	**5.59**	**48**	P	**Pn**	**13 09 06.4**	**+1.3**
3.6nm,0.1s,SNR=7.9							
MVO	**Moncorvo**	**5.85**	**58**	*e*Pn	**Pn**	**13 09 10.2**	**+1.5**
MVO				*e*Sn	Sn	13 10 12.8	-3.1
MVO				A	A	13 10 14.2	
8.4nm,0.6s							
MVO	**Moncorvo**	**5.85**	**58**	P	**Pn**	**13 09 10.2**	**+1.5**
3.8nm,0.1s,SNR=12							
MVO				S	Sn	13 10 12.8	-3.1
6.1nm,0.1s,SNR=6.9							
MVO	**Moncorvo**	**5.85**	**58**	P	**Pn**	**13 09 10.2**	**+1.5**
3.8nm,0.1s,SNR=12							
MVO				S	Sn	13 10 12.8	-3.1
6.1nm,0.1s,SNR=6.9							
EMAZ	**Mazaricos**	**5.88**	**35**	P	**Pn**	**13 09 09.7**	**+0.6**
2.4nm,0.1s,SNR=7.9							
EMAZ				S	Sn	13 10 13.5	-3.0
0.5nm,0.2s,SNR=7.9							
EMAZ	**Mazaricos**	**5.88**	**35**	P	**Pn**	**13 09 09.7**	**+0.6**
2.4nm,0.1s,SNR=7.9							
EMAZ				S	Sn	13 10 13.5	-3.0
0.5nm,0.2s,SNR=7.9							
EPLA	**Plasencia**	**6.12**	**70**	P	**Pn**	**13 09 14.3**	**+2.0**
1.2nm,0.2s,SNR=7.9							
EPLA				S	Sn	13 10 19.7	-2.8
1.0nm,0.2s,SNR=7.9							
EPLA	**Plasencia**	**6.12**	**70**	P	**Pn**	**13 09 14.3**	**+2.0**
1.2nm,0.2s,SNR=7.9							
EPLA				S	Sn	13 10 19.7	-2.8
1.0nm,0.2s,SNR=7.9							
ESPR	**Espera**	**6.29**	**100**	P	**Pn**	**13 09 17.1**	**+2.4**
1.6nm,0.1s,SNR=7.9							
ESPR				S	**Sn**	**13 10 24.6**	**-2.0**
3.6nm,0.2s,SNR=7.9							
ESPR	**Espera**	**6.29**	**100**	P	**Pn**	**13 09 17.1**	**+2.4**
1.6nm,0.1s,SNR=7.9							
ESPR				S	**Sn**	**13 10 24.6**	**-2.0**
3.6nm,0.2s,SNR=7.9							
PBRG	**Braganca**	**6.36**	**54**	*e*Sn	**Sn**	**13 10 25.8**	**-2.5**
PBRG				A	A	13 10 29.5	
3.3nm,0.1s							
PBRG	**Braganca**	**6.36**	**54**	S	**Sn**	**13 10 25.8**	**-2.5**
1.7nm,0.1s							
PBRG	**Braganca**	**6.36**	**54**	S	**Sn**	**13 10 25.8**	**-2.5**
1.7nm,0.1s							
ECAL	**Calabor**	**6.44**	**53**	P	**Pn**	**13 09 17.5**	**+0.8**
3.8nm,0.2s,SNR=7.9							
ECAL				S	Sn	13 10 26.8	-3.4
0.5nm,0.2s,SNR=7.9							
ECAL	**Calabor**	**6.44**	**53**	P	**Pn**	**13 09 17.5**	**+0.8**
3.8nm,0.2s,SNR=7.9							
ECAL				S	Sn	13 10 26.8	-3.4
0.5nm,0.2s,SNR=7.9							
ECAB	**El Cabril**	**6.44**	**89**	P	**Pn**	**13 09 18.6**	**+1.8**
1.6nm,0.1s,SNR=7.9							
ECAB				S	**Sn**	**13 10 28.9**	**-1.5**
2.0nm,0.1s,SNR=7.9							
ECAB	**El Cabril**	**6.44**	**89**	P	**Pn**	**13 09 18.6**	**+1.8**
1.6nm,0.1s,SNR=7.9							
ECAB				S	**Sn**	**13 10 28.9**	**-1.5**
2.0nm,0.1s,SNR=7.9							
EPON	**Pontenova**	**7.06**	**42**	S	Sn	13 10 41.5	-4.1
1.1nm,0.1s,SNR=7.9							
EPON	**Pontenova**	**7.06**	**42**	S	Sn	13 10 41.5	-4.1
1.1nm,0.1s,SNR=7.9							
EADA	**Adamuz**	**7.10**	**88**	P	**Pn**	**13 09 27.6**	**+1.8**
1.1nm,0.1s,SNR=7.9							
EADA				S	Sn	13 10 43.5	-3.1
2.7nm,0.1s,SNR=7.9							
EADA	**Adamuz**	**7.10**	**88**	P	**Pn**	**13 09 27.6**	**+1.8**
1.1nm,0.1s,SNR=7.9							
EADA				S	Sn	13 10 43.5	-3.1
2.7nm,0.1s,SNR=7.9							
GUD	**Guadarrama**	**7.69**	**69**	S	Sn	13 10 58.7	-2.6
0.1nm,0.2s,SNR=7.9							
GUD	**Guadarrama**	**7.69**	**69**	S	Sn	13 10 58.7	-2.6
0.1nm,0.2s,SNR=7.9							
EARI	**Arriondas**	**8.13**	**49**	P	**Pn**	**13 09 42.0**	**+2.0**
0.2nm,0.1s,SNR=7.9							
EARI				S	Sn	13 11 07.2	-4.8
0.1nm,0.1s,SNR=7.9							
EARI	**Arriondas**	**8.13**	**49**	P	**Pn**	**13 09 42.0**	**+2.0**
0.2nm,0.1s,SNR=7.9							
EARI				S	Sn	13 11 07.2	-4.8
0.1nm,0.1s,SNR=7.9							
EQES	**Quesada**	**8.32**	**90**	P	**Pn**	**13 09 43.8**	**+1.2**
0.2nm,0.1s,SNR=7.9							
EQES				S	Sn	13 11 13.6	-3.0
0.6nm,0.1s,SNR=7.9							
EQES	**Quesada**	**8.32**	**90**	P	**Pn**	**13 09 43.8**	**+1.2**
0.2nm,0.1s,SNR=7.9							
EQES				S	Sn	13 11 13.6	-3.0
0.6nm,0.1s,SNR=7.9							
EBER	**Berja**	**8.60**	**96**	S	Sn	13 11 20.1	-3.6
1.3nm,0.4s,SNR=7.9							
EBER	**Berja**	**8.60**	**96**	S	Sn	13 11 20.1	-3.6
1.3nm,0.4s,SNR=7.9							
EHUE	**Huescar**	**8.69**	**89**	S	Sn	13 11 22.6	-3.2
0.5nm,0.1s,SNR=7.9							
EHUE	**Huescar**	**8.69**	**89**	S	Sn	13 11 22.6	-3.2
0.5nm,0.1s,SNR=7.9							

*NIED **25** 13:23:00, 33.°10N×141.°70E, h5km, Mw4.2 Best double couple: M0=2.60000×10^15 NP1:φ=153.00000°, δ=62.00000°, λ=83.00000°. NP2:φ=347.00000°, δ=28.00000°, λ=102.00000°.*
*IDC **25** 13:23:12.2±0.6, 32.°84N×141.°84E, h0km, mb4.1/14, mb1 4.2/16, mb1mx4.2/26, mbtmp4.1/16, ML4.2/2, MS3.4/3, Ms1 3.5/3, ms1mx2.9/36, Error ellipse: s-maj=22.5km s-min=15.5km az=80.0*
*JMA **25** 13:23:14.1±0.5, 33.°06N×141.°72E, h0km, M3.7*

ISC 25 13:23:12.2±3.5, 32.°87N±0.°07×141.°84E±0.°08, h2km±22km, n34, σ1°09/36, mb4.1/14, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.71**	**279**	P	**Pb**	**13 23 44.0**	**-0.4**
JHCJ	**Hachijojimakas**	**1.73**	**277**	P	**Pn**	**13 23 43.9**	**+0.6**
BSO1	**Boso 1**	**1.92**	**338**	P	**Pn**	**13 23 45.4**	**0.0**
BSO1				*e*S	**Sn**	**13 24 07.8**	**-2.1**
BSO3	**Boso 3**	**2.22**	**331**	P	**Pn**	**13 23 50.3**	**+0.4**
BSO3				*e*S	**Sn**	**13 24 15.7**	**-2.1**
BSO4	**Boso 4**	**2.46**	**330**	P	**Pn**	**13 23 54.5**	**+1.3**
BSO4				*e*S	**Sn**	**13 24 24.0**	**+0.2**
KTR	**Katsuura**	**2.60**	**331**	*e*S	**Sn**	**13 24 27.0**	**-0.5**
JIZS	**Izushimoda**	**3.08**	**308**	P	**Pn**	**13 24 02.6**	**+0.7**
JOD2	**Odawara 2**	**3.30**	**317**	P	**Pn**	**13 24 04.9**	**-0.1**
JOD2				*e*S	**Sn**	**13 24 43.3**	**-1.6**
TK04	**Tokai 4**	**3.63**	**296**	*e*S	**Sn**	**13 24 50.4**	**-2.4**
JAG	**Ashikaga**	**4.06**	**332**	P	**Pn**	**13 24 16.1**	**+0.8**
MAT	**Matsushiro**	**4.73**	**322**	P	**Pn**	**13 24 25.9**	**+1.3**
MAT				S	**Sn**	**13 25 18.5**	**-1.6**
CBIJ	**Chichi jima**	**5.76**	**177**	Pn	**Pn**	**13 24 38.6**	**-0.1**
44nm,0.3s,baz=291,slow=14,SNR=20							
CBIJ				Sn	Sn	13 25 38.7	-6.7
9.3nm,0.3s,baz=295,slow=21,SNR=1.5							
JNU	**Nakatsue**	**9.21**	**275**	LR	LR	13 28 51.7	
comp=Z,124nm,19.8s,baz=276,slow=37							
ASAJ	**Asahikawa**	**11.25**	**3**	Pn	**Pn**	**13 25 51.8**	**-2.2**
1.3nm,0.3s,baz=215,slow=11,SNR=7.4							
ASAJ				Sn	Sn	13 27 50.9	-9.4
baz=57,slow=30,SNR=2.6							
KSRS	**Korea Array**	**12.27**	**296**	Pn	**Pn**	**13 26 08.7**	**+0.8**
0.2nm,0.3s,baz=106,slow=13,SNR=2.6							
SONM	**Songino Array**	**30.56**	**310**	P	**P**	**13 29 28.6**	**+1.3**
1.7nm,0.7s,baz=100,slow=8.3,SNR=9.8							
CMAR	**Chiang Mai Arr**	**40.95**	**260**	LR	LR	13 50 02.2	
comp=Z,71nm,18.9s,baz=350,slow=39							
ZALV	**Zalesovo Beam**	**45.05**	**316**	P	**P**	**13 31 29.0**	**-0.3**
0.7nm,0.5s,baz=101,slow=6.2,SNR=4.8							
MKAR	**Makanchi Array**	**46.72**	**306**	P	**P**	**13 31 42.9**	**+0.2**
2.9nm,0.7s,baz=89,slow=11,SNR=12							
ILAR	**Eielson Array**	**52.86**	**31**	P	**P**	**13 32 29.0**	**0.0**
0.9nm,0.9s,baz=266,slow=6.5,SNR=8.8							
AAK	**Ala-Archa**	**52.86**	**301**	LR	LR	13 53 51.1	
comp=Z,50nm,18.9s,baz=220,slow=35							
WRA	**Warramunga Arr**	**53.00**	**189**	P	**P**	**13 32 30.6**	**+0.1**
5.4nm,0.6s,baz=6.5,slow=7.5,SNR=93							
ASAR	**Alice Springs**	**56.72**	**189**	P	**P**	**13 32 57.7**	**+0.3**
0.9nm,0.6s,baz=16,slow=13,SNR=20							
INK	**Inuvik**	**57.95**	**26**	P	**P**	**13 33 06.0**	**+0.3**
1.4nm,0.8s,baz=61,slow=28,SNR=6.3							
STKA	**Stephens Creek**	**64.40**	**180**	P	**P**	**13 33 48.5**	**-1.2**
1.6nm,0.7s,baz=323,slow=22,SNR=3.1							
FINES	**FINESS Array B**	**72.67**	**333**	P	**P**	**13 34 40.8**	**-0.3**
2.3nm,0.9s,baz=45,slow=8.4,SNR=4.0							
KBZ	**Khabaz**	**73.90**	**312**	P	**P**	**13 34 49.6**	**+0.8**
3.0nm,0.8s,baz=114,slow=2.7,SNR=6.5							
NB2	**NORSAR Subarra**	**78.16**	**338**	P	**P**	**13 35 12.7**	**-0

baz=0.9,SNR=82
BLDU S Sg 13 56 33.5 +0.4
baz=0.9,SNR=16
MORW Morawa 2.55 339 P Pn 13 56 46.5 -0.2
baz=2.6,SNR=11
MORW S Sb 13 57 21.3 -1.3
baz=2.6,SNR=8.8
RKGY Rocky Gully 3.14 182 P Pn 13 56 55.5 +0.8
baz=3.1,SNR=45
RKGY S Sb 13 57 40.0 +0.4
baz=3.1,SNR=7.9
MEEK Meekatharra 4.99 16 P Pn 13 57 19.9 -0.2
baz=5.0,SNR=5.4

NIED ***25*** *13:59:00,44°.70N×151°.80E,h59km,Mw4.1 Best double couple: M₀1.50000×10¹⁵ NP1:φ=85.00000°,δ73.00000°, λ91.00000°. NP2:φ=260.00000°,δ17.00000°,λ86.00000°.*
IDC ***25*** *13:59:29.9±0.8,44°.24N×152°.22E,h0km,mb3.9/11, mb1 4.0/14,mb1mx3.9/28,mbtmp3.9/14,ML3.4/3,Error ellipse: s-maj=20.5km s-min=18.7km az=147.0*
MOS ***25*** *13:59:32.8±1.6,44°.23N×152°.19E,h33km,mb4.2/9,Error ellipse: s-maj=11.1km s-min=9.5km az=124.2*
JMA ***25*** *13:59:34.1±0.7,44°.70N×151°.84E,h30km,M4.2*
SKHL ***25*** *13:59:35.0±1.2,44°.17N×151°.80E,h30km±5km,mb4.7/2*
ISC 25 13:59:32.4±0.8,44°.17N±0°.09×151°.93E±0°.07,h13km,n69,σ2°.03/74,mb4.1/18,1C,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.08**	**292**	*e*PN	**Pn**	**14 00 20.4**	**-0.4**
KUR				pmax	pmax		
	comp=E,12nm,0.1s						
KUR				pmax	pmax		
	comp=N,16nm,0.1s						
KUR				pmax	pmax		
	comp=Z,23nm,0.1s						
KUR	**Kuril'sk**	**3.08**	**292**	*e*P	**Pn**	**14 00 20.4**	**-0.4**
KUR				AMB	AMB	14 00 23.1	
	comp=Z,16nm,0.1s						
KUR				AMB	AMB	14 00 23.1	
	comp=Z,12nm,0.1s						
KUR				AMB	AMB	14 00 23.1	
	comp=Z,23nm,0.1s						
KUR				*e*S	**Sn**	**14 00 55.3**	**-2.2**
KUR				A	A	14 00 58.5	
	comp=Z,98nm,0.2s						
KUR				A	A	14 00 58.5	
	comp=Z,56nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**4.37**	**270**	*c i*PN	**Pn**	**14 00 39.8**	**+1.3**
YUK				pmax	pmax		
	comp=N,12nm,0.3s						
YUK				pmax	pmax		
	comp=Z,46nm,0.3s						
YUK				pmax	pmax		
	comp=E,23nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**4.37**	**270**	*i*P	**Pn**	**14 00 39.8**	**+1.3**
YUK				AMB	AMB	14 00 41.7	
	comp=E,12nm,0.3s						
YUK				AMB	AMB	14 00 41.7	
	comp=E,23nm,0.3s						
YUK				AMB	AMB	14 00 41.7	
	comp=E,46nm,0.3s						
YUK				*i*S	**Sn**	**14 01 27.5**	**-1.8**
YUK				A	A	14 01 32.1	
	comp=E,59nm,0.2s						
YUK				A	A	14 01 32.1	
	comp=E,164nm,0.2s						
NEM2	**Nemuro 2**	**4.55**	**262**	P	**Pn**	**14 00 40.3**	**-0.7**
NEM2				*e*S	**Sn**	**14 01 29.7**	**-4.0**
JRA	**Rausu**	**4.91**	**270**	P	**Pn**	**14 00 47.1**	**+1.2**
JNK	**Nakash**	**5.25**	**266**	P	**Pn**	**14 00 51.1**	**+0.6**
JNK				*e*S	**Sn**	**14 01 46.0**	**-4.8**
JAK	**Akkeshi**	**5.38**	**260**	P	**Pn**	**14 00 52.5**	**+0.1**
JAK				*e*S	**Sn**	**14 01 50.7**	**-3.5**
JTKR	**Abashiri--Toko**	**5.78**	**271**	P	**Pn**	**14 00 59.0**	**+1.1**
JAR	**Ashorobuto**	**5.98**	**264**	P	**Pn**	**14 01 01.1**	**+0.6**
JAR				*e*S	**Sn**	**14 02 05.9**	**-2.9**
JOB	**Onbets**	**6.02**	**261**	P	**Pn**	**14 01 02.3**	**+1.2**
JOB				*e*S	**Sn**	**14 02 07.3**	**-2.5**
JMP	**Maruseppu**	**6.17**	**271**	P	**Pn**	**14 01 04.7**	**+1.4**
JCH	**Churui**	**6.43**	**259**	P	**Pn**	**14 01 07.4**	**+0.6**
JCH				*e*S	**Sn**	**14 02 16.0**	**-4.0**
JKK2	**Kamakawa 2**	**6.63**	**271**	P	**Pn**	**14 01 11.4**	**+1.9**
ASAJ	**Asahikawa**	**6.71**	**273**	P	**Pn**	**14 01 13.3**	**+2.6**
ASAJ	**Asahikawa**	**6.71**	**273**	Pn	**Pn**	**14 01 12.9**	**+2.3**
	comp=E,1.6nm,0.3s,baz=47,slow=6.2,SNR=27						
ASAJ				Sn	**Sn**	**14 02 32.5**	**+5.5**
	baz=126,slow=19,SNR=2.8						
JSE	**Soyaes**	**6.72**	**280**	P	**Pn**	**14 01 12.4**	**+1.6**
ERM	**Erimo**	**6.77**	**254**	*i*PN	**Pn**	**14 01 13.3**	**+1.8**
ERM	**Erimo**	**6.77**	**254**	*e*P	**Pn**	**14 01 13.3**	**+1.8**
JEM	**Erimo**	**6.77**	**254**	P	**Pn**	**14 01 13.5**	**+2.0**
JFR	**Furan**	**6.84**	**265**	P	**Pn**	**14 01 14.1**	**+1.6**
JFR				*e*S	**Sn**	**14 02 27.4**	**-2.8**
JNBK	**Urakawa-nobuka**	**6.96**	**257**	P	**Pn**	**14 01 15.1**	**+1.0**
JNBK				*e*S	**Sn**	**14 02 29.2**	**-3.9**
JBT2	**Biratori 2**	**7.10**	**262**	P	**Pn**	**14 01 16.0**	**+0.1**
JBT2				*e*S	**Sn**	**14 02 33.1**	**-3.3**
JNB	**Noboribetsu**	**8.12**	**262**	P	**Pn**	**14 01 30.4**	**+0.4**
JNB				*e*S	**Sn**	**14 02 58.0**	**-3.6**
JKB	**Kayabe**	**8.30**	**258**	P	**Pn**	**14 01 32.9**	**+0.4**
JKB				*e*S	Sn	14 03 00.0	-6.0
JTH	**Tanohata**	**8.60**	**244**	P	**Pn**	**14 01 36.6**	**+0.1**
JTH				*e*S	Sn	14 03 05.1	-8.3
JANG	**Nango**	**8.60**	**247**	P	**Pn**	**14 01 35.5**	**-1.1**
JANG				*e*S	Sn	14 03 05.4	-8.1
JYM2	**Yakumo 2**	**8.70**	**260**	P	**Pn**	**14 01 38.8**	**+0.9**
JTM	**Tenmabayashi**	**8.71**	**251**	P	**Pn**	**14 01 37.8**	**-0.2**
JTM				*e*S	Sn	14 03 08.8	-7.3
OFUJ	**Ofunato**	**9.21**	**240**	*e*S	Sn	14 03 20.3	-8.1
JOSM	**Okushiri--Mats**	**9.34**	**261**	P	**Pn**	**14 01 47.4**	**+0.7**
JRG	**Rokugo**	**9.69**	**244**	*e*S	Sn	14 03 35.0	-5.2
PETK	**Petropavlovsk-**	**9.72**	**21**	*e*PN	Pn	14 01 48.1	-3.8
PETK	**Petropavlovsk-**	**9.72**	**21**	Pn	Pn	14 01 47.8	-4.1
	comp=E,0.3nm,0.3s,baz=179,slow=12,SNR=12						
JIO	**Ouri**	**9.79**	**238**	*e*S	Sn	14 03 33.2	-9.5
PET	**Petropavlovsk**	**9.91**	**24**	*i*PN	**Pn**	**14 01 51.9**	**-2.5**
PET	**Petropavlovsk**	**9.91**	**24**	*e*P	**Pn**	**14 01 51.8**	**-2.6**
HABR	**Khabarovsk**	**12.43**	**296**	*e*PN	Pn	14 02 33.5	+4.6
HABR				pmax	pmax		
	comp=Z,27nm,1.8s						
MAJO	**Matsushiro**	**12.93**	**239**	*i*PN	**Pn**	**14 02 36.6**	**+0.6**
MAJO	**Matsushiro**	**12.93**	**239**	*e*P	**Pn**	**14 02 36.5**	**+0.6**
USRK	**Ussuriysk Arra**	**14.30**	**277**	Pn	**Pn**	**14 02 55.2**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=79,slow=14,SNR=3.9						
YAK	**Yakutsk**	**22.12**	**332**	*e*P	**P**	**14 04 24.6**	**-2.7**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.9s						
TIXI	**Tiksi**	**29.73**	**346**	*i*P	**P**	**14 05 38.0**	**+0.1**
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ULN	**Ulaanbaatar**	**31.05**	**293**	*e*P	**P**	**14 05 52.3**	**+2.3**
SONM	**Songino Array**	**31.49**	**293**	P	**P**	**14 05 54.9**	**+1.0**
	comp=Z,0.8nm,0.7s,baz=67,slow=9.9,SNR=5.5						
ZAK	**Zakamensk**	**33.09**	**298**	*e*P	**P**	**14 06 08.2**	**+0.3**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.2s						
HVS	**Khovu-Aksy**	**38.92**	**302**	*e*P	**P**	**14 06 58.8**	**+1.0**
HVS				pmax	pmax		
	comp=Z,19nm,1.2s						
INK	**Inuvik**	**44.28**	**31**	P	**P**	**14 07 40.0**	**-1.2**
	comp=Z,2.4nm,1.0s,baz=257,slow=7.8,SNR=3.9						
MKAR	**Makanchi Array**	**47.42**	**299**	*e*P	P	14 08 09.8	+3.4
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**47.42**	**299**	*e*P	P	14 08 09.8	+3.4
MKAR	**Makanchi Array**	**47.42**	**299**	P	**P**	**14 08 06.4**	**-0.1**
	comp=Z,2.5nm,0.5s,baz=69,slow=6.6,SNR=7.4						
KURK	**Kurchatov**	**48.13**	**305**	*i*P	**P**	**14 08 13.0**	**+1.2**
KURK				pmax	pmax		
	comp=Z,3.0nm,1.2s						
KURK	**Kurchatov**	**48.13**	**305**	*e*P	**P**	**14 08 13.0**	**+1.2**
CMAR	**Chiang Mai Arr**	**50.97**	**257**	P	**P**	**14 08 36.1**	**+2.2**
	comp=Z,0.5nm,0.6s,baz=34,slow=6.6,SNR=3.8						
BVAR	**Borovoye Array**	**51.88**	**311**	P	**P**	**14 08 41.1**	**+0.8**
BVAR	**Borovoye Array**	**51.88**	**311**	P	**P**	**14 08 41.1**	**+0.8**
	comp=Z,0.5nm,0.5s,baz=61,slow=7.0,SNR=4.2						
BRVK	**Borovoye**	**51.92**	**311**	*i*P	**P**	**14 08 42.1**	**+1.5**
BRVK				pmax	pmax		
	comp=Z,3.0nm,1.1s						
BRVK	**Borovoye**	**51.92**	**311**	*e*P	**P**	**14 08 42.1**	**+1.5**
AAK	**Ala-Archa**	**54.26**	**297**	*i*P	**P**	**14 09 01.0**	**+2.8**
AAK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
AAK	**Ala-Archa**	**54.26**	**297**	*e*P	**P**	**14 09 01.0**	**+2.8**
WRA	**Warramunga Arr**	**65.80**	**198**	P	**P**	**14 10 16.8**	**-0.5**
	comp=Z,1.1nm,0.7s,baz=16,slow=6.8,SNR=15						
FINES	**FINESS Array B**	**66.02**	**335**	P	**P**	**14 10 17.2**	**-1.0**
	comp=Z,1.6nm,0.6s,baz=35,slow=7.0,SNR=5.4						
ASAR	**Alice Springs**	**69.50**	**198**	P	**P**	**14 10 41.2**	**+0.6**
	comp=Z,0.3nm,0.4s,baz=15,slow=6.9,SNR=6.5						
KBZ	**Khabaz**	**72.05**	**314**	P	**P**	**14 10 57.2**	**+1.2**
KBZ				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KBZ	**Khabaz**	**72.05**	**314**	P	**P**	**14 10 57.1**	**+1.2**
	comp=Z,0.6nm,0.3s,baz=50,slow=6.7,SNR=4.1						
AKASG	**Malin Array Be**	**73.22**	**326**	*e*P	**P**	**14 11 04.6**	**+1.8**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**73.22**	**326**	P	**P**	**14 11 01.9**	**-0.9**
	comp=Z,0.8nm,0.5s,baz=33,slow=5.6,SNR=4.3						
TXAR	**Lajitas Array**	**79.50**	**59**	P	**P**	**14 11 37.8**	**-1.3**
	comp=Z,0.6nm,0.6s,baz=301,slow=3.5,SNR=8.9						
PLCA	**Paso Flores**	**148.72**	**99**	PKPbc	**PKPdf**	**14 19 18.0**	**+2.7**
	comp=Z,2.3nm,0.8s,baz=350,slow=8.8,SNR=4.4						

IDC ***25*** *14:07:01.1±0.5,30°.90S×177°.46W,h0km,mb4.4/15, mb1 4.5/17,mb1mx4.4/22,mbtmp4.4/17,ML3.4/2,MS4.4/5, Ms1 4.4/5,ms1mx3.9/26,Error ellipse: s-maj=18.1km s-min=14.5km az=95.0*
NEIC ***25*** *14:07:02.0±4.8,30°.99S×177°.54W,h11km±29km,mb5.0/20, Error ellipse: s-maj=12.4km s-min=8.6km az=145.0*
ISCJB ***25*** *14:07:04.2±0.2,31°.05S±0°.05×177°.66W±0°.05,h27km, mb4.8/39,MS4.6/12,Error ellipse: s-maj=7.1km s-min=5.9km az=150.7*
MOS ***25*** *14:07:04.5±1.5,31°.02S×177°.50W,h33km,mb5.1/12, Error ellipse: s-maj=12.5km s-min=9.5km az=96.8*
GCMT ***25*** *14:07:07.4±0.3,30°.91S×177°.24W,h18km±1km,MW5.0, Moment Tensor Solution. s32,c39; s56,c76; Moment tensor: Scale 10¹⁶Nm; Mrr2.68±.23; Mθθ0.76±.18; Mφφ-3.44±.16; Mrθ-0.72±.45; Mθφ-1.19±.12; Mφr2.42±.35; Best double couple: M₀4.20000×10¹⁶ NP1:φ=353.00000°, δ66.00000°,λ66.00000°. NP2:φ=220.00000°,δ33.00000°, λ132.00000°. Principal axes: T 3.9000, Plg61.0000°, Azm226.0000°; N 0.5400, Plg22.0000°, Azm3.0000°; P -4.4400, Plg18.0000°, Azm100.0000°; Data Used: II IU IC G CN.*
BJI ***25*** *14:07:08.0,30°.90S×177°.60W,h65km,mB5.5/17, mb5.3/21,Ms5.2/14,Ms7 4.9/15*
AUST ***25*** *14:07:23.2±4.5,32°.10S×178°.36W,h110km,Error ellipse: s-maj=3.5km s-min=1.5km az=228.0*
ISC 25 14:07:05.2±0.3,30°.99S±0°.05×177°.65W±0°.06,h27km, n225,σ1°.78/230,mb4.9/39,MS4.7/12,4C,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.75**	**352**	Pn	**Pn**	**14 07 32.1**	**-1.7**
RAO				Sn	**Sn**	**14 07 55.8**	**+0.6**
RAO	**Raoul Island**	**1.75**	**352**	Pn	**Pn**	**14 07 32.1**	**-1.7**
	269nm,0.3s,baz=113,slow=17,SNR=16						
RAO				Sn	**Sn**	**14 07 55.8**	**+0.6**
	572nm,0.3s,baz=108,slow=20,SNR=8.2						
URZ	**Urewera**	**8.43**	**209**	Pn	Pn	14 09 01.9	-3.6
URZ				*e*Pn	Pn	14 09 02.2	-3.4
URZ	**Urewera**	**8.43**	**209**	Pn	Pn	14 09 01.9	-3.6
	1.2nm,0.3s,baz=341,slow=4.6,SNR=9.7						
URZ				Sn	**Sn**	**14 10 37.4**	**-2.5**
	5.8nm,0.3s,baz=108,slow=20,SNR=8.4						
MSVF	**Nonsavu**	**13.77**	**343**	*e*Pn	**Pn**	**14 10 17.3**	**-1.5**
RPZ	**Rata Peaks**	**15.53**	**212**	Pn	Pn	14 10 35.3	-7.0
RPZ	**Rata Peaks**	**15.53**	**212**	Pn	Pn	14 10 35.3	-7.0
	0.5nm,0.3s,baz=130,slow=7.9,SNR=4.4						
RPZ				Sn	Sn	14 13 17.5	-16
	0.7nm,0.3s,baz=69,slow=17,SNR=4.3						
DZM	**Mont Dzumac**	**16.76**	**298**	*e*P	P	14 11 09.8	+10
	207nm,1.4s						
DZM				*e*LR	LR	14 14 54.7	
	2μm,24.5s						
DZM	**Mont Dzumac**	**16.76**	**298**	*e*Pn	**Pn**	**14 10 57.1**	**-1.1**
	134nm,1.4s						
DZM	**Mont Dzumac**	**16.76**	**298**	Pn	**P**	**14 11 03.1**	**+2.9**
	0.2nm,0.3s,baz=127,slow=20,SNR=2.4						
DZM				LR	LR	14 16 08.2	
	comp=Z,2μm,19.1s,baz=141,slow=32						
AFI	**Afiamalu**	**17.84**	**19**	P	**Pn**	**14 11 11.3**	**-0.4**
AFI	**Afiamalu**	**17.84**	**19**	P	**Pn**	**14 11 11.3**	**-0.4**
	1.0nm,0.3s,baz=238,slow=16,SNR=2.4						
RAR	**Rarotonga**	**18.76**	**63**	*e*P	**P**	**14 11 20.7**	**-1.5**
RAR	**Rarotonga**	**18.76**	**63**	P	**P**	**14 11 18.5**	**-3.7**
	1.0nm,0.3s,baz=270,slow=8.6,SNR=2.8						
TBI	**Tubuai**	**26.16**	**80**	*e*S	**S**	**14 17 06.3**	**-1.3**
	833nm,25.0s						
TBI				*e*LR	LR	14 19 16.9	
	582nm,22.0s,baz=233						
ARMA	**Armidale**	**26.38**	**263**	*e*P	**P**	**14 12 39.0**	**-0.4**
ARMA	**Armidale**	**26.38**	**263**	P	**P**	**14 12 43.9**	**+4.4**
	baz=26,SNR=5.0						
PPT2	**Papeete2**	**28.77**	**69**	*e*S	**S**	**14 17 52.2**	**+3.3**
	529nm,24.5s						
PPT2				*e*LR	LR	14 20 30.1	
	344nm,21.5s,baz=225						
PPT	**Papeete**	**28.78**	**69**	LR	LR	14 22 02.1	
	comp=Z,323nm,19.6s,baz=145,slow=32						
RMQ	**Roma**	**29.72**	**270**	P	P	14 13 12.5	+3.2
	baz=29,SNR=16						
CMSA	**Cobar Meteorol**	**31.25**	**259**	P	**P**	**14 13 25.5**	**+2.9**
	baz=30,SNR=9.5						
QLP	**Quilpie**	**33.58**	**268**	P	**P**	**14 13 45.2**	**+2.1**
	baz=33,SNR=14						
CTA	**Charters Tower**	**34.19**	**280**	P	**P**	**14 13 50.6**	**+2.1**
CTA	**Charters Tower**	**34.19**	**280**	P	**P**	**14 13 50.6**	**+2.1**
	9.0nm,0.6s,baz=101,slow=11,SNR=28						
CTAO	**Charters Tower**	**34.19**	**280**	*e*P	**P**	**14 13 47.0**	**-1.5**
CTAO				pmax	pmax		
	comp=Z,50nm,1.0s						
CTAO	**Charters Tower**	**34.19**	**280**	*e*P	**P**	**14 13 47.0**	**-1.5**
	comp=Z,50nm,1.0s						
STKA	**Stephens Creek**	**34.64**	**258**	*e*P	**P**	**14 13 54.5**	**+2.3**
	comp=Z,3.9nm,1.0s						
STKA	**Stephens Creek**	**34.64**	**258**	P	**P**	**14 13 54.1**	**+1.9**
	comp=Z,4.6nm,0.6s,baz=110,slow=9.5,SNR=14						
STKA	**Stephens Creek**	**34.64**	**258**	P	**P**	**14 13 54.6**	**+2.3**
	baz=34,SNR=9.8						
MTSU	**Mount Surprise**	**36.70**	**281**	P	P	14 14 13.9	+3.8
	baz=36,SNR=7.8						
RKT	**Rikitea**	**38.62**	**89**	*e*LR	LR	14 24 46.9	
	comp=Z,456nm,33.2s						
KWAJ	**Kwajalein Atol**	**42.02**	**338**	*i*P	**P**	**14 14 56.7**	**+2.3**
AS31	**Alice Springs**	**43.38**	**267**	*e*P	**P**	**14 15 03.5**	**-2.1**
ASAR	**Alice Springs**	**43.38**	**267**	P	**P**	**14 15 06.4**	**+0.9**
ASAR				ScP	**ScP**	**14 20 49.6**	**+6.1**
ASAR	**Alice Springs**	**43.38**	**267**	P	**P**	**14 15 06.4**	**+0.9**
	comp=Z,3.4nm,0.6s,baz=107,slow=7.7,SNR=28						
ASAR				ScP	**ScP**	**14 20 49.6**	**+6.1**
	comp=Z,0.5nm,0.7s,baz=122,slow=4.5,SNR=3.5						
PATS	**Pohnpei**	**44.09**	**324**	S	S	14 21 34.3	-8.0
	baz=45,SNR=4.0						
WRAB	**Tennant Creek**	**44.41**	**273**	*e*P	**P**	**14 15 13.8**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,9.0nm,0.6s						
WRAB	**Tennant Creek**	**44.41**	**273**	*e*P	**P**	**14 15 13.8**	**-0.1**
	comp=Z,8.8nm,0.6s						
WRAB	**Tennant Creek**	**44.41**	**273**	P	**P**	**14 15 14.5**	**+0.6**
	comp=Z,58nm,0.5s,SNR=13						
WRA	**Warramunga Arr**	**44.42**	**273**	P	**P**	**14 15 13.9**	**0.0**
WRA	**Warramunga Arr**	**44.42**	**273**	P	**P**	**14 15 13.9**	**0.0**
	comp=Z,6.7nm,0.6s,baz=113,slow=7.7,SNR=77						
MMPI	**Merauke**	**45.04**	**291**	P	P	14 15 31.9	+13
	baz=45,SNR=3.7						
SBA	**Scott Base**	**47.47**	**184**	*e*P	**P**	**14 15 35.1**	**-2.0**
SBA				pmax	pmax		
	comp=Z,28nm,1.4s						
SBA	**Scott Base**	**47.47**	**184**	*e*P	**P**	**14 15 35.1**	**-2.0**
	comp=Z,28nm,1.4s						
VNDA	**Vanda**	**47.54**	**186**	*e*P	**P**	**14 15 38.1**	**+0.4**
	comp=Z,11nm,1.4s						
VNDA	**Vanda**	**47.54**	**186**	P	**P**	**14 15 38.9**	**+1.2**
	comp=Z,1.3nm,0.6s,baz=18,slow=6.5,SNR=13						
KNRA	**Kununurra**	**51.05**	**275**	P	**P**	**14 16 08.2**	**+2.9**
	baz=50,SNR=4.5						
FITZ	**Fitzroy Crossi**	**52.66**	**270**	*e*P	**P**	**14 16 16.5**	**-0.8**
FITZ	**Fitzroy Crossi**	**52.66**	**270**	LR	LR	14 37 53.9	
	comp=Z,618nm,18.9s,baz=102,slow=35						
FITZ	**Fitzroy Crossi**	**52.66**	**270**	P	**P**	**14 16 17.5**	**+0.2**
	baz=52,SNR=8.3						
CASY	**Casey**	**54.76**	**208**	*e*P	**P**	**14 16 30.9**	**-1.0**
	comp=Z,44nm,1.5s						
QSPA	**South Pole Qui**	**59.12**	**180**	P	**P**	**14 17 04.3**	**+1.2**
QSPA	**South Pole Qui**	**59.12**	**180**	P	**P**	**14 17 04.3**	**+1.2**
	comp=Z,11nm,0.8s,baz=34,slow=3.0,SNR=46						
KAPI	**Kappang**	**64.01**	**280**	*e*P	**P**	**14 17 34.8**	**-1.9**
MAW	**Mawson**	**71.86**	**201**	*e*P	**P**	**14 18 25.5**	**+0.3**
	comp=Z,6.3nm,1.2s						
MAW	**Mawson**	**71.86**	**201**	P	**P**	**14 18 26.2**	**+1.0**
	comp=Z,5.3nm,0.9s,baz=130,slow=8.1,SNR=12						
MAW	**Mawson**	**71.86**	**201**	P	**P**	**14 18 26.5**	**+1.3**
	baz=70,SNR=5.2						
SYO	**Syowa Base**	**76.60**	**193**	*e*P	**P**	**14 18 50.0**	**-2.8**
SYO	**Syowa Base**	**76.60**	**193**	*e*pP	pP	14 19 10.3	+8.9
SNAA	**Sanae**	**77.56**	**178**	*e*P	**P**	**14 18 59.5**	**+1.2**
SNAA	**Sanae**	**77.56**	**178**	*e*P	**P**	**14 18 55.3**	**-3.0**
	comp=Z,9.3nm,1.0s						
VNA2	**Neumayer--Watz**	**78.13**	**177**	*e*P	**P**	**14 19 01.7**	**+0.3**
MAJO	**Matsushiro**	**78.90**	**325**	*e*P	**P**	**14 19 08.1**	**+2.1**
ERM	**Erimo**	**81.12**	**332**	*i*P	**P**	**14 19 20.2**	**+2.4**
ERM				pmax	pmax		
	comp=Z,7.0nm,0.7s						
YUK	**Yuzh-Kuril'sk**	**81.78**	**334**	P	P	**14 19 22.9**	**+1.7**
YUK				S	**S**	**14 29 33.4**	**+1.1**
YUK				MLR	MLR		
	comp=E,296nm,20.0s						
YUK				MLR	MLR		
	comp=Z,354nm,20.0s						
YUK				MLR	MLR		
	comp=N,90nm,18.0s						
PLCA	**Paso Flores**	**81.89**	**133**	*e*P	**P**	**14 19 21.6**	**-0.7**
	comp=N,20nm,1.4s						
PLCA	**Paso Flores**	**81.89**	**133**	LR	LR	14 47 31.5	
	comp=N,346nm,21.2s,baz=136,slow=30						
ASAJ	**Asahikawa**	**83.10**	**332**	P	**P**	**14 19 28.2**	**+0.1**
ASAJ	**Asahikawa**	**83.10**	**332**	P	**P**	**14 19 28.2**	**+0.1**
	comp=N,5.0nm,0.7s,baz=160,slow=10,SNR=5.5						
KSRS	**Korea Array**	**84.99**	**319**	P	**P**	**14 19 39.0**	**+1.1**
	comp=N,0.7nm,0.7s,baz=136,slow=5.2,SNR=4.3						
KSAR	**Wonju Array Be**	**85.00**	**319**	P	**P**	**14 19 39.0**	**+1.0**
YSS	**Yuzh-Sakhalins**	**85.41**	**334**	*e*P	**P**	**14 19 41.3**	**+1.5**
YSS				MLR	MLR		
	comp=Z,300nm,16.0s						
QIZ	**Qiongzhong**	**85.52**	**295**	P	**P**	**14 19 41.3**	**+0.2**
QIZ				S	**S**	**14 30 09.5**	**-1.7**
MONP	**Monument Peak**	**85.94**	**48**	P	**P**	**14 19 42.7**	**-0.5**
	baz=86						
BFSC	**Mount Baldy Ra**	**86.06**	**46**	P	**P**	**14 19 42.7**	**-0.9**
	baz=86						
VES	**Vestal, Richgr**	**86.27**	**44**	P	**P**	**14 19 44.0**	**-0.3**
	baz=86						
EDW2	**Edwards Air Fo**	**86.28**	**45**	P	**P**	**14 19 44.0**	**-0.6**
	baz=86						
SWSC	**Sam W. Stewart**	**86.37**	**48**	P	**P**	**14 19 44.2**	**-0.8**
	baz=86						
PFO	**Pinyon Flat Ob**	**86.39**	**47**	P	**P**	**14 19 44.9**	**-0.3**
PFO	**Pinyon Flat Ob**	**86.39**	**47**	P	**P**	**14 19 44.9**	**-0.3**
	comp=Z,1.3nm,0.7s,baz=192,slow=1.4,SNR=4.6						
PETK	**Petropavlovsk-**	**86.46**	**345**	P	**P**	**14 19 45.4**	**+0.5**
PETK	**Petropavlovsk-**	**86.46**	**345**	P	**P**	**14 19 45.4**	**+0.5**
PETK	**Petropavlovsk-**	**86.46**	**345**	P	**P**	**14 19 45.4**	**+0.5**
	comp=Z,2.0nm,0.7s,baz=130,slow=6.3,SNR=3.5						
ISA	**Isabella**	**86.51**	**44**	*e*P	**P**	**14 19 43.7**	**-2.0**
ISA				pmax	pmax		
	comp=Z,35nm,1.8s						
ISA	**Isabella**	**86.51**	**44**	*e*P	**P**	**14 19 43.7**	**-2.0**
	comp=Z,35nm,1.8s						
ISA	**Isabella**	**86.51**	**44**	P	**P**	**14 19 45.5**	**-0.2**
	baz=87						
NJ2	**Nanjing**	**86.86**	**310**	*e*P	**P**	**14 19 47.8**	**+0.5**
NJ2				pmax	pmax		
	comp=Z,20nm,0.8s						
LRMC	**Laurel Mountai**	**86.86**	**45**	P	**P**	**14 19 48.2**	**+0.7**
	baz=87						
BELC	**Belle Mtn. Jos**	**86.93**	**47**	P	**P**	**14 19 48.7**	**+0.8**
	baz=87						
BC3	**Big Chuckawall**	**87.05**	**48**	P	**P**	**14 19 49.5**	**+1.0**
	baz=87						
GSC	**Goldstone**	**87.28**	**46**	*e*P	**P**	**14 19 47.0**	**-2.5**
GSC				pmax	pmax		
	comp=Z,14nm,1.2s						
GSC	**Goldstone**	**87.28**	**46**	*e*P	**P**	**14 19 47.0**	**-2.5**
	comp=Z,14nm,1.2s						
GSC	**Goldstone**	**87.28**	**46**	P	**P**	**14 19 49.6**	**+0.1**
	baz=87						
MPMC	**Manual Prospec**	**87.37**	**45**	P	**P**	**14 19 50.5**	**+0.5**
	baz=88						
113A	**Mohawk Valley,**	**87.57**	**49**	P	**P**	**14 19 52.0**	**+1.2**
	baz=88						
GMRC	**Granite Mounta**	**87.65**	**47**	P	**P**	**14

GYA sS sS 14 31 39.5 +12
GYA SS **SS** **14 37 22.3 -1.3**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,5.4s
GYA LR LR
comp=N,360nm,19.5s
GYA LR LR
comp=E,250nm,20.0s
GYA LR LR
comp=Z,410nm,19.6s
X20A Quemado 92.12 51 P **P** **14 20 13.7 +1.4**
baz=92
MVU Marysvale 92.16 46 *e*P **P** **14 20 12.9 +0.4**
comp=Z,8.0nm,1.5s
425A Indio Mountain 92.34 55 P **P** **14 20 13.9 +0.5**
baz=92
Y21A Point of Rocks 92.35 51 P **P** **14 20 14.7 +1.2**
baz=92
Z22A Elephant Butte 92.39 52 P **P** **14 20 14.5 +0.9**
baz=92
TXAR Lajitas Array 92.46 57 P **P** **14 20 13.2 -0.7**
TXAR Lajitas Array 92.46 57 P **P** **14 20 13.2 -0.7**
comp=Z,0.1nm,0.3s,baz=235,slow=3.2,SNR=3.9
W20A Ramah 92.47 50 P **P** **14 20 14.5 +0.5**
baz=93
526A Mary Lane Ranc 92.56 56 P **P** **14 20 14.8 +0.4**
baz=93
627A Terlingua Ranc 92.73 57 P **P** **14 20 15.7 +0.6**
baz=93
G08A Pilot Rock 92.75 37 *e*P **P** **14 20 15.8 +0.9**
comp=Z,8.2nm,1.2s
Y22A Socorro 92.79 52 P **P** **14 20 16.3 +0.9**
baz=93
DUG Dugway 92.85 44 P **P** **14 20 16.9 +1.4**
baz=93
628A Black Gap, Mar 93.11 57 P **P** **14 20 16.7 -0.1**
baz=93
MFID Camas Ranch 93.18 40 P **P** **14 20 17.4 +0.5**
baz=93
528A Cox Ranch, San 93.55 57 P **P** **14 20 19.5 +0.6**
baz=94
U21A Nageezi 93.79 49 P **P** **14 20 20.6 +0.5**
baz=94
Y24A Capitan 93.82 53 P **P** **14 20 20.6 +0.4**
baz=94
HLID Hailey 94.06 41 P **P** **14 20 22.1 +1.1**
baz=94
S20A Disappointment 94.16 48 P **P** **14 20 22.6 +0.8**
baz=94
KMI Kunming 94.35 297 P **P** **14 20 22.5 -0.4**
KMI pP pP 14 20 41.5 +10
KMI sP sP 14 20 48.3 +14
KMI S S 14 31 27.5 -5.9
KMI pmax pmax
comp=Z,7.0nm,0.6s
KMI pmax pmax
comp=Z,88nm,5.0s
KMI LR LR
comp=N,310nm,9.8s
KMI LR LR
comp=E,330nm,9.8s
KMI LR LR
comp=Z,350nm,12.1s
PDAR Pinedale Array 96.36 43 P **P** **14 20 31.6 -0.1**
PDAR Pinedale Array 96.36 43 P **P** **14 20 31.6 -0.1**
comp=Z,0.4nm,0.9s,baz=214,slow=6.3,SNR=2.3
CD2 Chengdu 96.66 302 P **P** **14 20 34.0 +1.0**
CD2 pP pP 14 20 52.5 +11
CD2 sP sP 14 20 59.8 +15
CD2 PP **PP** **14 24 32.3 +4.1**
CD2 SKS **SKSac** **14 31 03.8 -4.4**
CD2 S **S** **14 31 47.0 -5.8**
CD2 sS sS 14 32 19.0 +12
CD2 SS **SS** **14 38 27.8 -0.4**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,100nm,6.5s
CD2 LR LR
comp=N,380nm,5.4s
CD2 LR LR
comp=Z,750nm,7.1s
HHC Hu-ho-hao-te 96.86 314 *e*P **P** **14 20 35.5 +1.7**
HHC pP pP 14 20 54.5 +12
HHC sP sP 14 21 03.0 +17
HHC PP **PP** **14 24 34.8 +5.1**
HHC SKS **SKSac** **14 31 05.8 -3.1**
HHC S **S** **14 31 50.0 -4.2**
HHC sS sS 14 32 18.5 +10
HHC SS **SS** **14 38 29.5 -1.4**
HHC pmax pmax
comp=Z,48nm,1.5s
HHC pmax pmax
comp=Z,270nm,4.8s
HHC LR LR
comp=N,330nm,19.0s
HHC LR LR
comp=E,310nm,17.8s
HHC LR LR
comp=Z,380nm,16.7s
LPAZ La Paz 97.63 114 P **P** **14 20 37.9 -0.6**
LPAZ La Paz 97.63 114 P **P** **14 20 37.9 -0.6**
comp=Z,0.4nm,0.6s,baz=230,slow=18,SNR=1.9
LPAZ LR LR 14 57 30.0
comp=Z,63nm,21.3s,baz=308,slow=31
LZH Lanzhou 99.31 306 *e*P **Pdif** **14 20 45.5 +0.5**
LZH pP pP 14 21 03.3 +9.5
LZH sP sP 14 21 09.8 +13
LZH *e*PP **PP** **14 24 51.5 +2.8**
LZH SKS **SKSac** **14 31 17.0 -4.7**
LZH *e*S **ScS** **14 32 11.3 -4.1**
LZH sS sS 14 32 39.8 +10
LZH *e*SS **SS** **14 39 05.8 +0.1**
LZH pmax pmax
comp=Z,19nm,1.5s
LZH pmax pmax
comp=Z,100nm,8.8s
LZH LR LR
comp=N,340nm,15.8s
LZH LR LR
comp=E,290nm,16.2s
LZH LR LR
comp=Z,370nm,17.0s
WMQ Urumqi 113.83 308 *e*PKP **PKiKP** **14 25 40.3 -1.0**
WMQ LR LR
comp=E,77nm,20.8s
WMQ LR LR
comp=Z,75nm,20.8s
MKAR Makanchi Array 118.38 310 PKIKP **PKPdf** **14 25 49.3 -0.6**
MKAR Makanchi Array 118.38 310 PKP **PKPdf** **14 25 49.3 -0.6**
MKAR Makanchi Array 118.38 310 PKP **PKPdf** **14 25 49.3 -0.6**
comp=Z,0.5nm,0.6s,baz=101,slow=1.5,SNR=3.9
KSH Kashi 120.80 300 *e*PKP PKPdf 14 25 48.5 -6.4
KSH PKS PKSdf 14 29 24.0 -7.6
KSH AMB AMB
comp=Z,38nm,3.6s
KSH LR LR
comp=N,100nm,5.3s
KSH LR LR
comp=E,59nm,5.7s
KSH LR LR
comp=Z,97nm,7.8s
BVAR Borovoye Array 127.04 315 PKIKP **PKPdf** **14 26 06.1 -0.2**
BVAR Borovoye Array 127.04 315 PKP **PKPdf** **14 26 06.1 -0.2**
BVAR Borovoye Array 127.04 315 PKP **PKPdf** **14 26 06.1 -0.2**
comp=Z,0.5nm,0.4s,baz=86,slow=1.9,SNR=5.9
ARCES ARCESS Array B 139.23 348 PKhKP PKPpre 14 26 21.1
comp=Z,2.6nm,0.9s,baz=34,slow=2.3,SNR=2.8
JOF Joensuu 143.08 338 *e*PKIKP **PKPdf** **14 26 34.4 -1.4**
JOF Joensuu 143.08 338 *e*p **PKPdf** **14 26 34.4 -1.4**
DGRG David-gareji 144.08 299 P **PKPdf** **14 26 37.6 -0.7**
TBLG Delisi 144.54 300 PKIKP PKPbc 14 26 38.2 +0.4
TBLG Delisi 144.54 300 P PKPbc 14 26 38.2 +0.5
DUS Dusheti 144.54 300 P **PKPdf** **14 26 38.9 -0.2**
MOS Moscow 144.99 325 *e*PKP2 **PKPbc** **14 26 36.1 -2.6**
MOS pmax pmax
comp=Z,35nm,0.7s
ZEI Tsey 145.07 301 *i* PKIKP **PKPdf** **14 26 43.4 +3.2**
ZEI pmax pmax
comp=Z,17nm,0.7s
KAF Kangasniemi 145.21 340 *e*PKIKP **PKPbc** **14 26 38.1 -1.1**
KAF pmax pmax
comp=Z,8.0nm,0.7s
KAF Kangasniemi 145.21 340 *e*p **PKPbc** **14 26 38.1 -1.1**
comp=Z,7.5nm,0.7s
GOF Gofitskoye 145.38 306 *e*PKHKP PKPpre 14 26 31.8
ONI Oni 145.42 301 P **PKPab** **14 26 41.5 +0.6**
AKH Akhalkalaki 145.49 299 P **PKPab** **14 26 42.4 +1.2**
KBZ Khabaz 145.69 303 PKP2 **PKPab** **14 26 41.8 +0.2**
KBZ Khabaz 145.69 303 PKPbc **PKPab** **14 26 41.8 +0.2**
KBZ Khabaz 145.69 303 PKPbc **PKPab** **14 26 41.8 +0.2**
comp=Z,7.0nm,0.9s,baz=52,slow=4.5,SNR=10.0
FINES FINESS Array B 145.80 340 PKPbc **PKPdf** **14 26 40.5 0.0**
FINES FINESS Array B 145.80 340 PKPbc **PKPdf** **14 26 40.5 0.0**
comp=Z,9.7nm,0.9s,baz=56,slow=4.4,SNR=33
KIV Kislovodsk 145.81 304⇑ *i* PKP2 **PKPdf** **14 26 41.5 +0.2**
KIV pmax pmax
comp=Z,15nm,1.2s
OBN Obninsk 145.83 325⇑ *i* PKP2 **PKPdf** **14 26 41.0 +0.3**
OBN pmax pmax
comp=Z,137nm,1.8s
VORD Divnogorie 146.19 317 *e*PKP2 **PKPdf** **14 26 42.0 +0.5**
VORD pmax pmax
comp=Z,20nm,0.9s
VORD pmax pmax
comp=N,20nm,0.6s
VORD pmax pmax
comp=E,10.0nm,0.6s
CHVG Ch'k'valeri 146.41 302 P **PKPab** **14 26 45.6 +1.1**
MZRK Al-Mazaregh 147.80 289 *e*P **PKPbc** **14 26 48.9 +1.2**
KBSD Kabsdagh 147.92 291 *e*P **PKPdf** **14 26 44.6 -0.3**
ANN Anapa 149.33 307 *i* PKP2 **PKPbc** **14 26 51.0 -0.3**
ANN pmax pmax
comp=Z,38nm,1.0s
NB2 NORSAR Subarra 149.38 352 PKP **PKPbc** **14 26 50.5 -0.6**
comp=Z,1.9nm,0.8s,baz=12,slow=2.8
NOA NORSAR Array B 149.38 352 PKPbc **PKPbc** **14 26 50.4 -0.6**
NOA NORSAR Array B 149.38 352 PKPbc **PKPbc** **14 26 50.4 -0.6**
comp=Z,1.8nm,0.8s,baz=20,slow=4.7,SNR=7.5
JHLN Al Jahlan 149.60 289 *e*P **PKPbc** **14 26 53.1 +0.8**
ZALF Zalf 150.33 283 *e*P **PKPbc** **14 26 53.5 -0.7**
ZALF *e*S x 14 27 51.1
SALA Sala 150.81 282 *e*P **PKPbc** **14 26 54.2 -1.3**
TCHB Talchebab 151.45 282 *e*P **PKPdf** **14 26 52.2 +1.5**
BRBR Barbar 151.53 284 *e*P **PKPbc** **14 26 57.9 +0.7**
AKASG Malin Array Be 151.95 322 PKIKP **PKPbc** **14 26 57.1 -0.2**
AKASG Malin Array Be 151.95 322 PKPbc **PKPbc** **14 26 57.1 -0.2**
AKASG Malin Array Be 151.95 322 PKPbc **PKPbc** **14 26 57.1 -0.2**
comp=Z,3.4nm,0.7s,baz=48,slow=2.3,SNR=18
BRTR Keskin Array B 153.14 298 PKPbc **PKPbc** **14 27 00.7 +0.1**
BRTR Keskin Array B 153.14 298 PKPbc **PKPbc** **14 27 00.7 +0.1**
comp=Z,1.9nm,0.8s,baz=95,slow=2.6,SNR=12
KOLS Kolonicke sedl 156.58 326 *e*PKP2 **PKPab** **14 27 26.3 -0.1**
KOLS Kolonicke sedl 156.58 326 *e*PKP **PKPab** **14 27 26.3 -0.1**
STHS Stebnicka Huta 156.73 328 *e*PKIKP **PKPdf** **14 27 00.9 +3.3**
STHS Stebnicka Huta 156.73 328 *e*PKP **PKPdf** **14 27 00.8 +3.2**
STHS *e* 14 27 27.5
UZH Uzhgorod 156.77 325 *e*PKP2 **PKPab** **14 27 30.3 +3.1**
CRVS Cervenica-Dubn 156.99 326 *e*PKP2 **PKPab** **14 27 28.3 +0.1**
CRVS Cervenica-Dubn 156.99 326 *e*PKP **PKPab** **14 27 28.3 +0.1**
KECS Kecovo 157.74 327 *e*PKP2 **PKPab** **14 27 31.2 -0.2**
KECS Kecovo 157.74 327 *e*PKP **PKPab** **14 27 31.2 -0.2**
UPC Upice 158.00 336 *e*PKP2 **PKPab** **14 27 33.3 +0.9**
UPC Upice 158.00 336 *e*PKPAB **PKPab** **14 27 33.3 +0.9**
DPC Dobruska-Polom 158.02 336 *e*PKP2 **PKPab** **14 27 33.0 +0.4**
DPC Dobruska-Polom 158.02 336 *e*PKPAB **PKPab** **14 27 33.0 +0.4**
CLL Collm 158.22 342 *e*PKP2 **PKPab** **14 27 33.0 -0.3**
CLL pmax pmax
comp=Z,37nm,2.2s
CLL Collm 158.22 342 *e*PKPab **PKPab** **14 27 33.0 -0.3**
comp=Z,37nm,2.2s
CLL *e* 14 27 46.0
CLL LmV 15 50 00.0
comp=Z,100nm,18.9s
BRG Berggiesshubel 158.34 340 *e*P **PKPab** **14 27 34.5 +0.6**
comp=Z,9.8nm,1.6s
BRG *e* 14 27 47.1
comp=Z,15nm,1.4s
BRG Berggiesshubel 158.34 340 *e*PKP2 **PKPab** **14 27 34.5 +0.6**
BRG pmax pmax
comp=Z,10.0nm,1.6s
BRG pmax pmax
comp=Z,15nm,1.4s
PVCC Panska Ves 158.46 338 *e*PKP2 **PKPab** **14 27 36.6 +2.2**
PVCC Panska Ves 158.46 338 *e*PKPAB **PKPab** **14 27 36.6 +2.2**
PRU Pruhonice 158.93 338 *e*PKP2 **PKPab** **14 27 37.2 +0.7**
PRU Pruhonice 158.93 338 *e*PKPAB **PKPab** **14 27 37.2 +0.7**
KHC Kasperske Hory 159.99 338 *e*PKP2 **PKPab** **14 27 41.3 +0.2**
KHC Kasperske Hory 159.99 338 *e*PKPAB **PKPab** **14 27 41.3 +0.2**
GERES GERESS Array B 160.20 337 PKPab **PKPab** **14 27 42.4 +0.2**
GERES GERESS Array B 160.20 337 PKPab **PKPab** **14 27 42.4 +0.2**
comp=Z,0.3nm,0.3s,baz=54,slow=5.0,SNR=4.5
TORD Torodi Ar. Bea 162.23 178 PKP **PKPdf** **14 27 04.0 -0.9**
TORD PKPab **PKPab** **14 27 51.8 +0.2**
TORD Torodi Ar. Bea 162.23 178 PKP **PKPdf** **14 27 04.0 -0.9**
comp=Z,1.2nm,1.1s,baz=251,slow=4.0,SNR=4.8
TORD PKPab **PKPab** **14 27 51.8 +0.2**
comp=Z,4.4nm,1.1s,baz=181,slow=3.4,SNR=6.7

SZGRF ***25*** *14:23:09.2, 22°.88S×172°.13E, h33km, Southeast of Loyalty Islands*
BJI ***25*** *14:23:14.5, 23°.05S×171°.75E, h108km, mB5.1/18, mb4.7/30*
ISCJB ***25*** *14:23:16.8±1.0, 22°.34S±0°.05×171°.06E±0°.04, h87km±8km, mb4.5/46, Error ellipse: s-maj=9.2km s-min=6.2km az=160.6*
IDC ***25*** *14:23:16.2±1.6, 22°.16S×171°.13E, h66km±12km, mb4.1/18, mb1 4.3/20, mb1mx4.3/22, mbtmp4.2/20, MS4.3/19, Ms1 4.2/19, ms1mx4.1/33, Error ellipse: s-maj=16.2km s-min=11.4km az=176.0*
GCMT ***25*** *14:23:17.6±0.2, 22°.46S×171°.13E, h62km±2km, MW5.0, Moment Tensor Solution. s44,c52; s64,c90; Moment tensor: Scale* 10^{16}*Nm; Mrr-2.82±.19; Mθθ0.26±.15; Mφφ2.55±.15; Mrθ-0.58±.11; Mrφ2.77±.12; Mθφ1.95±.10; Best double couple: M0*4.30000×10^{16} *NP1:φ186.00000°, δ62.00000°, λ-126.00000°. NP2:φ64.00000°, δ44.00000°, λ-42.00000°. Principal axes: T 4.6400, Plg10.0000°, Azm301.0000°; N -0.6200, Plg31.0000°, Azm205.0000°; P -4.0300, Plg57.0000°, Azm47.0000°; Data Used: II IU G IC CN.*
AUST ***25*** *14:23:18.5±1.5, 22°.50S×171°.28E, h76km Error ellipse: s-maj=2.2km s-min=1.0km az=324.0*
NEIC ***25*** *14:23:18.4±1.1, 22°.33S×171°.07E, h93km±9km, mb4.9/18, Error ellipse: s-maj=10.3km s-min=7.1km az=162.0*
MOS ***25*** *14:23:19.8±1.6, 22°.36S×171°.05E, h105km, mb4.9/10, Error ellipse: s-maj=12.7km s-min=10.9km az=168.3*
DJA ***25*** *14:23:31.0±4.7, 22°S±14°×17°1E±1°9, h193km±37km, M4.5/10, mb4.5/10*
ISC 25 14:23:20.7±0.4**, 22°.31S**±0°.06×**171°.19E**±0°.05**, h109**km±2km**, h108**km**: pP-P, n268,** σ**1**±**42/311, mb4.6/46, 9C-28D, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.41**	**272**	*e*Pn	Pn	14 24 19.8	-5.8
DZM	148nm,0.1s			*e*Sn	Sn	14 25 08.2	-7.8
	469nm,0.2s						
DZM	**Mont Dzumac**	**4.41**	**272**	*e*Pn	Pn	14 24 20.2	-5.4
DZM				*e*Sn	Sn	14 25 08.0	-8.0
DZM	**Mont Dzumac**	**4.41**	**272**	P	Pn	14 24 20.1	-5.5
	128nm,0.3s,baz=80,slow=19,SNR=1952						
DZM				S	Sn	14 25 08.2	-7.8
	121nm,0.3s,baz=47,slow=20,SNR=19						
NFK	**Norfolk Island**	**7.32**	**203**	P	Pn	14 24 58.9	-6.1
	baz=7.2,SNR=11						
NFK				S	Sn	14 26 16.2	-10
	baz=7.2,SNR=8.3						
MSVF	**Nonsavu**	**7.89**	**56**	*e*P	**Pn**	**14 25 13.4**	**+0.6**
MSVF				*e*		14 26 44.1	
MSVF	**Nonsavu**	**7.89**	**56**	*e*Pn	**Pn**	**14 25 13.4**	**+0.6**
MSVF				*e*Sn	**Sn**	**14 26 44.1**	**+3.6**
RAO	**Raoul Island**	**12.00**	**127**	LR	LR	14 29 32.6	
	comp=Z,1μm,21.3s,baz=342,slow=31						
URZ	**Urewera**	**16.69**	**164**	P	**Pn**	**14 27 07.8**	**-0.1**
URZ	**Urewera**	**16.69**	**164**	P	**Pn**	**14 27 07.8**	**-0.1**
	0.4nm,0.3s,baz=16,slow=6.4,SNR=4.7						
URZ				LR	LR	14 32 02.5	
	comp=Z,851nm,20.4s,baz=345,slow=31						
HNR	**Honiara**	**16.75**	**318**	LR	LR	14 31 17.1	
	comp=Z,216nm,20.0s,baz=188,slow=29						
AFI	**Afiamalu**	**18.20**	**66**	P	**P**	**14 27 23.4**	**-1.8**
	4.9nm,1.0s						
AFI	**Afiamalu**	**18.20**	**66**	P	**P**	**14 27 23.4**	**-1.8**
	1.6nm,0.3s,baz=21,slow=22,SNR=6.2						
EIDS	**Eidsvold**	**18.65**	**257**	*e*P	**P**	**14 27 27.3**	**-2.8**
EIDS	**Eidsvold**	**18.65**	**257**	P	**Pn**	**14 27 31.6**	**0.0**
	baz=19,SNR=13						
ARMA	**Armidale**	**19.28**	**241**	*e*P	**P**	**14 27 35.0**	**-2.1**
	51nm,1.3s						
ARMA	**Armidale**	**19.28**	**241**	P	**Pn**	**14 27 38.8**	**-0.4**
	baz=19,SNR=4.5						
RMQ	**Roma**	**20.84**	**254**	P	Pn	14 27 55.7	-1.7
	baz=21,SNR=53						
RPZ	**Rata Peaks**	**21.35**	**180**	P	**P**	**14 28 00.8**	**+1.7**
RPZ	**Rata Peaks**	**21.35**	**180**	P	**P**	**14 28 00.8**	**+1.7**
	26nm,1.1s,baz=29,slow=19,SNR=2.5						
CNB	**Canberra Magne**	**23.04**	**231**	P	**P**	**14 28 18.4**	**+1.8**
	baz=23,SNR=4.2						
CTA	**Charters Tower**	**23.35**	**271**	P	**P**	**14 28 19.9**	**+0.3**
CTA	**Charters Tower**	**23.35**	**271**	P	**P**	**14 28 19.9**	**+0.3**
	17nm,1.0s,baz=94,slow=11,SNR=15						
CTA				LR	LR	14 36 05.8	
	comp=Z,750nm,20.9s,baz=138,slow=33						
CTAO	**Charters Tower**	**23.35**	**271**	*e*P	**P**	**14 28 15.8**	**-3.7**
CTAO				pmax	pmax		
	comp=Z,33nm,1.0s						
CTAO	**Charters Tower**	**23.35**	**271**	*e*P	**P**	**14 28 15.8**	**-3.7**
	comp=Z,33nm,1.0s						
CMSA	**Cobar Meteorol**	**24.48**	**243**	P	**P**	**14 28 30.2**	**+0.6**
	baz=24,SNR=21						
QLP	**Quilpie**	**24.89**	**255**	P	**P**	**14 28 33.8**	**+0.4**
	baz=25,SNR=12						
MTSU	**Mount Surprise**	**25.55**	**274**	P	**P**	**14 28 40.3**	**+0.8**
	baz=26,SNR=74						
PMG	**Port Moresby**	**26.39**	**295**	P	**P**	**14 28 46.8**	**-0.3**
PMG	**Port Moresby**	**26.39**	**295**	P	**P**	**14 28 46.8**	**-0.3**
	comp=Z,17nm,1.0s,baz=93,slow=12,SNR=3.4						
PMG				LR	LR	14 37 30.5	
	comp=Z,759nm,19.4s,baz=108,slow=32						
RAR	**Rarotonga**	**26.97**	**93**	LR	LR	14 37 25.2	
	comp=Z,318nm,20.4s,baz=269,slow=31						
COEN	**Coen**	**27.86**	**283**	*e*P	**P**	**14 28 57.6**	**-2.6**
	comp=Z,224nm,1.4s						
STKA	**Stephens Creek**	**27.95**	**244**	P	**P**	**14 29 01.1**	**+0.2**
STKA				PcP	**PcP**	**14 32 14.3**	**+0.7**
STKA	**Stephens Creek**	**27.95**	**244**	P	**P**	**14 29 01.1**	**+0.2**
	comp=Z,4.5nm,0.8s,baz=89,slow=14,SNR=4.4						
STKA				PcP	**PcP**	**14 32 14.3**	**+0.7**
	comp=Z,2.8nm,0.8s,baz=132,slow=12,SNR=2.9						
STKA				LR	LR	14 38 53.2	
	comp=Z,560nm,21.3s,baz=63,slow=34						
STKA	**Stephens Creek**	**27.95**	**244**	P	**P**	**14 29 01.4**	**+0.5**
	baz=28,SNR=4.5						
MMPI	**Merauke**	**32.65**	**290**	S	S	14 34 44.2	-6.5
	baz=33,SNR=8.9						
AS31	**Alice Springs**	**34.29**	**260**	*e*P	P	14 29 52.9	-3.9
ASAR	**Alice Springs**	**34.30**	**260**	P	**P**	**14 29 56.4**	**-0.4**
ASAR				PcP	**PcP**	**14 32 31.2**	**+0.4**
ASAR				S	**S**	**14 35 18.4**	**+2.3**
ASAR				ScP	**ScP**	**14 36 12.5**	**+6.6**
ASAR				PKiKP	**PKiKP**	**14 39 52.9**	**-1.4**
ASAR	**Alice Springs**	**34.30**	**260**	P	**P**	**14 29 56.4**	**-0.4**
	comp=Z,22nm,0.8s,baz=86,slow=9.0,SNR=157						
ASAR				PcP	**PcP**	**14 32 31.2**	**+0.4**
	comp=Z,1.8nm,0.9s,baz=114,slow=4.1,SNR=4.7						
ASAR				S	**S**	**14 35 18.4**	**+2.3**
	comp=Z,0.5nm,0.8s,baz=90,slow=17,SNR=4.6						
ASAR				ScP	**ScP**	**14 36 12.5**	**+6.6**
	comp=Z,1.5nm,1.0s,baz=74,slow=4.9,SNR=4.7						
ASAR				PKiKP	**PKiKP**	**14 39 52.9**	**-1.4**
	comp=Z,0.4nm,0.9s,baz=106,slow=0.1,SNR=5.7						
ASAR				LR	LR	14 44 04.3	
	comp=Z,510nm,19.2s,baz=97,slow=36						
WRAB	**Tennant Creek**	**34.40**	**267**	*i* P	**P**	**14 29 56.2**	**-1.5**
WRA	**Warramunga Arr**	**34.41**	**267**	P	**P**	**14 29 56.3**	**-1.4**
WRA				PcP	**PcP**	**14 32 31.2**	**+0.1**
WRA				ScP	**ScP**	**14 36 11.0**	**+4.6**
WRA	**Warramunga Arr**	**34.41**	**267**	P	**P**	**14 29 56.3**	**-1.4**
	comp=Z,7.2nm,1.0s,baz=92,slow=5.8,SNR=44						
WRA				PcP	**PcP**	**14 32 31.2**	**+0.1**
	comp=Z,2.9nm,0.9s,baz=95,slow=2.5,SNR=4.7						
WRA				ScP	**ScP**	**14 36 11.0**	**+4.6**
	comp=Z,1.4nm,1.0s,baz=103,slow=3.4,SNR=4.1						
WRA				LR	LR	14 44 23.9	
	comp=Z,716nm,18.6s,baz=100,slow=37						
TBI	**Tubuai**	**36.20**	**99**	*e*LR	LR	14 40 06.6	
	comp=Z,557nm,30.0s						
PPT2	**Papeete2**	**37.10**	**90**	*e*LR	LR	14 40 35.3	
	comp=Z,579nm,25.8s						
PPT	**Papeete**	**37.11**	**90**	LR	LR	14 41 28.3	
	comp=Z,368nm,18.6s,baz=6.3,slow=29						
KDU	**Kakadu**	**38.05**	**278**	P	**P**	**14 30 28.3**	**-0.5**
	baz=38,SNR=4.1						
KNRA	**Kununurra**	**40.56**	**272**	P	**P**	**14 30 49.6**	**0.0**
	baz=41,SNR=5.9						
FITZ	**Fitzroy Crossi**	**42.84**	**267**	P	**P**	**14 31 08.0**	**-0.1**
FITZ	**Fitzroy Crossi**	**42.84**	**267**	P	**P**	**14 31 08.0**	**-0.1**
	comp=Z,9.1nm,0.8s,baz=101,slow=8.8						
FITZ				LR	LR	14 49 54.1	
	comp=Z,266nm,20.1s,baz=263,slow=37						
MBWA	**Marble Bar**	**47.63**	**261**	*e*P	P	14 31 42.5	-3.5
	comp=Z,33nm,1.1s						
MEEK	**Meekatharra**	**47.78**	**254**	P	**P**	**14 31 49.1**	**+1.9**
	baz=48,SNR=7.9						
RKT	**Rikitea**	**49.42**	**102**	*e*LR	LR	14 46 10.1	
	comp=Z,337nm,30.2s						
VNDA	**Vanda**	**55.45**	**182**	P	**P**	**14 32 44.8**	**+1.3**
VNDA				PcP	**PcP**	**14 33 42.9**	**+0.6**
VNDA	**Vanda**	**55.45**	**182**	P	**P**	**14 32 44.8**	**+1.3**
	comp=Z,1.4nm,1.0s,baz=348,slow=5.7,SNR=7.2						
VNDA				PcP	**PcP**	**14 33 42.9**	**+0.6**
	comp=Z,1.8nm,0.8s,baz=330,slow=6.1,SNR=5.3						
VNDA				LR	LR	14 53 49.8	
	comp=Z,160nm,19.3s,baz=12,slow=33						
SBA	**Scott Base**	**55.64**	**181**	*e*P	**P**	**14 32 42.9**	**-1.9**
SBA				pmax	pmax		
	comp=Z,14nm,1.1s						
SBA	**Scott Base**	**55.64**	**181**	*e*P	**P**	**14 32 42.9**	**-1.9**
	comp=Z,14nm,1.1s						
MAJO	**Matsushiro**	**66.31**	**331**	*e*P	**P**	**14 33 56.3**	**-1.1**
QSPA	**South Pole Qui**	**67.76**	**180**	*e*P	**P**	**14 34 04.9**	**-1.6**
	comp=Z,2.0nm,1.1s						
ASAJ	**Asahikawa**	**71.11**	**339**	P	**P**	**14 34 27.8**	**+0.8**
ASAJ	**Asahikawa**	**71.11**	**339**	P	**P**	**14 34 27.8**	**+0.8**
	comp=Z,7.2nm,0.9s,baz=93,slow=18,SNR=3.5						
KSRS	**Korea Array**	**72.06**	**325**	P	**P**	**14 34 33.5**	**+0.6**
	comp=Z,0.9nm,0.8s,baz=150,slow=6.6,SNR=5.3						
KSRS				LR	LR	15 00 53.9	
	comp=Z,104nm,21.4s,baz=297,slow=31						
KSAR	**Wonju Array Be**	**72.07**	**325**	P	**P**	**14 34 33.5**	**+0.5**
QIZ	**Qiongzhong**	**72.68**	**300**	P	**P**	**14 34 39.5**	**+2.5**
QIZ				S	**S**	**14 43 54.5**	**+0.7**
QIZ				pmax	pmax		
	comp=Z,28nm,2.2s						
YSS	**Yuzh-Sakhalins**	**73.57**	**340**	*e*P	**P**	**14 34 43.0**	**+1.4**
NJ2	**Nanjing**	**73.67**	**316**	*e*P	**P**	**14 34 43.5**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,20nm,0.6s						
PSI	**Prapat**	**74.73**	**280**	LR	LR	15 09 03.8	
	comp=Z,520nm,18.5s,baz=298,slow=37						
USRK	**Ussuriysk Arra**	**75.29**	**332**	P	**P**	**14 34 50.5**	**-1.2**
	comp=Z,0.9nm,0.7s,baz=126,slow=7.3,SNR=2.9						
PETK	**Petropavlovsk-**	**76.01**	**352**	P	**P**	**14 34 53.3**	**-2.2**
PETK	**Petropavlovsk-**	**76.01**	**352**	P	**P**	**14 34 53.3**	**-2.2**
PETK	**Petropavlovsk-**	**76.01**	**352**	P	**P**	**14 34 53.3**	**-2.2**
	comp=Z,3.5nm,0.8s,baz=122,slow=7.0,SNR=2.6						
PETK				LR	LR	15 02 48.6	
	comp=Z,99nm,21.1s,baz=334,slow=31						
MAW	**Mawson**	**76.29**	**202**	*e*P	**P**	**14 34 55.2**	**-1.9**
MAW	**Mawson**	**76.29**	**202**	P	**P**	**14 34 55.7**	**-1.3**
	comp=Z,3.9nm,0.7s,baz=63,slow=6.4,SNR=6.2						
MAW	**Mawson**	**76.29**	**202**	P	**P**	**14 34 58.0**	**+1.0**
	baz=76,SNR=7.8						
MDJ	**Mudanjiang**	**76.68**	**331**	P	**P**	**14 34 59.3**	**-0.2**
MDJ				pP	**pP**	**14 35 24.5**	**-2.9**
MDJ				sP	**sP**	**14 35 36.3**	**-2.8**
MDJ				S	S	14 44 46.8	+10
MDJ				pmax	pmax		
	comp=Z,6.0nm,1.6s						
MDJ				pmax	pmax		
	comp=Z,84nm,5.2s						
MDJ				LR	LR		
	comp=N,140nm,25.3s						
MDJ				LR	LR		
	comp=E,110nm,20.7s						
MDJ				LR	LR		
	comp=Z,250nm,20.7s						
CN2	**Changchun**	**78.02**	**328**	*e*P	**P**	**14 35 08.0**	**+1.0**

```
CN2                                    esP     sP      14 35 48.5 +1.9
CN2                                    eS      S       14 44 52.5 +0.7
CN2                                    pmax    pmax
     comp=Z,10.0nm,0.7s
CN2                                    pmax    pmax
     comp=Z,200nm,4.0s
ENH  Enshi            79.02 309 eP             P       14 35 11.3 -1.6
     comp=Z,6.0nm,0.3s
GYA  Guiyang          79.06 304 eP             P       14 35 13.0 -0.3
GYA                                    pP      pP      14 35 41.5 +0.2
GYA                                    sP      sP      14 35 54.5 +1.5
GYA                                    PP      PP      14 38 15.8 +1.6
GYA                                    S       S       14 45 01.3 -2.6
GYA                                    SKS     SKSac   14 45 13.8 -5.6
GYA                                    pmax    pmax
     comp=Z,10.0nm,1.0s
CMAR Chiang Mai Arr   81.42 294 PKKPbc   PKKPbc  14 53 59.8 +0.3
CMAR Chiang Mai Arr   81.42 294 P        P       14 35 27.7 +1.7
     comp=Z,2.6nm,0.8s,baz=133,slow=3.9,SNR=14
CMAR                                   PKKPbc  PKKPbc  14 53 59.8 +0.3
     comp=Z,0.7nm,0.7s,baz=309,slow=4.2,SNR=4.1
KMI  Kunming          81.44 301 P              P       14 35 27.5 +1.3
KMI                                    pP      pP      14 35 55.5 +1.2
KMI                                    sP      sP      14 36 08.5 +2.5
KMI                                    pmax    pmax
     comp=Z,11nm,0.9s
CHTO Chiang Mai       81.58 294 eP             P       14 35 25.8 -1.0
CHTO                                   pmax    pmax
     comp=Z,31nm,1.1s
CHTO Chiang Mai       81.58 294 eP             P       14 35 25.8 -1.0
     comp=Z,31nm,1.1s
SYO  Syowa Base       82.50 196⇓eP             P       14 35 29.0 -1.7
PMSA Palmer Station   83.41 159 eP             P       14 35 34.4 -1.1
     comp=Z,12nm,1.1s
CD2  Chengdu          83.54 307 P              P       14 35 36.3 -0.5
CD2                                    pP      pP      14 36 04.5 -0.5
CD2                                    sP      sP      14 36 16.5 -0.2
CD2                                    PP      PP      14 38 52.0 +1.0
CD2                                    SKS     SKSac   14 45 44.8 -4.7
CD2                                    S       S       14 45 47.8 -2.1
CD2                                    sS      sS      14 46 37.0 -1.5
CD2                                    pmax    pmax
     comp=Z,10.0nm,1.9s
CD2                                    pmax    pmax
     comp=Z,90nm,4.5s
CD2                                    LR      LR
     comp=N,300nm,8.3s
CD2                                    LR      LR
     comp=Z,260nm,18.4s
HHC  Hu-ho-hao-te     83.73 319 eP             P       14 35 37.3 -0.3
HHC                                    pP      pP      14 36 05.8 0.0
HHC                                    sP      sP      14 36 17.3 -0.2
HHC                                    PP      PP      14 38 53.5 +1.2
HHC                                    SKS     SKSac   14 45 46.0 -4.4
HHC                                    S       S       14 45 49.8 -1.7
HHC                                    sS      sS      14 46 39.5 -0.6
HHC                                    pmax    pmax
     comp=Z,41nm,1.4s
HHC                                    pmax    pmax
     comp=Z,160nm,7.1s
HHC                                    LR      LR
     comp=N,250nm,16.7s
HHC                                    LR      LR
     comp=E,310nm,16.7s
HHC                                    LR      LR
     comp=Z,380nm,15.5s
LZH  Lanzhou          86.13 311 eP             P       14 35 50.3 +0.5
LZH                                    pP      pP      14 36 19.5 +1.3
LZH                                    sP      sP      14 36 31.3 +1.5
LZH                                    PP      PP      14 39 14.8 +2.8
LZH                                    pmax    pmax
     comp=Z,20nm,1.5s
LZH                                    pmax    pmax
     comp=Z,65nm,8.6s
LZH                                    LR      LR
     comp=N,180nm,16.2s
LZH                                    LR      LR
     comp=E,180nm,16.5s
LZH                                    LR      LR
     comp=Z,260nm,18.6s
SNAA Sanae            86.18 182 eP             P       14 35 48.7 -0.7
SNAA Sanae            86.18 182 epP            pP      14 36 09.6 -8.2
SNAA Sanae            86.18 182 eP             P       14 35 47.9 -1.5
     comp=Z,12nm,0.9s
SNAA                                   ePcP    PcP     14 35 50.9 -1.0
KCPM Cahto Peak       86.59 45 eP              P       14 35 51.4 -0.5
VNA2 Neumayer--Watz   87.02 180 eP             P       14 35 52.8 -0.6
VNA2 Neumayer--Watz   87.02 180 epP            pP      14 36 14.3 -7.5
VNA1 Neumayer--Stat   87.30 180 eP             P       14 35 54.5 -0.2
VNA1 Neumayer--Stat   87.30 180 epP            pP      14 36 15.4 -7.8
CMB  Columbia Colle   87.86 47 eP              P       14 35 58.8 +0.8
CMB                                    pmax    pmax
     comp=Z,7.0nm,1.1s
CMB  Columbia Colle   87.86 47 eP              P       14 35 58.8 +0.8
     comp=Z,6.5nm,1.1s
ISA  Isabella         88.01 50 eP              P       14 35 57.9 -0.9
ISA                                    pmax    pmax
     comp=Z,12nm,1.1s
ISA  Isabella         88.01 50 eP              P       14 35 57.9 -0.9
     comp=Z,12nm,1.1s
YBH  Yreka Blue Hor   88.25 43 P               P       14 36 00.6 +0.9
YBH  Yreka Blue Hor   88.25 43 P               P       14 36 00.6 +0.9
     comp=Z,1.8nm,0.6s,baz=169,slow=9.6,SNR=3.8
WAKR Walker           88.74 47 eP              P       14 36 02.1 -0.2
MTUM Tungsten Hills   88.77 49 eP              P       14 36 04.1 +1.6
GSC  Goldstone        89.03 51 eP              P       14 36 04.1 +0.5
GSC                                    pmax    pmax
     comp=Z,11nm,1.4s
GSC  Goldstone        89.03 51 eP              P       14 36 04.1 +0.5
     comp=Z,11nm,1.4s
PAHR Pah Rah Range    89.37 46 eP              P       14 36 05.8 +0.6
     comp=Z,8.8nm,1.0s
NV11 Mina Array Sit   89.58 48 eP              P       14 36 04.8 -1.4
LDFC Landfair         90.15 52 eP              P       14 36 07.9 -1.0
     comp=Z,18nm,1.1s
ULN  Ulaanbaatar      90.40 323 eP             P       14 36 08.9 -0.9
     comp=Z,5.3nm,1.0s
ULN  Ulaanbaatar      90.40 323 P              P       14 36 10.4 +0.6
GTA  Gaotai           90.55 313 P              P       14 36 11.5 +0.8
GTA                                    pP      pP      14 36 41.0 +1.8
GTA                                    sP      sP      14 36 52.3 +1.5
GTA                                    SKS     SKSac   14 46 31.3 -0.9
GTA                                    S       S       14 46 55.0 -2.1
GTA                                    sS      sS      14 47 45.5 -0.9
GTA                                    SS      SS      14 53 03.0 +1.8
GTA                                    pmax    pmax
     comp=Z,2.0nm,0.8s
GTA                                    LR      LR
     comp=N,100nm,14.7s
GTA                                    LR      LR
     comp=E,130nm,16.4s
GTA                                    LR      LR
     comp=Z,110nm,17.1s
SONM Songino Array    90.76 322 P              P       14 36 11.8 +0.4
SONM Songino Array    90.76 322 P              P       14 36 11.8 +0.4
     comp=Z,3.2nm,1.1s,baz=2.0,SNR=12
COLA College          92.45 16 i P             P       14 36 18.5 -0.1
CCUT Cedar City       92.53 50 eP              P       14 36 19.4 -0.5
     comp=Z,3.1nm,1.1s
ILAR Eielson Array    92.62 17 P               P       14 36 17.9 -1.6
ILAR Eielson Array    92.62 17 P               P       14 36 17.9 -1.6
     comp=Z,0.7nm,0.7s,baz=228,slow=4.3,SNR=9.9
ZAK  Zakamensk        93.84 324 eP             P       14 36 23.5 -2.1
ZAK                                    pmax    pmax
     comp=Z,3.0nm,1.4s
DLBC Dease Lake       93.93 27 eP              P       14 36 26.3 +0.6
TLY  Talaya           94.31 325 eP             P       14 36 27.7 +0.1
TLY                                    pmax    pmax
     comp=Z,2.0nm,0.6s
NEW  Newport          94.95 40 LR              LR      15 09 27.2
     comp=Z,216nm,20.3s,baz=249,slow=29
PLCA Paso Flores      95.04 138 P              P       14 36 32.2 +0.8
PLCA Paso Flores      95.04 138 P              P       14 36 32.2 +0.8
     comp=Z,2.6nm,0.9s,baz=186,slow=2.7,SNR=4.0
ANMO Albuquerque      96.54 55 LR              LR      15 12 22.5
     comp=Z,176nm,18.6s,baz=298,slow=30
TXAR Lajitas Array    96.63 61 P               P       14 36 39.4 +0.6
TXAR Lajitas Array    96.63 61 P               P       14 36 39.4 +0.6
     comp=Z,0.2nm,0.5s,baz=271,slow=4.2,SNR=2.9
TXAR                                   LR      LR      15 13 03.4
     comp=Z,129nm,18.3s,baz=180,slow=31
PDAR Pinedale Array   97.36 47 LR              LR      15 16 23.8
     comp=Z,150nm,18.3s,baz=268,slow=33
WMQ  Urumqi           100.63 313 eP            Pdif    14 36 55.3 -1.0
WMQ                                    pmax    pmax
     comp=Z,6.0nm,0.8s
WMQ                                    pmax    pmax
     comp=Z,47nm,4.0s
WMQ                                    LR      LR
     comp=E,77nm,20.7s
WMQ                                    LR      LR
     comp=Z,74nm,20.0s
MKAR Makanchi Array   105.19 315 P              Pdif    14 37 20.4 +3.9
MKAR Makanchi Array   105.19 315 Pdif           Pdif    14 37 20.4 +3.9
MKAR                                   PKKPbc  PKKPbc  14 52 56.0 -2.2
MKAR                                   PKKPab  PKKPab  14 53 13.8 +0.7
MKAR Makanchi Array   105.19 315 Pdiff          Pdif    14 37 20.4 +3.9
     comp=Z,0.4nm,0.9s,baz=92,slow=7.2,SNR=2.9
MKAR                                   PKKPbc  PKKPbc  14 52 56.0 -2.2
     comp=Z,1.4nm,0.8s,baz=300,slow=2.4,SNR=7.9
MKAR                                   PKKPab  PKKPab  14 53 13.8 +0.7
     comp=Z,0.7nm,0.8s,baz=357,slow=2.4,SNR=3.9
KSH  Kashi            107.72 306 eP            Pdif    14 37 30.0 +2.0
KSH                                    PP      PP      14 42 02.8 +4.8
KSH                                    SS      SS      14 57 04.3 +3.0
KSH                                    AMB     AMB
     comp=Z,140nm,5.1s
KSH                                    LR      LR
     comp=N,69nm,6.0s
KSH                                    LR      LR
     comp=E,86nm,6.9s
KSH                                    LR      LR
     comp=Z,120nm,7.5s
VOSK Vostochnaya      113.54 319 ePKIKP        PKiKP   14 41 45.5 -0.2
VOSK Vostochnaya      113.54 319 ePKiKP        PKiKP   14 41 45.5 -0.2
BVAR Borovoye Array   113.93 320 PKIKP          PKiKP   14 41 45.6 -0.9
BVAR Borovoye Array   113.93 320 PKiKP          PKiKP   14 41 45.6 -0.9
BVAR Borovoye Array   113.93 320 PKiKP          PKiKP   14 41 45.6 -0.9
     comp=Z,0.8nm,0.6s,baz=123,slow=2.4,SNR=4.2
BDFB Brasilia         126.17 131 PKP           PKPdf   14 42 11.2 -0.1
BDFB Brasilia         126.17 131 PKP           PKPdf   14 42 11.2 -0.1
     comp=Z,1.5nm,0.5s,baz=207,slow=6.8,SNR=3.4
ARCES ARCESS Array B  128.49 345 PKP           PKPdf   14 42 13.5 -0.4
ARCES ARCESS Array B  128.49 345 PKP           PKPdf   14 42 13.5 -0.4
     comp=Z,2.0nm,0.7s,baz=1.3,slow=3.9,SNR=5.0
KMBO Kilima Mbogo     129.43 249 PKP           PKPdf   14 42 18.4 +0.7
KMBO                                   ePKPdf  PKiKP   14 42 19.9 +1.4
KMBO Kilima Mbogo     129.43 249 PKP           PKPdf   14 42 18.4 +0.7
     comp=Z,1.9nm,0.8s,baz=162,slow=9.6,SNR=4.6
AKASG Malin Array Be  139.04 323 PKIKP          PKPdf   14 42 33.7 -0.5
AKASG Malin Array Be  139.04 323 PKP            PKPdf   14 42 33.7 -0.5
AKASG                                  SKPbc   SKiKP   14 46 02.2 -0.4
AKASG Malin Array Be  139.04 323 PKhKP          PKPpre  14 42 29.5
     comp=Z,0.2nm,0.3s,baz=57,slow=2.8,SNR=1.8
AKASG                                  PKP     PKPdf   14 42 33.7 -0.5
     comp=Z,2.3nm,0.8s,baz=59,slow=2.8,SNR=7.7
AKASG                                  SKPbc   SKiKP   14 46 02.2 -0.4
     comp=Z,0.6nm,0.4s,baz=56,slow=3.6,SNR=6.9
BRTR Keskin Array B   140.11 306 PKP           PKPdf   14 42 35.6 -1.1
BRTR Keskin Array B   140.11 306 PKP           PKPdf   14 42 35.6 -1.1
     comp=Z,1.1nm,0.8s,baz=54,slow=3.7,SNR=5.0
IAS  Iasi             141.68 319 ⇓PKIKP        PKPdf   14 42 52.1 +13
IAS  Iasi             141.68 319 ⇓iP           PKPdf   14 42 52.1 +13
BURAR Bucovina Array  142.86 321 ⇓PKIKP        PKPdf   14 42 42.0 +0.6
BURAR Bucovina Array  142.86 321 ⇓iP           PKPdf   14 42 42.0 +0.6
KWP  Kalwaria Pacla   143.14 325 ⇑PKIKP        PKPdf   14 42 40.6 -1.1
KWP  Kalwaria Pacla   143.14 325 ⇑iP           PKPdf   14 42 40.6 -1.1
MLR  Muntele Rosu     143.46 318 PKhKP          PKPpre  14 42 39.8
     comp=Z,0.7nm,0.6s,baz=18,slow=20,SNR=4.9
KOLS Kolonicke sedl   143.78 325 ePKIKP        PKPdf   14 42 43.3 +0.4
KOLS Kolonicke sedl   143.78 325 ePKP           PKPdf   14 42 43.2 +0.4
UZH  Uzhgorod         143.94 324 ePKIKP        PKPbc   14 42 42.0 +0.8
UZH                                    e               14 43 07.7
STHS Stebnicka Huta   144.03 326 ePKIKP        PKPdf   14 42 44.6 +1.3
STHS Stebnicka Huta   144.03 326 ePKP           PKPdf   14 42 44.6 +1.3
VOIR                  144.04 318 ⇓PKIKP        PKPdf   14 42 43.8 +0.3
VOIR                  144.04 318 ⇓iP           PKPdf   14 42 43.8 +0.3
TRPA Tarpa            144.10 324 ⇑iP           PKPdf   14 42 42.8 -0.6
CRVS Cervenica-Dubn   144.23 325 ePKIKP        PKPdf   14 42 43.8 +0.2
CRVS Cervenica-Dubn   144.23 325 ePKP           PKPdf   14 42 43.8 +0.2
ARR  Arges            144.33 318 ⇑iP           PKPdf   14 42 44.0 0.0
DRGR                  144.75 322 ⇓PKIKP        PKPdf   14 42 44.9 +0.2
DRGR                  144.75 322 ⇓iP           PKPdf   14 42 44.9 +0.2
LOT  Lotru            144.82 319 ⇓iP           PKPdf   14 42 45.4 +0.5
KECS Kecovo           145.00 325 ePKIKP        PKPdf   14 42 45.5 +0.6
KECS Kecovo           145.00 325 ePKP           PKPdf   14 42 45.5 +0.6
BSEG Bad Segeberg     145.25 340 ePKPbc        PKPbc   14 42 44.9 -0.2
BSEG Bad Segeberg     145.25 340 ePKIKP        PKPbc   14 42 44.9 -0.2
OKC  Ostrava-Krasne   145.29 329 ePKIKP        PKPab   14 42 45.9 +0.3
OKC  Ostrava-Krasne   145.29 329 ePKP           PKPab   14 42 45.9 +0.3
KSP  Ksiaz            145.44 332 ePKP2          PKPab   14 42 46.5 +0.4
KSP  Ksiaz            145.44 332 ePKP           PKPab   14 42 46.6 +0.4
MORC Moravsky Berou   145.62 329 ePKP2          PKPbc   14 42 46.6 +0.1
MORC Moravsky Berou   145.62 329 ePKPdf         PKPbc   14 42 46.6 +0.1
PSZ  Piszkesteto      145.65 325 ⇓PKP2          PKPab   14 42 47.1 0.0
PSZ  Piszkesteto      145.65 325 ⇓iP           PKPab   14 42 47.1 0.0
PSZ  Piszkesteto      145.65 325 ⇓ePKPdf       PKPab   14 42 47.3 +0.2
KRLC Kraliky          145.77 330 ePKP2          PKPbc   14 42 46.9 0.0
KRLC Kraliky          145.77 330 ePKP           PKPbc   14 42 46.9 0.0
DPC  Dobruska-Polom   145.78 331 ePKP2          PKPbc   14 42 47.0 0.0
DPC  Dobruska-Polom   145.78 331 ePKP           PKPab   14 42 47.7 +0.2
DPC  Dobruska-Polom   145.78 331 ePKPdf         PKPbc   14 42 47.0 0.0
UPC  Upice            145.81 332 ePKP2          PKPab   14 42 47.5 0.0
UPC  Upice            145.81 332 ePKP           PKPab   14 42 47.5 0.0
BUD  Budapest         146.38 325 ⇓ePKPdf       PKPab   14 42 49.5 -0.3
VRAC Vranov           146.39 330 PKPbc          PKPbc   14 42 49.3 +0.5
VRAC Vranov           146.39 330 PKPbc          PKPbc   14 42 49.3 +0.5
     comp=Z,8.4nm,0.8s,baz=102,slow=3.8,SNR=13
BRG  Berggiesshubel   146.42 334 ePKP           PKPbc   14 42 49.2 +0.5
     comp=Z,21nm,1.1s
BRG                                    e               14 43 09.0
     comp=Z,11nm,1.1s
BRG                                    epPKP   pPKPdf  14 43 16.6 -0.5
     comp=Z,4.6nm,1.1s
BRG  Berggiesshubel   146.42 334 ePKPbc        PKPbc   14 42 48.8 0.0
BRG  Berggiesshubel   146.42 334 ePKP2          PKPbc   14 42 49.2 +0.5
BRG                                    pmax    pmax
     comp=Z,21nm,1.1s
BRG                                    pmax    pmax
     comp=Z,11nm,1.1s
PVCC Panska Ves       146.42 333 ePKP2          PKPab   14 42 49.5 -0.3
PVCC Panska Ves       146.42 333 ePKP           PKPab   14 42 49.5 -0.3
CLL  Collm            146.46 335 ePKPbc        PKPbc   14 42 48.8 0.0
CLL  Collm            146.46 335 ⇓iPKP2         PKPbc   14 42 49.0 +0.2
CLL                                    pmax    pmax
     comp=Z,16nm,1.0s
CLL  Collm            146.46 335 ⇓iPKPbc        PKPbc   14 42 49.0 +0.2
     comp=Z,16nm,1.0s
CLL                                    iPKPab  PKPab   14 42 50.6 +0.6
     comp=Z,15nm,0.9s
CLL                                    e(pPKPbc)       14 43 09.0
CLL                                    epPKiKP pPKiKP  14 43 17.0 -4.5
NRDL Niedersach Rie   146.54 339 ePKPbc        PKPbc   14 42 49.1 +0.2
VTS  Vitosha          146.55 315 ⇑PKP2          PKPab   14 42 50.4 -0.4
VTS  Vitosha          146.55 315 ⇑iP           PKPab   14 42 50.4 -0.4
PKSG                  146.78 325 ⇑ePKPdf       PKPab   14 42 50.7 -0.6
PRU  Pruhonice        146.83 332 ePKP2          PKPbc   14 42 50.5 +0.5
PRU  Pruhonice        146.83 332 ePKP           PKPbc   14 42 50.5 +0.5
PKS2 Kecel            146.89 324 ⇑ePKPdf       PKPab   14 42 51.5 -0.3
TREC Trest            146.91 330 ePKP2          PKPbc   14 42 50.8 +0.5
TREC Trest            146.91 330 ePKP           PKPbc   14 42 50.8 +0.5
CLZ  Clausthal        147.00 338 ePKPbc        PKPbc   14 42 50.8 +0.4
CLZ  Clausthal        147.00 338 ePKP2          PKPbc   14 42 50.8 +0.4
PKST T"s              147.05 326 ⇑ePKPdf       PKPbc   14 42 50.9 +0.2
PKS9 Tamasi           147.34 324 ⇓ePKPdf       PKPbc   14 42 51.9 +0.4
TANN Tannenbergstha   147.37 335 ePKPbc        PKPbc   14 42 52.1 +0.6
IBBN Ibbenburen       147.45 341 ePKPbc        PKPbc   14 42 51.5 -0.1
MOX  Moxa             147.52 336 ePKPbc        PKPbc   14 42 52.0 +0.1
MOX  Moxa             147.52 336 ePKP2          PKPbc   14 42 52.0 +0.1
SOP  Sopron           147.53 327 ⇓ePKPdf       PKPbc   14 42 52.8 +0.8
CONA Conrad Observa   147.70 328 ⇓iPKPab        PKPbc   14 42 53.3 +0.7
     comp=Z,11nm,0.8s,SNR=6.8
KHC  Kasperske Hory   147.89 332 ePKP2          PKPbc   14 42 53.5 +0.5
KHC                                    MLR     MLR
     comp=Z,200nm,17.2s
KHC  Kasperske Hory   147.89 332 ePKP           PKPbc   14 42 53.5 +0.5
KHC                                    AMS     AMS     15 53 50.0
     comp=Z,200nm,17.2s
KHC  Kasperske Hory   147.89 332 ePKPdf         PKPdf   14 42 48.5 -1.3
KHC                                    ePKPbc  PKPbc   14 42 52.2 -0.8
KHC                                    ePKPab  PKiKP   14 42 55.1 +0.3
IDI  Anoyia           147.92 301 ePKPdf         PKPdf   14 42 49.0 -1.4
IDI                                    ePKPbc  PKPbc   14 42 52.6 -1.0
IDI                                    PKPbc   PKPbc   14 42 53.8 +0.2
IDI  Anoyia           147.92 301 PKPbc          PKPbc   14 42 53.8 +0.2
     comp=Z,9.6nm,0.7s,baz=118,slow=1.7,SNR=12
UBBA Unterbreizbach   147.97 337 ePKPbc        PKPbc   14 42 53.0 +0.1
ROTZ Rotzenmuhle      147.98 334 ePKPbc        PKPbc   14 42 53.6 +0.5
GEC2 GERESS Array S   148.05 331 ePKPbc        PKPbc   14 42 53.6 +0.1
GEC2 GERESS Array S   148.05 331 ePKP2          PKPbc   14 42 53.6 +0.1
GERES GERESS Array B  148.05 331 PKPbc          PKPbc   14 42 53.5 +0.1
GERES GERESS Array B  148.05 331 PKPbc          PKPbc   14 42 53.5 +0.1
     comp=Z,7.6nm,0.8s,baz=45,slow=2.9,SNR=40
WET  Wettzell         148.18 333 ePKPbc        PKPbc   14 42 54.1 +0.4
WET  Wettzell         148.18 333 ePKP2          PKPbc   14 42 54.1 +0.4
BUG  Bochum--Univer   148.35 341 ePKPbc        PKPbc   14 42 53.9 -0.1
GRF  Grafenberg Arr   148.43 335 ePKPbc        PKPbc   14 42 54.6 +0.3
GRF  Grafenberg Arr   148.43 335 ePKP2          PKPbc   14 42 54.6 +0.3
MOA  Molln            148.52 330 ⇓iPKiKP       PKPbc   14 42 54.9 +0.2
     comp=Z,8.7nm,1.0s
PERS Pernice          148.96 327 ePKPbc        PKPbc   14 42 55.6 -0.2
SOKA Soboth           148.97 327 iPKiKP        PKPbc   14 42 56.0 +0.1
     comp=Z,20nm,1.3s,SNR=6.1
TNS  Taunus Mts       149.02 338 ePKPbc        PKPbc   14 42 55.9 0.0
TNS  Taunus Mts       149.02 338 ePKP2          PKPbc   14 42 55.9 0.0
RJOB Jochberg         149.28 331 ePKPbc        PKPbc   14 42 56.3 -0.3
MEM  Membach          149.46 341 PKPbc          PKPbc   14 42 57.5 +0.6
KBA  Koelnbreinsper   149.51 329 ⇓iPKPbc       PKPbc   14 42 56.8 -0.6
     comp=Z,15nm,0.6s,SNR=7.8
FUR  Furstenfeldbru   149.61 333 ePKPbc        PKPbc   14 42 57.2 -0.2
FUR  Furstenfeldbru   149.61 333 ePKP2          PKPbc   14 42 57.2 -0.2
BOJS Bojanci          149.65 325 iPKPbc        PKPbc   14 42 58.2 +0.7
LJU  Ljubljana        149.66 327 iPKPbc        PKPbc   14 42 58.0 +0.5
VISS Visnje           149.67 326 iPKPbc        PKPbc   14 42 57.9 +0.3
MYKA Terra Mystica    149.69 329 ⇓iPKPbc       PKPbc   14 42 57.2 -0.5
     comp=Z,12nm,0.7s,SNR=5.1
CADS Cadrg            149.93 328 iPKPbc        PKPbc   14 42 57.6 -0.6
STU  Stuttgart        149.96 336 ePKPbc        PKPbc   14 42 58.0 -0.1
VOY  Vojsko           149.99 327 ePKPbc        PKPbc   14 42 58.3 -0.1
VOY                                    e               14 43 01.5
VOY                                    e               14 43 16.2
WATA Walderalm        150.12 332 ⇓iPKiKP       PKPbc   14 42 58.7 -0.1
     comp=Z,8.0nm,0.5s
WTTA Wattenberg       150.15 331 ⇓iPKiKP       PKPbc   14 42 59.0 +0.1
     comp=Z,26nm,1.0s,SNR=8.5
WLF  Walferdange      150.25 340 ePKPbc        PKPbc   14 42 59.5 +0.7
MOTA Moosalm          150.32 332 ⇓iPKiKP       PKPbc   14 42 59.1 -0.2
     comp=Z,20nm,0.8s,SNR=7.6
DOU  Dourbes          150.33 342 PKPbc          PKPbc   14 42 59.6 +0.7
RETA Reutte           150.36 333 ⇓iPKiKP       PKPbc   14 42 59.4 +0.1
     comp=Z,16nm,1.5s
BFO  Black Forest     150.65 336 ePKPbc        PKPbc   14 42 59.5 -0.3
BFO  Black Forest     150.65 336 ePKIKP        PKPbc   14 42 59.5 -0.3
FETA Feichten         150.73 332 iPKiKP        PKPbc   14 43 00.4 +0.1
     comp=Z,18nm,0.8s,SNR=8.3
DAVA Damuels          150.88 333 ⇓iPKiKP       PKPbc   14 43 00.8 +0.2
     comp=Z,15nm,1.2s
DAVOX Davos/Dischmat  151.29 333 PKPbc          PKPbc   14 43 02.0 +0.4
DAVOX Davos/Dischmat  151.29 333 PKPbc          PKPbc   14 43 02.0 +0.4
     comp=Z,15nm,0.7s,baz=55,slow=1.7,SNR=20
TUE  Stuetta          151.75 333 ePKPdf         PKPdf   14 42 56.8 +0.6
TUE                                    ePKPbc  PKPbc   14 43 02.9 +0.2
DBIC Dimbokro         163.99 194 PKP            PKPdf   14 43 12.2 +0.3
DBIC Dimbokro         163.99 194 PKP            PKPdf   14 43 12.2 +0.3
     comp=Z,6.2nm,0.9s,baz=108,slow=5.7,SNR=5.8
TORD Torodi Ar. Bea   166.48 229 PKP            PKPdf   14 43 14.1 +0.2
TORD                                   PKPab   PKPab   14 44 16.7 +0.4
TORD Torodi Ar. Bea   166.48 229 PKP            PKPdf   14 43 14.1 +0.2
     comp=Z,8.2nm,0.9s,baz=53,slow=0.6,SNR=38
TORD                                   PKPab   PKPab   14 44 16.7 +0.4
     comp=Z,3.4nm,1.0s,baz=135,slow=3.8,SNR=6.8
```

IDC 25 14:32:28.4±2.2, 22°.08N×143°.32E, h252km±22km, mb3.0/7, mb1 3.1/8, mb1mx3.0/27, mbtmp3.1/8, Error ellipse: s-maj=76.7km s-min=16.1km az=78.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.10**	**349**	P	P	Pn	14 33 46.9	+1.4
	5.1nm,0.3s,baz=249,slow=17,SNR=5.5							
CBIJ					S	S	14 34 46.2	-0.8
	6.0nm,0.3s,baz=307,slow=20,SNR=3.1							
KSRS	**Korea Array**	**20.29**	**322**	P	P	P	14 36 45.8	+0.5
	1.2nm,0.6s,baz=146,slow=9.1,SNR=9.2							
SONM	**Songino Array**	**39.13**	**320**	P	P	P	14 39 31.6	-0.2
	0.3nm,0.5s,baz=129,slow=7.7,SNR=2.5							
WRA	**Warramunga Arr**	**42.17**	**193**	P	P	P	14 40 00.5	-0.3
	1.3nm,1.3s,baz=6.8,slow=7.8,SNR=7.2							
ASAR	**Alice Springs**	**46.38**	**192**	P	P	P	14 40 29.8	-0.2
	0.2nm,0.7s,baz=16,slow=10,SNR=3.1							
MKAR	**Makanchi Array**	**54.53**	**312**	P	P	P	14 41 29.9	-0.7
	0.3nm,0.5s,baz=94,slow=9.2,SNR=4.0							
BVAR	**Borovoye Array**	**62.47**	**319**	P	P	P	14 42 25.3	+0.3
	0.9nm,0.3s,baz=95,slow=8.0,SNR=6.1							
FINES	**FINESS Array B**	**82.89**	**334**	P	P	P	14 44 24.6	0.0
	1.0nm,0.5s,baz=67,slow=3.3,SNR=7.8							

*BJI **25** 14:55:14.0, 31°.06N×103°.31E, h21km, ML3.9/16, Ms3.8/2, Ms7 3.5/2*
*IDC **25** 14:55:14.1±1.0, 30°.91N×103°.53E, h0km, mb3.6/7, mb1 3.7/8, mb1mx3.5/27, mbtmp3.5/8, ML3.4/1, Error ellipse: s-maj=37.6km s-min=17.6km az=53.0*
*ISCJB **25** 14:55:15.4±0.6, 31°.00N±0°.06×103°.50E±0°.08, h16km, mb3.5/7, Error ellipse: s-maj=11.3km s-min=7.1km az=149.8*

ISC 25 14:55:17.5±0.8, 31°.14N±0°.04×103°.62E±0°.07, h16km, n14, σ1 98/19, mb3.6/7, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CD2	**Chengdu**	**0.25**	**153**	Pg	Pg	Pb	14 55 23.5	-0.2
CD2				Sg	Sg	Sb	14 55 29.8	+1.9
CD2				smax	smax			
	comp=N,12μm,0.4s							
CD2				smax	smax			
	comp=E,12μm,0.5s							
LZH	**Lanzhou**	**4.94**	**2**	ePg	Pg	Pb	14 56 41.3	-2.5
LZH				Sg	Sg	Sg	14 57 56.8	+0.6
LZH				smax	smax			
	comp=N,51nm,1.1s							
LZH				smax	smax			
	comp=E,72nm,1.1s							
LZH				LR	LR			
	comp=N,300nm,7.0s							
LZH				LR	LR			
	comp=E,310nm,6.8s							
LZH				LR	LR			
	comp=Z,360nm,8.5s							
XAN	**Xi'an**	**5.33**	**56**	Pn	Pn	Pn	14 56 38.0	+1.6
XAN				Sn	Sn	Sn	14 57 36.3	-1.2
XAN				Sg	Sg	Sg	14 58 04.8	-3.7
XAN				smax	smax			
	comp=N,150nm,0.7s							
XAN				smax	smax			
	comp=E,71nm,0.8s							
GYA	**Guiyang**	**5.37**	**149**	Pn	Pn	Pn	14 56 36.3	-0.8
GYA				Sn	Sn	Sn	14 57 37.3	-1.4
GYA				Sg	Sg	Sb	14 57 59.5	+4.2
GYA				smax	smax			
	comp=N,150nm,0.8s							
GYA				smax	smax			
	comp=E,140nm,0.8s							
NJ2	**Nanjing**	**13.02**	**82**	eP	P	Pn	14 58 25.0	+3.2
CMAR	**Chiang Mai Arr**	**13.32**	**200**	Pn	Pn	Pn	14 58 24.8	-1.2
	baz=11,slow=9.6,SNR=3.6							
SONM	**Songino Array**	**16.81**	**6**	P	P	Pn	14 59 13.1	+0.8
	comp=E,0.1nm,0.3s,baz=186,slow=12,SNR=2.7							
KSRS	**Korea Array**	**21.01**	**66**	P	P	P	15 00 01.1	+0.8
	comp=E,1.9nm,0.8s,baz=252,slow=11,SNR=11							
MKAR	**Makanchi Array**	**22.69**	**320**	P	P	P	15 00 18.1	-0.2
	comp=E,0.9nm,0.8s,baz=122,slow=12,SNR=7.3							
AAK	**Ala-Archa**	**25.85**	**305**	P	P	P	15 00 48.6	+0.2
	comp=E,0.4nm,0.3s,baz=198,slow=9.6,SNR=2.0							
ZALV	**Zalesovo Beam**	**26.52**	**335**	P	P	P	15 00 54.4	+0.3
	comp=E,0.5nm,0.3s,baz=141,slow=9.3,SNR=2.0							
KURBB	**Kurchatov Arra**	**26.97**	**323**	P	P	P	15 00 58.6	+0.3
	comp=E,0.3nm,0.6s,baz=130,slow=9.9,SNR=2.5							
WRA	**Warramunga Arr**	**58.73**	**146**	P	P	P	15 05 12.5	-2.2
	comp=E,1.4nm,0.8s,baz=328,slow=9.0,SNR=28							
ASAR	**Alice Springs**	**61.73**	**148**	P	P	P	15 05 33.5	-1.7
	comp=E,0.3nm,0.5s,baz=332,slow=6.7,SNR=10.0							

*IDC **25** 15:10:15.2±5.5, 2°.14N×127°.48E, h74km±51km, mb3.5/11, mb1 3.6/12, mb1mx3.5/25, mbtmp3.5/12, ML3.8/1, Error ellipse: s-maj=48.6km s-min=15.2km az=65.0*
*ISCJB **25** 15:10:17.1±0.6, 2°.17N±0°.05×127°.43E±0°.07, h112km, mb3.7/10, Error ellipse: s-maj=10.2km s-min=7.5km*

az=173.7
*DJA **25** 15:10:17.7±1.2,2°N±4°×12°7E±°,h61km±21km,M4.3/3, MLv4.3/3*
ISC 25 15:10:18.5±0.7,2°22N±0°06×127°39E±0°09,h112km,n18, σ2°13/22,mb3.6/10,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.43**	**181**	P	**Pn**	**15 10 42.3**	**-2.4**
TNTI				S	**Sn**	**15 11 04.3**	**-0.2**
SGSI	**Sangihe**	**2.36**	**308**	P	**Pn**	**15 10 53.6**	**-2.7**
SGSI				S	**Sn**	**15 11 21.0**	**-4.2**
LBMI	**Labuha**	**2.84**	**178**	P	**Pn**	**15 11 01.5**	**-1.0**
KMSI	**Cibinong**	**3.78**	**244**	P	**Pn**	**15 11 15.6**	**+0.7**
KMSI				S	**Sn**	**15 11 59.2**	**+0.6**
GTOI	**Gorontalo**	**4.65**	**250**	P	**Pn**	**15 11 27.4**	**+0.7**
KAPI	**Kappang**	**10.48**	**227**	P	**Pn**	**15 12 43.2**	**-2.4**
	0.7nm,0.3s,baz=37,slow=20,SNR=2.3						
FITZ	**Fitzroy Crossi**	**20.26**	**185**	P	**P**	**15 14 43.6**	**-1.6**
	1.3nm,1.0s,baz=9.8,slow=12,SNR=3.1						
WRA	**Warramunga Arr**	**23.05**	**163**	P	**P**	**15 15 12.8**	**-1.6**
	0.5nm,0.4s,baz=338,slow=10,SNR=14						
ASAR	**Alice Springs**	**26.50**	**167**	P	**P**	**15 15 45.2**	**-0.4**
	0.2nm,0.3s,baz=346,slow=12,SNR=36						
CMAR	**Chiang Mai Arr**	**32.21**	**302**	P	**P**	**15 16 37.5**	**+1.2**
	0.4nm,0.7s,baz=140,slow=8.3,SNR=4.6						
KSRS	**Korea Array**	**35.07**	**1**	P	**P**	**15 17 01.3**	**+0.5**
	0.2nm,0.4s,baz=181,slow=11,SNR=2.8						
STKA	**Stephens Creek**	**36.49**	**159**	P	**P**	**15 17 13.5**	**+0.5**
	8.3nm,1.1s,baz=346,slow=8.3,SNR=2.8						
SONM	**Songino Array**	**48.93**	**341**	P	**P**	**15 18 55.0**	**+1.6**
	0.5nm,0.6s,baz=151,slow=8.3,SNR=3.0						
MKAR	**Makanchi Array**	**59.17**	**325**	P	**P**	**15 20 09.8**	**+2.1**
	2.7nm,0.5s,baz=120,slow=8.2,SNR=67						
MKAR				pP	**pP**	**15 20 29.7**	**-5.2**
	0.5nm,0.5s,baz=122,slow=8.0,SNR=2.4						
KURBB	**Kurchatov Arra**	**63.36**	**328**	P	**P**	**15 20 37.0**	**+1.2**
	1.9nm,0.6s,baz=128,slow=6.1,SNR=30						
KURBB				pP	pP	15 20 57.1	-6.2
	0.8nm,0.5s,baz=128,slow=6.3,SNR=2.5						
BVAR	**Borovoye Array**	**68.94**	**327**	P	**P**	**15 21 12.9**	**+1.4**
	0.6nm,0.7s,baz=134,slow=4.2,SNR=3.5						
AKTO	**Aktyubinsk**	**75.25**	**322**	P	**P**	**15 21 50.5**	**+1.3**
	1.0nm,0.6s,baz=90,slow=6.4,SNR=4.0						
TORD	**Torodi Ar. Bea**	**124.00**	**287**	PKP	**PKPdf**	**15 29 05.9**	**+1.2**
	0.3nm,0.8s,baz=36,slow=4.5,SNR=2.3						

*IDC **25** 15:11:32.9±1.0,45°26N×104°63W,h0km,mb3.6/1, mb1 3.7/4,mb1mx3.4/27,mbtmp3.5/4,ML3.4/3,Error ellipse: s-maj=29.0km s-min=9.0km az=141.0*
*ISCJB **25** 15:11:33.7±0.4,45°02N±0°01×104°25W±0°01,h8km±2km, mb3.6/1,Error ellipse: s-maj=1.8km s-min=1.7km az=172.2*
*NEIC **25** 15:11:34.1,45°02N×104°21W,h4km,ML4.2(BUT),After BUT.*
NEIC Felt at Alzada. Felt [II] at Belle Fourche, South Dakota. Also felt at Custer, Rapid City and Spearfish.
ISC 25 15:11:33.5±1.1,45°04N±0°02×104°23W±0°02,h5km±8km, n162,σ1°00/212,69C-55D,Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
G24A	**Alzada**	**0.32**	**335**	⇑P	**Pb**	**15 11 41.0**	**-0.8**
G24A	baz=0.3,SNR=110			⇓S	**Sb**	**15 11 46.0**	**-1.4**
H24A	**Dirks Ranch, A**	**0.37**	**219**	⇑P	**Pg**	**15 11 41.3**	**+0.7**
H24A	baz=0.4,SNR=826			⇑S	**Sg**	**15 11 46.2**	**+0.6**
G25A	**Newell**	**0.59**	**74**	⇑P	**Pg**	**15 11 45.4**	**+0.5**
G25A	baz=0.6,SNR=827			⇓S	**Sg**	**15 11 53.5**	**+0.9**
H25A	**Fruitdale**	**0.61**	**133**	⇑P	**Pg**	**15 11 45.3**	**+0.1**
H25A	baz=0.6			⇑S	**Sg**	**15 11 53.3**	**+0.2**
F24A	**Ekalaka**	**0.82**	**349**	P	**Pb**	**15 11 50.1**	**-0.3**
F24A	baz=0.8,SNR=103			⇑S	**Sb**	**15 12 01.6**	**-0.3**
G23A	**Biddle**	**0.84**	**282**	P	**Pb**	**15 11 50.4**	**-0.3**
G23A	baz=0.9,SNR=76			⇑S	**Sb**	**15 12 02.0**	**-0.3**
RSSD	**Black Hills**	**0.93**	**172**	*e*Pg	**Pg**	**15 11 50.5**	**-0.7**
RSSD				*e*Sg	**Sg**	**15 12 03.0**	**-0.2**
H23A	**Clabaugh Cattl**	**0.96**	**241**	⇑P	**Pg**	**15 11 52.5**	**+0.6**
H23A	baz=1.0,SNR=80			⇓S	**Sb**	**15 12 05.5**	**-0.3**
G27A	**Dupree**	**0.98**	**69**	P	Pn	15 12 04.3	+10
G27A	baz=1.6,SNR=695			⇓S	Sn	15 12 26.0	+18
F25A	**Bowman**	**1.04**	**31**	P	**Pg**	**15 11 53.5**	**+0.1**
F25A	baz=1.1,SNR=476			⇓S	**Sg**	**15 12 07.3**	**+0.4**
I25A	**Rochford**	**1.08**	**161**	P	**Pg**	**15 11 53.4**	**-0.7**
I25A	baz=1.1,SNR=803			⇑S	**Sg**	**15 12 07.9**	**-0.1**
F23A	**Volborg**	**1.08**	**310**	P	**Pb**	**15 11 54.6**	**-0.1**
F23A	baz=1.1,SNR=293			⇓S	**Sb**	**15 12 09.3**	**+0.2**
H26A	**Fairpoint**	**1.11**	**112**	⇑P	**Pg**	**15 11 54.5**	**-0.4**
H26A	baz=1.1,SNR=114			⇑S	**Sg**	**15 12 09.0**	**-0.3**
G26A	**Maurine**	**1.18**	**77**	P	**Pg**	**15 11 56.1**	**0.0**
G26A	baz=1.2,SNR=523			⇓S	**Sg**	**15 12 11.7**	**+0.3**
I24A	**Kuemmerle Ranc**	**1.21**	**194**	⇑P	**Pg**	**15 11 56.4**	**-0.3**
I24A	baz=1.2,SNR=347			⇑S	**Sg**	**15 12 12.4**	**0.0**
F26A	**Lodgepole**	**1.36**	**53**	P	**Pn**	**15 11 59.4**	**+0.1**
F26A	baz=1.4,SNR=210			⇓S	**Sg**	**15 12 16.8**	**-0.5**
I23A	**Meade Ranch, G**	**1.39**	**220**	⇓P	**Pn**	**15 11 60.0**	**+0.2**
I23A	baz=1.4,SNR=36			⇑S	**Sg**	**15 12 18.0**	**-0.3**
I26A	**New Underwood**	**1.40**	**135**	⇑P	**Pn**	**15 11 59.4**	**-0.4**
I26A	baz=1.4,SNR=77			⇑S	**Sb**	**15 12 17.1**	**-1.3**
G22A	**Birney**	**1.47**	**278**	⇓P	**Pg**	**15 12 01.6**	**-0.1**
G22A	baz=1.5,SNR=247			⇓S	**Sn**	**15 12 21.3**	**+0.6**
E24A	**Baker**	**1.52**	**358**	P	**Pn**	**15 12 02.0**	**+0.5**
E24A	baz=1.5,SNR=334			⇑S	**Sg**	**15 12 22.4**	**-0.1**
E25A	**Miller Ranch,**	**1.57**	**21**	⇑P	**Pn**	**15 12 02.9**	**+0.7**
E25A	baz=1.6,SNR=475			⇑S	**Sn**	**15 12 23.6**	**+0.6**
H22A	**Clearmont**	**1.58**	**254**	⇓P	**Pb**	**15 12 03.2**	**0.0**
H22A	baz=1.6,SNR=118			⇓S	**Sg**	**15 12 24.1**	**0.0**
H27A	**Howes**	**1.58**	**104**	⇓P	**Pn**	**15 12 03.0**	**+0.7**
H27A	baz=1.6,SNR=148			⇓S	**Sn**	**15 12 23.5**	**+0.4**
F22A	**Rosebud**	**1.61**	**298**	⇑P	**Pb**	**15 12 03.2**	**-0.6**
F22A	baz=1.6,SNR=85			⇓S	**Sg**	**15 12 24.4**	**-0.8**
J25A	**Sunshine Ranch**	**1.67**	**169**	⇑P	**Pn**	**15 12 04.0**	**+0.4**
J25A	baz=1.7,SNR=359			⇑S	**Sn**	**15 12 26.4**	**+0.9**
J24A	**Dixon Ranch, L**	**1.73**	**191**	⇑P	**Pn**	**15 12 05.5**	**+1.0**
J24A	baz=1.7,SNR=337			⇑S	**Sn**	**15 12 28.0**	**+1.0**
F27A	**Lemmon**	**1.76**	**61**	⇓P	**Pn**	**15 12 06.0**	**+1.3**
F27A	baz=1.8,SNR=234			⇑S	**Sn**	**15 12 28.9**	**+1.2**
I27A	**Quinn**	**1.83**	**121**	⇑Pb	**Pn**	**15 12 07.2**	**+1.5**
I27A	baz=1.8,SNR=139			⇓S	**Sn**	**15 12 30.2**	**+0.9**
E22A	**Miles City**	**1.85**	**320**	⇑P	**Pn**	**15 12 06.5**	**+0.5**
E22A	baz=1.9,SNR=191			⇑S	**Sg**	**15 12 31.9**	**-1.0**
J23A	**Dilts Ranch, B**	**1.89**	**211**	⇑P	**Pn**	**15 12 07.7**	**+1.0**
J23A	baz=1.9,SNR=98			⇓S	**Sb**	**15 12 32.7**	**+0.1**
E26A	**Carlson Angus**	**1.89**	**40**	⇓P	**Pb**	**15 12 08.3**	**-0.3**
J26A	**Sides Ranch, S**	**1.91**	**154**	⇑Pb	**Pn**	**15 12 08.9**	**+2.1**
J26A	baz=1.9			⇑S	**Sn**	**15 12 33.0**	**+1.6**
I22A	**9 Mile Ranch,**	**1.98**	**236**	⇓P	**Pn**	**15 12 08.9**	**+1.0**
H21A	**Big Horn, Sher**	**2.04**	**259**	⇓P	**Pn**	**15 12 09.3**	**+0.6**
D24A	**Glendive**	**2.08**	**358**	⇓P	**Pn**	**15 12 10.0**	**+0.8**
G21A	**Lodge Grass**	**2.12**	**276**	⇑P	**Pn**	**15 12 10.7**	**+1.0**
LAO	**LASA Array**	**2.16**	**321**	*e*Pn	**Pn**	**15 12 11.1**	**+0.8**
LAO				*e*Sn	**Sn**	**15 12 38.4**	**+0.8**
F21A	**Absaloka Mine,**	**2.19**	**292**	⇓P	**Pn**	**15 12 11.5**	**+0.9**
D25A	**Fairfield**	**2.21**	**16**	⇓P	**Pn**	**15 12 11.8**	**+0.9**
D23A	**Lindsay**	**2.24**	**343**	⇓P	**Pn**	**15 12 12.7**	**+1.3**
J22A	**Midwest**	**2.29**	**226**	⇓P	**Pn**	**15 12 13.3**	**+1.1**
E27A	**Carson**	**2.33**	**52**	⇓P	**Pn**	**15 12 13.8**	**+1.3**
G28A	**Parade**	**2.35**	**88**	⇑P	**Pn**	**15 12 14.0**	**+1.3**
D26A	**Manning**	**2.35**	**31**	⇑P	**Pn**	**15 12 14.8**	**+2.0**
K24A	**Anderson Ranch**	**2.35**	**191**	⇓P	**Pn**	**15 12 14.8**	**+1.8**
J27A	**Elkhorn Farm,**	**2.39**	**137**	⇑P	**Pn**	**15 12 15.5**	**+2.0**
I28A	**Midland**	**2.42**	**114**	⇑P	**Pn**	**15 12 14.7**	**+0.9**
K25A	**Mack Ranch, Ha**	**2.44**	**174**	⇓P	**Pn**	**15 12 16.0**	**+1.9**
K26A	**Motz Farm, Whi**	**2.45**	**162**	⇑P	**Pn**	**15 12 16.3**	**+2.0**
C24A	**Savage**	**2.50**	**357**	⇓P	**Pn**	**15 12 16.5**	**+1.6**
E21A	**Keefer Ranch,**	**2.50**	**308**	⇑P	**Pn**	**15 12 15.8**	**+0.9**
D22A	**Cohagen**	**2.51**	**328**	⇓P	**Pn**	**15 12 16.6**	**+1.5**
I21A	**Big Trails, Te**	**2.52**	**242**	⇑P	**Pn**	**15 12 15.9**	**+0.7**
J28A	**Allard Ranch,**	**2.69**	**126**	⇓P	**Pn**	**15 12 19.1**	**+1.6**
K27A	**Flueckinger Fa**	**2.74**	**148**	⇓Pb	**Pb**	**15 12 22.8**	**-0.2**
C25A	**Freed Ranch, W**	**2.76**	**14**	⇓P	**Pn**	**15 12 20.3**	**+1.8**
D27A	**Center**	**2.80**	**41**	⇑P	**Pn**	**15 12 20.1**	**+1.1**
D21A	**La Casta Ranch**	**2.80**	**317**	⇑P	**Pn**	**15 12 19.6**	**+0.6**
G20A	**Bridger**	**2.83**	**275**	⇑P	**Pn**	**15 12 19.9**	**+0.4**
C23A	**Lambert**	**2.84**	**347**	⇓P	**Pn**	**15 12 21.0**	**+1.3**
C23A	baz=2.9,SNR=51			⇑S	**Sn**	**15 12 55.9**	**+1.5**
J21A	**Lysite**	**2.87**	**235**	⇑P	**Pn**	**15 12 21.3**	**+1.2**
H29A	**Onida**	**2.88**	**97**	P	**Pn**	**15 12 20.9**	**+0.8**
H29A	baz=2.9,SNR=16			⇓S	**Sn**	**15 12 56.0**	**+0.8**
K22A	**Casper**	**2.91**	**216**	⇑P	**Pn**	**15 12 21.3**	**+0.7**
E28A	**Huff**	**2.91**	**57**	⇓P	**Pn**	**15 12 21.7**	**+1.2**
E28A	baz=2.9,SNR=43			⇓S	**Sn**	**15 12 57.1**	**+1.1**
C22A	**Vida**	**2.94**	**338**	⇑P	**Pn**	**15 12 22.7**	**+1.7**
I20A	**Worland**	**3.00**	**250**	P	**Pn**	**15 12 22.4**	**+0.6**
E20A	**Meyer Farm, Mu**	**3.10**	**300**	⇑P	**Pn**	**15 12 23.6**	**+0.4**
L23A	**Garrett**	**3.11**	**201**	⇑P	**Pn**	**15 12 24.3**	**+0.8**
C26A	**Wahner Farm, P**	**3.15**	**27**	⇑P	**Pn**	**15 12 25.5**	**+1.6**
C26A	baz=3.2,SNR=11			⇑S	**Sn**	**15 13 03.5**	**+1.5**
F29A	**Eureka**	**3.20**	**74**	⇑P	**Pn**	**15 12 25.3**	**+0.8**
J29A	**Okreek**	**3.24**	**119**	⇓P	**Pn**	**15 12 25.9**	**+0.8**
J20A	**Shoshoni**	**3.25**	**240**	⇓P	**Pn**	**15 12 26.6**	**+1.4**
K21A	**Alcova**	**3.25**	**223**	⇑P	**Pn**	**15 12 26.5**	**+1.1**
C27A	**Sayler Ranch,**	**3.27**	**34**	⇑P	**Pn**	**15 12 26.9**	**+1.4**
B25A	**Knox Farm, Ray**	**3.32**	**12**	⇑P	**Pn**	**15 12 27.8**	**+1.6**
D28A	**Regan**	**3.33**	**48**	⇑P	**Pn**	**15 12 27.2**	**+0.8**
H19A	**Powell**	**3.41**	**266**	P	**Pn**	**15 12 28.4**	**+0.9**
D20A	**Manuel Ranch,**	**3.41**	**308**	⇑P	**Pn**	**15 12 28.6**	**+1.1**
F19A	**Roth Farm, Mol**	**3.42**	**285**	⇓P	**Pn**	**15 12 28.5**	**+0.9**
DGMT	**Dagmar**	**3.44**	**0**	*e*Pn	**Pn**	**15 12 29.6**	**+1.8**
DGMT				*e*Sn	**Sn**	**15 13 09.7**	**+0.9**
DGMT	**Dagmar**	**3.44**	**0**	⇑P	**Pn**	**15 12 29.5**	**+1.8**
B23A	**Brockton**	**3.47**	**352**	⇓P	**Pn**	**15 12 30.0**	**+1.8**
B22A	**Reddig Ranch S**	**3.48**	**340**	⇓P	**Pn**	**15 12 29.5**	**+1.1**
E19A	**Rath Farm, Rou**	**3.50**	**296**	P	**Pn**	**15 12 29.2**	**+0.5**
I19A	**Meeteetse**	**3.55**	**255**	⇑P	**Pn**	**15 12 29.9**	**+0.3**
RLMT	**Red Lodge**	**3.57**	**273**	*e*Pn	**Pn**	**15 12 29.8**	**0.0**
RLMT				*e*Sn	**Sn**	**15 13 13.3**	**+0.8**
G30A	**Faulkton**	**3.60**	**87**	⇑P	**Pn**	**15 12 30.2**	**+0.2**
I30A	**Oacoma**	**3.61**	**106**	⇓P	**Pn**	**15 12 30.8**	**+0.6**
M23A	**Laramie**	**3.73**	**198**	⇓P	**Pn**	**15 12 33.0**	**+1.0**
C28A	**Hausauer Farms**	**3.77**	**43**	⇑P	**Pn**	**15 12 33.5**	**+1.1**
BRSD	**Miller**	**3.80**	**97**	*e*Pn	**Pn**	**15 12 31.9**	**-0.8**
BRSD				*e*Sn	**Sn**	**15 13 16.6**	**-1.3**
BRSD	**Miller**	**3.80**	**97**	⇓P	**Pn**	**15 12 32.9**	**+0.1**
K20A	**Yellowstone Ra**	**3.81**	**233**	⇓P	**Pn**	**15 12 34.3**	**+1.3**
PHWY	**Pilot Hill**	**3.84**	**194**	*e*Pn	**Pn**	**15 12 35.0**	**+1.4**
PHWY				*e*Sn	**Sn**	**15 13 19.4**	**+0.1**
H18A	**Shoshone NF, C**	**3.88**	**267**	P	**Pn**	**15 12 34.5**	**+0.4**
A24A	**Westby**	**3.89**	**2**	⇑P	**Pn**	**15 12 35.5**	**+1.4**
J19A	**Crowheart**	**3.90**	**245**	⇑P	**Pn**	**15 12 36.1**	**+1.8**
GCMT	**Greycliff**	**3.91**	**283**	*e*Pn	**Pn**	**15 12 34.9**	**+0.6**
GCMT				*e*Sn	**Sn**	**15 13 20.5**	**-0.1**
B27A	**Peters Farms,**	**3.94**	**30**	⇓P	**Pn**	**15 12 36.0**	**+1.4**
A25A	**Svangstu Ranch**	**3.98**	**11**	⇓P	**Pn**	**15 12 36.7**	**+1.5**
A22A	**Carney Farms,**	**4.12**	**344**	P	**Pn**	**15 12 38.0**	**+0.8**
A26A	**Wade Farm, Ken**	**4.14**	**20**	⇓P	**Pn**	**15 12 38.4**	**+0.9**
CRMT	**Chrome Mountai**	**4.20**	**278**	*e*Pn	**Pn**	**15 12 38.9**	**+0.4**
C19A	**Slack Wire Ran**	**4.29**	**311**	⇑P	**Pn**	**15 12 40.3**	**+0.8**
B28A	**Dugan Ranch, T**	**4.33**	**37**	⇑P	**Pn**	**15 12 41.3**	**+1.3**
MSMT	**Mission Creek**	**4.36**	**280**	*e*Pn	**Pn**	**15 12 40.9**	**+0.2**
OGNE	**Ogallala**	**4.39**	**158**	*e*Pn	**Pn**	**15 12 42.6**	**+1.6**
A27A	**Ledoux Ranch,**	**4.42**	**26**	⇑P	**Pn**	**15 12 42.6**	**+1.3**
LKWY	**Lake**	**4.42**	**266**	*e*P	Pn	15 12 46.0	+4.5
BW06	**Boulder Array**	**4.47**	**241**	*e*P	**Pn**	**15 12 43.4**	**+1.2**
PDAR	**Pinedale Array**	**4.47**	**241**	Pn	**Pn**	**15 12 42.7**	**+0.5**
PDAR				Pg	**Pb**	**15 12 54.6**	**+2.0**
PDAR				Lg	Lg	15 13 47.1	
PDAR	**Pinedale Array**	**4.47**	**241**	Pn	**Pn**	**15 12 42.7**	**+0.5**
PDAR	0.6nm,0.3s,baz=62,slow=17,SNR=13			Pg	**Pb**	**15 12 54.6**	**+2.0**
PDAR	2.4nm,0.3s,baz=62,slow=19,SNR=22			Lg	Lg	15 13 47.1	
FLWY	**Flagg Ranch**	**4.72**	**261**	P	**Pn**	**15 12 45.8**	**+0.2**
YMC	**Maple Creek**	**4.83**	**269**	*e*P	**Pn**	**15 12 48.0**	**+1.0**
EGMT	**Eagleton**	**4.85**	**310**	*e*Pn	**Pn**	**15 12 47.7**	**+0.5**
EGMT				*e*Sn	**Sn**	**15 13 44.8**	**+1.0**
MOOW	**Moose Ponds**	**4.85**	**257**	*e*Pn	**Pn**	**15 12 47.5**	**+0.2**
IMW	**Indian Meadow**	**4.94**	**259**	*e*Pn	**Pn**	**15 12 49.3**	**+0.7**
SXM	**Sixmile**	**5.03**	**285**	*e*P	**Pn**	**15 12 50.6**	**+0.9**
REDW	**Red Top Meadow**	**5.05**	**253**	P	**Pn**	**15 12 51.6**	**+1.5**
TPAW	**Teton Pass**	**5.07**	**255**	P	**Pn**	**15 12 49.3**	**-1.1**
FXWY	**Fox Creek**	**5.08**	**256**	*e*P	**Pn**	**15 12 52.5**	**+2.0**
QLMT	**Earthquake Lak**	**5.12**	**270**	*e*Pn	**Pn**	**15 12 52.1**	**+1.1**
QLMT				*e*Sn	**Sn**	**15 13 52.6**	**+1.9**
N20A	**Spence Gulch,**	**5.14**	**217**	⇓P	**Pn**	**15 12 52.3**	**+0.9**
A29A	**Manning Farm,**	**5.17**	**40**	⇑P	**Pn**	**15 12 52.6**	**+1.0**
BOZ	**Bozeman (W)**	**5.25**	**279**	*e*P	**Pn**	**15 12 53.3**	**+0.4**
TPMT	**Tepee Creek**	**5.30**	**269**	*e*P	**Pn**	**15 12 55.2**	**+1.6**
ISCO	**Idaho Springs**	**5.33**	**192**	*e*Pn	**Pn**	**15 12 53.8**	**-0.3**
ISCO				*e*Sn	**Sn**	**15 13 56.7**	**+0.7**
RRI2	**Red Ridge**	**5.37**	**254**	*e*Pn	**Pn**	**15 12 55.7**	**+1.1**
RRI2	11nm,0.6s			*e*Sn	**Sn**	**15 13 56.3**	**-0.7**
LCCM	**Lewis and Clar**	**5.45**	**281**	*e*P	**Pn**	**15 12 54.6**	**-0.9**
P26A	**Davis Ranch, A**	**5.51**	**173**	⇑P	**Pn**	**15 12 56.9**	**+0.5**
BGMT	**Barton Gulch**	**5.53**	**275**	*e*P	**Pn**	**15 12 57.5**	**+0.7**
HRY	**Holter Researc**	**5.57**	**290**	*e*Pn	**Pn**	**15 12 56.7**	**-0.4**
HRY				*e*Sn	**Sn**	**15 14 01.8**	**+0.2**
ECSD	**EROS Data Cent**	**5.61**	**101**	*e*Pn	**Pn**	**15 12 57.8**	**+0.2**
ECSD				*e*Sn	**Sn**	**15 14 02.5**	**0.0**
LRM	**Limekiln Ridge**	**5.84**	**281**	*e*P	**Pn**	**15 13 00.8**	**-0.2**
ELMT	**Elliston**	**5.87**	**288**	*e*P	**Pn**	**15 13 03.0**	**+1.7**
BEMT	**Mount Belmont**	**5.91**	**290**	*e*P	**Pn**	**15 13 01.7**	**-0.3**
DLMT	**Dillon**	**5.92**	**276**	*e*Pn	**Pn**	**15 13 02.2**	**+0.1**
DLMT	10nm,0.7s			*e*Sg	**Sg**	**15 14 43.7**	**+0.1**
LYMT	**Lyon Mountain**	**5.94**	**292**	*e*P	**Pn**	**15 13 01.9**	**-0.5**
HBMT	**Mount Humbug**	**5.95**	**280**	*e*P	**Pn**	**15 13 02.3**	**-0.2**
MCMT	**McKenzie Canyo**	**6.13**	**271**	*e*P	**Pn**	**15 13 07.7**	**+2.8**
KSCO	**Kaye Shedlock'**	**6.14**	**168**	*e*Pn	**Pn**	**15 13 04.6**	**-0.4**
OVMT	**Ovando**	**6.43**	**291**	*e*P	**Pn**	**15 13 08.6**	**-0.4**
CHMT	**Chamberlain Mo**	**6.56**	**290**	*e*Pn	**Pn**	**15 13 10.5**	**-0.4**
CHMT				*e*Sn	**Sn**	**15 14 26.4**	**+0.2**
BPMT	**Black Pine Rid**	**6.60**	**286**	⇓*e*P	**Pn**	**15 13 11.6**	**+0.1**
AGMN	**Agassiz Nation**	**6.61**	**57**	*e*Pn	**Pn**	**15 13 12.2**	**+0.8**
R26A	**Arlington**	**6.76**	**175**	⇑P	**Pn**	**15 13 13.5**	**+0.1**
SLMT	**Seeley Lake**	**6.81**	**292**	*e*P	**Pn**	**15 13 14.0**	**-0.2**
R27A	**Eads**	**6.83**	**171**	⇓P	**Pn**	**15 13 15.1**	**+0.6**
R24A	**Sanders Place,**	**6.83**	**186**	⇓P	**Pn**	**15 13 15.5**	**+0.9**
DAU	**Daniels Canyon**	**6.94**	**231**	*e*Pn	**Pn**	**15 13 16.2**	**+0.1**
DAU				*e*Sn	**Sn**	**15 14 35.6**	**0.0**
MSO	**Missoula**	**7.01**	**288**	*e*P	**Pn**	**15 13 19.5**	**+2.6**
SWMT	**Swartz Lake**	**7.21**	**294**	*e*P	**Pn**	**15 13 19.9**	**+0.2**
YBMT	**Yellow Bay**	**7.33**	**296**	*e*Pn	**Pn**	**15 13 21.9**	**+0.7**
JTMT	**Jette**	**7.46**	**295**	*e*P	**Pn**	**15 13 23.7**	**+0.5**
SRU	**San Rafael**	**7.55**	**221**	*e*Pn	**Pn**	**15 13 24.3**	**-0.1**
SRU				*e*Sn	**Sn**	**15 14 50.4**	**0.0**
ULM	**Lac du Bonnet**	**7.68**	**44**	*e*Pn	**Pn**	**15 13 25.3**	**-0.7**
ULM				Pg	Pb	15 13 50.7	+3.6
ULM				Sn	Sn	15 14 46.0	-7.3
ULM				Lg	Lg	15 15 25.0	
ULM	**Lac du Bonnet**	**7.68**	**44**	Pn	**Pn**	**15 13 24.6**	**-1.4**
ULM	2.2nm,0.3s,baz=234,slow=12,SNR=9.9			Pg	Pb	15 13 50.7	+3.6
ULM	1.4nm,0.3s,baz=240,slow=18,SNR=2.9			Sn	Sn	15 14 46.0	-7.3
ULM	5.1nm,0.3s,baz=207,slow=6.8,SNR=6.5			Lg	Lg	15 15 25.0	
DUG	**Dugway**	**7.97**	**236**	*e*Pn	**Pn**	**15 13 30.8**	**+0.7**
DUG				*e*Sn	**Sn**	**15 15 00.8**	**+0.1**
NEW	**Newport**	**9.44**	**295**	Lg	Lg	15 16 20.9	
TXAR	**Lajitas Array**	**15.68**	**178**	Pn	**P**	**15 15 18.4**	**-1.0**
TXAR	**Lajitas Array**	**15.68**	**178**	Pn	**P**	**15 15 18.4**	**-1.0**
TXAR	0.1nm,0.3s,baz=352,slow=12,SNR=2.4			Lg	Lg	15 19 46.9	
MKAR	**Makanchi Array**	**88.37**	**356**	P	**P**	**15 24 26.1**	**-0.2**
	0.3nm,0.8s,baz=7.4,slow=3.3,SNR=3.3						

IDC 25 15:37:32.5±1.2,4°09N×127°03E,h0km,mb3.8/7, mb1 3.9/7,mb1mx3.7/24,mbtmp3.8/7,Error ellipse: s-maj=90.7km s-min=16.8km az=70.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.09**	**184**	P	P	15 42 28.7	-0.7
	1.0nm,0.4s,baz=14,slow=12,SNR=6.8						
FITZ				S	S	15 46 24.1	-10
	1.5nm,0.9s,baz=0.0,slow=20,SNR=1.9						
WRA	**Warramunga Arr**	**24.94**	**164**	P	P	15 42 57.1	-0.6
	4.1nm,0.8s,baz=344,slow=10,SNR=24						
ASAR	**Alice Springs**	**28.39**	**167**	P	P	15 43 30.4	+1.6
	0.3nm,0.5s,baz=343,slow=8.0,SNR=7.3						
STKA	**Stephens Creek**	**38.36**	**160**	P	P	15 44 54.9	-0.5
	4.6nm,0.8s,baz=341,slow=10,SNR=6.3						
SONM	**Songino Array**	**47.06**	**341**	P	P	15 46 05.8	-0.3
	0.3nm,0.6s,baz=157,slow=7.9,SNR=2.3						
MKAR	**Makanchi Array**	**57.44**	**325**	P	P	15 47 23.4	+0.1
	0.4nm,0.4s,baz=117,slow=7.9,SNR=10						
KURBB	**Kurchatov Arra**	**61.60**	**327**	P	P	15 47 51.6	-0.2
	0.5nm,0.6s,baz=125,slow=6.6,SNR=4.7						

*IDC **25** 15:47:16.8±0.5,32°20S×71°68W,h0km,mb5.2/10, mb1 5.3/12,mb1mx5.2/15,mbtmp5.3/12,ML5.2/3,MS4.1/12, Ms1 4.1/12,ms1mx4.0/17,Error ellipse: s-maj=21.0km s-min=14.0km az=90.0*
*BJI **25** 15:47:21.2,31°54S×71°85W,h35km,mB5.0/6,Ms5.3/5, Ms7 4.8/6*
*MOS **25** 15:47:21.2±1.2,32°06S×71°59W,h33km,mb5.3/5,Error ellipse: s-maj=16.5km s-min=9.1km az=99.5*
*NEIC **25** 15:47:23.8±0.5,32°11S×71°61W,h48km±4km,mb5.0/16, Error ellipse: s-maj=9.0km s-min=4.5km az=80.0*
NEIC Felt [V] at La Ligua, Papudo and Zapallar; [IV] at Cabildo and Valparaiso; [III] at Illapel, Los Andes, Los Vilos, Salamanca, San Felipe and Vina del Mar; [II] at Canela, Combarbala, Melipilla, Ovalle, Rancagua, Rio Hurtado, San Antonio and Santiago. Also felt at Limache.
*ISCJB **25** 15:47:24.1±0.4,32°16S±0°02×71°64W±0°06,h59km±3km, mb5.1/32,MS4.2/10,Error ellipse: s-maj=8.5km s-min=3.5km az=167.2*
*GUC **25** 15:47:24.0±0.3,32°14S×71°67W

-5.3400, Plg13.0000°, Azm232.0000°; Data Used: IU II G IC CN.

ISC 25 15:47:23.0s0.6,32:18S±0.03×71:78W±0.05,h41km±4km, n308,σ1°30/330,mb5.1/32,MS4.2/10,17C-15D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.38**	**39**	⇓*iP*	**Pn**	**15 47 33.5**	**+1.3**
CHNG				*i* S	**Sn**	**15 47 40.3**	**+1.7**
CHNG	**Los Chungos**	**0.38**	**39**	⇓*iP*	**Pn**	**15 47 33.5**	**+1.3**
CHNG				*i* S	**Sn**	**15 47 40.3**	**+1.7**
CHNG				AML	AML	15 47 40.9	
	comp=N,232μm,0.6s						
ROCH	**El Roble**	**1.02**	**141**	AML	AML	15 47 59.4	
	comp=E,78μm,0.9s						
JACH	**Jahuel**	**1.12**	**117**	⇓*iP*	**Pn**	**15 47 43.2**	**+0.9**
JACH	**Jahuel**	**1.12**	**117**	⇓*iP*	**Pn**	**15 47 43.2**	**+0.9**
CMCH	**Combarbala**	**1.20**	**34**	⇑*iP*	**Pn**	**15 47 43.9**	**+0.6**
CMCH				*i* S	**Sn**	**15 47 59.1**	**+0.6**
CMCH				AML	AML	15 48 00.2	
	comp=E,359μm,1.0s						
PEL	**Peldehue**	**1.33**	**137**	*e*	**Pn**	**15 47 46.1**	**+1.0**
	baz=333,slow=11						
PEL				⇓*iP*	**Pn**	**15 47 46.2**	**+1.0**
PEL				*i* S	**Sn**	**15 48 02.9**	**+1.1**
PEL				AML	AML	15 48 04.2	
	comp=N,146μm,0.2s						
PEL	**Peldehue**	**1.33**	**137**	⇓*iP*	**Pn**	**15 47 46.4**	**+1.2**
PEL				AML	AML	15 48 04.1	
	comp=N,147μm,0.4s						
RCDM	**Rinconada Maip**	**1.54**	**148**	⇑*iP*	**Pn**	**15 47 49.0**	**+1.0**
RCDM				AML	AML	15 48 09.8	
	comp=E,21μm,0.6s						
SAN	**Santiago**	**1.58**	**144**	⇓*iP*	**Pn**	**15 47 49.9**	**+1.3**
SAN				*i* S	**Sn**	**15 48 08.9**	**+1.1**
SAN	**Santiago**	**1.58**	**144**	⇓*iP*	**Pn**	**15 47 49.9**	**+1.3**
SAN				*i* S	**Sn**	**15 48 08.9**	**+1.1**
SAN	**Santiago**	**1.58**	**144**	⇓*iP*	**Pn**	**15 47 49.8**	**+1.3**
CLCH	**Cerro Calan**	**1.60**	**140**	⇑*iP*	**Pn**	**15 47 50.3**	**+1.4**
CLCH				*i* S	**Sn**	**15 48 10.3**	**+1.8**
CLCH				AML	AML	15 48 11.3	
	comp=N,81μm,0.6s						
ANTU	**Antumapu**	**1.69**	**146**	⇑*iP*	**Pn**	**15 47 51.4**	**+1.3**
ANTU				*i* S	**Sn**	**15 48 11.5**	**+0.9**
ANTU	**Antumapu**	**1.69**	**146**	⇑*iP*	**Pn**	**15 47 51.4**	**+1.3**
ANTU				*i* S	**Sn**	**15 48 12.1**	**+1.6**
ANTU				AML	AML	15 48 13.8	
	comp=E,40μm,0.2s						
PCH	**Pirque**	**1.79**	**144**	⇓*iP*	**Pn**	**15 47 52.8**	**+1.3**
PCH	**Pirque**	**1.79**	**144**	⇓*iP*	**Pn**	**15 47 52.8**	**+1.3**
LNV	**Longovilo**	**1.80**	**170**	⇑*iP*	**Pn**	**15 47 52.3**	**+0.7**
SJCH	**San Jose de Ma**	**1.89**	**141**	⇓*iP*	**Pn**	**15 47 53.2**	**+0.4**
SJCH				*i* S	**Sn**	**15 48 16.2**	**+0.7**
SJCH				AML	AML	15 48 17.4	
	comp=N,30μm,0.6s						
LMEL	**Las Melosas**	**2.13**	**142**	⇑*iP*	**Pn**	**15 47 58.0**	**+1.8**
LMEL				*i* S	**Sn**	**15 48 23.6**	**+2.1**
LMEL				AML	AML	15 48 26.5	
	comp=N,25μm,0.2s						
TLL	**Tololo Astrono**	**2.17**	**23**	⇓*iP*	**Pn**	**15 47 57.8**	**+1.0**
TLL				*i* S	**Sn**	**15 48 23.6**	**+1.0**
TLL				AML	AML	15 48 38.5	
	comp=N,26μm,0.6s						
CACH	**El Canelo**	**2.17**	**153**	⇑*iP*	**Pn**	**15 47 59.0**	**+2.3**
CACH	**El Canelo**	**2.17**	**153**	⇑*iP*	**Pn**	**15 47 59.0**	**+2.3**
NICH	**Los Niches**	**2.86**	**171**	*eP*	**Pn**	**15 48 07.9**	**+1.9**
NICH				*i* S	**Sn**	**15 48 41.1**	**+1.9**
NICH				AML	AML	15 48 46.3	
	comp=N,28μm,0.4s						
CFAA	**Coronel Fontan**	**3.06**	**80**	Pn	Pn	15 48 11.6	+2.7
CFAA	**Coronel Fontan**	**3.06**	**80**	Pn	Pn	15 48 11.6	+2.7
	comp=N,17nm,0.3s,baz=249,slow=11,SNR=1100						
CFAA				Sn	**Sn**	**15 48 47.8**	**+3.4**
	comp=N,125nm,0.3s,baz=253,slow=20,SNR=21						
LCO	**Las Campanas**	**3.29**	**17**	*e*Pn	**Pn**	**15 48 12.8**	**+0.5**
LCO	**Las Campanas**	**3.29**	**17**	AML	AML	15 48 51.5	
	comp=E,10μm,0.3s						
LNCH	**Linares**	**3.67**	**178**	AML	AML	15 49 01.7	
	comp=N,8μm,0.4s						
PLCA	**Paso Flores**	**8.60**	**174**	Pn	**Pn**	**15 49 25.0**	**+0.1**
PLCA				Sn	Sn	15 51 13.1	+12
PLCA	**Paso Flores**	**8.60**	**174**	Pn	**Pn**	**15 49 25.0**	**+0.1**
	comp=N,24nm,0.3s,baz=335,slow=11,SNR=164						
PLCA				Sn	Sn	15 51 13.1	+12
	comp=N,1.8nm,0.3s,baz=319,slow=9.3,SNR=2.7						
PLCA				LR	LR	15 52 54.8	
	comp=N,756nm,20.8s,baz=336,slow=40						
LVC	**Limon Verde**	**9.86**	**16**	*e*Pn	Pn	15 49 38.6	-3.8
TRQA	**Tornquist**	**9.94**	**129**	*e*Pn	**Pn**	**15 49 43.5**	**+0.2**
CPUP	**Villa Florida**	**13.89**	**69**	Pn	**Pn**	**15 50 34.6**	**-2.6**
	comp=N,87nm,0.6s						
CPUP				Sn	Sn	15 53 15.7	+5.6
CPUP	**Villa Florida**	**13.89**	**69**	Pn	**Pn**	**15 50 34.6**	**-2.6**
	comp=N,0.9nm,0.3s,baz=227,slow=11,SNR=4.6						
CPUP				Sn	Sn	15 53 15.7	+5.6
	comp=N,2.8nm,0.3s,baz=314,slow=19,SNR=1.9						
CPUP				LR	LR	15 56 13.3	
	comp=N,719nm,20.1s,baz=229,slow=39						
LPAZ	**La Paz**	**16.16**	**13**	*e*Pn	**Pn**	**15 51 04.4**	**-3.4**
	comp=N,105nm,0.8s						
LPAZ	**La Paz**	**16.16**	**13**	Pn	**Pn**	**15 51 07.9**	**+0.1**
	comp=N,5.5nm,0.3s,baz=183,slow=7.6,SNR=349						
SIV	**San Ignacio**	**18.82**	**34**	P	**P**	**15 51 37.2**	**-2.2**
SIV	**San Ignacio**	**18.82**	**34**	P	**P**	**15 51 37.2**	**-2.2**
	comp=N,12nm,0.3s,baz=222,slow=8.7,SNR=247						
EFI	**East Falkland**	**21.93**	**157**	P	**P**	**15 52 13.2**	**+0.6**
	comp=N,4μm,0.9s,SNR=16						
EFI	**East Falkland**	**21.93**	**157**	*c iP*	**P**	**15 52 13.5**	**+0.9**
EFI	**East Falkland**	**21.93**	**157**	*eP*	**P**	**15 52 11.3**	**-1.3**
	comp=N,1μm,0.8s						
USHA	**Ushuaia**	**22.77**	**175**	P	**P**	**15 52 21.5**	**-0.1**
USHA	**Ushuaia**	**22.77**	**175**	P	**P**	**15 52 21.5**	**-0.1**
	comp=N,126nm,0.9s,baz=324,slow=5.7,SNR=34						
USHA				LR	LR	16 00 41.2	
	comp=N,577nm,20.4s,baz=177,slow=35						
SPB	**Sao Paulo**	**23.12**	**74**	*eP*	**P**	**15 52 23.9**	**-1.6**
	comp=N,47nm,0.8s						
BB16B	**Bebedouro**	**23.47**	**67**	⇑*iP*	**P**	**15 52 26.5**	**-2.5**
BB16B				*i*		15 52 33.2	
BB16B				*i*		15 52 38.3	
BB16B				*i*		15 52 45.9	
BB16B	**Bebedouro**	**23.47**	**67**	⇑*iP*	**P**	**15 52 26.5**	**-2.5**
BB16B				*i*		15 52 33.2	
BB16B				*i*		15 52 38.3	
BB16B				*i*		15 52 45.9	
SAML	**Samuel**	**24.45**	**21**	*eP*	**P**	**15 52 37.7**	**-0.4**
	comp=N,30nm,0.9s						
ATAH	**Atahualpa**	**25.67**	**345**	P	**P**	**15 52 50.9**	**+1.3**
ATAH	**Atahualpa**	**25.67**	**345**	P	**P**	**15 52 50.9**	**+1.3**
	comp=N,2.4nm,0.5s,baz=198,slow=16,SNR=1.9						
ATAH				LR	LR	16 01 20.2	
	comp=N,201nm,19.3s,baz=311,slow=33						
BDFB	**Brasilia**	**27.16**	**58**	P	**P**	**15 53 01.3**	**-1.4**
BDFB	**Brasilia**	**27.16**	**58**	P	**P**	**15 53 01.3**	**-1.4**
	comp=N,42nm,0.9s,baz=229,slow=8.4,SNR=35						
BDFB				LR	LR	16 04 36.4	
	comp=N,806nm,18.7s,baz=222,slow=38						
PMSA	**Palmer Station**	**32.97**	**174**	*eP*	**P**	**15 53 53.3**	**-0.2**
	comp=N,48nm,1.3s						
PMSA	**Palmer Station**	**32.97**	**174**	P	**P**	**15 53 54.4**	**+0.9**
	comp=N,24nm,1.1s,baz=1.6,slow=11,SNR=9.8						
MPR	**Mayaguez**	**50.30**	**6**	*eP*	**P**	**15 56 16.8**	**+1.3**
	comp=N,53nm,0.4s						
LRS	**Lares**	**50.40**	**6**	*eP*	P	15 56 19.9	+3.5
VNA1	**Neumayer--Stat**	**51.27**	**158**	*eP*	**P**	**15 56 23.7**	**+1.5**
VNA1	**Neumayer--Stat**	**51.27**	**158**	*ep*P	pP	15 56 33.1	-0.9
VNA2	**Neumayer--Watz**	**51.61**	**158**	*eP*	**P**	**15 56 25.5**	**+0.7**
VNA2	**Neumayer--Watz**	**51.61**	**158**	*ep*P	pP	15 56 35.3	-1.3
SNAA	**Sanae**	**53.19**	**158**	*eP*	**P**	**15 56 37.1**	**+0.5**
SNAA	**Sanae**	**53.19**	**158**	*ep*P	pP	15 56 48.1	-0.3
SNAA	**Sanae**	**53.19**	**158**	*eP*	**P**	**15 56 37.2**	**+0.5**
	comp=N,77nm,1.0s						
RKT	**Rikitea**	**56.02**	**262**	*e*LR	LR	16 13 21.3	
	comp=N,268nm,28.8s						
RKT	**Rikitea**	**56.02**	**262**	*e*T	T	16 57 48.7	
	comp=N,4.8nm,0.3s						
QSPA	**South Pole Qui**	**58.05**	**180**	*eP*	**P**	**15 57 12.5**	**+0.8**
	comp=N,36nm,0.9s						
SBA	**Scott Base**	**64.90**	**192**	*eP*	**P**	**15 57 58.7**	**+1.1**
SBA	**Scott Base**	**64.90**	**192**	*eP*	**P**	**15 57 58.7**	**+1.1**
HKT	**Hockley**	**65.87**	**337**	*i* P	**P**	**15 58 05.3**	**+1.1**
VNDA	**Vanda**	**65.93**	**191**	P	**P**	**15 58 03.2**	**-1.0**
VNDA				*ep*P	**pP**	**15 58 13.3**	**-3.0**
VNDA	**Vanda**	**65.93**	**191**	P	**P**	**15 58 03.2**	**-1.0**
	comp=N,1.8nm,1.0s,baz=174,slow=2.2,SNR=6.9						
732A	**Laxson Ranch,**	**66.23**	**333**	P	**P**	**15 58 07.3**	**+0.6**
	baz=66						
632A	**Uvalde**	**66.86**	**334**	P	**P**	**15 58 11.1**	**+0.3**
	baz=67						
631A	**Perdido Creek**	**67.08**	**333**	P	**P**	**15 58 12.8**	**+0.7**
	baz=67						
532A	**Rocksprings**	**67.46**	**334**	P	**P**	**15 58 15.3**	**+0.7**
	baz=68						
SYO	**Syowa Base**	**67.48**	**159**	⇓*eP*	**P**	**15 58 12.5**	**-1.7**
SYO	**Syowa Base**	**67.48**	**159**	⇓*es*P	sP	15 58 28.6	-2.4
JCT	**Junction City**	**67.74**	**334**	P	**P**	**15 58 17.3**	**+1.0**
	baz=68						
TBI	**Tubuai**	**67.97**	**256**	*e*LR	LR	16 18 58.5	
	comp=N,476nm,28.0s						
TBI	**Tubuai**	**67.97**	**256**	*e*T	T	17 12 37.6	
	comp=N,7.7nm,0.2s						
530A	**J-C Ranch, Com**	**68.03**	**333**	P	**P**	**15 58 19.6**	**+1.5**
	baz=68						
628A	**Black Gap, Mar**	**68.07**	**331**	P	**P**	**15 58 20.0**	**+1.6**
	baz=68						
432A	**Menard**	**68.09**	**334**	P	**P**	**15 58 19.9**	**+1.4**
	baz=68						
TXAR	**Lajitas Array**	**68.26**	**330**	P	**P**	**15 58 19.9**	**+0.2**
TXAR	**Lajitas Array**	**68.26**	**330**	P	**P**	**15 58 19.9**	**+0.2**
	comp=N,0.5nm,0.6s,baz=140,slow=6.6,SNR=5.9						
TXAR				LR	LR	16 24 24.1	
	comp=N,132nm,18.4s,baz=5.0,slow=33						
WHTX	**Lake Whitney**	**68.28**	**337**	*eP*	**P**	**15 58 20.1**	**+0.4**
CPCT	**Cooper Cave**	**68.33**	**349**	*eP*	**P**	**15 58 20.3**	**+0.5**
SWET	**Sewanee**	**68.34**	**348**	*eP*	P	15 58 23.2	+3.3
	comp=N,14nm,0.8s						
529A	**Stev Forest Ra**	**68.36**	**332**	P	**P**	**15 58 21.2**	**+1.0**
	baz=69						
OXF	**Oxford**	**68.38**	**344**	*eP*	**P**	**15 58 20.0**	**-0.2**
OXF				pmax	pmax		
	comp=Z,32nm,0.9s						
OXF	**Oxford**	**68.38**	**344**	*eP*	**P**	**15 58 19.9**	**-0.2**
	comp=Z,32nm,0.9s						
332A	**Millersview**	**68.53**	**334**	P	**P**	**15 58 21.9**	**+0.6**
	baz=69						
430A	**Baggett Ranch,**	**68.56**	**333**	P	**P**	**15 58 22.1**	**+0.6**
	baz=69						
528A	**Cox Ranch, San**	**68.62**	**331**	P	**P**	**15 58 22.3**	**+0.4**
	baz=69						
626A	**Big Bend Ranch**	**68.65**	**330**	P	**P**	**15 58 23.1**	**+1.1**
	baz=69						
429A	**Davenport Ranc**	**68.67**	**332**	P	**P**	**15 58 23.5**	**+1.3**
	baz=69						
331A	**San Angelo**	**68.72**	**334**	P	**P**	**15 58 23.4**	**+1.0**
	baz=69						
527A	**Woodward Ranch**	**68.94**	**331**	P	**P**	**15 58 24.1**	**+0.1**
	baz=69						
526A	**Mary Lane Ranc**	**69.07**	**330**	P	**P**	**15 58 25.6**	**+0.8**
	baz=69						
330A	**Mertzon**	**69.09**	**333**	P	**P**	**15 58 26.3**	**+1.6**
	baz=69						
MEH	**Mehetia**	**69.32**	**261**	*e*T	T	17 14 26.1	
	comp=Z,74nm,0.2s						
MIAR	**Mount Ida**	**69.46**	**341**	*ep*P	pP	15 58 39.7	+0.6
426A	**McDonald Obser**	**69.58**	**331**	P	**P**	**15 58 28.6**	**+0.6**
	baz=70						
WVT	**Waverly**	**69.59**	**346**	*eP*	**P**	**15 58 27.4**	**-0.3**
WVT				pmax	pmax		
	comp=Z,16nm,0.8s						
WVT	**Waverly**	**69.59**	**346**	*eP*	**P**	**15 58 27.4**	**-0.3**
	comp=Z,16nm,0.8s						
ABTX	**Abilene, Hawle**	**69.62**	**335**	*eP*	**P**	**15 58 27.5**	**-0.5**
328A	**Wristen Ranch,**	**69.70**	**332**	P	**P**	**15 58 29.9**	**+1.4**
	baz=70						
425A	**Indio Mountain**	**70.08**	**330**	P	**P**	**15 58 31.3**	**+0.3**
	baz=70						
Z32A	**Haskell**	**70.18**	**336**	P	**P**	**15 58 32.2**	**+0.9**
	baz=70						
Z31A	**Sharp Cattle R**	**70.42**	**335**	P	**P**	**15 58 33.2**	**+0.3**
	baz=71						
TIAR	**Tiarei**	**70.55**	**261**	*e*T	T	17 15 59.3	
	comp=Z,30nm,0.3s						
PPT2	**Papeete2**	**70.72**	**261**	*e*LR	LR	16 20 05.2	
	comp=Z,217nm,27.5s						
PPT	**Papeete**	**70.73**	**261**	LR	LR	16 21 28.9	
	comp=Z,122nm,19.8s,baz=6.2,slow=29						
Z30A	**Sanderson Ranc**	**70.75**	**334**	P	**P**	**15 58 35.3**	**+0.4**
	baz=71						
226B	**Teolote Peak,**	**70.86**	**331**	P	**P**	**15 58 36.2**	**+0.5**
	baz=71						
125A	**Gardner Draw,**	**71.57**	**331**	P	**P**	**15 58 40.0**	**0.0**
	baz=72						
Z26A	**Caprock**	**71.83**	**332**	P	**P**	**15 58 42.0**	**+0.4**
	baz=72						
MVL	**Millersville**	**71.94**	**356**	*eP*	P	15 58 36.5	-5.3
MSTX	**Muleshoe**	**71.98**	**333**	*eP*	**P**	**15 58 43.3**	**+0.9**
MSTX	**Muleshoe**	**71.98**	**333**	P	**P**	**15 58 42.8**	**+0.4**
	baz=72						
220A	**Playas Peak, P**	**72.59**	**328**	P	**P**	**15 58 47.3**	**+1.1**
	baz=73						
Y25A	**Mesa, Roswell**	**72.69**	**332**	P	**P**	**15 58 49.4**	**+2.7**
	baz=73						
Z23A	**Rita Site, Whi**	**72.75**	**330**	P	**P**	**15 58 48.3**	**+1.3**
	baz=73						
ACSO	**Alum Creek Sta**	**72.79**	**351**	*eP*	P	15 58 51.9	+4.9
	comp=Z,20nm,0.9s						
121A	**Cookes Peak, D**	**72.79**	**329**	P	**P**	**15 58 49.0**	**+1.6**
	baz=73						
X26A	**CR and CF Fran**	**72.89**	**333**	P	**P**	**15 58 48.6**	**+0.8**
	baz=73						
Z22A	**Elephant Butte**	**73.05**	**330**	P	**P**	**15 58 49.7**	**+0.8**
	baz=73						
Z20A	**Nine Sixteen R**	**73.64**	**328**	P	**P**	**15 58 53.7**	**+1.3**
	baz=74						
LIC	**Lamto**	**74.00**	**72**	*eP*	**P**	**15 58 54.0**	**-0.7**
	comp=Z,79nm,0.7s						
TIC	**Toumodi**	**74.25**	**72**	*eP*	**P**	**15 58 55.5**	**-0.7**
	comp=Z,22nm,0.2s						
KIC	**Kosan Boka**	**74.31**	**72**	*eP*	**P**	**15 58 55.7**	**-0.8**
	comp=Z,112nm,0.9s						
V25A	**Rancho No Teng**	**74.33**	**333**	P	**P**	**15 58 57.4**	**+1.0**
	baz=75						
DBIC	**Dimbokro**	**74.39**	**72**	P	**P**	**15 58 56.5**	**-0.5**
DBIC	**Dimbokro**	**74.39**	**72**	P	**P**	**15 58 56.5**	**-0.5**
	comp=Z,42nm,0.7s,baz=211,slow=6.0,SNR=47						
DBIC				LR	LR	16 27 45.3	
	comp=Z,174nm,20.9s,baz=213,slow=33						
X21A	**Alamocita Cree**	**74.42**	**330**	P	**P**	**15 58 57.9**	**+1.0**
	baz=75						
T27A	**Campo**	**74.70**	**335**	P	**P**	**15 58 59.6**	**+1.2**
	baz=75						
U25A	**Circle Dot Ran**	**74.75**	**333**	P	**P**	**15 59 00.0**	**+1.2**
	baz=75						
X20A	**Quemado**	**74.81**	**329**	P	**P**	**15 59 00.5**	**+1.3**
	baz=75						
MAW	**Mawson**	**74.86**	**164**	P	**P**	**15 58 59.4**	**+0.5**
MAW	**Mawson**	**74.86**	**164**	P	**P**	**15 58 59.4**	**+0.5**
	comp=Z,14nm,0.6s,baz=216,slow=6.6,SNR=59						
MAW				LR	LR	16 31 00.2	
	comp=Z,207nm,21.8s,baz=222,slow=35						
W20A	**Ramah**	**75.31**	**330**	P	**P**	**15 59 03.4**	**+1.3**
	baz=76						
V22A	**San Miguel Ran**	**75.31**	**331**	P	**P**	**15 59 03.5**	**+1.4**
	baz=76						
S26A	**Kim**	**75.48**	**334**	P	**P**	**15 59 04.1**	**+1.3**
	baz=76						
SUR	**Sutherland**	**75.52**	**119**	P	**P**	**15 59 04.2**	**+0.7**
SUR	**Sutherland**	**75.52**	**119**	P	**P**	**15 59 04.3**	**+0.7**
	comp=Z,202nm,0.7s,SNR=12						
SUR	**Sutherland**	**75.52**	**119**	P	**P**	**15 59 04.2**	**+0.7**
U22A	**Llaves**	**75.69**	**331**	P	**P**	**15 59 06.2**	**+2.0**
	baz=76						
T24B	**San Luis**	**75.70**	**333**	P	**P**	**15 59 06.3**	**+2.0**
	baz=76						
R27A	**Eads**	**75.82**	**335**	P	**P**	**15 59 06.4**	**+1.6**
	baz=76						
W18A	**Petrified Fore**	**75.84**	**329**	*eP*	**P**	**15 59 06.1**	**+1.0**
W18A	**Petrified Fore**	**75.84**	**329**	P	**P**	**15 59 06.6**	**+1.5**
	baz=76						
S25A	**Robets Cordova**	**75.87**	**334**	P	**P**	**15 59 06.1**	**+0.9**
	baz=76						
X16A	**Lo Mia Camp, P**	**76.03**	**327**	P	**P**	**15 59 07.4**	**+1.3**
	baz=76						
U21A	**Nageezi**	**76.06**	**331**	P	**P**	**15 59 07.5**	**+1.2**
	baz=76						
R26A	**Arlington**	**76.07**	**335**	P	**P**	**15 59 07.8**	**+1.6**
	baz=76						
S24A	**Houchin Ranch,**	**76.14**	**333**	P	**P**	**15 59 08.8**	**+1.9**
	baz=76						
T22A	**Edith**	**76.26**	**332**	P	**P**	**15 59 09.4**	**+2.0**
	baz=77						
SDCO	**Great Sand Dun**	**76.35**	**333**	*eP*	**P**	**15 59 08.3**	**+0.3**
	comp=Z,4.0nm,0.8s						
T21A	**Navajo Lake**	**76.50**	**331**	P	**P**	**15 59 11.0**	**+2.2**
	baz=77						
R24A	**Sanders Place,**	**76.62**	**334**	P	**P**	**15 59 11.0**	**+1.6**
	baz=77						
R23A	**Moffat**	**76.86**	**333**	P	**P**	**15 59 12.3**	**+1.4**
	baz=77						
WUAZ	**Wupatki**	**76.91**	**328**	P	**P**	**15 59 12.6**	**+1.6**
	baz=77						
MVCO	**Mesa Verde**	**77.08**	**331**	P	**P**	**15 59 13.3**	**+1.2**
	baz=77						
S21A	**Coal Bank Pass**	**77.18**	**331**	P	**P**	**15 59 13.9**	**+1.2**
	baz=78						
N30A	**Hueftle Ranch,**	**77.18**	**338**	P	**P**	**15 59 14.5**	**+2.2**
	baz=78						
BC3	**Big Chuckawall**	**77.33**	**324**	P	**P**	**15 59 14.6**	**+1.2**
	baz=78						
S20A	**Disappointment**	**77.55**	**331**	P	**P**	**15 59 15.4**	**+0.6**
	baz=78						
R21A	**Cimarron**	**77.69**	**332**	P	**P**	**15 59 16.5**	**+1.0**
	baz=78						
W13A	**Hualapai Mount**	**77.73**	**326**	P	**P**	**15 59 17.2**	**+1.5**
	baz=78						
PFO	**Pinyon Flat Ob**	**77.80**	**323**	P	**P**	**15 59 17.5**	**+1.4**
	baz=78						
U15A	**North Rim**	**78.08**	**328**	P	**P**	**15 59 19.2**	**+1.5**
	baz=78						
GMRC	**Granite Mounta**	**78.33**	**324**	P	**P**	**15 59 20.2**	**+1.2**
	baz=79						
O22A	**Kremmling**	**78.85**	**334**	P	**P**	**15 59 23.0**	**+1.1**
	baz=79						
BFSC	**Mount Baldy Ra**	**78.92**	**323**	P	**P**	**15 59 24.0**	**+1.8**
	baz=79						
TUQ	**Turquoise Moun**	**78.99**	**325**	P	**P**	**15 59 24.0**	**+1.4**
	baz=79						
P19A	**Cripple Cowboy**	**79.34**	**332**	P	**P**	**15 59 26.0**	**+1.4**
	baz=80						
M24A	**Cheyenne**	**79.36**	**335**	P	**P**	**15 59 25.7**	**+1.2**
	baz=80						
CCUT	**Cedar City**	**79.48**	**328**	*eP*	**P**	**15 59 27.5**	**+2.1**
TSUM	**Tsumeb**	**79.50**	**106**	*eP*	**P**	**15 59 24.6**	**-1.3**
	comp=Z,8.3nm,1.0s						
TSUM	**Tsumeb**	**79.50**	**106**	P	**P**	**15 59 25.5**	**-0.4**
	comp=Z,14nm,0.8s						
SRU	**San Rafael**	**79.54**	**330**	*eP*	**P**	**15 59 26.3**	**+0.7**
SRU				pmax	pmax		
	comp=Z,4.0nm,0.8s						
SRU	**San Rafael**	**79.54**	**330**	*eP*	**P**	**15 59 26.3**	**+0.7**
	comp=Z,3.6nm,0.8s						
MPMC	**Manual Prospec**	**80.26**	**324**	P	**P**	**15 59 30.8**	**+1.2**
	baz=81						
I28A	**Midland**	**80.42**	**339**	P	**P**	**15 59 31.4**	**+1.3**
	baz=81						
PKM	**Peak Mountain**	**80.55**	**322**	P	**P**	**15 59 33.2**	**+2.1**
	baz=81						
L21A	**Rawlins**	**80.72**	**334**	P	**P**	**15 59 32.3**	**+0.3**
	baz=81						
BOSA	**Boshof**	**80.72**	**118**	P	**P**	**15 59 32.0**	**-0.4**
BOSA	**Boshof**	**80.72**	**118**	P	**P**	**15 59 32.0**	**-0.4**
	comp=Z,31nm,0.9s,baz=244,slow=5.4,SNR=33						
BOSA				LR	LR	16 28 37.1	
	comp=Z,150nm,21.8s,baz=193,slow=31						
CWC	**Cottonwood Cre**	**80.85**	**324**	P	**P**	**15 59 33.6**	**+0.9**
	baz=81						
H28A	**Mission Ridge**	**80.99**	**339**	P	**P**	**15 59 34.4**	**+1.3**
	baz=81						
K22A	**Casper**	**81.01**	**335**	P	**P**	**15 59 34.8**	**+1.4**
	baz=81						
R11A	**Troy Canyon, C**	**81.16**	**327**	*eP*	**P**	**15 59 34.7**	**+0.4**
R11A	**Troy Canyon, C**	**81.16**	**327**	P	**P**	**15 59 35.3**	**+1.0**
	baz=82						
K21A	**Alcova**	**81.26**	**334**	P	**P**	**15 59 35.0**	**+0.3**
	baz=82						
DUG	**Dugway**	**81.42**	**329**	*eP*	**P**	**15 59 35.9**	**+0.3**
DUG				pmax	pmax		
	comp=Z,7.0nm,1.1s						
DUG	**Dugway**	**81.42**	**329**	*eP*	**P**	**15 59 35.9**	**+0.3**
	comp=Z,6.9nm,1.1s						
DUG	**Dugway**	**81.42**	**329**	P	**P**	**15 59 36.9**	**+1.3**
	baz=82						
L19A	**Farson**	**81.60**	**333**	P	**P**	**15 59 38.3**	**+1.8**
	baz=82						
G26A	**Maurine**	**82.03**	**339**	P	**P**	**15 59 39.0**	**+0.4**
	baz=82						
J20A	**Shoshoni**	**82.19**	**334**	P	**P**	**15 59 40.6**	**+1.1**
	baz=82						
PDAR	**Pinedale Array**	**82.24**	**333**	P	**P**	**15 59 41.0**	**+1.0**
PDAR	**Pinedale Array**	**82.24**	**333**	P	**P**	**15 59 41.0**	**+1.0**
	comp=Z,0.6nm,0.7s,baz=123,slow=5.8,SNR=3.8						
PDAR				LR	LR	16 32 46.6	
	comp=Z,120nm,20.1s,baz=87,slow=33						
J19A	**Crowheart**	**82.47**	**333**	P	**P**	**15 59 41.6**	**+0.5**
	baz=83						
LBTB	**Lobatse**	**82.87**	**115**	P	**P**	**15 59 43.1**	**-0.6**
LBTB	**Lobatse**

TIXI	Tiksi	138.94	350	*i* PKIKP	PKPdf	16 06 47.9	+4.0
AKTO	Aktyubinsk	138.98	48	PKIKP	PKPdf	16 06 44.1	-0.5
AKTO	Aktyubinsk	138.98	48	PKP	PKPdf	16 06 44.1	-0.5
AKTO	Aktyubinsk	138.98	48	PKP	PKPdf	16 06 44.1	-0.5
	comp=Z,0.7nm,0.2s,baz=299,slow=5.6,SNR=4.5						
AB31	Akbulak array	140.37	50	*i* PKHKP	PKPpre	16 06 39.5	
AB31				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BRVK	Borovoye	145.71	41	*c i* PKP2	PKPab	16 06 57.2	-0.1
BVA0	Borovoye Array	145.78	41	*i* PKP2	PKPbc	16 06 57.1	-0.1
BVA0				pmax	pmax		
	comp=Z,13nm,0.8s						
BVAR	Borovoye Array	145.78	41	PKP2	PKPbc	16 06 57.0	-0.1
BVAR	Borovoye Array	145.78	41	PKPbc	PKPbc	16 06 57.0	-0.1
BVAR	Borovoye Array	145.78	41	PKPbc	PKPbc	16 06 57.0	-0.1
	comp=Z,4.8nm,0.5s,baz=270,slow=5.9,SNR=37						
VOSK	Vostochnaya	146.23	41	PKP2	PKPbc	16 06 58.0	-0.5
VOSK				pmax	pmax		
	comp=Z,35nm,1.0s						
YAK	Yakutsk	147.08	341	*e* PKP2	PKPab	16 07 03.1	+0.8
YAK				pmax	pmax		
	comp=Z,27nm,0.9s						
KK31	Karatay Array	148.45	59	*i* PKP2	PKPbc	16 07 04.4	-0.6
KK31				pmax	pmax		
	comp=Z,8.0nm,0.7s						
KSM	Kuching	149.40	184	*e* PKPdf	PKPdf	16 07 03.8	-0.1
KSM				*e* PKPbc	PKPbc	16 07 07.8	-0.4
KSM				*e* PKPab	PKPab	16 07 13.6	+0.7
HYB	Hyderabad	149.44	112	*i* P	PKPbc	16 07 07.0	-1.3
PSI	Prapat	149.50	161	PKPbc	PKPbc	16 07 07.6	-1.0
PSI	Prapat	149.50	161	PKPbc	PKPbc	16 07 07.6	-1.0
	comp=Z,15nm,0.7s,baz=198,slow=6.5,SNR=6.1						
EKS2	Erkin-Say	150.89	59	*e* PKIKP	PKPbc	16 07 11.4	+0.2
EKS2	Erkin-Say	150.89	59	P	PKPbc	16 07 11.7	+0.6
	SNR=15						
EKS2	Erkin-Say	150.89	59	*e* PKPbc	PKPbc	16 07 11.4	+0.2
AML	Almayashu	150.91	60	P	PKPbc	16 07 12.2	+0.7
	SNR=12						
NVS	Novosibirsk	151.27	31	*e* PKIKP	PKPbc	16 07 10.9	-0.5
NVS				pmax	pmax		
	comp=Z,22nm,1.0s						
NVS				pmax	pmax		
	comp=E,5.0nm,1.2s						
USP	Ospenovka	151.30	58	P	PKPbc	16 07 12.1	+0.1
	SNR=11						
KURBB	Kurchatov Arra	151.38	41	PKP	PKPdf	16 07 06.0	+0.3
	comp=E,4.6nm,0.2s,baz=270,slow=2.9,SNR=5.6						
KURBB				PKPbc	PKPbc	16 07 11.9	+0.1
	comp=E,11nm,0.6s,baz=297,slow=3.0,SNR=90						
KURK	Kurchatov	151.38	41	*c i* PKIKP	PKPbc	16 07 11.6	-0.2
KURK	Kurchatov	151.38	41	PKP	PKPdf	16 07 06.0	+0.3
KURK				PKPbc	PKPbc	16 07 11.9	+0.1
AAK	Ala-Archa	151.42	59	*c i* PKIKP	PKPbc	16 07 12.8	+0.4
AAK	Ala-Archa	151.42	59	P	PKPbc	16 07 13.1	+0.6
	SNR=17						
AAK	Ala-Archa	151.42	59	PKP	PKPdf	16 07 07.2	+0.9
AAK				PKPbc	PKPbc	16 07 13.0	+0.6
AAK	Ala-Archa	151.42	59	PKP	PKPdf	16 07 07.2	+0.9
	comp=E,1.4nm,0.5s,baz=301,slow=3.1,SNR=4.6						
AAK				PKPbc	PKPbc	16 07 13.0	+0.6
	comp=E,20nm,0.7s,baz=202,slow=2.5,SNR=60						
FRU	Bishkek	151.47	58	*i* PKIKP	PKPbc	16 07 13.0	+0.6
FRU				*i*		16 07 22.0	
FRU				pmax	pmax		
	comp=Z,40nm,1.5s						
UCH	Uchtor	151.50	60	P	PKPbc	16 07 13.8	+0.8
	SNR=12						
CHMS	Chumysh	151.53	58	P	PKPbc	16 07 12.8	+0.3
	SNR=5.8						
KBK	Karagaybulak	151.74	59	P	PKPbc	16 07 13.9	+0.7
	SNR=5.3						
KZA	Kyzart	152.06	60	P	PKPbc	16 07 14.8	+0.6
	SNR=7.2						
TKM2	Tokmak 2	152.16	58	*e* PKIKP	PKPdf	16 07 07.4	-0.1
TKM2				*e*		16 07 14.0	
TKM2	Tokmak 2	152.16	58	P	PKPbc	16 07 14.2	+0.1
	SNR=11						
TKM2	Tokmak 2	152.16	58	*e* PKPdf	PKPdf	16 07 07.4	-0.1
TKM2				*e* PKPbc	PKPbc	16 07 14.0	-0.1
ZAA0	Zalesovo Array	152.56	31	*e* PKPdf	PKPdf	16 07 07.4	0.0
ZAA0				*e* PKPbc	PKPbc	16 07 14.1	-0.3
ZALV	Zalesovo Beam	152.56	31	PKIKP	PKPdf	16 07 07.7	+0.3
ZALV						16 07 14.2	
ZALV	Zalesovo Beam	152.56	31	PKP	PKPdf	16 07 07.7	+0.3
ZALV				PKPbc	PKPbc	16 07 14.2	-0.2
ZALV	Zalesovo Beam	152.56	31	PKP	PKPdf	16 07 07.7	+0.3
	comp=Z,0.7nm,0.3s,baz=289,slow=4.5,SNR=3.7						
ZALV				PKPbc	PKPbc	16 07 14.2	-0.2
	comp=Z,12nm,0.6s,baz=298,slow=3.3,SNR=46						
ULHL	Ulahol	152.76	59	P	PKPbc	16 07 16.1	+0.6
	SNR=7.5						
KSH	Kashi	152.96	65	*e* PKPbc	PKPdf	16 07 09.5	+0.9
KSH				pPKP	pPKPdf	16 07 20.3	-1.3
KSH				PKS	PKSdf	16 10 42.5	-0.6
KSH				PP	PP	16 11 05.0	+3.9
KSH				SKS	SKSdf	16 14 11.3	-1.3
KSH				SKKS	SKKSac	16 17 48.8	+1.0
KSH				AMB	AMB		
	comp=Z,110nm,6.6s						
KSH				LR	LR		
	comp=N,93nm,6.9s						
KSH				LR	LR		
	comp=E,81nm,5.6s						
KSH				LR	LR		
	comp=Z,130nm,6.6s						
MK31	Makanchi Array	155.38	46	*e* PKIKP	PKPdf	16 07 11.2	-0.5
MK31				*e*		16 07 20.1	
MK31	Makanchi Array	155.38	46	*e* PKPdf	PKPdf	16 07 11.2	-0.5
MK31				*e* PKPbc	PKPbc	16 07 20.1	
MKAR	Makanchi Array	155.38	46	PKIKP	PKPdf	16 07 11.0	-0.7
MKAR						16 07 20.1	
MKAR	Makanchi Array	155.38	46	PKP	PKPdf	16 07 11.0	-0.7
MKAR				PKPbc	PKPbc	16 07 20.1	
MKAR				PKPab	PKPab	16 07 37.0	-0.2
MKAR	Makanchi Array	155.38	46	PKP	PKPdf	16 07 11.0	-0.7
	comp=Z,0.6nm,0.6s,baz=346,slow=0.5,SNR=5.5						
MKAR				PKPbc	PKPbc	16 07 20.1	
	comp=Z,2.0nm,0.8s,baz=300,slow=2.4,SNR=11						
MKAR				PKPab	PKPab	16 07 37.0	-0.2
	comp=Z,7.7nm,0.8s,baz=293,slow=4.2,SNR=20						
HVS	Khovu-Aksy	158.24	25	*i* PKIKP	PKPdf	16 07 14.6	-0.7
WMQ	Urumqi	160.14	48	*e* PKP	PKPdf	16 07 18.3	+0.6
WMQ				LR	LR		
	comp=E,62nm,20.0s						
WMQ				LR	LR		
	comp=Z,55nm,23.7s						
CN2	Changchun	162.18	316	*e* PKP	PKPdf	16 07 18.3	-1.5
CN2				PP	PP	16 11 52.8	+1.9
CN2				LR	LR		
	comp=N,200nm,19.0s						
CN2				LR	LR		
	comp=E,200nm,19.0s						
CN2				LR	LR		
	comp=Z,200nm,19.0s						
CMAR	Chiang Mai Arr	163.98	146	PKP	PKPdf	16 07 22.3	+0.1
CMAR				PKPab	PKPab	16 08 13.2	-2.1
CMAR	Chiang Mai Arr	163.98	146	PKP	PKPdf	16 07 22.3	+0.1
	comp=Z,0.8nm,0.8s,baz=243,slow=3.5,SNR=4.8						
CMAR				PKPab	PKPab	16 08 13.2	-2.1
	comp=Z,1.8nm,0.7s,baz=223,slow=6.1,SNR=10.0						
SONM	Songino Array	164.30	5	PKPab	PKPab	16 08 15.9	-0.1
SONM	Songino Array	164.30	5	PKPab	PKPab	16 08 15.9	-0.1
	comp=Z,0.8nm,0.8s,baz=318,slow=1.9,SNR=2.4						
GTA	Gaotai	170.07	41	PKP	PKPdf	16 07 27.0	+0.6
GTA				pPKP	pPKPdf	16 07 38.3	-1.1
GTA				sPKP		16 07 42.0	
GTA				PKPab	PKPab	16 08 42.5	+0.7
HHC	Hu-ho-hao-te	170.94	344	*e* PKP	PKPdf	16 07 35.0	+8.2
HHC				pPKP	pPKPdf	16 07 46.0	+6.2
HHC				sPKP		16 07 49.5	
HHC				PKS	PKSdf	16 11 06.0	+6.8
HHC				PP	PP	16 12 45.8	+10
HHC				SKS	SKSdf	16 14 32.8	+5.9
HHC	Hu-ho-hao-te	170.94	344	SKKS	SKKSac	16 19 27.8	+8.3
KMI	Kunming	171.48	144	PKP	PKPdf	16 07 27.5	-0.2
KMI				sPKP		16 07 42.0	
KMI				LR	LR		
	comp=Z,79nm,22.4s						
GYA	Guiyang	174.14	166	*e* PKP	PKPdf	16 07 28.3	-0.3
GYA				PKPab	PKPab	16 09 01.8	+1.8
GYA				PKS	PKSdf	16 10 59.5	-1.5
GYA				PP	PP	16 12 53.5	+2.3
GYA				SKKS		16 19 35.5	
GYA				SS	SS	16 34 07.0	+0.1
GYA				AMB	AMB		
	comp=Z,120nm,8.4s						
GYA				LR	LR		
	comp=N,120nm,25.5s						
GYA				LR	LR		
	comp=E,110nm,26.0s						
GYA				LR	LR		
	comp=Z,130nm,25.6s						
CD2	Chengdu	175.99	107	PKP	PKPdf	16 07 29.0	+0.1
CD2				pPKP	pPKPdf	16 07 40.3	-1.6
CD2				sPKP		16 07 44.0	
CD2				PKS	PKSdf	16 10 59.8	-1.3
CD2				PP	PP	16 13 03.8	+2.2
CD2				SKS	SKSdf	16 14 26.5	-2.3
CD2				SKKS	SKKSac	16 19 44.5	0.0
CD2				SS	SS	16 34 23.8	-3.7
CD2				AMB	AMB		
	comp=Z,130nm,8.9s						
CD2				LR	LR		
	comp=N,190nm,7.1s						
CD2				LR	LR		
	comp=Z,190nm,8.3s						

IDC 25 15:49:43.8±1.9, 13°.93N×92°.93E, h0km, mb3.9/4, mb1 3.9/5, mb1mx3.5/27, mbtmp3.8/5, ML3.4/1, Error ellipse: s-maj=63.1km s-min=23.4km az=65.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	7.32	51	Pn	Pn	15 51 32.1	0.0
	0.2nm,0.3s,baz=241,slow=15,SNR=4.7						
CMAR				Sn	Sn	15 52 49.9	-6.1
	0.3nm,0.3s,baz=236,slow=27,SNR=4.8						
MKAR	Makanchi Array	33.96	347	P	P	15 56 30.4	+1.4
	0.4nm,0.6s,baz=159,slow=9.3,SNR=4.3						
ZALV	Zalesovo Beam	40.43	353	P	P	15 57 22.4	-1.4
	0.7nm,0.3s,baz=163,slow=7.4,SNR=3.3						
FITZ	Fitzroy Crossi	45.31	134	P	P	15 58 03.8	0.0
	1.5nm,0.9s,baz=301,slow=7.9,SNR=3.2						
ASAR	Alice Springs	54.78	133	P	P	15 59 15.4	-0.4
	0.5nm,0.5s,baz=308,slow=6.7,SNR=6.7						

*IDC **25** 15:58:43.5±2.1, 14°.03N×92°.78E, h0km, mb4.0/3, mb1 3.8/4, mb1mx3.4/27, mbtmp3.8/4, ML3.5/1, Error ellipse: s-maj=62.6km s-min=28.8km az=61.0*
*ISCJB **25** 15:58:47.0±1.3, 14°.3N±0°.1×92°.99E±0°.07, h33km, mb3.6/3, Error ellipse: s-maj=17.3km s-min=9.6km az=8.4*

ISC 25 15:58:47.2±1.6, 14°.3N±0°.2×92°.8E±0°.1, h35km, n16, σ1 96/13, mb3.6/3, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	7.15	54	Pn	Pn	16 00 32.6	+3.3
	0.2nm,0.3s,baz=242,slow=15,SNR=4.9						
CMAR				Sn	Sn	16 01 49.7	+0.2
	0.2nm,0.3s,baz=302,slow=13,SNR=3.4						
ODAN	Odare	13.46	339	*e* P	P	16 02 00.8	-4.0
RAMN	Ramite	13.84	336	*e* P	P	16 02 06.2	-2.8
JIRN	Jiri	14.63	336	*e* P	Pn	16 02 13.8	+1.8
	8.0nm,0.3s						
PKI	Pulchoki	14.88	333	*e* P	P	16 02 19.0	-1.6
	6.3nm,0.2s						
PKIN	Phulchoki	14.89	333	*e* P	P	16 02 18.1	-2.6
	9.0nm,0.3s						
GUN	Gumba	14.98	336	*e* P	Pn	16 02 18.3	+1.6
DMN	Daman	15.04	333	*e* P	P	16 02 20.1	-2.3
	6.1nm,0.2s						
KKN	Kakani	15.12	333	*e* P	Pn	16 02 20.7	+2.2
	2.9nm,0.2s						
GKN	Gorkha	15.59	332	*e* P	P	16 02 26.5	-1.9
	13nm,0.3s						
KOLN	Koldanda	15.89	329	*e* P	P	16 02 32.5	+0.7
DANN	Dangsing	16.29	330	*e* P	Pn	16 02 34.5	+0.8
	4.7nm,0.2s						
PYUN	Piuthan	16.47	328	*e* P	P	16 02 38.2	0.0
	49nm,0.4s						
KURBB	Kurchatov Arra	38.01	345	P	P	16 06 06.6	+4.8
	0.4nm,0.2s,baz=155,slow=7.6,SNR=3.1						
ZALV	Zalesovo Beam	40.02	353	P	P	16 06 21.8	+3.2
	0.4nm,0.3s,baz=178,slow=6.5,SNR=2.6						
ASAR	Alice Springs	55.13	133	P	P	16 08 16.6	+0.2
	0.4nm,0.7s,baz=308,slow=7.0,SNR=4.9						

IDC 25 16:44:51.7±7.7, 16°.65S×177°.27W, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.7/18, mbtmp3.7/4, Error ellipse: s-maj=336.7km s-min=37.6km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	45.95	258	P	P	16 53 16.5	-0.3
	0.2nm,0.4s,baz=93,slow=7.9,SNR=12						
ASAR	Alice Springs	46.19	253	P	P	16 53 18.8	0.0
	2.0nm,0.6s,baz=88,slow=8.3,SNR=26						
FITZ	Fitzroy Crossi	54.32	259	P	P	16 54 20.4	0.0
	0.8nm,1.0s,baz=150,slow=20,SNR=2.9						
ILAR	Eielson Array	84.42	13	P	P	16 57 25.7	0.0
	0.5nm,0.6s,baz=211,slow=5.1,SNR=3.9						

AUST 25 16:56:45.4±99.0, 7°.17S×130°.23E, h4km±3km, Error ellipse: s-maj=217.2km s-min=1.2km az=266.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLE	Tual	2.92	59	P	Pb	16 57 39.6	+1.6
	baz=2.9,SNR=4.6						
FAKI	Fak Fak	4.68	26	P	Pn	16 57 57.5	+0.7
	baz=4.7,SNR=10						
KDU	Kakadu	5.91	158	P	Pn	16 58 13.8	+0.1
	baz=5.9,SNR=8.9						
KDU				S	Sn	16 59 24.1	+2.2
	baz=5.9,SNR=7.4						
SWI	Sorong	6.35	9	P	Pn	16 58 19.9	+0.1
	baz=6.4,SNR=3.6						
KNRA	Kununurra	8.58	190	P	Pn	16 58 51.1	+0.7
	baz=8.6,SNR=5.3						
KNRA				S	Sn	17 00 23.9	-3.8
	baz=8.6,SNR=4.5						

*IDC **25** 17:23:56.8±1.1, 7°.42S×105°.79E, h0km, mb3.8/11, mb1 4.0/12, mb1mx3.9/24, mbtmp3.9/12, ML4.5/1, Error ellipse: s-maj=45.6km s-min=15.1km az=52.0*
*ISCJB **25** 17:23:59.9±0.6, 7°.65S±0°.05×105°.77E±0°.04, h32km, mb3.8/11, Error ellipse: s-maj=7.7km s-min=6.1km az=17.7*
*DJA **25** 17:24:01.9±0.8, 8°.S±5°.×10°.6E±°, h16km±8km, M4.0/10, MLv4.0/10*

ISC 25 17:24:01.4±0.7, 7°.44S±0°.07×105°.80E±0°.05, h32km, n23, σ0 81/30, mb3.9/11, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	Sukabumi	0.87	60	P	Pn	17 24 16.4	-1.0
SKJI				S	Sn	17 24 27.8	-1.2
DBJI	Dramaga	1.29	47	P	Pb	17 24 25.4	+0.2
DBJI				S	Sb	17 24 41.6	+0.1
CBJI	Citeko	1.46	46	P	Pn	17 24 25.5	0.0
TNG	Tangerang	1.52	34	P	Pb	17 24 29.8	+0.8
TNG				S	Sb	17 24 49.0	+1.2
LEM	Lembang	1.91	71	P	Pb	17 24 34.5	-1.2
LEM				S	Sb	17 24 57.7	-1.5
CISI	Cisompet, Garu	2.01	93	P	Pn	17 24 32.9	-0.2
CISI				S	Sn	17 24 57.6	+0.4
KASI	Kota Agung	2.30	326	P	Pb	17 24 40.9	-1.4
KASI				S	Sb	17 25 10.9	+0.6
LWLI	Liwa	2.96	324	P	Pb	17 24 50.2	-3.4
KPJI	Karang Pucung	3.11	88	P	Pn	17 24 50.2	+1.9
MDSI	Maura Dua	3.35	331	P	Pn	17 24 54.9	+3.4
BATI	Baumata	17.87	100	P	Pn	17 28 07.4	-0.3
	1.4nm,0.3s,baz=239,slow=2.4,SNR=2.9						
FITZ	Fitzroy Crossi	22.04	121	P	P	17 28 53.5	0.0
	2.6nm,1.0s,baz=264,slow=10,SNR=4.9						
CMAR	Chiang Mai Arr	26.61	345	P	P	17 29 38.0	+0.9
	0.5nm,0.5s,baz=181,slow=7.1,SNR=5.0						
WRA	Warramunga Arr	30.32	117	P	P	17 30 10.2	-0.1
	0.5nm,0.8s,baz=288,slow=10,SNR=6.1						
WRA				PcP	PcP	17 33 10.8	+0.5
	0.5nm,1.0s,baz=302,slow=1.9,SNR=4.1						
ASAR	Alice Springs	31.42	124	P	P	17 30 20.1	+0.2
	0.4nm,0.6s,baz=297,slow=7.7,SNR=12						
ASAR				PcP	PcP	17 33 13.8	+0.7
	0.4nm,1.0s,baz=288,slow=2.7,SNR=3.3						
STKA	Stephens Creek	41.24	131	P	P	17 31 43.9	+0.2
	3.8nm,1.1s,baz=316,slow=9.4,SNR=5.2						
KSRS	Korea Array	49.22	23	P	P	17 32 47.0	+0.3
	0.5nm,0.4s,baz=216,slow=7.5,SNR=4.2						
SONM	Songino Array	55.04	0	P	P	17 33 30.2	+0.2
	0.6nm,0.4s,baz=180,slow=9.3,SNR=7.1						
SONM				PcP	PcP	17 34 31.4	0.0
	0.4nm,0.5s,baz=181,slow=4.2,SNR=3.1						
USRK	Ussuriysk Arra	56.59	22	P	P	17 33 40.2	-0.9
	0.6nm,0.5s,baz=171,slow=3.2,SNR=3.3						
MKAR	Makanchi Array	57.90	341	P	P	17 33 50.1	-0.3
	1.1nm,0.5s,baz=141,slow=7.8,SNR=17						
ZALV	Zalesovo Beam	63.67	346	P	P	17 34 29.1	-0.4
	1.4nm,0.3s,baz=156,slow=6.0,SNR=6.0						
BRTR	Keskin Array B	81.23	312	P	P	17 36 15.1	+0.4
	1.0nm,0.7s,baz=133,slow=5.2,SNR=5.2						
TXAR	Lajitas Array	144.75	48	PKP	PKPdf	17 43 35.5	-0.4
	0.3nm,0.5s,baz=278,slow=0.6,SNR=4.8						

IDC 25 17:40:32.8±1.5, 31°.09S×177°.44W, h0km, mb4.0/3, mb1 4.2/4, mb1mx3.9/17, mbtmp4.0/4, ML3.5/1, Error ellipse: s-maj=40.5km s-min=23.4km az=111.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.88	347	Pn	Pn	17 41 05.6	-0.5
	83nm,0.3s,baz=255,slow=23,SNR=8.7						
RAO				Sn	Sn	17 41 30.8	+0.3
	227nm,0.3s,baz=168,slow=22,SNR=4.9						
URZ	Urewera	8.45	211	Pn	Pn	17 42 34.4	-2.0
	0.6nm,0.3s,baz=349,slow=18,SNR=5.0						
URZ				Sn	Sn	17 44 08.1	-4.4
	1.4nm,0.3s,baz=338,slow=19,SNR=8.9						
STKA	Stephens Creek	34.80	258	P	P	17 47 26.6	+1.3
	0.9nm,0.3s,baz=102,slow=12,SNR=7.5						
ASAR	Alice Springs	43.56	267	P	P	17 48 38.5	-0.3
	0.7nm,0.5s,baz=106,slow=7.4,SNR=20						
ASAR				PcP	PcP	17 50 26.8	+0.2
	0.2nm,0.4s,baz=113,slow=4.2,SNR=4.6						
WRA	Warramunga Arr	44.61	273	P	P	17 48 46.6	-0.6
	1.6nm,0.4s,baz=111,slow=8.1,SNR=23						
KBZ	Khabaz	145.89	303	PKPbc	PKPdf	18 00 13.1	-0.3
	0.9nm,0.7s,baz=90,slow=4.0,SNR=2.6						
FINES	FINESS Array B	145.95	340	PKPbc	PKPbc	18 00 13.6	-0.1
	1.3nm,0.4s,baz=61,slow=4.5,SNR=27						
NOA	NORSAR Array B	149.50	352	PKPbc	PKPbc	18 00 23.6	+0.2
	2.1nm,1.0s,baz=39,slow=1.9,SNR=3.3						
AKASG	Malin Array Be	152.24	322	PKPbc	PKPbc	18 00 29.2	-0.6
	0.3nm,0.4s,baz=47,slow=3.1,SNR=3.0						
BRTR	Keskin Array B	153.35	297	PKPbc	PKPbc	18 00 31.9	-1.2
	0.7nm,1.0s,baz=47,slow=3.0,SNR=3.2						
BRTR				PKPab	PKPab	18 00 44.6	-0.6
	0.9nm,0.8s,baz=104,slow=4.6,SNR=2.9						

*IDC **25** 18:10:09.4±1.3, 2°.25S×136°.13E, h0km, mb3.5/3, mb1 3.8/6, mb1mx3.6/18, mbtmp3.7/6, ML3.6/3, MS4.1/1, Ms1 4.1/1, ms1mx2.9/24, Error ellipse: s-maj=48.1km s-min=23.4km az=87.0*
*ISCJB **25** 18:10:11.2±1.2, 2°.34S±0°.09×136°.3E±0°.1, h33km, mb3.5/3, MS4.0/1, Error ellipse: s-maj=16.9km s-min=9.8km az=144.9*
*AUST **25** 18:10:33.9±0.0, 2°.83S×134°.03E, h239km, Error ellipse: s-maj=1.5km s-min=1.4km az=242.0*

ISC 25 18:10:12.9±1.2, 2°.4S±0°.1×136°.3E±0°.1, h35km, n13, σ1 06/12, mb3.6/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	Fak Fak	4.10	262	P	Pn	18 11 13.6	+0.4
	baz=1.8,SNR=17						
TLE	Tual	4.84	227	P	Pn	18 11 26.8	+3.5
	baz=3.1,SNR=4.4						
SWI	Sorong	5.26	286	P	Pn	18 11 30.0	+0.8
	baz=3.4,SNR=6.6						
SWI				S	Sn	18 12 27.2	-1.5
	baz=3.4,SNR=5.2						
KDU	Kakadu	10.95	200	P	Pn	18 12 47.7	+0.5
	baz=10.0,SNR=9.8						
BATI	Baumata	14.79	238	Pn	Pn	18 13 40.1	+0.4
	0.8nm,0.3s,baz=18,slow=13,SNR=2.8						
KNRA	Kununurra	15.19	209	P	Pn	18 13 43.6	-1.4
	baz=14,SNR=4.4						
WRA	Warramunga Arr	17.59	186	P	P	18 14 15.5	-0.8
	0.3nm,0.3s,baz=8.4,slow=13,SNR=5.2						
WRA				S	Sn	18 17 19.1	-11
	0.1nm,0.3s,baz=4.6,slow=23,SNR=3.9						
FITZ	Fitzroy Crossi	18.84	213	P	Pn	18 14 31.4	+0.8
	0.1nm,0.3s,baz=17,slow=14,SNR=2.5						
ASAR	Alice Springs	21.32	186	P	P	18 14 58.0	+1.0
	2.3nm,0.7s,baz=8.6,slow=11,SNR=26						
DZM	Mont Dzumac	35.23	126	LR	LR	18 31 02.8	
	comp=Z,271nm,18.5s,baz=204,slow=35						
SONM	Songino Array	56.40	336	P	P	18 19 51.1	+0.1
	0.2nm,0.5s,baz=154,slow=7.2,SNR=2.7						
MKAR	Makanchi Array	68.06	323	P	P	18 21 09.4	+0.4
	0.2nm,0.3s,baz=114,slow=6.7,SNR=5.3						
LPAZ	La Paz	149.56	128	PKPbc	PKPab	18 30 04.0	-1.5
	2.6nm,0.4s,baz=162,slow=3.2,SNR=11						

MAN 25 18:41:39, 18°.10N×120°.34E, h16km, mb4.3, ML3.1, MS2.9, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	Pasuquin	0.35	50	*i P*	Pb	18 41 47.1	+0.2
ABRA	Dolores	0.57	141	*e* P	Pg	18 41 50.0	-0.4
APYP	Conner	0.90	105	*e* P	Pb	18 41 56.1	0.0
APYP				*e* S	Sb	18 42 07.9	0.0
CAUP	Cauayan	1.82	129	*e* P	Pn	18 42 10.7	+0.9

*IDC **25** 19:31:34.8±1.2, 4°.17N×95°.15E, h0km, mb3.8/9, mb1 3.9/10, mb1mx3.7/28, mbtmp3.8/10, ML3.6/1, Error ellipse: s-maj=45.9km s-min=14.5km az=43.0*
*

IDC 25 20:23:30.3±4.8, 15°24′S×167°55′E, h145km±40km, mb3.6/6, mb1 3.7/7, mb1mx3.5/17, mbtmp3.6/7, Error ellipse: s-maj=37.6km s-min=28.1km az=65.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**6.87**	**189**	P		20 25 09.9	+1.1
	5.8nm,0.3s,baz=174,slow=22,SNR=42						
DZM				S		20 26 24.5	-1.5
	1.2nm,0.3s,baz=320,slow=23,SNR=1.9						
STKA	**Stephens Creek**	**28.87**	**230**	P		20 29 16.3	+0.9
	4.8nm,0.9s,baz=57,slow=11,SNR=8.5						
ASAR	**Alice Springs**	**32.75**	**250**	P		20 29 48.5	-1.2
	1.6nm,0.8s,baz=81,slow=8.7,SNR=17						
VNDA	**Vanda**	**62.36**	**181**	P		20 33 37.2	+0.2
	0.5nm,0.6s,baz=352,slow=8.0,SNR=7.4						
CMAR	**Chiang Mai Arr**	**75.41**	**294**	P		20 34 59.7	+1.0
	0.3nm,0.4s,baz=120,slow=3.6,SNR=3.2						
SONM	**Songino Array**	**83.07**	**324**	P		20 35 39.9	+0.2
	0.3nm,0.4s,baz=160,slow=7.7,SNR=4.1						
MKAR	**Makanchi Array**	**97.76**	**316**	P		20 36 48.8	-0.3
	0.9nm,0.3s,baz=111,slow=5.5,SNR=7.5						
ZALV	**Zalesovo Beam**	**97.97**	**324**	P		20 36 48.3	-1.4
	0.6nm,0.6s,baz=104,slow=6.1,SNR=2.8						
ARCES	**ARCESS Array B**	**120.81**	**345**	PKP	PKPdf	20 42 03.4	-1.2
	2.7nm,0.8s,baz=90,slow=1.8,SNR=4.7						
TORD	**Torodi Ar. Bea**	**166.13**	**263**	PKP	PKPdf	20 43 18.6	-0.4
	0.4nm,0.6s,baz=39,slow=1.1,SNR=5.3						

*AUST **25** 20:30:53.5, 20°34S×176°15W, h200km*
*IDC **25** 20:31:35.4±6.2, 21°14S×178°49W, h497km±59km, mb3.4/6, mb1 3.6/8, mb1mx3.3/19, mbtmp4.3/8, Error ellipse: s-maj=50.8km s-min=22.0km az=45.0*
ISC 25 20:31:46.5±1.5, 21°65S±0°2×179°1W±0°2, h602km, n20, σ1°31/19, mb4.1/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**13.46**	**265**	P	**P**	**20 34 37.7**	**-2.5**
	0.2nm,0.3s,baz=78,slow=20,SNR=2.7						
URZ	**Urewera**	**16.94**	**190**	P	**P**	**20 35 10.1**	**-2.1**
	1.7nm,0.3s,baz=68,slow=11,SNR=7.8						
URZ				S	S	20 37 52.0	-7.4
	0.3nm,0.3s,baz=75,slow=13,SNR=1.7						
EIDS	**Eidsvold**	**27.60**	**256**	P	**P**	**20 36 48.1**	**+0.6**
	baz=30,SNR=3.4						
CTA	**Charters Tower**	**32.40**	**266**	P	**P**	**20 37 29.1**	**+0.4**
	6.2nm,0.6s,baz=95,slow=10,SNR=12						
CMSA	**Cobar Meteorol**	**32.91**	**245**	P	**P**	**20 37 33.7**	**+0.8**
	baz=36,SNR=17						
MTSU	**Mount Surprise**	**34.55**	**269**	P	**P**	**20 37 47.6**	**+0.8**
	baz=37,SNR=7.7						
STKA	**Stephens Creek**	**36.42**	**245**	P	**P**	**20 38 02.8**	**+0.8**
	2.4nm,0.4s,baz=93,slow=11,SNR=14						
STKA	**Stephens Creek**	**36.42**	**245**	P	**P**	**20 38 03.0**	**+1.0**
	baz=39,SNR=11						
MCQ	**Macquarie Isla**	**36.81**	**201**	S	S	20 43 47.5	+40
	baz=39,SNR=3.8						
ASAR	**Alice Springs**	**43.30**	**258**	P	**P**	**20 38 57.4**	**+0.3**
	5.1nm,0.5s,baz=95,slow=8.0,SNR=103						
ASAR				PcP	**PcP**	**20 40 33.1**	**+1.1**
	0.5nm,0.6s,baz=112,slow=3.8,SNR=4.3						
WRA	**Warramunga Arr**	**43.47**	**263**	P	**P**	**20 38 57.9**	**-0.4**
	2.3nm,0.3s,baz=97,slow=8.2,SNR=21						
KDU	**Kakadu**	**46.98**	**273**	P	**P**	**20 39 25.3**	**+0.3**
	baz=50,SNR=4.9						
KNRA	**Kununurra**	**49.60**	**267**	P	**P**	**20 39 44.9**	**+0.5**
	baz=52,SNR=9.8						
FITZ	**Fitzroy Crossi**	**51.90**	**263**	P	**P**	**20 40 01.7**	**+0.6**
	baz=55,SNR=9.5						
VNDA	**Vanda**	**56.74**	**185**	P	**P**	**20 40 34.8**	**+0.9**
	0.3nm,0.5s,baz=48,slow=4.3,SNR=5.5						
CMAR	**Chiang Mai Arr**	**89.54**	**290**	P	**P**	**20 43 43.1**	**+1.8**
	0.4nm,0.3s,baz=156,slow=4.6,SNR=4.2						
AKASG	**Malin Array Be**	**143.46**	**330**	PKP	PKPbc	20 50 11.8	-0.5
	0.1nm,0.3s,baz=43,slow=4.3,SNR=12						
BRTR	**Keskin Array B**	**146.80**	**310**	PKPbc	**PKPbc**	**20 50 21.4**	**-1.2**
	0.6nm,0.6s,baz=156,slow=4.1,SNR=4.6						
GERES	**GERESS Array B**	**150.95**	**342**	PKPbc	**PKPbc**	**20 50 29.8**	**-2.4**
	0.3nm,0.6s,baz=35,slow=4.9,SNR=4.6						
TORD	**Torodi Ar. Bea**	**171.57**	**185**	PKPab	**PKPab**	**20 52 13.7**	**+0.5**
	0.3nm,0.7s,baz=152,slow=2.6,SNR=2.7						

IDC 25 21:31:05.5±4.7, 5°52S×151°76E, h79km±42km, mb3.5/6, mb1 3.8/7, mb1mx3.5/17, mbtmp3.6/7, ML3.0/1, MS4.1/1, Ms1 4.1/1, ms1mx2.8/21, Error ellipse: s-maj=29.6km s-min=25.4km az=8.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.97**	**229**	P		21 32 32.0	+0.6
	2.4nm,0.3s,baz=35,slow=12,SNR=7.3						
PMG				S	Sn	21 33 39.1	+0.7
	1.0nm,0.3s,baz=78,slow=23,SNR=1.2						
DZM	**Mont Dzumac**	**21.74**	**141**	P		21 35 49.8	-0.9
	3.6nm,0.7s,baz=313,slow=18,SNR=2.8						
WRA	**Warramunga Arr**	**22.19**	**228**	P		21 35 55.5	0.0
	2.0nm,0.8s,baz=51,slow=9.8,SNR=7.3						
ASAR	**Alice Springs**	**24.92**	**222**	P		21 36 21.9	+0.4
	6.4nm,0.7s,baz=56,slow=9.0,SNR=64						
CBIJ	**Chichi jima**	**33.72**	**345**	LR	LR	21 48 17.3	
	comp=Z,291nm,19.2s,baz=126,slow=31						
CMAR	**Chiang Mai Arr**	**57.25**	**296**	P		21 40 44.2	-1.0
	0.3nm,0.6s,baz=125,slow=5.8,SNR=3.2						
SONM	**Songino Array**	**66.39**	**328**	P		21 41 45.9	-0.4
	0.6nm,0.7s,baz=150,slow=5.5,SNR=6.6						
ILAR	**Eielson Array**	**83.22**	**22**	P		21 43 23.9	+1.1
	0.7nm,0.6s,baz=247,slow=5.5,SNR=6.6						
GERES	**GERESS Array B**	**124.12**	**328**	PKP	PKPdf	21 49 54.6	-0.6
	0.3nm,0.5s,baz=90,slow=1.3,SNR=5.0						
TORD	**Torodi Ar. Bea**	**149.53**	**287**	PKPbc	PKPbc	21 50 46.6	-0.3
	1.6nm,0.6s,baz=118,slow=2.7,SNR=35						

*IDC **25** 21:33:18.8±1.9, 0°51N×98°11E, h0km, mb3.7/5, mb1 3.8/7, mb1mx3.6/26, mbtmp3.7/7, ML4.0/2, MS2.9/1, Ms1 2.9/1, ms1mx2.6/37, Error ellipse: s-maj=63.8km s-min=22.3km az=64.0*
*ISCJB **25** 21:33:29.3±0.6, 0°99N±0°06×98°55E±0°06, h65km, mb3.6/5, Error ellipse: s-maj=10.4km s-min=6.2km az=137.2*
*DJA **25** 21:33:31.1±0.6, 1°N±5°×9°9E±°, h64km±21km, M4.3/11, mb4.3/3, MLv4.2/11*
ISC 25 21:33:29.6±0.9, 1°03N±0°06×98°55E±0°06, h65km, n25, σ1°98/27, mb3.7/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**1.02**	**286**	P	**Pn**	**21 33 49.8**	**+1.7**
PSI	**Prapat**	**1.80**	**12**	Pn	**Pn**	**21 33 58.8**	**+0.2**
	47nm,0.3s,baz=197,slow=3.5,SNR=153						
PSI				Sn	**Sn**	**21 34 15.8**	**-4.7**
	30nm,0.3s,baz=159,slow=7.4,SNR=7.6						
PSI				LR	LR	21 35 07.1	
	comp=Z,281nm,21.4s,baz=205,slow=47						
PPI	**Padang Panjang**	**2.36**	**129**	P	**Pn**	**21 34 07.7**	**+1.6**
BKNI	**Bangkinang**	**2.58**	**106**	P	**Pn**	**21 34 10.0**	**+0.9**
KCSI	**Kotacane, Aceh**	**2.59**	**342**	P	**Pn**	**21 34 10.3**	**+1.0**
SNSI	**Sinabang, Aceh**	**2.61**	**302**	P	**Pn**	**21 34 11.1**	**+1.6**
PDSI	**Padang**	**2.71**	**135**	P	**Pn**	**21 34 11.8**	**+0.9**
FRIM	**Kepong**	**3.77**	**54**	P	**Pn**	**21 34 26.9**	**+1.5**
IPM	**Ipoh**	**4.22**	**36**	P	**Pn**	**21 34 34.7**	**+3.1**
IPM	**Ipoh**	**4.22**	**36**	P	**Pn**	**21 34 34.4**	**+2.8**
LHMI	**Lhok Sumawe**	**4.47**	**339**	P	**Pn**	**21 34 36.7**	**+1.8**
KULM	**Kulim**	**4.72**	**26**	P	**Pn**	**21 34 40.8**	**+2.4**
KULM	**Kulim**	**4.72**	**26**	P	**Pn**	**21 34 40.5**	**+2.1**
KGM	**Kluang**	**4.86**	**78**	P	**Pn**	**21 34 42.2**	**+1.9**
MYKOM	**Kota Tinggi**	**5.35**	**82**	P	**Pn**	**21 34 48.0**	**+1.0**
MYKOM	**Kota Tinggi**	**5.35**	**82**	P	**Pn**	**21 34 48.3**	**+1.4**
	21nm,0.8s,0.1nm						
MASI	**Maura Aman, Be**	**5.54**	**138**	P	**Pn**	**21 34 50.8**	**+1.1**
	79nm,1.4s,0.5nm						
KTGM	**Kuala Trenggan**	**6.25**	**47**	P	**Pn**	**21 35 01.9**	**+2.5**
MDSI	**Maura Dua**	**7.85**	**134**	P	**Pn**	**21 35 21.5**	**+0.3**
CMAR	**Chiang Mai Arr**	**17.32**	**1**	P	**P**	**21 37 28.2**	**+0.5**
	0.1nm,0.3s,baz=190,slow=11,SNR=6.1						
WRA	**Warramunga Arr**	**40.80**	**123**	P	**P**	**21 41 02.6**	**-2.4**
	0.8nm,0.5s,baz=302,slow=9.1,SNR=3.2						
ASAR	**Alice Springs**	**42.22**	**128**	P	**P**	**21 41 14.5**	**-2.2**
	0.8nm,1.0s,baz=295,slow=7.6,SNR=2.8						
SONM	**Songino Array**	**47.11**	**7**	P	**P**	**21 41 56.9**	**+1.5**
	0.2nm,0.3s,baz=180,slow=8.9,SNR=3.9						
SONM				PcP	**PcP**	**21 43 26.8**	**+0.5**
	0.4nm,0.8s,baz=189,slow=5.4,SNR=3.6						
MKAR	**Makanchi Array**	**47.74**	**345**	P	**P**	**21 42 00.6**	**+0.5**
	0.4nm,0.5s,baz=161,slow=8.7,SNR=11						
ZALV	**Zalesovo Beam**	**53.95**	**350**	P	**P**	**21 42 46.9**	**+0.3**
	0.9nm,0.5s,baz=176,slow=6.8,SNR=5.9						

DJA 25 21:59:47.1±1.5, 1°S±17°×10°0E±°, h10km, M3.8/4, MLv3.8/4, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PDSI	**Padang**	**0.89**	**69**	P	Pg	22 00 03.5	-0.9
PDSI				S	Sb	22 00 16.7	-0.1
PPI	**Padang Panjang**	**1.09**	**45**	P	Pb	22 00 08.0	-0.1
BKNI	**Bangkinang**	**2.10**	**42**	P	Pn	22 00 22.8	+0.4
RGRI	**Rengat**	**2.84**	**72**	P	Pn	22 00 34.0	+1.4

*ISCJB **25** 22:17:34.0±0.7, 30°49N±0°08×67°66E±0°07, h14km, mb3.6/9, MS3.2/3, Error ellipse: s-maj=12.4km s-min=6.7km az=29.2*
*IDC **25** 22:17:34.0±1.4, 30°48N×67°43E, h0km, mb3.7/9, mb1 3.8/11, mb1mx3.6/32, mbtmp3.7/11, ML3.9/2, MS3.3/3, Ms1 3.3/3, ms1mx2.6/42, Error ellipse: s-maj=29.9km s-min=24.1km az=131.0*
ISC 25 22:17:35.8±1.0, 30°5N±0°1×67°59E±0°08, h14km, n26, σ1°38/26, mb3.6/9, MS3.2/3, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMLA	**Simla**	**8.27**	**83**	*i* P	**Pn**	**22 19 37.1**	**+1.8**
SMLA				*i* S	**Sn**	**22 21 08.7**	**+0.2**
SMLA				*i* S	**Sn**	**22 21 09.6**	**+1.1**
SMLA				AML	AML	22 21 13.7	
	comp=N,380nm,0.5s						
SMLA				AML	AML	22 21 14.5	
	comp=E,334nm,0.3s						
AAK	**Ala-Archa**	**13.32**	**23**	Pn	**Pn**	**22 20 45.4**	**+0.8**
	comp=E,0.7nm,0.3s,baz=219,slow=5.5,SNR=7.2						
AAK				Sn	**Sn**	**22 23 10.8**	**-1.8**
	comp=E,0.2nm,0.3s,baz=175,slow=22,SNR=1.7						
PYUN	**Piuthan**	**13.65**	**96**	*e*P	**Pn**	**22 20 47.8**	**-1.5**
	comp=E,142nm,0.5s						
KOLN	**Koldanda**	**14.26**	**97**	*e*P	**Pn**	**22 20 55.7**	**-1.9**
	comp=E,13nm,0.5s						
DANN	**Dangsing**	**14.26**	**95**	*e*P	**Pn**	**22 20 57.1**	**-0.6**
	comp=E,39nm,0.8s						
GKN	**Gorkha**	**15.09**	**95**	*e*P	**Pn**	**22 21 07.5**	**-1.3**
	comp=E,21nm,0.9s						
GKN				*e*S	Sn	22 23 46.0	-10
KKN	**Kakani**	**15.69**	**95**	*e*P	**Pn**	**22 21 15.2**	**-1.6**
	comp=E,9.6nm,0.6s						
PKIN	**Phulchoki**	**15.85**	**96**	*e*P	**Pn**	**22 21 17.9**	**-0.9**
GUN	**Gumba**	**16.18**	**95**	*e*P	**Pn**	**22 21 20.8**	**-2.4**
	comp=E,15nm,0.3s						
JIRN	**Jiri**	**16.51**	**95**	*e*P	**Pn**	**22 21 25.7**	**-1.7**
	comp=E,26nm,0.7s						
RAMN	**Ramite**	**17.05**	**97**	*e*P	**Pn**	**22 21 31.9**	**-2.2**
	comp=E,24nm,0.6s						
ODAN	**Odare**	**17.75**	**97**	*e*P	**Pn**	**22 21 41.5**	**-1.3**
	comp=E,24nm,0.8s						
TAPN	**Taplejung**	**17.89**	**95**	*e*P	**Pn**	**22 21 44.0**	**-0.7**
MKAR	**Makanchi Array**	**19.87**	**31**	P	**P**	**22 22 06.5**	**0.0**
	comp=E,0.3nm,0.3s,baz=211,slow=9.9,SNR=21						
AKTO	**Aktyubinsk**	**21.18**	**343**	P	**P**	**22 22 21.3**	**+0.7**
	comp=E,1.3nm,0.8s,baz=158,slow=6.4,SNR=3.5						
KURBB	**Kurchatov Arra**	**21.72**	**19**	P	**P**	**22 22 26.1**	**-0.3**
	comp=E,1.6nm,0.8s,baz=209,slow=9.5,SNR=15						
BVAR	**Borovoye Array**	**22.61**	**4**	P	**P**	**22 22 36.7**	**+0.7**
	comp=E,1.4nm,0.5s,baz=197,slow=7.7,SNR=12						
ZALV	**Zalesovo Beam**	**26.55**	**23**	P	**P**	**22 23 14.8**	**+1.7**
	comp=E,3.1nm,0.5s,baz=225,slow=11,SNR=20						
ATD	**Arta Tunnel**	**29.70**	**236**	LR	LR	22 35 37.0	
	comp=E,32nm,19.8s,baz=272,slow=37						
SONM	**Songino Array**	**34.28**	**49**	LR	LR	22 40 03.5	
	comp=E,46nm,18.0s,baz=88,slow=39						
AKASG	**Malin Array Be**	**34.91**	**316**	P	**P**	**22 24 26.9**	**0.0**
	comp=E,0.3nm,0.4s,baz=100,slow=7.1,SNR=4.1						
FINES	**FINESS Array B**	**41.12**	**331**	P	**P**	**22 25 19.0**	**0.0**
	comp=E,1.0nm,0.7s,baz=121,slow=13,SNR=4.4						
ARCES	**ARCESS Array B**	**45.74**	**341**	P	**P**	**22 25 56.6**	**+0.4**
	comp=E,0.8nm,0.5s,baz=125,slow=8.9,SNR=4.2						
KSRS	**Korea Array**	**49.78**	**65**	LR	LR	22 48 16.1	
	comp=E,48nm,18.5s,baz=191,slow=37						
TORD	**Torodi Ar. Bea**	**62.77**	**270**	P	**P**	**22 27 59.8**	**-1.3**
	comp=E,0.3nm,0.6s,baz=68,slow=5.2,SNR=5.3						
ASAR	**Alice Springs**	**83.32**	**122**	P	**P**	**22 30 04.2**	**+1.6**
	comp=E,0.3nm,0.7s,baz=315,slow=6.0,SNR=4.3						

*IDC **25** 22:24:30.0±0.4, 66°63N×130°94W, h0km, mb4.1/28, mb1 4.3/32, mb1mx4.3/36, mbtmp4.2/32, ML4.5/4, MS2.9/1, Ms1 3.0/1, ms1mx2.4/36, Error ellipse: s-maj=10.5km s-min=7.6km az=57.0*
*PGC **25** 22:24:29.4±4.8, 66°74N×130°88W, h1km, ML4.1/2, Mw4.2, 172km east of Fort McPherson, Nt Northwest Territories, Canada*
*ISCJB **25** 22:24:29.7±0.1, 66°62N±0°02×131°20W±0°04, h10km, mb4.5/109, MS4.3/4, Error ellipse: s-maj=2.7km s-min=2.1km az=39.2*
*NEIC **25** 22:24:29.4, 66°74N×130°88W, h1km, mb4.5/53, ML4.5(AEIC), MW4.2(PGC), After PGC.*
*LDG **25** 22:24:29.8±0.2, 66°76N×131°01W, h10km, Mb4.6/22, Error ellipse: s-maj=11.4km s-min=5.6km az=25.0*
*MOS **25** 22:24:29.4±0.8, 66°58N×131°15W, h10km, mb4.7/23, Error ellipse: s-maj=19.2km s-min=6.6km az=96.5*
*BJI **25** 22:24:30.5, 66°84N×131°57W, h10km, mB5.0/18, mb4.7/26, Ms4.8/10, Ms7 4.6/10*
ISC 25 22:24:31.5±0.3, 66°55N±0°04×131°01W±0°04, h10km, n467, σ1°31/515, mb4.5/109, MS4.4/4, 114C-120D, Northwest Territories

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
INK	**Inuvik**	**2.02**	**332**	⇓Pn	**Pn**	**22 25 04.4**	**-1.1**
INK	**Inuvik**	**2.02**	**332**	⇓Pn	**Pn**	**22 25 04.4**	**-1.1**
DAWY	**Dawson**	**4.31**	**239**	*e*Pn	**Pn**	**22 25 37.1**	**0.0**
DAWY				*e*Sn	**Sn**	**22 26 25.6**	**-1.8**
DAWY	**Dawson**	**4.31**	**239**	⇓Pn	**Pn**	**22 25 37.0**	**0.0**
DAWY				⇓Sn	**Sn**	**22 26 26.7**	**-0.7**
EGAK	**Eagle**	**4.56**	**252**	*e*Pn	**Pn**	**22 25 39.1**	**-1.3**
EGAK				*e*Sn	**Sn**	**22 26 33.0**	**-0.4**
WHY	**Whitehorse**	**6.16**	**198**	⇓Pn	**Pn**	**22 26 03.4**	**+0.9**
WHY				Sn	**Sn**	**22 27 17.9**	**+4.9**
WHY	**Whitehorse**	**6.16**	**198**	⇓Pn	**Pn**	**22 26 03.4**	**+0.9**
WHY				⇓Sn	**Sn**	**22 27 13.2**	**+0.3**
GALN	**Gameti Lake**	**6.23**	**107**	⇓Pn	**Pn**	**22 26 00.9**	**-2.5**
GALN	**Gameti Lake**	**6.23**	**107**	⇓Pn	**Pn**	**22 26 00.9**	**-2.5**
HYT	**Haines Junctio**	**6.43**	**210**	*e*Pn	**Pn**	**22 26 06.2**	**-0.1**
HYT				*e*Sn	**Sn**	**22 27 17.9**	**-1.7**
HYT	**Haines Junctio**	**6.43**	**210**	⇑Pn	**Pn**	**22 26 06.1**	**-0.1**
HYT				⇑Sn	**Sn**	**22 27 17.9**	**-1.7**
MENT	**Mentasta**	**6.53**	**242**	*e*Pn	**Pn**	**22 26 06.8**	**-0.8**
MENT				*e*Sn	**Sn**	**22 27 18.5**	**-3.4**
MENT				*e*Sg	**Sg**	**22 27 58.6**	**-2.3**
IL1	**Eielson Array**	**6.80**	**262**	*e*Pn	**Pn**	**22 26 08.7**	**-2.5**
IL1				*e*Sn	**Sn**	**22 27 28.6**	**+0.2**
ILAR	**Eielson Array**	**6.80**	**262**	Pn	**Pn**	**22 26 08.9**	**-2.2**
	10nm,0.3s,baz=68,slow=13,SNR=167						
ILAR				Sn	**Sn**	**22 27 25.4**	**-3.1**
	4.6nm,0.3s,baz=102,slow=18,SNR=4.8						
ILAR				Lg	Lg	22 28 05.0	
	8.5nm,0.3s,baz=59,slow=28,SNR=7.7						
ILAR				LR	LR	22 29 23.9	
	comp=Z,90nm,19.2s,baz=123,slow=43						
ILB	**Eielson Array**	**6.80**	**262**	*e*Pn	**Pn**	**22 26 08.9**	**-2.2**
ILB				*e*Sn	**Sn**	**22 27 25.4**	**-3.1**
ILB				*e*Sg	**Sg**	**22 28 05.0**	**-4.4**
PAX	**Paxson**	**7.14**	**247**	*e*P	**Pn**	**22 26 15.6**	**-0.3**
PAX				*e*		22 27 35.7	
PAX	**Paxson**	**7.14**	**247**	*e*Pn	**Pn**	**22 26 15.6**	**-0.3**
PAX				*e*Sn	**Sn**	**22 27 35.7**	**-1.4**
COLA	**College**	**7.14**	**264**	*e*P	**Pn**	**22 26 14.2**	**-1.6**
COLA	**College**	**7.14**	**264**	*e*Pn	**Pn**	**22 26 14.2**	**-1.6**
SKAG	**Skagway**	**7.38**	**197**	*e*Pn	**Pn**	**22 26 20.9**	**+1.8**
SKAG				*e*Sn	**Sn**	**22 27 41.3**	**-1.5**
COLD	**Coldfoot**	**7.58**	**284**	*e*Pn	**Pn**	**22 26 20.9**	**-0.9**
COLD				*e*Sn	**Sn**	**22 27 45.3**	**-2.3**
MCK	**McKinley**	**8.05**	**258**	*e*P	**Pn**	**22 26 27.8**	**-0.6**
MCK	**McKinley**	**8.05**	**258**	*e*Pn	**Pn**	**22 26 27.8**	**-0.6**
YKW3	**Yellowknife Ar**	**8.10**	**112**	⇓Pn	**Pn**	**22 26 26.2**	**-2.8**
YKW3				⇓Sn	Sn	22 27 53.4	-7.1
YKA	**Yellowknife Ar**	**8.15**	**112**	Pn	**Pn**	**22 26 26.6**	**-3.0**
	8.9nm,0.3s,baz=304,slow=13,SNR=71						
YKA				Sn	**Sn**	**22 27 56.2**	**-5.3**
	5.7nm,0.3s,baz=304,slow=23,SNR=6.1						
YKA				Lg	Lg	22 28 45.3	
	7.6nm,0.3s,baz=303,slow=29,SNR=5.9						
YKB5	**Yellowknife Ar**	**8.15**	**112**	*e*Pn	**Pn**	**22 26 27.3**	**-2.3**
YKB5				*e*Sn	Sn	22 27 53.8	-7.8
YKB5				*e*Sb	Sg	22 28 45.3	-7.3
DLBC	**Dease Lake**	**8.15**	**176**	*e*Pn	**Pn**	**22 26 30.0**	**+0.2**
DLBC				*e*Sn	**Sn**	**22 27 59.6**	**-2.4**
DLBC				*e*Sb	Sg	22 28 43.3	-10
DLBC	**Dease Lake**	**8.15**	**176**	⇓Pn	**Pn**	**22 26 29.5**	**-0.4**
DLBC				⇓Sg	**Sg**	**22 28 48.6**	**-4.3**
DLBC	**Dease Lake**	**8.15**	**176**	Pn	**Pn**	**22 26 29.4**	**-0.4**
	3.5nm,0.3s,baz=10,slow=10,SNR=21						
DLBC				Sn	**Sn**	**22 27 59.6**	**-2.4**
	3.7nm,0.3s,baz=191,slow=16,SNR=1.5						
DLBC				Lg	Lg	22 28 43.3	
	baz=193,slow=13,SNR=5.9						
BMRM	**Bremner River**	**8.21**	**233**	*e*Pn	**Pn**	**22 26 32.4**	**+1.8**
BMRM				*e*Sn	**Sn**	**22 28 06.5**	**+3.2**
DIV	**Divide**	**8.47**	**237**	*e*Pn	**Pn**	**22 26 36.0**	**+1.8**
FNBB	**Fort Nelson**	**8.51**	**151**	⇑Pn	**Pn**	**22 26 33.0**	**-1.7**
FNBB				⇓Sn	**Sn**	**22 28 07.7**	**-2.9**
PMR	**Palmer**	**9.34**	**246**	*e*P	**Pn**	**22 26 47.8**	**+1.8**
PMR	**Palmer**	**9.34**	**246**	*e*Pn	**Pn**	**22 26 47.8**	**+1.8**
CAST	**Castle Rocks**	**9.44**	**260**	*e*Pn	**Pn**	**22 26 46.0**	**-1.4**
PPLA	**Purkeypile**	**9.74**	**258**	*e*Pn	**Pn**	**22 26 53.5**	**+1.8**
SPU	**Mount Spurr**	**10.69**	**250**	*e*Pn	**Pn**	**22 27 05.5**	**+1.0**
RSO	**Redoubt South**	**11.42**	**248**	*e*Pn	**Pn**	**22 27 15.4**	**+0.8**
SVW2	**Sparrevohn**	**12.09**	**255**	*e*Pn	**Pn**	**22 27 23.4**	**-0.2**
KDAK	**Kodiak Island**	**13.29**	**239**	Pn	**Pn**	**22 27 41.6**	**+1.7**
	0.4nm,0.3s,baz=1.2,slow=16,SNR=2.7						
OHAK	**Old Harbor**	**13.97**	**239**	*e*Pn	**Pn**	**22 27 51.5**	**+2.4**
RES	**Resolute Bay**	**14.21**	**40**	*e*Pn	Pn	22 27 47.5	-4.9
RES				*e*Sn	Sn	22 30 17.9	-12
RES	**Resolute Bay**	**14.21**	**40**	Pn	Pn	22 27 47.5	-4.9
	1.4nm,0.3s,baz=289,slow=1.7,SNR=7.3						
RES				Sn	Sn	22 30 17.9	-12
	0.7nm,0.3s,baz=349,slow=23,SNR=4.5						
RES				Lg	Lg	22 31 48.7	
	1.2nm,0.3s,baz=138,slow=18,SNR=2.1						
CHGN	**Chignik**	**16.48**	**245**	*e*Pn	**P**	**22 28 24.6**	**-0.6**
FFC	**Flin Flon**	**18.29**	**116**	*e*P	Pn	22 28 40.3	-4.8
FFC				pmax	pmax		
	comp=Z,734nm,2.7s						
FFC	**Flin Flon**	**18.29**	**116**	*e*Pn	Pn	22 28 40.3	-4.8
	comp=Z,734nm,2.7s						
FCC	**Fort Churchill**	**18.40**	**97**	*e*P	**P**	**22 28 42.1**	**-4.2**
FCC	**Fort Churchill**	**18.40**	**97**	*e*P	**P**	**22 28 42.1**	**-4.2**
WALA	**Waterton Lakes**	**19.63**	**145**	*e*P	**Pn**	**22 29 01.1**	**-0.3**
NEW	**Newport**	**19.71**	**152**	*e*P	**Pn**	**22 29 02.5**	**+0.2**
	comp=Z,7.6nm,0.8s						
NEW	**Newport**	**19.71**	**152**	P	**Pn**	**22 29 02.1**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=348,slow=11,SNR=16						
NEW	**Newport**	**19.71**	**152**	⇓P	**P**	**22 29 01.2**	**+0.4**
	baz=20,SNR=7.5						
C09A	**Chrisman Ranch**	**19.95**	**154**	*e*P	**Pn**	**22 29 05.3**	**+0.3**
	comp=Z,9.8nm,1.0s						
D05A	**Enumclaw**	**19.98**	**162**	*e*P	**Pn**	**22 29 06.1**	**+0.6**
	comp=Z,28nm,1.1s						
LTY	**Liberty**	**20.09**	**159**	*e*P	**P**	**22 29 05.3**	**+0.3**
	comp=Z,98nm,2.7s						
LON	**Longmire**	**20.44**	**162**	*e*P	**P**	**22 29 08.9**	**+0.1**
LON				pmax	pmax		
	comp=Z,100nm,2.5s					

baz=24,SNR=7.5
MCMT **McKenzie Canyo** 23.87 147 *e*P P 22 29 45.5 +0.4
D24A **Glendive** 23.99 131 ⇓P P 22 29 46.6 +0.7
baz=24
A29A **Manning Farm,** 24.05 122 ⇑P P 22 29 46.7 +0.3
baz=24
C26A **Wahner Farm, P** 24.05 127 ⇑P P 22 29 47.1 +0.6
baz=24
ULM **Lac du Bonnet** 24.11 115 *e*P P 22 29 46.3 -0.7
comp=Z,120nm,2.3s
ULM *e*S S 22 34 05.2 +0.9
ULM *e*ScP ScP 22 36 58.0 -7.7
ULM **Lac du Bonnet** 24.11 115 P P 22 29 46.0 -1.0
comp=Z,11nm,0.8s,baz=328,slow=9.8,SNR=9.5
ULM S S 22 34 05.2 +0.9
comp=Z,3.8nm,0.6s,baz=250,slow=21,SNR=2.6
ULM Lg Lg 22 36 58.0
comp=Z,12nm,0.9s,baz=256,slow=19,SNR=2.8
QLMT **Earthquake Lak** 24.19 144 *e*P P 22 29 50.0 +2.0
RLMT **Red Lodge** 24.44 141 *e*P P 22 29 51.3 +1.0
comp=Z,10nm,0.8s
E24A **Baker** 24.49 132 ⇑P P 22 29 50.7 +0.1
baz=25
G20A **Bridger** 24.62 139 ⇓P P 22 29 52.2 +0.3
baz=25,SNR=6.6
MFID **Camas Ranch** 24.62 153 ⇑P P 22 29 52.6 +0.7
baz=25
F22A **Rosebud** 24.64 135 ⇑P P 22 29 52.1 +0.1
baz=25
D26A **Manning** 24.65 128 ⇓P P 22 29 52.5 +0.5
baz=25
C28A **Hausauer Farms** 24.70 125 ⇓P P 22 29 52.6 +0.2
baz=25
HLID **Hailey** 24.75 150 *e*P P 22 29 53.6 +0.5
comp=Z,2.5nm,0.7s
H18A **Shoshone NF, C** 24.76 142 ⇑P P 22 29 53.6 +0.4
baz=25,SNR=8.3
E25A **Miller Ranch,** 24.82 130 ⇓P P 22 29 54.4 +0.9
baz=25
MDND **Maddock** 24.85 123 ⇓P P 22 29 54.1 +0.3
baz=25
G21A **Lodge Grass** 24.89 137 ⇑P P 22 29 54.6 +0.4
baz=25
F23A **Volborg** 24.93 134 ⇑P P 22 29 55.0 +0.4
baz=25
H19A **Powell** 24.93 141 ⇓P P 22 29 55.3 +0.6
baz=25
G22A **Birney** 25.14 136 ⇑P P 22 29 57.0 +0.5
baz=25
IMW **Indian Meadow** 25.18 144 *e*P P 22 29 57.8 +0.7
comp=Z,5.7nm,0.8s
C30A **Mose, Pekin** 25.35 122 ⇓P P 22 29 58.4 +0.1
baz=25
H20A **Greybull** 25.36 139 ⇑P P 22 29 58.9 +0.4
baz=26
MOOW **Moose Ponds** 25.37 144 *e*P P 22 29 59.1 +0.4
comp=Z,5.5nm,0.9s
G23A **Biddle** 25.41 135 ⇓P P 22 29 59.4 +0.4
baz=26
FRB **Frobisher Bay** 25.43 67 *e*P P 22 29 58.6 -0.2
FRB **Frobisher Bay** 25.43 67 P P 22 29 58.6 -0.2
comp=Z,5.1nm,0.5s,baz=253,slow=19,SNR=4.9
FRB Lg Lg 22 37 29.7
comp=Z,20nm,0.9s,baz=198,slow=18,SNR=3.1
H21A **Big Horn, Sher** 25.48 138 ⇓P P 22 30 00.3 +0.6
baz=26,SNR=6.9
I19A **Meeteetse** 25.52 141 ⇓P P 22 30 00.8 +0.7
baz=26,SNR=8.4
LOHW **Long Hollow** 25.53 144 *e*P P 22 30 01.1 +0.9
comp=Z,38nm,2.0s
D29A **Pettibone, Tap** 25.54 124 ⇓P P 22 30 00.1 +0.1
baz=26
G24A **Alzada** 25.58 133 ⇑P P 22 30 00.7 +0.3
baz=26
E28A **Huff** 25.61 126 ⇑P P 22 30 01.0 +0.4
baz=26
RRI2 **Red Ridge** 25.62 145 *e*P P 22 30 02.1 +1.0
comp=Z,6.2nm,0.8s
F26A **Lodgepole** 25.63 130 ⇓P P 22 30 01.8 +0.9
baz=26
REDW **Red Top Meadow** 25.71 145 *e*P P 22 29 60.0 -1.9
comp=Z,7.0nm,1.0s
D30A **Buchanan** 25.77 123 ⇑P P 22 30 02.7 +0.6
baz=26
F27A **Lemmon** 25.81 129 ⇓P P 22 30 03.0 +0.5
baz=26
I20A **Worland** 25.82 140 ⇑P P 22 30 03.7 +0.9
baz=26,SNR=7.8
G27A **Dupree** 25.97 131 ⇓P P 22 30 07.3 +3.3
baz=26
H23A **Clabaugh Cattl** 26.00 135 ⇑P P 22 30 04.4 +0.1
baz=26
H24A **Dirks Ranch, A** 26.07 134 ⇑P P 22 30 05.3 +0.4
baz=26,SNR=10
G26A **Maurine** 26.15 130 ⇑P P 22 30 06.0 +0.4
baz=26
I21A **Big Trails, Te** 26.17 139 ⇓P P 22 30 06.3 +0.3
baz=26,SNR=14
J19A **Crowheart** 26.23 142 ⇑P P 22 30 06.9 +0.4
baz=26
I22A **9 Mile Ranch,** 26.31 137 ⇑P P 22 30 07.8 +0.6
baz=26,SNR=12
J20A **Shoshoni** 26.39 140 ⇓P P 22 30 08.8 +0.9
baz=26,SNR=17
J21A **Lysite** 26.57 139 ⇓P P 22 30 10.1 +0.6
baz=27,SNR=7.8
BW06 **Boulder Array** 26.58 143 *e*P P 22 30 09.5 -0.2
comp=Z,13nm,1.4s
PD31 **Pinedale Array** 26.58 143 *e*P P 22 30 10.4 +0.7
PDAR **Pinedale Array** 26.58 143 P P 22 30 10.4 +0.7
comp=Z,3.6nm,0.8s,baz=3.6,slow=5.9,SNR=14
K19A **Absolon Red Bu** 26.70 142 ⇑P P 22 30 10.8 +0.1
baz=27
J22A **Midwest** 26.76 138 ⇓P P 22 30 11.2 0.0
baz=27
RSSD **Black Hills** 26.79 134 *e*P P 22 30 11.5 -0.1
RSSD pmax pmax
comp=Z,35nm,1.3s
RSSD **Black Hills** 26.79 134 *e*P P 22 30 11.5 -0.1
comp=Z,35nm,1.3s
HVU **Hansel Valley** 26.80 149 *e*P P 22 30 11.7 +0.1
HVU pmax pmax
comp=Z,5.0nm,0.8s
HVU **Hansel Valley** 26.80 149 *e*P P 22 30 11.7 +0.1
comp=Z,4.8nm,0.8s
I25A **Rochford** 26.97 133 ⇑P P 22 30 12.1 -1.1
baz=27
J23A **Dilts Ranch, B** 27.02 136 ⇓P P 22 30 12.6 -1.0
baz=27
L19A **Farson** 27.26 143 ⇑P P 22 30 16.2 +0.4
baz=27
L18A **Fontenelle, Gr** 27.26 144 ⇑P P 22 30 16.2 +0.3
baz=27
K21A **Alcova** 27.28 140 ⇓P P 22 30 16.1 +0.1
baz=27,SNR=5.9
I27A **Quinn** 27.43 131 ⇑P P 22 30 17.2 +0.1
baz=28
K22A **Casper** 27.46 138 ⇓P P 22 30 18.0 +0.5
baz=28
M17A **Scullys Gap (B** 27.55 146 ⇑P P 22 30 18.8 +0.3
baz=28,SNR=7.9
K23A **Bowen Ranch, D** 27.60 137 ⇓P P 22 30 19.4 +0.6
baz=28
EYMN **Ely** 27.63 113 *e*P P 22 30 19.2 +0.3
comp=Z,21nm,0.9s
J26A **Sides Ranch, S** 27.81 133 ⇑P P 22 30 21.1 +0.5
baz=28
L21A **Rawlins** 27.88 140 ⇓P P 22 30 21.8 +0.4
baz=28
L23A **Garrett** 28.18 138 ⇓P P 22 30 24.0 0.0
baz=28
M21A **Separation Pea** 28.22 140 ⇓P P 22 30 24.4 0.0
baz=28
N20A **Spence Gulch,** 28.72 142 ⇑P P 22 30 29.2 +0.3
baz=29
WAKR **Walker** 28.86 161 *e*P P 22 30 31.9 +1.8
K28A **Ten Mile Ranch** 28.87 131 ⇓P P 22 30 30.3 +0.3
baz=29
O19A **Miners Draw (B** 29.02 144 ⇑P P 22 30 32.0 +0.5
baz=29
NV01 **Mina Array Sit** 29.09 159 *e*P P 22 30 33.6 +1.4
NVAR **Mina Array Bea** 29.09 159 P P 22 30 33.9 +1.8
comp=Z,0.6nm,0.6s,baz=335,slow=8.3,SNR=4.7
SPMN **St. Paul** 29.47 117 *e*P P 22 30 35.6 +0.4
P19A **Cripple Cowboy** 29.69 144 ⇓P P 22 30 38.2 +0.7
baz=30,SNR=6.0
O22A **Kremmling** 29.78 140 ⇓P P 22 30 39.2 +0.8
baz=30
SRU **San Rafael** 29.84 147 *e*P P 22 30 39.7 +0.9
SRU pmax pmax
comp=Z,4.0nm,0.7s
SRU **San Rafael** 29.84 147 *e*P P 22 30 39.7 +0.9
comp=Z,4.1nm,0.7s
P20A **De Beque** 29.95 143 ⇑P P 22 30 40.8 +1.0
baz=30
O27A **Beecher Island** 30.86 134 ⇓P P 22 30 48.3 +0.6
baz=31
Q22A **Crested Butte,** 30.92 142 ⇑P P 22 30 49.4 +0.9
baz=31
SEY **Seymchan** 30.98 300 ⇓*i*P P 22 30 48.8 +0.4
P26A **Davis Ranch, A** 31.20 136 ⇓P P 22 30 51.3 +0.6
baz=31
R20A **Redvale** 31.20 144 ⇑P P 22 30 51.6 +0.7
baz=31
R21A **Cimarron** 31.23 143 ⇓P P 22 30 51.8 +0.7
baz=31,SNR=5.7
MPMC **Manual Prospec** 31.53 159 ⇑P P 22 30 55.0 +1.3
baz=32
S20A **Disappointment** 31.55 144 ⇑P P 22 30 54.9 +0.9
baz=32
P28A **Saint Francis** 31.64 134 ⇓P P 22 30 55.1 +0.6
baz=32
Q26A **Hugo** 31.75 137 ⇓P P 22 30 56.3 +0.7
baz=32
S21A **Coal Bank Pass** 31.84 144 ⇓P P 22 30 57.6 +1.0
baz=32,SNR=8.5
P29A **Atwood** 31.85 133 ⇑P P 22 30 56.9 +0.5
baz=32
SCHQ **Schefferville** 31.97 80 *e*P P 22 30 57.1 -0.1
comp=Z,230nm,2.5s
SCHQ **Schefferville** 31.97 80 P P 22 30 57.1 -0.1
comp=Z,4.9nm,0.9s,baz=309,slow=13,SNR=3.6
S22A **4UR Ranch, Cre** 32.00 142 ⇓P P 22 30 58.5 +0.6
baz=32
Q28A **Sharon Springs** 32.09 134 ⇓P P 22 30 60.0 +1.5
baz=32
TIXI **Tiksi** 32.12 324 *i*P P 22 30 58.4 +0.1
TIXI pmax pmax
comp=Z,6.0nm,0.8s
SCIA **State Center** 32.23 121 *e*P P 22 31 00.2 +0.6
comp=Z,16nm,0.8s
R25A **Fountain Ranch** 32.27 138 ⇓P P 22 31 00.9 +0.7
baz=32
SDCO **Great Sand Dun** 32.33 140 *e*P P 22 31 01.8 +0.9
comp=Z,31nm,2.6s
P31A **Stockton** 32.39 131 ⇓P P 22 31 01.9 +0.9
baz=32
R27A **Eads** 32.54 136 ⇑P P 22 31 03.0 +0.5
baz=33
EDW2 **Edwards Air Fo** 32.62 160 ⇑P P 22 31 04.2 +1.1
baz=33
T22A **Edith** 32.68 143 ⇓P P 22 31 05.1 +1.3
baz=33
S25A **Robets Cordova** 32.69 139 ⇓P P 22 31 04.6 +0.8
baz=33
R28A **Tribune** 32.77 135 ⇓P P 22 31 05.4 +1.0
baz=33
U20A **Newcomb** 32.91 145 ⇑P P 22 31 06.6 +0.9
baz=33
S26A **Kim** 32.98 138 ⇑P P 22 31 06.9 +0.6
baz=33
T24B **San Luis** 33.01 141 ⇓P P 22 31 07.6 +0.8
baz=33
U21A **Nageezi** 33.05 144 ⇑P P 22 31 08.0 +0.9
baz=33
GMRC **Granite Mounta** 33.06 156 ⇑P P 22 31 08.5 +1.5
baz=33
WUAZ **Wupatki** 33.12 150 ⇓P P 22 31 09.0 +1.4
baz=33
U22A **Llaves** 33.29 143 ⇑P P 22 31 11.1 +1.9
baz=33,SNR=7.6
T26A **Comanche Natio** 33.37 138 ⇑P P 22 31 10.9 +1.1
baz=34,SNR=7.4
V20A **Brimhall** 33.47 146 ⇑P P 22 31 11.5 +0.8
baz=34
U23A **El Rito** 33.50 142 ⇓P P 22 31 12.4 +1.4
baz=34
T27A **Campo** 33.71 137 ⇑P P 22 31 14.0 +1.3
baz=34
V22A **San Miguel Ran** 33.72 143 ⇑P P 22 31 14.6 +1.6
baz=34
IRM **Iron Mountain** 33.75 156 ⇓P P 22 31 15.0 +2.0
baz=34
U25A **Circle Dot Ran** 33.88 140 ⇓P P 22 31 15.3 +1.0
baz=34,SNR=6.8
U26A **Atchley Ranch,** 34.06 139 ⇑P P 22 31 17.2 +1.4
baz=34,SNR=8.4
W20A **Ramah** 34.11 146 ⇓P P 22 31 17.1 +0.8
baz=34
X16A **Lo Mia Camp, P** 34.17 150 ⇑P P 22 31 18.6 +1.8
baz=34,SNR=7.0
BC3 **Big Chuckawall** 34.20 157 ⇓P P 22 31 18.0 +1.0
baz=34
U27A **Thompson Grove** 34.28 137 ⇑P P 22 31 18.5 +0.8
baz=34
Y14A **Wickenburg** 34.34 153 ⇑P P 22 31 19.2 +1.1
baz=34
V25A **Rancho No Teng** 34.36 140 ⇓P P 22 31 19.6 +1.1
baz=34
X18A **Snowflake** 34.37 148 ⇓P P 22 31 20.0 +1.5
baz=34
T31A **Randall Ranch,** 34.54 133 ⇓P P 22 31 20.2 +0.4
baz=35
V26A **Tequesquite Ra** 34.62 139 ⇑P P 22 31 21.9 +1.3
baz=35,SNR=7.3
W23A **Werner Place,** 34.62 143 ⇓P P 22 31 22.3 +1.5
baz=35
ANMO **Albuquerque** 34.75 143 *e*P P 22 31 23.2 +1.4
comp=Z,10.0nm,1.0s
W24A **Lazy 6 Ranch,** 34.76 142 ⇓P P 22 31 23.7 +1.8
baz=35
U30A **WK&E Inc. Balk** 34.79 134 ⇑P P 22 31 23.3 +1.3
baz=35
MONP **Monument Peak** 34.80 158 ⇑P P 22 31 24.3 +2.0
baz=35,SNR=5.1
X21A **Alamocita Cree** 34.92 145 ⇓P P 22 31 24.6 +1.3
baz=35,SNR=8.2
W25A **X Bar L Ranch,** 34.99 140 ⇓P P 22 31 25.2 +1.3
baz=35
X22A **Bernardo** 35.04 144 ⇓P P 22 31 26.2 +1.9
baz=35
V28A **Channing** 35.08 137 ⇓P P 22 31 26.0 +1.5
baz=35
W26A **Owens Ranch, T** 35.29 139 ⇓P P 22 31 27.7 +1.3
baz=35
Y20A **Horse Springs,** 35.30 146 ⇓P P 22 31 28.4 +1.8
baz=35
Y21A **Point of Rocks** 35.37 145 ⇑P P 22 31 28.7 +1.5
baz=36
V30A **Spur Ranch, Mi** 35.49 135 ⇑P P 22 31 28.8 +0.7
baz=36
Y22A **Socorro** 35.60 144 ⇑P P 22 31 30.8 +1.7
baz=36
V31A **Spring Creek L** 35.72 134 ⇓P P 22 31 31.2 +1.2
baz=36
SFIN **Scholer Farm** 35.74 115 *e*P P 22 31 30.1 0.0
SFIN **Scholer Farm** 35.74 115 ⇑P P 22 31 30.8 +0.7
baz=36
X26A **CR and CF Fran** 35.79 140 ⇑P P 22 31 32.1 +1.5
baz=36,SNR=5.7
Y23A **Lovelace Mesa,** 35.82 143 ⇑P P 22 31 32.7 +1.7
baz=36
X27A **F and S Farms,** 35.88 139 ⇑P P 22 31 32.9 +1.5
baz=36
Y24A **Capitan** 35.97 142 ⇑P P 22 31 34.0 +1.7
baz=36,SNR=6.8
Z20A **Nine Sixteen R** 36.02 147 ⇑P P 22 31 34.2 +1.5
baz=36,SNR=6.8
Z21A **St. Cloud Mine** 36.04 146 ⇑P P 22 31 34.4 +1.4
baz=36
PETK **Petropavlovsk-** 36.05 284 P P 22 31 32.5 -0.1
comp=Z,2.4nm,0.4s,baz=69,slow=11,SNR=5.9
Y25A **Mesa, Roswell** 36.16 141 ⇓P P 22 31 35.1 +1.2
baz=36
W31A **Holland Ranch,** 36.24 134 ⇓P P 22 31 35.6 +1.1
baz=36
Z22A **Elephant Butte** 36.25 145 ⇑P P 22 31 36.2 +1.5
baz=36
214A **Organ Pipe Nat** 36.30 153 ⇓P P 22 31 37.1 +2.1
baz=36
TUC **Tucson** 36.34 150 *e*P P 22 31 36.8 +1.4
TUC pmax pmax
comp=Z,5.0nm,1.2s
TUC **Tucson** 36.34 150 *e*P P 22 31 36.8 +1.4
comp=Z,5.4nm,1.2s
Z23A **Rita Site, Whi** 36.42 144 ⇓P P 22 31 38.0 +1.9
baz=36
X29A **Tulia** 36.45 137 ⇑P P 22 31 37.5 +1.2
baz=36
120A **U Bar Ranch, L** 36.56 147 ⇑P P 22 31 39.0 +1.6
baz=37
Z24A **Sheeppen Canyo** 36.56 143 ⇑P P 22 31 38.5 +1.2
baz=37,SNR=5.6
Y27A **Causey** 36.59 139 ⇓P P 22 31 38.5 +1.0
baz=37,SNR=8.9
MSTX **Muleshoe** 36.61 139 *e*P P 22 31 38.6 +0.9
MSTX **Muleshoe** 36.61 139 ⇓P P 22 31 38.8 +1.1
baz=37,SNR=5.2
X31A **McDonald Ranch** 36.75 135 ⇑P P 22 31 40.2 +1.4
baz=37
121A **Cookes Peak, D** 36.76 146 ⇑P P 22 31 40.7 +1.6
baz=37
Z25A **Roswell** 36.77 142 ⇑P P 22 31 40.3 +1.3
baz=37
OLIL **Olney** 36.84 117 *e*P P 22 31 39.0 -0.5
comp=Z,19nm,0.9s
Z26A **Caprock** 36.96 141 ⇓P P 22 31 42.3 +1.6
baz=37
WMOK **Wichita Mounta** 37.00 133 *e*P P 22 31 40.9 0.0
WMOK pmax pmax
comp=Z,8.0nm,0.9s
WMOK **Wichita Mounta** 37.00 133 *e*P P 22 31 40.9 0.0
comp=Z,7.6nm,0.9s
124A **Stringfield Ra** 37.14 143 ⇓P P 22 31 43.9 +1.5
baz=37,SNR=5.8
220A **Playas Peak, P** 37.20 147 ⇓P P 22 31 43.6 +0.8
baz=37
125A **Gardner Draw,** 37.37 142 ⇓P P 22 31 45.0 +0.8
baz=38
ACSO **Alum Creek Sta** 37.39 110 *e*P P 22 31 44.3 +0.1
comp=Z,12nm,0.8s
Z29A **Hungry Hill Ra** 37.56 138 ⇑P P 22 31 46.1 +0.4
baz=38
Z30A **Sanderson Ranc** 37.70 137 ⇑P P 22 31 47.1 +0.3
baz=38
224A **Cornudas Mount** 37.72 143 ⇑P P 22 31 48.5 +1.4
baz=38,SNR=11
225A **Deer Hill, Car** 37.86 142 ⇓P P 22 31 49.6 +1.2
baz=38,SNR=13
WCI **Wyandotte Cave** 37.93 116 *e*P P 22 31 48.4 -0.4
WCI pmax pmax
comp=Z,7.0nm,0.9s
WCI **Wyandotte Cave** 37.93 116 *e*P P 22 31 48.4 -0.4
comp=Z,7.2nm,0.9s
Z31A **Sharp Cattle R** 37.94 136 ⇓P P 22 31 49.2 +0.3
baz=38
128A **Castleberry Fa** 37.96 139 ⇓P P 22 31 49.4 +0.3
baz=38
226B **Tecolote Peak,** 38.05 142 ⇓P P 22 31 50.6 +0.7
baz=38,SNR=5.9
MNTX **Cornudas Mount** 38.11 143 *e*P P 22 31 51.2 +0.9
comp=Z,3.7nm,0.9s
Z32A **Haskell** 38.14 135 ⇑P P 22 31 50.9 +0.4
baz=38,SNR=15
130A **Snyder** 38.39 137 ⇓P P 22 31 53.4 +0.7
baz=38
228A **UT Block 9, Go** 38.41 139 ⇓P P 22 31 53.5 +0.5
baz=38
131A **Roby** 38.48 136 ⇓P P 22 31 53.7 +0.3
baz=39
ABTX **Abilene, Hawle** 38.73 135 ⇓P P 22 31 56.1 +0.5
baz=39
MIAR **Mount Ida** 38.77 127 *e*P P 22 31 55.1 -0.7
MIAR pmax pmax
comp=Z,8.0nm,0.8s
MIAR **Mount Ida** 38.77 127 *e*P P 22 31 55.1 -0.7
comp=Z,7.7nm,0.8s
326A **Caldwell Ranch** 38.82 142 ⇑P P 22 31 56.9 +0.6
baz=39
230A **Sterling City** 39.02 138 ⇑P P 22 31 58.7 +0.7
baz=39
328A **Wristen Ranch,** 39.05 140 ⇓P P 22 31 59.0 +0.7
baz=39
425A **Indio Mountain** 39.08 143 ⇓P P 22 31 59.9 +1.3
baz=39,SNR=7.9
329A **Wagon Wheel Ra** 39.17 139 ⇑P P 22 32 00.2 +0.9
baz=39
231A **Bronte** 39.19 137 ⇑P P 22 31 59.6 +0.2
baz=39,SNR=6.7
WVT **Waverly** 39.26 119 *e*P P 22 31 59.1 -0.8
WVT pmax pmax
comp=Z,7.0nm,0.7s
WVT **Waverly** 39.26 119 *e*P P 22 31 59.1 -0.8
comp=Z,6.8nm,0.7s
232A **Coleman** 39.42 136 ⇑P P 22 32 01.5 +0.2
baz=40,SNR=14
426A **McDonald Obser** 39.43 142 ⇑P P 22 32 01.9 +0.3
baz=40
330A **Mertzon** 39.46 138 ⇑P P 22 32 01.9 +0.2
baz=40
428A **Kincaid Ranch,** 39.71 140 ⇓P P 22 32 04.0 +0.2
baz=40
331A **San Angelo** 39.76 137 ⇑P P 22 32 04.2 +0.1
baz=40
332A **Millersview** 39.87 136 ⇓P P 22 32 05.3 +0.2
baz=40,SNR=5.4
WHTX **Lake Whitney** 39.95 133 *e*P P 22 32 05.2 -0.5
WHTX **Lake Whitney** 39.95 133 ⇑P P 22 32 05.5 -0.2
baz=40
526A **Mary Lane Ranc** 39.99 142 ⇑P P 22 32 06.5 +0.3
baz=40
429A **Davenport Ranc** 40.01 139 ⇑P P 22 32 06.6 +0.3
baz=40
527A **Woodward Ranch** 40.03 142 ⇑P P 22 32 07.0 +0.5
baz=40,SNR=7.8
430A **Baggett Ranch,** 40.03 138 ⇑P P 22 32 06.7 +0.3
baz=40
OXF **Oxford** 40.18 122 *e*P P 22 32 07.1 -0.4
OXF pmax pmax
comp=Z,26nm,0.6s
OXF **Oxford** 40.18 122 *e*P P 22 32 07.1 -0.4
comp=Z,26nm,0.6s
528A **Cox Ranch, San** 40.22 141 ⇑P P 22 32 08.7 +0.7
baz=40
431A **Sonora** 40.30 138 ⇓P P 22 32 08.9 +0.3
baz=40
432A **Menard** 40.34 136 ⇑P P 22 32 09.0 +0.1
baz=40
529A **Stev Forest Ra** 40.40 140 ⇑P P 22 32 09.7 +0.2
baz=40
TZTN **Tazewell** 40.43 114 *e*P P 22 32 09.6 -0.1
comp=Z,14nm,0.8s
626A **Big Bend Ranch** 40.47 143 ⇓P P 22 32 10.9 +0.8
baz=41
530A **J-C Ranch, Com** 40.61 139 ⇑P P 22 32 11.7 +0.5
baz=41
JCT **Junction City** 40.71 137 *e*P P 22 32 11.9 -0.1
JCT pmax pmax
comp=Z,8.0nm,0.8s
JCT **Junction City** 40.71 137 *e*P P 22 32 11.9 -0.1
comp=Z,8.3nm,0.8s
JCT **Junction City** 40.71 137 ⇓P P 22 32 12.7 +0.7
baz=41
627A **Terlingua Ranc** 40.75 142 ⇓P P 22 32 13.1 +0.7
baz=41
SWET **Sewanee** 40.76 117 *e*P P 22 32 11.6 -0.7
comp=Z,63nm,2.4s
TX31 **Lajitas Ar. Si** 40.79 142 *e*P P 22 32 12.1 -0.7
LTX **Lajitas** 40.79 142 *e*P P 22 32 13.3 +0.5
LTX **Lajitas** 40.79 142 *e*P P 22 32 13.3 +0.5
TXAR **Lajitas Array** 40.79 142 P P 22 32 13.3 +0.5
comp=Z,1.9nm,0.9s,baz=356,slow=8.2,SNR=12
531A **Rocksprings** 40.80 138 ⇓P P 22 32 13.5 +0.7
baz=41,SNR=15
628A **Black Gap, Mar** 40.84 141 ⇓P P 22 32 13.9 +0.8
baz=41
532A **Rocksprings** 41.01 137 ⇑P P 22 32 15.0 +0.4
baz=41
631A **Perdido Creek** 41.51 138 ⇓P P 22 32 19.1 +0.5
baz=42
632A **Uvalde** 41.63 137 ⇑P P 22 32 19.8 +0.2
baz=42,SNR=6.6
732A **Laxson Ranch,** 42.32 138 ⇑P P 22 32 25.6 +0.4
baz=42,SNR=8.5
LRAL **Lakeview Retre** 42.35 120 *e*P P 22 32 24.6 -0.8
comp=Z,4.9nm,0.6s
KMSC **Kings Mountain** 42.49 112 ⇑P P 22 32 26.3 -0.3
baz=42
KEV **Kevo** 43.12 11 *e*P P 22 32 31.0 -0.2
KEV **Kevo** 43.12 11 *e*p P 22 32 31.0 -0.2
ARA0 **ARCESS Array S** 43.22 12 *e*P P 22 32 31.5 -0.6
ARCES **ARCESS Array B** 43.22 12 P P 22 32 31.5 -0.6
comp=Z,1.5nm,0.5s,baz=3.2,slow=7.8,SNR=7.7
TIGA **Tifton** 45.00 117 ⇓P P 22 32 46.6 -0.1

baz=45
YSS Yuzh-Sakhalins 46.72 290 *e*P **P 22 32 59.2 -0.9**
KIP Kipapa 48.31 215 *c e*P **P 22 33 14.0 +1.2**
KIP pmax pmax
comp=Z,54nm,1.6s
NB2 NORSAR Subarra 49.72 23 P **P 22 33 22.7 -0.5**
comp=Z,1.0nm,0.5s,baz=343,slow=7.9
NB200 NORSAR Array S 49.72 23 *e*P **P 22 33 22.6 -0.5**
NOA NORSAR Array B 49.72 23 P **P 22 33 22.6 -0.5**
comp=Z,0.8nm,0.5s,baz=342,slow=7.8,SNR=5.3
JOF Joensuu 50.19 10 *e*P **P 22 33 25.5 -1.1**
JOF pmax pmax
comp=Z,2.0nm,0.4s
JOF Joensuu 50.19 10 *e*p **P 22 33 25.5 -1.1**
comp=Z,1.9nm,0.4s
KAF Kangasniemi 50.57 14 *e*P **P 22 33 29.5 0.0**
KAF Kangasniemi 50.57 14 *e*p **P 22 33 29.5 0.0**
HFS Hagfors 50.96 22 P **P 22 33 31.4 -1.0**
comp=Z,2.4nm,0.8s,baz=343,slow=4.6,SNR=16
FIA0 FINESS Array S 51.20 14 *e*P **P 22 33 33.3 -1.0**
FIA0 FINESS Array S 51.20 14 *e*P **P 22 33 33.3 -1.0**
FINES FINESS Array B 51.20 14 P **P 22 33 33.3 -1.0**
comp=Z,1.3nm,0.4s,baz=354,slow=7.2,SNR=22
EKA Eskdalemuir Ar 52.28 35 *e*P **P 22 33 41.7 -0.8**
EKA Eskdalemuir Ar 52.28 35 P **P 22 33 41.7 -0.8**
comp=Z,2.6nm,0.6s,baz=328,slow=6.4,SNR=18
USRK Ussuriysk Arra 53.02 297 P **P 22 33 47.6 -0.4**
comp=Z,5.4nm,0.8s,baz=37,slow=6.8,SNR=9.3
MDJ Mudanjiang 53.50 299 P **P 22 33 51.0 -0.6**
VSU Vasula 54.20 14 *i* P **P 22 33 58.9 +2.4**
VSU pmax pmax
comp=Z,168nm,4.5s
CN2 Changchun 55.65 302 *e*P **P 22 34 07.3 +0.1**
CN2 *e*S **S 22 41 48.8 -4.1**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,200nm,14.0s
CN2 LR LR
comp=E,200nm,14.0s
CN2 LR LR
comp=Z,200nm,16.0s
NVS Novosibirsk 56.21 337 *e*P **P 22 34 09.6 -1.4**
NVS pmax pmax
comp=Z,4.0nm,0.8s
NVS pmax pmax
comp=E,3.0nm,1.0s
SVE Sverdlovsk 56.63 352⇑ *e*P **P 22 34 14.5 +0.5**
SVE pmax pmax
comp=Z,11nm,0.9s
ZAA0 Zalesovo Array 56.81 336 *e*P **P 22 34 13.7 -1.6**
ZALV Zalesovo Beam 56.81 336 *i* P **P 22 34 14.8 -0.6**
ZALV pmax pmax
comp=Z,3.0nm,0.5s
ZALV Zalesovo Beam 56.81 336 P **P 22 34 14.7 -0.6**
comp=Z,2.6nm,0.5s,baz=12,slow=7.5,SNR=17
HVS Khovu-Aksy 57.83 328 *i* P **P 22 34 22.4 -0.3**
HVS pmax pmax
comp=Z,17nm,0.8s
SONA1 Songino Array 57.85 318 *e*P **P 22 34 22.8 -0.2**
SONA0 Songino Array 57.86 318 *e*P **P 22 34 23.4 +0.4**
SONM Songino Array 57.86 318 P **P 22 34 23.4 +0.4**
comp=Z,0.5nm,0.6s,baz=36,slow=7.7,SNR=9.2
BAIF Baives 58.83 32 *e*P **P 22 34 29.7 +0.1**
comp=Z,4.2nm,0.7s
GIVF Givet 58.92 32 *e*P **P 22 34 30.2 0.0**
SGMF Saint Gilles 58.98 38 *e*P **P 22 34 30.6 0.0**
FLN La Foliniere 59.00 36 *e*P **P 22 34 30.5 -0.3**
comp=Z,11nm,0.7s
LDF La Druitiere 59.24 36 *e*P **P 22 34 32.1 -0.4**
comp=Z,10.0nm,0.7s
GRR Gorron 59.26 36 *e*P **P 22 34 32.1 -0.5**
comp=Z,5.6nm,0.5s
CLL Collm 59.33 25 *e*P **P 22 34 33.0 0.0**
CLL Collm 59.33 25 *e*P **P 22 34 33.0 0.0**
BRVK Borovoye 59.63 345 *c i*P **P 22 34 35.0 -0.1**
BRVK pmax pmax
comp=Z,5.0nm,0.5s
BRVK Borovoye 59.63 345 *e*P **P 22 34 34.1 -1.0**
comp=Z,8.8nm,0.5s
BVAR Borovoye Array 59.65 345 P **P 22 34 35.3 +0.1**
comp=Z,2.9nm,0.4s,baz=352,slow=6.4,SNR=24
VOSK Vostochnaya 59.89 345 *e*P **P 22 34 35.9 -1.0**
VOSK pmax pmax
comp=Z,4.0nm,0.6s
VOSK Vostochnaya 59.89 345 *e*P **P 22 34 35.9 -1.0**
comp=Z,4.4nm,0.6s
KSRS Korea Array 60.41 296 P **P 22 34 40.7 +0.1**
comp=Z,1.1nm,0.7s,baz=25,slow=7.6,SNR=5.2
KS15 Wonju Array Si 60.43 296 *e*P **P 22 34 40.7 -0.1**
PAGF Fort de Pagny 60.58 32 *e*P **P 22 34 42.1 +0.5**
comp=Z,1.1nm,0.6s
SFTF Sexfontaines 60.76 32 *e*P **P 22 34 42.8 -0.1**
comp=Z,5.9nm,0.6s
KURK Kurchatov 60.91 339 *c i*P **P 22 34 43.3 -0.5**
KURK pmax pmax
comp=Z,3.0nm,0.9s
KURK Kurchatov 60.91 339 *e*P **P 22 34 42.5 -1.3**
comp=Z,3.3nm,1.0s
KURBB Kurchatov Arra 61.01 339 P **P 22 34 43.8 -0.7**
comp=Z,3.1nm,0.8s,baz=17,slow=6.3,SNR=28
CDF Champ du Feu 61.03 30 *e*P **P 22 34 45.0 +0.2**
comp=Z,3.8nm,0.5s
MFF Saint Martin d 61.10 37 *e*P **P 22 34 45.3 +0.1**
comp=Z,2.7nm,0.4s
HAU Haudompre 61.23 31 *e*P **P 22 34 46.0 -0.1**
LOR Lormes 61.40 33 *e*P **P 22 34 47.4 +0.2**
comp=Z,13nm,0.6s
SSF Saint Saulge 61.51 34 *e*P **P 22 34 48.2 +0.2**
comp=Z,8.6nm,0.5s
AVF Avril sur Loir 61.73 34 *e*P **P 22 34 49.5 0.0**
comp=Z,6.9nm,0.6s
GEC2 GERESS Array S 61.82 26 *e*P **P 22 34 50.9 +0.7**
GEC2 GERESS Array S 61.82 26 *e*P **P 22 34 50.9 +0.7**
GERES GERESS Array B 61.82 26 P **P 22 34 50.9 +0.7**
comp=Z,1.1nm,0.7s,baz=353,slow=5.8,SNR=9.8
BGF Bois d'Agland 61.84 34 *e*P **P 22 34 50.2 0.0**
comp=Z,9.3nm,0.5s
TCF Toulx Ste Croi 61.95 35 *e*P **P 22 34 51.3 +0.3**
comp=Z,15nm,1.0s
SMF Signal de Mont 61.98 34 *e*P **P 22 34 50.9 -0.3**
comp=Z,4.4nm,0.6s
AKASG Malin Array Be 62.11 14 P **P 22 34 51.0 -1.0**
comp=Z,0.6nm,0.3s,baz=351,slow=7.1,SNR=6.2
AKBB Malin Array Si 62.11 14 *e*P **P 22 34 51.0 -1.0**
AKBB Malin Array Si 62.11 14 *e*P **P 22 34 51.0 -1.0**
CABF La Chapelle 62.50 32 *e*P **P 22 34 55.0 +0.2**
comp=Z,6.7nm,0.6s
HHC Hu-ho-hao-te 62.79 311 *e*P **P 22 34 58.0 +1.2**
HHC pP **pP 22 35 02.3 +2.3**
HHC sP **sP 22 35 05.8 +4.6**
HHC PcP **PcP 22 35 39.0 +3.8**
HHC PP **PP 22 37 17.8 +3.4**
HHC ScP **ScP 22 39 37.0 0.0**
HHC S **S 22 43 23.0 -2.6**
HHC sS **sS 22 43 30.0 -0.9**
HHC ScS **ScS 22 44 47.3 -1.8**
HHC SS **SS 22 47 29.0 -0.5**
HHC pmax pmax
comp=Z,44nm,0.8s
HHC pmax pmax
comp=Z,200nm,4.8s
HHC LR LR
comp=N,250nm,15.5s
HHC LR LR
comp=E,210nm,17.8s
HHC LR LR
comp=Z,200nm,16.7s
LFF La Frestale 62.88 37 *e*P **P 22 34 57.5 +0.3**
AKTO Aktyubinsk 63.14 354 P **P 22 34 58.1 -0.8**
comp=Z,1.2nm,0.6s,baz=338,slow=6.9,SNR=6.6
CAF Calviac 63.20 36 *e*P **P 22 34 59.3 -0.1**
comp=Z,2.2nm,0.5s
LPL La Plagne 63.68 32 *e*P **P 22 35 03.6 +0.8**
comp=Z,5.2nm,0.8s
LPG La Plagne 63.70 32 *e*P **P 22 35 03.8 +0.8**
comp=Z,3.4nm,0.7s
VIVF Saint-Julien-l 63.86 34 *e*P **P 22 35 03.7 0.0**
ORIF Oris-en-Rattie 64.07 33 *e*P **P 22 35 05.3 +0.1**
MK32 Makanchi Array 64.15 335 *e*P **P 22 35 04.7 -0.9**
MKAR Makanchi Array 64.15 335 P **P 22 35 04.7 -0.9**
comp=Z,0.6nm,0.5s,baz=24,slow=5.9,SNR=12
MK01 Makanchi Array 64.17 335 *e*P **P 22 35 04.2 -1.5**
ABKAR Abkulak array 64.22 352 *e*P **P 22 35 05.0 -1.0**

ETSF Etsaut 64.48 38 *e*P **P 22 35 09.1 +1.2**
comp=Z,5.2nm,0.8s
EPF Esparros 64.58 38 *e*P **P 22 35 09.2 +0.7**
MTLF Montolieu 64.74 36 *e*P **P 22 35 10.2 +0.7**
CRES Cresnjev 65.05 25 *i* Pn P 22 35 03.9 -7.5
SBF Sospel 65.41 32 *e*P **P 22 35 15.4 +1.5**
WMQ Urumqi 66.03 330 *e*P **P 22 35 19.3 +1.4**
WMQ pP **pP 22 35 25.5 +4.3**
WMQ sP sP 22 35 28.3 +5.9
WMQ PcP **PcP 22 35 49.8 +1.4**
WMQ pmax pmax
comp=Z,8.0nm,0.8s
WMQ pmax pmax
comp=Z,160nm,5.2s
WMQ LR LR
comp=E,45nm,18.8s
WMQ LR LR
comp=Z,39nm,17.0s
ESDC Sonseca Array 66.63 42 P **P 22 35 20.0 -1.8**
comp=Z,0.4nm,0.5s,baz=318,slow=3.6,SNR=5.2
PGF Pioggiola 66.99 31 *e*P **P 22 35 24.1 0.0**
GTA Gaotai 67.44 319 *e*P **P 22 35 27.0 -0.1**
GTA pP **pP 22 35 33.0 +2.7**
GTA sP **sP 22 35 35.8 +4.3**
GTA pmax pmax
comp=Z,5.0nm,0.9s
NJ2 Nanjing 68.47 301 *e*P **P 22 35 32.3 -1.1**
NJ2 pmax pmax
comp=Z,10.0nm,1.0s
AAK Ala-Archa 69.40 340⇑ *i*P **P 22 35 39.4 +0.1**
AAK pmax pmax
comp=Z,6.0nm,0.8s
KKAR Karatay Array 69.44 343 *e*P **P 22 35 37.9 -1.4**
KKAR Karatay Array 69.44 343 *e*P **P 22 35 37.9 -1.4**
EKS2 Erkin-Say 69.47 341 *e*P **P 22 35 39.7 0.0**
EKS2 pmax pmax
comp=Z,5.0nm,0.6s
EKS2 Erkin-Say 69.47 341 *e*P **P 22 35 39.7 0.0**
comp=Z,5.0nm,0.6s
KIV Kislovodsk 69.72 5 *e*P **P 22 35 41.6 +0.4**
KIV pmax pmax
comp=Z,2.0nm,0.7s
KBZ Khabaz 69.96 5 P **P 22 35 43.6 +1.2**
comp=Z,0.6nm,0.5s,baz=278,slow=7.1,SNR=2.7
KSH Kashi 72.25 338 *e*P **P 22 35 58.8 +2.2**
KSH pP **pP 22 36 05.0 +5.1**
KSH PcP **PcP 22 36 17.0 +2.3**
KSH S **S 22 45 19.0 -0.2**
KSH SKS **SKSac 22 45 57.3 -3.6**
KSH ScS **SKKSac 22 46 00.3 -0.7**
KSH pmax pmax
comp=Z,92nm,6.3s
KSH LR LR
comp=N,81nm,4.4s
KSH LR LR
comp=E,80nm,7.8s
KSH LR LR
comp=Z,130nm,8.4s
MDT Midelt 72.88 45 *e*P **P 22 36 01.2 +0.7**
MDT Midelt 72.88 45 P **P 22 36 01.2 +0.7**
comp=Z,1.8nm,0.7s,baz=359,slow=6.2,SNR=7.0
BR101 Keskin Array S 73.40 12 *e*P **P 22 36 03.1 -0.3**
BRTR Keskin Array B 73.40 12 P **P 22 36 03.1 -0.3**
comp=Z,0.4nm,0.5s,baz=252,slow=1.4,SNR=3.9
CD2 Chengdu 74.34 313 P **P 22 36 08.3 -0.7**
CD2 pP **pP 22 36 14.0 +1.8**
CD2 sP **sP 22 36 16.5 +3.1**
CD2 PP **PP 22 38 55.3 +0.9**
CD2 S **SKiKP 22 45 38.5 +3.2**
CD2 SS **SS 22 50 25.5 -2.3**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.5s
CD2 LR LR
comp=N,320nm,5.9s
CD2 LR LR
comp=Z,200nm,9.5s
GYA Guiyang 77.63 309 *e*P **P 22 36 27.8 -0.1**
GYA PP **PP 22 39 23.8 +1.5**
GYA S **S 22 46 15.5 -3.9**
GYA SKS **SKSac 22 46 35.8 -5.5**
GYA SS **SS 22 51 15.3 -2.6**
GYA pmax pmax
comp=Z,10.0nm,1.0s
GYA pmax pmax
comp=Z,90nm,5.5s
GYA LR LR
comp=N,460nm,18.6s
GYA LR LR
comp=E,350nm,19.1s
GYA LR LR
comp=Z,410nm,18.8s
KMI Kunming 80.07 312 P **P 22 36 41.0 -0.4**
KMI pmax pmax
comp=Z,5.0nm,1.1s
QIZ Qiongzhong 83.53 304 P **P 22 36 59.8 +0.3**
QIZ S **S 22 47 21.0 -0.1**
QIZ pmax pmax
comp=Z,24nm,1.6s
CM31 Chiang Mai Arr 87.48 313 *e*P **P 22 37 18.2 -0.9**
CMAR Chiang Mai Arr 87.48 313 P **P 22 37 18.2 -0.9**
comp=Z,1.1nm,0.8s,baz=355,slow=5.8,SNR=6.9
TOA0 Torodi Ar. Sit 93.28 46 *e*P **P 22 37 46.6 +0.3**
TORD Torodi Ar. Bea 93.28 46 P **P 22 37 46.6 +0.3**
comp=Z,0.6nm,1.1s,baz=338,slow=4.7,SNR=3.3

IDC 25 22:26:27.3±56.0, 15°.65S×174°.27W, h0km, mb4.3/3, mb1 4.5/3, mb1mx3.8/18, mbtmp4.3/3, Error ellipse: s-maj=1077.0km s-min=181.2km az=78.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**43.19**	**240**	P	P	22 34 30.5	+0.3
	2.0nm,0.5s,baz=84,slow=8.6,SNR=6.3						
WRA	**Warramunga Arr**	**48.97**	**257**	P	P	22 35 15.8	-0.2
	0.8nm,0.6s,baz=94,slow=7.1,SNR=5.1						
ASAR	**Alice Springs**	**49.24**	**252**	P	P	22 35 17.6	-0.4
	7.2nm,0.5s,baz=89,slow=8.0,SNR=123						

NEIC 25 22:30:46.6, 19°.43N×155°.27W, h6km, MD2.3(HVO), After HVO., Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STCH	**Steam Cracks**	**0.15**	**109**	*e*Pg	Pg	22 30 49.8	+0.1
STCH				*e*Sg	Sg	22 30 52.2	+0.3
POHA	**Pohakuloa**	**0.40**	**323**	*e*Pg	Pg	22 30 54.8	+0.1
POHA				*e*Sg	Sg	22 30 58.9	-1.4
HPO	**Honuapo**	**0.43**	**218**	*e*Pg	Pg	22 30 53.9	-1.1

HLW ***25*** *22:32:06.5, 35°.11N×24°.01E, h33km±19km, Md3.3, Ml3.5*
IDC ***25*** *22:32:06.8±1.0, 34°.79N×24°.06E, h0km, mb4.0/14, mb1 4.0/22, mb1mx3.9/37, mbtmp3.9/22, ML3.7/7, MS3.9/1, Ms1 3.9/1, ms1mx2.4/36, Error ellipse: s-maj=19.0km s-min=13.1km az=169.0*
MOS ***25*** *22:32:09.2±1.2, 34°.71N×24°.06E, h33km, mb4.3/16, Error ellipse: s-maj=13.6km s-min=6.6km az=72.3*
CSEM ***25*** *22:32:10.6±0.2, 34°.70N×24°.18E, h20km, mb4.1/22, Error ellipse: s-maj=6.8km s-min=4.8km az=16.0*
ATH ***25*** *22:32:11.3, 34°.81N×24°.19E, h24km±1km, MD3.3/13*
THE ***25*** *22:32:12.8, 34°.89N×24°.25E, h0km±1km, ML3.6/2, Error ellipse: s-maj=1.3km s-min=0.5km az=171.0*

ISC 25 22:32:10.3±0.6, 34°.75N±0°.03×24°.25E±0°.03, h25km±4km, n218, σ1$41/215, mb4.0/28, 2C-1D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.16**	**304**	P	**Pb**	**22 32 15.6**	**+0.1**
GVD				S	**Sb**	**22 32 18.9**	**-0.1**
GVD	**Gavdhos**	**0.16**	**304**	*e*PB	**Pb**	**22 32 15.6**	**+0.1**
GVD				*e*SB	**Sb**	**22 32 19.2**	**+0.2**
GVD	**Gavdhos**	**0.16**	**304**	*e*Pb	**Pb**	**22 32 15.6**	**+0.1**
GVD				*e*Sb	**Sb**	**22 32 19.2**	**+0.2**
SIVA	**Sivas**	**0.54**	**60**	P	**Pn**	**22 32 22.5**	**+0.2**
SIVA				S	**Sn**	**22 32 30.1**	**-0.5**
SIVA	**Sivas**	**0.54**	**60**	P	**Pn**	**22 32 22.5**	**+0.2**
VAM	**Vamos**	**0.66**	**357**	P	**Pb**	**22 32 22.7**	**-0.5**
VAM				S	**Sb**	**22 32 31.4**	**-0.5**

VAM Vamos 0.66 357 *e*PN **Pb 22 32 22.7 -0.5**
VAM *e*SN **Sn 22 32 32.5 -1.1**
VAM Vamos 0.66 357 P **Pb 22 32 22.7 -0.5**
VAM *e*Sn **Sn 22 32 32.5 -1.1**
IDI Anoyia 0.75 44 P **Pn 22 32 25.9 +0.5**
IDI S **Sn 22 32 35.5 -0.6**
IDI Anoyia 0.75 44 *e*PN **Pn 22 32 25.4 0.0**
IDI Anoyia 0.75 44 Pg **Pb 22 32 24.7 -0.1**
43nm,0.3s,baz=235,slow=16,SNR=227
IDI Lg Lg 22 32 37.0
282nm,0.3s,baz=325,slow=23,SNR=27
IDI Anoyia 0.75 44 *e*Pn **Pn 22 32 25.4 0.0**
IDI Anoyia 0.75 44 P **Pn 22 32 25.9 +0.5**
IDI S **Sn 22 32 35.5 -0.6**
LAST Lasithi 1.09 68 P **Pb 22 32 32.4 +1.8**
LAST S **Sn 22 32 48.1 +3.6**
LAST Lasithi 1.09 68 P **Pb 22 32 32.4 +1.8**
LAST S **Sn 22 32 48.1 +3.6**
NPS Neapolis 1.23 65 P **Pb 22 32 35.2 +2.3**
NPS Neapolis 1.23 65 *e*PN **Pb 22 32 35.3 +2.3**
NPS Neapolis 1.23 65 P **Pb 22 32 35.2 +2.3**
ANKY Antikythira Is 1.36 326 P **Pb 22 32 36.1 +1.0**
ANKY S **Sb 22 32 53.4 +1.5**
ANKY Antikythira Is 1.36 326 *e*PN **Pb 22 32 36.0 +1.0**
ANKY *e*SN **Sb 22 32 53.6 +1.7**
ANKY Antikythira Is 1.36 326 *e*Pn **Pb 22 32 36.0 +1.0**
ANKY *e*Sn **Sb 22 32 53.6 +1.7**
KYTH Kithira 1.82 327 P **Pb 22 32 43.1 +0.2**
KYTH Kithira 1.82 327 *e*PN **Pb 22 32 43.1 +0.2**
KYTH Kithira 1.82 327 P **Pb 22 32 43.1 +0.2**
SANT Santorini 1.90 31 P **Pb 22 32 43.5 -0.7**
SANT Santorini 1.90 31 P **Pb 22 32 43.5 -0.7**
THR1 Thera Island 1.90 31 P **Pb 22 32 43.5 -0.7**
THR1 Thera Island 1.90 31 P **Pb 22 32 43.5 -0.7**
THR3 Thira Island, 1.90 29 P **Pb 22 32 44.0 -0.3**
THR3 Thira Island, 1.90 29 P **Pb 22 32 44.0 -0.3**
THR2 Thira island, 1.95 29 P **Pb 22 32 44.4 -0.7**
THR2 Thira island, 1.95 29 P **Pb 22 32 44.4 -0.7**
VLI Veliai 2.23 332 P **Pb 22 32 48.6 -1.4**
VLI S **Sb 22 33 16.6 -0.6**
VLI Veliai 2.23 332 *e*PB **Pb 22 32 48.6 -1.4**
VLI Veliai 2.23 332 P **Pb 22 32 48.6 -1.4**
VLI S **Sb 22 33 16.6 -0.6**
KARP Karpathos 2.52 71 P **Pb 22 32 53.8 -1.0**
KARP Karpathos 2.52 71 P **Pb 22 32 53.8 -1.0**
APE Apeiranthos 2.54 24 *i* P **Pn 22 32 51.3 +1.3**
APE Apeiranthos 2.54 24 *e*PN **Pn 22 32 50.8 +0.9**
APE Apeiranthos 2.54 24 *e*Pn **Pn 22 32 50.8 +0.9**
APE Apeiranthos 2.54 24 *i* P **Pn 22 32 51.3 +1.3**
LTBQ Tobruq 2.70 186 *i* P **Pb 22 32 56.0 -1.9**
SNR=24
LTBQ *e*S **Sb 22 33 28.3 -2.3**
25nm,0.6s,SNR=24
DID Didima 2.87 344 *e*PN **Pn 22 32 55.9 +1.4**
DID Didima 2.87 344 *e*Pn **Pn 22 32 55.9 +1.4**
NIS3 Nisyros Isl. 2.99 52 P Pb 22 32 59.5 -3.3
VLX Vlachokerasia 3.02 330 *e*PN Pn 22 32 59.9 +3.3
VLX Vlachokerasia 3.02 330 *e*Pn Pn 22 32 59.9 +3.3
ITM Ithomi 3.07 323 *e*PN Pb 22 33 00.8 -3.4
ITM Ithomi 3.07 323 *e*Pn Pb 22 33 00.8 -3.4
SLUM 3.35 166 S **Sn 22 33 44.4 +4.3**
baz=164
SLUM 3.35 166 P **Pn 22 33 02.2 +1.1**
SLUM S **Sn 22 33 44.4 +4.3**
DAT Datca 3.35 53 *e*PN **Pn 22 33 02.2 +1.0**
DAT Datca 3.35 53 *e*Pn **Pn 22 33 02.2 +1.0**
BODT Bodrum 3.39 46 *e*PN **Pn 22 32 59.2 -2.4**
LTK Loutraki 3.42 343 *e*PN **Pn 22 33 03.6 +1.5**
LTK Loutraki 3.42 343 *e*Pn **Pn 22 33 03.6 +1.5**
GUR Goura 3.53 335 *e*PN **Pn 22 33 05.5 +1.8**
GUR Goura 3.53 335 *e*Pn **Pn 22 33 05.5 +1.8**
KLV Kalavryta, Ach 3.70 333 *e*PN **Pn 22 33 07.9 +2.0**
KLV Kalavryta, Ach 3.70 333 *e*Pn **Pn 22 33 07.9 +2.0**
LAKA Lakka 3.93 333 *e*PN **Pn 22 33 11.5 +2.4**
LAKA Lakka 3.93 333 *e*Pn **Pn 22 33 11.5 +2.4**
RLS Riolos of Patr 3.99 327 *e*PB Pb 22 33 15.1 -4.8
RLS Riolos of Patr 3.99 327 *e*Pb Pb 22 33 15.1 -4.8
KALE Kalithea 4.01 336 *e*PN **Pn 22 33 12.0 +1.8**
KALE Kalithea 4.01 336 *e*Pn **Pn 22 33 12.0 +1.8**
TRIZ Trizonia 4.01 335 *e*PN **Pn 22 33 12.1 +2.0**
TRIZ Trizonia 4.01 335 *e*Pn **Pn 22 33 12.1 +2.0**
PSA1 Psathopyrgos 4.04 333 *e*PN Pn 22 33 14.1 +3.5
YER Yerkesik 4.05 53 *e*PN **Pn 22 33 11.4 +0.7**
YER Yerkesik 4.05 53 *e*Pn **Pn 22 33 11.4 +0.7**
EFP Efpalio 4.12 334 *e*PN **Pn 22 33 14.4 +2.7**
EFP Efpalio 4.12 334 *e*Pn **Pn 22 33 14.4 +2.7**
DALY Dalyan (Mu¨la 4.13 59 *e*PN **Pn 22 33 14.8 +3.0**
DALY Dalyan (Mu¨la 4.13 59 *e*Pn **Pn 22 33 14.8 +3.0**
FETY Fethiye 4.36 63 *e*PN Pn 22 33 19.4 +4.5
FETY Fethiye 4.36 63 *e*Pn Pn 22 33 19.5 +4.5
HMAT Matruh 4.36 146 P **Pn 22 33 16.2 +1.2**
baz=146
HMAT Matruh 4.36 146 P **Pn 22 33 16.2 +1.2**
IZM Izmir 4.38 33 *e*PN Pn 22 33 10.2 -5.0
EVR Evrytania 4.59 336 *e*PN **Pn 22 33 20.7 +2.4**
EVR Evrytania 4.59 336 *e*Pn **Pn 22 33 20.7 +2.4**
ELL Elmali 5.02 65 *e*PN Pn 22 33 28.8 +4.7
ELL Elmali 5.02 65 *e*Pn Pn 22 33 28.8 +4.7
KHL Karahalli 5.55 48 *e*PN **Pn 22 33 29.4 -1.9**
SWA2 5.59 169 P **Pn 22 33 33.6 +1.8**
baz=167
SWA2 AMP 22 34 00.0
comp=E,40μm,0.3s,logA/T=5.1,baz=167
SWA2 5.59 169 P **Pn 22 33 33.6 +1.8**
BCK Bucak 5.80 60 *e*PN **Pn 22 33 36.9 +2.1**
BCK Bucak 5.80 60 *e*Pn **Pn 22 33 36.9 +2.1**
ISP Isparta 5.92 57 *e*P Pn 22 33 40.3 +3.8
ISP Isparta 5.92 57 *e*P Pn 22 33 40.3 +3.8
GONE Gonen-Balikesi 5.95 26 *e*PN Pn 22 33 33.1 -3.7
SUTC Sutluce-Ispart 6.11 62 *e*PN **Pn 22 33 41.8 +2.7**
SUTC Sutluce-Ispart 6.11 62 *e*Pn **Pn 22 33 41.8 +2.7**
HDMB Hadim 7.05 69 *e*P Pn 22 33 56.9 +4.9
HDMB Hadim 7.05 69 *e*P Pn 22 33 56.9 +4.9
KIZT Kizilcal 7.38 54 *e*PN **Pn 22 33 56.4 -0.1**
GLL Jalalah 8.16 127 P **Pn 22 34 09.0 +1.8**
baz=128
GLL Jalalah 8.16 127 P **Pn 22 34 09.0 +1.8**
BARS Barje 8.27 347 *e*Pn **Pn 22 34 09.9 +1.2**
AMAG Maghara 8.59 116 P **Pn 22 34 15.0 +1.9**
baz=117
AMAG Maghara 8.59 116 P **Pn 22 34 15.0 +1.9**
BRTR Keskin Array B 8.98 54 Pn **Pn 22 34 21.1 +2.5**
comp=E,0.2nm,0.3s,baz=226,slow=14,SNR=14
BRTR Keskin Array B 8.98 54 P **Pn 22 34 21.1 +2.5**
MMAI Mount Meron Ar 9.44 97 Pn **Pn 22 34 25.6 +0.9**
comp=E,1.5nm,0.3s,baz=271,slow=11,SNR=7.5
MMAI Sn **Sn 22 36 09.3 -0.7**
comp=E,1.1nm,0.3s,baz=250,slow=28,SNR=1.6
STON Ston 9.58 330 *e*Pn **Pn 22 34 23.4 -3.1**
STON Sn Sn 22 36 02.3 -11
EIL Elat 10.38 116 Pn **Pn 22 34 37.6 -0.1**
comp=E,0.4nm,0.3s,baz=340,slow=14,SNR=9.9
EIL Sn **Sn 22 36 29.4 -3.8**
comp=E,0.3nm,0.3s,baz=89,slow=20,SNR=1.6
MLR Muntele Rosu 10.81 6 Pn **Pn 22 34 45.6 +2.1**
baz=179,slow=16
MLR Muntele Rosu 10.81 6 P **Pn 22 34 45.6 +2.1**
ASF Jabal al Asfar 10.88 100 Sn **Sn 22 36 48.3 +2.9**
comp=E,0.2nm,0.3s,baz=54,slow=23,SNR=1.8
UDBI Udbina 11.74 329 *e*Pn **Pn 22 34 53.9 -2.3**
UDBI Sn Sn 22 36 57.0 -10
NVLJ Novalja 12.16 326 *e*Pn Pn 22 34 57.9 -4.0
NVLJ Sn Sn 22 37 05.1 -12
PGF Pioggiola 14.22 308 *e*P **Pn 22 35 32.1 +2.0**
ANN Anapa 14.25 41 *e*P Pn 22 35 25.1 -5.3
ANN pmax pmax
comp=Z,45nm,0.9s
VRAC Vranov 15.61 341 Pn **Pn 22 35 47.1 -1.4**
comp=Z,0.2nm,0.3s,baz=157,slow=7.7,SNR=2.2
SBF Sospel 15.85 310 *e*P **Pn 22 35 51.5 -0.3**
GERES GERESS Array B 16.11 334 Pn **Pn 22 35 54.7 -0.3**
comp=Z,0.1nm,0.3s,baz=153,slow=13,SNR=4.1
LMR La Mourre 16.20 307 *e*P **Pn 22 35 56.6 +0.4**
KIEV Kiev 16.34 11 *i* P **P 22 35 59.6 -1.0**
KIEV Kiev 16.34 11 *i* P **P 22 35 59.6 -1.0**
AKASG Malin Array Be 16.35 11 P **Pn 22 35 56.2 -1.8**
AKASG pmax pmax
comp=Z,2.0nm,0.3s
AKASG Malin Array Be 16.35 11 Pn **Pn 22 35 56.2 -1.8**
comp=Z,1.5nm,0.3s,baz=203,slow=10,SNR=14
KHC Kasperske Hory 16.39 334 *i* P **P 22 36 02.0 +0.8**
KHC Kasperske Hory 16.39 334 *e*P **P 22 36 02.2 +0.9**

KHC ex x 22 36 05.6
KHC Kasperske Hory 16.39 334 *i* P **P 22 36 02.0 +0.8**
DPC Dobruska-Polom 16.63 342 *eP* **P 22 36 03.7 -0.2**
MBDF Montbardon 16.70 312 *eP* **Pn 22 36 02.6 -0.1**
PRU Pruhonice 16.81 338 *eP* **P 22 36 05.5 -0.3**
UPC Upice 16.85 342 *eP* **Pn 22 36 04.7 +0.3**
UPC ex x 22 36 09.2
KIV Kislovodsk 16.94 52 *d i P* **P 22 36 08.3 +0.9**
KIV *eS* **Sn 22 39 10.2 -2.9**
KIV pmax pmax
comp=Z,12nm,1.2s
KIV Kislovodsk 16.94 52 *i P* **P 22 36 08.3 +0.9**
comp=Z,12nm,1.2s
KBZ Khabaz 16.98 53 P **P 22 36 07.4 -0.3**
KBZ Khabaz 16.98 53 P **P 22 36 07.3 -0.3**
comp=Q,0.1nm,0.3s,baz=265,slow=7.0,SNR=10
KBZ Khabaz 16.98 53 P **P 22 36 07.4 -0.3**
CABF La Chapelle 18.12 316 *eP* **Pn 22 36 18.6 -1.6**
CABF La Chapelle 18.12 316 *eP* **Pn 22 36 18.6 -1.6**
HINF Hinteralfeld 18.42 320 *eP* **Pn 22 36 24.2 +0.4**
comp=Z,1.5nm,0.5s
HINF Hinteralfeld 18.42 320 *eP* **Pn 22 36 24.2 +0.4**
comp=Z,0.8nm,0.5s
CLL Collm 18.44 337 *eP* **Pn 22 36 25.0 +1.0**
CLL pmax pmax
comp=Z,3.0nm,0.9s
CLL Collm 18.44 337 *eP* **Pn 22 36 25.0 +1.0**
comp=Z,3.0nm,0.9s
CLL *e*(sP) **sP 22 36 33.0 -0.8**
CLL Collm 18.44 337 *eP* **Pn 22 36 25.0 +1.0**
comp=Z,3.0nm,0.9s
CDF Champ du Feu 18.58 322 *eP* **Pn 22 36 26.3 +0.4**
comp=Z,3.5nm,0.7s
CDF Champ du Feu 18.58 322 *eP* **Pn 22 36 26.3 +0.4**
comp=Z,1.8nm,0.7s
HAU Haudompre 18.80 320 *eP* **Pn 22 36 28.5 0.0**
HAU Haudompre 18.80 320 *eP* **Pn 22 36 28.5 0.0**
LOR Lormes 19.75 315 *eP* **Pn 22 36 39.5 -0.4**
LOR Lormes 19.75 315 *eP* **Pn 22 36 39.5 -0.4**
CAF Calviac 19.78 308 *eP* **Pn 22 36 40.1 -0.1**
CAF Calviac 19.78 308 *eP* **Pn 22 36 40.1 -0.1**
MEZF Maizieres J'vi 19.79 320 *eP* **Pn 22 36 40.0 -0.3**
comp=Z,7.1nm,0.6s
MEZF Maizieres J'vi 19.79 320 *eP* **Pn 22 36 40.0 -0.3**
comp=Z,3.5nm,0.6s
TCF Toulx Ste Croi 20.26 311 *eP* Pn 22 36 45.5 -0.4
comp=Z,13nm,1.1s
TCF Toulx Ste Croi 20.26 311 *eP* Pn 22 36 45.5 -0.4
comp=Z,6.5nm,1.1s
RJF Les Rejaudoux 20.28 308 *eP* **P 22 36 45.0 +1.0**
RJF Les Rejaudoux 20.28 308 *eP* **P 22 36 45.0 +1.0**
LFF La Frestale 20.65 307 *eP* **P 22 36 48.9 +0.9**
LFF La Frestale 20.65 307 *eP* **P 22 36 48.9 +0.9**
MEM Membach 20.67 326 P Pn 22 36 49.8 -0.8
MEM Membach 20.67 326 P Pn 22 36 49.7 -0.9
DOU Dourbes 21.01 323 P **P 22 36 52.4 +0.5**
DOU Dourbes 21.01 323 P **P 22 36 52.3 +0.5**
BAIF Baives 21.18 322 *eP* **P 22 36 53.6 -0.1**
comp=Z,4.9nm,0.8s
BAIF Baives 21.18 322 *eP* **P 22 36 53.6 -0.1**
comp=Z,2.5nm,0.8s
MFF Saint Martin d 21.87 310 *eP* **P 22 37 01.5 +0.4**
comp=Z,8.4nm,0.8s
MFF Saint Martin d 21.87 310 *eP* **P 22 37 01.5 +0.4**
comp=Z,4.2nm,0.8s
OBN Obninsk 22.09 19 *eP* **P 22 37 03.0 -0.3**
OBN pmax pmax
comp=Z,38nm,2.4s
OBN Obninsk 22.09 19 *eP* **P 22 37 03.0 -0.3**
comp=Z,38nm,2.4s
LDF La Druitiere 22.74 315 *eP* **P 22 37 09.6 -0.8**
comp=Z,5.9nm,0.7s
LDF La Druitiere 22.74 315 *eP* **P 22 37 09.6 -0.8**
comp=Z,3.0nm,0.7s
ESDC Sonseca Array 22.95 291 P **P 22 37 11.0 -1.8**
comp=Z,0.6nm,0.6s,baz=83,slow=8.1,SNR=4.6
FLN La Foliniere 23.03 315 *eP* **P 22 37 14.0 +0.6**
comp=Z,7.0nm,0.6s
FLN La Foliniere 23.03 315 *eP* **P 22 37 14.0 +0.6**
comp=Z,3.5nm,0.6s
GRR Gorron 23.07 314 *eP* **P 22 37 13.0 -0.9**
GRR Gorron 23.07 314 *eP* **P 22 37 13.0 -0.9**
SGMF Saint Gilles 24.04 312 *eP* **P 22 37 22.6 -0.6**
comp=Z,8.5nm,0.8s
SGMF Saint Gilles 24.04 312 *eP* **P 22 37 22.6 -0.6**
comp=Z,4.2nm,0.8s
QUIF Quistinic 24.28 311 *eP* **P 22 37 25.8 +0.4**
comp=Z,15nm,0.8s
QUIF Quistinic 24.28 311 *eP* **P 22 37 25.8 +0.4**
comp=Z,7.7nm,0.8s
ROSF Rostrenen 24.51 312 *eP* **P 22 37 27.5 0.0**
comp=Z,5.7nm,0.6s
ROSF Rostrenen 24.51 312 *eP* **P 22 37 27.5 0.0**
comp=Z,2.8nm,0.6s
HFS Hagfors 26.31 348 P **P 22 37 43.2 -0.5**
comp=Z,2.5nm,0.5s,baz=172,slow=13,SNR=13
HFS Hagfors 26.31 348 P **P 22 37 43.2 -0.5**
comp=Z,3.0nm,0.5s
FINES FINESS Array B 26.74 2 P **P 22 37 45.9 -1.6**
comp=Q,0.7nm,0.5s,baz=178,slow=8.8,SNR=5.5
NB2 NORSAR Subarra 27.61 346 P **P 22 37 54.6 -0.9**
comp=Z,1.4nm,0.7s,baz=156,slow=9.3
NB2 NORSAR Subarra 27.61 346 P **P 22 37 54.6 -0.9**
comp=Z,1.4nm,0.7s,baz=156,slow=9.0,SNR=6.0
NOA NORSAR Array B 27.61 346 P **P 22 37 54.8 -0.7**
comp=Z,1.6nm,0.7s,baz=153,slow=11,SNR=12
NOA NORSAR Array B 27.61 346 P **P 22 37 54.8 -0.7**
comp=Z,2.0nm,0.6s
EKA Eskdalemuir Ar 27.95 326 P **P 22 37 59.4 +0.9**
comp=Q,0.8nm,0.6s,baz=145,slow=7.5,SNR=2.9
EKA Eskdalemuir Ar 27.95 326 P **P 22 37 59.4 +0.9**
comp=Z,1.0nm,0.6s
AKTK Aktyubinsk 29.08 47 P **P 22 38 09.2 +0.6**
comp=Z,1.0nm,0.5s
AKTO Aktyubinsk 29.08 47 P **P 22 38 09.2 +0.6**
AKTO pmax pmax
comp=Z,1.0nm,0.5s
AKTO Aktyubinsk 29.08 47 P **P 22 38 09.2 +0.6**
comp=Z,1.0nm,0.5s,baz=252,slow=8.3,SNR=5.0
TORD Torodi Ar. Bea 29.65 229 P **P 22 38 15.0 +0.9**
comp=Z,0.6nm,0.5s,baz=36,slow=8.3,SNR=24
ARCES ARCESS Array B 34.84 1 P **P 22 38 56.9 -2.1**
comp=Z,4.3nm,1.0s,baz=169,slow=7.4,SNR=7.0
BRVK Borovoye 37.12 46 ⇑ *i P* **P 22 39 19.6 +1.0**
BRVK pmax pmax
comp=Z,2.0nm,0.9s
BRVK Borovoye 37.12 46 *i P* **P 22 39 19.6 +1.0**
comp=Z,2.0nm,0.9s
BVAR Borovoye Array 37.17 46 P **P 22 39 19.7 +0.6**
BVAR pmax pmax
comp=Z,1.0nm,0.9s
BVAR Borovoye Array 37.17 46 P **P 22 39 19.7 +0.6**
comp=Z,1.3nm,0.9s,baz=258,slow=7.4,SNR=4.9
BVAR Borovoye Array 37.17 46 P **P 22 39 19.7 +0.6**
comp=Z,1.0nm,0.9s
AAK Ala-Archa 39.51 63 ⇑ *i P* **P 22 39 40.7 +1.6**
AAK pmax pmax
comp=Z,10.0nm,1.2s
AAK Ala-Archa 39.51 63 *i P* **P 22 39 40.7 +1.6**
comp=Z,10.0nm,1.2s
KURBB Kurchatov Arra 41.96 51 P **P 22 39 59.5 +0.5**
comp=Z,1.3nm,0.3s,baz=284,slow=8.7,SNR=12
KURK Kurchatov 42.02 51 P **P 22 39 59.5 0.0**
KURK pmax pmax
comp=Z,1.0nm,0.3s
KURK Kurchatov 42.02 51 P **P 22 39 59.5 0.0**
comp=Z,1.0nm,0.3s
MKAR Makanchi Array 44.62 56 P **P 22 40 21.2 +0.6**
MKAR pmax pmax
comp=Z,3.0nm,0.6s
MKAR Makanchi Array 44.62 56 P **P 22 40 21.2 +0.6**
comp=Z,2.6nm,0.6s,baz=284,slow=6.3,SNR=27
MKAR Makanchi Array 44.62 56 P **P 22 40 21.2 +0.6**
comp=Z,3.0nm,0.6s
NVS Novosibirsk 44.91 45 *eP* **P 22 40 22.7 0.0**
NVS pmax pmax
comp=Z,5.0nm,0.6s
NVS pmax pmax
comp=N,1.0nm,0.5s
NVS pmax pmax
comp=E,3.0nm,0.8s
NVS Novosibirsk 44.91 45 *eP* **P 22 40 22.7 0.0**
comp=E,1.0nm,0.5s
ZALV Zalesovo Beam 45.83 46 P **P 22 40 29.7 -0.3**
ZALV pmax pmax
comp=Z,4.0nm,0.5s
ZALV Zalesovo Beam 45.83 46 P **P 22 40 29.7 -0.3**
comp=Z,4.0nm,0.5s,baz=268,slow=9.2,SNR=26
ZALV Zalesovo Beam 45.83 46 P **P 22 40 29.7 -0.3**
comp=Z,4.0nm,0.5s
ZAK Zakamensk 57.58 48 *eP* **P 22 41 56.1 -1.8**
ZAK pmax pmax
comp=Z,2.0nm,0.9s
SONM Songino Array 60.33 50 P **P 22 42 17.9 +0.8**
comp=Z,1.6nm,0.8s,baz=287,slow=8.0,SNR=16
SONM Songino Array 60.33 50 P **P 22 42 17.9 +0.8**
comp=Z,2.0nm,0.8s
YKA Yellowknife Ar 77.60 342 P **P 22 44 04.4 +0.5**
comp=Z,0.8nm,0.5s,baz=29,slow=5.2,SNR=2.9
YKA Yellowknife Ar 77.60 342 P **P 22 44 04.4 +0.5**
comp=Z,1.0nm,0.5s
TXAR Lajitas Array 99.51 316 LR LR 23 30 34.8
comp=Z,44nm,18.1s,baz=280,slow=35

NDI ***25*** *22:40:07.2±1.9, 32°.98N×75°.74E, h10km, ML3.0*
IDC ***25*** *22:40:13.7±4.3, 33°.55N×76°.20E, h0km, mb3.3/3, mb1 3.3/4, mb1mx3.1/28, mbtmp3.3/4, ML2.7/1, Error ellipse: s-maj=99.6km s-min=34.0km az=128.0*
ISC 25 22:40:10.3±2.1, 32°.96N±0°.06×75°.87E±0°.09, h25km±18km, n21, σ2°.74/22, mb3.4/3, Kashmir-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	**Dalhousie**	**0.43**	**169**	*eP*	Pb	22 40 15.0	-4.4
DLH				*e*4	**Sn**	**22 40 33.0**	**+4.8**
THN	**Thein Dam**	**0.54**	**194**	*eP*	Pb	22 40 17.0	-4.2
THN				*e*S	**Sb**	**22 40 26.0**	**-2.6**
BHK	**Bhakra**	**1.61**	**163**	*eP*	**Pn**	**22 40 37.8**	**+0.7**
BHK				*e*S	**Sb**	**22 41 01.4**	**+2.2**
SDNR	**Sundarnagar**	**1.73**	**147**	*eP*	**Pn**	**22 40 38.0**	**-0.8**
SDNR				*e*S	**Sb**	**22 41 08.0**	**+5.3**
SMLA	**Simla**	**2.13**	**149**	*i P*	**Pn**	**22 40 45.4**	**+1.1**
SMLA				*i* S	**Sb**	**22 41 12.5**	**-1.7**
SMLA				*i* S	**Sn**	**22 41 12.6**	**+2.7**
SONA	**Sohna**	**4.81**	**167**	*eP*	**Pn**	**22 41 20.8**	**-0.4**
SONA				*e*S	**Sn**	**22 42 13.4**	**-2.7**
SONA				AML	AML	22 42 50.2	
	comp=N,16nm,0.2s						
SONA				AML	AML	22 42 51.1	
	comp=E,33nm,0.1s						
KUDL	**Kundal**	**4.83**	**174**	*eP*	**Pn**	**22 41 20.3**	**-1.2**
KUDL				*e*S	**Sn**	**22 42 14.0**	**-2.6**
KUDL				AML	AML	22 42 46.2	
	comp=N,19nm,0.2s						
KUDL				AML	AML	22 42 48.4	
	comp=E,25nm,0.6s						
AGRA	**Agra**	**5.99**	**162**	*e*S	**Sn**	**22 42 42.0**	**-3.1**
AGRA				AML	AML	22 43 22.3	
	comp=N,32nm,0.2s						
AGRA				AML	AML	22 43 23.2	
	comp=E,40nm,0.3s						
PYUN	**Piuthan**	**7.82**	**126**	*eP*	**Pn**	**22 42 02.9**	**+0.2**
	comp=E,69nm,0.4s						
PYUN				*e*S	**Sn**	**22 43 27.0**	**-3.5**
KOLN	**Koldanda**	**8.44**	**126**	*eP*	Pn	22 42 06.9	-4.4
	comp=E,2.3nm,0.3s						
GKN	**Gorkha**	**9.03**	**121**	*eP*	**Pn**	**22 42 18.8**	**-0.5**
DMN	**Daman**	**9.60**	**121**	*eP*	Pn	22 42 22.1	-5.0
KKN	**Kakani**	**9.62**	**120**	*eP*	**Pn**	**22 42 25.7**	**-1.7**
	comp=E,6.1nm,0.6s						
PKIN	**Phulchoki**	**9.82**	**121**	*eP*	Pn	22 42 25.2	-5.1
	comp=E,4.9nm,0.3s						
PKI	**Pulchoki**	**9.84**	**121**	*eP*	Pn	22 42 25.4	-5.1
JIRN	**Jiri**	**10.36**	**118**	*eP*	**Pn**	**22 42 35.0**	**-2.7**
RAMN	**Ramite**	**11.06**	**120**	*eP*	Pn	22 42 35.7	-12
MKAR	**Makanchi Array**	**14.66**	**18**	Pn	**Pn**	**22 43 35.5**	**-0.5**
	comp=E,0.0nm,0.3s,baz=208,slow=15,SNR=2.5						
AKTO	**Aktyubinsk**	**21.87**	**328**	P	**P**	**22 45 04.5**	**+3.4**
	comp=E,0.8nm,0.5s,baz=124,slow=9.3,SNR=3.8						
ZALV	**Zalesovo Beam**	**21.93**	**14**	P	**P**	**22 45 00.8**	**-0.8**
	comp=E,0.7nm,0.6s,baz=204,slow=10,SNR=5.6						
TORD	**Torodi Ar. Bea**	**69.78**	**273**	P	P	22 51 27.7	+8.9
	comp=E,0.4nm,0.9s,baz=77,slow=6.4,SNR=2.6						

BJI ***25*** *23:01:29.3, 66°.60N×131°.20W, h10km, mB5.0/18, mb4.7/23, Ms4.8/11, Ms7 4.5/11*
NEIC ***25*** *23:01:33.7, 66°.64N×130°.91W, h1km, mb4.8/73, ML4.8(AEIC), MW4.1(PGC), After PGC.*
LDG ***25*** *23:01:33.8±0.2, 66°.87N×130°.87W, h10km, Mb4.8/34, Error ellipse: s-maj=11.3km s-min=5.0km az=30.0*
IDC ***25*** *23:01:33.6±0.4, 66°.64N×130°.95W, h0km, mb4.2/24, mb1 4.4/28, mb1mx4.4/31, mbtmp4.2/28, ML4.4/4, MS3.3/5, Ms1 3.3/5, ms1mx2.9/45, Error ellipse: s-maj=9.8km s-min=7.5km az=49.0*
ISCJB ***25*** *23:01:33.1±0.1, 66°.61N±0°.02×131°.20W±0°.04, h10km, mb4.6/143, MS4.0/8, Error ellipse: s-maj=2.7km s-min=2.0km az=141.9*
MOS ***25*** *23:01:33.2±1.0, 66°.61N×131°.06W, h10km, mb4.8/31, Error ellipse: s-maj=17.2km s-min=5.7km az=96.0*
PGC ***25*** *23:01:33.7±4.5, 66°.64N×130°.91W, h1km, ML4.5/2, Mw4.2, 176km Ese of Fort McPherson, Nt Northwest Territories, Canada*
ISC 25 23:01:35.6±0.4, 66°.57N±0°.04×130°.86W±0°.04, h15km±2km, n550, σ1°.32/592, mb4.7/145, MS4.1/8, 126C-131D, Northwest Territories

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INK	**Inuvik**	**2.02**	**331**	⇑Pn	**Pn**	**23 02 08.7**	**-0.4**
INK	**Inuvik**	**2.02**	**331**	⇑Pn	**Pn**	**23 02 08.7**	**-0.4**
DAWY	**Dawson**	**4.37**	**239**	*e*Pn	**Pn**	**23 02 41.3**	**-0.2**
DAWY				*e*Sn	**Sn**	**23 03 31.1**	**-1.0**
DAWY	**Dawson**	**4.37**	**239**	⇓Pn	**Pn**	**23 02 40.3**	**-1.2**
DAWY				⇓Sn	**Sn**	**23 03 29.9**	**-2.2**
DAWY				⇓Sg	**Sb**	**23 03 49.6**	**+5.1**
EGAK	**Eagle**	**4.62**	**252**	*e*Pn	**Pn**	**23 02 42.9**	**-1.9**
EGAK				*e*Sn	**Sn**	**23 03 34.4**	**-3.8**
GALN	**Gameti Lake**	**6.18**	**107**	⇓Pn	**Pn**	**23 03 04.3**	**-1.9**
GALN				Sn	**Sn**	**23 04 14.1**	**-2.4**
GALN				Sg	Sg	23 04 47.2	-6.5
GALN	**Gameti Lake**	**6.18**	**107**	⇓Pn	**Pn**	**23 03 04.3**	**-1.9**
GALN				⇓Sn	**Sn**	**23 04 14.1**	**-2.4**
GALN				⇓Sg	Sg	23 04 47.2	-6.5
WHY	**Whitehorse**	**6.20**	**199**	⇑Pn	**Pn**	**23 03 05.6**	**-1.0**
WHY				Sn	**Sn**	**23 04 15.9**	**-1.2**
WHY				Sg	Sb	23 04 45.9	+8.8
WHY	**Whitehorse**	**6.20**	**199**	⇑Pn	**Pn**	**23 03 05.6**	**-1.0**
WHY				⇑Sn	**Sn**	**23 04 15.9**	**-1.2**
WHY				⇓Sg	Sb	23 04 45.9	+8.8
HYT	**Haines Junctio**	**6.47**	**210**	*e*Pn	**Pn**	**23 03 10.2**	**-0.2**
HYT				*e*Sn	**Sn**	**23 04 22.1**	**-1.9**
HYT	**Haines Junctio**	**6.47**	**210**	⇓Pn	**Pn**	**23 03 09.6**	**-0.8**
HYT				⇑Sn	**Sn**	**23 04 21.2**	**-2.8**
CTLN	**Castor Lake**	**6.53**	**102**	⇑Pn	**Pn**	**23 03 09.4**	**-1.7**
CTLN	**Castor Lake**	**6.53**	**102**	⇑Pn	**Pn**	**23 03 09.4**	**-1.7**
MENT	**Mentasta**	**6.59**	**242**	*e*Pn	**Pn**	**23 03 10.4**	**-1.5**
IL1	**Eielson Array**	**6.86**	**262**	*e*Pn	**Pn**	**23 03 12.6**	**-3.0**
ILAR	**Eielson Array**	**6.86**	**262**	Pn	**Pn**	**23 03 12.4**	**-3.1**
	2.7nm,0.3s,baz=69,slow=13,SNR=168						
ILAR				Sn	**Sn**	**23 04 31.0**	**-2.2**
	3.9nm,0.3s,baz=89,slow=15,SNR=5.4						
ILAR				Lg	Lg	23 05 10.2	
	6.8nm,0.3s,baz=86,slow=26,SNR=6.2						
ILB	**Eielson Array**	**6.86**	**262**	*e*Pn	**Pn**	**23 03 12.4**	**-3.1**
ILB				*e*Sn	**Sn**	**23 04 31.0**	**-2.2**
COLA	**College**	**7.20**	**264**	*e*P	**Pn**	**23 03 18.3**	**-1.9**
COLA	**College**	**7.20**	**264**	*e*Pn	**Pn**	**23 03 18.2**	**-1.9**
PAX	**Paxson**	**7.20**	**247**	*e*P	**Pn**	**23 03 20.0**	**-0.4**
PAX	**Paxson**	**7.20**	**247**	*e*Pn	**Pn**	**23 03 19.9**	**-0.4**
SKAG	**Skagway**	**7.42**	**198**	*e*Pn	**Pn**	**23 03 23.4**	**+0.2**
SKAG				*e*Sn	**Sn**	**23 04 45.9**	**-1.1**
COLD	**Coldfoot**	**7.63**	**284**	*e*Pn	**Pn**	**23 03 25.2**	**-0.9**
COLD				*e*Sn	**Sn**	**23 04 48.1**	**-4.0**
YKW3	**Yellowknife Ar**	**8.05**	**112**	⇑Pn	**Pn**	**23 03 30.7**	**-1.2**
YKW3				⇓Sn	Sn	23 04 57.8	-4.8
YKA	**Yellowknife Ar**	**8.10**	**113**	Pn	**Pn**	**23 03 30.2**	**-2.3**
	7.3nm,0.3s,baz=303,slow=13,SNR=97						
YKA				Sn	**Sn**	**23 04 59.3**	**-4.4**
	7.5nm,0.3s,baz=302,slow=23,SNR=6.9						
YKA				Lg	Lg	23 05 48.7	
	12nm,0.3s,baz=301,slow=29,SNR=4.6						
YKB5	**Yellowknife Ar**	**8.10**	**113**	*e*Pn	**Pn**	**23 03 30.7**	**-1.8**
YKB5				*e*Sn	**Sn**	**23 04 59.3**	**-4.4**
YKB5				*e*Sb	Sg	23 05 48.7	-6.5
MCK	**McKinley**	**8.12**	**258**	*e*P	**Pn**	**23 03 31.7**	**-1.1**
MCK	**McKinley**	**8.12**	**258**	*e*Pn	**Pn**	**23 03 31.7**	**-1.1**
DLBC	**Dease Lake**	**8.17**	**177**	*e*Pn	**Pn**	**23 03 33.5**	**-0.2**
DLBC				*e*Sn	**Sn**	**23 05 05.0**	**-0.6**
DLBC	**Dease Lake**	**8.17**	**177**	⇓Pn	**Pn**	**23 03 32.8**	**-0.8**
DLBC	**Dease Lake**	**8.17**	**177**	Pn	**Pn**	**23 03 33.2**	**-0.4**
	2.2nm,0.3s,baz=3.6,slow=11,SNR=17						
DLBC				Sn	**Sn**	**23 05 03.2**	**-2.4**
	6.2nm,0.3s,baz=148,slow=20,SNR=3.7						
DLBC				Lg	Lg	23 05 55.6	
	3.2nm,0.3s,baz=84,slow=27,SNR=9.1						
BMRM	**Bremner River**	**8.27**	**234**	*e*Pn	**Pn**	**23 03 35.8**	**+0.8**
BMRM				*e*Sn	**Sn**	**23 05 07.8**	**-0.1**
FNBB	**Fort Nelson**	**8.50**	**151**	⇑Pn	**Pn**	**23 03 36.5**	**-1.6**
FNBB				⇑Sn	**Sn**	**23 05 09.8**	**-3.8**
DIV	**Divide**	**8.53**	**237**	*e*Pn	**Pn**	**23 03 39.0**	**+0.4**
PMR	**Palmer**	**9.40**	**247**	*e*P	**Pn**	**23 03 50.5**	**+0.1**
PMR	**Palmer**	**9.40**	**247**	*e*Pn	**Pn**	**23 03 50.5**	**+0.1**
CAST	**Castle Rocks**	**9.50**	**261**	*e*Pn	**Pn**	**23 03 48.7**	**-3.1**
PPLA	**Purkeypile**	**9.81**	**258**	*e*Pn	**Pn**	**23 03 56.4**	**+0.3**
SPU	**Mount Spurr**	**10.75**	**250**	*e*Pn	**Pn**	**23 04 08.4**	**-0.5**
RSO	**Redoubt South**	**11.48**	**248**	*e*Pn	**Pn**	**23 04 18.9**	**-0.1**
SVW2	**Sparrevohn**	**12.15**	**255**	*e*Pn	**Pn**	**23 04 25.6**	**-2.3**
RES	**Resolute Bay**	**14.16**	**40**	*e*Pn	Pn	23 04 51.5	-3.8
RES				*e*Sn	Sn	23 07 20.9	-11
RES	**Resolute Bay**	**14.16**	**40**	Pn	Pn	23 04 51.5	-3.8
	1.6nm,0.3s,baz=246,slow=15,SNR=9.6						
RES				Sn	Sn	23 07 20.9	-11
	3.0nm,0.3s,baz=323,slow=8.9,SNR=6.0						
RES				Lg	Lg	23 08 59.5	
	2.3nm,0.3s,baz=144,slow=11,SNR=2.0						
BBB	**Bella Bella**	**14.49**	**173**	LR	LR	23 11 49.4	
	comp=Z,88nm,19.8s,baz=157,slow=42						
EDM	**Edmonton**	**15.92**	**139**	*e*P	Pn	23 05 15.0	-3.8
EDM	**Edmonton**	**15.92**	**139**	*e*Pn	Pn	23 05 15.0	-3.8
CHGN	**Chignik**	**16.55**	**245**	*e*Pn	**P**	**23 05 28.6**	**-0.7**
FFC	**Flin Flon**	**18.25**	**117**	*e*P	**Pn**	**23 05 44.4**	**-3.6**
FFC				pmax	pmax		
	comp=Z,492nm,1.9s						
FFC	**Flin Flon**	**18.25**	**117**	*e*Pn	**Pn**	**23 05 44.4**	**-3.6**
	comp=Z,492nm,1.9s						
B06A	**Marblemount**	**18.75**	**160**	*e*P	**Pn**	**23 05 55.1**	**+1.0**
	comp=Z,23nm,1.2s						
B08A	**Colville Reser**	**19.22**	**156**	*e*P	**P**	**23 05 59.8**	**+0.9**
	comp=Z,9.6nm,1.0s						
WALA	**Waterton Lakes**	**19.61**	**145**	*e*P	**P**	**23 06 03.3**	**0.0**
NEW	**Newport**	**19.70**	**152**	*e*P	**P**	**23 06 05.1**	**+1.0**
	comp=Z,9.9nm,0.8s						
NEW	**Newport**	**19.70**	**152**	P	**P**	**23 06 05.7**	**+1.5**
	comp=Z,0.3nm,0.3s,baz=350,slow=12,SNR=23						
NEW				LR	LR	23 13 44.7	
	comp=Z,134nm,18.2s,baz=236,slow=37						
NEW	**Newport**	**19.70**	**152**	⇓P	**P**	**23 06 04.5**	**+0.4**
	baz=20,SNR=12						
C09A	**Chrisman Ranch**	**19.94**	**154**	*e*P	**P**	**23 06 08.2**	**+1.5**
	comp=Z,16nm,0.9s						
D05A	**Enumclaw**	**19.99**	**162**	*e*P	Pn	23 06 09.2	+0.2
	comp=Z,47nm,1.0s						
LTY	**Liberty**	**20.09**	**159**	*e*P	**P**	**23 06 09.7**	**+1.2**
	comp=Z,10nm,1.0s						
LON	**Longmire**	**20.44**	**162**	*e*P	**P**	**23 06 13.9**	**+1.7**
LON				pmax	pmax		
	comp=Z,78nm,2.0s						
LON	**Longmire**	**20.44**	**162**	*e*P	**P**	**23 06 13.9**	**+1.7**
	comp=Z,78nm,2.0s						
BLMT	**Blacktail Moun**	**20.50**	**147**	*e*P	**P**	**23 06 13.7**	**+0.6**
BSMT	**Bassoo Peak**	**20.56**	**148**	*e*P	**P**	**23 06 14.7**	**+1.0**
YBMT	**Yellow Bay**	**20.72**	**147**	*e*P	**P**	**23 06 17.1**	**+1.8**
JTMT	**Jette**	**20.77**	**147**	*e*P	**P**	**23 06 16.9**	**+1.1**
A19A	**Klindworth Far**	**21.04**	**136**	⇓P	**P**	**23 06 19.4**	**+0.6**
	baz=21						
SWMT	**Swartz Lake**	**21.06**	**147**	*e*P	**P**	**23 06 18.6**	**-0.3**
HAWA	**Hanford**	**21.10**	**158**	*e*P	**P**	**23 06 20.1**	**+0.8**
	comp=Z,62nm,2.1s						
F04A	**Amboy**	**21.17**	**164**	*e*P	**P**	**23 06 20.9**	**+0.9**
	comp=Z,18nm,0.8s						
E09A	**Wood Farm, Sta**	**21.21**	**155**	*e*P	**P**	**23 06 20.7**	**+0.3**
	comp=Z,12nm,1.0s						
A20A	**Cobblestone Ra**	**21.32**	**135**	⇑P	**P**	**23 06 22.0**	**+0.4**
	baz=21,SNR=13						
B19A	**Brinkman Farms**	**21.42**	**137**	⇓P	**P**	**23 06 22.6**	**-0.2**
	baz=21						
SLMT	**Seeley Lake**	**21.42**	**146**	*e*P	**P**	**23 06 23.6**	**+0.7**
A21A	**Bergtoll Ranch**	**21.50**	**133**	⇓P	**P**	**23 06 24.3**	**+0.6**
	baz=22,SNR=14						
EGMT	**Eagleton**	**21.60**	**139**	*e*P	**P**	**23 06 24.9**	**+0.1**
	comp=Z,54nm,0.8s						
EGMT	**Eagleton**	**21.60**	**139**	⇑P	**P**	**23 06 25.0**	**+0.3**
	baz=22,SNR=26						
B20A	**Solberg Farm,**	**21.69**	**136**	⇑P	**P**	**23 06 26.1**	**+0.4**
	baz=22						
MSO	**Missoula**	**21.71**	**147**	*e*P	**P**	**23 06 27.4**	**+1.4**
	comp=Z,127nm,1.9s						
MSO	**Missoula**	**21.71**	**147**	⇓P	**P**	**23 06 26.7**	**+0.7**
	baz=22						
CHMT	**Chamberlain Mo**	**21.78**	**146**	*e*P	**P**	**23 06 27.7**	**+0.8**
A22A	**Carney Farms,**	**21.80**	**132**	⇑P	**P**	**23 06 27.0**	**+0.2**
	baz=22						
F10A	**Beach Ranch, E**	**21.89**	**154**	*e*P	**P**	**23 06 27.3**	**-0.5**
	comp=Z,15nm,0.9s						
B21A	**Ellsworth Farm**	**21.98**	**134**	⇑P	**P**	**23 06 29.0**	**+0.2**
	baz=22,SNR=8.6						
C19A	**Slack Wire Ran**	**22.05**	**138**	⇑P	**P**	**23 06 30.2**	**+0.7**
	baz=22,SNR=15						
A23A	**Redstone**	**22.14**	**130**	⇑P	**P**	**23 06 30.4**	**-0.1**
	baz=22						
G08A	**Pilot Rock**	**22.27**	**157**	*e*P	**P**	**23 06 32.0**	**+0.1**
	comp=Z,62nm,2.5s						
HRY	**Holter Researc**	**22.30**	**144**	*e*P	**P**	**23 06 32.5**	**+0.2**
C20A	**Veseth Ranch,**	**22.36**	**136**	⇓P	**P**	**23 06 33.1**	**+0.3**
	baz=22,SNR=6.3						
B22A	**Reddig Ranch S**	**22.40**	**133**	⇑P	**P**	**23 06 33.5**	**+0.3**
	baz=22,SNR=7.4						
A24A	**Westby**	**22.45**	**129**	⇓P	**P**	**23 06 34.7**	**+0.9**
	baz=22,SNR=7.1						
C21A	**Desert Coulee**	**22.51**	**135**	⇑P	**P**	**23 06 34.5**	**+0.1**
	baz=22						
B23A	**Brock

comp=Z,29nm,0.9s
F19A Roth Farm, Mol 23.82 140 ⇑P P 23 06 48.6 +0.8
baz=24,SNR=7.7
MCMT McKenzie Canyo 23.85 147 eP P 23 06 48.7 +0.4
D24A Glendive 23.96 131 ⇓P P 23 06 49.7 +0.6
baz=24
A29A Manning Farm, 24.01 122 ⇑P P 23 06 50.0 +0.5
baz=24
ULM Lac du Bonnet 24.07 115 eP P 23 06 49.4 -0.5
comp=Z,31nm,1.0s
ULM eS S 23 11 10.0 +3.5
ULM eScP ScP 23 14 02.1 -6.2
ULM Lac du Bonnet 24.07 115 P P 23 06 50.2 +0.2
comp=Z,17nm,0.9s,baz=316,slow=10,SNR=11
ULM S S 23 11 10.0 +3.5
comp=Z,11nm,0.9s,baz=63,slow=18,SNR=3.4
ULM Lg Lg 23 14 02.1
comp=Z,25nm,0.9s,baz=238,slow=21,SNR=4.2
E22A Miles City 24.09 134 ⇑P P 23 06 51.0 +0.6
baz=24
QLMT Earthquake Lak 24.17 145 eP P 23 06 51.8 +0.6
J08A Circle Bar Ran 24.23 158 eP P 23 06 53.1 +1.4
comp=Z,113nm,2.8s
B29A Wagenman Farm, 24.36 123 ⇑P P 23 06 52.5 -0.3
baz=24
RLMT Red Lodge 24.42 141 eP P 23 06 54.3 +0.8
comp=Z,49nm,1.7s
YMR Madison River 24.43 144 eP P 23 06 53.5 -0.1
comp=Z,20nm,1.0s
E24A Baker 24.46 132 ⇑P P 23 06 54.4 +0.7
baz=24
K05A Summer Lake 24.52 162 eP P 23 06 55.3 +1.0
comp=Z,63nm,1.8s
G20A Bridger 24.60 139 ⇑P P 23 06 55.9 +0.9
baz=25,SNR=9.7
F22A Rosebud 24.61 136 ⇑P P 23 06 56.0 +0.9
baz=25
D26A Manning 24.61 129 ⇓P P 23 06 55.9 +0.9
baz=25
MFID Camas Ranch 24.61 153 ⇓P P 23 06 56.1 +0.9
baz=25,SNR=5.6
LKWY Lake 24.66 143 eP P 23 06 56.3 +0.5
LKWY Lake 24.66 143 eP P 23 06 56.3 +0.5
C28A Hausauer Farms 24.67 125 ⇓P P 23 06 55.8 +0.3
baz=25
YFT Old Faithful 24.67 144 eP P 23 06 58.6 +2.8
comp=Z,45nm,1.7s
H18A Shoshone NF, C 24.74 142 ⇓P P 23 06 57.1 +0.7
baz=25,SNR=12
HLID Hailey 24.74 151 eP P 23 06 57.5 +1.1
comp=Z,25nm,1.8s
HLID Hailey 24.74 151 ⇑P P 23 06 57.4 +1.1
baz=25
H17A Grant Village 24.78 144 eP P 23 07 00.1 +3.3
MDND Maddock 24.81 124 eP P 23 06 58.0 +1.2
comp=Z,37nm,0.8s
MDND Maddock 24.81 124 ⇓P P 23 06 57.6 +0.8
baz=25
G21A Lodge Grass 24.86 138 ⇓P P 23 06 58.1 +0.8
baz=25,SNR=5.2
F23A Volborg 24.91 134 ⇑P P 23 06 58.4 +0.6
baz=25
H19A Powell 24.91 141 ⇑P P 23 06 58.9 +1.1
baz=25,SNR=7.5
FLWY Flagg Ranch 25.05 144 eP P 23 07 02.7 +3.5
comp=Z,38nm,1.5s
D28A Regan 25.07 126 ⇓P P 23 06 60.0 +0.8
baz=25
WVOR Wild Horse Val 25.11 158 eP P 23 07 01.6 +2.0
WVOR pmax pmax
comp=Z,51nm,2.2s
WVOR Wild Horse Val 25.11 158 eP P 23 07 01.6 +2.0
comp=Z,51nm,2.2s
G22A Birney 25.12 136 ⇑P P 23 07 00.2 +0.5
baz=25
IMW Indian Meadow 25.17 145 eP P 23 07 01.2 +0.9
comp=Z,27nm,1.4s
F25A Bowman 25.29 131 ⇓P P 23 07 02.2 +0.9
baz=25
C30A Mose, Pekin 25.31 122 ⇓P P 23 07 01.9 +0.5
baz=25
H20A Greybull 25.34 139 ⇑P P 23 07 02.6 +1.0
baz=25
MOOW Moose Ponds 25.35 144 eP P 23 07 03.1 +1.1
comp=Z,17nm,1.1s
FRB Frobisher Bay 25.37 67 eP P 23 07 01.4 -0.2
FRB eScS ScS 23 18 08.8 +8.7
FRB Frobisher Bay 25.37 67 P P 23 07 01.4 -0.2
comp=Z,9.9nm,0.6s,baz=319,slow=4.0,SNR=4.6
FRB Lg Lg 23 14 35.0
comp=Z,24nm,0.7s,baz=45,slow=19,SNR=3.2
FRB LR LR 23 18 08.8
comp=Z,36nm,19.7s,baz=39,slow=39
G23A Biddle 25.39 135 ⇓P P 23 07 02.8 +0.8
baz=25
MOD Modoc 25.40 161 eP P 23 07 03.4 +1.0
comp=Z,159nm,2.3s
H21A Big Horn, Sher 25.46 138 ⇑P P 23 07 03.7 +0.9
baz=25,SNR=12
D29A Pettibone, Tap 25.50 124 ⇓P P 23 07 03.4 +0.3
baz=26
I19A Meeteetse 25.50 141 ⇓P P 23 07 04.3 +1.0
baz=26,SNR=12
LOHW Long Hollow 25.51 144 eP P 23 07 03.7 +0.3
comp=Z,11nm,1.1s
G24A Alzada 25.55 133 ⇓P P 23 07 04.3 +0.7
baz=26
TPAW Teton Pass 25.55 145 eP P 23 07 04.4 +0.5
comp=Z,53nm,1.9s
E28A Huff 25.57 127 ⇓P P 23 07 04.4 +0.8
baz=26
RRI2 Red Ridge 25.60 146 eP P 23 07 05.5 +1.2
comp=Z,57nm,2.0s
SNOW Snow King Moun 25.62 145 eP P 23 07 05.8 +1.4
comp=Z,52nm,1.8s
H22A Clearmont 25.68 137 ⇑P P 23 07 05.8 +1.0
baz=26
REDW Red Top Meadow 25.69 145 eP P 23 07 06.0 +0.9
comp=Z,46nm,1.8s
AGMN Agassiz Nation 25.71 118 eP P 23 07 05.4 +0.5
comp=Z,20nm,1.1s
D30A Buchanan 25.74 123 ⇑P P 23 07 06.0 +0.8
baz=26
F27A Lemmon 25.78 129 ⇓P P 23 07 06.1 +0.5
baz=26
I20A Worland 25.80 140 ⇓P P 23 07 06.8 +0.8
baz=26,SNR=10
G27A Dupree 25.94 131 ⇑P P 23 07 10.4 +3.3
baz=26,SNR=8.3
H24A Dirks Ranch, A 26.04 134 ⇑P P 23 07 09.0 +1.0
baz=26,SNR=16
G26A Maurine 26.12 131 ⇓P P 23 07 09.7 +0.9
baz=26
I21A Big Trails, Te 26.15 139 ⇓P P 23 07 09.7 +0.6
baz=26,SNR=20
AHID Auburn Hatcher 26.20 146 eP P 23 07 10.2 +0.6
comp=Z,42nm,1.8s
J19A Crowheart 26.21 142 ⇓P P 23 07 10.8 +1.0
baz=26
I22A 9 Mile Ranch, 26.29 138 ⇓P P 23 07 11.5 +1.1
baz=26,SNR=15
J20A Shoshoni 26.37 141 ⇑P P 23 07 12.7 +1.5
baz=26,SNR=26
H25A Fruitdale 26.43 133 ⇑P P 23 07 12.5 +1.0
baz=26
J21A Lysite 26.54 140 ⇓P P 23 07 14.1 +1.3
baz=26,SNR=12
BW06 Boulder Array 26.56 143 eP P 23 07 13.7 +0.8
PD31 Pinedale Array 26.56 143 eP P 23 07 14.1 +1.2
PDAR Pinedale Array 26.56 143 P P 23 07 14.1 +1.2
comp=Z,4.7nm,0.8s,baz=3.9,slow=5.4,SNR=22
K19A Absolon Red Bu 26.68 142 ⇓P P 23 07 15.2 +1.3
baz=27
H26A Fairpoint 26.68 132 ⇓P P 23 07 14.9 +1.1
baz=27
J22A Midwest 26.74 138 ⇓P P 23 07 16.4 +2.0
baz=27
RSSD Black Hills 26.76 134 eP P 23 07 14.1 -0.6
RSSD pmax pmax
comp=Z,38nm,0.8s
RSSD Black Hills 26.76 134 eP P 23 07 14.1 -0.6
comp=Z,38nm,0.8s
HVU Hansel Valley 26.78 149 eP P 23 07 17.3 +2.4
HVU pmax pmax
comp=Z,8.0nm,1.0s
HVU Hansel Valley 26.78 149 eP P 23 07 17.2 +2.4
comp=Z,7.9nm,1.0s
I25A Rochford 26.94 133 ⇓P P 23 07 17.6 +1.3
baz=27
L18A Fontenelle, Gr 27.25 145 ⇑P P 23 07 19.4 +0.3
baz=27
K21A Alcova 27.26 140 ⇓P P 23 07 19.9 +0.7
baz=27,SNR=7.1
SPUT South Promonto 27.30 149 eP P 23 07 19.1 -0.4
comp=Z,12nm,1.4s
K22A Casper 27.43 139 ⇓P P 23 07 21.4 +0.7
baz=27,SNR=6.3
M17A Scullys Gap (B 27.53 146 ⇑P P 23 07 22.1 +0.4
baz=28
K23A Bowen Ranch, D 27.58 137 ⇑P P 23 07 22.3 +0.3
baz=28
EYMN Ely 27.58 113 eP P 23 07 22.0 +0.2
comp=Z,15nm,0.8s
L21A Rawlins 27.86 140 ⇑P P 23 07 25.3 +0.7
baz=28,SNR=6.2
BRSD Miller 28.02 126 eP P 23 07 25.7 -0.1
L23A Garrett 28.15 138 ⇓P P 23 07 27.3 +0.1
baz=28
RWWY Rawlins 28.16 140 eP P 23 07 29.0 +1.7
comp=Z,121nm,2.1s
JLU Jordanelle 28.19 148 eP P 23 07 28.5 +0.9
M21A Separation Pea 28.20 141 ⇓P P 23 07 28.2 +0.5
baz=28
K25A Mack Ranch, Ha 28.20 135 ⇑P P 23 07 27.8 +0.3
baz=28
DUG Dugway 28.30 150 eP P 23 07 30.8 +2.4
DUG pmax pmax
comp=Z,65nm,3.0s
DUG Dugway 28.30 150 eP P 23 07 30.8 +2.4
comp=Z,64nm,3.0s
DAU Daniels Canyon 28.42 147 eP P 23 07 31.5 +1.8
DAU Daniels Canyon 28.42 147 eP P 23 07 31.5 +1.8
N20A Spence Gulch, 28.70 143 ⇑P P 23 07 32.6 +0.5
baz=29
WAKR Walker 28.86 161 eP P 23 07 34.5 +1.0
O19A Miners Draw (B 29.00 144 ⇑P P 23 07 35.2 +0.5
baz=29
NV01 Mina Array Sit 29.08 159 eP P 23 07 36.7 +1.2
NVAR Mina Array Bea 29.08 159 P P 23 07 37.4 +1.9
comp=Z,1.0nm,0.7s,baz=351,slow=5.9,SNR=8.8
O20A White River Ci 29.37 143 eP P 23 07 36.3 -1.7
O20A White River Ci 29.37 143 ⇑P P 23 07 38.5 +0.5
baz=29
ECSD EROS Data Cent 29.42 124 eP P 23 07 38.3 +0.1
comp=Z,18nm,0.9s
SPMN St. Paul 29.43 118 eP P 23 07 38.2 0.0
SPMN St. Paul 29.43 118 ⇑P P 23 07 38.4 +0.2
baz=29
P19A Cripple Cowboy 29.67 144 ⇓P P 23 07 41.6 +0.9
baz=30,SNR=9.1
O22A Kremmling 29.76 141 ⇓P P 23 07 42.6 +1.0
baz=30
SRU San Rafael 29.82 147 eP P 23 07 43.1 +1.1
SRU pmax pmax
comp=Z,5.0nm,0.9s
SRU San Rafael 29.82 147 eP P 23 07 43.1 +1.1
comp=Z,5.4nm,0.9s
P20A De Beque 29.94 144 ⇑P P 23 07 43.6 +0.6
baz=30
MVU Marysvale 30.05 150 eP P 23 07 44.6 +0.5
comp=Z,8.2nm,1.4s
P21A Newcastle 30.14 142 ⇓P P 23 07 45.3 +0.5
baz=30
FX1 Attu Island--F 30.15 271 eP P 23 07 44.8 +0.3
FX1 Attu Island--F 30.15 271 P P 23 07 44.9 +0.3
comp=Z,6.1nm,0.6s,baz=280,slow=8.5,SNR=6.5
FX1 LR LR 23 19 32.5
comp=Z,52nm,18.0s,baz=130,slow=36
P22A Eagle 30.24 141 ⇑P P 23 07 46.2 +0.4
baz=30
OGNE Ogallala 30.26 134 ⇓P P 23 07 46.2 +0.4
baz=30
Q20A Ridgley Place, 30.48 144 ⇓P P 23 07 48.3 +0.6
baz=30
O26A Horse Wrangler 30.55 136 ⇑P P 23 07 49.0 +0.7
baz=30
Q21A Lamborn Mesa, 30.76 143 ⇓P P 23 07 51.3 +1.0
baz=31
Q22A Crested Butte, 30.90 142 ⇓P P 23 07 52.4 +0.7
baz=31
SEY Seymchan 31.02 300 ⇓iP P 23 07 52.5 +0.3
Q23A Hartsel 31.13 140 ⇑P P 23 07 54.6 +1.0
baz=31
R20A Redvale 31.19 144 ⇓P P 23 07 55.1 +1.0
baz=31
R21A Cimaron 31.21 143 ⇑P P 23 07 55.7 +1.3
baz=31,SNR=5.5
Q24A Divide 31.25 139 ⇓P P 23 07 55.7 +0.9
baz=31
MPMC Manual Prospec 31.53 159 ⇓P P 23 07 58.8 +1.8
baz=32
S20A Disappointment 31.53 145 ⇓P P 23 07 58.5 +1.3
baz=32
Q26A Hugo 31.72 137 ⇑P P 23 07 59.9 +1.2
baz=32
ISA Isabella 31.78 161 ⇓P P 23 08 00.7 +1.5
baz=32
R23A Moffat 31.81 141 ⇓P P 23 08 01.0 +1.4
baz=32
P29A Atwood 31.82 133 ⇓P P 23 08 00.6 +1.1
baz=32
S21A Coal Bank Pass 31.83 144 ⇓P P 23 08 01.2 +1.4
baz=32,SNR=10
SCHQ Schefferville 31.91 80 eP P 23 08 01.3 +1.3
comp=Z,330nm,2.6s
SCHQ Schefferville 31.91 80 P P 23 08 01.3 +1.3
comp=Z,7.9nm,1.0s,baz=343,slow=9.4,SNR=3.9
SCHQ LR LR 23 21 04.7
comp=Z,124nm,19.2s,baz=46,slow=37
SMMC Simmler 31.94 163 ⇑P P 23 08 01.9 +1.4
baz=32
R24A Sanders Place, 31.95 140 ⇓P P 23 08 01.7 +0.9
baz=32
S22A 4UR Ranch, Cre 31.98 142 ⇓P P 23 08 02.2 +1.0
baz=32
Q28A Sharon Springs 32.06 135 ⇑P P 23 08 03.0 +1.3
baz=32
LRMC Laurel Mountai 32.07 159 ⇓P P 23 08 03.6 +1.8
baz=32
TIXI Tiksi 32.14 324 ⇓iP P 23 08 02.5 +0.7
TIXI pmax pmax
comp=Z,16nm,2.0s
SCIA State Center 32.19 121 eP P 23 08 04.0 +1.4
comp=Z,30nm,0.9s
R25A Fountain Ranch 32.25 139 ⇑P P 23 08 04.7 +1.4
baz=32
SDCO Great Sand Dun 32.31 141 eP P 23 08 03.5 -0.5
comp=Z,2.7nm,0.9s
R26A Arlington 32.33 137 ⇓P P 23 08 05.3 +1.3
baz=32
JFWS Jewell Farm 32.34 117 eP P 23 08 04.1 +0.1
JFWS pmax pmax
comp=Z,18nm,1.0s
JFWS Jewell Farm 32.34 117 eP P 23 08 04.1 +0.1
comp=Z,18nm,1.0s
P31A Stockton 32.36 131 ⇑P P 23 08 05.5 +1.3
baz=32
S24A Houchin Ranch, 32.48 140 ⇑P P 23 08 06.6 +1.1
baz=32
T21A Navajo Lake 32.53 144 ⇑P P 23 08 07.6 +1.8
baz=32
T22A Edith 32.66 143 ⇑P P 23 08 08.4 +1.3
baz=33
S25A Robets Cordova 32.66 139 ⇑P P 23 08 08.3 +1.3
baz=33
S26A Kim 32.96 138 ⇓P P 23 08 10.7 +1.2
baz=33,SNR=5.9
U21A Nageezi 33.04 144 ⇑P P 23 08 12.2 +1.9
baz=33,SNR=7.6
GMRC Granite Mounta 33.06 157 ⇑P P 23 08 11.7 +1.3
baz=33
KBS Kingsbay 33.10 12 ⇑iP P 23 08 12.6 +2.4
KBS pmax pmax
comp=Z,14nm,0.7s
WUAZ Wupatki 33.11 150 eP P 23 08 11.7 +0.8
comp=Z,5.3nm,1.2s
WUAZ Wupatki 33.11 150 ⇓P P 23 08 12.3 +1.4
baz=33
BLG Laguna Peak 33.24 162 ⇑P P 23 08 13.6 +1.7
baz=33
U22A Llaves 33.27 143 ⇓P P 23 08 14.3 +1.8
baz=33,SNR=9.6
BSC Santa Cruz Isl 33.28 163 ⇑P P 23 08 13.6 +1.3
baz=33
BFSC Mount Baldy Ra 33.29 160 ⇓P P 23 08 13.9 +1.5
baz=33
T26A Comanche Natio 33.34 138 ⇑P P 23 08 14.4 +1.4
baz=33,SNR=13
S28A Manter 33.42 136 ⇓P P 23 08 14.4 +1.0
baz=33
R31A Burdett 33.45 132 ⇑P P 23 08 14.9 +1.2
baz=33
V20A Brimhall 33.45 146 ⇓P P 23 08 15.2 +1.3
baz=34
U23A El Rito 33.48 142 ⇓P P 23 08 15.9 +1.7
baz=34,SNR=6.8
IRM Iron Mountain 33.75 156 ⇑P P 23 08 18.0 +1.7
baz=34
BELC Belle Mtn. Jos 33.77 157 ⇓P P 23 08 18.4 +1.8
baz=34
T28A Walsh 33.80 136 ⇑P P 23 08 18.0 +1.2
baz=34
U25A Circle Dot Ran 33.86 140 ⇑P P 23 08 19.2 +1.7
baz=34,SNR=6.7
V23A Ortiz Mt. (NFS 34.04 143 ⇓P P 23 08 21.0 +2.0
baz=34
U26A Atchley Ranch, 34.04 139 ⇓P P 23 08 20.7 +1.6
baz=34,SNR=8.5
W20A Ramah 34.09 146 ⇓P P 23 08 21.4 +1.9
baz=34
X16A Lo Mia Camp, P 34.16 151 ⇓P P 23 08 22.2 +2.1
baz=34,SNR=8.6
BC3 Big Chuckawall 34.19 157 ⇑P P 23 08 21.5 +1.2
baz=34
U27A Thompson Grove 34.26 138 ⇑P P 23 08 22.3 +1.4
baz=34
V24A Rampart Ranch, 34.28 141 ⇑P P 23 08 23.2 +2.0
baz=34
T30A Plains 34.31 134 ⇓P P 23 08 22.6 +1.4
baz=34
Y14A Wickenburg 34.33 153 ⇓P P 23 08 23.2 +1.8
baz=34
V25A Rancho No Teng 34.34 140 ⇓P P 23 08 23.1 +1.4
baz=34,SNR=10
X18A Snowflake 34.35 149 ⇓P P 23 08 23.9 +2.1
baz=34
U28A Mallet 34.46 137 ⇑P P 23 08 24.0 +1.4
baz=34
V26A Tequesquite Ra 34.59 139 ⇓P P 23 08 25.2 +1.5
baz=35,SNR=9.5
X20A Quemado 34.65 146 ⇓P P 23 08 25.8 +1.4
baz=35
ANMO Albuquerque 34.73 143 eP P 23 08 26.5 +1.5
comp=Z,12nm,0.9s
W24A Lazy 6 Ranch, 34.74 142 ⇑P P 23 08 27.2 +2.1
baz=35
MONP Monument Peak 34.80 158 ⇑P P 23 08 27.7 +2.1
baz=35,SNR=7.6
Z14A Wintersburg 34.90 153 ⇓P P 23 08 28.3 +2.0
baz=35
X21A Alamocita Cree 34.91 146 ⇑P P 23 08 28.3 +1.7
baz=35,SNR=9.5
W25A X Bar L Ranch, 34.97 141 ⇓P P 23 08 28.6 +1.6
baz=35
X22A Bernardo 35.02 144 ⇓P P 23 08 29.2 +1.7
baz=35
V28A Channing 35.05 137 ⇑P P 23 08 28.9 +1.2
baz=35
LAZ Ladron 35.09 145 eP P 23 08 30.3 +2.2
V29A Stinnett 35.13 136 ⇓P P 23 08 29.5 +1.2
baz=35
W26A Owens Ranch, T 35.27 140 ⇑P P 23 08 31.1 +1.5
baz=35
Y20A Horse Springs, 35.29 147 ⇓P P 23 08 31.9 +2.0
baz=35,SNR=8.0
X24A Lazy VL Ranch, 35.34 142 ⇓P P 23 08 32.5 +2.2
baz=35
Y21A Point of Rocks 35.35 146 ⇑P P 23 08 32.4 +2.0
baz=35
Y22A Socorro 35.58 145 ⇓P P 23 08 33.9 +1.5
baz=36,SNR=5.5
V31A Spring Creek L 35.70 134 ⇑P P 23 08 34.2 +1.1
baz=36
SFIN Scholer Farm 35.70 115 eP P 23 08 33.0 0.0
SFIN Scholer Farm 35.70 115 ⇓P P 23 08 33.4 +0.3
baz=36
X26A CR and CF Fran 35.77 140 ⇑P P 23 08 35.0 +1.1
baz=36
Y23A Lovelace Mesa, 35.80 143 ⇑P P 23 08 36.0 +1.7
baz=36,SNR=9.7
X27A F and S Farms, 35.86 139 ⇑P P 23 08 35.8 +1.1
baz=36
Y24A Capitan 35.95 143 ⇓P P 23 08 37.0 +1.5
baz=36,SNR=11
Z20A Nine Sixteen R 36.01 147 ⇓P P 23 08 37.6 +1.6
baz=36
Z21A St. Cloud Mine 36.02 146 ⇑P P 23 08 37.7 +1.5
baz=36,SNR=6.8
PETK Petropavlovsk- 36.10 284 P P 23 08 36.8 +0.4
comp=Z,2.1nm,0.5s,baz=59,slow=12,SNR=5.2
Y25A Mesa, Roswell 36.14 142 ⇓P P 23 08 38.1 +1.0
baz=36
W31A Holland Ranch, 36.22 135 ⇑P P 23 08 38.4 +0.8
baz=36
X28A Dimmitt 36.22 138 ⇓P P 23 08 39.1 +1.3
baz=36
Z22A Elephant Butte 36.23 145 ⇑P P 23 08 38.7 +0.8
baz=36
214A Organ Pipe Nat 36.30 154 ⇑P P 23 08 39.9 +1.6
baz=36
TUC Tucson 36.33 151 eP P 23 08 40.0 +1.4
TUC pmax pmax
comp=Z,5.0nm,1.0s
TUC Tucson 36.33 151 eP P 23 08 40.0 +1.4
comp=Z,4.9nm,1.0s
Z24A Sheeppen Canyo 36.54 143 ⇓P P 23 08 41.7 +1.1
baz=37
120A U Bar Ranch, L 36.55 148 ⇓P P 23 08 41.4 +0.9
baz=37
Y27A Causey 36.56 140 ⇑P P 23 08 41.9 +1.2
baz=37,SNR=6.9
MSTX Muleshoe 36.59 139 eP P 23 08 41.9 +1.1
MSTX Muleshoe 36.59 139 ⇑P P 23 08 41.5 +0.6
baz=37,SNR=6.3
121A Cookes Peak, D 36.74 146 ⇑P P 23 08 43.5 +1.2
baz=37,SNR=5.7
Z25A Roswell 36.75 142 ⇑P P 23 08 43.2 +0.9
baz=37,SNR=6.0
OLIL Olney 36.80 118 eP P 23 08 42.4 0.0
comp=Z,23nm,0.8s
Z26A Caprock 36.94 141 ⇑P P 23 08 45.0 +1.2
baz=37,SNR=6.8
WMOK Wichita Mounta 36.97 133 eP P 23 08 44.5 +0.5
WMOK pmax pmax
comp=Z,9.0nm,0.8s
WMOK Wichita Mounta 36.97 133 eP P 23 08 44.5 +0.5
comp=Z,9.0nm,0.8s
124A Stringfield Ra 37.12 143 ⇑P P 23 08 46.5 +1.0
baz=37
220A Playas Peak, P 37.19 148 ⇑P P 23 08 47.2 +1.1
baz=37
Y31A Rekieta Farm, 37.27 136 ⇑P P 23 08 47.6 +1.0
baz=37
ACSO Alum Creek Sta 37.34 111 eP P 23 08 47.4 +0.3
comp=Z,20nm,0.8s
125A Gardner Draw, 37.35 142 ⇑P P 23 08 48.0 +0.6
baz=37
Z29A Hungry Hill Ra 37.54 138 ⇑P P 23 08 49.2 +0.3
baz=38
Z30A Sanderson Ranc 37.67 137 ⇓P P 23 08 50.2 +0.1
baz=38,SNR=7.0
224A Cornudas Mount 37.70 144 ⇓P P 23 08 51.8 +1.4
baz=38,SNR=14
225A Deer Hill, Car 37.84 143 ⇑P P 23 08 52.9 +1.4
baz=38,SNR=14
WCI Wyandotte Cave 37.89 116 eP P 23 08 51.7 -0.1
WCI pmax pmax
comp=Z,8.0nm,0.8s
WCI Wyandotte Cave 37.89 116 eP P 23 08 51.7 -0.1
comp=Z,8.1nm,0.8s
Z31A Sharp Cattle R 37.91 136 ⇑P P 23 08 52.2 +0.1
baz=38
128A Castleberry Fa 37.94 139 ⇑P P 23 08 52.5 +0.2
baz=38
226B Tecolote Peak, 38.03 142 ⇑P P 23 08 54.2 +1.1
baz=38,SNR=7.8
MNTX Cornudas Mount 38.10 144 eP P 23 08 54.7 +1.1
comp=Z,4.7nm,0.9s
Z32A Haskell 38.11 135 ⇓P P 23 08 54.3 +0.6
baz=38,SNR=19
228A UT Block 9, Go 38.39 140 ⇓P P 23 08 56.8 +0.7
baz=38
131A Roby 38.45 137 ⇓P P 23 08 56.8 +0.3
baz=38,SNR=5.7

ABTX	Abilene, Hawle	38.70	136	eP		P	23 08 58.6	0.0
ABTX	Abilene, Hawle	38.70	136	⇑P		P	23 08 59.0	+0.3
	baz=39							
MIAR	Mount Ida	38.74	127	eP		P	23 08 58.6	-0.3
MIAR					pmax	pmax		
	comp=Z,10.0nm,0.8s							
MIAR	Mount Ida	38.74	127	eP		P	23 08 58.6	-0.3
	comp=Z,9.9nm,0.8s							
326A	Caldwell Ranch	38.80	142	⇓P		P	23 09 00.3	+0.7
	baz=39							
230A	Sterling City	39.00	138	⇑P		P	23 09 01.3	+0.2
	baz=39							
328A	Wristen Ranch,	39.03	140	⇑P		P	23 09 01.7	+0.2
	baz=39							
425A	Indio Mountain	39.06	143	⇑P		P	23 09 03.2	+1.3
	baz=39,SNR=7.4							
329A	Wagon Wheel Ra	39.15	139	⇓P		P	23 09 03.1	+0.7
	baz=39							
231A	Bronte	39.17	137	⇓P		P	23 09 02.9	+0.3
	baz=39,SNR=6.8							
WVT	Waverly	39.22	119	eP		P	23 09 02.5	-0.4
WVT					pmax	pmax		
	comp=Z,9.0nm,0.8s							
WVT	Waverly	39.22	119	eP		P	23 09 02.5	-0.4
	comp=Z,9.4nm,0.8s							
232A	Coleman	39.40	136	⇑P		P	23 09 04.9	+0.4
	baz=39,SNR=19							
426A	McDonald Obser	39.41	142	⇓P		P	23 09 05.1	+0.3
	baz=39							
330A	Mertzon	39.44	138	⇓P		P	23 09 05.5	+0.7
	baz=39							
428A	Kincaid Ranch,	39.69	140	⇑P		P	23 09 07.6	+0.6
	baz=40							
331A	San Angelo	39.73	137	⇓P		P	23 09 07.7	+0.4
	baz=40							
332A	Millersview	39.85	136	⇑P		P	23 09 08.5	+0.3
	baz=40,SNR=9.3							
WHTX	Lake Whitney	39.92	133	eP		P	23 09 09.0	+0.2
WHTX	Lake Whitney	39.92	133	⇓P		P	23 09 09.2	+0.4
	baz=40							
526A	Mary Lane Ranc	39.97	143	⇑P		P	23 09 10.2	+0.8
	baz=40							
429A	Davenport Ranc	39.99	139	⇑P		P	23 09 09.9	+0.5
	baz=40							
430A	Baggett Ranch,	40.01	139	⇑P		P	23 09 10.2	+0.6
	baz=40							
527A	Woodward Ranch	40.01	142	⇓P		P	23 09 10.3	+0.5
	baz=40,SNR=7.4							
OXF	Oxford	40.14	122	eP		P	23 09 10.9	+0.3
OXF					pmax	pmax		
	comp=Z,26nm,0.8s							
OXF	Oxford	40.14	122	eP		P	23 09 10.9	+0.3
	comp=Z,26nm,0.8s							
528A	Cox Ranch, San	40.20	141	⇓P		P	23 09 11.7	+0.4
	baz=40							
431A	Sonora	40.27	138	⇑P		P	23 09 12.1	+0.3
	baz=40							
432A	Menard	40.31	137	⇓P		P	23 09 12.4	+0.3
	baz=40							
626A	Big Bend Ranch	40.45	143	⇑P		P	23 09 13.4	+0.1
	baz=40							
530A	J-C Ranch, Com	40.59	139	⇑P		P	23 09 14.6	+0.2
	baz=41							
JCT	Junction City	40.68	137	eP		P	23 09 15.1	-0.1
JCT					pmax	pmax		
	comp=Z,13nm,0.9s							
JCT	Junction City	40.68	137	eP		P	23 09 15.1	-0.1
	comp=Z,13nm,0.9s							
JCT	Junction City	40.68	137	⇓P		P	23 09 15.6	+0.4
	baz=41							
627A	Terlingua Ranc	40.73	142	⇑P		P	23 09 16.2	+0.6
	baz=41							
LTX	Lajitas	40.77	142	eP		P	23 09 17.0	+1.0
LTX	Lajitas	40.77	142	eP		P	23 09 17.0	+1.0
TX31	Lajitas Ar. Si	40.77	142	eP		P	23 09 16.3	+0.3
TXAR	Lajitas Array	40.77	142	P		P	23 09 17.0	+1.0
	comp=Z,1.6nm,0.8s,baz=348,slow=6.7,SNR=16							
531A	Rocksprings	40.78	138	⇑P		P	23 09 16.7	+0.7
	baz=41,SNR=18							
628A	Black Gap, Mar	40.82	141	⇑P		P	23 09 16.6	+0.3
	baz=41							
532A	Rocksprings	40.99	137	⇑P		P	23 09 18.3	+0.6
	baz=41,SNR=5.9							
632A	Uvalde	41.61	137	⇓P		P	23 09 23.0	+0.2
	baz=42,SNR=7.1							
732A	Laxson Ranch,	42.30	138	⇓P		P	23 09 28.9	+0.5
	baz=42							
HKT	Hockley	42.31	132	eP		P	23 09 29.4	+1.0
LRAL	Lakeview Retre	42.31	120	eP		P	23 09 28.3	-0.1
	comp=Z,7.0nm,0.7s							
KEV	Kevo	43.09	11	eP		P	23 09 34.5	+0.2
KEV					pmax	pmax		
	comp=Z,8.0nm,0.6s							
KEV	Kevo	43.09	11	ep		P	23 09 34.5	+0.2
	comp=Z,7.8nm,0.6s							
ARA0	ARCESS Array S	43.19	12	eP		P	23 09 35.4	+0.2
ARCES	ARCESS Array B	43.19	12	P		P	23 09 35.3	+0.2
	comp=Z,5.3nm,0.8s,baz=9.6,slow=8.0,SNR=6.5							
TIGA	Tifton	44.96	117	eP		P	23 09 49.6	-0.1
TIGA	Tifton	44.96	117	⇓P		P	23 09 50.2	+0.4
	baz=45							
YSS	Yuzh-Sakhalins	46.76	290	i P		P	23 10 04.1	+0.3
KIP	Kipapa	48.37	215	i P		P	23 10 17.0	+0.5
KIP					pmax	pmax		
	comp=Z,37nm,1.1s							
NB2	NORSAR Subarra	49.67	23	P		P	23 10 25.5	-0.7
	comp=Z,1.8nm,0.6s,baz=340,slow=7.9							
NB200	NORSAR Array S	49.67	23	eP		P	23 10 25.8	-0.4
NOA	NORSAR Array B	49.67	23	P		P	23 10 25.8	-0.4
	comp=Z,2.2nm,0.7s,baz=341,slow=7.8,SNR=7.7							
JOF	Joensuu	50.16	11	eP		P	23 10 29.1	-0.6
JOF					pmax	pmax		
	comp=Z,3.0nm,0.4s							
JOF	Joensuu	50.16	11	ep		P	23 10 29.1	-0.6
	comp=Z,3.0nm,0.4s							
KAF	Kangasniemi	50.53	14	eP		P	23 10 30.8	-1.8
KAF	Kangasniemi	50.53	14	ep		P	23 10 30.8	-1.8
ERM	Erimo	50.80	286	eP		P	23 10 34.3	-0.5
ERM					pmax	pmax		
	comp=Z,24nm,1.5s							
FIA0	FINESS Array S	51.17	14	eP		P	23 10 36.7	-0.7
FIA0	FINESS Array S	51.17	14	eP		P	23 10 36.7	-0.7
FINES	FINESS Array B	51.17	14	P		P	23 10 36.7	-0.7
	comp=Z,4.8nm,0.7s,baz=337,slow=7.8,SNR=17							
KLMR	Klimovskoe	52.68	6	eP		P	23 10 45.2	-3.5
KLMR					pmax	pmax		
	comp=Z,22nm,1.8s							
USRK	Ussuriysk Arra	53.05	297	P		P	23 10 51.3	-0.4
	comp=Z,2.8nm,0.7s,baz=26,slow=7.1,SNR=7.4							
MDJ	Mudanjiang	53.55	299	P		P	23 10 50.0	-5.3
MDJ				pP		pP	23 10 53.3	-6.7
MDJ				PP		PP	23 12 49.3	-6.2
MDJ				S		S	23 18 18.3	-9.1
MDJ				ScS		ScS	23 20 39.0	-4.7
VSU	Vasula	54.17	14	⇑i P		P	23 11 00.1	+0.5
VSU					pmax	pmax		
	comp=Z,164nm,2.9s							
TLY	Talaya	55.06	322	eP		P	23 11 07.0	+0.7
TLY					pmax	pmax		
	comp=Z,7.0nm,1.7s							
CN2	Changchun	55.69	302	eP		P	23 11 06.8	-4.0
CN2				eS		S	23 18 45.3	-11
CN2					pmax	pmax		
	comp=Z,10.0nm,0.6s							
CN2					pmax	pmax		
	comp=Z,100nm,5.0s							
CN2					LR	LR		
	comp=N,200nm,14.0s							
CN2					LR	LR		
	comp=E,200nm,14.0s							
CN2					LR	LR		
	comp=Z,200nm,16.0s							
NVS	Novosibirsk	56.21	337	eP		P	23 11 13.3	-1.1
NVS					pmax	pmax		
	comp=Z,4.0nm,1.0s							
NVS					pmax	pmax		
	comp=E,3.0nm,1.3s							
SVE	Sverdlovsk	56.62	352	eP		P	23 11 18.3	+1.0
SVE					pmax	pmax		
	comp=Z,10.0nm,0.8s							
ZAA0	Zalesovo Array	56.82	336	eP		P	23 11 18.1	-0.7
ZALV	Zalesovo Beam	56.82	336	i P		P	23 11 18.5	-0.2
ZALV					pmax	pmax		
	comp=Z,2.0nm,0.7s							
ZALV	Zalesovo Beam	56.82	336	P		P	23 11 18.4	-0.4
	comp=Z,2.3nm,0.7s,baz=12,slow=7.0,SNR=12							
HVS	Khovu-Aksy	57.84	329	⇓i P		P	23 11 26.6	+0.5
HVS					pmax	pmax		
	comp=Z,45nm,1.7s							
SONA1	Songino Array	57.88	318	eP		P	23 11 26.4	0.0
SONA0	Songino Array	57.89	318	eP		P	23 11 26.7	+0.2
SONM	Songino Array	57.89	318	P		P	23 11 26.7	+0.2
	comp=Z,0.9nm,0.9s,baz=19,slow=6.3,SNR=5.9							
OBN	Obninsk	58.27	8	⇑i P		P	23 11 30.0	+1.1
OBN					pmax	pmax		
	comp=Z,9.0nm,0.5s							
MEM	Membach	58.64	31	P		P	23 11 32.3	+0.7
	comp=Z,5.8nm,1.1s							
BCLA	Clavier	58.67	31	P		P	23 11 32.2	+0.4
	comp=Z,2.6nm,1.0s							
ROSF	Rostrenen	58.67	38	eP		P	23 11 31.8	0.0
BAIF	Baives	58.78	32	eP		P	23 11 32.9	+0.3
	comp=Z,7.1nm,0.7s							
DOU	Dourbes	58.83	32	P		P	23 11 33.1	+0.2
GIVF	Givet	58.87	32	eP		P	23 11 33.3	+0.1
	comp=Z,24nm,0.9s							
SGMF	Saint Gilles	58.93	38	eP		P	23 11 33.6	0.0
FLN	La Foliniere	58.95	36	eP		P	23 11 33.7	-0.1
	comp=Z,13nm,0.6s							
LDF	La Druitiere	59.19	36	eP		P	23 11 35.3	-0.1
	comp=Z,13nm,0.7s							
GRR	Gorron	59.21	36	eP		P	23 11 35.1	-0.5
	comp=Z,11nm,0.8s							
CLL	Collm	59.28	26	eP		P	23 11 36.0	0.0
CLL				i			23 12 25.1	
CLL					pmax	pmax		
	comp=Z,4.0nm,0.8s							
CLL	Collm	59.28	26	eP		P	23 11 36.0	0.0
	comp=Z,4.0nm,0.8s							
CLL				i PcP		PcP	23 12 25.1	+1.1
BRVK	Borovoye	59.62	345	c i P		P	23 11 38.6	+0.2
BRVK					pmax	pmax		
	comp=Z,7.0nm,0.8s							
BRVK	Borovoye	59.62	345	eP		P	23 11 38.0	-0.3
	comp=Z,6.1nm,0.6s							
BRG	Berggiesshubel	59.86	25	eP		P	23 11 40.9	+0.9
	comp=Z,4.4nm,1.0s							
BRG	Berggiesshubel	59.86	25	eP		P	23 11 40.9	+0.9
BRG					pmax	pmax		
	comp=Z,4.0nm,1.0s							
VOSK	Vostochnaya	59.88	345	eP		P	23 11 39.5	-0.7
VOSK					pmax	pmax		
	comp=Z,2.0nm,0.7s							
VOSK	Vostochnaya	59.88	345	eP		P	23 11 39.5	-0.7
	comp=Z,2.3nm,0.7s							
NKC	Novy Kostel	60.22	26	eP		P	23 11 43.5	+0.9
NKC	Novy Kostel	60.22	26	eP		P	23 11 43.5	+0.9
MEZF	Maizieres J'vi	60.44	32	eP		P	23 11 45.0	+1.0
	comp=Z,10nm,0.7s							
KSRS	Korea Array	60.45	296	P		P	23 11 43.9	-0.4
	comp=Z,1.3nm,0.6s,baz=27,slow=6.5,SNR=4.7							
KS15	Wonju Array Si	60.48	296	eP		P	23 11 43.9	-0.6
PAGF	Fort de Pagny	60.53	32	eP		P	23 11 45.2	+0.6
	comp=Z,3.0nm,0.7s							
SFTF	Sexfontaines	60.71	32	eP		P	23 11 46.1	+0.2
	comp=Z,9.0nm,0.8s							
DPC	Dobruska-Polom	60.76	23	eP		P	23 11 47.1	+0.8
DPC	Dobruska-Polom	60.76	23	eP		P	23 11 47.1	+0.8
PRU	Pruhonice	60.82	25	eP		P	23 11 44.7	-1.9
PRU	Pruhonice	60.82	25	eP		P	23 11 44.7	-1.9
KURK	Kurchatov	60.91	339	⇑i P		P	23 11 46.8	-0.4
KURK					pmax	pmax		
	comp=Z,4.0nm,1.6s							
KURK	Kurchatov	60.91	339	eP		P	23 11 46.6	-0.6
	comp=Z,1.8nm,0.8s							
CDF	Champ du Feu	60.98	31	eP		P	23 11 48.2	+0.3
	comp=Z,14nm,0.9s							
MFF	Saint Martin d	61.05	37	eP		P	23 11 48.3	+0.1
HAU	Haudompre	61.18	31	eP		P	23 11 49.3	+0.2
	comp=Z,11nm,0.9s							
LOR	Lormes	61.35	33	eP		P	23 11 50.5	+0.3
	comp=Z,25nm,0.7s							
SSF	Saint Saulge	61.46	34	eP		P	23 11 51.4	+0.4
	comp=Z,24nm,0.8s							
HINF	Hinteralfeld	61.46	31	eP		P	23 11 51.1	0.0
	comp=Z,7.9nm,0.9s							
KHC	Kasperske Hory	61.48	26	eP		P	23 11 52.0	+0.8
KHC	Kasperske Hory	61.48	26	eP		P	23 11 52.0	+0.8
KHC	Kasperske Hory	61.48	26	eP		P	23 11 51.7	+0.6
	comp=Z,36nm,2.3s							
OKC	Ostrava-Krasne	61.54	22	eP		P	23 11 50.3	-1.2
OKC	Ostrava-Krasne	61.54	22	eP		P	23 11 50.3	-1.2
AVF	Avril sur Loir	61.69	34	eP		P	23 11 52.7	+0.2
	comp=Z,17nm,0.8s							
GEC2	GERESS Array S	61.78	26	eP		P	23 11 54.6	+1.4
GEC2	GERESS Array S	61.78	26	eP		P	23 11 54.6	+1.4
GERES	GERESS Array B	61.78	26	P		P	23 11 53.8	+0.5
	comp=Z,2.5nm,0.7s,baz=346,slow=4.5,SNR=25							
BGF	Bois d'Agland	61.79	34	eP		P	23 11 53.3	+0.1
	comp=Z,17nm,0.7s							
TCF	Toulx Ste Croi	61.90	35	eP		P	23 11 54.2	+0.2
	comp=Z,14nm,0.8s							
SMF	Signal de Mont	61.93	34	eP		P	23 11 54.2	0.0
	comp=Z,17nm,0.9s							
AKASG	Malin Array Be	62.08	14	ceP		P	23 11 55.2	+0.1
AKASG					pmax	pmax		
	comp=Z,5.0nm,0.9s							
AKASG	Malin Array Be	62.08	14	P		P	23 11 54.4	-0.6
	comp=Z,2.5nm,0.6s,baz=352,slow=7.1,SNR=16							
AKBB	Malin Array Si	62.08	14	eP		P	23 11 54.4	-0.6
AKBB	Malin Array Si	62.08	14	eP		P	23 11 54.4	-0.6
CABF	La Chapelle	62.45	32	eP		P	23 11 58.2	+0.4
	comp=Z,20nm,0.7s							
HHC	Hu-ho-hao-te	62.82	311	eP		P	23 12 01.0	+0.7
HHC				pP		pP	23 12 06.5	+1.3
HHC				sP		sP	23 12 08.8	+1.8
HHC				PcP		PcP	23 12 39.5	+0.9
HHC				PP		PP	23 14 19.5	+1.5
HHC				ScP		ScP	23 16 40.0	+0.2
HHC				S		S	23 20 28.3	-0.5
HHC				sS		sS	23 20 33.5	-3.2
HHC				ScS		ScS	23 21 50.3	-1.8
HHC				SS		SS	23 24 32.0	-0.9
HHC					pmax	pmax		
	comp=Z,51nm,1.2s							
HHC					pmax	pmax		
	comp=Z,210nm,6.0s							
HHC					LR	LR		
	comp=N,300nm,16.7s							
HHC					LR	LR		
	comp=E,260nm,16.7s							
HHC					LR	LR		
	comp=Z,210nm,16.7s							
LFF	La Frestale	62.83	37	eP		P	23 12 00.6	+0.4
	comp=Z,20nm,1.0s							
CAF	Calviac	63.15	36	eP		P	23 12 02.5	+0.1
	comp=Z,11nm,0.9s							
TUE	Stuetta	63.25	30	eP		P	23 12 03.9	+0.7
	comp=Z,6.6nm,0.8s							
LPL	La Plagne	63.63	32	eP		P	23 12 06.7	+0.9
	comp=Z,12nm,0.8s							
LPG	La Plagne	63.65	32	eP		P	23 12 07.0	+1.0
	comp=Z,11nm,0.8s							
VIVF	Saint-Julien-l	63.81	34	eP		P	23 12 06.8	0.0
ORIF	Oris-en-Rattie	64.02	33	eP		P	23 12 08.5	+0.3
	comp=Z,11nm,0.8s							
MK32	Makanchi Array	64.16	335	eP		P	23 12 08.1	-0.8
MKAR	Makanchi Array	64.16	335	P		P	23 12 08.1	-0.8
	comp=Z,1.0nm,0.6s,baz=39,slow=5.1,SNR=11							
MK01	Makanchi Array	64.18	335	eP		P	23 12 07.9	-1.2
ABKAR	Akbulak array	64.21	352	eP		P	23 12 09.3	0.0
LASF	Ste Croix	64.37	35	eP		P	23 12 11.0	+0.6
ETSF	Etsaut	64.43	38	eP		P	23 12 12.0	+1.1
	comp=Z,8.8nm,0.8s							
EPF	Esparros	64.53	38	eP		P	23 12 12.1	+0.6
MTLF	Montolieu	64.69	36	eP		P	23 12 13.4	+0.9
	comp=Z,6.3nm,0.9s							
SMRF	Simiane la Rot	64.85	33	eP		P	23 12 14.3	+0.7
	comp=Z,14nm,0.9s							
SBF	Sospel	65.36	32	eP		P	23 12 18.6	+1.7
	comp=Z,39nm,0.7s							
FRF	La Foret Royal	65.48	33	eP		P	23 12 18.0	+0.4
	comp=Z,17nm,1.0s							
LMR	La Mourre	65.67	33	eP		P	23 12 19.3	+0.5
WMQ	Urumqi	66.04	330	P		P	23 12 23.0	+1.7
WMQ				pP		pP	23 12 27.8	+1.6
WMQ				sP		sP	23 12 30.0	+2.0
WMQ				PcP		PcP	23 12 53.5	+1.7
WMQ				PP		PP	23 14 50.8	+4.7
WMQ					pmax	pmax		
	comp=Z,7.0nm,0.7s							
WMQ					pmax	pmax		
	comp=Z,58nm,4.5s							
WMQ					LR	LR		
	comp=E,43nm,17.0s							
WMQ					LR	LR		
	comp=Z,50nm,18.0s							
EVO	Evora	66.52	46	eP		P	23 12 25.2	+0.9
	comp=Z,8.9nm,0.9s							
ES19	SONSECA Array	66.57	42	eP		P	23 12 24.7	0.0
ESDC	Sonseca Array	66.58	42	eP		P	23 12 25.2	+0.5
ESDC	Sonseca Array	66.58	42	P		P	23 12 25.3	+0.5
	comp=Z,1.4nm,0.7s,baz=332,slow=6.6,SNR=9.0							
PGF	Pioggiola	66.95	31	eP		P	23 12 27.3	+0.1
	comp=Z,24nm,1.0s							
GTA	Gaotai	67.47	320	P		P	23 12 31.0	+0.5
GTA				pP		pP	23 12 35.8	+0.4
GTA				sP		sP	23 12 38.0	+0.8
GTA					pmax	pmax		
	comp=Z,8.0nm,0.8s							
NJ2	Nanjing	68.51	301	eP		P	23 12 35.5	-1.5
NJ2					pmax	pmax		
	comp=Z,10.0nm,1.0s							
ANN	Anapa	68.60	9	eP		P	23 12 31.7	-5.7
ANN					pmax	pmax		
	comp=Z,49nm,1.0s							
AAK	Ala-Archa	69.40	340	⇑i P		P	23 12 43.8	+1.2
AAK					pmax	pmax		
	comp=Z,12nm,2.5s							
EKS2	Erkin-Say	69.47	341	eP		P	23 12 42.5	-0.5
EKS2					pmax	pmax		
	comp=Z,4.0nm,0.8s							
EKS2	Erkin-Say	69.47	341	eP		P	23 12 42.5	-0.5
	comp=Z,4.3nm,0.8s							
LZH	Lanzhou	69.49	315	eP		P	23 12 42.5	-0.8
LZH				pP		pP	23 12 45.8	-2.3
LZH				sP		sP	23 12 47.5	-2.4
LZH				PP		PP	23 15 18.0	+1.7
LZH					pmax	pmax		
	comp=Z,23nm,1.3s							
LZH					pmax	pmax		
	comp=Z,75nm,7.0s							
LZH					LR	LR		
	comp=N,280nm,15.3s							
LZH					LR	LR		
	comp=E,280nm,15.0s							
LZH					LR	LR		
	comp=Z,310nm,19.5s							
KBZ	Khabaz	69.93	5	eP		P	23 12 47.6	+2.0
KBZ	Khabaz	69.93	5	eP		P	23 12 47.6	+2.0
KBZ	Khabaz	69.93	5	P		P	23 12 47.6	+2.0
	comp=Z,2.2nm,0.8s,baz=356,slow=12,SNR=7.0							
KSH	Kashi	72.25	338	eP		P	23 13 03.0	+3.0
KSH				pP		pP	23 13 07.5	+2.7
KSH				PP		PP	23 15 46.3	+6.5
KSH				S		S	23 22 25.8	+3.8
KSH				SKS		SKSac	23 23 02.8	-0.8
KSH				ScS		ScS	23 23 05.8	+0.2
KSH					pmax	pmax		
	comp=Z,110nm,5.7s							
KSH					LR	LR		
	comp=N,98nm,7.1s							
KSH					LR	LR		
	comp=E,110nm,5.2s							
KSH					LR	LR		
	comp=Z,150nm,6.6s							
BR231	Keskin MP Arra	73.17	13	eP		P	23 13 06.4	+1.0
BR101	Keskin Array S	73.37	12	eP		P	23 13 07.3	+0.7
BRTR	Keskin Array B	73.37	12	P		P	23 13 07.3	+0.7
	comp=Z,1.4nm,0.8s,baz=355,slow=4.7,SNR=8.4							
KEST	Kesra	73.57	33	P		P	23 13 09.2	+1.5
	comp=Z,2.0nm,1.0s,baz=260,slow=6.1,SNR=3.8							
GYA	Guiyang	77.66	309	eP		P	23 13 31.0	-0.4
GYA				PP		PP	23 16 27.8	+1.8
GYA				S		S	23 23 20.3	-2.3
GYA				SKS		SKSac	23 23 38.5	-5.7
GYA				SS		SS	23 28 21.5	+0.2
GYA					pmax	pmax		
	comp=Z,10.0nm,1.0s							
GYA					pmax	pmax		
	comp=Z,90nm,5.0s							
GYA					LR	LR		
	comp=N,470nm,18.9s							
GYA					LR	LR		
	comp=E,390nm,19.0s							
GYA					LR	LR		
	comp=Z,440nm,18.2s							
KMI	Kunming	80.10	312	P		P	23 13 45.0	+0.1
KMI				pP		pP	23 13 47.5	-2.3
KMI				sP		sP	23 13 49.5	-2.1
KMI					pmax	pmax		
	comp=Z,5.0nm,0.8s							
QIZ	Qiongzhong	83.57	304	P		P	23 14 01.8	-1.2
QIZ				S		S	23 24 22.5	-1.8
CM31	Chiang Mai Arr	87.51	313	eP		P	23 14 21.0	-1.6
CMAR	Chiang Mai Arr	87.51	313	P		P	23 14 21.0	-1.6
	comp=Z,0.4nm,0.4s,baz=355,slow=5.9,SNR=6.3							
CM01	Chiang Mai Arr	87.54	313	eP		P	23 14 22.0	-0.7
SAML	Samuel	89.52	114	eP		P	23 14 31.4	-0.6
	comp=Z,6.3nm,1.1s							
TOA0	Torodi Ar. Sit	93.23	46	eP		P	23 14 49.1	-0.2
TORD	Torodi Ar. Bea	93.23	46	P		P	23 14 49.2	-0.2
	comp=Z,0.3nm,0.7s,baz=329,slow=6.7,SNR=3.3							

CRAAG ***25*** *23:30:58.6, 35°.32N×0°.75E, Ml3.5*
MDD ***25*** *23:30:59.7±1.5, 35°.11N×0°.45W, h72km±12km, mb3.6/13, Error ellipse: s-maj=14.1km s-min=7.1km az=168.0, PRXIMO*
CSEM ***25*** *23:31:00.1±0.5, 35°.30N×0°.62W, h20km, ML3.5, Error ellipse: s-maj=10.6km s-min=6.0km az=175.0*

ISC 25 23:30:58.2±1.5, 35°.24N±0°.05×0°.56W±0°.03, h14km±9km, n77, σ1.86/110, 1C, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ODJA	Bouhanifia	0.35	75	P	Pn	23 31 10.0	+1.1
ODJA	Bouhanifia	0.35	75	P	Pn	23 31 10.0	+1.1
ODJA	Bouhanifia	0.35	75	P	Pn	23 31 10.0	+1.1
USTO	Oran	0.49	1	P	Pg	23 31 08.0	+0.1
OLHC	Oulhaca	0.70	271	P	Pg	23 31 11.0	-0.9
OLHC	Oulhaca	0.70	271	P	Pg	23 31 11.0	-0.9
OLHC	Oulhaca	0.70	271	P	Pg	23 31 11.0	-0.9
OJBR	Djebel Berber	0.81	65	P	Pg	23 31 14.0	0.0
OJBR	Djebel Berber	0.81	65	P	Pg	23 31 14.0	0.0
OJBR	Djebel Berber	0.81	65	P	Pg	23 31 14.0	0.0
OJGS	Djebel Guires	1.10	76	P	Pb	23 31 13.0	-6.1
OJGS	Djebel Guires	1.10	76	P	Pb	23 31 13.0	-6.1

EGUA	**Guajares** 3.1nm,0.2s,SNR=7.9	**2.91 304**	P	**Pn**	**23 31 44.1**	**0.0**
EGUA	42nm,0.4s,SNR=7.9		S	**Sn**	**23 32 15.9**	**-3.0**
EGUA	**Guajares** 3.1nm,0.2s,SNR=7.9	**2.91 304**	P	**Pn**	**23 31 44.1**	**0.0**
EGUA	42nm,0.4s,SNR=7.9		S	**Sn**	**23 32 15.9**	**-3.0**
EMHD	**Djebel Mahouad**	**3.02 70**	P	Pn	23 31 30.0	-16
EMHD	**Djebel Mahouad**	**3.02 70**	P	Pn	23 31 30.0	-16
EMHD	**Djebel Mahouad**	**3.02 70**	P	Pn	23 31 30.0	-16
EQUE	**Quentar** 3.7nm,0.2s,SNR=18	**3.04 311**	⇑P	**Pn**	**23 31 47.7**	**+1.7**
EQUE	1.7nm,0.3s		S	**Sn**	**23 32 22.0**	**-0.3**
EQUE	**Quentar** 3.7nm,0.2s,SNR=18	**3.04 311**	P	**Pn**	**23 31 47.7**	**+1.7**
EQUE	1.7nm,0.3s		S	**Sn**	**23 32 22.0**	**-0.3**
EHUE	**Huescar** 3.3nm,0.2s,SNR=7.9	**3.05 328**	P	**Pn**	**23 31 47.8**	**+1.7**
EHUE	0.8nm,0.2s,SNR=7.9		S	**Sn**	**23 32 21.0**	**-1.4**
EHUE	**Huescar** 3.3nm,0.2s,SNR=7.9	**3.05 328**	P	**Pn**	**23 31 47.8**	**+1.7**
EHUE	0.8nm,0.2s,SNR=7.9		S	**Sn**	**23 32 21.0**	**-1.4**
EQES	**Quesada** 15nm,0.3s,SNR=101	**3.26 322**	P	**Pn**	**23 31 51.7**	**+2.7**
EQES	3.6nm,0.1s		S	**Sn**	**23 32 28.2**	**+0.6**
EQES	**Quesada** 15nm,0.3s,SNR=101	**3.26 322**	P	**Pn**	**23 31 51.7**	**+2.7**
EQES	3.6nm,0.1s		S	**Sn**	**23 32 28.2**	**+0.6**
EBEN	**Beniarda** 0.1nm,0.1s,SNR=8.1	**3.47 4**	P	**Pn**	**23 31 52.5**	**+0.7**
EBEN	0.1nm,0.1s		S	**Sn**	**23 32 30.0**	**-2.7**
EBEN	**Beniarda** 0.1nm,0.1s,SNR=8.1	**3.47 4**	P	**Pn**	**23 31 52.5**	**+0.7**
EBEN	0.1nm,0.1s		S	**Sn**	**23 32 30.0**	**-2.7**
ETOB	**Tobarra** 2.6nm,0.1s,SNR=62	**3.49 347**	P	**Pn**	**23 31 53.6**	**+1.5**
ETOB	4.2nm,0.2s		S	**Sn**	**23 32 31.4**	**-1.9**
ETOB	**Tobarra** 2.6nm,0.1s,SNR=62	**3.49 347**	P	**Pn**	**23 31 53.6**	**+1.5**
ETOB	4.2nm,0.2s		S	**Sn**	**23 32 31.4**	**-1.9**
EVIA	**Vianos** 3.7nm,0.2s,SNR=10	**3.73 336**	P	**Pn**	**23 31 56.6**	**+1.1**
EVIA	5.1nm,0.3s,SNR=7.9		S	**Sn**	**23 32 38.2**	**-1.1**
EVIA	**Vianos** 3.7nm,0.2s,SNR=10	**3.73 336**	P	**Pn**	**23 31 56.6**	**+1.1**
EVIA	5.1nm,0.3s,SNR=7.9		S	**Sn**	**23 32 38.2**	**-1.1**
ELUQ	**Luque** 1.8nm,0.2s,SNR=7.9	**3.78 309**	P	Pn	23 32 00.1	+4.0
ELUQ	7.9nm,0.4s,SNR=7.9		S	**Sn**	**23 32 41.8**	**+1.3**
ELUQ	**Luque** 1.8nm,0.2s,SNR=7.9	**3.78 309**	P	Pn	23 32 00.1	+4.0
ELUQ	7.9nm,0.4s,SNR=7.9		S	**Sn**	**23 32 41.8**	**+1.3**
EBAN	**Banos Encina** 2.3nm,0.2s,SNR=7.3	**3.90 319**	P	Pn	23 32 01.3	+3.6
EBAN	2.1nm,0.2s		S	**Sn**	**23 32 44.2**	**+0.8**
EBAN	**Banos Encina** 2.3nm,0.2s,SNR=7.3	**3.90 319**	P	Pn	23 32 01.3	+3.6
EBAN	2.1nm,0.2s		S	**Sn**	**23 32 44.2**	**+0.8**
EIBI	**Ibiza** 0.8nm,0.1s,SNR=8.1	**4.07 21**	P	**Pn**	**23 32 00.6**	**+0.5**
EIBI	1.3nm,0.1s		S	**Sn**	**23 32 45.4**	**-2.2**
EIBI	**Ibiza** 0.8nm,0.1s,SNR=8.1	**4.07 21**	P	**Pn**	**23 32 00.6**	**+0.5**
EIBI	1.3nm,0.1s		S	**Sn**	**23 32 45.4**	**-2.2**
EADA	**Adamuz** 0.1nm,0.2s,SNR=7.9	**4.35 313**	P	**Pn**	**23 32 01.8**	**-2.1**
EADA	1.1nm,0.2s,SNR=7.9		S	**Sn**	**23 32 53.9**	**-0.6**
EADA	**Adamuz** 0.1nm,0.2s,SNR=7.9	**4.35 313**	P	**Pn**	**23 32 01.8**	**-2.1**
EADA	1.1nm,0.2s,SNR=7.9		S	**Sn**	**23 32 53.9**	**-0.6**
ECAB	**El Cabril** 0.3nm,0.1s,SNR=7.9	**4.82 307**	P	**Pn**	**23 32 10.7**	**+0.3**
ECAB	0.1nm,0.1s,SNR=7.9		S	**Sn**	**23 33 02.7**	**-3.4**
ECAB	**El Cabril** 0.3nm,0.1s,SNR=7.9	**4.82 307**	P	**Pn**	**23 32 10.7**	**+0.3**
ECAB	0.1nm,0.1s,SNR=7.9		S	**Sn**	**23 33 02.7**	**-3.4**
EMOS	**Mosqueruela** 1.3nm,0.2s,SNR=9.3	**5.12 1**	P	**Pn**	**23 32 16.1**	**+1.5**
EMOS	0.2nm,0.1s		S	**Sn**	**23 33 11.0**	**-2.5**
EMOS	**Mosqueruela** 1.3nm,0.2s,SNR=9.3	**5.12 1**	P	**Pn**	**23 32 16.1**	**+1.5**
EMOS	0.2nm,0.1s		S	**Sn**	**23 33 11.0**	**-2.5**
ESDC	**Sonseca Array** 2.5nm,0.3s,baz=151,slow=13,SNR=12	**5.19 330**	P	**Pn**	**23 32 16.8**	**+1.3**
ESDC	14nm,0.2s,baz=147,slow=22,SNR=6.5		S	**Sn**	**23 33 12.5**	**-2.6**
ESDC	**Sonseca Array** 2.5nm,0.3s,SNR=12	**5.19 330**	P	**Pn**	**23 32 16.8**	**+1.3**
ESDC	14nm,0.2s,SNR=6.5		S	**Sn**	**23 33 12.5**	**-2.6**
ETOS	**Mallorca** 0.1nm,0.1s,SNR=4.0	**5.25 30**	P	**Pn**	**23 32 15.8**	**-0.5**
ETOS	0.3nm,0.1s,SNR=7.9		S	**Sn**	**23 33 14.5**	**-2.2**
ETOS	**Mallorca** 0.1nm,0.1s,SNR=4.0	**5.25 30**	P	**Pn**	**23 32 15.8**	**-0.5**
ETOS	0.3nm,0.1s,SNR=7.9		S	**Sn**	**23 33 14.5**	**-2.2**
EMIN	**Mina Concepcio** 0.0nm,0.1s,SNR=7.9	**5.53 299**	S	**Sn**	**23 33 20.1**	**-3.4**
EMIN	**Mina Concepcio** SNR=7.9	**5.53 299**	S	**Sn**	**23 33 20.1**	**-3.4**
ERTA	**Horta de San J** 0.2nm,0.1s,SNR=6.3	**5.75 7**	P	**Pn**	**23 32 24.7**	**+1.6**
ERTA	0.1nm,0.1s,SNR=7.9		S	**Sn**	**23 33 24.8**	**-4.1**
ERTA	**Horta de San J** 0.2nm,0.1s,SNR=6.3	**5.75 7**	P	**Pn**	**23 32 24.7**	**+1.6**
ERTA	0.1nm,0.1s,SNR=7.9		S	**Sn**	**23 33 24.8**	**-4.1**
PBAR	**Barrancos**	**5.97 301**	*e*Pn	**Pn**	**23 32 27.1**	**+0.9**
PBAR			*e*Sn	**Sn**	**23 33 31.0**	**-3.3**
PBAR			A	A	23 33 32.1	
PBAR	**Barrancos** 1.2nm,0.4s	**5.97 301**	P	**Pn**	**23 32 27.1**	**+0.9**
PBAR			S	**Sn**	**23 33 31.0**	**-3.3**
PBAR	**Barrancos** 1.2nm,0.4s	**5.97 301**	P	**Pn**	**23 32 27.1**	**+0.9**
PBAR			S	**Sn**	**23 33 31.0**	**-3.3**
EGRO	**El Granado** 0.1nm,0.1s,SNR=7.9	**6.04 294**	P	**Pn**	**23 32 27.0**	**0.0**
EGRO	0.0nm,0.1s,SNR=7.9		S	Sn	23 33 30.9	-5.0
EGRO	**El Granado** 0.1nm,0.1s,SNR=7.9	**6.04 294**	P	**Pn**	**23 32 27.0**	**0.0**
EGRO	SNR=7.9		S	Sn	23 33 30.9	-5.0
GUD	**Guadarrama** 1.0nm,0.2s,SNR=5.9	**6.09 333**	P	**Pn**	**23 32 30.0**	**+2.1**
PVAQ	**Vaqueiros**	**6.17 293**	*e*Pn	**Pn**	**23 32 29.9**	**+1.0**
PVAQ			*e*Sn	**Sn**	**23 33 35.7**	**-3.5**
PVAQ			A	A	23 33 39.0	
PVAQ	**Vaqueiros** 1.5nm,0.4s	**6.17 293**	P	**Pn**	**23 32 29.9**	**+1.0**
PVAQ			S	**Sn**	**23 33 35.7**	**-3.5**
EBAD	**Badajoz** 0.1nm,0.1s,SNR=7.9	**6.24 306**	P	**Pn**	**23 32 29.2**	**-0.6**
EBAD	1.7nm,0.2s,SNR=8.5		S	Sn	23 33 36.3	-4.7
PBDV	**Barranco-do-Ve**	**6.28 291**	*e*Pn	**Pn**	**23 32 31.4**	**+0.9**
PBDV	**Barranco-do-Ve**	**6.28 291**	P	**Pn**	**23 32 31.4**	**+0.9**
EPLA	**Plasencia** 0.5nm,0.1s,SNR=9.1	**6.51 319**	P	**Pn**	**23 32 34.3**	**+0.7**
CFON	**Fontmartina** 0.2nm,0.1s,SNR=4.0	**6.92 19**	P	**Pn**	**23 32 40.8**	**+1.5**
CSOR	**Sort** 0.0nm,0.1s,SNR=4.0	**7.25 10**	P	**Pn**	**23 32 46.0**	**+2.3**
MVO	**Moncorvo** 0.1nm,0.1s,SNR=7.9	**7.80 321**	P	**Pn**	**23 32 52.7**	**+1.3**

IDC 25 23:34:42.4±3.5, 7°.14S×129°.77E, h121km±30km, mb3.6/3, mb1 3.8/5, mb1mx3.4/19, mbtmp3.7/5, MS3.0/1, Ms1 3.0/1, ms1mx2.3/19, Error ellipse: s-maj=85.8km s-min=25.0km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 2.7nm,0.3s,baz=341,slow=14,SNR=16	**13.48**	**161**	P	Pn	23 37 48.4	-0.5
WRA	3.3nm,0.3s,baz=324,slow=26,SNR=7.0			S	Sn	23 40 08.7	-9.0
ASAR	**Alice Springs** 0.6nm,0.3s,baz=341,slow=10.0,SNR=24	**16.91**	**167**	P	P	23 38 32.2	+0.3
ASAR	1.1nm,0.3s,baz=322,slow=20,SNR=9.6			S	Sn	23 41 29.8	-11
ASAR	0.1nm,0.3s,baz=1.7,slow=1.7,SNR=4.8			ScP	ScP	23 46 35.0	-0.7
KSRS	**Korea Array** comp=Z,20nm,20.4s,baz=215,slow=33	**44.39**	**358**	LR	LR	23 59 08.2	
MKAR	**Makanchi Array** 0.5nm,0.5s,baz=109,slow=7.6,SNR=13	**68.21**	**327**	P	P	23 45 30.2	+0.2
MKAR	0.3nm,0.5s,baz=118,slow=7.5,SNR=2.8			pP	PcP	23 45 54.9	0.0
ZALV	**Zalesovo Beam** 0.5nm,0.6s,baz=149,slow=6.0,SNR=2.7	**71.60**	**334**	P	P	23 45 50.1	-0.4
KURBB	**Kurchatov Arra** 0.7nm,0.4s,baz=143,slow=5.8,SNR=9.3	**72.50**	**329**	P	P	23 45 56.0	+0.1

*IDC **25** 23:37:29.9±2.9, 67°.19N×8°.19E, h0km, mb1 3.3/4, mb1mx3.1/27, mbtmp3.2/4, ML2.8/4, Error ellipse: s-maj=33.5km s-min=15.0km az=116.0*
*CSEM **25** 23:37:30.6±0.6, 67°.05N×8°.19E, h1km, ML2.7, Error ellipse: s-maj=13.8km s-min=6.1km az=108.0, Suspected Mining explosion.*
*HEL **25** 23:37:33.2±0.3, 67°.06N×8°.46E, h10km, ML2.7, ML2.7(UPP), ML2.3(BER)*
*UPP **25** 23:37:34.4, 67°.02N×8°.59E, h0km, ML2.7, Suspected Mining explosion.*
*BER **25** 23:37:34.9±4.8, 66°.99N×8°.41E, h10km, MD2.3, ML2.3, ML2.5(NAO)*
*NAO **25** 23:37:35.8±3.9, 66°.91N×9°.20E, h17km±26km, ML2.5*
ISC 25 23:37:30.4±1.5, 67°.01N±0°.05×8°.55E±0°.07, h0km, n77, σ1°91/110, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KONS	**Konsvik**	**1.89**	**104**	*e*P	**Pb**	**23 38 06.0**	**+0.3**
KONS				*e*S	**Sg**	**23 38 31.9**	**+0.9**
KONS				AML	AML	23 38 32.9	
KONS	**Konsvik** comp=Z,42nm,0.3s	**1.89**	**104**	*e*P	**Pb**	**23 38 06.0**	**+0.3**
KONS				*e*S	**Sg**	**23 38 31.9**	**+0.9**
KONS				AML	AML	23 38 32.9	
KONS	**Konsvik** comp=Z,42nm,0.3s	**1.89**	**104**	P	**Pb**	**23 38 06.0**	**+0.3**
KONS				S	**Sg**	**23 38 31.8**	**+0.9**
STOK	**Stokkvaagen** comp=Z,42nm,0.3s	**1.91**	**109**	*e*P	**Pb**	**23 38 06.4**	**+0.3**
STOK				*e*S	**Sg**	**23 38 31.4**	**-0.1**
STOK				AML	AML	23 38 32.6	
STOK	**Stokkvaagen** comp=N,51nm,0.3s	**1.91**	**109**	*e*P	**Pb**	**23 38 06.4**	**+0.3**
STOK				*e*S	**Sg**	**23 38 31.4**	**-0.1**
STOK				AML	AML	23 38 32.6	
STOK	**Stokkvaagen** comp=N,51nm,0.3s	**1.91**	**109**	P	**Pb**	**23 38 06.3**	**+0.3**
STOK				S	**Sg**	**23 38 31.4**	**-0.1**
FLOS	**Flostrand** comp=N,51nm,0.3s	**2.03**	**107**	*e*P	**Pb**	**23 38 08.5**	**+0.3**
FLOS				*e*S	**Sg**	**23 38 34.8**	**-0.9**
FLOS				AML	AML	23 38 38.1	
FLOS	**Flostrand** comp=Z,37nm,0.4s	**2.03**	**107**	*e*P	**Pb**	**23 38 08.5**	**+0.3**
FLOS				*e*S	**Sg**	**23 38 34.8**	**-0.9**
FLOS				AML	AML	23 38 38.1	
FLOS	**Flostrand** comp=Z,37nm,0.4s	**2.03**	**107**	P	**Pb**	**23 38 08.5**	**+0.3**
FLOS				S	**Sg**	**23 38 34.8**	**-0.9**
LOF	**Lofoten** comp=Z,37nm,0.4s	**2.22**	**57**	*e*S	**Sn**	**23 38 35.4**	**-1.1**
LOF				AML	AML	23 38 42.3	
LOF	**Lofoten** comp=Z,22nm,0.2s	**2.22**	**57**	*e*S	**Sn**	**23 38 35.4**	**-1.1**
LOF				AML	AML	23 38 42.3	
LOF	**Lofoten** comp=Z,22nm,0.2s	**2.22**	**57**	*e*S	**Sn**	**23 38 35.4**	**-1.1**
MOR8	**Moi Rana** comp=Z,22nm,0.2s,SNR=50	**2.50**	**107**	*e*P	**Pb**	**23 38 16.0**	**-0.2**
MOR8				*e*S	**Sb**	**23 38 48.7**	**+1.2**
MOR8				AML	AML	23 38 50.9	
MOR8	**Moi Rana** comp=Z,50nm,0.2s	**2.50**	**107**	*e*P	**Pb**	**23 38 16.0**	**-0.2**
MOR8				*e*S	**Sb**	**23 38 48.7**	**+1.2**
MOR8				AML	AML	23 38 50.9	
MOR8	**Moi Rana** comp=Z,50nm,0.2s	**2.50**	**107**	P	**Pb**	**23 38 15.9**	**-0.2**
MOR8				*e*S	**Sb**	**23 38 48.7**	**+1.2**
NSS	**Namsos** comp=Z,50nm,0.2s,SNR=50	**2.86**	**149**	*e*P	**Pn**	**23 38 19.3**	**+2.1**
NSS				*e*S	**Sn**	**23 38 52.9**	**+0.6**
NSS				AML	AML	23 38 56.9	
NSS	**Namsos** comp=Z,29nm,0.3s	**2.86**	**149**	*e*P	**Pn**	**23 38 19.3**	**+2.1**
NSS				*e*S	**Sn**	**23 38 52.9**	**+0.6**
NSS				AML	AML	23 38 56.9	
NSS	**Namsos** comp=Z,29nm,0.3s	**2.86**	**149**	P	**Pn**	**23 38 19.3**	**+2.1**
NSS				*e*S	**Sn**	**23 38 52.9**	**+0.6**
LILU	**Lilltraesk** comp=Z,29nm,0.3s,SNR=50	**4.90**	**105**	*e*P	**Pn**	**23 38 48.1**	**+2.8**
LILU	**Lilltraesk**	**4.90**	**105**	P	**Pn**	**23 38 48.1**	**+2.8**
KIF	**Kilpisjarvi**	**5.02**	**61**	*e*P	**Pn**	**23 38 48.5**	**+1.7**
KIF				*e*S	**Sn**	**23 39 44.3**	**-1.2**
KIF				MSN		23 39 57.9	
KIF	**Kilpisjarvi** comp=Z,1.8nm,0.2s	**5.02**	**61**	P	**Pn**	**23 38 48.5**	**+1.7**
KIF				S	**Sn**	**23 39 44.3**	**-1.2**
HARU	**Harads**	**5.03**	**94**	*e*P	**Pn**	**23 38 49.6**	**+2.6**
HARU	**Harads**	**5.03**	**94**	P	**Pn**	**23 38 49.6**	**+2.6**
SVAU	**Svanoeiden**	**5.20**	**114**	*e*P	**Pn**	**23 38 51.6**	**+2.2**
SVAU	**Svanoeiden**	**5.20**	**114**	P	**Pn**	**23 38 51.5**	**+2.2**
LANU	**Lannavaara**	**5.26**	**72**	*e*P	**Pn**	**23 38 52.6**	**+2.3**
LANU				*e*S	**Sn**	**23 39 49.5**	**-2.0**
LANU	**Lannavaara**	**5.26**	**72**	P	**Pn**	**23 38 52.5**	**+2.3**
SJUU	**Sjulsmark**	**5.49**	**100**	*e*P	**Pn**	**23 38 56.3**	**+3.0**
SJUU	**Sjulsmark**	**5.49**	**100**	P	**Pn**	**23 38 56.3**	**+3.0**
BURU	**Burvik**	**5.81**	**109**	*e*P	Pn	23 39 01.0	+3.3
BURU	**Burvik**	**5.81**	**109**	P	Pn	23 39 01.0	+3.3
KTK1	**Kautokeino**	**5.87**	**63**	*e*P	**Pn**	**23 39 00.8**	**+2.3**
KTK1				*e*S	**Sn**	**23 40 04.8**	**-1.6**
KTK1	**Kautokeino**	**5.87**	**63**	*e*P	**Pn**	**23 39 00.8**	**+2.3**
KTK1				*e*S	**Sn**	**23 40 04.8**	**-1.6**
KTK1	**Kautokeino**	**5.87**	**63**	P	**Pn**	**23 39 00.8**	**+2.3**
HEF	**Hetta**	**5.92**	**69**	*e*P	**Pn**	**23 39 00.8**	**+1.6**
HEF				*e*S	**Sn**	**23 40 06.1**	**-1.5**
HEF				MSN		23 40 09.4	
HEF	**Hetta** comp=Z,3.1nm,0.2s	**5.92**	**69**	P	**Pn**	**23 39 00.8**	**+1.6**
HEMU	**Hemsoen**	**5.94**	**133**	*e*P	**Pn**	**23 39 01.5**	**+2.0**
HEMU	**Hemsoen**	**5.94**	**133**	P	**Pn**	**23 39 01.4**	**+2.0**
UMAU	**Umeaa**	**5.95**	**116**	*e*P	**Pn**	**23 39 02.3**	**+2.7**
UMAU	**Umeaa**	**5.95**	**116**	P	**Pn**	**23 39 02.3**	**+2.7**
KALU	**Kalix**	**6.05**	**94**	*e*P	**Pn**	**23 39 03.1**	**+2.1**
KALU	**Kalix**	**6.05**	**94**	P	**Pn**	**23 39 03.1**	**+2.1**
NB2	**NORSAR Subarra** baz=348,slow=14	**6.11**	**168**	Pn	**Pn**	**23 39 03.0**	**+1.1**
NB2				Sn	**Sn**	**23 40 09.4**	**-2.9**
NB2	**NORSAR Subarra** baz=348,slow=28	**6.11**	**168**	Pn	**Pn**	**23 39 03.0**	**+1.1**
NB2				Sn	**Sn**	**23 40 09.4**	**-2.9**
NB2	**NORSAR Subarra** baz=348,slow=14	**6.11**	**168**	*e*P	**Pn**	**23 39 03.0**	**+1.1**
NB2				*e*S	**Sn**	**23 40 09.4**	**-2.9**
NB2	**NORSAR Subarra** baz=348,slow=28	**6.11**	**168**	P	**Pn**	**23 39 03.0**	**+1.1**
NB2				*e*S	**Sn**	**23 40 09.4**	**-2.9**
NORA	**NORSAR Array B** comp=Z,0.4nm,0.3s,baz=351,slow=14,SNR=6.7	**6.11**	**168**	Pn	**Pn**	**23 39 02.6**	**+0.7**
NOA				Sn	**Sn**	**23 40 09.5**	**-2.9**
ARA0	**ARCESS Array S** comp=Z,6nm,0.3s,baz=330,slow=21,SNR=3.7 baz=248,slow=14	**6.78**	**60**	Pn	**Pn**	**23 39 12.3**	**+1.3**
ARA0				Sn	**Sn**	**23 40 25.6**	**-3.1**
ARA0	**ARCESS Array S** baz=243,slow=22	**6.78**	**60**	Pn	**Pn**	**23 39 12.3**	**+1.3**
ARA0				Sn	**Sn**	**23 40 25.6**	**-3.1**
ARA0	**ARCESS Array S** baz=243,slow=22	**6.78**	**60**	*e*P	**Pn**	**23 39 12.3**	**+1.3**
ARA0				*e*S	**Sn**	**23 40 25.6**	**-3.1**
ARA0	**ARCESS Array S** baz=248,slow=14	**6.78**	**60**	Pn	**Pn**	**23 39 12.3**	**+1.3**
ARCES	**ARCESS Array B** comp=Z,0.1nm,0.3s,baz=252,slow=12,SNR=6.8	**6.78**	**60**	Pn	**Pn**	**23 39 11.7**	**+0.7**
ARCES				Sn	**Sn**	**23 40 25.9**	**-2.9**
RNF	**Rovaniemi** comp=Z,0.5nm,0.3s,baz=255,slow=21,SNR=6.7	**6.91**	**85**	*e*P	**Pn**	**23 39 14.4**	**+1.6**
RNF				*e*S	**Sn**	**23 40 29.7**	**-2.2**
RNF	**Rovaniemi**	**6.91**	**85**	P	**Pn**	**23 39 14.3**	**+1.6**
SGF	**Sodankyl**	**6.99**	**78**	*e*P	**Pn**	**23 39 14.4**	**+0.5**
SGF				*e*S	**Sn**	**23 40 31.0**	**-2.9**
SGF	**Sodankyl**	**6.99**	**78**	P	**Pn**	**23 39 14.3**	**+0.5**
VAF	**Ylistaro**	**7.17**	**117**	*e*P	**Pn**	**23 39 18.4**	**+2.0**
VAF				*e*S	**Sn**	**23 40 36.5**	**-2.0**
VAF	**Ylistaro**	**7.17**	**117**	P	**Pn**	**23 39 18.4**	**+2.0**
IGGU	**Iggoen**	**7.26**	**144**	*e*P	**Pn**	**23 39 18.9**	**+1.2**
IGGU	**Iggoen**	**7.26**	**144**	P	**Pn**	**23 39 18.9**	**+1.2**
HFS	**Hagfors** baz=1.7,slow=11	**7.27**	**159**	Pn	**Pn**	**23 39 18.4**	**+0.6**
HFS				Sn	**Sn**	**23 40 36.7**	**-4.3**
HFS	**Hagfors** baz=342,slow=37	**7.27**	**159**	Pn	**Pn**	**23 39 18.4**	**+0.6**
HFS				Sn	**Sn**	**23 40 36.7**	**-4.3**
HFS	**Hagfors** baz=342,slow=37	**7.27**	**159**	*e*P	**Pn**	**23 39 18.4**	**+0.6**
HFS				*e*S	**Sn**	**23 40 36.7**	**-4.3**
HFS	**Hagfors** comp=Z,0.7nm,0.3s,baz=8.5,slow=11,SNR=17	**7.27**	**159**	Pn	**Pn**	**23 39 18.9**	**+1.0**
HFS				Sn	**Sn**	**23 40 37.5**	**-3.5**
HFS	**Hagfors** comp=Z,0.8nm,0.3s,baz=343,slow=25,SNR=8.6	**7.27**	**159**	Pn	**Pn**	**23 39 18.4**	**+0.6**
OUL	**Oulu** baz=1.7,slow=10,SNR=3.4	**7.32**	**97**	*e*P	**Pn**	**23 39 20.1**	**+1.8**
OUL				*e*S	**Sn**	**23 40 40.0**	**-2.0**
OUL	**Oulu**	**7.32**	**97**	P	**Pn**	**23 39 20.1**	**+1.8**
FLYU	**Flymyra**	**8.06**	**145**	*e*P	**Pn**	**23 39 30.2**	**+1.6**
FLYU	**Flymyra**	**8.06**	**145**	P	**Pn**	**23 39 30.1**	**+1.6**
MSF	**Maaselka**	**8.27**	**88**	*e*P	**Pn**	**23 39 31.3**	**-0.1**
MSF				*e*S	**Sn**	**23 41 01.9**	**-3.4**
MSF	**Maaselka**	**8.27**	**88**	P	**Pn**	**23 39 31.3**	**-0.1**
FIA0	**FINESS Array S** baz=317,slow=28	**9.43**	**118**	Sn	Sn	23 41 23.9	-10
FIA0				Lg	Lg	23 42 23.4	
FIA0	**FINESS Array S** baz=317,slow=28	**9.43**	**118**	Sn	Sn	23 41 23.9	-10
FIA0				Lg	Lg	23 42 23.4	
FIA0	**FINESS Array S** baz=317,slow=28	**9.43**	**118**	*e*SG	Sn	23 42 23.4	+49
FIA0	**FINESS Array S** baz=317,slow=25	**9.43**	**118**	Lg	Lg	23 42 23.4	
FINES	**FINESS Array B** comp=Z,0.2nm,0.3s,baz=314,slow=13,SNR=12	**9.43**	**118**	Pn	**Pn**	**23 39 48.9**	**+1.6**
FINES				Sn	**Sn**	**23 41 32.2**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=325,slow=24,SNR=1.6						

*ISK **25** 23:37:35.7, 40°.12N×26°.97E, h9km, MD2.7*
*ISCJB **25** 23:37:37.3±0.6, 40°.21N±0°.03×27°.01E±0°.03, h6km±4km, Error ellipse: s-maj=5.9km s-min=3.5km az=15.6*
*CSEM **25** 23:37:37.0±0.2, 40°.16N×27°.01E, h5km, MD2.7, Error ellipse: s-maj=4.5km s-min=2.9km az=21.0*
*DDA **25** 23:37:37.8, 40°.20N×27°.04E, h7km, MD3.3*
*ATH **25** 23:37:37.2, 40°.24N×27°.05E, h23km±1km, MD2.7/6*
ISC 25 23:37:36.8±1.1, 40°.18N±0°.03×27°.04E±0°.02, h4km±10km, n34, σ0°59/52, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPK	**Lapseki**	**0.29**	**313**	*e*PG	**Pg**	**23 37 42.2**	**-0.1**
LPK				*e*SG	**Sg**	**23 37 46.8**	**+0.7**
LPK	**Lapseki**	**0.29**	**313**	*e*Pg	**Pg**	**23 37 42.2**	**-0.1**
LPK				*e*Sg	**Sg**	**23 37 46.8**	**+0.7**
KRBG	**Karabiga-Canak**	**0.29**	**43**	*e*PG	**Pb**	**23 37 44.1**	**-0.5**
KRBG				*e*SG	**Sb**	**23 37 48.7**	**-1.1**
KRBG	**Karabiga-Canak**	**0.29**	**43**	*e*Pg	**Pb**	**23 37 44.1**	**-0.5**
KRBG				*e*Sg	**Sb**	**23 37 48.7**	**-1.1**
GELI	**Tayfur-Gelibol**	**0.48**	**297**	*e*PG	**Pg**	**23 37 45.3**	**-0.8**
GELI				*e*SG	**Sg**	**23 37 52.4**	**+0.1**
GELI	**Tayfur-Gelibol**	**0.48**	**297**	*e*Pg	**Pg**	**23 37 45.3**	**-0.8**
GELI				*e*Sg	**Sg**	**23 37 52.4**	**+0.1**
GONE	**Gonen-Balikesi**	**0.52**	**105**	*e*PG	**Pg**	**23 37 46.6**	**-0.1**
GONE				*e*SG	**Sb**	**23 37 55.5**	**-0.7**
GONE	**Gonen-Balikesi**	**0.52**	**105**	*e*Pg	**Pg**	**23 37 46.6**	**-0.1**
GONE				*e*Sg	**Sb**	**23 37 55.5**	**-0.7**
RKY	**Sarkoy-Tekirda**	**0.52**	**12**	*e*PG	**Pg**	**23 37 47.7**	**+0.9**
RKY	**Sarkoy-Tekirda**	**0.52**	**12**	*e*Pg	**Pg**	**23 37 47.7**	**+0.9**
BOZC	**Bozcaada**	**0.83**	**246**	*i* P	**Pn**	**23 37 54.9**	**-0.4**
BOZC				*i* S	**Sb**	**23 38 05.6**	**+0.4**
BALB	**Balikesir**	**0.84**	**129**	*e*PG	**Pg**	**23 37 52.1**	**-0.8**
BALB	**Balikesir**	**0.84**	**129**	*e*Pg	**Pg**	**23 37 52.1**	**-0.8**
ALN	**Alexandroupoli**	**1.04**	**314**	*e*PN	**Pg**	**23 37 56.1**	**-0.7**
ALN				*e*SN	**Sg**	**23 38 10.3**	**0.0**
PRK	**Paraskevi**	**1.10**	**213**	*e*PN	**Pn**	**23 37 59.1**	**+0.1**
PRK				*e*SN	**Sn**	**23 38 15.5**	**+0.8**
PRK	**Paraskevi**	**1.10**	**213**	*e*Pn	**Pn**	**23 37 59.1**	**+0.1**
PRK				*e*Sn	**Sn**	**23 38 15.5**	**+0.8**
SMTH	**Samothraki Isl**	**1.19**	**285**	*e*PN	**Pb**	**23 37 59.4**	**-0.5**
SMTH				*e*SN	**Sn**	**23 38 16.5**	**-0.3**
DURS	**Dursunbey**	**1.25**	**117**	*i* P	**Pg**	**23 38 01.5**	**+0.8**
DURS				*i* S	**Sn**	**23 38 19.2**	**+0.8**
DURS	**Dursunbey**	**1.25**	**117**	*i* P	**Pg**	**23 38 01.5**	**+0.8**
DURS				*i* S	**Sn**	**23 38 19.2**	**+0.8**
SLVT	**Silivri**	**1.38**	**40**	*e*PN	**Pb**	**23 38 03.1**	**0.0**
SLVT	**Silivri**	**1.38**	**40**	*e*Pn	**Pb**	**23 38 03.1

GALN			⇑Sg	Sg	23 54 34.2	-4.1
WHY	**Whitehorse**	**6.16 199**	⇑Sn	Sn	23 54 04.7	+1.6
HYT	**Haines Junctio**	**6.45 211**	⇓Pn	Pn	23 52 58.4	+1.9
HYT			⇓Sn	Sn	23 54 09.1	-1.0
ILAR	**Eielson Array**	**6.88 263**	Pn	Pn	23 53 01.1	-1.4
0.4nm,0.3s,baz=70,slow=12,SNR=11						
ILAR			Sn	Sn	23 54 15.1	-5.6
0.5nm,0.3s,baz=65,slow=30,SNR=4.5						
ILAR			Lg	Lg	23 54 56.5	
0.7nm,0.3s,baz=67,slow=22,SNR=6.2						
YKW3	**Yellowknife Ar**	**8.01 112**	⇓Pn	Pn	23 53 19.5	+1.7
YKW3			⇓Sn	Sn	23 54 45.0	-3.2
YKA	**Yellowknife Ar**	**8.05 113**	Pn	Pn	23 53 18.6	+0.2
0.8nm,0.3s,baz=303,slow=13,SNR=29						
YKA			Sn	Sn	23 54 48.5	-0.8
0.5nm,0.3s,baz=308,slow=22,SNR=5.3						
YKA			Lg	Lg	23 55 35.0	
0.7nm,0.3s,baz=304,slow=29,SNR=6.9						
DLBC	**Dease Lake**	**8.12 177**	Lg	Lg	23 55 43.8	
0.2nm,0.3s,baz=72,slow=26,SNR=3.0						
FNBB	**Fort Nelson**	**8.44 151**	⇓Pn	Pn	23 53 24.7	+0.9
PDAR	**Pinedale Array**	**26.50 143**	P	P	23 57 03.4	+4.3
0.4nm,0.6s,baz=347,slow=3.7,SNR=3.5						
MKAR	**Makanchi Array**	**64.22 335**	P	P	00 01 56.7	+0.6
0.3nm,0.8s,baz=20,slow=4.6,SNR=2.9						

KRSC 26 00:10:11.7±3.1, 53.°69N×160.°86E, h11km±10km, ML3.5,
Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.78**	**221**	*eP*	Pn	00 10 28.7	+0.1
SPN				*i* S	Sn	00 10 39.0	-1.2
KII	**Karymskiy**	**0.91**	**293**	*eP*	Pn	00 10 30.3	-0.2
KII				*i* S	Sb	00 10 41.9	+0.2
MKZ	**Mys Kozlova**	**1.01**	**30**	*eP*	Pn	00 10 32.3	+0.6
MKZ				*i* S	Sn	00 10 45.3	-0.6
NLC	**Nalytchevo**	**1.04**	**241**	*eP*	Pn	00 10 32.4	+0.2
NLC				*i* S	Sb	00 10 45.5	+0.1
UGLR	**Uglovaya**	**1.31**	**249**	*eP*	Pn	00 10 36.2	+0.1
UGLR				*i* S	Sb	00 10 52.9	-0.5
KRER	**Koryakskii**	**1.32**	**254**	*eP*	Pb	00 10 36.9	+0.2
KRER				*i* S	Sb	00 10 53.0	-0.8
AVH	**Avacha**	**1.34**	**252**	*eP*	Pg	00 10 37.3	-0.2
AVH				*i* S	Sb	00 10 53.4	-0.7
KRX	**Arik**	**1.36**	**257**	*eP*	Pb	00 10 37.2	-0.2
KOK	**Koryaka**	**1.39**	**254**	*eP*	Pb	00 10 37.9	+0.1
TUMR	**Tumrok**	**1.65**	**346**	*eP*	Pb	00 10 41.6	-0.7
GNL	**Ganaly**	**1.73**	**271**	*eP*	Pn	00 10 42.6	+0.7
GNL				*i* S	Sn	00 11 03.4	-0.8
RUS	**Russkaya**	**1.90**	**229**	*eP*	Pn	00 10 44.9	+1.0
RUS				*i* S	Sn	00 11 06.9	-0.9
MTVR	**Mutnovka**	**2.02**	**234**	*eP*	Pb	00 10 47.4	-1.2
MTVR				*i* S	Sn	00 11 11.2	0.0
ASAK	**Asacha**	**2.21**	**235**	*eP*	Pb	00 10 51.2	-0.7
ASAK				*i* S	Sb	00 11 18.0	-1.4
APC	**Apacha**	**2.35**	**252**	*eP*	Pb	00 10 52.4	-1.6
APC				*i* S	Sn	00 11 20.6	+1.6
KOZ	**Kozyrevsk**	**2.44**	**347**	P	Pn	00 10 52.3	+0.8
SRDR	**Sredinnyy**	**2.71**	**346**	*eP*	Pn	00 10 55.8	+0.5
KBTR	**Krutoberegovo**	**2.77**	**23**	*eP*	Pn	00 10 57.9	+2.0
KBTR				*i* S	Sn	00 11 31.9	+2.6
SRKR	**Sorokina**	**2.98**	**3**	*eP*	Pn	00 11 01.4	+2.5
SRKR				*i* S	Sn	00 11 37.3	+2.6
BKI	**Bering**	**3.35**	**61**	*eP*	Pn	00 11 05.3	+1.4
BKI				*i* S	Sn	00 11 41.8	-1.8

*ISCJB **26** 00:16:30.5±0.5, 15.°16N±0.°06×94.°02W±0.°05, h33km, mb4.0/12, MS3.6/7, Error ellipse: s-maj=9.7km s-min=5.6km az=31.9*
*IDC **26** 00:16:34.2±3.1, 15.°22N×94.°03W, h60km±25km, mb3.7/12, mb1 3.9/16, mb1mx3.9/26, mbtmp3.7/16, ML3.7/4, MS3.7/8, Ms1 3.7/8, ms1mx3.3/33, Error ellipse: s-maj=30.5km s-min=15.6km az=50.0*

ISC 26 00:16:31.4±0.8, 15.°13N±0.°10×94.°17W±0.°08, h33km, n168, σ1°18/165, mb4.0/12, MS3.8/7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APG	**El Apazote**	**3.58**	**91**	P	Pn	00 17 24.7	-0.1
2.9nm,0.3s,baz=190,slow=6.1,SNR=29							
APG				S	Sn	00 18 09.1	+2.9
11nm,0.3s,baz=288,slow=20,SNR=5.1							
TEIG	**Tepich**	**7.57**	**47**	P	Pn	00 18 20.1	+0.7
6.9nm,0.3s,baz=250,slow=3.7,SNR=19							
TEIG				S	Sn	00 19 44.2	+0.1
baz=193,slow=18,SNR=2.2							
TEIG				LR	LR	00 21 42.7	
comp=Z,972nm,20.2s,baz=264,slow=42							
JTS	**JuntasAbangare**	**10.19**	**117**	P	Pn	00 18 56.6	+1.1
0.4nm,0.3s,baz=336,slow=18,SNR=2.8							
632A	**Uvalde**	**15.22**	**341**	P	Pn	00 20 04.5	+0.5
baz=15							
631A	**Perdido Creek**	**15.40**	**338**	P	Pn	00 20 05.4	-0.9
baz=15							
532A	**Rocksprings**	**15.84**	**341**	P	Pn	00 20 13.2	+1.2
baz=16							
531A	**Rocksprings**	**16.08**	**340**	P	Pn	00 20 15.9	+0.8
baz=16,SNR=7.7							
JCT	**Junction City**	**16.14**	**342**	P	Pn	00 20 16.4	+0.6
baz=16							
628A	**Black Gap, Mar**	**16.40**	**332**	P	Pn	00 20 21.1	+1.9
baz=16,SNR=15							
431A	**Sonora**	**16.57**	**340**	P	Pn	00 20 21.7	+0.3
baz=17,SNR=5.5							
627A	**Terlingua Ranc**	**16.60**	**331**	P	P	00 20 24.6	+0.6
baz=17,SNR=15							
TXAR	**Lajitas Array**	**16.64**	**330**	P	Pn	00 20 23.3	+1.0
0.1nm,0.3s,baz=149,slow=13,SNR=17							
529A	**Stev Forest Ra**	**16.67**	**335**	P	Pn	00 20 24.1	+1.5
baz=17,SNR=5.4							
430A	**Baggett Ranch,**	**16.88**	**339**	P	Pn	00 20 26.0	+0.7
baz=17							
332A	**Millersview**	**16.97**	**343**	P	Pn	00 20 26.2	-0.1
baz=17							
429A	**Davenport Ranc**	**16.98**	**337**	P	Pn	00 20 27.8	+1.3
baz=17,SNR=14							
626A	**Big Bend Ranch**	**17.05**	**329**	P	P	00 20 29.5	+0.5
baz=17,SNR=7.3							
WHTX	**Lake Whitney**	**17.06**	**350**	P	Pn	00 20 29.0	+1.6
baz=17,SNR=5.5							
331A	**San Angelo**	**17.10**	**341**	P	P	00 20 29.8	+0.4
baz=17							
527A	**Woodward Ranch**	**17.29**	**331**	P	P	00 20 32.3	+0.6
baz=17,SNR=18							
428A	**Kincaid Ranch,**	**17.38**	**335**	P	Pn	00 20 33.0	+1.4
baz=17,SNR=8.1							
232A	**Coleman**	**17.42**	**344**	P	Pn	00 20 33.3	+1.4
baz=17,SNR=8.5							
330A	**Mertzon**	**17.43**	**340**	P	Pn	00 20 33.2	+1.1
baz=18,SNR=8.8							
526A	**Mary Lane Ranc**	**17.45**	**330**	P	P	00 20 34.3	+0.9
baz=18,SNR=9.0							
231A	**Bronte**	**17.65**	**343**	P	P	00 20 36.3	+0.8
baz=18							
427A	**Hayter Ranch,**	**17.80**	**333**	P	P	00 20 38.2	+1.0
baz=18							
230A	**Sterling City**	**17.85**	**340**	P	Pn	00 20 38.5	+1.2
baz=18							
426A	**McDonald Obser**	**17.92**	**331**	P	P	00 20 40.0	+1.3
baz=18,SNR=8.8							
328A	**Wristen Ranch,**	**18.01**	**335**	P	P	00 20 41.3	+1.7
baz=18,SNR=7.9							
ABTX	**Abilene, Hawle**	**18.12**	**345**	P	Pn	00 20 41.1	+0.6
baz=18,SNR=8.3							
131A	**Roby**	**18.36**	**343**	P	P	00 20 44.3	+0.9
baz=18							
326A	**Caldwell Ranch**	**18.45**	**333**	P	Pn	00 20 46.1	+1.5
baz=18							
130A	**Snyder**	**18.46**	**342**	P	Pn	00 20 45.8	+1.1
baz=18							
425A	**Indio Mountain**	**18.48**	**329**	P	Pn	00 20 46.3	+1.2
baz=18,SNR=7.9							
228A	**UT Block 9, Go**	**18.58**	**337**	P	Pn	00 20 47.7	+1.5
baz=19							
Z32A	**Haskell**	**18.73**	**346**	P	Pn	00 20 48.9	+0.9
baz=19,SNR=9.7							
129A	**Stewart Farms,**	**18.78**	**339**	P	Pn	00 20 49.4	+0.7
baz=19							
128A	**Castleberry Fa**	**18.99**	**338**	P	Pn	00 20 51.8	+0.6
baz=19,SNR=7.8							
Z30A	**Sanderson Ranc**	**19.15**	**342**	P	P	00 20 52.7	+0.7
baz=19							
324A	**Moseley Ranch,**	**19.26**	**329**	P	Pn	00 20 55.3	+0.8
baz=19,SNR=7.5							
Z29A	**Hungry Hill Ra**	**19.31**	**341**	P	P	00 20 54.5	+0.7
baz=19							
127A	**Arkansas Junct**	**19.37**	**336**	P	P	00 20 55.3	+0.8
baz=19							
225A	**Deer Hill, Car**	**19.50**	**332**	P	P	00 20 56.5	+0.4
baz=20							
Y31A	**Rekieta Farm,**	**19.55**	**345**	P	P	00 20 57.3	+0.9
baz=20,SNR=6.5							
Z28A	**Tucker Farm, M**	**19.56**	**339**	P	P	00 20 57.5	+1.0
baz=20,SNR=8.5							
126A	**Clayton Basin,**	**19.61**	**335**	P	P	00 20 57.8	+0.7
baz=20							
224A	**Cornudas Mount**	**19.80**	**330**	P	P	00 21 00.1	+0.8
baz=20							
Z27A	**Tatum**	**19.88**	**337**	P	P	00 21 00.8	+0.7
baz=20,SNR=12							
125A	**Gardner Draw,**	**19.89**	**333**	P	P	00 21 00.6	+0.4
baz=20							
Y28A	**McKinney Farm,**	**20.08**	**340**	P	P	00 21 03.1	+0.8
baz=20,SNR=17							
X31A	**McDonald Ranch**	**20.12**	**346**	P	P	00 21 03.7	+1.2
baz=20,SNR=14							
Z26A	**Caprock**	**20.14**	**336**	P	P	00 21 03.7	+0.8
baz=20,SNR=6.1							
X30A	**Coker Ranch, T**	**20.17**	**344**	P	P	00 21 04.0	+0.9
baz=20,SNR=8.0							
124A	**Stringfield Ra**	**20.28**	**332**	P	P	00 21 05.9	+1.3
baz=20							
MSTX	**Muleshoe**	**20.31**	**339**	P	P	00 21 05.2	+0.4
baz=20							
Y27A	**Causey**	**20.37**	**338**	P	P	00 21 06.1	+0.6
baz=20,SNR=9.6							
Z25A	**Roswell**	**20.45**	**334**	P	P	00 21 07.1	+0.8
baz=20,SNR=6.7							
222A	**Williams Famil**	**20.61**	**327**	P	P	00 21 09.0	+1.0
baz=21							
123A	**Bell Site, Whi**	**20.61**	**330**	P	P	00 21 09.0	+1.0
baz=21							
W31A	**Holland Ranch,**	**20.64**	**346**	P	P	00 21 08.9	+0.6
baz=21,SNR=6.6							
Y26A	**Elida**	**20.65**	**337**	P	P	00 21 09.7	+1.2
baz=21							
Z24A	**Sheeppen Canyo**	**20.77**	**333**	P	P	00 21 11.4	+1.6
baz=21,SNR=9.3							
320A	**Kipp Ranch, An**	**20.81**	**323**	P	P	00 21 11.9	+1.7
baz=21							
Y25A	**Mesa, Roswell**	**21.00**	**335**	P	P	00 21 14.0	+1.8
baz=21,SNR=8.8							
W29A	**Amraillo**	**21.02**	**343**	P	P	00 21 13.0	+0.6
baz=21							
X27A	**F and S Farms,**	**21.04**	**339**	P	P	00 21 13.1	+0.5
baz=21,SNR=5.5							
Z23A	**Rita Site, Whi**	**21.11**	**331**	P	P	00 21 14.9	+1.5
baz=21,SNR=10							
V31A	**Spring Creek L**	**21.18**	**347**	P	P	00 21 15.3	+1.2
baz=21							
X26A	**CR and CF Fran**	**21.20**	**338**	P	P	00 21 15.3	+0.8
baz=21,SNR=5.6							
220A	**Playas Peak, P**	**21.23**	**324**	P	P	00 21 16.3	+1.6
baz=21,SNR=14							
319A	**Douglas**	**21.28**	**322**	P	P	00 21 16.7	+1.5
baz=21							
121A	**Cookes Peak, D**	**21.30**	**327**	P	P	00 21 17.4	+1.8
baz=21,SNR=20							
W28A	**Vega**	**21.31**	**342**	P	P	00 21 16.3	+0.8
baz=21							
Y24A	**Capitan**	**21.31**	**333**	P	P	00 21 17.0	+1.4
baz=21,SNR=16							
V30A	**Spur Ranch, Mi**	**21.37**	**345**	P	P	00 21 17.0	+0.9
baz=21							
W27A	**Bowie Ranch, En**	**21.40**	**340**	P	P	00 21 17.2	+0.7
baz=21,SNR=6.0							
Z22A	**Elephant Butte**	**21.46**	**330**	P	P	00 21 18.4	+1.3
baz=22,SNR=11							
Y23A	**Lovelace Mesa,**	**21.59**	**332**	P	P	00 21 20.4	+1.8
baz=22,SNR=7.8							
120A	**U Bar Ranch, L**	**21.77**	**325**	P	P	00 21 22.4	+1.8
baz=22							
V28A	**Channing**	**21.77**	**342**	P	P	00 21 21.6	+1.1
baz=22							
Z21A	**St. Cloud Mine**	**21.85**	**328**	P	P	00 21 23.0	+1.5
baz=22							
Y22A	**Socorro**	**22.01**	**331**	P	P	00 21 24.5	+1.4
baz=22,SNR=7.5							
W25A	**X Bar L Ranch,**	**22.04**	**337**	P	P	00 21 24.6	+1.1
baz=22,SNR=19							
Z20A	**Nine Sixteen R**	**22.18**	**326**	P	P	00 21 26.9	+1.9
baz=22							
X23A	**Hourglass Bar**	**22.20**	**333**	P	P	00 21 27.3	+2.1
baz=22							
V26A	**Tequesquite Ra**	**22.32**	**339**	P	P	00 21 27.4	+1.0
baz=22							
W24A	**Lazy 6 Ranch,**	**22.40**	**335**	P	P	00 21 28.4	+1.1
baz=22							
T31A	**Randall Ranch,**	**22.43**	**348**	P	P	00 21 28.0	+0.6
baz=22							
U27A	**Thompson Grove**	**22.57**	**342**	P	P	00 21 29.9	+0.8
baz=23,SNR=6.3							
ANMO	**Albuquerque**	**22.62**	**333**	P	P	00 21 30.3	+0.6
2.1nm,0.8s,baz=159,slow=8.3,SNR=5.3							
V25A	**Rancho No Teng**	**22.65**	**338**	P	P	00 21 30.9	+1.0
baz=23,SNR=24							
V24A	**Rampart Ranch,**	**22.80**	**336**	P	P	00 21 33.1	+1.5
baz=23,SNR=9.3							
X21A	**Alamocita Cree**	**22.82**	**330**	P	P	00 21 33.8	+1.9
baz=23,SNR=7.0							
U26A	**Atchley Ranch,**	**22.84**	**340**	P	P	00 21 33.6	+1.6
baz=23							
U25A	**Circle Dot Ran**	**23.08**	**339**	P	P	00 21 35.4	+1.0
baz=23,SNR=7.5							
S30A	**Montezuma**	**23.11**	**347**	P	P	00 21 35.0	+0.4
baz=23,SNR=7.3							
V23A	**Ortiz Mt. (NFS**	**23.18**	**335**	P	P	00 21 37.0	+1.5
baz=23,SNR=9.7							
X20A	**Quemado**	**23.25**	**329**	P	P	00 21 37.9	+1.7
baz=23							
T26A	**Comanche Natio**	**23.51**	**341**	P	P	00 21 39.9	+1.3
baz=24							
R31A	**Burdett**	**23.55**	**349**	P	P	00 21 39.7	+0.8
baz=24							
V22A	**San Miguel Ran**	**23.64**	**333**	P	P	00 21 41.1	+1.2
baz=24,SNR=10.0							
U23A	**El Rito**	**23.69**	**335**	P	P	00 21 41.6	+1.2
baz=24,SNR=10							
R30A	**Dighton**	**23.69**	**348**	P	P	00 21 40.9	+0.6
baz=24							
T25A	**Trinidad**	**23.74**	**339**	P	P	00 21 42.6	+1.6
baz=24,SNR=7.9							
S27A	**Las Animas**	**23.77**	**343**	P	P	00 21 41.8	+0.7
baz=24							
214A	**Organ Pipe Nat**	**23.87**	**318**	P	P	00 21 42.8	+0.8
baz=24							
S26A	**Kim**	**23.88**	**342**	P	P	00 21 42.9	+0.8
baz=24							
X18A	**Snowflake**	**23.99**	**326**	P	P	00 21 44.0	+0.8
baz=24							
R29A	**Marienthal**	**24.01**	**346**	P	P	00 21 43.9	+0.7
baz=24							
R28A	**Tribune**	**24.09**	**345**	P	P	00 21 44.4	+0.3
baz=24							
V20A	**Brimhall**	**24.24**	**331**	P	P	00 21 46.5	+0.9
baz=24							
R27A	**Eads**	**24.30**	**343**	P	P	00 21 46.9	+0.9
baz=24							
U21A	**Nageezi**	**24.39**	**333**	P	P	00 21 48.4	+1.4
baz=24							
Q29A	**Oakley**	**24.42**	**347**	P	P	00 21 47.8	+0.8
baz=24,SNR=8.7							
R26A	**Arlington**	**24.50**	**342**	P	P	00 21 49.3	+1.4
baz=24,SNR=5.7							
T22A	**Edith**	**24.57**	**335**	P	P	00 21 50.1	+1.4
baz=25							
R25A	**Fountain Ranch**	**24.61**	**341**	P	P	00 21 50.0	+1.1
baz=25							
X16A	**Lo Mia Camp, P**	**24.73**	**324**	P	P	00 21 51.5	+1.5
baz=25,SNR=8.5							
P31A	**Stockton**	**24.73**	**350**	P	P	00 21 50.8	+1.0
baz=25							
U20A	**Newcomb**	**24.74**	**331**	P	P	00 21 51.4	+1.3
baz=25							
T21A	**Navajo Lake**	**24.81**	**334**	P	P	00 21 52.3	+1.5
baz=25							
Z14A	**Wintersburg**	**24.88**	**320**	P	P	00 21 53.5	+2.3
baz=25							
P30A	**Selden**	**24.91**	**349**	P	P	00 21 52.9	+1.5
baz=25,SNR=5.9							
R24A	**Sanders Place,**	**24.96**	**339**	P	P	00 21 53.6	+1.5
baz=25							
P29A	**Atwood**	**25.10**	**348**	P	P	00 21 54.9	+1.8
baz=25							
S22A	**4UR Ranch, Cre**	**25.17**	**336**	P	P	00 21 54.9	+0.8
baz=25							
Q25A	**Bedland, Calha**	**25.30**	**341**	P	P	00 21 56.5	+1.3
baz=25							
O31A	**Woolen Ranch,**	**25.34**	**351**	P	P	00 21 56.5	+1.2
baz=25							
MVCO	**Mesa Verde**	**25.42**	**333**	P	P	00 21 57.6	+1.3
baz=26							
O30A	**MW Ranch, Wils**	**25.49**	**349**	P	P	00 21 58.2	+1.5
baz=26,SNR=5.5							
S21A	**Coal Bank Pass**	**25.49**	**334**	P	P	00 21 58.2	+1.2
baz=26							
Q24A	**Divide**	**25.64**	**340**	P	P	00 21 59.4	+1.0
baz=26							
S20A	**Disappointment**	**25.87**	**334**	P	P	00 22 02.0	+1.5
baz=26							
R20A	**Redvale**	**26.18**	**334**	P	P	00 22 05.2	+2.0
baz=26							
ISCO	**Idaho Springs**	**26.55**	**340**	P	P	00 22 07.3	+0.8
baz=27							
BC3	**Big Chuckawall**	**26.66**	**318**	P	P	00 22 08.5	+1.0
baz=27							
IRM	**Iron Mountain**	**26.79**	**319**	P	P	00 22 09.6	+1.1
baz=27							
ATAH	**Atahualpa**	**27.09**	**144**	LR	LR	00 30 24.5	
comp=Z,88nm,19.2s,baz=210,slow=31							
PFO	**Pinyon Flat Ob**	**27.30**	**316**	LR	LR	00 34 00.2	
comp=Z,105nm,20.2s,baz=116,slow=38							
N20A	**Spence Gulch,**	**28.40**	**337**	P	P	00 22 24.1	+1.0
baz=28							
L23A	**Garrett**	**28.68**	**342**	P	P	00 22 26.3	+0.8
baz=29							
SPMN	**St. Paul**	**30.03**	**2**	P	P	00 22 36.5	-0.6
baz=30,SNR=6.6							
PDAR	**Pinedale Array**	**30.56**	**337**	P	P	00 22 42.8	+0.6
0.9nm,0.8s,baz=153,slow=10,SNR=6.9							
I21A	**Big Trails, Te**	**30.71**	**341**	P	P	00 22 44.5	+1.0
baz=31							
H24A	**Dirks Ranch, A**	**30.81**	**345**	P	P	00 22 45.6	+1.3
baz=31							
I20A	**Worland**	**31.10**	**340**	P	P	00 22 48.1	+1.3
baz=31							
I19A	**Meeteetse**	**31.46**	**339**	P	P	00 22 51.6	+1.5
baz=32							
H20A	**Greybull**	**31.54**	**341**	P	P	00 22 51.4	+0.7
baz=32							
H19A	**Powell**	**32.02**	**340**	P	P	00 22 56.2	+1.3
baz=32							
H18A	**Shoshone NF, C**	**32.26**	**339**	P	P	00 22 57.7	+0.6
baz=32,SNR=5.1							
HLID	**Hailey**	**33.20**	**333**	P	P	00 23 06.4	+1.1
baz=33							
D22A	**Cohagen**	**33.46**	**345**	P	P	00 23 08.1	+0.7
baz=34							
E19A	**Rath Farm, Rou**	**33.55**	**342**	P	P	00 23 08.6	+0.4
baz=34							
C23A	**Lambert**	**33.84**	**347**	P	P	00 23 11.5	+0.9
baz=34							
D20A	**Manuel Ranch,**	**33.93**	**343**	P	P	00 23 12.1	+0.6
baz=34							
ULM	**Lac du Bonnet**	**35.06**	**358**	P	P	00 23 19.6	-1.6
1.9nm,0.5s,baz=198,slow=6.4,SNR=3.2							
ULM				LR	LR	00 40 56.0	
comp=Z,29nm,19.3s,baz=136,slow=42							
LPAZ	**La Paz**	**40.44**	**139**	P	P	00 24 09.1	+1.4
0.7nm,1.0s,baz=307,slow=7.8,SNR=3.0							
SCHQ	**Schefferville**	**44.94**	**22**	LR	LR	00 45 15.2	
comp=Z,190nm,20.1s,baz=319,slow=38							
SIV	**San Ignacio**	**44.99**	**132**	LR	LR	00 43 25.6	
comp=Z,92nm,18.3s,slow=36							
YKA	**Yellowknife Ar**	**49.47**	**348**	P	P	00 25 17.8	-0.4
1.7nm,0.7s,baz=154,slow=7.1,SNR=5.8							
BDFB	**Brasilia**	**54.89**	**122**	P	P	00 25 57.7	-1.6
1.9nm,0.7s,baz=270,slow=7.1,SNR=3.5							
ILAR	**Eielson Array**	**60.99**	**337**	P	P	00 26 40.9	-0.3
3.9nm,1.2s,baz=135,slow=6.7,SNR=12							
EKA	**Eskdalemuir Ar**	**78.28**	**36**	P	P	00 28 27.2	-0.8
2.7nm,0.8s,baz=290,slow=4.4,SNR=5.9							
ESDC	**Sonseca Array**	**80.67**	**51**	P	P	00 28 40.0	-1.4
1.0nm,0.9s,baz=291,slow=4.1,SNR=4.0							
NOA	**NORSAR Array B**	**84.16**	**28**	P	P	00 28 57.5	-1.6
1.2nm,0.9s,baz=294,slow=5.0,SNR=2.9							
NOA				LR	LR	01 03 00.4	
comp=Z,49nm,21.4s,baz=350,slow=33							
GERES	**GERESS Array B**	**90.06**	**39**	P	P	00 29 27.2	-0.9
0.3nm,0.6s,baz=274,slow=4.6,SNR=2.6							
TORD	**Torodi Ar. Bea**	**92.15**	**76**	P	P	00 29 37.7	-0.6
0.5nm,1.1s,baz=287,slow=5.9,SNR=2.7							
AKASG	**Malin Array Be**	**97.93**	**32**	LR	LR	01 12 58.7	
comp=Z,61nm,18.9s,baz=315,slow=35							

*NEIC **26** 00:37:26.2±2.0, 29.°83S×177.°60W, h20km±4km, mb4.9/16, Error ellipse: s-maj=20.1km s-min=8.3km az=82.0*
*ISCJB **26** 00:37:27.9±0.2, 29.°89S±0.°04×177.°80W±0.°07, h35km, mb4.6/20, MS3.7/7, Error ellipse: s-maj=8.6km s-min=5.5km az=23.3*
*IDC **26** 00:37:29.7±1.1, 29.°67S×177.°69W, h41km±8km, mb4.2/14, mb1 4.4/16, mb1mx4.3/20, mbtmp4.2/16, ML4.3/2, MS3.7/9, Ms1 3.7/9, ms1mx3.5/25, Error ellipse: s-maj=18.8km s-min=13.3km az=96.0*

ISC 26 00:37:28.7±0.4, 29.°83S±0.°06×177.°69W±0.°09, h35km, n130, σ1°19/122, mb4.7/20, MS3.8/7, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.61**	**341**	*e*Pn	Pn	00 37 41.4	+0.6
RAO	**Raoul Island**	**0.61**	**341**	P	Pn	00 37 41.4	+0.6
9μm,0.3s,baz=84,slow=12,SNR=552							
RAO				S	Sn	00 37 49.6	+0.2
14μm,0.3s,baz=115,slow=18,SNR=40							
OUZ	**Omahuta**	**9.11**	**232**	*e*Pn	Pn	00 39 45.5	+7.9
URZ	**Urewera**	**9.45**	**206**	*e*Pn	Pn	00 39 42.5	+0.2
URZ				*e*Sn	Sn	00 41 25.2	-2.0
URZ	**Urewera**	**9.45**	**206**	P	Pn	00 39 44.1	+1.9
1.5nm,0.3s,baz=324,slow=17,SNR=10.0							
URZ				S	Sn	00 41 25.2	-

AS01	Alice Springs	43.37	266	eP	P	00 45 27.6 -0.2
AS12	Alice Springs	43.41	266	eP	P	00 45 27.8 -0.4
AS12				ePP	PcP	00 47 16.1 -0.1
ASAR	Alice Springs	43.41	266	P	P	00 45 27.8 -0.4
	6.7nm,0.8s,baz=102,slow=7.0,SNR=47					
ASAR				PcP	PcP	00 47 16.1 -0.1
	1.2nm,0.7s,baz=117,slow=4.1,SNR=5.0					
ASAR				LR	LR	01 03 36.7
	comp=Z,240nm,18.9s,baz=153,slow=36					
WRAB	Tennant Creek	44.34	271	eP	P	00 45 35.2 -0.4
	19nm,0.6s					
WRAB	Tennant Creek	44.34	271	P	P	00 45 36.0 +0.3
	152nm,0.9s,SNR=6.0					
WRA	Warramunga Arr	44.35	271	eP	P	00 45 35.4 -0.3
WRA	Warramunga Arr	44.35	271	P	P	00 45 35.4 -0.3
	19nm,0.7s,baz=110,slow=7.7,SNR=36					
WRA				LR	LR	01 01 16.2
	comp=Z,126nm,20.6s,baz=295,slow=32					
SBA	Scott Base	48.62	184	eP	P	00 46 12.7 +4.2
	7.1nm,0.8s					
VNDA	Vanda	48.69	186	eP	P	00 46 12.2 +3.2
	36nm,2.5s					
VNDA	Vanda	48.69	186	P	P	00 46 10.9 +2.0
	2.2nm,0.9s,baz=15,slow=6.9,SNR=8.4					
CASY	Casey	55.77	208	eP	P	00 47 01.3 -0.3
	15nm,0.9s					
QSPA	South Pole Qui	60.28	180	eP	P	00 47 36.0 +2.5
	19nm,0.7s					
QSPA	South Pole Qui	60.28	180	P	P	00 47 35.9 +2.5
	22nm,0.7s,baz=42,slow=7.1,SNR=24					
MAW	Mawson	72.93	200	eP	P	00 48 55.1 +1.2
	1.9nm,0.9s					
MAW	Mawson	72.93	200	P	P	00 48 54.9 +1.0
	5.7nm,0.8s,baz=130,slow=6.9,SNR=19					
SNAA	Sanae	78.72	178	eP	P	00 49 27.8 +0.8
SNAA	Sanae	78.72	178	eP	P	00 49 27.8 +0.8
	122nm,3.0s					
SNAA	Sanae	78.72	178	P	P	00 49 27.4 +0.3
	1.3nm,0.8s,baz=181,slow=4.8,SNR=14					
VNA2	Neumayer--Watz	79.29	177	eP	P	00 49 31.2 +1.1
	baz=170,slow=4.6					
VNA1	Neumayer--Stat	79.52	176	eP	P	00 49 32.7 +1.4
KSRS	Korea Array	84.09	319	P	P	00 49 56.3 +0.6
	2.5nm,0.9s,baz=139,slow=6.7,SNR=7.6					
KSRS				LR	LR	01 21 16.0
	comp=Z,35nm,19.4s,baz=225,slow=31					
KS15	Wonju Array Si	84.10	319	eP	P	00 49 56.3 +0.5
MONP	Monument Peak	85.19	48	P	P	00 50 02.7 +1.0
	baz=85					
BFSC	Mount Baldy Ra	85.27	46	P	P	00 50 03.1 +1.1
	baz=85					
PETK	Petropavlovsk-	85.33	345	P	P	00 50 01.7 0.0
	2.9nm,0.7s,baz=120,slow=7.1,SNR=3.7					
EDW2	Edwards Air Fo	85.49	45	P	P	00 50 04.0 +1.0
	baz=86					
ISA	Isabella	85.71	45	P	P	00 50 05.1 +1.1
	baz=86					
LRMC	Laurel Mountai	86.06	45	P	P	00 50 07.0 +1.1
	baz=86					
BELC	Belle Mtn. Jos	86.17	47	P	P	00 50 07.6 +1.1
	baz=86					
BC3	Big Chuckawall	86.30	48	P	P	00 50 08.6 +1.5
	baz=86					
GSC	Goldstone	86.50	46	P	P	00 50 09.1 +1.1
	baz=87					
MPMC	Manual Prospec	86.57	45	P	P	00 50 09.2 +0.7
	baz=87					
IRM	Iron Mountain	86.81	47	P	P	00 50 10.7 +1.2
	baz=87					
USRK	Ussuriysk Arra	86.83	326	P	P	00 50 10.2 +1.0
	2.1nm,0.7s,baz=147,slow=3.4,SNR=5.2					
113A	Mohawk Valley,	86.84	49	P	P	00 50 10.5 +0.9
	baz=87					
214A	Organ Pipe Nat	86.97	50	P	P	00 50 11.4 +1.1
	baz=87					
TUQ	Turquoise Moun	87.14	46	P	P	00 50 12.3 +1.2
	baz=87					
FURC	Furnace Creek,	87.22	45	P	P	00 50 12.7 +1.4
	baz=87					
NV01	Mina Array Sit	87.64	43	eP	P	00 50 14.2 +0.6
NVAR	Mina Array Bea	87.64	43	P	P	00 50 13.7 +0.1
	1.7nm,0.7s,baz=213,slow=6.5					
W13A	Hualapai Mount	88.21	47	P	P	00 50 17.5 +1.1
	baz=88					
CFAA	Coronel Fontan	89.36	126	LR	LR	01 20 24.1
	comp=Z,12nm,21.4s,baz=254,slow=29					
X16A	Lo Mia Camp, P	89.38	49	P	P	00 50 23.1 +1.2
	baz=90					
220A	Playas Peak, P	89.85	53	P	P	00 50 25.2 +1.1
	baz=90					
U15A	North Rim	90.05	47	P	P	00 50 26.5 +1.4
	baz=90					
WUAZ	Wupatki	90.09	48	eP	P	00 50 24.6 -0.5
	7.4nm,1.3s					
WUAZ	Wupatki	90.09	48	P	P	00 50 26.8 +1.6
	baz=90					
120A	U Bar Ranch, L	90.15	52	P	P	00 50 27.2 +1.7
	baz=90					
X18A	Snowflake	90.43	50	P	P	00 50 28.4 +1.5
	baz=91					
Z20A	Nine Sixteen R	90.51	52	P	P	00 50 29.1 +1.9
	baz=91					
222A	Williams Famil	90.96	53	P	P	00 50 30.6 +1.4
	baz=91					
Y20A	Horse Springs,	91.12	51	P	P	00 50 32.0 +1.8
	baz=91					
X20A	Quemado	91.41	51	P	P	00 50 32.2 +0.8
	baz=92					
Z22A	Elephant Butte	91.71	52	P	P	00 50 34.1 +1.3
	baz=92					
W20A	Ramah	91.75	50	P	P	00 50 34.5 +1.5
	baz=92					
X21A	Alamocita Cree	91.83	51	P	P	00 50 35.0 +1.6
	baz=92					
G08A	Pilot Rock	91.84	37	eP	P	00 50 33.3 +0.3
	8.8nm,1.3s					
TX31	Lajitas Ar. Si	91.86	57	eP	P	00 50 31.8 -1.6
LTX	Lajitas	91.86	57	eP	P	00 50 33.1 -0.4
TXAR	Lajitas Array	91.86	57	P	P	00 50 33.1 -0.4
	0.8nm,0.9s,baz=190,slow=4.6,SNR=6.4					
224A	Cornudas Mount	92.04	54	P	P	00 50 35.2 +0.9
	baz=92					
Y22A	Socorro	92.10	52	P	P	00 50 35.8 +1.2
	baz=92					
627A	Terlingua Ranc	92.12	57	P	P	00 50 35.5 +0.8
	baz=92					
U21A	Nageezi	93.06	49	P	P	00 50 39.9 +0.9
	baz=93					
HLID	Hailey	93.20	41	P	P	00 50 40.1 +0.7
	baz=93					
HONU	Honeyville	93.44	43	eP	P	00 50 39.5 -1.0
Y25A	Mesa, Roswell	93.65	53	P	P	00 50 41.8 +0.1
	baz=94					
Z26A	Caprock	93.79	54	P	P	00 50 42.6 +0.3
	baz=94					
429A	Davenport Ranc	93.85	57	P	P	00 50 42.7 +0.1
	baz=94					
NEW	Newport	94.76	36	P	P	00 50 47.6 +1.3
	baz=95					
532A	Rocksprings	95.04	58	P	P	00 50 48.9 +0.8
	baz=95					
PD31	Pinedale Array	95.54	43	eP	P	00 50 50.5 +0.3
PDAR	Pinedale Array	95.54	43	P	P	00 50 50.5 +0.3
	0.2nm,0.5s,baz=171,slow=6.4,SNR=2.8					
ILAR	Eielson Array	97.31	13	P	P	00 50 56.5 -0.9
	0.4nm,0.5s,baz=223,slow=4.9,SNR=3.3					
ILB	Eielson Array	97.31	13	eP	P	00 50 56.5 -0.9
MK32	Makanchi Array	117.61	310	ePKPdf	PKPdf	00 56 09.2 -1.5
MKAR	Makanchi Array	117.61	310	PKP	PKPdf	00 56 09.2 -1.5
	0.5nm,0.6s,baz=75,slow=1.6,SNR=5.4					
ZALV	Zalesovo Beam	117.78	319	PKP	PKPdf	00 56 09.0 -1.7
	0.3nm,0.3s,baz=112,slow=1.6,SNR=2.6					
KURK	Kurchatov	120.85	314	ePKPdf	PKPdf	00 56 14.9 -1.8
KBL	Kabul	124.24	293	ePKPdf	PKPdf	00 56 22.4 -1.7
KKAR	Karatay Array	124.98	304	ePKPdf	PKPdf	00 56 23.8 -1.2
VOSK	Vostochnaya	125.81	316	ePKPdf	PKPdf	00 56 24.8 -1.4
ARA0	ARCESS Array S	138.09	348	ePKPpre	PKPpre	00 56 45.8
ARA0				ePKPdf	PKPdf	00 56 49.7 +0.8
ARCES	ARCESS Array B	138.09	348	PKhKP	PKPpre	00 56 45.8
	6.2nm,0.9s,baz=5.7,slow=0.9,SNR=8.6					
ARCES				PKP	PKPdf	00 56 49.7 +0.8
	4.7nm,0.7s,baz=50,slow=1.4,SNR=6.5					
KAF	Kangasniemi	144.10	341	ep	PKPab	00 56 56.7 -0.8
	4.1nm,0.6s					
FIA0	FINESS Array S	144.70	340	ePKPdf	PKPab	00 56 59.0 -0.8
FINES	FINESS Array B	144.70	340	PKP	PKPab	00 56 59.0 -0.8
	6.3nm,0.4s,baz=56,slow=3.5,SNR=75					
KBZ	Khabaz	145.01	305	ePKPbc	PKPbc	00 57 01.0 -0.5
KBZ	Khabaz	145.01	305	PKP	PKPbc	00 57 01.0 -0.5
	1.5nm,0.6s,baz=98,slow=2.1,SNR=5.0					
NB2	NORSAR Subarra	148.23	352	PKP	PKPbc	00 57 09.5 -0.8
	comp=Z,13nm,0.7s,baz=14,slow=2.9					
NB200	NORSAR Array S	148.23	352	ePKPdf	PKPbc	00 57 09.3 -1.0
NOA	NORSAR Array B	148.23	352	PKPbc	PKPbc	00 57 09.3 -1.0
	comp=Z,12nm,0.7s,baz=17,slow=4.6,SNR=28					
NBO02	NORSAR Array S	148.26	352	ePKPdf	PKPbc	00 57 09.2 -1.2
NACGM	Naroch	149.41	332	e	PKPdf	00 57 10.0 +1.0
AKASG	Malin Array Be	151.01	324	PKPbc	PKPbc	00 57 16.5 -0.9
	comp=Z,2.6nm,0.3s,baz=47,slow=3.2,SNR=26					
AKBB	Malin Array Si	151.01	324	ePKPbc	PKPbc	00 57 16.5 -0.9
KIEV	Kiev	151.02	324	ePKPbc	PKPbc	00 57 16.3 -1.1
BR101	Keskin Array S	152.56	300	ePKPdf	PKPbc	00 57 20.2 -1.3
BRTR	Keskin Array B	152.56	300	PKPbc	PKPbc	00 57 20.2 -1.3
	comp=Z,2.1nm,0.8s,baz=136,slow=3.7,SNR=11					
BR231	Keskin MP Arra	153.18	300	ePKPdf	PKPbc	00 57 21.2 -1.7
CLL	Collm	157.11	343	i PKPab	PKPab	00 57 52.0 +1.2
	comp=Z,6.0nm,0.9s					
BRG	Berggiesshubel	157.24	341	i PKP	PKPab	00 57 52.9 +1.4
	comp=Z,6.2nm,0.8s					
GEC2	GERESS Array S	159.11	339	ePKPab	PKPab	00 58 00.5 +0.7
GERES	GERESS Array B	159.11	339	PKPab	PKPab	00 58 00.5 +0.7
	comp=Z,0.5nm,0.6s,baz=51,slow=5.2,SNR=7.0					
TOA0	Torodi Ar. Sit	163.39	178	ePKPab	PKPab	00 58 19.4 +0.4
TORD	Torodi Ar. Bea	163.39	178	PKPab	PKPab	00 58 19.4 +0.4
	comp=Z,1.3nm,0.5s,baz=184,slow=4.0,SNR=8.1					

IDC 26 00:37:39.7±1.9, 24°.22S×67°.05W, h157km±18km, mb2.8/2, mb1 3.5/5, mb1mx3.3/16, mbtmp3.8/5, Error ellipse: s-maj=28.4km s-min=16.3km az=106.0, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	7.43	188	P	Pn	00 39 27.0	+1.4
	0.1nm,0.3s,baz=357,slow=14,SNR=4.7						
CFAA				S	Sn	00 40 47.7	-1.1
	0.1nm,0.3s,baz=229,slow=17,SNR=4.3						
LPAZ	La Paz	7.96	352	P	Pn	00 39 33.4	0.0
	1.3nm,0.3s,baz=170,slow=6.4,SNR=18						
SIV	San Ignacio	9.93	36	P	Pn	00 39 57.7	-1.0
	2.2nm,0.3s,baz=234,slow=14,SNR=23						
BDFB	Brasilia	19.81	68	P	P	00 41 59.1	+0.7
	0.7nm,0.3s,baz=238,slow=10,SNR=12						
TXAR	Lajitas Array	63.83	325	P	P	00 47 55.4	-0.1
	0.1nm,0.5s,baz=129,slow=7.1,SNR=2.7						
TORD	Torodi Ar. Bea	76.69	69	P	P	00 49 13.5	-0.4
	0.1nm,0.3s,baz=246,slow=5.8,SNR=6.3						
ASAR	Alice Springs	128.24	205	PKP	PKPdf	00 56 27.8	-0.4
	0.5nm,0.7s,baz=116,slow=2.2,SNR=3.7						
WRA	Warramunga Arr	131.41	207	PKP	PKPdf	00 56 34.0	-0.2
	0.7nm,0.3s,baz=155,slow=1.7,SNR=4.6						
MKAR	Makanchi Array	146.72	40	PKPbc	PKPbc	00 57 02.5	-0.6
	0.6nm,0.5s,baz=297,slow=2.8,SNR=5.7						

IDC 26 00:46:33.5±2.4, 3°.11S×129°.95E, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.5/20, mbtmp3.7/3, ML3.9/1, Error ellipse: s-maj=177.6km s-min=28.6km az=70.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	17.27	166	P	Pn	00 50 35.1	-1.2
	0.5nm,0.3s,baz=349,slow=13,SNR=5.5						
ASAR	Alice Springs	20.80	170	P	P	00 51 16.9	+0.4
	3.2nm,0.5s,baz=347,slow=11,SNR=40						
MKAR	Makanchi Array	64.97	326	P	P	00 57 15.0	-0.2
	0.2nm,0.5s,baz=124,slow=6.3,SNR=4.0						
TORD	Torodi Ar. Bea	127.91	284	PKP	PKPdf	01 05 42.3	-0.1
	0.6nm,1.0s,baz=80,slow=3.2,SNR=2.4						

ISCJB ***26*** *01:02:55.5±0.3, 14°.87N±0°.03×94°.19W±0°.03, h28km, mb4.6/83, MS4.2/22, Error ellipse: s-maj=5.1km s-min=3.2km az=24.6*

MEX ***26*** *01:02:56.2±0.4, 14°.83N×94°.42W, h15km±12km, MD4.5*

NEIC ***26*** *01:02:56.2, 14°.83N×94°.42W, h15km, mb4.6/57, MD4.4(MEX), After MEX.*

MOS ***26*** *01:02:57.1±0.9, 15°.06N×94°.04W, h33km, mb5.1/28, Error ellipse: s-maj=10.6km s-min=6.1km az=95.6*

GCMT ***26*** *01:02:58.1±0.6, 14°.93N×94°.28W, h12km, MW4.9, Moment Tensor Solution. s17,c22; s64,c85; Moment tensor: Scale 10^{16}Nm; M_{rr}2.00±.07; $M_{\theta\theta}$-1.66±.07; $M_{\phi\phi}$-0.34±.09; $M_{r\theta}$1.23±.29; $M_{\theta\phi}$0.75±.06; $M_{\phi r}$-0.75±.30; Best double couple: $M_0$2.50000×10^{16} NP1:ϕ_s118.00000°, δ63.00000°, λ94.00000°. NP2:ϕ_s290.00000°, δ27.00000°, λ83.00000°. Principal axes: T 2.4700, Plg72.0000°, Azm37.0000°; N -0.0100, Plg3.0000°, Azm297.0000°; P -2.4600, Plg18.0000°, Azm206.0000°; Data Used: II IU CN IC G.*

IDC ***26*** *01:03:00.1±3.0, 15°.03N×94°.06W, h56km±24km, mb3.7/13, mb1 4.0/17, mb1mx4.0/26, mbtmp3.8/17, ML3.8/4, MS4.1/21, Ms1 4.1/21, ms1mx4.0/31 Error ellipse: s-maj=35.6km s-min=14.0km az=54.0*

BJI ***26*** *01:03:06.6, 15°.40N×93°.80W, h95km, mB4.8/3*

ISC 26 01:02:56.2±0.4, 14°.85N±0°.05×94°.39W±0°.03, h28km, n502, σ1s59/496, mb4.7/83, MS4.2/22, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		1.42	53	eP	Pn	01 03 18.1	-2.1
PCIG				i S	Sn	01 03 36.0	-2.0
PCIG		1.42	53	eP	Pn	01 03 18.1	-2.1
PCIG				i S	Sn	01 03 36.0	-2.0
HUIG	Huatulco	1.89	299	i P	Pn	01 03 24.7	-2.0
HUIG				i S	Sn	01 03 46.5	-3.1
HUIG	Huatulco	1.89	299	i P	Pn	01 03 24.7	-2.0
HUIG				i S	Sn	01 03 46.5	-3.1
TGIG		2.28	32	i P	Pn	01 03 31.6	-0.4
TGIG				i S	Sn	01 03 57.4	-1.9
TGIG		2.28	32	i P	Pn	01 03 31.6	-0.4
TGIG				i S	Sn	01 03 57.4	-1.9
TGBT	Tuxtla Gutierr	2.29	33	i P	Pn	01 03 19.3	-13
TGBT				i S	Sn	01 03 47.5	-12
CCIG	Comitan	2.60	56	i P	Pn	01 03 35.9	-0.7
CCIG				i S	Sn	01 04 06.2	-1.2
CCIG	Comitan	2.60	56	i P	Pn	01 03 35.9	-0.7
CCIG				i S	Sn	01 04 06.2	-1.2
VHO	Vista Hermosa	3.16	315	i P	Pn	01 03 42.0	-2.3
VHO				i S	Sn	01 04 18.7	-2.5
VHO	Vista Hermosa	3.16	315	i P	Pn	01 03 42.0	-2.3
VHO				i S	Sn	01 04 18.7	-2.5
APG	El Apazote	3.80	87	P	Pn	01 03 51.4	-1.8
APG				S	Sn	01 04 37.1	0.0
APG	El Apazote	3.80	87	P	Pn	01 03 51.4	-1.8
	12nm,0.3s,baz=259,slow=9.1,SNR=22						
APG				S	Sn	01 04 37.1	0.0
	17nm,0.3s,baz=248,slow=16,SNR=6.0						
PNIG	Pinotepa	3.91	294	eP	Pn	01 03 53.4	-1.1
PNIG				i S	Sn	01 04 37.8	-1.7
PNIG	Pinotepa	3.91	294	eP	Pn	01 03 53.4	-1.1
PNIG				i S	Sn	01 04 37.8	-1.7
TPIG	Tehuac#an	4.55	322	i P	Pn	01 04 02.7	-0.7
TPIG				i S	Sn	01 04 54.1	-1.5
TPIG	Tehuac#an	4.55	322	i P	Pn	01 04 02.7	-0.7
TPIG				i S	Sn	01 04 54.1	-1.5
SCIG	Sabancuy	5.12	36	i P	Pn	01 04 11.0	-0.1
SCIG				i S	Sn	01 05 09.2	-0.1
SCIG	Sabancuy	5.12	36	i P	Pn	01 04 11.0	-0.1
SCIG				i S	Sn	01 05 09.2	-0.1
LVIG	Laguna Verde	5.22	339	i P	Pn	01 04 11.1	-1.4
LVIG				i S	Sn	01 05 10.0	-1.8
LVIG	Laguna Verde	5.22	339	i P	Pn	01 04 11.1	-1.4
LVIG				i S	Sn	01 05 10.0	-1.8
PPM	Popocatepetl	5.83	317	i P	Pn	01 04 21.2	-0.1
PPM				i S	Sn	01 05 26.6	-1.0
PPM	Popocatepetl	5.83	317	i P	Pn	01 04 21.2	-0.1
PPM				i S	Sn	01 05 26.6	-1.0
PPM	Popocatepetl	5.83	317	i P	Pn	01 04 21.2	-0.1
PPM				i S	Sn	01 05 26.6	-1.0
YAIG	Yautepec	6.00	312	eP	Pn	01 04 22.3	-1.0
YAIG				i S	Sn	01 05 29.7	-1.4
YAIG	Yautepec	6.00	312	eP	Pn	01 04 22.3	-1.0
YAIG				i S	Sn	01 05 29.7	-1.4
PLIG	Platanillo	6.04	306	i P	Pn	01 04 22.3	-1.4
PLIG				i S	Sn	01 05 30.1	-1.9
PLIG	Platanillo	6.04	306	i P	Pn	01 04 22.3	-1.4
PLIG				i S	Sn	01 05 30.1	-1.9
CAIG	El Cayaco	6.06	292	eP	Pn	01 04 23.2	-0.8
CAIG				i S	Sn	01 05 31.4	-1.1
CAIG	El Cayaco	6.06	292	eP	Pn	01 04 23.2	-0.8
CAIG				i S	Sn	01 05 31.4	-1.1
IIO	Organos	6.28	319	i P	Pn	01 04 27.6	+0.3
IIO	Organos	6.28	319	i P	Pn	01 04 27.6	+0.3
ARIG	Puente Sto Nin	6.65	302	i P	Pn	01 04 31.0	-1.2
ARIG				i S	Sn	01 05 45.0	-2.1
TGUH	Tegucigalpa,Un	6.94	96	ePn	Pn	01 04 41.2	+5.1
ZIIG	Zihuatanejo	7.33	293	i P	Pn	01 04 40.6	-0.8
ZIIG				i S	Sn	01 06 02.7	-1.0
ZIIG	Zihuatanejo	7.33	293	i P	Pn	01 04 40.6	-0.8
ZIIG				i S	Sn	01 06 02.7	-1.0
TEIG	Tepich	7.92	47	ePn	Pn	01 04 48.6	-0.9
TEIG				eSn	Sn	01 06 03.5	-15
TEIG	Tepich	7.92	47	P	Pn	01 04 47.8	-1.7
	11nm,0.3s,baz=238,slow=5.8,SNR=38						
TEIG				S	Sn	01 06 16.3	-1.9
	baz=217,slow=20,SNR=2.4						
TEIG				LR	LR	01 08 10.6	
	comp=Z,4μm,20.0s,baz=60,slow=41						
MOIG	Morelia	8.08	307	i P	Pn	01 04 50.9	-1.0
MOIG	Morelia	8.08	307	i P	Pn	01 04 50.9	-1.0
JTS	JuntasAbangare	10.27	115	P	Pn	01 05 23.3	+1.6
JTS	JuntasAbangare	10.27	115	P	Pn	01 05 23.3	+1.6
	0.3nm,0.3s,baz=310,slow=18,SNR=2.7						
ZAIG	Zacatecas	11.04	317	i P	Pn	01 05 30.9	-1.8
ZAIG	Zacatecas	11.04	317	i P	Pn	01 05 30.9	-1.8
732A	Laxson Ranch,	14.75	340	P	Pn	01 06 24.4	+1.4
	baz=15						
HKT	Hockley	15.09	355	eP	Pn	01 06 29.2	+1.7
HKT				pmax	pmax		
	comp=Z,58nm,1.9s						
HKT	Hockley	15.09	355	ePn	Pn	01 06 29.1	+1.7
	comp=Z,58nm,1.9s						
BCIP	Isla Barro Col	15.31	110	ePn	P	01 06 34.2	-0.8
632A	Uvalde	15.42	342	P	Pn	01 06 32.4	+0.5
	baz=16						
631A	Perdido Creek	15.58	340	P	Pn	01 06 34.4	+0.4
	baz=16						
532A	Rocksprings	16.04	342	P	Pn	01 06 40.4	+0.5
	baz=16						
531A	Rocksprings	16.27	341	P	Pn	01 06 43.8	+1.0
	baz=16,SNR=9.2						
JCT	Junction City	16.34	343	eP	P	01 06 45.4	-1.0
JCT				pmax	pmax		
	comp=Z,36nm,1.2s						
JCT	Junction City	16.34	343	ePn	P	01 06 45.4	-1.0
	comp=Z,36nm,1.2s						
JCT	Junction City	16.34	343	P	P	01 06 45.0	-1.4
	baz=16						
530A	J-C Ranch, Com	16.52	338	P	P	01 06 47.4	-1.1
	baz=17						
628A	Black Gap, Mar	16.55	333	P	P	01 06 48.6	-0.2
	baz=17,SNR=22						
432A	Menard	16.71	344	P	Pn	01 06 49.3	+0.9
	baz=17						
627A	Terlingua Ranc	16.74	332	P	P	01 06 51.6	+0.5
	baz=17,SNR=15						
431A	Sonora	16.77	341	P	P	01 06 50.2	-1.0
	baz=17,SNR=6.8						
TXAR	Lajitas Array	16.77	331	P	P	01 06 51.2	-0.1
TXAR	Lajitas Array	16.77	331	P	P	01 06 51.2	-0.1
	comp=Z,0.0nm,0.3s,baz=155,slow=12,SNR=16						
TXAR				LR	LR	01 15 22.5	
	comp=Z,203nm,18.6s,baz=100,slow=44						
529A	Stev Forest Ra	16.83	336	P	P	01 06 52.0	+0.1
	baz=17						
430A	Baggett Ranch,	17.07	340	P	P	01 06 54.4	-0.2
	baz=17						
528A	Cox Ranch, San	17.09	335	P	P	01 06 55.1	+0.3
	baz=17						
429A	Davenport Ranc	17.15	338	P	P	01 06 55.9	+0.4
	baz=17,SNR=18						
332A	Millersview	17.18	344	P	P	01 06 55.5	-0.2
	baz=17,SNR=7.8						
626A	Big Bend Ranch	17.18	330	P	P	01 06 56.7	+0.9
	baz=17,SNR=10						
331A	San Angelo	17.30	342	P	P	01 06 56.7	-0.3
	baz=17						
WHTX	Lake Whitney	17.30	351	ePn	P	01 06 56.7	-0.3
WHTX	Lake Whitney	17.30	351	P	P	01 06 56.3	-0.6
	baz=17						
527A	Woodward Ranch	17.43	332	P	P	01 06 59.4	+0.7
	baz=18,SNR=19						
428A	Kincaid Ranch,	17.55	336	P	P	01 07 03.2	+3.3
	baz=18,SNR=12						
526A	Mary Lane Ranc	17.58	331	P	P	01 07 02.7	+2.4
	baz=18,SNR=11						
330A	Mertzon	17.62	341	P	P	01 07 00.8	+0.2
	baz=18,SNR=9.0						
232A	Coleman	17.63	345	P	P	01 07 00.7	0.0
	baz=18,SNR=11						
231A	Bronte	17.85	343	P	P	01 07 04.1	+0.9
	baz=18						
427A	Hayter Ranch,	17.95	334	P	P	01 07 05.9	+1.6
	baz=18						
329A	Wagon Wheel Ra	17.96	339	P	P	01 07 05.3	+0.9
	baz=18						
230A	Sterling City	18.04	341	P	P	01 07 05.6	+0.3
	baz=18						
426A	McDonald Obser	18.07	332	P	P	01 07 07.3	+1.6
	baz=18,SNR=14						
328A	Wristen Ranch,	18.18	336	P	P	01 07 09.3	+2.6
	baz=18,SNR=18						
ABTX	Abilene, Hawle	18.33	346	ePn	Pn	01 07 10.1	+1.5
ABTX	Abilene, Hawle	18.33	346	P	Pn	01 07 09.9	+1.4
	baz=18,SNR=9.5						
131A	Roby	18.57	344	P	Pn	01 07 12.1	+0.7
	baz=19						
326A	Caldwell Ranch	18.60	333	P	Pn	01 07 13.3	+1.5
	baz=19						
425A	Indio Mountain	18.61	330	P	Pn	01 07 14.0	+1.9
	baz=19						
130A	Snyder	18.66	342	P	Pn	01 07 14.1	+1.6

WMOK **Wichita Mounta** 20.20 349 eP P 01 07 28.8 -0.1
comp=Z,5.7nm,0.7s
Y28A **McKinney Farm,** 20.27 341 P Pn 01 07 31.1 -0.7
baz=20,SNR=16
Z26A **Caprock** 20.30 336 P Pn 01 07 31.3 -0.9
baz=20,SNR=13
X31A **McDonald Ranch** 20.34 347 P Pn 01 07 31.6 -0.8
baz=20,SNR=17
X30A **Coker Ranch, T** 20.38 344 P Pn 01 07 32.2 -0.8
baz=20,SNR=10.0
124A **Stringfield Ra** 20.43 332 P Pn 01 07 33.9 +0.1
baz=20,SNR=14
MSTX **Muleshoe** 20.50 340 eP Pn 01 07 33.3 -1.1
MSTX **Muleshoe** 20.50 340 P Pn 01 07 33.4 -1.1
baz=21
Y27A **Causey** 20.55 339 P Pn 01 07 33.9 -1.2
baz=21,SNR=11
X29A **Tulia** 20.60 343 P P 01 07 34.3 +1.0
baz=21,SNR=8.6
Z25A **Roswell** 20.61 335 P Pn 01 07 35.0 -0.8
baz=21,SNR=8.8
222A **Williams Famil** 20.73 328 P Pn 01 07 36.5 -0.7
baz=21
X28A **Dimmitt** 20.82 342 P P 01 07 36.5 +0.8
baz=21
Y26A **Elida** 20.82 337 P Pn 01 07 37.4 -0.9
baz=21,SNR=6.2
W31A **Holland Ranch,** 20.86 347 P P 01 07 36.7 +0.6
baz=21,SNR=8.2
Z24A **Sheeppen Canyo** 20.92 334 P Pn 01 07 39.3 -0.3
baz=21,SNR=9.4
GOGA **Godfrey** 20.97 26 eP P 01 07 38.2 +1.0
GOGA pmax pmax
comp=Z,19nm,1.1s
GOGA **Godfrey** 20.97 26 ePn P 01 07 38.2 +1.0
comp=Z,18nm,1.1s
TUL1 **Tulsa** 21.02 357 eP P 01 07 36.2 -1.4
Y25A **Mesa, Roswell** 21.16 336 P P 01 07 41.6 +2.3
baz=21,SNR=14
W29A **Amraillo** 21.22 343 P P 01 07 41.0 +1.0
baz=21,SNR=10
X27A **F and S Farms,** 21.22 340 P P 01 07 41.1 +1.0
baz=21,SNR=10.0
Z23A **Rita Site, Whi** 21.25 332 P P 01 07 42.7 +2.3
baz=21,SNR=12
220A **Playas Peak, P** 21.33 325 P P 01 07 44.2 +3.0
baz=21,SNR=22
319A **Douglas** 21.36 323 P P 01 07 44.4 +2.8
baz=21
X26A **CR and CF Fran** 21.38 338 P P 01 07 43.3 +1.5
baz=22,SNR=6.3
V31A **Spring Creek L** 21.41 348 P P 01 07 44.4 +2.5
baz=22
121A **Cookes Peak, D** 21.42 328 P P 01 07 45.4 +3.1
baz=22,SNR=27
OTAV **Otavalo** 21.43 131 eP P 01 07 46.2 +3.4
comp=Z,4.3nm,0.6s
Y24A **Capitan** 21.46 334 P P 01 07 45.0 +2.3
baz=22,SNR=17
W28A **Vega** 21.51 342 P P 01 07 44.3 +1.3
baz=22
V30A **Spur Ranch, Mi** 21.58 346 P P 01 07 44.9 +1.1
baz=22
Z22A **Elephant Butte** 21.59 330 P P 01 07 46.5 +2.5
baz=22,SNR=11
W27A **Bowe Ranch, En** 21.59 340 P P 01 07 45.0 +1.1
baz=22,SNR=9.5
SWET **Sewanee** 21.66 19 eP P 01 07 42.8 -1.9
comp=Z,8.8nm,0.9s
Y23A **Lovelace Mesa,** 21.74 333 P P 01 07 47.8 +2.2
baz=22,SNR=11
W26A **Owens Ranch, T** 21.85 339 P P 01 07 48.6 +1.8
baz=22
120A **U Bar Ranch, L** 21.88 326 P P 01 07 50.3 +3.2
baz=22,SNR=6.3
V28A **Channing** 21.97 343 P P 01 07 49.2 +1.2
baz=22,SNR=11
Z21A **St. Cloud Mine** 21.98 329 P P 01 07 50.8 +2.5
baz=22
U31A **Nine Bar Ranch** 21.98 348 P P 01 07 48.9 +0.8
baz=22
WVT **Waverly** 22.00 14 eP P 01 07 47.3 -0.9
WVT pmax pmax
comp=Z,13nm,1.3s
WVT **Waverly** 22.00 14 eP P 01 07 47.3 -0.9
comp=Z,13nm,1.3s
Y22A **Socorro** 22.15 331 P P 01 07 52.3 +2.2
baz=22,SNR=7.2
V27A **Dan Oppiter Fa** 22.16 342 P P 01 07 51.8 +1.7
baz=22
BNM **Barren Site** 22.18 332 eP P 01 07 52.9 +2.5
comp=Z,24nm,1.3s
W25A **X Bar L Ranch,** 22.21 338 P P 01 07 52.6 +1.9
baz=22,SNR=31
U30A **WK&E Inc. Balk** 22.31 347 P P 01 07 52.8 +1.2
baz=22
LPM **Los Pinos Moun** 22.31 332 eP P 01 07 55.0 +3.1
V26A **Tequesquite Ra** 22.50 340 P P 01 07 55.2 +1.5
baz=23
Y21A **Point of Rocks** 22.55 330 P P 01 07 55.9 +1.5
baz=23
W24A **Lazy 6 Ranch,** 22.57 336 P P 01 07 56.5 +1.9
baz=23
LAZ **Ladron** 22.62 332 eP P 01 07 58.1 +3.0
comp=Z,17nm,1.5s
T31A **Randall Ranch,** 22.66 349 P P 01 07 55.5 +0.2
baz=23
U27A **Thompson Grove** 22.77 342 P P 01 07 57.6 +1.0
baz=23,SNR=7.1
ANMO **Albuquerque** 22.77 334 eP P 01 07 58.1 +1.4
comp=Z,4.3nm,0.9s
ANMO **Albuquerque** 22.77 334 P P 01 07 58.4 +1.7
comp=Z,2.7nm,0.8s,baz=143,slow=14,SNR=13
ANMO LR LR 01 17 05.7
comp=Z,264nm,18.2s,baz=160,slow=37
Y20A **Horse Springs,** 22.81 329 P P 01 08 00.0 +2.8
baz=23,SNR=7.3
V25A **Rancho No Teng** 22.82 338 P P 01 07 59.4 +2.2
baz=23,SNR=33
TUC **Tucson** 22.92 322 eP P 01 08 01.3 +3.1
TUC pmax pmax
comp=Z,46nm,1.8s
TUC **Tucson** 22.92 322 eP P 01 08 01.3 +3.1
comp=Z,46nm,1.8s
X21A **Alamocita Cree** 22.95 331 P P 01 08 01.4 +2.7
baz=23,SNR=12
V24A **Rampart Ranch,** 22.97 337 P P 01 08 00.4 +1.6
baz=23,SNR=17
U26A **Atchley Ranch,** 23.03 340 P P 01 08 00.7 +1.3
baz=23,SNR=9.9
T28A **Walsh** 23.23 344 P P 01 08 02.4 +1.2
baz=23
U25A **Circle Dot Ran** 23.26 339 P P 01 08 03.3 +1.6
baz=23,SNR=9.3
S30A **Montezuma** 23.34 348 P P 01 08 02.8 +0.5
baz=23,SNR=8.4
T27A **Campo** 23.34 343 P P 01 08 03.1 +0.7
baz=23,SNR=5.8
V23A **Ortiz Mt. (NFS** 23.34 335 P P 01 08 05.1 +2.5
baz=23,SNR=18
X20A **Quemado** 23.38 330 P P 01 08 05.9 +3.0
baz=23
W21A **San Fidel** 23.44 332 P P 01 08 06.0 +2.4
baz=24
S29A **Ulysses** 23.46 346 P P 01 08 04.7 +1.2
baz=24
U24A **Moreno Valley** 23.57 338 P P 01 08 07.1 +2.2
baz=24
S28A **Manter** 23.61 345 P P 01 08 07.0 +1.9
baz=24
TZTN **Tazewell** 23.68 22 eP P 01 08 04.6 -1.0
comp=Z,18nm,1.1s
T26A **Comanche Natio** 23.70 341 P P 01 08 07.4 +1.4
baz=24,SNR=5.8
R31A **Burdett** 23.79 350 P P 01 08 07.4 +0.7
baz=24
V22A **San Miguel Ran** 23.79 334 P P 01 08 09.0 +2.1
baz=24,SNR=18
W20A **Ramah** 23.85 330 P P 01 08 10.2 +2.7
baz=24,SNR=10
U23A **El Rito** 23.85 336 P P 01 08 09.6 +2.1
baz=24,SNR=11
R30A **Dighton** 23.92 349 P P 01 08 08.6 +0.7
baz=24,SNR=7.2
T25A **Trinidad** 23.93 340 P P 01 08 10.5 +2.3
baz=24,SNR=11
214A **Organ Pipe Nat** 23.93 319 P P 01 08 10.5 +2.4
baz=24

S27A **Las Animas** 23.97 343 P P 01 08 09.5 +1.0
baz=24
SDV **Santo Domingo** 23.98 102 eP P 01 08 09.5 +0.6
comp=Z,7.0nm,0.6s
V21A **Milan** 24.01 333 P P 01 08 11.3 +2.4
baz=24
S26A **Kim** 24.07 342 P P 01 08 10.9 +1.5
baz=24,SNR=6.9
X18A **Snowflake** 24.10 327 P P 01 08 13.1 +3.3
baz=24
U22A **Llaves** 24.16 335 P P 01 08 13.0 +2.6
baz=24,SNR=5.1
T24B **San Luis** 24.19 338 P P 01 08 13.1 +2.4
baz=24
R29A **Marienthal** 24.23 347 P P 01 08 11.6 +0.8
baz=24
KSU1 **Kansas State U** 24.24 356 eP P 01 08 10.0 -0.8
comp=Z,11nm,0.6s
R28A **Tribune** 24.31 346 P P 01 08 11.7 +0.2
baz=24
V20A **Brimhall** 24.38 331 P P 01 08 14.4 +2.0
baz=24
S25A **Robets Cordova** 24.41 340 P P 01 08 14.6 +2.1
baz=24
R27A **Eads** 24.50 344 P P 01 08 14.2 +0.9
baz=25,SNR=8.7
U21A **Nageezi** 24.54 334 P P 01 08 16.4 +2.5
baz=25
Q30A **Quinter** 24.58 349 P P 01 08 15.3 +1.3
baz=25,SNR=8.8
Q29A **Oakley** 24.65 348 P P 01 08 15.9 +1.3
baz=25,SNR=13
S24A **Houchin Ranch,** 24.65 339 P P 01 08 16.8 +1.9
baz=25
R26A **Arlington** 24.70 343 P P 01 08 16.9 +1.8
baz=25,SNR=10
T22A **Edith** 24.73 336 P P 01 08 18.1 +2.6
baz=25,SNR=9.8
R25A **Fountain Ranch** 24.81 341 P P 01 08 18.3 +2.2
baz=25,SNR=7.6
X16A **Lo Mia Camp, P** 24.83 325 P P 01 08 20.5 +4.1
baz=25,SNR=12
SDCO **Great Sand Dun** 24.85 339 eP P 01 08 18.6 +2.0
comp=Z,8.6nm,1.2s
U20A **Newcomb** 24.88 332 P P 01 08 18.9 +2.1
baz=25
P32A **Huiting Farm,** 24.96 352 P P 01 08 18.2 +0.9
baz=25
Z14A **Wintersburg** 24.96 321 P P 01 08 20.6 +3.2
baz=25
P31A **Stockton** 24.97 351 P P 01 08 18.5 +1.0
baz=25,SNR=8.6
Q28A **Sharon Springs** 25.00 346 P P 01 08 19.5 +1.7
baz=25
113A **Mowbk Valley,** 25.07 319 P P 01 08 20.9 +2.5
baz=25
P30A **Selden** 25.14 349 P P 01 08 20.8 +1.9
baz=25,SNR=8.8
R24A **Sanders Place,** 25.15 340 P P 01 08 21.1 +1.8
baz=25
Q26A **Hugo** 25.30 343 P P 01 08 22.2 +1.7
baz=25
P29A **Atwood** 25.32 348 P P 01 08 22.8 +2.1
baz=25,SNR=9.8
S22A **4UR Ranch, Cre** 25.34 336 P P 01 08 23.0 +1.9
baz=25
R23A **Moffat** 25.36 339 P P 01 08 23.2 +1.9
baz=25
P28A **Saint Francis** 25.47 347 P P 01 08 24.3 +2.3
baz=26
Q25A **Bedland, Calha** 25.50 342 P P 01 08 24.3 +1.8
baz=26
MVCO **Mesa Verde** 25.57 333 eP P 01 08 25.4 +2.3
comp=Z,14nm,1.0s
MVCO **Mesa Verde** 25.57 333 P P 01 08 25.4 +2.3
baz=26
O31A **Woolen Ranch,** 25.58 351 P P 01 08 24.7 +1.8
baz=26,SNR=8.1
WUAZ **Wupatki** 25.61 327 eP P 01 08 26.1 +2.6
comp=Z,9.1nm,0.9s
WUAZ **Wupatki** 25.61 327 P P 01 08 25.8 +2.4
baz=26,SNR=7.3
S21A **Coal Bank Pass** 25.65 335 P P 01 08 26.0 +2.0
baz=26,SNR=7.9
O30A **MW Ranch, Wils** 25.72 350 P P 01 08 26.6 +2.3
baz=26,SNR=12
R22A **Saguache, Gunn** 25.73 337 P P 01 08 27.0 +2.3
baz=26
O29A **4D Ranch, Culb** 25.80 349 P P 01 08 27.7 +2.6
baz=26
Q24A **Divide** 25.83 340 P P 01 08 27.3 +1.7
baz=26
P26A **Davis Ranch, A** 25.85 344 P P 01 08 28.9 +3.3
baz=26
GLA **Glamis** 25.94 318 P P 01 08 28.7 +2.4
baz=26
Q23A **Hartsel** 26.00 339 P P 01 08 29.7 +2.6
baz=26
S20A **Disappointment** 26.03 334 P P 01 08 29.8 +2.5
baz=26,SNR=5.4
R21A **Cimarron** 26.16 336 P P 01 08 30.5 +2.0
baz=26
R20A **Redvale** 26.34 335 P P 01 08 32.8 +2.7
baz=26
Q22A **Crested Butte,** 26.35 338 P P 01 08 32.5 +2.2
baz=26
P23A **Jefferson** 26.43 340 P P 01 08 33.2 +2.2
baz=26
Q21A **Lamborn Mesa,** 26.57 337 P P 01 08 34.8 +2.7
baz=27
SMCO **Snowmass** 26.65 338 eP P 01 08 31.2 -1.9
comp=Z,6.7nm,0.9s
BC3 **Big Chuckawall** 26.73 318 P P 01 08 35.7 +2.2
baz=27,SNR=5.5
ISCO **Idaho Springs** 26.74 341 eP P 01 08 34.3 +0.5
ISCO pmax pmax
comp=Z,6.0nm,1.1s
ISCO **Idaho Springs** 26.74 341 eP P 01 08 34.3 +0.5
comp=Z,6.4nm,1.1s
ISCO **Idaho Springs** 26.74 341 P P 01 08 35.4 +1.6
baz=27
N27A **Anderson Farm,** 26.82 346 P P 01 08 39.0 +4.7
baz=27
IRM **Iron Mountain** 26.86 319 P P 01 08 37.4 +2.8
baz=27
MONP **Monument Peak** 26.89 316 P P 01 08 37.9 +2.8
baz=27
SCIA **State Center** 26.98 2 eP P 01 08 34.9 -0.7
comp=Z,37nm,0.7s
ATAH **Atahualpa** 26.99 143 LR LR 01 16 14.6
comp=Z,181nm,21.5s,baz=158,slow=30
BELC **Belle Mtn. Jos** 27.29 318 P P 01 08 40.9 +2.3
baz=27
N22A **Wattenberg Ran** 27.91 340 P P 01 08 47.2 +2.9
baz=28
TUQ **Turquoise Moun** 28.17 321 P P 01 08 48.9 +2.4
baz=28
CCUT **Cedar City** 28.19 327 eP P 01 08 50.3 +3.6
comp=Z,4.9nm,1.2s
JFWS **Jewell Farm** 28.20 6 eP P 01 08 45.7 -0.8
JFWS pmax pmax
comp=Z,21nm,1.3s
JFWS **Jewell Farm** 28.20 6 eP P 01 08 45.7 -0.8
comp=Z,20nm,1.3s
N21A **Black Mountain** 28.24 339 P P 01 08 49.9 +2.7
baz=28
ARUT **Antelope Range** 28.41 327 eP P 01 08 50.9 +2.3
ARUT pmax pmax
comp=Z,280nm,1.4s
ARUT **Antelope Range** 28.41 327 eP P 01 08 50.9 +2.3
comp=Z,280nm,1.4s
ECSD **EROS Data Cent** 28.85 357 eP P 01 08 51.8 -0.6
comp=Z,62nm,2.0s
L23A **Garrett** 28.88 342 P P 01 08 54.7 +1.9
baz=29,SNR=5.2
M21A **Separation Pea** 28.94 340 P P 01 08 55.6 +2.2
baz=29
RWWY **Rawlins** 28.96 340 eP P 01 08 55.1 +1.5
comp=Z,21nm,1.2s
L21A **Rawlins** 29.26 340 P P 01 08 58.8 +2.6
baz=29
DAU **Daniels Canyon** 29.42 333 eP P 01 08 59.2 +1.5
DAU **Daniels Canyon** 29.42 333 eP P 01 08 59.2 +1.5
MPMC **Manual Prospec** 29.55 320 P P 01 09 01.1 +2.3
baz=30
R11A **Troy Canyon, C** 29.97 325 P P 01 09 04.9 +2.3
baz=30
J22A **Midwest** 30.30 342 P P 01 09 06.6 +1.4
baz=30
SPMN **St. Paul** 30.31 2 eP P 01 09 04.3 -0.9
SPMN **St. Paul** 30.31 2 P P 01 09 03.9 -1.3
baz=30,SNR=8.4
J21A **Lysite** 30.53 341 P P 01 09 09.6 +2.2
baz=31
BGU **Big Grassy Mou** 30.63 332 eP P 01 09 10.5 +2.3
comp=Z,3.9nm,1.2s
PDAR **Pinedale Array** 30.73 338 P P 01 09 08.3 -0.9
PDAR **Pinedale Array** 30.73 338 P P 01 09 08.4 -0.9
comp=Z,1.2nm,0.8s,baz=153,slow=8.1,SNR=9.4
PDAR LR LR 01 24 21.0
comp=Z,254nm,18.1s,baz=48,slow=42
I21A **Big Trails, Te** 30.90 342 P P 01 09 12.2 +1.6
baz=31
HVU **Hansel Valley** 31.20 333 eP P 01 09 16.1 +2.8
HVU pmax pmax
comp=Z,36nm,1.9s
HVU **Hansel Valley** 31.20 333 eP P 01 09 16.1 +2.8
comp=Z,36nm,1.9s
I20A **Worland** 31.29 341 P P 01 09 15.9 +1.9
baz=31
ELK **Elko** 31.55 329 eP P 01 09 19.6 +3.2
comp=Z,35nm,2.3s
I19A **Meeteetse** 31.65 340 P P 01 09 19.3 +2.1
baz=32
F26A **Lodgepole** 31.68 349 P P 01 09 18.6 +1.3
baz=32
REDW **Red Top Meadow** 31.73 337 eP P 01 09 19.9 +1.9
comp=Z,19nm,1.3s
H20A **Greybull** 31.73 341 P P 01 09 19.1 +1.3
baz=32
SNOW **Snow King Moun** 31.77 337 eP P 01 09 21.0 +2.6
comp=Z,12nm,0.8s
LOHW **Long Hollow** 31.85 337 eP P 01 09 21.3 +2.3
comp=Z,10nm,1.3s
TPAW **Teton Pass** 31.87 337 eP P 01 09 21.8 +2.4
comp=Z,11nm,1.2s
RRI2 **Red Ridge** 31.89 336 eP P 01 09 21.8 +2.3
comp=Z,9.7nm,1.1s
MOOW **Moose Ponds** 32.02 337 eP P 01 09 22.6 +2.1
comp=Z,50nm,2.5s
G21A **Lodge Grass** 32.16 343 P P 01 09 22.5 +0.9
baz=32
H19A **Powell** 32.21 340 P P 01 09 23.8 +1.7
baz=32
IMW **Indian Meadow** 32.22 337 eP P 01 09 24.4 +2.1
comp=Z,31nm,2.0s
H18A **Shoshone NF, C** 32.44 339 P P 01 09 25.6 +1.4
baz=32,SNR=8.1
SADO **Sadowa** 32.51 20 LR LR 01 24 39.2
comp=Z,486nm,18.4s,baz=45,slow=40
E22A **Miles City** 32.95 345 P P 01 09 29.3 +0.8
baz=33
HLID **Hailey** 33.35 333 eP P 01 09 34.0 +1.8
comp=Z,39nm,2.3s
HLID **Hailey** 33.35 333 P P 01 09 33.7 +1.5
baz=33
AGMN **Agassiz Nation** 33.38 358 eP P 01 09 30.8 -1.3
comp=Z,8.3nm,0.8s
D22A **Cohagen** 33.67 345 P P 01 09 36.2 +1.4
baz=34
MCMT **McKenzie Canyo** 33.73 336 eP P 01 09 38.2 +2.7
comp=Z,2.8nm,0.9s
E19A **Rath Farm, Rou** 33.75 342 P P 01 09 36.7 +1.2
baz=34
B28A **Dugan Ranch, T** 33.87 353 P P 01 09 36.9 +0.5
baz=34
C23A **Lambert** 34.06 347 P P 01 09 39.0 +1.0
baz=34
DLMT **Dillon** 34.08 337 eP P 01 09 41.0 +2.5
comp=Z,10nm,1.1s
D20A **Manuel Ranch,** 34.13 343 P P 01 09 40.0 +1.3
baz=34
C22A **Vida** 34.16 346 P P 01 09 40.6 +1.6
baz=34
D19A **Cripps Ranch,** 34.41 342 P P 01 09 42.8 +1.6
baz=34
LRM **Limekiln Ridge** 34.42 337 eP P 01 09 43.8 +2.3
DGMT **Dagmar** 34.49 348 P P 01 09 43.4 +1.5
baz=35
WVOR **Wild Horse Val** 34.52 328 eP P 01 09 44.5 +2.2
WVOR pmax pmax
comp=Z,20nm,1.4s
WVOR **Wild Horse Val** 34.52 328 eP P 01 09 44.5 +2.2
comp=Z,20nm,1.4s
C21A **Desert Coulee** 34.53 345 P P 01 09 43.6 +1.4
baz=35
HRY **Holter Researc** 34.96 339 eP P 01 09 47.5 +1.5
C19A **Slack Wire Ran** 34.98 343 P P 01 09 47.6 +1.5
baz=35
MOD **Modoc** 35.04 325 eP P 01 09 49.1 +2.3
comp=Z,26nm,1.0s
J08A **Circle Bar Ran** 35.10 329 eP P 01 09 49.6 +2.3
comp=Z,12nm,1.1s
ULM **Lac du Bonnet** 35.33 358 P P 01 09 47.4 -1.6
ULM **Lac du Bonnet** 35.33 358 P P 01 09 47.4 -1.6
comp=Z,4.6nm,0.8s,baz=176,slow=10,SNR=3.7
ULM LR LR 01 26 21.9
comp=Z,223nm,19.2s,baz=222,slow=40
EGMT **Eagleton** 35.44 342 eP P 01 09 52.0 +2.0
comp=Z,55nm,1.8s
EGMT **Eagleton** 35.44 342 P P 01 09 51.5 +1.4
baz=36
A20A **Cobblestone Ra** 35.72 345 P P 01 09 53.8 +1.4
baz=36
SLMT **Seeley Lake** 36.00 338 eP P 01 09 56.7 +1.7
F10A **Beach Ranch, E** 36.48 333 eP P 01 10 00.7 +1.7
comp=Z,11nm,1.0s
NEW **Newport** 38.24 335 P P 01 10 15.2 +1.3
baz=38
SAML **Samuel** 38.94 125 eP P 01 10 19.7 -0.3
comp=Z,3.8nm,0.9s
LON **Longmire** 39.18 330 eP P 01 10 23.6 +1.8
LON pmax pmax
comp=Z,4.0nm,1.0s
LON **Longmire** 39.18 330 eP P 01 10 23.6 +1.8
comp=Z,4.5nm,1.0s
FFC **Flin Flon** 40.23 353 eP P 01 10 30.2 -0.1
FFC pmax pmax
comp=Z,12nm,0.7s
FFC **Flin Flon** 40.23 353 eP P 01 10 30.2 -0.1
comp=Z,12nm,0.7s
LPAZ **La Paz** 40.37 139 eP P 01 10 36.8 +4.2
comp=Z,2.3nm,1.0s
LPAZ **La Paz** 40.37 139 P P 01 10 34.1 +1.5
comp=Z,0.6nm,0.7s,baz=327,slow=8.2,SNR=1.8
LVC **Limon Verde** 44.82 146 eP P 01 11 13.5 +5.2
comp=Z,3.0nm,0.8s
SCHQ **Schefferville** 45.28 22 LR LR 01 31 53.2
comp=Z,476nm,19.8s,baz=231,slow=38
BBB **Bella Bella** 45.91 332 LR LR 01 32 05.7
comp=Z,209nm,18.3s,baz=138,slow=38
YKA **Yellowknife Ar** 49.70 348 P P 01 11 45.8 +0.3
YKA **Yellowknife Ar** 49.70 348 P P 01 11 45.7 +0.3
comp=Z,2.4nm,0.7s,baz=149,slow=7.5,SNR=8.0
YKW3 **Yellowknife Ar** 49.76 348 eP P 01 11 45.9 -0.1
DLBC **Dease Lake** 50.95 337 LR LR 01 35 08.6
comp=Z,320nm,20.1s,baz=129,slow=38
CFAA **Coronel Fontan** 52.56 152 P P 01 12 08.3 +0.9
CFAA **Coronel Fontan** 52.56 152 P P 01 12 08.3 +0.9
comp=Z,0.2nm,0.4s,baz=289,slow=8.4,SNR=4.8
CPUP **Villa Florida** 54.54 138 eP P 01 12 22.4 +0.5
comp=Z,16nm,1.1s
CPUP **Villa Florida** 54.54 138 LR LR 01 34 55.7
comp=Z,150nm,20.9s,baz=321,slow=35
RKT **Rikitea** 54.78 227 eLR LR 01 28 23.7
comp=Z,250nm,28.0s
RKT **Rikitea** 54.78 227 eT T 02 11 36.2
comp=Z,1.3nm,0.3s
BDFB **Brasilia** 54.93 122 P P 01 12 22.8 -2.4
BDFB **Brasilia** 54.93 122 P P 01 12 22.8 -2.4
comp=Z,3.1nm,0.7s,baz=293,slow=7.7,SNR=4.6
PLCA **Paso Flores** 59.56 159 LR LR 01 32 31.3
comp=Z,114nm,19.8s,baz=313,slow=30
ILAR **Eielson Array** 61.16 337 P P 01 13 08.7 +0.8
ILAR **Eielson Array** 61.16 337 P P 01 13 08.7 +0.8
comp=Z,3.6nm,0.9s,baz=142,slow=5.8,SNR=20
MCK **McKinley** 61.47 336 eP P 01 13 11.4 +1.3
MCK pmax pmax
comp=Z,4.0nm,0.7s
MCK **McKinley** 61.47 336 eP P 01 13 11.4 +1.3
comp=Z,4.4nm,0.7s
RCBR **Riachuelo** 61.50 105 eP P 01 13 08.1 -3.0
comp=Z,148nm,1.3s
COLA **College** 61.57 337 eP P 01 13 11.4 +0.7
COLA pmax pmax
comp=Z,17nm,0.8s

COLA	**College**	**61.57**	**337**	*eP*		**P**		**01 13 11.4**	**+0.7**
	comp=Z,17nm,0.8s								
TBI	**Tubuai**	**65.88**	**236**	*e*LR		LR		01 33 15.7	
	comp=Z,233nm,31.0s								
BORG	**Borgarnes**	**69.46**	**26**	LR		LR		01 42 28.2	
	comp=Z,128nm,21.2s,baz=224,slow=34								
SGMF	**Saint Gilles**	**80.29**	**43**	*eP*		**P**		**01 15 03.7**	**-0.9**
	comp=Z,59nm,1.4s								
SGMF	**Saint Gilles**	**80.29**	**43**	*eP*		**P**		**01 15 03.7**	**-0.9**
SGMF				pmax		pmax			
	comp=Z,59nm,1.4s								
SGMF	**Saint Gilles**	**80.29**	**43**	*eP*		**P**		**01 15 03.7**	**-0.9**
	comp=Z,59nm,1.4s								
ESDC	**Sonseca Array**	**81.01**	**51**	P		**P**		**01 15 06.9**	**-1.9**
ESDC	**Sonseca Array**	**81.01**	**51**	P		**P**		**01 15 06.9**	**-1.9**
	comp=Z,1.6nm,0.8s,baz=288,slow=5.6,SNR=9.1								
GRR	**Gorron**	**81.37**	**42**	*eP*		**P**		**01 15 10.0**	**-0.4**
	comp=Z,35nm,1.1s								
GRR	**Gorron**	**81.37**	**42**	*eP*		**P**		**01 15 10.0**	**-0.4**
GRR				pmax		pmax			
	comp=Z,35nm,1.0s								
GRR	**Gorron**	**81.37**	**42**	*eP*		**P**		**01 15 10.0**	**-0.4**
	comp=Z,35nm,1.0s								
FLN	**La Foliniere**	**81.53**	**42**	*eP*		**P**		**01 15 10.3**	**-1.0**
	comp=Z,9.1nm,0.7s								
FLN				*e*R					
	comp=Z,273nm,22.2s								
FLN	**La Foliniere**	**81.53**	**42**	*eP*		**P**		**01 15 10.3**	**-1.0**
FLN				pmax		pmax			
	comp=Z,9.0nm,0.7s								
FLN	**La Foliniere**	**81.53**	**42**	*eP*		**P**		**01 15 10.3**	**-1.0**
	comp=Z,9.1nm,0.7s								
LDF	**La Druitiere**	**81.80**	**42**	*eP*		**P**		**01 15 12.4**	**-0.3**
	comp=Z,21nm,1.1s								
LDF	**La Druitiere**	**81.80**	**42**	*eP*		**P**		**01 15 12.4**	**-0.3**
LDF				pmax		pmax			
	comp=Z,21nm,1.1s								
LDF	**La Druitiere**	**81.80**	**42**	*eP*		**P**		**01 15 12.4**	**-0.3**
	comp=Z,21nm,1.1s								
MFF	**Saint Martin d**	**82.24**	**44**	*eP*		**P**		**01 15 14.5**	**-0.5**
	comp=Z,15nm,1.1s								
MFF	**Saint Martin d**	**82.24**	**44**	*eP*		**P**		**01 15 14.5**	**-0.5**
MFF				pmax		pmax			
	comp=Z,15nm,1.1s								
MFF	**Saint Martin d**	**82.24**	**44**	*eP*		**P**		**01 15 14.5**	**-0.5**
	comp=Z,15nm,1.1s								
ETSF	**Etsaut**	**82.81**	**48**	*eP*		**P**		**01 15 18.0**	**-0.2**
	comp=Z,7.5nm,0.9s								
ETSF	**Etsaut**	**82.81**	**48**	*eP*		**P**		**01 15 18.0**	**-0.2**
ETSF				pmax		pmax			
	comp=Z,8.0nm,0.9s								
ETSF	**Etsaut**	**82.81**	**48**	*eP*		**P**		**01 15 18.0**	**-0.2**
	comp=Z,7.5nm,0.9s								
LFF	**La Frestale**	**83.24**	**45**	*eP*		**P**		**01 15 19.2**	**-1.0**
	comp=Z,11nm,0.9s								
LFF	**La Frestale**	**83.24**	**45**	*eP*		**P**		**01 15 19.2**	**-1.0**
LFF				pmax		pmax			
	comp=Z,11nm,0.9s								
LFF	**La Frestale**	**83.24**	**45**	*eP*		**P**		**01 15 19.2**	**-1.0**
	comp=Z,11nm,0.9s								
EPF	**Esparros**	**83.42**	**47**	*eP*		**P**		**01 15 21.0**	**-0.3**
	comp=Z,7.7nm,0.9s								
EPF	**Esparros**	**83.42**	**47**	*eP*		**P**		**01 15 21.0**	**-0.3**
EPF				pmax		pmax			
	comp=Z,8.0nm,0.9s								
EPF	**Esparros**	**83.42**	**47**	*eP*		**P**		**01 15 21.0**	**-0.3**
	comp=Z,7.7nm,0.9s								
RJF	**Les Rejaudoux**	**83.68**	**45**	*eP*		**P**		**01 15 22.0**	**-0.5**
RJF				*e*R					
	comp=Z,247nm,21.2s								
RJF	**Les Rejaudoux**	**83.68**	**45**	*eP*		**P**		**01 15 22.0**	**-0.5**
RJF	**Les Rejaudoux**	**83.68**	**45**	*eP*		**P**		**01 15 22.0**	**-0.5**
TCF	**Toulx Ste Croi**	**83.90**	**44**	*eP*		**P**		**01 15 23.0**	**-0.7**
	comp=Z,14nm,1.2s								
TCF	**Toulx Ste Croi**	**83.90**	**44**	*eP*		**P**		**01 15 23.0**	**-0.7**
TCF				pmax		pmax			
	comp=Z,14nm,1.2s								
TCF	**Toulx Ste Croi**	**83.90**	**44**	*eP*		**P**		**01 15 23.0**	**-0.7**
	comp=Z,14nm,1.2s								
CAF	**Calviac**	**84.15**	**45**	*eP*		**P**		**01 15 23.6**	**-1.4**
CAF	**Calviac**	**84.15**	**45**	*eP*		**P**		**01 15 23.6**	**-1.4**
CAF	**Calviac**	**84.15**	**45**	*eP*		**P**		**01 15 23.6**	**-1.4**
BAIF	**Baives**	**84.18**	**40**	*eP*		**P**		**01 15 24.7**	**-0.3**
	comp=Z,9.0nm,1.1s								
BAIF	**Baives**	**84.18**	**40**	*eP*		**P**		**01 15 24.7**	**-0.3**
BAIF				pmax		pmax			
	comp=Z,9.0nm,1.0s								
BAIF	**Baives**	**84.18**	**40**	*eP*		**P**		**01 15 24.7**	**-0.3**
	comp=Z,9.0nm,1.0s								
BGF	**Bois d'Agland**	**84.25**	**43**	*eP*		**P**		**01 15 24.7**	**-0.7**
	comp=Z,10nm,0.7s								
BGF	**Bois d'Agland**	**84.25**	**43**	*eP*		**P**		**01 15 24.7**	**-0.7**
BGF				pmax		pmax			
	comp=Z,10.0nm,0.7s								
BGF	**Bois d'Agland**	**84.25**	**43**	*eP*		**P**		**01 15 24.7**	**-0.7**
	comp=Z,10nm,0.7s								
DOU	**Dourbes**	**84.41**	**40**	P		**P**		**01 15 25.6**	**-0.5**
	comp=Z,11nm,3.7s								
NB2	**NORSAR Subarra**	**84.50**	**28**	P		**P**		**01 15 27.0**	**+0.5**
	comp=Z,1.5nm,0.8s,baz=290,slow=5.1								
NOA	**NORSAR Array B**	**84.50**	**28**	P		**P**		**01 15 26.9**	**+0.5**
NOA	**NORSAR Array B**	**84.50**	**28**	P		**P**		**01 15 26.9**	**+0.5**
	comp=Z,1.1nm,0.7s,baz=291,slow=5.0,SNR=5.6								
NOA				LR		LR		01 50 03.4	
	comp=Z,138nm,20.3s,baz=285,slow=34								
AVF	**Avril sur Loir**	**84.52**	**43**	*eP*		**P**		**01 15 25.8**	**-1.0**
	comp=Z,4.3nm,0.8s								
AVF	**Avril sur Loir**	**84.52**	**43**	*eP*		**P**		**01 15 25.8**	**-1.0**
AVF				pmax		pmax			
	comp=Z,4.0nm,0.8s								
AVF	**Avril sur Loir**	**84.52**	**43**	*eP*		**P**		**01 15 25.8**	**-1.0**
	comp=Z,4.3nm,0.8s								
SSF	**Saint Saulge**	**84.55**	**43**	*eP*		**P**		**01 15 26.2**	**-0.7**
	comp=Z,10nm,1.0s								
SSF	**Saint Saulge**	**84.55**	**43**	*eP*		**P**		**01 15 26.2**	**-0.7**
SSF				pmax		pmax			
	comp=Z,10.0nm,1.0s								
SSF	**Saint Saulge**	**84.55**	**43**	*eP*		**P**		**01 15 26.2**	**-0.7**
	comp=Z,10nm,1.0s								
MTLF	**Montolieu**	**84.67**	**47**	*eP*		**P**		**01 15 27.2**	**-0.4**
	comp=Z,14nm,1.0s								
MTLF	**Montolieu**	**84.67**	**47**	*eP*		**P**		**01 15 27.2**	**-0.4**
MTLF				pmax		pmax			
	comp=Z,14nm,1.0s								
MTLF	**Montolieu**	**84.67**	**47**	*eP*		**P**		**01 15 27.2**	**-0.4**
	comp=Z,14nm,1.0s								
LOR	**Lormes**	**84.73**	**43**	*eP*		**P**		**01 15 27.4**	**-0.5**
LOR				*e*R					
	comp=Z,222nm,23.0s								
LOR	**Lormes**	**84.73**	**43**	*eP*		**P**		**01 15 27.4**	**-0.5**
BCLA	**Clavier**	**84.75**	**39**	P		**P**		**01 15 27.8**	**0.0**
	comp=Z,8.4nm,1.8s								
SMF	**Signal de Mont**	**84.89**	**43**	*eP*		**P**		**01 15 27.8**	**-0.9**
SMF	**Signal de Mont**	**84.89**	**43**	*eP*		**P**		**01 15 27.8**	**-0.9**
SMF	**Signal de Mont**	**84.89**	**43**	*eP*		**P**		**01 15 27.8**	**-0.9**
MEM	**Membach**	**85.12**	**39**	P		**P**		**01 15 30.1**	**+0.4**
MEZF	**Maizieres J'vi**	**85.15**	**41**	*eP*		**P**		**01 15 28.7**	**-1.2**
MEZF	**Maizieres J'vi**	**85.15**	**41**	*eP*		**P**		**01 15 28.7**	**-1.2**
SFTF	**Sexfontaines**	**85.22**	**41**	*eP*		**P**		**01 15 29.1**	**-1.2**
	comp=Z,33nm,1.3s								
SFTF	**Sexfontaines**	**85.22**	**41**	*eP*		**P**		**01 15 29.1**	**-1.2**
	comp=Z,33nm,1.3s								
PAGF	**Fort de Pagny**	**85.56**	**41**	*eP*		**P**		**01 15 32.0**	**0.0**
PAGF	**Fort de Pagny**	**85.56**	**41**	*eP*		**P**		**01 15 32.0**	**0.0**
LASF	**Ste Croix**	**85.61**	**46**	*eP*		**P**		**01 15 31.5**	**-0.9**
LASF	**Ste Croix**	**85.61**	**46**	*eP*		**P**		**01 15 31.5**	**-0.9**
VIVF	**Saint-Julien-l**	**85.95**	**45**	*eP*		**P**		**01 15 33.3**	**-0.7**
VIVF	**Saint-Julien-l**	**85.95**	**45**	*eP*		**P**		**01 15 33.3**	**-0.7**
VIVF	**Saint-Julien-l**	**85.95**	**45**	*eP*		**P**		**01 15 33.3**	**-0.7**
ARCES	**ARCESS Array B**	**86.06**	**18**	P		**P**		**01 15 34.4**	**+0.4**
ARCES	**ARCESS Array B**	**86.06**	**18**	P		**P**		**01 15 34.4**	**+0.4**
	comp=Z,3.6nm,0.8s,baz=285,slow=4.3,SNR=4.3								
ARCES				LR		LR		01 53 16.1	
	comp=Z,140nm,19.5s,baz=262,slow=35								
HAU	**Haudompre**	**86.12**	**41**	*eP*		**P**		**01 15 33.7**	**-1.1**
	comp=Z,16nm,0.9s								
HAU				*e*R					
	comp=Z,194nm,21.5s								
HAU	**Haudompre**	**86.12**	**41**	*eP*		**P**		**01 15 33.7**	**-1.1**
HAU				pmax		pmax			
	comp=Z,16nm,0.9s								
HAU	**Haudompre**	**86.12**	**41**	*eP*		**P**		**01 15 33.7**	**-1.1**
	comp=Z,16nm,0.9s								
CABF	**La Chapelle**	**86.38**	**43**	*eP*		**P**		**01 15 35.9**	**-0.3**
	comp=Z,16nm,1.2s								
CABF	**La Chapelle**	**86.38**	**43**	*eP*		**P**		**01 15 35.9**	**-0.3**
CABF				pmax		pmax			
	comp=Z,16nm,1.2s								
CABF	**La Chapelle**	**86.38**	**43**	*eP*		**P**		**01 15 35.9**	**-0.3**
	comp=Z,16nm,1.2s								
HINF	**Hinteralfeld**	**86.50**	**41**	*eP*		**P**		**01 15 35.3**	**-1.4**
	comp=Z,11nm,1.0s								
HINF	**Hinteralfeld**	**86.50**	**41**	*eP*		**P**		**01 15 35.3**	**-1.4**
HINF				pmax		pmax			
	comp=Z,11nm,1.0s								
HINF	**Hinteralfeld**	**86.50**	**41**	*eP*		**P**		**01 15 35.3**	**-1.4**
	comp=Z,11nm,1.0s								
CDF	**Champ du Feu**	**86.59**	**41**	*eP*		**P**		**01 15 35.9**	**-1.3**
	comp=Z,9.8nm,1.0s								
CDF	**Champ du Feu**	**86.59**	**41**	*eP*		**P**		**01 15 35.9**	**-1.3**
CDF				pmax		pmax			
	comp=Z,10.0nm,1.0s								
CDF	**Champ du Feu**	**86.59**	**41**	*eP*		**P**		**01 15 35.9**	**-1.3**
	comp=Z,9.8nm,1.0s								
ORIF	**Oris-en-Rattie**	**86.75**	**44**	*eP*		**P**		**01 15 37.2**	**-0.9**
ORIF				*e*R					
	comp=Z,214nm,20.8s								
ORIF	**Oris-en-Rattie**	**86.75**	**44**	*eP*		**P**		**01 15 37.2**	**-0.9**
ORIF	**Oris-en-Rattie**	**86.75**	**44**	*eP*		**P**		**01 15 37.2**	**-0.9**
BFO	**Black Forest**	**87.28**	**41**	*i* P		**P**		**01 15 40.8**	**+0.3**
MBDF	**Montbardon**	**87.42**	**44**	*eP*		**P**		**01 15 40.1**	**-1.3**
	comp=Z,10nm,0.9s								
MBDF	**Montbardon**	**87.42**	**44**	*eP*		**P**		**01 15 40.1**	**-1.3**
MBDF				pmax		pmax			
	comp=Z,10.0nm,0.9s								
MBDF	**Montbardon**	**87.42**	**44**	*eP*		**P**		**01 15 40.1**	**-1.3**
	comp=Z,10nm,0.9s								
STU	**Stuttgart**	**87.67**	**40**	*eP*		P		01 15 38.8	-3.5
STU	**Stuttgart**	**87.67**	**40**	*eP*		P		01 15 38.8	-3.5
FRF	**La Foret Royal**	**87.69**	**46**	*eP*		**P**		**01 15 41.4**	**-1.1**
FRF	**La Foret Royal**	**87.69**	**46**	*eP*		**P**		**01 15 41.4**	**-1.1**
FRF	**La Foret Royal**	**87.69**	**46**	*eP*		**P**		**01 15 41.4**	**-1.1**
DBIC	**Dimbokro**	**87.87**	**84**	LR		LR		01 51 54.4	
	comp=Z,67nm,19.6s,baz=258,slow=34								
GRF	**Grafenberg Arr**	**88.59**	**39**	*eP*		**P**		**01 15 47.3**	**+0.6**
	comp=Z,20nm,2.1s								
GRF	**Grafenberg Arr**	**88.59**	**39**	*eP*		**P**		**01 15 47.3**	**+0.6**
GRF				pmax		pmax			
	comp=Z,20nm,2.1s								
PETK	**Petropavlovsk-**	**88.63**	**325**	LR		LR		01 55 01.9	
	comp=Z,43nm,20.1s,baz=190,slow=35								
PGF	**Pioggiola**	**89.66**	**46**	*eP*		**P**		**01 15 51.0**	**-0.9**
PGF	**Pioggiola**	**89.66**	**46**	*eP*		**P**		**01 15 51.0**	**-0.9**
PGF	**Pioggiola**	**89.66**	**46**	*eP*		**P**		**01 15 51.0**	**-0.9**
GERES	**GERESS Array B**	**90.42**	**39**	P		**P**		**01 15 54.7**	**-0.6**
GERES	**GERESS Array B**	**90.42**	**39**	P		**P**		**01 15 54.7**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=339,slow=5.2,SNR=4.1								
GERES				LR		LR		01 54 07.7	
	comp=Z,147nm,19.8s,baz=80,slow=34								
FINES	**FINESS Array B**	**90.71**	**24**	LR		LR		01 55 56.5	
	comp=Z,128nm,18.1s,baz=270,slow=35								
KEST	**Kesra**	**92.23**	**52**	LR		LR		01 56 36.5	
	comp=Z,45nm,19.4s,baz=154,slow=35								
TORD	**Torodi Ar. Bea**	**92.43**	**76**	P		**P**		**01 16 03.1**	**-2.0**
TORD	**Torodi Ar. Bea**	**92.43**	**76**	P		**P**		**01 16 03.1**	**-2.0**
	comp=Z,0.2nm,0.6s,baz=293,slow=5.5,SNR=2.3								
TAM	**Tamanrasset**	**93.19**	**66**	*eP*		**P**		**01 16 08.8**	**0.0**
TAM				pmax		pmax			
	comp=Z,7.0nm,1.6s								
TAM	**Tamanrasset**	**93.19**	**66**	*eP*		**P**		**01 16 08.8**	**0.0**
	comp=Z,7.1nm,1.6s								
KIEV	**Kiev**	**98.27**	**32**	*eP*		**P**		**01 16 30.3**	**-0.8**
AKASG	**Malin Array Be**	**98.28**	**32**	LR		LR		01 59 17.1	
	comp=Z,112nm,19.9s,baz=315,slow=34								
BRVK	**Borovoye**	**111.10**	**10**	*e*PKIKP		**PKiKP**		**01 21 28.2**	**+1.1**
BRVK	**Borovoye**	**111.10**	**10**	*e*PKP		**PKiKP**		**01 21 28.2**	**+1.1**
KURK	**Kurchatov**	**114.44**	**5**	*i* PKIKP		PKPdf		01 21 32.1	-1.4
MKAR	**Makanchi Array**	**118.58**	**3**	PKIKP		**PKPdf**		**01 21 40.7**	**-1.0**
MKAR	**Makanchi Array**	**118.58**	**3**	PKP		**PKPdf**		**01 21 40.7**	**-1.0**
MKAR	**Makanchi Array**	**118.58**	**3**	PKP		**PKPdf**		**01 21 40.7**	**-1.0**
	comp=Z,0.6nm,0.8s,baz=36,slow=3.9,SNR=3.8								
HHC	**Hu-ho-hao-te**	**119.58**	**338**	*e*PKP		**PKPdf**		**01 21 41.5**	**-2.4**
HHC				sPKP				01 22 19.0	
HHC				PKS		**PKSdf**		**01 25 17.5**	**-3.2**
HHC				SKKS				01 29 49.5	
HHC				SS		SS		01 39 18.5	-8.0
HHC				AMB		AMB			
	comp=Z,160nm,10.8s								
HHC				LR		LR			
	comp=N,120nm,19.6s								
HHC				LR		LR			
	comp=E,190nm,19.4s								
HHC				LR		LR			
	comp=Z,180nm,19.4s								
WMQ	**Urumqi**	**121.59**	**358**	*e*PKP		**PKPdf**		**01 21 47.5**	**-0.1**
WMQ				LR		LR			
	comp=E,53nm,20.1s								
WMQ				LR		LR			
	comp=Z,87nm,20.7s								
EKS2	**Erkin-Say**	**121.75**	**10**	*e*PKIKP		**PKPdf**		**01 21 49.8**	**+1.7**
EKS2	**Erkin-Say**	**121.75**	**10**	*e*PKPdf		**PKPdf**		**01 21 49.8**	**+1.7**
GTA	**Gaotai**	**124.42**	**347**	PKP		**PKPdf**		**01 21 55.5**	**+2.2**
GTA				sPKP				01 22 32.3	
KSH	**Kashi**	**125.18**	**9**	*e*PKP		**PKPdf**		**01 21 54.0**	**-0.7**
KSH				sPKP				01 22 31.5	
KSH				PP		**PP**		**01 23 44.0**	**+1.1**
KSH				PKS		**PKSdf**		**01 25 29.8**	**-1.7**
KSH				SKS		SKSdf		01 28 54.5	-11
KSH				SKKS		SKKSac		01 30 25.0	-16
KSH				AMB		AMB			
	comp=Z,47nm,6.6s								
KSH				LR		LR			
	comp=N,120nm,6.9s								
KSH				LR		LR			
	comp=E,54nm,6.0s								
KSH				LR		LR			
	comp=Z,200nm,7.7s								
LZH	**Lanzhou**	**126.49**	**342**	*e*PKP		**PKPdf**		**01 21 58.3**	**+0.9**
LZH				LR		LR			
	comp=N,110nm,18.1s								
LZH				LR		LR			
	comp=E,110nm,18.3s								
LZH				LR		LR			
	comp=Z,130nm,20.2s								
CD2	**Chengdu**	**131.28**	**339**	PKP		**PKPdf**		**01 22 06.0**	**-0.5**
WRAB	**Tennant Creek**	**133.33**	**257**	*e*PKIKP		**PKPdf**		**01 22 13.8**	**+3.3**
WRAB	**Tennant Creek**	**133.33**	**257**	*e*PKPdf		**PKPdf**		**01 22 13.8**	**+3.3**
WRA	**Warramunga Arr**	**133.34**	**256**	PKP		**PKPdf**		**01 22 11.3**	**+0.8**
WRA	**Warramunga Arr**	**133.34**	**256**	PKP		**PKPdf**		**01 22 11.3**	**+0.8**
	comp=Z,0.7nm,0.8s,baz=64,slow=1.4,SNR=2.2								
CMAR	**Chiang Mai Arr**	**144.39**	**338**	PKP		PKPbc		01 22 29.3	+0.2
CMAR	**Chiang Mai Arr**	**144.39**	**338**	PKP		PKPbc		01 22 29.3	+0.2
	comp=Z,1.3nm,0.8s,baz=29,slow=2.1,SNR=6.8								

*CSEM **26** 01:35:51.0±0.2,41°.13N×19°.57E,h2km,ML2.4/2,Error ellipse: s-maj=4.5km s-min=2.7km az=53.0*
*PDG **26** 01:35:52.0±0.4,41°.19N×19°.65E,h11km,ML2.5/9,Error ellipse: s-maj=0.5km s-min=0.9km az=0.0*
*BEO **26** 01:35:51.9±0.8,41°.12N×19°.49E,h10km±3km,ML2.3/7*
*SKO **26** 01:35:51.7,41°.12N×19°.56E,h10km,M1.8,ML2.3*
*THE **26** 01:35:51.3,41°.23N×19°.54E,h14km±1km,ML2.4/2,Error ellipse: s-maj=2.3km s-min=0.7km az=314.0*

ISC 26 01:35:51.3±1.1,41°.13N±0°.02×19°.55E±0°.02,h8km±9km, n58,σ0°91/111,4C-11D,Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.32**	**47**	P	**Pg**	**01 35 57.4**	**-0.3**
TIR				S	**Sg**	**01 36 01.3**	**-0.7**
TIR	**Tirane**	**0.32**	**47**	⇓*i*Pg	**Pg**	**01 35 57.3**	**-0.4**
TIR				*e*Sg	**Sb**	**01 36 06.3**	**+1.5**
TIR	**Tirane**	**0.32**	**47**	⇓*i*Pg	**Pg**	**01 35 57.3**	**-0.4**
TIR				S	**Sg**	**01 36 01.3**	**-0.7**
TIR				*e*Sg	**Sb**	**01 36 06.3**	**+1.5**
ULC	**Ulcinj**	**0.87**	**345**	⇑*i*Pg	**Pg**	**01 36 07.9**	**-0.1**
ULC				*e*Sg	**Sb**	**01 36 20.6**	**+0.1**
ULC	**Ulcinj**	**0.87**	**345**	⇑*i*Pg	**Pg**	**01 36 07.9**	**-0.1**
ULC				*e*Sg	**Sb**	**01 36 20.6**	**+0.1**
PHP	**Peshkopia**	**0.87**	**50**	P	**Pg**	**01 36 06.3**	**-1.7**
PHP				S	**Sg**	**01 36 19.1**	**-0.3**
PHP	**Peshkopia**	**0.87**	**50**	P	**Pg**	**01 36 06.3**	**-1.7**
PHP				S	**Sg**	**01 36 19.1**	**-0.3**
KBN	**Korca**	**1.06**	**118**	P	**Pg**	**01 36 11.4**	**-0.3**
KBN				S	**Sn**	**01 36 27.6**	**0.0**
KBN	**Korca**	**1.06**	**118**	P	**Pg**	**01 36 11.4**	**-0.3**
KBN				S	**Sn**	**01 36 27.6**	**0.0**
DRME	**Dracevica, Mon**	**1.09**	**346**	⇓*i*Pg	**Pb**	**01 36 11.9**	**-0.6**
DRME				*e*Sg	**Sn**	**01 36 28.1**	**-0.3**
DRME	**Dracevica, Mon**	**1.09**	**346**	⇓*i*Pg	**Pb**	**01 36 11.9**	**-0.6**
DRME				*e*Sg	**Sn**	**01 36 28.1**	**-0.3**
BUM	**Brajici-Budva**	**1.27**	**337**	*e*Pg	**Pn**	**01 36 14.8**	**-0.7**
BUM				*e*Sg	**Sg**	**01 36 34.3**	**+2.0**
BUM	**Brajici-Budva**	**1.27**	**337**	*e*Pg	**Pn**	**01 36 14.8**	**-0.7**
BUM				*e*Sg	**Sg**	**01 36 34.3**	**+2.0**
SRN	**Sarande**	**1.29**	**165**	P	**Pn**	**01 36 15.4**	**-0.2**
SRN	**Sarande**	**1.29**	**165**	P	**Pn**	**01 36 15.4**	**-0.2**
PDG	**Podgorica**	**1.32**	**350**	*e*Pg	**Pn**	**01 36 15.6**	**-0.5**
PDG				*i* Sg	**Sg**	**01 36 34.7**	**+0.9**
PDG	**Podgorica**	**1.32**	**350**	*e*Pg	**Pn**	**01 36 15.6**	**-0.5**
PDG				*i* Sg	**Sg**	**01 36 34.7**	**+0.9**
TTG	**Podgorica**	**1.32**	**350**	⇓*i*Pg	**Pn**	**01 36 15.5**	**-0.5**
TTG				*e*Sg	**Sg**	**01 36 35.5**	**+1.7**
NEST	**Nestorio**	**1.34**	**122**	P	**Pn**	**01 36 16.4**	**0.0**
NEST				S	**Sn**	**01 36 34.7**	**+0.2**
NEST	**Nestorio**	**1.34**	**122**	P	**Pn**	**01 36 16.4**	**0.0**
NEST				S	**Sn**	**01 36 34.7**	**+0.2**
BIA	**Bitola**	**1.34**	**94**	*i* Pg	**Pn**	**01 36 15.8**	**-0.7**
BIA				*i* Sg	**Sn**	**01 36 34.7**	**+0.1**
BIA	**Bitola**	**1.34**	**94**	*i* Pg	**Pn**	**01 36 15.2**	**-1.3**
BIA				*i* Sg	**Sb**	**01 36 34.1**	**-0.1**
FNA	**Florina**	**1.42**	**103**	P	**Pn**	**01 36 16.8**	**-0.7**
FNA				S	**Sn**	**01 36 36.2**	**-0.3**
FNA	**Florina**	**1.42**	**103**	P	**Pn**	**01 36 16.8**	**-0.7**
FNA				S	**Sn**	**01 36 36.2**	**-0.3**
KEK	**Kerkira**	**1.42**	**172**	P	**Pn**	**01 36 17.3**	**-0.2**
KEK				S	**Sg**	**01 36 38.0**	**+0.9**
KEK	**Kerkira**	**1.42**	**172**	P	**Pn**	**01 36 17.3**	**-0.2**
KEK				S	**Sg**	**01 36 38.0**	**+0.9**
PVY	**Plav**	**1.50**	**12**	⇓*i*Pg	**Pn**	**01 36 18.6**	**-0.1**
PVY				*e*Sg	**Sg**	**01 36 39.9**	**+0.4**
PVY	**Plav**	**1.50**	**12**	⇓*i*Pg	**Pn**	**01 36 18.6**	**-0.1**
PVY				*e*Sg	**Sg**	**01 36 39.9**	**+0.4**
HCY	**Herceg Novi**	**1.54**	**329**	⇓*i*Pg	**Pn**	**01 36 19.2**	**+0.1**
HCY				*e*Sg	**Sg**	**01 36 42.0**	**+1.2**
HCY	**Herceg Novi**	**1.54**	**329**	⇓*i*Pg	**Pn**	**01 36 19.2**	**+0.1**
HCY				*e*Sg	**Sg**	**01 36 42.0**	**+1.2**
SKO	**Skopje**	**1.65**	**59**	*i* Pg	**Pb**	**01 36 22.1**	**+0.2**
SKO				*i* Sg	**Sg**	**01 36 44.6**	**+0.3**
SKO				*e*Lg	Lg	01 36 45.6	
	comp=N,35nm,0.7s						
SKO				*e*Lg	Lg	01 36 46.2	
	comp=E,28nm,0.7s						
SKO	**Skopje**	**1.65**	**59**	*i* Pg	**Pn**	**01 36 21.1**	**+0.5**
SKO				*i* Sg	**Sb**	**01 36 43.6**	**+0.7**
SKO				*e*Lg	Lg	01 36 45.2	
	comp=E,28nm,0.7s						
NKME	**Niksic**	**1.70**	**345**	*e*Pn	**Pn**	**01 36 21.9**	**+0.5**
NKME				*e*Sn	**Sg**	**01 36 45.7**	**-0.2**
NKME	**Niksic**	**1.70**	**345**	*e*Pn	**Pn**	**01 36 21.9**	**+0.5**
NKME				*e*Sn	**Sg**	**01 36 45.7**	**-0.2**
BEY	**Berane**	**1.76**	**8**	⇑*i*Pn	**Pn**	**01 36 22.9**	**+0.6**
BEY				*e*Sn	**Sb**	**01 36 46.9**	**+0.6**
IVA	**Berane**	**1.76**	**8**	⇑*i*Pn	**Pn**	**01 36 22.9**	**+0.6**
IVA				*e*Sn	**Sb**	**01 36 46.9**	**+0.6**
TREB	**Trebinje**	**1.83**	**331**	*e*Pn	**Pn**	**01 36 23.7**	**+0.7**
TREB				*i* Sg	**Sb**

PRU **26** *02:47:08.6, 46°.82N×5°.80E, h0km*
CSEM **26** *02:47:09.4±0.1, 46°.85N×5°.89E, h8km, ML3.5/42, Error ellipse: s-maj=1.3km s-min=1.2km az=138.0*
ZUR **26** *02:47:09.5, 46°.86N×5°.86E, h2km±2km, ML2.9/18*
BGR **26** *02:47:10.6±0.8, 46°.79N×5°.95E, h10km, ML3.1/12, Error ellipse: s-maj=7.8km s-min=6.7km az=166.0*
STR **26** *02:47:10.1±0.1, 46°.87N×5°.89E, h5km, Ml3.2, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
LDG **26** *02:47:10.6±0.0, 46°.86N×5°.94E, h4km, Md3.5/3, Ml3.6/53, Error ellipse: s-maj=0.9km s-min=0.8km az=126.0*
GEN **26** *02:47:10.6, 46°.87N×5°.96E, h2km, ML2.8*
ISC 26 02:47:09.5±0.9, 46°.85N±0°.01×5°.88E±0°.01, h15km±7km, n257, σ1§10/402, 9C-4D, France

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
CABF	**La Chapelle** SNR=1.0	**0.28**	**150**	*e*Pg		**Pg**	**02 47 15.3**	**-0.2**
CABF	3µm,0.7s			*e*Sg		**Sg**	**02 47 19.0**	**-0.6**
CABF	**La Chapelle** SNR=1.0	**0.28**	**150**	*e*Pg		**Pg**	**02 47 15.3**	**-0.2**
CABF	1µm,0.7s			*e*Sg		**Sg**	**02 47 19.0**	**-0.6**
GIMEL	**St. Georges /** 1µm,0.3s	**0.41**	**140**	⇓*i*Pg		**Pg**	**02 47 17.8**	**-0.1**
GIMEL	1µm,0.3s			*i* Sg		**Sg**	**02 47 23.6**	**+0.1**
GIMEL	**St. Georges /** 1µm,0.3s	**0.41**	**140**	⇓*i*Pg		**Pg**	**02 47 17.8**	**-0.1**
GIMEL	1µm,0.3s			*i* Sg		**Sg**	**02 47 23.6**	**+0.1**
BRANT	**Les Verrieres** 2µm,0.9s	**0.41**	**78**	⇑*i*Pg		**Pg**	**02 47 17.9**	**0.0**
BRANT	**Les Verrieres** 2µm,0.9s	**0.41**	**78**	⇑*i*Pg		**Pg**	**02 47 17.9**	**0.0**
LOMF	**Lomont**	**0.81**	**52**	Pg		**Pb**	**02 47 25.7**	**+0.3**
LOMF				Sg		**Sb**	**02 47 36.7**	**+0.4**
LOMF	**Lomont**	**0.81**	**52**	Pg		**Pb**	**02 47 25.7**	**+0.3**
LOMF				Sg		**Sb**	**02 47 36.7**	**+0.4**
AIGLE	**Aigle** 620nm,0.8s	**0.90**	**124**	*e*P		**Pb**	**02 47 27.0**	**+0.2**
AIGLE	**Aigle** 620nm,0.8s	**0.90**	**124**	*e*P		**Pb**	**02 47 27.0**	**+0.2**
SALAN	**Lac Salanfe** 228nm,0.6s	**1.03**	**133**	*e*P		**Pb**	**02 47 29.3**	**+0.1**
SALAN	**Lac Salanfe** 228nm,0.6s	**1.03**	**133**	*e*P		**Pb**	**02 47 29.3**	**+0.1**
GRYON	**Gryon** 103nm,0.9s	**1.04**	**125**	*e*P		**Pb**	**02 47 29.4**	**+0.1**
GRYON	**Gryon** 103nm,0.9s	**1.04**	**125**	*e*P		**Pb**	**02 47 29.4**	**+0.1**
EMV	**Vieux Emosson** 616nm,0.6s	**1.06**	**138**	⇓*i*P		**Pb**	**02 47 29.5**	**-0.1**
EMV	**Vieux Emosson** 616nm,0.6s	**1.06**	**138**	⇓*i*P		**Pb**	**02 47 29.5**	**-0.1**
BOURR	**Bourrignon** 692nm,0.7s	**1.07**	**59**	*e*P		**Pg**	**02 47 30.2**	**+0.1**
BOURR	**Bourrignon** 692nm,0.7s	**1.07**	**59**	*e*P		**Pg**	**02 47 30.2**	**+0.1**
SENIN	**Lac Senin/Sane** 656nm,0.9s	**1.09**	**116**	*e*P		**Pb**	**02 47 30.2**	**0.0**
SENIN	**Lac Senin/Sane** 656nm,0.9s	**1.09**	**116**	*e*P		**Pb**	**02 47 30.2**	**0.0**
HINF	**Hinteralfeld** SNR=1.0	**1.17**	**34**	*e*Pn		**Pb**	**02 47 31.6**	**+0.2**
HINF	159nm,0.3s,SNR=1.0			*e*Sg		**Sb**	**02 47 46.5**	**+0.1**
HINF	**Hinteralfeld** SNR=1.0	**1.17**	**34**	*e*Pn		**Pb**	**02 47 31.6**	**+0.2**
HINF	79nm,0.3s,SNR=1.0			*e*Sg		**Sb**	**02 47 46.5**	**+0.1**
HAU	**Haudompre** SNR=1.0	**1.20**	**15**	*e*Pn		**Pg**	**02 47 32.4**	**-0.2**
HAU	**Haudompre** SNR=1.0	**1.20**	**15**	*e*Pg		**Pg**	**02 47 32.9**	**+0.3**
HAU	256nm,0.2s,SNR=1.0			*e*Sn		**Sg**	**02 47 48.1**	**-0.1**
HAU	**Haudompre** SNR=1.0	**1.20**	**15**	*e*Pn		**Pg**	**02 47 32.4**	**-0.2**
HAU	**Haudompre** SNR=1.0	**1.20**	**15**	*e*Pg		**Pg**	**02 47 32.9**	**+0.3**
HAU	128nm,0.2s,SNR=1.0			*e*Sn		**Sg**	**02 47 48.1**	**-0.1**
WIMIS	**Wimmis** 451nm,0.8s	**1.21**	**98**	*e*P		**Pg**	**02 47 33.2**	**+0.3**
WIMIS	**Wimmis** 451nm,0.8s	**1.21**	**98**	*e*P		**Pg**	**02 47 33.2**	**+0.3**
BBS	**Basel-Blauen**	**1.27**	**61**	Pg		**Pg**	**02 47 34.0**	**+0.1**
BBS				Sg		**Sg**	**02 47 51.0**	**+0.5**
LKBD	**Leukerbad** 201nm,0.5s	**1.29**	**111**	*e*P		**Pg**	**02 47 34.2**	**-0.2**
LKBD	**Leukerbad** 201nm,0.5s	**1.29**	**111**	*e*P		**Pg**	**02 47 34.2**	**-0.2**
DIX	**Grande Dixence** 250nm,0.8s	**1.31**	**126**	⇑*i*P		**Pb**	**02 47 34.4**	**+0.5**
DIX	**Grande Dixence** 250nm,0.8s	**1.31**	**126**	⇑*i*P		**Pb**	**02 47 34.4**	**+0.5**
MOF	**Molkenrain**	**1.31**	**40**	Pg		**Pb**	**02 47 34.1**	**+0.2**
MOF				Sg		**Sg**	**02 47 52.5**	**+0.6**
MOF	**Molkenrain**	**1.31**	**40**	Pg		**Pb**	**02 47 34.1**	**+0.2**
MOF				Sg		**Sg**	**02 47 52.5**	**+0.6**
BALST	**Balsthal**	**1.33**	**68**	*e*Pn		**Pn**	**02 47 34.3**	**+0.7**
BALST				*e*Sg		**Sg**	**02 47 52.5**	**+0.1**
BALST	**Balsthal** 1µm,1.3s	**1.33**	**68**	⇑*i*P		**Pb**	**02 47 34.5**	**+0.3**
BALST	**Balsthal** 1µm,1.3s	**1.33**	**68**	Pn		**Pn**	**02 47 34.3**	**+0.7**
BALST	**Balsthal** 1µm,1.3s	**1.33**	**68**	⇑*i*P		**Pb**	**02 47 34.5**	**+0.3**
BALST				Sg		**Sg**	**02 47 52.5**	**+0.1**
THEF	**They Montfort**	**1.38**	**3**	Pg		**Pg**	**02 47 36.0**	**0.0**
THEF				Sg		**Sg**	**02 47 54.9**	**+0.9**
THEF	**They Montfort**	**1.38**	**3**	Pg		**Pg**	**02 47 36.0**	**0.0**
THEF				Sg		**Sg**	**02 47 54.9**	**+0.9**
SMF	**Signal de Mont** SNR=1.0	**1.42**	**262**	*e*Pn		**Pb**	**02 47 35.6**	**-0.1**
SMF	**Signal de Mont** SNR=1.0	**1.42**	**262**	*e*Pg		**Pg**	**02 47 37.4**	**+0.6**
SMF	SNR=1.0			*e*Sn		**Sg**	**02 47 54.6**	**-0.7**
SMF	196nm,0.2s			*e*Sg		**Sb**	**02 47 56.9**	**+3.3**
SMF	**Signal de Mont** SNR=1.0	**1.42**	**262**	*e*Pn		**Pb**	**02 47 35.6**	**-0.1**
SMF	**Signal de Mont** SNR=1.0	**1.42**	**262**	*e*Pg		**Pg**	**02 47 37.4**	**+0.6**
SMF	SNR=1.0			*e*Sn		**Sg**	**02 47 54.6**	**-0.7**
SMF	98nm,0.2s			*e*Sg		**Sb**	**02 47 56.9**	**+3.3**
LOR	**Lormes** baz=114,SNR=1.0	**1.45**	**287**	*e*Pn		**Pg**	**02 47 36.4**	**-0.9**
LOR	**Lormes** baz=111	**1.45**	**287**	*e*Pg		**Pg**	**02 47 38.3**	**+1.0**
LOR	SNR=1.0			*e*Sn		**Sg**	**02 47 55.4**	**-0.7**
LOR	566nm,0.2s,baz=125			*e*Sg		**Sb**	**02 47 57.7**	**+3.3**
LOR	**Lormes** baz=114,SNR=1.0	**1.45**	**287**	*e*Pn		**Pg**	**02 47 36.4**	**-0.9**
LOR	**Lormes** baz=111	**1.45**	**287**	*e*Pg		**Pg**	**02 47 38.3**	**+1.0**
LOR	SNR=1.0			*e*Sn		**Sg**	**02 47 55.4**	**-0.7**
LOR	283nm,0.2s,baz=125			*e*Sg		**Sb**	**02 47 57.7**	**+3.3**
LPL	**La Plagne** SNR=1.0	**1.46**	**156**	*e*Pn		**Pb**	**02 47 36.9**	**+0.4**
LPL	**La Plagne** SNR=1.0	**1.46**	**156**	*e*Pg		**Pg**	**02 47 38.5**	**+0.9**
LPL	SNR=1.0			*e*Sn		**Sn**	**02 47 54.7**	**+0.2**
LPL	91nm,0.5s,SNR=1.0			*e*Sg		**Sg**	**02 47 57.0**	**+0.3**
LPL	**La Plagne** SNR=1.0	**1.46**	**156**	*e*Pn		**Pb**	**02 47 36.9**	**+0.4**
LPL	**La Plagne** SNR=1.0	**1.46**	**156**	*e*Pg		**Pg**	**02 47 38.5**	**+0.9**
LPL	SNR=1.0			*e*Sn		**Sn**	**02 47 54.7**	**+0.2**
LPL	45nm,0.5s,SNR=1.0			*e*Sg		**Sg**	**02 47 57.0**	**+0.3**
SFTF	**Sexfontaines** baz=146	**1.47**	**337**	*e*Pn		**Pb**	**02 47 37.0**	**+0.4**
SFTF	**Sexfontaines** baz=148	**1.47**	**337**	*e*Pg		**Pg**	**02 47 38.4**	**+0.6**
SFTF	514nm,0.4s			*e*Sg		**Sg**	**02 47 57.8**	**+0.9**
SFTF	**Sexfontaines** baz=146	**1.47**	**337**	*e*Pn		**Pb**	**02 47 37.0**	**+0.4**
SFTF	**Sexfontaines** baz=148	**1.47**	**337**	*e*Pg		**Pg**	**02 47 38.4**	**+0.6**
SFTF	257nm,0.4s			*e*Sg		**Sg**	**02 47 57.8**	**+0.9**
LPG	**La Plagne** SNR=1.0	**1.48**	**156**	*e*Pn		**Pb**	**02 47 37.5**	**+0.6**
LPG	**La Plagne** SNR=1.0	**1.48**	**156**	*e*Pg		**Pg**	**02 47 39.2**	**+1.1**
LPG	SNR=1.0			*e*Sn		**Sn**	**02 47 55.3**	**+0.1**
LPG	78nm,0.3s			*e*Sg		**Sg**	**02 47 57.9**	**+0.5**
LPG	**La Plagne** SNR=1.0	**1.48**	**156**	*e*Pn		**Pb**	**02 47 37.5**	**+0.6**
LPG	**La Plagne** SNR=1.0	**1.48**	**156**	*e*Pg		**Pg**	**02 47 39.2**	**+1.1**
LPG	SNR=1.0			*e*Sn		**Sn**	**02 47 55.3**	**+0.1**
LPG	39nm,0.3s			*e*Sg		**Sg**	**02 47 57.9**	**+0.5**
HASLI	**Hasliberg/Brie** 562nm,0.3s	**1.56**	**93**	*e*P		**Pb**	**02 47 38.3**	**+0.1**
HASLI	**Hasliberg/Brie** 562nm,0.3s	**1.56**	**93**	*e*P		**Pb**	**02 47 38.3**	**+0.1**
GRN	**Grenoble**	**1.61**	**183**	Pg		**Pg**	**02 47 40.7**	**+0.2**
GRN	**Grenoble**	**1.61**	**183**	Pg		**Pg**	**02 47 40.7**	**+0.2**
ECH	**Echery**	**1.61**	**32**	Pn		**Pn**	**02 47 37.1**	**-0.4**
ECH				Sg		**Sg**	**02 48 01.8**	**+0.3**
ECH	**Echery**	**1.61**	**32**	Pn		**Pn**	**02 47 37.1**	**-0.4**
ECH				Sg		**Sg**	**02 48 01.8**	**+0.3**
SSF	**Saint Saulge** SNR=1.0	**1.64**	**278**	*e*Pn		**Pb**	**02 47 38.9**	**-0.6**
SSF	**Saint Saulge** 240nm,0.3s	**1.64**	**278**	*e*Pg		**Pg**	**02 47 41.9**	**+0.8**
SSF				*e*Sg		**Sg**	**02 48 03.5**	**+1.1**
SSF	**Saint Saulge** SNR=1.0	**1.64**	**278**	*e*Pn		**Pb**	**02 47 38.9**	**-0.6**
SSF	**Saint Saulge** 120nm,0.3s	**1.64**	**278**	*e*Pg		**Pg**	**02 47 41.9**	**+0.8**
SSF				*e*Sg		**Sg**	**02 48 03.5**	**+1.1**
MMK	**Mattmark** 152nm,0.6s	**1.65**	**118**	*e*P		**Pn**	**02 47 38.6**	**+0.5**
MMK	**Mattmark** 152nm,0.6s	**1.65**	**118**	*e*P		**Pn**	**02 47 38.6**	**+0.5**
GDM	**Grand'Maison**	**1.66**	**174**	Pn		**Pn**	**02 47 38.5**	**+0.3**
GDM	**Grand'Maison**	**1.66**	**174**	Pn		**Pn**	**02 47 38.5**	**+0.3**
SULZ	**Cheisacher**	**1.66**	**65**	*e*Pg		**Pg**	**02 47 41.3**	**-0.2**
SULZ				*e*Sg		**Sb**	**02 48 02.3**	**+1.7**
SULZ	**Cheisacher** 504nm,0.8s	**1.66**	**65**	*e*P		**Pb**	**02 47 40.3**	**+0.4**
SULZ	**Cheisacher** 504nm,0.8s	**1.66**	**65**	*e*P		**Pb**	**02 47 40.3**	**+0.4**
SULZ	**Cheisacher**	**1.66**	**65**	Pg		**Pg**	**02 47 41.3**	**-0.2**
SULZ				Sg		**Sb**	**02 48 02.3**	**+1.7**
PAGF	**Fort de Pagny** baz=177	**1.71**	**356**	*e*Pn		**Pb**	**02 47 40.5**	**-0.1**
PAGF	**Fort de Pagny** baz=180	**1.71**	**356**	*e*Pg		**Pg**	**02 47 42.3**	**0.0**
PAGF				*e*Sn		**Sn**	**02 48 00.3**	**0.0**
PAGF	42nm,0.4s,baz=176			*e*Sg		**Sg**	**02 48 04.7**	**+0.2**
PAGF	**Fort de Pagny** baz=177	**1.71**	**356**	*e*Pn		**Pb**	**02 47 40.5**	**-0.1**
PAGF	**Fort de Pagny** baz=180	**1.71**	**356**	*e*Pg		**Pg**	**02 47 42.3**	**0.0**
PAGF				*e*Sn		**Sn**	**02 48 00.3**	**0.0**
PAGF	21nm,0.4s,baz=176			*e*Sg		**Sg**	**02 48 04.7**	**+0.2**
AVF	**Avril sur Loir** SNR=1.0	**1.74**	**269**	*e*Pn		**Pb**	**02 47 40.4**	**-0.7**
AVF	**Avril sur Loir** SNR=1.0	**1.74**	**269**	*e*Pg		**Pg**	**02 47 43.4**	**+0.5**
AVF	SNR=1.0			*e*Sn		**Sb**	**02 48 02.5**	**-0.3**
AVF	119nm,0.4s			*e*Sg		**Sg**	**02 48 06.4**	**+0.9**
AVF	**Avril sur Loir** SNR=1.0	**1.74**	**269**	*e*Pn		**Pb**	**02 47 40.4**	**-0.7**
AVF	**Avril sur Loir** SNR=1.0	**1.74**	**269**	*e*Pg		**Pg**	**02 47 43.4**	**+0.5**
AVF	SNR=1.0			*e*Sn		**Sb**	**02 48 02.5**	**-0.3**
AVF	60nm,0.4s			*e*Sg		**Sg**	**02 48 06.4**	**+0.9**
BNALP	**Bannalp** 312nm,0.8s	**1.74**	**88**	*e*P		**Pn**	**02 47 40.6**	**+1.2**
BNALP	**Bannalp** 312nm,0.8s	**1.74**	**88**	*e*P		**Pn**	**02 47 40.6**	**+1.2**
LIBD	**Limburg**	**1.75**	**41**	Pg		**Pg**	**02 47 42.8**	**-0.2**
FELD	**Feldberg im Sc**	**1.77**	**54**	Pn		**Pn**	**02 47 39.3**	**-0.4**
FELD	**Feldberg im Sc**	**1.77**	**54**	Pg		**Pg**	**02 47 43.4**	**-0.1**
PLDF	**La Plantade**	**1.80**	**241**	Pn		**Pb**	**02 47 40.9**	**-1.3**
PLDF	**La Plantade**	**1.80**	**241**	Pg		**Pg**	**02 47 43.8**	**-0.2**
PLDF	**La Plantade**	**1.80**	**241**	Pn		**Pb**	**02 47 40.9**	**-1.3**
PLDF	**La Plantade**	**1.80**	**241**	Pg		**Pg**	**02 47 43.8**	**-0.2**
CDF	**Champ du Feu** SNR=1.0	**1.82**	**31**	*e*Pn		**Pn**	**02 47 40.5**	**+0.1**
CDF	**Champ du Feu** 76nm,0.4s,SNR=1.0	**1.82**	**31**	*e*Pg		**Pg**	**02 47 44.1**	**-0.4**
CDF				*e*Sg		**Sb**	**02 48 06.6**	**+1.3**
CDF	**Champ du Feu** SNR=1.0	**1.82**	**31**	*e*Pn		**Pn**	**02 47 40.5**	**+0.1**
CDF	**Champ du Feu** 38nm,0.4s,SNR=1.0	**1.82**	**31**	*e*Pg		**Pg**	**02 47 44.1**	**-0.4**
CDF				*e*Sg		**Sb**	**02 48 06.6**	**+1.3**
TRAV	**Traversella**	**1.86**	**135**	P		**Pn**	**02 47 42.1**	**+1.1**
ORIF	**Oris-en-Rattie** SNR=1.0	**1.94**	**180**	*e*Pn		**Pn**	**02 47 43.1**	**+1.1**
ORIF	**Oris-en-Rattie** SNR=1.0	**1.94**	**180**	*e*Pg		**Pg**	**02 47 46.9**	**+0.2**
ORIF	SNR=1.0			*e*Sn		**Sn**	**02 48 06.3**	**+0.3**
ORIF	128nm,0.3s			*e*Sg		**Sg**	**02 48 12.1**	**+0.3**
ORIF	**Oris-en-Rattie** SNR=1.0	**1.94**	**180**	*e*Pn		**Pn**	**02 47 43.1**	**+1.1**
ORIF	**Oris-en-Rattie** SNR=1.0	**1.94**	**180**	*e*Pg		**Pg**	**02 47 46.9**	**+0.2**
ORIF	SNR=1.0			*e*Sn		**Sn**	**02 48 06.3**	**+0.3**
ORIF	64nm,0.3s			*e*Sg		**Sg**	**02 48 12.1**	**+0.3**
FUSIO	**Fusio** 103nm,0.2s	**1.96**	**101**	*e*P		**Pn**	**02 47 42.5**	**+0.2**
FUSIO	**Fusio** 103nm,0.2s	**1.96**	**101**	*e*P		**Pn**	**02 47 42.5**	**+0.2**
RSP	**Reno Superiore**	**1.96**	**150**	P		**Pn**	**02 47 43.2**	**+0.9**
SLE	**Schleitheim**	**2.00**	**62**	*e*Pn		**Pn**	**02 47 42.8**	**+0.1**
SLE				*e*Sg		**Sb**	**02 48 12.4**	**+2.2**
SLE	**Schleitheim** 277nm,0.5s	**2.00**	**62**	*e*P		**Pn**	**02 47 44.6**	**+1.9**
SLE	**Schleitheim** 277nm,0.5s	**2.00**	**62**	Pn		**Pn**	**02 47 42.8**	**+0.1**
SLE	**Schleitheim** 277nm,0.5s	**2.00**	**62**	*e*P		**Pn**	**02 47 44.6**	**+1.9**
SLE				Sg		**Sb**	**02 48 12.4**	**+2.2**
AGO	**Saint Agoulin**	**2.06**	**248**	Pn		**Pn**	**02 47 44.1**	**+0.4**
AGO	**Saint Agoulin**	**2.06**	**248**	Pn		**Pn**	**02 47 44.1**	**+0.4**
BGF	**Bois d'Agland** SNR=1.0	**2.11**	**263**	*e*Pn		**Pn**	**02 47 45.4**	**+1.1**
BGF	**Bois d'Agland** 71nm,0.3s,SNR=1.0	**2.11**	**263**	*e*Pg		**Pg**	**02 47 50.5**	**+0.5**
BGF				*e*Sn		**Sn**	**02 48 10.7**	**+0.4**
BGF	232nm,0.4s			*e*Sg		**Sg**	**02 48 18.5**	**+1.1**
BGF	**Bois d'Agland** SNR=1.0	**2.11**	**263**	*e*Pn		**Pn**	**02 47 45.4**	**+1.1**
BGF	**Bois d'Agland** 36nm,0.3s,SNR=1.0	**2.11**	**263**	*e*Pg		**Pg**	**02 47 50.5**	**+0.5**
BGF				*e*Sn		**Sn**	**02 48 10.7**	**+0.4**
BGF	116nm,0.4s			*e*Sg		**Sg**	**02 48 18.5**	**+1.1**
WILA	**Wila**	**2.14**	**74**	*e*Pg		**Pg**	**02 47 50.1**	**-0.5**
WILA				*e*Sg		**Sg**	**02 48 17.7**	**-0.6**
WILA	**Wila**	**2.14**	**74**	Pg		**Pg**	**02 47 50.1**	**-0.5**
WILA				Sg		**Sg**	**02 48 17.7**	**-0.6**
VIVF	**Saint-Julien-l** SNR=1.0	**2.17**	**203**	*e*Pn		**Pn**	**02 47 45.5**	**+0.4**
VIVF	**Saint-Julien-l** 108nm,0.3s	**2.17**	**203**	*e*Pg		**Pg**	**02 47 51.1**	**0.0**
VIVF				*e*Sg		**Sg**	**02 48 19.6**	**+0.4**
VIVF	**Saint-Julien-l** SNR=1.0	**2.17**	**203**	*e*Pn		**Pn**	**02 47 45.5**	**+0.4**
VIVF	**Saint-Julien-l** 54nm,0.3s	**2.17**	**203**	*e*Pg		**Pg**	**02 47 51.1**	**0.0**
VIVF				*e*Sg		**Sg**	**02 48 19.6**	**+0.4**
MBDF	**Montbardon** SNR=1.0	**2.21**	**163**	*e*Pn		**Pn**	**02 47 47.5**	**+1.6**
MBDF	**Montbardon** SNR=1.0	**2.21**	**163**	*e*Pg		**Pg**	**02 47 51.5**	**-0.5**
MBDF				*e*Sn		**Sn**	**02 48 12.7**	**-0.3**
MBDF	49nm,0.5s,SNR=1.0			*e*Sg		**Sg**	**02 48 20.2**	**-0.5**
MBDF	**Montbardon** SNR=1.0	**2.21**	**163**	*e*Pn		**Pn**	**02 47 47.5**	**+1.6**
MBDF	**Montbardon** SNR=1.0	**2.21**	**163**	*e*Pg		**Pg**	**02 47 51.5**	**-0.5**
MBDF				*e*Sn		**Sn**	**02 48 12.7**	**-0.3**
MBDF	24nm,0.5s,SNR=1.0			*e*Sg		**Sg**	**02 48 20.2**	**-0.5**
BFO	**Black Forest**	**2.22**	**47**	*e*Pn		**Pn**	**02 47 45.3**	**-0.5**
BFO				*e*Pg		**Pg**	**02 47 51.6**	**-0.5**
BFO				*e*Sg		**Sg**	**02 48 21.3**	**+0.4**
BFO	**Black Forest**	**2.22**	**47**	Pn		**Pn**	**02 47 45.3**	**-0.5**
HYF	**Humbligny**	**2.26**	**282**	*e*Pn		**Pb**	**02 47 48.1**	**-1.9**
HYF	**Humbligny**	**2.26**	**282**	*e*Pg		**Pg**	**02 47 53.3**	**+0.5**
HYF				*e*Sn		**Sn**	**02 48 14.3**	**+0.4**
HYF				*e*Sg		**Sg**	**02 48 23.3**	**+1.2**
HYF	**Humbligny**	**2.26**	**282**	*e*Pn		**Pb**	**02 47 48.1**	**-1.9**
HYF	**Humbligny**	**2.26**	**282**	*e*Pg		**Pg**	**02 47 53.3**	**+0.5**
HYF				*e*Sn		**Sn**	**02 48 14.3**	**+0.4**
HYF				*e*Sg		**Sg**	**02 48 23.3**	**+1.2**
PYM	**Petit Puy Mans**	**2.28**	**242**	Pn		**Pn**	**02 47 46.7**	**0.0**
PYM	**Petit Puy Mans**	**2.28**	**242**	Pg		**Pg**	**02 47 53.7**	**+0.5**
PYM	**Petit Puy Mans**	**2.28**	**242**	Pn		**Pn**	**02 47 46.7**	**0.0**
PYM	**Petit Puy Mans**	**2.28**	**242**	Pg		**Pg**	**02 47 53.7**	**+0.5**
SPAK	**Spaichingen-Ko**	**2.33**	**57**	Pg		**Pg**	**02 47 53.8**	**-0.4**
PLONS	**Plons/SG**	**2.40**	**84**	*e*Sg		**Sg**	**02 48 25.6**	**-1.1**
PLONS	**Plons/SG**	**2.40**	**84**	Sg		**Sg**	**02 48 25.6**	**-1.1**
LBL	**Lubilhac**	**2.45**	**230**	Pn		**Pn**	**02 47 49.8**	**+0.8**
LBL	**Lubilhac**	**2.45**	**230**	Pg		**Pg**	**02 47 56.9**	**+0.4**
LBL	**Lubilhac**	**2.45**	**230**	Pn		**Pn**	**02 47 49.8**	**+0.8**
LBL	**Lubilhac**	**2.45**	**230**	Pg		**Pg**	**02 47 56.9**	**+0.4**
PZZ	**Stroppo**	**2.50**	**159**	P		**Pn**	**02 47 52.1**	**+2.3**
TCF	**Toulx Ste Croi** SNR=1.0	**2.60**	**259**	*e*Pn		**Pn**	**02 47 52.0**	**+1.0**
TCF	**Toulx Ste Croi** SNR=1.0	**2.60**	**259**	*e*P		**Pb**	**02 47 54.9**	**-0.9**
TCF	**Toulx Ste Croi** SNR=1.0	**2.60**	**259**	*e*Pg		**Pg**	**02 47 59.5**	**+0.2**
TCF				*e*Sn		**Sn**	**02 48 22.4**	**+0.1**
TCF	112nm,0.4s,SNR=1.0			*e*Sg		**Sg**	**02 48 33.1**	**+0.2**
TCF	**Toulx Ste Croi** SNR=1.0	**2.60**	**259**	*e*Pn		**Pn**	**02 47 52.0**	**+1.0**
TCF	**Toulx Ste Croi** SNR=1.0	**2.60**	**259**	*e*Pg		**Pg**	**02 47 59.5**	**+0.2**
TCF				*e*Sn		**Sn**	**02 48 22.4**	**+0.1**
TCF	56nm,0.4s,SNR=1.0			*e*Sg		**Sg**	**02 48 33.1**	**+0.2**
DAVA	**Damuels**	**2.77**	**80**	*e*Pg		**Pg**	**02 48 01.8**	**-0.8**
DAVA	**Damuels**	**2.77**	**80**	⇑*i*Pn		**Pb**	**02 47 57.6**	**-1.1**
DAVA	**Damuels**	**2.77**	**80**	Pn		**Pb**	**02 47 57.6**	**-1.1**
DAVA	**Damuels**	**2.77**	**80**	Pg		**Pg**	**02 48 01.8**	**-0.8**
WLF	**Walferdange**	**2.82**	**4**	PN		**Pb**	**02 47 57.3**	**-2.2**
WLF	comp=N,46nm,0.0s			SN		**Sb**	**02 48 33.1**	**-0.8**
WLF				SG		**Sg**	**02 48 41.9**	**+1.7**
WLF	**Walferdange**	**2.82**	**4**	Pn		**Pb**	**02 47 57.3**	**-2.2**
WLF				Sn		**Sb**	**02 48 33.1**	**-0.8**
WLF				Sg		**Sg**	**02 48 41.8**	**+1.7**
SMRF	**Simiane la Rot** SNR=1.0	**2.88**	**184**	*e*Pn		**Pn**	**02 47 56.0**	**+1.0**
SMRF	**Simiane la Rot** SNR=1.0	**2.88**	**184**	*e*Pg		**Pg**	**02 48 04.6**	**-0.2**
SMRF	SNR=1.0			*e*Sn		**Sn**	**02 48 28.9**	**-0.5**
SMRF	comp=N,35nm,0.6s,SNR=1.0			*e*Sg		**Sg**	**02 48 41.6**	**-0.6**
SMRF	**Simiane la Rot** SNR=1.0	**2.88**	**184**	*e*Pn		**Pn**	**02 47 56.0**	**+1.0**
SMRF	**Simiane la Rot** SNR=1.0	**2.88**	**184**	*e*Pg		**Pg**	**02 48 04.6**	**-0.2**
SMRF	SNR=1.0			*e*Sn		**Sn**	**02 48 28.9**	**-0.5**
SMRF	comp=N,18nm,0.6s,SNR=1.0			*e*Sg		**Sg**	**02 48 41.6**	**-0.6**
STU	**Stuttgart**	**2.94**	**48**	*e*Sg		**Sg**	**02 48 44.4**	**+0.3**
STU	**Stuttgart**	**2.94**	**48**	Sg		**Sg**	**02 48 44.4**	**+0.3**
RUP	**Ruppelstein**	**2.96**	**15**	Pn		**Pn**	**02 47 56.3**	**+0.3**
OBER	**Oberstdorf**	**3.06**	**78**	*e*Sg		**Sg**	**02 48 47.4**	**-0.4**
OBER	**Oberstdorf**	**3.06**	**78**	Sg		**Sg**	**02 48 47.4**	**-0.4**
LASF	**Ste Croix** SNR=1.0	**3.12**	**208**	*e*Pn		**Pn**	**02 47 58.6**	**+0.4**
LASF	**Ste Croix** SNR=1.0	**3.12**	**208**	*e*Pg		**Pg**	**02 48 08.2**	**-1.1**
LASF				*e*Sn		**Sn**	**02 48 34.3**	**-0.9**
LASF	comp=N,46nm,0.3s			*e*Sg		**Sg**	**02 48 49.1**	**-0.7**
LASF	**Ste Croix** SNR=1.0	**3.12**	**208**	*e*Pn		**Pn**	**02 47 58.6**	**+0.4**
LASF	**Ste Croix** SNR=1.0	**3.12**	**208**	*e*Pg		**Pg**	**02 48 08.2**	**-1.1**
LASF				*e*Sn		**Sn**	**02 48 34.3**	**-0.9**
LASF	comp=N,23nm,0.3s			*e*Sg		**Sg**	**02 48 49.1**	**-0.7**
LUCF	**Luceram**	**3.13**	**160**	Pn		**Pn**	**02 47 59.4**	**+1.0**
LUCF	**Luceram**	**3.13**	**160**	Pn		**Pn**	**02 47 59.4**	**+1.0**
SBF	**Sospel** SNR=1.0	**3.18**	**159**	*e*P		Pn	02 48 02.4	+3.3
SBF	**Sospel** SNR=1.0	**3.18**	**159**	*e*Pg		**Pg**	**02 48 09.8**	**-0.7**
SBF	SNR=1.0			*e*Sn		**Sn**	**02 48 35.8**	**-1.0**
SBF	comp=N,54nm,0.6s			*e*Sg		**Sg**	**02 48 50.5**	**-1.2**
SBF	**Sospel** SNR=1.0	**3.18**	**159**	*e*Pg		**Pg**	**02 48 09.8**	**-0.7**
SBF	SNR=1.0			*e

BAIF	**Baives**	**3.40**	**341**	*e*Pg	**Pg**	**02 48 13.7**	**-0.9**
BAIF				*e*Sg	**Sg**	**02 48 57.6**	**-1.0**
	comp=E,17nm,0.4s						
RJF	**Les Rejaudoux**	**3.41**	**245**	*e*Pn	**Pn**	**02 48 03.0**	**+0.8**
	SNR=1.0						
RJF	**Les Rejaudoux**	**3.41**	**245**	*e*Pg	**Pg**	**02 48 14.6**	**-0.3**
RJF				*e*Sg	**Sg**	**02 48 58.2**	**-0.8**
	comp=E,60nm,0.4s,SNR=1.0						
RJF	**Les Rejaudoux**	**3.41**	**245**	*e*Pn	**Pn**	**02 48 03.0**	**+0.8**
	SNR=1.0						
RJF	**Les Rejaudoux**	**3.41**	**245**	*e*Pg	**Pg**	**02 48 14.6**	**-0.3**
RJF				*e*Sg	**Sg**	**02 48 58.2**	**-0.8**
	comp=E,30nm,0.4s,SNR=1.0						
LMR	**La Mourre**	**3.55**	**173**	*e*Pn	**Pn**	**02 48 04.5**	**+0.5**
	SNR=1.0						
LMR	**La Mourre**	**3.55**	**173**	*e*Pg	**Pg**	**02 48 16.3**	**-1.1**
LMR				*e*Sn	**Sn**	**02 48 44.5**	**-1.1**
LMR				*e*Sg	**Sg**	**02 49 01.3**	**-2.1**
	comp=E,13nm,0.4s						
LMR	**La Mourre**	**3.55**	**173**	*e*Pn	**Pn**	**02 48 04.5**	**+0.5**
	SNR=1.0						
LMR	**La Mourre**	**3.55**	**173**	*e*Pg	**Pg**	**02 48 16.3**	**-1.1**
LMR				*e*Sn	**Sn**	**02 48 44.5**	**-1.1**
LMR				*e*Sg	**Sg**	**02 49 01.3**	**-2.1**
	comp=E,6.6nm,0.4s						
BCLA	**Clavier**	**3.59**	**354**	PN	Pn	02 48 08.5	+3.9
BCLA				SN	**Sn**	**02 48 46.3**	**-0.5**
	comp=E,22nm,0.0s						
BCLA	**Clavier**	**3.59**	**354**	Pn	Pn	02 48 08.5	+3.9
BCLA				Sn	**Sn**	**02 48 46.2**	**-0.5**
MOTA	**Moosalm**	**3.60**	**80**	⇑/Pn	**Pn**	**02 48 07.5**	**+2.6**
MOTA	**Moosalm**	**3.60**	**80**	Pn	**Pn**	**02 48 07.5**	**+2.6**
MEM	**Membach**	**3.76**	**1**	PN	**Pn**	**02 48 09.2**	**+2.3**
MEM				SN	**Sn**	**02 48 51.6**	**+0.6**
	comp=E,26nm,0.0s						
MEM	**Membach**	**3.76**	**1**	Pn	**Pn**	**02 48 09.2**	**+2.3**
MEM				Sn	**Sn**	**02 48 51.5**	**+0.6**
TNS	**Taunus Mts**	**3.78**	**26**	*e*Pn	**Pn**	**02 48 07.1**	**-0.1**
TNS	**Taunus Mts**	**3.78**	**26**	Pn	**Pn**	**02 48 07.1**	**-0.1**
SNF	**Seneffe**	**3.81**	**344**	PN	**Pn**	**02 48 10.1**	**+2.4**
SNF	**Seneffe**	**3.81**	**344**	Pn	**Pn**	**02 48 10.0**	**+2.4**
LFF	**La Frestale**	**4.07**	**244**	*e*Pn	**Pn**	**02 48 13.0**	**+1.8**
	SNR=1.0						
LFF	**La Frestale**	**4.07**	**244**	*e*Pg	**Pg**	**02 48 26.7**	**-0.7**
LFF				*e*Sg	**Sg**	**02 49 20.2**	**+0.1**
	comp=E,39nm,0.4s,SNR=1.0						
LFF	**La Frestale**	**4.07**	**244**	*e*Pn	**Pn**	**02 48 13.0**	**+1.8**
	SNR=1.0						
LFF	**La Frestale**	**4.07**	**244**	*e*Pg	**Pg**	**02 48 26.7**	**-0.7**
LFF				*e*Sg	**Sg**	**02 49 20.2**	**+0.1**
	comp=E,20nm,0.4s,SNR=1.0						
MFF	**Saint Martin d**	**4.16**	**269**	*e*Pn	**Pn**	**02 48 13.6**	**+1.2**
	SNR=1.0						
MFF				*e*Sn	**Sn**	**02 48 59.6**	**-1.0**
	SNR=1.0						
MFF				*e*Sg	**Sg**	**02 49 21.8**	**-1.1**
	comp=E,23nm,0.5s,SNR=1.0						
MFF	**Saint Martin d**	**4.16**	**269**	*e*Pn	**Pn**	**02 48 13.6**	**+1.2**
	SNR=1.0						
MFF				*e*Sg	**Sg**	**02 49 21.8**	**-1.1**
	comp=E,12nm,0.5s,SNR=1.0						
MTLF	**Montolieu**	**4.37**	**218**	*e*Pn	**Pn**	**02 48 15.7**	**+0.4**
	SNR=1.0						
MTLF	**Montolieu**	**4.37**	**218**	*e*Pg	**Pg**	**02 48 31.4**	**-1.7**
MTLF				*e*Sn	**Sn**	**02 49 04.8**	**-1.1**
	comp=E,18nm,0.4s,SNR=1.0						
MTLF				*e*Sg	**Sg**	**02 49 28.6**	**-1.1**
	comp=E,17nm,0.3s						
MTLF	**Montolieu**	**4.37**	**218**	*e*Pn	**Pn**	**02 48 15.7**	**+0.4**
	SNR=1.0						
MTLF	**Montolieu**	**4.37**	**218**	*e*Pg	**Pg**	**02 48 31.4**	**-1.7**
MTLF				*e*Sn	**Sn**	**02 49 04.8**	**-1.1**
	comp=E,8.9nm,0.4s,SNR=1.0						
MTLF				*e*Sg	**Sg**	**02 49 28.6**	**-1.1**
	comp=E,8.6nm,0.3s						
LDF	**La Druitiere**	**4.41**	**295**	*e*Pn	**Pn**	**02 48 17.6**	**+1.7**
	SNR=1.0						
LDF	**La Druitiere**	**4.41**	**295**	*e*Pg	**Pg**	**02 48 32.9**	**-1.1**
LDF				*e*Sn	**Sn**	**02 49 05.6**	**-1.4**
	SNR=1.0						
LDF				*e*Sg	**Sg**	**02 49 29.3**	**-1.8**
	comp=E,42nm,0.5s,SNR=1.0						
LDF	**La Druitiere**	**4.41**	**295**	*e*Pn	**Pn**	**02 48 17.6**	**+1.7**
	SNR=1.0						
LDF	**La Druitiere**	**4.41**	**295**	*e*Pg	**Pg**	**02 48 32.9**	**-1.1**
LDF				*e*Sg	**Sg**	**02 49 29.3**	**-1.8**
	comp=E,21nm,0.5s,SNR=1.0						
GRA1	**Grafenberg Arr**	**4.56**	**49**	Sg	**Sg**	**02 49 35.0**	**-0.7**
GRF	**Grafenberg Arr**	**4.56**	**49**	*e*Sg	**Sg**	**02 49 35.0**	**-0.7**
FLN	**La Foliniere**	**4.70**	**296**	*e*Pn	**Pn**	**02 48 21.5**	**+1.7**
	baz=116,SNR=1.0						
FLN	**La Foliniere**	**4.70**	**296**	*e*Pg	**Pg**	**02 48 38.4**	**-1.0**
	baz=110						
FLN				*e*Sg	**Sg**	**02 49 36.6**	**-3.6**
	comp=E,39nm,0.4s						
FLN	**La Foliniere**	**4.70**	**296**	*e*Pn	**Pn**	**02 48 21.5**	**+1.7**
	baz=116,SNR=1.0						
FLN	**La Foliniere**	**4.70**	**296**	*e*Pg	**Pg**	**02 48 38.4**	**-1.0**
	baz=110						
GRR	**Gorron**	**4.81**	**291**	*e*Pn	**Pn**	**02 48 22.3**	**+0.9**
	SNR=1.0						
GRR	**Gorron**	**4.81**	**291**	*e*Pg	**Pg**	**02 48 40.3**	**-1.3**
GRR				*e*Sn	**Sn**	**02 49 16.0**	**-0.8**
	comp=E,9.8nm,0.2s,SNR=1.0						
GRR				*e*Sg	**Sg**	**02 49 42.4**	**-1.5**
	comp=E,31nm,0.4s						
GRR	**Gorron**	**4.81**	**291**	*e*Pn	**Pn**	**02 48 22.3**	**+0.9**
	SNR=1.0						
GRR	**Gorron**	**4.81**	**291**	*e*Pg	**Pg**	**02 48 40.3**	**-1.3**
GRR				*e*Sg	**Sg**	**02 49 42.4**	**-1.5**
	comp=E,16nm,0.4s						
EPF	**Esparros**	**5.48**	**228**	*e*Pn	**Pn**	**02 48 31.2**	**+0.5**
	SNR=1.0						
EPF				*e*Sn	**Sn**	**02 49 31.8**	**-1.7**
	comp=E,3.2nm,0.4s,SNR=1.0						
EPF				*e*Sg	**Sg**	**02 50 03.9**	**-1.6**
	comp=E,13nm,0.4s						
EPF	**Esparros**	**5.48**	**228**	*e*Pn	**Pn**	**02 48 31.2**	**+0.5**
	SNR=1.0						
EPF				*e*Sg	**Sg**	**02 50 03.9**	**-1.6**
	comp=E,6.4nm,0.4s						
KHC	**Kasperske Hory**	**5.64**	**63**	*e*PN	**Pn**	**02 48 34.5**	**+1.6**
KHC				*e*PG	**Pg**	**02 48 56.8**	**-0.8**
KHC				*e*SG	**Sg**	**02 50 09.2**	**-1.4**
	comp=E,8.2nm,0.8s						
KHC				*e*x	x	02 50 20.5	
SGMF	**Saint Gilles**	**5.88**	**287**	*e*Pn	**Pn**	**02 48 37.2**	**+1.1**
	SNR=1.0						
SGMF				*e*Sn	**Sn**	**02 49 39.5**	**-3.7**
	comp=E,7.4nm,0.3s,SNR=1.0						
SGMF				*e*Sg	**Sg**	**02 50 16.1**	**-2.2**
	comp=E,9.1nm,0.3s						
SGMF	**Saint Gilles**	**5.88**	**287**	*e*Pn	**Pn**	**02 48 37.2**	**+1.1**
	SNR=1.0						
ETSF	**Etsaut**	**6.05**	**232**	*e*P	Pn	02 48 43.2	+4.7
ETSF				*e*Sg	**Sg**	**02 50 21.6**	**-2.0**
	comp=E,3.3nm,0.3s						
QUIF	**Quistinic**	**6.24**	**283**	*e*Pn	**Pn**	**02 48 41.7**	**+0.8**
	SNR=1.0						
QUIF				*e*Sn	**Sn**	**02 49 49.4**	**-2.5**
	comp=E,6.9nm,0.3s,SNR=1.0						
QUIF				*e*Sg	**Sg**	**02 50 27.3**	**-2.3**
	comp=E,11nm,0.4s						
QUIF	**Quistinic**	**6.24**	**283**	*e*Pn	**Pn**	**02 48 41.7**	**+0.8**
	SNR=1.0						
SJPF	**Ste Jean**	**6.28**	**236**	*e*Sg	**Sg**	**02 50 29.0**	**-1.8**
	comp=E,4.7nm,0.5s						
SJPF	**Ste Jean**	**6.28**	**236**	*e*Sg	**Sg**	**02 50 29.0**	**-1.8**
	comp=E,2.3nm,0.5s						
ROSF	**Rostrenen**	**6.37**	**287**	*e*Pn	**Pn**	**02 48 44.2**	**+1.4**
	SNR=1.0						
ROSF				*e*Sn	**Sn**	**02 49 51.2**	**-4.0**
	comp=E,5.5nm,0.3s,SNR=1.0						
ROSF				*e*Sg	**Sg**	**02 50 32.3**	**-1.5**
	comp=E,8.6nm,0.4s						
ROSF	**Rostrenen**	**6.37**	**287**	*e*Pn	**Pn**	**02 48 44.2**	**+1.4**
	SNR=1.0						
ROSF				*e*Sg	**Sg**	**02 50 32.3**	**-1.5**
	comp=E,4.3nm,0.4s						
CLL	**Collm**	**6.46**	**44**	*e*Sg	**Sg**	**02 50 39.0**	**+2.3**
PRU	**Pruhonice**	**6.56**	**58**	*e*PG	**Pg**	**02 49 13.1**	**-1.9**
PRU				*e*SG	**Sg**	**02 50 38.4**	**-1.5**
	comp=E,7.2nm,0.8s						
BRG	**Berggiesshubel**	**6.67**	**50**	SG	**Sg**	**02 50 47.1**	**+3.8**
	comp=E,3.3nm,0.7s						
DPC	**Dobruska-Polom**	**7.75**	**59**	*e*x	x	02 51 15.1	

ATH ***26*** *02:52:02.2, 33°.75N×25°.49E, h5km±3km, ML4.3*
PRU ***26*** *02:52:04.9, 34°.00N×24°.65E, h0km, M4.6*
BJI ***26*** *02:52:05.3, 33°.98N×24°.77E, h33km, mB4.9/16, mb4.8/23, Ms4.8/15, Ms7 4.5/15*
IDC ***26*** *02:52:05.1±0.5, 34°.04N×25°.50E, h0km, mb4.3/25, mb1 4.4/35, mb1mx4.4/41, mbtmp4.3/35, ML4.3/9, MS4.1/14, Ms1 4.1/14, ms1mx3.8/42, Error ellipse: s-maj=11.3km s-min=10.8km az=149.0*
ISCJB ***26*** *02:52:06.7±0.5, 33°.95N±0°.02×25°.57E±0°.01, h18km±3km, mb4.6/110, MS4.3/19, Error ellipse: s-maj=2.7km s-min=1.9km az=27.3*
CSEM ***26*** *02:52:06.1±0.1, 33°.97N×25°.56E, h2km, mb4.7/70, Ms4.0, Mw3.8, Error ellipse: s-maj=3.3km s-min=2.3km az=22.0*
NEIC ***26*** *02:52:08.0±1.9, 34°.02N×25°.57E, h13km±12km, mb4.6/75, ML4.2(THE), Error ellipse: s-maj=6.6km s-min=3.6km az=188.0*
THE ***26*** *02:52:08.3, 34°.06N×25°.52E, h0km, ML4.2/8, Error ellipse: s-maj=1.8km s-min=0.4km az=176.0*
HLW ***26*** *02:52:09.0, 33°.99N×25°.58E, h33km±20km, Md3.3, Ml3.7*
MOS ***26*** *02:52:09.4±1.2, 34°.07N×25°.52E, h33km, mb4.8/57, MS4.0/13, Error ellipse: s-maj=5.0km s-min=2.7km az=102.5*
SFS ***26*** *02:52:11.0, 34°.08N×25°.55E, h35km, ML4.6*
TEH ***26*** *02:52:12.0, 34°.08N×25°.55E, h35km, ML4.6*
NIC ***26*** *02:52:12.6±0.2, 34°.30N×25°.92E, h60km, mb4.8, ML4.4, MW3.8*
DDA ***26*** *02:52:51.3, 36°.73N×27°.38E, h8km, MD4.1*

ISC 26 02:52:10.2±0.4,**33°.93N**±0°.02×**25°.56E**±0°.02,**h32**km±2km, **n944**,σ1°**44**/1032,**mb4.7**/111,**MS4.3**/20,**20C-18D**,**Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAST	**Lasithi**	**1.23**	**357**	P	**Pn**	**02 52 28.7**	**-2.6**
LAST				S	**Sn**	**02 52 45.5**	**-1.3**
LAST	**Lasithi**	**1.23**	**357**	*e*PN	Pn	02 52 27.7	-3.6
LAST	**Lasithi**	**1.23**	**357**	P	**Pn**	**02 52 28.7**	**-2.6**
LAST				S	**Sn**	**02 52 45.5**	**-1.3**
LAST	**Lasithi**	**1.23**	**357**	*e*Pn	Pn	02 52 27.7	-3.6
LAST	**Lasithi**	**1.23**	**357**	P	**Pn**	**02 52 28.7**	**-2.6**
LAST				S	**Sn**	**02 52 45.5**	**-1.3**
SIVA	**Sivas**	**1.25**	**331**	P	**Pn**	**02 52 29.0**	**-2.4**
SIVA				S	**Sn**	**02 52 46.2**	**-1.0**
SIVA	**Sivas**	**1.25**	**331**	*e*PN	Pn	02 52 27.4	-4.0
SIVA	**Sivas**	**1.25**	**331**	P	**Pn**	**02 52 29.0**	**-2.4**
SIVA				S	**Sn**	**02 52 46.2**	**-1.0**
SIVA	**Sivas**	**1.25**	**331**	*e*Pn	Pn	02 52 27.4	-4.0
SIVA	**Sivas**	**1.25**	**331**	P	**Pn**	**02 52 29.0**	**-2.4**
SIVA				S	**Sn**	**02 52 46.2**	**-1.0**
ZKR	**Zakros**	**1.30**	**24**	P	**Pn**	**02 52 30.9**	**-1.3**
ZKR				S	**Sn**	**02 52 48.3**	**-0.2**
ZKR	**Zakros**	**1.30**	**24**	*e*PB	**Pn**	**02 52 30.5**	**-1.7**
ZKR	**Zakros**	**1.30**	**24**	P	**Pn**	**02 52 30.9**	**-1.3**
ZKR				S	**Sn**	**02 52 48.3**	**-0.2**
ZKR	**Zakros**	**1.30**	**24**	*e*Pb	**Pn**	**02 52 30.5**	**-1.7**
ZKR	**Zakros**	**1.30**	**24**	P	**Pn**	**02 52 30.9**	**-1.3**
ZKR				S	**Sn**	**02 52 48.3**	**-0.2**
NPS	**Neapolis**	**1.33**	**2**	P	**Pn**	**02 52 30.2**	**-2.4**
NPS				S	**Sn**	**02 52 48.1**	**-1.1**
NPS	**Neapolis**	**1.33**	**2**	P	**Pn**	**02 52 30.2**	**-2.4**
NPS				S	**Sn**	**02 52 48.1**	**-1.1**
NPS	**Neapolis**	**1.33**	**2**	*e*PG	**Pn**	**02 52 30.0**	**-2.6**
NPS				*e*SB	**Sb**	**02 52 52.6**	**+1.3**
NPS	**Neapolis**	**1.33**	**2**	P	**Pn**	**02 52 30.2**	**-2.4**
NPS				S	**Sn**	**02 52 48.1**	**-1.1**
NPS	**Neapolis**	**1.33**	**2**	P	**Pn**	**02 52 30.2**	**-2.4**
NPS				S	**Sn**	**02 52 48.1**	**-1.1**
NPS				*e*Sb	**Sb**	**02 52 52.6**	**+1.3**
IDI	**Anoyia**	**1.46**	**338**	P	**Pn**	**02 52 33.0**	**-1.4**
IDI				S	**Sn**	**02 52 51.9**	**-0.7**
IDI	**Anoyia**	**1.46**	**338**	*e*PG	**Pn**	**02 52 31.9**	**-2.5**
IDI	**Anoyia**	**1.46**	**338**	*e*Pn	**Pn**	**02 52 31.5**	**-3.0**
IDI				*e*Sn	**Sn**	**02 52 48.7**	**-3.9**
IDI	**Anoyia**	**1.46**	**338**	Pn	**Pn**	**02 52 31.4**	**-3.0**
	29nm,0.3s,baz=155,slow=19,SNR=427						
IDI				Sn	**Sn**	**02 52 51.3**	**-1.2**
	334nm,0.3s,baz=209,slow=19,SNR=16						
IDI	**Anoyia**	**1.46**	**338**	*e*Pn	**Pn**	**02 52 31.5**	**-3.0**
IDI	**Anoyia**	**1.46**	**338**	*e*Pg	**Pn**	**02 52 31.9**	**-2.5**
IDI	**Anoyia**	**1.46**	**338**	P	**Pn**	**02 52 33.0**	**-1.4**
IDI				*e*Sn	**Sn**	**02 52 48.7**	**-3.9**
IDI				S	**Sn**	**02 52 51.9**	**-0.7**
GVD	**Gavdhos**	**1.52**	**307**	P	**Pn**	**02 52 34.1**	**-1.0**
GVD				S	**Sn**	**02 52 53.8**	**0.0**
GVD	**Gavdhos**	**1.52**	**307**	*e*PB	**Pn**	**02 52 33.2**	**-1.9**
GVD	**Gavdhos**	**1.52**	**307**	*e*Pn	**Pn**	**02 52 33.4**	**-1.7**
GVD				*e*Sn	**Sn**	**02 52 53.2**	**-0.6**
GVD	**Gavdhos**	**1.52**	**307**	*e*Pn	**Pn**	**02 52 33.4**	**-1.7**
GVD	**Gavdhos**	**1.52**	**307**	P	**Pn**	**02 52 34.1**	**-1.0**
GVD				*e*Sn	**Sn**	**02 52 53.2**	**-0.6**
VAM	**Vamos**	**1.85**	**323**	P	**Pn**	**02 52 38.1**	**-1.6**
VAM				S	**Sn**	**02 53 02.0**	**0.0**
VAM	**Vamos**	**1.85**	**323**	*e*PG	**Pn**	**02 52 38.4**	**-1.3**
VAM				*e*SN	**Sb**	**02 53 05.9**	**-0.3**
VAM	**Vamos**	**1.85**	**323**	P	**Pn**	**02 52 38.1**	**-1.6**
VAM	**Vamos**	**1.85**	**323**	*e*Pg	**Pn**	**02 52 38.4**	**-1.3**
VAM				S	**Sn**	**02 53 02.0**	**0.0**
VAM				*e*Sn	**Sb**	**02 53 05.9**	**-0.3**
KARP	**Karpathos**	**2.08**	**39**	P	**Pn**	**02 52 42.8**	**-0.1**
KARP				S	**Sn**	**02 53 08.8**	**+1.0**
KARP	**Karpathos**	**2.08**	**39**	*e*PG	**Pn**	**02 52 43.7**	**+0.8**
KARP				*e*SG	**Sb**	**02 53 12.6**	**-0.3**
KARP	**Karpathos**	**2.08**	**39**	P	**Pn**	**02 52 42.8**	**-0.1**
KARP				S	**Sn**	**02 53 08.8**	**+1.0**
KARP	**Karpathos**	**2.08**	**39**	P	**Pn**	**02 52 42.8**	**-0.1**
KARP	**Karpathos**	**2.08**	**39**	*e*Pg	**Pn**	**02 52 43.7**	**+0.8**
KARP				S	**Sn**	**02 53 08.8**	**+1.0**
KARP				*e*Sg	**Sb**	**02 53 12.6**	**-0.3**
LTBQ	**Tobruq**	**2.32**	**217**	*i* P	**Pn**	**02 52 47.6**	**+1.5**
	SNR=37						
LTBQ				*e*S	**Sb**	**02 53 17.0**	**-2.6**
	202nm,0.6s,SNR=37						
SANT	**Santorini**	**2.44**	**358**	P	**Pn**	**02 52 46.8**	**-1.0**
SANT	**Santorini**	**2.44**	**358**	*e*Pn	**Pn**	**02 52 46.8**	**-1.0**
SANT	**Santorini**	**2.44**	**358**	P	**Pn**	**02 52 46.8**	**-1.0**
THR1	**Thera Island**	**2.44**	**358**	P	**Pn**	**02 52 46.5**	**-1.3**
THR1	**Thera Island**	**2.44**	**358**	P	**Pn**	**02 52 46.5**	**-1.3**
SLUM		**2.45**	**187**	S	**Sn**	**02 53 16.1**	**-0.6**
	baz=188						
SLUM		**2.45**	**187**	P	**Pn**	**02 52 47.7**	**-0.2**
SLUM				S	**Sn**	**02 53 16.1**	**-0.6**
THR2	**Thira island,**	**2.52**	**358**	P	**Pn**	**02 52 47.2**	**-1.6**
THR2	**Thira island,**	**2.52**	**358**	P	**Pn**	**02 52 47.2**	**-1.6**
ANKY	**Antikythira Is**	**2.68**	**317**	*e*PG	**Pn**	**02 52 52.6**	**+1.5**
ANKY				*e*SG	**Sb**	**02 53 28.5**	**-1.4**
ANKY	**Antikythira Is**	**2.68**	**317**	*e*Pg	**Pn**	**02 52 52.6**	**+1.5**
ANKY				*e*Sg	**Sb**	**02 53 28.5**	**-1.4**
MATC	**Matruh**	**2.94**	**151**	P	**Pn**	**02 52 54.3**	**-0.3**
	baz=151						
MATC	**Matruh**	**2.94**	**151**	P	**Pn**	**02 52 54.3**	**-0.3**
NIS3	**Nisyros Isl.**	**2.94**	**26**	P	**Pn**	**02 52 54.0**	**-0.7**
NIS2	**Nisyros Isl.**	**2.96**	**26**	P	**Pn**	**02 52 54.1**	**-0.8**
NIS1	**Nisyros Isl.**	**2.98**	**26**	P	**Pn**	**02 52 54.5**	**-0.7**
NIS1				S	**Sn**	**02 53 30.0**	**+0.2**
NIS1	**Nisyros Isl.**	**2.98**	**26**	P	**Pn**	**02 52 54.5**	**-0.7**
NIS1				S	**Sn**	**02 53 30.0**	**+0.2**
ARG	**Arkhangelos**	**3.10**	**42**	*e*PN	**Pn**	**02 52 58.3**	**+1.4**
ARG	**Arkhangelos**	**3.10**	**42**	*e*Pn	**Pn**	**02 52 58.3**	**+1.4**
HMAT	**Matruh**	**3.11**	**155**	P	**Pn**	**02 52 56.8**	**-0.2**
	baz=155						
HMAT				S	**Sn**	**02 53 32.4**	**-0.7**
	baz=155						
HMAT	**Matruh**	**3.11**	**155**	P	**Pn**	**02 52 56.8**	**-0.2**
HMAT				S	**Sn**	**02 53 32.4**	**-0.7**
KYTH	**Kithira**	**3.13**	**319**	P	**Pn**	**02 52 56.0**	**-1.3**
KYTH	**Kithira**	**3.13**	**319**	*e*PN	**Pn**	**02 52 56.9**	**-0.4**
KYTH	**Kithira**	**3.13**	**319**	P	**Pn**	**02 52 56.0**	**-1.3**
KYTH	**Kithira**	**3.13**	**319**	*e*Pn	**Pn**	**02 52 56.9**	**-0.4**
APE	**Apeiranthos**	**3.13**	**360**	P	**Pn**	**02 52 56.1**	**-1.3**
APE				S	**Sn**	**02 53 33.2**	**-0.5**
APE	**Apeiranthos**	**3.13**	**360**	*i* P	**Pn**	**02 52 56.2**	**-1.2**
APE	**Apeiranthos**	**3.13**	**360**	*e*PN	**Pn**	**02 52 56.2**	**-1.2**
APE	**Apeiranthos**	**3.13**	**360**	*e*PB	**Pn**	**02 52 57.3**	**-0.1**
APE	**Apeiranthos**	**3.13**	**360**	*i* P	**Pn**	**02 52 56.2**	**-1.2**
APE	**Apeiranthos**	**3.13**	**360**	*e*Pb	**Pn**	**02 52 57.3**	**-0.1**
APE				S	**Sn**	**02 53 33.2**	**-0.5**
DAT	**Datca**	**3.25**	**30**	*e*PN	**Pn**	**02 52 58.7**	**-0.3**
DAT	**Datca**	**3.25**	**30**	*e*Pn	**Pn**	**02 52 58.7**	**-0.3**
BODT	**Bodrum**	**3.44**	**24**	*e*PN	**Pn**	**02 53 01.2**	**-0.3**
BODT	**Bodrum**	**3.44**	**24**	*e*Pn	**Pn**	**02 53 01.2**	**-0.3**
BDRM	**Kayabasi**	**3.49**	**26**	*i* P	**Pn**	**02 53 01.8**	**-0.4**
BDRM	**Kayabasi**	**3.49**	**26**	*i* P	**Pn**	**02 53 01.8**	**-0.4**
VLI	**Veliai**	**3.51**	**323**	P	**Pn**	**02 53 01.2**	**-1.3**
VLI				S	**Sn**	**02 53 42.9**	**-0.1**
VLI	**Veliai**	**3.51**	**323**	*e*PN	**Pn**	**02 53 01.5**	**-1.0**
VLI	**Veliai**	**3.51**	**323**	P	**Pn**	**02 53 01.2**	**-1.3**
VLI	**Veliai**	**3.51**	**323**	*e*Pn	**Pn**	**02 53 01.5**	**-1.0**
VLI				S	**Sn**	**02 53 42.9**	**-0.1**
DALY	**Dalyan (Mu¨la**	**3.83**	**40**	*e*PN	**Pn**	**02 53 07.5**	**+0.6**
DALY	**Dalyan (Mu¨la**	**3.83**	**40**	*e*Pn	**Pn**	**02 53 07.5**	**+0.6**
TURN	**Turunc**	**3.85**	**39**	*i* P	Pn	02 53 03.3	-3.8
TURN				*i* S	Sn	02 53 45.8	-5.4
TURN	**Turunc**	**3.85**	**39**	*i* P	Pn	02 53 03.3	-3.8
YER	**Yerkesik**	**3.89**	**34**	*e*PN	**Pn**	**02 53 08.1**	**+0.3**
YER	**Yerkesik**	**3.89**	**34**	*e*Pn	**Pn**	**02 53 08.1**	**+0.3**
SMG	**Samos**	**3.91**	**15**	P	**Pn**	**02 53 06.8**	**-1.2**
SMG	**Samos**	**3.91**	**15**	*e*PB	**Pn**	**02 53 09.9**	**+1.9**
SMG	**Samos**	**3.91**	**15**	P	**Pn**	**02 53 06.8**	**-1.2**
FETY	**Fethiye**	**3.95**	**46**	*e*PN	**Pn**	**02 53 09.2**	**+0.6**
FETY	**Fethiye**	**3.95**	**46**	*e*Pn	**Pn**	**02 53 09.2**	**+0.6**
KSL	**Kastellorizon**	**3.98**	**55**	*e*PN	**Pn**	**02 53 09.0**	**+0.1**
GCAM	**G?zelcaml?**	**4.00**	**19**	*i* P	**Pn**	**02 53 08.5**	**-0.7**
GCAM	**G?zelcaml?**	**4.00**	**19**	*i* P	**Pn**	**02 53 08.5**	**-0.7**
DIDY	**Didyma**	**4.02**	**332**	P	**Pn**	**02 53 08.2**	**-1.4**
DIDY				S	**Sn**	**02 53 55.3**	**-0.4**
DIDY	**Didyma**	**4.02**	**332**	P	**Pn**	**02 53 08.2**	**-1.4**
DIDY				S	**Sn**	**02 53 55.3**	**-0.4**
AKAS	**Kas**	**4.04**	**54**	*i* P	**Pn**	**02 53 09.9**	**0.0**
AKAS				*i* S	**Sn**	**02 53 58.0**	**+1.9**
AKAS	**Kas**	**4.04**	**54**	*i* P	**Pn**	**02 53 09.9**	**0.0**
AKAS				*i* S	**Sn**	**02 53 58.0**	**+1.9**
DID	**Didima**	**4.04**	**333**	P	**Pn**	**02 53 08.4**	**-1.4**
DID				S	**Sn**	**02 53 55.7**	**-0.3**
DID	**Didima**	**4.04**	**333**	*e*PN	**Pn**	**02 53 07.9**	**-1.9**
DID	**Didima**	**4.04**	**333**	*e*Pn	**Pn**	**02 53 07.9**	**-1.9**
DID	**Didima**	**4.04**	**333**	P	**Pn**	**02 53 08.4**	**-1.4**
DID				S	**Sn**	**02 53 55.7**	**-0.3**
AYDN	**Tasoluk**	**4.17**	**26**	*i* P	**Pn**	**02 53 11.2**	**-0.5**
AYDN				*i* S	**Sn**	**02 54 03.8**	**+4.4**
AYDN	**Tasoluk**	**4.17**	**26**	*i* P	**Pn**	**02 53 11.2**	**-0.5**
AYDN				*i* S	**Sn**	**02 54 03.8**	**+4.4**
NAIG	**Nisos Aigina**	**4.17**	**337**	*e*PN	**Pn**	**02 53 11.1**	**-0.5**
NAIG	**Nisos Aigina**	**4.17**	**337**	*e*Pn	**Pn**	**02 53 11.1**	**-0.5**
PYL	**PYLOS**	**4.30**	**315**	*e*PB	Pn	02 53 16.0	+2.7
VLX	**Vlachokerasia**	**4.30**	**324**	P	**Pn**	**02 53 12.1**	**-1.4**
VLX	**Vlachokerasia**	**4.30**	**324**	*e*PN	**Pn**	**02 53 13.8**	**+0.3**
VLX	**Vlachokerasia**	**4.30**	**324**	P	**Pn**	**02 53 12.1**	**-1.4**
VLX	**Vlachokerasia**	**4.30**	**324**	*e*Pn	**Pn**	**02 53 13.8**	**+0.3**
ATH	**Athens Observa**	**4.30**	**340**	*e*PN	**Pn**	**02 53 14.9**	**+1.5**
ATH	**Athens Observa**	**4.30**	**340**	*e*Pn	**Pn**	**02 53 14.9**	**+1.5**
PTL	**

GONE	Gonen-Balikesi	6.34	15	ePN	Pn	02 53 40.5	-0.9
HDMB	Hadim	6.41	60	ePN	Pn	02 53 43.3	+0.7
MAMC	Mammari	6.44	77	P	Pn	02 53 40.8	-2.0
MAMC	Mammari	6.44	77	P	Pn	02 53 40.8	-2.0
GELI	Tayfur-Gelibol	6.50	6	ePN	Pn	02 53 41.6	-1.9
CSS	Prodhromos	6.50	79	P	Pn	02 53 42.2	-1.4
	3.9nm,0.8s						
CSS				S	Sn	02 54 52.4	-4.3
CSS	Prodhromos	6.50	79	ePn	Pn	02 53 42.8	-0.8
CSS				eSn	Sn	02 54 56.0	-0.7
CSS	Prodhromos	6.50	79	P	Pn	02 53 42.2	-1.4
	3.9nm,0.8s						
CSS	Prodhromos	6.50	79	ePn	Pn	02 53 42.8	-0.8
CSS				S	Sn	02 54 52.4	-4.3
CSS				eSn	Sn	02 54 56.0	-0.7
LPK	Lapseki	6.50	8	ePN	Pn	02 53 42.2	-1.4
KRBG	Karabiga-Canak	6.60	12	ePN	Pn	02 53 43.9	-1.0
KOT	Kottamia	6.66	125	P	Pn	02 53 45.6	-0.1
	baz=125						
LFK	Lefkose	6.71	76	ePN	Pn	02 53 46.2	-0.4
GLL	Jalalah	6.80	128	P	Pn	02 53 47.4	-0.4
	baz=128						
KONT	Konya--Tatoy	6.82	52	ePN	Pn	02 53 49.0	+1.0
MDNY	Mudanya-Bursa	6.95	21	ePN	Pn	02 53 49.0	-0.8
ESKT	Eskisehir	7.01	36	ePN	Pn	02 53 51.3	+0.6
IKL	Isikli	7.05	69	ePN	Pn	02 53 50.8	-0.3
PHNC	Paralimni	7.08	79	P	Pn	02 53 49.9	-1.6
	4.5nm,0.5s						
PHNC				S	Sn	02 55 10.6	-0.3
PHNC	Paralimni	7.08	79	P	Pn	02 53 49.9	-1.6
	4.5nm,0.5s						
PHNC				S	Sn	02 55 10.6	-0.3
KIZT	Kizilcal	7.10	44	ePN	Pn	02 53 52.4	+0.5
ARMT	Armutlu	7.13	21	ePN	Pn	02 53 51.9	-0.4
HFRF	Wahat Farafira	7.16	160	S	Sn	02 55 10.8	-2.2
	baz=160						
HFRF				AMP		02 55 00.0	
	comp=Z,60µm,0.9s,logA/T=4.8,baz=160						
EREN	Erenkoy	7.27	75	ePN	Pn	02 53 54.1	0.0
ADVT	Abdulvahap	7.30	26	ePN	Pn	02 53 54.1	-0.4
SLVT	Silivri	7.59	15	ePN	Pn	02 53 56.4	-2.1
GULT	Gulveren	7.60	30	ePN	Pn	02 53 59.2	+0.5
CTKS	Kestanelik-??a	7.66	17	ePN	Pn	02 53 58.1	-1.4
KDZ	Kurdzhali	7.71	359	eP	Pn	02 53 59.9	-0.3
SULT	Sultanhani-AKS	7.72	54	ePN	Pn	02 54 01.5	+1.1
VAY	Valandovo	7.75	343	ePn	Pn	02 54 01.4	+0.7
RZN	Rozhen	7.78	355	eP	Pn	02 54 00.8	-0.4
MMB	Musomiste	7.78	350	eP	Pn	02 54 07.5	+6.3
BIA	Bitola	7.84	336	ePn	Pn	02 54 01.7	-0.2
CTYL	Yal??k??y-??at	7.84	15	ePN	Pn	02 54 00.4	-1.5
MDUB	Mudurnu	7.93	33	ePN	Pn	02 54 03.2	0.0
EDRB	Edirne	7.96	6	ePN	Pn	02 54 00.9	-2.6
KKB	Krupnik	8.16	347	eP	Pn	02 54 13.6	+7.2
AFSR	Af´ar-Bala (A	8.17	45	ePN	Pn	02 54 06.6	+0.1
MMAI	Mount Meron Ar	8.28	94	Pn	Pn	02 54 06.0	-2.0
MMAI				Sn	Sn	02 55 37.8	-2.6
MMAI	Mount Meron Ar	8.28	94	Pn	Pn	02 54 06.0	-2.0
	comp=Z,10nm,0.3s,baz=275,slow=12,SNR=42						
MMAI				Sn	Sn	02 55 37.8	-2.6
	comp=Z,17nm,0.3s,baz=266,slow=23,SNR=11						
MMAI	Mount Meron Ar	8.28	94	Pn	Pn	02 54 06.0	-2.0
MMAI				Sn	Sn	02 55 37.8	-2.6
ANTO	Ankara	8.29	42	⇑P	Pn	02 54 09.5	+1.3
ANTO	Ankara	8.29	42	ePN	Pn	02 54 09.0	+0.8
ANTO	Ankara	8.29	42	ePn	Pn	02 54 07.5	-0.6
ANTO	Ankara	8.29	42	⇑P	Pn	02 54 09.5	+1.3
ANTO	Ankara	8.29	42	ePn	Pn	02 54 07.6	-0.6
ANTO	Ankara	8.29	42	P	Pn	02 54 09.5	+1.3
NIG	Nigde	8.43	58	ePN	Pn	02 54 10.6	+0.3
RCY	Rachaya	8.57	90	eP	Pn	02 54 11.3	-0.9
HWQ	Hawqa	8.62	85	eP	Pn	02 54 12.2	-0.6
BR131	Keskin Array S	8.68	46	ePn	Pn	02 54 13.6	-0.1
	comp=Z,4.9nm,0.5s						
BR131				eSn	Sn	02 55 49.4	-1.1
BR131	Keskin Array S	8.68	46	ePn	Pn	02 54 13.6	-0.1
	comp=Z,4.9nm,0.5s						
BR131				eSn	Sn	02 55 49.4	-1.1
BRTR	Keskin Array B	8.68	46	Pn	Pn	02 54 13.4	-0.2
BRTR				Sn	Sn	02 55 50.1	-0.4
BRTR	Keskin Array B	8.68	46	Pn	Pn	02 54 13.4	-0.2
	comp=Z,1.3nm,0.3s,baz=224,slow=14,SNR=46						
BRTR				Sn	Sn	02 55 50.1	-0.4
	comp=Z,0.5nm,0.3s,baz=220,slow=26,SNR=5.4						
BRTR	Keskin Array B	8.68	46	Pn	Pn	02 54 13.4	-0.2
BRTR	Keskin Array B	8.68	46	i P	Pn	02 54 14.3	+0.6
	comp=Z,9.0nm,0.6s						
BRTR				Sn	Sn	02 55 50.1	-0.4
VTS	Vitosha	8.84	349	⇓P	Pn	02 54 16.6	+0.7
VTS	Vitosha	8.84	349	ePN	Pn	02 54 11.6	-4.3
VTS	Vitosha	8.84	349	⇓iP	Pn	02 54 16.6	+0.7
VTS	Vitosha	8.84	349	eP	Pn	02 54 24.6	+8.7
VTS	Vitosha	8.84	349	P	Pn	02 54 16.6	+0.7
CEL	Celeste	8.94	302	ePn	Pn	02 54 14.7	-2.4
CEL				eSn	Sn	02 55 48.5	-8.1
CEL	Celeste	8.94	302	ePn	Pn	02 54 14.7	-2.4
CEL				eSn	Sn	02 55 48.5	-8.1
HTY	Hatay	8.95	73	ePN	Pn	02 54 16.9	-0.3
EIL	Elat	9.05	115	Pn	Pn	02 54 17.4	-1.2
EIL				Sn	Sn	02 55 53.4	-6.0
EIL	Elat	9.05	115	Pn	Pn	02 54 17.4	-1.2
	comp=Z,9.1nm,0.3s,baz=296,slow=7.5,SNR=119						
EIL				Sn	Sn	02 55 53.4	-6.0
	comp=Z,2.5nm,0.3s,baz=210,slow=20,SNR=3.3						
EIL				LR	LR	02 58 42.4	
	comp=Z,457nm,21.4s,baz=97,slow=44						
EIL	Elat	9.05	115	Pn	Pn	02 54 17.4	-1.2
EIL				Sn	Sn	02 55 53.4	-6.0
BNN	Bunyan	9.64	56	ePN	Pn	02 54 27.1	+0.4
ASF	Jabal al Asfar	9.68	97	Pn	Pn	02 54 25.5	-1.8
ASF				Sn	Sn	02 56 11.0	-3.9
ASF	Jabal al Asfar	9.68	97	Pn	Pn	02 54 25.5	-1.8
	comp=Z,1.6nm,0.3s,baz=227,slow=6.5,SNR=15						
ASF				Sn	Sn	02 56 11.0	-3.9
	comp=Z,1.8nm,0.3s,baz=159,slow=18,SNR=3.6						
CUC	Castrocucco	9.87	311	ePn	Pn	02 54 29.9	+0.1
CUC				eSn	Sn	02 56 13.0	-6.4
CUC	Castrocucco	9.87	311	ePn	Pn	02 54 29.9	+0.1
CUC				eSn	Sn	02 56 13.0	-6.4
KMRS	Kahramanmaras	9.89	66	ePN	Pn	02 54 29.4	-0.7
STON	Ston	10.85	328	ePn	Pn	02 54 37.3	-5.8
STON				Sn	Sn	02 56 29.9	-13
MALT	Malatya	11.29	64	⇑P	Pn	02 54 48.1	-1.2
MALT	Malatya	11.29	64	ePN	Pn	02 54 49.0	-0.3
MALT	Malatya	11.29	64	⇑iP	Pn	02 54 48.1	-1.2
MALT	Malatya	11.29	64	P	Pn	02 54 48.1	-1.2
URFA	Urfa	11.34	68	ePN	Pn	02 54 49.9	-0.1
ARR	Arges	11.45	357	⇑iP	Pn	02 54 52.3	+0.9
VOIR		11.50	358	⇓P	Pn	02 54 52.8	+0.6
VOIR		11.50	358	⇓iP	Pn	02 54 52.8	+0.6
VOIR		11.50	358	P	Pn	02 54 52.8	+0.6
MLR	Muntele Rosu	11.55	1	Pn	Pn	02 54 50.9	-2.0
MLR	Muntele Rosu	11.55	1	Pn	Pn	02 54 50.9	-2.0
	comp=Z,0.0nm,0.3s,baz=193,slow=9.9,SNR=8.0						
MLR				LR	LR	02 59 19.4	
	comp=Z,195nm,21.9s,baz=189,slow=38						
MLR	Muntele Rosu	11.55	1	P	Pn	02 54 50.9	-2.0
PLOR	Plostina	11.94	4	⇓P	Pn	02 54 58.9	+0.8
PLOR	Plostina	11.94	4	⇓iP	Pn	02 54 58.9	+0.8
PLOR	Plostina	11.94	4	P	Pn	02 54 58.9	+0.8
VRI	Vrincioaia	11.96	4	⇑P	Pn	02 54 59.9	+1.6
VRI	Vrincioaia	11.96	4	⇑iP	Pn	02 54 59.9	+1.6
VRI	Vrincioaia	11.96	4	P	Pn	02 54 59.9	+1.6
BZS	Buzias	12.06	347	⇓P	Pn	02 54 59.1	-0.6
BZS	Buzias	12.06	347	⇓iP	Pn	02 54 59.1	-0.6
BZS	Buzias	12.06	347	P	Pn	02 54 59.1	-0.6
PTK	Pertek	12.19	62	ePN	Pn	02 55 00.7	-1.1
GUMT	Gumushane	12.86	56	eP	Pn	02 55 09.8	-1.1
UDBI	Udbina	13.01	327	i Pn	Pn	02 55 08.8	-4.1
UDBI				Sn	Sn	02 57 25.0	-12
DRGR		13.03	351	⇓P	Pn	02 55 13.0	0.0
DRGR		13.03	351	⇓iP	Pn	02 55 13.0	0.0
DRGR		13.03	351	P	Pn	02 55 13.0	0.0
KEST	Kesra	13.44	282	ePn	Pn	02 55 20.7	+2.0
KEST	Kesra	13.44	282	Pn	Pn	02 55 17.0	-1.8
	comp=Z,0.0nm,0.3s,baz=150,slow=20,SNR=2.6						
KEST				LR	LR	03 01 37.5	
	comp=Z,267nm,21.7s,baz=354,slow=43						
KEST	Kesra	13.44	282	ePn	Pn	02 55 20.7	+2.0
NVLJ	Novalja	13.45	325	i Pn	Pn	02 55 14.1	-4.6
NVLJ				Sn	Sn	02 57 35.7	-11
BURAR	Bucovina Array	13.68	359	⇓P	P	02 55 29.9	-0.3
BURAR	Bucovina Array	13.68	359	⇓iP	P	02 55 29.9	-0.3
BUR08	Bucovina Ar. S	13.70	359	ePn	P	02 55 29.1	-1.5
BUR08	Bucovina Ar. S	13.70	359	ePn	P	02 55 29.1	-1.5
BOJS	Bojanci	14.01	329	i Pn	Pn	02 55 22.8	-3.5
BOJS				i Sn	Sn	02 57 49.9	-11
ANN	Anapa	14.20	37	eP	Pn	02 55 30.2	+1.3
ANN				eS	Sn	02 58 06.5	+1.2
ANN				pmax	pmax		
	comp=Z,71nm,1.7s						
ANN	Anapa	14.20	37	eP	Pn	02 55 30.2	+1.3
	comp=Z,71nm,1.7s						
ANN				eS	Sn	02 58 06.5	+1.2
VISS	Visnje	14.42	328	i Pn	Pn	02 55 27.8	-4.2
VISS				i Sn	Sn	02 57 57.1	-14
PSZ	Piszkesteto	14.61	345	⇓P	Pn	02 55 32.3	-2.3
PSZ	Piszkesteto	14.61	345	ePn	Pn	02 55 33.5	-1.1
	comp=Z,3.9nm,0.7s						
PSZ	Piszkesteto	14.61	345	⇓iP	Pn	02 55 32.3	-2.3
PSZ	Piszkesteto	14.61	345	P	Pn	02 55 32.3	-2.3
PSZ	Piszkesteto	14.61	345	ePn	Pn	02 55 33.5	-1.1
	comp=Z,3.9nm,0.7s						
JAVS	Javornik	14.83	327	i Pn	Pn	02 55 33.5	-4.1
JAVS				i Sn	Sn	02 58 07.2	-14
UZH	Uzhgorod	14.89	352	eP	Pn	02 55 37.6	-0.7
UZH				eS	Sn	02 58 20.6	-1.4
UZH				MLR	MLR		
	comp=N,800nm,12.0s						
UZH				MLR	MLR		
	comp=E,900nm,12.0s						
UZH				MLR	MLR		
	comp=Z,800nm,12.0s						
UZH	Uzhgorod	14.89	352	eP	Pn	02 55 37.6	-0.7
UZH				eS	Sn	02 58 20.6	-1.4
PERS	Pernice	14.97	331	i Pn	Pn	02 55 35.4	-4.0
VOY	Vojsko	15.02	327	ePn	Pn	02 55 36.7	-3.4
VOY				e		02 55 38.7	
VOY				e		02 55 44.2	
KECS	Kecovo	15.03	347	eP	Pn	02 55 37.5	-2.6
KECS				e		02 58 17.3	
KECS	Kecovo	15.03	347	ePN	Pn	02 55 37.5	-2.6
KECS	Kecovo	15.03	347	eSN	Sn	02 58 17.3	-8.1
KECS	Kecovo	15.03	347	eP	Pn	02 55 37.5	-2.6
KECS				eS	Sn	02 58 17.3	-8.1
KOLS	Kolonicke sedl	15.19	352	eP	Pn	02 55 40.5	-1.8
KOLS	Kolonicke sedl	15.19	352	ePN	Pn	02 55 40.5	-1.8
KOLS	Kolonicke sedl	15.19	352	eP	Pn	02 55 40.5	-1.8
CRVS	Cervenica-Dubn	15.27	350	eP	Pn	02 55 43.0	-0.3
CRVS				e		02 58 30.6	
CRVS	Cervenica-Dubn	15.27	350	ePN	Pn	02 55 43.0	-0.3
CRVS	Cervenica-Dubn	15.27	350	eSN	Sn	02 58 30.6	-0.7
CRVS	Cervenica-Dubn	15.27	350	eP	Pn	02 55 43.0	-0.3
CRVS				eS	Sn	02 58 30.6	-0.7
PGF	Pioggiola	15.58	308	eP	Pn	02 55 47.7	+0.2
	comp=Z,176nm,1.3s						
PGF	Pioggiola	15.58	308	eP	Pn	02 55 47.7	+0.2
PGF				pmax	pmax		
	comp=Z,176nm,1.3s						
PGF	Pioggiola	15.58	308	eP	Pn	02 55 47.7	+0.2
	comp=Z,176nm,1.3s						
PGF	Pioggiola	15.58	308	eP	Pn	02 55 47.7	+0.2
	comp=Z,176nm,1.3s						
CHVG	Ch'k'valeri	15.64	51	P	Pn	02 55 47.7	-0.5
SMOL	Smolenice	15.79	340	eSN	Sn	02 58 26.1	-18
STHS	Stebnicka Huta	15.80	350	eP	Pn	02 55 49.5	-0.7
STHS	Stebnicka Huta	15.80	350	ePN	Pn	02 55 49.5	-0.7
STHS	Stebnicka Huta	15.80	350	eSN	Sn	02 58 27.3	-17
STHS	Stebnicka Huta	15.80	350	eP	Pn	02 55 49.5	-0.7
KWP	Kalwaria Pacla	15.83	353	⇓P	Pn	02 55 49.8	-0.8
KWP	Kalwaria Pacla	15.83	353	⇓iP	Pn	02 55 49.8	-0.8
KWP	Kalwaria Pacla	15.83	353	eP	Pn	02 55 49.4	-1.2
KWP	Kalwaria Pacla	15.83	353	P	Pn	02 55 49.8	-0.8
LVV	L'vov	15.92	356	eP	P	02 55 56.9	+1.9
LVV	L'vov	15.92	356	eP	P	02 55 56.9	+1.9
AKH	Akhalkalaki	16.03	57	P	Pn	02 55 53.8	+0.5
ABTA	Abfaltersbach	16.18	326	⇑iPn	Pn	02 55 54.3	-0.9
	comp=Z,16nm,0.6s,SNR=7.4						
ONI	Oni	16.48	53	P	Pn	02 55 59.4	+0.5
KIV	Kislovodsk	16.64	48	ceP	P	02 56 02.9	-0.2
KIV				pmax	pmax		
	comp=Z,20nm,0.6s						
KIV	Kislovodsk	16.64	48	eP	P	02 56 02.9	-0.2
	comp=Z,20nm,0.6s						
KBZ	Khabaz	16.65	49	P	P	02 56 03.2	0.0
KBZ	Khabaz	16.65	49	Pn	P	02 56 03.2	0.0
KBZ	Khabaz	16.65	49	Pn	P	02 56 03.2	0.0
	comp=Z,0.2nm,0.3s,baz=240,slow=12,SNR=15						
KBZ	Khabaz	16.65	49	Pn	P	02 56 03.2	0.0
VRAC	Vranov	16.75	339	Pn	Pn	02 56 01.3	-0.9
VRAC	Vranov	16.75	339	Pn	Pn	02 56 01.3	-0.9
	comp=Z,0.4nm,0.3s,baz=154,slow=12,SNR=11						
VRAC	Vranov	16.75	339	P	Pn	02 56 01.3	-0.9
RJOB	Jochberg	16.81	329	eP	P	02 56 04.2	-0.8
	comp=Z,24nm,1.6s						
OKC	Ostrava-Krasne	16.81	343	eP	Pn	02 55 59.0	-4.0
OKC				MLR	MLR		
	comp=Z,700nm,11.8s						
OKC	Ostrava-Krasne	16.81	343	eP	Pn	02 55 59.0	-4.0
OKC				AMS	AMS	03 03 10.0	
	comp=Z,700nm,11.8s						
OKC	Ostrava-Krasne	16.81	343	eP	Pn	02 55 59.0	-4.0
	comp=Z,700nm,11.8s						
ZEI	Tsey	16.86	53	eP	P	02 56 05.1	-0.6
ZEI				pmax	pmax		
	comp=Z,112nm,1.8s						
ZEI	Tsey	16.86	53	eP	P	02 56 05.1	-0.6
	comp=Z,112nm,1.8s						
MORC	Moravsky Berou	16.91	342	eP	Pn	02 56 01.5	-2.8
MORC				pmax	pmax		
	comp=Z,29nm,1.7s						
MORC	Moravsky Berou	16.91	342	ePn	Pn	02 56 01.5	-2.8
	comp=Z,29nm,1.7s						
MORC	Moravsky Berou	16.91	342	eP	Pn	02 56 01.5	-2.8
	comp=Z,29nm,1.7s						
KIEV	Kiev	16.97	8	eP	Pn	02 56 04.4	-0.5
KIEV				pmax	pmax		
	comp=Z,246nm,2.0s						
KIEV	Kiev	16.97	8	ePn	Pn	02 56 04.4	-0.5
	comp=Z,246nm,2.0s						
KIEV	Kiev	16.97	8	eP	Pn	02 56 04.4	-0.5
	comp=Z,246nm,2.0s						
AKASG	Malin Array Be	16.98	8	ceP	Pn	02 56 02.5	-2.5
AKASG				pmax	pmax		
	comp=Z,19nm,0.5s						
AKASG	Malin Array Be	16.98	8	Pn	Pn	02 56 03.0	-2.0
AKASG				Sn	Sn	02 59 15.8	+3.1
AKASG	Malin Array Be	16.98	8	Pn	Pn	02 56 03.0	-2.0
	comp=Z,5.8nm,0.3s,baz=200,slow=11,SNR=40						
AKASG				Sn	Sn	02 59 15.8	+3.1
	baz=196,slow=23,SNR=7.4						
AKASG	Malin Array Be	16.98	8	eP	Pn	02 56 02.5	-2.5
	comp=Z,19nm,0.5s						
AKASG	Malin Array Be	16.98	8	Pn	Pn	02 56 03.0	-2.0
AKASG				Sn	Sn	02 59 15.8	+3.1
TBLG	Delisi	17.01	57	P	Pn	02 56 04.8	-0.8
TBLG	Delisi	17.01	57	P	Pn	02 56 04.8	-0.8
TBLG	Delisi	17.01	57	P	Pn	02 56 04.8	-0.8
TREC	Trest	17.07	337	eP	P	02 56 13.4	+5.5
TREC				MLR	MLR		
	comp=Z,700nm,15.1s						
TREC	Trest	17.07	337	eP	P	02 56 13.4	+5.5
TREC				AMS	AMS	03 01 50.0	
	comp=Z,700nm,15.1s						
TREC	Trest	17.07	337	eP	P	02 56 13.4	+5.5
	comp=Z,700nm,15.1s						
FUORN	Ofenpass-Fuorn	17.19	322	ePn	P	02 56 10.4	+1.0
	comp=Z,239nm,2.1s						
FUORN	Ofenpass-Fuorn	17.19	322	ePn	P	02 56 10.4	+1.0
	comp=Z,239nm,2.1s						
SAOF	Saorge	17.20	311	eP	Pn	02 56 08.1	+0.2
SAOF	Saorge	17.20	311	eP	Pn	02 56 08.1	+0.2
SBF	Sospel	17.21	311	eP	Pn	02 56 08.2	0.0
	comp=Z,67nm,1.0s						
SBF	Sospel	17.21	311	eP	Pn	02 56 08.2	0.0
SBF				pmax	pmax		
	comp=Z,67nm,1.0s						
SBF	Sospel	17.21	311	eP	Pn	02 56 08.2	0.0
	comp=Z,67nm,1.0s						
SBF	Sospel	17.21	311	eP	Pn	02 56 08.2	0.0
	comp=Z,67nm,1.0s						
FETA	Feichten	17.23	324	⇑iPn	P	02 56 09.0	-0.8
	comp=Z,10nm,0.8s,SNR=14						
FETA	Feichten	17.23	324	P	P	02 56 09.0	-0.8
	comp=Z,10nm,0.8s,SNR=14						
MOTA	Moosalm	17.28	325	⇑iP	Pn	02 56 08.8	-0.3
	comp=Z,7.6nm,0.7s,SNR=6.6						
MOTA	Moosalm	17.28	325	P	Pn	02 56 08.8	-0.3
	comp=Z,7.6nm,0.7s,SNR=6.6						
GEC2	GERESS Array S	17.32	333	eP	Pn	02 56 09.5	0.0
	comp=Z,13nm,1.1s						
GEC2	GERESS Array S	17.32	333	eP	Pn	02 56 09.5	0.0
GEC2				pmax	pmax		
	comp=Z,13nm,1.1s						
GEC2	GERESS Array S	17.32	333	ePn	Pn	02 56 09.6	0.0
GEC2	GERESS Array S	17.32	333	eP	Pn	02 56 09.5	0.0
	comp=Z,13nm,1.1s						
GERES	GERESS Array B	17.32	333	P	Pn	02 56 08.0	-1.6
GERES	GERESS Array B	17.32	333	P	Pn	02 56 08.0	-1.6
	comp=Z,1.3nm,0.3s,baz=145,slow=11,SNR=38						
GERES	GERESS Array B	17.32	333	P	Pn	02 56 08.0	-1.6
DGRG	David-gareji	17.36	59	P	Pn	02 56 10.5	+0.4
GOF	Gofitskoye	17.44	45	eP	P	02 56 13.9	+2.0
GOF	Gofitskoye	17.44	45	eP	P	02 56 13.9	+2.0
DAVOX	Davos/Dischmat	17.50	322	P	P	02 56 12.6	-0.1
DAVOX	Davos/Dischmat	17.50	322	P	P	02 56 12.6	-0.1
	comp=Z,0.6nm,0.3s,baz=154,slow=14,SNR=9.3						
DAVOX	Davos/Dischmat	17.50	322	P	P	02 56 12.6	-0.1
LMR	La Mourre	17.57	308	eP	P	02 56 14.3	+1.0
	comp=Z,52nm,1.3s						
LMR	La Mourre	17.57	308	eP	P	02 56 14.3	+1.0
LMR				pmax	pmax		
	comp=Z,52nm,1.3s						
LMR	La Mourre	17.57	308	eP	P	02 56 14.3	+1.0
	comp=Z,52nm,1.3s						
LMR	La Mourre	17.57	308	eP	P	02 56 14.3	+1.0
	comp=Z,52nm,1.3s						
TUE	Stuetta	17.57	320	ePn	P	02 56 13.6	0.0
	comp=Z,27nm,1.0s						
TUE	Stuetta	17.57	320	ePn	P	02 56 13.6	0.0
	comp=Z,27nm,1.0s						
FRF	La Foret Royal	17.58	309	eP	P	02 56 13.1	-0.3
	comp=Z,38nm,1.2s						
FRF	La Foret Royal	17.58	309	eP	P	02 56 13.1	-0.3
FRF				pmax	pmax		
	comp=Z,38nm,1.2s						
FRF	La Foret Royal	17.58	309	eP	P	02 56 13.1	-0.3
	comp=Z,38nm,1.2s						
FRF	La Foret Royal	17.58	309	eP	P	02 56 13.1	-0.3
	comp=Z,38nm,1.2s						
KHC	Kasperske Hory	17.61	333	eP	P	02 56 13.7	0.0
KHC				MLR	MLR		
	comp=Z,1µm,13.6s						
KHC	Kasperske Hory	17.61	333	eP	P	02 56 13.7	0.0
KHC				ex	x	02 56 22.5	
KHC				AMS	AMS	03 04 20.0	
	comp=Z,1µm,13.6s						
KHC	Kasperske Hory	17.61	333	ePn	P	02 56 13.7	0.0
	comp=Z,17nm,1.0s						
KHC				eS	Sn	02 59 31.3	+3.3
KHC	Kasperske Hory	17.61	333	eP	P	02 56 13.7	0.0
	comp=Z,1µm,13.6s						
KHC				eS	Sn	02 59 31.3	+3.3
DPC	Dobruska-Polom	17.76	340	eP	Pn	02 56 13.1	-1.7
DPC	Dobruska-Polom	17.76	340	eP	Pn	02 56 13.1	-1.7
DPC				AMS	AMS	03 05 50.0	
DPC	Dobruska-Polom	17.76	340	ePn	Pn	02 56 13.2	-1.7
	comp=Z,50nm,0.8s						
DPC	Dobruska-Polom	17.76	340	ePn	Pn	02 56 13.2	-1.6
	comp=Z,50nm,0.8s						
FUR	Furstenfeldbru	17.80	327	eP	P	02 56 16.0	+0.1
	comp=Z,37nm,1.0s						
FUR	Furstenfeldbru	17.80	327	eP	P	02 56 16.0	+0.1
FUR				pmax	pmax		
	comp=Z,37nm,1.0s						
FUR	Furstenfeldbru	17.80	327	eP	P	02 56 16.0	+0.1
	comp=Z,37nm,1.0s						
DAVA	Damuels	17.84	323	⇓iP	P	02 56 16.0	-0.4
	comp=Z,13nm,0.8s,SNR=5.7						
DAVA	Damuels	17.84	323	P	P	02 56 16.0	-0.4
	comp=Z,13nm,0.8s,SNR=5.7						
WET	Wettzell	17.88	332	eP	Pn	02 56 14.3	-2.1
	comp=Z,76nm,1.9s						
WET	Wettzell	17.88	332	eP	Pn	02 56 14.3	-2.1
WET				pmax	pmax		
	comp=Z,76nm,1.9s						
WET	Wettzell	17.88	332	eP	Pn	02 56 14.3	-2.1
	comp=Z,76nm,1.9s						
PRU	Pruhonice	17.98	336	eP	P	02 56 19.1	+1.2
PRU				MLR	MLR		
	comp=Z,700nm,11.6s					

BRG				S	Sn	03 00 00.0	-0.2
BRG				pmax	pmax		
	comp=Z,3.0nm,1.5s						
BRG				MLR	MLR		
	comp=N,13µm,15.3s						
BRG				MLR	MLR		
	comp=E,609nm,22.1s						
BRG				MLR	MLR		
	comp=Z,715nm,25.5s						
BRG				smax	smax		
	comp=N,1.0nm,0.5s						
BRG	**Berggiesshubel**	**18.94**	**337**	*e*P	**Pn**	**02 56 28.9**	**-0.3**
	comp=N,3.0nm,1.5s						
GRA1	**Grafenberg Arr**	**18.98**	**330**	*e*P	**P**	**02 56 28.6**	**-0.2**
	comp=N,92nm,1.6s						
GRF	**Grafenberg Arr**	**18.98**	**330**	*e*P	**P**	**02 56 28.6**	**-0.2**
	comp=Z,92nm,1.6s						
GRF	**Grafenberg Arr**	**18.98**	**330**	*e*P	**P**	**02 56 28.6**	**-0.2**
GRF				pmax	pmax		
	comp=Z,92nm,1.6s						
GRFO	**Grafenberg**	**18.98**	**330**	*e*P	**Pn**	**02 56 29.6**	**-0.1**
GRFO				pmax	pmax		
	comp=Z,189nm,1.9s						
GRFO	**Grafenberg**	**18.98**	**330**	*e*Pn	**Pn**	**02 56 29.6**	**-0.1**
	comp=Z,190nm,1.9s						
GRFO	**Grafenberg**	**18.98**	**330**	*e*P	**Pn**	**02 56 29.6**	**-0.1**
	comp=Z,189nm,1.9s						
NAY	**Al-Naaiem**	**19.04**	**98**	*e*P	**P**	**02 56 30.0**	**+0.3**
NAY				AMb	AMB	02 56 40.0	
	comp=Z,26nm,0.9s						
NAY	**Al-Naaiem**	**19.04**	**98**	*e*P	**P**	**02 56 30.0**	**+0.3**
TANN	**Tannenbergstha**	**19.07**	**334**	*e*P	**P**	**02 56 29.4**	**-0.5**
	comp=Z,19nm,1.0s						
BBS	**Basel-Blauen**	**19.18**	**320**	*e*P	**P**	**02 56 30.4**	**-0.6**
FELD	**Feldberg im Sc**	**19.18**	**322**	*e*P	**P**	**02 56 29.9**	**-1.3**
STU	**Stuttgart**	**19.20**	**325**	*e*P	**Pn**	**02 56 32.9**	**+0.6**
	comp=Z,22nm,0.9s						
STU	**Stuttgart**	**19.20**	**325**	*e*P	**Pn**	**02 56 31.7**	**-0.6**
STU				pmax	pmax		
	comp=Z,22nm,0.7s						
STU	**Stuttgart**	**19.20**	**325**	*e*P	**Pn**	**02 56 31.7**	**-0.6**
	comp=Z,22nm,0.7s						
STU	**Stuttgart**	**19.20**	**325**	*e*P	**Pn**	**02 56 31.7**	**-0.6**
	comp=Z,22nm,0.7s						
BFO	**Black Forest**	**19.31**	**323**	*e*P	**Pn**	**02 56 33.4**	**-0.3**
	comp=Z,11nm,0.8s						
BFO	**Black Forest**	**19.31**	**323**	*e*P	**Pn**	**02 56 32.8**	**-0.9**
BFO				pmax	pmax		
	comp=Z,15nm,1.0s						
BFO	**Black Forest**	**19.31**	**323**	*e*P	**Pn**	**02 56 32.8**	**-0.9**
	comp=Z,15nm,1.0s						
BFO	**Black Forest**	**19.31**	**323**	*e*P	**Pn**	**02 56 32.8**	**-0.9**
	comp=Z,15nm,1.0s						
MAK	**Makhachkala**	**19.37**	**56**	*e*P	**Pn**	**02 56 34.6**	**+0.3**
MAK				*e*S	**S**	**03 00 10.0**	**-0.3**
MAK				pmax	pmax		
	comp=Z,134nm,0.8s						
MAK				MLR	MLR		
	comp=Z,518nm,17.0s						
MAK	**Makhachkala**	**19.37**	**56**	*e*P	**Pn**	**02 56 34.6**	**+0.3**
	comp=Z,134nm,0.8s						
VIVF	**Saint-Julien-l**	**19.43**	**310**	*e*P	**P**	**02 56 33.1**	**-0.7**
	comp=Z,19nm,0.9s						
VIVF	**Saint-Julien-l**	**19.43**	**310**	*e*P	**P**	**02 56 33.1**	**-0.7**
VIVF				pmax	pmax		
	comp=Z,19nm,0.9s						
VIVF	**Saint-Julien-l**	**19.43**	**310**	*e*P	**P**	**02 56 33.1**	**-0.7**
	comp=Z,19nm,0.9s						
VIVF	**Saint-Julien-l**	**19.43**	**310**	*e*P	**P**	**02 56 33.1**	**-0.7**
	comp=Z,19nm,0.9s						
CABF	**La Chapelle**	**19.46**	**316**	*e*P	**P**	**02 56 33.5**	**-0.7**
	comp=Z,47nm,1.0s						
CABF	**La Chapelle**	**19.46**	**316**	*e*P	**P**	**02 56 33.5**	**-0.7**
CABF				pmax	pmax		
	comp=Z,47nm,1.0s						
CABF	**La Chapelle**	**19.46**	**316**	*e*P	**P**	**02 56 33.5**	**-0.7**
	comp=Z,47nm,1.0s						
CABF	**La Chapelle**	**19.46**	**316**	*e*P	**P**	**02 56 33.5**	**-0.7**
	comp=Z,47nm,1.0s						
LOMF	**Lomont**	**19.47**	**319**	*e*P	**Pn**	**02 56 34.7**	**-1.0**
LOMF	**Lomont**	**19.47**	**319**	*e*P	**Pn**	**02 56 34.7**	**-1.0**
MOX	**Moxa**	**19.58**	**333**	*e*P	**P**	**02 56 33.8**	**-1.5**
	comp=Z,10.0nm,1.0s						
MOX	**Moxa**	**19.58**	**333**	*e*P	**P**	**02 56 33.8**	**-1.5**
MOX				pmax	pmax		
	comp=Z,10.0nm,1.0s						
MOX	**Moxa**	**19.58**	**333**	*e*P	**P**	**02 56 33.8**	**-1.5**
	comp=Z,10.0nm,1.0s						
MOF	**Molkenrain**	**19.62**	**321**	*e*P	**Pn**	**02 56 36.5**	**-0.9**
MOF	**Molkenrain**	**19.62**	**321**	*e*P	**Pn**	**02 56 36.5**	**-0.9**
LASF	**Ste Croix**	**19.62**	**307**	*e*P	**P**	**02 56 34.9**	**-1.0**
	comp=Z,111nm,1.6s						
LASF	**Ste Croix**	**19.62**	**307**	*e*P	**P**	**02 56 34.9**	**-1.0**
	comp=Z,111nm,1.6s						
LASF	**Ste Croix**	**19.62**	**307**	*e*P	**P**	**02 56 34.9**	**-1.0**
	comp=Z,56nm,1.6s						
CLL	**Collm**	**19.62**	**336**	*e*P	**P**	**02 56 35.7**	**-0.1**
	comp=Z,11nm,1.0s						
CLL	**Collm**	**19.62**	**336**	*e*P	**Pn**	**02 56 37.0**	**-0.3**
CLL				*e*S	**S**	**03 00 12.0**	**-3.4**
CLL	**Collm**	**19.62**	**336**	*e*P	**Pn**	**02 56 37.0**	**-0.3**
CLL				*i* sP	sP	02 56 41.4	-7.0
	comp=Z,14nm,1.1s						
CLL				*e*PP	**PnPn**	**02 56 52.0**	**+0.8**
CLL				*e*S	**S**	**03 00 12.0**	**-3.4**
CLL	**Collm**	**19.62**	**336**	*e*P	**Pn**	**02 56 37.0**	**-0.3**
HINF	**Hinteralfeld**	**19.74**	**320**	*e*P	**P**	**02 56 35.5**	**-1.7**
	comp=Z,16nm,0.7s						
HINF	**Hinteralfeld**	**19.74**	**320**	*e*P	**P**	**02 56 35.5**	**-1.7**
HINF				pmax	pmax		
	comp=Z,16nm,0.7s						
HINF	**Hinteralfeld**	**19.74**	**320**	*e*P	**P**	**02 56 35.5**	**-1.7**
	comp=Z,16nm,0.7s						
HINF	**Hinteralfeld**	**19.74**	**320**	*e*P	**P**	**02 56 35.5**	**-1.7**
	comp=Z,16nm,0.7s						
VORD	**Divnogorie**	**19.76**	**26**	*e*P	**P**	**02 56 36.6**	**-0.7**
VORD				*e*S	**S**	**03 00 13.5**	**-4.6**
VORD				pmax	pmax		
	comp=Z,10.0nm,0.7s						
VORD				pmax	pmax		
	comp=N,20nm,0.8s						
VORD				pmax	pmax		
	comp=E,90nm,0.8s						
VORD				smax	smax		
	comp=E,40nm,0.8s						
VORD				smax	smax		
	comp=Z,4.0nm,1.0s						
VORD				smax	smax		
	comp=N,20nm,0.8s						
VORD	**Divnogorie**	**19.76**	**26**	*e*P	**P**	**02 56 36.6**	**-0.7**
	comp=N,10.0nm,0.7s						
ECH	**Echery**	**19.83**	**322**	*e*P	**Pn**	**02 56 40.0**	**+0.1**
ECH	**Echery**	**19.83**	**322**	*e*P	**Pn**	**02 56 40.0**	**+0.1**
CDF	**Champ du Feu**	**19.90**	**322**	*e*P	**P**	**02 56 37.7**	**-1.2**
	comp=N,30nm,0.9s						
CDF	**Champ du Feu**	**19.90**	**322**	*e*P	**P**	**02 56 37.7**	**-1.2**
CDF				pmax	pmax		
	comp=Z,30nm,0.9s						
CDF	**Champ du Feu**	**19.90**	**322**	*e*P	**P**	**02 56 37.7**	**-1.2**
	comp=Z,30nm,0.9s						
CDF	**Champ du Feu**	**19.90**	**322**	*e*P	**P**	**02 56 37.7**	**-1.2**
	comp=Z,30nm,0.9s						
TOD	**Tromm**	**19.97**	**327**	*e*P	**P**	**02 56 40.0**	**+0.4**
LANF	**Langenberg**	**20.01**	**324**	*e*P	**Pn**	**02 56 41.2**	**-0.7**
LANF	**Langenberg**	**20.01**	**324**	*e*P	**Pn**	**02 56 41.2**	**-0.7**
KTD	**Kalmit**	**20.10**	**325**	*e*P	Pn	02 56 41.8	-1.3
HAU	**Haudompre**	**20.13**	**320**	*e*P	**P**	**02 56 40.3**	**-1.1**
	comp=Z,20nm,0.7s						
HAU				*e*R			
	comp=Z,900nm,21.0s						
HAU	**Haudompre**	**20.13**	**320**	*e*P	**P**	**02 56 40.3**	**-1.1**
HAU				pmax	pmax		
	comp=Z,20nm,0.7s						
HAU	**Haudompre**	**20.13**	**320**	*e*P	**P**	**02 56 40.3**	**-1.1**
	comp=Z,20nm,0.7s						
HAU	**Haudompre**	**20.13**	**320**	*e*P	**P**	**02 56 40.3**	**-1.1**
	comp=Z,20nm,0.7s						
SUW	**Suwalki**	**20.15**	**356**	*e*P	**P**	**02 56 40.2**	**-1.3**
SUW				pmax	pmax		
	comp=Z,64nm,0.8s						
SUW	**Suwalki**	**20.15**	**356**	*e*P	**P**	**02 56 40.2**	**-1.3**
	comp=Z,64nm,0.8s						
SUW	**Suwalki**	**20.15**	**356**	*e*P	**P**	**02 56 40.2**	**-1.3**
SUW	**Suwalki**	**20.15**	**356**	*e*P	**P**	**02 56 40.2**	**-1.3**
	comp=Z,64nm,0.8s						
VALF	**Valcebollere**	**20.30**	**302**	*e*P	**P**	**02 56 43.7**	**+0.2**
VALF	**Valcebollere**	**20.30**	**302**	*e*P	**P**	**02 56 43.7**	**+0.2**
UBBA	**Unterbreizbach**	**20.35**	**331**	*e*P	**P**	**02 56 43.6**	**0.0**
	comp=Z,42nm,1.8s						
VOR	**Voronezh**	**20.35**	**25**	P	**P**	**02 56 44.0**	**+0.3**
VOR				pmax	pmax		
	comp=Z,280nm,1.6s						
VOR	**Voronezh**	**20.35**	**25**	P	**P**	**02 56 44.0**	**+0.3**
	comp=Z,280nm,1.6s						
THEF	**They Montfort**	**20.45**	**320**	*e*P	Pn	02 56 45.8	-1.4
THEF	**They Montfort**	**20.45**	**320**	*e*P	Pn	02 56 45.8	-1.4
MTLF	**Montolieu**	**20.46**	**304**	*e*P	**P**	**02 56 44.8**	**-0.2**
	comp=Z,102nm,2.0s						
MTLF	**Montolieu**	**20.46**	**304**	*e*P	**P**	**02 56 44.8**	**-0.2**
MTLF				pmax	pmax		
	comp=Z,102nm,2.0s						
MTLF	**Montolieu**	**20.46**	**304**	*e*P	**P**	**02 56 44.8**	**-0.2**
	comp=Z,102nm,2.0s						
MTLF	**Montolieu**	**20.46**	**304**	*e*P	**P**	**02 56 44.8**	**-0.2**
	comp=Z,102nm,2.0s						
LBL	**Lubilhac**	**20.50**	**310**	*e*P	Pn	02 56 47.9	0.0
LBL	**Lubilhac**	**20.50**	**310**	*e*P	Pn	02 56 47.9	0.0
TNS	**Taunus Mts**	**20.57**	**327**	*e*P	**P**	**02 56 46.6**	**+0.4**
	comp=Z,37nm,1.3s						
TNS	**Taunus Mts**	**20.57**	**327**	*e*P	**P**	**02 56 46.6**	**+0.4**
TNS				pmax	pmax		
	comp=Z,37nm,1.3s						
TNS	**Taunus Mts**	**20.57**	**327**	*e*P	**P**	**02 56 46.6**	**+0.4**
	comp=Z,37nm,1.3s						
MNK	**Minsk**	**20.63**	**4**	*e*P	**P**	**02 56 43.0**	**-3.7**
MICGM	**Minsk**	**20.63**	**4**	*e*	**P**	**02 56 43.0**	**-3.7**
VRHR	**Novokhopersk**	**20.77**	**29**	*e*P	**P**	**02 56 49.0**	**+0.8**
VRHR				*e*S	**S**	**03 00 35.2**	**-3.0**
VRHR				pmax	pmax		
	comp=N,50nm,0.6s						
VRHR				pmax	pmax		
	comp=E,20nm,0.6s						
VRHR				pmax	pmax		
	comp=Z,70nm,0.6s						
VRHR				smax	smax		
	comp=N,50nm,1.3s						
VRHR				smax	smax		
	comp=E,20nm,0.9s						
VRHR				smax	smax		
	comp=Z,4.0nm,0.9s						
VRHR	**Novokhopersk**	**20.77**	**29**	*e*P	**P**	**02 56 49.0**	**+0.8**
PAGF	**Fort de Pagny**	**20.79**	**321**	*e*P	Pn	02 56 50.3	-0.8
	comp=Z,24nm,1.0s						
PAGF	**Fort de Pagny**	**20.79**	**321**	*e*P	Pn	02 56 50.3	-0.8
	comp=Z,24nm,1.0s						
PAGF	**Fort de Pagny**	**20.79**	**321**	*e*P	Pn	02 56 50.3	-0.8
	comp=Z,12nm,1.0s						
SMF	**Signal de Mont**	**20.79**	**314**	*e*P	**P**	**02 56 48.1**	**-0.5**
	comp=Z,16nm,0.8s						
SMF	**Signal de Mont**	**20.79**	**314**	*e*P	**P**	**02 56 48.1**	**-0.5**
SMF				pmax	pmax		
	comp=Z,16nm,0.8s						
SMF	**Signal de Mont**	**20.79**	**314**	*e*P	**P**	**02 56 48.1**	**-0.5**
	comp=Z,16nm,0.8s						
SMF	**Signal de Mont**	**20.79**	**314**	*e*P	**P**	**02 56 48.1**	**-0.5**
	comp=Z,16nm,0.8s						
TAM	**Tamanrasset**	**20.79**	**243**	*e*P	**P**	**02 56 49.7**	**+0.8**
TAM				pmax	pmax		
	comp=Z,35nm,1.0s						
TAM	**Tamanrasset**	**20.79**	**243**	*e*P	**P**	**02 56 49.7**	**+0.8**
	comp=Z,35nm,1.0s						
TAM	**Tamanrasset**	**20.79**	**243**	*e*P	**P**	**02 56 49.7**	**+0.8**
	comp=Z,35nm,1.0s						
RUP	**Ruppelstein**	**20.85**	**325**	*e*P	**P**	**02 56 49.5**	**+0.3**
AGO	**Saint Agoulin**	**20.94**	**312**	*e*P	Pn	02 56 52.2	-0.7
AGO	**Saint Agoulin**	**20.94**	**312**	*e*P	Pn	02 56 52.2	-0.7
SFTF	**Sexfontaines**	**20.95**	**319**	*e*P	Pn	02 56 52.2	-0.8
	comp=Z,108nm,1.3s						
SFTF	**Sexfontaines**	**20.95**	**319**	*e*P	Pn	02 56 52.2	-0.8
	comp=Z,108nm,1.3s						
SFTF	**Sexfontaines**	**20.95**	**319**	*e*P	Pn	02 56 52.2	-0.8
	comp=Z,54nm,1.3s						
CLZ	**Clausthal**	**21.00**	**333**	*e*P	**P**	**02 56 49.4**	**-1.4**
	comp=Z,16nm,1.0s						
CLZ	**Clausthal**	**21.00**	**333**	*e*P	**P**	**02 56 49.4**	**-1.4**
CLZ				pmax	pmax		
	comp=Z,16nm,1.0s						
CLZ	**Clausthal**	**21.00**	**333**	*e*P	**P**	**02 56 49.4**	**-1.4**
	comp=Z,16nm,1.0s						
LOR	**Lormes**	**21.10**	**316**	*e*P	**P**	**02 56 51.7**	**-0.2**
	comp=Z,17nm,0.8s						
LOR				*e*R			
	comp=Z,888nm,20.8s						
LOR	**Lormes**	**21.10**	**316**	*e*P	**P**	**02 56 51.7**	**-0.2**
	comp=Z,17nm,0.8s						
LOR	**Lormes**	**21.10**	**316**	*e*P	**P**	**02 56 51.7**	**-0.2**
	comp=Z,17nm,0.8s						
CAF	**Calviac**	**21.14**	**308**	*e*P	**P**	**02 56 52.9**	**+0.5**
	comp=Z,23nm,1.0s						
CAF	**Calviac**	**21.14**	**308**	*e*P	**P**	**02 56 52.9**	**+0.5**
CAF				pmax	pmax		
	comp=Z,23nm,1.0s						
CAF	**Calviac**	**21.14**	**308**	*e*P	**P**	**02 56 52.9**	**+0.5**
	comp=Z,23nm,1.0s						
CAF	**Calviac**	**21.14**	**308**	*e*P	**P**	**02 56 52.9**	**+0.5**
	comp=Z,23nm,1.0s						
AVF	**Avril sur Loir**	**21.16**	**314**	*e*P	**P**	**02 56 51.7**	**-0.8**
	comp=Z,14nm,1.0s						
AVF	**Avril sur Loir**	**21.16**	**314**	*e*P	**P**	**02 56 51.7**	**-0.8**
AVF				pmax	pmax		
	comp=Z,14nm,1.0s						
AVF	**Avril sur Loir**	**21.16**	**314**	*e*P	**P**	**02 56 51.7**	**-0.8**
	comp=Z,14nm,1.0s						
AVF	**Avril sur Loir**	**21.16**	**314**	*e*P	**P**	**02 56 51.7**	**-0.8**
	comp=Z,14nm,1.0s						
SSF	**Saint Saulge**	**21.20**	**315**	*e*P	**P**	**02 56 53.0**	**0.0**
	comp=Z,22nm,0.9s						
SSF	**Saint Saulge**	**21.20**	**315**	*e*P	**P**	**02 56 53.0**	**0.0**
SSF				pmax	pmax		
	comp=Z,23nm,0.9s						
SSF	**Saint Saulge**	**21.20**	**315**	*e*P	**P**	**02 56 53.0**	**0.0**
	comp=Z,22nm,0.9s						
SSF	**Saint Saulge**	**21.20**	**315**	*e*P	**P**	**02 56 53.0**	**0.0**
	comp=Z,23nm,0.9s						
WLF	**Walferdange**	**21.27**	**323**	P	**P**	**02 56 54.8**	**+1.1**
	comp=Z,24nm,1.5s						
BGF	**Bois d'Agland**	**21.35**	**313**	*e*P	**P**	**02 56 53.9**	**-0.7**
	comp=Z,46nm,0.9s						
BGF	**Bois d'Agland**	**21.35**	**313**	*e*P	**P**	**02 56 53.9**	**-0.7**
BGF				pmax	pmax		
	comp=Z,46nm,0.9s						
BGF	**Bois d'Agland**	**21.35**	**313**	*e*P	**P**	**02 56 53.9**	**-0.7**
	comp=Z,46nm,0.9s						
BGF	**Bois d'Agland**	**21.35**	**313**	*e*P	**P**	**02 56 53.9**	**-0.7**
	comp=Z,46nm,0.9s						
IDID	**Didziasalis**	**21.40**	**2**	*e*P	**P**	**02 56 52.9**	**-2.1**
IDID				AMB	AMB	02 57 05.7	
	comp=Z,12nm,1.1s						
IDID	**Didziasalis**	**21.40**	**2**	*e*P	**P**	**02 56 52.9**	**-2.1**
	comp=Z,12nm,1.1s,SNR=35						
IIGN	**Ignalina**	**21.42**	**1**	*e*P	**P**	**02 56 52.9**	**-2.4**
IIGN				AMB	AMB	02 57 02.9	
	comp=Z,12nm,0.7s						
IIGN	**Ignalina**	**21.42**	**1**	*e*P	**P**	**02 56 52.9**	**-2.4**
	SNR=35						
RESF	**Ens**	**21.61**	**302**	*e*P	**P**	**02 56 58.0**	**+0.5**
RESF	**Ens**	**21.61**	**302**	*e*P	**P**	**02 56 58.0**	**+0.5**
TCF	**Toulx Ste Croi**	**21.62**	**312**	*e*P	**P**	**02 56 55.6**	**-1.9**
	comp=Z,39nm,1.0s						
TCF	**Toulx Ste Croi**	**21.62**	**312**	*e*P	**P**	**02 56 55.6**	**-1.9**
TCF				pmax	pmax		
	comp=Z,39nm,1.0s						
TCF	**Toulx Ste Croi**	**21.62**	**312**	*e*P	**P**	**02 56 55.6**	**-1.9**
	comp=Z,39nm,1.0s						
TCF	**Toulx Ste Croi**	**21.62**	**312**	*e*P	**P**	**02 56 55.6**	**-1.9**
	comp=Z,39nm,1.0s						
NRDL	**Niedersach Rie**	**21.62**	**334**	*e*P	**P**	**02 56 55.7**	**-1.6**
	comp=Z,30nm,1.4s						
ISAL	**Salakas**	**21.64**	**1**	*e*P	**P**	**02 56 55.2**	**-2.4**
ISAL				AMB	AMB	02 57 01.5	
	comp=Z,12nm,1.0s						
ISAL	**Salakas**	**21.64**	**1**	*e*P	**P**	**02 56 55.2**	**-2.4**
	comp=Z,12nm,1.0s,SNR=35						
RJF	**Les Rejaudoux**	**21.64**	**309**	*e*P	**P**	**02 56 57.0**	**-0.8**
	comp=Z,77nm,1.2s						
RJF				*e*R			
	comp=Z,654nm,20.0s						
RJF	**Les Rejaudoux**	**21.64**	**309**	*e*P	**P**	**02 56 57.0**	**-0.8**
RJF				pmax	pmax		
	comp=Z,77nm,1.2s						
RJF	**Les Rejaudoux**	**21.64**	**309**	*e*P	**P**	**02 56 57.0**	**-0.8**
	comp=Z,77nm,1.2s						
RJF	**Les Rejaudoux**	**21.64**	**309**	*e*P	**P**	**02 56 57.0**	**-0.8**
	comp=Z,77nm,1.2s						
IKLH	**Kolahrood**	**21.66**	**84**	*e*P	**P**	**02 56 59.8**	**+1.5**
IKLH	**Kolahrood**	**21.66**	**84**	*e*P	**P**	**02 56 59.8**	**+1.5**
EPF	**Esparros**	**21.67**	**302**	*e*P	**P**	**02 57 01.1**	**+3.0**
	comp=Z,12nm,0.8s						
EPF	**Esparros**	**21.67**	**302**	*e*P	**P**	**02 57 01.1**	**+3.0**
EPF				pmax	pmax		
	comp=Z,13nm,0.8s						
EPF	**Esparros**	**21.67**	**302**	*e*P	**P**	**02 57 01.1**	**+3.0**
	comp=Z,12nm,0.8s						
EPF	**Esparros**	**21.67**	**302**	*e*P	**P**	**02 57 01.1**	**+3.0**
	comp=Z,13nm,0.8s						
MEM	**Membach**	**21.96**	**325**	P	**P**	**02 57 00.5**	**-0.6**
	comp=Z,18nm,0.9s						
BUG	**Bochum--Univer**	**21.96**	**328**	*e*P	**P**	**02 57 02.2**	**+1.1**
	comp=Z,42nm,1.3s						
LFF	**La Frestale**	**22.01**	**307**	*e*P	**P**	**02 57 02.8**	**+1.1**
	comp=Z,23nm,0.7s						
LFF	**La Frestale**	**22.01**	**307**	*e*P	**P**	**02 57 02.8**	**+1.1**
LFF				pmax	pmax		
	comp=Z,23nm,0.7s						
LFF	**La Frestale**	**22.01**	**307**	*e*P	**P**	**02 57 02.8**	**+1.1**
	comp=Z,23nm,0.7s						
LFF	**La Frestale**	**22.01**	**307**	*e*P	**P**	**02 57 02.8**	**+1.1**
	comp=Z,23nm,0.7s						
HGN	**Heimansgroeve**	**22.10**	**325**	*e*P	**P**	**02 57 03.1**	**+0.5**
	comp=Z,38nm,1.1s						
HGN				*e*S	**S**	**03 01 00.9**	**-3.4**
HGN				*e*L	L	03 07 21.6	
	comp=Z,658nm,18.3s						
BCLA	**Clavier**	**22.18**	**324**	P	**P**	**02 57 05.5**	**+2.1**
IGAR	**Gharneh**	**22.20**	**87**	*e*P	**P**	**02 57 04.6**	**+0.5**
GIVF	**Givet**	**22.21**	**323**	*e*P	**P**	**02 57 02.7**	**-1.1**
	comp=Z,36nm,0.9s						
GIVF	**Givet**	**22.21**	**323**	*e*P	**P**	**02 57 02.7**	**-1.1**
GIVF				pmax	pmax		
	comp=Z,36nm,0.9s						
GIVF	**Givet**	**22.21**	**323**	*e*P	**P**	**02 57 02.7**	**-1.1**
	comp=Z,36nm,0.9s						
GIVF	**Givet**	**22.21**	**323**	*e*P	**P**	**02 57 02.7**	**-1.1**
	comp=Z,36nm,0.9s						
ETSF	**Etsaut**	**22.27**	**301**	*e*P	**P**	**02 57 04.6**	**0.0**
	comp=Z,15nm,0.8s						
ETSF	**Etsaut**	**22.27**	**301**	*e*P	**P**	**02 57 04.6**	**0.0**
ETSF				pmax	pmax		
	comp=Z,15nm,0.8s						
ETSF	**Etsaut**	**22.27**	**301**	*e*P	**P**	**02 57 04.6**	**0.0**
	comp=Z,15nm,0.8s						
ETSF	**Etsaut**	**22.27**	**301**	*e*P	**P**	**02 57 04.6**	**0.0**
	comp=Z,15nm,0.8s						
DOU	**Dourbes**	**22.32**	**323**	P	**P**	**02 57 04.7**	**-0.2**
IBBN	**Ibbenburen**	**22.39**	**330**	*e*P	**P**	**02 57 05.5**	**-0.2**
	comp=Z,32nm,1.2s						
IALA	**Alasht**	**22.40**	**77**	*e*P	**P**	**02 57 08.3**	**+2.0**
IALA	**Alasht**	**22.40**	**77**	*e*P	**P**	**02 57 08.3**	**+2.0**
BAIF	**Baives**	**22.50**	**322**	*e*P	**P**	**02 57 04.2**	**-2.6**
	comp=Z,23nm,0.7s						
BAIF	**Baives**	**22.50**	**322**	*e*P	**P**	**02 57 04.2**	**-2.6**
BAIF				pmax	pmax		
	comp=Z,23nm,0.7s						
BAIF	**Baives**	**22.50**	**322**	*e*P	**P**	**02 57 04.2**	**-2.6**
	comp=Z,23nm,0.7s						
BAIF	**Baives**	**22.50**	**322**	*e*P	**P**	**02 57 04.2**	**-2.6**
	comp=Z,23nm,0.7s						
OBN	**Obninsk**	**22.54**	**17**	P	**P**	**02 57 06.0**	**-1.1**
OBN				*i*		02 57 11.6	
OBN				*e*		02 57 19.8	
OBN				S	**S**	**03 01 11.0**	**-1.1**
OBN				SS	**SnSn**	**03 01 46.0**	**+3.7**
OBN				pmax	pmax		
	comp=Z,90nm,2.5s						
OBN				MLR	MLR		
	comp=Z,500nm,18.0s						
OBN	**Obninsk**	**22.54**	**17**	P	**P**	**02 57 06.0**	**-1.1**
	comp=Z,90nm,2.5s						
WTSB	**Winterswijk**	**22.55**	**329**	*e*P	**P**	**02 57 07.7**	**+0.4**
	comp=Z,90nm,1.4s						
BSEG	**Bad Segeberg**	**22.72**	**336**	*e*P	**P**	**02 57 07.9**	**-1.2**
	comp=Z,74nm,1.6s						
BSEG	**Bad Segeberg**	**22.72**	**336**	*e*P	**P**	**02 57 07.9**	**-1.2**
BSEG				pmax	pmax		
	comp=Z,74nm,1.6s						
BSEG	**Bad Segeberg**	**22.72**	**336**	*e*P	**P**	**02 57 07.9**	**-1.2**
	comp=Z,74nm,1.6s						
SNF	**Seneffe**	**22.74**	**323**	P	**P**	**02 57 10.9**	**+1.6**
SJPF	**Ste Jean**	**22.80**	**302**	*e*P	**P**	**02 57 10.9**	**+0.8**
	comp=Z,26nm,0.9s						
SJPF	**Ste Jean**	**22.80**	**302**	*e*P	**P**	**02 57 10.9**	**+0.8**
SJPF				pmax	pmax		
	comp=Z,26nm,0.9s						
SJPF	**Ste Jean**	**22.80**	**302**	*e*P	**P**	**02 57 10.9**	**+0.8**
	comp=Z,26nm,0.9s						
SJPF	**Ste Jean**	**22.80**	**302**	*e*P	**P**	**02 57 10.9**	**+0.8**
	comp=Z,26nm,0.9s						
IKIA	**Kiasar**	**23.10**	**76**	*e*P	**P**	**02 57 10.6**	**-3.0**
IKIA	**Kiasar**	**23.10**	**76**	*e*P	**P**	**02 57 10.6**	**-3.0**
IGLO	**Ghaloghah**	**23.21**	**76**	*e*P	**P**	**02 57 16.6**	**+2.0**
MFF	**Saint Martin d**	**23.23**	**311**	*e*P	**P**	**02 57 13.4**	**-1.0**
	comp=Z,18nm,0.7s						
MFF	**Saint Martin d**	**23.23**	**311**	*e*P	**P**	**02 57 13.4**	**-1.0**
MFF				pmax	pmax		
	comp=Z,18nm,0.7s						
MFF	**Saint Martin d**	**

MDT	**Midelt**	**25.18**	**276**	P		**P**	**02 57 32.7**	**-0.2**
	comp=Z,5.3nm,0.8s,baz=211,slow=7.3,SNR=10							
MDT	**Midelt**	**25.18**	**276**	P		**P**	**02 57 32.7**	**-0.2**
MUD	**Monsted U'grnd**	**25.18**	**338**	*i* P		**P**	**02 57 32.0**	**-0.5**
MUD				pmax	pmax			
	comp=Z,14nm,0.9s							
MUD	**Monsted U'grnd**	**25.18**	**338**	*i* P		**P**	**02 57 32.0**	**-0.5**
	comp=Z,14nm,0.9s							
MUD	**Monsted U'grnd**	**25.18**	**338**	*i* P		**P**	**02 57 32.0**	**-0.5**
	comp=Z,14nm,0.9s							
IBAF	**Bafgh**	**25.30**	**87**	*e*P		**P**	**02 57 35.7**	**+1.6**
IBAF	**Bafgh**	**25.30**	**87**	*e*P		**P**	**02 57 35.7**	**+1.6**
LIJA	**Lijar**	**25.35**	**286**	*e*P		**P**	**02 57 33.0**	**-1.4**
SGMF	**Saint Gilles**	**25.39**	**313**	*e*P		**P**	**02 57 34.9**	**+0.4**
	comp=Z,61nm,1.2s							
SGMF	**Saint Gilles**	**25.39**	**313**	*e*P		**P**	**02 57 34.9**	**+0.4**
SGMF				pmax	pmax			
	comp=Z,61nm,1.2s							
SGMF	**Saint Gilles**	**25.39**	**313**	*e*P		**P**	**02 57 34.9**	**+0.4**
	comp=Z,61nm,1.2s							
SGMF	**Saint Gilles**	**25.39**	**313**	*e*P		**P**	**02 57 34.9**	**+0.4**
	comp=Z,61nm,1.2s							
QUIF	**Quistinic**	**25.64**	**312**	*e*P		**P**	**02 57 36.1**	**-0.6**
	comp=Z,25nm,0.7s							
QUIF	**Quistinic**	**25.64**	**312**	*e*P		**P**	**02 57 36.1**	**-0.6**
QUIF				pmax	pmax			
	comp=Z,25nm,0.7s							
QUIF	**Quistinic**	**25.64**	**312**	*e*P		**P**	**02 57 36.1**	**-0.6**
	comp=Z,25nm,0.7s							
QUIF	**Quistinic**	**25.64**	**312**	*e*P		**P**	**02 57 36.1**	**-0.6**
	comp=Z,25nm,0.7s							
ISFR	**Sfrayin**	**26.53**	**74**	*e*P		**P**	**02 57 46.5**	**+1.3**
ISFR	**Sfrayin**	**26.53**	**74**	*e*P		**P**	**02 57 46.5**	**+1.3**
PBRG	**Braganca**	**26.57**	**297**	*e*P		P	02 57 50.5	+5.2
PBRG	**Braganca**	**26.57**	**297**	*e*P		P	02 57 50.5	+5.2
PBAR	**Barrancos**	**26.62**	**289**	*e*P		**P**	**02 57 45.9**	**+0.2**
	comp=Z,39nm,1.2s							
PBAR	**Barrancos**	**26.62**	**289**	*e*P		**P**	**02 57 45.9**	**+0.2**
	comp=Z,39nm,1.2s							
MVO	**Moncorvo**	**26.72**	**295**	*e*P		**P**	**02 57 48.0**	**+1.3**
	comp=Z,33nm,1.4s							
MVO	**Moncorvo**	**26.72**	**295**	*e*P		**P**	**02 57 48.0**	**+1.3**
	comp=Z,33nm,1.4s							
PMRV	**Marv??o**	**26.90**	**291**	*e*P		**P**	**02 57 51.3**	**+3.1**
	comp=Z,29nm,1.1s							
PMRV	**Marv??o**	**26.90**	**291**	*e*P		**P**	**02 57 51.3**	**+3.1**
	comp=Z,29nm,1.1s							
IKRD	**Kardeh**	**26.96**	**74**	*e*P		P	02 58 01.9	+13
IKRD	**Kardeh**	**26.96**	**74**	*e*P		P	02 58 01.9	+13
IEMG	**Emamgholi**	**27.03**	**73**	*e*P		P	02 57 55.6	+5.8
IEMG	**Emamgholi**	**27.03**	**73**	*e*P		P	02 57 55.6	+5.8
PESTR	**Estremoz**	**27.04**	**290**	*e*P		**P**	**02 57 49.9**	**+0.3**
	comp=Z,40nm,1.1s							
PESTR	**Estremoz**	**27.04**	**290**	*e*P		**P**	**02 57 49.9**	**+0.3**
	comp=Z,40nm,1.1s							
PVAQ	**Vaqueiros**	**27.18**	**287**	*e*P		**P**	**02 57 52.6**	**+1.9**
	comp=Z,49nm,1.2s							
PVAQ	**Vaqueiros**	**27.18**	**287**	*e*P		**P**	**02 57 52.6**	**+1.9**
	comp=Z,49nm,1.2s							
PBEJ	**Beja**	**27.27**	**288**	*e*P		**P**	**02 57 54.6**	**+3.0**
PBEJ	**Beja**	**27.27**	**288**	*e*P		**P**	**02 57 54.6**	**+3.0**
PVIS	**Viseu**	**27.34**	**294**	*e*P		**P**	**02 57 56.0**	**+3.8**
PVIS	**Viseu**	**27.34**	**294**	*e*P		**P**	**02 57 56.0**	**+3.8**
HFS	**Hagfors**	**27.35**	**347**	P		**P**	**02 57 50.0**	**-2.0**
HFS	**Hagfors**	**27.35**	**347**	P		**P**	**02 57 50.0**	**-2.0**
	comp=Z,3.1nm,0.5s,baz=165,slow=12,SNR=12							
HFS	**Hagfors**	**27.35**	**347**	P		**P**	**02 57 50.0**	**-2.0**
PBDV	**Barranco-do-Ve**	**27.36**	**287**	*e*P		**P**	**02 57 52.5**	**+0.1**
	comp=Z,55nm,1.2s							
PBDV	**Barranco-do-Ve**	**27.36**	**287**	*e*P		**P**	**02 57 52.5**	**+0.1**
	comp=Z,55nm,1.2s							
EVO	**Evora**	**27.38**	**289**	*e*P		**P**	**02 57 53.3**	**+0.8**
	comp=Z,20nm,0.9s							
EVO				*e*R				
	comp=Z,392nm,17.8s							
EVO	**Evora**	**27.38**	**289**	*e*P		**P**	**02 57 52.6**	**+0.1**
	comp=Z,29nm,1.5s							
EVO	**Evora**	**27.38**	**289**	*e*P		**P**	**02 57 52.6**	**+0.1**
	comp=Z,29nm,1.5s							
PCVE	**Castro Verde**	**27.42**	**287**	*e*P		**P**	**02 57 57.2**	**+4.2**
	comp=Z,34nm,1.4s							
PCVE	**Castro Verde**	**27.42**	**287**	*e*P		**P**	**02 57 57.2**	**+4.2**
	comp=Z,34nm,1.4s							
EVOP	**Sao Brissos**	**27.46**	**289**	*e*P		**P**	**02 57 53.3**	**0.0**
EVOP				pmax	pmax			
	comp=Z,20nm,0.9s							
EVOP	**Sao Brissos**	**27.46**	**289**	*e*P		**P**	**02 57 53.3**	**0.0**
	comp=Z,20nm,0.9s							
EVOP	**Sao Brissos**	**27.46**	**289**	*e*P		**P**	**02 57 53.3**	**0.0**
	comp=Z,20nm,0.9s							
FINES	**FINESS Array B**	**27.53**	**1**	P		**P**	**02 57 50.6**	**-3.0**
FINES				PcP		**PcP**	**03 01 10.3**	**-0.6**
FINES	**FINESS Array B**	**27.53**	**1**	P		**P**	**02 57 50.6**	**-3.0**
	comp=Z,5.6nm,0.8s,baz=163,slow=10,SNR=21							
FINES				PcP		**PcP**	**03 01 10.3**	**-0.6**
	comp=Z,3.1nm,1.0s,baz=150,slow=3.1,SNR=3.0							
FINES				LR		LR	03 10 20.0	
	comp=Z,464nm,20.7s,baz=270,slow=40							
IKOO	**Kooshah**	**27.97**	**84**	*e*P		**P**	**02 57 58.8**	**+0.6**
IKOO	**Kooshah**	**27.97**	**84**	*e*P		**P**	**02 57 58.8**	**+0.6**
PTEO	**Sao Teotonio**	**27.97**	**287**	*e*P		P	02 58 02.7	+4.9
PTEO	**Sao Teotonio**	**27.97**	**287**	*e*P		P	02 58 02.7	+4.9
KAF	**Kangasniemi**	**28.21**	**1**	*e*P		**P**	**02 57 57.3**	**-2.4**
KAF				pmax	pmax			
	comp=Z,6.0nm,0.8s							
KAF	**Kangasniemi**	**28.21**	**1**	*e*p		**P**	**02 57 57.3**	**-2.4**
	comp=Z,6.1nm,0.8s							
KAF	**Kangasniemi**	**28.21**	**1**	*e*P		**P**	**02 57 57.3**	**-2.4**
	comp=Z,6.0nm,0.8s							
IMYA	**Miami**	**28.26**	**75**	*e*P		**P**	**02 58 01.3**	**+0.6**
IMYA	**Miami**	**28.26**	**75**	*e*P		**P**	**02 58 01.3**	**+0.6**
KLMR	**Klimovskoe**	**28.42**	**14**	*e*P		**P**	**02 57 58.8**	**-2.8**
KLMR				pmax	pmax			
	comp=Z,53nm,1.7s							
KLMR	**Klimovskoe**	**28.42**	**14**	*e*P		**P**	**02 57 58.8**	**-2.8**
	comp=Z,53nm,1.7s							
NAO01	**NORSAR Array S**	**28.56**	**345**	*e*P		**P**	**02 58 02.0**	**-0.9**
	comp=Z,16nm,0.9s							
NAO01	**NORSAR Array S**	**28.56**	**345**	*e*P		**P**	**02 58 02.0**	**-0.9**
	comp=Z,16nm,0.9s							
NB2	**NORSAR Subarra**	**28.67**	**345**	P		**P**	**02 58 02.5**	**-1.4**
	comp=Z,1.5nm,0.6s,baz=159,slow=9.3							
NB2	**NORSAR Subarra**	**28.67**	**345**	P		**P**	**02 58 02.5**	**-1.4**
	comp=Z,1.5nm,0.6s,SNR=8.0							
NOA	**NORSAR Array B**	**28.67**	**345**	P		**P**	**02 58 01.8**	**-2.1**
NOA	**NORSAR Array B**	**28.67**	**345**	P		**P**	**02 58 01.8**	**-2.1**
	comp=Z,1.3nm,0.5s,baz=137,slow=8.5,SNR=11							
NOA	**NORSAR Array B**	**28.67**	**345**	P		**P**	**02 58 01.8**	**-2.1**
AKTK	**Aktyubinsk**	**28.86**	**45**	*i* P		**P**	**02 58 05.0**	**-0.6**
	comp=Z,10.0nm,0.8s							
AKTO	**Aktyubinsk**	**28.86**	**45**	*i* P		**P**	**02 58 05.0**	**-0.6**
AKTO				pmax	pmax			
	comp=Z,10.0nm,0.8s							
AKTO	**Aktyubinsk**	**28.86**	**45**	P		**P**	**02 58 04.8**	**-0.8**
AKTO	**Aktyubinsk**	**28.86**	**45**	P		**P**	**02 58 04.8**	**-0.8**
	comp=Z,4.2nm,0.7s,baz=246,slow=7.6,SNR=16							
AKTO	**Aktyubinsk**	**28.86**	**45**	P		**P**	**02 58 04.8**	**-0.8**
JOF	**Joensuu**	**29.24**	**5**	*e*P		**P**	**02 58 07.1**	**-1.7**
JOF				pmax	pmax			
	comp=Z,4.0nm,0.5s							
JOF	**Joensuu**	**29.24**	**5**	*e*p		**P**	**02 58 07.1**	**-1.7**
	comp=Z,3.8nm,0.5s							
JOF	**Joensuu**	**29.24**	**5**	*e*P		**P**	**02 58 07.1**	**-1.7**
	comp=Z,4.0nm,0.5s							
EKA	**Eskdalemuir Ar**	**29.24**	**326**	P		**P**	**02 58 08.0**	**-0.9**
EKA	**Eskdalemuir Ar**	**29.24**	**326**	P		**P**	**02 58 08.0**	**-0.9**
	comp=Z,1.3nm,0.5s,baz=122,slow=11,SNR=7.9							
EKA	**Eskdalemuir Ar**	**29.24**	**326**	P		**P**	**02 58 08.0**	**-0.9**
AB31	**Akbulak array**	**29.62**	**48**	*ce*P		**P**	**02 58 11.8**	**-0.6**
AB31				pmax	pmax			
	comp=Z,2.0nm,0.4s							
AB31	**Akbulak array**	**29.62**	**48**	*e*P		**P**	**02 58 11.8**	**-0.6**
	comp=Z,2.0nm,0.4s							
ABKAR	**Akbulak array**	**29.62**	**48**	*e*P		**P**	**02 58 12.4**	**0.0**
ABKAR	**Akbulak array**	**29.62**	**48**	*e*P		**P**	**02 58 12.4**	**0.0**
TORD	**Torodi Ar. Bea**	**29.97**	**232**	P		**P**	**02 58 15.2**	**-0.6**
TORD				PcP		**PcP**	**03 01 16.9**	**-1.0**
TORD	**Torodi Ar. Bea**	**29.97**	**232**	P		**P**	**02 58 15.2**	**-0.6**
	comp=Z,1.9nm,0.7s,baz=30,slow=9.2,SNR=31							
TORD				PcP		**PcP**	**03 01 16.9**	**-1.0**
	comp=Z,0.9nm,1.1s,baz=61,slow=3.5,SNR=4.5							
TORD				LR		LR	03 13 07.3	
	comp=Z,664nm,18.8s,baz=40,slow=42							
TORD	**Torodi Ar. Bea**	**29.97**	**232**	P		**P**	**02 58 15.2**	**-0.6**
SOKR	**Solikamsk**	**32.86**	**29**⇑	*i*P		P	02 58 45.0	+4.3
SOKR				pmax	pmax			
	comp=Z,10.0nm,1.1s							
SOKR				MLR		MLR		
	comp=Z,290nm,21.0s							
SVE	**Sverdlovsk**	**33.05**	**35**	*e*P		**P**	**02 58 44.4**	**+1.9**
SVE				pmax	pmax			
	comp=Z,19nm,1.3s							
SVE	**Sverdlovsk**	**33.05**	**35**	*e*P		**P**	**02 58 44.4**	**+1.9**
	comp=Z,19nm,1.3s							
ARCES	**ARCESS Array B**	**35.66**	**360**	P		**P**	**02 59 02.5**	**-2.3**
ARCES	**ARCESS Array B**	**35.66**	**360**	P		**P**	**02 59 02.5**	**-2.3**
	comp=Z,3.9nm,0.7s,baz=182,slow=8.7,SNR=17							
ARCES	**ARCESS Array B**	**35.66**	**360**	P		**P**	**02 59 02.6**	**-2.3**
KK31	**Karatay Array**	**35.98**	**62**	*i* P		**P**	**02 59 07.6**	**-0.4**
KK31				pmax	pmax			
	comp=Z,1.0nm,0.5s							
KK31	**Karatay Array**	**35.98**	**62**	*i* P		**P**	**02 59 07.6**	**-0.4**
	comp=Z,1.0nm,0.5s							
KKAR	**Karatay Array**	**35.98**	**62**	*e*P		**P**	**02 59 08.6**	**+0.6**
KKAR				pmax	pmax			
	comp=Z,1.0nm,0.5s							
KKAR	**Karatay Array**	**35.98**	**62**	*e*P		**P**	**02 59 08.6**	**+0.6**
	comp=Z,1.3nm,0.5s							
KKAR	**Karatay Array**	**35.98**	**62**	*e*P		**P**	**02 59 08.6**	**+0.6**
	comp=Z,1.0nm,0.5s							
BRVK	**Borovoye**	**36.91**	**45**	*d i*P		**P**	**02 59 16.1**	**+0.3**
BRVK				pmax	pmax			
	comp=Z,15nm,1.9s							
BRVK	**Borovoye**	**36.91**	**45**	*e*P		**P**	**02 59 17.1**	**+1.3**
	comp=Z,6.5nm,0.9s							
BRVK	**Borovoye**	**36.91**	**45**	*i* P		**P**	**02 59 16.1**	**+0.3**
	comp=Z,15nm,1.9s							
BVAR	**Borovoye Array**	**36.97**	**45**	P		**P**	**02 59 16.7**	**+0.4**
BVAR	**Borovoye Array**	**36.97**	**45**	P		**P**	**02 59 16.7**	**+0.4**
BVAR	**Borovoye Array**	**36.97**	**45**	P		**P**	**02 59 16.7**	**+0.4**
	comp=Z,4.1nm,0.9s,baz=260,slow=6.9,SNR=13							
BVAR	**Borovoye Array**	**36.97**	**45**	P		**P**	**02 59 16.7**	**+0.4**
VOSK	**Vostochnaya**	**37.25**	**46**	P		**P**	**02 59 18.4**	**-0.3**
VOSK				pmax	pmax			
	comp=Z,10.0nm,1.0s							
VOSK	**Vostochnaya**	**37.25**	**46**	P		**P**	**02 59 18.4**	**-0.3**
	comp=Z,10.0nm,1.0s							
EKS2	**Erkin-Say**	**38.39**	**62**	*e*P		**P**	**02 59 29.7**	**+1.1**
EKS2				pmax	pmax			
	comp=Z,2.0nm,0.7s							
EKS2	**Erkin-Say**	**38.39**	**62**	*e*P		**P**	**02 59 29.6**	**+1.1**
	comp=Z,1.7nm,0.7s							
EKS2	**Erkin-Say**	**38.39**	**62**	*e*P		**P**	**02 59 29.6**	**+1.0**
	comp=Z,1.7nm,0.7s							
AAK	**Ala-Archa**	**38.92**	**62**⇑	*i*P		**P**	**02 59 34.5**	**+1.4**
AAK				pmax	pmax			
	comp=Z,7.0nm,1.0s							
AAK	**Ala-Archa**	**38.92**	**62**	*e*P		**P**	**02 59 33.8**	**+0.7**
	comp=Z,2.8nm,0.8s							
AAK	**Ala-Archa**	**38.92**	**62**	P		**P**	**02 59 33.5**	**+0.4**
	comp=Z,1.6nm,0.5s,baz=246,slow=12,SNR=5.9							
AAK	**Ala-Archa**	**38.92**	**62**	*e*P		**P**	**02 59 33.8**	**+0.7**
	comp=Z,2.8nm,0.8s							
DBIC	**Dimbokro**	**39.07**	**233**	*e*P		**P**	**02 59 35.3**	**+0.9**
	comp=Z,13nm,1.1s							
DBIC	**Dimbokro**	**39.07**	**233**	P		**P**	**02 59 33.5**	**-1.0**
	comp=Z,2.6nm,0.7s,baz=63,slow=6.8,SNR=3.2							
DBIC				LR		LR	03 19 08.5	
	comp=Z,785nm,18.8s,baz=20,slow=42							
DBIC	**Dimbokro**	**39.07**	**233**	*e*P		**P**	**02 59 35.3**	**+0.9**
	comp=Z,13nm,1.1s							
TKM2	**Tokmak 2**	**39.71**	**62**	*e*P		**P**	**02 59 40.6**	**+0.8**
TKM2				pmax	pmax			
	comp=Z,4.0nm,0.9s							
TKM2	**Tokmak 2**	**39.71**	**62**	*e*P		**P**	**02 59 40.6**	**+0.8**
	comp=Z,3.9nm,0.9s							
TKM2	**Tokmak 2**	**39.71**	**62**	*e*P		**P**	**02 59 40.6**	**+0.8**
	comp=Z,4.0nm,0.9s							
KSH	**Kashi**	**40.36**	**67**	*e*P		**P**	**02 59 45.0**	**-0.1**
KSH				pP		**pP**	**02 59 55.0**	**+0.5**
KSH				PP		**PnPn**	**03 01 22.0**	**-0.1**
KSH				PcS		**PcS**	**03 05 39.8**	**+1.2**
KSH				S		**S**	**03 05 48.3**	**-2.8**
KSH				pmax	pmax			
	comp=Z,150nm,6.6s							
KSH				LR		LR		
	comp=N,140nm,7.3s							
KSH				LR		LR		
	comp=E,110nm,9.3s							
KSH				LR		LR		
	comp=Z,160nm,6.6s							
KURBB	**Kurchatov Arra**	**41.65**	**50**	P		**P**	**02 59 55.2**	**-0.1**
	comp=Z,7.2nm,0.8s,baz=276,slow=8.7,SNR=58							
KURK	**Kurchatov**	**41.71**	**50**	*ce*P		**P**	**02 59 55.9**	**+0.1**
KURK				pmax	pmax			
	comp=Z,10.0nm,2.0s							
KURK	**Kurchatov**	**41.71**	**50**	*e*P		**P**	**02 59 55.3**	**-0.5**
	comp=Z,2.9nm,0.6s							
KURK	**Kurchatov**	**41.71**	**50**	*e*P		**P**	**02 59 55.9**	**+0.1**
	comp=Z,10.0nm,2.0s							
MK31	**Makanchi Array**	**44.19**	**56**	*ce*P		**P**	**03 00 16.1**	**+0.1**
MK31				pmax	pmax			
	comp=Z,5.0nm,0.4s							
MK31	**Makanchi Array**	**44.19**	**56**	*e*P		**P**	**03 00 15.9**	**-0.1**
MK31	**Makanchi Array**	**44.19**	**56**	*e*P		**P**	**03 00 16.1**	**+0.1**
	comp=Z,5.0nm,0.4s							
MKAR	**Makanchi Array**	**44.19**	**56**	*ce*P		**P**	**03 00 16.2**	**+0.2**
MKAR				pmax	pmax			
	comp=Z,6.0nm,0.6s							
MKAR	**Makanchi Array**	**44.19**	**56**	P		**P**	**03 00 15.8**	**-0.2**
MKAR	**Makanchi Array**	**44.19**	**56**	P		**P**	**03 00 15.8**	**-0.2**
	comp=Z,5.9nm,0.6s,baz=277,slow=6.3,SNR=44							
MKAR	**Makanchi Array**	**44.19**	**56**	*e*P		**P**	**03 00 16.2**	**+0.2**
	comp=Z,6.0nm,0.6s							
SPITS	**Spitsbergen Ar**	**44.53**	**357**	P		**P**	**03 00 17.8**	**-0.6**
SPITS	**Spitsbergen Ar**	**44.53**	**357**	P		**P**	**03 00 17.8**	**-0.6**
	comp=Z,15nm,1.0s,baz=157,slow=9.4,SNR=5.8							
SPITS	**Spitsbergen Ar**	**44.53**	**357**	P		**P**	**03 00 17.8**	**-0.6**
NVS	**Novosibirsk**	**44.73**	**44**	*e*P		**P**	**03 00 20.6**	**+0.4**
NVS				*e*S		**S**	**03 06 59.8**	**+5.1**
NVS				pmax	pmax			
	comp=E,5.0nm,0.8s							
NVS				pmax	pmax			
	comp=Z,8.0nm,0.8s							
NVS				smax	smax			
	comp=N,6.0nm,1.5s							
NVS				smax	smax			
	comp=E,7.0nm,1.5s							
NVS	**Novosibirsk**	**44.73**	**44**	*e*P		**P**	**03 00 20.6**	**+0.4**
ZAA0	**Zalesovo Array**	**45.62**	**45**	*e*P		**P**	**03 00 26.6**	**-0.7**
ZAA0	**Zalesovo Array**	**45.62**	**45**	*e*P		**P**	**03 00 26.6**	**-0.7**
ZALV	**Zalesovo Beam**	**45.62**	**45**	*i* P		**P**	**03 00 26.7**	**-0.6**
ZALV				pmax	pmax			
	comp=Z,6.0nm,0.6s							
ZALV	**Zalesovo Beam**	**45.62**	**45**	P		**P**	**03 00 26.3**	**-1.0**
ZALV	**Zalesovo Beam**	**45.62**	**45**	P		**P**	**03 00 26.3**	**-1.0**
	comp=Z,6.2nm,0.6s,baz=263,slow=8.7,SNR=20							
ZALV	**Zalesovo Beam**	**45.62**	**45**	*i* P		**P**	**03 00 26.7**	**-0.6**
	comp=Z,6.0nm,0.6s							
WMQ	**Urumqi**	**48.35**	**59**	*e*P		**P**	**03 00 51.0**	**+2.2**
WMQ				pP		**pP**	**03 01 01.0**	**+2.6**
WMQ				sP		sP	03 01 05.0	+2.8
WMQ				pmax	pmax			
	comp=Z,12nm,0.9s							
WMQ				pmax	pmax			
	comp=Z,120nm,5.0s							
WMQ				LR		LR		
	comp=N,150nm,29.2s							
WMQ				LR		LR		
	comp=Z,120nm,20.0s							
LSZ	**Lusaka**	**48.99**	**177**	*e*P		**P**	**03 00 56.1**	**+2.1**
	comp=Z,1.5nm,0.6s							
LSZ	**Lusaka**	**48.99**	**177**	P		**P**	**03 00 55.3**	**+1.3**
	comp=Z,0.5nm,0.3s,baz=345,slow=12,SNR=3.2							
LSZ	**Lusaka**	**48.99**	**177**	P		**P**	**03 00 55.3**	**+1.3**
	comp=Z,1.0nm,0.3s							
PYUN	**Piuthan**	**49.02**	**80**	*e*P		**P**	**03 00 54.5**	**+0.1**
DANN	**Dangsing**	**49.56**	**80**	*e*P		**P**	**03 00 59.5**	**+0.9**
	comp=Z,89nm,0.7s							
KOLN	**Koldanda**	**49.65**	**81**	*e*P		**P**	**03 00 59.8**	**+0.6**
	comp=Z,16nm,0.8s							
SUMG	**Summit**	**50.24**	**339**	*e*P		**P**	**03 01 04.6**	**+1.3**
SUMG	**Summit**	**50.24**	**339**	*i* P		**P**	**03 01 04.6**	**+1.3**
SUMG	**Summit**	**50.24**	**339**	*e*P		**P**	**03 01 04.6**	**+1.3**
GKN	**Gorkha**	**50.41**	**80**	*e*P		**P**	**03 01 05.0**	**+0.1**
	comp=Z,32nm,0.9s							
DMN	**Daman**	**50.94**	**80**	*e*P		**P**	**03 01 09.4**	**+0.4**
	comp=Z,29nm,0.8s							
KKN	**Kakani**	**51.02**	**80**	*e*P		**P**	**03 01 08.8**	**-0.7**
	comp=Z,15nm,0.4s							
PKIN	**Phulchoki**	**51.19**	**80**	*e*P		**P**	**03 01 10.7**	**-0.2**
	comp=Z,20nm,0.8s							
PKI	**Pulchoki**	**51.21**	**80**	*e*P		**P**	**03 01 11.1**	**0.0**
	comp=Z,37nm,1.0s							
HVS	**Khovu-Aksy**	**51.21**	**49**	*e*P		**P**	**03 01 10.8**	**+0.3**
HVS				pmax	pmax			
	comp=Z,25nm,0.8s							
HVS	**Khovu-Aksy**	**51.21**	**49**	*e*P		**P**	**03 01 10.8**	**+0.3**
	comp=Z,25nm,0.8s							
GUN	**Gumba**	**51.46**	**79**	*e*P		**P**	**03 01 12.7**	**-0.3**
JIRN	**Jiri**	**51.81**	**80**	*e*P		**P**	**03 01 15.5**	**-0.2**
	comp=Z,33nm,0.8s							
RAMN	**Ramite**	**52.42**	**80**	*e*P		**P**	**03 01 19.5**	**-0.6**
	comp=Z,20nm,1.0s							
ODAN	**Odare**	**53.11**	**80**	*e*P		**P**	**03 01 23.6**	**-1.5**
	comp=Z,19nm,1.0s							
TAPN	**Taplejung**	**53.17**	**79**	*e*P		**P**	**03 01 25.3**	**-0.4**
	comp=Z,23nm,0.9s							
TLY	**Talaya**	**57.20**	**46**	*e*P		P	03 01 58.5	+4.4
TLY				pmax	pmax			
	comp=Z,8.0nm,1.3s							
TLY				MLR		MLR		
	comp=Z,177nm,18.0s							
ZAK	**Zakamensk**	**57.32**	**48**	*e*P		**P**	**03 01 55.5**	**+0.5**
ZAK				pmax	pmax			
	comp=Z,4.0nm,1.2s							
ZAK	**Zakamensk**	**57.32**	**48**	*e*P		**P**	**03 01 55.5**	**+0.5**
	comp=Z,4.0nm,1.2s							
GTA	**Gaotai**	**58.26**	**61**	*e*P		**P**	**03 02 03.8**	**+2.0**
GTA				pP		**pP**	**03 02 10.0**	**-1.6**
GTA				sP		**sP**	**03 02 13.3**	**-2.1**
GTA				PP		**PP**	**03 04 15.5**	**+4.8**
GTA				S		**S**	**03 10 02.5**	**+0.7**
GTA				SS		**SS**	**03 13 56.0**	**+2.4**
GTA				pmax	pmax			
	comp=Z,6.0nm,0.6s							
GTA				pmax	pmax			
	comp=Z,78nm,5.2s							
GTA				LR		LR		
	comp=N,150nm,15.2s							
GTA				LR		LR		
	comp=E,160nm,19.0s							
GTA				LR		LR		
	comp=Z,130nm,18.5s							
LBTB	**Lobatse**	**58.62**	**180**	*e*P		**P**	**03 02 06.4**	**+2.2**
	comp=Z,14nm,1.4s							
LBTB	**Lobatse**	**58.62**	**180**	*e*P		**P**	**03 02 06.4**	**+2.2**
	comp=Z,14nm,1.4s							
SONM	**Songino Array**	**60.02**	**50**	P		**P**	**03 02 13.9**	**+0.1**
SONM	**Songino Array**	**60.02**	**50**	P		**P**	**03 02 13.9**	**+0.1**
	comp=Z,1.4nm,0.6s,baz=284,slow=9.0,SNR=7.7							
SONM				LR		LR	03 31 23.4	
	comp=Z,218nm,19.5s,baz=160,slow=39							
SONM	**Songino Array**	**60.02**	**50**	P		**P**	**03 02 13.9**	**+0.1**
ULN	**Ulaanbaatar**	**60.42**	**50**	*e*P		**P**	**03 02 17.4**	**+0.7**
ULN	**Ulaanbaatar**	**60.42**	**50**	*e*P		**P**	**03 02 17.4**	**+0.7**
BOSA	**Boshof**	**62.20**	**180**	*e*P		**P**	**03 02 30.0**	**+1.3**
	comp=Z,4.6nm,0.7s							
BOSA	**Boshof**	**62.20**	**180**	P		**P**	**03 02 29.7**	**+1.0**
	comp=Z,1.2nm,0.4s,baz=5.2,slow=7.5,SNR=11							
BOSA				LR		LR	03 34 09.8	
	comp=Z,212nm,18.7s,baz=5.6,slow=40							
BOSA	**Boshof**	**62.20**	**180**	P		**P**	**03 02 29.7**	**+1.0**
	comp=Z,212nm,18.7s							
LZH	**Lanzhou**	**62.45**	**63**	*e*P		**P**	**03 02 31.3**	**+0.8**
LZH				pP		**pP**	**03 02 42.3**	**+1.9**
LZH				sP		sP	03 02 46.8	+2.7
LZH				*e*PP		**PP**	**03 04 50.5**	**+2.6**
LZH				pmax	pmax			
	comp=Z,19nm,1.5s							
LZH				pmax	pmax			
	comp=Z,57nm,7.6s							

comp=Z,74nm,18.2s,baz=143,slow=42
IMA2 Indian Mountai 80.32 360 *e*P **P 03 04 17.9 +0.1**
IMA2 Indian Mountai 80.32 360 *e*P **P 03 04 17.9 +0.1**
COLA College 81.39 357 *e*P **P 03 04 25.2 +1.9**
COLA pmax pmax
comp=Z,21nm,1.0s
COLA College 81.39 357 *e*P **P 03 04 25.2 +1.9**
comp=Z,22nm,1.0s
COLA College 81.39 357 *e*P **P 03 04 25.2 +1.9**
comp=Z,21nm,1.0s
ILAR Eielson Array 81.45 357 P **P 03 04 23.6 -0.1**
ILAR Eielson Array 81.45 357 P **P 03 04 23.6 -0.1**
comp=Z,1.0nm,1.0s,baz=341,slow=4.2,SNR=5.4
ILAR LR LR 03 44 18.1
comp=Z,91nm,19.1s,baz=2.2,slow=38
ILAR Eielson Array 81.45 357 P **P 03 04 23.6 -0.1**
MCK McKinley 82.57 358 *e*P **P 03 04 30.9 +1.3**
MCK pmax pmax
comp=Z,19nm,1.3s
MCK McKinley 82.57 358 *e*P **P 03 04 30.9 +1.3**
comp=Z,19nm,1.3s
MCK McKinley 82.57 358 *e*P **P 03 04 30.9 +1.3**
comp=Z,19nm,1.3s
PETK Petropavlovsk- 83.86 27 LR LR 03 48 17.1
comp=Z,148nm,21.1s,baz=151,slow=40
BDFB Brasilia 85.55 248 LR LR 03 45 33.6
comp=Z,319nm,18.1s,baz=254,slow=38
ECSD EROS Data Cent 86.46 322 *e*P **P 03 04 51.5 +1.8**
comp=Z,6.8nm,1.0s
ECSD EROS Data Cent 86.46 322 *e*P **P 03 04 51.5 +1.8**
comp=Z,6.8nm,1.0s
WVT Waverly 86.62 312 *e*P **P 03 04 51.8 +1.2**
WVT pmax pmax
comp=Z,5.0nm,0.9s
WVT Waverly 86.62 312 *e*P **P 03 04 51.8 +1.2**
comp=Z,5.2nm,0.9s
WVT Waverly 86.62 312 *e*P **P 03 04 51.8 +1.2**
comp=Z,5.0nm,0.9s
LRAL Lakeview Retre 88.08 309 *e*P **P 03 04 59.7 +2.0**
comp=Z,8.3nm,0.9s
LRAL Lakeview Retre 88.08 309 *e*P **P 03 04 59.7 +2.0**
comp=Z,8.3nm,0.9s
RSSD Black Hills 89.78 326 *e*P **P 03 05 06.7 +0.9**
RSSD pmax pmax
comp=Z,19nm,1.1s
RSSD Black Hills 89.78 326 *e*P **P 03 05 06.7 +0.9**
comp=Z,19nm,1.1s
RSSD Black Hills 89.78 326 *e*P **P 03 05 06.7 +0.9**
comp=Z,19nm,1.1s
YBMT Yellow Bay 90.89 334 *e*P **P 03 05 13.4 +2.7**
comp=Z,4.1nm,1.1s
YBMT Yellow Bay 90.89 334 *e*P **P 03 05 13.4 +2.7**
comp=Z,4.1nm,1.1s
JTMT Jette 91.08 334 *e*P **P 03 05 11.5 -0.2**
comp=Z,3.7nm,1.1s
JTMT Jette 91.08 334 *e*P **P 03 05 11.5 -0.2**
comp=Z,3.7nm,1.1s
SWMT Swartz Lake 91.18 334 *e*P **P 03 05 13.4 +1.3**
comp=Z,3.1nm,1.2s
SWMT Swartz Lake 91.18 334 *e*P **P 03 05 13.4 +1.3**
comp=Z,3.1nm,1.2s
NEW Newport 91.63 336 *e*P **P 03 05 15.1 +1.1**
comp=Z,6.4nm,1.2s
NEW Newport 91.63 336 *e*P **P 03 05 15.1 +1.1**
comp=Z,6.0nm,1.2s
BOZ Bozeman (W) 91.83 332 *e*P **P 03 05 15.3 +0.1**
BOZ pmax pmax
comp=Z,2.0nm,1.2s
BOZ Bozeman (W) 91.83 332 *e*P **P 03 05 15.3 +0.1**
comp=Z,2.2nm,1.2s
BOZ Bozeman (W) 91.83 332 *e*P **P 03 05 15.3 +0.1**
comp=Z,2.0nm,1.2s
PDAR Pinedale Array 93.32 329 P **P 03 05 21.4 -0.8**
PDAR Pinedale Array 93.32 329 P **P 03 05 21.4 -0.8**
comp=Z,0.3nm,0.7s,baz=55,slow=7.8,SNR=3.0
PDAR Pinedale Array 93.32 329 P **P 03 05 21.4 -0.8**
CPUP Villa Florida 98.78 244 LR LR 03 52 60.0
comp=Z,277nm,18.7s,baz=252,slow=37
WRA Warramunga Arr 116.12 97 PKP **PKPdf 03 10 50.2 -0.2**
WRA Warramunga Arr 116.12 97 PKP **PKPdf 03 10 50.2 -0.2**
comp=Z,0.4nm,0.3s,baz=308,slow=2.0,SNR=2.5
WRA Warramunga Arr 116.12 97 PKIKP **PKPdf 03 10 50.2 -0.2**
ASAR Alice Springs 117.50 101 PKP **PKPdf 03 10 52.8 -0.3**
ASAR Alice Springs 117.50 101 PKP **PKPdf 03 10 52.8 -0.3**
comp=Z,0.4nm,0.7s,baz=299,slow=1.2,SNR=4.5
ASAR Alice Springs 117.50 101 PKIKP **PKPdf 03 10 52.8 -0.3**

*ISCJB **26** 03:07:33.7±0.4, 55°.19N±0°.07×160°.93W±0°.07, h99km±3km, mb3.7/11, Error ellipse: s-maj=13.1km s-min=3.5km az=151.1*
*IDC **26** 03:07:33.2±3.3, 55°.46N×161°.03W, h64km±28km, mb3.6/11, mb1 3.9/15, mb1mx3.6/32, mbtmp3.7/15, ML4.1/3, Error ellipse: s-maj=31.8km s-min=15.8km az=176.0*
*NEIC **26** 03:07:36.5, 55°.03N×160°.92W, h75km, MG3.8(AEIC), After AEIC.*
ISC 26 03:07:34.5±0.8, 55°.14N±0°.09×160°.90W±0°.05, h92km±6km, n84, σ1§25/89, mb3.8/11, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDPT	**Sand Point**	**0.33**	**49**	P	**Pn**	**03 07 48.5**	**+0.2**
SDPT				S	**Sn**	**03 07 58.6**	**+0.2**
DOL	**Dolgoi Island**	**0.55**	**272**	P	**Pn**	**03 07 49.6**	**-0.3**
PVV	**Pavlof Volcano**	**0.56**	**296**	P	**Pn**	**03 07 50.1**	**+0.2**
PVV				S	**Sn**	**03 08 01.4**	**0.0**
PS4A	**Pavlof South-4**	**0.58**	**292**	P	**Pn**	**03 07 50.3**	**+0.1**
HAG	**Hague Volcano**	**0.60**	**288**	P	**Pn**	**03 07 50.6**	**+0.3**
DTNA	**Dutton South F**	**0.78**	**272**	P	**Pn**	**03 07 52.0**	**+0.1**
DTNA				S	**Sn**	**03 08 05.2**	**+0.2**
DT1	**Dutton Round H**	**0.79**	**269**	P	**Pn**	**03 07 52.0**	**0.0**
DRIA	**Deer Island**	**0.80**	**258**	P	**Pn**	**03 07 51.7**	**-0.5**
VNWF	**Veniaminof 8**	**1.27**	**36**	P	**Pn**	**03 07 59.3**	**+1.7**
VNHG	**Veniaminof 1**	**1.47**	**41**	P	**Pn**	**03 08 01.6**	**+1.6**
VNHG				S	**Sn**	**03 08 21.0**	**+1.7**
FALS	**False Pass**	**1.47**	**260**	P	**Pn**	**03 07 60.0**	**0.0**
FALS				S	**Sn**	**03 08 18.9**	**-0.4**
ISNN	**Isanotski Nort**	**1.69**	**261**	P	**Pn**	**03 08 03.3**	**+0.6**
BRPK	**Brown Peak**	**1.71**	**255**	P	**Pn**	**03 08 02.9**	**-0.1**
CHGN	**Chignik**	**1.83**	**49**	P	**Pn**	**03 08 05.2**	**+0.6**
SSLS	**Shishaldin Sou**	**1.84**	**258**	P	**Pn**	**03 08 05.1**	**+0.5**
SSLS				S	**Sn**	**03 08 28.1**	**+0.4**
WESN	**West Dahl Nort**	**2.20**	**257**	P	**Pn**	**03 08 09.9**	**+0.4**
WESE	**West Dahl East**	**2.23**	**254**	P	**Pn**	**03 08 10.5**	**+0.6**
AKSA	**Akutan Strait**	**2.96**	**252**	P	**Pn**	**03 08 19.8**	**+0.3**
AKUT	**Akutan**	**3.00**	**252**	P	**Pn**	**03 08 20.2**	**+0.2**
CHIR	**Chirikof Islan**	**3.08**	**75**	P	**Pn**	**03 08 20.4**	**-0.7**
AKGG	**Akutan Green G**	**3.10**	**254**	P	**Pn**	**03 08 21.8**	**+0.4**
UNV	**Unalaska Valle**	**3.51**	**251**	P	**Pn**	**03 08 26.6**	**-0.3**
MTBL	**Makushin Table**	**3.56**	**253**	P	**Pn**	**03 08 28.2**	**+0.5**
PLK1	**Peulik 1**	**3.58**	**40**	P	Pn	03 08 30.8	+3.0
MREP	**Makushin Rep't**	**3.66**	**251**	P	**Pn**	**03 08 29.2**	**+0.2**
CNTC	**Contact Creek**	**4.18**	**39**	P	**Pn**	**03 08 36.9**	**+0.8**
KABR	**Katmai Barrier**	**4.44**	**45**	P	**Pn**	**03 08 40.2**	**+0.6**
OKFG	**Magazine Ridge**	**4.46**	**250**	P	**Pn**	**03 08 39.6**	**-0.1**
KAKN	**Katmai Knife C**	**4.52**	**43**	P	**Pn**	**03 08 41.1**	**+0.6**
OKTU	**Okmok Mt. Tuli**	**4.54**	**250**	P	**Pn**	**03 08 41.3**	**+0.5**
OKSP	**Okmok Steeple**	**4.73**	**250**	P	**Pn**	**03 08 43.9**	**+0.4**
OHAK	**Old Harbor**	**4.74**	**61**	P	**Pn**	**03 08 42.5**	**-1.0**
NIKH	**Nikolski High**	**5.16**	**248**	P	**Pn**	**03 08 49.4**	**+0.1**
KDAK	**Kodiak Island**	**5.32**	**57**	P	**Pn**	**03 08 50.8**	**-0.6**
KDAK				S	**Sn**	**03 09 46.5**	**-4.7**
KDAK	**Kodiak Island**	**5.32**	**57**	P	**Pn**	**03 08 50.1**	**-1.3**
	8.6nm,0.3s,baz=253,slow=6.3,SNR=104						
KDAK				S	**Sn**	**03 09 46.5**	**-4.7**
	8.4nm,0.3s,baz=330,slow=23,SNR=14						
SPIA	**Saint Paul Isl**	**5.61**	**295**	P	**Pn**	**03 08 55.5**	**+0.2**
SVW2	**Sparrevohn**	**6.61**	**23**	P	**Pn**	**03 09 09.4**	**+0.5**
CNPM	**China Poot**	**6.83**	**46**	P	**Pn**	**03 09 11.6**	**-0.4**
RSO	**Redoubt South**	**6.89**	**36**	*e*Pn	**Pn**	**03 09 10.9**	**-2.0**
	48nm,0.2s						
CKL	**Chakachamna La**	**7.57**	**33**	P	**Pn**	**03 09 23.8**	**+1.6**
SPU	**Mount Spurr**	**7.65**	**34**	P	**Pn**	**03 09 24.1**	**+1.0**
SLKM	**Skilak Lake**	**7.84**	**42**	P	**Pn**	**03 09 26.1**	**+0.4**
SEW	**Seward**	**7.91**	**46**	P	**Pn**	**03 09 26.1**	**-0.5**
TT01	**Tatalina**	**8.19**	**16**	P	**Pn**	**03 09 31.2**	**+0.8**
SUA	**Susitna One**	**8.29**	**36**	P	**Pn**	**03 09 31.9**	**-0.1**
PPLA	**Purkeypile**	**8.98**	**26**	*e*Pn	**Pn**	**03 09 43.8**	**+2.4**
	30nm,1.0s						
DIV	**Divide**	**9.99**	**47**	*e*Pn	**Pn**	**03 09 53.5**	**-1.5**
BPAW	**Bear Paw Mtn.**	**10.28**	**25**	*e*Pn	**Pn**	**03 09 58.7**	**-0.3**
	5.1nm,0.7s						
BMRM	**Bremner River**	**10.41**	**49**	*e*Pn	**Pn**	**03 09 59.3**	**-1.5**
	13nm,0.4s						
MCK	**McKinley**	**10.54**	**30**	*e*Pn	**Pn**	**03 10 01.2**	**-1.2**
PAX	**Paxson**	**11.14**	**39**	*e*Pn	**Pn**	**03 10 08.5**	**-2.2**
	18nm,0.7s						
IMA2	**Indian Mountai**	**11.52**	**15**	*e*Pn	**Pn**	**03 10 16.4**	**+0.7**
MENT	**Mentasta**	**11.77**	**41**	*e*Pn	**Pn**	**03 10 17.6**	**-1.6**
ILAR	**Eielson Array**	**11.91**	**30**	P	Pn	03 10 16.9	-4.0
ILAR				S	Sn	03 12 24.4	-7.3
ILAR	**Eielson Array**	**11.91**	**30**	P	Pn	03 10 16.9	-4.0
	0.5nm,0.3s,baz=223,slow=13,SNR=21						
ILAR				S	Sn	03 12 24.4	-7.3
	0.1nm,0.3s,baz=215,slow=22,SNR=3.2						
EGAK	**Eagle**	**13.76**	**37**	*e*Pn	**Pn**	**03 10 42.9**	**-2.3**
	3.5nm,0.6s						
FX1	**Attu Island--F**	**15.38**	**272**	P	**Pn**	**03 11 04.7**	**-1.5**
FX1	**Attu Island--F**	**15.38**	**272**	P	**Pn**	**03 11 04.7**	**-1.5**
	2.0nm,0.3s,baz=161,slow=14,SNR=21						
DLBC	**Dease Lake**	**17.15**	**66**	P	**P**	**03 11 30.7**	**+2.3**
DLBC	**Dease Lake**	**17.15**	**66**	P	**P**	**03 11 30.7**	**+2.3**
	0.2nm,0.3s,baz=275,slow=11,SNR=4.0						
INK	**Inuvik**	**18.27**	**33**	P	**P**	**03 11 39.3**	**-1.2**
INK	**Inuvik**	**18.27**	**33**	P	**P**	**03 11 39.3**	**-1.2**
	baz=279,slow=19						
PETK	**Petropavlovsk-**	**24.09**	**282**	P	**P**	**03 12 41.4**	**+0.2**
PETK	**Petropavlovsk-**	**24.09**	**282**	P	**P**	**03 12 41.4**	**+0.2**
	9.9nm,0.6s,baz=85,slow=12,SNR=22						
YKA	**Yellowknife Ar**	**24.59**	**54**	P	**P**	**03 12 46.2**	**+0.6**
YKA	**Yellowknife Ar**	**24.59**	**54**	P	**P**	**03 12 46.2**	**+0.6**
	0.7nm,0.5s,baz=271,slow=8.8,SNR=7.9						
PDAR	**Pinedale Array**	**35.11**	**89**	P	**P**	**03 14 20.7**	**+1.6**
PDAR	**Pinedale Array**	**35.11**	**89**	P	**P**	**03 14 20.7**	**+1.6**
	0.3nm,0.6s,baz=282,slow=5.4,SNR=2.9						
TXAR	**Lajitas Array**	**47.90**	**98**	P	**P**	**03 16 05.4**	**+2.0**
TXAR	**Lajitas Array**	**47.90**	**98**	P	**P**	**03 16 05.4**	**+2.0**
	0.2nm,0.7s,baz=305,slow=6.3,SNR=3.1						
SONM	**Songino Array**	**54.07**	**304**	P	**P**	**03 16 49.1**	**-0.3**
SONM	**Songino Array**	**54.07**	**304**	P	**P**	**03 16 49.1**	**-0.3**
	0.6nm,0.6s,baz=32,slow=6.0,SNR=4.2						
BVAR	**Borovoye Array**	**64.18**	**328**	P	**P**	**03 17 58.8**	**-0.1**
BVAR	**Borovoye Array**	**64.18**	**328**	P	**P**	**03 17 58.8**	**-0.1**
	0.8nm,0.5s,baz=21,slow=6.2,SNR=4.2						
MKAR	**Makanchi Array**	**65.36**	**318**	P	**P**	**03 18 05.7**	**-1.1**
MKAR	**Makanchi Array**	**65.36**	**318**	P	**P**	**03 18 05.7**	**-1.1**
	0.3nm,0.4s,baz=39,slow=6.2,SNR=5.7						
EKA	**Eskdalemuir Ar**	**68.39**	**13**	P	**P**	**03 18 26.1**	**+0.4**
EKA	**Eskdalemuir Ar**	**68.39**	**13**	P	**P**	**03 18 26.1**	**+0.4**
	1.3nm,0.8s,baz=345,slow=5.1,SNR=4.1						
AKTO	**Aktyubinsk**	**69.90**	**335**	P	**P**	**03 18 34.8**	**-0.3**
AKTO	**Aktyubinsk**	**69.90**	**335**	P	**P**	**03 18 34.8**	**-0.3**
	2.1nm,0.7s,baz=50,slow=5.3,SNR=9.1						
KBZ	**Khabaz**	**79.45**	**343**	P	**P**	**03 19 31.1**	**+0.7**
KBZ	**Khabaz**	**79.45**	**343**	P	**P**	**03 19 31.1**	**+0.7**
	0.7nm,0.5s,baz=168,slow=2.0,SNR=3.6						
CMAR	**Chiang Mai Arr**	**80.70**	**289**	P	**P**	**03 19 38.0**	**+0.4**
CMAR	**Chiang Mai Arr**	**80.70**	**289**	P	**P**	**03 19 38.0**	**+0.4**
	1.3nm,0.3s,baz=26,slow=4.4,SNR=4.1						

*IDC **26** 03:10:47.2±2.3, 5°.83S×130°.94E, h0km, mb3.5/1, mb1 3.6/4, mb1mx3.4/18, mbtmp3.4/4, ML3.5/3, Error ellipse: s-maj=96.9km s-min=28.6km az=78.0*
*AUST **26** 03:10:57.2±9.0, 6°.06S×130°.52E, h39km±1km, Error ellipse: s-maj=178.8km s-min=2.0km az=257.0*
ISC 26 03:10:54.3±1.1, 6°.06S±0°.07×130°.5E±0°.1, h124km, n10, σ3§11/11, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLE	**Tual**	**2.27**	**79**	P	**Pn**	**03 11 32.2**	**+0.9**
	baz=2.2,SNR=5.7						
FAKI	**Fak Fak**	**3.58**	**29**	P	**Pn**	**03 11 49.9**	**+1.5**
	baz=3.6,SNR=3.7						
FAKI				S	Sn	03 12 23.2	-7.0
	baz=3.6,SNR=5.0						
SWI	**Sorong**	**5.22**	**8**	S	**Sn**	**03 13 07.6**	**-2.0**
	baz=5.2,SNR=3.3						
KDU	**Kakadu**	**6.86**	**164**	P	**Pn**	**03 12 35.1**	**+2.6**
	baz=6.9,SNR=37						
KDU				S	**Sn**	**03 13 47.5**	**-1.8**
	baz=6.9,SNR=7.7						
KNRA	**Kununurra**	**9.71**	**190**	P	Pn	03 13 15.7	+4.9
	baz=9.8,SNR=5.1						
KNRA				S	**Sn**	**03 14 59.7**	**+1.6**
	baz=9.8,SNR=4.6						
FITZ	**Fitzroy Crossi**	**12.87**	**201**	Pn	**P**	**03 13 58.1**	**-0.6**
	0.1nm,0.3s,baz=27,slow=13,SNR=11						
FITZ				Sn	**Sn**	**03 16 11.7**	**-3.0**
	0.2nm,0.3s,baz=60,slow=20,SNR=4.7						
WRA	**Warramunga Arr**	**14.29**	**165**	Pn	**Pn**	**03 14 11.3**	**+0.2**
	0.4nm,0.3s,baz=349,slow=13,SNR=3.2						
WRA				Sn	Sn	03 16 39.6	-9.5
	0.1nm,0.3s,baz=341,slow=24,SNR=2.3						
ASAR	**Alice Springs**	**17.81**	**170**	P	**Pn**	**03 14 58.5**	**+4.0**
	0.1nm,0.3s,baz=338,slow=8.2,SNR=5.2						
ASAR				S	**S**	**03 18 06.5**	**-5.7**
	0.1nm,0.3s,baz=215,slow=26,SNR=3.1						
PMBI	**Palembang**	**25.83**	**276**	P	P	03 16 37.8	+23
	baz=26,SNR=4.0						
MKAR	**Makanchi Array**	**67.72**	**326**	P	P	03 21 46.8	+8.4
	0.3nm,0.5s,baz=126,slow=7.3,SNR=2.7						

IDC 26 03:12:16.3±3.7, 2°.21S×99°.06E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.5/24, mbtmp3.6/6, Error ellipse: s-maj=162.8km s-min=22.8km az=54.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.70**	**120**	P	P	03 19 42.1	-0.3
	0.4nm,0.7s,baz=302,slow=9.0,SNR=2.4						
ASAR	**Alice Springs**	**39.89**	**125**	P	P	03 19 51.7	-0.6
	0.3nm,0.7s,baz=304,slow=8.7,SNR=3.3						
SONM	**Songino Array**	**50.25**	**6**	P	P	03 21 14.0	-0.4
	0.7nm,0.9s,baz=179,slow=6.3,SNR=5.0						
MKAR	**Makanchi Array**	**50.98**	**345**	P	P	03 21 20.3	+0.5
	0.3nm,0.3s,baz=151,slow=8.6,SNR=9.8						
KURBB	**Kurchatov Arra**	**55.49**	**344**	P	P	03 21 51.8	-1.1
	0.2nm,0.3s,baz=156,slow=7.0,SNR=3.5						
ZALV	**Zalesovo Beam**	**57.20**	**350**	P	P	03 22 04.9	-0.1
	1.2nm,0.4s,baz=160,slow=6.4,SNR=5.3						
TXAR	**Lajitas Array**	**145.43**	**36**	PKPbc	PKPab	03 31 57.4	+0.1
	0.7nm,0.6s,baz=222,slow=0.8,SNR=12						

*BJI **26** 03:15:40.5, 71°.80N×1°.40W, h10km, mB4.8/8, mb4.8/13, Ms4.8/5, Ms7 4.6/5*
*MOS **26** 03:15:41.6±1.0, 71°.91N×1°.11W, h10km, mb4.6/40, Error ellipse: s-maj=19.3km s-min=4.2km az=97.3*
*CSEM **26** 03:15:41.6±0.1, 71°.86N×1°.21W, h2km, mb4.4/37, Ms3.4, Error ellipse: s-maj=4.5km s-min=3.1km az=46.0*
*IDC **26** 03:15:41.7±0.6, 71°.75N×1°.45W, h0km, mb3.8/17, mb1 4.1/23, mb1mx4.0/36, mbtmp3.9/23, ML3.8/6, MS3.8/26, Ms1 3.8/26, ms1mx3.7/49, Error ellipse: s-maj=16.5km s-min=12.1km az=44.0*
*NAO **26** 03:15:43.0±3.4, 71°.78N×0°.53W, ML3.8*
*BER **26** 03:15:43.8±3.0, 71°.79N×1°.69W, h10km, ML2.8, ML3.8(NAO)*
*NEIC **26** 03:15:43.4±0.2, 71°.84N×1°.32W, h10km, mb4.5/43, Error ellipse: s-maj=5.1km s-min=3.2km az=53.0*
ISC 26 03:15:44.8±0.5, 71°.87N±0°.05×1°.01W±0°.05, h17km±2km, h17km:pP-P, n393, σ1§34/403, mb4.4/80, MS3.8/31, 19C-1D, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOF	**Lofoten**	**6.24**	**120**	*e*P	**Pn**	**03 17 15.6**	**-0.2**
LOF	**Lofoten**	**6.24**	**120**	*e*P	**Pn**	**03 17 15.6**	**-0.2**
	SNR=47						
STEI	**Steigen**	**6.84**	**117**	*e*	**Pn**	**03 17 23.3**	**-0.8**
STEI				*e*P	**Pn**	**03 17 23.4**	**-0.7**
TRO	**Tromso**	**6.95**	**99**	*e*P	**Pn**	**03 17 23.9**	**-1.6**
TRO	**Tromso**	**6.95**	**99**	*e*P	**Pn**	**03 17 23.9**	**-1.6**
	SNR=47						
KONS	**Konsvik**	**7.36**	**130**	*e*P	**Pn**	**03 17 29.4**	**-1.8**
KONS				AML	AML	03 18 50.1	
	comp=Z,13nm,0.5s						
STOK	**Stokkvaagen**	**7.47**	**131**	*e*P	**Pn**	**03 17 31.8**	**-0.9**
STOK				*e*S	Sn	03 18 50.5	-6.3
STOK				AML	AML	03 18 52.6	
	comp=N,14nm,0.1s						
FLOS	**Flostrand**	**7.55**	**130**	*e*P	**Pn**	**03 17 32.9**	**-0.9**
SPA0	**Spitsbergen Ar**	**7.72**	**27**	Pn	**Pn**	**03 17 36.8**	**+0.6**
	baz=215,slow=12						
SPA0	**Spitsbergen Ar**	**7.72**	**27**	Pn	**Pn**	**03 17 36.8**	**+0.6**
	baz=215,slow=12,SNR=50						
SPITS	**Spitsbergen Ar**	**7.72**	**27**	Pn	**Pn**	**03 17 36.9**	**+0.7**
SPITS	**Spitsbergen Ar**	**7.72**	**27**	Pn	**Pn**	**03 17 36.9**	**+0.7**
	baz=206,slow=13,SNR=161						
SPITS	**Spitsbergen Ar**	**7.72**	**27**	P	**Pn**	**03 17 36.9**	**+0.7**
KBS	**Kingsbay**	**7.78**	**19**	Pn	**Pn**	**03 17 35.9**	**-1.0**
KBS				Sn	**Sn**	**03 19 02.0**	**-2.4**
KBS	**Kingsbay**	**7.78**	**19**	*e*P	**Pn**	**03 17 36.4**	**-0.5**
KBS	**Kingsbay**	**7.78**	**19**	*ce*P	**Pn**	**03 17 36.2**	**-0.7**
KBS				pmax	pmax		
	comp=Z,108nm,1.8s						
KBS	**Kingsbay**	**7.78**	**19**	Pn	**Pn**	**03 17 35.9**	**-1.0**
KBS	**Kingsbay**	**7.78**	**19**	*e*P	**Pn**	**03 17 36.4**	**-0.5**
	SNR=47						
MOR8	**Moi Rana**	**7.94**	**128**	*e*P	**Pn**	**03 17 38.9**	**-0.3**
MOR8	**Moi Rana**	**7.94**	**128**	*e*P	**Pn**	**03 17 38.9**	**-0.3**
	SNR=47						
KTK1	**Kautokeino**	**8.59**	**98**	*e*P	**Pn**	**03 17 47.5**	**-0.5**
KTK1	**Kautokeino**	**8.59**	**98**	*e*P	**Pn**	**03 17 47.5**	**-0.5**
	SNR=47						
NSS	**Namsos**	**8.79**	**141**	*e*	**Pn**	**03 17 51.3**	**+0.5**
ARA0	**ARCESS Array S**	**9.04**	**92**	Pn	**Pn**	**03 17 53.1**	**-1.1**
	baz=288,slow=12						
ARA0				Sn	**Sn**	**03 19 31.1**	**-4.4**
	baz=293,slow=18						
ARA0	**ARCESS Array S**	**9.04**	**92**	Pn	**Pn**	**03 17 53.1**	**-1.1**
	baz=288,slow=12						
ARA0				Sn	**Sn**	**03 19 31.1**	**-4.4**
	baz=293,slow=18						
ARA0	**ARCESS Array S**	**9.04**	**92**	Pn	**Pn**	**03 17 53.2**	**-1.1**
	baz=288,slow=12,SNR=50						
ARA0				Sn	**Sn**	**03 19 31.1**	**-4.4**
	baz=293,slow=18,SNR=50						
ARCES	**ARCESS Array B**	**9.04**	**92**	Pn	**Pn**	**03 17 53.6**	**-0.6**
ARCES				Sn	**Sn**	**03 19 30.1**	**-5.4**
ARCES	**ARCESS Array B**	**9.04**	**92**	Pn	**Pn**	**03 17 53.6**	**-0.6**
	comp=Z,1.7nm,0.3s,baz=300,slow=12,SNR=92						
ARCES				Sn	**Sn**	**03 19 30.1**	**-5.4**
	comp=Z,0.1nm,0.3s,baz=300,slow=22,SNR=2.2						
ARCES				LR	LR	03 21 04.9	
	comp=Z,372nm,20.4s,baz=248,slow=35						
ARCES	**ARCESS Array B**	**9.04**	**92**	P	**Pn**	**03 17 53.6**	**-0.6**
ARE0	**ARCESS Array S**	**9.04**	**92**	*e*P	**Pn**	**03 17 53.2**	**-1.1**
ARE0				*e*S	**Sn**	**03 19 31.1**	**-4.4**
ARE0	**ARCESS Array S**	**9.04**	**92**	*e*P	**Pn**	**03 17 53.2**	**-1.1**
	SNR=47						
KEV	**Kevo**	**9.41**	**89**	*e*P	**Pn**	**03 17 57.3**	**-2.0**
KEV				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KEV	**Kevo**	**9.41**	**89**	*ep*	**Pn**	**03 17 57.3**	**-2.0**
	comp=Z,2.4nm,0.3s						
KEV	**Kevo**	**9.41**	**89**	*e*P	**Pn**	**03 17 57.3**	**-2.0**
	comp=Z,2.0nm,0.3s						
SUMG	**Summit**	**11.34**	**291**	*e*P	Pn	03 18 22.6	-3.3
SUMG	**Summit**	**11.34**	**291**	*e*Pn	Pn	03 18 22.6	-3.3
SUMG	**Summit**	**11.34**	**291**	*e*Pn	Pn	03 18 22.6	-3.3
ASK	**Askoy**	**11.70**	**165**	*e*Pn	**Pn**	**03 18 27.8**	**-2.8**
NB2	**NORSAR Subarra**	**11.88**	**150**	Pn	**Pn**	**03 18 32.2**	**-1.0**
	baz=336,slow=14						
NB2	**NORSAR Subarra**	**11.88**	**150**	Pn	**Pn**	**03 18 32.2**	**-1.0**
	baz=336,slow=14						
NB2	**NORSAR Subarra**	**11.88**	**150**	Pn	**Pn**	**03 18 32.2**	**-1.0**
	baz=336,slow=13,SNR=50						
NOA	**NORSAR Array B**	**11.88**	**150**	Pn	**Pn**	**03 18 31.6**	**-1.6**
NOA	**NORSAR Array B**	**11.88**	**150**	Pn	**Pn**	**03 18 31.6**	**-1.6**
	comp=Z,0.5nm,0.3s,baz=336,slow=13,SNR=8.7						
NOA				LR	LR	03 22 55.4	
	comp=Z,609nm,19.7s,baz=340,slow=37						
NOA	**NORSAR Array B**	**11.88**	**150**	P	**Pn**	**03 18 31.6**	**-1.6**
EGD	**Espegrend**	**11.91**	**165**	*e*Pn	**Pn**	**03 18 31.1**	**-2.4**
NAO01	**NORSAR Array S**	**12.02**	**151**	*e*Pn	**Pn**	**03 18 35.2**	**+0.2**
NAO01	**NORSAR Array S**	**12.02**	**151**	*e*Pn	**Pn**	**03 18 35.2**	**+0.2**
APA0	**Apatity Array**	**12.40**	**93**	Pn	**Pn**	**03 18 39.3**	**-0.8**
	baz=314,slow=11						
APA0	**Apatity Array**	**12.40**	**93**	Pn	**Pn**	**03 18 39.3**	**-0.8**
	baz=314,slow=11						
APA0	**Apatity Array**	**12.40**	**93**	Pn	**Pn**	**03 18 39.3**	**-0.8**
	baz=314,slow=11,SNR=50						
LVZ	**Lovozero**	**12.75**	**91**	⇑*i*P	**Pn**	**03 18 42.8**	**-2.1**
LVZ				pmax	pmax		
	comp=Z,55nm,1.6s						
LVZ	**Lovozero**	**12.75**	**91**	*i* P	**Pn**	**03 18 42.8**	**-2.1**
	comp=Z,55nm,1.6s						
BLS5	**Blasjo**	**12.86**	**163**	*e*Pn	**Pn**	**03 18 45.5**	**-0.9**
HFS	**Hagfors**	**13.15**	**146**	Pn	**Pn**	**03 18 49.1**	**-1.3**
	baz=341,slow=14						
HFS				Sn	Sn	03 21 08.3	-7.8

SUW	**Suwalki**	**20.74 137**	*eP*	**P**	**03 20 23.6**	**-0.4**
SUW			pmax	pmax		
comp=Z,70nm,1.0s						
SUW	**Suwalki**	**20.74 137**	*eP*	**P**	**03 20 23.6**	**-0.4**
comp=Z,70nm,1.0s						
SUW	**Suwalki**	**20.74 137**	*eP*	**P**	**03 20 23.3**	**-0.7**
SUW	**Suwalki**	**20.74 137**	*eP*	**P**	**03 20 23.4**	**-0.6**
CLL	**Collm**	**21.57 156**	*eP*	**P**	**03 20 32.0**	**-1.0**
CLL			*eS*	**S**	**03 24 34.0**	**+3.0**
CLL			pmax	pmax		
comp=Z,13nm,1.3s						
CLL			MLR	MLR		
comp=Z,400nm,18.3s						
CLL	**Collm**	**21.57 156**	*eP*	**P**	**03 20 32.0**	**-1.0**
comp=Z,13nm,1.3s						
CLL			*eS*	**S**	**03 24 34.0**	**+3.0**
CLL			Lm	MLR	03 29 00.0	
comp=Z,400nm,18.3s						
CLL	**Collm**	**21.57 156**	*eP*	**P**	**03 20 32.0**	**-1.0**
comp=Z,13nm,1.3s						
MEM	**Membach**	**21.57 168**	P	**P**	**03 20 36.3**	**+3.3**
comp=Z,13nm,1.8s						
UBBA	**Unterbreizbach**	**21.70 161**	*eP*	**P**	**03 20 34.6**	**+0.3**
comp=Z,28nm,1.5s						
DOU	**Dourbes**	**22.00 170**	P	**P**	**03 20 33.3**	**-4.3**
comp=Z,8.0nm,2.2s						
GIVF	**Givet**	**22.00 170**	*eP*	**P**	**03 20 38.5**	**+0.8**
GIVF	**Givet**	**22.00 170**	*eP*	**P**	**03 20 38.5**	**+0.8**
GIVF	**Givet**	**22.00 170**	*eP*	**P**	**03 20 38.5**	**+0.8**
GIVF	**Givet**	**22.00 170**	*eP*	**P**	**03 20 38.5**	**+0.8**
BAIF	**Baives**	**22.02 171**	*eP*	**P**	**03 20 38.8**	**+1.0**
comp=Z,34nm,1.3s						
BAIF	**Baives**	**22.02 171**	*eP*	**P**	**03 20 38.8**	**+1.0**
BAIF			pmax	pmax		
comp=Z,34nm,1.3s						
BAIF	**Baives**	**22.02 171**	*eP*	**P**	**03 20 38.8**	**+1.0**
comp=Z,34nm,1.3s						
BAIF	**Baives**	**22.02 171**	*eP*	**P**	**03 20 38.8**	**+1.0**
comp=Z,17nm,1.3s						
MOX	**Moxa**	**22.05 158**	*eP*	**P**	**03 20 38.0**	**-0.2**
comp=Z,22nm,1.6s						
MOX			*eL*	L	03 28 34.1	
comp=Z,286nm,20.5s						
MOX	**Moxa**	**22.05 158**	*eP*	**P**	**03 20 38.0**	**-0.2**
MOX			pmax	pmax		
comp=Z,22nm,1.6s						
MOX			MLR	MLR		
comp=Z,300nm,20.5s						
MOX	**Moxa**	**22.05 158**	*eP*	**P**	**03 20 38.0**	**-0.2**
comp=Z,300nm,20.5s						
BRG	**Berggiesshubel**	**22.12 154**	*eP*	**P**	**03 20 39.0**	**+0.1**
comp=Z,34nm,1.9s						
BRG	**Berggiesshubel**	**22.12 154**	*eP*	**P**	**03 20 38.3**	**-0.6**
comp=Z,34nm,1.9s						
BRG	**Berggiesshubel**	**22.12 154**	*eP*	**P**	**03 20 39.0**	**+0.1**
BRG	**Berggiesshubel**	**22.12 154**	*eP*	**P**	**03 20 39.0**	**+0.1**
TNS	**Taunus Mts**	**22.14 164**	*eP*	**P**	**03 20 43.8**	**+4.5**
comp=Z,64nm,2.2s						
TNS	**Taunus Mts**	**22.14 164**	*eP*	**P**	**03 20 43.8**	**+4.5**
TNS			pmax	pmax		
comp=Z,64nm,2.2s						
TANN	**Tannenbergstha**	**22.38 157**	*eP*	**P**	**03 20 41.2**	**-0.6**
comp=Z,13nm,1.6s						
KSP	**Ksiaz**	**22.49 150**	*eP*	**P**	**03 20 42.4**	**-0.5**
KSP	**Ksiaz**	**22.49 150**	*eP*	**P**	**03 20 43.0**	**+0.1**
KSP	**Ksiaz**	**22.49 150**	*eP*	**P**	**03 20 42.4**	**-0.5**
PVCC	**Panska Ves**	**22.54 153**	*eP*	**P**	**03 20 43.9**	**+0.5**
PVCC	**Panska Ves**	**22.54 153**	*eP*	**P**	**03 20 43.9**	**+0.5**
PVCC	**Panska Ves**	**22.54 153**	*eP*	**P**	**03 20 43.9**	**+0.5**
UPC	**Upice**	**22.77 151**	*eP*	**P**	**03 20 45.6**	**-0.3**
UPC	**Upice**	**22.77 151**	*eP*	**P**	**03 20 45.6**	**-0.3**
UPC	**Upice**	**22.77 151**	*eP*	**P**	**03 20 45.6**	**-0.3**
MOS	**Moscow**	**22.85 115**	*eP*	**P**	**03 20 44.8**	**-1.8**
MOS			*e*		03 20 49.7	
MOS			*eS*	S	03 24 44.8	-10
MOS			pmax	pmax		
comp=Z,39nm,1.0s						
MOS	**Moscow**	**22.85 115**	*eP*	**P**	**03 20 44.8**	**-1.8**
comp=Z,39nm,1.0s						
GRF	**Grafenberg Arr**	**22.94 159**	*eL*	L	03 29 12.3	
comp=Z,216nm,20.8s						
DPC	**Dobruska-Polom**	**22.97 151**	*eP*	**P**	**03 20 47.4**	**-0.6**
DPC	**Dobruska-Polom**	**22.97 151**	*eP*	**P**	**03 20 47.4**	**-0.6**
DPC	**Dobruska-Polom**	**22.97 151**	*eP*	**P**	**03 20 47.5**	**-0.6**
comp=Z,134nm,1.3s						
DPC	**Dobruska-Polom**	**22.97 151**	*eP*	**P**	**03 20 47.5**	**-0.6**
comp=Z,134nm,1.3s						
PRU	**Pruhonice**	**23.07 154**	*eP*	**P**	**03 20 49.0**	**+0.1**
PRU			MLR	MLR		
comp=Z,300nm,18.7s						
PRU	**Pruhonice**	**23.07 154**	*eP*	**P**	**03 20 49.0**	**+0.1**
PRU			AMS	AMS	03 28 40.0	
comp=Z,300nm,18.7s						
OBN	**Obninsk**	**23.09 117**⇑	*eP*	**P**	**03 20 48.9**	**-0.2**
OBN			*i*		03 20 53.3	
OBN			*e*		03 21 17.8	
OBN			pmax	pmax		
comp=Z,28nm,1.2s						
OBN			MLR	MLR		
comp=Z,600nm,16.0s						
OBN	**Obninsk**	**23.09 117**	*eP*	**P**	**03 20 48.9**	**-0.2**
comp=Z,28nm,1.2s						
FLN	**La Foliniere**	**23.19 179**	*eP*	**P**	**03 20 49.0**	**-1.2**
FLN			*eR*			
comp=Z,246nm,20.8s						
FLN	**La Foliniere**	**23.19 179**	*eP*	**P**	**03 20 49.0**	**-1.2**
FLN	**La Foliniere**	**23.19 179**	*eP*	**P**	**03 20 49.0**	**-1.2**
FLN	**La Foliniere**	**23.19 179**	*eP*	**P**	**03 20 49.0**	**-1.2**
LDF	**La Druitiere**	**23.36 179**	*eP*	**P**	**03 20 51.8**	**-0.1**
LDF	**La Druitiere**	**23.36 179**	*eP*	**P**	**03 20 51.8**	**-0.1**
LDF	**La Druitiere**	**23.36 179**	*eP*	**P**	**03 20 51.8**	**-0.1**
GRR	**Gorron**	**23.56 180**	*eP*	**P**	**03 20 53.3**	**-0.6**
GRR	**Gorron**	**23.56 180**	*eP*	**P**	**03 20 53.3**	**-0.6**
GRR	**Gorron**	**23.56 180**	*eP*	**P**	**03 20 53.3**	**-0.6**
OJC	**Ojcow**	**23.68 145**	*eP*	**P**	**03 20 55.8**	**+0.8**
OJC			pmax	pmax		
comp=Z,14nm,1.1s						
OJC	**Ojcow**	**23.68 145**	*eP*	**P**	**03 20 55.8**	**+0.8**
comp=Z,14nm,1.1s						
OJC	**Ojcow**	**23.68 145**	*eP*	**P**	**03 20 55.8**	**+0.8**
comp=Z,14nm,1.1s						
MORC	**Moravsky Berou**	**23.72 149**	*eP*	**P**	**03 20 54.9**	**-0.6**
MORC			pmax	pmax		
comp=Z,10.0nm,1.2s						
MORC	**Moravsky Berou**	**23.72 149**	*eP*	**P**	**03 20 54.9**	**-0.6**
comp=Z,10nm,1.2s						
MORC	**Moravsky Berou**	**23.72 149**	*eP*	**P**	**03 20 54.9**	**-0.6**
comp=Z,10nm,1.2s						
OKC	**Ostrava-Krasne**	**23.76 148**	*eP*	**P**	**03 20 56.5**	**+0.7**
OKC	**Ostrava-Krasne**	**23.76 148**	*eP*	**P**	**03 20 56.5**	**+0.7**
OKC	**Ostrava-Krasne**	**23.76 148**	P	**P**	**03 20 56.5**	**+0.7**
KHC	**Kasperske Hory**	**23.78 156**	*eP*	**P**	**03 20 55.3**	**-0.7**
KHC			*e*		03 21 02.6	
KHC			MLR	MLR		
comp=Z,400nm,19.7s						
KHC	**Kasperske Hory**	**23.78 156**	*eP*	**P**	**03 20 55.3**	**-0.7**
KHC			*ep*P	**pP**	**03 21 02.6**	**+1.3**
KHC			AMS	AMS	03 29 30.0	
comp=Z,400nm,19.7s						
KHC	**Kasperske Hory**	**23.78 156**	*eP*	**P**	**03 20 56.6**	**+0.6**
comp=Z,33nm,2.1s						
KHC	**Kasperske Hory**	**23.78 156**	*eP*	**P**	**03 20 56.6**	**+0.6**
comp=Z,33nm,2.1s						
CDF	**Champ du Feu**	**23.85 166**	*eP*	**P**	**03 20 56.4**	**-0.4**
comp=Z,20nm,1.4s						
CDF	**Champ du Feu**	**23.85 166**	*eP*	**P**	**03 20 56.4**	**-0.4**
CDF			pmax	pmax		
comp=Z,20nm,1.4s						
CDF	**Champ du Feu**	**23.85 166**	*eP*	**P**	**03 20 56.4**	**-0.4**
comp=Z,20nm,1.4s						
TREC	**Trest**	**23.88 153**	*eP*	**P**	**03 20 57.0**	**0.0**
TREC	**Trest**	**23.88 153**	*eP*	**P**	**03 20 57.0**	**0.0**
TREC	**Trest**	**23.88 153**	P	**P**	**03 20 57.0**	**0.0**
BFO	**Black Forest**	**24.01 165**	*eP*	**P**	**03 20 57.7**	**-0.5**
comp=Z,11nm,1.4s						
BFO	**Black Forest**	**24.01 165**	*eP*	**P**	**03 20 57.7**	**-0.5**
BFO			pmax	pmax		
comp=Z,11nm,1.4s						
BFO	**Black Forest**	**24.01 165**	*eP*	**P**	**03 20 58.4**	**+0.2**
comp=Z,15nm,1.5s						
BFO	**Black Forest**	**24.01 165**	*eP*	**P**	**03 20 58.4**	**+0.2**
comp=Z,15nm,1.5s						
VRAC	**Vranov**	**24.03 151**	P	**P**	**03 20 58.0**	**-0.4**
VRAC	**Vranov**	**24.03 151**	P	**P**	**03 20 58.0**	**-0.4**
comp=Z,2.6nm,0.8s,baz=351,slow=12,SNR=6.0						
VRAC			LR	LR	03 30 59.0	
comp=Z,320nm,18.1s,baz=3.5,slow=38						
VRAC	**Vranov**	**24.03 151**	*eP*	**P**	**03 20 58.8**	**+0.4**
GEC2	**GERESS Array S**	**24.07 156**	*eP*	**P**	**03 20 58.9**	**0.0**
comp=Z,38nm,2.3s						
GEC2	**GERESS Array S**	**24.07 156**	*eP*	**P**	**03 20 58.9**	**0.0**
GEC2			pmax	pmax		
comp=Z,38nm,2.3s						
GERES	**GERESS Array B**	**24.07 156**	P	**P**	**03 20 59.0**	**0.0**
GERES	**GERESS Array B**	**24.07 156**	P	**P**	**03 20 59.0**	**0.0**
comp=Z,0.6nm,0.6s,baz=355,slow=8.9,SNR=4.5						
GERES			LR	LR	03 30 18.4	
comp=Z,324nm,19.5s,baz=325,slow=36						
GERES	**GERESS Array B**	**24.07 156**	P	**P**	**03 20 59.0**	**0.0**
HAU	**Haudompre**	**24.19 168**	*eP*	**P**	**03 20 59.3**	**-0.6**
HAU			*eR*			
comp=Z,178nm,18.2s						
HAU	**Haudompre**	**24.19 168**	*eP*	**P**	**03 20 59.3**	**-0.6**
HAU	**Haudompre**	**24.19 168**	*eP*	**P**	**03 20 59.3**	**-0.6**
RES	**Resolute Bay**	**24.50 320**	*eP*	**P**	**03 21 02.0**	**-0.5**
comp=Z,31nm,1.1s						
RES	**Resolute Bay**	**24.50 320**	LR	LR	03 30 11.5	
comp=Z,423nm,18.8s,baz=55,slow=36						
RES	**Resolute Bay**	**24.50 320**	*eP*	**P**	**03 21 02.0**	**-0.5**
comp=Z,31nm,1.1s						
STHS	**Stebnicka Huta**	**24.71 144**	*eP*	**P**	**03 21 07.2**	**+2.6**
STHS			pmax	pmax		
comp=Z,5.0nm,1.3s						
STHS	**Stebnicka Huta**	**24.71 144**	*eP*	**P**	**03 21 07.2**	**+2.6**
KWP	**Kalwaria Pacla**	**24.78 141**	*eP*	**P**	**03 21 08.0**	**+2.8**
KWP			pmax	pmax		
comp=Z,23nm,1.1s						
KWP	**Kalwaria Pacla**	**24.78 141**	*eP*	**P**	**03 21 08.0**	**+2.8**
comp=Z,23nm,1.1s						
KWP	**Kalwaria Pacla**	**24.78 141**‖	*iP*	P	03 21 14.3	+9.1
KWP	**Kalwaria Pacla**	**24.78 141**	*eP*	**P**	**03 21 08.7**	**+3.5**
LOR	**Lormes**	**24.79 172**	*eP*	**P**	**03 21 05.0**	**-0.3**
comp=Z,19nm,1.2s						
LOR			*eR*			
comp=Z,142nm,17.2s						
LOR	**Lormes**	**24.79 172**	*eP*	**P**	**03 21 05.0**	**-0.3**
comp=Z,19nm,1.2s						
SSF	**Saint Saulge**	**24.98 173**	*eP*	**P**	**03 21 06.8**	**-0.2**
comp=Z,25nm,1.4s						
SSF	**Saint Saulge**	**24.98 173**	*eP*	**P**	**03 21 06.8**	**-0.2**
SSF			pmax	pmax		
comp=Z,25nm,1.4s						
SSF	**Saint Saulge**	**24.98 173**	*eP*	**P**	**03 21 06.8**	**-0.2**
comp=Z,25nm,1.4s						
AKASG	**Malin Array Be**	**25.18 131**	*ceP*	**P**	**03 21 08.3**	**-0.5**
AKASG			pmax	pmax		
comp=Z,6.0nm,0.8s						
AKASG	**Malin Array Be**	**25.18 131**	P	**P**	**03 21 07.7**	**-1.1**
AKASG	**Malin Array Be**	**25.18 131**	P	**P**	**03 21 07.7**	**-1.1**
comp=Z,3.8nm,0.7s,baz=340,slow=8.8,SNR=14						
AKASG			LR	LR	03 30 39.7	
comp=Z,453nm,19.6s,baz=340,slow=36						
AKASG	**Malin Array Be**	**25.18 131**	P	**P**	**03 21 07.7**	**-1.1**
KIEV	**Kiev**	**25.18 131**	*eP*	**P**	**03 21 08.2**	**-0.6**
KIEV			pmax	pmax		
comp=Z,44nm,1.6s						
KIEV	**Kiev**	**25.18 131**	*eP*	**P**	**03 21 08.2**	**-0.6**
comp=Z,44nm,1.6s						
KIEV	**Kiev**	**25.18 131**	*eP*	**P**	**03 21 08.2**	**-0.6**
comp=Z,44nm,1.6s						
AVF	**Avril sur Loir**	**25.24 173**	*eP*	**P**	**03 21 09.3**	**-0.1**
comp=Z,12nm,1.0s						
AVF	**Avril sur Loir**	**25.24 173**	*eP*	**P**	**03 21 09.3**	**-0.1**
AVF			pmax	pmax		
comp=Z,12nm,1.0s						
AVF	**Avril sur Loir**	**25.24 173**	*eP*	**P**	**03 21 09.3**	**-0.1**
comp=Z,12nm,1.0s						
CRVS	**Cervenica-Dubn**	**25.24 144**	*eP*	**P**	**03 21 10.0**	**+0.5**
CRVS			pmax	pmax		
comp=Z,8.0nm,1.6s						
CRVS	**Cervenica-Dubn**	**25.24 144**	*eP*	**P**	**03 21 09.9**	**+0.5**
FRB	**Frobisher Bay**	**25.33 286**	LR	LR	03 30 24.6	
comp=Z,274nm,18.3s,baz=203,slow=35						
MFF	**Saint Martin d**	**25.35 179**	*eP*	**P**	**03 21 10.0**	**-0.4**
comp=Z,42nm,1.4s						
MFF	**Saint Martin d**	**25.35 179**	*eP*	**P**	**03 21 10.0**	**-0.4**
MFF			pmax	pmax		
comp=Z,42nm,1.4s						
MFF	**Saint Martin d**	**25.35 179**	*eP*	**P**	**03 21 10.0**	**-0.4**
comp=Z,42nm,1.4s						
KOLS	**Kolonicke sedl**	**25.37 143**	*eP*	**P**	**03 21 11.1**	**+0.6**
KOLS			pmax	pmax		
comp=Z,12nm,1.3s						
KOLS	**Kolonicke sedl**	**25.37 143**	*eP*	**P**	**03 21 11.1**	**+0.6**
SMF	**Signal de Mont**	**25.41 172**	*eP*	**P**	**03 21 11.1**	**+0.2**
comp=Z,17nm,1.2s						
SMF	**Signal de Mont**	**25.41 172**	*eP*	**P**	**03 21 11.1**	**+0.2**
SMF			pmax	pmax		
comp=Z,17nm,1.2s						
SMF	**Signal de Mont**	**25.41 172**	*eP*	**P**	**03 21 11.1**	**+0.2**
comp=Z,17nm,1.2s						
BGF	**Bois d'Agland**	**25.46 174**	*eP*	**P**	**03 21 11.3**	**0.0**
comp=Z,15nm,1.0s						
BGF	**Bois d'Agland**	**25.46 174**	*eP*	**P**	**03 21 11.3**	**0.0**
BGF			pmax	pmax		
comp=Z,15nm,1.0s						
BGF	**Bois d'Agland**	**25.46 174**	*eP*	**P**	**03 21 11.3**	**0.0**
comp=Z,15nm,1.0s						
KECS	**Kecovo**	**25.47 145**	*eP*	**P**	**03 21 10.3**	**-1.2**
KECS			pmax	pmax		
comp=Z,3.0nm,0.9s						
KECS	**Kecovo**	**25.47 145**	*eP*	**P**	**03 21 10.2**	**-1.2**
CABF	**La Chapelle**	**25.56 169**	*eP*	**P**	**03 21 13.4**	**+1.0**
comp=Z,20nm,1.1s						
CABF	**La Chapelle**	**25.56 169**	*eP*	**P**	**03 21 13.4**	**+1.0**
CABF			pmax	pmax		
comp=Z,20nm,1.1s						
CABF	**La Chapelle**	**25.56 169**	*eP*	**P**	**03 21 13.4**	**+1.0**
comp=Z,20nm,1.1s						
DAVOX	**Davos/Dischmat**	**25.69 163**	LR	LR	03 31 34.9	
comp=Z,176nm,18.5s,baz=357,slow=37						
TCF	**Toulx Ste Croi**	**25.71 175**	*eP*	**P**	**03 21 13.6**	**0.0**
TCF	**Toulx Ste Croi**	**25.71 175**	*eP*	**P**	**03 21 13.6**	**0.0**
TCF	**Toulx Ste Croi**	**25.71 175**	*eP*	**P**	**03 21 13.6**	**0.0**
PSZ	**Piszkesteto**	**25.91 147**	*eP*	**P**	**03 21 15.9**	**+0.3**
PSZ			pmax	pmax		
comp=Z,14nm,1.4s						
PSZ	**Piszkesteto**	**25.91 147**	*eP*	**P**	**03 21 15.9**	**+0.3**
comp=Z,14nm,1.4s						
PSZ	**Piszkesteto**	**25.91 147**	*eP*	**P**	**03 21 15.9**	**+0.3**
comp=Z,14nm,1.4s						
TRPA	**Tarpa**	**26.19 143**⇑	*iP*	**P**	**03 21 18.6**	**+0.7**
RJF	**Les Rejaudoux**	**26.67 176**	*eP*	**P**	**03 21 22.2**	**-0.2**
RJF			*eR*			
comp=Z,135nm,20.2s						
RJF	**Les Rejaudoux**	**26.67 176**	*eP*	**P**	**03 21 22.2**	**-0.2**
RJF	**Les Rejaudoux**	**26.67 176**	*eP*	**P**	**03 21 22.2**	**-0.2**
CAF	**Calviac**	**27.06 175**	*eP*	**P**	**03 21 26.5**	**+0.6**
CAF	**Calviac**	**27.06 175**	*eP*	**P**	**03 21 26.5**	**+0.6**
CAF	**Calviac**	**27.06 175**	*eP*	**P**	**03 21 26.5**	**+0.6**
BURAR	**Bucovina Array**	**27.21 139**⇑⇑	*P*	**P**	**03 21 28.4**	**+1.1**
BURAR	**Bucovina Array**	**27.21 139**⇑	*iP*	**P**	**03 21 28.4**	**+1.1**
SMRF	**Simiane la Rot**	**28.16 170**	*eP*	**P**	**03 21 36.3**	**+0.6**
SMRF	**Simiane la Rot**	**28.16 170**	*eP*	**P**	**03 21 36.3**	**+0.6**
BZS	**Buzias**	**28.44 145**⇑⇑	*P*	**P**	**03 21 38.9**	**+0.7**
BZS	**Buzias**	**28.44 145**⇑	*iP*	**P**	**03 21 38.9**	**+0.7**
BZS	**Buzias**	**28.44 145**⇑	*iP*	**P**	**03 21 38.9**	**+0.7**
PLOR	**Plostina**	**29.19 138**⇑⇑	*P*	**P**	**03 21 46.7**	**+1.8**
PLOR	**Plostina**	**29.19 138**⇑	*iP*	**P**	**03 21 46.7**	**+1.8**
PLOR	**Plostina**	**29.19 138**⇑	*iP*	**P**	**03 21 46.7**	**+1.8**
VRI	**Vrincioaia**	**29.19 138**⇑⇑	*P*	**P**	**03 21 46.0**	**+1.2**
VRI	**Vrincioaia**	**29.19 138**⇑	*iP*	**P**	**03 21 46.0**	**+1.2**
VRI	**Vrincioaia**	**29.19 138**⇑	*iP*	**P**	**03 21 46.0**	**+1.2**
MLR	**Muntele Rosu**	**29.39 139**	LR	LR	03 33 53.2	
comp=Z,141nm,19.2s,baz=340,slow=37						
SCHQ	**Schefferville**	**31.91 273**	LR	LR	03 33 20.2	
comp=Z,304nm,19.5s,baz=11,slow=33						
ESDC	**Sonseca Array**	**32.31 184**	P	**P**	**03 22 11.3**	**-1.1**
ESDC	**Sonseca Array**	**32.31 184**	P	**P**	**03 22 11.3**	**-1.1**
comp=Z,0.3nm,0.5s,baz=358,slow=9.7,SNR=4.6						
ESDC	**Sonseca Array**	**32.31 184**	P	**P**	**03 22 11.3**	**-1.1**
ANN	**Anapa**	**32.70 125**	*eP*	P	03 22 10.7	-5.0
ANN			MLR	MLR		
comp=Z,442nm,15.0s						
AKTO	**Aktyubinsk**	**33.58 97**	P	**P**	**03 22 23.5**	**+0.1**
AKTO	**Aktyubinsk**	**33.58 97**	P	**P**	**03 22 23.4**	**+0.1**
AKTO	**Aktyubinsk**	**33.58 97**	P	**P**	**03 22 23.5**	**+0.1**
comp=Z,0.6nm,0.3s,baz=345,slow=10,SNR=2.8						
AKTO			LR	LR	03 35 52.3	
comp=Z,155nm,21.0s,baz=173,slow=36						
AKTO	**Aktyubinsk**	**33.58 97**	P	**P**	**03 22 23.5**	**+0.1**
KIV	**Kislovodsk**	**34.88 119**⇑	*eP*	**P**	**03 22 36.0**	**+1.2**
KIV			pmax	pmax		
comp=Z,5.0nm,0.3s						
KIV			MLR	MLR		
comp=Z,200nm,15.0s						
BRVK	**Borovoye**	**35.13 83**⇑	*iP*	**P**	**03 22 37.9**	**+1.1**
BRVK			pmax	pmax		
comp=Z,18nm,4.7s						
KBZ	**Khabaz**	**35.15 119**	P	**P**	**03 22 36.8**	**-0.1**
KBZ	**Khabaz**	**35.15 119**	P	**P**	**03 22 36.8**	**-0.1**
KBZ	**Khabaz**	**35.15 119**	P	**P**	**03 22 36.8**	**-0.1**
comp=Z,4.6nm,0.9s,baz=339,slow=7.6,SNR=10.0						
KBZ			LR	LR	03 37 13.1	
comp=Z,217nm,18.1s,baz=186,slow=37						
KBZ	**Khabaz**	**35.15 119**	P	**P**	**03 22 36.8**	**-0.1**
BVAR	**Borovoye Array**	**35.20 83**	P	**P**	**03 22 37.7**	**+0.4**
BVAR	**Borovoye Array**	**35.20 83**	P	**P**	**03 22 37.7**	**+0.4**
BVAR	**Borovoye Array**	**35.20 83**	P	**P**	**03 22 37.7**	**+0.4**
comp=Z,0.5nm,0.5s,baz=341,slow=7.6,SNR=3.3						
BVAR	**Borovoye Array**	**35.20 83**	P	**P**	**03 22 37.7**	**+0.4**
ABKAR	**Akbulak array**	**35.21 97**	*eP*	**P**	**03 22 37.8**	**+0.3**
comp=Z,3.1nm,0.9s						
ABKAR	**Akbulak array**	**35.21 97**	*eP*	**P**	**03 22 37.8**	**+0.3**
comp=Z,3.1nm,0.9s						
VOSK	**Vostochnaya**	**35.64 83**	*eP*	**P**	**03 22 42.4**	**+1.2**
VOSK	**Vostochnaya**	**35.64 83**	*eP*	**P**	**03 22 42.4**	**+1.2**
VOSK	**Vostochnaya**	**35.64 83**	*eP*	**P**	**03 22 42.3**	**+1.1**
ZEI	**Tsey**	**36.29 119**	*eP*	**P**	**03 22 47.5**	**+0.4**
ZEI			pmax	pmax		
comp=Z,6.0nm,1.2s						
BR131	**Keskin Array S**	**36.57 133**	*eP*	**P**	**03 22 50.3**	**+0.9**
comp=Z,1.4nm,0.8s						
BR131	**Keskin Array S**	**36.57 133**	*eP*	**P**	**03 22 50.3**	**+0.9**
comp=Z,1.4nm,0.8s						
BRTR	**Keskin Array B**	**36.57 133**	P	**P**	**03 22 49.6**	**+0.3**
BRTR	**Keskin Array B**	**36.57 133**	P	**P**	**03 22 49.6**	**+0.3**
comp=Z,1.6nm,1.0s,baz=350,slow=7.6,SNR=7.4						
BRTR			LR	LR	03 38 27.6	
comp=Z,64nm,20.8s,baz=167,slow=37						
BRTR	**Keskin Array B**	**36.57 133**	P	**P**	**03 22 49.7**	**+0.3**
KEST	**Kesra**	**36.61 166**	LR	LR	03 38 46.2	
comp=Z,53nm,18.5s,baz=241,slow=38						
MAK	**Makhachkala**	**37.14 114**	*eP*	**P**	**03 22 53.1**	**-0.9**
MAK			MLR	MLR		
comp=Z,281nm,15.0s						
YKW3	**Yellowknife Ar**	**38.41 317**	*eP*	**P**	**03 23 04.3**	**-0.2**
YKW3	**Yellowknife Ar**	**38.41 317**	*eP*	**P**	**03 23 04.3**	**-0.2**
ZALV	**Zalesovo Beam**	**38.78 70**	LR	LR	03 42 08.5	
comp=Z,103nm,18.3s,baz=70,slow=41						
IDI	**Anoyia**	**39.05 145**	LR	LR	03 40 43.0	
comp=Z,122nm,18.2s,baz=162,slow=38						
KURK	**Kurchatov**	**39.74 78**	P	**P**	**03 23 17.1**	**+1.3**
KURK			pmax	pmax		
comp=Z,2.0nm,0.7s						
KURK	**Kurchatov**	**39.74 78**	*eP*	**P**	**03 23 17.2**	**+1.4**
comp=Z,1.3nm,0.7s						
KURK	**Kurchatov**	**39.74 78**	*eP*	**P**	**03 23 17.2**	**+1.4**
comp=Z,1.3nm,0.7s						
KURBB	**Kurchatov Arra**	**39.80 78**	P	**P**	**03 23 17.1**	**+0.8**
comp=Z,1.5nm,0.8s,baz=333,slow=7.5,SNR=13						
CSS	**Prodhromos**	**41.06 135**	*eP*	**P**	**03 23 26.4**	**-0.5**
comp=Z,7.5nm,0.9s						
CSS	**Prodhromos**	**41.06 135**	*eP*	**P**	**03 23 26.4**	**-0.5**
comp=Z,7.5nm,0.9s						
ILAR	**Eielson Array**	**41.67 339**	P	**P**	**03 23 31.6**	**+0.1**
ILAR	**Eielson Array**	**41.67 339**	P	**P**	**03 23 31.6**	**+0.1**
comp=Z,0.9nm,0.8s,baz=7.8,slow=7.3,SNR=13						
ILAR	**Eielson Array**	**41.67 339**	P	**P**	**03 23 31.6**	**+0.1**
COLA	**College**	**41.67 339**	*eP*	**P**	**03 23 31.4**	**-0.1**
COLA			pmax	pmax		
comp=Z,14nm,0.8s						
COLA	**College**	**41.67 339**	*eP*	**P**	**03 23 31.4**	**-0.1**
comp=Z,14nm,0.8s						
COLA	**College**	**41.67 339**	*eP*	**P**	**03 23 31.4**	**-0.1**
comp=Z,14nm,0.8s						
MMAI	**Mount Meron Ar**	**43.39 133**	LR	LR	03 43 56.5	
comp=Z,66nm,21.3s,baz=335,slow=39						
KKAR	**Karatay Array**	**44.00 91**	*eP*	**P**	**03 23 52.5**	**+1.7**
KKAR			pmax	pmax		
comp=Z,1.0nm,0.7s						
KKAR	**Karatay Array**	**44.00 91**	*eP*	**P**	**03 23 52.5**	**+1.7**
comp=Z,1.2nm,0.7s						
KKAR	**Karatay Array**	**44.00 91**	*eP*	**P**	**03 23 52.5**	**+1.7**
comp=Z,1.2nm,0.7s						
MK31	**Makanchi Array**	**44.34 77**	*eP*	**P**	**03 23 54.3**	**+0.9**
MK31	**Makanchi Array**	**44.34 77**

MOOW	**Moose Ponds**	**54.70**	**303**	*eP*	**P**	**03 25 11.8**	**-0.9**
	comp=Z,0.6nm,0.6s						
MOOW	**Moose Ponds**	**54.70**	**303**	*eP*	**P**	**03 25 11.8**	**-0.9**
	comp=Z,0.6nm,0.6s						
BW06	**Boulder Array**	**55.30**	**302**	*eP*	**P**	**03 25 15.8**	**-1.3**
	comp=Z,3.7nm,1.3s						
BW06	**Boulder Array**	**55.30**	**302**	*eP*	**P**	**03 25 15.8**	**-1.3**
	comp=Z,3.7nm,1.3s						
PDAR	**Pinedale Array**	**55.30**	**302**	P	**P**	**03 25 15.3**	**-1.8**
PDAR	**Pinedale Array**	**55.30**	**302**	P	**P**	**03 25 15.3**	**-1.8**
	comp=Z,1.2nm,1.0s,baz=27,slow=6.1,SNR=5.3						
PDAR	**Pinedale Array**	**55.30**	**302**	P	**P**	**03 25 15.3**	**-1.8**
HLID	**Hailey**	**55.82**	**306**	*eP*	**P**	**03 25 19.9**	**-0.8**
	comp=Z,2.8nm,1.1s						
HLID	**Hailey**	**55.82**	**306**	*eP*	**P**	**03 25 19.9**	**-0.8**
	comp=Z,2.8nm,1.1s						
HHC	**Hu-ho-hao-te**	**58.15**	**56**	*eP*	**P**	**03 25 36.3**	**-0.9**
HHC				pP	**pP**	**03 25 40.8**	**-1.9**
HHC				sP	**sP**	**03 25 43.3**	**-1.6**
HHC				PP	**PP**	**03 27 46.8**	**+1.3**
HHC				S	**S**	**03 33 36.0**	**-1.4**
HHC				SS	**SS**	**03 37 28.5**	**+0.3**
HHC				pmax	pmax		
	comp=Z,46nm,1.1s						
HHC				pmax	pmax		
	comp=Z,180nm,7.3s						
HHC				LR	LR		
	comp=N,260nm,16.5s						
HHC				LR	LR		
	comp=E,290nm,15.3s						
HHC				LR	LR		
	comp=Z,360nm,15.3s						
MIAR	**Mount Ida**	**58.36**	**284**	*eP*	**P**	**03 25 36.5**	**-2.0**
MIAR	**Mount Ida**	**58.36**	**284**	*eP*	**P**	**03 25 36.5**	**-2.0**
MIAR	**Mount Ida**	**58.36**	**284**	*eP*	**P**	**03 25 36.5**	**-2.0**
DUG	**Dugway**	**58.57**	**304**	*eP*	**P**	**03 25 39.1**	**-1.0**
DUG				pmax	pmax		
	comp=Z,5.0nm,1.0s						
DUG	**Dugway**	**58.57**	**304**	*eP*	**P**	**03 25 39.1**	**-1.0**
	comp=Z,4.5nm,1.0s						
DUG	**Dugway**	**58.57**	**304**	*eP*	**P**	**03 25 39.1**	**-1.0**
	comp=Z,4.5nm,1.0s						
TORD	**Torodi Ar. Bea**	**58.72**	**177**	P	**P**	**03 25 39.7**	**-1.4**
TORD	**Torodi Ar. Bea**	**58.72**	**177**	P	**P**	**03 25 39.7**	**-1.4**
	comp=Z,0.9nm,0.6s,baz=352,slow=6.9,SNR=15						
TORD				LR	LR	03 50 18.7	
	comp=Z,93nm,18.7s,baz=310,slow=35						
TORD	**Torodi Ar. Bea**	**58.72**	**177**	P	**P**	**03 25 39.7**	**-1.4**
SDCO	**Great Sand Dun**	**58.88**	**296**	*eP*	**P**	**03 25 41.0**	**-1.5**
	comp=Z,6.3nm,1.6s						
SDCO	**Great Sand Dun**	**58.88**	**296**	*eP*	**P**	**03 25 41.0**	**-1.5**
	comp=Z,6.3nm,1.6s						
WMOK	**Wichita Mounta**	**59.74**	**289**	*eP*	**P**	**03 25 47.3**	**-0.8**
WMOK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
WMOK	**Wichita Mounta**	**59.74**	**289**	*eP*	**P**	**03 25 47.3**	**-0.8**
	comp=Z,4.2nm,1.1s						
WMOK	**Wichita Mounta**	**59.74**	**289**	*eP*	**P**	**03 25 47.3**	**-0.8**
	comp=Z,4.2nm,1.1s						
MVCO	**Mesa Verde**	**60.21**	**299**	*eP*	**P**	**03 25 51.9**	**+0.3**
	comp=Z,14nm,1.1s						
MVCO	**Mesa Verde**	**60.21**	**299**	*eP*	**P**	**03 25 51.9**	**+0.3**
	comp=Z,14nm,1.1s						
LZH	**Lanzhou**	**60.53**	**64**	*eP*	**P**	**03 25 53.5**	**-0.2**
LZH				pP	**pP**	**03 25 56.5**	**-2.8**
LZH				*e*PP	**PP**	**03 28 08.5**	**+1.8**
LZH				pmax	pmax		
	comp=Z,19nm,1.3s						
LZH				pmax	pmax		
	comp=Z,55nm,7.4s						
LZH				LR	LR		
	comp=N,300nm,16.0s						
LZH				LR	LR		
	comp=E,300nm,15.6s						
LZH				LR	LR		
	comp=Z,360nm,18.7s						
R11A	**Troy Canyon, C**	**61.02**	**305**	*eP*	**P**	**03 25 57.4**	**+0.3**
R11A	**Troy Canyon, C**	**61.02**	**305**	*eP*	**P**	**03 25 57.3**	**+0.3**
ANMO	**Albuquerque**	**61.77**	**296**	*eP*	**P**	**03 26 01.7**	**-0.4**
	comp=Z,5.1nm,1.4s						
ANMO	**Albuquerque**	**61.77**	**296**	P	**P**	**03 26 00.8**	**-1.4**
	comp=Z,1.1nm,0.7s,baz=33,slow=7.4,SNR=4.1						
ANMO	**Albuquerque**	**61.77**	**296**	*eP*	**P**	**03 26 01.7**	**-0.4**
	comp=Z,5.1nm,1.4s						
JCT	**Junction City**	**64.02**	**288**	*eP*	**P**	**03 26 15.8**	**-1.2**
JCT	**Junction City**	**64.02**	**288**	*eP*	**P**	**03 26 15.8**	**-1.2**
JCT	**Junction City**	**64.02**	**288**	*eP*	**P**	**03 26 15.8**	**-1.2**
MNTX	**Cornudas Mount**	**64.51**	**294**	*eP*	**P**	**03 26 18.9**	**-1.2**
	comp=Z,1.3nm,0.9s						
MNTX	**Cornudas Mount**	**64.51**	**294**	*eP*	**P**	**03 26 18.9**	**-1.2**
	comp=Z,1.3nm,0.9s						
CD2	**Chengdu**	**65.36**	**66**	P	**P**	**03 26 27.3**	**+1.6**
CD2				pP	**pP**	**03 26 32.0**	**+0.6**
CD2				sP	**sP**	**03 26 34.3**	**+0.8**
CD2				PP	**PP**	**03 28 53.0**	**+3.9**
CD2				S	**S**	**03 35 09.5**	**+0.8**
CD2				sS	**sS**	**03 35 16.8**	**-1.2**
CD2				SS	**SS**	**03 39 24.0**	**+2.9**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				pmax	pmax		
	comp=Z,150nm,5.3s						
CD2				LR	LR		
	comp=N,270nm,5.9s						
CD2				LR	LR		
	comp=Z,230nm,8.3s						
TUC	**Tucson**	**65.45**	**299**	*eP*	**P**	**03 26 25.6**	**-0.7**
TUC	**Tucson**	**65.45**	**299**	*eP*	**P**	**03 26 25.6**	**-0.7**
TUC	**Tucson**	**65.45**	**299**	*eP*	**P**	**03 26 25.6**	**-0.7**
TXAR	**Lajitas Array**	**66.23**	**291**	P	**P**	**03 26 30.2**	**-1.2**
TXAR	**Lajitas Array**	**66.23**	**291**	P	**P**	**03 26 30.2**	**-1.2**
	comp=Z,0.9nm,0.8s,baz=39,slow=5.8,SNR=8.6						
TXAR				LR	LR	03 54 27.4	
	comp=Z,168nm,18.4s,baz=150,slow=35						
TXAR	**Lajitas Array**	**66.23**	**291**	P	**P**	**03 26 30.2**	**-1.2**
MAJO	**Matsushiro**	**68.15**	**35**	*eP*	**P**	**03 26 44.0**	**+0.6**
MAJO				pmax	pmax		
	comp=Z,3.0nm,0.4s						
MAJO	**Matsushiro**	**68.15**	**35**	*eP*	**P**	**03 26 44.0**	**+0.6**
	comp=Z,3.4nm,0.4s						
MAJO	**Matsushiro**	**68.15**	**35**	*eP*	**P**	**03 26 44.0**	**+0.6**
	comp=Z,3.3nm,0.4s						
NJ2	**Nanjing**	**68.33**	**52**	*eP*	**P**	**03 26 45.3**	**+0.8**
NJ2				pmax	pmax		
	comp=Z,58nm,0.6s						
GYA	**Guiyang**	**70.39**	**65**	*eP*	**P**	**03 26 58.5**	**+1.0**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KMI	**Kunming**	**70.52**	**69**	P	**P**	**03 26 58.8**	**+0.4**
KMI				pmax	pmax		
	comp=Z,7.0nm,1.1s						
CHTO	**Chiang Mai**	**75.33**	**75**	*eP*	**P**	**03 27 26.5**	**-0.3**
CHTO				pmax	pmax		
	comp=Z,14nm,0.8s						
CHTO	**Chiang Mai**	**75.33**	**75**	*eP*	**P**	**03 27 26.5**	**-0.3**
	comp=Z,14nm,0.8s						
CHTO	**Chiang Mai**	**75.33**	**75**	*eP*	**P**	**03 27 26.5**	**-0.3**
	comp=Z,14nm,0.8s						
ASAR	**Alice Springs**	**125.57**	**53**	PKP	**PKPdf**	**03 34 46.1**	**+1.8**
ASAR	**Alice Springs**	**125.57**	**53**	PKP	**PKPdf**	**03 34 46.1**	**+1.8**
	comp=Z,0.3nm,0.8s,baz=358,slow=3.1,SNR=2.5						
ASAR	**Alice Springs**	**125.57**	**53**	PKIKP	**PKPdf**	**03 34 46.1**	**+1.8**

ISCJB ***26*** *04:03:44.7±0.3, 14°.86N±0°.03×94°.22W±0°.02, h23km, mb4.7/129, MS4.2/11, Error ellipse: s-maj=4.9km s-min=2.9km az=20.1*
NEIC ***26*** *04:03:45.7, 14°.70N×94°.40W, h34km, mb4.6/76, MD4.5(MEX), After MEX.*
MEX ***26*** *04:03:45.7±0.7, 14°.70N×94°.40W, h34km±739km, MD4.5*
IDC ***26*** *04:03:50.9±2.7, 14°.94N×94°.14W, h66km±21km, mb4.2/20, mb1 4.3/24, mb1mx4.2/32, mbtmp4.2/24, MS4.0/11, Ms1 4.0/11, ms1mx3.7/40, Error ellipse: s-maj=28.1km s-min=12.7km az=44.0*
BJI ***26*** *04:03:58.2, 15°.50N×94°.00W, h94km, mB4.9/4*
ISC 26 04:03:45.3±0.4, 14°.77N±0°.06×94°.40W±0°.03, h23km, n596, σ1§44/620, mb4.8/131, MS4.1/11, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.47**	**51**	*eP*	**Pn**	**04 04 08.3**	**-2.1**
PCIG				*i* S	**Sn**	**04 04 27.4**	**-1.6**
PCIG		**1.47**	**51**	*eP*	**Pn**	**04 04 08.3**	**-2.1**
PCIG				*i* S	**Sn**	**04 04 27.4**	**-1.6**
HUIG	**Huatulco**	**1.93**	**301**	*i* P	**Pn**	**04 04 14.6**	**-2.0**
HUIG				*i* S	**Sn**	**04 04 37.1**	**-3.0**
HUIG	**Huatulco**	**1.93**	**301**	*i* P	**Pn**	**04 04 14.6**	**-2.0**
HUIG				*i* S	**Sn**	**04 04 37.1**	**-3.0**
TGIG		**2.35**	**31**	*eP*	**Pn**	**04 04 22.2**	**-0.3**
TGIG				*i* S	**Sn**	**04 04 48.7**	**-2.0**
TGIG		**2.35**	**31**	*eP*	**Pn**	**04 04 22.2**	**-0.3**
TGIG				*i* S	**Sn**	**04 04 48.7**	**-2.0**
TGBT	**Tuxtla Gutierr**	**2.36**	**32**	*i* P	Pn	04 04 08.9	-14
TGBT				*i* S	Sn	04 04 36.3	-15
CCIG	**Comitan**	**2.65**	**55**	*eP*	**Pn**	**04 04 24.8**	**-2.0**
CCIG				*i* S	**Sn**	**04 04 55.8**	**-2.5**
CCIG	**Comitan**	**2.65**	**55**	*eP*	**Pn**	**04 04 24.8**	**-2.0**
CCIG				*i* S	**Sn**	**04 04 55.8**	**-2.5**
OXX	**Oaxaca**	**3.21**	**316**	*i* P	**Pn**	**04 04 34.9**	**+0.4**
OXX	**Oaxaca**	**3.21**	**316**	*i* P	**Pn**	**04 04 34.9**	**+0.4**
VHO	**Vista Hermosa**	**3.21**	**316**	*i* P	**Pn**	**04 04 33.3**	**-1.1**
VHO				*i* S	**Sn**	**04 05 10.3**	**-1.8**
VHO	**Vista Hermosa**	**3.21**	**316**	*i* P	**Pn**	**04 04 33.3**	**-1.1**
VHO				*i* S	**Sn**	**04 05 10.3**	**-1.8**
APG	**El Apazote**	**3.81**	**86**	P	**Pn**	**04 04 44.8**	**+2.0**
APG				S	**Sn**	**04 05 25.9**	**-1.2**
APG	**El Apazote**	**3.81**	**86**	P	**Pn**	**04 04 44.8**	**+2.0**
	9.1nm,0.3s,baz=313,slow=5.3,SNR=11						
APG				S	**Sn**	**04 05 25.9**	**-1.2**
	12nm,0.3s,baz=197,slow=22,SNR=3.7						
PNIG	**Pinotepa**	**3.94**	**295**	*eP*	**Pn**	**04 04 43.6**	**-0.7**
PNIG				*i* S	**Sn**	**04 05 28.1**	**-1.8**
PNIG	**Pinotepa**	**3.94**	**295**	*eP*	**Pn**	**04 04 43.6**	**-0.7**
PNIG				*i* S	**Sn**	**04 05 28.1**	**-1.8**
TPIG	**Tehuac#an**	**4.61**	**322**	*i* P	**Pn**	**04 04 53.5**	**-0.2**
TPIG				*i* S	**Sn**	**04 05 45.5**	**-1.2**
TPIG	**Tehuac#an**	**4.61**	**322**	*i* P	**Pn**	**04 04 53.5**	**-0.2**
TPIG				*i* S	**Sn**	**04 05 45.5**	**-1.2**
SCIG	**Sabancuy**	**5.19**	**36**	*eP*	**Pn**	**04 05 00.5**	**-1.0**
SCIG				*i* S	**Sn**	**04 05 59.4**	**-1.2**
SCIG	**Sabancuy**	**5.19**	**36**	*eP*	**Pn**	**04 05 00.5**	**-1.0**
SCIG				*i* S	**Sn**	**04 05 59.4**	**-1.2**
LVIG	**Laguna Verde**	**5.29**	**339**	*i* P	**Pn**	**04 05 02.3**	**-0.6**
LVIG				*i* S	**Sn**	**04 06 01.9**	**-1.3**
LVIG	**Laguna Verde**	**5.29**	**339**	*i* P	**Pn**	**04 05 02.3**	**-0.6**
LVIG				*i* S	**Sn**	**04 06 01.9**	**-1.3**
PPM	**Popocatepetl**	**5.88**	**317**	*i* P	**Pn**	**04 05 11.4**	**-0.2**
PPM				*i* S	**Sn**	**04 06 16.8**	**-1.8**
PPM	**Popocatepetl**	**5.88**	**317**	*i* P	**Pn**	**04 05 11.4**	**-0.2**
PPM				*i* S	**Sn**	**04 06 16.8**	**-1.8**
MEIG	**Mezcala**	**5.91**	**303**	*i* P	**Pn**	**04 05 11.4**	**-0.1**
MEIG				*i* S	**Sn**	**04 06 17.5**	**-1.2**
MEIG	**Mezcala**	**5.91**	**303**	*i* P	**Pn**	**04 05 11.4**	**-0.1**
MEIG				*i* S	**Sn**	**04 06 17.5**	**-1.2**
YAIG	**Yautepec**	**6.04**	**313**	*i* P	**Pn**	**04 05 13.3**	**-0.1**
YAIG				*i* S	**Sn**	**04 06 20.6**	**-1.4**
YAIG	**Yautepec**	**6.04**	**313**	*i* P	**Pn**	**04 05 13.3**	**-0.1**
YAIG				*i* S	**Sn**	**04 06 20.6**	**-1.4**
PLIG	**Platanillo**	**6.08**	**307**	*i* P	**Pn**	**04 05 13.0**	**-0.8**
PLIG				*i* S	**Sn**	**04 06 21.0**	**-1.7**
PLIG	**Platanillo**	**6.08**	**307**	*i* P	**Pn**	**04 05 13.0**	**-0.8**
PLIG				*i* S	**Sn**	**04 06 21.0**	**-1.7**
CAIG	**El Cayaco**	**6.08**	**293**	*i* P	**Pn**	**04 05 12.8**	**-1.0**
CAIG				*i* S	**Sn**	**04 06 21.4**	**-1.3**
CAIG	**El Cayaco**	**6.08**	**293**	*i* P	**Pn**	**04 05 12.8**	**-1.0**
CAIG				*i* S	**Sn**	**04 06 21.4**	**-1.3**
IIO	**Organos**	**6.33**	**320**	*i* P	**Pn**	**04 05 19.8**	**+2.2**
IIO	**Organos**	**6.33**	**320**	*i* P	**Pn**	**04 05 19.8**	**+2.2**
ARIG	**Puente Sto Nin**	**6.69**	**302**	*i* P	**Pn**	**04 05 20.9**	**-1.3**
ARIG				*i* S	**Sn**	**04 06 36.4**	**-1.3**
TGUH	**Tegucigalpa,Un**	**6.94**	**95**	*e*Pn	Pb	04 05 35.3	-10
ZIIG	**Zihuatanejo**	**7.35**	**294**	*i* P	**Pn**	**04 05 30.1**	**-1.2**
ZIIG				*i* S	**Sn**	**04 06 51.7**	**-2.3**
ZIIG	**Zihuatanejo**	**7.35**	**294**	*i* P	**Pn**	**04 05 30.1**	**-1.2**
ZIIG				*i* S	**Sn**	**04 06 51.7**	**-2.3**
TEIG	**Tepich**	**7.97**	**46**	*e*Pn	**Pn**	**04 05 38.8**	**-0.9**
TEIG				S	**Sn**	**04 07 07.1**	**-2.2**
TEIG	**Tepich**	**7.97**	**46**	P	**Pn**	**04 05 38.4**	**-1.4**
	3.1nm,0.3s,baz=241,slow=13,SNR=14						
TEIG				S	**Sn**	**04 07 07.1**	**-2.2**
	baz=41,slow=19,SNR=2.2						
TEIG				LR	LR	04 09 01.1	
	comp=Z,2μm,20.2s,baz=285,slow=40						
MOIG	**Morelia**	**8.12**	**308**	*i* P	**Pn**	**04 05 42.5**	**+0.5**
MOIG				*i* S	**Sn**	**04 07 12.9**	**-0.3**
MOIG	**Morelia**	**8.12**	**308**	*i* P	**Pn**	**04 05 42.5**	**+0.5**
MOIG				*i* S	**Sn**	**04 07 12.9**	**-0.3**
JTS	**JuntasAbangare**	**10.24**	**115**	P	Pn	04 06 13.9	+2.9
JTS				S	Sn	04 08 19.4	+14
JTS	**JuntasAbangare**	**10.24**	**115**	P	Pn	04 06 13.9	+2.9
	0.4nm,0.3s,baz=302,slow=19,SNR=2.8						
JTS				S	Sn	04 08 19.4	+14
	0.2nm,0.3s,baz=276,slow=18,SNR=1.6						
ZAIG	**Zacatecas**	**11.09**	**317**	*i* P	**Pn**	**04 06 24.2**	**+1.4**
ZAIG				*i* S	**Sn**	**04 08 26.8**	**+0.4**
ZAIG	**Zacatecas**	**11.09**	**317**	*i* P	**Pn**	**04 06 24.2**	**+1.4**
ZAIG				*i* S	**Sn**	**04 08 26.8**	**+0.4**
732A	**Laxson Ranch,**	**14.82**	**341**	P	**Pn**	**04 07 14.0**	**+0.5**
	baz=15						
HKT	**Hockley**	**15.17**	**355**	*e*Pn	**P**	**04 07 22.6**	**-0.4**
BCIP	**Isla Barro Col**	**15.29**	**110**	*e*Pn	**P**	**04 07 28.1**	**+3.7**
632A	**Uvalde**	**15.49**	**342**	P	**Pn**	**04 07 22.6**	**+0.2**
	baz=16,SNR=10						
631A	**Perdido Creek**	**15.65**	**340**	P	**Pn**	**04 07 24.2**	**-0.3**
	baz=16,SNR=9.1						
532A	**Rocksprings**	**16.11**	**343**	P	**Pn**	**04 07 30.5**	**+0.2**
	baz=16						
531A	**Rocksprings**	**16.34**	**341**	P	**Pn**	**04 07 33.5**	**+0.2**
	baz=16,SNR=16						
JCT	**Junction City**	**16.41**	**343**	*e*Pn	**Pn**	**04 07 34.7**	**+0.5**
	33nm,1.0s						
JCT	**Junction City**	**16.41**	**343**	P	**Pn**	**04 07 34.2**	**+0.1**
	baz=16,SNR=11						
530A	**J-C Ranch, Com**	**16.59**	**338**	P	**Pn**	**04 07 37.1**	**+0.7**
	baz=17						
628A	**Black Gap, Mar**	**16.61**	**333**	P	**P**	**04 07 38.5**	**-0.6**
	baz=17,SNR=32						
432A	**Menard**	**16.78**	**344**	P	**Pn**	**04 07 39.5**	**+0.6**
	baz=17,SNR=11						
627A	**Terlingua Ranc**	**16.81**	**332**	P	**Pn**	**04 07 40.7**	**+1.4**
	baz=17,SNR=41						
431A	**Sonora**	**16.84**	**341**	P	**Pn**	**04 07 40.0**	**+0.4**
	baz=17,SNR=14						
TXAR	**Lajitas Array**	**16.84**	**331**	P	**Pn**	**04 07 41.0**	**+1.4**
TXAR	**Lajitas Array**	**16.84**	**331**	P	**Pn**	**04 07 41.0**	**+1.4**
	0.1nm,0.3s,baz=157,slow=14,SNR=43						
TXAR				LR	LR	04 16 12.3	
	comp=Z,145nm,19.6s,baz=175,slow=44						
529A	**Stev Forest Ra**	**16.90**	**336**	P	**Pn**	**04 07 41.2**	**+0.8**
	baz=17,SNR=14						
430A	**Baggett Ranch,**	**17.14**	**340**	P	**Pn**	**04 07 44.4**	**+1.0**
	baz=17,SNR=13						
528A	**Cox Ranch, San**	**17.16**	**335**	P	**Pn**	**04 07 44.7**	**+1.0**
	baz=17						
429A	**Davenport Ranc**	**17.22**	**338**	P	**Pn**	**04 07 45.3**	**+0.9**
	baz=17,SNR=19						
626A	**Big Bend Ranch**	**17.24**	**330**	P	**P**	**04 07 46.4**	**+0.3**
	baz=17,SNR=22						
332A	**Millersview**	**17.25**	**344**	P	**Pn**	**04 07 45.4**	**+0.7**
	baz=17,SNR=9.4						
331A	**San Angelo**	**17.36**	**342**	P	**Pn**	**04 07 46.8**	**+0.6**
	baz=18,SNR=11						
WHTX	**Lake Whitney**	**17.37**	**351**	*e*Pn	**Pn**	**04 07 47.0**	**+0.8**
WHTX	**Lake Whitney**	**17.37**	**351**	P	**Pn**	**04 07 47.2**	**+1.0**
	baz=18,SNR=14						
527A	**Woodward Ranch**	**17.50**	**333**	P	**P**	**04 07 49.6**	**+0.5**
	baz=18,SNR=45						
428A	**Kincaid Ranch,**	**17.61**	**336**	P	**P**	**04 07 50.9**	**+0.7**
	baz=18,SNR=23						
526A	**Mary Lane Ranc**	**17.64**	**331**	P	**P**	**04 07 51.7**	**+1.1**
	baz=18,SNR=21						
330A	**Mertzon**	**17.69**	**341**	P	**Pn**	**04 07 51.0**	**+0.8**
	baz=18,SNR=15						
232A	**Coleman**	**17.70**	**345**	P	**Pn**	**04 07 51.2**	**+0.8**
	baz=18,SNR=11						
231A	**Bronte**	**17.92**	**343**	P	**P**	**04 07 54.2**	**+0.6**
	baz=18,SNR=6.3						
427A	**Hayter Ranch,**	**18.01**	**334**	P	**P**	**04 07 55.9**	**+1.2**
	baz=18,SNR=6.6						
329A	**Wagon Wheel Ra**	**18.03**	**339**	P	**P**	**04 07 55.2**	**+0.4**
	baz=18,SNR=11						
230A	**Sterling City**	**18.11**	**341**	P	**Pn**	**04 07 55.5**	**+0.1**
	baz=18						
426A	**McDonald Obser**	**18.13**	**332**	P	**P**	**04 07 56.8**	**+0.7**
	baz=18,SNR=28						
328A	**Wristen Ranch,**	**18.24**	**336**	P	**Pn**	**04 07 58.6**	**+1.5**
	baz=18,SNR=30						
ABTX	**Abilene, Hawle**	**18.41**	**346**	*e*Pn	**Pn**	**04 08 00.2**	**+1.2**
ABTX	**Abilene, Hawle**	**18.41**	**346**	P	**Pn**	**04 07 59.9**	**+0.9**
	baz=18,SNR=14						
131A	**Roby**	**18.64**	**344**	P	**P**	**04 08 02.0**	**+0.5**
	baz=19						
425A	**Indio Mountain**	**18.67**	**330**	P	**Pn**	**04 08 03.8**	**+1.4**
	baz=19,SNR=12						
130A	**Snyder**	**18.73**	**343**	P	**Pn**	**04 08 03.5**	**+0.6**
	baz=19						
228A	**UT Block 9, Go**	**18.82**	**338**	P	**Pn**	**04 08 05.0**	**+0.9**
	baz=19,SNR=11						
227A	**Bennet, Jal**	**18.99**	**336**	P	**Pn**	**04 08 07.3**	**+1.2**
	baz=19						
Z32A	**Haskell**	**19.02**	**347**	P	**Pn**	**04 08 06.7**	**+0.2**
	baz=19,SNR=21						
129A	**Stewart Farms,**	**19.04**	**340**	P	**Pn**	**04 08 07.2**	**+0.4**
	baz=19,SNR=23						
Z31A	**Sharp Cattle R**	**19.19**	**345**	P	**P**	**04 08 08.3**	**+0.8**
	baz=19,SNR=12						
128A	**Castleberry Fa**	**19.24**	**339**	P	**Pn**	**04 08 09.5**	**+0.3**
	baz=19,SNR=19						
TIGA	**Tifton**	**19.32**	**29**	*e*P	**P**	**04 08 07.3**	**-1.6**
LRAL	**Lakeview Retre**	**19.39**	**19**	*e*P	**P**	**04 08 09.3**	**-0.3**
	7.5nm,0.9s						
226B	**Tecolote Peak,**	**19.40**	**334**	P	**Pn**	**04 08 11.7**	**+0.6**
	baz=20,SNR=18						
Z30A	**Sanderson Ranc**	**19.42**	**343**	P	**P**	**04 08 10.7**	**+0.6**
	baz=20,SNR=22						
324A	**Moseley Ranch,**	**19.45**	**330**	P	**Pn**	**04 08 12.2**	**+0.4**
	baz=20,SNR=12						
Z29A	**Hungry Hill Ra**	**19.57**	**341**	P	**P**	**04 08 12.2**	**+0.5**
	baz=20,SNR=8.6						
127A	**Arkansas Junct**	**19.61**	**337**	P	**P**	**04 08 13.1**	**+1.0**
	baz=20,SNR=11						
MNTX	**Cornudas Mount**	**19.62**	**331**	*e*P	**P**	**04 08 11.8**	**-0.4**
	3.3nm,0.7s						
Y32A	**R-V Farms, Ver**	**19.69**	**347**	P	**P**	**04 08 13.8**	**+0.8**
	baz=20,SNR=8.0						
MIAR	**Mount Ida**	**19.71**	**2**	*e*P	**P**	**04 08 12.5**	**-0.6**
	17nm,0.8s						
225A	**Deer Hill, Car**	**19.71**	**333**	P	**Pn**	**04 08 14.9**	**0.0**
	baz=20,SNR=12						
Z28A	**Tucker Farm, M**	**19.81**	**340**	P	**P**	**04 08 15.4**	**+1.0**
	baz=20,SNR=22						
Y31A	**Rekieta Farm,**	**19.83**	**346**	P	**P**	**04 08 15.4**	**+0.9**
	baz=20,SNR=29						
126A	**Clayton Basin,**	**19.84**	**335**	P	**P**	**04 08 15.8**	**+1.1**
	baz=20,SNR=6.2						
Y30A	**Stafford Cattl**	**19.91**	**344**	P	**P**	**04 08 16.2**	**+0.7**
	baz=20,SNR=8.2						
224A	**Cornudas Mount**	**20.00**	**331**	P	**P**	**04 08 17.6**	**+1.2**
	baz=20,SNR=12						
UALR	**University of**	**20.01**	**5**	*e*P	**P**	**04 08 14.6**	**-1.8**
	31nm,0.9s						
125A	**Gardner Draw,**	**20.11**	**334**	P	**P**	**04 08 18.9**	**+1.2**
	baz=20,SNR=11						
Y29A	**Porterfield Fa**	**20.12**	**342**	P	**P**	**04 08 18.7**	**+1.0**
	baz=20,SNR=5.2						
Z27A	**Tatum**	**20.12**	**338**	P	**P**	**04 08 18.8**	**+1.1**
	baz=20,SNR=14						
OXF	**Oxford**	**20.17**	**12**	*e*P	**P**	**04 08 15.9**	**-2.2**
	33nm,1.0s						
Y28A	**McKinney Farm,**	**20.34**	**341**	P	**P**	**04 08 21.0**	**+1.0**
	baz=20,SNR=19						
Z26A	**Caprock**	**20.37**	**336**	P	**P**	**04 08 21.5**	**+1.0**
	baz=20,SNR=17						
X31A	**McDonald Ranch**	**20.41**	**347**	P	**P**	**04 08 21.7**	**+1.0**
	baz=21,SNR=36						
X30A	**Coker Ranch, T**	**20.45**	**345**	P	**P**	**04 08 22.2**	**+0.9**
	baz=21,SNR=32						
124A	**Stringfield Ra**	**20.49**	**332**	P	Pn	04 08 23.8	-0.3
	baz=21,SNR=12						
MSTX	**Muleshoe**	**20.56**	**340**	*e*P	**P**	**04 08 23.7**	**+1.2**
MSTX	**Muleshoe**	**20.56**	**340**	P	**P**	**04 08 23.2**	**+0.7**
	baz=21,SNR=14						
Y27A	**Causey**	**20.62**	**339**	P	**P**	**04 08 23.8**	**+0.7**
	baz=21,SNR=28						
X29A	**Tulia**	**20.67**	**343**	P	**P**	**04 08 24.5**	**+0.8**
	baz=21,SNR=42						
Z25A	**Roswell**	**20.67**	**335**	P	**P**	**04 08 24.8**	**+1.0**
	baz=21,SNR=20						
222A	**Williams Famil**	**20.79**	**328**	P	Pn	04 08 26.9	-0.6
	baz=21,SNR=18						
X28A

V26A Tequesquite Ra 22.57 340 P P 04 08 45.3 +1.2
baz=23,SNR=18
Y21A Point of Rocks 22.61 330 P P 04 08 46.5 +1.8
baz=23,SNR=10.0
W24A Lazy 6 Ranch, 22.64 336 P P 04 08 46.3 +1.4
baz=23,SNR=12
LAZ Ladron 22.68 332 eP P 04 08 47.7 +2.3
9.4nm,1.2s
T31A Randall Ranch, 22.73 349 P P 04 08 45.6 -0.1
baz=23,SNR=7.7
ANMO Albuquerque 22.84 334 eP P 04 08 48.5 +1.5
7.0nm,0.8s
ANMO Albuquerque 22.84 334 P P 04 08 48.5 +1.5
6.6nm,0.8s,baz=154,slow=12,SNR=29
U27A Thompson Grove 22.84 342 P P 04 08 47.5 +0.5
baz=23,SNR=20
T30A Plains 22.86 347 P P 04 08 47.4 +0.3
baz=23,SNR=9.2
W23A Werner Place, 22.89 335 P P 04 08 49.1 +1.4
baz=23,SNR=12
V25A Rancho No Teng 22.89 338 P P 04 08 49.2 +1.6
baz=23,SNR=64
TUC Tucson 22.98 322 eP P 04 08 50.7 +2.3
9.5nm,0.9s
X21A Alamocita Cree 23.02 331 P P 04 08 51.4 +2.4
baz=23,SNR=16
V24A Rampart Ranch, 23.04 337 P P 04 08 51.2 +2.1
baz=23,SNR=34
U26A Atchley Ranch, 23.10 340 P P 04 08 50.6 +0.9
baz=23,SNR=26
W22A Albuquerque 23.12 333 P P 04 08 50.0 0.0
baz=23
T29A Hugoton 23.13 346 P P 04 08 49.7 -0.2
baz=23
S31A Mullinville 23.20 350 P P 04 08 50.6 0.0
baz=23,SNR=8.0
T28A Walsh 23.30 344 P P 04 08 52.0 +0.3
baz=23
SIUC Southern Illin 23.31 10 eP P 04 08 48.9 -2.7
13nm,0.8s
U25A Circle Dot Ran 23.32 339 P P 04 08 53.4 +1.4
baz=24,SNR=17
T27A Campo 23.41 343 P P 04 08 53.0 +0.3
baz=24,SNR=11
S30A Montezuma 23.41 348 P P 04 08 53.0 +0.4
baz=24,SNR=31
V23A Ortiz Mt. (NFS 23.41 335 P P 04 08 55.0 +2.2
baz=24,SNR=30
X20A Quemado 23.44 330 P P 04 08 55.9 +2.7
baz=24,SNR=21
KMSC Kings Mountain 23.45 28 eP P 04 08 51.8 -1.2
12nm,1.0s
S29A Ulysses 23.53 347 P P 04 08 54.6 +0.8
baz=24,SNR=15
U24A Moreno Valley 23.64 338 P P 04 08 56.9 +1.6
baz=24
S28A Manter 23.68 345 P P 04 08 55.5 +0.1
baz=24
TZTN Tazewell 23.75 22 eP P 04 08 53.7 -2.3
29nm,1.2s
T26A Comanche Natio 23.77 342 P P 04 08 57.2 +0.9
baz=24,SNR=9.3
V22A San Miguel Ran 23.85 334 P P 04 08 59.1 +1.9
baz=24,SNR=39
R31A Burdett 23.86 350 P P 04 08 56.9 -0.2
baz=24,SNR=24
USIN University of 23.86 13 eP P 04 08 55.5 -1.5
34nm,0.8s
W20A Ramah 23.91 330 P P 04 09 00.1 +2.3
baz=24,SNR=10
U23A El Rito 23.92 336 P P 04 08 59.7 +1.9
baz=24,SNR=41
214A Organ Pipe Nat 23.98 319 P P 04 09 00.2 +2.0
baz=24
R30A Dighton 23.99 349 P P 04 08 58.6 +0.4
baz=24,SNR=12
T25A Trinidad 24.00 340 P P 04 09 00.6 +2.1
baz=24,SNR=15
S27A Las Animas 24.04 343 P P 04 08 59.3 +0.5
baz=24,SNR=6.5
V21A Milan 24.08 333 P P 04 09 01.4 +2.1
baz=24
S26A Kim 24.14 342 P P 04 09 01.0 +1.2
baz=24,SNR=16
X18A Snowflake 24.16 327 P P 04 09 03.0 +2.9
baz=24
U22A Llaves 24.23 335 P P 04 09 02.9 +2.2
baz=24,SNR=11
T24B San Luis 24.26 338 P P 04 09 03.7 +2.6
baz=24,SNR=8.0
R29A Marienthal 24.30 347 P P 04 09 01.7 +0.6
baz=24,SNR=27
KSU1 Kansas State U 24.32 356 eP P 04 09 00.3 -0.9
15nm,0.7s
R28A Tribune 24.38 346 P P 04 09 02.0 +0.2
baz=24
WCI Wyandotte Cave 24.44 16 eP P 04 08 60.0 -2.4
16nm,0.8s
V20A Brimhall 24.45 331 P P 04 09 04.9 +2.2
baz=25,SNR=7.5
S25A Robets Cordova 24.48 341 P P 04 09 04.6 +1.7
baz=25
T23A Casias Ranch, 24.48 337 P P 04 09 04.9 +1.9
baz=25,SNR=6.5
OLIL Olney 24.51 12 eP P 04 09 01.2 -1.8
29nm,1.0s
W18A Petrified Fore 24.51 328 P P 04 09 04.3 +1.1
baz=25
Q31A Ellis 24.54 351 P P 04 09 04.3 +1.0
baz=25,SNR=6.8
R27A Eads 24.57 344 P P 04 09 04.6 +1.0
baz=25,SNR=17
U21A Nageezi 24.61 334 P P 04 09 06.1 +1.9
baz=25,SNR=19
Q30A Quinter 24.66 349 P P 04 09 05.3 +1.0
baz=25,SNR=18
Q29A Oakley 24.72 348 P P 04 09 06.1 +1.2
baz=25,SNR=41
R26A Arlington 24.77 343 P P 04 09 07.0 +1.6
baz=25,SNR=15
T22A Edith 24.80 336 P P 04 09 08.1 +2.2
baz=25,SNR=19
R25A Fountain Ranch 24.88 341 P P 04 09 08.2 +1.7
baz=25,SNR=16
X16A Lo Mia Camp, P 24.89 325 P P 04 09 08.9 +2.3
baz=25,SNR=29
SDCO Great Sand Dun 24.91 339 eP P 04 09 08.2 +1.3
9.7nm,1.0s
P32A Huiting Farm, 25.03 352 P P 04 09 07.7 0.0
baz=25
T21A Navajo Lake 25.04 335 P P 04 09 10.4 +2.4
baz=25,SNR=9.5
P31A Stockton 25.04 351 P P 04 09 08.8 +1.0
baz=25,SNR=12
113A Mohawk Valley, 25.13 319 P P 04 09 10.2 +1.6
baz=25
P30A Selden 25.21 349 P P 04 09 11.0 +1.6
baz=25,SNR=22
KSCO Kaye Shedlock' 25.21 345 eP P 04 09 11.2 +1.7
KSCO Kaye Shedlock' 25.21 345 P P 04 09 11.2 +1.7
baz=25
R24A Sanders Place, 25.22 340 P P 04 09 11.5 +1.9
baz=25,SNR=10
BLO Bloomington 25.28 14 eP P 04 09 07.5 -2.4
23nm,1.0s
P29A Atwood 25.39 348 P P 04 09 13.0 +1.9
baz=26,SNR=32
S22A 4UR Ranch, Cre 25.40 337 P P 04 09 13.4 +2.0
baz=26,SNR=7.3
R23A Moffat 25.43 339 P P 04 09 13.7 +2.1
baz=26,SNR=14
Y14A Wickenburg 25.45 322 P P 04 09 13.6 +2.0
baz=26
P28A Saint Francis 25.54 347 P P 04 09 14.2 +1.8
baz=26,SNR=9.4
Q25A Bedland, Calha 25.57 342 P P 04 09 14.2 +1.3
baz=26,SNR=8.9
O32A Brockman Farm, 25.62 353 P P 04 09 13.8 +0.7
baz=26,SNR=10
MVCO Mesa Verde 25.63 333 eP P 04 09 15.3 +1.9
12nm,0.9s
MVCO Mesa Verde 25.63 333 P P 04 09 15.3 +1.9
baz=26,SNR=9.5
O31A Woolen Ranch, 25.65 351 P P 04 09 13.7 +0.4
baz=26,SNR=32
WUAZ Wupatki 25.67 327 eP P 04 09 15.9 +2.2
22nm,0.9s
WUAZ Wupatki 25.67 327 P P 04 09 15.8 +2.1
baz=26,SNR=12
S21A Coal Bank Pass 25.71 335 P P 04 09 16.1 +1.9
baz=26,SNR=16
P27A Ficken Ranch, 25.72 345 P P 04 09 16.4 +2.3
baz=26
O30A MW Ranch, Wils 25.80 350 P P 04 09 16.7 +2.0
baz=26,SNR=27
R22A Saguache, Gunn 25.80 337 P P 04 09 17.0 +2.0
baz=26,SNR=9.0
O29A 4D Ranch, Culb 25.88 349 P P 04 09 17.8 +2.4
baz=26
Q24A Divide 25.90 341 P P 04 09 17.9 +2.0
baz=26
P26A Davis Ranch, A 25.92 344 P P 04 09 18.3 +2.4
baz=26
GLA Glamis 25.99 318 eP P 04 09 18.7 +2.2
11nm,0.8s
GLA Glamis 25.99 318 P P 04 09 18.7 +2.2
baz=26
O28A Krutsinger Ran 26.07 347 P P 04 09 20.2 +3.0
baz=26
S20A Disappointment 26.09 334 P P 04 09 19.8 +2.2
baz=26,SNR=12
P25A Willow Gulch B 26.10 343 P P 04 09 19.2 +1.6
baz=26
N31A Bailey Ranch, 26.26 352 P P 04 09 20.3 +1.5
baz=26
O27A Beecher Island 26.29 346 P P 04 09 20.9 +1.6
baz=26,SNR=8.3
PDMCI Parker Dam,Lak 26.38 321 P P 04 09 22.3 +2.4
baz=26
N30A Hueftle Ranch, 26.40 350 P P 04 09 23.4 +3.2
baz=27
R20A Redvale 26.41 335 P P 04 09 22.8 +2.4
baz=26,SNR=7.1
Q22A Crested Butte, 26.41 338 P P 04 09 22.1 +1.6
baz=27,SNR=7.1
P23A Jefferson 26.49 340 P P 04 09 23.6 +2.3
baz=27
N29A Votaw Ranch, W 26.52 349 P P 04 09 24.7 +3.5
baz=27,SNR=7.1
DVTC Desert V Tower 26.59 316 P P 04 09 24.3 +2.4
baz=27
SMCO Snowmass 26.71 338 eP P 04 09 25.4 +2.0
15nm,1.1s
W13A Hualapai Mount 26.77 323 P P 04 09 26.0 +2.2
baz=27
BC3 Big Chuckawall 26.78 318 P P 04 09 26.0 +2.3
baz=27,SNR=13
ISCO Idaho Springs 26.80 341 eP P 04 09 25.7 +1.6
8.4nm,0.9s
ISCO Idaho Springs 26.80 341 P P 04 09 25.7 +1.6
baz=27,SNR=12
U15A North Rim 26.84 327 P P 04 09 26.7 +2.3
baz=27
IRM Iron Mountain 26.91 320 P P 04 09 27.0 +2.2
baz=27,SNR=5.9
OGNE Ogallala 26.91 347 eP P 04 09 26.4 +1.6
35nm,0.8s
OGNE Ogallala 26.91 347 P P 04 09 27.5 +2.7
baz=27,SNR=7.0
O24A Longmont 26.93 342 P P 04 09 27.0 +2.0
baz=27
MONP Monument Peak 26.94 316 P P 04 09 27.8 +2.5
baz=27
P22A Eagle 27.01 339 P P 04 09 27.2 +1.4
baz=27
Q20A Ridgley Place, 27.02 336 P P 04 09 27.9 +2.0
baz=27
SCIA State Center 27.06 2 eP P 04 09 25.2 -0.8
64nm,0.8s
M30A Dale-Ortello V 27.09 351 P P 04 09 28.5 +2.2
baz=27
P21A Newcastle 27.19 338 P P 04 09 29.7 +2.2
baz=27,SNR=5.8
SJG San Juan 27.29 79 P P 04 09 26.7 -1.6
SJG San Juan 27.29 79 P P 04 09 26.7 -1.6
6.8nm,0.7s,baz=271,slow=9.2,SNR=3.5
BELC Belle Mtn. Jos 27.35 318 P P 04 09 31.0 +2.2
baz=27,SNR=5.2
PFO Pinyon Flat Ob 27.40 317 P P 04 09 31.4 +2.1
PFO Pinyon Flat Ob 27.40 317 P P 04 09 31.4 +2.1
2.1nm,0.8s,baz=116,slow=8.8,SNR=5.5
PFO LR LR 04 20 52.3
comp=Z,234nm,19.3s,baz=130,slow=37
PFO Pinyon Flat Ob 27.40 317 P P 04 09 31.6 +2.3
baz=28
O22A Kremmling 27.44 340 P P 04 09 31.5 +1.7
baz=28
LDFC Landfair 27.49 321 eP P 04 09 32.9 +2.8
11nm,0.8s
P20A De Beque 27.53 336 P P 04 09 32.2 +1.7
baz=28,SNR=9.5
GMRC Granite Mounta 27.63 320 P P 04 09 33.7 +2.3
baz=28,SNR=6.8
N23A Red Feather La 27.91 341 P P 04 09 36.1 +2.2
baz=28
N22A Wattenberg Ran 27.98 340 P P 04 09 36.5 +1.9
baz=28,SNR=8.4
SRU San Rafael 28.09 333 eP P 04 09 37.6 +2.1
69nm,2.7s
BBRC Big Bear Solar 28.11 318 P P 04 09 37.6 +1.9
baz=28
PHWY Pilot Hill 28.13 342 eP P 04 09 37.6 +1.6
85nm,3.0s
K30A Basset 28.17 352 P P 04 09 36.8 +0.8
baz=28
TUQ Turquoise Moun 28.23 321 P P 04 09 38.5 +1.8
baz=28
Q16A Castle Valley 28.23 332 eP P 04 09 38.6 +1.9
Q16A Castle Valley 28.23 332 P P 04 09 38.7 +1.9
baz=28
CCUT Cedar City 28.25 327 eP P 04 09 40.1 +3.1
JFWS Jewell Farm 28.27 6 eP P 04 09 34.9 -1.9
18nm,0.7s
N21A Black Mountain 28.31 339 P P 04 09 39.8 +2.3
baz=28,SNR=8.1
ARUT Antelope Range 28.47 327 eP P 04 09 41.5 +2.6
134nm,1.0s
TMUT Trail Mountain 28.55 332 eP P 04 09 42.3 +2.5
M22A Cedar Creek Ra 28.57 341 P P 04 09 41.8 +2.0
baz=29
N20A Spence Gulch, 28.64 338 P P 04 09 42.3 +1.9
baz=29,SNR=6.8
ECSD EROS Data Cent 28.93 357 eP P 04 09 42.0 -0.6
12nm,0.9s
L23A Garrett 28.95 342 P P 04 09 44.6 +1.4
baz=29,SNR=9.0
M21A Separation Pea 29.01 340 P P 04 09 45.9 +2.2
baz=29,SNR=10
L22A Ellis Ranch, M 29.09 341 P P 04 09 46.5 +2.1
baz=29
J28A Allard Ranch, 29.15 350 P P 04 09 48.6 +3.9
baz=29
M20A Sweetwater, Wa 29.19 338 P P 04 09 47.0 +1.8
baz=29
L21A Rawlins 29.33 340 P P 04 09 48.0 +1.5
baz=30
J26A Sides Ranch, S 29.40 347 P P 04 09 48.8 +1.8
baz=30
DAU Daniels Canyon 29.48 333 eP P 04 09 50.1 +2.1
MPMC Manual Prospec 29.60 320 P P 04 09 51.1 +2.1
baz=30,SNR=5.6
K22A Casper 29.68 342 P P 04 09 50.9 +1.3
baz=30
L20A Wamsutter 29.70 339 P P 04 09 51.3 +1.6
baz=30
BRSD Miller 29.83 353 eP P 04 09 51.6 +0.9
I26A New Underwood 30.05 348 P P 04 09 55.4 +2.8
baz=30
M17A Scullys Gap (B 30.12 335 P P 04 09 54.8 +1.3
baz=30
SPMN St. Paul 30.39 2 eP P 04 09 54.4 -1.1
SPMN St. Paul 30.39 2 P P 04 09 54.3 -1.3
baz=31,SNR=12
VES Vestal, Richgr 30.48 318 P P 04 09 54.9 -1.5
baz=31
G30A Faulkton 30.53 353 P P 04 09 56.4 -0.4
baz=31
K19A Absolon Red Bu 30.60 339 P P 04 09 58.3 +0.6
baz=31
J21A Lysite 30.60 341 P P 04 09 59.6 +1.9
baz=31,SNR=8.5
BGU Big Grassy Mou 30.69 332 eP P 04 10 00.8 +2.3
BW06 Boulder Array 30.80 338 eP P 04 10 00.3 +0.8
25nm,1.8s
PDAR Pinedale Array 30.80 338 P P 04 10 00.3 +0.8
PDAR Pinedale Array 30.80 338 P P 04 10 00.3 +0.8
3.1nm,0.9s,baz=140,slow=8.4,SNR=23
PDAR LR LR 04 23 21.6
comp=Z,217nm,18.2s,baz=56,slow=38
I22A 9 Mile Ranch, 30.81 343 P P 04 10 00.6 +1.1
baz=31
J20A Shoshoni 30.81 340 P P 04 10 01.1 +1.6
baz=31
I21A Big Trails, Te 30.97 342 P P 04 10 01.9 +0.9
baz=31
J19A Crowheart 31.05 339 P P 04 10 02.3 +0.6
baz=31
H24A Dirks Ranch, A 31.10 346 P P 04 10 02.8 +0.8
baz=31,SNR=5.9
HVU Hansel Valley 31.26 333 eP P 04 10 06.0 +2.4
11nm,0.8s
G27A Dupree 31.35 348 P P 04 10 03.0 -1.1
baz=31
NV11 Mina Array Sit 31.55 323 eP P 04 10 08.6 +2.5
ELK Elko 31.61 329 eP P 04 10 08.6 +1.9
5.6nm,0.9s
G23A Biddle 31.73 345 P P 04 10 08.3 +0.8
baz=32
F26A Lodgepole 31.76 349 P P 04 10 08.5 +0.8
baz=32
REDW Red Top Meadow 31.79 337 eP P 04 10 10.0 +1.7
16nm,0.9s
H20A Greybull 31.80 341 P P 04 10 09.1 +0.9
baz=32,SNR=12
SNOW Snow King Moun 31.84 337 eP P 04 10 10.4 +1.7
46nm,1.0s
LOHW Long Hollow 31.91 337 eP P 04 10 11.0 +1.7
9.5nm,0.8s
TPAW Teton Pass 31.94 337 eP P 04 10 11.4 +1.8
9.3nm,0.9s
RRI2 Red Ridge 31.96 336 eP P 04 10 10.8 +1.1
7.7nm,0.9s
G22A Birney 31.98 344 P P 04 10 10.3 +0.5
baz=32
MOOW Moose Ponds 32.08 337 eP P 04 10 11.9 +1.1
7.9nm,1.1s
E28A Huff 32.14 352 P P 04 10 11.2 +0.2
baz=32
F23A Volborg 32.22 345 P P 04 10 12.1 +0.3
baz=32
G21A Lodge Grass 32.23 343 P P 04 10 12.8 +0.9
baz=32
H19A Powell 32.28 340 P P 04 10 14.1 +1.7
baz=32,SNR=7.4
IMW Indian Meadow 32.28 337 eP P 04 10 13.5 +0.8
7.2nm,1.0s
FLWY Flagg Ranch 32.35 338 eP P 04 10 15.1 +2.0
7.5nm,0.9s
H18A Shoshone NF, C 32.51 340 P P 04 10 15.8 +1.2
baz=33,SNR=14
E25A Miller Ranch, 32.52 348 P P 04 10 15.3 +0.9
baz=33
G20A Bridger 32.53 342 P P 04 10 15.2 +0.6
baz=33
CMB Columbia Colle 32.64 320 eP P 04 10 17.0 +1.4
5.7nm,1.0s
YMR Madison River 32.95 338 eP P 04 10 20.2 +1.8
7.5nm,0.9s
C30A Mose, Pekin 33.01 355 P P 04 10 18.6 -0.1
baz=33
E22A Miles City 33.02 345 P P 04 10 19.3 +0.5
baz=33,SNR=7.0
F20A Billings 33.03 342 P P 04 10 19.4 +0.5
baz=33
D25A Fairfield 33.13 349 P P 04 10 20.6 +0.9
baz=33
MDND Maddock 33.26 354 eP P 04 10 20.5 -0.3
MDND Maddock 33.26 354 P P 04 10 20.8 0.0
baz=33
D24A Glendive 33.30 348 P P 04 10 21.9 +0.8
baz=34
F19A Roth Farm, Mol 33.32 341 P P 04 10 22.2 +0.7
baz=34
C27A Sayler Ranch, 33.37 351 P P 04 10 22.2 +0.4
baz=34
E21A Keefer Ranch, 33.41 344 P P 04 10 23.2 +1.0
baz=34
HLID Hailey 33.41 333 eP P 04 10 24.1 +1.7
HLID Hailey 33.41 333 P P 04 10 23.6 +1.2
baz=34,SNR=9.9
AGMN Agassiz Nation 33.45 358 eP P 04 10 21.6 -0.9
13nm,0.8s
GCMT Greycliff 33.49 340 eP P 04 10 24.0 +1.0
5.3nm,0.8s
D23A Lindsay 33.54 347 P P 04 10 24.1 +0.8
baz=34
C26A Wahner Farm, P 33.57 351 P P 04 10 24.2 +0.7
baz=34
C25A Freed Ranch, W 33.66 349 P P 04 10 25.4 +1.1
baz=34
E20A Meyer Farm, Mu 33.66 343 P P 04 10 25.3 +0.9
baz=34,SNR=6.8
C24A Savage 33.71 348 P P 04 10 25.8 +1.0
baz=34
B30A Myrvik Farm, E 33.74 355 P P 04 10 26.1 +1.1
baz=34
D22A Cohagen 33.75 345 P P 04 10 26.2 +1.1
baz=34,SNR=10
MCMT McKenzie Canyo 33.80 336 eP P 04 10 28.2 +2.3
4.5nm,0.8s
E19A Rath Farm, Rou 33.82 342 P P 04 10 26.9 +1.1
baz=34,SNR=7.2
B29A Wagenman Farm, 33.85 354 P P 04 10 26.1 +0.2
baz=34
D21A La Casta Ranch 33.87 344 P P 04 10 27.3 +1.1
baz=34
B28A Dugan Ranch, T 33.94 353 P P 04 10 27.0 +0.2
baz=34,SNR=5.6
BOZ Bozeman (W) 34.04 338 eP P 04 10 29.0 +1.2
6.4nm,1.5s
C23A Lambert 34.13 347 P P 04 10 29.2 +0.8
baz=34
DLMT Dillon 34.15 337 eP P 04 10 30.4 +1.6
22nm,1.2s
D20A Manuel Ranch, 34.20 343 P P 04 10 30.1 +1.0
baz=34,SNR=5.8
A30A Hoffart Farm, 34.23 355 P P 04 10 30.9 +1.7
baz=34
C22A Vida 34.23 346 P P 04 10 30.5 +1.2
baz=34,SNR=13
A29A Manning Farm, 34.29 354 P P 04 10 30.1 +0.4
baz=34
A28A Rude Farm, Bot 34.38 353 P P 04 10 30.7 +0.1
baz=34
D19A Cripps Ranch, 34.48 342 P P 04 10 32.6 +1.0
baz=35,SNR=6.8
A27A Ledoux Ranch, 34.55 352 P P 04 10 33.2 +1.2
baz=35
WVOR Wild Horse Val 34.58 328 eP P 04 10 34.2 +1.7
12nm,1.0s
C21A Desert Coulee 34.60 345 P P 04 10 33.2 +0.7
baz=35
A26A Wade Farm, Ken 34.61 351 P P 04 10 33.0 +0.5
baz=35,SNR=6.3
B23A Brockton 34.72 348 P P 04 10 34.7 +1.3
baz=35
C20A Veseth Ranch, 34.74 344 P P 04 10 34.5 +0.9
baz=35
B22A Reddig Ranch S 34.78 346 P P 04 10 34.9 +0.8
baz=35,SNR=6.3
A25A Svangstu Ranch 34.82 350 P P 04 10 35.2 +0.9
baz=35
C19A Slack Wire Ran 35.05 343 P P 04 10 37.4 +1.0
baz=35
MOD Modoc 35.10 325 eP P 04 10 38.0 +1.0
32nm,0.9s
A23A Redstone 35.17 348 P P 04 10 38.5 +1.2
baz=35
ULM Lac du Bonnet 35.41 358 P P 04 10 38.4 -0.9
ULM Lac du Bonnet 35.41 358 P P 04 10 38.4 -0.9
8.2nm,0.9s,baz=194,slow=7.3,SNR=3.8
ULM LR LR 04 27 02.3
comp=Z,162nm,21.6s,baz=141,slow=40
EGMT Eagleton 35.51 342 eP P 04 10 40.6 +0.2
17nm,1.2s
EGMT Eagleton 35.51 342 P P 04 10 41.5 +1.1
baz=36
A21A Bergtoll Ranch 35.65 346 P P 04 10 42.8 +1.3
baz=36
B19A Brinkman Farms 35.67 343 P P 04 10 42.9 +1.2
baz=36,SNR=7.8
CHMT Chamberlain Mo 35.71 338 eP P 04 10 43.0 +0.7
3.2nm,1.1s
BMO Blue Mountains 35.72 332 eP P 04 10 42.5 +0.2

13nm,1.6s
A20A Cobblestone Ra 35.79 345 P P 04 10 43.9 +1.2
baz=36
MSO Missoula 35.89 337 P P 04 10 44.7 +1.0
baz=36
A19A Klindworth Far 36.05 344 P P 04 10 46.1 +1.1
baz=36
SWMT Swartz Lake 36.48 338 *e*P **P 04 10 49.4 +0.6**
5.3nm,1.0s
YBMT Yellow Bay 36.78 338 *e*P **P 04 10 52.5 +1.2**
3.7nm,0.9s
JTMT Jette 36.79 337 *e*P **P 04 10 51.9 +0.5**
3.3nm,1.0s
BSMT Bassoo Peak 37.06 337 *e*P **P 04 10 53.0 -0.8**
NEW Newport 38.31 335 P **P 04 11 05.4 +1.3**
baz=38
SAML Samuel 38.90 125 *e*P **P 04 11 09.0 -0.4**
4.1nm,0.8s
LON Longmire 39.25 330 *e*P **P 04 11 13.0 +0.9**
5.7nm,0.8s
FFC Flin Flon 40.30 353 *e*P **P 04 11 20.7 +0.1**
11nm,0.5s
LPAZ La Paz 40.32 139 *e*P P 04 11 29.3 +7.4
3.3nm,1.0s
LPAZ La Paz 40.32 139 P P 04 11 29.3 +7.4
1.9nm,0.8s,baz=309,slow=6.4,SNR=3.6
EDM Edmonton 41.19 343 *e*P **P 04 11 28.2 +0.2**
SIV San Ignacio 44.92 132 P **P 04 11 59.0 +0.4**
SIV San Ignacio 44.92 132 P **P 04 11 59.0 +0.4**
1.3nm,0.6s,baz=328,slow=11,SNR=6.7
SCHQ Schefferville 45.35 22 LR LR 04 32 11.9
comp=Z,233nm,18.6s,baz=104,slow=38
LCO Las Campanas 49.18 152 *e*P P 04 12 41.2 +9.2
YKA Yellowknife Ar 49.77 348 P **P 04 12 35.8 +0.1**
YKA Yellowknife Ar 49.77 348 P **P 04 12 35.8 +0.1**
5.0nm,0.7s,baz=152,slow=7.5,SNR=15
YKW3 Yellowknife Ar 49.83 348 *e*P **P 04 12 36.1 -0.1**
0.2nm,0.8s
FRB Frobisher Bay 52.12 14 P **P 04 12 51.9 -1.5**
FRB Frobisher Bay 52.12 14 P **P 04 12 51.9 -1.5**
10nm,0.6s,baz=209,slow=10,SNR=3.2
CPUP Villa Florida 54.48 138 *e*P P 04 13 18.6 +7.3
26nm,1.2s
BDFB Brasilia 54.90 122 P **P 04 13 14.0 -0.6**
BDFB Brasilia 54.90 122 P **P 04 13 14.0 -0.6**
3.7nm,0.8s,baz=291,slow=12,SNR=5.2
INK Inuvik 59.06 344 P **P 04 13 43.5 +0.4**
INK Inuvik 59.06 344 P **P 04 13 43.5 +0.4**
6.1nm,0.8s,baz=90,slow=20
PLCA Paso Flores 59.49 159 LR LR 04 33 33.1
comp=Z,136nm,20.3s,baz=316,slow=30
SFJD Kangerlussuaq 59.51 18 *i* P **P 04 13 44.3 -1.9**
9.6nm,0.8s
SFJD Kangerlussuaq 59.51 18 P **P 04 13 44.4 -1.9**
SFJD Kangerlussuaq 59.51 18 P **P 04 13 44.4 -1.9**
8.5nm,0.9s,baz=169,slow=6.1,SNR=2.6
SFJD LR LR 04 41 44.7
comp=Z,144nm,18.6s,baz=280,slow=38
RES Resolute Bay 59.91 360 P **P 04 13 48.0 -1.0**
RES Resolute Bay 59.91 360 P **P 04 13 48.0 -1.0**
13nm,0.9s,baz=164,slow=5.4,SNR=3.2
RES LR LR 04 43 32.6
comp=Z,108nm,18.8s,baz=12,slow=40
ILAR Eielson Array 61.23 337 P **P 04 13 58.5 +0.4**
ILAR Eielson Array 61.23 337 P **P 04 13 58.5 +0.4**
5.9nm,0.9s,baz=144,slow=4.2,SNR=43
MCK McKinley 61.54 336 *e*P **P 04 14 01.2 +0.9**
7.5nm,0.8s
COLA College 61.64 337 *e*P **P 04 14 01.2 +0.4**
34nm,0.9s
BPAW Bear Paw Mtn. 62.51 336 *e*P **P 04 14 06.7 -0.1**
7.0nm,1.0s
SUMG Summit 66.12 16 *i* P **P 04 14 30.5 -0.3**
6.2nm,0.9s
USHA Ushuaia 72.75 165 LR LR 04 41 59.1
comp=Z,252nm,18.4s,baz=247,slow=31
ESK Eskdalemuir 78.68 36 *e*P **P 04 15 45.1 -0.4**
13nm,0.8s
EKA Eskdalemuir Ar 78.70 36 P **P 04 15 44.9 -0.7**
EKA Eskdalemuir Ar 78.70 36 P **P 04 15 44.9 -0.7**
14nm,0.9s,baz=292,slow=4.7,SNR=20
SPITS Spitsbergen Ar 79.80 11 LR LR 04 53 59.7
comp=Z,105nm,19.5s,baz=105,slow=38
QUIF Quistinic 80.01 43 *e*P **P 04 15 52.2 -0.7**
54nm,1.4s
QUIF Quistinic 80.01 43 *e*P **P 04 15 52.2 -0.7**
54nm,1.4s
ESDC Sonseca Array 81.06 51 P **P 04 15 57.3 -1.5**
ESDC Sonseca Array 81.06 51 P **P 04 15 57.3 -1.5**
3.2nm,0.8s,baz=291,slow=5.6,SNR=19
GRR Gorron 81.43 42 *e*P **P 04 16 00.0 -0.5**
26nm,0.8s
GRR Gorron 81.43 42 *e*P **P 04 16 00.0 -0.5**
26nm,0.8s
FLN La Foliniere 81.59 42 *e*P **P 04 16 01.0 -0.4**
21nm,0.8s
FLN *e*R
204nm,18.5s
FLN La Foliniere 81.59 42 *e*P **P 04 16 01.0 -0.4**
21nm,0.8s
LDF La Druitiere 81.86 42 *e*P **P 04 16 02.4 -0.4**
11nm,0.7s
LDF La Druitiere 81.86 42 *e*P **P 04 16 02.4 -0.4**
11nm,0.7s
MFF Saint Martin d 82.30 44 *e*P **P 04 16 04.4 -0.7**
21nm,1.1s
MFF Saint Martin d 82.30 44 *e*P **P 04 16 04.4 -0.7**
21nm,1.1s
SJPF Ste Jean 82.34 48 *e*P **P 04 16 05.1 -0.4**
33nm,1.4s
SJPF Ste Jean 82.34 48 *e*P **P 04 16 05.1 -0.4**
33nm,1.4s
ETSF Etsaut 82.86 48 *e*P **P 04 16 07.4 -0.9**
16nm,1.1s
ETSF Etsaut 82.86 48 *e*P **P 04 16 07.4 -0.9**
16nm,1.1s
LFF La Frestale 83.29 45 *e*P **P 04 16 09.8 -0.5**
LFF La Frestale 83.29 45 *e*P **P 04 16 09.8 -0.5**
EPF Esparros 83.47 47 *e*P **P 04 16 10.9 -0.5**
13nm,1.0s
EPF Esparros 83.47 47 *e*P **P 04 16 10.9 -0.5**
13nm,1.0s
RJF Les Rejaudoux 83.74 45 *e*P **P 04 16 11.9 -0.7**
18nm,0.9s
RJF *e*R
134nm,19.5s
RJF Les Rejaudoux 83.74 45 *e*P **P 04 16 11.9 -0.7**
18nm,0.9s
TCF Toulx Ste Croi 83.95 44 *e*P **P 04 16 12.8 -1.0**
7.1nm,0.7s
TCF Toulx Ste Croi 83.95 44 *e*P **P 04 16 12.8 -1.0**
7.1nm,0.7s
SNF Seneffe 84.16 39 P **P 04 16 13.7 -0.9**
CAF Calviac 84.21 45 *e*P **P 04 16 14.1 -1.0**
11nm,0.9s
CAF Calviac 84.21 45 *e*P **P 04 16 14.1 -1.0**
11nm,0.9s
BAIF Baives 84.24 40 *e*P **P 04 16 14.7 -0.4**
24nm,1.4s
BAIF Baives 84.24 40 *e*P **P 04 16 14.7 -0.4**
24nm,1.4s
BGF Bois d'Agland 84.31 43 *e*P **P 04 16 14.3 -1.2**
22nm,0.8s
BGF Bois d'Agland 84.31 43 *e*P **P 04 16 14.3 -1.2**
22nm,0.8s
DOU Dourbes 84.47 40 P **P 04 16 16.2 0.0**
comp=Z,6.3nm,2.3s
NB2 NORSAR Subarra 84.57 28 P **P 04 16 17.1 +0.5**
comp=Z,6.5nm,0.9s,baz=291,slow=5.1
NOA NORSAR Array B 84.57 28 P **P 04 16 17.0 +0.4**
NOA NORSAR Array B 84.57 28 P **P 04 16 17.0 +0.4**
comp=Z,3.0nm,0.8s,baz=292,slow=5.2,SNR=7.9
AVF Avril sur Loir 84.58 43 *e*P **P 04 16 15.7 -1.2**
comp=Z,7.9nm,0.8s
AVF Avril sur Loir 84.58 43 *e*P **P 04 16 15.7 -1.2**
comp=Z,7.9nm,0.8s
GIVF Givet 84.61 40 *e*P **P 04 16 16.6 -0.3**
GIVF Givet 84.61 40 *e*P **P 04 16 16.6 -0.3**
SSF Saint Saulge 84.61 43 *e*P **P 04 16 16.1 -0.9**
comp=Z,9.3nm,0.8s
SSF Saint Saulge 84.61 43 *e*P **P 04 16 16.1 -0.9**
comp=Z,9.3nm,0.8s
MTLF Montolieu 84.73 47 *e*P **P 04 16 17.1 -0.6**
comp=Z,13nm,0.9s
MTLF Montolieu 84.73 47 *e*P **P 04 16 17.1 -0.6**
comp=Z,13nm,0.9s
LOR Lormes 84.79 43 *e*P **P 04 16 17.2 -0.7**
LOR *e*R
comp=Z,135nm,21.2s
LOR Lormes 84.79 43 *e*P **P 04 16 17.2 -0.7**
BCLA Clavier 84.81 39 P **P 04 16 17.9 0.0**
comp=Z,9.4nm,2.0s
SMF Signal de Mont 84.95 43 *e*P **P 04 16 17.7 -1.0**
SMF Signal de Mont 84.95 43 *e*P **P 04 16 17.7 -1.0**
HGN Heimansgroeve 85.09 39 *e*P **P 04 16 19.1 -0.2**
comp=Z,14nm,0.9s
MEM Membach 85.19 39 P **P 04 16 20.1 +0.3**
SFTF Sexfontaines 85.29 41 *e*P **P 04 16 19.8 -0.6**
comp=Z,22nm,0.9s
SFTF Sexfontaines 85.29 41 *e*P **P 04 16 19.8 -0.6**
comp=Z,22nm,0.9s
WLF Walferdange 85.56 40 P **P 04 16 22.0 +0.3**
comp=Z,12nm,1.4s
PAGF Fort de Pagny 85.62 41 *e*P **P 04 16 21.9 -0.2**
comp=Z,7.6nm,1.1s
PAGF Fort de Pagny 85.62 41 *e*P **P 04 16 21.9 -0.2**
comp=Z,7.6nm,1.1s
LASF Ste Croix 85.67 46 *e*P **P 04 16 21.4 -1.0**
comp=Z,74nm,1.7s
LASF Ste Croix 85.67 46 *e*P **P 04 16 21.4 -1.0**
comp=Z,74nm,1.7s
BUG Bochum--Univer 85.69 38 *e*P **P 04 16 22.4 +0.1**
comp=Z,10.0nm,1.1s
BUG *e*pP **pP 04 16 34.1 +4.3**
VIVF Saint-Julien-l 86.01 45 *e*P **P 04 16 24.1 0.0**
comp=Z,43nm,1.4s
VIVF Saint-Julien-l 86.01 45 *e*P **P 04 16 24.1 0.0**
comp=Z,43nm,1.4s
HFS Hagfors 86.05 28 P **P 04 16 24.1 +0.2**
HFS Hagfors 86.05 28 P **P 04 16 24.1 +0.2**
comp=Z,3.6nm,0.8s,baz=321,slow=1.8,SNR=2.8
ARCES ARCESS Array B 86.13 18 P **P 04 16 23.5 -0.6**
ARCES ARCESS Array B 86.13 18 P **P 04 16 23.5 -0.6**
comp=Z,12nm,1.0s,baz=348,slow=4.0,SNR=4.7
HAU Haudompre 86.18 41 *e*P **P 04 16 24.4 -0.5**
comp=Z,17nm,0.8s
HAU *e*R
comp=Z,114nm,20.0s
HAU Haudompre 86.18 41 *e*P **P 04 16 24.4 -0.5**
comp=Z,17nm,0.8s
CABF La Chapelle 86.44 43 *e*P **P 04 16 25.8 -0.5**
comp=Z,18nm,1.0s
CABF La Chapelle 86.44 43 *e*P **P 04 16 25.8 -0.5**
comp=Z,18nm,1.0s
HINF Hinteralfeld 86.56 41 *e*P **P 04 16 26.1 -0.7**
comp=Z,55nm,1.7s
HINF Hinteralfeld 86.56 41 *e*P **P 04 16 26.1 -0.7**
comp=Z,55nm,1.7s
BSEG Bad Segeberg 86.62 35 *e*pP pP 04 16 39.2 +4.8
CDF Champ du Feu 86.65 41 *e*P **P 04 16 26.6 -0.6**
comp=Z,14nm,1.0s
CDF Champ du Feu 86.65 41 *e*P **P 04 16 26.6 -0.6**
comp=Z,14nm,1.0s
TNS Taunus Mts 86.79 39 *e*P **P 04 16 28.3 +0.4**
comp=Z,12nm,0.8s
ORIF Oris-en-Rattie 86.81 44 *e*P **P 04 16 28.0 -0.1**
comp=Z,12nm,0.9s
ORIF *e*R
comp=Z,150nm,20.5s
ORIF Oris-en-Rattie 86.81 44 *e*P **P 04 16 28.0 -0.1**
comp=Z,12nm,0.9s
SMRF Simiane la Rot 86.89 45 *e*P **P 04 16 28.7 +0.3**
comp=Z,109nm,1.7s
SMRF Simiane la Rot 86.89 45 *e*P **P 04 16 28.7 +0.3**
comp=Z,109nm,1.7s
NRDL Niedersach Rie 87.00 36 *e*pP pP 04 16 41.1 +4.9
LPL La Plagne 87.20 44 *e*P **P 04 16 30.2 0.0**
comp=Z,19nm,1.2s
LPL La Plagne 87.20 44 *e*P **P 04 16 30.2 0.0**
comp=Z,19nm,1.2s
LPG La Plagne 87.22 44 *e*P **P 04 16 30.7 +0.3**
comp=Z,27nm,1.3s
LPG La Plagne 87.22 44 *e*P **P 04 16 30.7 +0.3**
comp=Z,27nm,1.3s
BNI Bardonecchia 87.31 44 *e*P **P 04 16 31.0 +0.4**
comp=Z,22nm,1.5s
BFO Black Forest 87.34 41 *e*P **P 04 16 30.0 -0.5**
comp=Z,9.0nm,1.3s
BFO *e*pP **pP 04 16 42.2 +4.1**
MBDF Montbardon 87.47 44 *e*P **P 04 16 31.3 -0.1**
comp=Z,35nm,1.2s
MBDF Montbardon 87.47 44 *e*P **P 04 16 31.3 -0.1**
comp=Z,35nm,1.2s
UBBA Urbrebrzbach 87.52 38 *e*P **P 04 16 31.7 +0.5**
comp=Z,20nm,1.9s
LMR La Mourre 87.73 46 *e*P **P 04 16 31.9 -0.6**
comp=Z,29nm,1.1s
LMR La Mourre 87.73 46 *e*P **P 04 16 31.9 -0.6**
comp=Z,29nm,1.1s
FRF La Foret Royal 87.75 46 *e*P **P 04 16 30.6 -2.0**
comp=Z,32nm,1.3s
FRF La Foret Royal 87.75 46 *e*P **P 04 16 30.6 -2.0**
comp=Z,32nm,1.3s
LIC Lamto 87.83 84 *e*P **P 04 16 30.9 -2.6**
comp=Z,11nm,0.8s
LIC Lamto 87.83 84 *e*P **P 04 16 30.9 -2.6**
comp=Z,11nm,0.8s
GRF Grafenberg Arr 88.66 39 *e*P **P 04 16 37.8 +1.0**
comp=Z,7.0nm,0.9s
GRF *e*pP **pP 04 16 49.4 +5.1**
WET Wettzell 89.86 39 *e*pP pP 04 16 54.8 +4.8
GERES GERESS Array B 90.48 39 P **P 04 16 45.0 -0.4**
GERES GERESS Array B 90.48 39 P **P 04 16 45.0 -0.4**
comp=Z,1.0nm,0.8s,baz=309,slow=4.3,SNR=7.6
FINES FINESS Array B 90.78 24 P P 04 16 50.8 +4.4
FINES FINESS Array B 90.78 24 P P 04 16 50.8 +4.4
comp=Z,3.8nm,1.1s,baz=315,slow=0.3,SNR=3.4
MORC Moravsky Berou 92.38 37 *e*P **P 04 16 54.1 0.0**
comp=Z,3.2nm,1.0s
TORD Torodi Ar. Bea 92.45 76 P **P 04 16 53.3 -1.8**
TORD Torodi Ar. Bea 92.45 76 P **P 04 16 53.3 -1.8**
comp=Z,0.4nm,0.6s,baz=294,slow=5.8,SNR=3.7
TAM Tamanrasset 93.22 66 *e*P **P 04 16 59.5 +0.8**
comp=Z,1.6nm,0.9s
KURK Kurchatov 114.51 5 PKP PKPdf 04 22 21.9 -1.6
KURBB Kurchatov Arra 114.60 5 PKP PKPdf 04 22 21.9 -1.8
comp=Z,0.4nm,0.5s,baz=319,slow=2.5,SNR=4.2
MK31 Makanchi Array 118.65 3 *e*PKPdf **PKPdf 04 22 34.5 +2.8**
MKAR Makanchi Array 118.65 3 PKP **PKPdf 04 22 30.1 -1.6**
MKAR Makanchi Array 118.65 3 PKP **PKPdf 04 22 30.1 -1.6**
comp=Z,0.4nm,0.7s,baz=318,slow=1.9,SNR=2.4
HHC Hu-ho-hao-te 119.65 338 *e*PKP **PKPdf 04 22 33.3 -0.6**
HHC sPKP 04 23 10.5
HHC PKS **PKSdf 04 26 08.8 -1.8**
HHC SKS SKSdf 04 29 34.0 -11
HHC SKKS SKKSac 04 30 41.0 -14
HHC SS SS 04 40 08.8 -8.8
HHC AMB AMB
comp=Z,130nm,8.5s
HHC LR LR
comp=N,210nm,19.0s
HHC LR LR
comp=E,240nm,19.0s
HHC LR LR
comp=Z,140nm,19.4s
WMQ Urumqi 121.67 358 *e*PKP **PKPdf 04 22 39.0 +1.4**
GTA Gaotai 124.49 347 PKP **PKPdf 04 22 43.0 -0.2**
GTA sPKP 04 23 20.3
KSH Kashi 125.25 9 *e*PKP **PKPdf 04 22 45.5 +0.8**
KSH sPKP 04 23 22.8
KSH PP **PP 04 24 36.3 +3.2**
KSH PKS **PKSdf 04 26 21.0 -0.4**
KSH SKS SKSdf 04 29 46.0 -10
KSH SKKS SKKSac 04 31 17.5 -14
KSH AMB AMB
comp=Z,35nm,3.5s
KSH LR LR
comp=N,97nm,6.6s
KSH LR LR
comp=E,67nm,5.8s
KSH LR LR
comp=Z,140nm,8.8s
LZH Lanzhou 126.56 342 *e*PKP **PKPdf 04 22 49.0 +1.7**
LZH sPKP 04 23 26.8
LZH LR LR
comp=N,110nm,18.0s
LZH LR LR
comp=E,110nm,18.0s
LZH LR LR
comp=Z,150nm,20.1s
CD2 Chengdu 131.34 339 PKP **PKPdf 04 22 58.0 +1.6**
WRA Warramunga Arr 133.32 256 PKP **PKPdf 04 23 00.4 +0.1**
WRA Warramunga Arr 133.32 256 PKP **PKPdf 04 23 00.4 +0.1**
comp=Z,0.6nm,0.6s,baz=96,slow=1.9,SNR=2.9
ASAR Alice Springs 133.72 251 PKP **PKPdf 04 23 00.7 -0.3**
ASAR Alice Springs 133.72 251 PKP **PKPdf 04 23 00.7 -0.3**
comp=Z,0.4nm,0.8s,baz=97,slow=3.7,SNR=2.9
GYA Guiyang 134.19 333 *e*Pdif **Pdif 04 20 00.5 -0.9**
GYA PKP **PKPdf 04 23 02.3 +0.3**
GYA sPKP 04 23 38.8
GYA PP **PP 04 25 35.5 +3.8**
GYA AMB AMB
comp=Z,80nm,7.8s
CMAR Chiang Mai Arr 144.46 338 PKP **PKPab 04 23 18.9 0.0**
CMAR Chiang Mai Arr 144.46 338 PKP **PKPab 04 23 18.9 0.0**
comp=Z,1.7nm,0.7s,baz=337,slow=3.5,SNR=9.9
HYB Hyderabad 147.27 13 *i* PKP **PKPdf 04 23 26.0 +0.5**

AUST ***26*** *04:04:28.5±0.0, 6°.47S×128°.20E, h278km, Error ellipse: s-maj=1.4km s-min=1.1km az=306.0*
ISCJB ***26*** *04:04:29.4±0.4, 6°.55S±0°.04×128°.39E±0°.05, h300km, mb3.7/10, Error ellipse: s-maj=7.0km s-min=4.9km az=20.8*
IDC ***26*** *04:04:31.8±1.9, 6°.61S×128°.29E, h310km±20km, mb3.5/10, mb1 3.6/13, mb1mx3.4/23, mbtmp4.2/13, Error ellipse: s-maj=25.7km s-min=11.8km az=71.0*
ISC 26 04:04:30.4±0.6, 6°.60S±0°.06×128°.37E±0°.07, h300km, n25, σ1§42/28, mb3.8/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLE	**Tual**	**4.45**	**78**	S	S	04 06 31.3	-7.6
baz=4.6,SNR=6.6							
SOEI	**Soe**	**5.13**	**232**	P	**Pn**	**04 05 50.4**	**+0.8**
baz=5.1,SNR=14							
SOEI				S	**S**	**04 06 52.2**	**-1.0**
baz=5.1,SNR=16							
FAKI	**Fak Fak**	**5.32**	**47**	P	**Pn**	**04 05 51.5**	**-0.3**
baz=5.4,SNR=14							
FAKI				S	S	04 06 53.2	-4.1
baz=5.4,SNR=9.4							
BATI	**Baumata**	**5.87**	**232**	P	**Pn**	**04 05 59.0**	**+0.7**
66nm,0.3s,baz=84,slow=3.8,SNR=29							
BATI				S	**S**	**04 07 07.9**	**-1.1**
34nm,0.3s,baz=213,slow=24,SNR=14							
SWI	**Sorong**	**6.39**	**27**	S	**S**	**04 07 17.1**	**-3.2**
baz=6.4,SNR=3.5							
KDU	**Kakadu**	**7.28**	**147**	P	**Pn**	**04 06 16.7**	**+1.5**
baz=7.5,SNR=39							
KNRA	**Kununurra**	**9.03**	**178**	P	**Pn**	**04 06 37.1**	**+0.4**
baz=9.2,SNR=49							
FITZ	**Fitzroy Crossi**	**11.74**	**193**	P	**Pn**	**04 07 09.3**	**-0.5**
0.3nm,0.3s,baz=26,slow=12,SNR=11							
FITZ				S	S	04 09 27.3	+6.6
0.5nm,0.3s,baz=298,slow=15,SNR=3.2							
FITZ	**Fitzroy Crossi**	**11.74**	**193**	P	**Pn**	**04 07 09.5**	**-0.4**
baz=12,SNR=22							
WRA	**Warramunga Arr**	**14.48**	**157**	P	**P**	**04 07 42.6**	**+0.8**
2.3nm,0.3s,baz=340,slow=11,SNR=15							
WRA				S	**S**	**04 10 16.6**	**-4.2**
0.2nm,0.3s,baz=334,slow=17,SNR=8.8							
COEN	**Coen**	**16.30**	**118**	P	**P**	**04 08 03.5**	**+1.7**
baz=16,SNR=42							
ASAR	**Alice Springs**	**17.79**	**163**	P	**P**	**04 08 19.4**	**+1.5**
7.2nm,0.3s,baz=345,slow=12,SNR=748							
ASAR				S	**S**	**04 11 25.2**	**-1.5**
0.1nm,0.3s,baz=342,slow=21,SNR=6.2							
ASAR				ScP	**ScP**	**04 15 44.5**	**-1.8**
0.1nm,0.3s,baz=360,slow=1.7,SNR=4.5							
MTSU	**Mount Surprise**	**19.32**	**128**	P	**P**	**04 08 35.4**	**+1.0**
baz=20,SNR=10.0							
CTA	**Charters Tower**	**21.94**	**129**	P	**P**	**04 09 00.8**	**+0.8**
1.7nm,0.5s,baz=283,slow=9.6,SNR=3.8							
QLP	**Quilpie**	**24.97**	**145**	S	**S**	**04 13 28.0**	**-0.5**
baz=25,SNR=3.2							
STKA	**Stephens Creek**	**28.02**	**156**	P	**P**	**04 09 55.3**	**+0.8**
2.3nm,0.4s,baz=295,slow=7.4,SNR=6.3							
NWAO	**Narrogin (SRO)**	**28.17**	**200**	P	**P**	**04 09 56.2**	**+0.5**
5.2nm,1.0s,baz=20,slow=15,SNR=2.7							
PATS	**Pohnpei**	**32.73**	**66**	P	P	04 10 40.6	+4.7
baz=33,SNR=3.2							
KSRS	**Korea Array**	**43.83**	**359**	P	**P**	**04 12 08.1**	**+0.7**
1.3nm,0.6s,baz=177,slow=9.4,SNR=5.3							
USRK	**Ussuriysk Arra**	**50.67**	**3**	P	**P**	**04 13 00.0**	**+0.2**
0.6nm,0.4s,baz=176,slow=6.9,SNR=2.6							
SONM	**Songino Array**	**57.56**	**343**	P	**P**	**04 13 50.1**	**+0.7**
0.8nm,0.7s,baz=167,slow=7.6,SNR=4.2							
MKAR	**Makanchi Array**	**67.01**	**327**	P	**P**	**04 14 52.0**	**+0.4**
2.2nm,0.4s,baz=117,slow=8.3,SNR=45							
ZALV	**Zalesovo Beam**	**70.52**	**334**	P	**P**	**04 15 12.3**	**-0.6**
1.4nm,0.5s,baz=127,slow=5.0,SNR=5.4							
KURBB	**Kurchatov Arra**	**71.33**	**329**	P	**P**	**04 15 18.0**	**+0.2**
1.4nm,0.4s,baz=134,slow=5.1,SNR=23							
BVAR	**Borovoye Array**	**76.87**	**328**	P	**P**	**04 15 49.8**	**+0.1**
0.5nm,0.4s,baz=116,slow=3.4,SNR=3.7							

IDC ***26*** *04:13:39.8±1.7, 9°.82S×118°.61E, h0km, mb3.4/3, mb1 3.7/7, mb1mx3.6/22, mbtmp3.6/7, ML3.7/4, Error ellipse: s-maj=53.8km s-min=20.0km az=53.0*
AUST ***26*** *04:13:50.6, 9°.49S×119°.46E, h100km*
ISC 26 04:13:45.7±1.0, 9°.70S±0°.07×118°.99E±0°.09, h46km, n15, σ2§42/15, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**1.29**	**89**	P	**Pn**	**04 14 09.2**	**+1.9**
baz=0.8,SNR=5.4							
WSI				S	**Sn**	**04 14 25.4**	**+1.9**
baz=0.8,SNR=13							
BATI	**Baumata**	**4.64**	**97**	Pn	**Pn**	**04 14 55.5**	**+2.2**
14nm,0.3s,baz=274,slow=2.2,SNR=8.1							
KAPI	**Kappang**	**4.71**	**9**	Pn	**Pn**	**04 14 57.0**	**+2.7**
3.6nm,0.3s,baz=190,slow=7.9,SNR=15							
KAPI				Sn	**Sn**	**04 15 47.6**	**-0.1**
16nm,0.3s,baz=256,slow=22,SNR=16							
SOEI	**Soe**	**5.21**	**91**	P	Pn	04 15 04.5	+3.3
baz=4.7,SNR=3.9							
LUWI	**Luwuk**	**9.38**	**24**	S	**Sn**	**04 17 37.6**	**-5.0**
baz=9.1,SNR=4.7							
FITZ	**Fitzroy Crossi**	**10.56**	**143**	Pn	**Pn**	**04 16 14.8**	**+0.4**
0.5nm,0.3s,baz=325,slow=8.1,SNR=19							
FITZ				Sn	Sn	04 18 03.4	-8.0
1.0nm,0.3s,baz=178,slow=22,SNR=13							
FITZ	**Fitzroy Crossi**	**10.56**	**143**	P	**Pn**	**04 16 14.9**	**+0.5**
baz=10,SNR=12							
FITZ				S	**Sn**	**04 18 06.8**	**-4.6**
baz=10,SNR=5.6							
KDU	**Kakadu**	**13.56**	**104**	P	**Pn**	**04 16 54.5**	**-1.0**
baz=13,SNR=3.2							
PMBI	**Palembang**	**15.64**	**295**	P	**P**	**04 17 25.3**	**-1.3**
baz=16,SNR=4.0							
MEEK	**Meekatharra**	**16.86**	**181**	S	Sn	04 20 25.5	-19
baz=17,SNR=4.9							
WRA	**Warramunga Arr**	**17.99**	**126**	P	**P**	**04 17 52.5**	**0.0**
0.1nm,0.3s,baz=305,slow=13,SNR=2.5							
MORW	**Morawa**	**19.47**	**188**	S	S	04 21 36.1	-10
baz=20,SNR=5.2							
ASAR	**Alice Springs**	**19.90**	**136**	P	**Pn**	**04 18 16.6**	**+1.1**
0.6nm,0.6s,baz=315,slow=12,SNR=9.8							
SONM	**Songino Array**	**58.36**	**350**	P	**P**	**04 23 36.7**	**+0.4**
0.3nm,0.4s,baz=175,slow=7.9,SNR=3.3							
MKAR	**Makanchi Array**	**65.07**	**333**	P	**P**	**04 24 21.7**	**+0.3**
0.2nm,0.4s,baz=147,slow=6.8,SNR=3.7							

TEH ***26*** *04:22:22.0, 29°.60S×60°.86E, h10km, ML5.3*
BJI ***26*** *04:22:23.9, 29°.86S×60°.67E, h7km, mB5.3/29, mb5.2/40, Ms5.1/28, MS7 4.7/28*
ISCJB ***26*** *04:22:25.7±0.2, 29°.63S±0°.04×60°.89E±0°.04, h10km, mb5.2/157, MS4.7/109, Error ellipse: s-maj=5.7km s-min=5.2km az=33.0*
IDC ***26*** *04:22:25.9±0.4, 29°.60S×60°.94E, h0km, mb4.8/30, mb1 4.9/31, mb1mx4.9/36, mbtmp4.8/31, ML4.4/1, MS4.5/34, Ms1 4.5/34, ms1mx4.4/42, Error ellipse: s-maj=14.5km s-min=12.4km az=34.0*
MOS ***26*** *04:22:26.5±1.1, 29°.50S×60°.87E, h10km, mb5.5/66, MS4.7/22, Error ellipse: s-maj=11.6km s-min=5.5km az=111.2*
NEIC ***26*** *04:22:27.5±0.1, 29°.56S×60°.85E, h10km, mb5.3/57, MS4.7/67, Error ellipse: s-maj=5.5km s-min=4.1km az=219.0*
BKK ***26*** *04:22:29.7±0.3, 30°.5S±6°.6E±°, h10km, M5.3/20, mB6.0/1, mb5.3/20, Mw(mB)5.6/1*
GCMT ***26*** *04:22:30.2±0.2, 29°.52S×60°.83E, h17km, MW5.2, Moment*

Tensor Solution. s59,c84; s87,c146; Moment tensor: Scale 10^{16}Nm; M_{rr}-7.76±.27; $M_{\theta\theta}$5.02±.20; $M_{\phi\phi}$2.74±.19; $M_{r\theta}$3.22±.45; $M_{\theta\phi}$4.95±.14; $M_{\phi r}$-2.46±.48; Best double couple: $M_0$9.30000×10^{16} NP1:ϕ_s255.00000°,δ54.00000°, λ-59.00000°. NP2:ϕ_s29.00000°,δ47.00000°, λ-125.00000°. Principal axes: T 9.0200, Plg4.0000°, Azm323.0000°; N 0.6200, Plg25.0000°, Azm55.0000°; P -9.6400, Plg65.0000°, Azm225.0000°; Data Used: II IU IC G CN.

*DJA **26** 04:22:32.9±0.2, 30°S±5°×6°1E±°, h33km, M5.2/31, mB5.8/3, mb5.1/31, Mw(mB)5.3/3*

ISC 26 04:22:28.5±0.4, 29°.69S±0°.05×60°.80E±0°.05, h16km±1km, n942, σ0°97/1022, mb5.3/157, MS4.7/111, 25C-11D, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**9.64**	**331**	*e*Pn	Pn	04 24 41.6	-5.2
	350nm,0.8s						
MRIV	**Mauritius Mete**	**9.82**	**341**	*e*Pn	Pn	04 24 44.8	-4.3
ABPO	**Ambohimpanom**	**16.29**	**308**	*e*P	**Pn**	**04 26 15.3**	**-1.5**
ABPO				pmax	pmax		
	comp=Z,160nm,1.3s						
ABPO	**Ambohimpanom**	**16.29**	**308**	*e*Pn	**Pn**	**04 26 15.3**	**-1.5**
	comp=Z,160nm,1.3s						
ABPO				*e*Sn	Sn	04 29 04.1	-13
OPO	**Ambohidratompo**	**16.62**	**309**	Pn	**Pn**	**04 26 19.2**	**-1.9**
OPO				Sn	Sn	04 29 11.6	-14
OPO	**Ambohidratompo**	**16.62**	**309**	Pn	**Pn**	**04 26 19.2**	**-1.9**
	comp=Z,1.5nm,0.3s,baz=119,slow=12,SNR=24						
OPO				Sn	Sn	04 29 11.6	-14
	comp=Z,4.0nm,0.3s,baz=270,slow=17,SNR=6.9						
OPO				LR	LR	04 31 13.9	
	comp=Z,1μm,20.8s,baz=140,slow=32						
DGAR	**Diego Garcia**	**24.72**	**29**	PFAKE		04 28 00.0	+11
DGAR				LR	LR		
	comp=Z,2μm,21.0s						
MSEY	**Mahe Island**	**25.39**	**348**	PFAKE		04 28 10.0	+15
MSEY				LR	LR		
	comp=Z,2μm,20.0s						
BOSA	**Boshof**	**30.99**	**263**	*e*P	**P**	**04 28 45.6**	**+0.2**
	comp=Z,96nm,1.6s						
BOSA	**Boshof**	**30.99**	**263**	P	**P**	**04 28 45.6**	**+0.2**
	comp=Z,16nm,0.8s,baz=97,slow=7.8,SNR=23						
BOSA				LR	LR	04 38 54.1	
	comp=Z,866nm,19.5s,baz=104,slow=32						
LBTB	**Lobatse**	**31.54**	**270**	*e*P	**P**	**04 28 50.2**	**0.0**
	comp=Z,31nm,1.0s						
LSZ	**Lusaka**	**33.24**	**288**	*e*P	**P**	**04 29 05.7**	**+0.5**
	comp=Z,34nm,1.1s						
LSZ				*e*PcP	**PcP**	**04 31 48.3**	**+0.6**
LSZ				LR	LR		
	comp=Z,384nm,20.0s						
SUR	**Sutherland**	**34.23**	**255**	*e*P	**P**	**04 29 14.3**	**+0.4**
SUR				LR	LR		
	comp=Z,1μm,20.0s						
SUR	**Sutherland**	**34.23**	**255**	P	**P**	**04 29 15.3**	**+1.4**
	comp=Z,191nm,0.9s,SNR=8.6						
SUR	**Sutherland**	**34.23**	**255**	P	**P**	**04 29 14.8**	**+0.9**
	comp=Z,22nm,0.9s,baz=112,slow=8.3,SNR=17						
KMBO	**Kilima Mbogo**	**36.18**	**317**	P	**P**	**04 29 32.2**	**+1.4**
	SNR=7.4						
KMBO	**Kilima Mbogo**	**36.18**	**317**	*e*P	**P**	**04 29 31.1**	**+0.3**
	comp=Z,34nm,1.8s						
KMBO				*e*PcP	**PcP**	**04 31 57.0**	**+0.7**
KMBO				LR	LR		
	comp=Z,597nm,21.0s						
KMBO	**Kilima Mbogo**	**36.18**	**317**	P	**P**	**04 29 31.4**	**+0.6**
	comp=Z,2.7nm,0.9s,baz=143,slow=7.4,SNR=10						
KMBO				PcP	**PcP**	**04 31 57.5**	**+1.2**
	comp=Z,4.0nm,1.1s,baz=163,slow=4.3,SNR=4.1						
KMBO				LR	LR	04 41 51.4	
	comp=Z,628nm,20.4s,baz=67,slow=32						
MAW	**Mawson**	**37.96**	**179**	P	**P**	**04 29 45.9**	**+0.8**
MAW	**Mawson**	**37.96**	**179**	P	**P**	**04 29 45.9**	**+0.8**
	comp=Z,10nm,0.7s,baz=347,slow=9.4,SNR=26						
MAW				LR	LR	04 43 19.0	
	comp=Z,923nm,18.1s,baz=345,slow=33						
TSUM	**Tsumeb**	**40.50**	**275**	*e*P	**P**	**04 30 07.7**	**+0.6**
	comp=Z,35nm,1.2s						
TSUM				PcP	**PcP**	**04 32 10.9**	**+1.3**
TSUM				LR	LR		
	comp=Z,730nm,21.0s						
TSUM	**Tsumeb**	**40.50**	**275**	P	**P**	**04 30 07.3**	**+0.3**
	comp=Z,18nm,1.1s,baz=124,slow=7.7,SNR=11						
TSUM				PcP	**PcP**	**04 32 10.9**	**+1.3**
	comp=Z,3.8nm,0.8s,baz=79,slow=7.8,SNR=4.2						
MBAR	**Mbarara**	**40.70**	**310**	PFAKE		04 30 20.0	+11
MBAR				LR	LR		
	comp=Z,539nm,21.0s						
SYO	**Syowa Base**	**41.24**	**191⇑**	*e*P	**P**	**04 30 12.1**	**-0.2**
SYO	**Syowa Base**	**41.24**	**191⇓**	*e*pP	pP	04 30 16.2	-1.1
CASY	**Casey**	**47.30**	**155**	*e*P	**P**	**04 31 01.8**	**+1.0**
CASY				LR	LR		
	comp=Z,828nm,21.0s						
PDSI	**Padang**	**47.34**	**60**	P	P	04 31 05.5	+3.6
	comp=Z,99nm,1.5s						
PPI	**Padang Panjang**	**47.59**	**60**	P	P	04 31 07.7	+3.9
	comp=Z,50nm,1.4s,comp=Z,855nm						
KCSI	**Kotacane, Aceh**	**48.41**	**53**	P	P	04 31 15.0	+4.9
	comp=Z,24nm,1.4s,comp=Z,678nm						
BKNI	**Bangkinang**	**48.59**	**59**	P	P	04 31 15.6	+4.1
	comp=Z,128nm,1.3s,comp=Z,2μm						
MAIT	**Maitri**	**49.17**	**199**	*e*P	**P**	**04 31 14.0**	**-1.2**
LEM	**Lembang**	**49.50**	**72**	P	P	04 31 25.7	+7.0
	comp=Z,50nm,1.9s						
POO	**Poona**	**49.56**	**16⇓**	*i*P	**P**	**04 31 17.0**	**-1.9**
HYB	**Hyderabad**	**49.87**	**22**	*i* P	**P**	**04 31 19.5**	**-1.7**
IPM	**Ipoh**	**51.38**	**55**	*e*P	**P**	**04 31 33.2**	**+0.5**
	comp=Z,109nm,1.4s						
IPM	**Ipoh**	**51.38**	**55**	P	**P**	**04 31 33.3**	**+0.5**
	comp=Z,61nm,1.4s						
KULM	**Kulim**	**51.68**	**54**	*e*P	**P**	**04 31 35.1**	**+0.1**
	comp=Z,29nm,1.3s						
WBK	**Wadi Bani Khal**	**52.03**	**358**	P	**P**	**04 31 37.0**	**-0.4**
	SNR=5.4						
BSY	**Bisya**	**52.25**	**356**	P	**P**	**04 31 38.4**	**-0.6**
	SNR=9.4						
SMDO	**Samad**	**52.51**	**357**	P	**P**	**04 31 40.6**	**-0.5**
	SNR=7.4						
ARQ	**Araqi**	**52.88**	**355**	P	**P**	**04 31 43.2**	**-0.5**
	SNR=7.7						
HOQ	**Hoqain**	**53.07**	**356**	P	**P**	**04 31 44.3**	**-0.8**
	SNR=6.8						
MBWA	**Marble Bar**	**53.41**	**95**	*e*P	**P**	**04 31 46.6**	**-1.2**
	comp=Z,33nm,1.2s						
ASHO	**Ashiyiah**	**54.25**	**355**	P	**P**	**04 31 52.8**	**-1.0**
	SNR=7.5						
VNA2	**Neumayer--Watz**	**55.13**	**202**	*e*P	**P**	**04 32 00.4**	**+0.8**
VNA1	**Neumayer--Stat**	**55.37**	**202**	*e*P	**P**	**04 32 03.0**	**+1.7**
KSM	**Kuching**	**56.48**	**66**	PFAKE		04 32 20.0	+10
KSM				LR	LR		
	comp=Z,248nm,20.0s						
FORT	**Forrest**	**57.29**	**109**	*e*P	**P**	**04 32 15.4**	**-0.2**
	comp=Z,41nm,0.9s						
SBUM	**Sibu**	**58.59**	**66**	P	P	04 32 29.0	+4.1
	comp=Z,21nm,1.7s						
DRV	**Dumont d'Urvil**	**58.88**	**153**	S	**S**	**04 40 28.0**	**-2.9**
FITZ	**Fitzroy Crossi**	**59.73**	**95**	*e*P	**P**	**04 32 31.6**	**-1.1**
	comp=Z,33nm,1.0s						
NAY	**Al-Naaiem**	**60.02**	**346**	*e*P	**P**	**04 32 33.5**	**-0.9**
NAY				AMb	AMB	04 32 34.8	
	comp=Z,40nm,1.1s						
PBKT	**Sadao Pong**	**60.13**	**46**	P	**P**	**04 32 37.1**	**+1.7**
	comp=Z,11nm,1.4s						
RST	**Umm Al-Ruwaisa**	**60.32**	**346**	*e*P	**P**	**04 32 35.4**	**-1.1**
RST				AMb	AMB	04 32 37.3	
	comp=Z,354nm,0.9s						
CM31	**Chiang Mai Arr**	**60.36**	**42**	*e*P	**P**	**04 32 38.2**	**+1.2**
	comp=Z,12nm,0.8s						
CMAR	**Chiang Mai Arr**	**60.36**	**42**	P	**P**	**04 32 36.7**	**-0.3**
CMAR	**Chiang Mai Arr**	**60.36**	**42**	P	**P**	**04 32 36.7**	**-0.3**
	comp=Z,5.9nm,0.9s,baz=231,slow=6.8,SNR=15						
CMAR				LR	LR	04 56 14.6	
	comp=Z,482nm,18.7s,baz=212,slow=34						
QSPA	**South Pole Qui**	**60.47**	**180**	*e*P	**P**	**04 32 37.7**	**+0.4**
	comp=Z,93nm,1.0s						
QSPA				LR	LR		
	comp=Z,908nm,20.0s						
CHTO	**Chiang Mai**	**60.64**	**42**	*e*P	**P**	**04 32 38.0**	**-0.9**
CHTO				MLR	MLR		
	comp=Z,520nm,19.0s						
CHTO	**Chiang Mai**	**60.64**	**42**	*e*P	**P**	**04 32 38.0**	**-0.9**
CHTO				LR	LR		
	comp=Z,520nm,19.0s						
KAPI	**Kappang**	**60.67**	**78**	*e*P	**P**	**04 32 38.9**	**-0.3**
	comp=Z,19nm,1.1s						
KAPI				LR	LR		
	comp=Z,314nm,19.0s						
IMEH	**Mehriz**	**61.03**	**354**	*e*P	**P**	**04 32 40.2**	**-1.4**
IBAF	**Bafgh**	**61.15**	**355**	*e*P	**P**	**04 32 40.6**	**-1.7**
KOLN	**Koldanda**	**61.16**	**23**	*e*P	**P**	**04 32 40.9**	**-1.6**
	comp=Z,63nm,1.4s						
MMSI	**Mamuju**	**61.17**	**75**	P	**P**	**04 32 45.8**	**+3.1**
	comp=Z,64nm,1.6s						
PYUN	**Piuthan**	**61.26**	**22**	*e*P	**P**	**04 32 42.0**	**-1.2**
	comp=Z,93nm,0.6s						
RAMN	**Ramite**	**61.50**	**26**	*e*P	**P**	**04 32 44.0**	**-0.9**
	comp=Z,149nm,1.8s						
DMN	**Daman**	**61.54**	**25**	*e*P	**P**	**04 32 44.5**	**-0.6**
	comp=Z,62nm,1.3s						
PKIN	**Phulchoki**	**61.62**	**25**	*e*P	**P**	**04 32 44.4**	**-1.3**
	comp=Z,48nm,1.7s						
ISAD	**Sadrabad**	**61.64**	**353**	*e*P	**P**	**04 32 46.6**	**+0.9**
ODAN	**Odare**	**61.73**	**27**	*e*P	**P**	**04 32 45.1**	**-1.3**
	comp=Z,20nm,0.9s						
GKN	**Gorkha**	**61.73**	**24**	*e*P	**P**	**04 32 44.9**	**-1.4**
	comp=Z,63nm,1.0s						
DANN	**Dangsing**	**61.74**	**23**	*e*P	**P**	**04 32 45.6**	**-1.0**
	comp=Z,87nm,1.1s						
KKN	**Kakani**	**61.77**	**25**	*e*P	**P**	**04 32 45.9**	**-0.7**
	comp=Z,70nm,1.4s						
ICHK	**Chekchek**	**61.89**	**354**	*e*P	**P**	**04 32 47.1**	**-0.3**
JIRN	**Jiri**	**61.98**	**26**	*e*P	**P**	**04 32 47.2**	**-1.1**
	comp=Z,20nm,0.9s						
GUN	**Gumba**	**62.09**	**25**	*e*P	**P**	**04 32 47.9**	**-1.1**
	comp=Z,171nm,1.7s						
SOEI	**Soe**	**62.22**	**85**	P	P	04 32 55.9	+6.0
	comp=Z,36nm,1.5s						
TAPN	**Taplejung**	**62.29**	**27**	*e*P	**P**	**04 32 50.4**	**+0.1**
	comp=Z,36nm,1.0s						
IZEF	**Zefreh**	**62.76**	**352**	*e*P	**P**	**04 32 52.4**	**-0.8**
IKLH	**Kolahrood**	**63.27**	**351**	*e*P	**P**	**04 32 56.0**	**-0.6**
VNDA	**Vanda**	**63.59**	**166**	*e*P	**P**	**04 32 58.4**	**+0.4**
	comp=Z,35nm,1.0s						
VNDA				P'P'		05 01 54.9	
VNDA	**Vanda**	**63.59**	**166**	P	**P**	**04 32 58.4**	**+0.4**
	comp=Z,26nm,0.9s,baz=265,slow=6.9,SNR=125						
VNDA				LR	LR	04 59 03.0	
	comp=Z,880nm,18.5s,baz=257,slow=34						
VNDA				PKPPKP	**P'P'df**	**05 01 54.9**	**-5.1**
	comp=Z,4.2nm,1.1s,baz=123,slow=2.7,SNR=7.9						
KKM	**Kota Kinabalu**	**63.92**	**66**	PFAKE		04 33 10.0	+8.9
KKM				LR	LR		
	comp=Z,192nm,19.0s						
EIL	**Elat**	**63.97**	**335**	LR	LR	04 57 25.3	
	comp=Z,410nm,19.0s,baz=272,slow=33						
ISFB	**Sefidab**	**64.21**	**352**	*e*P	**P**	**04 33 02.0**	**-0.6**
KBL	**Kabul**	**64.36**	**8**	*e*P	**P**	**04 33 03.5**	**-0.2**
KBL				pmax	pmax		
	comp=Z,8.0nm,0.5s						
KBL	**Kabul**	**64.36**	**8**	*e*P	**P**	**04 33 03.5**	**-0.2**
	comp=Z,8.0nm,0.5s						
SBA	**Scott Base**	**64.47**	**167**	*e*P	**P**	**04 33 05.2**	**+1.5**
SBA				pmax	pmax		
	comp=Z,37nm,0.9s						
SBA	**Scott Base**	**64.47**	**167**	*e*P	**P**	**04 33 05.2**	**+1.5**
	comp=Z,37nm,0.9s						
ASAR	**Alice Springs**	**64.62**	**104**	P	**P**	**04 33 04.7**	**-1.0**
ASAR				P'P'		05 01 52.6	
ASAR	**Alice Springs**	**64.62**	**104**	P	**P**	**04 33 04.7**	**-1.0**
	comp=Z,15nm,0.7s,baz=242,slow=6.3,SNR=149						
ASAR				PKPPKP	**P'P'df**	**05 01 52.6**	**-3.6**
	comp=Z,3.0nm,1.1s,baz=69,slow=2.3,SNR=6.7						
AS31	**Alice Springs**	**64.62**	**104**	*e*P	**P**	**04 33 04.4**	**-1.3**
IVRN	**Varamin**	**64.91**	**352**	*e*P	**P**	**04 33 06.7**	**-0.4**
IANJ	**Anjilo**	**65.13**	**354**	*e*P	**P**	**04 33 08.5**	**-0.3**
IFIR	**Firoozkooh**	**65.42**	**353**	*e*P	**P**	**04 33 09.9**	**-0.8**
IR3	**Iran Long-Peri**	**65.47**	**351**	*e*P	**P**	**04 33 08.6**	**-2.2**
ISHM	**Shahmirzad**	**65.53**	**353**	*e*P	**P**	**04 33 11.3**	**-0.1**
IRAZ	**Razeghan**	**65.55**	**350**	*e*P	**P**	**04 33 11.2**	**-0.3**
ASF	**Jabal al Asfar**	**65.58**	**338**	LR	LR	04 58 01.3	
	comp=Z,138nm,19.5s,baz=208,slow=33						
LSA	**Lhasa**	**65.77**	**29**	P	**P**	**04 33 14.0**	**+0.7**
LSA	**Lhasa**	**65.77**	**29**	PFAKE		04 33 20.0	+6.7
LSA				LR	LR		
	comp=Z,490nm,20.0s						
IAKL	**Akhelmad**	**65.97**	**358**	*e*P	**P**	**04 33 12.1**	**-2.1**
ISFR	**Sfrayin**	**66.44**	**358**	*e*P	**P**	**04 33 17.5**	**+0.3**
WRA	**Warramunga Arr**	**66.48**	**100**	P	**P**	**04 33 16.9**	**-0.8**
WRA				⇑*e*		05 01 53.5	
WRA	**Warramunga Arr**	**66.48**	**100**	P	**P**	**04 33 16.9**	**-0.8**
	comp=Z,27nm,0.9s,baz=244,slow=5.5,SNR=61						
WRA				LR	LR	04 58 53.4	
	comp=Z,266nm,18.8s,baz=280,slow=33						
WRA				PKP2bc		05 01 53.5	
	comp=Z,7.8nm,1.1s,baz=72,slow=2.6,SNR=14						
WRAB	**Tennant Creek**	**66.49**	**100**	*e*P	**P**	**04 33 16.6**	**-1.1**
WRAB				pmax	pmax		
	comp=Z,40nm,0.9s						
WRAB	**Tennant Creek**	**66.49**	**100**	*e*P	**P**	**04 33 16.6**	**-1.1**
	comp=Z,40nm,0.9s						
WRAB	**Tennant Creek**	**66.49**	**100**	P	**P**	**04 33 17.0**	**-0.8**
	comp=Z,260nm,0.8s,SNR=14						
MMAI	**Mount Meron Ar**	**66.85**	**337**	LR	LR	05 03 27.5	
	comp=Z,280nm,18.2s,baz=130,slow=37						
QIZ	**Qiongzhong**	**67.67**	**51**	P	**P**	**04 33 25.3**	**+0.2**
QIZ				sP	**sP**	**04 33 30.5**	**-1.8**
QIZ				PP	**PP**	**04 35 54.3**	**-0.3**
QIZ				S	**S**	**04 42 22.0**	**0.0**
QIZ				LR	LR		
	comp=N,310nm,18.0s						
QIZ				LR	LR		
	comp=Z,440nm,18.1s						
QIZ	**Qiongzhong**	**67.67**	**51**	PFAKE		04 33 40.0	+15
QIZ				LR	LR		
	comp=Z,456nm,20.0s						
KMI	**Kunming**	**67.75**	**41**	P	**P**	**04 33 26.5**	**+0.8**
KMI				sP	**sP**	**04 33 34.8**	**+1.8**
KMI				PP	PP	04 36 01.5	+6.0
KMI				S	**S**	**04 42 22.0**	**-1.2**
KMI				sS	**sS**	**04 42 34.5**	**+2.6**
KMI				SS	**SS**	**04 46 48.5**	**+3.4**
KMI				pmax	pmax		
	comp=Z,12nm,1.4s						
KMI				pmax	pmax		
	comp=Z,170nm,4.1s						
KMI				LR	LR		
	comp=N,260nm,19.8s						
KMI				LR	LR		
	comp=E,440nm,19.3s						
KMI				LR	LR		
	comp=Z,440nm,18.8s						
STKA	**Stephens Creek**	**67.83**	**115**	*e*P	**P**	**04 33 26.0**	**0.0**
	comp=Z,26nm,2.0s						
STKA	**Stephens Creek**	**67.83**	**115**	P	**P**	**04 33 25.6**	**-0.4**
	comp=Z,9.5nm,0.9s,baz=252,slow=9.3,SNR=5.9						
STKA				LR	LR	04 56 13.1	
	comp=Z,254nm,21.6s,baz=33,slow=30						
CSS	**Prodhromos**	**69.33**	**336**	*e*P	**P**	**04 33 35.6**	**+0.4**
	comp=Z,21nm,0.8s						
CSS				LR	LR		
	comp=Z,691nm,20.0s						
KSH	**Kashi**	**70.29**	**12**	P	P	04 33 37.8	-3.3
KSH				pP	pP	04 33 42.5	-3.9
KSH				PP	**PP**	**04 36 13.3**	**-3.8**
KSH				S	S	04 42 42.5	-10
KSH				ScS	SKSac	04 43 34.5	-7.4
KSH				pmax	pmax		
	comp=Z,29nm,1.0s						
KSH				pmax	pmax		
	comp=Z,180nm,4.5s						
KSH				LR	LR		
	comp=N,180nm,6.0s						
KSH				LR	LR		
	comp=E,200nm,9.7s						
KSH				LR	LR		
	comp=Z,290nm,19.9s						
TUTA	**Tutak**	**70.75**	**345**	*i* P	**P**	**04 33 45.8**	**+1.8**
GYA	**Guiyang**	**71.05**	**43**	*e*P	**P**	**04 33 48.5**	**+2.5**
GYA				PP	**PP**	**04 36 28.5**	**+4.6**
GYA				S	**S**	**04 43 03.8**	**+2.0**
GYA				SKS	**SKSac**	**04 43 47.0**	**-1.2**
GYA				SS	**SS**	**04 47 39.5**	**+3.8**
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,120nm,5.6s						
GYA				LR	LR		
	comp=N,680nm,21.2s						
GYA				LR	LR		
	comp=E,550nm,20.0s						
GYA				LR	LR		
	comp=Z,700nm,20.5s						
TORD	**Torodi Ar. Bea**	**71.11**	**298**	P	**P**	**04 33 46.5**	**+0.1**
TORD	**Torodi Ar. Bea**	**71.11**	**298**	P	**P**	**04 33 46.5**	**+0.1**
	comp=Z,12nm,0.8s,baz=115,slow=5.1,SNR=69						
TORD				LR	LR	05 05 50.8	
	comp=Z,378nm,18.2s,baz=105,slow=37						
HOMI	**Horasan**	**71.57**	**345**	*i* P	**P**	**04 33 50.4**	**+1.4**
KEMA	**Kemaliye**	**71.69**	**342**	*i* P	**P**	**04 33 50.1**	**+0.6**
CAN	**Canberra**	**72.18**	**121**	*e*P	**P**	**04 33 52.6**	**-0.2**
CAN				pmax	pmax		
	comp=Z,49nm,1.1s						
CAN	**Canberra**	**72.18**	**121**	*e*P	**P**	**04 33 52.6**	**-0.2**
	comp=Z,49nm,1.1s						
KIC	**Kosan Boka**	**72.31**	**288**	*e*P	**P**	**04 33 54.2**	**+0.4**
	comp=Z,123nm,1.4s						
AML	**Almayashu**	**72.45**	**10**	P	**P**	**04 33 54.0**	**-0.4**
	SNR=13						
LIC	**Lamto**	**72.47**	**288**	*e*P	**P**	**04 33 55.8**	**+1.1**
	comp=Z,31nm,1.2s						
LIC				*e*R			
	comp=Z,373nm,21.8s						
LIC	**Lamto**	**72.47**	**288**	*e*P	**P**	**04 33 55.6**	**+0.9**
	comp=Z,35nm,1.2s						
LIC	**Lamto**	**72.47**	**288**	*e*P	**P**	**04 33 55.8**	**+1.1**
	comp=Z,31nm,1.2s						
DAGI	**Agillar**	**72.55**	**345**	*i* P	**P**	**04 33 55.7**	**+1.0**
DBIC	**Dimbokro**	**72.58**	**288**	*e*P	**P**	**04 33 56.2**	**+0.8**
	comp=Z,18nm,1.0s						
DBIC	**Dimbokro**	**72.58**	**288**	P	**P**	**04 33 56.1**	**+0.8**
	comp=Z,12nm,1.1s,baz=114,slow=7.7,SNR=9.7						
DBIC				LR	LR	05 03 42.9	
	comp=Z,251nm,19.7s,baz=277,slow=34						
SUSE	**Susehri**	**72.64**	**342**	*i* P	**P**	**04 33 56.6**	**+1.3**
KZA	**Kyzart**	**72.64**	**11**	P	**P**	**04 33 56.5**	**+0.9**
	SNR=7.6						
TIC	**Toumodi**	**72.70**	**288**	*e*P	**P**	**04 33 55.3**	**-0.8**
	comp=Z,57nm,1.2s						
CD2	**Chengdu**	**72.81**	**38**	P	**P**	**04 33 55.8**	**-0.6**
CD2				pP	**pP**	**04 34 00.5**	**-1.2**
CD2				sP	**sP**	**04 34 02.8**	**-0.9**
CD2				PcP	**PcP**	**04 34 12.8**	**-0.7**
CD2				PP	**PP**	**04 36 40.3**	**+1.4**
CD2				S	**S**	**04 43 21.5**	**-0.3**
CD2				sS	**SKiKP**	**04 43 28.8**	**-0.8**
CD2				SS	**SS**	**04 48 04.3**	**+1.7**
CD2				pmax	pmax		
	comp=Z,20nm,1.4s						
CD2				pmax	pmax		
	comp=Z,180nm,4.3s						
CD2				LR	LR		
	comp=N,530nm,10.7s						
CD2				LR	LR		
	comp=Z,470nm,22.6s						
ISP	**Isparta**	**72.89**	**335**	*e*P	**P**	**04 33 57.3**	**+0.5**
ISP	**Isparta**	**72.89**	**335**	PFAKE		04 34 10.0	+13
ISP				LR	LR		
	comp=Z,336nm,21.0s						
GVD	**Gavdhos**	**72.93**	**329**	*e*P	**P**	**04 33 58.1**	**+1.1**
	comp=Z,206nm,1.1s						
IDI	**Anoyia**	**72.95**	**330**	P	**P**	**04 33 57.3**	**+0.2**
IDI	**Anoyia**	**72.95**	**330**	P	**P**	**04 33 57.3**	**+0.2**
	comp=Z,19nm,0.8s,baz=144,slow=8.0,SNR=4.1						
EKS2	**Erkin-Say**	**72.98**	**10**	*e*P	**P**	**04 33 57.1**	**-0.1**
EKS2				pmax	pmax		
	comp=Z,28nm,1.0s						
EKS2				MLR	MLR		
	comp=Z,192nm,19.0s						
EKS2	**Erkin-Say**	**72.98**	**10**	P	**P**	**04 33 57.6**	**+0.4**
	SNR=16						
EKS2	**Erkin-Say**	**72.98**	**10**	*e*P	**P**	**04 33 57.1**	**-0.1**
	comp=Z,28nm,1.0s						
EKS2				LR	LR		
	comp=Z,192nm,19.0s						
KK31	**Karatay Array**	**72.98**	**7**	*ce*P	**P**	**04 33 56.9**	**-0.2**
KK31				pmax	pmax		
	comp=Z,19nm,0.9s						
KKAR	**Karatay Array**	**72.98**	**7**	*e*P	**P**	**04 33 57.0**	**-0.1**
KKAR				pmax	pmax		
	comp=Z,27nm,1.1s						
KKAR	**Karatay Array**	**72.98**	**7**	*e*P	**P**	**04 33 57.0**	**-0.1**
	comp=Z,26nm,1.1s						
AAK	**Ala-Archa**	**73.06**	**11**	*c i*P	**P**	**04 33 58.1**	**+0.3**
AAK				pmax	pmax		
	comp=Z,82nm,1.3s						
AAK	**Ala-Archa**	**73.06**	**11**	P	**P**	**04 33 58.5**	**+0.7**
	SNR=15						
AAK	**Ala-Archa**	**73.06**	**11**	P	**P**	**04 33 58.1**	**+0.3**
	SNR=12						
AAK	**Ala-Archa**	**73.06**	**11**	*e*P	**P**	**04 33 57.7**	**-0.1**
	comp=Z,38nm,1.4s						
AAK				LR	LR		
	comp=Z,300nm,20.0s						
AAK	**Ala-Archa**	**73.06**	**11**	LR	LR	05 02 32.9	
	comp=Z,220nm,20.2s,baz=216,slow=33						
FRU	**Bishkek**	**73.28**	**11**	*e*P	**P**	**04 33 58.0**	**-0.9**
FRU				pmax	pmax		
	comp=Z,70nm,2.0s						
MAK	**Makhachkala**	**73.32**	**350**	*e*P	P	04 34 03.0	+4.0
MAK				MLR	MLR		
	comp=Z,354nm,15.0s						
TKM2	**Tokmak 2**	**73.52**	**11**	*e*P	**P**	**04 33 59.8**	**-0.8**
TKM2				pmax	pmax		
	comp=Z,26nm,1.1s						
TKM2				MLR	MLR		
	comp=Z,326nm,21.0s						
TKM2	**Tokmak 2**	**73.52**	**11**	P	**P**	**04 34 00.2**	**-0.4**
	SNR=20						
TKM2	**Tokmak 2**	**73.52**	**11**	*e*P	**P**	**04 33 59.8**	**-0.8**
	comp=Z,26nm,1.1s						
TKM2				LR	LR		
	comp=Z,326nm,21.0s						
BR131	**Keskin Array S**	**73.54**	**338**	*e*P	**P**	**04 34 00.4**	**-0.2**
BRTR	**Keskin Array B**	**73.54**	**338**	P	**P**	**04 34 00.1**	**-0.5**

LZH	**Lanzhou**	**76.93**	**35**	*e*P	**P**	**04 34 19.5**	**-0.8**
LZH				pP	**pP**	**04 34 23.8**	**-1.8**
LZH				PP	**PP**	**04 37 14.5**	**+0.6**
LZH				*e*S	**S**	**04 44 06.0**	**-1.8**
LZH				*e*SS	**SS**	**04 49 05.5**	**+0.2**
LZH				pmax	pmax		
	comp=Z,35nm,1.5s						
LZH				pmax	pmax		
	comp=Z,160nm,8.2s						
LZH				LR	LR		
	comp=N,280nm,15.0s						
LZH				LR	LR		
	comp=E,260nm,15.3s						
LZH				LR	LR		
	comp=Z,380nm,18.0s						
WMQ	**Urumqi**	**77.19**	**20**	P	**P**	**04 34 23.5**	**+2.1**
WMQ				pP	**pP**	**04 34 28.3**	**+1.5**
WMQ				sP	**sP**	**04 34 30.5**	**+1.8**
WMQ				pmax	pmax		
	comp=Z,16nm,1.4s						
WMQ				pmax	pmax		
	comp=Z,380nm,4.2s						
WMQ				LR	LR		
	comp=N,350nm,20.0s						
WMQ				LR	LR		
	comp=E,270nm,20.0s						
WMQ				LR	LR		
	comp=Z,280nm,18.5s						
GTA	**Gaotai**	**77.75**	**30**	*e*P	**P**	**04 34 24.5**	**-0.2**
GTA				pP	**pP**	**04 34 30.3**	**+0.2**
GTA				sP	**sP**	**04 34 34.0**	**+2.0**
GTA				S	**S**	**04 44 15.0**	**-1.5**
GTA				sS	**sS**	**04 44 24.0**	**-1.3**
GTA				SKS	**SKSac**	**04 44 31.8**	**-5.9**
GTA				SS	**SS**	**04 49 18.8**	**+1.3**
GTA				pmax	pmax		
	comp=Z,14nm,1.3s						
GTA				pmax	pmax		
	comp=Z,190nm,3.8s						
GTA				LR	LR		
	comp=N,230nm,18.5s						
GTA				LR	LR		
	comp=E,160nm,17.1s						
GTA				LR	LR		
	comp=Z,320nm,16.1s						
XAN	**Xi'an**	**78.01**	**39**	P	**P**	**04 34 24.8**	**-1.4**
XAN				pP	**pP**	**04 34 30.5**	**-1.0**
EIDS	**Eidsvold**	**78.10**	**112**	*e*P	**P**	**04 34 26.3**	**-0.7**
	comp=Z,18nm,0.9s						
SIM	**Simferopol'**	**78.16**	**341**	*e*P	**P**	**04 34 28.7**	**+2.0**
SIM				pmax	pmax		
	comp=Z,39nm,1.1s						
SSLB	**Suanglung**	**78.52**	**54**	*e*P	**P**	**04 34 29.4**	**+0.2**
	comp=Z,53nm,1.3s						
MK31	**Makanchi Array**	**78.57**	**15***ce*P		**P**	**04 34 30.0**	**+1.0**
MK31				pmax	pmax		
	comp=Z,12nm,1.1s						
MK31	**Makanchi Array**	**78.57**	**15**	*e*P	**P**	**04 34 28.6**	**-0.4**
MKAR	**Makanchi Array**	**78.57**	**15***ce*P		**P**	**04 34 30.7**	**+1.7**
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
MKAR	**Makanchi Array**	**78.57**	**15**	P	**P**	**04 34 27.9**	**-1.1**
MKAR	**Makanchi Array**	**78.57**	**15**	P	**P**	**04 34 27.9**	**-1.1**
	comp=Z,6.2nm,0.8s,baz=191,slow=5.6,SNR=30						
MKAR				LR	LR	05 06 55.2	
	comp=Z,190nm,18.5s,baz=7.6,slow=34						
AB31	**Akbulak array**	**78.59**	**359***ce*P		**P**	**04 34 28.2**	**-0.8**
AB31				pmax	pmax		
	comp=Z,36nm,0.9s						
ABKAR	**Akbulak array**	**78.59**	**359**	*e*P	**P**	**04 34 28.4**	**-0.6**
	comp=Z,36nm,1.0s						
TIRR	**Tirgusor**	**79.50**	**337**	⇓P	**P**	**04 34 33.6**	**-0.4**
TIRR	**Tirgusor**	**79.50**	**337**	*e*P	**P**	**04 34 33.2**	**-0.8**
	comp=Z,58nm,1.3s						
CEL	**Celeste**	**79.56**	**326**	PFAKE		04 34 50.0	+15
CEL				LR	LR		
	comp=Z,418nm,20.0s						
AKTO	**Aktyubinsk**	**79.81**	**358**	P	**P**	**04 34 35.3**	**-0.3**
AKTO	**Aktyubinsk**	**79.81**	**358**	P	**P**	**04 34 35.3**	**-0.3**
AKTO	**Aktyubinsk**	**79.81**	**358**	P	**P**	**04 34 35.3**	**-0.3**
	comp=Z,8.5nm,0.9s,baz=196,slow=3.4,SNR=16						
AKTO				LR	LR	05 09 33.8	
	comp=Z,255nm,19.0s,baz=359,slow=36						
VTS	**Vitosha**	**79.81**	**333**	⇑P	**P**	**04 34 35.7**	**-0.3**
TIR	**Tirane**	**80.18**	**330**	PFAKE		04 34 50.0	+12
TIR				LR	LR		
	comp=Z,554nm,19.0s						
CFR	**Carcaliu**	**80.23**	**337**	⇑P	**P**	**04 34 37.8**	**-0.2**
CFR	**Carcaliu**	**80.23**	**337**	⇑*i*P	**P**	**04 34 37.8**	**-0.2**
CUC	**Castrocucco**	**80.95**	**327**	PFAKE		04 34 50.0	+7.9
CUC				LR	LR		
	comp=Z,391nm,21.0s						
KEST	**Kesra**	**81.11**	**320**	*e*P	**P**	**04 34 43.0**	**0.0**
KEST	**Kesra**	**81.11**	**320**	P	**P**	**04 34 42.7**	**-0.4**
	comp=Z,1.5nm,1.0s,baz=75,slow=11,SNR=2.3						
KEST				LR	LR	05 12 15.5	
	comp=Z,191nm,18.2s,baz=349,slow=37						
MLR	**Muntele Rosu**	**81.26**	**336**	P	**P**	**04 34 43.2**	**-0.5**
MLR	**Muntele Rosu**	**81.26**	**336**	P	**P**	**04 34 43.2**	**-0.5**
	comp=Z,4.2nm,1.0s,baz=156,slow=12						
VRI	**Vrincioaia**	**81.31**	**337**	⇓P	**P**	**04 34 44.1**	**+0.3**
PLOR	**Plostina**	**81.32**	**337**	⇑P	**P**	**04 34 43.8**	**-0.1**
VOIR		**81.53**	**335**	⇓P	**P**	**04 34 44.4**	**-0.7**
KURK	**Kurchatov**	**81.59**	**11**	P	**P**	**04 34 44.0**	**-1.1**
	comp=Z,91nm,1.2s,SNR=12						
KURK	**Kurchatov**	**81.59**	**11***d*	*i*P	**P**	**04 34 45.9**	**+0.8**
KURK				pmax	pmax		
	comp=Z,31nm,1.6s						
KURK	**Kurchatov**	**81.59**	**11**	P	**P**	**04 34 45.5**	**+0.3**
	SNR=19						
KURK	**Kurchatov**	**81.59**	**11**	*e*P	**P**	**04 34 44.5**	**-0.6**
	comp=Z,24nm,1.2s						
KURK				LR	LR		
	comp=Z,148nm,19.0s						
ARR	**Arges**	**81.62**	**335**	⇑*i*P	**P**	**04 34 44.6**	**-0.9**
VRHR	**Novokhopersk**	**82.20**	**348**	*e*P	**P**	**04 34 51.2**	**+2.9**
VRHR				pmax	pmax		
	comp=Z,40nm,1.3s						
VRHR				pmax	pmax		
	comp=N,40nm,0.7s						
VRHR				pmax	pmax		
	comp=E,30nm,1.4s						
PMG	**Port Moresby**	**82.27**	**96**	*e*P	**P**	**04 34 49.4**	**-0.3**
	comp=E,28nm,1.2s						
PMG				LR	LR		
	comp=Z,284nm,20.0s						
PMG	**Port Moresby**	**82.27**	**96**	LR	LR	05 11 32.6	
	comp=Z,175nm,18.3s,baz=208,slow=36						
NJ2	**Nanjing**	**82.49**	**47**	*e*P	**P**	**04 34 50.8**	**+0.5**
NJ2				pmax	pmax		
	comp=Z,28nm,0.8s						
VORD	**Divnogorie**	**82.52**	**346**	*e*P	**P**	**04 34 50.1**	**+0.1**
VORD				pmax	pmax		
	comp=Z,10.0nm,0.9s						
VORD				pmax	pmax		
	comp=N,20nm,0.7s						
VORD				pmax	pmax		
	comp=E,100nm,0.7s						
BVA0	**Borovoye Array**	**82.79**	**6**	*i*P	**P**	**04 34 50.6**	**-0.8**
BVA0				pmax	pmax		
	comp=Z,52nm,1.5s						
BVAR	**Borovoye Array**	**82.79**	**6**	LR	LR	05 08 38.3	
	comp=Z,317nm,21.9s,baz=265,slow=34						
BRVK	**Borovoye**	**82.81**	**6***d*	*i*P	**P**	**04 34 52.0**	**+0.5**
BRVK				pmax	pmax		
	comp=Z,13nm,1.0s						
BRVK	**Borovoye**	**82.81**	**6**	P	**P**	**04 34 54.4**	**+2.9**
	SNR=5.4						
BRVK	**Borovoye**	**82.81**	**6**	*e*P	**P**	**04 34 51.7**	**+0.2**
	comp=Z,15nm,1.1s						
BRVK				LR	LR		
	comp=Z,475nm,21.0s						
BZS	**Buzias**	**82.97**	**333**	⇑P	**P**	**04 34 52.5**	**0.0**
BZS	**Buzias**	**82.97**	**333**	⇑*i*P	**P**	**04 34 52.5**	**0.0**
BURAR	**Bucovina Array**	**83.34**	**337**	⇑*i*P	**P**	**04 34 54.9**	**+0.4**
BUR08	**Bucovina Ar. S**	**83.38**	**337**	*e*P	**P**	**04 34 54.6**	**-0.1**
SIRR	**Siria**	**83.50**	**334**	⇑*i*P	**P**	**04 34 55.8**	**+0.6**
DRGR		**83.54**	**335**	⇓P	**P**	**04 34 55.6**	**+0.1**
DRGR		**83.54**	**335**	⇓*i*P	**P**	**04 34 55.6**	**+0.1**
VSL	**Villasalto**	**83.82**	**323**	PFAKE		04 35 10.0	+13
VSL				LR	LR		
	comp=Z,259nm,20.0s						
HHC	**Hu-ho-hao-te**	**84.47**	**36**	*e*P	**P**	**04 35 00.0**	**-0.4**
HHC				pP	**PcP**	**04 35 04.8**	**+0.8**
HHC				sP	**sP**	**04 35 07.0**	**-0.8**
HHC				PP	**PP**	**04 38 17.8**	**+1.6**
HHC				S	**S**	**04 45 25.3**	**-0.9**
HHC				sS	**sS**	**04 45 33.0**	**-2.2**
HHC				SS	**SS**	**04 51 00.0**	**+2.4**
HHC				pmax	pmax		
	comp=Z,41nm,1.0s						
HHC				pmax	pmax		
	comp=Z,520nm,5.0s						
HHC				LR	LR		
	comp=N,440nm,16.1s						
HHC				LR	LR		
	comp=E,480nm,16.3s						
HHC				LR	LR		
	comp=Z,290nm,16.9s						
KIEV	**Kiev**	**84.77**	**340**	*e*P	**P**	**04 35 00.1**	**-1.4**
KIEV				pmax	pmax		
	comp=Z,42nm,1.4s						
KIEV	**Kiev**	**84.77**	**340**	*e*P	**P**	**04 35 00.1**	**-1.4**
	comp=Z,42nm,1.4s						
AKASG	**Malin Array Be**	**84.77**	**340***ce*P		**P**	**04 35 01.1**	**-0.5**
AKASG				pmax	pmax		
	comp=Z,19nm,1.1s						
AKASG	**Malin Array Be**	**84.77**	**340**	P	**P**	**04 35 00.6**	**-1.0**
AKASG	**Malin Array Be**	**84.77**	**340**	P	**P**	**04 35 00.6**	**-1.0**
	comp=Z,16nm,1.1s,baz=162,slow=4.2,SNR=31						
USHA	**Ushuaia**	**85.21**	**207**	P	**P**	**04 35 04.6**	**+0.6**
USHA	**Ushuaia**	**85.21**	**207**	P	**P**	**04 35 04.6**	**+0.6**
	comp=Z,15nm,0.8s,baz=108,slow=4.4,SNR=4.3						
UZH	**Uzhgorod**	**85.24**	**336**	*e*P	**P**	**04 35 04.6**	**+0.6**
KOLS	**Kolonicke sedl**	**85.50**	**336**	*e*P	**P**	**04 35 05.2**	**-0.1**
KOLS				pmax	pmax		
	comp=Z,13nm,1.5s						
KOLS	**Kolonicke sedl**	**85.50**	**336**	*e*P	**P**	**04 35 05.1**	**-0.2**
PSZ	**Piszkesteto**	**85.54**	**334**	*e*P	**P**	**04 35 02.9**	**-2.7**
PSZ				pmax	pmax		
	comp=Z,16nm,1.4s						
PSZ	**Piszkesteto**	**85.54**	**334**	*e*P	**P**	**04 35 02.9**	**-2.7**
	comp=Z,16nm,1.4s						
HVS	**Khovu-Aksy**	**85.55**	**20***c*	*i*P	**P**	**04 35 05.3**	**-0.3**
HVS				pmax	pmax		
	comp=Z,337nm,1.9s						
CRVS	**Cervenica-Dubn**	**85.77**	**335**	*e*P	**P**	**04 35 06.2**	**-0.4**
CRVS				pmax	pmax		
	comp=Z,18nm,1.4s						
CRVS	**Cervenica-Dubn**	**85.77**	**335**	*e*P	**P**	**04 35 06.1**	**-0.5**
KECS	**Kecovo**	**85.78**	**334**	*e*P	**P**	**04 35 05.7**	**-1.0**
KECS				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KECS	**Kecovo**	**85.78**	**334**	*e*P	**P**	**04 35 05.7**	**-1.0**
ZAA0	**Zalesovo Array**	**85.85**	**14**	*e*P	**P**	**04 35 05.8**	**-1.1**
ZALV	**Zalesovo Beam**	**85.85**	**14**	P	**P**	**04 35 05.6**	**-1.3**
ZALV	**Zalesovo Beam**	**85.85**	**14**	P	**P**	**04 35 05.5**	**-1.3**
ZALV	**Zalesovo Beam**	**85.85**	**14**	P	**P**	**04 35 05.5**	**-1.3**
	comp=Z,16nm,1.0s,baz=210,slow=5.0,SNR=17						
ZALV				LR	LR	05 10 53.2	
	comp=Z,203nm,20.5s,baz=70,slow=34						
SVE	**Sverdlovsk**	**86.17**	**360**	*e*P	**P**	**04 35 08.8**	**+0.4**
SVE				pmax	pmax		
	comp=Z,107nm,1.5s						
STHS	**Stebnicka Huta**	**86.28**	**335**	*e*P	**P**	**04 35 08.8**	**-0.3**
STHS				pmax	pmax		
	comp=Z,3.0nm,0.9s						
STHS	**Stebnicka Huta**	**86.28**	**335**	*e*P	**P**	**04 35 08.8**	**-0.3**
BJT	**Baijiatuan**	**86.32**	**39**	PFAKE		04 35 20.0	+10
BJT				LR	LR		
	comp=Z,320nm,21.0s						
BJI	**Beijing**	**86.34**	**39**	P	**P**	**04 35 09.8**	**+0.2**
BJI				S	**S**	**04 45 47.5**	**+3.0**
BJI				SS	**SS**	**04 51 28.8**	**+3.8**
BJI				pmax	pmax		
	comp=Z,15nm,0.7s						
BJI				pmax	pmax		
	comp=Z,240nm,3.9s						
BJI				LR	LR		
	comp=N,330nm,19.7s						
BJI				LR	LR		
	comp=E,290nm,18.0s						
BJI				LR	LR		
	comp=Z,230nm,22.8s						
NVS	**Novosibirsk**	**86.37**	**13**	*e*P	**P**	**04 35 08.3**	**-1.1**
NVS				pmax	pmax		
	comp=E,9.0nm,1.4s						
NVS				pmax	pmax		
	comp=Z,24nm,1.4s						
NVS				pmax	pmax		
	comp=E,5.0nm,1.4s						
VLC	**Villacollemand**	**86.73**	**326**	PFAKE		04 35 20.0	+8.5
VLC				LR	LR		
	comp=Z,264nm,20.0s						
OBN	**Obninsk**	**86.99**	**346**⇑	*e*P	**P**	**04 35 12.8**	**+0.4**
OBN				*e*		04 35 15.8	
OBN				*e*		04 45 57.9	
OBN				PPS	PPS	04 47 19.0	
OBN				SSS	SSS	04 55 10.0	
OBN				pmax	pmax		
	comp=Z,121nm,1.2s						
OBN				MLR	MLR		
	comp=Z,300nm,16.0s						
CONA	**Conrad Observa**	**87.16**	**332**⇑	*i*P	**P**	**04 35 13.5**	**-0.1**
	comp=Z,30nm,1.3s,SNR=9.4						
SONM	**Songino Array**	**87.36**	**29**	P	**P**	**04 35 13.6**	**-1.0**
SONM	**Songino Array**	**87.36**	**29**	P	**P**	**04 35 13.6**	**-1.0**
	comp=Z,7.3nm,1.2s,baz=206,slow=4.7,SNR=18						
MOS	**Moscow**	**87.36**	**347**	*e*P	**P**	**04 35 13.7**	**-0.5**
MOS				*e*		04 35 22.5	
MOS				*e*		04 38 40.7	
MOS				pmax	pmax		
	comp=Z,176nm,1.6s						
ULN	**Ulaanbaatar**	**87.66**	**29**	P	**P**	**04 35 15.8**	**-0.3**
	SNR=8.0						
ULN	**Ulaanbaatar**	**87.66**	**29**	*e*P	**P**	**04 35 15.1**	**-1.1**
	comp=Z,26nm,1.4s						
ULN				LR	LR		
	comp=Z,321nm,19.0s						
ABTA	**Abfaltersbach**	**87.69**	**329**		**P**	**04 35 16.4**	**+0.2**
	comp=Z,21nm,1.3s						
MDT	**Midelt**	**87.76**	**310**	P	**P**	**04 35 18.3**	**+1.3**
MDT	**Midelt**	**87.76**	**310**	P	**P**	**04 35 18.3**	**+1.3**
	comp=Z,2.3nm,0.8s,baz=128,slow=3.5,SNR=8.2						
MDT				LR	LR	05 14 19.9	
	comp=Z,426nm,19.0s,baz=128,slow=36						
OKC	**Ostrava-Krasne**	**87.78**	**334**	*e*P	**P**	**04 35 16.3**	**-0.1**
OKC	**Ostrava-Krasne**	**87.78**	**334**	*e*P	**P**	**04 35 16.3**	**-0.1**
VRAC	**Vranov**	**87.96**	**333**	P	**P**	**04 35 16.7**	**-0.6**
VRAC	**Vranov**	**87.96**	**333**	P	**P**	**04 35 16.7**	**-0.6**
	comp=Z,2.7nm,0.8s,baz=131,slow=6.8,SNR=7.4						
VRAC				LR	LR	05 13 22.2	
	comp=Z,212nm,19.8s,baz=163,slow=35						
MORC	**Moravsky Berou**	**87.96**	**334**	*e*P	**P**	**04 35 16.2**	**-1.1**
MORC				pmax	pmax		
	comp=Z,19nm,1.4s						
MORC	**Moravsky Berou**	**87.96**	**334**	*e*P	**P**	**04 35 16.2**	**-1.1**
	comp=Z,19nm,1.4s						
SBF	**Sospel**	**87.98**	**324**	*e*P	**P**	**04 35 17.1**	**-0.5**
	comp=Z,87nm,1.3s						
SBF	**Sospel**	**87.98**	**324**	*e*P	**P**	**04 35 17.1**	**-0.5**
SBF				pmax	pmax		
	comp=Z,87nm,1.3s						
SBF	**Sospel**	**87.98**	**324**	*e*P	**P**	**04 35 17.1**	**-0.5**
	comp=Z,87nm,1.3s						
LMR	**La Mourre**	**88.08**	**324**	*e*P	**P**	**04 35 17.6**	**-0.4**
LMR	**La Mourre**	**88.08**	**324**	*e*P	**P**	**04 35 17.6**	**-0.4**
LMR	**La Mourre**	**88.08**	**324**	*e*P	**P**	**04 35 17.6**	**-0.4**
ZAK	**Zakamensk**	**88.15**	**26**	*e*P	**P**	**04 35 17.5**	**-0.8**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.6s						
FRF	**La Foret Royal**	**88.17**	**324**	*e*P	**P**	**04 35 18.1**	**-0.3**
	comp=Z,86nm,1.5s						
FRF	**La Foret Royal**	**88.17**	**324**	*e*P	**P**	**04 35 18.1**	**-0.3**
FRF				pmax	pmax		
	comp=Z,87nm,1.5s						
FRF	**La Foret Royal**	**88.17**	**324**	*e*P	**P**	**04 35 18.1**	**-0.3**
	comp=Z,86nm,1.5s						
RJOB	**Jochberg**	**88.32**	**330**	*e*P	**P**	**04 35 17.9**	**-1.2**
	comp=Z,49nm,2.1s						
TREC	**Trest**	**88.39**	**332**	*e*P	**P**	**04 35 18.7**	**-0.7**
TREC				*e*		04 35 21.6	
TREC	**Trest**	**88.39**	**332**	*e*P	**P**	**04 35 18.7**	**-0.7**
TREC				*ep*P	**PcP**	**04 35 21.6**	**+0.6**
WTTA	**Wattenberg**	**88.47**	**329**⇑	*i*P	**P**	**04 35 19.2**	**-0.8**
	comp=Z,36nm,1.5s,SNR=7.8						
FETA	**Feichten**	**88.70**	**328**⇑	*i*P	**P**	**04 35 20.5**	**-0.5**
	comp=Z,28nm,1.2s,SNR=9.3						
MOTA	**Moosalm**	**88.77**	**329**⇓	*i*P	**P**	**04 35 20.5**	**-0.9**
	comp=Z,15nm,1.0s,SNR=7.5						
GEC2	**GERESS Array S**	**88.78**	**331**	*e*P	**P**	**04 35 20.0**	**-1.3**
	comp=Z,16nm,1.6s						
GEC2	**GERESS Array S**	**88.78**	**331**	*e*P	**P**	**04 35 20.0**	**-1.3**
GEC2				pmax	pmax		
	comp=Z,16nm,1.6s						
GERES	**GERESS Array B**	**88.78**	**331**	P	**P**	**04 35 20.0**	**-1.3**
GERES	**GERESS Array B**	**88.78**	**331**	P	**P**	**04 35 20.0**	**-1.3**
	comp=Z,1.2nm,0.9s,baz=141,slow=6.5,SNR=9.1						
DPC	**Dobruska-Polom**	**88.89**	**333**	*e*P	**P**	**04 35 20.8**	**-0.9**
DPC				*e*		04 35 24.5	
DPC	**Dobruska-Polom**	**88.89**	**333**	*e*P	**P**	**04 35 20.8**	**-0.9**
DPC				*ep*P	**PcP**	**04 35 24.5**	**+1.3**
DAVOX	**Davos/Dischmat**	**88.91**	**328**	P	**P**	**04 35 21.8**	**-0.3**
DAVOX	**Davos/Dischmat**	**88.91**	**328**	P	**P**	**04 35 21.8**	**-0.3**
	comp=Z,9.2nm,0.9s,baz=132,slow=8.8,SNR=9.4						
DAVOX				LR	LR	05 13 56.7	
	comp=Z,162nm,18.6s,baz=96,slow=35						
MBDF	**Montbardon**	**88.93**	**325**	*e*P	**P**	**04 35 22.1**	**-0.1**
	comp=Z,61nm,1.2s						
MBDF	**Montbardon**	**88.93**	**325**	*e*P	**P**	**04 35 22.1**	**-0.1**
MBDF				pmax	pmax		
	comp=Z,61nm,1.2s						
MBDF	**Montbardon**	**88.93**	**325**	*e*P	**P**	**04 35 22.1**	**-0.1**
	comp=Z,61nm,1.2s						
TUE	**Stuetta**	**88.94**	**327**	*e*P	**P**	**04 35 21.0**	**-1.3**
	comp=Z,23nm,1.3s						
TUE				LR	LR		
	comp=Z,272nm,21.0s						
SMRF	**Simiane la Rot**	**89.01**	**324**	*e*P	**P**	**04 35 21.8**	**-0.6**
	comp=Z,75nm,1.4s						
SMRF	**Simiane la Rot**	**89.01**	**324**	*e*P	**P**	**04 35 21.8**	**-0.6**
	comp=Z,75nm,1.4s						
SOKR	**Solikamsk**	**89.01**	**358***d*	*i*P	**P**	**04 35 23.1**	**+1.2**
SOKR				pmax	pmax		
	comp=Z,50nm,1.2s						
RETA	**Reutte**	**89.03**	**329**	*i* P	**P**	**04 35 22.5**	**0.0**
	comp=Z,24nm,1.3s,SNR=8.6						
KHC	**Kasperske Hory**	**89.05**	**331**	*e*P	**P**	**04 35 22.1**	**-0.4**
KHC	**Kasperske Hory**	**89.05**	**331**	*e*P	**P**	**04 35 22.1**	**-0.4**
UPC	**Upice**	**89.14**	**333**	*e*P	**P**	**04 35 22.6**	**-0.2**
UPC	**Upice**	**89.14**	**333**	*e*P	**P**	**04 35 22.6**	**-0.2**
NACGM	**Naroch**	**89.18**	**341**	*e*	**P**	**04 35 20.0**	**-2.9**
BNI	**Bardonecchia**	**89.21**	**325**	*e*P	**P**	**04 35 23.2**	**-0.2**
BNI				pmax	pmax		
	comp=Z,8.0nm,1.0s						
BNI				MLR	MLR		
	comp=Z,278nm,20.0s						
BNI	**Bardonecchia**	**89.21**	**325**	*e*P	**P**	**04 35 23.2**	**-0.2**
	comp=Z,8.0nm,1.0s						
BNI				LR	LR		
	comp=Z,278nm,20.0s						
DAVA	**Damuels**	**89.29**	**328**⇑	*i*P	**P**	**04 35 23.6**	**-0.2**
	comp=Z,24nm,1.4s						
KSP	**Ksiaz**	**89.29**	**334**	*e*P	**P**	**04 35 23.7**	**+0.2**
KSP	**Ksiaz**	**89.29**	**334**	*e*P	**P**	**04 35 23.9**	**+0.4**
FUR	**Furstenfeldbru**	**89.31**	**329**	*e*P	**P**	**04 35 23.8**	**+0.1**
	comp=Z,200nm,1.7s						
FUR	**Furstenfeldbru**	**89.31**	**329**	*e*P	**P**	**04 35 23.8**	**+0.1**
FUR				pmax	pmax		
	comp=Z,200nm,1.7s						
PRU	**Pruhonice**	**89.32**	**332**	*e*P	**P**	**04 35 23.7**	**0.0**
PRU				*e*		04 35 26.7	
PRU	**Pruhonice**	**89.32**	**332**	*e*P	**P**	**04 35 23.7**	**0.0**
PRU				*ep*P	**PcP**	**04 35 26.7**	**+1.6**
TLY	**Talaya**	**89.33**	**25**	*e*P	P	04 35 27.9	+4.2
TLY				*e*		04 52 02.9	
TLY				pmax	pmax		
	comp=Z,5.0nm,0.9s						
TLY				MLR	MLR		
	comp=Z,158nm,20.0s						
WET	**Wettzell**	**89.36**	**331**	*e*P	**P**	**04 35 22.5**	**-1.4**
	comp=Z,17nm,1.7s						
WET	**Wettzell**	**89.36**	**331**	*e*P	**P**	**04 35 22.5**	**-1.4**
WET				pmax	pmax		
	comp=Z,17nm,1.7s						
PRA	**Prague**	**89.42**	**332**	P	**P**	**04 35 24.0**	**-0.1**
LPG	**La Plagne**	**89.48**	**325**	*e*P	**P**	**04 35 23.7**	**-1.3**
LPG	**La Plagne**	**89.48**	**325**	*e*P	**P**	**04 35 23.7**	**-1.3**
LPG	**La Plagne**	**89.48**	**325**	*e*P	**P**	**04 35 23.7**	**-1.3**
SUW	**Suwalki**	**89.49**	**339**	*e*P	**P**	**04 35 24.0**	**-0.3**
SUW				pmax	pmax		
	comp=Z,75nm,1.0s						
SUW	**Suwalki**	**89.49**	**339**	*e*P	**P**	**04 35 24.0**	**-0.3**
	comp=Z,75nm,1.0s						
SUW	**Suwalki**	**89.49**	**339**	*e*P	**P**	**04 35 24.3**	**0.0**
LPL	**La Plagne**	**89.51**	**325**	*e*P	**P**	**04 35 23.8**	**-1.2**
	comp=Z,34nm,1.4s						
LPL	**La Plagne**	**89.51**	**325**	*e*P	**P**	**04 35 23.8**	**-1.2**
LPL				pmax	pmax		
	comp=Z,34nm,1.4s						
LPL	**La Plagne**	**89.51**	**325**	*e*P	**P**	**04 35 23.8**	**-1.2**
	comp=Z,34nm,1.4s						
ORIF	**Oris-en-Rattie**	**89.51**	**324**	*e*P	**P**	**04 35 24.5**	**-0.3**
ORIF				*e*R			
	comp=Z,410nm,21.0s						
ORIF	**Oris-en-Rattie**	**89.51**	**324**	*e*P	**P**	**04 35 24.5**	**-0.3**
ORIF	**Oris-en-Rattie**	**89.51**	**324**	*e*P	**P**	**04 35 24.5**	**-0.3**
PVCC	**Panska Ves**	**89.72**	**333**	*e*P	**P**	**04 35 23.4**	**-2.2**
PVCC				*e*		04 35 25.8	
PVCC	**Panska Ves**	**89.72**	**333**	*e*P	**P**	**04 35 23.4**	**-2.2**
PVCC				*ex*	x	04 35 25.8	
RTC	**Rabat Centre**	**89.97**	**310**	PFAKE		04 35 40.0	+13
RTC				LR	LR		
	comp=Z,321nm,19.0s						
LASF	**Ste Croix**	**89.97**	**323**	*e*P	**P**	**04 35 26.8**	**-0.1**
	comp=Z,30nm,1.4s						
LASF	**Ste Croix**	**89.97**	**323**	*e*P	**P**	**04 35 26.8**	**-0.1**
	comp=Z,30nm,1.4s						
VIVF	**Saint-Julien-l**	**90.08**	**324**	*e*P	**P**	**04 35 27.0**	**-0.4**
	comp=Z,29nm,1.3s						
VIVF	**Saint-Julien-l**	**90.08**	**324**	*e*P	**P**	**04 35 27.0**	**-0.4**
VIVF				pmax	pmax		
	comp=Z,29nm,1.3s						
VIVF	**Saint-Julien-l**	**90.08**	**324**	*e*P	**P**	**04 35 27.0**	**-0.4**
	comp=Z,29nm,1.3s						
ROTZ	**Rotzenmuhle**	**90.11**	**331**	*e*P	**P**	**04 35 26.9**	**-0.5**
	comp=Z,13nm,1.3s						

CLL Lm MLR 05 14 00.0
comp=N,100nm,21.9s
CLL Lm MLR 05 14 00.0
comp=E,100nm,20.0s
MOX Moxa 91.03 331 *e*P **P 04 35 31.5 -0.2**
comp=Z,26nm,1.6s
MOX Moxa 91.03 331 *e*P **P 04 35 31.5 -0.2**
MOX pmax pmax
comp=Z,26nm,1.6s
HINF Hinteralfeld 91.08 327 *e*P **P 04 35 31.8 -0.2**
comp=Z,50nm,1.7s
HINF Hinteralfeld 91.08 327 *e*P **P 04 35 31.8 -0.2**
HINF pmax pmax
comp=Z,50nm,1.7s
HINF Hinteralfeld 91.08 327 *e*P **P 04 35 31.8 -0.2**
comp=Z,50nm,1.7s
JNU Nakatsue 91.10 52 LR LR 05 15 27.1
comp=Z,156nm,20.4s,baz=345,slow=35
EPF Esparros 91.17 320 *e*P **P 04 35 32.4 -0.2**
comp=Z,14nm,1.2s
EPF Esparros 91.17 320 *e*P **P 04 35 32.4 -0.2**
EPF pmax pmax
comp=Z,14nm,1.2s
EPF Esparros 91.17 320 *e*P **P 04 35 32.4 -0.2**
comp=Z,14nm,1.2s
CDF Champ du Feu 91.31 328 *e*P **P 04 35 31.9 -1.2**
CDF Champ du Feu 91.31 328 *e*P **P 04 35 31.9 -1.2**
CDF Champ du Feu 91.31 328 *e*P **P 04 35 31.9 -1.2**
HAU Haudompre 91.46 327 *e*P **P 04 35 32.7 -1.0**
comp=Z,77nm,1.8s
HAU *e*R
comp=Z,243nm,17.0s
HAU Haudompre 91.46 327 *e*P **P 04 35 32.7 -1.0**
HAU pmax pmax
comp=Z,77nm,1.8s
HAU Haudompre 91.46 327 *e*P **P 04 35 32.7 -1.0**
comp=Z,77nm,1.8s
CAF Calviac 91.49 323 *e*P **P 04 35 34.0 0.0**
comp=Z,36nm,1.4s
CAF Calviac 91.49 323 *e*P **P 04 35 34.0 0.0**
CAF pmax pmax
comp=Z,36nm,1.4s
CAF Calviac 91.49 323 *e*P **P 04 35 34.0 0.0**
comp=Z,36nm,1.4s
ESDC Sonseca Array 91.55 316 P **P 04 35 35.2 +0.8**
ESDC Sonseca Array 91.55 316 P **P 04 35 35.2 +0.8**
comp=Z,4.7nm,1.1s,baz=119,slow=3.9,SNR=18
ESDC LR LR 05 17 46.1
comp=Z,150nm,18.1s,baz=145,slow=36
ETSF Etsaut 91.59 320 *e*P **P 04 35 34.7 +0.1**
comp=Z,28nm,1.3s
ETSF Etsaut 91.59 320 *e*P **P 04 35 34.7 +0.1**
ETSF pmax pmax
comp=Z,28nm,1.3s
ETSF Etsaut 91.59 320 *e*P **P 04 35 34.7 +0.1**
comp=Z,28nm,1.3s
KSAR Wonju Array Be 91.64 47 P **P 04 35 33.6 -1.2**
KSRS Korea Array 91.67 47 P **P 04 35 33.6 -1.3**
comp=Z,8.0nm,0.9s,baz=240,slow=4.6,SNR=13
KSRS LR LR 05 17 28.5
comp=Z,166nm,18.0s,baz=78,slow=36
PAB San Pablo 91.71 315 PFAKE 04 35 50.0 +15
PAB LR LR
comp=Z,472nm,22.0s
SMF Signal de Mont 91.74 325 *e*P **P 04 35 34.2 -0.9**
SMF Signal de Mont 91.74 325 *e*P **P 04 35 34.2 -0.9**
SMF Signal de Mont 91.74 325 *e*P **P 04 35 34.2 -0.9**
UBBA Unterbreizbach 91.84 331 *e*P **P 04 35 35.0 -0.3**
comp=Z,22nm,2.1s
KLMR Klimovskoe 91.88 350 *e*P **P 04 35 33.6 -1.7**
KLMR pmax pmax
comp=Z,57nm,1.3s
RJF Les Rejaudoux 92.03 323 *e*P **P 04 35 36.1 -0.4**
comp=Z,20nm,1.2s
RJF *e*R
comp=Z,267nm,18.5s
RJF Les Rejaudoux 92.03 323 *e*P **P 04 35 36.1 -0.4**
RJF pmax pmax
comp=Z,20nm,1.2s
RJF Les Rejaudoux 92.03 323 *e*P **P 04 35 36.1 -0.4**
comp=Z,20nm,1.2s
AVF Avril sur Loir 92.08 325 *e*P **P 04 35 35.9 -0.7**
AVF Avril sur Loir 92.08 325 *e*P **P 04 35 35.9 -0.7**
AVF Avril sur Loir 92.08 325 *e*P **P 04 35 35.9 -0.7**
SJPF Ste Jean 92.10 320 *e*P **P 04 35 35.9 -0.9**
SJPF Ste Jean 92.10 320 *e*P **P 04 35 35.9 -0.9**
SJPF Ste Jean 92.10 320 *e*P **P 04 35 35.9 -0.9**
PAGF Fort de Pagny 92.14 327 *e*P **P 04 35 36.1 -0.8**
PAGF Fort de Pagny 92.14 327 *e*P **P 04 35 36.1 -0.8**
LOR Lormes 92.16 325 *e*P **P 04 35 36.3 -0.7**
comp=Z,67nm,1.8s
LOR *e*R
comp=Z,144nm,22.5s
LOR Lormes 92.16 325 *e*P **P 04 35 36.3 -0.7**
comp=Z,67nm,1.8s
BGF Bois d'Agland 92.18 324 *e*P **P 04 35 36.7 -0.4**
comp=Z,26nm,1.4s
BGF Bois d'Agland 92.18 324 *e*P **P 04 35 36.7 -0.4**
BGF pmax pmax
comp=Z,26nm,1.4s
BGF Bois d'Agland 92.18 324 *e*P **P 04 35 36.7 -0.4**
comp=Z,26nm,1.4s
SSF Saint Saulge 92.19 325 *e*P **P 04 35 36.5 -0.6**
SSF Saint Saulge 92.19 325 *e*P **P 04 35 36.5 -0.6**
SSF Saint Saulge 92.19 325 *e*P **P 04 35 36.5 -0.6**
SFTF Sexfontaines 92.22 326 *e*P **P 04 35 36.7 -0.6**
SFTF Sexfontaines 92.22 326 *e*P **P 04 35 36.7 -0.6**
TCF Toulx Ste Croi 92.33 324 *e*P **P 04 35 37.7 -0.1**
comp=Z,33nm,1.6s
TCF Toulx Ste Croi 92.33 324 *e*P **P 04 35 37.7 -0.1**
TCF pmax pmax
comp=Z,33nm,1.6s
TCF Toulx Ste Croi 92.33 324 *e*P **P 04 35 37.7 -0.1**
comp=Z,33nm,1.6s
SACV Santiago Islan 92.56 286 PFAKE 04 35 50.0 +10
SACV LR LR
comp=Z,149nm,19.0s
RCBR Riachuelo 92.94 262 PFAKE 04 35 50.0 +8.5
RCBR LR LR
comp=Z,278nm,19.0s
GIVF Givet 93.64 328 *e*P **P 04 35 43.0 -0.7**
GIVF Givet 93.64 328 *e*P **P 04 35 43.0 -0.7**
GIVF Givet 93.64 328 *e*P **P 04 35 43.0 -0.7**
MFF Saint Martin d 93.76 323 *e*P **P 04 35 44.3 -0.1**
comp=Z,46nm,1.4s
MFF Saint Martin d 93.76 323 *e*P **P 04 35 44.3 -0.1**
MFF pmax pmax
comp=Z,46nm,1.4s
MFF Saint Martin d 93.76 323 *e*P **P 04 35 44.3 -0.1**
comp=Z,46nm,1.4s
BAIF Baives 93.90 327 *e*P **P 04 35 44.2 -0.7**
comp=Z,25nm,1.5s
BAIF Baives 93.90 327 *e*P **P 04 35 44.2 -0.7**
BAIF pmax pmax
comp=Z,25nm,1.5s
BAIF Baives 93.90 327 *e*P **P 04 35 44.2 -0.7**
comp=Z,25nm,1.5s
TRQA Tornquist 93.98 222 *e*P **P 04 35 44.9 -1.0**
comp=Z,65nm,1.1s
CN2 Changchun 94.02 41 *e*P **P 04 35 46.0 +0.4**
MTE Manteigas 94.18 315 PFAKE 04 36 00.0 +13
MTE LR LR
comp=Z,322nm,19.0s
HIA Hailar 94.49 34 PFAKE 04 36 00.0 +12
HIA LR LR
comp=Z,375nm,22.0s
LDF La Druitiere 95.04 324 *e*P **P 04 35 49.2 -1.0**
comp=Z,34nm,1.4s
LDF La Druitiere 95.04 324 *e*P **P 04 35 49.2 -1.0**
LDF pmax pmax
comp=Z,34nm,1.4s
LDF La Druitiere 95.04 324 *e*P **P 04 35 49.2 -1.0**
comp=Z,34nm,1.4s
FINES FINESS Array B 95.08 344 LR LR 05 14 17.0
comp=Z,195nm,19.0s,baz=90,slow=33
GRR Gorron 95.28 324 *e*P **P 04 35 50.2 -1.1**
GRR Gorron 95.28 324 *e*P **P 04 35 50.2 -1.1**
GRR Gorron 95.28 324 *e*P **P 04 35 50.2 -1.1**
FLN La Foliniere 95.33 324 *e*P **P 04 35 50.5 -1.0**
comp=Z,16nm,1.0s
FLN *e*R
comp=Z,226nm,22.8s
FLN La Foliniere 95.33 324 *e*P **P 04 35 50.5 -1.0**
FLN pmax pmax
comp=Z,16nm,1.0s
FLN La Foliniere 95.33 324 *e*P **P 04 35 50.5 -1.0**
comp=Z,16nm,1.0s
CBIJ Chichi jima 96.14 62 LR LR 05 13 43.5
comp=Z,107nm,19.4s,baz=90,slow=32
PLCA Paso Flores 96.69 215 *e*P **P 04 35 58.2 -0.1**
comp=Z,13nm,1.2s
PLCA Paso Flores 96.69 215 P **P 04 35 57.6 -0.7**
comp=Z,7.2nm,1.1s,baz=126,slow=5.3,SNR=6.7
MDJ Mudanjiang 96.90 42 P **P 04 36 00.0 +1.2**
MDJ pmax pmax
comp=Z,6.0nm,0.7s
MDJ pmax pmax
comp=Z,94nm,6.2s
MDJ LR LR
comp=N,82nm,6.9s
MDJ LR LR
comp=E,130nm,6.9s
MDJ LR LR
comp=Z,220nm,13.7s
MDJ Mudanjiang 96.90 42 PFAKE 04 36 10.0 +11
MDJ LR LR
comp=Z,205nm,20.0s
HFS Hagfors 97.48 338 LR LR 05 24 16.9
comp=Z,267nm,18.9s,baz=270,slow=38
MAJO Matsushiro 98.01 53 PFAKE 04 36 10.0 +5.9
MAJO LR LR
comp=Z,199nm,21.0s
USRK Ussuriysk Arra 98.08 43 LR LR 05 19 19.8
comp=Z,140nm,19.6s,baz=41,slow=35
NOA NORSAR Array B 98.97 338 LR LR 05 20 24.1
comp=Z,162nm,18.2s,baz=270,slow=35
SAML Samuel 113.85 244 PFAKE 04 41 20.0
SAML LR LR
comp=Z,376nm,21.0s
SEY Seymchan 116.69 31 *c i*PKIKP **PKPdf 04 41 10.9 -0.3**
PETK Petropavlovsk- 117.14 42 PKIKP **PKPdf 04 41 11.9 -0.4**
PETK Petropavlovsk- 117.14 42 PKP **PKPdf 04 41 11.9 -0.4**
PETK Petropavlovsk- 117.14 42 PKP **PKPdf 04 41 11.9 -0.4**
comp=Z,1.9nm,0.8s,baz=219,slow=6.7,SNR=2.6
ANWB Willy Bob 126.55 271 PFAKE 04 41 40.0 +8.5
ANWB LR LR
comp=Z,154nm,22.0s
SJG San Juan 130.52 269 PFAKE 04 41 50.0 +11
SJG LR LR
comp=Z,125nm,22.0s
OTAV Otavalo 131.40 240 *e*PKPdf **PKPdf 04 41 43.0 +1.5**
OTAV LR LR
comp=Z,221nm,21.0s
SDDR Presa de Saban 135.34 267 PFAKE 04 42 00.0 +12
SDDR LR LR
comp=Z,168nm,20.0s
BCIP Isla Barro Col 137.93 249 *e*PKPdf **PKPdf 04 41 53.8 +0.7**
BCIP LR LR
comp=Z,220nm,19.0s
IMA2 Indian Mountai 137.94 20 *e*PKPdf **PKPdf 04 41 51.6 -0.1**
PKME Peaks-Kenny Pk 138.13 306 PFAKE 04 42 00.0 +7.5
PKME LR LR
comp=Z,173nm,19.0s
LBNH Lisbon 140.08 305 PFAKE 04 42 10.0 +14
LBNH LR LR
comp=Z,212nm,21.0s
COLA College 140.50 19 *e*PKIKP **PKPdf 04 41 57.2 +1.0**
COLA College 140.50 19 *e*PKPdf **PKPdf 04 41 57.2 +1.0**
PPLA Purkeypile 140.57 23 *e*PKPdf **PKPdf 04 41 53.5 -3.1**
ILAR Eielson Array 140.85 18 PKPpre PKPpre 04 41 48.2
ILAR PKP **PKPdf 04 41 56.2 -0.7**
ILAR Eielson Array 140.85 18 PKhKP PKPpre 04 41 48.2
comp=Z,1.4nm,0.9s,baz=320,slow=3.6,SNR=12
ILAR PKP **PKPdf 04 41 56.2 -0.7**
comp=Z,7.3nm,0.9s,baz=275,slow=2.5,SNR=25
MCK McKinley 141.03 21 *e*PKIKP **PKPdf 04 41 57.6 +0.3**
MCK McKinley 141.03 21 *e*PKPdf **PKPdf 04 41 57.6 +0.3**
EGAK Eagle 142.28 15 *e*PKPpre PKPpre 04 41 57.6
EGAK *e*PKPdf **PKPdf 04 42 00.9 +1.5**
PAX Paxson 142.64 19 *e*PKIKP PKPpre 04 41 56.1
PAX *e* 04 41 59.3
PAX Paxson 142.64 19 *e*PKPpre PKPpre 04 41 56.1
PAX *e*PKPdf **PKPdf 04 41 59.3 -1.0**
BINY Binghamton 143.23 302 PFAKE 04 42 10.0 +8.2
BINY LR LR
comp=Z,367nm,20.0s
SDMD Soldier's Deli 144.07 297 *e*PKPdf **PKPab 04 42 01.1 +0.2**
BMRM Bremner River 144.45 21 *e*PKPdf PKPbc 04 42 01.9 -0.1
CBN Corbin 144.52 295 *e*PKPdf PKPbc 04 42 02.9 +0.1
CBN LR LR
comp=Z,208nm,19.0s
SSPA Standing Stone 144.79 299 *e*PKPdf PKPbc 04 42 03.8 +0.2
CNNC Cliffs of the 144.90 290 *e*PKPdf **PKPdf 04 42 04.9 0.0**
JSRW J. Sargeant Re 144.93 294 *e*PKPdf PKPbc 04 42 04.2 +0.1
FCC Fort Churchill 146.22 337 *e*PKP2 **PKPdf 04 42 06.3 -0.1**
FCC Fort Churchill 146.22 337 *e*PKPbc **PKPdf 04 42 06.3 -0.1**
MCWV Mont Chateau 146.37 298 *e*PKPbc **PKPbc 04 42 08.3 -0.3**
ALLY Alegheny Colle 146.38 301 *e*PKPbc **PKPbc 04 42 08.7 +0.1**
HYT Haines Junctio 146.55 16 *e*PKPdf **PKPdf 04 42 06.9 -0.2**
HYT *e*PKPbc **PKPbc 04 42 08.4 -0.2**
VWCC Virginia Weste 146.61 294 *e*PKPdf **PKPdf 04 42 08.0 +0.1**
VWCC *e*PKPbc **PKPbc 04 42 09.7 +0.3**
TGUH Tegucigalpa,Un 146.68 249 PFAKE 04 42 20.0 +8.7
TGUH LR LR
comp=Z,195nm,20.0s
BLA Blacksburg 146.96 293 *e*PKIKP **PKPdf 04 42 08.5 0.0**
BLA *e* 04 42 11.0
BLA Blacksburg 146.96 293 *e*PKPdf **PKPdf 04 42 08.5 0.0**
BLA *e*PKPbc **PKPbc 04 42 11.0 +0.5**
YKW3 Yellowknife Ar 146.99 356 *e*PKPbc **PKPbc 04 42 08.8 -0.8**
YKA Yellowknife Ar 147.05 356 PKP **PKPdf 04 42 06.9 -0.8**
YKA PKPbc **PKPbc 04 42 09.1 -0.8**
YKA Yellowknife Ar 147.05 356 PKP **PKPdf 04 42 06.9 -0.8**
comp=Z,41nm,0.8s,baz=355,slow=2.8,SNR=103
YKA PKPbc **PKPbc 04 42 09.0 -0.8**
comp=Z,41nm,0.7s,baz=348,slow=3.1,SNR=108
KMSC Kings Mountain 147.71 290 *e*PKPdf **PKPdf 04 42 09.7 -0.1**
KMSC *e*PKPbc **PKPbc 04 42 12.4 -0.1**
KMSC Kings Mountain 147.71 290 P **PKPdf 04 42 10.1 +0.4**
baz=148
SKAG Skagway 148.27 16 *e*PKPdf **PKPdf 04 42 09.9 0.0**
SKAG *e*PKPbc **PKPbc 04 42 13.6 +0.4**
ACSO Alum Creek Sta 148.70 299 *e*PKPdf **PKPdf 04 42 11.4 +0.2**
ACSO *e*PKPbc **PKPbc 04 42 14.9 0.0**
ACSO LR LR
comp=Z,231nm,19.0s
TIGA Tifton 149.37 282 *e*PKPbc **PKPbc 04 42 17.1 +0.2**
TIGA *e*PKPab **PKPab 04 42 22.2 +0.6**
TZTN Tazewell 149.49 292 *e*PKPdf **PKPdf 04 42 13.2 +0.6**
TZTN *e*PKPbc **PKPbc 04 42 17.1 0.0**
DLBC Dease Lake 150.30 12 *e*PKPbc **PKPbc 04 42 18.5 +0.1**
CPCT Cooper Cave 150.32 290 *e*PKPdf **PKPdf 04 42 14.2 +0.2**
CPCT *e*PKPbc **PKPbc 04 42 19.1 0.0**
TEIG Tepich 150.50 259 *e*PKPdf **PKPdf 04 42 15.3 +0.7**
TEIG *e*PKPbc **PKPbc 04 42 20.1 +0.1**
TEIG *e*PKPab **PKPab 04 42 27.1 +0.5**
TEIG LR LR
comp=Z,348nm,20.0s
COWI Conover 151.40 313 *e*PKPdf **PKPdf 04 42 14.7 -0.5**
COWI *e*PKPbc **PKPbc 04 42 21.4 0.0**
COWI LR LR
comp=Z,423nm,22.0s
SWET Sewanee 151.48 290 *e*PKPbc **PKPbc 04 42 21.7 -0.2**
WCI Wyandotte Cave 151.53 296 *e*PKIKP **PKPbc 04 42 21.1 -0.8**
WCI *e* 04 42 30.3
WCI Wyandotte Cave 151.53 296 *e*PKPbc **PKPbc 04 42 21.1 -0.8**
WCI *e*PKPab **PKPab 04 42 30.3 -0.1**
BLO Bloomington 151.56 298 *e*PKIKP **PKPbc 04 42 21.5 -0.4**
BLO *e* 04 42 30.2
BLO Bloomington 151.56 298 *e*PKPbc **PKPbc 04 42 21.5 -0.4**
BLO *e*PKPab **PKPab 04 42 30.2 -0.3**
WRAK Wrangell Islan 151.71 15 *e*PKPdf **PKPdf 04 42 15.6 +0.3**
WRAK *e*PKPbc **PKIKP 04 42 22.2 +0.1**
WRAK *e*PKPab **PKPab 04 42 31.4 +1.0**
SFIN Scholer Farm 151.78 301 *e*PKPdf **PKPdf 04 42 15.6 -0.4**
SFIN *e*PKPbc **PKPbc 04 42 21.8 -0.6**
SFIN *e*PKPab **PKPab 04 42 31.5 +0.1**
SFIN Scholer Farm 151.78 301 P **PKPdf 04 42 16.1 +0.2**
baz=152
EYMN Ely 151.97 318 *e*PKPdf **PKPdf 04 42 15.7 -0.4**
EYMN *e*PKPbc **PKPbc 04 42 22.3 -0.3**
EYMN *e*PKPab **PKPab 04 42 32.3 +0.3**
FFC Flin Flon 152.07 338 *e*PKIKP **PKPbc 04 42 21.4 -1.2**
FFC *e* 04 42 31.0
FFC MLR MLR
comp=Z,263nm,19.0s
FFC Flin Flon 152.07 338 *e*PKPbc **PKPbc 04 42 21.4 -1.2**
FFC *e*PKPab **PKPab 04 42 31.0 -1.1**
FFC LR LR
comp=Z,263nm,19.0s
BRAL Brewton 152.28 281 *e*PKPbc **PKPbc 04 42 24.4 +0.6**
BRAL *e*PKPab **PKPab 04 42 35.2 +1.5**
LRAL Lakeview Retre 152.36 285 *e*PKPdf **PKPdf 04 42 17.0 -0.1**
LRAL *e*PKPbc **PKiKP 04 42 24.1 0.0**
LRAL *e*PKPab **PKPab 04 42 33.6 -0.4**
USIN University of 152.63 296 *e*PKPbc **PKPbc 04 42 24.1 -0.3**
USIN *e*PKPab **PKPab 04 42 34.2 -0.9**
OLIL Olney 152.85 298 *e*PKPbc **PKPbc 04 42 24.5 -0.3**
OLIL *e*PKPab **PKPab 04 42 36.2 +0.2**
WVT Waverly 152.97 292 *e*PKIKP **PKPbc 04 42 24.6 -0.6**
WVT *e* 04 42 35.3
WVT Waverly 152.97 292 *e*PKPbc **PKPbc 04 42 24.6 -0.6**
WVT *e*PKPab **PKPab 04 42 35.2 -1.3**
ULM Lac du Bonnet 152.97 326 PKPbc **PKPbc 04 42 23.9 -0.8**
ULM Lac du Bonnet 152.97 326 PKPbc **PKPbc 04 42 23.9 -0.8**
comp=Z,42nm,0.8s,baz=32,slow=2.5,SNR=26
JFWS Jewell Farm 153.34 308 PFAKE 04 42 30.0 +4.2
JFWS LR LR
comp=Z,223nm,21.0s
SIUC Southern Illin 153.89 296 *e*PKPdf **PKPdf 04 42 19.4 +0.2**
SIUC *e*PKPbc **PKiKP 04 42 27.4 +0.2**
SIUC *e*PKPab **PKPab 04 42 40.2 -0.1**
SPMN St. Paul 154.09 314 *e*PKPdf **PKPdf 04 42 18.2 -1.1**
SPMN *e*PKPbc **PKPbc 04 42 26.8 -0.5**
AGMN Agassiz Nation 154.20 323 *e*PKPdf **PKPdf 04 42 18.6 -0.7**
AGMN *e*PKPbc **PKPbc 04 42 27.0 -0.5**
AGMN *e*PKPab **PKPab 04 42 40.3 -1.0**
AGMN LR LR
comp=Z,288nm,19.0s
HALT Halls 154.21 292 *e*PKPdf **PKPdf 04 42 19.9 +0.2**
HALT *e*PKPbc **PKPbc 04 42 27.6 -0.2**
HALT *e*PKPab **PKPab 04 42 41.6 -0.2**
OXF Oxford 154.36 289 *e*PKIKP **PKPdf 04 42 19.5 -0.4**
OXF *e* 04 42 27.9
OXF *e* 04 42 41.4
OXF MLR MLR
comp=Z,207nm,20.0s
OXF Oxford 154.36 289 *e*PKPdf **PKPdf 04 42 19.5 -0.4**
OXF *e*PKPbc **PKPbc 04 42 27.9 -0.4**
OXF *e*PKPab **PKPab 04 42 41.4 -1.1**
OXF LR LR
comp=Z,207nm,20.0s
PARMO Parma 154.46 294 *e*PKPdf **PKPdf 04 42 20.9 +0.9**
PARMO *e*PKPbc **PKPbc 04 42 28.4 0.0**
PARMO *e*PKPab **PKPab 04 42 42.7 -0.1**
VBMS Vicksburg 155.30 283 PFAKE 04 42 30.0 +8.7
VBMS LR LR
comp=Z,324nm,21.0s
B30A Myrvik Farm, E 155.37 325 P **PKPdf 04 42 21.3 +0.4**
baz=155
A29A Manning Farm, 155.48 327 P **PKPdf 04 42 21.3 +0.3**
baz=155
B29A Wagenman Farm,155.86 326 P **PKPdf 04 42 21.6 0.0**
baz=156
EDM Edmonton 156.10 351 *e*PKIKP **PKPdf 04 42 21.2 -0.5**
EDM *e* 04 42 48.8
EDM Edmonton 156.10 351 *e*PKPdf **PKPdf 04 42 21.2 -0.5**
EDM *e*PKPab **PKPab 04 42 48.8 -0.4**
D30A Buchanan 156.47 323 P **PKPdf 04 42 21.8 -0.6**
baz=156
E30A Jud 156.94 322 P **PKPdf 04 42 22.9 -0.1**
baz=157
ECSD EROS Data Cent 157.20 314 *e*PKPdf **PKPdf 04 42 21.8 -1.7**
ECSD *e*PKPdif PKPdf 04 42 33.4 +10
ECSD *e*PKPab **PKPab 04 42 54.1 -0.3**
ECSD LR LR
comp=Z,290nm,19.0s
F30A Leola 157.42 321 P **PKPdf 04 42 23.6 -0.1**
baz=157
MIAR Mount Ida 157.79 289 *e*PKIKP **PKPdf 04 42 25.0 +0.5**
MIAR *e* 04 42 57.6
MIAR MLR MLR
comp=Z,187nm,20.0s
MIAR Mount Ida 157.79 289 *e*PKPdf **PKPdf 04 42 25.0 +0.5**
MIAR *e*PKPab **PKPab 04 42 57.5 +0.4**
MIAR LR LR
comp=Z,187nm,20.0s
E28A Huff 157.82 325 P **PKPdf 04 42 23.7 -0.5**
baz=158
G30A Faulkton 157.93 320 P **PKPdf 04 42 24.0 -0.3**
baz=158
A22A Carney Farms, 158.22 336 P **PKPdf 04 42 24.7 +0.1**
baz=158
BRSD Miller 158.23 318 P **PKPdf 04 42 24.6 -0.1**
baz=158
G29A Hoven 158.32 321 P **PKPdf 04 42 24.6 -0.2**
baz=158
F28A McLaughlin 158.36 323 P **PKPdf 04 42 24.6 -0.2**
baz=158
A21A Bergtoll Ranch 158.57 337 P **PKPdf 04 42 24.7 -0.4**
baz=158
E26A Carlson Angus 158.76 327 P **PKPdf 04 42 25.4 +0.1**
baz=159
H29A Onida 158.83 320 P **PKPdf 04 42 25.0 -0.4**
baz=159
G28A Parade 158.93 322 P **PKPdf 04 42 25.1 -0.5**
baz=159
F27A Lemmon 158.97 325 P **PKPdf 04 42 24.4 -1.2**
baz=159
A20A Cobblestone Ra 158.99 339 P **PKPdf 04 42 25.1 -0.5**
baz=159
KSU1 Kansas State U 159.17 303 *e*PKPdf **PKPdf 04 42 26.0 0.0**
KSU1 *e*PKPab **PKPab 04 43 03.4 +0.3**
KSU1 LR LR
comp=Z,319nm,21.0s
A19A Klindworth Far 159.19 340 P **PKPdf 04 42 24.7 -1.1**
baz=159
H28A Mission Ridge 159.25 321 P **PKPdf 04 42 25.0 -1.0**
baz=159
I29A Vivian Onida 159.25 319 P **PKPdf 04 42 25.3 -0.7**
baz=159
F26A Lodgepole 159.31 326 P **PKPdf 04 42 25.8 -0.2**
baz=159
BGNE Belgrade 159.32 310 P **PKPdf 04 42 25.3 -0.8**
baz=159
TUL1 Tulsa 159.39 294 P **PKPdf 04 42 26.2 -0.1**
baz=159
B20A Solberg Farm, 159.41 338 P **PKPdf 04 42 25.4 -0.6**
baz=159
K30A Basset 159.62 315 P **PKPdf 04 42 26.2 -0.2**
baz=160
C21A Desert Coulee 159.62 336 P **PKPdf 04 42 26.6 +0.3**
baz=160
F25A Bowman 159.63 327 P **PKPdf 04 42 26.2 -0.2**
baz=160
J29A Okreek 159.64 317 P **PKPdf 04 42 25.8 -0.6**
baz=160
G26A Maurine 159.66 325 P **PKPdf 04 42 25.8 -0.6**
baz=160
HKT Hockley 159.73 277 *e*PKIKP **PKPdf 04 42 26.2 -0.6**
HKT *e* 04 43 05.9
HKT Hockley 159.73 277 *e*PKPdf **PKPdf 04 42 26.2 -0.6**
HKT *e*PKPab **PKPab 04 43 05.9 +0.3**
I28A Midland 159.76 320 P **PKPdf 04 42 26.5 0.0**
baz=160
G27A Dupree 159.77 325 P **PKPdf 04 42 24.9 -1.7**
baz=159
H27A Howes 159.85 322 P **PKPdf 04 42 25.6 -1.0**
baz=160
C20A Veseth Ranch, 160.03 337 P **PKPdf 04 42 26.8 0.0**
baz=160
G25A Newell 160.14 326 P **PKPdf 04 42 26.2 -0.8**
baz=160
J28A Allard Ranch, 160.16 319 P **PKPdf 04 42 27.0 -0.1**
baz=160
I27A Quinn 160.21 321 P **PKPdf 04 42 26.9 -0.2**
baz=160
H26A Fairpoint 160.22 323 P **PKPdf 04 42 26.5 -0.6**
baz=160
LAO LASA Array 160.25 333 *e*PKPdf **PKPdf 04 42 27.3 +0.3**
LAO *e*PKPab **PKPab 04 43 07.3 -0.1**
EGMT Eagleton 160.30 341 *e*PKPdf **PKPdf 04 42 26.7 -0.4**
EGMT *e*PKPab **PKPab 04 43 07.0 -0.6**
EGMT LR LR
comp=Z,202nm,19.0s
EGMT Eagleton 160.30 341 P **PKPdf 04 42 26.8 -0.3**
baz=160
C19A Slack Wire Ran 160.35 339 P **PKPdf 04 42 26.8 -0.3**
baz=160
P32A Huiting Farm, 160.41 306 P **PKPdf 04 42 27.1 -0.3**
baz=160
G24A Alzada 160.53 327 P **PKPdf 04 42 26.8 -0.6**
baz=160
D20A Manuel Ranch, 160.62 337 P **PKPdf 04 42 27.4 -0.1**

	baz=160					
K28A	Ten Mile Ranch	160.66 317	P	PKPdf	04 42 27.1	-0.6
	baz=161					
I26A	New Underwood	160.67 322	P	PKPdf	04 42 27.4	-0.2
	baz=161					
P31A	Stockton	161.00 306	P	PKPdf	04 42 27.6	-0.5
	baz=161					
H24A	Dirks Ranch, A	161.02 326	P	PKPdf	04 42 27.5	-0.5
	baz=161					
G23A	Biddle	161.07 329	P	PKPdf	04 42 27.6	-0.4
	baz=161,SNR=5.0					
E20A	Meyer Farm, Mu	161.12 336	P	PKPdf	04 42 28.7	+0.7
	baz=161					
I25A	Rochford	161.13 323	P	PKPdf	04 42 28.3	0.0
	baz=161					
K27A	Fluecklinger Fa	161.18 318	P	PKPdf	04 42 28.3	0.0
	baz=161					
WHTX	Lake Whitney	161.19 283	ePKPdf	PKPdf	04 42 28.7	+0.3
WHTX			ePKPab	PKPab	04 43 12.1	0.0
WHTX	Lake Whitney	161.19 283	P	PKPdf	04 42 28.7	+0.3
	baz=161					
RSSD	Black Hills	161.22 324	ePKIKP	PKPdf	04 42 27.7	-0.7
RSSD			e		04 43 11.2	
RSSD	Black Hills	161.22 324	ePKPdf	PKPdf	04 42 27.7	-0.7
RSSD			ePKPab	PKPab	04 43 11.2	-0.8
NEW	Newport	161.38 356	ePKPdf	PKPdf	04 42 27.3	-0.9
NEW			ePKPab	PKPab	04 43 12.2	-0.1
NEW	Newport	161.38 356	P	PKPdf	04 42 27.8	-0.4
	baz=161					
E19A	Rath Farm, Rou	161.39 337	P	PKPdf	04 42 28.3	0.0
	baz=161,SNR=7.3					
JTMT	Jette	161.57 349	ePKPdf	PKPdf	04 42 28.1	-0.5
JTMT			ePKPab	PKPab	04 43 13.2	-0.1
P30A	Selden	161.59 307	P	PKPdf	04 42 29.1	+0.4
	baz=162					
R31A	Burdett	161.60 303	P	PKPdf	04 42 28.8	0.0
	baz=162					
J25A	Sunshine Ranch	161.60 322	P	PKPdf	04 42 28.6	0.0
	baz=162					
O29A	4D Ranch, Culb	161.70 310	P	PKPdf	04 42 29.1	+0.3
	baz=162					
I24A	Kuemmerle Ranc	161.70 325	P	PKPdf	04 42 28.9	+0.1
	baz=162					
F20A	Billings	161.73 335	P	PKPdf	04 42 29.1	+0.4
	baz=162					
SWMT	Swartz Lake	161.76 349	ePKPdf	PKPdf	04 42 27.9	-0.8
SWMT			ePKPab	PKPab	04 43 13.7	-0.4
Q30A	Quinter	161.82 306	P	PKPdf	04 42 29.4	+0.4
	baz=162					
G21A	Lodge Grass	161.84 332	P	PKPdf	04 42 28.5	-0.3
	baz=162					
N28A	Pribbeno Ranch	161.91 312	P	PKPdf	04 42 29.7	+0.7
	baz=162					
SLMT	Seeley Lake	161.92 347	ePKPdf	PKPdf	04 42 27.8	-1.1
SLMT			ePKPab	PKPab	04 43 14.0	-0.8
F19A	Roth Farm, Mol	161.97 336	P	PKPdf	04 42 29.2	+0.3
	baz=162,SNR=5.4					
H22A	Clearmont	161.97 329	P	PKPdf	04 42 28.9	-0.2
	baz=162					
WMOK	Wichita Mounta	162.01 292	ePKIKP	PKPdf	04 42 29.2	-0.1
WMOK			e		04 43 15.6	
WMOK			MLR	MLR		
	comp=Z,187nm,20.0s					
WMOK	Wichita Mounta	162.01 292	ePKPdf	PKPdf	04 42 29.1	-0.1
WMOK			ePKPab	PKPab	04 43 15.6	-0.1
WMOK			LR	LR		
	comp=Z,187nm,20.0s					
P29A	Atwood	162.04 308	P	PKPdf	04 42 29.3	+0.1
	baz=162					
OGNE	Ogallala	162.08 313	PFAKE		04 42 40.0	+11
OGNE			LR	LR		
	comp=Z,283nm,20.0s					
J24A	Dixon Ranch, L	162.10 323	P	PKPdf	04 42 28.8	-0.5
	baz=162					
T31A	Randall Ranch,	162.12 300	P	PKPdf	04 42 29.4	+0.1
	baz=162					
R30A	Dighton	162.14 304	P	PKPdf	04 42 29.4	+0.1
	baz=162					
CHMT	Chamberlain Mo	162.19 347	ePKPdf	PKPdf	04 42 28.8	-0.5
CHMT			ePKPab	PKPab	04 43 15.5	-0.6
G20A	Bridger	162.24 334	P	PKPdf	04 42 29.2	-0.1
	baz=162,SNR=6.6					
H21A	Big Horn, Sher	162.25 330	P	PKPdf	04 42 29.0	-0.4
	baz=162					
GCMT	Greycliff	162.27 338	ePKPdf	PKPdf	04 42 29.1	-0.2
GCMT			ePKPab	PKPab	04 43 16.6	+0.2
O28A	Krutsinger Ran	162.35 311	P	PKPdf	04 42 30.4	+0.9
	baz=162					
Q29A	Oakley	162.39 306	P	PKPdf	04 42 30.0	+0.4
	baz=162					
MSO	Missoula	162.40 348	P	PKPdf	04 42 29.0	-0.4
	baz=162					
L25A	Engebretsen Ra	162.51 319	P	PKPdf	04 42 29.4	-0.3
	baz=162					
S30A	Montezuma	162.52 302	P	PKPdf	04 42 29.7	-0.1
	baz=162					
I22A	9 Mile Ranch,	162.58 328	P	PKPdf	04 42 29.0	-0.7
	baz=162,SNR=5.6					
P28A	Saint Francis	162.61 309	P	PKPdf	04 42 29.6	-0.2
	baz=163					
V31A	Spring Creek L	162.63 295	P	PKPdf	04 42 30.0	+0.1
	baz=163					
Y32A	R-V Farms, Ver	162.68 289	P	PKPdf	04 42 30.8	+0.8
	baz=163					
R29A	Marienthal	162.71 305	P	PKPdf	04 42 29.8	-0.2
	baz=163					
H20A	Greybull	162.76 332	P	PKPdf	04 42 29.1	-0.7
	baz=163,SNR=8.5					
O27A	Beecher Island	162.78 312	P	PKPdf	04 42 30.0	+0.1
	baz=163					
Z32A	Haskell	162.80 287	P	PKPdf	04 42 31.0	+1.0
	baz=163					
N26A	Koester Ranch,	162.89 315	P	PKPdf	04 42 30.4	+0.3
	baz=163					
Q28A	Sharon Springs	162.91 308	P	PKPdf	04 42 30.5	+0.4
	baz=163					
J22A	Midwest	162.94 327	P	PKPdf	04 42 29.3	-0.8
	baz=163,SNR=7.3					
BOZ	Bozeman (W)	163.00 342	ePKIKP	PKPdf	04 42 30.5	+0.4
BOZ			e		04 43 19.6	
BOZ			MLR	MLR		
	comp=Z,269nm,21.0s					
BOZ	Bozeman (W)	163.00 342	ePKPdf	PKPdf	04 42 30.4	+0.4
BOZ			ePKPab	PKPab	04 43 19.6	+0.1
BOZ			LR	LR		
	comp=Z,269nm,21.0s					
H19A	Powell	163.00 334	P	PKPdf	04 42 30.4	+0.3
	baz=163,SNR=5.5					
X31A	McDonald Ranch	163.00 292	P	PKPdf	04 42 30.3	0.0
	baz=163					
K23A	Bowen Ranch, D	163.00 324	P	PKPdf	04 42 29.5	-0.7
	baz=163					
I21A	Big Trails, Te	163.01 329	P	PKPdf	04 42 28.8	-1.3
	baz=163,SNR=6.1					
ABTX	Abilene, Hawle	163.01 285	ePKPdf	PKPdf	04 42 30.2	-0.1
ABTX			ePKPab	PKPab	04 43 20.5	+0.4
ABTX	Abilene, Hawle	163.01 285	P	PKPdf	04 42 30.4	+0.1
	baz=163					
U30A	WK&E Inc. Balk	163.04 299	P	PKPdf	04 42 29.9	-0.4
	baz=163					
232A	Coleman	163.06 282	P	PKPdf	04 42 30.6	+0.2
	baz=163					
632A	Uvalde	163.11 274	P	PKPdf	04 42 30.8	+0.3
	baz=163,SNR=17					
332A	Millersview	163.15 281	P	PKPdf	04 42 30.4	-0.1
	baz=163					
P27A	Ficken Ranch,	163.17 310	P	PKPdf	04 42 30.2	-0.2
	baz=163					
JCT	Junction City	163.19 278	ePKIKP	PKPdf	04 42 31.0	+0.4
JCT			e		04 43 21.2	
JCT			MLR	MLR		
	comp=Z,187nm,19.0s					
JCT	Junction City	163.19 278	ePKPdf	PKPdf	04 42 31.0	+0.4
JCT			ePKPab	PKPab	04 43 21.2	+0.2
JCT			LR	LR		
	comp=Z,187nm,19.0s					
JCT	Junction City	163.19 278	P	PKPdf	04 42 30.6	0.0
	baz=163,SNR=19					
432A	Menard	163.19 279	P	PKPdf	04 42 30.4	-0.2
	baz=163,SNR=8.0					
R28A	Tribune	163.22 306	P	PKPdf	04 42 30.4	0.0
	baz=163					
H18A	Shoshone NF, C	163.24 336	P	PKPdf	04 42 30.2	-0.3
	baz=163,SNR=6.1					
I20A	Worland	163.26 331	P	PKPdf	04 42 29.7	-0.6
	baz=163,SNR=9.3					
532A	Rocksprings	163.26 276	P	PKPdf	04 42 31.0	+0.3
	baz=163,SNR=8.8					
O26A	Horse Wrangler	163.28 313	P	PKPdf	04 42 30.5	0.0
	baz=163					
T29A	Hugoton	163.31 301	P	PKPdf	04 42 30.7	+0.1
	baz=163					
Z31A	Sharp Cattle R	163.35 287	P	PKPdf	04 42 30.9	+0.3
	baz=163					
Y31A	Rekieta Farm,	163.35 290	P	PKPdf	04 42 30.8	+0.1
	baz=163					
J21A	Lysite	163.44 329	P	PKPdf	04 42 29.8	-0.8
	baz=163,SNR=6.8					
M24A	Cheyenne	163.45 319	P	PKPdf	04 42 30.9	+0.2
	baz=163					
KSCO	Kaye Shedlock'	163.48 309	P	PKPdf	04 42 31.1	+0.4
	baz=163					
L23A	Garrett	163.50 322	P	PKPdf	04 42 30.1	-0.7
	baz=163					
DLMT	Dillon	163.51 343	ePKPdf	PKPdf	04 42 30.9	+0.4
DLMT			ePKPab	PKPab	04 43 21.5	-0.4
K22A	Casper	163.53 325	P	PKPdf	04 42 29.4	-1.3
	baz=163					
I19A	Meeteetse	163.54 333	P	PKPdf	04 42 30.7	0.0
	baz=163,SNR=5.1					
S28A	Manter	163.59 303	P	PKPdf	04 42 30.6	-0.2
	baz=164					
LKWY	Lake	163.59 337	ePKIKP	PKPdf	04 42 31.7	+0.9
LKWY			MLR	MLR		
	comp=Z,288nm,20.0s					
LKWY	Lake	163.59 337	ePKPdf	PKPdf	04 42 31.7	+0.9
LKWY			LR	LR		
	comp=Z,288nm,20.0s					
231A	Bronte	163.62 283	P	PKPdf	04 42 31.2	+0.3
	baz=164					
131A	Roby	163.63 285	P	PKPdf	04 42 31.4	+0.4
	baz=164					
P26A	Davis Ranch, A	163.68 311	P	PKPdf	04 42 31.2	+0.3
	baz=164					
QLMT	Earthquake Lak	163.68 340	ePKPdf	PKPdf	04 42 31.4	+0.6
YMR	Madison River	163.69 339	ePKPdf	PKPdf	04 42 31.1	+0.2
YMR			ePKPab	PKPab	04 43 23.4	+0.7
J20A	Shoshoni	163.72 330	P	PKPdf	04 42 30.7	-0.1
	baz=164,SNR=7.7					
331A	San Angelo	163.74 280	P	PKPdf	04 42 31.2	+0.2
	baz=164,SNR=5.3					
X30A	Coker Ranch, T	163.76 292	P	PKPdf	04 42 30.7	-0.3
	baz=164					
631A	Perdido Creek	163.79 274	P	PKPdf	04 42 31.1	0.0
	baz=164,SNR=8.3					
H17A	Grant Village	163.80 337	ePKPdf	PKPdf	04 42 32.2	+1.1
H17A			ePKPab	PKPab	04 43 23.1	-0.2
H17A	Grant Village	163.80 337	P	PKPdf	04 42 32.4	+1.4
	baz=164					
531A	Rocksprings	163.82 276	P	PKPdf	04 42 30.6	-0.6
	baz=164,SNR=5.7					
O25A	Wiggins	163.86 314	P	PKPdf	04 42 31.7	+0.7
	baz=164					
431A	Sonora	163.89 278	P	PKPdf	04 42 31.1	-0.1
	baz=164,SNR=8.1					
Y30A	Stafford Cattl	163.89 290	P	PKPdf	04 42 31.0	-0.1
	baz=164					
N24A	Carr	163.89 317	P	PKPdf	04 42 31.6	+0.5
	baz=164					
K21A	Alcova	163.90 327	P	PKPdf	04 42 30.4	-0.7
	baz=164,SNR=5.9					
T28A	Walsh	163.94 302	P	PKPdf	04 42 30.9	-0.3
	baz=164					
R27A	Eads	163.94 307	P	PKPdf	04 42 30.9	-0.2
	baz=164					
L22A	Ellis Ranch, M	163.94 323	P	PKPdf	04 42 31.3	+0.1
	baz=164					
130A	Snyder	164.12 285	P	PKPdf	04 42 31.7	+0.3
	baz=164					
FLWY	Flagg Ranch	164.12 337	ePKPdf	PKPdf	04 42 31.7	+0.4
FLWY			ePKPab	PKPab	04 43 24.9	+0.2
Q26A	Hugo	164.12 310	P	PKPdf	04 42 31.5	+0.2
	baz=164					
Z30A	Sanderson Ranc	164.17 288	P	PKPdf	04 42 31.5	+0.1
	baz=164					
J19A	Crowheart	164.20 332	P	PKPdf	04 42 31.3	0.0
	baz=164,SNR=5.4					
I17A	Pilgrim Ck.	164.22 337	P	PKPdf	04 42 31.9	+0.6
	baz=164					
P25A	Willow Gulch B	164.23 312	P	PKPdf	04 42 32.1	+0.6
	baz=164					
U28A	Mallet	164.29 300	P	PKPdf	04 42 31.3	-0.2
	baz=164					
IMW	Indian Meadow	164.37 337	ePKPdf	PKPdf	04 42 31.6	0.0
IMW			ePKPab	PKPab	04 43 25.0	-0.8
330A	Mertzon	164.38 281	P	PKPdf	04 42 31.7	+0.1
	baz=164,SNR=7.3					
R26A	Arlington	164.38 308	P	PKPdf	04 42 31.8	+0.3
	baz=164					
K20A	Yellowstone Ra	164.39 329	P	PKPdf	04 42 30.2	-1.3
	baz=164,SNR=6.1					
T27A	Campo	164.41 302	P	PKPdf	04 42 31.4	-0.2
	baz=164					
X29A	Tulia	164.43 292	P	PKPdf	04 42 31.6	-0.1
	baz=164					
MOOW	Moose Ponds	164.43 337	ePKPdf	PKPdf	04 42 31.2	-0.4
MOOW			ePKPab	PKPab	04 43 26.1	0.0
430A	Baggett Ranch,	164.43 279	P	PKPdf	04 42 32.0	+0.3
	baz=164,SNR=16					
O24A	Longmont	164.44 316	P	PKPdf	04 42 31.8	+0.2
	baz=164					
N23A	Red Feather La	164.46 320	P	PKPdf	04 42 31.6	-0.1
	baz=164,SNR=8.9					
L21A	Rawlins	164.46 325	P	PKPdf	04 42 30.8	-0.8
	baz=164,SNR=8.1					
M22A	Cedar Creek Ra	164.47 322	P	PKPdf	04 42 31.5	-0.2
	baz=164,SNR=6.4					
K19A	Absolon Red Bu	164.48 330	P	PKPdf	04 42 30.5	-1.1
	baz=164					
LOHW	Long Hollow	164.50 336	ePKPdf	PKPdf	04 42 31.7	+0.1
LOHW			ePKPab	PKPab	04 43 26.1	-0.2
530A	J-C Ranch, Com	164.50 276	P	PKPdf	04 42 32.1	+0.3
	baz=165,SNR=15					
Y29A	Porterfield Fa	164.53 290	P	PKPdf	04 42 32.0	+0.2
	baz=164					
Q25A	Bedland, Calha	164.61 311	P	PKPdf	04 42 32.1	+0.3
	baz=165					
Z29A	Hungry Hill Ra	164.66 288	P	PKPdf	04 42 31.7	-0.2
	baz=165,SNR=8.8					
SNOW	Snow King Moun	164.69 336	ePKPdf	PKPdf	04 42 31.9	+0.1
P24A	Kohler Place,	164.70 314	P	PKPdf	04 42 32.6	+0.7
	baz=165					
S26A	Kim	164.71 305	P	PKPdf	04 42 32.1	+0.3
	baz=165					
M21A	Separation Pea	164.72 324	P	PKPdf	04 42 32.8	+0.9
	baz=165					
U27A	Thompson Grove	164.73 300	P	PKPdf	04 42 31.8	-0.2
	baz=165					
TPAW	Teton Pass	164.73 337	ePKPdf	PKPdf	04 42 31.9	0.0
TPAW			ePKPab	PKPab	04 43 27.3	-0.1
REDW	Red Top Meadow	164.81 336	ePKPdf	PKPdf	04 42 32.4	+0.4
REDW			ePKPab	PKPab	04 43 27.9	+0.2
N22A	Wattenberg Ran	164.81 320	P	PKPdf	04 42 32.2	+0.1
	baz=165,SNR=12					
X28A	Dimmitt	164.81 293	P	PKPdf	04 42 32.2	+0.1
	baz=165					
BW06	Boulder Array	164.82 332	ePKPdf	PKPdf	04 42 31.1	-0.8
BW06			LR	LR		
	comp=Z,246nm,19.0s					
PDAR	Pinedale Array	164.82 332	PKP	PKPdf	04 42 31.6	-0.4
PDAR	Pinedale Array	164.82 332	PKP	PKPdf	04 42 31.6	-0.4
	comp=Z,8.6nm,0.9s,baz=138,slow=2.5,SNR=47					
129A	Stewart Farms,	164.87 286	P	PKPdf	04 42 32.1	0.0
	baz=165,SNR=6.4					
O23A	Lake Granby, G	164.89 318	P	PKPdf	04 42 32.3	+0.1
	baz=165,SNR=5.9					
L20A	Wamsutter	164.90 327	P	PKPdf	04 42 31.7	-0.3
	baz=165,SNR=6.1					
V27A	Dan Oppiter Fa	164.97 298	P	PKPdf	04 42 31.9	-0.2
	baz=165					
ISCO	Idaho Springs	164.97 316	ePKIKP	PKPdf	04 42 32.7	+0.4
ISCO			MLR	MLR		
	comp=Z,308nm,19.0s					
ISCO	Idaho Springs	164.97 316	ePKPdf	PKPdf	04 42 32.7	+0.4
ISCO			ePKPab	PKPab	04 43 30.4	+1.7
ISCO			LR	LR		
	comp=Z,308nm,19.0s					
ISCO	Idaho Springs	164.97 316	P	PKPdf	04 42 32.5	+0.2
	baz=165,SNR=17					
RRI2	Red Ridge	164.98 337	ePKPdf	PKPdf	04 42 32.4	+0.2
RRI2			ePKPab	PKPab	04 43 28.3	-0.3
Y28A	McKinney Farm,	164.99 291	P	PKPdf	04 42 32.3	+0.1
	baz=165,SNR=9.5					
429A	Davenport Ranc	165.00 278	P	PKPdf	04 42 32.9	+0.7
	baz=165,SNR=8.3					
R25A	Fountain Ranch	165.03 308	P	PKPdf	04 42 32.4	+0.3
	baz=165					
329A	Wagon Wheel Ra	165.06 281	P	PKPdf	04 42 32.7	+0.4
	baz=165,SNR=6.8					
Q24A	Divide	165.17 312	P	PKPdf	04 42 32.8	+0.4
	baz=165					
Z28A	Tucker Farm, M	165.22 288	P	PKPdf	04 42 32.8	+0.4
	baz=165,SNR=7.8					
M20A	Sweetwater, Wa	165.22 326	P	PKPdf	04 42 32.0	-0.4
	baz=165					
529A	Stev Forest Ra	165.27 276	P	PKPdf	04 42 33.1	+0.6
	baz=165,SNR=18					
L19A	Farson	165.28 330	P	PKPdf	04 42 32.0	-0.3
	baz=165					
O22A	Kremmling	165.29 319	P	PKPdf	04 42 32.4	-0.2
	baz=165,SNR=5.1					
W27A	Bowe Ranch, En	165.35 296	P	PKPdf	04 42 32.8	+0.3
	baz=165,SNR=7.2					
P23A	Jefferson	165.37 315	P	PKPdf	04 42 32.8	+0.1
	baz=165,SNR=7.3					
S25A	Robets Cordova	165.37 307	P	PKPdf	04 42 33.2	+0.7
	baz=165					
128A	Castleberry Fa	165.39 286	P	PKPdf	04 42 32.7	+0.1
	baz=165,SNR=11					
MSTX	Muleshoe	165.40 291	ePKPdf	PKPdf	04 42 32.6	+0.1
MSTX			ePKPab	PKPab	04 43 29.7	-1.0
MSTX	Muleshoe	165.40 291	P	PKPdf	04 42 32.6	+0.1
	baz=165					
N21A	Black Mountain	165.42 322	P	PKPdf	04 42 32.3	-0.2
	baz=165,SNR=11					
U26A	Atchley Ranch,	165.42 301	P	PKPdf	04 42 32.7	+0.1
	baz=165					
X27A	F and S Farms,	165.50 294	P	PKPdf	04 42 33.1	+0.5
	baz=166					
R24A	Sanders Place,	165.54 310	P	PKPdf	04 42 33.2	+0.5
	baz=166,SNR=7.0					
T25A	Trinidad	165.60 305	P	PKPdf	04 42 33.3	+0.6
	baz=166,SNR=7.0					
HLID	Hailey	165.64 346	ePKPdf	PKPdf	04 42 32.7	+0.2
HLID			ePKPab	PKPab	04 43 30.8	-0.4
HLID			LR	LR		
	comp=Z,260nm,19.0s					
HLID	Hailey	165.64 346	P	PKPdf	04 42 33.0	+0.5
	baz=166					
Q23A	Hartsel	165.64 313	P	PKPdf	04 42 33.1	+0.2
	baz=166,SNR=6.5					
M19A	Rock Springs	165.67 328	P	PKPdf	04 42 33.0	+0.3
	baz=166					
V26A	Tequesquite Ra	165.68 299	P	PKPdf	04 42 33.0	+0.2
	baz=166					
428A	Kincaid Ranch,	165.68 278	P	PKPdf	04 42 33.8	+0.9
	baz=166,SNR=13					
Y27A	Causey	165.74 291	P	PKPdf	04 42 33.1	+0.3
	baz=166,SNR=9.8					
N20A	Spence Gulch,	165.75 324	P	PKPdf	04 42 33.0	+0.2
	baz=166,SNR=22					
528A	Cox Ranch, San	165.76 276	P	PKPdf	04 42 33.1	+0.1
	baz=166					
328A	Wristen Ranch,	165.77 281	P	PKPdf	04 42 33.3	+0.4
	baz=166					
P22A	Eagle	165.78 317	P	PKPdf	04 42 33.5	+0.7
	baz=166,SNR=7.0					
628A	Black Gap, Mar	165.80 273	P	PKPdf	04 42 34.3	+1.4
	baz=166					
Z27A	Tatum	165.89 289	P	PKPdf	04 42 33.4	+0.4
	baz=166,SNR=5.8					
W26A	Owens Ranch, T	165.90 296	P	PKPdf	04 42 33.1	+0.1
	baz=166					
U25A	Circle Dot Ran	165.91 302	P	PKPdf	04 42 33.5	+0.5
	baz=166,SNR=18					
S24A	Houchin Ranch,	165.92 308	P	PKPdf	04 42 34.1	+1.0
	baz=166,SNR=5.5					
MFID	Camas Ranch	166.04 350	P	PKPdf	04 42 33.6	+0.8
	baz=166					
R23A	Moffat	166.04 311	P	PKPdf	04 42 34.2	+1.0
	baz=166,SNR=13					
SDCO	Great Sand Dun	166.06 309	ePKPdf	PKPdf	04 42 33.7	+0.5
SDCO			ePKPab	PKPab	04 43 33.2	-0.4
SDCO			LR	LR		
	comp=Z,248nm,20.0s					
X26A	CR and CF Fran	166.09 294	P	PKPdf	04 42 34.1	+0.9
	baz=166,SNR=6.8					
127A	Arkansas Junct	166.12 286	P	PKPdf	04 42 33.6	+0.4
	baz=166,SNR=5.0					
SMCO	Snowmass	166.18 316	ePKPdf	PKPdf	04 42 34.1	+0.7
SMCO			ePKPab	PKPab	04 43 33.6	-0.6
P21A	Newcastle	166.23 319	P	PKPdf	04 42 33.6	+0.4
	baz=166,SNR=7.6					
627A	Terlingua Ranc	166.24 273	P	PKPdf	04 42 34.1	+0.7
	baz=166					
O20A	White River Ci	166.25 322	P	PKPdf	04 42 33.2	+0.1
	baz=166,SNR=5.6					
V25A	Rancho No Teng	166.29 300	P	PKPdf	04 42 33.8	+0.5
	baz=166,SNR=16					
427A	Hayter Ranch,	166.30 279	P	PKPdf	04 42 34.8	+1.4
	baz=166					
T24B	San Luis	166.32 306	P	PKPdf	04 42 35.0	+1.6
	baz=166,SNR=5.9					
Q22A	Crested Butte,	166.34 315	P	PKPdf	04 42 34.3	+0.9
	baz=166,SNR=5.7					
M17A	Scullys Gap (B	166.36 332	P	PKPdf	04 42 33.5	+0.3
	baz=166					
W25A	X Bar L Ranch,	166.39 298	P	PKPdf	04 42 34.1	+0.8
	baz=166,SNR=12					
TXAR	Lajitas Array	166.47 272	PKP	PKPdf	04 42 34.4	+0.9
TXAR			PKPab	PKPab	04 43 35.4	-0.1
TXAR	Lajitas Array	166.47 272	PKP	PKPdf	04 42 34.4	+0.9
	comp=Z,1.9nm,0.9s,baz=141,slow=2.1,SNR=18					
TXAR			PKPab	PKPab	04 43 35.4	-0.1
	comp=Z,1.6nm,0.9s,baz=101,slow=5.2,SNR=6.9					
527A	Woodward Ranch	166.47 276	P	PKPdf	04 42 33.9	+0.4
	baz=166					
Z26A	Caprock	166.53 289	P	PKPdf	04 42 33.4	-0.1
	baz=166,SNR=6.1					
U24A	Moreno Valley	166.54 303	P	PKPdf	04 42 34.7	+1.0
	baz=166,SNR=6.9					
O19A	Miners Draw (B	166.59 325	P	PKPdf	04 42 34.1	+0.7
	baz=166					
R22A	Saguache, Gunn	166.62 313	P	PKPdf	04 42 34.9	+1.2
	baz=167,SNR=9.3					
Q21A	Lamborn Mesa,	166.76 317	P	PKPdf	04 42 34.0	+0.4
	baz=167					
HUMO	Hull Mountain	166.76 12	ePKPdf	PKPdf	04 42 33.3	+0.1
HUMO			ePKPab	PKPab	04 43 35.8	-0.2
X25A	Clemmons Ranch	166.77 295	P	PKPdf	04 42 33.9	+0.2
	baz=167					
326A	Caldwell Ranch	166.78 281	P	PKPdf	04 42 34.9	+1.2
	baz=167					
P20A	De Beque	166.78 321	P	PKPdf	04 42 34.2	+0.6
	baz=167					
T23A	Casias Ranch,	166.79 307	P	PKPdf	04 42 34.4	+0.7
	baz=167					
V24A	Rampart Ranch,	166.82 301	P	PKPdf	04 42 34.9	+1.1
	baz=167,SNR=15					
426A	McDonald Obser	166.84 278	P	PKPdf	04 42 34.6	+0.7
	baz=167					
HVU	Hansel Valley	166.86 338	ePKIKP	PKPdf	04 42 33.5	0.0
HVU			e		04 43 36.7	
HVU	Hansel Valley	166.86 338	ePKPdf	PKPdf	04 42 33.5	0.0
HVU			ePKPab	PKPab	04 43 36.7	0.0
226B	Tecolote Peak,	166.87 284	P	PKPdf	04 42 33.7	0.0
	baz=167					
526A	Mary Lane Ranc	166.88 275	P	PKPdf	04 42 34.6	+0.7
	baz=167					
626A	Big Bend Ranch	166.89 273	P	PKPdf	04 42 34.6	+0.7
	baz=167					
S22A	4UR Ranch, Cre	166.95 311	P	PKPdf	04 42 35.0	+1.1
	baz=167,SNR=15					
Y25A	Mesa, Roswell	166.96 293	P	PKPdf	04 42 34.3	+0.5
	baz=167,SNR=6.1					
P19A	Cripple Cowboy

225A	Deer Hill, Car	167.42	285	P	PKPdf	04 42 35.4 +1.1
	baz=167					
DAU	Daniels Canyon	167.49	331	ePKIKP	PKPdf	04 42 35.1 +0.8
DAU	Daniels Canyon	167.49	331	ePKPdf	PKPdf	04 42 35.1 +0.8
V23A	Ortiz Mt. (NFS	167.49	302	P	PKPdf	04 42 36.0 +1.7
	baz=168,SNR=11					
Y24A	Capitan	167.56	293	P	PKPdf	04 42 35.1 +0.8
	baz=168,SNR=10					
S21A	Coal Bank Pass	167.62	313	P	PKPdf	04 42 35.7 +1.3
	baz=168,SNR=19					
Z24A	Sheeppen Canyo	167.65	291	P	PKPdf	04 42 35.4 +1.0
	baz=168					
R20A	Redvale	167.66	316	P	PKPdf	04 42 35.3 +1.0
	baz=168					
425A	Indio Mountain	167.66	279	P	PKPdf	04 42 34.6 +0.2
	baz=168					
U22A	Llaves	167.69	306	P	PKPdf	04 42 35.8 +1.4
	baz=168,SNR=7.8					
W23A	Werner Place,	167.71	300	P	PKPdf	04 42 35.4 +0.9
	baz=168					
BGU	Big Grassy Mou	167.72	338	ePKPdf	PKPdf	04 42 34.6 +0.4
BGU				ePKPab	PKPab	04 43 38.2 -2.3
MOD	Modoc	167.78	4	ePKPdf	PKPdf	04 42 34.7 +0.5
MOD				ePKPab	PKPab	04 43 40.0 -0.7
T21A	Navajo Lake	167.84	310	P	PKPdf	04 42 35.5 +1.0
	baz=168,SNR=5.8					
124A	Stringfield Ra	167.86	288	P	PKPdf	04 42 35.8 +1.2
	baz=168					
S20A	Disappointment	167.87	315	P	PKPdf	04 42 34.9 +0.4
	baz=168					
MNTX	Cornudas Mount	167.94	283	ePKPdf	PKPdf	04 42 34.8 +0.3
MNTX				LR	LR	
	comp=Z,177nm,19.0s					
X23A	Hourglass Bar	167.95	297	P	PKPdf	04 42 35.6 +1.0
	baz=168					
V22A	San Miguel Ran	167.95	304	P	PKPdf	04 42 36.0 +1.4
	baz=168,SNR=11					
MPU	Maple Canyon	167.98	331	ePKPdf	PKPdf	04 42 35.4 +0.9
224A	Cornudas Mount	168.01	285	P	PKPdf	04 42 35.5 +0.8
	baz=168					
ANMO	Albuquerque	168.02	299	ePKPdf	PKPdf	04 42 35.5 +0.9
ANMO				ePKPab	PKPab	04 43 41.2 -1.0
ANMO				LR	LR	
	comp=Z,351nm,19.0s					
ANMO	Albuquerque	168.02	299	PKP	PKPdf	04 42 35.9 +1.2
	comp=Z,5.3nm,1.1s,baz=176,slow=2.1,SNR=14					
ANMO				PKPab	PKPab	04 43 43.1 +0.8
	comp=Z,3.1nm,1.1s,baz=68,slow=8.0,SNR=4.4					
Y23A	Lovelace Mesa,	168.05	294	P	PKPdf	04 42 35.9 +1.2
	baz=168					
324A	Moseley Ranch,	168.05	282	P	PKPdf	04 42 34.8 +0.2
	baz=168					
SRU	San Rafael	168.19	325	ePKIKP	PKPdf	04 42 35.0 +0.4
SRU				e		04 43 40.8
SRU	San Rafael	168.19	325	ePKPdf	PKPdf	04 42 35.0 +0.4
SRU				ePKPab	PKPab	04 43 40.8 -1.9
NLU	North Lily Min	168.21	332	ePKPdf	PKPdf	04 42 35.2 +0.6
U21A	Nageezi	168.22	308	P	PKPdf	04 42 35.7 +1.0
	baz=168					
W22A	Albuquerque	168.28	300	P	PKPdf	04 42 36.4 +1.6
	baz=168					
DUG	Dugway	168.29	335	ePKIKP	PKPdf	04 42 35.5 +0.9
DUG				MLR	MLR	
	comp=Z,356nm,21.0s					
DUG	Dugway	168.29	335	ePKPdf	PKPdf	04 42 35.5 +0.9
DUG				LR	LR	
	comp=Z,356nm,21.0s					
DUG	Dugway	168.29	335	P	PKPdf	04 42 35.2 +0.6
	baz=168					
MVCO	Mesa Verde	168.34	313	ePKPdf	PKPdf	04 42 35.7 +0.9
MVCO				LR	LR	
	comp=Z,274nm,19.0s					
MVCO	Mesa Verde	168.34	313	P	PKPdf	04 42 35.5 +0.6
	baz=168					
Z23A	Rita Site, Whi	168.37	291	P	PKPdf	04 42 35.8 +1.0
	baz=168					
ELK	Elko	168.51	345	ePKPdf	PKPdf	04 42 35.6 +0.8
ELK				ePKPab	PKPab	04 43 44.6 +0.5
V21A	Milan	168.52	305	P	PKPdf	04 42 36.0 +1.0
	baz=168					
X22A	Bernardo	168.61	298	P	PKPdf	04 42 37.1 +2.1
	baz=169					
Q16A	Castle Valley	168.66	326	ePKPdf	PKPdf	04 42 35.6 +0.7
Q16A	Castle Valley	168.66	326	P	PKPdf	04 42 35.7 +0.7
	baz=169					
LAZ	Ladron	168.74	298	ePKPdf	PKPdf	04 42 36.3 +1.2
LAZ				ePKPab	PKPab	04 43 46.8 +1.3
Y22A	Socorro	168.77	295	P	PKPdf	04 42 36.4 +1.2
	baz=169					
U20A	Newcomb	168.84	309	P	PKPdf	04 42 35.7 +0.6
	baz=169					
W21A	San Fidel	168.84	302	P	PKPdf	04 42 36.2 +1.1
	baz=169					
Z22A	Elephant Butte	168.97	292	P	PKPdf	04 42 36.3 +1.0
	baz=169					
V20A	Brimhall	169.11	307	P	PKPdf	04 42 36.0 +0.7
	baz=169					
X21A	Alamocita Cree	169.22	299	P	PKPdf	04 42 36.6 +1.1
	baz=169					
W20A	Ramah	169.46	304	P	PKPdf	04 42 36.6 +1.0
	baz=169					
MVU	Marysvale	169.48	328	ePKPdf	PKPdf	04 42 37.0 +1.5
MVU				LR	LR	
	comp=Z,366nm,20.0s					
Z21A	St. Cloud Mine	169.52	293	P	PKPdf	04 42 36.6 +0.9
	baz=170					
X20A	Quemado	169.72	301	P	PKPdf	04 42 37.0 +1.2
	baz=170					
BEKR	Beckworth	169.80	5	ePKPdf	PKPdf	04 42 35.7 +0.2
BEKR				ePKPab	PKPab	04 43 49.0 -0.7
121A	Cookes Peak, D	169.81	289	P	PKPdf	04 42 37.4 +1.6
	baz=170					
Y20A	Horse Springs,	169.88	297	P	PKPdf	04 42 37.6 +1.7
	baz=170					
221A	Mesquite Ranch	169.91	286	P	PKPdf	04 42 36.9 +1.1
	baz=170					
Z20A	Nine Sixteen R	170.32	293	P	PKPdf	04 42 37.4 +1.3
	baz=170					
W18A	Petrified Fore	170.34	307	ePKPdf	PKPdf	04 42 36.2 +0.2
W18A				ePKPab	PKPab	04 43 51.6 -0.9
W18A	Petrified Fore	170.34	307	P	PKPdf	04 42 37.0 +0.9
	baz=170					
120A	U Bar Ranch, L	170.51	290	P	PKPdf	04 42 37.5 +1.3
	baz=170					
220A	Playas Peak, P	170.56	286	P	PKPdf	04 42 37.5 +1.3
	baz=171					
320A	Kipp Ranch, An	170.65	283	P	PKPdf	04 42 37.4 +1.1
	baz=171					
CCUT	Cedar City	170.78	330	ePKPdf	PKPdf	04 42 37.9 +1.6
CCUT				ePKPab	PKPab	04 43 55.1 +0.8
X18A	Snowflake	170.79	304	P	PKPdf	04 42 36.9 +0.6
	baz=171					
R11A	Troy Canyon, C	170.86	342	P	PKPdf	04 42 37.0 +0.8
	baz=171					
U15A	North Rim	171.13	321	P	PKPdf	04 42 38.4 +1.8
	baz=171					
WUAZ	Wupatki	171.21	313	ePKPdf	PKPdf	04 42 37.2 +0.7
WUAZ				ePKPab	PKPab	04 43 55.0 -1.3
WUAZ				LR	LR	
	comp=Z,264nm,19.0s					
WUAZ	Wupatki	171.21	313	P	PKPdf	04 42 37.5 +1.1
	baz=171					
NV11	Mina Array Sit	171.24	355	ePKPdf	PKPdf	04 42 37.8 +1.4
NV11				ePKPab	PKPab	04 43 55.5 -0.6
319A	Douglas	171.28	284	P	PKPdf	04 42 38.2 +1.6
	baz=171					
X16A	Lo Mia Camp, P	171.90	308	P	PKPdf	04 42 37.8 +0.9
	baz=172					
MLAC	Mammoth Lakes	172.07	358	P	PKPdf	04 42 38.7 +1.8
	baz=172					
TUC	Tucson	172.32	292	ePKIKP	PKPdf	04 42 38.4 +1.4
TUC				e		04 44 00.4
TUC				MLR	MLR	
	comp=Z,236nm,20.0s					
TUC	Tucson	172.32	292	ePKPdf	PKPdf	04 42 38.4 +1.4
TUC				ePKPab	PKPab	04 44 00.4 -0.9
TUC				LR	LR	
	comp=Z,236nm,20.0s					
SHPR	Sheep Range	172.41	335	ePKPdf	PKPdf	04 42 38.9 +1.9
SHPR				ePKPab	PKPab	04 44 01.9 +0.5
GRAC	Grapevine Rang	172.55	349	P	PKPdf	04 42 38.4 +1.5
	baz=172					
FURC	Furnace Creek,	172.96	344	P	PKPdf	04 42 38.9 +2.0
	baz=173					
W13A	Hualapai Mount	172.98	322	P	PKPdf	04 42 38.9 +1.6
	baz=173					
Y14A	Wickenburg	173.24	310	P	PKPdf	04 42 38.7 +1.4
	baz=173					
MPMC	Manual Prospec	173.49	348	P	PKPdf	04 42 39.1 +1.6
	baz=173					
Z14A	Wintersburg	173.53	306	P	PKPdf	04 42 38.6 +1.3
	baz=174					
LDFC	Landfair	173.61	328	ePKPdf	PKPdf	04 42 39.6 +2.1
TUQ	Turquoise Moun	173.64	335	P	PKPdf	04 42 38.9 +1.4
	baz=174					
PDMCI	Parker Dam,Lak	173.71	318	P	PKPdf	04 42 38.8 +1.5
	baz=174					
ISA	Isabella	174.01	354	ePKIKP	PKPdf	04 42 38.8 +1.3
ISA	Isabella	174.01	354	ePKPdf	PKPdf	04 42 38.8 +1.3
ISA				ePKPab	PKPab	04 44 09.5 +1.2
ISA	Isabella	174.01	354	P	PKPdf	04 42 38.9 +1.4
	baz=174					
GSC	Goldstone	174.05	341	P	PKPdf	04 42 39.1 +1.5
	baz=174					
214A	Organ Pipe Nat	174.06	294	P	PKPdf	04 42 39.1 +1.5
	baz=174					
LRMC	Laurel Mountai	174.09	348	P	PKPdf	04 42 39.4 +1.8
	baz=174					
GMRC	Granite Mounta	174.11	330	P	PKPdf	04 42 39.8 +2.1
	baz=174					
Y12C	Blythe	174.32	317	P	PKPdf	04 42 39.4 +1.8
	baz=174					
HEC	Hector,Ludlow	174.33	335	P	PKPdf	04 42 39.6 +1.9
	baz=174					
SMMC	Simmler	174.35	7	P	PKPdf	04 42 39.1 +1.5
	baz=174					
IRM	Iron Mountain	174.37	323	P	PKPdf	04 42 39.8 +2.1
	baz=174					
113A	Mohawk Valley,	174.43	305	P	PKPdf	04 42 38.8 +1.1
	baz=174					
ARVC	Arvin	174.57	357	P	PKPdf	04 42 39.3 +1.6
	baz=174					
EDW2	Edwards Air Fo	174.72	349	P	PKPdf	04 42 39.6 +1.8
	baz=175					
PKM	Peak Mountain	174.78	6	P	PKPdf	04 42 40.0 +2.0
	baz=175					
BELC	Belle Mtn. Jos	174.91	328	P	PKPdf	04 42 39.6 +1.7
	baz=175					
BC3	Big Chuckawalla	174.92	322	P	PKPdf	04 42 39.9 +2.0
	baz=175					
GLA	Glamis	174.98	313	ePKIKP	PKPdf	04 42 39.7 +1.8
GLA	Glamis	174.98	313	ePKPdf	PKPdf	04 42 39.6 +1.8
GLA	Glamis	174.98	313	P	PKPdf	04 42 39.5 +1.6
	baz=175					
SBC	Santa Barbara	175.24	5	P	PKPdf	04 42 39.2 +1.4
	baz=175					
BFSC	Mount Baldy Ra	175.28	344	P	PKPdf	04 42 38.7 +0.6
	baz=175					
PFO	Pinyon Flat Ob	175.45	330	ePKPdf	PKPdf	04 42 39.8 +1.7
PFO				PKPab	PKPab	04 44 16.0 +1.0
PFO	Pinyon Flat Ob	175.45	330	PKP	PKPdf	04 42 40.0 +1.9
	comp=Z,8.9nm,1.0s,baz=302,slow=0.7,SNR=11					
PFO				PKPab	PKPab	04 44 16.0 +1.0
	comp=Z,4.8nm,1.1s,baz=76,slow=12,SNR=2.4					
PFO	Pinyon Flat Ob	175.45	330	P	PKPdf	04 42 40.0 +1.9
	baz=175					
SWSC	Sam W. Stewart	175.64	319	P	PKPdf	04 42 39.6 +1.6
	baz=176					
MONP	Monument Peak	176.02	324	P	PKPdf	04 42 40.1 +1.7
	baz=176					
DVTC	Desert V Tower	176.02	319	P	PKPdf	04 42 40.0 +1.8
	baz=176					
BAR	Barrett	176.32	325	ePKPdf	PKPdf	04 42 40.0 +1.8

ATH ***26*** *04:31:37.3, 34°.00N×25°.51E, h5km±3km, MD3.4/9*
IDC ***26*** *04:31:37.1±1.4, 34°.01N×25°.42E, h0km, mb3.5/3,*
mb1 3.5/6, mb1mx3.4/25, mbtmp3.4/6, ML3.6/3, MS3.9/1,
Ms1 4.0/1, ms1mx2.6/28, Error ellipse: s-maj=26.2km
s-min=22.2km az=107.0
CSEM ***26*** *04:31:43.2±1.2, 34°.37N×25°.53E, h2km, MD3.4, Error*
ellipse: s-maj=29.3km s-min=7.6km az=179.0
ISC 26 04:31:39.2±1.9, 34°.08N±0°.08×25°.43E±0°.04, h11km±11km,
n42, σ1°54/43, mb3.5/3, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	Sivas	1.07	331	ePB	Pg	04 31 59.5	-0.3
SIVA				eSB	Sn	04 32 16.2	+1.3
SIVA	Sivas	1.07	331	ePb	Pg	04 31 59.5	-0.3
LAST	Lasithi	1.08	2	ePN	Pg	04 31 59.0	-1.0
NPS	Neapolis	1.19	7	ePB	Pg	04 32 01.1	-1.0
NPS	Neapolis	1.19	7	ePb	Pg	04 32 01.1	-1.0
ZKR	Zakros	1.22	32	ePB	Pn	04 32 01.7	-0.5
ZKR	Zakros	1.22	32	ePb	Pn	04 32 01.7	-0.5
IDI	Anoyia	1.28	340	ePG	Pn	04 32 03.0	-0.2
IDI	Anoyia	1.28	340	Pn	Pn	04 32 02.5	-0.7
	7.0nm,0.3s,baz=161,slow=14,SNR=39						
IDI				Sn	Sn	04 32 23.2	+2.8
	13nm,0.3s,baz=220,slow=23,SNR=10.0						
IDI	Anoyia	1.28	340	ePg	Pn	04 32 03.0	-0.2
GVD	Gavdhos	1.34	305	ePB	Pg	04 32 05.3	+0.2
GVD				eSB	Sg	04 32 25.0	+2.4
VAM	Vamos	1.67	323	ePG	Pg	04 32 10.5	-0.8
VAM				eSN	Sg	04 32 36.1	+3.2
VAM	Vamos	1.67	323	ePg	Pg	04 32 10.5	-0.8
KARP	Karpathos	2.04	44	ePG	Pb	04 32 15.7	-0.6
KARP	Karpathos	2.04	44	ePg	Pb	04 32 15.7	-0.6
ANKY	Antikythira Is	2.50	316	ePN	Pb	04 32 23.1	-1.0
ANKY	Antikythira Is	2.50	316	ePn	Pb	04 32 23.1	-1.0
KYTH	Kithira	2.94	319	ePN	Pb	04 32 29.2	-2.6
KYTH	Kithira	2.94	319	ePn	Pb	04 32 29.2	-2.6
APE	Apeiranthos	2.98	1	ePN	Pb	04 32 29.7	-2.7
APE	Apeiranthos	2.98	1	ePn	Pb	04 32 29.7	-2.7
VLI	Veliai	3.33	323	ePN	Pn	04 32 34.7	+3.5
VLI	Veliai	3.33	323	ePn	Pn	04 32 34.7	+3.5
DID	Didima	3.86	333	ePN	Pn	04 32 41.7	+3.2
DID	Didima	3.86	333	ePn	Pn	04 32 41.7	+3.2
AKAS	Kas	4.04	57	iP	Pn	04 32 41.8	+0.7
AKAS				iS	Sn	04 33 29.9	+1.5
AKAS	Kas	4.04	57	iP	Pn	04 32 41.8	+0.7
AKAS				iS	Sn	04 33 29.9	+1.5
AYDN	Tasoluk	4.09	28	iP	Pn	04 32 43.7	+2.0
AYDN	Tasoluk	4.09	28	iP	Pn	04 32 43.7	+2.0
GOLH	Golhisar	4.60	46	iP	Pn	04 32 50.9	+2.0
GOLH				iS	Sn	04 33 44.3	+1.9
GOLH	Golhisar	4.60	46	iP	Pn	04 32 50.9	+2.0
GOLH				iS	Sn	04 33 44.3	+1.9
KLV	Kalavryta, Ach	4.76	327	ePN	Pn	04 32 54.6	+3.6
KLV	Kalavryta, Ach	4.76	327	ePn	Pn	04 32 54.6	+3.6
KHAL	Karahalli	5.39	36	iP	Pn	04 33 00.3	+0.6
KHAL				iS	Sn	04 34 00.7	-1.1
KHAL	Karahalli	5.39	36	iP	Pn	04 33 00.3	+0.6
KHAL				iS	Sn	04 34 00.7	-1.1
BRTR	Keskin Array B	8.65	47	Pn	Pn	04 33 45.9	+1.4
	0.2nm,0.3s,baz=229,slow=15,SNR=5.0						
AKASG	Malin Array Be	16.84	8	Pn	P	04 35 35.5	-1.4
	0.4nm,0.3s,baz=201,slow=11,SNR=4.1						
GERES	GERESS Array B	17.14	333	Pn	P	04 35 41.8	+1.4
	0.1nm,0.3s,baz=148,slow=10.0,SNR=4.8						
TORD	Torodi Ar. Bea	29.98	232	P	P	04 37 47.2	-0.7
	0.2nm,0.8s,baz=45,slow=7.5,SNR=2.3						
ARCES	ARCESS Array B	35.51	0	LR	LR	04 55 45.3	
	comp=Z,191nm,18.4s,baz=256,slow=41						
MKAR	Makanchi Array	44.19	56	P	P	04 39 48.0	-0.1
	0.4nm,0.5s,baz=276,slow=5.6,SNR=5.7						
ZALV	Zalesovo Beam	45.59	45	P	P	04 39 58.6	-0.5
	0.7nm,0.5s,baz=289,slow=4.4,SNR=2.4						

ISCJB ***26*** *04:33:47.0±0.6, 38°.80N±0°.03×32°.90E±0°.05, h10km±7km,*
Error ellipse: s-maj=6.7km s-min=4.8km az=0.0
ISK ***26*** *04:33:46.6, 38°.82N×32°.92E, h14km, MD3.3*
CSEM ***26*** *04:33:47.1±0.2, 38°.81N×32°.90E, h12km, MD3.3, Error*
ellipse: s-maj=4.0km s-min=3.2km az=90.0
DDA ***26*** *04:33:48.2, 38°.80N×33°.08E, h7km, MD3.1*
ISC 26 04:33:46.7±1.5, 38°.81N±0°.03×32°.92E±0°.03, h6km±14km,
n33, σ0°53/43, 2C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFSR	Af¯ar-Bala (A	0.65	10	ePG	Pg	04 33 59.4	+0.1
AFSR				eSG	Sb	04 34 09.4	-0.6
AFSR	Af¯ar-Bala (A	0.65	10	ePg	Pg	04 33 59.4	+0.1
AFSR				eSg	Sb	04 34 09.4	-0.6
KDHN	Kadinhani	0.69	246	iP	Pn	04 34 03.3	+0.1
KDHN				iS	Sn	04 34 15.4	+1.1
KDHN	Kadinhani	0.69	246	iP	Pn	04 34 03.3	+0.1
BBAL	Bala	0.75	12	iP	Pg	04 34 01.9	+0.7
BBAL				iS	Sb	04 34 13.6	+0.7
BBAL	Bala	0.75	12	iP	Pg	04 34 01.9	+0.7
BBAL				iS	Sb	04 34 13.6	+0.7
SULT	Sultanhani-AKS	0.77	142	ePG	Pg	04 34 01.6	+0.1
SULT				eSG	Sb	04 34 13.2	-0.1
SULT	Sultanhani-AKS	0.77	142	ePg	Pg	04 34 01.6	+0.1
SULT				eSg	Sb	04 34 13.2	-0.1
KIZT	Kizilcal	0.81	275	ePG	Pg	04 34 02.7	+0.3
KIZT	Kizilcal	0.81	275	ePg	Pg	04 34 02.7	+0.3
KONT	Konya--Tatoy	0.97	207	ePG	Pn	04 34 06.6	-0.3
KONT	Konya--Tatoy	0.97	207	ePg	Pn	04 34 06.6	-0.3
ANTO	Ankara	1.06	355	ePG	Pb	04 34 06.9	-0.8
ANTO	Ankara	1.06	355	iP	Pb	04 34 07.6	-0.1
ANTO	Ankara	1.06	355	ePg	Pb	04 34 06.9	-0.8
ANTO	Ankara	1.06	355	iP	Pb	04 34 07.6	-0.1
SVRH	Sivrihisar-ESK	1.26	301	ePN	Pn	04 34 09.8	-1.2
SVRH	Sivrihisar-ESK	1.26	301	ePn	Pn	04 34 09.8	-1.2
CDAG	Cicekdag	1.39	54	iP	Pb	04 34 13.0	-0.2
CDAG				iS	Sb	04 34 31.2	-0.1
CDAG	Cicekdag	1.39	54	iP	Pb	04 34 13.0	-0.2
CDAG				iS	Sb	04 34 31.2	-0.1
NIG	Nigde	1.50	117	ePN	Pn	04 34 13.6	-0.8
NIG	Nigde	1.50	117	ePn	Pn	04 34 13.6	-0.8
AVNT	Avonos	1.51	90	iP	Pn	04 34 14.3	-0.3
AVNT				iS	Sb	04 34 34.5	-0.3
AVNT	Avonos	1.51	90	iP	Pn	04 34 14.3	-0.3
AVNT				iS	Sb	04 34 34.5	-0.3
BOLV	Bolvadin	1.54	267	iP	Pg	04 34 20.1	+3.7
HDMB	Hadim	1.87	191	ePN	Pn	04 34 19.8	+0.3
HDMB	Hadim	1.87	191	ePn	Pn	04 34 19.8	+0.3
CORM	Corum	1.91	43	ePN	Pn	04 34 20.1	+0.2
CORM	Corum	1.91	43	ePn	Pn	04 34 20.2	+0.2
YOZ	Yozgat	2.04	65	ePN	Pn	04 34 22.2	+0.4
YOZ	Yozgat	2.04	65	ePn	Pn	04 34 22.2	+0.4
SVSK	Karaayir	3.35	69	ePN	Pn	04 34 39.5	-0.1
SVSK	Karacayir	3.35	69	ePn	Pn	04 34 39.5	-0.1

CASC ***26*** *04:38:53.7±0.8, 12°.53N×99°.96W, h12km, MD4.4,*
mb4.3(NEIC)
IDC ***26*** *04:40:20.4±1.1, 13°.85N×93°.39W, h0km, mb4.0/12,*
mb1 4.2/14, mb1mx4.1/24, mbtmp4.0/14, ML4.4/3, MS3.4/5,
Ms1 3.4/5, ms1mx3.1/29, Error ellipse: s-maj=32.2km
s-min=20.2km az=38.0
ISCJB ***26*** *04:40:23.9±0.4, 14°.08N±0°.05×93°.39W±0°.03, h22km,*
mb4.3/42, MS3.5/3, Error ellipse: s-maj=7.3km
s-min=3.1km az=22.6
NEIC ***26*** *04:40:33.0, 14°.74N×93°.77W, h14km, mb4.3/28,*
MD4.2(MEX), After MEX.
MEX ***26*** *04:40:33.0±1.0, 14°.74N×93°.77W, h14km±31km, MD4.3*
ISC 26 04:40:24.9±0.6, 14°.11N±0°.06×93°.46W±0°.05, h22km, n277,
σ1°53/277, mb4.2/42, MS3.3/3, 2C-2D, Near coast of
Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		1.60	8	iP	Pn	04 40 50.7	-1.3
PCIG				iS	Sn	04 41 02.8	-9.2
PCIG		1.60	8	iP	Pn	04 40 50.7	-1.3
PCIG				iS	Sn	04 41 02.8	-9.2
JAT	Jato	1.78	83	ePn	Pn	04 40 55.1	+0.7
CCIG	Comitan	2.51	30	iP	Pn	04 41 06.4	+1.8
CCIG				iS	Sn	04 41 32.0	-2.6
CCIG	Comitan	2.51	30	iP	Pn	04 41 06.4	+1.8
CCIG				iS	Sn	04 41 32.0	-2.6
FUG	Fuego 3	2.56	82	ePn	Pn	04 41 04.8	-0.6
TGIG		2.67	7	iP	Pn	04 41 07.6	+0.9
TGIG				iS	Sn	04 41 32.6	-5.9
TGIG		2.67	7	iP	Pn	04 41 07.6	+0.9
TGIG				iS	Sn	04 41 32.6	-5.9
PCG	Pacaya	2.78	84	ePn	Pn	04 41 08.2	-0.2
PCG				eS	Sn	04 41 41.3	-0.2
APG	El Apazote	3.04	73	Pn	Pn	04 41 12.1	+0.2
APG				Sn	Sn	04 41 50.0	+2.2
APG	El Apazote	3.04	73	Pn	Pn	04 41 12.1	+0.2
	58nm,0.3s,baz=253,slow=5.2,SNR=690						
APG				LR	LR	04 41 42.3	
	comp=Z,214nm,21.3s,baz=255,slow=27						
APG				Sn	Sn	04 41 50.0	+2.2
	13nm,0.3s,baz=302,slow=21,SNR=8.5						
HUIG	Huatulco	3.04	303	iP	Pn	04 41 09.0	-2.8
HUIG				iS	Sn	04 41 39.8	-7.8
HUIG	Huatulco	3.04	303	iP	Pn	04 41 09.0	-2.8
HUIG				iS	Sn	04 41 39.8	-7.8
NBG	Las Nubes	3.06	81	ePn	Pn	04 41 13.6	+1.4
RBDL	Robledal	3.66	89	ePn	Pn	04 41 19.8	-0.6
RTR	El Retiro	3.71	93	ePn	Pn	04 41 20.7	-0.5
SBLS	San Blas	3.74	94	ePn	Pn	04 41 20.1	-1.4
SBLS				eS	Sn	04 42 02.7	-2.3
SNJE	San Jose	3.75	93	ePn	Pn	04 41 21.0	-0.7
MRL	Marmol	3.77	75	ePn	Pn	04 41 22.9	+0.9
VHO	Vista Hermosa	4.31	313	iP	Pn	04 41 28.1	-1.3
VHO				iS	Sn	04 42 09.0	-10
VHO	Vista Hermosa	4.31	313	iP	Pn	04 41 28.1	-1.3
VHO				iS	Sn	04 42 09.0	-10
PNIG	Pinotepa	5.04	297	iP	Pn	04 41 37.8	-1.5
PNIG				iS	Sn	04 42 30.0	-6.9
PNIG	Pinotepa	5.04	297	iP	Pn	04 41 37.8	-1.5
PNIG				iS	Sn	04 42 30.0	-6.9
SCIG	Sabancuy	5.30	24	ePn	Pn	04 41 43.0	+0.2
SCIG	Sabancuy	5.30	24	ePn	Pn	04 41 43.0	+0.2
TPIG	Tehuac#an	5.69	319	iP	Pn	04 41 46.6	-1.7
TPIG				iS	Sn	04 42 43.1	-10
TPIG	Tehuac#an	5.69	319	iP	Pn	04 41 46.6	-1.7
TPIG				iS	Sn	04 42 43.1	-10
TGUH	Tegucigalpa,Un	6.01	90	ePn	Pn	04 41 50.7	-1.9
PPM	Popocatepetl	6.99	316	iP	Pn	04 42 03.4	-3.0
PPM	Popocatepetl	6.99	316	iP	Pn	04 42 03.4	-3.0
YAIG	Yautepec	7.16	312	iP	Pn	04 42

baz=18
230A Sterling City 19.03 340 P Pn 04 44 47.4 +1.0
baz=18
426A McDonald Obser 19.14 331 P Pn 04 44 49.9 +2.1
baz=18
328A Wristen Ranch, 19.21 335 P Pn 04 44 50.2 +1.6
baz=19
ABTX Abilene, Hawle 19.27 344 eP P 04 44 49.5 +1.3
ABTX Abilene, Hawle 19.27 344 P P 04 44 49.7 +1.5
baz=19
TIGA Tifton 19.48 26 eP P 04 44 49.8 -0.7
326A Caldwell Ranch 19.66 332 P Pn 04 44 55.1 +1.2
baz=19
425A Indio Mountain 19.69 329 P Pn 04 44 55.3 +0.9
baz=19
LRAL Lakeview Retre 19.74 16 eP P 04 44 51.8 -1.4
129A Stewart Farms, 19.97 339 P P 04 44 57.7 +1.9
baz=19
Z31A Sharp Cattle R 20.07 344 P P 04 44 58.5 +1.7
baz=20
128A Castleberry Fa 20.18 337 P Pn 04 45 00.8 +0.7
baz=20,SNR=6.1
Z30A Sanderson Ranc 20.32 341 P P 04 45 01.1 +1.4
baz=20,SNR=5.9
MIAR Mount Ida 20.35 360 eP P 04 44 59.5 -0.4
20nm,1.0s
226B Tecolote Peak, 20.39 333 P Pn 04 45 03.5 +0.9
baz=20
324A Moseley Ranch, 20.48 329 P P 04 45 03.1 +1.7
baz=20
Z29A Hungry Hill Ra 20.49 340 P P 04 45 02.8 +1.3
baz=20
Y32A R-V Farms, Ver 20.54 346 P P 04 45 03.1 +1.2
baz=20,SNR=7.0
UALR University of 20.60 3 eP P 04 45 01.9 -0.7
7.0nm,0.6s
MNTX Cornudas Mount 20.64 330 eP P 04 45 04.4 +1.4
2.4nm,0.8s
Y31A Rekieta Farm, 20.70 344 P P 04 45 04.9 +1.1
baz=20,SNR=9.9
Z28A Tucker Farm, M 20.75 338 P P 04 45 05.8 +1.4
baz=20
Y30A Stafford Cattl 20.80 342 P P 04 45 06.4 +1.5
baz=20
126A Clayton Basin, 20.82 334 P P 04 45 06.9 +1.8
baz=20
224A Cornudas Mount 21.01 330 P P 04 45 08.5 +1.3
baz=20
Y29A Porterfield Fa 21.03 341 P P 04 45 08.8 +1.5
baz=20,SNR=6.6
Z27A Tatum 21.08 337 P P 04 45 09.5 +1.6
baz=20
WMOK Wichita Mounta 21.09 348 eP P 04 45 07.3 -0.6
5.7nm,0.8s
125A Gardner Draw, 21.10 333 P P 04 45 09.6 +1.4
baz=20,SNR=9.0
Y28A McKinney Farm, 21.26 339 P P 04 45 11.1 +1.3
baz=21,SNR=9.6
X31A McDonald Ranch 21.26 345 P P 04 45 11.0 +1.2
baz=21,SNR=20
X30A Coker Ranch, T 21.33 343 P P 04 45 11.7 +1.2
baz=21,SNR=9.5
Z26A Caprock 21.34 335 P P 04 45 12.3 +1.6
baz=21,SNR=10
124A Stringfield Ra 21.50 331 P P 04 45 14.5 +1.9
baz=21
MSTX Muleshoe 21.50 338 eP P 04 45 14.8 +2.3
MSTX Muleshoe 21.50 338 P P 04 45 16.0 +3.6
baz=21
Y27A Causey 21.56 338 P P 04 45 16.5 +3.4
baz=21,SNR=6.6
X29A Tulia 21.57 341 P P 04 45 14.1 +0.9
baz=21,SNR=6.1
Z25A Roswell 21.66 334 P P 04 45 15.6 +1.5
baz=21
TUL1 Tulsa 21.81 355 eP P 04 45 17.7 +2.1
TUL1 Tulsa 21.81 355 P P 04 45 17.3 +1.7
baz=21,SNR=8.7
W30A Crocket Farms 21.94 344 P P 04 45 18.5 +1.4
baz=21
Z24A Sheeppen Canyo 21.98 333 P P 04 45 19.3 +1.6
baz=21,SNR=11
320A Kipp Ranch, An 22.03 324 P P 04 45 20.5 +2.4
baz=21
W29A Amraillo 22.18 342 P P 04 45 20.9 +1.1
baz=22
Y25A Mesa, Roswell 22.20 335 P P 04 45 22.0 +2.0
baz=22
X27A F and S Farms, 22.23 339 P P 04 45 20.9 +0.7
baz=22
V31A Spring Creek L 22.32 346 P P 04 45 24.2 +3.0
baz=22,SNR=10
Z23A Rita Site, Whi 22.33 331 P P 04 45 23.1 +1.8
baz=22
X26A CR and CF Fran 22.40 337 P P 04 45 23.4 +1.3
baz=22
220A Playas Peak, P 22.45 325 P P 04 45 25.1 +2.4
baz=22
W28A Vega 22.48 341 P P 04 45 24.5 +1.5
baz=22
WVT Waverly 22.50 12 eP P 04 45 21.4 -1.6
4.9nm,0.9s
Y24A Capitan 22.52 333 P P 04 45 25.2 +1.7
baz=22,SNR=5.4
W27A Bowe Ranch, En 22.59 339 P P 04 45 24.9 +0.8
baz=22
U31A Nine Bar Ranch 22.89 347 P P 04 45 29.3 +2.1
baz=22
V28A Channing 22.94 341 P P 04 45 29.5 +1.6
baz=22
V27A Dan Oppiter Fa 23.14 340 P P 04 45 31.2 +1.4
baz=22
U30A WK&E Inc. Balk 23.24 345 P P 04 45 31.9 +1.1
baz=23,SNR=10
BNM Barren Site 23.25 331 eP P 04 45 33.8 +2.7
U29A Oasis Ranch, S 23.32 344 P P 04 45 33.2 +1.6
baz=23
V26A Tequesquite Ra 23.50 339 P P 04 45 34.9 +1.4
baz=23
T31A Randall Ranch, 23.56 347 P P 04 45 33.6 -0.3
baz=23,SNR=5.5
KMSC Kings Mountain 23.62 25 eP P 04 45 33.0 -1.5
LAZ Ladron 23.69 331 eP P 04 45 37.4 +2.0
T30A Plains 23.70 346 P P 04 45 35.8 +0.4
baz=23,SNR=8.3
U27A Thompson Grove 23.75 341 P P 04 45 37.9 +2.1
baz=23,SNR=8.6
SIUC Southern Illin 23.81 8 eP P 04 45 35.6 -0.7
32nm,1.1s
ANMO Albuquerque 23.83 333 eP P 04 45 37.9 +1.2
1.4nm,0.8s
ANMO Albuquerque 23.83 333 P P 04 45 37.5 +0.8
0.8nm,0.8s,baz=90,slow=8.1,SNR=2.7
ANMO LR LR 04 56 23.0
comp=Z,64nm,19.9s,baz=193,slow=40
V25A Rancho No Teng 23.84 337 P P 04 45 38.5 +1.6
baz=23
Y20A Horse Springs, 23.91 328 P P 04 45 40.0 +2.5
baz=23
T29A Hugoton 23.99 344 P P 04 45 39.2 +1.1
baz=23
V24A Rampart Ranch, 24.00 336 P P 04 45 40.2 +1.8
baz=23
U26A Atchley Ranch, 24.03 339 P P 04 45 40.2 +1.6
baz=23
X21A Alamocita Cree 24.04 330 P P 04 45 40.6 +1.8
baz=23
TUC Tucson 24.05 322 eP P 04 45 40.8 +2.1
7.9nm,1.1s
T28A Walsh 24.18 343 P P 04 45 40.5 +0.6
baz=24
S30A Montezuma 24.25 346 P P 04 45 41.5 +1.0
baz=24,SNR=12
U25A Circle Dot Ran 24.27 338 P P 04 45 42.7 +1.9
baz=24,SNR=5.2
T27A Campo 24.31 342 P P 04 45 42.5 +1.4
baz=24,SNR=6.4
S29A Ulysses 24.39 345 P P 04 45 43.4 +1.6
baz=24,SNR=9.8
X20A Quemado 24.47 329 P P 04 45 44.3 +1.7
baz=24
S28A Manter 24.56 344 P P 04 45 44.5 +1.1
baz=24,SNR=6.2
R31A Burdett 24.68 349 P P 04 45 44.9 +0.6
baz=24,SNR=16
T26A Comanche Natio 24.68 340 P P 04 45 46.4 +1.8
baz=24
R30A Dighton 24.82 347 P P 04 45 46.7 +1.0
baz=24,SNR=14
V22A San Miguel Ran 24.84 333 P P 04 45 48.1 +2.1
baz=24
W20A Ramah 24.93 330 P P 04 45 49.3 +2.4
baz=24
S27A Las Animas 24.93 342 P P 04 45 48.9 +2.1
baz=24,SNR=10.0
OLIL Olney 24.98 10 eP P 04 45 46.4 -0.6
12nm,0.7s
KSU1 Kansas State U 25.05 354 eP P 04 45 47.6 0.0
14nm,0.7s
R29A Marienthal 25.16 346 P P 04 45 49.9 +1.3
baz=25,SNR=18
R28A Tribune 25.25 344 P P 04 45 51.0 +1.5
baz=25,SNR=12
Q31A Ellis 25.34 349 P P 04 45 50.5 +0.2
baz=25,SNR=5.5
S25A Robets Cordova 25.41 339 P P 04 45 53.1 +2.0
baz=25
R27A Eads 25.46 343 P P 04 45 54.4 +2.9
baz=25,SNR=7.0
Q30A Quinter 25.48 348 P P 04 45 52.2 +0.6
baz=25,SNR=9.4
Q29A Oakley 25.56 346 P P 04 45 53.1 +0.8
baz=25
R26A Arlington 25.67 342 P P 04 45 56.0 +2.6
baz=25
P32A Huiting Farm, 25.81 351 P P 04 45 54.9 +0.4
baz=25
P31A Stockton 25.84 349 P P 04 45 55.4 +0.5
baz=25
SDCO Great Sand Dun 25.86 338 eP P 04 45 56.8 +1.5
2.2nm,1.1s
Q28A Sharon Springs 25.93 345 P P 04 45 57.4 +1.7
baz=25
P30A Selden 26.03 348 P P 04 45 57.6 +1.0
baz=25,SNR=9.1
P29A Atwood 26.23 347 P P 04 45 59.5 +1.1
baz=26,SNR=9.3
O32A Brockman Farm, 26.39 352 P P 04 45 59.7 -0.1
baz=26
SJG San Juan 26.53 78 LR LR 04 55 42.9
comp=Z,79nm,19.8s,baz=242,slow=35
P27A Ficken Ranch, 26.59 344 P P 04 46 04.2 +2.5
baz=26
O30A MW Ranch, Wils 26.61 349 P P 04 46 03.1 +1.3
baz=26
MVCO Mesa Verde 26.63 332 eP P 04 46 03.6 +1.3
4.6nm,1.0s
O29A 4D Ranch, Culb 26.70 347 P P 04 46 03.7 +1.0
baz=26
WUAZ Wupatki 26.72 326 eP P 04 46 04.9 +1.9
3.7nm,0.9s
P26A Davis Ranch, A 26.80 343 P P 04 46 08.1 +4.5
baz=26
PDMCI Parker Dam,Lak 27.46 321 P P 04 46 11.1 +1.6
baz=27
SMCO Snowmass 27.67 337 eP P 04 46 12.4 +0.7
3.1nm,1.1s
SCIA State Center 27.70 0 eP P 04 46 11.0 -0.5
17nm,0.7s
ISCO Idaho Springs 27.73 340 eP P 04 46 13.1 +0.9
2.9nm,1.1s
OGNE Ogallala 27.76 346 P P 04 46 14.3 +2.1
baz=27
BC3 Big Chuckawall 27.87 318 P P 04 46 14.9 +1.6
baz=27
U15A North Rim 27.89 326 P P 04 46 15.4 +1.7
baz=27
JFWS Jewell Farm 28.84 5 eP P 04 46 20.5 -1.1
6.4nm,0.6s
ARUT Antelope Range 29.51 327 eP P 04 46 30.1 +2.2
59nm,0.9s
ECSD EROS Data Cent 29.65 355 eP P 04 46 28.6 -0.3
84nm,2.5s
J28A Allard Ranch, 29.97 349 P P 04 46 33.0 +1.3
baz=29
J26A Sides Ranch, S 30.25 346 P P 04 46 36.4 +2.1
baz=30
I29A Vivian Onida 30.38 350 P P 04 46 36.3 +1.0
baz=30
I28A Midland 30.51 349 P P 04 46 37.2 +0.7
baz=30
BRSD Miller 30.59 352 eP P 04 46 37.1 -0.1
MPMC Manual Prospec 30.68 320 P P 04 46 39.3 +0.9
baz=30
SPMN St. Paul 31.02 1 eP P 04 46 40.0 -0.9
GRAC Grapevine Rang 31.21 321 P P 04 46 45.2 +2.4
baz=31
L18A Fontenelle, Gr 31.22 336 P P 04 46 44.2 +1.2
baz=31
G30A Faulkton 31.29 352 P P 04 46 43.4 0.0
baz=31
H26A Fairpoint 31.42 347 P P 04 46 45.2 +0.6
baz=31
PDAR Pinedale Array 31.75 337 P P 04 46 50.2 +2.5
PDAR PcP PcP 04 49 39.0 +0.1
PDAR Pinedale Array 31.75 337 P P 04 46 50.2 +2.5
0.4nm,0.8s,baz=144,slow=10.0,SNR=2.8
PDAR PcP PcP 04 49 39.0 +0.1
0.2nm,0.5s,baz=128,slow=5.8,SNR=2.3
H24A Dirks Ranch, A 31.96 345 P P 04 46 51.4 +2.0
baz=31
G25A Newell 32.11 347 P P 04 46 52.2 +1.6
baz=32
I20A Worland 32.28 340 P P 04 46 54.9 +2.7
baz=32
NV11 Mina Array Sit 32.62 323 eP P 04 46 57.2 +1.9
ELK Elko 32.64 328 eP P 04 46 56.2 +0.7
2.8nm,1.1s
H20A Greybull 32.71 341 P P 04 46 57.6 +1.7
baz=32
REDW Red Top Meadow 32.75 336 eP P 04 46 57.7 +1.2
5.3nm,1.1s
G22A Birney 32.86 343 P P 04 46 58.3 +1.1
baz=32
LOHW Long Hollow 32.87 337 eP P 04 46 58.8 +1.3
3.2nm,1.0s
TPAW Teton Pass 32.90 336 eP P 04 46 59.2 +1.4
3.0nm,1.0s
MOOW Moose Ponds 33.04 337 eP P 04 47 01.1 +2.1
3.7nm,1.2s
F23A Volborg 33.09 345 P P 04 47 00.2 +1.0
baz=32
E26A Carlson Angus 33.13 349 P P 04 47 00.8 +1.2
baz=33
IMW Indian Meadow 33.24 337 eP P 04 47 01.9 +1.1
1.6nm,0.7s
FLWY Flagg Ranch 33.31 337 eP P 04 47 02.0 +0.7
14nm,1.4s
E25A Miller Ranch, 33.35 347 P P 04 47 03.2 +1.7
baz=33
H18A Shoshone NF, C 33.44 339 P P 04 47 03.9 +1.4
baz=33
D27A Center 33.58 350 P P 04 47 04.5 +1.0
baz=33
CMB Columbia Colle 33.73 320 eP P 04 47 06.2 +1.4
3.1nm,1.1s
C30A Mcee, Pekin 33.75 354 P P 04 47 04.8 -0.1
baz=33
E22A Miles City 33.89 344 P P 04 47 07.8 +1.6
baz=33
D25A Fairfield 33.96 348 P P 04 47 08.4 +1.6
baz=33
C28A Hausauer Farms 34.00 352 P P 04 47 07.2 +0.2
baz=33
MDND Maddock 34.02 353 eP P 04 47 07.3 0.0
MDND Maddock 34.02 353 P P 04 47 06.7 -0.5
baz=34
C27A Sayler Ranch, 34.17 350 P P 04 47 08.7 +0.3
baz=34
C26A Wahner Farm, P 34.37 350 P P 04 47 10.7 +0.4
baz=34
D23A Lindsay 34.39 346 P P 04 47 12.3 +1.8
baz=34
HLID Hailey 34.41 333 eP P 04 47 12.3 +1.5
17nm,1.9s
C24A Savage 34.55 347 P P 04 47 14.0 +2.2
baz=34
E20A Meyer Farm, Mu 34.56 342 P P 04 47 14.3 +2.2
baz=34
B29A Wagenman Farm, 34.60 353 P P 04 47 12.8 +0.5
baz=34
D22A Cohagen 34.61 345 P P 04 47 14.5 +2.1
baz=34,SNR=5.9
B28A Dugan Ranch, T 34.71 352 P P 04 47 13.7 +0.5
baz=34,SNR=6.0
MCMT McKenzie Canyo 34.77 336 eP P 04 47 16.1 +2.0
BOZ Bozeman (W) 34.98 338 eP P 04 47 15.9 +0.2
A29A Manning Farm, 35.04 353 P P 04 47 16.1 +0.1
baz=34
C22A Vida 35.09 345 P P 04 47 18.6 +2.1
baz=34
D20A Manuel Ranch, 35.10 342 P P 04 47 17.8 +1.2
baz=34
DLMT Dillon 35.11 336 eP P 04 47 17.0 +0.1
4.5nm,1.2s
A28A Rude Farm, Bot 35.15 352 P P 04 47 17.3 +0.3
baz=35
D19A Cripps Ranch, 35.38 342 P P 04 47 20.2 +1.1
baz=35
A26A Wade Farm, Ken 35.40 350 P P 04 47 19.8 +0.7
baz=35
WVOR Wild Horse Val 35.62 327 eP P 04 47 22.5 +1.2
8.6nm,1.3s
ULM Lac du Bonnet 36.09 357 P P 04 47 23.2 -1.8
ULM Lac du Bonnet 36.09 357 P P 04 47 23.2 -1.8
9.5nm,0.9s,baz=183,slow=8.1,SNR=5.5
MOD Modoc 36.15 325 eP P 04 47 26.5 +0.6
47nm,1.4s
SAML Samuel 37.78 126 eP P 04 47 40.4 +0.6
LPAZ La Paz 39.23 139 eP P 04 47 52.3 -0.3
LON Longmire 40.27 330 eP P 04 48 01.3 +0.9
4.7nm,0.9s
SIV San Ignacio 43.81 132 P P 04 48 27.7 -1.9
SIV San Ignacio 43.81 132 P P 04 48 27.7 -1.9
1.1nm,0.6s,baz=309,slow=9.2,SNR=3.7
YKA Yellowknife Ar 50.60 347 P P 04 49 23.6 +1.7
YKA Yellowknife Ar 50.60 347 P P 04 49 23.5 +1.7
2.2nm,0.5s,baz=152,slow=7.2,SNR=14
YKW3 Yellowknife Ar 50.66 348 eP P 04 49 23.5 +1.2
BDFB Brasilia 53.78 122 LR LR 05 12 51.5
comp=Z,228nm,18.3s,baz=316,slow=36
ILAR Eielson Array 62.18 337 P P 04 50 44.1 -0.2
ILAR Eielson Array 62.18 337 P P 04 50 44.1 -0.2
2.5nm,1.1s,baz=136,slow=5.0,SNR=12
COLA College 62.60 337 eP P 04 50 47.3 +0.2
20nm,1.1s
ESDC Sonseca Array 80.76 51 P P 04 52 35.6 -1.4
ESDC Sonseca Array 80.76 51 P P 04 52 35.6 -1.4
1.1nm,0.8s,baz=291,slow=6.2,SNR=6.5
MDT Midelt 81.54 58 P P 04 52 40.4 -1.0
MDT Midelt 81.54 58 P P 04 52 40.4 -1.0
1.5nm,0.9s,baz=296,slow=9.9,SNR=3.7
NOA NORSAR Array B 84.72 28 P P 04 52 58.0 +0.8
NOA NORSAR Array B 84.72 28 P P 04 52 58.0 +0.8
1.0nm,0.7s,baz=290,slow=5.2,SNR=4.0
ARCES ARCESS Array B 86.47 18 P P 04 53 06.0 +0.4
ARCES ARCESS Array B 86.47 18 P P 04 53 06.0 +0.4
5.3nm,1.0s,baz=305,slow=4.3,SNR=3.9
GERES GERESS Array B 90.42 39 P P 04 53 23.9 -1.0
GERES GERESS Array B 90.42 39 P P 04 53 23.9 -1.0
0.1nm,0.3s,baz=340,slow=8.3,SNR=2.8
FINES FINESS Array B 91.00 25 P P 04 53 27.3 +0.1
FINES FINESS Array B 91.00 25 P P 04 53 27.3 +0.1
3.7nm,0.9s,baz=318,slow=2.6,SNR=5.5
TORD Torodi Ar. Bea 91.73 76 P P 04 53 30.7 -0.9
TORD Torodi Ar. Bea 91.73 76 P P 04 53 30.7 -0.9
0.4nm,0.8s,baz=301,slow=3.8,SNR=4.1
WRA Warramunga Arr 134.04 256 PKP PKPdf 04 59 40.2 -1.3
WRA Warramunga Arr 134.04 256 PKP PKPdf 04 59 40.2 -1.3
0.4nm,0.6s,baz=90,slow=3.6,SNR=3.6
ASAR Alice Springs 134.36 251 PKP PKPdf 04 59 38.5 -3.5
ASAR Alice Springs 134.36 251 PKP PKPdf 04 59 38.6 -3.5
0.5nm,0.9s,baz=72,slow=1.5,SNR=3.9
CMAR Chiang Mai Arr 145.41 339 PKPbc PKPbc 05 00 01.9 0.0
CMAR Chiang Mai Arr 145.41 339 PKPbc PKPbc 05 00 01.9 0.0
3.1nm,0.8s,baz=341,slow=3.5,SNR=16

NSSC ***26*** *04:57:00.1±2.4, 34°.23N×25°.21E, h0km±945km, MD2.4, ML3.5*
IDC ***26*** *04:57:04.1±0.5, 34°.05N×25°.46E, h0km, mb4.3/26, mb1 4.3/35, mb1mx4.3/40, mbtmp4.2/35, ML4.0/9, MS4.1/5, Ms1 4.0/5, ms1mx3.3/45, Error ellipse: s-maj=11.8km s-min=11.0km az=154.0*
BJI ***26*** *04:57:04.4, 33°.94N×25°.15E, h29km, mB5.0/7, mb4.7/14, Ms4.9/5, Ms7 4.6/5*
ISCJB ***26*** *04:57:05.3±0.5, 33°.94N±0°.02×25°.52E±0°.02, h21km±4km, mb4.5/91, MS4.2/8, Error ellipse: s-maj=3.0km s-min=2.2km az=30.4*
NEIC ***26*** *04:57:07.6±1.4, 34°.02N×25°.47E, h22km±10km, mb4.5/63, Error ellipse: s-maj=6.2km s-min=3.5km az=191.0*
MOS ***26*** *04:57:07.6±1.1, 34°.05N×25°.43E, h33km, mb4.7/45, Error ellipse: s-maj=5.5km s-min=3.1km az=107.1*
CSEM ***26*** *04:57:07.1±0.1, 33°.97N×25°.55E, h20km, mb4.5/28, Ms3.3, Mw3.7, Error ellipse: s-maj=3.1km s-min=2.2km az=30.0*
HLW ***26*** *04:57:07.9, 33°.99N×25°.65E, h33km±17km, Md3.8, Ml4.4*
THE ***26*** *04:57:08.6, 34°.15N×25°.41E, h0km, ML3.8/6, Error ellipse: s-maj=2.0km s-min=0.5km az=175.0*
ATH ***26*** *04:57:10.8, 34°.35N×25°.43E, h31km±1km, MD3.9/24*
NIC ***26*** *04:57:12.0±0.1, 34°.68N×25°.72E, h40km, mb4.8, ML4.3, MW3.7*
DDA ***26*** *04:57:54.5, 36°.18N×28°.77E, h7km, ML3.6*
ISC 26 04:57:08.0±0.5, 34°.00N±0°.03×25°.53E±0°.02, h26km±3km, n691, σ1$34/746, mb4.5/91, MS4.1/8, 20C-6D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAST	**Lasithi**	**1.16**	**358**	P	**Pn**	**04 57 27.9**	**-0.6**
LAST				S	**Sn**	**04 57 43.5**	**0.0**
LAST	**Lasithi**	**1.16**	**358**	ePN	**Pn**	**04 57 27.0**	**-1.5**
LAST	**Lasithi**	**1.16**	**358**	ePn	**Pn**	**04 57 27.0**	**-1.5**
LAST	**Lasithi**	**1.16**	**358**	P	**Pn**	**04 57 27.9**	**-0.6**
LAST				S	**Sn**	**04 57 43.5**	**0.0**
SIVA	**Sivas**	**1.17**	**330**	P	**Pn**	**04 57 27.8**	**-0.9**
SIVA				S	**Sn**	**04 57 42.5**	**-1.3**
SIVA	**Sivas**	**1.17**	**330**	ePN	**Pn**	**04 57 27.1**	**-1.6**
SIVA				eSN	**Sn**	**04 57 39.6**	**-4.2**
SIVA	**Sivas**	**1.17**	**330**	ePn	**Pn**	**04 57 27.1**	**-1.6**
SIVA	**Sivas**	**1.17**	**330**	P	**Pn**	**04 57 27.8**	**-0.9**
SIVA				S	**Sn**	**04 57 42.5**	**-1.3**
ZKR	**Zakros**	**1.25**	**27**	P	**Pb**	**04 57 30.3**	**-0.5**
ZKR				S	**Sb**	**04 57 47.8**	**+1.3**
ZKR	**Zakros**	**1.25**	**27**	ePB	**Pn**	**04 57 29.3**	**-0.4**
ZKR				eSN	**Sn**	**04 57 44.1**	**-1.6**
ZKR	**Zakros**	**1.25**	**27**	ePb	**Pn**	**04 57 29.3**	**-0.4**
ZKR	**Zakros**	**1.25**	**27**	P	**Pb**	**04 57 30.3**	**-0.5**
ZKR				eSn	**Sn**	**04 57 44.1**	**-1.6**
ZKR				S	**Sb**	**04 57 47.8**	**+1.3**
NPS	**Neapolis**	**1.26**	**3**	P	**Pn**	**04 57 29.3**	**-0.6**
NPS				S	**Sb**	**04 57 46.5**	**-0.3**
NPS	**Neapolis**	**1.26**	**3**	ePN	**Pn**	**04 57 28.5**	**-1.4**
NPS	**Neapolis**	**1.26**	**3**	ePn	**Pn**	**04 57 28.5**	**-1.4**
NPS	**Neapolis**	**1.26**	**3**	P	**Pn**	**04 57 29.3**	**-0.6**
NPS				S	**Sb**	**04 57 46.5**	**-0.3**
IDI	**Anoyia**	**1.38**	**338**	P	**Pn**	**04 57 30.9**	**-0.8**
IDI				S	**Sn**	**04 57 49.3**	**+0.1**
IDI	**Anoyia**	**1.38**	**338**	ePN	**Pn**	**04 57 30.9**	**-0.8**
IDI	**Anoyia**	**1.38**	**338**	ePN	**Pn**	**04 57 30.7**	**-1.0**
IDI	**Anoyia**	**1.38**	**338**	ePn	**Pn**	**04 57 30.0**	**-1.6**
IDI				Sn	**Sb**	**04 57 50.6**	**+0.1**
IDI	**Anoyia**	**1.38**	**338**	Pn	**Pn**	**04 57 30.5**	**-1.2**
29nm,0.3s,baz=156,slow=17,SNR=69							
IDI				Sn	**Sb**	**04 57 50.7**	**+0.1**
134nm,0.3s,baz=144,slow=19,SNR=11							
IDI	**Anoyia**	**1.38**	**338**	P	**Pn**	**04 57 30.9**	**-0.8**
IDI				S	**Sn**	**04 57 49.3**	**+0.1**
IDI				Sn	**Sb**	**04 57 50.7**	**+0.1**
GVD	**Gavdhos**	**1.45**	**305**	P	**Pn**	**04 57 32.6**	**+0.1**
GVD				S	**Sb**	**04 57 51.2**	**-1.2**
GVD	**Gavdhos**	**1.45**	**305**	ePN	**Pb**	**04 57 33.2**	**-1.2**
GVD				eSN	**Sn**	**04 57 49.8**	**-1.0**
GVD	**Gavdhos**	**1.45**	**305**	ePn	**Pn**	**04 57 32.1**	**-0.5**
GVD	**Gavdhos**	**1.45**	**305**	P	**Pn**	**04 57 32.6**	**+0.1**
GVD	**Gavdhos**	**1.45**	**305**	ePn	**Pb**	**04 57 33.2**	**-1.2**
GVD				eSn	**Sn**	**04 57 49.8**	**-1.0**
GVD				S	**Sb**	**04 57 51.2**	**-1.2**
VAM	**Vamos**	**1.78**	**322**	P	**Pn**	**04 57 37.1**	**+0.1**
VAM				S	**Sn**	**04 57 59.0**	**+0.3**
VAM	**Vamos**	**1.78**	**322**	ePN	**Pn**	**04 57 37.4**	**+0.4**
VAM	**Vamos**	**1.78**	**322**	P	**Pn**	**04 57 37.1**	**+0.1**
VAM	**Vamos**	**1.78**	**322**	ePn	**Pn**	**04 57 37.4**	**+0.4**
VAM				S	**Sn**	**04 57 59.0**	**+0.3**
KARP	**Karpathos**	**2.04**	**41**	P	**Pn**	**04 57 42.6**	**+1.9**
KARP				S	**Sb**	**04 58 09.3**	**-0.2**
KARP	**Karpathos**	**2.04**	**41**	ePB	**Pb**	**04 57 43.1**	**-1.4**
KARP	**Karpathos**	**2.04**	**41**	P	**Pn**	**04 57 42.6**	**+1.9**

KARP	Karpathos	2.04	41	ePb	Pb	04 57 43.1	-1.4
KARP				S	Sb	04 58 09.3	-0.2
SANT	Santorini	2.36	359	ePN	Pn	04 57 44.8	-0.3
SANT	Santorini	2.36	359	ePn	Pn	04 57 44.8	-0.3
SANT	Santorini	2.36	359	ePn	Pn	04 57 44.8	-0.3
LTBQ	Tobruq	2.37	215	i P	Pn	04 57 46.0	+0.9
	SNR=24						
LTBQ				eS	Sn	04 58 14.8	+1.5
	181nm,0.5s,SNR=24						
SLUM		2.52	186	S	Sn	04 58 15.6	-1.5
	baz=189						
SLUM		2.52	186	P	Pn	04 57 46.6	-0.6
SLUM				S	Sn	04 58 15.6	-1.5
ANKY	Antikythira Is	2.61	316	ePB	Pn	04 57 49.6	+1.2
ANKY	Antikythira Is	2.61	316	ePb	Pn	04 57 49.6	+1.2
NIS3	Nisyros Isl.	2.89	27	P	Pn	04 57 53.5	+1.2
NIS1	Nisyros Isl.	2.92	27	ePN	Pn	04 57 54.2	+1.4
NIS1	Nisyros Isl.	2.92	27	ePn	Pn	04 57 54.2	+1.4
KYTH	Kithira	3.05	319	P	Pn	04 57 55.0	+0.4
KYTH	Kithira	3.05	319	ePN	Pn	04 57 55.1	+0.4
KYTH	Kithira	3.05	319	P	Pn	04 57 55.0	+0.4
APE	Apeiranthos	3.06	0	P	Pn	04 57 55.0	+0.3
APE				S	Sn	04 58 31.4	+1.0
APE	Apeiranthos	3.06	0	i P	Pn	04 57 55.3	+0.6
APE	Apeiranthos	3.06	0	ePN	Pn	04 57 55.2	+0.6
APE	Apeiranthos	3.06	0	ePn	Pn	04 57 55.0	+0.3
APE	Apeiranthos	3.06	0	P	Pn	04 57 55.0	+0.3
APE				S	Sn	04 58 31.4	+1.0
HMAT	Matruh	3.19	155	P	Pn	04 57 55.1	-1.4
	baz=156						
HMAT				S	Sn	04 58 30.6	-3.0
	baz=156						
HMAT	Matruh	3.19	155	P	Pn	04 57 55.1	-1.4
HMAT				S	Sn	04 58 30.6	-3.0
DAT	Datca	3.19	31	ePN	Pn	04 57 56.2	-0.3
DAT	Datca	3.19	31	ePn	Pn	04 57 56.3	-0.3
BODT	Bodrum	3.38	25	ePN	Pn	04 57 59.1	0.0
BODT	Bodrum	3.38	25	ePn	Pn	04 57 59.1	0.0
BDRM	Kayabasi	3.43	27	i P	Pn	04 58 00.5	+0.8
BDRM				i S	Sn	04 58 40.6	+1.0
BDRM	Kayabasi	3.43	27	i P	Pn	04 58 00.5	+0.7
BDRM				i S	Sn	04 58 40.6	+1.0
VLI	Veliai	3.44	323	P	Pn	04 58 00.2	+0.4
VLI				S	Sn	04 58 39.8	+0.1
VLI	Veliai	3.44	323	ePN	Pn	04 58 00.3	+0.4
VLI	Veliai	3.44	323	P	Pn	04 58 00.2	+0.4
VLI				S	Sn	04 58 39.8	+0.1
DALY	Dalyan (Mu¨la	3.79	41	ePN	Pn	04 58 04.8	+0.1
DALY	Dalyan (Mu¨la	3.79	41	ePn	Pn	04 58 04.8	+0.1
TURN	Turunc	3.81	40	i P	Pn	04 58 02.5	-2.4
TURN				i S	Sn	04 58 44.8	-4.0
TURN	Turunc	3.81	40	i P	Pn	04 58 02.5	-2.4
TURN				i S	Sn	04 58 44.8	-4.0
YER	Yerkesik	3.85	35	ePN	Pn	04 58 05.8	+0.2
YER	Yerkesik	3.85	35	ePn	Pn	04 58 05.8	+0.2
FETY	Fethiye	3.92	47	ePN	Pn	04 58 06.5	+0.1
FETY	Fethiye	3.92	47	ePn	Pn	04 58 06.6	+0.1
DID	Didima	3.96	333	P	Pn	04 58 07.1	0.0
DID				S	Sn	04 58 53.1	+0.4
DID	Didima	3.96	333	ePN	Pn	04 58 07.1	0.0
DID	Didima	3.96	333	P	Pn	04 58 07.1	0.0
DID				S	Sn	04 58 53.1	+0.4
AKAS	Kas	4.01	55	i P	Pn	04 58 07.9	0.0
AKAS				i S	Sn	04 58 53.5	-0.6
AKAS	Kas	4.01	55	i P	Pn	04 58 07.9	0.0
AKAS				i S	Sn	04 58 53.5	-0.7
NAIG	Nisos Aigina	4.10	337	ePN	Pn	04 58 08.8	-0.1
NAIG	Nisos Aigina	4.10	337	ePn	Pn	04 58 08.8	-0.1
VLX	Vlachokerasia	4.22	324	ePN	Pn	04 58 11.8	+1.0
VLX	Vlachokerasia	4.22	324	ePn	Pn	04 58 11.8	+1.0
PYL	PYLOS	4.23	314	ePN	Pn	04 58 11.2	+0.5
PYL	PYLOS	4.23	314	ePn	Pn	04 58 11.2	+0.5
PTL	Penteli	4.25	342	ePN	Pn	04 58 10.9	-0.2
PTL	Penteli	4.25	342	ePn	Pn	04 58 10.9	-0.2
ITM	Ithomi	4.32	318	ePN	Pn	04 58 12.7	+0.7
ITM	Ithomi	4.32	318	ePn	Pn	04 58 12.7	+0.7
CHOS	Chios island	4.39	5	P	Pn	04 58 14.0	+0.9
CHOS				S	Sn	04 59 04.7	+1.3
CHOS	Chios island	4.39	5	ePN	Pn	04 58 13.8	+0.7
CHOS	Chios island	4.39	5	ePn	Pn	04 58 13.8	+0.7
CHOS				S	Sn	04 59 04.7	+1.3
ELL	Elmali	4.51	51	ePN	Pn	04 58 15.2	+0.5
ELL	Elmali	4.51	51	ePn	Pn	04 58 15.2	+0.5
LTK	Loutraki	4.51	333	ePN	Pn	04 58 14.7	0.0
LTK	Loutraki	4.51	333	ePn	Pn	04 58 14.7	0.0
GOLH	Golhisar	4.60	44	i P	Pn	04 58 17.6	+1.7
GOLH	Golhisar	4.60	44	i P	Pn	04 58 17.6	+1.6
IZM	Izmir	4.60	17	ePN	Pn	04 58 16.7	+0.8
IZM	Izmir	4.60	17	ePn	Pn	04 58 16.7	+0.8
GUR	Goura	4.70	328	P	Pn	04 58 17.6	+0.3
GUR				S	Sn	04 59 11.3	+0.4
GUR	Goura	4.70	328	ePN	Pn	04 58 17.3	0.0
GUR	Goura	4.70	328	ePn	Pn	04 58 17.3	0.0
GUR	Goura	4.70	328	P	Pn	04 58 17.6	+0.3
GUR				S	Sn	04 59 11.3	+0.4
SWA2		4.75	181	P	Pn	04 58 17.2	-0.6
	baz=183						
SWA2		4.75	181	P	Pn	04 58 17.2	-0.6
KLV	Kalavryta, Ach	4.87	327	ePN	Pn	04 58 20.1	+0.5
KLV	Kalavryta, Ach	4.87	327	ePn	Pn	04 58 20.1	+0.5
HBRG	Burj al ‘Arab	5.00	132	P	Pn	04 58 20.2	-1.2
	baz=132						
HBRG				AMP		04 59 00.0	
	comp=E,870µm,0.7s,logA/T=6.1,baz=132						
HBRG				S	Sn	04 59 13.9	-4.5
	baz=132						
LKR	Lokris	5.07	337	ePN	Pn	04 58 22.3	+0.1
LKR	Lokris	5.07	337	ePn	Pn	04 58 22.3	+0.1
LAKA	Lakka	5.11	327	ePN	Pn	04 58 23.7	+0.8
LAKA	Lakka	5.11	327	ePn	Pn	04 58 23.7	+0.8
KALE	Kalithea	5.16	329	ePN	Pn	04 58 24.4	+0.8
KALE	Kalithea	5.16	329	ePn	Pn	04 58 24.4	+0.8
KULA	Kula-Manisa	5.16	28	ePN	Pn	04 58 24.1	+0.5
KULA	Kula-Manisa	5.16	28	ePn	Pn	04 58 24.1	+0.5
TRIZ	Trizonia	5.17	328	ePN	Pn	04 58 24.7	+1.1
TRIZ	Trizonia	5.17	328	ePn	Pn	04 58 24.7	+1.1
RLS	Riolos of Patr	5.21	322	ePN	Pn	04 58 24.9	+0.7
RLS	Riolos of Patr	5.21	322	ePn	Pn	04 58 24.9	+0.7
EFP	Efpalio	5.30	327	ePN	Pn	04 58 26.9	+1.5
EFP	Efpalio	5.30	327	ePn	Pn	04 58 26.9	+1.5
BCK	Bucak	5.37	49	ePN	Pn	04 58 27.6	+1.1
BCK	Bucak	5.37	49	ePn	Pn	04 58 27.6	+1.1
LJBD	Adjabya	5.46	237	i P	Pn	04 58 27.8	+0.2
	SNR=23						
ISP	Isparta	5.56	45	eP	Pn	04 58 28.2	-0.9
ISP	Isparta	5.56	45	ePN	Pn	04 58 29.9	+0.7
ISP	Isparta	5.56	45	ePn	Pn	04 58 28.2	-0.9
ISP	Isparta	5.56	45	eP	Pn	04 58 28.2	-0.9
NEO	Neokhori	5.61	341	ePN	Pn	04 58 30.5	+0.8
NEO	Neokhori	5.61	341	ePn	Pn	04 58 30.5	+0.8
AGG	Agios Georgios	5.63	334	ePN	Pn	04 58 30.8	+0.8
AGG	Agios Georgios	5.63	334	ePn	Pn	04 58 30.8	+0.8
SUTC	Sutluce-Ispart	5.64	51	ePN	Pn	04 58 31.1	+0.9
AKMC	Akamas	5.71	78	P	Pn	04 58 30.6	-0.5
AKMC	Akamas	5.71	78	P	Pn	04 58 30.6	-0.5
EVR	Evrytania	5.75	330	ePN	Pn	04 58 32.4	+0.8
EVR	Evrytania	5.75	330	ePn	Pn	04 58 32.4	+0.8
VLS	Valsamata	5.77	318	ePN	Pn	04 58 32.6	+0.7
VLS	Valsamata	5.77	318	ePn	Pn	04 58 32.6	+0.7
ALFC	Alevga	5.95	77	P	Pn	04 58 33.5	-0.9
	comp=E,5.9nm,0.3s						
ALFC				S	Sn	04 59 38.5	-3.1
ALFC	Alevga	5.95	77	P	Pn	04 58 33.5	-0.9
	comp=E,5.9nm,0.3s						
ALFC				S	Sn	04 59 38.5	-3.1
LUJL	Ujela	6.06	218	i P	Pn	04 58 35.3	-0.6
	SNR=23						
SZAC	Souni-Zanaja	6.13	81	P	Pn	04 58 37.0	+0.1
	comp=E,5.0nm,0.3s						
SZAC				S	Sn	04 59 43.8	-2.3
SZAC	Souni-Zanaja	6.13	81	P	Pn	04 58 37.0	+0.1
	comp=E,5.0nm,0.3s						
SZAC				S	Sn	04 59 43.8	-2.3
LEF	Lefka	6.18	78	ePN	Pn	04 58 39.5	+2.1
THL	Klokotos Trika	6.22	334	ePN	Pn	04 58 39.4	+1.3
THL	Klokotos Trika	6.22	334	ePn	Pn	04 58 39.4	+1.3
GONE	Gonen-Balikesi	6.27	15	ePN	Pn	04 58 40.5	+1.8
FYM	Al Fayyum	6.36	131	S	Sn	04 59 47.3	-4.6
	baz=131						
HDMB	Hadim	6.40	61	ePN	Pn	04 58 42.0	+1.3
GELI	Tayfur-Gelibol	6.43	6	ePN	Pn	04 58 42.5	+1.6
CSS	Prodhromos	6.51	79	P	Pn	04 58 42.0	-0.2
	comp=E,4.1nm,0.8s						
CSS				S	Sn	04 59 52.9	-2.7
CSS	Prodhromos	6.51	79	ePn	Pn	04 58 44.5	+2.3
CSS				eSn	Sn	04 59 52.6	-3.0
CSS	Prodhromos	6.51	79	P	Pn	04 58 42.0	-0.2
	comp=E,4.1nm,0.8s						
CSS				S	Sn	04 59 52.9	-2.7
LFK	Lefkose	6.72	77	ePN	Pn	04 58 46.5	+1.5
KOT	Kottamia	6.72	125	P	Pn	04 58 43.6	-1.4
	baz=126						
KOT				S	Sn	04 59 55.9	-4.9
	baz=126						
KOT	Kottamia	6.72	125	P	Pn	04 58 43.6	-1.4
HSAF	As Saff	6.74	129	P	Pn	04 58 44.2	-1.1
	baz=129						
HSAF	As Saff	6.74	129	P	Pn	04 58 44.2	-1.1
KONT	Konya--Tatoy	6.79	53	ePN	Pn	04 58 47.5	+1.5
GLL	Jalalah	6.87	128	P	Pn	04 58 45.7	-1.3
	baz=128						
GLL	Jalalah	6.87	128	P	Pn	04 58 45.7	-1.3
KIZT	Kizilcal	7.06	45	ePN	Pn	04 58 50.8	+1.1
HFRF	Wahat Farafira	7.24	160	S	Sn	05 00 09.1	-4.4
	baz=160						
HFRF	Wahat Farafira	7.24	160	S	Sn	05 00 09.1	-4.4
EREN	Erenkoy	7.27	75	ePN	Pn	04 58 54.0	+1.4
GULT	Gulveren	7.55	30	ePN	Pn	04 58 57.2	+0.9
KDZ	Kurdzhali	7.63	359	i P	Pn	04 58 58.1	+0.6
RZN	Rozhen	7.70	355	P	Pn	04 59 00.1	+1.6
MMB	Musomiste	7.71	350	P	Pn	04 58 59.0	+0.5
KKB	Krupnik	8.08	347	P	Pn	04 59 07.6	+4.0
ANTO	Ankara	8.25	43	eP	Pn	04 59 07.2	+1.2
ANTO	Ankara	8.25	43	ePn	Pn	04 59 07.2	+1.2
ANTO	Ankara	8.25	43	eP	Pn	04 59 07.2	+1.2
MMAI	Mount Meron Ar	8.31	94	Pn	Pn	04 59 05.0	-1.8
MMAI				Sn	Sn	05 00 35.0	-4.8
MMAI	Mount Meron Ar	8.31	94	Pn	Pn	04 59 05.0	-1.8
	comp=E,5.7nm,0.3s,baz=266,slow=12,SNR=28						
MMAI				Sn	Sn	05 00 35.0	-4.8
	comp=E,11nm,0.3s,baz=261,slow=25,SNR=8.2						
MMAI	Mount Meron Ar	8.31	94	Pn	Pn	04 59 05.0	-1.8
KARA	Karaisali	8.41	65	ePN	Pn	04 59 09.0	+0.9
NIG	Nigde	8.42	58	eP	Pn	04 59 09.2	+0.7
BR131	Keskin Array S	8.65	46	ePn	Pn	04 59 12.1	+0.5
	comp=E,5.8nm,0.7s						
BR131	Keskin Array S	8.65	46	ePn	Pn	04 59 12.1	+0.5
	comp=E,5.8nm,0.7s						
BRTR	Keskin Array B	8.65	46	Pn	Pn	04 59 12.6	+1.0
BRTR				Sn	Sn	05 00 48.1	-0.2
BRTR	Keskin Array B	8.65	46	Pn	Pn	04 59 12.6	+1.0
	comp=E,0.4nm,0.3s,baz=226,slow=13,SNR=19						
BRTR				Sn	Sn	05 00 48.1	-0.2
	comp=E,0.4nm,0.3s,baz=207,slow=24,SNR=4.6						
BRTR	Keskin Array B	8.65	46	P	Pn	04 59 12.6	+1.0
BRTR				Sn	Sn	05 00 48.1	-0.2
BRBR	Barbar	8.71	91	eP	Pn	04 59 11.0	-1.4
BRBR				i S	Sn	05 00 48.2	-1.6
BRBR				AML	AML	05 00 55.5	
	comp=N,60nm,0.6s						
BRBR				AML	AML	05 00 58.3	
	comp=E,75nm,0.7s						
BRBR	Barbar	8.71	91	eP	Pn	04 59 12.3	-0.1
BRBR				i S	Sn	05 00 45.3	-4.5
BRBR				AML	AML	05 00 55.5	
	comp=N,60nm,0.6s						
BRBR				AML	AML	05 00 58.3	
	comp=E,75nm,0.7s						
BRBR	Barbar	8.71	91	eP	Pn	04 59 12.3	-0.1
	SNR=45						
BRBR				i S	Sn	05 00 45.3	-4.5
	comp=E,75nm,0.7s,SNR=40						
VTS	Vitosha	8.77	349	⇑P	Pn	04 59 17.7	+4.6
VTS	Vitosha	8.77	349	⇑i P	Pn	04 59 17.7	+4.6
ARNB	Al Arnab	8.78	75	eP	Pn	04 59 14.1	+0.9
ARNB				i S	Sn	05 00 47.6	-3.8
ARNB				AML	AML	05 01 01.2	
	comp=N,33nm,0.6s						
ARNB				AML	AML	05 01 02.3	
	comp=E,56nm,0.6s						
ARNB	Al Arnab	8.78	75	eP	Pn	04 59 14.4	+1.2
ARNB				i S	Sn	05 00 47.2	-4.1
ARNB				AML	AML	05 01 01.2	
	comp=N,33nm,0.6s						
ARNB				AML	AML	05 01 02.3	
	comp=E,56nm,0.6s						
ARNB	Al Arnab	8.78	75	eP	Pn	04 59 14.4	+1.2
	SNR=45						
ARNB				i S	Sn	05 00 47.2	-4.1
	comp=E,56nm,0.6s,SNR=40						
CEL	Celeste	8.87	301	ePn	Pn	04 59 13.7	-0.9
CEL	Celeste	8.87	301	ePn	Pn	04 59 13.6	-0.9
EIL	Elat	9.11	116	Pn	Pn	04 59 16.6	-1.2
EIL				Sn	Sn	05 00 53.4	-6.0
EIL	Elat	9.11	116	Pn	Pn	04 59 16.6	-1.2
	comp=E,2.2nm,0.3s,baz=307,slow=9.1,SNR=28						
EIL				Sn	Sn	05 00 53.4	-6.0
	comp=E,4.5nm,0.3s,baz=293,slow=16,SNR=6.9						
EIL	Elat	9.11	116	Pn	Pn	04 59 16.5	-1.2
BTCH	Batrach	9.19	74	eP	Pn	04 59 18.1	-0.9
BTCH				i S	Sn	05 00 57.2	-4.4
BTCH				AML	AML	05 01 03.1	
	comp=E,100nm,0.5s						
BTCH				AML	AML	05 01 05.5	
	comp=N,43nm,0.6s						
BTCH	Batrach	9.19	74	eP	Pn	04 59 19.1	+0.1
BTCH				i S	Sn	05 00 58.2	-3.4
BTCH				AML	AML	05 01 03.0	
	comp=E,100nm,0.5s						
BTCH				AML	AML	05 01 05.4	
	comp=N,43nm,0.6s						
BTCH	Batrach	9.19	74	eP	Pn	04 59 19.1	+0.1
	SNR=45						
BTCH				i S	Sn	05 00 58.2	-3.4
	comp=N,43nm,0.6s,SNR=40						
MPEP	Malo Peshtene	9.44	352	P	Pn	04 59 25.3	+3.0
SALA	Sala	9.46	95	eP	Pn	04 59 22.1	-0.6
SALA				i S	Sn	05 01 07.4	-1.0
SALA				AML	AML	05 01 14.3	
	comp=E,3.5nm,0.5s						
SALA				AML	AML	05 01 14.3	
	comp=N,60nm,0.5s						
SALA	Sala	9.46	95	eP	Pn	04 59 23.4	+0.7
SALA				i S	Sn	05 01 06.3	-2.0
SALA				AML	AML	05 01 14.2	
	comp=E,3.5nm,0.5s						
SALA				AML	AML	05 01 14.2	
	comp=N,60nm,0.5s						
SALA	Sala	9.46	95	eP	Pn	04 59 23.4	+0.7
	SNR=45						
SALA				i S	Sn	05 01 06.3	-2.0
	comp=N,60nm,0.5s,SNR=40						
LJFR	Jufra	9.62	242	i P	Pn	04 59 22.9	-1.9
	SNR=22						
HHRG	Al Ghardaqah	9.68	132	P	Pn	04 59 25.3	-0.2
	baz=132						
HHRG				S	Sn	05 01 08.1	-5.4
	baz=132						
HHRG	Al Ghardaqah	9.68	132	P	Pn	04 59 25.3	-0.2
ASF	Jabal al Asfar	9.71	98	Pn	Pn	04 59 24.7	-1.4
ASF				Sn	Sn	05 01 09.7	-4.7
ASF	Jabal al Asfar	9.71	98	Pn	Pn	04 59 24.7	-1.4
	comp=N,0.5nm,0.3s,baz=221,slow=11,SNR=3.2						
ASF				Sn	Sn	05 01 09.7	-4.7
	comp=N,1.0nm,0.3s,baz=156,slow=20,SNR=3.8						
CUC	Castrocucco	9.80	310	ePn	Pn	04 59 27.1	-0.1
CUC	Castrocucco	9.80	310	ePn	Pn	04 59 27.1	-0.1
ZALF	Zalf	9.92	93	eP	Pn	04 59 29.9	+1.0
ZALF				i S	Sn	05 01 17.6	-1.9
ZALF				AML	AML	05 01 29.4	
	comp=N,17nm,0.4s						
ZALF				AML	AML	05 01 39.1	
	comp=E,19nm,0.6s						
LKFR	Kufra	10.01	192	i P	Pn	04 59 29.2	-1.0
	SNR=22						
MALT	Malatya	11.28	64	⇑P	Pn	04 59 47.1	-0.4
MALT	Malatya	11.28	64	⇑i P	Pn	04 59 47.1	-0.4
MALT	Malatya	11.28	64	P	Pn	04 59 47.1	-0.4
VOIR		11.43	358	⇑P	Pn	04 59 57.3	+7.8
VOIR		11.43	358	⇑i P	Pn	04 59 57.3	+7.8
MLR	Muntele Rosu	11.48	1	Pn	Pn	04 59 51.0	+0.7
MLR	Muntele Rosu	11.48	1	Pn	Pn	04 59 51.0	+0.7
	comp=E,0.0nm,0.3s,baz=138,slow=4.3,SNR=4.9						
MLR	Muntele Rosu	11.48	1	P	Pn	04 59 51.0	+0.7
PLOR	Plostina	11.86	4	⇓P	Pn	05 00 03.2	+7.8
PLOR	Plostina	11.86	4	⇓i P	Pn	05 00 03.2	+7.8
VRI	Vrincioaia	11.88	4	⇑P	Pn	05 00 01.3	+5.6
VRI	Vrincioaia	11.88	4	⇑i P	Pn	05 00 01.3	+5.6
BZS	Buzias	11.98	347	⇓P	Pn	05 00 00.0	+3.0
BZS	Buzias	11.98	347	⇓i P	Pn	05 00 00.0	+3.0
SIRR	Siria	12.60	348	⇑i P	Pn	05 00 10.6	+5.1
DRGR		12.95	351	⇑P	Pn	05 00 12.9	+2.6
DRGR		12.95	351	⇑i P	Pn	05 00 12.9	+2.6
DRGR		12.95	351	P	Pn	05 00 12.9	+2.6
BURAR	Bucovina Array	13.60	359	⇑P	P	05 00 26.7	-1.2
BURAR	Bucovina Array	13.60	359	⇑i P	P	05 00 26.7	-1.2
BUR08	Bucovina Ar. S	13.63	359	ePn	Pn	05 00 22.3	+2.7
BUR08	Bucovina Ar. S	13.63	359	ePn	Pn	05 00 22.3	+2.7
PSZ	Piszkesteto	14.53	345	eP	Pn	05 00 31.7	-0.2
PSZ	Piszkesteto	14.53	345	ePn	Pn	05 00 31.7	-0.2
PSZ	Piszkesteto	14.53	345	ePn	Pn	05 00 31.7	-0.2
SOKA	Soboth	14.96	331	⇓i P	P	05 00 44.6	+1.6
	comp=E,16nm,0.9s						
SOKA	Soboth	14.96	331	P	P	05 00 44.6	+1.6
	comp=E,16nm,0.9s						
PGF	Pioggiola	15.51	308	eP	Pn	05 00 42.6	-2.4
	comp=E,38nm,0.8s						
PGF	Pioggiola	15.51	308	eP	Pn	05 00 42.6	-2.4
PGF				pmax	pmax		
	comp=Z,38nm,0.8s						
PGF	Pioggiola	15.51	308	eP	Pn	05 00 42.6	-2.4
	comp=Z,38nm,0.8s						
KWP	Kalwaria Pacla	15.75	353	⇑P	Pn	05 00 48.4	+0.4
KWP	Kalwaria Pacla	15.75	353	⇑i P	Pn	05 00 48.4	+0.4
ABTA	Abfaltersbach	16.11	326	⇑i Pn	Pn	05 00 53.0	+0.4
	comp=Z,24nm,0.9s						
KIV	Kislovodsk	16.61	48	P	P	05 01 01.0	-0.3
KBZ	Khabaz	16.62	49	P	P	05 01 01.7	+0.4
KBZ	Khabaz	16.62	49	Pn	P	05 01 01.7	+0.4
KBZ	Khabaz	16.62	49	Pn	P	05 01 01.7	+0.4
	comp=Z,0.2nm,0.3s,baz=264,slow=7.3,SNR=10						
VRAC	Vranov	16.66	339	Pn	P	05 01 01.2	-0.6
VRAC	Vranov	16.66	339	Pn	P	05 01 01.2	-0.6
	comp=Z,0.4nm,0.3s,baz=169,slow=20,SNR=6.9						
VRAC	Vranov	16.66	339	P	P	05 01 01.2	-0.6
MORC	Moravsky Berou	16.83	342	eP	Pn	05 01 00.5	-1.2
MORC				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MORC	Moravsky Berou	16.83	342	ePn	Pn	05 01 00.5	-1.2
	comp=Z,5.7nm,0.9s						
MORC	Moravsky Berou	16.83	342	ePn	Pn	05 01 00.5	-1.2
	comp=Z,5.7nm,0.9s						
ZEI	Tsey	16.84	53	eP	Pn	05 01 01.9	-0.1
ZEI				pmax	pmax		
	comp=Z,25nm,1.0s						
ZEI	Tsey	16.84	53	eP	Pn	05 01 01.9	-0.1
	comp=Z,25nm,1.0s						
KIEV	Kiev	16.90	8	eP	Pn	05 01 02.3	-0.2
KIEV				pmax	pmax		
	comp=Z,38nm,0.7s						
KIEV	Kiev	16.90	8	ePn	Pn	05 01 02.3	-0.2
	comp=Z,38nm,0.7s						
KIEV	Kiev	16.90	8	eP	Pn	05 01 02.3	-0.2
	comp=Z,38nm,0.7s						
AKASG	Malin Array Be	16.90	8	ceP	Pn	05 01 01.5	-1.1
AKASG				pmax	pmax		
	comp=Z,13nm,0.5s						
AKASG	Malin Array Be	16.90	8	Pn	Pn	05 01 01.9	-0.7
AKASG	Malin Array Be	16.90	8	Pn	Pn	05 01 01.9	-0.7
	comp=Z,4.7nm,0.3s,baz=199,slow=11,SNR=21						
AKASG	Malin Array Be	16.90	8	Pn	Pn	05 01 01.9	-0.7
NCK	Nalchik	16.95	51	eP	Pn	05 01 03.7	+0.4
TREC	Trest	17.00	337	eP	P	05 01 05.9	+0.4
TREC	Trest	17.00	337	eP	P	05 01 05.9	+0.4
TREC	Trest	17.00	337	eP	P	05 01 05.9	+0.4
SBF	Sospel	17.14	310	eP	Pn	05 01 03.8	-1.9
	comp=Z,72nm,1.0s						
SBF	Sospel	17.14	310	eP	Pn	05 01 03.8	-1.9
SBF				pmax	pmax		
	comp=Z,72nm,1.0s						
SBF	Sospel	17.14	310	eP	Pn	05 01 03.8	-1.9
	comp=Z,72nm,1.0s						
FETA	Feichten	17.16	324	⇑i P	P	05 01 09.6	+2.2
	comp=Z,23nm,1.3s						
FETA	Feichten	17.16	324	P	P	05 01 09.6	+2.2
	comp=Z,23nm,1.3s						
GEC2	GERESS Array S	17.24	333	eP	P	05 01 08.5	+0.2
	comp=Z,19nm,1.1s						
GEC2	GERESS Array S	17.24	333	eP	P	05 01 08.5	+0.2
GEC2				pmax	pmax		
	comp=Z,19nm,1.1s						
GEC2	GERESS Array S	17.24	333	ePn	P	05 01 08.8	+0.5
GEC2	GERESS Array S	17.24	333	eP	P	05 01 08.5	+0.2
	comp=

comp=Z,30nm,1.0s
SMRF Simiane la Rot 18.39 309 eP P 05 01 19.4 -1.5
comp=Z,30nm,1.0s
SMRF Simiane la Rot 18.39 309 eP P 05 01 19.4 -1.5
comp=Z,15nm,1.0s
LPG La Plagne 18.39 314 eP P 05 01 18.6 -2.6
comp=Z,14nm,0.8s
LPG La Plagne 18.39 314 eP P 05 01 18.6 -2.6
LPG pmax pmax
comp=Z,14nm,0.8s
LPG La Plagne 18.39 314 eP P 05 01 18.6 -2.6
comp=Z,14nm,0.8s
LPL La Plagne 18.42 314 eP P 05 01 19.5 -1.9
comp=Z,11nm,0.8s
LPL La Plagne 18.42 314 eP P 05 01 19.5 -1.9
LPL pmax pmax
comp=Z,11nm,0.8s
LPL La Plagne 18.42 314 eP P 05 01 19.5 -1.9
comp=Z,11nm,0.8s
LPL La Plagne 18.42 314 eP P 05 01 19.5 -1.9
comp=Z,5.7nm,0.8s
ROTZ Rotzenmuhle 18.57 332 eP P 05 01 21.9 -0.9
comp=Z,18nm,1.8s
ORIF Oris-en-Rattie 18.63 312 eP P 05 01 23.1 -0.5
comp=Z,14nm,0.9s
ORIF eR
comp=Z,410nm,21.0s
ORIF Oris-en-Rattie 18.63 312 eP P 05 01 23.1 -0.5
ORIF pmax pmax
comp=Z,15nm,0.9s
ORIF Oris-en-Rattie 18.63 312 eP P 05 01 23.1 -0.5
comp=Z,14nm,0.9s
ORIF Oris-en-Rattie 18.63 312 eP P 05 01 23.1 -0.5
comp=Z,7.2nm,0.9s
RST Umm Al-Ruwaisa 18.80 98 eP P 05 01 25.4 0.0
RST AMb AMB 05 01 35.2
comp=Z,242nm,0.8s
RST Umm Al-Ruwaisa 18.80 98 eP P 05 01 25.4 0.0
comp=Z,242nm,0.8s
BRG Berggiesshubel 18.86 337 eP Pn 05 01 27.0 +0.3
comp=Z,3.3nm,0.6s
BRG Berggiesshubel 18.86 337 eP Pn 05 01 26.8 +0.1
comp=Z,23nm,2.1s
BRG Berggiesshubel 18.86 337 eP Pn 05 01 27.0 +0.3
BRG pmax pmax
comp=Z,51nm,0.6s
BRG Berggiesshubel 18.86 337 eP Pn 05 01 27.0 +0.3
comp=Z,51nm,0.6s
GRFO Grafenberg 18.90 330 eP Pn 05 01 27.0 -0.2
GRFO pmax pmax
comp=Z,24nm,0.9s
GRFO Grafenberg 18.90 330 eP Pn 05 01 27.0 -0.2
comp=Z,24nm,0.9s
GRFO Grafenberg 18.90 330 eP Pn 05 01 27.0 -0.2
comp=Z,24nm,0.9s
GRA1 Grafenberg Arr 18.90 330 eP Pn 05 01 27.9 +0.7
comp=Z,117nm,1.9s
GRF Grafenberg Arr 18.90 330 eP Pn 05 01 27.9 +0.7
comp=Z,117nm,1.9s
GRF Grafenberg Arr 18.90 330 eP Pn 05 01 27.9 +0.7
GRF pmax pmax
comp=Z,117nm,1.9s
TANN Tannenbergstha 18.99 334 eP P 05 01 27.4 -0.1
comp=Z,211nm,2.8s
NAY Al-Naaiem 19.08 98 eP P 05 01 28.9 +0.3
NAY AMb AMB 05 01 32.4
comp=Z,13nm,0.8s
NAY Al-Naaiem 19.08 98 eP P 05 01 28.9 +0.3
BBS Basel-Blauen 19.10 320 eP P 05 01 28.6 -0.1
FELD Feldberg im Sc 19.10 322 eP Pn 05 01 30.0 +0.2
BFO Black Forest 19.23 323 eP Pn 05 01 30.5 -0.7
BFO pmax pmax
comp=Z,8.0nm,0.8s
BFO Black Forest 19.23 323 eP Pn 05 01 30.5 -0.7
comp=Z,8.2nm,0.8s
BFO Black Forest 19.23 323 eP Pn 05 01 30.5 -0.7
comp=Z,8.2nm,0.8s
VIVF Saint-Julien-l 19.36 310 eP P 05 01 31.3 -0.3
VIVF Saint-Julien-l 19.36 310 eP P 05 01 31.3 -0.3
VIVF Saint-Julien-l 19.36 310 eP P 05 01 31.3 -0.3
VIVF Saint-Julien-l 19.36 310 eP P 05 01 31.3 -0.3
CABF La Chapelle 19.39 316 eP Pn 05 01 32.7 -0.4
comp=Z,35nm,1.2s
CABF La Chapelle 19.39 316 eP Pn 05 01 32.7 -0.4
CABF pmax pmax
comp=Z,35nm,1.2s
CABF La Chapelle 19.39 316 eP Pn 05 01 32.7 -0.4
comp=Z,35nm,1.2s
CABF La Chapelle 19.39 316 eP Pn 05 01 32.7 -0.4
comp=Z,17nm,1.2s
LOMF Lomont 19.40 319 eP P 05 01 32.3 +0.3
LOMF Lomont 19.40 319 eP P 05 01 32.3 +0.3
MOX Moxa 19.50 333 eP P 05 01 32.8 -0.2
comp=Z,16nm,1.2s
MOX Moxa 19.50 333 eP P 05 01 32.8 -0.2
MOX pmax pmax
comp=Z,16nm,1.2s
MOX Moxa 19.50 333 eP P 05 01 32.8 -0.2
comp=Z,16nm,1.2s
MOF Molkenrain 19.54 321 eP Pn 05 01 35.7 +0.7
MOF Molkenrain 19.54 321 eP Pn 05 01 35.7 +0.7
CLL Collm 19.54 336 eP P 05 01 33.4 0.0
comp=Z,7.0nm,0.7s
CLL Collm 19.54 336 eP Pn 05 01 34.0 -0.8
CLL eS S 05 05 10.0 -2.6
CLL pmax pmax
comp=Z,7.0nm,0.7s
CLL Collm 19.54 336 eP Pn 05 01 34.0 -0.8
comp=Z,7.0nm,0.7s
CLL epP pP 05 01 38.0 -2.6
CLL e(PP) 05 01 46.0
CLL eS S 05 05 10.0 -2.6
CLL LmH 05 11 00.0
comp=N,200nm,20.3s
CLL LmH 05 11 00.0
comp=E,100nm,21.8s
CLL Collm 19.54 336 eP Pn 05 01 34.0 -0.8
comp=E,7.0nm,0.7s
LASF Ste Croix 19.56 307 eP P 05 01 33.4 -0.3
comp=E,16nm,0.9s
LASF Ste Croix 19.56 307 eP P 05 01 33.4 -0.3
comp=E,16nm,0.9s
LASF Ste Croix 19.56 307 eP P 05 01 33.4 -0.3
comp=E,7.8nm,0.9s
HINF Hinteralfeld 19.67 320 eP P 05 01 35.4 +0.5
comp=E,22nm,1.0s
HINF Hinteralfeld 19.67 320 eP P 05 01 35.4 +0.5
HINF pmax pmax
comp=Z,22nm,1.0s
HINF Hinteralfeld 19.67 320 eP P 05 01 35.4 +0.5
comp=Z,22nm,1.0s
HINF Hinteralfeld 19.67 320 eP P 05 01 35.4 +0.5
comp=Z,11nm,1.0s
VORD Divnogorie 19.70 27 eP Pn 05 01 38.1 +1.4
VORD pmax pmax
comp=Z,20nm,0.6s
VORD pmax pmax
comp=N,40nm,1.0s
VORD pmax pmax
comp=E,40nm,0.8s
ECH Echery 19.76 321 eP Pn 05 01 38.2 +0.8
ECH Echery 19.76 321 eP Pn 05 01 38.2 +0.8
CDF Champ du Feu 19.82 322 eP P 05 01 36.9 +0.3
comp=E,21nm,0.8s
CDF Champ du Feu 19.82 322 eP P 05 01 36.9 +0.3
CDF pmax pmax
comp=Z,21nm,0.8s
CDF Champ du Feu 19.82 322 eP P 05 01 36.9 +0.3
comp=Z,21nm,0.8s
CDF Champ du Feu 19.82 322 eP P 05 01 36.9 +0.3
comp=Z,10nm,0.8s
TOD Tromm 19.89 327 eP Pn 05 01 38.5 -0.5
LANF Langenberg 19.93 324 eP Pn 05 01 40.2 +0.7
LANF Langenberg 19.93 324 eP Pn 05 01 40.2 +0.7
KTD Kalmit 20.02 325 eP Pn 05 01 41.5 +0.8
HAU Haudompre 20.05 320 eP Pn 05 01 40.1 -0.9
HAU eR
comp=Z,243nm,17.0s
HAU Haudompre 20.05 320 eP Pn 05 01 40.1 -0.9
HAU pmax pmax
comp=Z,13nm,0.5s
HAU Haudompre 20.05 320 eP Pn 05 01 40.1 -0.9
comp=Z,13nm,0.5s
HAU Haudompre 20.05 320 eP Pn 05 01 40.1 -0.9
comp=Z,6.3nm,0.5s

SUW Suwalki 20.07 356 eP P 05 01 38.4 -0.8
SUW pmax pmax
comp=Z,66nm,0.9s
SUW Suwalki 20.07 356 eP P 05 01 38.4 -0.8
comp=Z,66nm,0.9s
SUW Suwalki 20.07 356 eP P 05 01 38.9 -0.3
SUW Suwalki 20.07 356 eP P 05 01 38.4 -0.8
comp=Z,66nm,0.9s
UBBA Unterbreizbach 20.27 331 eP P 05 01 40.2 -1.1
comp=Z,10.0nm,1.0s
THEF They Montfort 20.38 320 eP Pn 05 01 44.9 +0.1
THEF They Montfort 20.38 320 eP Pn 05 01 44.9 +0.1
MTLF Montolieu 20.39 304 eP P 05 01 42.9 +0.1
comp=Z,10nm,0.9s
MTLF Montolieu 20.39 304 eP P 05 01 42.9 +0.1
MTLF pmax pmax
comp=Z,10.0nm,0.9s
MTLF Montolieu 20.39 304 eP P 05 01 42.9 +0.1
comp=Z,10nm,0.9s
MTLF Montolieu 20.39 304 eP P 05 01 42.9 +0.1
comp=Z,5.1nm,0.9s
LBL Lubilhac 20.43 310 eP Pn 05 01 45.3 -0.2
LBL Lubilhac 20.43 310 eP Pn 05 01 45.3 -0.2
TNS Taunus Mts 20.49 327 eP Pn 05 01 44.9 -1.2
comp=Z,24nm,0.8s
TNS Taunus Mts 20.49 327 eP Pn 05 01 44.9 -1.2
TNS pmax pmax
comp=Z,24nm,0.8s
TNS Taunus Mts 20.49 327 eP Pn 05 01 44.9 -1.2
comp=Z,24nm,0.8s
VRHR Novokhopersk 20.71 30 eP Pn 05 01 49.5 +0.9
VRHR pmax pmax
comp=N,40nm,0.7s
VRHR pmax pmax
comp=Z,70nm,0.7s
VRHR pmax pmax
comp=E,30nm,0.8s
PAGF Fort de Pagny 20.72 320 eP Pn 05 01 47.6 -1.1
comp=E,12nm,0.9s
PAGF Fort de Pagny 20.72 320 eP Pn 05 01 47.6 -1.1
comp=E,12nm,0.9s
PAGF Fort de Pagny 20.72 320 eP Pn 05 01 47.6 -1.1
comp=E,5.9nm,0.9s
SMF Signal de Mont 20.72 314 eP P 05 01 44.8 -1.5
comp=E,11nm,0.7s
SMF Signal de Mont 20.72 314 eP P 05 01 44.8 -1.5
SMF pmax pmax
comp=Z,11nm,0.7s
SMF Signal de Mont 20.72 314 eP P 05 01 44.8 -1.5
comp=Z,11nm,0.7s
SMF Signal de Mont 20.72 314 eP P 05 01 44.8 -1.5
comp=Z,5.3nm,0.7s
RUP Ruppelstein 20.77 325 eP P 05 01 47.1 +0.2
TAM Tamanrasset 20.80 243 eP P 05 01 48.4 +0.9
TAM pmax pmax
comp=Z,8.0nm,0.8s
TAM Tamanrasset 20.80 243 eP P 05 01 48.4 +0.9
comp=Z,7.9nm,0.8s
TAM Tamanrasset 20.80 243 eP P 05 01 48.4 +0.9
comp=Z,7.9nm,0.8s
PYM Petit Puy Mans 20.81 311 eP Pn 05 01 49.0 -0.9
PYM Petit Puy Mans 20.81 311 eP Pn 05 01 49.0 -0.9
AGO Saint Agoulin 20.87 312 eP P 05 01 48.0 0.0
AGO Saint Agoulin 20.87 312 eP P 05 01 48.0 0.0
CLZ Clausthal 20.92 333 eP P 05 01 48.1 -0.4
comp=Z,13nm,0.9s
CLZ Clausthal 20.92 333 eP P 05 01 48.1 -0.4
CLZ pmax pmax
comp=Z,13nm,0.9s
CLZ Clausthal 20.92 333 eP P 05 01 48.1 -0.4
comp=Z,13nm,0.9s
LOR Lormes 21.03 316 eP P 05 01 49.6 -0.1
comp=Z,12nm,0.8s
LOR eR
comp=Z,144nm,22.5s
LOR Lormes 21.03 316 eP P 05 01 49.6 -0.1
comp=Z,12nm,0.8s
LOR Lormes 21.03 316 eP P 05 01 49.6 -0.1
comp=Z,6.0nm,0.8s
CAF Calviac 21.07 308 eP P 05 01 49.6 -0.5
comp=Z,21nm,0.9s
CAF Calviac 21.07 308 eP P 05 01 49.6 -0.5
CAF pmax pmax
comp=Z,21nm,0.9s
CAF Calviac 21.07 308 eP P 05 01 49.6 -0.5
comp=Z,21nm,0.9s
CAF Calviac 21.07 308 eP P 05 01 49.6 -0.5
comp=Z,10nm,0.9s
AVF Avril sur Loir 21.09 314 eP P 05 01 49.4 -0.8
comp=Z,7.2nm,0.7s
AVF Avril sur Loir 21.09 314 eP P 05 01 49.4 -0.8
AVF pmax pmax
comp=Z,7.0nm,0.7s
AVF Avril sur Loir 21.09 314 eP P 05 01 49.4 -0.8
comp=Z,7.2nm,0.7s
AVF Avril sur Loir 21.09 314 eP P 05 01 49.4 -0.8
comp=Z,3.6nm,0.7s
SSF Saint Saulge 21.13 315 eP P 05 01 49.5 -1.2
SSF Saint Saulge 21.13 315 eP P 05 01 49.5 -1.2
SSF Saint Saulge 21.13 315 eP P 05 01 49.5 -1.2
SSF Saint Saulge 21.13 315 eP P 05 01 49.5 -1.2
WLF Walferdange 21.19 323 P P 05 01 54.8 +3.4
comp=Z,13nm,1.3s
BGF Bois d'Agland 21.28 313 eP P 05 01 52.1 -0.2
comp=Z,22nm,0.7s
BGF Bois d'Agland 21.28 313 eP P 05 01 52.1 -0.2
BGF pmax pmax
comp=Z,22nm,0.7s
BGF Bois d'Agland 21.28 313 eP P 05 01 52.1 -0.2
comp=Z,22nm,0.7s
BGF Bois d'Agland 21.28 313 eP P 05 01 52.1 -0.2
comp=Z,11nm,0.7s
NRDL Niedersach Rie 21.54 334 eP P 05 01 54.7 -0.3
comp=Z,15nm,1.4s
TCF Toulx Ste Croi 21.55 312 eP P 05 01 55.3 +0.1
comp=Z,17nm,0.9s
TCF Toulx Ste Croi 21.55 312 eP P 05 01 55.3 +0.1
TCF pmax pmax
comp=Z,17nm,0.9s
TCF Toulx Ste Croi 21.55 312 eP P 05 01 55.3 +0.1
comp=Z,17nm,0.9s
TCF Toulx Ste Croi 21.55 312 eP P 05 01 55.3 +0.1
comp=Z,8.7nm,0.9s
RJF Les Rejaudoux 21.58 309 eP P 05 01 55.1 -0.4
comp=Z,22nm,0.9s
RJF eR
comp=Z,267nm,18.5s
RJF Les Rejaudoux 21.58 309 eP P 05 01 55.1 -0.4
RJF pmax pmax
comp=Z,23nm,0.9s
RJF Les Rejaudoux 21.58 309 eP P 05 01 55.1 -0.4
comp=Z,22nm,0.9s
RJF Les Rejaudoux 21.58 309 eP P 05 01 55.1 -0.4
comp=Z,11nm,0.9s
EPF Esparros 21.61 302 eP P 05 01 54.9 -1.0
EPF Esparros 21.61 302 eP P 05 01 54.9 -1.0
EPF Esparros 21.61 302 eP P 05 01 54.9 -1.0
EPF Esparros 21.61 302 eP P 05 01 54.9 -1.0
MEM Membach 21.89 325 P P 05 02 00.1 +1.3
comp=Z,16nm,1.0s
BUG Bochum--Univer 21.89 328 eP P 05 02 00.7 +2.0
comp=Z,27nm,1.2s
LFF La Frestale 21.95 307 eP P 05 01 58.6 -0.9
comp=Z,22nm,0.8s
LFF La Frestale 21.95 307 eP P 05 01 58.6 -0.9
LFF pmax pmax
comp=Z,22nm,0.8s
LFF La Frestale 21.95 307 eP P 05 01 58.6 -0.9
comp=Z,22nm,0.8s
LFF La Frestale 21.95 307 eP P 05 01 58.6 -0.9
comp=Z,11nm,0.8s
BCLA Clavier 22.10 324 P P 05 02 03.2 +2.1
comp=Z,11nm,1.5s
GIVF Givet 22.14 323 eP P 05 02 02.6 +1.1
comp=Z,24nm,0.8s
GIVF Givet 22.14 323 eP P 05 02 02.6 +1.1
GIVF pmax pmax
comp=Z,24nm,0.8s
GIVF Givet 22.14 323 eP P 05 02 02.6 +1.1
comp=Z,24nm,0.8s
GIVF Givet 22.14 323 eP P 05 02 02.6 +1.1
comp=Z,12nm,0.8s
ETSF Etsaut 22.21 301 eP P 05 01 59.6 -2.8
comp=Z,16nm,0.8s
ETSF Etsaut 22.21 301 eP P 05 01 59.6 -2.8
ETSF pmax pmax
comp=Z,16nm,0.8s

ETSF Etsaut 22.21 301 eP P 05 01 59.6 -2.8
comp=Z,16nm,0.8s
DOU Dourbes 22.25 323 P P 05 02 03.3 +0.6
IBBN Ibbenburen 22.31 330 eP P 05 02 04.4 +1.1
comp=Z,24nm,1.2s
BAIF Baives 22.42 322 eP P 05 02 05.3 +0.8
comp=Z,18nm,0.8s
BAIF Baives 22.42 322 eP P 05 02 05.3 +0.8
BAIF pmax pmax
comp=Z,18nm,0.8s
BAIF Baives 22.42 322 eP P 05 02 05.3 +0.8
comp=Z,18nm,0.8s
BAIF Baives 22.42 322 eP P 05 02 05.3 +0.8
comp=Z,9.1nm,0.8s
OBN Obninsk 22.47 17 P P 05 02 06.0 +1.0
OBN e 05 02 15.7
OBN pmax pmax
comp=Z,90nm,2.4s
OBN MLR MLR
comp=Z,300nm,16.0s
OBN Obninsk 22.47 17 P P 05 02 06.0 +1.0
comp=Z,300nm,16.0s
BSEG Bad Segeberg 22.64 336 eP P 05 02 05.5 -1.3
comp=Z,18nm,0.9s
BSEG Bad Segeberg 22.64 336 eP P 05 02 05.5 -1.3
BSEG pmax pmax
comp=Z,18nm,0.9s
BSEG Bad Segeberg 22.64 336 eP P 05 02 05.5 -1.3
comp=Z,18nm,0.9s
SNF Senelle 22.66 323 P P 05 02 10.1 +3.1
SJPF Ste Jean 22.73 301 eP P 05 02 07.8 -0.2
comp=Z,25nm,1.0s
SJPF Ste Jean 22.73 301 eP P 05 02 07.8 -0.2
SJPF pmax pmax
comp=Z,25nm,1.0s
SJPF Ste Jean 22.73 301 eP P 05 02 07.8 -0.2
comp=Z,25nm,1.0s
SJPF Ste Jean 22.73 301 eP P 05 02 07.8 -0.2
comp=Z,13nm,1.0s
MFF Saint Martin d 23.16 311 eP P 05 02 10.5 -1.8
comp=Z,19nm,0.7s
MFF Saint Martin d 23.16 311 eP P 05 02 10.5 -1.8
MFF pmax pmax
comp=Z,19nm,0.7s
MFF Saint Martin d 23.16 311 eP P 05 02 10.5 -1.8
comp=Z,19nm,0.7s
MFF Saint Martin d 23.16 311 eP P 05 02 10.5 -1.8
comp=Z,9.7nm,0.7s
LDF La Druitiere 24.01 315 eP P 05 02 18.9 -1.6
comp=Z,13nm,0.6s
LDF La Druitiere 24.01 315 eP P 05 02 18.9 -1.6
LDF pmax pmax
comp=Z,13nm,0.6s
LDF La Druitiere 24.01 315 eP P 05 02 18.9 -1.6
comp=Z,13nm,0.6s
ESDC Sonseca Array 24.21 292 P P 05 02 22.1 -0.5
ESDC Sonseca Array 24.21 292 P P 05 02 22.1 -0.5
comp=Z,1.1nm,0.4s,baz=86,slow=9.1,SNR=18
ESLA Sonseca Array 24.21 292 eP P 05 02 22.1 -0.4
comp=Z,4.8nm,1.2s
FLN La Foliniere 24.30 315 eP P 05 02 21.7 -1.5
FLN eR
comp=Z,226nm,22.8s
FLN La Foliniere 24.30 315 eP P 05 02 21.7 -1.5
FLN La Foliniere 24.30 315 eP P 05 02 21.7 -1.5
GRR Gorron 24.35 314 eP P 05 02 22.8 -0.8
comp=Z,45nm,1.2s
GRR Gorron 24.35 314 eP P 05 02 22.8 -0.8
GRR pmax pmax
comp=Z,45nm,1.2s
GRR Gorron 24.35 314 eP P 05 02 22.8 -0.8
comp=Z,45nm,1.2s
VSU Vasula 24.48 2 eP P 05 02 23.4 -1.2
VSU pmax pmax
comp=Z,71nm,1.6s
PAB San Pablo 24.50 292 eP P 05 02 26.6 +1.4
PAB pmax pmax
comp=Z,131nm,1.3s
PAB San Pablo 24.50 292 eP P 05 02 26.6 +1.4
comp=Z,131nm,1.3s
MDT Midelt 25.15 276 P P 05 02 30.4 -0.8
MDT Midelt 25.15 276 P P 05 02 30.4 -0.8
comp=Z,3.2nm,0.6s,baz=86,slow=12,SNR=17
SGMF Saint Gilles 25.32 313 eP P 05 02 32.2 -0.2
comp=Z,42nm,1.1s
SGMF Saint Gilles 25.32 313 eP P 05 02 32.2 -0.2
SGMF pmax pmax
comp=Z,42nm,1.1s
SGMF Saint Gilles 25.32 313 eP P 05 02 32.2 -0.2
comp=Z,42nm,1.1s
QUIF Quistinic 25.57 312 eP P 05 02 35.1 +0.5
comp=Z,52nm,1.0s
QUIF Quistinic 25.57 312 eP P 05 02 35.1 +0.5
QUIF pmax pmax
comp=Z,52nm,1.0s
QUIF Quistinic 25.57 312 eP P 05 02 35.1 +0.5
comp=Z,52nm,1.0s
ROSF Rostrenen 25.79 312 eP P 05 02 35.2 -1.5
comp=Z,12nm,0.6s
ROSF Rostrenen 25.79 312 eP P 05 02 35.2 -1.5
ROSF pmax pmax
comp=Z,12nm,0.6s
ROSF Rostrenen 25.79 312 eP P 05 02 35.2 -1.5
comp=Z,12nm,0.6s
PBRG Braganca 26.51 297 eP P 05 02 45.1 +1.8
PBRG Braganca 26.51 297 eP P 05 02 45.1 +1.8
PBAR Barrancos 26.57 288 eP P 05 02 46.4 +2.6
comp=Z,20nm,1.3s
PBAR Barrancos 26.57 288 eP P 05 02 46.4 +2.6
comp=Z,20nm,1.3s
MVO Moncorvo 26.66 295 eP P 05 02 46.1 +1.4
comp=Z,31nm,1.3s
MVO Moncorvo 26.66 295 eP P 05 02 46.1 +1.4
comp=Z,31nm,1.3s
PMRV Marv??o 26.84 291 eP P 05 02 46.7 +0.4
PMRV Marv??o 26.84 291 eP P 05 02 46.7 +0.4
PESTR Estremoz 26.99 290 eP P 05 02 47.7 0.0
comp=Z,22nm,1.3s
PESTR Estremoz 26.99 290 eP P 05 02 47.7 0.0
comp=Z,22nm,1.3s
PVAQ Vaqueiros 27.13 287 eP P 05 02 49.5 +0.6
PVAQ Vaqueiros 27.13 287 eP P 05 02 49.5 +0.6
HFS Hagfors 27.27 347 P P 05 02 48.8 -1.1
HFS Hagfors 27.27 347 P P 05 02 48.8 -1.1
comp=Z,3.7nm,0.7s,baz=149,slow=12,SNR=6.7
PBDV Barranco-do-Ve 27.31 286 eP P 05 02 51.8 +1.3
comp=Z,57nm,1.7s
PBDV Barranco-do-Ve 27.31 286 eP P 05 02 51.8 +1.3
comp=Z,57nm,1.7s
EVO Evora 27.33 289 eP P 05 02 51.7 +1.1
comp=Z,13nm,0.9s
EVO Evora 27.33 289 eP P 05 02 50.9 +0.3
comp=Z,24nm,1.5s
EVO Evora 27.33 289 eP P 05 02 50.9 +0.3
comp=Z,24nm,1.5s
PCVE Castro Verde 27.37 287 eP P 05 02 53.6 +2.5
PCVE Castro Verde 27.37 287 eP P 05 02 53.6 +2.5
EVOP Sao Brissos 27.41 289 eP P 05 02 51.7 +0.3
EVOP pmax pmax
comp=Z,13nm,0.9s
EVOP Sao Brissos 27.41 289 eP P 05 02 51.7 +0.3
comp=Z,13nm,0.9s
FINES FINESS Array B 27.46 1 P P 05 02 49.5 -2.1
FINES PcP PcP 05 06 09.8 +0.4
FINES FINESS Array B 27.46 1 P P 05 02 49.5 -2.1
comp=Z,5.4nm,0.8s,baz=157,slow=12,SNR=16
FINES PcP PcP 05 06 09.8 +0.4
comp=Z,1.5nm,0.8s,baz=267,slow=6.9,SNR=3.3
KAF Kangasniemi 28.13 1 eP P 05 02 56.2 -1.4
KAF pmax pmax
comp=Z,12nm,0.8s
KAF Kangasniemi 28.13 1 ep P 05 02 56.2 -1.4
comp=Z,12nm,0.8s
KLMR Klimovskoe 28.36 14 eP P 05 02 57.3 -2.3
KLMR pmax pmax
comp=Z,38nm,0.9s
NAO01 NORSAR Array S 28.48 345 eP P 05 03 00.0 -0.7
comp=Z,9.2nm,0.7s
NB2 NORSAR Subarra 28.59 345 P P 05 03 00.2 -1.5
comp=Z,5.1nm,1.0s,baz=156,slow=9.3
NB2 NORSAR Subarra 28.59 345 P P 05 03 00.2 -1.5
comp=Z,5.1nm,1.0s,SNR=7.4
NOA NORSAR Array B 28.59 345 P P 05 03 00.6 -1.2
NOA NORSAR Array B 28.59 345 P P 05 03 00.6 -1.2
comp=Z,1.5nm,0.7s,baz=160,slow=9.8,SNR=7.6
AKTO Aktyubinsk 28.83 45 P P 05 03 04.2 +0.3

AKTO Aktyubinsk 28.83 45 P P 05 03 04.2 +0.3
AKTO Aktyubinsk 28.83 45 P P 05 03 04.2 +0.3
comp=Z,1.8nm,0.5s,baz=244,slow=10,SNR=6.1
EKA Eskdalemuir Ar 29.16 326 P P 05 03 06.4 -0.4
EKA Eskdalemuir Ar 29.16 326 P P 05 03 06.4 -0.4
comp=Z,3.0nm,0.8s,baz=126,slow=9.4,SNR=7.5
JOF Joensuu 29.16 5 eP P 05 03 05.6 -1.1
JOF pmax pmax
comp=Z,7.0nm,0.6s
JOF Joensuu 29.16 5 ep P 05 03 05.6 -1.1
comp=Z,6.5nm,0.6s
ABKAR Akbulak array 29.59 49 eP P 05 03 11.1 +0.4
comp=Z,8.2nm,0.9s
TORD Torodi Ar. Bea 30.00 232 P P 05 03 14.3 -0.3
TORD PcP PcP 05 06 17.0 +0.5
TORD Torodi Ar. Bea 30.00 232 P P 05 03 14.3 -0.3
comp=Z,1.4nm,0.6s,baz=34,slow=9.5,SNR=15
TORD PcP PcP 05 06 17.0 +0.5
comp=Z,0.5nm,0.9s,baz=25,slow=4.5,SNR=2.4
SOKR Solikamsk 32.81 29⇑ iP P 05 03 46.5 +7.6
SOKR pmax pmax
comp=Z,20nm,0.9s
SVE Sverdlovsk 33.01 35 eP P 05 03 43.7 +3.0
SVE pmax pmax
comp=Z,11nm,0.7s
ARCES ARCESS Array B 35.58 360 P P 05 04 00.9 -1.9
ARCES ARCESS Array B 35.58 360 P P 05 04 00.9 -1.9
comp=Z,3.9nm,0.7s,baz=182,slow=9.2,SNR=6.0
KKAR Karatay Array 35.97 62 eP P 05 04 07.7 +1.2
KKAR pmax pmax
comp=Z,6.0nm,0.9s
KKAR Karatay Array 35.97 62 eP P 05 04 07.7 +1.2
comp=Z,6.5nm,0.9s
BRVK Borovoye 36.88 45 eP P 05 04 14.8 +0.7
BRVK pmax pmax
comp=Z,8.0nm,1.1s
BRVK Borovoye 36.88 45 eP P 05 04 14.8 +0.7
comp=Z,7.6nm,1.1s
BVAR Borovoye Array 36.93 45 P P 05 04 15.6 +1.0
BVAR Borovoye Array 36.93 45 P P 05 04 15.6 +1.0
BVAR Borovoye Array 36.93 45 P P 05 04 15.6 +1.0
comp=Z,1.6nm,0.7s,baz=261,slow=7.4,SNR=7.5
VOSK Vostochnaya 37.22 46 eP P 05 04 17.6 +0.6
VOSK Vostochnaya 37.22 46 eP P 05 04 17.6 +0.6
EKS2 Erkin-Say 38.38 62 eP P 05 04 28.4 +1.3
EKS2 pmax pmax
comp=Z,3.0nm,0.9s
EKS2 Erkin-Say 38.38 62 eP P 05 04 28.4 +1.3
comp=Z,3.1nm,0.9s
AAK Ala-Archa 38.91 62 P P 05 04 32.3 +0.7
AAK pmax pmax
comp=Z,1.0nm,0.3s
AAK Ala-Archa 38.91 62 eP P 05 04 32.7 +1.1
AAK Ala-Archa 38.91 62 P P 05 04 32.3 +0.7
comp=Z,0.7nm,0.3s,baz=231,slow=6.5,SNR=2.9
DBIC Dimbokro 39.10 233 eP P 05 04 34.0 +0.8
comp=Z,38nm,1.7s
DBIC Dimbokro 39.10 233 P P 05 04 33.1 -0.1
comp=Z,3.2nm,0.8s,baz=110,slow=15,SNR=3.0
DBIC LR LR 05 23 09.4
comp=Z,151nm,18.6s,baz=18,slow=40
TKM2 Tokmak 2 39.70 62 eP P 05 04 38.5 +0.3
TKM2 pmax pmax
comp=Z,4.0nm,0.9s
TKM2 Tokmak 2 39.70 62 eP P 05 04 38.5 +0.3
comp=Z,3.6nm,0.9s
KSH Kashi 40.36 67 eP P 05 04 40.3 -3.4
KSH pP pP 05 04 50.0 -1.5
KSH PP PP 05 06 15.8 -0.8
KSH PcS PcS 05 10 36.0 -1.3
KSH S S 05 10 40.5 -10
KSH pmax pmax
comp=Z,130nm,7.3s
KSH LR LR
comp=N,160nm,6.2s
KSH LR LR
comp=E,160nm,7.7s
KSH LR LR
comp=Z,170nm,10.1s
KURBB Kurchatov Arra 41.62 50 P P 05 04 54.3 +0.6
comp=Z,5.0nm,0.7s,baz=277,slow=8.6,SNR=26
KURK Kurchatov 41.68 50c iP P 05 04 54.7 +0.5
KURK pmax pmax
comp=Z,3.0nm,0.9s
KURK Kurchatov 41.68 50 eP P 05 04 54.0 -0.2
comp=Z,5.4nm,0.8s
MK31 Makanchi Array 44.17 56 eP P 05 05 14.8 +0.3
MK31 Makanchi Array 44.17 56 eP P 05 05 14.8 +0.3
MKAR Makanchi Array 44.17 56 P P 05 05 15.1 +0.6
MKAR Makanchi Array 44.17 56 P P 05 05 15.1 +0.6
MKAR Makanchi Array 44.17 56 P P 05 05 15.1 +0.6
comp=Z,2.9nm,0.5s,baz=273,slow=7.1,SNR=31
SPITS Spitsbergen Ar 44.45 357 P P 05 05 16.5 +0.2
SPITS Spitsbergen Ar 44.45 357 P P 05 05 16.5 +0.2
comp=Z,31nm,1.2s,baz=163,slow=10,SNR=2.8
NVS Novosibirsk 44.70 44 eP P 05 05 18.9 +0.4
NVS pmax pmax
comp=N,3.0nm,1.2s
NVS pmax pmax
comp=Z,11nm,1.2s
NVS pmax pmax
comp=E,4.0nm,0.8s
ZAA0 Zalesovo Array 45.59 45 eP P 05 05 25.2 -0.4
ZALV Zalesovo Beam 45.59 45 P P 05 05 25.7 0.0
ZALV Zalesovo Beam 45.59 45 P P 05 05 25.6 0.0
ZALV Zalesovo Beam 45.59 45 P P 05 05 25.6 0.0
comp=E,4.4nm,0.5s,baz=268,slow=8.5,SNR=17
WMQ Urumqi 48.33 59 eP P 05 05 51.0 +3.7
WMQ pP pP 05 06 01.0 +5.7
WMQ sP sP 05 06 05.0 +6.6
WMQ pmax pmax
comp=Z,9.0nm,0.8s
WMQ pmax pmax
comp=Z,81nm,4.2s
PYUN Piuthan 49.04 80 eP P 05 05 53.9 +0.8
LSZ Lusaka 49.07 177 eP P 05 05 55.0 +1.8
comp=Z,5.4nm,1.1s
DANN Dangsing 49.58 80 eP P 05 05 58.2 +0.9
comp=Z,50nm,0.7s
KOLN Koldanda 49.66 81 eP P 05 05 57.8 -0.1
comp=Z,11nm,0.7s
GKN Gorkha 50.42 80 eP P 05 06 03.9 +0.3
comp=Z,18nm,0.7s
DMN Daman 50.96 80 eP P 05 06 08.5 +0.8
comp=Z,15nm,0.6s
KKN Kakani 51.03 80 eP P 05 06 08.5 +0.3
comp=Z,18nm,0.6s
HVS Khovu-Aksy 51.18 49⇓ iP P 05 06 09.9 +1.0
HVS pmax pmax
comp=Z,24nm,1.1s
PKIN Phulchoki 51.21 80 eP P 05 06 09.7 +0.1
comp=Z,13nm,0.7s
PKI Pulchoki 51.22 80 eP P 05 06 09.6 -0.2
comp=Z,15nm,0.7s
GUN Gumba 51.47 79 eP P 05 06 11.9 +0.2
comp=Z,22nm,0.7s
JIRN Jiri 51.82 80 eP P 05 06 14.6 +0.2
comp=Z,25nm,0.8s
RAMN Ramite 52.44 80 eP P 05 06 18.6 -0.2
comp=Z,10nm,0.7s
ODAN Odare 53.12 80 eP P 05 06 24.3 +0.5
TAPN Taplejung 53.19 79 eP P 05 06 24.6 +0.2
comp=Z,18nm,0.9s
OPO Ambohidratompo 56.21 155 P P 05 06 47.4 +1.3
OPO Ambohidratompo 56.21 155 P P 05 06 47.4 +1.3
comp=Z,2.5nm,0.7s,baz=304,slow=7.3,SNR=3.6
TLY Talaya 57.17 46 eP P 05 06 57.9 +5.4
TLY pmax pmax
comp=Z,6.0nm,0.8s
ZAK Zakamensk 57.29 48 eP P 05 06 53.7 +0.3
ZAK pmax pmax
comp=Z,4.0nm,1.0s
GTA Gaotai 58.24 61 eP P 05 07 10.5 +10
GTA pP pP 05 07 20.8 +12
GTA sP sP 05 07 24.5 +13
GTA pmax pmax
comp=Z,2.0nm,1.0s
LBTB Lobatse 58.69 180 eP P 05 07 05.4 +2.0
comp=Z,6.6nm,1.1s
SONM Songino Array 59.99 50 P P 05 07 13.0 +0.8
SONM Songino Array 59.99 50 P P 05 07 13.0 +0.8
comp=Z,1.1nm,0.6s,baz=282,slow=6.8,SNR=8.0
SONM Songino Array 59.99 50 P P 05 07 13.0 +0.8
ULN Ulaanbaatar 60.40 50 eP P 05 07 15.4 +0.3
comp=Z,5.1nm,0.9s
ULN Ulaanbaatar 60.40 50 eP P 05 07 15.4 +0.3
comp=Z,5.1nm,0.9s
BOSA Boshof 62.28 180 eP P 05 07 28.4 +0.6
comp=Z,8.7nm,1.0s
BOSA Boshof 62.28 180 P P 05 07 27.9 +0.1
comp=Z,4.2nm,1.0s,baz=108,slow=6.5,SNR=3.9
BOSA LR LR 05 33 34.6
comp=Z,90nm,18.1s,baz=346,slow=35
BOSA Boshof 62.28 180 P P 05 07 27.9 +0.1
comp=Z,3.0nm,0.7s
SCHQ Schefferville 64.26 320 P P 05 07 40.0 -0.7
SCHQ Schefferville 64.26 320 P P 05 07 40.0 -0.7
comp=Z,7.2nm,0.8s,baz=50,slow=3.2,SNR=4.6
SCHQ Schefferville 64.26 320 P P 05 07 40.0 -0.7
CD2 Chengdu 64.52 69 P P 05 07 43.8 +1.0
CD2 pmax pmax
comp=Z,10.0nm,0.5s
HHC Hu-ho-hao-te 66.03 56 eP P 05 07 51.8 -0.7
HHC pP pP 05 08 02.0 +1.2
HHC sP sP 05 08 06.3 +2.4
HHC PP PP 05 10 19.5 +1.8
HHC S S 05 16 34.3 -4.6
HHC sS sS 05 16 51.8 -0.7
HHC SS SS 05 20 51.5 -2.5
HHC pmax pmax
comp=Z,30nm,0.9s
HHC pmax pmax
comp=Z,300nm,4.9s
HHC LR LR
comp=N,270nm,15.1s
HHC LR LR
comp=E,250nm,15.7s
HHC LR LR
comp=Z,230nm,15.3s
KMI Kunming 66.31 75 P P 05 07 53.3 -1.4
KMI pmax pmax
comp=Z,6.0nm,1.1s
CMAR Chiang Mai Arr 66.41 83 P P 05 07 55.6 +0.6
CMAR Chiang Mai Arr 66.41 83 P P 05 07 55.6 +0.6
comp=Z,0.8nm,0.3s,baz=298,slow=8.1,SNR=3.2
CMAR Chiang Mai Arr 66.41 83 P P 05 07 55.7 +0.6
GYA Guiyang 68.81 72 eP P 05 08 11.0 +0.6
GYA pmax pmax
comp=Z,10.0nm,1.0s
NJ2 Nanjing 75.34 61 eP P 05 08 50.0 +0.8
NJ2 pmax pmax
comp=Z,8.0nm,1.2s
YKA Yellowknife Ar 78.64 342 P P 05 09 07.3 +0.1
YKA Yellowknife Ar 78.64 342 P P 05 09 07.3 +0.1
comp=Z,1.2nm,0.7s,baz=31,slow=5.3,SNR=5.8
YKA Yellowknife Ar 78.64 342 P P 05 09 07.3 +0.1
comp=Z,1.0nm,0.6s
KSAR Wonju Array Be 78.73 52 P P 05 09 09.0 +0.9
KSAR Wonju Array Be 78.73 52 P P 05 09 09.0 +0.9
KSRS Korea Array 78.75 52 P P 05 09 09.0 +0.8
comp=Z,1.1nm,0.5s,baz=306,slow=3.1,SNR=3.1
KSRS Korea Array 78.75 52 P P 05 09 09.0 +0.8
comp=Z,1.0nm,0.5s
IMA2 Indian Mountai 80.25 360 eP P 05 09 16.1 0.0
IMA2 Indian Mountai 80.25 360 eP P 05 09 16.1 0.0
COLA College 81.31 357 eP P 05 09 22.0 +0.4
COLA College 81.31 357 eP P 05 09 22.0 +0.4
COLA College 81.31 357 eP P 05 09 22.0 +0.4
ILAR Eielson Array 81.37 357 P P 05 09 22.2 +0.3
ILAR PKKPbc PKKPbc 05 27 59.7 +3.1
ILAR Eielson Array 81.37 357 P P 05 09 22.2 +0.3
comp=Z,0.8nm,0.7s,baz=8.7,slow=4.2,SNR=9.0
ILAR PKKPbc PKKPbc 05 27 59.7 +3.1
comp=Z,0.6nm,1.0s,baz=225,slow=2.6,SNR=4.2
ILAR Eielson Array 81.37 357 P P 05 09 22.2 +0.3
SJG San Juan 81.44 286 LR LR 05 38 46.3
comp=Z,60nm,21.1s,baz=97,slow=31
MCK McKinley 82.50 358 eP P 05 09 27.5 -0.4
MCK pmax pmax
comp=Z,19nm,1.3s
MCK McKinley 82.50 358 eP P 05 09 27.5 -0.4
comp=Z,19nm,1.3s
MCK McKinley 82.50 358 eP P 05 09 27.5 -0.4
comp=Z,19nm,1.3s
BDFB Brasilia 85.55 248 P P 05 09 45.7 +1.4
BDFB Brasilia 85.55 248 P P 05 09 45.7 +1.4
comp=Z,2.0nm,0.7s,baz=74,slow=8.3,SNR=2.6
BDFB LR LR 05 46 40.7
comp=Z,105nm,20.2s,baz=119,slow=35
BDFB Brasilia 85.55 248 P P 05 09 45.7 +1.4
ECSD EROS Data Cent 86.38 322 eP P 05 09 48.7 +0.7
comp=Z,2.3nm,0.6s
ECSD EROS Data Cent 86.38 322 eP P 05 09 48.7 +0.7
comp=Z,2.3nm,0.6s
WVT Waverly 86.55 312 eP P 05 09 49.5 +0.6
WVT pmax pmax
comp=Z,4.0nm,0.7s
WVT Waverly 86.55 312 eP P 05 09 49.5 +0.6
comp=Z,3.9nm,0.7s
WVT Waverly 86.55 312 eP P 05 09 49.5 +0.6
comp=Z,3.9nm,0.7s
LRAL Lakeview Retre 88.01 309 eP P 05 09 54.2 -1.8
comp=Z,8.6nm,1.1s
LRAL Lakeview Retre 88.01 309 eP P 05 09 54.2 -1.8
comp=Z,8.6nm,1.1s
JTMT Jette 91.00 334 eP P 05 10 10.8 +0.8
JTMT Jette 91.00 334 eP P 05 10 10.8 +0.8
SWMT Swartz Lake 91.10 334 eP P 05 10 10.8 +0.4
SWMT Swartz Lake 91.10 334 eP P 05 10 10.8 +0.4
NEW Newport 91.55 336 eP P 05 10 13.1 +0.7
comp=Z,3.2nm,0.9s
NEW Newport 91.55 336 eP P 05 10 13.1 +0.7
comp=Z,3.2nm,0.9s
PDAR Pinedale Array 93.24 329 P P 05 10 20.2 -0.3
PDAR Pinedale Array 93.24 329 P P 05 10 20.2 -0.3
comp=Z,0.3nm,0.8s,baz=32,slow=5.8,SNR=3.4
PDAR Pinedale Array 93.24 329 P P 05 10 20.2 -0.3
ANMO Albuquerque 98.00 322 LR LR 05 59 40.6
comp=Z,209nm,18.5s,baz=16,slow=38
WRA Warramunga Arr 116.15 97 PKP PKPdf 05 15 48.6 -0.6
WRA Warramunga Arr 116.15 97 PKP PKPdf 05 15 48.6 -0.6
comp=Z,0.4nm,0.7s,baz=314,slow=1.9,SNR=2.9
ASAR Alice Springs 117.54 101 PKP PKPdf 05 15 51.1 -0.8
ASAR Alice Springs 117.54 101 PKP PKPdf 05 15 51.1 -0.8
comp=Z,0.3nm,0.7s,baz=282,slow=1.0,SNR=3.8

IDC 26 05:00:35.5± 1.7, 5°.02S× 152°.98E, h0km, mb3.6/5, mb1 3.9/6, mb1mx3.7/19, mbtmp3.7/6, ML3.0/1, Error ellipse: s-maj=61.2km s-min=23.4km az=127.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	7.23	233	Pn	Pn	05 02 21.9	-0.7
	1.5nm,0.3s,baz=25,slow=8.2,SNR=4.1						
PMG				Sn	Sn	05 03 41.5	-4.0
	0.9nm,0.3s,baz=115,slow=19,SNR=2.8						
WRA	Warramunga Arr	23.43	229	P	P	05 05 46.7	0.0
	0.4nm,0.5s,baz=54,slow=10,SNR=3.3						
ASAR	Alice Springs	26.11	223	P	P	05 06 12.2	+0.8
	0.9nm,0.8s,baz=59,slow=9.0,SNR=8.3						
FITZ	Fitzroy Crossi	29.71	242	P	P	05 06 42.8	-0.9
	1.0nm,0.7s,baz=45,slow=13,SNR=5.8						
CMAR	Chiang Mai Arr	58.13	295	P	P	05 10 32.4	+0.8
	0.5nm,0.4s,baz=99,slow=5.6,SNR=4.2						
ILAR	Eielson Array	82.30	22	P	P	05 12 57.9	-0.9
	0.6nm,0.9s,baz=231,slow=5.7,SNR=4.8						
TORD	Torodi Ar. Bea	150.55	288	PKPbc	PKPbc	05 20 30.2	-0.3
	1.2nm,0.8s,baz=62,slow=2.7,SNR=7.1						

*ISCJB **26** 05:35:52.2± 0.9, 14°.01N± 0°.06× 92°.25W± 0°.05, h45km± 8km, mb3.7/6, Error ellipse: s-maj=12.4km s-min=5.0km az=35.5*
*CASC **26** 05:35:55.3± 1.8, 13°.90N× 91°.96W, h17km± 14km, MD4.0, mb4.1(NEIC)*
*IDC **26** 05:35:57.0± 5.2, 14°.13N× 91°.94W, h83km± 45km, mb3.4/6, mb1 3.8/9, mb1mx3.6/24, mbtmp3.5/9, ML4.1/3, Error ellipse: s-maj=74.5km s-min=15.7km az=58.0*
*MEX **26** 05:35:59.9± 0.4, 14°.41N× 92°.75W, h15km± 12km, MD4.1*
*NEIC **26** 05:36:00.0, 14°.41N× 92°.74W, h20km, MD4.1(MEX), After MEX.*

ISC 26 05:35:52.6± 1.4, 14°.15N± 0°.07× 92°.29W± 0°.05, h34km± 3km, n93, σ1° 82/102, mb3.8/6, 2C-2D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAT	Jato	0.66	75	⇓ iP	Pb	05 36 07.2	+1.4
FUG	Fuego 3	1.44	78	⇓ eP	Pn	05 36 16.5	+0.1
PCG	Pacaya	1.65	81⇑	eP	Pn	05 36 20.0	+0.5
PCG				eS	Sn	05 36 39.8	+0.2
PCIG		1.79	330	eP	Pn	05 36 20.9	-0.3
PCIG				i S	Sn	05 36 36.9	-5.8
PCIG		1.79	330	eP	Pn	05 36 20.9	-0.3
PCIG				i S	Sn	05 36 36.9	-5.8
NBG	Las Nubes	1.93	77⇑	eP	Pn	05 36 25.3	+1.9
APG	El Apazote	1.96	64	P	Pn	05 36 25.1	+1.3
	127nm,0.3s,baz=244,slow=4.9,SNR=1822						
APG				S	Sb	05 36 50.4	-1.7
	176nm,0.3s,baz=138,slow=22,SNR=11						
CCIG	Comitan	2.13	4	eP	Pb	05 36 29.3	-1.4
CCIG				i S	Sn	05 36 52.6	+1.2
CCIG	Comitan	2.13	4	eP	Pb	05 36 29.3	-1.4
CCIG				i S	Sn	05 36 52.6	+1.2
RBDL	Robledal	2.52	90	eP	Pn	05 36 31.3	-0.1
RBDL				eS	Sn	05 36 60.0	-1.2
RTR	El Retiro	2.58	95	eP	Pn	05 36 32.3	+0.1
RTR				eS	Sn	05 37 00.8	-1.7
SBLS	San Blas	2.61	96	eP	Pn	05 36 31.9	-0.7
SNJE	San Jose	2.62	96	eP	Pn	05 36 32.5	-0.2
SNJE				eS	Sn	05 37 01.4	-2.1
MRL	Marmol	2.68	70	eP	Pn	05 36 35.4	+1.9
TGIG		2.74	343	eP	Pn	05 36 35.6	+1.3
TGIG				eS	Sn	05 37 03.7	-2.6
TGIG		2.74	343	eP	Pn	05 36 35.6	+1.3
TGIG				eS	Sn	05 37 03.7	-2.6
BOQS	Boqueron	2.95	98	eP	Pn	05 36 37.0	-0.3
LFRS	El Faro	3.18	99	eP	Pn	05 36 39.8	-0.6
LFRS				eS	Sn	05 37 13.8	-3.4
LBRS	Las Brisas	3.18	97	eP	Pn	05 36 40.6	+0.3
VSM	San Miguel	3.97	100	eP	Pn	05 36 50.4	-0.9
HUIG	Huatulco	4.03	294	i P	Pn	05 36 51.6	-0.4
HUIG				eS	Sn	05 37 31.8	-6.3
HUIG	Huatulco	4.03	294	i P	Pn	05 36 51.6	-0.4
HUIG				eS	Sn	05 37 31.8	-6.3
TEIG	Tepich	7.16	32	P	Pn	05 37 35.8	+0.8
	18nm,0.3s,baz=254,slow=2.1,SNR=105						
TEIG				S	Sn	05 38 52.2	-3.0
	baz=62,slow=18,SNR=1.7						
JTS	JuntasAbangare	8.13	117	P	Pn	05 37 48.3	-0.1
	0.6nm,0.3s,baz=325,slow=14,SNR=4.2						
JTS				S	Sn	05 39 22.9	+3.7
	0.7nm,0.3s,baz=306,slow=19,SNR=2.1						
632A	Uvalde	16.79	337	P	Pn	05 39 46.0	+0.8
	baz=16						
631A	Perdido Creek	17.02	335	P	Pn	05 39 49.4	+1.3
	baz=17						
532A	Rocksprings	17.39	337	P	Pn	05 39 54.7	+1.9
	baz=17						
531A	Rocksprings	17.67	336	P	P	05 39 59.6	+2.7
	baz=17						
628A	Black Gap, Mar	18.14	329	P	P	05 40 05.3	+3.1
	baz=18						
627A	Terlingua Ranc	18.37	328	P	Pn	05 40 08.3	+3.4
	baz=18,SNR=7.3						
TXAR	Lajitas Array	18.42	327	P	Pn	05 40 08.2	+2.6
	0.1nm,0.3s,baz=150,slow=12,SNR=16						
TXAR				PcP	PcP	05 44 32.7	-2.5
	0.0nm,0.3s,baz=174,slow=0.9,SNR=2.8						
429A	Davenport Ranc	18.63	333	P	Pn	05 40 10.7	+2.7
	baz=18						
331A	San Angelo	18.64	338	P	Pn	05 40 10.0	+1.9
	baz=18						
528A	Cox Ranch, San	18.65	330	P	Pn	05 40 11.4	+3.1
	baz=18						
626A	Big Bend Ranch	18.84	326	P	Pn	05 40 12.8	+2.2
	baz=18						
330A	Mertzon	19.02	336	P	P	05 40 13.0	+1.2
	baz=19						
527A	Woodward Ranch	19.04	329	P	P	05 40 14.3	+2.2
	baz=19						
526A	Mary Lane Ranc	19.22	327	P	Pn	05 40 16.9	+1.7
	baz=19						
426A	McDonald Obser	19.68	329	P	Pn	05 40 22.3	+1.6
	baz=19						
328A	Wristen Ranch,	19.69	332	P	P	05 40 21.3	+2.3
	baz=19,SNR=9.3						
Z32A	Haskell	20.17	342	P	P	05 40 26.0	+1.8
	baz=20						
425A	Indio Mountain	20.27	327	P	P	05 40 26.9	+1.4
	baz=20						
Z31A	Sharp Cattle R	20.38	341	P	P	05 40 27.9	+1.4
	baz=20						
128A	Castleberry Fa	20.61	335	P	P	05 40 30.1	+1.0
	baz=20,SNR=7.0						
226B	Tecolote Peak,	20.90	331	P	P	05 40 34.7	+2.5
	baz=20,SNR=13						
Y31A	Rekieta Farm,	21.01	341	P	P	05 40 34.8	+1.4
	baz=21,SNR=5.0						
127A	Arkansas Junct	21.03	333	P	P	05 40 36.4	+2.7
	baz=21						
324A	Moseley Ranch,	21.04	327	P	P	05 40 35.9	+2.0
	baz=21,SNR=7.3						
Y30A	Stafford Cattl	21.14	340	P	P	05 40 37.6	+2.8
	baz=21						
225A	Deer Hill, Car	21.24	329	P	P	05 40 37.8	+1.8
	baz=21,SNR=9.3						
126A	Clayton Basin,	21.30	332	P	P	05 40 37.9	+1.3
	baz=21						
Y29A	Porterfield Fa	21.39	338	P	P	05 40 38.3	+0.8
	baz=21						
X31A	McDonald Ranch	21.55	343	P	P	05 40 40.5	+1.4
	baz=21						
224A	Cornudas Mount	21.57	328	P	P	05 40 40.6	+1.1
	baz=21,SNR=11						
125A	Gardner Draw,	21.61	331	P	P	05 40 41.0	+1.0
	baz=21,SNR=16						
X30A	Coker Ranch, T	21.65	340	P	P	05 40 40.6	+0.3
	baz=21						
Z26A	Caprock	21.81	333	P	P	05 40 43.3	+1.2
	baz=21,SNR=6.2						
MSTX	Muleshoe	21.91	336	P	P	05 40 43.8	+0.7
	baz=22						
Y27A	Causey	21.99	335	P	P	05 40 45.1	+1.2
	baz=22						
124A	Stringfield Ra	22.03	329	P	P	05 40 47.2	+2.6
	baz=22,SNR=28						
Z25A	Roswell	22.15	331	P	P	05 40 47.1	+1.4
	baz=22						
Z24A	Sheeppen Canyo	22.50	330	P	P	05 40 51.8	+2.3
	baz=22,SNR=30						
X27A	F and S Farms,	22.63	336	P	P	05 40 50.9	+0.1
	baz=22						
Y25A	Mesa, Roswell	22.68	332	P	P	05 40 53.7	+2.3
	baz=22,SNR=8.4						
Z23A	Rita Site, Whi	22.87	329	P	P	05 40 56.3	+2.9
	baz=22,SNR=9.0						
W27A	Bowe Ranch, En	22.98	337	P	P	05 40 54.5	0.0
	baz=23,SNR=7.0						
Y24A	Capitan	23.02	331	P	P	05 40 56.1	+1.1
	baz=23						
121A	Cookes Peak, D	23.13	325	P	P	05 40 58.5	+2.4
	baz=23,SNR=5.9						
X25A	Clemmons Ranch	23.17	333	P	P	05 40 57.2	+0.7
	baz=23						
Y23A	Lovelace Mesa,	23.32	330	P	P	05 41 01.5	+3.5
	baz=23,SNR=7.3						
U30A	WK&E Inc. Balk	23.52	343	P	P	05 40 60.0	+0.2
	baz=23						
W25A	X Bar L Ranch,	23.68	335	P	P	05 41 02.0	+0.6
	baz=23						
W24A	Lazy 6 Ranch,	24.08	333	P	P	05 41 06.9	+1.7
	baz=24,SNR=6.5						
ANMO	Albuquerque	24.34	331	P	P	05 41 08.9	+1.3
	0.9nm,0.4s,baz=157,slow=13,SNR=7.6						
W23A	Werner Place,	24.37	332	P	P	05 41 09.5	+1.6
	baz=24						
U26A	Atchley Ranch,	24.42	337	P	P	05 41 08.7	+0.3
	baz=24						
V24A	Rampart Ranch,	24.45	334	P	P	05 41 10.1	+1.4
	baz=24						
X21A	Alamocita Cree	24.59	328	P	P	05 41 13.2	+3.1
	baz=24						
S29A	Ulysses	24.66	343	P	P	05 41 11.5	+1.1
	baz=24,SNR=6.0						
U25A	Circle Dot Ran	24.68	336	P	P	05 41 12.9	+2.2
	baz=24						
V23A	Ortiz Mt. (NFS	24.87	332	P	P	05 41 15.6	+3.1
	baz=24,SNR=5.2						
R30A	Dighton	25.06	345	P	P	05 41 13.5	-0.5
	baz=25						
S27A	Las Animas	25.27	340	P	P	05 41 15.7	-0.3
	baz=25						
U23A	El Rito	25.36	333	P	P	05 41 17.9	+1.0
	baz=25						
U22A	Llaves	25.70	332	P	P	05 41 21.2	+1.3

baz=25
U21A Nageezi 26.11 331 P **P** 05 41 27.1 +3.4
baz=26
PDAR Pinedale Array 32.17 336 P **P** 05 42 18.4 +0.8
0.4nm,0.7s,baz=155,slow=11,SNR=2.8
LPAZ La Paz 38.52 141 P P 05 43 10.4 -2.4
0.7nm,0.8s,baz=329,slow=16,SNR=4.5
YKA Yellowknife Ar 50.82 347 P **P** 05 44 48.4 -1.2
1.2nm,0.5s,baz=152,slow=7.4,SNR=5.2
CPUP Villa Florida 52.67 140 P P 05 45 00.8 -3.1
1.5nm,0.7s,baz=14,slow=9.9,SNR=3.5
ILAR Eielson Array 62.60 337 P **P** 05 46 13.4 +0.3
0.9nm,1.0s,baz=129,slow=4.5,SNR=8.7
WRA Warramunga Arr 135.16 256 PKP **PKPdf** 05 55 07.4 -2.1
0.6nm,1.0s,baz=86,slow=2.1,SNR=2.3
CMAR Chiang Mai Arr 145.76 341 PKPbc **PKPdf** 05 55 28.2 -0.5
3.2nm,0.7s,baz=339,slow=4.1,SNR=14

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*ISCJB **26** 06:01:22.9±0.3, 43°.82N×0°.03×86°.36E±0°.05, h10km, mb4.0/13, Error ellipse: s-maj=5.9km s-min=3.5km az=147.5*
*IDC **26** 06:01:22.7±0.7, 43°.71N×86°.48E, h0km, mb4.0/10, mb1 4.1/15, mb1mx3.9/31, mbtmp4.0/15, ML4.2/5, MS3.1/2, Ms1 3.1/2, ms1mx2.7/36, Error ellipse: s-maj=22.9km s-min=12.8km az=47.0*
*BJI **26** 06:01:26.5, 43°.74N×86°.49E, h9km, mB4.5/1, mb3.9/3, ML4.3/11, Ms4.0/2*
*NNC **26** 06:01:26.8±2.5, 43°.89N×86°.40E, h10km±11km, mb4.2, mpv4.3, Error ellipse: s-maj=23.5km s-min=14.2km az=73.0*
*NEIC **26** 06:01:28.9±1.0, 43°.83N×86°.43E, h42km±10km, mb4.1/2, Error ellipse: s-maj=11.0km s-min=9.1km az=175.0*
ISC 26 06:01:23.9±0.5, 43°.76N±0°.05×86°.36E±0°.07, h10km, n71, σ2§13/71, mb4.0/13, 13C-7D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**0.97**	**86**	Pg	**Pn**	**06 01 43.8**	**+0.2**
WMQ	comp=N,2μm,0.8s			smax	smax		
WMQ	comp=E,2μm,1.1s			smax	smax		
MK31	**Makanchi Array**	**4.18**	**318**	⇓Pn	Pn	06 02 31.6	+3.8
MK31	comp=E,7.0nm,0.3s,baz=133,slow=14,SNR=619 ⇓Pg				**Pg**	**06 02 40.9**	**-3.0**
MK31	comp=E,33nm,0.5s,baz=129,slow=17,SNR=7.0 ⇑Sn				**Sn**	**06 03 19.5**	**+2.9**
MK31	comp=E,106nm,0.7s,baz=133,slow=29,SNR=4.3 ⇑Lg				Lg	06 03 38.2	
MK31	**Makanchi Array**	**4.18**	**318**	*e*Pn	Pn	06 02 31.6	+3.8
MK31	comp=E,121nm,0.5s,baz=132,slow=29,SNR=7.5			*e*Sn	**Sn**	**06 03 21.4**	**+4.7**
MKAR	**Makanchi Array**	**4.18**	**318**	Pn	Pn	06 02 31.6	+3.8
MKAR				Pg	**Pg**	**06 02 41.0**	**-2.9**
MKAR				Sn	**Sn**	**06 03 20.1**	**+3.5**
MKAR				Lg	Lg	06 03 33.6	
MKAR	**Makanchi Array**	**4.18**	**318**	Pn	Pn	06 02 31.6	+3.8
MKAR	comp=E,11nm,0.3s,baz=130,slow=16,SNR=382			Pg	**Pg**	**06 02 41.0**	**-2.9**
MKAR	comp=E,34nm,0.3s,baz=130,slow=18,SNR=53			Sn	**Sn**	**06 03 20.1**	**+3.5**
MKAR	comp=E,37nm,0.3s,baz=140,slow=24,SNR=6.0			Lg	Lg	06 03 33.7	
TKM2	**Tokmak 2**	**7.89**	**268**	⇑Pn	Pn	06 03 22.8	+4.0
TKM2	comp=E,4.1nm,0.3s			⇑Lg	Lg	06 05 38.1	
TKM2	comp=E,42nm,0.9s **Tokmak 2**	**7.89**	**268**	*e*Pn	Pn	06 03 22.3	+3.4
KURBB	comp=E,10nm,0.5s **Kurchatov Arra**	**8.69**	**325**	⇑Pn	**Pn**	**06 03 31.1**	**+1.6**
KURBB	comp=E,20nm,0.5s			⇓Lg	Lg	06 05 59.7	
KURBB	comp=E,158nm,0.7s **Kurchatov Arra**	**8.69**	**325**	Pn	**Pn**	**06 03 30.5**	**+0.9**
KURBB	comp=E,3.0nm,0.3s,baz=132,slow=13,SNR=86			Sn	**Sn**	**06 05 07.4**	**-0.2**
KURBB	comp=E,3.2nm,0.3s,baz=146,slow=21,SNR=4.3			Lg	Lg	06 05 57.3	
KURK	**Kurchatov**	**8.72**	**326**	⇑Pn	**Pn**	**06 03 31.5**	**+1.4**
KURK	comp=E,5.4nm,0.5s			⇓Lg	Lg	06 06 01.1	
KURK	comp=E,85nm,1.2s **Kurchatov**	**8.72**	**326**	*e*Pn	**Pn**	**06 03 31.2**	**+1.2**
KURK	comp=E,8.6nm,0.6s			Sn	**Sn**	**06 05 07.4**	**-1.0**
KURK				Lg	Lg	06 05 57.3	
AAK	**Ala-Archa**	**8.74**	**267**	*e*Pn	Pn	06 03 33.0	+2.5
AAK	comp=E,6.9nm,0.6s			Lg	Lg	06 05 58.4	
AAK	**Ala-Archa**	**8.74**	**267**	Pn	Pn	06 03 33.4	+2.9
AAK	comp=E,0.7nm,0.3s,baz=90,slow=9.7,SNR=3.6			Lg	Lg	06 05 58.4	
AAK	comp=E,0.5nm,0.3s,baz=253,slow=19,SNR=3.0			LR	LR	06 06 53.8	
ZAA0	comp=E,83nm,18.3s,baz=214,slow=38 **Zalesovo Array**	**10.25**	**355**	*e*Pn	**Pn**	**06 03 51.2**	**+0.3**
ZAA0				*e*Sn	**Sn**	**06 05 44.1**	**-1.7**
ZALV	**Zalesovo Beam**	**10.25**	**355**	Pn	**Pn**	**06 03 51.2**	**+0.3**
ZALV				Sn	**Sn**	**06 05 41.5**	**-4.3**
ZALV				Lg	Lg	06 06 50.1	
ZALV	**Zalesovo Beam**	**10.25**	**355**	Pn	**Pn**	**06 03 51.2**	**+0.3**
ZALV	comp=E,4.4nm,0.3s,baz=176,slow=13,SNR=37			Sn	**Sn**	**06 05 41.5**	**-4.3**
ZALV	comp=E,2.8nm,0.3s,baz=176,slow=23,SNR=5.4			Lg	Lg	06 06 50.1	
ZALV	baz=167,slow=27,SNR=2.1			LR	LR	06 08 26.6	
GTA	comp=E,133nm,20.7s,baz=81,slow=41 **Gaotai**	**10.97**	**109**	*e*P	Pn	06 04 04.8	+3.8
GTA				pP		06 04 09.3	
GTA				sP		06 04 11.8	
GTA				S	Sn	06 06 07.0	+3.2
GTA				SS	**SnSn**	**06 06 20.0**	**+4.6**
GTA	comp=Z,3.0nm,0.9s			pmax	pmax		
GTA	comp=N,180nm,5.2s			LR	LR		
GTA	comp=E,140nm,6.2s			LR	LR		
KK31	**Karatay Array**	**11.55**	**272**	⇑Pn	Pn	06 04 12.1	+3.4
KK31	comp=E,0.7nm,0.5s,baz=69,slow=14,SNR=7.0 ⇑Lg				Lg	06 07 34.8	
KKAR	comp=E,5.1nm,0.6s **Karatay Array**	**11.55**	**272**	*e*Pn	Pn	06 04 12.4	+3.7
VOSK	**Vostochnaya**	**13.60**	**317**	⇑Pn	**Pn**	**06 04 37.5**	**+0.9**
VOSK	comp=E,2.1nm,0.5s			⇓Sn	**Sn**	**06 07 04.8**	**-2.9**
VOSK	comp=E,3.6nm,0.6s			⇑Lg	Lg	06 08 37.0	
BVA0	comp=E,9.7nm,0.9s **Borovoye Array**	**14.06**	**317**	⇓Pn	**Pn**	**06 04 43.1**	**+0.1**
BVA0	comp=E,2.7nm,0.6s,baz=328,slow=23,SNR=7.2			⇑Sn	**Sn**	**06 07 19.3**	**+0.2**
BVA0	comp=E,5.0nm,0.8s,baz=165,slow=184,SNR=5.4			⇑Lg	Lg	06 08 51.2	
BVAR	comp=E,14nm,1.1s,baz=122,slow=24,SNR=4.1 **Borovoye Array**	**14.06**	**317**	Pn	**Pn**	**06 04 43.1**	**+0.1**
BVAR				Sn	**Sn**	**06 07 14.1**	**-4.9**
BVAR				Lg	Lg	06 08 45.5	
BVAR	**Borovoye Array**	**14.06**	**317**	Pn	**Pn**	**06 04 43.1**	**+0.1**
BVAR	comp=E,1.1nm,0.3s,baz=122,slow=15,SNR=7.7			Sn	**Sn**	**06 07 14.1**	**-4.9**
BVAR	comp=E,0.7nm,0.3s,baz=128,slow=21,SNR=3.6			Lg	Lg	06 08 45.5	
BRVK	comp=E,0.1nm,0.3s,baz=132,slow=26,SNR=2.4 **Borovoye**	**14.13**	**317**	*e*Pn	**Pn**	**06 04 44.3**	**+0.3**
CHCP	**Chirah Chowk**	**14.34**	**230**	P	**Pn**	**06 04 48.2**	**+1.2**
SONM	**Songino Array**	**14.55**	**67**	Pn	P	06 04 52.4	-4.1
SONM				Lg	Lg	06 09 07.2	
SONM	**Songino Array**	**14.55**	**67**	Pn	P	06 04 52.4	-4.1
SONM	comp=E,0.1nm,0.3s,baz=287,slow=15,SNR=2.3			Lg	Lg	06 09 07.2	
DANN	comp=E,0.2nm,0.3s,baz=251,slow=31,SNR=6.8 **Dangsing**	**15.52**	**189**	*e*P	**P**	**06 05 03.4**	**-4.0**
GKN	comp=E,23nm,0.5s **Gorkha**	**15.78**	**186**	*e*P	**P**	**06 05 07.8**	**-2.4**
GUN	comp=E,13nm,0.4s **Gumba**	**15.82**	**182**	*e*P	**P**	**06 05 08.6**	**-2.2**
PYUN	comp=E,59nm,0.5s **Piuthan**	**15.86**	**191**	*e*P	**Pn**	**06 05 06.5**	**-0.9**
KKN	**Kakani**	**15.96**	**183**	*e*P	**P**	**06 05 10.0**	**-2.3**
	comp=E,20nm,0.5s						
JIRN	**Jiri**	**16.06**	**181**	*e*P	**P**	**06 05 12.2**	**-1.4**
KOLN	comp=E,33nm,0.4s **Koldanda**	**16.11**	**189**	*e*P	**Pn**	**06 05 10.0**	**-0.6**
DMN	comp=E,8.8nm,0.3s **Daman**	**16.14**	**184**	*e*P	**P**	**06 05 12.1**	**-2.3**
PKIN	comp=E,13nm,0.7s **Phulchoki**	**16.16**	**183**	*e*P	**P**	**06 05 11.6**	**-3.0**
PKI	comp=E,17nm,0.5s **Pulchoki**	**16.17**	**183**	*e*P	**P**	**06 05 12.5**	**-2.2**
TAPN	comp=E,25nm,0.7s **Taplejung**	**16.41**	**176**	*e*P	**P**	**06 05 16.2**	**-1.1**
RAMN	comp=E,20nm,0.4s **Ramite**	**16.77**	**179**	*e*P	**P**	**06 05 18.6**	**-2.7**
ODAN	comp=E,36nm,0.9s **Odare**	**16.88**	**177**	*e*P	**P**	**06 05 19.8**	**-2.7**
AB31	comp=E,23nm,0.7s **Akbulak array**	**18.95**	**296**	⇓Pn	**Pn**	**06 05 46.1**	**+0.6**
ABKAR	comp=E,0.5nm,0.3s,baz=95,slow=11,SNR=33 **Akbulak array**	**18.95**	**296**	*e*P	**Pn**	**06 05 46.5**	**+0.9**
XAN	comp=E,1.5nm,0.3s **Xi'an**	**20.01**	**111**	P	Pn	06 06 11.3	+13
XAN				pP	pP	06 06 16.3	+17
XAN	comp=Z,3.0nm,0.5s			pmax	pmax		
AKTO	**Aktyubinsk**	**20.34**	**299**	⇑Pn	Pn	06 06 04.6	+2.5
AKTO	comp=Z,7.8nm,1.4s **Aktyubinsk**	**20.34**	**299**	P	Pn	06 06 05.6	+3.5
AKTO	**Aktyubinsk**	**20.34**	**299**	P	Pn	06 06 05.6	+3.5
CMAR	comp=Z,0.9nm,0.3s,baz=109,slow=18,SNR=2.9 **Chiang Mai Arr**	**27.36**	**153**	P	**P**	**06 07 10.8**	**+1.6**
CMAR	**Chiang Mai Arr**	**27.36**	**153**	P	**P**	**06 07 10.8**	**+1.6**
BRTR	comp=Z,0.7nm,0.6s,baz=329,slow=8.7,SNR=6.6 **Keskin Array B**	**39.00**	**283**	P	**P**	**06 08 52.0**	**+1.5**
BRTR	**Keskin Array B**	**39.00**	**283**	P	**P**	**06 08 52.0**	**+1.5**
FINES	comp=Z,0.7nm,0.5s,baz=81,slow=7.6,SNR=4.0 **FINESS Array B**	**39.01**	**318**	P	**P**	**06 08 51.3**	**+1.1**
FINES	**FINESS Array B**	**39.01**	**318**	P	**P**	**06 08 51.3**	**+1.1**
ARCES	comp=Z,0.6nm,0.3s,baz=64,slow=8.9,SNR=4.5 **ARCESS Array B**	**39.71**	**331**	P	**P**	**06 08 57.2**	**+1.2**
ARCES	**ARCESS Array B**	**39.71**	**331**	P	**P**	**06 08 57.2**	**+1.2**
NB2	comp=Z,3.4nm,0.8s,baz=72,slow=9.1,SNR=7.0 **NORSAR Subarra**	**46.18**	**319**	P	**P**	**06 09 49.3**	**+0.9**
NOA	comp=Z,0.9nm,0.6s,baz=76,slow=7.9 **NORSAR Array B**	**46.18**	**319**	P	**P**	**06 09 49.3**	**+0.9**
NOA	**NORSAR Array B**	**46.18**	**319**	P	**P**	**06 09 49.3**	**+0.9**
LPG	comp=Z,1.0nm,0.6s,baz=76,slow=7.7,SNR=3.8 **La Plagne**	**54.42**	**302**	*e*P	**P**	**06 10 53.0**	**+1.6**
LPL	comp=Z,6.4nm,0.5s **La Plagne**	**54.42**	**302**	*e*P	**P**	**06 10 52.7**	**+1.4**
SBF	comp=Z,7.7nm,0.5s **Sospel**	**54.79**	**300**	*e*P	**P**	**06 10 55.3**	**+1.5**
ILAR	**Eielson Array**	**64.10**	**22**	P	**P**	**06 11 57.8**	**+0.1**
ILAR	**Eielson Array**	**64.10**	**22**	P	**P**	**06 11 57.8**	**+0.1**
KDAK	comp=Z,0.6nm,0.8s,baz=305,slow=4.7,SNR=7.8 **Kodiak Island**	**67.56**	**30**	P	**P**	**06 12 20.9**	**+0.9**
KDAK	**Kodiak Island**	**67.56**	**30**	P	**P**	**06 12 20.9**	**+0.9**
WRAB	comp=Z,6.0nm,0.7s,baz=307,slow=5.1,SNR=3.6 **Tennant Creek**	**77.13**	**134**	*e*P	**P**	**06 13 17.6**	**0.0**
WRA	comp=Z,4.1nm,1.0s **Warramunga Arr**	**77.14**	**134**	P	**P**	**06 13 17.3**	**-0.4**
WRA	**Warramunga Arr**	**77.14**	**134**	P	**P**	**06 13 17.3**	**-0.4**
TORD	comp=Z,0.4nm,0.5s,baz=332,slow=5.0,SNR=6.7 **Torodi Ar. Bea**	**77.21**	**276**	P	**P**	**06 13 18.3**	**0.0**
TORD	**Torodi Ar. Bea**	**77.21**	**276**	P	**P**	**06 13 18.3**	**0.0**
ASAR	comp=Z,1.0nm,0.5s,baz=42,slow=5.1,SNR=26 **Alice Springs**	**80.02**	**137**	P	**P**	**06 13 32.9**	**-0.6**
ASAR	**Alice Springs**	**80.02**	**137**	P	**P**	**06 13 32.9**	**-0.6**
	comp=Z,0.5nm,0.9s,baz=337,slow=5.7,SNR=6.3						

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*NIED **26** 06:06:00, 28°.00N×129°.40E, h11km, Mw3.7 Best double couple: M0 3.71000×10^14 NP1:φs 144.00000°, δ69.00000°, λ-24.00000°. NP2:φs 244.00000°, δ67.00000°, λ-157.00000°.*
JMA 26 06:06:04.5±0.2, 28°.06N×129°.41E, h40km, M3.5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAMN	**Amaminishikomi**	**0.28**	**311**	P	Pn	06 06 12.5	0.0
JAMN				S	Sn	06 06 17.9	-0.2
JAM	**Amami Oshima**	**0.39**	**26**	P	Pn	06 06 13.2	-0.6
JAM				S	Sn	06 06 19.5	-0.8
JTK	**Tokunoshima**	**0.49**	**236**	P	Pn	06 06 14.8	-0.3
JTK				S	Sn	06 06 21.3	-1.3
JZK	**Kikaishima**	**0.56**	**63**	P	Pn	06 06 16.3	+0.3
JZK				S	Sn	06 06 25.5	+1.3
JOW	**Kunigami**	**1.59**	**220**	P	Pn	06 06 32.4	+2.3
JOW				S	Sn	06 06 51.2	+1.8
JIH	**Iheya**	**1.64**	**232**	P	Pn	06 06 33.3	+2.5
JIH				*e*S	Sn	06 06 54.0	+3.3
JNN	**Nakanoshima**	**1.82**	**13**	P	Pn	06 06 35.8	+2.4
JKE	**Kume jima 2**	**2.91**	**234**	P	Pn	06 06 51.0	+2.7

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*NIED **26** 06:07:00, 34°.60N×140°.40E, h56km, Mw4.3 Best double couple: M0 3.14000×10^15 NP1:φs 333.00000°, δ76.00000°, λ71.00000°. NP2:φs 208.00000°, δ23.00000°, λ143.00000°.*
*IDC **26** 06:07:34.7±0.6, 34°.55N×140°.25E, h0km, mb4.1/16, mb1 4.3/18, mb1mx4.2/27, mbtmp4.1/18, ML4.2/2, MS3.4/7, Ms1 3.4/7, ms1mx3.1/37, Error ellipse: s-maj=19.7km s-min=14.8km az=80.0*
*ISCJB **26** 06:07:40.9±0.4, 34°.52N±0°.04×140°.35E±0°.05, h61km±3km, mb4.1/23, Error ellipse: s-maj=6.9km s-min=6.7km az=41.9*
*NEIC **26** 06:07:41.4±0.9, 34°.56N×140°.52E, h52km±8km, mb4.2/5, Error ellipse: s-maj=11.1km s-min=8.1km az=84.0*
NEIC Recorded [1 JMA] in Chiba, Kanagawa and Shizuoka. Also recorded [1 JMA] on O-shima.
*JMA **26** 06:07:41.1±0.1, 34°.58N×140°.36E, h61km±2km, M4.6*
JMA Felt I J1.
ISC 26 06:07:42.0±0.8, 34°.61N±0°.05×140°.38E±0°.04, h56km±6km, n75, σ1§33/89, mb4.1/23, MS3.5/6, 3C-3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO3	**Boso 3**	**0.22**	**29**	⇑P	**Pn**	**06 07 51.1**	**+0.3**
BSO4	**Boso 4**	**0.39**	**355**	⇑P	**Pn**	**06 07 52.7**	**+0.3**
BSO4				S	**Sn**	**06 08 01.7**	**+1.9**
BSO1	**Boso 1**	**0.50**	**84**	⇑P	**Pn**	**06 07 53.3**	**+0.3**
KTR	**Katsuura**	**0.54**	**354**	P	**Pn**	**06 07 54.1**	**-0.1**
KTR				S	**Sn**	**06 08 03.2**	**+0.3**
TATJ	**Tateyama 2**	**0.59**	**317**	P	**Pn**	**06 07 55.0**	**+0.4**
TATJ				S	**Sn**	**06 08 05.1**	**+1.3**
JIM2	**Oshima 3**	**0.79**	**278**	⇓P	**Pn**	**06 07 56.3**	**-0.9**
JIM2				S	**Sn**	**06 08 06.9**	**-1.4**
JMY	**Miyakejima3**	**0.89**	**234**	P	**Pn**	**06 07 58.1**	**-0.4**
JKO	**Kozu shima**	**1.11**	**248**	P	**Pn**	**06 08 00.9**	**-0.5**
KTJJ	**Kamata 2**	**1.13**	**287**	⇓P	**Pn**	**06 08 00.7**	**-0.9**
KTJJ				S	**Sn**	**06 08 14.4**	**-1.8**
JIZS	**Izushimoda**	**1.24**	**276**	P	**Pn**	**06 08 02.5**	**-0.6**
JIZS				S	**Sn**	**06 08 18.1**	**-0.8**
JOD2	**Odawara 2**	**1.25**	**302**	⇓P	**Pn**	**06 08 02.6**	**-0.6**
JHJ2	**Mitsune**	**1.56**	**198**	P	**Pn**	**06 08 07.3**	**-0.2**
MAJO	**Matsushiro**	**2.62**	**318**	*e*Pn	**Pn**	**06 08 22.8**	**+0.9**
MAT	**Matsushiro**	**2.62**	**318**	P	**Pn**	**06 08 22.6**	**+0.7**
MAT				S	**Sn**	**06 08 52.4**	**-0.2**
CBIJ	**Chichi jima**	**7.64**	**168**	Pn	**Pn**	**06 09 28.5**	**-2.3**
CBIJ				Sn	Sn	06 10 48.8	-7.2
CBIJ	**Chichi jima**	**7.64**	**168**	Pn	**Pn**	**06 09 28.5**	**-2.3**
	12nm,0.3s,baz=285,slow=23,SNR=15						
CBIJ				Sn	Sn	06 10 48.8	-7.2
	14nm,0.3s,baz=288,slow=23,SNR=5.7						
ERM	**Erimo**	**7.71**	**16**	*e*Pn	**Pn**	**06 09 29.5**	**-2.1**
ERM				*e*Sn	**Sn**	**06 10 53.2**	**-4.3**
JNU	**Nakatsue**	**8.04**	**262**	Pn	**Pn**	**06 09 38.6**	**+2.4**
JNU	**Nakatsue**	**8.04**	**262**	Pn	**Pn**	**06 09 38.6**	**+2.4**
	4.0nm,0.3s,baz=74,slow=4.5,SNR=15						
ASAJ	**Asahikawa**	**9.65**	**10**	*e*Pn	**Pn**	**06 09 56.6**	**-1.6**
ASAJ				Sn	**Sn**	**06 11 40.4**	**-4.7**
ASAJ	**Asahikawa**	**9.65**	**10**	Pn	**Pn**	**06 09 56.5**	**-1.6**
	1.5nm,0.3s,baz=183,slow=19,SNR=6.2						
ASAJ				Sn	**Sn**	**06 11 40.4**	**-4.7**
	0.8nm,0.3s,baz=41,slow=20,SNR=3.2						
KSRS	**Korea Array**	**10.48**	**289**	Pn	Pn	06 10 14.0	+4.5
	0.3nm,0.3s,baz=101,slow=13,SNR=4.8						
KSRS				LR	LR	06 13 10.4	
	comp=Z,28nm,20.3s,baz=152,slow=32						
KSAR	**Wonju Array Be**	**10.51**	**289**	Pn	Pn	06 10 14.0	+4.1
USRK	**Ussuriysk Arra**	**11.56**	**328**	Pn	**Pn**	**06 10 26.2**	**+1.9**
	0.3nm,0.3s,baz=110,slow=12,SNR=3.5						
PETK	**Petropavlovsk-**	**22.21**	**28**	LR	LR	06 20 36.7	
	comp=Z,57nm,21.7s,baz=42,slow=35						
SONM	**Songino Array**	**28.53**	**308**	P	**P**	**06 13 33.3**	**+1.0**
SONM	**Songino Array**	**28.53**	**308**	P	**P**	**06 13 33.3**	**+1.0**
	0.5nm,0.5s,baz=118,slow=7.9,SNR=4.3						
SONM				LR	LR	06 25 11.2	
	comp=Z,91nm,21.2s,baz=165,slow=37						
FX1	**Attu Island--F**	**29.55**	**42**	LR	LR	06 24 17.4	
	comp=Z,60nm,20.8s,baz=351,slow=34						
CMAR	**Chiang Mai Arr**	**40.10**	**257**	P	**P**	**06 15 10.9**	**-1.5**
CMAR				PcP	**PcP**	**06 17 16.8**	**+0.6**
CMAR	**Chiang Mai Arr**	**40.10**	**257**	P	**P**	**06 15 10.9**	**-1.5**
	1.2nm,0.7s,baz=50,slow=7.7,SNR=7.4						
CMAR				PcP	**PcP**	**06 17 16.8**	**+0.6**
	0.8nm,0.6s,baz=42,slow=1.5,SNR=6.6						
CMAR				LR	LR	06 33 43.9	
	comp=Z,92nm,20.4s,baz=158,slow=39						
ZALV	**Zalesovo Beam**	**42.97**	**314**	P	**P**	**06 15 35.6**	**+0.2**
ZALV				PcP	**PcP**	**06 17 24.5**	**-0.5**
ZALV	**Zalesovo Beam**	**42.97**	**314**	P	**P**	**06 15 35.6**	**+0.2**
	1.0nm,0.4s,baz=58,slow=5.6,SNR=3.5						
ZALV				PcP	**PcP**	**06 17 24.5**	**-0.5**
	1.1nm,0.5s,baz=120,slow=1.2,SNR=3.6						
MKAR	**Makanchi Array**	**44.74**	**304**	P	**P**	**06 15 50.4**	**+0.6**
MKAR	**Makanchi Array**	**44.74**	**304**	P	**P**	**06 15 50.4**	**+0.6**
	2.7nm,0.7s,baz=89,slow=10,SNR=21						
KURK	**Kurchatov**	**46.80**	**310**	*e*P	**P**	**06 16 06.0**	**+0.1**
	3.0nm,1.0s						
COEN	**Coen**	**48.37**	**176**	*e*P	**P**	**06 16 17.3**	**-1.0**
	26nm,0.6s						
ILAR	**Eielson Array**	**52.00**	**31**	P	**P**	**06 16 46.4**	**+1.1**
ILAR	**Eielson Array**	**52.00**	**31**	P	**P**	**06 16 46.4**	**+1.1**
	0.6nm,0.8s,baz=264,slow=5.3,SNR=7.9						
KKAR	**Karatay Array**	**53.64**	**301**	*e*P	**P**	**06 16 58.2**	**+0.4**
	1.1nm,0.6s						
FITZ	**Fitzroy Crossi**	**54.26**	**197**	*e*P	**P**	**06 17 02.0**	**-0.4**
	1.8nm,0.6s						
WRAB	**Tennant Creek**	**54.54**	**187**	*e*P	**P**	**06 17 03.5**	**-1.0**
	23nm,1.1s						
WRA	**Warramunga Arr**	**54.55**	**187**	P	**P**	**06 17 03.7**	**-0.8**
WRA				PcP	**PcP**	**06 18 07.9**	**+0.7**
WRA	**Warramunga Arr**	**54.55**	**187**	P	**P**	**06 17 03.7**	**-0.8**
	13nm,0.7s,baz=1.7,slow=7.3,SNR=28						
WRA				PcP	**PcP**	**06 18 07.9**	**+0.7**
	0.5nm,0.6s,baz=360,slow=3.7,SNR=5.7						
WRA				LR	LR	06 36 16.2	
	comp=Z,95nm,20.8s,baz=275,slow=32						
AS31	**Alice Springs**	**58.27**	**187**	*e*P	**P**	**06 17 30.7**	**-0.3**
ASAR	**Alice Springs**	**58.28**	**187**	P	**P**	**06 17 30.5**	**-0.6**
ASAR				PcP	**PcP**	**06 18 22.6**	**+1.0**
ASAR	**Alice Springs**	**58.28**	**187**	P	**P**	**06 17 30.5**	**-0.6**
	2.0nm,0.5s,baz=19,slow=13,SNR=52						
ASAR				PcP	**PcP**	**06 18 22.6**	**+1.0**
	2.0nm,0.8s,baz=8.6,slow=4.5,SNR=7.8						
ABKAR	**Akbulak array**	**58.88**	**311**	*e*P	**P**	**06 17 35.2**	**+0.2**
	0.9nm,0.4s						
AKTO	**Aktyubinsk**	**59.69**	**313**	P	**P**	**06 17 39.2**	**-1.4**
AKTO	**Aktyubinsk**	**59.69**	**313**	P	**P**	**06 17 39.2**	**-1.4**
	1.3nm,0.6s,baz=95,slow=11,SNR=3.1						
FINES	**FINESS Array B**	**70.57**	**332**	P	**P**	**06 18 50.7**	**-0.2**
FINES	**FINESS Array B**	**70.57**	**332**	P	**P**	**06 18 50.7**	**-0.2**
	2.3nm,0.7s,baz=46,slow=8.2,SNR=5.7						
KBZ	**Khabaz**	**71.85**	**311**	P	**P**	**06 19 00.0**	**+1.1**
KBZ	**Khabaz**	**71.85**	**311**	P	**P**	**06 19 00.0**	**+1.1**
	2.1nm,0.8s,baz=16,slow=2.1,SNR=7.7						
KBZ				LR	LR	06 55 04.0	
	comp=Z,70nm,18.1s,baz=107,slow=40						
NEW	**Newport**	**72.46**	**43**	P	**P**	**06 19 04.1**	**+1.5**
NEW	**Newport**	**72.46**	**43**	P	**P**	**06 19 04.1**	**+1.5**
	1.2nm,0.9s,baz=301,slow=5.9,SNR=3.5						
AKASG	**Malin Array Be**	**75.70**	**322**	P	**P**	**06 19 21.0**	**-0.3**
AKASG	**Malin Array Be**	**75.70**	**322**	P	**P**	**06 19 21.0**	**-0.3**
	2.6nm,0.5s,baz=50,slow=6.1,SNR=12						
NB2	**NORSAR Subarra**	**76.09**	**337**	P	**P**	**06 19 23.6**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=43,slow=5.9						
NOA	**NORSAR Array B**	**76.09**	**337**	P	**P**	**06 19 23.5**	**+0.1**
NOA	**NORSAR Array B**	**76.09**	**337**	P	**P**	**06 19 23.5**	**+0.1**
	comp=Z,1.5nm,0.7s,baz=44,slow=5.7,SNR=4.6						
BRTR	**Keskin Array B**	**79.83**	**311**	P	**P**	**06 19 44.9**	**+0.2**
BRTR	**Keskin Array B**	**79.83**	**311**	P	**P**	**06 19 44.9**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=104,slow=4.0,SNR=4.0						
PDAR	**Pinedale Array**	**79.97**	**45**	P	**P**	**06 19 47.0**	**+1.4**
PDAR	**Pinedale Array**	**79.97**	**45**	P	**P**	**06 19 47.0**	**+1.4**
	comp=Z,0.4nm,0.6s,baz=232,slow=1.7,SNR=3.7						
DPC	**Dobruska-Polom**	**82.06**	**328**	*e*P	**P**	**06 19 56.7**	**+0.4**
KHC	**Kasperske Hory**	**84.16**	**328**	*e*P	**P**	**06 20 07.8**	**+0.6**
GERES	**GERESS Array B**	**84.32**	**328**	P	**P**	**06 20 08.4**	**+0.3**
GERES	**GERESS Array B**	**84.32**	**328**	P	**P**	**06 20 08.4**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=39,slow=5.1,SNR=7.2						
TXAR	**Lajitas Array**	**92.27**	**52**	P	**P**	**06 20 47.1**	**+0.6**
TXAR	**Lajitas Array**	**92.27**	**52**	P	**P**	**06 20 47.1**	**+0.6**
	comp=Z,0.6nm,0.8s,baz=287,slow=3.1,SNR=6.0						
TORD	**Torodi Ar. Bea**	**118.41**	**313**	PKP	**PKPdf**	**06 26 23.5

Error ellipse: s-maj=9.0km s-min=4.9km az=82.0
NEIC Felt [II] at Graneros, Limache, Papudo, Quillota, Quilpue, Rancagua, Santiago, Valparaiso, Vina del Mar and Zapallar. Also felt at Villa Alemana.
ISC 26 06:39:25.2±0.8,32.38S±0.03×71.78W±0.06,h32km±4km, n288,σ1.31/314,mb4.5/37,MS4.0/5,8C-4D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.55**	**26**	*i* P	**Pb**	**06 39 36.0**	**-0.6**
CHNG				*i* S	**Sb**	**06 39 44.6**	**+0.2**
IHA	**Instituto Hidr**	**0.66**	**169**	⇑*i*P	**Pb**	**06 39 37.0**	**-1.3**
IHA				*i* S	**Sb**	**06 39 47.1**	**-0.1**
ROCH	**El Roble**	**0.88**	**132**	⇓*i*P	**Pn**	**06 39 41.3**	**-0.3**
ROCH				*i* S	**Sb**	**06 39 54.6**	**+0.9**
PEL	**Peldehue**	**1.20**	**130**	⇑*i*P	**Pn**	**06 39 46.6**	**+0.8**
PEL				*i* S	**Sb**	**06 40 02.9**	**+0.3**
PEL				AML	AML	06 40 05.4	
	comp=E,92μm,0.2s						
CMCH	**Combarbala**	**1.38**	**29**	⇑*i*P	**Pn**	**06 39 48.5**	**+0.2**
CMCH				*i* S	**Sb**	**06 40 07.3**	**-0.4**
CMCH				AML	AML	06 40 09.8	
	comp=E,56μm,0.6s						
SAN	**Santiago**	**1.43**	**139**	*e*P	**Pn**	**06 39 50.0**	**+1.1**
SAN				*i* S	**Sb**	**06 40 09.3**	**+0.2**
SAN				AML	AML	06 40 11.9	
	comp=N,15μm,0.7s						
TACH	**Talagante**	**1.46**	**151**	⇑*i*P	**Pn**	**06 39 50.2**	**+0.9**
CLCH	**Cerro Calan**	**1.46**	**134**	⇓*i*P	**Pn**	**06 39 50.3**	**+0.9**
CLCH				*i* S	**Sb**	**06 40 10.7**	**+0.6**
CLCH				AML	AML	06 40 17.9	
	comp=N,23μm,0.4s						
FSR	**Penalolen**	**1.52**	**136**	*e*P	**Pn**	**06 39 51.5**	**+1.2**
FSR				*i* S	**Sb**	**06 40 11.8**	**0.0**
ANTU	**Antumapu**	**1.53**	**141**	*i* P	**Pn**	**06 39 51.3**	**+1.0**
ANTU				*i* S	**Sb**	**06 40 11.9**	**-0.2**
ANTU				AML	AML	06 40 17.0	
	comp=E,17μm,0.5s						
LNV	**Longovilo**	**1.60**	**169**	*i* P	**Pn**	**06 39 50.9**	**-0.4**
LNV				*i* S	**Sn**	**06 40 11.8**	**+0.9**
PCH	**Pirque**	**1.63**	**140**	⇓*i*P	**Pn**	**06 39 53.0**	**+1.2**
LMEL	**Las Melosas**	**1.98**	**138**	*e*P	**Pn**	**06 39 58.0**	**+1.4**
LMEL				*i* S	**Sb**	**06 40 23.5**	**-1.5**
LMEL				AML	AML	06 40 29.7	
	comp=N,11μm,0.2s						
TLL	**Tololo Astrono**	**2.36**	**21**	*i* P	**Pn**	**06 40 03.0**	**+1.0**
TLL				*i* S	**Sn**	**06 40 31.8**	**+1.9**
TLL				AML	AML	06 40 42.4	
	comp=N,9μm,0.7s						
NICH	**Los Niches**	**2.66**	**170**	*e*P	**Pn**	**06 40 06.4**	**+0.6**
NICH				*i* S	**Sn**	**06 40 38.2**	**+1.3**
NICH				AML	AML	06 40 54.8	
	comp=N,13μm,0.5s						
TALC	**Talca**	**3.01**	**178**	⇑*i*P	**Pn**	**06 40 10.8**	**+0.1**
TALC				AML	AML	06 41 09.1	
	comp=E,6μm,0.6s						
CFAA	**Coronel Fontan**	**3.11**	**77**	Pn	Pn	06 40 15.7	+3.6
CFAA				Lg	Lg	06 40 59.1	
CFAA	**Coronel Fontan**	**3.11**	**77**	Pn	Pn	06 40 15.7	+3.6
	comp=E,9.4nm,0.3s,baz=251,slow=12,SNR=1103						
CFAA				Lg	Lg	06 40 59.1	
	comp=E,13nm,0.3s,baz=208,slow=10,SNR=9.7						
CFAA				LR	LR	06 41 42.5	
	comp=E,318nm,18.1s,baz=337,slow=46						
LCO	**Las Campanas**	**3.49**	**16**	*e*Pn	**Pn**	**06 40 17.8**	**+0.3**
LCO				*e*Sn	**Sn**	**06 40 57.3**	**-0.4**
LCO				*e*Sg	Sb	06 41 17.4	+8.9
VACH	**Vallenar**	**3.89**	**13**	*i* P	**Pn**	**06 40 23.3**	**+0.4**
VACH				*i* S	**Sn**	**06 41 08.2**	**+0.7**
PLCA	**Paso Flores**	**8.39**	**174**	*e*Pn	**Pn**	**06 41 25.4**	**+0.7**
PLCA				Lg	Lg	06 43 36.5	
PLCA	**Paso Flores**	**8.39**	**174**	Pn	**Pn**	**06 41 25.4**	**+0.7**
	comp=E,1.9nm,0.3s,baz=334,slow=11,SNR=24						
PLCA				Lg	Lg	06 43 36.5	
	comp=E,0.3nm,0.3s,baz=270,slow=13,SNR=2.1						
PLCA				LR	LR	06 44 41.9	
	comp=E,535nm,19.9s,baz=143,slow=38						
TRQA	**Tornquist**	**9.81**	**128**	*e*Pn	**Pn**	**06 41 45.6**	**+1.5**
LVC	**Limon Verde**	**10.06**	**15**	*e*Pn	**Pn**	**06 41 45.1**	**-2.6**
CPUP	**Villa Florida**	**13.97**	**68**	*e*Pn	**Pn**	**06 42 41.2**	**+0.3**
	comp=E,53nm,0.6s						
CPUP				Sn	Sn	06 45 22.3	+7.5
CPUP	**Villa Florida**	**13.97**	**68**	Pn	**Pn**	**06 42 41.2**	**+0.3**
	comp=E,1.7nm,0.3s,baz=219,slow=12,SNR=9.2						
CPUP				Sn	Sn	06 45 22.3	+7.5
	comp=E,0.6nm,0.3s,baz=185,slow=12,SNR=3.4						
CPUP				LR	LR	06 48 45.9	
	comp=E,481nm,18.9s,baz=239,slow=41						
LPAZ	**La Paz**	**16.36**	**13**	*e*P	**Pn**	**06 43 13.8**	**+0.6**
	comp=E,29nm,0.8s						
LPAZ	**La Paz**	**16.36**	**13**	Pn	**Pn**	**06 43 13.4**	**+0.2**
	comp=E,1.1nm,0.3s,baz=186,slow=7.4,SNR=77						
SIV	**San Ignacio**	**19.00**	**33**	P	**P**	**06 43 43.6**	**-0.7**
SIV	**San Ignacio**	**19.00**	**33**	P	**P**	**06 43 43.6**	**-0.7**
	comp=E,0.4nm,0.3s,baz=231,slow=12,SNR=24						
SIV				LR	LR	06 52 21.7	
	comp=E,542nm,18.2s,slow=41						
EFI	**East Falkland**	**21.74**	**157**	*e*P	**P**	**06 44 14.6**	**+0.9**
	comp=E,89nm,0.8s						
USHA	**Ushuaia**	**22.57**	**175**	P	**P**	**06 44 24.6**	**+2.1**
USHA	**Ushuaia**	**22.57**	**175**	P	**P**	**06 44 24.6**	**+2.1**
	comp=E,8.6nm,0.9s,baz=336,slow=18,SNR=2.3						
USHA				LR	LR	06 52 53.9	
	comp=E,263nm,20.0s,baz=10.0,slow=36						
SPB	**Sao Paulo**	**23.18**	**74**	*e*P	**P**	**06 44 29.5**	**+0.3**
	comp=E,30nm,0.9s						
BB16B	**Bebedouro**	**23.55**	**67**	⇑*i*P	**P**	**06 44 31.1**	**-1.8**
BB16B				*i*		06 44 32.1	
BB16B				*i*		06 44 33.9	
BB16B				*i*		06 44 37.6	
BB16B				*i*		06 44 43.2	
BB16B				*i*		06 44 46.7	
BB16B				*i*		06 44 54.1	
BB16B	**Bebedouro**	**23.55**	**67**	⇑*i*P	**P**	**06 44 31.1**	**-1.8**
BB16B				*i*		06 44 32.1	
BB16B				*i*		06 44 33.9	
BB16B				*i*		06 44 37.6	
BB16B				*i*		06 44 43.2	
BB16B				*i*		06 44 46.7	
BB16B				*i*		06 44 54.1	
SAML	**Samuel**	**24.64**	**21**	*e*P	**P**	**06 44 43.1**	**+0.1**
	comp=E,13nm,0.8s						
ATAH	**Atahualpa**	**25.86**	**345**	LR	LR	06 54 00.6	
	comp=E,148nm,19.7s,baz=5.6,slow=34						
BDFB	**Brasilia**	**27.27**	**58**	*e*P	**P**	**06 45 07.0**	**+0.1**
BDFB	**Brasilia**	**27.27**	**58**	P	**P**	**06 45 06.2**	**-0.7**
	comp=E,23nm,0.9s,baz=230,slow=8.2,SNR=25						
BDFB				LR	LR	06 57 29.6	
	comp=E,442nm,20.3s,baz=222,slow=40						
SDV	**Santo Domingo**	**41.05**	**2**	*e*P	**P**	**06 47 05.8**	**-0.2**
JTS	**JuntasAbangare**	**44.26**	**341**	P	**P**	**06 47 31.9**	**+0.1**
JTS	**JuntasAbangare**	**44.26**	**341**	P	**P**	**06 47 31.9**	**+0.1**
	comp=E,6.8nm,1.0s,baz=126,slow=14,SNR=4.0						
CELP	**Cerrillos**	**50.42**	**6**	*e*P	**P**	**06 48 19.7**	**+0.1**
SNAA	**Sanae**	**53.00**	**158**	P	**P**	**06 48 39.4**	**+0.9**
SNAA	**Sanae**	**53.00**	**158**	P	**P**	**06 48 39.4**	**+0.9**
	comp=E,1.6nm,0.5s,baz=280,slow=7.5,SNR=51						
QSPA	**South Pole Qui**	**57.85**	**180**	P	**P**	**06 49 14.6**	**+1.1**
QSPA	**South Pole Qui**	**57.85**	**180**	P	**P**	**06 49 14.6**	**+1.1**
	comp=E,12nm,0.8s,baz=142,slow=2.9,SNR=68						
VNDA	**Vanda**	**65.73**	**191**	P	**P**	**06 50 07.7**	**+1.5**
VNDA	**Vanda**	**65.73**	**191**	P	**P**	**06 50 07.7**	**+1.5**
	comp=E,0.6nm,0.8s,baz=127,slow=1.4,SNR=4.3						
732A	**Laxson Ranch,**	**66.41**	**333**	P	**P**	**06 50 12.1**	**+1.0**
	baz=67						
SYO	**Syowa Base**	**67.29**	**159**	⇑*e*P	**P**	**06 50 15.5**	**-0.8**
SYO	**Syowa Base**	**67.29**	**159**	⇓*e*pP	pP	06 50 21.6	-4.7
532A	**Rocksprings**	**67.64**	**334**	P	**P**	**06 50 20.4**	**+1.4**
	baz=68						
530A	**J-C Ranch, Com**	**68.21**	**333**	P	**P**	**06 50 23.3**	**+0.7**
	baz=68						
TXAR	**Lajitas Array**	**68.43**	**330**	P	**P**	**06 50 24.8**	**+0.7**
TXAR	**Lajitas Array**	**68.43**	**330**	P	**P**	**06 50 24.8**	**+0.7**
	comp=E,0.5nm,0.7s,baz=155,slow=8.2,SNR=7.8						
529A	**Stev Forest Ra**	**68.54**	**332**	P	**P**	**06 50 25.7**	**+1.1**
	baz=69						
SWET	**Sewanee**	**68.54**	**348**	*e*P	**P**	**06 50 25.4**	**+0.9**
	comp=E,9.6nm,1.1s						
OXF	**Oxford**	**68.57**	**344**	*e*P	**P**	**06 50 25.0**	**+0.4**
	comp=E,14nm,1.1s						
430A	**Baggett Ranch,**	**68.74**	**333**	P	**P**	**06 50 27.2**	**+1.3**
	baz=69						
626A	**Big Bend Ranch**	**68.82**	**330**	P	**P**	**06 50 27.9**	**+1.4**
	baz=69						
527A	**Woodward Ranch**	**69.12**	**331**	P	**P**	**06 50 29.3**	**+0.9**
	baz=69						
330A	**Mertzon**	**69.27**	**333**	P	**P**	**06 50 30.5**	**+1.3**
	baz=70						
426A	**McDonald Obser**	**69.75**	**331**	P	**P**	**06 50 33.8**	**+1.5**
	baz=70						
WVT	**Waverly**	**69.79**	**346**	*e*P	**P**	**06 50 32.3**	**+0.1**
	comp=E,9.8nm,0.9s						
ABTX	**Abilene, Hawle**	**69.80**	**335**	P	**P**	**06 50 33.8**	**+1.4**
	baz=70						
224A	**Cornudas Mount**	**71.60**	**330**	P	**P**	**06 50 43.2**	**-0.3**
	baz=72						
Z26A	**Caprock**	**72.01**	**332**	P	**P**	**06 50 46.6**	**+0.7**
	baz=72,SNR=5.3						
220A	**Playas Peak, P**	**72.76**	**328**	P	**P**	**06 50 52.1**	**+1.6**
	baz=73						
Z23A	**Rita Site, Whi**	**72.92**	**330**	P	**P**	**06 50 53.1**	**+1.7**
	baz=73						
121A	**Cookes Peak, D**	**72.96**	**329**	P	**P**	**06 50 53.6**	**+1.9**
	baz=73						
ACSO	**Alum Creek Sta**	**72.99**	**351**	*e*P	**P**	**06 50 51.7**	**+0.3**
	comp=E,8.0nm,0.8s						
Y24A	**Capitan**	**73.17**	**331**	P	**P**	**06 50 54.3**	**+1.4**
	baz=74						
Z22A	**Elephant Butte**	**73.23**	**330**	P	**P**	**06 50 55.2**	**+2.0**
	baz=74						
120A	**U Bar Ranch, L**	**73.35**	**328**	P	**P**	**06 50 55.8**	**+1.9**
	baz=74						
Y23A	**Lovelace Mesa,**	**73.43**	**331**	P	**P**	**06 50 55.8**	**+1.4**
	baz=74						
W26A	**Owens Ranch, T**	**73.53**	**333**	P	**P**	**06 50 56.1**	**+1.2**
	baz=74						
Z21A	**St. Cloud Mine**	**73.58**	**329**	P	**P**	**06 50 57.0**	**+1.7**
	baz=74						
Z20A	**Nine Sixteen R**	**73.81**	**328**	P	**P**	**06 50 58.8**	**+2.2**
	baz=74						
LIC	**Lamto**	**74.06**	**72**	*e*P	**P**	**06 50 58.3**	**-0.1**
	comp=E,24nm,0.8s						
W24A	**Lazy 6 Ranch,**	**74.28**	**332**	P	**P**	**06 51 00.4**	**+1.1**
	baz=75						
TIC	**Toumodi**	**74.31**	**71**	*e*P	**P**	**06 50 59.7**	**-0.2**
	comp=E,5.2nm,0.2s						
KIC	**Kosan Boka**	**74.37**	**72**	*e*P	**P**	**06 51 00.3**	**+0.1**
	comp=E,28nm,0.9s						
Y20A	**Horse Springs,**	**74.39**	**329**	P	**P**	**06 51 01.5**	**+1.4**
	baz=75						
DBIC	**Dimbokro**	**74.46**	**72**	*e*P	**P**	**06 51 00.9**	**+0.3**
	comp=E,11nm,0.7s						
DBIC	**Dimbokro**	**74.46**	**72**	P	**P**	**06 51 01.1**	**+0.4**
	comp=E,13nm,0.8s,baz=217,slow=5.8,SNR=13						
ANMO	**Albuquerque**	**74.47**	**331**	*e*P	**P**	**06 51 01.7**	**+1.2**
	comp=E,1.7nm,1.0s						
V25A	**Rancho No Teng**	**74.51**	**333**	P	**P**	**06 51 01.9**	**+1.2**
	baz=75						
X21A	**Alamocita Cree**	**74.60**	**330**	P	**P**	**06 51 03.7**	**+2.4**
	baz=75						
MAW	**Mawson**	**74.67**	**164**	*e*P	**P**	**06 51 01.5**	**+0.5**
	comp=E,2.1nm,1.0s						
MAW	**Mawson**	**74.67**	**164**	P	**P**	**06 51 01.3**	**+0.3**
	comp=E,4.6nm,0.5s,baz=241,slow=7.8,SNR=7.0						
MAW				LR	LR	07 26 05.6	
	comp=E,115nm,21.3s,baz=65,slow=38						
T28A	**Walsh**	**74.72**	**335**	P	**P**	**06 51 03.2**	**+1.4**
	baz=75						
X20A	**Quemado**	**74.98**	**329**	P	**P**	**06 51 05.4**	**+1.9**
	baz=75						
S28A	**Manter**	**75.07**	**336**	P	**P**	**06 51 05.6**	**+1.8**
	baz=75						
T26A	**Comanche Natio**	**75.31**	**334**	P	**P**	**06 51 07.2**	**+2.0**
	baz=76						
W20A	**Ramah**	**75.48**	**330**	P	**P**	**06 51 08.1**	**+1.7**
	baz=76						
V22A	**San Miguel Ran**	**75.49**	**331**	P	**P**	**06 51 08.6**	**+2.1**
	baz=76,SNR=6.8						
Q31A	**Ellis**	**75.52**	**338**	P	**P**	**06 51 08.2**	**+1.9**
	baz=76						
U23A	**El Rito**	**75.56**	**332**	P	**P**	**06 51 08.4**	**+1.6**
	baz=76						
T25A	**Trinidad**	**75.58**	**334**	P	**P**	**06 51 08.6**	**+1.8**
	baz=76						
X18A	**Snowflake**	**75.61**	**328**	P	**P**	**06 51 08.6**	**+1.5**
	baz=76						
S26A	**Kim**	**75.66**	**334**	P	**P**	**06 51 08.9**	**+1.7**
	baz=76						
V21A	**Milan**	**75.70**	**331**	P	**P**	**06 51 09.2**	**+1.6**
	baz=76						
R28A	**Tribune**	**75.71**	**336**	P	**P**	**06 51 09.0**	**+1.5**
	baz=76						
U22A	**Llaves**	**75.87**	**331**	P	**P**	**06 51 10.3**	**+1.7**
	baz=76						
T24B	**San Luis**	**75.88**	**333**	P	**P**	**06 51 10.7**	**+2.0**
	baz=76						
Q29A	**Oakley**	**75.93**	**337**	P	**P**	**06 51 10.8**	**+2.2**
	baz=76						
P31A	**Stockton**	**75.98**	**338**	P	**P**	**06 51 10.3**	**+1.4**
	baz=76						
R27A	**Eads**	**76.01**	**335**	P	**P**	**06 51 10.4**	**+1.3**
	baz=76						
V20A	**Brinhall**	**76.04**	**330**	P	**P**	**06 51 11.2**	**+1.7**
	baz=76						
S25A	**Robets Cordova**	**76.05**	**334**	P	**P**	**06 51 11.5**	**+2.0**
	baz=76						
T23A	**Casias Ranch,**	**76.11**	**332**	P	**P**	**06 51 11.7**	**+1.7**
	baz=76						
X16A	**Lo Mia Camp, P**	**76.19**	**327**	P	**P**	**06 51 12.3**	**+1.9**
	baz=76						
U21A	**Nageezi**	**76.24**	**331**	P	**P**	**06 51 12.3**	**+1.6**
	baz=77						
R26A	**Arlington**	**76.25**	**335**	P	**P**	**06 51 12.3**	**+1.7**
	baz=77						
S24A	**Houchin Ranch,**	**76.32**	**333**	P	**P**	**06 51 12.9**	**+1.7**
	baz=77,SNR=5.1						
O32A	**Brockman Farm,**	**76.33**	**339**	P	**P**	**06 51 12.1**	**+1.3**
	baz=77						
R25A	**Fountain Ranch**	**76.42**	**334**	P	**P**	**06 51 13.4**	**+1.9**
	baz=77						
T22A	**Edith**	**76.44**	**332**	P	**P**	**06 51 13.7**	**+1.9**
	baz=77						
SDCO	**Great Sand Dun**	**76.53**	**333**	*e*P	**P**	**06 51 13.8**	**+1.4**
	comp=E,1.8nm,0.9s						
T21A	**Navajo Lake**	**76.67**	**331**	P	**P**	**06 51 15.1**	**+2.0**
	baz=77						
R24A	**Sanders Place,**	**76.80**	**334**	P	**P**	**06 51 15.2**	**+1.4**
	baz=77						
R23A	**Moffat**	**77.04**	**333**	P	**P**	**06 51 17.2**	**+2.0**
	baz=77						
S22A	**4UR Ranch, Cre**	**77.04**	**332**	P	**P**	**06 51 16.9**	**+1.6**
	baz=77						
WUAZ	**Wupatki**	**77.08**	**328**	*e*P	**P**	**06 51 17.6**	**+2.3**
	comp=E,2.3nm,0.8s						
WUAZ	**Wupatki**	**77.08**	**328**	P	**P**	**06 51 17.6**	**+2.3**
	baz=77						
MVCO	**Mesa Verde**	**77.26**	**331**	P	**P**	**06 51 18.0**	**+1.6**
	baz=78						
S21A	**Coal Bank Pass**	**77.36**	**331**	P	**P**	**06 51 18.9**	**+1.9**
	baz=78						
Q24A	**Divide**	**77.46**	**334**	P	**P**	**06 51 19.3**	**+1.7**
	baz=78						
BC3	**Big Chuckawall**	**77.50**	**324**	P	**P**	**06 51 19.4**	**+1.7**
	baz=78						
P25A	**Willow Gulch B**	**77.58**	**335**	P	**P**	**06 51 19.9**	**+1.8**
	baz=78,SNR=5.4						
IRM	**Iron Mountain**	**77.75**	**324**	P	**P**	**06 51 20.3**	**+1.3**
	baz=78						
R21A	**Cimarron**	**77.86**	**332**	P	**P**	**06 51 21.5**	**+1.7**
	baz=78						
W13A	**Hualapai Mount**	**77.90**	**326**	P	**P**	**06 51 21.7**	**+1.7**
	baz=78						
Q22A	**Crested Butte,**	**78.04**	**333**	P	**P**	**06 51 22.4**	**+1.6**
	baz=78						
BELC	**Belle Mtn. Jos**	**78.04**	**324**	P	**P**	**06 51 22.7**	**+2.0**
	baz=78						
U15A	**North Rim**	**78.25**	**328**	P	**P**	**06 51 23.9**	**+1.9**
	baz=79						
SMCO	**Snowmass**	**78.34**	**333**	*e*P	**P**	**06 51 24.8**	**+2.2**
	comp=E,4.4nm,0.8s						
ISCO	**Idaho Springs**	**78.36**	**334**	*e*P	**P**	**06 51 24.0**	**+1.4**
	comp=E,2.9nm,1.0s						
ISCO	**Idaho Springs**	**78.36**	**334**	P	**P**	**06 51 23.8**	**+1.2**
	baz=79						
GMRC	**Granite Mounta**	**78.50**	**324**	P	**P**	**06 51 24.7**	**+1.5**
	baz=79						
P22A	**Eagle**	**78.62**	**333**	P	**P**	**06 51 25.7**	**+1.8**
	baz=79						
P21A	**Newcastle**	**78.82**	**333**	P	**P**	**06 51 26.9**	**+1.9**
	baz=79						
O23A	**Lake Granby, G**	**78.84**	**334**	P	**P**	**06 51 26.9**	**+1.7**
	baz=79,SNR=5.1						
O22A	**Kremmling**	**79.03**	**334**	P	**P**	**06 51 27.4**	**+1.2**
	baz=79						
BFSC	**Mount Baldy Ra**	**79.07**	**323**	P	**P**	**06 51 28.3**	**+1.9**
	baz=79						
ECSD	**EROS Data Cent**	**79.08**	**342**	*e*P	**P**	**06 51 26.9**	**+0.9**
	comp=E,10nm,0.9s						
TUQ	**Turquoise Moun**	**79.15**	**325**	P	**P**	**06 51 28.4**	**+1.6**
	baz=80						
P20A	**De Beque**	**79.17**	**332**	P	**P**	**06 51 28.6**	**+1.7**
	baz=80						
GSC	**Goldstone**	**79.48**	**324**	P	**P**	**06 51 29.8**	**+1.3**
	baz=80						
P19A	**Cripple Cowboy**	**79.52**	**332**	P	**P**	**06 51 30.5**	**+1.6**
	baz=80						
N22A	**Wattenberg Ran**	**79.55**	**334**	P	**P**	**06 51 31.1**	**+2.0**
	baz=80						
CCUT	**Cedar City**	**79.65**	**328**	*e*P	**P**	**06 51 32.0**	**+2.4**
	comp=E,3.1nm,1.0s						
O20A	**White River Ci**	**79.66**	**332**	P	**P**	**06 51 31.0**	**+1.5**
	baz=80						
SRU	**San Rafael**	**79.71**	**330**	*e*P	**P**	**06 51 30.8**	**+0.9**
	comp=E,2.4nm,0.8s						
EDW2	**Edwards Air Fo**	**79.75**	**323**	P	**P**	**06 51 31.7**	**+1.7**
	baz=80						
J29A	**Okreek**	**79.82**	**339**	P	**P**	**06 51 30.9**	**+0.8**
	baz=80						
Q16A	**Castle Valley**	**79.82**	**330**	P	**P**	**06 51 32.0**	**+1.5**
	baz=80						
N21A	**Black Mountain**	**79.92**	**333**	P	**P**	**06 51 32.5**	**+1.5**
	baz=80						
I30A	**Oacoma**	**80.02**	**340**	P	**P**	**06 51 32.4**	**+1.2**
	baz=80						
LRMC	**Laurel Mountai**	**80.06**	**323**	P	**P**	**06 51 33.9**	**+2.2**
	baz=80						
J28A	**Allard Ranch,**	**80.11**	**339**	P	**P**	**06 51 32.9**	**+1.2**
	baz=80						
O19A	**Miners Draw (B**	**80.14**	**332**	P	**P**	**06 51 33.4**	**+1.2**
	baz=80						
J27A	**Elkhorn Farm,**	**80.20**	**338**	P	**P**	**06 51 33.9**	**+1.7**
	baz=80						
I29A	**Vivian Onida**	**80.37**	**340**	P	**P**	**06 51 33.5**	**+0.4**
	baz=81						
FURC	**Furnace Creek,**	**80.43**	**325**	P	**P**	**06 51 34.5**	**+1.0**
	baz=81						
J26A	**Sides Ranch, S**	**80.59**	**337**	P	**P**	**06 51 36.0**	**+1.6**
	baz=81						
ISA	**Isabella**	**80.60**	**323**	*e*P	**P**	**06 51 36.1**	**+1.5**
	comp=E,3.0nm,1.1s						
ISA	**Isabella**	**80.60**	**323**	P	**P**	**06 51 36.1**	**+1.5**
	baz=81						
BOSA	**Boshof**	**80.63**	**118**	P	**P**	**06 51 35.5**	**+0.3**
BOSA	**Boshof**	**80.63**	**118**	P	**P**	**06 51 35.5**	**+0.3**
	comp=E,4.6nm,0.8s,baz=192,slow=5.5,SNR=7.1						
BOSA				LR	LR	07 24 06.7	
	comp=E,101nm,18.3s,baz=79,slow=33						
PKM	**Peak Mountain**	**80.70**	**322**	P	**P**	**06 51 36.6**	**+1.3**
	baz=81						
H29A	**Onida**	**80.90**	**340**	P	**P**	**06 51 36.3**	**+0.4**
	baz=81						
GRAC	**Grapevine Rang**	**81.10**	**325**	P	**P**	**06 51 39.2**	**+2.0**
	baz=81						
I26A	**New Underwood**	**81.17**	**338**	P	**P**	**06 51 38.8**	**+1.4**
	baz=82						
H28A	**Mission Ridge**	**81.18**	**339**	P	**P**	**06 51 37.9**	**+0.5**
	baz=82						
R11A	**Troy Canyon, C**	**81.32**	**327**	*e*P	**P**	**06 51 39.8**	**+1.3**
R11A	**Troy Canyon, C**	**81.32**	**327**	P	**P**	**06 51 40.2**	**+1.7**
	baz=82						
JLU	**Jordanelle**	**81.35**	**331**	*e*P	**P**	**06 51 40.1**	**+1.4**
	comp=E,1.8nm,0.7s						
K21A	**Alcova**	**81.44**	**334**	P	**P**	**06 51 40.0**	**+0.9**
	baz=82						
H27A	**Howes**	**81.46**	**339**	P	**P**	**06 51 39.8**	**+0.9**
	baz=82						
G28A	**Parade**	**81.51**	**340**	P	**P**	**06 51 40.0**	**+0.9**
	baz=82						
DUG	**Dugway**	**81.59**	**329**	*e*P	**P**	**06 51 41.3**	**+1.5**
	comp=E,2.7nm,1.2s						
DUG	**Dugway**	**81.59**	**329**	P	**P**	**06 51 41.3**	**+1.5**
	baz=82						
RSSD	**Black Hills**	**81.63**	**337**	*e*P	**P**	**06 51 41.3**	**+1.3**
	comp=E,20nm,1.1s						
L19A	**Farson**	**81.78**	**333**	P	**P**	**06 51 42.2**	**+1.3**
	baz=82						
J22A	**Midwest**	**81.84**	**335**	P	**P**	**06 51 42.1**	**+1.0**
	baz=82						
K20A	**Yellowstone Ra**	**81.86**	**334**	P	**P**	**06 51 42.4**	**+1.2**
	baz=82						
F29A	**Eureka**	**81.89**	**341**	P	**P**	**06 51 41.6**	**+0.4**
	baz=82						
K19A	**Absolon Red Bu**	**82.20**	**333**	P	**P**	**06 51 43.1**	**+0.1**
	baz=82						
G26A	**Maurine**	**82.22**	**339**	P	**P**	**06 51 43.5**	**+0.6**
	baz=83						
E30A	**Jud**	**82.25**	**341**	P	**P**	**06 51 43.4**	**+0.4**
	baz=83						
H24A	**Dirks Ranch, A**	**82.35**	**337**	P	**P**	**06 51 44.0**	**+0.3**
	baz=83						
J20A	**Shoshoni**	**82.37**	**334**	P	**P**	**06 51 44.3**	**+0.4**
	baz=83						
G25A	**Newell**	**82.39**	**338**	P	**P**	**06 51 44.8**	**+1.0**
	baz=83						
G27A	**Dupree**	**82.40**	**338**	P	**P**	**06 51 43.0**	**-0.8**
	baz=82						
PDAR	**Pinedale Array**	**82.42**	**333**	P	**P**	**06 51 44.8**	**+0.6**
PDAR	**Pinedale Array**	**82.42**	**333**	P	**P**	**06 51 44.8**	**+0.6**
	comp=E,1.1nm,1.0s,baz=129,slow=4.0,SNR=5.5						
F27A	**Lemmon**	**82.56**	**339**	P	**P**	**06 51 45.3**	**+0.7**
	baz=83,SNR

D22A	Cohagen	85.01	337	P	P	06 51 58.2	+1.1
	baz=85						
HLID	Hailey	85.04	330	P	P	06 51 58.8	+1.2
	baz=85						
B25A	Knox Farm, Ray	85.06	340	P	P	06 51 58.5	+1.1
	baz=85						
E20A	Meyer Farm, Mu	85.10	336	P	P	06 51 58.2	+0.5
	baz=85						
A27A	Ledoux Ranch,	85.13	341	P	P	06 51 58.3	+0.7
	baz=86						
D21A	La Casta Ranch	85.20	337	P	P	06 51 58.6	+0.5
	baz=86						
C23A	Lambert	85.26	338	P	P	06 51 58.7	+0.3
	baz=86						
A26A	Wade Farm, Ken	85.30	341	P	P	06 51 59.0	+0.5
	baz=86						
DGMT	Dagmar	85.55	339	P	P	06 52 00.7	+0.9
	baz=86						
D20A	Manuel Ranch,	85.61	336	P	P	06 52 00.4	+0.2
	baz=86						
C21A	Desert Coulee	85.90	337	P	P	06 52 02.1	+0.5
	baz=86						
D19A	Cripps Ranch,	85.94	336	P	P	06 52 02.5	+0.7
	baz=86						
B22A	Reddig Ranch S	85.96	338	P	P	06 52 02.8	+0.9
	baz=86						
C20A	Veseth Ranch,	86.11	336	P	P	06 52 02.8	+0.2
	baz=86						
A23A	Redstone	86.19	339	P	P	06 52 03.5	+0.5
	baz=86						
B21A	Ellsworth Farm	86.40	337	P	P	06 52 04.9	+0.9
	baz=87						
A22A	Carney Farms,	86.54	338	P	P	06 52 04.9	+0.2
	baz=87						
J08A	Circle Bar Ran	86.63	328	eP	P	06 52 06.9	+1.5
	comp=E,5.6nm,0.8s						
B20A	Solberg Farm,	86.74	337	P	P	06 52 06.1	+0.4
	baz=87						
A21A	Bergtoll Ranch	86.86	338	P	P	06 52 06.1	-0.1
	baz=87						
B19A	Brinkman Farms	87.07	336	P	P	06 52 08.0	+0.7
	baz=87						
A20A	Cobblestone Ra	87.09	337	P	P	06 52 08.0	+0.6
	baz=87						
A19A	Klindworth Far	87.41	337	P	P	06 52 09.6	+0.7
	baz=88						
ILAR	Eielson Array	112.85	333	PKiKP	PKiKP	06 57 58.2	+0.3
ILAR	Eielson Array	112.85	333	PKiKP	PKiKP	06 57 58.2	+0.3
	comp=E,0.3nm,0.8s,baz=161,slow=1.8,SNR=4.7						
ASAR	Alice Springs	119.10	207	PKP	PKPdf	06 58 10.8	-0.6
ASAR	Alice Springs	119.10	207	PKP	PKPdf	06 58 10.8	-0.6
	comp=E,1.1nm,0.8s,baz=150,slow=1.7,SNR=10.0						
BRTR	Keskin Array B	120.85	60	PKP	PKPdf	06 58 14.4	+0.2
BRTR	Keskin Array B	120.85	60	PKP	PKPdf	06 58 14.5	+0.2
	comp=E,1.0nm,0.8s,baz=203,slow=2.8,SNR=4.6						
WRA	Warramunga Arr	122.28	209	PKP	PKPdf	06 58 17.0	-0.5
WRA	Warramunga Arr	122.28	209	PKP	PKPdf	06 58 17.0	-0.5
	comp=E,2.7nm,0.7s,baz=157,slow=1.7,SNR=12						
FITZ	Fitzroy Crossi	127.10	201	PKP	PKPdf	06 58 26.4	-0.3
FITZ				ePKPdf	PKiKP	06 58 26.8	-0.4
FITZ	Fitzroy Crossi	127.10	201	PKP	PKPdf	06 58 26.4	-0.3
	comp=E,3.0nm,0.8s,baz=45,slow=1.4,SNR=5.8						
MMRI	Maumere	137.07	201	ePKPdf	PKPdf	06 58 39.7	-5.9
BRVK	Borovoye	145.87	41	ePKPdf	PKPab	06 59 02.1	+0.9
VOSK	Vostochnaya	146.39	42	ePKPdf	PKPbc	06 59 02.3	-0.1
KKAR	Karatay Array	148.56	59	ePKPbc	PKPbc	06 59 08.9	+0.2
HYB	Hyderabad	149.37	112	i PKP	PKPbc	06 59 11.5	0.0
EKS2	Erkin-Say	151.00	59	ePKPdf	PKPdf	06 59 11.1	+2.1
EKS2				ePKPbc	PKiKP	06 59 16.1	+0.7
IPM	Ipoh	151.44	165	ePKPbc	PKPbc	06 59 16.0	-0.5
AAK	Ala-Archa	151.53	59	ePKPbc	PKPbc	06 59 17.4	+1.3
KURK	Kurchatov	151.54	41	ePKPbc	PKPbc	06 59 16.0	+0.4
TKM2	Tokmak 2	152.27	58	ePKPbc	PKPbc	06 59 18.5	+0.7
ZAA0	Zalesovo Array	152.74	31	ePKPbc	PKPbc	06 59 18.5	+0.4
ZALV	Zalesovo Beam	152.74	31	PKPbc	PKPbc	06 59 18.5	+0.3
ZALV				PKPab	PKPab	06 59 28.6	-0.5
ZALV	Zalesovo Beam	152.74	31	PKPbc	PKPbc	06 59 18.5	+0.3
	comp=E,16nm,0.8s,baz=307,slow=4.0,SNR=42						
ZALV				PKPab	PKPab	06 59 28.6	-0.5
	comp=E,6.0nm,0.7s,baz=302,slow=3.4,SNR=6.6						
KSH	Kashi	153.04	66	ePKPbc	PKPdf	06 59 10.0	-2.2
KSH				pPKP	PKiKP	06 59 20.8	+1.1
KSH				PKS	PKSdf	07 02 43.0	-3.6
KSH				PP	PP	07 03 01.0	-3.9
KSH				SKS	SKSdf	07 06 12.0	-5.0
KSH				SKKS	SKKSac	07 09 45.0	-7.5
KSH				AMB	AMB		
	comp=Z,200nm,5.5s						
KSH				LR	LR		
	comp=N,69nm,6.8s						
KSH				LR	LR		
	comp=E,72nm,4.7s						
KSH				LR	LR		
	comp=Z,210nm,7.9s						
MKAR	Makanchi Array	155.52	46	PKP	PKPdf	06 59 15.1	-0.2
MKAR				PKPbc	PKPbc	06 59 24.7	
MKAR				PKPab	PKPab	06 59 41.1	-0.1
MKAR	Makanchi Array	155.52	46	PKP	PKPdf	06 59 15.1	-0.2
	comp=Z,0.5nm,0.8s,baz=15,slow=1.4,SNR=4.4						
MKAR				PKPbc	PKPbc	06 59 24.7	
	comp=Z,1.1nm,0.8s,baz=316,slow=3.3,SNR=8.4						
MKAR				PKPab	PKPab	06 59 41.1	-0.1
	comp=Z,3.0nm,0.8s,baz=286,slow=3.0,SNR=13						
WMQ	Urumqi	160.28	49	ePKP	PKPdf	06 59 20.5	-0.8
CMAR	Chiang Mai Arr	163.81	147	PKP	PKPdf	06 59 25.8	+0.3
CMAR	Chiang Mai Arr	163.81	147	PKP	PKPdf	06 59 25.8	+0.3
	comp=Z,0.6nm,0.3s,baz=270,slow=3.6,SNR=4.8						
SONM	Songino Array	164.50	5	PKPab	PKPab	07 00 20.3	0.0
SONM	Songino Array	164.50	5	PKPab	PKPab	07 00 20.3	0.0
	comp=Z,1.0nm,0.9s,baz=280,slow=0.9,SNR=5.0						
HHC	Hu-ho-hao-te	171.13	343	ePKP	PKPdf	06 59 27.5	-2.8
HHC				pPKP	pPKPdf	06 59 38.3	-2.6
HHC				sPKP		06 59 42.0	
HHC				PP	PP	07 04 38.5	-1.2
HHC				SKS	SKSdf	07 06 25.5	-5.8
HHC				SKKS	SKKSac	07 11 22.8	-1.9
HHC				SS	SS	07 25 40.0	-1.8
HHC				AMB	AMB		
	comp=Z,170nm,8.8s						
HHC				LR	LR		
	comp=N,130nm,20.1s						
HHC				LR	LR		
	comp=E,130nm,19.4s						
HHC				LR	LR		
	comp=Z,150nm,20.4s						
LZH	Lanzhou	174.82	43	ePKP	PKPdf	06 59 32.5	+0.5
LZH				pPKP	pPKPdf	06 59 40.3	-2.4
LZH				sPKP		06 59 44.0	
LZH				LR	LR		
	comp=N,120nm,18.0s						
LZH				LR	LR		
	comp=E,110nm,18.0s						
LZH				LR	LR		
	comp=Z,150nm,20.3s						
CD2	Chengdu	175.93	110	PKP	PKPdf	06 59 32.5	+0.2

IDC 26 06:46:13.9±2.1, 25°.06N×141°.63E, h82km±21km, mb3.5/5, mb1 3.7/6, mb1mx3.4/25, mbtmp3.6/6, Error ellipse: s-maj=68.6km s-min=16.9km az=103.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	2.09	14	P	Pn	06 46 47.5	+0.5
	30nm,0.3s,baz=126,slow=12,SNR=29						
CBIJ				S	Sn	06 47 12.8	+0.4
	18nm,0.3s,baz=313,slow=23,SNR=7.2						
WRA	Warramunga Arr	45.29	190	P	P	06 54 22.9	-0.7
	2.2nm,0.4s,baz=9.5,slow=8.6,SNR=8.9						
FITZ	Fitzroy Crossi	45.64	202	P	P	06 54 26.6	+0.2
	1.3nm,0.8s,baz=39,slow=9.1,SNR=2.8						
ASAR	Alice Springs	49.01	189	P	P	06 54 52.7	+0.1
	0.2nm,0.4s,baz=10.0,slow=7.4,SNR=5.5						
ILAR	Eielson Array	59.73	28	P	P	06 56 09.8	-0.1
	1.1nm,0.8s,baz=265,slow=5.9,SNR=12						
FINES	FINESS Array B	79.55	334	P	P	06 58 11.7	+0.1
	0.7nm,0.6s,baz=57,slow=5.1,SNR=5.4						

*KRSC **26** 07:14:07.6±5.0, 51°.49N×157°.97E, h106km±106km, ML3.8*
*ISCJB **26** 07:14:09.7±0.5, 51°.69N±0°.06×157°.6E±0°.1, h120km±4km, mb3.3/7, Error ellipse: s-maj=13.6km s-min=5.5km az=38.6*
*IDC **26** 07:14:11.9±1.5, 51°.83N×157°.38E, h127km±12km, mb3.1/7, mb1 3.5/8, mb1mx3.3/25, mbtmp3.2/8, Error ellipse: s-maj=28.2km s-min=17.0km az=145.0*

ISC 26 07:14:10.4±0.8, 51°.65N±0°.06×157°.77E±0°.07, h114km±7km, n31, σ1s36/48, mb3.3/7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	Pauzhetka	0.62	254	i P	Pn	07 14 28.0	-0.6
PAU				i S	Sn	07 14 42.1	-0.1
ASAK	Asacha	0.74	6	i P	Pn	07 14 29.4	-0.2
ASAK				i S	Sn	07 14 43.7	-0.4
MTVR	Mutnovka	0.88	17	i P	Pn	07 14 30.7	-0.2
MTVR				i S	Sn	07 14 46.5	+0.1
MIPR	Malaya Ipel'ka	0.89	316	i P	Pn	07 14 29.6	-1.2
RUS	Russkaya	0.91	30	eP	Pn	07 14 30.7	-0.3
RUS				i S	Sn	07 14 46.5	-0.1
GRL	Gorelyy	0.93	12	eP	Pn	07 14 31.1	-0.2
GRL				i S	Sn	07 14 47.5	+0.3
APC	Apacha	1.33	344	i P	Pn	07 14 34.6	-0.9
APC				i S	Sn	07 14 53.0	-1.6
SKR	Severo-Kuril's	1.42	228	i P	Pn	07 14 36.3	-0.2
SKR				i S	Sn	07 14 56.1	-0.2
PETK	Petropavlovsk-	1.47	358	P	Pn	07 14 36.6	-0.4
	32nm,0.3s,baz=166,slow=13,SNR=638						
PETK				S	Sn	07 14 57.3	0.0
	3.6nm,0.3s,baz=241,slow=26,SNR=12						
PET	Petropavlovsk	1.48	21	eP	Pn	07 14 36.9	-0.3
PET				i S	Sn	07 14 57.9	+0.3
UGLR	Uglovaya	1.69	22	eP	Pn	07 14 40.8	+0.9
AVH	Avacha	1.73	20	i P	Pn	07 14 40.9	+0.7
AVH				i S	Sn	07 15 03.5	+0.5
KOK	Koryaka	1.73	17	i P	Pn	07 14 41.2	+0.9
KOK				i S	Sn	07 15 04.3	+1.2
SMAR	Somma	1.74	21	eP	Pn	07 14 40.5	0.0
KRER	Koryakskii	1.77	19	i P	Pn	07 14 41.5	+0.7
KRER				i S	Sn	07 15 05.5	+1.5
SDLR	Sedlovina	1.77	22	eP	Pn	07 14 41.1	+0.3
SDLR				i S	Sn	07 15 04.1	+0.1
KRX	Arik	1.80	17	eP	Pn	07 14 41.7	+0.5
SPN	Mys Shipunski	2.00	43	eP	Pn	07 14 44.3	+0.7
SPN				i S	Sn	07 15 09.4	+0.4
GNL	Ganaly	2.06	3	eP	Pn	07 14 44.2	-0.1
MKZ	Mys Kozlova	3.77	38	eP	Pn	07 15 06.1	-0.5
MKZ				i S	Sn	07 15 48.2	-1.9
TUMR	Tumrok	3.91	20	eP	Pn	07 15 10.5	+1.9
KBTR	Krutoberegovo	5.46	31	eP	Pn	07 15 30.5	+1.2
BKI	Bering	6.06	51	i P	Pn	07 15 37.5	+0.1
BKI				i S	Sn	07 16 39.9	-5.4
FX1	Attu Island--F	9.52	77	P	Pn	07 16 26.6	+2.3
FX1				S	Sn	07 18 06.0	-3.4
	3.9nm,0.3s,baz=254,slow=17,SNR=9.7						
ILAR	Eielson Array	30.85	43	P	P	07 20 14.8	-0.3
	0.4nm,0.7s,baz=275,slow=6.5,SNR=6.9						
YKA	Yellowknife Ar	45.19	41	P	P	07 22 15.7	+0.4
	0.3nm,0.5s,baz=303,slow=6.8,SNR=4.3						
MKAR	Makanchi Array	47.50	296	P	P	07 22 30.8	-2.8
	0.2nm,0.5s,baz=61,slow=6.9,SNR=3.9						
PDAR	Pinedale Array	59.48	59	P	P	07 24 02.7	+1.3
	0.5nm,0.6s,baz=305,slow=3.0,SNR=5.6						
TXAR	Lajitas Array	72.53	65	P	P	07 25 26.2	+1.4
	0.5nm,0.5s,baz=301,slow=4.5,SNR=13						
WRA	Warramunga Arr	74.18	203	P	P	07 25 34.9	+0.5
	0.4nm,0.7s,baz=16,slow=6.3,SNR=2.7						
ASAR	Alice Springs	77.86	202	P	P	07 25 56.0	+0.8
	0.2nm,0.4s,baz=21,slow=4.0,SNR=4.0						

IDC 26 07:21:26.7±1.7, 17°.85S×177°.43W, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.8/17, mbtmp3.7/5, MS3.6/1, Ms1 3.6/1, ms1mx2.8/26, Error ellipse: s-maj=107.6km s-min=25.2km az=149.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	15.73	252	LR	LR	07 28 46.8	
	comp=Z,200nm,18.2s,baz=210,slow=28						
STKA	Stephens Creek	39.48	241	P	P	07 28 59.1	0.0
	1.4nm,0.7s,baz=69,slow=5.9,SNR=2.9						
WRA	Warramunga Arr	45.56	259	P	P	07 29 48.8	0.0
	0.8nm,0.4s,baz=97,slow=7.7,SNR=5.1						
ASAR	Alice Springs	45.71	254	P	P	07 29 49.6	-0.3
	0.8nm,0.4s,baz=89,slow=8.1,SNR=20						
TXAR	Lajitas Array	85.17	57	P	P	07 34 05.6	+0.2
	0.1nm,0.6s,baz=224,slow=6.3,SNR=2.9						
ILAR	Eielson Array	85.62	13	P	P	07 34 06.4	-0.3
	0.4nm,1.0s,baz=213,slow=6.3,SNR=4.6						

IDC 26 07:52:38.2±58.0, 22°.05S×176°.41W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.8/16, mbtmp4.1/3, Error ellipse: s-maj=1077.0km s-min=162.3km az=86.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	38.49	246	P	P	08 00 02.6	+0.3
	3.3nm,0.9s,baz=87,slow=8.1,SNR=2.9						
ASAR	Alice Springs	45.63	258	P	P	08 01 00.3	-0.5
	1.0nm,0.5s,baz=98,slow=7.5,SNR=12						
WRA	Warramunga Arr	45.88	263	P	P	08 01 02.5	-0.2
	1.7nm,0.6s,baz=102,slow=8.3,SNR=7.1						

IDC 26 08:04:09.7±2.6, 17°.99S×177°.65W, h0km, mb3.7/3, mb1 4.1/3, mb1mx3.7/18, mbtmp3.7/3, Error ellipse: s-maj=295.1km s-min=31.0km az=159.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	45.33	260	P	P	08 12 29.3	-0.6
	0.4nm,0.5s,baz=96,slow=7.1,SNR=4.0						
ASAR	Alice Springs	45.46	254	P	P	08 12 31.1	+0.2
	2.6nm,0.6s,baz=87,slow=8.5,SNR=41						
TXAR	Lajitas Array	85.43	57	P	P	08 16 49.7	0.0
	0.2nm,0.7s,baz=205,slow=4.0,SNR=3.1						

*IDC **26** 08:07:58.1±1.4, 39°.41N×73°.73E, h0km, mb4.0/3, mb1 4.0/5, mb1mx3.5/28, mbtmp3.8/5, ML3.1/3, Error ellipse: s-maj=30.5km s-min=14.5km az=88.0*
*NNC **26** 08:08:03.5±3.2, 39°.69N×73°.79E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=28.3km s-min=17.5km az=2.0*

ISC 26 08:08:00.2±1.3, 39°.43N±0°.09×73°.88E±0°.10, h10km, n18, σ1s83/20, mb3.8/3, 4C-3D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	2.70	357	P	Pn	08 08 46.9	+2.7
	SNR=9.9						
UCH	Uchtor	2.84	10	P	Sb	08 09 27.6	+1.4
	SNR=7.8						
KZA	Kyzart	2.84	21	P	Pn	08 08 48.1	+2.0
	SNR=19						
EKS2	Erkin-Say	3.23	359	P	Pb	08 08 55.3	-2.5
	SNR=9.2						
AAK	Ala-Archa	3.23	8	P	Pn	08 08 53.5	+2.2
	SNR=16						
AAK	Ala-Archa	3.23	8	Pn	Pn	08 08 53.2	+2.0
	5.6nm,0.3s,baz=156,slow=6.8,SNR=24						
AAK				Pg	Pb	08 08 57.8	-0.1
	6.6nm,0.3s,baz=170,slow=7.4,SNR=33						
AAK				Sn	Sb	08 09 35.6	-1.8
	5.2nm,0.3s,baz=63,slow=16,SNR=6.5						
KBK	Karagaybulak	3.32	14	P	Pn	08 08 54.8	+2.3
	SNR=16						
TKM2	Tokmak 2	3.72	20	⇑Pn	Pn	08 09 00.1	+2.1
	9.6nm,0.9s						
TKM2				⇓Lg	Lg	08 09 53.2	
	22nm,0.6s						
USP	Ospenovka	3.86	7	P	Pb	08 09 08.1	-0.4
	SNR=14						
KK31	Karatay Array	4.46	326	⇓Pn	Pn	08 09 09.2	+1.2
	1.0nm,0.3s,baz=126,slow=13,SNR=33						
KK31				⇑Pg	Pb	08 09 19.5	+0.8
	3.5nm,0.5s,baz=150,slow=14,SNR=20						
KK31				⇓Sn	Sn	08 10 00.6	+0.6
	12nm,0.6s,baz=156,slow=25,SNR=5.5						
KK31				⇑Lg	Lg	08 10 17.8	
	7.9nm,0.5s,baz=139,slow=17,SNR=3.9						
MKAR	Makanchi Array	9.59	37	Pn	Pn	08 10 21.1	+2.8
	0.0nm,0.3s,baz=226,slow=9.3,SNR=2.5						
MKAR				Lg	Lg	08 13 00.8	
	0.1nm,0.3s,baz=223,slow=27,SNR=2.7						
KURBB	Kurchatov Arra	11.66	15	Lg	Lg	08 14 02.8	
	0.1nm,0.3s,baz=202,slow=29,SNR=3.8						
BVAR	Borovoye Array	13.81	351	Pn	Pn	08 11 14.1	-1.8
	0.2nm,0.3s,baz=175,slow=8.7,SNR=3.3						
AB31	Akbulak array	13.98	319	⇑P	Pn	08 11 16.0	-2.3
	0.2nm,0.5s,baz=126,slow=13,SNR=8.1						
ZALV	Zalesovo Beam	16.32	24	Pn	P	08 11 51.6	-0.6
	0.3nm,0.3s,baz=209,slow=11,SNR=2.8						
FINES	FINESS Array B	36.42	323	P	P	08 15 03.9	-0.7
	2.9nm,1.0s,baz=99,slow=8.7,SNR=2.7						
WRA	Warramunga Arr	81.67	124	P	P	08 20 18.5	-0.4
	0.5nm,0.5s,baz=324,slow=5.3,SNR=5.4						
ASAR	Alice Springs	84.13	127	P	P	08 20 31.4	-0.2
	0.2nm,0.5s,baz=310,slow=4.7,SNR=3.5						

*NNC **26** 08:23:39.5±4.4, 35°.12N×73°.72E, h37km±53km, mb3.6, mpv3.6, Error ellipse: s-maj=47.3km s-min=29.5km az=80.0*

ISC 26 08:23:33.8±2.0, 34°.80N±0°.07×73°.5E±0°.1, h27km±17km, n13, σ1s90/22, 2C-3D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMU	Jammu	2.36	151	eP	Pn	08 24 13.5	+2.6
JMU				eS	Sb	08 24 43.5	-0.9
THN	Thein Dam	2.98	142	eP	Pn	08 24 20.3	+1.0
THN				ex	Sb	08 25 02.2	+0.1
DLH	Dalhousie	3.03	137	eP	Pb	08 24 25.0	-2.1
DLH				eS	Sb	08 25 05.0	+1.3
SDNR	Sundarnagar	4.37	138	eP	Pn	08 24 38.0	-0.5
SDNR				ex	Sb	08 25 47.0	+4.8
SMLA	Simla	4.76	139	i P	Pn	08 24 45.1	+1.2
SMLA				i S	Sn	08 25 38.7	+0.5
SMLA				i S	Sn	08 25 38.8	+0.6
SMLA				AML	AML	08 25 42.1	
	comp=E,996nm,0.2s						
SMLA				AML	AML	08 25 42.2	
	comp=N,870nm,0.3s						
NDI	New Delhi	6.85	152	e4		08 26 17.0	
KUDL	Kundal	7.09	158	eP	Pn	08 25 16.1	+0.2
KUDL				eS	Sn	08 26 35.0	-0.6
KUDL				AML	AML	08 27 33.8	
	comp=N,11nm,0.6s						
KUDL				AML	AML	08 27 34.0	
	comp=E,18nm,0.5s						
SONA	Sohna	7.19	154	eP	Pn	08 25 15.5	-1.7
SONA				eS	Sn	08 26 36.0	-2.1
SONA				AML	AML	08 27 29.8	
	comp=E,22nm,0.3s						
SONA				AML	AML	08 27 31.3	
	comp=N,16nm,0.2s						
TKM2	Tokmak 2	8.27	11	⇓P	Pn	08 25 32.2	-0.1
	comp=N,1.0nm,0.4s						
TKM2				⇓S	Sn	08 27 02.6	-2.2
	comp=N,2.3nm,0.7s						
AGRA	Agra	8.43	152	eS	Sn	08 27 06.7	-2.0
AGRA				AML	AML	08 28 14.4	
	comp=E,61nm,0.3s						
AGRA				AML	AML	08 28 16.2	
	comp=N,59nm,0.4s						
KK31	Karatay Array	8.62	345	P	Pn	08 25 37.8	+1.0
	comp=N,1.5nm,0.3s,baz=154,slow=12,SNR=35						
KK31				⇑S	Sn	08 27 11.4	-1.8
	comp=N,2.7nm,0.5s,baz=148,slow=23,SNR=3.6						
AB31	Akbulak array	17.59	329	⇑P	P	08 27 39.4	+1.6
	comp=N,0.3nm,0.4s,baz=137,slow=13,SNR=5.4						
AKTO	Aktyubinsk	19.30	329	⇓P	Pn	08 27 58.7	+1.0
	comp=N,4.5nm,1.0s						

*NEIC **26** 08:28:37.4, 17°.02N×94°.77W, h138km, MD4.1(MEX), After MEX.*

MEX 26 08:28:37.4±1.1, 17°.02N×94°.77W, h138km±15km, MD4.1, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGIG		1.59	99	i P	Pn	08 29 05.5	-1.7
TGIG				i S	Sn	08 29 27.2	-2.6
TGIG		1.59	99	i P	Pn	08 29 05.5	-1.7
TGIG				i S	Sn	08 29 27.2	-2.6
HUIG	Huatulco	1.79	226	eP	Pn	08 29 07.0	-2.4
HUIG				i S	Sn	08 29 32.0	-1.9
HUIG	Huatulco	1.79	226	eP	Pn	08 29 07.0	-2.4
HUIG				i S	Sn	08 29 32.0	-1.9
OXX	Oaxaca	1.87	272	i P	Pn	08 29 08.9	-1.7
OXX				i S	Sn	08 29 33.7	-2.2
OXX	Oaxaca	1.87	272	i P	Pn	08 29 08.9	-1.7
OXX				i S	Sn	08 29 33.7	-2.2
VHO	Vista Hermosa	1.88	272	eP	Pn	08 29 10.2	-0.5
VHO				i S	Sn	08 29 34.8	-1.3
VHO	Vista Hermosa	1.88	272	eP	Pn	08 29 10.2	-0.5
VHO				i S	Sn	08 29 34.8	-1.3
PCIG		1.98	131	i P	Pn	08 29 11.2	-0.4
PCIG				i S	Sn	08 29 36.8	-1.0
PCIG		1.98	131	i P	Pn	08 29 11.2	-0.4
PCIG				i S	Sn	08 29 36.8	-1.0
CCIG	Comitan	2.62	106	i P	Pn	08 29 18.7	-1.0
CCIG				i S	Sn	08 29 49.8	-2.5
CCIG	Comitan	2.62	106	i P	Pn	08 29 18.7	-1.0
CCIG				i S	Sn	08 29 49.8	-2.5
TPIG	Tehuac#an	2.84	300	i P	Pn	08 29 21.5	-1.0
TPIG				i S	Sn	08 29 54.7	-2.5
TPIG	Tehuac#an	2.84	300	i P	Pn	08 29 21.5	-1.0
TPIG				i S	Sn	08 29 54.7	-2.5
LVIG	Laguna Verde	3.11	330	i P	Pn	08 29 21.8	-3.9
LVIG				i S	Sn	08 29 55.5	-7.6
LVIG	Laguna Verde	3.11	330	i P	Pn	08 29 21.8	-3.9
LVIG				i S	Sn	08 29 55.5	-7.6
PNIG	Pinotepa	3.28	259	i P	Pn	08 29 25.8	-2.2
PNIG				i S	Sn	08 30 05.1	-2.0
PNIG	Pinotepa	3.28	259	i P	Pn	08 29 25.8	-2.2
PNIG				i S	Sn	08 30 05.1	-2.0
PPM	Popocatepetl	4.20	300	i P	Pn	08 29 39.6	-1.0
PPM				i S	Sn	08 30 27.8	-1.9
PPM	Popocatepetl	4.20	300	i P	Pn	08 29 39.6	-1.0
PPM				i S	Sn	08 30 27.8	-1.9
YAIG	Yautepec	4.49	295	i P	Pn	08 29 42.6	-1.4
YAIG				i S	Sn	08 30 34.2	-1.5
YAIG	Yautepec	4.49	295	i P	Pn	08 29 42.6	-1.4
YAIG				i S	Sn	08 30 34.2	-1.5
PLIG	Platanillo	4.72	287	eP	Pn	08 29

*IDC **26** 08:38:51.5±1.2,24°.94N×97°.83E,h0km,mb3.5/5, mb1 3.7/6,mb1mx3.4/27,mbtmp3.5/6,ML4.0/1,Error ellipse: s-maj=60.9km s-min=15.3km az=74.0*
*BJI **26** 08:38:54.0,24°.94N×97°.91E,h6km,ML3.6/6,Ms3.5/1, Ms7 3.3/1*
ISC 26 08:38:53.1±1.1,25°.0N±0°.1×98°.00E±0°.09,h10km,n7, σ1§41/8,mb3.6/5,Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**4.30**	**87**	Pg	**Pg**	**08 40 16.3**	**+0.7**
KMI				Sg	**Sg**	**08 41 10.5**	**-0.9**
KMI				smax	smax		
	comp=N,130nm,1.0s						
KMI				smax	smax		
	comp=E,74nm,1.1s						
KMI				LR	LR		
	comp=N,260nm,7.1s						
KMI				LR	LR		
	comp=E,370nm,7.6s						
KMI				LR	LR		
	comp=Z,380nm,10.5s						
CMAR	**Chiang Mai Arr**	**6.53**	**172**	Pn	**Pn**	**08 40 28.7**	**-0.6**
	comp=Z,0.8nm,0.3s,baz=348,slow=12,SNR=4.7						
CMAR				Pg	Pg	08 40 52.4	-5.8
	comp=Z,1.6nm,0.3s,baz=347,slow=16,SNR=30						
CMAR				Lg	Lg	08 42 17.0	
	comp=Z,1.0nm,0.3s,baz=354,slow=31,SNR=3.4						
SONM	**Songino Array**	**23.78**	**14**	P	**P**	**08 44 06.2**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=188,slow=8.7,SNR=2.9						
MKAR	**Makanchi Array**	**25.14**	**334**	P	**P**	**08 44 17.6**	**-0.7**
	comp=Z,0.8nm,0.6s,baz=151,slow=9.0,SNR=11						
ZALV	**Zalesovo Beam**	**30.58**	**345**	P	**P**	**08 45 06.6**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=154,slow=7.9,SNR=2.2						
WRA	**Warramunga Arr**	**56.94**	**138**	P	**P**	**08 48 37.6**	**-1.3**
	comp=Z,0.5nm,0.3s,baz=326,slow=7.5,SNR=2.8						
ASAR	**Alice Springs**	**59.56**	**141**	P	**P**	**08 48 59.6**	**+2.5**
	comp=Z,0.2nm,0.6s,baz=333,slow=7.3,SNR=3.6						

*ISCJB **26** 08:47:28.5±0.7,33°.11N±0°.05×91°.7E±0°.2,h10km,mb3.6/4, Error ellipse: s-maj=20.0km s-min=7.3km az=0.3*
*IDC **26** 08:47:29.3±1.1,33°.07N×91°.64E,h0km,mb3.6/4, mb1 3.7/7,mb1mx3.5/27,mbtmp3.5/7,ML3.0/3,Error ellipse: s-maj=42.1km s-min=20.4km az=58.0*
ISC 26 08:47:30.4±0.9,33°.15N±0°.07×91°.7E±0°.2,h10km,n8, σ1§26/9,mb3.8/4,Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**3.46**	**188**	Pg	**Pb**	**08 48 31.8**	**-0.3**
LSA				Sg	**Sg**	**08 49 22.8**	**+1.0**
LSA				smax	smax		
	comp=N,20nm,0.8s						
LSA				smax	smax		
	comp=E,60nm,0.9s						
MKAR	**Makanchi Array**	**15.40**	**335**	Pn	**Pn**	**08 51 06.4**	**-1.4**
	comp=E,0.0nm,0.3s,baz=120,slow=5.7,SNR=2.4						
CMAR	**Chiang Mai Arr**	**16.01**	**154**	Pn	**Pn**	**08 51 13.8**	**-1.9**
	comp=E,0.1nm,0.3s,baz=332,slow=13,SNR=5.8						
SONM	**Songino Array**	**18.41**	**33**	P	**Pn**	**08 51 46.3**	**+0.6**
	comp=E,0.1nm,0.3s,baz=209,slow=12,SNR=3.3						
ZALV	**Zalesovo Beam**	**21.36**	**349**	P	**P**	**08 52 18.6**	**+0.9**
	comp=E,0.5nm,0.3s,baz=156,slow=11,SNR=2.1						
BRTR	**Keskin Array B**	**46.46**	**295**	P	**P**	**08 55 58.0**	**+0.2**
	comp=E,0.4nm,0.4s,baz=123,slow=5.3,SNR=3.5						
WRA	**Warramunga Arr**	**66.67**	**136**	P	**P**	**08 58 22.8**	**+1.2**
	comp=E,0.6nm,0.8s,baz=326,slow=6.2,SNR=7.6						
ASAR	**Alice Springs**	**69.36**	**139**	P	**P**	**08 58 38.5**	**0.0**
	comp=E,0.9nm,0.8s,baz=327,slow=6.9,SNR=12						

IDC 26 09:00:58.6±3.7,20°.23N×145°.14E,h142km±33km, mb3.5/11,mb1 3.6/12,mb1mx3.5/28,mbtmp3.5/12,Error ellipse: s-maj=27.4km s-min=15.9km az=93.0,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**7.35**	**339**	P	Pn	09 02 43.0	-0.4
	3.6nm,0.3s,baz=218,slow=12,SNR=6.7						
CBIJ				S	Sn	09 04 02.9	-2.7
	5.2nm,0.3s,baz=128,slow=23,SNR=8.1						
KSRS	**Korea Array**	**22.78**	**323**	P	P	09 05 49.4	+0.3
	2.1nm,0.7s,baz=151,slow=8.8,SNR=7.8						
WRA	**Warramunga Arr**	**41.30**	**195**	P	P	09 08 30.1	-0.2
	0.5nm,0.5s,baz=17,slow=8.7,SNR=6.6						
SONM	**Songino Array**	**41.63**	**321**	P	P	09 08 33.3	+0.3
	0.7nm,0.5s,baz=122,slow=8.6,SNR=5.1						
FITZ	**Fitzroy Crossi**	**42.62**	**208**	P	P	09 08 41.1	0.0
	0.7nm,0.5s,baz=27,slow=12,SNR=5.6						
ZALV	**Zalesovo Beam**	**56.49**	**322**	P	P	09 10 24.9	-0.8
	0.8nm,0.5s,baz=95,slow=8.8,SNR=3.1						
MKAR	**Makanchi Array**	**57.03**	**313**	P	P	09 10 30.2	+0.4
	0.3nm,0.3s,baz=88,slow=8.7,SNR=7.3						
MKAR				PcP	PcP	09 11 22.6	-0.5
	0.3nm,0.4s,baz=81,slow=3.9,SNR=6.0						
KURBB	**Kurchatov Arra**	**59.84**	**317**	P	P	09 10 49.9	+0.8
	1.0nm,0.4s,baz=95,slow=7.7,SNR=5.7						
ILAR	**Eielson Array**	**62.52**	**27**	P	P	09 11 06.7	-0.2
	0.6nm,0.7s,baz=251,slow=4.6,SNR=8.7						
BVAR	**Borovoye Array**	**64.97**	**320**	P	P	09 11 23.0	-0.1
	1.2nm,0.4s,baz=87,slow=7.0,SNR=6.0						
YKA	**Yellowknife Ar**	**76.89**	**28**	P	P	09 12 35.7	+0.9
	1.0nm,0.5s,baz=293,slow=5.2,SNR=3.0						
FINES	**FINESS Array B**	**85.28**	**335**	P	P	09 13 18.0	-1.3
	1.4nm,0.3s,baz=70,slow=5.4,SNR=17						

IDC 26 09:02:25.0±11.0,18°.64S×168°.82E,h0km,mb4.0/4, mb1 4.1/5,mb1mx3.8/18,mbtmp4.0/5,ML3.5/1,MS3.0/1, Ms1 3.0/1,ms1mx2.7/21,Error ellipse: s-maj=203.6km s-min=45.1km az=93.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.08**	**213**	Pn	Pn	09 03 28.1	-0.7
	3.0nm,0.3s,baz=63,slow=14,SNR=52						
DZM				Sn	Sn	09 04 18.8	+1.4
	3.1nm,0.3s,baz=252,slow=20,SNR=3.9						
DZM				LR	LR	09 04 32.0	
	comp=Z,168nm,18.0s,baz=216,slow=31						
STKA	**Stephens Creek**	**27.84**	**236**	P	P	09 08 16.7	+0.4
	2.2nm,0.7s,baz=89,slow=7.4,SNR=4.8						
WRA	**Warramunga Arr**	**32.54**	**262**	P	P	09 08 57.1	-1.0
	0.4nm,0.7s,baz=91,slow=8.4,SNR=3.8						
ASAR	**Alice Springs**	**32.89**	**255**	P	P	09 09 00.9	-0.2
	2.0nm,0.5s,baz=82,slow=8.7,SNR=59						
FITZ	**Fitzroy Crossi**	**40.91**	**264**	P	P	09 10 10.3	+0.8
	0.9nm,0.5s,baz=104,slow=8.3,SNR=6.2						

*IDC **26** 09:56:42.1±0.9,34°.88N×45°.09E,h0km,mb3.8/11, mb1 3.8/17,mb1mx3.7/31,mbtmp3.7/17,ML3.5/6,MS2.8/3, Ms1 2.8/3,ms1mx2.5/46,Error ellipse: s-maj=23.0km s-min=14.4km az=163.0*
*TEH **26** 09:56:44.9,34°.76N×45°.00E,h10km,ML4.1*
*ISN **26** 09:56:44.8±1.8,34°.30N×46°.86E,h5km±425km,ML3.1*
*KISR **26** 09:56:46.4±0.4,34°.29N×45°.28E,h34km±999km,ML3.5*
*CSEM **26** 09:56:48.9±0.3,34°.66N×45°.26E,h20km,ML4.1,Error ellipse: s-maj=9.6km s-min=6.5km az=51.0*
ISC 26 09:56:44.8±1.0,34°.80N±0°.04×45°.06E±0°.03,h19km±3km, n77,σ1§37/81,mb3.9/12,2C,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**1.09**	**95**	*e*	**Sn**	**09 57 22.4**	**+2.4**
	comp=Z,58μm,0.2s						
IDHR				*e*Pg	**Pb**	**09 57 04.7**	**-0.5**
IGHG	**Ghaleghazi**	**1.33**	**110**	*e*Pn	**Pg**	**09 57 10.1**	**-0.4**
IGHG				*e*Sg	**Sn**	**09 57 27.7**	**+1.9**
IGHG				*e*		09 57 38.3	
	comp=Z,26μm,0.2s						
IGHG	**Ghaleghazi**	**1.33**	**110**	*e*Pn	**Pg**	**09 57 10.1**	**-0.4**
IGHG				*e*Sg	**Sn**	**09 57 27.7**	**+1.9**
IVIS	**Veis**	**1.50**	**100**	*e*Pn	**Pg**	**09 57 12.5**	**-1.2**
IVIS				*e*Sg	**Sg**	**09 57 33.1**	**-0.2**
IVIS				*e*		09 57 37.2	
	comp=Z,22μm,0.3s						
IVIS	**Veis**	**1.50**	**100**	*e*Pn	**Pg**	**09 57 12.5**	**-1.2**
IVIS				*e*Sg	**Sg**	**09 57 33.1**	**-0.2**
ILIN	**Lien**	**1.57**	**85⇑**	*e*Pn	**Pb**	**09 57 13.3**	**0.0**
ILIN				*e*Sg	**Sg**	**09 57 36.1**	**+0.6**
ILIN				*e*		09 57 39.7	
	comp=Z,24μm,0.3s						
ILIN	**Lien**	**1.57**	**85⇑**	*e*Pn	**Pb**	**09 57 13.3**	**0.0**
ILIN				*e*Sg	**Sg**	**09 57 36.1**	**+0.6**
BHD	**Baghdad**	**1.62**	**201**	*e*PG	**Sn**	**09 57 35.7**	**+3.0**
BHD				*e*SG	Sg	09 58 12.2	+35
IBDR	**Badra**	**1.83**	**157**	*e*PG	**Pn**	**09 57 15.8**	**+0.6**
IBDR				*e*SG	**Sb**	**09 57 38.9**	**-1.2**
SNGE	**Sanandaj**	**1.90**	**80**	*e*Pg	**Pb**	**09 57 18.6**	**-0.4**
IKOM	**Komasi**	**2.12**	**106**	*e*Pn	**Pb**	**09 57 22.0**	**-0.6**
IKOM				*e*Sg	Sg	09 57 51.9	-1.3
IKOM				*e*		09 58 00.2	
	comp=Z,17μm,0.2s						
IKOM	**Komasi**	**2.12**	**106**	*e*Pn	**Pb**	**09 57 22.0**	**-0.6**
IKFM	**Kafar-mosalman**	**2.63**	**118**	*e*Pn	**Pn**	**09 57 28.0**	**+1.8**
CUKT	**Cukurca**	**2.71**	**335**	*e*PN	**Pb**	**09 57 32.2**	**-0.6**
CUKT	**Cukurca**	**2.71**	**335**	*e*Pn	**Pb**	**09 57 32.2**	**-0.6**
IDOB	**Doab**	**2.77**	**110**	*e*Pn	**Pn**	**09 57 29.5**	**+1.2**
IDOB				*e*Sg	**Sb**	**09 58 08.1**	**+0.7**
IDOB	**Doab**	**2.77**	**110**	*e*Pn	**Pn**	**09 57 29.5**	**+1.2**
IKMR	**Kamar-syah**	**3.03**	**114**	*e*Pn	**Pn**	**09 57 32.6**	**+0.9**
IKMR	**Kamar-syah**	**3.03**	**114**	*e*Pn	**Pn**	**09 57 32.6**	**+0.9**
SIRT	**Sirnak**	**3.43**	**323**	*e*PN	**Pb**	**09 57 46.3**	**+1.3**
SIRT	**Sirnak**	**3.43**	**323**	*e*Pn	**Pb**	**09 57 46.3**	**+1.3**
NSR	**Nassriya**	**3.88**	**166**	*e*PG	Pg	09 57 59.4	+0.2
NSR				*e*Sg	Sg	09 58 48.7	-0.8
IRAZ	**Razeghan**	**4.04**	**80**	*e*Pn	**Pn**	**09 57 48.9**	**+3.2**
IRAZ				*e*		09 59 04.3	
	comp=Z,2μm,0.3s						
IRAZ	**Razeghan**	**4.04**	**80**	*e*Pn	**Pn**	**09 57 48.9**	**+3.2**
ASAO	**Ashtian**	**4.10**	**92**	*e*Pn	**Pn**	**09 57 49.5**	**+2.9**
KHMZ	**Khomeyn**	**4.19**	**103**	*e*Pn	**Pn**	**09 57 50.1**	**+2.3**
IR5	**Iran Long-Peri**	**4.55**	**83**	*e*Pn	**Pn**	**09 57 55.6**	**+2.9**
IR5	**Iran Long-Peri**	**4.55**	**83**	*e*Pn	**Pn**	**09 57 55.6**	**+2.9**
MAZI	**Mazidag**	**4.58**	**307**	*e*PN	**Pb**	**09 58 05.3**	**+0.7**
AGRB	**Hanur-Agry**	**5.05**	**342**	*e*PN	Pn	09 58 03.5	+3.9
AGRB	**Hanur-Agry**	**5.05**	**342**	*e*Pn	Pn	09 58 03.5	+3.9
CHTH	**Charan**	**5.08**	**76**	*e*Pn	Pn	09 58 04.7	+4.6
GHVR	**GHOM**	**5.15**	**92**	*e*Pn	**Pn**	**09 58 03.8**	**+2.9**
BNGB	**Bing¶l**	**5.46**	**321**	*e*PN	Pb	09 58 14.6	-5.1
BINT	**Bingol**	**5.48**	**319**	*e*PN	Pb	09 58 14.6	-5.3
IVRN	**Varamin**	**5.48**	**86**	*e*Pn	**Pn**	**09 58 06.7**	**+1.2**
IVRN	**Varamin**	**5.48**	**86**	*e*Pn	**Pn**	**09 58 06.7**	**+1.2**
RST	**Umm Al-Ruwaisa**	**5.53**	**162**	*e*P	**Pn**	**09 58 07.6**	**+1.6**
RST	**Umm Al-Ruwaisa**	**5.53**	**162**	*e*P	**Pn**	**09 58 07.6**	**+1.6**
IKLH	**Kolahrood**	**5.61**	**103**	*e*Pn	**Pn**	**09 58 08.3**	**+1.0**
IKLH				*e*		09 59 57.4	
	comp=N,2μm,0.5s						
IKLH	**Kolahrood**	**5.61**	**103**	*e*Pn	**Pn**	**09 58 08.3**	**+1.0**
URFA	**Urfa**	**5.70**	**299**	*e*PN	**Pb**	**09 58 22.4**	**-1.2**
NAY	**Al-Naaiem**	**5.83**	**161**	*e*P	**Pn**	**09 58 11.5**	**+1.3**
NAY				*e*S	**Sn**	**09 59 15.6**	**-1.0**
NAY				AML	AML	09 59 18.0	
	comp=Z,15nm,0.3s						
NAY	**Al-Naaiem**	**5.83**	**161**	*e*P	**Pn**	**09 58 11.5**	**+1.3**
NAY				*e*S	**Sn**	**09 59 15.6**	**-1.0**
ISFB	**Sefidab**	**5.94**	**92**	*e*Pn	**Pn**	**09 58 12.7**	**+0.9**
ISFB	**Sefidab**	**5.94**	**92**	*e*Pn	**Pn**	**09 58 12.7**	**+0.9**
PTK	**Pertek**	**6.11**	**314**	*e*PN	**Pn**	**09 58 13.3**	**-1.0**
RDF	**Al-Radifah**	**6.22**	**159**	*e*P	**Pn**	**09 58 17.2**	**+1.6**
RDF				*e*S	**Sn**	**09 59 25.2**	**-1.0**
RDF				AML	AML	09 59 27.3	
	comp=Z,21nm,0.4s						
RDF	**Al-Radifah**	**6.22**	**159**	*e*P	**Pn**	**09 58 17.2**	**+1.6**
RDF				*e*S	**Sn**	**09 59 25.2**	**-1.0**
	comp=Z,21nm,0.4s						
IZEF	**Zefreh**	**6.34**	**105**	*e*Pn	**Pn**	**09 58 18.2**	**+0.8**
IZEF	**Zefreh**	**6.34**	**105**	*e*Pn	**Pn**	**09 58 18.2**	**+0.8**
MALT	**Malatya**	**6.39**	**305**	*e*PN	Pb	09 58 30.0	-5.4
QRN	**Al-Qurain**	**6.50**	**157**	*e*P	**Pn**	**09 58 21.0**	**+1.6**
QRN				*e*S	**Sn**	**09 59 32.5**	**-0.6**
QRN				AML	AML	09 59 33.1	
	comp=Z,34nm,0.3s						
DARE	**Darende-Malaty**	**7.16**	**304**	*e*P	Pb	09 58 40.6	-7.9
ASF	**Jabal al Asfar**	**7.30**	**251**	Pn	**Pn**	**09 58 32.2**	**+1.7**
	comp=Z,0.5nm,0.3s,baz=13,slow=8.4,SNR=3.8						
ASF				Sn	Sn	10 00 05.0	+12
	comp=Z,1.2nm,0.3s,baz=174,slow=18,SNR=2.5						
ASF				Lg	Lg	10 00 32.1	
	comp=Z,1.2nm,0.3s,baz=220,slow=14,SNR=3.6						
ASF				LR	LR	10 01 02.8	
	comp=Z,41nm,21.3s,baz=192,slow=36						
MMAI	**Mount Meron Ar**	**8.22**	**260**	Pn	**Pn**	**09 58 43.5**	**+0.4**
	comp=Z,0.7nm,0.3s,baz=70,slow=18,SNR=2.8						
MMAI				Sn	Sn	10 00 27.6	+12
	comp=Z,1.4nm,0.3s,baz=72,slow=29,SNR=2.5						
MMAI				Lg	Lg	10 01 02.8	
	comp=Z,2.1nm,0.3s,baz=78,slow=34,SNR=4.6						
EIL	**Elat**	**9.97**	**242**	Pn	**Pn**	**09 59 08.7**	**+1.7**
	comp=Z,0.2nm,0.3s,baz=69,slow=20,SNR=6.3						
EIL				Sn	Sn	10 01 06.0	+7.7
	comp=Z,0.5nm,0.3s,baz=31,slow=18,SNR=2.4						
EIL				Lg	Lg	10 02 04.2	
	comp=Z,0.8nm,0.3s,baz=323,slow=20,SNR=3.2						
EIL				LR	LR	10 02 38.1	
	comp=Z,54nm,19.8s,baz=91,slow=36						
BRTR	**Keskin Array B**	**10.35**	**302**	Pn	Pn	09 59 17.6	+5.4
	baz=143,slow=11,SNR=3.0						
IDI	**Anoyia**	**16.53**	**277**	Pn	**Pn**	**10 00 36.1**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=131,slow=16,SNR=1.8						
AKTO	**Aktyubinsk**	**18.26**	**27**	P	**Pn**	**10 00 55.9**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=228,slow=12,SNR=4.8						
AKASG	**Malin Array Be**	**19.63**	**329**	P	**P**	**10 01 11.8**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=134,slow=11,SNR=3.1						
ATD	**Arta Tunnel**	**23.25**	**186**	LR	LR	10 11 48.9	
	comp=Z,36nm,19.1s,baz=26,slow=39						
BVAR	**Borovoye Array**	**25.57**	**37**	P	**P**	**10 02 12.4**	**+0.1**
	comp=Z,1.0nm,0.5s,baz=236,slow=12,SNR=4.9						
KURBB	**Kurchatov Arra**	**28.93**	**47**	P	**P**	**10 02 42.9**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=254,slow=9.8,SNR=4.4						
FINES	**FINESS Array B**	**29.29**	**341**	P	**P**	**10 02 44.7**	**-0.9**
	comp=Z,2.5nm,0.9s,baz=169,slow=8.5,SNR=4.1						
MKAR	**Makanchi Array**	**30.35**	**55**	P	**P**	**10 02 55.9**	**+0.7**
	comp=Z,1.7nm,0.8s,baz=258,slow=9.0,SNR=16						
HFS	**Hagfors**	**32.49**	**331**	P	**P**	**10 03 13.5**	**-0.3**
	comp=Z,7.7nm,0.4s,baz=128,slow=9.3,SNR=58						
NB2	**NORSAR Subarra**	**34.01**	**331**	P	**P**	**10 03 26.2**	**-0.9**
	comp=Z,0.7nm,0.6s,baz=124,slow=9.3						
NB2	**NORSAR Subarra**	**34.01**	**331**	P	**P**	**10 03 26.2**	**-0.9**
	comp=Z,0.7nm,0.6s,baz=124,slow=8.6,SNR=3.4						
NOA	**NORSAR Array B**	**34.01**	**331**	P	**P**	**10 03 25.9**	**-1.3**
	comp=Z,0.7nm,0.5s,baz=120,slow=9.1,SNR=3.3						
TORD	**Torodi Ar. Bea**	**44.67**	**252**	P	**P**	**10 04 56.7**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=66,slow=5.5,SNR=3.9						
SPITS	**Spitsbergen Ar**	**45.19**	**352**	P	**P**	**10 04 59.4**	**-0.6**
	comp=Z,2.1nm,0.5s,baz=116,slow=13,SNR=5.4						
SONM	**Songino Array**	**46.70**	**54**	P	**P**	**10 05 12.4**	**0.0**
	comp=Z,0.2nm,0.4s,baz=267,slow=8.1,SNR=3.1						
CMAR	**Chiang Mai Arr**	**50.27**	**94**	P	**P**	**10 05 39.3**	**-0.7**
	comp=Z,1.0nm,0.7s,baz=267,slow=8.7,SNR=5.3						
KSRS	**Korea Array**	**64.83**	**61**	P	**P**	**10 07 21.8**	**-0.5**
	comp=Z,0.8nm,0.5s,baz=286,slow=5.5,SNR=3.4						
ILAR	**Eielson Array**	**80.32**	**5**	P	**P**	**10 08 53.6**	**-0.5**
	comp=Z,0.8nm,0.9s,baz=312,slow=3.9,SNR=6.8						
QSPA	**South Pole Qui**	**124.63**	**180**	PKP	**PKPdf**	**10 15 42.4**	**+0.4**
	comp=Z,0.8nm,1.0s,baz=225,slow=1.4,SNR=2.3						

*IDC **26** 10:01:40.8±1.1,34°.06N×25°.59E,h0km,mb3.8/10, mb1 3.8/15,mb1mx3.8/28,mbtmp3.7/15,ML3.5/5,Error ellipse: s-maj=23.3km s-min=16.2km az=10.0*
*ISCJB **26** 10:01:41.6±0.3,33°.97N±0°.03×25°.69E±0°.04,h17km, mb3.6/10,Error ellipse: s-maj=4.8km s-min=4.0km az=144.8*
*CSEM **26** 10:01:43.9±0.3,34°.00N×25°.56E,h20km,MD3.5,Error ellipse: s-maj=9.2km s-min=6.7km az=71.0*
*HLW **26** 10:01:44.8,33°.99N×25°.60E,h30km±13km,Md3.3,Ml3.4*
*ATH **26** 10:01:48.2,34°.38N×25°.44E,h32km±6km,MD3.5/11*
*DDA **26** 10:01:58.1,34°.28N×26°.84E,h31km,MD3.5*
ISC 26 10:01:42.9±0.6,34°.01N±0°.03×25°.61E±0°.04,h17km,n58, σ1§41/70,mb3.8/10,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAST	**Lasithi**	**1.16**	**355**	*e*PN	**Pn**	**10 02 03.7**	**-0.7**
LAST	**Lasithi**	**1.16**	**355**	*e*Pn	**Pn**	**10 02 03.7**	**-0.7**
SIVA	**Sivas**	**1.21**	**327**	*e*PN	**Pn**	**10 02 03.9**	**-1.1**
SIVA				*e*SN	**Sb**	**10 02 16.0**	**-4.6**
SIVA	**Sivas**	**1.21**	**327**	*e*Pn	**Pn**	**10 02 03.9**	**-1.1**
ZKR	**Zakros**	**1.21**	**24**	*e*PB	**Pg**	**10 02 06.0**	**-0.3**
ZKR				*e*SN	**Sb**	**10 02 20.0**	**-0.8**
ZKR	**Zakros**	**1.21**	**24**	*e*Pb	**Pg**	**10 02 06.0**	**-0.3**
ZKR				*e*Sn	**Sb**	**10 02 20.0**	**-0.8**
NPS	**Neapolis**	**1.25**	**0**	*e*PN	**Pb**	**10 02 05.7**	**-0.4**
NPS	**Neapolis**	**1.25**	**0**	*e*Pn	**Pb**	**10 02 05.7**	**-0.4**
IDI	**Anoyia**	**1.41**	**335**	*e*PN	**Pn**	**10 02 07.7**	**-0.2**
IDI	**Anoyia**	**1.41**	**335**	Pn	**Pn**	**10 02 07.5**	**-0.3**
	4.6nm,0.3s,baz=162,slow=15,SNR=21						
IDI	**Anoyia**	**1.41**	**335**	*e*Pn	**Pn**	**10 02 07.7**	**-0.2**
GVD	**Gavdhos**	**1.51**	**304**	*e*PN	**Pb**	**10 02 10.7**	**+0.3**
GVD	**Gavdhos**	**1.51**	**304**	*e*Pn	**Pb**	**10 02 10.7**	**+0.3**
VAM	**Vamos**	**1.82**	**321**	*e*PB	**Pn**	**10 02 13.7**	**+0.3**
VAM	**Vamos**	**1.82**	**321**	*e*Pb	**Pn**	**10 02 13.7**	**+0.3**
KARP	**Karpathos**	**2.00**	**39**	*e*PB	**Pg**	**10 02 19.9**	**-1.4**
SLUM		**2.53**	**188**	S	**Sn**	**10 02 52.1**	**-1.4**
	baz=188						
SLUM		**2.53**	**188**	P	**Pn**	**10 02 23.4**	**+0.3**
SLUM				S	**Sn**	**10 02 52.1**	**-1.4**
ANKY	**Antikythira Is**	**2.66**	**315**	*e*PN	**Pn**	**10 02 26.6**	**+1.7**
ANKY	**Antikythira Is**	**2.66**	**315**	*e*Pn	**Pn**	**10 02 26.6**	**+1.7**
APE	**Apeiranthos**	**3.06**	**359**	*e*PN	**Pn**	**10 02 31.7**	**+1.2**
APE	**Apeiranthos**	**3.06**	**359**	*e*Pn	**Pn**	**10 02 31.7**	**+1.2**
KYTH	**Kithira**	**3.10**	**318**	*e*PN	**Pn**	**10 02 31.2**	**+0.2**
KYTH	**Kithira**	**3.10**	**318**	*e*Pn	**Pn**	**10 02 31.2**	**+0.2**
HMAT	**Matruh**	**3.16**	**156**	P	**Pn**	**10 02 32.1**	**+0.2**
	baz=155						
HMAT				AMP		10 03 00.0	
	comp=E,80μm,0.6s,logA/T=5.2,baz=155						
HMAT	**Matruh**	**3.16**	**156**	P	**Pn**	**10 02 32.1**	**+0.2**
VLI	**Veliai**	**3.48**	**322**	*e*PN	**Pn**	**10 02 37.5**	**+1.3**
VLI	**Veliai**	**3.48**	**322**	*e*Pn	**Pn**	**10 02 37.5**	**+1.3**
AKAS	**Kas**	**3.96**	**55**	*i* P	**Pn**	**10 02 45.0**	**+2.1**
AKAS				*i* S	**Sn**	**10 03 29.1**	**+0.1**
AKAS	**Kas**	**3.96**	**55**	*i* P	**Pn**	**10 02 45.0**	**+2.1**
AKAS				*i* S	**Sn**	**10 03 29.1**	**+0.1**
PYL	**PYLOS**	**4.28**	**313**	*e*PN	**Pn**	**10 02 48.5**	**+1.3**
PYL	**PYLOS**	**4.28**	**313**	*e*Pn	**Pn**	**10 02 48.5**	**+1.3**
CHOS	**Chios island**	**4.39**	**5**	*e*PN	**Pn**	**10 02 50.0**	**+1.2**
CHOS	**Chios island**	**4.39**	**5**	*e*Pn	**Pn**	**10 02 50.0**	**+1.2**
GOLH	**Golhisar**	**4.55**	**44**	*i* P	**Pn**	**10 02 53.9**	**+2.8**
GOLH				*i* S	**Sn**	**10 03 40.4**	**-3.3**
GOLH	**Golhisar**	**4.55**	**44**	*i* P	**Pn**	**10 02 53.9**	**+2.8**
GOLH				*i* S	**Sn**	**10 03 40.4**	**-3.3**
SWA2		**4.75**	**182**	P	**Pn**	**10 02 54.3**	**+0.6**
	baz=182						
SWA2		**4.75**	**182**	P	**Pn**	**10 02 54.3**	**+0.6**
KLV	**Kalavryta, Ach**	**4.91**	**326**	*e*PN	**Pn**	**10 02 56.9**	**+1.0**
KLV	**Kalavryta, Ach**	**4.91**	**326**	*e*Pn	**Pn**	**10 02 56.9**	**+1.0**
GAZI	**Gazipasa**	**5.93**	**66**	*i* P	**Pn**	**10 03 07.5**	**-2.4**
GAZI				*i* S	Sn	10 04 09.7	-7.7
AMAG	**Maghara**	**7.25**	**115**	P	**Pn**	**10 03 29.4**	**+1.3**
	baz=115						
AMAG				S	**Sn**	**10 04 47.9**	**-2.2**
	baz=115						
AMAG	**Maghara**	**7.25**	**115**	P	**Pn**	**10 03 29.4**	**+1.3**
AMAG				S	**Sn**	**10 04 47.9**	**-2.2**
MMAI	**Mount Meron Ar**	**8.24**	**94**	Pn	**Pn**	**10 03 42.0**	**+0.3**
	comp=E,1.6nm,0.3s,baz=270,slow=12,SNR=5.4						
MMAI				Sn	**Sn**	**10 05 15.1**	**+0.7**
	comp=E,2.0nm,0.3s,baz=270,slow=22,SNR=3.9						
BRTR	**Keskin Array B**	**8.60**	**46**	Pn	**Pn**	**10 03

4.9nm,0.6s
TKM2 ⇑S **Sn** **10 48 34.6 -2.4**
12nm,0.8s
TKM2 Tokmak 2 7.26 29 P **Pn** **10 47 16.0 +1.1**
SNR=6.7
MK31 Makanchi Array 13.25 36 ⇓P **Pn** **10 48 32.3 +0.3**
2.7nm,0.8s,baz=213,slow=9.8,SNR=14
MKAR Makanchi Array 13.25 36 P **Pn** **10 48 32.2 +0.1**
0.2nm,0.3s,baz=222,slow=11,SNR=16
DANN Dangsing 13.64 124 *eP* **Pn** **10 48 36.2 -1.2**
KOLN Koldanda 13.91 126 *eP* **Pn** **10 48 39.8 -0.9**
KOLN *eS* Sn 10 51 04.2 -12
GKN Gorkha 14.45 123 *eP* **Pn** **10 48 47.2 -0.1**
GKN *eS* Sn 10 51 15.9 -13
AB31 Akbulak array 14.93 331 P **Pn** **10 48 53.0 +0.2**
0.5nm,0.3s,baz=145,slow=12,SNR=21
AB31 S **Sn** **10 51 39.4 -0.1**
0.2nm,0.3s,baz=156,slow=23,SNR=5.0
KURBB Kurchatov Arra 15.04 19 ⇑P **P** **10 48 55.3 +0.3**
1.7nm,0.5s
KURBB Kurchatov Arra 15.04 19 P **P** **10 48 55.0 0.0**
0.4nm,0.3s,baz=207,slow=11,SNR=10.0
PKIN Phulchoki 15.24 122 *eP* **P** **10 48 58.0 +0.2**
JIRN Jiri 15.73 120 *eP* **P** **10 49 04.4 +1.0**
JIRN *eS* S 10 51 47.3 -11
VOSK Vostochnaya 16.10 0 ⇓P **Pn** **10 49 07.5 +0.5**
1.6nm,0.7s
BVA0 Borovoye Array 16.40 359 ⇑P **Pn** **10 49 11.3 +0.6**
3.3nm,0.8s,baz=186,slow=10,SNR=6.0
BVAR Borovoye Array 16.40 359 P **Pn** **10 49 11.8 +1.1**
1.0nm,0.3s,baz=157,slow=10,SNR=6.2
RAMN Ramite 16.46 121 *eP* **Pn** **10 49 13.7 +1.8**
AKTO Aktyubinsk 16.62 330 ⇓P **Pn** **10 49 14.6 +1.2**
4.2nm,0.5s
AKTO Aktyubinsk 16.62 330 P **Pn** **10 49 14.3 +0.9**
1.6nm,0.3s,baz=151,slow=7.8,SNR=19
TAPN Taplejung 16.99 118 *eP* **Pn** **10 49 20.4 +2.1**
ZALV Zalesovo Beam 19.84 25 P **P** **10 49 48.1 +0.7**
3.2nm,0.4s,baz=222,slow=11,SNR=16
SONM Songino Array 28.35 56 P **P** **10 51 08.6 +1.0**
0.3nm,0.5s,baz=256,slow=12,SNR=2.6
FINES FINESS Array B 37.33 326 P **P** **10 52 25.5 +0.6**
1.5nm,0.7s,baz=119,slow=11,SNR=5.7
ARCES ARCESS Array B 40.99 338 P **P** **10 52 56.4 +1.1**
5.8nm,1.0s,baz=120,slow=9.0,SNR=5.8
NOA NORSAR Array B 44.22 323 P **P** **10 53 22.3 +0.9**
0.8nm,0.5s,baz=97,slow=7.7,SNR=3.0
TORD Torodi Ar. Bea 65.62 269 P **P** **10 55 54.0 -1.3**
0.3nm,0.6s,baz=51,slow=5.5,SNR=3.5
WRA Warramunga Arr 82.14 122 P **P** **10 57 28.9 -2.2**
0.2nm,0.4s,baz=322,slow=4.8,SNR=4.7
ASAR Alice Springs 84.41 125 P **P** **10 57 40.2 -2.4**
0.3nm,0.8s,baz=318,slow=4.7,SNR=3.9

IDC 26 10:59:12.4±1.0, 11°.27N×142°.98E, h0km, mb3.8/9, mb1 4.0/9, mb1mx3.8/23, mbtmp3.8/9, Error ellipse: s-maj=33.2km s-min=21.3km az=93.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.16**	**195**	P	P	11 05 42.1	0.0
0.6nm,0.8s,baz=16,slow=9.5,SNR=4.3							
ASAR	**Alice Springs**	**35.84**	**194**	P	P	11 06 13.8	-0.3
0.4nm,0.8s,baz=20,slow=10,SNR=7.2							
CMAR	**Chiang Mai Arr**	**43.07**	**285**	P	P	11 07 14.6	0.0
2.8nm,0.7s,baz=88,slow=6.8,SNR=16							
SONM	**Songino Array**	**47.60**	**327**	P	P	11 07 50.5	+0.2
0.4nm,0.5s,baz=139,slow=5.5,SNR=3.8							
SONM				PcP	PcP	11 09 20.5	+0.3
0.3nm,0.6s,baz=149,slow=3.0,SNR=2.5							
MKAR	**Makanchi Array**	**61.89**	**317**	P	P	11 09 33.8	-0.1
0.6nm,0.7s,baz=91,slow=8.8,SNR=6.6							
ZALV	**Zalesovo Beam**	**62.45**	**326**	P	P	11 09 36.5	-0.8
0.5nm,0.5s,baz=90,slow=4.6,SNR=2.2							
BVAR	**Borovoye Array**	**70.60**	**322**	P	P	11 10 29.9	+0.3
1.9nm,0.5s,baz=100,slow=6.0,SNR=6.2							
ILAR	**Eielson Array**	**71.44**	**25**	P	P	11 10 34.2	-0.2
0.5nm,0.8s,baz=247,slow=6.1,SNR=8.0							
YKA	**Yellowknife Ar**	**85.75**	**27**	P	P	11 11 53.7	+0.3
0.4nm,0.6s,baz=280,slow=5.0,SNR=2.9							

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*IDC **26** 11:16:21.3±0.8, 31°.80N×55°.82E, h0km, mb3.9/15, mb1 4.0/20, mb1mx3.9/33, mbtmp3.9/20, ML3.9/5, MS3.2/5, Ms1 3.2/5, ms1mx2.7/41, Error ellipse: s-maj=23.0km s-min=13.8km az=177.0*
*ISCJB **26** 11:16:23.4±0.2, 32°.03N±0°.03×55°.79E±0°.02, h13km, mb3.8/16, MS3.1/3, Error ellipse: s-maj=3.7km s-min=3.0km az=166.6*
*CSEM **26** 11:16:23.4±0.1, 32°.04N×55°.82E, h2km, ML4.3, Error ellipse: s-maj=3.3km s-min=2.8km az=137.0*
*THR **26** 11:16:23.2±1.2, 32°.10N×55°.85E, h14km±12km, ML4.1*
*TEH **26** 11:16:23.9, 31°.98N×55°.84E, h6km, ML4.3*
ISC 26 11:16:24.4±0.4, 31°.99N±0°.03×55°.80E±0°.03, h13km, n112, σ1§**15**/121, **mb3.9**/16, **MS3.1**/3, **8C-4D, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBAF	**Bafgh**	**0.44**	**206**⇑	*ePg*	**Pg**	**11 16 31.9**	**-1.4**
IBAF				*eSg*	**Sg**	**11 16 38.7**	**-0.6**
IBAF				*e*		11 16 39.5	
comp=Z,5μm,0.1s							
IBAF	**Bafgh**	**0.44**	**206**⇑	*ePg*	**Pg**	**11 16 31.9**	**-1.4**
IBAF				*eSg*	**Sg**	**11 16 38.7**	**-0.6**
IMEH	**Mehriz**	**1.17**	**240**⇓	*ePg*	**Pn**	**11 16 45.7**	**-1.1**
IMEH				*eSg*	**Sb**	**11 17 02.2**	**+0.2**
IMEH				*e*		11 17 08.7	
comp=Z,29μm,0.2s							
IMEH	**Mehriz**	**1.17**	**240**⇓	*ePg*	**Pn**	**11 16 45.7**	**-1.1**
IMEH				*eSg*	**Sb**	**11 17 02.2**	**+0.2**
ICHK	**Chekchek**	**1.21**	**282**⇑	*ePg*	**Pn**	**11 16 45.9**	**-1.4**
ICHK				*eSg*	**Sb**	**11 17 02.2**	**-0.7**
ICHK				*e*		11 17 09.6	
comp=Z,80μm,0.1s							
ICHK	**Chekchek**	**1.21**	**282**⇑	*ePg*	**Pn**	**11 16 45.9**	**-1.4**
ICHK				*eSg*	**Sb**	**11 17 02.2**	**-0.7**
ISAD	**Sadrabad**	**1.80**	**268**⇑	*ePn*	**Pn**	**11 16 56.0**	**+0.6**
ISAD	**Sadrabad**	**1.80**	**268**⇑	*ePn*	**Pn**	**11 16 56.0**	**+0.6**
TABS	**Tabas**	**1.99**	**34**	*ePg*	**Pn**	**11 16 56.9**	**-1.1**
TABS	**Tabas**	**1.99**	**34**	*ePg*	**Pn**	**11 16 56.9**	**-1.1**
KRBR	**Kerman**	**2.17**	**157**	*ePn*	**Pb**	**11 17 02.7**	**-1.0**
KRBR				*eSg*	**Sg**	**11 17 34.0**	**-0.1**
KRBR	**Kerman**	**2.17**	**157**	*ePn*	**Pb**	**11 17 02.7**	**-1.0**
KRBR				*eSg*	**Sg**	**11 17 34.0**	**-0.1**
ITEG	**Tejag**	**2.65**	**69**	*e*	**Sg**	**11 17 49.1**	**-0.7**
comp=Z,17μm,0.1s							
NASN	**Na'in**	**2.66**	**288**	*ePn*	**Pn**	**11 17 08.1**	**+0.8**
NASN				AML	AML	11 17 48.8	
comp=E,820nm,0.6s							
NASN				AML	AML	11 17 50.8	
comp=N,1μm,0.5s							
NASN	**Na'in**	**2.66**	**288**	*ePn*	**Pn**	**11 17 08.1**	**+0.8**
IKOO	**Kooshah**	**2.75**	**80**	*ePn*	**Pn**	**11 17 08.0**	**-0.5**
IKOO	**Kooshah**	**2.75**	**80**	*ePn*	**Pn**	**11 17 08.0**	**-0.5**
IZEF	**Zefreh**	**3.07**	**288**⇑	*ePn*	**Pn**	**11 17 14.0**	**+1.1**
IZEF				*e*		11 18 06.4	
comp=Z,8μm,0.3s							
IZEF	**Zefreh**	**3.07**	**288**⇑	*ePn*	**Pn**	**11 17 14.0**	**+1.1**
IPAR	**Pars**	**3.19**	**229**	*ePn*	**Pn**	**11 17 15.5**	**+0.9**
IPAR				*e*		11 18 16.0	
comp=Z,6μm,0.4s							
IPAR	**Pars**	**3.19**	**229**	*ePn*	**Pn**	**11 17 15.5**	**+0.9**
IGAR	**Gharneh**	**3.21**	**278**	*ePn*	**Pn**	**11 17 15.6**	**+0.8**
IGAR				*e*		11 18 08.6	
comp=Z,4μm,0.2s							
IMON	**Monand**	**3.48**	**69**	*ePn*	**Pn**	**11 17 17.8**	**-0.7**
IMON				*ePn*	**Pn**	**11 17 17.9**	**-0.6**
IMON				*e*		11 17 39.5	
comp=Z,5μm,0.1s							
IMON				*e*		11 18 27.2	
comp=E,20μm,0.2s							
IMON	**Monand**	**3.48**	**69**	*ePn*	**Pn**	**11 17 17.9**	**-0.6**
ISRV	**Sarvestan**	**3.48**	**222**	*ePn*	**Pn**	**11 17 19.5**	**+0.9**
ISRV				*e*		11 18 29.0	
comp=Z,5μm,0.4s							
ISRV	**Sarvestan**	**3.48**	**222**	*ePn*	**Pn**	**11 17 19.5**	**+0.9**
IDAH	**Dahanechah**	**3.52**	**77**	*ePn*	**Pn**	**11 17 18.9**	**-0.3**
IDAH				*e*		11 18 28.8	
comp=Z,5μm,0.3s							
IDAH	**Dahanechah**	**3.52**	**77**	*ePn*	**Pn**	**11 17 18.9**	**-0.3**
IKLH	**Kolahrood**	**3.80**	**292**	*ePn*	**Pn**	**11 17 23.7**	**+0.8**
IKLH				*e*		11 18 35.7	
comp=N,8μm,0.2s							
IKLH	**Kolahrood**	**3.80**	**292**	*ePn*	**Pn**	**11 17 23.7**	**+0.8**
ISFB	**Sefidab**	**3.80**	**309**	*ePn*	**Pn**	**11 17 23.2**	**+0.4**
ISFB				*e*		11 18 23.8	
comp=Z,6μm,0.2s							
ISFB	**Sefidab**	**3.80**	**309**	*ePn*	**Pn**	**11 17 23.2**	**+0.4**
IANJ	**Anjilo**	**3.81**	**336**	*ePn*	**Pn**	**11 17 22.3**	**-0.7**
IANJ				*e*		11 18 35.4	
comp=Z,3μm,0.2s							
IANJ	**Anjilo**	**3.81**	**336**	*ePn*	**Pn**	**11 17 22.3**	**-0.7**
IKAZ	**Kazeroun**	**4.05**	**238**⇓	*ePn*	**Pn**	**11 17 27.9**	**+1.4**
IKAZ				*e*		11 17 46.9	
comp=Z,3μm,0.2s							
IKAZ	**Kazeroun**	**4.05**	**238**⇓	*ePn*	**Pn**	**11 17 27.9**	**+1.4**
SHRT	**Shahrakht**	**4.13**	**65**	*ePn*	**Pn**	**11 17 27.4**	**+0.1**
SHRT	**Shahrakht**	**4.13**	**65**	*ePn*	**Pn**	**11 17 27.4**	**+0.1**
ILAS	**Lasjerd**	**4.13**	**326**	*ePn*	**Pn**	**11 17 28.2**	**+0.7**
ILAS				*e*		11 18 45.0	
comp=N,6μm,0.4s							
ILAS	**Lasjerd**	**4.13**	**326**	*ePn*	**Pn**	**11 17 28.2**	**+0.7**
ISHM	**Shahmirzad**	**4.34**	**332**	*ePn*	**Pn**	**11 17 30.4**	**0.0**
ISHM				*e*		11 18 51.2	
comp=Z,6μm,0.2s							
ISHM	**Shahmirzad**	**4.34**	**332**	*ePn*	**Pn**	**11 17 30.4**	**0.0**
GHIR	**Ghir-Karzin**	**4.42**	**214**	*ePn*	**Pn**	**11 17 33.6**	**+2.2**
GHIR				AML	AML	11 18 55.4	
comp=E,148nm,0.6s							
GHIR				AML	AML	11 19 05.2	
comp=N,138nm,0.5s							
GHIR	**Ghir-Karzin**	**4.42**	**214**	*ePn*	**Pn**	**11 17 33.6**	**+2.2**
IFIR	**Firoozkooh**	**4.44**	**326**	*ePn*	**Pn**	**11 17 31.6**	**-0.1**
IFIR				*e*		11 18 51.9	
comp=Z,2μm,0.2s							
IFIR	**Firoozkooh**	**4.44**	**326**	*ePn*	**Pn**	**11 17 31.6**	**-0.1**
IVRN	**Varamin**	**4.53**	**312**	*ePn*	**Pn**	**11 17 33.3**	**+0.5**
IVRN				*e*		11 18 29.6	
comp=Z,2μm,0.2s							
IVRN	**Varamin**	**4.53**	**312**	*ePn*	**Pn**	**11 17 33.3**	**+0.5**
BNDS	**Bandar-Abbas**	**4.59**	**176**	*ePn*	**Pn**	**11 17 35.9**	**+2.2**
BNDS				AML	AML	11 19 06.5	
comp=E,120nm,0.5s							
BNDS				AML	AML	11 19 08.9	
comp=N,168nm,0.6s							
BNDS	**Bandar-Abbas**	**4.59**	**176**	*ePn*	**Pn**	**11 17 35.9**	**+2.2**
IDMV	**Damavand**	**4.76**	**320**	*ePn*	**Pn**	**11 17 36.6**	**+0.5**
IDMV				*e*		11 19 18.2	
comp=Z,3μm,0.4s							
IDMV	**Damavand**	**4.76**	**320**	*ePn*	**Pn**	**11 17 36.6**	**+0.5**
IMOG	**Moghan**	**5.05**	**35**	*ePn*	**Pn**	**11 17 39.7**	**-0.5**
IMOG				*e*		11 19 05.7	
comp=Z,961nm,0.3s							
IMOG	**Moghan**	**5.05**	**35**	*ePn*	**Pn**	**11 17 39.7**	**-0.5**
IAKL	**Akhelmad**	**5.21**	**27**	*ePn*	**Pn**	**11 17 41.7**	**-0.7**
IAKL				*e*		11 19 27.1	
comp=Z,1μm,0.5s							
ISRO	**Mashad**	**5.28**	**34**	*ePn*	**Pn**	**11 17 42.1**	**-1.0**
ISRO	**Mashad**	**5.28**	**34**	*ePn*	**Pn**	**11 17 42.1**	**-1.0**
IKRD	**Kardeh**	**5.28**	**24**	*ePn*	Pn	11 17 48.1	+4.9
IKRD				*e*		11 19 30.7	
comp=Z,950nm,0.5s							
IR3	**Iran Long-Peri**	**5.28**	**312**	*ePn*	**Pn**	**11 17 44.0**	**+0.8**
IR3	**Iran Long-Peri**	**5.28**	**312**	*ePn*	**Pn**	**11 17 44.0**	**+0.8**
ISFR	**Sfrayin**	**5.37**	**19**	*ePn*	**Pn**	**11 17 43.9**	**-0.6**
ISFR				*e*		11 19 28.9	
comp=Z,2μm,0.3s							
ISFR	**Sfrayin**	**5.37**	**19**	*ePn*	**Pn**	**11 17 43.9**	**-0.6**
IR5	**Iran Long-Peri**	**5.41**	**308**	*ePn*	**Pn**	**11 17 45.5**	**+0.5**
IR5	**Iran Long-Peri**	**5.41**	**308**	*ePn*	**Pn**	**11 17 45.5**	**+0.5**
IMYA	**Miami**	**5.62**	**38**	*ePn*	**Pn**	**11 17 46.7**	**-1.2**
IMYA				*e*		11 19 39.9	
comp=Z,1μm,0.6s							
IMYA	**Miami**	**5.62**	**38**	*ePn*	**Pn**	**11 17 46.7**	**-1.2**
IMHD	**Mahdasht**	**5.64**	**312**	*ePn*	**Pn**	**11 17 48.7**	**+0.6**
IMHD				*e*		11 19 26.9	
comp=Z,1μm,0.3s							
IMHD	**Mahdasht**	**5.64**	**312**	*ePn*	**Pn**	**11 17 48.7**	**+0.6**
IEMG	**Emamgholi**	**5.90**	**23**	*ePn*	**Pn**	**11 17 51.6**	**-0.2**
IEMG				*e*		11 17 55.7	
comp=Z,850nm,0.1s							
IRAZ	**Razeghan**	**5.96**	**306**	*ePn*	**Pn**	**11 17 53.0**	**+0.4**
IRAZ				*e*		11 19 39.5	
comp=Z,2μm,0.3s							
IRAZ	**Razeghan**	**5.96**	**306**	*ePn*	**Pn**	**11 17 53.0**	**+0.4**
IGZV	**Ghazvin**	**6.37**	**315**	*ePn*	**Pn**	**11 17 58.5**	**+0.3**
IGZV				*e*		11 20 05.2	
comp=Z,1μm,0.3s							
IGZV	**Ghazvin**	**6.37**	**315**	*ePn*	**Pn**	**11 17 58.5**	**+0.3**
ASF	**Jabal al Asfar**	**16.02**	**276**	Pn	**Pn**	**11 20 07.1**	**-2.5**
comp=Z,0.4nm,0.3s,baz=33,slow=11,SNR=6.9							
MMAI	**Mount Meron Ar**	**17.24**	**279**	P	**Pn**	**11 20 25.0**	**0.0**
comp=Z,0.7nm,0.3s,baz=95,slow=10,SNR=4.0							
AAK	**Ala-Archa**	**18.24**	**49**	P	**Pn**	**11 20 36.7**	**-0.7**
comp=Z,0.2nm,0.3s,baz=222,slow=12,SNR=1.9							
AAK				LR	LR	11 27 59.6	
comp=Z,56nm,18.8s,baz=49,slow=38							
AKTO	**Aktyubinsk**	**18.50**	**4**	P	**P**	**11 20 39.9**	**-0.3**
comp=Z,0.9nm,0.3s,baz=179,slow=12,SNR=13							
AKTO				LR	LR	11 29 37.2	
comp=Z,58nm,19.2s,baz=290,slow=43							
BRTR	**Keskin Array B**	**19.52**	**299**	P	**Pn**	**11 20 52.3**	**-0.6**
comp=Z,0.1nm,0.3s,baz=110,slow=13,SNR=11							
BVAR	**Borovoye Array**	**23.52**	**22**	P	**P**	**11 21 34.9**	**+0.8**
comp=Z,3.8nm,0.7s,baz=229,slow=9.0,SNR=12							
BVAR				LR	LR	11 31 55.2	
comp=Z,59nm,18.7s,baz=107,slow=39							
ATD	**Arta Tunnel**	**23.61**	**213**	LR	LR	11 31 05.7	
comp=Z,40nm,21.2s,baz=326,slow=38							
PYUN	**Piuthan**	**23.83**	**92**	*eP*	**P**	**11 21 37.6**	**0.0**
DANN	**Dangsing**	**24.42**	**91**	*eP*	**P**	**11 21 43.4**	**+0.3**
comp=Z,47nm,1.0s							
KOLN	**Koldanda**	**24.44**	**93**	*eP*	**P**	**11 21 43.1**	**-0.2**
comp=Z,9.6nm,0.8s							
KURBB	**Kurchatov Arra**	**25.09**	**35**	P	**P**	**11 21 49.1**	**+0.5**
comp=Z,2.8nm,0.8s,baz=236,slow=9.2,SNR=20							
MKAR	**Makanchi Array**	**25.10**	**46**	P	**P**	**11 21 49.2**	**+0.4**
comp=Z,1.3nm,0.8s,baz=231,slow=7.7,SNR=9.5							
MKAR				PcP	**PcP**	**11 25 21.0**	**-2.0**
comp=Z,0.4nm,0.7s,baz=235,slow=2.1,SNR=2.5							
GKN	**Gorkha**	**25.26**	**92**	*eP*	**P**	**11 21 51.3**	**+0.7**
comp=Z,12nm,0.7s							
DMN	**Daman**	**25.77**	**92**	*eP*	**P**	**11 21 56.1**	**+0.8**
comp=Z,26nm,1.1s							
KKN	**Kakani**	**25.86**	**92**	*eP*	**P**	**11 21 57.4**	**+1.3**
comp=Z,23nm,1.0s							
IDI	**Anoyia**	**25.89**	**286**	P	**P**	**11 21 56.5**	**+0.3**
comp=Z,10nm,0.9s,baz=114,slow=7.2,SNR=5.2							
PKIN	**Phulchoki**	**26.02**	**92**	*eP*	**P**	**11 21 59.1**	**+1.4**
comp=Z,22nm,0.8s							
PKI	**Pulchoki**	**26.03**	**92**	*eP*	**P**	**11 21 59.2**	**+1.4**
comp=Z,37nm,0.9s							
GUN	**Gumba**	**26.34**	**91**	*eP*	**P**	**11 22 01.8**	**+1.2**
comp=Z,25nm,0.8s							
JIRN	**Jiri**	**26.67**	**91**	*eP*	**P**	**11 22 05.8**	**+2.1**
comp=Z,14nm,0.7s							
AKASG	**Malin Array Be**	**27.11**	**321**	P	**P**	**11 22 06.9**	**0.0**
comp=Z,1.0nm,0.6s,baz=122,slow=8.6,SNR=4.9							
RAMN	**Ramite**	**27.23**	**93**	*eP*	**P**	**11 22 10.6**	**+2.0**
comp=Z,14nm,0.9s							
ODAN	**Odare**	**27.93**	**92**	*eP*	**P**	**11 22 16.9**	**+2.1**
comp=Z,30nm,1.5s							
ZALV	**Zalesovo Beam**	**30.18**	**35**	P	**P**	**11 22 34.3**	**+0.1**
comp=Z,1.0nm,0.6s,baz=251,slow=7.7,SNR=4.3							
KOLS	**Kolonicke sedl**	**30.29**	**314**	*eP*	**P**	**11 22 36.8**	**+1.5**
KECS	**Kecovo**	**31.25**	**312**	*eP*	**P**	**11 22 42.6**	**-1.1**
GERES	**GERESS Array B**	**35.68**	**311**	P	**P**	**11 23 22.4**	**-0.1**
comp=Z,1.2nm,0.7s,baz=80,slow=7.4,SNR=7.2							
GTA	**Gaotai**	**36.22**	**66**	*eP*	**P**	**11 23 30.3**	**+3.1**
GTA				pP	**pP**	**11 23 34.8**	**+3.6**
GTA				sP	**sP**	**11 23 37.3**	**+4.5**
GTA				pmax	pmax		
comp=Z,6.0nm,0.9s							
NB2	**NORSAR Subarra**	**40.97**	**329**	P	**P**	**11 24 07.7**	**+1.0**
comp=Z,1.0nm,0.7s,baz=116,slow=8.6							
NB2	**NORSAR Subarra**	**40.97**	**329**	P	**P**	**11 24 07.7**	**+1.0**
comp=Z,1.0nm,0.7s,SNR=4.0							
NOA	**NORSAR Array B**	**40.97**	**329**	P	**P**	**11 24 06.6**	**0.0**
comp=Z,1.7nm,0.8s,baz=116,slow=8.0,SNR=4.2							
CMAR	**Chiang Mai Arr**	**41.03**	**99**	P	**P**	**11 24 06.6**	**-1.1**
comp=Z,0.7nm,0.7s,baz=292,slow=8.6,SNR=4.7							
SONM	**Songino Array**	**41.15**	**52**	P	**P**	**11 24 08.4**	**-0.1**
comp=Z,0.3nm,0.5s,baz=269,slow=8.6,SNR=4.0							
TORD	**Torodi Ar. Bea**	**52.81**	**262**	P	**P**	**11 25 38.8**	**-1.0**
comp=Z,3.9nm,0.7s,baz=58,slow=7.3,SNR=25							
KSRS	**Korea Array**	**58.21**	**63**	P	**P**	**11 26 17.7**	**-0.7**
comp=Z,1.9nm,0.6s,baz=282,slow=6.4,SNR=8.3							
ASAJ	**Asahikawa**	**66.43**	**52**	LR	LR	11 59 19.1	
comp=Z,30nm,19.0s,baz=352,slow=39							
ILAR	**Eielson Array**	**81.93**	**10**	P	**P**	**11 28 42.7**	**-0.8**
comp=Z,0.4nm,0.9s,baz=331,slow=3.5,SNR=4.1							
WRA	**Warramunga Arr**	**91.14**	**113**	P	**P**	**11 29 27.6**	**-1.7**
comp=Z,0.7nm,1.0s,baz=314,slow=4.0,SNR=5.0							
ASAR	**Alice Springs**	**92.86**	**116**	P	**P**	**11 29 35.5**	**-1.8**
comp=Z,0.3nm,0.8s,baz=307,slow=4.6,SNR=3.9							

IDC 26 11:35:37.4±1.4, 3°.67S×141°.90E, h0km, mb3.5/4, mb1 3.8/6, mb1mx3.6/19, mbtmp3.6/6, ML3.5/2, Error ellipse: s-maj=34.0km s-min=23.9km az=94.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.73**	**138**	Pn	Pn	11 37 31.7	+0.4
0.5nm,0.3s,baz=305,slow=17,SNR=2.6							
PMG				Sn	Sn	11 39 00.5	+0.9
baz=294,slow=20,SNR=2.3							
WRA	**Warramunga Arr**	**17.77**	**204**	P	Pn	11 39 45.8	-0.6
0.6nm,0.3s,baz=20,slow=12,SNR=22							
ASAR	**Alice Springs**	**21.32**	**201**	P	P	11 40 25.7	-0.4
2.4nm,0.5s,baz=30,slow=10,SNR=16							
FITZ	**Fitzroy Crossi**	**21.43**	**227**	P	P	11 40 27.3	+0.1
3.1nm,0.6s,baz=63,slow=11,SNR=17							
MKAR	**Makanchi Array**	**72.50**	**322**	P	P	11 47 07.0	+0.8
0.2nm,0.4s,baz=105,slow=7.9,SNR=3.7							
ILAR	**Eielson Array**	**85.40**	**24**	P	P	11 48 15.8	-0.6
0.2nm,0.8s,baz=233,slow=5.5,SNR=4.3							

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*AUST **26** 11:44:07.5±21.0, 3°.58N×147°.77E, h286km, Error ellipse: s-maj=2.3km s-min=1.6km az=276.0*
*ISCJB **26** 11:44:36.6±1.1, 6°.09S±0°.10×148°.6E±0°.2, h65km, mb3.9/5, Error ellipse: s-maj=26.7km s-min=11.2km az=20.0*
*IDC **26** 11:44:38.9±2.5, 6°.11S×148°.53E, h71km±21km, mb3.8/5, mb1 4.1/7, mb1mx3.7/18, mbtmp3.9/7, MS3.3/3, Ms1 3.3/3, ms1mx2.9/22, Error ellipse: s-maj=42.6km s-min=15.1km az=117.0*
ISC 26 11:44:38.2±1.2, 6°.1S±0°.1×148°.6E±0°.2, h65km, n14, σ0§**61**/15, **mb4.0**/5, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.59**	**203**	P	**Pn**	**11 45 31.0**	**-0.5**
9.2nm,0.3s,baz=18,slow=12,SNR=38							
PMG				S	**Sn**	**11 46 13.1**	**+0.3**
60nm,0.3s,baz=12,slow=20,SNR=34							
PMG				LR	LR	11 47 17.9	
comp=Z,266nm,19.6s,baz=199,slow=45							
HNR	**Honiara**	**11.77**	**107**	LR	LR	11 51 02.0	
comp=Z,121nm,18.0s,baz=255,slow=32							
KDU	**Kakadu**	**17.17**	**246**	P	**P**	**11 48 35.3**	**+0.6**
baz=22,SNR=3.4							
WRA	**Warramunga Arr**	**19.52**	**224**	P	**P**	**11 49 00.6**	**+0.1**
1.2nm,0.3s,baz=51,slow=11,SNR=28							
KNRA	**Kununurra**	**21.64**	**242**	P	**P**	**11 49 22.8**	**-0.5**
baz=27,SNR=11							
ASAR	**Alice Springs**	**22.47**	**217**	P	**P**	**11 49 31.9**	**-0.3**
4.7nm,0.7s,baz=50,slow=9.3,SNR=55							
ASAR				S	**S**	**11 53 34.1**	**-0.7**
1.3nm,0.8s,baz=33,slow=21,SNR=6.0							
FITZ	**Fitzroy Crossi**	**25.36**	**240**	P	**P**	**11 49 59.7**	**+0.3**
21nm,1.0s,baz=76,slow=7.2,SNR=29							
FITZ				LR	LR	12 01 45.5	
comp=Z,98nm,18.7s,baz=250,slow=41							
FITZ	**Fitzroy Crossi**	**25.36**	**240**	P	**P**	**11 50 00.0**	**+0.6**
baz=31,SNR=24							
MEEK	**Meekatharra**	**35.10**	**231**	P	**P**	**11 51 26.9**	**+1.4**
baz=41,SNR=4.2							
KLBR	**Kellerberrin**	**38.40**	**225**	P	**P**	**11 51 53.1**	**-0.3**
baz=45,SNR=4.9							
VNDA	**Vanda**	**71.76**	**177**	P	**P**	**11 55 53.5**	**+0.4**
0.7nm,0.6s,baz=340,slow=5.3,SNR=3.9							
MKAR	**Makanchi Array**	**78.54**	**320**	P	**P**	**11 56 32.5**	**-0.2**
0.2nm,0.4s,baz=88,slow=7.6,SNR=5.0							
ILAR	**Eielson Array**	**84.94**	**23**	P	**P**	**11 57 05.9**	**0.0**
0.9nm,0.6s,baz=250,slow=4.9,SNR=17							
TORD	**Torodi Ar. Bea**	**146.61**	**285**	PKPbc	**PKPbc**	**12 04 13.0**	**-0.6**
0.8nm,0.6s,

1.0nm,0.7s,baz=120,slow=8.0,SNR=12
ZALV Zalesovo Beam 71.97 332 P **P 12 31 00.9 +0.4**
0.8nm,0.6s,baz=117,slow=6.0,SNR=3.8
VNDA Vanda 73.69 174 P **P 12 31 12.6 +2.1**
0.4nm,0.7s,baz=347,slow=6.8,SNR=4.5
ILAR Eielson Array 89.98 25 P **P 12 32 36.4 +0.1**
0.3nm,0.6s,baz=252,slow=5.0,SNR=7.2
TORD Torodi Ar. Bea 132.59 283 PKP **PKPdf 12 38 54.7 +2.0**
0.3nm,0.7s,baz=52,slow=2.6,SNR=2.4
LPAZ La Paz 149.20 134 PKPbc **PKPbc 12 39 28.9 +1.6**
0.8nm,0.8s,baz=321,slow=2.4,SNR=3.9

*ISCJB **26** 12:25:05.5±0.5,29°.09N±0°.04×139°.7E±0°.1,h423km, mb3.1/5,Error ellipse: s-maj=12.8km s-min=4.9km az=170.4*
*JMA **26** 12:25:06.0±0.2,29°.15N×140°.03E,h434km,M3.7*
*IDC **26** 12:25:06.2±0.9,29°.01N×139°.63E,h415km±12km,mb2.9/5, mb1 3.1/9,mb1mx2.9/26,mbtmp3.0/9,Error ellipse: s-maj=25.4km s-min=15.4km az=79.0*
ISC 26 12:25:06.4±0.8,29°.12N±0°.07×139.7E±0°.1,h423km,n22, σ2°05/33,mb3.0/5,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.99**	**132**	P	**P**	**12 26 11.0**	**-0.4**
CBIJ				S	**S**	**12 27 02.0**	**-2.0**
CBIJ	**Chichi jima**	**2.99**	**132**	P	**P**	**12 26 10.8**	**-0.6**
	10nm,0.3s,baz=294,slow=23,SNR=29						
CBIJ				S	**S**	**12 27 02.0**	**-2.0**
	100nm,0.3s,baz=292,slow=21,SNR=10.0						
JHHJ	**Haha-jima-NKT**	**3.32**	**138**	P	**P**	**12 26 12.7**	**-1.3**
JHHJ				S	**S**	**12 27 07.0**	**-1.9**
BSO1	**Boso 1**	**5.62**	**11**	*e*S	**S**	**12 27 48.0**	**+0.3**
BSO3	**Boso 3**	**5.71**	**7**	P	**P**	**12 26 38.0**	**+1.8**
BSO3				*e*S	**S**	**12 27 48.6**	**-1.1**
BSO4	**Boso 4**	**5.88**	**5**	P	P	12 26 43.6	+5.5
BSO4				*e*S	**S**	**12 27 52.6**	**-0.7**
JOD2	**Odawara 2**	**6.14**	**355**	P	**P**	**12 26 42.4**	**+1.3**
JOD2				*e*S	**S**	**12 27 54.0**	**-4.7**
JNY	**Yasuok**	**6.41**	**347**	P	**P**	**12 26 46.1**	**+2.2**
JHU	**Hanno**	**6.72**	**357**	P	**P**	**12 26 47.3**	**-0.3**
JHU				*e*S	**S**	**12 28 07.8**	**-2.2**
JRY	**Ryogami san**	**6.91**	**355**	P	**P**	**12 26 50.2**	**+0.5**
JRY				*e*S	**S**	**12 28 12.0**	**-1.8**
JYT	**Yasato**	**7.10**	**3**	P	**P**	**12 26 51.5**	**-0.2**
JYT				*e*S	**S**	**12 28 13.8**	**-3.7**
JAG	**Ashikaga**	**7.29**	**359**	P	**P**	**12 26 53.1**	**-0.7**
JAG				*e*S	**S**	**12 28 17.6**	**-3.7**
JHO	**Hitachi**	**7.50**	**5**	P	**P**	**12 26 57.1**	**+0.9**
JHO				*e*S	**S**	**12 28 21.7**	**-4.1**
JNU	**Nakatsue**	**8.54**	**300**	P	**P**	**12 27 08.7**	**+1.2**
	0.4nm,0.3s,baz=128,slow=21,SNR=5.4						
JMK	**Ichinoseki**	**9.89**	**7**	P	**P**	**12 27 25.0**	**+2.8**
JMK				*e*S	**S**	**12 29 14.7**	**+0.3**
ASAJ	**Asahikawa**	**15.14**	**8**	P	**P**	**12 28 22.9**	**+3.4**
	0.5nm,0.3s,baz=225,slow=16,SNR=5.8						
USRK	**Ussuriysk Arra**	**16.25**	**340**	P	**P**	**12 28 32.8**	**+1.4**
	0.5nm,0.3s,baz=144,slow=9.6,SNR=7.1						
MKAR	**Makanchi Array**	**47.49**	**308**	P	**P**	**12 33 00.8**	**-0.4**
	0.3nm,0.6s,baz=91,slow=8.6,SNR=3.7						
WRA	**Warramunga Arr**	**49.05**	**187**	P	**P**	**12 33 13.1**	**-0.2**
	0.5nm,0.4s,baz=3.6,slow=7.5,SNR=5.4						
ASAR	**Alice Springs**	**52.78**	**187**	P	**P**	**12 33 40.3**	**-0.2**
	0.2nm,0.5s,baz=359,slow=5.6,SNR=3.9						
ILAR	**Eielson Array**	**57.02**	**29**	P	**P**	**12 34 11.2**	**+1.3**
	0.3nm,0.4s,baz=253,slow=5.7,SNR=9.1						
FINES	**FINESS Array B**	**75.15**	**333**	P	**P**	**12 36 04.0**	**+0.4**
	2.5nm,1.0s,baz=72,slow=4.5,SNR=3.4						

DJA 26 12:28:18.4±1.1,1°.N±7°.×12°.3E±°,h10km,M3.7/5,MLv3.7/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**1.16**	**220**	P	Pb	12 28 37.7	-2.9
MRSI				S	Sb	12 28 55.3	-0.4
KMSI	**Cibinong**	**1.51**	**121**	P	Pn	12 28 44.4	-1.2
LUWI	**Luwuk**	**2.40**	**178**	P	Pn	12 28 58.6	+0.9
APSI	**Ampana**	**2.49**	**205**	P	Pn	12 28 59.9	+0.8

*ISCJB **26** 12:31:18.6±0.5,9°.60S±0°.09×159°.49E±0°.10,h26km, mb4.2/11,Error ellipse: s-maj=16.7km s-min=9.4km az=43.5*
*IDC **26** 12:31:19.3±2.2,9°.70S×159°.57E,h22km±18km,mb4.1/11, mb1 4.3/12,mb1mx4.1/18,mbtmp4.1/12,ML3.5/1,Error ellipse: s-maj=29.8km s-min=15.6km az=123.0*
*AUST **26** 12:31:43.0,10°.64S×159°.45E,h200km*
ISC 26 12:31:19.9±0.7,9°.7S±0°.1×159°.6E±0°.1,h26km,n23, σ0°98/23,mb4.2/11,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.44**	**58**	Pg	**Pb**	**12 31 28.9**	**-0.2**
	3μm,0.3s,baz=206,slow=6.9,SNR=1481						
HNR				Lg	Lg	12 31 35.6	
	6μm,0.3s,baz=15,slow=20,SNR=63						
CTA	**Charters Tower**	**16.51**	**230**	Pn	**P**	**12 35 10.2**	**-2.1**
	0.1nm,0.3s,baz=68,slow=17,SNR=2.6						
RMQ	**Roma**	**19.61**	**210**	P	**Pn**	**12 35 48.4**	**+0.4**
	baz=19,SNR=11						
ARMA	**Armidale**	**21.94**	**199**	P	**P**	**12 36 12.9**	**+1.3**
	baz=21,SNR=5.3						
QLP	**Quilpie**	**22.22**	**219**	P	**P**	**12 36 16.4**	**+1.8**
	baz=22,SNR=7.7						
CMSA	**Cobar Meteorol**	**25.29**	**209**	P	**P**	**12 36 45.2**	**+0.9**
	baz=24,SNR=8.3						
WRA	**Warramunga Arr**	**26.41**	**244**	P	**P**	**12 36 54.9**	**+0.3**
	4.3nm,0.9s,baz=72,slow=9.9,SNR=15						
WRA				PcP	**PcP**	**12 40 20.4**	**+0.5**
	0.9nm,0.9s,baz=45,slow=2.3,SNR=3.0						
STKA	**Stephens Creek**	**27.68**	**214**	P	**P**	**12 37 04.7**	**-1.2**
	3.1nm,0.6s,baz=48,slow=14,SNR=6.4						
STKA	**Stephens Creek**	**27.68**	**214**	P	**P**	**12 37 06.7**	**+0.8**
	baz=27,SNR=6.7						
FAKI	**Fak Fak**	**27.95**	**282**	S	S	12 41 26.1	-25
	baz=28,SNR=3.5						
ASAR	**Alice Springs**	**28.18**	**237**	P	**P**	**12 37 09.4**	**-1.2**
	1.2nm,0.5s,baz=60,slow=10,SNR=27						
ASAR				PcP	**PcP**	**12 40 24.4**	**+0.2**
	0.6nm,0.7s,baz=78,slow=2.2,SNR=4.8						
KNRA	**Kununurra**	**30.62**	**256**	P	**P**	**12 37 33.1**	**+0.9**
	baz=30,SNR=4.8						
FITZ	**Fitzroy Crossi**	**33.94**	**252**	P	**P**	**12 38 01.0**	**-0.3**
	2.3nm,0.6s,baz=86,slow=7.5,SNR=9.7						
FITZ	**Fitzroy Crossi**	**33.94**	**252**	P	**P**	**12 38 01.4**	**+0.1**
	baz=34,SNR=5.0						
LUWI	**Luwuk**	**37.59**	**281**	S	S	12 44 13.4	-7.5
	baz=38,SNR=5.1						
MEEK	**Meekatharra**	**42.19**	**241**	P	**P**	**12 39 11.2**	**+0.3**
	baz=42,SNR=9.6						
PETK	**Petropavlovsk-**	**62.55**	**359**	P	**P**	**12 41 41.4**	**+0.1**
	4.2nm,0.9s,baz=164,slow=7.4,SNR=5.4						
CMAR	**Chiang Mai Arr**	**66.01**	**295**	P	**P**	**12 42 04.2**	**-0.6**
	1.2nm,0.3s,baz=131,slow=4.9,SNR=5.5						
VNDA	**Vanda**	**67.84**	**179**	P	**P**	**12 42 15.6**	**+0.2**
	2.1nm,0.9s,baz=340,slow=6.3,SNR=11						
SONM	**Songino Array**	**74.04**	**326**	P	**P**	**12 42 55.3**	**+1.6**
	0.8nm,0.6s,baz=142,slow=6.0,SNR=5.8						
ILAR	**Eielson Array**	**84.24**	**20**	P	**P**	**12 43 48.0**	**-0.9**
	1.3nm,0.4s,baz=246,slow=5.2,SNR=46						
MKAR	**Makanchi Array**	**88.40**	**318**	P	**P**	**12 44 10.2**	**+0.5**
	0.6nm,0.7s,baz=96,slow=4.1,SNR=7.9						
ZALV	**Zalesovo Beam**	**88.92**	**325**	P	**P**	**12 44 11.5**	**-0.5**
	0.5nm,0.4s,baz=172,slow=4.4,SNR=2.5						

IDC 26 13:22:58.5±5.1,0°.48S×131°.78E,h0km,mb3.6/2, mb1 3.7/3,mb1mx3.4/20,mbtmp3.5/3,ML3.5/1,Error ellipse: s-maj=336.9km s-min=27.4km az=73.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.50**	**173**	P	P	13 27 27.9	+0.5
	0.1nm,0.3s,baz=354,slow=11,SNR=4.5						
ASAR	**Alice Springs**	**23.14**	**175**	P	P	13 28 06.2	-0.3
	1.7nm,0.8s,baz=353,slow=10,SNR=15						
MKAR	**Makanchi Array**	**63.88**	**324**	P	P	13 33 33.1	0.0
	0.4nm,0.6s,baz=115,slow=7.0,SNR=4.8						

*MOS **26** 13:26:35.9±0.9,7°.51S×30°.43E,h10km,mb5.5/70, MS4.7/10,Error ellipse: s-maj=9.0km s-min=3.8km az=95.2*
*ISCJB **26** 13:26:35.1±1.6,7°.55S±0°.03×30°.36E±0°.03,h4km±10km, mb5.2/186,MS4.7/43,Error ellipse: s-maj=5.1km s-min=4.2km az=8.4*
*BJI **26** 13:26:36.5,7°.38S×30°.50E,h6km,mB5.3/24,mb5.1/31, Ms5.1/27,Ms7 4.8/24*
*NEIC **26** 13:26:37.6±0.2,7°.53S×30°.45E,h10km,mb5.4/71,MW5.1, Error ellipse: s-maj=6.0km s-min=4.8km az=83.0,Moment Tensor Solution. s18 Moment tensor: Scale 10^16^Nm; M_{rr}=5.63; $M_{\theta\theta}$=2.26; $M_{\phi\phi}$=3.37; $M_{r\theta}$=-1.29; $M_{\theta\phi}$=3.55; $M_{\phi r}$=1.17; Best double couple: M_0=6.30000×10^16^ NP1:ϕ_s=204.00000°, δ=48.00000°,λ=-114.00000°. NP2:ϕ_s=58.00000°,δ=47.00000°, λ=-65.00000°. Principal axes: T 6.4100, Plg0.0000°, Azm310.0000°; N -0.2200, Plg17.0000°, Azm220.0000°; P -6.1900, Plg72.0000°, Azm41.0000°;*
*TEH **26** 13:26:37.0,7°.59S×30°.44E,h10km,ML5.3*
*SZGRF **26** 13:26:38.4,7°.73S×31°.86E,h38km,mb5.2,MS4.6,Lake Tanganyika region*
*IDC **26** 13:26:39.2±2.6,7°.52S×30°.35E,h17km±15km,mb4.7/28, mb1 4.8/32,mb1mx4.8/33,mbtmp4.8/32,ML3.7/2,MS4.7/28, Ms1 4.7/28,ms1mx4.6/41,Error ellipse: s-maj=12.2km s-min=8.7km az=105.0*
*BKK **26** 13:26:39.5±0.5,8°.S±7°.×3°.0E±1°.3,h10km,M6.1/18, mB6.0/4,mb5.1/18,MLv6.7/1,Mw(mB)5.6/4*
*DJA **26** 13:26:42.7±2.8,8°.S±11°.×3°.1E±2°.2,h37km±23km,M5.9/8, mB5.7/4,mb5.1/8,MLv6.4/1,Mw(mB)5.2/4*
*GCMT **26** 13:26:44.3±0.2,7°.36S×30°.32E,h22km,MW5.2,Moment Tensor Solution. s64,c95; s73,c115; Moment tensor: Scale 10^16^Nm; M_{rr}-6.13±.21; $M_{\theta\theta}$-0.92±.15; $M_{\phi\phi}$7.05±.16; $M_{r\theta}$1.61±.26; $M_{\theta\phi}$0.50±.13; $M_{\phi r}$1.28±.22; Best double couple: $M_0$7.00000×10^16^ NP1:ϕ_s198.00000°,δ53.00000°, λ-71.00000°. NP2:ϕ_s349.00000°,δ41.00000°, λ-113.00000°. Principal axes: T 7.2300, Plg6.0000°, Azm275.0000°; N -0.5500, Plg15.0000°, Azm6.0000°; P -6.6800, Plg74.0000°, Azm163.0000°; Data Used: II IU IC CN G.*
*BUL **26** 13:26:51.6±22.0,7°.28S×31°.14E,h0km±227km,MD4.0*
*BGS **26** 13:26:54.0±2.9,5°.39S×28°.94E,h10km±999km,mb5.1*
ISC 26 13:26:38.0±0.4,7°.55S±0°.03×30°.41E±0°.04,h13km±1km, n646,σ1°30/690,mb5.3/185,MS4.7/43,25C-36D,Lake Tanganyika region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MZM	**Mzuzu**	**5.25**	**138**	*i* P	**Pn**	**13 27 58.7**	**+2.4**
MZM				*i* S	**Sg**	**13 29 22.5**	**-4.3**
DODT	**Dodoma, Tanzan**	**5.48**	**76**	*i* P	**Pn**	**13 27 59.6**	**+0.2**
DODT				*i* S	**Sn**	**13 28 58.2**	**-4.2**
MBAR	**Mbarara**	**6.91**	**3**	*e*P	**Pn**	**13 28 19.6**	**+0.5**
MBAR	**Mbarara**	**6.91**	**3**	Pn	**Pn**	**13 28 18.0**	**-1.2**
	4μm,0.5s,SNR=57						
MBAR	**Mbarara**	**6.91**	**3**	*i* P	**Pn**	**13 28 18.8**	**-0.4**
MBAR				*i* S	**Sn**	**13 29 36.0**	**-1.7**
LSZ	**Lusaka**	**7.98**	**196**	*e*P	**Pn**	**13 28 33.8**	**-0.2**
LSZ	**Lusaka**	**7.98**	**196**	Pn	**Pn**	**13 28 35.5**	**+1.6**
	SNR=21						
LSZ	**Lusaka**	**7.98**	**196**	*e*Pn	**Pn**	**13 28 33.7**	**-0.2**
LSZ				*e*Sn	**Sn**	**13 30 01.4**	**-2.8**
LSZ				Lg	Lg	13 30 43.6	
LSZ	**Lusaka**	**7.98**	**196**	Pn	**Pn**	**13 28 33.7**	**-0.2**
	38nm,0.3s,baz=12,slow=13,SNR=193						
LSZ				Sn	**Sn**	**13 29 59.5**	**-4.7**
	40nm,0.3s,baz=10,slow=15,SNR=8.1						
LSZ				Lg	Lg	13 30 43.6	
	75nm,0.3s,baz=323,slow=18,SNR=4.0						
KMBO	**Kilima Mbogo**	**9.34**	**47**	*e*P	**Pn**	**13 28 51.7**	**-1.0**
KMBO	**Kilima Mbogo**	**9.34**	**47**	Pn	**Pn**	**13 28 52.3**	**-0.4**
	SNR=87						
KMBO	**Kilima Mbogo**	**9.34**	**47**	*e*Pn	**Pn**	**13 28 51.2**	**-1.4**
KMBO				Sn	Sn	13 30 30.6	-7.2
KMBO				Lg	Lg	13 31 28.1	
KMBO	**Kilima Mbogo**	**9.34**	**47**	Pn	**Pn**	**13 28 51.5**	**-1.1**
	37nm,0.3s,baz=223,slow=16,SNR=145						
KMBO				Sn	Sn	13 30 30.6	-7.2
	136nm,0.3s,baz=329,slow=17,SNR=11						
KMBO				Lg	Lg	13 31 28.1	
	130nm,0.3s,baz=329,slow=23,SNR=9.4						
KMBO				LR	LR	13 32 49.2	
	comp=Z,8μm,18.1s,baz=220,slow=40						
KMBO	**Kilima Mbogo**	**9.34**	**47**	*i* P	**Pn**	**13 28 52.4**	**-0.3**
KMBO				*i* S	**Sn**	**13 30 34.7**	**-3.1**
RUDU	**RUNDU**	**14.64**	**224**	*e*P	**Pn**	**13 30 03.5**	**-1.6**
RUDU				AMB	AMB	13 30 03.9	
	comp=Z,170nm,1.0s						
TSUM	**Tsumeb**	**17.01**	**226**	Pn	**Pn**	**13 30 34.2**	**-1.6**
	comp=Z,47nm,1.0s						
TSUM				Sn	Sn	13 33 31.2	-14
TSUM				Lg	Lg	13 35 27.9	
TSUM	**Tsumeb**	**17.01**	**226**	Pn	**Pn**	**13 30 34.2**	**-1.6**
	comp=Z,12nm,0.3s,baz=37,slow=12,SNR=65						
TSUM				Sn	Sn	13 33 31.2	-14
	comp=Z,4.8nm,0.3s,baz=318,slow=10.0,SNR=3.0						
TSUM				Lg	Lg	13 35 27.9	
	comp=Z,6.3nm,0.3s,baz=278,slow=19,SNR=2.3						
TSUM				LR	LR	13 37 38.8	
	comp=Z,12μm,19.1s,baz=41,slow=39						
LBTB	**Lobatse**	**17.97**	**194**	P	**Pn**	**13 30 44.4**	**-3.4**
	comp=Z,56nm,1.3s						
LBTB				S	Sn	13 33 58.3	-10
LBTB				Lg	Lg	13 35 57.6	
LBTB	**Lobatse**	**17.97**	**194**	P	**Pn**	**13 30 44.4**	**-3.4**
	comp=Z,2.8nm,0.3s,baz=22,slow=13,SNR=42						
LBTB				S	Sn	13 33 58.3	-10
	comp=Z,3.6nm,0.3s,baz=314,slow=10,SNR=7.5						
LBTB				Lg	Lg	13 35 57.6	
	comp=Z,4.1nm,0.3s,baz=119,slow=19,SNR=3.8						
SLR	**Silverton**	**18.20**	**186**	*e*P	**P**	**13 30 51.7**	**+0.8**
SLR				AMB	AMB	13 30 53.0	
	comp=Z,143nm,1.3s						
ERPM	**east rand prop**	**18.81**	**186**	*e*P	**P**	**13 30 54.9**	**-2.6**
ERPM				AMB	AMB	13 30 58.7	
	comp=Z,87nm,1.6s						
PRYS	**Parys**	**19.49**	**188**	*e*P	**P**	**13 31 05.6**	**+0.6**
PRYS				AMB	AMB	13 31 07.2	
	comp=Z,52nm,1.6s						
OPO	**Ambohidratompo**	**19.66**	**125**	P	**Pn**	**13 31 09.4**	**+1.0**
OPO				S	**Sn**	**13 34 55.2**	**+6.0**
OPO	**Ambohidratompo**	**19.66**	**125**	P	**Pn**	**13 31 09.4**	**+1.0**
	comp=Z,0.4nm,0.3s,baz=297,slow=13,SNR=7.5						
OPO				S	**Sn**	**13 34 55.2**	**+6.0**
	comp=Z,0.8nm,0.3s,baz=298,slow=17,SNR=2.0						
OPO				LR	LR	13 38 49.1	
	comp=Z,4μm,19.1s,baz=305,slow=37						
WIN	**Windhoek**	**19.67**	**219**	*e*P	**P**	**13 31 06.8**	**-0.3**
WIN				AMB	AMB	13 31 18.8	
	comp=Z,26nm,5.1s						
ABPO	**Ambohimpanom**	**19.93**	**127**	P	**Pn**	**13 31 12.0**	**+0.4**
	comp=Z,248nm,1.3s,SNR=6.5						
ABPO	**Ambohimpanom**	**19.93**	**127**	*e*P	**P**	**13 31 09.0**	**-0.9**
ABPO				pmax	pmax		
	comp=Z,77nm,1.1s						
ABPO	**Ambohimpanom**	**19.93**	**127**	*e*P	**P**	**13 31 09.0**	**-0.9**
	comp=Z,77nm,1.1s						
SWZ	**Schweizer**	**20.11**	**193**	↑*i*P	**P**	**13 31 12.2**	**+0.4**
SWZ				AMB	AMB	13 31 15.2	
	comp=Z,145nm,1.4s						
SEK	**Senekal**	**20.83**	**187**	*e*P	**P**	**13 31 19.8**	**+0.2**
SEK				AMB	AMB	13 31 35.0	
	comp=Z,103nm,3.9s						
BOSA	**Boshof**	**21.51**	**192**	↑*i*P	**P**	**13 31 27.1**	**+0.2**
BOSA				AMB	AMB	13 31 28.5	
	comp=Z,133nm,1.4s						
BOSA	**Boshof**	**21.51**	**192**	P	**P**	**13 31 27.1**	**+0.2**
	comp=Z,67nm,1.1s						
BOSA				S	**S**	**13 35 26.8**	**+1.5**
BOSA				Lg	Lg	13 37 47.7	
BOSA	**Boshof**	**21.51**	**192**	P	**P**	**13 31 27.1**	**+0.2**
	comp=Z,67nm,0.9s,baz=13,slow=11,SNR=40						
BOSA				S	**S**	**13 35 26.8**	**+1.5**
	comp=Z,29nm,0.8s,baz=319,slow=20,SNR=3.3						
BOSA				Lg	Lg	13 37 47.7	
	comp=Z,38nm,0.8s,baz=282,slow=20,SNR=1.9						
UPI	**Upington**	**22.44**	**202**	*e*P	**P**	**13 31 36.0**	**-0.8**
UPI				AMB	AMB	13 31 38.6	
	comp=Z,142nm,1.6s						
ATD	**Arta Tunnel**	**22.64**	**33**	P	**P**	**13 31 39.2**	**+0.3**
ATD				S	**S**	**13 35 48.3**	**+1.5**
ATD				Lg	Lg	13 38 26.0	
ATD	**Arta Tunnel**	**22.64**	**33**	P	**P**	**13 31 39.2**	**+0.3**
	comp=Z,4.0nm,0.3s,baz=204,slow=8.1,SNR=6.6						
ATD				S	**S**	**13 35 48.3**	**+1.5**
	comp=Z,4.4nm,0.3s,baz=252,slow=20,SNR=1.9						
ATD				Lg	Lg	13 38 26.0	
	comp=Z,15nm,0.8s,baz=162,slow=20,SNR=8.8						
ATD				LR	LR	13 40 17.4	
	comp=Z,1μm,18.1s,baz=199,slow=36						
KSD	**Kokstad**	**22.89**	**182**	↑*i*P	**P**	**13 31 42.9**	**+1.2**
KSD				AMB	AMB	13 31 49.2	
	comp=Z,188nm,1.3s						
PKA	**Prieska**	**23.15**	**197**	*e*P	**P**	**13 31 44.2**	**-0.1**
PKA				AMB	AMB	13 31 45.7	
	comp=Z,27nm,1.4s						
KOMG	**Komaggas**	**25.25**	**207**	*e*P	**P**	**13 32 03.2**	**-0.7**
KOMG				AMB	AMB	13 32 16.4	
	comp=Z,56nm,1.5s						
SOE	**Somerset East**	**25.44**	**190**	*e*P	**P**	**13 32 06.7**	**+1.0**
SOE				AMB	AMB	13 32 10.8	
	comp=Z,105nm,2.2s						
CVNA	**Calvinia**	**25.80**	**201**	*e*P	**P**	**13 32 05.7**	**-3.3**
CVNA				AMB	AMB	13 32 26.2	
	comp=Z,103nm,2.0s						
DAMY	**Dhamar**	**25.99**	**32**	*e*P	**P**	**13 32 09.5**	**-1.5**
SUR	**Sutherland**	**26.27**	**199**	P	**P**	**13 32 13.4**	**+0.1**
SUR				Lg	Lg	13 40 17.9	
SUR	**Sutherland**	**26.27**	**199**	P	**P**	**13 32 13.4**	**+0.1**
	comp=Z,38nm,1.1s,baz=18,slow=8.6,SNR=4.6						
SUR				Lg	Lg	13 40 17.9	
	comp=Z,28nm,0.9s,baz=127,slow=20,SNR=4.0						
SUR				LR	LR	13 43 15.7	
	comp=Z,2μm,20.6s,baz=28,slow=38						
TORD	**Torodi Ar. Bea**	**35.16**	**306**	P	**P**	**13 33 32.0**	**+0.2**
TORD				S	**S**	**13 39 03.3**	**-1.5**
TORD				Lg	Lg	13 45 07.8	
TORD	**Torodi Ar. Bea**	**35.16**	**306**	P	**P**	**13 33 32.0**	**+0.2**
	comp=Z,37nm,0.7s,baz=113,slow=7.8,SNR=244						
TORD				S	**S**	**13 39 03.3**	**-1.5**
	comp=Z,4.0nm,0.8s,baz=143,slow=12,SNR=2.1						
TORD				Lg	Lg	13 45 07.8	
	comp=Z,4.8nm,1.1s,baz=130,slow=25,SNR=3.9						
TORD				LR	LR	13 49 11.0	
	comp=Z,1μm,18.5s,baz=135,slow=38						
KIC	**Kosan Boka**	**37.68**	**291**	*e*P	**P**	**13 33 53.5**	**+0.1**
	comp=Z,321nm,1.6s						
DBIC	**Dimbokro**	**37.90**	**291**	*e*P	**P**	**13 33 55.2**	**-0.1**
	comp=Z,70nm,1.4s						
DBIC				*e*PP	**PP**	**13 35 20.9**	**-1.0**
DBIC				S	**S**	**13 39 48.2**	**+1.4**
DBIC	**Dimbokro**	**37.90**	**291**	P	**P**	**13 33 55.3**	**+0.1**
	comp=Z,8.4nm,0.6s,baz=104,slow=10,SNR=15						
DBIC				S	**S**	**13 39 48.2**	**+1.4**
	comp=Z,5.0nm,0.8s,baz=131,slow=9.3,SNR=1.8						
DBIC				LR	LR	13 49 19.4	
	comp=Z,2μm,19.1s,baz=91,slow=36						
LIC	**Lamto**	**37.90**	**290**	*e*P	**P**	**13 33 54.9**	**-0.4**
	comp=Z,30nm,0.7s,baz=109						
LIC				*e*R			
	comp=Z,2μm,20.2s						
LIC	**Lamto**	**37.90**	**290**	*e*P	**P**	**13 33 55.1**	**-0.2**
	comp=Z,100nm,1.1s						
LIC	**Lamto**	**37.90**	**290**	*e*P	**P**	**13 33 54.9**	**-0.4**
	comp=Z,30nm,0.7s						
TIC	**Toumodi**	**38.04**	**291**	*e*P	**P**	**13 33 56.5**	**0.0**
	comp=Z,262nm,1.2s						
TAM	**Tamanrasset**	**38.76**	**322**	*e*P	**P**	**13 34 01.9**	**-0.6**
TAM				pmax	pmax		
	comp=Z,48nm,1.8s						
TAM	**Tamanrasset**	**38.76**	**322**	*e*P	**P**	**13 34 01.9**	**-0.6**
	comp=Z,48nm,1.8s						
RDF	**Al-Radifah**	**39.85**	**24**	*e*P	**P**	**13 34 13.2**	**+1.8**
RDF				AMb	AMB	13 34 14.6	
	comp=Z,89nm,1.3s						
NAY	**Al-Naaiem**	**40.02**	**23**	*e*P	**P**	**13 34 14.0**	**+1.3**
NAY				AMb	AMB	13 34 15.2	
	comp=Z,32nm,1.0s						
RST	**Umm Al-Ruwaisa**	**40.15**	**23**	*e*P	**P**	**13 34 14.9**	**+1.1**
RST				AMb	AMB	13 34 16.8	
	comp=Z,751nm,1.0s						
SALA	**Sala**	**40.48**	**8**	*e*P	**P**	**13 34 17.7**	**+0.9**
ASHO	**Ashiyiah**	**40.64**	**37**	P	**P**	**13 34 20.1**	**+2.1**
	SNR=6.8						
ZALF	**Zalf**	**40.78**	**9**	*e*P	**P**	**13 34 20.7**	**+1.7**
BRBR	**Barbar**	**41.07**	**7**	*e*P	**P**	**13 34 23.1**	**+1.4**
MARH	**Ras Al Marh**	**41.74**	**8**	*e*P	**P**	**13 34 28.9**	**+1.6**
CSS	**Prodhromos**	**42.37**	**4**	*e*P	**P**	**13 34 30.8**	**-1.3**
	comp=Z,54nm,1.1s						
ISRV	**Sarvestan**	**42.73**	**30**	*e*P	**P**	**13 34 36.6**	**+1.2**
IDI	**Anoyia**	**42.92**	**353**	*e*P	**P**	**13 34 34.1**	**-2.5**
	comp=Z,41nm,1.0s						
IPAR	**Pars**	**43.08**	**29**	*e*P	**P**	**13 34 39.0**	**+0.8**
APE	**Apeiranthos**	**44.62**	**354**	↑P	**P**	**13 34 51.5**	**+1.3**
APE	**Apeiranthos**	**44.62**	**354**	↑*i*P	**P**	**13 34 51.5**	**+1.3**
ISAD	**Sadrabad**	**45.10**	**28**	*e*P	**P**	**13 34 56.9**	**+2.5**
IMEH	**Mehriz**	**45.12**	**30**	*e*P	**P**	**13 34 55.8**	**+1.3**
IZEF	**Zefreh**	**45.31**	**26**	*e*P	**P**	**13 34 57.1**	**+1.1**
IKLH	**Kolahrood**	**45.35**	**25**	*e*P	**P**	**13 34 58.1**	**+1.8**
ICHK	**Chekchek**

SIM	**Simferopol'**	**52.36**	**3**	*eP*	**P**	**13 35 51.1 +1.4**
SIM				pmax	pmax	
comp=Z,18nm,1.2s						
KIV	**Kislovodsk**	**52.45**	**11**	*beP*	**P**	**13 35 51.2 +0.7**
KIV				*e*		13 35 57.6
KIV				pmax	pmax	
comp=Z,35nm,1.6s						
KIV				MLR	MLR	
comp=Z,500nm,17.0s						
CFR	**Carcaliu**	**52.52**	**358**	⇓*P*	**P**	**13 35 51.4 +0.6**
CFR	**Carcaliu**	**52.52**	**358**	⇓*iP*	**P**	**13 35 51.4 +0.6**
MAK	**Makhachkala**	**52.62**	**16**	*eP*	**P**	**13 35 48.7 -2.9**
MAK				*e*		13 36 56.6
MAK				*e*		13 37 48.1
MAK				S	**S**	**13 43 16.0 -2.6**
MAK				*e*SS	**SS**	**13 46 51.1 -6.2**
MAK				pmax	pmax	
comp=Z,34nm,0.5s						
MAK				MLR	MLR	
comp=Z,356nm,14.0s						
ARR	**Arges**	**52.93**	**355**	⇑*iP*	**P**	**13 35 54.8 +0.9**
VOIR		**52.96**	**355**	⇓*P*	**P**	**13 35 54.8 +0.6**
VOIR		**52.96**	**355**	⇓*iP*	**P**	**13 35 54.8 +0.6**
LOT	**Lotru**	**53.09**	**354**	⇑*iP*	**P**	**13 35 56.3 +1.1**
PLOR	**Plostina**	**53.26**	**357**	⇓*P*	**P**	**13 35 57.4 +1.0**
PLOR	**Plostina**	**53.26**	**357**	⇓*iP*	**P**	**13 35 57.3 +0.9**
GHRR		**53.43**	**357**	⇑*iP*	**P**	**13 35 58.3 +0.7**
BZS	**Buzias**	**53.51**	**352**	⇑*P*	**P**	**13 35 59.5 +1.4**
BZS	**Buzias**	**53.51**	**352**	⇑*iP*	**P**	**13 35 59.5 +1.4**
PGF	**Pioggiola**	**53.54**	**340**	*eP*	**P**	**13 36 00.2 +1.6**
comp=Z,86nm,1.3s						
PGF	**Pioggiola**	**53.54**	**340**	*eP*	**P**	**13 36 00.2 +1.6**
PGF				pmax	pmax	
comp=Z,86nm,1.3s						
PGF	**Pioggiola**	**53.54**	**340**	*eP*	**P**	**13 36 00.2 +1.6**
comp=Z,86nm,1.3s						
GOF	**Gofitskoye**	**53.59**	**11**	*eP*	P	13 35 52.2 -6.5
HYB	**Hyderabad**	**53.65**	**62**	*i P*	**P**	**13 35 58.0 -1.7**
TESR	**Tescani**	**53.92**	**357**	⇑*iP*	**P**	**13 36 01.3 +0.2**
KIS	**Kishinev**	**54.32**	**359**	*eP*	P	13 36 14.5 +10
comp=Z,200nm,2.0s						
KIS	**Kishinev**	**54.32**	**359**	*e*PcP	PcP	13 37 18.0 +10
KIS				*e*LR	LR	14 01 05.0
comp=Z,600nm,20.0s						
KIS	**Kishinev**	**54.32**	**359**	*eP*	P	13 36 14.5 +10
KIS				pmax	pmax	
comp=Z,170nm,2.0s						
DRGR		**54.53**	**354**	⇑*P*	**P**	**13 36 07.4 +1.7**
DRGR		**54.53**	**354**	⇑*iP*	**P**	**13 36 07.4 +1.7**
BOJS	**Bojanci**	**54.53**	**347**	*i P*	**P**	**13 36 06.9 +1.3**
BOJS				*i*		13 36 17.0
PKS2	**Kecel**	**54.72**	**351**	⇑*eP*	**P**	**13 36 09.1 +2.2**
PKS9	**Tamasi**	**54.97**	**350**	⇑*eP*	**P**	**13 36 10.9 +2.2**
PKSN	**Nyarlorinc**	**55.01**	**351**	⇓*e*	P	13 36 19.4 +10
LMR	**La Mourre**	**55.10**	**339**	*eP*	**P**	**13 36 10.3 +0.6**
comp=Z,26nm,0.9s						
LMR	**La Mourre**	**55.10**	**339**	*eP*	**P**	**13 36 10.3 +0.6**
LMR				pmax	pmax	
comp=Z,26nm,0.9s						
LMR	**La Mourre**	**55.10**	**339**	*eP*	**P**	**13 36 10.3 +0.6**
comp=Z,26nm,0.9s						
BURAR	**Bucovina Array**	**55.11**	**356**	⇑*P*	**P**	**13 36 12.2 +2.3**
BURAR	**Bucovina Array**	**55.11**	**356**	⇓*iP*	**P**	**13 36 11.6 +1.7**
BURAR	**Bucovina Array**	**55.11**	**356**	⇑*iP*	**P**	**13 36 12.2 +2.3**
BEHE	**Becsehely**	**55.13**	**349**	⇓*eP*	**P**	**13 36 12.2 +2.2**
BUR08	**Bucovina Ar. S**	**55.14**	**356**	*eP*	**P**	**13 36 09.2 -1.0**
JAVS	**Javornik**	**55.17**	**346**	*i P*	**P**	**13 36 11.6 +1.2**
JAVS				*i*		13 36 21.9
LJU	**Ljubljana**	**55.21**	**347**	*i P*	**P**	**13 36 11.8 +1.3**
LJU				*i*		13 36 22.3
FRF	**La Foret Royal**	**55.25**	**339**	*eP*	**P**	**13 36 11.3 +0.5**
comp=Z,155nm,1.8s						
FRF	**La Foret Royal**	**55.25**	**339**	*eP*	**P**	**13 36 11.3 +0.5**
FRF				pmax	pmax	
comp=Z,155nm,1.8s						
FRF	**La Foret Royal**	**55.25**	**339**	*eP*	**P**	**13 36 11.3 +0.5**
comp=Z,155nm,1.8s						
PKS7	**Kunszentmiklos**	**55.27**	**351**	⇓*eP*	**P**	**13 36 12.4 +1.5**
BMR	**Baia Mare**	**55.32**	**354**	⇓*P*	**P**	**13 36 12.4 +1.1**
BMR	**Baia Mare**	**55.32**	**354**	⇓*iP*	**P**	**13 36 12.4 +1.1**
VOY	**Vojsko**	**55.34**	**346**	*eP*	**P**	**13 36 12.8 +1.2**
VOY				*e*		13 36 23.2
VOY				*e*		13 36 33.8
KBL	**Kabul**	**55.55**	**39**	*eP*	**P**	**13 36 12.3 -1.2**
KBL				pmax	pmax	
comp=Z,7.0nm,0.8s						
KBL	**Kabul**	**55.55**	**39**	*eP*	**P**	**13 36 12.3 -1.2**
comp=Z,6.8nm,0.8s						
PERS	**Pernice**	**55.64**	**347**	*i P*	**P**	**13 36 15.2 +1.5**
PERS				*i*		13 36 25.3
PKST	**T"'s**	**55.66**	**350**	⇓*eP*	**P**	**13 36 14.9 +1.1**
SOKA	**Soboth**	**55.70**	**347**	*i P*	**P**	**13 36 15.7 +1.6**
comp=Z,38nm,1.1s,SNR=12						
BUD	**Budapest**	**55.71**	**351**	⇓*eP*	**P**	**13 36 15.4 +1.3**
PKSG		**55.73**	**350**	⇓*eP*	**P**	**13 36 15.4 +1.2**
TRPA	**Tarpa**	**55.87**	**354**	⇓*iP*	**P**	**13 36 17.4 +2.2**
MYKA	**Terra Mystica**	**55.97**	**346**	*i P*	**P**	**13 36 17.5 +1.5**
comp=Z,24nm,1.0s,SNR=7.5						
PSZ	**Piszkesteto**	**56.00**	**351**	⇓*P*	**P**	**13 36 17.3 +1.0**
PSZ	**Piszkesteto**	**56.00**	**351**	*eP*	**P**	**13 36 15.9 -0.3**
comp=Z,52nm,1.4s						
PSZ	**Piszkesteto**	**56.00**	**351**	⇓*iP*	**P**	**13 36 17.3 +1.0**
PSZ	**Piszkesteto**	**56.00**	**351**	⇓*eP*	**P**	**13 36 16.9 +0.6**
ARSA	**Arzberg**	**56.13**	**348**	*i P*	**P**	**13 36 18.9 +1.7**
comp=Z,42nm,1.2s,SNR=11						
MBDF	**Montbardon**	**56.22**	**340**	*eP*	**P**	**13 36 19.1 +1.1**
comp=Z,36nm,1.1s						
MBDF	**Montbardon**	**56.22**	**340**	*eP*	**P**	**13 36 19.1 +1.1**
MBDF				pmax	pmax	
comp=Z,36nm,1.1s						
MBDF	**Montbardon**	**56.22**	**340**	*eP*	**P**	**13 36 19.1 +1.1**
comp=Z,36nm,1.1s						
SOP	**Sopron**	**56.34**	**349**	⇓*eP*	**P**	**13 36 19.7 +1.1**
ABTA	**Abfaltersbach**	**56.35**	**345**	*i P*	P	13 36 15.5 -3.4
comp=Z,15nm,1.0s,SNR=6.1						
UZH	**Uzhgorod**	**56.39**	**354**	*c iP*	**P**	**13 36 19.4 +0.5**
KBA	**Koelnbreinsper**	**56.46**	**346**	*i P*	**P**	**13 36 21.1 +1.4**
comp=Z,42nm,1.0s,SNR=14						
KECS	**Kecovo**	**56.47**	**352**	*eP*	**P**	**13 36 20.7 +1.2**
KECS				pmax	pmax	
comp=Z,10.0nm,1.1s						
KECS	**Kecovo**	**56.47**	**352**	*eP*	**P**	**13 36 20.7 +1.2**
BNI	**Bardonecchia**	**56.54**	**340**	*eP*	**P**	**13 36 19.8 -0.5**
BNI				pmax	pmax	
comp=Z,34nm,1.5s						
BNI	**Bardonecchia**	**56.54**	**340**	*eP*	**P**	**13 36 19.8 -0.5**
comp=Z,34nm,1.5s						
KOLS	**Kolonicke sedl**	**56.69**	**354**	*eP*	**P**	**13 36 22.0 +0.9**
KOLS				pmax	pmax	
comp=Z,26nm,1.6s						
KOLS	**Kolonicke sedl**	**56.69**	**354**	*eP*	**P**	**13 36 22.0 +0.9**
ORIF	**Oris-en-Rattie**	**56.70**	**339**	*eP*	**P**	**13 36 22.1 +0.8**
ORIF				*e*R		
comp=Z,907nm,19.5s						
ORIF	**Oris-en-Rattie**	**56.70**	**339**	*eP*	**P**	**13 36 22.1 +0.8**
ORIF	**Oris-en-Rattie**	**56.70**	**339**	*eP*	**P**	**13 36 22.1 +0.8**
CONA	**Conrad Observa**	**56.71**	**348**	*i P*	**P**	**13 36 22.7 +1.3**
comp=Z,38nm,1.2s,SNR=11						
LASF	**Ste Croix**	**56.72**	**337**	*eP*	**P**	**13 36 22.7 +1.3**
comp=Z,143nm,1.4s						
LASF	**Ste Croix**	**56.72**	**337**	*eP*	**P**	**13 36 22.7 +1.3**
comp=Z,143nm,1.4s						
ESDC	**Sonseca Array**	**56.73**	**329**	P	**P**	**13 36 22.3 +0.7**
ESDC	**Sonseca Array**	**56.73**	**329**	P	**P**	**13 36 22.3 +0.7**
comp=Z,8.1nm,0.8s,baz=140,slow=7.1,SNR=48						
ESDC				LR	LR	14 02 53.1
comp=Z,485nm,18.6s,baz=100,slow=38						
ESLA	**Sonseca Array**	**56.73**	**329**	*eP*	**P**	**13 36 20.7 -0.8**
comp=Z,23nm,1.5s						
MTLF	**Montolieu**	**56.75**	**336**	*eP*	**P**	**13 36 22.4 +0.8**
MTLF	**Montolieu**	**56.75**	**336**	*eP*	**P**	**13 36 22.4 +0.8**
MTLF	**Montolieu**	**56.75**	**336**	*eP*	**P**	**13 36 22.4 +0.8**
CRVS	**Cervenica-Dubn**	**56.76**	**353**	*eP*	**P**	**13 36 22.9 +1.3**
CRVS				pmax	pmax	
comp=Z,24nm,1.1s						
CRVS	**Cervenica-Dubn**	**56.76**	**353**	*eP*	**P**	**13 36 22.9 +1.3**
PAB	**San Pablo**	**56.83**	**328**	*eP*	**P**	**13 36 22.1 -0.2**
PAB				pmax	pmax	
comp=Z,247nm,1.6s						
PAB	**San Pablo**	**56.83**	**328**	*eP*	**P**	**13 36 22.1 -0.2**
comp=Z,247nm,1.6s						
FUORN	**Ofenpass-Fuorn**	**56.84**	**344**	*eP*	**P**	**13 36 21.8 -0.7**
comp=Z,44nm,1.5s						
LPG	**La Plagne**	**56.91**	**340**	*eP*	**P**	**13 36 24.0 +1.0**
comp=Z,41nm,1.1s						
LPG	**La Plagne**	**56.91**	**340**	*eP*	**P**	**13 36 24.0 +1.0**
LPG				pmax	pmax	
comp=Z,41nm,1.1s						
LPG	**La Plagne**	**56.91**	**340**	*eP*	**P**	**13 36 24.0 +1.0**
comp=Z,41nm,1.1s						
LPL	**La Plagne**	**56.93**	**340**	*eP*	**P**	**13 36 23.3 +0.2**
comp=Z,40nm,1.2s						
LPL	**La Plagne**	**56.93**	**340**	*eP*	**P**	**13 36 23.3 +0.2**
LPL				pmax	pmax	
comp=Z,40nm,1.2s						
LPL	**La Plagne**	**56.93**	**340**	*eP*	**P**	**13 36 23.3 +0.2**
comp=Z,40nm,1.2s						
TUE	**Stuetta**	**56.96**	**343**	*eP*	**P**	**13 36 22.7 -0.6**
comp=Z,36nm,0.9s						
MOA	**Molln**	**56.97**	**347**	*i P*	**P**	**13 36 24.1 +0.9**
comp=Z,69nm,1.1s,SNR=33						
WTTA	**Wattenberg**	**57.06**	**345**	*i P*	**P**	**13 36 25.5 +1.6**
comp=Z,42nm,1.1s,SNR=11						
FETA	**Feichten**	**57.07**	**344**	*i P*	**P**	**13 36 25.1 +1.1**
comp=Z,22nm,1.4s,SNR=6.3						
VIVF	**Saint-Julien-I**	**57.08**	**338**	*eP*	**P**	**13 36 25.3 +1.4**
comp=Z,137nm,1.6s						
VIVF	**Saint-Julien-I**	**57.08**	**338**	*eP*	**P**	**13 36 25.3 +1.4**
VIVF				pmax	pmax	
comp=Z,137nm,1.6s						
VIVF	**Saint-Julien-I**	**57.08**	**338**	*eP*	**P**	**13 36 25.3 +1.4**
comp=Z,137nm,1.6s						
WATA	**Walderalm**	**57.14**	**345**	⇓*iP*	**P**	**13 36 25.2 +0.7**
comp=Z,43nm,1.3s,SNR=5.4						
PVAQ	**Vaqueiros**	**57.17**	**324**	*e*LR	LR	13 55 47.7
comp=Z,399nm,18.0s						
RJOB	**Jochberg**	**57.21**	**346**	*eP*	**P**	**13 36 24.9 +0.1**
comp=Z,20nm,1.2s						
RJOB				*e*pP	pP	13 36 35.5 +6.4
comp=Z,18nm,1.0s						
MOTA	**Moosalm**	**57.27**	**345**	⇓*iP*	**P**	**13 36 26.1 +0.6**
comp=Z,17nm,0.8s,SNR=11						
EPF	**Esparros**	**57.28**	**334**	*eP*	**P**	**13 36 26.8 +1.3**
comp=Z,102nm,1.4s						
EPF	**Esparros**	**57.28**	**334**	*eP*	**P**	**13 36 26.8 +1.3**
EPF				pmax	pmax	
comp=Z,102nm,1.4s						
EPF	**Esparros**	**57.28**	**334**	*eP*	**P**	**13 36 26.8 +1.3**
comp=Z,102nm,1.4s						
STHS	**Stebnicka Huta**	**57.29**	**353**	*eP*	**P**	**13 36 26.8 +1.5**
STHS				pmax	pmax	
comp=Z,11nm,0.8s						
STHS	**Stebnicka Huta**	**57.29**	**353**	*eP*	**P**	**13 36 26.8 +1.5**
PBAR	**Barrancos**	**57.31**	**325**	*eP*	**P**	**13 36 27.1 +1.4**
comp=Z,44nm,1.7s						
KWP	**Kalwaria Pacla**	**57.34**	**354**	*eP*	**P**	**13 36 26.9 +1.3**
LVV	**L'vov**	**57.40**	**355**	*eP*	**P**	**13 36 24.9 -1.2**
LABF	**Labassere**	**57.41**	**334**	*eP*	**P**	**13 36 28.3 +1.9**
SSB	**Saint Sauveur**	**57.49**	**339**	*eP*	**P**	**13 36 25.6 -1.2**
SSB				pmax	pmax	
comp=Z,38nm,1.4s						
SSB	**Saint Sauveur**	**57.49**	**339**	*eP*	**P**	**13 36 28.1 +1.2**
SSB	**Saint Sauveur**	**57.49**	**339**	*eP*	**P**	**13 36 25.6 -1.2**
comp=Z,38nm,1.4s						
RETA	**Reutte**	**57.49**	**344**	*i P*	**P**	**13 36 27.2 +0.4**
comp=Z,31nm,1.0s,SNR=8.0						
PCVE	**Castro Verde**	**57.51**	**324**	*eP*	**P**	**13 36 28.5 +1.4**
DAVA	**Damuels**	**57.55**	**344**	*i P*	**P**	**13 36 27.9 +0.5**
comp=Z,57nm,1.2s,SNR=11						
ETSF	**Etsaut**	**57.57**	**333**	*eP*	**P**	**13 36 28.9 +1.4**
comp=Z,78nm,1.4s						
ETSF	**Etsaut**	**57.57**	**333**	*eP*	**P**	**13 36 28.9 +1.4**
ETSF				pmax	pmax	
comp=Z,78nm,1.4s						
ETSF	**Etsaut**	**57.57**	**333**	*eP*	**P**	**13 36 28.9 +1.4**
comp=Z,78nm,1.4s						
PFVI	**Vila Bisbo**	**57.63**	**323**	*eP*	**P**	**13 36 30.2 +2.2**
REYF	**Montagne du Re**	**57.63**	**334**	*eP*	**P**	**13 36 29.5 +1.5**
MORF	**Marmelete**	**57.65**	**324**	*eP*	**P**	**13 36 30.3 +2.2**
ATE	**Arette**	**57.78**	**333**	*eP*	**P**	**13 36 30.4 +1.4**
FUR	**Furstenfeldbru**	**57.98**	**345**	*eP*	**P**	**13 36 30.7 +0.4**
comp=Z,48nm,0.9s						
FUR				*e*pP	pP	13 36 41.3 +6.8
FUR	**Furstenfeldbru**	**57.98**	**345**	*eP*	**P**	**13 36 30.7 +0.4**
FUR				pmax	pmax	
comp=Z,48nm,0.9s						
KIEV	**Kiev**	**58.01**	**359**	*eP*	**P**	**13 36 30.3 0.0**
KIEV				pmax	pmax	
comp=Z,34nm,0.9s						
KIEV	**Kiev**	**58.01**	**359**	*eP*	**P**	**13 36 30.3 0.0**
comp=Z,34nm,0.9s						
AKASG	**Malin Array Be**	**58.02**	**359**	P	**P**	**13 36 30.6 +0.2**
AKASG	**Malin Array Be**	**58.02**	**359**	P	**P**	**13 36 30.6 +0.2**
AKASG	**Malin Array Be**	**58.02**	**359**	P	**P**	**13 36 30.6 +0.2**
comp=Z,22nm,0.7s,baz=182,slow=6.5,SNR=81						
AKASG				LR	LR	14 06 20.6
comp=Z,308nm,19.7s,baz=215,slow=41						
GEC2	**GERESS Array S**	**58.04**	**347**	*eP*	**P**	**13 36 31.4 +0.7**
comp=Z,50nm,1.2s						
GEC2				*e*pP	pP	13 36 42.1 +7.1
GEC2	**GERESS Array S**	**58.04**	**347**	*eP*	**P**	**13 36 31.4 +0.7**
GEC2				pmax	pmax	
comp=Z,50nm,1.2s						
GEC2	**GERESS Array S**	**58.04**	**347**	*eP*	**P**	**13 36 31.0 +0.2**
GERES	**GERESS Array B**	**58.04**	**347**	P	**P**	**13 36 31.2 +0.5**
GERES	**GERESS Array B**	**58.04**	**347**	P	**P**	**13 36 31.3 +0.5**
comp=Z,15nm,0.9s,baz=170,slow=8.1,SNR=66						
GERES				LR	LR	14 04 02.4
comp=Z,658nm,20.5s,baz=176,slow=39						
SJPF	**Ste Jean**	**58.04**	**333**	*eP*	**P**	**13 36 32.3 +1.6**
comp=Z,169nm,1.6s						
SJPF	**Ste Jean**	**58.04**	**333**	*eP*	**P**	**13 36 32.3 +1.6**
SJPF				pmax	pmax	
comp=Z,169nm,1.6s						
SJPF	**Ste Jean**	**58.04**	**333**	*eP*	**P**	**13 36 32.3 +1.6**
comp=Z,169nm,1.6s						
TREC	**Trest**	**58.09**	**349**	*i P*	**P**	**13 36 31.2 +0.2**
TREC	**Trest**	**58.09**	**349**	*i P*	**P**	**13 36 31.2 +0.2**
TREC				*ex*	x	13 36 41.8
PESTR	**Estremoz**	**58.10**	**326**	*eP*	**P**	**13 36 32.7 +1.4**
comp=Z,60nm,1.7s						
CABF	**La Chapelle**	**58.11**	**340**	*eP*	**P**	**13 36 31.8 +0.6**
comp=Z,38nm,1.4s						
CABF	**La Chapelle**	**58.11**	**340**	*eP*	**P**	**13 36 31.8 +0.6**
CABF				pmax	pmax	
comp=Z,38nm,1.4s						
CABF	**La Chapelle**	**58.11**	**340**	*eP*	**P**	**13 36 31.8 +0.6**
comp=Z,38nm,1.4s						
EVO	**Evora**	**58.11**	**325**	*eP*	**P**	**13 36 32.9 +1.6**
comp=Z,32nm,1.2s						
EVO				*e*R		
comp=Z,464nm,17.0s						
CAF	**Calviac**	**58.12**	**337**	*eP*	**P**	**13 36 32.6 +1.3**
comp=Z,48nm,1.1s						
CAF	**Calviac**	**58.12**	**337**	*eP*	**P**	**13 36 32.6 +1.3**
CAF				pmax	pmax	
comp=Z,48nm,1.1s						
CAF	**Calviac**	**58.12**	**337**	*eP*	**P**	**13 36 32.6 +1.3**
comp=Z,48nm,1.1s						
OKC	**Ostrava-Krasne**	**58.14**	**351**	*i P*	**P**	**13 36 31.7 +0.4**
OKC	**Ostrava-Krasne**	**58.14**	**351**	*i P*	**P**	**13 36 31.7 +0.4**
OKC				*ex*	x	13 36 42.1
EVOP	**Sao Brissos**	**58.17**	**325**	*eP*	**P**	**13 36 32.9 +1.2**
EVOP				pmax	pmax	
comp=Z,32nm,1.2s						
EVOP	**Sao Brissos**	**58.17**	**325**	*eP*	**P**	**13 36 32.9 +1.2**
comp=Z,32nm,1.2s						
MORC	**Moravsky Berou**	**58.18**	**350**	*eP*	**P**	**13 36 30.7 -0.9**
MORC				pmax	pmax	
comp=Z,20nm,0.9s						
MORC	**Moravsky Berou**	**58.18**	**350**	*eP*	**P**	**13 36 30.7 -0.9**
comp=Z,20nm,0.9s						
KHC	**Kasperske Hory**	**58.33**	**347**	*i P*	**P**	**13 36 33.4 +0.7**
KHC				MLR	MLR	
comp=Z,700nm,17.3s						
KHC	**Kasperske Hory**	**58.33**	**347**	*i P*	**P**	**13 36 33.4 +0.7**
KHC				*ex*	x	13 36 42.7
KHC				AMS	AMS	14 03 30.0
comp=Z,700nm,17.3s						
KHC	**Kasperske Hory**	**58.33**	**347**	*eP*	**P**	**13 36 31.4 -1.4**
comp=Z,49nm,1.0s						
PMRV	**Marv??o**	**58.38**	**326**	*eP*	**P**	**13 36 30.6 -2.6**
comp=Z,39nm,1.8s						
PMRV	**Marv??o**	**58.38**	**326**	*e*LR	LR	13 58 38.3
comp=Z,457nm,16.0s						
PYM	**Petit Puy Mans**	**58.45**	**338**	*eP*	**P**	**13 36 35.2 +1.5**
WET	**Wettzell**	**58.51**	**347**	*eP*	**P**	**13 36 34.3 +0.4**
comp=Z,29nm,1.2s						
WET				*e*pP	pP	13 36 45.0 +6.8
WET	**Wettzell**	**58.51**	**347**	*eP*	**P**	**13 36 34.3 +0.4**
WET				pmax	pmax	
comp=Z,29nm,1.2s						
LOMF	**Lomont**	**58.52**	**341**	*eP*	**P**	**13 36 35.0 +0.9**
KRLC	**Kraliky**	**58.60**	**350**	*eP*	**P**	**13 36 35.1 +0.6**
KRLC	**Kraliky**	**58.60**	**350**	*eP*	**P**	**13 36 35.1 +0.6**
KRLC				*ex*	x	13 36 45.7
PMTG	**Montargil**	**58.60**	**325**	*eP*	**P**	**13 36 36.4 +1.7**
comp=Z,37nm,1.4s						
RJF	**Les Rejaudoux**	**58.66**	**336**	*eP*	**P**	**13 36 36.1 +1.1**
comp=Z,57nm,1.2s						
RJF				*e*R		
comp=Z,1µm,18.2s						
RJF	**Les Rejaudoux**	**58.66**	**336**	*eP*	**P**	**13 36 36.1 +1.1**
RJF				pmax	pmax	
comp=Z,57nm,1.2s						
RJF	**Les Rejaudoux**	**58.66**	**336**	*eP*	**P**	**13 36 36.1 +1.1**
comp=Z,57nm,1.2s						
AGO	**Saint Agoulin**	**58.66**	**338**	*eP*	**P**	**13 36 36.2 +1.1**
LFF	**La Frestale**	**58.67**	**336**	*eP*	**P**	**13 36 36.3 +1.2**
comp=Z,77nm,1.0s						
LFF	**La Frestale**	**58.67**	**336**	*eP*	**P**	**13 36 36.3 +1.2**
LFF				pmax	pmax	
comp=Z,77nm,1.0s						
LFF	**La Frestale**	**58.67**	**336**	*eP*	**P**	**13 36 36.3 +1.2**
comp=Z,77nm,1.0s						
VORD	**Divnogorie**	**58.78**	**7**	*eP*	**P**	**13 36 35.5 -0.2**
VORD				pmax	pmax	
comp=Z,9.0nm,0.6s						
VORD				pmax	pmax	
comp=N,20nm,1.0s						
VORD				pmax	pmax	
comp=E,10.0nm,0.8s						
SMF	**Signal de Mont**	**58.91**	**339**	*eP*	**P**	**13 36 37.3 +0.6**
comp=E,40nm,1.1s						
SMF	**Signal de Mont**	**58.91**	**339**	*eP*	**P**	**13 36 37.3 +0.6**
SMF				pmax	pmax	
comp=Z,40nm,1.1s						
SMF	**Signal de Mont**	**58.91**	**339**	*eP*	**P**	**13 36 37.3 +0.6**
comp=Z,40nm,1.1s						
HINF	**Hinteralfeld**	**58.92**	**342**	*eP*	**P**	**13 36 37.3 +0.4**
HINF	**Hinteralfeld**	**58.92**	**342**	*eP*	**P**	**13 36 37.3 +0.4**
HINF	**Hinteralfeld**	**58.92**	**342**	*eP*	**P**	**13 36 37.3 +0.4**
BFO	**Black Forest**	**58.94**	**343**	*eP*	**P**	**13 36 37.8 +0.9**
comp=Z,36nm,1.9s						
BFO				*e*pP	pP	13 36 48.4 +7.2
BFO				*e*S	**S**	**13 44 45.8 +3.0**
BFO	**Black Forest**	**58.94**	**343**	*eP*	**P**	**13 36 37.8 +0.9**
BFO				*e*S	**S**	**13 44 45.8 +3.0**
BFO				pmax	pmax	
comp=Z,36nm,1.9s						
BFO	**Black Forest**	**58.94**	**343**	*eP*	**P**	**13 36 35.5 -1.4**
comp=Z,25nm,1.5s						
PRU	**Pruhonice**	**58.94**	**348**	*i P*	**P**	**13 36 36.6 -0.3**
PRU	**Pruhonice**	**58.94**	**348**	*i P*	**P**	**13 36 36.6 -0.3**
PRU				*ex*	x	13 36 47.2
PRU				AMS	AMS	14 04 40.0
DPC	**Dobruska-Polom**	**58.94**	**350**	*i P*	**P**	**13 36 37.0 +0.1**
DPC	**Dobruska-Polom**	**58.94**	**350**	*i P*	**P**	**13 36 37.0 +0.1**
DPC				*ex*	x	13 36 47.6
DPC	**Dobruska-Polom**	**58.94**	**350**	*eP*	**P**	**13 36 36.4 -0.5**
comp=Z,81nm,1.1s						
VSR	**Storozhevoye**	**59.01**	**6**	*eP*	**P**	**13 36 37.7 +0.4**
VSR				pmax	pmax	
comp=Z,20nm,1.2s						
VSR				pmax	pmax	
comp=N,20nm,1.3s						
VSR				pmax	pmax	
comp=E,10.0nm,0.4s						
PRA	**Prague**	**59.04**	**348**	P	**P**	**13 36 37.0 -0.5**
STU	**Stuttgart**	**59.09**	**344**	*eP*	**P**	**13 36 39.1 +1.1**
comp=Z,31nm,1.2s						
STU				*e*pP	pP	13 36 49.7 +7.4
MTE	**Manteigas**	**59.15**	**327**	*eP*	**P**	**13 36 39.9 +1.3**
MTE				*e*S	**S**	**13 44 42.0 -3.8**
MTE	**Manteigas**	**59.15**	**327**	*e*LR	LR	13 58 23.3
comp=Z,655nm,16.0s						
UPC	**Upice**	**59.15**	**349**	*i P*	**P**	**13 36 38.4 +0.1**
UPC	**Upice**	**59.15**	**349**	*i P*	**P**	**13 36 38.4 +0.1**
UPC				*ex*	x	13 36 49.2
ECH	**Echery**	**59.19**	**342**	*eP*	**P**	**13 36 38.9 +0.3**
BGF	**Bois d'Agland**	**59.20**	**338**	*eP*	**P**	**13 36 39.9 +1.2**
BGF	**Bois d'Agland**	**59.20**	**338**	*eP*	**P**	**13 36 39.9 +1.2**
BGF	**Bois d'Agland**	**59.20**	**338**	*eP*	**P**	**13 36 39.9 +1.2**
VRHR	**Novokhopersk**	**59.20**	**8**	*eP*	**P**	**13 36 39.3 +0.7**
VRHR				pmax	pmax	
comp=Z,40nm,1.5s						
VRHR				pmax	pmax	
comp=N,10.0nm,1.2s						
VRHR				pmax	pmax	
comp=E,9.0nm,0.6s						
TCF	**Toulx Ste Croi**	**59.21**	**338**	*eP*	**P**	**13 36 40.4 +1.6**
comp=E,79nm,1.3s						
TCF	**Toulx Ste Croi**	**59.21**	**338**	*eP*	**P**	**13 36 40.4 +1.6**
TCF				pmax	pmax	
comp=Z,79nm,1.3s						
TCF	**Toulx Ste Croi**	**59.21**	**338**	*eP*	**P**	**13 36 40.4 +1.6**
comp=Z,79nm,1

BRG pmax pmax
comp=Z,8.0nm,1.3s
BRG pmax pmax
comp=Z,15nm,1.3s
BRG MLR MLR
comp=N,17µm,23.3s
BRG MLR MLR
comp=E,671nm,18.0s
BRG MLR MLR
comp=Z,352nm,18.5s
PAGF Fort de Pagny 59.93 341 *e*P **P 13 36 44.8 +1.0**
PAGF Fort de Pagny 59.93 341 *e*P **P 13 36 44.8 +1.0**
POLO Lamas de Ólo 59.97 327 *e*P **P 13 36 45.7 +1.4**
comp=Z,23nm,1.2s
MEZF Maizieres J'vi 60.10 341 *e*P **P 13 36 46.2 +1.3**
MEZF Maizieres J'vi 60.10 341 *e*P **P 13 36 46.2 +1.3**
MOX Moxa 60.20 346 *e*P **P 13 36 46.4 +0.8**
comp=Z,25nm,1.2s
MOX *e*pP pP 13 36 57.0 +7.1
MOX *e*L L 14 06 11.9
comp=Z,384nm,19.3s
MOX Moxa 60.20 346 *e*P **P 13 36 46.4 +0.8**
MOX pmax pmax
comp=Z,25nm,1.2s
MOX MLR MLR
comp=Z,400nm,19.3s
MFF Saint Martin d 60.38 336 *e*P **P 13 36 48.0 +1.1**
comp=Z,55nm,1.2s
MFF Saint Martin d 60.38 336 *e*P **P 13 36 48.0 +1.1**
MFF pmax pmax
comp=Z,55nm,1.2s
MFF Saint Martin d 60.38 336 *e*P **P 13 36 48.0 +1.1**
comp=Z,55nm,1.2s
PMOZ Porto Moniz, M 60.49 314 *e*LR LR 13 58 23.4
comp=Z,1µm,18.0s
CLL Collm 60.51 348 *e*P **P 13 36 48.0 +0.4**
comp=Z,14nm,1.1s
CLL *e*pP pP 13 36 58.7 +6.8
CLL Collm 60.51 348 *i* P **P 13 36 47.6 0.0**
CLL *e*S S 13 45 12.0 +9.2
CLL pmax pmax
comp=Z,14nm,1.1s
CLL MLR MLR
comp=Z,600nm,20.5s
CLL Collm 60.51 348 *i* P **P 13 36 47.6 0.0**
comp=Z,14nm,1.1s
CLL *i* 13 36 57.5
CLL *i* 13 37 02.3
CLL *e*S S 13 45 12.0 +9.2
CLL *e*(SS) 13 49 00.0
CLL Lm MLR 14 05 00.0
comp=N,500nm,19.4s
CLL Lm MLR 14 05 00.0
comp=E,300nm,18.1s
CLL Lm MLR 14 05 00.0
comp=Z,600nm,20.5s
TNS Taunus Mts 60.62 344 *e*P **P 13 36 49.5 +1.0**
comp=Z,39nm,1.1s
TNS *e*pP pP 13 37 00.2 +7.4
TNS Taunus Mts 60.62 344 *e*P **P 13 36 49.5 +1.0**
TNS pmax pmax
comp=Z,39nm,1.1s
PGAV Gavieira, Arco 60.64 328 *e*LR LR 13 58 44.9
comp=Z,688nm,16.0s
UBBA Unterbreizbach 60.75 345 *e*P **P 13 36 50.4 +1.2**
comp=Z,32nm,1.5s
UBBA *e*pP pP 13 37 01.0 +7.5
UBBA *e*S S 13 45 17.5 +12
WLF Walferdange 60.78 342 P **P 13 36 51.1 +1.6**
comp=Z,23nm,2.1s
WLF Walferdange 60.78 342 *e*P **P 13 36 50.6 +1.1**
comp=Z,66nm,1.9s
WLF *e*pP pP 13 37 01.2 +7.4
GIVF Givet 61.57 342 *e*P **P 13 36 55.4 +0.5**
GIVF Givet 61.57 342 *e*P **P 13 36 55.4 +0.5**
GIVF Givet 61.57 342 *e*P **P 13 36 55.4 +0.5**
CLZ Clausthal 61.60 346 *e*P **P 13 36 56.3 +1.2**
comp=Z,21nm,1.4s
CLZ *e*pP pP 13 37 06.9 +7.5
CLZ Clausthal 61.60 346 *e*P **P 13 36 56.3 +1.2**
CLZ pmax pmax
comp=Z,21nm,1.4s
SUW Suwalki 61.63 355 *e*P **P 13 36 53.6 -1.5**
SUW pmax pmax
comp=Z,165nm,0.9s
SUW Suwalki 61.63 355 *e*P **P 13 36 53.6 -1.5**
comp=Z,165nm,0.9s
SUW Suwalki 61.63 355 *e*P **P 13 36 55.8 +0.6**
DOU Dourbes 61.64 341 P **P 13 36 56.5 +1.2**
SYO Syowa Base 61.68 176⇑ *e*P P 13 36 49.6 -5.7
SYO Syowa Base 61.68 176⇑ *e*pP **P 13 36 56.3 +1.0**
BCLA Clavier 61.70 342 P **P 13 36 57.5 +1.7**
comp=Z,23nm,1.9s
BAIF Baives 61.73 341 *e*P **P 13 36 56.6 +0.7**
comp=Z,51nm,1.3s
BAIF Baives 61.73 341 *e*P **P 13 36 56.6 +0.7**
BAIF pmax pmax
comp=Z,51nm,1.3s
BAIF Baives 61.73 341 *e*P **P 13 36 56.6 +0.7**
comp=Z,51nm,1.3s
PYUN Piuthan 61.90 53 *e*P **P 13 36 57.9 +0.1**
LDF La Druitiere 62.00 338 *e*P **P 13 36 58.4 +0.6**
comp=Z,57nm,1.3s
LDF La Druitiere 62.00 338 *e*P **P 13 36 58.4 +0.6**
LDF pmax pmax
comp=Z,57nm,1.3s
LDF La Druitiere 62.00 338 *e*P **P 13 36 58.4 +0.6**
comp=Z,57nm,1.3s
BUG Bochum--Univer 62.04 344 *e*P **P 13 36 59.3 +1.3**
comp=Z,33nm,1.0s
BUG *e*pP pP 13 37 10.0 +7.7
SNF Seneffe 62.10 341 P **P 13 36 59.8 +1.4**
GRR Gorron 62.12 337 *e*P **P 13 36 59.1 +0.5**
comp=Z,30nm,0.9s
GRR Gorron 62.12 337 *e*P **P 13 36 59.1 +0.5**
GRR pmax pmax
comp=Z,30nm,0.9s
GRR Gorron 62.12 337 *e*P **P 13 36 59.1 +0.5**
comp=Z,30nm,0.9s
ABKAR Akbulak array 62.19 21 *e*P **P 13 36 58.4 -0.7**
KOLN Koldanda 62.23 53 *e*P **P 13 37 00.0 -0.1**
comp=Z,71nm,1.1s
NRDL Niedersach Rie 62.27 346 *e*P **P 13 37 01.1 +1.7**
comp=Z,66nm,1.0s
NRDL *e*pP pP 13 37 11.8 +8.1
FLN La Foliniere 62.28 337 *e*P **P 13 37 00.0 +0.3**
comp=Z,25nm,1.1s
FLN *e*R
comp=Z,938nm,19.0s
FLN La Foliniere 62.28 337 *e*P **P 13 37 00.0 +0.3**
FLN pmax pmax
comp=Z,25nm,1.1s
FLN La Foliniere 62.28 337 *e*P **P 13 37 00.0 +0.3**
comp=Z,25nm,1.1s
AKTO Aktyubinsk 62.52 20 LR LR 14 07 41.6
comp=Z,324nm,18.2s,baz=166,slow=39
DANN Dangsing 62.62 53 *e*P **P 13 37 02.4 -0.3**
comp=Z,135nm,0.9s
OBN Obninsk 62.64 4⇑ *i*P **P 13 37 02.5 +0.6**
OBN 13 37 44.0
OBN 13 39 21.0
OBN pmax pmax
comp=Z,56nm,1.3s
QUIF Quistinic 62.67 335 *e*P **P 13 37 03.1 +0.8**
comp=Z,77nm,1.4s
QUIF Quistinic 62.67 335 *e*P **P 13 37 03.1 +0.8**
QUIF pmax pmax
comp=Z,77nm,1.4s
QUIF Quistinic 62.67 335 *e*P **P 13 37 03.1 +0.8**
comp=Z,77nm,1.4s
IBBN Ibbenburen 62.69 345 *e*P **P 13 37 04.0 +1.7**
comp=Z,83nm,2.1s
IBBN *e*pP pP 13 37 14.6 +8.0
MENF Mencas 62.83 340 *e*P **P 13 37 04.0 +0.7**
KSH Kashi 62.99 38 P **P 13 37 02.3 -2.5**
KSH pP **pP 13 37 06.8 -2.3**
KSH PP **PP 13 39 21.5 -2.0**
KSH PcS **PcS 13 41 43.0 -3.3**
KSH S S 13 45 27.3 -7.7
KSH ScS SKSac 13 46 50.3 -7.3
KSH pmax pmax
comp=Z,93nm,3.9s
KSH LR LR
comp=N,280nm,9.2s
KSH LR LR
comp=E,340nm,12.4s

KSH LR LR
comp=Z,650nm,13.7s
ROSF Rostrenen 63.04 335 *e*P **P 13 37 04.9 +0.1**
ROSF Rostrenen 63.04 335 *e*P **P 13 37 04.9 +0.1**
ROSF Rostrenen 63.04 335 *e*P **P 13 37 04.9 +0.1**
GKN Gorkha 63.16 54 *e*P **P 13 37 06.2 0.0**
comp=Z,136nm,1.1s
AML Almayashu 63.28 35 *i* P **P 13 37 08.1 +1.1**
AML Almayashu 63.28 35 P **P 13 37 08.1 +1.1**
SNR=5.8
MOS Moscow 63.34 5 *e*P **P 13 37 05.8 -0.8**
MOS *e* 13 37 14.9
MOS pmax pmax
comp=Z,86nm,0.9s
DMN Daman 63.37 54 *e*P **P 13 37 07.8 +0.1**
comp=Z,78nm,1.1s
BSEG Bad Segeberg 63.55 347 *e*P **P 13 37 08.9 +0.9**
comp=Z,47nm,1.2s
BSEG *e*pP pP 13 37 19.6 +7.3
BSEG Bad Segeberg 63.55 347 *e*P **P 13 37 08.9 +0.9**
BSEG pmax pmax
comp=Z,47nm,1.2s
KKN Kakani 63.59 54 *e*P **P 13 37 09.1 0.0**
comp=Z,104nm,1.2s
PKIN Phulchoki 63.59 54 *e*P **P 13 37 08.8 -0.4**
comp=Z,51nm,1.2s
PKI Pulchoki 63.60 54 *e*P **P 13 37 09.0 -0.3**
comp=Z,68nm,1.1s
EKS2 Erkin-Say 63.67 34 *e*P **P 13 37 08.7 -0.5**
EKS2 pmax pmax
comp=Z,17nm,1.3s
EKS2 Erkin-Say 63.67 34 P **P 13 37 10.6 +1.3**
SNR=5.9
EKS2 Erkin-Say 63.67 34 *e*P **P 13 37 08.7 -0.5**
comp=Z,17nm,1.3s
MAW Mawson 63.83 167 P **P 13 37 11.2 +1.6**
MAW Mawson 63.83 167 P **P 13 37 11.2 +1.6**
comp=Z,36nm,1.0s,baz=317,slow=7.2,SNR=35
MAW LR LR 14 04 17.7
comp=Z,363nm,18.3s,baz=324,slow=35
AAK Ala-Archa 64.06 35⇑ *i*P **P 13 37 12.7 +0.9**
AAK pmax pmax
comp=Z,38nm,1.7s
AAK MLR MLR
comp=Z,1µm,17.0s
AAK Ala-Archa 64.06 35 P **P 13 37 13.2 +1.3**
SNR=6.5
AAK Ala-Archa 64.06 35 *e*P **P 13 37 10.9 -0.9**
comp=Z,12nm,1.2s
AAK Ala-Archa 64.06 35 P **P 13 37 12.7 +0.9**
comp=Z,3.3nm,0.8s,baz=233,slow=9.0,SNR=11
AAK LR LR 14 09 08.5
comp=Z,692nm,18.0s,baz=146,slow=40
GUN Gumba 64.12 54 *e*P **P 13 37 13.0 +0.2**
comp=Z,215nm,1.1s
JIRN Jiri 64.26 55 *e*P **P 13 37 13.6 -0.1**
comp=Z,96nm,1.1s
MAIT Maitri 64.26 187 *e*P **P 13 37 13.3 +0.8**
RAMN Ramite 64.31 55 *e*P **P 13 37 13.9 0.0**
comp=Z,56nm,1.2s
CHMS Chumysh 64.44 35 *i* P **P 13 37 14.8 +0.6**
CHMS Chumysh 64.44 35 P **P 13 37 14.8 +0.6**
SNR=7.1
USP Ospenovka 64.47 34 *i* P **P 13 37 14.9 +0.6**
USP Ospenovka 64.47 34 P **P 13 37 15.0 +0.6**
SNR=14
TKM2 Tokmak 2 64.87 35 *i* P **P 13 37 18.0 +0.8**
TKM2 Tokmak 2 64.87 35 P **P 13 37 18.1 +0.8**
SNR=19
TKM2 Tokmak 2 64.87 35 *e*P **P 13 37 17.5 +0.3**
comp=Z,29nm,1.1s
ODAN Odare 64.92 56 *e*P **P 13 37 18.0 +0.1**
comp=Z,80nm,1.1s
CCA1 Carnmenellis 65.29 336 *e*P **P 13 37 19.6 +0.2**
CCA1 AMB AMB 13 37 21.6
comp=Z,20nm,0.9s
TAPN Taplejung 65.37 55 *e*P **P 13 37 21.0 +0.1**
comp=Z,112nm,1.2s
RCBR Riachuelo 65.82 267 *e*P **P 13 37 23.2 -0.5**
comp=Z,29nm,1.1s
MCH1 Michaelchurch 65.85 338 *e*P **P 13 37 22.5 -0.6**
MCH1 AMB AMB 13 37 31.3
comp=Z,29nm,3.1s
MUD Monsted U'grnd 66.14 347 *i* P **P 13 37 25.3 +0.5**
MUD pmax pmax
comp=Z,19nm,0.9s
MUD Monsted U'grnd 66.14 347 *i* P **P 13 37 25.3 +0.5**
comp=Z,19nm,0.9s
MUD *i* 13 37 37.1
HLM1 Long Mynd 66.22 339 *e*P **P 13 37 26.1 +0.7**
LPW Lampeter 66.34 338 *e*P **P 13 37 27.3 +1.1**
LPW AMB AMB 13 37 27.8
comp=Z,133nm,1.1s
FOEL Foel Wylfa 66.64 339 *e*P **P 13 37 29.4 +1.2**
FOEL AMB AMB 13 37 30.4
comp=Z,47nm,1.6s
HPK Haverah Park 66.95 340 *e*P **P 13 37 31.4 +1.3**
HPK AMB AMB 13 37 33.4
comp=Z,38nm,2.3s
SNAA Sanae 67.29 191 *e*P **P 13 37 32.7 +0.6**
comp=Z,41nm,1.8s
VNA1 Neumayer--Stat 67.60 193 *e*P P 13 37 37.7 +3.7
VNA2 Neumayer--Watz 67.62 193 *e*P **P 13 37 37.1 +3.0**
baz=34,slow=5.8
ARU Arti 67.84 16*d* *i*P **P 13 37 35.8 +0.1**
ARU 13 40 04.0
ARU S **S 13 46 33.5 0.0**
ARU pmax pmax
comp=Z,44nm,1.2s
KESW Keswick, Cumbr 67.97 340 *e*P **P 13 37 37.8 +1.3**
KESW AMB AMB 13 37 39.8
comp=Z,71nm,6.6s
SHL Shillong 68.19 59 *i* P **P 13 37 39.5 +0.8**
ECK Cauldkaine Hil 68.46 340 *e*P **P 13 37 40.2 +0.6**
KLMR Klimovskoe 68.56 5 *e*P **P 13 37 37.8 -2.3**
KLMR pmax pmax
comp=Z,80nm,1.4s
HFS Hagfors 68.76 351 LR LR 14 11 25.1
comp=Z,420nm,18.9s,baz=165,slow=39
SVE Sverdlovsk 68.78 17⇓ *e*P **P 13 37 42.1 +0.5**
SVE pmax pmax
comp=Z,25nm,1.4s
CMLA Cha da Macela 68.86 315 *e*P **P 13 37 41.2 -1.3**
CMLA pmax pmax
comp=Z,47nm,0.8s
CMLA Cha da Macela 68.86 315 *e*P **P 13 37 41.2 -1.3**
comp=Z,47nm,0.8s
FINES FINESS Array B 68.86 358 P **P 13 37 42.5 +0.5**
FINES FINESS Array B 68.86 358 P **P 13 37 42.5 +0.5**
comp=Z,12nm,0.8s,baz=148,slow=8.3,SNR=16
FINES LR LR 14 10 20.9
comp=Z,375nm,19.7s,baz=270,slow=38
KONO Kongsberg 69.01 349 *e*P **P 13 37 43.7 +0.8**
LSA Lhasa 69.07 54 P **P 13 37 45.5 +1.0**
LSA Lhasa 69.07 54 *e*P **P 13 37 43.7 -0.9**
LSA pmax pmax
comp=Z,39nm,1.1s
LSA Lhasa 69.07 54 *e*P **P 13 37 43.6 -0.9**
comp=Z,39nm,1.1s
BRVK Borovoye 69.19 24*d* *i*P **P 13 37 44.4 +0.2**
BRVK pmax pmax
comp=Z,16nm,1.2s
BRVK MLR MLR
comp=Z,560nm,17.0s
BRVK Borovoye 69.19 24 P **P 13 37 44.8 +0.6**
SNR=7.3
BRVK Borovoye 69.19 24 *e*P **P 13 37 43.8 -0.4**
comp=Z,14nm,1.1s
BRVK Borovoye 69.19 24 P **P 13 37 44.4 +0.2**
comp=Z,70nm,1.1s,SNR=7.4
BVAR Borovoye Array 69.21 25 P **P 13 37 44.8 +0.5**
BVAR Borovoye Array 69.21 25 P **P 13 37 44.8 +0.5**
BVAR Borovoye Array 69.21 25 P **P 13 37 44.8 +0.5**
comp=Z,6.6nm,0.8s,baz=231,slow=7.1,SNR=32
BVAR LR LR 14 12 57.8
comp=Z,514nm,18.5s,baz=217,slow=40
VOSK Vostochnaya 69.24 25 *e*P **P 13 37 44.5 0.0**
VOSK pmax pmax
comp=Z,20nm,1.1s
VOSK Vostochnaya 69.24 25 *e*P **P 13 37 44.5 0.0**
comp=Z,20nm,1.1s
KAF Kangasniemi 69.52 358 *e*P **P 13 37 45.9 -0.1**
KAF Kangasniemi 69.52 358 *e*p **P 13 37 45.9 -0.1**
NB2 NORSAR Subarra 70.02 350 P **P 13 37 49.9 +0.7**
comp=Z,26nm,1.0s,baz=162,slow=5.6
NB2 NORSAR Subarra 70.02 350 P **P 13 37 49.9 +0.7**
baz=162,slow=5.6
NOA NORSAR Array B 70.02 350 P **P 13 37 49.6 +0.5**
NOA NORSAR Array B 70.02 350 P **P 13 37 49.6 +0.5**
comp=Z,14nm,0.9s,baz=162,slow=5.6,SNR=18
NOA LR LR 14 11 35.9
comp=Z,317nm,19.0s,baz=180,slow=38
SOKR Solikamsk 70.16 14⇑ *i*P **P 13 37 51.1 +1.1**
SOKR pmax pmax
comp=Z,40nm,1.1s
MK31 Makanchi Array 71.00 35 *e*P **P 13 37 53.7 -1.7**
MK31 Makanchi Array 71.00 35 *e*P **P 13 37 53.7 -1.7**
MKAR Makanchi Array 71.00 35 P **P 13 37 56.1 +0.6**
MKAR Makanchi Array 71.00 35 P **P 13 37 56.1 +0.6**
MKAR Makanchi Array 71.00 35 P **P 13 37 56.1 +0.6**
comp=Z,22nm,0.9s,baz=232,slow=5.9,SNR=133
MKAR LR LR 14 12 27.0
comp=Z,760nm,18.4s,baz=235,slow=39
KURBB Kurchatov Arra 71.28 30 P **P 13 37 57.9 +0.9**
comp=Z,12nm,0.9s,baz=235,slow=6.4,SNR=70
KURK Kurchatov 71.38 30 P **P 13 37 58.9 +1.3**
comp=Z,72nm,1.3s,SNR=8.0
KURK Kurchatov 71.38 30*d* *i*P **P 13 37 58.5 +0.9**
KURK pmax pmax
comp=Z,21nm,1.2s
KURK Kurchatov 71.38 30 P **P 13 37 58.9 +1.3**
SNR=12
KURK Kurchatov 71.38 30 P **P 13 37 57.9 +0.2**
comp=Z,1.8nm,1.3s
TMCR Tamitsa 71.74 4 *e*P **P 13 38 00.5 +1.0**
TMCR pmax pmax
comp=Z,53nm,0.7s
CMAR Chiang Mai Arr 72.35 68 P **P 13 38 05.0 +0.8**
CMAR Chiang Mai Arr 72.35 68 P **P 13 38 04.9 +0.8**
comp=Z,2.8nm,0.9s,baz=259,slow=7.0,SNR=18
CHTO Chiang Mai 72.44 68 *e*P **P 13 38 04.3 -0.4**
CHTO pmax pmax
comp=Z,83nm,1.4s
CHTO Chiang Mai 72.44 68 *e*P **P 13 38 04.3 -0.4**
comp=Z,83nm,1.4s
CHTO Chiang Mai 72.44 68 P **P 13 38 05.6 +0.9**
comp=Z,58nm,1.6s
WMQ Urumqi 72.68 40 P **P 13 38 05.3 -0.4**
WMQ pP **pP 13 38 10.3 +0.2**
WMQ sP **sP 13 38 12.3 +0.6**
WMQ PcP **PcP 13 38 22.3 -0.8**
WMQ pmax pmax
comp=Z,11nm,0.8s
WMQ pmax pmax
comp=Z,150nm,4.0s
WMQ LR LR
comp=E,250nm,20.0s
WMQ LR LR
comp=Z,220nm,20.0s
PAYA Payao 73.42 67 P **P 13 38 12.1 +1.6**
comp=Z,4.0nm,1.2s
PBKT Sadao Pong 73.78 70 P **P 13 38 14.1 +1.5**
comp=Z,14nm,1.2s
CRAI Chiangrai 74.09 67 P **P 13 38 14.8 +0.3**
comp=Z,49nm,1.4s
LOEI Loei 74.27 69 P P 13 38 18.7 +3.2
comp=Z,200nm,0.7s,comp=Z,9µm
NVS Novosibirsk 76.11 28⇓ *i*P **P 13 38 26.0 +0.7**
NVS pmax pmax
comp=N,21nm,1.0s
NVS pmax pmax
comp=E,10.0nm,1.0s
NVS pmax pmax
comp=Z,51nm,1.0s
ZAA0 Zalesovo Array 76.36 30 *e*P **P 13 38 24.6 -2.2**
ZALV Zalesovo Beam 76.36 30 P **P 13 38 26.7 -0.1**
ZALV Zalesovo Beam 76.36 30 P **P 13 38 26.6 -0.1**
ZALV Zalesovo Beam 76.36 30 P **P 13 38 26.7 -0.1**
comp=Z,7.7nm,0.8s,baz=251,slow=5.5,SNR=31
ZALV LR LR 14 15 22.3
comp=Z,692nm,18.0s,baz=250,slow=38
SKNT Sakolnakorn 76.68 71 P **P 13 38 31.6 +2.2**
comp=Z,40nm,2.0s
BDFB Brasilia 76.90 256 P **P 13 38 31.8 +1.1**
BDFB Brasilia 76.90 256 P **P 13 38 31.8 +1.1**
comp=Z,12nm,0.8s,baz=96,slow=5.4,SNR=12
ARCES ARCESS Array B 76.98 358 P **P 13 38 30.5 +0.6**
ARCES ARCESS Array B 76.98 358 P **P 13 38 30.5 +0.6**
comp=Z,7.6nm,0.8s,baz=171,slow=6.4,SNR=8.6
ARCES LR LR 14 13 30.8
comp=Z,281nm,19.2s,baz=235,slow=36
BB16B Bebedouro 77.09 250 (P) **P 13 38 32.9 +1.2**
BB16B *i* 13 38 38.8
BB16B Bebedouro 77.09 250 (P) **P 13 38 32.9 +1.2**
BB16B *i* 13 38 38.8
KMI Kunming 77.43 62 P **P 13 38 34.8 +1.1**
KMI pP **pP 13 38 38.0 -0.1**
KMI sP **sP 13 38 39.5 -0.2**
KMI PP **PP 13 41 29.0 +0.6**
KMI S **S 13 48 24.3 -0.4**
KMI sS **sS 13 48 31.8 -0.2**
KMI SS **SS 13 53 27.3 +3.5**
KMI pmax pmax
comp=Z,13nm,1.4s
KMI pmax pmax
comp=Z,80nm,3.1s
KMI LR LR
comp=N,230nm,18.3s
KMI LR LR
comp=E,300nm,17.5s
KMI LR LR
comp=Z,240nm,16.7s
GTA Gaotai 79.19 48 ⇓P **P 13 38 44.8 +1.8**
GTA pP **pP 13 38 49.0 +1.5**
GTA sP **sP 13 38 51.5 +2.4**
GTA S **S 13 48 43.8 +0.9**
GTA SS **SS 13 53 52.5 +3.0**
GTA pmax pmax
comp=Z,19nm,1.1s
GTA pmax pmax
comp=Z,52nm,7.1s
GTA LR LR
comp=N,180nm,17.6s
GTA LR LR
comp=E,300nm,20.4s
GTA LR LR
comp=Z,480nm,18.0s
HVS Khovu-Aksy 79.67 35*d* *i*P **P 13 38 47.1 +1.8**
HVS pmax pmax
comp=Z,298nm,1.2s
CD2 Chengdu 79.78 57 P **P 13 38 46.3 -0.1**
CD2 pP **pP 13 38 51.0 +0.2**
CD2 sP **sP 13 38 53.3 +0.9**
CD2 PP **PP 13 41 49.3 +1.5**
CD2 S **S 13 48 48.3 -1.0**
CD2 sS **sS 13 48 55.5 -1.1**
CD2 SS **SS 13 54 00.3 +1.7**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,190nm,4.5s
CD2 LR LR
comp=N,310nm,8.9s
CD2 LR LR
comp=Z,220nm,9.5s
KSM Kuching 80.19 87 *e*P **P 13 38 48.2 -0.7**
GYA Guiyang 81.18 62 P **P 13 38 54.5 +0.4**
GYA PP **PP 13 42 02.0 +2.4**
GYA S **S 13 49 04.8 +0.4**
GYA SKS **SKSac 13 49 10.5 -3.0**
GYA SS **SS 13 54 22.5 +2.6**
GYA pmax pmax
comp=Z,20nm,0.9s
GYA pmax pmax
comp=Z,130nm,5.7s
GYA LR LR
comp=N,380nm,24.2s
GYA LR LR
comp=E,450nm,23.0s
GYA LR LR
comp=Z,600nm,23.5s
LZH Lanzhou 81.23 52 *e*P **P 13 38 54.5 +0.3**
LZH pP **pP 13 38 57.8 -0.8**
LZH sP **sP 13 38 59.3 -0.9**
LZH PP **PP 13 42 02.5 +2.6**
LZH *e*S **S 13 49 03.3 -1.3**
LZH SKS **SKSac 13 49 08.5 -5.1**
LZH sS **sS 13 49 11.5 -0.5**
LZH *e*SS **SS 13 54 21.8 +1.4**
LZH pmax pmax
comp=Z,37nm,1.3s

LZH pmax pmax
comp=Z,190nm,7.2s
LZH LR LR
comp=N,250nm,15.0s
LZH LR LR
comp=E,350nm,15.3s
LZH LR LR
comp=Z,400nm,18.0s
SBUM Sibu 82.21 86 *e*P **P 13 38 59.0 -0.7**
comp=Z,10nm,1.0s
QIZ Qiongzhong 82.55 70 P **P 13 38 59.5 -1.8**
QIZ sP **sP 13 39 06.3 -1.0**
QIZ S S 13 49 07.8 -11
QIZ pmax pmax
comp=Z,110nm,5.0s
QIZ LR LR
comp=E,170nm,19.3s
QIZ LR LR
comp=Z,390nm,19.9s
NWAO Narrogin (SRO) 83.30 122 P **P 13 39 06.0 +1.0**
NWAO Narrogin (SRO) 83.30 122 P **P 13 39 06.0 +1.0**
comp=Z,17nm,1.0s,baz=254,slow=6.0,SNR=5.1
MOY Mondy 84.08 36 *e*P **P 13 39 10.8 +2.2**
MOY pmax pmax
comp=Z,46nm,2.8s
ZAK Zakamensk 85.03 38 *e*P **P 13 39 11.6 -1.8**
ZAK pmax pmax
comp=Z,8.0nm,1.2s
TLY Talaya 85.65 37 *e*P **P 13 39 17.9 +1.5**
TLY *e*S S 13 49 33.5 -15
TLY pmax pmax
comp=Z,8.0nm,1.6s
TLY MLR MLR
comp=Z,660nm,18.0s
IRK Irkutsk 86.19 36 *e*P **P 13 39 19.0 0.0**
IRK pmax pmax
comp=Z,21nm,1.1s
SONM Songino Array 86.26 41 P **P 13 39 21.3 +1.6**
SONM Songino Array 86.26 41 P **P 13 39 21.3 +1.6**
comp=Z,6.3nm,0.9s,baz=239,slow=5.1,SNR=38
SONM LR LR 14 22 33.4
comp=Z,206nm,18.8s,baz=260,slow=39
MBWA Marble Bar 86.69 111 *e*P **P 13 39 21.3 -0.9**
comp=Z,26nm,1.1s
ULN Ulaanbaatar 86.69 41 *e*P **P 13 39 20.5 -1.3**
comp=Z,14nm,1.1s
BTO Baotou 87.05 49 *e*P **P 13 39 25.0 +1.3**
TRQA Tornquist 87.28 232 *e*P **P 13 39 24.2 -0.6**
HHC Hu-ho-hao-te 88.25 49 *e*P **P 13 39 26.8 -2.6**
HHC pP **PcP 13 39 31.5 +0.4**
HHC sP **sP 13 39 33.8 -1.7**
HHC PP **PP 13 42 57.5 +0.7**
HHC S **SKKSac 13 50 09.8 +1.1**
HHC sS **ScS 13 50 18.0 -2.2**
HHC SS **SS 13 55 57.3 -6.2**
HHC pmax pmax
comp=Z,16nm,1.0s
HHC pmax pmax
comp=Z,280nm,5.1s
HHC LR LR
comp=N,360nm,17.8s
HHC LR LR
comp=E,580nm,18.0s
HHC LR LR
comp=Z,560nm,17.6s
VNDA Vanda 90.88 171 P **P 13 39 42.6 +1.7**
VNDA Vanda 90.88 171 P **P 13 39 42.6 +1.7**
comp=Z,0.7nm,0.8s,baz=254,slow=7.4,SNR=4.0
VNDA LR LR 14 20 33.4
comp=Z,736nm,18.9s,baz=195,slow=36
BJI Beijing 91.57 50 P **P 13 39 45.0 +0.2**
BJI S **S 13 50 43.5 -1.2**
BJI SS **SS 13 56 52.8 +1.3**
BJI pmax pmax
comp=Z,8.0nm,1.2s
BJI pmax pmax
comp=Z,140nm,4.4s
BJI LR LR
comp=N,340nm,20.0s
BJI LR LR
comp=E,280nm,19.5s
BJI LR LR
comp=Z,190nm,20.5s
FITZ Fitzroy Crossi 92.62 109 LR LR 14 16 24.4
comp=Z,307nm,18.2s,baz=262,slow=32
NJ2 Nanjing 92.64 58 *e*P **P 13 39 49.0 -0.9**
NJ2 pmax pmax
comp=Z,4.0nm,1.2s
PLCA Paso Flores 93.35 228 P **P 13 39 54.3 +1.1**
PLCA Paso Flores 93.35 228 P **P 13 39 54.3 +1.1**
comp=Z,3.9nm,1.0s,baz=110,slow=6.0,SNR=4.6
LPAZ La Paz 96.02 253 P **P 13 40 06.7 +0.1**
comp=Z,1.1nm,1.0s
LPAZ La Paz 96.02 253 P **P 13 40 06.7 +0.1**
comp=Z,2.3nm,1.0s,baz=90,slow=7.1,SNR=5.2
LPAZ LR LR 14 24 55.6
comp=Z,316nm,18.1s,baz=134,slow=36
CN2 Changchun 98.81 47 *e*P Pdif 13 40 18.0 +0.2
CN2 *e*PP **PP 13 44 21.8 +2.5**
CN2 *e*S **S 13 51 43.8 -3.8**
ASAR Alice Springs 99.21 115 P **Pdif 13 40 20.2 0.0**
ASAR Alice Springs 99.21 115 P **Pdif 13 40 20.2 0.0**
comp=Z,1.4nm,1.1s,baz=262,slow=3.6,SNR=5.7
ASAR LR LR 14 20 03.0
comp=Z,906nm,20.6s,baz=270,slow=32
WRA Warramunga Arr 100.39 112 P **Pdif 13 40 25.5 0.0**
WRA Warramunga Arr 100.39 112 P **Pdif 13 40 25.5 0.0**
comp=Z,2.1nm,0.9s,baz=260,slow=3.2,SNR=9.1
YKA Yellowknife Ar 119.52 342 PKP **PKPdf 13 45 26.8 -0.3**
YKA Yellowknife Ar 119.52 342 PKP **PKPdf 13 45 26.8 -0.3**
comp=Z,1.1nm,0.6s,baz=39,slow=1.7,SNR=4.1
ILAR Eielson Array 122.84 359 PKP **PKPdf 13 45 33.5 0.0**
ILAR Eielson Array 122.84 359 PKP **PKPdf 13 45 33.5 0.0**
comp=Z,1.6nm,0.9s,baz=319,slow=2.3,SNR=15
I30A Oacoma 123.31 318 P **PKPdf 13 45 35.6 +0.6**
baz=123
BGNE Belgrade 123.42 315 P **PKPdf 13 45 35.7 +0.3**
baz=123
TUL1 Tulsa 123.47 308 P **PKPdf 13 45 35.9 +0.4**
baz=124
E27A Carson 123.56 322 P **PKPdf 13 45 36.0 +0.5**
baz=124
A24A Westby 123.76 325 P **PKPdf 13 45 36.4 +0.6**
baz=124
K29A Lazy Trails An 124.38 317 P **PKPdf 13 45 37.6 +0.4**
baz=124
G27A Dupree 124.90 321 P **PKPdf 13 45 37.2 -0.9**
baz=124
C22A Vida 125.45 325 P **PKPdf 13 45 39.7 +0.6**
baz=125
G24A Alzada 125.84 322 P **PKPdf 13 45 40.4 +0.4**
baz=126
A20A Cobblestone Ra 125.94 327 P **PKPdf 13 45 40.6 +0.6**
baz=126
D22A Cohagen 125.94 325 P **PKPdf 13 45 40.7 +0.7**
baz=126
I25A Rochford 126.05 320 P **PKPdf 13 45 41.0 +0.5**
baz=126
H24A Dirks Ranch, A 126.21 321 P **PKPdf 13 45 41.1 +0.4**
baz=126
OGNE Ogallala 126.30 316 P **PKPdf 13 45 41.4 +0.5**
baz=126
A19A Klindworth Far 126.35 328 P **PKPdf 13 45 41.4 +0.7**
baz=126
J25A Sunshine Ranch 126.39 320 P **PKPdf 13 45 41.6 +0.5**
baz=126
D21A La Casta Ranch 126.45 325 P **PKPdf 13 45 41.8 +0.8**
baz=126
S30A Montezuma 126.47 312 P **PKPdf 13 45 41.5 +0.1**
baz=126
N27A Anderson Farm, 126.70 316 P **PKPdf 13 45 42.2 +0.4**
baz=127
T30A Plains 126.72 311 P **PKPdf 13 45 42.2 +0.4**
baz=127
D20A Manuel Ranch, 127.08 325 P **PKPdf 13 45 42.8 +0.6**
baz=127
Z32A Haskell 127.14 306 P **PKPdf 13 45 43.0 +0.4**
baz=127
C19A Slack Wire Ran 127.22 327 P **PKPdf 13 45 43.2 +0.8**
baz=127
E20A Meyer Farm, Mu 127.41 325 P **PKPdf 13 45 43.7 +0.9**
baz=127
EGMT Eagleton 127.43 327 P **PKPdf 13 45 43.7 +0.8**
baz=127
D19A Cripps Ranch, 127.46 326 P **PKPdf 13 45 43.7 +0.8**
baz=127
ABTX Abilene, Hawle 127.47 306 P **PKPdf 13 45 43.8 +0.5**
baz=128
Z31A Sharp Cattle R 127.66 307 P **PKPdf 13 45 44.4 +0.7**
baz=128
H21A Big Horn, Sher 127.80 322 P **PKPdf 13 45 44.5 +0.8**
baz=128
E19A Rath Farm, Rou 127.81 325 P **PKPdf 13 45 44.9 +1.2**
baz=128
DZM Mont Dzumac 127.82 125 *e*LR LR 14 25 42.9
comp=Z,436nm,21.4s
I22A 9 Mile Ranch, 127.84 321 P **PKPdf 13 45 44.2 +0.3**
baz=128
K23A Bowen Ranch, D 127.86 320 P **PKPdf 13 45 44.3 +0.3**
baz=128
T28A Walsh 127.88 312 P **PKPdf 13 45 44.6 +0.5**
baz=128
332A Millersview 127.90 304 P **PKPdf 13 45 44.4 +0.2**
baz=128
131A Roby 128.06 306 P **PKPdf 13 45 45.0 +0.5**
baz=128
G20A Bridger 128.18 324 P **PKPdf 13 45 45.0 +0.5**
baz=128
JCT Junction City 128.20 303 P **PKPdf 13 45 45.2 +0.4**
baz=128
231A Bronte 128.22 305 P **PKPdf 13 45 45.3 +0.5**
baz=128
532A Rocksprings 128.38 303 P **PKPdf 13 45 45.5 +0.3**
baz=128
I21A Big Trails, Te 128.38 322 P **PKPdf 13 45 45.4 +0.5**
baz=128
R26A Arlington 128.39 314 P **PKPdf 13 45 45.4 +0.4**
baz=128
632A Uvalde 128.44 302 P **PKPdf 13 45 45.5 +0.3**
baz=128
Z30A Sanderson Ranc 128.46 307 P **PKPdf 13 45 45.4 +0.2**
baz=128
K22A Casper 128.49 320 P **PKPdf 13 45 45.9 +0.7**
baz=128
S26A Kim 128.68 313 P **PKPdf 13 45 45.5 -0.1**
baz=129
J21A Lysite 128.72 321 P **PKPdf 13 45 45.8 +0.1**
baz=129
431A Sonora 128.81 303 P **PKPdf 13 45 46.4 +0.4**
baz=129
I20A Worland 128.82 322 P **PKPdf 13 45 45.9 +0.2**
baz=129
531A Rocksprings 128.90 303 P **PKPdf 13 45 46.6 +0.4**
baz=129
T26A Comanche Natio 128.95 312 P **PKPdf 13 45 46.6 +0.3**
baz=129
K21A Alcova 128.96 320 P **PKPdf 13 45 46.4 +0.2**
baz=129
N23A Red Feather La 128.97 318 P **PKPdf 13 45 46.9 +0.6**
baz=129
330A Mertzon 129.07 305 P **PKPdf 13 45 47.0 +0.5**
baz=129
631A Perdido Creek 129.13 302 P **PKPdf 13 45 46.8 +0.2**
baz=129
129A Stewart Farms, 129.25 306 P **PKPdf 13 45 47.0 +0.2**
baz=129
ISCO Idaho Springs 129.26 316 P **PKPdf 13 45 47.5 +0.5**
baz=129
430A Baggett Ranch, 129.30 304 P **PKPdf 13 45 47.6 +0.6**
baz=129
S25A Robets Cordova 129.36 313 P **PKPdf 13 45 47.5 +0.5**
baz=129
L21A Rawlins 129.38 320 P **PKPdf 13 45 47.4 +0.4**
baz=129
128A Castleberry Fa 129.75 306 P **PKPdf 13 45 48.5 +0.7**
baz=130
U25A Circle Dot Ran 129.85 312 P **PKPdf 13 45 48.4 +0.4**
baz=130
V25A Rancho No Teng 130.23 311 P **PKPdf 13 45 49.7 +1.0**
baz=130
529A Stev Forest Ra 130.31 303 P **PKPdf 13 45 48.4 -0.5**
baz=130
PDAR Pinedale Array 130.34 322 PKP **PKPdf 13 45 48.9 +0.1**
PDAR Pinedale Array 130.34 322 PKP **PKPdf 13 45 48.9 +0.1**
comp=Z,1.8nm,0.9s,baz=108,slow=2.9,SNR=7.9
428A Kincaid Ranch, 130.51 304 P **PKPdf 13 45 49.2 -0.1**
baz=130
Z26A Caprock 130.71 308 P **PKPdf 13 45 50.0 +0.4**
baz=131
527A Woodward Ranch 131.45 304 P **PKPdf 13 45 48.7 -2.4**
baz=132
627A Terlingua Ranc 131.47 303 P **PKPdf 13 45 48.3 -2.9**
baz=132
426A McDonald Obser 131.63 305 P **PKPdf 13 45 51.0 -0.6**
baz=132
TXAR Lajitas Array 131.74 303 PKPpre PKPpre 13 45 46.1
TXAR PKP **PKPdf 13 45 50.3 -1.4**
TXAR Lajitas Array 131.74 303 PKhKP PKPpre 13 45 46.1
comp=Z,1.1nm,0.9s,baz=142,slow=4.3,SNR=4.5
TXAR PKP **PKPdf 13 45 50.3 -1.4**
comp=Z,1.0nm,0.8s,baz=93,slow=1.8,SNR=4.9
R20A Redvale 131.91 316 P **PKPdf 13 45 53.3 +1.4**
baz=132
Y23A Lovelace Mesa, 132.07 310 P **PKPdf 13 45 53.3 +1.0**
baz=132
121A Cookes Peak, D 133.95 309 P **PKPdf 13 45 56.8 +1.0**
baz=134
220A Playas Peak, P 134.78 308 P **PKPdf 13 45 57.9 +0.5**
baz=135
U15A North Rim 135.49 316 P **PKPdf 13 45 59.4 +0.7**
baz=136
214A Organ Pipe Nat 138.05 310 P **PKPdf 13 46 03.9 +0.6**
baz=138
TBI Tubuai 149.29 180 *e*LR LR 14 35 52.6
comp=Z,266nm,26.8s
PPT2 Papeete2 155.02 180 *e*LR LR 14 38 27.8
comp=Z,360nm,26.0s

DJA 26 13:32:50.8±1.7, 8°S±5°×10°7E±°, h10km±16km, M3.8/8, MLv3.8/8, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.91**	**49**	P	Pg	13 33 07.2	-1.2
SKJI	**Sukabumi**	**1.28**	**334**	P	Pn	13 33 13.3	-1.5
LEM	**Lembang**	**1.41**	**20**	P	Pn	13 33 14.9	-1.9
DBJI	**Dramaga**	**1.64**	**347**	P	Pn	13 33 19.0	-0.7
TGJI	**Tegal**	**2.35**	**57**	P	Pn	13 33 29.5	-0.1
PCJI	**Pacitan**	**4.01**	**91**	P	Pn	13 33 52.1	-0.2
PWJI	**Pagerwojo**	**4.63**	**89**	P	Pn	13 34 00.8	-0.1

*CSEM **26** 13:34:28.5±0.8, 50°.32N×18°.75E, h1km, ML1.8/3, Error ellipse: s-maj=10.2km s-min=7.0km az=56.0*
*PRU **26** 13:34:28.9, 50°.32N×18°.79E, h0km*
*IPEC **26** 13:34:29.1±0.2, 50°.26N×18°.82E, h1km±1km, ML1.8/3, Error ellipse: s-maj=2.5km s-min=1.1km az=168.0*

WAR 26 13:34:29.2, 50.27N×18°.85E, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.61**	**94**	*e*Pg	Pg	13 34 41.4	+0.5
OJC				*e*Sg	Sg	13 34 49.5	+0.7
OKC	**Ostrava-Krasne**	**0.63**	**227**	*e*PG	Pg	13 34 40.4	-0.8
OKC				*e*SG	Sg	13 34 49.2	-0.1
7.0nm,0.4s							
OKC	**Ostrava-Krasne**	**0.63**	**227**	Pg	Pg	13 34 40.4	-0.8
OKC				Sg	Sg	13 34 49.2	-0.1
7.0nm,0.4s							
MORC	**Moravsky Berou**	**0.98**	**240**	*e*Pg	Pg	13 34 46.9	-1.1
baz=59							
MORC				*e*Sg	Sg	13 34 59.7	-1.1
KRLC	**Kraliky**	**1.35**	**263**	*e*SG	Sg	13 35 09.7	-2.9
KRLC	**Kraliky**	**1.35**	**263**	Sg	Sg	13 35 09.7	-2.9
DPC	**Dobruska-Polom**	**1.62**	**274**	*e*PG	Pn	13 34 58.2	-1.0
DPC				*e*SG	Sn	13 35 19.5	-1.4
DPC	**Dobruska-Polom**	**1.62**	**274**	Pg	Pn	13 34 58.2	-1.0
DPC				Sg	Sn	13 35 19.5	-1.4
KSP	**Ksiaz**	**1.73**	**290**	*e*Pg	Pn	13 35 00.8	+0.2
KSP				*e*Sg	Sn	13 35 23.8	+0.4
VRAC	**Vranov**	**1.75**	**238**	*e*Sg	Sn	13 35 23.2	-0.7
9.5nm,0.6s,baz=56							
UPC	**Upice**	**1.83**	**279**	*e*SG	Sn	13 35 26.4	+0.5
UPC	**Upice**	**1.83**	**279**	Sg	Sn	13 35 26.4	+0.5
KHC	**Kasperske Hory**	**3.61**	**254**	*e*SG	Sb	13 36 21.4	+3.1
KHC	**Kasperske Hory**	**3.61**	**254**	Sg	Sb	13 36 21.4	+3.1

*ISCJB **26** 13:46:11.6±0.4, 41°.00S±0°.07×91°.6W±0°.1, h10km, mb4.5/25, MS4.3/11, Error ellipse: s-maj=15.9km s-min=9.8km az=169.3*
*IDC **26** 13:46:11.4±0.7, 40°.95S×91°.70W, h0km, mb4.0/9, mb1 4.2/9, mb1mx4.1/17, mbtmp4.0/9, MS4.3/12, Ms1 4.3/12, ms1mx4.1/27, Error ellipse: s-maj=28.3km s-min=17.3km az=99.0*
*BJI **26** 13:46:13.2, 40°.80S×90°.80W, h10km, mB5.2/6, Ms5.2/5, Ms7 5.0/5*
*GCMT **26** 13:46:13.6±0.3, 40°.83S×91°.85W, h14km±1km, MW5.0, Moment Tensor Solution. s31,c37; s63,c85; Moment tensor: Scale 10^{16}Nm; M_{rr}-2.06±.19; $M_{\theta\theta}$-1.21±.15; $M_{\phi\phi}$3.27±.15; $M_{r\theta}$2.34±.42; $M_{\theta\phi}$-0.95±.12; $M_{\phi r}$0.51±.24; Best double couple: $M_0$3.80000×10^{16} NP1:ϕ_s202.00000°, δ58.00000°, λ-39.00000°. NP2:ϕ_s315.00000°, δ58.00000°, λ-141.00000°. Principal axes: T 3.4600, Plg0.0000°, Azm259.0000°; N 0.6800, Plg41.0000°, Azm349.0000°; P -4.1500, Plg49.0000°, Azm168.0000°; Data Used: II IU IC G CN.*
*NEIC **26** 13:46:13.3±0.3, 40°.93S×91°.62W, h10km, mb4.8/19 Error ellipse: s-maj=11.4km s-min=9.0km az=74.0*

ISC 26 13:46:12.7±0.5, 41°.0S±0°.1×91°.7W±0°.1, h10km, n75, σ0°.75/63, mb4.7/26, MS4.2/11, 1D, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**16.03**	**96**	*e*P	**Pn**	**13 49 57.7**	**-0.5**
PLCA				Pn	**P**	**13 50 02.6**	**+1.0**
PLCA	**Paso Flores**	**16.03**	**96**	Pn	**P**	**13 50 02.6**	**+1.0**
0.1nm,0.3s,baz=261,slow=14,SNR=4.1							
PLCA				LR	LR	13 54 40.8	
comp=Z,2μm,18.9s,baz=319,slow=32							
USHA	**Ushuaia**	**20.73**	**140**	LR	LR	13 56 55.3	
comp=Z,874nm,21.1s,baz=124,slow=31							
CFAA	**Coronel Fontan**	**21.09**	**71**	P	**P**	**13 50 57.4**	**+0.2**
CFAA	**Coronel Fontan**	**21.09**	**71**	P	**P**	**13 50 57.4**	**+0.2**
0.6nm,0.8s,baz=242,slow=9.8,SNR=7.1							
CFAA				LR	LR	13 57 17.3	
comp=Z,148nm,19.5s,baz=240,slow=32							
TRQA	**Tornquist**	**23.09**	**92**	*e*P	P	13 51 11.4	-7.1
LPAZ	**La Paz**	**31.99**	**47**	P	**P**	**13 52 40.1**	**+0.3**
5.5nm,1.2s							
LPAZ				PcP	**PcP**	**13 55 28.9**	**-0.9**
LPAZ	**La Paz**	**31.99**	**47**	P	**P**	**13 52 40.1**	**+0.3**
1.4nm,1.0s,baz=207,slow=6.8,SNR=4.5							
LPAZ				PcP	**PcP**	**13 55 28.9**	**-0.9**
1.0nm,0.9s,baz=225,slow=1.4,SNR=3.1							
LPAZ				LR	LR	14 02 36.0	
comp=Z,511nm,21.6s,baz=230,slow=31							
SIV	**San Ignacio**	**36.39**	**56**	P	**P**	**13 53 17.1**	**-0.2**
SIV	**San Ignacio**	**36.39**	**56**	P	**P**	**13 53 17.1**	**-0.2**
2.2nm,0.9s,baz=264,slow=9.2,SNR=3.9							
SIV				LR	LR	14 06 24.8	
comp=Z,460nm,21.6s,slow=33							
RKT	**Rikitea**	**40.29**	**283**	*e*LR	LR	14 04 57.4	
886nm,27.0s,baz=126							
RKT	**Rikitea**	**40.29**	**283**	*e*T	T	14 36 15.8	
1.4nm,0.3s							
BDFB	**Brasilia**	**45.41**	**69**	LR	LR	14 12 55.2	
comp=Z,925nm,18.3s,baz=289,slow=35							
QSPA	**South Pole Qui**	**49.22**	**180**	P	**P**	**13 55 01.3**	**+0.3**
QSPA	**South Pole Qui**	**49.22**	**180**	P	**P**	**13 55 01.3**	**+0.3**
1.6nm,0.8s,baz=185,slow=1.9,SNR=9.5							
VNA1	**Neumayer--Stat**	**49.84**	**154**	*e*P	P	13 55 02.1	-3.2
VNA2	**Neumayer--Watz**	**50.07**	**155**	*e*P	**P**	**13 55 07.9**	**+0.8**
baz=293,slow=5.8							
TBI	**Tubuai**	**51.02**	**272**	*e*S	S	14 02 41.8	+10
191nm,27.0s							
TBI				*e*LR	LR	14 09 51.3	
1μm,27.8s,baz=124							
SNAA	**Sanae**	**51.34**	**156**	P	**P**	**13 55 16.8**	**0.0**
0.4nm,1.9s							
SNAA	**Sanae**	**51.34**	**156**	P	**P**	**13 55 16.8**	**0.0**
1.3nm,1.1s,baz=256,slow=7.9,SNR=5.1							
SBA	**Scott Base**	**52.64**	**195**	*e*P	P	13 55 30.1	+3.9
8.9nm,1.1s							
SDV	**Santo Domingo**	**53.32**	**26**	*e*P	P	13 55 27.9	-4.3
VNDA	**Vanda**	**53.73**	**195**	P	P	13 55 36.5	+2.1
VNDA	**Vanda**	**53.73**	**195**	P	P	13 55 36.5	+2.1
0.8nm,1.0s,baz=118,slow=6.9,SNR=2.2							
PPT2	**Papeete2**	**54.51**	**277**	*e*S	S	14 03 28.9	+8.8
203nm,24.2s							
PPT2				*e*LR	LR	14 11 23.4	
812nm,28.2s							
PPT	**Papeete**	**54.52**	**277**	LR	LR	14 13 34.9	
comp=Z,128nm,20.1s,baz=166,slow=30							
RAR	**Rarotonga**	**60.05**	**267**	LR	LR	14 14 30.4	
comp=Z,360nm,20.7s,baz=270,slow=28							
SYO	**Syowa Base**	**64.55**	**163**	‖*e*P	**P**	**13 56 47.6**	**-1.7**
URZ	**Urewera**	**66.97**	**239**	LR	LR	14 19 00.3	
comp=Z,389nm,18.1s,baz=185,slow=29							
MAW	**Mawson**	**70.01**	**170**	P	**P**	**13 57 24.3**	**+0.4**
MAW	**Mawson**	**70.01**	**170**	P	**P**	**13 57 24.3**	**+0.4**
8.7nm,1.0s,baz=218,slow=6.7,SNR=5.2							
TXAR	**Lajitas Array**	**70.86**	**349**	P	**P**	**13 57 29.8**	**+0.2**
TXAR	**Lajitas Array**	**70.86**	**349**	P	**P**	**13 57 29.8**	**+0.2**
2.1nm,1.0s,baz=162,slow=8.8,SNR=9.9							
AFI	**Afiamalu**	**73.54**	**266**	LR	LR	14 21 36.8	
comp=Z,279nm,18.1s,baz=131,slow=29							
TUC	**Tucson**	**75.05**	**343**	*e*P	**P**	**13 57 54.1**	**-0.3**
7.5nm,1.1s							
MSTX	**Muleshoe**	**75.30**	**351**	*e*P	**P**	**13 57 55.3**	**-0.6**
ANMO	**Albuquerque**	**76.79**	**348**	*e*P	**P**	**13 58 04.4**	**0.0**
4.3nm,1.1s							
ANMO	**Albuquerque**	**76.79**	**348**	P	**P**	**13 58 04.6**	**+0.2**
2.3nm,0.9s,baz=170,slow=6.1,SNR=3.9							
LDFC	**Landfair**	**78.71**	**341**	*e*P	P	13 58 17.3	+2.3
13nm,1.0s							
CCUT	**Cedar City**	**80.65**	**343**	*e*P	P	13 58 27.6	+1.9
70nm,2.8s							
SMCO	**Snowmass**	**81.01**	**348**	*e*P	**P**	**13 58 28.5**	**+0.8**
7.7nm,1.3s							
O20A	**White River Ci**	**82.15**	**347**	*e*P	**P**	**13 58 32.7**	**-0.8**
DAU	**Daniels Canyon**	**82.96**	**345**	*e*P	**P**	**13 58 38.1**	**+0.2**
DUG	**Dugway**	**83.07**	**344**	*e*P	**P**	**13 58 39.0**	**+0.8**
5.6nm,1.0s							
DZM	**Mont Dzumac**	**84.23**	**246**	*e*LR	LR	14 25 24.1	
439nm,28.1s							
ECSD	**EROS Data Cent**	**84.47**	**356**	*e*P	**P**	**13 58 45.2**	**0.0**
8.0nm,1.0s							
PDAR	**Pinedale Array**	**84.93**	**347**	P	**P**	**13 58 47.9**	**+0.1**
PDAR	**Pinedale Array**	**84.93**	**347**	P	**P**	**13 58 47.9**	**+0.1**
3.9nm,0.9s,baz=151,slow=5.9,SNR=18							
RSSD	**Black Hills**	**85.47**	**351**	*e*P	**P**	**13 58 51.2**	**+0.8**
22nm,1.0s							
REDW	**Red Top Meadow**	**85.74**	**346**	*e*P	**P**	**13 58 50.9**	**-0.9**
14nm,1.3s							
TPAW	**Teton Pass**	**85.88**	**346**	*e*P	**P**	**13 58 52.9**	**+0.3**
11nm,1.0s							
LOHW	**Long Hollow**	**85.94**	**346**	*e*P	**P**	**13 58 52.9**	**+0.1**
5.4nm,1.0s							
IMW	**Indian Meadow**	**86.27**	**346**	*e*P	**P**	**13 58 54.5**	**0.0**
6.4nm,1.1s							
WVOR	**Wild Horse Val**	**86.55**	**340**	*e*P	**P**	**13 58 55.4**	**-0.3**
5.0nm,1.0s							
HLID	**Hailey**	**86.63**	**344**	*e*P	**P**	**13 58 56.9**	**+0.8**
5.3nm,1.2s							
LAO	**LASA Array**	**88.27**	**350**	*e*P	**P**	**13 59 03.2**	**-0.5**
8.2nm,1.1s							
G08A	**Pilot Rock**	**89.31**	**341**	*e*P	**P**	**13 59 09.9**	**+1.1**
24nm,1.9s							
BOSA	**Boshof**	**89.46**	**128**	LR	LR	14 33 49.7	
comp=Z,105nm,21.4s,baz=97,slow=32							
DBIC	**Dimbokro**	**91.98**	**83**	LR	LR	14 34 47.1	
comp=Z,155nm,21.4s,baz=217,slow=32							
BRTR	**Keskin Array B**	**138.94**	**73**	PKP	**PKPdf**	**14 05 38.5**	**-0.7**
BRTR	**Keskin Array B**	**138.94**	**73**	PKP	**PKPdf**	**14 05 38.5**	**-0.7**
0.2nm,0.4s,baz=306,slow=4.8,SNR=2.8							
USRK	**Ussuriysk Arra**	**147.94**	**291**	PKPbc	**PKPbc**	**14 05 57.1**	**-0.6**
1.3nm,0.8s,baz=108,slow=1.8,SNR=5.1							
KSRS	**Korea Array**	**149.25**	**276**	PKPbc	**PKPbc**	**14 06 01.4**	**+0.1**
1.2nm,0.8s,baz=119,slow=4.1,SNR=3.4							
KSAR	**Wonju Array Be**	**149.28**	**276**	PKPbc	**PKPbc**	**14 06 01.4**	**0.0**
NJ2	**Nanjing**	**153.95**	**260**	*e*PKPbc	**PKPdf**	**14 06 05.0**	**+0.8**
GYA	**Guiyang**	**158.97**	**232**	*e*PKP	**PKPdf**	**14 06 11.0**	**-0.1**
GYA				PKPab	PKPab	14 06 51.5	+4.1
GYA				PKS	**PKSdf**	**14 09 43.8**	**-1.1**
GYA				PP	PP	14 10 34.3	+6.3
GYA				AMB	AMB		
comp=Z,90nm,7.9s							
KMI	**Kunming**	**160.09**	**222**	PKP	**PKPdf**	**14 06 14.0**	**+1.4**
HHC	**Hu-ho-hao-te**	**162.40**	**277**	*e*PKP	**PKPdf**	**14 06 15.0**	**+0.6**
HHC				PP	PP	14 10 52.0	+5.0
HHC				SKS	**SKSdf**	**14 13 18.3**	**-0.9**
HHC				SKKS	SKKSac	14 17 41.0	+6.2
HHC				SS	SS	14 31 18.0	+9.0
HHC				AMB	AMB		

comp=Z,250nm,10.2s
HHC LR LR
comp=N,140nm,20.6s
HHC LR LR
comp=E,200nm,21.0s
HHC LR LR
comp=Z,190nm,19.6s
CD2 Chengdu 163.93 236 PKP **PKPdf 14 06 17.0 +0.9**
LZH Lanzhou 166.85 253 *e*PKP **PKPdf 14 06 20.3 +1.8**
LZH pPKP **pPKPdf 14 06 23.5 +1.5**
LZH sPKP 14 06 24.8
LZH LR LR
comp=N,150nm,18.1s
LZH LR LR
comp=E,160nm,17.9s
LZH LR LR
comp=Z,190nm,20.0s
KURK Kurchatov 168.21 31 PKPab **PKPab 14 07 26.7 -0.4**
KURBB Kurchatov Arra 168.24 32 PKPab **PKPab 14 07 26.7 -0.6**
comp=Z,0.5nm,0.9s,baz=315,slow=4.2,SNR=5.3
KSH Kashi 170.49 95 *e*PKP **PKPdf 14 06 21.0 +0.3**
KSH PKS **PKSdf 14 09 52.3 -0.9**
KSH SKS **SKSdf 14 13 23.5 -0.7**
KSH SKKS SKKSac 14 18 06.0 -9.3
KSH AMB AMB
comp=Z,75nm,4.9s
KSH LR LR
comp=N,120nm,5.9s
KSH LR LR
comp=E,160nm,4.6s
KSH LR LR
comp=Z,300nm,6.6s
GTA Gaotai 171.02 264 PKP **PKPdf 14 06 19.3 -1.7**
GTA pPKP **pPKPdf 14 06 23.0 -1.5**
GTA sPKP 14 06 26.0
WMQ Urumqi 177.16 8 *e*PKP **PKPdf 14 06 23.3 +0.4**
WMQ LR LR
comp=E,250nm,26.0s
WMQ LR LR
comp=Z,130nm,14.0s

IDC 26 13:55:00.9±0.9, 41°.05S×92°.49W, h0km, mb3.8/6, mb1 4.1/7, mb1mx4.0/16, mbtmp3.8/7, ML3.6/1, MS4.0/3, Ms1 4.0/3, ms1mx3.7/23, Error ellipse: s-maj=32.5km s-min=22.5km az=100.0, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**16.59**	**96**	Pn	Pn	13 58 53.8	-1.2
	0.1nm,0.3s,baz=269,slow=12,SNR=2.9						
USHA	**Ushuaia**	**21.07**	**139**	LR	LR	14 05 54.6	
	comp=Z,377nm,19.3s,baz=234,slow=31						
CFAA	**Coronel Fontan**	**21.64**	**72**	P	P	13 59 52.4	-0.4
	0.3nm,0.8s,baz=227,slow=9.3,SNR=4.2						
CFAA				LR	LR	14 05 56.1	
	comp=Z,109nm,22.0s,baz=188,slow=30						
LPAZ	**La Paz**	**32.43**	**48**	P	P	14 01 34.5	+0.9
	0.7nm,0.5s,baz=211,slow=5.9,SNR=3.8						
CPUP	**Villa Florida**	**32.49**	**74**	LR	LR	14 13 08.9	
	comp=Z,858nm,19.4s,baz=157,slow=34						
RKT	**Rikitea**	**39.74**	**283**	*e*LR	LR	14 13 46.3	
	453nm,27.5s,baz=121						
QSPA	**South Pole Qui**	**49.18**	**180**	P	P	14 03 50.3	-0.3
	0.6nm,0.7s,baz=325,slow=3.2,SNR=9.9						
TBI	**Tubuai**	**50.45**	**272**	*e*LR	LR	14 18 40.6	
	664nm,28.0s,baz=117						
VNDA	**Vanda**	**53.55**	**195**	P	P	14 04 23.2	+0.3
	1.9nm,1.2s,baz=127,slow=8.8,SNR=3.5						
PPT2	**Papeete2**	**53.95**	**278**	*e*LR	LR	14 20 10.6	
	437nm,28.2s						
TXAR	**Lajitas Array**	**70.79**	**350**	P	P	14 06 19.3	+0.2
	0.2nm,0.2s,baz=183,slow=7.2,SNR=3.1						
ANMO	**Albuquerque**	**76.71**	**348**	P	P	14 06 53.5	-0.3
	0.9nm,0.7s,baz=104,slow=8.3,SNR=3.5						
PDAR	**Pinedale Array**	**84.84**	**347**	P	P	14 07 37.0	-0.3
	1.5nm,0.7s,baz=158,slow=5.7,SNR=11						

*IDC **26** 14:01:33.9±0.6, 4°.96N×126°.54E, h0km, mb3.9/14, mb1 4.0/14, mb1mx3.9/26, mbtmp3.9/14, Error ellipse: s-maj=36.3km s-min=13.7km az=71.0*
*ISCJB **26** 14:01:40.5±0.6, 4°.90N±0°.08×126°.6E±0°.1, h66km, mb3.8/14, Error ellipse: s-maj=21.2km s-min=8.3km az=158.6*
*MAN **26** 14:01:49, 5°.54N×126°.35E, h72km, mb4.6, ML3.5, MS3.4*
ISC 26 14:01:42.4±0.7, 4°.99N±0°.08×126°.5E±0°.1, h66km, n20, σ1§47/23, mb4.0/14, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**1.91**	**305**	*e*P	**Pn**	**14 02 12.4**	**-0.5**
MATI	**Mati**	**1.96**	**352**	*e*P	**Pn**	**14 02 14.5**	**+0.9**
MATI				*e*S	**Sn**	**14 02 32.7**	**-4.5**
CTBH	**Cotabato--PC H**	**3.17**	**315**	⇑*i*P	**Pn**	**14 02 31.6**	**+1.6**
BUKP	**Musuan**	**3.22**	**333**	*e*P	**Pn**	**14 02 32.8**	**+2.2**
BUTP	**Butuan**	**4.05**	**347**	*e*P	**Pn**	**14 02 42.3**	**+0.2**
FITZ	**Fitzroy Crossi**	**22.96**	**182**	P	**P**	**14 06 40.3**	**-1.2**
	0.8nm,0.5s,baz=27,slow=17,SNR=5.8						
WRA	**Warramunga Arr**	**25.94**	**163**	P	**P**	**14 07 07.4**	**-1.4**
	4.1nm,0.9s,baz=342,slow=10,SNR=14						
ASAR	**Alice Springs**	**29.38**	**166**	P	**P**	**14 07 38.5**	**-1.0**
	0.3nm,0.6s,baz=2.0,slow=9.2,SNR=7.2						
CMAR	**Chiang Mai Arr**	**30.07**	**299**	P	**P**	**14 07 44.1**	**-1.6**
	0.5nm,0.3s,baz=349,slow=22,SNR=4.4						
STKA	**Stephens Creek**	**39.37**	**160**	P	**P**	**14 09 05.6**	**-0.1**
	2.2nm,0.4s,baz=345,slow=6.0,SNR=3.0						
SONM	**Songino Array**	**46.05**	**341**	P	**P**	**14 10 01.3**	**+1.6**
	1.0nm,0.7s,baz=140,slow=7.1,SNR=7.6						
SONM				PcP	**PcP**	**14 11 36.7**	**+1.4**
	0.4nm,0.5s,baz=176,slow=4.3,SNR=3.7						
PETK	**Petropavlovsk-**	**54.35**	**23**	P	**P**	**14 11 02.2**	**-0.1**
	3.6nm,1.0s,baz=200,slow=2.1,SNR=6.1						
MKAR	**Makanchi Array**	**56.41**	**325**	P	**P**	**14 11 17.6**	**+0.4**
	0.7nm,0.4s,baz=118,slow=7.4,SNR=17						
MKAR				PcP	**PcP**	**14 12 14.6**	**+0.9**
	0.4nm,0.6s,baz=116,slow=3.1,SNR=3.8						
ZALV	**Zalesovo Beam**	**59.38**	**333**	P	**P**	**14 11 38.0**	**+0.2**
	0.6nm,0.4s,baz=116,slow=8.8,SNR=3.7						
KURBB	**Kurchatov Arra**	**60.58**	**327**	P	**P**	**14 11 46.3**	**+0.2**
	1.2nm,0.7s,baz=126,slow=6.2,SNR=19						
BVAR	**Borovoye Array**	**66.16**	**327**	P	**P**	**14 12 23.8**	**+0.8**
	0.8nm,0.5s,baz=166,slow=7.5,SNR=4.3						
AKTO	**Aktyubinsk**	**72.55**	**321**	P	**P**	**14 13 02.7**	**+0.2**
	0.6nm,0.3s,baz=130,slow=7.9,SNR=2.5						
ILAR	**Eielson Array**	**84.06**	**25**	P	**P**	**14 14 05.2**	**-0.5**
	0.2nm,0.6s,baz=252,slow=5.8,SNR=4.0						
FINES	**FINESS Array B**	**90.63**	**332**	P	**P**	**14 14 38.0**	**+0.5**
	1.4nm,0.7s,baz=131,slow=5.3,SNR=4.1						
TORD	**Torodi Ar. Bea**	**122.33**	**289**	PKP	**PKPdf**	**14 20 31.8**	**+0.7**
	0.3nm,0.6s,baz=86,slow=1.8,SNR=3.3						

*AUST **26** 14:15:18.8, 17°.00S×172°.80W, h0km*
*ISCJB **26** 14:16:51.5±0.8, 17°.9S±0°.3×178°.6W±0°.2, h579km, mb3.9/9, Error ellipse: s-maj=42.1km s-min=10.2km az=154.1*
*IDC **26** 14:16:51.8±1.9, 17°.77S×178°.65W, h564km±24km, mb3.5/9, mb1 3.7/11, mb1mx3.4/22, mbtmp3.5/11, Error ellipse: s-maj=55.1km s-min=12.4km az=154.0*
ISC 26 14:16:52.3±1.0, 17°.9S±0°.3×178°.6W±0°.2, h579km, n23, σ0§81/23, mb3.7/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.63**	**60**	P	**P**	**14 18 46.4**	**-1.2**
	1.9nm,0.3s,baz=225,slow=20,SNR=4.1						
DZM	**Mont Dzumac**	**14.69**	**251**	P	**P**	**14 19 58.3**	**0.0**
	0.8nm,0.3s,baz=91,slow=18,SNR=10						
RMQ	**Roma**	**31.37**	**248**	P	**P**	**14 22 27.6**	**+0.6**
	baz=37,SNR=6.3						
PMG	**Port Moresby**	**34.30**	**280**	P	**P**	**14 22 53.0**	**+1.1**
	13nm,0.8s,baz=48,slow=4.3,SNR=3.8						
CMSA	**Cobar Meteorol**	**35.03**	**240**	P	**P**	**14 22 57.9**	**+0.2**
	baz=40,SNR=14						
QLP	**Quilpie**	**35.40**	**249**	P	**P**	**14 23 00.5**	**-0.3**
	baz=41,SNR=8.0						
COEN	**Coen**	**36.95**	**270**	P	**P**	**14 23 14.4**	**+0.7**
	baz=42,SNR=7.2						
STKA	**Stephens Creek**	**38.51**	**241**	P	**P**	**14 23 26.4**	**+0.2**
	3.5nm,0.4s,baz=94,slow=10.0,SNR=28						
STKA	**Stephens Creek**	**38.51**	**241**	P	**P**	**14 23 26.8**	**+0.6**
	baz=44,SNR=21						
WRA	**Warramunga Arr**	**44.48**	**260**	P	**P**	**14 24 12.6**	**-0.9**
	2.7nm,0.4s,baz=96,slow=6.7,SNR=11						
ASAR	**Alice Springs**	**44.65**	**254**	P	**P**	**14 24 14.6**	**-0.1**
	28nm,0.6s,baz=88,slow=8.4,SNR=383						
KDU	**Kakadu**	**47.40**	**269**	P	**P**	**14 24 35.4**	**-0.2**
	baz=53,SNR=6.2						
KNRA	**Kununurra**	**50.34**	**264**	P	**P**	**14 24 56.8**	**-0.4**
	baz=56,SNR=7.8						
FITZ	**Fitzroy Crossi**	**52.88**	**261**	P	**P**	**14 25 15.4**	**0.0**
	1.0nm,0.3s,baz=103,slow=3.3,SNR=20						
FITZ	**Fitzroy Crossi**	**52.88**	**261**	P	**P**	**14 25 15.7**	**+0.2**
	baz=58,SNR=10						
MEEK	**Meekatharra**	**58.30**	**249**	P	**P**	**14 25 52.1**	**-0.8**
	baz=64,SNR=4.0						
WSI	**Waingapu**	**59.72**	**269**	P	P	14 26 11.1	+8.5
	baz=65,SNR=5.3						
WSI				S	**ScS**	**14 34 53.5**	**-1.8**
	baz=65,SNR=3.5						
UGM	**Wanagama**	**69.49**	**268**	P	**P**	**14 27 04.3**	**+0.1**
	baz=75,SNR=3.4						
NVAR	**Mina Array Bea**	**79.51**	**44**	P	**P**	**14 28 00.8**	**+0.7**
	0.9nm,0.6s,baz=227,slow=8.0						
ILAR	**Eielson Array**	**85.89**	**13**	P	**P**	**14 28 30.2**	**-0.9**
	0.3nm,0.4s,baz=222,slow=5.5,SNR=8.8						
TXAR	**Lajitas Array**	**86.11**	**58**	P	**P**	**14 28 34.6**	**+1.5**
	1.2nm,0.7s,baz=224,slow=5.9,SNR=13						
PDAR	**Pinedale Array**	**87.44**	**43**	P	**P**	**14 28 39.7**	**+0.5**
	0.8nm,0.6s,baz=232,slow=3.6,SNR=6.5						
BRTR	**Keskin Array B**	**144.65**	**315**	PKP	**PKPab**	**14 35 25.6**	**+0.4**
	0.2nm,0.4s,baz=71,slow=5.2,SNR=2.9						

*ISCJB **26** 14:24:50.3±0.6, 25°.84S±0°.07×179°.8E±0°.1, h475km, mb3.8/7, Error ellipse: s-maj=13.4km s-min=7.9km az=28.0*
*IDC **26** 14:24:50.8±1.8, 25°.89S×179°.76E, h468km±16km, mb3.4/7, mb1 3.7/10, mb1mx3.4/19, mbtmp3.6/10, Error ellipse: s-maj=20.9km s-min=17.2km az=98.0*
*AUST **26** 14:24:54.0±0.0, 25°.97S×179°.95W, h528km, Error ellipse: s-maj=2.6km s-min=1.3km az=286.0*
ISC 26 14:24:50.7±0.7, 25°.87S±0°.09×179°.9E±0°.1, h475km, n29, σ0§87/31, mb3.9/7, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**11.58**	**56**	S	S	14 29 49.6	+18
	baz=12,SNR=6.6						
URZ	**Urewera**	**12.58**	**190**	P	**P**	**14 27 35.9**	**+0.5**
	7.3nm,0.3s,baz=24,slow=3.1,SNR=48						
URZ				S	**S**	**14 29 50.9**	**-0.4**
	1.0nm,0.3s,baz=166,slow=15,SNR=3.6						
DZM	**Mont Dzumac**	**12.87**	**284**	P	P	14 27 41.9	+3.1
	1.9nm,0.3s,baz=100,slow=15,SNR=22						
AFI	**Afiamalu**	**14.23**	**35**	P	**P**	**14 27 54.6**	**+1.2**
	3.3nm,0.3s,baz=35,slow=18,SNR=8.2						
AFI				S	**S**	**14 30 22.3**	**-1.9**
	0.6nm,0.3s,baz=195,slow=20,SNR=2.5						
RPZ	**Rata Peaks**	**19.21**	**200**	P	**P**	**14 28 42.9**	**-0.4**
	1.1nm,0.3s,baz=40,slow=3.6,SNR=8.8						
EIDS	**Eidsvold**	**25.97**	**265**	P	**P**	**14 29 45.0**	**+0.6**
	baz=26,SNR=10						
RMQ	**Roma**	**27.92**	**262**	P	**P**	**14 30 03.1**	**+1.6**
	baz=28,SNR=8.7						
CMSA	**Cobar Meteorol**	**30.45**	**251**	P	**P**	**14 30 23.9**	**+0.4**
	baz=30,SNR=10						
QLP	**Quilpie**	**31.94**	**261**	P	**P**	**14 30 36.6**	**+0.2**
	baz=32,SNR=4.7						
MTSU	**Mount Surprise**	**33.80**	**276**	P	**P**	**14 30 53.0**	**+0.7**
	baz=34,SNR=16						
STKA	**Stephens Creek**	**33.95**	**251**	P	**P**	**14 30 52.1**	**-1.3**
	4.0nm,0.9s,baz=103,slow=12,SNR=7.5						
STKA				PcP	**PcP**	**14 33 18.9**	**+0.4**
	1.4nm,0.5s,baz=101,slow=5.2,SNR=3.8						
ASAR	**Alice Springs**	**41.66**	**263**	P	**P**	**14 31 56.3**	**-0.6**
	4.2nm,0.5s,baz=91,slow=6.9,SNR=56						
ASAR				ScP	**ScP**	**14 36 46.2**	**-1.2**
	0.7nm,0.7s,baz=141,slow=3.4,SNR=4.7						
WRA	**Warramunga Arr**	**42.22**	**268**	P	**P**	**14 32 00.5**	**-0.8**
	4.5nm,0.6s,baz=102,slow=7.8,SNR=30						
KDU	**Kakadu**	**46.41**	**277**	P	**P**	**14 32 32.8**	**-1.0**
	baz=46,SNR=4.9						
KNRA	**Kununurra**	**48.62**	**272**	P	**P**	**14 32 50.2**	**-0.3**
	baz=49,SNR=18						
FITZ	**Fitzroy Crossi**	**50.62**	**267**	P	**P**	**14 33 04.9**	**-0.3**
	4.2nm,0.8s,baz=110,slow=7.9,SNR=9.0						
FITZ	**Fitzroy Crossi**	**50.62**	**267**	P	**P**	**14 33 04.9**	**-0.3**
	baz=51,SNR=5.2						
KLBR	**Kellerberrin**	**54.17**	**249**	P	**P**	**14 33 29.6**	**-1.1**
	baz=54,SNR=6.3						
MORW	**Morawa**	**56.14**	**251**	P	**P**	**14 33 43.3**	**-1.1**
	baz=56,SNR=5.2						
MAW	**Mawson**	**75.88**	**201**	P	**P**	**14 35 47.7**	**+0.6**
	2.0nm,0.9s,baz=158,slow=7.5,SNR=3.9						
KSRS	**Korea Array**	**79.69**	**320**	P	**P**	**14 36 08.8**	**+0.6**
	1.2nm,0.6s,baz=133,slow=5.6,SNR=7.1						
CMAR	**Chiang Mai Arr**	**90.12**	**290**	P	**P**	**14 37 01.2**	**+1.4**
	0.6nm,0.8s,baz=140,slow=2.2,SNR=4.4						
MKAR	**Makanchi Array**	**113.41**	**312**	PKiKP	**PKiKP**	**14 42 33.3**	**-0.5**
	0.2nm,0.6s,baz=178,slow=0.8,SNR=2.5						
FINES	**FINESS Array B**	**140.27**	**341**	PKhKP	PKPpre	14 43 16.9	
	2.6nm,0.9s,baz=22,slow=6.2,SNR=3.5						
FINES				PKP	**PKiKP**	**14 43 26.0**	**-0.9**
	3.9nm,0.9s,baz=67,slow=1.8,SNR=3.4						
FINES				SKP		14 46 13.9	
	2.8nm,1.0s,baz=48,slow=2.1,SNR=5.1						
NB2	**NORSAR Subarra**	**144.00**	**351**	PKP	**PKPdf**	**14 43 30.6**	**-0.3**
	comp=Z,1.8nm,0.8s,baz=28,slow=4.1						
NOA	**NORSAR Array B**	**144.00**	**351**	PKP	**PKPdf**	**14 43 30.9**	**-0.1**
	comp=Z,0.8nm,0.8s,baz=22,slow=2.6,SNR=6.4						
AKASG	**Malin Array Be**	**146.55**	**326**	PKPbc	**PKPbc**	**14 43 38.0**	**0.0**
	comp=Z,0.9nm,0.4s,baz=47,slow=4.0,SNR=8.6						
BRTR	**Keskin Array B**	**148.65**	**305**	PKPbc	**PKPbc**	**14 43 44.2**	**+0.3**
	comp=Z,0.8nm,0.5s,baz=150,slow=4.9,SNR=4.9						
TORD	**Torodi Ar. Bea**	**167.23**	**188**	PKPab	**PKPab**	**14 45 10.2**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=154,slow=3.0,SNR=3.4						

JMA 26 15:11:05.3±0.4, 32°.53N×142°.31E, h60km, M3.9, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.18**	**286**	P	Pn	15 11 40.1	+0.9
JHCJ	**Hachijojimakas**	**2.18**	**285**	P	Pn	15 11 40.0	+0.7
JHCJ				*e*S	Sn	15 12 06.1	+0.9
BSO1	**Boso 1**	**2.39**	**333**	P	Pn	15 11 43.5	+2.1
BSO3	**Boso 3**	**2.72**	**327**	P	Pn	15 11 48.2	+2.0
JOD2	**Odawara 2**	**3.82**	**316**	P	Pn	15 12 02.8	+1.1
JYT	**Yasato**	**4.08**	**335**	P	Pn	15 12 06.4	+1.2
JHU	**Hanno**	**4.16**	**324**	P	Pn	15 12 07.8	+1.6
JHU				*e*S	Sn	15 12 55.1	+1.6
JYN	**Shimob**	**4.31**	**314**	P	Pn	15 12 10.7	+2.3
JHO	**Hitachi**	**4.32**	**341**	P	Pn	15 12 09.3	+0.9
JHO				S	Sn	15 12 58.4	+0.9
HMMJ	**Hamamatsu 2**	**4.47**	**302**	P	Pn	15 12 13.1	+2.5
JRY	**Ryogami san**	**4.48**	**322**	P	Pn	15 12 12.5	+1.8
JAG	**Ashikaga**	**4.54**	**330**	P	Pn	15 12 13.6	+2.0
JNY	**Yasuok**	**4.65**	**309**	P	Pn	15 12 16.4	+3.3
JFK	**Kawauchi**	**4.97**	**347**	P	Pn	15 12 18.0	+0.6
JFT	**Otama**	**5.23**	**343**	P	Pn	15 12 22.8	+1.8
JFT				*e*S	Sn	15 13 21.1	+1.1
MAT	**Matsushiro**	**5.24**	**321**	P	Pn	15 12 23.4	+2.3
MAT				S	Sn	15 13 21.8	+1.5
MAT	**Matsushiro**	**5.24**	**321**	P	Pn	15 12 23.7	+2.6
CBIJ	**Chichi jima**	**5.42**	**181**	P	Pn	15 12 20.9	-2.6
JGM	**Miyama**	**5.61**	**306**	P	Pn	15 12 29.3	+3.1
JWZ	**Kozaga**	**5.63**	**282**	P	Pn	15 12 28.9	+2.5

*ISCJB **26** 15:23:18.8±0.3, 47°.65N±0°.03×88°.84E±0°.05, h10km, mb4.0/17, MS3.5/4, Error ellipse: s-maj=5.5km s-min=3.9km az=40.4*
*BJI **26** 15:23:19.2, 47°.64N×88°.94E, h13km, mB4.7/10, mb4.4/13, ML4.6/7, Ms4.3/10, Ms7 3.9/10*
*MOS **26** 15:23:21.9±1.5, 47°.61N×88°.81E, h33km, mb4.2/11, Error ellipse: s-maj=9.9km s-min=8.3km az=41.2*
*IDC **26** 15:23:23.6±2.2, 47°.59N×88°.87E, h33km±17km, mb3.8/14, mb1 4.0/20, mb1mx3.9/33, mbtmp3.9/20, ML4.1/6, MS3.4/6, Ms1 3.4/6, ms1mx3.1/38, Error ellipse: s-maj=15.2km s-min=11.0km az=36.0*
*NNC **26** 15:23:24.5±2.0, 47°.74N×88°.49E, h9km±9km, mb4.6, mpv4.4, Error ellipse: s-maj=15.0km s-min=10.1km az=47.0*
*ASRS **26** 15:23:25.0±0.6, 47°.76N×88°.66E, h15km, Ms4.1/3*
ISC 26 15:23:22.0±0.5, 47°.55N±0°.04×88°.84E±0°.04, h10km, n79, σ1§87/81, mb4.0/17, MS3.6/4, 21C-6D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**3.82**	**193**	Pn	**Pn**	**15 24 22.8**	**+1.9**
WMQ				smax	smax		
	comp=N,950nm,0.7s						
WMQ				smax	smax		
	comp=E,1μm,0.9s						
ARTR	**Artybash**	**4.37**	**347**	*e*PN	**Pb**	**15 24 40.2**	**+1.4**
ARTR	**Artybash**	**4.37**	**347**	*e*Pg	**Pb**	**15 24 40.2**	**+1.4**
MK31	**Makanchi Array**	**4.53**	**263**	⇑Pn	**Pn**	**15 24 31.1**	**+0.4**
	comp=E,4.1nm,0.3s,baz=90,slow=14,SNR=1324						
MK31				⇑Pg	**Pb**	**15 24 43.1**	**+1.6**
	comp=E,142nm,0.7s,baz=101,slow=13,SNR=44						
MK31				⇑Lg	Lg	15 25 42.0	
	comp=E,490nm,0.7s,baz=79,slow=31,SNR=15						
MK31	**Makanchi Array**	**4.53**	**263**	*i* Pn	**Pn**	**15 24 31.0**	**+0.4**
MK31				pmax	pmax		
	comp=Z,4.0nm,0.1s						
MKAR	**Makanchi Array**	**4.53**	**263**	PN	**Pn**	**15 24 31.6**	**+1.0**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
MKAR				pmax	pmax		
	comp=Z,28nm,0.3s						
MKAR	**Makanchi Array**	**4.53**	**263**	Pn	**Pn**	**15 24 31.6**	**+1.0**
	comp=Z,3.3nm,0.3s,baz=88,slow=15,SNR=192						
MKAR				Pg	**Pb**	**15 24 43.9**	**+2.3**
	comp=Z,28nm,0.3s,baz=76,slow=18,SNR=77						
MKAR				Lg	Lg	15 25 42.3	
	comp=Z,111nm,0.3s,baz=82,slow=28,SNR=10						
HVS	**Khovu-Aksy**	**4.79**	**40**	*d i* PN	**Pn**	**15 24 33.6**	**-0.6**
TASR	**Tashtagol**	**5.25**	**354**	*e*PN	**Pb**	**15 24 56.3**	**+2.5**
TASR				*e*		15 26 02.0	
TASR	**Tashtagol**	**5.25**	**354**	*e*Pg	**Pb**	**15 24 56.3**	**+2.5**
TASR				*e*Sg	**Sb**	**15 26 02.0**	**+5.2**
ZALV	**Zalesovo Beam**	**6.89**	**340**	PN	**Pn**	**15 25 01.8**	**-1.1**
ZALV						15 25 22.9	
ZALV				pmax	pmax		
	comp=Z,7.0nm,0.3s						
ZALV				pmax	pmax		
	comp=Z,11nm,0.3s						
ZALV	**Zalesovo Beam**	**6.89**	**340**	Pn	**Pn**	**15 25 01.8**	**-1.1**
	comp=Z,6.9nm,0.3s,baz=157,slow=13,SNR=115						
ZALV				Pg	**Pb**	**15 25 22.9**	**+1.2**
	comp=Z,10nm,0.3s,baz=160,slow=14,SNR=14						
ZALV				Lg	Lg	15 27 03.5	
	comp=Z,32nm,0.3s,baz=181,slow=26,SNR=6.5						
ZALV				LR	LR	15 28 11.3	
	comp=Z,98nm,18.8s,baz=49,slow=42						
KURK	**Kurchatov**	**7.41**	**299**	⇑Pn	**Pn**	**15 25 08.6**	**-1.5**
	comp=Z,8.0nm,0.4s						
KURK				⇑Sn	**Sn**	**15 26 30.9**	**-3.3**
	comp=Z,56nm,0.8s						
KURK				⇓Lg	Lg	15 27 10.0	
	comp=Z,474nm,0.8s						
KURK	**Kurchatov**	**7.41**	**299**	P	**Pn**	**15 25 08.8**	**-1.3**
KURK						15 26 30.8	
KURK				pmax	pmax		
	comp=Z,8.0nm,0.4s						
KURK				smax	smax		
	comp=N,56nm,0.8s						
KURK				pmax	pmax		
	comp=N,469nm,0.8s						
KURBB	**Kurchatov Arra**	**7.43**	**298**	⇑Pn	**Pn**	**15 25 09.1**	**-1.3**
	comp=N,20nm,0.3s						
KURBB				⇑Sn	**Sn**	**15 26 30.8**	**-3.9**
	comp=N,203nm,0.6s						
KURBB				⇓Lg	Lg	15 27 12.8	
	comp=N,2μm,0.7s						
KURBB	**Kurchatov Arra**	**7.43**	**298**	Pn	**Pn**	**15 25 09.3**	**-1.1**
	comp=N,5.9nm,0.3s,baz=107,slow=15,SNR=56						
KURBB				Lg	Lg	15 27 16.9	
	comp=N,49nm,0.3s,baz=102,slow=32,SNR=19						
NVS	**Novosibirsk**	**8.10**	**336**	*e*P	**Pn**	**15 25 19.9**	**+0.4**
NVS				*e*		15 26 46.5	
NVS	**Novosibirsk**	**8.10**	**336**	*e*Pg	Pb	15 25 48.4	+6.2
NVS				*e*Sg	Sb	15 27 30.0	+11
TKM2	**Tokmak 2**	**10.42**	**248**	⇑Pn	**Pn**	**15 25 53.3**	**+1.6**
	comp=N,5.5nm,0.5s						
TKM2				⇑Lg	Lg	15 28 50.4	
	comp=N,115nm,1.2s						
TKM2	**Tokmak 2**	**10.42**	**248**	*i* P	**Pn**	**15 25 53.2**	**+1.6**
TKM2				pmax	pmax		
	comp=Z,4.0nm,0.6s						
TLY	**Talaya**	**10.45**	**61**	*e*P	**Pn**	**15 25 54.8**	**+3.0**
TLY				pmax	pmax		
	comp=Z,7.0nm,0.6s						
FRU	**Bishkek**	**11.09**	**250**	*e*P	**Pn**	**15 26 02.0**	**+1.4**
FRU				*e*S	**Sn**	**15 28 06.0**	**+1.4**
FRU				pmax	pmax		
	comp=Z,40nm,2.4s						
FRU				smax	smax		
	comp=N,240nm,1.9s						
AAK	**Ala-Archa**	**11.27**	**249**	*ce*P	**Pn**	**15 26 04.4**	**+1.3**
AAK				pmax	pmax		
	comp=Z,8.0nm,0.8s						
AAK	**Ala-Archa**	**11.27**	**249**	Pn	**Pn**	**15 26 03.6**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=71,slow=6.1,SNR=9.7						
AAK				Lg	Lg	15 29 19.7	
	comp=Z,0.8nm,0.3s,baz=262,slow=20,SNR=4.4						
GTA	**Gaotai**	**11.38**	**132**	⇑P	Pn	15 26 02.5	-2.2
GTA				pP		15 26 06.0	
GTA				sP		15 26 08.3	
GTA				S	**Sn**	**15 28 09.8**	**-2.1**
GTA				SS	**SnSn**	**15 28 23.5**	**0.0**
GTA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,72nm,4.8s						
GTA				LR	LR		
	comp=N,720nm,8.5s						
GTA				LR	LR		
	comp=E,780nm,9.5s						
GTA				LR	LR		
	comp=Z,650nm,10.9s						
SONM	**Songino Array**	**11.84**	**82**	Pn	**P

comp=Z,26nm,0.7s
KK31 Karatay Array 13.64 258 *i* P Pn 15 26 32.3 -3.0
KK31 pmax pmax
comp=Z,5.0nm,0.4s
LZH Lanzhou 15.98 130 *eP* **Pn 15 27 07.0 +0.1**
LZH pP **P 15 27 09.3 -1.2**
LZH sP **sP 15 27 11.8 -2.8**
LZH PP **PnPn 15 27 21.5 +6.1**
LZH *e*S **Sn 15 30 05.0 +0.9**
LZH sS S 15 30 09.8 -8.3
LZH *e*SS **SnSn 15 30 23.0 +6.2**
LZH pmax pmax
comp=Z,25nm,1.0s
LZH pmax pmax
comp=Z,140nm,4.9s
LZH LR LR
comp=N,390nm,10.0s
LZH LR LR
comp=E,300nm,11.5s
LZH LR LR
comp=Z,510nm,12.3s
LSA Lhasa 17.92 173 P **P 15 27 34.5 +2.2**
CHCP Chirah Chowk 18.19 226 P **Pn 15 27 35.6 +1.1**
CHCP S Sn 15 30 51.0 -6.5
AB31 Akbulak array 19.21 286 Pn **P 15 27 44.6 -1.3**
comp=Z,4.7nm,0.6s,baz=82,slow=11,SNR=83
AB31 ⇑Lg Lg 15 33 26.3
comp=Z,16nm,1.1s,baz=86,slow=25,SNR=5.4
SVE Sverdlovsk 19.50 309 *eP* **Pn 15 27 51.7 +1.6**
DANN Dangsing 19.58 193 *eP* **P 15 27 50.0 -0.3**
comp=Z,8.6nm,0.3s
THW Thamme Wali 19.63 227 P **Pn 15 27 52.9 +0.9**
GUN Gumba 19.75 188 *eP* **P 15 27 52.8 +0.6**
GKN Gorkha 19.79 191 *eP* **P 15 27 52.6 +0.1**
comp=Z,29nm,0.5s
KKN Kakani 19.93 189 *eP* **P 15 27 53.6 -0.5**
comp=Z,19nm,0.8s
PYUN Piuthan 19.95 195 *eP* **P 15 27 53.7 -0.6**
JIRN Jiri 19.97 187 *eP* **P 15 27 54.8 +0.1**
comp=Z,14nm,0.5s
PKIN Phulchoki 20.12 189 *eP* **P 15 27 55.6 -0.7**
comp=Z,14nm,0.6s
DMN Daman 20.12 190 *eP* **P 15 27 56.8 +0.5**
comp=Z,25nm,0.8s
PKI Pulchoki 20.13 189 *eP* **P 15 27 56.7 +0.3**
comp=Z,24nm,0.8s
KOLN Koldanda 20.17 194 *eP* **P 15 27 56.4 -0.3**
comp=Z,19nm,0.6s
TAPN Taplejung 20.19 183 *eP* **P 15 27 56.6 -0.4**
comp=Z,33nm,0.4s
AKTO Aktyubinsk 20.36 290 ⇓Pn **P 15 28 00.2 +1.9**
comp=Z,7.4nm,0.8s
AKTO ⇑Lg Lg 15 34 00.5
comp=Z,50nm,1.5s
AKTO Aktyubinsk 20.36 290 P **P 15 27 58.2 -0.2**
AKTO pmax pmax
comp=Z,5.0nm,0.7s
AKTO MLR MLR
comp=Z,131nm,19.4s
AKTO Aktyubinsk 20.36 290 P **P 15 27 58.2 -0.2**
comp=Z,2.2nm,0.5s,baz=88,slow=12,SNR=11
AKTO Lg Lg 15 34 06.3
comp=Z,6.5nm,1.1s,baz=186,slow=21,SNR=3.5
AKTO LR LR 15 36 23.0
comp=Z,131nm,19.4s,baz=97,slow=38
ARU Arti 20.50 307 *d i* P **P 15 28 01.1 +1.2**
ARU 15 28 16.4
ARU S **S 15 31 50.2 +1.1**
ARU SS **SnSn 15 32 09.2 +1.8**
ARU pmax pmax
comp=Z,5.0nm,0.6s
RAMN Ramite 20.64 186 *eP* **P 15 28 00.7 -1.2**
comp=Z,19nm,0.6s
ODAN Odare 20.69 184 *eP* **P 15 28 02.2 -0.2**
comp=Z,27nm,0.5s
USRK Ussuriysk Arra 29.94 80 P **P 15 29 28.2 -1.8**
comp=Z,1.8nm,0.6s,baz=290,slow=7.3,SNR=6.8
CMAR Chiang Mai Arr 30.18 161 P **P 15 29 32.2 -0.1**
comp=Z,0.9nm,0.7s,baz=342,slow=7.8,SNR=10.0
KSRS Korea Array 30.24 95 P **P 15 29 31.2 -1.5**
comp=Z,1.3nm,0.7s,baz=292,slow=8.9,SNR=7.3
OBN Obninsk 32.83 303 P **P 15 29 57.0 +1.7**
OBN pmax pmax
comp=Z,13nm,0.9s
OBN MLR MLR
comp=Z,100nm,18.0s
FINES FINESS Array B 37.43 315 P **P 15 30 33.0 -1.8**
comp=Z,2.5nm,0.9s,baz=96,slow=11,SNR=3.1
AKASG Malin Array Be 38.22 298 P **P 15 30 40.9 -0.8**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 38.22 298 P **P 15 30 40.9 -0.8**
comp=Z,1.0nm,0.4s,baz=62,slow=8.5,SNR=5.7
BRTR Keskin Array B 39.97 280 P **P 15 30 55.3 -1.3**
comp=Z,3.0nm,0.7s,baz=83,slow=6.8,SNR=2.9
NB2 NORSAR Subarra 44.50 317 P **P 15 31 32.0 -1.1**
comp=Z,3.2nm,0.8s,baz=67,slow=7.9
NOA NORSAR Array B 44.50 317 P **P 15 31 31.6 -1.5**
comp=Z,2.7nm,0.9s,baz=66,slow=7.5,SNR=6.0
NOA LR LR 15 51 24.8
comp=Z,76nm,18.4s,baz=90,slow=38
GERES GERESS Array B 48.16 301 LR LR 15 52 51.7
comp=Z,71nm,18.9s,baz=347,slow=37
LPG La Plagne 53.95 300 *eP* **P 15 32 46.2 +0.2**
comp=Z,15nm,1.1s
LPL La Plagne 53.95 301 *eP* **P 15 32 46.3 +0.4**
comp=Z,17nm,1.3s
MBDF Montbardon 54.37 300 *eP* **P 15 32 50.1 +1.2**
comp=Z,8.9nm,0.8s
ILAR Eielson Array 59.92 24 P **P 15 33 25.6 -2.1**
comp=Z,0.5nm,0.7s,baz=325,slow=4.6,SNR=4.2
ESDC Sonseca Array 63.76 301 P P 15 33 51.5 -2.4
comp=Z,0.1nm,0.3s,baz=51,slow=6.6,SNR=2.5
FITZ Fitzroy Crossi 73.22 143 P P 15 34 51.0 -2.1
comp=Z,1.5nm,0.5s,baz=354,slow=6.4,SNR=7.8
TORD Torodi Ar. Bea 78.52 277 P **P 15 35 21.8 -1.8**
comp=Z,0.4nm,0.4s,baz=37,slow=5.2,SNR=5.7
WRA Warramunga Arr 78.62 137 P P 15 35 21.4 -2.5
comp=Z,1.0nm,0.7s,baz=339,slow=5.7,SNR=5.3
ASAR Alice Springs 81.66 139 P P 15 35 38.0 -2.3
comp=Z,1.3nm,0.8s,baz=332,slow=4.9,SNR=14

*ISCJB **26** 15:32:41.6±0.3, 18°.92S±0°.05×169°.58E±0°.05, h246km, mb4.4/36, Error ellipse: s-maj=7.7km s-min=6.3km az=150.0*
*NEIC **26** 15:32:46.5±1.0, 19°.05S×169°.55E, h288km±10km, mb4.6/16, Error ellipse: s-maj=10.7km s-min=7.6km az=178.0*
*IDC **26** 15:32:46.9±1.9, 19°.09S×169°.59E, h283km±20km, mb3.9/18, mb1 4.1/21, mb1mx3.9/27, mbtmp4.6/21, Error ellipse: s-maj=15.7km s-min=11.2km az=10.0*
*BJI **26** 15:32:46.3, 19°.00S×169°.50E, h278km, mB4.8/6, mb4.6/12*
*AUST **26** 15:32:49.6±2.6, 19°.11S×169°.71E, h320km, Error ellipse: s-maj=1.4km s-min=1.4km az=288.0*
ISC 26 15:32:43.0±0.5, 18°.90S±0°.07×169°.61E±0°.07, h246km, n93, σ1°63/101, mb4.5/36, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.33**	**223**	P	**Pn**	**15 33 53.7**	**+3.1**
DZM				S	**S**	**15 34 42.5**	**-1.9**
DZM	**Mont Dzumac**	**4.33**	**223**	P	**Pn**	**15 33 53.7**	**+3.1**
DZM	19nm,0.3s,baz=57,slow=16,SNR=238			S	**S**	**15 34 42.5**	**-1.9**
	baz=270,slow=20,SNR=1.5						
MSVF	**Nonsavu**	**8.10**	**83**	*e*Pn	Pn	15 34 41.9	+4.2
HNR	**Honiara**	**13.27**	**314**	P	**P**	**15 35 46.4**	**+2.4**
HNR	**Honiara**	**13.27**	**314**	P	**P**	**15 35 46.4**	**+2.4**
	35nm,0.3s,baz=198,slow=3.5,SNR=23						
RAO	**Raoul Island**	**15.35**	**135**	P	**P**	**15 36 07.3**	**+0.4**
RAO	**Raoul Island**	**15.35**	**135**	P	**P**	**15 36 07.3**	**+0.4**
	60nm,0.3s,baz=18,slow=20,SNR=2.5						
OUZ	**Omahuta**	**16.64**	**169**	*e*P	**P**	**15 36 21.4**	**+0.5**
	405nm,2.2s						
AFI	**Afiamalu**	**18.53**	**77**	P	**Pn**	**15 36 44.7**	**-0.4**
AFI	**Afiamalu**	**18.53**	**77**	P	**Pn**	**15 36 44.7**	**-0.4**
	2.7nm,0.3s,baz=345,slow=6.5,SNR=7.7						
ARMA	**Armidale**	**19.93**	**231**	P	**P**	**15 36 58.2**	**+1.5**
	baz=20,SNR=7.3						
URZ	**Urewera**	**20.37**	**163**	P	**P**	**15 37 00.8**	**-0.3**
URZ	**Urewera**	**20.37**	**163**	P	**P**	**15 37 00.8**	**-0.3**
	9.9nm,0.4s,baz=329,slow=6.6,SNR=11						
BKZ	**Black Stump Fm**	**21.06**	**165**	*e*P	**P**	**15 37 07.6**	**-0.8**
	56nm,1.3s						
CTA	**Charters Tower**	**22.05**	**263**	P	**P**	**15 37 19.0**	**+1.1**
CTA	**Charters Tower**	**22.05**	**263**	P	**P**	**15 37 19.0**	**+1.1**
	6.5nm,0.6s,baz=92,slow=12,SNR=20						
CTAO	**Charters Tower**	**22.05**	**263**	*e*P	**P**	**15 37 16.1**	**-1.8**
	9.4nm,0.7s						
RABL	**Rabaul**	**22.45**	**308**	P	P	15 37 26.9	+5.2
	baz=23,SNR=3.4						
PMG	**Port Moresby**	**23.70**	**290**	*e*P	**P**	**15 37 31.8**	**-1.1**
	30nm,0.8s						
PMG	**Port Moresby**	**23.70**	**290**	P	**P**	**15 37 34.4**	**+1.5**
	28nm,0.7s,baz=113,slow=5.9,SNR=13						
MTSU	**Mount Surprise**	**23.99**	**268**	P	**P**	**15 37 37.3**	**+1.7**
	baz=24,SNR=43						
RPZ	**Rata Peaks**	**24.77**	**178**	P	**P**	**15 37 41.8**	**-0.5**
RPZ	**Rata Peaks**	**24.77**	**178**	P	**P**	**15 37 41.8**	**-0.5**
	4.5nm,0.8s,baz=0.0,slow=4.0,SNR=3.7						
CMSA	**Cobar Meteorol**	**24.97**	**235**	P	**P**	**15 37 44.6**	**+0.3**
	baz=25,SNR=8.0						
PATS	**Pohnpei**	**27.89**	**335**	S	S	15 42 08.4	-27
	baz=28,SNR=3.2						
STKA	**Stephens Creek**	**28.32**	**237**	P	**P**	**15 38 14.7**	**+0.5**
STKA	**Stephens Creek**	**28.32**	**237**	P	**P**	**15 38 14.7**	**+0.5**
	3.0nm,1.0s,baz=274,slow=15,SNR=3.6						
WRA	**Warramunga Arr**	**33.24**	**262**	P	**P**	**15 38 56.5**	**-0.9**
WRA	**Warramunga Arr**	**33.24**	**262**	P	**P**	**15 38 56.5**	**-0.9**
	4.2nm,0.6s,baz=94,slow=8.5,SNR=4.8						
AS31	**Alice Springs**	**33.55**	**256**	*e*P	**P**	**15 38 58.3**	**-1.8**
ASAR	**Alice Springs**	**33.55**	**256**	P	**P**	**15 38 59.9**	**-0.2**
ASAR	**Alice Springs**	**33.55**	**256**	P	**P**	**15 38 59.9**	**-0.2**
	16nm,0.5s,baz=82,slow=9.1,SNR=428						
KDU	**Kakadu**	**36.21**	**274**	P	**P**	**15 39 22.7**	**-0.1**
	baz=36,SNR=3.6						
KNRA	**Kununurra**	**39.07**	**268**	P	**P**	**15 39 46.3**	**-0.4**
	baz=39,SNR=12						
FAKI	**Fak Fak**	**39.84**	**289**	P	**P**	**15 39 53.2**	**+0.1**
	baz=40,SNR=5.7						
FITZ	**Fitzroy Crossi**	**41.63**	**264**	*e*P	**P**	**15 40 05.4**	**-2.2**
	10nm,0.7s						
FITZ	**Fitzroy Crossi**	**41.63**	**264**	P	**P**	**15 40 08.3**	**+0.7**
	10.0nm,0.6s,baz=121,slow=6.7,SNR=29						
FITZ	**Fitzroy Crossi**	**41.63**	**264**	P	**P**	**15 40 08.1**	**+0.6**
	baz=42,SNR=13						
BATI	**Baumata**	**45.19**	**274**	P	**P**	**15 40 37.1**	**+1.1**
BATI	**Baumata**	**45.19**	**274**	P	**P**	**15 40 37.1**	**+1.1**
	16nm,0.6s,baz=285,slow=15,SNR=3.8						
MBWA	**Marble Bar**	**46.77**	**258**	*e*P	**P**	**15 40 45.6**	**-2.6**
MEEK	**Meekatharra**	**47.40**	**251**	P	**P**	**15 40 52.6**	**-0.4**
	baz=47,SNR=11						
KLBR	**Kellerberrin**	**48.17**	**244**	P	**P**	**15 40 57.9**	**-1.1**
	baz=48,SNR=6.1						
KAPI	**Kappang**	**50.51**	**279**	P	**P**	**15 41 15.9**	**-0.8**
KAPI	**Kappang**	**50.51**	**279**	P	**P**	**15 41 15.9**	**-0.8**
	9.0nm,0.7s,baz=185,slow=8.6,SNR=5.0						
KSM	**Kuching**	**61.64**	**282**	*e*P	**P**	**15 42 33.5**	**-1.9**
	13nm,0.8s						
MAJO	**Matsushiro**	**62.62**	**332**	*e*P	**P**	**15 42 40.2**	**-1.1**
	18nm,1.4s						
MAT	**Matsushiro**	**62.62**	**332**	P	**P**	**15 42 41.7**	**+0.3**
JNU	**Nakatsue**	**63.60**	**324**	P	**P**	**15 42 48.4**	**+0.5**
JNU	**Nakatsue**	**63.60**	**324**	P	**P**	**15 42 48.4**	**+0.5**
	4.8nm,0.7s,baz=169,slow=10,SNR=5.3						
KSRS	**Korea Array**	**68.43**	**325**	P	**P**	**15 43 19.6**	**+1.3**
	0.9nm,0.7s,baz=133,slow=5.7,SNR=4.1						
KSAR	**Wonju Array Be**	**68.44**	**325**	P	**P**	**15 43 19.6**	**+1.2**
NJ2	**Nanjing**	**70.21**	**316**	*e*P	**P**	**15 43 30.0**	**+0.6**
NJ2				pmax	pmax		
	comp=Z,11nm,0.9s						
PETK	**Petropavlovsk-**	**72.44**	**353**	P	**P**	**15 43 43.7**	**+1.4**
PETK	**Petropavlovsk-**	**72.44**	**353**	P	**P**	**15 43 43.7**	**+1.4**
	comp=Z,3.0nm,1.0s,baz=106,slow=7.9,SNR=3.9						
CN2	**Changchun**	**74.35**	**328**	*e*P	**P**	**15 43 54.5**	**+0.9**
CN2				*e*pP	pP	15 45 01.0	+10
CN2				*e*PP	**PP**	**15 46 47.5**	**+3.8**
CN2				*e*S	**S**	**15 53 05.0**	**-2.3**
GYA	**Guiyang**	**75.92**	**305**	*e*P	**P**	**15 44 02.5**	**-0.6**
GYA				pP	pP	15 45 08.3	+7.4
GYA				sP	sP	15 45 39.0	+12
GYA				PP	**PP**	**15 46 58.8**	**+1.5**
GYA				S	**S**	**15 53 21.3**	**-4.2**
GYA				SKS	SKSac	15 53 41.0	-9.3
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KMI	**Kunming**	**78.39**	**302**	P	**P**	**15 44 18.5**	**+1.5**
KMI				pmax	pmax		
	comp=Z,8.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**78.69**	**294**	P	**P**	**15 44 19.9**	**+1.5**
CMAR	**Chiang Mai Arr**	**78.69**	**294**	P	**P**	**15 44 19.9**	**+1.5**
	comp=Z,1.9nm,0.7s,baz=137,slow=4.3,SNR=14						
HHC	**Hu-ho-hao-te**	**80.19**	**319**	*e*P	**P**	**15 44 23.5**	**-2.7**
HHC				pP	pP	15 45 30.8	+6.1
HHC				sP	sP	15 46 01.5	+11
HHC				PP	**PP**	**15 47 32.0**	**-0.6**
HHC				S	S	15 54 03.5	-6.9
HHC				SS	**SS**	**15 59 24.3**	**-3.4**
HHC				pmax	pmax		
	comp=Z,60nm,0.9s						
HHC				pmax	pmax		
	comp=Z,310nm,5.6s						
HHC				LR	LR		
	comp=N,250nm,16.2s						
HHC				LR	LR		
	comp=E,290nm,16.3s						
HHC				LR	LR		
	comp=Z,240nm,16.5s						
CD2	**Chengdu**	**80.31**	**307**	P	**P**	**15 44 26.5**	**-0.5**
CD2				pP	pP	15 45 33.0	+7.6
CD2				sP	sP	15 46 02.5	+11
CD2				PP	**PP**	**15 47 36.0**	**+2.3**
CD2				S	**S**	**15 54 07.3**	**-4.6**
CD2				sS	sS	15 56 03.8	+9.3
CD2				SS	**SS**	**15 59 28.5**	**-1.1**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				pmax	pmax		
	comp=Z,150nm,4.9s						
LZH	**Lanzhou**	**82.76**	**312**	P	**P**	**15 44 41.0**	**+1.1**
LZH				pP	pP	15 45 48.0	+9.4
LZH				sP	sP	15 46 17.5	+13
LZH				PP	**PP**	**15 47 58.3**	**+4.4**
LZH				pmax	pmax		
	comp=Z,20nm,1.2s						
LZH				pmax	pmax		
	comp=Z,71nm,8.5s						
CMB	**Columbia Colle**	**86.67**	**48**	*e*P	**P**	**15 44 56.3**	**-2.8**
	comp=Z,8.5nm,0.8s						
GTA	**Gaotai**	**87.15**	**313**	*e*P	**P**	**15 45 02.5**	**+1.0**
GTA				pP	pP	15 46 11.0	+10
GTA				sP	sP	15 46 40.5	+14
GTA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
SONM	**Songino Array**	**87.16**	**323**	P	**P**	**15 45 01.8**	**+0.4**
SONM	**Songino Array**	**87.16**	**323**	P	**P**	**15 45 01.8**	**+0.4**
	comp=Z,0.5nm,0.4s,baz=140,slow=5.5,SNR=6.1						
WAKR	**Walker**	**87.55**	**48**	*e*P	**P**	**15 45 01.3**	**-2.2**
MTUM	**Tungsten Hills**	**87.66**	**49**	*e*P	**P**	**15 45 03.4**	**-0.7**
PAHR	**Pah Rah Range**	**88.12**	**47**	*e*P	**P**	**15 45 04.9**	**-1.2**
	comp=Z,15nm,1.3s						
NVAR	**Mina Array Bea**	**88.31**	**48**	P	**P**	**15 45 07.3**	**+0.2**
NVAR	**Mina Array Bea**	**88.31**	**48**	P	**P**	**15 45 07.3**	**+0.2**
	comp=Z,3.2nm,0.8s,baz=230,slow=7.0,SNR=20						
MOD	**Modoc**	**88.48**	**45**	*e*P	**P**	**15 45 06.1**	**-1.7**
	comp=Z,44nm,1.1s						
SHPR	**Sheep Range**	**89.78**	**51**	*e*P	**P**	**15 45 12.5**	**-1.5**
WVOR	**Wild Horse Val**	**89.83**	**45**	*e*P	**P**	**15 45 13.0**	**-1.0**
	comp=Z,10.0nm,1.1s						
I07A	**Izee**	**89.99**	**43**	*e*P	**P**	**15 45 15.8**	**+1.1**
	comp=Z,6.2nm,0.8s						
R11A	**Troy Canyon, C**	**90.22**	**49**	*e*P	**P**	**15 45 16.5**	**+0.5**
	comp=Z,2.4nm,0.9s						
J08A	**Circle Bar Ran**	**90.34**	**44**	*e*P	**P**	**15 45 14.7**	**-1.7**
	comp=Z,7.6nm,0.9s						
G08A	**Pilot Rock**	**90.87**	**42**	*e*P	**P**	**15 45 19.6**	**+0.8**
	comp=Z,6.6nm,1.0s						
TUC	**Tucson**	**91.53**	**56**	*e*P	**P**	**15 45 23.3**	**+1.2**
	comp=Z,4.8nm,1.0s						
HRY	**Holter Researc**	**95.99**	**43**	*e*P	P	15 45 46.0	+3.7
PDAR	**Pinedale Array**	**96.13**	**47**	P	**P**	**15 45 43.4**	**+0.3**
PDAR	**Pinedale Array**	**96.13**	**47**	P	**P**	**15 45 43.4**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=235,slow=3.2,SNR=2.9						
TXAR	**Lajitas Array**	**96.30**	**61**	P	**P**	**15 45 44.6**	**+0.6**
TXAR	**Lajitas Array**	**96.30**	**61**	P	**P**	**15 45 44.6**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=249,slow=7.6,SNR=3.2						
WMQ	**Urumqi**	**97.22**	**314**	*e*P	**P**	**15 45 46.3**	**-1.5**
MKAR	**Makanchi Array**	**101.74**	**315**	P	**Pdif**	**15 46 09.4**	**+1.6**
	comp=Z,0.4nm,0.7s,baz=95,slow=5.3,SNR=3.7						
ARCES	**ARCESS Array B**	**124.83**	**345**	PKP	**PKPdf**	**15 51 11.1**	**-1.7**
ARCES	**ARCESS Array B**	**124.83**	**345**	PKP	**PKPdf**	**15 51 11.1**	**-1.7**
	comp=Z,3.4nm,0.9s,baz=70,slow=1.1,SNR=4.8						
GERES	**GERESS Array B**	**144.36**	**332**	PKP	**PKPab**	**15 51 48.2**	**-0.4**
GERES	**GERESS Array B**	**144.36**	**332**	PKP	**PKPab**	**15 51 48.2**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=35,slow=4.9,SNR=5.8						
TORD	**Torodi Ar. Bea**	**167.06**	**246**	PKP	**PKPdf**	**15 52 17.3**	**-2.8**
TORD	**Torodi Ar. Bea**	**167.06**	**246**	PKP	**PKPdf**	**15 52 17.3**	**-2.8**
	comp=Z,0.4nm,0.7s,baz=135,slow=0.8,SNR=2.9						

*ISCJB **26** 15:53:44.7±0.4, 54°.7N±0°.1×164°.8W±0°.1, h118km±5km, mb3.5/6, Error ellipse: s-maj=25.1km s-min=4.9km az=153.3*
*IDC **26** 15:53:45.4±4.1, 54°.77N×164°.82W, h102km±36km, mb3.3/6, mb1 3.5/8, mb1mx3.3/27, mbtmp3.2/8, MS2.9/1, Ms1 2.9/1, ms1mx2.6/16, Error ellipse: s-maj=46.2km s-min=19.0km az=6.0*
*NEIC **26** 15:53:46.7, 54°.42N×164°.63W, h110km, MG3.4(AEIC), After AEIC.*
ISC 26 15:53:45.8±0.8, 54°.6N±0°.2×164°.80W±0°.08, h112km±7km, n36, σ0°81/41, mb3.5/6, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESN	**West Dahl Nort**	**0.14**	**112**	P	**Pn**	**15 54 01.3**	**-0.1**
SSLW	**Shishaldin Wes**	**0.42**	**69**	P	**Pn**	**15 54 02.5**	**0.0**
SSLS	**Shishaldin Sou**	**0.47**	**79**	P	**Pn**	**15 54 02.5**	**-0.3**
SSLS				S	**Sn**	**15 54 16.7**	**+1.1**
BRPK	**Brown Peak**	**0.62**	**87**	P	**Pn**	**15 54 03.3**	**-0.5**
ISNN	**Isanotski Nort**	**0.63**	**70**	P	**Pn**	**15 54 04.0**	**+0.2**
AKSA	**Akutan Strait**	**0.71**	**228**	P	**Pn**	**15 54 04.2**	**-0.3**
AKSA				S	**Sn**	**15 54 18.5**	**-0.1**
AKUT	**Akutan**	**0.75**	**230**	*e*Pn	**Pn**	**15 54 04.6**	**-0.2**
AKUT				*e*Sn	**Sn**	**15 54 18.2**	**-0.8**
AKGG	**Akutan Green G**	**0.81**	**239**	P	**Pn**	**15 54 05.5**	**+0.1**
FALS	**False Pass**	**0.84**	**73**	P	**Pn**	**15 54 05.3**	**-0.2**
FALS				S	**Sn**	**15 54 20.9**	**+0.5**
LVA	**Lava Point**	**0.86**	**238**	P	**Pn**	**15 54 06.0**	**+0.2**
ZRO	**Akutan Zero**	**0.87**	**233**	P	**Pn**	**15 54 05.6**	**-0.3**
AKRB	**Akutan Reef Bi**	**0.89**	**237**	P	**Pn**	**15 54 06.2**	**+0.1**
UNV	**Unalaska Valle**	**1.26**	**233**	*e*Pn	**Pn**	**15 54 09.4**	**-0.5**
UNV				*e*Sn	**Sn**	**15 54 27.3**	**-1.0**
MTBL	**Makushin Table**	**1.28**	**240**	P	**Pn**	**15 54 10.3**	**0.0**
MCIR	**Makushin Cirqu**	**1.40**	**242**	P	**Pn**	**15 54 11.8**	**+0.2**
DRIA	**Deer Island**	**1.51**	**76**	P	**Pn**	**15 54 12.3**	**-0.6**
DT1	**Dutton Round H**	**1.54**	**70**	P	**Pn**	**15 54 12.7**	**-0.4**
DTNA	**Dutton South F**	**1.56**	**69**	P	**Pn**	**15 54 13.2**	**-0.3**
DOL	**Dolgoi Island**	**1.78**	**71**	P	**Pn**	**15 54 16.0**	**-0.1**
PS4A	**Pavlof South-4**	**1.85**	**66**	P	**Pn**	**15 54 16.9**	**0.0**
OKFG	**Magazine Ridge**	**2.20**	**238**	P	**Pn**	**15 54 21.3**	**-0.1**
OKTU	**Okmok Mt. Tuli**	**2.28**	**238**	P	**Pn**	**15 54 23.2**	**+0.7**
SDPT	**Sand Point**	**2.60**	**72**	P	**Pn**	**15 54 26.0**	**-0.5**
CHGN	**Chignik**	**4.01**	**63**	*e*Pn	**Pn**	**15 54 45.1**	**0.0**
CAHL	**Cahill**	**6.30**	**53**	P	**Pn**	**15 55 16.8**	**+0.6**
KABR	**Katmai Barrier**	**6.50**	**53**	P	**Pn**	**15 55 18.7**	**-0.1**
OHAK	**Old Harbor**	**6.97**	**63**	P	**Pn**	**15 55 22.8**	**-2.4**
KDAK	**Kodiak Island**	**7.51**	**60**	P	**Pn**	**15 55 30.2**	**-2.3**
KDAK	**Kodiak Island**	**7.51**	**60**	P	**Pn**	**15 55 30.2**	**-2.3**
	1.2nm,0.3s,baz=251,slow=7.3,SNR=29						
KDAK				S	Sn	15 56 48.3	-7.7
	0.7nm,0.3s,baz=218,slow=12,SNR=7.0						
ILAR	**Eielson Array**	**13.55**	**34**	P	**Pn**	**15 56 52.4**	**-0.7**
	0.1nm,0.3s,baz=216,slow=12,SNR=3.8						
PETK	**Petropavlovsk-**	**22.00**	**282**	P	**P**	**15 58 31.1**	**+0.5**
	1.6nm,0.8s,baz=87,slow=13,SNR=10						
PETK				LR	LR	16 05 29.0	
	comp=Z,28nm,18.3s,baz=343,slow=32						
YKA	**Yellowknife Ar**	**26.70**	**53**	P	**P**	**15 59 14.8**	**+0.8**
	1.1nm,0.7s,baz=277,slow=8.8,SNR=4.7						
PDAR	**Pinedale Array**	**37.39**	**85**	P	**P**	**16 00 48.1**	**+0.3**
	0.3nm,0.5s,baz=310,slow=4.7,SNR=4.5						
TXAR	**Lajitas Array**	**50.09**	**94**	P	**P**	**16 02 29.9**	**+0.7**
	0.3nm,0.4s,baz=307,slow=4.6,SNR=4.4						
FINES	**FINESS Array B**	**63.96**	**354**	P	**P**	**16 04 05.7**	**-0.6**
	2.7nm,0.9s,baz=23,slow=10,SNR=4.6						
MKAR	**Makanchi Array**	**64.18**	**315**	P	**P**	**16 04 07.6**	**-0.5**
	0.1nm,0.4s,baz=10,slow=8.8,SNR=2.5						

*ISCJB **26** 15:53:45.7±0.4, 41°.09N±0°.02×33°.90E±0°.03, h1km±5km, Error ellipse: s-maj=4.6km s-min=3.3km az=144.2*
*ISK **26** 15:53:45.2, 41°.13N×33°.90E, h4km, MD3.2*
*DDA **26** 15:53:45.3, 41°.07N×33°.88E, h16km, ML3.6*
*CSEM **26** 15:53:46.1±0.1, 41°.10N×33°.90E, h2km, ML3.6, Error ellipse: s-maj=3.8km s-min=3.0km az=134.0*
ISC 26 15:53:46.3±0.9, 41°.10N±0°.02×33°.89E±0°.02, h9km±6km, n55, σ0°85/78, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOS	**Tosya**	**0.12**	**120**	*e*PG	**Pg**	**15 53 49.0**	**-0.1**
TOS	**Tosya**	**0.12**	**120**	*e*Pg	**Pg**	**15 53 49.0**	**-0.1**
ILGA	**Ilgaz**	**0.14**	**252**	*i* P	**Pg**	**15 53 49.1**	**-0.4**
ILGA				*i* S	**Sg**	**15 53 51.6**	**-0.1**
ILGA	**Ilgaz**	**0.14**	**252**	*i* P	**Pg**	**15 53 49.1**	**-0.4**
ILGA				*i* S	**Sg**	**15 53 51.6**	**-0.1**
KAST	**KASTAMONU**	**0.40**	**4**	*i* P	**Pg**	**15 53 54.2**	**+0.1**
KAST				*i* S	**Sg**	**15 53 60.0**	**+0.6**
KAST	**KASTAMONU**	**0.40**	**4**	*i* P	**Pg**	**15 53 54.2**	**+0.1**
KAST				*i* S	**Sg**	**15 54 00.0**	**+0.6**
CANT	**Cankiri**	**0.53**	**203**	*e*PG	**Pg**	**15 53 56.0**	**-0.6**
ELDT	**Eldivan**	**0.70**	**210**	*i* P	**Pg**	**15 53 58.8**	**-1.0**
ELDT				*i* S	**Sg**	**15 54 09.0**	**+0.1**
ELDT	**Eldivan**	**0.70**	**210**	*i* P	**Pg**	**15 53 58.8**	**-1.0**
ELDT				*i* S	**Sg**	**15 54 09.0**	**+0.1**
BYBT	**Boyabat**	**0.76**	**60**	*e*PG	**Pg**	**15 53 59.9**	**-1.0**
BYBT				*e*SG	**Sg**	**15 54 11.1**	**+0.3**

GULT	Gulveren	2.65	257	*e*Pn	Pn	15 54 30.7	+1.4
BNN	Bunyan	2.70	146	*e*PN	Pn	15 54 31.5	+1.5
BNN	Bunyan	2.70	146	*e*Pn	Pn	15 54 31.5	+1.5
KIZT	Kizilcal	2.70	216	*e*PN	Pn	15 54 31.7	+1.7
KIZT	Kizilcal	2.70	216	*e*Pn	Pn	15 54 31.7	+1.7
SULT	Sultanhani-AKS	2.91	186	*e*PN	Pn	15 54 33.9	+1.0
SULT	Sultanhani-AKS	2.91	186	*e*Pn	Pn	15 54 33.9	+1.0
NIG	Nigde	3.03	169	*e*PN	Pn	15 54 36.6	+1.9
NIG	Nigde	3.03	169	*e*Pn	Pn	15 54 36.6	+1.9

IDC 26 16:28:52.7±3.8, 6°08S×128°46E, h338km±38km, mb2.7/1, mb1 3.0/5, mb1mx2.7/20, mbtmp2.8/5, Error ellipse: s-maj=48.7km s-min=15.3km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**6.27**	**229**	P	Pn	16 30 27.7	+1.3
	4.7nm,0.3s,baz=104,slow=4.2,SNR=6.3						
BATI				S	S	16 31 40.0	-2.3
	3.9nm,0.3s,baz=33,slow=22,SNR=7.8						
FITZ	**Fitzroy Crossi**	**12.26**	**193**	P	Pn	16 31 39.1	+1.3
	0.1nm,0.3s,baz=17,slow=14,SNR=2.5						
FITZ				S	S	16 33 57.7	+3.7
	0.0nm,0.3s,baz=238,slow=19,SNR=2.2						
WRA	**Warramunga Arr**	**14.92**	**158**	P	P	16 32 07.1	0.0
	0.4nm,0.3s,baz=339,slow=11,SNR=10						
WRA				S	S	16 34 47.0	-1.3
	0.2nm,0.3s,baz=349,slow=26,SNR=4.3						
ASAR	**Alice Springs**	**18.25**	**164**	P	P	16 32 44.3	+1.2
	0.1nm,0.3s,baz=345,slow=11,SNR=10						
ASAR				S	S	16 35 54.2	0.0
	0.1nm,0.3s,baz=348,slow=23,SNR=9.8						
MKAR	**Makanchi Array**	**66.63**	**327**	P	P	16 39 07.4	-0.3
	0.2nm,0.5s,baz=120,slow=8.1,SNR=4.3						

*ISCJB **26** 16:44:60.0±0.2, 59°.80N±0°.02×153°.42W±0°.05, h133km±2km, mb4.0/7, Error ellipse: s-maj=4.7km s-min=3.1km az=43.1*
*IDC **26** 16:45:00.2±1.8, 59°.77N×153°.38W, h118km±31km, mb3.8/7, mb1 3.8/10, mb1mx3.5/27, mbtmp3.8/10, Error ellipse: s-maj=35.1km s-min=18.1km az=123.0*
*NEIC **26** 16:45:02.3, 59°.77N×153°.40W, h124km, MG3.8(AEIC), After AEIC.*

ISC 26 16:45:01.1±0.7, 59°.77N±0°.03×153°.39W±0°.04, h130km±5km, n114, σ0°.85/132, mb4.2/7, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPT	**Oil Point**	**0.14**	**145**	P	Pn	16 45 18.9	0.0
OPT				S	Sn	16 45 31.8	-0.4
ILS	**Iliamna Low So**	**0.25**	**41**	P	Pn	16 45 18.9	-0.3
IVE	**Iliamna Volcan**	**0.31**	**37**	P	Pn	16 45 19.0	-0.4
IVE				S	Sn	16 45 32.8	-0.4
AUL	**Augustine Lava**	**0.39**	**183**	P	Pn	16 45 19.7	+0.1
AUL				S	Sn	16 45 33.6	+0.1
PDB	**Pedro Bay**	**0.40**	**273**	P	Pn	16 45 19.0	-0.6
PDB				S	Sn	16 45 32.1	-1.5
AUP	**Augustine Pinn**	**0.41**	**182**	P	Pn	16 45 19.8	0.0
AUI	**Augustine Isla**	**0.44**	**182**	P	Pn	16 45 19.7	-0.1
AUI				S	Sn	16 45 33.3	-0.6
MCNL	**McNeil River**	**0.76**	**220**	P	Pn	16 45 21.6	-0.3
MCNL				S	Sn	16 45 36.5	-1.1
RSO	**Redoubt South**	**0.76**	**24**	*e*Pn	Pn	16 45 21.9	-0.3
NCT	**North Crescent**	**0.83**	**16**	P	Pn	16 45 22.4	-0.1
RDJH	**Redoubt Jeurge**	**0.88**	**19**	P	Pn	16 45 22.8	-0.2
RDJH				S	Sn	16 45 38.5	-1.1
HOM	**Homer**	**0.89**	**96**	P	Pn	16 45 23.4	+0.4
DFR	**Drift River**	**0.90**	**23**	P	Pn	16 45 23.0	-0.1
RDT	**Redoubt**	**0.94**	**31**	P	Pn	16 45 23.4	-0.1
BGRM	**Barrier Glacie**	**1.10**	**26**	P	Pn	16 45 24.9	-0.2
CNPM	**China Poot**	**1.12**	**102**	P	Pn	16 45 25.2	0.0
CNPM				S	Sn	16 45 42.8	-0.6
BRLK	**Bradley Lake**	**1.27**	**89**	P	Pn	16 45 26.6	-0.1
BRLK				S	Sn	16 45 45.2	-0.9
KAPH	**Katmai Pasha**	**1.28**	**203**	P	Pn	16 45 26.9	+0.1
KAPH				S	Sn	16 45 45.6	-0.7
KAHC	**Katmai Hardscr**	**1.40**	**217**	P	Pn	16 45 27.9	-0.2
NKA	**Nikishka**	**1.45**	**47**	P	Pn	16 45 30.3	+1.7
CKL	**Chakachamna La**	**1.52**	**20**	P	Pn	16 45 29.7	+0.2
SPU	**Mount Spurr**	**1.56**	**25**	P	Pn	16 45 29.9	0.0
BGL	**Barrier Glacie**	**1.58**	**18**	P	Pn	16 45 30.4	+0.3
KAKN	**Katmai Knife C**	**1.71**	**211**	P	Pn	16 45 31.7	0.0
KAKN				S	Sn	16 45 53.8	-1.1
SVW2	**Sparrevohn**	**1.72**	**322**	P	Pn	16 45 30.8	-0.9
SVW2				S	Sn	16 45 52.6	-2.4
SLKM	**Skilak Lake**	**1.75**	**64**	P	Pn	16 45 32.0	-0.1
KELA	**Mount Kelaz**	**1.80**	**223**	P	Pn	16 45 32.5	-0.3
KABR	**Katmai Barrier**	**1.84**	**207**	P	Pn	16 45 33.0	-0.1
STLK	**Strandline Lak**	**1.90**	**23**	P	Pn	16 45 34.0	+0.1
CAHL	**Cahill**	**1.99**	**211**	P	Pn	16 45 35.4	+0.4
SEW	**Seward**	**2.01**	**79**	P	Pn	16 45 35.0	-0.1
SEW				S	Sn	16 45 60.0	-1.2
KDAK	**Kodiak Island**	**2.04**	**168**	P	Pn	16 45 34.5	-0.9
KDAK				S	Sn	16 45 59.9	-1.9
KDAK				S	Sn	16 46 00.4	-1.3
KDAK	**Kodiak Island**	**2.04**	**168**	P	Pn	16 45 34.6	-0.9
	51nm,0.3s,baz=26,slow=6.7,SNR=807						
KDAK				S	Sn	16 45 59.9	-1.9
	204nm,0.3s,baz=22,slow=23,SNR=46						
KJL	**Kejulik**	**2.06**	**214**	P	Pn	16 45 36.3	+0.5
SUA	**Susitna One**	**2.14**	**36**	P	Pn	16 45 37.2	+0.4
SUA				S	Sn	16 46 03.9	-0.4
SKT	**Skwentna**	**2.40**	**22**	P	Pn	16 45 40.0	+0.1
PTE	**Portage**	**2.44**	**61**	P	Pn	16 45 39.8	-0.6
OHAK	**Old Harbor**	**2.56**	**179**	P	Pn	16 45 40.8	-1.2
OHAK				S	Sn	16 46 10.3	-3.0
PLK3	**Peulik 3**	**2.57**	**217**	P	Pn	16 45 43.6	+1.5
PLK1	**Peulik 1**	**2.59**	**222**	P	Pn	16 45 43.8	+1.5
PWL	**Port Wells**	**2.74**	**64**	P	Pn	16 45 44.5	+0.1
PMR	**Palmer**	**2.78**	**47**	P	Pn	16 45 44.2	-0.5
TRAP	**Trapper Creek**	**2.99**	**29**	P	Pn	16 45 47.1	-0.4
PPLA	**Purkeypile**	**3.19**	**10**	P	Pn	16 45 51.0	+0.7
GLI	**Glacier Island**	**3.33**	**68**	P	Pn	16 45 50.9	-1.0
TT01	**Tatalina**	**3.39**	**339**	P	Pn	16 45 51.9	-0.8
FID	**Port Fidalgo**	**3.58**	**71**	P	Pn	16 45 53.9	-1.4
SCM	**Sheep Creek Mo**	**3.62**	**53**	P	Pn	16 45 55.1	-0.7
VLZ	**Valdez**	**3.75**	**66**	P	Pn	16 45 57.0	-0.5
EYAK	**Cordova Ski Ar**	**3.90**	**75**	P	Pn	16 45 59.1	-0.3
KTH	**Kantishna Hill**	**3.98**	**16**	P	Pn	16 46 00.2	-0.2
DIV	**Divide**	**4.01**	**67**	P	Pn	16 46 00.8	-0.2
KLU	**Klutina**	**4.07**	**62**	P	Pn	16 46 01.0	-0.7
CHUM	**Lake Minchumin**	**4.16**	**7**	P	Pn	16 46 02.9	+0.1
RND	**Reindeer**	**4.24**	**29**	P	Pn	16 46 03.1	-0.9
CHGN	**Chignik**	**4.38**	**220**	*e*Pn	Pn	16 46 05.3	-0.5
DHY	**Denali Highway**	**4.40**	**38**	P	Pn	16 46 05.5	-0.7
GOAT	**Goat Mountain**	**4.40**	**76**	P	Pn	16 46 06.6	+0.4
RAGM	**Ragged Mountai**	**4.41**	**78**	P	Pn	16 46 06.1	-0.2
BPAW	**Bear Paw Mtn.**	**4.49**	**14**	P	Pn	16 46 06.2	-1.1
MCK	**McKinley**	**4.50**	**26**	P	Pn	16 46 06.8	-0.6
BMRM	**Bremner River**	**4.53**	**71**	P	Pn	16 46 08.0	+0.2
VNHG	**Veniaminof 1**	**4.70**	**223**	P	Pn	16 46 11.2	+1.1
BWN	**Browne**	**4.79**	**21**	P	Pn	16 46 10.6	-0.6
HARP	**HAARP**	**4.79**	**53**	P	Pn	16 46 11.0	-0.3
PAX	**Paxson**	**4.98**	**46**	P	Pn	16 46 13.5	-0.4
VRDI	**Verde Repeater**	**5.13**	**69**	P	Pn	16 46 15.8	-0.1
NEA	**Nenana**	**5.23**	**21**	P	Pn	16 46 15.8	-1.3
WRH	**Wood River Hil**	**5.33**	**26**	P	Pn	16 46 17.4	-1.1
MCARA	**McCarthy VSAT**	**5.36**	**68**	P	Pn	16 46 18.7	-0.2
DDM	**Donnelly Dome**	**5.38**	**38**	P	Pn	16 46 19.9	+0.6
MLY	**Manley**	**5.42**	**12**	P	Pn	16 46 18.6	-1.2
CCB	**Clear Creek Bu**	**5.55**	**26**	P	Pn	16 46 20.2	-1.2
HDA	**Harding Lake**	**5.55**	**30**	P	Pn	16 46 20.5	-0.9
KIAG	**Kiagna River**	**5.60**	**73**	P	Pn	16 46 22.4	+0.1
BALM	**Baldy**	**5.62**	**72**	P	Pn	16 46 23.0	+0.5
MENT	**Mentasta**	**5.63**	**52**	*e*Pn	Pn	16 46 23.3	+0.7
MDM	**Murphy Dome**	**5.73**	**23**	P	Pn	16 46 22.7	-1.2
COLA	**College**	**5.73**	**24**	P	Pn	16 46 23.1	-0.8
SDPT	**Sand Point**	**5.84**	**224**	P	Pn	16 46 24.3	-1.1
IL1	**Eielson Array**	**5.86**	**28**	P	Pn	16 46 24.3	-1.3
ILAR	**Eielson Array**	**5.86**	**28**	P	Pn	16 46 24.7	-0.9
ILAR				S	Sn	16 47 25.5	-6.1
ILAR	**Eielson Array**	**5.86**	**28**	P	Pn	16 46 24.7	-0.9
	12nm,0.3s,baz=216,slow=14,SNR=460						
ILAR				S	Sn	16 47 25.5	-6.1
	10nm,0.3s,baz=218,slow=20,SNR=9.6						
GRNC	**Granite Creek**	**5.88**	**76**	P	Pn	16 46 26.4	+0.4
BARN	**Barnard Glacie**	**5.96**	**72**	P	Pn	16 46 28.1	+1.0
IM04	**Indian Mountai**	**6.23**	**359**	*e*Pn	Pn	16 46 30.6	0.0
IM3	**Indian Mountai**	**6.24**	**359**	P	Pn	16 46 30.6	0.0
IMA2	**Indian Mountai**	**6.32**	**359**	P	Pn	16 46 31.8	-0.2
BCA3	**Beaver Creek A**	**6.47**	**54**	P	Pn	16 46 33.5	-0.4
EGAK	**Eagle**	**7.59**	**43**	P	Pn	16 46 47.7	-1.2
COLD	**Coldfoot**	**7.62**	**9**	P	Pn	16 46 48.0	-1.3
DAWY	**Dawson**	**7.88**	**51**	P	Pn	16 46 52.9	+0.2
HYT	**Haines Junctio**	**7.96**	**76**	P	Pn	16 46 55.2	+1.2
BM3	**Burnt Mountain**	**8.61**	**23**	P	Pn	16 47 00.6	-2.0
WHY	**Whitehorse**	**9.26**	**76**	P	Pn	16 47 13.0	+1.6
UNV	**Unalaska Valle**	**9.31**	**236**	P	Pn	16 47 12.7	+0.7
DLBC	**Dease Lake**	**12.07**	**86**	P	Pn	16 47 52.2	+3.5
DLBC				S	Sn	16 50 01.4	-0.1
DLBC	**Dease Lake**	**12.07**	**86**	P	Pn	16 47 52.2	+3.5
	5.7nm,0.3s,baz=266,slow=7.6,SNR=34						
DLBC				S	Sn	16 50 01.4	-0.1
	0.3nm,0.3s,baz=270,slow=20,SNR=2.4						
YKA	**Yellowknife Ar**	**18.73**	**65**	P	Pn	16 49 11.0	-0.2
YKA	**Yellowknife Ar**	**18.73**	**65**	P	Pn	16 49 11.0	-0.2
	0.1nm,0.3s,baz=277,slow=9.8,SNR=2.6						
PETK	**Petropavlovsk-**	**27.29**	**278**	P	P	16 50 33.8	+0.7
PETK	**Petropavlovsk-**	**27.29**	**278**	P	P	16 50 33.8	+0.7
	2.1nm,0.5s,baz=75,slow=13,SNR=11						
KSRS	**Korea Array**	**53.03**	**282**	P	P	16 54 05.5	+1.1
	2.8nm,0.6s,baz=39,slow=6.8,SNR=15						
KSAR	**Wonju Array Be**	**53.06**	**282**	P	P	16 54 05.5	+0.9
SONM	**Songino Array**	**54.76**	**306**	P	P	16 54 18.3	+1.3
SONM	**Songino Array**	**54.76**	**306**	P	P	16 54 18.3	+1.3
	3.1nm,0.7s,baz=47,slow=6.8,SNR=27						
ZALV	**Zalesovo Beam**	**57.44**	**323**	P	P	16 54 35.8	+0.1
ZALV	**Zalesovo Beam**	**57.44**	**323**	P	P	16 54 35.8	+0.1
	3.5nm,0.5s,baz=34,slow=7.0,SNR=18						
KURK	**Kurchatov**	**62.11**	**325**	P	P	16 55 08.3	+0.7
BVAR	**Borovoye Array**	**62.18**	**332**	P	P	16 55 07.5	-0.6
BVAR	**Borovoye Array**	**62.18**	**332**	P	P	16 55 07.5	-0.6
	1.8nm,0.6s,baz=33,slow=5.7,SNR=10.0						
KURBB	**Kurchatov Arra**	**62.22**	**325**	P	P	16 55 08.3	-0.1
	1.2nm,0.6s,baz=30,slow=6.5,SNR=7.7						
MKAR	**Makanchi Array**	**64.49**	**321**	P	P	16 55 23.0	-0.5
MKAR	**Makanchi Array**	**64.49**	**321**	P	P	16 55 23.0	-0.5
	0.7nm,0.7s,baz=37,slow=6.2,SNR=5.8						

IDC 26 17:32:06.6±2.8, 14°.54S×168°.00E, h0km, mb4.0/5, mb1 4.1/6, mb1mx3.9/19, mbtmp4.1/6, ML4.4/1, MS3.1/2, Ms1 3.1/2, ms1mx2.9/29, Error ellipse: s-maj=69.4km s-min=31.7km az=106.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.63**	**191**	Pn	Pn	17 33 58.9	-0.4
	5.4nm,0.3s,baz=79,slow=20,SNR=53						
DZM				Sn	Sn	17 35 21.2	-5.4
	0.3nm,0.3s,baz=299,slow=19,SNR=2.4						
HNR	**Honiara**	**9.37**	**302**	LR	LR	17 37 29.0	
	comp=Z,70nm,18.6s,baz=139,slow=34						
AFI	**Afiamalu**	**19.61**	**91**	LR	LR	17 42 28.8	
	comp=Z,93nm,19.4s,baz=268,slow=32						
CTA	**Charters Tower**	**21.47**	**252**	P	P	17 36 58.2	+1.2
	2.4nm,0.6s,baz=72,slow=12,SNR=3.8						
STKA	**Stephens Creek**	**29.65**	**230**	P	P	17 38 15.0	+0.9
	4.2nm,0.6s,baz=56,slow=10.0,SNR=13						
ASAR	**Alice Springs**	**33.40**	**249**	P	P	17 38 45.7	-1.5
	1.4nm,0.8s,baz=81,slow=9.0,SNR=30						
SONM	**Songino Array**	**82.77**	**323**	P	P	17 44 32.9	+0.2
	0.6nm,0.9s,baz=128,slow=2.4,SNR=4.7						
MKAR	**Makanchi Array**	**97.56**	**316**	P	P	17 45 42.6	-0.3
	0.5nm,0.9s,baz=106,slow=2.6,SNR=4.0						

*IDC **26** 17:47:53.9±2.1, 7°.17S×130°.07E, h0km, mb3.5/1, mb1 3.8/5, mb1mx3.5/20, mbtmp3.7/5, ML3.8/4, Error ellipse: s-maj=51.1km s-min=28.2km az=82.0*
*ISCJB **26** 17:48:03.1±0.5, 7°.53S±0°.04×129°.60E±0°.05, h79km, mb3.3/1, Error ellipse: s-maj=7.7km s-min=5.6km az=8.7*
*AUST **26** 17:48:04.7±0.0, 7°.58S×129°.67E, h51km, Error ellipse: s-maj=1.3km s-min=0.8km az=286.0*

ISC 26 17:48:03.8±0.8, 7°.61S±0°.06×129°.55E±0°.07, h79km, n16, σ2°.45/18, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**3.09**	**7**	P	Pn	17 48 50.1	-0.2
	baz=3.1,SNR=5.0						
TLE	**Tual**	**3.72**	**58**	P	Pn	17 48 59.9	+0.8
	baz=3.6,SNR=25						
AAI	**Ambon**	**4.12**	**341**	P	Pn	17 49 05.0	+0.5
	baz=4.2,SNR=4.8						
FAKI	**Fak Fak**	**5.38**	**30**	P	Pn	17 49 20.3	-1.3
	baz=5.3,SNR=14						
SOEI	**Soe**	**5.64**	**247**	P	Pn	17 49 29.3	+4.0
	baz=5.8,SNR=10						
SOEI				S	Sn	17 50 39.5	+11
	baz=5.8,SNR=4.4						
KDU	**Kakadu**	**5.81**	**151**	P	Pn	17 49 29.3	+1.8
	baz=5.8,SNR=37						
KDU				S	Sn	17 50 35.1	+2.4
	baz=5.8,SNR=6.1						
BATI	**Baumata**	**6.36**	**246**	Pn	Pn	17 49 38.8	+3.7
	2.7nm,0.3s,baz=72,slow=19,SNR=7.3						
BATI				Sn	Sn	17 50 48.9	+2.6
	3.5nm,0.3s,baz=60,slow=20,SNR=2.6						
SWI	**Sorong**	**6.92**	**14**	S	Sn	17 50 57.7	-2.1
	baz=6.9,SNR=3.3						
KNRA	**Kununurra**	**8.05**	**185**	P	Pn	17 50 00.8	+2.7
	baz=8.1,SNR=22						
KNRA				S	Sn	17 51 22.8	-4.9
	baz=8.1,SNR=10						
FITZ	**Fitzroy Crossi**	**11.10**	**200**	Pn	Pn	17 50 40.0	+0.2
	1.0nm,0.3s,baz=32,slow=13,SNR=55						
FITZ				Sn	Sn	17 52 37.9	-4.2
	1.2nm,0.3s,baz=61,slow=19,SNR=9.5						
FITZ	**Fitzroy Crossi**	**11.10**	**200**	P	Pn	17 50 41.1	+1.4
	baz=11,SNR=8.6						
FITZ				S	Sn	17 52 39.5	-2.7
	baz=11,SNR=5.8						
WRA	**Warramunga Arr**	**13.11**	**160**	Pn	Pn	17 51 05.8	-1.1
	0.4nm,0.3s,baz=346,slow=13,SNR=7.7						
WRA				Sn	Sn	17 53 24.1	-6.9
	1.2nm,0.3s,baz=322,slow=26,SNR=13						
ASAR	**Alice Springs**	**16.50**	**166**	Pn	P	17 51 51.6	-0.2
	0.2nm,0.3s,baz=346,slow=9.2,SNR=22						
ASAR				Sn	Sn	17 54 46.0	-7.3
	0.2nm,0.3s,baz=348,slow=22,SNR=8.8						
MTSU	**Mount Surprise**	**17.78**	**127**	P	Pn	17 52 08.9	+2.7
	baz=18,SNR=4.4						
ARMA	**Armidale**	**30.71**	**141**	S	S	17 59 34.1	+25
	baz=31,SNR=35						
MKAR	**Makanchi Array**	**68.49**	**327**	P	P	17 58 57.5	-0.2
	0.2nm,0.4s,baz=123,slow=7.0,SNR=6.4						

*MDD **26** 18:44:48.8±1.6, 36°.79N×10°.96W, h0km, mb3.7/3, mbLg2.3/15, Error ellipse: s-maj=13.7km s-min=12.6km az=50.0, PRXIMO*
*INMG **26** 18:44:49.8±1.0, 36°.67N×11°.17W, h31km, ML1.9, Error ellipse: s-maj=5.4km s-min=4.4km az=103.0*
*CSEM **26** 18:44:50.5±0.2, 36°.83N×11°.00W, h30km, ML2.3, Error ellipse: s-maj=4.0km s-min=3.7km az=62.0*

ISC 26 18:44:48.8±3.4, 36°.8N±0°.1×10°.9W±0°.2, h10km, n65, σ0°.52/119, 2C-1D, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**1.71**	**79**	*e*Pn	Pn	18 45 18.8	+0.1
PFVI				*e*Sn	Sn	18 45 40.4	-0.3
PFVI				A	A	18 45 44.8	
	5.2nm,0.1s						
PFVI	**Vila Bisbo**	**1.71**	**79**	⇑P	Pn	18 45 18.8	+0.1
	11nm,0.1s,SNR=18						
PFVI				S	Sn	18 45 40.4	-0.3
	16nm,0.2s,SNR=7.9						
PFVI	**Vila Bisbo**	**1.71**	**79**	P	Pn	18 45 18.8	+0.1
	11nm,0.1s,SNR=18						
PFVI				S	Sn	18 45 40.4	-0.3
	16nm,0.2s,SNR=7.9						
MORF	**Marmelete**	**1.89**	**75**	*e*Pn	Pn	18 45 21.4	+0.3
MORF				*e*Sn	Sn	18 45 45.1	+0.1
MORF				A	A	18 45 49.7	
	6.0nm,0.1s						
MORF	**Marmelete**	**1.89**	**75**	P	Pn	18 45 21.4	+0.3
MORF				S	Sn	18 45 45.1	+0.1
	6.0nm,0.1s						
MORF	**Marmelete**	**1.89**	**75**	P	Pn	18 45 21.4	+0.3
MORF				S	Sn	18 45 45.1	+0.1
	6.0nm,0.1s						
PTEO	**Sao Teotonio**	**1.90**	**67**	*e*Pn	Pn	18 45 21.9	+0.6
PTEO				*e*Sn	Sn	18 45 45.6	+0.3
PTEO				A	A	18 45 50.3	
	2.8nm,0.2s						
PTEO	**Sao Teotonio**	**1.90**	**67**	P	Pn	18 45 21.9	+0.6
PTEO				S	Sn	18 45 45.6	+0.3
	1.4nm,0.2s						
PTEO	**Sao Teotonio**	**1.90**	**67**	P	Pn	18 45 21.9	+0.6
PTEO				S	Sn	18 45 45.6	+0.3
	1.4nm,0.2s						
PNCL	**Nicolau / Gran**	**2.30**	**55**	*e*Pn	Pn	18 45 27.5	+0.7
PNCL				*e*Sn	Sn	18 45 55.8	+0.6
PNCL				A	A	18 45 57.9	
	3.5nm,0.1s						
PNCL	**Nicolau / Gran**	**2.30**	**55**	*e*Pn	Pn	18 45 27.5	+0.7
PNCL				*e*Sn	Sn	18 45 55.8	+0.6
	3.5nm,0.1s						
PBDV	**Barranco-do-Ve**	**2.44**	**79**	*e*Pn	Pn	18 45 29.1	+0.4
PBDV				*e*Sn	Sn	18 45 59.0	+0.4
PBDV				A	A	18 46 04.6	
	1.7nm,0.1s						
PBDV	**Barranco-do-Ve**	**2.44**	**79**	P	Pn	18 45 29.1	+0.4
PBDV				S	Sn	18 45 59.0	+0.4
	1.7nm,0.1s						
PBDV	**Barranco-do-Ve**	**2.44**	**79**	P	Pn	18 45 29.1	+0.4
PBDV				S	Sn	18 45 59.0	+0.4
	1.7nm,0.1s						
PCVE	**Castro Verde**	**2.44**	**70**	*e*Pn	Pn	18 45 29.3	+0.5
PCVE				*e*Sn	Sn	18 45 58.7	0.0
PCVE				A	A	18 46 04.4	
	1.7nm,0.3s						
PCVE	**Castro Verde**	**2.44**	**70**	P	Pn	18 45 29.3	+0.5
PCVE				S	Sn	18 45 58.7	0.0
	1.7nm,0.3s						
PCVE	**Castro Verde**	**2.44**	**70**	P	Pn	18 45 29.3	+0.5
PCVE				S	Sn	18 45 58.7	0.0
	1.7nm,0.3s						
PMAFR	**Mafra**	**2.49**	**31**	*e*Pn	Pn	18 45 29.7	+0.2
PMAFR				*e*Sn	Sn	18 46 00.5	+0.6
PMAFR				A	A	18 46 02.6	
	10nm,0.3s						
PMAFR	**Mafra**	**2.49**	**31**	P	Pn	18 45 29.6	+0.2
	0.2nm,0.0s,SNR=7.9						
PMAFR				S	Sn	18 46 00.5	+0.6
	20nm,0.3s,SNR=9.3						
PMAFR	**Mafra**	**2.49**	**31**	*e*Pn	Pn	18 45 29.7	+0.2
PMAFR				S	Sn	18 46 00.5	+0.6
	20nm,0.3s,SNR=9.3						
PVAQ	**Vaqueiros**	**2.63**	**76**	*e*Pn	Pn	18 45 31.9	+0.6
PVAQ				*e*Sn	Sn	18 46 03.2	-0.2
PVAQ				A	A	18 46 09.2	
	2.1nm,0.1s						
PVAQ	**Vaqueiros**	**2.63**	**76**	P	Pn	18 45 31.9	+0.6
PVAQ				S	Sn	18 46 03.2	-0.2
	2.1nm,0.1s						
PVAQ	**Vaqueiros**	**2.63**	**76**	P	Pn	18 45 31.9	+0.6
PVAQ				S	Sn	18 46 03.2	-0.2
	2.1nm,0.1s						
PBEJ	**Beja**	**2.72**	**63**	*e*Pn	Pn	18 45 32.9	+0.4
PBEJ				*e*Sn	Sn	18 46 05.7	+0.2
PBEJ				A	A	18 46 07.2	
	1.2nm,0.1s						
PBEJ	**Beja**	**2.72**	**63**	P	Pn	18 45 32.9	+0.4
PBEJ				S	Sn	18 46 05.7	+0.2
	0.6nm,0.1s						
PBEJ	**Beja**	**2.72**	**63**	P	Pn	18 45 32.9	+0.4
PBEJ				S	Sn	18 46 05.7	+0.2
	0.6nm,0.1s						
EGRO	**El Granado**	**2.84**	**75**	P	Pn	18 45 34.6	+0.4
	0.3nm,0.1s,SNR=10						
EGRO				S	Sn	18 46 08.3	-0.2
	1.7nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**2.84**	**75**	P	Pn	18 45 34.6	+0.4
	0.3nm,0.1s,SNR=10						
EGRO				S	Sn	18 46 08.3	-0.2
	1.7nm,0.1s,SNR=7.9						
EVO	**Evora**	**2.87**	**53**	*e*Pn	Pn	18 45 35.1	+0.4
EVO				*e*Sn	Sn	18 46 09.3	0.0
EVO				A	A	18 46 12.0	
	4.6nm,0.1s						
EVO	**Evora**	**2.87**	**53**	P	Pn	18 45 35.1	+0.4
EVO				S	Sn	18 46 09.3	0.0
	4.6nm,0.1s						
EVO	**Evora**	**2.87**	**53**	P	Pn	18 45 35.1	+0.4
EVO				S	Sn	18 46 09.3	0

0.7nm,0.1s,SNR=7.9
EADA S **Sn** **18 47 06.3 -1.1**
0.7nm,0.1s,SNR=7.9
EADA Adamuz 5.23 73 P **Pn** **18 46 07.4 +0.4**
0.7nm,0.1s,SNR=7.9
EADA S **Sn** **18 47 06.3 -1.1**
0.7nm,0.1s,SNR=7.9
MVO Moncorvo 5.29 34 S **Sn** **18 47 08.2 -0.8**
1.5nm,0.3s,SNR=7.9
MVO Moncorvo 5.29 34 S **Sn** **18 47 08.2 -0.8**
1.5nm,0.3s,SNR=7.9
ELOB Lobios 5.50 23 P **Pn** **18 46 10.6 -0.2**
0.1nm,0.0s,SNR=4.0
ELOB S Sn 18 47 10.9 -3.3
0.9nm,0.1s,SNR=7.9
ELOB Lobios 5.50 23 P **Pn** **18 46 10.6 -0.2**
0.1nm,0.0s,SNR=4.0
ELOB S Sn 18 47 10.9 -3.3
0.9nm,0.1s,SNR=7.9
ECAL Calabor 6.05 31 S **Sn** **18 47 26.5 -1.2**
1.7nm,0.4s,SNR=7.9
ECAL Calabor 6.05 31 S **Sn** **18 47 26.5 -1.2**
1.7nm,0.4s,SNR=7.9
ESDC Sonseca Array 6.18 61 P **Pn** **18 46 20.5 +0.4**
0.2nm,0.2s,baz=245,slow=14,SNR=6.3
ESDC Sonseca Array 6.18 61 P **Pn** **18 46 20.5 +0.4**
0.2nm,0.2s,baz=245,SNR=6.3

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*ISCJB **26** 18:49:01.5±0.5,20°.62S±0°.05×67°.3W±0°.1,h197km±15km, mb3.5/1,Error ellipse: s-maj=16.4km s-min=8.0km az=10.1*
*IDC **26** 18:49:02.7±1.6,20°.57S×67°.17W,h190km±15km,mb3.4/1, mb1 3.8/5,mb1mx3.4/18,mbtmp4.3/5,Error ellipse: s-maj=25.1km s-min=16.7km az=69.0*
*GUC **26** 18:49:04.6±0.5,20°.62S×67°.67W,h200km,ML4.2*
ISC 26 18:49:01.8±0.7,20°.60S±0°.06×67°.22W±0°.07, h182km±10km,n20,σ1§30/28,4C-3D,Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**Plate Boundary**	**2.17**	**258**	⇑*i*P	**Pn**	**18 49 42.0**	**+0.9**
PB01				*i* S	**Sn**	**18 50 10.4**	**-1.1**
PB01				AML	AML	18 50 12.3	
	comp=N,958nm,0.2s						
PB09	**Plate Boundary**	**2.23**	**237**	*e*P	**Pn**	**18 49 43.6**	**+1.8**
PB09				*i* S	**Sn**	**18 50 12.9**	**-0.1**
PB09				AML	AML	18 50 22.1	
	comp=E,951nm,0.5s						
HMBC	**Humberstone**	**2.53**	**277**	⇑*i*P	**Pn**	**18 49 45.3**	**+0.2**
HMBC				*i* S	**Sn**	**18 50 16.7**	**-2.0**
HMBC				AML	AML	18 50 20.8	
	comp=N,833nm,0.4s						
MNMC	**Minimini**	**2.67**	**303**	⇑*i*P	**Pn**	**18 49 48.4**	**+1.4**
MNMC				*i* S	**Sn**	**18 50 21.9**	**-0.2**
MNMC				AML	AML	18 50 25.8	
	comp=N,761nm,0.5s						
PB07	**Plate Boundary**	**2.73**	**245**	*e*P	**Pn**	**18 49 48.4**	**+0.8**
PB07				*i* S	**Sn**	**18 50 21.7**	**-1.5**
PB07				AML	AML	18 50 22.7	
	comp=N,1μm,0.5s						
MACH	**Maria Elena**	**2.85**	**236**	⇓*i*P	**Pn**	**18 49 50.3**	**+1.3**
MACH				⇑*i*S	**Sn**	**18 50 25.0**	**-0.8**
MACH				*i* S	**Sn**	**18 50 25.1**	**-0.7**
LPAZ	**La Paz**	**4.38**	**348**	P	**Pn**	**18 50 10.4**	**+2.0**
	comp=N,13nm,0.3s,baz=157,slow=4.8,SNR=196						
LPAZ				S	**Sn**	**18 51 01.2**	**+0.6**
	comp=N,1.6nm,0.3s,baz=313,slow=21,SNR=4.3						
SIV	**San Ignacio**	**7.42**	**53**	P	**Pn**	**18 50 47.9**	**+0.3**
	comp=N,21nm,0.3s,baz=259,slow=11,SNR=213						
SIV				S	**Sn**	**18 52 07.7**	**-3.6**
	comp=N,0.8nm,0.3s,baz=353,slow=22,SNR=3.4						
CPUP	**Villa Florida**	**10.72**	**124**	P	**Pn**	**18 51 31.8**	**+1.2**
	comp=N,4.1nm,0.3s,baz=282,slow=11,SNR=14						
CFAA	**Coronel Fontan**	**11.00**	**185**	P	**Pn**	**18 51 34.3**	**0.0**
	comp=N,0.1nm,0.3s,baz=9.5,slow=12,SNR=13						
CFAA				S	Sn	18 53 29.4	-7.3
	comp=N,0.2nm,0.3s,baz=125,slow=21,SNR=12						
BB16B	**Bebedouro**	**17.42**	**95**	⇓*i*P	**P**	**18 52 53.8**	**+1.1**
BB16B				*i*		18 52 55.0	
BB16B				*i*		18 52 57.5	
BB16B	**Bebedouro**	**17.42**	**95**	⇓*i*P	**P**	**18 52 53.8**	**+1.1**
BB16B				*i*		18 52 55.0	
BB16B				*i*		18 52 57.5	
BDFB	**Brasilia**	**18.90**	**78**	P	**P**	**18 53 09.1**	**+0.3**
	comp=N,0.6nm,0.3s,baz=244,slow=11,SNR=3.4						
PLCA	**Paso Flores**	**20.27**	**187**	P	Pn	18 53 26.5	-1.3
	comp=N,3.7nm,0.8s,baz=3.0,slow=13,SNR=3.3						
TORD	**Torodi Ar. Bea**	**75.56**	**70**	P	**P**	**19 00 25.9**	**-1.0**
	comp=N,0.6nm,0.5s,baz=249,slow=5.6,SNR=11						
ASAR	**Alice Springs**	**131.43**	**206**	PKP	**PKPdf**	**19 07 53.2**	**-0.1**
	comp=N,0.3nm,0.6s,baz=126,slow=1.8,SNR=8.6						
WRA	**Warramunga Arr**	**134.52**	**209**	PKP	**PKPdf**	**19 07 59.4**	**+0.2**
	comp=N,0.4nm,0.7s,baz=127,slow=3.1,SNR=3.8						
ZALV	**Zalesovo Beam**	**140.46**	**26**	PKP	**PKPdf**	**19 08 08.3**	**-0.7**
	comp=N,0.5nm,0.5s,baz=270,slow=0.6,SNR=2.5						
MKAR	**Makanchi Array**	**143.98**	**36**	PKP	**PKPdf**	**19 08 14.6**	**-1.0**
	comp=N,0.2nm,0.5s,baz=318,slow=3.7,SNR=3.9						
SONM	**Songino Array**	**152.34**	**9**	PKPbc	**PKPbc**	**19 08 36.5**	**+0.3**
	comp=N,0.4nm,0.4s,baz=76,slow=0.6,SNR=4.4						

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*NIED **26** 18:51:00,23°.50N×123°.50E,h29km,Mw4.6 Best double couple: M0=8.95000×10^15 NP1:φ=230.00000°,δ=89.00000°, λ=-93.00000°. NP2:φ=111.00000°,δ=3.00000°,λ=-29.00000°.*
*IDC **26** 18:51:33.3±0.5,23°.51N×123°.59E,h0km,mb4.5/23, mb1 4.6/26,mb1mx4.6/31,mbtmp4.5/26,ML3.7/2,MS3.8/16, Ms1 3.8/16,ms1mx3.5/47,Error ellipse: s-maj=16.7km s-min=11.0km az=78.0*
*TEH **26** 18:51:34.7,23°.49N×123°.46E,h10km,ML4.7*
*ISCJB **26** 18:51:35.8±0.6,23°.46N±0°.03×123°.54E±0°.03,h27km±4km, mb4.7/78,MS3.9/21,Error ellipse: s-maj=4.7km s-min=3.8km az=147.7*
*BJI **26** 18:51:36.4,23°.61N×123°.54E,h26km,mB4.8/34,mb4.5/47, ML4.3/2,Ms4.2/40,Ms7 4.1/38*
*MOS **26** 18:51:36.9±1.6,23°.51N×123°.64E,h33km,mb5.0/36,Error ellipse: s-maj=9.5km s-min=5.2km az=114.4*
*JMA **26** 18:51:37.0±0.2,23°.46N×123°.55E,h48km±2km,M4.5*
*NEIC **26** 18:51:38.4±0.3,23°.49N×123°.51E,h35km,mb4.6/23, MW4.6(NIED),Error ellipse: s-maj=6.2km s-min=6.1km az=64.0*
ISC 26 18:51:38.3±0.4,23°.47N±0°.03×123°.60E±0°.03,h31km±2km, h31km:pP-P,n264,σ1§87/310,mb4.7/74,MS3.9/21, 15C-12D,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.61**	**18**	P	**Pb**	**18 51 49.8**	**-0.8**
HATJ				S	**Sn**	**18 51 59.2**	**-0.4**
JKRS	**Kuro-shima**	**0.85**	**26**	P	**Pn**	**18 51 53.5**	**-0.6**
JKRS				S	**Sn**	**18 52 05.0**	**-0.4**
IRIF	**Iriomote-Funau**	**0.87**	**8**	P	**Pn**	**18 51 53.3**	**-1.0**
IRIF				S	**Sn**	**18 52 05.3**	**-0.6**
JIJ	**Ishigaki jima**	**1.02**	**29**	P	**Pn**	**18 51 55.4**	**-1.0**
JIJ				S	**Sn**	**18 52 08.7**	**-0.9**
YOJ	**Yonaguni jima**	**1.12**	**332**	P	**Pn**	**18 51 56.5**	**-1.3**
YOJ				S	**Sn**	**18 52 10.6**	**-1.5**
JTJ	**Tarama**	**1.54**	**41**	P	**Pn**	**18 52 03.1**	**-0.5**
JTJ				S	**Sn**	**18 52 22.5**	**0.0**
NACB	**Ninganchiao**	**1.96**	**291**	*e*Pn	**Pn**	**18 52 06.4**	**-3.0**
JMJ	**Miyako jima 2**	**2.05**	**49**	P	**Pn**	**18 52 10.3**	**-0.2**
JMJ				S	**Sn**	**18 52 34.8**	**-0.2**
JOGS	**Gusukube**	**2.09**	**52**	P	**Pn**	**18 52 10.8**	**-0.4**
JOGS				S	**Sn**	**18 52 36.6**	**+0.5**
YULB	**Yu-li**	**2.11**	**268**	*e*Pn	**Pn**	**18 52 08.3**	**-3.2**
YHNB	**Yeheng**	**2.35**	**301**	*e*Pn	**Pn**	**18 52 13.2**	**-1.7**
TWG	**Pinlang**	**2.41**	**255**	*e*Pn	**Pn**	**18 52 12.4**	**-3.2**
TATO	**Taipei**	**2.44**	**308**	*e*Pn	**Pn**	**18 52 14.6**	**-1.3**
SSLB	**Suanglung**	**2.44**	**278**	*e*Pn	**Pn**	**18 52 13.2**	**-2.9**
TPUB	**Ta-pu**	**2.73**	**267**	*e*Pn	**Pn**	**18 52 18.6**	**-1.4**
JKE	**Kume jima 2**	**4.06**	**45**	P	**Pn**	**18 52 35.9**	**-2.3**
JAGN	**Aguni-jima**	**4.53**	**46**	P	**Pn**	**18 52 42.6**	**-2.1**
QZH	**Quanzhou**	**4.80**	**289**	⇑*i*Pn	Pn	18 52 43.8	-4.6
QZH				Sn	Sn	18 53 34.0	-8.9
QZH				smax	smax		
	comp=N,410nm,1.0s						
QZH				smax	smax		
	comp=E,290nm,0.9s						
QZH				LR	LR		
	comp=N,2μm,14.4s						
QZH				LR	LR		
	comp=E,3μm,13.4s						
QZH				LR	LR		
	comp=Z,3μm,13.1s						
JIH	**Iheya**	**5.31**	**47**	P	**Pn**	**18 52 52.8**	**-2.7**
JOW	**Kunigami**	**5.40**	**51**	P	**Pn**	**18 52 54.1**	**-2.6**
JOW	**Kunigami**	**5.40**	**51**	*e*Pn	**Pn**	**18 52 53.7**	**-3.0**
	comp=Z,14nm,0.6s						
JTK	**Tokunoshima**	**6.46**	**47**	P	Pn	18 53 07.7	-3.6
JTK				*e*S	**Sn**	**18 54 20.7**	**-3.3**
JAMN	**Amaminishikomi**	**6.91**	**45**	P	Pn	18 53 13.9	-3.5
JAM	**Amami Oshima**	**7.31**	**46**	P	Pn	18 53 19.4	-3.5
JMZ	**Minamidaito 2**	**7.32**	**70**	P	Pn	18 53 19.0	-4.0
JMZ				*e*S	Sn	18 54 33.2	-12
SSE	**Sheshan**	**7.89**	**345**	P	**Pn**	**18 53 30.0**	**-0.8**
SSE				pmax	pmax		
	comp=Z,23nm,0.5s						
SSE				LR	LR		
	comp=N,670nm,13.8s						
SSE				LR	LR		
	comp=E,170nm,14.0s						
SSE				LR	LR		
	comp=Z,990nm,14.7s						
NJ2	**Nanjing**	**9.52**	**335**	*e*P	**Pn**	**18 53 52.5**	**-0.7**
NJ2				pmax	pmax		
	comp=Z,26nm,1.0s						
TGY	**Tagaytay City**	**9.66**	**196**	Pn	**Pn**	**18 53 55.3**	**+0.1**
TGY				Sn	**Sn**	**18 55 45.5**	**+2.9**
TGY	**Tagaytay City**	**9.66**	**196**	Pn	**Pn**	**18 53 55.3**	**+0.1**
	comp=Z,14nm,0.3s,baz=186,slow=2.9,SNR=4.1						
TGY				Sn	**Sn**	**18 55 45.5**	**+2.9**
	comp=Z,13nm,0.3s,baz=225,slow=14,SNR=2.4						
JNU	**Nakatsue**	**11.55**	**32**	Pn	**Pn**	**18 54 19.3**	**-1.7**
JNU	**Nakatsue**	**11.55**	**32**	Pn	**Pn**	**18 54 19.3**	**-1.7**
	comp=Z,0.4nm,0.3s,baz=21,slow=13,SNR=5.7						
QIZ	**Qiongzhong**	**13.56**	**254**	P	**Pn**	**18 54 47.5**	**-1.1**
QIZ				S	**Sn**	**18 57 15.0**	**-3.3**
QIZ				pmax	pmax		
	comp=Z,25nm,2.0s						
QIZ				pmax	pmax		
	comp=Z,180nm,4.0s						
QIZ				LR	LR		
	comp=N,590nm,19.9s						
QIZ				LR	LR		
	comp=Z,560nm,17.5s						
INCN	**Inchon**	**14.21**	**10**	Pn	**Pn**	**18 54 57.1**	**-0.2**
	comp=Z,12nm,0.6s						
ENH	**Enshi**	**14.29**	**301**	Pn	Pn	18 54 55.1	-3.4
	comp=Z,15nm,0.8s						
KSAR	**Wonju Array Be**	**14.40**	**14**	Pn	**Pn**	**18 54 59.8**	**-0.1**
KSRS	**Korea Array**	**14.42**	**14**	Pn	**Pn**	**18 54 59.8**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=186,slow=15,SNR=6.5						
KSRS				LR	LR	19 00 34.6	
	comp=Z,84nm,21.2s,baz=198,slow=38						
GYA	**Guiyang**	**15.64**	**284**	⇑*i*P	**Pn**	**18 55 14.0**	**-2.6**
GYA				pP	**P**	**18 55 22.5**	**+2.1**
GYA				PP	**pP**	**18 55 28.3**	**-0.5**
GYA				S	**Sn**	**18 58 08.0**	**-1.0**
GYA				SS	**S**	**18 58 27.3**	**+3.8**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,80nm,4.6s						
GYA				LR	LR		
	comp=N,590nm,16.5s						
GYA				LR	LR		
	comp=E,640nm,13.1s						
GYA				LR	LR		
	comp=Z,790nm,14.6s						
XAN	**Xi'an**	**16.61**	**313**	P	**P**	**18 55 30.8**	**-0.2**
XAN				pP	**pP**	**18 55 38.5**	**-0.8**
XAN				sP	**sP**	**18 55 42.8**	**-0.6**
XAN				PP	PP	18 55 45.5	
XAN				S	**Sn**	**18 58 34.5**	**+2.2**
XAN				pmax	pmax		
	comp=Z,7.0nm,1.2s						
XAN				LR	LR		
	comp=N,310nm,18.5s						
XAN				LR	LR		
	comp=E,74nm,20.5s						
XAN				LR	LR		
	comp=Z,120nm,16.5s						
CBIJ	**Chichi jima**	**17.19**	**74**	LR	LR	19 01 04.8	
	comp=Z,144nm,19.4s,baz=178,slow=33						
BJT	**Baijiatuao**	**17.65**	**341**	*e*Pn	**Pn**	**18 55 41.4**	**-0.4**
	comp=Z,20nm,0.8s						
BJI	**Beijing**	**17.67**	**341**	P	**P**	**18 55 42.0**	**-0.6**
BJI				S	**Sn**	**18 58 58.3**	**+0.5**
BJI				pmax	pmax		
	comp=Z,26nm,1.1s						
BJI				pmax	pmax		
	comp=Z,180nm,5.3s						
BJI				LR	LR		
	comp=N,440nm,16.6s						
BJI				LR	LR		
	comp=E,280nm,17.2s						
BJI				LR	LR		
	comp=Z,230nm,22.4s						
MAJO	**Matsushiro**	**18.13**	**41**	*e*P	**Pn**	**18 55 47.3**	**-0.4**
MAJO				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MAJO	**Matsushiro**	**18.13**	**41**	*e*P	**Pn**	**18 55 47.3**	**-0.4**
	comp=Z,3.7nm,0.6s						
KMI	**Kunming**	**19.08**	**279**	P	**P**	**18 55 55.0**	**-3.6**
KMI				pP	**pP**	**18 56 06.5**	**-0.5**
KMI				sP	**sP**	**18 56 12.0**	**+1.0**
KMI				PP	**PnPn**	**18 56 16.8**	**+4.4**
KMI				S	Sn	18 59 23.3	-9.3
KMI				sS	**sS**	**18 59 42.5**	**-4.5**
KMI				SS	**SnSn**	**18 59 50.3**	**+3.6**
KMI				pmax	pmax		
	comp=Z,7.0nm,1.7s						
KMI				pmax	pmax		
	comp=Z,180nm,3.7s						
KMI				LR	LR		
	comp=N,570nm,16.5s						
KMI				LR	LR		
	comp=E,180nm,21.3s						
KMI				LR	LR		
	comp=Z,470nm,13.1s						
CD2	**Chengdu**	**19.12**	**297**	P	**Pn**	**18 55 59.0**	**-0.8**
CD2				pP	**pP**	**18 56 07.3**	**+0.1**
CD2				sP	**sP**	**18 56 12.3**	**+1.1**
CD2				PP	**PnPn**	**18 56 16.0**	**+3.2**
CD2				S	**Sn**	**18 59 26.5**	**-6.7**
CD2				sS	**S**	**18 59 39.5**	**+5.5**
CD2				SS	**SnSn**	**18 59 52.3**	**+4.9**
CD2				pmax	pmax		
	comp=Z,40nm,0.9s						
CD2				pmax	pmax		
	comp=Z,150nm,4.6s						
CD2				LR	LR		
	comp=N,620nm,8.3s						
CD2				LR	LR		
	comp=Z,920nm,14.9s						
HHC	**Hu-ho-hao-te**	**20.06**	**333**	*e*P	**P**	**18 56 08.5**	**-0.5**
HHC				pP	**pP**	**18 56 15.3**	**-2.1**
HHC				sP	**sP**	**18 56 19.3**	**-2.1**
HHC				PP	**PnPn**	**18 56 28.3**	**+2.6**
HHC				S	**S**	**18 59 47.8**	**-5.1**
HHC				sS	Sn	18 59 57.3	+1.5
HHC				SS	**SnSn**	**19 00 15.0**	**+4.4**
HHC				pmax	pmax		
	comp=Z,71nm,1.0s						
HHC				pmax	pmax		
	comp=Z,210nm,5.6s						
HHC				LR	LR		
	comp=N,580nm,12.1s						
HHC				LR	LR		
	comp=E,810nm,11.1s						
HHC				LR	LR		
	comp=Z,780nm,13.7s						
CN2	**Changchun**	**20.33**	**4**	*e*P	**P**	**18 56 10.3**	**-1.5**
CN2				*e*PP	**PnPn**	**18 56 31.3**	**+2.0**
CN2				*e*S	**S**	**18 59 52.0**	**-6.0**
CN2				*e*SS	**SnSn**	**19 00 22.3**	**+5.3**
CN2				pmax	pmax		
	comp=Z,20nm,0.7s						
CN2				pmax	pmax		
	comp=Z,150nm,6.0s						
CN2				LR	LR		
	comp=N,510nm,13.0s						
CN2				LR	LR		
	comp=E,300nm,13.0s						
CN2				LR	LR		
	comp=Z,450nm,14.0s						
BTO	**Baotou**	**20.55**	**329**	*e*P	**P**	**18 56 14.0**	**-0.4**
LZH	**Lanzhou**	**21.21**	**311**	*e*P	**P**	**18 56 21.3**	**-0.3**
LZH				pP	**pP**	**18 56 30.8**	**+0.8**
LZH				sP	**sP**	**18 56 35.0**	**+1.0**
LZH				*e*S	**S**	**19 00 09.3**	**-6.6**
LZH				sS	Sn	19 00 25.5	+1.9
LZH				*e*SS	**SnSn**	**19 00 43.5**	**+4.7**
LZH				pmax	pmax		
	comp=Z,31nm,1.1s						
LZH				pmax	pmax		
	comp=Z,110nm,4.5s						
LZH				LR	LR		
	comp=N,380nm,13.0s						
LZH				LR	LR		
	comp=E,400nm,11.6s						
LZH				LR	LR		
	comp=Z,570nm,14.5s						
MDJ	**Mudanjiang**	**21.65**	**12**	P	**P**	**18 56 25.5**	**-0.6**
MDJ				pmax	pmax		
	comp=Z,7.0nm,0.7s						
MDJ				pmax	pmax		
	comp=Z,61nm,5.2s						
MDJ	**Mudanjiang**	**21.65**	**12**	P	**P**	**18 56 22.5**	**-3.6**
USRK	**Ussuriysk Arra**	**21.79**	**16**	P	**P**	**18 56 26.2**	**-1.3**
	comp=Z,1.8nm,0.6s,baz=206,slow=7.3,SNR=6.5						
USRK				LR	LR	19 06 24.5	
	comp=Z,294nm,18.5s,baz=191,slow=41						
GUMO	**Guam**	**22.41**	**112**	P	**P**	**18 56 34.6**	**+0.2**
	comp=Z,192nm,1.2s						
CHTO	**Chiang Mai**	**23.44**	**263**	*e*P	**P**	**18 56 42.1**	**-3.0**
CHTO				pmax	pmax		
	comp=Z,23nm,1.0s						
CHTO	**Chiang Mai**	**23.44**	**263**	*e*P	**P**	**18 56 42.1**	**-3.0**
	comp=Z,23nm,1.0s						
CMAR	**Chiang Mai Arr**	**23.54**	**262**	P	**P**	**18 56 46.7**	**+0.7**
CMAR				PcP	**PcP**	**19 00 31.4**	**+0.4**
CMAR	**Chiang Mai Arr**	**23.54**	**262**	P	**P**	**18 56 46.7**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=79,slow=9.3,SNR=3.9						
CMAR				PcP	**PcP**	**19 00 31.4**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=321,slow=1.2,SNR=4.4						
CMAR				LR	LR	19 05 26.8	
	comp=Z,113nm,19.2s,baz=243,slow=35						
ERM	**Erimo**	**24.65**	**37**	*i* P	**P**	**18 56 55.4**	**-0.6**
KSM	**Kuching**	**25.38**	**212**	*e*P	**P**	**18 57 02.1**	**-0.9**
	comp=Z,4.4nm,0.5s						
GTA	**Gaotai**	**25.66**	**314**	⇓P	**P**	**18 57 04.8**	**-0.6**
GTA				pP	**pP**	**18 57 14.0**	**-0.5**
GTA				sP	**sP**	**18 57 18.0**	**-0.3**
GTA				S	**S**	**19 01 30.3**	**-1.6**
GTA				sS	**sS**	**19 01 45.8**	**-1.2**
GTA				SS	**SnSn**	**19 02 35.8**	**+8.2**
GTA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,120nm,7.1s						
GTA				LR	LR		
	comp=N,130nm,15.2s						
GTA				LR	LR		
	comp=E,250nm,16.6s						
GTA				LR	LR		
	comp=Z,250nm,15.2s						
ASAJ	**Asahikawa**	**25.83**	**33**	P	**P**	**18 57 05.4**	**-1.3**
ASAJ	**Asahikawa**	**25.83**	**33**	P	**P**	**18 57 05.4**	**-1.3**
	comp=Z,11nm,0.7s,baz=181,slow=7.5,SNR=12						
HIA	**Hailar**	**25.92**	**354**	*e*P	**P**	**18 57 05.6**	**-2.0**
	comp=Z,33nm,0.8s						
HABR	**Khabarovsk**	**26.55**	**17**	P	**P**	**18 57 09.9**	**-3.3**
HABR				*e*		19 07 57.1	
HABR				pmax	pmax		
	comp=Z,24nm,2.2s						
HABR				MLR	MLR		
	comp=Z,363nm,18.0s						
ULN	**Ulaanbaatar**	**27.68**	**336**	*e*P	**P**	**18 57 21.4**	**-2.2**
	comp=Z,2.7nm,0.6s						
SONM	**Songino Array**	**27.91**	**335**	P	**P**	**18 57 24.1**	**-1.5**
SONM				PcP	**PcP**	**19 00 40.7**	**+0.1**
SONM	**Songino Array**	**27.91**	**335**	P	**P**	**18 57 24.1**	**-1.5**
	comp=Z,9.3nm,0.8s,baz=148,slow=9.7,SNR=71						
SONM				PcP	**PcP**	**19 00 40.7**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=133,slow=3.6,SNR=3.6						
SONM				LR	LR	19 09 59.7	
	comp=Z,231nm,18.9s,baz=148,slow=40						
KAPI	**Kappang**	**28.56**	**188**	LR	LR	19 09 07.0	
	comp=Z,84nm,22.0s,baz=202,slow=37						
LSA	**Lhasa**	**29.61**	**289**	P	**P**	**18 57 41.8**	**+0.5**
LSA	**Lhasa**	**29.61**	**289**	*e*P	**P**	**18 57 41.9**	**+0.6**
LSA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
LSA	**Lhasa**	**29.61**	**289**	*e*P	**P**	**18 57 41.9**	**+0.6**
	comp=Z,6.3nm,0.6s						
ZAK	**Zakamensk**	**31.18**	**335**	*e*P	P	18 57 50.9	-3.6
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
TLY	**Talaya**	**32.08**	**336**	*e*P	**P**	**18 58 00.1**	**-2.2**
TLY				pmax	pmax		
	comp=Z,8.0nm,0.8s						
MOY	**Mondy**	**33.09**	**334**	*e*P	**P**	**18 58 09.8**	**-1.5**
WMQ	**Urumqi**	**35.74**	**313**	*e*P	**P**	**18 58 35.3**	**+1.0**
WMQ				pP	**pP**	**18 58 45.3**	**+1.8**
WMQ				sP	**sP**	**18 58 49.3**	**+2.0**
WMQ				pmax	pmax		
	comp=Z,7.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,61nm,4.2s						
WMQ				LR	LR		
	comp=E,76nm,20.3s						
WMQ				LR	LR		
	comp=Z,55nm,17.7s						
PETK	**Petropavlovsk-**	**39.25**	**32**	P	**P**	**18 59 03.4**	**-0.4**
PETK	**Petropavlovsk-**	**39.25**	**32**	P	**P**	**18 59 03.4**	**-0.4**
PETK	**Petropavlovsk-**	**39.25**	**32**	P	**P**	**18 59 03.4**	**-0.4**
	comp=Z,4.6nm,0.6s,baz=182,slow=3.9,SNR=16						
PETK				LR	LR	19 15 56.2	
	comp=Z,59nm,20.0s,baz=76,slow=37						
PMG	**Port Moresby**	**39.99**	**142**	LR	LR	19 15 35.3	
	comp=Z,108nm,18.9s,baz=146,slow=36						
MK31	**Makanchi Array**	**40.38**	**316**	*e*P	**P**	**18 59 12.2**	**-1.2**
MK31	**Makanchi Array**	**40.38**	**316**	*e*P	**P**	**18 59 12.2**	**-1.2**
MKAR	**Makanchi Array**	**40.38**	**316**	P	**P**	**18 59 12.5**	**-0.8**
MKAR						19 01 15.7	
MKAR	**Makanchi Array**	**40.38**	**316**	P	**P**	**18 59 12.5**	**-0.8**
MKAR				PcP	**PcP**	**19 01 15.7**	**-0.4**
MKAR	**Makanchi Array**	**40.38**	**316**	P	**P**	**18 59 12.5**	**-0.8**
	comp=Z,3.6nm,0.4s,baz=99,slow=9.3,SNR=91						
MKAR				PcP	**PcP**	**19 01 15.7**	**-0.4**
	comp=Z,0.6nm,0.7s,baz=103,slow=7.4,SNR=2.7						
ZAA0	**Zalesovo Array**	**42.05**	**326**	*e*P	**P**	**18 59 24.1**	**-2.7**
ZALV	**Zalesovo Beam**	**42.05**	**326**	P	**P**	**18 59 25.0**	**-1.8**
ZALV						19 01 20.6	
ZALV	**Zalesovo Beam**	**42.05**	**326**	P	**P**	**18 59 25.0**	**-1.8**
ZALV				PcP	**PcP**	**19 01 20.6**	**-0.7**
ZALV	**Zalesovo Beam**	**42.05**	**326**	P	**P**	**18 59 25.0**	**-1.8**
	comp=Z,10.0nm,0.6s,baz=111,slow=7.9,SNR=47						
ZALV				PcP	**PcP**	**19 01 20.6**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=114,slow=3.7,SNR=3.6						
ZALV				LR	LR	19 19 13.2	
	comp=Z,91nm,18.4s,baz=71,slow=40						
KSH	**Kashi**	**43.13**	**303**	P	P	18 59 39.8	+3.7
KSH				pP	pP	18 59 49.5	+4.1
KSH				PP	**PcP**	**19 01 23.0**	**-2.4**
KSH				PcS	**PcS**	**19 05 19.3**	**+1.3**
K

TKM2 Tokmak 2 43.94 308 *e*P **P 18 59 42.9 +0.3**
comp=Z,16nm,0.9s
TKM2 *e* 18 59 50.8
TKM2 *e* 18 59 55.4
KURK Kurchatov 44.05 320*ce*P **P 18 59 41.9 -1.2**
KURK pmax pmax
comp=Z,4.0nm,0.9s
KURK Kurchatov 44.05 320 *e*P **P 18 59 41.7 -1.4**
comp=Z,3.4nm,0.7s
WRAB Tennant Creek 44.40 165 *e*P **P 18 59 45.2 -1.0**
WRAB pmax pmax
comp=Z,7.0nm,0.8s
WRAB Tennant Creek 44.40 165 *e*P **P 18 59 45.2 -1.0**
comp=Z,7.3nm,0.8s
WRA Warramunga Arr 44.41 165 P **P 18 59 45.5 -0.7**
WRA Warramunga Arr 44.41 165 P **P 18 59 45.5 -0.7**
comp=Z,5.9nm,0.6s,baz=347,slow=8.9,SNR=40
MBWA Marble Bar 44.52 185 P **P 18 59 46.1 -1.0**
AAK Ala-Archa 44.69 308*ce*P **P 18 59 49.0 +0.4**
AAK pmax pmax
comp=Z,9.0nm,0.8s
AAK Ala-Archa 44.69 308 *e*P **P 18 59 49.2 +0.6**
comp=Z,7.4nm,1.0s
AAK *e* 19 00 01.7
EKS2 Erkin-Say 45.22 307 *e*P **P 18 59 52.6 -0.1**
EKS2 *e* 19 00 04.8
EKS2 pmax pmax
comp=Z,5.0nm,0.8s
EKS2 Erkin-Say 45.22 307 *e*P **P 18 59 52.6 -0.1**
comp=Z,5.5nm,0.8s
EKS2 *e* 19 00 04.8
FX1 Attu Island--F 47.47 39 P **P 19 00 09.2 -0.9**
FX1 Attu Island--F 47.47 39 P **P 19 00 11.1 +1.0**
comp=Z,31nm,1.0s,baz=43,slow=12,SNR=6.7
KKAR Karatay Array 47.65 308 *e*P **P 19 00 11.7 0.0**
KKAR *e* 19 00 24.2
KKAR pmax pmax
comp=Z,4.0nm,0.5s
KKAR Karatay Array 47.65 308 *e*P **P 19 00 11.7 0.0**
comp=Z,4.4nm,0.5s
KKAR *e* 19 00 24.2
AS31 Alice Springs 47.92 167 *e*P **P 19 00 13.8 0.0**
ASAR Alice Springs 47.92 167 P **P 19 00 13.9 +0.1**
ASAR Alice Springs 47.92 167 P **P 19 00 13.9 +0.1**
comp=Z,2.4nm,0.4s,baz=352,slow=7.3,SNR=124
TIXI Tiksi 48.29 2*ce*P **P 19 00 14.9 -1.2**
TIXI pmax pmax
comp=Z,7.0nm,0.8s
KBL Kabul 48.46 296 *e*P **P 19 00 18.6 +0.3**
KBL pmax pmax
comp=Z,17nm,1.0s
KBL Kabul 48.46 296 *e*P **P 19 00 18.6 +0.3**
comp=Z,17nm,1.0s
CTA Charters Tower 48.61 151 P **P 19 00 19.4 +0.2**
CTA Charters Tower 48.61 151 P **P 19 00 19.4 +0.2**
comp=Z,2.2nm,0.8s,baz=343,slow=10.0,SNR=4.1
CTAO Charters Tower 48.61 151 *e*P **P 19 00 16.7 -2.5**
CTAO Charters Tower 48.61 151 *e*P **P 19 00 16.7 -2.5**
BRVK Borovoye 49.69 321⇑*i*P **P 19 00 25.8 -1.3**
BRVK pmax pmax
comp=Z,5.0nm,0.7s
BRVK Borovoye 49.69 321 *e*P **P 19 00 25.6 -1.5**
comp=Z,6.0nm,0.5s
BRVK *e* 19 00 39.5
ABKAR Akbulak array 55.51 315 *e*P **P 19 01 10.3 0.0**
comp=Z,13nm,0.6s
ABKAR *e* 19 01 22.2
ABKAR *e*PcP PcP 19 02 20.3 +10
IMYA Miami 55.63 299 *e*P **P 19 01 11.8 +0.2**
SVE Sverdlovsk 55.92 324⇓*e*P **P 19 01 12.7 -0.4**
SVE pmax pmax
comp=Z,12nm,0.9s
IMOG Moghan 56.27 299 *e*P **P 19 01 16.8 +0.5**
IKRD Kardeh 56.86 300 *e*P P 19 01 15.6 -4.8
ARU Arti 57.00 323*c i*P **P 19 01 19.9 -0.9**
ARU S S 19 09 02.2 -11
ARU pmax pmax
comp=Z,11nm,1.0s
STKA Stephens Creek 57.67 162 P **P 19 01 25.3 -0.4**
STKA Stephens Creek 57.67 162 P **P 19 01 25.3 -0.4**
comp=Z,6.9nm,0.8s,baz=0.7,slow=5.7,SNR=14
IMA2 Indian Mountai 65.85 26 *e*P **P 19 02 21.7 +1.1**
PPLA Purkeypile 66.77 30 *e*P **P 19 02 27.6 +1.1**
comp=Z,35nm,1.4s
KLMR Klimovskoe 66.94 328 *e*P **P 19 02 26.2 -1.2**
KLMR pmax pmax
comp=Z,46nm,1.5s
ZEI Tsey 67.11 308 *e*P **P 19 02 28.4 -0.8**
ZEI pmax pmax
comp=Z,10.0nm,1.0s
VRHR Novokhopersk 67.15 317 *e*P **P 19 02 28.0 -1.0**
VRHR *e**PP **pP** 19 02 39.7 +0.9
VRHR pmax pmax
comp=Z,10.0nm,0.8s
VRHR pmax pmax
comp=N,20nm,1.3s
VRHR pmax pmax
comp=E,30nm,0.7s
KBZ Khabaz 67.64 309 P **P 19 02 32.7 +0.5**
KBZ Khabaz 67.64 309 P **P 19 02 32.7 +0.5**
KBZ Khabaz 67.64 309 P **P 19 02 32.7 +0.5**
comp=E,3.9nm,0.7s,baz=93,slow=4.3,SNR=10
KBZ LR LR 19 35 47.1
comp=E,64nm,19.0s,baz=211,slow=39
KIV Kislovodsk 67.75 310κ*e*P **P 19 02 33.4 +0.4**
KIV *i **PP **pP** 19 02 45.2 +2.4
KIV *e* 19 02 55.8
KIV pmax pmax
comp=Z,9.0nm,0.6s
MCK McKinley 68.11 29 *e*P **P 19 02 34.9 0.0**
MCK pmax pmax
comp=Z,5.0nm,0.7s
MCK McKinley 68.11 29 *e*P **P 19 02 34.9 0.0**
comp=Z,5.4nm,0.7s
PMR Palmer 68.36 31 P **P 19 02 34.9 -1.5**
PMR Palmer 68.36 31 P **P 19 02 34.9 -1.5**
VORD Divnogorie 68.62 317 *e*P **P 19 02 37.7 -0.6**
VORD *e**PP **pP** 19 02 49.8 +1.7
VORD pmax pmax
comp=Z,7.0nm,0.5s
VORD pmax pmax
comp=N,20nm,0.6s
VORD pmax pmax
comp=E,10.0nm,0.6s
VSR Storozhevoye 68.65 318 *e*P **P 19 02 37.9 -0.6**
VSR *e**PP **pP** 19 02 49.6 +1.3
VSR pmax pmax
comp=Z,10.0nm,1.0s
VSR pmax pmax
comp=N,5.0nm,0.6s
VSR pmax pmax
comp=E,10.0nm,0.9s
SML Sawmill 68.70 31 P **P 19 02 39.7 +1.1**
SML Sawmill 68.70 31 P **P 19 02 39.7 +1.1**
ILAR Eielson Array 68.83 27 P **P 19 02 38.9 -0.4**
ILAR Eielson Array 68.83 27 P **P 19 02 38.9 -0.4**
comp=E,1.1nm,0.5s,baz=259,slow=5.1,SNR=15
OBN Obninsk 69.42 322 P **P 19 02 40.0 -3.1**
OBN *PP **pP** 19 02 50.0 -2.9
OBN *e**SP **sP** 19 02 55.2 -1.4
OBN MLR MLR
comp=Z,100nm,17.0s
ARCES ARCESS Array B 71.01 338 P **P 19 02 52.3 -0.4**
ARCES ARCESS Array B 71.01 338 P **P 19 02 52.3 -0.4**
comp=Z,6.6nm,1.0s,baz=62,slow=8.8,SNR=5.9
ARCES LR LR 19 41 21.3
comp=Z,74nm,19.3s,baz=54,slow=42
EGAK Eagle 71.22 27 P **P 19 02 54.5 +0.5**
MALT Malatya 72.22 305⇑P **P 19 03 02.6 +2.0**
MALT Malatya 72.22 305⇑*i*P **P 19 03 02.6 +2.0**
FINES FINESS Array B 73.16 330 P **P 19 03 05.4 -0.3**
FINES FINESS Array B 73.16 330 P **P 19 03 05.4 -0.3**
comp=Z,2.5nm,0.4s,baz=60,slow=5.9,SNR=40
FINES LR LR 19 39 20.8
comp=Z,248nm,18.1s,baz=90,slow=39
AKASG Malin Array Be 74.86 319*ce*P **P 19 03 15.1 -0.6**
AKASG pmax pmax
comp=Z,4.0nm,0.6s
AKASG Malin Array Be 74.86 319 P **P 19 03 15.2 -0.6**
AKASG Malin Array Be 74.86 319 P **P 19 03 15.2 -0.6**
comp=Z,2.4nm,0.4s,baz=58,slow=6.6,SNR=17
AKASG LR LR 19 36 40.8
comp=Z,54nm,19.7s,baz=100,slow=36
KIEV Kiev 74.87 319 *e*P **P 19 03 14.1 -1.7**
KIEV *e* 19 03 26.3
KIEV pmax pmax
comp=Z,8.0nm,0.9s
KIEV Kiev 74.87 319 *e*P **P 19 03 14.1 -1.7**
comp=Z,8.2nm,0.9s
KIEV *e* 19 03 26.3
BR131 Keskin Array S 75.36 307 *e*P **P 19 03 19.6 +0.5**
comp=Z,4.5nm,0.9s
BRTR Keskin Array B 75.36 307 P **P 19 03 19.7 +0.5**
BRTR Keskin Array B 75.36 307 P **P 19 03 19.7 +0.5**
comp=Z,1.0nm,0.5s,baz=104,slow=2.5,SNR=6.8
TESR Tescani 77.89 315⇑*i*P **P 19 03 33.3 +0.2**
VRI Vrincioaia 78.08 315⇓P **P 19 03 34.7 +0.6**
VRI Vrincioaia 78.08 315⇓*i*P **P 19 03 34.7 +0.6**
PLOR Plostina 78.13 315⇓P **P 19 03 36.0 +1.5**
PLOR Plostina 78.13 315⇓*i*P **P 19 03 36.0 +1.5**
BUR08 Bucovina Ar. S 78.40 317 *e*P **P 19 03 36.0 0.0**
BUR08 *e* 19 03 47.8
BURAR Bucovina Array 78.40 317⇓P **P 19 03 36.1 +0.1**
BURAR Bucovina Array 78.40 317⇓*i*P **P 19 03 36.1 +0.1**
KWP Kalwaria Pacla 79.16 319⇓P **P 19 03 39.9 -0.1**
KWP Kalwaria Pacla 79.16 319⇓*i*P **P 19 03 39.9 -0.1**
HFS Hagfors 79.25 331 LR LR 19 42 48.4
comp=Z,360nm,18.9s,baz=64,slow=39
URZ Urewera 79.31 140 P **P 19 03 40.3 -0.4**
URZ Urewera 79.31 140 P **P 19 03 40.3 -0.4**
comp=Z,8.7nm,0.8s,baz=156,slow=12,SNR=5.3
RPZ Rata Peaks 79.78 147 P **P 19 03 43.0 -0.3**
RPZ Rata Peaks 79.78 147 P **P 19 03 43.0 -0.3**
comp=Z,9.7nm,0.6s,baz=334,slow=22,SNR=6.7
NB2 NORSAR Subarra 79.87 333 P **P 19 03 43.3 -0.4**
comp=Z,1.8nm,0.6s,baz=58,slow=5.6
NOA NORSAR Array B 79.87 333 P **P 19 03 43.4 -0.3**
NOA NORSAR Array B 79.87 333 P **P 19 03 43.4 -0.3**
comp=Z,1.3nm,0.6s,baz=54,slow=5.6,SNR=6.1
NOA LR LR 19 43 41.5
comp=Z,89nm,19.7s,baz=325,slow=39
JMIC Jan Mayen 80.07 346 LR LR 19 45 40.1
comp=Z,75nm,18.3s,baz=87,slow=41
DRGR 80.29 317⇑P **P 19 03 47.0 +0.7**
DRGR 80.29 317⇑*i*P **P 19 03 47.0 +0.7**
OJC Ojcow 80.63 321 *e*P **P 19 03 48.1 +0.2**
OJC Ojcow 80.63 321 *e*P **P 19 03 48.1 +0.2**
VTS Vitosha 81.67 313⇑P **P 19 03 52.2 -1.6**
VTS Vitosha 81.67 313⇑*i*P **P 19 03 52.2 -1.6**
OKC Ostrava-Krasne 81.75 321 *ep*P pP 19 04 06.1 +2.2
MORC Moravsky Berou 82.13 321 *e*P **P 19 03 56.9 +0.9**
MORC pmax pmax
comp=Z,5.0nm,1.0s
MORC Moravsky Berou 82.13 321 *e*P **P 19 03 56.9 +0.9**
comp=Z,4.8nm,1.0s
KSP Ksiaz 82.35 322 *e*P **P 19 03 56.8 -0.2**
KSP *e**PP **pP** 19 04 09.3 +2.3
KSP Ksiaz 82.35 322 *e*P pP 19 04 09.8 +2.8
KRLC Kraliky 82.43 322 *e*P **P 19 03 58.3 +0.8**
KRLC Kraliky 82.43 322 *e*P **P 19 03 58.3 +0.8**
DPC Dobruska-Polom 82.56 322 *e*P **P 19 03 59.5 +1.3**
DPC *e* 19 04 10.5
DPC Dobruska-Polom 82.56 322 *e*P **P 19 03 59.5 +1.3**
DPC *ep*P **pP** 19 04 10.5 +2.3
YKA Yellowknife Ar 82.75 23 P **P 19 03 58.8 -0.1**
YKA Yellowknife Ar 82.75 23 P **P 19 03 58.8 -0.1**
comp=Z,5.3nm,0.9s,baz=314,slow=5.5,SNR=7.2
TREC Trest 83.54 321 *ep*P pP 19 04 15.7 +2.4
BRG Berggiesshubel 83.64 323 *e*P pP 19 04 15.4 +1.7
comp=Z,7.6nm,1.4s
BRG Berggiesshubel 83.64 323 *e*P **pP 19 04 15.4 +1.7**
BRG pmax pmax
comp=Z,19nm,1.4s
PRU Pruhonice 83.74 322 *e*P **P 19 04 06.2 +2.0**
PRU *e* 19 04 16.5
PRU Pruhonice 83.74 322 *e*P **P 19 04 06.2 +2.0**
PRU *ep*P **pP** 19 04 16.5 +2.3
CLL Collm 83.94 324 *e*P pP 19 04 17.0 +1.8
comp=Z,8.0nm,1.1s
CLL Collm 83.94 324 *e*P P 19 04 09.0 +3.8
CLL *i* 19 04 17.2
CLL Collm 83.94 324 *e*(P) P 19 04 09.0 +3.8
CLL *i* pP pP 19 04 17.2 +2.0
comp=Z,8.0nm,1.1s
KHC Kasperske Hory 84.71 322 P **P 19 04 08.0 -1.2**
KHC *e* 19 04 21.3
KHC pmax pmax
comp=Z,4.0nm,0.7s
KHC Kasperske Hory 84.71 322 *e*P P 19 04 12.3 +3.1
KHC *ep*P pP 19 04 21.5 +2.2
KHC Kasperske Hory 84.71 322 P **P 19 04 08.0 -1.2**
comp=Z,4.1nm,0.7s
KHC *e* 19 04 21.3
GEC2 GERESS Array S 84.78 321 *e*P pP 19 04 21.7 +2.0
comp=Z,9.0nm,0.8s
GERES GERESS Array B 84.78 321 P **P 19 04 09.9 +0.3**
GERES GERESS Array B 84.78 321 P **P 19 04 09.9 +0.3**
comp=Z,1.0nm,0.7s,baz=54,slow=4.6,SNR=12
CLZ Clausthal 85.07 325 *e*P pP 19 04 23.6 +2.6
comp=Z,15nm,1.1s
ROTZ Rotzenmuhle 85.16 323 *e*P pP 19 04 23.9 +2.4
comp=Z,6.0nm,1.0s
IBBN Ibbenburen 86.16 326 *e*P pP 19 04 28.4 +2.0
comp=Z,10.0nm,0.8s
WLF Walferdange 88.50 325 P **P 19 04 26.8 -0.9**
WLF AP **pP** 19 04 40.7 +2.9
CDF Champ du Feu 88.62 323 *e*P **P 19 04 30.2 +1.8**
comp=Z,13nm,0.9s
CDF Champ du Feu 88.62 323 *e*P **P 19 04 30.2 +1.8**
CDF pmax pmax
comp=Z,13nm,0.9s
CDF Champ du Feu 88.62 323 *e*P **P 19 04 30.2 +1.8**
comp=Z,13nm,0.9s
HINF Hinterlalfeld 89.19 323 *e*P **P 19 04 32.4 +1.4**
comp=Z,3.8nm,0.7s
HINF Hinterlalfeld 89.19 323 *e*P **P 19 04 32.4 +1.4**
HINF pmax pmax
comp=Z,4.0nm,0.7s
HINF Hinterlalfeld 89.19 323 *e*P **P 19 04 32.4 +1.4**
comp=Z,3.8nm,0.7s
HAU Haudompre 89.36 323 *e*P **P 19 04 33.3 +1.5**
comp=Z,11nm,1.0s
HAU *e*R
comp=Z,93nm,17.5s
HAU Haudompre 89.36 323 *e*P **P 19 04 33.3 +1.5**
HAU pmax pmax
comp=Z,11nm,1.0s
HAU Haudompre 89.36 323 *e*P **P 19 04 33.3 +1.5**
comp=Z,11nm,1.0s
PAGF Fort de Pagny 89.38 324 *e*P **P 19 04 33.9 +2.0**
comp=Z,3.7nm,1.0s
PAGF Fort de Pagny 89.38 324 *e*P **P 19 04 33.9 +2.0**
comp=Z,3.7nm,1.0s
SFTF Sexfontaines 89.95 324 *e*P **P 19 04 36.4 +1.8**
SFTF Sexfontaines 89.95 324 *e*P **P 19 04 36.4 +1.8**
NEW Newport 90.31 36 P **P 19 04 37.1 +0.8**
NEW Newport 90.31 36 P **P 19 04 37.1 +0.8**
comp=Z,3.2nm,0.8s,baz=317,slow=5.1,SNR=5.8
LPG La Plagne 90.58 321 *e*P **P 19 04 40.1 +2.2**
comp=Z,12nm,0.8s
LPG La Plagne 90.58 321 *e*P **P 19 04 40.1 +2.2**
LPG pmax pmax
comp=Z,12nm,0.8s
LPG La Plagne 90.58 321 *e*P **P 19 04 40.1 +2.2**
comp=Z,12nm,0.8s
LPL La Plagne 90.58 321 *e*P **P 19 04 39.9 +2.1**
comp=Z,21nm,1.1s
LPL La Plagne 90.58 321 *e*P **P 19 04 39.9 +2.1**
LPL pmax pmax
comp=Z,21nm,1.1s
LPL La Plagne 90.58 321 *e*P **P 19 04 39.9 +2.1**
comp=Z,21nm,1.1s
LOR Lormes 91.15 324 *e*P **P 19 04 41.7 +1.5**
comp=Z,9.1nm,1.0s
LOR *e*R
comp=Z,115nm,18.8s
LOR Lormes 91.15 324 *e*P **P 19 04 41.7 +1.5**
comp=Z,9.1nm,1.0s
ORIF Oris-en-Rattie 91.41 321 *e*P **P 19 04 43.5 +2.0**
ORIF *e*R
comp=Z,115nm,18.0s
ORIF Oris-en-Rattie 91.41 321 *e*P **P 19 04 43.5 +2.0**
ORIF Oris-en-Rattie 91.41 321 *e*P **P 19 04 43.5 +2.0**
SMF Signal de Mont 91.54 323 *e*P **P 19 04 43.7 +1.7**
comp=Z,13nm,0.9s
SMF Signal de Mont 91.54 323 *e*P **P 19 04 43.7 +1.7**
SMF pmax pmax
comp=Z,13nm,0.9s
SMF Signal de Mont 91.54 323 *e*P **P 19 04 43.7 +1.7**
comp=Z,13nm,0.9s
AVF Avril sur Loir 91.72 324 *e*P **P 19 04 44.5 +1.7**
comp=Z,9.7nm,1.0s
AVF Avril sur Loir 91.72 324 *e*P **P 19 04 44.5 +1.7**
AVF pmax pmax
comp=Z,10.0nm,1.0s
AVF Avril sur Loir 91.72 324 *e*P **P 19 04 44.5 +1.7**
comp=Z,9.7nm,1.0s
FRF La Foret Royal 91.75 320 *e*P **P 19 04 44.5 +1.5**
FRF La Foret Royal 91.75 320 *e*P **P 19 04 44.5 +1.5**
FRF La Foret Royal 91.75 320 *e*P **P 19 04 44.5 +1.5**
VIVF Saint-Julien-I 92.14 321 *e*P **P 19 04 46.7 +1.9**
comp=Z,11nm,1.0s
VIVF Saint-Julien-I 92.14 321 *e*P **P 19 04 46.7 +1.9**
VIVF pmax pmax
comp=Z,11nm,1.0s
VIVF Saint-Julien-I 92.14 321 *e*P **P 19 04 46.7 +1.9**
comp=Z,11nm,1.0s
TCF Toulx Ste Croi 92.65 324 *e*P **P 19 04 50.0 +2.9**
TCF Toulx Ste Croi 92.65 324 *e*P **P 19 04 50.0 +2.9**
TCF Toulx Ste Croi 92.65 324 *e*P **P 19 04 50.0 +2.9**
CAF Calviac 93.58 323 *e*P **P 19 04 53.7 +2.3**
comp=Z,32nm,1.4s
CAF Calviac 93.58 323 *e*P **P 19 04 53.7 +2.3**
CAF pmax pmax
comp=Z,32nm,1.4s
CAF Calviac 93.58 323 *e*P **P 19 04 53.7 +2.3**
comp=Z,32nm,1.4s
TXAR Lajitas Array 110.55 43 PKiKP **PKiKP 19 10 08.4 +0.1**
TXAR Lajitas Array 110.55 43 PKiKP **PKiKP 19 10 08.4 +0.1**
comp=Z,0.2nm,0.5s,baz=235,slow=1.3,SNR=3.9
TORD Torodi Ar. Bea 112.53 296 PKiKP **PKiKP 19 10 10.9 -1.3**
TORD Torodi Ar. Bea 112.53 296 PKiKP **PKiKP 19 10 10.9 -1.3**
comp=Z,0.4nm,0.9s,baz=53,slow=3.1,SNR=2.9

IDC ***26*** *19:10:14.1±0.6,21°.14N×106°.22W,h0km,mb4.4/18, mb1 4.5/21,mb1mx4.4/28,mbtmp4.3/21,ML3.9/3,MS3.9/12, Ms1 3.8/12,ms1mx3.6/34,Error ellipse: s-maj=17.7km s-min=12.6km az=72.0*
BJI ***26*** *19:10:16.5,21°.77N×105°.33W,h24km,mB5.1/1,mb5.0/1, Ms5.0/4,Ms7 4.7/5*
ISCJB ***26*** *19:10:19.4±0.5,21°.21N±0°.03×106°.09W±0°.03,h35km±4km, mb4.5/57,MS4.1/12,Error ellipse: s-maj=5.7km s-min=3.4km az=39.9*
MEX ***26*** *19:10:19.4±0.9,21°.37N×106°.18W,h14km±14km,MD4.3*
NEIC ***26*** *19:10:20.1±0.3,21°.14N×106°.15W,h35km,mb4.5/65, MD4.1(MEX),Error ellipse: s-maj=5.8km s-min=3.5km az=225.0*
NEIC Felt at Jalisco and Puerto Vallarta.
ISC 26 19:10:18.1±1.5,21°.14N±0°.05×106°.21W±0°.07, h26km±10km,n477,σ1$24/428,mb4.5/57,MS4.2/12,Off coast of central Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANIG	**Ahuacatlan**	**1.58**	**93**	*i* P	**Pn**	**19 10 43.7**	**-0.9**
ANIG				*i* S	**Sn**	**19 11 02.5**	**-1.8**
ANIG	**Ahuacatlan**	**1.93**		*i* P	**Pn**	**19 10 43.7**	**-0.9**
ANIG				*i* S	**Sn**	**19 11 02.5**	**-1.8**
CJM	**Chamela**	**1.97**	**146**	*i* P	**Pb**	**19 10 51.3**	**-2.0**
CJM				*i* S	**Sb**	**19 11 17.1**	**-0.3**
CJM	**Chamela**	**1.97**	**146**	*i* P	**Pb**	**19 10 51.3**	**-2.0**
CJM				*i* S	**Sb**	**19 11 17.1**	**-0.3**
MAIG	**Mazatlaan**	**2.05**	**354**	*i* P	Pn	19 10 46.6	-4.4
MAIG				*i* S	Sn	19 11 08.2	-7.5
MAIG	**Mazatlaan**	**2.05**	**354**	*i* P	Pn	19 10 46.6	-4.4
MAIG				*i* S	Sn	19 11 08.2	-7.5
ZAIG	**Zacatecas**	**3.75**	**64**	*i* P	**Pn**	**19 11 13.7**	**-1.0**
ZAIG				*e*P	**Pn**	**19 11 13.7**	**-1.0**
ZAIG				*e*S	Sn	19 11 55.3	-2.8
ZAIG	**Zacatecas**	**3.75**	**64**	*i* P	**Pn**	**19 11 13.7**	**-1.0**
ZAIG				*e*S	Sn	19 11 55.3	-2.8
MMIG	**Aquila**	**3.92**	**136**	*e*P	Pn	19 11 19.0	+2.3
MMIG				*i* S	**Sn**	**19 12 05.0**	**+3.2**
MMIG	**Aquila**	**3.92**	**136**	*e*P	Pn	19 11 19.0	+2.3
MMIG				*i* S	**Sn**	**19 12 05.0**	**+3.2**
TXAR	**Lajitas Array**	**8.48**	**15**	Pn	**Pn**	**19 12 18.8**	**-0.6**
TXAR				Lg	Lg	19 14 33.7	
TXAR	**Lajitas Array**	**8.48**	**15**	Pn	**Pn**	**19 12 18.8**	**-0.6**
	1.9nm,0.3s,baz=196,slow=14,SNR=75						
TXAR				Lg	Lg	19 14 33.7	
	2.1nm,0.3s,baz=191,slow=31,SNR=5.9						
TXAR				LR	LR	19 15 20.6	
	comp=Z,335nm,20.7s,baz=145,slow=36						
626A	**Big Bend Ranch**	**8.59**	**12**	P	**Pn**	**19 12 20.7**	**-0.2**
	baz=8.6,SNR=23						
627A	**Terlingua Ranc**	**8.66**	**17**	P	**Pn**	**19 12 21.6**	**-0.4**
	baz=8.7,SNR=37						
628A	**Black Gap, Mar**	**8.84**	**19**	P	**Pn**	**19 12 24.1**	**-0.1**
	baz=8.8,SNR=59						
526A	**Mary Lane Ranc**	**9.09**	**12**	P	**Pn**	**19 12 27.7**	**-0.1**
	baz=9.1,SNR=34						
527A	**Woodward Ranch**	**9.27**	**14**	P	**Pn**	**19 12 30.6**	**+0.2**
	baz=9.3,SNR=10						
732A	**Laxson Ranch,**	**9.44**	**36**	P	**Pn**	**19 12 32.9**	**+0.4**
	baz=9.4,SNR=9.3						
528A	**Cox Ranch, San**	**9.50**	**18**	P	**Pn**	**19 12 33.1**	**-0.4**
	baz=9.5						
425A	**Indio Mountain**	**9.67**	**6**	P	**Pn**	**19 12 35.8**	**0.0**
	baz=9.7,SNR=36						
631A	**Perdido Creek**	**9.68**	**31**	P	**Pn**	**19 12 36.0**	**+0.1**
	baz=9.7,SNR=14						
426A	**McDonald Obser**	**9.69**	**11**	P	**Pn**	**19 12 36.4**	**+0.2**
	baz=9.7,SNR=15						
530A	**J-C Ranch, Com**	**9.99**	**25**	P	**Pn**	**19 12 40.0**	**0.0**
	baz=10.0						
427A	**Hayter Ranch,**	**9.99**	**14**	P	**Pn**	**19 12 40.8**	**+0.6**
	baz=10.0,SNR=6.4						
428A	**Kincaid Ranch,**	**10.06**	**18**	P	**Pn**	**19 12 41.8**	**+0.7**
	baz=10						
632A	**Uvalde**	**10.15**	**34**	P	**Pn**	**19 12 43.0**	**+0.7**
	baz=10,SNR=8.8						
429A	**Davenport Ranc**	**10.21**	**21**	P	**Pn**	**19 12 44.0**	**+0.8**
	baz=10,SNR=6.8						
324A	**Moseley Ranch,**	**10.28**	**3**	P	**Pn**	**19 12 43.8**	**-0.4**
	baz=10,SNR=17						
326A	**Caldwell Ranch**	**10.33**	**11**	P	**Pn**	**19 12 45.2**	**+0.4**
	baz=10,SNR=8.4						
531A	**Rocksprings**	**10.33**	**28**	P	**Pn**	**19 12 46.0**	**+1.2**
	baz=10,SNR=8.2						
320A	**Kipp Ranch, An**	**10.37**	**349**	P	**Pn**	**19 12 45.7**	**+0.3**
	baz=10,SNR=18						
MNTX	**Cornudas Mount**	**10.54**	**4**	*e*Pn	**Pn**	**19 12 47.1**	**-0.6**
	3.7nm,0.3s						
319A	**Douglas**	**10.56**	**346**	P	**Pn**	**19 12 48.5**	**+0.5**
	baz=11,SNR=8.5						
430A	**Baggett Ranch,**	**10.59**	**24**	P	**Pn**	**19 12 49.5**	**+1.1**
	baz=11,SNR=15						
532A	**Rocksprings**	**10.60**	**31**	P	**Pn**	**19 12 49.5**	**+1.0**
	baz=11,SNR=11						
431A	**Sonora**	**10.75**	**27**	P	Pn	19 12 52.8	+2.2
	baz=11,SNR=10						
224A	**Cornudas Mount**	**10.91**	**3**	P	**Pn**	**19 12 53.0**	**+0.2**
	baz=11,SNR=18						
221A	**Mesquite Ranch**	**10.91**	**353**	P	**Pn**	**19 12 53.4**	**+0.6**
	baz=11,SNR=49						
220A	**Playas Peak, P**	**10.92**	**350**	P	**Pn**	**19 12 52.7**	**-0.2**
	baz=11,SNR=19						
JCT	**Junction City**	**10.94**	**31**	*e*Pn	**Pn**	**19 12 53.9**	**+0.7**
	8.3nm,0.5s						
JCT	**Junction City**	**10.94**	**31**	P	**Pn**	**19 12 54.2**	**+1.0**
	baz=11						
222A	**Williams Famil**	**10.95**	**356**	P	**Pn**	**19 12 54.1**	**+0.7**
	baz=11,SNR=16						
329A	**Wagon Wheel Ra**	**10.98**	**19**	P	**Pn**	**19 12 54.3**	**+0.7**
	baz=11						
225A	**Deer Hill, Car**	**10.99**	**6**	P	**Pn**	**19 12 54.6**	**+0.6**
	baz=11,SNR=9.0						
226B	**Tecolote Peak,**	**11.04**	**9**	P	**Pn**	**19 12 55.3**	**+0.7**
	baz=11,SNR=14						
GDL2	**Guadalupe Moun**	**11.14**	**8**	*e*Pn	**Pn**	**19 12 56.7**	**+0.8**
	4.5nm,0.5s						
330A	**Mertzon**	**11.17**	**23**	P	**Pn**	**19 12 57.9**	**+1.5**
	baz=11,SNR=11						
432A	**Menard**	**11.28**	**29**	P	**Pn**	**19 12 59.4**	**+1.7**
	baz=11						
331A	**San Angelo**	**11.38**	**26**	P	Pn	19 13 00.9	+1.9
	baz=11						
228A	**UT Block 9, Go**	**11.40**	**16**	P	**Pn**	**19 13 00.8**	**+1.4**
	baz=11						
121A	**Cookes Peak, D**	**11.43**	**353**	P	**Pn**	**19 13 00.3**	**+0.3**
	baz=12,SNR=33						
124A	**Stringfield Ra**	**11.53**	**3**	P	**Pn**	**19 13 02.7**	**+1.3**
	baz=12,SNR=53						

122A	Conniff Cattle baz=12,SNR=9.6	11.54	357	P	Pn	19 13 02.2	+0.9
125A	Gardner Draw, baz=12,SNR=30	11.56	7	P	Pn	19 13 02.4	+0.8
120A	U Bar Ranch, L baz=12,SNR=7.8	11.56	350	P	Pn	19 13 01.8	0.0
126A	Clayton Basin, baz=12	11.62	9	P	Pn	19 13 04.0	+1.5
230A	Sterling City baz=12,SNR=8.4	11.63	22	P	Pn	19 13 04.1	+1.5
332A	Millersview baz=12,SNR=6.8	11.73	28	P	Pn	19 13 05.6	+1.7
127A	Arkansas Junct baz=12	11.77	12	P	Pn	19 13 06.3	+1.7
TUC	Tucson 5.7nm,0.8s	11.85	341	ePn	Pn	19 13 06.2	+0.6
128A	Castleberry Fa baz=12	11.91	15	P	Pn	19 13 07.5	+1.1
Z23A	Rita Site, Whi baz=12,SNR=12	12.07	360	P	Pn	19 13 09.8	+1.1
Z22A	Elephant Butte baz=12,SNR=19	12.09	357	P	Pn	19 13 09.8	+0.9
Z20A	Nine Sixteen R baz=12,SNR=9.4	12.11	350	P	Pn	19 13 10.2	+0.9
Z25A	Roswell baz=12,SNR=5.5	12.16	6	P	Pn	19 13 11.4	+1.5
Z24A	Sheeppen Canyo baz=12,SNR=12	12.16	3	P	Pn	19 13 11.1	+1.1
Z21A	St. Cloud Mine baz=12	12.19	354	P	Pn	19 13 11.5	+1.1
232A	Coleman baz=12,SNR=7.1	12.21	27	P	Pn	19 13 11.8	+1.4
214A	Organ Pipe Nat baz=12	12.28	333	P	Pn	19 13 13.3	+1.9
Z27A	Tatum baz=12,SNR=11	12.41	12	P	Pn	19 13 14.4	+1.1
Z28A	Tucker Farm, M baz=13	12.57	15	P	Pn	19 13 17.2	+1.7
131A	Roby baz=13	12.60	23	P	Pn	19 13 17.2	+1.3
Z29A	Hungry Hill Ra baz=13,SNR=9.3	12.72	17	P	Pn	19 13 19.0	+1.5
Y23A	Lovelace Mesa, baz=13,SNR=31	12.74	1	P	Pn	19 13 19.4	+1.5
Y24A	Capitan baz=13,SNR=6.3	12.76	3	P	Pn	19 13 20.1	+2.0
Y22A	Socorro baz=13,SNR=13	12.77	357	P	Pn	19 13 19.0	+0.8
Y25A	Mesa, Roswell baz=13,SNR=5.4	12.80	6	P	Pn	19 13 20.5	+1.8
HKT	Hockley 36nm,1.6s	12.82	45	ePn	Pn	19 13 18.6	-0.2
ABTX	Abilene, Hawle	12.85	26	ePn	Pn	19 13 20.6	+1.5
ABTX	Abilene, Hawle baz=13	12.85	26	P	Pn	19 13 21.0	+1.8
Y20A	Horse Springs, baz=13,SNR=12	12.86	352	P	Pn	19 13 21.1	+1.6
Y21A	Point of Rocks baz=13,SNR=17	12.88	355	P	Pn	19 13 21.9	+2.0
Y26A	Elida baz=13,SNR=8.3	12.91	9	P	Pn	19 13 21.8	+1.7
Z30A	Sanderson Ranc baz=13	12.91	19	P	Pn	19 13 21.8	+1.7
BNM	Barren Site 9.4nm,1.0s	12.96	358	ePn	Pn	19 13 22.5	+1.5
Y27A	Causey baz=13	12.98	11	P	Pn	19 13 22.5	+1.5
LENM	Lemitar 17nm,1.1s	12.99	357	ePn	Pn	19 13 24.2	+2.9
LPM	Los Pinos Moun 13nm,1.2s	13.13	358	ePn	Pn	19 13 25.6	+2.4
MSTX	Muleshoe	13.14	13	ePn	Pn	19 13 23.9	+0.7
MSTX	Muleshoe baz=13	13.14	13	P	Pn	19 13 24.8	+1.6
Y28A	McKinney Farm, baz=13	13.19	15	P	Pn	19 13 25.0	+1.1
LAZ	Ladron 19nm,1.1s	13.24	357	ePn	Pn	19 13 26.0	+1.3
Z31A	Sharp Cattle R baz=13	13.27	23	P	Pn	19 13 26.6	+1.6
X21A	Alamocita Cree baz=13,SNR=15	13.33	354	P	Pn	19 13 27.2	+1.3
X22A	Bernardo baz=13,SNR=7.7	13.33	357	P	Pn	19 13 28.7	+2.8
WHTX	Lake Whitney	13.34	34	ePn	Pn	19 13 27.2	+1.4
113A	Mohawk Valley, baz=14	13.39	331	P	Pn	19 13 28.9	+2.3
X25A	Clemmons Ranch baz=13	13.41	6	P	Pn	19 13 28.7	+1.8
X20A	Quemado baz=14,SNR=12	13.50	352	P	Pn	19 13 31.9	+3.5
Z32A	Haskell baz=14,SNR=7.7	13.51	25	P	Pn	19 13 29.5	+1.3
X26A	CR and CF Fran baz=14,SNR=11	13.53	8	P	Pn	19 13 30.2	+1.6
Y30A	Stafford Cattl baz=14,SNR=6.2	13.53	19	P	Pn	19 13 31.1	+2.6
Z14A	Wintersburg baz=14	13.56	335	P	Pn	19 13 31.3	+2.4
X27A	F and S Farms, baz=14	13.73	11	P	Pn	19 13 33.3	+1.9
X18A	Snowflake baz=14,SNR=5.7	13.74	347	P	Pn	19 13 33.8	+2.3
ANMO	Albuquerque	13.76	359	Pn	Pn	19 13 32.5	+0.8
ANMO				Lg	Lg	19 17 29.6	
ANMO	Albuquerque 0.2nm,0.3s,baz=193,slow=13,SNR=8.4	13.76	359	Pn	Pn	19 13 32.5	+0.8
ANMO	0.1nm,0.3s,baz=102,slow=3.3,SNR=3.9			Lg	Lg	19 17 29.6	
ANMO	comp=Z,237nm,19.7s,baz=30,slow=36			LR	LR	19 18 27.9	
Y31A	Rekieta Farm, baz=14,SNR=10	13.81	21	P	Pn	19 13 33.3	+0.9
W23A	Werner Place, baz=14,SNR=9.4	13.97	0	P	Pn	19 13 38.6	+3.9
X16A	Lo Mia Camp, P baz=14,SNR=10	14.01	342	P	Pn	19 13 37.7	+2.5
W24A	Lazy 6 Ranch, baz=14,SNR=12	14.04	3	P	Pn	19 13 37.9	+2.3
W26A	Owens Ranch, T baz=14,SNR=6.8	14.06	8	P	Pn	19 13 37.9	+2.0
X30A	Coker Ranch, T baz=14,SNR=14	14.07	18	P	Pn	19 13 37.0	+1.2
W20A	Ramah baz=14,SNR=30	14.08	352	P	Pn	19 13 39.2	+3.0
Y14A	Wickenburg baz=14,SNR=9.9	14.09	336	P	Pn	19 13 38.4	+2.2
W25A	X Bar L Ranch, baz=14,SNR=7.0	14.11	6	P	Pn	19 13 37.7	+1.2
Y32A	R-V Farms, Ver baz=14,SNR=5.9	14.14	24	P	Pn	19 13 39.2	+2.3
W27A	Bowe Ranch, En baz=14,SNR=7.1	14.14	11	P	Pn	19 13 39.2	+2.2
W18A	Petrified Fore	14.27	348	ePn	Pn	19 13 41.2	+2.5
W18A	Petrified Fore baz=14	14.27	348	P	Pn	19 13 41.4	+2.7
W28A	Vega baz=14,SNR=5.6	14.50	13	P	Pn	19 13 43.6	+1.8
SWSC	Sam W. Stewart baz=15	14.52	326	P	Pn	19 13 44.3	+2.3
X31A	McDonald Ranch baz=14,SNR=8.6	14.52	21	P	Pn	19 13 43.0	+1.0
V23A	Ortiz Mt. (NFS baz=15,SNR=21	14.55	0	P	Pn	19 13 44.3	+1.7
V24A	Rampart Ranch, baz=15,SNR=41	14.55	3	P	Pn	19 13 44.6	+1.9
Y12C	Blythe baz=15	14.56	331	P	Pn	19 13 44.7	+2.2
V25A	Rancho No Teng baz=15,SNR=19	14.71	5	P	Pn	19 13 46.7	+2.0
V22A	San Miguel Ran baz=15,SNR=16	14.73	358	P	Pn	19 13 48.1	+3.0
V20A	Brimhall baz=15	14.74	353	P	Pn	19 13 47.7	+2.5
V26A	Tequesquite Ra baz=15,SNR=11	14.76	8	P	Pn	19 13 45.8	+0.5
BAR	Barrett 5.7nm,0.9s	14.79	323	ePn	Pn	19 13 48.3	+2.6
MONP	Monument Peak baz=15,SNR=6.0	14.81	324	P	Pn	19 13 48.1	+2.0
V27A	Dan Oppiter Fa baz=15,SNR=8.3	14.86	11	P	Pn	19 13 48.7	+2.0
PDMCI	Parker Dam,Lak baz=15	14.86	334	P	Pn	19 13 49.4	+2.8
BC3	Big Chuckawall baz=15,SNR=5.5	14.91	329	P	Pn	19 13 49.8	+2.3
V28A	Channing baz=15,SNR=11	14.97	13	P	Pn	19 13 50.4	+2.2
WUAZ	Wupatki 58nm,0.9s	15.02	344	ePn	Pn	19 13 51.1	+2.1
WUAZ	Wupatki baz=15,SNR=39	15.02	344	P	P	19 13 51.9	-2.2
WMOK	Wichita Mounta 26nm,0.9s	15.04	24	ePn	Pn	19 13 48.2	-0.9
U23A	El Rito baz=15,SNR=14	15.13	0	P	Pn	19 13 52.9	+2.4
IRM	Iron Mountain baz=15,SNR=13	15.19	331	P	Pn	19 13 52.8	+1.8
U22A	Llaves baz=15,SNR=14	15.19	358	P	P	19 13 54.5	-1.5
V29A	Stinnett baz=15,SNR=10	15.24	15	P	Pn	19 13 54.1	+2.3
U21A	Nageezi baz=15,SNR=31	15.29	356	P	P	19 13 55.6	-1.5
U25A	Circle Dot Ran baz=15,SNR=90	15.29	6	P	Pn	19 13 54.4	+1.9
U20A	Newcomb baz=15,SNR=6.2	15.31	353	P	P	19 13 55.8	-1.6
U26A	Atchley Ranch, baz=15,SNR=13	15.35	8	P	Pn	19 13 55.2	+1.9
PFO	Pinyon Flat Ob	15.38	326	Pn	Pn	19 13 54.0	+0.4
PFO	Pinyon Flat Ob 0.1nm,0.3s,baz=125,slow=12,SNR=8.7	15.38	326	Pn	Pn	19 13 54.0	+0.4
PFO	Pinyon Flat Ob baz=15,SNR=9.1	15.38	326	P	P	19 13 56.4	-1.7
W13A	Hualapai Mount baz=16,SNR=7.9	15.46	336	P	Pn	19 13 56.9	+2.1
BELC	Belle Mtn. Jos baz=16	15.46	328	P	P	19 13 57.0	-1.9
U27A	Thompson Grove baz=16,SNR=11	15.51	10	P	Pn	19 13 57.1	+1.8
U28A	Mallet baz=16,SNR=6.7	15.58	12	P	Pn	19 13 58.1	+1.9
V31A	Spring Creek L baz=16	15.61	20	P	Pn	19 13 57.7	+1.2
T22A	Edith baz=16,SNR=47	15.83	358	P	P	19 14 02.3	-0.9
T21A	Navajo Lake baz=16,SNR=9.2	15.84	356	P	P	19 14 03.3	0.0
T23A	Casias Ranch, baz=16	15.84	1	P	P	19 14 02.3	-1.0
U29A	Oasis Ranch, S baz=16	15.85	15	P	Pn	19 14 01.2	+1.5
T24B	San Luis baz=16,SNR=38	15.88	2	P	P	19 14 03.1	-0.7
GMRC	Granite Mounta baz=16,SNR=6.5	15.93	331	P	P	19 14 03.0	-1.3
LDFC	Landfair	15.94	332	ePn	Pn	19 14 02.0	+1.2
T25A	Trinidad baz=16,SNR=12	16.02	5	P	Pn	19 14 04.1	+2.2
U15A	North Rim baz=16,SNR=22	16.13	342	P	P	19 14 05.8	-0.7
MVCO	Mesa Verde 24nm,0.8s	16.14	353	ePn	Pn	19 14 04.3	+0.8
MVCO	Mesa Verde baz=16,SNR=10	16.14	353	P	P	19 14 05.6	-1.0
T26A	Comanche Natio baz=16,SNR=26	16.14	8	P	Pn	19 14 05.4	+2.0
T27A	Campo baz=16,SNR=71	16.15	10	P	Pn	19 14 05.7	+2.1
U31A	Nine Bar Ranch baz=16	16.16	19	P	Pn	19 14 05.2	+1.7
APG	El Apazote	16.16	110	Pn	P	19 14 06.3	-0.7
APG	El Apazote 0.2nm,0.3s,baz=56,slow=18,SNR=4.9	16.16	110	Pn	P	19 14 06.3	-0.7
HEC	Hector,Ludlow baz=16	16.29	329	P	P	19 14 07.6	-0.5
S24A	Houchin Ranch, baz=16	16.47	3	P	P	19 14 10.1	-0.2
S21A	Coal Bank Pass baz=17,SNR=39	16.52	356	P	P	19 14 10.6	-0.3
T29A	Hugoton baz=17	16.52	14	P	P	19 14 10.4	-0.3
S25A	Robets Cordova baz=17,SNR=10.0	16.54	5	P	P	19 14 10.8	-0.2
S22A	4UR Ranch, Cre baz=17,SNR=16	16.56	358	P	P	19 14 11.7	+0.4
SDCO	Great Sand Dun 25nm,1.0s	16.56	2	ePn	Pn	19 14 10.6	+1.7
S26A	Kim baz=17,SNR=30	16.59	8	P	P	19 14 12.1	+0.6
TUQ	Turquoise Moun baz=17,SNR=16	16.60	331	P	P	19 14 11.7	+0.1
S27A	Las Animas baz=17,SNR=9.5	16.73	9	P	P	19 14 13.3	+0.2
S20A	Disappointment baz=17,SNR=21	16.74	354	P	P	19 14 13.0	-0.2
TEIG	Tepich	16.81	90	Pn	P	19 14 14.8	+1.0
TEIG	Tepich 0.7nm,0.3s,baz=278,slow=11,SNR=5.8	16.81	90	Pn	P	19 14 14.8	+1.0
TEIG				LR	LR	19 21 24.0	
	comp=Z,112nm,20.0s,baz=269,slow=40						
T31A	Randall Ranch, baz=17	16.89	18	P	Pn	19 14 14.3	+1.5
GSC	Goldstone 9.6nm,1.0s	16.90	329	ePn	Pn	19 14 14.1	+1.0
GSC	Goldstone baz=17,SNR=6.9	16.90	329	P	P	19 14 15.1	+0.3
R23A	Moffat baz=17,SNR=13	17.00	1	P	P	19 14 17.1	+1.0
S29A	Ulysses baz=17	17.00	14	P	P	19 14 16.3	+0.3
R25A	Fountain Ranch baz=17,SNR=21	17.03	5	P	P	19 14 17.2	+0.8
R22A	Saguache, Gunn baz=17,SNR=17	17.04	359	P	P	19 14 17.7	+1.1
R24A	Sanders Place, baz=17,SNR=13	17.06	3	P	P	19 14 17.9	+1.1
R20A	Redvale baz=17,SNR=20	17.09	354	P	P	19 14 18.4	+1.3
EDW2	Edwards Air Fo baz=17	17.17	325	P	P	19 14 18.4	+0.6
S30A	Montezuma baz=17,SNR=7.8	17.18	16	P	P	19 14 18.0	+0.1
SHPR	Sheep Range 9.8nm,1.0s	17.19	335	ePn	P	19 14 18.2	+0.1
R21A	Cimarron baz=17,SNR=10	17.21	356	P	P	19 14 19.2	+0.8
R26A	Arroyo baz=17,SNR=102	17.27	7	P	P	19 14 19.9	+1.0
TUL1	Tulsa	17.31	30	ePn	Pn	19 14 17.6	-0.5
TUL1	Tulsa baz=17	17.31	30	P	Pn	19 14 18.6	+0.6
R27A	Eads baz=17,SNR=37	17.34	9	P	P	19 14 20.6	+0.9
MIAR	Mount Ida 32nm,0.7s	17.39	37	ePn	Pn	19 14 19.7	+0.7
S31A	Muleville baz=18,SNR=11	17.43	18	P	P	19 14 21.3	+0.7
LRMC	Laurel Mountai baz=18	17.48	327	P	P	19 14 21.1	-0.2
CCUT	Cedar City 7.3nm,0.9s	17.49	341	ePn	P	19 14 22.9	+1.3
R28A	Tribune baz=18,SNR=11	17.56	12	P	P	19 14 23.1	+1.0
Q21A	Lamborn Mesa, baz=18,SNR=7.9	17.67	356	P	P	19 14 25.3	+1.7
Q22A	Crested Butte, baz=18,SNR=7.0	17.67	358	P	P	19 14 25.0	+1.4
Q23A	Hartsel baz=18,SNR=11	17.71	1	P	P	19 14 25.5	+1.5
ARUT	Antelope Range 1μm,1.5s	17.73	341	ePn	P	19 14 26.3	+2.2
R29A	Marienthal baz=18,SNR=7.6	17.77	13	P	P	19 14 26.0	+1.5
Q24A	Divide baz=18,SNR=9.4	17.79	3	P	P	19 14 26.3	+1.4
Q25A	Bedland, Calha baz=18,SNR=13	17.80	5	P	P	19 14 27.3	+2.4
VBMS	Vicksburg 63nm,0.7s	17.82	49	eP	P	19 14 26.5	+1.6
R30A	Dighton baz=18,SNR=6.0	17.84	15	P	P	19 14 25.8	+0.6
Q20A	Ridgley Place, baz=18,SNR=5.0	17.84	355	P	P	19 14 26.7	+1.3
FURC	Furnace Creek, baz=18,SNR=6.7	17.88	331	P	P	19 14 26.6	+1.1
SMCO	Snowmass 16nm,1.1s	17.99	358	eP	P	19 14 29.3	+2.0
ISA	Isabella 6.0nm,1.2s	18.02	326	eP	P	19 14 28.3	+1.0
R31A	Burdett baz=18	18.04	17	P	P	19 14 28.1	+0.7
MVU	Marysvale 10nm,1.0s	18.06	345	eP	P	19 14 29.6	+1.8
KSCO	Kaye Shedlock'	18.08	9	eP	P	19 14 29.7	+1.8
KSCO	Kaye Shedlock' baz=18,SNR=7.0	18.08	9	P	P	19 14 29.5	+1.6
P23A	Jefferson baz=18,SNR=14	18.18	1	P	P	19 14 31.7	+2.5
Q16A	Castle Valley	18.23	348	P	P	19 14 31.5	+1.9
Q29A	Oakley baz=18,SNR=12	18.25	13	P	P	19 14 31.0	+1.2
Q28A	Sharon Springs baz=18,SNR=6.2	18.25	11	P	P	19 14 31.3	+1.5
UALR	University of 37nm,1.0s	18.26	39	eP	P	19 14 30.4	+0.6
SRU	San Rafael 19nm,1.0s	18.29	349	eP	Pn	19 14 31.4	+1.1
P21A	Newcastle baz=18,SNR=11	18.35	357	P	Pn	19 14 33.5	+2.4
P25A	Willow Gulch B baz=18,SNR=8.9	18.40	5	P	Pn	19 14 33.3	+1.7
P22A	Eagle baz=18,SNR=15	18.40	359	P	Pn	19 14 33.8	+2.1
Q30A	Quinter baz=18,SNR=7.3	18.51	15	P	Pn	19 14 33.4	+0.6
P26A	Davis Ranch, A baz=19,SNR=6.7	18.52	7	P	Pn	19 14 35.2	+2.1
GRAC	Grapevine Rang baz=19	18.55	331	P	Pn	19 14 35.4	+2.1
P19A	Cripple Cowboy baz=19,SNR=6.9	18.59	353	P	Pn	19 14 35.3	+1.3
TMUT	Trail Mountain 41nm,0.9s	18.60	348	eP	Pn	19 14 35.6	+1.5
ISCO	Idaho Springs 16nm,1.0s	18.61	1	eP	Pn	19 14 35.9	+1.6
ISCO	Idaho Springs baz=19,SNR=13	18.61	1	P	Pn	19 14 36.3	+2.0
P27A	Ficken Ranch, baz=19,SNR=5.2	18.62	9	P	Pn	19 14 35.8	+1.6
P28A	Saint Francis baz=19,SNR=11	18.77	11	P	Pn	19 14 37.5	+1.5
O22A	Kremmling baz=19,SNR=15	18.96	359	P	Pn	19 14 40.0	+1.4
R11A	Troy Canyon, C	18.96	337	eP	Pn	19 14 39.3	+0.8
R11A	Troy Canyon, C baz=19,SNR=11	18.96	337	P	Pn	19 14 39.5	+1.0
O23A	Lake Granby, G baz=19	19.01	1	P	Pn	19 14 40.4	+1.2
O20A	White River Ci	19.01	355	eP	Pn	19 14 40.5	+1.4
O20A	White River Ci baz=19,SNR=6.2	19.01	355	P	Pn	19 14 40.0	+0.9
P30A	Selden baz=19,SNR=11	19.04	14	P	Pn	19 14 39.8	+0.5
O21A	Pagoda baz=19	19.04	357	P	Pn	19 14 40.7	+1.2
P31A	Stockton baz=19,SNR=7.4	19.23	16	P	P	19 14 41.3	+0.8
O27A	Beecher Island baz=19,SNR=8.2	19.25	9	P	Pn	19 14 42.8	+0.9
O19A	Miners Draw (B baz=19,SNR=16	19.26	353	P	Pn	19 14 42.7	+0.7
O28A	Krutsinger Ran baz=19	19.30	10	P	Pn	19 14 43.0	+0.6
MPU	Maple Canyon 13nm,1.0s	19.38	347	eP	Pn	19 14 43.9	+0.4
O29A	4D Ranch, Culb baz=20,SNR=9.5	19.48	13	P	P	19 14 44.4	+1.2
P32A	Huiting Farm, baz=20	19.54	18	P	Pn	19 14 45.7	+0.4
N21A	Black Mountain baz=20,SNR=11	19.59	357	P	Pn	19 14 46.7	+0.7
P33A	Williams Farm, baz=20	19.64	20	P	Pn	19 14 46.9	+0.4
DAU	Daniels Canyon 29nm,0.8s	19.69	348	eP	Pn	19 14 47.5	+0.3
O30A	MW Ranch, Wils baz=20,SNR=7.6	19.69	14	P	P	19 14 46.6	+1.1
N23A	Red Feather La baz=20,SNR=12	19.69	1	P	Pn	19 14 47.8	+0.5
KSU1	Kansas State U 49nm,0.8s	19.71	23	eP	P	19 14 46.8	+1.2
N20A	Spence Gulch, baz=20,SNR=16	19.71	355	P	Pn	19 14 47.5	0.0
HBAR	Harrisburg	19.80	40	ePn	P	19 14 47.6	+0.9
DUG	Dugway 14nm,1.1s	19.81	345	eP	Pn	19 14 48.5	-0.1
DUG	Dugway baz=20,SNR=10	19.81	345	P	Pn	19 14 49.0	+0.4
N28A	Pribbeno Ranch baz=20	19.89	10	P	Pn	19 14 49.2	-0.2
JLU	Jordanelle 9.3nm,0.7s	19.91	348	eP	Pn	19 14 49.7	-0.1
OGNE	Ogallala 141nm,1.4s	20.06	9	eP	Pn	19 14 51.4	0.0
OGNE	Ogallala baz=20	20.06	9	P	Pn	19 14 51.5	0.0
NV11	Mina Array Sit	20.08	332	eP	Pn	19 14 51.5	-0.3
N29A	Votaw Ranch, W baz=20	20.18	12	P	P	19 14 52.2	+1.3
M22A	Cedar Creek Ra baz=20	20.20	359	P	Pn	19 14 52.9	-0.5
M24A	Cheyenne baz=20	20.30	3	P	Pn	19 14 54.2	-0.2
M25A	Palm-Egli Farm baz=20,SNR=5.0	20.31	5	P	Pn	19 14 54.1	-0.4
M21A	Separation Pea baz=20	20.43	358	P	P	19 14 55.0	+1.3
M26A	McRoberts Ranc baz=20	20.43	7	P	P	19 14 55.0	+1.4
GNAR	Gosnell 2μm,1.1s	20.46	40	eP	P	19 14 53.8	0.0
BGU	Big Grassy Mou 9.9nm,1.1s	20.56	345	eP	P	19 14 56.2	+1.2
M28A	Bar X Bar Ranc baz=21,SNR=12	20.61	10	P	P	19 14 57.1	+1.6
WAKR	Walker 17nm,0.9s	20.72	330	eP	Pn	19 14 58.7	-0.7
L21A	Rawlins baz=21,SNR=7.9	20.78	358	P	P	19 14 58.4	+0.8
SPUT	South Promonto 31nm,1.0s	20.79	347	eP	P	19 14 59.1	+1.6
CMB	Columbia Colle 3.3nm,0.8s	20.82	327	eP	P	19 14 58.1	+0.2
L22A	Ellis Ranch, M baz=21,SNR=7.2	20.83	360	P	Pn	19 15 00.6	0.0
L20A	Wamsutter baz=21,SNR=12	20.88	356	P	P	19 14 59.9	+1.3
L23A	Garrett baz=21,SNR=7.7	20.92	1	P	P	19 15 00.4	+1.4
L18A	Fontenelle, Gr baz=21,SNR=22	20.97	352	P	P	19 15 00.3	+0.7
ELK	Elko 23nm,0.9s	21.00	341	eP	P	19 15 01.3	+1.4
M31A	Lambtecht Ranc baz=21,SNR=7.2	21.05	15	P	P	19 15 01.6	+1.3
L19A	Farson baz=21	21.07	353	P	P	19 15 01.5	+0.9
PARMO	Parma	21.09	39	eP	P	19 15 00.8	+0.1
HVU	Hansel Valley 16nm,0.9s	21.31	346	eP	P	19 15 04.5	+1.3
BGNE	Belgrade	21.33	17	eP	P	19 15 04.4	+1.2
BGNE	Belgrade baz=21,SNR=5.4	21.33	17	P	P	19 15 04.2	+1.0
BMN	Battle Mountai 15nm,0.9s	21.40	336	eP	P	19 15 05.4	+1.3
K21A	Alcova baz=22,SNR=65	21.45	358	P	P	19 15 05.7	+1.1
K22A	Casper baz=22,SNR=38	21.45	359	P	P	19 15 06.2	+1.5
K25A	Mack Ranch, Ha baz=22	21.50	5	P	P	19 15 06.4	+1.2
K20A	Yellowstone Ra baz=22,SNR=13	21.53	356	P	P	19 15 06.1	+0.6
K23A	Bowen Ranch, D baz=22,SNR=11	21.56	1	P	P	19 15 07.0	+1.2
K26A	Motz Farm, Whi baz=22	21.65	6	P	P	19 15 07.8	+1.1
K19A	Absolon Red Bu baz=22,SNR=51	21.73	355	P	P	19 15 08.1	+0.4
BW06	Boulder Array 29nm,0.9s	21.75	353	eP	P	19 15 08.0	+0.1
PDAR	Pinedale Array	21.75	353	P	P	19 15 08.3	+0.4
PDAR	Pinedale Array 24nm,0.8s,baz=165,slow=10,SNR=144	21.75	353	P	P	19 15 08.3	+0.4
K27A	Flueckinger Fa baz=22	21.76	8	P	P	19 15 08.9	+1.0
K28A	Ten Mile Ranch baz=22	21.89	10	P	P	19 15 10.5	+1.2
WVT	Waverly 18nm,0.8s	21.93	43	eP	P	19 15 09.7	+0.1
SIUC	Southern Illin 40nm,0.8s	22.12	38	eP	P	19 15 12.7	+1.0

J21A	Lysite	22.17	358	P	P	19 15 13.4 +1.0
	baz=22,SNR=12					
K30A	Basset	22.17	13	P	P	19 15 14.0 +1.7
	baz=22					
J19A	Crowheart	22.19	354	P	P	19 15 13.3 +0.7
	baz=22,SNR=15					
J20A	Shoshoni	22.20	356	P	P	19 15 14.0 +1.3
	baz=22,SNR=14					
J23A	Dilts Ranch, B	22.21	1	P	P	19 15 14.0 +1.3
	baz=22					
SLM	Saint Louis	22.21	35	eP	P	19 15 13.0 +0.4
	77nm,0.9s					
J22A	Midwest	22.21	359	P	P	19 15 13.9 +1.1
	baz=22					
BEKR	Beckworth	22.24	330	eP	P	19 15 15.1 +1.9
	5.8nm,0.9s					
J25A	Sunshine Ranch	22.28	5	P	P	19 15 14.9 +1.4
	baz=22					
REDW	Red Top Meadow	22.50	351	eP	P	19 15 16.3 +0.4
	32nm,1.0s					
RRI2	Red Ridge	22.55	350	eP	P	19 15 17.3 +0.7
	20nm,1.0s					
SNOW	Snow King Moun	22.58	351	eP	P	19 15 17.8 +0.9
	32nm,0.8s					
J28A	Allard Ranch,	22.61	9	P	P	19 15 18.4 +1.5
	baz=23,SNR=9.7					
I21A	Big Trails, Te	22.63	358	P	P	19 15 17.9 +0.6
	baz=23,SNR=12					
TPAW	Teton Pass	22.64	351	eP	P	19 15 18.3 +0.8
	32nm,1.1s					
SWET	Sewanee	22.66	47	eP	P	19 15 17.5 0.0
	38nm,1.1s					
SWET				ePcP	PcP	19 19 09.2 -0.5
SWET				eSn	Sn	19 19 41.5 +2.6
TIGA	Tifton	22.68	58	eP	P	19 15 18.2 +0.4
I22A	9 Mile Ranch,	22.69	359	P	P	19 15 19.8 +1.9
	baz=23,SNR=8.7					
LOHW	Long Hollow	22.71	352	eP	P	19 15 18.8 +0.6
	35nm,1.0s					
J29A	Okreek	22.74	11	P	P	19 15 21.2 +2.9
	baz=23,SNR=5.5					
I20A	Worland	22.80	356	P	P	19 15 20.5 +1.5
	baz=23,SNR=18					
MOOW	Moose Ponds	22.86	352	eP	P	19 15 20.1 +0.3
	14nm,0.9s					
I25A	Rochford	22.91	5	P	P	19 15 21.4 +1.1
	baz=23,SNR=12					
RSSD	Black Hills	22.99	4	eP	P	19 15 21.4 +0.3
	19nm,0.7s					
I26A	New Underwood	23.00	6	P	P	19 15 22.3 +1.3
	baz=23					
IMW	Indian Meadow	23.03	351	eP	P	19 15 21.7 0.0
	8.7nm,0.8s					
JTS	JuntasAbangare	23.10	115	P	P	19 15 24.6 +2.3
JTS	JuntasAbangare	23.10	115	P	P	19 15 24.6 +2.3
	3.6nm,0.6s,baz=248,slow=10,SNR=4.6					
I27A	Quinn	23.12	8	P	P	19 15 23.4 +1.1
	baz=23					
I28A	Midland	23.18	9	P	P	19 15 24.0 +1.2
	baz=23					
USIN	University of	23.19	40	eP	P	19 15 23.5 +0.5
	74nm,0.9s					
H20A	Greybull	23.33	357	P	P	19 15 24.9 +0.4
	baz=23,SNR=8.3					
I29A	Vivian Onida	23.34	11	P	P	19 15 25.5 +1.1
	baz=23					
HLID	Hailey	23.38	345	eP	P	19 15 25.4 +0.4
	4.1nm,0.8s					
HLID	Hailey	23.38	345	P	P	19 15 26.3 +1.3
	baz=24,SNR=7.7					
H22A	Clearmont	23.39	360	P	P	19 15 26.0 +0.9
	baz=24					
SCIA	State Center	23.43	25	eP	P	19 15 26.7 +1.4
	42nm,0.9s					
H21A	Big Horn, Sher	23.43	359	P	P	19 15 25.8 +0.3
	baz=24					
OLIL	Olney	23.46	38	eP	P	19 15 26.0 +0.4
	99nm,1.1s					
YFT	Old Faithful	23.56	352	eP	P	19 15 28.5 +1.6
	15nm,0.9s					
H19A	Powell	23.58	355	P	P	19 15 27.9 +1.0
	baz=24,SNR=11					
H26A	Fairpoint	23.59	6	P	P	19 15 28.3 +1.4
	baz=24,SNR=5.6					
H18A	Shoshone NF, C	23.65	354	P	P	19 15 28.4 +0.8
	baz=24,SNR=5.1					
WVOR	Wild Horse Val	23.66	337	eP	P	19 15 28.1 +0.4
	5.5nm,0.8s					
CPCT	Cooper Cave	23.76	48	eP	P	19 15 28.4 -0.2
H28A	Mission Ridge	23.86	9	P	P	19 15 30.3 +0.8
	baz=24,SNR=6.4					
MOD	Modoc	23.87	333	eP	P	19 15 31.0 +1.3
	46nm,0.8s					
ECSD	EROS Data Cent	23.91	17	eP	P	19 15 28.8 -1.1
	6.5nm,0.7s					
H29A	Onida	23.94	11	P	P	19 15 30.9 +0.7
	baz=24					
BRSD	Miller	24.00	13	eP	P	19 15 30.3 -0.5
BRSD	Miller	24.00	13	P	P	19 15 31.3 +0.5
	baz=24					
G23A	Biddle	24.01	1	P	P	19 15 31.8 +0.9
	baz=24,SNR=6.5					
G22A	Birney	24.02	360	P	P	19 15 31.8 +0.8
	baz=24,SNR=7.0					
G21A	Lodge Grass	24.04	358	P	P	19 15 32.5 +1.3
	baz=24					
G20A	Bridger	24.07	357	P	P	19 15 31.8 +0.3
	baz=24,SNR=16					
HDIL	Hopedale	24.12	33	eP	P	19 15 31.8 0.0
	88nm,0.7s					
G24A	Alzada	24.17	3	P	P	19 15 33.1 +0.7
	baz=24					
WCI	Wyandotte Cave	24.19	41	eP	P	19 15 32.9 +0.2
	16nm,0.8s					
MCMT	McKenzie Canyo	24.25	348	eP	P	19 15 36.1 +2.7
	12nm,0.9s					
G26A	Maurine	24.27	6	P	P	19 15 34.2 +0.9
	baz=24,SNR=23					
G27A	Dupree	24.32	6	P	P	19 15 35.6 +1.8
	baz=24,SNR=9.2					
F23A	Volborg	24.53	1	P	P	19 15 35.7 +0.1
	baz=25,SNR=5.8					
G30A	Faulkton	24.62	12	P	P	19 15 37.1 +0.6
	baz=25					
F20A	Billings	24.65	357	P	P	19 15 37.4 +0.6
	baz=25,SNR=6.1					
BLO	Bloomington	24.66	39	eP	P	19 15 37.2 +0.3
	43nm,1.0s					
DLMT	Dillon	24.72	349	eP	P	19 15 39.1 +1.6
	13nm,1.0s					
YBH	Yreka Blue Hor	24.81	330	P	P	19 15 37.9 -0.4
YBH	Yreka Blue Hor	24.81	330	P	P	19 15 37.9 -0.4
	2.8nm,0.7s,baz=123,slow=8.2,SNR=5.3					
F26A	Lodgepole	24.82	6	P	P	19 15 39.0 +0.7
	baz=25					
F27A	Lemmon	24.91	7	P	P	19 15 39.7 +0.7
	baz=25					
TZTN	Tazewell	25.00	47	eP	P	19 15 40.4 +0.4
	18nm,0.7s					
SFIN	Scholer Farm	25.15	36	eP	P	19 15 41.9 +0.7
SFIN	Scholer Farm	25.15	36	P	P	19 15 41.9 +0.7
	baz=25,SNR=44					
F29A	Eureka	25.18	11	P	P	19 15 42.2 +0.7
	baz=25					
E22A	Miles City	25.24	0	P	P	19 15 42.3 +0.3
	baz=25					
E19A	Rath Farm, Rou	25.34	356	P	P	19 15 43.6 +0.5
	baz=25,SNR=7.5					
E20A	Meyer Farm, Mu	25.35	357	P	P	19 15 43.8 +0.7
	baz=25					
BMO	Blue Mountains	25.36	341	eP	P	19 15 43.5 +0.2
	6.4nm,0.9s					
LAO	LASA Array	25.48	360	eP	P	19 15 42.2 -2.1
	23nm,0.7s					
JFWS	Jewell Farm	25.50	28	eP	P	19 15 44.5 +0.2
	52nm,0.7s					
KMSC	Kings Mountain	25.90	52	P	P	19 15 48.5 +0.3
	baz=26					
HRY	Holter Researc	25.92	351	P	P	19 15 51.4 +3.1
	21nm,0.9s					
D20A	Manuel Ranch,	25.93	357	P	P	19 15 48.9 +0.5
	baz=26,SNR=6.1					
D22A	Cohagen	25.95	0	P	P	19 15 49.2 +0.8
	baz=26					
D26A	Manning	26.01	6	P	P	19 15 49.7 +0.7
	baz=26,SNR=6.8					
D19A	Cripps Ranch,	26.05	356	P	P	19 15 50.1 +0.7
	baz=26,SNR=7.8					
C24A	Savage	26.37	3	P	P	19 15 52.6 +0.4
	baz=26					
MSO	Missoula	26.39	348	P	P	19 15 53.2 +0.6
	baz=26					
D28A	Regan	26.39	9	P	P	19 15 52.6 +0.1
	baz=26					
SPMN	St. Paul	26.44	22	eP	P	19 15 52.7 -0.2
SPMN	St. Paul	26.44	22	P	P	19 15 53.1 +0.2
	baz=26					
C20A	Veseth Ranch,	26.55	357	P	P	19 15 54.7 +0.8
	baz=27					
C23A	Lambert	26.61	2	P	P	19 15 55.1 +0.6
	baz=27					
C19A	Slack Wire Ran	26.63	356	P	P	19 15 55.8 +1.1
	baz=27					
C21A	Desert Coulee	26.63	359	P	P	19 15 55.5 +0.8
	baz=27					
C26A	Wahner Farm, P	26.83	6	P	P	19 15 56.9 +0.5
	baz=27					
C28A	Hausauer Farms	26.93	9	P	P	19 15 57.6 +0.4
	baz=27					
MDND	Maddock	27.17	10	P	P	19 15 59.8 +0.3
	baz=27					
ACSO	Alum Creek Sta	27.45	41	eP	P	19 16 05.0 +3.0
	17nm,0.8s					
B28A	Dugan Ranch, T	27.65	8	P	P	19 16 04.2 +0.5
	baz=28,SNR=7.5					
A19A	Klindworth Far	27.80	356	P	P	19 16 06.0 +0.9
	baz=28					
B29A	Wagenman Farm,	27.81	10	P	P	19 16 05.8 +0.5
	baz=28					
A27A	Ledoux Ranch,	28.03	7	P	P	19 16 07.9 +0.7
	baz=28					
A28A	Rude Farm, Bot	28.11	8	P	P	19 16 08.4 +0.5
	baz=28					
A29A	Manning Farm,	28.28	10	P	P	19 16 09.5 +0.2
	baz=28					
NEW	Newport	28.45	345	P	P	19 16 10.9 0.0
NEW	Newport	28.45	345	P	P	19 16 10.9 0.0
	0.7nm,0.4s,baz=113,slow=7.7,SNR=2.8					
NEW				LR	LR	19 27 03.9
	comp=Z,128nm,19.3s,baz=170,slow=36					
COWI	Conover	28.55	25	eP	P	19 16 11.9 +0.1
	22nm,0.8s					
EYMN	Ely	29.26	20	eP	P	19 16 17.3 -0.8
ULM	Lac du Bonnet	30.18	13	P	P	19 16 24.9 -1.3
ULM	Lac du Bonnet	30.18	13	P	P	19 16 24.9 -1.3
	6.6nm,0.7s,baz=204,slow=7.8,SNR=6.1					
ULM				LR	LR	19 28 08.2
	comp=Z,121nm,21.3s,baz=230,slow=36					
SADO	Sadowa	32.46	37	P	P	19 16 46.2 -0.1
SADO	Sadowa	32.46	37	P	P	19 16 46.2 -0.1
	4.4nm,0.7s,baz=251,slow=9.3,SNR=3.2					
YKA	Yellowknife Ar	41.73	354	P	P	19 18 04.1 -0.6
YKA	Yellowknife Ar	41.73	354	P	P	19 18 04.1 -0.6
	4.8nm,0.8s,baz=168,slow=7.8,SNR=8.2					
SCHQ	Schefferville	44.77	31	P	P	19 18 29.4 -0.1
SCHQ	Schefferville	44.77	31	P	P	19 18 29.4 -0.1
	5.4nm,0.8s,baz=200,slow=12,SNR=3.2					
FRB	Frobisher Bay	49.47	21	LR	LR	19 40 34.0
	comp=Z,432nm,18.4s,baz=17,slow=37					
KDAK	Kodiak Island	49.62	329	P	P	19 19 08.2 +1.0
KDAK	Kodiak Island	49.62	329	P	P	19 19 08.2 +1.0
	7.6nm,0.8s,baz=204,slow=10,SNR=5.3					
ILAR	Eielson Array	51.14	339	P	P	19 19 19.1 +0.5
ILAR	Eielson Array	51.14	339	P	P	19 19 19.1 +0.5
	5.5nm,0.8s,baz=153,slow=6.8,SNR=53					
PPLA	Purkeypile	51.98	335	eP	P	19 19 25.6 +0.4
	12nm,0.9s					
LPAZ	La Paz	52.72	132	P	P	19 19 31.9 +0.2
LPAZ	La Paz	52.72	132	P	P	19 19 31.9 +0.2
	1.1nm,0.7s,baz=301,slow=4.5,SNR=4.9					
COLD	Coldfoot	53.72	340	eP	P	19 19 38.8 +1.1
	3.8nm,0.8s					
IMA2	Indian Mountai	54.22	338	eP	P	19 19 40.9 -0.6
VAH	Vaihoa	54.40	232	eT	T	20 18 20.4
	3.2nm,0.2s					
PMOR	Pomarlorio Ree	54.45	232	eT	T	20 18 23.4
	3.2nm,0.2s					
PPT	Papeete	57.33	231	LR	LR	19 38 50.1
	comp=Z,100nm,21.1s,baz=205,slow=30					
PPT2	Papeete2	57.34	231	eLR	LR	19 36 34.2
	130nm,27.5s					
SIV	San Ignacio	57.64	126	P	P	19 20 05.8 -0.8
SIV	San Ignacio	57.64	126	P	P	19 20 05.8 -0.8
	1.8nm,0.6s,baz=317,slow=9.6,SNR=7.1					
TBI	Tubuai	61.08	226	eT	T	20 26 38.5
	8.0nm,0.2s					
CPUP	Villa Florida	66.87	133	P	P	19 21 08.6 +0.3
CPUP	Villa Florida	66.87	133	P	P	19 21 08.6 +0.3
	1.1nm,0.4s,baz=314,slow=5.9,SNR=5.2					
BDFB	Brasilia	67.80	118	P	P	19 21 15.2 +0.8
BDFB	Brasilia	67.80	118	P	P	19 21 15.2 +0.8
	4.0nm,0.7s,baz=255,slow=3.7,SNR=5.4					
PLCA	Paso Flores	69.92	152	P	P	19 21 27.9 +0.8
PLCA	Paso Flores	69.92	152	P	P	19 21 27.9 +0.8
	3.2nm,0.9s,baz=343,slow=7.5,SNR=5.0					
PETK	Petropavlovsk-	76.92	322	P	P	19 22 08.0 -0.2
PETK	Petropavlovsk-	76.92	322	P	P	19 22 08.0 -0.2
	2.4nm,0.8s,baz=119,slow=8.8,SNR=4.2					
NB2	NORSAR Subarra	84.03	26	P	P	19 22 46.7 +0.4
	comp=Z,1.7nm,0.7s,baz=297,slow=4.8					
NOA	NORSAR Array B	84.03	26	P	P	19 22 46.6 +0.3
NOA	NORSAR Array B	84.03	26	P	P	19 22 46.6 +0.3
	comp=Z,3.0nm,0.9s,baz=300,slow=4.7,SNR=8.5					
NOA				LR	LR	20 01 36.8
	comp=Z,63nm,18.0s,baz=330,slow=37					
ESDC	Sonseca Array	85.69	49	P	P	19 22 55.1 0.0
ESDC	Sonseca Array	85.69	49	P	P	19 22 55.1 0.0
	comp=Z,1.3nm,0.7s,baz=305,slow=5.3,SNR=9.6					
FINES	FINESS Array B	89.28	21	LR	LR	20 02 34.8
	comp=Z,196nm,19.2s,baz=270,slow=35					
DAVOX	Davos/Dischmat	91.24	38	LR	LR	20 02 26.2
	comp=Z,108nm,18.5s,baz=162,slow=34					
VRAC	Vranov	93.44	33	LR	LR	20 09 07.1
	comp=Z,76nm,18.4s,baz=332,slow=38					
KEST	Kesra	96.84	48	LR	LR	20 07 59.3
	comp=Z,25nm,21.6s,baz=225,slow=36					
AKASG	Malin Array Be	98.41	27	P	P	19 23 52.5 -1.4
AKASG	Malin Array Be	98.41	27	P	P	19 23 52.5 -1.4
	comp=Z,0.1nm,0.3s,baz=306,slow=3.4,SNR=4.3					
HHC	Hu-ho-hao-te	109.03	331	Pdif	Pdif	19 24 40.0 -1.7
HHC				PP	PP	19 29 14.5 +1.6
HHC				S	Sdif	19 36 43.5 -6.7
HHC				SS	SS	19 44 31.5 +1.3
HHC				LR	LR	
	comp=N,190nm,19.4s					
HHC				LR	LR	
	comp=E,120nm,18.8s					
HHC				LR	LR	
	comp=Z,130nm,18.1s					
WMQ	Urumqi	114.11	349	ePKP	PKiKP	19 28 55.0 -0.5
WMQ				LR	LR	
	comp=E,44nm,17.0s					
WMQ				LR	LR	
	comp=Z,33nm,16.0s					
GTA	Gaotai	115.03	338	PKP	PKPdf	19 28 52.5 -4.9
GTA				sPKP		19 29 07.0
LZH	Lanzhou	116.37	333	ePKP	PKPdf	19 29 01.5 +1.3
LZH				LR	LR	
	comp=N,140nm,18.0s					
LZH				LR	LR	
	comp=E,140nm,17.8s					
LZH				LR	LR	
	comp=Z,170nm,20.2s					
KSH	Kashi	119.63	358	ePKP	PKPdf	19 29 05.0 -1.3
KSH				sPKP		19 29 19.5
KSH				PP	PP	19 30 31.3 +3.9
KSH				PKS	PKSdf	19 32 40.5 -2.6
KSH				SKS	SKSdf	19 36 12.3 -4.7
KSH				SKKS	SKKSac	19 37 19.5 -8.0
KSH				LR	LR	
	comp=Z,220nm,6.9s					
CD2	Chengdu	120.78	330	PKP	PKPdf	19 29 07.5 -1.1
WRA	Warramunga Arr	123.60	260	PKP	PKPdf	19 29 13.3 -0.8
WRA	Warramunga Arr	123.60	260	PKP	PKPdf	19 29 13.3 -0.8
	comp=Z,1.8nm,0.7s,baz=73,slow=2.1,SNR=13					
ASAR	Alice Springs	124.72	255	PKPpre	PKPpre	19 29 09.3
ASAR				PKP	PKPdf	19 29 15.2 -1.1
ASAR	Alice Springs	124.72	255	PKhKP	PKPpre	19 29 09.3
	comp=Z,0.2nm,0.6s,baz=78,slow=3.6,SNR=4.1					
ASAR				PKP	PKPdf	19 29 15.2 -1.1
	comp=Z,1.6nm,0.7s,baz=79,slow=2.1,SNR=24					
CMAR	Chiang Mai Arr	133.57	326	PKP	PKPdf	19 29 33.5 +0.3
CMAR	Chiang Mai Arr	133.57	326	PKP	PKPdf	19 29 33.5 +0.3
	comp=Z,0.7nm,0.7s,baz=17,slow=2.1,SNR=5.4					
BOSA	Boshof	135.59	110	PKP	PKPdf	19 29 35.5 -1.4
BOSA	Boshof	135.59	110	PKP	PKPdf	19 29 35.5 -1.4
	comp=Z,3.2nm,0.9s,baz=304,slow=3.6,SNR=3.1					

IDC 26 19:10:56.3±2.3, 28°.77S×176°.40W, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.6/16, mbtmp3.7/2, MS3.7/2, Ms1 3.7/2, ms1mx2.9/32, Error ellipse: s-maj=58.8km s-min=30.5km az=149.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
RAO	Raoul Island	1.42	250	Pn	Pn	Pb	19 11 24.9	+1.3
	198nm,0.3s,baz=72,slow=22,SNR=12							
RAO				Sn	Sn	Sn	19 11 42.6	-0.1
	687nm,0.3s,baz=253,slow=19,SNR=9.6							
PPT	Papeete	26.99	71	LR	LR	LR	19 24 23.7	
	comp=Z,93nm,19.2s,baz=203,slow=30							
STKA	Stephens Creek	36.23	254	LR	LR	LR	19 31 58.3	
	comp=Z,189nm,18.7s,baz=24,slow=35							
ASAR	Alice Springs	44.62	265	P	P	P	19 19 10.1	-0.7
	1.3nm,1.1s,baz=104,slow=7.0,SNR=6.1							
WRA	Warramunga Arr	45.47	270	P	P	P	19 19 16.4	-1.1
	0.7nm,0.9s,baz=112,slow=6.4,SNR=2.8							
AKASG	Malin Array Be	150.80	326	PKPbc	PKPbc	PKPbc	19 30 50.6	+0.3
	0.2nm,0.3s,baz=42,slow=2.6,SNR=5.9							

*IDC **26** 19:12:20.9±1.0, 28°.51S×176°.73W, h0km, mb4.1/4, mb1 4.2/4, mb1mx3.9/15, mbtmp4.1/4, MS3.5/1, Ms1 3.5/1, ms1mx2.9/30, Error ellipse: s-maj=39.0km s-min=21.8km az=141.0*

*ISCJB **26** 19:12:22.3±1.1, 28°.4S±0°.1×176°.6W±0°.1, h29km, mb4.3/7, Error ellipse: s-maj=23.5km s-min=14.1km az=141.7*

*NEIC **26** 19:12:26.0±0.6, 28°.55S×176°.71W, h35km, mb4.6/3, Error ellipse: s-maj=18.8km s-min=14.5km az=153.0*

ISC 26 19:12:25.2±0.8, 28°.6S±0°.2×176°.7W±0°.1, h29km, n32, σ0°61/35, mb4.4/7, 1C-1D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
RAO	Raoul Island	1.29	238	Pn	Pn	Pn	19 12 47.1	-0.1
RAO				ePg	Pb	Pb	19 12 47.9	-0.9
RAO				Sn	Sb	Sb	19 13 05.8	+0.8
RAO	Raoul Island	1.29	238	Pn	Pn	Pn	19 12 47.1	-0.1
	205nm,0.3s,baz=107,slow=19,SNR=2.5							
RAO				Sn	Sb	Sb	19 13 05.8	+0.8
	840nm,0.3s,baz=93,slow=24,SNR=6.0							
RPZ	Rata Peaks	18.04	210	LR	LR	LR	19 23 13.6	
	comp=Z,161nm,19.1s,baz=346,slow=36							
CTAO	Charters Tower	34.71	276	P	P	P	19 19 14.1	+1.3
	8.5nm,1.2s							
STKA	Stephens Creek	36.05	254	P	P	P	19 19 23.7	-0.6
STKA	Stephens Creek	36.05	254	P	P	P	19 19 23.7	-0.6
	3.5nm,0.9s,baz=116,slow=16,SNR=4.0							
ASAR	Alice Springs	44.40	264	P	P	P	19 20 32.6	-0.9
ASAR				PcP	PcP	PcP	19 22 17.1	0.0
ASAR	Alice Springs	44.40	264	P	P	P	19 20 32.6	-0.9
	1.2nm,0.6s,baz=95,slow=6.9,SNR=16							
ASAR				PcP	PcP	PcP	19 22 17.1	0.0
	0.5nm,0.8s,baz=118,slow=3.6,SNR=4.5							
WRAB	Tennant Creek	45.22	270	eP	P	P	19 20 39.5	-0.6
	8.8nm,1.1s							
WRA	Warramunga Arr	45.23	270	P	P	P	19 20 39.1	-1.0
WRA				PcP	PcP	PcP	19 22 20.3	+0.3
WRA	Warramunga Arr	45.23	270	P	P	P	19 20 39.1	-1.0
	1.1nm,0.6s,baz=109,slow=7.7,SNR=5.4							
WRA				PcP	PcP	PcP	19 22 20.3	+0.3
	0.8nm,0.7s,baz=114,slow=3.3,SNR=4.7							
QSPA	South Pole Qui	61.53	180	eP	P	P	19 22 39.9	+0.5
	4.1nm,0.8s							
MAW	Mawson	74.42	200	P	P	P	19 24 00.8	+0.7
MAW	Mawson	74.42	200	P	P	P	19 24 00.8	+0.7
	2.7nm,0.7s,baz=140,slow=5.1,SNR=8.0							
SYO	Syowa Base	79.15	193	eP	P	P	19 24 26.0	-0.7
SYO	Syowa Base	79.15	193	eP	P	P	19 24 30.2	+3.5
MKAR	Makanchi Array	117.48	311	PKP	PKPdf	PKPdf	19 31 07.5	-0.4
MKAR	Makanchi Array	117.48	311	PKP	PKPdf	PKPdf	19 31 07.5	-0.4
	0.2nm,0.7s,baz=127,slow=3.8,SNR=3.4							
KMBO	Kilima Mbogo	136.09	234	PKP	PKPdf	PKPdf	19 31 44.6	-0.1
KMBO	Kilima Mbogo	136.09	234	PKP	PKPdf	PKPdf	19 31 44.6	-0.1
	0.7nm,0.4s,baz=124,slow=3.3,SNR=3.4							
FINES	FINESS Array B	143.81	342	PKP	PKPbc	PKPbc	19 31 54.6	+0.1
FINES	FINESS Array B	143.81	342	PKP	PKPbc	PKPbc	19 31 54.6	+0.1
	2.3nm,0.9s,baz=107,slow=2.0,SNR=4.9							
NOA	NORSAR Array B	147.10	353	PKPbc	PKPbc	PKPbc	19 32 04.9	+0.1
NOA	NORSAR Array B	147.10	353	PKPbc	PKPbc	PKPbc	19 32 04.9	+0.1
	0.7nm,0.5s,baz=12,slow=4.5,SNR=3.1							
HFS	Hagfors	147.67	350	PKPbc	PKPbc	PKPbc	19 32 06.7	+0.4
HFS	Hagfors	147.67	350	PKPbc	PKPbc	PKPbc	19 32 06.7	+0.4
	baz=57,slow=5.3							
AKASG	Malin Array Be	150.50	326	PKPbc	PKPbc	PKPbc	19 32 14.2	+0.5
AKASG	Malin Array Be	150.50	326	PKPbc	PKPbc	PKPbc	19 32 14.2	+0.5
	1.1nm,0.5s,baz=44,slow=2.7,SNR=7.8							
BRTR	Keskin Array B	152.68	302	PKPab	PKPab	PKPab	19 32 30.2	+0.1
BRTR	Keskin Array B	152.68	302	PKPab	PKPab	PKPab	19 32 30.2	+0.1
	0.4nm,0.5s,baz=159,slow=4.4,SNR=3.4							
TORD	Torodi Ar. Bea	164.58	174	PKPab	PKPab	PKPab	19 33 21.4	-0.3
TORD	Torodi Ar. Bea	164.58	174	PKPab	PKPab	PKPab	19 33 21.4	-0.3
	0.5nm,0.7s,baz=178,slow=4.5,SNR=2.6							

KRSC 26 19:18:10.7±1.9, 56°.26N×163°.50E, h11km±11km, ML3.5, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	0.38	262	*i* P	Pg	Pg	19 18 18.3	0.0
KBTR				*i* S	Sg	Sg	19 18 23.1	-0.3
SMKR	Semkarok	1.17	287	eP	Pb	Pb	19 18 30.4	-2.7
SMKR				*i* S	Sb	Sb	19 18 48.0	-0.4
BDR	Baidarnaya	1.31	285	eP	Pn	Pn	19 18 35.0	0.0
BDR				*i* S	Sg	Sg	19 18 53.5	+0.4
SRKR	Sorokina	1.35	288	eP	Pn	Pn	19 18 35.1	-0.5
SRKR				*i* S	Sb	Sb	19 18 53.4	-0.1
KLY	Klyuchi	1.59	273	eP	Pn	Pn	19 18 35.8	-2.9
KLY				*i* S	Sn	Sn	19 18 55.6	-3.6
BZWR	Bezymyannyi-We	1.71	261	eP	Pn	Pn	19 18 40.0	-0.6
BKI	Bering	1.75	126	eP	Pn	Pn	19 18 39.4	-1.6
BKI				*i* S	Sn	Sn	19 19 02.5	-0.8
KIRR	Kirishev	1.80	261	eP	Pn	Pn	19 18 39.6	-2.2
KIRR				*i* S	Sn	Sn	19 19 05.1	+0.4
KPT	Kopyto	1.

LEM	**Lembang**	**1.40**	**15**	P	**Pn**	**19 37 33.5**	**+0.8**
	baz=1.6,SNR=168						
LEM				S	**Sb**	**19 37 51.7**	**-0.5**
	baz=1.6,SNR=7.8						
DBJI	**Dramaga**	**1.70**	**343**	P	**Pn**	**19 37 38.0**	**+1.4**
DBJI				S	**Sn**	**19 37 56.8**	**-0.6**
CLJI	**Cilicap**	**1.81**	**75**	P	**Pb**	**19 37 41.6**	**+0.2**
CLJI				S	**Sb**	**19 38 05.5**	**+1.8**
KPJI	**Karang Pucung**	**1.87**	**63**	P	**Pn**	**19 37 39.7**	**+0.7**
KPJI				S	**Sn**	**19 38 01.7**	**+0.1**
TGJI	**Tegal**	**2.27**	**55**	P	**Pn**	**19 37 45.8**	**+1.3**
TGJI				S	**Sn**	**19 38 09.8**	**-1.8**
BJII	**Banjamegara**	**2.58**	**71**	P	**Pn**	**19 37 49.2**	**+0.4**
BJII				S	**Sn**	**19 38 21.2**	**+1.9**
XMI	**Christmas Isla**	**2.72**	**214**	P	**Pn**	**19 37 52.1**	**+1.4**
	baz=2.7,SNR=12						
XMI				S	**Sn**	**19 38 21.4**	**-1.2**
	baz=2.7,SNR=5.9						
XMIS	**Christmas Isla**	**2.77**	**215**	P	**Pn**	**19 37 52.5**	**+1.2**
	baz=2.7,SNR=26						
XMIS				S	**Sn**	**19 38 21.6**	**-2.2**
	baz=2.7,SNR=9.1						
UGM	**Wanagama**	**3.25**	**85**	P	**Pn**	**19 37 58.4**	**+0.4**
UGM	**Wanagama**	**3.25**	**85**	P	**Pn**	**19 37 58.4**	**+0.4**
	baz=3.1,SNR=12						
BLSI	**Bandar Lampung**	**3.44**	**325**	P	**Pn**	**19 38 01.3**	**+0.8**
KASI	**Kota Agung**	**3.81**	**314**	P	**Pn**	**19 38 07.0**	**+1.4**
KASI				S	**Sn**	**19 38 48.3**	**-1.1**
PCJI	**Pacitan**	**3.89**	**90**	P	**Pn**	**19 38 07.5**	**+0.8**
SJI	**Sawahan**	**4.50**	**85**	P	**Pn**	**19 38 17.2**	**+2.0**
PWJI	**Pagerwojo**	**4.51**	**88**	P	**Pn**	**19 38 15.9**	**+0.6**
PWJI				S	**Sn**	**19 39 07.6**	**+0.7**
MDSI	**Maura Dua**	**4.78**	**320**	P	**Pn**	**19 38 20.7**	**+1.7**
GRJI	**Gresik**	**5.34**	**77**	P	**Pn**	**19 38 27.8**	**+1.1**
	96nm,1.3s,0.3nm						
MNAI	**Manna**	**5.72**	**311**	P	**Pn**	**19 38 33.2**	**+1.3**
MNAI	**Manna**	**5.72**	**311**	P	**Pn**	**19 38 34.2**	**+2.3**
	baz=5.9,SNR=7.5						
GIRL	**Giralia**	**15.86**	**156**	S	Sn	19 43 37.5	-7.7
	baz=16,SNR=5.2						
SOEI	**Soe**	**16.88**	**97**	P	**P**	**19 41 04.5**	**-0.7**
	baz=17,SNR=5.5						
FITZ	**Fitzroy Crossi**	**20.42**	**121**	P	**P**	**19 41 44.7**	**+0.8**
	baz=20,SNR=5.9						
MEEK	**Meekatharra**	**21.29**	**151**	P	P	19 42 03.4	+10
	baz=21,SNR=3.6						
MEEK				S	**S**	**19 45 44.3**	**-4.0**
	baz=21,SNR=8.4						
KDU	**Kakadu**	**25.20**	**102**	P	**P**	**19 42 30.3**	**-1.9**
	baz=25,SNR=3.7						
WRA	**Warramunga Arr**	**28.70**	**117**	P	**P**	**19 43 02.7**	**-1.1**
	0.5nm,0.8s,baz=306,slow=8.4,SNR=3.8						
ASAR	**Alice Springs**	**29.81**	**124**	P	**P**	**19 43 13.0**	**-0.6**
	0.3nm,0.7s,baz=303,slow=8.1,SNR=5.8						
STKA	**Stephens Creek**	**39.67**	**131**	P	**P**	**19 44 41.2**	**+2.6**
	baz=40,SNR=6.9						

*IDC **26** 19:44:52.0±0.9,29°.45N×51°.48E,h0km,mb3.9/22,*
mb1 4.0/26,mb1mx3.9/36,mbtmp3.9/26,ML3.6/3,MS3.0/2,
Ms1 3.0/2,ms1mx2.5/44,Error ellipse: s-maj=21.8km
s-min=13.1km az=9.0
*THR **26** 19:44:53.8±0.5,29°.53N×51°.46E,h14km±10km,ML3.7*
*CSEM **26** 19:44:55.9±0.2,29°.53N×51°.46E,h20km,mb4.2/39,Error*
ellipse: s-maj=8.2km s-min=5.0km az=178.0
*KISR **26** 19:44:55.8±1.1,29°.75N×51°.47E,h33km±816km,ML3.7*
*MOS **26** 19:44:55.3±1.1,29°.43N×51°.50E,h33km,mb4.2/20,Error*
ellipse: s-maj=11.7km s-min=6.2km az=120.1
*TEH **26** 19:44:59.0,29°.55N×51°.50E,h34km,ML3.7*
*ISN **26** 19:47:06.4±1.7,31°.08N×46°.31E,h0km±7km,ML3.8*
ISC 26 19:44:53.6±1.2,29°.44N±0°.06×51°.35E±0°.02,h11km±8km,
n230,σ1$22/222,mb4.2/49,14C-10D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPAR	**Pars**	**1.53**	**75**	*e*Pn	**Pb**	**19 45 20.1**	**-2.0**
IPAR				*e*Sg	**Sg**	**19 45 43.2**	**+0.4**
IPAR				*e*		19 45 46.7	
	comp=E,20μm,0.4s						
IPAR	**Pars**	**1.53**	**75**	*e*Pn	**Pb**	**19 45 20.1**	**-2.0**
ISRV	**Sarvestan**	**1.54**	**92**	*e*Pn	**Pg**	**19 45 22.0**	**-1.1**
ISRV				*e*Sg	**Sg**	**19 45 44.4**	**+1.3**
ISRV				*e*		19 45 58.2	
	comp=Z,22μm,0.4s						
ISRV	**Sarvestan**	**1.54**	**92**	*e*Pn	**Pg**	**19 45 22.0**	**-1.1**
GHIR	**Ghir-Karzin**	**1.84**	**128**	*e*Pg	**Pb**	**19 45 27.1**	**-0.2**
GHIR				AML	AML	19 46 01.9	
	comp=E,830nm,0.7s						
GHIR				AML	AML	19 46 05.7	
	comp=N,750nm,0.5s						
GHIR	**Ghir-Karzin**	**1.84**	**128**	*e*Pg	**Pb**	**19 45 27.1**	**-0.2**
IGAR	**Gharneh**	**3.01**	**11**	*e*Pn	Pb	19 45 42.4	-4.9
IGAR				*e*		19 45 56.1	
	comp=Z,1μm,0.1s						
QRN	**Al-Qurain**	**3.09**	**258**	*e*P	**Pb**	**19 45 47.6**	**-1.0**
QRN				*e*S	**Sb**	**19 46 27.1**	**+0.9**
QRN				AML	AML	19 46 29.1	
	comp=Z,504nm,0.7s						
UMR	**Umm Al-Rimmam**	**3.17**	**273**	*e*P	**Pb**	**19 45 48.2**	**-1.8**
UMR				*e*S	**Sb**	**19 46 26.9**	**-1.8**
UMR				AML	AML	19 46 31.1	
	comp=Z,180nm,0.5s						
UMR	**Umm Al-Rimmam**	**3.17**	**273**	*e*P	**Pb**	**19 45 48.2**	**-1.8**
UMR				*e*S	**Sb**	**19 46 26.9**	**-1.8**
	comp=Z,180nm,0.5s						
ISAD	**Sadrabad**	**3.18**	**39**	*e*Pn	Pb	19 45 45.1	-5.1
ISAD				*e*		19 46 45.0	
	comp=Z,2μm,0.4s						
ISAD	**Sadrabad**	**3.18**	**39**	*e*Pn	Pb	19 45 45.1	-5.1
KBD	**Kabd**	**3.21**	**266**	*e*P	**Pb**	**19 45 49.7**	**-0.9**
KBD				*e*S	**Sb**	**19 46 29.5**	**-0.2**
KBD				AML	AML	19 46 32.5	
	comp=Z,75nm,0.3s						
KBD	**Kabd**	**3.21**	**266**	*e*P	**Pb**	**19 45 49.7**	**-0.9**
KBD				*e*S	**Sb**	**19 46 29.5**	**-0.2**
RDF	**Al-Radifah**	**3.37**	**262**	*e*P	**Pb**	**19 45 51.8**	**-1.5**
RDF				*e*S	**Sb**	**19 46 33.2**	**-1.1**
RDF				AML	AML	19 46 36.0	
	comp=Z,129nm,0.6s						
RDF	**Al-Radifah**	**3.37**	**262**	*e*P	**Pb**	**19 45 51.8**	**-1.5**
RDF				*e*S	**Sb**	**19 46 33.2**	**-1.1**
IMEH	**Mehriz**	**3.42**	**55**	*e*Pn	Pb	19 45 48.2	-6.1
IMEH				*e*		19 46 54.0	
	comp=Z,3μm,0.8s						
IMEH	**Mehriz**	**3.42**	**55**	*e*Pn	Pb	19 45 48.2	-6.1
IZEF	**Zefreh**	**3.54**	**13**	*e*Pn	Pn	19 45 49.8	+1.0
IZEF				*e*		19 46 09.5	
	comp=Z,495nm,0.2s						
IZEF	**Zefreh**	**3.54**	**13**	*e*Pn	Pn	19 45 49.8	+1.0
NASN	**Na'in**	**3.57**	**20**	*e*PN5	**Pn**	**19 45 49.5**	**+0.3**
NAY	**Al-Naaiem**	**3.59**	**268**	*e*P	Pb	19 45 54.1	-3.1
NAY				*e*S	**Sb**	**19 46 38.9**	**-2.0**
NAY				AML	AML	19 46 46.5	
	comp=Z,82nm,0.8s						
NAY	**Al-Naaiem**	**3.59**	**268**	*e*P	Pb	19 45 54.1	-3.1
NAY				*e*S	**Sb**	**19 46 38.9**	**-2.0**
ICHK	**Chekchek**	**3.83**	**42**	*e*Pn	**Pn**	**19 45 52.8**	**0.0**
ICHK				*e*		19 46 10.9	
	comp=Z,1μm,0.2s						
ICHK	**Chekchek**	**3.83**	**42**	*e*Pn	**Pn**	**19 45 52.8**	**0.0**
IKLH	**Kolahrood**	**3.87**	**3**	*e*Pn	**Pn**	**19 45 54.2**	**+0.9**
IKLH				*e*		19 46 11.2	
	comp=Z,590nm,0.2s						
IKLH	**Kolahrood**	**3.87**	**3**	*e*Pn	**Pn**	**19 45 54.2**	**+0.9**
IBAF	**Bafgh**	**4.22**	**58**	*e*Pn	Pn	19 45 58.6	+0.6
IBAF				*e*		19 46 13.4	
	comp=Z,614nm,0.2s						
IBAF	**Bafgh**	**4.22**	**58**	*e*Pn	Pn	19 45 58.6	+0.6
KHMZ	**Khomeyn**	**4.45**	**345**	*e*Pn	**Pn**	**19 46 02.4**	**+1.2**
KHMZ	**Khomeyn**	**4.45**	**345**	*e*Pn	**Pn**	**19 46 02.4**	**+1.2**
BNDS	**Bandar-Abbas**	**4.71**	**114**	*e*Pn	Pn	19 46 06.4	+1.7
BNDS	**Bandar-Abbas**	**4.71**	**114**	*e*Pn	Pn	19 46 06.4	+1.7
KRBR	**Kerman**	**4.73**	**82**	*e*Pn	**Pn**	**19 46 05.9**	**+0.7**
KRBR				AML	AML	19 47 26.9	
	comp=E,60nm,0.7s						
KRBR				AML	AML	19 47 35.2	
	comp=N,70nm,0.7s						
KRBR	**Kerman**	**4.73**	**82**	*e*Pn	**Pn**	**19 46 05.9**	**+0.7**
NSR	**Nassriya**	**4.78**	**290**	*e*PG	Sn	19 47 07.8	+7.0
NSR				*e*SG	Sb	19 47 09.0	-5.8
ISFB	**Sefidab**	**4.95**	**9**	*e*		19 46 26.0	
	comp=Z,346nm,0.2s						
ISFB				*e*Pn	**Pn**	**19 46 08.7**	**+0.7**
ASAO	**Ashtian**	**5.21**	**348**	*e*Pn	**Pn**	**19 46 13.0**	**+1.3**
ASAO	**Ashtian**	**5.21**	**348**	*e*Pn	**Pn**	**19 46 13.0**	**+1.3**
IVRN	**Varamin**	**5.54**	**3**	*e*Pn	**Pn**	**19 46 16.7**	**+0.6**
IVRN				*e*		19 46 27.9	
	comp=Z,315nm,0.1s						
IVRN	**Varamin**	**5.54**	**3**	*e*Pn	**Pn**	**19 46 16.7**	**+0.6**
IKOM	**Komasi**	**5.74**	**326**	*e*Pn	Pn	19 46 21.3	+2.4
IKOM				*e*		19 47 35.1	
	comp=Z,537nm,0.4s						
IKOM	**Komasi**	**5.74**	**326**	*e*Pn	Pn	19 46 21.3	+2.4
IBDR	**Badra**	**5.91**	**310**	*e*PG	**Sb**	**19 47 52.1**	**+4.7**
IBDR				*e*SG	Sg	19 48 23.1	+20
IRAZ	**Razeghan**	**6.07**	**349**	*e*Pn	**Pn**	**19 46 24.5**	**+1.1**
IRAZ				*e*		19 46 57.6	
	comp=Z,185nm,0.3s						
IRAZ	**Razeghan**	**6.07**	**349**	*e*Pn	**Pn**	**19 46 24.5**	**+1.1**
IDMV	**Damavand**	**6.14**	**5**	*e*Pn	**Pn**	**19 46 25.2**	**+0.6**
IDMV				*e*		19 46 28.2	
	comp=N,324nm,0.1s						
IDMV	**Damavand**	**6.14**	**5**	*e*Pn	**Pn**	**19 46 25.2**	**+0.6**
IANJ	**Anjilo**	**6.38**	**19**	*e*Pn	**Pn**	**19 46 27.5**	**-0.3**
IANJ				*e*		19 46 31.1	
	comp=Z,126nm,0.2s						
IANJ	**Anjilo**	**6.38**	**19**	*e*Pn	**Pn**	**19 46 27.5**	**-0.3**
ISHM	**Shahmirzad**	**6.55**	**14**	*e*Pn	**Pn**	**19 46 30.2**	**0.0**
ISHM				*e*		19 46 35.6	
	comp=Z,243nm,0.2s						
ISHM	**Shahmirzad**	**6.55**	**14**	*e*Pn	**Pn**	**19 46 30.2**	**0.0**
SNGE	**Sanandaj**	**6.58**	**330**	*e*Pn	**Pn**	**19 46 32.1**	**+1.7**
SNGE	**Sanandaj**	**6.58**	**330**	*e*Pn	**Pn**	**19 46 32.1**	**+1.7**
IDHR	**Dehrash**	**6.72**	**322**	*e*Pn	Pn	19 46 34.8	+2.3
IDHR				*e*		19 48 02.2	
	comp=Z,524nm,0.2s						
IDHR	**Dehrash**	**6.72**	**322**	*e*Pn	Pn	19 46 34.8	+2.3
BHD	**Baghdad**	**7.08**	**304**	*e*PN4	**Sn**	**19 47 52.5**	**-5.1**
BHD				*e*SN4		19 48 24.7	
IKOO	**Kooshah**	**7.21**	**64**	*e*Pn	**Pn**	**19 46 39.3**	**+0.1**
IKOO				*e*		19 48 57.2	
	comp=N,291nm,0.5s						
IKOO	**Kooshah**	**7.21**	**64**	*e*Pn	**Pn**	**19 46 39.3**	**+0.1**
ASF	**Jabal al Asfar**	**12.72**	**286**	Pn	**Pn**	**19 47 55.9**	**+1.3**
	comp=N,0.2nm,0.3s,baz=84,slow=18,SNR=2.5						
ASF				Sn	**Sn**	**19 50 15.0**	**-1.3**
	comp=N,0.2nm,0.3s,baz=28,slow=15,SNR=2.8						
MMAI	**Mount Meron Ar**	**14.11**	**289**	Pn	**Pn**	**19 48 14.4**	**+1.0**
	baz=100,slow=16,SNR=2.3						
MMAI				Sn	**Sn**	**19 50 51.5**	**+1.4**
	comp=N,0.5nm,0.3s,baz=102,slow=40,SNR=3.3						
ZEI	**Tsey**	**14.61**	**338**	*e*P	P	19 48 23.1	-3.7
ZEI				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KBZ	**Khabaz**	**15.78**	**337**	P	**P**	**19 48 38.1**	**-1.5**
KBZ	**Khabaz**	**15.78**	**337**	Pn	**P**	**19 48 38.1**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=149,slow=12,SNR=8.6						
KBZ	**Khabaz**	**15.78**	**337**	P	**P**	**19 48 38.1**	**-1.5**
KIV	**Kislovodsk**	**16.05**	**337**	*d i*P	**P**	**19 48 43.2**	**+0.5**
KIV				pmax	pmax		
	comp=Z,26nm,1.0s						
KIV	**Kislovodsk**	**16.05**	**337**	*i*P	**P**	**19 48 43.2**	**+0.5**
	comp=Z,26nm,1.0s						
BRTR	**Keskin Array B**	**17.80**	**310**	P	**P**	**19 49 03.4**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=129,slow=13,SNR=5.0						
BRTR	**Keskin Array B**	**17.80**	**310**	P	**P**	**19 49 03.4**	**+1.1**
ATD	**Arta Tunnel**	**19.51**	**206**	LR	LR	19 57 19.4	
	comp=Z,38nm,18.7s,baz=22,slow=38						
AKTK	**Aktyubinsk**	**21.56**	**12**	P	**P**	**19 49 42.5**	**-0.5**
	comp=Z,3.0nm,0.7s						
AKTO	**Aktyubinsk**	**21.56**	**12**	P	**P**	**19 49 42.5**	**-0.5**
AKTO				pmax	pmax		
	comp=Z,3.0nm,0.7s						
AKTO	**Aktyubinsk**	**21.56**	**12**	P	**P**	**19 49 42.5**	**-0.5**
	comp=Z,3.4nm,0.7s,baz=200,slow=12,SNR=5.7						
AAK	**Ala-Archa**	**22.79**	**48**	P	**P**	**19 49 55.7**	**-0.7**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AAK	**Ala-Archa**	**22.79**	**48**	P	**P**	**19 49 55.7**	**-0.7**
	comp=Z,1.1nm,0.4s,baz=203,slow=9.5,SNR=4.1						
AAK				LR	LR	20 00 03.6	
	comp=Z,46nm,19.7s,baz=210,slow=40						
AAK	**Ala-Archa**	**22.79**	**48**	P	**P**	**19 49 55.7**	**-0.7**
	comp=Z,1.0nm,0.4s						
IDI	**Anoyia**	**23.07**	**291**	P	**P**	**19 50 02.7**	**+3.5**
	comp=Z,3.1nm,0.6s,baz=170,slow=12,SNR=3.7						
CFR	**Carcaliu**	**24.12**	**317**	⇑P	**P**	**19 50 10.9**	**+1.6**
CFR	**Carcaliu**	**24.12**	**317**	⇑*i*P	**P**	**19 50 10.9**	**+1.6**
CFR	**Carcaliu**	**24.12**	**317**	P	**P**	**19 50 10.9**	**+1.6**
VRI	**Vrincioaia**	**25.32**	**317**	⇑P	**P**	**19 50 22.5**	**+2.2**
VRI	**Vrincioaia**	**25.32**	**317**	⇑*i*P	**P**	**19 50 22.5**	**+2.2**
VRI	**Vrincioaia**	**25.32**	**317**	P	**P**	**19 50 22.5**	**+2.2**
PLOR	**Plostina**	**25.36**	**317**	⇓P	**P**	**19 50 23.3**	**+2.6**
PLOR	**Plostina**	**25.36**	**317**	⇓*i*P	**P**	**19 50 23.3**	**+2.6**
PLOR	**Plostina**	**25.36**	**317**	P	**P**	**19 50 23.3**	**+2.6**
MLR	**Muntele Rosu**	**25.60**	**316**	P	**P**	**19 50 25.1**	**+2.1**
	comp=Z,2.3nm,0.7s,baz=360,slow=8.4,SNR=22						
MLR	**Muntele Rosu**	**25.60**	**316**	P	**P**	**19 50 25.1**	**+2.1**
	comp=Z,2.0nm,0.7s						
TESR	**Tescani**	**25.71**	**318**	⇑*i*P	**P**	**19 50 25.6**	**+1.7**
TESR	**Tescani**	**25.71**	**318**	⇑*i*P	**P**	**19 50 25.6**	**+1.7**
VOIR		**26.12**	**315**	⇑P	**P**	**19 50 30.0**	**+2.3**
VOIR		**26.12**	**315**	⇑*i*P	**P**	**19 50 30.0**	**+2.3**
VOIR		**26.12**	**315**	P	**P**	**19 50 30.0**	**+2.3**
ARR	**Arges**	**26.35**	**314**	⇓*i*P	**P**	**19 50 31.4**	**+1.7**
ARR	**Arges**	**26.35**	**314**	⇓*i*P	**P**	**19 50 31.4**	**+1.7**
AKASG	**Malin Array Be**	**26.97**	**328**	P	**P**	**19 50 34.3**	**-0.8**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	**26.97**	**328**	P	**P**	**19 50 34.3**	**-0.8**
	comp=Z,0.5nm,0.4s,baz=133,slow=9.6,SNR=7.8						
AKASG	**Malin Array Be**	**26.97**	**328**	P	**P**	**19 50 34.3**	**-0.8**
	comp=Z,1.0nm,0.6s						
BURAR	**Bucovina Array**	**27.14**	**319**	⇓P	**P**	**19 50 38.8**	**+2.0**
BURAR	**Bucovina Array**	**27.14**	**319**	⇓*i*P	**P**	**19 50 38.8**	**+2.0**
BURAR	**Bucovina Array**	**27.14**	**319**	⇓*i*P	**P**	**19 50 38.8**	**+2.0**
BRVK	**Borovoye**	**27.39**	**25**	*ce*P	**P**	**19 50 39.1**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,8.0nm,2.5s						
BRVK	**Borovoye**	**27.39**	**25**	*e*P	**P**	**19 50 39.1**	**+0.3**
	comp=Z,8.0nm,2.5s						
BVAR	**Borovoye Array**	**27.40**	**25**	P	**P**	**19 50 38.8**	**-0.2**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BVAR	**Borovoye Array**	**27.40**	**25**	P	**P**	**19 50 38.8**	**-0.2**
	comp=Z,1.4nm,0.6s,baz=226,slow=8.1,SNR=10.0						
BVAR	**Borovoye Array**	**27.40**	**25**	P	**P**	**19 50 38.8**	**-0.2**
	comp=Z,1.0nm,0.6s						
DRGR		**28.20**	**316**	⇑P	**P**	**19 50 48.3**	**+2.0**
DRGR		**28.20**	**316**	⇑*i*P	**P**	**19 50 48.3**	**+2.0**
DRGR		**28.20**	**316**	P	**P**	**19 50 48.3**	**+2.0**
KURBB	**Kurchatov Arra**	**29.39**	**36**	P	**P**	**19 50 56.4**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=236,slow=9.3,SNR=6.4						
KURK	**Kurchatov**	**29.49**	**36**	P	**P**	**19 50 56.4**	**-1.2**
KURK				pmax	pmax		
	comp=Z,1.0nm,1.0s						
KURK	**Kurchatov**	**29.49**	**36**	P	**P**	**19 50 56.4**	**-1.2**
	comp=Z,1.0nm,1.0s						
MKAR	**Makanchi Array**	**29.61**	**46**	P	**P**	**19 50 58.4**	**-0.4**
MKAR						19 54 02.6	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**29.61**	**46**	P	**P**	**19 50 58.4**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=226,slow=6.5,SNR=5.0						
MKAR				PcP	**PcP**	**19 54 02.6**	**-0.7**
	comp=Z,0.2nm,0.6s,baz=197,slow=4.5,SNR=2.6						
MKAR	**Makanchi Array**	**29.61**	**46**	P	**P**	**19 50 58.4**	**-0.4**
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**29.61**	**46**	PcP	**PcP**	**19 54 02.6**	**-0.7**
OKC	**Ostrava-Krasne**	**32.30**	**318**	*e*P	P	19 51 24.8	+2.4
OKC	**Ostrava-Krasne**	**32.30**	**318**	*e*P	P	19 51 24.8	+2.4
OKC	**Ostrava-Krasne**	**32.30**	**318**	*e*P	P	19 51 24.8	+2.4
VRAC	**Vranov**	**32.99**	**317**	P	**P**	**19 51 29.5**	**+1.0**
	comp=Z,3.9nm,0.7s,baz=122,slow=8.7,SNR=5.5						
VRAC	**Vranov**	**32.99**	**317**	P	**P**	**19 51 29.5**	**+1.0**
	comp=Z,4.0nm,0.7s						
KRLC	**Kraliky**	**33.20**	**318**	*e*P	**P**	**19 51 31.4**	**+1.0**
KRLC	**Kraliky**	**33.20**	**318**	*e*P	**P**	**19 51 31.4**	**+1.0**
KRLC	**Kraliky**	**33.20**	**318**	*e*P	**P**	**19 51 31.4**	**+1.0**
DPC	**Dobruska-Polom**	**33.58**	**318**	*e*P	**P**	**19 51 34.4**	**+0.7**
DPC	**Dobruska-Polom**	**33.58**	**318**	*e*P	**P**	**19 51 34.4**	**+0.7**
DPC	**Dobruska-Polom**	**33.58**	**318**	*e*P	**P**	**19 51 34.4**	**+0.7**
KBA	**Koelnbreinsper**	**34.24**	**312**	⇓*i*pP	**P**	**19 51 37.2**	**-2.4**
	comp=Z,5.6nm,0.8s						
KBA	**Koelnbreinsper**	**34.24**	**312**	P	**P**	**19 51 37.2**	**-2.4**
	comp=Z,5.6nm,0.8s						
ZALV	**Zalesovo Beam**	**34.45**	**35**	P	**P**	**19 51 40.3**	**-0.8**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZALV	**Zalesovo Beam**	**34.45**	**35**	P	**P**	**19 51 40.2**	**-0.8**
	comp=Z,0.6nm,0.3s,baz=249,slow=7.8,SNR=7.3						
ZALV	**Zalesovo Beam**	**34.45**	**35**	P	**P**	**19 51 40.3**	**-0.8**
	comp=Z,1.0nm,0.3s						
PRU	**Pruhonice**	**34.48**	**317**	*e*P	**P**	**19 51 42.3**	**+0.8**
PRU	**Pruhonice**	**34.48**	**317**	*e*P	**P**	**19 51 42.3**	**+0.8**
PRU	**Pruhonice**	**34.48**	**317**	*e*P	**P**	**19 51 42.3**	**+0.8**
GERES	**GERESS Array B**	**34.58**	**315**	P	**P**	**19 51 42.5**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=98,slow=8.1,SNR=7.1						
GERES				PcP	**PcP**	**19 54 16.3**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=119,slow=5.7,SNR=3.4						
GERES	**GERESS Array B**	**34.58**	**315**	P	**P**	**19 51 42.5**	**+0.1**
	comp=Z,1.0nm,0.6s						
GERES	**GERESS Array B**	**34.58**	**315**	PcP	**PcP**	**19 54 16.3**	**-0.6**
KHC	**Kasperske Hory**	**34.75**	**315**	*e*P	**P**	**19 51 45.0**	**+1.1**
KHC	**Kasperske Hory**	**34.75**	**315**	*e*P	**P**	**19 51 45.0**	**+1.1**
KHC	**Kasperske Hory**	**34.75**	**315**	*e*P	**P**	**19 51 45.0**	**+1.1**
BRG	**Berggiesshubel**	**35.18**	**318**	*e*P	**P**	**19 51 49.0**	**+1.5**
	comp=Z,3.4nm,0.8s						
BRG	**Berggiesshubel**	**35.18**	**318**	*e*P	**P**	**19 51 49.0**	**+1.5**
BRG				pmax	pmax		
	comp=Z,8.0nm,0.8s						
BRG	**Berggiesshubel**	**35.18**	**318**	*e*P	**P**	**19 51 49.0**	**+1.5**
	comp=Z,8.0nm,0.8s						
WTTA	**Wattenberg**	**35.41**	**311**	*i* pP	**P**	**19 51 50.7**	**+1.0**
	comp=Z,4.9nm,0.6s,SNR=5.1						
WTTA	**Wattenberg**	**35.41**	**311**	P	**P**	**19 51 50.7**	**+1.0**
	comp=Z,4.9nm,0.6s,SNR=5.1						
MOTA	**Moosalm**	**35.78**	**311**	⇓*i*pP	**P**	**19 51 52.8**	**-0.1**
	comp=Z,4.7nm,0.7s,SNR=7.0						
MOTA	**Moosalm**	**35.78**	**311**	P	**P**	**19 51 52.8**	**-0.1**
	comp=Z,4.7nm,0.7s,SNR=7.0						
CLL	**Collm**	**35.90**	**318**	*e*P	**P**	**19 51 54.0**	**+0.4**
CLL				*e*		19 54 22.0	
CLL				pmax	pmax		
	comp=Z,6.0nm,1.1s						
CLL	**Collm**	**35.90**	**318**	*e*P	**P**	**19 51 54.0**	**+0.4**
	comp=Z,6.0nm,1.1s						
CLL				*e*PP	**PP**	**19 53 17.0**	**+1.9**
CLL				*e*PPP	PPP	19 53 29.0	
CLL				*e*PcP	**PcP**	**19 54 22.0**	**+1.4**
CLL	**Collm**	**35.90**	**318**	*e*P	**P**	**19 51 54.0**	**+0.4**
	comp=Z,6.0nm,1.1s						
FETA	**Feichten**	**35.94**	**311**	⇑*i*pP	**P**	**19 51 55.1**	**+0.9**
	comp=Z,6.5nm,0.8s						
FETA	**Feichten**	**35.94**	**311**	P	**P**	**19 51 55.1**	**+0.9**
	comp=Z,6.5nm,0.8s						
RETA	**Reutte**	**36.04**	**311**	⇑*i*pP	**P**	**19 51 55.2**	**+0.2**
	comp=Z,3.0nm,0.5s,SNR=7.1						
RETA	**Reutte**	**36.04**	**311**	P	**P**	**19 51 55.2**	**+0.2**
	comp=Z,3.0nm,0.5s,SNR=7.1						
FINES	**FINESS Array B**	**36.11**	**340**	P	**P**	19 51 57.0	+1.7
	comp=Z,1.7nm,0.8s,baz=152,slow=8.6,SNR=4.5						
FINES				PcP	**PcP**	**19 54 22.2**	**+1.2**
	comp=Z,2.4nm,0.8s,baz=190,slow=5.6,SNR=2.4						
FINES	**FINESS Array B**	**36.11**	**340**	P	P	19 51 57.0	+1.7
	comp=Z,2.0nm,0.8s						
FINES	**FINESS Array B**	**36.

TORD	**Torodi Ar. Bea**	**48.66**	**261**	P	**P**	**19 53 39.4**	**+1.3**
	comp=Z,1.2nm,0.5s,baz=57,slow=8.2,SNR=16						
DBIC	**Dimbokro**	**57.43**	**258**	P	P	19 54 46.2	+3.5
	comp=Z,2.5nm,0.7s,baz=74,slow=5.8,SNR=3.8						
KSRS	**Korea Array**	**62.78**	**61**	P	**P**	**19 55 17.7**	**-1.4**
	comp=Z,1.3nm,0.7s,baz=279,slow=6.1,SNR=6.6						
KSRS	**Korea Array**	**62.78**	**61**	P	**P**	**19 55 17.7**	**-1.4**
	comp=Z,1.0nm,0.7s						
ILAR	**Eielson Array**	**85.02**	**8**	P	**P**	**19 57 27.8**	**-1.1**
	comp=Z,0.5nm,0.8s,baz=325,slow=4.4,SNR=3.7						
ILAR	**Eielson Array**	**85.02**	**8**	P	**P**	**19 57 27.8**	**-1.1**
	comp=Z,1.0nm,0.8s						
WRA	**Warramunga Arr**	**93.76**	**111**	P	**P**	**19 58 10.4**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=323,slow=3.3,SNR=6.6						
WRA	**Warramunga Arr**	**93.76**	**111**	P	**P**	**19 58 10.4**	**-0.6**
ASAR	**Alice Springs**	**95.25**	**114**	P	**P**	**19 58 16.1**	**-1.7**
	comp=Z,0.3nm,0.7s,baz=310,slow=4.6,SNR=6.9						
ASAR	**Alice Springs**	**95.25**	**114**	P	**P**	**19 58 16.1**	**-1.7**

*BJI **26** 19:47:48.8, 55°.10N×159°.70W, h41km, mB4.8/6, mb4.7/15, Ms4.8/4, Ms7 4.4/4*
*IDC **26** 19:47:48.2±1.1, 55°.34N×159°.67W, h14km±2km, mb3.8/16, mb1 4.0/18, mb1mx3.9/29, mbtmp3.8/18, ML3.8/2, MS3.2/8, Ms1 3.2/8, ms1mx3.1/45, Error ellipse: s-maj=32.0km s-min=14.0km az=176.0*
*NEIC **26** 19:47:49.9, 55°.24N×159°.76W, h15km, mb4.5/5, ML4.0(AEIC), After AEIC.*

ISC 26 19:47:47.6±0.6, 55°.15N±0°.07×159°.54W±0°.04, h18km±1km, h18km:pP-P, n107, σ1§49/126, mb4.3/29, MS3.2/7, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDPT	**Sand Point**	**0.57**	**291**	P	**Pb**	**19 47 58.7**	**-0.3**
SDPT				S	**Sb**	**19 48 07.4**	**+0.6**
VNWF	**Veniaminof 8**	**1.01**	**359**	P	**Pg**	**19 48 07.5**	**+0.3**
VNHG	**Veniaminof 1**	**1.10**	**11**	P	**Pg**	**19 48 09.5**	**+0.6**
PVV	**Pavlof Volcano**	**1.31**	**281**	P	**Pb**	**19 48 11.6**	**0.0**
PVV				S	**Sn**	**19 48 27.6**	**-0.3**
CHGN	**Chignik**	**1.32**	**28**	P	**Pn**	**19 48 11.4**	**+0.3**
CHGN				S	**Sb**	**19 48 29.3**	**+0.9**
DOL	**Dolgoi Island**	**1.34**	**271**	P	**Pn**	**19 48 11.3**	**0.0**
PS4A	**Pavlof South-4**	**1.34**	**280**	P	**Pb**	**19 48 12.0**	**-0.2**
DTNA	**Dutton South F**	**1.56**	**271**	P	**Pn**	**19 48 15.1**	**+0.7**
DT1	**Dutton Round H**	**1.58**	**270**	P	**Pn**	**19 48 14.8**	**+0.3**
DRIA	**Deer Island**	**1.58**	**265**	P	**Pn**	**19 48 14.5**	**-0.2**
DRIA				S	**Sn**	**19 48 34.8**	**+0.3**
FALS	**False Pass**	**2.25**	**264**	P	**Pn**	**19 48 24.9**	**+1.1**
ISNN	**Isanotski Nort**	**2.46**	**264**	P	**Pn**	**19 48 28.6**	**+1.8**
SSLW	**Shishaldin Wes**	**2.67**	**264**	P	**Pb**	**19 48 32.6**	**-2.2**
WESN	**West Dahl Nort**	**2.97**	**261**	P	**Pn**	**19 48 35.4**	**+1.6**
PLK4	**Peulik 4**	**3.06**	**34**	P	**Pb**	**19 48 39.7**	**-1.7**
KJL	**Kejulik**	**3.65**	**35**	P	**Pn**	**19 48 45.2**	**+2.1**
CAHL	**Cahill**	**3.74**	**37**	P	**Pn**	**19 48 46.6**	**+2.2**
AKUT	**Akutan**	**3.76**	**257**	P	**Pn**	**19 48 47.4**	**+2.8**
KABR	**Katmai Barrier**	**3.91**	**38**	P	**Pn**	**19 48 48.4**	**+1.6**
OHAK	**Old Harbor**	**4.07**	**57**	P	**Pn**	**19 48 49.0**	**+0.2**
UNV	**Unalaska Valle**	**4.26**	**255**	P	**Pn**	**19 48 51.9**	**+0.4**
MREP	**Makushin Rep't**	**4.41**	**255**	P	**Pn**	**19 48 54.9**	**+1.3**
KDAK	**Kodiak Island**	**4.67**	**53**	Pn	**Pn**	**19 48 57.8**	**+0.7**
KDAK				Sn	**Sn**	**19 49 48.5**	**-2.3**
KDAK	**Kodiak Island**	**4.67**	**53**	Pn	**Pn**	**19 48 57.8**	**+0.7**
	1.8nm,0.3s,baz=230,slow=7.5,SNR=22						
KDAK				Sn	**Sn**	**19 49 48.5**	**-2.3**
	2.4nm,0.3s,baz=251,slow=15,SNR=3.7						
RSO	**Redoubt South**	**6.44**	**31**	*e*Pn	Pn	19 49 25.7	+4.1
	90nm,0.7s						
SEW	**Seward**	**7.35**	**43**	Pn	**Pn**	**19 49 36.3**	**+2.5**
PPLA	**Purkeypile**	**8.64**	**23**	*e*Pn	Pn	19 49 55.4	+3.8
	13nm,0.6s						
BPAW	**Bear Paw Mtn.**	**9.96**	**22**	*e*Pn	Pn	19 50 15.6	+6.0
	11nm,0.8s						
MCK	**McKinley**	**10.15**	**28**	*e*Pn	Pn	19 50 16.3	+4.2
	27nm,1.2s						
IM04	**Indian Mountai**	**11.22**	**12**	*e*Pn	**Pn**	**19 50 29.3**	**+2.5**
IMA2	**Indian Mountai**	**11.32**	**12**	*e*Pn	Pn	19 50 34.0	+5.7
ILAR	**Eielson Array**	**11.52**	**28**	Pn	**Pn**	**19 50 30.1**	**-0.8**
ILAR				Sn	Sn	19 52 20.1	-19
ILAR	**Eielson Array**	**11.52**	**28**	Pn	**Pn**	**19 50 30.1**	**-0.8**
	0.1nm,0.3s,baz=217,slow=13,SNR=2.8						
ILAR				Sn	Sn	19 52 20.1	-19
	baz=215,slow=17,SNR=2.2						
ILAR				LR	LR	19 54 48.8	
	comp=Z,62nm,18.0s,baz=168,slow=37						
EGAK	**Eagle**	**13.28**	**36**	Pn	**Pn**	**19 50 57.0**	**+2.2**
	4.4nm,0.7s						
DAWY	**Dawson**	**13.50**	**40**	*e*Pn	**Pn**	**19 50 59.4**	**+1.4**
FX1	**Attu Island--F**	**16.16**	**273**	Pn	**P**	**19 51 36.4**	**-0.3**
FX1	**Attu Island--F**	**16.16**	**273**	Pn	**P**	**19 51 36.4**	**-0.3**
	1.6nm,0.3s,baz=56,slow=11,SNR=5.5						
FX1				LR	LR	19 57 25.3	
	comp=Z,108nm,19.4s,baz=28,slow=36						
DLBC	**Dease Lake**	**16.43**	**66**	Pn	**P**	**19 51 42.7**	**+3.0**
DLBC	**Dease Lake**	**16.43**	**66**	Pn	**P**	**19 51 42.7**	**+3.0**
	0.3nm,0.3s,baz=221,slow=9.3,SNR=3.3						
DLBC				LR	LR	19 57 21.2	
	comp=Z,212nm,20.5s,baz=335,slow=35						
YKA	**Yellowknife Ar**	**23.95**	**54**	P	**P**	**19 53 00.7**	**+0.4**
YKA	**Yellowknife Ar**	**23.95**	**54**	P	**P**	**19 53 00.7**	**+0.4**
	1.7nm,0.8s,baz=273,slow=11,SNR=3.8						
PEA0B	**Petropavlovsk-**	**24.86**	**283**	P	**P**	**19 53 11.8**	**+3.1**
PETK	**Petropavlovsk-**	**24.86**	**283**	P	**P**	**19 53 08.7**	**0.0**
PETK	**Petropavlovsk-**	**24.86**	**283**	P	**P**	**19 53 08.7**	**0.0**
	5.6nm,0.7s,baz=79,slow=11,SNR=12						
PETK				LR	LR	20 02 01.2	
	comp=Z,35nm,18.2s,baz=146,slow=34						
NEW	**Newport**	**26.83**	**87**	P	**P**	**19 53 27.8**	**+1.2**
NEW	**Newport**	**26.83**	**87**	P	**P**	**19 53 27.8**	**+1.2**
	2.8nm,0.8s,baz=304,slow=11,SNR=4.2						
NEW				LR	LR	20 04 34.9	
	comp=Z,54nm,19.2s,baz=6.7,slow=37						
YBH	**Yreka Blue Hor**	**27.51**	**104**	LR	LR	20 02 45.5	
	comp=Z,54nm,19.0s,baz=4.6,slow=32						
PDAR	**Pinedale Array**	**34.33**	**90**	pP	pP	19 54 39.4	+0.7
PDAR	**Pinedale Array**	**34.33**	**90**	pP	pP	19 54 39.4	+0.7
	0.6nm,0.7s,baz=91,slow=4.9,SNR=3.6						
TXAR	**Lajitas Array**	**47.13**	**100**	P	**P**	**19 56 20.8**	**+2.2**
TXAR	**Lajitas Array**	**47.13**	**100**	P	**P**	**19 56 20.8**	**+2.2**
	0.7nm,0.6s,baz=293,slow=6.4,SNR=5.9						
TXAR				LR	LR	20 16 02.1	
	comp=Z,33nm,18.1s,baz=0.0,slow=36						
CN2	**Changchun**	**47.76**	**289**	*e*P	**P**	**19 56 23.3**	**+0.1**
KSRS	**Korea Array**	**50.74**	**281**	LR	LR	20 18 17.3	
	comp=Z,21nm,19.7s,baz=265,slow=36						
WVT	**Waverly**	**51.20**	**80**	*e*P	**P**	**19 56 48.7**	**-0.8**
	3.1nm,0.6s						
SONM	**Songino Array**	**54.72**	**305**	P	**P**	**19 57 15.4**	**-0.1**
SONM				pP	**pP**	**19 57 20.4**	**-1.0**
SONM				PcP	**PcP**	**19 58 19.6**	**+1.7**
SONM				pPcP		19 58 23.4	
SONM	**Songino Array**	**54.72**	**305**	P	**P**	**19 57 15.4**	**-0.1**
	1.1nm,0.6s,baz=38,slow=6.5,SNR=4.8						
SONM				pP	**pP**	**19 57 20.4**	**-1.0**
	1.1nm,0.6s,baz=40,slow=6.1,SNR=8.1						
SONM				PcP	**PcP**	**19 58 19.6**	**+1.7**
	1.4nm,0.7s,baz=36,slow=2.6,SNR=5.6						
SONM				pPcP		19 58 23.4	
	1.4nm,0.7s,baz=94,slow=1.5,SNR=7.2						
HHC	**Hu-ho-hao-te**	**57.19**	**296**	*e*P	**P**	**19 57 31.3**	**-2.0**
HHC				pP	**pP**	**19 57 44.0**	**+4.9**
HHC				sP	sP	19 57 49.3	+7.9
HHC				S	S	20 05 21.0	-6.8
HHC				sS	**sS**	**20 05 41.5**	**+4.1**
HHC				SS	**SS**	**20 09 10.5**	**-5.7**
HHC				pmax	pmax		
	comp=Z,33nm,1.0s						
HHC				pmax	pmax		
	comp=Z,200nm,5.9s						
HHC				LR	LR		
	comp=N,220nm,15.1s						
HHC				LR	LR		
	comp=E,240nm,15.3s						
HHC				LR	LR		
	comp=Z,210nm,15.3s						
ZALV	**Zalesovo Beam**	**59.10**	**322**	P	**P**	**19 57 46.3**	**+0.1**
ZALV				pP	**pP**	**19 57 51.0**	**-1.1**
ZALV	**Zalesovo Beam**	**59.10**	**322**	P	**P**	**19 57 46.3**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=41,slow=4.6,SNR=2.7						
ZALV				pP	**pP**	**19 57 51.0**	**-1.1**
	comp=Z,0.9nm,0.7s,baz=3.8,slow=8.9,SNR=2.9						
NJ2	**Nanjing**	**59.76**	**284**	*e*P	**P**	**19 57 49.8**	**-1.4**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
FINES	**FINESS Array B**	**63.67**	**357**	P	**P**	**19 58 17.1**	**+0.1**
FINES	**FINESS Array B**	**63.67**	**357**	P	**P**	**19 58 17.1**	**+0.1**
	comp=Z,2.1nm,0.9s,baz=10,slow=16,SNR=3.4						
KURK	**Kurchatov**	**63.93**	**323**	P	**P**	**19 58 19.2**	**+0.3**
KURK				pP	**pP**	**19 58 24.3**	**-0.5**
KURBB	**Kurchatov Arra**	**64.04**	**323**	P	**P**	**19 58 19.2**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=29,slow=6.1,SNR=5.0						
KURBB				pP	**pP**	**19 58 24.3**	**-1.2**
	comp=Z,1.1nm,0.9s,baz=20,slow=7.9,SNR=5.6						
GTA	**Gaotai**	**64.18**	**302**	*e*P	P	19 58 25.8	+4.9
GTA				pP	pP	19 58 32.5	+5.6
GTA				sP	sP	19 58 35.3	+6.2
GTA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BVAR	**Borovoye Array**	**64.58**	**329**	P	**P**	**19 58 22.7**	**-0.4**
BVAR	**Borovoye Array**	**64.58**	**329**	P	**P**	**19 58 22.7**	**-0.4**
	comp=Z,0.3nm,0.4s,baz=19,slow=5.6,SNR=2.1						
LZH	**Lanzhou**	**64.75**	**297**	*e*P	**P**	**19 58 24.3**	**-0.5**
LZH				pP	pP	19 58 36.5	+5.8
LZH				sP	sP	19 58 42.0	+9.1
LZH				*e*PP	**PP**	**20 00 48.5**	**+1.7**
LZH				pmax	pmax		
	comp=Z,17nm,1.4s						
LZH				pmax	pmax		
	comp=Z,54nm,7.7s						
LZH				LR	LR		
	comp=N,220nm,15.0s						
LZH				LR	LR		
	comp=E,220nm,14.7s						
LZH				LR	LR		
	comp=Z,300nm,18.3s						
MKAR	**Makanchi Array**	**65.88**	**318**	P	**P**	**19 58 31.8**	**0.0**
MKAR				pP	**pP**	**19 58 36.0**	**-1.6**
MKAR	**Makanchi Array**	**65.88**	**318**	P	**P**	**19 58 31.8**	**0.0**
	comp=Z,1.2nm,0.7s,baz=42,slow=3.6,SNR=7.4						
MKAR				pP	**pP**	**19 58 36.0**	**-1.6**
	comp=Z,1.3nm,0.7s,baz=47,slow=6.1,SNR=12						
WMQ	**Urumqi**	**66.16**	**313**	*e*P	**P**	**19 58 35.3**	**+1.6**
WMQ				pP	pP	19 58 48.3	+8.7
WMQ				sP	sP	19 58 53.3	+11
WMQ				pmax	pmax		
	comp=Z,5.0nm,1.0s						
WMQ				pmax	pmax		
	comp=Z,41nm,4.6s						
CD2	**Chengdu**	**68.84**	**294**	P	**P**	**19 58 50.5**	**-0.3**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
AKTO	**Aktyubinsk**	**70.22**	**336**	P	**P**	**19 58 58.7**	**-0.2**
AKTO				pP	**pP**	**19 59 03.7**	**-1.2**
AKTO	**Aktyubinsk**	**70.22**	**336**	P	**P**	**19 58 58.7**	**-0.2**
	comp=Z,3.2nm,0.8s,baz=58,slow=9.1,SNR=4.0						
AKTO				pP	**pP**	**19 59 03.7**	**-1.2**
	comp=Z,3.6nm,0.8s,baz=21,slow=6.1,SNR=9.5						
GYA	**Guiyang**	**70.81**	**289**	*e*P	**P**	**19 59 01.8**	**-1.2**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ABKAR	**Akbulak array**	**70.84**	**334**	*e*P	**P**	**19 59 03.1**	**+0.4**
	comp=Z,3.0nm,0.6s						
AAK	**Ala-Archa**	**72.32**	**321**	pP	pP	19 59 16.9	-1.0
AAK	**Ala-Archa**	**72.32**	**321**	pP	pP	19 59 16.9	-1.0
	comp=Z,1.8nm,0.7s,baz=262,slow=2.6,SNR=5.5						
KKAR	**Karatay Array**	**73.29**	**324**	P	P	19 59 20.9	+3.4
	comp=Z,2.7nm,0.8s						
KMI	**Kunming**	**73.99**	**291**	P	**P**	**19 59 22.3**	**+0.2**
KMI				pmax	pmax		
	comp=Z,4.0nm,1.3s						
AKASG	**Malin Array Be**	**74.27**	**354**	P	**P**	**19 59 22.4**	**-0.7**
AKASG				pP	**pP**	**19 59 27.1**	**-1.9**
AKASG	**Malin Array Be**	**74.27**	**354**	P	**P**	**19 59 22.4**	**-0.7**
	comp=Z,0.7nm,0.4s,baz=6.3,slow=5.6,SNR=9.3						
AKASG				pP	**pP**	**19 59 27.1**	**-1.9**
	comp=Z,1.9nm,0.6s,baz=6.5,slow=5.9,SNR=10						
KSH	**Kashi**	**74.49**	**319**	*e*P	**P**	**19 59 22.5**	**-2.2**
KSH				pP	**PcP**	**19 59 35.5**	**-3.7**
KSH				PP	**PP**	**20 02 09.8**	**-0.7**
KSH				S	**SKiKP**	**20 08 50.3**	**+0.7**
KSH				SKS	SKSac	20 09 21.5	-10
LSA	**Lhasa**	**76.21**	**302**	*e*P	P	19 59 39.6	+4.4
	comp=Z,4.6nm,0.8s						
GERES	**GERESS Array B**	**76.22**	**5**	P	**P**	**19 59 34.4**	**-0.1**
GERES				pP	**pP**	**19 59 39.6**	**-0.9**
GERES	**GERESS Array B**	**76.22**	**5**	P	**P**	**19 59 34.4**	**-0.1**
	comp=Z,0.4nm,0.8s,baz=4.1,slow=6.9,SNR=2.5						
GERES				pP	**pP**	**19 59 39.6**	**-0.9**
	comp=Z,0.7nm,0.7s,baz=27,slow=6.1,SNR=4.2						
TAPN	**Taplejung**	**79.82**	**304**	*e*P	**P**	**19 59 55.8**	**+0.7**
	comp=Z,18nm,0.7s						
GUN	**Gumba**	**80.22**	**305**	*e*P	**P**	**19 59 58.2**	**+1.0**
	comp=Z,38nm,1.1s						
JIRN	**Jiri**	**80.28**	**305**	*e*P	**P**	**19 59 58.6**	**+1.0**
	comp=Z,31nm,0.6s						
ODAN	**Odare**	**80.39**	**304**	*e*P	**P**	**19 59 58.7**	**+0.7**
	comp=Z,16nm,1.0s						
KKN	**Kakani**	**80.60**	**306**	*e*P	**P**	**19 59 59.9**	**+0.8**
	comp=Z,11nm,0.9s						
RAMN	**Ramite**	**80.69**	**304**	*e*P	**P**	**20 00 00.2**	**+0.5**
	comp=Z,35nm,0.9s						
GKN	**Gorkha**	**80.72**	**306**	*e*P	**P**	**20 00 00.4**	**+0.7**
	comp=Z,18nm,0.9s						
PKI	**Pulchoki**	**80.72**	**305**	*e*P	**P**	**20 00 00.4**	**+0.4**
	comp=Z,9.5nm,0.6s						
PKIN	**Phulchoki**	**80.73**	**305**	*e*P	**P**	**20 00 00.3**	**+0.4**
	comp=Z,7.3nm,0.6s						
DANN	**Dangsing**	**80.83**	**307**	*e*P	**P**	**20 00 01.5**	**+1.1**
	comp=Z,53nm,0.8s						
DMN	**Daman**	**80.83**	**306**	*e*P	**P**	**20 00 01.2**	**+0.7**
	comp=Z,16nm,0.8s						
KOLN	**Koldanda**	**81.39**	**307**	*e*P	**P**	**20 00 03.6**	**+0.2**
	comp=Z,8.1nm,0.7s						
CM31	**Chiang Mai Arr**	**81.44**	**290**	P	**P**	**20 00 01.8**	**-1.6**
	comp=Z,3.6nm,0.7s						
CMAR	**Chiang Mai Arr**	**81.44**	**290**	P	**P**	**20 00 03.7**	**+0.2**
CMAR				pP	**PcP**	**20 00 07.8**	**-1.7**
CMAR	**Chiang Mai Arr**	**81.44**	**290**	P	**P**	**20 00 03.7**	**+0.2**
	comp=Z,4.1nm,0.8s,baz=17,slow=5.3,SNR=19						
CMAR				pP	**PcP**	**20 00 07.8**	**-1.7**
	comp=Z,4.1nm,0.8s,baz=17,slow=5.4,SNR=21						
ESDC	**Sonseca Array**	**83.27**	**19**	P	**P**	**20 00 14.0**	**+1.2**
ESDC				pP	**pP**	**20 00 18.9**	**0.0**
ESDC	**Sonseca Array**	**83.27**	**19**	P	**P**	**20 00 14.0**	**+1.2**
	comp=Z,0.3nm,0.6s,baz=346,slow=5.4,SNR=4.5						
ESDC				pP	**pP**	**20 00 18.9**	**0.0**
	comp=Z,0.8nm,0.6s,baz=340,slow=4.2,SNR=5.3						
BRTR	**Keskin Array B**	**84.83**	**350**	P	**P**	**20 00 21.4**	**+0.5**
BRTR				pP	**pP**	**20 00 26.2**	**-0.8**
BRTR	**Keskin Array B**	**84.83**	**350**	P	**P**	**20 00 21.4**	**+0.5**
	comp=Z,0.8nm,0.8s,baz=0.9,slow=8.8,SNR=3.4						
BRTR				pP	**pP**	**20 00 26.2**	**-0.8**
	comp=Z,0.7nm,0.7s,baz=52,slow=2.0,SNR=3.6						
BOSA	**Boshof**	**153.26**	**351**	pPKPbc	pPKPbc	20 07 48.9	-1.5
BOSA	**Boshof**	**153.26**	**351**	pPKPbc	pPKPbc	20 07 48.9	-1.5
	comp=Z,2.2nm,0.8s,baz=90,slow=1.0,SNR=4.3						

*IDC **26** 19:51:12.7±3.3, 29°.39N×81°.61E, h0km, mb3.1/3, mb1 3.3/5, mb1mx3.2/28, mbtmp3.2/5, ML3.4/2, Error ellipse: s-maj=90.7km s-min=27.0km az=70.0*
*NDI **26** 19:51:18.8±2.3, 29°.64N×82°.04E, h10km, ML3.2*

ISC 26 19:51:14.8±1.2, 29°.52N±0°.10×81°.51E±0°.07, h10km, n12, σ1§79/11, mb2.9/3, Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LGTI	**Lohaghat**	**1.11**	**267**	*e*P	Pn	19 51 50.1	+14
LGTI				*e*x	x	19 52 15.2	
PTH	**Pithoragarh**	**1.13**	**272**	*e*4	Pg	19 51 41.9	+5.3
PTH				*e*S	Sn	19 52 09.0	+16
KALG	**Kalgarh**	**2.41**	**270**	*e*P	Pn	19 51 47.7	-6.6
KALG				*e*S	**Sn**	**19 52 22.9**	**-0.8**
KALG				AML	AML	19 52 36.6	
	comp=E,356nm,0.5s						
NDI	**New Delhi**	**3.85**	**259**	*e*P	Pg	19 52 37.0	+8.4
AYAN	**Aya Nagar**	**3.98**	**256**	*e*P	**Pb**	**19 52 27.7**	**+2.6**
AYAN				*e*S	**Sb**	**19 53 14.4**	**+1.2**
SMLA	**Simla**	**4.09**	**294**	*i* P	**Pb**	**19 52 25.6**	**-1.2**
SMLA				*i* S	**Sb**	**19 53 16.0**	**-0.3**
KUDL	**Kundal**	**4.61**	**254**	*e*P	**Pb**	**19 52 35.3**	**-0.5**
KUDL				*e*S	**Sb**	**19 53 29.4**	**-2.1**
KUDL				AML	AML	19 54 11.0	
	comp=N,26nm,0.5s						
KUDL				AML	AML	19 54 16.6	
	comp=E,22nm,0.6s						
MKAR	**Makanchi Array**	**17.26**	**2**	P	**Pn**	**19 55 18.6**	**+2.6**
	comp=E,0.1nm,0.3s,baz=179,slow=11,SNR=3.9						
CMAR	**Chiang Mai Arr**	**19.33**	**121**	P	**P**	**19 55 38.8**	**-1.6**
	comp=E,0.1nm,0.3s,baz=310,slow=10,SNR=6.5						
KURBB	**Kurchatov Arra**	**21.20**	**355**	P	**P**	**19 56 00.9**	**+0.5**
	comp=E,0.2nm,0.5s,baz=180,slow=10,SNR=5.3						
SONM	**Songino Array**	**26.50**	**39**	P	**P**	**19 56 51.7**	**-0.7**
	comp=E,0.1nm,0.4s,baz=219,slow=11,SNR=3.0						
ASAR	**Alice Springs**	**73.02**	**131**	P	P	20 02 43.7	-1.4
	comp=E,0.2nm,0.6s,baz=315,slow=6.5,SNR=4.2						

IDC 26 19:58:05.8±2.3, 5°.45N×94°.65E, h0km, mb3.7/6, mb1 3.7/7, mb1mx3.5/27, mbtmp3.6/7, ML3.8/1, Error ellipse: s-maj=91.8km s-min=21.1km az=61.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.59**	**18**	Pn	Pn	20 01 21.0	+0.9
	0.1nm,0.3s,baz=212,slow=12,SNR=2.9						
MKAR	**Makanchi Array**	**42.55**	**347**	P	P	20 06 03.2	-0.1
	0.8nm,0.6s,baz=168,slow=7.9,SNR=11						
SONM	**Songino Array**	**43.42**	**12**	P	P	20 06 10.0	-0.5
	0.4nm,0.7s,baz=184,slow=9.5,SNR=3.4						
WRA	**Warramunga Arr**	**46.47**	**124**	P	P	20 06 34.9	-0.2
	0.5nm,0.7s,baz=302,slow=9.3,SNR=4.1						
KURBB	**Kurchatov Arra**	**47.01**	**346**	P	P	20 06 39.2	+0.4
	1.1nm,0.6s,baz=175,slow=6.9,SNR=19						
ASAR	**Alice Springs**	**48.00**	**129**	P	P	20 06 47.0	0.0
	0.3nm,0.7s,baz=308,slow=8.3,SNR=6.4						
ZALV	**Zalesovo Beam**	**49.01**	**352**	P	P	20 06 53.5	-0.8
	0.5nm,0.2s,baz=165,slow=7.7,SNR=5.0						

IDC 26 20:15:32.5±1.1, 6°.57S×153°.52E, h0km, mb3.8/8, mb1 4.1/10, mb1mx4.0/18, mbtmp4.0/10, ML3.8/2, MS3.0/1, Ms1 3.0/1, ms1mx2.7/30, Error ellipse: s-maj=27.6km s-min=21.0km az=99.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.90**	**245**	Pn	Pn	20 17 17.2	+2.1
	6.5nm,0.3s,baz=53,slow=9.2,SNR=26						
PMG				Sn	Sn	20 18 37.1	+2.7
	2.8nm,0.3s,baz=242,slow=21,SNR=3.6						
PMG				LR	LR	20 19 45.3	
	comp=Z,120nm,19.3s,baz=195,slow=37						
DZM	**Mont Dzumac**	**19.83**	**142**	P	Pn	20 20 06.3	-0.3
	0.6nm,0.3s,baz=340,slow=13,SNR=8.6						
WRA	**Warramunga Arr**	**22.88**	**233**	P	P	20 20 37.6	-0.5
	2.8nm,0.7s,baz=58,slow=11,SNR=7.5						
ASAR	**Alice Springs**	**25.39**	**226**	P	P	20 21 01.1	-0.7
	2.2nm,0.7s,baz=61,slow=9.1,SNR=15						
STKA	**Stephens Creek**	**27.54**	**202**	P	P	20 21 22.3	+1.2
	2.7nm,0.9s,baz=43,slow=11,SNR=3.0						
FITZ	**Fitzroy Crossi**	**29.50**	**245**	P	P	20 21 38.2	-0.6
	1.1nm,0.7s,baz=55,slow=16,SNR=5.6						
CMAR	**Chiang Mai Arr**	**59.28**	**296**	P	P	20 25 41.1	+4.5
	0.4nm,0.6s,baz=122,slow=6.7,SNR=3.5						
SONM	**Songino Array**	**68.19**	**328**	P	P	20 26 35.4	+0.4
	1.1nm,1.0s,baz=131,slow=7.5,SNR=5.0						
VNDA	**Vanda**	**71.05**	**178**	P	P	20 26 50.9	-1.1
	0.8nm,0.8s,baz=353,slow=1.5,SNR=4.0						
MKAR	**Makanchi Array**	**82.12**	**319**	P	P	20 27 55.7	+0.4
	0.2nm,0.7s,baz=101,slow=5.1,SNR=3.5						
ZALV	**Zalesovo Beam**	**83.01**	**326**	P	P	20 27 59.5	-0.2
	1.1nm,0.8s,baz=108,slow=3.3,SNR=3.9						
TORD	**Torodi Ar. Bea**	**151.50**	**285**	PKPbc	PKPbc	20 35 29.1	-0.7
	1.3nm,0.7s,baz=56,slow=1.9,SNR=8.7						

*PGC **26** 20:17:25.3±0.6, 49°.11N×128°.03W, h10km, ML3.3/13, Mw3.9, 153km Wsw of Gold R., Bc Vancouver Island Region*
*ISCJB **26** 20:17:28.0±0.9, 49°.34N±0°.03×127°.89W±0°.06, h25km±6km, mb3.6/4, MS3.0/1, Error ellipse: s-maj=6.4km s-min=4.0km az=164.4*
*IDC **26** 20:17:29.8±3.7, 49°.29N×127°.83W, h29km±29km, mb3.7/4, mb1 3.9/11, mb1mx3.6/30, mbtmp3.7/11, ML3.9/6, MS3.1/4, Ms1 3.1/4, ms1mx2.8/48, Error ellipse: s-maj=

H25A	Fruitdale baz=17	17.15 97	P	P	20 21 30.1 +1.5
I25A	Rochford baz=17,SNR=29	17.32 99	P	P	20 21 32.1 +1.4
N23A	Red Feather La baz=18,SNR=5.4	17.53 110	P	P	20 21 34.6 +1.5
O22A	Kremmling baz=18,SNR=7.3	17.61 113	P	P	20 21 34.6 +0.7
P22A	Eagle baz=18,SNR=6.9	17.84 115	P	P	20 21 36.9 +0.4
R20A	Redvale baz=18	17.85 121	P	P	20 21 37.9 +1.3
Q22A	Crested Butte, baz=18,SNR=6.3	18.23 117	P	P	20 21 41.4 +0.6
K26A	Motz Farm, Whi baz=18	18.29 102	P	Pn	20 21 41.1 -0.1
I27A	Quinn baz=18	18.39 97	P	Pn	20 21 43.6 +1.3
ILAR	Eielson Array 0.0nm,0.3s,baz=146,slow=10,SNR=4.2	18.53 334	P	P	20 21 43.5 -0.1
S21A	Coal Bank Pass baz=18	18.55 121	P	P	20 21 44.3 0.0
H28A	Mission Ridge baz=19	18.81 94	P	Pn	20 21 48.9 +1.5
Y14A	Wickenburg baz=19	18.87 139	P	Pn	20 21 49.6 +1.3
R23A	Moffat baz=19	19.31 117	P	Pn	20 21 54.9 +1.2
K28A	Ten Mile Ranch baz=20	19.45 100	P	Pn	20 21 56.1 +0.8
T22A	Edith baz=20,SNR=6.7	19.50 121	P	Pn	20 21 57.6 +1.6
U21A	Nageezi baz=20	19.51 124	P	Pn	20 21 56.0 -0.1
G30A	Faulkton baz=20	19.86 91	P	P	20 21 59.0 +0.7
P26A	Davis Ranch, A baz=20	19.92 110	P	Pn	20 22 03.6 +2.7
OGNE	Ogallala baz=20	19.94 105	P	Pn	20 22 00.9 -0.2
W20A	Ramah baz=20,SNR=8.3	20.05 128	P	Pn	20 22 02.7 +0.1
S25A	Robets Cordova baz=20	20.48 116	P	Pn	20 22 06.9 -0.7
X20A	Quemado baz=20	20.50 129	P	P	20 22 04.2 -1.5
K30A	Basset baz=21	20.61 98	P	Pn	20 22 08.4 -0.4
214A	Organ Pipe Nat baz=21	20.66 141	P	P	20 22 07.8 +0.6
T25A	Trinidad baz=21	20.84 117	P	P	20 22 10.2 +0.9
X21A	Alamocita Cree baz=21,SNR=5.8	20.95 128	P	Pn	20 22 13.1 0.0
R27A	Eads baz=21	21.05 112	P	P	20 22 12.4 +1.0
Y20A	Horse Springs, baz=21,SNR=5.9	21.07 130	P	P	20 22 12.2 +0.5
S26A	Kim baz=21	21.07 114	P	P	20 22 12.6 +0.9
ANMO	Albuquerque 1.5nm,0.8s,baz=315,slow=14,SNR=3.6	21.27 124	P	P	20 22 15.0 +1.1
U25A	Circle Dot Ran baz=21,SNR=6.1	21.36 118	P	P	20 22 16.1 +1.3
Z20A	Nine Sixteen R baz=22	21.59 131	P	P	20 22 17.2 -0.2
R28A	Tribune baz=22	21.61 111	P	P	20 22 18.1 +0.6
V25A	Rancho No Teng baz=22	21.63 120	P	P	20 22 17.6 -0.2
W24A	Lazy 6 Ranch, baz=22	21.64 122	P	P	20 22 18.5 +0.6
Q29A	Oakley baz=22	21.79 108	P	P	20 22 20.6 +1.3
Z21A	St. Cloud Mine baz=22	21.90 129	P	P	20 22 22.2 +1.6
V26A	Tequesquite Ra baz=22,SNR=8.9	22.14 119	P	P	20 22 24.6 +1.4
W25A	X Bar L Ranch, baz=22	22.17 121	P	P	20 22 24.5 +1.0
Y23A	Lovelace Mesa, baz=22,SNR=8.3	22.25 126	P	P	20 22 25.9 +1.5
Y24A	Capitan baz=23,SNR=8.3	22.59 125	P	P	20 22 29.4 +1.4
220A	Playas Peak, P baz=23	22.61 133	P	P	20 22 29.4 +1.1
X26A	CR and CF Fran baz=23	23.02 121	P	P	20 22 33.4 +0.9
W27A	Bowe Ranch, En baz=23	23.07 119	P	P	20 22 33.6 +0.6
Z25A	Roswell baz=24	23.47 124	P	P	20 22 37.5 +0.5
124A	Stringfield Ra baz=24	23.52 127	P	P	20 22 37.8 +0.1
Y27A	Causey baz=24	23.87 121	P	P	20 22 41.4 +0.5
Z26A	Caprock baz=24,SNR=6.9	23.87 123	P	P	20 22 41.4 +0.5
224A	Cornudas Mount baz=24	23.98 128	P	P	20 22 42.4 +0.5
125A	Gardner Draw, baz=24,SNR=5.2	23.98 125	P	P	20 22 43.0 +1.1
Z27A	Tatum baz=24,SNR=8.4	24.26 122	P	P	20 22 45.0 +0.5
Z29A	Hungry Hill Ra baz=25	25.15 120	P	P	20 22 53.2 +0.6
X31A	McDonald Ranch baz=25	25.18 115	P	P	20 22 53.7 +1.0
128A	Castleberry Fa baz=25	25.19 122	P	P	20 22 53.6 +0.7
Z30A	Sanderson Ranc baz=26	25.46 119	P	P	20 22 55.4 0.0
Y31A	Rekieta Farm, baz=26	25.48 117	P	P	20 22 55.8 +0.3
426A	McDonald Obser baz=26,SNR=8.0	25.86 127	P	P	20 22 60.0 +0.8
328A	Wristen Ranch, baz=26	25.95 124	P	P	20 23 01.0 +1.1
Z31A	Sharp Cattle R baz=26	26.01 118	P	P	20 23 00.8 +0.5
526A	Mary Lane Ranc baz=26	26.32 128	P	P	20 23 04.0 +0.8
329A	Wagon Wheel Ra baz=26,SNR=6.3	26.33 123	P	P	20 23 05.4 +2.2
527A	Woodward Ranch baz=26,SNR=6.4	26.50 127	P	P	20 23 05.7 +0.8
428A	Kincaid Ranch, baz=26	26.53 125	P	P	20 23 06.6 +1.5
626A	Big Bend Ranch baz=27	26.70 129	P	P	20 23 07.7 +1.0
231A	Bronte baz=27	26.92 120	P	P	20 23 09.3 +0.8
TXAR	Lajitas Array 2.5nm,0.9s,baz=323,slow=8.0,SNR=18	27.12 128	P	P	20 23 11.6 +1.2
TXAR			LR	LR	20 34 38.1
	comp=Z,43nm,21.3s,baz=5.0,slow=38				
627A	Terlingua Ranc baz=27	27.17 128	P	P	20 23 11.9 +1.0
628A	Black Gap, Mar baz=27	27.40 127	P	P	20 23 13.9 +1.0
431A	Sonora baz=28	27.70 122	P	P	20 23 16.2 +0.7
530A	J-C Ranch, Com baz=28	27.71 124	P	P	20 23 16.4 +0.8
FINES	FINESS Array B 1.8nm,0.8s,baz=326,slow=12,SNR=3.4	67.63 13	P	P	20 28 23.4 -0.2
MKAR	Makanchi Array 0.2nm,0.6s,baz=20,slow=4.6,SNR=3.0	80.78 340	P	P	20 29 38.8 -1.9

IDC 26 20:24:59.6±17.0, 20°62S×174°89W, h0km, mb4.1/5, mb1 4.2/5, mb1mx3.9/20, mbtmp4.1/5, Error ellipse: s-maj=323.3km s-min=141.6km az=82.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower 1.4nm,0.4s,baz=67,slow=12,SNR=5.3	36.38	264	P	P	20 32 06.3	+0.4
STKA	Stephens Creek 1.4nm,0.5s,baz=86,slow=13,SNR=5.9	40.36	245	P	P	20 32 40.1	+0.7
ASAR	Alice Springs 1.7nm,0.5s,baz=96,slow=8.6,SNR=46	47.32	256	P	P	20 33 35.0	-0.5
WRA	Warramunga Arr 1.5nm,0.6s,baz=101,slow=8.4,SNR=9.3	47.47	261	P	P	20 33 36.0	-0.6
FITZ	Fitzroy Crossi 0.6nm,0.3s,baz=107,slow=12,SNR=12	55.90	262	P	P	20 34 39.5	-0.2

KRSC 26 20:28:43.4±8.7, 50°64N×158°05E, h10km±10km, ML3.9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAK	Asacha	1.75	357	*i* P	Pn	20 29 14.3	+0.4
ASAK				*i* S	Sn	20 29 36.5	+0.2
RUS	Russkaya	1.82	9	*e*P	Pn	20 29 15.5	+0.8
RUS				*i* S	Sn	20 29 38.4	+0.6
MIPR	Malaya Ipel'ka	1.83	334	*i* P	Pn	20 29 14.6	-0.3
MTVR	Mutnovka	1.85	3	*e*P	Pn	20 29 16.2	+0.9
MTVR				*i* S	Sn	20 29 39.7	+0.8
GRL	Gorelyy	1.92	0	*i* P	Pn	20 29 17.4	+1.2
GRL				*i* S	Sn	20 29 41.2	+0.7
PET	Petropavlovsk	2.42	9	*e*P	Pn	20 29 24.0	+1.1
PET				*i* S	Sn	20 29 53.4	+0.9
UGLR	Uglovaya	2.62	10	*e*P	Pn	20 29 27.2	+1.3
AVH	Avacha	2.66	9	*i* P	Pn	20 29 28.6	+2.1
AVH				*i* S	Sb	20 30 01.5	-2.6
SMAR	Somma	2.67	10	*e*P	Pn	20 29 28.2	+1.5
KOK	Koryaka	2.68	8	*i* P	Pn	20 29 28.9	+2.2
KOK				*i* S	Sn	20 30 01.4	+2.1
SDLR	Sedlovina	2.69	11	*e*P	Pn	20 29 28.1	+1.2
KRER	Koryakskii	2.70	9	*i* P	Pn	20 29 28.9	+1.7
KRER				*i* S	Sn	20 30 01.4	+1.3
KRX	Arik	2.75	8	*e*P	Pn	20 29 29.4	+1.7
SPN	Mys Shipunski	2.75	26	*e*P	Pn	20 29 29.4	+1.9
SPN				*i* S	Sn	20 30 01.8	+1.0
GNL	Ganaly	3.06	359	*i* P	Pn	20 29 33.2	+1.2
MKZ	Mys Kozlova	4.52	28	*e*P	Pn	20 29 52.0	+0.2
MKZ				*i* S	Sn	20 30 43.7	-0.6

WEL 26 20:32:57.9±0.1, 44°47S×168°17E, h12km, ML4.5/15, 4C-3D, Error ellipse: s-maj=1.4km s-min=1.1km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	Milford Sound	0.27	220	P*	Pg	20 33 04.1	+0.5
MSZ				S*	Sb	20 33 08.3	-1.0
MSZ				AML	AML	20 33 08.4	
MSZ				AML	AML	20 33 08.5	
MSZ				AML	AML	20 33 08.5	
JCZ	Jackson Bay	0.57	47⇓	*e*P*	Pg	20 33 09.0	-0.3
JCZ				AML	AML	20 33 11.3	
JCZ				S*	Sg	20 33 16.9	-0.1
WKZ	Wanaka	0.70	121	⇑P*	Pg	20 33 11.1	-0.6
WKZ				S*	Sg	20 33 20.0	-1.0
WKZ				AML	AML	20 33 20.5	
WKZ				AML	AML	20 33 20.7	
WKZ				AML	AML	20 33 20.7	
MLZ	Mavora Lakes	0.88	180	⇓P*	Pg	20 33 14.6	-0.5
MLZ				S*	Sb	20 33 27.3	+0.2
MLZ				AML	AML	20 33 29.3	
EAZ	Earnscleugh	1.11	134	⇑P*	Pb	20 33 18.0	-1.2
EAZ				AML	AML	20 33 37.2	
EAZ				AML	AML	20 33 37.2	
EAZ				AML	AML	20 33 37.2	
EAZ				AML	AML	20 33 37.3	
DCZ	Deep Cove	1.24	215	⇓P*	Pn	20 33 19.8	-1.3
DCZ				*e*S*	Sb	20 33 36.2	-1.1
DCZ				AML	AML	20 33 37.9	
DCZ				AML	AML	20 33 39.8	
DCZ				AML	AML	20 33 39.8	
FOZ	Fox Glacier	1.42	51	⇑PN	Pb	20 33 24.0	-0.3
FOZ				AML	AML	20 33 50.2	
FOZ				AML	AML	20 33 50.3	
FOZ				AML	AML	20 33 50.5	
FOZ				AML	AML	20 33 50.5	
WHZ	Wether Hill Ro	1.44	186	⇑PN	Pn	20 33 23.0	-0.8
WHZ				AML	AML	20 33 48.5	
WHZ				AML	AML	20 33 49.1	
LBZ	Lake Benmore	1.44	88	PN	Pn	20 33 23.6	-0.3
LBZ				AML	AML	20 33 43.0	
LBZ				AML	AML	20 33 43.1	
LBZ				AML	AML	20 33 45.4	
LBZ				AML	AML	20 33 45.4	
TUZ	Tuapeka	1.81	146	PN	Pn	20 33 29.0	0.0
TUZ				AML	AML	20 33 54.7	
TUZ				AML	AML	20 33 54.8	
ODZ	Otahua Downs	1.85	109	PN	Pn	20 33 29.7	+0.1
PYZ	Puysegur Point	2.00	211	PN	Pn	20 33 31.5	-0.1
SYZ	Scrubby Hill	2.18	162	PN	Pn	20 33 33.9	-0.1
RPZ	Rata Peaks	2.21	71	PN	Pn	20 33 34.2	-0.3
RPZ				AML	AML	20 34 10.0	
RPZ				AML	AML	20 34 10.2	
HHSZ	Highcliff Hill	2.23	130	PN	Pn	20 33 35.0	+0.3
WVZ	Waitaha Valley	2.32	54	PN	Pn	20 33 35.1	-0.8
WVZ				AML	AML	20 34 15.4	
WVZ				AML	AML	20 34 35.9	
APZ	The Paps	2.37	183	PN	Pn	20 33 36.7	0.0
CRLZ	Canterbury Las	3.33	76	AML	AML	20 34 47.7	
CRLZ				AML	AML	20 34 50.9	
LTZ	Lake Taylor	3.42	62	AML	AML	20 34 53.2	
LTZ				AML	AML	20 34 57.2	
THZ	Tophouse	4.39	54	AML	AML	20 34 56.6	
THZ				AML	AML	20 34 57.8	

SKHL 26 20:33:21.5±0.8, 55°78N×134°41E, h7km±1km, mb4.0/8, 1C, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKMR	Ekimchan	2.85	198	*e*Pn	Pn	20 34 08.5	+1.1
EKMR				*e*Pg	Pb	20 34 12.8	+0.1
EKMR				pPg	Pg	20 34 15.9	-0.2
EKMR				AMB	AMB	20 34 18.0	
	9.0nm,0.5s						
EKMR				AMB	AMB	20 34 18.0	
	4.0nm,0.5s						
EKMR				AMB	AMB	20 34 18.0	
	19nm,0.5s						
EKMR				*e*Sg	Sb	20 34 50.0	+2.3
EKMR				A	A	20 34 52.5	
	110nm,0.6s						
EKMR				A	A	20 34 52.5	
	60nm,0.6s						
EKMR				A	A	20 34 52.5	
	74nm,0.6s						
BMKR	Bomnak	3.36	254	*e*Pn	Pn	20 34 14.2	-0.2
BMKR				⇑*i*Pg	Pb	20 34 21.2	-0.2
BMKR				AMB	AMB	20 34 21.9	
	16nm,0.4s						
BMKR				*e*Sg	Sb	20 35 05.5	+3.0
BMKR				A	A	20 35 11.3	
	91nm,0.5s						
BMKR				A	A	20 35 11.3	
	105nm,0.5s						
CGD	Chagda	3.62	327	*e*Pg	Pb	20 34 26.7	+0.9
CGD				AMB	AMB	20 34 33.1	
	21nm,0.7s						
CGD				*e*Sg	Sb	20 35 11.7	+1.8
CGD				A	A	20 35 19.4	
	143nm,0.4s						
KROS	Kirovskiy	4.48	256	*e*Pn	Pn	20 34 30.5	+0.7
KROS				*e*Pg	Pb	20 34 41.2	+0.7
KROS				AMB	AMB	20 34 42.7	
	18nm,0.4s						
KROS				AMB	AMB	20 34 42.7	
	17nm,0.4s						
KROS				pPg	Pg	20 34 44.2	-3.1
KROS				*e*Sg	Sb	20 35 39.0	+4.3
KROS				A	A	20 35 43.6	
	94nm,0.6s						
KROS				A	A	20 35 43.6	
	31nm,0.6s						
KROS				A	A	20 35 43.6	
	38nm,0.6s						
NKL	Nikolayevsk	4.51	123	*e*rx	rx	20 35 36.9	
NKL				*e*Sg	Sb	20 35 39.0	+3.7
NKL				A	A	20 35 40.0	
	43nm,1.0s						
ZEA	Zeya	4.62	247	*e*Pn	Pn	20 34 31.9	+0.2
ZEA				*e*Pg	Pb	20 34 44.6	+1.7
ZEA				AMB	AMB	20 34 46.0	
	14nm,0.5s						
ZEA				*e*Sg	Sg	20 35 45.4	-4.5
ZEA				A	A	20 35 47.4	
	29nm,0.7s						
ZEA				A	A	20 35 47.4	
	26nm,0.7s						
GRNR	Gornyy	5.16	166	*e*rx	rx	20 34 59.2	
GRNR				*e*Sg	Sg	20 36 02.1	-5.2
GRNR				A	A	20 36 10.9	
	34nm,0.8s						
GRNR				A	A	20 36 10.9	
	42nm,0.8s						
IENR	Iengra	5.38	279	*e*Pg	Pb	20 34 59.7	+3.8
IENR				AMB	AMB	20 35 11.2	
	7.0nm,0.8s						
IENR				*e*Sg	Sg	20 36 10.1	-4.2
IENR				A	A	20 36 16.3	
	46nm,0.8s						
YAK	Yakutsk	6.73	341	*e*Pg	Pb	20 35 21.6	+2.9
YAK				AMB	AMB	20 35 32.9	
	10.0nm,0.5s						
KLR	Kul'dur	6.76	195	*e*Sg	Sg	20 36 54.8	-3.6
YKLR	Yuktali	7.17	282	*e*Pg	Pb	20 35 32.3	+6.1
YKLR				AMB	AMB	20 35 35.8	
	50nm,0.8s						
YKLR				*e*Sg	Sg	20 37 03.9	-7.6
YKLR				A	A	20 37 18.4	
	68nm,1.3s						

*BKK **26** 20:55:22.6±0.7, 5°S±6°×14°5E±1°1, h10km, M5.0/9, mb4.8/9, MLv5.2/2*
*IDC **26** 20:55:26.0±2.4, 5°85S×145°60E, h83km±23km, mb4.0/16, mb1 4.1/19, mb1mx4.1/21, mbtmp4.3/19, MS3.4/3, Ms1 3.4/3, ms1mx3.0/30, Error ellipse: s-maj=22.2km s-min=12.6km az=84.0*
*ISCJB **26** 20:55:27.8±0.3, 5°90S±0°03×145°51E±0°05, h109km, mb4.3/20, Error ellipse: s-maj=7.7km s-min=4.9km az=174.3*
*AUST **26** 20:55:28.0±0.0, 5°94S×145°67E, h93km, Error ellipse: s-maj=1.2km s-min=0.7km az=236.0*

ISC 26 20:55:29.0±0.5, 5°91S±0°05×145°52E±0°07, h109km, n60, σ1°36/58, mb4.3/20, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby 48nm,0.3s,baz=23,slow=3.8,SNR=79	3.83	155	P	Pn	20 56 24.9	-1.2
PMG				S	Sn	20 57 07.5	-2.8
	20nm,0.3s,baz=290,slow=4.0,SNR=4.0						
PMG				LR	LR	20 57 26.6	
	comp=Z,191nm,18.2s,baz=163,slow=31						
MANU	Manus Island baz=4.2,SNR=3.6	4.26	26	P	Pn	20 56 33.9	+2.0
MMPI	Merauke baz=5.8,SNR=6.2	5.70	243	S	Sn	20 57 54.8	-0.6
JAY	Jayapura baz=6.0,SNR=16	5.87	305	P	Pn	20 56 54.0	+0.4
COEN	Coen baz=8.4,SNR=255	8.32	196	P	Pn	20 57 29.0	+2.1
COEN				S	Sn	20 58 59.9	+0.6
	baz=8.4,SNR=5.2						
MTSU	Mount Surprise baz=12,SNR=7.9	12.21	185	P	Pn	20 58 21.1	+1.9
FAKI	Fak Fak baz=14,SNR=5.6	13.56	282	P	P	20 58 44.1	+1.9
FAKI				S	Sn	21 00 52.5	-14
	baz=14,SNR=7.3						
CTA	Charters Tower baz=357,slow=14,SNR=3.3	14.11	177	P	Pn	20 58 44.6	+0.6
KDU	Kakadu baz=15,SNR=27	14.53	241	P	P	20 58 50.9	-2.0
KDU				S	Sn	21 01 08.2	-22
	baz=15,SNR=5.1						
SWI	Sorong baz=15,SNR=7.5	15.09	289	P	Pn	20 58 56.6	+0.1
SWI				S	Sn	21 01 35.3	-8.1
	baz=15,SNR=4.1						
WRA	Warramunga Arr 0.8nm,0.3s,baz=40,slow=12,SNR=25	17.68	217	P	P	20 59 27.2	-0.7
KNRA	Kununurra baz=19,SNR=27	19.09	238	P	P	20 59 42.7	-0.6
EIDS	Eidsvold baz=20,SNR=3.8	20.07	165	P	Pn	20 59 56.5	-0.1
QLP	Quilpie baz=21,SNR=5.3	20.59	183	P	P	21 00 00.2	+0.8
RMQ	Roma baz=21,SNR=4.1	20.69	172	P	Pn	21 00 03.1	-0.8
ASAR	Alice Springs 2.2nm,0.6s,baz=27,slow=14,SNR=28	20.90	211	P	P	21 00 01.7	-1.0
SOEI	Soe baz=22,SNR=4.9	21.40	258	S	S	21 03 53.9	-6.0
FITZ	Fitzroy Crossi 5.4nm,0.5s,baz=53,slow=7.5,SNR=24	22.88	236	P	P	21 00 22.5	-0.9
FITZ	Fitzroy Crossi baz=23,SNR=6.1	22.88	236	P	P	21 00 22.6	-0.9
ARMA	Armidale baz=25,SNR=5.1	25.05	167	P	P	21 00 44.3	+1.1
STKA	Stephens Creek 12nm,0.7s,baz=358,slow=9.1,SNR=34	26.09	188	P	P	21 00 52.5	-0.1
STKA				LR	LR	21 11 26.7	
	comp=Z,148nm,18.8s,baz=207,slow=37						
STKA	Stephens Creek baz=26,SNR=26	26.09	188	P	P	21 00 52.8	+0.2
MEEK	Meekatharra baz=33,SNR=8.0	32.90	228	P	P	21 01 53.3	+0.2
CBIJ	Chichi jima 24nm,0.4s,baz=129,slow=22,SNR=6.2	32.97	355	P	P	21 01 50.8	-2.7
MORW	Morawa baz=36,SNR=3.5	36.15	227	P	P	21 02 20.9	0.0
RPZ	Rata Peaks 5.1nm,0.6s,baz=87,slow=17,SNR=4.3	43.84	153	P	P	21 03 24.3	0.0
KSRS	Korea Array 1.0nm,0.8s,baz=159,slow=7.4,SNR=3.6	46.16	341	P	P	21 03 42.1	-0.6
SKNT	Sakolnakorn 27nm,0.8s	46.93	300	P	P	21 03 50.1	+1.0
CHAI	Chaiyaphum 5.4nm,0.8s	48.24	297	P	P	21 03 59.4	+0.2
LAMP	Lampang 3.3nm,0.8s	51.34	299	P	P	21 04 24.7	+2.0
USRK	Ussuriysk Arra 1.4nm,0.7s,baz=149,slow=4.4,SNR=8.9	51.35	348	P	P	21 04 21.7	-0.5
PAYA	Payao 7.3nm,0.8s	51.48	300	P	P	21 04 25.1	+1.4
CMAR	Chiang Mai Arr 7.3nm,0.8s,baz=121,slow=6.0,SNR=47	51.92	299	P	P	21 04 28.1	+1.1
CHTO	Chiang Mai	52.06	299	P	P	21 04 29.6	+1.6
PETK	Petropavlovsk- 1.2nm,0.6s,baz=176,slow=5.6,SNR=3.7	59.70	8	P	P	21 05 22.0	+0.1
SONM	Songino Array 1.4nm,0.7s,baz=158,slow=5.1,SNR=11	63.62	332	P	P	21 05 48.6	+0.1
TAPN	Taplejung 6.6nm,0.4s	64.88	304	*e*P	P	21 05 58.2	+0.9
ODAN	Odare 11nm,0.5s	64.96	303	*e*P	P	21 05 58.7	+0.9
RAMN	Ramite 7.7nm,0.5s	65.66	303	*e*P	P	21 06 02.7	+0.4
JIRN	Jiri 14nm,0.6s	66.25	304	*e*P	P	21 06 07.1	+0.9
GUN	Gumba 22nm,0.5s	66.59	304	*e*P	P	21 06 09.4	+1.0
PKI	Pulchoki 11nm,0.8s	66.86	303	*e*P	P	21 06 10.6	+0.5
PKIN	Phulchoki 7.8nm,0.8s	66.88	303	*e*P	P	21 06 10.4	+0.3
KKN	Kakani 21nm,0.8s	67.05	303	*e*P	P	21 06 11.9	+0.8
DMN	Daman 23nm,0.8s	67.13	303	*e*P	P	21 06 12.5	+0.8
GKN	Gorkha 20nm,0.7s	67.66	303	*e*P	P	21 06 15.3	+0.4
KOLN	Koldanda 21nm,0.7s	68.44	303	*e*P	P	21 06 20.5	+0.6
DANN	Dangsing 18nm,0.7s	68.50	303	*e*P	P	21 06 20.6	+0.3
PYUN	Piuthan	69.06	303	*e*P	P	21 06 24.1	+0.4
VNDA	Vanda 2.4nm,0.7s,baz=334,slow=6.2,SNR=15	72.09	176	P	P	21 06 41.7	+0.8
MKAR	Makanchi Array 1.6nm,0.7s,baz=100,slow=7.3,SNR=20	76.50	321	P	P	21 07 07.5	+0.4
ZALV	Zalesovo Beam 1.2nm,0.5s,baz=113,slow=5.5,SNR=6.6	78.16	328	P	P	21 07 15.4	-0.7
KURBB	Kurchatov Arra 1.6nm,0.2s,baz=115,slow=4.9,SNR=7.3	80.28	323	P	P	21 07 27.8	+0.1
MAW	Mawson 1.3nm,0.3s,baz=68,slow=11,SNR=3.6	81.76	203	P	P	21 07 35.7	+0.4
QSPA	South Pole Qui comp=Z,38nm,21.3s,baz=10.0,slow=33	84.06	180	LR	LR	21 41 57.5	
BVAR	Borovoye Array 2.2nm,0.7s,baz=122,slow=4.2,SNR=11	85.83	324	P	P	21 07 56.5	+0.2
ILAR	Eielson Array 1.4nm,0.6s,baz=255,slow=5.1,SNR=11	85.98	23	P	P	21 07 55.0	-1.8

GERES	GERESS Array B	121.00	325	PKP	PKPdf	21 14 09.3	+0.4
	0.3nm,0.6s,baz=63,slow=0.6,SNR=3.6						
TORD	Torodi Ar. Bea	143.64	284	PKP	PKPbc	21 14 50.0	+0.1
	0.7nm,0.7s,baz=69,slow=2.4,SNR=8.4						
DBIC	Dimbokro	150.55	273	PKPbc	PKPbc	21 15 09.9	+0.8
	5.2nm,1.0s,baz=330,slow=5.2,SNR=3.7						

*ISK **26** 21:20:33.2, 37.52N×36.43E, h5km, MD3.3*
*DDA **26** 21:20:33.3, 37.55N×36.43E, h14km, ML3.7*
*ISCJB **26** 21:20:34.0±0.5, 37.55N±0.03×36.42E±0.02, h5km±4km, Error ellipse: s-maj=5.0km s-min=3.3km az=5.8*
*CSEM **26** 21:20:34.0±0.1, 37.57N×36.42E, h5km, ML3.7, Error ellipse: s-maj=4.4km s-min=3.0km az=172.0*

ISC 26 21:20:34.2±0.9, 37.55N±0.03×36.43E±0.02, h7km±6km, n43, σ0.963/63, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANDN	**Andirin**	**0.08**	**296**	*i* P	**Pg**	**21 20 36.1**	**-0.1**
ANDN				*i* S	**Sg**	**21 20 37.7**	**+0.1**
ANDN	**Andirin**	**0.08**	**296**	*i* P	**Pg**	**21 20 36.1**	**-0.1**
ANDN				*i* S	**Sg**	**21 20 37.7**	**+0.1**
AYKD	**Aykdinkavak**	**0.33**	**114**	*i* P	**Pg**	**21 20 40.7**	**+0.1**
AYKD				*i* S	**Sg**	**21 20 45.0**	**+0.1**
KMRS	**Kahramanmaras**	**0.38**	**96**	*e*PG	**Pg**	**21 20 40.5**	**-1.0**
KMRS				*e*SG	**Sg**	**21 20 46.9**	**+0.4**
KMRS	**Kahramanmaras**	**0.38**	**96**	*e*Pg	**Pg**	**21 20 40.5**	**-1.0**
KMRS				*e*Sg	**Sg**	**21 20 46.9**	**+0.4**
KOZT	**Kozan**	**0.48**	**262**	*e*PG	**Pg**	**21 20 43.8**	**+0.2**
KOZT	**Kozan**	**0.48**	**262**	*e*Pg	**Pg**	**21 20 43.8**	**+0.2**
GZT	**Gaziantep**	**0.92**	**102**	*i* P	**Pg**	**21 20 51.6**	**-0.3**
GZT				*i* S	**Sb**	**21 21 06.6**	**+1.4**
KUZU	**Kuzuini**	**0.93**	**146**	*i* P	**Pb**	**21 20 52.7**	**0.0**
KUZU				*i* S	**Sb**	**21 21 05.7**	**+0.4**
KUZU	**Kuzuini**	**0.93**	**146**	*i* P	**Pb**	**21 20 52.7**	**0.0**
KUZU				*i* S	**Sb**	**21 21 05.7**	**+0.4**
PINB	**Pinarbasi**	**1.13**	**359**	*e*P	**Pg**	**21 20 55.2**	**-0.7**
PINB	**Pinarbasi**	**1.13**	**359**	*e*P	**Pg**	**21 20 55.2**	**-0.7**
KARA	**Karaisali**	**1.13**	**256**	*e*PN	**Pg**	**21 20 54.7**	**-1.3**
KARA				*e*SN	**Sb**	**21 21 11.3**	**+0.2**
KARA	**Karaisali**	**1.13**	**256**	*e*Pn	**Pg**	**21 20 54.7**	**-1.3**
KARA				*e*Sn	**Sb**	**21 21 11.3**	**+0.2**
DARE	**Darende-Malaty**	**1.32**	**39**	*e*PN	**Pg**	**21 20 59.5**	**0.0**
DARE	**Darende-Malaty**	**1.32**	**39**	*e*Pn	**Pg**	**21 20 59.5**	**0.0**
GULE	**Gulek**	**1.34**	**259**	*i* P	**Pg**	**21 20 59.8**	**-0.2**
GULE				*i* S	**Sb**	**21 21 16.7**	**-0.7**
GULE	**Gulek**	**1.34**	**259**	*i* P	**Pg**	**21 20 59.8**	**-0.2**
GULE				*i* S	**Sb**	**21 21 16.7**	**-0.7**
BNN	**Bunyan**	**1.38**	**341**	*e*PN	**Pb**	**21 21 00.0**	**-0.5**
BNN				*e*SN	**Sn**	**21 21 19.8**	**+1.0**
BNN	**Bunyan**	**1.38**	**341**	*e*Pn	**Pb**	**21 21 00.0**	**-0.5**
BNN				*e*Sn	**Sn**	**21 21 19.8**	**+1.0**
AKCD	**Akcadag**	**1.40**	**57**	*e*P	**Pn**	**21 20 59.4**	**-0.9**
AKCD				*i* S	**Sg**	**21 21 19.3**	**+0.2**
AKCD	**Akcadag**	**1.40**	**57**	*e*P	**Pn**	**21 20 59.4**	**-0.9**
AKCD				*i* S	**Sg**	**21 21 19.3**	**+0.2**
ATAB	**Bozova**	**1.48**	**92**	*i* P	**Pn**	**21 21 00.5**	**-0.9**
ATAB				*i* S	**Sn**	**21 21 20.4**	**-0.7**
ATAB	**Bozova**	**1.48**	**92**	*i* P	**Pn**	**21 21 00.5**	**-0.9**
ATAB				*i* S	**Sn**	**21 21 20.4**	**-0.7**
YAYL	**Yayladag**	**1.53**	**190**	*i* P	**Pb**	**21 21 02.7**	**-0.3**
YAYL				*i* S	**Sn**	**21 21 22.7**	**+0.3**
YAYL	**Yayladag**	**1.53**	**190**	*i* P	**Pb**	**21 21 02.7**	**-0.3**
YAYL				*i* S	**Sn**	**21 21 22.7**	**+0.3**
NIG	**Nigde**	**1.55**	**292**	*e*PN	**Pn**	**21 21 02.4**	**-0.1**
NIG	**Nigde**	**1.55**	**292**	*e*Pn	**Pn**	**21 21 02.4**	**-0.1**
MALT	**Malatya**	**1.75**	**64**	*e*PN	**Pn**	**21 21 04.6**	**-0.6**
MALT	**Malatya**	**1.75**	**64**	*e*Pn	**Pn**	**21 21 04.6**	**-0.6**
URFA	**Urfa**	**1.90**	**92**	*e*PN	**Pn**	**21 21 07.5**	**+0.2**
URFA	**Urfa**	**1.90**	**92**	*e*Pn	**Pn**	**21 21 07.5**	**+0.2**
SVSK	**Karacayir**	**2.41**	**10**	*e*PN	**Pn**	**21 21 14.6**	**+0.5**
ILIC	**ilic-Erzincan**	**2.54**	**41**	*e*PN	**Pn**	**21 21 16.8**	**+0.8**
ILIC	**ilic-Erzincan**	**2.54**	**41**	*e*Pn	**Pn**	**21 21 16.8**	**+0.8**
IKL	**Isikli**	**2.56**	**240**	*e*PN	**Pn**	**21 21 16.8**	**+0.7**
IKL	**Isikli**	**2.56**	**240**	*e*Pn	**Pn**	**21 21 16.8**	**+0.7**
PTK	**Pertek**	**2.69**	**59**	*e*PN	**Pn**	**21 21 19.1**	**+0.9**
PTK	**Pertek**	**2.69**	**59**	*e*Pn	**Pn**	**21 21 19.1**	**+0.9**
MAZI	**Mazidag**	**3.19**	**90**	*e*PN	**Pn**	**21 21 25.7**	**+0.7**
MAZI	**Mazidag**	**3.19**	**90**	*e*Pn	**Pn**	**21 21 25.7**	**+0.7**
HDMB	**Hadim**	**3.20**	**261**	*e*PN	**Pn**	**21 21 25.2**	**0.0**
HDMB	**Hadim**	**3.20**	**261**	*e*Pn	**Pn**	**21 21 25.2**	**0.0**

IDC 26 21:25:08.6±8.6, 1.68S×12.48W, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.4/25, mbtmp3.8/3, ML3.4/1, MS3.1/2, Ms1 3.1/2, ms1mx2.8/23, Error ellipse: s-maj=285.6km s-min=71.8km az=146.0, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**11.26**	**42**	Pn	Pn	21 27 52.1	+1.2
	0.3nm,0.3s,baz=200,slow=14,SNR=9.3						
DBIC				Sn	Sn	21 29 57.8	+0.2
	0.3nm,0.3s,baz=203,slow=15,SNR=3.1						
DBIC				LR	LR	21 31 38.3	
	comp=Z,78nm,18.6s,baz=237,slow=35						
TORD	**Torodi Ar. Bea**	**20.37**	**43**	P	P	21 29 46.7	-0.4
	1.9nm,0.6s,baz=227,slow=11,SNR=16						
TORD				S	S	21 33 31.6	-4.7
	0.5nm,1.0s,baz=227,slow=23,SNR=3.2						
TORD				LR	LR	21 36 17.0	
	comp=Z,55nm,18.4s,baz=160,slow=33						
KEST	**Kesra**	**42.43**	**27**	P	P	21 33 05.2	-0.2
	0.4nm,0.4s,baz=180,slow=7.1,SNR=6.8						

IDC 26 21:38:01.0±1.8, 2.44N×128.83E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/21, mbtmp3.5/4, Error ellipse: s-maj=150.3km s-min=22.5km az=71.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.89**	**167**	P	P	21 43 06.2	-0.4
	1.1nm,0.7s,baz=346,slow=11,SNR=4.3						
ASAR	**Alice Springs**	**26.42**	**170**	P	P	21 43 39.6	0.0
	0.4nm,0.8s,baz=0.1,slow=10,SNR=4.1						
SONM	**Songino Array**	**49.20**	**340**	P	P	21 46 51.3	+0.2
	0.3nm,0.7s,baz=156,slow=7.6,SNR=3.5						
MKAR	**Makanchi Array**	**59.81**	**325**	P	P	21 48 08.2	-0.1
	0.5nm,0.5s,baz=119,slow=8.2,SNR=13						

IDC 26 21:48:34.8±2.0, 2.13N×128.76E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.6/20, mbtmp3.7/7, Error ellipse: s-maj=234.5km s-min=19.0km az=71.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.61**	**166**	P	P	21 53 37.5	+0.1
	0.6nm,0.3s,baz=347,slow=11,SNR=4.1						
ASAR	**Alice Springs**	**26.13**	**169**	P	P	21 54 10.7	0.0
	0.3nm,0.4s,baz=350,slow=7.5,SNR=5.9						
SONM	**Songino Array**	**49.46**	**340**	P	P	21 57 27.5	+0.6
	0.6nm,0.7s,baz=153,slow=7.2,SNR=6.8						
MKAR	**Makanchi Array**	**60.02**	**325**	P	P	21 58 43.7	+0.3
	1.0nm,0.5s,baz=116,slow=8.2,SNR=32						
ZALV	**Zalesovo Beam**	**62.93**	**333**	P	P	21 59 01.7	-1.1
	0.3nm,0.3s,baz=132,slow=7.8,SNR=3.0						
VNDA	**Vanda**	**81.60**	**173**	P	P	22 00 54.2	+0.1
	0.6nm,0.6s,baz=310,slow=3.6,SNR=5.0						
FINES	**FINESS Array B**	**94.19**	**332**	P	P	22 01 54.8	-0.7
	0.9nm,0.7s,baz=41,slow=13,SNR=3.3						

IDC 26 21:49:40.8±2.1, 2.22N×128.54E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.6/20, mbtmp3.7/6, Error ellipse: s-maj=252.5km s-min=18.7km az=71.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.75**	**166**	P	P	21 54 45.9	+1.2
	1.7nm,0.8s,baz=346,slow=10,SNR=3.2						
ASAR	**Alice Springs**	**26.25**	**169**	P	P	21 55 18.6	+0.7
	0.4nm,0.5s,baz=352,slow=7.7,SNR=4.9						
SONM	**Songino Array**	**49.31**	**340**	P	P	21 58 32.3	+0.5
	0.9nm,0.9s,baz=153,slow=7.5,SNR=4.7						
MKAR	**Makanchi Array**	**59.82**	**325**	P	P	21 59 48.6	+0.5
	1.1nm,0.5s,baz=115,slow=7.4,SNR=9.6						
ZALV	**Zalesovo Beam**	**62.75**	**333**	P	P	22 00 07.1	-0.6
	0.7nm,0.5s,baz=112,slow=6.2,SNR=3.7						
VNDA	**Vanda**	**81.71**	**173**	P	P	22 01 59.2	-1.5
	0.5nm,0.8s,baz=304,slow=6.0,SNR=2.9						

IDC 26 21:55:56.5±3.1, 6.39S×147.31E, h55km±36km, mb3.5/5, mb1 3.7/8, mb1mx3.5/18, mbtmp3.6/8, ML3.5/3, MS3.3/1, Ms1 3.2/1, ms1mx2.8/17, Error ellipse: s-maj=54.4km s-min=15.6km az=107.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.00**	**183**	P	Pn	21 56 41.9	+0.2
	13nm,0.3s,baz=352,slow=11,SNR=25						
PMG				S	Sn	21 57 17.2	+0.7
	18nm,0.3s,baz=27,slow=22,SNR=14						
CTA	**Charters Tower**	**13.66**	**184**	P	Pn	21 59 07.8	+0.2
	0.2nm,0.3s,baz=20,slow=14,SNR=3.2						
WRA	**Warramunga Arr**	**18.45**	**222**	P	P	22 00 07.4	-0.4
	0.2nm,0.3s,baz=48,slow=10,SNR=5.7						
ASAR	**Alice Springs**	**21.48**	**215**	P	P	22 00 40.5	-0.2
	1.5nm,0.6s,baz=55,slow=9.0,SNR=25						
ASAR				S	S	22 04 36.8	+0.6
	1.4nm,0.9s,baz=32,slow=22,SNR=5.9						
FITZ	**Fitzroy Crossi**	**24.13**	**239**	P	P	22 01 07.8	+0.3
	1.4nm,0.4s,baz=64,slow=9.7,SNR=14						
STKA	**Stephens Creek**	**25.92**	**191**	P	P	22 01 22.9	-0.7
	2.6nm,0.9s,baz=32,slow=9.5,SNR=2.8						
STKA				LR	LR	22 10 22.0	
	comp=Z,74nm,21.6s,baz=25,slow=33						
MKAR	**Makanchi Array**	**77.99**	**320**	P	P	22 07 49.0	-0.1
	0.2nm,0.7s,baz=99,slow=4.5,SNR=2.8						
ZALV	**Zalesovo Beam**	**79.50**	**328**	P	P	22 07 56.4	-0.7
	0.7nm,0.6s,baz=116,slow=6.8,SNR=4.1						
TORD	**Torodi Ar. Bea**	**145.48**	**284**	PKPbc	PKPab	22 15 30.1	+0.2
	1.4nm,0.7s,baz=73,slow=3.6,SNR=13						

*ISCJB **26** 22:20:54.6±0.5, 15.8S±0.1×174.26W±0.08, h115km, mb4.0/10, Error ellipse: s-maj=16.7km s-min=7.8km az=147.6*
*IDC **26** 22:20:56.7±1.5, 15.87S×174.13W, h121km±15km, mb3.8/10, mb1 4.0/13, mb1mx3.8/23, mbtmp3.8/13, Error ellipse: s-maj=21.7km s-min=12.4km az=133.0*
*NEIC **26** 22:20:58.0±0.9, 15.87S×174.19W, h135km±9km, mb4.4/1, Error ellipse: s-maj=11.6km s-min=7.7km az=147.0*

ISC 26 22:20:55.9±0.6, 15.9S±0.1×174.15W±0.10, h115km, n32, σ0.992/34, mb4.0/10, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.05**	**49**	*e*Pn	**Pn**	**22 21 45.1**	**+2.2**
AFI				*e*Sn	**Sn**	**22 22 16.3**	**-2.7**
AFI	**Afiamalu**	**3.05**	**49**	P	**Pn**	**22 21 44.9**	**+2.1**
	67nm,0.3s,baz=254,slow=14,SNR=51						
AFI				S	**Sn**	**22 22 18.7**	**-0.4**
	192nm,0.3s,baz=19,slow=23,SNR=15						
RAR	**Rarotonga**	**14.60**	**113**	P	**P**	**22 24 19.3**	**-0.9**
RAR	**Rarotonga**	**14.60**	**113**	P	**P**	**22 24 19.3**	**-0.9**
	2.0nm,0.3s,baz=270,slow=9.3,SNR=2.4						
DZM	**Mont Dzumac**	**19.33**	**249**	P	**Pn**	**22 25 14.0**	**-0.7**
DZM	**Mont Dzumac**	**19.33**	**249**	P	**Pn**	**22 25 14.0**	**-0.7**
	0.1nm,0.3s,baz=66,slow=12,SNR=2.3						
URZ	**Urewera**	**23.53**	**197**	P	**P**	**22 25 56.3**	**+0.6**
URZ	**Urewera**	**23.53**	**197**	P	**P**	**22 25 56.3**	**+0.6**
	4.5nm,0.4s,baz=97,slow=5.3,SNR=7.3						
STKA	**Stephens Creek**	**43.14**	**240**	*e*P	**P**	**22 28 44.6**	**-0.7**
STKA	**Stephens Creek**	**43.14**	**240**	P	**P**	**22 28 45.5**	**+0.3**
	5.1nm,0.9s,baz=72,slow=6.4,SNR=5.9						
WRAB	**Tennant Creek**	**49.01**	**257**	*e*P	**P**	**22 29 31.1**	**-0.3**
WRA	**Warramunga Arr**	**49.02**	**257**	P	**P**	**22 29 31.6**	**+0.2**
WRA	**Warramunga Arr**	**49.02**	**257**	P	**P**	**22 29 31.6**	**+0.2**
	1.4nm,0.5s,baz=93,slow=7.9,SNR=5.9						
AS31	**Alice Springs**	**49.26**	**252**	*e*P	**P**	**22 29 32.8**	**-0.5**
ASAR	**Alice Springs**	**49.26**	**252**	P	**P**	**22 29 32.9**	**-0.4**
ASAR	**Alice Springs**	**49.26**	**252**	P	**P**	**22 29 32.9**	**-0.4**
	10nm,0.8s,baz=84,slow=8.4,SNR=74						
VNDA	**Vanda**	**62.77**	**186**	P	**P**	**22 31 09.3**	**+0.7**
VNDA	**Vanda**	**62.77**	**186**	P	**P**	**22 31 09.3**	**+0.7**
	1.4nm,0.8s,baz=15,slow=7.0,SNR=7.1						
PETK	**Petropavlovsk-**	**72.92**	**343**	P	**P**	**22 32 12.5**	**+0.1**
PETK	**Petropavlovsk-**	**72.92**	**343**	P	**P**	**22 32 12.5**	**+0.1**
	1.6nm,0.8s,baz=151,slow=9.9,SNR=2.0						
QSPA	**South Pole Qui**	**74.11**	**180**	*e*P	**P**	**22 32 19.4**	**0.0**
	8.2nm,1.1s						
QSPA	**South Pole Qui**	**74.11**	**180**	P	**P**	**22 32 19.8**	**+0.3**
	6.1nm,1.0s,baz=32,slow=2.3,SNR=15						
NVAR	**Mina Array Bea**	**75.21**	**42**	P	**P**	**22 32 26.3**	**0.0**
NVAR	**Mina Array Bea**	**75.21**	**42**	P	**P**	**22 32 26.3**	**0.0**
	0.5nm,0.8s,baz=220,slow=9.3,SNR=3.5						
TXAR	**Lajitas Array**	**81.51**	**56**	P	**P**	**22 33 01.2**	**+0.1**
TXAR	**Lajitas Array**	**81.51**	**56**	P	**P**	**22 33 01.2**	**+0.1**
	0.4nm,0.8s,baz=217,slow=6.1,SNR=4.4						
PDAR	**Pinedale Array**	**83.14**	**42**	P	**P**	**22 33 08.4**	**-1.0**
PDAR	**Pinedale Array**	**83.14**	**42**	P	**P**	**22 33 08.4**	**-1.0**
	0.5nm,0.6s,baz=231,slow=2.8,SNR=4.6						
BRTR	**Keskin Array B**	**146.11**	**320**	PKPbc	**PKPdf**	**22 40 22.6**	**+0.6**
BRTR	**Keskin Array B**	**146.11**	**320**	PKPbc	**PKPdf**	**22 40 22.6**	**+0.6**
	1.2nm,0.9s,baz=352,slow=5.0,SNR=5.0						
GERES	**GERESS Array B**	**146.56**	**351**	PKPbc	**PKPbc**	**22 40 23.4**	**-0.6**
GERES	**GERESS Array B**	**146.56**	**351**	PKPbc	**PKPbc**	**22 40 23.4**	**-0.6**
	0.4nm,0.8s,baz=354,slow=1.3,SNR=4.6						

*ISCJB **26** 22:28:07.8±1.3, 63.9S±0.2×169.0W±0.5, h10km, mb3.9/3, MS4.0/11, Error ellipse: s-maj=30.2km s-min=24.1km az=164.3*
*IDC **26** 22:28:08.3±1.1, 64.16S×169.24W, h0km, mb4.0/3, mb1 4.1/3, mb1mx3.9/11, mbtmp4.0/3, MS4.0/12, Ms1 4.0/12, ms1mx3.8/20, Error ellipse: s-maj=45.8km s-min=33.9km az=45.0*

ISC 26 22:28:09.7±1.2, 64.2S±0.2×169.1W±0.2, h10km, n23, σ1.917/7, mb4.2/3, MS4.1/11, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**16.12**	**202**	Pn	**P**	**22 32 00.2**	**+0.9**
	0.2nm,0.3s,baz=62,slow=15,SNR=14						
VNDA				LR	LR	22 36 55.9	
	comp=Z,414nm,18.0s,baz=42,slow=33						
QSPA	**South Pole Qui**	**25.95**	**180**	P	**P**	**22 33 42.6**	**+0.6**
	5.7nm,1.0s,baz=49,slow=5.5,SNR=9.0						
QSPA				LR	LR	22 41 39.7	
	comp=Z,255nm,18.9s,baz=252,slow=31						
TBI	**Tubuai**	**42.81**	**27**	*e*LR	LR	22 47 36.1	
	219nm,27.8s						
TBI	**Tubuai**	**42.81**	**27**	*e*T	T	23 20 55.7	
	26nm,0.4s						
MAW	**Mawson**	**43.38**	**206**	LR	LR	22 53 19.6	
	comp=Z,240nm,18.5s,baz=160,slow=35						
STKA	**Stephens Creek**	**44.30**	**293**	LR	LR	22 50 24.6	
	comp=Z,248nm,20.7s,baz=62,slow=30						
VNA2	**Neumayer--Watz**	**44.60**	**172**	*e*P	**P**	**22 36 20.3**	**-1.1**
	baz=204,slow=9.7						
TVO	**Taravao**	**48.27**	**26**	*e*T	T	23 27 45.0	
	6.1nm,0.3s						
PAE	**Paea**	**48.33**	**25**	*e*T	T	23 27 49.5	
	1.1nm,0.3s						
PPT2	**Papeete2**	**48.40**	**25**	*e*LR	LR	22 50 20.2	
	184nm,25.8s						
PPT2	**Papeete2**	**48.40**	**25**	*e*T	T	23 27 55.0	
	3.9nm,0.3s						
PPT	**Papeete**	**48.42**	**25**	LR	LR	22 51 15.8	
	comp=Z,83nm,19.4s,baz=255,slow=29						
AFI	**Afiamalu**	**50.22**	**357**	LR	LR	22 52 13.8	
	comp=Z,71nm,19.3s,baz=359,slow=29						
VAH	**Vaihoa**	**51.07**	**27**	*e*T	T	23 31 13.7	
	20nm,0.3s						
PMOR	**Pomariorio Ree**	**51.24**	**27**	*e*T	T	23 31 27.1	
	1.6nm,0.3s						
ASAR	**Alice Springs**	**54.70**	**290**	P	**P**	**22 37 38.6**	**-0.3**
	0.5nm,0.8s,baz=142,slow=7.0,SNR=4.3						
ASAR				LR	LR	22 56 40.2	
	comp=Z,221nm,20.7s,baz=2.4,slow=31						
PLCA	**Paso Flores**	**57.69**	**117**	LR	LR	22 57 42.5	
	comp=Z,139nm,19.6s,baz=316,slow=31						
PMG	**Port Moresby**	**62.70**	**310**	LR	LR	23 03 19.0	
	comp=Z,79nm,18.0s,baz=115,slow=34						
CPUP	**Villa Florida**	**75.50**	**121**	LR	LR	23 08 42.4	
	comp=Z,114nm,19.4s,baz=176,slow=32						
LPAZ	**La Paz**	**80.20**	**107**	P	**P**	**22 40 21.1**	**+0.1**
	2.0nm,0.8s,baz=206,slow=3.4,SNR=7.8						
LPAZ				LR	LR	23 06 33.0	
	comp=Z,72nm,21.6s,baz=287,slow=29						
BOSA	**Boshof**	**86.85**	**193**	LR	LR	23 17 17.1	
	comp=Z,120nm,18.5s,baz=56,slow=34						
ILAR	**Eielson Array**	**129.66**	**12**	PKP	**PKPdf**	**22 47 18.5**	**+1.4**
	0.5nm,0.7s,baz=253,slow=0.9,SNR=4.3						
BRTR	**Keskin Array B**	**152.11**	**220**	PKPbc	**PKPbc**	**22 48 03.5**	**-1.0**
	0.7nm,0.8s,baz=111,slow=3.2,SNR=3.3						

IDC 26 22:53:46.6±2.4, 0.19S×127.92E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/20, mbtmp3.3/3, Error ellipse: s-maj=187.9km s-min=28.7km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.62**	**163**	P	P	22 58 27.6	-0.1
	0.6nm,0.6s,baz=342,slow=11,SNR=2.7						
ASAR	**Alice Springs**	**24.05**	**166**	P	P	22 59 03.8	0.0
	0.6nm,0.7s,baz=345,slow=10,SNR=6.8						
MKAR	**Makanchi Array**	**61.44**	**326**	P	P	23 04 04.9	-0.1
	0.1nm,0.3s,baz=116,slow=8.5,SNR=3.6						

MAN 26 23:00:26, 6.59N×125.62E, h23km, mb4.4, ML3.2, MS3.1, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**0.67**	**309**	⇓*e*P	Pb	23 00 37.2	-1.9
KCP				*i* S	Sb	23 00 45.7	-2.4
MATI	**Mati**	**0.73**	**61**	*e*P	Pn	23 00 41.8	+0.9
MATI				*e*S	Sn	23 00 52.2	+0.8
GSPH	**General Santos**	**0.83**	**233**	*e*P	Pb	23 00 39.2	-2.7
GSPH				*i* S	Sb	23 00 49.9	-2.8
BUKP	**Musuan**	**1.40**	**337**	*e*P	Pn	23 00 50.7	+0.5
BUKP				*e*S	Sn	23 01 05.8	-2.2
CTBH	**Cotabato--PC H**	**1.50**	**295**	⇓*i*P	Pn	23 00 50.2	-1.3
CGP	**Cagayan de Oro**	**2.07**	**334**	*e*P	Pb	23 01 01.2	-1.7
CGP				*i* S	Sb	23 01 29.0	+0.8

*IDC **26** 23:35:52.1±1.4, 13.13N×88.98W, h0km, mb3.5/2, mb1 4.1/2, mb1mx3.5/21, mbtmp3.6/2, MS3.2/2, Ms1 3.2/2, ms1mx2.8/25, Error ellipse: s-maj=68.3km s-min=14.3km az=46.0*
*ISCJB **26** 23:35:59.6±0.5, 13.05N±0.07×89.17W±0.05, h54km±10km, mb3.6/2, MS3.7/1, Error ellipse: s-maj=13.2km s-min=4.2km az=34.9*
*CASC **26** 23:36:00.3±1.9, 13.08N×89.18W, h42km±19km, MD3.8, ML4.3*

ISC 26 23:36:00.4±1.1, 13.11N±0.08×89.18W±0.06, h52km±10km, n31, σ1.909/41, 2C-3D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AIES	**Las Flores**	**0.37**	**20**	*i* P	**Pn**	**23 36 09.9**	**-0.5**
AIES				*e*S	**Sn**	**23 36 17.7**	**+0.2**
AIES				AML	AML	23 36 20.4	
	comp=Z,12μm,0.2s						
LFRS	**El Faro**	**0.53**	**13**	⇑*e*P	**Pn**	**23 36 11.7**	**-0.5**
SNET	**Serv Nac Est T**	**0.58**	**355**	*e*P	**Pn**	**23 36 12.4**	**-0.4**
SNET				*e*S	**Sn**	**23 36 22.0**	**+0.2**
SNET				AML	AML	23 36 22.8	
	comp=Z,28μm,0.2s						
SNVI	**San Vicente**	**0.60**	**34**	*e*P	**Pn**	**23 36 12.7**	**-0.5**
BOQS	**Boqueron**	**0.63**	**352**	⇓*e*P	**Pn**	**23 36 13.5**	**-0.1**
BOQS				*e*S	**Sn**	**23 36 23.4**	**+0.2**
SBLS	**San Blas**	**0.84**	**330**	⇓*e*P	**Pn**	**23 36 16.0**	**-0.4**
SNJE	**San Jose**	**0.86**	**332**	⇓*i*P	**Pn**	**23 36 16.2**	**-0.3**
VSM	**San Miguel**	**0.94**	**70**	*e*P	**Pn**	**23 36 17.6**	**0.0**
BLLM	**Bellamira**	**0.98**	**70**	*e*P	**Pn**	**23 36 18.0**	**+0.1**
BLLM				*e*S	**Sn**	**23 36 31.4**	**+0.5**
CAHU	**Cacacuatique**	**1.15**	**55**	*e*P	**Pn**	**23 36 21.1**	**+0.7**
CNCH	**Conchagua**	**1.33**	**83**	*e*P	**Pn**	**23 36 22.3**	**-0.3**
CNCH				*e*S	**Sn**	**23 36 39.4**	**+0.1**
NBG	**Las Nubes**	**1.85**	**323**	*e*P	**Pn**	**23 36 31.5**	**+1.4**
PCG	**Pacaya**	**1.88**	**313**	*e*P	**Pn**	**23 36 31.0**	**+0.6**
PCG				*e*S	**Sn**	**23 36 56.6**	**+3.4**
MRL	**Marmol**	**2.01**	**346**	*e*P	**Pn**	**23 36 33.7**	**+1.6**
FUG	**Fuego 3**	**2.09**	**310**	*e*P	**Pn**	**23 36 33.8**	**+0.6**
APG	**El Apazote**	**2.26**	**327**	Pg	**Pn**	**23 36 35.9**	**+0.4**
	comp=Z,15nm,0.3s,baz=138,slow=9.0,SNR=57						
APG				Lg	Lg	23 37 08.5	
	comp=Z,23nm,0.3s,baz=278,slow=23,SNR=6.0						
JAT	**Jato**	**2.67**	**297**	*e*P	**Pn**	**23 36 41.6**	**+0.7**
**V

λ-12.00000°.
SKHL **27** 01:03:26.8±1.8, 46.57N×153.57E, h106km±5km, mb4.7/4, msh5.6/3
ISCJB **27** 01:03:28.3±0.4, 46.98N±0.06×153.01E±0.07, h56km, mb4.2/47, MS3.5/5, Error ellipse: s-maj=10.6km s-min=3.1km az=139.3
IDC **27** 01:03:30.0±0.7, 47.01N×152.86E, h52km±6km, mb3.8/19, mb1 4.0/21, mb1mx4.0/27, mbtmp3.8/21, MS3.4/6, Ms1 3.4/6, ms1mx3.0/35, Error ellipse: s-maj=17.0km s-min=12.1km az=142.0
NEIC **27** 01:03:30.9±0.6, 47.01N×152.91E, h63km±6km, mb4.4/10, Error ellipse: s-maj=8.5km s-min=4.4km az=142.0
MOS **27** 01:03:30.9±0.8, 46.97N×152.84E, h79km, mb4.5/27, Error ellipse: s-maj=10.5km s-min=8.5km az=64.7
KRSC **27** 01:03:32.4±8.5, 46.76N×155.58E, h25km±25km, ML4.7
SZGRF **27** 01:03:36.3, 48.33N×152.71E, h33km, mb4.3, Kuril Islands, Russia

ISC 27 01:03:29.8±0.5, 46.91N±0.07×153.06E±0.07, h56km, n177, σ1§46/196, **mb4.2**/47, **MS3.5**/5, **4C-1D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.98**	**247**	*i* PN	**Pn**	**01 04 29.2**	**+0.9**
KUR				*i* S	**Sn**	**01 05 17.0**	**+3.3**
KUR				pmax	pmax		
	comp=Z,28nm,0.5s						
KUR				pmax	pmax		
	comp=E,23nm,0.6s						
KUR				smax	smax		
	comp=N,130nm,0.4s						
KUR				smax	smax		
	comp=E,77nm,0.4s						
KUR	**Kuril'sk**	**3.98**	**247**	*i* P	**Pn**	**01 04 29.2**	**+0.9**
KUR				AMB	AMB	01 04 43.7	
	comp=E,23nm,0.5s						
KUR				AMB	AMB	01 04 43.7	
	comp=E,28nm,0.5s						
KUR				*i* S	**Sn**	**01 05 17.0**	**+3.3**
KUR				A	A	01 05 32.1	
	comp=E,130nm,0.4s						
KUR				A	A	01 05 32.1	
	comp=E,77nm,0.4s						
SKR	**Severo-Kuril's**	**4.28**	**27**	*e*PN	Pn	01 04 25.5	-6.8
SKR				pmax	pmax		
	comp=Z,60nm,0.5s						
SKR	**Severo-Kuril's**	**4.28**	**27**	P	**Pn**	**01 04 32.8**	**+0.5**
SKR				S	**Sn**	**01 05 18.7**	**-2.2**
SKR	**Severo-Kuril's**	**4.28**	**27**	*e*P	Pn	01 04 25.5	-6.8
SKR				AMB	AMB	01 04 27.3	
	comp=Z,60nm,0.5s						
SKR				*e*S	Sn	01 05 11.3	-10
SKR				A	A	01 05 37.8	
	comp=Z,170nm,0.5s						
SKR				A	A	01 05 37.8	
	comp=Z,80nm,0.5s						
PAU	**Pauzhetka**	**5.18**	**27**	PN	**Pn**	**01 04 44.6**	**0.0**
PAU	**Pauzhetka**	**5.18**	**27**	P	**Pn**	**01 04 44.6**	**0.0**
PAU				S	**Sn**	**01 05 39.6**	**-3.4**
YUK	**Yuzh-Kuril'sk**	**5.82**	**243***c*	*i* PN	**Pn**	**01 04 55.7**	**+2.2**
YUK				*i* S	**Sn**	**01 06 01.6**	**+2.7**
YUK				pmax	pmax		
	comp=Z,69nm,0.9s						
YUK				pmax	pmax		
	comp=E,26nm,0.2s						
YUK				pmax	pmax		
	comp=N,32nm,0.3s						
YUK				smax	smax		
	comp=N,70nm,0.6s						
YUK				smax	smax		
	comp=E,143nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**5.82**	**243**	*i* P	**Pn**	**01 04 55.7**	**+2.2**
YUK				AMB	AMB	01 05 12.6	
	comp=E,32nm,0.9s						
YUK				AMB	AMB	01 05 12.6	
	comp=E,26nm,0.9s						
YUK				AMB	AMB	01 05 12.6	
	comp=E,69nm,0.9s						
YUK				*i* S	**Sn**	**01 06 01.6**	**+2.7**
YUK				A	A	01 06 20.6	
	comp=E,70nm,0.6s						
YUK				A	A	01 06 20.6	
	comp=E,143nm,0.6s						
NEM2	**Nemuro 2**	**6.27**	**238**	P	**Pn**	**01 04 58.0**	**-1.7**
NEM2				*e*S	**Sn**	**01 06 05.3**	**-4.6**
ASAK	**Asacha**	**6.31**	**28**	P	**Pn**	**01 05 00.9**	**+0.6**
JRA	**Rausu**	**6.33**	**245**	P	**Pn**	**01 05 02.2**	**+1.8**
MTVR	**Mutnovka**	**6.49**	**29**	P	**Pn**	**01 05 02.5**	**-0.2**
MTVR				S	**Sn**	**01 06 10.4**	**-5.0**
RUS	**Russkaya**	**6.56**	**31**	PN	**Pn**	**01 05 02.5**	**-1.0**
RUS	**Russkaya**	**6.56**	**31**	P	**Pn**	**01 05 02.5**	**-1.0**
RUS				S	**Sn**	**01 06 11.0**	**-5.9**
PEA0B	**Petropavlovsk-**	**6.88**	**24**	*e*Pn	**Pn**	**01 05 08.1**	**+0.1**
PETK	**Petropavlovsk-**	**6.88**	**24**	PN	**Pn**	**01 05 08.7**	**+0.7**
PETK				S	**Sn**	**01 06 28.8**	**+3.9**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK	**Petropavlovsk-**	**6.88**	**24**	P	**Pn**	**01 05 08.7**	**+0.7**
PETK				S	**Sn**	**01 06 28.8**	**+3.9**
PETK	**Petropavlovsk-**	**6.88**	**24**	P	**Pn**	**01 05 08.7**	**+0.7**
	comp=Z,0.9nm,0.3s,baz=178,slow=14,SNR=8.5						
PETK				S	**Sn**	**01 06 28.8**	**+3.9**
	baz=150,slow=16,SNR=1.9						
YSS	**Yuzh-Sakhalins**	**7.06**	**274**⇑	*e*PN	**Pn**	**01 05 12.8**	**+2.4**
YSS				pmax	pmax		
	comp=Z,20nm,0.9s						
YSS	**Yuzh-Sakhalins**	**7.06**	**274**	*e*P	**Pn**	**01 05 12.8**	**+2.4**
YSS				AMB	AMB	01 05 13.5	
	comp=Z,20nm,0.9s						
JTKR	**Abashiri--Toko**	**7.08**	**249**	P	**Pn**	**01 05 11.5**	**+0.8**
PET	**Petropavlovsk**	**7.10**	**28**	S	**Sn**	**01 06 25.0**	**-5.1**
JAK	**Akkeshi**	**7.11**	**240**	P	**Pn**	**01 05 09.9**	**-1.2**
JAK				*e*S	**Sn**	**01 06 25.6**	**-4.8**
AVH	**Avacha**	**7.33**	**28**	P	**Pn**	**01 05 14.3**	**+0.1**
KRX	**Arik**	**7.38**	**27**	P	**Pn**	**01 05 14.9**	**-0.1**
SDLR	**Sedlovina**	**7.39**	**28**	P	**Pn**	**01 05 14.6**	**-0.4**
JMP	**Maruseppu**	**7.41**	**250**	P	**Pn**	**01 05 16.8**	**+1.5**
GNL	**Ganaly**	**7.47**	**23**	P	**Pn**	**01 05 18.3**	**+2.1**
JAR	**Ashorobuto**	**7.50**	**245**	P	**Pn**	**01 05 17.1**	**+0.6**
JAR				*e*S	**Sn**	**01 06 38.7**	**-1.4**
SPN	**Mys Shipunski**	**7.64**	**33**	PN	**Pn**	**01 05 16.4**	**-2.0**
SPN	**Mys Shipunski**	**7.64**	**33**	P	**Pn**	**01 05 16.4**	**-2.0**
ASAJ	**Asahikawa**	**7.86**	**253**	*e*Pn	**Pn**	**01 05 23.8**	**+2.4**
	comp=Z,20nm,0.9s						
ASAJ	**Asahikawa**	**7.86**	**253**	P	**Pn**	**01 05 23.6**	**+2.1**
	comp=Z,1.7nm,0.3s,baz=79,slow=11,SNR=18						
ASAJ				LR	LR	01 08 13.1	
	comp=Z,100nm,19.4s,baz=339,slow=36						
JKK2	**Kamakawa 2**	**7.87**	**251**	P	**Pn**	**01 05 23.2**	**+1.6**
JCH	**Churui**	**8.13**	**242**	P	**Pn**	**01 05 23.8**	**-1.3**
JCH				*e*S	**Sn**	**01 06 49.7**	**-5.8**
ERM	**Erimo**	**8.61**	**239**‖	*e*PN	**Pn**	**01 05 31.9**	**+0.3**
ERM	**Erimo**	**8.61**	**239**	*e*P	**Pn**	**01 05 31.9**	**+0.3**
ERM	**Erimo**	**8.61**	**239**	*e*Pn	**Pn**	**01 05 31.8**	**+0.1**
	comp=Z,52nm,0.6s						
MKZ	**Mys Kozlova**	**9.41**	**32**	PN	**Pn**	**01 05 40.9**	**-1.7**
MKZ	**Mys Kozlova**	**9.41**	**32**	P	**Pn**	**01 05 40.9**	**-1.7**
MKZ				S	Sn	01 07 16.9	-10
JANG	**Nango**	**10.61**	**236**	P	Pn	01 05 54.4	-4.6
JANG				*e*S	Sn	01 07 43.5	-13
JTH	**Tanohata**	**10.71**	**233**	*e*S	Sn	01 07 45.9	-13
JRG	**Rokugo**	**11.77**	**235**	P	Pn	01 06 11.6	-3.3
FX1	**Attu Island--F**	**14.24**	**58**	*e*Pn	**Pn**	**01 06 48.1**	**-0.2**
FX1				S	Sn	01 09 13.0	-12
FX1	**Attu Island--F**	**14.24**	**58**	P	**Pn**	**01 06 47.1**	**-1.3**
	comp=Z,2.4nm,0.3s,baz=205,slow=19,SNR=4.7						
FX1				S	Sn	01 09 13.0	-12
	comp=Z,1.6nm,0.3s,baz=246,slow=20,SNR=3.3						
KLR	**Kul'dur**	**14.43**	**287**	*e*P	**P**	**01 06 56.0**	**-0.2**
USRK	**Ussuriysk Arra**	**15.00**	**267**	P	**Pn**	**01 06 58.0**	**-0.3**
	comp=Z,0.8nm,0.3s,baz=69,slow=13,SNR=14						
MAJO	**Matsushiro**	**15.15**	**232**	*e*P	**Pn**	**01 06 59.4**	**-0.9**
MAJO	**Matsushiro**	**15.15**	**232**	*e*Pn	**Pn**	**01 06 59.4**	**-0.9**
MAT	**Matsushiro**	**15.15**	**232**	P	**P**	**01 07 04.8**	**+0.5**
KSRS	**Korea Array**	**20.81**	**252**	P	**P**	**01 08 06.8**	**+0.4**
	comp=Z,1.7nm,0.6s,baz=58,slow=9.6,SNR=4.7						
KSAR	**Wonju Array Be**	**20.84**	**252**	P	**P**	**01 08 06.8**	**+0.1**
ULN	**Ulaanbaatar**	**30.81**	**289**	*e*P	**P**	**01 09 39.2**	**-1.0**
SONM	**Songino Array**	**31.24**	**289**	P	**P**	**01 09 43.2**	**-0.8**
SONM	**Songino Array**	**31.24**	**289**	P	**P**	**01 09 43.2**	**-0.8**
	comp=Z,0.6nm,1.0s,baz=101,slow=7.6,SNR=2.2						
SONM				LR	LR	01 23 26.7	
	comp=Z,97nm,18.6s,baz=171,slow=38						
IMA2	**Indian Mountai**	**33.69**	**36**	*e*P	**P**	**01 10 05.5**	**+0.3**
MCK	**McKinley**	**35.55**	**40**	*e*P	**P**	**01 10 21.4**	**+0.2**
MCK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MCK	**McKinley**	**35.55**	**40**	*e*P	**P**	**01 10 21.4**	**+0.2**
	comp=Z,4.1nm,0.8s						
COLA	**College**	**36.03**	**39**	*e*P	**P**	**01 10 26.0**	**+0.8**
COLA				pmax	pmax		
	comp=Z,21nm,0.6s						
COLA	**College**	**36.03**	**39**	*e*P	**P**	**01 10 26.0**	**+0.8**
	comp=Z,21nm,0.6s						
ILAR	**Eielson Array**	**36.44**	**39**	P	**P**	**01 10 29.2**	**+0.4**
ILAR				pP	**pP**	**01 10 42.3**	**-0.7**
ILAR	**Eielson Array**	**36.44**	**39**	P	**P**	**01 10 29.2**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=265,slow=5.4,SNR=7.4						
ILAR				pP	**pP**	**01 10 42.3**	**-0.7**
	comp=Z,0.6nm,0.6s,baz=258,slow=7.0,SNR=3.9						
INK	**Inuvik**	**41.53**	**33**	P	**P**	**01 11 12.6**	**+1.4**
INK	**Inuvik**	**41.53**	**33**	P	**P**	**01 11 12.6**	**+1.4**
	comp=Z,4.3nm,0.7s						
ZALV	**Zalesovo Beam**	**42.48**	**306**	P	**P**	**01 11 17.6**	**-1.5**
ZALV						01 13 10.9	
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ZALV				MLR	MLR		
	comp=Z,32nm,19.6s						
ZALV	**Zalesovo Beam**	**42.48**	**306**	P	**P**	**01 11 17.6**	**-1.5**
ZALV				PcP	**PcP**	**01 13 10.9**	**0.0**
ZALV	**Zalesovo Beam**	**42.48**	**306**	P	**P**	**01 11 17.6**	**-1.5**
	comp=Z,0.5nm,0.4s,baz=55,slow=5.5,SNR=3.1						
ZALV				PcP	**PcP**	**01 13 10.9**	**0.0**
	comp=Z,1.4nm,0.8s,baz=81,slow=4.7,SNR=5.6						
ZALV				LR	LR	01 29 56.8	
	comp=Z,32nm,19.6s,baz=69,slow=38						
MK31	**Makanchi Array**	**46.83**	**297**	*e*P	**P**	**01 11 52.1**	**-1.8**
MK31	**Makanchi Array**	**46.83**	**297**	*e*P	**P**	**01 11 52.1**	**-1.8**
MKAR	**Makanchi Array**	**46.83**	**297**	P	**P**	**01 11 52.9**	**-1.0**
MKAR						01 13 25.8	
MKAR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR				MLR	MLR		
	comp=Z,25nm,18.6s						
MKAR	**Makanchi Array**	**46.83**	**297**	*e*P	**P**	**01 11 53.7**	**-0.2**
MKAR	**Makanchi Array**	**46.83**	**297**	P	**P**	**01 11 52.9**	**-1.0**
MKAR				PcP	**PcP**	**01 13 25.8**	**-0.2**
MKAR	**Makanchi Array**	**46.83**	**297**	P	**P**	**01 11 52.9**	**-1.0**
	comp=Z,1.5nm,1.0s,baz=68,slow=6.5,SNR=6.4						
MKAR				PcP	**PcP**	**01 13 25.8**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=65,slow=4.3,SNR=5.3						
MKAR				LR	LR	01 34 44.9	
	comp=Z,25nm,18.6s,baz=352,slow=40						
KURK	**Kurchatov**	**47.24**	**303**⇑	*i* P	**P**	**01 11 55.3**	**-1.7**
KURK				pmax	pmax		
	comp=Z,3.0nm,1.7s						
KURK	**Kurchatov**	**47.24**	**303**	*e*P	**P**	**01 11 55.3**	**-1.7**
KURK	**Kurchatov**	**47.24**	**303**	*e*P	**P**	**01 11 55.5**	**-1.5**
	comp=Z,1.0nm,0.7s						
BVAR	**Borovoye Array**	**50.73**	**309**	LR	LR	01 37 00.9	
	comp=Z,62nm,18.5s,baz=107,slow=40						
BRVK	**Borovoye**	**50.77**	**309***c*	*e*P	**P**	**01 12 23.8**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,2.0nm,1.4s						
BRVK	**Borovoye**	**50.77**	**309**	*e*P	**P**	**01 12 23.8**	**-0.1**
BRVK	**Borovoye**	**50.77**	**309**	*e*P	**P**	**01 12 23.8**	**-0.1**
	comp=Z,1.2nm,0.6s						
YKA	**Yellowknife Ar**	**50.81**	**37**	P	**P**	**01 12 25.0**	**+0.9**
YKA	**Yellowknife Ar**	**50.81**	**37**	P	**P**	**01 12 25.0**	**+0.9**
	comp=Z,1.9nm,0.8s,baz=295,slow=6.8,SNR=3.4						
CHTO	**Chiang Mai**	**52.12**	**256**	*e*P	**P**	**01 12 34.3**	**-0.2**
CHTO				pmax	pmax		
	comp=Z,14nm,0.8s						
CHTO	**Chiang Mai**	**52.12**	**256**	*e*P	**P**	**01 12 34.3**	**-0.2**
	comp=Z,14nm,0.8s						
CMAR	**Chiang Mai Arr**	**52.37**	**256**	P	**P**	**01 12 37.0**	**+0.7**
CMAR	**Chiang Mai Arr**	**52.37**	**256**	P	**P**	**01 12 37.0**	**+0.7**
	comp=Z,1.6nm,0.7s,baz=38,slow=7.2,SNR=9.5						
AAK	**Ala-Archa**	**53.73**	**296**	*e*P	**P**	**01 12 45.0**	**-1.2**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AAK	**Ala-Archa**	**53.73**	**296**	*e*P	**P**	**01 12 45.0**	**-1.2**
	comp=Z,1.2nm,0.6s						
TAPN	**Taplejung**	**54.05**	**273**	*e*P	**P**	**01 12 49.5**	**+0.6**
ODAN	**Odare**	**54.59**	**273**	*e*P	**P**	**01 12 52.8**	**+0.1**
JIRN	**Jiri**	**54.90**	**274**	*e*P	**P**	**01 12 55.6**	**+0.5**
	comp=Z,3.9nm,0.2s						
GUN	**Gumba**	**54.95**	**275**	*e*P	**P**	**01 12 55.7**	**+0.2**
RAMN	**Ramite**	**55.07**	**273**	*e*P	**P**	**01 12 55.9**	**-0.3**
	comp=Z,16nm,0.6s						
KKN	**Kakani**	**55.44**	**275**	*e*P	**P**	**01 12 59.4**	**+0.6**
	comp=Z,11nm,0.7s						
PKI	**Pulchoki**	**55.49**	**275**	*e*P	**P**	**01 12 59.5**	**+0.2**
PKIN	**Phulchoki**	**55.49**	**275**	*e*P	**P**	**01 12 59.4**	**+0.1**
	comp=Z,5.0nm,0.6s						
DMN	**Daman**	**55.67**	**275**	*e*P	**P**	**01 13 00.8**	**+0.2**
	comp=Z,12nm,0.7s						
GKN	**Gorkha**	**55.74**	**276**	*e*P	**P**	**01 13 01.0**	**+0.1**
	comp=Z,12nm,0.7s						
DANN	**Dangsing**	**56.12**	**277**	*e*P	**P**	**01 13 03.9**	**+0.1**
	comp=Z,9.2nm,0.7s						
KOLN	**Koldanda**	**56.59**	**276**	*e*P	**P**	**01 13 07.2**	**+0.1**
	comp=Z,7.4nm,0.7s						
ARCES	**ARCESS Array B**	**57.69**	**341**	P	**P**	**01 13 13.5**	**-0.4**
ARCES	**ARCESS Array B**	**57.69**	**341**	P	**P**	**01 13 13.5**	**-0.4**
	comp=Z,3.4nm,0.8s,baz=28,slow=6.4,SNR=3.4						
ABKAR	**Akbulak array**	**58.29**	**310**	*e*P	**P**	**01 13 17.2**	**-1.3**
SUMG	**Summit**	**60.54**	**4**	*e*P	**P**	**01 13 34.2**	**+0.1**
SUMG				pmax	pmax		
	comp=Z,8.0nm,0.8s						
SUMG	**Summit**	**60.54**	**4**	*i* P	**P**	**01 13 34.4**	**+0.3**
	comp=Z,12nm,0.8s						
SUMG	**Summit**	**60.54**	**4**	*e*P	**P**	**01 13 34.2**	**+0.1**
	comp=Z,7.7nm,0.8s						
FINES	**FINESS Array B**	**63.88**	**335**	P	**P**	**01 13 55.3**	**-0.7**
FINES	**FINESS Array B**	**63.88**	**335**	P	**P**	**01 13 55.3**	**-0.7**
	comp=Z,3.9nm,0.6s,baz=34,slow=7.8,SNR=24						
PDAR	**Pinedale Array**	**64.68**	**54**	P	**P**	**01 14 03.0**	**+1.0**
PDAR	**Pinedale Array**	**64.68**	**54**	P	**P**	**01 14 03.0**	**+1.0**
	comp=Z,1.9nm,0.8s,baz=279,slow=1.2,SNR=11						
SRU	**San Rafael**	**66.56**	**57**	*e*P	**P**	**01 14 15.0**	**+0.9**
SRU				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SRU	**San Rafael**	**66.56**	**57**	*e*P	**P**	**01 14 15.0**	**+0.9**
	comp=Z,3.1nm,0.8s						
NB2	**NORSAR Subarra**	**68.06**	**341**	P	**P**	**01 14 22.2**	**-0.8**
	comp=Z,2.3nm,0.6s,baz=27,slow=6.2						
NOA	**NORSAR Array B**	**68.06**	**341**	P	**P**	**01 14 22.4**	**-0.6**
NOA	**NORSAR Array B**	**68.06**	**341**	P	**P**	**01 14 22.4**	**-0.6**
	comp=Z,3.2nm,0.6s,baz=27,slow=6.2,SNR=11						
NOA				LR	LR	01 49 58.7	
	comp=Z,61nm,18.2s,baz=0.0,slow=41						
WRAB	**Tennant Creek**	**68.64**	**199**	*e*P	**P**	**01 14 27.9**	**+0.9**
WRAB				pmax	pmax		
	comp=Z,6.0nm,0.9s						
WRAB	**Tennant Creek**	**68.64**	**199**	*e*P	**P**	**01 14 27.9**	**+0.9**
	comp=Z,5.7nm,0.9s						
WRA	**Warramunga Arr**	**68.66**	**199**	P	**P**	**01 14 27.1**	**0.0**
WRA	**Warramunga Arr**	**68.66**	**199**	P	**P**	**01 14 27.1**	**0.0**
	comp=Z,0.4nm,0.5s,baz=8.7,slow=6.6,SNR=3.0						
KBZ	**Khabaz**	**70.72**	**314**	P	**P**	**01 14 39.7**	**0.0**
KBZ				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KBZ	**Khabaz**	**70.72**	**314**	P	**P**	**01 14 39.6**	**0.0**
KBZ	**Khabaz**	**70.72**	**314**	P	**P**	**01 14 39.6**	**0.0**
	comp=Z,2.1nm,0.7s,baz=189,slow=7.8,SNR=4.0						
AKASG	**Malin Array Be**	**71.39**	**326**	P	**P**	**01 14 42.5**	**-1.1**
AKASG				pmax	pmax		
	comp=Z,5.0nm,0.4s						
AKASG	**Malin Array Be**	**71.39**	**326**	P	**P**	**01 14 42.5**	**-1.1**
AKASG	**Malin Array Be**	**71.39**	**326**	P	**P**	**01 14 42.5**	**-1.1**
	comp=Z,5.0nm,0.4s,baz=33,slow=6.2,SNR=21						
AS31	**Alice Springs**	**72.35**	**198**	*e*P	**P**	**01 14 49.9**	**+0.3**
ASAR	**Alice Springs**	**72.35**	**198**	P	**P**	**01 14 50.5**	**+0.9**
ASAR				pP	**pP**	**01 15 05.2**	**+0.1**
ASAR	**Alice Springs**	**72.35**	**198**	P	**P**	**01 14 50.5**	**+0.9**
	comp=Z,0.9nm,0.8s,baz=9.9,slow=5.9,SNR=9.5						
ASAR				pP	**pP**	**01 15 05.2**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=12,slow=5.6,SNR=5.9						
BUR08	**Bucovina Ar. S**	**75.41**	**327**	*e*P	**P**	**01 15 07.1**	**-0.4**
NRDL	**Niedersach Rie**	**76.02**	**338**	*e*P	**P**	**01 15 10.4**	**-0.2**
	comp=Z,2.0nm,0.9s						
OKC	**Ostrava-Krasne**	**76.03**	**332**	*e*P	**P**	**01 15 08.7**	**-2.1**
OKC	**Ostrava-Krasne**	**76.03**	**332**	*e*P	**P**	**01 15 08.7**	**-2.1**
DPC	**Dobruska-Polom**	**76.16**	**333**	*e*P	**P**	**01 15 11.2**	**-0.4**
DPC	**Dobruska-Polom**	**76.16**	**333**	*e*P	**P**	**01 15 11.2**	**-0.4**
CLL	**Collm**	**76.30**	**335**	*e*P	**P**	**01 15 11.5**	**-0.8**
	comp=Z,4.0nm,0.8s						
CLL	**Collm**	**76.30**	**335**	*i* P	**P**	**01 15 11.4**	**-0.8**
CLL				pmax	pmax		
	comp=Z,10.0nm,1.2s						
CLL	**Collm**	**76.30**	**335**	*i* P	**P**	**01 15 11.4**	**-0.8**
	comp=Z,10.0nm,1.2s						
BRG	**Berggiesshubel**	**76.42**	**335**	*e*P	**P**	**01 15 12.8**	**-0.2**
	comp=Z,1.0nm,0.8s						
CLZ	**Clausthal**	**76.54**	**337**	*e*P	**P**	**01 15 13.7**	**0.0**
	comp=Z,3.0nm,0.7s						
CLZ	**Clausthal**	**76.54**	**337**	*e*P	**P**	**01 15 13.7**	**0.0**
CLZ				pmax	pmax		
	comp=Z,3.0nm,0.7s						
IBBN	**Ibbenburen**	**76.79**	**339**	*e*P	**P**	**01 15 14.9**	**-0.1**
	comp=Z,2.0nm,0.7s						
MOX	**Moxa**	**77.28**	**336**	*e*P	**P**	**01 15 17.6**	**-0.3**
	comp=Z,2.0nm,0.7s						
MOX	**Moxa**	**77.28**	**336**	*e*P	**P**	**01 15 17.6**	**-0.3**
MOX				pmax	pmax		
	comp=Z,2.0nm,0.7s						
TXAR	**Lajitas Array**	**77.44**	**61**	P	**P**	**01 15 20.1**	**+0.9**
TXAR				pP	**pP**	**01 15 35.1**	**+0.2**
TXAR	**Lajitas Array**	**77.44**	**61**	P	**P**	**01 15 20.1**	**+0.9**
	comp=Z,1.5nm,0.5s,baz=299,slow=4.9,SNR=37						
TXAR				pP	**pP**	**01 15 35.1**	**+0.2**
	comp=Z,1.2nm,0.6s,baz=304,slow=4.3,SNR=6.8						
UBBA	**Unterbreizbach**	**77.57**	**337**	*e*P	**P**	**01 15 19.0**	**-0.3**
	comp=Z,1.0nm,0.7s						
ROTZ	**Rotzenmuhle**	**77.91**	**335**	*e*P	**P**	**01 15 22.0**	**+0.6**
	comp=Z,2.0nm,0.8s						
KHC	**Kasperske Hory**	**78.07**	**334**	*e*P	**P**	**01 15 22.0**	**-0.3**
KHC				*e*		01 15 26.2	
KHC	**Kasperske Hory**	**78.07**	**334**	*e*P	**P**	**01 15 22.0**	**-0.3**
KHC				*ex*	x	01 15 26.2	
BR131	**Keskin Array S**	**78.25**	**317**	*e*P	**P**	**01 15 23.6**	**0.0**
	comp=Z,2.5nm,0.9s						
BRTR	**Keskin Array B**	**78.25**	**317**	P	**P**	**01 15 23.6**	**0.0**
BRTR	**Keskin Array B**	**78.25**	**317**	P	**P**	**01 15 23.6**	**0.0**
	comp=Z,1.7nm,0.8s,baz=68,slow=4.6,SNR=8.9						
GRF	**Grafenberg Arr**	**78.25**	**336**	*e*P	**P**	**01 15 23.6**	**+0.3**
	comp=Z,4.0nm,0.8s						
GRF	**Grafenberg Arr**	**78.25**	**336**	*e*P	**P**	**01 15 23.6**	**+0.3**
GRF				pmax	pmax		
	comp=Z,4.0nm,0.8s						
WET	**Wettzell**	**78.27**	**335**	*e*P	**P**	**01 15 23.6**	**+0.2**
	comp=Z,2.0nm,0.9s						
WET	**Wettzell**	**78.27**	**335**	*e*P	**P**	**01 15 23.6**	**+0.2**
WET				pmax	pmax		
	comp=Z,2.0nm,0.9s						
GERES	**GERESS Array B**	**78.29**	**334**	P	**P**	**01 15 23.1**	**-0.5**
GERES	**GERESS Array B**	**78.29**	**334**	P	**P**	**01 15 23.1**	**-0.5**
	comp=Z,0.8nm,0.5s,baz=35,slow=5.6,SNR=12						
TNS	**Taunus Mts**	**78.52**	**338**	*e*P	**P**	**01 15 24.8**	**0.0**
	comp=Z,2.0nm,0.7s						
TNS	**Taunus Mts**	**78.52**	**338**	*e*P	**P**	**01 15 24.8**	**0.0**
TNS				pmax	pmax		
	comp=Z,2.0nm,0.7s						
FUR	**Furstenfeldbru**	**79.62**	**335**	*e*P	**P**	**01 15 30.8**	**0.0**
	comp=Z,4.0nm,0.8s						
FUR	**Furstenfeldbru**	**79.62**	**335**	*e*P	**P**	**01 15 30.8**	**0.0**
FUR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BFO	**Black Forest**	**80.29**	**337**	*e*P	**P**	**01 15 34.3**	**-0.1**
	comp=Z,2.0nm,0.9s						
BFO	**Black Forest**	**80.29**	**337**	*e*P	**P**	**01 15 34.3**	**-0.1**
BFO				pmax	pmax		
	comp=Z,2.0nm,0.9s						
CDF	**Champ du Feu**	**80.49**	**338**	*e*P	**P**	**01 15 35.1**	**-0.5**
	comp=Z,8.4nm,1.0s						
PAGF	**Fort de Pagny**	**80.75**	**339**	*e*P	**P**	**01 15 36.8**	**-0.1**
	comp=Z,4.0nm,0.8s						
MEZF	**Maizieres J'vi**	**80.97**	**339**	*e*P	**P**	**01 15 37.8**	**-0.2**
	comp=Z,10nm,0.8s						
SFTF	**Sexfontaines**	**81.25**	**339**	*e*P	**P**	**01 15 39.1**	**-0.4**
	comp=Z,23nm,1.0s						
LOR	**Lormes**	**82.41**	**339**	*e*P	**P**	**01 15 45.1**	**-0.6**
AVF	**Avril sur Loir**	**82.98**	**340**	*e*P	**P**	**01 15 48.2**	**-0.4**
	comp=Z,4.0nm,0.7s				

24nm,0.1s,SNR=7.9
EALB S **Sb** **01 26 42.7 -0.5**
163nm,0.4s,SNR=7.9
ENIJ Nijar 1.42 338 P Pn 01 26 28.3 -1.2
14nm,0.2s,SNR=7.9
ENIJ S **Sn** **01 26 46.1 -2.2**
49nm,0.2s,SNR=7.9
ENIJ Nijar 1.42 338 P Pn 01 26 28.3 -1.2
14nm,0.2s,SNR=7.9
ENIJ S **Sn** **01 26 46.1 -2.2**
49nm,0.2s,SNR=7.9
EBER Berja 1.65 319 P **Pn** **01 26 32.1 -0.7**
20nm,0.4s,SNR=23
EBER S **Sn** **01 26 53.3 -0.9**
43nm,0.4s,SNR=7.4
EBER Berja 1.65 319 P **Pn** **01 26 32.1 -0.7**
20nm,0.4s,SNR=23
EBER S **Sn** **01 26 53.3 -0.9**
43nm,0.4s,SNR=7.4
OJGS Djebel Guires 1.88 94 P Pn 01 26 15.0 -21
OJGS Djebel Guires 1.88 94 P Pn 01 26 15.0 -21
OJGS Djebel Guires 1.88 94 P Pn 01 26 15.0 -21
TOU Touzarine 1.93 250 P Pn 01 26 33.0 -3.6
TOU S Sn 01 26 48.0 -13
TOU Touzarine 1.93 250 *e*P Pn 01 26 33.0 -3.6
TOU S Sn 01 26 48.0 -13
MPAL Palemas 2.00 258 P Pn 01 26 32.0 -5.5
MPAL S Sn 01 26 46.0 -17
MPAL Palemas 2.00 258 P Pn 01 26 32.0 -5.5
MPAL S Sn 01 26 46.0 -17
EGUA Guajares 2.01 306 P Pn 01 26 36.4 -1.2
3.2nm,0.2s,SNR=7.9
EGUA S **Sn** **01 27 01.7 -1.2**
27nm,0.2s,SNR=7.9
EGUA Guajares 2.01 306 P Pn 01 26 36.4 -1.2
3.2nm,0.2s,SNR=7.9
EGUA S **Sn** **01 27 01.7 -1.2**
27nm,0.2s,SNR=7.9
EANR 'Ain N'Sour 2.17 81 P **Pn** **01 26 42.6 +2.8**
EANR 'Ain N'Sour 2.17 81 P **Pn** **01 26 42.6 +2.8**
EANR 'Ain N'Sour 2.17 81 P **Pn** **01 26 42.6 +2.8**
EQUE Quentar 2.18 316 P **Pn** **01 26 40.8 +0.8**
33nm,0.4s,SNR=145
EQUE S **Sn** **01 27 07.0 0.0**
16nm,0.4s,SNR=6.3
EQUE Quentar 2.18 316 P **Pn** **01 26 40.8 +0.8**
33nm,0.4s,SNR=145
EQUE S **Sn** **01 27 07.0 0.0**
16nm,0.4s,SNR=6.3
EHUE Huescar 2.32 339 P **Pn** **01 26 42.5 +0.6**
6.6nm,0.2s,SNR=7.9
EHUE S **Sn** **01 27 10.2 -0.3**
3.6nm,0.2s,SNR=7.9
EHUE Huescar 2.32 339 P **Pn** **01 26 42.5 +0.6**
6.6nm,0.2s,SNR=7.9
EHUE S **Sn** **01 27 10.2 -0.3**
3.6nm,0.2s,SNR=7.9
ETRT Tiaret 2.34 96 P **Pn** **01 26 40.8 -1.4**
ETRT Tiaret 2.34 96 P **Pn** **01 26 40.8 -1.4**
ETRT Tiaret 2.34 96 P **Pn** **01 26 40.8 -1.4**
EQES Quesada 2.47 331 P **Pn** **01 26 45.8 +1.8**
1.0nm,0.1s,SNR=100
EQES S **Sn** **01 27 15.3 +1.0**
20nm,0.3s,SNR=4.8
EQES Quesada 2.47 331 P **Pn** **01 26 45.8 +1.8**
1.0nm,0.1s,SNR=100
EQES S **Sn** **01 27 15.3 +1.0**
20nm,0.3s,SNR=4.8
ELUQ Luque 2.90 312 P **Pn** **01 26 51.4 +1.5**
12nm,0.6s,SNR=7.9
ELUQ Luque 2.90 312 P **Pn** **01 26 51.4 +1.5**
12nm,0.6s,SNR=7.9
ETOB Tobarra 2.99 360 P **Pn** **01 26 51.4 +0.3**
8.5nm,0.4s,SNR=133
ETOB S **Sn** **01 27 24.6 -2.4**
31nm,0.6s,SNR=6.8
ETOB Tobarra 2.99 360 P **Pn** **01 26 51.4 +0.3**
8.5nm,0.4s,SNR=133
ETOB S **Sn** **01 27 24.6 -2.4**
31nm,0.6s,SNR=6.8
EVIA Vianos 3.08 346 P **Pn** **01 26 53.8 +1.4**
0.9nm,0.1s,SNR=13
EVIA Vianos 3.08 346 P **Pn** **01 26 53.8 +1.4**
0.9nm,0.1s,SNR=13
EBAN Banos Encina 3.08 325 P **Pn** **01 26 54.7 +2.3**
1.4nm,0.2s,SNR=7.6
EBAN Banos Encina 3.08 325 P **Pn** **01 26 54.7 +2.3**
1.4nm,0.2s,SNR=7.6
ECEU Ceuta 3.12 276 P **Pn** **01 26 52.7 -0.2**
SNR=7.9
ECEU S **Sn** **01 27 29.7 -0.6**
SNR=7.9
ECEU Ceuta 3.12 276 P **Pn** **01 26 52.7 -0.2**
SNR=7.9
ECEU S **Sn** **01 27 29.7 -0.6**
SNR=7.9
EBEN Beniarda 3.22 19 P Pn 01 26 52.6 -1.7
0.1nm,0.1s,SNR=8.1
EBEN S Sn 01 27 27.3 -5.5
3.4nm,0.5s,SNR=5.6
EBEN Beniarda 3.22 19 P Pn 01 26 52.6 -1.7
0.1nm,0.1s,SNR=8.1
EBEN S Sn 01 27 27.3 -5.5
3.4nm,0.5s,SNR=5.6
EADA Adamuz 3.49 317 P **Pn** **01 26 58.1 +0.1**
4.0nm,0.4s,SNR=16
EADA S **Sn** **01 27 38.8 -0.6**
1.6nm,0.1s,SNR=7.9
EADA Adamuz 3.49 317 P **Pn** **01 26 58.1 +0.1**
4.0nm,0.4s,SNR=16
EADA S **Sn** **01 27 38.8 -0.6**
1.6nm,0.1s,SNR=7.9
ESPR Espera 3.69 290 P Pn 01 27 05.4 +4.8
SNR=7.9
ESPR S **Sn** **01 27 46.8 +2.6**
SNR=7.9
ESPR Espera 3.69 290 P Pn 01 27 05.4 +4.8
SNR=7.9
ESPR S **Sn** **01 27 46.8 +2.6**
SNR=7.9
ECAB El Cabril 3.94 309 P **Pn** **01 27 04.2 +0.1**
1.1nm,0.4s,SNR=12
ECAB S **Sn** **01 27 48.1 -2.2**
3.1nm,0.5s,SNR=8.9
ECAB El Cabril 3.94 309 P **Pn** **01 27 04.2 +0.1**
1.1nm,0.4s,SNR=12
ECAB S **Sn** **01 27 48.1 -2.2**
3.1nm,0.5s,SNR=8.9
EIBI Ibiza 4.08 33 P **Pn** **01 27 04.7 -1.3**
23nm,0.7s,SNR=27
EIBI S Sn 01 27 48.7 -5.1
14nm,0.6s,SNR=8.1
EIBI Ibiza 4.08 33 P **Pn** **01 27 04.7 -1.3**
23nm,0.7s,SNR=27
EIBI S Sn 01 27 48.7 -5.1
14nm,0.6s,SNR=8.1
ESDC Sonseca Array 4.45 335 P **Pn** **01 27 12.0 +0.9**
0.4nm,0.2s,baz=148,slow=13,SNR=12
ESDC S **Sn** **01 27 59.8 -3.3**
2.5nm,0.6s,baz=156,slow=30,SNR=6.3
ESDC Sonseca Array 4.45 335 P **Pn** **01 27 12.0 +0.9**
0.4nm,0.2s,SNR=12
ESDC S **Sn** **01 27 59.8 -3.3**
2.5nm,0.6s,SNR=6.3
EMIN Mina Concepcio 4.63 299 P **Pn** **01 27 13.0 -0.6**
2.4nm,0.6s,SNR=10
EMIN S **Sn** **01 28 05.1 -2.2**
0.5nm,0.1s,SNR=7.9
EMIN Mina Concepcio 4.63 299 P **Pn** **01 27 13.0 -0.6**
2.4nm,0.6s,SNR=10
EMIN S **Sn** **01 28 05.1 -2.2**
0.5nm,0.1s,SNR=7.9
EMOS Mosqueruela 4.78 10 P **Pn** **01 27 16.3 +0.5**
3.1nm,0.4s,SNR=38
EMOS S Sn 01 28 06.7 -4.6
0.7nm,0.3s,SNR=7.9
EMOS Mosqueruela 4.78 10 P **Pn** **01 27 16.3 +0.5**
3.1nm,0.4s,SNR=38
EMOS S Sn 01 28 06.7 -4.6
0.7nm,0.3s,SNR=7.9
KIB El Ksiba 4.83 232 P Pn 01 27 13.0 -3.4
KIB El Ksiba 4.83 232 *e*P Pn 01 27 13.0 -3.4
PBAR Barrancos 5.07 301 *e*Pn **Pn** **01 27 20.1 +0.5**
PBAR *e*Sn **Sn** **01 28 17.3 -0.9**
PBAR A A 01 28 22.5
2.4nm,0.5s
PBAR Barrancos 5.07 301 P **Pn** **01 27 20.1 +0.5**
PBAR S **Sn** **01 28 17.3 -0.9**
2.4nm,0.5s
PBAR Barrancos 5.07 301 P **Pn** **01 27 20.1 +0.5**
PBAR *e*Sn **Sn** **01 28 17.3 -0.9**
2.4nm,0.5s
EGRO El Granado 5.13 293 P **Pn** **01 27 20.5 0.0**
2.5nm,0.6s,SNR=11
EGRO S **Sn** **01 28 16.6 -3.2**
2.0nm,0.4s,SNR=4.7
EGRO El Granado 5.13 293 P **Pn** **01 27 20.5 0.0**
2.5nm,0.6s,SNR=11
EGRO S **Sn** **01 28 16.6 -3.2**
2.0nm,0.4s,SNR=4.7
PVAQ Vaqueiros 5.27 291 *e*Pn **Pn** **01 27 22.4 +0.1**
PVAQ *e*Sn **Sn** **01 28 20.5 -2.6**
PVAQ A A 01 28 24.5
3.0nm,0.4s
PVAQ Vaqueiros 5.27 291 P **Pn** **01 27 22.4 +0.1**
PVAQ S **Sn** **01 28 20.5 -2.6**
3.0nm,0.4s
PVAQ Vaqueiros 5.27 291 P **Pn** **01 27 22.4 +0.1**
PVAQ S **Sn** **01 28 20.5 -2.6**
3.0nm,0.4s
EBAD Badajoz 5.35 307 P **Pn** **01 27 23.1 -0.4**
1.4nm,0.3s,SNR=11
EBAD S Sn 01 28 20.4 -4.8
1.1nm,0.3s,SNR=9.1
EBAD Badajoz 5.35 307 P **Pn** **01 27 23.1 -0.4**
1.4nm,0.3s,SNR=11
EBAD S Sn 01 28 20.4 -4.8
1.1nm,0.3s,SNR=9.1
ETOS Mallorca 5.37 39 P **Pn** **01 27 22.8 -1.0**
10nm,0.5s,SNR=14
ETOS S Sn 01 28 20.4 -5.2
4.3nm,0.4s,SNR=4.5
ETOS Mallorca 5.37 39 P **Pn** **01 27 22.8 -1.0**
10nm,0.5s,SNR=14
ETOS S Sn 01 28 20.4 -5.2
4.3nm,0.4s,SNR=4.5
PBDV Barranco-do-Ve 5.39 289 *e*Pn **Pn** **01 27 24.1 +0.1**
PBDV *e*Sn **Sn** **01 28 24.9 -1.2**
PBDV A A 01 28 29.5
4.0nm,0.6s
PBDV Barranco-do-Ve 5.39 289 P **Pn** **01 27 24.1 +0.1**
PBDV S **Sn** **01 28 24.9 -1.2**
4.0nm,0.6s
PBDV Barranco-do-Ve 5.39 289 P **Pn** **01 27 24.1 +0.1**
PBDV *e*Sn **Sn** **01 28 24.9 -1.2**
4.0nm,0.6s
GUD Guadarrama 5.39 338 P **Pn** **01 27 24.6 +0.5**
2.2nm,0.5s,SNR=6.4
GUD Guadarrama 5.39 338 P **Pn** **01 27 24.6 +0.5**
2.2nm,0.5s,SNR=6.4
ERTA Horta de San J 5.50 15 P **Pn** **01 27 25.6 +0.1**
5.8nm,0.7s,SNR=7.1
ERTA S Sn 01 28 23.8 -5.0
0.8nm,0.2s,SNR=7.9
ERTA Horta de San J 5.50 15 P **Pn** **01 27 25.6 +0.1**
5.8nm,0.7s,SNR=7.1
ERTA S Sn 01 28 23.8 -5.0
0.8nm,0.2s,SNR=7.9
PCVE Castro Verde 5.58 293 *e*Pn **Pn** **01 27 27.1 +0.4**
PCVE *e*Sn **Sn** **01 28 29.6 -1.3**
PCVE A A 01 28 47.3
3.0nm,0.7s
PCVE Castro Verde 5.58 293 P **Pn** **01 27 27.1 +0.4**
PCVE S **Sn** **01 28 29.6 -1.3**
3.0nm,0.7s
PCVE Castro Verde 5.58 293 P **Pn** **01 27 27.1 +0.4**
PCVE *e*Sn **Sn** **01 28 29.6 -1.3**
3.0nm,0.7s
EPLA Plasencia 5.68 322 P **Pn** **01 27 29.1 +1.0**
1.1nm,0.3s,SNR=9.1
EPLA Plasencia 5.68 322 P **Pn** **01 27 29.1 +1.0**
1.1nm,0.3s,SNR=9.1
PESTR Estremoz 5.79 305 *e*Pn **Pn** **01 27 30.3 +0.8**
PESTR *e*Sn **Sn** **01 28 34.4 -1.6**
PESTR A A 01 28 34.8
2.4nm,0.5s
PESTR Estremoz 5.79 305 P **Pn** **01 27 30.3 +0.8**
PESTR S **Sn** **01 28 34.4 -1.6**
2.4nm,0.5s
PESTR Estremoz 5.79 305 P **Pn** **01 27 30.3 +0.8**
PESTR S **Sn** **01 28 34.4 -1.6**
2.4nm,0.5s
EVO Evora 5.92 301 *e*Pn **Pn** **01 27 31.4 +0.2**
EVO *e*Sn **Sn** **01 28 36.5 -2.5**
7.1nm,0.5s
EVO Evora 5.92 301 *e*Pn **Pn** **01 27 31.6 +0.4**
EVO *e*Sn **Sn** **01 28 36.0 -3.0**
EVO A A 01 28 41.1
2.7nm,0.5s
EVO Evora 5.92 301 P **Pn** **01 27 31.6 +0.4**
EVO S **Sn** **01 28 36.0 -3.0**
2.7nm,0.5s
EVO Evora 5.92 301 P **Pn** **01 27 31.6 +0.4**
EVO S **Sn** **01 28 36.0 -3.0**
2.7nm,0.5s
MORF Marmelete 5.96 288 *e*Pn **Pn** **01 27 32.3 +0.4**
MORF *e*Sn **Sn** **01 28 38.8 -1.4**
MORF A A 01 28 44.7
2.3nm,0.3s
MORF Marmelete 5.96 288 P **Pn** **01 27 32.3 +0.4**
MORF S **Sn** **01 28 38.8 -1.4**
2.3nm,0.3s
MORF Marmelete 5.96 288 P **Pn** **01 27 32.3 +0.4**
MORF *e*Sn **Sn** **01 28 38.8 -1.4**
2.3nm,0.3s
PMRV Marv??o 5.98 311 *e*Pn **Pn** **01 27 32.7 +0.5**
PMRV *e*Sn **Sn** **01 28 39.4 -1.3**
PMRV A A 01 28 51.1
1.2nm,0.5s
PMRV Marv??o 5.98 311 P **Pn** **01 27 32.7 +0.5**
PMRV S **Sn** **01 28 39.4 -1.3**
1.2nm,0.5s
PMRV Marv??o 5.98 311 P **Pn** **01 27 32.7 +0.5**
PMRV S **Sn** **01 28 39.4 -1.3**
1.2nm,0.5s
EVOP Sao Brissos 5.99 301 *e*Pn **Pn** **01 27 31.4 -0.8**
EPOB Poblet 6.05 19 P **Pn** **01 27 33.0 -0.2**
1.0nm,0.3s,SNR=6.0
EPOB S Sn 01 28 37.2 -5.4
0.4nm,0.2s,SNR=7.9
EPOB Poblet 6.05 19 P **Pn** **01 27 33.0 -0.2**
1.0nm,0.3s,SNR=6.0
EPOB S Sn 01 28 37.2 -5.4
0.4nm,0.2s,SNR=7.9
PFVI Vila Bisbo 6.06 286 *i* Pn **Pn** **01 27 33.7 +0.5**
PFVI *e*Sn **Sn** **01 28 40.0 -2.5**
PFVI A A 01 28 50.4
4.5nm,0.6s
PFVI Vila Bisbo 6.06 286 P **Pn** **01 27 32.8 -0.4**
10nm,0.9s,SNR=6.2
PFVI S Sn 01 28 37.5 -5.0
0.6nm,0.1s,SNR=7.9
PFVI Vila Bisbo 6.06 286 P **Pn** **01 27 32.8 -0.4**
10nm,0.9s,SNR=6.2
PFVI Vila Bisbo 6.06 286 *i* Pn **Pn** **01 27 33.7 +0.5**
PFVI S Sn 01 28 37.5 -5.0
0.6nm,0.1s,SNR=7.9
PFVI *e*Sn **Sn** **01 28 40.0 -2.5**
4.5nm,0.6s
PTEO Sao Teotonio 6.08 290 *e*Pn **Pn** **01 27 35.4 +2.0**
PTEO *e*Sn **Sn** **01 28 42.2 -0.8**
PTEO A A 01 28 49.5
3.6nm,0.5s
PTEO Sao Teotonio 6.08 290 P **Pn** **01 27 35.4 +2.0**
PTEO S **Sn** **01 28 42.2 -0.8**
1.8nm,0.5s
PTEO Sao Teotonio 6.08 290 P **Pn** **01 27 35.4 +2.0**
PTEO *e*Sn **Sn** **01 28 42.2 -0.8**
3.6nm,0.5s
PNCL Nicolau / Gran 6.11 296 *e*Pn **Pn** **01 27 34.3 +0.4**
PNCL *e*Sn **Sn** **01 28 42.0 -1.9**
PNCL A A 01 28 44.8
1.8nm,0.6s
PNCL Nicolau / Gran 6.11 296 *e*Pn **Pn** **01 27 34.3 +0.4**
PNCL *e*Sn **Sn** **01 28 42.0 -1.9**
1.8nm,0.6s
PCBR Castelo Branco 6.29 313 *e*Pn **Pn** **01 27 37.3 +0.9**
PCBR *e*Sn **Sn** **01 28 46.9 -1.4**
PCBR A A 01 28 53.6
1.5nm,0.6s
PCBR Castelo Branco 6.29 313 P **Pn** **01 27 37.3 +0.9**
PCBR S **Sn** **01 28 46.9 -1.4**
0.8nm,0.6s
PCBR Castelo Branco 6.29 313 P **Pn** **01 27 37.3 +0.9**
PCBR S **Sn** **01 28 46.9 -1.4**
0.8nm,0.6s
PMTG Montargil 6.32 305 *e*Pn **Pn** **01 27 36.8 0.0**
PMTG *e*Sn **Sn** **01 28 46.2 -2.8**
PMTG A A 01 29 01.0
2.4nm,0.6s
PMTG Montargil 6.32 305 *e*Pn **Pn** **01 27 36.8 0.0**
PMTG *e*Sn **Sn** **01 28 46.2 -2.8**
2.4nm,0.6s
EMIR Miracle 6.70 20 P **Pn** **01 27 42.1 +0.1**
0.7nm,0.2s,SNR=7.9
EMIR S Sn 01 28 53.2 -5.2
0.7nm,0.2s,SNR=7.9
EMIR Miracle 6.70 20 P **Pn** **01 27 42.1 +0.1**
0.7nm,0.2s,SNR=7.9
EMIR S Sn 01 28 53.2 -5.2
0.7nm,0.2s,SNR=7.9
MTE Manteigas 6.70 317 *e*Pn **Pn** **01 27 43.2 +1.2**
MTE Manteigas 6.70 317 P **Pn** **01 27 43.2 +1.2**
MTE Manteigas 6.70 317 P **Pn** **01 27 43.2 +1.2**
PTOM Tomar 6.73 308 *e*Pn **Pn** **01 27 42.8 +0.3**
PTOM Tomar 6.73 308 P **Pn** **01 27 42.8 +0.3**
PTOM Tomar 6.73 308 P **Pn** **01 27 42.8 +0.3**
CFON Fontmartina 6.85 26 P **Pn** **01 27 43.4 -0.7**
2.9nm,0.5s,SNR=6.7
CFON S Sn 01 28 55.9 -6.3
1.9nm,0.3s,SNR=7.9
CFON Fontmartina 6.85 26 P **Pn** **01 27 43.4 -0.7**
2.9nm,0.5s,SNR=6.7
CFON S Sn 01 28 55.9 -6.3
1.9nm,0.3s,SNR=7.9
MVO Moncorvo 6.99 324 *e*Pn **Pn** **01 27 47.2 +1.2**
MVO *e*Sn **Sn** **01 29 04.2 -1.3**
MVO Moncorvo 6.99 324 P **Pn** **01 27 46.9 +0.9**
1.8nm,0.4s,SNR=10
MVO S Sn 01 29 00.7 -4.9
0.4nm,0.3s,SNR=7.9
MVO Moncorvo 6.99 324 P **Pn** **01 27 46.9 +0.9**
1.8nm,0.4s,SNR=10
MVO Moncorvo 6.99 324 *e*Pn **Pn** **01 27 47.2 +1.2**
MVO S Sn 01 29 00.7 -4.9
0.4nm,0.3s,SNR=7.9
MVO *e*Sn **Sn** **01 29 04.2 -1.3**
CSOR Sort 7.03 16 P **Pn** **01 27 47.0 +0.4**
0.1nm,0.1s,SNR=7.9
CSOR S Sn 01 29 01.0 -5.7
0.2nm,0.2s,SNR=7.9
CSOR Sort 7.03 16 P **Pn** **01 27 47.0 +0.4**
0.1nm,0.1s,SNR=7.9
CSOR S Sn 01 29 01.0 -5.7
0.2nm,0.2s,SNR=7.9
PVIS Viseu 7.11 317 *e*Pn **Pn** **01 27 48.6 +0.9**
PVIS *e*Sn **Sn** **01 29 06.4 -2.1**
PVIS A A 01 29 12.5
1.5nm,0.4s
PVIS Viseu 7.11 317 P **Pn** **01 27 48.6 +0.9**
PVIS S **Sn** **01 29 06.4 -2.1**
0.8nm,0.4s
PVIS Viseu 7.11 317 P **Pn** **01 27 48.6 +0.9**
PVIS S **Sn** **01 29 06.4 -2.1**
0.8nm,0.4s
IEPA Eparoz 7.12 2 P **Pn** **01 27 48.2 +0.4**
0.2nm,0.1s,SNR=7.9
IEPA Eparoz 7.12 2 P **Pn** **01 27 48.2 +0.4**
0.2nm,0.1s,SNR=7.9
IELO Elcoad 7.19 2 P **Pn** **01 27 50.1 +1.4**
0.1nm,0.2s,SNR=7.9
IELO Elcoad 7.19 2 P **Pn** **01 27 50.1 +1.4**
0.1nm,0.2s,SNR=7.9
ETSF Etsaut 7.28 6 *e*Pn Pn 01 27 45.5 -4.5
ETSF Etsaut 7.28 6 *e*P **Pn** **01 27 51.4 +1.4**
ETSF *e*Sn Sn 01 29 04.8 -8.0
0.4nm,0.3s
ETSF Etsaut 7.28 6 P **Pn** **01 27 51.4 +1.4**
ETSF S Sn 01 29 04.8 -8.0
0.1nm,0.3s
CLLI Llivia 7.35 21 P **Pn** **01 27 52.3 +1.3**
0.1nm,0.2s,SNR=6.1
CLLI S **Sn** **01 29 11.0 -3.5**
1.8nm,0.6s,SNR=7.9
CLLI Llivia 7.35 21 P **Pn** **01 27 52.3 +1.3**
0.1nm,0.2s,SNR=6.1
CLLI S **Sn** **01 29 11.0 -3.5**
1.8nm,0.6s,SNR=7.9
PVRL Vila Real 7.41 321 *e*Pn **Pn** **01 27 53.0 +1.2**
PVRL Vila Real 7.41 321 P **Pn** **01 27 53.0 +1.2**
PVRL Vila Real 7.41 321 P **Pn** **01 27 53.0 +1.2**
SJPF Ste Jean 7.46 2 *e*P **Pn** **01 27 54.3 +1.9**
SJPF Ste Jean 7.46 2 P **Pn** **01 27 54.3 +1.9**
ECAL Calabor 7.47 329 P **Pn** **01 27 54.3 +1.6**
0.5nm,0.2s,SNR=4.0
ECAL Calabor 7.47 329 P **Pn** **01 27 54.3 +1.6**
0.5nm,0.2s,SNR=4.0
ELIZ Elizondo 7.50 0 P **Pn** **01 27 54.4 +1.4**
0.6nm,0.2s,SNR=7.9
ELIZ Elizondo 7.50 0 P **Pn** **01 27 54.4 +1.4**
0.6nm,0.2s,SNR=7.9
EPF Esparros 7.51 11 *e*Pn Pn 01 27 48.2 -5.0
EPF Esparros 7.51 11 *e*P **Pn** **01 27 55.3 +2.1**
EPF *e*Sn Sn 01 29 09.9 -8.6
1.3nm,0.4s
EPF Esparros 7.51 11 P **Pn** **01 27 55.3 +2.1**
EPF S Sn 01 29 09.9 -8.6
0.3nm,0.4s
POLO Lamas de Olo 7.52 321 *e*Pn **Pn** **01 27 54.5 +1.1**
POLO *e*Sn **Sn** **01 29 16.3 -2.5**
POLO A A 01 29 30.3
1.2nm,0.8s
POLO Lamas de Olo 7.52 321 *e*Pn **Pn** **01 27 54.5 +1.1**
POLO *e*Sn **Sn** **01 29 16.3 -2.5**
1.2nm,0.8s
EALK Alkurruntz 7.56 0 P **Pn** **01 27 56.3 +2.6**
2.5nm,0.4s,SNR=4.8
EALK Alkurruntz 7.56 0 P **Pn** **01 27 56.3 +2.6**
2.5nm,0.4s,SNR=4.8
ELAN Lanestosa 7.71 350 P **Pn** **01 27 57.3 +1.5**
0.3nm,0.1s,SNR=7.9
ELAN Lanestosa 7.71 350 P **Pn** **01 27 57.3 +1.5**
0.3nm,0.1s,SNR=7.9
PCAB Cabril 7.89 322 *e*Pn **Pn** **01 27 59.7 +1.3**
PCAB Cabril 7.89 322 P **Pn** **01 27 59.7 +1.3**
PCAB Cabril 7.89 322 P **Pn** **01 27 59.7 +1.3**
ELOB Lobios 8.02 323 P **Pn** **01 28 01.0 +0.7**
0.2nm,0.1s,SNR=7.9
ELOB S Sn 01 29 25.7 -5.4
0.4nm,0.2s,SNR=7.9
ELOB Lobios 8.02 323 P **Pn** **01 28 01.0 +0.7**
0.2nm,0.1s,SNR=7.9
ELOB S Sn 01 29 25.7 -5.4
0.4nm,0.2s,SNR=7.9
EARI Arriondas 8.15 341 P **Pn** **01 28 02.3 +0.4**
0.2nm,0.3s,SNR=7.9
EARI Arriondas 8.15 341 P **Pn** **01 28 02.3 +0.4**
0.2nm,0.3s,SNR=7.9
PGAV Gavieira, Arco 8.20 322 *e*Pn **Pn** **01 28 04.0 +1.3**
PGAV Gavieira, Arco 8.20 322 *e*Pn **Pn** **01 28 04.0 +1.3**
LMR La Mourre 9.88 37 *e*P **Pn** **01 28 25.7 +0.2**
LMR La Mourre 9.88 37 P **Pn** **01 28 25.7 +0.2**
FRF La Foret Royal 10.11 36 *e*Pn Pn 01 28 22.6 -6.2
FRF La Foret Royal 10.11 36 *e*P **Pn** **01 28 28.9 +0.1**
FRF La Foret Royal 10.11 36 P **Pn** **01 28 28.9 +0.1**
PGF Pioggiola 10.70 47 *e*Pn Pn 01 28 30.4 -6.5
SBF Sospel 10.72 37 *e*P **Pn** **01 28 37.8 +0.6**
SBF Sospel 10.72 37 P **Pn** **01 28 37.8 +0.6**

CASC 27 01:29:53.4±2.9, 11°10N×87°97W, h35km±999km, MD3.8,
Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNGN	**Cerro Negro**	**1.86**	**42**	*e*P	Pn	01 30 24.2	+1.3
CNGN				*e*S	Sn	01 30 48.0	+2.8
CNCH	**Conchagua**	**2.17**	**3**	*e*P	Pn	01 30 28.1	+0.9
VSM	**San Miguel**	**2.33**	**353**	*e*P	Pn	01 30 30.1	+0.4
BLLM	**Bellamira**	**2.34**	**354**	*e*P	Pn	01 30 30.2	+0.7
BLLM				*e*S	Sn	01 30 57.2	0.0
VCR	**Vista de Mar**	**2.49**	**113**	*e*P	Pn	01 30 30.9	-0.7
VCR				*e*S	Sn	01 30 58.5	-2.4
LAPC	**Finca la Perla**	**2.51**	**97**	*i* P	Pn	01 30 31.9	+0.1
BUEV	**Buena Vista**	**2.53**	**97**	*i* P	Pn	01 30 32.5	+0.3
GB1A	**Borinquen Arri**	**2.54**	**96**	*i* P	Pn	01 30 32.8	+0.5
GPS1	**Guardaparques**	**2.59**	**97**	*i* P	Pn	01 30 33.4	+0.4
GPS2	**Hotel Rinc`‡n**	**2.59**	**97**	*i* P	Pn	01 30 33.3	+0.4

SNVI	**San Vicente**	**2.64**	**341**	*e*P	Pn	01 30 34.1 +0.4
SNVI				*e*S	Sn	01 31 03.8 -0.8
LIM1	**Limonal**	**2.70**	**98**	*i* P	Pn	01 30 35.0 +0.6
LIM1				*i* S	Sn	01 31 06.3 +0.4
LFRS	**El Faro**	**2.73**	**337**	*e*P	Pn	01 30 35.2 +0.3
CUI	**Cuipilapa**	**2.79**	**99**	*i* P	Pn	01 30 36.4 +0.8
CUI				*i* S	Sn	01 31 09.7 +1.6
LBRS	**Las Brisas**	**2.82**	**338**	*e*P	Pn	01 30 36.9 +0.7
LFU	**La Fuente**	**2.86**	**337**	*e*P	Pn	01 30 37.0 +0.4
BOQS	**Boqueron**	**2.92**	**334**	*e*P	Pn	01 30 38.4 +0.7
BOQS				*e*S	Sn	01 31 10.9 -0.7
AMAS	**Alto Masis**	**2.96**	**99**	*i* P	Pn	01 30 38.9 +0.8
AMAS				*i* S	Sn	01 31 13.9 +1.3
JCR	**Jicaral**	**3.07**	**114**	*e*P	Pn	01 30 39.9 +0.3
JCR				*e*S	Sn	01 31 13.1 -2.0
CHPA	**Chiripa**	**3.08**	**102**	*i* P	Pn	01 30 41.0 +1.3
CHPA				*i* S	Sn	01 31 17.7 +2.4
SBLS	**San Blas**	**3.17**	**329**	*e*P	Pn	01 30 41.7 +0.6
SNJE	**San Jose**	**3.18**	**330**	*e*P	Pn	01 30 42.0 +0.7
CEDE	**Laguna Cede¯–o**	**3.26**	**100**	*i* P	Pn	01 30 43.3 +1.1
CEDE				*i* S	Sn	01 31 22.5 +2.6
RBDL	**Robledal**	**3.43**	**331**	*e*P	Pn	01 30 45.9 +1.2
CGA2	**Cerro Gallo 2**	**3.61**	**107**	*e*P	Pn	01 30 48.5 +1.4
CGA2				*e*S	Sn	01 31 26.2 -2.3
SJS	**Escuela Geolog**	**4.02**	**106**	*e*P	Pn	01 30 54.2 +1.6
SJS				*e*S	Sn	01 31 37.2 -1.5
QCR	**Quepos**	**4.09**	**114**	*e*P	Pn	01 30 54.2 +0.6
URSC	**Urasca**	**4.31**	**107**	*e*P	Pn	01 30 58.7 +2.0
URSC				*e*S	Sn	01 31 43.9 -2.0
BUS	**Buena Vista**	**4.42**	**110**	*e*P	Pn	01 31 00.1 +1.5
ACR	**Cerro Adams**	**5.32**	**117**	*e*P	Pn	01 31 11.4 +1.0

SKHL 27 01:45:01.3±0.8, 54°.63N×122°.72E, h10km±1km, mb3.6/2, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNDR	**Tynda**	**1.27**	**65**	*i* Pg		01 45 25.6	-0.1
TNDR				*e*Sg		01 45 42.0	-0.2
TUP	**Tupik**	**1.62**	**264**	*e*Pg		01 45 31.2	-0.2
TUP				AMB	AMB	01 45 32.3	
	18nm,0.1s						
TUP				*e*Sg	Sb	01 45 52.5	+0.5
TUP				A	A	01 45 55.9	
	96nm,0.2s						
YKLR	**Yuktali**	**2.06**	**343**	*e*Pg	Pg	01 45 40.0	-0.8
YKLR				*e*Sg	Sg	01 46 06.8	-0.7
KROS	**Kirovskiy**	**2.48**	**93**	*e*Pg	Pb	01 45 46.0	-0.1
KROS				AMB	AMB	01 45 47.6	
	5.0nm,0.5s						
KROS				*e*Sn	Sn	01 46 12.4	+0.2
KROS				*e*Sg	Sb	01 46 18.1	+1.4
KROS				A	A	01 46 22.1	
	39nm,0.5s						
CLNS	**Chul'man**	**2.53**	**28**	*e*Sg	Sg	01 46 21.9	-0.8
CLNS				A	A	01 46 25.8	
	29nm,0.9s						
ZEA	**Zeya**	**2.81**	**107**	*e*Sg	Sg	01 46 29.4	-2.1
ZEA				A	A	01 46 30.8	
	34nm,0.5s						
ZEA				A	A	01 46 30.8	
	39nm,0.5s						
KHN	**Khani**	**2.83**	**325**	*e*Sg	Sb	01 46 29.1	+2.4
CRS	**Chara**	**3.39**	**314**	*e*Pg	Pb	01 46 03.6	+2.1
CRS				*e*Sg	Sg	01 46 47.2	-3.1
BMKR	**Bomnak**	**3.56**	**86**	*e*Pn	Pn	01 45 58.6	+2.1
BMKR				*e*Sg	Sg	01 46 51.8	-3.7
BMKR				A	A	01 46 59.5	
	22nm,0.4s						
UKT	**Uakit**	**5.30**	**283**	*e*Pn	Pn	01 46 21.8	+1.2
UKT				*e*rx	rx	01 46 24.5	
UKT				*e*Pg	Pb	01 46 37.5	+3.4
UKT				*e*Sg	Sg	01 47 47.3	-4.2
EKMR	**Ekimchan**	**6.25**	**100**	*e*Sg	Sg	01 48 17.1	-4.9
EKMR				A	A	01 48 26.5	
	4.0nm,0.6s						
YLYR	**Ulyunkhan**	**6.70**	**277**	*e*Sg	Sg	01 48 31.0	-5.2

*PRU **27** 01:50:18.9, 23°.00S×178°.87E, h30km*
*ISCJB **27** 01:51:04.3±0.8, 23°.9S±0°.1×179°.2E±0°.2, h500km, mb3.6/9, Error ellipse: s-maj=22.8km s-min=16.0km az=39.0*
*IDC **27** 01:51:05.8±4.3, 23°.88S×179°.23E, h506km±48km, mb3.3/9, mb1 3.5/10, mb1mx3.3/16, mbtmp3.3/10, Error ellipse: s-maj=33.6km s-min=23.1km az=159.0*
ISC 27 01:51:05.0±0.7, 23°.9S±0°.1×179°.3E±0°.2, h500km, n24, σ0°.79/27, mb3.6/9, 1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**11.96**	**276**	P	P	01 53 48.7	+5.4
	2.2nm,0.3s,baz=85,slow=16,SNR=31						
URZ	**Urewera**	**14.39**	**187**	P	**P**	**01 54 08.1**	**-0.4**
	1.2nm,0.3s,baz=22,slow=7.7,SNR=7.0						
STKA	**Stephens Creek**	**34.09**	**248**	P	**P**	**01 57 07.8**	**+0.6**
	2.0nm,0.8s,baz=76,slow=12,SNR=2.7						
STKA				PcP	**PcP**	**01 59 30.9**	**+0.2**
	2.5nm,0.9s,baz=148,slow=5.1,SNR=3.0						
ASAR	**Alice Springs**	**41.37**	**261**	P	**P**	**01 58 07.5**	**+0.5**
	1.7nm,0.8s,baz=99,slow=9.3,SNR=18						
ASAR				PcP	**PcP**	**01 59 53.3**	**-0.4**
	0.7nm,0.6s,baz=100,slow=4.7,SNR=6.8						
WRA	**Warramunga Arr**	**41.74**	**266**	P	**P**	**01 58 09.8**	**-0.2**
	3.2nm,0.9s,baz=102,slow=8.2,SNR=6.9						
KSRS	**Korea Array**	**77.86**	**321**	P	**P**	**02 02 10.6**	**+0.2**
	2.1nm,0.9s,baz=127,slow=4.6,SNR=5.0						
PETK	**Petropavlovsk-**	**78.99**	**347**	P	**P**	**02 02 14.8**	**-1.3**
	2.1nm,0.5s,baz=148,slow=8.5,SNR=3.7						
USRK	**Ussuriysk Arra**	**80.44**	**328**	P	**P**	**02 02 25.2**	**+1.2**
	2.8nm,0.7s,baz=138,slow=5.0,SNR=5.9						
TXAR	**Lajitas Array**	**91.02**	**58**	P	**P**	**02 03 17.3**	**+1.5**
	0.6nm,0.7s,baz=226,slow=6.2,SNR=9.3						
ILAR	**Eielson Array**	**92.23**	**14**	P	**P**	**02 03 18.9**	**-1.4**
	0.3nm,0.6s,baz=210,slow=5.2,SNR=4.1						
PDAR	**Pinedale Array**	**93.18**	**44**	P	**P**	**02 03 26.0**	**+0.4**
	0.4nm,0.8s,baz=242,slow=1.9,SNR=2.3						
ARCES	**ARCESS Array B**	**131.79**	**348**	PKP	**PKPdf**	**02 09 18.9**	**-1.2**
	4.8nm,0.8s,baz=350,slow=3.7,SNR=4.9						
FINES	**FINESS Array B**	**138.27**	**341**	PKP	**PKPdf**	**02 09 32.6**	**+0.3**
	1.6nm,0.9s,baz=174,slow=1.9,SNR=8.0						
NB2	**NORSAR Subarra**	**142.02**	**351**	PKP	PKPpre	02 09 34.8	
	comp=Z,1.2nm,0.7s,baz=17,slow=2.9						
NOA	**NORSAR Array B**	**142.02**	**351**	PKhKP	PKPpre	02 09 34.9	
	comp=Z,1.7nm,0.7s,baz=16,slow=4.7,SNR=5.1						
AKASG	**Malin Array Be**	**144.65**	**327**	PKP	**PKPdf**	**02 09 43.5**	**-0.5**
	comp=Z,4.8nm,0.7s,baz=41,slow=4.4,SNR=19						
BRTR	**Keskin Array B**	**147.07**	**307**	PKPbc	**PKPbc**	**02 09 50.9**	**-0.8**
	comp=Z,2.6nm,0.6s,baz=132,slow=4.9,SNR=7.5						
UPC	**Upice**	**150.47**	**338**	*e*PKPDF	**PKPbc**	**02 09 59.7**	**+0.2**
DPC	**Dobruska-Polom**	**150.49**	**338**	*i* PKPDF	**PKPbc**	**02 09 59.9**	**+0.3**
DPC				*e*PKPAB	**PKPab**	**02 10 09.6**	**+1.2**
KRLC	**Kraliky**	**150.56**	**337**	*e*PKPDF	**PKPbc**	**02 09 59.1**	**-0.6**
KRLC				*e*PKPAB	**PKPab**	**02 10 09.5**	**+0.8**
CLL	**Collm**	**150.70**	**342**	⇓*i*PKP	**PKPbc**	**02 09 59.8**	**-0.1**
	comp=Z,9.0nm,0.8s						
BRG	**Berggiesshubel**	**150.81**	**341**	*i* PKP	**PKPbc**	**02 10 00.1**	**-0.1**
	comp=Z,5.2nm,0.5s						
BRG				*e*		02 10 07.5	
	comp=Z,2.6nm,0.8s						
BRG				*i*		02 10 10.2	
	comp=Z,2.4nm,0.8s						
KHC	**Kasperske Hory**	**152.46**	**339**	*e*PKPDF	**PKPbc**	**02 10 03.7**	**-0.3**
KHC				*e*PKPAB	**PKPab**	**02 10 17.5**	**+0.8**
GERES	**GERESS Array B**	**152.66**	**339**	PKPbc	**PKPbc**	**02 10 04.2**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=46,slow=3.9,SNR=6.5						
GERES				PKPab	**PKPab**	**02 10 18.1**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=46,slow=3.9,SNR=6.2						

IDC 27 01:55:01.4±1.2, 56°.26S×25°.88W, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.8/15, mbtmp4.0/4, MS3.5/3, Ms1 3.5/3, ms1mx3.1/20, Error ellipse: s-maj=39.9km s-min=32.4km az=69.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
USHA	**Ushuaia**	**23.84**	**255**	LR	LR	02 07 11.2	
	comp=Z,79nm,21.1s,baz=49,slow=31						
CPUP	**Villa Florida**	**37.51**	**310**	P	P	02 02 16.2	-0.5
	1.5nm,0.5s,baz=124,slow=13,SNR=5.1						
BOSA	**Boshof**	**45.31**	**74**	LR	LR	02 18 54.0	
	comp=Z,95nm,18.0s,baz=78,slow=32						
VNDA	**Vanda**	**46.40**	**182**	P	P	02 03 28.7	-0.1
	0.7nm,0.6s,baz=180,slow=4.1,SNR=3.5						
SIV	**San Ignacio**	**48.26**	**312**	LR	LR	02 23 14.8	
	comp=Z,46nm,19.7s,slow=35						
LPAZ	**La Paz**	**51.10**	**304**	P	P	02 04 06.6	+0.2
	2.0nm,0.6s,baz=186,slow=6.2,SNR=11						
TORD	**Torodi Ar. Bea**	**72.88**	**28**	P	P	02 06 32.1	+0.1
	0.8nm,0.6s,baz=203,slow=6.5,SNR=13						
ILAR	**Eielson Array**	**150.81**	**311**	PKPbc	PKPbc	02 14 53.6	-0.5
	0.6nm,0.8s,baz=128,slow=1.8,SNR=7.4						

MAN 27 01:58:22, 11°.21N×124°.94E, h12km, mb3.9, ML2.7, MS2.3, 1D, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLP	**Palo**	**0.06**	**137**	⇓*e*P	Pg	01 58 26.1	+1.7
PLP				*e*S	Sg	01 58 28.0	+1.8
OCLP	**Ormoc**	**0.36**	**245**	*e*P	Pb	01 58 31.0	+0.6
BESP	**Borongan**	**0.63**	**51**	*e*P	Pb	01 58 35.2	+0.3
MSLP	**Maasin**	**1.07**	**184**	*e*P	Pn	01 58 43.1	+0.3
MSLP				*e*S	Sn	01 58 59.6	+1.9

IDC 27 02:06:37.0±2.4, 37°.92S×74°.08W, h0km, mb4.0/4, mb1 3.9/6, mb1mx3.8/16, mbtmp3.8/6, ML3.5/2, Error ellipse: s-maj=59.4km s-min=23.0km az=100.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**3.92**	**137**	Pn	Pn	02 07 38.4	-0.2
	1.6nm,0.3s,baz=308,slow=13,SNR=3.6						
PLCA				Sn	Sn	02 08 26.3	+1.0
	5.2nm,0.3s,baz=216,slow=17,SNR=2.8						
CFAA	**Coronel Fontan**	**7.92**	**39**	Pn	Pn	02 08 33.8	+0.2
	0.1nm,0.3s,baz=201,slow=11,SNR=13						
CFAA				Sn	Sn	02 10 00.6	-3.4
	0.1nm,0.3s,baz=348,slow=20,SNR=3.8						
PMSA	**Palmer Station**	**27.54**	**171**	P	P	02 12 24.4	-0.7
	4.7nm,0.9s,baz=348,slow=9.3,SNR=2.7						
BDFB	**Brasilia**	**31.96**	**53**	P	P	02 13 04.4	-0.5
	3.4nm,0.9s,baz=230,slow=7.9,SNR=2.3						
SNAA	**Sanae**	**48.62**	**156**	P	P	02 15 22.7	+0.6
	0.5nm,1.0s,baz=270,slow=12,SNR=5.0						
TORD	**Torodi Ar. Bea**	**87.08**	**71**	P	P	02 19 25.1	+0.2
	0.6nm,0.5s,baz=218,slow=5.3,SNR=14						

IDC 27 02:09:59.0±1.8, 16°.52S×69°.32W, h198km±7km, mb3.5/3, mb1 3.5/4, mb1mx3.2/19, mbtmp3.4/4, Error ellipse: s-maj=52.8km s-min=27.9km az=165.0, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**1.16**	**79**	P	Pn	02 10 30.4	-0.1
	61nm,0.3s,baz=275,slow=6.9,SNR=1913						
LPAZ				S	Sn	02 10 54.7	0.0
	5.5nm,0.3s,baz=99,slow=24,SNR=5.4						
SIV	**San Ignacio**	**7.94**	**87**	P	Pn	02 11 53.1	+1.6
	1.4nm,0.3s,baz=279,slow=14,SNR=18						
SIV				S	Sn	02 13 19.6	-1.4
	0.1nm,0.3s,baz=188,slow=23,SNR=3.8						
BDFB	**Brasilia**	**20.49**	**91**	P	P	02 14 22.0	0.0
	1.5nm,0.5s,baz=267,slow=14,SNR=3.3						
TORD	**Torodi Ar. Bea**	**76.10**	**72**	P	P	02 21 25.6	+0.2
	0.7nm,0.6s,baz=259,slow=4.8,SNR=15						
MAW	**Mawson**	**89.19**	**164**	P	P	02 22 31.4	-0.5
	1.9nm,0.8s,baz=246,slow=10.0,SNR=3.8						

MEX 27 02:18:19.4±0.6, 16°.73N×99°.86W, h14km±9km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.50**	**309**	*i* P	Pg	02 18 28.4	-1.0
CAIG				*i* S	Sg	02 18 34.5	-1.6
MEIG	**Mezcala**	**1.21**	**11**	*i* P	Pn	02 18 38.0	-4.1
MEIG				*i* S	Sb	02 18 53.0	-4.9
ARIG	**Puente Sto Nin**	**1.61**	**343**	*i* P	Pn	02 18 44.4	-3.2
ARIG				*e*S	Sn	02 19 03.3	-4.9
PLIG	**Platanillo**	**1.69**	**12**	*i* P	Pn	02 18 45.6	-3.1
PLIG				*i* S	Sn	02 19 05.1	-5.2
PNIG	**Pinotepa**	**1.69**	**101**	*i* P	Pn	02 18 44.9	-3.8
PNIG				*e*S	Sn	02 19 06.0	-4.2
YAIG	**Yautepec**	**2.25**	**19**	*e*P	Pn	02 18 54.3	-2.2
YAIG				*i* S	Sn	02 19 20.1	-4.2

*IDC **27** 02:19:00.6±1.1, 13°.64N×92°.56E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.5/26, mbtmp3.5/6, ML3.5/1, Error ellipse: s-maj=43.4km s-min=20.1km az=55.0*
*ISCJB **27** 02:19:03.2±1.0, 13°.8N±0°.1×92°.6E±0°.1, h33km, mb3.6/5, Error ellipse: s-maj=23.3km s-min=11.1km az=137.6*
ISC 27 02:19:05.7±1.2, 13°.8N±0°.2×92°.6E±0°.2, h35km, n14, σ1°.46/14, mb3.6/5, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**7.67**	**52**	Pn	**Pn**	**02 20 55.3**	**+0.3**
	0.2nm,0.3s,baz=238,slow=15,SNR=3.5						
CMAR				Sn	Sn	02 22 08.1	-13
	0.1nm,0.3s,baz=239,slow=28,SNR=5.3						
TAPN	**Taplejung**	**14.26**	**342**	*e*P	Pn	02 22 21.4	-4.1
RAMN	**Ramite**	**14.26**	**338**	*e*P	**Pn**	**02 22 24.9**	**-0.6**
	5.0nm,0.3s						
PKI	**Pulchoki**	**15.28**	**335**	*e*P	**Pn**	**02 22 38.6**	**-0.7**
	6.7nm,0.4s						
PKIN	**Phulchoki**	**15.29**	**335**	*e*P	**Pn**	**02 22 39.0**	**-0.4**
	5.2nm,0.3s						
GUN	**Gumba**	**15.40**	**337**	*e*P	**Pn**	**02 22 37.1**	**-3.7**
DMN	**Daman**	**15.44**	**334**	*e*P	**Pn**	**02 22 41.5**	**+0.2**
GKN	**Gorkha**	**15.99**	**334**	*e*P	**Pn**	**02 22 46.2**	**-2.0**
	9.6nm,0.3s						
KOLN	**Koldanda**	**16.26**	**330**	*e*P	**Pn**	**02 22 52.2**	**+0.4**
	2.9nm,0.2s						
MKAR	**Makanchi Array**	**34.04**	**347**	P	**P**	**02 25 47.8**	**+1.3**
	0.3nm,0.6s,baz=144,slow=6.8,SNR=4.3						
ZALV	**Zalesovo Beam**	**40.55**	**353**	P	**P**	**02 26 42.1**	**+0.6**
	0.4nm,0.3s,baz=157,slow=7.8,SNR=2.1						
WRA	**Warramunga Arr**	**53.00**	**128**	P	**P**	**02 28 18.2**	**-1.2**
	0.3nm,0.5s,baz=292,slow=9.9,SNR=2.7						
WRA				PcP	**PcP**	**02 29 28.6**	**+0.8**
	0.5nm,0.3s,baz=318,slow=3.2,SNR=6.4						
ASAR	**Alice Springs**	**54.91**	**132**	P	**P**	**02 28 33.2**	**-0.2**
	0.6nm,0.4s,baz=307,slow=6.7,SNR=12						
BRTR	**Keskin Array B**	**57.52**	**308**	P	**P**	**02 28 52.3**	**+0.3**
	0.3nm,0.7s,baz=30,slow=8.9,SNR=2.1						

NNC 27 02:26:24.6±5.4, 37°.87N×71°.77E, h200km±66km, mb2.6, mpv3.5, 3C-2D, Error ellipse: s-maj=55.4km s-min=27.7km az=16.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**5.31**	**350**	P	Pn	02 27 44.2	+1.3
	1.0nm,0.2s,baz=155,slow=9.6,SNR=49						
KK31				⇓S	Sn	02 28 44.9	-0.1
	3.9nm,0.3s,baz=179,slow=25,SNR=6.3						
TKM2	**Tokmak 2**	**5.83**	**29**	⇑P	Pn	02 27 48.0	-1.8
	5.6nm,0.8s						
TKM2				⇓S	Sn	02 28 58.4	+1.1
	1.1nm,0.7s						
AB31	**Akbulak array**	**14.23**	**327**	P	Pn	02 29 37.0	-0.1
	0.4nm,0.5s,baz=146,slow=11,SNR=20						
AB31				⇑S	S	02 32 14.8	-0.6
	0.2nm,0.5s,baz=136,slow=24,SNR=2.5						
AKTO	**Aktyubinsk**	**15.94**	**326**	⇑P	Pn	02 29 58.7	+0.7
	2.9nm,0.8s						

IDC 27 02:30:33.8±1.2, 56°.20S×25°.87W, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.8/15, mbtmp3.8/4, MS3.6/1, Ms1 3.5/1, ms1mx2.9/20, Error ellipse: s-maj=40.7km s-min=28.9km az=71.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPUP	**Villa Florida**	**37.47**	**310**	P	P	02 37 48.6	-0.2
	0.7nm,0.5s,baz=211,slow=5.9,SNR=2.7						
BOSA	**Boshof**	**45.30**	**74**	LR	LR	02 54 35.0	
	comp=Z,61nm,18.8s,baz=76,slow=32						
VNDA	**Vanda**	**46.46**	**182**	P	P	02 39 01.5	-0.2
	0.3nm,0.5s,baz=162,slow=6.4,SNR=2.8						
LPAZ	**La Paz**	**51.07**	**304**	P	P	02 39 38.4	-0.2
	1.1nm,0.3s,baz=162,slow=6.0,SNR=12						
TORD	**Torodi Ar. Bea**	**72.83**	**28**	P	P	02 42 04.0	0.0
	0.4nm,0.6s,baz=199,slow=6.3,SNR=8.9						
ILAR	**Eielson Array**	**150.77**	**311**	PKPbc	PKPbc	02 50 26.4	0.0
	0.5nm,0.9s,baz=176,slow=4.4,SNR=4.1						

GUC 27 02:30:36.9±0.7, 33°.14S×71°.28W, h52km±3km, MD3.8, ML3.2, 5C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROCH	**El Roble**	**0.28**	**52**	⇑*i*P	Pn	02 30 46.9	+0.5
ROCH				*i* S	Sn	02 30 54.1	+0.9
ROCH				AML	AML	02 30 54.7	
	comp=N,3μm,0.1s						
IHA	**Instituto Hidr**	**0.33**	**291**	⇑*i*P	Pn	02 30 46.7	+0.2
IHA				*i* S	Sn	02 30 54.0	+0.6
LCCH	**Las Cruces**	**0.41**	**217**	⇑*i*P	Pn	02 30 47.8	+0.5
LCCH				*i* S	Sn	02 30 55.3	+0.4
PEL	**Peldehue**	**0.49**	**90**	⇓*i*P	Pn	02 30 49.0	+0.7
PEL				*i* S	Sn	02 30 57.8	+1.2
PEL				AML	AML	02 30 59.1	
	comp=N,3μm,0.2s						
SAN	**Santiago**	**0.60**	**121**	⇓*i*P	Pn	02 30 50.0	+0.5
SAN				*i* S	Sn	02 30 59.8	+1.1
CLCH	**Cerro Calan**	**0.67**	**112**	AML	AML	02 31 04.2	
	comp=N,2μm,0.3s						
ANTU	**Antumapu**	**0.69**	**129**	*e*P	Pn	02 30 51.2	+0.6
ANTU				*i* S	Sn	02 31 01.7	+1.0
ANTU				AML	AML	02 31 02.1	
	comp=E,2μm,0.5s						
JACH	**Jahuel**	**0.73**	**51**	⇑*i*P	Pn	02 30 51.6	+0.2
JACH				*i* S	Sn	02 31 02.2	+0.3
PCH	**Pirque**	**0.80**	**127**	*e*P	Pn	02 30 52.4	+0.3
PCH				*i* S	Sn	02 31 04.4	+1.1
LNV	**Longovilo**	**0.82**	**188**	⇓*i*P	Pn	02 30 52.5	+0.2
LNV				*i* S	Sn	02 31 04.0	+0.4
CHCH	**Chadas Angostu**	**0.94**	**147**	⇑*i*P	Pn	02 30 54.5	+0.5
CHCH				*i* S	Sn	02 31 07.7	+1.1
CACH	**El Canelo**	**1.12**	**150**	⇓*i*P	Pn	02 30 57.7	+1.2
CACH				*e*S	Sn	02 31 12.9	+1.8
LMEL	**Las Melosas**	**1.14**	**128**	*e*P	Pn	02 30 57.2	+0.5
LMEL				*i* S	Sn	02 31 12.8	+1.2
LMEL				AML	AML	02 31 15.3	
	comp=N,1μm,0.1s						
NICH	**Los Niches**	**1.85**	**179**	*e*S	Sn	02 31 29.5	+0.9
NICH				AML	AML	02 31 34.5	
	comp=E,384nm,0.3s						
CMCH	**Combarbala**	**1.98**	**7**	⇓*i*P	Pn	02 31 09.0	+0.9
CMCH				*i* S	Sn	02 31 32.7	+0.9
CMCH				AML	AML	02 31 38.8	
	comp=E,537nm,0.5s						

MAN 27 02:33:00, 10°.58N×125°.10E, h1km, mb4.3, ML3.2, MS3.0, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSLP	**Maasin**	**0.50**	**209**	*e*P	Pb	02 33 10.9	-0.8
MSLP				*e*S	Sb	02 33 17.9	-1.6
OCLP	**Ormoc**	**0.68**	**314**	*e*P	Pn	02 33 15.7	-1.0
OCLP				*e*S	Sb	02 33 23.3	-1.3
TBP	**Tagbilaran**	**1.51**	**234**	*e*P	Pn	02 33 27.8	-0.4

GUC 27 02:37:52.8±0.6, 35°.63S×71°.77W, h64km±3km, MD3.4, ML3.5, 2C-6D, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LNCH	**Linares**	**0.26**	**147**	⇓*i*P	Pn	02 38 03.0	0.0
LNCH				*i* S	Sn	02 38 11.0	+0.6
TALC	**Talca**	**0.26**	**26**	⇓*i*P	Pn	02 38 03.1	0.0
TALC				*i* S	Sn	02 38 10.8	+0.4
TALC				AML	AML	02 38 11.4	
	comp=N,18μm,0.1s						
NICH	**Los Niches**	**0.77**	**35**	⇓*i*P	Pn	02 38 08.3	+0.2
NICH				*i* S	Sn	02 38 20.0	+0.6
NICH				AML	AML	02 38 20.8	
	comp=E,3μm,0.2s						
CCHI	**Chillan**	**1.00**	**194**	⇑*i*P	Pn	02 38 11.2	+0.2
CCHI				*i* S	Sn	02 38 25.1	+0.7
LNV	**Longovilo**	**1.70**	**10**	⇑*i*P	Pn	02 38 20.8	+0.5
CACH	**El Canelo**	**1.79**	**33**	⇓*i*P	Pn	02 38 21.9	+0.1
CACH				*i* S	Sn	02 38 45.1	+1.4
CHCH	**Chadas Angostu**	**1.93**	**29**	*e*P	Pn	02 38 23.7	+0.2
CHCH				⇓*i*P	Pn	02 38 23.8	+0.3
LMEL	**Las Melosas**	**2.20**	**36**	⇓*i*P	Pn	02 38 28.2	+1.0
LMEL				*i* S	Sn	02 38 54.5	+0.9
LMEL				AML	AML	02 39 01.1	
	comp=N,160nm,0.1s						
PEL	**Peldehue**	**2.64**	**20**	*e*P	Pn	02 38 33.7	+0.6
PEL				AML	AML	02 39 11.6	
	comp=N,153nm,0.3s						
ROCH	**El Roble**	**2.73**	**14**	*e*P	Pn	02 38 34.4	-0.2
ROCH				*i* S	Sn	02 39 06.2	-0.4
ROCH				AML	AML	02 39 14.8	
	comp=N,126nm,0.6s						

**IDC 27 02:39:21.2±1.4,

2.1nm,0.9s,baz=352,slow=14,SNR=2.4
ASAR Alice Springs 45.98 192 P P 03 29 47.8 -1.6
0.2nm,0.7s,baz=10,slow=7.7,SNR=4.3
PDAR Pinedale Array 87.38 45 P P 03 34 14.8 +1.0
0.3nm,0.7s,baz=2.5,slow=2.1,SNR=3.7

*IDC **27** 03:28:36.9±1.3, 6°.65S×131°.70E, h0km, mb4.0/6, mb1 4.1/10, mb1mx4.0/18, mbtmp4.0/10, ML4.1/4, MS3.7/3, Ms1 3.7/3, ms1mx3.1/26, Error ellipse: s-maj=38.0km s-min=22.7km az=93.0*
*AUST **27** 03:28:38.7±4.0, 6°.59S×131°.46E, h0km, Error ellipse: s-maj=1.2km s-min=0.7km az=267.0*
*ISCJB **27** 03:28:40.3±0.3, 6°.67S±0°.03×131°.60E±0°.06, h36km, mb4.3/14, MS3.9/1, Error ellipse: s-maj=8.2km s-min=4.3km az=177.4*
*NEIC **27** 03:28:41.9±0.3, 6°.68S×131°.67E, h35km, mb4.4/10, Error ellipse: s-maj=9.0km s-min=6.0km az=66.0*
ISC 27 03:28:41.7±0.5,**6.76S**±0.05×**131°.53E**±0.05,**h36**km,**n52**, σ1**79**/55,**mb4.3**/14,**Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLE	**Tual**	**1.64**	**47**	P	**Pn**	**03 29 09.2**	**+1.2**
	baz=1.6,SNR=67						
TLE				S	**Sn**	**03 29 32.9**	**+4.9**
	baz=1.6,SNR=4.5						
BNDI	**Bandanaira**	**2.75**	**324**	P	**Pn**	**03 29 23.1**	**-0.2**
	baz=2.6,SNR=6.3						
FAKI	**Fak Fak**	**3.88**	**11**	P	**Pn**	**03 29 36.7**	**-2.3**
	baz=3.8,SNR=75						
FAKI				S	**Sn**	**03 30 20.6**	**-2.8**
	baz=3.8,SNR=4.9						
SWI	**Sorong**	**5.87**	**357**	P	**Pn**	**03 30 05.0**	**-1.2**
	baz=5.7,SNR=3.8						
KDU	**Kakadu**	**5.96**	**171**	P	Pn	03 30 11.3	+3.8
	baz=6.2,SNR=15						
BATI	**Baumata**	**8.50**	**246**	Pn	Pn	03 30 45.7	+3.3
BATI				Sn	**Sn**	**03 32 15.8**	**-1.2**
BATI	**Baumata**	**8.50**	**246**	Pn	Pn	03 30 45.7	+3.3
	2.6nm,0.3s,baz=0.0,slow=19,SNR=2.5						
BATI				Sn	**Sn**	**03 32 15.8**	**-1.2**
	baz=180,slow=20,SNR=1.4						
BATI				LR	LR	03 34 16.0	
	comp=Z,435nm,20.1s,baz=132,slow=39						
KNRA	**Kununurra**	**9.27**	**197**	P	Pn	03 30 57.3	+4.5
	baz=9.5,SNR=14						
KNRA				S	**Sn**	**03 32 40.8**	**+4.9**
	baz=9.5,SNR=3.3						
LUWI	**Luwuk**	**10.42**	**303**	S	Sn	03 33 11.6	+7.4
	baz=10,SNR=3.6						
KAPI	**Kappang**	**11.84**	**278**	LR	LR	03 36 00.3	
	comp=Z,218nm,18.4s,baz=108,slow=37						
FITZ	**Fitzroy Crossi**	**12.65**	**206**	*e*Pn	**Pn**	**03 31 40.2**	**+1.0**
	3.9nm,0.5s						
FITZ				Sn	**Sn**	**03 33 55.6**	**-3.3**
FITZ	**Fitzroy Crossi**	**12.65**	**206**	Pn	**Pn**	**03 31 39.7**	**+0.5**
	1.5nm,0.3s,baz=33,slow=11,SNR=40						
FITZ				Sn	**Sn**	**03 33 55.6**	**-3.3**
	0.9nm,0.3s,baz=227,slow=12,SNR=6.4						
FITZ	**Fitzroy Crossi**	**12.65**	**206**	P	**Pn**	**03 31 41.3**	**+2.1**
	baz=13,SNR=6.2						
FITZ				S	**Sn**	**03 33 60.0**	**+1.1**
	baz=13,SNR=3.6						
WRAB	**Tennant Creek**	**13.38**	**168**	*e*Pn	**Pn**	**03 31 49.3**	**+0.1**
WRA	**Warramunga Arr**	**13.38**	**168**	Pn	**Pn**	**03 31 49.0**	**-0.3**
WRA				Sn	**Sn**	**03 34 14.6**	**-2.2**
WRA	**Warramunga Arr**	**13.38**	**168**	Pn	**Pn**	**03 31 49.0**	**-0.3**
	0.7nm,0.3s,baz=346,slow=13,SNR=9.4						
WRA				Sn	**Sn**	**03 34 14.6**	**-2.2**
	0.5nm,0.3s,baz=348,slow=23,SNR=5.6						
COEN	**Coen**	**13.50**	**123**	*e*Pn	**Pn**	**03 31 52.0**	**+1.2**
COEN	**Coen**	**13.50**	**123**	P	**Pn**	**03 31 52.9**	**+2.0**
	baz=14,SNR=9.7						
PALU	**Palau**	**14.32**	**12**	S	Sn	03 34 26.6	-13
	baz=14,SNR=5.7						
PMG	**Port Moresby**	**15.70**	**101**	*e*Pn	**Pn**	**03 32 17.6**	**-2.8**
PMG	**Port Moresby**	**15.70**	**101**	Pn	**P**	**03 32 21.8**	**-2.2**
	0.8nm,0.3s,baz=228,slow=14,SNR=2.5						
MTSU	**Mount Surprise**	**16.83**	**133**	P	**P**	**03 32 36.0**	**-0.5**
	baz=17,SNR=7.4						
AS31	**Alice Springs**	**16.96**	**173**	*e*Pn	**P**	**03 32 37.9**	**-0.2**
ASAR	**Alice Springs**	**16.96**	**173**	P	**P**	**03 32 37.5**	**-0.5**
ASAR				S	**Sn**	**03 35 43.8**	**-0.2**
ASAR	**Alice Springs**	**16.96**	**173**	P	**P**	**03 32 37.5**	**-0.5**
	0.5nm,0.3s,baz=355,slow=8.4,SNR=42						
ASAR				S	**Sn**	**03 35 43.8**	**-0.2**
	0.2nm,0.3s,baz=356,slow=25,SNR=4.9						
MBWA	**Marble Bar**	**18.31**	**217**	*e*P	**Pn**	**03 32 55.6**	**+2.6**
	8.6nm,0.8s						
CTAO	**Charters Tower**	**19.49**	**134**	*e*P	**P**	**03 33 05.1**	**-0.7**
	5.5nm,0.8s						
QLP	**Quilpie**	**23.13**	**150**	P	P	03 33 55.9	+11
	baz=23,SNR=3.8						
FORT	**Forrest**	**24.11**	**187**	*e*P	**P**	**03 33 57.5**	**+3.3**
	14nm,0.6s						
STKA	**Stephens Creek**	**26.70**	**161**	LR	LR	03 46 16.2	
	comp=Z,314nm,19.7s,baz=15,slow=40						
KULM	**Kulim**	**33.06**	**290**	*e*P	**P**	**03 35 14.6**	**+0.4**
	21nm,1.1s						
CMAR	**Chiang Mai Arr**	**40.76**	**308**	P	**P**	**03 36 19.6**	**0.0**
CMAR	**Chiang Mai Arr**	**40.76**	**308**	P	**P**	**03 36 19.6**	**0.0**
	1.2nm,0.6s,baz=135,slow=6.1,SNR=9.6						
NFK	**Norfolk Island**	**40.86**	**127**	S	**S**	**03 42 25.2**	**-4.2**
	baz=41,SNR=5.4						
CHTO	**Chiang Mai**	**40.96**	**309**	*e*P	**P**	**03 36 20.9**	**-0.4**
	14nm,0.7s						
USRK	**Ussuriysk Arra**	**50.73**	**0**	P	**P**	**03 37 38.1**	**+0.2**
	0.8nm,0.4s,baz=183,slow=7.4,SNR=5.2						
SONM	**Songino Array**	**58.71**	**340**	P	**P**	**03 38 36.6**	**+0.6**
SONM	**Songino Array**	**58.71**	**340**	P	**P**	**03 38 36.6**	**+0.6**
	0.6nm,0.6s,baz=175,slow=6.9,SNR=4.2						
MK31	**Makanchi Array**	**68.87**	**326**	*e*P	**P**	**03 39 43.5**	**+0.8**
MKAR	**Makanchi Array**	**68.87**	**326**	P	**P**	**03 39 43.6**	**+0.9**
MKAR	**Makanchi Array**	**68.87**	**326**	P	**P**	**03 39 43.6**	**+0.9**
	2.5nm,0.4s,baz=113,slow=8.5,SNR=73						
TKM2	**Tokmak 2**	**70.77**	**320**	*e*P	**P**	**03 39 55.2**	**+0.4**
	2.3nm,0.7s						
EKS2	**Erkin-Say**	**71.82**	**319**	*e*P	**P**	**03 40 01.5**	**+0.5**
	2.6nm,0.9s						
ZALV	**Zalesovo Beam**	**72.05**	**333**	P	**P**	**03 40 02.0**	**0.0**
ZALV	**Zalesovo Beam**	**72.05**	**333**	P	**P**	**03 40 02.0**	**0.0**
	1.1nm,0.5s,baz=131,slow=5.2,SNR=3.1						
KURK	**Kurchatov**	**73.11**	**328**	*e*P	**P**	**03 40 08.7**	**+0.3**
	1.2nm,0.6s						
BRVK	**Borovoye**	**78.75**	**327**	*e*P	**P**	**03 40 41.0**	**+0.5**
	2.9nm,0.7s						
ABKAR	**Akbulak array**	**83.27**	**321**	*e*P	**P**	**03 41 05.1**	**+0.5**
MCK	**McKinley**	**91.40**	**26**	*e*P	**P**	**03 41 43.2**	**-0.6**
COLA	**College**	**92.10**	**25**	*e*P	**P**	**03 41 47.7**	**+0.7**
	10nm,0.7s						
ILAR	**Eielson Array**	**92.49**	**25**	P	**P**	**03 41 48.4**	**-0.4**
ILAR	**Eielson Array**	**92.49**	**25**	P	**P**	**03 41 48.4**	**-0.4**
	0.2nm,0.8s,baz=251,slow=4.4,SNR=2.9						

*CSEM **27** 03:38:02.8±0.2, 38°.50N×21°.60E, h12km, ML1.7/8, Error ellipse: s-maj=3.2km s-min=2.1km az=79.0*
*ISCJB **27** 03:38:03.4±0.7, 38°.51N±0°.02×21°.63E±0°.04, h10km±3km, Error ellipse: s-maj=6.0km s-min=3.7km az=168.1*
*THE **27** 03:38:03.3, 38°.49N×21°.62E, h11km±2km, ML1.7/8, Error ellipse: s-maj=2.0km s-min=0.3km az=157.0*
*ATH **27** 03:38:04.1, 38°.51N×21°.66E, h14km±5km, MD2.7/10*
ISC 27 03:38:03.5±1.0,**38°.50N**±0°.02×**21°.64E**±0°.03,**h13**km±7km, **n35**, σ0**42**/64,**Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVO	**Paravola**	**0.15**	**324**	P	**Pg**	**03 38 06.9**	**-0.3**
PVO	**Paravola**	**0.15**	**324**	P	**Pg**	**03 38 06.9**	**-0.3**
EFP	**Efpalio**	**0.22**	**108**	P	**Pg**	**03 38 08.0**	**-0.4**
EFP				S	**Sg**	**03 38 11.8**	**+0.1**
EFP	**Efpalio**	**0.22**	**108**	*e*PG	**Pg**	**03 38 08.0**	**-0.4**
EFP				*e*SG	**Sg**	**03 38 11.9**	**+0.2**
EFP	**Efpalio**	**0.22**	**108**	P	**Pg**	**03 38 08.0**	**-0.4**
EFP				*e*Sg	**Sg**	**03 38 11.9**	**+0.2**
PSA1	**Psathopyrgos**	**0.26**	**131**	*e*PG	**Pg**	**03 38 09.1**	**+0.1**
PSA1				*e*SG	**Sb**	**03 38 14.1**	**-0.3**
TRIZ	**Trizonia**	**0.37**	**111**	P	**Pg**	**03 38 10.3**	**-0.6**
TRIZ				S	**Sg**	**03 38 16.1**	**+0.2**
TRIZ	**Trizonia**	**0.37**	**111**	*e*PB	**Pg**	**03 38 11.1**	**+0.2**
TRIZ				*e*SB	**Sg**	**03 38 16.6**	**+0.7**
TRIZ	**Trizonia**	**0.37**	**111**	P	**Pg**	**03 38 10.3**	**-0.6**
TRIZ	**Trizonia**	**0.37**	**111**	*e*Pb	**Pg**	**03 38 11.1**	**+0.2**
TRIZ				S	**Sg**	**03 38 16.1**	**+0.2**
LAKA	**Lakka**	**0.37**	**134**	P	**Pg**	**03 38 10.6**	**-0.4**
LAKA				S	**Sg**	**03 38 16.4**	**+0.3**
LAKA	**Lakka**	**0.37**	**134**	*e*PG	**Pg**	**03 38 10.8**	**-0.2**
LAKA				*e*SB	**Sb**	**03 38 17.3**	**-0.4**
LAKA	**Lakka**	**0.37**	**134**	P	**Pg**	**03 38 10.6**	**-0.4**
LAKA				S	**Sg**	**03 38 16.4**	**+0.3**
LAKA				*e*Sb	**Sb**	**03 38 17.3**	**-0.4**
KALE	**Kalithea**	**0.41**	**105**	P	**Pg**	**03 38 11.5**	**-0.2**
KALE				S	**Sg**	**03 38 17.9**	**+0.6**
KALE	**Kalithea**	**0.41**	**105**	*e*PB	**Pg**	**03 38 12.0**	**+0.3**
KALE				*e*SB	**Sg**	**03 38 17.6**	**+0.3**
KALE	**Kalithea**	**0.41**	**105**	P	**Pg**	**03 38 11.5**	**-0.2**
KALE	**Kalithea**	**0.41**	**105**	*e*Pb	**Pg**	**03 38 12.0**	**+0.3**
KALE				*e*Sb	**Sg**	**03 38 17.6**	**+0.3**
EVR	**Evrytania**	**0.44**	**18**	P	**Pg**	**03 38 11.8**	**-0.5**
EVR				S	**Sg**	**03 38 18.6**	**+0.4**
EVR	**Evrytania**	**0.44**	**18**	*e*PG	**Pg**	**03 38 11.9**	**-0.4**
EVR				*e*SB	**Sg**	**03 38 18.7**	**+0.5**
EVR	**Evrytania**	**0.44**	**18**	*e*Pg	**Pg**	**03 38 11.9**	**-0.4**
EVR				S	**Sg**	**03 38 18.6**	**+0.4**
RLS	**Riolos of Patr**	**0.46**	**197**	*e*PB	**Pb**	**03 38 13.0**	**-0.4**
RLS				*e*SB	**Sb**	**03 38 21.0**	**+0.9**
RLS	**Riolos of Patr**	**0.46**	**197**	*e*Pb	**Pb**	**03 38 13.0**	**-0.4**
RLS				*e*Sb	**Sb**	**03 38 21.0**	**+0.9**
KLV	**Kalavryta, Ach**	**0.61**	**138**	P	**Pg**	**03 38 15.0**	**-0.4**
KLV				S	**Sg**	**03 38 24.1**	**+0.6**
KLV	**Kalavryta, Ach**	**0.61**	**138**	*e*PB	**Pg**	**03 38 15.0**	**-0.4**
KLV				*e*SB	**Sb**	**03 38 25.1**	**+0.6**
KLV	**Kalavryta, Ach**	**0.61**	**138**	P	**Pg**	**03 38 15.0**	**-0.4**
KLV				S	**Sg**	**03 38 24.1**	**+0.6**
KLV				*e*Sb	**Sb**	**03 38 25.1**	**+0.6**
MAKR	**Makrakomi, Fth**	**0.65**	**37**	P	**Pg**	**03 38 16.0**	**-0.1**
MAKR				S	**Sb**	**03 38 25.6**	**0.0**
MAKR	**Makrakomi, Fth**	**0.65**	**37**	P	**Pg**	**03 38 16.0**	**-0.1**
MAKR				S	**Sb**	**03 38 25.6**	**0.0**
DSF	**Desfina**	**0.70**	**97**	P	**Pg**	**03 38 16.8**	**-0.5**
DSF				S	**Sb**	**03 38 27.5**	**+0.2**
DSF	**Desfina**	**0.70**	**97**	P	**Pg**	**03 38 16.8**	**-0.5**
DSF				S	**Sb**	**03 38 27.5**	**+0.2**
AGG	**Agios Georgios**	**0.76**	**46**	P	**Pg**	**03 38 17.8**	**-0.4**
AGG				S	**Sb**	**03 38 29.1**	**+0.3**
AGG	**Agios Georgios**	**0.76**	**46**	*e*PB	**Pb**	**03 38 18.5**	**0.0**
AGG	**Agios Georgios**	**0.76**	**46**	P	**Pg**	**03 38 17.8**	**-0.4**
AGG	**Agios Georgios**	**0.76**	**46**	*e*Pb	**Pb**	**03 38 18.5**	**0.0**
AGG				S	**Sb**	**03 38 29.1**	**+0.3**
GUR	**Goura**	**0.79**	**135**	*e*PB	**Pg**	**03 38 18.4**	**-0.5**
GUR	**Goura**	**0.79**	**135**	*e*Pb	**Pg**	**03 38 18.4**	**-0.5**

*NIED **27** 04:09:00, 44°.00N×148°.20E, h38km, Mw3.7 Best double couple: M0=3.58000×10^14 NP1:φ=15.00000°, δ=69.00000°, λ=90.00000°. NP2:φ=196.00000°, δ=21.00000°, λ=91.00000°.*
*SKHL **27** 04:09:48.8±0.8, 44°.51N×148°.53E, h50km±5km, mb4.6/2*
*JMA **27** 04:09:48.9±0.3, 44°.04N×148°.20E, h0km, M4.6*
*ISCJB **27** 04:09:49.0±0.9, 44°.49N±0°.05×148°.34E±0°.09, h68km±7km, mb3.5/10, Error ellipse: s-maj=12.6km s-min=6.6km az=35.4*
*MOS **27** 04:09:49.6±0.9, 44°.70N×148°.28E, h69km, mb4.3/4, Error ellipse: s-maj=16.8km s-min=16.4km az=128.8*
*IDC **27** 04:09:52.3±4.0, 44°.69N×148°.27E, h77km±36km, mb3.3/9, mb1 3.5/10, mb1mx3.4/24, mbtmp3.3/10, Error ellipse: s-maj=27.2km s-min=21.8km az=162.0*
ISC 27 04:09:48.4±1.8,**44°.44N**±0°.05×**148°.5E**±0°.1,**h46**km±15km, **n32**, σ1**49**/45,**mb3.5**/10,**2C-1D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.91**	**331**	*d i*PN	**Pn**	**04 10 04.6**	**-0.1**
KUR				*i* S	**Sn**	**04 10 17.1**	**+0.4**
KUR				pmax	pmax		
	comp=Z,591μm,0.4s						
KUR				pmax	pmax		
	comp=N,188nm,0.4s						
KUR				pmax	pmax		
	comp=E,138nm,0.4s						
KUR				smax	smax		
	comp=N,2.0nm,0.3s						
KUR				smax	smax		
	comp=E,1.0nm,0.2s						
KUR	**Kuril'sk**	**0.91**	**331**	*i* P	**Pn**	**04 10 04.6**	**-0.1**
KUR				AMB	AMB	04 10 05.1	
	comp=E,188nm,0.4s						
KUR				AMB	AMB	04 10 05.1	
	comp=E,138nm,0.4s						
KUR				AMB	AMB	04 10 05.1	
	comp=E,591nm,0.4s						
KUR				*i* S	**Sn**	**04 10 17.1**	**+0.4**
KUR				A	A	04 10 17.2	
	comp=E,20nm,0.3s						
KUR				A	A	04 10 17.2	
	comp=E,12nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.93**	**259**	*c i*PN	**Pn**	**04 10 19.3**	**+0.6**
YUK				*i* S	**Sn**	**04 10 41.6**	**-0.1**
YUK				pmax	pmax		
	comp=Z,174nm,0.3s						
YUK				pmax	pmax		
	comp=E,45nm,0.3s						
YUK				pmax	pmax		
	comp=N,41nm,0.1s						
YUK				smax	smax		
	comp=N,286nm,0.4s						
YUK				smax	smax		
	comp=E,813nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.93**	**259**	*i* P	**Pn**	**04 10 19.3**	**+0.6**
YUK				AMB	AMB	04 10 20.3	
	comp=E,41nm,0.3s						
YUK				AMB	AMB	04 10 20.3	
	comp=E,45nm,0.3s						
YUK				AMB	AMB	04 10 20.3	
	comp=E,174nm,0.3s						
YUK				*i* S	**Sn**	**04 10 41.6**	**-0.1**
YUK				A	A	04 10 46.0	
	comp=E,286nm,0.4s						
YUK				A	A	04 10 46.0	
	comp=E,813nm,0.4s						
NEM2	**Nemuro 2**	**2.25**	**242**	P	**Pn**	**04 10 23.0**	**-0.2**
NEM2				*e*S	**Sn**	**04 10 47.5**	**-2.2**
JRA	**Rausu**	**2.47**	**259**	P	**Pn**	**04 10 27.7**	**+1.6**
JRA				*e*S	**Sn**	**04 10 56.4**	**+1.4**
JNK	**Nakash**	**2.85**	**254**	P	**Pn**	**04 10 32.6**	**+1.3**
JNK				*e*S	**Sn**	**04 11 04.7**	**+0.3**
JAK	**Akkeshi**	**3.10**	**244**	P	**Pn**	**04 10 35.4**	**+0.6**
JAK				*e*S	**Sn**	**04 11 09.3**	**-1.3**
JAR	**Ashorobuto**	**3.60**	**253**	P	**Pn**	**04 10 43.5**	**+1.9**
JAR				*e*S	**Sn**	**04 11 23.7**	**+0.9**
JCH	**Churui**	**4.15**	**246**	P	**Pn**	**04 10 50.2**	**+1.0**
JKK2	**Kamakawa 2**	**4.17**	**264**	P	**Pn**	**04 10 52.2**	**+2.8**
ASAJ	**Asahikawa**	**4.24**	**268**	P	**Pn**	**04 10 52.2**	**+1.8**
	comp=E,2.7nm,0.3s,baz=69,slow=16,SNR=18						
ERM	**Erimo**	**4.58**	**240**	*c i*PN	Pn	04 10 58.5	+3.3
ERM	**Erimo**	**4.58**	**240**	*e*P	Pn	04 10 58.5	+3.3
JNBK	**Urakawa-nobuka**	**4.70**	**245**	P	**Pn**	**04 10 58.0**	**+1.2**
YSS	**Yuzh-Sakhalins**	**4.74**	**304**	*e*PN	**Pn**	**04 10 57.5**	**+0.3**
YSS				*e*S	**Sn**	**04 11 50.7**	**-0.1**
YSS				smax	smax		
	comp=E,20nm,0.7s						
YSS	**Yuzh-Sakhalins**	**4.74**	**304**	*e*P	**Pn**	**04 10 57.5**	**+0.3**
YSS				*e*rx	rx	04 11 16.5	
YSS				*e*S	**Sn**	**04 11 50.7**	**-0.1**
YSS				A	A	04 11 55.0	
	comp=E,20nm,0.7s						
JKB	**Kayabe**	**6.02**	**248**	P	**Pn**	**04 11 16.2**	**+1.4**
JKB				*e*S	**Sn**	**04 12 20.4**	**-1.9**
JOT	**Ohata**	**6.26**	**243**	P	**Pn**	**04 11 18.9**	**+0.8**
JOT				*e*S	**Sn**	**04 12 25.0**	**-3.2**
JANG	**Nango**	**6.56**	**234**	P	**Pn**	**04 11 22.2**	**-0.2**
JANG				*e*S	**Sn**	**04 12 30.8**	**-5.1**
SONM	**Songino Array**	**29.10**	**292**	P	**P**	**04 15 43.9**	**-0.8**
	comp=E,0.3nm,0.4s,baz=84,slow=7.6,SNR=3.8						
ILAR	**Eielson Array**	**40.36**	**37**	*e*P	**P**	**04 17 21.5**	**+0.2**
ILAR	**Eielson Array**	**40.36**	**37**	P	**P**	**04 17 21.3**	**0.0**
	comp=E,0.2nm,0.4s,baz=264,slow=8.7,SNR=6.1						
MKAR	**Makanchi Array**	**45.12**	**297**	P	**P**	**04 17 59.7**	**-0.4**
MKAR						04 19 39.3	
MKAR	**Makanchi Array**	**45.12**	**297**	P	**P**	**04 17 59.7**	**-0.4**
	comp=E,0.2nm,0.5s,baz=70,slow=10,SNR=2.9						
MKAR				PcP	**PcP**	**04 19 39.2**	**-0.7**
	comp=E,0.4nm,0.6s,baz=51,slow=3.9,SNR=4.8						
FINES	**FINESS Array B**	**64.69**	**333**	P	**P**	**04 20 18.7**	**-2.5**
	comp=E,2.5nm,0.8s,baz=23,slow=6.4,SNR=4.5						
OBN	**Obninsk**	**65.32**	**324**	*e*P	**P**	**04 20 24.8**	**-0.5**
OBN				*e*		04 20 57.4	
OBN				pmax	pmax		
	comp=Z,10.0nm,1.9s						
PDAR	**Pinedale Array**	**68.73**	**51**	P	**P**	**04 20 47.7**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=304,slow=6.4,SNR=2.6						
ASAR	**Alice Springs**	**69.08**	**194**	P	**P**	**04 20 50.8**	**+1.3**
	comp=Z,0.4nm,0.7s,baz=7.7,slow=6.4,SNR=6.2						
NOA	**NORSAR Array B**	**69.30**	**339**	P	**P**	**04 20 48.9**	**-1.6**
	comp=Z,0.7nm,0.7s,baz=29,slow=6.3,SNR=3.8						
GERES	**GERESS Array B**	**79.02**	**331**	P	**P**	**04 21 45.7**	**-1.7**
	comp=Z,0.2nm,0.4s,baz=56,slow=7.3,SNR=3.4						
TXAR	**Lajitas Array**	**81.47**	**57**	P	**P**	**04 22 01.6**	**+0.7**
	comp=Z,0.4nm,0.5s,baz=304,slow=4.3,SNR=11						

*ISCJB **27** 04:38:49.6±0.4, 51°.50N±0°.02×16°.14E±0°.03, h0km, Error ellipse: s-maj=3.0km s-min=2.2km az=16.8*
*WAR **27** 04:38:51.7, 51°.55N×16°.14E*
*IPEC **27** 04:38:51.0±0.3, 51°.55N×16°.26E, h0km, ML2.5/3, Error ellipse: s-maj=3.2km s-min=1.7km az=67.0*
*CSEM **27** 04:38:51.3±0.1, 51°.51N×16°.14E, h2km, ML3.5/10, Error ellipse: s-maj=2.9km s-min=1.9km az=21.0*
*BGR **27** 04:38:52.2±0.4, 51°.52N×16°.16E, h1km, ML3.0/17, Error ellipse: s-maj=4.4km s-min=2.2km az=17.0*
*PRU **27** 04:38:52.4, 51°.49N×16°.11E, h0km*
*IDC **27** 04:38:53.5±0.8, 51°.43N×16°.06E, h0km, mb1 3.5/6, mb1mx3.3/25, mbtmp3.4/6, ML2.8/6, Error ellipse: s-maj=16.6km s-min=7.4km az=104.0*
*VIE **27** 04:38:54.1±0.4, 51°.29N×16°.07E, h0km, mb2.4/6, ML2.9/7, Error ellipse: s-maj=2.6km s-min=2.2km az=177.0 69 km WNW of Wroclaw Suspected Mining induced.*
ISC 27 04:38:50.7±0.7,**51°.56N**±0°.03×**16°.13E**±0°.02,**h0**km,**n85**, σ0**83**/144,**4C-9D,Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.72**	**172**	*e*Pg	**Pg**	**04 39 05.0**	**+0.6**
KSP				*e*Sg	**Sg**	**04 39 14.2**	**+0.4**
KSP	**Ksiaz**	**0.72**	**172**	*e*Pg	**Pg**	**04 39 04.9**	**+0.4**
KSP				*e*Sg	**Sg**	**04 39 14.1**	**+0.3**
KSP	**Ksiaz**	**0.72**	**172**	Pg	**Pg**	**04 39 05.0**	**+0.6**
KSP				Sg	**Sg**	**04 39 14.2**	**+0.4**
UPC	**Upice**	**1.05**	**184**	⇓*e*PG	**Pg**	**04 39 10.7**	**-0.1**
UPC				*e*SG	**Sg**	**04 39 24.0**	**-0.4**
	40nm,0.3s						
UPC	**Upice**	**1.05**	**184**	Pg	**Pg**	**04 39 10.7**	**-0.1**
UPC				Sg	**Sg**	**04 39 24.0**	**-0.4**
	40nm,0.3s						
DPC	**Dobruska-Polom**	**1.21**	**174**	*e*Pg	**Pg**	**04 39 13.8**	**-0.1**
DPC				*e*Sg	**Sb**	**04 39 31.0**	**+0.2**
DPC	**Dobruska-Polom**	**1.21**	**174**	*e*PG	**Pg**	**04 39 13.8**	**-0.1**
DPC				*e*SG	**Sg**	**04 39 29.2**	**-0.4**
DPC	**Dobruska-Polom**	**1.21**	**174**	Pg	**Pg**	**04 39 13.8**	**-0.1**
DPC				Sg	**Sg**	**04 39 29.2**	**-0.4**
PVCC	**Panska Ves**	**1.43**	**224**	⇓*e*PG	**Pn**	**04 39 17.7**	**-0.1**
PVCC				*e*SG	**Sb**	**04 39 37.0**	**+0.2**
	168nm,0.2s						
PVCC	**Panska Ves**	**1.43**	**224**	Pg	**Pn**	**04 39 17.7**	**-0.1**
PVCC				Sg	**Sb**	**04 39 37.0**	**+0.2**
	168nm,0.2s						
BRG	**Berggiesshubel**	**1.54**	**244**	PN	**Pn**	**04 39 19.3**	**0.0**
BRG				PG	**Pb**	**04 39 20.2**	**+0.2**
BRG				SG	**Sg**	**04 39 40.6**	**+0.6**
	89nm,0.4s						
BRG	**Berggiesshubel**	**1.54**	**244**	*e*Pn	**Pn**	**04 39 19.6**	**+0.3**
BRG				*e*Sg	**Sg**	**04 39 40.7**	**+0.7**
BRG	**Berggiesshubel**	**1.54**	**244**	Pn	**Pn**	**04 39 19.6**	**+0.3**
BRG				Sg	**Sg**	**04 39 40.7**	**+0.7**
KRLC	**Kraliky**	**1.54**	**164**	*e*PG	**Pn**	**04 39 19.1**	**-0.3**
KRLC				*e*SG	**Sn**	**04 39 39.5**	**-0.6**
KRLC	**Kraliky**	**1.54**	**164**	Pg	**Pn**	**04 39 19.1**	**-0.3**
KRLC				Sg	**Sn**	**04 39 39.5**	**-0.6**
PRA	**Prague**	**1.84**	**217**	⇓PG	**Pn**	**04 39 24.0**	**+0.6**
PRA				SG	**Sb**	**04 39 49.0**	**+0.4**
FBE	**Freiberg**	**1.86**	**251**	*e*Pn	**Pb**	**04 39 24.8**	**-0.6**
FBE				*e*Sg	**Sg**	**04 39 50.3**	**0.0**
FBE	**Freiberg**	**1.86**	**251**	Pn	**Pb**	**04 39 24.8**	**-0.6**
FBE				Sg	**Sg**	**04 39 50.3**	**0.0**
PRU	**Pruhonice**	**1.87**	**213**	⇓*e*PN	**Pn**	**04 39 23.4**	**-0.4**
PRU				*e*PG	**Pb**	**04 39 25.5**	**-0.1**
PRU				*e*SG	**Sb**	**04 39 50.0**	**+0.6**
	62nm,0.3s						
PRU	**Pruhonice**	**1.87**	**213**	Pn	**Pn**	**04 39 23.4**	**-0.4**
RAC	**Raciborz**	**1.97**	**138**	*e*Pg	**Pg**	**04 39 28.6**	**+0.2**
RAC				*e*Sg	**Sg**	**04 39 54.9**	**+1.0**
CLL	**Collm

SMOL	**Smolenice**	**3.16 164**	*e*SG	**Sg**	**04 40 30.8**	**-1.3**
SMOL	**Smolenice**	**3.16 164**	*e*Sg	**Sg**	**04 40 30.8**	**-1.3**
WET	**Wettzell**	**3.19 222**	*e*Pn	**Pn**	**04 39 42.4**	**+0.3**
WET	**Wettzell**	**3.19 222**	Pn	**Pn**	**04 39 42.4**	**+0.3**
CLZ	**Clausthal**	**3.59 277**	*e*Pn	**Pn**	**04 39 48.7**	**+1.1**
CLZ	**Clausthal**	**3.59 277**	Pn	**Pn**	**04 39 48.7**	**+1.1**
CONA	**Conrad Observa**	**3.64 183**	⇓*i*Pn	**Pn**	**04 39 47.9**	**-0.4**
CONA			⇑*i*Sg	**Sg**	**04 40 45.5**	**-1.9**
	comp=Z,27nm,0.7s					
CONA	**Conrad Observa**	**3.64 183**	Pn	**Pn**	**04 39 47.9**	**-0.4**
CONA			Sg	**Sg**	**04 40 45.5**	**-1.9**
	comp=Z,27nm,0.7s					
BSD	**Bornholm Skovb**	**3.64 349**	*i*P	**Pn**	**04 39 48.1**	**-0.1**
BSD			*i*S	**Sn**	**04 40 28.5**	**-3.2**
BSD	**Bornholm Skovb**	**3.64 349**	*i*P	**Pn**	**04 39 48.1**	**-0.1**
GRA1	**Grafenberg Arr**	**3.64 241**	Pn	**Pn**	**04 39 48.5**	**+0.3**
GRA1			Sg	**Sg**	**04 40 47.4**	**-0.1**
GRF	**Grafenberg Arr**	**3.64 241**	*e*Pn	**Pn**	**04 39 48.5**	**+0.3**
GRF			*e*Sg	**Sg**	**04 40 47.4**	**-0.1**
MOA	**Molln**	**3.90 199**	*i*Pn	**Pn**	**04 39 52.4**	**+0.5**
	SNR=17					
MOA			⇑*i*Sg	**Sg**	**04 40 54.8**	**-1.2**
	comp=Z,16nm,0.5s					
MOA	**Molln**	**3.90 199**	Pn	**Pn**	**04 39 52.4**	**+0.5**
	SNR=17					
MOA			Sg	**Sg**	**04 40 54.8**	**-1.2**
	comp=Z,16nm,0.5s					
STHS	**Stebnicka Huta**	**3.91 121**	*e*SG	**Sg**	**04 40 58.0**	**+2.0**
STHS	**Stebnicka Huta**	**3.91 121**	*e*Sg	**Sg**	**04 40 58.0**	**+2.0**
KECS	**Kecovo**	**4.17 136**	*e*SG	**Sg**	**04 41 03.8**	**-0.6**
KECS	**Kecovo**	**4.17 136**	*e*Sg	**Sg**	**04 41 03.8**	**-0.6**
KOLS	**Kolonicke sedl**	**4.74 121**	*e*SN	**Sn**	**04 40 57.4**	**-1.5**
KOLS			*e*SG	**Sg**	**04 41 23.1**	**+0.4**
KOLS	**Kolonicke sedl**	**4.74 121**	*e*Sn	**Sn**	**04 40 57.4**	**-1.5**
KOLS			*e*Sg	**Sg**	**04 41 23.1**	**+0.4**
KBA	**Koelnbreinsper**	**4.84 203**	⇓*i*Pn	**Pn**	**04 40 05.6**	**+0.7**
	SNR=4.8					
KBA			⇑*i*Sg	**Sg**	**04 41 25.1**	**-0.9**
	comp=Z,8.2nm,0.6s					
KBA	**Koelnbreinsper**	**4.84 203**	Pn	**Pn**	**04 40 05.6**	**+0.7**
	SNR=4.8					
KBA			Sg	**Sg**	**04 41 25.1**	**-0.9**
	comp=Z,8.2nm,0.6s					
WATA	**Walderalm**	**5.16 217**	⇑*i*Pn	**Pn**	**04 40 09.5**	**+0.2**
	SNR=5.4					
WATA	**Walderalm**	**5.16 217**	Pn	**Pn**	**04 40 09.5**	**+0.2**
	SNR=5.4					
WTTA	**Wattenberg**	**5.20 216**	⇓*i*Pn	**Pn**	**04 40 09.8**	**0.0**
	SNR=4.2					
WTTA	**Wattenberg**	**5.20 216**	Pn	**Pn**	**04 40 09.8**	**0.0**
	SNR=4.2					
DAVOX	**Davos/Dischmat**	**6.29 223**	Pn	**Pn**	**04 40 27.4**	**+2.5**
	comp=Z,0.2nm,0.3s,baz=353,slow=16,SNR=3.6					
HFS	**Hagfors**	**8.71 352**	Pn	**Pn**	**04 41 00.0**	**+2.3**
	comp=Z,0.1nm,0.3s,baz=162,slow=14,SNR=2.5					
FINES	**FINESS Array B**	**11.32 25**	Pn	**Pn**	**04 41 33.0**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=218,slow=12,SNR=4.7					
KAF	**Kangasniemi**	**11.94 24**	*e*p	**Pn**	**04 41 41.5**	**-0.4**
EKA	**Eskdalemuir Ar**	**12.10 296**	Pn	**Pn**	**04 41 41.2**	**-2.9**
	baz=104,slow=13,SNR=3.3					
ARCES	**ARCESS Array B**	**18.57 10**	Pn	**P**	**04 43 08.5**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=194,slow=11,SNR=3.8					

*ISCJB **27** 04:47:28.6±0.6, 36°.42N±0°.03×29°.03E±0°.03, h7km±4km, Error ellipse: s-maj=4.7km s-min=4.0km az=0.4*
*ISK **27** 04:47:28.4, 36°.47N×29°.05E, h3km, MD3.0*
*DDA **27** 04:47:28.5, 36°.43N×29°.02E, h20km, ML3.7*
*ATH **27** 04:47:28.0, 36°.54N×29°.06E, h21km±1km, MD3.4/6*
*CSEM **27** 04:47:29.2±0.2, 36°.46N×29°.06E, h5km, MD3.0, Error ellipse: s-maj=3.6km s-min=2.9km az=3.0*

ISC 27 04:47:28.5±0.9, 36°.48N±0°.03×29°.11E±0°.02, h15km±6km, n53, σ0s85/80, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FETY	**Fethiye**	**0.16 352**		PG	**Pg**	**04 47 32.5**	**-0.1**
FETY				*e*SG	**Sg**	**04 47 35.8**	**+0.4**
FETY	**Fethiye**	**0.16 352**		*i*Pg	**Pg**	**04 47 32.5**	**-0.1**
FETY				*e*Sg	**Sg**	**04 47 35.8**	**+0.4**
AKAS	**Kas**	**0.47 121**		*i*P	**Pb**	**04 47 39.1**	**+0.6**
AKAS				*i*S	**Sn**	**04 47 47.9**	**-0.9**
AKAS	**Kas**	**0.47 121**		*i*P	**Pb**	**04 47 39.1**	**+0.6**
AKAS				*i*S	**Sn**	**04 47 47.9**	**-0.9**
DALY	**Dalyan (Mu¨la**	**0.50 313**		*e*PG	**Pg**	**04 47 37.4**	**-1.1**
DALY				*e*SG	**Sb**	**04 47 45.7**	**-0.4**
DALY	**Dalyan (Mu¨la**	**0.50 313**		*e*Pg	**Pg**	**04 47 37.4**	**-1.1**
DALY				*e*Sg	**Sb**	**04 47 45.7**	**-0.4**
KSL	**Kastellorizon**	**0.50 130**		*e*PN	**Pb**	**04 47 39.5**	**+0.5**
TURN	**Turunc**	**0.57 314**		*i*P	**Pn**	**04 47 41.7**	**-0.4**
TURN				*i*S	**Sn**	**04 47 53.1**	**+1.9**
TURN	**Turunc**	**0.57 314**		*i*P	**Pn**	**04 47 41.7**	**-0.4**
ELL	**Elmali**	**0.70 67**		*e*PG	**Pn**	**04 47 43.5**	**-0.4**
ELL				*e*SG	**Sn**	**04 47 54.5**	**0.0**
ELL	**Elmali**	**0.70 67**		*e*Pg	**Pn**	**04 47 43.5**	**-0.4**
ELL				*e*Sg	**Sn**	**04 47 54.5**	**0.0**
ARG	**Arkhangelos**	**0.84 252**		*e*PN	**Pb**	**04 47 43.9**	**-0.8**
ARG				*e*SN	**Sb**	**04 47 55.5**	**-0.3**
ARG	**Arkhangelos**	**0.84 252**		*e*Pn	**Pb**	**04 47 43.9**	**-0.8**
ARG				*e*Sn	**Sb**	**04 47 55.5**	**-0.3**
GOLH	**Golhisar**	**0.84 25**		*i*P	**Pn**	**04 47 45.8**	**-0.1**
GOLH				*i*S	**Sn**	**04 47 59.4**	**+1.3**
GOLH	**Golhisar**	**0.84 25**		*i*P	**Pn**	**04 47 45.8**	**-0.1**
GOLH				*i*S	**Sn**	**04 47 59.4**	**+1.3**
YER	**Yerkesik**	**0.94 315**		*e*PG	**Pb**	**04 47 45.9**	**-0.6**
YER				*e*SG	**Sn**	**04 47 59.8**	**-0.5**
YER	**Yerkesik**	**0.94 315**		*e*Pg	**Pb**	**04 47 45.9**	**-0.6**
YER				*e*Sg	**Sn**	**04 47 59.8**	**-0.5**
DNZL	**Cakiroluk**	**1.21 358**		*i*P	**Pb**	**04 47 51.7**	**+0.4**
DNZL				*i*S	**Sg**	**04 48 09.2**	**+1.4**
DNZL	**Cakiroluk**	**1.21 358**		*i*P	**Pb**	**04 47 51.7**	**+0.4**
DNZL				*i*S	**Sg**	**04 48 09.2**	**+1.4**
DAT	**Datca**	**1.26 282**		*e*PN	**Pg**	**04 47 52.4**	**-0.4**
DAT	**Datca**	**1.26 282**		*e*Pn	**Pg**	**04 47 52.4**	**-0.4**
DENT	**Denizli**	**1.28 357**		*e*PN	**Pg**	**04 47 53.4**	**+0.3**
DENT	**Denizli**	**1.28 357**		*e*Pn	**Pg**	**04 47 53.4**	**+0.3**
BDRM	**Kayabasi**	**1.46 294**		*i*P	**Pb**	**04 47 55.5**	**+0.1**
BDRM				*i*S	**Sg**	**04 48 15.5**	**-0.2**
BDRM	**Kayabasi**	**1.46 294**		*i*P	**Pb**	**04 47 55.5**	**+0.1**
BDRM				*i*S	**Sg**	**04 48 15.5**	**-0.2**
AYDN	**Tasoluk**	**1.54 321**		*i*P	**Pg**	**04 47 57.5**	**-0.6**
AYDN				*i*S	**Sg**	**04 48 17.7**	**-0.4**
AYDN	**Tasoluk**	**1.54 321**		*i*P	**Pg**	**04 47 57.5**	**-0.6**
AYDN				*i*S	**Sg**	**04 48 17.7**	**-0.4**
BCK	**Bucak**	**1.54 50**		*e*PN	**Pg**	**04 47 58.0**	**-0.1**
BCK	**Bucak**	**1.54 50**		*e*Pn	**Pg**	**04 47 58.0**	**-0.1**
BODT	**Bodrum**	**1.56 293**		*e*PN	**Pb**	**04 47 57.3**	**+0.2**
BODT	**Bodrum**	**1.56 293**		*e*Pn	**Pb**	**04 47 57.3**	**+0.2**
NIS1	**Nisyros Isl.**	**1.56 275**		*e*PN	**Pb**	**04 47 57.5**	**+0.4**
NIS1	**Nisyros Isl.**	**1.56 275**		*e*Pn	**Pb**	**04 47 57.5**	**+0.4**
ISP	**Isparta**	**1.75 40**		*e*PN	**Pg**	**04 48 01.9**	**-0.3**
ISP	**Isparta**	**1.75 40**		*e*Pn	**Pg**	**04 48 01.9**	**-0.3**
KARP	**Karpathos**	**1.83 240**		*e*PB	**Pn**	**04 47 59.9**	**+0.4**
KARP	**Karpathos**	**1.83 240**		*e*Pb	**Pn**	**04 47 59.9**	**+0.4**
KHAL	**Karahalli**	**1.92 9**		*i*P	**Pb**	**04 48 02.5**	**-0.7**
KHAL				*i*S	**Sb**	**04 48 28.5**	**+1.5**
KHAL	**Karahalli**	**1.92 9**		*i*P	**Pb**	**04 48 02.5**	**-0.7**
KHAL				*i*S	**Sb**	**04 48 28.5**	**+1.5**
GCAM	**G?zelcaml?**	**1.94 310**		*i*P	**Pb**	**04 48 02.5**	**-1.0**
GCAM				*i*S	**Sb**	**04 48 26.9**	**-0.5**
GCAM	**G?zelcaml?**	**1.94 310**		*i*P	**Pb**	**04 48 02.5**	**-1.0**
GCAM				*i*S	**Sb**	**04 48 26.9**	**-0.5**
MANT	**Manisa**	**2.06 348**		*i*P	**Pb**	**04 48 04.7**	**-1.0**
MANT				*i*S	**Sn**	**04 48 28.7**	**+0.4**
MANT	**Manisa**	**2.06 348**		*i*P	**Pb**	**04 48 04.7**	**-1.0**
MANT				*i*S	**Sn**	**04 48 28.7**	**+0.4**
KULA	**Kula-Manisa**	**2.07 350**		*e*PN	**Pb**	**04 48 04.6**	**-1.2**
KULA	**Kula-Manisa**	**2.07 350**		*e*Pn	**Pb**	**04 48 04.6**	**-1.2**
HDMB	**Hadim**	**2.75 79**		*e*PN	**Pb**	**04 48 15.4**	**-2.2**
HDMB	**Hadim**	**2.75 79**		*e*Pn	**Pb**	**04 48 15.4**	**-2.2**
NPS	**Neapolis**	**3.09 248**		*e*PN	**Pn**	**04 48 17.9**	**+1.2**
NPS	**Neapolis**	**3.09 248**		*e*Pn	**Pn**	**04 48 17.9**	**+1.2**
LAST	**Lasithi**	**3.23 247**		*e*PN	**Pn**	**04 48 20.0**	**+1.3**
LAST	**Lasithi**	**3.23 247**		*e*Pn	**Pn**	**04 48 20.0**	**+1.3**
IDI	**Anoyia**	**3.63 252**		*e*PN	**Pn**	**04 48 25.5**	**+1.3**
IDI	**Anoyia**	**3.63 252**		*e*Pn	**Pn**	**04 48 25.5**	**+1.3**

JMA 27 04:53:33.5±0.4, 43°.85N×147°.66E, h0km, M3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**1.47 251**		P	Pn	04 54 01.3	0.0
NEM2				*e*S	Sn	04 54 21.3	+0.1
JRA	**Rausu**	**1.84 274**		P	Pn	04 54 06.8	+0.5
JAK	**Akkeshi**	**2.32 249**		P	Pn	04 54 13.8	+0.9
JAK				*e*S	Sn	04 54 43.2	+1.0
JAR	**Ashorobuto**	**2.88 260**		P	Pn	04 54 22.5	+1.8
JAR				*e*S	Sn	04 54 58.3	+2.3
JOB	**Onbets**	**2.94 253**		P	Pn	04 54 23.0	+1.5

IDC 27 05:00:47.6±1.6, 11°.67S×165°.64E, h0km, mb4.0/4, mb1 4.1/5, mb1mx3.9/18, mbtmp4.0/5, ML3.5/1, MS3.8/1, Ms1 3.7/1, ms1mx2.8/32, Error ellipse: s-maj=50.6km s-min=29.2km az=125.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**10.38 176**		Pn	Pn	05 03 17.6	-0.4
	0.4nm,0.3s,baz=26,slow=16,SNR=7.1						
STKA	**Stephens Creek**	**29.93 224**		LR	LR	05 18 28.2	
	comp=Z,181nm,21.9s,baz=25,slow=35						
WRA	**Warramunga Arr**	**31.18 251**		P	P	05 07 09.5	+0.7
	1.7nm,0.8s,baz=84,slow=9.2,SNR=6.5						
ASAR	**Alice Springs**	**32.43 244**		P	P	05 07 19.9	+0.1
	1.8nm,0.7s,baz=71,slow=9.4,SNR=23						
ILAR	**Eielson Array**	**84.13 19**		P	P	05 13 21.1	+0.9
	0.7nm,1.2s,baz=202,slow=6.8,SNR=3.0						
MKAR	**Makanchi Array**	**93.90 317**		P	P	05 14 05.3	-2.0
	1.2nm,0.8s,baz=101,slow=6.3,SNR=8.9						

IDC 27 05:09:27.4±1.7, 5°.12N×126°.91E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.7/23, mbtmp3.9/5, Error ellipse: s-maj=101.8km s-min=22.3km az=68.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**23.11 183**		P	P	05 14 34.8	-0.3
	1.0nm,0.4s,baz=6.2,slow=8.8,SNR=7.7						
WRA	**Warramunga Arr**	**25.96 164**		P	P	05 15 00.6	-1.2
	5.1nm,0.9s,baz=344,slow=10,SNR=10.0						
ASAR	**Alice Springs**	**29.41 167**		P	P	05 15 33.4	+0.6
	0.5nm,0.5s,baz=349,slow=8.5,SNR=6.3						
STKA	**Stephens Creek**	**39.36 160**		P	P	05 16 59.5	+0.7
	2.5nm,0.5s,baz=334,slow=11,SNR=7.4						
MKAR	**Makanchi Array**	**56.53 325**		P	P	05 19 11.5	-0.1
	0.4nm,0.5s,baz=117,slow=7.7,SNR=11						

*DJA **27** 05:20:59.8±0.6, 2°.N±7°.×12°.9E±°, h57km±34km, M4.9/6, mb5.2/2, mB5.8/1, MLv4.8/6, Mw(mB)5.3/1*
*IDC **27** 05:21:02.5±2.7, 2°.02N×128°.46E, h57km±24km, mb3.8/13, mb1 4.0/14, mb1mx3.9/23, mbtmp3.9/14, ML4.6/1, Error ellipse: s-maj=31.7km s-min=12.3km az=80.0*
*ISCJB **27** 05:21:03.4±0.4, 1°.99N±0°.04×128°.55E±0°.06, h92km, mb4.0/12, Error ellipse: s-maj=8.6km s-min=5.8km az=156.1*
*AUST **27** 05:21:07.4±1.3, 1°.91N×129°.42E, h112km, Error ellipse: s-maj=2.0km s-min=1.0km az=275.0*

ISC 27 05:21:05.4±0.6, 1°.96N±0°.06×128°.61E±0°.07, h92km, n43, σ2s04/41, mb4.0/12, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.72 227**		P	Pn	05 21 30.1	-3.9
TNTI				S	**Sn**	**05 21 55.3**	**-0.5**
LBMI	**Labuha**	**2.81 203**		P	**Pn**	**05 21 47.5**	**-1.0**
SGSI	**Sangihe**	**3.53 299**		P	Pn	05 21 51.2	-6.9
SGSI				S	**Sn**	**05 22 34.4**	**-4.4**
SWI	**Sorong**	**3.86 137**		P	**Pn**	**05 21 59.6**	**-2.9**
SWI				S	**Sn**	**05 22 43.7**	**-3.1**
SWI	**Sorong**	**3.86 137**		P	**Pn**	**05 21 59.4**	**-3.1**
	baz=3.3,SNR=35						
SWI				S	**Sn**	**05 22 43.7**	**-3.1**
	baz=3.3,SNR=6.6						
KMSI	**Cibinong**	**4.83 253**		P	Pn	05 22 11.9	-3.9
	513nm,0.7s,9μm1.8nm						
FAKI	**Fak Fak**	**6.06 143**		P	**Pn**	**05 22 29.8**	**-2.7**
	baz=5.6,SNR=34						
MRSI	**Marisa**	**6.83 258**		P	Pn	05 22 39.5	-3.5
PALU	**Palau**	**7.92 47**		P	Pn	05 22 51.5	-6.3
	baz=7.4,SNR=7.9						
PALU				S	Sn	05 24 14.7	-11
	baz=7.4,SNR=21						
BNSI	**Bone**	**10.59 233**		P	**Pn**	**05 23 33.3**	**-1.0**
KAPI	**Kappang**	**11.24 232**		P	**Pn**	**05 23 40.7**	**-2.4**
	3.8nm,0.3s,baz=41,slow=8.5,SNR=4.4						
WSI	**Waingapu**	**14.22 216**		P	P	05 24 32.2	+5.1
	baz=15,SNR=4.5						
KDU	**Kakadu**	**15.05 165**		P	**Pn**	**05 24 30.1**	**-3.1**
	baz=15,SNR=5.6						
KNRA	**Kununurra**	**17.53 180**		P	**Pn**	**05 25 05.5**	**+1.5**
	baz=18,SNR=8.0						
FITZ	**Fitzroy Crossi**	**20.15 188**		P	**P**	**05 25 32.6**	**+0.2**
	5.7nm,0.7s,baz=13,slow=6.5,SNR=12						
FITZ	**Fitzroy Crossi**	**20.15 188**		P	**P**	**05 25 32.8**	**+0.4**
	baz=20,SNR=10						
WRA	**Warramunga Arr**	**22.48 166**		P	**P**	**05 25 58.1**	**+0.7**
	9.8nm,0.5s,baz=344,slow=10,SNR=35						
CISI	**Cisompet, Garu**	**22.80 245**		S	Sn	05 30 25.7	-0.1
	baz=24,SNR=115						
ASAR	**Alice Springs**	**25.99 169**		P	**P**	**05 26 31.1**	**+1.3**
	3.9nm,0.7s,baz=354,slow=7.2,SNR=36						
ASAR				PcP	**PcP**	**05 29 56.6**	**+0.6**
	0.9nm,0.6s,baz=349,slow=2.3,SNR=5.4						
ASAR				ScP	**ScP**	**05 33 33.5**	**+5.8**
	1.0nm,0.7s,baz=343,slow=2.4,SNR=11						
MEEK	**Meekatharra**	**30.03 198**		P	**P**	**05 27 07.4**	**+1.7**
	baz=30,SNR=3.6						
MORW	**Morawa**	**33.12 200**		P	**P**	**05 27 32.7**	**-0.2**
	baz=34,SNR=3.8						
CMAR	**Chiang Mai Arr**	**33.39 301**		P	**P**	**05 27 35.8**	**+0.4**
	0.6nm,0.4s,baz=118,slow=5.9,SNR=4.6						
BBOO	**Buckleboo**	**35.29 169**		P	**P**	**05 27 52.8**	**+1.2**
	baz=35,SNR=9.7						
KSRS	**Korea Array**	**35.33 359**		P	**P**	**05 27 51.5**	**-0.2**
	1.0nm,0.5s,baz=173,slow=9.7,SNR=5.6						
STKA	**Stephens Creek**	**35.84 161**		P	**P**	**05 27 58.1**	**+1.9**
	9.0nm,0.8s,baz=328,slow=8.4,SNR=16						
STKA	**Stephens Creek**	**35.84 161**		P	**P**	**05 27 58.2**	**+1.9**
	baz=36,SNR=14						
NWAO	**Narrogin (SRO)**	**36.33 196**		P	**P**	**05 28 00.5**	**0.0**
	5.0nm,0.7s,baz=29,slow=7.7,SNR=5.3						
USRK	**Ussuriysk Arra**	**42.16 4**		P	**P**	**05 28 48.4**	**-0.5**
	0.9nm,0.6s,baz=170,slow=8.8,SNR=3.1						
TAPN	**Taplejung**	**46.57 307**		*e*P	**P**	**05 29 22.1**	**-2.6**
	16nm,1.0s						
ODAN	**Odare**	**46.62 306**		*e*P	**P**	**05 29 24.1**	**-0.9**
	15nm,0.7s						
RAMN	**Ramite**	**47.30 306**		*e*P	**P**	**05 29 29.9**	**-0.4**
	16nm,0.7s						
JIRN	**Jiri**	**47.93 306**		*e*P	**P**	**05 29 34.7**	**-0.6**
	7.5nm,0.5s						
GUN	**Gumba**	**48.28 306**		*e*P	**P**	**05 29 36.5**	**-1.5**
	19nm,0.6s						
KKN	**Kakani**	**48.72 306**		*e*P	**P**	**05 29 39.7**	**-1.5**
DMN	**Daman**	**48.78 306**		*e*P	**P**	**05 29 41.2**	**-0.5**
SONM	**Songino Array**	**49.57 340**		P	**P**	**05 29 48.7**	**+1.4**
	0.6nm,0.6s,baz=150,slow=8.0,SNR=4.2						
KOLN	**Koldanda**	**50.07 305**		*e*P	**P**	**05 29 50.6**	**-0.9**
	14nm,0.6s						
DANN	**Dangsing**	**50.17 306**		*e*P	**P**	**05 29 51.7**	**-0.6**
	15nm,0.6s						
KAAM	**Kaadhehdhoo**	**55.62 269**		P	P	05 30 42.0	+10
	baz=56,SNR=4.7						
MKAR	**Makanchi Array**	**60.07 325**		P	**P**	**05 31 01.1**	**-1.8**
	0.5nm,0.4s,baz=120,slow=8.0,SNR=11						
VNDA	**Vanda**	**81.45 173**		P	**P**	**05 33 13.0**	**+1.2**
	0.7nm,0.7s,baz=263,slow=5.1,SNR=4.7						
MAW	**Mawson**	**82.77 201**		P	**P**	**05 33 19.4**	**+0.6**
	2.4nm,0.6s,baz=53,slow=6.2,SNR=5.9						
ILAR	**Eielson Array**	**85.88 25**		P	**P**	**05 33 36.9**	**+2.1**
	0.1nm,0.5s,baz=246,slow=5.8,SNR=3.6						

IDC 27 05:25:06.8±7.6, 17°.69S×174°.66W, h0km, mb4.0/2, mb1 4.2/2, mb1mx3.7/17, mbtmp4.0/2, Error ellipse: s-maj=355.3km s-min=60.4km az=144.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**48.19 259**		P	P	05 33 48.7	-0.8
	0.3nm,0.3s,baz=96,slow=8.2,SNR=4.7						
ASAR	**Alice Springs**	**48.29 254**		P	P	05 33 50.7	+0.4
	2.8nm,0.5s,baz=90,slow=7.9,SNR=54						
BRTR	**Keskin Array B**	**147.10 318**		PKPbc	PKPbc	05 44 51.5	-0.8
	0.3nm,0.5s,baz=68,slow=1.5,SNR=3.2						

IDC 27 05:31:02.1±6.6, 6°.77S×146°.96E, h152km±72km, mb2.8/2, mb1 3.1/4, mb1mx2.9/16, mbtmp2.8/4, Error ellipse: s-maj=109.5km s-min=31.9km az=134.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**2.63 176**		P	Pn	05 31 44.9	-0.1
	6.3nm,0.3s,baz=333,slow=6.5,SNR=17						
PMG				S	Sn	05 32 18.6	+0.6
	6.7nm,0.3s,baz=148,slow=22,SNR=17						
WRA	**Warramunga Arr**	**17.93 222**		P	P	05 34 59.4	-1.3
	0.1nm,0.3s,baz=40,slow=12,SNR=2.8						
ASAR	**Alice Springs**	**20.97 215**		P	P	05 35 34.4	+0.9
	0.3nm,0.8s,baz=53,slow=9.1,SNR=4.6						
ILAR	**Eielson Array**	**86.20 23**		P	P	05 43 26.0	-0.1
	0.4nm,0.8s,baz=258,slow=5.1,SNR=6.6						

IDC 27 05:49:46.5±2.5, 7°.58N×125°.87E, h0km, mb4.1/4, mb1 4.3/4, mb1mx3.7/24, mbtmp4.1/4, Error ellipse: s-maj=241.3km s-min=20.3km az=66.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**28.59 163**		P	P	05 55 44.7	+0.1
	1.2nm,0.3s,baz=343,slow=9.1,SNR=16						
ASAR	**Alice Springs**	**32.03 166**		P	P	05 56 14.9	-0.1
	1.4nm,0.4s,baz=344,slow=7.2,SNR=48						
MKAR	**Makanchi Array**	**53.94 324**		P	P	05 59 12.5	+0.4
	1.1nm,0.4s,baz=120,slow=7.9,SNR=28						
KURBB	**Kurchatov Arra**	**58.07 327**		P	P	05 59 41.0	-0.6
	0.6nm,0.5s,baz=130,slow=6.4,SNR=8.4						

*DJA **27** 06:17:47.1±0.9, 6°.S±6°.×12°.8E±°, h376km±16km, M4.4/11, mb4.5/7, mB4.8/5, MLv4.5/11, Mw(mB)4.1/5*
*ISCJB **27** 06:17:48.7±0.3, 6°.11S±0°.04×128°.23E±0°.04, h350km, mb3.5/8, Error ellipse: s-maj=5.9km s-min=4.8km az=11.0*
*AUST **27** 06:17:50.4±0.0, 6°.26S×128°.37E, h320km, Error ellipse: s-maj=1.4km s-min=0.9km az=315.0*
*IDC **27** 06:17:50.5±1.6, 6°.26S×128°.15E, h343km±20km, mb3.4/8, mb1 3.6/14, mb1mx3.5/24, mbtmp3.5/14, Error ellipse: s-maj=18.0km s-min=8.6km az=61.0*

ISC 27 06:17:50.2±0.6, 6°.17S±0°.05×128°.21E±0°.06, h350km, n39, σ1s70/41, mb3.5/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**2.35 46**		P	**Pn**	**06 18 41.6**	**-2.6**
BNDI				S	**S**	**06 19 24.6**	**-2.8**
AAI	**Ambon**	**2.47 360**		P	**Pn**	**06 18 43.7**	**-1.4**
AAI	**Ambon**	**2.47 360**		P	**Pn**	**06 18 43.7**	**-1.4**
	baz=2.6,SNR=13						
MSAI	**Masohi**	**2.90 14**		P	Pn	06 18 45.3	-3.4
MSAI				S	S	06 19 29.0	-6.8
NLAI	**Namlea**	**3.12 339**		P	**Pn**	**06 18 50.3**	**-0.4**
NLAI				S	**S**	**06 19 35.2**	**-4.1**
TLE	**Tual**	**4.53 83**		P	**Pn**	**06 19 02.6**	**-2.2**
TLE	**Tual**	**4.53 83**		P	**Pn**	**06 19 03.0**	**-1.9**
	baz=4.4,SNR=5.8						
TLE				S	S	06 19 53.5	-12
	baz=4.4,SNR=9.7						
FAKI	**Fak Fak**	**5.16 51**		P	Pn	06 19 07.5	-4.2
	115nm,0.8s,3μm0.9nm						
FAKI	**Fak Fak**	**5.16 51**		P	Pn	06 19 08.3	-3.4
	baz=5.1,SNR=9.7						
FAKI				S	S	06 20 04.1	-13
	baz=5.1,SNR=8.7						
SOEI	**Soe**	**5.28 227**		P	**Pn**	**06 19 12.5**	**-0.6**
	130nm,1.0s,2μm0.5nm						
SOEI	**Soe**	**5.28 227**		P	**Pn**	**06 19 13.0**	**-0.2**
	baz=5.4,SNR=14

JSR	Shiriuchi	1.08	116	P	Pn	06 52 12.9	+0.1
JSR				eS	S	06 52 36.7	+0.4
JKB	Kayabe	1.43	94	P	Pn	06 52 15.4	-0.1
JKB				eS	S	06 52 41.2	+0.2
JNB	Noboribetsu	1.49	72	P	Pn	06 52 15.9	-0.1
JOT	Ohata	1.57	113	P	Pn	06 52 16.6	-0.1
JOT				eS	S	06 52 43.1	-0.1
JANG	Nango	2.43	131	P	Pn	06 52 24.7	-0.8
JNBK	Urakawa-nobuka	2.71	83	P	Pn	06 52 28.3	-0.2
JNBK				eS	S	06 53 03.4	-0.8
ASAJ	Asahikawa	3.30	49	P	Pn	06 52 35.4	0.0
ASAJ	2.7nm,0.3s,baz=240,slow=10,SNR=19			S	S	06 53 15.6	-1.1
MAT	1.0nm,0.3s,baz=84,slow=29,SNR=7.8 Matsushiro	5.51	188	P	Pn	06 53 04.1	+0.9
USRK	Ussuriysk Arra	5.66	295	P	Pn	06 53 05.6	+0.7
SONM	2.5nm,0.3s,baz=92,slow=13,SNR=39 Songino Array	23.78	295	P	P	06 56 35.8	-0.3
ZALV	0.4nm,0.4s,baz=97,slow=10,SNR=3.8 Zalesovo Beam	37.36	308	P	P	06 58 34.6	-0.2
MKAR	1.6nm,0.5s,baz=94,slow=8.8,SNR=2.9 Makanchi Array	40.13	297	P	P	06 58 57.7	-0.3
ILAR	0.7nm,0.5s,baz=85,slow=11,SNR=11 Eielson Array	46.32	35	P	P	06 59 47.0	-0.1
FINES	0.4nm,0.8s,baz=275,slow=10,SNR=4.9 FINESS Array B	63.60	330	P	P	07 01 56.3	+5.5
PDAR	3.8nm,1.0s,baz=48,slow=2.8,SNR=5.2 Pinedale Array	75.42	45	P	P	07 03 04.2	+0.5
TXAR	0.6nm,0.8s,baz=5.7,slow=1.5,SNR=4.7 Lajitas Array	88.42	51	P	P	07 04 12.0	+0.6
	0.1nm,0.6s,baz=292,slow=2.6,SNR=2.6						

IDC 27 06:58:52.1±1.3, 3°.64N×126°.35E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.7/24, mbtmp3.7/6, Error ellipse: s-maj=106.7km s-min=17.4km az=71.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	21.61	182	P	P	07 03 45.3	+1.4
	1.1nm,0.7s,baz=349,slow=5.2,SNR=4.2						
WRA	Warramunga Arr	24.71	162	P	P	07 04 13.3	-2.0
	1.2nm,0.7s,baz=336,slow=11,SNR=11						
ASAR	Alice Springs	28.12	165	P	P	07 04 47.1	+1.1
	0.2nm,0.3s,baz=350,slow=7.9,SNR=7.0						
SONM	Songino Array	47.27	342	P	P	07 07 26.6	-0.7
	0.4nm,0.4s,baz=152,slow=6.5,SNR=4.3						
MKAR	Makanchi Array	57.42	325	P	P	07 08 42.8	+0.2
	0.9nm,0.4s,baz=118,slow=7.5,SNR=24						
KURBB	Kurchatov Arra	61.62	328	P	P	07 09 11.6	0.0
	1.2nm,0.5s,baz=130,slow=6.2,SNR=18						

RSPR 27 07:01:02.9, 18°.88N×68°.98W, h118km±1km, MD3.9/15, 13C-3D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DR12	Loma Pena Alta	0.39	256⇑	eP	Pn	07 01 19.8	-0.2
DR12				eS	Sn	07 01 32.6	-0.5
IDE	Isla Desecheo	1.51	109⇑	eP	Pn	07 01 29.8	-0.5
IDE	Isla Desecheo	1.51	109	eS	Sn	07 01 50.9	-0.3
AGPR	Aguadilla, PR	1.82	103⇓	eP	Pn	07 01 35.0	+1.1
AGPR	Aguadilla, PR	1.82	103	eS	Sn	07 01 57.6	-0.1
LSP	Las Mesas	1.93	111⇑	eP	Pn	07 01 36.4	+1.1
CRPR	Cabo Rojo, PR	1.98	116⇑	eP	Pn	07 01 35.5	-0.4
CRPR	Cabo Rojo, PR	1.98	116	eS	Sn	07 02 01.0	-0.2
LRS	Lares	2.11	106⇑	eP	Pn	07 01 38.7	+1.1
LRS				eS	Sn	07 02 04.8	+0.5
AOPR	Arecibo Observ	2.18	104⇑	eP	Pn	07 01 38.9	+0.4
AOPR	Arecibo Observ	2.18	104	eS	Sn	07 02 06.2	+0.4
OBIP	Obispado Ponce	2.40	110⇑	eP	Pn	07 01 41.2	-0.1
OBIP	Obispado Ponce	2.40	110	eS	Sn	07 02 11.1	+0.3
CELP	Cerrillos	2.41	109⇑	eP	Pn	07 01 41.9	+0.4
CELP				eS	Sn	07 02 11.5	+0.3
SJG	San Juan	2.79	106⇑	eP	Pn	07 01 46.5	+0.1
SJG	San Juan	2.79	106	eS	Sn	07 02 20.0	+0.2
SJG	San Juan	2.79	106⇓	eP	Pn	07 01 46.7	+0.3
CBYP	Canovanas	3.02	101⇑	eP	Pn	07 01 49.1	-0.4
CPD	Cerro la Pandu	3.03	106⇑	eP	Pn	07 01 49.3	-0.2
HUMP	Col San Antoni	3.06	103⇑	eP	Pn	07 01 49.7	-0.1
MTP	Monte Pirata	3.34	103⇑	eP	Pn	07 01 53.5	-0.2
STVI	Saint Thomas	3.85	97⇓	eP	Pn	07 02 00.1	-0.3

GUC 27 07:08:42.7±0.5, 23°.82S×67°.46W, h234km±32km, ML3.6, 1C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB04	Plate Boundary	2.42	309⇑	iP	Pn	07 09 35.4	+7.3
PB04				i S	S	07 10 15.3	+12
PB04				AML	AML	07 10 19.6	
	comp=E,69nm,0.1s						
PB09	Plate Boundary	2.60	321	eP	Pn	07 09 32.5	+2.4
PB09				eS	S	07 10 09.2	+1.9
PB09				AML	AML	07 10 12.0	
	comp=N,116nm,0.4s						
ANCH	Antofagasta	2.70	272⇓	iP	Pn	07 09 32.7	+1.7
ANCH				i S	S	07 10 10.4	+1.7
PB10	Plate Boundary	2.85	276	eP	Pn	07 09 34.2	+1.6
PB10				i S	S	07 10 14.2	+2.5
PB10				AML	AML	07 10 15.4	
	comp=N,159nm,0.1s						
PB07	Plate Boundary	3.06	313	eP	Pn	07 09 37.1	+2.0
PB07				eS	S	07 10 18.6	+2.3
PB07				AML	AML	07 10 21.2	
	comp=N,57nm,0.2s						
PB01	Plate Boundary	3.34	326⇓	iP	Pn	07 09 40.0	+1.8
PB01				eS	S	07 10 24.4	+2.4

*IDC **27** 07:25:57.5±0.7, 1°.96N×96°.98E, h0km, mb4.5/17, mb1 4.6/19, mb1mx4.4/28, mbtmp4.5/19, ML4.0/2, MS3.9/18, Ms1 3.9/18, ms1mx3.7/37, Error ellipse: s-maj=19.3km s-min=13.4km az=39.0*

*ISCJB **27** 07:25:59.8±0.2, 1°.93N±0°.03×97°.00E±0°.03, h28km, mb4.8/56, MS4.0/25, Error ellipse: s-maj=5.5km s-min=3.3km az=42.4*

*MOS **27** 07:26:00.4±0.9, 1°.97N×97°.10E, h33km, mb5.0/20, Error ellipse: s-maj=13.3km s-min=6.4km az=103.0*

*BJI **27** 07:26:00.7, 1°.63N×97°.06E, h54km, mB5.1/32, mb5.0/44, Ms4.6/27, Ms7 4.3/25*

*BKK **27** 07:26:02.9±0.6, 2°.N±5°.×9°.7E±°, h10km, M4.6/10, mB5.2/5, mb4.3/10, MLv4.8/6, Mw(mB)4.6/5*

*NEIC **27** 07:26:03.6±1.2, 1°.97N×97°.08E, h43km±10km, mb4.7/13, Error ellipse: s-maj=11.1km s-min=4.6km az=51.0*

*TEH **27** 07:26:06.0, 2°.06N×97°.22E, h58km, ML4.7*

*DJA **27** 07:26:07.2±2.7, 2°.N±4°.×9°.7E±°, h32km±32km, M4.8/5, mb4.8/4, mB5.1/1, MLv4.8/5, Mw(mB)4.5/1*

*AUST **27** 07:26:08.9±6.0, 1°.89N×97°.51E, h55km, Error ellipse: s-maj=5.2km s-min=1.3km az=271.0*

ISC 27 07:26:02.1±0.4, 1°.99N±0°.04×97°.11E±0°.05, h28km, n219, σ1§65/228, mb4.8/56, MS4.0/25, 7C-4D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	1.99	66	Pn	Pn	07 26 34.6	+0.6
PSI				Sn	Sb	07 27 01.9	-0.2
PSI	Prapat	1.99	66	Pn	Pn	07 26 34.6	+0.6
	11nm,0.3s,baz=250,slow=6.2,SNR=28						
PSI				Sn	Sb	07 27 01.9	-0.2
	32nm,0.3s,baz=199,slow=10,SNR=7.5						
PSI				LR	LR	07 27 14.8	
	comp=Z,1μm,20.3s,baz=257,slow=37						
PSI	Prapat	1.99	66	P	Pn	07 26 35.3	+1.3
	baz=1.6,SNR=44						
MNSI	Mandailing Nat	2.74	116	S	Sn	07 27 15.1	-1.4
LHMI	Lhok Sumawe	3.22	357	P	Pb	07 27 01.6	+2.9
LHMI				S	Sb	07 27 39.2	+1.7
PPI	Padang Panjang	4.09	126	P	Pn	07 27 04.3	+1.5
PPI	Padang Panjang	4.09	126	P	Pn	07 27 05.2	+2.3
	baz=3.7,SNR=10						
BKNI	Bangkinang	4.27	113	P	Pn	07 27 07.4	+2.2
BKNI				S	Sn	07 27 51.3	-2.9
BKNI	Bangkinang	4.27	113	P	Pn	07 27 07.4	+2.2
	baz=3.9,SNR=3.2						
IPM	Ipoh	4.63	58	ePn	Pn	07 27 12.2	+1.9
IPM	Ipoh	4.63	58	P	Pn	07 27 13.2	+3.0
IPM	Ipoh	4.63	58	P	Pn	07 27 12.1	+1.9
FRIM	Kepong	4.68	75	P	Pn	07 27 11.3	+0.4
KULM	Kulim	4.82	47	ePn	Pn	07 27 14.4	+1.5
KULM	Kulim	4.82	47	P	Pn	07 27 15.0	+2.1
KULM	Kulim	4.82	47	P	Pn	07 27 13.5	+0.6
KGM	Kluang	6.21	90	P	Pn	07 27 34.9	+2.9
SKLT	Songkhla	6.22	34	P	Pn	07 27 33.3	+1.1
	122nm,0.8s,2μm0.4nm						
SKLT	Songkhla	6.22	34	P	Pn	07 27 36.5	+4.3
	122nm,0.8s,1μm0.4nm						
MYKOM	Kota Tinggi	6.74	92	P	Pn	07 27 42.7	+3.4
MYKOM	Kota Tinggi	6.74	92	P	Pn	07 27 41.7	+2.4
KTGM	Kuala Trenggan	6.87	61	P	Pn	07 27 44.0	+3.0
MASI	Maura Aman, Be	7.23	135	P	Pn	07 27 47.7	+1.6
MNAI	Manna	8.60	137	P	Pn	07 28 05.4	+0.5
	baz=8.3,SNR=6.6						
MNAI				S	Sn	07 29 38.3	-2.7
	baz=8.3,SNR=5.9						
EGSI	Enggano, Bengk	8.94	145	P	Pn	07 28 08.9	-0.6
	99nm,1.0s						
MDSI	Maura Dua	9.56	132	P	Pn	07 28 18.2	+0.3
	31nm,0.7s						
STKI	Sintang	14.49	97	P	P	07 29 32.7	+0.8
CHAI	Chaiyaphum	14.64	19	P	P	07 29 34.3	+0.8
SBUM	Sibu	15.11	88	ePn	Pn	07 29 36.2	+2.4
SBUM	Sibu	15.11	88	P	Pn	07 29 34.9	+1.1
SUKH	Sukhothai	15.59	9	P	P	07 29 43.9	-0.2
	6.8nm,0.8s						
CM01	Chiang Mai Arr	16.43	6	ePn	Pn	07 29 52.3	+1.4
CMAR	Chiang Mai Arr	16.46	6	Pn	Pn	07 29 50.2	-1.1
CMAR	Chiang Mai Arr	16.46	6	Pn	Pn	07 29 50.2	-1.1
	0.7nm,0.3s,baz=196,slow=12,SNR=19						
CMAR				LR	LR	07 37 26.4	
	comp=Z,286nm,18.1s,baz=191,slow=42						
UGM	Wanagama	16.61	126	P	Pn	07 29 50.4	-2.8
	baz=16,SNR=3.5						
LAMP	Lampang	16.62	8	P	P	07 29 56.4	+1.0
	3.9nm,1.1s						
CHTO	Chiang Mai	16.82	6	eP	P	07 29 57.1	-0.6
CHTO				pmax	pmax		
	comp=Z,392nm,2.5s						
CHTO	Chiang Mai	16.82	6	ePn	P	07 29 57.1	-0.6
	comp=Z,392nm,2.5s						
CHTO	Chiang Mai	16.82	6	P	Pn	07 29 56.8	+1.1
CHTO	Chiang Mai	16.82	6	P	P	07 30 06.1	+8.4
PAYA	Payao	17.47	9	P	P	07 30 06.1	+1.1
	comp=Z,4.4nm,1.0s,comp=Z,274nm						
CMAI	Chiengmai2	17.93	6	P	P	07 30 13.3	+3.1
	comp=Z,8.1nm,1.0s						
CRAI	Chiangrai	18.41	10	P	P	07 30 15.1	-0.1
	comp=Z,10nm,0.9s,comp=Z,12μm						
KKM	Kota Kinabalu	19.48	78	eP	P	07 30 26.9	-0.3
	comp=Z,46nm,1.0s						
KKM	Kota Kinabalu	19.48	78	P	Pn	07 30 28.9	+0.4
	baz=19,SNR=5.7						
MDRS	Chennai	19.99	304	ex	P	07 30 24.6	-8.0
SDKM	Sandakan	20.37	79	P	P	07 30 35.4	-1.4
VIS	Vishakhapatnam	20.67	320	eP	P	07 30 40.0	0.0
QIZ	Qiongzhong	21.03	36	P	P	07 30 43.0	-0.9
QIZ				sP	sP	07 31 01.8	+6.7
QIZ				S	S	07 34 32.5	-4.4
QIZ				pmax	pmax		
	comp=Z,40nm,2.3s						
QIZ				pmax	pmax		
	comp=Z,370nm,4.5s						
QIZ				LR	LR		
	comp=N,510nm,15.9s						
QIZ				LR	LR		
	comp=Z,520nm,12.8s						
KMI	Kunming	23.63	13	P	P	07 31 11.0	-0.4
KMI				pP	pP	07 31 22.5	+3.1
KMI				sP	sP	07 31 31.0	+8.1
KMI				PP	PnPn	07 31 47.5	+8.4
KMI				S	S	07 35 20.8	-3.7
KMI				sS	Sn	07 35 45.0	-1.3
KMI				SS	SnSn	07 36 10.8	+7.7
KMI				pmax	pmax		
	comp=Z,36nm,1.0s						
KMI				pmax	pmax		
	comp=Z,110nm,3.1s						
KMI				LR	LR		
	comp=N,690nm,15.1s						
KMI				LR	LR		
	comp=E,320nm,18.1s						
KMI				LR	LR		
	comp=Z,740nm,14.4s						
KAPI	Kappang	23.67	107	P	P	07 31 12.1	+0.5
KAPI	Kappang	23.67	107	P	P	07 31 12.1	+0.5
	comp=Z,17nm,0.9s,baz=291,slow=5.2,SNR=5.2						
HYB	Hyderabad	23.82	311	iP	P	07 31 15.0	+2.0
HYB	Hyderabad	23.82	311	eP	P	07 31 11.6	-1.4
SHL	Shillong	23.97	348	eP	P	07 31 12.7	-1.9
SHL	Shillong	23.97	348	eP	P	07 31 11.0	-3.6
SHL				eS	S	07 35 29.0	-0.9
BOK	Bokaro	24.25	334	eP	P	07 31 17.2	+0.3
BOK				AMB	AMB	07 31 19.6	
	comp=Z,18nm,0.3s						
WSI	Waingapu	25.84	117	S	S	07 36 17.4	+18
	baz=26,SNR=8.8						
GYA	Guiyang	26.00	20	eP	P	07 31 36.8	+3.8
GYA				pP	pP	07 31 49.0	+7.8
GYA				sP	sP	07 31 55.5	+11
GYA				PcP	PcP	07 35 02.3	+1.3
GYA				S	S	07 35 59.0	-3.2
GYA				sS	sS	07 36 23.5	+7.7
GYA				SS	SnSn	07 37 08.3	+7.4
GYA				ScP	ScP	07 38 35.0	-3.9
GYA				PcS	PcS	07 38 43.5	+1.4
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,80nm,4.5s						
GYA				LR	LR		
	comp=N,460nm,15.5s						
GYA				LR	LR		
	comp=E,340nm,16.1s						
GYA				LR	LR		
	comp=Z,480nm,16.6s						
ODAN	Odare	26.43	340	eP	P	07 31 36.9	0.0
	comp=Z,54nm,1.0s						
TAPN	Taplejung	26.77	341	eP	P	07 31 40.3	+0.2
	comp=Z,56nm,0.9s						
RAMN	Ramite	26.79	339	eP	P	07 31 40.5	+0.3
AKL	Akola	27.02	315	eP	P	07 31 42.6	+0.5
JIRN	Jiri	27.58	339	eP	P	07 31 47.4	-0.1
	comp=Z,29nm,0.7s						
PKI	Pulchoki	27.79	337	eP	P	07 31 49.1	-0.2
GUN	Gumba	27.92	338	eP	P	07 31 50.6	+0.1
	comp=Z,44nm,0.6s						
DMN	Daman	27.95	337	eP	P	07 31 50.3	-0.3
KKN	Kakani	28.04	337	eP	P	07 31 51.1	-0.3
	comp=Z,22nm,0.8s						
BHPL	Bhopal	28.47	319	eP	P	07 31 51.3	-3.7
GKN	Gorkha	28.48	336	eP	P	07 31 54.8	-0.5
KOLN	Koldanda	28.71	334	eP	P	07 31 57.5	+0.2
	comp=Z,18nm,0.5s						
DANN	Dangsing	29.15	335	eP	P	07 32 01.2	-0.1
	comp=Z,16nm,0.6s						
CD2	Chengdu	29.45	12	P	P	07 32 05.5	+1.9
CD2				pP	pP	07 32 20.3	+8.4
CD2				sP	sP	07 32 27.5	+12
CD2				PP	PnPn	07 33 03.5	+5.2
CD2				S	S	07 36 55.0	-1.2
CD2				sS	sS	07 37 19.8	+10
CD2				pmax	pmax		
	comp=Z,60nm,0.6s						
CD2				pmax	pmax		
	comp=Z,280nm,4.9s						
CD2				LR	LR		
	comp=N,540nm,11.3s						
CD2				LR	LR		
	comp=Z,470nm,12.5s						
XAN	Xi'an	33.74	18	P	P	07 32 39.3	-2.1
XAN				pP	pP	07 32 53.0	+3.3
XAN				sP	sP	07 33 01.0	+7.9
XAN				pmax	pmax		
	comp=Z,9.0nm,0.8s						
XAN				pmax	pmax		
	comp=Z,25nm,6.1s						
FITZ	Fitzroy Crossi	34.47	127	P	P	07 32 47.4	-0.4
	baz=34,SNR=3.3						
SMLA	Simla	34.57	329	eP	P	07 32 46.5	-2.1
SMLA				AMB	AMB	07 33 02.1	
	comp=Z,8.7nm,0.0s						
DHRM	DHARAMSHALA	35.91	329	eP	P	07 33 00.0	-0.4
DHRM				AMB	AMB	07 33 11.2	
	comp=Z,16nm,2.3s						
NJ2	Nanjing	36.25	32	eP	P	07 33 05.3	+2.3
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
GTA	Gaotai	37.33	3	P	P	07 33 11.8	-0.4
GTA				pP	pP	07 33 26.0	+5.4
GTA				sP	sP	07 33 33.3	+9.3
GTA				PcP	PcP	07 35 32.0	+0.8
GTA				S	S	07 38 55.0	-3.4
GTA				PcS	PcS	07 39 13.5	-6.2
GTA				sS	ScP	07 39 21.0	+4.3
GTA				SS	SnSn	07 41 30.5	-5.3
GTA				pmax	pmax		
	comp=Z,12nm,0.8s						
GTA				pmax	pmax		
	comp=Z,77nm,4.5s						
GTA				LR	LR		
	comp=N,110nm,13.1s						
GTA				LR	LR		
	comp=E,170nm,15.0s						
GTA				LR	LR		
	comp=Z,210nm,14.5s						
KDU	Kakadu	38.02	113	P	P	07 33 17.2	-1.0
	baz=38,SNR=3.5						
HHC	Hu-ho-hao-te	40.83	17	eP	P	07 33 43.5	+2.0
HHC				pP	pP	07 33 59.0	+9.1
HHC				sP	sP	07 34 06.0	+13
HHC				PP	PnPn	07 35 21.8	+1.5
HHC				PcP	PcP	07 35 43.3	+1.1
HHC				PcS	PcS	07 39 32.8	-0.3
HHC				S	S	07 39 50.5	-0.6
HHC				sS	sS	07 40 18.0	+13
HHC				SS	SS	07 42 50.0	-3.0
HHC				pmax	pmax		
	comp=Z,28nm,0.8s						
HHC				pmax	pmax		
	comp=Z,140nm,5.7s						
HHC				LR	LR		
	comp=N,730nm,14.3s						
HHC				LR	LR		
	comp=E,480nm,15.5s						
HHC				LR	LR		
	comp=Z,610nm,15.5s						
BJI	Beijing	41.65	22	P	P	07 33 48.8	+0.7
BJI				S	S	07 40 02.3	-0.6
BJI				pmax	pmax		
	comp=Z,36nm,0.8s						
BJI				pmax	pmax		
	comp=Z,160nm,4.8s						
BJI				LR	LR		
	comp=N,210nm,21.8s						
BJI				LR	LR		
	comp=E,190nm,22.1s						
BJI				LR	LR		
	comp=Z,75nm,26.4s						
KSH	Kashi	42.02	335	eP	P	07 33 50.3	-1.0
KSH				sP	sP	07 34 12.8	+10
KSH				PP	PP	07 35 30.3	+1.4
KSH				PcS	PcS	07 39 36.8	-1.1
KSH				S	S	07 40 02.5	-6.2
KSH				SS	SS	07 43 04.5	-12
KSH				pmax	pmax		
	comp=Z,130nm,4.5s						
KSH				LR	LR		
	comp=N,160nm,5.5s						
KSH				LR	LR		
	comp=E,150nm,5.4s						
KSH				LR	LR		
	comp=Z,210nm,6.4s						
WMQ	Urumqi	42.48	350	eP	P	07 33 55.3	+0.3
WMQ				pP	pP	07 34 10.5	+7.1
WMQ				sP	sP	07 34 18.3	+12
WMQ				pmax	pmax		
	comp=Z,6.0nm,0.8s						
WMQ				pmax	pmax		
	comp=Z,49nm,4.6s						
WMQ				LR	LR		
	comp=E,84nm,21.2s						
WMQ				LR	LR		
	comp=Z,74nm,19.5s						
WRA	Warramunga Arr	42.53	123	P	P	07 33 55.0	-0.6
WRA	Warramunga Arr	42.53	123	P	P	07 33 55.0	-0.6
	comp=Z,2.7nm,0.7s,baz=302,slow=9.0,SNR=58						
WRA				LR	LR	07 52 07.2	
	comp=Z,89nm,21.6s,baz=305,slow=37						
WRAB	Tennant Creek	42.54	123	eP	P	07 33 55.5	-0.2
WRAB				pmax	pmax		
	comp=Z,10.0nm,0.9s						
WRAB	Tennant Creek	42.54	123	eP	P	07 33 55.5	-0.2
	comp=Z,10nm,0.9s						
FORT	Forrest	43.94	140	P	P	07 34 08.6	+1.8
	baz=44,SNR=10						
ASAR	Alice Springs	43.95	128	P	P	07 34 06.5	-0.6
ASAR	Alice Springs	43.95	128	P	P	07 34 06.5	-0.6
	comp=Z,3.0nm,0.9s,baz=300,slow=7.4,SNR=25						
AS31	Alice Springs	43.95	128	eP	P	07 34 06.4	-0.7
AS01	Alice Springs	43.98	128	eP	P	07 34 06.7	-0.6
TJN	Taejon	44.19	36	iP	P	07 34 08.4	-0.3
ULHL	Ulahol	44.23	338	iP	P	07 34 09.7	+0.4
ULHL	Ulahol	44.23	338	P	P	07 34 09.7	+0.4
	SNR=6.4						
JNU	Nakatsue	44.28	42	LR	LR	07 53 41.4	
	comp=Z,178nm,18.9s,baz=259,slow=38						
TKM2	Tokmak 2	45.06	338	iP	P	07 34 16.1	+0.3
TKM2	Tokmak 2	45.06	338	P	P	07 34 16.2	+0.3
	SNR=11						
TKM2	Tokmak 2	45.06	338	eP	P	07 34 16.4	+0.5
	comp=Z,12nm,1.0s						
KBK	Karagaybulak	45.08	337	iP	P	07 34 17.4	+1.4
KBK	Karagaybulak	45.08	337	P	P	07 34 17.4	+1.4
	SNR=9.9						
AML	Almayashu	45.15	335	iP	P	07 34 17.6	+0.8
AML	Almayashu	45.15	335	P	P	07 34 17.6	+0.8
	SNR=8.5						
KSAR	Wonju Array Be	45.23	35	P	P	07 34 16.7	-0.3
AAK	Ala-Archa	45.24	336⇓	eP	P	07 34 18.2	+0.9
AAK				pmax	pmax		
	comp=Z,24nm,1.2s						
AAK	Ala-Archa	45.24	336	eP	P	07 34 18.4	+1.1
	comp=Z,5.8nm,0.9s						
KS01	Wonju Array Si	45.26	35	eP	P	07 34 16.4	-0.9
KSRS	Korea Array	45.26	35	P	P	07 34 16.7	-0.5
	comp=Z,11nm,0.8s,baz=226,slow=9.1,SNR=33						
KSRS				LR	LR	07 55 08.9	
	comp=Z,138nm,18.5s,baz=346,slow=39						
EKS2	Erkin-Say	45.55	336	eP	P	07 34 19.6	-0.1
EKS2				pmax	pmax		
	comp=Z,6.0nm,0.9s						
EKS2	Erkin-Say	45.55	336	eP	P	07 34 19.6	-0.1
	comp=Z,6.0nm,0.9s						
USP	Ospenovka	45.77	337	iP	P	07 34 21.9	+0.6
USP	Ospenovka	45.77	337	P	P	07 34 22.0	+0.6
	SNR=14						
SONM	Songino Array	46.37	9	P	P	07 34 26.2	+0.2
SONM	Songino Array	46.37	9	P	P	07 34 26.2	+0.2
	comp=Z,14nm,1.1s,baz=190,slow=8.7,SNR=48						
SONM				PcP	PcP	07 36 01.0	+0.2
	comp=Z,2.4nm,0.4s,baz=194,slow=3.9,SNR=10.0						
SONM				LR	LR	07 56 42.7	
	comp=Z,278nm,18.1s,baz=0.1,slow=40						
SONA1	Songino Array	46.38	9	eP	P	07 34 25.8	-0.4
MK01	Makanchi Array	46.43	346	eP	P	07 34 25.8	-0.6
MK31	Makanchi Array	46.46	346	iP	P	07 34 26.3	-0.3
MK31				pmax	pmax		
	comp=Z,3.0nm,0.5s						
MK31	Makanchi Array	46.46	346	eP	P	07 34 26.4	-0.3
MKAR	Makanchi Array	46.46	346	eP	P	07 34 26.5	-0.1
MKAR	Makanchi Array	46.46	346	eP	P	07 34 26.5	-0.1
MKAR	Makanchi Array	46.46	346	P	P	07 34 26.1	-0.6
	comp=Z,3.9nm,0.5s,baz=162,slow=8.5,SNR=56						
MKAR				L

CN2 LR LR
comp=N,300nm,19.0s
CN2 LR LR
comp=E,200nm,19.0s
CN2 LR LR
comp=Z,300nm,18.0s
IMOG Moghan 48.70 319 *e*P **P 07 34 43.4 -1.2**
HVS Khovu-Aksy 49.05 357⇑*e*P **P 07 34 46.7 -0.1**
HVS pmax pmax
comp=Z,128nm,2.0s
IAKL Akhelmad 49.37 319 *e*P **P 07 34 47.6 -2.1**
MOY Mondy 49.61 3 *e*P **P 07 34 51.4 +0.4**
IEMG Emamgholi 49.91 320 *e*P **P 07 34 51.6 -2.2**
MTSU Mount Surprise 50.59 115 P **P 07 34 59.8 +0.9**
baz=50,SNR=5.9
ISHV Shirvan 50.59 319 *e*P **P 07 34 56.0 -2.9**
KURK Kurchatov 51.01 345⇑*e*P **P 07 35 01.4 -0.1**
KURK pmax pmax
comp=Z,9.0nm,1.2s
KURK Kurchatov 51.01 345 *e*P **P 07 35 01.3 -0.2**
comp=Z,15nm,1.5s
MAJO Matsushiro 51.17 43 *e*P **P 07 35 03.1 +0.1**
MAJO pmax pmax
comp=Z,10.0nm,1.0s
MAJO Matsushiro 51.17 43 *e*P **P 07 35 03.1 +0.1**
comp=Z,10nm,1.0s
MAT Matsushiro 51.17 43 P **P 07 35 02.8 -0.2**
MDJ Mudanjiang 51.23 29 P **P 07 35 04.0 +0.8**
MDJ pmax pmax
comp=Z,17nm,1.0s
MDJ pmax pmax
comp=Z,79nm,6.9s
USRK Ussuriysk Arra 52.15 31 P **P 07 35 10.3 +0.2**
comp=Z,84nm,1.4s,baz=231,slow=4.8,SNR=24
ZAA0 Zalesovo Array 52.77 351 *e*P **P 07 35 14.0 -0.5**
ZALV Zalesovo Beam 52.77 351 P **P 07 35 14.1 -0.4**
ZALV Zalesovo Beam 52.77 351 P **P 07 35 14.1 -0.4**
ZALV Zalesovo Beam 52.77 351 P **P 07 35 14.1 -0.4**
comp=Z,27nm,0.8s,baz=175,slow=6.4,SNR=69
ZALV LR LR 08 02 18.5
comp=Z,68nm,19.0s,baz=70,slow=41
CTAO Charters Tower 52.94 117 *e*P **P 07 35 16.6 +0.2**
CTAO pmax pmax
comp=Z,17nm,1.0s
CTAO Charters Tower 52.94 117 *e*P **P 07 35 16.6 +0.2**
comp=Z,17nm,1.0s
QLP Quilpie 53.59 125 P **P 07 35 22.3 +1.2**
baz=53,SNR=6.5
NVS Novosibirsk 53.89 350 *e*P **P 07 35 21.2 -1.5**
NVS pmax pmax
comp=N,9.0nm,1.0s
NVS pmax pmax
comp=E,10.0nm,1.0s
NVS pmax pmax
comp=Z,17nm,1.0s
STKA Stephens Creek 53.95 132 *e*P **P 07 35 23.6 -0.1**
comp=Z,2.1nm,0.9s
STKA Stephens Creek 53.95 132 P **P 07 35 24.7 +1.1**
comp=Z,6.6nm,0.7s,baz=311,slow=6.4,SNR=13
STKA LR LR 07 58 31.4
comp=Z,204nm,18.2s,baz=22,slow=36
STKA Stephens Creek 53.95 132 P **P 07 35 24.6 +0.9**
baz=54,SNR=5.8
ATD Arta Tunnel 54.62 283 LR LR 07 56 01.9
comp=Z,49nm,18.0s,baz=29,slow=33
VOSK Vostochnaya 55.03 341 P **P 07 35 30.3 -0.8**
VOSK pmax pmax
comp=Z,14nm,1.2s
VOSK Vostochnaya 55.03 341 *e*P **P 07 35 30.6 -0.5**
comp=Z,14nm,1.1s
BVA0 Borovoye Array 55.48 341 *i*P **P 07 35 33.4 -0.9**
BVA0 pmax pmax
comp=Z,8.0nm,1.0s
BVAR Borovoye Array 55.48 341 P **P 07 35 33.7 -0.6**
BVAR Borovoye Array 55.48 341 P **P 07 35 33.7 -0.6**
BVAR Borovoye Array 55.48 341 P **P 07 35 33.7 -0.6**
comp=Z,5.3nm,0.9s,baz=149,slow=6.9,SNR=19
BRVK Borovoye 55.54 341⇓*e*P **P 07 35 33.6 -1.2**
BRVK pmax pmax
comp=Z,10.0nm,1.0s
BRVK Borovoye 55.54 341 *e*P **P 07 35 34.2 -0.6**
comp=Z,8.6nm,1.0s
KLR Kul'dur 55.59 27 *e*P P 07 35 31.8 -3.4
KLR pmax pmax
comp=Z,38nm,1.4s
AB31 Akbulak array 56.78 332 *i*P **P 07 35 43.0 -0.7**
AB31 pmax pmax
comp=Z,8.0nm,0.8s
ABKAR Akbulak array 56.78 332 *e*P **P 07 35 43.0 -0.7**
CMSA Cobar Meteorol 56.87 130 P **P 07 35 46.1 +1.4**
baz=57,SNR=5.4
RMQ Roma 57.29 123 P **P 07 35 50.0 +2.3**
baz=57,SNR=5.2
ERM Erimo 57.32 40⇑*e*P **P 07 35 48.2 +0.5**
ERM pmax pmax
comp=Z,17nm,1.1s
ASAJ Asahikawa 58.09 37 P **P 07 35 53.9 +0.9**
ASAJ Asahikawa 58.09 37 P **P 07 35 53.9 +0.9**
comp=Z,6.6nm,0.7s,baz=112,slow=8.2,SNR=6.8
ASAJ LR LR 08 00 03.7
comp=Z,88nm,18.5s,baz=164,slow=35
YSS Yuzh-Sakhalins 59.75 35 *e*P **P 07 36 04.0 -0.5**
YSS pmax pmax
comp=Z,50nm,1.1s
KMBO Kilima Mbogo 59.92 268 P **P 07 36 06.0 -0.7**
KMBO Kilima Mbogo 59.92 268 P **P 07 36 06.0 -0.7**
comp=Z,1.3nm,0.5s,baz=66,slow=22,SNR=5.3
MAK Makhachkala 60.07 320 *e*P **P 07 36 04.9 -1.9**
MAK S **S 07 44 15.8 -2.3**
MAK pmax pmax
comp=Z,69nm,0.6s
MAK MLR MLR
comp=Z,156nm,6.0s
SVE Sverdlovsk 61.92 338⇑*e*P **P 07 36 18.7 -0.4**
SVE pmax pmax
comp=Z,18nm,1.1s
KBZ Khabaz 63.42 319 P **P 07 36 29.5 +0.2**
KBZ Khabaz 63.42 319 P **P 07 36 29.5 +0.2**
KBZ Khabaz 63.42 319 P **P 07 36 29.5 +0.2**
comp=Z,3.0nm,0.8s,baz=119,slow=6.3,SNR=3.7
ASF Jabal al Asfar 63.94 305 LR LR 08 05 52.3
comp=Z,52nm,18.4s,baz=302,slow=38
YAK Yakutsk 64.69 16 *e*P **P 07 36 35.2 -2.1**
YAK pmax pmax
comp=E,8.0nm,0.9s
YAK pmax pmax
comp=N,9.0nm,1.0s
YAK pmax pmax
comp=Z,27nm,0.9s
EIL Elat 64.96 302 LR LR 08 05 17.7
comp=Z,104nm,19.8s,baz=87,slow=36
PETK Petropavlovsk- 71.13 34 LR LR 08 11 12.8
comp=Z,43nm,18.4s,baz=224,slow=38
MOS Moscow 71.61 329 *e*P P 07 37 27.5 +6.6
OBN Obninsk 71.90 328 *e*P **P 07 37 22.6 0.0**
OBN *e* 07 37 40.9
OBN *e*SS SS 07 51 15.6 -2.9
OBN pmax pmax
comp=Z,7.0nm,1.0s
TIXI Tiksi 72.43 10⇑*e*P **P 07 37 24.4 -1.1**
TIXI pmax pmax
comp=Z,9.0nm,1.0s
KLMR Klimovskoe 73.00 334 *e*P P 07 37 25.1 -4.0
KLMR pmax pmax
comp=Z,31nm,1.7s
SEY Seymchan 73.08 23 *i*P **P 07 37 29.1 -0.4**
MAW Mawson 73.46 193 LR LR 08 03 33.8
comp=Z,77nm,18.4s,baz=151,slow=31
AKASG Malin Array Be 74.58 322 P **P 07 37 37.4 -1.1**
AKASG Malin Array Be 74.58 322 P **P 07 37 37.4 -1.1**
AKASG Malin Array Be 74.58 322 P **P 07 37 37.4 -1.1**
comp=Z,2.3nm,0.8s,baz=92,slow=5.0,SNR=9.6
VRI Vrincioaia 74.98 317⇑*i*P **P 07 37 41.6 +0.6**
BOSA Boshof 75.09 240 LR LR 08 07 20.9
comp=Z,89nm,21.4s,baz=271,slow=33
BURAR Bucovina Array 76.37 319⇓*i*P **P 07 37 49.6 +0.5**
BUR08 Bucovina Ar. S 76.39 319 *e*P **P 07 37 48.9 -0.3**
DRGR 77.89 317⇑*i*P **P 07 37 57.8 +0.2**
UZH Uzhgorod 78.49 319 *e*P P 07 38 08.7 +8.0
UZH *e* 07 38 13.1
UZH *e* 07 38 19.3
FINES FINESS Array B 79.26 332 P **P 07 38 03.0 -1.6**
FINES FINESS Array B 79.26 332 P **P 07 38 03.0 -1.6**
comp=Z,3.0nm,0.7s,baz=120,slow=11,SNR=7.2
SYO Syowa Base 80.72 198⇓*e*P **P 07 38 13.0 +0.6**

ARCES ARCESS Array B 81.76 340 P **P 07 38 18.1 +0.1**
ARCES ARCESS Array B 81.76 340 P **P 07 38 18.1 +0.1**
comp=Z,5.9nm,0.9s,baz=76,slow=5.1,SNR=9.6
GERES GERESS Array B 84.16 319 P **P 07 38 30.9 0.0**
GERES GERESS Array B 84.16 319 P **P 07 38 30.9 0.0**
comp=Z,0.7nm,0.6s,baz=98,slow=6.9,SNR=7.9
NOA NORSAR Array B 86.27 331 LR LR 08 24 31.0
comp=Z,69nm,18.8s,baz=180,slow=41
VNDA Vanda 86.61 169 LR LR 08 13 50.9
comp=Z,80nm,21.4s,baz=168,slow=33
TAM Tamanrasset 90.70 293 P **P 07 39 05.5 +2.3**
TAM Tamanrasset 90.70 293 P **P 07 39 05.5 +2.3**
IM04 Indian Mountai 95.88 23 *e*P **P 07 39 25.7 -0.3**
IMA2 Indian Mountai 95.89 23 *e*P **P 07 39 25.4 -0.8**
ILAR Eielson Array 99.01 23 PP PP 07 43 44.6 +2.7
comp=Z,0.3nm,0.8s,baz=302,slow=6.2,SNR=4.0
PDAR Pinedale Array 129.37 25 PKP **PKPdf 07 45 09.7 +0.9**
PDAR Pinedale Array 129.37 25 PKP **PKPdf 07 45 09.7 +0.9**
comp=Z,0.2nm,0.6s,baz=280,slow=0.5,SNR=3.3
TXAR Lajitas Array 143.05 31 PKPpre PKPpre 07 45 30.6
TXAR Lajitas Array 143.05 31 PKhKP PKPpre 07 45 30.6
comp=Z,0.4nm,0.6s,baz=26,slow=3.2,SNR=6.5
JCT Junction City 143.91 25 *e*PKIKP PKPab 07 45 32.7 -0.1
JCT Junction City 143.91 25 *e*PKPdf PKPab 07 45 32.7 -0.1
VBMS Vicksburg 145.22 11 *e*PKPbc **PKPdf 07 45 37.8 0.0**
CPUP Villa Florida 145.52 223 PKPbc **PKPbc 07 45 37.3 -1.2**
CPUP Villa Florida 145.52 223 PKPbc **PKPbc 07 45 37.3 -1.2**
comp=Z,1.1nm,0.5s,baz=127,slow=5.1,SNR=3.0

*ISCJB **27** 07:35:43.8±0.5, 37.°89N±0.°02×32.°45E±0.°03, h4km±4km,*
Error ellipse: s-maj=4.1km s-min=3.1km az=148.3
*ISK **27** 07:35:43.3, 37.°87N×32.°49E, h4km, MD3.5*
*DDA **27** 07:35:43.3, 37.°87N×32.°27E, h30km, MD3.4*
*CSEM **27** 07:35:44.1±0.1, 37.°90N×32.°48E, h5km, MD3.5, Error*
ellipse: s-maj=3.4km s-min=2.7km az=54.0
ISC 27 07:35:43.8±0.9, 37.°89N±0.°02×32.°51E±0.°02, h9km±6km,
n62, σ0°83/93, 2C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KONT	**Konya--Tatoy**	**0.13**	**296**	*e*PG	**Pg**	**07 35 46.5**	**-0.3**
KONT				*e*SG	**Sg**	**07 35 49.1**	**+0.2**
KONT	**Konya--Tatoy**	**0.13**	**296**	*e*Pg	**Pg**	**07 35 46.5**	**-0.3**
KONT				*e*Sg	**Sg**	**07 35 49.1**	**+0.2**
KDHN	**Kadinhani**	**0.70**	**334**	*i*P	**Pg**	**07 35 56.7**	**-0.7**
KDHN				*i*S	**Sg**	**07 36 06.7**	**+0.1**
KDHN	**Kadinhani**	**0.70**	**334**	*i*P	**Pg**	**07 35 56.7**	**-0.7**
KDHN				*i*S	**Sg**	**07 36 06.7**	**+0.1**
SULT	**Sultanhani-AKS**	**0.85**	**68**	*e*PG	**Pg**	**07 36 00.3**	**0.0**
SULT				*e*SG	**Sb**	**07 36 13.3**	**+0.8**
SULT	**Sultanhani-AKS**	**0.85**	**68**	*e*Pg	**Pg**	**07 36 00.3**	**0.0**
SULT				*e*Sg	**Sb**	**07 36 13.3**	**+0.8**
HDMB	**Hadim**	**0.92**	**181**	*e*PG	**Pg**	**07 36 01.3**	**-0.3**
HDMB				*e*SG	**Sg**	**07 36 14.3**	**+0.7**
HDMB	**Hadim**	**0.92**	**181**	*e*Pg	**Pg**	**07 36 01.3**	**-0.3**
HDMB				*e*Sg	**Sg**	**07 36 14.3**	**+0.7**
KIZT	**Kizilcal**	**1.11**	**334**	*e*PN	**Pg**	**07 36 04.2**	**-0.9**
KIZT	**Kizilcal**	**1.11**	**334**	*e*Pn	**Pg**	**07 36 04.2**	**-0.9**
ERMK	**Ermenek**	**1.29**	**165**	*i*P	**Pn**	**07 36 08.3**	**+0.1**
ERMK				*i*S	**Sg**	**07 36 25.6**	**+0.4**
ERMK	**Ermenek**	**1.29**	**165**	*i*P	**Pn**	**07 36 08.3**	**+0.1**
ERMK				*i*S	**Sg**	**07 36 25.6**	**+0.4**
BOLV	**Bolvadin**	**1.48**	**305**	*i*P	**Pb**	**07 36 11.4**	**-0.2**
BOLV				*i*S	**Sg**	**07 36 33.2**	**+1.7**
BOLV	**Bolvadin**	**1.48**	**305**	*i*P	**Pb**	**07 36 11.4**	**-0.2**
BOLV				*i*S	**Sg**	**07 36 33.2**	**+1.7**
ISP	**Isparta**	**1.57**	**268**	*e*PN	**Pb**	**07 36 12.7**	**-0.5**
ISP	**Isparta**	**1.57**	**268**	*e*Pn	**Pb**	**07 36 12.7**	**-0.5**
BCK	**Bucak**	**1.58**	**255**	*e*PN	**Pn**	**07 36 12.3**	**+0.2**
BCK	**Bucak**	**1.58**	**255**	*e*Pn	**Pn**	**07 36 12.3**	**+0.2**
AFSR	**Af¨ar-Bala (A**	**1.62**	**16**	*e*PN	**Pb**	**07 36 14.0**	**+0.1**
AFSR	**Af¨ar-Bala (A**	**1.62**	**16**	*e*Pn	**Pb**	**07 36 14.0**	**+0.1**
GAZI	**Gazipasa**	**1.66**	**185**	*i*P	**Pb**	**07 36 14.2**	**-0.3**
GAZI				*i*S	**Sb**	**07 36 35.3**	**-0.2**
GAZI	**Gazipasa**	**1.66**	**185**	*i*P	**Pb**	**07 36 14.3**	**-0.3**
GAZI				*i*S	**Sb**	**07 36 35.3**	**-0.2**
BBAL	**Bala**	**1.72**	**16**	*i*P	**Pn**	**07 36 14.2**	**+0.1**
BBAL				*i*S	**Sg**	**07 36 38.9**	**-0.3**
BBAL	**Bala**	**1.72**	**16**	*i*P	**Pn**	**07 36 14.2**	**+0.1**
BBAL				*i*S	**Sg**	**07 36 38.9**	**-0.3**
SVRH	**Sivrihisar-ESK**	**1.74**	**334**	*e*PN	**Pn**	**07 36 14.5**	**+0.2**
SVRH	**Sivrihisar-ESK**	**1.74**	**334**	*e*Pn	**Pn**	**07 36 14.5**	**+0.2**
IKL	**Isikli**	**1.90**	**150**	*e*PN	**Pn**	**07 36 17.3**	**+0.9**
IKL	**Isikli**	**1.90**	**150**	*e*Pn	**Pn**	**07 36 17.3**	**+0.9**
GULE	**Gulek**	**1.90**	**108**	*i*P	**Pb**	**07 36 18.0**	**-0.8**
GULE				*i*S	**Sb**	**07 36 42.6**	**-0.1**
GULE	**Gulek**	**1.90**	**108**	*i*P	**Pb**	**07 36 18.0**	**-0.8**
GULE				*i*S	**Sb**	**07 36 42.6**	**-0.1**
KIZK	**Mersin**	**1.92**	**137**	*i*P	**Pb**	**07 36 18.3**	**-0.7**
KIZK				*e*S	**Sb**	**07 36 43.8**	**+0.8**
KIZK	**Mersin**	**1.92**	**137**	*i*P	**Pb**	**07 36 18.3**	**-0.7**
KIZK				*e*S	**Sb**	**07 36 43.8**	**+0.8**
ANTO	**Ankara**	**1.99**	**6**	*e*PN	**Pb**	**07 36 19.4**	**-0.8**
ANTO	**Ankara**	**1.99**	**6**	*e*Pn	**Pb**	**07 36 19.5**	**-0.8**
AVNT	**Avonos**	**2.05**	**64**	*i*P	**Pn**	**07 36 18.5**	**-0.2**
AVNT				*i*S	**Sg**	**07 36 49.5**	**-0.2**
AVNT	**Avonos**	**2.05**	**64**	*i*P	**Pn**	**07 36 18.5**	**-0.2**
AVNT				*i*S	**Sg**	**07 36 49.5**	**-0.2**
SEYT	**Eskypehyr**	**2.08**	**322**	*i*P	**Pn**	**07 36 19.4**	**+0.3**
SEYT				*e*S	**Sn**	**07 36 43.9**	**-1.3**
SEYT	**Eskypehyr**	**2.08**	**322**	*i*P	**Pn**	**07 36 19.4**	**+0.3**
SEYT				*e*S	**Sn**	**07 36 43.9**	**-1.3**
KARA	**Karaisali**	**2.12**	**106**	*e*PN	**Pb**	**07 36 21.5**	**-0.9**
KARA	**Karaisali**	**2.12**	**106**	*e*Pn	**Pb**	**07 36 21.5**	**-0.9**
CDAG	**Cicekdag**	**2.26**	**39**	*i*P	**Pn**	**07 36 22.3**	**+0.8**
CDAG				*i*S	**Sb**	**07 36 54.3**	**+1.2**
CDAG	**Cicekdag**	**2.26**	**39**	*i*P	**Pn**	**07 36 22.3**	**+0.8**
CDAG				*i*S	**Sb**	**07 36 54.3**	**+1.2**
ELL	**Elmali**	**2.37**	**242**	*e*PN	**Pn**	**07 36 23.7**	**+0.8**
ELL	**Elmali**	**2.37**	**242**	*e*Pn	**Pn**	**07 36 23.7**	**+0.8**
KHAL	**Karahalli**	**2.43**	**282**	*i*P	**Pn**	**07 36 24.6**	**+0.8**
KHAL				*e*S	**Sn**	**07 36 52.6**	**-1.1**
KHAL	**Karahalli**	**2.43**	**282**	*i*P	**Pn**	**07 36 24.6**	**+0.8**
KHAL				*e*S	**Sn**	**07 36 52.6**	**-1.1**
GOLH	**Golhisar**	**2.43**	**255**	*e*P	**Pb**	**07 36 26.0**	**-1.8**
GOLH				*i*S	**Sb**	**07 36 59.7**	**+1.8**
GOLH	**Golhisar**	**2.43**	**255**	*e*P	**Pb**	**07 36 26.0**	**-1.8**
GDZ	**Gediz**	**2.66**	**298**	*i*P	**Pn**	**07 36 27.6**	**+0.6**
GDZ				*e*S	**Sn**	**07 36 59.3**	**-0.2**
GDZ	**Gediz**	**2.66**	**298**	*i*P	**Pn**	**07 36 27.6**	**+0.6**
GDZ				*e*S	**Sn**	**07 36 59.3**	**-0.2**
KOZT	**Kozan**	**2.66**	**98**	*e*PN	**Pn**	**07 36 28.5**	**+1.5**
KOZT	**Kozan**	**2.66**	**98**	*e*Pn	**Pn**	**07 36 28.5**	**+1.5**
MDUB	**Mudurnu**	**2.77**	**339**	*e*PN	**Pn**	**07 36 29.9**	**+1.4**
MDUB	**Mudurnu**	**2.77**	**339**	*e*Pn	**Pn**	**07 36 29.9**	**+1.4**
LEF	**Lefka**	**2.78**	**174**	*e*PN	**Pn**	**07 36 29.8**	**+1.3**
LEF	**Lefka**	**2.78**	**174**	*e*Pn	**Pn**	**07 36 29.8**	**+1.3**
CORM	**Corum**	**2.82**	**35**	*e*PN	**Pn**	**07 36 29.8**	**+0.6**
CORM	**Corum**	**2.82**	**35**	*e*Pn	**Pn**	**07 36 29.8**	**+0.6**
GULT	**Gulveren**	**2.98**	**329**	*e*PN	**Pn**	**07 36 32.7**	**+1.4**
GULT	**Gulveren**	**2.98**	**329**	*e*Pn	**Pn**	**07 36 32.7**	**+1.4**
TIRR	**Tirgusor**	**7.25**	**336**⇑*i*P		**Pn**	**07 37 30.8**	**+0.9**
TIRR	**Tirgusor**	**7.25**	**336**⇑*i*P		**Pn**	**07 37 30.8**	**+0.9**

*ISCJB **27** 07:45:25.9±0.5, 33.°97N±0.°04×25.°64E±0.°07, h17km,*
mb3.5/6, Error ellipse: s-maj=9.3km s-min=4.7km
az=159.4
*IDC **27** 07:45:25.2±1.3, 34.°09N×25.°64E, h0km, mb3.7/6,*
mb1 3.8/9, mb1mx3.7/26, mbtmp3.7/9, ML4.1/3, Error
ellipse: s-maj=27.8km s-min=20.6km az=85.0
*HLW **27** 07:45:29.0, 34.°00N×25.°61E, h33km±19km, Md3.3, Ml3.5*
ISC 27 07:45:27.1±0.7, 34.°02N±0.°06×25.°61E±0.°07, h17km, n20,
σ1°35/22, mb3.5/6, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDI	**Anoyia**	**1.40**	**335**	Pn	**Pb**	**07 45 52.4**	**-0.4**
	3.6nm,0.3s,baz=157,slow=15,SNR=25						
IDI				Sn	**Sg**	**07 46 11.9**	**-0.5**
	10nm,0.3s,baz=153,slow=18,SNR=9.5						
SLUM		**2.54**	**188**	S	**Sn**	**07 46 36.5**	**-1.6**
	baz=188						
HMAT	**Matruh**	**3.17**	**156**	P	**Pn**	**07 46 16.6**	**+0.4**
	baz=156						
HMAT				S	**Sn**	**07 46 52.2**	**-1.5**
	baz=156						
SWA2		**4.76**	**182**	P	**Pn**	**07 46 38.6**	**+0.5**
	baz=182						

SWA2 AMP 07 47 00.0
comp=N,70μm,0.4s,logA/T=5.2,baz=182
AMAG Maghara 7.25 116 P **Pn 07 47 13.1 +0.7**
baz=115
RSH 7.50 112 P **Pn 07 47 17.2 +1.5**
baz=111
HNKL Nakhl 8.19 118 P **Pn 07 47 26.6 +1.3**
baz=117
BRTR Keskin Array B 8.59 46 Pn Pn 07 47 34.0 +3.2
comp=N,0.1nm,0.3s,baz=216,slow=14,SNR=3.1
TR2 8.93 127 P **Pn 07 47 36.9 +1.6**
baz=126
EIL Elat 9.05 116 Pn **Pn 07 47 39.0 +2.1**
comp=N,0.5nm,0.3s,baz=29,slow=13,SNR=4.5
EIL Sn **Sn 07 49 15.5 -2.9**
comp=N,0.7nm,0.3s,baz=0.0,slow=19,SNR=3.4
HDK1 Dakhla 9.06 158 P **Pn 07 47 38.5 +1.2**
baz=157
AKASG Malin Array Be 16.88 8 Pn **Pn 07 49 22.9 +0.5**
comp=N,1.8nm,0.3s,baz=199,slow=11,SNR=13
GERES GERESS Array B 17.27 333 P **P 07 49 28.9 +0.1**
comp=N,0.3nm,0.3s,baz=148,slow=12,SNR=14
ESDC Sonseca Array 24.27 292 P **P 07 50 43.8 +0.3**
comp=N,0.2nm,0.5s,baz=83,slow=9.7,SNR=3.2
HFS Hagfors 27.27 347 P **P 07 51 09.5 -0.7**
comp=N,3.1nm,0.9s,baz=134,slow=12,SNR=2.9
FINES FINESS Array B 27.44 0 P **P 07 51 11.0 -0.8**
comp=N,0.9nm,0.5s,baz=153,slow=13,SNR=6.5
JOF Joensuu 29.14 5 *e*p **P 07 51 25.8 -1.1**
TORD Torodi Ar. Bea 30.06 232 P **P 07 51 36.8 +1.2**
comp=N,0.2nm,0.6s,baz=30,slow=8.0,SNR=3.2
ARCES ARCESS Array B 35.57 360 P **P 07 52 21.8 -1.4**
comp=N,4.2nm,1.0s,baz=187,slow=8.6,SNR=6.2
ILAR Eielson Array 81.36 357 P **P 07 57 43.4 +0.9**
comp=N,0.2nm,0.7s,baz=332,slow=3.7,SNR=4.2

*ASRS **27** 07:47:08.4±0.9, 50.°09N×87.°65E, h15km, Ms3.0/4*
*IDC **27** 07:47:11.4±1.3, 50.°27N×87.°67E, h0km, mb3.7/5,*
mb1 4.0/11, mb1mx3.8/31, mbtmp3.9/11, ML4.2/6, MS3.0/2,
Ms1 3.1/2, ms1mx2.6/28, Error ellipse: s-maj=14.8km
s-min=11.6km az=86.0
*MOS **27** 07:47:12.6±1.2, 50.°21N×87.°40E, h16km, mb4.3/4, Error*
ellipse: s-maj=10.2km s-min=9.1km az=99.3
*NNC **27** 07:47:15.6±1.8, 50.°37N×87.°12E, h0km, mb4.0, mpv3.8,*
Error ellipse: s-maj=14.5km s-min=8.6km az=75.0
ISC 27 07:47:14.2±2.2, 50.°34N±0.°04×87.°41E±0.°05, h12km±15km,
n48, σ1°80/62, mb4.0/7, 14C-8D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKAR	**Aktash**	**0.14**	**98**	*i*PG	Pg	07 47 13.5	-4.2
AKAR	**Aktash**	**0.14**	**98**	*i*Pg	Pg	07 47 13.5	-4.2
ARTR	**Artybash**	**1.46**	**357**	*e*PN	**Pn**	**07 47 40.3**	**-0.2**
ARTR				*e*		07 48 02.9	
ARTR	**Artybash**	**1.46**	**357**	*e*Pg	**Pn**	**07 47 40.3**	**-0.2**
ARTR				*e*Sg	**Sb**	**07 48 02.9**	**+2.9**
TASR	**Tashtagol**	**2.44**	**7**	*e*PN	**Pb**	**07 47 57.0**	**-1.1**
TASR				*e*		07 48 31.2	
TASR	**Tashtagol**	**2.44**	**7**	*e*Pg	**Pb**	**07 47 57.0**	**-1.1**
TASR				*e*Sg	**Sb**	**07 48 31.2**	**+3.1**
ZALV	**Zalesovo Beam**	**3.95**	**337**	PN	**Pn**	**07 48 16.2**	**+1.6**
ZALV						07 49 04.3	
ZALV				pmax	pmax		
	comp=Z,19nm,0.3s						
ZALV				smax	smax		
	comp=N,16nm,0.3s						
ZALV	**Zalesovo Beam**	**3.95**	**337**	Pn	**Pn**	**07 48 16.2**	**+1.6**
	comp=N,19nm,0.3s,baz=155,slow=14,SNR=68						
ZALV				Sn	**Sn**	**07 49 04.3**	**+3.5**
	comp=N,16nm,0.3s,baz=163,slow=26,SNR=8.3						
ZALV				Lg	Lg	07 49 19.9	
	comp=N,14nm,0.3s,baz=168,slow=29,SNR=6.4						
HVS	**Khovu-Aksy**	**4.08**	**76**	*d*PN	**Pn**	**07 48 15.4**	**-1.0**
KZLR	**Kyzyl**	**4.65**	**70**	*i*PN	**Pn**	**07 48 25.6**	**+1.3**
MK31	**Makanchi Array**	**4.91**	**226**	⇑Pn	**Pn**	**07 48 29.4**	**+1.5**
	comp=N,4.8nm,0.3s,baz=50,slow=12,SNR=508						
MK31				⇓Pg	**Pb**	**07 48 41.5**	**+1.3**
	comp=N,6.4nm,0.3s,baz=44,slow=17,SNR=6.0						
MK31				⇑Sn	**Sn**	**07 49 27.6**	**+3.0**
	comp=N,16nm,0.5s,baz=22,slow=97,SNR=6.5						
MK31				⇓Lg	Lg	07 49 46.3	
	comp=N,50nm,0.5s,baz=56,slow=30,SNR=6.4						
MK31	**Makanchi Array**	**4.91**	**226**	PN	**Pn**	**07 48 29.4**	**+1.5**
MK31						07 49 27.6	
MK31				pmax	pmax		
	comp=Z,5.0nm,0.4s						
MK31				smax	smax		
	comp=Z,17nm,0.5s						
MK31				pmax	pmax		
	comp=N,50nm,0.5s						
MKAR	**Makanchi Array**	**4.91**	**226**	PN	**Pn**	**07 48 29.4**	**+1.5**
MKAR						07 49 27.8	
MKAR				pmax	pmax		
	comp=Z,8.0nm,0.3s						
MKAR				smax	smax		
	comp=N,10.0nm,0.3s						
MKAR	**Makanchi Array**	**4.91**	**226**	Pn	**Pn**	**07 48 29.4**	**+1.5**
	comp=N,8.0nm,0.3s,baz=45,slow=13,SNR=448						
MKAR				Sn	**Sn**	**07 49 27.8**	**+3.2**
	comp=N,9.6nm,0.3s,baz=52,slow=23,SNR=8.0						
MKAR				Lg	Lg	07 49 47.1	
	comp=N,16nm,0.3s,baz=47,slow=30,SNR=13						
NVS	**Novosibirsk**	**5.18**	**332**	*e*PN	**Pb**	**07 48 42.9**	**-1.7**
NVS				*e*		07 48 48.5	
NVS	**Novosibirsk**	**5.18**	**332**	*e*Pg	**Pb**	**07 48 47.2**	**+2.6**
NVS				*e*Sg	**Sg**	**07 49 59.0**	**-1.3**
KURK	**Kurchatov**	**5.62**	**277**	⇑Pn	**Pn**	**07 48 39.2**	**+1.6**
	comp=N,6.1nm,0.7s						
KURK				⇓Sn	**Sn**	**07 49 42.4**	**+0.4**
	comp=N,4.6nm,0.4s						
KURK				⇑Lg	Lg	07 50 08.6	
	comp=N,50nm,1.0s						
KURK	**Kurchatov**	**5.62**	**277**	⇑*e*PN	**Pn**	**07 48 38.6**	**+1.1**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KURBB	**Kurchatov Arra**	**5.68**	**276**	Pn	**Pn**	**07 48 39.5**	**+1.2**
KURBB				Sn	**Sn**	**07 49 44.1**	**+0.7**
KURBB				Lg	Lg	07 50 09.6	
KURBB	**Kurchatov Arra**	**5.68**	**276**	Pn	**Pn**	**07 48 39.7**	**+1.4**
	comp=Z,5.6nm,0.3s,baz=90,slow=14,SNR=131						
KURBB				Sn	**Sn**	**07 49 48.1**	**+4.7**
	comp=Z,3.3nm,0.3s,baz=76,slow=17,SNR=5.2						
KURBB				Lg	Lg	07 50 13.7	
	comp=Z,6.7nm,0.3s,baz=87,slow=32,SNR=14						
VOSK	**Vostochnaya**	**10.51**	**289**	⇓Pn	**Pn**	**07 49 44.4**	**-0.2**
	comp=Z,1.4nm,0.5s						
VOSK				⇑Sn	**Sn**	**07 51 42.5**	**+0.3**
	comp=Z,3.0nm,0.6s						
VOSK				⇓Lg	Lg	07 52 42.4	
	comp=Z,16nm,1.4s						
VOSK	**Vostochnaya**	**10.51**	**289**	P	**Pn**	**07 49 46.5**	**+1.9**
VOSK						07 51 42.5	
VOSK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
VOSK				smax	smax		
	comp=Z,7.0nm,1.1s						
BVA0	**Borovoye Array**	**10.

TKM2 ⇑Lg Lg 07 52 59.9
comp=Z,12nm,1.2s
AAK Ala-Archa 11.76 234 P Pn 07 50 00.7 -1.2
AAK 07 52 08.2
AAK pmax pmax
comp=Z,1.0nm,0.3s
AAK MLR MLR
comp=Z,142nm,21.5s
AAK Ala-Archa 11.76 234 Pn Pn 07 50 00.7 -1.2
comp=Z,0.7nm,0.3s,baz=342,slow=13,SNR=6.1
AAK Sn Sn 07 52 08.2 -5.0
comp=Z,0.3nm,0.3s,baz=223,slow=19,SNR=2.5
AAK Lg Lg 07 53 26.2
comp=Z,0.4nm,0.3s,baz=245,slow=20,SNR=4.4
AAK LR LR 07 54 51.7
comp=Z,142nm,21.5s,baz=119,slow=39
SONM Songino Array 12.69 94 Lg Lg 07 53 47.3
comp=Z,0.2nm,0.3s,baz=286,slow=27,SNR=7.1
KK31 Karatay Array 13.65 244 Pn **Pn 07 50 25.2 -2.3**
comp=Z,2.3nm,0.9s,baz=52,slow=13,SNR=14
KK31 ⇑Sn **Sn 07 52 57.7 -1.2**
comp=Z,1.1nm,0.5s
KK31 ⇑Lg Lg 07 54 24.4
comp=Z,3.5nm,0.7s,baz=42,slow=32,SNR=3.6
KK31 Karatay Array 13.65 244 *e*P **Pn 07 50 25.2 -2.3**
KK31 pmax pmax
comp=Z,1.0nm,0.3s
KK31 pmax pmax
comp=N,5.0nm,0.7s
AB31 Akbulak array 17.73 277 Pn **Pn 07 51 20.8 +0.1**
comp=N,0.5nm,0.5s,baz=74,slow=7.6,SNR=17
AB31 Akbulak array 17.73 277 P **Pn 07 51 20.8 +0.1**
AB31 pmax pmax
comp=Z,1.0nm,0.5s
AKTO Aktyubinsk 18.69 282 ⇑Pn **Pn 07 51 32.9 +0.4**
comp=Z,4.6nm,0.8s
AKTO Aktyubinsk 18.69 282 P **Pn 07 51 32.9 +0.4**
AKTO pmax pmax
comp=Z,5.0nm,0.9s
AKTO Aktyubinsk 18.69 282 P **Pn 07 51 33.1 +0.6**
comp=Z,0.4nm,0.3s,baz=97,slow=8.6,SNR=8.6
OBN Obninsk 30.59 299 P **P 07 53 27.9 +0.4**
OBN pmax pmax
comp=Z,3.0nm,1.0s
KIV Kislovodsk 30.70 276 *e*P **P 07 53 28.3 -0.5**
KIV pmax pmax
comp=Z,7.0nm,1.0s
TJN Taejon 31.81 101 *i* P **P 07 53 38.2 -0.3**
CMAR Chiang Mai Arr 33.12 160 P **P 07 53 47.5 -2.5**
comp=Z,0.6nm,0.3s,baz=346,slow=9.0,SNR=4.9
CMAR LR LR 08 08 25.4
comp=Z,14nm,20.4s,baz=315,slow=39
FINES FINESS Array B 34.82 312 P **P 07 54 04.7 +0.3**
comp=Z,2.0nm,0.9s,baz=64,slow=9.4,SNR=3.6
AKASG Malin Array Be 36.17 294 P **P 07 54 17.2 +1.0**
AKASG Malin Array Be 36.17 294 P **P 07 54 17.2 +1.0**
comp=Z,0.1nm,0.3s,baz=67,slow=8.5,SNR=3.1
BRTR Keskin Array B 38.67 275 P **P 07 54 38.4 +0.7**
comp=Z,1.0nm,0.7s,baz=86,slow=6.6,SNR=3.9
TORD Torodi Ar. Bea 77.28 275 P **P 07 59 08.1 -0.5**
comp=Z,0.3nm,0.6s,baz=31,slow=4.7,SNR=3.0

*IDC **27** 07:53:06.4±1.0, 6°.77N×126°.93E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.4/24, mbtmp3.5/5, Error ellipse: s-maj=65.7km s-min=20.7km az=70.0*
*ISCJB **27** 07:53:13.9±0.9, 6°.6N±0°.1×126°.8E±0°.1, h74km, mb3.3/5, Error ellipse: s-maj=24.4km s-min=11.6km az=139.2*
*MAN **27** 07:53:17, 6°.72N×126°.60E, h20km, mb4.3, ML3.1, MS2.9*
ISC 27 07:53:15.3±1.1, 6°.6N±0°.1×126.7E±0°.1, h74km, n9, σ2°04/10, mb3.2/5, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.59**	**305**	*e*P	**Pn**	**07 53 26.9**	**-2.5**
MATI				*e*S	**Sn**	**07 53 36.8**	**-3.0**
BUKP	**Musuan**	**2.09**	**307**	*e*P	**Pn**	**07 53 50.4**	**+2.0**
CTBH	**Cotabato--PC H**	**2.55**	**284**	⇑*i*P	**Pn**	**07 53 56.2**	**+1.6**
BUTP	**Butuan**	**2.60**	**335**	*e*P	**Pn**	**07 53 56.8**	**+1.6**
WRA	**Warramunga Arr**	**27.42**	**164**	P	**P**	**07 58 56.2**	**+1.9**
	0.2nm,0.4s,baz=338,slow=11,SNR=4.3						
ASAR	**Alice Springs**	**30.89**	**167**	P	**P**	**07 59 24.9**	**-0.1**
	0.1nm,0.7s,baz=346,slow=7.2,SNR=3.6						
MKAR	**Makanchi Array**	**55.23**	**324**	P	**P**	**08 02 41.5**	**+0.6**
	0.9nm,0.5s,baz=120,slow=7.9,SNR=16						
KURBB	**Kurchatov Arra**	**59.35**	**326**	P	**P**	**08 03 10.1**	**+0.3**
	0.6nm,0.8s,baz=126,slow=6.1,SNR=8.1						
ILAR	**Eielson Array**	**82.52**	**26**	P	**P**	**08 05 29.0**	**-0.8**
	0.2nm,0.7s,baz=236,slow=5.3,SNR=6.7						

*CSEM **27** 08:04:00.7±0.1, 47°.04N×13°.30E, h2km, ML3.0/26, Error ellipse: s-maj=2.0km s-min=1.9km az=59.0*
*VIE **27** 08:04:00.3±0.1, 47°.03N×13°.30E, h6km±1km, mb2.4/12, ML2.7/17, Error ellipse: s-maj=0.9km s-min=0.6km az=11.0 11 km ENE of Mallnitz felt 4ems98 near Hochalmspitze / Carinthia*
*ROM **27** 08:04:00.7±0.4, 46°.99N×13°.35E, h7km±4km, Md2.6/9, Ml2.2/12, Error ellipse: s-maj=2.5km s-min=1.6km az=36.0*
*PRU **27** 08:04:02.2, 47°.02N×13°.34E, h0km, Western Lungau*
*LDG **27** 08:04:03.2±0.3, 46°.90N×13°.44E, h10km, Ml2.8/4, Error ellipse: s-maj=13.6km s-min=4.2km az=29.0*
ISC 27 08:04:01.0±0.8, 47°.02N±0°.01×13°.33E±0°.01, h7km±5km, n117, σ0°72/201, 12C-28D, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBA	**Koelnbreinsper**	**0.06**	**7**	*e*Pg	**Pg**	**08 04 02.9**	**0.0**
	42nm,0.1s,SNR=1989						
KBA				⇑*i*Sg	**Sg**	**08 04 04.1**	**-0.1**
	735nm,0.2s						
KBA	**Koelnbreinsper**	**0.06**	**7**	Pg	**Pg**	**08 04 02.9**	**0.0**
	SNR=1000						
KBA				Sg	**Sg**	**08 04 04.1**	**-0.1**
	735nm,0.2s						
MYKA	**Terra Mystica**	**0.44**	**151**	⇓*e*Pg	**Pg**	**08 04 09.5**	**-0.1**
	3.6nm,0.1s,SNR=9.8						
MYKA				⇑*i*Sg	**Sg**	**08 04 15.4**	**0.0**
	29nm,0.1s						
MYKA	**Terra Mystica**	**0.44**	**151**	Pg	**Pg**	**08 04 09.5**	**-0.1**
	3.6nm,0.1s,SNR=9.8						
MYKA				Sg	**Sg**	**08 04 15.4**	**0.0**
	29nm,0.1s						
ACOM	**Acomizza, Ital**	**0.49**	**165**	⇓*e*Pg	**Pg**	**08 04 10.6**	**+0.2**
ACOM				Sg	**Sg**	**08 04 17.2**	**+0.4**
ACOM	**Acomizza, Ital**	**0.49**	**165**	Pg	**Pg**	**08 04 10.6**	**+0.2**
ACOM				Sg	**Sg**	**08 04 17.4**	**+0.6**
	140nm,0.5s						
ACOM	**Acomizza, Ital**	**0.49**	**165**	⇓*e*Pg	**Pg**	**08 04 10.6**	**+0.2**
ACOM				Sg	**Sg**	**08 04 17.4**	**+0.6**
	140nm,0.5s						
PLRO	**Paularo**	**0.49**	**195**	⇓*e*Pg	**Pg**	**08 04 10.4**	**0.0**
PLRO				*e*Sg	**Sg**	**08 04 16.2**	**-0.6**
PLRO	**Paularo**	**0.49**	**195**	⇓*e*Pg	**Pg**	**08 04 10.4**	**0.0**
PLRO				*e*Sg	**Sg**	**08 04 16.2**	**-0.6**
ZOU	**Zoufplan**	**0.53**	**208**	⇑*e*Pg	**Pg**	**08 04 11.1**	**0.0**
ZOU				*e*Sg	**Sg**	**08 04 17.8**	**-0.2**
ZOU	**Zoufplan**	**0.53**	**208**	⇑*e*Pg	**Pg**	**08 04 11.2**	**0.0**
ZOU				*e*Sg	**Sg**	**08 04 17.7**	**-0.3**
ZOU	**Zoufplan**	**0.53**	**208**	⇑*e*Pg	**Pg**	**08 04 11.2**	**0.0**
ZOU				*e*Sg	**Sg**	**08 04 17.7**	**-0.3**
LSR	**Lussari**	**0.56**	**166**	⇓*e*Pg	**Pg**	**08 04 11.8**	**+0.1**
LSR				*e*Sg	**Sg**	**08 04 19.8**	**+0.6**
LSR	**Lussari**	**0.56**	**166**	⇓*e*Pg	**Pg**	**08 04 11.9**	**+0.1**
LSR				*e*Sg	**Sg**	**08 04 19.8**	**+0.6**
FVI	**Forni Avoltri**	**0.57**	**222**	Pg	**Pg**	**08 04 11.7**	**-0.3**
	103nm,0.4s						
FVI	**Forni Avoltri**	**0.57**	**222**	Pg	**Pg**	**08 04 11.7**	**-0.3**
	103nm,0.4s						
PTCC	**Patocco-Chiusa**	**0.61**	**179**	Pg	**Pg**	**08 04 12.7**	**-0.1**
PTCC				Sg	**Sg**	**08 04 20.7**	**-0.1**
	36nm,0.5s						
PTCC	**Patocco-Chiusa**	**0.61**	**179**	Pg	**Pg**	**08 04 12.7**	**-0.1**
PTCC				Sg	**Sg**	**08 04 20.7**	**-0.1**
	36nm,0.5s						
ABTA	**Abfaltersbach**	**0.63**	**244**	*e*Pg	**Pg**	**08 04 12.4**	**-0.6**
	2.8nm,0.1s,SNR=12						
ABTA				⇓*i*Sg	**Sg**	**08 04 20.4**	**-0.8**
	18nm,0.1s						
ABTA	**Abfaltersbach**	**0.63**	**244**	Pg	**Pg**	**08 04 12.4**	**-0.6**
	2.8nm,0.1s,SNR=12						
ABTA				Sg	**Sg**	**08 04 20.4**	**-0.8**
	18nm,0.1s						
FUSE	**Fusea**	**0.65**	**201**	⇑*e*Pg	**Pg**	**08 04 13.2**	**-0.2**
FUSE				*e*Sg	**Sg**	**08 04 21.8**	**-0.1**
FUSE	**Fusea**	**0.65**	**201**	⇑*e*Pg	**Pg**	**08 04 13.2**	**-0.2**
FUSE				*e*Sg	**Sg**	**08 04 21.8**	**-0.1**
CSMI	**Casera Mimoias**	**0.69**	**223**	⇓*e*Pg	**Pg**	**08 04 13.9**	**-0.4**
CSMI				*e*Sg	**Sg**	**08 04 22.8**	**-0.5**
CSMI	**Casera Mimoias**	**0.69**	**223**	⇓*e*Pg	**Pg**	**08 04 13.9**	**-0.4**
CSMI				*e*Sg	**Sg**	**08 04 22.8**	**-0.5**
BOO	**Bordano**	**0.72**	**193**	*e*Pg	**Pb**	**08 04 15.1**	**-0.7**
BOO	**Bordano**	**0.72**	**193**	*e*Pg	**Pb**	**08 04 15.1**	**-0.7**
GEPF	**Gemona**	**0.76**	**190**	Pg	**Pb**	**08 04 15.9**	**-0.5**
GEPF				Sg	**Sg**	**08 04 25.8**	**+0.5**
	33nm,0.5s						
VINO	**Villanova**	**0.77**	**183**	⇓*e*Pg	**Pg**	**08 04 15.6**	**-0.1**
VINO				*e*Sg	**Sg**	**08 04 26.3**	**+0.7**
VINO	**Villanova**	**0.77**	**183**	Pg	**Pg**	**08 04 15.4**	**-0.3**
VINO				Sg	**Sg**	**08 04 26.3**	**+0.7**
	37nm,0.6s						
VINO	**Villanova**	**0.77**	**183**	⇓*e*Pg	**Pg**	**08 04 15.6**	**-0.1**
VINO				Sg	**Sg**	**08 04 26.3**	**+0.7**
	37nm,0.6s						
BAD	**Bernadia**	**0.79**	**185**	⇓*e*Pg	**Pg**	**08 04 15.9**	**-0.2**
BAD				*e*Sg	**Sb**	**08 04 27.1**	**-0.8**
BAD	**Bernadia**	**0.79**	**185**	⇓*e*Pg	**Pg**	**08 04 15.9**	**-0.2**
BAD				*e*Sg	**Sb**	**08 04 27.1**	**-0.8**
ROBS	**Robic**	**0.79**	**171**	*i* Pg	**Pg**	**08 04 16.1**	**+0.1**
ROBS	**Robic**	**0.79**	**171**	*i* Pg	**Pg**	**08 04 16.1**	**+0.1**
BUA	**Buia**	**0.81**	**190**	*e*Pg	**Pb**	**08 04 17.0**	**-0.4**
BUA	**Buia**	**0.81**	**190**	*e*Pg	**Pb**	**08 04 17.0**	**-0.4**
GORS	**Gorjuse**	**0.84**	**147**	*i* Pg	**Pg**	**08 04 17.2**	**+0.1**
GORS				*i* Sg	**Sb**	**08 04 28.6**	**-0.8**
GORS							
	comp=Z,26nm,0.1s						
GORS	**Gorjuse**	**0.84**	**147**	*i* Pg	**Pg**	**08 04 17.2**	**+0.1**
GORS				*e*Sg	**Sb**	**08 04 28.6**	**-0.8**
DRE	**Drenchia**	**0.87**	**166**	*e*Pg	**Pb**	**08 04 18.8**	**+0.3**
DRE	**Drenchia**	**0.87**	**166**	*e*Pg	**Pb**	**08 04 18.8**	**+0.3**
OBKA	**Obir**	**0.98**	**121**	*e*Pg	**Pb**	**08 04 20.1**	**-0.2**
	comp=Z,22nm,0.2s,SNR=28						
OBKA				⇓*i*Sg	**Sb**	**08 04 33.3**	**-0.2**
	comp=Z,64nm,0.3s						
OBKA	**Obir**	**0.98**	**121**	Pg	**Pb**	**08 04 20.1**	**-0.2**
	comp=Z,22nm,0.2s,SNR=28						
OBKA				Sg	**Sb**	**08 04 33.3**	**-0.2**
	comp=Z,64nm,0.3s						
MLNI	**Malnisio**	**1.00**	**210**	*e*Pg	**Pb**	**08 04 20.6**	**-0.1**
MLNI	**Malnisio**	**1.00**	**210**	*e*Pg	**Pb**	**08 04 20.6**	**-0.1**
MOA	**Molln**	**1.04**	**37**	⇓Pg	**Pg**	**08 04 20.9**	**-0.1**
	comp=Z,8.8nm,0.1s,SNR=44						
MOA				⇓*i*Sg	**Sb**	**08 04 35.2**	**-0.1**
	comp=Z,39nm,0.3s						
MOA	**Molln**	**1.04**	**37**	Pg	**Pg**	**08 04 20.9**	**-0.1**
	comp=Z,8.8nm,0.1s,SNR=44						
MOA				Sg	**Sb**	**08 04 35.2**	**-0.1**
	comp=Z,39nm,0.3s						
SABO	**M.te Sabotino**	**1.06**	**170**	*e*Pg	**Pn**	**08 04 22.0**	**-0.2**
SABO	**M.te Sabotino**	**1.06**	**170**	*e*Pg	**Pn**	**08 04 22.0**	**-0.2**
VOY	**Vojsko**	**1.06**	**158**	*e*Pg	**Pn**	**08 04 22.1**	**-0.2**
VOY				*e*		08 04 23.8	
VOY				*e*Sg	**Sb**	**08 04 36.5**	**+0.7**
VOY	**Vojsko**	**1.06**	**158**	*e*Pg	**Pn**	**08 04 22.1**	**-0.2**
VOY				*e*Sg	**Sb**	**08 04 36.5**	**+0.7**
CRNS	**Crni Vrh**	**1.14**	**145**	*e*Pg	**Pn**	**08 04 23.2**	**-0.1**
POLC	**Polcenigo**	**1.15**	**210**	*e*Pg	**Pn**	**08 04 25.4**	**+2.0**
WTTA	**Wattenberg**	**1.18**	**282**	Pg	**Pg**	**08 04 22.6**	**-1.1**
WTTA				Sg	**Sb**	**08 04 40.1**	**+0.6**
	comp=Z,66nm,0.4s						
WTTA	**Wattenberg**	**1.18**	**282**	*e*Pg	**Pg**	**08 04 22.8**	**-0.9**
	comp=Z,24nm,0.2s,SNR=75						
WTTA				⇓*i*Sg	**Sg**	**08 04 38.8**	**-0.3**
	comp=Z,19nm,0.3s						
WTTA	**Wattenberg**	**1.18**	**282**	Pg	**Pg**	**08 04 22.8**	**-0.9**
	comp=Z,24nm,0.2s,SNR=75						
WTTA				Sg	**Sg**	**08 04 38.8**	**-0.3**
	comp=Z,19nm,0.3s						
SOKA	**Soboth**	**1.22**	**106**	⇑*e*Pg	**Pg**	**08 04 23.8**	**-0.5**
	comp=Z,12nm,0.2s,SNR=35						
SOKA				⇓*i*Sg	**Sn**	**08 04 40.9**	**-0.2**
	comp=Z,29nm,0.4s						
SOKA	**Soboth**	**1.22**	**106**	Pg	**Pg**	**08 04 23.8**	**-0.5**
	comp=Z,12nm,0.2s,SNR=35						
SOKA				*i* Sg	**Sn**	**08 04 41.0**	**-0.2**
WATA	**Walderalm**	**1.24**	**285**	*e*Pg	**Pb**	**08 04 23.8**	**-1.0**
	comp=Z,30nm,0.2s,SNR=57						
WATA				⇓*i*Sg	**Sg**	**08 04 40.6**	**-0.2**
	comp=Z,48nm,0.3s						
WATA	**Walderalm**	**1.24**	**285**	Pg	**Pb**	**08 04 23.8**	**-1.0**
	comp=Z,30nm,0.2s,SNR=57						
WATA				Sg	**Sg**	**08 04 40.6**	**-0.2**
	comp=Z,48nm,0.3s						
VNDS	**Vrh nad Dolski**	**1.32**	**134**	*i* Pg	**Pg**	**08 04 26.4**	**+0.2**
VNDS				*i* Sg	**Sn**	**08 04 43.9**	**+0.3**
ROSI	**Rosskopf**	**1.32**	**267**	Pg	**Pn**	**08 04 24.3**	**-1.7**
ROSI				Sg	**Sg**	**08 04 43.7**	**+0.3**
	comp=Z,59nm,0.3s						
ROSI	**Rosskopf**	**1.32**	**267**	*e*Pg	**Pn**	**08 04 25.3**	**-0.7**
ROSI				Sg	**Sg**	**08 04 43.7**	**+0.3**
	comp=Z,59nm,0.3s						
ABSI	**Aberstueckl**	**1.41**	**259**	Pg	**Pn**	**08 04 26.6**	**-0.7**
ABSI				Sg	**Sb**	**08 04 45.4**	**-0.6**
	comp=Z,113nm,0.6s						
ABSI	**Aberstueckl**	**1.41**	**259**	⇑*e*Pg	**Pn**	**08 04 26.6**	**-0.7**
ABSI				Sg	**Sb**	**08 04 45.4**	**-0.6**
	comp=Z,113nm,0.6s						
KOSI	**Kohlern**	**1.46**	**248**	Pg	**Pn**	**08 04 27.7**	**-0.1**
KOSI				Sg	**Sn**	**08 04 47.0**	**-0.2**
	comp=Z,43nm,0.5s						
KOSI	**Kohlern**	**1.46**	**248**	⇑*e*Pg	**Pn**	**08 04 28.0**	**+0.2**
KOSI				Sg	**Sn**	**08 04 47.0**	**-0.2**
	comp=Z,43nm,0.5s						
ARSA	**Arzberg**	**1.51**	**80**	Pg	**Pn**	**08 04 28.6**	**+0.1**
ARSA				Sg	**Sb**	**08 04 48.5**	**-0.2**
	comp=Z,237nm,4.1s						
ARSA	**Arzberg**	**1.51**	**80**	⇓*e*Pg	**Pg**	**08 04 30.3**	**+0.4**
	comp=Z,5.3nm,0.3s,SNR=12						
ARSA				⇑*i*Sn	**Sg**	**08 04 49.6**	**+0.1**
ARSA				⇓*i*Sg	**Sb**	**08 04 50.9**	**+2.1**
	comp=Z,4.6nm,0.2s						
ARSA	**Arzberg**	**1.51**	**80**	Pg	**Pg**	**08 04 30.3**	**+0.4**
	comp=Z,5.3nm,0.3s,SNR=12						
ARSA				Sn	**Sg**	**08 04 49.6**	**+0.1**
ARSA				Sg	**Sb**	**08 04 50.9**	**+2.1**
	comp=Z,4.6nm,0.2s						
MOTA	**Moosalm**	**1.56**	**283**	⇓*e*Pg	**Pn**	**08 04 29.2**	**0.0**
	comp=Z,10nm,0.3s,SNR=13						
MOTA				⇑*i*Sg	**Sg**	**08 04 51.0**	**+0.1**
	comp=Z,56nm,0.5s						
MOTA	**Moosalm**	**1.56**	**283**	Pg	**Pn**	**08 04 29.2**	**0.0**
	comp=Z,10nm,0.3s,SNR=13						
MOTA				Sg	**Sg**	**08 04 51.0**	**+0.1**
	comp=Z,56nm,0.5s						
PANI	**Panarotta**	**1.70**	**236**	*e*Pg	**Pg**	**08 04 33.8**	**+0.2**
PANI	**Panarotta**	**1.70**	**236**	*e*Pg	**Pg**	**08 04 33.8**	**+0.2**
FETA	**Feichten**	**1.78**	**271**	*e*Pg	**Pb**	**08 04 33.3**	**-0.7**
	comp=Z,9.8nm,0.3s,SNR=20						
FETA				⇓*i*Sn	**Sn**	**08 04 54.7**	**-0.6**
FETA				⇓*e*Sg	**Sg**	**08 04 57.7**	**-0.5**
	comp=Z,13nm,0.3s,SNR=5.3						
FETA	**Feichten**	**1.78**	**271**	Pg	**Pb**	**08 04 33.3**	**-0.7**
	comp=Z,9.8nm,0.3s,SNR=20						
FETA				Sn	**Sn**	**08 04 54.7**	**-0.6**
FETA				Sg	**Sg**	**08 04 57.7**	**-0.5**
	comp=Z,13nm,0.3s,SNR=5.3						
RETA	**Reutte**	**1.81**	**286**	⇓*i*Pg	**Pb**	**08 04 34.9**	**+0.4**
	comp=Z,15nm,0.3s						
RETA				⇓*i*Sg	**Sg**	**08 04 59.8**	**+0.6**
	comp=Z,18nm,0.3s						
RETA	**Reutte**	**1.81**	**286**	Pg	**Pb**	**08 04 34.9**	**+0.4**
	comp=Z,15nm,0.3s						
RETA				Sg	**Sg**	**08 04 59.8**	**+0.6**
	comp=Z,18nm,0.3s						
CONA	**Conrad Observa**	**1.94**	**61**	*e*Pg	**Pg**	**08 04 37.5**	**-0.6**
	comp=Z,1.7nm,0.2s,SNR=11						
CONA	**Conrad Observa**	**1.94**	**61**	Pg	**Pg**	**08 04 37.5**	**-0.6**
	comp=Z,1.7nm,0.2s,SNR=11						
MOSI	**Grossmontoni**	**1.95**	**259**	Pg	**Pn**	**08 04 35.6**	**+0.9**
	comp=Z,59nm,0.8s						
MOSI	**Grossmontoni**	**1.95**	**259**	Pg	**Pn**	**08 04 35.6**	**+0.9**
	comp=Z,59nm,0.8s						
MOSI	**Grossmontoni**	**1.95**	**259**	⇓Pn	**Pb**	**08 04 36.7**	**-0.3**
MOSI				*e*Sn	**Sb**	**08 05 03.0**	**+1.4**
KHC	**Kasperske Hory**	**2.12**	**4**	*e*PN	**Pb**	**08 04 38.8**	**-0.9**
KHC				*e*PG	**Pg**	**08 04 40.4**	**-1.2**
KHC				*e*SN	**Sb**	**08 05 05.5**	**-0.7**
KHC				*e*SG	**Sg**	**08 05 10.1**	**+1.1**
	comp=Z,6.1nm,0.3s						
KHC	**Kasperske Hory**	**2.12**	**4**	Pn	**Pb**	**08 04 38.8**	**-0.9**
RNI	**Roncone**	**2.13**	**242**	*e*Pn	**Pb**	**08 04 40.4**	**+0.5**
RNI				*e*Sn	**Sg**	**08 05 08.9**	**-0.4**
RNI	**Roncone**	**2.13**	**242**	*e*Pn	**Pb**	**08 04 40.4**	**+0.5**
DAVA	**Damuels**	**2.37**	**278**	*e*Pg	**Pb**	**08 04 45.2**	**+1.1**
	comp=Z,15nm,0.2s,SNR=26						
DAVA				*e*Sg	**Sg**	**08 05 18.2**	**+1.0**
	comp=Z,31nm,0.4s,SNR=7.6						
DAVA	**Damuels**	**2.37**	**278**	Pg	**Pb**	**08 04 45.2**	**+1.1**
	comp=Z,15nm,0.2s,SNR=26						
DAVA				Sg	**Sg**	**08 05 18.2**	**+1.0**
	comp=Z,31nm,0.4s,SNR=7.6						
UDBI	**Udbina**	**3.02**	**145**	*i* Pn	**Pb**	**08 04 52.0**	**-3.1**
UDBI				Sn	**Sb**	**08 05 31.5**	**-0.6**
PRU	**Pruhonice**	**3.08**	**15**	*e*PG	**Pb**	**08 04 57.5**	**+1.5**
PRU				*e*SG	**Sg**	**08 05 39.9**	**+0.2**
	comp=Z,8.7nm,0.5s						
PRU	**Pruhonice**	**3.08**	**15**	Pg	**Pb**	**08 04 57.5**	**+1.5**
PRU				Sg	**Sg**	**08 05 39.9**	**+0.2**
	comp=Z,8.7nm,0.5s						
PVCC	**Panska Ves**	**3.60**	**13**	*e*SG	**Sg**	**08 05 56.8**	**+0.1**
	comp=Z,9.4nm,0.3s						
PVCC	**Panska Ves**	**3.60**	**13**	Sg	**Sg**	**08 05 56.8**	**+0.1**
	comp=Z,9.4nm,0.3s						
KRLC	**Kraliky**	**3.82**	**36**	*e*SG	**Sg**	**08 06 03.5**	**-0.1**
KRLC	**Kraliky**	**3.82**	**36**	Sg	**Sg**	**08 06 03.5**	**-0.1**
DPC	**Dobruska-Polom**	**3.88**	**30**	*e*PG	**Pg**	**08 05 13.1**	**-2.1**
DPC				*e*SG	**Sg**	**08 06 05.2**	**-0.2**
DPC	**Dobruska-Polom**	**3.88**	**30**	Pg	**Pg**	**08 05 13.1**	**-2.1**
DPC				Sg	**Sg**	**08 06 05.2**	**-0.2**
BRG	**Berggiesshubel**	**3.88**	**6**	SG	**Sg**	**08 06 05.5**	**+0.1**
	comp=Z,4.4nm,0.5s						
UPC	**Upice**	**3.91**	**26**	*e*SG	**Sg**	**08 06 06.4**	**-0.2**
	comp=Z,1.6nm,0.2s						
UPC	**Upice**	**3.91**	**26**	Sg	**Sg**	**08 06 06.4**	**-0.2**
	comp=Z,1.6nm,0.2s						
CLL	**Collm**	**4.30**	**357**	*e*Sg	**Sg**	**08 06 18.0**	**-0.9**
	comp=Z,5.0nm,0.7s						
CDF	**Champ du Feu**	**4.32**	**291**	*e*Pn	**Pn**	**08 05 07.7**	**+0.6**
CDF	**Champ du Feu**	**4.32**	**291**	*e*Pg	**Pg**	**08 05 23.5**	**-0.2**
CDF				*e*Sn	**Sn**	**08 05 57.9**	**+0.1**
CDF				*e*Sg	**Sg**	**08 06 21.1**	**+1.5**
	comp=Z,2.8nm,0.4s						
CDF	**Champ du Feu**	**4.32**	**291**	*e*Pn	**Pn**	**08 05 07.7**	**+0.6**
CDF	**Champ du Feu**	**4.32**	**291**	*e*Pg	**Pg**	**08 05 23.5**	**-0.2**
CDF				*e*Sn	**Sn**	**08 05 57.9**	**+0.1**
CDF				*e*Sg	**Sg**	**08 06 21.1**	**+1.5**
	comp=Z,1.4nm,0.4s						
HINF	**Hinteralfeld**	**4.47**	**283**	*e*Pn	**Pn**	**08 05 10.1**	**+0.9**
HINF				*e*Sn	**Sn**	**08 06 01.8**	**+0.4**
	comp=Z,5.6nm,0.2s						
HINF	**Hinteralfeld**	**4.47**	**283**	*e*Pn	**Pn**	**08 05 10.1**	**+0.9**
HINF				*e*Sn	**Sn**	**08 06 01.8**	**+0.4**
	comp=Z,2.8nm,0.2s						
HAU	**Haudompre**	**4.83**	**284**	*e*Pn	**Pn**	**08 05 16.0**	**+1.9**
HAU				*e*Sn	**Sn**	**08 06 11.1**	**+0.7**
	comp=Z,3.0nm,0.3s						
HAU	**Haudompre**	**4.83**	**284**	*e*Pn	**Pn**	**08 05 16.0**	**+1.9**
HAU				*e*Sn	**Sn**	**08 06 11.1**	**+0.7**
	comp=Z,1.5nm,0.3s						
CABF	**La Chapelle**	**4.99**	**268**	*e*Pn	**Pn**	**08 05 17.7**	**+1.3**
CABF	**La Chapelle**	**4.99**	**268**	*e*Pg	**Pg**	**08 05 35.7**	**-0.8**
CABF	**La Chapelle**	**4.99**	**268**	*e*Pn	**Pn**	**08 05 17.7**	**+1.3**
CABF	**La Chapelle**	**4.99**	**268**	*e*Pg	**Pg**	**08 05 35.7**	**-0.8**
PAGF	**Fort de Pagny**	**5.35**	**289**	*e*Pn	**Pn**	**08 05 22.5**	**+1.3**
PAGF	**Fort de Pagny**	**5.35**	**289**	*e*P	Pn	08 05 27.0	+5.8
PAGF				*e*Sn	**Sn**	**08 06 23.0**	**-0.1**
	comp=Z,1.3nm,0.4s						
PAGF	**Fort de Pagny**	**5.35**	**289**	*e*Pn	**Pn**	**08 05 22.5**	**+1.3**
PAGF				*e*Sn	**Sn**	**08 06 23.0**	**-0.1**
	comp=Z,0.6nm,0.4s						
ORIF	**Oris-en-Rattie**	**5.61**	**251**	*e*Pn	**Pn**	**08 05 25.5**	**+0.7**

MAN 27 08:22:12, 12°.18N×124°.55E, h72km, mb4.4, ML3.2, MS3.1, 3D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**1.04**	**123**	*e*P	Pn	08 22 32.7	+1.6
BESP				*e*S	Sn	08 22 47.3	+2.0
PLP	**Palo**	**1.09**	**157**	⇓*e*P	Pn	08 22 32.4	+0.6
PLP				*e*

AAK Sn **Sn** **08 48 16.9 -1.0**
0.5nm,0.3s,baz=209,slow=19,SNR=3.1
AAK Lg Lg 08 49 02.2
2.0nm,0.3s,baz=233,slow=20,SNR=4.4
TKM2 Tokmak 2 8.02 70 ⇑Pn Pn 08 47 10.1 +1.9
2.4nm,0.5s
TKM2 ⇑Sn **Sn** **08 48 40.8 +1.7**
5.4nm,0.7s
TKM2 ⇓Lg Lg 08 49 25.1
20nm,0.7s
AB31 Akbulak array 9.43 338 ⇑Pn **Pn** **08 47 28.0 +0.8**
1.1nm,0.3s,baz=157,slow=14,SNR=42
AB31 ⇓Sn **Sn** **08 49 12.1 -1.0**
1.9nm,0.6s,baz=153,slow=25,SNR=2.6
AB31 ⇑Lg Lg 08 50 07.1
2.5nm,0.5s
AKTO Aktyubinsk 11.05 335 ⇓Pn **Pn** **08 47 50.2 +0.7**
1.1nm,0.6s
AKTO ⇓Sn **Sn** **08 49 52.9 -0.2**
4.3nm,0.9s
AKTO ⇓Lg Lg 08 50 53.0
9.2nm,1.2s
AKTO Aktyubinsk 11.05 335 Pn **Pn** **08 47 51.8 +2.3**
0.3nm,0.3s,baz=170,slow=8.8,SNR=4.2
AKTO Sn **Sn** **08 49 52.0 -1.1**
0.3nm,0.3s,baz=196,slow=18,SNR=2.7
VOSK Vostochnaya 12.71 16 ⇑Pn **Pn** **08 48 12.3 +0.3**
2.6nm,0.6s
VOSK ⇑Sn Sn 08 50 29.1 -4.4
3.4nm,0.7s
VOSK ⇑Lg Lg 08 51 40.2
10nm,0.9s
BVA0 Borovoye Array 12.88 14 ⇓Pn **Pn** **08 48 14.0 -0.3**
2.9nm,0.5s,baz=181,slow=11,SNR=11
BVA0 ⇓Sn Sn 08 50 34.3 -3.3
3.6nm,0.6s,baz=304,slow=56,SNR=5.7
BVAR Borovoye Array 12.88 14 Pn **Pn** **08 48 14.8 +0.5**
1.3nm,0.3s,baz=187,slow=12,SNR=9.0
BVAR Sn Sn 08 50 33.7 -3.9
0.7nm,0.3s,baz=201,slow=20,SNR=4.7
BVAR Lg Lg 08 52 12.7
baz=198,slow=32,SNR=1.9
BRVK Borovoye 12.89 14 ⇑Pn **Pn** **08 48 14.4 -0.1**
4.4nm,0.4s
BRVK ⇑Sn Sn 08 50 34.2 -3.8
6.2nm,0.6s
KURBB Kurchatov Arra 13.60 38 ⇑Pn **Pn** **08 48 24.2 0.0**
0.9nm,0.6s
KURBB ⇑Sn **Sn** **08 50 53.0 -2.3**
4.2nm,0.8s
KURBB Kurchatov Arra 13.60 38 Pn **Pn** **08 48 21.6 -2.6**
0.1nm,0.3s,baz=231,slow=12,SNR=2.6
KURK Kurchatov 13.70 38 ⇑Pn **Pn** **08 48 25.3 -0.4**
1.8nm,1.4s
KURK ⇓Sn **Sn** **08 50 55.9 -2.0**
0.9nm,0.7s
MK31 Makanchi Array 13.73 58 ⇓Pn **Pn** **08 48 26.6 +0.5**
1.0nm,0.5s,baz=248,slow=15,SNR=20
MK31 ⇑Lg Lg 08 52 22.0
3.4nm,0.7s
MKAR Makanchi Array 13.73 58 Pn **Pn** **08 48 25.0 -1.1**
0.3nm,0.3s,baz=246,slow=14,SNR=10
MKAR Lg Lg 08 52 34.2
0.1nm,0.3s,baz=250,slow=28,SNR=4.7
ZALV Zalesovo Beam 18.70 38 P **Pn** **08 49 30.1 +0.1**
baz=237,slow=13,SNR=5.3
AKASG Malin Array Be 26.91 304 P **P** **08 50 53.1 +0.7**
0.1nm,0.3s,baz=80,slow=7.9,SNR=4.0
ARCES ARCESS Array B 35.63 337 P **P** **08 52 10.5 +1.6**
3.3nm,0.9s,baz=107,slow=7.8,SNR=5.1
HFS Hagfors 37.05 319 P **P** **08 52 20.9 -0.3**
3.7nm,0.9s,baz=91,slow=10,SNR=2.6
TORD Torodi Ar. Bea 61.57 263 P **P** **08 55 28.2 -0.9**
0.7nm,0.7s,baz=47,slow=7.6,SNR=4.6
ILAR Eielson Array 71.94 14 P **P** **08 56 35.0 +0.5**
0.5nm,0.9s,baz=329,slow=4.5,SNR=5.3
WRA Warramunga Arr 87.92 118 P **P** **08 57 59.5 -1.9**
0.4nm,0.9s,baz=329,slow=5.1,SNR=2.9
ASAR Alice Springs 90.24 121 P **P** **08 58 10.3 -2.1**
0.2nm,0.7s,baz=312,slow=4.5,SNR=4.6

*IDC **27** 09:17:08.4±3.3, 25°.03N×106°.58W, h0km, mb3.3/1, mb1 3.7/6, mb1mx3.5/25, mbtmp3.3/6, ML3.4/5, MS3.1/2, Ms1 3.1/2, ms1mx2.7/15, Error ellipse: s-maj=50.4km s-min=18.6km az=135.0*

ISC 27 09:17:13.7±2.3, 25°.4N±0°.2×106°.65W±0°.08, h10km, n21, σ1§01/21, Northern Mexico

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPIG	**La Paz**	**3.55**	**250**	Pn		Pn 09 18 03.0	-5.9
	1.6nm,0.3s,baz=72,slow=9.6,SNR=3.8						
LPIG				Lg		Lg 09 18 52.6	
	1.9nm,0.3s,baz=15,slow=12,SNR=2.3						
LPIG				LR		LR 09 19 15.3	
	comp=Z,150nm,19.4s,baz=268,slow=36						
626A	**Big Bend Ranch**	**4.73**	**28**	P		**Pn** **09 18 26.3 +1.1**	
	baz=6.7,SNR=14						
626A				S		**Sg** **09 19 44.4 -1.3**	
	baz=6.7						
TXAR	**Lajitas Array**	**4.76**	**33**	Pn		**Pn** **09 18 25.7 +0.1**	
	0.7nm,0.3s,baz=205,slow=14,SNR=49						
TXAR				Pg		**Pg** **09 18 44.6 -0.2**	
	4.1nm,0.3s,baz=204,slow=18,SNR=30						
TXAR				Lg		Lg 09 19 44.8	
	8.1nm,0.3s,baz=210,slow=27,SNR=12						
526A	**Mary Lane Ranc**	**5.20**	**25**	P		**Pn** **09 18 32.5 +0.8**	
	baz=7.2						
526A				S		Sg 09 19 58.0 -2.7	
	baz=7.2						
628A	**Black Gap, Mar**	**5.29**	**38**	P		**Pn** **09 18 32.9 0.0**	
	baz=7.1,SNR=9.5						
527A	**Woodward Ranch**	**5.47**	**29**	P		**Pn** **09 18 35.7 +0.3**	
	baz=7.4,SNR=17						
425A	**Indio Mountain**	**5.60**	**15**	P		**Pn** **09 18 37.9 +0.8**	
	baz=7.6,SNR=10						
426A	**McDonald Obser**	**5.77**	**23**	P		**Pn** **09 18 40.2 +0.6**	
	baz=7.8,SNR=30						
427A	**Hayter Ranch,**	**6.17**	**27**	P		**Pn** **09 18 45.9 +0.9**	
	baz=8.1						
326A	**Caldwell Ranch**	**6.38**	**21**	P		**Pn** **09 18 48.7 +0.8**	
	baz=8.4,SNR=13						
221A	**Mesquite Ranch**	**6.69**	**352**	P		**Pn** **09 18 53.3 +1.1**	
	baz=8.7,SNR=37						
220A	**Playas Peak, P**	**6.72**	**346**	P		**Pn** **09 18 53.2 +0.6**	
	baz=8.7						
732A	**Laxson Ranch,**	**6.83**	**59**	Sb		**Sg** **09 20 54.1 +1.0**	
	baz=8.3						
121A	**Cookes Peak, D**	**7.21**	**352**	P		**Pn** **09 19 00.1 +0.8**	
	baz=9.2,SNR=16						
120A	**U Bar Ranch, L**	**7.36**	**347**	P		**Pn** **09 19 02.1 +0.7**	
	baz=9.3,SNR=9.4						
124A	**Stringfield Ra**	**7.38**	**8**	P		**Pn** **09 19 04.0 +2.3**	
	baz=9.4,SNR=14						
ANMO	**Albuquerque**	**9.55**	**1**	Pn		**Pn** **09 19 32.9 +1.4**	
	0.1nm,0.3s,baz=145,slow=12,SNR=2.5						
ANMO				Lg		Lg 09 22 23.8	
	0.1nm,0.3s,baz=241,slow=5.3,SNR=4.4						
NVAR	**Mina Array Bea**	**16.34**	**326**	Pn		**P** **09 21 05.6 -0.7**	
	0.1nm,0.3s,baz=138,slow=9.6,SNR=3.5						
PDAR	**Pinedale Array**	**17.52**	**353**	P		**Pn** **09 21 18.4 +0.1**	
	0.0nm,0.3s,baz=165,slow=7.5,SNR=5.6						
SADO	**Sadowa**	**29.47**	**42**	LR		LR 09 35 48.6	
	comp=Z,63nm,20.7s,baz=264,slow=38						
ILAR	**Eielson Array**	**47.08**	**338**	P		**P** **09 25 44.8 -0.6**	
	0.5nm,0.9s,baz=151,slow=7.1,SNR=4.8						

IDC 27 09:23:19.4±13.0, 29°.94N×139°.82E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/23, mbtmp3.4/3, Error ellipse: s-maj=526.4km s-min=33.5km az=66.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAT	**Matsushiro**	**6.72**	**349**	P		Pn 09 24 52.8	-6.6
MKAR	**Makanchi Array**	**47.08**	**308**	P		P 09 31 52.9	-0.1
	0.3nm,0.6s,baz=96,slow=8.5,SNR=4.5						
WRA	**Warramunga Arr**	**49.87**	**187**	P		P 09 32 14.6	0.0
	0.5nm,0.4s,baz=5.3,slow=7.6,SNR=6.1						
ASAR	**Alice Springs**	**53.60**	**187**	P		P 09 32 42.2	-0.2
	0.1nm,0.5s,baz=357,slow=5.0,SNR=4.6						

*NEIC **27** 09:56:23.6±0.4, 4°.64N×127°.07E, h35km, mb4.4/6, Error ellipse: s-maj=15.8km s-min=7.7km az=66.0*

*IDC **27** 09:56:23.1±4.3, 4°.60N×127°.08E, h33km±32km, mb3.9/12, mb1 4.1/12, mb1mx3.9/25, mbtmp3.9/12, Error ellipse: s-maj=43.0km s-min=13.6km az=68.0*

*ISCJB **27** 09:56:26.7±0.5, 4°.54N±0°.06×127°.0E±0°.1, h81km, mb4.1/15, Error ellipse: s-maj=17.0km s-min=6.5km az=156.4*

*MAN **27** 09:56:34, 4°.85N×126°.66E, h79km, mb4.8, ML3.8, MS3.8*

ISC 27 09:56:28.8±0.6, 4°.50N±0°.08×126°.9E±0°.1, h81km, n35, σ1§59/38, mb4.2/15, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**2.49**	**309**	*eP*		**Pn** **09 57 06.6 -0.9**	
MATI	**Mati**	**2.51**	**345**	*eP*		**Pn** **09 57 08.7 +1.1**	
MATI				*eS*		**Sn** **09 57 34.7 -2.6**	
CTBH	**Cotabato--PC H**	**3.77**	**316**	⇑*iP*		**Pn** **09 57 26.2 +1.6**	
BUKP	**Musuan**	**3.82**	**332**	*eP*		**Pn** **09 57 27.8 +2.5**	
PAGZ	**Pagadian**	**4.82**	**314**	*eP*		**Pn** **09 57 40.6 +1.7**	
KSM	**Kuching**	**16.83**	**260**	*eP*		**Pn** **10 00 19.9 +0.4**	
	4.9nm,0.5s						
FITZ	**Fitzroy Crossi**	**22.50**	**183**	*eP*		**P** **10 01 21.5 -0.3**	
	3.0nm,0.6s						
FITZ	**Fitzroy Crossi**	**22.50**	**183**	P		**P** **10 01 21.7 -0.1**	
	2.1nm,0.4s,baz=351,slow=9.7,SNR=17						
WRAB	**Tennant Creek**	**25.37**	**163**	*eP*		**P** **10 01 48.4 -0.2**	
	12nm,0.9s						
WRA	**Warramunga Arr**	**25.37**	**163**	P		**P** **10 01 47.8 -0.8**	
WRA	**Warramunga Arr**	**25.37**	**163**	P		**P** **10 01 47.8 -0.8**	
	15nm,1.1s,baz=343,slow=9.9,SNR=77						
ASAR	**Alice Springs**	**28.82**	**167**	P		**P** **10 02 19.1 -0.5**	
ASAR	**Alice Springs**	**28.82**	**167**	P		**P** **10 02 19.1 -0.5**	
	0.4nm,0.5s,baz=354,slow=8.6,SNR=16						
CMAR	**Chiang Mai Arr**	**30.63**	**299**	P		**P** **10 02 35.6 0.0**	
CMAR	**Chiang Mai Arr**	**30.63**	**299**	P		**P** **10 02 35.6 0.0**	
	0.6nm,0.3s,baz=113,slow=7.7,SNR=5.6						
STKA	**Stephens Creek**	**38.79**	**160**	*eP*		**P** **10 03 45.9 +0.2**	
	61nm,3.0s						
STKA	**Stephens Creek**	**38.79**	**160**	P		**P** **10 03 44.4 -1.3**	
	2.6nm,0.5s,baz=329,slow=9.4,SNR=8.2						
ARMA	**Armidale**	**42.02**	**147**	*eP*		**P** **10 04 13.7 +1.1**	
	38nm,1.6s						
SONM	**Songino Array**	**46.62**	**341**	P		**P** **10 04 49.6 +0.6**	
SONM	**Songino Array**	**46.62**	**341**	P		**P** **10 04 49.6 +0.6**	
	0.5nm,0.5s,baz=142,slow=7.3,SNR=2.5						
MK31	**Makanchi Array**	**57.02**	**325**	*eP*		**P** **10 06 06.1 -0.2**	
MKAR	**Makanchi Array**	**57.02**	**325**	P		**P** **10 06 06.0 -0.3**	
MKAR				ScP		**ScP** **10 10 58.2 +5.1**	
MKAR	**Makanchi Array**	**57.02**	**325**	P		**P** **10 06 06.0 -0.3**	
	0.9nm,0.5s,baz=116,slow=8.1,SNR=19						
MKAR				ScP		**ScP** **10 10 58.2 +5.1**	
	0.2nm,0.7s,baz=102,slow=5.6,SNR=3.6						
ZALV	**Zalesovo Beam**	**59.98**	**333**	P		**P** **10 06 25.9 -0.7**	
ZALV	**Zalesovo Beam**	**59.98**	**333**	P		**P** **10 06 25.9 -0.7**	
	0.6nm,0.3s,baz=126,slow=4.4,SNR=2.6						
KURBB	**Kurchatov Arra**	**61.18**	**327**	P		**P** **10 06 34.4 -0.6**	
	1.4nm,0.2s,baz=126,slow=4.8,SNR=10						
KURK	**Kurchatov**	**61.18**	**327**	*eP*		**P** **10 06 34.2 -0.7**	
	3.2nm,1.1s						
AKTO	**Aktyubinsk**	**73.16**	**321**	P		**P** **10 07 49.6 -1.2**	
AKTO	**Aktyubinsk**	**73.16**	**321**	P		**P** **10 07 49.6 -1.2**	
	1.0nm,0.4s,baz=94,slow=5.6,SNR=5.6						
ILAR	**Eielson Array**	**84.34**	**25**	P		**P** **10 08 50.2 -1.5**	
ILAR	**Eielson Array**	**84.34**	**25**	P		**P** **10 08 50.2 -1.5**	
	0.4nm,0.9s,baz=253,slow=6.3,SNR=3.7						
FINES	**FINESS Array B**	**91.23**	**332**	P		**P** **10 09 24.3 -0.5**	
FINES	**FINESS Array B**	**91.23**	**332**	P		**P** **10 09 24.3 -0.5**	
	2.9nm,1.0s,baz=86,slow=4.3,SNR=4.9						
TXAR	**Lajitas Array**	**121.00**	**52**	PKP		**PKPdf** **10 15 13.6 +0.8**	
TXAR	**Lajitas Array**	**121.00**	**52**	PKP		**PKPdf** **10 15 13.6 +0.8**	
	0.6nm,1.1s,baz=264,slow=3.6,SNR=3.5						

IDC 27 10:06:47.4±7.8, 5°.66S×124°.58E, h498km±114km, mb2.2/2, mb1 2.5/4, mb1mx2.4/22, mbtmp2.4/4, Error ellipse: s-maj=141.7km s-min=38.1km az=53.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.41**	**175**	P		P 10 09 30.6	+0.2
	0.1nm,0.3s,baz=356,slow=14,SNR=2.7						
WRA	**Warramunga Arr**	**17.08**	**147**	P		P 10 10 19.6	+0.2
	0.1nm,0.3s,baz=323,slow=11,SNR=7.4						
ASAR	**Alice Springs**	**20.03**	**154**	P		P 10 10 46.4	-0.1
	0.2nm,0.5s,baz=343,slow=15,SNR=5.6						
MKAR	**Makanchi Array**	**64.23**	**329**	P		P 10 16 32.9	0.0
	0.2nm,0.5s,baz=126,slow=7.4,SNR=2.9						

*NIED **27** 10:27:00, 45°.40N×150°.40E, h53km, Mw4.0 Best double couple: M0 1.07000×10^15 NP1:φ=133.00000°, δ=85.00000°, λ=-27.00000°. NP2:φ=226.00000°, δ=63.00000°, λ=-174.00000°.*

*ISCJB **27** 10:27:13.2±0.5, 44°.99N±0°.07×150°.50E±0°.06, h39km, mb3.5/10, Error ellipse: s-maj=10.3km s-min=4.5km az=152.1*

*JMA **27** 10:27:13.5±0.6, 45°.44N×150°.44E, h30km, M4.5*

*SKHL **27** 10:27:15.4±1.0, 45°.21N×150°.47E, h65km±5km, mb4.3/2*

*MOS **27** 10:27:16.0±1.2, 45°.17N×150°.29E, h70km, mb4.3/3, Error ellipse: s-maj=15.9km s-min=12.4km az=141.2*

*IDC **27** 10:27:18.4±2.9, 45°.25N×150°.38E, h77km±26km, mb3.3/10, mb1 3.5/14, mb1mx3.4/27, mbtmp3.3/14, MS2.6/2, Ms1 2.6/2, ms1mx2.4/17, Error ellipse: s-maj=25.3km s-min=16.0km az=137.0*

ISC 27 10:27:13.9±0.7, 45°.07N±0°.07×150°.57E±0°.06, h39km, n55, σ1§78/65, mb3.6/10, 1C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.92**	**276**	⇓*iP*N		**Pn** **10 27 43.4 -0.6**	
KUR				*eS*		**Sn** **10 28 05.5 -1.4**	
KUR				pmax		pmax	
	comp=Z,77nm,0.2s						
KUR				pmax		pmax	
	comp=E,383nm,0.3s						
KUR				pmax		pmax	
	comp=N,193nm,0.2s						
KUR				smax		smax	
	comp=N,912nm,0.5s						
KUR				smax		smax	
	comp=E,281nm,0.3s						
KUR	**Kuril'sk**	**1.92**	**276**	*i* P		**Pn** **10 27 43.4 -0.6**	
KUR				AMB		AMB 10 27 44.4	
	comp=E,42nm,0.9s						
KUR				AMB		AMB 10 27 44.4	
	comp=E,18nm,0.9s						
KUR				AMB		AMB 10 27 44.4	
	comp=E,90nm,0.9s						
KUR				*i* S		**Sn** **10 28 05.5 -1.4**	
KUR				A		A 10 28 08.5	
	comp=E,912nm,0.5s						
KUR				A		A 10 28 08.5	
	comp=E,281nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**3.52**	**255**	*d* iPN		**Pn** **10 28 07.6 +1.6**	
YUK				*i* S		**Sn** **10 28 46.3 -0.1**	
YUK				pmax		pmax	
	comp=Z,167nm,0.3s						
YUK				pmax		pmax	
	comp=E,88nm,0.1s						
YUK				pmax		pmax	
	comp=N,47nm,0.1s						
YUK				smax		smax	
	comp=N,161nm,0.4s						
YUK				smax		smax	
	comp=E,313nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**3.52**	**255**	*i* P		**Pn** **10 28 07.6 +1.6**	
YUK				AMB		AMB 10 28 12.0	
	comp=E,47nm,0.3s						
YUK				AMB		AMB 10 28 12.0	
	comp=E,88nm,0.3s						
YUK				AMB		AMB 10 28 12.0	
	comp=E,117nm,0.3s						
YUK				*i* S		**Sn** **10 28 46.3 -0.1**	
YUK				A		A 10 28 54.6	
	comp=E,161nm,0.4s						
YUK				A		A 10 28 54.6	
	comp=E,313nm,0.4s						
NEM2	**Nemuro 2**	**3.87**	**246**	P		**Pn** **10 28 11.0 +0.3**	
NEM2				*eS*		**Sn** **10 28 53.9 -0.9**	
JRA	**Rausu**	**4.06**	**256**	P		**Pn** **10 28 15.3 +1.9**	
JNK	**Nakash**	**4.45**	**253**	P		**Pn** **10 28 20.1 +1.3**	
JAK	**Akkeshi**	**4.71**	**246**	P		**Pn** **10 28 22.8 +0.4**	
JAK				*eS*		**Sn** **10 29 14.6 -1.2**	
JTKR	**Abashiri--Toko**	**4.89**	**259**	P		**Pn** **10 28 26.6 +1.8**	
JAR	**Ashorobuto**	**5.20**	**253**	P		**Pn** **10 28 31.5 +2.4**	
JAR				*eS*		**Sn** **10 29 29.1 +1.3**	
JMP	**Maruseppu**	**5.26**	**261**	P		**Pn** **10 28 31.9 +1.9**	
JOB	**Onbets**	**5.32**	**248**	P		**Pn** **10 28 32.2 +1.5**	
JOB				*eS*		**Sn** **10 29 29.7 -1.0**	
JKK2	**Kamakawa 2**	**5.72**	**261**	P		**Pn** **10 28 38.9 +2.6**	
JCH	**Churui**	**5.76**	**247**	P		**Pn** **10 28 37.8 +1.0**	
JCH				*eS*		**Sn** **10 29 39.9 -1.7**	
YSS	**Yuzh-Sakhalins**	**5.76**	**292**	*e*PN		**Pn** **10 28 37.0 +0.2**	
YSS	**Yuzh-Sakhalins**	**5.76**	**292**	*e*P		**Pn** **10 28 37.0 +0.2**	
ASAJ	**Asahikawa**	**5.77**	**263**	P		**Pn** **10 28 39.0 +2.1**	
ASAJ	**Asahikawa**	**5.77**	**263**	P		**Pn** **10 28 39.1 +2.2**	
	comp=E,1.6nm,0.3s,baz=99,slow=14,SNR=19						
ASAJ				S		Sn 10 29 57.1 +15	
	baz=81,slow=19,SNR=2.0						
ASAJ				LR		LR 10 30 57.7	
	comp=E,91nm,20.3s,baz=167,slow=39						
JFR	**Furan**	**6.05**	**254**	P		**Pn** **10 28 43.0 +2.2**	
JEM	**Erimo**	**6.19**	**243**	P		Pn 10 28 45.3 +2.6	
JEM				*eS*		**Sn** **10 29 52.7 +0.6**	
ERM	**Erimo**	**6.19**	**243**	*c i*PN		Pn 10 28 45.7 +3.0	
ERM	**Erimo**	**6.19**	**243**	*e*P		Pn 10 28 45.7 +3.0	
JNBK	**Urakawa-nobuka**	**6.32**	**247**	P		**Pn** **10 28 45.0 +0.6**	
JNBK				*eS*		**Sn** **10 29 52.9 -2.3**	
JBT2	**Biratori 2**	**6.35**	**252**	P		**Pn** **10 28 46.3 +1.4**	
JBT2				*eS*		**Sn** **10 29 54.5 -1.6**	
JNB	**Noboribetsu**	**7.37**	**253**	P		**Pn** **10 29 00.1 +1.2**	
JNB				*eS*		**Sn** **10 30 18.7 -2.5**	
JKB	**Kayabe**	**7.63**	**249**	P		**Pn** **10 29 03.2 +0.8**	
JKB				*eS*		**Sn** **10 30 23.0 -4.5**	
JYM2	**Yakumo 2**	**7.97**	**252**	P		**Pn** **10 29 08.0 +0.9**	
JANG	**Nango**	**8.15**	**238**	*e*S		**Sn** **10 30 34.9 -5.4**	
JTM	**Tenmabayashi**	**8.18**	**242**	P		**Pn** **10 29 10.7 +0.8**	
JTM				*eS*		**Sn** **10 30 35.6 -5.4**	
JSR	**Shiriuchi**	**8.21**	**248**	P		**Pn** **10 29 11.1 +0.8**	
JTH	**Tanohata**	**8.22**	**234**	*e*S		Sn 10 30 35.2 -6.9	
JOSM	**Okushiri--Mats**	**8.59**	**254**	P		**Pn** **10 29 16.9 +1.3**	
OFUJ	**Ofunato**	**8.92**	**231**	P		**Pn** **10 29 19.5 -0.6**	
JRG	**Rokugo**	**9.29**	**236**	P		**Pn** **10 29 26.5 +1.3**	
PETK	**Petropavlovsk-**	**9.30**	**28**	PN		Pn 10 29 30.2 +4.9	
PETK	**Petropavlovsk-**	**9.30**	**28**	P		Pn 10 29 30.2 +4.9	
	comp=E,0.1nm,0.3s,baz=204,slow=17,SNR=2.8						
JIO	**Ouri**	**9.54**	**229**	P		**Pn** **10 29 28.5 -0.1**	
JIO				*e*S		Sn 10 31 07.6 -6.9	
USRK	**Ussuriysk Arra**	**13.27**	**273**	P		**Pn** **10 30 21.1 +1.6**	
	comp=E,0.3nm,0.3s,baz=90,slow=16,SNR=4.8						
KSRS	**Korea Array**	**18.61**	**254**	P		**Pn** **10 31 28.4 +0.1**	
	baz=59,slow=11,SNR=4.6						
KSRS				LR		LR 10 39 11.8	
	comp=E,14nm,19.2s,baz=35,slow=38						
YAK	**Yakutsk**	**20.88**	**332**	*e*P		**P** **10 31 54.5 +2.3**	
YAK				pmax		pmax	
	comp=Z,20nm,0.9s						
YAK				pmax		pmax	
	comp=E,6.0nm,0.9s						
YAK				pmax		pmax	
	comp=N,7.0nm,0.9s						
ILAR	**Eielson Array**	**38.97**	**37**	*e*P		**P** **10 34 38.0 +2.2**	
ILAR	**Eielson Array**	**38.97**	**37**	P		**P** **10 34 35.7 -0.1**	
	comp=N,0.2nm,0.6s,baz=270,slow=6.0,SNR=4.1						
MKAR	**Makanchi Array**	**46.15**	**298**	P		**P** **10 35 32.9 -1.4**	
MKAR						10 37 09.8	
MKAR	**Makanchi Array**	**46.15**	**298**	*e*P		**P** **10 35 34.3 0.0**	
MKAR	**Makanchi Array**	**46.15**	**298**	P		**P** **10 35 32.9 -1.4**	
	comp=N,0.4nm,0.6s,baz=69,slow=7.3,SNR=5.2						
MKAR				PcP		**PcP** **10 37 09.8 0.0**	
	comp=N,0.3nm,0.6s,baz=84,slow=3.8,SNR=3.0						
CMAR	**Chiang Mai Arr**	**50.24**	**255**	P		**P** **10 36 06.9 +0.7**	
	comp=N,0.3nm,0.3s,baz=36,slow=9.4,SNR=3.2						
WRA	**Warramunga Arr**	**66.37**	**197**	P		**P** **10 37 60.0 +1.4**	
	comp=N,0.2nm,0.4s,baz=15,slow=6.9,SNR=4.9						
PDAR	**Pinedale Array**	**67.18**	**52**	P		**P** **10 38 03.1 -0.9**	
	comp=N,0.2nm,0.7s,baz=297,slow=4.0,SNR=2.4						
ASAR	**Alice Springs**	**70.07**	**196**	P		**P** **10 38 24.1 +2.3**	
	comp=N,0.4nm,0.8s,baz=9.7,slow=6.3,SNR=4.7						
AKASG	**Malin Array Be**	**71.94**	**325**	P		**P** **10 38 31.5 -1.3**	
AKASG	**Malin Array Be**	**71.94**	**325**	P		**P** **10 38 31.5 -1.3**	
	comp=N,0.3nm,0.4s,baz=34,slow=6.3,SNR=2.1						
STKA	**Stephens Creek**	**77.01**	**188**	P		**P** **10 39 01.6 -0.7**	
	comp=N,1.8nm,0.8s,baz=0.0,slow=15,SNR=2.4						
GERES	**GERESS Array B**	**79.16**	**333**	P		**P** **10 39 13.3 -1.1**	
	comp=N,0.5nm,0.7s,baz=39,slow=8.6,SNR=4.2						
TXAR	**Lajitas Array**	**79.87**	**59**	P		**P** **10 39 19.2 +0.6**	
	comp=N,0.4nm,0.4s,baz=297,slow=4.4,SNR=14						
TORD	**Torodi Ar. Bea**	**115.56**	**326**	PKP		**PKPdf** **10 45 50.6 -1.4**	
	comp=N,0.4nm,0.8s,baz=12,slow=2.7,SNR=2.4						

IDC 27 10:50:18.0±1.2, 5°.02N×126°.72E, h0km, mb3.5/6, mb1 3.7/6, mb1mx3.6/23, mbtmp3.6/6, Error ellipse: s-maj=94.0km s-min=18.2km az=72.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**23.00**	**183**	P		P 10 55 25.0	+0.4
	0.5nm,0.5s,baz=357,slow=17,SNR=4.0						
WRA	**Warramunga Arr**	**25.91**	**163**	P		P 10 55 52.2	+0.1
	1.1nm,0.6s,baz=344,slow=10.0,SNR=11						
ASAR	**Alice Springs**	**29.36**	**166**	P		P 10 56 22.9	-0.1
	0.2nm,0.8s,baz=353,slow=7.3,SNR=3.5						
STKA	**Stephens Creek**	**39.33**	**160**	P		P 10 57 48.6	-0.5
	2.5nm,0.8s,baz=340,slow=9.7,SNR=4.7						
SONM	**Songino Array**	**46.08**	**341**	P		P 10 58 44.8	+0.8
	0.2nm,0.4s,baz=148,slow=6.3,SNR=3.0						
MKAR	**Makanchi Array**	**56.50**	**325**	P		P 11 00 01.1	-1.0
	0.2nm,0.4s,baz=120,slow=7.4,SNR=6.8						

*ISCJB **27** 11:02:46.0±0.5, 30°.56N±0°.05×138°.01E±0°.08, h477km, mb3.2/4, Error ellipse: s-maj=9.6km s-min=6.4km az=7.5*

*IDC **27** 11:02:47.1±1.4, 30°.54N×137°.88E, h472km±18km, mb2.8/4, mb1 3.1/9, mb1mx2.8/29, mbtmp3.1/9, Error ellipse: s-maj=29.4km s-min=15.6km az=67.0*

*JMA **27** 11:02:47.2±0.6, 30°.62N×138°.18E, h480km, M3.4*

**ISC 27 11:02:46.6±0.8, 30°.56N±0°.07×138°.0E±0°.1, h477km, n22, σ1§77/29, mb3.

Ms1 4.3/22,ms1mx4.2/31,Error ellipse: s-maj=31.9km s-min=15.1km az=53.0

BJI ***27*** *11:18:34.5,6.30N×82.60W,h11km,mB5.5/5,Ms5.3/4, Ms7 5.0/4*

NEIC ***27*** *11:18:35.3±2.7,6.32N×82.64W,h10km±16km,mb4.8/76, Error ellipse: s-maj=8.3km s-min=4.5km az=211.0*

CASC ***27*** *11:18:36.7±3.0,6.59N×82.72W,h29km±42km,MD4.1, mb4.8(NEIC)*

GCMT ***27*** *11:18:38.8±0.2,6.45N×82.66W,h12km,MW5.0,Moment Tensor Solution. s39,c53; s87,c144; Moment tensor: Scale 10^16^Nm; Mrr0.12±.10; Mθθ-1.17±.08; Mφφ1.05±.11; Mrθ0.56±.24; Mθφ4.02±.07; Mφr-0.60±.26; Best double couple: M0=4.30000×10^16^ NP1:φs353.00000°,δ84.00000°, λ-171.00000°. NP2:φs262.00000°,δ81.00000°, λ-6.00000°. Principal axes: T 4.1100, Plg2.0000°, Azm127.0000°; N 0.2600, Plg80.0000°, Azm26.0000°; P -4.3800, Plg10.0000°, Azm217.0000°; Data Used: II IU CN G IC.*

ISCJB ***27*** *11:18:39.7±0.3,6.77N±0.03×82.61W±0.03,h33km, mb4.6/78,MS4.3/20 Error ellipse: s-maj=5.0km s-min=3.5km az=15.9*

ISC 27 11:18:37.3±3.0,6.42N±0.06×82.67W±0.06,h24km±21km, n370,σ1§28/336,mb4.7/78,MS4.3/20,2C-4D,South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**2.28**	**348**	*eP*	Pn	11 19 09.1	-4.4
BRU2	**Volcan**	**2.36**	**360**	‖*iP*	Pn	11 19 11.3	-3.5
BRU2				*eS*	Sn	11 19 37.6	-5.5
TBS2		**2.36**	**0**	*eP*	Pn	11 19 11.8	-2.9
TBS2				*eS*	Sn	11 19 38.3	-4.7
BRU	**Baru**	**2.38**	**3**	↑*iP*	Pn	11 19 12.0	-3.2
CTCR	**Cotoan**	**2.46**	**358**	‖*iP*	Pn	11 19 12.5	-3.7
CNI	**Changuinola**	**2.98**	**3**	*i P*	**Pn**	**11 19 20.9**	**-2.3**
CNI				*eS*	**Sn**	**11 19 55.7**	**-2.5**
BUS	**Buena Vista**	**3.30**	**341**	↑*eP*	Pn	11 19 24.4	-3.5
BUS				*eS*	Sn	11 20 02.2	-4.4
QCR	**Quepos**	**3.33**	**334**	*eP*	Pn	11 19 24.2	-3.8
QCR				*eS*	Sn	11 20 02.6	-4.3
URSC	**Urasca**	**3.57**	**342**	*eP*	Pn	11 19 28.6	-2.7
ZANG	**Zanguenga, Cho**	**3.75**	**48**	*eP*	**Pn**	**11 19 31.6**	**-2.1**
ZANG				*eS*	**Sn**	**11 20 15.5**	**-1.8**
SJS	**Escuela Geolog**	**3.76**	**339**	*eP*	**Pn**	**11 19 31.3**	**-2.6**
SJS				*eS*	Sn	11 20 11.8	-5.7
PINA	**Piqa, Costa Ab**	**3.82**	**42**	*eP*	**Pn**	**11 19 31.9**	**-2.8**
BCIP	**Isla Barro Col**	**3.92**	**46**	‖*iP*	**Pn**	**11 19 34.0**	**-2.0**
BCIP	**Isla Barro Col**	**3.92**	**46**	*ePn*	**Pn**	**11 19 34.0**	**-2.0**
CGA2	**Cerro Gallo 2**	**3.99**	**334**	*eP*	Pn	11 19 34.0	-3.2
UPA	**Univ. de Panam**	**4.02**	**50**	*i P*	**Pn**	**11 19 35.0**	**-2.5**
UPA				*eS*	**Sn**	**11 20 21.5**	**-2.2**
CAO	**Cobano**	**4.06**	**324**	‖*iP*	Pn	11 19 33.9	-4.0
CAO				*eS*	Sn	11 20 17.3	-7.4
JCR	**Jicaral**	**4.18**	**325**	*eP*	Pn	11 19 35.7	-3.9
JCR				*eS*	Sn	11 20 19.2	-8.7
JTS	**JuntasAbangare**	**4.46**	**330**	*ePn*	Pn	11 19 39.8	-3.7
JTS	**JuntasAbangare**	**4.46**	**330**	Pn	Pn	11 19 40.1	-3.4
	114nm,0.3s,baz=128,slow=7.0,SNR=541						
JTS				Sn	Sn	11 20 30.5	-4.2
	120nm,0.3s,baz=198,slow=20,SNR=13						
JTS				LR	LR	11 21 23.4	
	comp=Z,7μm,19.7s,baz=141,slow=38						
CHPA	**Chiripa**	**4.57**	**331**	*i P*	**Pn**	**11 19 42.5**	**-2.6**
CHPA				*i S*	**Sn**	**11 20 35.5**	**-2.1**
VCR	**Vista de Mar**	**4.71**	**322**	*eP*	Pn	11 19 43.4	-3.6
VCR				*eS*	Sn	11 20 34.5	-6.4
AMAS	**Alto Masis**	**4.76**	**331**	*i P*	Pn	11 19 44.5	-3.2
AMAS				*i S*	**Sn**	**11 20 39.9**	**-2.3**
CUI	**Cuipilapa**	**4.88**	**330**	*i P*	Pn	11 19 46.3	-3.0
COLC	**Colonia**	**4.91**	**330**	*i P*	Pn	11 19 46.8	-2.8
LIM1	**Limonal**	**4.96**	**329**	*i P*	Pn	11 19 47.6	-2.8
LIM1				*i S*	**Sn**	**11 20 44.8**	**-2.3**
LAPC	**Finca la Perla**	**5.11**	**328**	*i P*	Pn	11 19 49.8	-2.7
BUEV	**Buena Vista**	**5.12**	**328**	*i P*	Pn	11 19 50.0	-2.7
GBS3	**Finca Las lm˜¡**	**5.14**	**328**	*i P*	**Pn**	**11 19 50.4**	**-2.4**
GB1A	**Borinquen Arri**	**5.14**	**329**	*i P*	**Pn**	**11 19 50.5**	**-2.4**
OTAV	**Otavalo**	**7.44**	**145**	*ePn*	**Pn**	**11 20 23.1**	**-1.8**
CNCH	**Conchagua**	**8.50**	**324**	*eP*	**Pn**	**11 20 38.7**	**-0.5**
TGUH	**Tegucigalpa,Un**	**8.84**	**330**	*eP*	**Pn**	**11 20 43.0**	**-0.6**
TGUH	**Tegucigalpa,Un**	**8.84**	**330**	*ePn*	**Pn**	**11 20 44.8**	**+1.2**
LFRS	**El Faro**	**9.53**	**319**	*eP*	**Pn**	**11 20 53.9**	**+0.7**
BOQS	**Boqueron**	**9.76**	**319**	*eP*	**Pn**	**11 20 57.2**	**+0.8**
BOQS				*eS*	Sn	11 22 23.5	-22
SBLS	**San Blas**	**10.06**	**318**	*eP*	**Pn**	**11 21 01.9**	**+1.3**
RTR	**El Retiro**	**10.12**	**318**	*eP*	**Pn**	**11 21 02.8**	**+1.5**
APG	**El Apazote**	**11.46**	**319**	Pn	**Pn**	**11 21 21.1**	**+1.3**
APG	**El Apazote**	**11.46**	**319**	Pn	**Pn**	**11 21 21.1**	**+1.3**
	5.3nm,0.3s,baz=118,slow=8.9,SNR=22						
APG				LR	LR	11 25 20.4	
	comp=Z,2μm,21.4s,baz=137,slow=36						
SDV	**Santo Domingo**	**12.18**	**78**	*ePn*	**Pn**	**11 21 30.9**	**+1.2**
ATAH	**Atahualpa**	**14.12**	**162**	LR	LR	11 26 46.8	
	comp=Z,1μm,20.1s,baz=338,slow=35						
TEIG	**Tepich**	**14.77**	**339**	*ePn*	**Pn**	**11 22 06.2**	**+1.4**
TEIG	**Tepich**	**14.77**	**339**	Pn	**Pn**	**11 22 04.0**	**-0.7**
	0.2nm,0.3s,baz=218,slow=12,SNR=4.9						
TEIG				LR	LR	11 27 44.0	
	comp=Z,1μm,18.6s,baz=111,slow=37						
SDDR	**Presa de Saban**	**16.70**	**41**	*ePn*	**Pn**	**11 22 29.7**	**-0.2**
	212nm,1.9s						
AGPR	**Aguadilla, PR**	**19.33**	**50**	*eP*	**P**	**11 23 01.5**	**+0.5**
	378nm,1.7s						
LRS	**Lares**	**19.43**	**51**	*eP*	**Pn**	**11 23 03.4**	**-0.1**
OBIP	**Obispado Ponce**	**19.47**	**52**	*eP*	**Pn**	**11 23 06.6**	**+2.7**
	71nm,1.2s						
CELP	**Cerrillos**	**19.51**	**52**	*eP*	**Pn**	**11 23 04.3**	**0.0**
AOPR	**Arecibo Observ**	**19.53**	**51**	*eP*	**Pn**	**11 23 04.0**	**-0.6**
	353nm,1.9s						
SJG	**San Juan**	**19.87**	**53**	*eP*	**P**	**11 23 06.4**	**-0.5**
	43nm,1.1s						
SJG	**San Juan**	**19.87**	**53**	P	**P**	**11 23 06.9**	**0.0**
	0.0nm,0.3s,baz=251,slow=13,SNR=6.6						
SJG				LR	LR	11 30 09.9	
	comp=Z,660nm,21.5s,baz=243,slow=35						
HUMP	**Col San Antoni**	**20.12**	**53**	*eP*	**P**	**11 23 09.9**	**+0.2**
	29nm,1.0s						
CBYP	**Canovanas**	**20.19**	**53**	*eP*	**P**	**11 23 10.9**	**+0.4**
	42nm,0.9s						
MTP	**Monte Pirata**	**20.34**	**54**	*eP*	**P**	**11 23 12.1**	**+0.1**
	280nm,2.0s						
STVI	**Saint Thomas**	**20.95**	**54**	*eP*	P	11 23 12.2	-6.5
	123nm,1.3s						
SAML	**Samuel**	**24.70**	**128**	*eP*	**P**	**11 23 55.6**	**-1.3**
	23nm,1.1s						
BRAL	**Brewton**	**24.81**	**351**	*eP*	**P**	**11 24 00.8**	**+3.2**
	193nm,1.5s						
TIGA	**Tifton**	**24.91**	**358**	*eP*	**P**	**11 23 59.9**	**+1.4**
TIGA	**Tifton**	**24.91**	**358**	P	**P**	**11 23 59.0**	**+0.5**
	baz=25						
HKT	**Hockley**	**26.49**	**334**	*eP*	**P**	**11 24 12.3**	**-0.5**
	9.3nm,1.1s						
LPAZ	**La Paz**	**26.76**	**148**	*eP*	**P**	**11 24 14.9**	**-1.2**
	34nm,2.2s						
LPAZ	**La Paz**	**26.76**	**148**	P	**P**	**11 24 16.4**	**+0.3**
	1.3nm,0.7s,baz=342,slow=12,SNR=5.2						
LPAZ				LR	LR	11 35 50.2	
	comp=Z,1μm,19.3s,baz=153,slow=39						
LRAL	**Lakeview Retre**	**26.79**	**352**	*eP*	**P**	**11 24 16.1**	**+0.6**
	14nm,0.8s						
732A	**Laxson Ranch,**	**27.57**	**326**	P	**P**	**11 24 22.8**	**+0.1**
	baz=28,SNR=23						
632A	**Uvalde**	**28.07**	**327**	P	**P**	**11 24 27.0**	**-0.1**
	baz=28,SNR=13						
631A	**Perdido Creek**	**28.43**	**326**	P	**P**	**11 24 30.6**	**+0.2**
	baz=29,SNR=14						
532A	**Rocksprings**	**28.62**	**328**	P	**P**	**11 24 32.2**	**+0.1**
	baz=29,SNR=18						
JCT	**Junction City**	**28.84**	**328**	*eP*	**P**	**11 24 34.1**	**+0.1**
	20nm,1.3s						
JCT	**Junction City**	**28.84**	**328**	P	**P**	**11 24 33.7**	**-0.3**
	baz=29						
CPCT	**Cooper Cave**	**28.95**	**357**	*eP*	**P**	**11 24 36.0**	**+1.2**
WHTX	**Lake Whitney**	**28.95**	**333**	P	**P**	**11 24 35.5**	**+0.6**
	baz=29						
531A	**Rocksprings**	**29.00**	**327**	P	**P**	**11 24 36.2**	**+0.8**
	baz=29,SNR=6.3						
432A	**Menard**	**29.16**	**329**	P	**P**	**11 24 36.7**	**-0.1**
	baz=29						
530A	**J-C Ranch, Com**	**29.42**	**326**	P	**P**	**11 24 39.5**	**+0.4**
	baz=30,SNR=12						
431A	**Sonora**	**29.43**	**327**	P	**P**	**11 24 39.5**	**+0.2**
	baz=30,SNR=8.5						
332A	**Millersview**	**29.54**	**329**	P	**P**	**11 24 40.4**	**+0.2**
	baz=30,SNR=11						
331A	**San Angelo**	**29.83**	**328**	P	**P**	**11 24 42.9**	**+0.2**
	baz=30,SNR=8.4						
628A	**Black Gap, Mar**	**29.83**	**323**	P	**P**	**11 24 43.4**	**+0.5**
	baz=30						
430A	**Baggett Ranch,**	**29.85**	**327**	P	**P**	**11 24 43.4**	**+0.4**
	baz=30						
232A	**Coleman**	**29.89**	**330**	P	**P**	**11 24 43.4**	**+0.1**
	baz=30						
529A	**Stev Forest Ra**	**29.91**	**324**	P	**P**	**11 24 44.7**	**+1.2**
	baz=30,SNR=6.1						
WVT	**Waverly**	**29.95**	**352**	*eP*	**P**	**11 24 43.8**	**+0.2**
	7.4nm,1.0s						
429A	**Davenport Ranc**	**30.09**	**326**	P	**P**	**11 24 45.7**	**+0.6**
	baz=30,SNR=25						
627A	**Terlingua Ranc**	**30.11**	**322**	P	**P**	**11 24 46.0**	**+0.7**
	baz=30						
LTX	**Lajitas**	**30.20**	**322**	*eP*	**P**	**11 24 46.0**	**-0.2**
LTX				*ePcP*	**PcP**	**11 27 46.4**	**-0.6**
TX31	**Lajitas Ar. Si**	**30.20**	**322**	*eP*	**P**	**11 24 46.5**	**+0.3**
TXAR	**Lajitas Array**	**30.20**	**322**	P	**P**	**11 24 46.0**	**-0.2**
TXAR	**Lajitas Array**	**30.20**	**322**	P	**P**	**11 24 46.0**	**-0.2**
	1.4nm,0.7s,baz=141,slow=9.0,SNR=11						
TXAR				PcP	**PcP**	**11 27 46.4**	**-0.6**
	0.1nm,0.6s,baz=151,slow=2.1,SNR=2.5						
TXAR				LR	LR	11 37 25.7	
	comp=Z,256nm,19.2s,baz=275,slow=38						
528A	**Cox Ranch, San**	**30.26**	**324**	P	**P**	**11 24 47.4**	**+0.7**
	baz=30						
231A	**Bronte**	**30.27**	**329**	P	**P**	**11 24 46.5**	**-0.1**
	baz=30						
330A	**Mertzon**	**30.30**	**327**	P	**P**	**11 24 46.8**	**-0.1**
	baz=30						
ABTX	**Abilene, Hawle**	**30.49**	**331**	*eP*	**P**	**11 24 48.6**	**0.0**
ABTX	**Abilene, Hawle**	**30.49**	**331**	P	**P**	**11 24 48.6**	**0.0**
	baz=31						
428A	**Kincaid Ranch,**	**30.62**	**325**	P	**P**	**11 24 50.2**	**+0.4**
	baz=31						
230A	**Sterling City**	**30.64**	**328**	P	**P**	**11 24 50.0**	**0.0**
	baz=31						
626A	**Big Bend Ranch**	**30.64**	**321**	P	**P**	**11 24 50.1**	**+0.1**
	baz=31						
527A	**Woodward Ranch**	**30.74**	**323**	P	**P**	**11 24 50.9**	**-0.1**
	baz=31						
329A	**Wagon Wheel Ra**	**30.80**	**327**	P	**P**	**11 24 51.6**	**+0.2**
	baz=31						
131A	**Roby**	**30.90**	**330**	P	**P**	**11 24 52.1**	**-0.1**
	baz=31						
526A	**Mary Lane Ranc**	**30.97**	**322**	P	**P**	**11 24 53.5**	**+0.4**
	baz=31,SNR=9.2						
Z32A	**Haskell**	**30.98**	**332**	P	**P**	**11 24 52.5**	**-0.4**
	baz=31,SNR=10.0						
130A	**Snyder**	**31.13**	**329**	P	**P**	**11 24 54.5**	**+0.3**
	baz=31						
427A	**Hayter Ranch,**	**31.13**	**324**	P	**P**	**11 24 55.0**	**+0.7**
	baz=31						
Z31A	**Sharp Cattle R**	**31.30**	**331**	P	**P**	**11 24 55.7**	**-0.1**
	baz=32						
426A	**McDonald Obser**	**31.37**	**323**	P	**P**	**11 24 56.8**	**+0.3**
	baz=32						
129A	**Stewart Farms,**	**31.62**	**328**	P	**P**	**11 24 58.7**	**+0.1**
	baz=32						
Z30A	**Sanderson Ranc**	**31.76**	**330**	P	**P**	**11 24 59.7**	**0.0**
	baz=32,SNR=7.6						
WCI	**WyandotteCave**	**31.84**	**355**	*eP*	**P**	**11 25 01.2**	**+0.8**
	22nm,1.4s						
WMOK	**Wichita Mounta**	**31.86**	**334**	*eP*	**P**	**11 25 01.2**	**+0.6**
	3.0nm,0.9s						
Y31A	**Rekieta Farm,**	**31.89**	**332**	P	**P**	**11 25 00.9**	**0.0**
	baz=32						
128A	**Castleberry Fa**	**31.94**	**327**	P	**P**	**11 25 01.2**	**-0.3**
	baz=32						
Z29A	**Hungry Hill Ra**	**32.03**	**329**	P	**P**	**11 25 01.7**	**-0.5**
	baz=32,SNR=5.4						
425A	**Indio Mountain**	**32.03**	**322**	P	**P**	**11 25 02.8**	**+0.4**
	baz=32,SNR=16						
Y30A	**Stafford Cattl**	**32.12**	**331**	P	**P**	**11 25 03.3**	**+0.4**
	baz=32						
Z28A	**Tucker Farm, M**	**32.41**	**328**	P	**P**	**11 25 05.2**	**-0.4**
	baz=33						
226B	**Tecolote Peak,**	**32.47**	**325**	P	**P**	**11 25 06.9**	**+0.8**
	baz=33,SNR=9.2						
Y29A	**Porterfield Fa**	**32.49**	**330**	P	**P**	**11 25 07.5**	**+1.3**
	baz=33,SNR=5.3						
OLIL	**Olney**	**32.55**	**352**	*eP*	**P**	**11 25 07.1**	**+0.6**
	124nm,2.3s						
X30A	**Coker Ranch, T**	**32.57**	**331**	P	**P**	**11 25 07.2**	**+0.3**
	baz=33						
324A	**Moseley Ranch,**	**32.79**	**322**	P	**P**	**11 25 09.0**	**0.0**
	baz=33,SNR=20						
BLO	**Bloomington**	**32.80**	**354**	*eP*	**P**	**11 25 09.8**	**+1.1**
	13nm,1.0s						
Z27A	**Tatum**	**32.87**	**327**	P	**P**	**11 25 10.0**	**+0.5**
	baz=33						
225A	**Deer Hill, Car**	**32.88**	**324**	P	**P**	**11 25 10.4**	**+0.7**
	baz=33						
MNTX	**Cornudas Mount**	**32.91**	**323**	*eP*	**P**	**11 25 10.2**	**+0.3**
	5.0nm,0.9s						
X29A	**Tulia**	**32.97**	**330**	P	**P**	**11 25 10.5**	**0.0**
	baz=33,SNR=6.8						
MSTX	**Muleshoe**	**33.14**	**329**	*eP*	**P**	**11 25 11.8**	**-0.1**
MSTX	**Muleshoe**	**33.14**	**329**	P	**P**	**11 25 11.8**	**-0.1**
	baz=33						
125A	**Gardner Draw,**	**33.18**	**325**	P	**P**	**11 25 12.5**	**+0.2**
	baz=33						
Z26A	**Caprock**	**33.25**	**326**	P	**P**	**11 25 13.3**	**+0.4**
	baz=33						
224A	**Cornudas Mount**	**33.26**	**323**	P	**P**	**11 25 13.2**	**+0.1**
	baz=33						
Y27A	**Causey**	**33.27**	**328**	P	**P**	**11 25 12.9**	**-0.2**
	baz=34,SNR=6.5						
X28A	**Dimmitt**	**33.28**	**330**	P	**P**	**11 25 13.0**	**-0.2**
	baz=34,SNR=10						
Z25A	**Roswell**	**33.67**	**325**	P	**P**	**11 25 17.6**	**+1.0**
	baz=34,SNR=11						
124A	**Stringfield Ra**	**33.67**	**324**	P	**P**	**11 25 17.9**	**+1.2**
	baz=34,SNR=11						
ACSO	**Alum Creek Sta**	**33.67**	**360**	*eP*	**P**	**11 25 15.0**	**-1.3**
	37nm,1.3s						
Y25A	**Mesa, Roswell**	**34.13**	**326**	P	**P**	**11 25 20.7**	**+0.1**
	baz=34,SNR=6.0						
W27A	**Bowe Ranch, En**	**34.14**	**329**	P	**P**	**11 25 20.2**	**-0.5**
	baz=34,SNR=6.2						
U30A	**WK&E Inc. Balk**	**34.19**	**334**	P	**P**	**11 25 20.9**	**-0.1**
	baz=34						
SSPA	**Standing Stone**	**34.34**	**6**	*eP*	**P**	**11 25 20.9**	**-1.2**
	12nm,1.0s						
W26A	**Owens Ranch, T**	**34.52**	**329**	P	**P**	**11 25 24.1**	**+0.1**
	baz=35						
Y24A	**Capitan**	**34.55**	**325**	P	**P**	**11 25 24.9**	**+0.6**
	baz=35						
X25A	**Clemmons Ranch**	**34.57**	**327**	P	**P**	**11 25 24.6**	**+0.2**
	baz=35						
221A	**Mesquite Ranch**	**34.60**	**321**	P	**P**	**11 25 26.3**	**+1.6**
	baz=35,SNR=7.8						
320A	**Kipp Ranch, An**	**34.64**	**319**	P	**P**	**11 25 26.4**	**+1.2**
	baz=35,SNR=11						
KSU1	**Kansas State U**	**34.89**	**341**	*eP*	**P**	**11 25 27.2**	**+0.3**
	10nm,0.8s						
Y23A	**Lovelace Mesa,**	**34.90**	**325**	P	**P**	**11 25 28.2**	**+0.8**
	baz=35,SNR=11						
Z22A	**Elephant Butte**	**34.96**	**323**	P	**P**	**11 25 29.4**	**+1.6**
	baz=35,SNR=8.3						
121A	**Cookes Peak, D**	**34.96**	**321**	P	**P**	**11 25 29.2**	**+1.4**
	baz=35,SNR=24						
W25A	**X Bar L Ranch,**	**34.98**	**328**	P	**P**	**11 25 29.0**	**+1.0**
	baz=35,SNR=7.4						
220A	**Playas Peak, P**	**35.01**	**320**	P	**P**	**11 25 29.6**	**+1.4**
	baz=35,SNR=16						
V26A	**Tequesquite Ra**	**35.08**	**329**	P	**P**	**11 25 29.2**	**+0.4**
	baz=35,SNR=8.2						
U27A	**Thompson Grove**	**35.10**	**331**	P	**P**	**11 25 28.6**	**-0.4**
	baz=35,SNR=5.9						
BNM	**Barren Site**	**35.39**	**324**	*eP*	**P**	**11 25 33.1**	**+1.4**
Z21A	**St. Cloud Mine**	**35.42**	**322**	P	**P**	**11 25 33.5**	**+1.6**
	baz=36,SNR=8.8						
Y22A	**Socorro**	**35.44**	**324**	P	**P**	**11 25 33.0**	**+1.1**
	baz=36,SNR=14						
120A	**U Bar Ranch, L**	**35.50**	**320**	P	**P**	**11 25 33.9**	**+1.4**
	baz=36,SNR=13						
R30A	**Dighton**	**35.52**	**336**	P	**P**	**11 25 32.8**	**+0.4**
	baz=36						
U26A	**Atchley Ranch,**	**35.53**	**330**	P	**P**	**11 25 34.1**	**+1.4**
	baz=36,SNR=10						
V25A	**Rancho No Teng**	**35.54**	**329**	P	**P**	**11 25 33.5**	**+0.7**
	baz=36,SNR=14						
V24A	**Rampart Ranch,**	**35.80**	**328**	P	**P**	**11 25 36.3**	**+1.1**
	baz=36,SNR=7.5						
Z20A	**Nine Sixteen R**	**35.85**	**321**	P	**P**	**11 25 37.4**	**+1.9**
	baz=36,SNR=9.7						
W23A	**Werner Place,**	**35.85**	**326**	P	**P**	**11 25 36.9**	**+1.4**
	baz=36,SNR=8.1						
LAZ	**Ladron**	**35.87**	**324**	*eP*	**P**	**11 25 35.7**	**0.0**
ANMO	**Albuquerque**	**35.87**	**326**	*eP*	**P**	**11 25 36.8**	**+1.1**
	10nm,0.9s						
Y21A	**Point of Rocks**	**35.90**	**323**	P	**P**	**11 25 37.8**	**+1.8**
	baz=36,SNR=9.8						
T26A	**Comanche Natio**	**36.07**	**331**	P	**P**	**11 25 38.5**	**+1.1**
	baz=36						
R28A	**Tribune**	**36.21**	**334**	P	**P**	**11 25 39.4**	**+1.0**
	baz=36						
Y20A	**Horse Springs,**	**36.26**	**322**	P	**P**	**11 25 40.8**	**+1.7**
	baz=36,SNR=9.5						
X21A	**Alamocita Cree**	**36.27**	**324**	P	**P**	**11 25 40.6**	**+1.4**
	baz=36,SNR=12						
U24A	**Moreno Valley**	**36.32**	**328**	P	**P**	**11 25 41.3**	**+1.7**
	baz=36,SNR=10						
S26A	**Kim**	**36.37**	**332**	P	**P**	**11 25 40.6**	**+0.8**
	baz=37,SNR=6.6						
T25A	**Trinidad**	**36.44**	**330**	P	**P**	**11 25 42.0**	**+1.4**
	baz=37,SNR=16						
U23A	**El Rito**	**36.74**	**327**	P	**P**	**11 25 44.5**	**+1.4**
	baz=37,SNR=31						
TUC	**Tucson**	**36.74**	**318**	*eP*	**P**	**11 25 44.1**	**+1.1**
	6.0nm,1.3s						
X20A	**Quemado**	**36.77**	**323**	P	**P**	**11 25 44.9**	**+1.6**
	baz=37						
S25A	**Robets Cordova**	**36.87**	**331**	P	**P**	**11 25 45.5**	**+1.3**
	baz=37						
T24B	**San Luis**	**36.87**	**329**	P	**P**	**11 25 46.2**	**+1.8**
	baz=37,SNR=11						
R26A	**Arlington**	**36.91**	**332**	P	**P**	**11 25 46.5**	**+2.1**
	baz=37,SNR=5.3						
JFWS	**Jewell Farm**	**36.96**	**351**	*eP*	**P**	**11 25 43.6**	**-1.0**
	13nm,1.3s						
KSCO	**Kaye Shedlock'**	**37.12**	**334**	*eP*	**P**	**11 25 47.3**	**+1.1**
U22A	**Llaves**	**37.14**	**327**	P	**P**	**11 25 48.2**	**+1.7**
	baz=37,SNR=14						
W20A	**Ramah**	**37.17**	**324**	P	**P**	**11 25 48.8**	**+2.0**
	baz=37,SNR=7.0						
R25A	**Fountain Ranch**	**37.18**	**331**	P	**P**	**11 25 48.6**	**+1.8**
	baz=37,SNR=5.3						
T23A	**Casias Ranch,**	**37.19**	**328**	P	**P**	**11 25 48.1**	**+1.1**
	baz=37,SNR=31						
S24A	**Houchin Ranch,**	**37.23**	**330**	P	**P**	**11 25 48.7**	**+1.3**
	baz=37,SNR=6.9						
Q26A	**Hugo**	**37.45**	**333**	P	**P**	**11 25 49.6**	**+0.6**
	baz=38,SNR=8.0						
SDCO	**Great Sand Dun**	**37.46**	**330**	*eP*	**P**	**11 25 49.9**	**+0.5**
	17nm,1.0s						
P27A	**Ficken Ranch,**	**37.55**	**334**	P	**P**	**11 25 50.6**	**+0.8**
	baz=38						
X18A	**Snowflake**	**37.64**	**322**	P	**P**	**11 25 52.3**	**+1.6**
	baz=38,SNR=7.3						
R24A	**Sanders Place,**	**37.64**	**331**	P	**P**	**11 25 52.3**	**+1.5**
	baz=38						
Q25A	**Bedland, Calha**	**37.77**	**332**	P	**P**	**11 25 53.1**	**+1.2**
	baz=38,SNR=6.1						
W18A	**Petrified Fore**	**37.90**	**323**	*eP*	**P**	**11 25 55.3**	**+2.3**
W18A	**Petrified Fore**	**37.90**	**323**	P	**P**	**11 25 54.6**	**+1.6**
	baz=38,SNR=8.5						
214A	**Organ Pipe Nat**	**37.90**	**316**	P	**P**	**11 25 54.0**	**+1.1**
	baz=38						
T21A	**Navajo Lake**	**37.96**	**327**	P	**P**	**11 25 55.0**	**+1.6**
	baz=38,SNR=6.0						
R23A	**Moffat**	**37.97**	**330**	P	**P**	**11 25 54.8**	**+1.2**
	baz=38,SNR=13						
S22A	**4UR Ranch, Cre**	**38.14**	**328**	P	**P**	**11 25 56.3**	**+1.2**
	baz=38,SNR=19						
Q24A	**Divide**	**38.24**	**331**	P	**P**	**11 25 57.3**	**+1.4**
	baz=38						
R22A	**Saguache, Gunn**	**38.47**	**329**	P	**P**	**11 25 59.6**	**+1.7**
	baz=39,SNR=18						
X16A	**Lo Mia Camp, P**	**38.50**	**320**	P	**P**	**11 25 59.7**	**+1.7**
	baz=39,SNR=9.8						
Q23A	**Hartsel**	**38.52**	**330**	P	**P**	**11 25 59.5**	**+1.2**
	baz=39,SNR=21						
P24A	**Kohler Place,**	**38.56**	**332**	P	**P**	**11 26 00.1**	**+1.7**
	baz=39						
S21A	**Coal Bank Pass**	**38.59**	**327**	P	**P**	**11 26 00.2**	**+1.4**
	baz=39						
MVCO	**Mesa Verde**	**38.65**	**326**	*eP*	**P**	**11 26 00.5**	**+1.2**
	13nm,0.9s						
MVCO	**Mesa Verde**	**38.65**	**326**	P	**P**	**11 26 00.5**	**+1.2**
	baz=39,SNR=11						
P23A	**Jefferson**	**38.89**	**331**	P	**P**	**11 26 02.6**	**+1.2**
	baz=39,SNR=8.1						
S20A	**Disappointment**	**39.02**	**327**	P	**P**	**11 26 03.8**	**+1.4**
	baz=39						
Q22A	**Crested Butte,**	**39.03**	**329**	P	**P**	**11 26 03.9**	**+1.4**
	ba

DUG	Dugway	43.14	326	eP	P	11 26 37.9	+1.7
	4.8nm,1.0s						
DUG	Dugway	43.14	326	P	P	11 26 36.5	+0.4
	baz=43						
AGMN	Agassiz Nation	43.22	347	eP	P	11 26 37.5	+1.0
	25nm,1.4s						
BW06	Boulder Array	43.29	331	eP	P	11 26 37.5	0.0
	17nm,1.4s						
PD31	Pinedale Array	43.29	331	eP	P	11 26 37.6	+0.1
PD31				ePP	PcP	11 28 25.8	-0.5
PDAR	Pinedale Array	43.29	331	P	P	11 26 37.6	+0.1
PDAR	Pinedale Array	43.29	331	P	P	11 26 37.6	+0.1
	2.9nm,1.1s,baz=125,slow=10,SNR=12						
PDAR				PcP	PcP	11 28 25.8	-0.5
	1.0nm,0.9s,baz=142,slow=4.6,SNR=3.8						
PDAR				LR	LR	11 46 45.0	
	comp=Z,300nm,20.1s,baz=324,slow=39						
J19A	Crowheart	43.43	332	P	P	11 26 39.2	+0.6
	baz=44						
R11A	Troy Canyon, C	43.57	322	eP	P	11 26 41.0	+1.3
MDND	Maddock	43.74	344	eP	P	11 26 42.5	+1.7
	44nm,1.1s						
BGU	Big Grassy Mou	43.76	326	eP	P	11 26 42.2	+1.0
	14nm,1.5s						
ISA	Isabella	43.88	317	eP	P	11 26 42.7	+0.6
	5.6nm,1.4s						
AHID	Auburn Hatcher	44.05	330	eP	P	11 26 43.3	-0.2
	15nm,1.4s						
F22A	Rosebud	44.22	336	P	P	11 26 45.8	+1.1
	baz=44						
REDW	Red Top Meadow	44.37	330	eP	P	11 26 46.2	0.0
	21nm,1.2s						
SNOW	Snow King Moun	44.40	331	eP	P	11 26 47.4	+1.0
	16nm,1.2s						
LOHW	Long Hollow	44.43	331	eP	P	11 26 49.2	+2.6
	5.8nm,0.9s						
TPAW	Teton Pass	44.51	331	eP	P	11 26 48.8	+1.5
	58nm,2.1s						
RRI2	Red Ridge	44.59	330	eP	P	11 26 48.5	+0.6
	64nm,2.0s						
MOOW	Moose Ponds	44.60	331	eP	P	11 26 48.2	+0.3
	4.3nm,0.8s						
IMW	Indian Meadow	44.81	331	eP	P	11 26 49.5	-0.1
	5.5nm,0.8s						
FLWY	Flagg Ranch	44.83	331	eP	P	11 26 50.6	+0.8
	9.7nm,0.8s						
ELK	Elko	44.88	325	eP	P	11 26 51.3	+1.0
	5.2nm,1.0s						
ULM	Lac du Bonnet	45.07	348	eP	P	11 26 50.0	-1.3
	23nm,1.4s						
ULM	Lac du Bonnet	45.07	348	P	P	11 26 50.0	-1.3
	6.4nm,0.8s,baz=158,slow=6.6,SNR=5.0						
YFT	Old Faithful	45.17	332	eP	P	11 26 53.9	+1.3
	50nm,1.7s						
NV11	Mina Array Sit	45.23	320	eP	P	11 26 54.1	+1.1
NV01	Mina Array Sit	45.32	320	eP	P	11 26 54.6	+0.9
YMR	Madison River	45.40	332	eP	P	11 26 56.3	+2.0
	13nm,1.0s						
C23A	Lambert	45.50	339	P	P	11 26 56.7	+1.9
	baz=46						
QLMT	Earthquake Lak	45.74	331	eP	P	11 26 58.6	+1.6
BMN	Battle Mountai	45.85	323	eP	P	11 26 59.2	+1.4
	22nm,1.4s						
B23A	Brockton	45.99	339	P	P	11 27 00.1	+1.5
	baz=46						
WAKR	Walker	46.09	319	eP	P	11 27 01.2	+1.3
HLID	Hailey	46.32	328	eP	P	11 27 02.2	+0.7
	4.2nm,0.8s						
HLID	Hailey	46.32	328	P	P	11 27 02.2	+0.7
	baz=46,SNR=6.5						
BOZ	Bozeman (W)	46.44	332	eP	P	11 27 02.0	-0.4
	11nm,0.9s						
DLMT	Dillon	46.69	331	eP	P	11 27 07.0	+2.7
	13nm,1.4s						
LRM	Limekiln Ridge	46.96	332	eP	P	11 27 07.8	+1.2
HRY	Holter Researc	47.33	333	eP	P	11 27 10.1	+0.7
WVOR	Wild Horse Val	47.92	324	eP	P	11 27 14.3	+0.3
	20nm,1.2s						
MSO	Missoula	48.40	332	eP	P	11 27 18.1	+0.5
	29nm,1.8s						
MSO	Missoula	48.40	332	P	P	11 27 17.7	+0.2
	baz=49						
J08A	Circle Bar Ran	48.41	325	eP	P	11 27 19.6	+1.9
	84nm,2.8s						
F10A	Beach Ranch, E	49.43	329	eP	P	11 27 27.2	+1.7
	90nm,2.8s						
SCHQ	Schefferville	49.93	12	eP	P	11 27 29.3	+0.2
	228nm,2.8s						
SCHQ	Schefferville	49.93	12	P	P	11 27 26.4	-2.7
	5.9nm,0.8s,baz=121,slow=8.1,SNR=3.9						
SCHQ				LR	LR	11 47 20.3	
	comp=Z,239nm,21.8s,baz=186,slow=34						
WALA	Waterton Lakes	50.02	334	eP	P	11 27 30.6	+0.6
E09A	Wood Farm, Sta	50.27	329	eP	P	11 27 32.0	+0.3
	11nm,0.9s						
D08A	Wollman Farm,	51.02	329	eP	P	11 27 38.6	+1.2
	60nm,2.5s						
EDM	Edmonton	52.94	337	eP	P	11 27 51.1	-0.5
BMW	Boistfort Moun	52.98	326	eP	P	11 27 48.7	-3.4
YKA	Yellowknife Ar	60.66	344	P	P	11 28 46.7	+0.5
YKA	Yellowknife Ar	60.66	344	P	P	11 28 46.7	+0.5
	1.2nm,0.6s,baz=136,slow=6.4,SNR=4.7						
YKB5	Yellowknife Ar	60.66	344	eP	P	11 28 46.7	+0.5
DLBC	Dease Lake	63.35	334	eP	P	11 29 07.4	+2.9
DAWY	Dawson	70.15	337	eP	P	11 29 49.5	+1.8
PPT	Papeete	70.21	249	LR	LR	11 52 29.8	
	comp=Z,289nm,18.6s,baz=355,slow=29						
PPT2	Papeete2	70.22	249	eLR	LR	11 51 10.3	
	302nm,24.8s						
EGAK	Eagle	71.16	337	eP	P	11 29 56.1	+2.4
	9.3nm,1.0s						
SUMG	Summit	71.31	13	i P	P	11 29 54.4	-0.6
	10nm,0.9s						
SUMG	Summit	71.31	13	eP	P	11 29 55.9	+0.9
	15nm,0.9s						
TBI	Tubuai	71.56	243	eLR	LR	11 51 47.8	
	310nm,28.2s						
IL1	Eielson Array	73.41	336	eP	P	11 30 06.6	-0.5
ILAR	Eielson Array	73.41	336	P	P	11 30 07.2	0.0
ILAR	Eielson Array	73.41	336	P	P	11 30 07.2	0.0
	2.4nm,0.8s,baz=124,slow=3.7,SNR=27						
ILAR				LR	LR	12 07 50.7	
	comp=Z,210nm,19.8s,baz=314,slow=40						
ILB	Eielson Array	73.41	336	eP	P	11 30 07.2	0.0
COLD	Coldfoot	75.52	338	eP	P	11 30 22.6	+3.2
	9.3nm,1.0s						
IMA2	Indian Mountai	76.51	337	eP	P	11 30 26.6	+1.4
DBIC	Dimbokro	77.22	85	LR	LR	12 01 07.6	
	comp=Z,109nm,19.0s,baz=253,slow=33						
ESDC	Sonseca Array	77.25	51	eP	P	11 30 29.6	-0.2
ESDC	Sonseca Array	77.25	51	P	P	11 30 29.6	-0.2
	1.2nm,0.8s,baz=266,slow=5.5,SNR=7.2						
ESDC				LR	LR	11 59 19.1	
	comp=Z,124nm,20.2s,baz=240,slow=32						
ES19	SONSECA Array	77.30	51	eP	P	11 30 32.0	+1.9
ROSF	Rostrenen	78.19	42	eP	P	11 30 29.9	-4.9
	7.8nm,0.9s						
ROSF	Rostrenen	78.19	42	eP	P	11 30 29.9	-4.9
	7.8nm,0.9s						
QUIF	Quistinic	78.23	43	eP	P	11 30 30.5	-4.6
QUIF	Quistinic	78.23	43	eP	P	11 30 30.5	-4.6
SGMF	Saint Gilles	78.66	42	eP	P	11 30 32.6	-4.8
	69nm,1.5s						
GRR	Gorron	79.80	42	eP	P	11 30 39.0	-4.7
	18nm,1.0s						
GRR	Gorron	79.80	42	eP	P	11 30 39.0	-4.7
	18nm,1.0s						
FLN	La Foliniere	80.06	42	eP	P	11 30 40.6	-4.5
FLN	La Foliniere	80.06	42	eP	P	11 30 40.6	-4.5
MFF	Saint Martin d	80.24	44	eP	P	11 30 41.5	-4.6
	12nm,0.9s						
MFF	Saint Martin d	80.24	44	eP	P	11 30 41.5	-4.6
	12nm,0.9s						
LDF	La Druitiere	80.30	42	eP	P	11 30 41.7	-4.7
	17nm,0.9s						
LDF	La Druitiere	80.30	42	eP	P	11 30 41.7	-4.7
	17nm,0.9s						
TOA0	Torodi Ar. Sit	83.10	78	eP	P	11 31 02.7	+0.9
TORD	Torodi Ar. Bea	83.10	78	P	P	11 31 02.7	+0.9
TORD	Torodi Ar. Bea	83.10	78	P	P	11 31 02.7	+0.9
	0.8nm,0.7s,baz=274,slow=4.9,SNR=3.8						
TORD				LR	LR	12 05 46.9	
	comp=Z,88nm,19.1s,baz=185,slow=34						
NB2	NORSAR Subarra	86.32	29	P	P	11 31 18.5	+1.3
	comp=Z,1.4nm,0.8s,baz=274,slow=4.8						
NB200	NORSAR Array S	86.32	29	eP	P	11 31 18.6	+1.4
NOA	NORSAR Array B	86.32	29	P	P	11 31 18.6	+1.4
	comp=Z,1.6nm,0.8s,baz=276,slow=4.6,SNR=4.7						
NOA				LR	LR	12 07 51.6	
	comp=Z,87nm,18.3s,baz=270,slow=34						
KEST	Kesra	87.93	54	LR	LR	12 05 00.9	
	comp=Z,23nm,19.0s,baz=292,slow=32						
GEC2	GERESS Array S	89.40	41	eP	P	11 31 33.4	+1.1
GERES	GERESS Array B	89.40	41	P	P	11 31 33.4	+1.1
GERES	GERESS Array B	89.40	41	P	P	11 31 33.4	+1.1
	comp=Z,0.6nm,0.8s,baz=283,slow=2.3,SNR=5.9						
GERES				LR	LR	12 04 51.7	
	comp=Z,146nm,20.2s,baz=75,slow=31						
ARCES	ARCESS Array B	90.29	20	LR	LR	12 10 06.2	
	comp=Z,116nm,18.8s,baz=129,slow=34						
FINES	FINESS Array B	93.22	27	LR	LR	12 06 59.7	
	comp=Z,206nm,19.9s,baz=270,slow=31						
AKASG	Malin Array Be	98.63	37	LR	LR	12 13 36.2	
	comp=Z,118nm,19.1s,baz=295,slow=34						
SBA	Scott Base	100.51	192	ePdif	Pdif	11 32 21.7	-0.5
BR231	Keskin MP Arra	104.95	46	ePdif	Pdif	11 32 47.4	+4.5
CN2	Changchun	123.92	336	ePKP	PKPdf	11 37 32.8	-0.9
SONA0	Songino Array	125.39	353	ePKPdf	PKPdf	11 37 35.5	-1.2
SONM	Songino Array	125.39	353	PKP	PKPdf	11 37 35.5	-1.2
SONM	Songino Array	125.39	353	PKP	PKPdf	11 37 35.5	-1.2
	comp=Z,0.2nm,0.3s,baz=0.9,slow=3.1,SNR=2.7						
WMQ	Urumqi	129.24	9	ePKP	PKPdf	11 37 42.3	-1.7
WMQ				LR	LR		
	comp=E,100nm,24.3s						
WMQ				LR	LR		
	comp=Z,140nm,26.0s						
KSH	Kashi	130.21	22	ePKP	PKPdf	11 37 44.3	-1.8
KSH				PP	PP	11 39 59.5	+1.5
KSH				PKS	PKSdf	11 41 19.3	-3.4
KSH				SKS	SKSdf	11 44 50.5	-6.0
KSH				AMB	AMB		
	comp=Z,61nm,4.7s						
KSH				LR	LR		
	comp=N,87nm,7.4s						
KSH				LR	LR		
	comp=E,120nm,6.9s						
KSH				LR	LR		
	comp=Z,160nm,7.5s						
HHC	Hu-ho-hao-te	131.18	346	ePKP	PKPdf	11 37 45.5	-2.4
HHC				PP	PP	11 40 06.8	+2.8
HHC				SKS	SKSdf	11 44 51.8	-6.4
HHC				SKKS	SKKSac	11 46 54.0	-6.6
HHC				AMB	AMB		
	comp=Z,240nm,8.3s						
HHC				LR	LR		
	comp=N,280nm,17.8s						
HHC				LR	LR		
	comp=E,220nm,17.8s						
HHC				LR	LR		
	comp=Z,340nm,17.8s						
NJ2	Nanjing	136.59	333	ePKP	PKPdf	11 37 57.8	-0.3
LZH	Lanzhou	137.28	352	ePKP	PKPdf	11 37 52.8	-6.7
LZH				sPKP		11 38 03.8	
LZH				LR	LR		
	comp=N,160nm,17.9s						
LZH				LR	LR		
	comp=E,160nm,18.1s						
LZH				LR	LR		
	comp=Z,190nm,20.0s						
AS12	Alice Springs	140.90	240	ePKPpre	PKPpre	11 38 01.3	
ASAR	Alice Springs	140.90	240	PKhKP	PKPpre	11 38 01.3	
	comp=Z,0.5nm,0.7s,baz=111,slow=2.0,SNR=8.7						
WRA	Warramunga Arr	141.65	246	ePKPdf	PKPdf	11 38 05.7	-2.0
WRA	Warramunga Arr	141.65	246	PKP	PKPdf	11 38 05.7	-2.0
	comp=Z,1.3nm,0.8s,baz=90,slow=0.2,SNR=6.7						
CD2	Chengdu	142.38	351	PKP	PKPdf	11 38 07.5	-1.3
GYA	Guiyang	146.09	345	ePKPbc	PKPdf	11 38 13.5	-1.9
GYA				PP	PP	11 41 40.3	+3.9
GYA				AMB	AMB		
	comp=Z,90nm,7.9s						
KMI	Kunming	148.21	351	PKPbc	PKPdf	11 38 20.3	+1.2
QIZ	Qiongzhong	151.87	334	PKPbc	PKPdf	11 38 24.5	-0.2
QIZ				PP	PP	11 42 11.0	+0.8
QIZ				AMB	AMB		
	comp=Z,350nm,4.2s						
CM31	Chiang Mai Arr	155.23	356	ePKPab	PKPab	11 38 56.2	+2.0
CMAR	Chiang Mai Arr	155.23	356	PKPab	PKPab	11 38 56.2	+2.0
	comp=Z,0.6nm,0.7s,baz=338,slow=5.4,SNR=4.3						

IDC ***27*** *11:31:12.4±0.8, 0.°52S×98.°84E, h0km, mb4.1/15, mb1 4.2/16, mb1mx4.1/26, mbtmp4.1/16, ML4.1/1, MS3.6/3, Ms1 3.5/3, ms1mx3.1/33, Error ellipse: s-maj=32.7km s-min=13.4km az=51.0*
NEIC ***27*** *11:31:17.8±0.5, 0.°56S×98.°84E, h35km, mb4.6/6, Error ellipse: s-maj=14.4km s-min=6.6km az=61.0*
ISCJB ***27*** *11:31:18.5±0.4, 0.°42S±0.°05×98.°95E±0.°05, h53km, mb4.3/27, MS3.7/2, Error ellipse: s-maj=8.6km s-min=4.6km az=43.4*
DJA ***27*** *11:31:18.9±0.6, 1.°S±6.°×9.°9E±.°, h20km, M4.7/6, MLv4.7/6*
AUST ***27*** *11:31:19.9, 0.°43S×99.°00E, h35km*

ISC 27 11:31:20.0±0.5, 0.°45S±0.°07×98.°85E±0.°06, h53km, n84, σ1°54/80, mb4.3/27, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	Padang Panjang	1.55	90	P	Pn	11 31 43.0	-2.2
PPI	Padang Panjang	1.55	90	P	Pn	11 31 44.2	-1.0
	baz=1.4,SNR=230						
PDSI	Padang	1.68	106	P	Pn	11 31 46.0	-1.0
PDSI				S	Sn	11 32 04.3	-3.1
GSI	Gunungsitoli	2.16	324	P	Pn	11 31 54.6	+1.0
BKNI	Bangkinang	2.32	71	P	Pn	11 31 57.6	+1.8
BKNI				S	Sn	11 32 26.8	+3.6
BKNI	Bangkinang	2.32	71	P	Pn	11 31 54.8	-1.1
	baz=2.2,SNR=27						
PSI	Prapat	3.23	1	Pn	Pn	11 32 07.2	-1.2
PSI	Prapat	3.23	1	Pn	Pn	11 32 07.2	-1.2
	28nm,0.3s,baz=165,slow=12,SNR=78						
PSI				LR	LR	11 33 37.0	
	comp=Z,498nm,20.3s,baz=86,slow=45						
PSI	Prapat	3.23	1	P	Pn	11 32 07.2	-1.2
	baz=3.1,SNR=35						
KCSI	Kotacane, Aceh	4.09	345	P	Pn	11 32 22.5	+2.4
MASI	Maura Aman, Be	4.31	128	P	Pn	11 32 30.4	+7.2
FRIM	Kepong	4.60	37	P	Pn	11 32 26.5	-0.6
KSI	Kapahiang	4.91	130	P	Pn	11 32 31.6	+0.3
KGM	Kluang	5.10	61	P	Pn	11 32 33.1	-0.8
BTDF	Bukit Timah Da	5.24	70	P	Pn	11 32 34.6	-1.3
	baz=5.1,SNR=5.6						
BTDF				P	Pn	11 32 34.6	-1.3
	baz=5.1,SNR=5.6						
IPM	Ipoh	5.36	24	ePn	Pn	11 32 37.9	+0.3
	32nm,0.6s						
IPM	Ipoh	5.36	24	P	Pn	11 32 38.9	+1.4
MYKOM	Kota Tinggi	5.47	66	P	Pn	11 32 36.6	-2.4
MNAI	Manna	5.65	133	P	Pn	11 32 42.0	+0.5
	baz=5.6,SNR=19						
KULM	Kulim	5.98	17	ePn	Pn	11 32 45.8	-0.3
	23nm,0.6s						
KULM	Kulim	5.98	17	P	Pn	11 32 45.9	-0.1
KTGM	Kuala Trenggan	7.16	37	P	Pn	11 33 01.7	-0.5
CMBY	CAMPBELL BAY	8.89	327	eP	Pn	11 33 22.9	-3.1
CMBY				AMB	AMB	11 33 40.6	
	comp=Z,182nm,2.3s						
CISI	Cisompet, Garu	11.39	129	P	Pn	11 33 56.3	-3.8
	baz=11,SNR=4.1						
XMIS	Christmas Isla	12.04	146	P	Pn	11 34 04.4	-4.6
	baz=12,SNR=4.3						
DGPR	DIGLIPUR	14.76	337	eP	Pn	11 34 44.1	-1.7
DGPR				AMB	AMB	11 35 05.3	
	comp=Z,123nm,2.2s						
CMAR	Chiang Mai Arr	18.79	0	P	P	11 35 35.3	+0.1
CMAR	Chiang Mai Arr	18.79	0	P	P	11 35 35.3	+0.1
	comp=Z,0.2nm,0.3s,baz=191,slow=11,SNR=8.2						
KAPI	Kappang	21.36	103	P	P	11 36 02.3	-0.9
KAPI	Kappang	21.36	103	P	P	11 36 02.3	-0.9
	comp=Z,6.2nm,0.5s,baz=348,slow=19,SNR=2.2						
WSI	Waingapu	23.22	114	S	S	11 40 37.1	+6.2
	baz=23,SNR=3.5						
VIS	Vishakhapatnam	23.66	321	eP	P	11 36 25.0	-1.8
VIS				AMB	AMB	11 36 57.3	
	comp=Z,20nm,0.8s						
SHL	Shillong	26.73	346	eP	P	11 36 56.6	+1.8
SHL				AMB	AMB	11 37 15.2	
	comp=Z,16nm,1.8s						
BOK	Bokaro	27.19	333	eP	P	11 37 01.0	+2.1
LATR	Latur	28.84	312	eP	P	11 37 14.4	+0.8
LATR				AMB	AMB	11 37 27.6	
	comp=Z,5.4nm,0.8s						
GOA	Goa	29.37	304	ex	x	11 37 41.3	
GOA				AMB	AMB	11 37 52.5	
	comp=Z,22nm,1.1s						
POO	Poona	30.98	309	eP	P	11 37 29.9	-2.7
POO				AMB	AMB	11 39 09.4	
	comp=Z,17nm,1.1s						
FITZ	Fitzroy Crossi	31.63	125	eP	P	11 37 36.6	-1.7
	comp=Z,23nm,1.6s						
FITZ	Fitzroy Crossi	31.63	125	P	P	11 37 37.2	-1.1
	baz=32,SNR=4.4						
FAKI	Fak Fak	33.47	95	S	S	11 43 29.3	+16
	baz=33,SNR=6.4						
BLDU	Ballidu	34.46	152	P	P	11 37 52.0	-11
	baz=35,SNR=9.8						
DDI	Dehra Dun	36.45	329	eP	P	11 38 22.8	+2.8
SMLA	Simla	37.55	329	eP	P	11 38 30.4	+1.1
SMLA				AMB	AMB	11 38 31.5	
	comp=Z,8.1nm,0.6s						
DHRM	DHARAMSHALA	38.89	329	eP	P	11 38 41.0	+0.2
DHRM				AMB	AMB	11 38 43.0	
	comp=Z,8.4nm,1.0s						
WRA	Warramunga Arr	39.77	121	P	P	11 38 46.8	-1.3
WRA	Warramunga Arr	39.77	121	P	P	11 38 46.8	-1.3
	comp=Z,1.5nm,0.3s,baz=325,slow=12,SNR=40						
WRAB	Tennant Creek	39.77	121	eP	P	11 38 47.0	-1.2
	comp=Z,3.2nm,0.5s						
FORT	Forrest	40.96	140	eP	P	11 38 58.9	+1.2
	comp=Z,22nm,0.8s						
FORT	Forrest	40.96	140	P	P	11 38 60.0	+2.2
	baz=41,SNR=11						
AS31	Alice Springs	41.09	127	eP	P	11 38 58.4	-0.6
ASAR	Alice Springs	41.09	127	P	P	11 38 58.2	-0.8
ASAR				PcP	PcP	11 40 59.2	+1.2
ASAR	Alice Springs	41.09	127	P	P	11 38 58.2	-0.8
	comp=Z,3.2nm,0.6s,baz=301,slow=7.9,SNR=94						
ASAR				PcP	PcP	11 40 59.2	+1.2
	comp=Z,0.4nm,0.5s,baz=310,slow=2.6,SNR=3.4						
KSAR	Wonju Array Be	46.28	32	P	P	11 39 38.7	-1.7
KSRS	Korea Array	46.31	32	P	P	11 39 38.7	-1.9
	comp=Z,0.7nm,0.6s,baz=223,slow=8.5,SNR=3.6						
TKM2	Tokmak 2	47.97	337	eP	P	11 39 55.4	+1.6
	comp=Z,6.8nm,0.5s						
SONM	Songino Array	48.54	7	P	P	11 39 59.0	+1.0
SONM	Songino Array	48.54	7	P	P	11 39 59.0	+1.0
	comp=Z,1.5nm,0.4s,baz=191,slow=9.6,SNR=15						
MK31	Makanchi Array	49.24	345	eP	P	11 40 04.1	+0.9
MKAR	Makanchi Array	49.24	345	P	P	11 40 04.2	+0.9
MKAR	Makanchi Array	49.24	345	P	P	11 40 04.2	+0.9
	comp=Z,1.4nm,0.6s,baz=159,slow=8.5,SNR=17						
QLP	Quilpie	50.77	125	P	P	11 40 15.3	+0.2
	baz=51,SNR=3.9						
STKA	Stephens Creek	51.03	132	eP	P	11 40 17.0	0.0
	comp=Z,1.4nm,1.0s						
STKA	Stephens Creek	51.03	132	P	P	11 40 16.6	-0.5
	comp=Z,3.3nm,0.6s,baz=292,slow=7.9,SNR=11						
STKA				LR	LR	12 01 31.0	
	comp=Z,72nm,20.7s,baz=25,slow=36						
STKA	Stephens Creek	51.03	132	P	P	11 40 19.2	+2.1
	baz=51,SNR=4.5						
USRK	Ussuriysk Arra	53.36	29	P	P	11 40 33.3	-0.8
	comp=Z,1.1nm,0.6s,baz=205,slow=6.4,SNR=3.0						
CMSA	Cobar Meteorol	53.98	130	P	P	11 40 39.7	+0.9
	baz=54,SNR=6.9						
ZALV	Zalesovo Beam	55.45	350	P	P	11 40 49.4	+0.3
ZALV	Zalesovo Beam	55.45	350	P	P	11 40 49.4	+0.3
	comp=Z,2.1nm,0.4s,baz=155,slow=7.4,SNR=4.4						
ABKAR	Akbulak array	59.74	332	eP	P	11 41 19.5	+0.1
	comp=Z,2.0nm,0.7s						
AKTO	Aktyubinsk	61.46	332	P	P	11 41 30.3	-0.7
AKTO	Aktyubinsk	61.46	332	P	P	11 41 30.3	-0.7
	comp=Z,0.7nm,0.3s,baz=194,slow=1.4,SNR=4.3						
DZM	Mont Dzumac	69.11	113	P	P	11 42 20.4	-0.9
DZM	Mont Dzumac	69.11	113	P	P	11 42 20.4	-0.9
	comp=Z,3.9nm,1.1s,baz=307,slow=20,SNR=2.8						
BRTR	Keskin Array B	71.44	312	P	P	11 42 34.6	-0.6
BRTR	Keskin Array B	71.44	312	P	P	11 42 34.6	-0.6
	comp=Z,0.5nm,0.4s,baz=48,slow=2.1,SNR=3.3						
BRTR				LR	LR	12 15 29.0	
	comp=Z,49nm,18.6s,baz=70,slow=37						
AKASG	Malin Array Be	77.56	322	P	P	11 43 10.4	0.0
AKASG	Malin Array Be	77.56	322	P	P	11 43 10.4	0.0
	comp=Z,0.2nm,0.4s,baz=89,slow=4.8,SNR=3.3						
FINES	FINESS Array B	82.22	332	P	P	11 43 35.3	0.0
FINES	FINESS Array B	82.22	332	P	P	11 43 35.3	0.0
	comp=Z,2.4nm,0.8s,baz=186,slow=16,SNR=5.6						
ARCES	ARCESS Array B	84.64	340	P	P	11 43 48.6	+1.0
ARCES	ARCESS Array B	84.64	340	P	P	11 43 48.6	+1.0
	comp=Z,3.3nm,1.0s,baz=103,slow=5.5,SNR=9.1						
NIUE	Niue	91.01	109	P	P	11 44 32.0	+13
	baz=91,SNR=3.4						
TXAR	Lajitas Array	144.14	35	PKP	PKPbc	11 50 49.7	+0.8
TXAR	Lajitas Array	144.14	35	PKP	PKPbc	11 50 49.7	+0.8
	comp=Z,0.1nm,0.5s,baz=247,slow=2.0,SNR=4.3						

IDC 27 11:32:24.3±6.4, 18.°55S×177.°68W, h529km±75km, mb3.1/6, mb1 3.3/7, mb1mx3.0/20, mbtmp3.0/7, Error ellipse: s-maj=42.1km s-min=26.7km az=10.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	15.29	254	P	P	11 35 37.5	+0.1
	0.1nm,0.3s,baz=131,slow=20,SNR=2.5						
URZ	Urewera	20.16	192	P	P	11 36 22.2	-0.5
	5.5nm,0.5s,baz=333,slow=1.1,SNR=8.9						
WRA	Warramunga Arr	45.20	260	P	P	11 39 54.0	-0.3
	1.2nm,0.4s,baz=98,slow=6.9,SNR=5.5						
ASAR	Alice Springs	45.28	255	P	P	11 39 55.0	+0.1
	3.4nm,0.6s,baz=88,slow=8.7,SNR=20						
TXAR	Lajitas Array	85.76	57	P	P	11 44 09.3	+1.3

TAP1				S	Sn	11 39 28.2	-0.3
	baz=316						
TAP	**Taipei**	**0.49**	**319**	*e*P	**Pn**	11 39 18.4	-0.5
	baz=316						
TAP				S	Sn	11 39 28.5	-0.2
	baz=316						
NNS	**Nan Shan**	**0.50**	**243**	⇑*i*P	**Pn**	11 39 19.2	+0.1
	baz=245						
NNS				S	Sn	11 39 28.7	-0.4
	baz=245						
TWS1	**Kuangyinshan**	**0.59**	**317**	⇓*i*P	**Pn**	11 39 19.9	+0.1
	baz=309						
TWS1				S	Sn	11 39 30.5	+0.2
	baz=309						
TWD	**Chiawan**	**0.64**	**203**	*e*P	**Pn**	11 39 19.6	-0.6
	baz=207						
TWD				*e*S	Sn	11 39 30.3	-0.8
	baz=207						
TWY	**Chenhua**	**0.65**	**338**	P	**Pn**	11 39 20.3	-0.1
	baz=334						
TWY				S	Sn	11 39 31.1	-0.3
	baz=334						
NCU	**National Centr**	**0.68**	**296**	*i* P	**Pn**	11 39 20.5	-0.3
	baz=288						
NCU				*i* S	Sn	11 39 31.9	-0.1
	baz=288						
HWA	**Hwalien**	**0.73**	**199**	*e*P	**Pn**	11 39 20.9	-0.4
	baz=204						
HWA				*e*S	Sn	11 39 33.4	+0.5
	baz=204						
WHF	**Hehuan Shan**	**0.76**	**226**	P	**Pn**	11 39 22.1	+0.1
	baz=217						
WHF				S	Sn	11 39 33.9	-0.2
	baz=217						
NSTT	**Nanjuang**	**0.79**	**267**	⇑*i*P	**Pn**	11 39 21.6	-0.3
	baz=265						
NSTT				*e*S	Sn	11 39 32.8	-1.2
	baz=265						
HSN	**Hsinchu**	**0.82**	**279**	*i* P	**Pn**	11 39 21.6	-0.7
	baz=281						
HSN				S	Sn	11 39 33.6	-1.2
	baz=281						
ESF	**Shoufeng Towns**	**0.86**	**202**	*e*P	**Pn**	11 39 23.4	+0.6
	baz=206						
ESF				*e*S	Sn	11 39 36.0	+0.5
	baz=206						
ESL	**Shilin**	**0.94**	**205**	*e*P	**Pn**	11 39 22.4	-1.3
	baz=201						
ESL				*e*S	Sn	11 39 35.7	-1.4
	baz=201						
PCYT	**Pengchaiyu**	**0.97**	**11**	⇓*i*P	**Pn**	11 39 24.3	+0.2
	baz=8.0						
PCYT				*e*S	Sn	11 39 37.8	-0.2
	baz=8.0						
NSY	**Sanyi**	**1.03**	**256**	⇑*i*P	**Pn**	11 39 25.1	+0.3
	baz=254						
NSY				*e*S	Sn	11 39 38.7	-0.6
	baz=254						
TWQ1	**Liyutan**	**1.04**	**252**	⇑*i*P	**Pn**	11 39 24.9	-0.1
	baz=250						
TWQ1				*e*S	Sn	11 39 39.1	-0.3
	baz=250						
YOJ	**Yonaguni jima**	**1.06**	**101**	P	**Pn**	11 39 25.0	-0.2
YOJ				S	Sn	11 39 39.4	-0.5
SMLT	**Sun Moon Lake**	**1.18**	**229**	P	**Pn**	11 39 27.3	+0.5
	baz=234						
SMLT				*e*S	Sn	11 39 43.4	+0.8
	baz=234						
TYC	**Yuchr**	**1.19**	**231**	⇑*i*P	**Pn**	11 39 27.2	+0.4
	baz=235						
TYC				*e*S	Sn	11 39 43.7	+1.0
	baz=235						
TCU	**Taichung**	**1.20**	**245**	*e*P	**Pn**	11 39 26.9	0.0
	baz=251						
TCU				*e*S	Sn	11 39 42.7	-0.2
	baz=251						
EHY	**Hungye**	**1.26**	**203**	*e*P	**Pn**	11 39 27.6	-0.1
	baz=200						
EHY				*e*S	Sn	11 39 42.9	-1.4
	baz=200						
WNT	**Mingjian**	**1.33**	**234**	*e*P	**Pn**	11 39 29.0	+0.4
	baz=241						
WNT				*e*S	Sn	11 39 46.5	+0.6
	baz=241						
TWF1	**Yuli**	**1.41**	**202**	*e*P	**Pn**	11 39 28.1	-1.6
	baz=199						
TWF1				*e*S	Sn	11 39 45.9	-1.8
	baz=199						
CHN5	**Tsauling**	**1.52**	**226**	⇑P	**Pn**	11 39 31.4	+0.3
	baz=232						
CHN5				*e*S	Sn	11 39 51.1	+0.7
	baz=232						
WGK	**Gukeng**	**1.54**	**231**	P	**Pn**	11 39 31.8	+0.5
	baz=238						
WGK				*e*S	Sn	11 39 51.5	+0.8
	baz=238						
CHKT	**Chengkung**	**1.63**	**196**	*e*P	**Pn**	11 39 31.1	-1.3
	baz=184						
CHKT				*e*S	Sn	11 39 53.4	+0.6
	baz=184						
WTCT	**Ta-ch'eng**	**1.65**	**241**	*e*P	**Pn**	11 39 32.4	-0.3
	baz=238						
WTCT				*e*S	Sn	11 39 52.9	-0.4
	baz=238						
ELDTW	**Lidau**	**1.67**	**208**	*e*P	**Pn**	11 39 32.6	-0.5
	baz=197						
ELDTW				*e*S	Sn	11 39 53.7	-0.1
	baz=197						
IRIF	**Iriomote-Funau**	**1.73**	**101**	P	**Pn**	11 39 33.5	-0.3
IRIF				S	Sn	11 39 54.7	-0.5
CHN4	**Tsaushan**	**1.75**	**222**	P	**Pn**	11 39 34.6	+0.5
	baz=219						
CHN4				*e*S	Sn	11 39 57.1	+1.4
	baz=219						
CHY	**Chiayi**	**1.76**	**229**	*e*P	**Pn**	11 39 34.6	+0.4
	baz=234						
CHY				*e*S	Sn	11 39 56.2	+0.3
	baz=234						
WTP	**Ta-pu**	**1.82**	**219**	P	**Pn**	11 39 35.5	+0.5
	baz=226						
WTP				*e*S	Sn	11 39 58.1	+0.7
	baz=226						
HATJ	**Hateruma jima**	**1.87**	**109**	P	**Pn**	11 39 35.9	+0.2
HATJ				*e*S	Sn	11 39 59.1	+0.6
TWK	**Hsinying**	**1.88**	**222**	*e*P	**Pn**	11 39 36.4	+0.5
	baz=219						
TWK				*e*S	Sn	11 39 59.5	+0.7
	baz=219						
CHN1	**Nanshi**	**1.92**	**220**	P	**Pn**	11 39 36.5	+0.2
	baz=217						
CHN1				*e*S	Sn	11 40 00.4	+0.7
	baz=217						
SGST	**Jiashian**	**1.97**	**217**	*e*P	**Pn**	11 39 37.1	+0.1
	baz=224						
SGST				*e*S	Sn	11 40 01.7	+0.8
	baz=224						
TWG	**Pinlang**	**1.98**	**202**	*e*P	**Pn**	11 39 35.6	-1.5
	baz=189						
TWG				*e*S	Sn	11 39 58.8	-2.3
	baz=189						
JKRS	**Kuro-shima**	**2.00**	**102**	P	**Pn**	11 39 37.5	+0.1
JKRS				*e*S	Sn	11 40 01.8	+0.2
JIJ	**Ishigaki jima**	**2.10**	**98**	P	**Pn**	11 39 38.4	-0.3
JIJ				S	Sn	11 40 03.2	-0.8
SCLT	**Jiali**	**2.13**	**226**	*e*P	**Pn**	11 39 39.3	+0.2
	baz=223						
SCLT				*e*S	Sn	11 40 05.3	+0.5
	baz=223						
TWM1	**Shoushan**	**2.26**	**216**	*e*P	**Pn**	11 39 41.2	+0.3
	baz=224						
PNG	**Penghu**	**2.38**	**243**	*e*P	**Pn**	11 39 41.4	-1.0
	baz=241						
WDGT	**Dungji**	**2.46**	**236**	*e*P	**Pn**	11 39 43.4	-0.1
	baz=233						
WDGT				*e*S	Sn	11 40 10.9	-1.7
	baz=233						
EAST	**Anshuo**	**2.46**	**202**	*e*P	**Pn**	11 39 44.9	+1.3
	baz=190						
EAST				*e*S	Sn	11 40 13.1	+0.4
	baz=190						
SCZT	**Fangliau**	**2.56**	**207**	*e*P	**Pn**	11 39 46.1	+1.2
	baz=216						
SCZT				*e*S	Sn	11 40 14.9	-0.1
	baz=216						
JTJ	**Tarama**	**2.58**	**90**	P	**Pn**	11 39 46.0	+0.8
KNM	**Kinmen**	**3.13**	**266**	*e*P	**Pn**	11 39 52.9	+0.2
	baz=264						
KNM				*e*S	Sn	11 40 30.4	+1.4
	baz=264						

IDC 27 11:43:20.5±1.4, 8.′07N×37.′98W, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/24, mbtmp3.5/3, Error ellipse: s-maj=55.0km s-min=28.8km az=166.0, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**38.42**	**231**	P	P	11 50 44.8	-0.2
	0.8nm,0.7s,baz=74,slow=7.4,SNR=3.2						
TORD	**Torodi Ar. Bea**	**39.29**	**79**	P	P	11 50 51.5	-0.1
	0.8nm,0.7s,baz=276,slow=9.2,SNR=5.5						
TXAR	**Lajitas Array**	**64.91**	**299**	P	P	11 54 02.4	0.0
	0.1nm,0.5s,baz=112,slow=6.9,SNR=4.0						

IDC 27 11:43:54.9±1.3, 8.′09N×38.′01W, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/24, mbtmp3.6/3, Error ellipse: s-maj=50.8km s-min=28.9km az=168.0, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**38.41**	**231**	P	P	11 51 19.2	-0.1
	1.0nm,0.7s,baz=27,slow=6.8,SNR=2.5						
TORD	**Torodi Ar. Bea**	**39.31**	**79**	P	P	11 51 26.1	0.0
	0.9nm,0.6s,baz=276,slow=8.5,SNR=4.9						
TXAR	**Lajitas Array**	**64.88**	**299**	P	P	11 54 36.5	-0.1
	0.1nm,0.6s,baz=100,slow=5.2,SNR=4.4						
ASAR	**Alice Springs**	**162.68**	**154**	PKPab	PKPab	12 04 47.5	-0.6
	0.7nm,1.1s,baz=201,slow=5.8,SNR=4.1						

*SZGRF **27** 12:03:10.2, 58.′31N×151.′15W, h33km, mb4.8, Kodiak Island, Alaska, United States, region*
*BJI **27** 12:03:13.3, 58.′73N×152.′79W, h59km, mB5.2/4, mb4.8/6, Ms4.9/2, Ms7 4.6/2*
*ISCJB **27** 12:03:15.5±0.2, 58.′76N±0.′02×153.′41W±0.′03, h69km±2km, mb4.4/88, Error ellipse: s-maj=3.1km s-min=2.6km az=141.0*
*IDC **27** 12:03:15.1±1.6, 58.′79N×153.′53W, h57km±15km, mb4.0/19, mb1 4.2/24, mb1mx4.1/30, mbtmp4.1/24, MS3.5/6, Ms1 3.5/6, ms1mx3.1/34, Error ellipse: s-maj=15.5km s-min=11.9km az=19.0*
*NEIC **27** 12:03:17.0, 58.′61N×153.′33W, h60km, mb4.6/57, ML4.3(AEIC), After AEIC.*
ISC 27 12:03:16.2±0.5, 58.′66N±0.′04×153.′28W±0.′03, h65km±3km, n517, σ1§35/549, mb4.5/88, 28D, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPH	**Katmai Pasha**	**0.56**	**264**	P	**Pn**	**12 03 28.7**	**-0.6**
KAPH				S	**Sn**	**12 03 38.9**	**+0.1**
AUI	**Augustine Isla**	**0.68**	**354**	P	**Pn**	**12 03 31.1**	**+0.6**
AUL	**Augustine Lava**	**0.73**	**354**	P	**Pn**	**12 03 31.8**	**+0.7**
AUL				S	**Sn**	**12 03 43.4**	**+1.4**
MCNL	**McNeil River**	**0.76**	**314**	P	**Pn**	**12 03 31.5**	**0.0**
KDAK	**Kodiak Island**	**0.95**	**157**	P	**Pn**	**12 03 33.5**	**-0.3**
KDAK				S	**Sn**	**12 03 46.6**	**-0.1**
KDAK	**Kodiak Island**	**0.95**	**157**	P	**Pn**	**12 03 33.5**	**-0.3**
	848nm,0.3s,baz=2.3,slow=7.4,SNR=7095						
KDAK				S	**Sn**	**12 03 46.7**	**-0.1**
	1μm,0.3s,baz=197,slow=22,SNR=13						
OPT	**Oil Point**	**1.00**	**1**	P	**Pn**	**12 03 35.3**	**+0.9**
KAKN	**Katmai Knife C**	**1.00**	**250**	P	**Pn**	**12 03 33.6**	**-0.9**
KAKN				S	**Sn**	**12 03 46.8**	**-1.3**
KABR	**Katmai Barrier**	**1.03**	**240**	P	**Pn**	**12 03 33.9**	**-1.0**
KABU	**Katmai Buttres**	**1.12**	**251**	P	**Pn**	**12 03 35.9**	**-0.1**
KABU				S	**Sn**	**12 03 50.3**	**-0.6**
CAHL	**Cahill**	**1.23**	**241**	P	**Pn**	**12 03 36.8**	**-0.6**
ILS	**Iliamna Low So**	**1.31**	**5**	P	**Pn**	**12 03 39.0**	**+0.5**
KELA	**Mount Kelaz**	**1.31**	**261**	P	**Pn**	**12 03 37.8**	**-0.7**
HOM	**Homer**	**1.31**	**39**	P	**Pn**	**12 03 39.9**	**+1.5**
HOM				S	**Sn**	**12 03 57.0**	**+1.9**
CNPM	**China Poot**	**1.37**	**50**	P	**Pn**	**12 03 40.2**	**+1.0**
CNPM				S	**Sn**	**12 03 59.2**	**+2.7**
OHAK	**Old Harbor**	**1.44**	**180**	P	**Pn**	**12 03 39.4**	**-0.7**
BRLK	**Bradley Lake**	**1.66**	**47**	P	**Pn**	**12 03 43.5**	**+0.4**
BRLK				S	**Sn**	**12 04 03.8**	**+0.3**
PLK2	**Peulik 2**	**1.84**	**242**	P	**Pn**	**12 03 45.7**	**+0.1**
RDWB	**Redoubt West**	**1.85**	**7**	P	**Pn**	**12 03 46.6**	**+0.9**
PLK3	**Peulik 3**	**1.86**	**240**	P	**Pn**	**12 03 46.2**	**+0.4**
NCT	**North Crescent**	**1.92**	**5**	P	**Pn**	**12 03 47.5**	**+0.8**
PLK1	**Peulik 1**	**1.96**	**245**	P	**Pn**	**12 03 47.4**	**+0.3**
DFR	**Drift River**	**1.96**	**9**	P	**Pn**	**12 03 48.0**	**+0.7**
RDT	**Redoubt**	**1.97**	**13**	P	**Pn**	**12 03 48.0**	**+0.6**
PLK5	**Peulik 5**	**2.01**	**252**	P	**Pn**	**12 03 48.5**	**+0.7**
PLBL	**Peulik Blue Cr**	**2.11**	**244**	P	**Pn**	**12 03 49.9**	**+0.7**
SLKM	**Skilak Lake**	**2.42**	**39**	P	**Pn**	**12 03 54.0**	**+0.6**
SEW	**Seward**	**2.44**	**52**	P	**Pn**	**12 03 53.4**	**-0.2**
CKL	**Chakachamna La**	**2.59**	**10**	P	**Pn**	**12 03 56.8**	**+1.0**
SPU	**Mount Spurr**	**2.60**	**13**	P	**Pn**	**12 03 56.9**	**+1.0**
SPBG	**Spurr Blockage**	**2.65**	**10**	P	**Pn**	**12 03 57.7**	**+1.1**
BGL	**Barrier Glacie**	**2.65**	**9**	P	**Pn**	**12 03 57.8**	**+1.1**
SVW2	**Sparrevohn**	**2.71**	**336**	P	**Pn**	**12 03 57.5**	**+0.2**
STLK	**Strandline Lak**	**2.94**	**14**	P	**Pn**	**12 04 01.6**	**+1.1**
PTE	**Portage**	**3.09**	**42**	P	**Pn**	**12 04 02.7**	**+0.3**
SUA	**Susitna One**	**3.09**	**23**	P	**Pn**	**12 04 03.7**	**+1.1**
PWL	**Port Wells**	**3.34**	**46**	P	**Pn**	**12 04 05.8**	**0.0**
SKT	**Skwentna**	**3.44**	**14**	P	**Pn**	**12 04 08.0**	**+0.7**
PMR	**Palmer**	**3.60**	**33**	P	**Pn**	**12 04 09.3**	**-0.1**
CHGN	**Chignik**	**3.64**	**232**	*e*Pn	**Pn**	**12 04 09.5**	**-0.5**
MID	**Middleton Isla**	**3.67**	**75**	P	**Pn**	**12 04 10.1**	**-0.2**
GLI	**Glacier Island**	**3.84**	**52**	P	**Pn**	**12 04 11.9**	**-0.8**
VNHG	**Veniaminof 1**	**4.01**	**235**	P	**Pn**	**12 04 15.4**	**+0.2**
FID	**Port Fidalgo**	**4.03**	**56**	P	**Pn**	**12 04 14.4**	**-1.0**
EYAK	**Cordova Ski Ar**	**4.27**	**60**	P	**Pn**	**12 04 18.3**	**-0.3**
PPLA	**Purkeypile**	**4.29**	**7**	P	**Pn**	**12 04 20.4**	**+1.4**
VLZ	**Valdez**	**4.29**	**52**	P	**Pn**	**12 04 18.8**	**0.0**
TT01	**Tatalina**	**4.47**	**344**	P	**Pn**	**12 04 21.9**	**+0.6**
DIV	**Divide**	**4.52**	**54**	P	**Pn**	**12 04 22.1**	**+0.1**
KLU	**Klutina**	**4.65**	**49**	P	**Pn**	**12 04 23.9**	**0.0**
RAGM	**Ragged Mountai**	**4.71**	**65**	P	**Pn**	**12 04 24.2**	**-0.5**
GOAT	**Goat Mountain**	**4.75**	**62**	P	**Pn**	**12 04 25.3**	**+0.1**
CAST	**Castle Rocks**	**4.81**	**6**	P	**Pn**	**12 04 26.6**	**+0.6**
BMRM	**Bremner River**	**4.95**	**58**	P	**Pn**	**12 04 27.5**	**-0.5**
NICHA	**Nichawak Mount**	**5.01**	**68**	P	**Pn**	**12 04 29.1**	**+0.5**
KTH	**Kantishna Hill**	**5.04**	**12**	P	**Pn**	**12 04 30.5**	**+1.3**
SUCK	**Suckling Hills**	**5.06**	**70**	P	**Pn**	**12 04 29.9**	**+0.4**
SDPT	**Sand Point**	**5.14**	**233**	P	**Pn**	**12 04 29.6**	**-0.9**
RND	**Reindeer**	**5.23**	**22**	P	**Pn**	**12 04 31.9**	**+0.2**
CHUM	**Lake Minchumin**	**5.26**	**5**	P	**Pn**	**12 04 33.0**	**+0.9**
DHY	**Denali Highway**	**5.29**	**31**	P	**Pn**	**12 04 32.7**	**+0.1**
GRIN	**Grindle Hills**	**5.33**	**68**	P	**Pn**	**12 04 33.6**	**+0.5**
KHIT	**Khitrov Hills**	**5.41**	**66**	P	**Pn**	**12 04 34.1**	**-0.1**
HARP	**HAARP**	**5.50**	**43**	P	**Pn**	**12 04 35.8**	**+0.5**
GLB	**Gilahina Butte**	**5.50**	**56**	P	**Pn**	**12 04 35.4**	**-0.1**
MCK	**McKinley**	**5.51**	**21**	P	**Pn**	**12 04 36.1**	**+0.6**
VRDI	**Verde Repeater**	**5.57**	**58**	P	**Pn**	**12 04 36.2**	**-0.3**
BPAW	**Bear Paw Mtn.**	**5.57**	**10**	P	**Pn**	**12 04 37.0**	**+0.7**
PS4A	**Pavlof South-4**	**5.74**	**238**	P	**Pn**	**12 04 38.7**	**0.0**
BARK	**Barkley Ridge**	**5.76**	**68**	P	**Pn**	**12 04 39.5**	**+0.4**
PAX	**Paxson**	**5.77**	**38**	P	**Pn**	**12 04 39.2**	**+0.1**
MCARA	**McCarthy VSAT**	**5.82**	**58**	P	**Pn**	**12 04 39.8**	**-0.1**
BWN	**Browne**	**5.83**	**17**	P	**Pn**	**12 04 40.6**	**+0.7**
ISLE	**Juniper Island**	**5.88**	**66**	P	**Pn**	**12 04 41.1**	**+0.3**
KIAG	**Kiagna River**	**5.96**	**63**	P	**Pn**	**12 04 41.7**	**-0.2**
BAGL	**Bagley Icefiel**	**5.98**	**67**	P	**Pn**	**12 04 42.5**	**+0.6**
PTPK	**Patty Peak**	**6.00**	**60**	P	**Pn**	**12 04 42.5**	**+0.1**
BALM	**Baldy**	**6.00**	**62**	P	**Pn**	**12 04 42.3**	**-0.1**
GRNC	**Granite Creek**	**6.19**	**66**	P	**Pn**	**12 04 44.0**	**-1.1**
DDM	**Donnelly Dome**	**6.27**	**32**	P	**Pn**	**12 04 47.1**	**+1.2**
NEA	**Nenana**	**6.27**	**17**	P	**Pn**	**12 04 45.7**	**-0.1**
BARN	**Barnard Glacie**	**6.33**	**63**	P	**Pn**	**12 04 47.0**	**+0.1**
WRH	**Wood River Hil**	**6.34**	**21**	P	**Pn**	**12 04 46.7**	**-0.1**
MENT	**Mentasta**	**6.35**	**43**	*e*Pn	**Pn**	**12 04 48.0**	**+1.0**
TABL	**Table Mountain**	**6.42**	**69**	P	**Pn**	**12 04 48.8**	**+0.6**
MLY	**Manley**	**6.51**	**10**	P	**Pn**	**12 04 49.5**	**+0.4**
HDA	**Harding Lake**	**6.51**	**25**	P	**Pn**	**12 04 49.4**	**+0.2**
CCB	**Clear Creek Bu**	**6.55**	**21**	P	**Pn**	**12 04 49.4**	**-0.3**
COLA	**College**	**6.75**	**20**	P	**Pn**	**12 04 52.1**	**-0.3**
FALS	**False Pass**	**6.75**	**240**	*e*Pn	**Pn**	**12 04 53.2**	**+0.7**
MDM	**Murphy Dome**	**6.76**	**19**	P	**Pn**	**12 04 52.3**	**-0.3**
ILAR	**Eielson Array**	**6.84**	**24**	P	**Pn**	**12 04 53.0**	**-0.7**
ILAR				S	**Sn**	**12 06 05.8**	**-4.2**
ILAR	**Eielson Array**	**6.84**	**24**	P	**Pn**	**12 04 53.0**	**-0.7**
	6.9nm,0.3s,baz=204,slow=13,SNR=158						
ILAR				S	**Sn**	**12 06 05.8**	**-4.2**
	4.4nm,0.3s,baz=212,slow=24,SNR=4.6						
IL1	**Eielson Array**	**6.84**	**24**	P	**Pn**	**12 04 53.5**	**-0.3**
GLM	**Gilmore Dome**	**6.93**	**21**	P	**Pn**	**12 04 55.5**	**+0.5**
SCRK	**Sand Creek**	**6.96**	**36**	P	**Pn**	**12 04 55.4**	**0.0**
BCA3	**Beaver Creek A**	**7.14**	**47**	P	**Pn**	**12 04 57.9**	**+0.1**
IM04	**Indian Mountai**	**7.35**	**358**	*e*Pn	**Pn**	**12 05 01.4**	**+0.8**
IM3	**Indian Mountai**	**7.36**	**358**	P	**Pn**	**12 05 01.4**	**+0.7**
IMA2	**Indian Mountai**	**7.44**	**359**	P	**Pn**	**12 05 02.8**	**+0.8**
HYT	**Haines Junctio**	**8.26**	**68**	P	**Pn**	**12 05 13.1**	**0.0**
EGAK	**Eagle**	**8.40**	**38**	P	**Pn**	**12 05 14.9**	**-0.1**
DAWY	**Dawson**	**8.58**	**45**	P	**Pn**	**12 05 17.7**	**+0.1**
COLD	**Coldfoot**	**8.71**	**8**	P	**Pn**	**12 05 19.0**	**-0.2**
UNV	**Unalaska Valle**	**8.79**	**242**	P	**Pn**	**12 05 19.3**	**-1.1**
SKAG	**Skagway**	**9.28**	**77**	*e*Pn	**Pn**	**12 05 27.8**	**+0.8**
SKAG				*e*Sn	**Sn**	**12 07 06.8**	**-2.9**
WHY	**Whitehorse**	**9.52**	**70**	P	**Pn**	**12 05 30.3**	**-0.1**
BM3	**Burnt Mountain**	**9.62**	**20**	P	**Pn**	**12 05 31.6**	**-0.1**
OKTU	**Okmok Mt. Tuli**	**9.80**	**244**	P	**Pn**	**12 05 32.9**	**-1.3**
DLBC	**Dease Lake**	**12.13**	**81**	*e*Pn	**Pn**	**12 06 05.9**	**-0.1**
DLBC				S	**Sn**	**12 08 15.3**	**-4.1**
DLBC	**Dease Lake**	**12.13**	**81**	P	**Pn**	**12 06 06.8**	**+0.8**
	1.1nm,0.3s,baz=221,slow=8.5,SNR=25						
DLBC				S	**Sn**	**12 08 15.3**	**-4.1**
	0.4nm,0.3s,baz=316,slow=24,SNR=2.3						
INK	**Inuvik**	**13.02**	**34**	P	**Pn**	**12 06 17.1**	**-0.7**
INK	**Inuvik**	**13.02**	**34**	P	**Pn**	**12 06 17.1**	**-0.7**
	baz=232,slow=19						
BBB	**Bella Bella**	**15.62**	**104**	LR	LR	12 11 38.2	
	comp=Z,141nm,19.6s,baz=328,slow=32						
YKA	**Yellowknife Ar**	**19.17**	**62**	P	**Pn**	**12 07 35.0**	**-0.6**
YKA				PcP	**PcP**	**12 11 54.7**	**-0.1**
YKA	**Yellowknife Ar**	**19.17**	**62**	P	**Pn**	**12 07 34.9**	**-0.6**
	0.8nm,0.3s,baz=276,slow=10.0,SNR=37						
YKA				PcP	**PcP**	**12 11 54.7**	**-0.1**
	0.1nm,0.3s,baz=297,slow=1.6,SNR=5.1						
FX1	**Attu Island--F**	**19.59**	**267**	P	**P**	**12 07 37.0**	**-1.6**
FX1	**Attu Island--F**	**19.59**	**267**	P	**P**	**12 07 37.0**	**-1.6**
	1.7nm,0.3s,baz=293,slow=7.7,SNR=2.8						
A05A	**Maple Falls**	**20.61**	**104**	*e*P	Pn	12 07 52.4	-0.2
	14nm,0.9s						
B08A	**Colville Reser**	**22.42**	**102**	*e*P	**P**	**12 08 11.1**	**+1.9**
	14nm,0.9s						
EDM	**Edmonton**	**22.75**	**86**	*e*P	**P**	**12 08 14.1**	**+1.4**
NEW	**Newport**	**23.61**	**100**	*e*P	**P**	**12 08 22.7**	**+1.6**
	6.3nm,0.8s						
NEW	**Newport**	**23.61**	**100**	P	**P**	**12 08 22.6**	**+1.6**
	6.0nm,0.7s,baz=320,slow=8.2,SNR=17						
NEW				LR	LR	12 17 53.6	
	comp=Z,65nm,20.1s,baz=354,slow=37						
NEW	**Newport**	**23.61**	**100**	P	**P**	**12 08 22.5**	**+1.4**
	baz=24						
HAWA	**Hanford**	**23.63**	**106**	*e*P	**P**	**12 08 22.9**	**+1.8**
	6.0nm,0.9s						
E09A	**Wood Farm, Sta**	**24.25**	**105**	*e*P	**P**	**12 08 28.4**	**+1.7**
	14nm,1.2s						
G08A	**Pilot Rock**	**24.69**	**108**	*e*P	**P**	**12 08 32.6**	**+1.7**
	65nm,2.5s						
F10A	**Beach Ranch, E**	**25.08**	**104**	*e*P	**P**	**12 08 35.7**	**+1.2**
	5.9nm,0.8s						
YBH	**Yreka Blue Hor**	**25.55**	**118**	P	**P**	**12 08 41.4**	**+2.7**
YBH	**Yreka Blue Hor**	**25.55**	**118**	P	**P**	**12 08 41.4**	**+2.7**
	2.6nm,0.8s,baz=307,slow=4.9,SNR=5.1						
YBH				LR	LR	12 16 28.1	
	comp=Z,104nm,18.7s,baz=229,slow=31						
SLMT	**Seeley Lake**	**26.15**	**98**	*e*P	**P**	**12 08 45.4**	**+1.3**
CHMT	**Chamberlain Mo**	**26.48**	**99**	*e*P	**P**	**12 08 48.4**	**+1.1**
HRY	**Holter Researc**	**27.35**	**98**	*e*P	**P**	**12 08 56.2**	**+1.2**
PETK	**Petropavlovsk-**	**27.52**	**280**	P	**P**	**12 08 55.2**	**-1.0**
PETK	**Petropavlovsk-**	**27.52**	**280**	P	**P**	**12 08 55.2**	**-1.0**
	2.2nm,0.6s,baz=72,slow=14,SNR=2.1						
A19A	**Klindworth Far**	**27.56**	**91**	P	**P**	**12 08 57.6**	**+0.9**
	baz=28						
EGMT	**Eagleton**	**27.59**	**93**	*e*P	**P**	**12 08 58.1**	**+1.1**
	21nm,1.2s						
EGMT	**Eagleton**	**27.59**	**93**	P	**P**	**12 08 57.7**	**+0.7**
	baz=28,SNR=5.9						
MFID	**Camas Ranch**	**27.60**	**107**	P	**P**	**12 08 58.3**	**+1.2**
	baz=28						
LRM	**Limekiln Ridge**	**27.63**	**100**	*e*P	**P**	**12 08 59.0**	**+1.4**
	42nm,1.2s						
B19A	**Brinkman Farms**	**27.74**	**92**	P	**P**	**12 08 59.5**	**+1.2**
	baz=28,SNR=12						
DLMT	**Dillon**	**27.86**	**100**	*e*P	**P**	**12 09 01.6**	**+2.0**
	57nm,2.9s						
C19A	**Slack Wire Ran**	**28.14**	**93**	P	**P**	**12 09 03.1**	**+1.2**
	baz=28						
HLID	**Hailey**	**28.20**	**105**	*e*P	**P**	**12 09 05.0**	**+2.4**
	23nm,2.3s						
B20A	**Solberg Farm,**	**28.23**	**91**	P	**P**

GRAC	Grapevine Rang baz=32	31.81	117	P	P	12 09 36.8 +2.4
J21A	Lysite baz=32,SNR=9.0	31.92	98	P	P	12 09 37.1 +1.6
K20A	Yellowstone Ra baz=32,SNR=7.1	31.95	100	P	P	12 09 36.5 +0.8
SMMC	Simmler baz=32	32.01	122	P	P	12 09 38.2 +2.1
I22A	9 Mile Ranch, baz=32	32.04	97	P	P	12 09 38.0 +1.6
G24A	Alzada baz=32	32.13	93	P	P	12 09 38.7 +1.5
E26A	Carlson Angus baz=32	32.40	89	P	P	12 09 40.4 +1.0
ISA	Isabella 4.1nm,0.9s	32.40	120	eP	P	12 09 41.1 +1.5
ISA	Isabella baz=32	32.40	120	P	P	12 09 41.0 +1.4
L20A	Wamsutter baz=32	32.42	101	P	P	12 09 40.9 +1.0
PKM	Peak Mountain baz=32	32.44	122	P	P	12 09 42.5 +2.5
FURC	Furnace Creek, baz=32	32.48	117	P	P	12 09 42.5 +2.3
MPMC	Manual Prospec baz=32,SNR=6.4	32.52	118	P	P	12 09 42.5 +1.7
K21A	Alcova baz=32,SNR=8.9	32.53	99	P	P	12 09 41.7 +0.9
F26A	Lodgepole baz=33	32.70	90	P	P	12 09 43.2 +1.1
G25A	Newell baz=33	32.74	92	P	P	12 09 43.8 +1.3
M20A	Sweetwater, Wa baz=33,SNR=7.5	32.87	101	P	P	12 09 45.5 +1.7
G27A	Dupree baz=33	32.87	91	P	P	12 09 49.4 +5.7
LRMC	Laurel Mountai baz=33,SNR=6.3	32.91	119	P	P	12 09 45.8 +1.7
L21A	Rawlins baz=33,SNR=6.2	32.95	100	P	P	12 09 45.7 +1.2
TMUT	Trail Mountain 6.6nm,0.9s	32.98	107	eP	P	12 09 47.5 +2.5
I24A	Kuemmerle Ranc baz=33	33.03	95	P	P	12 09 46.4 +1.4
H25A	Fruitdale baz=33	33.04	93	P	P	12 09 46.5 +1.4
ARUT	Antelope Range 91nm,1.1s	33.05	111	eP	P	12 09 46.8 +1.4
MVU	Marysvale 13nm,1.2s	33.10	109	eP	P	12 09 48.1 +2.2
G26A	Maurine baz=33,SNR=6.5	33.10	91	P	P	12 09 47.0 +1.4
RSSD	Black Hills 45nm,0.7s	33.15	94	eP	P	12 09 47.5 +1.2
M21A	Separation Pea baz=33	33.21	100	P	P	12 09 48.1 +1.3
O19A	Miners Draw (B baz=33	33.28	104	P	P	12 09 49.4 +2.1
CCUT	Cedar City 2.4nm,0.8s	33.28	112	eP	P	12 09 49.5 +2.1
K23A	Bowen Ranch, D baz=33	33.28	97	P	P	12 09 48.8 +1.4
Q16A	Castle Valley	33.29	108	eP	P	12 09 49.5 +2.0
Q16A	Castle Valley baz=33,SNR=8.7	33.29	108	P	P	12 09 49.5 +2.0
N20A	Spence Gulch, baz=33	33.32	102	P	P	12 09 49.6 +1.9
L22A	Ellis Ranch, M baz=33	33.38	99	P	P	12 09 50.4 +2.1
ULM	Lac du Bonnet comp=Z,52nm,20.4s,baz=346,slow=35	33.45	79	LR	LR	12 23 00.5
GSC	Goldstone 11nm,1.3s	33.46	118	eP	P	12 09 51.1 +2.2
GSC	Goldstone baz=33	33.46	118	P	P	12 09 50.9 +2.0
SRU	San Rafael 22nm,1.0s	33.47	107	eP	P	12 09 51.4 +2.4
H26A	Fairpoint baz=33,SNR=9.2	33.47	92	P	P	12 09 50.3 +1.4
F28A	McLaughlin baz=34	33.67	89	P	P	12 09 51.8 +1.2
L23A	Garrett baz=34,SNR=11	33.70	98	P	P	12 09 52.4 +1.3
N21A	Black Mountain baz=34,SNR=9.2	33.75	102	P	P	12 09 52.8 +1.3
TUQ	Turquoise Moun baz=34	33.76	117	P	P	12 09 53.3 +1.7
J25A	Sunshine Ranch baz=34	33.78	95	P	P	12 09 52.8 +1.2
H27A	Howes baz=34	33.83	92	P	P	12 09 53.2 +1.3
O20A	White River Ci	33.85	103	eP	P	12 09 53.7 +1.4
O20A	White River Ci baz=34,SNR=5.9	33.85	103	P	P	12 09 53.6 +1.4
D30A	Buchanan baz=34	33.91	86	P	P	12 09 54.3 +1.7
BFSC	Mount Baldy Ra baz=34	33.96	120	P	P	12 09 54.8 +1.6
O21A	Pagoda baz=34	34.18	102	P	P	12 09 56.3 +1.1
F29A	Eureka baz=34	34.19	88	P	P	12 09 56.0 +1.0
I27A	Quinn baz=34	34.23	92	P	P	12 09 57.0 +1.6
E30A	Jud baz=34	34.23	86	P	P	12 09 56.6 +1.2
P20A	De Beque baz=34,SNR=5.8	34.25	104	P	P	12 09 57.0 +1.2
N22A	Wattenberg Ran baz=34	34.27	100	P	P	12 09 57.6 +1.6
K25A	Mack Ranch, Ha baz=34	34.30	96	P	P	12 09 57.5 +1.4
GMRC	Granite Mounta baz=34	34.42	117	P	P	12 09 58.7 +1.5
G29A	Hoven baz=34	34.57	89	P	P	12 09 59.3 +1.0
U15A	North Rim baz=35,SNR=8.0	34.69	112	P	P	12 10 01.5 +1.8
P21A	Newcastle baz=35,SNR=5.3	34.71	103	P	P	12 10 01.5 +1.7
I28A	Midland baz=35,SNR=9.2	34.73	92	P	P	12 10 00.9 +1.1
H29A	Onida baz=35,SNR=5.2	34.80	90	P	P	12 10 01.3 +1.0
BELC	Belle Mtn. Jos baz=35	34.91	118	P	P	12 10 02.8 +1.4
O23A	Lake Granby, G baz=35,SNR=9.9	34.98	101	P	P	12 10 04.2 +2.0
W13A	Hualapai Mount baz=35,SNR=7.2	34.99	115	P	P	12 10 04.0 +1.7
P22A	Eagle baz=35,SNR=6.0	35.01	102	P	P	12 10 03.7 +1.3
G30A	Faulkton baz=35,SNR=7.9	35.02	88	P	P	12 10 03.1 +0.9
N24A	Carr baz=35	35.06	99	P	P	12 10 03.9 +1.2
K27A	Flueckinger Fa baz=35	35.08	94	P	P	12 10 04.2 +1.4
J28A	Allard Ranch, baz=35,SNR=5.9	35.10	92	P	P	12 10 04.3 +1.4
I29A	Vivian Onida baz=35,SNR=9.8	35.17	91	P	P	12 10 04.7 +1.2
IRM	Iron Mountain baz=35,SNR=6.2	35.17	117	P	P	12 10 05.4 +1.8
SMCO	Snowmass 9.7nm,1.5s	35.21	103	eP	P	12 10 05.2 +0.9
R20A	Redvale baz=35,SNR=6.5	35.25	105	P	P	12 10 05.9 +1.5
109C	Camp Elliot, M baz=35	35.34	121	P	P	12 10 06.7 +1.7
BC3	Big Chuckawall baz=35	35.45	118	P	P	12 10 07.2 +1.2
K28A	Ten Mile Ranch baz=35	35.53	93	P	P	12 10 07.9 +1.3
PDMCI	Parker Dam,Lak baz=36	35.53	116	P	P	12 10 08.0 +1.4
S20A	Disappointment baz=36,SNR=9.1	35.54	106	P	P	12 10 08.4 +1.4
BRSD	Miller 21nm,1.0s	35.59	89	eP	P	12 10 08.5 +1.5
BRSD	Miller baz=36	35.59	89	P	P	12 10 08.2 +1.1
J29A	Okreek baz=36,SNR=10	35.59	92	P	P	12 10 08.3 +1.3
MONP	Monument Peak baz=36	35.65	120	P	P	12 10 09.5 +1.6
I30A	Oacoma baz=36	35.70	90	P	P	12 10 09.1 +1.0
Y12C	Blythe baz=36,SNR=5.9	35.80	117	P	P	12 10 10.6 +1.7
WUAZ	Wupatki 11nm,0.9s	35.86	112	eP	P	12 10 11.6 +1.9
WUAZ	Wupatki baz=36,SNR=9.3	35.86	112	P	P	12 10 11.1 +1.5
MVCO	Mesa Verde 4.0nm,0.6s	35.95	107	eP	P	12 10 11.5 +1.0
MVCO	Mesa Verde baz=36,SNR=5.4	35.95	107	P	P	12 10 11.4 +1.0
S21A	Coal Bank Pass baz=36	35.95	105	P	P	12 10 12.2 +1.6
DVTC	Desert V Tower baz=36	35.99	120	P	P	12 10 12.1 +1.4
Q23A	Hartsel baz=36,SNR=5.5	36.00	102	P	P	12 10 12.8 +1.8
J30A	Dallas baz=36	36.08	91	P	P	12 10 12.3 +1.1
Q24A	Divide baz=36	36.30	101	P	P	12 10 15.0 +1.4
Y14A	Wickenburg baz=36,SNR=6.4	36.36	115	P	P	12 10 15.4 +1.6
K30A	Basset baz=36	36.47	92	P	P	12 10 16.5 +1.9
R23A	Moffat baz=36	36.54	103	P	P	12 10 17.4 +1.8
U20A	Newcomb baz=36	36.59	108	P	P	12 10 17.6 +1.7
T21A	Navajo Lake baz=36	36.60	106	P	P	12 10 17.8 +1.8
X16A	Lo Mia Camp, P baz=37,SNR=5.8	36.72	113	P	P	12 10 19.1 +2.1
Q25A	Bedland, Calha baz=37	36.80	100	P	P	12 10 19.4 +1.7
Z14A	Wintersburg baz=37	36.86	115	P	P	12 10 20.0 +2.1
T22A	Edith baz=37,SNR=8.0	36.90	105	P	P	12 10 20.5 +1.9
U21A	Nageezi baz=37,SNR=7.5	36.98	107	P	P	12 10 21.0 +1.7
V20A	Brimhall baz=37,SNR=5.1	37.07	108	P	P	12 10 21.3 +1.3
M30A	Dale-Ortello V baz=37	37.15	93	P	P	12 10 21.7 +1.2
Q26A	Hugo baz=37,SNR=5.7	37.17	100	P	P	12 10 22.7 +1.9
S24A	Houchin Ranch, baz=37,SNR=6.7	37.28	103	P	P	12 10 24.1 +2.2
X18A	Snowflake baz=37,SNR=9.9	37.35	111	P	P	12 10 24.1 +1.7
R25A	Fountain Ranch baz=37,SNR=7.9	37.37	101	P	P	12 10 24.3 +1.9
V21A	Milan baz=37,SNR=6.9	37.48	107	P	P	12 10 25.2 +1.7
W20A	Ramah baz=38,SNR=21	37.59	109	P	P	12 10 25.9 +1.5
T24B	San Luis baz=38	37.63	104	P	P	12 10 26.3 +1.4
R26A	Arlington baz=38	37.68	100	P	P	12 10 26.7 +1.6
V22A	San Miguel Ran baz=38	37.76	106	P	P	12 10 27.5 +1.6
U23A	El Rito baz=38,SNR=19	37.79	105	P	P	12 10 28.1 +2.0
Q28A	Sharon Springs baz=38	37.94	98	P	P	12 10 29.6 +2.4
P29A	Atwood baz=38	38.01	97	P	P	12 10 29.8 +2.1
X20A	Quemado baz=38	38.05	109	P	P	12 10 29.8 +1.5
T25A	Trinidad baz=38	38.07	103	P	P	12 10 29.9 +1.5
214A	Organ Pipe Nat baz=38	38.09	117	P	P	12 10 30.0 +1.6
BGNE	Belgrade	38.14	92	eP	P	12 10 30.3 +1.6
BGNE	Belgrade baz=38,SNR=7.4	38.14	92	P	P	12 10 29.9 +1.1
S26A	Kim baz=38,SNR=7.5	38.18	101	P	P	12 10 30.7 +1.5
V23A	Ortiz Mt. (NFS baz=38	38.25	106	P	P	12 10 31.7 +1.7
T26A	Comanche Natio baz=38,SNR=5.6	38.46	102	P	P	12 10 32.8 +1.1
X21A	Alamocita Cree baz=38,SNR=20	38.48	109	P	P	12 10 33.8 +1.9
U25A	Circle Dot Ran baz=39,SNR=9.1	38.64	103	P	P	12 10 34.9 +1.7
V24A	Rampart Ranch, baz=39,SNR=5.1	38.73	105	P	P	12 10 35.8 +1.8
W23A	Werner Place, baz=39,SNR=7.3	38.73	106	P	P	12 10 35.9 +1.9
ANMO	Albuquerque 9.3nm,1.7s	38.74	107	eP	P	12 10 35.8 +1.7
X22A	Bernardo baz=39	38.82	108	P	P	12 10 36.6 +1.9
LAZ	Ladron 2.0nm,1.0s	38.84	108	eP	P	12 10 36.6 +1.8
P31A	Stockton baz=39	38.87	95	P	P	12 10 36.3 +1.4
Y21A	Point of Rocks baz=39	38.89	109	P	P	12 10 37.2 +1.9
V25A	Rancho No Teng baz=39,SNR=5.8	38.97	104	P	P	12 10 37.7 +1.8
U26A	Atchley Ranch, baz=39,SNR=7.3	38.98	103	P	P	12 10 37.9 +1.8
S28A	Manter baz=39	39.01	100	P	P	12 10 37.6 +1.4
W24A	Lazy 6 Ranch, baz=39	39.06	105	P	P	12 10 38.5 +1.7
Z20A	Nine Sixteen R baz=39	39.16	111	P	P	12 10 39.3 +1.8
X23A	Hourglass Bar baz=39	39.17	107	P	P	12 10 39.1 +1.4
P32A	Huiting Farm, baz=39	39.20	94	P	P	12 10 39.0 +1.4
Y22A	Socorro baz=39,SNR=8.4	39.30	108	P	P	12 10 40.5 +1.9
R30A	Dighton baz=39	39.33	97	P	P	12 10 40.5 +1.8
V26A	Tequesquite Ra baz=39,SNR=10	39.43	103	P	P	12 10 41.3 +1.6
U27A	Thompson Grove baz=39	39.43	102	P	P	12 10 41.1 +1.4
W25A	X Bar L Ranch, baz=39	39.54	105	P	P	12 10 42.3 +1.7
Y23A	Lovelace Mesa, baz=40,SNR=8.0	39.75	107	P	P	12 10 44.1 +1.6
U28A	Mallet baz=40	39.77	101	P	P	12 10 44.2 +1.7
Z22A	Elephant Butte baz=40,SNR=12	39.84	109	P	P	12 10 45.1 +1.9
W26A	Owens Ranch, T baz=40	39.99	104	P	P	12 10 45.9 +1.5
Y24A	Capitan baz=40,SNR=8.8	40.07	107	P	P	12 10 46.8 +1.7
220A	Playas Peak, P baz=40	40.17	112	P	P	12 10 47.5 +1.6
W27A	Bowe Ranch, En baz=40	40.37	103	P	P	12 10 48.9 +1.4
X26A	CR and CF Fran baz=40	40.39	104	P	P	12 10 48.9 +1.2
Y25A	Mesa, Roswell baz=40,SNR=7.8	40.44	106	P	P	12 10 49.7 +1.5
U30A	WK&E Inc. Balk baz=40	40.47	99	P	P	12 10 49.1 +0.9
T31A	Randall Ranch, baz=40	40.53	98	P	P	12 10 50.1 +1.4
Z24A	Sheeppen Canyo baz=40,SNR=5.6	40.58	107	P	P	12 10 50.8 +1.5
320A	Kipp Ranch, An baz=41	40.64	112	P	P	12 10 51.5 +1.7
Z25A	Roswell baz=41	40.94	107	P	P	12 10 53.6 +1.4
124A	Stringfield Ra baz=41	41.04	108	P	P	12 10 54.7 +1.6
Y27A	Causey baz=41,SNR=9.3	41.24	104	P	P	12 10 55.8 +1.0
Z26A	Caprock baz=41	41.32	106	P	P	12 10 56.5 +1.2
MSTX	Muleshoe	41.37	104	eP	P	12 10 56.9 +1.1
MSTX	Muleshoe baz=41	41.37	104	P	P	12 10 56.8 +1.1
125A	Gardner Draw, baz=41,SNR=7.2	41.47	107	P	P	12 10 58.0 +1.4
224A	Cornudas Mount baz=41	41.51	109	P	P	12 10 58.4 +1.4
Y28A	McKinney Farm, baz=42	41.69	104	P	P	12 10 59.7 +1.4
X30A	Coker Ranch, T baz=42	41.97	102	P	P	12 11 01.8 +1.3
GDL2	Guadalupe Moun 0.7nm,0.4s	41.98	107	eP	P	12 11 02.4 +1.6
Y29A	Porterfield Fa baz=42	42.02	103	P	P	12 11 02.3 +1.3
324A	Moseley Ranch, baz=42	42.04	109	P	P	12 11 02.5 +1.2
226B	Tecolote Peak, baz=42,SNR=5.1	42.18	107	P	P	12 11 03.5 +1.2
X31A	McDonald Ranch baz=42	42.28	101	P	P	12 11 04.1 +1.1
Z29A	Hungry Hill Ra baz=42	42.48	104	P	P	12 11 05.9 +1.2
128A	Castleberry Fa baz=42	42.59	105	P	P	12 11 06.7 +1.1
WMOK	Wichita Mounta 6.4nm,1.0s	42.81	99	eP	P	12 11 08.3 +0.9
425A	Indio Mountain baz=43,SNR=7.7	42.82	109	P	P	12 11 09.3 +1.7
Y32A	R-V Farms, Ver baz=43	43.05	101	P	P	12 11 10.3 +1.0
Z31A	Sharp Cattle R baz=43	43.23	102	P	P	12 11 11.5 +0.8
Z32A	Haskell baz=44	43.58	101	P	P	12 11 14.1 +0.6
329A	Wagon Wheel Ra baz=44	43.76	105	P	P	12 11 16.0 +1.0
526A	Mary Lane Ranc baz=44	43.86	109	P	P	12 11 17.1 +1.1
230A	Sterling City baz=44	43.87	104	P	P	12 11 17.1 +1.1
428A	Kincaid Ranch, baz=44	44.02	107	P	P	12 11 18.6 +1.5
527A	Woodward Ranch baz=44	44.03	108	P	P	12 11 18.1 +0.8
ABTX	Abilene, Hawle baz=44	44.03	102	P	P	12 11 17.8 +0.6
330A	Mertzon baz=44,SNR=6.1	44.23	105	P	P	12 11 19.3 +0.5
231A	Bronte baz=44	44.24	103	P	P	12 11 19.1 +0.2
626A	Big Bend Ranch baz=44	44.25	109	P	P	12 11 19.6 +0.6
528A	Cox Ranch, San baz=44,SNR=5.7	44.42	107	P	P	12 11 21.7 +1.2
SCHQ	Schefferville	44.43	56	P	P	12 11 19.2 -0.8
SCHQ	Schefferville 3.3nm,0.6s,baz=292,slow=7.3,SNR=9.2	44.43	56	P	P	12 11 19.2 -0.8
429A	Davenport Ranc baz=44	44.49	106	P	P	12 11 21.7 +0.8
232A	Coleman baz=44,SNR=7.7	44.62	103	P	P	12 11 22.4 +0.6
SFIN	Scholer Farm baz=44	44.65	84	P	P	12 11 22.2 +0.2
TXAR	Lajitas Array	44.66	109	P	P	12 11 22.9 +0.6
TXAR				PcP	PcP	12 13 03.9 0.0
TXAR	Lajitas Array 2.1nm,0.9s,baz=325,slow=6.4,SNR=19	44.66	109	P	P	12 11 22.9 +0.6
TXAR	0.7nm,0.7s,baz=283,slow=1.9,SNR=4.5			PcP	PcP	12 13 03.9 0.0
TXAR	comp=Z,31nm,19.6s,baz=0.0,slow=35			LR	LR	12 29 31.5
331A	San Angelo baz=45	44.68	104	P	P	12 11 22.9 +0.5
430A	Baggett Ranch, baz=45,SNR=6.3	44.70	105	P	P	12 11 23.1 +0.6
627A	Terlingua Ranc baz=45,SNR=5.3	44.70	109	P	P	12 11 23.5 +0.8
529A	Stev Forest Ra baz=45	44.74	107	P	P	12 11 23.6 +0.8
628A	Black Gap, Mar baz=45,SNR=6.9	44.92	108	P	P	12 11 25.5 +1.2
332A	Millersview baz=45	44.97	103	P	P	12 11 25.3 +0.6
431A	Sonora baz=45	45.10	105	P	P	12 11 26.4 +0.7
530A	J-C Ranch, Com baz=45	45.16	106	P	P	12 11 27.0 +0.8
432A	Menard baz=45	45.35	104	P	P	12 11 28.4 +0.7
531A	Rocksprings baz=46,SNR=7.3	45.55	105	P	P	12 11 30.0 +0.7
WHTX	Lake Whitney baz=46	45.66	101	P	P	12 11 30.8 +0.7
JCT	Junction City 22nm,0.8s	45.67	104	eP	P	12 11 30.7 +0.5
JCT	Junction City baz=46,SNR=15	45.67	104	P	P	12 11 31.0 +0.8
BLO	Bloomington 14nm,0.7s	45.84	85	eP	P	12 11 31.5 +0.1
532A	Rocksprings baz=46	45.90	104	P	P	12 11 32.3 +0.3
631A	Perdido Creek baz=46,SNR=11	46.14	106	P	P	12 11 34.1 +0.2
632A	Uvalde baz=46	46.46	105	P	P	12 11 36.8 +0.4
WVT	Waverly 4.0nm,0.6s	47.45	88	eP	P	12 11 44.2 +0.2
KMSC	Kings Mountain baz=52	51.59	84	P	P	12 12 15.7 +0.2
ARCES	ARCESS Array B	52.10	1	P	P	12 12 16.6 -2.3
ARCES	ARCESS Array B 4.4nm,0.9s,baz=10,slow=7.4,SNR=5.4	52.10	1	P	P	12 12 16.6 -2.3
KSRS	Korea Array 1.8nm,0.8s,baz=36,slow=7.4,SNR=6.8	53.34	283	P	P	12 12 27.9 -0.6
KSAR	Wonju Array Be	53.37	283	P	P	12 12 27.9 -0.8
SONM	Songino Array	55.47	306	P	P	12 12 43.2 -0.7
SONM				PcP	PcP	12 13 43.1 -0.1
SONM	Songino Array 2.3nm,0.5s,baz=41,slow=6.3,SNR=21	55.47	306	P	P	12 12 43.2 -0.7
SONM	2.8nm,0.7s,baz=54,slow=1.6,SNR=7.2			PcP	PcP	12 13 43.1 -0.1
HHC	Hu-ho-hao-te	58.68	298	eP	P	12 13 09.5 +2.8
HHC				pP	pP	12 13 24.5 +0.8
HHC				sP	sP	12 13 31.0 0.0
HHC				PcP	PcP	12 14 00.0 +4.0
HHC				PP	PP	12 15 21.0 +4.4
HHC				PcS	PcS	12 17 59.3 +1.5
HHC				S	S	12 21 06.0 -0.1
HHC				sS	sS	12 21 33.3 -1.7
HHC				SS	SS	12 25 00.3 +1.1
HHC	comp=Z,31nm,0.7s			pmax	pmax	
HHC	comp=Z,200nm,5.2s			pmax	pmax	
HHC	comp=N,280nm,15.5s			LR	LR	
HHC	comp=E,220nm,15.5s			LR	LR	
HHC	comp=Z,230nm,16.7s			LR	LR	
JOF	Joensuu	58.70	358	ep	P	12 13 05.4 -0.9
KAF	Kangasniemi	59.56	0	ep	P	12 13 11.0 -1.2
NOA	NORSAR Array B	60.02	9	P	P	12 13 14.0 -1.5
NOA	NORSAR Array B comp=Z,3.6nm,1.1s,baz=347,slow=6.6,SNR=3.2	60.02	9	P	P	12 13 14.0 -1.5
FINES	FINESS Array B	60.23	0	P	P	12 13 15.6 -1.2
FINES	FINESS Array B comp=Z,2.2nm,0.6s,baz=7.8,slow=9.1,SNR=12	60.23	0	P	P	12 13 15.6 -1.2
BVAR	Borovoye Array	63.19	332	P	P	12 13 35.2 -1.7
BVAR				PcP	PcP	12 14 11.5 -2.3
BVAR	Borovoye Array comp=Z,1.5nm,0.6s,baz=43,slow=8.9,SNR=5.1	63.19	332	P	P	12 13 35.2 -1.7
BVAR	comp=Z,1.6nm,0.7s,baz=356,slow=4.9,SNR=3.8			PcP	PcP	12 14 11.5 -2.3
MKAR	Makanchi Array	65.39	321	P	P	12 13 49.5 -1.9
MKAR	Makanchi Array comp=Z,1.0nm,0.5s,baz=27,slow=6.9,SNR=4.9	65.39	321	P	P	12 13 49.6 -1.9
WMQ	Urumqi	66.13	316	eP	P	12 14 00.0 +3.7
IBBN	Ibbenburen comp=Z,27nm,1.6s	68.32	12	eP	P	12 14 09.4 -0.5
CLZ	Clausthal comp=Z,8.0nm,0.9s	69.06	11	eP	P	12 14 14.3 -0.2
BUG	Bochum--Univer comp=Z,9.0nm,0.6s	69.12	13	eP	P	12 14 14.1 -0.7
SNF	Seneffe	69.66	15	P	P	12 14 18.0 -0.1
MEM	Membach	69.78	14	P	P	12 14 18.8 -0.2
BCLA	Clavier	69.88	14	P	P	12 14 19.0 -0.6
BAIF	Baives comp=Z,8.7nm,0.7s	70.09	15	||iP	P	12 14 20.5 -0.3
BAIF	Baives comp=Z,8.7nm,0.7s	70.09	15	||iP	P	12 14 20.5 -0.3
DOU	Dourbes comp=Z,4.0nm,1.3s	70.10	15	P	P	12 14 20.8 -0.1
GIVF	Givet comp=Z,10nm,0.7s	70.13	15	eP	P	12 14 20.6 -0.5

GIVF	Givet	70.13	15	eP	P	12 14 20.6	-0.5
	comp=Z,10nm,0.7s						
MOX	Moxa	70.36	10	eP	P	12 14 22.0	-0.5
	comp=Z,5.0nm,0.9s						
CD2	Chengdu	70.43	297	P	P	12 14 26.0	+2.7
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
TNS	Taunus Mts	70.45	12	eP	P	12 14 22.7	-0.5
	comp=Z,6.0nm,0.6s						
FLN	La Foliniere	70.63	19	eP	P	12 14 23.4	-0.8
FLN	La Foliniere	70.63	19	eP	P	12 14 23.4	-0.8
WLF	Walferdange	70.73	14	P	P	12 14 25.9	+1.1
LDF	La Druitiere	70.86	19	eP	P	12 14 24.7	-0.8
LDF	La Druitiere	70.86	19	eP	P	12 14 24.7	-0.8
GRR	Gorron	70.93	19	eP	P	12 14 25.4	-0.6
GRR	Gorron	70.93	19	eP	P	12 14 25.4	-0.6
AKASG	Malin Array Be	70.98	358	P	P	12 14 24.5	-1.7
AKASG	Malin Array Be	70.98	358	P	P	12 14 24.5	-1.7
	comp=Z,2.5nm,0.5s,baz=6.2,slow=6.2,SNR=11						
GRF	Grafenberg Arr	71.27	11	eP	P	12 14 28.0	0.0
	comp=Z,7.0nm,1.0s						
ROTZ	Rotzenmuhle	71.28	10	eP	P	12 14 27.9	-0.2
	comp=Z,5.0nm,0.9s						
PAGF	Fort de Pagny	71.76	15	⇓iP	P	12 14 30.9	-0.1
	comp=Z,4.4nm,0.7s						
PAGF	Fort de Pagny	71.76	15	⇓iP	P	12 14 30.9	-0.1
	comp=Z,4.4nm,0.7s						
SFTF	Sexfontaines	72.01	15	eP	P	12 14 32.1	-0.4
SFTF	Sexfontaines	72.01	15	eP	P	12 14 32.1	-0.4
CDF	Champ du Feu	72.10	13	⇓iP	P	12 14 32.7	-0.5
	comp=Z,12nm,1.1s						
CDF	Champ du Feu	72.10	13	⇓iP	P	12 14 32.7	-0.5
	comp=Z,12nm,1.1s						
BFO	Black Forest	72.31	13	eP	P	12 14 33.6	-0.7
	comp=Z,4.0nm,0.9s						
GEC2	GERESS Array S	72.33	9	eP	P	12 14 33.9	-0.6
	comp=Z,4.0nm,1.2s						
GERES	GERESS Array B	72.33	9	P	P	12 14 34.5	0.0
GERES	GERESS Array B	72.33	9	P	P	12 14 34.5	0.0
	comp=Z,1.4nm,0.8s,baz=1.4,slow=5.3,SNR=11						
HINF	Hinteralfeld	72.63	14	⇓iP	P	12 14 35.6	-0.7
	comp=Z,6.0nm,0.6s						
HINF	Hinteralfeld	72.63	14	⇓iP	P	12 14 35.6	-0.7
	comp=Z,6.0nm,0.6s						
LOR	Lormes	72.77	16	⇓iP	P	12 14 36.6	-0.5
	comp=Z,17nm,0.8s						
LOR	Lormes	72.77	16	⇓iP	P	12 14 36.6	-0.5
	comp=Z,17nm,0.8s						
FUR	Furstenfeldbru	72.78	11	eP	P	12 14 37.1	0.0
	comp=Z,10.0nm,0.7s						
GYA	Guiyang	72.78	292	eP	P	12 14 39.8	+2.2
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
MFF	Saint Martin d	72.78	19	⇓iP	P	12 14 36.7	-0.4
MFF	Saint Martin d	72.78	19	⇓iP	P	12 14 36.7	-0.4
SSF	Saint Saulge	72.92	16	⇓iP	P	12 14 37.5	-0.4
	comp=Z,25nm,0.9s						
SSF	Saint Saulge	72.92	16	⇓iP	P	12 14 37.5	-0.4
	comp=Z,25nm,0.9s						
AVF	Avril sur Loir	73.16	17	⇓iP	P	12 14 38.7	-0.6
	comp=Z,8.9nm,0.5s						
AVF	Avril sur Loir	73.16	17	⇓iP	P	12 14 38.7	-0.6
	comp=Z,8.9nm,0.5s						
BGF	Bois d'Agland	73.31	17	eP	P	12 14 39.7	-0.6
	comp=Z,18nm,0.8s						
BGF	Bois d'Agland	73.31	17	eP	P	12 14 39.7	-0.6
	comp=Z,18nm,0.8s						
RJOB	Jochberg	73.35	10	eP	P	12 14 40.4	-0.1
	comp=Z,7.0nm,0.9s						
SMF	Signal de Mont	73.37	16	⇓iP	P	12 14 39.9	-0.7
	comp=Z,13nm,0.9s						
SMF	Signal de Mont	73.37	16	⇓iP	P	12 14 39.9	-0.7
	comp=Z,13nm,0.9s						
TCF	Toulx Ste Croi	73.47	17	eP	P	12 14 40.5	-0.8
TCF	Toulx Ste Croi	73.47	17	eP	P	12 14 40.5	-0.8
CABF	La Chapelle	73.72	15	⇓iP	P	12 14 42.6	-0.2
	comp=Z,17nm,0.8s						
CABF	La Chapelle	73.72	15	⇓iP	P	12 14 42.6	-0.2
	comp=Z,17nm,0.8s						
KSH	Kashi	73.95	322	eP	P	12 14 47.0	+2.7
KSH				sP	sP	12 15 10.5	+1.4
KSH				PP	PP	12 17 34.0	+4.7
KSH				S	S	12 24 12.0	+0.8
KSH				SKS	SKSac	12 24 43.5	-2.2
KSH				pmax	pmax		
	comp=Z,140nm,4.4s						
KSH				LR	LR		
	comp=N,110nm,5.7s						
KSH				LR	LR		
	comp=E,120nm,5.3s						
KSH				LR	LR		
	comp=Z,190nm,8.0s						
LFF	La Frestale	74.55	19	eP	P	12 14 47.1	-0.4
	comp=Z,24nm,1.0s						
LFF	La Frestale	74.55	19	eP	P	12 14 47.1	-0.4
	comp=Z,24nm,1.0s						
CAF	Calviac	74.78	18	eP	P	12 14 48.4	-0.5
	comp=Z,11nm,1.0s						
CAF	Calviac	74.78	18	eP	P	12 14 48.4	-0.5
	comp=Z,11nm,1.0s						
LPL	La Plagne	74.88	14	eP	P	12 14 50.0	+0.3
LPL	La Plagne	74.88	14	eP	P	12 14 50.0	+0.3
LPG	La Plagne	74.90	14	eP	P	12 14 50.3	+0.4
LPG	La Plagne	74.90	14	eP	P	12 14 50.3	+0.4
VIVF	Saint-Julien-l	75.24	16	⇓iP	P	12 14 51.3	-0.3
	comp=Z,17nm,0.8s						
VIVF	Saint-Julien-l	75.24	16	⇓iP	P	12 14 51.3	-0.3
	comp=Z,17nm,0.8s						
ORIF	Oris-en-Rattie	75.35	15	⇓iP	P	12 14 52.1	-0.2
	comp=Z,6.4nm,0.8s						
ORIF	Oris-en-Rattie	75.35	15	⇓iP	P	12 14 52.1	-0.2
	comp=Z,6.4nm,0.8s						
MBDF	Montbardon	75.66	15	eP	P	12 14 54.5	+0.4
	comp=Z,13nm,0.9s						
MBDF	Montbardon	75.66	15	eP	P	12 14 54.5	+0.4
	comp=Z,13nm,0.9s						
SMRF	Simiane la Rot	76.23	16	eP	P	12 14 57.7	+0.5
	comp=Z,16nm,0.7s						
SMRF	Simiane la Rot	76.23	16	eP	P	12 14 57.7	+0.5
	comp=Z,16nm,0.7s						
ETSF	Etsaut	76.30	20	eP	P	12 14 57.8	+0.1
ETSF	Etsaut	76.30	20	eP	P	12 14 57.8	+0.1
MTLF	Montolieu	76.35	18	⇓iP	P	12 14 57.5	-0.3
	comp=Z,8.6nm,0.9s						
MTLF	Montolieu	76.35	18	⇓iP	P	12 14 57.5	-0.3
	comp=Z,8.6nm,0.9s						
SBF	Sospel	76.59	14	eP	P	12 14 58.9	-0.4
SBF	Sospel	76.59	14	eP	P	12 14 58.9	-0.4
KBZ	Khabaz	77.10	348	P	P	12 15 01.8	-0.2
KBZ	Khabaz	77.10	348	P	P	12 15 01.8	-0.2
	comp=Z,5.1nm,0.9s,baz=321,slow=2.5,SNR=4.4						
PGF	Pioggiola	78.08	13	⇓iP	P	12 15 07.2	-0.5
PGF	Pioggiola	78.08	13	⇓iP	P	12 15 07.2	-0.5
ESDC	Sonseca Array	78.75	24	P	P	12 15 11.2	-0.1
ESDC	Sonseca Array	78.75	24	P	P	12 15 11.2	-0.1
	comp=Z,0.8nm,0.5s,baz=339,slow=5.4,SNR=9.4						
CMAR	Chiang Mai Arr	83.29	294	P	P	12 15 34.4	-1.4
CMAR	Chiang Mai Arr	83.29	294	P	P	12 15 34.4	-1.4
	comp=Z,2.4nm,0.9s,baz=10,slow=5.5,SNR=11						
KEST	Kesra	84.85	14	P	P	12 15 42.9	-0.6
KEST	Kesra	84.85	14	P	P	12 15 42.9	-0.6
	comp=Z,3.3nm,0.8s,baz=272,slow=4.9,SNR=8.4						
PSI	Prapat	96.79	287	LR	LR	13 01 16.1	
	comp=Z,121nm,21.9s,baz=20,slow=36						
KMBO	Kilima Mbogo	122.03	348	PKP	PKPdf	12 22 02.8	-0.7
KMBO	Kilima Mbogo	122.03	348	PKP	PKPdf	12 22 02.8	-0.7
	comp=Z,1.4nm,0.6s,baz=315,slow=1.4,SNR=3.9						
BOSA	Boshof	149.95	3	PKPbc	PKPbc	12 22 57.4	-1.3
BOSA	Boshof	149.95	3	PKPbc	PKPbc	12 22 57.4	-1.3
	comp=Z,8.0nm,0.7s,baz=354,slow=2.6,SNR=24						
MAW	Mawson	161.66	226	PKP	PKPdf	12 23 11.3	+3.6
MAW				PKPab	PKPab	12 23 52.6	-0.8
MAW	Mawson	161.66	226	PKP	PKPdf	12 23 11.3	+3.6
	comp=Z,2.6nm,0.6s,baz=80,slow=21,SNR=7.1						
MAW				PKPab	PKPab	12 23 52.6	-0.8
	comp=Z,3.1nm,1.0s,baz=88,slow=4.8,SNR=4.7						

KRSC 27 12:07:02.3±8.4, 50°.87N×159°.89E, h5km±5km, ML3.5, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	Russkaya	1.79	332	eP	Pn	12 07 34.4	+0.6
RUS				eS	Sb	12 07 58.1	0.0
MTVR	Mutnovka	1.93	327	eP	Pn	12 07 36.9	+0.9
MTVR				eS	Sb	12 08 02.7	-0.1
SPN	Mys Shipunski	2.23	2	eS	Sb	12 08 09.6	-1.4
KRX	Arik	2.61	343	P	Pn	12 07 46.8	+1.5
GNL	Ganaly	3.07	338	P	Pn	12 07 53.9	+2.3

IDC 27 12:07:44.7±1.4, 39°.19N×73°.78E, h0km, mb3.9/8, mb1 4.1/14, mb1mx3.9/32, mbtmp4.0/14, ML3.8/6, Error ellipse: s-maj=27.4km s-min=16.0km az=145.0
ISCJB 27 12:07:45.0±0.5, 39°.18N±0°.04×73°.48E±0°.07, h10km, mb3.8/10, MS3.5/1, Error ellipse: s-maj=8.6km s-min=4.7km az=153.4
BJI 27 12:07:46.8, 39°.63N×73°.47E, h9km, mB4.3/1, mb4.2/4, ML3.6/4, Ms3.7/1, Ms7 3.5/1
NNC 27 12:07:53.7±2.2, 39°.82N×73°.53E, h0km, mb4.2, mpv3.8, Error ellipse: s-maj=20.1km s-min=10.5km az=12.0
MOS 27 12:07:54.4±0.8, 39°.62N×73°.60E, h70km, mb4.2/5, Error ellipse: s-maj=14.9km s-min=5.9km az=79.5

ISC 27 12:07:46.8±0.6, 39°.28N±0°.04×73°.62E±0°.06, h10km, n66, σ1°.76/62, mb3.8/10, 12C-13D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	Kashi	1.84	82	Pg	Pn	12 08 16.8	-1.8
KSH				Sg	Sn	12 08 39.5	-2.5
KSH				smax	smax		
	comp=N,2μm,0.5s						
KSH				smax	smax		
	comp=E,1μm,0.5s						
AML	Almayashu	2.84	1	iPN	Pn	12 08 33.9	+1.3
AML	Almayashu	2.84	1	P	Pn	12 08 33.9	+1.3
	SNR=92						
UCH	Uchtor	3.02	13	iPN	Pn	12 08 37.0	+2.0
UCH	Uchtor	3.02	13	P	Pn	12 08 37.0	+2.0
	SNR=7.7						
KZA	Kyzart	3.06	23	iPN	Pn	12 08 37.1	+1.6
KZA	Kyzart	3.06	23	P	Pn	12 08 37.1	+1.6
	SNR=41						
EKS2	Erkin-Say	3.38	2	P	Pn	12 08 41.5	+1.8
	SNR=39						
AAK	Ala-Archa	3.41	11	ciPN	Pn	12 08 42.2	+2.0
AAK	Ala-Archa	3.41	11	P	Pn	12 08 42.4	+2.2
	SNR=65						
AAK	Ala-Archa	3.41	11	Pn	Pn	12 08 43.4	+3.2
	comp=E,18nm,0.3s,baz=154,slow=7.1,SNR=94						
AAK				Lg	Lg	12 09 28.5	
	comp=E,48nm,0.3s,baz=105,slow=21,SNR=11						
KBK	Karagaybulak	3.52	16	iPN	Pn	12 08 44.9	+3.2
KBK	Karagaybulak	3.52	16	P	Pn	12 08 44.9	+3.2
	SNR=38						
ULHL	Ulahol	3.57	33	iPN	Pn	12 08 44.9	+2.5
ULHL	Ulahol	3.57	33	P	Pn	12 08 44.9	+2.5
	SNR=26						
FRU	Bishkek	3.63	12	ePN	Pb	12 08 50.0	-1.0
FRU				pmax	pmax		
	comp=Z,150nm,1.4s						
CHMS	Chumysh	3.81	13	iPN	Pn	12 08 48.8	+3.3
CHMS	Chumysh	3.81	13	P	Pn	12 08 48.8	+3.3
	SNR=21						
TKM2	Tokmak 2	3.93	22	⇑Pn	Pn	12 08 49.6	+2.2
	comp=Z,21nm,0.7s						
TKM2				⇑Lg	Lg	12 09 42.8	
	comp=Z,105nm,0.6s						
TKM2	Tokmak 2	3.93	22	iPN	Pn	12 08 49.4	+2.0
TKM2	Tokmak 2	3.93	22	P	Pn	12 08 49.4	+2.0
	SNR=36						
USP	Ospenovka	4.04	9	iPN	Pn	12 08 50.4	+1.8
USP	Ospenovka	4.04	9	P	Pn	12 08 50.4	+1.8
	SNR=14						
KK31	Karatay Array	4.48	329	⇓Pn	Pn	12 08 56.4	+1.7
	comp=Z,4.6nm,0.3s,baz=126,slow=13,SNR=291						
KK31				⇑Pg	Pb	12 09 07.2	+1.7
	comp=Z,13nm,0.5s,baz=151,slow=15,SNR=10						
KK31				⇑Sn	Sn	12 09 45.9	-0.9
	comp=Z,19nm,0.3s						
KK31				⇑Lg	Lg	12 10 00.6	
	comp=Z,85nm,0.6s,baz=132,slow=15,SNR=4.8						
KK31	Karatay Array	4.48	329	ePN	Pn	12 08 56.4	+1.7
KK31				pmax	pmax		
	comp=Z,13nm,0.3s						
KK31				pmax	pmax		
	comp=N,47nm,0.3s						
DLH	Dalhousie	6.99	163	eP	Pn	12 09 36.0	+6.5
MK31	Makanchi Array	9.83	37	⇑Pn	Pn	12 10 11.7	+3.5
	comp=N,1.4nm,0.6s						
MK31				⇓Lg	Lg	12 12 50.9	
	comp=N,11nm,1.2s,baz=223,slow=27,SNR=3.6						
MK31	Makanchi Array	9.83	37	P	Pn	12 10 11.6	+3.5
MK31				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	Makanchi Array	9.83	37	P	Pn	12 10 09.7	+1.6
MKAR	Makanchi Array	9.83	37	Pn	Pn	12 10 09.7	+1.6
	comp=Z,0.1nm,0.3s,baz=221,slow=13,SNR=10						
MKAR				Lg	Lg	12 12 51.2	
	comp=Z,0.2nm,0.3s,baz=229,slow=28,SNR=3.9						
KURBB	Kurchatov Arra	11.86	15	⇓Pn	Pn	12 10 37.5	+1.7
	comp=Z,2.2nm,0.7s						
KURBB				⇓Lg	Lg	12 13 51.3	
	comp=Z,48nm,0.8s						
KURBB	Kurchatov Arra	11.86	15	Pn	Pn	12 10 35.8	0.0
	comp=Z,0.3nm,0.3s,baz=205,slow=11,SNR=4.7						
KURBB				Lg	Lg	12 13 52.8	
	comp=Z,0.3nm,0.3s,baz=201,slow=29,SNR=12						
KURK	Kurchatov	11.96	16	⇓Pn	Pn	12 10 38.6	+1.3
	comp=Z,0.8nm,0.7s						
KURK				⇓Lg	Lg	12 13 53.2	
	comp=Z,19nm,1.1s						
KURK	Kurchatov	11.96	16	P	Pn	12 10 35.8	-1.5
VOSK	Vostochnaya	13.56	353	⇓Pn	Pn	12 10 58.0	-1.1
	comp=Z,4.0nm,1.1s						
VOSK				⇑Lg	Lg	12 14 45.6	
	comp=Z,6.3nm,0.9s						
DANN	Dangsing	13.77	139	eP	Pn	12 11 02.2	-0.2
	comp=Z,6.7nm,0.3s						
BVA0	Borovoye Array	13.92	352	⇑Pn	Pn	12 11 05.2	+1.2
	comp=Z,6.8nm,0.6s,baz=155,slow=9.8,SNR=6.7						
BVA0				Sn	Sn	12 13 34.0	-4.5
	comp=Z,4.0nm,0.9s,baz=165,slow=24,SNR=6.3						
BVA0				⇓Lg	Lg	12 14 57.1	
	comp=Z,14nm,0.9s						
BVAR	Borovoye Array	13.92	352	P	Pn	12 11 02.2	-1.8
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BVAR	Borovoye Array	13.92	352	Pn	Pn	12 11 02.2	-1.8
	comp=Z,0.5nm,0.3s,baz=167,slow=14,SNR=11						
BVAR				Lg	Lg	12 15 00.2	
	comp=Z,0.3nm,0.3s,baz=171,slow=22,SNR=3.6						
AB31	Akbulak array	13.95	320	⇓Pn	Pn	12 11 02.4	-2.0
	comp=Z,1.6nm,0.6s						
AB31				⇓Sn	Sn	12 13 33.2	-6.1
	comp=Z,2.4nm,0.7s,baz=130,slow=25,SNR=3.5						
AB31	Akbulak array	13.95	320	P	Pn	12 11 02.4	-2.0
AB31				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BRVK	Borovoye	13.97	352	⇓Pn	Pn	12 11 05.1	+0.5
	comp=Z,16nm,0.7s						
BRVK				⇑Lg	Lg	12 14 59.8	
	comp=Z,37nm,1.4s						
BRVK	Borovoye	13.97	352	⇓eP	Pn	12 11 05.9	+1.3
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KOLN	Koldanda	14.17	141	eP	Pn	12 11 06.3	-1.5
GKN	Gorkha	14.51	138	eP	Pn	12 11 12.0	-0.3
	comp=Z,7.8nm,0.3s						
KKN	Kakani	15.02	136	eP	Pn	12 11 19.1	-0.2
	comp=Z,7.1nm,0.5s						
GUN	Gumba	15.25	134	eP	Pn	12 11 23.5	+1.0
	comp=Z,9.4nm,0.4s						
JIRN	Jiri	15.62	134	eP	Pn	12 11 27.8	+0.5
	comp=Z,9.8nm,0.3s						
AKTO	Aktyubinsk	15.67	320	⇑Pn	Pn	12 11 27.5	0.0
	comp=Z,7.1nm,0.8s						
AKTO				⇓Sn	Sn	12 14 16.1	-4.9
	comp=Z,1.6nm,0.6s						
AKTO	Aktyubinsk	15.67	320	P	Pn	12 11 27.2	-0.3
AKTO	Aktyubinsk	15.67	320	Pn	Pn	12 11 27.2	-0.3
	comp=Z,0.4nm,0.3s,baz=122,slow=14,SNR=4.5						
RAMN	Ramite	16.40	135	eP	Pn	12 11 35.8	-1.5
ZALV	Zalesovo Beam	16.53	24	P	Pn	12 11 38.1	-0.5
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZALV	Zalesovo Beam	16.53	24	Pn	Pn	12 11 38.1	-0.5
	comp=Z,0.8nm,0.3s,baz=201,slow=12,SNR=15						
HVS	Khovu-Aksy	18.39	43	⇑eP	Pn	12 12 03.6	+1.8
HVS				pmax	pmax		
	comp=Z,22nm,1.1s						
GTA	Gaotai	20.24	81	eP	Pn	12 12 25.3	+1.1
GTA				pP	pP	12 12 29.0	+3.9
GTA				pmax	pmax		
	comp=Z,7.0nm,0.7s						
ZAK	Zakamensk	23.63	52	eP	P	12 12 58.6	+0.6
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.4s						
SONM	Songino Array	25.09	59	P	P	12 13 10.8	-0.8
	comp=Z,1.7nm,0.9s,baz=269,slow=8.3,SNR=5.4						
OBN	Obninsk	29.30	315	eP	P	12 13 51.9	+2.8
OBN				e		12 16 56.8	
OBN				pmax	pmax		
	comp=Z,6.0nm,1.2s						
OBN				MLR	MLR		
	comp=Z,100nm,18.0s						
BRTR	Keskin Array B	30.67	284	P	P	12 14 04.0	+2.4
	comp=Z,1.0nm,0.7s,baz=97,slow=7.4,SNR=4.5						
FINES	FINESS Array B	36.41	323	P	P	12 14 51.5	+0.4
	comp=Z,1.4nm,0.4s,baz=114,slow=9.4,SNR=12						
ARCES	ARCESS Array B	39.41	336	P	P	12 15 16.7	+0.3
	comp=Z,1.3nm,0.4s,baz=112,slow=8.6,SNR=16						
NOA	NORSAR Array B	43.46	321	P	P	12 15 49.9	+0.1
	comp=Z,1.1nm,0.6s,baz=93,slow=8.0,SNR=3.6						
TORD	Torodi Ar. Bea	67.84	269	P	P	12 18 46.0	+0.5
	comp=Z,1.7nm,0.6s,baz=50,slow=5.4,SNR=18						
ILAR	Eielson Array	71.53	17	P	P	12 19 06.2	-1.2
	comp=Z,0.4nm,0.8s,baz=330,slow=3.7,SNR=4.8						
YKA	Yellowknife Ar	78.35	4	P	P	12 19 46.4	-0.4
	comp=Z,0.4nm,0.5s,baz=349,slow=5.6,SNR=3.9						

IDC 27 12:11:39.5±2.9, 31°.12S×177°.31W, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.9/17, mbtmp3.9/4, Error ellipse: s-maj=57.8km s-min=28.6km az=107.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.93	344	Pn	Pn	12 12 13.4	-0.2
	131nm,0.3s,baz=90,slow=20,SNR=4.2						
RAO				Sn	Sg	12 12 41.2	-0.5
	165nm,0.3s,baz=270,slow=22,SNR=4.1						
CTA	Charters Tower	34.51	280	P	P	12 18 29.7	+0.1
	3.0nm,0.7s,baz=148,slow=9.5,SNR=3.3						
STKA	Stephens Creek	34.91	258	P	P	12 18 34.1	+1.1
	0.7nm,0.4s,baz=104,slow=12,SNR=3.0						
ASAR	Alice Springs	43.67	267	P	P	12 19 46.0	-0.4
	0.5nm,0.7s,baz=103,slow=7.6,SNR=7.9						
WRA	Warramunga Arr	44.72	272	P	P	12 19 53.9	-0.9
	1.0nm,0.4s,baz=111,slow=8.2,SNR=33						
FINES	FINESS Array B	146.02	340	PKPbc	PKPdf	12 31 19.8	0.0
	3.0nm,0.8s,baz=44,slow=4.4,SNR=9.8						

IDC 27 12:17:24.9±2.9, 23°.80S×179°.21E, h506km±39km, mb3.3/4, mb1 3.4/6, mb1mx3.1/18, mbtmp3.4/6, Error ellipse: s-maj=48.2km s-min=26.3km az=150.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	13.02	42	P	P	12 20 14.8	+0.3
	1.7nm,0.3s,baz=233,slow=15,SNR=4.2						
URZ	Urewera	14.52	187	P	P	12 20 28.8	-1.0
	0.8nm,0.3s,baz=100,slow=1.9,SNR=8.0						
CTA	Charters Tower	30.75	270	P	P	12 22 59.1	+0.6
	2.6nm,0.3s,baz=89,slow=10,SNR=11						
STKA	Stephens Creek	34.08	248	P	P	12 23 27.2	+0.5
	1.1nm,0.8s,baz=107,slow=14,SNR=3.6						
ASAR	Alice Springs	41.33	261	P	P	12 24 25.9	-0.4
	2.2nm,0.8s,baz=103,slow=7.7,SNR=17						
WRA	Warramunga Arr	41.69	266	P	P	12 24 28.4	-0.6
	2.7nm,0.5s,baz=95,slow=8.3,SNR=72						
BRTR	Keskin Array B	146.94	307	PKPbc	PKPbc	12 36 09.9	-0.6
	0.9nm,0.7s,baz=90,slow=4.3,SNR=2.6						

NEIC 27 12:43:51.5, 18°.23N×100°.68W, h46km, MD4.0(MEX), After MEX.

MEX 27 12:43:51.5±0.5, 18°.23N×100°.68W, h46km±4km, MD4.0, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIG	Puente Sto Nin	0.32	80	eP	Pn	12 43 58.6	-1.9
ARIG				eS	Sn	12 44 05.1	-1.7
ZIIG	Zihuatanejo	0.97	231	iP	Pn	12 44 07.2	-1.6
ZIIG				iS	Sn	12 44 19.4	-2.0
ZIIG	Zihuatanejo	0.97	231	iP	Pn	12 44 07.2	-1.6
ZIIG				iS	Sn	12 44 19.4	-2.0
MEIG	Mezcala	1.05	106	eP	Pn	12 44 08.4	-1.5
MEIG				iS	Sn	12 44 21.5	-2.1
MEIG	Mezcala	1.05	106	eP	Pn	12 44 08.4	-1.5
MEIG				iS	Sn	12 44 21.5	-2.1
PLIG	Platanillo	1.13	81	iP	Pn	12 44 09.2	-1.8
PLIG				eS	Sn	12 44 23.2	-2.2
PLIG	Platanillo	1.13	81	iP	Pn	12 44 09.2	-1.8
PLIG				eS	Sn	12 44 23.2	-2.2
CAIG	El Cayaco	1.24	162	eP	Pn	12 44 10.7	-1.7
CAIG				iS	Sn	12 44 25.2	-2.7
CAIG	El Cayaco	1.24	162	eP	Pn	12 44 10.7	-1.7
CAIG				iS	Sn	12 44 25.2	-2.7
MOIG	Morelia	1.52	341	iP	Pn	12 44 15.2	-1.4
MOIG				iS	Sn	12 44 33.0	-2.4
MOIG	Morelia	1.52	341	iP	Pn	12 44 15.2	-1.4
MOIG				iS	Sn	12 44 33.0	-2.4
YAIG	Yautepec	1.65	67	eP	Pn	12 44 16.4	-1.9
YAIG				eS	Sn	12 44 36.1	-2.3
YAIG	Yautepec	1.65	67	eP	Pn	12 44 16.4	-1.9
YAIG				eS

ESL	**Shilin**	**1.61 304**	P	**Pn**	**13 00 24.1**	**-1.0**
	baz=305					
ESL			*e*S	**Sn**	**13 00 41.6**	**-3.6**
	baz=305					
IRIF	**Iriomote-Funau**	**1.62 28**	P	**Pn**	**13 00 25.3**	**+0.2**
IRIF			S	**Sn**	**13 00 45.0**	**-0.3**
TWD	**Chiawan**	**1.67 315**	*e*P	**Pn**	**13 00 25.2**	**-0.6**
	baz=317					
TWD			*e*S	**Sn**	**13 00 43.6**	**-2.9**
	baz=317					
JKRS	**Kuro-shima**	**1.68 38**	P	**Pn**	**13 00 26.4**	**+0.5**
JKRS			S	**Sn**	**13 00 45.8**	**-0.9**
TWG	**Pinlang**	**1.68 267**	⇑*i*P	**Pn**	**13 00 25.8**	**-0.1**
	baz=266					
TWG			S	**Sn**	**13 00 44.4**	**-2.3**
	baz=266					
ELDTW	**Lidau**	**1.75 280**	*e*P	**Pn**	**13 00 26.3**	**-0.7**
	baz=288					
ELDTW			*e*S	**Sn**	**13 00 45.7**	**-3.0**
	baz=288					
ENA	**Nanau**	**1.85 325**	*e*P	**Pn**	**13 00 28.6**	**+0.4**
	baz=318					
ENA			S	**Sn**	**13 00 49.5**	**-1.4**
	baz=318					
JIJ	**Ishigaki jima**	**1.85 38**	P	**Pn**	**13 00 28.3**	**0.0**
JIJ			S	**Sn**	**13 00 49.3**	**-1.7**
TAW	**Tawu**	**1.92 254**	*e*P	**Pn**	**13 00 29.7**	**+0.5**
	baz=261					
WHF	**Hehuan Shan**	**1.94 310**	*e*P	**Pn**	**13 00 29.5**	**-0.4**
	baz=311					
WHF			*e*S	**Sn**	**13 00 51.1**	**-2.6**
	baz=311					
TWC	**Suao**	**1.95 331**	*e*P	**Pn**	**13 00 29.8**	**+0.2**
	baz=333					
TWC			*e*S	**Sn**	**13 00 51.5**	**-1.9**
	baz=333					
EAST	**Anshuo**	**1.96 255**	*e*P	**Pn**	**13 00 29.6**	**-0.1**
	baz=262					
NNS	**Nan Shan**	**2.07 318**	*e*P	**Pn**	**13 00 32.1**	**+0.7**
	baz=311					
NNS			*e*S	**Sn**	**13 00 54.8**	**-1.7**
	baz=311					
SMLT	**Sun Moon Lake**	**2.07 298**	*e*P	**Pn**	**13 00 32.0**	**+0.5**
	baz=307					
SMLT			*e*S	**Sn**	**13 00 54.4**	**-2.2**
	baz=307					
TSEB	**Hengchuen, Pin**	**2.09 242**	*e*P	**Pb**	**13 00 36.0**	**+0.7**
	baz=240					
TSEB			*e*S	**Sn**	**13 00 56.5**	**-0.5**
	baz=240					
ENTT	**Nioudou**	**2.11 325**	P	**Pn**	**13 00 32.8**	**+0.9**
	baz=318					
ENTT			*e*S	**Sn**	**13 00 56.0**	**-1.5**
	baz=318					
TYC	**Yuchr**	**2.12 298**	*e*P	**Pn**	**13 00 32.6**	**+0.6**
	baz=307					
TYC			*e*S	**Sn**	**13 00 56.3**	**-1.2**
	baz=307					
WTP	**Ta-pu**	**2.12 280**	*e*P	**Pn**	**13 00 33.2**	**+1.2**
	baz=284					
WTP			*e*S	**Sn**	**13 00 58.5**	**+0.7**
	baz=284					
TWE	**Neicheng**	**2.13 328**	*e*P	**Pn**	**13 00 33.2**	**+1.2**
	baz=340					
TWE			*e*S	**Sn**	**13 00 56.4**	**-1.4**
	baz=340					
ILA	**Ilan**	**2.13 331**	*e*P	**Pn**	**13 00 33.7**	**+1.6**
	baz=333					
ILA			*e*S	**Sn**	**13 00 57.5**	**-0.3**
	baz=333					
SGST	**Jiashian**	**2.13 275**	P	**Pn**	**13 00 33.9**	**+1.7**
	baz=282					
SGST			*e*S	**Sn**	**13 00 58.5**	**+0.5**
	baz=282					
CHN5	**Tsauling**	**2.15 289**	*e*P	**Pn**	**13 00 33.8**	**+1.3**
	baz=294					
CHN5			*e*S	**Sn**	**13 00 58.3**	**-0.1**
	baz=294					
TWK1	**Hengchun**	**2.15 244**	*e*P	**Pb**	**13 00 35.9**	**-0.3**
	baz=241					
TWK1			*e*S	**Sn**	**13 00 56.3**	**-2.1**
	baz=241					
CHN4	**Tsaushan**	**2.16 282**	*i*P	**Pn**	**13 00 34.1**	**+1.5**
	baz=282					
CHN4			*e*S	**Sn**	**13 00 58.7**	**0.0**
	baz=282					
SCZT	**Fangliau**	**2.16 256**	*e*P	**Pn**	**13 00 34.3**	**+1.8**
	baz=260					
SCZT			*e*S	**Sn**	**13 00 59.1**	**+0.4**
	baz=260					
HEN	**Hengchun**	**2.18 246**	*e*P	**Pn**	**13 00 34.1**	**+1.3**
	baz=236					
HEN			*e*S	**Sn**	**13 00 57.6**	**-1.6**
	baz=236					
CHN1	**Nanshi**	**2.19 278**	⇑*i*P	**Pn**	**13 00 35.1**	**+2.1**
	baz=284					
CHN1			*e*S	**Sn**	**13 01 00.5**	**+1.0**
	baz=284					
SGLT	**Jiouru**	**2.22 266**	*e*P	**Pn**	**13 00 35.6**	**+2.2**
	baz=269					
SGLT			*e*S	**Sn**	**13 01 02.7**	**+2.6**
	baz=269					
TWK	**Hsinying**	**2.24 280**	P	**Pn**	**13 00 35.6**	**+1.9**
	baz=286					
TWK			*e*S	**Sn**	**13 01 02.3**	**+1.6**
	baz=286					
WNT	**Mingjian**	**2.25 296**	*e*P	**Pn**	**13 00 35.5**	**+1.8**
	baz=304					
WNT			*e*S	**Sn**	**13 01 01.9**	**+1.1**
	baz=304					
TWB1	**Santiao Chiao**	**2.25 339**	*e*P	**Pn**	**13 00 35.7**	**+1.9**
	baz=355					
TWB1			*e*S	**Sn**	**13 01 00.2**	**-0.6**
	baz=355					
NSK	**Sanguang**	**2.25 322**	*e*P	**Pn**	**13 00 34.7**	**+0.8**
	baz=314					
NSK			*e*S	**Sn**	**13 00 59.7**	**-1.4**
	baz=314					
TWM1	**Shoushan**	**2.28 268**	P	**Pn**	**13 00 36.1**	**+2.0**
	baz=264					
TWM1			*e*S	**Sb**	**13 01 06.4**	**+0.3**
	baz=264					
WGK	**Gukeng**	**2.28 290**	*e*P	**Pn**	**13 00 36.0**	**+1.8**
	baz=291					
WGK			*e*S	**Sn**	**13 01 03.0**	**+1.5**
	baz=291					
CHN3	**Shinhua**	**2.33 275**	*e*P	**Pb**	**13 00 38.3**	**-1.0**
	baz=283					
CHN3			*e*S	**Sb**	**13 01 06.9**	**-0.8**
	baz=283					
CHY	**Chiayi**	**2.34 285**	*e*P	**Pn**	**13 00 36.9**	**+1.8**
	baz=285					
CHY			*e*S	**Sn**	**13 01 04.0**	**+0.9**
	baz=285					
TCU	**Taichung**	**2.38 302**	*e*P	**Pn**	**13 00 38.1**	**+2.5**
	baz=306					
TCU			*e*S	**Sn**	**13 01 05.7**	**+1.7**
	baz=306					
NWF	**Wu-fen Shan**	**2.38 335**	*e*P	**Pn**	**13 00 37.7**	**+2.0**
	baz=351					
NWF			*e*S	**Sn**	**13 01 04.5**	**+0.2**
	baz=351					
TWA	**Mucha**	**2.39 330**	*e*P	**Pn**	**13 00 37.1**	**+1.4**
	baz=343					
TWA			*e*S	**Sn**	**13 01 03.5**	**-0.7**
	baz=343					
JTJ	**Tarama**	**2.40 44**	P	**Pn**	**13 00 36.1**	**+0.3**
JTJ			S	**Sn**	**13 01 03.7**	**-0.8**
TWQ1	**Liyutan**	**2.42 307**	*e*P	**Pn**	**13 00 38.2**	**+2.2**
	baz=316					
TWQ1			*e*S	**Sn**	**13 01 06.2**	**+1.2**
	baz=316					
NSTT	**Nanjuang**	**2.44 315**	*e*P	**Pn**	**13 00 38.1**	**+1.8**
	baz=317					
NSTT			*e*S	**Sn**	**13 01 04.4**	**-1.1**
	baz=317					
NSY	**Sanyi**	**2.46 308**	*e*P	**Pn**	**13 00 39.0**	**+2.2**
	baz=316					
NSY			*e*S	**Sn**	**13 01 07.4**	**+1.2**
	baz=316					
TWS1	**Kuangyinshan**	**2.57 329**	*e*P	**Pn**	**13 00 39.9**	**+1.7**
	baz=341					
TWS1			*e*S	**Sn**	**13 01 08.2**	**-0.4**
	baz=341					
NCU	**National Centr**	**2.58 323**	*e*P	**Pn**	**13 00 40.2**	**+1.9**
	baz=325					
NCU			*e*S	**Sn**	**13 01 09.7**	**+0.7**
	baz=325					
WTCT	**Ta-ch'eng**	**2.58 292**	*e*P	**Pn**	**13 00 39.7**	**+1.4**
	baz=292					
WTCT			*e*S	**Sn**	**13 01 08.9**	**0.0**
	baz=292					
HSN	**Hsinchu**	**2.58 317**	*e*P	**Pn**	**13 00 40.1**	**+1.8**
	baz=320					
HSN			*e*S	**Sn**	**13 01 08.9**	**-0.1**
	baz=320					
TWY	**Chenhua**	**2.64 334**	*e*P	**Pn**	**13 00 41.8**	**+2.6**
	baz=348					
TWY			*e*S	**Sn**	**13 01 10.1**	**-0.4**
	baz=348					
JOGS	**Gusukube**	**2.95 51**	*e*S	**Sn**	**13 01 18.4**	**+0.2**
WDGT	**Dungji**	**2.99 277**	*e*P	**Pn**	**13 00 44.4**	**+0.4**
	baz=277					

*ISCJB **27** 13:14:35.1±0.6,23°.91S±0°.05×66°.70W±0°.07, h201km±10km, mb3.5/4, Error ellipse: s-maj=11.1km s-min=8.3km az=178.6*
*IDC **27** 13:14:35.8±1.6,23°.89S×66°.64W, h190km±15km, mb3.4/4, mb1 3.4/9, mb1mx3.3/18, mbtmp3.9/9, Error ellipse: s-maj=18.6km s-min=14.8km az=72.0*
*GUC **27** 13:14:38.5±0.3,23°.69S×67°.15W, h225km, ML4.7*
ISC 27 13:14:36.0±0.9,23°.85S±0°.07×66°.68W±0°.08, h191km±11km, n21, σ1§37/27, mb3.7/4, 6C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB04	**Plate Boundary**	**3.03**	**301**	*e*P	**Pn**	13 15 32.6	+7.1
PB04				*e*S	Sn	13 16 13.8	+10
PB04				AML	AML	13 16 19.5	
	comp=E,597nm,0.2s						
PB09	**Plate Boundary**	**3.13**	**310**	⇑*i*P	**Pn**	**13 15 29.1**	**+2.2**
PB09				AML	AML	13 16 11.7	
	comp=N,984nm,0.2s						
CEN1	**Los Morros**	**3.26**	**277**	*e*P	**Pn**	**13 15 31.2**	**+2.8**
CEN1				*i*S	**Sn**	**13 16 10.7**	**+1.3**
CEN1				AML	AML	13 16 13.0	
	comp=E,312nm,0.4s						
ANCH	**Antofagasta**	**3.42**	**272**	⇑*i*P	**Pn**	**13 15 31.3**	**+1.0**
ANCH				*i*S	**Sn**	**13 16 11.3**	**-1.4**
ANCH				AML	AML	13 16 13.9	
	comp=E,897nm,0.1s						
PB10	**Plate Boundary**	**3.57**	**275**	⇑*i*P	**Pn**	**13 15 32.8**	**+0.7**
PB10				*i*S	**Sn**	**13 16 14.1**	**-1.9**
PB10				AML	AML	13 16 16.4	
	comp=E,1μm,0.2s						
PB01	**Plate Boundary**	**3.82**	**317**	⇑*i*P	**Pn**	**13 15 36.3**	**+1.0**
PB01				*e*S	**Sn**	**13 16 20.9**	**-0.9**
PB01				AML	AML	13 16 23.2	
	comp=N,455nm,0.3s						
HMBC	**Humberstone**	**4.64**	**319**	⇑*i*P	**Pn**	**13 15 45.3**	**-0.4**
HMBC				*e*S	**Sn**	**13 16 37.3**	**-3.2**
HMBC				AML	AML	13 16 44.3	
	comp=E,447nm,0.6s						
MNMC	**Minimini**	**5.43**	**329**	⇑*i*P	**Pn**	**13 15 56.5**	**+0.5**
MNMC				*i*S	**Sn**	**13 16 57.6**	**-1.4**
LPAZ	**La Paz**	**7.65**	**349**	P	**Pn**	**13 16 27.1**	**+1.7**
	comp=E,0.9nm,0.3s,baz=162,slow=7,3,SNR=37						
LPAZ				S	**Sn**	**13 17 52.3**	**+0.3**
	comp=E,0.1nm,0.3s,baz=331,slow=24,SNR=3.3						
CFAA	**Coronel Fontan**	**7.84**	**190**	P	**Pn**	**13 16 25.9**	**-1.3**
	comp=E,0.1nm,0.3s,baz=19,slow=17,SNR=8.5						
CFAA				S	Sn	13 17 47.7	-7.8
	comp=E,0.4nm,0.3s,baz=179,slow=16,SNR=12						
CPUP	**Villa Florida**	**8.83**	**108**	P	**Pn**	**13 16 39.9**	**-0.1**
	comp=E,0.6nm,0.3s,baz=265,slow=10,SNR=7.0						
SIV	**San Ignacio**	**9.43**	**35**	P	**Pn**	**13 16 47.0**	**-1.1**
	comp=E,0.2nm,0.3s,baz=234,slow=8.7,SNR=2.5						
PLCA	**Paso Flores**	**17.14**	**190**	P	**P**	**13 18 23.2**	**+0.2**
	comp=E,0.1nm,0.3s,baz=360,slow=13,SNR=2.8						
BDFB	**Brasilia**	**19.36**	**68**	P	**P**	**13 18 47.2**	**-0.1**
	comp=E,0.6nm,0.3s,baz=237,slow=8.8,SNR=10						
TXAR	**Lajitas Array**	**63.73**	**324**	P	**P**	**13 24 48.0**	**+0.5**
	comp=E,0.2nm,0.5s,baz=152,slow=6.0,SNR=3.0						
DBIC	**Dimbokro**	**67.48**	**71**	P	**P**	**13 25 12.0**	**+0.3**
	comp=E,1.0nm,0.6s,baz=261,slow=8.1,SNR=2.1						
TORD	**Torodi Ar. Bea**	**76.24**	**69**	P	**P**	**13 26 03.3**	**-0.6**
	comp=E,0.6nm,0.5s,baz=252,slow=6.2,SNR=9.9						
ULM	**Lac du Bonnet**	**78.18**	**341**	P	**P**	**13 26 14.3**	**+0.5**
	comp=E,2.0nm,0.5s,baz=186,slow=3.0,SNR=2.3						
ASAR	**Alice Springs**	**128.71**	**204**	PKP	**PKPdf**	**13 33 20.6**	**-0.6**
	comp=E,0.4nm,0.6s,baz=163,slow=2.3,SNR=5.2						
WRA	**Warramunga Arr**	**131.89**	**207**	PKP	**PKPdf**	**13 33 27.0**	**-0.3**
	comp=E,0.7nm,1.1s,baz=152,slow=1.9,SNR=5.1						
MKAR	**Makanchi Array**	**146.23**	**40**	PKPbc	**PKPdf**	**13 33 52.8**	**+0.4**
	comp=E,1.1nm,0.7s,baz=319,slow=2.8,SNR=11						

IDC 27 13:17:17.8±3.5,14°.78S×175°.72W, h285km±68km, mb3.2/4, mb1 3.4/5, mb1mx3.1/18, mbtmp3.2/5, Error ellipse: s-maj=156.6km s-min=21.6km az=141.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.92**	**78**	P	Pn	13 18 22.1	-0.4
	5.0nm,0.3s,baz=341,slow=10.0,SNR=5.4						
AFI				S	S	13 19 14.9	+0.7
	1.8nm,0.3s,baz=148,slow=17,SNR=1.3						
STKA	**Stephens Creek**	**42.42**	**239**	P	P	13 24 45.1	0.0
	0.7nm,0.4s,baz=84,slow=9.2,SNR=4.8						
WRA	**Warramunga Arr**	**47.80**	**256**	P	P	13 25 27.0	-0.5
	0.5nm,0.7s,baz=92,slow=8.5,SNR=6.5						
ASAR	**Alice Springs**	**48.17**	**251**	P	P	13 25 30.4	+0.1
	3.9nm,0.7s,baz=89,slow=7.8,SNR=66						
ILAR	**Eielson Array**	**82.29**	**12**	P	P	13 29 07.2	0.0
	0.2nm,0.5s,baz=225,slow=5.3,SNR=7.6						

IDC 27 13:26:14.4±5.6,4°.50S×154°.36E, h378km±48km, mb2.7/3, mb1 3.0/4, mb1mx2.7/17, mbtmp2.7/4, Error ellipse: s-maj=142.6km s-min=31.3km az=125.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.65**	**235**	P	Pn	13 28 16.7	+0.1
	0.4nm,0.3s,baz=29,slow=19,SNR=2.0						
WRA	**Warramunga Arr**	**24.82**	**230**	P	P	13 31 04.2	0.0
	0.2nm,0.5s,baz=58,slow=11,SNR=4.9						
ASAR	**Alice Springs**	**27.43**	**224**	P	P	13 31 27.4	0.0
	0.3nm,0.5s,baz=53,slow=9.1,SNR=4.8						
ILAR	**Eielson Array**	**81.30**	**22**	P	P	13 37 49.2	0.0
	0.3nm,0.6s,baz=219,slow=5.5,SNR=5.4						
TORD	**Torodi Ar. Bea**	**151.69**	**289**	PKPbc	PKPbc	13 45 25.4	-0.3
	0.6nm,0.8s,baz=46,slow=2.4,SNR=2.9						

*SZGRF **27** 13:25:39.7,21°.45S×178°.47W, h33km, Fiji Islands region*
*ISCJB **27** 13:26:49.7±0.5, 18°.0S±0°.2×178°.3W±0°.1, h579km, mb3.9/9, Error ellipse: s-maj=21.0km s-min=10.7km az=158.1*
*AUST **27** 13:26:52.2±0.0, 18°.03S×177°.95W, h627km, Error ellipse: s-maj=4.4km s-min=2.0km az=335.0*
*IDC **27** 13:26:52.5±1.9, 17°.74S×178°.46W, h600km±22km, mb3.4/9, mb1 3.6/10, mb1mx3.4/18, mbtmp3.4/10, Error ellipse: s-maj=36.0km s-min=14.1km az=152.0*
ISC 27 13:26:50.7±0.6,17°.9S±0°.2×178°.4W±0°.1, h579km, n41, σ1§40/44, mb3.8/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.54**	**59**	P	**P**	**13 28 46.4**	**+1.3**
	2.7nm,0.3s,baz=44,slow=0.9,SNR=6.9						
RMQ	**Roma**	**31.49**	**248**	P	**P**	**13 32 28.4**	**+2.0**
	baz=32,SNR=5.4						
CNB	**Canberra Magne**	**33.41**	**232**	P	**P**	**13 32 44.2**	**+1.7**
	baz=34,SNR=17						
CMSA	**Cobar Meteorol**	**35.13**	**240**	P	**P**	**13 32 58.2**	**+1.3**
	baz=36,SNR=11						
MTSU	**Mount Surprise**	**35.40**	**264**	P	**P**	**13 33 00.8**	**+1.4**
	baz=36,SNR=6.8						
QLP	**Quilpie**	**35.52**	**249**	P	**P**	**13 33 01.3**	**+1.1**
	baz=36,SNR=8.8						
COEN	**Coen**	**37.09**	**270**	P	**P**	**13 33 15.6**	**+2.3**
	baz=38,SNR=14						
STKA	**Stephens Creek**	**38.61**	**241**	P	**P**	**13 33 26.8**	**+1.4**
	5.3nm,0.5s,baz=95,slow=10,SNR=28						
STKA	**Stephens Creek**	**38.61**	**241**	P	**P**	**13 33 26.8**	**+1.4**
	baz=39,SNR=21						
BBOO	**Buckleboo**	**43.39**	**241**	P	**P**	**13 34 03.7**	**+0.5**
	baz=44,SNR=9.6						
WRA	**Warramunga Arr**	**44.62**	**260**	P	**P**	**13 34 13.1**	**+0.2**
	4.1nm,0.6s,baz=93,slow=7.0,SNR=81						
WRA				PcP	**PcP**	**13 35 42.1**	**-0.9**
	0.5nm,0.3s,baz=90,slow=3.8,SNR=6.9						
ASAR	**Alice Springs**	**44.77**	**254**	P	**P**	**13 34 14.6**	**+0.5**
	11nm,0.6s,baz=88,slow=8.4,SNR=167						
ASAR				PcP	**PcP**	**13 35 42.5**	**-1.0**
	1.4nm,0.4s,baz=102,slow=3.9,SNR=11						
ASAR				S	**S**	**13 40 06.5**	**-3.5**
	0.6nm,0.8s,baz=90,slow=16,SNR=6.3						
KDU	**Kakadu**	**47.55**	**269**	P	**P**	**13 34 35.7**	**+0.7**
	baz=48,SNR=6.7						
KNRA	**Kununurra**	**50.48**	**264**	P	**P**	**13 34 57.0**	**+0.4**
	baz=51,SNR=5.4						
FITZ	**Fitzroy Crossi**	**53.02**	**261**	P	**P**	**13 35 15.3**	**+0.5**
	baz=53,SNR=6.7						
MEEK	**Meekatharra**	**58.42**	**249**	P	**P**	**13 35 51.5**	**-0.6**
	baz=59,SNR=4.2						
MAW	**Mawson**	**83.84**	**200**	P	**P**	**13 38 18.6**	**-1.0**
	1.4nm,0.5s,baz=66,slow=3.6,SNR=4.2						
ILAR	**Eielson Array**	**85.91**	**13**	P	**P**	**13 38 28.1**	**-1.5**
	0.3nm,0.4s,baz=218,slow=4.8,SNR=6.1						
TXAR	**Lajitas Array**	**86.02**	**58**	P	**P**	**13 38 31.3**	**+0.2**
	0.9nm,0.7s,baz=222,slow=6.0,SNR=14						
PDAR	**Pinedale Array**	**87.37**	**43**	P	**P**	**13 38 36.6**	**-0.7**
	0.6nm,0.7s,baz=222,slow=2.0,SNR=4.7						
CMAR	**Chiang Mai Arr**	**88.88**	**290**	P	**P**	**13 38 45.5**	**+0.9**
	0.8nm,0.8s,baz=116,slow=3.1,SNR=5.5						
SNAA	**Sanae**	**90.58**	**179**	*e*P	**P**	**13 38 49.3**	**-2.2**
VNA3	**Neumayer Olymp**	**90.72**	**176**	*e*P	**P**	**13 38 50.5**	**-1.6**
VNA2	**Neumayer--Watz**	**91.16**	**177**	*e*P	**P**	**13 38 53.3**	**-0.8**
	baz=185,slow=4.5						
PLCA	**Paso Flores**	**91.33**	**134**	P	**P**	**13 38 58.1**	**+2.5**
	1.9nm,0.9s,baz=202,slow=11,SNR=3.5						
ARCES	**ARCESS Array B**	**126.33**	**350**	PKP	**PKPdf**	**13 44 45.3**	**-2.4**
	5.5nm,1.0s,baz=50,slow=1.9,SNR=5.9						
BRTR	**Keskin Array B**	**144.79**	**315**	PKP	**PKPdf**	**13 45 21.8**	**-1.0**
	1.3nm,0.8s,baz=117,slow=4.4,SNR=4.6						
CLL	**Collm**	**145.48**	**347**	*e*PKPbc	**PKPdf**	**13 45 23.9**	**+0.6**
CLL	**Collm**	**145.48**	**347**	*i* PKP	**PKPdf**	**13 45 24.0**	**+0.7**
	comp=Z,5.0nm,0.6s						
BRG	**Berggiesshubel**	**145.68**	**346**	*e*P	**PKPdf**	**13 45 24.5**	**+0.8**
	comp=Z,3.9nm,0.8s						
BRG	**Berggiesshubel**	**145.68**	**346**	*e*PKPbc	**PKPdf**	**13 45 24.6**	**+0.9**
MOX	**Moxa**	**146.39**	**348**	*e*PKPbc	**PKPdf**	**13 45 26.5**	**+1.6**
TANN	**Tannenbergstha**	**146.44**	**347**	*e*PKPbc	**PKPdf**	**13 45 26.8**	**+1.7**
ROTZ	**Rotzenmuhle**	**147.10**	**347**	*e*PKPbc	**PKPbc**	**13 45 28.7**	**-0.6**
TNS	**Taunus Mts**	**147.31**	**352**	*e*PKPbc	**PKPbc**	**13 45 29.0**	**-0.9**
GEC2	**GERESS Array S**	**147.63**	**345**	*e*PKPbc	**PKPbc**	**13 45 29.9**	**-0.9**
GERES	**GERESS Array B**	**147.63**	**345**	PKPbc	**PKPbc**	**13 45 29.9**	**-0.9**
	comp=Z,1.1nm,0.5s,baz=22,slow=3.0,SNR=13						
WLF	**Walferdange**	**148.13**	**354**	*e*PKPbc	**PKPbc**	**13 45 31.6**	**-0.3**
FUR	**Furstenfeldbru**	**148.82**	**347**	*e*PKPbc	**PKPbc**	**13 45 32.1**	**-1.6**
RJOB	**Jochberg**	**148.88**	**345**	*e*PKPbc	**PKPbc**	**13 45 32.7**	**-1.2**
BFO	**Black Forest**	**149.18**	**351**	*e*PKPbc	**PKPbc**	**13 45 33.5**	**-1.1**

MEX 27 13:50:28.4±0.3, 16°.28N×97°.63W, h7km±5km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.49**	**283**	*e*P	Pg	13 50 37.4	-0.5
PNIG				*i*S	Sg	13 50 44.5	+0.2
VHO	**Vista Hermosa**	**1.17**	**47**	*i*P	Pg	13 50 47.5	-3.6
VHO				*i*S	Sg	13 51 02.4	-4.2
HUIG	**Huatulco**	**1.55**	**109**	*i*P	Pn	13 50 52.7	-3.7
HUIG				*i*S	Sn	13 51 11.9	-5.0
ARIG	**Puente Sto Nin**	**3.27**	**308**	*i*P	Pn	13 51 16.4	-3.7
ARIG				*i*S	Sn	13 51 55.5	-3.8

IDC 27 13:54:51.3±6.2,7°.96S×125°.44E, h520km±52km, mb2.7/1, mb1 2.5/5, mb1mx2.4/20, mbtmp2.4/5, Error ellipse: s-maj=119.0km s-min=96.9km az=100.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**2.84**	**218**	P	P	13 56 03.9	+1.0
	8.0nm,0.3s,baz=72,slow=6.4,SNR=3.6						
BATI				S	S	13 57 01.1	-0.1
	5.1nm,0.3s,baz=117,slow=18,SNR=2.6						
FITZ	**Fitzroy Crossi**	**10.08**	**179**	P	P	13 57 09.9	+0.2
	0.0nm,0.3s,baz=0,0,slow=11,SNR=1.3						
WRA	**Warramunga Arr**	**14.71**	**145**	P	P	13 57 58.2	+0.1
	0.1nm,0.3s,baz=326,slow=8.9,SNR=1.8						
ASAR	**Alice Springs**	**17.60**	**153**	P	P	13 58 27.4	+0.3
	0.1nm,0.3s,baz=336,slow=10,SNR=2.8						
STKA	**Stephens Creek**	**28.15**	**150**	P	P	14 00 00.8	-0.6
	0.6nm,0.6s,baz=336,slow=12,SNR=0.9						

*ISCJB **27** 14:33:13.0±0.3, 45°.50N±0°.03×26°.40E±0°.04, h132km, Error ellipse: s-maj=4.2km s-min=3.7km az=167.8*
*CSEM **27** 14:33:14.2±0.4, 45°.51N×26°.39E, h124km±3km, MD3.8/2*
*BUC **27** 14:33:14.1±0.8, 45°.52N×26°.36E, h130km±8km, MD3.8/2, Error ellipse: s-maj=5.6km s-min=4.8km az=121.0*
ISC 27 14:33:13.4±1.2, 45°.51N±0°.03×26°.39E±0°.03, h132km, n82, σ0§86/120, 48C-17D, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLR	**Muntele Rosu**	**0.31**	**267**	⇑*i*P	**Pn**	**14 33 32.2**	**+0.2**
MLR	**Muntele Rosu**	**0.31**	**267**	⇑*i*P	**Pn**	**14 33 32.2**	**+0.2**
MLR				*i*S	**Sn**	**14 33 45.3**	**-0.7**
MLR	**Muntele Rosu**	**0.31**	**267**	⇑*i*P	**Pn**	**14 33 32.2**	**+0.2**
MLR				*i*S	**Sn**	**14 33 45.3**	**-0.7**
PLOR	**Plostina**	**0.39**	**28**	⇑*i*P	**Pn**	**14 33 32.4**	**+0.2**
PLOR	**Plostina**	**0.39**	**28**	⇑*i*P	**Pn**	**14 33 32.4**	**+0.2**
PLOR				*i*S	**Sn**	**14 33 45.8**	**-0.7**
PLOR	**Plostina**	**0.39**	**28**	⇑*i*P	**Pn**	**14 33 32.4**	**+0.2**
PLOR				*i*S	**Sn**	**14 33 45.8**	**-0.7**
VRI	**Vrincioaia**	**0.43**	**34**	⇑*i*P	**Pn**	**14 33 32.8**	**+0.4**
VRI	**Vrincioaia**	**0.43**	**34**	⇑*i*P	**Pn**	**14 33 32.8**	**+0.4**
VRI				*i*S	**Sn**	**14 33 46.3**	**-0.5**
VRI	**Vrincioaia**	**0.43**	**34**	⇑*i*P	**Pn**	**14 33 32.8**	**+0.4**
VRI				*i*S	**Sn**	**14 33 46.3**	**-0.5**
GRER		**0.43**	**107**	⇑*i*P	**Pn**	**14 33 33.8**	**+1.5**
GRER		**0.43**	**107**	⇑*i*P	**Pn

AMRR	Amara	1.12 143	⇑iP	Pn	14 33 38.3	+0.7
AMRR	Amara	1.12 143	⇑iP	Pn	14 33 38.3	+0.7
AMRR			i S	Sn	14 33 55.8	-0.2
AMRR	Amara	1.12 143	⇑iP	Pn	14 33 38.3	+0.7
AMRR			i S	Sn	14 33 55.8	-0.2
BUC1	Bucharest	1.19 192	⇑iP	Pn	14 33 38.9	+0.6
BUC1	Bucharest	1.19 192	⇑iP	Pn	14 33 38.9	+0.6
BUC1			i S	Sn	14 33 56.6	-0.5
BUC1	Bucharest	1.19 192	⇑iP	Pn	14 33 38.9	+0.6
BUC1			i S	Sn	14 33 56.6	-0.5
ARR	Arges	1.24 264	S	Sn	14 33 57.7	-0.6
ARR	Arges	1.24 264	i S	Sn	14 33 57.7	-0.6
ARR	Arges	1.24 264	i S	Sn	14 33 57.7	-0.6
CFR	Carcaliu	1.28 104	⇑iP	Pn	14 33 39.3	+0.1
CFR	Carcaliu	1.28 104	⇑iP	Pn	14 33 39.3	+0.1
CFR			i S	Sn	14 33 56.9	-1.9
CFR	Carcaliu	1.28 104	⇑iP	Pn	14 33 39.3	+0.1
CFR			i S	Sn	14 33 56.9	-1.9
TLB	Topalu	1.49 128	⇓iP	Pn	14 33 41.9	+0.4
TLB	Topalu	1.49 128	⇓iP	Pn	14 33 41.9	+0.4
TLB			i S	Sn	14 34 01.8	-1.1
TLB	Topalu	1.49 128	⇓iP	Pn	14 33 41.9	+0.4
TLB			i S	Sn	14 34 01.8	-1.1
LEOM	Leova	1.62 53	⇑iP	Pn	14 33 43.7	+0.8
LEOM	Leova	1.62 53	⇑iP	Pn	14 33 43.7	+0.8
LEOM			i S	Sn	14 34 05.1	-0.4
LEOM	Leova	1.62 53	⇑iP	Pn	14 33 43.7	+0.8
LEOM			i S	Sn	14 34 05.1	-0.4
TLCR		1.74 100	⇓iP	Pn	14 33 45.2	+0.8
TLCR		1.74 100	⇓iP	Pn	14 33 45.2	+0.8
TLCR			i S	Sn	14 34 07.4	-0.6
TLCR		1.74 100	⇓iP	Pn	14 33 45.2	+0.8
TLCR			i S	Sn	14 34 07.4	-0.6
TIRR	Tirgusor	1.78 125	⇓iP	Pn	14 33 45.3	+0.5
TIRR	Tirgusor	1.78 125	⇓iP	Pn	14 33 45.3	+0.5
TIRR			i S	Sn	14 34 08.2	-0.6
TIRR	Tirgusor	1.78 125	⇓iP	Pn	14 33 45.3	+0.5
TIRR			i S	Sn	14 34 08.2	-0.6
LOT	Lotru	1.84 269	S	Sn	14 34 10.1	-0.2
LOT	Lotru	1.84 269	i S	Sn	14 34 10.1	-0.2
LOT	Lotru	1.84 269	i S	Sn	14 34 10.1	-0.2
IAS	Iasi	1.87 25	S	Sn	14 34 09.7	-1.1
IAS	Iasi	1.87 25	i S	Sn	14 34 09.7	-1.1
IAS	Iasi	1.87 25	i S	Sn	14 34 09.7	-1.1
ZIMR		1.99 202	S	Sn	14 34 12.0	-1.2
ZIMR		1.99 202	i S	Sn	14 34 12.0	-1.2
KIS	Kishinev	2.25 48	eS	Sn	14 34 17.0	-2.0
	100nm,0.6s					
KIS	Kishinev	2.25 48	eS	Sn	14 34 17.0	-2.0
	100nm,0.6s					
BURAR	Bucovina Array	2.26 340	⇓iP	Pn	14 33 53.0	+2.3
BURAR	Bucovina Array	2.26 340	⇓iP	Pn	14 33 53.0	+2.3
MANR	Mangalia	2.31 136	S	Sn	14 34 18.9	-1.4
MANR	Mangalia	2.31 136	i S	Sn	14 34 18.9	-1.4
MANR	Mangalia	2.31 136	i S	Sn	14 34 18.9	-1.4
SRE	Strehaia	2.41 251	i S	Sn	14 34 21.6	-0.9
DRGR		2.86 298	⇓iP	Pn	14 33 58.7	+0.4
DRGR		2.86 298	⇓iP	Pn	14 33 58.7	+0.4
DRGR		2.86 298	⇓iP	Pn	14 33 58.7	+0.4

*IDC **27** 14:51:56.0±0.7,28°.53S×176°.54W,h0km,mb4.3/11, mb1 4.4/11,mb1mx4.2/18,mbtmp4.3/11,Error ellipse: s-maj=23.4km s-min=18.4km az=150.0*

*ISCJB **27** 14:51:59.0±0.6,28°.6S±0°.1×176°.49W±0°.09,h29km, mb4.3/11,Error ellipse: s-maj=15.9km s-min=9.5km az=156.8*

ISC 27 14:52:00.4±0.6,28°.6S±0°.1×176°.55W±0°.09,h29km,n26, σ0§83/27,mb4.3/11,2C,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.35	242	Pn	Pb	14 52 24.4	-0.7
	365nm,0.3s,baz=96,slow=22,SNR=13						
RAO				Sn	Sn	14 52 40.7	+0.4
	966nm,0.3s,baz=253,slow=19,SNR=7.5						
URZ	Urewera	10.96	207	Sn	Sn	14 56 27.7	-9.2
	1.0nm,0.3s,baz=63,slow=23,SNR=5.4						
DZM	Mont Dzumac	16.70	289	Pn	P	14 55 55.8	+1.2
	0.1nm,0.3s,baz=104,slow=16,SNR=2.2						
CTA	Charters Tower	34.83	276	P	P	14 58 49.5	+0.5
	2.7nm,0.7s,baz=104,slow=12,SNR=8.3						
STKA	Stephens Creek	36.14	254	P	P	14 58 59.9	-0.4
	3.9nm,0.8s,baz=102,slow=9.8,SNR=11						
PMG	Port Moresby	39.06	292	P	P	14 59 25.7	+0.7
	11nm,1.0s,baz=168,slow=17,SNR=3.1						
ASAR	Alice Springs	44.50	264	P	P	15 00 08.3	-1.3
	1.6nm,0.6s,baz=95,slow=7.0,SNR=42						
ASAR				PcP	PP	15 01 53.1	-0.5
	1.0nm,0.7s,baz=113,slow=4.1,SNR=5.5						
WRA	Warramunga Arr	45.34	270	P	P	15 00 14.8	-1.4
	1.5nm,0.6s,baz=110,slow=8.1,SNR=23						
WRA				PcP	PcP	15 01 56.2	+0.6
	0.5nm,0.7s,baz=103,slow=3.7,SNR=5.5						
QSPA	South Pole Qui	61.47	180	P	P	15 02 15.5	+1.3
	7.6nm,0.9s,baz=39,slow=1.6,SNR=29						
MAW	Mawson	74.40	200	P	P	15 03 36.3	+1.1
	4.4nm,0.6s,baz=129,slow=8.2,SNR=11						
SYO	Syowa Base	79.11	192	⇑eP	P	15 04 01.3	-0.5
SYO	Syowa Base	79.11	192	⇑eP	P	15 04 11.5	+10
SNAA	Sanae	79.88	178	eP	P	15 04 06.0	0.0
VNA3	Neumayer Olymp	79.97	176	eP	P	15 04 06.6	+0.1
VNA2	Neumayer--Watz	80.42	176	eP	P	15 04 09.4	+0.5
	baz=160,slow=3.8						
PETK	Petropavlovsk-	84.43	345	P	P	15 04 31.3	+1.5
	3.0nm,0.8s,baz=121,slow=5.6,SNR=1.9						
TXAR	Lajitas Array	90.37	57	P	P	15 04 58.8	-0.4
	1.2nm,1.0s,baz=248,slow=6.6,SNR=5.8						
PDAR	Pinedale Array	93.98	43	P	P	15 05 14.8	-1.0
	0.7nm,0.8s,baz=194,slow=5.4,SNR=4.5						
ILAR	Eielson Array	95.93	12	P	P	15 05 23.8	-0.1
	0.3nm,0.9s,baz=240,slow=7.1,SNR=4.9						
MKAR	Makanchi Array	117.60	310	PKP	PKPdf	15 10 42.9	-0.6
	0.5nm,0.8s,baz=219,slow=1.6,SNR=4.0						
FINES	FINESS Array B	143.90	342	PKP	PKPbc	15 11 30.4	+0.4
	2.9nm,0.8s,baz=98,slow=5.8,SNR=5.1						
NB2	NORSAR Subarra	147.18	353	PKP	PKPbc	15 11 40.3	+0.1
	comp=Z,1.3nm,0.6s,baz=11,slow=2.9						
NOA	NORSAR Array B	147.18	353	PKPbc	PKPbc	15 11 40.6	+0.4
	comp=Z,1.6nm,0.6s,baz=14,slow=4.5,SNR=4.3						
AKASG	Malin Array Be	150.61	326	PKPbc	PKPbc	15 11 49.5	+0.3
	comp=Z,1.6nm,0.5s,baz=49,slow=3.0,SNR=8.7						
BRTR	Keskin Array B	152.81	302	PKPbc	PKPbc	15 11 54.1	-0.8
	comp=Z,0.6nm,0.7s,baz=67,slow=1.9,SNR=2.2						
BRTR				PKPab	PKPab	15 12 05.1	-0.8
	comp=Z,1.4nm,0.7s,baz=125,slow=3.5,SNR=5.6						
TORD	Torodi Ar. Bea	164.51	174	PKPab	PKPab	15 12 55.9	-0.7
	comp=Z,1.0nm,0.9s,baz=194,slow=5.3,SNR=4.6						

*MOS **27** 15:16:42.7±0.9,2°.76N×125°.59E,h33km,mb5.5/43,Error ellipse: s-maj=11.3km s-min=5.0km az=114.2*

*BJI **27** 15:16:44.8,2°.04N×126°.02E,h106km,mb5.3/40,mb5.1/52*

*ISCJB **27** 15:16:50.4±0.3,2°.71N±0°.02×125°.90E±0°.02,h106km±2km, mb5.1/146,Error ellipse: s-maj=3.4km s-min=2.5km az=170.8*

*IDC **27** 15:16:52.0±1.5,2°.57N×125°.77E,h103km±12km,mb4.8/24, mb1 4.9/25,mb1mx4.9/26,mbtmp4.8/25,MS4.1/14, Ms1 4.1/14,ms1mx3.9/26,Error ellipse: s-maj=14.1km s-min=6.5km az=80.0*

*AUST **27** 15:16:51.9±0.1,2°.58N×125°.94E,h104km,Error ellipse: s-maj=0.7km s-min=0.5km az=34.0*

*GCMT **27** 15:16:51.8±0.1,2°.76N×125°.96E,h88km±1km,MW5.4, Moment Tensor Solution. s86,c141; s99,c190; Moment tensor: Scale 10^17^Nm; M_{rr}1.24±.02; $M_{\theta\theta}$0.08±.02; $M_{\phi\phi}$-1.32±.02; $M_{r\theta}$0.14±.01; $M_{\theta\phi}$-0.33±.02; $M_{\phi r}$0.26±.02; Best double couple: $M_0$1.40000×10^17^ NP1:ϕ_s17.00000°, δ51.00000°,λ95.00000°. NP2:ϕ_s188.00000°,δ39.00000°, λ83.00000°. Principal axes: T 1.2800, Plg83.0000°, Azm318.0000°; N 0.1500, Plg4.0000°, Azm193.0000°; P -1.4200, Plg6.0000°, Azm103.0000°; Data Used: II IU IC G CN. Surface waves from 100 sta.*

*DJA **27** 15:16:52.7±0.2,3°N±2°×12°6E±°,h80km±3km,M5.3/67, mb5.4/67,mB5.7/52,MLv6.0/15,Mw(mB)5.3/52*

*NEIC **27** 15:16:52.5±0.8,2°.68N×125°.74E,h107km±7km,mb5.1/50, Error ellipse: s-maj=7.3km s-min=4.5km az=76.0*

NEIC Felt [III] at Manado.

*TEH **27** 15:16:53.0,2°.66N×125°.85E,h118km,ML5.2*

*BKK **27** 15:16:53.0±0.4,3°N±3°×12°6E±°,h111km±4km,M5.3/41,*

mB5.6/22,mb5.1/41,MLv6.0/5,Mw(mB)5.1/22,Mwp5.1/1

ISC 27 15:16:52.4±0.3,2°.69N±0°.02×125°.85E±0°.03,h109km±2km, n762,σ1§49/870,mb5.2/145,17C-22D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	1.04	342	P	Pn	15 17 10.9	-3.1
SGSI				S	Sn	15 17 26.9	-3.3
TNTI	Ternate	2.44	141	P	Pn	15 17 27.8	-3.2
TNTI				S	Sn	15 17 58.2	-2.3
KMSI	Cibinong	2.81	222	P	Pn	15 17 34.9	-0.9
KMSI				S	Sn	15 18 08.7	-0.5
GTOI	Gorontalo	3.49	234	P	Pn	15 17 44.3	-0.6
GSPH	General Santos	3.50	345	⇓eP	Pn	15 17 52.3	+7.2
GSPH				eS	Sn	15 18 23.3	-2.6
LBMI	Labuha	3.69	153	P	Pn	15 17 45.2	-2.5
LBMI				S	Sn	15 18 27.5	-2.9
MATI	Mati	4.25	6	eP	Pn	15 17 53.6	-1.6
MATI				eS	Sn	15 18 37.9	-5.9
DAV	Davao City (W)	4.36	357	Pn	Pn	15 17 56.8	+0.1
	SNR=9.8						
DAV	Davao City (W)	4.36	357	eP	Pn	15 17 59.4	+2.7
DAV	Davao City (W)	4.36	357	P	Pn	15 18 00.7	+4.0
MRSI	Marisa	4.48	241	P	Pn	15 17 58.7	+0.5
MRSI				S	Sn	15 18 47.8	-1.5
CTBH	Cotabato--PC H	4.78	341	⇓iP	Pn	15 18 01.0	-1.3
LUWI	Luwuk	4.81	220	P	Pn	15 18 04.8	+2.1
LUWI	Luwuk	4.81	220	P	Pn	15 18 03.9	+1.2
	baz=4.8,SNR=81						
BUKP	Musuan	5.22	351	eP	Pn	15 18 08.1	-0.1
TOLI	Toli-Toli	5.28	253	P	Pn	15 18 07.7	-1.4
TOLI				S	Sn	15 19 04.3	-4.5
APSI	Ampana	5.51	230	P	Pn	15 18 14.9	+2.8
	2μm,0.7s,62μm27nm						
APSI				S	Sn	15 19 17.8	+3.5
	2μm,0.7s,62μm27nm						
PAGZ	Pagadian	5.68	335	eP	Pn	15 18 13.0	-1.5
CGP	Cagayan de Oro	5.84	349	eP	Pn	15 18 15.4	-1.2
NLAI	Namlea	6.02	168	P	Pn	15 18 15.9	-3.1
	541nm,0.6s,26μm8.0nm						
NLAI				S	Sn	15 19 20.9	-5.7
	541nm,0.6s,26μm8.0nm						
IPIL	Ipil	6.03	327	⇓iP	Pn	15 18 20.2	+1.1
BUTP	Butuan	6.25	358	eP	Pn	15 18 25.2	+3.0
SWI	Sorong	6.46	123	P	Pn	15 18 22.8	-2.2
	193nm,0.8s,3μm0.8nm						
SWI	Sorong	6.46	123	P	Pn	15 18 22.8	-2.2
	baz=6.3,SNR=34						
MSAI	Masohi	6.74	153	P	Pn	15 18 27.8	-1.0
	213nm,0.8s,2μm						
AAI	Ambon	6.75	160	P	Pn	15 18 26.9	-2.1
	697nm,0.4s,12μm3.3nm						
AAI				S	Sn	15 19 37.8	-6.7
	697nm,0.4s,12μm3.3nm						
AAI	Ambon	6.75	160	P	Pn	15 18 26.5	-2.5
	baz=6.7,SNR=143						
SCPH	Surigao	7.06	357	⇑eP	Pn	15 18 35.0	+1.9
MSLP	Maasin	7.46	353	eP	Pn	15 18 40.1	+1.5
MYLDM	Lahad Datu	7.74	289	P	Pn	15 18 44.5	+2.1
MYLDM	Lahad Datu	7.74	289	P	Pn	15 18 44.4	+2.1
	2μm,1.3s,22μm6.3nm						
LLP	Lapu-Lapu	7.81	346	⇓eP	Pn	15 18 44.1	+0.7
KKSI	Kolaka, Sulawe	8.00	212	P	Pn	15 18 44.4	-1.5
	226nm,1.0s,2μm1.2nm						
TSM	Tawau	8.12	282	P	Pn	15 18 46.9	-0.6
TTSI	Tana Toraja	8.29	227	P	Pn	15 18 50.4	+0.6
	438nm,0.9s,5μm2.1nm						
OCLP	Ormoc	8.40	352	eP	Pn	15 18 53.0	+1.7
FAKI	Fak Fak	8.48	131	P	Pn	15 18 50.8	-1.7
	240nm,1.3s,5μm						
FAKI	Fak Fak	8.48	131	P	Pn	15 18 50.8	-1.7
	baz=8.4,SNR=77						
MMSI	Mamuju	8.75	232	P	Pn	15 18 56.4	+0.2
	325nm,1.1s,3μm						
BBSI	Bau Bau	8.75	202	P	Pn	15 18 55.3	-0.9
	175nm,0.7s,2μm						
SGKI	Sangatta, Kali	8.84	249	P	Pn	15 18 55.6	-1.7
	714nm,1.0s,1.9nm						
SPSI	Sidrap Palu	8.97	223	P	Pn	15 18 59.5	+0.4
	214nm,0.9s,2μm						
BNSI	Bone	9.08	219	P	Pn	15 19 00.7	+0.1
	345nm,1.3s,3μm						
SDKM	Sandakan	9.11	289	P	Pn	15 19 01.4	+0.3
RCP	Roxas	9.34	341	⇓eP	Pn	15 19 05.6	+1.5
PALU	Palau	9.76	61	P	Pn	15 19 09.7	-0.1
	baz=9.7,SNR=9.9						
PALU				S	Sn	15 20 47.0	-11
	baz=9.7,SNR=9.3						
KAPI	Kappang	9.78	219	Pn	Pn	15 19 12.6	+2.6
	SNR=8.8						
KAPI	Kappang	9.78	219	eP	Pn	15 19 08.8	-1.3
	197nm,1.0s						
KAPI				S	Sn	15 20 57.4	-0.6
KAPI	Kappang	9.78	219	Pn	Pn	15 19 09.5	-0.5
	818nm,0.8s,SNR=6.5						
KAPI	Kappang	9.78	219	P	Pn	15 19 09.8	-0.2
	180nm,0.9s,2μm						
KAPI	Kappang	9.78	219	P	Pn	15 19 09.0	-1.1
	7.4nm,0.3s,baz=24,slow=9.8,SNR=26						
KAPI				S	Sn	15 20 57.4	-0.6
	baz=12,slow=18,SNR=2.4						
BKSI	Bulukumba	9.79	216	P	Pn	15 19 10.1	-0.2
	84nm,0.9s,1μm						
KDM	Kudat	9.91	295	P	Pn	15 19 12.1	+0.2
KMPI	Kaimana, Papua	10.07	129	P	Pn	15 19 12.1	-2.0
	492nm,1.3s,6μm						
KKM	Kota Kinabalu	10.16	289	eP	Pn	15 19 16.4	+1.0
	877nm,1.1s						
KKM	Kota Kinabalu	10.16	289	P	Pn	15 19 16.6	+1.1
KKM	Kota Kinabalu	10.16	289	P	Pn	15 19 16.5	+1.1
	943nm,1.3s,12μm						
KKM	Kota Kinabalu	10.16	289	P	Pn	15 19 17.1	+1.6
	baz=10,SNR=20						
TLE	Tual	10.76	140	P	Pn	15 19 22.1	-1.3
	276nm,1.0s,5μm						
TLE	Tual	10.76	140	P	Pn	15 19 21.9	-1.5
	baz=11,SNR=25						
BAKI	Biak	10.96	110	P	Pn	15 19 26.1	0.0
	983nm,1.0s,17μm						
SRPI	Serui, Papua	11.33	113	P	Pn	15 19 33.0	+1.9
	274nm,0.7s,5μm						
MTKI	Muara Teweh, K	11.52	252	P	Pn	15 19 34.6	+0.9
	340nm,1.0s,10μm						
MMRI	Maumere	11.81	198	P	P	15 19 48.0	+2.0
SOEI	Soe	12.46	187	P	Pn	15 19 46.2	+0.1
	190nm,0.9s,2μm						
SOEI	Soe	12.46	187	P	P	15 19 51.6	-1.9
	baz=12,SNR=9.4						
LBFI	Labuhan Bajo,	12.58	208	P	Pn	15 19 48.2	+0.6
	738nm,0.8s,5μm						
BTM	Bintulu	12.76	273	P	Pn	15 19 52.2	+2.3
BATI	Baumata	12.99	190	P	Pn	15 19 53.8	+0.8
BATI	Baumata	12.99	190	P	Pn	15 19 53.6	+0.6
	138nm,0.8s,1μm						
BATI	Baumata	12.99	190	P	Pn	15 19 53.8	+0.8
	15nm,0.3s,baz=11,slow=1.7,SNR=26						
BATI				LR	LR	15 24 52.2	
	comp=Z,647nm,18.4s,baz=228,slow=37						
WSI	Waingapu	13.46	204	P	Pn	15 19 59.1	0.0
	724nm,0.7s,19μm						
WSI	Waingapu	13.46	204	P	P	15 20 09.9	+5.4
	baz=14,SNR=3.2						
SBUM	Sibu	13.61	269	P	Pn	15 20 03.0	+1.9
SBUM	Sibu	13.61	269	P	Pn	15 20 02.3	+1.2
	263nm,1.2s,3μm						
STKI	Sintang	14.60	260	P	Pn	15 20 15.9	-1.3
	280nm,1.8s,8μm						
MTNI	Mataram	14.82	221	P	Pn	15 20 17.1	+0.6
	212nm,0.8s						
SRBI	Singaraja	15.06	225	P	P	15 20 22.3	0.0
	294nm,1.2s,4μm						
PBKI	Pangkalan Bun	15.15	249	P	Pn	15 20 21.7	+1.0
	510nm,1.0s,4μm						
DNP	Denpasar	15.49	223	P	P	15 20 27.2	+0.2
	474nm,1.0s,17μm						
KSM	Kuching	15.57	266	eP	P	15 20 27.2	-0.8
	209nm,1.1s						
KSM	Kuching	15.57	266	P	P	15 20 27.6	-0.4
KSM	Kuching	15.57	266	P	P	15 20 27.2	-0.8
	153nm,1.6s,2μm						
KSM	Kuching	15.57	266	P	P	15 20 27.6	-0.4
	baz=16,SNR=9.8						
JAY	Jayapura	15.73	109	P	Pn	15 20 26.1	-1.9
	67nm,1.4s,3μm						
JAY	Jayapura	15.73	109	P	Pn	15 20 26.0	-2.1
	baz=16,SNR=10						
JAY				S	S	15 23 27.5	-1.9
	baz=16,SNR=6.5						
BYJI	Banyuwangi	15.77	227	P	P	15 20 32.1	+2.0
	390nm,0.9s,10μm						
BLJI	Banyuglugur	16.02	230	P	P	15 20 40.8	+7.8
GMJI	Gumukmas	16.48	229	P	P	15 20 38.2	+0.2
	159nm,1.5s,2μm						
KDU	Kakadu	16.63	157	P	Pn	15 20 35.1	-4.0
	baz=17,SNR=69						
KRKI	Karangkates	17.16	231	P	Pn	15 20 48.6	+3.0
	468nm,0.9s,20μm						
SJI	Sawahan	17.45	234	P	Pn	15 20 49.6	+0.4
	124nm,1.0s						
NGJI	Ngawi	17.49	235	P	Pn	15 20 50.8	+1.2
	124nm,1.1s						
PWJI	Pagerwojo	17.59	233	P	Pn	15 20 51.0	+0.2
	110nm,0.8s						
PCJI	Pacitan	18.19	233	P	Pn	15 20 59.5	+1.5
	192nm,0.7s						
MMPI	Merauke	18.25	128	P	Pn	15 20 59.0	+0.3
	baz=18,SNR=5.6						
MMPI				S	Sn	15 24 21.8	-1.0
	baz=18,SNR=9.7						
KNRA	Kununurra	18.47	171	P	P	15 20 59.2	-0.8
	baz=18,SNR=135						
KNRA				S	S	15 24 17.6	-7.7
	baz=18,SNR=8.8						
UGM	Wanagama	18.56	235	P	P	15 21 01.2	+0.2
	baz=19,SNR=5.6						
BJII	Banjamegara	18.93	238	P	P	15 21 05.8	+0.7
	94nm,1.0s						
TPI	Tanjungpandan	18.97	254	P	Pn	15 21 07.4	+0.1
	89nm,1.1s,1μm						
TGJI	Tegal	19.20	240	P	P	15 21 08.5	+0.5
	76nm,0.8s,3μm						
KPJI	Karang Pucung	19.59	239	P	P	15 21 12.0	-0.2
	129nm,0.8s						
PPBI	Pangkal Pinang	20.28	256	P	Pn	15 21 21.7	-0.9
	78nm,1.2s,13μm						
LEM	Lembang	20.50	242	P	P	15 21 22.2	0.0
	318nm,0.9s,2μm						
LEM	Lembang	20.50	242	P	P	15 21 22.7	+0.5
	baz=21,SNR=6.2						
FITZ	Fitzroy Crossi	20.66	181	eP	P	15 21 22.0	-1.7
	120nm,0.9s						
FITZ				S	S	15 25 03.2	-5.4
FITZ	Fitzroy Crossi	20.66	181	P	P	15 21 21.9	-1.7
	61nm,1.0s,baz=12,slow=9.8,SNR=50						
FITZ				S	S	15 25 03.2	-5.4
	49nm,1.1s,baz=192,slow=17,SNR=8.8						
FITZ	Fitzroy Crossi	20.66	181	P	P	15 21 22.2	-1.4
	baz=21,SNR=108						
FITZ				S	S	15 25 03.7	-4.9
	baz=21,SNR=11						
CISI	Cisompet, Garu	20.67	240	P	Pn	15 21 25.8	-1.4
	197nm,1.0s,4μm						
CISI	Cisompet, Garu	20.67	240	P	P	15 21 24.5	+0.7
	baz=21,SNR=4.6						
CISI				S	S	15 24 59.8	-9.2
	baz=21,SNR=5.0						
CBJI	Citeko	21.01	244	P	P	15 21 30.9	+3.4
	438nm,1.0s,7μm						
TPUB	Ta-pu	21.11	347	eP	P	15 21 26.0	-2.5
	67nm,1.0s						
DBJI	Dramaga	21.16	244	P	P	15 21 32.5	+3.4
	184nm,1.8s,3μm						
SSLB	Suanglung	21.50	348	eP	P	15 21 31.7	-1.0
	27nm,0.9s						
MYKOM	Kota Tinggi	22.00	268	P	P	15 21 38.5	+0.5
MYKOM	Kota Tinggi	22.00	268	P	P	15 21 41.8	+3.8
MYKOM	Kota Tinggi	22.00	268	P	P	15 21 38.7	+0.7
	129nm,1.8s,3μm						
BLSI	Bandar Lampung	22.08	249	P	P	15 21 40.9	+2.0
	248nm,0.9s,3μm						
BTDF	Bukit Timah Da	22.10	267	P	P	15 21 40.4	+1.3
	baz=22,SNR=7.1						
BTDF				P	P	15 21 40.4	+1.3
	baz=22,SNR=7.1						
KLI	Kotabumi	22.27	250	P	P	15 21 41.8	+1.0
	170nm,1.2s,2μm						
YHNB	Yeheng	22.28	349	eP	P	15 21 39.2	-1.7
KGM	Kluang	22.52	269	P	P	15 21 44.3	+0.9
QIZ	Qiongzhong	22.56	317	P	P	15 21 41.5	-2.3
QIZ				pP	pP	15 22 04.0	-0.8
QIZ				sP	sP	15 22 17.5	-0.8
QIZ				S	S	15 25 38.0	-5.4
QIZ				pmax	pmax		
	comp=Z,53nm,2.1s						
QIZ				pmax	pmax		
	comp=Z,530nm,4.9s						
QIZ				LR	LR		
	comp=N,2μm,12.6s						
QIZ				LR	LR		
	comp=Z,2μm,22.8s						
MDSI	Maura Dua	22.79	252	P	P	15 21 46.0	-0.1
	comp=Z,165nm,1.2s,comp=Z,2μm						
KTGM	Kuala Trenggan	22.80	277	P	P	15 21 47.4	+1.1
KASI	Kota Agung	22.83	249	P	P	15 21 48.4	+1.9
	comp=Z,188nm,1.0s						
LWLI	Liwa	23.07	251	P	P	15 21 49.8	+0.8
	comp=Z,253nm,0.9s,comp=Z,3μm						
COEN	Coen	23.85	134	eP	P	15 21 54.2	-1.6
	comp=Z,412nm,1.2s						
COEN	Coen	23.85	134	P	P	15 21 54.4	-1.5
	baz=24,SNR=16						
COEN				S	S	15 26 03.1	-1.0
	baz=24,SNR=9.5						
WRAB	Tennant Creek	23.98	160	eP	P	15 21 56.2	-0.8
WRAB				pmax	pmax		
	comp=Z,104nm,0.8s						
WRAB	Tennant Creek	23.98	160	eP	P	15 21 56.2	-0.8
	comp=Z,104nm,0.8s						
WRAB	Tennant Creek	23.98	160	P	P	15 21 56.4	-0.6
	comp=Z,896nm,0

ASAR				S	S	15 26 59.4	-0.1
	comp=Z,19nm,1.1s,baz=351,slow=18,SNR=10						
MTSU	**Mount Surprise**	**27.55**	**139**	P	**P**	**15 22 31.6**	**+2.3**
	baz=28,SNR=5.8						
GIRL	**Giralia**	**27.61**	**204**	P	**P**	**15 22 30.7**	**+1.0**
	baz=28,SNR=7.7						
PBKT	**Sadao Pong**	**28.08**	**301**	P	P	15 22 39.1	+5.1
	comp=Z,22nm,1.5s,comp=Z,2μm						
SSE	**Sheshan**	**28.60**	**352**	P	**P**	**15 22 41.3**	**+2.9**
SSE				S	**S**	**15 27 22.3**	**+3.4**
SSE				sS	**sS**	**15 28 01.8**	**+1.0**
SSE				pmax	pmax		
	comp=Z,46nm,0.6s						
SSE				pmax	pmax		
	comp=Z,160nm,6.3s						
SSE				LR	LR		
	comp=N,380nm,32.7s						
SSE				LR	LR		
	comp=E,530nm,32.7s						
SSE				LR	LR		
	comp=Z,550nm,22.2s						
CBIJ	**Chichi jima**	**28.88**	**31**	P	**P**	**15 22 41.0**	**0.0**
CBIJ	**Chichi jima**	**28.88**	**31**	P	**P**	**15 22 41.0**	**0.0**
	comp=Z,52nm,0.6s,baz=270,slow=16,SNR=4.2						
CBIJ				LR	LR	15 33 21.1	
	comp=Z,109nm,18.8s,baz=210,slow=34						
NANT	**Nan**	**29.36**	**305**	P	**P**	**15 22 45.8**	**+0.4**
	comp=Z,68nm,0.9s						
SUKH	**Sukhothai**	**29.64**	**302**	P	**P**	**15 22 49.5**	**+1.7**
	comp=Z,6.8nm,1.0s,comp=Z,66nm						
NJ2	**Nanjing**	**29.94**	**348**	*e*P	**P**	**15 22 53.5**	**+3.2**
NJ2				pmax	pmax		
	comp=Z,12nm,0.9s						
GYA	**Guiyang**	**29.96**	**324**⇑	*i*P	**P**	**15 22 52.8**	**+2.1**
GYA				pP	**pP**	**15 23 17.0**	**+2.2**
GYA				sP	**sP**	**15 23 30.0**	**+2.6**
GYA				PP	**PnPn**	**15 23 54.5**	**+2.2**
GYA				S	**S**	**15 27 41.5**	**+0.8**
GYA				sS	**sS**	**15 28 23.3**	**+0.7**
GYA				ScP	**ScP**	**15 29 22.5**	**-0.8**
GYA				ScS	**ScS**	**15 33 17.8**	**-1.2**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,4.9s						
MEEK	**Meekatharra**	**29.98**	**193**	P	**P**	**15 22 50.1**	**-0.6**
	baz=30,SNR=52						
MEEK				S	**S**	**15 27 40.4**	**-0.4**
	baz=30,SNR=5.5						
LAMP	**Lampang**	**30.11**	**303**	P	**P**	**15 22 53.2**	**+1.2**
	comp=Z,7.2nm,1.1s						
PAYA	**Payao**	**30.32**	**305**	P	**P**	**15 22 54.3**	**+0.4**
	comp=Z,9.2nm,1.1s,comp=Z,86nm						
CRAI	**Chiangrai**	**30.36**	**307**	P	**P**	**15 22 53.9**	**-0.3**
	comp=Z,46nm,1.2s						
JNU	**Nakatsue**	**30.64**	**8**	*e*P	**P**	**15 22 56.6**	**+0.1**
	comp=Z,17nm,0.9s						
JNU	**Nakatsue**	**30.64**	**8**	P	**P**	**15 22 56.6**	**+0.1**
	comp=Z,33nm,0.9s,baz=185,slow=4.8,SNR=11						
JNU				LR	LR	15 34 59.2	
	comp=Z,193nm,19.9s,baz=6.5,slow=35						
CM31	**Chiang Mai Arr**	**30.66**	**303**	*e*P	**P**	**15 22 56.1**	**-0.7**
	comp=Z,23nm,1.0s						
CMAR	**Chiang Mai Arr**	**30.66**	**303**	P	**P**	**15 22 56.7**	**-0.2**
CMAR				PcP	**PcP**	**15 25 53.8**	**+1.1**
CMAR				PKiKP	**PKiKP**	**15 33 24.7**	**+0.9**
CMAR	**Chiang Mai Arr**	**30.66**	**303**	P	**P**	**15 22 56.7**	**-0.2**
	comp=Z,16nm,1.0s,baz=120,slow=7.1,SNR=52						
CMAR				PcP	**PcP**	**15 25 53.8**	**+1.1**
	comp=Z,6.1nm,0.9s,baz=158,slow=1.2,SNR=11						
CMAR				PKiKP	**PKiKP**	**15 33 24.7**	**+0.9**
	comp=Z,0.3nm,0.4s,baz=250,slow=0.6,SNR=4.8						
CMAR				LR	LR	15 34 33.6	
	comp=Z,589nm,19.9s,baz=120,slow=35						
CHTO	**Chiang Mai**	**30.83**	**303**	*e*P	**P**	**15 22 57.6**	**-0.7**
CHTO				pmax	pmax		
	comp=Z,161nm,1.1s						
CHTO	**Chiang Mai**	**30.83**	**303**	P	**P**	**15 22 58.8**	**+0.5**
	SNR=6.3						
CHTO	**Chiang Mai**	**30.83**	**303**	*e*P	**P**	**15 22 57.6**	**-0.7**
	comp=Z,161nm,1.1s						
CHTO	**Chiang Mai**	**30.83**	**303**	P	**P**	**15 22 58.5**	**+0.2**
	comp=Z,177nm,1.2s						
CMAI	**Chiengmai2**	**31.28**	**305**	P	**P**	**15 23 02.6**	**+0.1**
	comp=Z,36nm,1.1s,comp=Z,8μm						
ENH	**Enshi**	**31.51**	**332**	*e*P	**P**	**15 23 03.6**	**-0.6**
	comp=Z,4.0nm,0.5s						
KMI	**Kunming**	**31.51**	**317**	P	**P**	**15 23 04.8**	**+0.3**
KMI				pP	**pP**	**15 23 30.3**	**+1.6**
KMI				sP	**sP**	**15 23 45.0**	**+3.8**
KMI				PP	**PnPn**	**15 24 14.5**	**+2.2**
KMI				S	**S**	**15 28 05.3**	**0.0**
KMI				sS	**sS**	**15 28 50.0**	**+2.8**
KMI				SS	**SnSn**	**15 30 03.3**	**+1.0**
KMI				pmax	pmax		
	comp=Z,22nm,1.1s						
KMI				pmax	pmax		
	comp=Z,290nm,6.9s						
KMI				LR	LR		
	comp=N,500nm,22.2s						
KMI				LR	LR		
	comp=E,620nm,22.2s						
KMI				LR	LR		
	comp=Z,1μm,28.6s						
MORW	**Morawa**	**32.94**	**196**	P	**P**	**15 23 16.4**	**-0.4**
	baz=33,SNR=20						
FORT	**Forrest**	**33.34**	**177**	*e*P	**P**	**15 23 19.8**	**-0.4**
	comp=Z,289nm,0.8s						
FORT	**Forrest**	**33.34**	**177**	P	**P**	**15 23 20.1**	**-0.1**
	baz=33,SNR=125						
FORT				S	**S**	**15 28 33.5**	**+0.5**
	baz=33,SNR=6.6						
TJN	**Taejon**	**33.55**	**2**	*i* P	**P**	**15 23 21.5**	**-0.4**
QLP	**Quilpie**	**34.09**	**150**	P	**P**	**15 23 26.2**	**-0.6**
	baz=34,SNR=14						
BLDU	**Ballidu**	**34.24**	**194**	P	**P**	**15 23 27.6**	**-0.4**
	baz=34,SNR=20						
INCN	**Inchon**	**34.64**	**1**	*e*P	**P**	**15 23 32.2**	**+0.8**
	comp=Z,54nm,0.9s						
KSAR	**Wonju Array Be**	**34.64**	**3**	P	**P**	**15 23 31.9**	**+0.7**
KSAR				PcP	**PcP**	**15 26 04.8**	**+1.6**
KSAR				ScP	**ScP**	**15 29 41.6**	**+2.7**
KSRS	**Korea Array**	**34.65**	**3**	P	**P**	**15 23 31.9**	**+0.6**
	comp=Z,22nm,0.7s,baz=179,slow=9.4,SNR=66						
KSRS				PcP	**PcP**	**15 26 04.8**	**+1.5**
	comp=Z,13nm,0.9s,baz=186,slow=3.2,SNR=20						
KSRS				ScP	**ScP**	**15 29 41.6**	**+2.7**
	comp=Z,1.7nm,1.0s,baz=177,slow=5.0,SNR=4.7						
KLBR	**Kellerberrin**	**34.95**	**192**	P	**P**	**15 23 33.9**	**-0.1**
	baz=35,SNR=21						
XAN	**Xi'an**	**34.97**	**335**	P	**P**	**15 23 32.3**	**-1.9**
XAN				pP	**pP**	**15 23 57.0**	**-1.6**
XAN				sP	**sP**	**15 24 08.8**	**-2.3**
XAN				PcP	**PcP**	**15 26 05.0**	**+0.6**
XAN				pmax	pmax		
	comp=Z,4.0nm,1.1s						
XAN				pmax	pmax		
	comp=Z,61nm,5.8s						
XAN				LR	LR		
	comp=N,320nm,32.5s						
XAN				LR	LR		
	comp=E,120nm,28.8s						
XAN				LR	LR		
	comp=Z,220nm,40.0s						
CD2	**Chengdu**	**34.98**	**326**	P	**P**	**15 23 33.8**	**-0.6**
CD2				pP	**pP**	**15 23 58.3**	**-0.5**
CD2				sP	**sP**	**15 24 11.0**	**-0.3**
CD2				PP	**PnPn**	**15 24 55.5**	**+0.3**
CD2				PcP	**PcP**	**15 26 03.5**	**-1.0**
CD2				S	**S**	**15 28 57.3**	**-1.2**
CD2				pmax	pmax		
	comp=Z,40nm,1.3s						
CD2				pmax	pmax		
	comp=Z,380nm,5.7s						
CD2				LR	LR		
	comp=N,990nm,16.6s						
CD2				LR	LR		
	comp=Z,630nm,16.1s						
MAJO	**Matsushiro**	**35.57**	**17**	*e*P	**P**	**15 23 38.1**	**-1.3**
MAJO				*e*		15 26 07.6	
MAJO				pmax	pmax		
	comp=Z,43nm,0.9s						
MAJO	**Matsushiro**	**35.57**	**17**	*e*P	**P**	**15 23 38.1**	**-1.3**
	comp=Z,43nm,0.9s						
MAJO				*e*PcP	**PcP**	**15 26 07.6**	**+1.5**
MAT	**Matsushiro**	**35.57**	**17**	P	**P**	**15 23 38.3**	**-1.1**
MAT				S	**S**	**15 29 06.4**	**-0.9**
DL2	**Dalian**	**36.26**	**354**	P	**P**	**15 23 45.0**	**-0.1**
DL2				pmax	pmax		
	comp=Z,44nm,0.7s						
BBOO	**Buckleboo**	**36.60**	**165**	*e*P	**P**	**15 23 47.7**	**-0.5**
	comp=Z,416nm,0.6s						
BBOO	**Buckleboo**	**36.60**	**165**	P	**P**	**15 23 47.8**	**-0.3**
	baz=37,SNR=50						
BBOO				S	**S**	**15 29 22.5**	**-0.6**
	baz=37,SNR=7.1						
EIDS	**Eidsvold**	**37.10**	**140**	*e*P	**P**	**15 23 51.7**	**-0.7**
	comp=Z,35nm,1.2s						
EIDS	**Eidsvold**	**37.10**	**140**	P	**P**	**15 23 52.4**	**-0.1**
	baz=37,SNR=7.6						
EIDS				S	**S**	**15 29 32.6**	**+1.8**
	baz=37,SNR=5.0						
STKA	**Stephens Creek**	**37.49**	**158**	*e*P	**P**	**15 23 55.5**	**-0.2**
	comp=Z,12nm,1.0s						
STKA				PcP	**PcP**	**15 26 13.7**	**+1.7**
STKA				S	**S**	**15 29 35.9**	**-0.7**
STKA	**Stephens Creek**	**37.49**	**158**	P	**P**	**15 23 55.8**	**+0.2**
	comp=Z,24nm,0.6s,baz=333,slow=8.0,SNR=74						
STKA				PcP	**PcP**	**15 26 13.7**	**+1.7**
	comp=Z,6.1nm,0.6s,baz=349,slow=6.5,SNR=3.5						
STKA				S	**S**	**15 29 35.9**	**-0.7**
	comp=Z,13nm,1.1s,baz=178,slow=18,SNR=7.4						
STKA	**Stephens Creek**	**37.49**	**158**	P	**P**	**15 23 55.5**	**-0.2**
	baz=38,SNR=82						
STKA				S	**S**	**15 29 37.1**	**+0.6**
	baz=38,SNR=6.5						
RKGY	**Rocky Gully**	**38.02**	**192**	P	**P**	**15 24 01.6**	**+1.5**
	baz=38,SNR=11						
BJT	**Baijiatuau**	**38.19**	**348**	*e*P	**P**	**15 24 00.4**	**-1.0**
	comp=Z,35nm,0.8s						
BJI	**Beijing**	**38.20**	**348**	P	**P**	**15 24 00.3**	**-1.3**
BJI				S	**S**	**15 29 49.8**	**+2.7**
BJI				pmax	pmax		
	comp=Z,38nm,1.1s						
BJI				pmax	pmax		
	comp=Z,170nm,3.6s						
BJI				LR	LR		
	comp=N,310nm,16.0s						
BJI				LR	LR		
	comp=E,280nm,17.5s						
BJI				LR	LR		
	comp=Z,440nm,22.3s						
CMSA	**Cobar Meteorol**	**38.92**	**153**	P	**P**	**15 24 08.5**	**+0.8**
	baz=39,SNR=38						
LZH	**Lanzhou**	**38.97**	**331**	⇑P	**P**	**15 24 08.0**	**-0.3**
LZH				pP	**pP**	**15 24 33.0**	**0.0**
LZH				sP	**sP**	**15 24 46.0**	**+0.6**
LZH				PP	**PnPn**	**15 25 44.0**	**+0.7**
LZH				PcP	**PcP**	**15 26 17.0**	**+0.3**
LZH				ScP	**ScP**	**15 29 53.3**	**-2.0**
LZH				S	**S**	**15 29 59.0**	**-0.1**
LZH				sS	**sS**	**15 30 42.8**	**+0.9**
LZH				pmax	pmax		
	comp=Z,52nm,1.1s						
LZH				pmax	pmax		
	comp=Z,270nm,5.2s						
LZH				LR	LR		
	comp=N,1μm,14.0s						
LZH				LR	LR		
	comp=E,1μm,15.0s						
LZH				LR	LR		
	comp=Z,1μm,17.5s						
SHL	**Shillong**	**39.80**	**308**	*e*P	**P**	**15 24 15.0**	**-0.3**
SHL				*e*S	**S**	**15 30 09.0**	**-2.9**
HHC	**Hu-ho-hao-te**	**40.12**	**343**	*e*P	**P**	**15 24 19.5**	**+1.8**
HHC				PP	**PnPn**	**15 25 58.3**	**+1.6**
HHC				S	**S**	**15 30 17.5**	**+1.4**
HHC				sS	sS	15 31 07.5	+8.4
HHC				SS	**SS**	**15 33 18.3**	**+0.1**
HHC				pmax	pmax		
	comp=Z,27nm,0.6s						
HHC				pmax	pmax		
	comp=Z,470nm,4.8s						
HHC				LR	LR		
	comp=N,2μm,16.7s						
HHC				LR	LR		
	comp=E,2μm,17.8s						
HHC				LR	LR		
	comp=Z,1μm,16.7s						
VLA	**Vladivostok**	**40.62**	**7**	*i* P	**P**	**15 24 22.5**	**+0.9**
VLA				pmax	pmax		
	comp=Z,68nm,1.1s						
CN2	**Changchun**	**40.94**	**360**	*e*P	**P**	**15 24 24.0**	**-0.2**
CN2				*e*pP	**pP**	**15 24 49.5**	**+0.3**
CN2				*e*S	**S**	**15 30 33.5**	**+5.5**
CN2				SS	**SS**	**15 33 31.5**	**-2.6**
CN2				pmax	pmax		
	comp=Z,20nm,0.6s						
CN2				pmax	pmax		
	comp=Z,400nm,5.0s						
CN2				LR	LR		
	comp=N,200nm,20.0s						
CN2				LR	LR		
	comp=E,200nm,20.0s						
CN2				LR	LR		
	comp=Z,200nm,17.0s						
ARMA	**Armidale**	**41.10**	**145**	*e*P	**P**	**15 24 26.8**	**+0.9**
	comp=Z,70nm,1.2s						
ARMA	**Armidale**	**41.10**	**145**	P	**P**	**15 24 27.0**	**+1.1**
	baz=41,SNR=24						
USRK	**Ussuriysk Arra**	**41.70**	**7**	P	**P**	**15 24 31.3**	**+0.9**
	comp=Z,50nm,1.0s,baz=191,slow=7.1,SNR=51						
USRK				PcP	**PcP**	**15 26 25.8**	**+0.7**
	comp=Z,4.9nm,0.8s,baz=243,slow=2.1,SNR=4.4						
MDJ	**Mudanjiang**	**41.89**	**4**	P	**P**	**15 24 32.5**	**+0.6**
MDJ				pP	**pP**	**15 24 55.5**	**-1.4**
MDJ				sP	**sP**	**15 25 07.3**	**-2.0**
MDJ				PP	**PP**	**15 26 10.8**	**-0.2**
MDJ				PcP	**PcP**	**15 26 26.8**	**+1.1**
MDJ				PcS	**PcS**	**15 30 18.0**	**+0.7**
MDJ				S	**S**	**15 30 43.0**	**+1.0**
MDJ				SS	**SS**	**15 33 52.8**	**+0.1**
MDJ				pmax	pmax		
	comp=Z,58nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,220nm,6.0s						
MDJ				LR	LR		
	comp=N,290nm,33.0s						
MDJ				LR	LR		
	comp=E,180nm,22.0s						
MDJ				LR	LR		
	comp=Z,340nm,34.4s						
MDJ	**Mudanjiang**	**41.89**	**4**	*e*P	**P**	**15 24 32.4**	**+0.4**
	comp=Z,57nm,1.0s						
ERM	**Erimo**	**42.12**	**19**	*i* P	**P**	**15 24 35.8**	**+1.9**
ERM				pmax	pmax		
	comp=Z,50nm,1.1s						
LSA	**Lhasa**	**42.48**	**313**	P	**P**	**15 24 38.3**	**+0.7**
LSA	**Lhasa**	**42.48**	**313**	*e*P	**P**	**15 24 38.3**	**+0.7**
LSA				pmax	pmax		
	comp=Z,37nm,1.2s						
LSA	**Lhasa**	**42.48**	**313**	*e*P	**P**	**15 24 38.3**	**+0.7**
	comp=Z,37nm,1.2s						
GTA	**Gaotai**	**43.55**	**330**	⇑P	**P**	**15 24 44.5**	**-1.1**
GTA				pP	**pP**	**15 25 08.0**	**-2.8**
GTA				sP	**sP**	**15 25 22.0**	**-1.1**
GTA				PcP	**PcP**	**15 26 32.5**	**+0.9**
GTA				PcS	**PcS**	**15 30 23.5**	**-1.0**
GTA				S	**S**	**15 31 03.3**	**-3.5**
GTA				pmax	pmax		
	comp=Z,16nm,1.1s						
GTA				pmax	pmax		
	comp=Z,170nm,7.6s						
GTA				LR	LR		
	comp=N,580nm,19.5s						
GTA				LR	LR		
	comp=E,550nm,16.2s						
GTA				LR	LR		
	comp=Z,590nm,18.5s						
ASAJ	**Asahikawa**	**43.84**	**17**	*e*P	**P**	**15 24 48.7**	**+1.0**
	comp=Z,59nm,1.1s						
ASAJ	**Asahikawa**	**43.84**	**17**	LR	LR	15 41 21.5	
	comp=Z,268nm,20.2s,baz=358,slow=33						
TAPN	**Taepejung**	**43.94**	**308**	*e*P	**P**	**15 24 49.2**	**+0.1**
	comp=Z,105nm,1.0s						
ODAN	**Odare**	**43.97**	**307**	*e*P	**P**	**15 24 49.3**	**0.0**
	comp=Z,115nm,0.9s						
TOO	**Toolangi**	**44.01**	**157**	P	**P**	**15 24 51.5**	**+2.3**
	baz=44,SNR=5.9						
RAMN	**Ramite**	**44.64**	**307**	*e*P	**P**	**15 24 55.0**	**+0.3**
	comp=Z,162nm,1.0s						
JIRN	**Jiri**	**45.28**	**307**	*e*P	**P**	**15 24 59.9**	**0.0**
	comp=Z,133nm,1.0s						
GUN	**Gumba**	**45.64**	**307**	*e*P	**P**	**15 25 02.6**	**-0.1**
	comp=Z,164nm,0.9s						
PKI	**Pulchoki**	**45.87**	**307**	*e*P	**P**	**15 25 04.0**	**-0.5**
	comp=Z,77nm,1.1s						
PKIN	**Phulchoki**	**45.88**	**307**	*e*P	**P**	**15 25 04.3**	**-0.2**
KKN	**Kakani**	**46.06**	**307**	*e*P	**P**	**15 25 05.5**	**-0.4**
	comp=Z,96nm,1.0s						
DMN	**Daman**	**46.12**	**307**	*e*P	**P**	**15 25 06.2**	**-0.2**
	comp=Z,114nm,1.0s						
HABR	**Khabarovsk**	**46.30**	**8**	*i* P	**P**	**15 25 06.3**	**-0.8**
HABR				*e**PP	pP	15 25 24.8	-7.7
HABR				*e*		15 26 39.1	
HABR				*e*		15 26 54.9	
HABR				*e*PPP	PPP	15 27 39.0	
HABR				*e*S	**S**	**15 31 47.8**	**+2.0**
HABR				*e*		15 34 52.3	
HABR				*e*SSS	SSS	15 36 17.9	
HABR				pmax	pmax		
	comp=N,42nm,1.5s						
HABR				pmax	pmax		
	comp=E,40nm,1.5s						
HABR				pmax	pmax		
	comp=Z,140nm,1.5s						
YSS	**Yuzh-Sakhalins**	**46.48**	**16**⇑	*e*P	**P**	**15 25 08.2**	**-0.3**
YSS				*e*		15 26 43.0	
YSS				pmax	pmax		
	comp=Z,60nm,1.0s						
KLR	**Kul'dur**	**46.65**	**5**	*e*P	P	15 25 05.8	-4.0
KLR				pmax	pmax		
	comp=N,25nm,1.2s						
KLR				pmax	pmax		
	comp=Z,68nm,1.2s						
GKN	**Gorkha**	**46.67**	**307**	*e*P	**P**	**15 25 10.1**	**-0.5**
	comp=Z,122nm,1.0s						
DZM	**Mont Dzumac**	**46.67**	**124**	*e*P	**P**	**15 25 12.4**	**+1.8**
	comp=Z,65nm,1.3s						
DZM	**Mont Dzumac**	**46.67**	**124**	*e*LR	LR	15 38 33.8	
	comp=Z,752nm,28.5s						
HIA	**Hailar**	**46.70**	**355**	*e*P	**P**	**15 25 09.9**	**-0.4**
	comp=Z,33nm,1.2s						
KOLN	**Koldanda**	**47.40**	**306**	*e*P	**P**	**15 25 16.3**	**0.0**
	comp=Z,129nm,0.9s						
DANN	**Dangsing**	**47.52**	**307**	*e*P	**P**	**15 25 16.9**	**-0.4**
	comp=Z,200nm,1.0s						
ULN	**Ulaanbaatar**	**47.84**	**343**	P	**P**	**15 25 19.2**	**-0.1**
	SNR=6.3						
ULN	**Ulaanbaatar**	**47.84**	**343**	*e*P	**P**	**15 25 18.0**	**-1.3**
	comp=Z,13nm,1.0s						
SONM	**Songino Array**	**48.01**	**342**	P	**P**	**15 25 19.9**	**-0.7**
SONM				PcP	**PcP**	**15 26 47.5**	**+0.5**
SONM				ScP	**ScP**	**15 30 33.2**	**+1.5**
SONM	**Songino Array**	**48.01**	**342**	P	**P**	**15 25 19.9**	**-0.7**
	comp=Z,7.3nm,1.0s,baz=159,slow=5.8,SNR=29						
SONM				PcP	**PcP**	**15 26 47.5**	**+0.5**
	comp=Z,9.4nm,1.0s,baz=151,slow=4.1,SNR=8.7						
SONM				ScP	**ScP**	**15 30 33.2**	**+1.5**
	comp=Z,1.0nm,0.9s,baz=159,slow=4.5,SNR=3.4						
SONM				LR	LR	15 45 48.9	
	comp=Z,204nm,19.4s,baz=154,slow=36						
HYB	**Hyderabad**	**48.65**	**291**	*i* P	**P**	**15 25 25.0**	**-0.9**
ZAK	**Zakamensk**	**51.22**	**342**	*e*P	**P**	**15 25 43.2**	**-1.7**
ZAK				*e*		15 26 59.4	
ZAK				*e*		15 35 24.2	
ZAK				pmax	pmax		
	comp=Z,15nm,1.1s						
TLY	**Talaya**	**52.25**	**343**	*e*P	**P**	**15 25 51.7**	**-0.7**
TLY				pmax	pmax		
	comp=Z,8.0nm,0.8s						
NDI	**New Delhi**	**52.96**	**304**	*e*x	P	15 25 52.0	-6.0
MOY	**Mondy**	**53.06**	**341**	*e*P	**P**	**15 25 58.0**	**-0.5**
MOY				pmax	pmax		
	comp=Z,38nm,2.5s						
WMQ	**Urumqi**	**53.08**	**326**	P	**P**	**15 25 58.0**	**-0.7**
WMQ				pP	**pP**	**15 26 24.0**	**-0.7**
WMQ				sP	**sP**	**15 26 37.0**	**+0.2**
WMQ				PcP	**PcP**	**15 27 05.0**	**-0.8**
WMQ				S	**S**	**15 33 17.3**	**-3.4**
WMQ				ScS	**ScS**	**15 35 33.0**	**-4.8**
WMQ				SS	**SS**	**15 36 57.3**	**-4.3**
WMQ				pmax	pmax		
	comp=Z,29nm,1.2s						
WMQ				pmax	pmax		
	comp=Z,220nm,5.2s						
WMQ				LR	LR		
	comp=N,720nm,20.3s						
WMQ				LR	LR		
	comp=E,520nm,21.2s						
WMQ				LR	LR		
	comp=Z,440nm,23.8s						
POO	**Poona**	**53.26**	**291**	*e*x	x	15 26 11.0	
CLNS	**Chul'man**	**54.00**	**359**	*e*P	**P**	**15 26 05.0**	**-0.1**
CLNS				*e*		15 27 04.4	
CLNS				*e*		15 28 07.5	
CLNS				*e*S	**S**	**15 33 30.4**	**-2.2**
CLNS				pmax	pmax		
	comp=Z,81nm,1.0s						
CLNS				pmax	pmax		
	comp=N,57nm,1.2s						
CLNS				pmax	pmax		
	comp=E,23nm,1.1s						
CLNS				pmax	pmax		
	comp=Z,4.0nm,1.0s						
CLNS				pmax	pmax		
	comp=E,8.0nm,1.0s						
CLNS				pmax	pmax		
	comp=N,15nm,1.1s						
CLNS				smax	smax		
	comp=E,141nm,15.8s						
CLNS				smax	smax		
	comp=N,111nm,13.1s						
HVS	**Khovu-Aksy**	**55.32**	**336**⇓	*e*P	**P**	**15 26 14.4**	**-0.4**
HVS				pmax	pmax		
	comp=Z,69nm,1.0s						
PETK	**Petropavlovsk-**	**56.72**	**22**	P	**P**	**15 26 26.1**	**+1.4**
PETK	**Petropavlovsk-**	**56.72**	**22**	P	**P**	**15 26 26.1**	**+1.4**
PETK	**Petropavlovsk-**	**56.72**	**22**	P	**P**	**15 26 26.1**	**+1.4**
	comp=Z,20nm,0.7s,baz=187,slow=3.9,SNR=23						
PET	**Petropavlovsk**	**57.03**	**23**	*e*P	**P**	**15 26 25.6**	**-1.2**
PET				*e*S	**S**	**15 34 14.3**	**+1.4**
PET				pmax	pmax		
	comp=Z,100nm,9.6s						
MK31	**Makanchi Array**	**57.91**	**326**	*e*P	**P**	**15 26 32.1**	**-1.1**
MK31				pmax	pmax		
	comp=Z,3.0nm,0.3s						
MK31	**Makanchi Array**	**57.91**	**326**	*e*P	**P**	**15 26 32.1**	**-1.1**
MKAR	**Makanchi Array**	**57.91**	**326**	P	**P**	**15 26 32.2**	**-1.1**
MKAR						15 27 24.8	
MKAR	**Makanchi Array**	**57.91**	**326**	P	**P**	**15 26 32.1**	**-1.1**
MKAR				PcP	**PcP**	**15 27 24.8**	**+0.5**
MKAR				ScP	**ScP**	**15 31 16.2**	**+1.6**
MKAR			⇑*e*			15 56 27.2	
MKAR				*e*		16 03 42.6	
MKAR	**Makanchi Array**	**57.91**	**326**	P	**P**	**15 26 32.1**	**-1.1**
	comp=Z,4.3nm,0.3s,baz=119,slow=7.7,SNR=159						
MKAR				PcP	**PcP**	**15 27 24.8**	**+0.5**
	comp=Z,38nm,0.8s,baz=128,slow=5.5,SNR=30						
MKAR				ScP	**ScP**	**15 31 16.2**	**+1.6**
	comp=Z,1.6nm,0.7s,baz=106,slow=3.7,SNR=3.6						
MKAR				LR	LR	15 52 48.6	
	comp=Z,308nm,20.6s,baz=119,slow=37						
MKAR				PKP2bc		15 56 27.2	
	comp=Z,0.2nm,0.4s,baz=267,slow=2.3,SNR=3.8						
MKAR				P4KPbc		16 03 42.6	
	comp=Z,2.2nm,0.9s,baz=116,slow=5.6,SNR=18						
KSH	**Kashi**	**58.16**	**316**	P	**P**	**15 26 35.5**	**+0.3**
KSH				pP	**pP**	**15 27 02.0**	**+0.4**
KSH				PP	**PP**	**15 28 46.3**	**+1.1**
KSH				PcS	**PcS**	**15 31 26.3**	**-1.0**
KSH				S	**S**	**15 34 23.8**	**-4.8**
KSH				ScS	**ScS**	**15 36 10.0**	**-4.8**
KSH				pmax	pmax		
	comp=Z,31nm,1.3s						
KSH				pmax

YAK e 15 36 20.8
YAK eSS SS 15 38 45.6 +7.4
YAK pmax pmax
comp=Z,208nm,1.0s
YAK pmax pmax
comp=N,50nm,0.9s
YAK pmax pmax
comp=E,24nm,1.0s
YAK pmax pmax
comp=E,47nm,2.0s
YAK pmax pmax
comp=Z,97nm,2.3s
YAK pmax pmax
comp=N,136nm,3.3s
YAK smax smax
comp=E,73nm,2.5s
YAK smax smax
comp=N,462nm,3.2s
KZA Kyzart 59.79 318 *i* P **P 15 26 46.8 0.0**
KZA Kyzart 59.79 318 P **P 15 26 46.8 0.0**
SNR=12
TKM2 Tokmak 2 59.95 319 *e*P **P 15 26 46.5 -1.1**
TKM2 pmax pmax
comp=Z,12nm,0.8s
TKM2 Tokmak 2 59.95 319 P **P 15 26 47.4 -0.2**
SNR=13
TKM2 Tokmak 2 59.95 319 *e*P **P 15 26 46.5 -1.1**
comp=Z,12nm,0.8s
KBK Karagaybulak 60.25 319 *i* P **P 15 26 49.7 +0.1**
KBK Karagaybulak 60.25 319 P **P 15 26 49.7 +0.1**
SNR=8.9
CHMS Chumysh 60.53 319 P **PcP 15 27 34.9 0.0**
SNR=7.8
AAK Ala-Archa 60.54 319 P **P 15 26 51.8 +0.2**
comp=Z,60nm,1.2s,SNR=5.4
AAK Ala-Archa 60.54 319*c i*P **P 15 26 51.1 -0.5**
AAK pmax pmax
comp=Z,61nm,1.7s
AAK Ala-Archa 60.54 319 P **P 15 26 51.2 -0.5**
SNR=12
AAK Ala-Archa 60.54 319 P **P 15 26 51.7 +0.1**
SNR=6.7
AAK Ala-Archa 60.54 319 *e*P **P 15 26 50.9 -0.7**
comp=Z,70nm,1.9s
FRU Bishkek 60.55 319 *e*P P 15 26 48.0 -3.5
USP Ospenovka 60.82 319 *i* P **P 15 26 52.3 -1.0**
USP Ospenovka 60.82 319 P **P 15 26 52.3 -1.0**
SNR=14
AML Almayashu 60.85 318 *i* P **P 15 26 53.6 -0.4**
AML Almayashu 60.85 318 P **P 15 26 53.6 -0.4**
SNR=14
EKS2 Erkin-Say 61.03 318 *e*P **P 15 26 54.3 -0.5**
EKS2 *e* 15 27 37.6
EKS2 pmax pmax
comp=Z,41nm,1.5s
EKS2 Erkin-Say 61.03 318 P **P 15 26 54.6 -0.3**
SNR=9.5
EKS2 Erkin-Say 61.03 318 *e*P **P 15 26 54.3 -0.5**
comp=Z,41nm,1.5s
EKS2 *e*PcP **PcP 15 27 37.6 +0.5**
ZAA0 Zalesovo Array 61.12 334 *e*P **P 15 26 51.9 -3.1**
ZALV Zalesovo Beam 61.12 334 P **P 15 26 53.5 -1.6**
ZALV 15 27 36.0
ZALV Zalesovo Beam 61.12 334 P **P 15 26 53.5 -1.6**
ZALV PcP **PcP 15 27 36.0 -0.9**
ZALV ⇑*e* 15 56 20.5
ZALV Zalesovo Beam 61.12 334 P **P 15 26 53.5 -1.6**
comp=Z,2.6nm,0.4s,baz=128,slow=6.0,SNR=3.1
ZALV PcP **PcP 15 27 36.0 -0.9**
comp=Z,3.6nm,0.5s,baz=116,slow=3.4,SNR=5.2
ZALV LR LR 15 54 08.7
comp=Z,142nm,20.2s,baz=249,slow=37
ZALV PKP2bc 15 56 20.5
comp=Z,0.7nm,0.5s,baz=292,slow=4.7,SNR=4.4
KBL Kabul 61.46 308 *e*P **P 15 26 56.8 -1.2**
KBL pmax pmax
comp=Z,22nm,1.0s
KBL Kabul 61.46 308 *e*P **P 15 26 56.8 -1.2**
comp=Z,22nm,1.0s
KBL Kabul 61.46 308 P **P 15 26 57.0 -1.0**
baz=62,SNR=4.6
KURK Kurchatov 62.15 328 P **P 15 27 00.7 -1.3**
comp=Z,179nm,0.4s,SNR=24
KURK Kurchatov 62.15 328*c i*P **P 15 27 00.6 -1.4**
KURK pmax pmax
comp=Z,17nm,0.7s
KURK Kurchatov 62.15 328 P **P 15 27 01.0 -1.0**
SNR=13
KURK Kurchatov 62.15 328 *e*P **P 15 27 00.4 -1.7**
comp=Z,18nm,0.7s
NVS Novosibirsk 62.41 334 *e*P P 15 27 00.2 -3.4
NVS *e* 15 27 41.2
NVS pmax pmax
comp=Z,41nm,2.3s
NVS pmax pmax
comp=N,10.0nm,1.7s
SEY Seymchan 63.24 13 ⇓*i*P **P 15 27 11.2 +2.2**
KK31 Karatay Array 63.40 318 *i* P **P 15 27 08.9 -1.6**
KK31 pmax pmax
comp=Z,20nm,0.9s
KKAR Karatay Array 63.40 318 *e*P **P 15 27 09.1 -1.4**
KKAR pmax pmax
comp=Z,14nm,0.9s
KKAR Karatay Array 63.40 318 *e*P **P 15 27 09.1 -1.4**
comp=Z,14nm,0.9s
BVA0 Borovoye Array 67.71 327 *i* P **P 15 27 36.8 -1.3**
BVA0 pmax pmax
comp=Z,25nm,1.1s
BRVK Borovoye 67.79 327*c i*P **P 15 27 37.2 -1.3**
BRVK pmax pmax
comp=Z,47nm,2.5s
BRVK Borovoye 67.79 327 P **P 15 27 37.7 -0.8**
SNR=7.3
BRVK Borovoye 67.79 327 *e*P **P 15 27 37.5 -1.0**
comp=Z,15nm,0.8s
BRVK Borovoye 67.79 327 P **P 15 27 37.3 -1.3**
comp=Z,100nm,0.6s,SNR=8.1
IDAH Dahanechah 68.42 304 *e*P **P 15 27 42.9 -0.3**
TIXI Tiksi 68.89 1*c i*P **P 15 27 44.1 -0.9**
TIXI pmax pmax
comp=Z,51nm,1.0s
IMYA Miami 68.97 308 *e*P Px 15 28 37.8
DRV Dumont d'Urvil 69.93 174 P **P 15 27 50.0 -1.5**
DRV S **S 15 36 47.0 -5.6**
DRV L L 15 44 00.0
DRV R 15 50 00.0
IAKL Akhelmad 70.09 308 *e*P Px 15 28 46.7
IKRD Kardeh 70.31 308 *e*P P 15 27 49.1 -5.7
IKRD Kardeh 70.31 308 *e*P Px 15 28 39.4
IEMG Emamgholi 70.34 309 *e*P **P 15 27 54.6 -0.4**
IEMG Emamgholi 70.34 309 *e*P Px 15 28 37.4
AB31 Akbulak array 72.40 321 *i* P **P 15 28 05.2 -1.6**
AB31 pmax pmax
comp=Z,10.0nm,0.8s
ABKAR Akbulak array 72.40 321 *e*P **P 15 28 05.7 -1.1**
comp=Z,9.5nm,0.8s
IMND Minoodasht 72.85 308 *e*P Px 15 28 26.6
ISRV Sarvestan 73.65 300 *e*P **P 15 28 13.5 -1.5**
SVE Sverdlovsk 74.39 329 *e*P **P 15 28 16.9 -1.4**
SVE pmax pmax
comp=Z,23nm,0.9s
IKAZ Kazeroun 74.79 300 *e*P **P 15 28 19.5 -2.1**
ISFB Sefidab 74.96 305 *e*P Px 15 29 11.3
ARU Arti 75.34 328*c i*P **P 15 28 22.1 -1.7**
ARU S **S 15 37 55.3 +0.7**
ARU pmax pmax
comp=Z,17nm,1.0s
ARU Arti 75.34 328 P **P 15 28 22.7 -1.1**
comp=Z,84nm,1.1s,SNR=6.6
KIP Kipapa 76.12 69 *i* P **P 15 28 30.7 +1.8**
SOKR Solikamsk 77.19 331 ⇑*i*P P 15 28 39.6 +5.5
SOKR pmax pmax
comp=Z,30nm,1.3s
RDF Al-Radifah 78.46 299 *e*P **P 15 28 39.4 -2.5**
RDF AMb AMB 15 28 42.4
comp=Z,42nm,1.2s
NAY Al-Naaiem 78.75 299 *e*P **P 15 28 40.9 -2.6**
NAY AMb AMB 15 28 43.5
comp=Z,26nm,0.8s
RST Umm Al-Ruwaisa 78.97 299 *e*P **P 15 28 42.2 -2.5**
RST AMb AMB 15 28 44.6
comp=Z,424nm,0.9s
RAYN Ar Rayn 80.08 293 P **P 15 28 49.2 -1.7**
comp=Z,79nm,0.9s,SNR=9.8
ABPO Ambohimpanom 80.13 250 *e*P **P 15 28 50.8 -0.5**

ABPO pmax pmax
comp=Z,16nm,0.9s
ABPO Ambohimpanom 80.13 250 *e*P **P 15 28 50.8 -0.5**
comp=Z,16nm,0.9s
ZEI Tsey 82.27 313 *e*P **P 15 29 01.1 -1.1**
ZEI pmax pmax
comp=Z,20nm,1.0s
MAW Mawson 82.48 200 P **P 15 29 03.1 +0.6**
MAW Mawson 82.48 200 P **P 15 29 03.1 +0.6**
comp=Z,27nm,1.0s,baz=59,slow=7.1,SNR=34
MAW LR LR 16 00 37.2
comp=Z,127nm,19.3s,baz=241,slow=32
MAW Mawson 82.48 200 P **P 15 29 03.3 +0.8**
baz=82,SNR=24
VNDA Vanda 82.51 173 *e*P **P 15 29 03.0 +0.5**
comp=Z,34nm,0.9s
VNDA Vanda 82.51 173 P **P 15 29 03.3 +0.8**
comp=Z,33nm,0.9s,baz=313,slow=6.0,SNR=107
KBZ Khabaz 83.05 314 P **P 15 29 05.4 -0.6**
KBZ Khabaz 83.05 314 P **P 15 29 05.4 -0.6**
KBZ Khabaz 83.05 314 P **P 15 29 05.4 -0.6**
comp=Z,7.8nm,1.0s,baz=192,slow=4.7,SNR=5.8
KIV Kislovodsk 83.22 314 *e*P **P 15 29 05.0 -2.0**
KIV *e*S **S 15 39 20.0 +1.4**
KIV pmax pmax
comp=Z,16nm,1.0s
KDAK Kodiak Island 83.24 32 *e*P **P 15 29 07.7 +1.1**
comp=Z,23nm,1.3s
SBA Scott Base 83.43 172 *e*P **P 15 29 08.8 +1.6**
SBA pmax pmax
comp=Z,45nm,1.3s
SBA Scott Base 83.43 172 *e*P **P 15 29 08.8 +1.6**
comp=Z,45nm,1.3s
IM04 Indian Mountai 83.64 24 *e*P **P 15 29 09.9 +1.3**
IMA2 Indian Mountai 83.69 24 *e*P **P 15 29 10.3 +1.4**
VRHR Novokhopersk 84.29 321 *e*P **P 15 29 10.8 -1.3**
VRHR pmax pmax
comp=Z,30nm,0.8s
VRHR pmax pmax
comp=N,7.0nm,0.6s
VRHR pmax pmax
comp=E,30nm,1.3s
BPAW Bear Paw Mtn. 84.61 26 *e*P **P 15 29 15.0 +1.4**
comp=E,17nm,1.0s
SEW Seward 85.04 30 *e*P **P 15 29 16.9 +1.2**
comp=E,75nm,1.2s
COLD Coldfoot 85.19 23 *e*P **P 15 29 17.6 +1.3**
comp=E,45nm,1.1s
MCK McKinley 85.48 26 *e*P **P 15 29 18.5 +0.6**
MCK pmax pmax
comp=Z,14nm,0.9s
MCK McKinley 85.48 26 *e*P **P 15 29 18.5 +0.6**
comp=Z,14nm,0.9s
PPT Papeete 85.64 108 LR LR 16 02 51.8
comp=Z,46nm,18.6s,baz=4.4,slow=32
PPT2 Papeete2 85.64 108 *e*S **S 15 39 45.0 +1.5**
comp=Z,286nm,25.8s
PPT2 Papeete2 85.64 108 *e*LR LR 15 56 38.4
comp=Z,402nm,31.8s
VSR Storozhevoye 85.84 321 *e*P **P 15 29 18.6 -1.3**
VSR pmax pmax
comp=Z,30nm,1.1s
VSR pmax pmax
comp=N,10.0nm,1.4s
VSR pmax pmax
comp=E,20nm,1.3s
KLMR Klimovskoe 85.88 331 *e*P **P 15 29 16.7 -3.1**
KLMR pmax pmax
comp=Z,167nm,1.2s
TBI Tubuai 86.18 113 *e*S **S 15 39 49.3 +0.8**
comp=Z,154nm,28.2s
TBI Tubuai 86.18 113 *e*LR LR 15 56 54.5
comp=Z,364nm,39.5s
ILAR Eielson Array 86.42 25 P **P 15 29 22.5 0.0**
ILAR PP **PP 15 32 41.8 -3.3**
ILAR PKKPbc **PKKPbc 15 47 20.1 -1.7**
ILAR Eielson Array 86.42 25 P **P 15 29 22.5 0.0**
comp=Z,2.0nm,0.8s,baz=240,slow=4.7,SNR=21
ILAR PP **PP 15 32 41.8 -3.3**
comp=Z,2.7nm,1.3s,baz=242,slow=4.4,SNR=4.5
ILAR PKKPbc **PKKPbc 15 47 20.1 -1.7**
comp=Z,0.7nm,1.0s,baz=37,slow=3.2,SNR=5.1
ILAR LR LR 16 06 52.2
comp=Z,91nm,18.9s,baz=290,slow=35
TMCR Tamitsa 86.64 334 *e*P **P 15 29 23.2 -0.3**
TMCR pmax pmax
comp=Z,113nm,1.1s
MOS Moscow 86.79 326 *e*P **P 15 29 22.6 -1.9**
MOS *e* 15 29 40.1
MOS pmax pmax
comp=Z,216nm,1.5s
MOS pmax pmax
comp=Z,500nm,1.9s
DIV Divide 86.88 29 *e*P **P 15 29 26.1 +1.2**
comp=Z,7.5nm,0.9s
ANN Anapa 87.00 315 *e*P **P 15 29 24.2 -1.5**
ANN pmax pmax
comp=Z,103nm,1.5s
PAX Paxson 87.03 27 *e*P **P 15 29 25.9 +0.3**
PAX pmax pmax
comp=Z,5.0nm,0.8s
PAX Paxson 87.03 27 *e*P **P 15 29 25.9 +0.3**
comp=Z,4.5nm,0.8s
OBN Obninsk 87.40 325*d i*P **P 15 29 26.9 -0.5**
OBN *e*S **SKSac 15 39 46.0 +1.0**
OBN pmax pmax
comp=Z,199nm,1.7s
OBN Obninsk 87.40 325 P **P 15 29 26.1 -1.3**
comp=Z,515nm,0.8s,SNR=5.4
MENT Mentasta 87.83 27 *e*P **P 15 29 31.1 +1.7**
APA Apatity 88.47 337⇓ *e*P **P 15 29 31.6 -0.6**
APA MLR MLR
comp=Z,1μm,26.0s
KMBO Kilima Mbogo 88.65 269 *e*P **P 15 29 34.2 -0.3**
comp=Z,19nm,1.3s
KMBO Kilima Mbogo 88.65 269 P **P 15 29 34.3 -0.3**
comp=Z,8.2nm,1.0s,baz=51,slow=7.9,SNR=13
EGAK Eagle 88.87 25 *e*P **P 15 29 34.5 +0.3**
comp=Z,10.0nm,1.2s
SIM Simferopol' 89.35 315 *e*P **P 15 29 36.0 -0.9**
SIM pmax pmax
comp=Z,16nm,1.0s
JOF Joensuu 89.70 333 *e*P **P 15 29 37.9 -0.2**
JOF Joensuu 89.70 333 *e*p **P 15 29 37.9 -0.2**
BR131 Keskin Array S 90.00 310 *e*P **P 15 29 38.8 -1.4**
comp=Z,3.0nm,0.9s
BRTR Keskin Array B 90.00 310 P **P 15 29 38.8 -1.4**
BRTR PP **PP 15 33 16.1 +1.5**
BRTR Keskin Array B 90.00 310 P **P 15 29 38.8 -1.4**
comp=Z,4.6nm,1.0s,baz=132,slow=3.7,SNR=9.5
BRTR PP **PP 15 33 16.1 +1.5**
comp=Z,2.5nm,1.0s,baz=106,slow=9.1,SNR=5.0
BRTR LR LR 16 19 17.4
comp=Z,62nm,20.3s,baz=81,slow=42
PUL Pulkovo 90.49 330 *i* P **P 15 29 41.1 -0.7**
PUL pmax pmax
comp=Z,140nm,1.1s
HYT Haines Junctio 90.92 29 *e*P **P 15 29 45.6 +1.6**
ARCES ARCESS Array B 91.12 340 P **P 15 29 43.9 -0.7**
ARCES ARCESS Array B 91.12 340 P **P 15 29 43.9 -0.7**
comp=Z,23nm,1.0s,baz=87,slow=5.0,SNR=16
SYO Syowa Base 91.14 201⇑ *i*P **P 15 29 44.2 -0.4**
SYO Syowa Base 91.14 201⇓ *e*pP pP 15 30 13.6 +0.6
KAF Kangasniemi 92.11 332 *e*P **P 15 29 48.2 -1.1**
KAF pmax pmax
comp=Z,24nm,0.8s
KAF Kangasniemi 92.11 332 *e*p **P 15 29 48.2 -1.1**
comp=Z,24nm,0.8s
AKASG Malin Array Be 92.14 321 P **P 15 29 48.0 -1.6**
AKASG Malin Array Be 92.14 321 P **P 15 29 48.0 -1.6**
AKASG Malin Array Be 92.14 321 P **P 15 29 48.0 -1.6**
comp=Z,18nm,1.0s,baz=72,slow=4.1,SNR=53
KIEV Kiev 92.15 321 *e*P **P 15 29 48.0 -1.7**
KIEV pmax pmax
comp=Z,32nm,1.3s
KIEV Kiev 92.15 321 *e*P **P 15 29 48.0 -1.7**
comp=Z,32nm,1.3s
FINES FINESS Array B 92.33 332 P **P 15 29 49.6 -0.7**
FINES FINESS Array B 92.33 332 P **P 15 29 49.6 -0.7**
comp=Z,26nm,0.8s,baz=98,slow=5.8,SNR=28
FINES LR LR 16 17 17.6
comp=Z,201nm,18.4s,baz=90,slow=39
VSU Vasula 92.50 329 *i* P **P 15 29 49.9 -1.2**
VSU pmax pmax
comp=Z,160nm,1.6s
IDID Didziasalis 92.99 326 *e*P **P 15 29 50.9 -2.6**

IDID AMB AMB 15 29 54.6
comp=Z,21nm,1.0s
NACGM Naroch 93.03 325 *e* P 15 29 50.0 -3.7
IIGN Ignalina 93.28 326 *e*P **P 15 29 52.0 -2.8**
IIGN AMB AMB 15 29 54.3
comp=Z,16nm,1.2s
ISAL Salakas 93.30 326 *e*P **P 15 29 51.8 -3.1**
ISAL AMB AMB 15 29 55.8
comp=Z,12nm,1.0s
TIRR Tirgusor 93.44 315 ⇓*i*P **P 15 29 54.6 -1.2**
CFR Carcaliu 93.55 315 ⇓*i*P **P 15 29 56.4 +0.1**
TLB Topalu 93.69 315 ⇓*i*P **P 15 29 57.0 +0.1**
TESR Tescani 94.39 317 ⇓*i*P **P 15 29 59.5 -0.7**
VRI Vrincioaia 94.43 316 ⇓*i*P **P 15 30 00.2 -0.2**
MLR Muntele Rosu 95.03 316 ⇓*i*P **P 15 30 02.4 -0.9**
BURAR Bucovina Array 95.19 318 ⇓*i*P **P 15 30 03.9 0.0**
BUR08 Bucovina Ar. S 95.19 318 *e*P **P 15 30 03.0 -0.9**
SUW Suwalki 95.26 325 *e*P **P 15 30 03.2 -0.7**
SUW Suwalki 95.26 325 *e*P **P 15 30 03.2 -0.7**
comp=Z,298nm,1.0s
SUW Suwalki 95.26 325 *e*P **P 15 30 03.0 -0.9**
LVV L'vov 95.57 320 *e*P **P 15 30 03.9 -1.6**
ARR Arges 95.96 316⇑ *i*P **P 15 30 06.9 -0.6**
BMR Baia Mare 96.32 318 ⇓*i*P **P 15 30 09.0 +0.1**
KWP Kalwaria Pacla 96.45 320 *e*P **P 15 30 09.1 -0.4**
KOLS Kolonicke sedl 96.87 320 *e*P **P 15 30 11.3 -0.1**
KOLS Kolonicke sedl 96.87 320 *e*P **P 15 30 11.3 -0.1**
UZH Uzhgorod 96.92 319*de*P **P 15 30 10.7 -0.9**
UZH *i* 15 30 24.9
DRGR 97.02 318 ⇓*i*P **P 15 30 11.6 -0.6**
BEL Belsk 97.15 323 *e*P **P 15 30 12.5 -0.1**
STHS Stebnicka Huta 97.42 320 *e*P **P 15 30 13.6 -0.3**
STHS Stebnicka Huta 97.42 320 *e*P **P 15 30 13.6 -0.3**
SIRR Siria 97.83 317 ⇓*i*P **P 15 30 15.3 -0.5**
BZS Buzias 98.00 317 ⇓*i*P **P 15 30 15.4 -1.1**
NIE Niedzica 98.02 321 *e*P Pdif 15 30 17.0 +0.4
NIE Niedzica 98.02 321 *e*P Pdif 15 30 17.0 +0.4
KECS Kecovo 98.12 320 *e*P **P 15 30 17.0 0.0**
KECS Kecovo 98.12 320 *e*P **P 15 30 17.0 0.0**
PSZ Piszkesteto 98.64 319 *e*P **P 15 30 18.1 -1.4**
PSZ pmax pmax
comp=Z,26nm,1.3s
PSZ Piszkesteto 98.64 319 *e*P **P 15 30 18.1 -1.4**
comp=Z,26nm,1.3s
PSZ Piszkesteto 98.64 319 ⇓*i*P **P 15 30 18.9 -0.6**
OKC Ostrava-Krasne 99.27 321 *e*P **Pdif 15 30 21.7 -0.4**
OKC Ostrava-Krasne 99.27 321 *e*PDIFF **Pdif 15 30 21.7 -0.4**
NB2 NORSAR Subarra 99.32 333 P **Pdif 15 30 20.4 -1.8**
comp=Z,18nm,1.0s,baz=69,slow=4.8
NB2 NORSAR Subarra 99.32 333 P **Pdif 15 30 20.4 -1.8**
baz=69,slow=4.8
NOA NORSAR Array B 99.32 333 P **Pdif 15 30 20.8 -1.4**
NOA NORSAR Array B 99.32 333 P **Pdif 15 30 20.8 -1.4**
comp=Z,11nm,0.9s,baz=68,slow=4.7,SNR=13
NOA LR LR 16 17 40.8
comp=Z,195nm,19.4s,baz=65,slow=37
MORC Moravsky Berou 99.67 321 *e*P **Pdif 15 30 23.1 -0.9**
MORC pmax pmax
comp=Z,21nm,1.4s
MORC Moravsky Berou 99.67 321 *e*Pdif **Pdif 15 30 23.1 -0.9**
comp=Z,21nm,1.4s
KRLC Kraliky 100.06 322 *e*P **Pdif 15 30 25.4 -0.3**
KRLC Kraliky 100.06 322 *e*PDIFF **Pdif 15 30 25.4 -0.3**
KSP Ksiaz 100.13 323 *e*P **Pdif 15 30 25.7 -0.3**
KSP Ksiaz 100.13 323 *e*P **Pdif 15 30 26.2 +0.2**
DPC Dobruska-Polom 100.26 322 *e*P **Pdif 15 30 26.6 0.0**
DPC Dobruska-Polom 100.26 322 *e*PDIFF **Pdif 15 30 26.6 0.0**
DPC *ex* x 15 30 32.2
UPC Upice 100.40 322 *e*P **Pdif 15 30 27.5 +0.3**
UPC Upice 100.40 322 *e*PDIFF **Pdif 15 30 27.5 +0.3**
YKA Yellowknife Ar 100.81 24 P **Pdif 15 30 29.2 +0.6**
YKA Yellowknife Ar 100.81 24 P **Pdif 15 30 29.2 +0.6**
comp=Z,1.3nm,0.7s,baz=302,slow=4.1,SNR=4.4
TREC Trest 101.09 321 *e*P **Pdif 15 30 30.4 +0.1**
TREC Trest 101.09 321 *e*PDIFF **Pdif 15 30 30.4 +0.1**
RUE Ruedersdorf 101.11 325 *e*Pdif **Pdif 15 30 30.6 +0.3**
comp=Z,74nm,1.0s
PVCC Panska Ves 101.28 323 *e*P **Pdif 15 30 31.6 +0.6**
PVCC Panska Ves 101.28 323 *e*PDIFF **Pdif 15 30 31.6 +0.6**
PRU Pruhonice 101.46 322 *e*P **Pdif 15 30 32.0 +0.1**
PRU Pruhonice 101.46 322 *e*PDIFF **Pdif 15 30 32.0 +0.1**
BRG Berggiesshubel 101.54 323 *i* PDIF **Pdif 15 30 32.4 +0.2**
comp=Z,32nm,1.1s
BRG *es*P 15 31 06.1
BRG Berggiesshubel 101.54 323 *e*Pdiff **Pdif 15 30 32.1 -0.1**
BRG Berggiesshubel 101.54 323 *i* P **Pdif 15 30 32.4 +0.2**
BRG pmax pmax
comp=Z,4.0nm,1.1s
BRG pmax pmax
comp=N,32nm,1.1s
CLL Collm 101.96 324 *e*Pdiff **Pdif 15 30 33.7 -0.3**
CLL Collm 101.96 324 *i* P **Pdif 15 30 33.5 -0.5**
CLL pmax pmax
comp=Z,16nm,1.1s
CLL Collm 101.96 324 *i* Pdif **Pdif 15 30 33.5 -0.5**
comp=Z,16nm,1.1s
CLL *e* 15 30 45.0
CLL *e*PPS PPS 15 44 42.0
CLL *e*PPPrev 15 54 42.0
CLL Lm MLR 16 19 00.0
comp=N,100nm,19.1s
CLL Lm MLR 16 19 00.0
comp=E,100nm,21.3s
CLL Lm MLR 16 19 00.0
comp=Z,100nm,19.3s
GOLS Golise 101.96 318 *e*Pdiff **Pdif 15 30 33.9 -0.4**
KHC Kasperske Hory 102.33 322 *i* P **Pdif 15 30 35.8 0.0**
KHC Kasperske Hory 102.33 322 *i* PDIFF **Pdif 15 30 35.8 0.0**
KHC *ex* x 15 30 42.2
GEC2 GERESS Array S 102.34 321 *e*Pdiff **Pdif 15 30 35.7 -0.3**
GEC2 GERESS Array S 102.34 321 *e*P **Pdif 15 30 35.7 -0.3**
GERES GERESS Array B 102.34 321 P **Pdif 15 30 35.9 -0.1**
GERES PKKPbc **PKKPbc 15 46 38.1 -1.1**
GERES GERESS Array B 102.34 321 P **Pdif 15 30 35.9 -0.1**
comp=Z,5.8nm,1.1s,baz=70,slow=4.4,SNR=28
GERES PKKPbc **PKKPbc 15 46 38.1 -1.1**
comp=Z,0.7nm,0.9s,baz=192,slow=2.6,SNR=4.1
BOJS Bojanci 102.36 318 *e*Pdiff **Pdif 15 30 35.5 -0.5**
BSEG Bad Segeberg 102.53 327 *e*Pdiff **Pdif 15 30 36.7 +0.2**
BSEG Bad Segeberg 102.53 327 *e*P **Pdif 15 30 36.7 +0.2**
TANN Tannenbergstha 102.58 323 *e*Pdiff **Pdif 15 30 36.9 0.0**
WET Wettzell 102.76 322 *e*Pdiff **Pdif 15 30 37.9 +0.2**
WET Wettzell 102.76 322 *e*P **Pdif 15 30 37.9 +0.2**
CEY Cerknica 102.84 318 *e*Pdiff **Pdif 15 30 37.4 -0.8**
ROTZ Rotzenmuhle 102.96 322 *e*Pdiff **Pdif 15 30 39.0 +0.4**
MOX Moxa 103.01 323 *e*Pdiff **Pdif 15 30 38.7 -0.1**
MOX Moxa 103.01 323 *e*P **Pdif 15 30 38.7 -0.1**
NRDL Niedersach Rie 103.20 326 *e*Pdiff **Pdif 15 30 40.1 +0.6**
CLZ Clausthal 103.30 325 *e*Pdiff **Pdif 15 30 40.5 +0.4**
CLZ Clausthal 103.30 325 *e*P **Pdif 15 30 40.5 +0.4**
UBBA Unterbreizbach 103.90 324 *e*Pdiff **Pdif 15 30 42.8 +0.2**
SNAA Sanae 103.99 195 *e*P **Pdif 15 30 44.2 +1.5**
SNAA Sanae 103.99 195 *e*P **PKKPbc 15 46 33.0 -2.1**
IBBN Ibbenburen 104.60 326 *e*Pdiff **Pdif 15 30 46.1 +0.4**
BUG Bochum--Univer 105.23 325 *e*Pdiff **Pdif 15 30 48.8 +0.2**
VNA2 Neumayer--Watz 105.60 194 *e*P **Pdif 15 30 41.9 -7.9**
VNA2 Neumayer--Watz 105.60 194 *e*P **PKKPbc 15 46 28.1 -2.0**
baz=320,slow=4.2
VNA3 Neumayer Olymp 105.94 194 *e*P Pdif 15 31 02.4 +11
WLF Walferdange 106.63 324 *e*Pdiff **Pdif 15 30 55.4 +0.5**
MSO Missoula 108.14 39 P **PKiKP 15 35 08.9 +0.9**
baz=108
HLID Hailey 109.16 42 P **PKiKP 15 35 12.2 +2.1**
baz=109
EGMT Eagleton 110.14 36 P **PKiKP 15 35 12.5 +0.8**
baz=110
R11A Troy Canyon, C 110.29 47 P **PKiKP 15 35 14.0 +1.6**
baz=110
PFO Pinyon Flat Ob 111.22 52 P **PKiKP 15 35 15.3 +1.1**
baz=111
BELC Belle Mtn. Jos 111.45 52 P **PKiKP 15 35 16.6 +1.9**
baz=112
GMRC Granite Mounta 111.46 51 P **PKiKP 15 35 16.3 +1.6**
baz=112
MONP Monument Peak 111.47 53 P **PKiKP 15 35 16.6 +1.8**
baz=112
DUG Dugway 111.60 45 P **PKiKP 15 35 16.7 +1.9**
baz=112
REDW Red Top Meadow 111.60 41 *e*PKiKP **PKiKP 15 35 16.1 +1.3**
G20A Bridger 112.42 38 P **PKiKP 15 35 17.2 +1.0**
baz=112
I19A Meeteetse 112.50 40 P **PKiKP 15 35 17.4 +0.9**

baz=112
M17A Scullys Gap (B 112.55 43 P **PKiKP** 15 35 17.7 +1.1
baz=112
MVU Marysvale 112.69 46 *e*PKiKP **PKiKP** 15 35 19.5 +2.5
PDAR Pinedale Array 112.72 41 PKiKP **PKiKP** 15 35 18.4 +1.4
PDAR PKKPbc **PKKPab** 15 46 13.5 -1.1
PDAR Pinedale Array 112.72 41 PKiKP **PKiKP** 15 35 18.4 +1.4
comp=Z,1.2nm,0.8s,baz=233,slow=1.5,SNR=7.6
PDAR PKKPbc **PKKPab** 15 46 13.5 -1.1
comp=Z,4.0nm,0.8s,baz=121,slow=6.8,SNR=19
W13A Hualapai Mount 112.72 50 P **PKiKP** 15 35 19.0 +1.9
baz=113
L18A Fontenelle, Gr 112.78 42 P **PKiKP** 15 35 18.8 +1.7
baz=113
J19A Crowheart 112.82 40 P **PKiKP** 15 35 18.1 +1.1
baz=113
I20A Worland 113.09 39 P **PKiKP** 15 35 18.8 +1.3
baz=113
K19A Absolon Red Bu 113.16 41 P **PKiKP** 15 35 18.2 +0.4
baz=113
E22A Miles City 113.18 36 P **PKiKP** 15 35 19.0 +1.5
baz=113
Q16A Castle Valley 113.27 45 P **PKiKP** 15 35 19.4 +1.3
baz=113
U15A North Rim 113.44 48 P **PKiKP** 15 35 20.6 +2.0
baz=113
I21A Big Trails, Te 113.69 39 P **PKiKP** 15 35 19.2 +0.5
baz=114
L20A Wamsutter 113.87 41 P **PKiKP** 15 35 20.1 +1.0
baz=114
M20A Sweetwater, Wa 114.21 42 P PKPdf 15 35 20.4 +0.6
baz=114
K21A Alcova 114.28 40 P PKPdf 15 35 20.8 +0.9
baz=114
J22A Midwest 114.40 39 P PKPdf 15 35 20.8 +0.8
baz=114
N20A Spence Gulch, 114.46 42 P PKPdf 15 35 22.0 +1.6
baz=114
P19A Cripple Cowboy 114.51 44 P PKPdf 15 35 22.1 +1.7
baz=114
L21A Rawlins 114.53 41 P PKPdf 15 35 21.4 +1.0
baz=114
M21A Separation Pea 114.70 41 P PKPdf 15 35 21.8 +1.0
baz=115
K22A Casper 114.74 40 P PKPdf 15 35 21.6 +0.8
baz=115
O20A White River Ci 114.79 43 *e*PKiKP PKPdf 15 35 21.8 +0.9
O20A White River Ci 114.79 43 P PKPdf 15 35 22.5 +1.6
baz=115
X16A Lo Mia Camp, P 114.84 50 P PKPdf 15 35 22.6 +1.4
baz=115
H24A Dirks Ranch, A 114.90 37 P PKPdf 15 35 21.5 +0.6
baz=115
N21A Black Mountain 114.99 42 P PKPdf 15 35 22.9 +1.5
baz=115
Q20A Ridgley Place, 115.28 44 P **PKPdf** 15 35 23.7 +1.8
baz=115
G27A Dupree 115.53 36 P **PKPdf** 15 35 24.2 +2.2
baz=116
RSSD Black Hills 115.55 38 *e*PKIKP **PKPdf** 15 35 22.9 +0.6
RSSD Black Hills 115.55 38 *e*PKPdf **PKPdf** 15 35 22.9 +0.6
R20A Redvale 115.56 45 P **PKPdf** 15 35 23.9 +1.4
baz=116
N22A Wattenberg Ran 115.69 42 P **PKPdf** 15 35 24.2 +1.4
baz=116
S20A Disappointment 115.73 45 P **PKPdf** 15 35 24.5 +1.6
baz=116
I25A Rochford 115.79 38 P **PKPdf** 15 35 23.2 +0.4
baz=116
MVCO Mesa Verde 115.90 46 *e*PKPdf **PKPdf** 15 35 25.2 +2.0
MVCO Mesa Verde 115.90 46 P **PKPdf** 15 35 24.7 +1.5
baz=116
MDND Maddock 115.95 32 P **PKPdf** 15 35 23.7 +1.0
baz=116
P22A Eagle 116.05 43 P **PKPdf** 15 35 25.0 +1.6
baz=116
R21A Cimarron 116.07 45 P **PKPdf** 15 35 25.3 +1.8
baz=116
J25A Sunshine Ranch 116.08 38 P **PKPdf** 15 35 24.2 +1.0
baz=116
S21A Coal Bank Pass 116.21 45 P **PKPdf** 15 35 25.9 +2.0
baz=116
Q22A Crested Butte, 116.29 44 P **PKPdf** 15 35 26.1 +2.1
baz=116
O23A Lake Granby, G 116.33 42 P **PKPdf** 15 35 25.1 +1.1
baz=116
V20A Brimhall 116.53 48 P **PKPdf** 15 35 25.8 +1.4
baz=116
J26A Sides Ranch, S 116.57 38 P **PKPdf** 15 35 24.7 +0.6
baz=116
R22A Saguache, Gunn 116.69 44 P **PKPdf** 15 35 27.0 +2.2
baz=117
T21A Navajo Lake 116.69 46 P **PKPdf** 15 35 27.0 +2.3
baz=117
ISCO Idaho Springs 116.73 42 P **PKPdf** 15 35 26.1 +1.3
baz=117
P23A Jefferson 116.78 43 P **PKPdf** 15 35 26.9 +1.9
baz=117
W20A Ramah 116.78 48 P **PKPdf** 15 35 26.8 +1.8
baz=117
K26A Motz Farm, Whi 116.83 39 P **PKPdf** 15 35 25.2 +0.5
baz=117
U21A Nageezi 116.85 47 P **PKPdf** 15 35 27.0 +2.0
baz=117
S22A 4UR Ranch, Cre 116.86 45 P **PKPdf** 15 35 26.7 +1.6
baz=117
D30A Buchanan 116.86 33 P **PKPdf** 15 35 25.7 +1.3
baz=117
Q23A Hartsel 117.01 43 P **PKPdf** 15 35 26.9 +1.5
baz=117
T22A Edith 117.14 46 P **PKPdf** 15 35 28.0 +2.4
baz=117
J27A Elkhorn Farm, 117.26 38 P **PKPdf** 15 35 27.2 +1.7
baz=117
I28A Midland 117.34 36 P **PKPdf** 15 35 26.6 +1.0
baz=117
R23A Moffat 117.35 44 P **PKPdf** 15 35 27.8 +1.7
baz=117
Y20A Horse Springs, 117.38 49 P **PKPdf** 15 35 28.2 +2.0
baz=117
U22A Llaves 117.45 46 P **PKPdf** 15 35 28.3 +2.1
baz=117
Z20A Nine Sixteen R 117.53 50 P **PKPdf** 15 35 28.5 +2.1
baz=118
X21A Alamocita Cree 117.60 49 P **PKPdf** 15 35 28.7 +2.1
baz=118
V22A San Miguel Ran 117.62 47 P **PKPdf** 15 35 28.9 +2.3
baz=118
J28A Allard Ranch, 117.63 37 P **PKPdf** 15 35 27.2 +1.1
baz=118
319A Douglas 117.67 52 P **PKPdf** 15 35 28.5 +1.9
baz=118
120A U Bar Ranch, L 117.73 51 P **PKPdf** 15 35 28.8 +2.0
baz=118
T23A Casias Ranch, 117.74 45 P **PKPdf** 15 35 28.4 +1.6
baz=118
P25A Willow Gulch B 117.84 42 P **PKPdf** 15 35 28.4 +1.6
baz=118
G30A Faulkton 117.85 34 P **PKPdf** 15 35 27.7 +1.3
baz=118
Y21A Point of Rocks 117.87 49 P **PKPdf** 15 35 29.2 +2.1
baz=118
U23A El Rito 117.95 46 P **PKPdf** 15 35 29.3 +2.1
baz=118
S24A Houchin Ranch, 118.04 44 P **PKPdf** 15 35 29.4 +2.0
baz=118
220A Playas Peak, P 118.06 52 P **PKPdf** 15 35 29.3 +1.9
baz=118
Q25A Bedland, Calha 118.09 43 P **PKPdf** 15 35 28.9 +1.5
baz=118
X22A Bernardo 118.16 48 P **PKPdf** 15 35 30.1 +2.6
baz=118
Z21A St. Cloud Mine 118.16 50 P **PKPdf** 15 35 30.0 +2.3
baz=118
T24B San Luis 118.19 45 P **PKPdf** 15 35 29.9 +2.1
baz=118
V23A Ortiz Mt. (NFS 118.22 47 P **PKPdf** 15 35 30.5 +2.8
baz=118
P26A Davis Ranch, A 118.37 42 P **PKPdf** 15 35 29.5 +1.7
baz=118
ANMO Albuquerque 118.38 48 *e*PKPdf **PKPdf** 15 35 29.9 +2.0
121A Cookes Peak, D 118.39 51 P **PKPdf** 15 35 30.1 +2.0
baz=118
Y22A Socorro 118.43 49 P **PKPdf** 15 35 29.8 +1.7
baz=118
R25A Fountain Ranch 118.44 43 P **PKPdf** 15 35 28.5 +0.6
baz=118
W23A Werner Place, 118.51 47 P **PKPdf** 15 35 30.1 +1.9
baz=118
K29A Lazy Trails An 118.56 37 P **PKPdf** 15 35 29.0 +1.1
baz=118
S25A Robets Cordova 118.57 44 P **PKPdf** 15 35 29.7 +1.4
baz=118
BNM Barren Site 118.59 49 *e*PKPdf **PKPdf** 15 35 29.7 +1.2
Z22A Elephant Butte 118.72 50 P **PKPdf** 15 35 30.3 +1.6
baz=119
J30A Dallas 118.72 36 P **PKPdf** 15 35 29.5 +1.3
baz=119
T25A Trinidad 118.84 45 P **PKPdf** 15 35 30.2 +1.4
baz=119
P27A Ficken Ranch, 118.88 41 P **PKPdf** 15 35 30.5 +1.8
baz=119
V24A Rampart Ranch, 118.89 46 P **PKPdf** 15 35 30.9 +1.9
baz=119
122A Conniff Cattle 118.92 50 P **PKPdf** 15 35 30.9 +1.8
baz=119
R26A Arlington 118.94 43 P **PKPdf** 15 35 30.1 +1.3
baz=119
W24A Lazy 6 Ranch, 119.03 47 P **PKPdf** 15 35 31.0 +1.7
baz=119
Y23A Lovelace Mesa, 119.12 48 P **PKPdf** 15 35 30.7 +1.3
baz=119
PGAV Gavieira, Arco 119.18 322 *e*PKP **PKPdf** 15 35 29.5 +0.3
U25A Circle Dot Ran 119.20 45 P **PKPdf** 15 35 31.0 +1.5
baz=119
POLO Lamas de Olo 119.22 321 PKP **PKPdf** 15 35 30.1 +0.8
S26A Kim 119.26 44 P **PKPdf** 15 35 30.8 +1.3
baz=119
Z23A Rita Site, Whi 119.27 49 P **PKPdf** 15 35 31.3 +1.6
baz=119
V25A Rancho No Teng 119.31 46 P **PKPdf** 15 35 31.5 +1.8
baz=119
T26A Comanche Natio 119.39 44 P **PKPdf** 15 35 31.2 +1.3
baz=119
P28A Saint Francis 119.41 41 P **PKPdf** 15 35 31.2 +1.5
baz=119
123A Bell Site, Whi 119.52 50 P **PKPdf** 15 35 31.9 +1.8
baz=120
Y24A Capitan 119.58 48 P **PKPdf** 15 35 31.8 +1.5
baz=120
MTE Manteigas 119.60 320 PKP **PKPdf** 15 35 31.4 +1.4
U26A Atchley Ranch, 119.67 45 P **PKPdf** 15 35 31.9 +1.5
baz=120
W25A X Bar L Ranch, 119.71 47 P **PKPdf** 15 35 31.8 +1.3
baz=120
PCBR Castelo Branco 119.87 320 PKP **PKPdf** 15 35 31.6 +1.2
V26A Tequesquite Ra 119.93 46 P **PKPdf** 15 35 32.1 +1.3
baz=120
P29A Atwood 119.93 41 P **PKPdf** 15 35 31.6 +0.9
baz=120
R28A Tribune 120.02 42 P **PKPdf** 15 35 32.3 +1.4
baz=120
T27A Campo 120.06 44 P **PKPdf** 15 35 32.1 +1.1
baz=120
124A Strinfield Ra 120.11 50 P **PKPdf** 15 35 32.8 +1.4
baz=120
Y25A Mesa, Roswell 120.14 48 P **PKPdf** 15 35 32.6 +1.3
baz=120
ECSD EROS Data Cent 120.14 34 *e*PKPdf **PKPdf** 15 35 31.5 +0.6
W26A Owens Ranch, T 120.28 46 P **PKPdf** 15 35 32.8 +1.2
baz=120
U27A Thompson Grove 120.30 45 P **PKPdf** 15 35 32.6 +1.0
baz=120
224A Cornudas Mount 120.32 50 P **PKPdf** 15 35 33.3 +1.6
baz=120
P30A Selden 120.41 40 P **PKPdf** 15 35 32.6 +1.0
baz=120
Z25A Roswell 120.41 49 P **PKPdf** 15 35 33.2 +1.4
baz=120
T28A Walsh 120.45 44 P **PKPdf** 15 35 33.2 +1.4
baz=120
PESTR Estremoz 120.47 319 PKP **PKPdf** 15 35 29.2 -2.5
PBAR Barrancos 120.47 318 PKP **PKPdf** 15 35 32.7 +1.1
X26A CR and CF Fran 120.50 47 P **PKPdf** 15 35 33.1 +1.0
baz=120
MNTX Cornudas Mount 120.59 51 *e*PKPdf **PKPdf** 15 35 33.9 +1.8
324A Moseley Ranch, 120.62 51 P **PKPdf** 15 35 33.5 +1.2
baz=121
BGNE Belgrade 120.66 37 *e*PKPdf **PKPdf** 15 35 32.7 +0.7
BGNE Belgrade 120.66 37 P **PKPdf** 15 35 32.5 +0.5
baz=121
125A Gardner Draw, 120.73 49 P **PKPdf** 15 35 33.6 +1.1
baz=121
PMTG Montargil 120.77 319 PKP **PKPdf** 15 35 33.4 +1.2
Y26A Elida 120.78 48 P **PKPdf** 15 35 33.3 +0.8
baz=121
W27A Bowe Ranch, En 120.80 46 P **PKPdf** 15 35 33.6 +1.0
baz=121
225A Deer Hill, Car 120.84 50 P **PKPdf** 15 35 33.8 +1.0
baz=121
EVO Evora 120.93 319 PKP **PKPdf** 15 35 33.7 +1.2
EVO *i* P PKiKP 15 35 41.0 +8.4
126A Clayton Basin, 121.21 49 P **PKPdf** 15 35 34.2 +0.8
baz=121
SPMN St. Paul 121.22 31 *e*PKPdf **PKPdf** 15 35 34.0 +1.1
SPMN St. Paul 121.22 31 P **PKPdf** 15 35 33.6 +0.7
baz=121
O32A Brockman Farm, 121.25 39 P **PKPdf** 15 35 33.9 +0.8
baz=121
425A Indio Mountain 121.28 51 P **PKPdf** 15 35 34.7 +1.1
baz=121
Y27A Causey 121.28 47 P **PKPdf** 15 35 34.6 +1.1
baz=121
S30A Montezuma 121.30 42 P **PKPdf** 15 35 34.2 +0.8
baz=121
W28A Vega 121.31 45 P **PKPdf** 15 35 35.2 +1.7
baz=121
226B Tecolote Peak, 121.36 50 P **PKPdf** 15 35 34.7 +1.0
baz=121
P32A Huiting Farm, 121.42 39 P **PKPdf** 15 35 34.0 +0.5
baz=121
PCVE Castro Verde 121.43 318 PKP **PKPdf** 15 35 34.5 +1.0
PNCL Nicolau / Gran 121.50 319 PKP **PKPdf** 15 35 35.0 +1.4
Z27A Tatum 121.51 48 P **PKPdf** 15 35 34.7 +0.7
baz=122
MSTX Muleshoe 121.53 47 P **PKPdf** 15 35 34.9 +0.9
baz=122
PBDV Barranco-do-Ve 121.56 317 PKP **PKPdf** 15 35 33.2 -0.6
T30A Plains 121.56 43 P **PKPdf** 15 35 35.3 +1.4
baz=122
R31A Burdett 121.57 41 P **PKPdf** 15 35 34.7 +0.9
baz=122
X28A Dimmitt 121.68 46 P **PKPdf** 15 35 35.4 +1.1
baz=122
127A Arkansas Junct 121.70 49 P **PKPdf** 15 35 35.4 +1.0
baz=122
SCHQ Schefferville 121.73 9 *e*PKPdf **PKPdf** 15 35 34.1 +0.5
SCHQ PKP **PKPdf** 15 35 34.3 +0.7
SCHQ Schefferville 121.73 9 PKP **PKPdf** 15 35 34.3 +0.7
comp=Z,14nm,0.7s,baz=341,slow=2.8,SNR=15
U30A WK&E Inc. Balk 121.75 43 P **PKPdf** 15 35 35.5 +1.2
baz=122
W29A Amraillo 121.78 45 P **PKPdf** 15 35 35.3 +0.9
baz=122
326A Caldwell Ranch 121.83 50 P **PKPdf** 15 35 35.2 +0.6
baz=122
Y28A McKinney Farm, 121.94 47 P **PKPdf** 15 35 35.9 +1.1
baz=122
MORF Marmelete 122.02 318 PKP **PKPdf** 15 35 33.3 -1.4
X29A Tulia 122.08 46 P **PKPdf** 15 35 36.2 +1.2
baz=122
426A McDonald Obser 122.08 51 P **PKPdf** 15 35 36.3 +1.0
baz=122
T31A Randall Ranch, 122.12 42 P **PKPdf** 15 35 36.0 +1.1
baz=122
V30A Spur Ranch, Mi 122.13 44 P **PKPdf** 15 35 36.5 +1.5
baz=122
526A Mary Lane Ranc 122.29 52 P **PKPdf** 15 35 36.6 +1.1
baz=122
128A Castleberry Fa 122.38 48 P **PKPdf** 15 35 36.5 +0.9
baz=122
Y29A Porterfield Fa 122.38 47 P **PKPdf** 15 35 36.7 +1.1
baz=122
U31A Nine Bar Ranch 122.39 43 P **PKPdf** 15 35 36.8 +1.3
baz=122
TORD Torodi Ar. Bea 122.39 287 PKP **PKPdf** 15 35 35.8 -0.1
TORD PKKPbc **PKKPab** 15 45 33.2 +1.3
TORD Torodi Ar. Bea 122.39 287 PKP **PKPdf** 15 35 35.8 -0.1
comp=Z,11nm,0.8s,baz=52,slow=1.9,SNR=62
TORD PKKPbc **PKKPab** 15 45 33.2 +1.3
comp=Z,1.4nm,0.7s,baz=262,slow=3.7,SNR=8.8
626A Big Bend Ranch 122.47 52 P **PKPdf** 15 35 37.1 +1.3
baz=122
427A Hayter Ranch, 122.48 51 P **PKPdf** 15 35 36.9 +1.0
baz=122
527A Woodward Ranch 122.63 51 P **PKPdf** 15 35 37.1 +0.9
baz=123
Z29A Hungry Hill Ra 122.65 47 P **PKPdf** 15 35 36.9 +0.8
baz=123
X30A Coker Ranch, T 122.67 46 P **PKPdf** 15 35 37.0 +0.9
baz=123
328A Wristen Ranch, 122.70 50 P **PKPdf** 15 35 37.5 +1.2
baz=123
129A Stewart Farms, 122.83 48 P **PKPdf** 15 35 37.5 +1.0
baz=123
TXAR Lajitas Array 122.93 52 PKP **PKPdf** 15 35 38.2 +1.5
TXAR PKKPbc **PKKPab** 15 45 29.8 +0.2
TXAR Lajitas Array 122.93 52 PKP **PKPdf** 15 35 38.2 +1.5
comp=Z,3.5nm,0.9s,baz=256,slow=1.3,SNR=24
TXAR PKKPbc **PKKPab** 15 45 29.8 +0.2
comp=Z,0.9nm,0.9s,baz=77,slow=5.6,SNR=6.3
Y30A Stafford Cattl 122.94 46 P **PKPdf** 15 35 37.8 +1.2
baz=123
W31A Holland Ranch, 122.95 44 P **PKPdf** 15 35 37.8 +1.2
baz=123
Z30A Sanderson Ranc 123.06 47 P **PKPdf** 15 35 37.6 +0.7
baz=123
428A Kincaid Ranch, 123.09 50 P **PKPdf** 15 35 38.6 +1.5
baz=123
627A Terlingua Ranc 123.10 52 P **PKPdf** 15 35 38.3 +1.2
baz=123
X31A McDonald Ranch 123.21 45 P **PKPdf** 15 35 38.1 +1.1
baz=123
528A Cox Ranch, San 123.26 51 P **PKPdf** 15 35 38.6 +1.2
baz=123
329A Wagon Wheel Ra 123.28 49 P **PKPdf** 15 35 38.3 +1.0
baz=123
Y31A Rekieta Farm, 123.35 46 P **PKPdf** 15 35 38.2 +0.9
baz=123
628A Black Gap, Mar 123.48 52 P **PKPdf** 15 35 39.0 +1.2
baz=124
529A Stev Forest Ra 123.72 51 P **PKPdf** 15 35 39.4 +1.1
baz=124
429A Davenport Ranc 123.75 50 P **PKPdf** 15 35 39.2 +0.9
baz=124
230A Sterling City 123.75 48 P **PKPdf** 15 35 39.1 +0.9
baz=124
131A Roby 123.90 47 P **PKPdf** 15 35 39.5 +1.1
baz=124
330A Mertzon 123.93 49 P **PKPdf** 15 35 39.1 +0.6
baz=124
WMOK Wichita Mounta 123.99 44 *e*PKIKP **PKPdf** 15 35 39.6 +1.0
WMOK Wichita Mounta 123.99 44 *e*PKPdf **PKPdf** 15 35 39.6 +1.0
JFWS Jewell Farm 124.15 32 *e*PKIKP **PKPdf** 15 35 38.7 +0.1
JFWS Jewell Farm 124.15 32 *e*PKPdf **PKPdf** 15 35 38.7 +0.1
430A Baggett Ranch, 124.17 50 P **PKPdf** 15 35 40.1 +1.1
baz=124
Z32A Haskell 124.24 46 P **PKPdf** 15 35 40.2 +1.2
baz=124
231A Bronte 124.32 48 P **PKPdf** 15 35 40.2 +0.9
baz=124
530A J-C Ranch, Com 124.39 50 P **PKPdf** 15 35 40.9 +1.4
baz=124
ABTX Abilene, Hawle 124.47 47 P **PKPdf** 15 35 40.8 +1.3
baz=124
331A San Angelo 124.54 49 P **PKPdf** 15 35 40.6 +0.8
baz=124
431A Sonora 124.70 49 P **PKPdf** 15 35 40.9 +0.8
baz=125
232A Coleman 124.83 48 P **PKPdf** 15 35 41.3 +1.0
baz=125
531A Rocksprings 124.99 50 P **PKPdf** 15 35 41.8 +1.1
baz=125
332A Millersview 125.01 48 P **PKPdf** 15 35 41.7 +1.1
baz=125
432A Menard 125.22 49 P **PKPdf** 15 35 41.8 +0.8
baz=125
631A Perdido Creek 125.31 51 P **PKPdf** 15 35 42.2 +1.0
baz=125
TUL1 Tulsa 125.37 41 *e*PKPdf **PKPdf** 15 35 41.8 +0.7
TUL1 Tulsa 125.37 41 P **PKPdf** 15 35 42.1 +1.0
baz=125
JCT Junction City 125.41 49 *e*PKIKP **PKPdf** 15 35 42.9 +1.5
JCT Junction City 125.41 49 *e*PKPdf **PKPdf** 15 35 42.9 +1.5
JCT Junction City 125.41 49 P **PKPdf** 15 35 42.7 +1.3
baz=125
532A Rocksprings 125.50 50 P **PKPdf** 15 35 42.6 +1.0
baz=126
632A Uvalde 125.88 50 P **PKPdf** 15 35 43.9 +1.6
baz=126
732A Laxson Ranch, 126.10 51 P **PKPdf** 15 35 44.1 +1.3
baz=126
WHTX Lake Whitney 126.38 46 P **PKPdf** 15 35 44.8 +1.6
baz=126
SFIN Scholer Farm 127.62 32 P **PKPdf** 15 35 46.3 +1.1
baz=128
OLIL Olney 128.25 34 *e*PKPdf **PKPdf** 15 35 48.0 +1.4
SIUC Southern Illin 128.32 36 *e*PKPdf **PKPdf** 15 35 48.0 +1.3
HKT Hockley 128.64 48 *e*PKIKP **PKPdf** 15 35 49.7 +2.3
HKT Hockley 128.64 48 *e*PKPdf **PKPdf** 15 35 49.7 +2.3
WCI Wyandotte Cave 129.60 33 *e*PKIKP **PKPdf** 15 35 49.6 +0.4
WCI Wyandotte Cave 129.60 33 *e*PKPdf **PKPdf** 15 35 49.6 +0.4
DBIC Dimbokro 129.92 281 PKP **PKPdf** 15 35 50.9 +0.5
DBIC Dimbokro 129.92 281 PKP **PKPdf** 15 35 50.9 +0.5
comp=Z,11nm,0.9s,baz=118,slow=1.9,SNR=7.8
OXF Oxford 130.34 39 *e*PKIKP **PKPdf** 15 35 51.8 +1.2
OXF Oxford 130.34 39 *e*PKPdf **PKPdf** 15 35 51.8 +1.2
SWET Sewanee 131.96 35 *e*PKPdf **PKPdf** 15 35 54.3 +0.5
LRAL Lakeview Retre 132.82 38 *e*PKPdf **PKPdf** 15 35 55.8 +0.4
KMSC Kings Mountain 134.56 32 *e*PKPdf **PKPdf** 15 35 59.7 +1.1
KMSC Kings Mountain 134.56 32 P **PKPdf** 15 35 59.7 +1.1
baz=134
TIGA Tifton 136.01 37 *e*PKPdf **PKPdf** 15 36 03.1 +1.7
PLCA Paso Flores 139.33 161 PKPdf **PKPdf** 15 36 08.5 +1.1
LCO Las Campanas 149.45 151 *e*PKPbc **PKPbc** 15 36 31.1 +1.1
SDDR Presa de Saban 152.66 37 *e*PKPbc **PKPbc** 15 36 38.4 +1.0
OTAV Otavalo 155.54 84 *e*PKPdf **PKPdf** 15 36 36.7 +1.6
CPUP Villa Florida 156.29 173 PKP **PKPdf** 15 36 36.6 +1.5
CPUP PKPab **PKPab** 15 37 04.8 +1.4
CPUP Villa Florida 156.29 173 PKP **PKPdf** 15 36 36.6 +1.5
comp=Z,3.2nm,0.8s,baz=91,slow=1.3,SNR=3.9
CPUP PKPab **PKPab** 15 37 04.8 +1.4
comp=Z,13nm,0.9s,baz=179,slow=5.4,SNR=6.8
SDV Santo Domingo 159.95 55 *e*PKPdf **PKPdf** 15 36 40.5 +0.4
LPAZ La Paz 160.72 135 *e*PKPdf **PKPdf** 15 36 42.9 +1.5
LPAZ PKP **PKPdf** 15 36 43.1 +1.7
LPAZ PKPab **PKPab** 15 37 25.7 +2.0
LPAZ La Paz 160.72 135 PKP **PKPdf** 15 36 43.1 +1.7
comp=Z,9.7nm,1.0s,baz=34,slow=2.4,SNR=25
LPAZ PKPab **PKPab** 15 37 25.7 +2.0
comp=Z,4.8nm,0.9s,baz=226,slow=2.1,SNR=5.4
BDFB Brasilia 165.78 205 PKP **PKPdf** 15 36 46.1 +0.5
BDFB PKPab **PKPab** 15 37 46.2 +1.1
BDFB Brasilia 165.78 205 PKP **PKPdf** 15 36 46.1 +0.5
comp=Z,5.5nm,0.9s,baz=125,slow=5.3,SNR=6.9
BDFB PKPab **PKPab** 15 37 46.2 +1.1
comp=Z,10nm,0.9s,baz=174,slow=3.8,SNR=8.5
SAML Samuel 169.08 125 *e*PKPdf **PKPdf** 15 36 48.0 +0.1

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*IDC **27** 15:19:42.1±1.2, 1.27N×127.13E, h0km, mb4.2/6, mb1 4.4/7, mb1mx4.0/22, mbtmp4.2/7, ML4.2/1, MS4.0/3, Ms1 4.0/3, ms1mx3.3/30, Error ellipse: s-maj=115.5km s-min=17.6km az=70.0*
*ISCJB **27** 15:19:52.1±0.8, 1.3N±0.1×127.2E±0.3, h100km, mb4.2/7, Error ellipse: s-maj=46.3km s-min=10.3km az=162.0*
*NEIC **27** 15:19:52.1±6.4, 1.23N×127.20E, h79km±62km, mb4.5/1, Error ellipse: s-maj=46.4km s-min=16.8km az=70.0*
ISC 27 15:19:54.0±1.0, 1.2N±0.2×127.3E±0.4, h100km, n22, σ0.93/20, mb4.2/7, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.27**	**185**	P	**P**	**15 24 10.8**	**-0.1**
FITZ	**Fitzroy Crossi**	**19.27**	**185**	P	**P**	**15 24 10.8**	**-0.1**
0.5nm,0.3s,baz=7.6,slow=15,SNR=1.5							
WRAB	**Tennant Creek**	**22.12**	**162**	*e*P	**P**	**15 24 41.1**	**-0.4**
14nm,0.6s							
WRA	**Warramunga Arr**	**22.13**	**162**	P	**P**	**15 24 41.5**	**-0.1**
WRA	**Warramunga Arr**	**22.13**	**162**	P	**P**	**15 24 41.5**	**-0.1**
8.5nm,0.4s,baz=342,slow=11,SNR=3.9							
PMG	**Port Moresby**	**22.40**	**119**	LR	LR	15 33 12.7	
comp=Z,416nm,20.6s,baz=303,slow=36							
MBWA	**Marble Bar**	**23.45**	**198**	*e*P	**P**	**15 24 54.1**	**-0.5**
AS31	**Alice Springs**	**25.55**	**166**	*e*P	**P**	**15 25 16.3**	**+2.6**
ASAR	**Alice Springs**	**25.55**	**166**	P	**P**	**15 25 13.4**	**-0.4**
ASAR	**Alice Springs**	**25.55**	**166**	P	**P**	**15 25 13.4**	**-0.4**
2.7nm,0.6s,baz=347,slow=7.6,SNR=1.2							
STKA	**Stephens Creek**	**35.59**	**159**	P	**P**	**15 26 41.8**	**-0.2**
STKA	**Stephens Creek**	**35.59**	**159**	P	**P**	**15 26 41.8**	**-0.2**

4.2nm,0.4s,baz=342,slow=9.6,SNR=6.7
STKA LR LR 15 41 42.3
comp=Z,268nm,19.9s,baz=131,slow=37
SONM Songino Array 49.85 342 P **P 15 28 38.0 +0.8**
SONM Songino Array 49.85 342 P **P 15 28 38.0 +0.8**
1.1nm,0.8s,baz=161,slow=11,SNR=1.9
MK31 Makanchi Array 59.95 326 *eP* **P 15 29 49.7 -0.1**
MKAR Makanchi Array 59.95 326 P **P 15 29 49.6 -0.2**
MKAR Makanchi Array 59.95 326 P **P 15 29 49.6 -0.2**
0.8nm,0.4s,baz=119,slow=7.8,SNR=2.0
URZ Urewera 60.33 136 LR LR 15 54 48.1
comp=Z,110nm,20.1s,baz=311,slow=35
KURBB Kurchatov Arra 64.16 328 P **P 15 30 16.3 -1.6**
0.6nm,0.3s,baz=127,slow=5.5,SNR=3.5
KURK Kurchatov 64.17 328 P **P 15 30 16.3 -1.6**
TORD Torodi Ar. Bea 124.23 287 PKP **PKPdf 15 38 42.6 +0.5**
TORD Torodi Ar. Bea 124.23 287 PKP **PKPdf 15 38 42.6 +0.5**
1.1nm,0.9s,baz=60,slow=3.1,SNR=3.1

MEX 27 15:36:34.6±0.4, 16°.17N×97°.25W, h32km±7km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.87**	**285**	*i* P	Pn	15 36 48.5	-2.1
PNIG				*eS*	Sn	15 36 59.5	-2.8
VHO	**Vista Hermosa**	**1.03**	**29**	*eP*	Pn	15 36 50.7	-2.4
VHO				*i* S	Sn	15 37 03.8	-2.7
HUIG	**Huatulco**	**1.17**	**110**	*i* P	Pn	15 36 52.8	-2.0
HUIG				*i* S	Sn	15 37 07.1	-2.5
MEIG	**Mezcala**	**2.86**	**308**	*i* P	Pn	15 37 17.1	-1.1
MEIG				*eS*	Sn	15 37 49.5	-2.1
CAIG	**El Cayaco**	**3.02**	**287**	*i* P	Pn	15 37 19.2	-1.1
CAIG				*i* S	Sn	15 37 52.8	-2.6
ARIG	**Puente Sto Nin**	**3.63**	**306**	*i* P	Pn	15 37 27.1	-1.5
ARIG				*i* S	Sn	15 38 08.0	-2.4
PCIG		**3.91**	**96**	*i* P	Pn	15 37 30.9	-1.5
PCIG				*i* S	Sn	15 38 14.7	-2.5

*AUST **27** 15:38:22.6±10.0, 20°.71S×173°.68W, h490km, Error ellipse: s-maj=7.4km s-min=2.3km az=259.0*
*ISCJB **27** 15:38:59.2±0.8, 20°.7S±0°.1×178°.5W±0°.1, h587km, mb3.9/9, Error ellipse: s-maj=16.8km s-min=15.0km az=39.9*
*IDC **27** 15:38:59.8±2.6, 20°.75S×178°.41W, h583km±30km, mb3.4/9, mb1 3.5/11, mb1mx3.3/20, mbtmp3.3/11, Error ellipse: s-maj=29.4km s-min=15.8km az=140.0*
ISC 27 15:39:00.1±0.9, 20°.8S±0°.1×178°.4W±0°.1, h587km, n33, σ0§95/30, mb4.0/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**9.29**	**44**	P	P	15 41 04.4	-7.3
	1.4nm,0.3s,baz=246,slow=20,SNR=3.8						
AFI				S	S	15 42 46.0	-14
	0.6nm,0.3s,baz=231,slow=24,SNR=2.5						
DZM	**Mont Dzumac**	**14.18**	**262**	P	**P**	**15 41 59.6**	**-1.5**
	0.4nm,0.3s,baz=67,slow=23,SNR=7.9						
URZ	**Urewera**	**17.88**	**192**	P	**P**	**15 42 34.2**	**-0.8**
	0.7nm,0.3s,baz=348,slow=8.2,SNR=5.6						
QLP	**Quilpie**	**34.63**	**253**	P	**P**	**15 45 01.6**	**-0.2**
	baz=39,SNR=3.2						
MTSU	**Mount Surprise**	**35.21**	**268**	P	**P**	**15 45 06.7**	**0.0**
	baz=40,SNR=25						
PATS	**Pohnpei**	**35.71**	**318**	P	P	15 45 03.2	-7.6
	baz=39,SNR=3.0						
STKA	**Stephens Creek**	**37.34**	**244**	P	**P**	**15 45 24.4**	**+0.4**
	3.2nm,0.9s,baz=90,slow=12,SNR=7.8						
STKA	**Stephens Creek**	**37.34**	**244**	P	**P**	**15 45 25.1**	**+1.0**
	baz=41,SNR=6.1						
MMPI	**Merauke**	**41.59**	**281**	P	**P**	**15 46 01.0**	**+2.7**
	baz=46,SNR=5.2						
JAY	**Jayapura**	**43.77**	**289**	P	P	15 46 20.7	+5.4
	baz=48,SNR=3.2						
ASAR	**Alice Springs**	**44.10**	**257**	P	**P**	**15 46 17.6**	**-0.1**
	8.5nm,0.8s,baz=98,slow=7.7,SNR=124						
ASAR				PcP	**PcP**	**15 47 50.4**	**+0.6**
	0.8nm,0.5s,baz=100,slow=4.1,SNR=6.7						
ASAR				S	**S**	**15 52 07.8**	**-1.0**
	0.8nm,0.8s,baz=100,slow=14,SNR=7.1						
WRA	**Warramunga Arr**	**44.20**	**262**	P	**P**	**15 46 17.7**	**-0.8**
	4.3nm,0.6s,baz=98,slow=8.6,SNR=27						
KDU	**Kakadu**	**47.58**	**272**	P	**P**	**15 46 43.7**	**-0.5**
	baz=52,SNR=3.6						
TLE	**Tual**	**49.68**	**281**	P	**P**	**15 46 58.5**	**-1.1**
	baz=54,SNR=3.5						
KNRA	**Kununurra**	**50.27**	**267**	P	**P**	**15 47 03.8**	**-0.2**
	baz=55,SNR=6.1						
FITZ	**Fitzroy Crossi**	**52.62**	**263**	P	**P**	**15 47 20.7**	**-0.2**
	2.2nm,0.9s,baz=68,slow=8.9,SNR=11						
FITZ	**Fitzroy Crossi**	**52.62**	**263**	P	**P**	**15 47 21.1**	**+0.2**
	baz=57,SNR=5.5						
SOEI	**Soe**	**56.14**	**272**	P	**P**	**15 47 47.1**	**+1.4**
	baz=60,SNR=5.6						
MEEK	**Meekatharra**	**57.48**	**251**	P	**P**	**15 47 54.0**	**-0.6**
	baz=62,SNR=3.5						
MORW	**Morawa**	**59.39**	**248**	P	**P**	**15 48 07.4**	**+0.1**
	baz=63,SNR=3.7						
ASAJ	**Asahikawa**	**73.77**	**332**	P	**P**	**15 49 35.8**	**+0.4**
	5.7nm,0.8s,baz=67,slow=8.9,SNR=9.3						
PETK	**Petropavlovsk-**	**76.42**	**345**	P	**P**	**15 49 49.4**	**-0.6**
	4.7nm,0.8s,baz=151,slow=9.2,SNR=3.8						
KSRS	**Korea Array**	**76.83**	**319**	P	**P**	**15 49 52.9**	**+0.4**
	0.9nm,0.6s,baz=130,slow=6.8,SNR=5.2						
VNA3	**Neumayer Olymp**	**87.91**	**176**	*eP*	**P**	**15 50 48.4**	**+0.6**
VNA2	**Neumayer--Watz**	**88.35**	**177**	*eP*	**P**	**15 50 50.7**	**+0.9**
	baz=211,slow=4.0						
ILAR	**Eielson Array**	**88.64**	**13**	P	**P**	**15 50 49.8**	**-1.3**
	0.4nm,0.5s,baz=217,slow=6.1,SNR=7.1						
CMAR	**Chiang Mai Arr**	**89.85**	**290**	P	**P**	**15 50 59.3**	**+1.6**
	1.6nm,0.8s,baz=134,slow=2.6,SNR=11						
ARCES	**ARCESS Array B**	**129.10**	**349**	PKP	**PKPdf**	**15 57 00.7**	**-0.8**
	1.1nm,0.6s,baz=347,slow=5.0,SNR=4.7						
FINES	**FINESS Array B**	**135.91**	**343**	PKP	**PKPdf**	**15 57 14.6**	**+0.2**
	2.5nm,0.9s,baz=101,slow=1.4,SNR=3.5						
KMBO	**Kilima Mbogo**	**138.89**	**242**	PKhKP	PKPpre	15 57 17.0	
	2.5nm,1.1s,baz=239,slow=24,SNR=3.7						
AKASG	**Malin Array Be**	**143.05**	**331**	PKhKP	PKPpre	15 57 24.6	
	4.1nm,0.5s,baz=42,slow=4.4,SNR=39						
BRTR	**Keskin Array B**	**146.73**	**312**	PKPbc	**PKPbc**	**15 57 37.1**	**-0.3**
	1.4nm,0.6s,baz=139,slow=4.8,SNR=6.8						
GERES	**GERESS Array B**	**150.34**	**344**	PKPbc	**PKPbc**	**15 57 45.5**	**-0.5**
	0.7nm,0.6s,baz=26,slow=3.4,SNR=7.9						

IDC 27 15:45:19.7±0.9, 1°.71N×127°.61E, h0km, mb3.6/7, mb1 3.7/7, mb1mx3.6/21, mbtmp3.6/7, MS3.6/1, Ms1 3.6/1, ms1mx2.5/32, Error ellipse: s-maj=80.8km s-min=17.2km az=70.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.51**	**163**	P	P	15 50 21.3	+0.1
	0.5nm,0.6s,baz=345,slow=10,SNR=5.9						
ASAR	**Alice Springs**	**25.96**	**167**	P	P	15 50 54.4	+0.3
	0.2nm,0.5s,baz=351,slow=7.7,SNR=8.8						
STKA	**Stephens Creek**	**35.94**	**159**	P	P	15 52 21.2	-0.9
	2.0nm,0.9s,baz=331,slow=15,SNR=4.8						
STKA				LR	LR	16 06 34.7	
	comp=Z,108nm,21.4s,baz=23,slow=36						
SONM	**Songino Array**	**49.48**	**341**	P	P	15 54 10.4	-1.6
	0.2nm,0.3s,baz=165,slow=7.4,SNR=2.3						
MKAR	**Makanchi Array**	**59.70**	**326**	P	P	15 55 26.9	+0.8
	0.8nm,0.5s,baz=118,slow=8.4,SNR=21						
KURBB	**Kurchatov Arra**	**63.90**	**328**	P	P	15 55 54.2	-0.1
	1.0nm,0.4s,baz=47,slow=15,SNR=6.0						
ILAR	**Eielson Array**	**86.54**	**25**	P	P	15 58 05.3	+0.8
	0.2nm,0.6s,baz=235,slow=5.2,SNR=4.1						

*IDC **27** 16:00:49.2±1.7, 29°.19S×177°.68W, h52km±9km, mb3.7/3, mb1 3.9/3, mb1mx3.5/15, mbtmp3.7/3, MS3.5/1, Ms1 3.5/1, ms1mx2.9/19, Error ellipse: s-maj=60.6km s-min=27.8km az=172.0*
ISC 27 16:00:48.4±1.2, 29°.4S±0°.3×177°.5W±0°.2, h52km, n15, σ1§18/15, mb4.0/3, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.41**	**288**	P	**Pn**	**16 00 59.2**	**+0.4**
	2μm,0.3s,baz=93,slow=9.4,SNR=135						
RAO				S	**Sn**	**16 01 06.4**	**+0.1**
	23μm,0.3s,baz=51,slow=17,SNR=97						
STKA	**Stephens Creek**	**35.17**	**255**	P	**P**	**16 07 37.8**	**+0.4**
	1.9nm,0.6s,baz=98,slow=13,SNR=7.4						

PMG Port Moresby 38.60 294 LR LR 16 20 03.3
comp=Z,73nm,20.2s,baz=300,slow=30
ASAR Alice Springs 43.63 266 P **P 16 08 47.1 -0.9**
0.7nm,0.7s,baz=102,slow=7.3,SNR=16
WRA Warramunga Arr 44.53 271 P **P 16 08 54.6 -0.7**
1.3nm,0.5s,baz=110,slow=7.7,SNR=6.6
SNAA Sanae 79.15 178 *eP* **P 16 12 47.8 +0.6**
SNAA Sanae 79.15 178 *eI* **PcP 16 12 52.8 -2.7**
VNA3 Neumayer Olymp 79.28 176 *eP* **P 16 12 48.8 +0.9**
VNA3 Neumayer Olymp 79.28 176 *eI* **PcP 16 12 54.3 -1.7**
VNA2 Neumayer--Watz 79.72 177 *eP* **P 16 12 51.5 +1.2**
baz=186,slow=4.4
VNA2 Neumayer--Watz 79.72 177 *eI* **PcP 16 12 57.0 -0.9**
baz=186,slow=4.4
ARCES ARCESS Array B 137.69 348 PKP **PKPdf 16 20 06.5 +0.7**
2.4nm,1.0s,baz=31,slow=5.7,SNR=3.8
FINES FINESS Array B 144.35 341 PKP **PKPab 16 20 15.9 -0.2**
3.8nm,0.8s,baz=42,slow=4.3,SNR=4.9
AKASG Malin Array Be 150.76 324 PKPbc **PKPbc 16 20 34.4 -0.2**
1.4nm,0.4s,baz=45,slow=3.4,SNR=11
TORD Torodi Ar. Bea 163.82 177 PKPab **PKPab 16 21 39.8 +1.1**
0.5nm,0.9s,baz=204,slow=4.6,SNR=3.1

*IDC **27** 16:03:29.1±10.0, 2°.69N×128°.85E, h132km±99km, mb3.4/6, mb1 3.6/6, mb1mx3.3/22, mbtmp3.3/6, Error ellipse: s-maj=67.2km s-min=24.5km az=67.0*
*ISCJB **27** 16:03:31.8±1.6, 2°.3N±0°.2×128°.6E±0°.1, h150km, mb3.6/5, Error ellipse: s-maj=29.5km s-min=9.7km az=40.2*
*DJA **27** 16:03:44.0±2.0, 2°.N±7°.7×12°.8E±1°.5, h139km±17km, M4.0/4, mb4.3/1, mB4.7/1, MLv3.9/4, Mw(mB)3.9/1*
ISC 27 16:03:32.6±1.2, 2°.28N±0°.10×128°.6E±0°.1, h150km, n10, σ1§57/9, mb3.5/5, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.94**	**219**	P	Pn	16 04 13.4	+6.4
LBMI	**Labuha**	**3.10**	**201**	P	Pn	16 04 27.5	+6.3
LBMI				S	**Sn**	**16 04 57.3**	**-1.6**
SGSI	**Sangihe**	**3.37**	**295**	P	**Pn**	**16 04 26.1**	**+1.4**
SGSI				S	**Sn**	**16 05 05.1**	**+0.1**
LUWI	**Luwuk**	**6.69**	**241**	P	**Pn**	**16 05 09.2**	**+0.6**
FITZ	**Fitzroy Crossi**	**20.46**	**188**	P	Pn	16 08 01.0	-1.4
	1.8nm,1.0s,baz=21,slow=14,SNR=3.8						
WRA	**Warramunga Arr**	**22.79**	**166**	P	**P**	**16 08 23.7**	**+1.2**
	3.6nm,0.5s,baz=345,slow=9.9,SNR=37						
ASAR	**Alice Springs**	**26.30**	**169**	P	**P**	**16 08 54.9**	**+0.4**
	0.8nm,0.7s,baz=352,slow=7.1,SNR=16						
ASAR				pP	pP	16 09 18.1	-7.7
	0.3nm,0.4s,baz=339,slow=9.2,SNR=2.5						
ASAR				PcP	**PcP**	**16 12 15.9**	**-0.9**
	0.3nm,0.4s,baz=352,slow=2.1,SNR=8.4						
STKA	**Stephens Creek**	**36.14**	**161**	P	**P**	**16 10 21.8**	**+1.4**
	2.4nm,0.3s,baz=326,slow=7.4,SNR=25						
MKAR	**Makanchi Array**	**59.80**	**325**	P	**P**	**16 13 19.7**	**-2.4**
	0.2nm,0.4s,baz=122,slow=8.6,SNR=4.1						
ILAR	**Eielson Array**	**85.61**	**25**	P	P	16 15 49.2	-4.6
	0.2nm,0.5s,baz=243,slow=6.0,SNR=4.4						

GUC 27 16:11:16.0±0.8, 31°.46S×68°.40W, h154km±44km, MD3.3, ML3.8, 3C-3D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JACH	**Jahuel**	**2.23**	**236**	*eP*	Pn	16 11 54.9	+0.7
CMCH	**Combarbala**	**2.24**	**277**	⇓*iP*	Pn	16 11 54.6	+0.3
CMCH				*i* S	Sn	16 12 24.4	+0.5
CMCH				AML	AML	16 12 25.1	
	comp=N,2μm,0.4s						
PEL	**Peldehue**	**2.56**	**228**	⇓*iP*	Pn	16 11 58.7	+0.6
PEL				*i* S	Sn	16 12 30.8	0.0
PEL				AML	AML	16 12 32.6	
	comp=E,336nm,0.3s						
CHNG	**Los Chungos**	**2.68**	**260**	⇑*iP*	Pn	16 12 00.1	+0.7
CHNG				*i* S	Sn	16 12 32.2	-0.8
CHNG				AML	AML	16 12 39.9	
	comp=N,132nm,0.3s						
ROCH	**El Roble**	**2.68**	**235**	*eP*	Pn	16 11 59.5	-0.3
ROCH				*i* S	Sn	16 12 33.4	-0.3
ROCH				AML	AML	16 12 36.1	
	comp=N,244nm,0.3s						
PCH	**Pirque**	**2.80**	**219**	⇓*iP*	Pn	16 12 02.2	+1.1
PCH				*i* S	Sn	16 12 37.6	+1.5
LMEL	**Las Melosas**	**2.83**	**212**	*eP*	Pn	16 12 01.8	+0.3
LMEL				*eS*	Sn	16 12 37.8	+1.0
LMEL				AML	AML	16 12 50.9	
	comp=N,100nm,0.1s						
CHCH	**Chadas Angostu**	**3.11**	**217**	*eP*	Pn	16 12 05.4	+0.4
CHCH				*i* S	Sn	16 12 43.6	+0.5
CACH	**El Canelo**	**3.23**	**214**	⇑*iP*	Pn	16 12 07.6	+1.0
LNV	**Longovilo**	**3.56**	**225**	⇑*iP*	Pn	16 12 09.1	-1.5
LNV				*i* S	Sn	16 12 50.5	-2.5

GUC 27 16:13:54.9±0.3, 23°.56S×67°.25W, h215km, ML3.9, 1C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB04	**Plate Boundary**	**2.44**	**301**	*i* P	Pn	16 14 47.0	+8.0
PB04				*i* S	S	16 15 26.2	+13
PB04				AML	AML	16 15 29.1	
	comp=N,146nm,0.1s						
PB09	**Plate Boundary**	**2.54**	**313**	*eP*	Pn	16 14 43.1	+2.6
PB09				AML	AML	16 15 23.0	
	comp=E,148nm,0.2s						
ANCH	**Antofagasta**	**2.91**	**267**	⇑*iP*	Pn	16 14 46.0	+1.8
ANCH				*i* S	S	16 15 24.8	+2.3
PB10	**Plate Boundary**	**3.04**	**270**	⇓*iP*	Pn	16 14 47.3	+1.5
PB10				*i* S	S	16 15 27.4	+2.1
PB10				AML	AML	16 15 31.8	
	comp=E,269nm,0.4s						
PB07	**Plate Boundary**	**3.04**	**306**	*eP*	Pn	16 14 48.0	+1.9
PB07				*i* S	S	16 15 28.4	+2.5
PB01	**Plate Boundary**	**3.25**	**320**	⇓*iP*	Pn	16 14 50.1	+1.7
PB01				*i* S	S	16 15 32.8	+2.7

MEX 27 16:26:19.4±0.4, 17°.25N×101°.26W, h18km±33km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.41**	**331**	*i* P	Pg	16 26 26.6	-1.3
ZIIG				*i* S	Sg	16 26 32.0	-1.6
CAIG	**El Cayaco**	**0.96**	**102**	*i* P	Pb	16 26 34.4	-3.2
CAIG				*i* S	Sb	16 26 46.1	-3.9
ARIG	**Puente Sto Nin**	**1.34**	**40**	*i* P	Pn	16 26 39.6	-3.7
ARIG				*i* S	Sn	16 26 55.5	-5.3
ACX	**Acapulco**	**1.39**	**105**	*i* P	Pn	16 26 39.6	-4.3
ACX				*i* S	Sn	16 26 55.7	-6.0
MEIG	**Mezcala**	**1.70**	**66**	*i* P	Pn	16 26 45.4	-2.9
MEIG				*eS*	Sn	16 27 04.9	-4.8
PLIG	**Platanillo**	**2.02**	**55**	*i* P	Pn	16 26 50.3	-2.4
PLIG				*eS*	Sn	16 27 13.8	-3.8
YAIG	**Yautepec**	**2.63**	**52**	*i* P	Pn	16 26 59.0	-2.2
YAIG				*eS*	Sn	16 27 29.4	-3.3
PNIG	**Pinotepa**	**3.11**	**105**	*i* P	Pn	16 27 04.4	-3.2
PNIG				*i* S	Sn	16 27 40.6	-3.8

GUC 27 16:36:28.5±0.4, 31°.98S×69°.43W, h139km±10km, MD3.5, ML3.6, 2C-3D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JACH	**Jahuel**	**1.21**	**234**	*eP*	Pn	16 36 54.8	+0.4
CMCH	**Combarbala**	**1.57**	**300**	⇓*iP*	Pn	16 36 58.3	+0.2
CMCH				*i* S	Sn	16 37 21.3	+0.6
PEL	**Peldehue**	**1.57**	**222**	⇓*iP*	Pn	16 36 58.4	+0.3
PEL				*i* S	Sn	16 37 21.1	+0.3
ROCH	**El Roble**	**1.67**	**233**	*eP*	Pn	16 36 59.5	+0.1
ROCH				*eS*	Sn	16 37 23.4	+0.5
ROCH				AML	AML	16 37 26.3	
	comp=N,476nm,0.2s						
CLCH	**Cerro Calan**	**1.70**	**213**	AML	AML	16 37 26.8	
	comp=N,665nm,0.5s						
CHNG	**Los Chungos**	**1.77**	**273**	⇓*iP*	Pn	16 37 00.6	+0.4
CHNG				*i* S	Sn	16 37 24.6	+0.2
CHNG				AML	AML	16 37 30.1	
	comp=E,497nm,0.4s						
PCH	**Pirque**	**1.88**	**209**	*eP*	Pn	16 37 01.7	+0.1
PCH				*eS*	Sn	16 37 27.5	+0.4

ANTU Antumapu 1.89 212 *eP* Pn 16 37 02.0 +0.4
ANTU *i* S Sn 16 37 27.7 +0.6
ANTU AML AML 16 37 29.3
comp=N,509nm,0.2s
LMEL Las Melosas 1.98 199 AML AML 16 37 38.2
comp=N,352nm,0.2s
CHCH Chadas Angostu 2.21 208 ⇑*iP* Pn 16 37 06.2 +0.7
CACH El Canelo 2.35 204 ⇑*iP* Pn 16 37 08.3 +0.9
CACH *eS* Sn 16 37 38.4 +1.1

*ISCJB **27** 16:55:59.3±0.7, 33°.01N±0°.05×14°.41E±0°.06, h10km, mb3.2/2, Error ellipse: s-maj=8.6km s-min=5.7km az=39.7*
*CSEM **27** 16:56:00.5, 32°.81N×14°.38E, h8km, ML3.5, After LDSN*
*IDC **27** 16:56:01.6±1.5, 33°.18N×14°.35E, h0km, mb3.2/3, mb1 3.3/5, mb1mx3.2/27, mbtmp3.2/5, ML4.4/1, Error ellipse: s-maj=32.2km s-min=25.1km az=147.0*
ISC 27 16:56:01.0±0.9, 32°.95N±0°.07×14°.38E±0°.06, h10km, n11, σ1§50/14, Near coast of Libya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LMSR	**Misrath**	**0.82**	**140**	*i* P	**Pg**	**16 56 16.4**	**-0.5**
	SNR=59						
LMSR				*eS*	**Sg**	**16 56 26.9**	**-0.7**
	2μm,0.3s,SNR=59						
GHAR	**Gharyan**	**1.37**	**233**	*i* P	**Pn**	**16 56 25.8**	**-0.4**
	SNR=37						
GHAR				*eS*	**Sn**	**16 56 44.0**	**-0.5**
	3μm,0.5s,SNR=37						
ALAS	**Alassa**	**2.33**	**268**	*i* P	**Pn**	**16 56 39.0**	**-0.4**
	SNR=37						
LSRT	**Sirt**	**2.68**	**133**	*i* P	**Pn**	**16 56 43.9**	**-0.3**
	SNR=37						
LSHF	**Shwairf**	**2.96**	**182**	*i* P	**Pn**	**16 56 47.5**	**-0.5**
	SNR=37						
LJFR	**Jufra**	**4.03**	**162**	*i* P	**Pn**	**16 57 01.6**	**-1.1**
	SNR=36						
KEST	**Kesra**	**5.01**	**305**	Pn	**Pn**	**16 57 16.1**	**-0.1**
	0.2nm,0.3s,baz=28,slow=3.0,SNR=9.0						
KEST				Sn	**Sn**	**16 58 12.7**	**-1.5**
	0.4nm,0.3s,baz=286,slow=21,SNR=4.6						
ESDC	**Sonseca Array**	**16.23**	**300**	Pn	**P**	**16 59 50.4**	**-1.8**
	0.4nm,0.3s,baz=116,slow=14,SNR=4.3						
AKASG	**Malin Array Be**	**20.83**	**27**	P	**P**	**17 00 42.2**	**-0.4**
	0.9nm,0.7s,baz=221,slow=9.9,SNR=5.0						
TORD	**Torodi Ar. Bea**	**22.87**	**213**	P	**P**	**17 01 08.4**	**+3.8**
	0.5nm,0.6s,baz=23,slow=12,SNR=3.8						
MKAR	**Makanchi Array**	**52.37**	**54**	P	**P**	**17 05 14.6**	**+1.4**
	0.3nm,0.7s,baz=274,slow=5.6,SNR=2.9						

MAN 27 17:25:07, 12°.20N×124°.55E, h30km, mb4.4, ML3.3, MS3.2, 3D, Samar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNP	**Catarman**	**0.33**	**20**	*eP*	Pn	17 25 15.5	-0.2
CNP				*eS*	Sn	17 25 23.4	+2.0
BESP	**Borongan**	**1.06**	**124**	*eP*	Pb	17 25 26.5	-0.3
PLP	**Palo**	**1.11**	**158**	⇓*eP*	Pn	17 25 25.9	-0.7
PLP				*eS*	Sn	17 25 41.0	0.0
OCLP	**Ormoc**	**1.15**	**177**	*eP*	Pn	17 25 27.6	+0.6
OCLP				*eS*	Sn	17 25 41.4	-0.3
PVCP	**Virac**	**1.44**	**345**	⇓*iP*	Pn	17 25 31.3	+0.3
RCP	**Roxas**	**1.88**	**250**	⇓*eP*	Pn	17 25 37.5	+0.4
RCP				*eS*	Sn	17 26 00.5	+0.7

IDC 27 17:28:03.8±2.9, 5°.42S×126°.52E, h0km, mb3.1/1, mb1 3.6/3, mb1mx3.4/21, mbtmp3.4/3, ML3.5/2, Error ellipse: s-maj=510.3km s-min=28.2km az=64.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.32**	**153**	Pn	P	17 31 56.5	-1.1
	0.2nm,0.3s,baz=335,slow=9.0,SNR=16						
ASAR	**Alice Springs**	**19.49**	**159**	P	P	17 32 31.8	-0.9
	0.2nm,0.3s,baz=345,slow=12,SNR=24						
MKAR	**Makanchi Array**	**65.04**	**328**	P	P	17 38 46.0	0.0
	0.1nm,0.4s,baz=140,slow=7.5,SNR=3.1						

AUST 27 17:44:26.6±99.0, 5°.15S×131°.26E, h55km±1km, Error ellipse: s-maj=18.1km s-min=1.0km az=260.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TLE	**Tual**	**1.55**	**108**	P	Pn	17 44 51.7	-0.1
	baz=1.5,SNR=4.7						
FAKI	**Fak Fak**	**2.42**	**24**	P	Pn	17 45 04.1	+0.2
	baz=2.4,SNR=13						
SWI	**Sorong**	**4.26**	**360**	P	Pn	17 45 30.8	+1.8
	baz=4.3,SNR=5.1						
SWI				S	Sn	17 46 15.2	-2.2
	baz=4.3,SNR=3.5						
KDU	**Kakadu**	**7.58**	**171**	P	Pn	17 46 15.2	+0.6
	baz=7.6,SNR=10						
KDU				S	Sn	17 47 37.4	-1.8
	baz=7.6,SNR=5.1						

*IDC **27** 17:51:44.6±1.0, 1°.10N×121°.97E, h0km, mb3.8/5, mb1 3.9/7, mb1mx3.7/24, mbtmp3.8/7, ML3.8/2, MS3.1/1, Ms1 3.1/1, ms1mx2.5/36, Error ellipse: s-maj=52.1km s-min=16.7km az=74.0*
*ISCJB **27** 17:51:48.6±0.5, 1°.06N±0°.04×121°.64E±0°.05, h49km, mb3.8/5, Error ellipse: s-maj=8.1km s-min=5.0km az=148.0*
*DJA **27** 17:51:49.4±0.4, 1°.N±4°×12°.2E±°, h50km, M4.5/10, mb4.8/3, mB4.7/1, MLv4.4/10, Mw(mB)4.0/1*
ISC 27 17:51:50.1±0.9, 1°.09N±0°.06×121°.68E±0°.06, h49km, n23, σ1§90/23, mb3.9/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**0.66**	**157**	P	Pn	17 51 59.8	-3.5
MRSI				S	**Sn**	**17 52 08.6**	**-4.2**
TOLI	**Toli-Toli**	**0.89**	**272**	P	Pn	17 52 02.8	-3.6
TOLI				S	**Sn**	**17 52 14.8**	**-3.5**
GTOI	**Gorontalo

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.58**	**165**	P	P	18 14 41.6	-0.2
	1.0nm,1.2s,baz=344,slow=10,SNR=3.2						
ASAR	**Alice Springs**	**26.06**	**168**	P	P	18 15 14.8	-0.1
	0.2nm,0.8s,baz=352,slow=7.9,SNR=4.9						
MKAR	**Makanchi Array**	**59.82**	**325**	P	P	18 19 47.0	+0.1
	0.3nm,0.5s,baz=110,slow=8.6,SNR=6.2						

*CSEM **27** 18:15:53.2, 45°.75N×26°.65E, h121km, MD3.6/2, After BUC*

BUC 27 18:15:52.4±0.9, 45°.78N×26°.65E, h128km±8km, MD3.6/2, 23C-39D, Error ellipse: s-maj=6.9km s-min=5.9km az=125.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOR	**Plostina**	**0.07**	**3**	⇑iP	Pn	18 16 09.7	-0.2
PLOR	**Plostina**	**0.07**	**3**	⇑iP	Pn	18 16 09.7	-0.2
PLOR				*i* S	Sn	18 16 22.7	-0.4
PLOR	**Plostina**	**0.07**	**3**	⇑iP	Pn	18 16 09.7	-0.2
VRI	**Vrincioaia**	**0.11**	**33**	⇑iP	Pn	18 16 09.9	0.0
VRI	**Vrincioaia**	**0.11**	**33**	⇑iP	Pn	18 16 09.9	0.0
VRI				*i* S	Sn	18 16 22.3	-0.8
ODBI	**Odobesti**	**0.29**	**93**	⇓iP	Pn	18 16 11.1	+0.9
ODBI	**Odobesti**	**0.29**	**93**	⇓iP	Pn	18 16 11.1	+0.9
ODBI				*i* S	Sn	18 16 24.6	+0.9
ODBI	**Odobesti**	**0.29**	**93**	⇓iP	Pn	18 16 11.1	+0.9
PETR	**Petresti**	**0.41**	**97**	⇑iP	Pn	18 16 11.1	+0.3
PETR	**Petresti**	**0.41**	**97**	⇑iP	Pn	18 16 11.1	+0.3
PETR				*i* S	Sn	18 16 24.9	+0.3
PETR	**Petresti**	**0.41**	**97**	⇑iP	Pn	18 16 11.1	+0.3
MLR	**Muntele Rosu**	**0.57**	**240**	⇓iP	Pn	18 16 11.9	0.0
MLR	**Muntele Rosu**	**0.57**	**240**	⇓iP	Pn	18 16 11.9	0.0
MLR				*i* S	Sn	18 16 25.5	-1.0
MLR	**Muntele Rosu**	**0.57**	**240**	⇓iP	Pn	18 16 11.9	0.0
MLR				*i* S	Sn	18 16 25.5	-1.0
TESR	**Tescani**	**0.73**	**0**	⇑iP	Pn	18 16 12.9	+0.1
TESR	**Tescani**	**0.73**	**0**	⇑iP	Pn	18 16 12.9	+0.1
TESR				*i* S	Sn	18 16 27.0	-1.4
TESR	**Tescani**	**0.73**	**0**	⇑iP	Pn	18 16 12.9	+0.1
TESR				*i* S	Sn	18 16 27.0	-1.4
SECR		**0.85**	**209**	⇑iP	Pn	18 16 14.1	+0.3
SECR		**0.85**	**209**	⇑iP	Pn	18 16 14.1	+0.3
SECR				*i* S	Sn	18 16 30.1	+0.1
SECR		**0.85**	**209**	⇑iP	Pn	18 16 14.1	+0.3
SECR				*i* S	Sn	18 16 30.1	+0.1
DOPR	**Dopca**	**0.90**	**283**	⇓iP	Pn	18 16 14.4	+0.2
DOPR	**Dopca**	**0.90**	**283**	⇓iP	Pn	18 16 14.4	+0.2
DOPR				*i* S	Sn	18 16 30.3	-0.5
DOPR	**Dopca**	**0.90**	**283**	⇓iP	Pn	18 16 14.4	+0.2
DOPR				*i* S	Sn	18 16 30.3	-0.5
PGOR	**Pogoanele**	**0.90**	**164**	⇓iP	Pn	18 16 14.4	+0.2
PGOR	**Pogoanele**	**0.90**	**164**	⇓iP	Pn	18 16 14.4	+0.2
PGOR				*i* S	Sn	18 16 31.0	+0.3
PGOR	**Pogoanele**	**0.90**	**164**	⇓iP	Pn	18 16 14.4	+0.2
PGOR				*i* S	Sn	18 16 31.0	+0.3
PLAR	**PLOIESTI**	**0.97**	**207**	*i* S	Sn	18 16 32.3	+0.5
PLAR	**PLOIESTI**	**0.97**	**207**	*i* S	Sn	18 16 32.3	+0.5
SULR		**1.13**	**194**	⇓iP	Pn	18 16 16.5	+0.1
SULR		**1.13**	**194**	⇓iP	Pn	18 16 16.5	+0.1
SULR				*i* S	Sn	18 16 34.6	0.0
SULR		**1.13**	**194**	⇓iP	Pn	18 16 16.5	+0.1
SULR				*i* S	Sn	18 16 34.6	0.0
VOIR		**1.17**	**254**	⇓iP	Pn	18 16 16.9	0.0
VOIR		**1.17**	**254**	⇓iP	Pn	18 16 16.9	0.0
VOIR				*i* S	Sn	18 16 35.2	-0.3
VOIR		**1.17**	**254**	⇓iP	Pn	18 16 16.9	0.0
VOIR				*i* S	Sn	18 16 35.2	-0.3
CFR	**Carcaliu**	**1.21**	**119**	⇓iP	Pn	18 16 17.1	-0.1
CFR	**Carcaliu**	**1.21**	**119**	⇓iP	Pn	18 16 17.1	-0.1
CFR				*i* S	Sn	18 16 34.3	-1.7
CFR	**Carcaliu**	**1.21**	**119**	⇓iP	Pn	18 16 17.1	-0.1
CFR				*i* S	Sn	18 16 34.3	-1.7
AMRR	**Amara**	**1.27**	**157**	⇑iP	Pn	18 16 17.7	-0.1
AMRR	**Amara**	**1.27**	**157**	⇑iP	Pn	18 16 17.7	-0.1
AMRR				*i* S	Sn	18 16 36.5	-0.5
AMRR	**Amara**	**1.27**	**157**	⇑iP	Pn	18 16 17.7	-0.1
AMRR				*i* S	Sn	18 16 36.5	-0.5
LEOM	**Leova**	**1.31**	**57**	⇓iP	Pn	18 16 18.8	+0.6
LEOM	**Leova**	**1.31**	**57**	⇓iP	Pn	18 16 18.8	+0.6
LEOM				*i* S	Sn	18 16 38.0	+0.1
LEOM	**Leova**	**1.31**	**57**	⇓iP	Pn	18 16 18.8	+0.6
LEOM				*i* S	Sn	18 16 38.0	+0.1
CIOR	**Ciorogarla**	**1.44**	**202**	⇓iP	Pn	18 16 19.3	-0.3
CIOR	**Ciorogarla**	**1.44**	**202**	⇓iP	Pn	18 16 19.3	-0.3
CIOR				*i* S	Sn	18 16 39.2	-1.1
CIOR	**Ciorogarla**	**1.44**	**202**	⇓iP	Pn	18 16 19.3	-0.3
CIOR				*i* S	Sn	18 16 39.2	-1.1
ARR	**Arges**	**1.47**	**255**	⇓iP	Pn	18 16 20.6	+0.5
ARR	**Arges**	**1.47**	**255**	⇓iP	Pn	18 16 20.6	+0.5
ARR				*i* S	Sn	18 16 40.7	-0.5
ARR	**Arges**	**1.47**	**255**	⇓iP	Pn	18 16 20.6	+0.5
ARR				*i* S	Sn	18 16 40.7	-0.5
TLB	**Topalu**	**1.55**	**140**	⇑iP	Pn	18 16 20.6	-0.3
TLB	**Topalu**	**1.55**	**140**	⇑iP	Pn	18 16 20.6	-0.3
TLB				*i* S	Sn	18 16 40.6	-2.0
TLB	**Topalu**	**1.55**	**140**	⇑iP	Pn	18 16 20.6	-0.3
TLB				*i* S	Sn	18 16 40.6	-2.0
IAS	**Iasi**	**1.55**	**24**	S	Sn	18 16 42.1	-0.6
IAS	**Iasi**	**1.55**	**24**	*i* S	Sn	18 16 42.1	-0.6
IAS	**Iasi**	**1.55**	**24**	*i* S	Sn	18 16 42.1	-0.6
TLCR		**1.64**	**110**	⇓iP	Pn	18 16 22.3	+0.4
TLCR		**1.64**	**110**	⇓iP	Pn	18 16 22.3	+0.4
TLCR				*i* S	Sn	18 16 43.3	-1.1
TLCR		**1.64**	**110**	⇓iP	Pn	18 16 22.3	+0.4
TLCR				*i* S	Sn	18 16 43.3	-1.1
TIRR	**Tirgusor**	**1.82**	**136**	⇓iP	Pn	18 16 23.8	-0.2
TIRR				S	Sn	18 16 47.0	-1.2
TIRR	**Tirgusor**	**1.82**	**136**	⇓iP	Pn	18 16 23.8	-0.2
TIRR				*i* S	Sn	18 16 47.0	-1.2
TIRR	**Tirgusor**	**1.82**	**136**	⇓iP	Pn	18 16 23.8	-0.2
TIRR				*i* S	Sn	18 16 47.0	-1.2
BURAR	**Bucovina Array**	**2.08**	**332**	⇑iP	Pn	18 16 29.3	+1.9
BURAR	**Bucovina Array**	**2.08**	**332**	⇑iP	Pn	18 16 29.3	+1.9
BURAR	**Bucovina Array**	**2.08**	**332**	⇑iP	Pn	18 16 29.3	+1.9
SRE	**Strehaia**	**2.67**	**247**	⇓iP	Pn	18 16 34.3	-0.4
SRE	**Strehaia**	**2.67**	**247**	⇓iP	Pn	18 16 34.3	-0.4
SRE				*i* S	Sn	18 17 06.8	-0.5
SRE	**Strehaia**	**2.67**	**247**	⇓iP	Pn	18 16 34.3	-0.4

*NIC **27** 18:18:14.6±0.2, 36°.23N×30°.25E, h51km, mb4.2, ML3.8, MW3.9*
*NSSC **27** 18:18:20.8±1.6, 36°.18N×30°.87E, h102km±415km, ML3.7*
*DDA **27** 18:18:22.8, 35°.68N×30°.93E, h28km, MD3.6*
*ISK **27** 18:18:23.6, 36°.01N×30°.97E, h18km, ML3.7*
*HLW **27** 18:18:23.6, 35°.96N×30°.84E, h33km±17km, Md3.5, Ml3.4*
*CSEM **27** 18:18:24.6±0.1, 35°.90N×30°.97E, h20km, Mw3.9, Error ellipse: s-maj=4.5km s-min=2.9km az=37.0*
*ISCJB **27** 18:18:24.3±0.2, 35°.86N±0°.02×30°.96E±0°.02, h56km±5km, mb3.6/8, MS2.9/1, Error ellipse: s-maj=3.1km s-min=2.4km az=27.9*
*IDC **27** 18:18:25.2±1.1, 35°.84N×30°.96E, h47km±14km, mb3.5/8, mb1 3.6/14, mb1mx3.5/28, mbtmp3.5/14, ML3.6/5, MS3.0/1, Ms1 3.0/1, ms1mx2.1/32, Error ellipse: s-maj=11.5km s-min=11.1km az=20.0*

ISC 27 18:18:24.9±1.0, 35°.88N±0°.03×30°.97E±0°.02, h36km±1km, n177, σ1°.75/212, mb3.6/8, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZI	**Gazipasa**	**1.15**	**72**	*i* P	**Pn**	**18 18 44.1**	**-0.3**
GAZI				*i* S	**Sn**	**18 18 58.1**	**-0.8**
GAZI	**Gazipasa**	**1.15**	**72**	*i* P	**Pn**	**18 18 44.1**	**-0.3**
GAZI				*i* S	**Sn**	**18 18 58.1**	**-0.8**
AKAS	**Kas**	**1.16**	**288**	*i* P	**Pn**	**18 18 45.3**	**+0.7**
AKAS				*e*S	Sn	18 19 09.2	+10
AKAS	**Kas**	**1.16**	**288**	*i* P	**Pn**	**18 18 45.3**	**+0.7**
ELL	**Elmali**	**1.21**	**316**	*e*PN	**Pn**	**18 18 45.1**	**-0.3**
ELL	**Elmali**	**1.21**	**316**	*e*Pn	**Pn**	**18 18 45.1**	**-0.3**
KORT	**Korkueli**	**1.22**	**336**	*i* P	**Pn**	**18 18 47.6**	**+2.1**
KORT				*i* S	**Sn**	**18 19 06.4**	**+5.6**
KORT	**Korkueli**	**1.22**	**336**	*i* P	**Pn**	**18 18 47.6**	**+2.1**
KORT				*i* S	**Sn**	**18 19 06.4**	**+5.6**
AKMC	**Akamas**	**1.40**	**127**	P	**Pn**	**18 18 47.5**	**-0.4**
PPCY	**Paphos**	**1.50**	**131**	P	**Pn**	**18 18 50.6**	**+1.3**
ALFC	**Alevga**	**1.52**	**118**	P	**Pn**	**18 18 49.0**	**-0.5**
	51nm,0.3s						
ALFC				S	Sn	18 19 15.8	+7.8
SUTC	**Sutluce-Ispart**	**1.59**	**1**	*e*PN	**Pn**	**18 18 50.4**	**-0.2**
SUTC	**Sutluce-Ispart**	**1.59**	**1**	*e*Pn	**Pn**	**18 18 50.4**	**-0.2**
BCK	**Bucak**	**1.60**	**349**	*e*PN	**Pn**	**18 18 50.6**	**-0.1**
BCK				*e*SN	**Sn**	**18 19 09.4**	**-0.8**
BCK	**Bucak**	**1.60**	**349**	*e*Pn	**Pn**	**18 18 50.6**	**-0.1**
BCK				*e*Sn	**Sn**	**18 19 09.4**	**-0.8**
HDMB	**Hadim**	**1.63**	**48**	*e*PN	**Pn**	**18 18 50.9**	**-0.4**
HDMB				*e*SN	**Sn**	**18 19 11.2**	**+0.1**
HDMB	**Hadim**	**1.63**	**48**	*e*Pn	**Pn**	**18 18 50.9**	**-0.4**
HDMB				*e*Sn	**Sn**	**18 19 11.2**	**+0.1**
FETY	**Fethiye**	**1.70**	**297**	*e*PN	**Pn**	**18 18 52.5**	**+0.6**
FETY	**Fethiye**	**1.70**	**297**	*e*Pn	**Pn**	**18 18 52.5**	**+0.6**
LEF	**Lefka**	**1.75**	**115**	*e*PN	**Pn**	**18 18 54.1**	**+1.5**
LEF	**Lefka**	**1.75**	**115**	*e*Pn	**Pn**	**18 18 54.1**	**+1.5**
GOLH	**Golhisar**	**1.76**	**320**	*i* P	**Pn**	**18 18 56.0**	**+3.1**
GOLH				*i* S	Sn	18 19 28.4	+14
GOLH	**Golhisar**	**1.76**	**320**	*i* P	**Pn**	**18 18 56.0**	**+3.1**
SZAC	**Souni-Zanaja**	**1.93**	**125**	P	**Pn**	**18 18 57.9**	**+2.7**
	21nm,0.4s						
SZAC	**Souni-Zanaja**	**1.93**	**125**	P	**Pn**	**18 18 57.9**	**+2.7**
	21nm,0.4s						
ISP	**Isparta**	**1.97**	**350**	*e*PN	**Pn**	**18 18 56.1**	**+0.3**
ISP	**Isparta**	**1.97**	**350**	*e*Pn	**Pn**	**18 18 56.1**	**+0.3**
MAMC	**Mammari**	**1.97**	**111**	P	**Pn**	**18 18 55.5**	**-0.2**
MAMC	**Mammari**	**1.97**	**111**	P	**Pn**	**18 18 55.5**	**-0.2**
DALY	**Dalyan (Mu¨la**	**2.09**	**297**	*e*PN	**Pn**	**18 18 58.5**	**+1.2**
DALY	**Dalyan (Mu¨la**	**2.09**	**297**	*e*Pn	**Pn**	**18 18 58.5**	**+1.2**
CSS	**Prodhromos**	**2.14**	**115**	P	**Pn**	**18 18 57.3**	**-0.7**
	11nm,0.5s						
CSS				S	Sn	18 19 31.3	+8.0
CSS	**Prodhromos**	**2.14**	**115**	P	**Pn**	**18 18 57.3**	**-0.7**
	11nm,0.5s						
LFK	**Lefkose**	**2.18**	**105**	*e*PN	**Pn**	**18 19 00.1**	**+1.5**
LFK	**Lefkose**	**2.18**	**105**	*e*Pn	**Pn**	**18 19 00.1**	**+1.5**
AKIN	**Ak¨-nc¨-lar- K**	**2.22**	**112**	*e*PN	**Pn**	**18 19 01.7**	**+2.6**
AKIN	**Ak¨-nc¨-lar- K**	**2.22**	**112**	*e*Pn	**Pn**	**18 19 01.7**	**+2.6**
IKL	**Isikli**	**2.23**	**80**	*e*PN	**Pn**	**18 19 01.4**	**+2.1**
IKL	**Isikli**	**2.23**	**80**	*e*Pn	**Pn**	**18 19 01.4**	**+2.1**
ARG	**Arkhangelos**	**2.32**	**279**	*e*P	**Pn**	**18 19 00.7**	**+0.2**
ARG				*e*S	**Sn**	**18 19 27.7**	**-0.1**
KONT	**Konya--Tatoy**	**2.34**	**28**	*e*PN	**Pn**	**18 19 01.2**	**+0.4**
KONT	**Konya--Tatoy**	**2.34**	**28**	*e*Pn	**Pn**	**18 19 01.2**	**+0.4**
DNZL	**Cakiroluk**	**2.37**	**320**	*i* P	Pn	18 19 05.4	+4.0
DNZL				*i* S	Sn	18 19 37.5	+8.2
DNZL	**Cakiroluk**	**2.37**	**320**	*i* P	Pn	18 19 05.4	+4.0
DENT	**Denizli**	**2.43**	**321**	*e*PN	**Pn**	**18 19 02.2**	**+0.3**
DENT	**Denizli**	**2.43**	**321**	*e*Pn	**Pn**	**18 19 02.3**	**+0.3**
YER	**Yerkesik**	**2.50**	**301**	*e*PN	**Pn**	**18 19 03.9**	**+0.9**
YER	**Yerkesik**	**2.50**	**301**	*e*Pn	**Pn**	**18 19 03.9**	**+0.9**
KIZK	**Mersin**	**2.64**	**76**	*i* P	Pn	18 19 08.1	+3.2
KIZK				*i* S	**Sn**	**18 19 38.6**	**+3.0**
KIZK	**Mersin**	**2.64**	**76**	*i* P	Pn	18 19 08.1	+3.2
KIZK				*i* S	**Sn**	**18 19 38.6**	**+3.0**
PHNC	**Paralimni**	**2.65**	**108**	P	**Pn**	**18 19 06.8**	**+1.7**
	15nm,0.6s						
PHNC	**Paralimni**	**2.65**	**108**	P	**Pn**	**18 19 06.8**	**+1.7**
	15nm,0.6s						
KHL	**Karahalli**	**2.69**	**335**	*e*PN	**Pn**	**18 19 06.0**	**+0.4**
KHL	**Karahalli**	**2.69**	**335**	*e*Pn	**Pn**	**18 19 06.1**	**+0.4**
DAT	**Datca**	**2.86**	**288**	*e*PN	**Pn**	**18 19 09.3**	**+1.3**
DAT	**Datca**	**2.86**	**288**	*e*Pn	**Pn**	**18 19 09.3**	**+1.3**
AYDN	**Tasoluk**	**3.05**	**307**	*i* P	**Pn**	**18 19 12.4**	**+1.9**
AYDN				*e*S	Sn	18 20 01.3	+16
AYDN	**Tasoluk**	**3.05**	**307**	*i* P	**Pn**	**18 19 12.4**	**+1.9**
BDRM	**Kayabasi**	**3.07**	**294**	*i* P	**Pn**	**18 19 11.9**	**+1.1**
BDRM				*i* S	**Sn**	**18 19 41.8**	**-4.6**
BDRM	**Kayabasi**	**3.07**	**294**	*i* P	**Pn**	**18 19 11.9**	**+1.1**
KIZT	**Kizilcal**	**3.08**	**13**	*e*PN	**Pn**	**18 19 10.9**	**-0.1**
KIZT	**Kizilcal**	**3.08**	**13**	*e*Pn	**Pn**	**18 19 10.9**	**-0.1**
SULT	**Sultanhani-AKS**	**3.08**	**41**	*e*PN	**Pn**	**18 19 11.5**	**+0.4**
SULT	**Sultanhani-AKS**	**3.08**	**41**	*e*Pn	**Pn**	**18 19 11.5**	**+0.4**
KARP	**Karpathos**	**3.11**	**265**	*e*P	**Pn**	**18 19 12.3**	**+0.9**
BODT	**Bodrum**	**3.17**	**293**	*e*PN	**Pn**	**18 19 14.2**	**+2.0**
BODT	**Bodrum**	**3.17**	**293**	*e*Pn	**Pn**	**18 19 14.2**	**+2.0**
KULA	**Kula-Manisa**	**3.21**	**326**	*e*PN	**Pn**	**18 19 13.1**	**+0.4**
KULA	**Kula-Manisa**	**3.21**	**326**	*e*Pn	**Pn**	**18 19 13.1**	**+0.4**
GULE	**Gulek**	**3.37**	**64**	*i* P	Pn	18 19 19.0	+3.9
GULE				*i* S	**Sn**	**18 19 59.1**	**+5.2**
GULE	**Gulek**	**3.37**	**64**	*i* P	Pn	18 19 19.0	+3.9
GULE				*i* S	**Sn**	**18 19 59.1**	**+5.2**
GDZ	**Gediz**	**3.41**	**340**	*i* P	**Pn**	**18 19 16.8**	**+1.2**
GDZ				*i* S	**Sn**	**18 19 55.0**	**+0.2**
GDZ	**Gediz**	**3.41**	**340**	*i* P	**Pn**	**18 19 16.8**	**+1.2**
GDZ				*i* S	**Sn**	**18 19 55.0**	**+0.2**
SVRH	**Sivrihisar-ESK**	**3.58**	**7**	*e*PN	**Pn**	**18 19 18.0**	**0.0**
SVRH	**Sivrihisar-ESK**	**3.58**	**7**	*e*Pn	**Pn**	**18 19 18.0**	**0.0**
ESKT	**Eskisehir**	**3.63**	**359**	*e*PN	**Pn**	**18 19 19.1**	**+0.5**
ESKT	**Eskisehir**	**3.63**	**359**	*e*Pn	**Pn**	**18 19 19.1**	**+0.5**
SEYT	**Eskypehyr**	**3.63**	**359**	*i* P	**Pn**	**18 19 20.4**	**+1.8**
SEYT				*i* S	**Sn**	**18 20 04.1**	**+3.8**
SEYT	**Eskypehyr**	**3.63**	**359**	*i* P	**Pn**	**18 19 20.4**	**+1.8**
SEYT				*i* S	**Sn**	**18 20 04.1**	**+3.8**
NIG	**Nigde**	**3.67**	**52**	*e*PN	**Pn**	**18 19 19.6**	**+0.4**
NIG	**Nigde**	**3.67**	**52**	*e*Pn	**Pn**	**18 19 19.6**	**+0.4**
SMG	**Samos**	**3.78**	**300**	*e*P	**Pn**	**18 19 19.3**	**-1.3**
IZM	**Izmir**	**3.88**	**311**	*e*PN	**Pn**	**18 19 23.4**	**+1.4**
IZM	**Izmir**	**3.88**	**311**	*e*Pn	**Pn**	**18 19 23.4**	**+1.4**
AFSR	**Af¨ar-Bala (A**	**3.93**	**25**	*e*PN	**Pn**	**18 19 22.9**	**+0.2**
AFSR	**Af¨ar-Bala (A**	**3.93**	**25**	*e*Pn	**Pn**	**18 19 22.9**	**+0.2**
ZKR	**Zakros**	**3.95**	**260**	*e*P	**Pn**	**18 19 24.3**	**+1.4**
BBAL	**Bala**	**4.03**	**24**	*i* P	**Pn**	**18 19 25.5**	**+1.4**
BBAL				*i* S	**Sn**	**18 20 11.2**	**+1.0**
BBAL	**Bala**	**4.03**	**24**	*i* P	**Pn**	**18 19 25.5**	**+1.4**
BBAL				*i* S	**Sn**	**18 20 11.2**	**+1.0**
ARNB	**Al Arnab**	**4.07**	**89**	*e*P	Pn	18 19 22.1	-2.5
ARNB				*e*S	**Sn**	**18 20 08.1**	**-2.9**
ARNB				AML	AML	18 20 17.5	
	comp=Z,1μm,0.6s						
ARNB	**Al Arnab**	**4.07**	**89**	*e*P	Pn	18 19 22.1	-2.5
	SNR=99						
ARNB				*e*S	**Sn**	**18 20 08.1**	**-2.9**
	comp=Z,1μm,0.6s,SNR=99						
YAYL	**Yayladag**	**4.17**	**86**	*i* P	**Pn**	**18 19 28.5**	**+2.4**
YAYL				*i* S	**Sn**	**18 20 15.3**	**+1.6**
YAYL	**Yayladag**	**4.17**	**86**	*i* P	**Pn**	**18 19 28.5**	**+2.4**
YAYL				*i* S	**Sn**	**18 20 15.3**	**+1.6**
DURS	**Dursunbey**	**4.20**	**333**	*i* P	**Pn**	**18 19 28.7**	**+2.2**
DURS				*i* S	**Sn**	**18 20 16.1**	**+1.8**
DURS	**Dursunbey**	**4.20**	**333**	*i* P	**Pn**	**18 19 28.7**	**+2.2**
DURS				*i* S	**Sn**	**18 20 16.1**	**+1.8**
ANTO	**Ankara**	**4.23**	**19**	*e*PN	**Pn**	**18 19 28.4**	**+1.5**
ANTO	**Ankara**	**4.23**	**19**	*e*Pn	**Pn**	**18 19 28.4**	**+1.5**
COBT	**Iskenderun**	**4.33**	**80**	*i* P	**Pn**	**18 19 30.5**	**+2.3**
COBT				*i* S	**Sn**	**18 20 16.2**	**-1.3**
COBT	**Iskenderun**	**4.33**	**80**	*i* P	**Pn**	**18 19 30.5**	**+2.3**
COBT				*i* S	**Sn**	**18 20 16.2**	**-1.3**
BHL	**Bhannes**	**4.33**	**116**	*e*P	Pn	18 19 32.1	+4.0
BHL	**Bhannes**	**4.33**	**116**	*e*P	Pn	18 19 32.2	+4.0
BRTR	**Keskin Array B**	**4.38**	**28**	P	**Pn**	**18 19 30.4**	**+1.4**
	comp=Z,1.7nm,0.3s,baz=197,slow=16,SNR=45						
BRTR				S	**Sn**	**18 20 20.7**	**+1.9**
	comp=Z,1.7nm,0.3s,baz=142,slow=29,SNR=6.6						
HWQ	**Hawqa**	**4.39**	**110**	*e*P	**Pn**	**18 19 31.4**	**+2.4**
HWQ	**Hawqa**	**4.39**	**110**	*e*P	**Pn**	**18 19 31.4**	**+2.4**
CAVI	**Cavuskoy**	**4.40**	**349**	*e*PN	**Pn**	**18 19 29.9**	**+0.8**
CAVI	**Cavuskoy**	**4.40**	**349**	*e*Pn	**Pn**	**18 19 29.9**	**+0.8**
NPS	**Neapolis**	**4.41**	**263**	*e*P	**Pn**	**18 19 30.1**	**+0.9**
NPS				*e*S	**Sn**	**18 20 18.9**	**-0.4**
BTCH	**Batrach**	**4.46**	**86**	*e*P	Pn	18 19 27.4	-2.6
BTCH				*e*S	**Sn**	**18 20 16.9**	**-3.7**
BTCH				AML	AML	18 20 26.1	
	comp=N,165nm,0.4s						
BTCH				AML	AML	18 20 28.2	
	comp=Z,2μm,0.4s						
BTCH				AML	AML	18 20 28.4	
	comp=E,210nm,0.6s						
BTCH	**Batrach**	**4.46**	**86**	*e*P	Pn	18 19 27.4	-2.6
	SNR=98						
BTCH				*e*S	**Sn**	**18 20 16.9**	**-3.7**
	comp=E,210nm,0.6s,SNR=98						
LAST	**Lasithi**	**4.53**	**262**	*e*P	**Pn**	**18 19 32.6**	**+1.6**
LAST				*e*S	**Sn**	**18 20 22.5**	**0.0**
APE	**Apeiranthos**	**4.54**	**287**	*e*P	**Pn**	**18 19 31.3**	**+0.3**
GULT	**Gulveren**	**4.55**	**356**	*e*PN	**Pn**	**18 19 31.5**	**+0.2**
GULT	**Gulveren**	**4.55**	**356**	*e*Pn	**Pn**	**18 19 31.5**	**+0.2**
MDUB	**Mudurnu**	**4.58**	**2**	*e*PN	**Pn**	**18 19 32.6**	**+0.9**
MDUB	**Mudurnu**	**4.58**	**2**	*e*Pn	**Pn**	**18 19 32.6**	**+0.9**
CDAG	**Cicekdag**	**4.61**	**35**	*i* P	**Pn**	**18 19 34.3**	**+2.3**
CDAG				*i* S	**Sn**	**18 20 19.5**	**-4.8**
CDAG	**Cicekdag**	**4.61**	**35**	*i* P	**Pn**	**18 19 34.3**	**+2.3**
CDAG				*i* S	**Sn**	**18 20 19.5**	**-4.8**
ANDN	**Andirin**	**4.64**	**67**	*i* P	**Pn**	**18 19 35.3**	**+2.8**
ANDN				*i* S	**Sn**	**18 20 25.7**	**+0.5**
ANDN	**Andirin**	**4.64**	**67**	*i* P	**Pn**	**18 19 35.3**	**+2.8**
ANDN				*i* S	**Sn**	**18 20 25.7**	**+0.5**
MMAI	**Mount Meron Ar**	**4.65**	**127**	P	**Pn**	**18 19 33.7**	**+1.1**
	comp=E,7.3nm,0.3s,baz=301,slow=12,SNR=39						
MMAI				S	**Sn**	**18 20 26.1**	**+0.7**
	comp=E,9.9nm,0.3s,baz=313,slow=20,SNR=2.0						
RCY	**Rachaya**	**4.67**	**119**	*e*P	Pn	18 19 36.2	+3.3
RCY	**Rachaya**	**4.67**	**119**	*e*P	Pn	18 19 36.2	+3.3
BRBR	**Barbar**	**4.79**	**120**	*e*P	**Pn**	**18 19 36.1**	**+1.4**
BRBR				*e*S	**Sn**	**18 20 28.0**	**-1.1**
BRBR				AML	AML	18 20 38.9	
	comp=N,96nm,0.5s						
BRBR				AML	AML	18 20 45.3	
	comp=E,130nm,0.6s						
BRBR	**Barbar**	**4.79**	**120**	*e*P	**Pn**	**18 19 36.1**	**+1.4**
	SNR=97						
BRBR				*e*S	**Sn**	**18 20 28.0**	**-1.1**
	comp=E,130nm,0.6s,SNR=97						
KCTX	**Karacabey (Bur**	**4.83**	**336**	*e*PN	**Pn**	**18 19 35.9**	**+0.8**
KCTX	**Karacabey (Bur**	**4.83**	**336**	*e*Pn	**Pn**	**18 19 35.9**	**+0.8**
MARH	**Ras Al Marh**	**4.89**	**111**	*e*P	**Pn**	**18 19 36.7**	**+0.5**
MARH				*e*S	**Sn**	**18 20 30.6**	**-1.1**
MARH				AML	AML	18 20 44.4	
	comp=E,71nm,0.5s						
MARH				AML	AML	18 20 46.4	
	comp=N,36nm,0.5s						
MARH	**Ras Al Marh**	**4.89**	**111**	*e*P	**Pn**	**18 19 36.7**	**+0.5**
	SNR=97						
MARH				*e*S	**Sn**	**18 20 30.6**	**-1.1**
	comp=N,36nm,0.5s,SNR=97						
GONE	**Gonen-Balikesi**	**4.90**	**329**	*e*PN	**Pn**	**18 19 37.0**	**+1.1**
GONE	**Gonen-Balikesi**	**4.90**	**329**	*e*Pn	**Pn**	**18 19 37.0**	**+1.1**
IDI	**Anoyia**	**4.99**	**265**	*e*PN	**Pn**	**18 19 39.5**	**+2.3**
IDI	**Anoyia**	**4.99**	**265**	*e*P	**Pn**	**18 19 38.2

Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.79**	**225**	*eP*	Pn	18 23 33.9	+0.2
SPN				*eS*	Sn	18 23 44.5	-0.7
KII	**Karymskiy**	**0.96**	**294**	*eP*	Pn	18 23 36.7	+0.4
KII				*eS*	Sn	18 23 49.8	+0.1
MKZ	**Mys Kozlova**	**1.01**	**27**	*eP*	Pb	18 23 36.2	-0.2
MKZ				*eS*	Sb	18 23 48.2	-1.3
NLC	**Nalytchevo**	**1.07**	**243**	*eP*	Pg	18 23 38.3	+0.4
NLC				*eS*	Sn	18 23 52.4	+0.2
SDLR	**Sedlovina**	**1.29**	**254**	*eP*	Pb	18 23 41.7	+0.4
SDLR				*eS*	Sg	18 23 58.6	-0.5
SMAR	**Somma**	**1.34**	**254**	*eP*	Pb	18 23 42.4	+0.1
SMAR				*eS*	Sn	18 23 59.2	-0.2
UGLR	**Uglovaya**	**1.34**	**251**	*eP*	Pg	18 23 42.8	-0.4
UGLR				*eS*	Sg	18 24 00.5	-0.4
KRER	**Koryakskii**	**1.36**	**256**	*eP*	Pn	18 23 40.6	-1.3
AVH	**Avacha**	**1.38**	**254**	*eP*	Pg	18 23 43.3	-0.5
AVH				*eS*	Sg	18 24 01.0	-0.8
KRX	**Arik**	**1.40**	**258**	*eP*	Pb	18 23 43.3	0.0
KRX				*eS*	Sb	18 24 01.1	0.0
KOK	**Koryaka**	**1.43**	**256**	*eP*	Pb	18 23 43.8	+0.2
KOK				*eS*	Sb	18 24 02.1	+0.4
PET	**Petropavlovsk**	**1.51**	**246**	*eP*	Pb	18 23 44.8	-0.1
PET				*eS*	Sb	18 24 03.6	-0.3
GNL	**Ganaly**	**1.78**	**272**	*eP*	Pb	18 23 49.6	-0.1
GNL				*eS*	Sb	18 24 12.6	+0.6
RUS	**Russkaya**	**1.91**	**231**	*eP*	Pn	18 23 50.0	+0.8
RUS				*eS*	Sn	18 24 13.3	+0.3
MTVR	**Mutnovka**	**2.04**	**236**	*eP*	Pb	18 23 53.2	-0.9
MTVR				*eS*	Sb	18 24 18.9	-0.5
GRL	**Gorelyy**	**2.05**	**238**	*eP*	Pn	18 23 51.7	+0.4
GRL				*eS*	Sn	18 24 16.1	-0.7
KMNR	**Kamenistaya**	**2.14**	**349**	*eP*	Pn	18 23 53.7	+1.2
KMNR				*eS*	Sn	18 24 19.4	+0.5
ASAK	**Asacha**	**2.24**	**236**	*eS*	Sb	18 24 24.5	-0.5
BZGR	**Bezymyannyi-Gr**	**2.29**	**357**	*eP*	Pb	18 23 56.7	-1.7
BZGR				*eS*	Sb	18 24 24.6	-2.0
BZMR	**Bezymyannaya**	**2.29**	**354**	*eP*	Pb	18 23 56.9	-1.6
BZMR				*eS*	Sn	18 24 24.4	+1.6
BZWR	**Bezymyannyi-We**	**2.32**	**354**	*eP*	Pn	18 23 56.5	+1.4
BZWR				*eS*	Sn	18 24 24.9	+1.3
KIRR	**Kirishev**	**2.32**	**352**	*eP*	Pn	18 23 56.4	+1.3
KIRR				*eS*	Sn	18 24 24.7	+1.2
ZLN	**Zelenaya**	**2.36**	**358**	*eP*	Pb	18 23 57.7	-1.9
ZLN				*eS*	Sb	18 24 27.1	-1.6
APC	**Apacha**	**2.39**	**254**	*eP*	Pb	18 23 58.4	-1.4
APC				*eS*	Sb	18 24 27.8	-1.2
KOZ	**Kozyrevsk**	**2.48**	**346**	*eP*	Pn	18 23 58.6	+1.5
KOZ				*eS*	Sn	18 24 27.8	+0.7
KRSR	**Krestovskiy**	**2.57**	**355**	*eP*	Pb	18 24 01.4	-1.8
KRSR				*eS*	Sb	18 24 33.2	-1.5
ESO	**Esso**	**2.61**	**331**	*eP*	Pn	18 24 00.2	+1.3
ESO				*eS*	Sn	18 24 30.7	+0.3
KLY	**Klyuchi**	**2.66**	**357**	*eP*	Pn	18 24 01.7	+2.2
KLY				*eS*	Sn	18 24 33.6	+2.1
SRDR	**Sredinnyy**	**2.75**	**346**	*eP*	Pn	18 24 02.7	+1.8
SRDR				*eS*	Sn	18 24 35.1	+1.2
KBTR	**Krutoberegovo**	**2.77**	**22**	*eP*	Pn	18 24 02.9	+1.8
KBTR				*eS*	Sn	18 24 35.7	+1.4
SRKR	**Sorokina**	**3.00**	**2**	*eP*	Pn	18 24 06.5	+2.2
SRKR				*eS*	Sn	18 24 41.9	+1.8

IDC 27 18:23:57.6±4.0, 20°.88S×166°.81E, $h0^{km}$, mb4.0/2, mb1 4.3/2, mb1mx3.7/15, mbtmp4.0/2, Error ellipse: s-maj=75.3km s-min=27.0km az=82.0, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**1.23**	**196**	Pn	Pn	18 24 22.1	-0.1
	0.8nm,0.3s,baz=88,slow=23,SNR=14						
DZM				Sn	Sn	18 24 40.6	+0.9
	0.2nm,0.3s,baz=169,slow=16,SNR=4.0						
WRA	**Warramunga Arr**	**30.42**	**266**	P	P	18 30 12.5	+0.5
	1.1nm,0.4s,baz=97,slow=7.8,SNR=6.3						
ASAR	**Alice Springs**	**30.54**	**259**	P	P	18 30 12.4	-0.6
	0.8nm,0.6s,baz=82,slow=8.3,SNR=6.5						
BRTR	**Keskin Array B**	**135.97**	**306**	PKP	PKPdf	18 43 20.8	-0.2
	1.3nm,0.9s,baz=36,slow=2.7,SNR=3.9						

IDC 27 18:25:47.8±2.9, 2°.63N×94°.84E, $h0^{km}$, mb3.6/5, mb1 3.6/6, mb1mx3.4/26, mbtmp3.5/6, ML3.3/1, Error ellipse: s-maj=110.0km s-min=21.6km az=61.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.24**	**14**	Pn	Pn	18 29 37.6	+0.1
	0.0nm,0.3s,baz=208,slow=11,SNR=3.5						
WRA	**Warramunga Arr**	**44.79**	**122**	P	P	18 34 03.6	-0.2
	0.6nm,0.9s,baz=302,slow=8.8,SNR=2.7						
MKAR	**Makanchi Array**	**45.33**	**348**	P	P	18 34 07.7	0.0
	0.9nm,0.6s,baz=167,slow=9.4,SNR=15						
SONM	**Songino Array**	**46.13**	**11**	P	P	18 34 14.0	-0.1
	0.2nm,0.6s,baz=189,slow=11,SNR=3.9						
ASAR	**Alice Springs**	**46.14**	**127**	P	P	18 34 14.4	0.0
	0.3nm,0.8s,baz=298,slow=7.7,SNR=2.7						
ZALV	**Zalesovo Beam**	**51.81**	**352**	P	P	18 34 57.0	-0.4
	0.9nm,0.5s,baz=179,slow=9.6,SNR=5.0						

IDC 27 18:33:04.3±59.0, 16°.78S×178°.34W, $h0^{km}$, mb4.1/3, mb1 4.3/3, mb1mx3.8/17, mbtmp4.1/3, Error ellipse: s-maj=1087.0km s-min=146.4km az=78.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.24**	**240**	P	P	18 40 35.3	+0.6
	1.0nm,0.4s,baz=95,slow=12,SNR=16						
WRA	**Warramunga Arr**	**44.91**	**258**	P	P	18 41 20.7	-0.6
	0.4nm,0.5s,baz=96,slow=8.4,SNR=26						
ASAR	**Alice Springs**	**45.17**	**253**	P	P	18 41 22.9	-0.4
	4.2nm,0.5s,baz=89,slow=7.9,SNR=122						

*NEIC **27** 18:41:44.5±1.0, 37°.95N×73°.57E, $h202^{km}$±20^{km}, mb4.9/3, Error ellipse: s-maj=19.9km s-min=12.2km az=117.0*
*IDC **27** 18:41:58.4±0.9, 39°.30N×73°.55E, $h0^{km}$, mb3.7/8, mb1 3.9/11, mb1mx3.7/29, mbtmp3.8/11, ML3.3/4, Error ellipse: s-maj=20.0km s-min=16.3km az=116.0*
*TEH **27** 18:41:59.1, 39°.19N×73°.18E, $h20^{km}$, ML4.2*
*NNC **27** 18:42:05.7±2.7, 39°.76N×73°.56E, $h0^{km}$, mb4.0, mpv3.7, Error ellipse: s-maj=25.4km s-min=12.1km az=10.0*

ISC 27 18:41:59.2±0.7, 39°.19N±0°.05×73°.67E±0°.06, $h10^{km}$, n45, σ1°70/43, mb3.7/8, 8C-7D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.81**	**79**	Pg	**Pn**	**18 42 29.3**	**-1.3**
KSH				Sg	**Sn**	**18 42 51.3**	**-2.5**
KSH				smax	smax		
	comp=N,770nm,0.4s						
KSH				smax	smax		
	comp=E,470nm,0.4s						
AML	**Almayashu**	**2.94**	**0**	P	**Pn**	**18 42 47.1**	**+0.7**
	SNR=58						
UCH	**Uchtor**	**3.10**	**12**	P	**Pn**	**18 42 50.7**	**+2.1**
	SNR=10.0						
KZA	**Kyzart**	**3.12**	**22**	P	**Pn**	**18 42 50.4**	**+1.4**
	SNR=51						
EKS2	**Erkin-Say**	**3.47**	**1**	P	**Pn**	**18 42 54.3**	**+0.9**
	SNR=57						
EKS2	**Erkin-Say**	**3.47**	**1**	*e*Pn	**Pn**	**18 42 54.1**	**+0.7**
EKS2				*e*Sn	**Sn**	**18 43 35.3**	**+0.7**
AAK	**Ala-Archa**	**3.50**	**10**	P	**Pn**	**18 42 56.0**	**+2.2**
	SNR=9.3						
AAK	**Ala-Archa**	**3.50**	**10**	*e*Pn	**Pn**	**18 42 55.4**	**+1.6**
AAK	**Ala-Archa**	**3.50**	**10**	Pn	**Pn**	**18 42 56.0**	**+2.2**
	comp=E,9.5nm,0.3s,baz=151,slow=7.1,SNR=42						
AAK				Sn	**Sn**	**18 43 34.9**	**-0.4**
	comp=E,11nm,0.3s,baz=167,slow=6.4,SNR=4.4						
KBK	**Karagaybulak**	**3.59**	**15**	P	**Pn**	**18 42 57.2**	**+2.0**
	SNR=15						
ULHL	**Ulahol**	**3.62**	**32**	P	**Pn**	**18 42 57.8**	**+2.1**
	SNR=12						
CHMS	**Chumysh**	**3.89**	**12**	P	**Pn**	**18 43 01.0**	**+1.9**
	SNR=17						
TKM2	**Tokmak 2**	**4.00**	**21**	⇑Pn	**Pn**	**18 43 02.7**	**+1.9**
	comp=E,8.6nm,0.5s						
TKM2				⇑Lg	Lg	18 43 56.9	
	comp=E,38nm,0.6s						
TKM2	**Tokmak 2**	**4.00**	**21**	P	**Pn**	**18 43 01.6**	**+0.8**
	SNR=17						
TKM2	**Tokmak 2**	**4.00**	**21**	*e*Pn	**Pn**	**18 43 01.5**	**+0.7**
	comp=E,40nm,0.6s						
USP	**Ospenovka**	**4.12**	**8**	P	**Pn**	**18 43 03.4**	**+1.2**
	SNR=13						
KK31	**Karatay Array**	**4.58**	**330**	Pn	**Pn**	**18 43 09.1**	**+0.5**
	comp=E,1.5nm,0.2s,baz=122,slow=13,SNR=254						
KK31				⇓Pg	**Pb**	**18 43 19.9**	**+0.2**
	comp=E,6.5nm,0.5s,baz=142,slow=15,SNR=6.4						
KK31				⇓Sn	**Sn**	**18 43 59.4**	**-2.4**
	comp=E,6.9nm,0.3s,baz=138,slow=22,SNR=4.1						
KK31				⇑Lg	Lg	18 44 14.4	
	comp=E,42nm,0.7s,baz=157,slow=30,SNR=4.5						
KKAR	**Karatay Array**	**4.58**	**330**	*e*Pn	**Pn**	**18 43 08.9**	**+0.3**
	comp=E,24nm,0.3s						
KNDC	**Almaty**	**4.73**	**31**	⇓Pn	**Pn**	**18 43 12.3**	**+1.6**
	comp=E,32nm,0.6s						
KNDC				⇑Lg	Lg	18 44 21.2	
	comp=E,70nm,0.5s						
CHCP	**Chirah Chowk**	**5.53**	**184**	P	Pb	18 43 32.6	-3.3
CEP	**Cherat**	**5.54**	**195**	P	Pb	18 43 32.5	-3.6
CEP				S	**Sb**	**18 44 43.0**	**+0.3**
THW	**Thamme Wali**	**6.57**	**194**	P	Pn	18 43 45.1	+9.2
MK31	**Makanchi Array**	**9.88**	**37**	⇑Pn	**Pn**	**18 44 23.5**	**+2.3**
	comp=E,1.1nm,0.8s,baz=220,slow=14,SNR=5.2						
MK31				⇓Lg	Lg	18 47 05.8	
	comp=E,1.0nm,0.7s,baz=228,slow=27,SNR=3.6						
MK31	**Makanchi Array**	**9.88**	**37**	*e*P	Pn	18 44 16.0	-5.2
MKAR	**Makanchi Array**	**9.88**	**37**	Pn	**Pn**	**18 44 24.1**	**+2.9**
	comp=E,0.0nm,0.3s,baz=228,slow=18,SNR=3.1						
IMYA	**Miami**	**11.11**	**259**	*e*P	**Pn**	**18 44 38.0**	**-0.3**
IAKL	**Akhelmad**	**12.06**	**262**	*e*P	**Pn**	**18 44 51.7**	**+0.3**
IKRD	**Kardeh**	**12.20**	**263**	*e*P	Pn	18 44 42.4	-11
VOSK	**Vostochnaya**	**13.66**	**353**	⇑Pn	Pn	18 45 10.4	-2.5
	comp=E,2.0nm,0.8s						
VOSK				⇓Lg	Lg	18 49 00.4	
	comp=E,4.2nm,1.1s						
BVA0	**Borovoye Array**	**14.02**	**352**	Pn	**Pn**	**18 45 17.7**	**-0.1**
	comp=E,2.1nm,0.6s,baz=180,slow=13,SNR=12						
BVAR	**Borovoye Array**	**14.02**	**352**	Pn	Pn	18 45 14.9	-2.9
	comp=E,0.2nm,0.3s,baz=163,slow=12,SNR=9.4						
AB31	**Akbulak array**	**14.05**	**320**	Pn	Pn	18 45 15.5	-2.8
	comp=E,0.6nm,0.5s,baz=127,slow=14,SNR=16						
AB31				⇓Sn	Sn	18 47 45.6	-8.7
	comp=E,1.4nm,0.8s,baz=132,slow=25,SNR=3.0						
ABKAR	**Akbulak array**	**14.05**	**320**	*e*P	Pn	18 45 05.4	-13
	comp=E,0.7nm,0.4s						
BRVK	**Borovoye**	**14.07**	**352**	⇓Pn	**Pn**	**18 45 17.6**	**-0.8**
	comp=E,6.4nm,0.8s						
AKTO	**Aktyubinsk**	**15.77**	**321**	⇑Pn	**Pn**	**18 45 43.3**	**+2.1**
	comp=E,3.6nm,1.1s						
AKTO				⇑Sn	**Sn**	**18 48 30.6**	**-5.4**
	comp=E,1.4nm,0.6s						
AKTO	**Aktyubinsk**	**15.77**	**321**	Pn	**Pn**	**18 45 42.9**	**+1.7**
	comp=E,0.3nm,0.3s,baz=127,slow=19,SNR=8.7						
ZALV	**Zalesovo Beam**	**16.60**	**24**	Pn	**Pn**	**18 45 50.7**	**-1.2**
	comp=E,0.2nm,0.3s,baz=219,slow=11,SNR=10.0						
BRTR	**Keskin Array B**	**30.74**	**284**	P	**P**	**18 48 14.9**	**+0.2**
	comp=E,0.4nm,0.6s,baz=93,slow=9.4,SNR=3.2						
FINES	**FINESS Array B**	**36.51**	**323**	P	**P**	**18 49 03.6**	**-0.8**
	comp=E,2.4nm,0.8s,baz=116,slow=9.9,SNR=10						
ARCES	**ARCESS Array B**	**39.52**	**336**	P	**P**	**18 49 29.2**	**-0.5**
	comp=E,3.8nm,0.9s,baz=112,slow=8.8,SNR=11						
TORD	**Torodi Ar. Bea**	**67.89**	**269**	P	**P**	**18 52 58.7**	**+0.6**
	comp=E,0.8nm,0.5s,baz=49,slow=5.2,SNR=15						
ILAR	**Eielson Array**	**71.61**	**17**	P	**P**	**18 53 19.5**	**-0.9**
	comp=E,0.3nm,0.8s,baz=336,slow=6.3,SNR=3.8						
YKA	**Yellowknife Ar**	**78.44**	**4**	P	**P**	**18 53 59.5**	**-0.3**
	comp=E,0.4nm,0.6s,baz=351,slow=5.9,SNR=3.0						
WRA	**Warramunga Arr**	**81.68**	**124**	P	**P**	**18 54 19.3**	**+1.4**
	comp=E,0.6nm,0.8s,baz=330,slow=5.5,SNR=6.9						
ASAR	**Alice Springs**	**84.11**	**127**	P	**P**	**18 54 32.2**	**+1.7**
	comp=E,0.3nm,1.0s,baz=315,slow=4.7,SNR=3.5						

*IDC **27** 18:45:49.9±0.8, 24°.92N×96°.34E, $h0^{km}$, mb3.9/12, mb1 4.0/13, mb1mx3.8/30, mbtmp3.9/13, ML4.0/1, Error ellipse: s-maj=41.8km s-min=13.8km az=60.0*

ISC 27 18:45:52.9±0.8, 25°.0N±0°.1×96°.5E±0°.1, $h21^{km}$, n25, σ1°27/26, mb3.9/12, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**4.24**	**278**	*e*P	**Pn**	**18 46 58.0**	**+1.6**
SHL				*e*S	**Sn**	**18 47 47.0**	**+1.7**
CHTO	**Chiang Mai**	**6.57**	**160**	*e*P	**Pn**	**18 47 27.4**	**-1.0**
	51nm,0.8s						
CMAR	**Chiang Mai Arr**	**6.91**	**161**	Pn	**Pn**	**18 47 33.7**	**+0.7**
	0.8nm,0.3s,baz=335,slow=13,SNR=6.7						
CMAR				Pg	Pb	18 47 59.7	+7.4
	0.5nm,0.3s,baz=342,slow=17,SNR=9.7						
CMAR				Lg	Lg	18 49 28.4	
	0.2nm,0.3s,baz=338,slow=31,SNR=3.5						
TAPN	**Taplejung**	**8.25**	**288**	*e*P	**Pn**	**18 47 51.3**	**-0.4**
	16nm,0.3s						
ODAN	**Odare**	**8.42**	**285**	*e*P	**Pn**	**18 47 53.5**	**-0.5**
	20nm,0.4s						
RAMN	**Ramite**	**9.13**	**284**	*e*P	**Pn**	**18 48 03.5**	**-0.3**
	33nm,0.7s						
JIRN	**Jiri**	**9.63**	**288**	*e*P	**Pn**	**18 48 10.0**	**-0.7**
	13nm,0.3s						
GUN	**Gumba**	**9.96**	**289**	*e*P	**Pn**	**18 48 14.5**	**-0.7**
	29nm,0.5s						
PKIN	**Phulchoki**	**10.30**	**287**	*e*P	**Pn**	**18 48 18.7**	**-1.1**
	12nm,0.5s						
KKN	**Kakani**	**10.45**	**288**	*e*P	**Pn**	**18 48 20.7**	**-1.1**
	17nm,0.5s						
DMN	**Daman**	**10.56**	**287**	*e*P	**Pn**	**18 48 21.3**	**-2.1**
GKN	**Gorkha**	**11.05**	**288**	*e*P	**Pn**	**18 48 28.7**	**-1.3**
	17nm,0.6s						
KOLN	**Koldanda**	**11.90**	**286**	*e*P	**Pn**	**18 48 38.6**	**-3.1**
SONM	**Songino Array**	**24.07**	**16**	P	**P**	**18 51 07.3**	**+0.4**
	0.5nm,0.8s,baz=193,slow=6.2,SNR=4.0						
MKAR	**Makanchi Array**	**24.52**	**336**	P	**P**	**18 51 12.2**	**+1.3**
	6.0nm,0.6s,baz=145,slow=9.3,SNR=48						
AAK	**Ala-Archa**	**25.25**	**320**	P	**P**	**18 51 19.2**	**+1.6**
	1.0nm,0.4s,baz=185,slow=7.4,SNR=3.7						
KURBB	**Kurchatov Arra**	**29.09**	**336**	P	**P**	**18 51 52.5**	**+0.6**
	0.8nm,0.3s,baz=149,slow=8.6,SNR=6.2						
ZALV	**Zalesovo Beam**	**30.19**	**346**	P	**P**	**18 52 02.4**	**+0.9**
	1.5nm,0.5s,baz=160,slow=8.2,SNR=8.3						
BVAR	**Borovoye Array**	**34.19**	**332**	P	**P**	**18 52 37.4**	**+0.7**
	0.5nm,0.4s,baz=138,slow=11,SNR=6.0						
BRTR	**Keskin Array B**	**54.08**	**302**	P	**P**	**18 55 15.1**	**-1.3**
	0.3nm,0.4s,baz=90,slow=7.8,SNR=4.4						
AKASG	**Malin Array Be**	**56.82**	**315**	P	**P**	**18 55 34.4**	**-1.3**
	0.6nm,0.4s,baz=78,slow=6.6,SNR=8.0						
WRA	**Warramunga Arr**	**57.88**	**137**	P	**P**	**18 55 43.2**	**-0.3**
	0.9nm,1.1s,baz=321,slow=7.5,SNR=5.7						
ARCES	**ARCESS Array B**	**60.16**	**337**	P	**P**	**18 55 59.5**	**+0.8**
	2.0nm,0.7s,baz=72,slow=7.8,SNR=4.1						
ASAR	**Alice Springs**	**60.46**	**140**	P	**P**	**18 56 02.4**	**+1.1**
	0.5nm,0.8s,baz=318,slow=6.8,SNR=8.9						
GERES	**GERESS Array B**	**67.00**	**315**	P	**P**	**18 56 44.0**	**-0.3**
	0.9nm,0.6s,baz=65,slow=6.3,SNR=13						

*IDC **27** 19:26:33.0±0.8, 32°.39N×105°.11E, $h0^{km}$, mb4.0/12, mb1 4.0/15, mb1mx3.9/30, mbtmp3.9/15, ML3.1/3, MS3.6/1, Ms1 3.5/1, ms1mx2.2/35, Error ellipse: s-maj=33.0km s-min=15.1km az=54.0*
*ISCJB **27** 19:26:33.1±0.4, 32°.33N±0°.04×105°.02E±0°.04, $h15^{km}$, mb4.0/12, MS3.6/1, Error ellipse: s-maj=5.8km s-min=4.2km az=143.9*
*BJI **27** 19:26:35.7, 32°.34N×104°.94E, $h10^{km}$, mb3.9/3, ML3.5/15, Ms3.8/6, Ms7 3.7/4*

ISC 27 19:26:35.0±0.5, 32°.32N±0°.04×104°.99E±0°.05, $h15^{km}$, n31, σ1°52/39, mb4.0/12, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**1.76**	**217**	Pn	**Pb**	**19 27 06.0**	**-1.0**
CD2				Pg	**Pg**	**19 27 07.8**	**-1.0**
CD2				Sn	**Sb**	**19 27 29.5**	**+0.7**
CD2				Sg	**Sg**	**19 27 32.0**	**+0.4**
CD2				smax	smax		
	comp=N,3μm,0.6s						
CD2				smax	smax		
	comp=E,5μm,0.7s						
XAN	**Xi'an**	**3.71**	**61**	Pn	Pb	19 27 36.5	-3.9
XAN				Sn	**Sn**	**19 28 17.8**	**+2.3**
XAN				Sg	**Sg**	**19 28 34.5**	**+0.1**
XAN				smax	smax		
	comp=N,130nm,0.9s						
XAN				smax	smax		
	comp=E,60nm,0.8s						
LZH	**Lanzhou**	**3.88**	**346**	Pn	**Pn**	**19 27 37.3**	**+3.1**
LZH				Pg	**Pg**	**19 27 47.3**	**-2.0**
LZH				Sn	**Sn**	**19 28 23.0**	**+3.5**
LZH				Sg	**Sg**	**19 28 37.0**	**-2.5**
LZH				smax	smax		
	comp=N,280nm,1.1s						
LZH				smax	smax		
	comp=E,470nm,1.0s						
LZH				LR	LR		
	comp=N,1μm,6.0s						
LZH				LR	LR		
	comp=E,990nm,6.2s						
LZH				LR	LR		
	comp=Z,1μm,8.5s						
KMI	**Kunming**	**7.44**	**196**	Pg	Pg	19 28 52.5	-5.0
KMI				Sg	**Sn**	**19 29 45.8**	**-1.7**
KMI				smax	smax		
	comp=N,18nm,0.8s						
KMI				smax	smax		
	comp=E,17nm,0.9s						
WHN	**Wuhan**	**8.19**	**100**	P	**Pn**	**19 28 31.5**	**-1.8**
WHN				S	**Sn**	**19 30 08.0**	**+2.3**
GTA	**Gaotai**	**8.23**	**331**	*e*P	**Pn**	**19 28 34.8**	**+0.9**
GTA				pP	pP	19 28 38.8	
GTA				sP	sP	19 28 42.3	
GTA				S	**Sn**	**19 30 09.0**	**+2.3**
GTA				sS	sS	19 30 14.3	
GTA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
GTA				LR	LR		
	comp=N,330nm,8.5s						
GTA				LR	LR		
	comp=E,210nm,6.7s						
GTA				LR	LR		
	comp=Z,300nm,11.9s						
CMAR	**Chiang Mai Arr**	**14.84**	**203**	Pn	**Pn**	**19 30 05.6**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=10.0,slow=12,SNR=2.9						
SONM	**Songino Array**	**15.53**	**4**	Pn	**Pn**	**19 30 11.8**	**-1.8**
	comp=Z,0.0nm,0.3s,baz=181,slow=13,SNR=3.7						
ODAN	**Odare**	**16.24**	**255**	*e*P	**Pn**	**19 30 24.2**	**+1.3**
	comp=Z,6.2nm,0.5s						
JIRN	**Jiri**	**16.93**	**259**	*e*P	**Pn**	**19 30 31.8**	**0.0**
	comp=Z,10nm,0.7s						
GUN	**Gumba**	**17.11**	**260**	*e*P	**Pn**	**19 30 32.7**	**-1.3**
PKIN	**Phulchoki**	**17.62**	**260**	*e*P	**Pn**	**19 30 39.2**	**-1.1**
	comp=Z,5.4nm,0.6s						
KKN	**Kakani**	**17.65**	**260**	*e*P	**Pn**	**19 30 39.3**	**-1.3**
DMN	**Daman**	**17.85**	**260**	*e*P	**Pn**	**19 30 42.9**	**-0.3**
	comp=Z,12nm,0.8s						
GKN	**Gorkha**	**18.11**	**262**	*e*P	**Pn**	**19 30 45.1**	**-1.2**
	comp=Z,14nm,0.8s						
KOLN	**Koldanda**	**19.06**	**262**	*e*P	**P**	**19 30 56.1**	**-0.9**
	comp=Z,11nm,0.8s						
KSRS	**Korea Array**	**19.48**	**68**	P	**P**	**19 30 59.0**	**-2.3**
	comp=Z,0.1nm,0.3s,baz=262,slow=10,SNR=2.5						
MKAR	**Makanchi Array**	**22.59**	**316**	P	**P**	**19 31 36.0**	**+1.1**
	comp=Z,2.7nm,0.8s,baz=116,slow=11,SNR=20						
ZALV	**Zalesovo Beam**	**25.98**	**332**	P	**P**	**19 32 07.7**	**+0.8**
	comp=Z,1.4nm,0.5s,baz=130,slow=9.4,SNR=8.2						
KURBB	**Kurchatov Arra**	**26.75**	**321**	P	**P**	**19 32 13.9**	**0.0**
	comp=Z,1.8nm,0.8s,baz=128,slow=8.7,SNR=17						
BVAR	**Borovoye Array**	**32.33**	**320**	P	**P**	**19 33 04.4**	**+1.0**
	comp=Z,0.8nm,0.4s,baz=130,slow=8.4,SNR=3.7						
AKTO	**Aktyubinsk**	**38.88**	**312**	P	**P**	**19 33 58.9**	**-0.8**
	comp=Z,1.4nm,0.6s,baz=90,slow=8.1,SNR=4.1						
KBZ	**Khabaz**	**49.17**	**302**	LR	LR	20 00 31.3	
	comp=Z,54nm,18.4s,baz=203,slow=41						
ARCES	**ARCESS Array B**	**56.47**	**335**	P	**P**	**19 36 16.6**	**+0.8**
	comp=Z,6.1nm,1.0s,baz=72,slow=7.9,SNR=8.5						
BRTR	**Keskin Array B**	**56.80**	**299**	P	**P**	**19 36 19.6**	**+0.7**
	comp=Z,1.0nm,0.7s,baz=91,slow=7.8,SNR=3.6						
FINES	**FINESS Array B**	**56.98**	**326**	P	**P**	**19 36 20.1**	**+0.5**
	comp=Z,2.4nm,0.7s,baz=74,slow=6.8,SNR=8.4						
WRA	**Warramunga Arr**	**59.08**	**147**	P	**P**	**19 36 35.1**	**+0.3**
	comp=Z,2.5nm,0.5s,baz=340,slow=7.3,SNR=9.5						
ASAR	**Alice Springs**	**62.15**	**150**	P	**P**	**19 36 56.3**	**+0.6**
	comp=Z,1.3nm,0.7s,baz=342,slow=7.2,SNR=12						
NB2	**NORSAR Subarra**	**64.04**	**327**	P	**P**	**19 37 07.7**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=72,slow=6.9						
NOA	**NORSAR Array B**	**64.04**	**327**	P	**P**	**19 37 06.5**	**-1.4**
	comp=Z,2.2nm,0.9s,baz=71,slow=6.9,SNR=4.0						
YKA

*IDC **27** 19:44:31.3±1.3, 59°.78N×141°.68W, h0km, mb3.4/3, mb1 3.5/7, mb1mx3.3/26, mbtmp3.4/7, ML2.8/4, Error ellipse: s-maj=27.8km s-min=14.2km az=14.0*

ISC 27 19:44:29.9±1.4, 59°.91N±0°.04×141°.47W±0°.03, h0km±9km, n53, σ1°35/69, mb3.6/3, 3D, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TABL	**Table Mountain**	**0.55**	**17**	P	**Pg**	**19 44 40.8**	**+0.3**
TABL				S	**Sg**	**19 44 48.8**	**+1.2**
BAGL	**Bagley Icefiel**	**0.66**	**332**	P	**Pg**	**19 44 43.0**	**+0.6**
BAGL				S	**Sb**	**19 44 53.2**	**-0.6**
BARK	**Barkley Ridge**	**0.71**	**314**	P	**Pg**	**19 44 44.0**	**+0.6**
BARK				S	**Sb**	**19 44 55.2**	**-0.3**
ISLE	**Juniper Island**	**0.82**	**328**	P	**Pg**	**19 44 45.6**	**+0.1**
ISLE				S	**Sb**	**19 44 58.0**	**-0.6**
GRNC	**Granite Creek**	**0.83**	**350**	P	**Pg**	**19 44 45.6**	**-0.2**
GRNC				S	**Sg**	**19 44 57.9**	**+1.3**
BGLC	**Bering Glacier**	**0.93**	**284**	P	**Pb**	**19 44 48.6**	**-0.3**
BGLC				S	**Sb**	**19 45 02.4**	**+0.6**
GRIN	**Grindle Hills**	**1.00**	**293**	P	**Pg**	**19 44 49.2**	**+0.3**
KHIT	**Khitrov Hills**	**1.04**	**302**	P	**Pg**	**19 44 49.5**	**-0.2**
KIAG	**Kiagna River**	**1.11**	**337**	P	**Pg**	**19 44 50.0**	**-1.1**
BARN	**Barnard Glacie**	**1.16**	**355**	P	**Pg**	**19 44 50.6**	**-1.4**
BARN				S	**Sg**	**19 45 07.2**	**+0.2**
BALM	**Baldy**	**1.21**	**339**	P	**Pg**	**19 44 51.6**	**-1.4**
NICHA	**Nichawak Mount**	**1.29**	**286**	P	**Pg**	**19 44 54.3**	**-0.3**
NICHA				S	**Sg**	**19 45 11.8**	**+0.5**
PTPK	**Patty Peak**	**1.37**	**339**	P	**Pn**	**19 44 54.3**	**-2.1**
VRDI	**Verde Repeater**	**1.64**	**324**	P	**Pn**	**19 44 58.3**	**-1.9**
MCARA	**McCarthy VSAT**	**1.66**	**333**	P	**Pn**	**19 44 58.9**	**-1.4**
RAGM	**Ragged Mountai**	**1.67**	**288**	P	**Pn**	**19 44 59.4**	**-1.0**
GOAT	**Goat Mountain**	**1.76**	**294**	P	**Pn**	**19 45 00.3**	**-1.3**
BMRM	**Bremner River**	**1.88**	**306**	P	**Pn**	**19 45 02.6**	**-0.7**
GLB	**Gilahina Butte**	**1.92**	**324**	P	**Pn**	**19 45 02.4**	**-1.4**
HYT	**Haines Junctio**	**2.17**	**63**	P	**Pn**	**19 45 06.3**	**-1.1**
HYT	**Haines Junctio**	**2.17**	**63**	⇓Pn	**Pn**	**19 45 06.3**	**-1.1**
HYT				⇓Sn	**Sn**	**19 45 34.3**	**-0.7**
DIV	**Divide**	**2.45**	**302**	*e*Pn	**Pn**	**19 45 10.5**	**-0.6**
DIV				*e*Sn	**Sn**	**19 45 41.1**	**-0.7**
KLU	**Klutina**	**2.70**	**308**	P	**Pn**	**19 45 13.8**	**-0.8**
HARP	**HAARP**	**3.08**	**326**	P	**Pn**	**19 45 19.1**	**-0.6**
SKAG	**Skagway**	**3.15**	**96**	*e*Pn	**Pn**	**19 45 20.7**	**+0.1**
SKAG				*e*Sn	**Sn**	**19 45 59.1**	**+0.3**
BCA3	**Beaver Creek A**	**3.17**	**357**	P	**Pn**	**19 45 19.8**	**-1.2**
MENT	**Mentasta**	**3.22**	**341**	*e*Pn	**Pn**	**19 45 21.9**	**+0.2**
MENT				*e*Sn	**Sn**	**19 45 59.4**	**-1.3**
WHY	**Whitehorse**	**3.37**	**74**	P	**Pn**	**19 45 22.3**	**-1.4**
WHY	**Whitehorse**	**3.37**	**74**	⇑Pn	**Pn**	**19 45 22.2**	**-1.5**
WHY				⇑Pg	**Pb**	**19 45 29.1**	**-1.3**
WHY				⇑Sn	**Sn**	**19 46 01.7**	**-2.6**
PAX	**Paxson**	**3.62**	**330**	*e*Pn	**Pn**	**19 45 27.0**	**-0.2**
PMR	**Palmer**	**4.12**	**297**	*e*Pn	**Pn**	**19 45 33.5**	**-0.4**
PMR				*e*Sn	**Sn**	**19 46 21.9**	**-0.8**
SCRK	**Sand Creek**	**4.25**	**345**	P	**Pn**	**19 45 34.7**	**-1.1**
DHY	**Denali Highway**	**4.25**	**321**	P	**Pn**	**19 45 35.2**	**-0.7**
DAWY	**Dawson**	**4.28**	**12**	P	**Pn**	**19 45 35.8**	**-0.4**
DAWY	**Dawson**	**4.28**	**12**	⇑Pn	**Pn**	**19 45 36.3**	**+0.1**
DAWY				⇓Sn	**Sn**	**19 46 26.8**	**0.0**
DDM	**Donnelly Dome**	**4.41**	**334**	P	**Pn**	**19 45 38.1**	**+0.1**
EGAK	**Eagle**	**4.88**	**2**	*e*Pn	**Pn**	**19 45 43.3**	**-1.1**
EGAK				*e*Sn	**Sn**	**19 46 40.0**	**-1.6**
ILAR	**Eielson Array**	**5.49**	**335**	Pn	**Pn**	**19 45 55.4**	**+2.7**
ILAR				Lg	Lg	19 47 17.7	
ILAR	**Eielson Array**	**5.49**	**335**	Pn	**Pn**	**19 45 55.4**	**+2.7**
	0.3nm,0.3s,baz=154,slow=13,SNR=8.8						
ILAR				Lg	Lg	19 47 17.7	
	0.1nm,0.3s,baz=133,slow=30,SNR=2.0						
DLBC	**Dease Lake**	**6.07**	**99**	Pn	Pn	19 46 04.0	+3.3
DLBC				Lg	Lg	19 47 32.9	
DLBC	**Dease Lake**	**6.07**	**99**	Pn	Pn	19 46 04.0	+3.3
	0.2nm,0.3s,baz=312,slow=14,SNR=2.4						
DLBC				Lg	Lg	19 47 32.9	
	0.5nm,0.3s,baz=159,slow=25,SNR=2.5						
KDAK	**Kodiak Island**	**6.15**	**255**	Pn	**Pn**	**19 46 01.1**	**-0.7**
KDAK				Sn	**Sn**	**19 47 08.8**	**-3.9**
KDAK	**Kodiak Island**	**6.15**	**255**	Pn	**Pn**	**19 46 01.1**	**-0.7**
	0.6nm,0.3s,baz=302,slow=11,SNR=16						
KDAK				Sn	**Sn**	**19 47 08.8**	**-3.9**
	0.1nm,0.3s,baz=305,slow=16,SNR=2.8						
BM3	**Burnt Mountain**	**7.66**	**351**	P	**Pn**	**19 46 22.6**	**0.0**
IMA2	**Indian Mountai**	**8.30**	**323**	*e*Pn	**Pn**	**19 46 30.9**	**-0.4**
IMA2				*e*Sn	**Sn**	**19 48 03.4**	**-2.3**
YKA	**Yellowknife Ar**	**13.16**	**67**	Pn	Pn	19 47 40.3	+2.6
YKA	**Yellowknife Ar**	**13.16**	**67**	Pn	Pn	19 47 40.3	+2.6
	0.0nm,0.3s,baz=264,slow=14,SNR=2.4						
SCHQ	**Schefferville**	**38.58**	**63**	P	**P**	**19 51 55.5**	**+1.6**
SCHQ	**Schefferville**	**38.58**	**63**	P	**P**	**19 51 55.5**	**+1.6**
	1.2nm,0.8s,baz=291,slow=8.6,SNR=2.6						
SONM	**Songino Array**	**59.31**	**313**	P	**P**	**19 54 33.3**	**+0.1**
SONM	**Songino Array**	**59.31**	**313**	P	**P**	**19 54 33.3**	**+0.1**
	0.4nm,0.9s,baz=20,slow=11,SNR=3.0						
MKAR	**Makanchi Array**	**67.81**	**329**	P	**P**	**19 55 31.4**	**+2.2**
MKAR	**Makanchi Array**	**67.81**	**329**	P	**P**	**19 55 31.4**	**+2.2**
	0.1nm,0.5s,baz=40,slow=7.5,SNR=3.1						

IDC 27 20:01:39.8±9.6, 11°.65S×165°.94E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/17, mbtmp3.6/3, Error ellipse: s-maj=292.3km s-min=54.6km az=125.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.46**	**251**	P	P	20 08 03.3	-0.1
	0.6nm,0.9s,baz=83,slow=9.3,SNR=3.7						
ASAR	**Alice Springs**	**32.70**	**244**	P	P	20 08 14.4	+0.1
	0.4nm,0.7s,baz=64,slow=10.0,SNR=6.9						
MKAR	**Makanchi Array**	**94.09**	**317**	P	P	20 15 00.2	-0.2
	0.5nm,0.8s,baz=110,slow=6.5,SNR=5.5						

IDC 27 20:02:32.0±8.5, 11°.88S×166°.31E, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.5/17, mbtmp3.7/3, Error ellipse: s-maj=254.8km s-min=53.9km az=125.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.73**	**251**	P	P	20 08 58.0	0.0
	0.5nm,0.6s,baz=84,slow=9.2,SNR=4.2						
ASAR	**Alice Springs**	**32.93**	**245**	P	P	20 09 08.4	-0.1
	0.5nm,0.6s,baz=68,slow=9.8,SNR=8.4						
MKAR	**Makanchi Array**	**94.51**	**317**	P	P	20 15 54.2	-0.2
	0.5nm,0.7s,baz=98,slow=4.7,SNR=6.2						

IDC 27 20:04:51.3±3.9, 27°.62N×111°.84W, h0km, mb3.3/2, mb1 3.8/4, mb1mx3.6/24, mbtmp3.4/4, ML3.8/2, MS3.3/5, Ms1 3.4/5, ms1mx3.2/11, Error ellipse: s-maj=62.1km s-min=20.6km az=13.0, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**7.39**	**75**	Pn	Pn	20 06 41.5	+0.9
	0.7nm,0.3s,baz=244,slow=13,SNR=36						
TXAR				Lg	Lg	20 08 43.2	
	0.4nm,0.3s,baz=246,slow=18,SNR=5.2						
TXAR				LR	LR	20 09 43.1	
	comp=Z,382nm,19.1s,baz=195,slow=40						
PDAR	**Pinedale Array**	**15.23**	**6**	Pn	P	20 08 33.0	0.0
	0.0nm,0.3s,baz=184,slow=9.0,SNR=3.8						
YBH	**Yreka Blue Hor**	**16.66**	**330**	LR	LR	20 14 45.9	
	comp=Z,112nm,18.3s,baz=156,slow=36						
NEW	**Newport**	**21.02**	**350**	P	P	20 09 34.5	-2.0
	0.9nm,0.6s,baz=317,slow=21,SNR=3.0						
NEW				LR	LR	20 17 31.4	
	comp=Z,54nm,20.0s,baz=337,slow=36						
ULM	**Lac du Bonnet**	**25.68**	**24**	LR	LR	20 21 07.8	
	comp=Z,70nm,18.9s,baz=278,slow=38						
ILAR	**Eielson Array**	**43.28**	**339**	P	P	20 12 54.7	+0.3
	0.3nm,0.8s,baz=157,slow=8.2,SNR=3.8						
ILAR				LR	LR	20 32 52.5	
	comp=Z,40nm,18.9s,baz=314,slow=39						

IDC 27 20:19:01.5±2.4, 1°.20N×127°.13E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/20, mbtmp3.2/3, Error ellipse: s-maj=197.6km s-min=27.0km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.17**	**162**	P	P	20 23 59.4	0.0
	0.4nm,0.5s,baz=341,slow=11,SNR=12						
ASAR	**Alice Springs**	**25.58**	**165**	P	P	20 24 32.5	0.0
	0.5nm,0.9s,baz=342,slow=9.1,SNR=6.7						
MKAR	**Makanchi Array**	**59.85**	**326**	P	P	20 29 09.0	0.0
	0.1nm,0.4s,baz=117,slow=7.2,SNR=4.1						

*DDA **27** 20:33:38.6, 34°.96N×26°.68E, h22km, MD3.6*
*IDC **27** 20:33:40.8±1.4, 34°.83N×27°.24E, h0km, mb3.5/3, mb1 3.4/6, mb1mx3.3/24, mbtmp3.3/6, ML3.4/3, Error ellipse: s-maj=44.5km s-min=22.2km az=138.0*
*ISCJB **27** 20:33:42.8±1.1, 35°.09N±0°.04×27°.06E±0°.03, h15km±8km, mb3.5/3, Error ellipse: s-maj=6.9km s-min=3.1km az=160.4*
*ATH **27** 20:33:42.8, 35°.18N×27°.01E, h17km±1km, MD3.3/13*
*CSEM **27** 20:33:42.4±0.2, 35°.14N×26°.99E, h5km, ML3.3/2, Error ellipse: s-maj=6.0km s-min=2.7km az=161.0*
*THE **27** 20:33:43.5, 35°.24N×26°.91E, h0km, ML3.3/2, Error ellipse: s-maj=2.3km s-min=0.5km az=147.0*
*ISK **27** 20:33:43.0, 35°.15N×27°.08E, h20km, ML3.6*

ISC 27 20:33:42.7±1.1, 35°.14N±0°.04×27°.01E±0°.02, h12km±7km, n101, σ1°05/141, mb3.6/3, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.42**	**18**	P	**Pg**	**20 33 51.0**	**-0.1**
KARP				S	**Sg**	**20 33 57.5**	**+0.7**
KARP	**Karpathos**	**0.42**	**18**	*e*PB	**Pg**	**20 33 50.5**	**-0.6**
KARP				*e*SB	**Sg**	**20 33 56.6**	**-0.2**
KARP	**Karpathos**	**0.42**	**18**	*e*Pb	**Pg**	**20 33 50.5**	**-0.6**
KARP	**Karpathos**	**0.42**	**18**	P	**Pg**	**20 33 51.0**	**-0.1**
KARP				*e*Sb	**Sg**	**20 33 56.6**	**-0.2**
KARP				S	**Sg**	**20 33 57.5**	**+0.7**
ZKR	**Zakros**	**0.65**	**268**	P	**Pg**	**20 33 54.8**	**-0.5**
ZKR				S	**Sb**	**20 34 04.9**	**0.0**
ZKR	**Zakros**	**0.65**	**268**	*e*PB	**Pg**	**20 33 54.9**	**-0.4**
ZKR	**Zakros**	**0.65**	**268**	*e*Pb	**Pg**	**20 33 54.9**	**-0.4**
ZKR				S	**Sb**	**20 34 04.9**	**0.0**
NPS	**Neapolis**	**1.15**	**276**	P	**Pb**	**20 34 03.7**	**-0.8**
NPS				S	**Sb**	**20 34 19.4**	**+0.1**
NPS	**Neapolis**	**1.15**	**276**	*e*PN	**Pb**	**20 34 04.0**	**-0.5**
NPS				*e*SN	**Sb**	**20 34 19.4**	**+0.1**
NPS	**Neapolis**	**1.15**	**276**	P	**Pb**	**20 34 03.7**	**-0.8**
NPS	**Neapolis**	**1.15**	**276**	*e*Pn	**Pb**	**20 34 04.0**	**-0.5**
NPS				S	**Sb**	**20 34 19.4**	**+0.1**
LAST	**Lasithi**	**1.25**	**271**	P	**Pn**	**20 34 05.3**	**-0.8**
LAST				S	**Sn**	**20 34 23.0**	**+0.1**
LAST	**Lasithi**	**1.25**	**271**	*e*PN	**Pg**	**20 34 07.0**	**+0.2**
LAST	**Lasithi**	**1.25**	**271**	P	**Pn**	**20 34 05.3**	**-0.8**
LAST	**Lasithi**	**1.25**	**271**	*e*Pn	**Pg**	**20 34 07.0**	**+0.2**
LAST				S	**Sn**	**20 34 23.0**	**+0.1**
ARG	**Arkhangelos**	**1.41**	**40**	P	**Pn**	**20 34 09.1**	**+0.9**
ARG				S	**Sg**	**20 34 28.7**	**+0.7**
ARG	**Arkhangelos**	**1.41**	**40**	*e*PN	**Pb**	**20 34 09.3**	**+0.4**
ARG	**Arkhangelos**	**1.41**	**40**	P	**Pn**	**20 34 09.1**	**+0.9**
ARG				S	**Sg**	**20 34 28.7**	**+0.7**
NIS3	**Nisyros Isl.**	**1.43**	**5**	P	**Pn**	**20 34 08.7**	**+0.2**
NIS1	**Nisyros Isl.**	**1.46**	**5**	P	**Pn**	**20 34 08.4**	**-0.6**
NIS1				S	**Sn**	**20 34 28.5**	**+0.5**
NIS1	**Nisyros Isl.**	**1.46**	**5**	*e*PN	**Pn**	**20 34 09.3**	**+0.3**
NIS1	**Nisyros Isl.**	**1.46**	**5**	P	**Pn**	**20 34 08.4**	**-0.6**
NIS1				S	**Sn**	**20 34 28.5**	**+0.5**
DAT	**Datca**	**1.65**	**16**	*e*PN	**Pn**	**20 34 11.6**	**0.0**
DAT				*e*SN	**Sn**	**20 34 32.2**	**-0.6**
DAT	**Datca**	**1.65**	**16**	*e*Pn	**Pn**	**20 34 11.6**	**0.0**
DAT				*e*Sn	**Sn**	**20 34 32.2**	**-0.6**
IDI	**Anoyia**	**1.74**	**275**	P	**Pn**	**20 34 12.8**	**0.0**
IDI				S	**Sn**	**20 34 35.0**	**+0.1**
IDI	**Anoyia**	**1.74**	**275**	*e*PN	**Pb**	**20 34 14.2**	**-0.4**
IDI				*e*SN	**Sb**	**20 34 36.1**	**-0.3**
IDI	**Anoyia**	**1.74**	**275**	*e*PN	**Pb**	**20 34 14.7**	**+0.1**
IDI	**Anoyia**	**1.74**	**275**	P	**Pn**	**20 34 12.8**	**0.0**
IDI	**Anoyia**	**1.74**	**275**	*e*Pn	**Pb**	**20 34 14.2**	**-0.4**
IDI				S	**Sn**	**20 34 35.0**	**+0.1**
IDI				*e*Sn	**Sb**	**20 34 36.1**	**-0.3**
SANT	**Santorini**	**1.75**	**315**	*e*PN	**Pb**	**20 34 14.7**	**-0.2**
SANT	**Santorini**	**1.75**	**315**	*e*Pn	**Pb**	**20 34 14.7**	**-0.2**
SIVA	**Sivas**	**1.81**	**267**	P	**Pn**	**20 34 13.1**	**-0.5**
SIVA				S	**Sn**	**20 34 37.2**	**+0.8**
SIVA	**Sivas**	**1.81**	**267**	*e*PN	**Pb**	**20 34 15.4**	**-0.3**
SIVA	**Sivas**	**1.81**	**267**	P	**Pn**	**20 34 13.1**	**-0.5**
SIVA	**Sivas**	**1.81**	**267**	*e*Pn	**Pb**	**20 34 15.4**	**-0.3**
SIVA				S	**Sn**	**20 34 37.2**	**+0.8**
THR3	**Thira Island,**	**1.81**	**315**	P	**Pn**	**20 34 12.7**	**-1.1**
THR3	**Thira Island,**	**1.81**	**315**	P	**Pn**	**20 34 12.7**	**-1.1**
BODT	**Bodrum**	**1.93**	**7**	*e*PN	**Pn**	**20 34 15.0**	**-0.4**
BODT	**Bodrum**	**1.93**	**7**	*e*Pn	**Pn**	**20 34 15.0**	**-0.4**
BDRM	**Kayabasi**	**1.95**	**10**	*i* P	**Pn**	**20 34 15.2**	**-0.5**
BDRM				*i* S	**Sn**	**20 34 39.0**	**-1.1**
BDRM	**Kayabasi**	**1.95**	**10**	*i* P	**Pn**	**20 34 15.2**	**-0.5**
BDRM				*i* S	**Sn**	**20 34 39.0**	**-1.1**
DALY	**Dalyan (Mu¨la**	**2.14**	**38**	*e*PN	**Pn**	**20 34 17.9**	**-0.3**
DALY	**Dalyan (Mu¨la**	**2.14**	**38**	*e*Pn	**Pn**	**20 34 17.9**	**-0.3**
TURN	**Turunc**	**2.16**	**36**	*i* P	**Pn**	**20 34 16.1**	**-2.4**
TURN				*i* S	**Sn**	**20 34 42.9**	**-2.2**
TURN	**Turunc**	**2.16**	**36**	*i* P	**Pn**	**20 34 16.1**	**-2.4**
TURN				*i* S	**Sn**	**20 34 42.9**	**-2.2**
YER	**Yerkesik**	**2.24**	**27**	*e*PN	**Pn**	**20 34 19.3**	**-0.4**
YER	**Yerkesik**	**2.24**	**27**	*e*Pn	**Pn**	**20 34 19.3**	**-0.4**
FETY	**Fethiye**	**2.25**	**48**	*e*PN	**Pn**	**20 34 19.8**	**0.0**
FETY	**Fethiye**	**2.25**	**48**	*e*Pn	**Pn**	**20 34 19.8**	**0.0**
APE	**Apeiranthos**	**2.26**	**329**	P	**Pn**	**20 34 19.4**	**-0.6**
APE				S	**Sn**	**20 34 47.0**	**-0.8**
APE	**Apeiranthos**	**2.26**	**329**	*e*PN	**Pn**	**20 34 20.7**	**+0.7**
APE	**Apeiranthos**	**2.26**	**329**	*e*PN	**Pn**	**20 34 21.2**	**+1.2**
APE	**Apeiranthos**	**2.26**	**329**	P	**Pn**	**20 34 19.4**	**-0.6**
APE	**Apeiranthos**	**2.26**	**329**	*e*Pn	**Pn**	**20 34 20.7**	**+0.7**
APE				S	**Sn**	**20 34 47.0**	**-0.8**
VAM	**Vamos**	**2.31**	**277**	*e*PN	**Pn**	**20 34 22.8**	**+2.2**
VAM	**Vamos**	**2.31**	**277**	*e*Pn	**Pn**	**20 34 22.8**	**+2.2**
KSL	**Kastellorizon**	**2.33**	**64**	*e*PB	**Pn**	**20 34 22.0**	**+1.2**
AKAS	**Kas**	**2.38**	**62**	*i* P	**Pn**	**20 34 23.0**	**+1.3**
AKAS				*i* S	**Sb**	**20 34 55.0**	**0.0**
AKAS	**Kas**	**2.38**	**62**	*i* P	**Pn**	**20 34 23.0**	**+1.3**
AKAS				*i* S	**Sb**	**20 34 55.0**	**0.0**
SMG	**Samos**	**2.56**	**357**	*e*PN	**Pn**	**20 34 24.9**	**+0.8**
SMG	**Samos**	**2.56**	**357**	*e*Pn	**Pn**	**20 34 24.9**	**+0.8**
AYDN	**Tasoluk**	**2.61**	**15**	*i* P	**Pn**	**20 34 26.4**	**+1.6**
AYDN				*i* S	**Sb**	**20 34 59.7**	**-1.8**
AYDN	**Tasoluk**	**2.61**	**15**	*i* P	**Pn**	**20 34 26.4**	**+1.6**
AYDN				*i* S	**Sb**	**20 34 59.7**	**-1.8**
ELL	**Elmali**	**2.85**	**55**	*e*PN	**Pn**	**20 34 28.2**	**+0.1**
ELL	**Elmali**	**2.85**	**55**	*e*Pn	**Pn**	**20 34 28.2**	**+0.1**
GOLH	**Golhisar**	**2.94**	**44**	*i* P	**Pn**	**20 34 31.6**	**+2.3**
GOLH				*i* S	**Sb**	**20 35 10.9**	**-0.1**
GOLH	**Golhisar**	**2.94**	**44**	*i* P	**Pn**	**20 34 31.6**	**+2.3**
DNZL	**Cakiroluk**	**3.03**	**32**	*i* P	**Pn**	**20 34 32.4**	**+1.8**
DNZL				*i* S	**Sn**	**20 35 09.0**	**+2.1**
DNZL	**Cakiroluk**	**3.03**	**32**	*i* P	**Pn**	**20 34 32.4**	**+1.8**
DNZL				*i* S	**Sn**	**20 35 09.0**	**+2.1**
DENT	**Denizli**	**3.08**	**32**	*e*PN	**Pn**	**20 34 31.3**	**+0.1**
DENT	**Denizli**	**3.08**	**32**	*e*Pn	**Pn**	**20 34 31.3**	**+0.1**
IZM	**Izmir**	**3.25**	**4**	*e*PN	**Pn**	**20 34 34.5**	**+0.9**
IZM	**Izmir**	**3.25**	**4**	*e*Pn	**Pn**	**20 34 34.5**	**+0.9**
BCK	**Bucak**	**3.71**	**50**	*e*PN	**Pn**	**20 34 40.5**	**+0.6**
BCK	**Bucak**	**3.71**	**50**	*e*Pn	**Pn**	**20 34 40.5**	**+0.6**
KHL	**Karahalli**	**3.76**	**32**	*e*PN	**Pn**	**20 34 41.1**	**+0.5**
KHL	**Karahalli**	**3.76**	**32**	*e*Pn	**Pn**	**20 34 41.1**	**+0.5**
KHAL	**Karahalli**	**3.79**	**31**	*i* P	**Pn**	**20 34 41.8**	**+0.8**
KHAL				*i* S	**Sn**	**20 35 27.2**	**+1.6**
KHAL	**Karahalli**	**3.79**	**31**	*i* P	**Pn**	**20 34 41.8**	**+0.8**
KHAL				*i* S	**Sn**	**20 35 27.2**	**+1.6**
ISP	**Isparta**	**3.90**	**46**	*e*PN	**Pn**	**20 34 43.5**	**+1.0**
ISP	**Isparta**	**3.90**	**46**	*e*Pn	**Pn**	**20 34 43.5**	**+1.0**
SUTC	**Sutluce-Ispart**	**3.98**	**53**	*e*PN	**Pn**	**20 34 44.2**	**+0.5**
SUTC	**Sutluce-Ispart**	**3.98**	**53**	*e*Pn	**Pn**	**20 34 44.2**	**+0.5**
GAZI	**Gazipasa**	**4.46**	**74**	*i* P	**Pn**	**20 34 50.3**	**+0.2**
GAZI				*i* S	**Sn**	**20 35 36.8**	**-5.2**
GAZI	**Gazipasa**	**4.46**	**74**	*i* P	**Pn**	**20 34 50.3**	**+0.2**
HDMB	**Hadim**	**4.80**	**66**	*e*PN	**Pn**	**20 34 55.9**	**+0.9**
HDMB	**Hadim**	**4.80**	**66**	*e*Pn	**Pn**	**20 34 55.9**	**+0.9**
LEF	**Lefka**	**4.82**	**89**	*e*PN	**Pn**	**20 34 54.7**	**-0.4**
LEF	**Lefka**	**4.82**	**89**	*e*Pn	**Pn**	**20 34 54.7**	**-0.4**
KONT	**Konya--Tatoy**	**5.14**	**55**	*e*PN	**Pn**	**20 35 01.0**	**+1.5**
KONT	**Konya--Tatoy**	**5.14**	**55**	*e*Pn	**Pn**	**20 35 01.0**	**+1.5**
LFK	**Lefkose**	**5.35**	**87**	*e*PN	**Pn**	**20 35 02.7**	**+0.3**
LFK	**Lefkose**	**5.35**	**87**	*e*Pn	**Pn**	**20 35 02.7**	**+0.3**
IKL	**Isikli**	**5.54**	**77**	*e*PN	**Pn**	**20 35 06.4**	**+1.4**
IKL	**Isikli**	**5.54**	**77**	*e*Pn	**Pn**	**20 35 06.4**	**+1.4**
BRTR	**Keskin Array B**	**6.98**	**47**	Pn	**Pn**	**20 35 25.5**	**+0.6**
	0.1nm,0.3s,baz=220,slow=13,SNR=3.2						
BRTR				Sn	**Sn**	**20 36 45.5**	**+1.2**
	baz=214,slow=26,SNR=3.8						
AKASG	**Malin Array Be**	**15.63**	**5**	Pn	**P**	**20 37 26.1**	**-0.8**
	0.5nm,0.3s,baz=196,slow=11,SNR=3.2						
GERES	**GERESS Array B**	**16.85**	**328**	P	**P**	**20 37 41.9**	**+1.4**
	0.1nm,0.3s,baz=138,slow=10,SNR=3.3						
TORD	**Torodi Ar. Bea**	**31.66**	**233**	P	**P**	**20 40 05.6**	**-0.4**
	0.4nm,0.4s,baz=32,slow=8.3,SNR=7.6						
MKAR	**Makanchi Array**	**42.52**	**57**	P	**P**	**20 41 38.5**	**+0.5**
	0.6nm,0.5s,baz=275,slow=7.6,SNR=18						
SONM	**Songino Array**	**58.32**	**51**	P	**P**	**20 43 37.1**	**-0.5**
	0.3nm,0.6s,baz=291,slow=8.6,SNR=2.9						

*ISCJB **27** 20:46:51.8±0.8, 52°.3N±0°.1×170°.60W±0°.09, h51km±6km, mb4.2/29, MS3.6/9, Error ellipse: s-maj=19.5km s-min=6.6km az=160.0*
*NEIC **27** 20:46:53.1±2.0, 52°.26N×170°.50W, h50km±15km, mb3.6/1, ML3.8(AEIC), Error ellipse: s-maj=57.7km s-min=8.2km az=163.0*
*IDC **27** 20:46:53.2±3.0, 52°.36N×170°.55W, h52km±26km, mb3.9/18, mb1 4.0/22, mb1mx4.0/28, mbtmp3.8/22, ML3.7/4, MS3.6/9, Ms1 3.6/9, ms1mx3.3/43, Error ellipse: s-maj=22.8km s-min=12.1km az=174.0*

ISC 27 20:46:52.4±1.5, 52°.2N±0°.2×170°.52W±0°.07, h47km±12km, n69, σ0°93/75, mb4.3/29, MS3.5/9, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**1.26**	**53**	P	**Pn**	**20 47 11.8**	**-1.8**
NIKH				S	**Sn**	**20 47 27.2**	**-2.0**
OKSP	**Okmok Steeple**	**1.70**	**52**	P	**Pn**	**20 47 19.3**	**-0.2**
OKSO	**Okmok South**	**1.82**	**51**	P	**Pn**	**20 47 20.9**	**-0.3**
OKSO				S	**Sn**	**20 47 42.6**	**-0.5**
OKTU	**Okmok Mt. Tuli**	**1.90**	**52**	P	**Pn**	**20 47 23.1**	**+0.8**
OKFG	**Magazine Ridge**	**1.97**	**52**	P	**Pn**	**20 47 22.9**	**-0.4**
OKFG				S	**Sn**	**20 47 46.9**	**+0.1**
MREP	**Makushin Rep't**	**2.77**	**54**	P	**Pn**	**20 47 35.0**	**+0.7**
MSW	**Makushin Switc**	**2.81**	**52**	P	**Pn**	**20 47 35.6**	**+0.7**
MSW				S	**Sn**	**20 48 07.9**	**+0.4**
MTBL	**Makushin Table**	**2.90**	**52**	P	**Pn**	**20 47 36.0**	**0.0**
UNV	**Unalaska Valle**	**2.91**	**55**	P	**Pn**	**20 47 36.7**	**+0.5**
UNV				S	**Sn**	**20 48 10.0**	**+0.1**
AKRB	**Akutan Reef Bi**	**3.28**	**53**	P	**Pn**	**20 47 42.4**	**+1.1**
AKGG	**Akutan Green G**	**3.36**	**52**	P	**Pn**	**20 47 42.9**	**+0.6**
AKUT	**Akutan**	**3.43**	**54**	*e*Pn	**Pn**	**20 47 44.5**	**+1.2**
ADK	**Adak**	**3.82**	**267**	P	**Pn**	**20 47 49.5**	**+0.9**
**FAL

*ISK **27** 21:01:20.7, 40.′17N×32.′68E, h5km, MD3.6*
*DDA **27** 21:01:20.5, 40.′16N×32.′75E, h3km, MD3.5*
*CSEM **27** 21:01:21.2±0.1, 40.′18N×32.′67E, h2km, MD3.5, Error ellipse: s-maj=3.4km s-min=2.7km az=151.0*
ISC 27 21:01:21.4±1.1, 40.′17N±0.′02×32.′72E±0.′02, h3km±12km, n86, σ0.94/113, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAD	**Ankara**	**0.27**	**174**	*i* P	**Pg**	**21 01 26.4**	**-0.1**
DAD				*i* S	**Sg**	**21 01 30.0**	**+0.1**
DAD	**Ankara**	**0.27**	**174**	*i* P	**Pg**	**21 01 26.4**	**-0.1**
DAD				*i* S	**Sg**	**21 01 30.0**	**+0.1**
ELDT	**Eldivan**	**0.63**	**60**	*i* P	**Pg**	**21 01 33.3**	**-0.2**
ELDT				*i* S	**Sg**	**21 01 42.0**	**+0.4**
ELDT	**Eldivan**	**0.63**	**60**	*i* P	**Pg**	**21 01 33.3**	**-0.2**
ELDT				*i* S	**Sg**	**21 01 42.0**	**+0.4**
BBAL	**Bala**	**0.70**	**153**	*i* P	**Pg**	**21 01 34.2**	**-0.6**
BBAL				*i* S	**Sg**	**21 01 43.7**	**-0.2**
BBAL	**Bala**	**0.70**	**153**	*i* P	**Pg**	**21 01 34.2**	**-0.6**
BBAL				*i* S	**Sg**	**21 01 43.7**	**-0.2**
AFSR	**Af¯ar-Bala (A**	**0.77**	**159**	*e*PG	**Pg**	**21 01 35.6**	**-0.6**
AFSR				*e*SG	**Sg**	**21 01 47.1**	**+0.8**
AFSR	**Af¯ar-Bala (A**	**0.77**	**159**	*e*Pg	**Pg**	**21 01 35.6**	**-0.6**
AFSR				*e*Sg	**Sg**	**21 01 47.1**	**+0.8**
CANT	**Cankiri**	**0.81**	**58**	*e*PG	**Pg**	**21 01 37.1**	**+0.1**
CANT				*e*SG	**Sb**	**21 01 49.0**	**-0.7**
SAFT	**Safranbolu**	**1.07**	**359**	*e*PG	**Pg**	**21 01 41.6**	**-0.2**
SAFT	**Safranbolu**	**1.07**	**359**	*e*Pg	**Pg**	**21 01 41.6**	**-0.2**
ILGA	**Ilgaz**	**1.16**	**41**	*i* P	**Pg**	**21 01 43.5**	**-0.2**
ILGA				*i* S	**Sg**	**21 01 58.4**	**-0.4**
ILGA	**Ilgaz**	**1.16**	**41**	*i* P	**Pg**	**21 01 43.5**	**-0.2**
ILGA				*i* S	**Sg**	**21 01 58.4**	**-0.4**
SVRH	**Sivrihisar-ESK**	**1.17**	**232**	*e*PN	**Pg**	**21 01 42.9**	**-0.9**
SVRH				*e*SN	**Sb**	**21 01 59.7**	**-0.1**
SVRH	**Sivrihisar-ESK**	**1.17**	**232**	*e*Pn	**Pg**	**21 01 42.9**	**-0.9**
SVRH				*e*Sn	**Sb**	**21 01 59.7**	**-0.1**
MDUB	**Mudurnu**	**1.20**	**285**	*e*PN	**Pg**	**21 01 43.2**	**-1.1**
MDUB				*e*SN	**Sg**	**21 02 00.3**	**+0.4**
MDUB	**Mudurnu**	**1.20**	**285**	*e*Pn	**Pg**	**21 01 43.2**	**-1.1**
MDUB				*e*Sn	**Sg**	**21 02 00.3**	**+0.4**
TOS	**Tosya**	**1.32**	**49**	*e*PN	**Pn**	**21 01 46.8**	**0.0**
TOS	**Tosya**	**1.32**	**49**	*e*Pn	**Pn**	**21 01 46.8**	**0.0**
CDAG	**Cicekdag**	**1.39**	**113**	*i* P	**Pn**	**21 01 45.9**	**-1.8**
CDAG				*i* S	**Sb**	**21 02 03.1**	**-3.0**
CDAG	**Cicekdag**	**1.39**	**113**	*i* P	**Pn**	**21 01 45.9**	**-1.8**
KIZT	**Kizilcal**	**1.44**	**207**	*e*PN	**Pn**	**21 01 48.2**	**-0.3**
KIZT	**Kizilcal**	**1.44**	**207**	*e*Pn	**Pn**	**21 01 48.2**	**-0.3**
CORM	**Corum**	**1.47**	**89**	*e*PN	**Pn**	**21 01 48.5**	**-0.2**
CORM	**Corum**	**1.47**	**89**	*e*Pn	**Pn**	**21 01 48.6**	**-0.2**
KDZE	**Karadeniz Ereo**	**1.50**	**320**	*e*PN	**Pn**	**21 01 48.6**	**-0.5**
KDZE	**Karadeniz Ereo**	**1.50**	**320**	*e*Pn	**Pn**	**21 01 48.6**	**-0.5**
ESKT	**Eskisehir**	**1.58**	**246**	*e*PN	**Pn**	**21 01 49.7**	**-0.6**
ESKT	**Eskisehir**	**1.58**	**246**	*e*Pn	**Pn**	**21 01 49.7**	**-0.6**
SEYT	**Eskypehyr**	**1.58**	**246**	*i* P	**Pb**	**21 01 50.9**	**-0.3**
SEYT				*i* S	**Sg**	**21 02 15.0**	**+2.9**
SEYT	**Eskypehyr**	**1.58**	**246**	*i* P	**Pb**	**21 01 50.9**	**-0.3**
KAST	**KASTAMONU**	**1.61**	**35**	*e*P	**Pn**	**21 01 50.9**	**+0.2**
KAST				*i* S	**Sb**	**21 02 12.6**	**+0.2**
KAST	**KASTAMONU**	**1.61**	**35**	*e*P	**Pn**	**21 01 50.9**	**+0.2**
KAST				*i* S	**Sb**	**21 02 12.6**	**+0.2**
CTKT	**Corum**	**1.65**	**73**	*i* P	**Pn**	**21 01 51.2**	**-0.2**
CTKT				*i* S	**Sb**	**21 02 13.5**	**-0.2**
CTKT	**Corum**	**1.65**	**73**	*i* P	**Pn**	**21 01 51.2**	**-0.2**
CTKT				*i* S	**Sb**	**21 02 13.5**	**-0.2**
GULT	**Gulveren**	**1.70**	**279**	*e*PN	**Pn**	**21 01 51.3**	**-0.7**
GULT	**Gulveren**	**1.70**	**279**	*e*Pn	**Pn**	**21 01 51.3**	**-0.7**
BORA	**Eskisehir**	**1.76**	**261**	*i* P	**Pb**	**21 01 54.0**	**-0.3**
BORA				*i* S	**Sg**	**21 02 21.7**	**+3.8**
BORA	**Eskisehir**	**1.76**	**261**	*i* P	**Pb**	**21 01 54.0**	**-0.3**
GPA	**Golpazari**	**1.85**	**274**	*e*PN	**Pn**	**21 01 53.9**	**-0.1**
GPA	**Golpazari**	**1.85**	**274**	*e*Pn	**Pn**	**21 01 53.9**	**-0.1**
BYBT	**Boyabat**	**2.02**	**50**	*e*PN	**Pn**	**21 01 56.8**	**+0.4**
BYBT	**Boyabat**	**2.02**	**50**	*e*Pn	**Pn**	**21 01 56.8**	**+0.4**
BZK	**Bozkurt**	**2.03**	**28**	*e*PN	**Pn**	**21 01 56.8**	**+0.3**
BZK	**Bozkurt**	**2.03**	**28**	*e*Pn	**Pn**	**21 01 56.8**	**+0.3**
SULT	**Sultanhani-AKS**	**2.07**	**162**	*e*PN	**Pn**	**21 01 57.4**	**+0.4**
SULT	**Sultanhani-AKS**	**2.07**	**162**	*e*Pn	**Pn**	**21 01 57.4**	**+0.4**
YOZ	**Yozgat**	**2.07**	**104**	*e*PN	**Pn**	**21 01 57.7**	**+0.6**
YOZ	**Yozgat**	**2.07**	**104**	*e*Pn	**Pn**	**21 01 57.7**	**+0.6**
AVNT	**Avonos**	**2.16**	**129**	*i* P	**Pn**	**21 01 58.1**	**-0.3**
AVNT				*i* S	**Sb**	**21 02 28.5**	**0.0**
AVNT	**Avonos**	**2.16**	**129**	*i* P	**Pn**	**21 01 58.1**	**-0.3**
AVNT				*i* S	**Sb**	**21 02 28.5**	**0.0**
KONT	**Konya--Tatoy**	**2.24**	**187**	*e*PN	**Pn**	**21 01 59.4**	**0.0**
KONT	**Konya--Tatoy**	**2.24**	**187**	*e*Pn	**Pn**	**21 01 59.4**	**0.0**
ADVT	**Abdulvahap**	**2.29**	**277**	*e*PN	**Pn**	**21 01 59.7**	**-0.3**
ADVT	**Abdulvahap**	**2.29**	**277**	*e*Pn	**Pn**	**21 01 59.7**	**-0.3**
HRT	**Hereke**	**2.41**	**287**	*e*PN	**Pn**	**21 02 01.0**	**-0.8**
HRT	**Hereke**	**2.41**	**287**	*e*Pn	**Pn**	**21 02 01.0**	**-0.8**
DIKM	**Dikmen**	**2.43**	**52**	*e*PN	**Pn**	**21 02 03.2**	**+1.3**
DIKM	**Dikmen**	**2.43**	**52**	*e*Pn	**Pn**	**21 02 03.2**	**+1.3**
HAVZ	**Havza**	**2.46**	**68**	*i* P	**Pn**	**21 02 03.3**	**+1.0**
HAVZ				*i* S	**Sb**	**21 02 35.5**	**-1.3**
HAVZ	**Havza**	**2.46**	**68**	*i* P	**Pn**	**21 02 03.3**	**+1.0**
HAVZ				*i* S	**Sb**	**21 02 35.5**	**-1.3**
NIG	**Nigde**	**2.53**	**144**	*e*PN	**Pn**	**21 02 03.9**	**+0.3**
NIG	**Nigde**	**2.53**	**144**	*e*Pn	**Pn**	**21 02 03.9**	**+0.3**
KVT	**Kavak**	**2.69**	**69**	*e*PN	**Pn**	**21 02 06.5**	**+0.9**
KVT	**Kavak**	**2.69**	**69**	*e*Pn	**Pn**	**21 02 06.5**	**+0.9**
GDZ	**Gediz**	**2.72**	**248**	*e*P	**Pg**	**21 02 12.6**	**-1.0**
GDZ				*e*S	**Sb**	**21 02 45.3**	**+0.8**
BNN	**Bunyan**	**2.76**	**118**	*e*PN	**Pn**	**21 02 06.8**	**+0.2**
BNN	**Bunyan**	**2.76**	**118**	*e*Pn	**Pn**	**21 02 06.8**	**+0.2**
ISP	**Isparta**	**2.90**	**217**	*e*PN	**Pn**	**21 02 09.3**	**+0.8**
ISP	**Isparta**	**2.90**	**217**	*e*Pn	**Pn**	**21 02 09.3**	**+0.8**
TOKT	**Tokat**	**2.94**	**86**	*e*PN	**Pn**	**21 02 10.4**	**+1.4**
TOKT	**Tokat**	**2.94**	**86**	*e*Pn	**Pn**	**21 02 10.4**	**+1.4**
SUTC	**Sutluce-Ispart**	**3.01**	**207**	*e*PN	**Pn**	**21 02 10.4**	**+0.4**
SUTC	**Sutluce-Ispart**	**3.01**	**207**	*e*Pn	**Pn**	**21 02 10.4**	**+0.4**
BCK	**Bucak**	**3.18**	**212**	*e*PN	**Pn**	**21 02 12.9**	**+0.7**
BCK	**Bucak**	**3.18**	**212**	*e*Pn	**Pn**	**21 02 13.0**	**+0.7**
SVSK	**Karacayir**	**3.30**	**93**	*e*PN	**Pn**	**21 02 15.2**	**+1.4**
SVSK	**Karacayir**	**3.30**	**93**	*e*Pn	**Pn**	**21 02 15.2**	**+1.4**
KARA	**Karaisali**	**3.44**	**147**	*e*PN	**Pn**	**21 02 17.1**	**+1.4**
KARA	**Karaisali**	**3.44**	**147**	*e*Pn	**Pn**	**21 02 17.2**	**+1.4**
RSDY	**Resadiye-TOKAT**	**3.54**	**85**	*e*PN	**Pn**	**21 02 18.4**	**+1.3**
RSDY	**Resadiye-TOKAT**	**3.54**	**85**	*e*Pn	**Pn**	**21 02 18.5**	**+1.3**
ILIC	**ilic-Erzincan**	**4.56**	**97**	*e*PN	**Pn**	**21 02 32.7**	**+1.3**
ILIC	**ilic-Erzincan**	**4.56**	**97**	*e*Pn	**Pn**	**21 02 32.7**	**+1.3**
MALT	**Malatya**	**4.81**	**111**	*e*PN	**Pn**	**21 02 36.7**	**+2.0**
MALT	**Malatya**	**4.81**	**111**	*e*Pn	**Pn**	**21 02 36.7**	**+2.0**

*AUST **27** 21:04:13.4±99.0, 8.°90S×104.°84E, h0km±13km, Error ellipse: s-maj=16.1km s-min=1.5km az=282.0*
*IDC **27** 21:04:18.1±3.4, 7.°96S×106.°00E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/22, mbtmp3.5/4, Error ellipse: s-maj=181.5km s-min=26.4km az=59.0*
*DJA **27** 21:04:50.0±1.5, 8.°S±14.°×10.°7E±.°, h39km±11km, M3.5/8, MLv3.5/8*
ISC 27 21:04:21.3±1.2, 7.°7S±0.°1×106.°40E±0.°07, h10km, n17, σ1.59/14, mb3.4/4, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBJI	**Dramaga**	**1.23**	**17**	P	**Sn**	**21 05 00.7**	**-0.6**
CISI	**Cisompet, Garu**	**1.42**	**83**	P	**Sn**	**21 05 04.0**	**-2.0**
CISI	**Cisompet, Garu**	**1.42**	**83**	P	**Sn**	**21 05 04.2**	**-1.8**
	baz=3.2,SNR=14						
LEM	**Lembang**	**1.51**	**53**	P	**Sn**	**21 05 07.1**	**-1.4**
LEM	**Lembang**	**1.51**	**53**	P	**Sn**	**21 05 09.6**	**+1.1**
	baz=3.4,SNR=7.6						
KPJI	**Karang Pucung**	**2.54**	**81**	P	Sn	21 05 20.6	-13
CLJI	**Cilicap**	**2.59**	**90**	P	Sn	21 05 19.8	-15
KASI	**Kota Agung**	**2.90**	**319**	P	**Sn**	**21 05 41.8**	**-0.7**
UGM	**Wanagama**	**4.09**	**93**	P	**Pg**	**21 05 39.1**	**-0.6**
UGM	**Wanagama**	**4.09**	**93**	P	**Pg**	**21 05 39.4**	**-0.3**
	baz=5.7,SNR=11						
PCJI	**Pacitan**	**4.75**	**96**	P	**Pb**	**21 05 47.6**	**+2.8**
PWJI	**Pagerwojo**	**5.36**	**93**	P	**Pb**	**21 05 55.8**	**+0.6**
CMAR	**Chiang Mai Arr**	**27.05**	**344**	P	**P**	**21 10 02.3**	**-1.8**
	0.5nm,0.8s,baz=178,slow=8.9,SNR=4.4						
STKA	**Stephens Creek**	**40.60**	**131**	P	**P**	**21 12 00.5**	**-1.0**
	1.9nm,0.8s,baz=290,slow=9.0,SNR=6.0						
SONM	**Songino Array**	**55.33**	**360**	P	**P**	**21 13 55.9**	**+0.5**
	0.3nm,0.6s,baz=188,slow=8.7,SNR=3.4						
MKAR	**Makanchi Array**	**58.38**	**341**	P	P	21 14 15.8	-1.1
	0.2nm,0.6s,baz=140,slow=8.3,SNR=3.3						
TXAR	**Lajitas Array**	**144.50**	**49**	PKP	**PKPab**	**21 23 59.1**	**+1.9**
	0.3nm,0.6s,baz=321,slow=2.3,SNR=3.6						

IDC 27 21:27:12.1±16.0, 56.°16S×27.°22W, h149km±139km, mb3.4/3, mb1 3.4/3, mb1mx3.3/15, mbtmp3.4/3, Error ellipse: s-maj=55.5km s-min=33.3km az=107.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAW	**Mawson**	**40.07**	**143**	P	P	21 34 31.5	-0.6
	1.3nm,0.9s,baz=240,slow=14,SNR=2.6						
VNDA	**Vanda**	**46.46**	**183**	P	P	21 35 23.8	+0.5
	0.6nm,0.6s,baz=183,slow=7.3,SNR=3.9						
TORD	**Torodi Ar. Bea**	**73.16**	**29**	P	P	21 38 26.5	+0.3
	0.7nm,0.6s,baz=202,slow=6.3,SNR=7.7						
YKA	**Yellowknife Ar**	**136.25**	**318**	PKP	PKPdf	21 46 13.6	-0.6
	0.4nm,0.6s,baz=130,slow=1.9,SNR=3.2						
INK	**Inuvik**	**145.88**	**320**	PKPbc	PKPdf	21 46 31.1	-0.1
	baz=72,slow=3.2						
ILAR	**Eielson Array**	**150.18**	**312**	PKPbc	PKPbc	21 46 43.0	-0.7
	1.2nm,0.8s,baz=123,slow=1.9,SNR=10						
SONM	**Songino Array**	**150.75**	**87**	PKPbc	PKPbc	21 46 45.7	0.0
	0.7nm,0.5s,baz=221,slow=3.6,SNR=10.0						

IDC 27 21:31:26.2±2.5, 17.°73S×66.°18W, h54km±18km, mb3.7/3, mb1 3.8/5, mb1mx3.5/18, mbtmp3.8/5, ML4.2/3, Error ellipse: s-maj=36.9km s-min=10.1km az=15.0, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.36**	**307**	P	Pn	21 32 02.5	-0.8
	75nm,0.3s,baz=127,slow=11,SNR=1687						
LPAZ				S	Sn	21 32 32.0	+0.4
	71nm,0.3s,baz=288,slow=10,SNR=14						
SIV	**San Ignacio**	**5.19**	**71**	P	Pn	21 32 41.5	+0.1
	2.4nm,0.3s,baz=280,slow=12,SNR=40						
SIV				S	Sn	21 33 40.7	+0.7
	3.4nm,0.3s,baz=24,slow=23,SNR=8.2						
CPUP	**Villa Florida**	**11.85**	**138**	P	Pn	21 34 12.1	-0.4
	0.4nm,0.3s,baz=295,slow=14,SNR=1.8						
ULM	**Lac du Bonnet**	**72.58**	**341**	P	P	21 42 46.0	-1.6
	5.8nm,1.0s,baz=98,slow=7.1,SNR=3.0						
TORD	**Torodi Ar. Bea**	**73.67**	**70**	P	P	21 42 54.8	+0.1
	0.6nm,0.8s,baz=256,slow=5.2,SNR=3.9						
YKA	**Yellowknife Ar**	**88.54**	**340**	P	P	21 44 12.3	-0.4
	0.3nm,0.7s,baz=125,slow=4.3,SNR=2.4						
SONM	**Songino Array**	**149.37**	**10**	PKPbc	PKPbc	21 51 10.7	+1.3
	0.3nm,0.5s,baz=343,slow=3.0,SNR=3.8						

IDC 27 21:40:52.9±25.0, 19.°09S×173.°93W, h0km, mb4.6/4, mb1 4.7/4, mb1mx4.0/19, mbtmp4.6/4, Error ellipse: s-maj=474.1km s-min=149.6km az=74.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.46**	**262**	P	P	21 48 09.0	+0.6
	3.5nm,0.3s,baz=94,slow=11,SNR=10						
STKA	**Stephens Creek**	**41.84**	**243**	P	P	21 48 44.7	-0.1
	2.6nm,0.5s,baz=86,slow=12,SNR=5.7						
ASAR	**Alice Springs**	**48.57**	**255**	P	P	21 49 38.0	-0.4
	8.2nm,0.5s,baz=96,slow=7.6,SNR=118						
WRA	**Warramunga Arr**	**48.60**	**260**	P	P	21 49 38.1	-0.6
	2.4nm,0.4s,baz=97,slow=7.6,SNR=43						

WEL 27 21:48:58.8±0.3, 41.°33S×173.°29E, h78km±3km, ML3.5/11, 3C-1D, Error ellipse: s-maj=2.0km s-min=2.0km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNZ	**Nelson**	**0.13**	**31**	⇓PN	Pn	21 49 09.6	-0.5
NNZ				SN	Sn	21 49 17.9	-0.5
TUWZ	**Tuamarina**	**0.50**	**102**	⇑PN	Pn	21 49 12.1	-0.2
TUWZ				SN	Sn	21 49 21.7	-0.7
TUWZ				AML	AML	21 49 23.1	
THZ	**Tophouse**	**0.52**	**214**	PN	Pn	21 49 12.4	-0.2
THZ				SN	Sn	21 49 22.8	-0.1
BSWZ	**Blackbirch Sta**	**0.58**	**131**	PN	Pn	21 49 13.3	+0.1
BSWZ				SN	Sn	21 49 23.9	+0.1
BSWZ				AML	AML	21 49 25.0	
DUWZ	**D'Urville Isla**	**0.71**	**42**	PN	Pn	21 49 14.6	+0.1
DUWZ				SN	Sn	21 49 26.4	+0.4
TCW	**Tory Channel**	**0.75**	**81**	⇑PN	Pn	21 49 14.9	+0.1
TCW				SN	Sn	21 49 26.2	-0.6
TCW				AML	AML	21 49 27.9	
QRZ	**Quartz Range**	**0.77**	**311**	⇑PN	Pn	21 49 14.8	-0.2
SNZO	**South Karori**	**1.06**	**89**	PN	Pn	21 49 17.7	-0.7
SNZO				AML	AML	21 49 33.6	
SNZO				AML	AML	21 49 33.6	
SNZO				AML	AML	21 49 36.3	
SNZO				AML	AML	21 50 10.3	
BHW	**Baring Head**	**1.19**	**94**	AML	AML	21 49 35.5	
BHW				AML	AML	21 49 41.0	
KIW	**Kapiti Island**	**1.31**	**70**	AML	AML	21 49 42.1	
KIW				AML	AML	21 49 42.9	
MSWZ	**Moikau Station**	**1.48**	**94**	AML	AML	21 49 41.4	
MSWZ				AML	AML	21 49 48.3	
PAWZ	**Paruwai Farm**	**1.61**	**93**	AML	AML	21 49 44.1	
PAWZ				AML	AML	21 49 44.6	
MTW	**Mount Morrison**	**1.68**	**85**	AML	AML	21 49 45.8	
MTW				AML	AML	21 49 46.3	
TRWZ	**Traveller**	**1.81**	**93**	AML	AML	21 49 47.9	
TRWZ				AML	AML	21 49 48.3	
MRZ	**Mangatainoka R**	**1.86**	**70**	AML	AML	21 49 59.9	
MRZ				AML	AML	21 50 01.8	

*IDC **27** 21:51:35.9±1.3, 12.°02N×86.°62W, h0km, mb3.8/6, mb1 4.1/6, mb1mx3.8/21, mbtmp3.8/6, ML2.6/2, MS3.6/1, Ms1 3.5/1, ms1mx2.7/26, Error ellipse: s-maj=54.0km s-min=22.8km az=51.0*
*ISCJB **27** 21:51:39.3±0.6, 12.°0N±0.°1×86.°6W±0.°1, h35km, mb4.2/11, MS3.6/1, Error ellipse: s-maj=24.5km s-min=6.9km az=138.8*
*NEIC **27** 21:51:41.8±1.5, 11.°95N×86.°41W, h45km±14km, mb4.4/7, Error ellipse: s-maj=26.6km s-min=12.5km az=60.0*
ISC 27 21:51:41.0±0.7, 11.°9N±0.°1×86.°5W±0.°2, h35km, n39, σ1.54/40, mb4.3/11, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	**JuntasAbangare**	**2.21**	**138**	*e*Pn	**Pn**	**21 52 14.8**	**-0.4**
JTS				*e*Sn	**Sn**	**21 52 43.8**	**+2.4**
JTS	**JuntasAbangare**	**2.21**	**138**	Pn	**Pn**	**21 52 14.8**	**-0.4**
	1.3nm,0.3s,baz=306,slow=18,SNR=10						
JTS				Sn	**Sn**	**21 52 43.8**	**+2.4**
	11nm,0.3s,baz=266,slow=16,SNR=7.2						
TGUH	**Tegucigalpa,Un**	**2.25**	**339**	*e*Pn	**Pn**	**21 52 18.1**	**+2.4**
APG	**El Apazote**	**4.94**	**308**	Pn	Pn	21 52 49.8	-3.2
APG	**El Apazote**	**4.94**	**308**	Pn	Pn	21 52 49.8	-3.2
	0.3nm,0.3s,baz=135,slow=10.0,SNR=3.9						
HKT	**Hockley**	**19.92**	**335**	*e*P	**P**	**21 56 10.5**	**+0.8**
	12nm,1.2s						
WHTX	**Lake Whitney**	**22.38**	**335**	*e*P	**P**	**21 56 36.1**	**-0.2**
OXF	**Oxford**	**22.63**	**354**	*e*P	**P**	**21 56 39.2**	**+0.3**
	28nm,1.2s						
CPCT	**Cooper Cave**	**23.47**	**4**	*e*P	**P**	**21 56 49.2**	**+1.8**
LTX	**Lajitas**	**23.58**	**320**	*e*P	**P**	**21 56 47.4**	**-1.4**
LTX				*e*PcP	**PcP**	**22 00 34.9**	**+1.5**
TXAR	**Lajitas Array**	**23.58**	**320**	P	**P**	**21 56 47.4**	**-1.4**
TXAR	**Lajitas Array**	**23.58**	**320**	P	**P**	**21 56 47.4**	**-1.4**
	1.4nm,0.7s,baz=131,slow=9.7,SNR=18						
TXAR				PcP	**PcP**	**22 00 34.9**	**+1.5**
	0.9nm,0.9s,baz=147,slow=5.8,SNR=5.8						
WMOK	**Wichita Mounta**	**25.31**	**336**	*e*P	**P**	**21 57 04.7**	**+0.3**
	11nm,1.3s						
MNTX	**Cornudas Mount**	**26.28**	**321**	*e*P	**P**	**21 57 13.0**	**-0.3**
	16nm,2.0s						
MSTX	**Muleshoe**	**26.50**	**328**	*e*P	**P**	**21 57 14.8**	**-0.6**
SSPA	**Standing Stone**	**29.56**	**13**	*e*P	**P**	**21 57 41.2**	**-1.3**
	124nm,2.6s						
SMCO	**Snowmass**	**32.67**	**330**	*e*P	P	21 58 14.8	+4.4
	5.7nm,1.0s						
LRRC	**Littlerock Res**	**36.44**	**313**	*e*P	**P**	**21 58 44.4**	**+1.8**
PD31	**Pinedale Array**	**36.68**	**331**	*e*P	**P**	**21 58 42.6**	**-2.2**
PDAR	**Pinedale Array**	**36.68**	**331**	P	**P**	**21 58 42.6**	**-2.2**
PDAR	**Pinedale Array**	**36.68**	**331**	P	**P**	**21 58 42.6**	**-2.2**
	0.7nm,0.7s,baz=122,slow=8.6,SNR=1.6						
WASM	**Alta Sierra Ca**	**37.44**	**315**	*e*P	**P**	**21 58 54.3**	**+3.0**
PTRM	**Twissleman Ran**	**38.56**	**313**	*e*P	**P**	**21 59 01.6**	**+1.0**
PTRM				*e*PP	**PnPn**	**22 00 31.3**	**0.0**
ULM	**Lac du Bonnet**	**38.97**	**350**	*e*P	**P**	**21 59 02.8**	**-0.9**
ULM	**Lac du Bonnet**	**38.97**	**350**	P	**P**	**21 59 02.8**	**-0.9**
	3.3nm,0.5s,baz=157,slow=6.7,SNR=4.2						
SCHQ	**Schefferville**	**45.49**	**16**	*e*P	**P**	**21 59 58.0**	**+1.2**
	89nm,2.3s						
SCHQ	**Schefferville**	**45.49**	**16**	P	**P**	**21 59 58.0**	**+1.2**
	1.7nm,0.6s,baz=220,slow=7.9,SNR=4.0						
BDFB	**Brasilia**	**46.89**	**125**	LR	LR	22 22 30.7	
	comp=Z,69nm,18.8s,baz=152,slow=39						
YKA	**Yellowknife Ar**	**54.36**	**344**	P	**P**	**22 01 02.1**	**-1.8**
YKA	**Yellowknife Ar**	**54.36**	**344**	P	**P**	**22 01 02.1**	**-1.8**
	0.7nm,0.8s,baz=141,slow=7.8,SNR=5.2						
YKB5	**Yellowknife Ar**	**54.36**	**344**	*e*P	**P**	**22 01 02.1**	**-1.8**
ILAR	**Eielson Array**	**66.87**	**336**	P	**P**	**22 02 27.8**	**-1.5**
ILAR	**Eielson Array**	**66.87**	**336**	P	**P**	**22 02 27.8**	**-1.5**
	0.3nm,0.7s,baz=142,slow=4.9,SNR=4.5						
ASAR	**Alice Springs**	**139.97**	**247**	PKP	**PKPdf**	**22 11 07.8**	**+1.3**
ASAR	**Alice Springs**	**139.97**	**247**	PKP	**PKPdf**	**22 11 07.8**	**+1.3**
	0.4nm,0.6s,baz=114,slow=2.2,SNR=3.9						
WRA	**Warramunga Arr**	**140.05**	**253**	PKP	**PKPdf**	**22 11 08.0**	**+1.3**
WRA	**Warramunga Arr**	**140.05**	**253**	PKP	**PKPdf**	**22 11 08.0**	**+1.3**
	0.6nm,0.6s,baz=100,slow=2.6,SNR=3.6						
CMAR	**Chiang Mai Arr**	**149.33**	**350**	PKPbc	**PKPbc**	**22 11 26.8**	**-0.3**
CMAR	**Chiang Mai Arr**	**149.33**	**350**	PKPbc	**PKPbc**	**22 11 26.8**	**-0.3**
	1.9nm,0.7s,baz=358,slow=2.8,SNR=11						

*BJI **27** 22:22:52.3, 6.°20S×123.°70E, h15km, mb4.3/2*
*IDC **27** 22:22:53.0±0.9, 6.°12S×123.°72E, h0km, mb4.1/7, mb1 4.3/9, mb1mx4.1/22, mbtmp4.2/9, ML4.1/2, MS3.5/12, Ms1 3.5/12, ms1mx3.3/28, Error ellipse: s-maj=35.9km s-min=17.4km az=60.0*
*ISCJB **27** 22:22:55.9±0.3, 6.°14S±0.°04×123.°81E±0.°03, h33km, mb4.4/12, MS3.4/8, Error ellipse: s-maj=5.2km s-min=4.3km az=21.1*
*DJA **27** 22:22:57.9±0.3, 6.°S±2.°×12.°4E±.°, h191km±7km, M4.4/14, mb4.6/4, mB4.8/3, MLv4.3/14, Mw(mB)4.0/3*
*NEIC **27** 22:22:57.9±0.5, 6.°20S×123.°74E, h35km, mb4.6/7, Error ellipse: s-maj=22.9km s-min=9.0km az=63.0*
*AUST **27** 22:22:59.2±0.4, 6.°10S×123.°67E, h68km, Error ellipse: s-maj=1.1km s-min=0.8km az=236.0*
ISC 27 22:22:57.6±0.5, 6.°19S±0.°05×123.°81E±0.°05, h35km, n83, σ1.71/78, mb4.4/12, MS3.4/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSI	**Bau Bau**	**1.42**	**299**	P	**Pn**	**22 23 20.1**	**-0.8**
BBSI				S	Sn	22 23 53.0	+15
MMRI	**Maumere**	**2.89**	**213**	*e*Sn	Sn	22 24 08.4	-6.3
MMRI	**Maumere**	**2.89**	**213**	P	Pn	22 23 45.1	+4.0
MMRI				S	Sn	22 24 23.4	+8.8
KKSI	**Kolaka, Sulawe**	**2.94**	**313**	P	**Pn**	**22 23 40.5**	**-1.4**
SOEI	**Soe**	**3.57**	**173**	P	Pn	22 23 55.7	+5.1
S

TAPN	**Taplejung**	**48.27**	**315**	*e*P	**P**	**22 31 36.5**	**+0.6**
	17nm,0.8s						
RAMN	**Ramite**	**48.81**	**314**	*e*P	**P**	**22 31 40.9**	**+0.9**
	36nm,1.1s						
JIRN	**Jiri**	**49.53**	**315**	*e*P	**P**	**22 31 46.0**	**+0.4**
GUN	**Gumba**	**49.90**	**315**	*e*P	**P**	**22 31 48.8**	**+0.4**
PKI	**Pulchoki**	**50.03**	**314**	*e*P	**P**	**22 31 49.5**	**+0.1**
PKIN	**Phulchoki**	**50.05**	**314**	*e*P	**P**	**22 31 49.9**	**+0.5**
KKN	**Kakani**	**50.25**	**314**	*e*P	**P**	**22 31 51.2**	**+0.3**
	16nm,1.1s						
DMN	**Daman**	**50.27**	**314**	*e*P	**P**	**22 31 51.5**	**+0.4**
	20nm,1.0s						
GTA	**Gaotai**	**50.51**	**336**	*e*P	**P**	**22 31 54.5**	**+1.9**
GTA				pP	**pP**	**22 31 59.0**	**-4.1**
GTA				sP	sP	22 32 01.5	-5.7
GTA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
USRK	**Ussuriysk Arra**	**50.70**	**8**	P	**P**	**22 31 54.7**	**+1.0**
	comp=Z,1.3nm,0.5s,baz=182,slow=8.7,SNR=3.4						
GKN	**Gorkha**	**50.84**	**314**	*e*P	**P**	**22 31 55.6**	**+0.3**
	comp=Z,23nm,1.1s						
KOLN	**Koldanda**	**51.45**	**313**	*e*P	**P**	**22 32 00.4**	**+0.4**
	comp=Z,17nm,0.9s						
DANN	**Dangsing**	**51.67**	**314**	*e*P	**P**	**22 32 02.0**	**+0.3**
	comp=Z,32nm,0.9s						
ASAJ	**Asahikawa**	**52.87**	**17**	LR	LR	22 54 35.3	
	comp=Z,20nm,18.4s,baz=139,slow=36						
SONA0	**Songino Array**	**55.95**	**346**	*e*P	**P**	**22 32 31.4**	**-1.0**
SONM	**Songino Array**	**55.95**	**346**	P	**P**	**22 32 31.4**	**-1.0**
SONM	**Songino Array**	**55.95**	**346**	P	**P**	**22 32 31.4**	**-1.0**
	comp=Z,0.6nm,0.8s,baz=152,slow=6.5,SNR=3.5						
MK01	**Makanchi Array**	**64.28**	**330**	*e*P	**P**	**22 33 29.9**	**+0.5**
MK32	**Makanchi Array**	**64.30**	**330**	*e*P	**P**	**22 33 29.9**	**+0.3**
MKAR	**Makanchi Array**	**64.30**	**330**	*e*P	**P**	**22 33 30.5**	**+0.9**
MKAR	**Makanchi Array**	**64.30**	**330**	P	**P**	**22 33 29.9**	**+0.3**
	comp=Z,3.5nm,0.9s,baz=130,slow=8.0,SNR=26						
KBL	**Kabul**	**65.61**	**312**	*e*P	**P**	**22 33 39.0**	**+0.5**
	comp=Z,3.7nm,0.8s						
ZAA0	**Zalesovo Array**	**68.26**	**336**	*e*P	**P**	**22 33 53.9**	**-0.9**
ZALV	**Zalesovo Beam**	**68.26**	**336**	P	**P**	**22 33 54.0**	**-0.7**
ZALV	**Zalesovo Beam**	**68.26**	**336**	P	**P**	**22 33 54.0**	**-0.7**
	comp=Z,2.4nm,0.9s,baz=123,slow=5.3,SNR=11						
KURK	**Kurchatov**	**68.73**	**331**	*e*P	**P**	**22 33 57.7**	**0.0**
	comp=Z,4.1nm,1.1s						
VNDA	**Vanda**	**74.04**	**172**	LR	LR	23 04 35.5	
	comp=Z,81nm,20.0s,baz=318,slow=34						
RAYN	**Ar Rayn**	**81.81**	**295**	*e*P	**P**	**22 35 14.3**	**+0.6**
	comp=Z,4.3nm,1.0s						
QSPA	**South Pole Qui**	**83.78**	**180**	*e*P	**P**	**22 35 24.6**	**+1.5**
	comp=Z,6.7nm,1.1s						
TORD	**Torodi Ar. Bea**	**122.62**	**282**	PKP	**PKPdf**	**22 41 50.6**	**0.0**
TORD	**Torodi Ar. Bea**	**122.62**	**282**	PKP	**PKPdf**	**22 41 50.6**	**0.0**
	comp=Z,0.5nm,0.8s,baz=80,slow=1.5,SNR=4.4						

IDC 27 22:29:30.5±1.7,6°.12S×123°.93E,h0km,mb3.5/1,
mb1 3.9/5,mb1mx3.6/23,mbtmp3.8/5,ML3.3/3,Error
ellipse: s-maj=63.8km s-min=23.8km az=55.0,Banda
Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**4.30**	**285**	Pn	Pn	22 30 37.6	+0.3
	3.9nm,0.3s,baz=165,slow=9.6,SNR=7.2						
KAPI				Sn	Sn	22 31 22.2	-6.1
	2.1nm,0.3s,baz=18,slow=19,SNR=4.6						
FITZ	**Fitzroy Crossi**	**12.03**	**172**	Pn	Pn	22 32 21.7	-1.7
	0.1nm,0.3s,baz=354,slow=11,SNR=3.4						
WRA	**Warramunga Arr**	**17.06**	**145**	P	Pn	22 33 29.0	-1.7
	0.1nm,0.3s,baz=319,slow=12,SNR=6.6						
ASAR	**Alice Springs**	**19.91**	**152**	P	Pn	22 34 05.7	+0.1
	0.1nm,0.3s,baz=324,slow=10.0,SNR=8.0						
MKAR	**Makanchi Array**	**64.30**	**330**	P	P	22 40 07.7	-0.2
	0.4nm,0.6s,baz=134,slow=7.6,SNR=5.5						

GUC 27 22:44:41.7±0.6,31°.42S×68°.37W,h154km±39km,MD3.4,
ML3.6,1C-1D,San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**2.27**	**276**	⇓*i*P	Pn	22 45 20.6	+0.4
CMCH				*i* S	Sn	22 45 50.6	+0.7
PEL	**Peldehue**	**2.61**	**228**	*e*P	Pn	22 45 25.2	+0.9
PEL				*i* S	Sn	22 45 57.7	+0.4
PEL				AML	AML	22 46 03.4	
	comp=N,158nm,0.5s						
CHNG	**Los Chungos**	**2.71**	**259**	⇑*i*P	Pn	22 45 26.1	+0.6
CHNG				*i* S	Sn	22 45 59.6	+0.3
CHNG				AML	AML	22 46 08.4	
	comp=N,130nm,0.6s						
ROCH	**El Roble**	**2.72**	**235**	*e*P	Pn	22 45 25.8	-0.2
ROCH				*e*S	Sn	22 45 59.8	-0.5
ROCH				AML	AML	22 46 03.6	
	comp=N,201nm,0.3s						

*MOS **27** 23:18:35.7±2.6,51°.93N×121°.76E,h10km,mb4.1/2,Error*
ellipse: s-maj=17.0km s-min=10.3km az=119.9
*BJI **27** 23:18:36.5,51°.99N×121°.69E,h6km,mb3.9/1,ML4.4/8*
*BYKL **27** 23:18:36.0±0.9,51°.96N×121°.75E*
*IDC **27** 23:18:37.5±1.3,51°.68N×121°.48E,h0km,mb3.4/4,*
mb1 3.6/6,mb1mx3.4/26,mbtmp3.5/6,ML3.2/2,Error
ellipse: s-maj=33.2km s-min=16.9km az=178.0
ISC 27 23:18:38.6±0.8,52°.15N±0°.04×121°.41E±0°.04,h10km,n57,
σ2°.31/72,mb3.4/4,6C-6D,Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUP	**Tupik**	**2.44**	**340**	⇑*i*Pn	**Pn**	**23 19 19.5**	**+1.0**
TUP				⇑*i*Pg	**Pg**	**23 19 23.8**	**-1.5**
TUP				Pmax		23 19 26.6	
	255nm,0.5s						
TUP				*e*		23 19 53.1	
TUP				*i* Sg	**Sg**	**23 19 57.9**	**+1.0**
TUP				*e*		23 20 00.1	
TUP				max		23 20 00.5	
	3μm,1.1s						
TUP	**Tupik**	**2.44**	**340**	*e*P	**Pn**	**23 19 19.5**	**+1.0**
TUP				*e*S	**Sb**	**23 19 51.4**	**-1.2**
TUP				pmax	pmax		
	comp=Z,255nm,0.5s						
TUP				smax	smax		
	comp=E,2μm,0.7s						
TNDR	**Tynda**	**3.59**	**32**	*e*Pn	**Pn**	**23 19 32.7**	**-1.5**
TNDR				Pg	**Pb**	**23 19 41.0**	**-1.1**
TNDR				*e*Sn	**Sn**	**23 20 15.2**	**-1.4**
TNDR				*e*Sg	**Sg**	**23 20 30.3**	**-3.4**
ZEA	**Zeya**	**3.87**	**64**	*e*	**Pn**	**23 19 38.0**	**-0.1**
ZEA				*e*Sg	**Sg**	**23 20 37.1**	**-5.7**
KROS	**Kirovskiy**	**4.04**	**53**	*e*	Pn	23 19 34.6	-5.9
KROS				*e*		23 20 15.2	
KROS				*e*Sg	**Sb**	**23 20 35.6**	**-3.1**
YKLR	**Yuktali**	**4.45**	**2**	*e*	Pb	23 19 51.3	-5.4
YKLR				*e*Pg	Pg	23 19 59.1	-4.6
YKLR				*e*Sg	**Sg**	**23 20 59.9**	**-1.4**
IENR	**Iengra**	**4.55**	**25**	⇑*i*Pn	**Pn**	**23 19 46.4**	**-1.1**
IENR				*e*		23 19 49.4	
IENR				Pg	**Pb**	**23 20 00.2**	**+1.7**
IENR				*e*Sn	**Sn**	**23 20 40.2**	**-0.3**
IENR				*i* Sg	**Sg**	**23 21 01.8**	**-2.8**
KHNR	**Khani**	**4.85**	**351**	⇓*i*Pn	**Pn**	**23 19 51.9**	**+0.3**
KHNR				*e*Pg	Pg	23 20 07.2	-4.2
KHNR				*e*Sn	**Sn**	**23 20 49.1**	**+1.3**
KHNR				*i* Sg	**Sg**	**23 21 12.4**	**-1.8**
CIT	**Chita**	**4.85**	**272**	*e*Sn	**Sn**	**23 20 47.3**	**-0.5**
CIT				*e*Sg	**Sg**	**23 21 11.9**	**-2.3**
CIT				*e*		23 21 14.3	
CIT				max		23 21 16.3	
	comp=E,2μm,1.8s						
CRS	**Chara**	**5.10**	**340**	⇑*i*Pn	**Pn**	**23 19 55.7**	**+0.7**
CRS				*e*		23 20 08.4	
CRS				*i* Pg	Pg	23 20 12.1	-4.0
CRS				*e*Sn	**Sn**	**23 20 55.6**	**+1.8**
CRS				*i* Sg	**Sg**	**23 21 21.7**	**-0.3**
CRS	**Chara**	**5.10**	**340**	*e*P	**Pn**	**23 19 56.4**	**+1.4**
CRS				pmax	pmax		
	comp=Z,56nm,1.1s						
CLNS	**Chul'man**	**5.11**	**22**	*e*	**Sb**	**23 21 06.0**	**-3.5**
CLNS				*e*Sg	**Sg**	**23 21 18.0**	**-4.5**
UKT	**Uakit**	**5.69**	**309**	⇓*i*Pn	**Pn**	**23 20 04.6**	**+1.4**
UKT				*e*		23 20 08.4	
UKT				*e*Pg	Pg	23 20 23.1	-4.5
UKT				Pmax		23 20 28.0	
	comp=Z,42nm,0.7s						
UKT				*e*		23 20 55.6	
UKT				*i* Sg	**Sg**	**23 21 39.8**	**-1.4**
UKT				Smax		23 21 48.2	
	comp=Z,325nm,2.0s						
UKT	**Uakit**	**5.69**	**309**	*e*P	**Pn**	**23 20 05.1**	**+1.9**
UKT				*e*S	**Sn**	**23 21 12.4**	**+3.8**
SVKR	**Severomuysk**	**6.09**	**314**	*e*Pn	**Pn**	**23 20 10.9**	**+2.3**
SVKR				Pg	Pg	23 20 31.0	-4.1
SVKR				Pmax		23 20 39.7	
	comp=Z,76nm,0.6s						
SVKR				*e*Sn	**Sn**	**23 21 20.6**	**+2.3**
SVKR				*e*Sg	**Sg**	**23 21 54.3**	**+0.5**
SVKR				Smax		23 22 15.7	
	comp=Z,1μm,1.2s						
KPC	**Khapcheranga**	**6.22**	**250**	⇓*i*Pn	**Pn**	**23 20 09.8**	**-0.6**
KPC				*e*		23 20 18.0	
KPC				max		23 20 20.7	
	comp=Z,17nm,0.4s						
KPC				Pg	**Pb**	**23 20 29.0**	**+2.1**
KPC				*e*		23 20 34.6	
KPC				*e*Sn	**Sn**	**23 21 17.3**	**-4.2**
KPC				*e*Sg	Sb	23 21 50.2	+8.9
KPC				Smax		23 21 54.4	
	comp=Z,304nm,1.3s						
KPC	**Khapcheranga**	**6.22**	**250**	*e*P	**Pn**	**23 20 10.2**	**-0.2**
KPC				pmax	pmax		
	comp=Z,20nm,0.3s						
YOA	**Uoyan**	**6.95**	**309**	*e*Sg	**Sg**	**23 22 21.4**	**0.0**
YOA				Smax		23 22 56.5	
	comp=Z,2μm,1.1s						
SYVR	**Suvo**	**7.07**	**287**	⇑*i*Pn	**Pn**	**23 20 23.2**	**+1.2**
SYVR				*e*		23 20 25.6	
SYVR				Pg	Pb	23 20 47.1	+5.8
SYVR				Pmax		23 20 50.1	
	comp=Z,12nm,0.8s						
SYVR				*e*		23 21 47.2	
SYVR				*e*		23 22 01.6	
SYVR				*e*Sg	**Sg**	**23 22 21.6**	**-3.7**
SYVR				Smax		23 22 26.9	
	comp=Z,437nm,1.6s						
SYVR				*e*		23 22 29.7	
KMO	**Kumora**	**7.08**	**306**	⇓*i*Pn	**Pn**	**23 20 23.6**	**+1.4**
KMO				max		23 20 35.0	
	comp=Z,31nm,0.4s						
KMO				*e*Pg	Pg	23 20 48.7	-5.4
KMO				*e*		23 20 53.9	
KMO				*e*Sn	**Sn**	**23 21 41.6**	**-1.1**
KMO				*i* Sg	**Sg**	**23 22 26.1**	**+0.4**
KMO				Smax		23 22 30.4	
	comp=Z,823nm,1.1s						
KMO	**Kumora**	**7.08**	**306**	*e*P	Pn	23 20 25.0	+2.8
KMO				pmax	pmax		
	comp=Z,18nm,0.5s						
BOD	**Bodaibo**	**7.10**	**326**	*e*Pn	Pn	23 20 24.9	+2.5
BOD				*e*		23 20 36.0	
BOD				*e*Pg	Pg	23 20 48.9	-5.4
BOD				Pmax		23 20 50.2	
	comp=Z,31nm,1.1s						
BOD				*e*		23 21 56.8	
BOD				*e*Sg	**Sg**	**23 22 22.8**	**-3.3**
BOD				*e*		23 22 29.8	
BOD				max		23 22 37.6	
	comp=Z,168nm,0.9s						
BOD	**Bodaibo**	**7.10**	**326**	*e*P	**Pn**	**23 20 24.1**	**+1.7**
KLR	**Kul'dur**	**7.19**	**110**	*e*P	Pn	23 20 14.8	-8.9
KLR				*e*		23 21 37.2	
KLR				MLR	MLR		
	comp=N,800nm,8.5s						
MXMB	**Maximikha**	**7.78**	**283**	*e*	**Pb**	**23 20 51.0**	**-2.4**
MXMB				*e*Pg	Pg	23 21 00.4	-7.0
MXMB				Pmax		23 21 17.0	
	comp=N,25nm,1.2s						
MXMB				*e*		23 22 04.2	
MXMB				*e*Sg	**Sg**	**23 22 44.9**	**-3.1**
MXMB				Smax		23 22 58.0	
	comp=N,1μm,1.0s						
NIZ	**Nizh Angarsk**	**7.88**	**302**	⇓*i*Pn	**Pn**	**23 20 35.0**	**+1.8**
NIZ				⇓*i*		23 20 37.2	
NIZ				*e*		23 20 52.1	
NIZ				*e*Pg	Pg	23 21 03.9	-5.5
NIZ				Pmax		23 21 14.0	
	comp=N,7.0nm,0.6s						
NIZ				*e*		23 22 00.8	
NIZ				*e*		23 22 44.7	
NIZ				*i* Sg	**Sg**	**23 22 50.0**	**-1.4**
NIZ				Smax		23 22 54.4	
	comp=N,182nm,1.0s						
NIZ	**Nizh Angarsk**	**7.88**	**302**	*e*P	Pn	23 20 37.3	+4.1
NIZ				pmax	pmax		
	comp=Z,6.0nm,0.6s						
OGRR	**Ongureny**	**8.49**	**286**	*e*Pn	**Pn**	**23 20 41.9**	**+0.4**
OGRR				*e*		23 21 09.0	
OGRR				*e*Pg	Pg	23 21 11.5	-9.5
OGRR				Pmax		23 21 22.9	
	comp=Z,6.0nm,0.8s						
OGRR				*e*		23 22 16.0	
OGRR				*i* Sg	**Sg**	**23 23 06.5**	**-4.3**
OGRR				Smax		23 23 15.9	
	comp=Z,220nm,1.6s						
OGRR	**Ongureny**	**8.49**	**286**	*e*P	**Pn**	**23 20 42.4**	**+0.9**
OGRR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
UUDB	**Ulan-Yde**	**8.49**	**273**	*e*Sg	**Sg**	**23 23 05.7**	**-5.2**
UUDB				*e*		23 23 09.7	
UUDB				max		23 23 17.4	
	comp=Z,445nm,1.2s						
ZRHB	**Zarechye**	**8.74**	**278**	Pg	Pg	23 21 17.7	-8.1
ZRHB				Pmax		23 21 20.5	
	comp=Z,140nm,1.0s						
ZRHB				*e*		23 22 24.8	
ZRHB				*e*		23 23 10.6	
ZRHB				*e*Sg	**Sg**	**23 23 14.9**	**-4.0**
ZRHB				*e*		23 23 31.9	
ZRHB				max		23 23 33.2	
	comp=Z,2μm,1.5s						
CN2	**Changchun**	**8.78**	**161**	*e*P	Pg	23 21 16.5	-10
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
HRMR	**Khuramsha**	**8.96**	**272**	⇑*i*Pn	**Pn**	**23 20 48.2**	**+0.2**
HRMR				*e*		23 20 51.7	
HRMR				Pg	Pg	23 21 20.7	-9.4
HRMR				Pmax		23 21 26.1	
	comp=Z,16nm,0.8s						
HRMR				*e*		23 22 32.4	
HRMR				*e*		23 22 48.4	
HRMR				*e*Sg	Sn	23 23 18.3	+49
HRMR				Smax		23 23 36.6	
	comp=Z,802nm,1.1s						
KAB	**Kabansk**	**9.09**	**275**	*e*Sg	Sn	23 23 24.2	+52
KAB				Smax		23 23 46.7	
	comp=Z,1μm,1.8s						
TRG	**Tyrgan**	**9.22**	**280**	*e*Pn	**Pn**	**23 20 51.7**	**+0.1**
TRG				*e*		23 20 56.6	
TRG				Pg		23 21 26.5	
TRG				Pmax		23 21 31.2	
	comp=Z,7.0nm,0.6s						
TRG				*e*Sn	**Sn**	**23 22 31.1**	**-4.2**
TRG				*e*Sg		23 23 28.9	
TRG				Smax		23 23 39.4	
	comp=Z,187nm,1.9s						
ULN	**Ulaanbaatar**	**10.19**	**251**	*e*		23 23 33.2	
ULN				*e*Sg	Sn	23 23 54.3	+55
LSTR	**Listvyanka**	**10.23**	**275**	*e*Pn	**Pn**	**23 21 04.9**	**-0.5**
LSTR				*e*Pg		23 21 43.4	
LSTR				*e*		23 23 28.8	
LSTR				*e*Sg	Sn	23 23 58.4	+58
LSTR				*e*		23 24 21.5	
LSTR				max		23 24 31.5	
	comp=Z,211nm,1.9s						
IRK	**Irkutsk**	**10.53**	**277**	*e*Sg		23 24 09.0	
IRK				*e*		23 24 11.5	
IRK				max		23 24 19.5	
	comp=Z,366nm,1.1s						
SONM	**Songino Array**	**10.59**	**252**	Pn	**Pn**	**23 21 09.7**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=65,slow=12,SNR=16						
SONM				Sn	**Sn**	**23 23 11.6**	**+2.6**
	comp=Z,0.7nm,0.3s,baz=65,slow=22,SNR=7.0						
SONM				Lg	Lg	23 24 09.3	
	comp=Z,2.7nm,0.3s,baz=58,slow=28,SNR=6.2						
USRK	**Ussuriysk Arra**	**10.63**	**134**	Pn	Pn	23 21 06.0	-4.9
	comp=Z,0.5nm,0.3s,baz=318,slow=14,SNR=5.5						
USRK				Lg	Lg	23 24 04.9	
	comp=Z,0.8nm,0.3s,baz=327,slow=26,SNR=12						
TLY	**Talaya**	**10.99**	**275**	*e*	Pn	23 21 45.3	+30
TLY				Pg		23 21 59.3	
TLY				Pmax		23 22 10.3	
	comp=Z,6.0nm,1.0s						
TLY				*e*		23 24 15.4	
TLY				*e*Sg		23 24 21.5	
TLY				*e*		23 24 27.2	
TLY				max		23 24 35.9	
	comp=Z,58nm,1.5s						
ZAK	**Zakamensk**	**11.50**	**268**	*e*	Pn	23 21 55.0	+32
ZAK				*e*		23 22 00.2	
ZAK				*e*		23 22 03.7	
ZAK				*e*Sg		23 24 39.6	
ZAK				*e*		23 24 42.0	
ZAK				*e*		23 24 48.6	
ZAK				max		23 25 00.5	
	comp=Z,87nm,1.9s						
ARS	**Arshan**	**11.70**	**276**	*e*Pg	Pn	23 22 12.8	+47
ARS				Pmax		23 22 14.6	
	comp=Z,3.0nm,0.3s						
ARS				*e*Sg		23 24 47.4	
ARS				Smax		23 24 55.4	
	comp=Z,158nm,1.1s						
MOY	**Mondy**	**12.62**	**276**	*e*	Pn	23 22 23.7	+46
MOY				max		23 22 33.4	
	comp=Z,2.0nm,1.0s						
MOY				*e*		23 22 42.6	
MOY				*e*		23 24 27.9	
MOY				*e*Sg		23 25 11.7	
MOY				*e*		23 25 16.0	
MOY				max		23 25 24.1	
	comp=Z,140nm,1.6s						
ORL	**Orlik**	**13.21**	**280**	*e*Pn	P	23 21 51.8	-4.4
ORL				*e*		23 24 17.6	
ORL				*e*Sg	S	23 25 35.5	+58
ORL				max		23 25 48.1	
	comp=Z,48nm,2.0s						
KSRS	**Korea Array**	**15.40**	**160**	Lg	Lg	23 26 37.3	
	baz=347,slow=31,SNR=4.2						
GTA	**Gaotai**	**19.64**	**238**	*e*P	**Pn**	**23 23 11.3**	**+2.6**
GTA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
TIXI	**Tiksi**	**19.85**	**7**	*i* P	**Pn**	**23 23 11.3**	**+0.5**
TIXI				pmax	pmax		
	comp=Z,9.0nm,1.4s						
PETK	**Petropavlovsk-**	**21.90**	**73**	P	**P**	**23 23 33.2**	**+1.6**
PETK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
PETK	**Petropavlovsk-**	**21.90**	**73**	P	**P**	**23 23 33.2**	**+1.6**
	comp=Z,2.9nm,0.7s,baz=276,slow=5.7,SNR=3.1						
ZALV	**Zalesovo Beam**	**21.92**	**289**	P	**P**	**23 23 35.6**	**+3.9**
ZALV	**Zalesovo Beam**	**21.92**	**289**	P	**P**	**23 23 35.6**	**+3.9**
	comp=Z,0.7nm,0.8s,baz=103,slow=6.5,SNR=3.1						
MKAR	**Makanchi Array**	**25.75**	**274**	P	**P**	**23 24 09.1**	**0.0**
MKAR	**Makanchi Array**	**25.75**	**274**	P	**P**	**23 24 09.1**	**0.0**
	comp=Z,0.3nm,0.8s,baz=67,slow=8.6,SNR=3.0						
KSH	**Kashi**	**33.53**	**266**	*e*P	P	23 25 21.5	+3.1
KSH				PP	**PP**	**23 26 35.5**	**+1.4**
KSH				S	S	23 30 47.5	+7.2
KSH				PcS	**PcS**	**23 31 44.3**	**-0.4**
KSH				SS	SS	23 32 54.8	-10
KSH	**Kashi**	**33.53**	**266**	ScS	ScS	23 35 44.5	+0.1
KSH				pmax	pmax		
	comp=Z,120nm,4.0s						
KSH				LR	LR		
	comp=N,87nm,5.8s						
KSH				LR	LR		
	comp=E,99nm,6.1s						
KSH				LR	LR		
	comp=Z,160nm,6.8s						
ILAR	**Eielson Array**	**45.27**	**37**	P	P	23 26 58.7	+3.0
	comp=Z,0.5nm,0.7s,baz=305,slow=7.7,SNR=4.6						

GUC 27 23:33:04.0±0.7,33°.21S×70°.36W,h101km±2km,MD3.6,
ML3.7,6C-9D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLCH	**Cerro Calan**	**0.24**	**218**	AML	AML	23 33 31.4	
	comp=E,10μm,0.4s						
PEL	**Peldehue**	**0.28**	**283**	⇓*i*P	Pn	23 33 18.9	+0.2
PEL				*i* S	Sn	23 33 30.0	+0.3
PEL				AML	AML	23 33 30.7	
	comp=N,14μm,0.4s						
FSR	**Penalolen**	**0.30**	**207**	⇓*i*P	Pn	23 33 20.4	+1.5
FSR				*i* S	Sn	23 33 31.8	+1.9
STL	**Santa Lucia**	**0.33**	**226**	⇑*i*P	Pn	23 33 19.0	+0.1
STL				*i* S	Sn	23 33 30.3	+0.3
STL				AML	AML	23 33 31.5	
	comp=N,2μm,0.4s						
SAN	**Santiago**	**0.35**	**226**	⇓*i*P	Pn	23 33 19.3	+0.2
SAN				*i* S	Sn	23 33 30.6	+0.3
SAN				AML	AML	23 33 31.3	
	comp=N,6μm,0.2s						
ANTU	**Antumapu**	**0.43**	**212**	⇓*i*P	Pn	23 33 19.8	+0.3
ANTU				*i* S	Sn	23 33 31.6	+0.5
ANTU				AML	AML	23 33 32.9	
	comp=E,3μm,0.2s						
PCH	**Pirque**	**0.43**	**197**	⇑*i*P	Pn	23 33 20.0	+0.4
PCH				*i* S	Sn	23 33 31.8	+0.5
SJCH	**San Jose de Ma**	**0.43**	**179**	⇑*i*P	Pn	23 33 19.1	-0.5
SJCH				*i* S	Sn	23 33 31.1	-0.2
SJCH				AML	AML	23 33 32.8	
	comp=E,3μm,0.2s						
ROCH	**El Roble**	**0.59**	**293**	⇑*i*P	Pn	23 33 20.9	0.0
ROCH				*i* S	Sn	23 33 34.2	+0.6
ROCH				AML	AML	23 33 35.4	
	comp=N,5μm,0.3s						
LMEL	**Las Melosas**	**0.65**	**168**	⇓*i*P	Pn	23 33 21.5	+0.2
LMEL				*i* S	Sn	23 33 36.0	+1.7
LMEL				AML	AML	23 33 40.7	
	comp=E,2μm,0.1s						
TACH	**Talagante**	**0.66**	**227**	⇓*i*P	Pn	23 33 21.3	+0.2
TACH				*i* S	Sn	23 33 34.7	+0.7
CACH	**El Canelo**	**0.93**	**192**	⇓*i*P	Pn	23 33 25.0	+1.1
CACH				*i* S	Sn	23 33 40.2	+1.3
LCCH	**Las Cruces**	**1.05**	**255**	⇓*i*P	Pn	23 33 25.5	+0.5
LCCH				*i* S	Sn	23 33 41.3	+0.5
IHA	**Instituto Hidr**	**1.09**	**279**	⇑*i*P	Pn	23 33 25.7	+0.2
IHA				*i* S	Sn	23 33 42.4	+0.7
LNV	**Longovilo**	**1.15**	**229**	⇓*i*P	Pn	23 33 26.1	-0.1
LNV				*i* S	Sn	23 33 42.8	-0.1
CHNG	**Los Chungos**	**1.63**	**324**	⇑*i*P	Pn	23 33 32.4	+0.5
CHNG				*i* S	Sn	23 33 53.5	+0.3
CHNG				AML	AML	23 33 55.1	
	comp=E,569nm,0.4s						
NICH	**Los Niches**	**1.93**	**202**	*e*P	Pn	23 33 35.5	-0.2
NICH				*i* S	Sn	23 34 00.0	+0.1
NICH				AML	AML	23 34 06.4	
	comp=E,616nm,0.3s						
TLL	**Tololo Astrono**	**3.06**	**353**	*e*P	Pn	23 33 51.1	+0.3

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CISI	**Cisompet, Garu**	**0.78 45**	*e*Pn	**Pn**	**00 26 38.2 -0.6**
CISI			*e*Sn	**Sn**	**00 26 47.5 -2.1**
CISI	**Cisompet, Garu**	**0.78 45**	P	**Pn**	**00 26 38.1 -0.6**
CISI			S	**Sn**	**00 26 48.2 -1.4**
CISI	**Cisompet, Garu**	**0.78 45**	P	**Pn**	**00 26 37.6 -1.2**
	baz=0.9,SNR=1000				
SKJI	**Sukabumi**	**1.30 327**	P	**Pn**	**00 26 45.4 -0.3**
SKJI			S	**Sn**	**00 27 01.9 -0.2**
LEM	**Lembang**	**1.32 15**	P	**Pn**	**00 26 47.2 +1.0**
LEM			S	**Sn**	**00 27 06.3 +3.5**
LEM	**Lembang**	**1.32 15**	P	**Pn**	**00 26 47.2 +1.0**
	baz=1.6,SNR=3.5				
LEM			S	**Sn**	**00 27 07.3 +4.5**
	baz=1.6,SNR=4.9				
DBJI	**Dramaga**	**1.63 342**	P	**Pn**	**00 26 51.7 +1.5**
DBJI			S	**Sn**	**00 27 10.1 +0.1**
CLJI	**Cilicap**	**1.78 78**	P	**Pn**	**00 26 54.6 +2.4**
KPJI	**Karang Pucung**	**1.82 65**	P	**Pn**	**00 26 53.4 +0.6**
TNG	**Tangerang**	**2.02 342**	P	**Pn**	**00 26 57.3 +1.8**
TGJI	**Tegal**	**2.22 56**	P	**Pn**	**00 26 59.6 +1.4**
SBJI	**Serang**	**2.27 330**	P	**Pn**	**00 27 00.7 +1.7**
BJII	**Banjamegara**	**2.54 73**	P	**Pn**	**00 27 02.9 +0.2**
XMI	**Christmas Isla**	**2.80 214**	P	**Pn**	**00 27 06.4 +0.3**
	baz=2.7,SNR=148				
XMI			S	**Sn**	**00 27 36.0 -2.7**
	baz=2.7,SNR=5.6				
XMIS	**Christmas Isla**	**2.84 214**	*e*Pn	**Pn**	**00 27 06.7 -0.1**
XMIS			*e*Sn	**Sn**	**00 27 36.2 -3.6**
XMIS	**Christmas Isla**	**2.84 214**	P	**Pn**	**00 27 06.7 -0.1**
	baz=2.7,SNR=673				
XMIS			S	**Sn**	**00 27 36.4 -3.5**
	baz=2.7,SNR=9.0				
YOGI	**Yogyakarta**	**3.02 85**	P	**Pn**	**00 27 09.3 +0.1**
UGM	**Wanagama**	**3.23 87**	*e*Pn	**Pn**	**00 27 12.2 0.0**
UGM			*e*Sn	**Sn**	**00 27 46.6 -2.9**
UGM	**Wanagama**	**3.23 87**	P	**Pn**	**00 27 12.4 +0.2**
UGM	**Wanagama**	**3.23 87**	P	**Pn**	**00 27 12.4 +0.2**
	baz=3.1,SNR=180				
BLSI	**Bandar Lampung**	**3.38 324**	P	**Pn**	**00 27 16.1 +1.9**
WOJI	**Wonogiri, Jawa**	**3.63 86**	P	**Pn**	**00 27 17.4 -0.2**
KASI	**Kota Agung**	**3.76 313**	P	**Pn**	**00 27 20.7 +1.3**
PCJI	**Pacitan**	**3.88 92**	P	**Pn**	**00 27 21.7 +0.8**
KLI	**Kotabumi**	**4.01 323**	P	**Pn**	**00 27 25.2 +2.3**
NGJI	**Ngawi**	**4.22 80**	P	**Pn**	**00 27 27.7 +2.0**
LWLI	**Liwa**	**4.42 314**	P	**Pn**	**00 27 29.8 +1.2**
SJI	**Sawahan**	**4.48 86**	P	**Pn**	**00 27 31.2 +1.9**
PWJI	**Pagerwojo**	**4.50 89**	P	**Pn**	**00 27 29.9 +0.4**
MDSI	**Maura Dua**	**4.73 319**	P	**Pn**	**00 27 34.4 +1.7**
KRKI	**Karangkates**	**5.14 91**	P	**Pn**	**00 27 40.1 +1.8**
	2μm,0.6s,37μm12nm				
GRJI	**Gresik**	**5.30 77**	P	**Pn**	**00 27 41.6 +1.0**
	410nm,0.5s,6μm1.7nm				
TPI	**Tanjungpandan**	**5.33 4**	P	Pn	00 27 45.2 +4.3
	25nm,1.4s,1μm0.7nm				
EGSI	**Enggano, Bengk**	**5.66 299**	P	**Pn**	**00 27 46.3 +0.9**
	2μm,0.8s,46μm				
MNAI	**Manna**	**5.68 311**	*e*Pn	**Pn**	**00 27 46.5 +0.8**
MNAI			*e*Sn	**Sn**	**00 28 46.2 -3.4**
MNAI	**Manna**	**5.68 311**	P	**Pn**	**00 27 46.8 +1.1**
	820nm,0.8s,30μm5.4nm				
MNAI	**Manna**	**5.68 311**	P	**Pn**	**00 27 46.5 +0.8**
	baz=5.9,SNR=78				
PPBI	**Pangkal Pinang**	**6.01 349**	P	**Pn**	**00 27 52.8 +2.5**
	109nm,0.7s,9μm3.0nm				
GMJI	**Gumukmas**	**6.12 92**	P	**Pn**	**00 27 52.7 +1.0**
	406nm,0.6s,8μm2.0nm				
BLJI	**Banyuglugur**	**6.28 87**	P	**Pn**	**00 27 55.1 +1.1**
	436nm,0.6s,9μm2.1nm				
KSI	**Kapahiang**	**6.42 313**	P	**Pn**	**00 27 57.5 +1.6**
	558nm,0.6s,13μm2.9nm				
KMMI	**Kalianget**	**6.73 81**	P	**Pn**	**00 28 00.4 +0.3**
	118nm,0.9s,4μm0.6nm				
ABJI	**Asem Bagus**	**6.91 88**	P	**Pn**	**00 28 04.7 +2.1**
	2μm,0.6s,22μm7.3nm				
BYJI	**Banyuwangi**	**7.02 91**	P	Pn	00 28 08.1 +4.0
	585nm,0.6s,22μm3.0nm				
MASI	**Maura Aman, Be**	**7.03 314**	P	**Pn**	**00 28 05.4 +1.2**
	448nm,0.9s,7μm2.0nm				
SRBI	**Singaraja**	**7.87 90**	P	**Pn**	**00 28 17.8 +2.1**
	398nm,0.6s,6μm1.5nm				
DNP	**Denpasar**	**7.88 95**	P	Pn	00 28 19.6 +3.7
	764nm,0.5s,4.5nm				
MTNI	**Mataram**	**8.83 94**	P	**Pn**	**00 28 29.9 +1.0**
	129nm,0.6s,2μm0.6nm				
STKI	**Sintang**	**9.14 28**	P	Pn	00 28 38.4 +5.2
	37nm,0.8s,16μm				
PDSI	**Padang**	**9.85 316**	P	**Pn**	**00 28 41.6 -1.3**
	140nm,0.4s,10μm				
PPI	**Padang Panjang**	**10.23 318**	P	**Pn**	**00 28 47.7 -0.4**
	85nm,0.6s,1μm				
PPI	**Padang Panjang**	**10.23 318**	P	**Pn**	**00 28 48.9 +0.8**
	baz=10,SNR=9.6				
MYKOM	**Kota Tinggi**	**10.41 341**	*e*Pn	**Pn**	**00 28 49.8 -0.7**
BKNI	**Bangkinang**	**10.43 323**	P	**Pn**	**00 28 51.0 +0.2**
	139nm,1.2s				
COCO	**West Island**	**11.04 248**	*e*P	**Pn**	**00 28 59.6 +0.5**
COCO	**West Island**	**11.04 248**	*e*Pn	**Pn**	**00 28 59.6 +0.5**
COCO			*e*Sn	Sn	00 30 54.2 -6.9
LBFI	**Labuhan Bajo,**	**12.50 93**	P	**Pn**	**00 29 19.3 +0.2**
	116nm,0.7s				
KAPI	**Kappang**	**12.78 77**	*e*Pn	**Pn**	**00 29 23.2 +0.3**
KAPI			*e*PcP	PcP	00 34 36.5 -19
KAPI	**Kappang**	**12.78 77**	P	**Pn**	**00 29 25.3 +2.4**
	52nm,1.3s				
KAPI	**Kappang**	**12.78 77**	P	**Pn**	**00 29 23.8 +0.9**
	0.8nm,0.3s,baz=264,slow=11,SNR=7.5				
KAPI			LR	LR	00 34 36.5
	comp=Z,211nm,18.2s,baz=270,slow=39				
WSI	**Waingapu**	**12.97 98**	P	Pn	00 29 28.8 +3.3
	71nm,0.4s,19μm				
WSI	**Waingapu**	**12.97 98**	P	**Pn**	**00 29 26.6 +1.1**
	baz=13,SNR=6.9				
BKSI	**Bulukumba**	**13.07 79**	P	**Pn**	**00 29 29.0 +2.2**
	86nm,1.0s,680nm				
BNSI	**Bone**	**13.29 75**	P	**P**	**00 29 35.5 -2.5**
	54nm,1.2s,2μm				
GSI	**Gunungsitoli**	**13.45 314**	P	Pn	00 29 28.6 -3.4
	176nm,0.5s,4μm				
TTSI	**Tana Toraja**	**13.47 69**	P	**P**	**00 29 38.7 -1.3**
PSI	**Prapat**	**13.66 322**	*e*Pn	Pn	00 29 29.2 -5.9
PSI	**Prapat**	**13.66 322**	P	Pn	00 29 29.2 -5.9
	1.1nm,0.3s,baz=162,slow=14,SNR=5.4				
PSI	**Prapat**	**13.66 322**	P	Pn	00 29 31.0 -4.1
	baz=14,SNR=3.5				
MMRI	**Maumere**	**14.82 93**	*e*Pn	Pn	00 29 45.9 -4.5
MMRI	**Maumere**	**14.82 93**	P	**Pn**	**00 29 48.3 -2.1**
	274nm,0.6s,3μm				
BBSI	**Bau Bau**	**15.42 81**	P	**Pn**	**00 30 00.0 +1.9**
	83nm,1.1s				
GIRL	**Giralia**	**15.93 156**	P	**Pn**	**00 30 03.0 -1.5**
	baz=16,SNR=50				
GIRL			S	Sn	00 32 50.8 -10
	baz=16,SNR=6.4				
APSI	**Ampana**	**16.02 64**	P	P	00 30 13.8 +5.4
BATI	**Baumata**	**16.32 99**	P	**Pn**	**00 30 06.9 -2.8**
	116nm,0.8s,1μm				
BATI	**Baumata**	**16.32 99**	P	**Pn**	**00 30 06.5 -3.2**
	12nm,0.3s,baz=290,slow=2.9,SNR=10.0				
BATI			S	Sn	00 33 01.1 -8.9
	5.3nm,0.3s,baz=68,slow=19,SNR=3.5				
SOEI	**Soe**	**16.88 97**	P	**Pn**	**00 30 14.4 -2.3**
	169nm,1.0s,2μm				
SOEI	**Soe**	**16.88 97**	P	**Pn**	**00 30 14.2 -2.5**
	baz=17,SNR=6.8				
SOEI			S	**S**	**00 33 32.6 +1.0**
	baz=17,SNR=3.7				
MBWA	**Marble Bar**	**17.70 138**	*e*Pn	**Pn**	**00 30 26.4 -0.2**
	95nm,1.9s				
GTOI	**Gorontalo**	**17.94 62**	P	**Pn**	**00 30 33.5 +3.8**
	61nm,1.1s,949nm				
NLAI	**Namlea**	**20.32 77**	P	**P**	**00 30 56.9 +1.2**
	108nm,0.6s,2μm				
FITZ	**Fitzroy Crossi**	**20.45 121**	*e*P	Pn	00 30 58.9 -0.7
	36nm,0.8s				
FITZ			*e*ScP	**ScP**	**00 38 34.3 -5.7**
FITZ	**Fitzroy Crossi**	**20.45 121**	P	Pn	00 30 58.8 -0.8
	36nm,0.7s,baz=295,slow=11,SNR=101				
FITZ			S	S	00 34 31.8 -11
	2.1nm,0.4s,baz=71,slow=18,SNR=3.2				
FITZ			LR	LR	00 38 34.3
	comp=Z,173nm,18.6s,baz=283,slow=36				
FITZ	**Fitzroy Crossi**	**20.45 121**	P	Pn	00 30 58.7 -0.9
	baz=20,SNR=44				
AAI	**Ambon**	**21.27 79**	P	**P**	**00 31 07.6 +1.6**
	149nm,0.7s				
AAI	**Ambon**	**21.27 79**	P	**P**	**00 31 06.2 +0.2**
	baz=21,SNR=3.6				
MEEK	**Meekatharra**	**21.35 151**	P	P	00 31 11.8 +5.1
	baz=21,SNR=20				
MEEK			S	**S**	**00 34 59.0 -2.0**
	baz=21,SNR=5.7				
LBMI	**Labuha**	**21.49 71**	P	**P**	**00 31 10.9 +2.6**
	115nm,0.7s,1μm				
KNRA	**Kununurra**	**22.32 112**	P	**P**	**00 31 17.7 +0.5**
	baz=22,SNR=15				
MORW	**Morawa**	**22.43 160**	P	**P**	**00 31 21.3 +3.0**
	baz=22,SNR=5.0				
MORW			S	**S**	**00 35 20.4 -0.8**
	baz=22,SNR=8.8				
SWI	**Sorong**	**24.97 74**	P	P	00 31 47.8 +5.1
	23nm,0.9s,1μm				
KDU	**Kakadu**	**25.20 103**	P	**P**	**00 31 44.2 -0.5**
	baz=25,SNR=15				
KLBR	**Kellerberrin**	**25.33 159**	P	**P**	**00 31 47.5 +1.7**
	baz=25,SNR=5.7				
FAKI	**Fak Fak**	**25.39 80**	P	**P**	**00 31 45.4 -1.1**
	baz=25,SNR=12				
NWAO	**Narrogin (SRO)**	**26.37 161**	LR	LR	00 41 16.7
	comp=Z,239nm,21.4s,baz=121,slow=33				
QIZ	**Qiongzhong**	**27.09 5**	P	**P**	**00 31 58.5 -3.2**
QIZ			pmax	pmax	
	comp=Z,64nm,2.1s				
QIZ			pmax	pmax	
	comp=Z,1μm,5.2s				
LAMP	**Lampang**	**27.51 344**	P	**P**	**00 32 05.8 +0.2**
	comp=Z,4.2nm,0.6s				
CM01	**Chiang Mai Arr**	**27.61 343**	*e*P	**P**	**00 32 03.0 -3.4**
CM31	**Chiang Mai Arr**	**27.65 343**	*e*P	**P**	**00 32 03.7 -3.1**
CM31			*e*PcP	**PcP**	**00 35 23.9 +0.7**
CMAR	**Chiang Mai Arr**	**27.65 343**	P	**P**	**00 32 03.7 -3.1**
	comp=Z,2.7nm,0.5s,baz=176,slow=9.0,SNR=13				
CMAR			PcP	**PcP**	**00 35 23.9 +0.7**
	comp=Z,1.6nm,0.6s,baz=176,slow=2.5,SNR=5.4				
CMAR			LR	LR	00 44 42.6
	comp=Z,105nm,19.6s,baz=156,slow=40				
WRA	**Warramunga Arr**	**28.73 117**	*e*P	**P**	**00 32 16.9 +0.4**
WRA	**Warramunga Arr**	**28.73 117**	P	**P**	**00 32 16.9 +0.4**
	comp=Z,4.5nm,0.8s,baz=287,slow=13,SNR=11				
WRAB	**Tennant Creek**	**28.73 117**	*e*P	**P**	**00 32 17.4 +0.9**
WRAB			pmax	pmax	
	comp=Z,10.0nm,0.7s				
WRAB	**Tennant Creek**	**28.73 117**	*e*P	**P**	**00 32 17.4 +0.9**
	comp=Z,10nm,0.7s				
FORT	**Forrest**	**29.77 142**	*e*P	**P**	**00 32 27.3 +1.7**
	comp=Z,39nm,0.7s				
FORT	**Forrest**	**29.77 142**	P	**P**	**00 32 27.2 +1.7**
	baz=30,SNR=13				
AS12	**Alice Springs**	**29.84 124**	*e*P	**P**	**00 32 27.2 +0.8**
AS12			*e*PcP	**PcP**	**00 35 29.6 +0.8**
ASAR	**Alice Springs**	**29.84 124**	P	**P**	**00 32 27.2 +0.8**
	comp=Z,3.2nm,0.7s,baz=304,slow=8.1,SNR=19				
ASAR			PcP	**PcP**	**00 35 29.6 +0.8**
	comp=Z,1.5nm,0.4s,baz=321,slow=2.4,SNR=4.9				
ASAR			pPcP		00 35 46.6
	comp=Z,1.4nm,0.5s,baz=308,slow=2.2,SNR=4.6				
AS01	**Alice Springs**	**29.88 124**	*e*P	**P**	**00 32 27.1 +0.4**
KMI	**Kunming**	**33.32 353**	P	**P**	**00 32 57.0 -0.1**
KMI			S	**S**	**00 38 17.8 +3.5**
KMI			pmax	pmax	
	comp=Z,7.0nm,0.5s				
GYA	**Guiyang**	**34.37 359**	*e*P	**P**	**00 33 06.8 +0.8**
GYA			pP	**pP**	**00 33 20.5 +0.8**
GYA			sP	**sP**	**00 33 27.3 +1.4**
GYA			PP	**PP**	**00 34 25.0 +0.2**
GYA			PcP	**PcP**	**00 35 42.0 +1.0**
GYA			S	**S**	**00 38 30.8 +0.6**
GYA			ScP	**ScP**	**00 39 22.5 +0.6**
GYA			ScS	**ScS**	**00 43 23.0 -1.7**
GYA			pmax	pmax	
	comp=Z,10.0nm,0.8s				
GYA			pmax	pmax	
	comp=Z,90nm,4.8s				
GYA			LR	LR	
	comp=N,450nm,17.8s				
GYA			LR	LR	
	comp=E,380nm,18.0s				
GYA			LR	LR	
	comp=Z,470nm,17.7s				
COEN	**Coen**	**35.69 103**	*e*P	**P**	**00 33 17.8 +0.3**
	comp=Z,217nm,1.2s				
COEN	**Coen**	**35.69 103**	P	**P**	**00 33 17.5 0.0**
	baz=36,SNR=5.9				
COEN			S	S	00 38 43.6 -7.1
	baz=36,SNR=4.4				
BBOO	**Buckleboo**	**36.27 137**	*e*P	**P**	**00 33 23.2 +1.0**
	comp=Z,2μm,2.5s				
BBOO	**Buckleboo**	**36.27 137**	P	**P**	**00 33 23.2 +1.0**
	baz=36,SNR=16				
MTSU	**Mount Surprise**	**37.36 109**	P	**P**	**00 33 33.4 +1.7**
	baz=37,SNR=10				
HYB	**Hyderabad**	**38.06 312**	*i* P	**P**	**00 33 37.0 -0.6**
CD2	**Chengdu**	**38.94 355**	P	**P**	**00 33 46.0 +1.2**
CD2			pmax	pmax	
	comp=Z,20nm,0.5s				
WHN	**Wuhan**	**39.03 10**	P	**P**	**00 33 48.0 +2.6**
QLP	**Quilpie**	**39.58 122**	P	**P**	**00 33 52.8 +2.6**
	baz=39,SNR=4.8				
STKA	**Stephens Creek**	**39.71 131**	*e*P	**P**	**00 33 53.4 +2.1**
	comp=Z,9.7nm,0.4s				
STKA			*e*PcP	**PcP**	**00 35 57.8 +0.7**
STKA	**Stephens Creek**	**39.71 131**	P	**P**	**00 33 53.2 +2.0**
	comp=Z,37nm,0.4s,baz=306,slow=9.8,SNR=207				
STKA			PcP	**PcP**	**00 35 57.8 +0.7**
	comp=Z,6.1nm,0.6s,baz=304,slow=3.6,SNR=2.9				
STKA			LR	LR	00 49 41.3
	comp=Z,156nm,18.7s,baz=211,slow=35				
STKA	**Stephens Creek**	**39.71 131**	P	**P**	**00 33 53.3 +2.1**
	baz=40,SNR=168				
ODAN	**Odare**	**39.75 332**	*e*P	P	00 33 48.1 -3.7
	comp=Z,12nm,0.4s				
TAPN	**Taplejung**	**40.02 332**	*e*P	P	00 33 50.4 -3.7
	comp=Z,24nm,0.9s				
RAMN	**Ramite**	**40.20 331**	*e*P	**P**	**00 33 52.7 -2.9**
	comp=Z,6.9nm,0.3s				
LSA	**Lhasa**	**40.66 338**	P	**P**	**00 33 59.5 -0.1**
JIRN	**Jiri**	**40.99 331**	*e*P	P	00 33 58.9 -3.4
	comp=Z,16nm,0.4s				
PKI	**Pulchoki**	**41.30 330**	*e*P	**P**	**00 34 01.8 -2.9**
PKIN	**Phulchoki**	**41.31 330**	*e*P	**P**	**00 34 01.7 -3.1**
GUN	**Gumba**	**41.35 331**	*e*P	P	00 34 01.3 -3.9
	comp=Z,17nm,0.4s				
NJ2	**Nanjing**	**41.44 15**	*e*P	**P**	**00 34 05.5 +0.1**
NJ2			pmax	pmax	
	comp=Z,10.0nm,0.6s				
DMN	**Daman**	**41.48 330**	*e*P	P	00 34 02.9 -3.3
	comp=Z,18nm,0.8s				
GKN	**Gorkha**	**42.04 329**	*e*P	P	00 34 06.9 -3.7
	comp=Z,12nm,0.3s				
POO	**Poona**	**42.28 309**	*e*P	**P**	**00 34 13.0 +0.5**
KOLN	**Koldanda**	**42.38 328**	*e*P	**P**	**00 34 10.4 -3.1**
	comp=Z,19nm,0.5s				
CMSA	**Cobar Meteorol**	**42.67 128**	P	**P**	**00 34 18.4 +2.8**
	baz=42,SNR=18				
DANN	**Dangsing**	**42.77 329**	*e*P	P	00 34 13.4 -3.3
	comp=Z,27nm,0.5s				
LZH	**Lanzhou**	**44.08 356**	*e*P	**P**	**00 34 27.8 +0.9**
LZH			pP	**pP**	**00 34 39.0 -2.0**
LZH			PP	**PcP**	**00 36 12.0 +0.5**
LZH			*e*S	**S**	**00 40 55.0 -0.9**
LZH			pmax	pmax	
	comp=Z,18nm,1.0s				
LZH			pmax	pmax	
	comp=Z,180nm,6.0s				
LZH			LR	LR	
	comp=N,600nm,14.9s				
LZH			LR	LR	
	comp=E,700nm,16.2s				
LZH			LR	LR	
	comp=Z,800nm,16.8s				
YNG	**Young**	**45.89 131**	P	**P**	**00 34 44.0 +2.7**
	baz=46,SNR=20				
ARMA	**Armidale**	**46.99 124**	*e*P	**P**	**00 34 51.4 +1.2**
	comp=Z,47nm,1.4s				
GTA	**Gaotai**	**47.78 352**	*e*P	**P**	**00 34 57.3 +1.3**
GTA			pP	**pP**	**00 35 10.5 +0.3**
GTA			sP	**sP**	**00 35 16.3 -0.1**
GTA			PcP	**PcP**	**00 36 24.5 +0.1**
GTA			PP	**PP**	**00 36 51.5 +3.2**
GTA			S	**S**	**00 41 51.5 +2.6**
GTA			pmax	pmax	
	comp=Z,5.0nm,0.8s				
GTA			pmax	pmax	
	comp=Z,84nm,4.3s				
GTA			LR	LR	
	comp=N,140nm,13.8s				
GTA			LR	LR	
	comp=E,270nm,19.5s				
BJI	**Beijing**	**48.61 9**	P	**P**	**00 35 02.3 +0.1**
BJI			S	S	00 42 07.5 +7.2
BJI			pmax	pmax	
	comp=Z,13nm,1.0s				
BJI			pmax	pmax	
	comp=Z,150nm,5.8s				
HHC	**Hu-ho-hao-te**	**48.88 4**	*e*P	**P**	**00 35 05.8 +1.4**
HHC			sP	**sP**	**00 35 23.5 -1.3**
HHC			PP	**PP**	**00 36 59.3 +1.0**
HHC			ScP	**ScP**	**00 40 20.3 +1.4**
HHC			S	**S**	**00 42 05.0 +0.7**
HHC			SS	**SS**	**00 45 31.5 -4.3**
HHC			pmax	pmax	
	comp=Z,35nm,0.7s				
HHC			pmax	pmax	
	comp=Z,220nm,5.4s				
HHC			LR	LR	
	comp=N,420nm,14.6s				
HHC			LR	LR	
	comp=E,330nm,15.1s				
KS15	**Wonju Array Si**	**49.25 22**	*e*PcP	**PcP**	**00 36 29.8 +0.3**
KSRS	**Korea Array**	**49.27 22**	PcP	**PcP**	**00 36 29.8 +0.2**
	comp=E,1.9nm,0.7s,baz=201,slow=3.9,SNR=5.2				
CN2	**Changchun**	**54.23 16**	*e*P	**P**	**00 35 45.8 +1.6**
CN2			pmax	pmax	
	comp=Z,10.0nm,0.5s				
CN2			pmax	pmax	
	comp=Z,150nm,5.0s				
WMQ	**Urumqi**	**54.65 343**	*e*P	**P**	**00 35 47.8 +0.5**
WMQ			pP	**pP**	**00 35 59.8 -2.0**
WMQ			sP	**sP**	**00 36 05.8 -2.1**
WMQ			pmax	pmax	
	comp=Z,5.0nm,1.0s				
WMQ			pmax	pmax	
	comp=Z,41nm,4.6s				
KSH	**Kashi**	**55.55 331**	*e*P	**P**	**00 35 52.5 -1.5**
KSH			pP	**pP**	**00 36 05.0 -3.5**
KSH			PP	**PP**	**00 37 57.0 -1.7**
KSH			PcS	**PcS**	**00 40 52.3 -1.3**
KSH			S	S	00 43 29.0 -6.8
KSH			pmax	pmax	
	comp=Z,230nm,6.2s				
KSH			LR	LR	
	comp=N,170nm,5.5s				
KSH			LR	LR	
	comp=E,100nm,5.8s				
KSH			LR	LR	
	comp=Z,200nm,6.1s				
SONA0	**Songino Array**	**55.70 359**	*e*P	**P**	**00 35 52.9 -2.1**
SONA0			*e*PcP	**PcP**	**00 36 53.1 -0.7**
SONA0			*e*ScP	**ScP**	**00 40 47.0 -1.4**
SONM	**Songino Array**	**55.70 359**	P	**P**	**00 35 52.9 -2.1**
	comp=Z,3.9nm,0.6s,baz=174,slow=7.0,SNR=27				
SONM			PcP	**PcP**	**00 36 53.1 -0.6**
	comp=Z,3.1nm,0.5s,baz=176,slow=4.0,SNR=12				
SONM			ScP	**ScP**	**00 40 47.0 -1.4**
	comp=Z,1.3nm,0.6s,baz=169,slow=4.5,SNR=9.2				
SONA1	**Songino Array**	**55.72 359**	*e*P	**P**	**00 35 53.5 -1.6**
SONA1			*e*PcP	**PcP**	**00 36 53.3 -0.6**
ULN	**Ulaanbaatar**	**55.73 360**	*e*P	**P**	**00 35 53.3 -1.8**
	comp=Z,9.2nm,1.0s				
KBL	**Kabul**	**55.73 322**	*e*P	**P**	**00 35 53.8 -1.8**
KBL			pmax	pmax	
	comp=Z,8.0nm,0.8s				
KBL	**Kabul**	**55.73 322**	*e*P	**P**	**00 35 53.8 -1.8**
	comp=Z,8.2nm,0.8s				
KBL	**Kabul**	**55.73 322**	P	**P**	**00 35 54.9 -0.6**
	baz=56,SNR=3.9				
MDJ	**Mudanjiang**	**56.22 19**	P	**P**	**00 35 59.5 +1.0**
MDJ			pmax	pmax	
	comp=Z,6.0nm,0.8s				
MDJ			pmax	pmax	
	comp=Z,52nm,3.8s				
USRK	**Ussuriysk Arra**	**56.67 21**	P	**P**	**00 35 59.3 -2.4**
	comp=Z,1.0nm,0.4s,baz=178,slow=5.5,SNR=8.0				
ZAK	**Zakamensk**	**58.35 357**	*e*P	**P**	**00 36 11.6 -2.0**
ZAK			*e*		00 36 57.1
ZAK			pmax	pmax	
	comp=Z,1.0nm,1.3s				
ZAK			pmax	pmax	
	comp=Z,3.0nm,1.1s				
TKM2	**Tokmak 2**	**58.40 333**	*e*P	**P**	**00 36 11.8 -2.5**
TKM2			pmax	pmax	
	comp=Z,6.0nm,0.6s				
TKM2	**Tokmak 2**	**58.40 333**	*e*P	**P**	**00 36 11.8 -2.5**
	comp=Z,6.1nm,0.6s				
MK01	**Makanchi Array**	**58.99 340**	*e*P	**P**	**00 36 15.4 -2.6**
MK31	**Makanchi Array**	**59.01 340**	*e*P	**P**	**00 36 16.1 -2.1**
MK31			pmax	pmax	
	comp=Z,1.0nm,0.3s				
MK32	**Makanchi Array**	**59.01 340**	*e*P	**P**	**00 36 15.6 -2.6**
MKAR	**Makanchi Array**	**59.01 340**	*e*P	**P**	**00 36 15.8 -2.4**
MKAR	**Makanchi Array**	**59.01 340**	*e*P	**P**	**00 36 15.8 -2.4**
MKAR	**Makanchi Array**	**59.01 340**	P	**P**	**00 36 15.6 -2.6**
	comp=Z,2.2nm,0.4s,baz=152,slow=7.8,SNR=37				
EKS2	**Erkin-Say**	**59.04 332**	*e*P	**P**	**00 36 16.4 -2.2**
EKS2			pmax	pmax	
	comp=Z,4.0nm,0.9s				
EKS2	**Erkin-Say**	**59.04 332**	*e*P	**P**	**00 36 16.4 -2.2**
	comp=Z,4.2nm,0.9s				
OPO	**Ambohidratompo**	**59.14 253**	*e*P	**P**	**00 36 21.9 +2.1**
OPO	**Ambohidratompo**	**59.14 253**	P	**P**	**00 36 21.9 +2.1**
	comp=Z,3.8nm,0.5s,baz=81,slow=6.5,SNR=7.3				
HVS	**Khovu-Aksy**	**60.16 350**	P	**P**	**00 36 24.8 -1.2**
HVS			pmax	pmax	
	comp=Z,5.0nm,0.8s				
IDAH	**Dahanechah**	**60.70 315**	*e*P	**P**	**00 36 30.1 -0.2**
KK31	**Karatay Array**	**60.95 330**	*e*P	**P**	**00 36 29.3 -2.2**
KK31			pmax	pmax	
	comp=Z,1.0nm,0.3s				
KKAR	**Karatay Array**	**60.95 330**	*e*P	**P**	**00 36 29.4 -2.1**
KKAR	**Karatay Array**	**60.95 330**	*e*P	**P**	**00 36 29.4 -2.1**
IMOG	**Moghan**	**62.93 318**	*e*P	**P**	**00 36 43.4 -1.9**
KURK	**Kurchatov**	**63.63 340**	*d i*P	**P**	**00 36 48.4 -0.8**
KURK			pmax	pmax	
	comp=Z,4.0nm,0.8s				
KURK	**Kurchatov**	**63.63 340**	*e*P	**P**	**00 36 47.3 -1.9**
	comp=Z,5.9nm,1.1s				
IKRD	**Kardeh**	**63.86 318**	*e*P	P	00 36 45.7 -5.7
ISRV	**Sarvestan**	**64.04 308**	*e*P	**P**	**00 36 53.4 +0.6**
IPAR	**Pars**	**64.30 309**	*e*P	**P**	**00 36 54.8 +0.3**
ZAA0	**Zalesovo Array**	**64.67 346**	*e*P	**P**	**00 36 53.4 -2.6**
ZALV	**Zalesovo Beam**	**64.67 346**	P	**P**	**00 36 53.3 -2.7**
	comp=Z,2.6nm,0.3s,baz=152,slow=6.6,SNR=14				
ZALV			PcP	**PcP**	**00 37 28.8 -0.6**
	comp=Z,1.1nm,0.4s,baz=130,slow=4.1,SNR=4.4

RST Umm Al-Ruwaisa 68.93 306 *eP* **P 00 37 22.9 -0.8**
RST AMb AMB 00 37 25.2
comp=Z,469nm,0.7s
IRAZ Razeghan 69.16 313 *eP* **P 00 37 25.5 +0.2**
URZ Urewera 69.21 128 LR LR 01 06 25.8
comp=Z,103nm,21.3s,baz=147,slow=35
KMBO Kilima Mbogo 70.06 272 *eP* **P 00 37 32.2 +1.0**
comp=Z,5.3nm,1.1s
KMBO Kilima Mbogo 70.06 272 P **P 00 37 32.7 +1.5**
comp=Z,1.2nm,0.4s,baz=57,slow=16,SNR=9.5
KMBO pP **pP 00 37 49.6 +3.4**
comp=Z,1.7nm,0.6s,baz=233,slow=24,SNR=3.3
IKOM Komasi 70.42 311 *eP* **P 00 37 31.8 -1.1**
AB31 Akbulak array 70.49 329 *i P* **P 00 37 31.9 -0.9**
AB31 pmax pmax
comp=Z,25nm,0.6s
ABKAR Akbulak array 70.49 329 *eP* **P 00 37 31.4 -1.4**
IVIS Veis 71.06 311 *eP* **P 00 37 35.7 -1.1**
IGHG Ghaleghazi 71.19 310 *eP* **P 00 37 36.5 -1.2**
IDHR Dehrash 71.48 311 *eP* **P 00 37 37.9 -1.5**
AKTO Aktyubinsk 72.21 329 P **P 00 37 41.9 -1.3**
AKTO pmax pmax
comp=Z,8.0nm,0.8s
PETK Petropavlovsk- 74.43 29 P **P 00 37 53.9 -2.4**
comp=Z,3.4nm,0.8s,baz=186,slow=4.5,SNR=4.1
PETK pP **PcP 00 38 09.8 -0.8**
comp=Z,3.6nm,0.8s,baz=194,slow=5.6,SNR=2.2
SYO Syowa Base 74.56 200‖ *eP* **P 00 37 57.6 +0.9**
SYO Syowa Base 74.56 200‖ *ePcP* **PcP 00 38 09.0 -1.9**
VNDA Vanda 74.84 169 *eP* **P 00 38 00.1 +1.8**
comp=Z,8.1nm,1.1s
VNDA Vanda 74.84 169 P **P 00 38 00.1 +1.8**
comp=Z,4.0nm,0.8s,baz=315,slow=7.0,SNR=21
VNDA LR LR 01 09 37.4
comp=Z,20nm,19.0s,baz=317,slow=34
SVE Sverdlovsk 75.12 336‖ *eP* **P 00 38 00.2 +0.1**
SVE pmax pmax
comp=Z,10.0nm,0.9s
ARU Arti 75.73 334 *d iP* **P 00 38 02.7 -0.9**
ARU 00 40 49.0
ARU S **S 00 47 40.6 -0.5**
ARU SS SS 00 52 24.7 -9.3
ARU pmax pmax
comp=Z,13nm,1.0s
LSZ Lusaka 77.42 256 *eP* **P 00 38 15.6 +1.4**
comp=Z,13nm,0.8s
KBZ Khabaz 77.64 318 *eP* **P 00 38 14.5 -0.2**
KBZ Khabaz 77.64 318 *eP* **P 00 38 14.5 -0.2**
KBZ Khabaz 77.64 318 P **P 00 38 14.5 -0.2**
comp=Z,13nm,0.9s,baz=146,slow=4.3,SNR=12
KIV Kislovodsk 77.88 318 *eP* **P 00 38 14.1 -2.0**
KIV pmax pmax
comp=Z,10.0nm,1.0s
KIV MLR MLR
comp=Z,34nm,18.0s
ASF Jabal al Asfar 78.00 305 LR LR 01 12 48.5
comp=Z,40nm,18.2s,baz=67,slow=36
EIL Elat 78.88 302 P **P 00 38 22.9 +1.1**
baz=79,SNR=9.2
BOSA Boshof 79.18 242 *eP* **P 00 38 25.5 +1.8**
BOSA Boshof 79.18 242 P **P 00 38 25.5 +1.8**
comp=Z,4.6nm,0.6s,baz=99,slow=4.3,SNR=18
BOSA LR LR 01 10 21.7
comp=Z,80nm,18.3s,baz=292,slow=33
TIXI Tiksi 80.87 7⇑ *eP* **P 00 38 30.6 -1.1**
TIXI pmax pmax
comp=Z,8.0nm,0.7s
VRHR Novokhopersk 81.44 324 *eP* **P 00 38 34.0 -1.2**
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=Z,10.0nm,0.7s
VRHR pmax pmax
comp=E,20nm,0.9s
QSPA South Pole Qui 81.89 180 *eP* **P 00 38 38.2 +0.7**
comp=E,14nm,1.0s
VORD Divnogorie 82.75 324 *eP* **P 00 38 40.7 -1.3**
VORD pmax pmax
comp=Z,7.0nm,0.6s
VORD pmax pmax
comp=N,10.0nm,0.7s
VORD pmax pmax
comp=E,10.0nm,0.6s
BR101 Keskin Array S 82.76 312 *eP* **P 00 38 42.1 -0.4**
BRTR Keskin Array B 82.76 312 P **P 00 38 42.1 -0.4**
comp=E,4.0nm,0.7s,baz=125,slow=6.8,SNR=21
BRTR LR LR 01 17 21.3
comp=E,32nm,18.5s,baz=276,slow=37
VSR Storozhevoye 82.92 324 *eP* **P 00 38 42.0 -0.9**
VSR pmax pmax
comp=Z,10.0nm,0.5s
VSR pmax pmax
comp=N,9.0nm,1.1s
VSR pmax pmax
comp=E,10.0nm,0.7s
BR231 Keskin MP Arra 83.43 312 *eP* P 00 38 42.5 -3.5
SIM Simferopol' 83.96 317 *eP* **P 00 38 50.1 +1.7**
SIM pmax pmax
comp=Z,14nm,1.0s
OBN Obninsk 85.79 327‖ *iP* **P 00 38 57.2 -0.1**
OBN *e* 00 42 10.3
OBN *e*S **S 00 49 28.6 +2.6**
OBN pmax pmax
comp=Z,39nm,2.5s
KLMR Klimovskoe 86.48 333 *eP* **P 00 38 59.0 -1.6**
KLMR pmax pmax
comp=Z,17nm,0.8s
TSUM Tsumeb 87.08 251 *eP* **P 00 39 07.2 +2.6**
comp=Z,23nm,1.2s
TLB Topalu 88.04 315⇑ *iP* **P 00 39 08.7 +0.2**
CFR Carcaliu 88.11 316‖ *iP* **P 00 39 09.2 +0.4**
LEOM Leova 88.33 317‖ *iP* **P 00 39 10.5 +0.7**
IDI Anoyia 88.46 306 LR LR 01 18 44.5
comp=Z,51nm,18.5s,baz=269,slow=36
SNAA Sanae 88.55 197 *eP* **P 00 39 13.4 +2.8**
SNAA Sanae 88.55 197 *eI* 00 39 31.4
SNAA Sanae 88.55 197 *eP* **P 00 39 13.4 +2.8**
comp=Z,23nm,1.0s
AKASG Malin Array Be 88.72 322 P **P 00 39 10.7 -0.9**
comp=Z,2.8nm,0.7s,baz=88,slow=4.6,SNR=12
AKASG pP **pP 00 39 25.6 -1.4**
comp=Z,2.3nm,0.7s,baz=81,slow=5.3,SNR=3.2
AKBB Malin Array Si 88.72 322 *eP* **P 00 39 10.7 -0.9**
AKBB *e**PP **pP 00 39 25.6 -1.4**
AKBB Malin Array Si 88.72 322 *eP* **P 00 39 10.7 -0.9**
AKBB *ep*P **pP 00 39 25.6 -1.4**
VRI Vrincioaia 89.23 316‖ *iP* **P 00 39 15.2 +1.1**
SULR 89.30 315‖ *iP* **P 00 39 15.8 +1.4**
TESR Tescani 89.42 317⇑ *iP* **P 00 39 15.7 +0.7**
MLR Muntele Rosu 89.68 316‖ *iP* **P 00 39 17.0 +0.6**
VNA2 Neumayer--Watz 90.20 197 *eP* **P 00 39 21.2 +3.0**
VNA2 Neumayer--Watz 90.20 197 *eI* 00 39 39.7
VOIR 90.29 316‖ *iP* **P 00 39 18.3 -0.9**
ARR Arges 90.56 316‖ *iP* **P 00 39 20.3 -0.2**
VNA1 Neumayer--Stat 90.58 198 *eP* P 00 39 23.3 +3.4
VNA1 Neumayer--Stat 90.58 198 *eI* 00 39 41.1
BURAR Bucovina Array 90.60 318‖ *iP* **P 00 39 21.4 +0.8**
BUR04 Bucovina Ar. S 90.61 318 *eP* **P 00 39 21.4 +0.8**
JOF Joensuu 90.84 334 *eP* **P 00 39 19.7 -1.5**
JOF pmax pmax
comp=Z,5.0nm,0.8s
JOF Joensuu 90.84 334 *ep* **P 00 39 19.7 -1.5**
comp=Z,4.9nm,0.8s
VTS Vitosha 91.08 313‖ *iP* **P 00 39 22.5 -0.5**
BZS Buzias 92.70 316‖ *iP* **P 00 39 30.2 0.0**
UZH Uzhgorod 92.71 319 *eP* P 00 39 34.9 +4.7
UZH *e* 00 39 45.9
KOLS Kolonicke sedl 92.77 319 *eP* **P 00 39 30.9 +0.4**
KOLS pmax pmax
comp=Z,5.0nm,1.1s
KOLS Kolonicke sedl 92.77 319 *eP* **P 00 39 30.9 +0.4**
KOLS *ep*P **pP 00 39 47.8 +1.8**
KOLS *es*P **sP 00 39 54.8 +3.0**
FIA0 FINESS Array S 92.87 332 *eP* **P 00 39 30.0 -0.7**
FIA0 FINESS Array S 92.87 332 *eP* **P 00 39 29.9 -0.7**
FINES FINESS Array B 92.87 332 P **P 00 39 29.9 -0.7**
comp=Z,2.3nm,0.7s,baz=112,slow=5.4,SNR=11
SUW Suwalki 93.03 324 *eP* **P 00 39 29.4 -2.2**
SUW pmax pmax
comp=Z,18nm,0.8s
SUW Suwalki 93.03 324 *eP* **P 00 39 29.4 -2.2**
comp=Z,18nm,0.8s
CRVS Cervenica-Dubn 93.30 319 *eP* **P 00 39 34.0 +1.0**
CRVS pmax pmax
comp=Z,38nm,2.7s
CRVS Cervenica-Dubn 93.30 319 *eP* **P 00 39 34.0 +1.0**
STHS Stebnicka Huta 93.51 319 *eP* **P 00 39 34.3 +0.4**
STHS pmax pmax
comp=Z,2.0nm,1.3s
STHS Stebnicka Huta 93.51 319 *eP* **P 00 39 34.3 +0.4**
STHS *ep*P **pP 00 39 51.4 +2.0**
KECS Kecovo 93.88 318 *eP* **P 00 39 34.9 -0.7**
KECS pmax pmax
comp=Z,1.0nm,1.0s
KECS Kecovo 93.88 318 *eP* **P 00 39 34.9 -0.7**
ARA0 ARCESS Array S 94.66 340 *eP* **P 00 39 37.2 -1.6**
ARCES ARCESS Array B 94.66 340 P **P 00 39 37.2 -1.6**
comp=Z,3.5nm,0.9s,baz=98,slow=5.5,SNR=9.0
ARCES LR LR 01 25 36.4
comp=Z,95nm,18.4s,baz=172,slow=38
NOA NORSAR Array B 99.97 331 LR LR 01 30 37.2
comp=Z,46nm,18.6s,baz=350,slow=39
TOA0 Torodi Ar. Sit 106.89 281 *e*PKiKP **PKiKP 00 44 44.1 -0.5**
TORD Torodi Ar. Bea 106.89 281 PKiKP **PKiKP 00 44 44.1 -0.5**
comp=Z,0.3nm,0.5s,baz=87,slow=1.7,SNR=10
YKA Yellowknife Ar 117.80 21 PKP **PKPdf 00 45 03.6 -0.4**
comp=Z,0.7nm,0.5s,baz=318,slow=1.6,SNR=15
YKA *p*PKP **pPKPdf 00 45 20.3 +0.4**
comp=Z,1.8nm,0.6s,baz=333,slow=1.9,SNR=10.0
YKB5 Yellowknife Ar 117.80 21 *e*PKPdf **PKPdf 00 45 02.7 -1.3**
YKB5 *ep*PKPdf **pPKPdf 00 45 20.0 +0.1**
LTY Liberty 123.67 37 *e*PKPdf **PKPdf 00 45 15.3 -0.5**
EDM Edmonton 124.33 28 *e*PKIKP **PKPdf 00 45 17.3 +0.4**
EDM Edmonton 124.33 28 *e*PKPdf **PKPdf 00 45 17.3 +0.4**
EDM *ep*PKPdf **pPKPdf 00 45 34.5 +1.6**
E09A Wood Farm, Sta 125.55 37 *e*Pdif **Pdif 00 42 01.4 +4.4**
MSO Missoula 127.83 35 *e*PKPdf **PKPdf 00 45 23.0 -0.8**
MSO *ep*PKPdf **pPKPdf 00 45 40.3 +0.5**
NV01 Mina Array Sit 129.13 46 *ep*PKPdf pPKPdf 00 45 45.1 +2.4
FIGC Figueroa Mtn. 129.27 51 *e*Pdif **Pdif 00 42 13.0 -0.9**
PD31 Pinedale Array 132.72 37 *e*PKPdf **PKPdf 00 45 33.9 +0.4**
PDAR Pinedale Array 132.72 37 PKP **PKPdf 00 45 33.9 +0.4**
comp=Z,0.3nm,0.4s,baz=2.9,slow=1.8,SNR=3.9
SCHQ Schefferville 133.17 355 *e*PKPdf **PKPdf 00 45 33.4 -0.2**
SCHQ *e*SKPbc **SKPbc 00 48 56.4 -0.9**
SCHQ Schefferville 133.17 355 PKP **PKPdf 00 45 33.2 -0.3**
comp=Z,1.6nm,0.4s,baz=336,slow=2.9,SNR=8.5
SCHQ SKPbc **SKPbc 00 48 56.4 -0.9**
comp=Z,2.6nm,0.6s,baz=26,slow=9.0,SNR=4.2
O20A White River Ci 135.07 39 *e*PKPdf **PKPdf 00 45 38.3 +0.5**
226B Tecolote Peak, 142.31 46 ⇑P **PKPdf 00 45 48.5 -2.8**
baz=142
Y28A McKinney Farm, 142.60 42 ⇓P **PKPdf 00 45 49.5 -2.2**
baz=142
CPUP Villa Florida 142.64 203 *e*PKPdf **PKPdf 00 45 49.6 -2.2**
CPUP Villa Florida 142.64 203 PKhKP PKPpre 00 45 49.5
comp=Z,1.8nm,0.4s,baz=95,slow=1.3,SNR=10
426A McDonald Obser 143.14 48 ⇑P PKPbc 00 45 49.6 -0.3
baz=143
128A Castleberry Fa 143.19 44 ⇓P PKPbc 00 45 50.2 +0.4
baz=143
W31A Holland Ranch, 143.29 39 ⇓P PKPbc 00 45 50.6 +0.7
baz=143
Z29A Hungry Hill Ra 143.35 43 ⇑P PKPbc 00 45 51.1 +0.9
baz=143
228A UT Block 9, Go 143.40 45 ⇓P PKPbc 00 45 51.1 +0.7
baz=143
526A Mary Lane Ranc 143.41 49 ⇓P PKPbc 00 45 51.3 +0.7
baz=143
427A Hayter Ranch, 143.51 48 ⇑P PKPbc 00 45 51.3 +0.6
baz=143
Y30A Stafford Cattl 143.51 41 ⇑P PKPbc 00 45 51.1 +0.5
baz=143
129A Stewart Farms, 143.61 44 ⇓P PKPbc 00 45 51.4 +0.5
baz=143,SNR=5.9
626A Big Bend Ranch 143.62 50 ⇓P PKPbc 00 45 51.4 +0.3
baz=144
X31A McDonald Ranch 143.63 40 ⇓P PKPbc 00 45 51.4 +0.5
baz=143
328A Wristen Ranch, 143.65 46 ⇑P PKPbc 00 45 51.7 +0.6
baz=144,SNR=8.5
527A Woodward Ranch 143.72 49 ⇑P PKPbc 00 45 51.9 +0.4
baz=144,SNR=8.5
Z30A Sanderson Ranc 143.72 42 ⇓P PKPbc 00 45 51.8 +0.6
baz=144,SNR=17
Y31A Rekieta Farm, 143.87 41 ⇓P PKPbc 00 45 52.0 +0.4
baz=144
TX31 Lajitas Ar. Si 144.09 50 *e*PKPdf PKPbc 00 45 52.9 +0.3
LTX Lajitas 144.09 50 *e*PKIKP PKPbc 00 45 52.9 +0.4
LTX *e* 00 46 09.4
LTX Lajitas 144.09 50 *e*PKPdf PKPbc 00 45 52.9 +0.4
LTX *ep*PKPdf pPKPdf 00 46 09.4 -1.0
LTX *e*SKPbc **SKPbc 00 49 28.5 -0.6**
TXAR Lajitas Array 144.09 50 PKP PKPbc 00 45 52.9 +0.3
comp=Z,0.8nm,0.3s,baz=334,slow=0.5,SNR=27
TXAR *p*PKP pPKPdf 00 46 09.4 -1.0
comp=Z,1.6nm,0.6s,baz=216,slow=1.7,SNR=5.4
TXAR SKPbc **SKPbc 00 49 28.5 -0.6**
comp=Z,0.4nm,0.6s,baz=336,slow=2.0,SNR=4.6
428A Kincaid Ranch, 144.10 47 ⇑P PKPbc 00 45 53.3 +0.8
baz=144,SNR=8.0
329A Wagon Wheel Ra 144.18 45 ⇑P PKPbc 00 45 53.1 +0.3
baz=144,SNR=6.1
627A Terlingua Ranc 144.24 50 ⇑P PKPbc 00 45 53.8 +0.8
baz=144,SNR=7.4
130A Snyder 144.25 43 ⇑P PKPbc 00 45 53.1 +0.3
baz=144,SNR=5.1
WMOK Wichita Mounta 144.30 38 *e*PKIKP PKPbc 00 45 53.0 +0.1
WMOK Wichita Mounta 144.30 38 *e*PKPdf PKPbc 00 45 53.0 +0.1
528A Cox Ranch, San 144.32 48 ⇓P PKPbc 00 45 53.9 +0.6
baz=144,SNR=8.7
Z31A Sharp Cattle R 144.35 41 ⇓P PKPbc 00 45 53.5 +0.3
baz=144,SNR=11
Y32A R-V Farms, Ver 144.37 40 ⇓P PKPbc 00 45 53.6 +0.4
baz=144,SNR=12
HDIL Hopedale 144.48 22 *e*PKPdf **PKPab 00 45 52.6 -0.3**
230A Sterling City 144.56 44 ⇑P PKPbc 00 45 54.4 +0.5
baz=144,SNR=16
131A Roby 144.59 42 ⇑P PKPbc 00 45 54.4 +0.5
baz=144,SNR=5.2
628A Black Gap, Mar 144.60 49 ⇓P **PKPdf 00 45 54.9 -0.3**
baz=144,SNR=13
429A Davenport Ranc 144.72 47 ⇓P PKPbc 00 45 54.8 +0.3
baz=145,SNR=14
529A Stev Forest Ra 144.76 48 ⇓P PKPbc 00 45 54.7 +0.1
baz=145,SNR=11
Z32A Haskell 144.79 41 ⇓P PKPbc 00 45 54.9 +0.3
baz=145,SNR=31
330A Mertzon 144.80 45 ⇑P **PKPab 00 45 54.6 0.0**
baz=145,SNR=9.7
231A Bronte 145.08 43 ⇑P **PKPab 00 45 55.6 0.0**
baz=145,SNR=19
430A Baggett Ranch, 145.10 46 ⇑P **PKPab 00 45 55.9 +0.1**
baz=145,SNR=14
ABTX Abilene, Hawle 145.11 42 *e*PKPdf **PKPdf 00 45 56.2 +0.1**
ABTX Abilene, Hawle 145.11 42 ⇓P **PKPab 00 45 55.8 +0.2**
baz=145,SNR=6.9
TUL1 Tulsa 145.23 34 *e*PKPdf **PKPbc 00 45 55.7 -0.1**
TUL1 Tulsa 145.23 34 ⇑P **PKPbc 00 45 55.7 -0.1**
baz=145,SNR=13
331A San Angelo 145.37 44 ⇓P **PKPab 00 45 56.8 +0.1**
baz=145,SNR=22
530A J-C Ranch, Com 145.39 47 ⇑P **PKPab 00 45 57.5 +0.7**
baz=145,SNR=105
SFIN Scholer Farm 145.40 19 *e*PKPab **PKPbc 00 45 55.8 -0.4**
SFIN Scholer Farm 145.40 19 ⇑P **PKPbc 00 45 56.0 -0.2**
baz=145
232A Coleman 145.56 43 ⇓P **PKPab 00 45 57.6 +0.3**
baz=145,SNR=24
431A Sonora 145.61 45 ⇑P **PKPab 00 45 57.7 +0.1**
baz=145,SNR=27
SLM Saint Louis 145.76 25 *e*PKIKP **PKPdf 00 45 57.0 +0.1**
SLM Saint Louis 145.76 25 *e*PKPdf **PKPdf 00 45 57.0 +0.1**
332A Millersview 145.80 44 ⇑P **PKPab 00 45 58.2 0.0**
baz=146,SNR=80
531A Rocksprings 145.95 46 ⇓P **PKPab 00 45 58.6 -0.2**
baz=146,SNR=34
BDFB Brasilia 145.99 226 *e*PKPdf **PKPbc 00 45 58.9 0.0**
BDFB Brasilia 145.99 226 PKPbc **PKPab 00 46 00.9 +1.4**
comp=Z,12nm,0.4s,baz=106,slow=2.5,SNR=32
432A 146.07 44 ⇓P **PKPbc 00 45 58.6 -0.1**
baz=146,SNR=16
JCT Junction City 146.29 45 *e*PKP2 **PKPbc 00 45 59.4 +0.1**
JCT Junction City 146.29 45 *e*PKPdf **PKPbc 00 45 59.4 +0.1**
JCT *ep*PKPdf **pPKPdf 00 46 14.0 -0.1**
JCT Junction City 146.29 45 ⇓P **PKPbc 00 45 59.5 +0.1**
baz=146,SNR=28
631A Perdido Creek 146.34 47 ⇓P **PKPbc 00 45 59.9 +0.4**
baz=146
532A Rocksprings 146.42 46 ⇑P **PKPbc 00 45 59.9 +0.1**
baz=146,SNR=12
OLIL Olney 146.52 22 *e*PKPdf **PKPdf 00 45 58.8 +0.6**
OLIL *ep*PKPdf **pPKPdf 00 46 14.0 -0.2**
BLO Bloomington 146.68 20 *e*PKP2 **PKPdf 00 45 58.2 -0.3**
BLO Bloomington 146.68 20 *e*PKPdf **PKPdf 00 45 58.2 -0.3**
ACSO Alum Creek Sta 146.73 14 *e*PKPdf **PKPdf 00 45 58.0 -0.5**
ACSO *ep*PKPdf **pPKPdf 00 46 14.3 -0.2**
WHTX Lake Whitney 146.94 41 *e*PKPdf **PKPbc 00 46 00.9 -0.2**
WHTX *ep*PKPdf **pPKPdf 00 46 16.6 +1.5**
WHTX Lake Whitney 146.94 41 ⇑P **PKPbc 00 46 01.7 +0.6**
baz=147
732A Laxson Ranch, 147.16 48 ⇑P **PKPab 00 46 02.7 -0.8**
baz=147
PBMO Poplar Bluff 147.23 27 *e*PKPdf **PKPbc 00 46 00.7 -1.1**
PBMO *ep*PKPdf **pPKPdf 00 46 15.7 +0.2**
SSPA Standing Stone 147.29 7 *e*PKPdf **PKPbc 00 46 01.4 -0.3**
WCI Wyandotte Cave 147.61 20 *e*PKIKP **PKPdf 00 46 00.2 +0.1**
WCI Wyandotte Cave 147.61 20 *e*PKPdf **PKPdf 00 46 00.2 +0.1**
PARMO Parma 147.63 26 *e*PKPdf **PKPdf 00 46 01.0 +0.9**
PARMO *ep*PKPdf **pPKPdf 00 46 18.8 +2.7**
UALR University of 147.93 31 *e*PKPdf **PKPbc 00 46 02.3 -1.4**
UALR *ep*PKPab **pPKPab 00 46 20.7 -1.2**
WVT Waverly 148.89 24 *e*PKP2 **PKPbc 00 46 06.0 -0.2**
WVT Waverly 148.89 24 *e*PKPbc **PKPbc 00 46 06.0 -0.2**
WVT *ep*PKPab **pPKPab 00 46 23.1 -2.7**
LVC Limon Verde 149.24 187 *e*PKPdf **PKPbc 00 46 06.2 -1.6**
HKT Hockley 149.32 42 *e*PKP2 **PKPbc 00 46 08.3 +0.9**
HKT Hockley 149.32 42 *e*PKPbc **PKPbc 00 46 08.3 +0.9**
HKT *ep*PKPab **pPKPab 00 46 24.6 -3.1**
OXF Oxford 149.57 28 *e*PKP2 **PKPbc 00 46 07.1 -0.8**
OXF Oxford 149.57 28 *e*PKPbc **PKPbc 00 46 07.1 -0.8**
TZTN Tazewell 150.03 18 *e*PKPbc **PKPbc 00 46 08.2 -0.8**
SWET Sewanee 150.43 22 *e*PKPbc **PKPbc 00 46 08.8 -1.3**
CPCT Cooper Cave 150.72 20 *e*PKPbc **PKPbc 00 46 10.7 0.0**
CPCT *ep*PKPbc **pPKPbc 00 46 24.8 -1.8**
LRAL Lakeview Retre 151.90 26 *e*PKPbc **PKPbc 00 46 11.8 -1.7**
KMSC Kings Mountain 151.96 15 *e*PKPbc **PKPbc 00 46 12.5 -1.0**
KMSC *ep*PKPbc **pPKPbc 00 46 29.3 -0.2**
KMSC Kings Mountain 151.96 15 ⇑P **PKPbc 00 46 13.1 -0.5**
baz=152
BRAL Brewton 153.58 29 *e*PKPbc **PKPbc 00 46 17.5 +0.3**
BRAL *ep*PKPbc **pPKPbc 00 46 34.5 +1.3**
LPAZ La Paz 155.34 191 *e*PKPdif PKPdf 00 46 23.5 +10
LPAZ *e*PKPab **PKPab 00 46 41.2 +3.0**
LPAZ La Paz 155.34 191 PKPbc PKPdf 00 46 23.5 +10
comp=Z,0.6nm,0.3s,baz=171,slow=9.6,SNR=5.1
LPAZ PKPab **PKPab 00 46 41.2 +3.0**
comp=Z,6.7nm,0.9s,baz=150,slow=5.5,SNR=12

IDC ***28*** *00:52:34.2±0.6, 2°.63N×125°.32E, h0km, mb4.2/14, mb1 4.3/14, mb1mx4.2/24, mbtmp4.2/14, Error ellipse: s-maj=42.0km s-min=11.0km az=76.0*
AUST ***28*** *00:52:42.8±2.6, 2°.64N×125°.56E, h74km, Error ellipse: s-maj=2.5km s-min=1.2km az=279.0*
ISCJB ***28*** *00:52:45.3±1.0, 2°.65N±0°.04×125°.89E±0°.04, h105km, mb4.2/15, Error ellipse: s-maj=6.2km s-min=4.9km az=164.6*
NEIC ***28*** *00:52:45.3±1.0, 2°.59N×125°.73E, h94km±10km, mb4.5/2, Error ellipse: s-maj=16.7km s-min=7.1km az=63.0*
DJA ***28*** *00:52:46.1±2.8, 3°N±8°×12°6E±°, h38km±42km, M4.6/6, mb4.7/1, mB5.2/1, MLv4.6/6, Mw(mB)4.5/1*
ISC 28 00:52:46.5±0.5, 2.72N±0°.04×125°.91E±0°.06, h105km, n54,
σ1§60/62, mb4.3/15, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.04**	**338**	P	**Pn**	**00 53 05.8**	**-1.9**
SGSI				S	**Sn**	**00 53 20.0**	**-3.7**
TNTI	**Ternate**	**2.42**	**143**	Pn	**Pn**	**00 53 22.5**	**-2.1**
TNTI	**Ternate**	**2.42**	**143**	P	**Pn**	**00 53 22.3**	**-2.4**
TNTI				S	**Sn**	**00 53 50.4**	**-3.5**
KMSI	**Cibinong**	**2.87**	**222**	S	**Sn**	**00 54 03.6**	**-1.1**
GTOI	**Gorontalo**	**3.56**	**235**	P	**Pn**	**00 53 39.2**	**-0.7**
LBMI	**Labuha**	**3.69**	**154**	P	**Pn**	**00 53 39.9**	**-1.7**
MRSI	**Marisa**	**4.55**	**241**	P	**Pn**	**00 53 53.3**	**+0.1**
MRSI				S	**Sn**	**00 54 42.8**	**-2.2**
LUWI	**Luwuk**	**4.88**	**220**	S	**Sn**	**00 54 55.3**	**+2.4**
NLAI	**Namlea**	**6.03**	**169**	P	**Pn**	**00 54 10.2**	**-3.1**
AAI	**Ambon**	**6.76**	**160**	P	**Pn**	**00 54 21.6**	**-1.6**
baz=6.9,SNR=4.6							
MYLDM	**Lahad Datu**	**7.79**	**289**	Pn	**Pn**	**00 54 35.4**	**-1.8**
BNDI	**Bandanaira**	**8.22**	**151**	P	Pn	00 54 53.8	+11
baz=8.4,SNR=5.8							
FAKI	**Fak Fak**	**8.45**	**131**	P	**Pn**	**00 54 45.9**	**-0.2**
baz=8.7,SNR=4.4							
PALU	**Palau**	**9.69**	**61**	P	**Pn**	**00 55 03.5**	**+0.6**
baz=10.0,SNR=8.1							
JAY	**Jayapura**	**15.67**	**109**	P	**P**	**00 56 24.6**	**+1.1**
baz=16,SNR=3.3							
KDU	**Kakadu**	**16.63**	**157**	P	**Pn**	**00 56 30.5**	**-2.9**
baz=17,SNR=7.1							
KNRA	**Kununurra**	**18.49**	**171**	P	**P**	**00 56 54.3**	**-0.1**
baz=19,SNR=4.5							
FITZ	**Fitzroy Crossi**	**20.69**	**181**	*e*Pn	**P**	**00 57 15.5**	**-2.8**
FITZ	**Fitzroy Crossi**	**20.69**	**181**	P	**P**	**00 57 16.1**	**-2.1**
1.5nm,0.5s,baz=311,slow=17,SNR=10.0							
FITZ	**Fitzroy Crossi**	**20.69**	**181**	P	**P**	**00 57 17.3**	**-1.0**
baz=21,SNR=7.4							
WRAB	**Tennant Creek**	**23.98**	**160**	*e*P	**P**	**00 57 50.8**	**-0.7**
8.3nm,0.6s							
WRA	**Warramunga Arr**	**23.99**	**160**	P	**P**	**00 57 51.1**	**-0.4**
WRA				S	**S**	**01 02 03.7**	**+2.7**
WRA	**Warramunga Arr**	**23.99**	**160**	P	**P**	**00 57 51.1**	**-0.4**
9.3nm,0.4s,baz=343,slow=10,SNR=76							
WRA				S	**S**	**01 02 03.7**	**+2.7**
2.8nm,0.8s,baz=341,slow=18,SNR=9.2							
AS31	**Alice Springs**	**27.35**	**164**	*e*P	**P**	**00 58 20.6**	**-1.3**
ASAR	**Alice Springs**	**27.35**	**164**	P	**P**	**00 58 21.6**	**-0.3**
ASAR				PcP	**PcP**	**01 01 40.2**	**+1.4**
ASAR				S	S	01 03 06.4	+12
ASAR	**Alice Springs**	**27.35**	**164**	P	**P**	**00 58 21.6**	**-0.3**
1.1nm,0.4s,baz=349,slow=13,SNR=21							
ASAR				PcP	**PcP**	**01 01 40.2**	**+1.4**
1.0nm,0.6s,baz=341,slow=2.3,SNR=6.3							
ASAR				S	S	01 03 06.4	+12
0.9nm,0.8s,baz=348,slow=18,SNR=4.2							
MEEK	**Meekatharra**	**30.02**	**193**	P	**P**	**00 58 45.7**	**+0.2**
baz=30,SNR=3.8							
KSAR	**Wonju Array Be**	**34.61**	**3**	P	**P**	**00 59 27.3**	**+1.9**
KSRS	**Korea Array**	**34.62**	**3**	P	**P**	**00 59 27.3**	**+1.8**
2.0nm,0.5s,baz=180,slow=10,SNR=9.4							
STKA	**Stephens Creek**	**37.49**	**158**	*e*P	**P**	**00 59 50.5**	**+0.4**
STKA	**Stephens Creek**	**37.49**	**158**	P	**P**	**00 59 50.4**	**+0.3**
2.5nm,0.3s,baz=346,slow=8.8,SNR=16							
STKA	**Stephens Creek**	**37.49**	**158**	P	**P**	**00 59 50.9**	**+0.7**
baz=38,SNR=14							
USRK	**Ussuriysk Arra**	**41.66**	**7**	P	**P**	**01 00 26.3**	**+1.8**
2.5nm,0.8s,baz=190,slow=7.3,SNR=4.7							
ASAJ	**Asahikawa**	**43.80**	**17**	P	**P**	**01 00 43.9**	**+2.1**
ASAJ	**Asahikawa**	**43.80**	**17**	P	**P**	**01 00 43.9**	**+2.1**
3.6nm,0.3s,baz=135,slow=33,SNR=3.7							
SONM	**Songino Array**	**48.00**	**342**	P	**P**	**01 01 15.0**	**0.0**
SONM	**Songino Array**	**48.00**	**342**	P	**P**	**01 01 15.0**	**0.0**
0.2nm,0.3s,baz=169,slow=8.3,SNR=2.8							
MK31	**Makanchi Array**	**57.93**	**326**	*e*P	**P**	**01 02 27.2**	**-0.6**
MKAR	**Makanchi Array**	**57.93**	**326**	P	**P**	**01 02 27.5**	**-0.3**
MKAR				PcP	**PcP**	**01 03 19.2**	**+0.3**
MKAR	**Makanchi Array**	**57.93**	**326**	P	**P**	**01 02 27.5**	**-0.3**
1.4nm,0.3s,baz=119,slow=7.6,SNR=44							
MKAR				PcP	**PcP**	**01 03 19.2**	**+0.3**
1.3nm,0.7s,baz=123,slow=2.6,SNR=9.7							
KURK	**Kurchatov**	**62.16**	**328**	*e*P	**P**	**01 02 55.6**	**-1.0**
2.8nm,0.4s							
AKTO	**Aktyubinsk**	**73.95**	**322**	P	**P**	**01 04 09.3**	**-1.0**
AKTO	**Aktyubinsk**	**73.95**	**322**	P	**P**	**01 04 09.3**	**-1.0**
0.6nm,0.5s,baz=124,slow=2.6,SNR=3.9							
VNDA	**Vanda**	**82.53**	**173**	P	**P**	**01 04 58.2**	**+1.1**
VNDA	**Vanda**	**82.53**	**173**	P	**P**	**01 04 58.2**	**+1.1**
0.8nm,0.6s,baz=313,slow=7.4,SNR=7.6							
ILAR	**Eielson Array**	**86.36**	**25**	P	**P**	**01 05 18.4**	**+1.7**
ILAR	**Eielson Array**	**86.36**	**25**	P	**P**	**01 05 18.4**	**+1.7**
0.4nm,0.9s,baz=265,slow=5.3,SNR=3.0							
JOF	**Joensuu**	**89.70**	**333**	*ep*	**P**	**01 05

*IDC **28** 01:20:23.9±0.7, 11°.19N×69°.59W, h0km, mb3.9/11, mb1 4.1/12, mb1mx3.8/28, mbtmp3.9/12, ML4.3/1, MS2.9/2, Ms1 2.9/2, ms1mx2.6/29, Error ellipse: s-maj=23.1km s-min=17.0km az=43.0*
*NEIC **28** 01:20:27.5, 11°.40N×69°.65W, h27km, mb4.4/7, MW4.3(CAR), After CAR.*
*FUNV **28** 01:20:27.4, 11°.39N×69°.65W, h26km, MW4.3*

ISC 28 01:20:27.3±1.3, 11°.36N±0°.03×69°.65W±0°.03, h23km±10km, n80, σ1§63/99, mb4.1/16, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MONV	**Montecano**	**0.67**	**332**	*e*P	**Pb**	**01 20 39.6**	**-0.8**
MONV				*e*S	**Sn**	**01 20 49.1**	**-2.0**
MONV	**Montecano**	**0.67**	**332**	*e*P	**Pb**	**01 20 39.6**	**-0.8**
MONV				*e*S	**Sn**	**01 20 49.1**	**-2.0**
SIQV	**Siquisique**	**0.72**	**192**	*e*S	**Sb**	**01 20 52.1**	**+1.3**
JACV	**Jacura**	**0.85**	**108**	*e*S	**Sn**	**01 20 56.0**	**+0.4**
DABV	**Dabajuro**	**1.06**	**246**	*e*P	**Pn**	**01 20 46.4**	**-0.4**
DABV				*e*S	**Sb**	**01 21 00.8**	**+0.3**
DABV	**Dabajuro**	**1.06**	**246**	*e*P	**Pn**	**01 20 46.4**	**-0.4**
DABV				*e*S	**Sb**	**01 21 00.8**	**+0.3**
CURV	**Curarigua**	**1.37**	**193**	*e*P	**Pn**	**01 20 50.9**	**-0.2**
CURV				*e*S	**Sn**	**01 21 09.5**	**+0.9**
CURV	**Curarigua**	**1.37**	**193**	*e*P	**Pn**	**01 20 50.9**	**-0.2**
CURV				*e*S	**Sn**	**01 21 09.5**	**+0.9**
QARV	**Quebrada Arrib**	**1.43**	**217**	*e*S	**Sn**	**01 21 10.0**	**0.0**
TEPV	**Terepaima**	**1.46**	**162**	*e*P	**Pn**	**01 20 52.3**	**0.0**
TEPV				*e*S	**Sn**	**01 21 10.8**	**+0.1**
TEPV	**Terepaima**	**1.46**	**162**	*e*P	**Pn**	**01 20 52.3**	**0.0**
TEPV				*e*S	**Sn**	**01 21 10.8**	**+0.1**
TURV	**Turiamo**	**2.00**	**117**	*e*P	**Pn**	**01 20 58.8**	**-0.8**
TURV				*e*S	**Sn**	**01 21 22.1**	**-1.7**
TURV	**Turiamo**	**2.00**	**117**	*e*P	**Pn**	**01 20 58.8**	**-0.8**
TURV				*e*S	**Sn**	**01 21 22.1**	**-1.7**
SDV	**Santo Domingo**	**2.64**	**202**	*e*Pn	**Pn**	**01 21 09.8**	**+1.1**
SDV				*e*Sn	**Sn**	**01 21 43.3**	**+3.2**
BAUV	**El Baul**	**2.88**	**146**	*e*P	**Pn**	**01 21 11.5**	**-0.3**
BAUV				*e*S	**Sn**	**01 21 43.8**	**-1.9**
BAUV	**El Baul**	**2.88**	**146**	*e*P	**Pn**	**01 21 11.5**	**-0.3**
BAUV				*e*S	**Sn**	**01 21 43.8**	**-1.9**
VIGV	**El Vigia**	**3.02**	**214**	*e*P	**Pn**	**01 21 13.2**	**-0.6**
VIGV				*e*S	**Sn**	**01 21 46.8**	**-2.4**
SOCV	**Socops**	**3.28**	**201**	*e*P	**Pn**	**01 21 17.2**	**-0.1**
SOCV				*e*S	**Sn**	**01 21 53.3**	**-2.3**
SOCV	**Socops**	**3.28**	**201**	*e*P	**Pn**	**01 21 17.2**	**-0.1**
SOCV				*e*S	**Sn**	**01 21 53.3**	**-2.3**
BIRV	**Birongo**	**3.44**	**104**	*e*P	**Pn**	**01 21 18.5**	**-0.9**
ELOV	**Elorza**	**4.33**	**178**	*e*S	**Sn**	**01 22 17.1**	**-4.6**
CAPV	**Capacho**	**4.35**	**217**	*e*P	**Pn**	**01 21 31.1**	**-1.2**
CAPV				*e*S	**Sn**	**01 22 18.0**	**-4.4**
CAPV	**Capacho**	**4.35**	**217**	*e*P	**Pn**	**01 21 31.1**	**-1.2**
CAPV				*e*S	**Sn**	**01 22 18.0**	**-4.4**
CRPR	**Cabo Rojo, PR**	**7.05**	**20**	*e*Pn	**Pn**	**01 22 09.7**	**+0.6**
CRPR				*e*S	**Sn**	**01 23 25.9**	**-2.7**
CELP	**Cerrillos**	**7.31**	**24**	*e*Pn	**Pn**	**01 22 13.9**	**+1.2**
LRS	**Lares**	**7.41**	**21**	*e*Pn	**Pn**	**01 22 14.8**	**+0.7**
LRS				*e*Sn	**Sn**	**01 23 35.2**	**-2.2**
AGPR	**Aguadilla, PR**	**7.48**	**19**	*e*Pn	Pn	01 22 17.6	+2.5
AGPR				*e*S	**Sn**	**01 23 37.5**	**-1.6**
AOPR	**Arecibo Observ**	**7.49**	**22**	*e*Pn	**Pn**	**01 22 16.6**	**+1.4**
AOPR				*e*Sn	**Sn**	**01 23 37.3**	**-2.2**
SJG	**San Juan**	**7.52**	**26**	*e*Pn	**Pn**	**01 22 17.2**	**+1.7**
SJG				*e*S	**Sn**	**01 23 34.4**	**-5.7**
SJG	**San Juan**	**7.52**	**26**	Pn	**Pn**	**01 22 17.5**	**+2.0**
	0.1nm,0.3s,baz=208,slow=12,SNR=6.9						
SJG				Sn	Sn	01 23 33.6	-6.5
	0.1nm,0.3s,baz=333,slow=18,SNR=2.5						
SJG				LR	LR	01 24 55.3	
	comp=Z,48nm,21.3s,baz=270,slow=36						
CPD	**Cerro la Pandu**	**7.56**	**28**	*e*Pn	**Pn**	**01 22 16.5**	**+0.4**
CPD				*e*Sn	**Sn**	**01 23 38.8**	**-2.3**
HUMP	**Col San Antoni**	**7.68**	**28**	*e*Pn	**Pn**	**01 22 18.0**	**+0.3**
HUMP				*e*Sn	**Sn**	**01 23 40.7**	**-3.4**
SDDR	**Presa de Saban**	**7.74**	**348**	*e*Pn	Pn	01 22 23.3	+4.6
	12nm,0.6s						
SDDR				*e*S	**Sn**	**01 23 45.5**	**-0.2**
MTP	**Monte Pirata**	**7.78**	**30**	*e*Pn	**Pn**	**01 22 20.4**	**+1.2**
MTP				*e*Sn	**Sn**	**01 23 47.0**	**+0.4**
CBYP	**Canovanas**	**7.79**	**28**	*e*Pn	**Pn**	**01 22 20.0**	**+0.6**
CBYP				*e*S	Sn	01 23 40.6	-6.2
GRGR	**Grenville**	**7.87**	**84**	*e*Pn	**Pn**	**01 22 20.7**	**+0.3**
STVI	**Saint Thomas**	**8.30**	**33**	*e*Pn	Pn	01 22 28.8	+2.5
STVI				*e*Sn	**Sn**	**01 23 57.0**	**-2.4**
GTBY	**Guantanamo Bay**	**10.01**	**329**	*e*Pn	**Pn**	**01 22 50.0**	**+0.3**
GTBY				*e*S	Sn	01 24 31.7	-10
BCIP	**Isla Barro Col**	**10.26**	**259**	*e*Pn	**Pn**	**01 22 52.4**	**-0.8**
OTAV	**Otavalo**	**14.09**	**219**	*e*Pn	P	01 23 49.8	-3.8
	7.7nm,1.1s						
TEIG	**Tepich**	**19.96**	**299**	P	**Pn**	**01 25 00.3**	**+0.6**
	2.6nm,0.6s						
TEIG	**Tepich**	**19.96**	**299**	P	**Pn**	**01 25 00.8**	**+1.1**
	3.5nm,0.8s,baz=55,slow=12,SNR=3.7						
APG	**El Apazote**	**20.58**	**282**	P	Pn	01 25 07.2	-0.2
APG	**El Apazote**	**20.58**	**282**	P	Pn	01 25 07.2	-0.2
	1.2nm,0.6s,baz=273,slow=24,SNR=5.5						
SAML	**Samuel**	**21.18**	**162**	*e*P	**P**	**01 25 12.0**	**+0.9**
	5.0nm,1.0s						
SIV	**San Ignacio**	**28.47**	**162**	P	**P**	**01 26 19.2**	**-1.6**
	1.7nm,1.1s,baz=312,slow=12,SNR=2.6						
SIV				LR	LR	01 37 35.8	
	comp=Z,44nm,18.1s,slow=36						
LTX	**Lajitas**	**36.38**	**305**	*e*P	**P**	**01 27 31.8**	**+1.7**
TXAR	**Lajitas Array**	**36.38**	**305**	P	**P**	**01 27 31.8**	**+1.7**
TXAR	**Lajitas Array**	**36.38**	**305**	P	**P**	**01 27 31.8**	**+1.7**
	0.8nm,0.5s,baz=120,slow=8.8,SNR=13						
TX31	**Lajitas Ar. Si**	**36.38**	**305**	*e*P	**P**	**01 27 31.8**	**+1.7**
MNTX	**Cornudas Mount**	**38.66**	**307**	*e*P	**P**	**01 27 51.2**	**+2.0**
	5.6nm,1.3s						
SCHQ	**Schefferville**	**43.42**	**2**	P	**P**	**01 28 29.9**	**+1.7**
	1.5nm,0.6s,baz=209,slow=10,SNR=3.6						
WUAZ	**Wupatki**	**44.74**	**310**	*e*P	P	01 28 42.2	+3.0
	3.9nm,0.9s						
SRU	**San Rafael**	**45.58**	**315**	*e*P	P	01 28 48.4	+2.5
	3.3nm,0.7s						
PD31	**Pinedale Array**	**46.66**	**319**	*e*P	**P**	**01 28 55.5**	**+1.2**
PDAR	**Pinedale Array**	**46.66**	**319**	P	**P**	**01 28 55.5**	**+1.2**
PDAR	**Pinedale Array**	**46.66**	**319**	P	**P**	**01 28 55.5**	**+1.2**
	0.4nm,0.6s,baz=112,slow=6.9,SNR=3.4						
LAO	**LASA Array**	**46.83**	**326**	*e*PP	PP	01 30 43.4	-2.4
REDW	**Red Top Meadow**	**47.78**	**320**	*e*P	**P**	**01 29 04.6**	**+1.6**
	3.5nm,0.7s						
TPAW	**Teton Pass**	**47.90**	**320**	*e*P	**P**	**01 29 05.5**	**+1.4**
	42nm,2.5s						
RRI2	**Red Ridge**	**48.07**	**319**	*e*P	**P**	**01 29 07.2**	**+1.8**
	2.9nm,0.6s						
WASM	**Alta Sierra Ca**	**50.34**	**307**	*e*P	**P**	**01 29 22.0**	**-0.8**
PLCA	**Paso Flores**	**51.84**	**181**	P	**P**	**01 29 32.4**	**-1.3**
PLCA	**Paso Flores**	**51.84**	**181**	P	**P**	**01 29 32.4**	**-1.3**
	1.4nm,0.9s,baz=6.3,slow=4.8,SNR=3.2						
YBH	**Yreka Blue Hor**	**55.19**	**313**	P	**P**	**01 29 59.0**	**+0.5**
YBH	**Yreka Blue Hor**	**55.19**	**313**	P	**P**	**01 29 59.0**	**+0.5**
	1.4nm,0.7s,baz=118,slow=4.8,SNR=3.9						
YKA	**Yellowknife Ar**	**60.30**	**338**	P	**P**	**01 30 33.7**	**-0.1**
YKA	**Yellowknife Ar**	**60.30**	**338**	P	**P**	**01 30 33.7**	**-0.1**
	0.8nm,0.7s,baz=122,slow=8.1,SNR=4.6						
YKB5	**Yellowknife Ar**	**60.30**	**338**	*e*P	**P**	**01 30 33.7**	**-0.1**
DBIC	**Dimbokro**	**64.06**	**88**	P	**P**	**01 31 00.4**	**+0.5**
DBIC	**Dimbokro**	**64.06**	**88**	P	**P**	**01 31 00.4**	**+0.5**
	1.6nm,0.7s,baz=257,slow=10,SNR=3.5						
TOA0	**Torodi Ar. Sit**	**69.53**	**80**	*e*P	**P**	**01 31 35.3**	**+0.5**
TORD	**Torodi Ar. Bea**	**69.53**	**80**	P	**P**	**01 31 35.3**	**+0.5**
TORD	**Torodi Ar. Bea**	**69.53**	**80**	P	**P**	**01 31 35.3**	**+0.5**
	1.3nm,0.5s,baz=286,slow=7.2,SNR=51						
STKA	**Stephens Creek**	**144.70**	**230**	PKP	**PKPdf**	**01 40 01.6**	**-1.2**
STKA	**Stephens Creek**	**144.70**	**230**	PKP	**PKPdf**	**01 40 01.6**	**-1.2**
	0.8nm,0.4s,baz=74,slow=1.9,SNR=4.4						
ASAR	**Alice Springs**	**154.47**	**238**	PKPbc	**PKPbc**	**01 40 26.7**	**-0.2**
ASAR	**Alice Springs**	**154.47**	**238**	PKPbc	**PKPbc**	**01 40 26.7**	**-0.2**
	0.4nm,0.6s,baz=115,slow=2.4,SNR=4.4						
WRA	**Warramunga Arr**	**155.40**	**247**	PKPbc	PKPdf	01 40 28.7	+8.9
WRA				PKPab	**PKPab**	**01 40 45.7**	**+0.4**
WRA	**Warramunga Arr**	**155.40**	**247**	PKPbc	PKPdf	01 40 28.7	+8.9
	0.5nm,0.3s,baz=101,slow=4.0,SNR=7.6						
WRA				PKPab	**PKPab**	**01 40 45.7**	**+0.4**
	0.7nm,0.9s,baz=103,slow=3.7,SNR=3.7						

MEX 28 01:57:26.2±0.4, 19°.09N×103°.27W, h90km±5km, MD3.5, Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZ5V		**0.50**	**321**	*e*P	Pn	01 57 40.0	-1.3
EZ5V				*i* S	Sn	01 57 50.8	-1.7
R15V		**0.68**	**277**	*i* P	Pn	01 57 41.0	-1.5
R15V				*i* S	Sn	01 57 53.0	-1.8
MMIG	**Aquila**	**0.80**	**185**	*i* P	Pn	01 57 42.3	-1.4
MMIG				*i* S	Sn	01 57 55.0	-1.6
CJM	**Chamela**	**1.73**	**284**	*i* P	Pn	01 57 54.1	-0.8
CJM				*e*S	Sn	01 58 15.4	-1.2

IDC 28 02:00:00.9±3.9, 20°.05N×121°.92E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/23, mbtmp3.4/3, Error ellipse: s-maj=298.5km s-min=28.7km az=61.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.56**	**162**	P	P	02 07 49.8	-0.7
	0.3nm,0.5s,baz=344,slow=8.8,SNR=5.4						
MKAR	**Makanchi Array**	**41.83**	**319**	P	P	02 07 52.4	-0.1
	0.5nm,0.9s,baz=112,slow=6.5,SNR=3.7						
ASAR	**Alice Springs**	**44.99**	**164**	P	P	02 08 18.6	+0.4
	0.2nm,0.3s,baz=341,slow=6.5,SNR=4.6						

*NIED **28** 02:04:00, 26°.60N×141°.90E, h68km, Mw4.0 Best double couple: Ms1.10000×10^15 NP1:ϕ=210.00000°, δ67.00000°, λ89.00000°. NP2:ϕ=33.00000°, δ23.00000°, λ93.00000°.*
*IDC **28** 02:04:14.9±1.1, 26°.57N×141°.73E, h47km±11km, mb3.6/17, mb1 3.8/18, mb1mx3.8/25, mbtmp3.6/18, ML2.5/1, MS3.0/2, Ms1 3.0/2, ms1mx2.6/37, Error ellipse: s-maj=21.5km s-min=13.5km az=94.0*
*JMA **28** 02:04:16.9±0.2, 26°.56N×141°.87E, h57km, M4.0*
JMA Felt I J1.

ISC 28 02:04:17.1±0.8, 26°.65N±0°.09×142°.3E±0°.2, h89km, n30, σ1§44/28, mb3.9/19, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**0.13**	**260**	P	Pn	02 04 26.5	-3.3
JHHJ				S	Sn	02 04 33.4	-5.8
CBIJ	**Chichi jima**	**0.46**	**345**	P	**Pn**	**02 04 29.6**	**-1.9**
CBIJ				S	**Sn**	**02 04 39.6**	**-2.5**
CBIJ	**Chichi jima**	**0.46**	**345**	P	**Pn**	**02 04 29.8**	**-1.7**
	509nm,0.3s,baz=137,slow=2.6,SNR=481						
CBIJ				S	**Sn**	**02 04 39.1**	**-3.0**
	1μm,0.3s,baz=287,slow=19,SNR=134						
JOD2	**Odawara 2**	**9.02**	**343**	P	**Pn**	**02 06 26.5**	**+2.0**
JOD2				*e*S	**Sn**	**02 08 03.4**	**-0.9**
JRY	**Ryogami san**	**9.78**	**343**	P	**Pn**	**02 06 36.2**	**+1.3**
KSRS	**Korea Array**	**16.26**	**315**	LR	LR	02 13 36.8	
	comp=Z,41nm,18.5s,baz=145,slow=35						
USRK	**Ussuriysk Arra**	**19.40**	**337**	P	**P**	**02 08 36.1**	**+0.1**
	0.2nm,0.3s,baz=149,slow=11,SNR=3.2						
SONM	**Songino Array**	**35.12**	**317**	P	**P**	**02 11 02.2**	**+0.1**
	0.3nm,0.7s,baz=105,slow=9.7,SNR=2.6						
SONM				LR	LR	02 24 21.4	
	comp=Z,29nm,18.7s,baz=166,slow=35						
CMAR	**Chiang Mai Arr**	**40.73**	**268**	P	**P**	**02 11 48.3**	**-1.1**
	0.9nm,0.3s,baz=66,slow=6.0,SNR=5.2						
WRA	**Warramunga Arr**	**46.96**	**190**	P	**P**	**02 12 39.6**	**+0.4**
	6.8nm,0.6s,baz=11,slow=8.7,SNR=49						
FITZ	**Fitzroy Crossi**	**47.34**	**202**	P	**P**	**02 12 42.4**	**+0.2**
	1.0nm,0.6s,baz=31,slow=8.8						
ASAR	**Alice Springs**	**50.68**	**190**	P	**P**	**02 13 07.9**	**+0.2**
	0.6nm,0.7s,baz=20,slow=11,SNR=10						
MKAR	**Makanchi Array**	**50.85**	**310**	P	**P**	**02 13 07.7**	**-1.1**
	0.3nm,0.7s,baz=90,slow=6.6,SNR=3.0						
ILAR	**Eielson Array**	**58.04**	**28**	P	P	02 14 05.5	+5.0
	0.6nm,0.8s,baz=260,slow=5.3,SNR=5.4						
STKA	**Stephens Creek**	**58.21**	**181**	P	**P**	**02 14 02.4**	**+0.4**
	0.9nm,0.5s,baz=9.5,slow=6.1,SNR=4.1						
AKTO	**Aktyubinsk**	**66.43**	**316**	P	**P**	**02 14 57.0**	**+0.1**
	0.8nm,0.7s,baz=52,slow=20,SNR=4.2						
YKA	**Yellowknife Ar**	**72.47**	**28**	P	P	02 15 38.1	+4.3
	0.6nm,0.6s,baz=295,slow=6.1,SNR=3.1						
ARCES	**ARCESS Array B**	**74.00**	**341**	P	**P**	**02 15 45.2**	**+2.6**
	4.1nm,0.9s,baz=56,slow=6.6,SNR=5.1						
JOF	**Joensuu**	**75.53**	**334**	*e*p	**P**	**02 15 52.4**	**+0.8**
	1.3nm,0.4s						
KAF	**Kangasniemi**	**77.92**	**334**	*e*p	**P**	**02 16 06.7**	**+1.6**
	2.1nm,0.4s						
FINES	**FINESS Array B**	**78.40**	**334**	P	**P**	**02 16 09.0**	**+1.3**
	1.7nm,0.5s,baz=67,slow=4.9,SNR=24						
AKASG	**Malin Array Be**	**83.05**	**324**	P	**P**	**02 16 33.3**	**+0.6**
	0.3nm,0.3s,baz=56,slow=5.3,SNR=2.7						
NB2	**NORSAR Subarra**	**84.06**	**338**	P	**P**	**02 16 39.4**	**+1.6**
	comp=Z,1.2nm,0.6s,baz=45,slow=5.1						
NOA	**NORSAR Array B**	**84.06**	**338**	P	**P**	**02 16 38.9**	**+1.1**
	comp=Z,1.7nm,0.7s,baz=45,slow=4.9,SNR=3.9						
PDAR	**Pinedale Array**	**84.44**	**45**	P	P	02 16 46.0	+5.7
	comp=Z,0.2nm,0.4s,baz=330,slow=5.2,SNR=3.7						
BRTR	**Keskin Array B**	**86.39**	**313**	P	**P**	**02 16 49.9**	**0.0**
	comp=Z,0.9nm,0.8s,baz=65,slow=5.8,SNR=3.3						
GERES	**GERESS Array B**	**91.95**	**329**	P	**P**	**02 17 16.7**	**+0.8**
	comp=Z,0.1nm,0.5s,baz=38,slow=5.0,SNR=4.2						
TORD	**Torodi Ar. Bea**	**124.96**	**311**	PKP	**PKPdf**	**02 23 09.3**	**+1.6**
	comp=Z,0.3nm,0.6s,baz=12,slow=1.9,SNR=7.9						
PLCA	**Paso Flores**	**149.45**	**126**	PKPbc	**PKPab**	**02 24 00.2**	**-1.0**
	comp=Z,1.3nm,0.8s,baz=270,slow=2.0,SNR=4.2						
LPAZ	**La Paz**	**149.92**	**76**	PKPbc	**PKPab**	**02 24 03.5**	**-0.9**
	comp=Z,0.8nm,0.5s,baz=287,slow=3.7,SNR=7.2						

DJA 28 02:08:36.5±0.5, 8°.5S±3°.3×10°.7E±°, h22km±5km, M4.2/17, mb4.7/1, mB5.4/1, MLv3.9/17, Mw(mB)4.8/1, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.67**	**41**	P	Pb	02 08 49.4	-0.2
CISI				S	Sb	02 08 58.7	+0.2
LEM	**Lembang**	**1.25**	**11**	P	Pn	02 08 59.0	+0.1
LEM				S	Sn	02 09 14.6	-0.6
SKJI	**Sukabumi**	**1.32**	**322**	P	Pn	02 08 57.9	-1.8
SKJI				S	Sn	02 09 14.6	-2.0
DBJI	**Dramaga**	**1.62**	**338**	P	Pn	02 09 03.7	-0.1
DBJI				S	Sn	02 09 24.6	+0.6
CLJI	**Cilicap**	**1.67**	**78**	P	Pb	02 09 05.8	-0.7
CLJI				S	Sb	02 09 27.8	+0.8
KPJI	**Karang Pucung**	**1.71**	**65**	P	Pn	02 09 04.7	-0.3
KPJI				S	Sn	02 09 26.3	+0.2
TNG	**Tangerang**	**2.01**	**339**	P	Pn	02 09 10.2	+1.1
TGJI	**Tegal**	**2.10**	**56**	P	Pn	02 09 10.9	+0.5
TGJI				S	Sn	02 09 36.5	+0.6
SBJI	**Serang**	**2.29**	**327**	P	Pn	02 09 13.4	+0.5
BJII	**Banjamegara**	**2.43**	**73**	P	Pn	02 09 15.9	+0.9
BJII				S	Sn	02 09 46.1	+2.0
UGM	**Wanagama**	**3.13**	**88**	P	Pn	02 09 23.6	-0.9
UGM				S	Sn	02 10 01.5	+0.2
PCJI	**Pacitan**	**3.77**	**92**	P	Pn	02 09 32.8	-0.6
PCJI				S	Sn	02 10 13.1	-4.0
SJI	**Sawahan**	**4.37**	**86**	P	Pn	02 09 42.2	+0.5
PWJI	**Pagerwojo**	**4.39**	**90**	P	Pn	02 09 42.8	+0.9
PWJI				S	Sn	02 10 33.9	+1.5
EGSI	**Enggano, Bengk**	**5.73**	**298**	P	Pn	02 09 59.6	-0.7

IDC 28 02:14:58.9±2.9, 6°.55S×133°.44E, h0km, mb3.3/1, mb1 3.6/4, mb1mx3.5/18, mbtmp3.4/4, ML3.3/3, Error ellipse: s-maj=113.3km s-min=29.9km az=84.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.34**	**176**	Pn	Pn	02 18 09.9	+0.2
	0.1nm,0.3s,baz=358,slow=13,SNR=7.6						
WRA				Sn	Sn	02 20 48.1	+9.2
	0.1nm,0.3s,baz=356,slow=24,SNR=3.8						
FITZ	**Fitzroy Crossi**	**13.78**	**213**	Pn	Pn	02 18 14.7	-0.9
	0.1nm,0.3s,baz=34,slow=13,SNR=5.5						
FITZ				Sn	Sn	02 20 55.0	+5.5
	0.1nm,0.3s,baz=195,slow=19,SNR=2.0						
ASAR	**Alice Springs**	**17.02**	**179**	Pn	Pn	02 18 59.0	+0.4
	0.2nm,0.3s,baz=9.4,slow=9.7,SNR=7.6						
MKAR	**Makanchi Array**	**69.77**	**325**	P	P	02 26 11.1	0.0
	0.2nm,0.7s,baz=130,slow=4.5,SNR=2.5						

*ISCJB **28** 02:26:13.1±0.4, 38°.89N±0°.05×12°.93E±0°.06, h10km, mb3.4/4, Error ellipse: s-maj=8.3km s-min=4.2km az=44.6*
*IDC **28** 02:26:14.9±1.3, 38°.55N×13°.27E, h0km, mb3.5/4, mb1 3.5/7, mb1mx3.4/28, mbtmp3.3/7, ML3.5/3, MS2.8/2, Ms1 2.8/2, ms1mx2.3/34, Error ellipse: s-maj=37.6km s-min=19.1km az=115.0*
*ROM **28** 02:26:15.4±0.3, 38°.89N×12°.72E, h10km, Ml3.2/6, Error ellipse: s-maj=5.4km s-min=4.9km az=86.0*
*LDG **28** 02:26:18.1±0.7, 38°.09N×11°.56E, h10km, Ml3.0/2, Error ellipse: s-maj=20.0km s-min=14.4km az=80.0*
*CSEM **28** 02:26:19.0±0.2, 38°.83N×12°.75E, h40km, ML3.0/2, Error ellipse: s-maj=10.1km s-min=4.9km az=36.0*

ISC 28 02:26:16.1±0.8, 38°.83N±0°.04×12°.75E±0°.04, h10km, n49, σ1§68/55, mb3.4/4, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IACL	**Alicudi**	**1.29**	**103**	Pg	**Pn**	**02 26 39.1**	**-1.2**
	456nm,0.7s						
IACL	**Alicudi**	**1.29**	**103**	Pg	**Pn**	**02 26 39.1**	**-1.2**
	456nm,0.7s						
ALJA	**Alia**	**1.33**	**143**	Pg	**Pn**	**02 26 41.0**	**+0.1**
	1μm,1.0s						
ALJA	**Alia**	**1.33**	**143**	Pg	**Pn**	**02 26 41.0**	**+0.1**
	1μm,1.0s						
RESU	**Resuttano**	**1.56**	**138**	Pg	**Pn**	**02 26 45.1**	**+1.0**
	988nm,1.3s						
RESU	**Resuttano**	**1.56**	**138**	Pg	**Pn**	**02 26 45.1**	**+1.0**
	988nm,1.3s						
MNO	**Monte Soro**	**1.77**	**120**	Pg	**Pn**	**02 26 47.0**	**0.0**
	634nm,2.2s						
MNO	**Monte Soro**	**1.77**	**120**	Pg	**Pn**	**02 26 47.0**	**0.0**
	634nm,2.2s						
VPL	**Vulcano Piano**	**1.81**	**104**	Pg	**Pn**	**02 26 46.3**	**-1.1**
VPL	**Vulcano Piano**	**1.81**	**104**	Pg	**Pn**	**02 26 46.3**	**-1.1**
GALF	**Gagliano Caste**	**1.81**	**127**	Pg	**Pn**	**02 26 48.1**	**+0.6**
GALF	**Gagliano Caste**	**1.81**	**127**	Pg	**Pn**	**02 26 48.1**	**+0.6**
RAFF	**Raffo Rosso**	**2.05**	**141**	Pg	**Pn**	**02 26 52.1**	**+1.5**
RAFF	**Raffo Rosso**	**2.05**	**141**	Pg	**Pn**	**02 26 52.1**	**+1.5**
HVZN	**Vizzini**	**2.26**	**136**	Pg	**Pn**	**02 26 54.7**	**+1.0**
	416nm,0.7s						
HVZN	**Vizzini**	**2.26**	**136**	Pg	**Pn**	**02 26 54.7**	**+1.0**
	416nm,0.7s						
CMPR	**Campora**	**2.48**	**52**	Pg	**Pn**	**02 26 57.3**	**+0.7**
CMPR				Sg	**Sn**	**02 27 25.1**	**-1.8**
	32nm,0.8s						
CMPR	**Campora**	**2.48**	**52**	Pg	**Pn**	**02 26 57.3**	**+0.7**
CMPR				Sg	**Sn**	**02 27 25.1**	**-1.8**
	32nm,0.8s						
CDRU	**Civita di Ruta**	**2.58**	**49**	Pg	**Pn**	**02 26 58.6**	**+0.5**
CDRU				Sg	**Sn**	**02 27 28.6**	**-1.0**
	21nm,0.5s						
CDRU	**Civita di Ruta**	**2.58**	**49**	Pg	**Pn**	**02 26 58.6**	**+0.5**
CDRU				Sg	**Sn**	**02 27 28.6**	**-1.0**
	21nm,0.5s						
VSL	**Villasalto**	**2.70**	**285**	Pg	**Pn**	**02 26 58.7**	**-1.0**
VSL				Sg	**Sn**	**02 27 29.7**	**-2.8**
VSL	**Villasalto**	**2.70**	**285**	Pg	**Pn**	**02 26 58.7**	**-1.0**
VSL				Sg	**Sn**	**02 27 29.7**	**-2.8**
KEST	**Kesra**	**4.11**	**222**	Pn	**Pn**	**02 27 19.3**	**+0.2**
	0.7nm,0.3s,baz=323,slow=6.3,SNR=17						
KEST				Sn	**Sn**	**02 28 06.0**	**-1.2**
	0.2nm,0.3s,baz=49,slow=20,SNR=4.0						
PGF	**Pioggiola**	**4.68**	**324**	*e*Pn	**Pn**	**02 27 29.7**	**+2.7**
PGF				*e*Sn	**Sn**	**02 28 21.8**	**+0.4**
	5.7nm,0.4s						
PGF	**Pioggiola**	**4.68**	**324**	*e*Pn	**Pn**	**02 27 29.7**	**+2.7**
PGF				*e*Sn	**Sn**	**02 28 21.8**	**+0.4**
	2.8nm,0.4s						
SBF	**Sospel**	**6.43**	**323**	*e*Pn	**Pn**	**02 27 52.2**	**+1.3**
SBF	**Sospel**	**6.43**	**323**	*e*

comp=E,1.9nm,0.8s,baz=126,slow=7.3,SNR=4.0
NOA NORSAR Array B 56.45 324 P **P 02 46 47.5 -0.5**
comp=E,0.5nm,0.5s,baz=68,slow=6.9,SNR=3.0
GERES GERESS Array B 59.53 310 P **P 02 47 09.2 -0.7**
comp=E,0.5nm,0.7s,baz=45,slow=5.7,SNR=4.3
LPG La Plagne 65.27 309 *e*P **P 02 47 49.3 +0.7**
comp=E,4.2nm,0.7s
LPL La Plagne 65.27 309 *e*P **P 02 47 49.2 +0.7**
comp=E,4.6nm,0.7s
ILAR Eielson Array 65.81 25 P **P 02 47 50.8 -0.6**
comp=E,0.4nm,0.8s,baz=296,slow=4.9,SNR=5.1
ORIF Oris-en-Rattie 66.09 309 *e*P **P 02 47 54.4 +0.8**
comp=E,3.8nm,0.7s
SMF Signal de Mont 66.45 311 *e*P **P 02 47 56.8 +1.0**
comp=E,1.8nm,0.5s
AVF Avril sur Loir 66.66 312 *e*P **P 02 47 57.9 +0.7**
WRA Warramunga Arr 66.68 143 P **P 02 47 58.3 +0.8**
comp=E,0.7nm,0.6s,baz=341,slow=6.4,SNR=6.7
TCF Toulx Ste Croi 67.60 312 *e*P **P 02 48 04.0 +0.8**
LDF La Druitiere 67.72 315 *e*P P 02 48 05.2 +1.3
ASAR Alice Springs 69.69 145 P **P 02 48 17.7 +1.3**
comp=E,0.6nm,0.6s,baz=330,slow=6.2,SNR=9.1
ESDC Sonseca Array 75.06 309 P **P 02 48 49.0 +0.6**
comp=E,0.2nm,0.4s,baz=44,slow=6.2,SNR=3.8
TORD Torodi Ar. Bea 87.23 284 P **P 02 49 53.0 -0.5**
comp=E,0.5nm,1.0s,baz=47,slow=5.1,SNR=3.1

ISCJB ***28*** *02:43:21.3±0.2, 35°.75N±0°.02×95°.81E±0°.02, h10km, mb4.4/44, MS4.0/18, Error ellipse: s-maj=3.2km s-min=2.8km az=2.6*
BJI ***28*** *02:43:21.2, 35°.75N×95°.79E, h6km, mB4.9/23, mb4.6/32, ML4.8/10, Ms4.6/38, Ms7 4.2/36*
IDC ***28*** *02:43:21.6±0.6, 35°.84N×96°.00E, h0km, mb4.2/18, mb1 4.4/23, mb1mx4.3/33, mbtmp4.2/23, ML4.5/5, MS4.0/18, Ms1 4.0/18, ms1mx3.8/43, Error ellipse: s-maj=23.5km s-min=12.2km az=42.0*
GCMT ***28*** *02:43:25.6±0.4, 35°.82N×95°.90E, h24km±1km, MW4.8, Moment Tensor Solution. s15,c17; s64,c88; Moment tensor: Scale 10^16Nm; Mrr-0.21±.11; Mθθ0.09±.10; Mφφ0.12±.09; Mrθ-1.05±.21; Mθφ1.86±.08; Mφr-0.35±.18; Best double couple: M0=2.10000×10^16 NP1:φ=269.00000°, δ88.00000°, λ29.00000°. NP2:φ=178.00000°, δ61.00000°, λ178.00000°. Principal axes: T 2.3500, Plg22.0000°, Azm138.0000°; N -0.4200, Plg61.0000°, Azm272.0000°; P -1.9300, Plg19.0000°, Azm40.0000°; Data Used: IU II G IC CN.*
NEIC ***28*** *02:43:25.7±2.8, 35°.82N×95°.93E, h30km±5km, mb4.5/10 Error ellipse: s-maj=17.8km s-min=14.5km az=207.0*
ISC 28 02:43:23.7±0.3, 35°.78N±0°.04×95°.82E±0°.03, h10km, n153, σ1§47/144, mb4.5/44, MS4.1/18, 2C-8D, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**4.81**	**40**	Pn	**Pn**	**02 44 38.3**	**+1.9**
GTA				Sn	Sn	02 45 37.5	+5.2
GTA				Sg	**Sg**	**02 46 00.0**	**+1.7**
GTA				smax	smax		
	comp=N,200nm,1.0s						
GTA				smax	smax		
	comp=E,170nm,0.8s						
GTA				LR	LR		
	comp=N,2μm,7.1s						
GTA				LR	LR		
	comp=E,3μm,8.1s						
GTA				LR	LR		
	comp=Z,2μm,10.9s						
LZH	**Lanzhou**	**6.51**	**85**	Pn	**Pn**	**02 45 01.3**	**+1.5**
LZH				Sn	**Sn**	**02 46 14.0**	**-0.3**
LZH				Sg	Sg	02 46 44.3	-8.6
LZH				smax	smax		
	comp=N,620nm,0.7s						
LZH				smax	smax		
	comp=E,830nm,1.0s						
LZH				LR	LR		
	comp=N,3μm,5.8s						
LZH				LR	LR		
	comp=E,2μm,5.6s						
LZH				LR	LR		
	comp=Z,2μm,6.2s						
LSA	**Lhasa**	**7.23**	**214**	P	**Pn**	**02 45 11.3**	**+1.4**
LSA	**Lhasa**	**7.23**	**214**	*e*Pn	**Pn**	**02 45 12.3**	**+2.4**
CD2	**Chengdu**	**8.22**	**124**	P	**Pn**	**02 45 24.8**	**+1.6**
CD2				pP	pP	02 45 27.8	
CD2				sP		02 45 30.8	
CD2				PP	**PnPn**	**02 45 32.5**	**+1.8**
CD2				S	**Sn**	**02 46 58.5**	**+2.3**
CD2				sS	sS	02 47 03.0	
CD2				SS	**SnSn**	**02 47 11.5**	**+3.9**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,1μm,4.4s						
CD2				LR	LR		
	comp=N,3μm,8.3s						
CD2				LR	LR		
	comp=Z,3μm,7.1s						
WMQ	**Urumqi**	**10.17**	**325**	P	**Pn**	**02 45 49.5**	**-0.3**
WMQ				pP		02 45 52.5	
WMQ				sP		02 45 55.5	
WMQ				S	**Sn**	**02 47 44.8**	**+0.8**
WMQ				sS		02 47 50.0	
WMQ				pmax	pmax		
	comp=Z,370nm,2.7s						
WMQ				LR	LR		
	comp=N,2μm,12.8s						
WMQ				LR	LR		
	comp=E,2μm,10.6s						
WMQ				LR	LR		
	comp=Z,1μm,10.0s						
SHL	**Shillong**	**10.73**	**199**	*e*P	**Pn**	**02 45 57.4**	**-0.3**
SHL				AMB	AMB	02 45 59.9	
	comp=Z,13nm,0.2s						
SHL				*i* 4		02 47 54.0	
TAPN	**Taplejung**	**10.88**	**222**	*e*P	**Pn**	**02 46 00.0**	**+0.2**
	comp=Z,49nm,0.9s						
XAN	**Xi'an**	**10.90**	**95**	P	**Pn**	**02 46 00.5**	**+0.7**
XAN				pP		02 46 10.0	
XAN				sP		02 46 13.3	
XAN				pmax	pmax		
	comp=Z,2.0nm,0.9s						
XAN				pmax	pmax		
	comp=Z,33nm,6.3s						
XAN				LR	LR		
	comp=N,3μm,12.0s						
XAN				LR	LR		
	comp=E,590nm,13.4s						
XAN				LR	LR		
	comp=Z,390nm,11.6s						
ODAN	**Odare**	**11.44**	**221**	*e*P	Pn	02 46 05.7	-1.8
	comp=Z,65nm,0.8s						
JIRN	**Jiri**	**11.52**	**228**	*e*P	**Pn**	**02 46 08.2**	**-0.4**
	comp=Z,51nm,0.9s						
GUN	**Gumba**	**11.53**	**230**	*e*P	**Pn**	**02 46 08.3**	**-0.4**
	comp=Z,72nm,0.9s						
RAMN	**Ramite**	**11.81**	**224**	*e*P	Pn	02 46 09.8	-2.7
	comp=Z,30nm,0.7s						
KKN	**Kakani**	**11.99**	**231**	*e*P	**Pn**	**02 46 14.6**	**-0.3**
	comp=Z,27nm,0.7s						
PKI	**Pulchoki**	**12.06**	**230**	*e*P	Pn	02 46 14.8	-1.2
PKIN	**Phulchoki**	**12.07**	**230**	*e*P	Pn	02 46 14.8	-1.2
	comp=Z,37nm,0.7s						
BTO	**Baotou**	**12.16**	**62**	*e*P	**Pn**	**02 46 16.5**	**-0.6**
KMI	**Kunming**	**12.18**	**149**	P	**Pn**	**02 46 20.0**	**+2.5**
KMI				S	**Sn**	**02 48 34.0**	**+0.5**
KMI				pmax	pmax		
	comp=Z,9.0nm,0.8s						
KMI				LR	LR		
	comp=N,2μm,7.7s						
KMI				LR	LR		
	comp=E,1μm,9.0s						
KMI				LR	LR		
	comp=Z,2μm,8.0s						
DMN	**Daman**	**12.23**	**231**	*e*P	**Pn**	**02 46 17.7**	**-0.5**
	comp=Z,59nm,1.2s						
GKN	**Gorkha**	**12.26**	**234**	*e*P	**Pn**	**02 46 18.8**	**+0.2**
	comp=Z,37nm,1.1s						
DANN	**Dangsing**	**12.62**	**237**	*e*P	Pn	02 46 22.0	-1.7
ENH	**Enshi**	**12.71**	**112**	*e*Pn	**Pn**	**02 46 23.2**	**-1.3**
KOLN	**Koldanda**	**13.10**	**236**	*e*P	Pn	02 46 29.0	-1.1
	comp=Z,16nm,0.8s						
GYA	**Guiyang**	**13.13**	**132**	*e*P	**Pn**	**02 46 30.3**	**-0.1**
GYA				PP	**P**	**02 46 40.5**	**-0.1**
GYA				S	**Sn**	**02 48 58.0**	**+1.4**
GYA				SS	**SnSn**	**02 49 12.0**	**+3.2**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				LR	LR		
	comp=N,480nm,14.6s						
GYA				LR	LR		
	comp=E,410nm,15.0s						
GYA				LR	LR		
	comp=Z,440nm,14.3s						
HHC	**Hu-ho-hao-te**	**13.35**	**63**	*e*P	**Pn**	**02 46 32.5**	**-0.9**
HHC				sP		02 46 39.3	
HHC				PP	**P**	**02 46 43.5**	**+0.4**
HHC				S	**Sn**	**02 49 02.5**	**+0.6**
HHC				SS	**SnSn**	**02 49 18.0**	**+4.0**
HHC				pmax	pmax		
	comp=Z,620nm,5.0s						
HHC				LR	LR		
	comp=N,1μm,12.6s						
HHC				LR	LR		
	comp=E,2μm,12.1s						
HHC				LR	LR		
	comp=Z,2μm,11.9s						
SONA0	**Songino Array**	**14.38**	**30**	*e*Pn	**Pn**	**02 46 47.5**	**+0.1**
SONM	**Songino Array**	**14.38**	**30**	Pn	**Pn**	**02 46 47.5**	**+0.1**
	comp=Z,1.5nm,0.3s,baz=213,slow=14,SNR=54						
SONM				Lg	Lg	02 50 55.4	
	comp=Z,0.1nm,0.3s,baz=222,slow=32,SNR=3.1						
SONM				LR	LR	02 52 51.7	
	comp=Z,525nm,20.8s,baz=214,slow=40						
SONA1	**Songino Array**	**14.39**	**30**	*e*Pn	**Pn**	**02 46 47.8**	**+0.2**
ULN	**Ulaanbaatar**	**14.67**	**31**	*e*Pn	**Pn**	**02 46 51.6**	**+0.2**
BOK	**Bokaro**	**14.72**	**218**	*e*P	Pn	02 46 50.7	-1.4
BOK				AMB	AMB	02 46 51.2	
	comp=Z,20nm,1.4s						
MK01	**Makanchi Array**	**14.94**	**321**	*e*Pn	Pn	02 46 51.1	-3.8
MK32	**Makanchi Array**	**14.96**	**321**	*e*Pn	Pn	02 46 51.4	-3.8
MK32				*e*Sn	Sn	02 49 32.6	-8.3
MKAR	**Makanchi Array**	**14.96**	**321**	*e*Pn	Pn	02 46 51.9	-3.3
MKAR	**Makanchi Array**	**14.96**	**321**	Pn	Pn	02 46 51.4	-3.8
	comp=Z,4.8nm,0.3s,baz=127,slow=14,SNR=125						
MKAR				Sn	Sn	02 49 32.6	-8.3
	comp=Z,0.5nm,0.3s,baz=124,slow=26,SNR=3.3						
MKAR				Lg	Lg	02 51 22.4	
	comp=Z,0.4nm,0.3s,baz=130,slow=25,SNR=3.6						
MKAR				LR	LR	02 53 06.1	
	comp=Z,363nm,22.0s,baz=126,slow=39						
DDI	**Dehra Dun**	**15.86**	**255**	*e*P	**Pn**	**02 47 06.8**	**-0.3**
KSH	**Kashi**	**16.16**	**289**	P	**Pn**	**02 47 14.0**	**+3.0**
KSH				sP	**sP**	**02 47 21.0**	**+2.7**
KSH				PP	PnPn	02 47 27.5	+7.8
KSH				S	**Sn**	**02 50 15.5**	**+5.3**
KSH				sS	**S**	**02 50 21.0**	**-2.6**
KSH				SS	SnSn	02 50 35.3	+12
KSH				pmax	pmax		
	comp=Z,16nm,0.8s						
KSH				pmax	pmax		
	comp=Z,210nm,3.0s						
KSH				LR	LR		
	comp=N,680nm,8.1s						
KSH				LR	LR		
	comp=E,530nm,9.6s						
KSH				LR	LR		
	comp=Z,470nm,11.4s						
SMLA	**Simla**	**16.24**	**259**	*e*P	**Pn**	**02 47 11.9**	**0.0**
SMLA				AMB	AMB	02 47 15.2	
	comp=Z,12nm,0.5s						
WHN	**Wuhan**	**16.36**	**103**	P	**Pn**	**02 47 11.0**	**-2.5**
WHN				S	**Sn**	**02 50 09.3**	**-5.9**
WHN				LR	LR		
	comp=N,3μm,7.1s						
WHN				LR	LR		
	comp=E,4μm,6.3s						
WHN				LR	LR		
	comp=Z,3μm,5.7s						
DHRM	**DHARAMSHALA**	**16.56**	**263**	*e*P	Pn	02 47 13.8	-2.5
DHRM				AMB	AMB	02 47 21.1	
	comp=Z,11nm,1.0s						
BJI	**Beijing**	**16.61**	**69**	P	**Pn**	**02 47 15.5**	**-1.1**
BJI				S	**Sn**	**02 50 22.5**	**+1.5**
BJI				pmax	pmax		
	comp=Z,6.0nm,0.7s						
BJI				LR	LR		
	comp=N,2μm,15.0s						
BJI				LR	LR		
	comp=E,490nm,15.7s						
CHTO	**Chiang Mai**	**17.13**	**170**	*e*Pn	Pn	02 47 19.4	-3.8
	comp=E,67nm,0.8s						
TKM2	**Tokmak 2**	**17.17**	**301**	*e*Pn	**Pn**	**02 47 22.2**	**-1.7**
	comp=E,22nm,0.6s						
CM31	**Chiang Mai Arr**	**17.48**	**170**	*e*Pn	**Pn**	**02 47 26.8**	**-0.8**
CMAR	**Chiang Mai Arr**	**17.48**	**170**	P	**Pn**	**02 47 26.8**	**-0.8**
	comp=E,0.5nm,0.3s,baz=342,slow=10,SNR=26						
CM01	**Chiang Mai Arr**	**17.52**	**170**	*e*Pn	**Pn**	**02 47 26.9**	**-1.2**
AAK	**Ala-Archa**	**17.86**	**299**	*e*Pn	**Pn**	**02 47 32.5**	**0.0**
	comp=E,14nm,1.1s						
AAK	**Ala-Archa**	**17.86**	**299**	P	**Pn**	**02 47 32.2**	**-0.2**
	comp=E,0.6nm,0.3s,baz=105,slow=12,SNR=12						
AAK				LR	LR	02 55 52.7	
	comp=E,438nm,21.1s,baz=87,slow=42						
EKS2	**Erkin-Say**	**18.38**	**299**	*e*P	**P**	**02 47 38.6**	**-0.2**
	comp=E,75nm,2.3s						
KURBB	**Kurchatov Arra**	**19.39**	**325**	P	**P**	**02 47 48.3**	**-1.3**
	comp=E,1.3nm,0.3s,baz=130,slow=12,SNR=23						
KURBB				S	S	02 51 41.8	+13
	comp=E,0.3nm,0.3s,baz=120,slow=26,SNR=3.6						
KURBB				Lg	Lg	02 53 42.7	
	comp=E,0.4nm,0.3s,baz=122,slow=32,SNR=4.1						
KURK	**Kurchatov**	**19.42**	**326**	*e*P	**P**	**02 47 48.1**	**-1.8**
	comp=E,13nm,1.0s						
NJ2	**Nanjing**	**19.46**	**94**	*e*P	**Pn**	**02 47 52.0**	**+0.2**
NJ2				S	**S**	**02 51 31.3**	**+0.7**
NJ2				pmax	pmax		
	comp=Z,20nm,0.7s						
NJ2				LR	LR		
	comp=N,790nm,6.5s						
NJ2				LR	LR		
	comp=E,970nm,6.2s						
NJ2				LR	LR		
	comp=Z,1μm,7.4s						
ZAA0	**Zalesovo Array**	**19.73**	**340**	*e*P	**P**	**02 47 53.0**	**-0.3**
ZALV	**Zalesovo Beam**	**19.73**	**340**	P	**P**	**02 47 53.1**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=161,slow=9.3,SNR=11						
ZALV				Lg	Lg	02 53 35.2	
	comp=Z,0.4nm,0.3s,baz=164,slow=27,SNR=2.8						
ZALV				LR	LR	02 55 20.1	
	comp=Z,155nm,19.0s,baz=73,slow=36						
BHPL	**Bhopal**	**20.27**	**237**	*e*P	**P**	**02 47 57.2**	**-2.3**
QIZ	**Qiongzhong**	**20.78**	**140**	P	**P**	**02 48 02.8**	**-2.2**
QIZ				S	**S**	**02 51 55.8**	**-1.1**
QIZ				pmax	pmax		
	comp=Z,51nm,2.1s						
QIZ				pmax	pmax		
	comp=Z,1μm,5.6s						
QIZ				LR	LR		
	comp=Z,2μm,9.1s						
KKAR	**Karatay Array**	**20.82**	**298**	*e*P	**P**	**02 48 05.7**	**+0.3**
KBL	**Kabul**	**21.91**	**275**	*e*P	**P**	**02 48 17.5**	**+0.1**
	comp=Z,16nm,0.8s						
SNY	**Shenyang**	**22.40**	**66**	⇑P	**P**	**02 48 22.8**	**+0.5**
SNY				pmax	pmax		
	comp=Z,21nm,1.0s						
SNY				pmax	pmax		
	comp=Z,250nm,2.9s						
SNY				LR	LR		
	comp=N,360nm,13.5s						
SNY				LR	LR		
	comp=E,390nm,12.0s						
SNY				LR	LR		
	comp=Z,320nm,10.6s						
DGPR	**DIGLIPUR**	**22.66**	**187**	*e*P	**P**	**02 48 23.4**	**-1.8**
HYB	**Hyderabad**	**23.87**	**224**	*i* P	**P**	**02 48 37.0**	**-0.5**
HYB	**Hyderabad**	**23.87**	**224**	*e*P	**P**	**02 48 36.1**	**-1.3**
HYB				AMB	AMB	02 48 39.2	
	comp=Z,17nm,2.0s						
CN2	**Changchun**	**24.04**	**61**	*e*P	**P**	**02 48 38.5**	**-0.3**
CN2				pmax	pmax		
	comp=Z,20nm,1.2s						
CN2				pmax	pmax		
	comp=Z,170nm,4.0s						
CN2				LR	LR		
	comp=N,800nm,15.0s						
CN2				LR	LR		
	comp=E,600nm,15.0s						
CN2				LR	LR		
	comp=Z,900nm,16.0s						
LATR	**Latur**	**24.28**	**230**	*ex*	P	02 48 33.1	-8.1
LATR				AMB	AMB	02 48 34.3	
	comp=Z,7.9nm,0.7s						
VOSK	**Vostochnaya**	**24.38**	**322**	*e*P	**P**	**02 48 42.0**	**+0.1**
	comp=Z,168nm,2.5s						
BVAR	**Borovoye Array**	**24.84**	**322**	P	**P**	**02 48 47.0**	**+0.9**
	comp=Z,5.7nm,0.8s,baz=124,slow=7.2,SNR=16						
BVAR				Lg	Lg	02 56 27.0	
	comp=Z,0.4nm,0.4s,baz=116,slow=23,SNR=2.3						
BVAR				LR	LR	02 59 23.5	
	comp=Z,657nm,20.9s,baz=320,slow=39						
BRVK	**Borovoye**	**24.91**	**322**	*e*P	**P**	**02 48 47.3**	**+0.5**
	comp=Z,10nm,0.7s						
KS15	**Wonju Array Si**	**25.73**	**77**	*e*P	**P**	**02 48 53.4**	**-0.8**
KS01	**Wonju Array Si**	**25.73**	**77**	*e*P	**P**	**02 48 53.5**	**-0.8**
KSRS	**Korea Array**	**25.76**	**77**	P	**P**	**02 48 53.4**	**-1.1**
	comp=Z,4.8nm,0.6s,baz=274,slow=9.7,SNR=14						
KSRS				LR	LR	02 59 45.1	
	comp=Z,197nm,18.1s,baz=97,slow=38						
MDJ	**Mudanjiang**	**27.10**	**61**	P	**P**	**02 49 05.5**	**-1.1**
MDJ				S	**S**	**02 53 43.3**	**-1.4**
MDJ				pmax	pmax		
	comp=Z,8.0nm,1.6s						
MDJ				pmax	pmax		
	comp=Z,58nm,3.8s						
MDJ				LR	LR		
	comp=N,570nm,20.0s						
MDJ				LR	LR		
	comp=Z,290nm,23.0s						
GOA	**Goa**	**28.19**	**230**	*e*P	P	02 49 14.9	-1.6
GOA				AMB	AMB	02 49 44.2	
	comp=Z,21nm,0.9s						
USRK	**Ussuriysk Arra**	**28.77**	**62**	LR	LR	03 01 20.9	
	comp=Z,308nm,19.0s,baz=257,slow=38						
ABKAR	**Akbulak array**	**29.38**	**308**	*e*P	**P**	**02 49 27.7**	**+0.8**
AKTO	**Aktyubinsk**	**30.87**	**310**	P	**P**	**02 49 39.9**	**-0.1**
	comp=Z,3.8nm,0.8s,baz=103,slow=6.9,SNR=12						
TGY	**Tagaytay City**	**31.21**	**127**	LR	LR	03 03 50.5	
	comp=Z,5.2nm,18.1s,baz=160,slow=40						
PSI	**Prapat**	**32.94**	**174**	LR	LR	03 05 00.8	
	comp=Z,268nm,20.0s,baz=332,slow=39						
KBZ	**Khabaz**	**40.86**	**298**	*e*P	**P**	**02 51 05.5**	**-0.1**
KBZ	**Khabaz**	**40.86**	**298**	P	**P**	**02 51 05.5**	**-0.1**
	comp=Z,3.6nm,0.9s,baz=128,slow=7.5,SNR=2.9						
KBZ				LR	LR	03 11 09.9	
	comp=Z,273nm,18.8s,baz=250,slow=41						
JOF	**Joensuu**	**47.33**	**326**	*ep*	**P**	**02 51 57.8**	**+0.5**
	comp=Z,2.6nm,0.5s						
ASF	**Jabal al Asfar**	**48.37**	**284**	*e*P	**P**	**02 52 06.7**	**+0.8**
ASF	**Jabal al Asfar**	**48.37**	**284**	P	**P**	**02 52 06.7**	**+0.8**
	comp=Z,1.5nm,0.4s,baz=40,slow=6.9,SNR=4.8						
BR101	**Keskin Array S**	**48.46**	**294**	*e*P	**P**	**02 52 06.8**	**+0.3**
BRTR	**Keskin Array B**	**48.46**	**294**	P	**P**	**02 52 06.8**	**+0.3**
	comp=Z,3.2nm,0.7s,baz=91,slow=7.3,SNR=15						
BR231	**Keskin MP Arra**	**49.06**	**295**	*e*P	P	02 52 07.7	-3.5
AKASG	**Malin Array Be**	**49.11**	**309**	P	**P**	**02 52 10.5**	**-0.7**
	comp=Z,2.2nm,0.8s,baz=70,slow=7.0,SNR=9.8						
AKASG				LR	LR	03 14 21.7	
	comp=Z,151nm,18.0s,baz=75,slow=38						
AKBB	**Malin Array Si**	**49.11**	**309**	*e*P	**P**	**02 52 10.5**	**-0.7**
KIEV	**Kiev**	**49.12**	**309**	*e*P	**P**	**02 52 11.6**	**+0.4**
	comp=Z,67nm,2.6s						
KAF	**Kangasniemi**	**49.64**	**325**	*ep*	**P**	**02 52 15.3**	**+0.2**
	comp=Z,0.5nm,0.4s						
FIA0	**FINESS Array S**	**49.78**	**324**	*e*P	**P**	**02 52 16.1**	**-0.1**
FINES	**FINESS Array B**	**49.78**	**324**	P	**P**	**02 52 16.1**	**-0.1**
	comp=Z,3.1nm,0.7s,baz=86,slow=8.5,SNR=8.7						
FINES				LR	LR	03 14 53.8	
	comp=Z,202nm,19.4s,baz=243,slow=38						
ARA0	**ARCESS Array S**	**50.12**	**334**	*e*P	**P**	**02 52 18.2**	**-0.5**
ARCES	**ARCESS Array B**	**50.12**	**334**	P	**P**	**02 52 18.2**	**-0.5**
	comp=Z,1.3nm,0.5s,baz=84,slow=8.4,SNR=6.6						
ARCES				LR	LR	03 14 33.8	
	comp=Z,190nm,18.2s,baz=264,slow=37						
CFR	**Carcaliu**	**50.96**	**303**	⇓*i*P	**P**	**02 52 27.9**	**+2.6**
TESR	**Tescani**	**51.64**	**305**	⇓*i*P	**P**	**02 52 31.5**	**+1.1**
VRI	**Vrincioaia**	**51.75**	**304**	⇓*i*P	P	02 52 34.8	+3.5
PLOR	**Plostina**	**51.80**	**304**	⇓*i*P	**P**	**02 52 33.1**	**+1.4**
BUR04	**Bucovina Ar. S**	**52.32**	**306**	*e*P	**P**	**02 52 38.0**	**+2.4**
MLR	**Muntele Rosu**	**52.37**	**303**	⇓*i*P	P	02 52 39.9	+3.8
KOLS	**Kolonicke sedl**	**53.88**	**308**	*e*P	**P**	**02 52 48.8**	**+1.8**
DRGR		**54.18**	**306**	⇓*i*P	**P**	**02 52 51.3**	**+2.0**
STHS	**Stebnicka Huta**	**54.41**	**309**	*e*P	**P**	**02 52 52.3**	**+1.5**
CRVS	**Cervenica-Dubn**	**54.41**	**309**	*e*P	P	02 52 54.6	+3.8
SIRR	**Siria**	**55.03**	**305**	⇓*i*P	**P**	**02 52 56.5**	**+1.1**
NB2	**NORSAR Subarra**	**56.93**	**325**	P	**P**	**02 53 07.9**	**-0.9**
	comp=Z,1.1nm,0.5s,baz=74,slow=7.4						
NB200	**NORSAR Array S**	**56.93**	**325**	*e*P	**P**	**02 53 07.8**	**-0.9**
NOA	**NORSAR Array B**	**56.93**	**325**	P	**P**	**02 53 07.8**	**-0.9**
	comp=Z,1.5nm,0.6s,baz=75,slow=7.0,SNR=6.3						
NOA				LR	LR	03 18 55.7	
	comp=Z,116nm,19.0s,baz=90,slow=38						
CONA	**Conrad Observa**	**58.26**	**309**	⇑*i*P	**P**	**02 53 19.2**	**+0.8**
	comp=Z,4.5nm,1.1s						
CLL	**Collm**	**58.87**	**313**	*e*P	**P**	**02 53 23.0**	**+0.5**
SOKA	**Soboth**	**59.22**	**308**	⇓*i*P	**P**	**02 53 24.9**	**-0.2**
	comp=Z,5.6nm,1.2s						
GERES	**GERESS Array B**	**59.29**	**310**	P	**P**	**02 53 25.9**	**+0.3**
	comp=Z,1.6nm,0.9s,baz=68,slow=6.5,SNR=9.9						
GERES				LR	LR	03 20 03.8	
	comp=Z,135nm,19.7s,baz=274,slow=37						
GRF	**Grafenberg Arr**	**60.51**	**312**	*e*P	**P**	**02 53 34.3**	**+0.5**
	comp=Z,2.0nm,0.8s						
CDF	**Champ du Feu**	**63.40**	**312**	*e*P	**P**	**02 53 51.8**	**-1.6**
CDF	**Champ du Feu**	**63.40**	**312**	*e*P	**P**	**02 53 51.8**	**-1.6**
HINF	**Hinteralfeld**	**63.90**	**311**	*e*P	**P**	**02 53 55.3**	**-1.4**
HINF	**Hinteralfeld**	**63.90**	**311**	*e*P	**P**	**02 53 55.3**	**-1.4**
SENIN	**Lac Senin/Sane**	**64.25**	**310**	*e*P	**P**	**02 53 57.9**	**-1.3**
	comp=Z,24nm,1.8s						
LPG	**La Plagne**	**64.97**	**309**	*e*P	**P**	**02 54 03.1**	**-0.9**
	comp=Z,9.6nm,1.0s						
LPG	**La Plagne**	**64.97**	**309**	*e*P	**P**	**02 54 03.1**	**-0.9**
LPL	**La Plagne**	**64.97**	**309**	*e*P	**P**	**02 54 03.0**	**-1.0**
	comp=Z,14nm,1.0s						
LPL	**La Plagne**	**64.97**	**309**	*e*P	**P**	**02 54 03.0**	**-1.0**
SBF	**Sospel**	**65.26**	**307**	*e*P	**P**	**02 54 04.2**	**-1.4**
	comp=Z,27nm,0.9s						
SBF	**Sospel**	**65.26**	**307**	*e*P	**P**	**02 54 04.2**	**-1.4**
FRF	**La Foret Royal**	**65.91**	**307**	*e*P	P	02 54 08.0	-1.7
	comp=Z,25nm,1.2s						
FRF	**La Foret Royal**	**65.91**	**307**	*e*P	P	02 54 08.0	-1.7
SMF	**Signal de Mont**	**66.26**	**311**	*e*P	**P**	**02 54 11.6**	**-0.4**
	comp=Z,22nm,1.2s						
SMF	**Signal de Mont**	**66.26**	**311**	*e*P	**P**	**02 54 11.6**	**-0.4**
WRA	**Warramunga Arr**	**66.35**	**140**	*e*P	**P**	**02 54 11.0**	**-1.8**
WRA	**Warramunga Arr**	**66.35**	**140**	P	**P**	**02 54 11.0**	**-1.8**
	comp=Z,2.2nm,0.7s,baz=314,slow=8.1,SNR=9.9						
AVF	**Avril sur Loir**	**66.49**	**312**	*e*P	**P**	**02 54 11.8**	**-1.6**
	comp=Z,10n

PDAR Pinedale Array 98.46 19 LR LR 03 47 37.9
comp=Z,57nm,19.9s,baz=89,slow=39

IDC 28 02:53:07.2±6.1, 6°.09S×148°.75E, h120km±48km, mb3.8/2, mb1 3.8/4, mb1mx3.3/18, mbtmp3.7/4, Error ellipse: s-maj=91.4km s-min=48.4km az=123.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.65**	**206**	P			Pn	02 54 03.3	+1.2
	7.8nm,0.3s,baz=32,slow=7.7,SNR=15								
PMG				S			Sn	02 54 44.4	-0.2
	7.2nm,0.3s,baz=187,slow=19,SNR=10								
WRA	**Warramunga Arr**	**19.64**	**224**	P			P	02 57 27.1	+0.4
	0.6nm,0.3s,baz=50,slow=11,SNR=25								
ASAR	**Alice Springs**	**22.57**	**218**	P			P	02 57 58.8	+1.0
	2.6nm,0.5s,baz=54,slow=8.9,SNR=48								
FITZ	**Fitzroy Crossi**	**25.52**	**240**	P			P	02 58 24.1	-0.6
	3.0nm,0.6s,baz=58,slow=12,SNR=17								
TORD	**Torodi Ar. Bea**	**146.80**	**285**	PKPbc			PKPbc	03 12 35.4	-0.9
	0.1nm,0.4s,baz=73,slow=3.5,SNR=5.8								

AUST 28 02:56:31.6±34.0, 11°.80S×117°.40E, h0km±2km, Error ellipse: s-maj=3.7km s-min=1.2km az=307.0
IDC 28 02:56:39.7±3.5, 11°.58S×118°.19E, h0km, mb3.5/1, mb1 3.6/4, mb1mx3.4/20, mbtmp3.4/4, ML3.5/3, Error ellipse: s-maj=238.1km s-min=27.0km az=47.0
ISC 28 02:56:42.4±1.4, 11°.9S±0°.1×117°.9E±0°.1, h35km, n10, σ2s74/11, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**9.69**	**130**	Pn			**Pn**	**02 58 59.5**	**+0.2**
	0.4nm,0.3s,baz=319,slow=11,SNR=20								
FITZ				Sn			**Sn**	**03 00 47.6**	**+0.6**
	0.6nm,0.3s,baz=86,slow=19,SNR=7.8								
FITZ	**Fitzroy Crossi**	**9.69**	**130**	P			**Pn**	**02 59 01.2**	**+1.9**
	baz=10,SNR=3.4								
GIRL	**Giralia**	**11.20**	**198**	P			Pn	02 59 14.4	-5.6
	baz=11,SNR=4.4								
MEEK	**Meekatharra**	**14.64**	**177**	P			Pn	03 00 02.2	-4.8
	baz=15,SNR=7.9								
FAKI	**Fak Fak**	**16.83**	**59**	P			**Pn**	**03 00 32.8**	**-2.6**
	baz=17,SNR=4.2								
MORW	**Morawa**	**17.13**	**185**	P			**Pn**	**03 00 34.7**	**-4.4**
	baz=17,SNR=3.2								
WRA	**Warramunga Arr**	**17.71**	**119**	P			**Pn**	**03 00 45.4**	**-1.0**
	0.1nm,0.3s,baz=286,slow=14,SNR=6.0								
WRA				S			**Sn**	**03 03 58.4**	**-4.4**
	0.1nm,0.3s,baz=293,slow=26,SNR=5.3								
ASAR	**Alice Springs**	**19.19**	**130**	P			**Pn**	**03 01 07.1**	**+2.7**
	0.1nm,0.3s,baz=313,slow=12,SNR=5.5								
ASAR				S			**S**	**03 04 38.5**	**-0.5**
	0.1nm,0.3s,baz=304,slow=22,SNR=4.1								
KLBR	**Kellerberrin**	**19.56**	**180**	P			**Pn**	**03 01 08.6**	**-0.1**
	baz=20,SNR=5.6								
MKAR	**Makanchi Array**	**66.58**	**334**	P			**P**	**03 07 30.3**	**+1.3**
	0.2nm,0.4s,baz=153,slow=7.7,SNR=3.9								

NIED 28 03:08:00, 42°.10N×142°.40E, h38km, Mw4.2 Best double couple: M0=2.44000×10^15 NP1:φ=265.00000°, δ=57.00000°, λ=52.00000°. NP2:φ=140.00000°, δ=48.00000°, λ=134.00000°.
ISCJB 28 03:08:31.5±0.3, 42°.09N±0°.03×142°.47E±0°.03, h53km±3km, mb4.0/18, MS3.5/2, Error ellipse: s-maj=5.3km s-min=3.6km az=144.8
MOS 28 03:08:31.7±0.6, 42°.08N×142°.48E, h59km, mb4.2/14, Error ellipse: s-maj=14.0km s-min=7.9km az=79.0
SKHL 28 03:08:32.7±0.6, 42°.08N×142°.48E, h51km±4km, mb4.9/3, msh5.1/1
JMA 28 03:08:32.1±0.2, 42°.10N×142°.51E, h46km±2km, M4.3
JMA Felt II J1.
IDC 28 03:08:32.9±1.9, 42°.10N×142°.51E, h55km±16km, mb3.7/15, mb1 3.9/19, mb1mx3.8/29, mbtmp3.8/19, ML4.2/3, MS3.2/6, Ms1 3.3/6, ms1mx3.0/41, Error ellipse: s-maj=16.7km s-min=11.8km az=116.0
ISC 28 03:08:33.2±0.7, 42°.13N±0°.04×142°.47E±0°.03, h47km±6km, n65, σ1s52/84, mb4.1/18, 9C-4D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.26**	**53**	⇑P			**Pn**	**03 08 39.8**	**-1.9**
JNBK				*e*S			**Sn**	**03 08 46.2**	**-1.6**
ERM	**Erimo**	**0.52**	**102**	*de*PN			**Pn**	**03 08 43.2**	**-1.4**
ERM	**Erimo**	**0.52**	**102**	*e*P			**Pn**	**03 08 43.2**	**-1.4**
JEM	**Erimo**	**0.52**	**102**	⇑P			**Pn**	**03 08 43.3**	**-1.3**
JEM				*e*S			**Sn**	**03 08 51.6**	**-1.1**
JBT2	**Biratori 2**	**0.66**	**353**	⇑P			**Pn**	**03 08 45.1**	**-1.2**
JBT2				*e*S			**Sn**	**03 08 55.2**	**-0.6**
JCH	**Churui**	**0.82**	**53**	⇑P			**Pn**	**03 08 47.5**	**-1.0**
JCH				*e*S			**Sn**	**03 08 59.0**	**-0.6**
JEW	**Eniwo**	**1.04**	**314**	⇑P			**Pn**	**03 08 50.7**	**-0.7**
JEW				*e*S			**Sn**	**03 09 05.2**	**+0.3**
JFR	**Furan**	**1.04**	**5**	⇓P			**Pn**	**03 08 50.6**	**-0.9**
JFR				*e*S			**Sn**	**03 09 04.2**	**-0.7**
JKB	**Kayabe**	**1.10**	**258**	⇑P			**Pn**	**03 08 50.8**	**-1.4**
JKB				*e*S			**Sn**	**03 09 05.0**	**-1.3**
JNB	**Noboribetsu**	**1.12**	**288**	⇑P			**Pn**	**03 08 51.0**	**-1.5**
JNB				*e*S			**Sn**	**03 09 05.5**	**-1.2**
JOB	**Onbets**	**1.27**	**52**	⇓P			**Pn**	**03 08 54.4**	**-0.2**
JOB				*e*S			**Sn**	**03 09 11.1**	**+0.6**
JOT	**Ohata**	**1.30**	**236**	P			**Pn**	**03 08 53.3**	**-1.6**
JOT				*e*S			**Sn**	**03 09 09.3**	**-1.8**
JAB	**Ashibetsu**	**1.39**	**352**	P			**Pn**	**03 08 55.9**	**-0.3**
JAB				*e*S			**Sn**	**03 09 13.8**	**+0.4**
JAR	**Ashorobuto**	**1.51**	**39**	⇓P			**Pn**	**03 08 56.9**	**-1.0**
JAR				*e*S			**Sn**	**03 09 16.3**	**-0.1**
ASAJ	**Asahikawa**	**1.99**	**3**	P			**Pn**	**03 09 04.2**	**-0.2**
	90nm,0.3s,baz=227,slow=11,SNR=157								
ASAJ				S			**Sn**	**03 09 29.0**	**+0.9**
	60nm,0.3s,baz=323,slow=20,SNR=11								
YUK	**Yuzh-Kuril'sk**	**3.13**	**51**	*i* PN			**Pn**	**03 09 20.6**	**+0.6**
YUK				*i* S			**Sn**	**03 09 56.7**	**+0.6**
YUK				pmax			pmax		
	comp=N,183nm,0.3s								
YUK				pmax			pmax		
	comp=E,184nm,0.3s								
YUK				pmax			pmax		
	comp=Z,367nm,0.3s								
YUK				smax			smax		
	comp=N,2μm,0.4s								
YUK				smax			smax		
	comp=E,385nm,0.3s								
YUK				smax			smax		
	comp=N,2μm,2.2s								
YUK				smax			smax		
	comp=E,2μm,2.1s								
YUK	**Yuzh-Kuril'sk**	**3.13**	**51**	*i* P			**Pn**	**03 09 20.6**	**+0.6**
YUK				AMB			AMB	03 09 25.7	
	comp=E,183nm,0.3s								
YUK				AMB			AMB	03 09 25.7	
	comp=E,184nm,0.3s								
YUK				AMB			AMB	03 09 25.7	
	comp=E,367nm,0.3s								
YUK				*i* S			**Sn**	**03 09 56.7**	**+0.6**
YUK				A			A	03 10 00.7	
	comp=E,2μm,2.2s								
YUK				A			A	03 10 00.7	
	comp=E,2μm,2.2s								
YUK				A			A	03 10 02.4	
	comp=E,2μm,0.4s								
YUK				A			A	03 10 02.4	
	comp=E,385nm,0.4s								
YSS	**Yuzh-Sakhalins**	**4.83**	**2**	⇑*i*PN			**Pn**	**03 09 44.4**	**+1.0**
YSS				*e*S			**Sn**	**03 10 37.2**	**-0.8**
YSS				pmax			pmax		
	comp=Z,50nm,0.6s								
YSS				smax			smax		
	comp=N,60nm,1.0s								
YSS	**Yuzh-Sakhalins**	**4.83**	**2**	*i* P			**Pn**	**03 09 44.2**	**+0.8**
YSS				AMB			AMB	03 09 47.9	
	comp=N,50nm,0.6s								
YSS				*e*S			**Sn**	**03 10 37.2**	**-0.8**
YSS				A			A	03 10 46.8	
	comp=N,60nm,1.0s								
KUR	**Kuril'sk**	**5.00**	**50**	⇑*i*PN			**Pn**	**03 09 48.2**	**+2.6**
KUR				*e*S			**Sn**	**03 10 44.8**	**+2.8**
KUR				pmax			pmax		
	comp=Z,66nm,0.5s								
KUR				pmax			pmax		
	comp=N,55nm,0.5s								
KUR				pmax			pmax		
	comp=E,32nm,0.4s								
KUR				smax			smax		
	comp=E,83nm,0.3s								
KUR				smax			smax		
	comp=N,108nm,0.4s								
KUR	**Kuril'sk**	**5.00**	**50**	*i* P			**Pn**	**03 09 48.2**	**+2.6**
KUR				AMB			AMB	03 09 56.2	
	comp=N,55nm,0.5s								
KUR				AMB			AMB	03 09 56.2	
	comp=N,32nm,0.5s								
KUR				AMB			AMB	03 09 56.2	
	comp=N,66nm,0.5s								
KUR				*e*S			**Sn**	**03 10 44.8**	**+2.8**
KUR				A			A	03 10 52.5	
	comp=N,108nm,0.3s								
KUR				A			A	03 10 52.5	
	comp=N,83nm,0.3s								
MJA0	**Matsu Arr-Jizo**	**6.46**	**212**	*e*PN			**Pn**	**03 10 06.9**	**+1.0**
MJA0				pmax			pmax		
	comp=Z,3.0nm,0.3s								
MAJO	**Matsushiro**	**6.48**	**212**	*e*P			**Pn**	**03 10 06.9**	**+0.8**
MAT	**Matsushiro**	**6.48**	**212**	P			**Pn**	**03 10 06.0**	**-0.1**
MAT				*e*S			**Sn**	**03 11 23.6**	**+4.9**
MJAR	**Matsushiro Arr**	**6.48**	**212**	*e*P			**Pn**	**03 10 06.9**	**+0.8**
MJAR	**Matsushiro Arr**	**6.48**	**212**	P			**Pn**	**03 10 06.7**	**+0.6**
	comp=Z,2.5nm,0.3s,baz=33,slow=12,SNR=23								
MJAR				LR			LR	03 12 54.3	
	comp=Z,150nm,20.6s,baz=30,slow=40								
USRK	**Ussuriysk Arra**	**7.94**	**289**	P			**Pn**	**03 10 26.5**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=91,slow=16,SNR=5.6								
USRK				LR			LR	03 13 17.4	
	comp=Z,119nm,20.5s,baz=116,slow=36								
KLR	**Kul'dur**	**10.32**	**317**	*e*PN			**Pn**	**03 10 59.2**	**+0.6**
KSRS	**Korea Array**	**12.12**	**252**	P			Pn	03 11 26.9	+3.6
	comp=Z,0.5nm,0.3s,baz=62,slow=14,SNR=5.2								
KSRS				S			**Sn**	**03 13 41.1**	**+4.2**
	comp=Z,0.3nm,0.3s,baz=68,slow=24,SNR=6.6								
KSRS				LR			LR	03 15 27.6	
	comp=Z,114nm,18.6s,baz=147,slow=34								
JNU	**Nakatsue**	**12.84**	**229**	LR			LR	03 16 44.0	
	comp=Z,68nm,18.2s,baz=224,slow=38								
PETK	**Petropavlovsk-**	**15.00**	**38**	*e*P			**Pn**	**03 12 02.4**	**+0.4**
PETK				pmax			pmax		
	comp=Z,1.0nm,0.3s								
PETK	**Petropavlovsk-**	**15.00**	**38**	P			**Pn**	**03 12 00.3**	**-1.7**
	comp=Z,0.8nm,0.3s,baz=219,slow=11,SNR=5.9								
ULN	**Ulaanbaatar**	**25.54**	**295**	*e*P			**P**	**03 14 00.9**	**+3.4**
SONM	**Songino Array**	**25.98**	**295**	P			**P**	**03 14 01.8**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=99,slow=9.5,SNR=4.6								
SONM				LR			LR	03 25 22.9	
	comp=Z,50nm,18.1s,baz=36,slow=39								
ZALV	**Zalesovo Beam**	**39.26**	**308**	*e*P			P	03 16 00.2	+3.3
ZALV				pmax			pmax		
	comp=Z,1.0nm,0.4s								
ZALV	**Zalesovo Beam**	**39.26**	**308**	P			**P**	**03 15 56.3**	**-0.7**
	comp=Z,1.1nm,0.4s,baz=82,slow=7.8,SNR=3.5								
MKAR	**Makanchi Array**	**42.29**	**298**	*e*P			**P**	**03 16 23.1**	**+1.0**
MKAR				pmax			pmax		
	comp=Z,1.0nm,0.9s								
MKAR	**Makanchi Array**	**42.29**	**298**	P			**P**	**03 16 21.2**	**-0.9**
	comp=Z,1.4nm,0.9s,baz=76,slow=8.3,SNR=9.5								
KDAK	**Kodiak Island**	**42.85**	**46**	*e*P			**P**	**03 16 25.0**	**-1.4**
KDAK	**Kodiak Island**	**42.85**	**46**	P			**P**	**03 16 24.6**	**-1.8**
	comp=Z,2.9nm,0.5s,baz=281,slow=5.2,SNR=6.9								
KURK	**Kurchatov**	**43.59**	**304**	P			**P**	**03 16 32.2**	**-0.3**
KURK				pmax			pmax		
	comp=Z,3.0nm,0.6s								
KURBB	**Kurchatov Arra**	**43.67**	**304**	P			**P**	**03 16 32.1**	**-0.9**
	comp=Z,2.7nm,0.6s,baz=76,slow=8.8,SNR=14								
CMAR	**Chiang Mai Arr**	**43.76**	**251**	pP			pP	03 16 49.5	+2.6
	comp=Z,0.8nm,0.4s,baz=41,slow=7.8,SNR=1.9								
COLA	**College**	**44.39**	**35**	*i* P			**P**	**03 16 38.7**	**+0.1**
COLA	**College**	**44.39**	**35**	*e*P			**P**	**03 16 38.6**	**0.0**
ILAR	**Eielson Array**	**44.81**	**35**	*e*P			**P**	**03 16 40.8**	**-1.2**
ILAR	**Eielson Array**	**44.81**	**35**	P			**P**	**03 16 40.6**	**-1.4**
	comp=Z,1.5nm,0.5s,baz=256,slow=5.5,SNR=23								
BVAR	**Borovoye Array**	**47.87**	**309**	P			**P**	**03 17 05.1**	**-1.1**
BVAR				pmax			pmax		
	comp=Z,2.0nm,0.4s								
BVAR	**Borovoye Array**	**47.87**	**309**	P			**P**	**03 17 05.1**	**-1.1**
	comp=Z,2.4nm,0.4s,baz=78,slow=9.6,SNR=8.0								
BRVK	**Borovoye**	**47.92**	**309**	*i* P			**P**	**03 17 08.1**	**+1.5**
BRVK				pmax			pmax		
	comp=Z,2.0nm,1.0s								
BRVK	**Borovoye**	**47.92**	**309**	*e*P			**P**	**03 17 08.1**	**+1.5**
YKA	**Yellowknife Ar**	**59.03**	**32**	*e*P			**P**	**03 18 28.8**	**+1.0**
YKA	**Yellowknife Ar**	**59.03**	**32**	P			**P**	**03 18 27.2**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=304,slow=6.9,SNR=5.4								
JOF	**Joensuu**	**61.88**	**331**	*e*P			**P**	**03 18 44.9**	**-2.4**
JOF				pmax			pmax		
	comp=Z,1.0nm,0.4s								
JOF	**Joensuu**	**61.88**	**331**	*e*p			**P**	**03 18 44.9**	**-2.4**
	comp=Z,0.7nm,0.4s								
WRA	**Warramunga Arr**	**62.21**	**189**	P			**P**	**03 18 47.8**	**-2.1**
	comp=Z,0.7nm,0.5s,baz=6.6,slow=6.8,SNR=23								
WRA				pP			**pP**	**03 19 03.9**	**+0.6**
	comp=Z,1.8nm,0.5s,baz=6.2,slow=6.6,SNR=7.1								
FINES	**FINESS Array B**	**64.71**	**332**	P			**P**	**03 19 03.9**	**-2.1**
	comp=Z,1.2nm,0.4s,baz=46,slow=6.4,SNR=8.5								
ASAR	**Alice Springs**	**65.94**	**189**	P			**P**	**03 19 12.7**	**-1.6**
	comp=Z,0.2nm,0.4s,baz=4.8,slow=7.6,SNR=5.2								
ASAR				pP			**pP**	**03 19 29.9**	**+2.1**
	comp=Z,0.5nm,0.6s,baz=12,slow=11,SNR=3.7								
NB2	**NORSAR Subarra**	**69.82**	**337**	P			**P**	**03 19 39.5**	**+1.1**
	comp=Z,1.0nm,0.6s,baz=36,slow=6.2								
NOA	**NORSAR Array B**	**69.82**	**337**	*e*P			**P**	**03 19 39.7**	**+1.3**
NOA	**NORSAR Array B**	**69.82**	**337**	P			**P**	**03 19 37.1**	**-1.3**
	comp=Z,1.6nm,0.8s,baz=34,slow=6.6,SNR=4.4								
NOA				LR			LR	03 54 39.0	
	comp=Z,68nm,18.6s,baz=5.0,slow=40								
AKASG	**Malin Array Be**	**70.79**	**322**	P			**P**	**03 19 43.0**	**-1.4**
AKASG				pmax			pmax		
	comp=Z,1.0nm,0.4s								
AKASG	**Malin Array Be**	**70.79**	**322**	P			**P**	**03 19 43.0**	**-1.4**
	comp=Z,0.6nm,0.4s,baz=17,slow=36,SNR=3.4								
PDAR	**Pinedale Array**	**73.55**	**47**	P			**P**	**03 20 00.8**	**-0.6**
	comp=Z,0.6nm,0.5s,baz=336,slow=2.0,SNR=7.4								
TXAR	**Lajitas Array**	**86.39**	**53**	P			**P**	**03 21 10.5**	**-0.2**
	comp=Z,1.0nm,0.7s,baz=297,slow=4.0,SNR=14								

BJI 28 03:34:56.1, 35°.76N×95°.77E, h7km, mb4.4/4, ML4.2/9, Ms3.9/6, Ms7 3.6/7
IDC 28 03:34:57.4±0.8, 35°.92N×96°.16E, h0km, mb4.0/8, mb1 4.1/12, mb1mx3.9/31, mbtmp4.0/12, ML4.0/3, MS3.4/9, Ms1 3.5/9, ms1mx3.1/52, Error ellipse: s-maj=29.5km s-min=14.4km az=50.0
ISC 28 03:34:57.8±0.7, 35°.96N±0°.07×96°.32E±0°.07, h10km, n21, σ1s88/18, mb4.0/8, MS3.5/6, Qinghai

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**4.42**	**38**	Pn			**Pb**	**03 36 14.0**	**-1.7**
GTA				Sn			**Sb**	**03 37 10.8**	**+1.6**
GTA				Sg			Sg	03 37 31.0	+11
GTA				smax			smax		
	comp=N,51nm,1.1s								
GTA				smax			smax		
	comp=E,49nm,1.0s								
GTA				LR			LR		
	comp=N,560nm,10.9s								
GTA				LR			LR		
	comp=E,630nm,8.6s								
GTA				LR			LR		
	comp=Z,730nm,10.9s								
LZH	**Lanzhou**	**6.10**	**87**	Pn			Pb	03 36 38.0	-6.3
LZH				Sn			**Sb**	**03 37 55.5**	**-1.9**
LZH				Sg			Sg	03 38 25.5	+12
LZH				smax			smax		
	comp=N,420nm,0.7s								
LZH				smax			smax		
	comp=E,520nm,0.8s								
LZH				LR			LR		
	comp=Z,2μm,7.0s								
LSA	**Lhasa**	**7.60**	**216**	P			**Pn**	**03 36 47.3**	**-1.8**
WMQ	**Urumqi**	**10.27**	**323**	P			**Pn**	**03 37 25.0**	**-0.2**
SONM	**Songino Array**	**14.03**	**29**	Pn			**P**	**03 38 22.5**	**-2.1**
	comp=Z,0.3nm,0.3s,baz=213,slow=12,SNR=22								
SONM				Lg			Lg	03 42 22.2	
	baz=213,slow=26,SNR=3.0								
SONM				LR			LR	03 44 26.7	
	comp=Z,125nm,20.0s,baz=32,slow=40								
MKAR	**Makanchi Array**	**15.08**	**320**	Pn			**Pn**	**03 38 26.8**	**-4.1**
	comp=Z,0.9nm,0.3s,baz=127,slow=14,SNR=44								
MKAR				Sn			Sn	03 41 05.1	-13
	comp=Z,0.1nm,0.3s,baz=117,slow=21,SNR=2.7								
MKAR				Lg			Lg	03 42 54.4	
	baz=128,slow=26,SNR=2.4								
MKAR				LR			LR	03 45 28.7	
	comp=Z,79nm,20.3s,baz=124,slow=42								
CMAR	**Chiang Mai Arr**	**17.59**	**172**	P			**P**	**03 39 03.5**	**-0.6**
	baz=345,slow=10,SNR=7.4								
AAK	**Ala-Archa**	**18.13**	**298**	LR			LR	03 47 18.2	
	comp=Z,141nm,19.7s,baz=92,slow=41								
KURBB	**Kurchatov Arra**	**19.48**	**324**	P			**P**	**03 39 23.5**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=130,slow=12,SNR=22								
KURBB				Lg			Lg	03 45 16.7	
	comp=Z,0.3nm,0.3s,baz=141,slow=26,SNR=3.9								
ZALV	**Zalesovo Beam**	**19.70**	**340**	P			**Pn**	**03 39 29.3**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=156,slow=11,SNR=7.0								
BVAR	**Borovoye Array**	**24.95**	**321**	P			**P**	**03 40 22.0**	**+0.9**
	comp=Z,2.1nm,0.7s,baz=126,slow=10,SNR=7.0								
BVAR				LR			LR	03 50 59.7	
	comp=Z,167nm,20.1s,baz=337,slow=39								
KSRS	**Korea Array**	**25.33**	**77**	P			**P**	**03 40 27.5**	**+2.8**
	comp=Z,2.4nm,0.6s,baz=272,slow=9.2,SNR=8.2								
KSRS				LR			LR	03 51 01.1	
	comp=Z,48nm,18.8s,baz=285,slow=38								
AKTO	**Aktyubinsk**	**31.06**	**310**	LR			LR	03 54 41.2	
	comp=Z,93nm,18.6s,baz=251,slow=38								
ASAJ	**Asahikawa**	**35.96**	**62**	LR			LR	03 58 51.1	
	comp=Z,49nm,18.3s,baz=2.9,slow=40								
BRTR	**Keskin Array B**	**48.75**	**294**	P			**P**	**03 43 44.0**	**+1.2**
	comp=Z,1.1nm,0.7s,baz=100,slow=7.0,SNR=5.8								
SPITS	**Spitsbergen Ar**	**53.04**	**345**	P			**P**	**03 44 14.7**	**+0.2**
	comp=Z,8.4nm,0.8s,baz=39,slow=12,SNR=4.4								
NOA	**NORSAR Array B**	**57.02**	**325**	LR			LR	04 09 53.5	
	comp=Z,48nm,18.7s,baz=0.0,slow=37								
WRA	**Warramunga Arr**	**66.23**	**141**	P			**P**	**03 45 47.4**	**+1.4**
	comp=Z,0.9nm,0.7s,baz=314,slow=8.1,SNR=7.7								
ILAR	**Eielson Array**	**68.20**	**24**	P			**P**	**03 45 59.6**	**+1.6**
	comp=Z,0.4nm,0.8s,baz=306,slow=5.9,SNR=5.6								
ILAR				LR			LR	04 22 19.4	
	comp=Z,33nm,18.9s,baz=334,slow=42								
ASAR	**Alice Springs**	**69.14**	**143**	P			**P**	**03 46 05.8**	**+1.4**
	comp=Z,0.9nm,0.6s,baz=328,slow=6.6,SNR=13								
TORD	**Torodi Ar. Bea**	**86.08**	**283**	P			**P**	**03 47 40.2**	**+0.9**
	comp=Z,0.4nm,0.9s,baz=42,slow=4.8,SNR=2.9								

ISCJB 28 03:42:44.4±0.4, 50°.20N±0°.03×18°.70E±0°.02, h0km, Error ellipse: s-maj=4.5km s-min=2.0km az=11.5
BGR 28 03:42:44.8±1.5, 50°.20N×18°.92E, h1km, ML3.2/6, Error ellipse: s-maj=15.6km s-min=11.1km az=96.0
CSEM 28 03:42:45.9±0.2, 50°.23N×18°.78E, h2km, ML3.1/10, Error ellipse: s-maj=6.3km s-min=2.7km az=11.0
PRU 28 03:42:46.7, 50°.26N×18°.78E, h0km
IPEC 28 03:42:46.4±0.2, 50°.30N×18°.84E, h4km±1km, ML2.8/4, Error ellipse: s-maj=2.5km s-min=1.1km az=169.0
IDC 28 03:42:47.5±1.6, 50°.20N×18°.76E, h0km, mb1 3.9/2, mb1mx3.2/21, mbtmp3.8/2, ML2.6/3, Error ellipse: s-maj=32.4km s-min=10.1km az=140.0
VIE 28 03:42:52.8±0.9, 50°.13N×18°.24E, h0km, mb1.9/3, ML2.7/4, Error ellipse: s-maj=5.3km s-min=4.0km az=28.0 33 km N of Ostrava Suspected Mining induced.
ISC 28 03:42:46.2±0.7, 50°.22N±0°.03×18°.77E±0°.02, h0km, n58, σ0s97/103, 2C-2D, Poland

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.40**	**251**	*e*Pg			**Pb**	**03 42 56.5**	**+0.4**
OKC	**Ostrava-Krasne**	**0.55**	**227**	*e*PG			**Pg**	**03 42 57.1**	**+0.3**
OKC				*e*SG			**Sg**	**03 43 04.8**	**+0.9**
	47nm,0.4s								
OKC	**Ostrava-Krasne**	**0.55**	**227**	Pg			**Pg**	**03 42 57.1**	**+0.3**
OKC				Sg			**Sg**	**03 43 04.8**	**+0.9**
	47nm,0.4s								
OJC	**Ojcow**	**0.66**	**89**	*i* Pg			**Pg**	**03 42 58.6**	**-0.2**
OJC				*e*Sg			**Sg**	**03 43 07.9**	**+0.6**
OJC	**Ojcow**	**0.66**	**89**	*i* Pg			**Pg**	**03 42 58.6**	**-0.2**
OJC				*i* Sg			**Sg**	**03 43 07.9**	**+0.6**
MORC	**Moravsky Berou**	**0.91**	**242**	*e*Pg			**Pb**	**03 43 04.8**	**0.0**
	baz=57								
MORC				*e*Sg			**Sb**	**03 43 17.7**	**+0.2**
	142nm,0.5s,baz=57								
NIE	**Niedzica**	**1.28**	**128**	*e*Pg			**Pg**	**03 43 10.7**	**+0.1**
NIE				*e*Sg			**Sn**	**03 43 29.5**	**+0.3**
NIE	**Niedzica**	**1.28**	**128**	*e*Pg			**Pg**	**03 43 10.7**	**+0.1**
NIE				*e*Sg			**Sn**	**03 43 29.5**	**+0.3**
DPC	**Dobruska-Polom**	**1.58**	**276**	*e*PG			**Pn**	**03 43 15.5**	**0.0**
DPC				*e*SG			**Sn**	**03 43 36.7**	**+0.1**
DPC	**Dobruska-Polom**	**1.58**	**276**	Pg			**Pn**	**03 43 15.5**	**0.0**

KHC *e*SG **Sg** **03 44 37.6 -2.4**
17nm,0.6s
KHC Kasperske Hory 3.54 254 Pn **Pn** **03 43 42.5 0.0**
GEC2 GERESS Array S 3.58 249 *e*Pg **Pg** **03 43 53.3 -1.4**
GEC2 *e*Sg **Sg** **03 44 40.6 -0.5**
GEC2 GERESS Array S 3.58 249 Pg **Pg** **03 43 53.3 -1.4**
GEC2 Sg **Sg** **03 44 40.6 -0.5**
GERES GERESS Array B 3.58 249 Pn **Pn** **03 43 44.6 +1.6**
0.1nm,0.3s,baz=62,slow=15,SNR=2.5
GERES Pg **Pb** **03 43 52.6 +2.2**
0.5nm,0.3s,baz=64,slow=15,SNR=8.3
GERES Lg Lg 03 44 37.9
2.7nm,0.3s,baz=58,slow=26,SNR=11
MOA Molln 3.79 233 ||*i*Sg **Sg** **03 44 47.7 -0.3**
12nm,0.5s
MOA Molln 3.79 233 Sg **Sg** **03 44 47.7 -0.3**
12nm,0.5s
CLL Collm 3.82 289 *e*Pg **Pg** **03 43 59.9 +0.5**
CLL *e*Sg **Sg** **03 44 49.4 +0.4**
CLL Collm 3.82 289 *e*Pg **Pg** **03 43 59.0 -0.4**
CLL *e*Sg **Sg** **03 44 50.0 +1.0**
comp=Z,12nm,0.8s
CLL Collm 3.82 289 Pg **Pg** **03 43 59.9 +0.5**
CLL Sg **Sg** **03 44 49.4 +0.4**
WET Wettzell 3.98 257 *e*Sg **Sg** **03 44 52.7 -1.2**
WET Wettzell 3.98 257 Sg **Sg** **03 44 52.7 -1.2**
TANN Tannenbergstha 4.05 275 *e*Sg **Sg** **03 44 55.8 -0.4**
TANN Tannenbergstha 4.05 275 Sg **Sg** **03 44 55.8 -0.4**
NKC Novy Kostel 4.06 273 *e*PG **Pb** **03 44 01.5 +2.9**
NKC *e*SG **Sg** **03 44 55.0 -1.6**
comp=Z,6.1nm,0.4s
RJOB Jochberg 4.65 240 *e*Sg **Sg** **03 45 16.3 +0.7**
RJOB Jochberg 4.65 240 Sg **Sg** **03 45 16.3 +0.7**
AKASG Malin Array Be 6.69 82 Pg **Pb** **03 44 42.8 -0.5**
comp=Z,0.3nm,0.3s,baz=272,slow=14,SNR=1.5
AKASG Lg Lg 03 46 04.3
comp=Z,0.5nm,0.3s,baz=276,slow=28,SNR=2.1
DAVOX Davos/Dischmat 6.83 243 Lg Lg 03 46 29.0
comp=Z,0.4nm,0.3s,baz=9.2,slow=20,SNR=4.1
FINES FINESS Array B 11.97 17 Pn Pn 03 45 33.9 -3.9
comp=Z,0.1nm,0.3s,baz=198,slow=13,SNR=1.4
ARCES ARCESS Array B 19.65 7 Pn **P** **03 47 13.3 -2.9**
comp=Z,0.1nm,0.3s,baz=210,slow=13,SNR=2.0

NIED ***28*** *03:59:00, 43.°70N×146.°10E, h80km, Mw3.8 Best double couple: M0=5.89000×10^14 NP1:φ=233.00000°, δ=77.00000°, λ=122.00000°. NP2:φ=343.00000°, δ=35.00000°, λ=24.00000°.*
MOS ***28*** *03:59:24.1±1.6, 43.°19N×146.°72E, h36km, mb4.2/4, Error ellipse: s-maj=22.9km s-min=14.1km az=93.6*
MOS Felt (II) at Yuzhno-Kuril'sk.
ISCJB ***28*** *03:59:27.4±0.6, 43.°63N±0.°06×146.°25E±0.°07, h82km±4km, mb3.5/7, Error ellipse: s-maj=11.1km s-min=6.3km az=145.6*
JMA ***28*** *03:59:28.3±0.1, 43.°68N×146.°23E, h74km±1km, M3.8*
JMA Felt I J1.
SKHL ***28*** *03:59:28.3±0.6, 43.°50N×146.°43E, h43km±9km, mb5.4/2*
IDC ***28*** *03:59:31.1±2.8, 43.°67N×146.°02E, h104km±24km, mb3.3/7, mb1 3.5/9, mb1mx3.3/25, mbtmp3.3/9, Error ellipse: s-maj=24.9km s-min=19.6km az=85.0*
ISC 28 03:59:28.1±0.9, 43.°66N±0.°07×146.°22E±0.°05, h75km±7km, n24, σ1.9°04/34, mb3.7/7, 1C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**0.45**	**325**	*c* PN	**Pn**	**03 59 40.6**	**-0.3**
YUK				*i* S	**Sn**	**03 59 50.3**	**0.0**
YUK				pmax	pmax		
	comp=Z,4μm,0.3s						
YUK				pmax	pmax		
	comp=E,443nm,0.2s						
YUK				pmax	pmax		
	comp=N,409nm,0.2s						
YUK				smax	smax		
	comp=N,3μm,0.3s						
YUK				smax	smax		
	comp=E,2μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**0.45**	**325**	*i* P	**Pn**	**03 59 40.6**	**-0.3**
YUK				AMB	AMB	03 59 40.9	
	comp=E,409nm,0.3s						
YUK				AMB	AMB	03 59 40.9	
	comp=E,443nm,0.3s						
YUK				AMB	AMB	03 59 40.9	
	comp=E,4μm,0.3s						
YUK				*i* S	**Sn**	**03 59 50.3**	**0.0**
YUK				A	A	03 59 52.7	
	comp=E,3μm,0.3s						
YUK				A	A	03 59 52.7	
	comp=E,2μm,0.3s						
NEM2	**Nemuro 2**	**0.46**	**229**	P	**Pn**	**03 59 41.4**	**+0.5**
NEM2				*e*S	**Sn**	**03 59 51.0**	**+0.7**
JRA	**Rausu**	**0.84**	**289**	P	**Pn**	**03 59 45.2**	**+0.3**
JRA				*e*S	**Sn**	**03 59 57.7**	**+0.4**
JNK	**Nakash**	**1.09**	**266**	P	**Pn**	**03 59 48.2**	**+0.3**
JNK				*e*S	**Sn**	**04 00 02.6**	**-0.2**
JAK	**Akkeshi**	**1.29**	**240**	P	**Pn**	**03 59 51.0**	**+0.5**
JAK				*e*S	**Sn**	**04 00 07.8**	**+0.5**
JTKR	**Abashiri--Toko**	**1.70**	**281**	P	**Pn**	**03 59 56.4**	**+0.6**
JTKR				*e*S	**Sn**	**04 00 17.8**	**+1.0**
JAR	**Ashorobuto**	**1.82**	**259**	P	**Pn**	**03 59 58.6**	**+1.2**
JAR				*e*S	**Sn**	**04 00 20.6**	**+0.9**
JOB	**Onbets**	**1.90**	**247**	P	**Pn**	**03 59 59.5**	**+1.1**
JOB				*e*S	**Sn**	**04 00 23.6**	**+2.1**
KUR	**Kuril'sk**	**1.96**	**36**	||*i* PN	**Pn**	**04 00 00.0**	**+0.7**
KUR				*i* S	**Sn**	**04 00 24.1**	**+1.0**
KUR				pmax	pmax		
	comp=Z,73nm,0.1s						
KUR				pmax	pmax		
	comp=N,54nm,0.1s						
KUR				pmax	pmax		
	comp=E,10.0nm,0.1s						
KUR				smax	smax		
	comp=N,384nm,0.2s						
KUR				smax	smax		
	comp=E,201nm,0.2s						
KUR	**Kuril'sk**	**1.96**	**36**	*i* P	**Pn**	**04 00 00.0**	**+0.7**
KUR				AMB	AMB	04 00 02.3	
	comp=E,54nm,0.1s						
KUR				AMB	AMB	04 00 02.3	
	comp=E,11nm,0.1s						
KUR				AMB	AMB	04 00 02.3	
	comp=E,73nm,0.1s						
KUR				*i* S	**Sn**	**04 00 24.1**	**+1.0**
KUR				A	A	04 00 28.0	
	comp=E,384nm,0.2s						
KUR				A	A	04 00 28.0	
	comp=E,201nm,0.2s						
JMP	**Maruseppu**	**2.10**	**280**	P	**Pn**	**04 00 02.0**	**+0.9**
ASAJ	**Asahikawa**	**2.66**	**281**	P	**Pn**	**04 00 10.2**	**+1.5**
	comp=E,11nm,0.3s,baz=108,slow=14,SNR=34						
ASAJ				S	**Sn**	**04 00 41.9**	**+2.0**
	comp=E,4.6nm,0.3s,baz=257,slow=22,SNR=3.7						
YSS	**Yuzh-Sakhalins**	**4.10**	**325**	*e*PN	Pn	04 00 36.8	+8.6
YSS	**Yuzh-Sakhalins**	**4.10**	**325**	*e*rx	rx	04 00 36.8	
YSS				*e*rx	rx	04 01 12.6	
MJAR	**Matsushiro Arr**	**9.39**	**223**	P	**Pn**	**04 01 40.1**	**-0.4**
	comp=E,0.4nm,0.3s,baz=43,slow=11,SNR=4.3						
SONM	**Songino Array**	**27.88**	**293**	P	**P**	**04 05 10.1**	**-0.7**
	comp=E,1.6nm,0.7s,baz=89,slow=8.6,SNR=9.0						
ILAR	**Eielson Array**	**41.96**	**36**	P	**P**	**04 07 12.9**	**+1.7**
	comp=E,0.2nm,0.5s,baz=289,slow=10.0,SNR=4.6						
MKAR	**Makanchi Array**	**44.02**	**297**	P	**P**	**04 07 27.4**	**-0.8**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**44.02**	**297**	P	**P**	**04 07 27.4**	**-0.8**
	comp=Z,0.7nm,0.5s,baz=79,slow=9.6,SNR=12						
WRA	**Warramunga Arr**	**64.22**	**192**	P	**P**	**04 09 54.4**	**-0.7**
	comp=Z,0.2nm,0.6s,baz=11,slow=6.6,SNR=4.8						
FINES	**FINESS Array B**	**64.64**	**333**	P	**P**	**04 09 55.0**	**-2.4**
	comp=Z,0.9nm,0.6s,baz=29,slow=7.0,SNR=3.8						
ASAR	**Alice Springs**	**67.95**	**192**	P	**P**	**04 10 19.4**	**+0.4**
	comp=Z,0.8nm,0.8s,baz=15,slow=6.5,SNR=8.5						
TXAR	**Lajitas Array**	**83.26**	**56**	P	**P**	**04 11 46.5**	**-0.1**
	comp=Z,0.2nm,0.7s,baz=296,slow=4.2,SNR=5.4						

ISCJB ***28*** *04:13:20.0±0.1, 6.°19S±0.°02×112.°90E±0.°02, h605km±1km, mb4.8/117, Error ellipse: s-maj=3.6km s-min=2.6km az=33.3*
NEIC ***28*** *04:13:20.7±0.1, 6.°12S×112.°90E, mb4.8/43, Error ellipse: s-maj=5.6km s-min=3.9km az=53.0*
NEIC Felt at Semarang.

AUST ***28*** *04:13:20.2±0.0, 6.°11S×112.°95E, h581km, Error ellipse: s-maj=0.7km s-min=0.5km az=28.0*
IDC ***28*** *04:13:20.7±0.3, 6.°07S×112.°93E, h593km±3km, mb4.3/40, mb1 4.4/44, mb1mx4.4/45, mbtmp5.3/44, Error ellipse: s-maj=7.4km s-min=4.6km az=58.0*
MOS ***28*** *04:13:20.9±1.1, 5.°98S×112.°94E, h605km, mb4.8/33, Error ellipse: s-maj=9.4km s-min=5.5km az=115.8*
BJI ***28*** *04:13:20.6, 6.°10S×112.°90E, h590km, mb4.8/33, mb4.9/46*
DJA ***28*** *04:13:21.3±0.1, 6.°S±2.°×11.°3E±.°, h593km±1km, M5.3/103, mb5.3/103, mB5.7/60, MLv5.6/43, Mw(mB)5.3/60*
TEH ***28*** *04:13:21.0, 6.°12S×112.°91E, h588km, ML4.9*
BKK ***28*** *04:13:21.2±0.2, 6.°S±3.°×11.°3E±.°, h588km±3km, M5.3/41, mB5.6/21, mb5.2/41, MLv6.2/8, Mw(mB)5.1/21*
ISC 28 04:13:20.7±0.2, 6.°15S±0.°03×112.°91E±0.°03, h595km±2km, h596km:pP-P, n990, σ1.9°17/1270, mb4.9/114, 193C-210D, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRJI	**Gresik**	**0.87**	**209**	P	**P**	**04 14 31.7**	**+0.6**
GRJI				S	**S**	**04 15 28.4**	**0.0**
KMMI	**Kalianget**	**1.38**	**130**	P	**P**	**04 14 33.3**	**+1.0**
KMMI				S	**S**	**04 15 30.3**	**-0.3**
BLJI	**Banyuglugur**	**1.73**	**157**	P	**P**	**04 14 33.7**	**+0.3**
BLJI				S	**S**	**04 15 32.2**	**-0.4**
NGJI	**Ngawi**	**1.88**	**230**	P	**P**	**04 14 35.6**	**+1.6**
SJI	**Sawahan**	**1.94**	**216**	P	**P**	**04 14 34.3**	**-0.1**
KRKI	**Karangkates**	**2.04**	**193**	P	**P**	**04 14 34.8**	**+0.1**
KRKI				S	**S**	**04 15 34.7**	**-0.2**
ABJI	**Asem Bagus**	**2.10**	**141**	P	**P**	**04 14 35.6**	**+0.7**
PWJI	**Pagerwojo**	**2.16**	**210**	P	**P**	**04 14 35.0**	**-0.1**
PWJI				S	**S**	**04 15 34.3**	**-1.4**
GMJI	**Gumukmas**	**2.18**	**166**	P	**P**	**04 14 34.7**	**-0.5**
BYJI	**Banyuwangi**	**2.50**	**145**	P	**P**	**04 14 37.5**	**+0.7**
BYJI				S	**S**	**04 15 39.7**	**+1.0**
PCJI	**Pacitan**	**2.66**	**220**	P	**P**	**04 14 37.0**	**-0.5**
UGM	**Wanagama**	**2.94**	**233**	*e*P	**P**	**04 14 39.0**	**-0.2**
UGM	**Wanagama**	**2.94**	**233**	P	**P**	**04 14 38.9**	**-0.2**
UGM				S	**S**	**04 15 41.0**	**-2.0**
UGM	**Wanagama**	**2.94**	**233**	P	**P**	**04 14 38.9**	**-0.2**
	baz=3.0,SNR=717						
UGM				S	**S**	**04 15 40.9**	**-2.0**
	baz=3.0,SNR=6.5						
SRBI	**Singaraja**	**2.99**	**130**	P	**P**	**04 14 39.5**	**+0.2**
SRBI				S	**S**	**04 15 43.3**	**-0.1**
YOGI	**Yogyakarta**	**3.07**	**237**	P	**P**	**04 14 39.8**	**0.0**
BJII	**Banjamegara**	**3.38**	**250**	P	**P**	**04 14 42.4**	**+0.6**
DNP	**Denpasar**	**3.40**	**138**	P	**P**	**04 14 41.5**	**-0.2**
PBKI	**Pangkalan Bun**	**3.64**	**340**	P	**P**	**04 14 44.1**	**+0.7**
TGJI	**Tegal**	**3.83**	**259**	P	**P**	**04 14 44.9**	**+0.3**
MTNI	**Mataram**	**4.07**	**128**	P	**P**	**04 14 44.0**	**-2.3**
KPJI	**Karang Pucung**	**4.12**	**253**	P	**P**	**04 14 47.0**	**+0.4**
CLJI	**Cilicap**	**4.16**	**248**	P	**P**	**04 14 45.0**	**-1.9**
CISI	**Cisompet, Garu**	**5.24**	**254**	P	**P**	**04 14 54.4**	**-0.9**
	15μm,0.7s,183μm49nm						
CISI	**Cisompet, Garu**	**5.24**	**254**	P	**P**	**04 14 54.3**	**-1.0**
	baz=5.3,SNR=251						
CISI				S	**S**	**04 16 08.3**	**-4.2**
	baz=5.3,SNR=15						
LEM	**Lembang**	**5.30**	**262**	P	**P**	**04 14 56.0**	**+0.1**
	4μm,0.9s,32μm12nm						
LEM	**Lembang**	**5.30**	**262**	P	**P**	**04 14 55.9**	**+0.1**
	baz=5.3,SNR=101						
MTKI	**Muara Teweh, K**	**5.54**	**21**	P	**P**	**04 14 58.9**	**+1.2**
	4μm,0.9s,58μm15nm						
CBJI	**Cileko**	**6.03**	**267**	P	**P**	**04 15 00.9**	**-0.9**
	6μm,0.9s,61μm18nm						
DBJI	**Dramaga**	**6.13**	**266**	P	**P**	**04 15 02.1**	**-0.6**
	4μm,0.8s,35μm13nm						
TNG	**Tangerang**	**6.22**	**269**	P	**P**	**04 15 03.0**	**-0.5**
	7μm,1.0s,63μm20nm						
TPI	**Tanjungpandan**	**6.23**	**303**	P	**P**	**04 15 04.2**	**+0.6**
	2μm,0.8s,14μm4.8nm						
BKB	**Balikpapan**	**6.28**	**40**	P	**P**	**04 15 06.7**	**+2.7**
	3μm,0.8s,38μm10nm						
STKI	**Sintang**	**6.34**	**347**	P	**P**	**04 15 06.1**	**+1.5**
	2μm,0.7s,26μm8.2nm						
SKJI	**Sukabumi**	**6.36**	**262**	P	**P**	**04 15 02.3**	**-2.5**
	5μm,0.7s,57μm21nm						
MJSI	**Majene**	**6.58**	**67**	P	**P**	**04 15 07.1**	**+0.4**
	2μm,0.9s,17μm6.1nm						
SBJI	**Serang**	**6.74**	**270**	P	**P**	**04 15 07.4**	**-0.7**
	2μm,0.9s,17μm6.8nm						
MMSI	**Mamuju**	**6.90**	**60**	P	**P**	**04 15 10.5**	**+0.8**
	4μm,0.9s,32μm14nm						
KAPI	**Kappang**	**6.91**	**81**	P	**P**	**04 15 08.7**	**-0.9**
	SNR=7.6						
KAPI	**Kappang**	**6.91**	**81**	*e*P	**P**	**04 15 08.3**	**-1.3**
KAPI				S	**S**	**04 16 37.9**	**-0.9**
KAPI	**Kappang**	**6.91**	**81**	P	**P**	**04 15 08.6**	**-1.1**
	210nm,0.9s,2μm0.6nm						
KAPI	**Kappang**	**6.91**	**81**	P	**P**	**04 15 08.4**	**-1.3**
	18nm,0.3s,baz=251,slow=10,SNR=21						
KAPI				S	**S**	**04 16 37.9**	**-0.9**
	baz=240,slow=20,SNR=3.8						
SMKI	**Samarinda**	**7.11**	**37**	P	**P**	**04 15 13.2**	**+1.7**
	2μm,1.2s,182μm23nm						
SPSI	**Sidrap Palu**	**7.17**	**73**	P	**P**	**04 15 11.7**	**-0.4**
	346nm,1.0s,3μm1.1nm						
BKSI	**Bulukumba**	**7.23**	**84**	P	**P**	**04 15 12.5**	**-0.1**
	135nm,0.7s,1μm0.5nm						
SGKI	**Sangatta, Kali**	**7.29**	**40**	P	P	04 15 22.3	+9.1
LBFI	**Labuhan Bajo,**	**7.30**	**109**	P	**P**	**04 15 11.2**	**-2.1**
	129nm,0.6s,2.1nm						
BNSI	**Bone**	**7.38**	**77**	P	**P**	**04 15 14.5**	**+0.5**
	704nm,1.3s,6μm2.2nm						
BLSI	**Bandar Lampung**	**7.66**	**275**	P	**P**	**04 15 15.6**	**-1.1**
	676nm,0.4s,10μm2.6nm						
PPBI	**Pangkal Pinang**	**7.83**	**300**	P	**P**	**04 15 19.0**	**+0.8**
	814nm,0.9s,17μm2.7nm						
KSM	**Kuching**	**8.00**	**341**	*e*P	**P**	**04 15 21.1**	**+1.1**
KSM				*e*S	**S**	**04 16 58.9**	**+1.4**
KSM	**Kuching**	**8.00**	**341**	P	**P**	**04 15 21.3**	**+1.4**
KSM	**Kuching**	**8.00**	**341**	P	**P**	**04 15 21.0**	**+1.1**
	1μm,0.8s,13μm						
KSM	**Kuching**	**8.00**	**341**	P	**P**	**04 15 21.1**	**+1.1**
	baz=8.0,SNR=196						
KSM				S	**S**	**04 16 59.5**	**+1.9**
	baz=8.0,SNR=19						
KLI	**Kotabumi**	**8.11**	**279**	P	**P**	**04 15 20.4**	**-0.5**
	350nm,0.9s,5μm						
WSI	**Waingapu**	**8.11**	**116**	P	P	04 15 16.0	-4.9
WSI	**Waingapu**	**8.11**	**116**	P	P	04 15 14.0	-6.9
	baz=8.1,SNR=4.6						
WSI				S	S	04 16 52.8	-6.7
	baz=8.1,SNR=12						
XMI	**Christmas Isla**	**8.32**	**239**	P	**P**	**04 15 22.4**	**-0.5**
	baz=8.4,SNR=6.8						
XMI				S	**S**	**04 17 00.4**	**-2.7**
	baz=8.4,SNR=6.2						
XMIS	**Christmas Isla**	**8.37**	**239**	*e*P	**P**	**04 15 22.5**	**-0.8**
	569nm,0.6s						
XMIS				*e*S	**S**	**04 17 01.0**	**-2.9**
XMIS	**Christmas Isla**	**8.37**	**239**	P	**P**	**04 15 22.6**	**-0.7**
	baz=8.4,SNR=13						
XMIS				S	**S**	**04 17 00.7**	**-3.2**
	baz=8.4,SNR=6.6						
KASI	**Kota Agung**	**8.39**	**274**	P	**P**	**04 15 22.0**	**-1.6**
	1μm,0.8s,15μm						
SBUM	**Sibu**	**8.57**	**355**	*e*P	**P**	**04 15 26.8**	**+1.4**
SBUM	**Sibu**	**8.57**	**355**	P	**P**	**04 15 27.0**	**+1.6**
SBUM	**Sibu**	**8.57**	**355**	P	**P**	**04 15 26.8**	**+1.4**
	2μm,0.8s,26μm						
PMBI	**Palembang**	**8.72**	**291**	P	**P**	**04 15 28.0**	**+1.2**
	3μm,0.9s,21μm						
PMBI	**Palembang**	**8.72**	**291**	P	**P**	**04 15 28.0**	**+1.2**
	baz=8.8,SNR=7.3						
MDSI	**Maura Dua**	**8.85**	**280**	P	**P**	**04 15 27.6**	**-0.4**
	209nm,1.2s,2μm						
LWLI	**Liwa**	**8.88**	**277**	P	**P**	**04 15 27.5**	**-0.9**
	645nm,0.7s,13μm						
BTM	**Bintulu**	**9.29**	**1**	P	**P**	**04 15 33.9**	**+1.5**
MMRI	**Maumere**	**9.58**	**106**	*e*P	**P**	**04 15 32.7**	**-2.6**
MMRI	**Maumere**	**9.58**	**106**	P	**P**	**04 15 32.9**	**-2.3**
	247nm,0.6s,3μm						
BBSI	**Bau Bau**	**9.64**	**87**	P	P	04 15 39.4	+3.6
	220nm,0.7s,2μm						
MNAI	**Manna**	**10.06**	**280**	*e*P	**P**	**04 15 37.9**	**-2.2**
MNAI	**Manna**	**10.06**	**280**	P	**P**	**04 15 38.5**	**-1.6**
	1μm,0.6s,13μm						
MNAI	**Manna**	**10.06**	**280**	P	**P**	**04 15 37.7**	**-2.4**
	baz=10,SNR=81						
MNAI				S	S	04 17 26.3	-8.2
	baz=10,SNR=14						
APSI	**Ampana**	**10.16**	**60**	P	**P**	**04 15 41.0**	**0.0**
	309nm,1.1s,34μm						
KSI	**Kapahiang**	**10.57**	**283**	P	**P**	**04 15 45.2**	**0.0**
	374nm,0.6s,8μm						
EGSI	**Enggano, Bengk**	**10.61**	**274**	P	**P**	**04 15 42.9**	**-2.5**
	345nm,0.4s,9μm						
TOLI	**Toli-Toli**	**10.69**	**48**	P	**P**	**04 15 46.9**	**+0.6**
	602nm,0.7s,7μm						
MASI	**Maura Aman, Be**	**11.04**	**285**	P	**P**	**04 15 48.7**	**-1.2**
	559nm,0.8s,4μm						
LUWI	**Luwuk**	**11.07**	**63**	P	**P**	**04 15 50.8**	**+0.6**
	270nm,0.7s,219μm						
LUWI	**Luwuk**	**11.07**	**63**	P	**P**	**04 15 50.6**	**+0.5**
	baz=11,SNR=8.2						
MRSI	**Marisa**	**11.17**	**54**	P	**P**	**04 15 49.2**	**-1.9**
	203nm,0.6s,12μm						
BATI	**Baumata**	**11.38**	**111**	P	**P**	**04 15 51.5**	**-1.8**
BATI				S	**S**	**04 17 53.3**	**-5.4**
BATI	**Baumata**	**11.38**	**111**	P	**P**	**04 15 51.7**	**-1.6**
	166nm,0.5s,2μm						
BATI	**Baumata**	**11.38**	**111**	P	**P**	**04 15 51.5**	**-1.8**
	60nm,0.3s,baz=30,slow=1.0,SNR=26						
BATI				S	**S**	**04 17 53.3**	**-5.4**
	29nm,0.3s,baz=51,slow=21,SNR=15						
TSM	**Tawau**	**11.50**	**26**	P	**P**	**04 15 55.5**	**+1.1**
BTDF	**Bukit Timah Da**	**11.78**	**309**	P	**P**	**04 15 58.1**	**+0.8**
	baz=12,SNR=7.8						
BTDF				P	**P**	**04 15 58.1**	**+0.8**
	baz=12,SNR=7.8						
BTDF				S	**S**	**04 18 08.5**	**+2.5**
	baz=12,SNR=7.0						
BTDF				S	**S**	**04 18 08.5**	**+2.5**
	baz=12,SNR=7.0						
SOEI	**Soe**	**11.81**	**108**	P	**P**	**04 15 54.7**	**-3.0**
	338nm,0.7s,3μm						
SOEI	**Soe**	**11.81**	**108**	P	**P**	**04 15 55.1**	**-2.6**
	baz=12,SNR=41						
SOEI				S	S	04 17 58.2	-8.4
	baz=12,SNR=10						
MYKOM	**Kota Tinggi**	**12.00**	**311**	P	**P**	**04 16 00.7**	**+1.3**
MYKOM	**Kota Tinggi**	**12.00**	**311**	P	**P**	**04 16 00.4**	**+0.9**
	84nm,1.4s,1μm						
RGRI	**Rengat**	**12.02**	**298**	P	**P**	**04 16 00.6**	**+0.9**
	824nm,0.9s,107μm						
KRJI	**Kerinci**	**12.10**	**289**	P	**P**	**04 16 00.7**	**+0.1**
	184nm,1.3s						
GTOI	**Gorontalo**	**12.13**	**57**	P	**P**	**04 15 58.7**	**-2.1**
	489nm,0.9s,56μm						
SDKM	**Sandakan**	**12.47**	**20**	P	**P**	**04 16 04.9**	**+0.6**
KGM	**Kluang**	**12.55**	**310**	P	**P**	**04 16 06.1**	**+1.1**
KKM	**Kota Kinabalu**	**12.56**	**15**	*e*P	**P**	**04 16 04.1**	**-1.1**
KKM				*e*S	**S**	**04 18 18.9**	**-1.6**
KKM	**Kota Kinabalu**	**12.56**	**15**	P	**P**	**04 16 04.5**	**-0.7**
KKM	**Kota Kinabalu**	**12.56**	**15**	P	**P**	**04 16 03.9**	**-1.3**
	383nm,0.7s,4μm						
KKM	**Kota Kinabalu**	**12.56**	**15**	P	**P**	**04 16 04.2**	**-1.0**
	baz=13,SNR=37						
KKM				S	**S**	**04 18 19.5**	**-1.0**
	baz=13,SNR=4.2						
MYLDM	**Lahad Datu**	**12.56**	**27**	P	**P**	**04 16 08.1**	**+2.9**
MYLDM	**Lahad Datu**	**12.56**	**27**	P	**P**	**04 16 07.4**	**+2.2**
	813nm,1.3s,7μm						
KMSI	**Cibinong**	**12.92**	**59**	P	**P**	**04 16 10.6**	**+1.8**
	436nm,0.9s,96μm						
PDSI	**Padang**	**13.46**	**292**	P	**P**	**04 16 12.3**	**-2.1**
	212nm,0.7s,22μm						
BKNI	**Bangkinang**	**13.48**	**298**	P	**P**	**04 16 15.4**	**+0.9**
	1μm,1.1s,9μm						
BKNI	**Bangkinang**	**13.48**	**298**	P	**P**	**04 16 15.9**	**+1.3**
	baz=14,SNR=15						
BKNI				S	**S**	**04 18 40.1**	**+2.9**
	baz=14,SNR=12						
KDM	**Kudat**	**13.56**	**17**	P	**P**	**04 16 16.1**	**+0.8**
PPI	**Padang Panjang**	**13.70**	**294**	P	**P**	**04 16 15.9**	**-0.9**
	77nm,0.9s						
NLAI	**Namlea**	**14.44**	**79**	P	**P**	**04 16 24.4**	**+0.5**
	380nm,0.9s,6μm						
SISI	**Saibi**	**14.59**	**289**	P	**P**	**04 16 25.4**	**+0.1**
	2μm,1.0s						
FRIM	**Kepong**	**14.62**	**309**	P	**P**	**04 16 26.7**	**+1.1**
KTGM	**Kuala Trenggan**	**15.01**	**319**	P	**P**	**04 16 31.4**	**+2.2**
AAI	**Ambon**	**15.43**	**82**	P	**P**	**04 16 31.1**	**-2.0**
	392nm,0.7s,4μm						
AAI	**Ambon**	**15.43**	**82**	P	**P**	**04 16 31.3**	**-1.8**
	baz=15,SNR=8.3						
LBMI	**Labuha**	**15.56**	**70**	P	**P**	**04 16 35.5**	**+1.2**
	720nm,1.1s,7μm						
IPM	**Ipoh**	**15.88**	**311**	*e*P	**P**	**04 16 38.6**	**+1.3**
	29nm,0.6s						
IPM	**Ipoh**	**15.88**	**311**	P	**P**	**04 16 39.4**	**+2.2**
IPM	**Ipoh**	**15.88**	**311**	P	**P**	**04 16 38.6**	**+1.3**
	52nm,0.7s						
SGSI	**Sangihe**	**15.95**	**53**	P	**P**	**04 16 39.1**	**+1.2**
	316nm,0.5s						
TNTI	**Ternate**	**15.99**	**65**	*e*P	**P**	**04 16 39.1**	**+0.8**
	3μm,1.6s						
TNTI	**Ternate**	**15.99**	**65**	P	**P**	**04 16 38.9**	**+0.6**
	1μm,1.3s,15μm						
MBWA	**Marble Bar**	**16.32**	**157**	P	**P**	**04 16 41.9**	**+0.7**
	SNR=8.9						
MBWA	**Marble Bar**	**16.32**	**157**	*e*P	**P**	**04 16 41.5**	**+0.3**
	187nm,0.8s						
MBWA				*e*S	**S**	**04 19 25.5**	**+1.0**
MBWA				*e*ScP	**ScP**	**04 23 35.5**	**-0.1**
GIRL	**Giralia**	**16.45**	**176**	P	**P**	**04 16 43.9**	**+1.6**
	baz=17,SNR=40						
PSI	**Prapat**	**16.55**	**302**	P	**P**	**04 16 44.1**	**+0.6**
PSI				S	**S**	**04 19 28.1**	**-0.7**
PSI	**Prapat**	**16.55**	**302**	P	**P**	**04 16 44.1**	**+0.6**
	15nm,0.3s,baz=121,slow=7.8,SNR=56						
PSI				S	**S**	**04 19 28.0**	**-0.7**
	baz=292,slow=16,SNR=5.7			

TLE	**Tual**	**19.73**	**90**	P	**P**	**04 17 12.5**	**+0.1**
	245nm,1.0s						
TLE	**Tual**	**19.73**	**90**	P	**P**	**04 17 13.6**	**+1.1**
	baz=20,SNR=9.4						
TLE				S	**S**	**04 20 24.9**	**+5.0**
	baz=20,SNR=6.0						
KDU	**Kakadu**	**20.36**	**110**	P	**P**	**04 17 17.4**	**-0.6**
	baz=20,SNR=208						
KMPI	**Kaimana, Papua**	**20.87**	**84**	P	**P**	**04 17 23.2**	**+0.6**
	407nm,0.8s,4μm						
MEEK	**Meekatharra**	**21.09**	**166**	P	**P**	**04 17 25.1**	**+0.6**
	baz=21,SNR=80						
MEEK				S	**S**	**04 20 40.1**	**-0.9**
	baz=21,SNR=8.8						
MORW	**Morawa**	**22.99**	**173**	P	**P**	**04 17 42.4**	**+1.1**
	baz=23,SNR=120						
BLDU	**Ballidu**	**24.60**	**172**	P	**P**	**04 17 56.2**	**+0.6**
	baz=25,SNR=58						
WRA	**Warramunga Arr**	**24.93**	**125**	P	**P**	**04 17 58.7**	**0.0**
WRA				PcP	**PcP**	**04 21 13.3**	**0.0**
WRA				S	**S**	**04 21 38.3**	**-3.3**
WRA				ScP	**ScP**	**04 23 56.3**	**-0.5**
WRA				ScS	**ScS**	**04 27 42.0**	**-4.5**
WRA	**Warramunga Arr**	**24.93**	**125**	P	**P**	**04 17 58.7**	**0.0**
	97nm,0.7s,baz=305,slow=9.4,SNR=447						
WRA				PcP	**PcP**	**04 21 13.3**	**0.0**
	14nm,0.7s,baz=294,slow=2.0,SNR=7.7						
WRA				S	**S**	**04 21 38.3**	**-3.3**
	36nm,1.0s,baz=294,slow=17,SNR=19						
WRA				ScP	**ScP**	**04 23 56.3**	**-0.5**
	24nm,0.5s,baz=315,slow=2.4,SNR=22						
WRA				ScS	**ScS**	**04 27 42.0**	**-4.5**
	1.4nm,0.6s,baz=300,slow=17,SNR=5.3						
WRAB	**Tennant Creek**	**24.94**	**125**	*e*P	**P**	**04 17 58.9**	**+0.2**
WRAB				*e*		04 21 12.3	
WRAB				*e*S	**S**	**04 21 39.0**	**-2.7**
WRAB				pmax	pmax		
	comp=Z,123nm,0.8s						
WRAB	**Tennant Creek**	**24.94**	**125**	*e*P	**P**	**04 17 58.9**	**+0.2**
	comp=Z,123nm,0.8s						
WRAB				*e*PcP	**PcP**	**04 21 12.3**	**-0.9**
WRAB				*e*S	**S**	**04 21 39.0**	**-2.7**
WRAB				*e*ScP	**ScP**	**04 23 56.6**	**-0.2**
QIZ	**Qiongzhong**	**25.20**	**353**	P	**P**	**04 18 03.3**	**+2.3**
QIZ				sP	**sP**	**04 20 41.5**	**-0.3**
QIZ				S	**S**	**04 21 49.5**	**+3.7**
QIZ				pmax	pmax		
	comp=Z,63nm,1.9s						
QIZ				pmax	pmax		
	comp=Z,1μm,5.5s						
QIZ	**Qiongzhong**	**25.20**	**353**	*e*P	**P**	**04 18 03.0**	**+1.9**
PBKT	**Sadao Pong**	**25.48**	**333**	P	**P**	**04 18 04.8**	**+1.4**
	comp=Z,28nm,0.9s						
PBKT	**Sadao Pong**	**25.48**	**333**	P	**P**	**04 18 04.8**	**+1.4**
	comp=Z,28nm,0.9s						
KLBR	**Kellerberrin**	**25.71**	**170**	P	**P**	**04 18 06.0**	**+0.7**
	baz=26,SNR=92						
KLBR				S	**S**	**04 21 54.0**	**+0.5**
	baz=26,SNR=6.7						
WAMI	**Wamena**	**25.80**	**86**	P	P	04 18 11.9	+5.5
	comp=Z,286nm,0.8s,comp=Z,13μm						
AS31	**Alice Springs**	**26.67**	**133**	*e*P	**P**	**04 18 14.2**	**+0.3**
AS31				*e*PcP	**PcP**	**04 21 17.8**	**+0.5**
AS31				*e*S	**S**	**04 22 06.7**	**-2.1**
AS31				*e*ScP	**ScP**	**04 24 01.6**	**-0.3**
ASAR	**Alice Springs**	**26.67**	**133**	P	**P**	**04 18 14.3**	**+0.4**
ASAR				PcP	**PcP**	**04 21 17.5**	**+0.2**
ASAR				S	**S**	**04 22 05.8**	**-3.0**
ASAR				ScP	**ScP**	**04 24 01.6**	**-0.3**
ASAR				ScS	**ScS**	**04 27 50.4**	**-3.6**
ASAR	**Alice Springs**	**26.67**	**133**	P	**P**	**04 18 14.3**	**+0.4**
	comp=Z,64nm,0.6s,baz=311,slow=8.9,SNR=945						
ASAR				PcP	**PcP**	**04 21 17.5**	**+0.2**
	comp=Z,17nm,0.5s,baz=320,slow=2.2,SNR=19						
ASAR				S	**S**	**04 22 05.8**	**-3.0**
	comp=Z,22nm,0.7s,baz=298,slow=15,SNR=19						
ASAR				ScP	**ScP**	**04 24 01.6**	**-0.3**
	comp=Z,17nm,0.6s,baz=314,slow=2.9,SNR=15						
ASAR				ScS	**ScS**	**04 27 50.4**	**-3.6**
	comp=Z,3.1nm,0.7s,baz=314,slow=5.6,SNR=8.8						
NWAO	**Narrogin (SRO)**	**26.95**	**172**	*e*P	**P**	**04 18 17.0**	**+0.9**
	comp=Z,45nm,0.6s						
NWAO	**Narrogin (SRO)**	**26.95**	**172**	P	**P**	**04 18 17.1**	**+0.9**
	comp=Z,53nm,0.5s,baz=352,slow=9.0,SNR=83						
LAMP	**Lampang**	**27.79**	**332**	P	**P**	**04 18 25.6**	**+1.9**
	comp=Z,7.3nm,0.8s,comp=Z,269nm						
JAY	**Jayapura**	**27.95**	**84**	P	**P**	**04 18 26.3**	**+1.0**
	comp=Z,81nm,0.6s,comp=Z,10μm						
JAY	**Jayapura**	**27.95**	**84**	P	**P**	**04 18 24.6**	**-0.7**
	baz=28,SNR=11						
CM31	**Chiang Mai Arr**	**28.06**	**331**	*e*P	**P**	**04 18 27.7**	**+1.6**
	comp=Z,5.0nm,0.4s						
CMAR	**Chiang Mai Arr**	**28.06**	**331**	P	**P**	**04 18 27.6**	**+1.5**
CMAR				PcP	**PcP**	**04 21 21.1**	**+0.3**
CMAR				ScP	**ScP**	**04 24 05.7**	**-0.5**
CMAR	**Chiang Mai Arr**	**28.06**	**331**	P	**P**	**04 18 27.6**	**+1.5**
	comp=Z,15nm,0.9s,baz=159,slow=7.6,SNR=51						
CMAR				PcP	**PcP**	**04 21 21.1**	**+0.3**
	comp=Z,6.6nm,0.7s,baz=187,slow=2.8,SNR=6.9						
CMAR				ScP	**ScP**	**04 24 05.7**	**-0.5**
	comp=Z,11nm,0.8s,baz=181,slow=3.2,SNR=20						
FORT	**Forrest**	**28.33**	**152**	*e*P	**P**	**04 18 29.3**	**+1.1**
	comp=Z,182nm,0.7s						
FORT				*e*PcP	**PcP**	**04 21 22.2**	**+0.9**
FORT				*e*S	**S**	**04 22 34.9**	**+0.5**
FORT	**Forrest**	**28.33**	**152**	P	**P**	**04 18 29.6**	**+1.3**
	baz=28,SNR=39						
FORT				S	**S**	**04 22 34.8**	**+0.5**
	baz=28,SNR=8.0						
CHTO	**Chiang Mai**	**28.37**	**331**	*e*P	**P**	**04 18 30.0**	**+1.2**
CHTO				*e*		04 21 22.2	
CHTO				pmax	pmax		
	comp=Z,57nm,0.9s						
CHTO	**Chiang Mai**	**28.37**	**331**	*e*P	**P**	**04 18 29.9**	**+1.2**
	comp=Z,57nm,0.9s						
CHTO				*e*PcP	**PcP**	**04 21 22.2**	**+0.6**
CHTO				*e*ScP	**ScP**	**04 24 07.8**	**+0.7**
CHTO	**Chiang Mai**	**28.37**	**331**	P	**P**	**04 18 30.6**	**+1.9**
	comp=Z,108nm,1.1s						
CHTO	**Chiang Mai**	**28.37**	**331**	P	**P**	**04 18 30.6**	**+1.9**
	comp=Z,108nm,1.1s						
RKGY	**Rocky Gully**	**28.57**	**173**	P	**P**	**04 18 32.0**	**+1.8**
	baz=29,SNR=90						
CRAI	**Chiangrai**	**28.97**	**335**	P	**P**	**04 18 33.3**	**-0.6**
	comp=Z,40nm,3.1s,comp=Z,984nm						
TPUB	**Ta-pu**	**30.23**	**14**	*e*P	**P**	**04 18 46.1**	**+1.3**
	comp=Z,19nm,0.7s						
COEN	**Coen**	**30.77**	**107**	*e*P	**P**	**04 18 49.4**	**-0.1**
	comp=Z,961nm,0.7s						
COEN				*e*PcP	**PcP**	**04 21 28.5**	**+0.5**
COEN				*e*ScP	**ScP**	**04 24 14.9**	**-0.3**
COEN	**Coen**	**30.77**	**107**	P	**P**	**04 18 49.4**	**-0.1**
	baz=31,SNR=141						
SSLB	**Suanglung**	**30.77**	**15**	*e*P	**P**	**04 18 49.9**	**+0.5**
	comp=Z,13nm,0.4s						
SSLB				*e*		04 21 29.1	
SSLB				*e*S	**S**	**04 23 16.6**	**+4.4**
NACB	**Ninganchiao**	**31.31**	**15**	*e*P	**P**	**04 18 53.1**	**-0.8**
	comp=Z,20nm,0.6s						
YHNB	**Yeheng**	**31.73**	**15**	*e*P	**P**	**04 18 58.1**	**+0.5**
KMI	**Kunming**	**32.62**	**343**	P	**P**	**04 19 08.0**	**+2.7**
KMI				sP	**sP**	**04 21 53.8**	**+3.1**
KMI				S	**S**	**04 23 45.5**	**+4.9**
KMI				pmax	pmax		
	comp=Z,23nm,0.9s						
MTSU	**Mount Surprise**	**32.87**	**114**	P	**P**	**04 19 08.2**	**+0.8**
	baz=33,SNR=184						
MTSU				S	**S**	**04 23 45.0**	**+0.7**
	baz=33,SNR=5.9						
GYA	**Guiyang**	**32.98**	**350**	P	**P**	**04 19 11.0**	**+2.9**
GYA				sP	**sP**	**04 21 55.0**	**+1.3**
GYA				S	**S**	**04 23 50.5**	**+4.8**
GYA				ScP	**ScP**	**04 24 25.5**	**+2.9**
GYA				PcS	**PcS**	**04 25 21.3**	**+0.6**
GYA				ScS	**ScS**	**04 28 26.0**	**+1.1**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,4.8s						
PMG	**Port Moresby**	**34.08**	**98**	*e*P	**P**	**04 19 18.2**	**+0.7**
	comp=Z,181nm,0.6s						
PMG				*e*PcP	**PcP**	**04 21 38.4**	**+1.0**
PMG				ScP	**ScP**	**04 24 26.9**	**+0.2**
PMG	**Port Moresby**	**34.08**	**98**	P	**P**	**04 19 17.8**	**+0.3**
	comp=Z,350nm,1.1s,comp=Z,3μm						
PMG	**Port Moresby**	**34.08**	**98**	P	**P**	**04 19 18.1**	**+0.7**
	comp=Z,179nm,0.5s,baz=212,slow=1.8,SNR=82						
PMG				PcP	**PcP**	**04 21 37.6**	**+0.2**
	comp=Z,21nm,0.8s,baz=194,slow=4.1,SNR=3.0						
PMG				ScP	**ScP**	**04 24 27.0**	**+0.2**
	comp=Z,23nm,0.9s,baz=268,slow=6.6,SNR=5.4						
BBOO	**Buckleboo**	**34.18**	**144**	*e*P	**P**	**04 19 18.4**	**+0.4**
	comp=Z,288nm,0.6s						
BBOO				*e*PcP	**PcP**	**04 21 37.5**	**+0.1**
BBOO	**Buckleboo**	**34.18**	**144**	P	**P**	**04 19 18.4**	**+0.4**
	baz=34,SNR=54						
BBOO				S	**S**	**04 24 02.8**	**-0.8**
	baz=34,SNR=6.1						
CTA	**Charters Tower**	**35.21**	**116**	P	**P**	**04 19 27.8**	**+0.9**
CTA				PcP	**PcP**	**04 21 40.8**	**+0.1**
CTA				S	**S**	**04 24 19.7**	**+0.3**
CTA				ScP	**ScP**	**04 24 30.5**	**-0.3**
CTA	**Charters Tower**	**35.21**	**116**	P	**P**	**04 19 27.8**	**+0.9**
	comp=Z,90nm,0.8s,baz=292,slow=11,SNR=112						
CTA				PcP	**PcP**	**04 21 40.8**	**+0.1**
	comp=Z,17nm,0.5s,baz=266,slow=4.9,SNR=8.4						
CTA				S	**S**	**04 24 19.7**	**+0.3**
	comp=Z,6.9nm,1.0s,baz=114,slow=20,SNR=10						
CTA				ScP	**ScP**	**04 24 30.5**	**-0.3**
	comp=Z,13nm,0.8s,baz=288,slow=8.7,SNR=7.1						
CTAO	**Charters Tower**	**35.21**	**116**	*e*P	**P**	**04 19 27.7**	**+0.9**
CTAO				*e*		04 21 41.2	
CTAO				*e*S	**S**	**04 24 20.3**	**+0.9**
CTAO				pmax	pmax		
	comp=Z,103nm,0.8s						
CTAO	**Charters Tower**	**35.21**	**116**	*e*P	**P**	**04 19 27.7**	**+0.9**
	comp=Z,103nm,0.8s						
CTAO				*e*PcP	**PcP**	**04 21 41.2**	**+0.5**
CTAO				*e*S	**S**	**04 24 20.3**	**+0.9**
CTAO				*e*ScP	**ScP**	**04 24 30.8**	**0.0**
QLP	**Quilpie**	**36.10**	**128**	P	**P**	**04 19 35.3**	**+1.3**
	baz=36,SNR=48						
QLP				S	**S**	**04 24 33.2**	**+0.7**
	baz=36,SNR=4.8						
ENH	**Enshi**	**36.36**	**355**	*e*P	**P**	**04 19 36.5**	**+0.4**
	comp=Z,25nm,0.4s						
ENH				*e*		04 24 35.9	
WHN	**Wuhan**	**36.51**	**2**	⇑P	**P**	**04 19 38.0**	**+0.8**
STKA	**Stephens Creek**	**37.06**	**137**	*e*P	**P**	**04 19 42.6**	**+0.8**
	comp=Z,12nm,0.8s						
STKA				*e*PcP	**PcP**	**04 21 45.7**	**-0.4**
STKA				*e*ScP	**ScP**	**04 24 37.0**	**-0.4**
STKA				*e*S	**S**	**04 24 46.7**	**+0.2**
STKA	**Stephens Creek**	**37.06**	**137**	P	**P**	**04 19 42.6**	**+0.8**
	comp=Z,38nm,0.5s,baz=313,slow=8.1,SNR=235						
STKA				PcP	**PcP**	**04 21 45.8**	**-0.3**
	comp=Z,12nm,0.4s,baz=358,slow=5.3,SNR=3.8						
STKA				ScP	**ScP**	**04 24 36.9**	**-0.5**
	comp=Z,18nm,0.7s,baz=337,slow=6.8,SNR=11						
STKA				S	**S**	**04 24 46.6**	**+0.2**
	comp=Z,14nm,0.7s,baz=90,slow=19,SNR=10						
STKA	**Stephens Creek**	**37.06**	**137**	P	**P**	**04 19 42.6**	**+0.8**
	baz=37,SNR=209						
STKA				S	**S**	**04 24 37.0**	**-0.4**
	baz=37,SNR=7.2						
CD2	**Chengdu**	**37.88**	**347**	P	**P**	**04 19 48.8**	**+0.4**
CD2				PP	**PP**	**04 21 34.0**	**-1.3**
CD2				PcP	**PcP**	**04 21 48.8**	**+0.1**
CD2				sP	**sP**	**04 22 35.0**	**-1.4**
CD2				S	**S**	**04 25 02.0**	**+3.4**
CD2				sS	**sS**	**04 28 01.8**	**-1.3**
CD2				SS	**SS**	**04 28 13.8**	**-5.6**
CD2				pmax	pmax		
	comp=Z,60nm,0.6s						
CD2				pmax	pmax		
	comp=Z,500nm,4.9s						
NJ2	**Nanjing**	**38.41**	**8**	*e*P	**P**	**04 19 53.0**	**+0.4**
NJ2				pmax	pmax		
	comp=Z,30nm,0.6s						
RMQ	**Roma**	**39.69**	**125**	P	**P**	**04 20 04.8**	**+1.7**
	baz=40,SNR=12						
CMSA	**Cobar Meteorol**	**39.72**	**134**	P	**P**	**04 20 04.4**	**+1.1**
	baz=40,SNR=122						
ARPS	**Mount Arapiles**	**40.34**	**143**	P	**P**	**04 20 09.1**	**+1.0**
	baz=40,SNR=33						
ODAN	**Odare**	**41.08**	**324**	*e*P	**P**	**04 20 14.8**	**+0.4**
	comp=Z,44nm,0.5s						
EIDS	**Eidsvold**	**41.19**	**122**	*e*P	**P**	**04 20 16.1**	**+1.0**
	comp=Z,70nm,0.8s						
EIDS				*e*		04 21 60.0	
EIDS				*e*ScP	**ScP**	**04 24 53.4**	**-0.3**
EIDS	**Eidsvold**	**41.19**	**122**	P	**P**	**04 20 16.1**	**+1.0**
	baz=41,SNR=39						
HYB	**Hyderabad**	**41.23**	**305**	*i* P	**P**	**04 20 15.0**	**-0.5**
TAPN	**Taplejung**	**41.27**	**325**	*e*P	**P**	**04 20 16.7**	**+0.8**
	comp=Z,35nm,0.4s						
LSA	**Lhasa**	**41.32**	**331**	P	**P**	**04 20 17.8**	**+1.3**
LSA	**Lhasa**	**41.32**	**331**	*e*P	**P**	**04 20 17.7**	**+1.3**
LSA				pmax	pmax		
	comp=Z,13nm,0.6s						
LSA	**Lhasa**	**41.32**	**331**	*e*P	**P**	**04 20 17.7**	**+1.3**
	comp=Z,12nm,0.6s						
RAMN	**Ramite**	**41.61**	**323**	*e*P	**P**	**04 20 19.1**	**+0.5**
	comp=Z,20nm,0.4s						
JIRN	**Jiri**	**42.38**	**324**	*e*P	**P**	**04 20 25.3**	**+0.6**
	comp=Z,133nm,0.4s						
JNU	**Nakatsue**	**42.62**	**22**	P	**P**	**04 20 25.1**	**-1.1**
JNU				PcP	**PcP**	**04 22 04.3**	**+0.1**
JNU	**Nakatsue**	**42.62**	**22**	P	**P**	**04 20 25.1**	**-1.1**
	comp=Z,15nm,0.7s,baz=116,slow=1.2,SNR=7.2						
JNU				PcP	**PcP**	**04 22 04.3**	**+0.1**
	comp=Z,12nm,0.9s,baz=13,slow=5.1,SNR=4.1						
GUN	**Gumba**	**42.75**	**324**	*e*P	**P**	**04 20 28.1**	**+0.5**
	comp=Z,86nm,0.5s						
PKI	**Pulchoki**	**42.78**	**323**	*e*P	**P**	**04 20 27.7**	**-0.1**
	comp=Z,18nm,0.3s						
PKIN	**Phulchoki**	**42.79**	**323**	*e*P	**P**	**04 20 28.0**	**+0.2**
	comp=Z,9.4nm,0.3s						
LZH	**Lanzhou**	**42.87**	**349**	⇑P	**P**	**04 20 30.0**	**+1.9**
LZH				S	**S**	**04 26 10.0**	**-0.8**
LZH				sS	**sS**	**04 29 15.3**	**-4.9**
LZH				SS	**SS**	**04 29 39.0**	**-1.7**
LZH				pmax	pmax		
	comp=Z,34nm,1.0s						
LZH				pmax	pmax		
	comp=Z,220nm,5.9s						
DMN	**Daman**	**42.99**	**323**	*e*P	**P**	**04 20 29.6**	**+0.2**
KKN	**Kakani**	**43.02**	**323**	*e*P	**P**	**04 20 29.6**	**+0.1**
TOO	**Toolangi**	**43.09**	**141**	P	**P**	**04 20 31.7**	**+2.0**
	baz=43,SNR=8.7						
YNG	**Young**	**43.12**	**135**	P	**P**	**04 20 31.4**	**+1.4**
	baz=43,SNR=22						
CBIJ	**Chichi jima**	**43.53**	**39**	P	**P**	**04 20 31.1**	**-2.2**
CBIJ	**Chichi jima**	**43.53**	**39**	P	**P**	**04 20 31.1**	**-2.2**
	comp=Z,34nm,0.3s,baz=286,slow=22,SNR=11						
GKN	**Gorkha**	**43.56**	**323**	*e*P	**P**	**04 20 33.8**	**+0.2**
	comp=Z,101nm,0.3s						
ARMA	**Armidale**	**43.64**	**128**	*e*P	**P**	**04 20 36.6**	**+2.4**
	comp=Z,93nm,0.9s						
ARMA				*e*ScP	**ScP**	**04 25 04.8**	**+1.1**
ARMA	**Armidale**	**43.64**	**128**	P	**P**	**04 20 36.5**	**+2.4**
	baz=44,SNR=48						
KOLN	**Koldanda**	**44.03**	**321**	*e*P	**P**	**04 20 37.4**	**+0.1**
	comp=Z,46nm,0.3s						
DANN	**Dangsing**	**44.34**	**322**	*e*P	**P**	**04 20 39.9**	**+0.1**
	comp=Z,147nm,0.6s						
TJN	**Taejon**	**44.42**	**17**	*i* P	**P**	**04 20 40.0**	**+0.1**
MGCD	**Mangrove Creek**	**44.52**	**132**	P	**P**	**04 20 42.8**	**+2.0**
	baz=45,SNR=26						
KSAR	**Wonju Array Be**	**45.57**	**17**	P	**P**	**04 20 49.0**	**+0.3**
KSAR				PcP	**PcP**	**04 22 14.7**	**+0.4**
KSAR				ScP	**ScP**	**04 25 11.2**	**0.0**
KSRS	**Korea Array**	**45.59**	**17**	P	**P**	**04 20 48.9**	**+0.2**
	comp=Z,32nm,0.8s,baz=202,slow=8.0,SNR=80						
KSRS				PcP	**PcP**	**04 22 14.7**	**+0.3**
	comp=Z,6.1nm,0.7s,baz=201,slow=3.4,SNR=8.7						
KSRS				ScP	**ScP**	**04 25 11.2**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=131,slow=5.0,SNR=5.7						
POO	**Poona**	**45.66**	**303**	*e*P	**P**	**04 20 48.0**	**-1.7**
BJT	**Baijiatuau**	**46.04**	**3**	*e*P	**P**	**04 20 52.0**	**-0.1**
	comp=Z,48nm,0.4s						
BJT				*e*PcP	**PcP**	**04 22 16.8**	**+0.8**
BJI	**Beijing**	**46.06**	**3**	P	**P**	**04 20 51.8**	**-0.5**
BJI				sP	sP	04 23 38.0	-6.3
BJI				S	S	04 27 01.5	+6.3
BJI				pmax	pmax		
	comp=Z,65nm,0.5s						
BJI				pmax	pmax		
	comp=Z,120nm,3.5s						
HNR	**Honiara**	**46.70**	**97**	P	**P**	**04 20 57.6**	**0.0**
HNR	**Honiara**	**46.70**	**97**	P	**P**	**04 20 57.6**	**0.0**
	comp=Z,378nm,0.7s,baz=263,slow=1.7,SNR=11						
HHC	**Hu-ho-hao-te**	**46.78**	**359**	*e*P	**P**	**04 20 58.5**	**+0.6**
HHC				pP	**pP**	**04 22 46.8**	**+2.2**
HHC				sP	**sP**	**04 23 52.0**	**+1.7**
HHC				ScP	**ScP**	**04 25 15.5**	**-0.9**
HHC				S	**S**	**04 27 07.3**	**+1.8**
HHC				ScS	**ScS**	**04 29 45.5**	**-2.3**
HHC				SS	**SS**	**04 30 44.5**	**+1.7**
HHC				pmax	pmax		
	comp=Z,64nm,0.5s						
HHC				pmax	pmax		
	comp=Z,320nm,5.0s						
GTA	**Gaotai**	**46.92**	**346**	*e*P	**P**	**04 21 00.0**	**+1.0**
GTA				PcP	**PcP**	**04 22 20.5**	**+1.1**
GTA				pP	**pP**	**04 22 48.5**	**+2.7**
GTA				PP	**PP**	**04 23 03.0**	**+5.2**
GTA				sP	**sP**	**04 23 52.0**	**+0.5**
GTA				ScP	**ScP**	**04 25 17.5**	**+0.4**
GTA				PcS	**PcS**	**04 26 14.0**	**-1.6**
GTA				S	**S**	**04 27 07.8**	**+0.3**
GTA				ScS	**ScS**	**04 29 47.0**	**-1.8**
GTA				sS	**sS**	**04 30 20.8**	**-0.2**
GTA				pmax	pmax		
	comp=Z,18nm,0.8s						
GTA				pmax	pmax		
	comp=Z,100nm,4.8s						
MAJO	**Matsushiro**	**48.64**	**27**	*e*P	**P**	**04 21 10.1**	**-1.6**
MAJO				*e*		04 22 26.1	
MAJO				pmax	pmax		
	comp=Z,37nm,0.8s						
MAJO	**Matsushiro**	**48.64**	**27**	*e*P	**P**	**04 21 10.1**	**-1.6**
	comp=Z,37nm,0.8s						
MAJO				*e*PcP	**PcP**	**04 22 26.1**	**+0.5**
MJAR	**Matsushiro Arr**	**48.64**	**27**	P	**P**	**04 21 10.2**	**-1.5**
MJAR				PcP	**PcP**	**04 22 25.8**	**+0.3**
MJAR				ScP	**ScP**	**04 25 24.4**	**+0.2**
MJAR	**Matsushiro Arr**	**48.64**	**27**	P	**P**	**04 21 10.2**	**-1.5**
	comp=Z,34nm,0.7s,baz=207,slow=8.2,SNR=75						
MJAR				PcP	**PcP**	**04 22 25.8**	**+0.3**
	comp=Z,9.7nm,0.8s,baz=209,slow=5.3,SNR=7.0						
MJAR				ScP	**ScP**	**04 25 24.4**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=213,slow=5.3,SNR=4.2						
CN2	**Changchun**	**51.00**	**12**	⇓P	**P**	**04 21 27.5**	**-1.2**
CN2				PcP	**PcP**	**04 22 34.8**	**+0.7**
CN2				*e*pP	**pP**	**04 23 17.8**	**-0.5**
CN2				ScP	**ScP**	**04 25 34.0**	**-0.2**
CN2				*e*S	S	04 28 13.0	+11
CN2				SS	**SKiKP**	**04 31 53.0**	**+1.4**
CN2				pmax	pmax		
	comp=Z,30nm,0.9s						
CN2				pmax	pmax		
	comp=Z,150nm,7.0s						
MDJ	**Mudanjiang**	**52.72**	**15**	P	**P**	**04 21 40.3**	**-0.7**
MDJ				PcP	**PcP**	**04 22 41.3**	**+0.6**
MDJ				pP	**pP**	**04 23 29.0**	**-2.8**
MDJ				sP	**sP**	**04 24 32.0**	**-4.2**
MDJ				S	**S**	**04 28 21.8**	**-3.5**
MDJ				pmax	pmax		
	comp=Z,41nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,71nm,4.7s						
MDJ	**Mudanjiang**	**52.72**	**15**	*e*P	**P**	**04 21 40.4**	**-0.7**
	comp=Z,31nm,0.9s						
USRK	**Ussuriysk Arra**	**52.99**	**17**	P	**P**	**04 21 42.7**	**-0.3**
	comp=Z,87nm,0.8s,baz=190,slow=4.7,SNR=94						
USRK				pP	**pP**	**04 23 34.0**	**+0.1**
	comp=Z,9.4nm,1.0s,baz=213,slow=6.9,SNR=2.9						
DZM	**Mont Dzumac**	**53.99**	**113**	*e*P	**P**	**04 21 51.7**	**+1.1**
	comp=Z,46nm,0.8s						
ULN	**Ulaanbaatar**	**54.03**	**355**	*e*P	**P**	**04 21 50.6**	**+0.2**
	comp=Z,38nm,0.7s						
ULN	**Ulaanbaatar**	**54.03**	**355**	P	**P**	**04 21 50.2**	**-0.3**
	comp=Z,58nm,0.8s,comp=Z,481nm						
SONM	**Songino Array**	**54.06**	**355**	P	**P**	**04 21 50.8**	**+0.2**
SONM				PcP	**PcP**	**04 22 45.8**	**-0.2**
SONM				pP	**pP**	**04 23 42.5**	**+0.3**
SONM				ScP	**ScP**	**04 25 47.3**	**-0.4**
SONM				S	**S**	**04 28 42.3**	**-0.8**
SONM	**Songino Array**	**54.06**	**355**	P	**P**	**04 21 50.8**	**+0.2**
	comp=Z,44nm,0.6s,baz=175,slow=8.6,SNR=267						
SONM				PcP	**PcP**	**04 22 45.8**	**-0.2**
	comp=Z,9.1nm,0.8s,baz=182,slow=3.6,SNR=6.4						
SONM				pP	**pP**	**04 23 42.5**	**+0.3**
	comp=Z,1.6nm,0.7s,baz=180,slow=7.4,SNR=1.8						
SONM				ScP	**ScP**	**04 25 47.3**	**-0.4**
	comp=Z,2.8nm,0.8s,baz=170,slow=4.4,SNR=3.7						
SONM				S	**S**	**04 28 42.3**	**-0.8**
	comp=Z,0.6nm,0.9s,baz=168,slow=7.4,SNR=2.7						
WMQ	**Urumqi**	**54.71**	**338**	Pn	**P**	**04 21 56.0**	**+0.8**
WMQ	**Urumqi**	**54.71**	**338**	P	**P**	**04 21 55.5**	**+0.3**
WMQ				PcP	**PcP**	**04 22 48.5**	**0.0**
WMQ				pP	**pP**	**04 23 49.0**	**+1.8**
WMQ				pmax	pmax		
	comp=Z,49nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,200nm,5.4s						
ERM	**Erimo**	**55.31**	**27**	*i* P	**P**	**04 21 58.8**	**-0.5**
ERM				pmax	pmax		
	comp=Z,76nm,1.5s						
ASAJ	**Asahikawa**	**56.75**	**25**	P	**P**	**04 22 08.8**	**-0.4**
ASAJ				pP	**pP**	**04

comp=Z,3.5nm,0.8s,baz=143,slow=6.3,SNR=4.1
MKAR S **S** **04 29 49.8 -0.2**
comp=Z,1.6nm,0.8s,baz=160,slow=14,SNR=6.1
MKAR PKPPKP **P'P'df** **04 51 51.4 +4.8**
comp=Z,0.2nm,0.5s,baz=253,slow=1.5,SNR=2.9
HVS Khovu-Aksy 59.41 346 *d iP* **P** **04 22 26.9 -0.1**
HVS pmax pmax
comp=Z,97nm,0.8s
TKM2 Tokmak 2 59.42 329 *e*P **P** **04 22 27.5 +0.1**
TKM2 *e**PP **pP** **04 24 22.9 +0.6**
TKM2 pmax pmax
comp=Z,27nm,0.8s
TKM2 Tokmak 2 59.42 329 P **P** **04 22 27.5 0.0**
SNR=24
TKM2 Tokmak 2 59.42 329 *e*P **P** **04 22 27.5 +0.1**
comp=Z,27nm,0.8s
TKM2 *e*pP **pP** **04 24 22.9 +0.6**
KBK Karagaybulak 59.57 328 *i* P **P** **04 22 29.1 +0.7**
KBK Karagaybulak 59.57 328 P **P** **04 22 29.1 +0.7**
SNR=22
AAK Ala-Archa 59.79 328 *d iP* **P** **04 22 30.2 +0.3**
AAK pmax pmax
comp=Z,51nm,0.8s
AAK Ala-Archa 59.79 328 P **P** **04 22 30.7 +0.9**
SNR=9.3
AAK Ala-Archa 59.79 328 P **P** **04 22 30.5 +0.6**
SNR=18
AAK Ala-Archa 59.79 328 *e*P **P** **04 22 30.0 +0.1**
comp=Z,22nm,0.8s
AAK *e*PcP **PcP** **04 23 09.7 +0.8**
AAK *e*pP **pP** **04 24 26.8 +1.9**
AAK S **S** **04 29 55.8 -0.8**
AAK Ala-Archa 59.79 328 P **P** **04 22 30.3 +0.5**
comp=Z,18nm,0.7s,baz=136,slow=5.6,SNR=43
AAK PcP **PcP** **04 23 09.2 +0.3**
comp=Z,5.6nm,0.7s,baz=170,slow=9.1,SNR=4.8
AAK pP **pP** **04 24 25.9 +1.0**
comp=Z,3.2nm,0.6s,baz=204,slow=11,SNR=2.4
AAK S **S** **04 29 55.8 -0.8**
comp=Z,0.4nm,0.3s,baz=202,slow=21,SNR=5.8
AML Almayashu 59.87 327 *i* P **P** **04 22 31.2 +0.5**
AML Almayashu 59.87 327 P **P** **04 22 31.2 +0.5**
SNR=8.7
CASY Casey 60.05 181 *e*P **P** **04 22 31.5 +0.6**
comp=Z,21nm,0.7s
EKS2 Erkin-Say 60.19 328 *e*P **P** **04 22 32.6 +0.1**
EKS2 *e**PP **pP** **04 24 29.7 +2.0**
EKS2 pmax pmax
comp=Z,37nm,0.9s
EKS2 Erkin-Say 60.19 328 P **P** **04 22 33.1 +0.6**
SNR=22
EKS2 Erkin-Say 60.19 328 *e*P **P** **04 22 32.6 +0.1**
comp=Z,37nm,0.9s
EKS2 *e*pP **pP** **04 24 29.7 +2.0**
USP Ospenovka 60.23 328 *i* P **P** **04 22 32.6 0.0**
USP Ospenovka 60.23 328 P **P** **04 22 32.6 0.0**
SNR=5.7
KK31 Karatay Array 62.27 326 *e*P **P** **04 22 45.0 -0.8**
KK31 pmax pmax
comp=Z,4.0nm,0.4s
KKAR Karatay Array 62.27 326 *e*P **P** **04 22 45.3 -0.6**
KKAR pmax pmax
comp=Z,6.0nm,0.5s
KKAR Karatay Array 62.27 326 *e*P **P** **04 22 45.3 -0.6**
comp=Z,5.9nm,0.5s
KKAR *e*ScP **ScP** **04 26 25.1 +1.1**
RPZ Rata Peaks 63.02 136 P **P** **04 22 51.0 +0.3**
RPZ PcP **PcP** **04 23 21.8 -0.1**
RPZ Rata Peaks 63.02 136 P **P** **04 22 51.0 +0.3**
comp=Z,60nm,0.9s,baz=44,slow=0.6,SNR=16
RPZ PcP **PcP** **04 23 21.8 -0.1**
comp=Z,5.4nm,0.5s,baz=340,slow=15,SNR=2.4
CLNS Chul'man 63.53 7 *e*P **P** **04 22 53.8 +0.1**
CLNS pmax pmax
comp=Z,26nm,0.8s
CLNS pmax pmax
comp=E,12nm,1.0s
CLNS pmax pmax
comp=N,20nm,1.0s
KURBB Kurchatov Arra 63.85 336 P **P** **04 22 55.5 -0.3**
comp=N,8.1nm,0.5s,baz=152,slow=5.3,SNR=87
KURBB PcP **PcP** **04 23 24.9 -0.2**
comp=N,8.4nm,0.7s,baz=147,slow=3.9,SNR=13
KURBB pP **pP** **04 24 52.5 -0.6**
comp=N,3.3nm,0.8s,baz=146,slow=5.9,SNR=4.0
KURBB ScP 04 26 30.8
comp=N,2.4nm,0.8s,baz=144,slow=3.9,SNR=4.5
KURBB S **S** **04 30 44.3 -1.3**
comp=N,0.1nm,0.2s,baz=143,slow=12,SNR=3.8
KURBB PKPPKP **P'P'df** **04 51 42.1 +2.9**
comp=N,0.7nm,0.9s,baz=319,slow=3.4,SNR=3.6
KURK Kurchatov 63.89 336 *d iP* **P** **04 22 55.7 -0.3**
KURK pmax pmax
comp=Z,15nm,1.1s
KURK Kurchatov 63.89 336 P **P** **04 22 56.1 +0.2**
SNR=6.2
KURK Kurchatov 63.89 336 *e*P **P** **04 22 55.5 -0.5**
comp=Z,13nm,0.8s
KURK *e*PcP **PcP** **04 23 25.0 -0.2**
KURK *e*pP **pP** **04 24 53.8 +0.5**
KURK ScP 04 26 30.8
KURK S **S** **04 30 44.3 -1.7**
KURK P'P' 04 51 42.0
ZAA0 Zalesovo Array 64.36 342 *e*P **P** **04 22 58.2 -0.7**
ZAA0 *e*pP **pP** **04 24 57.6 +1.1**
ZALV Zalesovo Beam 64.36 342 P **P** **04 22 58.2 -0.7**
ZALV 04 23 27.3
ZALV *PP **pP** **04 24 56.2 -0.4**
ZALV S **S** **04 30 48.8 -2.8**
ZALV Zalesovo Beam 64.36 342 P **P** **04 22 58.2 -0.7**
ZALV PcP **PcP** **04 23 27.2 +0.1**
ZALV pP **pP** **04 24 56.1 -0.4**
ZALV ScP 04 26 31.4
ZALV S **S** **04 30 48.8 -2.8**
ZALV Zalesovo Beam 64.36 342 P **P** **04 22 58.2 -0.7**
comp=Z,17nm,0.3s,baz=144,slow=4.3,SNR=81
ZALV PcP **PcP** **04 23 27.2 +0.1**
comp=Z,5.3nm,0.6s,baz=157,slow=4.0,SNR=4.2
ZALV pP **pP** **04 24 56.2 -0.4**
comp=Z,16nm,0.8s,baz=143,slow=3.8,SNR=9.6
ZALV ScP 04 26 31.5
comp=Z,1.2nm,0.4s,baz=132,slow=5.7,SNR=2.2
ZALV S **S** **04 30 48.8 -2.8**
comp=Z,1.7nm,0.7s,baz=148,slow=8.5,SNR=5.3
MSVF Nonsavu 64.50 107 *e*P **P** **04 23 01.8 +1.1**
MSVF pmax pmax
comp=Z,15nm,0.5s
MSVF Nonsavu 64.50 107 *e*P **P** **04 23 01.8 +1.1**
comp=Z,15nm,0.5s
SNZO South Karori 64.92 133 *e*P **P** **04 23 02.4 -0.3**
comp=Z,39nm,0.8s
IMYA Miami 65.00 315 *e*P **P** **04 23 01.8 -1.8**
ABPO Ambohimpanom 65.04 252 *e*P **P** **04 23 04.4 +0.2**
ABPO Ambohimpanom 65.04 252 *e*P **P** **04 23 04.4 +0.2**
OPO Ambohidratompo 65.07 252 P **P** **04 23 05.0 +0.7**
OPO Ambohidratompo 65.07 252 P **P** **04 23 05.0 +0.7**
comp=Z,22nm,0.8s,baz=68,slow=3.6,SNR=17
IMOG Moghan 65.43 314 *e*P **P** **04 23 05.8 -0.6**
NVS Novosibirsk 65.61 342 *e*P P 04 23 02.9 -3.8
NVS *e*S S 04 30 59.8 -6.6
NVS pmax pmax
comp=Z,20nm,1.4s
NVS pmax pmax
comp=N,13nm,1.5s
NVS smax smax
comp=E,46nm,2.1s
URZ Urewera 66.03 129 P **P** **04 23 08.9 -0.8**
URZ Urewera 66.03 129 P **P** **04 23 08.9 -0.8**
comp=E,43nm,0.6s,baz=220,slow=2.6,SNR=29
IAKL Akhelmad 66.08 314 *e*P **P** **04 23 10.3 -0.1**
IKRD Kardeh 66.33 315 *e*P P 04 23 07.4 -4.5
IEMG Emamgholi 66.54 315 *e*P **P** **04 23 13.7 +0.5**
ISFR Sfrayin 66.83 315 *e*P **P** **04 23 14.4 -0.6**
VOSK Vostochnaya 68.56 334 P **P** **04 23 24.2 -0.7**
VOSK pmax pmax
comp=Z,2.0nm,0.5s
BVA0 Borovoye Array 69.03 334 P **P** **04 23 27.0 -0.7**
BVA0 pmax pmax
comp=Z,19nm,0.8s
BVAR Borovoye Array 69.03 334 P **P** **04 23 27.5 -0.2**
BVAR *PP **pP** **04 25 27.8 +0.1**
BVAR Borovoye Array 69.03 334 P **P** **04 23 27.5 -0.2**
BVAR pP **pP** **04 25 27.8 +0.1**
BVAR Borovoye Array 69.03 334 P **P** **04 23 27.5 -0.2**
comp=Z,11nm,0.6s,baz=144,slow=8.3,SNR=40
BVAR pP **pP** **04 25 27.8 +0.1**
comp=Z,4.3nm,0.8s,baz=142,slow=7.5,SNR=5.8
BRVK Borovoye 69.10 334 *d iP* **P** **04 23 27.7 -0.4**
BRVK pmax pmax
comp=Z,24nm,1.0s
BRVK Borovoye 69.10 334 P **P** **04 23 28.2 +0.2**
SNR=5.8
BRVK Borovoye 69.10 334 *e*P **P** **04 23 27.8 -0.2**
comp=Z,24nm,1.1s
YAK Yakutsk 69.21 8 *d iP* **P** **04 23 27.9 -0.6**
YAK *e* 04 23 45.1
YAK *e* 04 26 14.4
YAK *e*S **S** **04 31 45.0 -2.9**
YAK *e* 04 32 25.4
YAK pmax pmax
comp=Z,149nm,0.9s
YAK pmax pmax
comp=E,21nm,1.3s
YAK pmax pmax
comp=N,46nm,1.0s
YAK pmax pmax
comp=Z,7.0nm,0.4s
YAK smax smax
comp=N,120nm,1.4s
YAK smax smax
comp=E,137nm,1.5s
MAW Mawson 69.94 198 *e*P **P** **04 23 33.9 +1.1**
comp=E,7.1nm,0.6s
MAW Mawson 69.94 198 P **P** **04 23 33.9 +1.1**
comp=E,34nm,0.6s,baz=58,slow=6.0,SNR=176
MAW Mawson 69.94 198 P **P** **04 23 33.9 +1.1**
baz=70,SNR=135
PEA0B Petropavlovsk- 70.09 27 *e*P **P** **04 23 33.8 -0.2**
PETK Petropavlovsk- 70.09 27 P **P** **04 23 34.0 0.0**
PETK *PP **pP** **04 25 34.7 +0.2**
PETK Petropavlovsk- 70.09 27 P **P** **04 23 34.0 0.0**
PETK pP **pP** **04 25 34.7 +0.2**
PETK Petropavlovsk- 70.09 27 P **P** **04 23 34.0 0.0**
comp=E,42nm,0.4s,baz=188,slow=3.7,SNR=133
PETK pP **pP** **04 25 34.7 +0.2**
comp=E,5.2nm,0.7s,baz=226,slow=5.8,SNR=3.5
PET Petropavlovsk 70.47 27 *i* P **P** **04 23 36.2 +0.1**
KBD Kabd 71.76 303 *e*P **P** **04 23 42.7 -1.6**
RDF Al-Radifah 71.81 303 *e*P **P** **04 23 43.7 -0.8**
RDF AMb AMB 04 23 44.3
comp=Z,25nm,0.6s
AB31 Akbulak array 71.82 327 P **P** **04 23 43.2 -0.9**
AB31 pmax pmax
comp=Z,31nm,0.5s
ABKAR Akbulak array 71.82 327 *e*P **P** **04 23 44.1 0.0**
comp=Z,38nm,0.6s
ABKAR *e*pP **pP** **04 25 45.3 -0.2**
NAY Al-Naaiem 72.16 303 *e*P P 04 23 41.9 -4.7
NAY AMb AMB 04 23 45.1
comp=Z,14nm,1.6s
AKTO Aktyubinsk 73.51 327 P **P** **04 23 53.7 -0.1**
AKTO *PP **pP** **04 25 55.7 -0.2**
AKTO Aktyubinsk 73.51 327 P **P** **04 23 53.7 -0.1**
AKTO pP **pP** **04 25 55.7 -0.2**
AKTO Aktyubinsk 73.51 327 P **P** **04 23 53.7 -0.1**
comp=Z,17nm,0.6s,baz=106,slow=5.8,SNR=65
AKTO pP **pP** **04 25 55.7 -0.2**
comp=Z,4.4nm,0.9s,baz=135,slow=4.4,SNR=2.9
AFI Afiamalu 74.33 103 *e*P **P** **04 24 00.6 +1.3**
comp=Z,27nm,0.4s
SEY Seymchan 75.14 18 *d iP* **P** **04 24 03.0 +0.3**
KMBO Kilima Mbogo 75.61 270 *e*P **P** **04 24 07.1 +0.4**
comp=Z,3.1nm,0.9s
KMBO *e*pP **pP** **04 26 08.2 -1.6**
KMBO Kilima Mbogo 75.61 270 P **P** **04 24 06.9 +0.2**
comp=Z,2.0nm,0.5s,baz=51,slow=11,SNR=8.8
KMBO pP **pP** **04 26 08.4 -1.3**
comp=Z,2.9nm,0.9s,baz=45,slow=10,SNR=4.6
VNDA Vanda 75.76 170 *e*P **P** **04 24 06.7 +0.7**
comp=Z,2.5nm,0.6s
VNDA Vanda 75.76 170 P **P** **04 24 06.3 +0.4**
comp=Z,2.9nm,0.5s,baz=318,slow=6.7,SNR=23
SVE Sverdlovsk 75.78 333 *c iP* **P** **04 24 06.2 -0.2**
SVE pmax pmax
comp=Z,68nm,1.0s
SBA Scott Base 76.81 170 *e*P **P** **04 24 13.0 +1.3**
SBA pmax pmax
comp=Z,3.0nm,0.8s
SBA Scott Base 76.81 170 *e*P **P** **04 24 13.0 +1.3**
comp=Z,2.5nm,0.8s
SYO Syowa Base 78.34 201 ‖ *e*P **P** **04 24 19.0 -1.0**
SYO Syowa Base 78.34 201 ‖ *e*PcP **PcP** **04 24 26.6 -0.1**
TIXI Tiksi 78.35 5 *d iP* **P** **04 24 19.0 -1.0**
TIXI pmax pmax
comp=Z,102nm,0.9s
SOKR Solikamsk 79.03 335 *c iP* **P** **04 24 23.4 -0.3**
SOKR pmax pmax
comp=Z,20nm,0.9s
KBZ Khabaz 80.03 316 P **P** **04 24 29.9 +0.5**
KBZ *PP **pP** **04 26 34.1 -0.3**
KBZ Khabaz 80.03 316 P **P** **04 24 29.9 +0.5**
KBZ pP **pP** **04 26 34.1 -0.3**
KBZ Khabaz 80.03 316 P **P** **04 24 29.9 +0.5**
comp=Z,12nm,0.9s,baz=110,slow=6.7,SNR=14
KBZ pP **pP** **04 26 34.1 -0.3**
comp=Z,5.3nm,0.9s,baz=154,slow=9.5,SNR=4.2
KIV Kislovodsk 80.25 316 *e*P **P** **04 24 31.3 +0.6**
KIV pmax pmax
comp=Z,10.0nm,1.0s
EIL Elat 82.64 301 P **P** **04 24 42.1 -0.9**
EIL pP **pP** **04 26 48.4 -0.8**
EIL Elat 82.64 301 P **P** **04 24 42.1 -0.9**
comp=Z,9.1nm,0.8s,baz=354,slow=1.9,SNR=7.4
EIL pP **pP** **04 26 48.3 -0.8**
comp=Z,12nm,0.9s,baz=79,slow=4.4,SNR=6.5
EIL Elat 82.64 301 P **P** **04 24 43.7 +0.6**
baz=83,SNR=4.8
VRHR Novokhopersk 83.19 323 *e*P **P** **04 24 44.5 -0.8**
VRHR pmax pmax
comp=Z,50nm,0.7s
VRHR pmax pmax
comp=N,8.0nm,0.6s
VRHR pmax pmax
comp=E,20nm,0.9s
LSZ Lusaka 83.33 255 *e*P **P** **04 24 47.5 +0.6**
comp=E,9.3nm,0.6s
LSZ *e*pP **pP** **04 26 52.0 -1.3**
QSPA South Pole Qui 83.83 180 P **P** **04 24 49.1 +0.7**
QSPA *e*pP **pP** **04 26 56.1 +1.1**
QSPA pP **pwP** **04 26 56.3 +1.3**
QSPA South Pole Qui 83.83 180 P **P** **04 24 49.1 +0.7**
comp=E,5.7nm,0.5s,baz=292,slow=0.8,SNR=100
QSPA pP **pwP** **04 26 56.3 +1.3**
comp=E,6.2nm,1.0s,baz=342,slow=3.3,SNR=5.4
ANN Anapa 84.10 316 *e*P **P** **04 24 49.1 -0.8**
ANN pmax pmax
comp=Z,31nm,1.0s
VORD Divnogorie 84.55 322 *e*P **P** **04 24 51.3 -0.7**
VORD pmax pmax
comp=Z,10.0nm,0.4s
VORD pmax pmax
comp=N,20nm,1.0s
VORD pmax pmax
comp=E,40nm,1.0s
VSR Storozhevoye 84.70 323 *e*P **P** **04 24 52.2 -0.6**
VSR pmax pmax
comp=Z,140nm,1.0s
VSR pmax pmax
comp=N,5.0nm,0.4s
VSR pmax pmax
comp=E,20nm,0.5s
LBTB Lobatse 85.00 245 *e*P **P** **04 24 55.7 +0.7**
comp=E,7.8nm,0.8s
BOSA Boshof 85.03 242 *e*P **P** **04 24 55.0 -0.1**
comp=E,8.4nm,0.6s
BOSA *e*pP **pP** **04 27 02.1 0.0**
BOSA PKKPbc **PKKPbc** **04 42 58.4 -0.1**
BOSA Boshof 85.03 242 P **P** **04 24 55.7 +0.6**
comp=E,8.0nm,0.6s,baz=94,slow=3.2,SNR=27
BOSA pP **pP** **04 27 02.0 -0.2**
comp=E,5.4nm,0.9s,baz=90,slow=11,SNR=2.8
BOSA PKKPbc **PKKPbc** **04 42 58.4 -0.1**
comp=E,2.8nm,0.8s,baz=211,slow=16,SNR=3.9
BR131 Keskin Array S 85.69 311 *e*P **P** **04 24 57.8 -0.3**
comp=E,15nm,0.8s
BR131 *e*pP **pP** **04 27 04.6 -0.8**
BRTR Keskin Array B 85.69 311 P **P** **04 24 57.8 -0.3**
BRTR pP **pP** **04 27 04.8 -0.6**
BRTR Keskin Array B 85.69 311 P **P** **04 24 57.8 -0.3**
comp=E,17nm,0.8s,baz=130,slow=5.9,SNR=66
BRTR pP **pP** **04 27 04.8 -0.6**
comp=E,5.6nm,1.0s,baz=134,slow=6.5,SNR=8.4
OBN Obninsk 87.26 326 ⇑ *i P* **P** **04 25 04.8 0.0**
OBN *e**PP **pP** **04 27 11.7 -1.1**
OBN *e* 04 28 37.1
OBN *e*S S 04 34 44.5 -11
OBN *e*SS **SS** **04 41 04.4 +5.9**
OBN pmax pmax
comp=Z,66nm,2.2s
KLMR Klimovskoe 87.34 332 *e*P P 04 25 01.6 -3.5
KLMR *e**PP pP 04 27 11.4 -1.7
KLMR pmax pmax
comp=Z,27nm,1.1s
SUR Sutherland 88.51 238 *e*P **P** **04 25 12.6 +1.0**
comp=Z,101nm,1.8s
TMCR Tamitsa 88.97 335 *e*P **P** **04 25 11.3 -1.2**
TMCR pmax pmax
comp=Z,27nm,0.9s
AKASG Malin Array Be 90.72 321 P **P** **04 25 19.9 -1.1**
AKASG *PP **pP** **04 27 27.6 -2.3**
AKASG Malin Array Be 90.72 321 P **P** **04 25 19.9 -1.1**
AKASG pP **pP** **04 27 27.6 -2.3**
AKASG PKKP **PKKPdf** **04 42 42.2 +1.0**
AKASG Malin Array Be 90.72 321 P **P** **04 25 19.9 -1.1**
comp=Z,3.9nm,0.6s,baz=82,slow=4.7,SNR=27
AKASG pP **pP** **04 27 27.6 -2.3**
comp=Z,3.9nm,0.8s,baz=84,slow=4.8,SNR=6.7
AKASG PKKP **PKKPdf** **04 42 42.2 +1.0**
comp=Z,0.9nm,0.4s,baz=287,slow=3.1,SNR=5.3
JOF Joensuu 91.61 333 *e*P **P** **04 25 22.2 -2.6**
JOF pmax pmax
comp=Z,4.0nm,0.6s
SNAA Sanae 92.04 197 *e*P **P** **04 25 27.6 +0.8**
comp=Z,3.2nm,0.8s
SNAA *e*pP **pP** **04 27 39.0 +3.2**
SNAA Sanae 92.04 197 P **P** **04 25 27.9 +1.0**
comp=Z,1.0nm,0.6s,baz=157,slow=4.5,SNR=41
MLR Muntele Rosu 92.21 315 P **P** **04 25 27.7 -0.5**
MLR Muntele Rosu 92.21 315 P **P** **04 25 27.7 -0.5**
comp=Z,0.7nm,0.7s,baz=146,slow=7.1,SNR=4.0
BUR08 Bucovina Ar. S 92.95 317 *e*P **P** **04 25 31.6 +0.2**
KAF Kangasniemi 93.80 332 *e*P **P** **04 25 33.2 -1.6**
KAF pmax pmax
comp=Z,9.0nm,0.6s
FINES FINESS Array B 93.84 331 P **P** **04 25 34.4 -0.6**
FINES PKiKP **PKiKP** **04 30 15.3 -0.4**
FINES PKKPbc **PKKPdf** **04 42 34.9 -1.0**
FINES FINESS Array B 93.84 331 P **P** **04 25 34.4 -0.6**
comp=Z,10nm,0.7s,baz=115,slow=6.2,SNR=24
FINES PKiKP **PKiKP** **04 30 15.3 -0.4**
comp=Z,1.6nm,0.4s,baz=99,slow=3.0,SNR=8.6
FINES PKKPbc **PKKPdf** **04 42 34.9 -1.0**
comp=Z,5.9nm,1.0s,baz=318,slow=1.9,SNR=6.2
ARCES ARCESS Array B 94.81 339 P **P** **04 25 37.8 -1.5**
ARCES PKiKP **PKiKP** **04 30 16.9 -0.3**
ARCES PKKPbc **PKKPdf** **04 42 32.0 -2.3**
ARCES ARCESS Array B 94.81 339 P **P** **04 25 37.8 -1.5**
comp=Z,2.2nm,0.5s,baz=86,slow=6.4,SNR=19
ARCES PKiKP **PKiKP** **04 30 16.9 -0.3**
comp=Z,2.6nm,0.8s,baz=68,slow=0.5,SNR=6.1
ARCES PKKPbc **PKKPdf** **04 42 32.0 -2.3**
comp=Z,4.5nm,1.0s,baz=270,slow=4.4,SNR=5.3
KOLS Kolonicke sedl 95.00 319 *e*P **P** **04 25 40.9 +0.2**
KOLS *e* 04 27 49.1
KOLS Kolonicke sedl 95.00 319 *e*P **P** **04 25 40.9 +0.2**
KOLS *e*pP **pP** **04 27 49.1 -0.9**
CRVS Cervenica-Dubn 95.54 318 *e*P **P** **04 25 43.2 +0.1**
CRVS *e* 04 27 52.0
CRVS Cervenica-Dubn 95.54 318 *e*P **P** **04 25 43.2 +0.1**
CRVS *e*pP **pP** **04 27 52.0 -0.4**
STHS Stebnicka Huta 95.71 319 *e*P **P** **04 25 44.4 +0.6**
STHS *e* 04 27 52.6
STHS Stebnicka Huta 95.71 319 *e*P **P** **04 25 44.4 +0.6**
STHS *e*pP **pP** **04 27 52.6 -0.6**
KECS Kecovo 96.16 318 *e*pP pP 04 27 54.2 -1.1
SPITS Spitsbergen Ar 97.32 348 P Pdif 04 25 49.7 -0.8
SPITS Spitsbergen Ar 97.32 348 P Pdif 04 25 49.7 -0.8
comp=Z,14nm,0.6s,baz=109,slow=7.3,SNR=19
ILAR Eielson Array 99.89 25 P **Pdif** **04 26 00.8 -1.3**
ILAR PKiKP **PKiKP** **04 30 25.1 -1.2**
ILAR PKKPbc **PKKPbc** **04 42 18.5 -3.3**
ILAR SKKPbc SKKPbc 04 45 03.5 -3.7
ILAR Eielson Array 99.89 25 P **Pdif** **04 26 00.8 -1.3**
comp=Z,0.5nm,0.6s,baz=258,slow=3.9,SNR=8.6
ILAR PKiKP **PKiKP** **04 30 25.1 -1.2**
comp=Z,0.3nm,0.5s,baz=273,slow=3.4,SNR=4.0
ILAR PKKPbc **PKKPbc** **04 42 18.5 -3.3**
comp=Z,0.8nm,0.4s,baz=124,slow=2.7,SNR=14
ILAR SKKPbc SKKPbc 04 45 03.5 -3.7
comp=Z,0.6nm,0.8s,baz=112,slow=1.6,SNR=6.7
HFS Hagfors 99.89 330 P **Pdif** **04 26 02.0 -0.2**
HFS Hagfors 99.89 330 P **Pdif** **04 26 02.0 -0.2**
comp=Z,5.1nm,0.8s,baz=37,slow=14,SNR=4.8
GERES GERESS Array B 100.66 318 PKKPbc PKKPbc 04 42 17.7 -1.6
GERES GERESS Array B 100.66 318 PKKPbc PKKPbc 04 42 17.7 -1.6
comp=Z,0.3nm,0.5s,baz=228,slow=2.4,SNR=3.6
KHC Kasperske Hory 100.72 319 *i P* **Pdif** **04 26 06.9 +0.7**
KHC Kasperske Hory 100.72 319 *e*PDIFF **Pdif** **04 26 06.9 +0.7**
NOA NORSAR Array B 101.01 331 P **Pdif** **04 26 05.1 -2.1**
NOA NORSAR Array B 101.01 331 P **Pdif** **04 26 05.1 -2.1**
comp=Z,1.8nm,0.9s,baz=85,slow=4.9,SNR=2.6
KEST Kesra 104.57 305 PKiKP **PKiKP** **04 30 33.4 -2.4**
KEST Kesra 104.57 305 PKiKP **PKiKP** **04 30 33.4 -2.4**
comp=Z,1.0nm,1.1s,baz=297,slow=3.8,SNR=4.0
EKA Eskdalemuir Ar 109.69 327 PKiKP **PKiKP** **04 30 45.1 +0.5**
EKA PKKPbc **PKKPbc** **04 41 50.6 -1.6**
EKA Eskdalemuir Ar 109.69 327 PKiKP **PKiKP** **04 30 45.1 +0.5**
comp=Z,0.3nm,0.3s,baz=32,slow=2.7,SNR=6.1
EKA PKKPbc **PKKPbc** **04 41 50.6 -1.6**
comp=Z,0.5nm,0.6s,baz=255,slow=2.8,SNR=7.0
TORD Torodi Ar. Bea 111.99 282 PKiKP **PKiKP** **04 30 49.7 -0.5**
TORD SKP 04 33 28.9
TORD PKKPbc **PKKPbc** **04 41 42.9 -0.9**
TORD PKKPab **PKKPab** **04 41 54.6 -0.2**
TORD SKKPbc SKKPbc 04 44 30.2 -1.3
TORD Torodi Ar. Bea 111.99 282 PKiKP **PKiKP** **04 30 49.7 -0.5**
comp=Z,4.2nm,0.5s,baz=54,slow=1.7,SNR=72
TORD SKP 04 33 28.9
comp=Z,2.1nm,0.5s,baz=73,slow=1.6,SNR=14
TORD PKKPbc **PKKPbc** **04 41 42.9 -0.9**
comp=Z,0.5nm,0.3s,baz=294,slow=4.2,SNR=13
TORD PKKPab **PKKPab** **04 41 54.6 -0.2**
comp=Z,0.5nm,0.5s,baz=294,slow=4.2,SNR=6.4
TORD SKKPbc SKKPbc 04 44 30.2 -1.3
comp=Z,0.4nm,0.6s,baz=305,slow=4.0,SNR=5.9
YKA Yellowknife Ar 113.96 22 PKiKP **PKiKP** **04 30 52.0 -0.5**
YKA SKP 04 33 31.0
YKA Yellowknife Ar 113.96 22 PKiKP **PKiKP** **04 30 52.0 -0.5**
comp=Z,2.5nm,0.4s,baz=344,slow=0.6,SNR=39
YKA SKP 04 33 31.0
comp=Z,1.3nm,0.7s,baz=297,slow=2.0,SNR=3.5
ESDC Sonseca Array 114.49 311 PKP PKPdf 04 30 54.6 +0.2
ESDC Sonseca Array 114.49 311 PKP PKPdf 04 30 54.6 +0.2
comp=Z,0.9nm,0.5s,baz=31,slow=2.7,SNR=6.4
PGAV Gavieira, Arco 117.05 314 PKP **PKPdf** **04 30 59.6 +0.3**
PMRV Marv??o 117.12 311 PKP **PKPdf** **04 30 59.4 0.0**
PBAR Barrancos 117.17 310 PKP **PKPdf** **04 30 59.9 +0.4**
PESTR Estremoz 117.41 311 PKP **PKPdf** **04 31 01.2 +1.2**
PVAQ Vaqueiros 117.89 309 PKP **PKPdf** **04 31 01.9 +1.0**
KIC Kosan Boka 118.05 274 *e*PKIKP **PKPdf** **04 31 01.4 -0.5**
comp=Z,109nm,1.5s
TDL Tradedollar La 118.07 40 P **PKPdf** **04 31 02.1 +0.9**
DBIC Dimbokro 118.19 274 PKP **PKPdf** **04 31 01.8 -0.4**
DBIC *e*PKPdf **PKiKP** **04 31 01.9 -0.3**
DBIC pPKP **pPKPdf** **04 33 17.7 -2.1**
DBIC SKP 04 33 41.1
DBIC Dimbokro 118.19 274 PKP **PKPdf** **04 31 01.8 -0.4**
comp=Z,6.6nm,0.5s,baz=108,slow=1.0,SNR=28
DBIC pPKP **pPKPdf** **04 33 17.7 -2.1**
comp=Z,5.3nm,0.7s,baz=158,slow=2.9,SNR=4.6
DBIC SKP 04 33 41.1
comp=Z,3.7nm,0.7s,baz=0.5,slow=8.4,SNR=4.0
SFJD Kangerlussuaq 118.20 353 PKP **PKPdf** **04 30 60.0 -0.6**
SFJD Kangerlussuaq 118.20 353 PKP **PKPdf** **04 30 60.0 -0.6**
comp=Z,6.5nm,0.9s,baz=172,slow=8.9,SNR=2.9
PNCL Nicolau / Gran 118.32 310 PKP **PKPdf** **04 31 02.3 +0.6**
LIC Lamto 118.33 274 *e*PKIKP **PKPdf** **04 31 01.9 -0.5**
comp=Z,28nm,0.4s
TIC Toumodi 118.35 274 *e*PKIKP **PKPdf** **04 31 01.9 -0.6**
comp=Z,11nm,0.4s
WPW White Pass 118.36 40 P **PKPdf** **04 31 02.5 +0.7**
TWW Teanaway 118.62 39 P **PKPdf** **04 31 03.2 +1.1**
PFVI Vila Bisbo 118.81 309 PKP **PKPdf** **04 31 03.1 +0.4**
HUMO Hull Mountain 118.93 44 *e*PKPdf **PKPdf** **04 31 04.0 +1.2**
VFP Flag Point 118.95 41 P **PKPdf** **04 31 03.8 +0.8**

BKCOR Black Crater 119.19 42 P PKPdf 04 31 04.2 +0.9
EDM Edmonton 119.90 30 *e*PKIKP PKPdf 04 31 04.6 +0.2
EDM Edmonton 119.90 30 *e*PKPdf PKPdf 04 31 04.6 +0.2
WDC Whiskeytown Da 119.90 46 *e*PKIKP PKPdf 04 31 05.1 +0.4
WDC Whiskeytown Da 119.90 46 *e*PKPdf PKPdf 04 31 05.1 +0.4
NEW Newport 120.40 36 *e*PKPdf PKPdf 04 31 05.5 0.0
NEW Newport 120.40 36 ⇑PKiKP PKiKP 04 31 06.0 +0.4
baz=120
LBCM Butte Creek Ri 120.67 46 P PKPdf 04 31 07.0 +0.6
MOD Modoc 121.02 44 *e*PKPdf PKPdf 04 31 07.9 +0.9
BEKR Beckworth 121.72 46 *e*PKPdf PKPdf 04 31 08.7 +0.2
BMO Blue Mountains 121.83 40 *e*PKIKP PKPdf 04 31 08.4 0.0
BMO Blue Mountains 121.83 40 *e*PKPdf PKPdf 04 31 08.4 0.0
WALA Waterton Lakes 121.85 34 *e*PKPdf PKPdf 04 31 08.7 +0.3
WVOR Wild Horse Val 121.96 43 *e*PKIKP PKPdf 04 31 09.6 +0.8
WVOR Wild Horse Val 121.96 43 *e*PKPdf PKPdf 04 31 09.6 +0.8
CMB Columbia Colle 122.32 49 *e*PKIKP PKPdf 04 31 09.7 +0.2
CMB *e* 04 32 52.2
CMB Columbia Colle 122.32 49 *e*PKPdf PKPdf 04 31 09.7 +0.2
CMB *e*PP PP 04 32 52.2 -3.4
WAKR Walker 122.86 48 *e*PKPdf PKPdf 04 31 11.7 +1.0
MSO Missoula 122.98 37 ⇓PKiKP PKiKP 04 31 11.3 +0.5
baz=123
SLMT Seeley Lake 123.03 36 *e*PKPdf PKPdf 04 31 10.5 -0.3
CHMT Chamberlain Mo 123.34 36 *e*PKPdf PKPdf 04 31 11.6 +0.1
MFID Camas Ranch 123.42 41 ⇑PKiKP PKiKP 04 31 12.7 +0.8
baz=123
SMMC Simmler 123.48 51 ⇑PKiKP PKiKP 04 31 12.7 +0.6
baz=123
NVAR Mina Array Bea 123.72 47 PKP PKPdf 04 31 13.8 +1.4
NVAR PP PP 04 33 06.1 +1.1
NVAR SKP 04 33 52.7
NVAR Mina Array Bea 123.72 47 PKP PKPdf 04 31 13.8 +1.4
comp=Z,6.7nm,0.7s,baz=256,slow=2.3,SNR=56
NVAR PP PP 04 33 06.1 +1.1
comp=Z,2.3nm,0.9s,baz=277,slow=7.0,SNR=4.0
NVAR SKP 04 33 52.7
comp=Z,1.6nm,0.7s,baz=264,slow=1.8,SNR=4.5
RCTC Rector, Farmer 123.75 50 ⇑PKiKP PKiKP 04 31 13.0 +0.4
baz=124
PKM Peak Mountain 123.75 52 ⇓PKiKP PKiKP 04 31 13.5 +0.7
baz=124
NV11 Mina Array Sit 123.83 47 *e*PKPdf PKPdf 04 31 13.7 +1.2
SBC Santa Barbara 123.97 52 ⇓PKiKP PKiKP 04 31 13.9 +0.9
baz=124
VES Vestal, Richgr 124.03 51 ⇓PKiKP PKiKP 04 31 13.4 +0.3
baz=124
TIN Tinemaha 124.27 49 ⇓PKiKP PKiKP 04 31 14.2 +0.5
baz=124
HLID Hailey 124.27 40 *e*PKPdf PKPdf 04 31 14.5 +1.3
HLID Hailey 124.27 40 ⇓PKiKP PKiKP 04 31 14.3 +0.7
baz=124
HRY Holter Researc 124.28 36 *e*PKPdf PKPdf 04 31 13.7 +0.6
ARVC Arvin 124.45 51 ⇓PKiKP PKiKP 04 31 14.6 +0.6
baz=124
DLMT Dillon 124.53 38 *e*PKPdf PKPdf 04 31 14.7 +1.0
ISA Isabella 124.55 51 ⇓PKiKP PKiKP 04 31 14.5 +0.2
baz=124
CWC Cottonwood Cre 124.59 50 ⇑PKiKP PKiKP 04 31 14.7 +0.3
baz=124
MCMT McKenzie Canyo 124.64 38 *e*PKPdf PKPdf 04 31 15.0 +0.9
EGMT Eagleton 124.73 34 *e*PKPdf PKPdf 04 31 14.8 +0.9
EGMT Eagleton 124.73 34 ⇓PKiKP PKiKP 04 31 14.6 +0.4
baz=125
A19A Klindworth Far 124.75 32 ⇓PKiKP PKiKP 04 31 14.3 0.0
baz=125
B19A Brinkman Farms 124.92 33 ⇓PKiKP PKiKP 04 31 14.7 +0.2
baz=125
GRAC Grapevine Rang 124.93 49 ⇑PKiKP PKiKP 04 31 15.6 +0.6
baz=125
BOZ Bozeman (W) 124.96 37 *e*PKIKP PKPdf 04 31 15.1 +0.6
BOZ *e* 04 33 10.9
BOZ Bozeman (W) 124.96 37 *e*PKPdf PKPdf 04 31 15.1 +0.6
BOZ *e*PP PP 04 33 10.9 -1.8
ELK Elko 124.98 44 *e*PKPdf PKPdf 04 31 15.8 +1.0
MPMC Manual Prospec 125.17 50 ⇓PKiKP PKiKP 04 31 16.0 +0.4
baz=125
EDW2 Edwards Air Fo 125.18 51 ⇓PKiKP PKiKP 04 31 16.2 +0.7
baz=125
A20A Cobblestone Ra 125.21 32 ⇑PKiKP PKiKP 04 31 15.5 +0.4
baz=125
LRMC Laurel Mountai 125.22 51 ⇑PKiKP PKiKP 04 31 16.1 +0.5
baz=125
C19A Slack Wire Ran 125.29 34 ⇑PKiKP PKiKP 04 31 15.4 +0.1
baz=125
CIS Catalina Islan 125.33 53 ⇓PKiKP PKiKP 04 31 16.1 +0.3
baz=125
FURC Furnace Creek, 125.50 49 ⇓PKiKP PKiKP 04 31 16.8 +0.8
baz=125
BFSC Mount Baldy Ra 125.65 52 ⇑PKiKP PKiKP 04 31 16.6 0.0
baz=126
A21A Bergtoll Ranch 125.67 31 ⇓PKiKP PKiKP 04 31 16.0 0.0
baz=126
D19A Cripps Ranch, 125.71 34 ⇑PKiKP PKiKP 04 31 16.2 0.0
baz=126
R11A Troy Canyon, C 125.72 46 *e*PKPdf PKPdf 04 31 17.3 +1.1
R11A Troy Canyon, C 125.72 46 ⇑PKiKP PKiKP 04 31 17.1 +0.4
baz=126
C20A Veseth Ranch, 125.87 33 ⇓PKiKP PKiKP 04 31 16.9 +0.4
baz=126
YMR Madison River 125.88 38 *e*PKPdf PKPdf 04 31 18.3 +2.0
GSC Goldstone 125.95 50 *e*PKIKP PKPdf 04 31 18.0 +1.4
GSC Goldstone 125.95 50 *e*PKPdf PKPdf 04 31 18.0 +1.4
GSC Goldstone 125.95 50 ⇓PKiKP PKiKP 04 31 17.8 +0.7
baz=126
B21A Ellsworth Farm 125.97 32 ⇓PKiKP PKiKP 04 31 17.2 +0.6
baz=126
YFT Old Faithful 126.07 38 *e*PKPdf PKPdf 04 31 18.7 +2.0
SHOC Shoshone 126.14 50 ⇑PKiKP PKiKP 04 31 18.3 +0.9
baz=126
D20A Manuel Ranch, 126.17 34 ⇑PKiKP PKiKP 04 31 17.2 +0.1
baz=126
E19A Rath Farm, Rou 126.17 35 ⇓PKiKP PKiKP 04 31 17.2 +0.1
baz=126
HVU Hansel Valley 126.17 42 *e*PKIKP PKPdf 04 31 18.4 +1.5
HVU Hansel Valley 126.17 42 *e*PKPdf PKPdf 04 31 18.4 +1.5
A22A Carney Farms, 126.18 31 ⇓PKiKP PKiKP 04 31 17.9 +0.8
baz=126
MURC Murrieta 126.22 53 ⇓PKiKP PKiKP 04 31 18.1 +0.4
baz=126
BBRC Big Bear Solar 126.22 52 ⇓PKiKP PKiKP 04 31 18.3 +0.4
baz=126
H17A Grant Village 126.26 38 *e*PKPdf PKPdf 04 31 19.4 +2.3
H17A Grant Village 126.26 38 ⇓PKiKP PKiKP 04 31 18.9 +1.3
baz=126
C21A Desert Coulee 126.29 33 ⇑PKiKP PKiKP 04 31 17.6 +0.2
baz=126
IMW Indian Meadow 126.30 38 *e*PKPdf PKPdf 04 31 18.2 +0.9
RRI2 Red Ridge 126.34 39 *e*PKPdf PKPdf 04 31 18.1 +0.7
BGU Big Grassy Mou 126.40 43 *e*PKPdf PKPdf 04 31 18.2 +0.8
F19A Roth Farm, Mol 126.43 35 ⇓PKiKP PKiKP 04 31 18.1 +0.4
baz=126
MOOW Moose Ponds 126.49 38 *e*PKPdf PKPdf 04 31 18.3 +0.7
TPAW Teton Pass 126.50 39 *e*PKPdf PKPdf 04 31 18.3 +0.7
E20A Meyer Farm, Mu 126.52 34 ⇑PKiKP PKiKP 04 31 18.4 +0.5
baz=126
109C Camp Elliot, M 126.52 53 ⇑PKiKP PKiKP 04 31 18.8 +0.6
baz=126
B22A Reddig Ranch S 126.58 31 ⇑PKiKP PKiKP 04 31 18.4 +0.5
baz=126
TUQ Turquoise Moun 126.58 50 ⇑PKiKP PKiKP 04 31 19.2 +0.8
baz=126
REDW Red Top Meadow 126.63 39 *e*PKPdf PKPdf 04 31 18.8 +0.9
SNOW Snow King Moun 126.64 39 *e*PKPdf PKPdf 04 31 19.1 +1.2
LOHW Long Hollow 126.65 39 *e*PKPdf PKPdf 04 31 18.5 +0.6
H18A Shoshone NF, C 126.66 37 ⇓PKiKP PKiKP 04 31 18.8 +0.4
baz=127
A23A Redstone 126.73 30 ⇓PKiKP PKiKP 04 31 18.4 +0.2
baz=127
SHPR Sheep Range 126.76 48 *e*PKPdf PKPdf 04 31 19.9 +1.7
PFO Pinyon Flat Ob 126.81 52 *e*PKPdf PKPdf 04 31 19.9 +1.6
PFO Pinyon Flat Ob 126.81 52 ⇑PKiKP PKiKP 04 31 19.5 +0.6
baz=127
D21A La Casta Ranch 126.81 33 ⇑PKiKP PKiKP 04 31 19.1 +0.6
baz=127
DUG Dugway 126.88 43 *e*PKIKP PKPdf 04 31 19.5 +1.2
DUG Dugway 126.88 43 *e*PKPdf PKPdf 04 31 19.5 +1.2
DUG Dugway 126.88 43 ⇑PKiKP PKiKP 04 31 19.6 +0.7
baz=127
C22A Vida 126.98 32 ⇓PKiKP PKiKP 04 31 19.3 +0.5
baz=127
B23A Brockton 126.99 31 ⇓PKiKP PKiKP 04 31 19.3 +0.6
baz=127
GMRC Granite Mounta 127.02 51 ⇑PKiKP PKiKP 04 31 20.0 +0.7
baz=127
BELC Belle Mtn. Jos 127.03 52 ⇑PKiKP PKiKP 04 31 20.2 +0.8
baz=127
HWUT Hardware Ranch 127.05 41 *e*PKPdf PKPdf 04 31 18.9 +0.2
H19A Powell 127.06 37 ⇑PKiKP PKiKP 04 31 20.1 +1.0
baz=127
MONP Monument Peak 127.07 53 ⇓PKiKP PKiKP 04 31 20.2 +0.6
baz=127
E21A Keefer Ranch, 127.08 34 ⇓PKiKP PKiKP 04 31 20.1 +1.1
baz=127
A24A Westby 127.19 30 ⇑PKiKP PKiKP 04 31 19.4 +0.3
baz=127
D22A Cohagen 127.20 33 ⇑PKiKP PKiKP 04 31 19.8 +0.6
baz=127
G20A Bridger 127.21 36 ⇑PKiKP PKiKP 04 31 19.7 +0.3
baz=127
C23A Lambert 127.31 32 ⇑PKiKP PKiKP 04 31 19.9 +0.5
baz=127
DGMT Dagmar 127.39 30 *e*PKPdf PKPdf 04 31 20.0 +1.1
DGMT Dagmar 127.39 30 ⇓PKiKP PKPdf 04 31 20.0 +1.1
baz=127
DVTC Desert V Tower 127.40 53 ⇑PKiKP PKiKP 04 31 20.9 +0.9
baz=127
I19A Meeteetse 127.41 37 ⇑PKiKP PKiKP 04 31 20.1 +0.2
baz=127
LAO LASA Array 127.46 33 *e*PKPdf PKPdf 04 31 20.6 +1.5
F21A Absaloka Mine, 127.48 35 ⇓PKiKP PKiKP 04 31 20.1 +0.3
baz=127
SWSC Sam W. Stewart 127.55 53 ⇓PKiKP PKiKP 04 31 21.2 +1.0
baz=126
BC3 Big Chuckawall 127.57 52 ⇑PKiKP PKiKP 04 31 21.1 +0.7
baz=128
A25A Svangstu Ranch 127.61 29 ⇓PKiKP PKiKP 04 31 20.8 +0.9
baz=128
IRM Iron Mountain 127.63 51 ⇓PKiKP PKiKP 04 31 21.2 +0.8
baz=128
D23A Lindsay 127.70 32 ⇑PKiKP PKiKP 04 31 21.1 +0.9
baz=128
M17A Scullys Gap (B 127.70 41 ⇓PKiKP PKiKP 04 31 20.9 +0.3
baz=128
BW06 Boulder Array 127.75 39 *e*PKPdf PKPdf 04 31 20.3 +0.2
PDAR Pinedale Array 127.75 39 PKP PKPdf 04 31 20.6 +0.6
PDAR PP PP 04 33 30.4 -0.5
PDAR SKKPbc SKKPbc 04 43 40.3 -2.7
PDAR Pinedale Array 127.75 39 PKP PKPdf 04 31 20.6 +0.6
comp=Z,2.5nm,0.5s,baz=150,slow=1.6,SNR=40
PDAR PP PP 04 33 30.4 -0.5
comp=Z,1.0nm,0.8s,baz=354,slow=1.5,SNR=4.2
PDAR SKKPbc SKKPbc 04 43 40.3 -2.7
comp=Z,0.7nm,0.5s,baz=133,slow=4.9,SNR=8.7
H20A Greybull 127.75 36 ⇓PKiKP PKiKP 04 31 20.2 -0.2
baz=128
E22A Miles City 127.76 33 ⇑PKiKP PKiKP 04 31 20.9 +0.5
baz=128
MPU Maple Canyon 127.77 43 *e*PKPdf PKPdf 04 31 21.3 +1.2
G21A Lodge Grass 127.79 35 ⇓PKiKP PKiKP 04 31 20.9 +0.4
baz=128
J19A Crowheart 127.79 38 ⇓PKiKP PKiKP 04 31 20.9 +0.3
baz=128
L18A Fontenelle, Gr 127.88 40 ⇑PKiKP PKiKP 04 31 21.5 +0.6
baz=128
C24A Savage 127.88 31 ⇑PKiKP PKiKP 04 31 21.3 +0.8
baz=128
I20A Worland 127.98 37 ⇑PKiKP PKiKP 04 31 21.5 +0.6
baz=128
F22A Rosebud 127.99 34 ⇑PKiKP PKiKP 04 31 21.2 +0.3
baz=128
B25A Knox Farm, Ray 128.04 30 ⇑PKiKP PKiKP 04 31 21.5 +0.7
baz=128
MVU Marysvale 128.06 45 *e*PKPdf PKPdf 04 31 22.4 +1.7
K19A Absolon Red Bu 128.16 39 ⇓PKiKP PKiKP 04 31 21.5 +0.1
baz=128
A26A Wade Farm, Ken 128.16 29 ⇓PKiKP PKiKP 04 31 21.3 +0.3
baz=128
D24A Glendive 128.20 32 ⇓PKiKP PKiKP 04 31 21.6 +0.4
baz=128
H21A Big Horn, Sher 128.23 36 ⇑PKiKP PKiKP 04 31 21.6 +0.2
baz=128
W13A Hualapai Mount 128.25 50 ⇑PKiKP PKiKP 04 31 22.4 +0.5
baz=128
Y12C Blythe 128.27 51 ⇓PKiKP PKiKP 04 31 22.2 +0.5
baz=128
GLA Glamis 128.28 52 ⇓PKiKP PKiKP 04 31 22.1 +0.3
baz=128
G22A Birney 128.31 35 ⇑PKiKP PKiKP 04 31 21.9 +0.4
baz=128
J20A Shoshoni 128.34 38 ⇑PKiKP PKiKP 04 31 22.0 +0.3
baz=128
PDMCI Parker Dam,Lak 128.36 51 ⇑PKiKP PKiKP 04 31 22.1 +0.3
baz=128
C25A Freed Ranch, W 128.36 31 ⇓PKiKP PKiKP 04 31 21.7 +0.3
baz=128
TMUT Trail Mountain 128.40 44 *e*PKPdf PKPdf 04 31 22.7 +1.3
B26A Jensen Ranch, 128.42 29 ⇓PKiKP PKiKP 04 31 22.1 +0.5
baz=128
A27A Ledoux Ranch, 128.50 28 ⇑PKiKP PKiKP 04 31 22.0 +0.3
baz=128
F23A Volborg 128.50 34 ⇑PKiKP PKiKP 04 31 21.6 -0.2
baz=128
I21A Big Trails, Te 128.55 37 ⇑PKiKP PKiKP 04 31 21.9 -0.3
baz=128
K20A Yellowstone Ra 128.56 38 ⇑PKiKP PKiKP 04 31 22.0 -0.2
baz=128
E24A Baker 128.57 32 ⇑PKiKP PKiKP 04 31 22.1 +0.2
baz=128
Q16A Castle Valley 128.60 44 *e*PKPdf PKPdf 04 31 22.9 +1.2
Q16A Castle Valley 128.60 44 ⇑PKiKP PKiKP 04 31 22.7 +0.3
baz=128
H22A Clearmont 128.65 35 ⇑PKiKP PKiKP 04 31 22.2 -0.1
baz=128
M19A Rock Springs 128.66 40 ⇓PKiKP PKiKP 04 31 22.7 +0.2
baz=129
D25A Fairfield 128.70 31 ⇓PKiKP PKiKP 04 31 22.9 +0.7
baz=129
J21A Lysite 128.73 37 ⇓PKiKP PKiKP 04 31 22.3 -0.2
baz=129
G23A Biddle 128.83 34 ⇑PKiKP PKiKP 04 31 22.7 +0.1
baz=129
C26A Wahner Farm, P 128.87 30 ⇑PKiKP PKiKP 04 31 22.8 +0.3
baz=129
B27A Peters Farms, 128.87 29 ⇓PKiKP PKiKP 04 31 22.4 0.0
baz=129
U15A North Rim 128.90 47 ⇑PKiKP PKiKP 04 31 23.6 +0.4
baz=129
L20A Wasatter 128.91 39 ⇓PKiKP PKiKP 04 31 23.3 +0.3
baz=129
F24A Ekalaka 128.95 33 ⇑PKiKP PKiKP 04 31 22.6 -0.2
baz=129
SRU San Rafael 128.95 43 *e*PKIKP PKPdf 04 31 23.2 +0.9
SRU San Rafael 128.95 43 *e*PKPdf PKPdf 04 31 23.2 +0.9
A28A Rude Farm, Bot 128.98 28 ⇑PKiKP PKiKP 04 31 22.9 +0.2
baz=129
I22A 9 Mile Ranch, 128.98 36 ⇓PKiKP PKiKP 04 31 23.1 +0.1
baz=129
E25A Miller Ranch, 129.08 32 ⇑PKiKP PKiKP 04 31 23.3 +0.3
baz=129
113A Mohawk Valley, 129.21 52 ⇓PKiKP PKiKP 04 31 24.2 +0.6
baz=129
H23A Clabaugh Cattl 129.21 35 ⇑PKiKP PKiKP 04 31 23.5 +0.1
baz=129
D26A Manning 129.23 31 ⇓PKiKP PKiKP 04 31 23.6 +0.4
baz=129
K21A Alcova 129.25 38 ⇓PKiKP PKiKP 04 31 23.4 -0.2
baz=129
J22A Midwest 129.27 37 ⇓PKiKP PKPdf 04 31 23.1 +0.3
baz=129
M20A Sweetwater, Wa 129.29 40 ⇑PKiKP PKiKP 04 31 23.8 0.0
baz=129
G24A Alzada 129.29 34 ⇓PKiKP PKPdf 04 31 22.9 +0.2
baz=129
O19A Miners Draw (B 129.31 41 ⇓PKiKP PKiKP 04 31 23.9 +0.2
baz=129
Y14A Wickenburg 129.37 51 ⇑PKiKP PKiKP 04 31 24.1 +0.2
baz=129
F25A Bowman 129.43 32 ⇓PKiKP PKiKP 04 31 23.7 0.0
baz=129
L21A Rawlins 129.54 39 ⇓PKiKP PKPdf 04 31 23.8 +0.3
baz=129
H24A Dirks Ranch, A 129.58 34 ⇓PKiKP PKiKP 04 31 23.9 -0.2
baz=130
N20A Spence Gulch, 129.59 40 ⇓PKiKP PKiKP 04 31 24.2 -0.2
baz=130
E26A Carlson Angus 129.59 31 ⇓PKiKP PKiKP 04 31 24.2 +0.2
baz=130
D27A Center 129.64 30 ⇑PKiKP PKiKP 04 31 23.9 -0.2
baz=130
BBTS Babate 129.65 284 PP PP 04 33 49.7 +5.6
BBTS Babate 129.65 284 PP PP 04 33 49.7 +5.6
comp=Z,37nm,0.7s,baz=160,slow=0.8,SNR=7.9
K22A Casper 129.68 38 ⇓PKiKP PKPdf 04 31 24.0 +0.4
baz=130
B29A Wagenman Farm, 129.72 28 ⇓PKiKP PKiKP 04 31 23.8 -0.4
baz=130
M21A Separation Pea 129.75 39 ⇑PKiKP PKiKP 04 31 24.6 -0.1
baz=130
C28A Hausauer Farms 129.77 29 ⇑PKiKP PKiKP 04 31 24.6 +0.3
baz=130
A30A Hoffart Farm, 129.85 26 ⇑PKiKP PKiKP 04 31 24.3 -0.1
baz=130
ULM Lac du Bonnet 129.87 24 PKP PKPdf 04 31 23.5 +0.1
ULM PP PP 04 33 49.4 +5.6
ULM Lac du Bonnet 129.87 24 PKP PKPdf 04 31 23.5 +0.1
comp=Z,9.4nm,0.6s,baz=308,slow=3.0,SNR=9.9
ULM PP PP 04 33 49.4 +5.6
comp=Z,51nm,0.8s,baz=314,slow=4.5,SNR=31
F26A Lodgepole 129.89 32 ⇓PKiKP PKiKP 04 31 24.5 -0.1
baz=130
G25A Newell 129.92 33 ⇑PKiKP PKiKP 04 31 24.8 +0.1
baz=130
WUAZ Wupatki 129.96 48 *e*PKPdf PKPdf 04 31 25.6 +1.3
WUAZ Wupatki 129.96 48 ⇑PKiKP PKPdf 04 31 25.6 +1.3
baz=130
O20A White River Ci 129.97 41 *e*PKPdf PKPdf 04 31 25.2 +0.9
O20A White River Ci 129.97 41 ⇓PKiKP PKiKP 04 31 25.9 +0.8
baz=130
MDND Maddock 130.05 28 ⇓PKiKP PKiKP 04 31 24.9 +0.1
baz=130
G27A Dupree 130.06 33 ⇑PKiKP PKiKP 04 31 25.7 +0.7
baz=130
E27A Carson 130.08 31 ⇑PKiKP PKiKP 04 31 24.8 -0.1
baz=130
I24A Kuemmerle Ranc 130.08 35 ⇑PKiKP PKiKP 04 31 24.9 -0.3
baz=130
L22A Ellis Ranch, M 130.09 38 ⇑PKiKP PKPdf 04 31 24.9 +0.4
baz=130
N21A Black Mountain 130.11 40 ⇑PKiKP PKiKP 04 31 25.4 0.0
baz=130
K23A Bowen Ranch, D 130.16 37 ⇓PKiKP PKiKP 04 31 25.1 -0.3
baz=130
H25A Fruitdale 130.19 34 ⇑PKiKP PKiKP 04 31 25.1 -0.2
baz=130
P20A De Beque 130.20 42 ⇑PKiKP PKiKP 04 31 26.1 +0.5
baz=130
B30A Myrvik Farm, E 130.20 27 ⇓PKiKP PKPdf 04 31 24.5 +0.4
baz=130
F27A Lemmon 130.22 32 ⇑PKiKP PKiKP 04 31 25.5 +0.2
baz=130
RSSD Black Hills 130.25 35 *e*PKIKP PKPdf 04 31 24.7 0.0
RSSD Black Hills 130.25 35 *e*PKPdf PKPdf 04 31 24.7 0.0
214A Organ Pipe Nat 130.26 53 ⇑PKiKP PKiKP 04 31 25.9 +0.2
baz=130
G26A Maurine 130.30 33 ⇑PKiKP PKiKP 04 31 25.6 +0.2
baz=130
M22A Cedar Creek Ra 130.34 39 ⇑PKiKP PKiKP 04 31 25.6 -0.3
baz=130
X16A Lo Mia Camp, P 130.37 49 ⇑PKiKP PKiKP 04 31 26.9 +0.7
baz=130
J24A Dixon Ranch, L 130.38 36 ⇑PKiKP PKiKP 04 31 25.4 -0.4
baz=130
E28A Huff 130.42 30 ⇑PKiKP PKiKP 04 31 25.6 0.0
baz=130
O21A Pagoda 130.43 41 ⇓PKiKP PKiKP 04 31 26.2 0.0
baz=130
L23A Garrett 130.49 38 ⇓PKiKP PKPdf 04 31 25.8 +0.5
baz=130
I25A Rochford 130.49 34 ⇑PKiKP PKPdf 04 31 25.6 +0.5
baz=130
Q20A Ridgley Place, 130.54 43 ⇓PKiKP PKiKP 04 31 26.4 +0.1
baz=130
H26A Fairpoint 130.64 33 ⇓PKiKP PKiKP 04 31 25.9 -0.3
baz=130
K24A Anderson Ranch 130.66 36 ⇑PKiKP PKPdf 04 31 25.7 +0.3
baz=131
N22A Wattenberg Ran 130.76 39 ⇑PKiKP PKPdf 04 31 26.3 +0.4
baz=131
P21A Newcastle 130.81 41 ⇓PKiKP PKPdf 04 31 26.4 +0.5
baz=131
J25A Sunshine Ranch 130.84 35 ⇓PKiKP PKiKP 04 31 26.3 -0.4
baz=131
F28A McLaughlin 130.87 31 ⇑PKiKP PKPdf 04 31 25.9 +0.4
baz=131
R20A Redvale 130.87 43 ⇓PKiKP PKiKP 04 31 26.6 -0.4
baz=131
I26A New Underwood 130.97 34 ⇓PKiKP PKiKP 04 31 26.6 -0.2
baz=131
D30A Buchanan 130.98 28 ⇑PKiKP PKiKP 04 31 26.5 -0.2
baz=131
L24A Wheatland 130.99 37 ⇑PKiKP PKiKP 04 31 26.7 -0.4
baz=131
H27A Howes 131.01 33 ⇑PKiKP PKiKP 04 31 26.7 -0.2
baz=131
O22A Kremmling 131.05 40 ⇓PKiKP PKPdf 04 31 26.6 +0.1
baz=131
S20A Disappointment 131.06 44 ⇑PKiKP PKiKP 04 31 27.5 0.0
baz=131
Q21A Lamborn Mesa, 131.08 42 ⇑PKiKP PKiKP 04 31 27.5 +0.1
baz=131
P22A Eagle 131.22 41 ⇑PKiKP PKiKP 04 31 27.7 -0.1
baz=131
MVCO Mesa Verde 131.26 45 *e*PKPdf PKPdf 04 31 27.2 +0.4
MVCO Mesa Verde 131.26 45 ⇓PKiKP PKiKP 04 31 28.0 +0.1
baz=131
K25A Mack Ranch, Ha 131.28 36 ⇑PKiKP PKiKP 04 31 27.5 -0.2
baz=131
J26A Sides Ranch, S 131.30 35 ⇓PKiKP PKiKP 04 31 27.4 -0.2
baz=131
SMCO Snowmass 131.30 42 *e*PKPdf PKPdf 04 31 28.9 +1.8
G28A Parade 131.33 32 ⇓PKiKP PKiKP 04 31 27.4 -0.1
baz=131
R21A Cimarron 131.34 43 ⇑PKiKP PKiKP 04 31 28.0 0.0
baz=131
W18A Petrified Fore 131.34 48 *e*PKPdf PKPdf 04 31 29.4 +2.5
W18A Petrified Fore 131.34 48 ⇑PKiKP PKiKP 04 31 28.3 +0.2
baz=131
E30A Jud 131.35 29 ⇓PKiKP PKiKP 04 31 27.4 -0.1
baz=131
F29A Eureka 131.37 30 ⇑PKiKP PKiKP 04 31 27.7 +0.2
baz=131
I27A Quinn 131.39 33 ⇑PKiKP PKiKP 04 31 27.3 -0.4
baz=131
M24A Cheyenne 131.39 38 ⇓PKiKP PKPdf 04 31 27.5 +0.6
baz=131
O23A Lake Granby, G 131.43 40 ⇓PKiKP PKiKP 04 31 27.9 -0.3
baz=131
X18A Snowflake 131.44 49 ⇓PKiKP PKiKP 04 31 28.1 -0.2
baz=131
SCHQ Schefferville 131.46 360 PKP PKPdf 04 31 26.9 +0.5
SCHQ PP PP 04 33 57.5 +4.0
SCHQ Schefferville 131.46 360 PKP PKPdf 04 31 26.9 +0.5
comp=Z,5.6nm,0.4s,baz=325,slow=1.0,SNR=24
SCHQ PP PP 04 33 57.5 +4.0
comp=Z,4.6nm,0.8s,baz=42,slow=5.9,SNR=3.7
L25A Engebretsen Ra 131.50 37 ⇓PKiKP PKiKP 04 31 28.3 +0.2
baz=131
Q22A Crested Butte, 131.51 42 ⇓PKiKP PKiKP 04 31 28.4 0.0
baz=131
S21A Coal Bank Pass 131.53 44 ⇑PKiKP PKiKP 04 31 29.0 +0.5
baz=131
H28A Mission Ridge 131.55 32 ⇓PKiKP PKiKP 04 31 27.7 -0.3
baz=131
K26A Motz Farm, Whi 131.63 36 ⇓PKiKP PKiKP 04 31 27.9 -0.4
baz=132
U20A Newcomb 131.65 46 ⇓PKiKP PKiKP 04 31 29.0 +0.3
baz=132
TUC Tucson 131.72 52 *e*PKIKP PKPdf 04 31 29.7 +2.0
TUC Tucson 131.72 52 *e*PKPdf PKPdf 04 31 29.7 +2.0
N24A Carr 131.73 39 ⇑PKiKP PKiKP 04 31 28.8 +0.2
baz=132
ISCO Idaho Springs 131.85 40 *e*PKIKP PKPdf 04 31 28.3 +0.3
ISCO Idaho Springs 131.85 40 *e*PKPdf PKPdf 04 31 28.3 +0.3
ISCO Idaho Springs 131.85 40 ⇑PKiKP PKiKP 04 31 29.2 +0.1
baz=132
I28A Midland 131.92 33 ⇑PKiKP PKiKP 04 31 28.7 -0.1
baz=132
P23A Jefferson 131.94 41 ⇓PKiKP PKiKP 04 31 29.4 0.0
baz=132
J27A Elkhorn Farm, 131.94 34 ⇓PKiKP PKiKP 04 31 29.3 +0.4
baz=132
R22A Saguache, Gunn 131.95 43 ⇓PKiKP PKiKP 04 31 29.6 +0.3
baz=132
V20A Brimhall 131.96 46 ⇑PKiKP PKiKP 04 31 29.4 +0.1
baz=132
H29A Onida 132.00 32 ⇓PKiKP PKiKP 04 31 28.9 0.0
baz=132
T21A Navajo Lake 132.04 44 ⇑PKiKP PKiKP 04 31 29.8 +0.4
baz=132
L26A Underwood Farm 132.10 36 ⇑PKiKP PKiKP 04 31 29.4 +0.1

	baz=132							
S22A	4UR Ranch, Cre	132.15	43	⇓PKiKP	PKiKP	04 31 29.4	-0.4	
	baz=132							
K27A	Flueckinger Fa	132.17	35	⇓PKiKP	PKiKP	04 31 29.3	-0.1	
	baz=132							
Q23A	Hartsel	132.20	41	⇑PKiKP	PKiKP	04 31 29.5	-0.4	
	baz=132							
G30A	Faulkton	132.20	30	⇓PKiKP	PKPdf	04 31 28.3	+0.2	
	baz=132							
U21A	Nageezi	132.23	45	⇓PKiKP	PKiKP	04 31 29.8	-0.1	
	baz=132							
W20A	Ramah	132.24	47	⇑PKiKP	PKiKP	04 31 30.1	+0.1	
	baz=132							
J28A	Allard Ranch,	132.26	34	⇓PKiKP	PKiKP	04 31 29.4	-0.1	
	baz=132							
I29A	Vivian Onida	132.37	32	⇓PKiKP	PKiKP	04 31 29.4	-0.3	
	baz=132							
M26A	McRoberts Ranc	132.41	37	⇓PKiKP	PKiKP	04 31 29.7	-0.2	
	baz=132							
P24A	Kohler Place,	132.46	40	⇑PKiKP	PKiKP	04 31 30.2	0.0	
	baz=132							
T22A	Edith	132.47	44	⇑PKiKP	PKiKP	04 31 30.2	-0.1	
	baz=132							
X20A	Quemado	132.51	48	⇓PKiKP	PKiKP	04 31 30.5	0.0	
	baz=132							
R23A	Moffat	132.59	42	⇓PKiKP	PKiKP	04 31 30.8	+0.2	
	baz=132							
Q24A	Divide	132.61	41	⇓PKiKP	PKiKP	04 31 30.4	-0.3	
	baz=132							
K28A	Ten Mile Ranch	132.65	34	⇓PKiKP	PKiKP	04 31 30.0	-0.3	
	baz=132							
J29A	Okreek	132.77	33	⇑PKiKP	PKiKP	04 31 30.0	-0.5	
	baz=133							
BRSD	Miller	132.78	31	*e*PKPdf	PKPdf	04 31 29.7	+0.5	
BRSD	Miller	132.78	31	⇓PKiKP	PKiKP	04 31 30.0	-0.5	
	baz=133							
M27A	Reverse DX Ran	132.82	36	⇑PKiKP	PKiKP	04 31 30.2	-0.5	
	baz=133							
U22A	Llaves	132.82	45	⇑PKiKP	PKiKP	04 31 31.6	+0.6	
	baz=133							
Y20A	Horse Springs,	132.88	48	⇑PKiKP	PKPdf	04 31 30.5	+0.5	
	baz=133							
I30A	Oacoma	132.90	32	⇑PKiKP	PKiKP	04 31 30.9	+0.1	
	baz=133							
P25A	Willow Gulch B	132.93	40	⇓PKiKP	PKiKP	04 31 31.2	+0.1	
	baz=133							
V22A	San Miguel Ran	133.01	45	⇑PKiKP	PKiKP	04 31 31.8	+0.3	
	baz=133							
O26A	Horse Wrangler	133.04	38	⇓PKiKP	PKiKP	04 31 31.4	+0.1	
	baz=133							
R24A	Sanders Place,	133.04	42	⇓PKiKP	PKiKP	04 31 31.1	-0.4	
	baz=133							
T23A	Casias Ranch,	133.05	43	⇑PKiKP	PKiKP	04 31 31.5	-0.1	
	baz=133							
Z20A	Nine Sixteen R	133.07	50	⇑PKiKP	PKiKP	04 31 31.4	-0.2	
	baz=133							
X21A	Alamocita Cree	133.08	48	⇓PKiKP	PKiKP	04 31 31.8	+0.1	
	baz=133							
N27A	Anderson Farm,	133.17	37	⇓PKiKP	PKiKP	04 31 31.4	-0.1	
	baz=133							
K29A	Lazy Trails An	133.20	34	⇓PKiKP	PKiKP	04 31 30.9	-0.5	
	baz=133							
Q25A	Bedland, Calha	133.22	40	⇑PKiKP	PKiKP	04 31 31.5	-0.3	
	baz=133							
PLCA	Paso Flores	133.24	176	PKP	PKPdf	04 31 31.3	+1.0	
PLCA				SKPbc	SKPbc	04 34 02.8	-0.8	
PLCA	Paso Flores	133.24	176	PKP	PKPdf	04 31 31.3	+1.0	
	comp=Z,1.0nm,0.5s,baz=178,slow=2.3,SNR=4.0							
PLCA				SKPbc	SKPbc	04 34 02.8	-0.8	
	comp=Z,12nm,1.2s,baz=177,slow=1.9,SNR=7.4							
319A	Douglas	133.26	52	⇑PKiKP	PKiKP	04 31 32.4	+0.4	
	baz=133							
J30A	Dallas	133.27	32	⇓PKiKP	PKiKP	04 31 31.5	0.0	
	baz=133							
120A	U Bar Ranch, L	133.28	50	⇓PKiKP	PKiKP	04 31 32.3	+0.3	
	baz=133							
S24A	Houchin Ranch,	133.29	42	⇓PKiKP	PKiKP	04 31 31.6	-0.5	
	baz=133							
U23A	El Rito	133.31	44	⇓PKiKP	PKiKP	04 31 32.2	+0.1	
	baz=133							
Y21A	Point of Rocks	133.36	48	⇓PKiKP	PKiKP	04 31 32.2	-0.1	
	baz=133							
OGNE	Ogallala	133.39	37	⇑PKiKP	PKiKP	04 31 32.3	+0.4	
	baz=133							
P26A	Davis Ranch, A	133.42	39	⇓PKiKP	PKiKP	04 31 32.2	+0.1	
	baz=133							
T24B	San Luis	133.49	43	⇑PKiKP	PKiKP	04 31 32.6	+0.1	
	baz=133							
LAZ	Ladron	133.57	47	*e*PKPdf	PKPdf	04 31 33.8	+2.5	
V23A	Ortiz Mt. (NFS	133.61	45	⇓PKiKP	PKPdf	04 31 32.0	+0.7	
	baz=134							
X22A	Bernardo	133.62	47	⇓PKiKP	PKiKP	04 31 32.3	-0.4	
	baz=134							
R25A	Fountain Ranch	133.63	41	⇓PKiKP	PKPdf	04 31 31.9	+0.7	
	baz=134							
220A	Playas Peak, P	133.63	51	⇓PKiKP	PKPdf	04 31 32.1	+0.7	
	baz=134							
K30A	Basset	133.65	33	⇓PKiKP	PKiKP	04 31 31.8	-0.6	
	baz=134							
Z21A	St. Cloud Mine	133.68	49	⇓PKiKP	PKiKP	04 31 33.1	+0.3	
	baz=134							
Q26A	Hugo	133.68	40	⇑PKiKP	PKiKP	04 31 32.5	-0.2	
	baz=134							
S25A	Robets Cordova	133.80	42	⇑PKiKP	PKiKP	04 31 33.0	0.0	
	baz=134							
ANMO	Albuquerque	133.81	46	*e*PKPdf	PKPdf	04 31 33.0	+1.3	
N28A	Pribbeno Ranch	133.84	37	⇓PKiKP	PKiKP	04 31 32.9	+0.1	
	baz=134							
M29A	Burnside Ranch	133.86	35	⇑PKiKP	PKiKP	04 31 32.6	-0.2	
	baz=134							
320A	Kipp Ranch, An	133.86	52	⇑PKiKP	PKiKP	04 31 32.9	-0.3	
	baz=134							
P27A	Ficken Ranch,	133.90	39	⇓PKiKP	PKiKP	04 31 32.4	-0.7	
	baz=134							
Y22A	Socorro	133.92	48	⇑PKiKP	PKiKP	04 31 33.0	-0.3	
	baz=134							
W23A	Werner Place,	133.92	46	⇑PKiKP	PKiKP	04 31 33.1	-0.3	
	baz=134							
121A	Cookes Peak, D	133.93	50	⇑PKiKP	PKiKP	04 31 33.0	-0.4	
	baz=134							
O28A	Krutsinger Ran	134.05	37	⇑PKiKP	PKiKP	04 31 33.0	-0.2	
	baz=134							
BNM	Barren Site	134.06	47	*e*PKPdf	PKPdf	04 31 33.9	+1.7	
L30A	Spencer Herefo	134.07	34	⇑PKiKP	PKiKP	04 31 33.0	-0.2	
	baz=134							
R26A	Arlington	134.09	40	⇓PKiKP	PKiKP	04 31 33.7	+0.3	
	baz=134							
T25A	Trinidad	134.10	42	⇓PKiKP	PKiKP	04 31 33.3	-0.4	
	baz=134							
221A	Mesquite Ranch	134.16	51	⇓PKiKP	PKiKP	04 31 33.7	-0.1	
	baz=134							
KSCO	Kaye Shedlock'	134.20	39	⇑PKiKP	PKiKP	04 31 33.9	+0.3	
	baz=134							
Z22A	Elephant Butte	134.23	49	⇓PKiKP	PKiKP	04 31 34.0	+0.1	
	baz=134							
V24A	Rampart Ranch,	134.26	45	⇑PKiKP	PKiKP	04 31 34.1	0.0	
	baz=134							
N29A	Votaw Ranch, W	134.29	36	⇓PKiKP	PKiKP	04 31 33.6	-0.1	
	baz=134							
P28A	Saint Francis	134.40	38	⇑PKiKP	PKiKP	04 31 34.4	+0.4	
	baz=134							
L31A	Butterfield Fa	134.41	33	⇓PKiKP	PKiKP	04 31 33.8	-0.1	
	baz=134							
W24A	Lazy 6 Ranch,	134.42	45	⇑PKiKP	PKiKP	04 31 34.6	+0.3	
	baz=134							
122A	Conniff Cattle	134.45	49	⇓PKiKP	PKiKP	04 31 35.6	+1.2	
	baz=134							
S26A	Kim	134.46	41	⇑PKiKP	PKiKP	04 31 34.7	+0.4	
	baz=134							
ECSD	EROS Data Cent	134.47	30	*e*PKPdf	PKPdf	04 31 32.3	-0.1	
U25A	Circle Dot Ran	134.50	43	⇑PKiKP	PKPdf	04 31 33.6	+0.7	
	baz=134							
R27A	Eads	134.51	40	⇓PKiKP	PKiKP	04 31 33.9	-0.4	
	baz=134							
Y23A	Lovelace Mesa,	134.59	47	⇓PKiKP	PKiKP	04 31 34.2	-0.5	
	baz=134							
N30A	Hueftle Ranch,	134.62	36	⇓PKiKP	PKiKP	04 31 34.3	-0.1	
	baz=134							
T26A	Comanche Natio	134.63	42	⇓PKiKP	PKiKP	04 31 34.1	-0.6	
	baz=134							
O29A	4D Ranch, Culb	134.63	37	⇓PKiKP	PKiKP	04 31 33.7	-0.7	
	baz=134							
V25A	Rancho No Teng	134.65	44	⇑PKiKP	PKiKP	04 31 34.5	-0.2	
	baz=135							
Q28A	Sharon Springs	134.66	39	⇓PKiKP	PKPdf	04 31 33.8	+0.8	
	baz=135							
X24A	Lazy VL Ranch,	134.73	46	⇓PKiKP	PKiKP	04 31 34.3	-0.7	
	baz=135							
Z23A	Rita Site, Whi	134.77	48	⇑PKiKP	PKiKP	04 31 34.7	-0.3	
	baz=135							
P29A	Atwood	134.88	37	⇑PKiKP	PKPdf	04 31 34.2	+0.8	
	baz=135							
M31A	Lambtecht Ranc	134.89	34	⇓PKiKP	PKiKP	04 31 34.2	-0.7	
	baz=135							
U26A	Atchley Ranch,	134.95	43	⇑PKiKP	PKPdf	04 31 34.6	+0.8	
	baz=135							
O30A	MW Ranch, Wils	135.04	36	⇓PKiKP	PKPdf	04 31 34.0	+0.4	
	baz=135							
123A	Bell Site, Whi	135.04	49	⇓PKiKP	PKiKP	04 31 35.0	-0.5	
	baz=135							
Y24A	Capitan	135.04	47	⇓PKiKP	PKPdf	04 31 34.5	+0.5	
	baz=135							
W25A	X Bar L Ranch,	135.09	45	⇓PKiKP	PKiKP	04 31 35.3	-0.3	
	baz=135							
R28A	Tribune	135.11	39	⇓PKiKP	PKiKP	04 31 34.9	-0.6	
	baz=135							
SPMN	St. Paul	135.11	26	⇑PKiKP	PKPdf	04 31 34.2	+0.7	
	baz=135							
V26A	Tequesquite Ra	135.25	44	⇓PKiKP	PKiKP	04 31 35.5	-0.4	
	baz=135							
N31A	Bailey Ranch,	135.25	35	⇑PKiKP	PKiKP	04 31 35.6	0.0	
	baz=135							
T27A	Campo	135.27	41	⇓PKiKP	PKiKP	04 31 35.4	-0.5	
	baz=135							
Q29A	Oakley	135.29	38	⇓PKiKP	PKiKP	04 31 35.4	-0.4	
	baz=135							
BGNE	Belgrade	135.31	33	*e*PKPdf	PKPdf	04 31 34.1	0.0	
BGNE	Belgrade	135.31	33	⇓PKiKP	PKiKP	04 31 35.4	-0.3	
	baz=135							
P30A	Selden	135.33	37	⇑PKiKP	PKiKP	04 31 35.9	0.0	
	baz=135							
Z24A	Sheeppen Canyo	135.38	48	⇓PKiKP	PKiKP	04 31 36.4	+0.1	
	baz=135							
R29A	Marienthal	135.48	39	⇑PKiKP	PKiKP	04 31 35.9	-0.3	
	baz=135							
S28A	Manter	135.50	40	⇓PKiKP	PKiKP	04 31 35.6	-0.7	
	baz=135							
U27A	Thompson Grove	135.56	42	⇓PKiKP	PKiKP	04 31 36.2	-0.3	
	baz=136							
Y25A	Mesa, Roswell	135.58	46	⇑PKiKP	PKiKP	04 31 36.9	+0.3	
	baz=136							
124A	Stringfield Ra	135.61	48	⇑PKiKP	PKiKP	04 31 36.8	0.0	
	baz=136							
T28A	Walsh	135.63	41	⇑PKiKP	PKiKP	04 31 36.7	+0.1	
	baz=136							
W26A	Owens Ranch, T	135.64	44	⇑PKiKP	PKiKP	04 31 37.1	+0.4	
	baz=136							
N32A	Stulken Farm,	135.66	34	⇓PKiKP	PKiKP	04 31 37.0	+0.5	
	baz=136							
Q30A	Quinter	135.70	38	⇓PKiKP	PKiKP	04 31 36.9	+0.3	
	baz=136							
224A	Cornudas Mount	135.85	49	⇓PKiKP	PKiKP	04 31 37.1	-0.1	
	baz=136							
P31A	Stockton	135.86	36	⇓PKiKP	PKiKP	04 31 36.4	-0.6	
	baz=136							
Z25A	Roswell	135.88	47	⇓PKiKP	PKiKP	04 31 37.2	0.0	
	baz=136							
X26A	CR and CF Fran	135.89	45	⇓PKiKP	PKiKP	04 31 37.2	-0.1	
	baz=136							
V27A	Dan Oppiter Fa	135.92	43	⇓PKiKP	PKiKP	04 31 37.4	+0.1	
	baz=136							
S29A	Ulysses	135.98	40	⇑PKiKP	PKiKP	04 31 37.5	+0.2	
	baz=136							
U28A	Mallet	135.98	42	⇑PKiKP	PKiKP	04 31 37.1	-0.2	
	baz=136							
O32A	Brockman Farm,	136.01	35	⇑PKiKP	PKiKP	04 31 37.2	+0.1	
	baz=136							
R30A	Dighton	136.10	38	⇓PKiKP	PKiKP	04 31 37.3	-0.2	
	baz=136							
MNTX	Cornudas Mount	136.13	50	*e*PKPdf	PKPdf	04 31 37.0	+1.2	
W27A	Bowe Ranch, En	136.14	44	⇑PKiKP	PKiKP	04 31 37.6	-0.1	
	baz=136							
T29A	Hugoton	136.14	40	⇓PKiKP	PKiKP	04 31 37.4	-0.2	
	baz=136							
324A	Moseley Ranch,	136.17	50	⇑PKiKP	PKiKP	04 31 38.1	+0.2	
	baz=136							
Y26A	Elida	136.20	46	⇓PKiKP	PKiKP	04 31 38.1	+0.2	
	baz=136							
125A	Gardner Draw,	136.22	48	⇑PKiKP	PKiKP	04 31 38.2	+0.2	
	baz=136							
V28A	Channing	136.34	43	⇓PKiKP	PKiKP	04 31 38.0	-0.1	
	baz=136							
X27A	F and S Farms,	136.34	45	⇓PKiKP	PKiKP	04 31 37.9	-0.3	
	baz=136							
225A	Deer Hill, Car	136.36	49	⇑PKiKP	PKiKP	04 31 38.0	-0.4	
	baz=136							
S30A	Montezuma	136.38	39	⇑PKiKP	PKiKP	04 31 37.7	-0.4	
	baz=136							
Z26A	Caprock	136.42	47	⇑PKiKP	PKiKP	04 31 37.8	-0.5	
	baz=136							
R31A	Burdett	136.56	38	⇑PKiKP	PKiKP	04 31 38.0	-0.4	
	baz=136							
Y27A	Causey	136.69	46	⇑PKiKP	PKPdf	04 31 37.9	+1.0	
	baz=137							
T30A	Plains	136.69	40	⇓PKiKP	PKPdf	04 31 37.8	+1.0	
	baz=137							
V29A	Stinnett	136.74	42	⇓PKiKP	PKiKP	04 31 38.0	-0.9	
	baz=137							
425A	Indio Mountain	136.84	51	⇑PKiKP	PKiKP	04 31 38.9	-0.4	
	baz=137							
226B	Tecolote Peak,	136.87	48	⇑PKiKP	PKiKP	04 31 38.9	-0.4	
	baz=137							
MSTX	Muleshoe	136.92	45	*e*PKPdf	PKPdf	04 31 38.5	+1.1	
MSTX	Muleshoe	136.92	45	⇓PKiKP	PKiKP	04 31 39.3	0.0	
	baz=137							
U30A	WK&E Inc. Balk	136.93	41	⇓PKiKP	PKiKP	04 31 38.8	-0.4	
	baz=137							
Z27A	Tatum	136.95	46	⇓PKiKP	PKPdf	04 31 38.0	+0.6	
	baz=137							
S31A	Mullinville	137.00	39	⇑PKiKP	PKPdf	04 31 38.3	+1.0	
	baz=137							
X28A	Dimmitt	137.03	44	⇑PKiKP	PKiKP	04 31 39.0	-0.5	
	baz=137							
127A	Arkansas Junct	137.17	47	⇓PKiKP	PKiKP	04 31 39.3	-0.6	
	baz=137							
T31A	Randall Ranch,	137.21	39	⇑PKiKP	PKPdf	04 31 38.6	+0.9	
	baz=137							
Y28A	McKinney Farm,	137.33	45	⇑PKiKP	PKPdf	04 31 38.7	+0.6	
	baz=137							
V30A	Spur Ranch, Mi	137.35	42	⇓PKiKP	PKiKP	04 31 39.6	-0.5	
	baz=137							
326A	Caldwell Ranch	137.37	49	⇑PKiKP	PKPdf	04 31 39.3	+1.1	
	baz=137							
X29A	Tulia	137.42	44	⇑PKiKP	PKPdf	04 31 39.2	+1.0	
	baz=137							
U31A	Nine Bar Ranch	137.54	40	⇑PKiKP	PKiKP	04 31 40.2	-0.3	
	baz=137							
Z28A	Tucker Farm, M	137.56	46	⇑PKiKP	PKiKP	04 31 39.9	-0.8	
	baz=138							
Y29A	Porterfield Fa	137.76	45	⇓PKiKP	PKiKP	04 31 40.4	-0.7	
	baz=138							
128A	Castleberry Fa	137.83	47	⇑PKiKP	PKiKP	04 31 40.7	-0.4	
	baz=138							
526A	Mary Lane Ranc	137.86	51	⇑PKiKP	PKiKP	04 31 40.8	-0.6	
	baz=138							
V31A	Spring Creek L	137.90	41	⇓PKiKP	PKiKP	04 31 41.2	0.0	
	baz=138							
X30A	Coker Ranch, T	137.98	43	⇓PKiKP	PKiKP	04 31 41.4	0.0	
	baz=138							
228A	UT Block 9, Go	138.01	47	⇑PKiKP	PKiKP	04 31 41.4	-0.1	
	baz=138							
427A	Hayter Ranch,	138.02	50	⇓PKiKP	PKPdf	04 31 40.1	+0.7	
	baz=138							
Z29A	Hungry Hill Ra	138.05	45	⇓PKiKP	PKPdf	04 31 40.4	+1.0	
	baz=138							
626A	Big Bend Ranch	138.06	52	⇓PKiKP	PKiKP	04 31 41.4	-0.3	
	baz=138							
JFWS	Jewell Farm	138.06	26	*e*PKiKP	PKPdf	04 31 38.4	-0.6	
JFWS	Jewell Farm	138.06	26	*e*PKPdf	PKPdf	04 31 38.4	-0.6	
W31A	Holland Ranch,	138.18	42	⇑PKiKP	PKiKP	04 31 41.7	-0.1	
	baz=138							
527A	Woodward Ranch	138.19	51	⇓PKiKP	PKiKP	04 31 41.9	-0.2	
	baz=138							
328A	Wristen Ranch,	138.21	49	⇓PKiKP	PKiKP	04 31 42.4	+0.5	
	baz=138							
129A	Stewart Farms,	138.27	46	⇑PKiKP	PKiKP	04 31 42.0	0.0	
	baz=138							
Y30A	Stafford Cattl	138.28	44	⇑PKiKP	PKiKP	04 31 42.4	+0.4	
	baz=138							
Z30A	Sanderson Ranc	138.45	45	⇓PKiKP	PKiKP	04 31 42.7	+0.3	
	baz=138							
X31A	McDonald Ranch	138.48	42	⇑PKiKP	PKiKP	04 31 42.8	+0.4	
	baz=138							
TXAR	Lajitas Array	138.52	52	PKPpre	PKPpre	04 31 30.5		
TXAR				SKPbc	SKPbc	04 34 19.2	-0.6	
TXAR				SKKPbc	SKKPbc	04 43 02.6	-0.6	
TXAR	Lajitas Array	138.52	52	PKhKP	PKPpre	04 31 30.5		
	comp=Z,2.7nm,0.5s,baz=236,slow=1.8,SNR=28							
TXAR				SKPbc	SKPbc	04 34 19.2	-0.6	
	comp=Z,3.7nm,0.9s,baz=270,slow=0.7,SNR=8.7							
TXAR				SKKPbc	SKKPbc	04 43 02.6	-0.6	
	comp=Z,0.5nm,0.7s,baz=116,slow=6.4,SNR=6.7							
428A	Kincaid Ranch,	138.62	49	⇑PKiKP	PKiKP	04 31 42.9	+0.1	
	baz=139							
Y31A	Rekieta Farm,	138.67	44	⇓PKiKP	PKiKP	04 31 43.1	+0.3	
	baz=139							
627A	Terlingua Ranc	138.68	51	⇓PKiKP	PKiKP	04 31 42.9	-0.1	
	baz=139							
329A	Wagon Wheel Ra	138.78	48	⇓PKiKP	PKiKP	04 31 43.0	-0.2	
	baz=139							
528A	Cox Ranch, San	138.82	50	⇑PKiKP	PKiKP	04 31 43.4	+0.1	
	baz=139							
130A	Snyder	138.94	46	⇓PKiKP	PKiKP	04 31 43.5	+0.1	
	baz=139							
529A	Stev Forest Ra	139.27	50	⇑PKiKP	PKiKP	04 31 43.1	-1.1	
	baz=139							
429A	Davenport Ranc	139.27	49	⇑PKiKP	PKiKP	04 31 44.0	-0.2	
	baz=139							
131A	Roby	139.30	45	⇓PKiKP	PKiKP	04 31 44.0	-0.1	
	baz=139							
Z32A	Haskell	139.58	44	⇓PKiKP	PKiKP	04 31 44.3	-0.4	
	baz=140							
430A	Baggett Ranch,	139.68	48	⇑PKiKP	PKiKP	04 31 44.6	-0.4	
	baz=140							
231A	Bronte	139.75	46	⇓PKiKP	PKiKP	04 31 44.9	-0.1	
	baz=140							
ABTX	Abilene, Hawle	139.85	45	*e*PKPdf	PKPdf	04 31 45.3	+2.6	
ABTX	Abilene, Hawle	139.85	45	⇑PKiKP	PKiKP	04 31 44.9	-0.4	
	baz=140							
530A	J-C Ranch, Com	139.92	49	⇓PKiKP	PKiKP	04 31 44.9	-0.6	
	baz=140							
331A	San Angelo	140.00	47	⇑PKiKP	PKiKP	04 31 45.7	0.0	
	baz=140							
431A	Sonora	140.20	48	⇑PKiKP	PKiKP	04 31 45.9	-0.2	
	baz=140							
232A	Coleman	140.26	46	⇑PKiKP	PKiKP	04 31 45.7	-0.4	
	baz=140							
332A	Millersview	140.46	46	⇓PKiKP	PKiKP	04 31 45.5	-1.1	
	baz=140							
531A	Rocksprings	140.51	49	⇑PKiKP	PKiKP	04 31 45.9	-0.8	
	baz=140							
432A	Menard	140.69	47	⇓PKiKP	PKiKP	04 31 47.1	+0.1	
	baz=141							
631A	Perdido Creek	140.86	50	⇑PKiKP	PKiKP	04 31 47.8	+0.4	
	baz=141							
JCT	Junction City	140.90	48	⇓PKiKP	PKiKP	04 31 47.5	0.0	
	baz=141							
532A	Rocksprings	141.00	48	⇑PKiKP	PKiKP	04 31 47.6	-0.2	
	baz=141							
632A	Uvalde	141.41	49	⇓PKiKP	PKiKP	04 31 48.3	-0.2	
	baz=141							
SFIN	Scholer Farm	141.49	25	⇑PKiKP	PKiKP	04 31 48.0	-0.3	
	baz=141							
732A	Laxson Ranch,	141.66	50	⇑PKiKP	PKiKP	04 31 48.7	-0.3	
	baz=142							
WHTX	Lake Whitney	141.73	44	*e*PKPdf	PKPdf	04 31 42.6	-3.4	
WHTX	Lake Whitney	141.73	44	⇑PKiKP	PKiKP	04 31 49.4	+0.4	
	baz=142							
LBNH	Lisbon	141.83	6	*e*PKiKP	PKPdf	04 31 42.7	-3.1	
LBNH	Lisbon	141.83	6	*e*PKPdf	PKPdf	04 31 42.6	-3.1	
OLIL	Olney	142.40	27	*e*PKPdf	PKPdf	04 31 44.3	-2.7	
CFAA	Coronel Fontan	142.44	178	PKP	PKPdf	04 31 45.0	-2.3	
CFAA				SKPbc	SKPbc	04 34 29.5	-0.4	
CFAA	Coronel Fontan	142.44	178	PKP	PKPdf	04 31 45.0	-2.3	
	comp=Z,1.5nm,0.6s,baz=184,slow=3.6,SNR=51							
CFAA				SKPbc	SKPbc	04 34 29.5	-0.4	
	comp=Z,0.9nm,0.8s,baz=227,slow=3.2,SNR=9.0							
SIUC	Southern Illin	142.69	30	*e*PKPdf	PKPdf	04 31 44.9	-2.6	
ALLY	Alegheny Colle	142.79	16	*e*PKPdf	PKPdf	04 31 45.3	-2.3	
ACSO	Alum Creek Sta	143.19	20	*e*PKPdf	PKPbc	04 31 46.7	0.0	
UALR	University of	143.20	36	*e*PKPdf	PKPab	04 31 46.8	+0.2	
USIN	University of	143.22	28	*e*PKPdf	PKPab	04 31 46.6	+0.1	
PARMO	Parma	143.23	31	*e*PKPdf	PKPab	04 31 46.8	+0.2	
BINY	Binghamton	143.24	11	*e*PKPdf	PKPab	04 31 46.5	0.0	
PVMO	Portageville	143.45	31	*e*PKPdf	PKPbc	04 31 47.7	+0.1	
HBAR	Harrisburg	143.59	33	*e*PKPdf	PKPbc	04 31 48.5	+0.4	
WCI	Wyandotte Cave	143.62	26	*e*PKIKP	PKPab	04 31 48.1	0.0	
WCI	Wyandotte Cave	143.62

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNSI	**Mandailing Nat**	**0.49**	**295**	S	**Sg**	**04 48 43.9**	**-1.8**
BKNI	**Bangkinang**	**1.05**	**104**	P	Pb	04 48 48.2	-1.6
BKNI				S	**Sb**	**04 49 03.2**	**-0.5**
PPI	**Padang Panjang**	**1.10**	**160**	P	Pb	04 48 48.7	-2.0
PDSI	**Padang**	**1.55**	**164**	P	**Pn**	**04 48 57.2**	**-0.1**
PDSI				S	**Sn**	**04 49 18.4**	**+0.9**
SDSI	**Sungai Dareh**	**2.06**	**137**	P	Pn	04 49 00.5	-3.8
RGRI	**Rengat**	**2.49**	**112**	P	**Pb**	**04 49 14.1**	**-0.3**
RGRI				S	**Sb**	**04 49 46.8**	**+1.6**
GSI	**Gunungsitoli**	**2.55**	**286**	P	**Pn**	**04 49 10.9**	**-0.1**
FRIM	**Kepong**	**3.08**	**31**	P	**Pb**	**04 49 26.1**	**+1.5**
KCSI	**Kotacane, Aceh**	**3.69**	**322**	P	**Pn**	**04 49 27.5**	**+0.8**
IPM	**Ipoh**	**4.00**	**14**	P	**Pg**	**04 49 44.3**	**-2.0**
IPM	**Ipoh**	**4.00**	**14**	P	**Pn**	**04 49 30.9**	**-0.1**
MYKOM	**Kota Tinggi**	**4.01**	**73**	P	**Pb**	**04 49 40.3**	**-0.1**
MASI	**Maura Aman, Be**	**4.31**	**149**	P	**Pb**	**04 49 46.9**	**+1.3**
KULM	**Kulim**	**4.72**	**8**	P	**Pb**	**04 49 55.1**	**+2.6**
KULM	**Kulim**	**4.72**	**8**	P	**Pn**	**04 49 39.8**	**-1.1**
KTGM	**Kuala Trenggan**	**5.64**	**33**	P	**Pn**	**04 49 54.6**	**+1.0**

*ISCJB **28** 05:07:29.8±0.5, 28°.03N±0°.05×139°.3E±0°.1, h478km, mb3.5/12, Error ellipse: s-maj=12.4km s-min=6.7km az=169.1*
*JMA **28** 05:07:31.6±0.1, 28°.24N×140°.33E, h518km, M4.1*
*IDC **28** 05:07:31.5±1.2, 28°.10N×139°.63E, h492km±15km, mb3.1/12, mb1 3.2/16, mb1mx3.1/29, mbtmp3.0/16, Error ellipse: s-maj=18.5km s-min=11.2km az=86.0*
ISC 28 05:07:30.9±0.7, 28°.08N±0°.08×139°.5E±0°.1, h478km, n23, σ1§35/28, mb3.5/12, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.54**	**112**	P	**P**	**05 09 38.6**	**+1.4**
CBIJ				S	**S**	**05 09 31.4**	**+0.5**
CBIJ	**Chichi jima**	**2.54**	**112**	P	**P**	**05 08 38.0**	**+0.8**
	11nm,0.3s,baz=236,slow=11,SNR=22						
CBIJ				S	**S**	**05 09 30.3**	**-0.6**
	98nm,0.3s,baz=312,slow=20,SNR=20						
JHHJ	**Haha-jima-NKT**	**2.76**	**121**	P	**P**	**05 08 40.5**	**+2.0**
JHHJ				S	**S**	**05 09 35.0**	**+1.6**
BSO1	**Boso 1**	**6.67**	**10**	*e*S	**S**	**05 10 36.3**	**+0.8**
BSO3	**Boso 3**	**6.75**	**7**	P	**P**	**05 09 15.5**	**+2.1**
BSO3				*e*S	**S**	**05 10 38.2**	**+0.7**
BSO4	**Boso 4**	**6.92**	**5**	*e*S	**S**	**05 10 41.9**	**+0.9**
JRY	**Ryogami san**	**7.93**	**356**	P	**P**	**05 09 28.2**	**+2.2**
JAG	**Ashikaga**	**8.32**	**360**	P	**P**	**05 09 30.8**	**+0.8**
JAG				*e*S	**S**	**05 11 05.3**	**-2.7**
MJAR	**Matsushiro Arr**	**8.51**	**353**	P	**P**	**05 09 33.0**	**+0.9**
	0.5nm,0.3s,baz=169,slow=11,SNR=3.2						
KSRS	**Korea Array**	**13.51**	**317**	P	**P**	**05 10 28.6**	**+3.0**
	0.4nm,0.3s,baz=126,slow=9.6,SNR=3.3						
USRK	**Ussuriysk Arra**	**17.19**	**341**	P	**P**	**05 11 04.6**	**+0.5**
	0.3nm,0.3s,baz=148,slow=8.5,SNR=7.3						
SONM	**Songino Array**	**32.38**	**317**	P	**P**	**05 13 20.1**	**0.0**
	0.3nm,0.4s,baz=129,slow=4.6,SNR=2.8						
WRA	**Warramunga Arr**	**48.00**	**187**	P	**P**	**05 15 25.4**	**-0.3**
	2.1nm,0.3s,baz=4.3,slow=7.7,SNR=45						
MKAR	**Makanchi Array**	**48.04**	**309**	P	**P**	**05 15 24.4**	**-1.2**
	0.3nm,0.5s,baz=94,slow=8.1,SNR=4.3						
KURBB	**Kurchatov Arra**	**50.67**	**314**	P	**P**	**05 15 45.4**	**+0.3**
	1.0nm,0.5s,baz=91,slow=8.2,SNR=10.0						
ASAR	**Alice Springs**	**51.73**	**187**	P	**P**	**05 15 52.9**	**-0.2**
	1.0nm,0.3s,baz=1.8,slow=6.1,SNR=19						
KDAK	**Kodiak Island**	**55.00**	**37**	P	**P**	**05 16 15.7**	**-0.2**
	4.5nm,0.9s,baz=195,slow=16,SNR=3.7						
ILAR	**Eielson Array**	**57.99**	**29**	P	**P**	**05 16 35.5**	**-1.1**
	0.3nm,0.4s,baz=250,slow=5.7,SNR=12						
INK	**Inuvik**	**63.12**	**25**	P	**P**	**05 17 09.4**	**-1.0**
	2.5nm,1.2s,baz=0.0,slow=20						
ARCES	**ARCESS Array B**	**71.83**	**340**	P	**P**	**05 18 03.8**	**-0.3**
	3.1nm,1.0s,baz=46,slow=3.5,SNR=5.0						
YKA	**Yellowknife Ar**	**72.39**	**28**	P	**P**	**05 18 06.4**	**-0.9**
	1.0nm,0.7s,baz=305,slow=41,SNR=2.9						
FINES	**FINESS Array B**	**76.02**	**333**	P	**P**	**05 18 27.1**	**-0.8**
	1.3nm,0.3s,baz=70,slow=5.7,SNR=13						
NOA	**NORSAR Array B**	**81.82**	**337**	P	**P**	**05 18 57.8**	**-1.1**
	1.0nm,0.7s,baz=98,slow=6.4,SNR=2.4						

*ISCJB **28** 05:13:38.4±0.3, 37°.49N±0°.06×134°.78E±0°.06, h378km, mb3.4/10, Error ellipse: s-maj=8.4km s-min=5.4km az=25.0*
*JMA **28** 05:13:38.9±0.4, 37°.31N×134°.94E, h395km±4km, M3.6*
*IDC **28** 05:13:39.1±1.0, 37°.31N×134°.90E, h396km±12km, mb3.1/10, mb1 3.3/15, mb1mx3.2/31, mbtmp3.2/15, Error ellipse: s-maj=19.9km s-min=11.3km az=67.0*
ISC 28 05:13:38.3±0.6, 37°.32N±0°.08×134°.86E±0°.07, h378km, n37, σ1§59/41, mb3.4/10, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKG	**Kaga**	**1.57**	**131**	P	**Pn**	**05 14 31.7**	**+2.0**
JJH	**Hakui**	**1.59**	**104**	P	**Pn**	**05 14 31.8**	**+2.1**
JHG	**Hegura jima**	**1.72**	**71**	P	**Pn**	**05 14 32.6**	**+2.2**
JSZ	**Suzu**	**2.00**	**85**	P	**Pn**	**05 14 34.4**	**+2.3**
JWT	**Wachi**	**2.08**	**168**	P	**Pn**	**05 14 35.0**	**+2.2**
JWT				S	**S**	**05 15 18.6**	**+1.9**
JGM	**Miyama**	**2.20**	**137**	P	**Pn**	**05 14 35.3**	**+1.6**
JGM				S	**S**	**05 15 19.8**	**+1.5**
MAT	**Matsushiro**	**2.79**	**105**	P	**Pn**	**05 14 39.7**	**+1.6**
MAT				S	**S**	**05 15 28.4**	**+2.0**
MAT	**Matsushiro**	**2.79**	**105**	P	**Pn**	**05 14 39.7**	**+1.6**
MJAR	**Matsushiro Arr**	**2.79**	**105**	P	**Pn**	**05 14 40.2**	**+2.1**
	8.1nm,0.3s,baz=282,slow=9.9,SNR=134						
JIE	**Ise**	**3.28**	**152**	P	**Pn**	**05 14 44.6**	**+2.3**
JRY	**Ryogami san**	**3.50**	**111**	P	**Pn**	**05 14 46.4**	**+2.1**
JWZ	**Kozaga**	**3.84**	**169**	P	**Pn**	**05 14 49.3**	**+1.7**
JOD2	**Odawara 2**	**3.98**	**120**	P	**Pn**	**05 14 50.1**	**+1.2**
JOD2				S	**S**	**05 15 47.4**	**+1.4**
JMK	**Ichinoseki**	**5.28**	**70**	P	**Pn**	**05 15 02.8**	**+0.7**
KSRS	**Korea Array**	**5.52**	**274**	P	**Pn**	**05 15 07.7**	**+2.9**
	0.6nm,0.3s,baz=92,slow=12,SNR=15						
BSO1	**Boso 1**	**5.63**	**116**	S	**S**	**05 16 15.1**	**-1.3**
USRK	**Ussuriysk Arra**	**7.21**	**343**	P	**P**	**05 15 25.8**	**+1.2**
	3.9nm,0.3s,baz=154,slow=11,SNR=59						
ASAJ	**Asahikawa**	**8.98**	**38**	P	**Pn**	**05 15 44.5**	**+0.4**
	3.2nm,0.3s,baz=231,slow=11,SNR=5.9						
ASAJ				S	S	05 17 21.1	-6.3
	2.3nm,0.3s,baz=314,slow=31,SNR=12						
CBIJ	**Chichi jima**	**11.93**	**147**	P	**P**	**05 16 16.5**	**-1.4**
	5.3nm,0.3s,baz=282,slow=20,SNR=5.6						
CBIJ				S	S	05 18 19.2	-11
	6.3nm,0.3s,baz=275,slow=18,SNR=4.0						
SONM	**Songino Array**	**23.32**	**306**	P	**P**	**05 18 14.3**	**-0.1**
	0.3nm,0.4s,baz=113,slow=9.5,SNR=3.3						
CMAR	**Chiang Mai Arr**	**36.60**	**249**	P	**P**	**05 20 08.5**	**-1.7**
	0.5nm,0.3s,baz=45,slow=7.8,SNR=3.2						
MKAR	**Makanchi Array**	**39.51**	**301**	P	**P**	**05 20 34.1**	**+0.3**
	0.6nm,0.5s,baz=90,slow=10,SNR=9.5						
TAPN	**Taplejung**	**40.70**	**270**	*e*P	**P**	**05 20 44.9**	**+0.8**
	13nm,0.3s						
KURBB	**Kurchatov Arra**	**41.68**	**307**	P	**P**	**05 20 51.1**	**-0.1**
	0.4nm,0.5s,baz=80,slow=8.6,SNR=12						
RAMN	**Ramite**	**41.76**	**270**	*e*P	**P**	**05 20 50.9**	**-1.7**
	12nm,0.5s						
JIRN	**Jiri**	**41.77**	**271**	*e*P	**P**	**05 20 54.3**	**+1.5**
	15nm,0.4s						
GUN	**Gumba**	**41.91**	**272**	*e*P	**P**	**05 20 55.5**	**+1.6**
	13nm,0.4s						
KKN	**Kakani**	**42.44**	**272**	*e*P	**P**	**05 20 59.1**	**+1.1**
	6.9nm,0.3s						
GKN	**Gorkha**	**42.86**	**273**	*e*P	**P**	**05 21 01.8**	**+0.5**
	14nm,0.4s						
DANN	**Dangsing**	**43.41**	**274**	*e*P	**P**	**05 21 06.7**	**+1.0**
	29nm,0.7s						
KOLN	**Koldanda**	**43.79**	**273**	*e*P	**P**	**05 21 08.0**	**-0.6**
	3.0nm,0.3s						
WRA	**Warramunga Arr**	**56.95**	**181**	P	**P**	**05 22 45.8**	**0.0**
	0.7nm,0.4s,baz=16,slow=7.1,SNR=21						
ASAR	**Alice Springs**	**60.66**	**181**	P	**P**	**05 23 09.8**	**-1.1**
	0.2nm,0.5s,baz=14,slow=12,SNR=3.5						
ARCES	**ARCESS Array B**	**61.83**	**338**	P	**P**	**05 23 17.5**	**-0.6**
	3.5nm,0.9s,baz=50,slow=8.4,SNR=2.6						
FINES	**FINESS Array B**	**66.04**	**330**	P	**P**	**05 23 44.9**	**-0.4**
	2.6nm,0.7s,baz=114,slow=13,SNR=6.0						
AKASG	**Malin Array Be**	**70.78**	**320**	P	**P**	**05 24 12.1**	**-2.4**
	1.6nm,0.4s,baz=49,slow=6.4,SNR=7.6						
NOA	**NORSAR Array B**	**71.80**	**335**	P	**P**	**05 24 19.8**	**-0.6**
	0.8nm,0.6s,baz=43,slow=6.0,SNR=3.5						

*ISCJB **28** 05:33:13.5±0.4, 0°.04S±0°.04×120°.39E±0°.03, h97km±5km, mb3.8/9, Error ellipse: s-maj=6.3km s-min=4.4km az=149.3*
*DJA **28** 05:33:15.7±0.4, 0°.S±3°.×12°.0E±°, h50km±13km, M4.4/15, mb4.5/2, mB5.0/2, MLv4.4/15, Mw(mB)4.3/2*
*IDC **28** 05:33:15.7±3.5, 0°.26S×120°.24E, h106km±35km, mb3.5/9, mb1 3.7/10, mb1mx3.6/24, mbtmp3.6/10, Error ellipse: s-maj=42.6km s-min=13.9km az=65.0*
ISC 28 05:33:14.7±0.8, 0°.04S±0°.04×120°.39E±0°.04, h90km±8km, n25, σ0§75/35, mb3.8/9, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOLI	**Toli-Toli**	**1.22**	**19**	P	**Pn**	**05 33 36.6**	**-0.4**
TOLI				S	**Sn**	**05 33 53.2**	**-0.5**
APSI	**Ampana**	**1.53**	**125**	P	**Pn**	**05 33 40.9**	**+0.1**
APSI				S	**Sn**	**05 34 00.3**	**-0.3**
MRSI	**Marisa**	**1.63**	**72**	P	**Pn**	**05 33 41.3**	**-0.8**
MRSI				S	**Sn**	**05 34 01.3**	**-1.6**
LUWI	**Luwuk**	**2.58**	**113**	P	**Pn**	**05 33 55.1**	**+0.5**
LUWI				S	**Sn**	**05 34 25.2**	**-0.1**
GTOI	**Gorontalo**	**2.70**	**76**	P	**Pn**	**05 33 55.7**	**-0.5**
GTOI				S	**Sn**	**05 34 28.4**	**+0.2**
SGKI	**Sangatta, Kali**	**2.83**	**260**	P	**Pn**	**05 33 57.8**	**-0.2**
SGKI				S	**Sn**	**05 34 31.2**	**-0.1**
MMSI	**Mamuju**	**3.02**	**209**	P	**Pn**	**05 34 00.3**	**-0.3**
MMSI				S	**Sn**	**05 34 36.6**	**+0.6**
KMSI	**Cibinong**	**3.64**	**80**	P	**Pn**	**05 34 10.0**	**+1.1**
KMSI				S	**Sn**	**05 34 52.1**	**+1.3**
BKB	**Balikpapan**	**3.70**	**251**	P	**Pn**	**05 34 09.6**	**-0.1**
BKB				S	**Sn**	**05 34 51.4**	**-0.9**
MJSI	**Majene**	**3.77**	**202**	P	**Pn**	**05 34 11.0**	**+0.4**
MJSI				S	**Sn**	**05 34 53.8**	**-0.1**
SPSI	**Sidrap Palu**	**3.95**	**189**	P	**Pn**	**05 34 13.5**	**+0.4**
BNSI	**Bone**	**4.35**	**184**	P	**Pn**	**05 34 19.4**	**+0.9**
KAPI	**Kappang**	**4.99**	**187**	P	**Pn**	**05 34 26.8**	**-0.4**
KAPI	**Kappang**	**4.99**	**187**	P	**Pn**	**05 34 26.9**	**-0.3**
	16nm,0.3s,baz=1.6,slow=6.5,SNR=35						
KAPI				S	Sn	05 35 17.3	-6.3
	1.4nm,0.3s,baz=211,slow=18,SNR=1.6						
BKSI	**Bulukumba**	**5.26**	**183**	P	**Pn**	**05 34 30.4**	**-0.5**
	23nm,0.5s,658nm0.1nm						
MYLDM	**Lahad Datu**	**5.51**	**340**	P	**Pn**	**05 34 36.0**	**+1.6**
WRA	**Warramunga Arr**	**24.04**	**146**	P	**P**	**05 38 20.5**	**-1.1**
	0.7nm,0.4s,baz=336,slow=9.4,SNR=12						
ASAR	**Alice Springs**	**26.91**	**152**	P	**P**	**05 38 46.8**	**-0.8**
	0.7nm,0.6s,baz=340,slow=11,SNR=10.0						
CMAR	**Chiang Mai Arr**	**27.96**	**312**	P	**P**	**05 38 57.8**	**+0.8**
	1.1nm,0.3s,baz=125,slow=7.8,SNR=4.2						
STKA	**Stephens Creek**	**37.49**	**150**	P	**P**	**05 40 19.2**	**-0.6**
	1.5nm,0.5s,baz=293,slow=7.0,SNR=7.4						
USRK	**Ussuriysk Arra**	**45.24**	**12**	P	**P**	**05 41 22.4**	**-0.6**
	2.4nm,0.6s,baz=209,slow=10.0,SNR=6.9						
SONM	**Songino Array**	**49.21**	**348**	P	**P**	**05 41 54.5**	**+0.5**
	0.3nm,0.4s,baz=163,slow=10,SNR=3.7						
MKAR	**Makanchi Array**	**57.30**	**330**	P	**P**	**05 42 53.8**	**+0.6**
	0.6nm,0.6s,baz=132,slow=5.6,SNR=7.9						
MKAR				pP	**pP**	**05 43 16.5**	**+0.9**
	0.3nm,0.6s,baz=120,slow=8.6,SNR=3.7						
ZALV	**Zalesovo Beam**	**61.30**	**337**	P	**P**	**05 43 20.6**	**+0.1**
	0.5nm,0.3s,baz=118,slow=12,SNR=2.2						
VNDA	**Vanda**	**80.58**	**172**	P	P	05 45 13.2	-3.7
	0.7nm,0.6s,baz=307,slow=10,SNR=5.2						

DJA 28 05:57:24.9±0.8, 8°S±5°.×10°7E±°, h29km±7km, M3.7/10, MLv3.7/10, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.79**	**42**	P	Pn	05 57 38.8	-1.3
SKJI	**Sukabumi**	**1.34**	**327**	P	Pn	05 57 47.0	-0.6
SKJI				S	Sn	05 58 04.3	-0.2
LEM	**Lembang**	**1.35**	**14**	P	Pn	05 57 48.4	+0.4
LEM				S	Sn	05 58 05.6	+0.5
DBJI	**Dramaga**	**1.66**	**342**	P	Pn	05 57 52.4	+0.3
DBJI				S	Sn	05 58 12.9	+0.4
CLJI	**Cilicap**	**1.77**	**76**	S	Sb	05 58 16.9	-1.6
KPJI	**Karang Pucung**	**1.82**	**64**	P	Pn	05 57 55.2	+0.9
KPJI				S	Sn	05 58 17.9	+1.5
TNG	**Tangerang**	**2.05**	**342**	P	Pn	05 57 57.9	+0.4
TNG				S	Sn	05 58 23.7	+1.5
TGJI	**Tegal**	**2.22**	**55**	P	Pn	05 58 00.5	+0.7
TGJI				S	Sn	05 58 26.9	+0.6
SBJI	**Serang**	**2.31**	**330**	P	Pn	05 58 01.4	+0.4
SBJI				S	Sn	05 58 29.4	+0.9
BJII	**Banjamegara**	**2.54**	**72**	P	Pn	05 58 03.8	-0.5
BJII				S	Sn	05 58 35.2	+0.9

IDC 28 06:14:55.3±4.5, 30°.23S×138°.60E, h0km, mb1 2.9/3, mb1mx2.9/16, mbtmp2.7/3, ML2.5/3, Error ellipse: s-maj=142.5km s-min=17.9km az=43.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**3.06**	**123**	Pn	Pn	06 15 46.1	+1.2
	0.2nm,0.3s,baz=304,slow=13,SNR=6.1						
STKA				Sn	Sn	06 16 21.5	-0.7
	1.0nm,0.3s,baz=303,slow=17,SNR=4.1						
STKA				Lg	Lg	06 16 31.8	
	1.5nm,0.3s,baz=288,slow=19,SNR=6.5						
ASAR	**Alice Springs**	**7.76**	**326**	Pn	Pn	06 16 48.8	-0.9
	0.1nm,0.3s,baz=144,slow=13,SNR=3.1						
WRA	**Warramunga Arr**	**10.94**	**338**	Pn	Pn	06 17 33.7	+0.4
	0.1nm,0.3s,baz=164,slow=11,SNR=4.9						

*NEIC **28** 06:25:15.5, 18°.45N×101°.25W, h70km, MD4.0(MEX), After MEX.*
MEX 28 06:25:15.5±0.9, 18°.45N×101°.25W, h70km±13km, MD4.0, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.86**	**194**	*i* P	Pn	06 25 30.7	-1.5
ZIIG				*i* S	Sn	06 25 43.5	-1.2
ZIIG	**Zihuatanejo**	**0.86**	**194**	*i* P	Pn	06 25 30.7	-1.5
ZIIG				*i* S	Sn	06 25 43.5	-1.2
ARIG	**Puente Sto Nin**	**0.88**	**101**	*i* P	Pn	06 25 30.6	-1.9
ARIG				*i* S	Sn	06 25 43.0	-2.1
MOIG	**Morelia**	**1.22**	**3**	*i* P	Pn	06 25 35.6	-1.6
MOIG				*e*S	Sn	06 25 50.5	-2.8
MOIG	**Morelia**	**1.22**	**3**	*i* P	Pn	06 25 35.6	-1.6
MOIG				*e*S	Sn	06 25 50.5	-2.8
MEIG	**Mezcala**	**1.64**	**108**	*e*P	Pn	06 25 41.4	-1.0
MEIG				*i* S	Sn	06 26 00.2	-2.6
MEIG	**Mezcala**	**1.64**	**108**	*e*P	Pn	06 25 41.4	-1.0
MEIG				*i* S	Sn	06 26 00.2	-2.6
PLIG	**Platanillo**	**1.66**	**92**	*i* P	Pn	06 25 41.6	-1.1
PLIG				*i* S	Sn	06 26 02.3	-1.1
PLIG	**Platanillo**	**1.66**	**92**	*i* P	Pn	06 25 41.6	-1.1
PLIG				*i* S	Sn	06 26 02.3	-1.1
CAIG	**El Cayaco**	**1.68**	**146**	*e*P	Pn	06 25 40.8	-2.1
CAIG				*i* S	Sn	06 26 01.2	-2.4
CAIG	**El Cayaco**	**1.68**	**146**	*e*P	Pn	06 25 40.8	-2.1
CAIG				*i* S	Sn	06 26 01.2	-2.4
ACX	**Acapulco**	**2.06**	**140**	*i* P	Pn	06 25 50.8	+2.8
ACX				*i* S	Sn	06 26 14.4	+1.7
ACX	**Acapulco**	**2.06**	**140**	*i* P	Pn	06 25 50.8	+2.8
ACX				*i* S	Sn	06 26 14.4	+1.7
YAIG	**Yautepec**	**2.11**	**78**	*e*P	Pn	06 25 48.3	-0.6
YAIG				*e*S	Sn	06 26 11.6	-2.7
YAIG	**Yautepec**	**2.11**	**78**	*e*P	Pn	06 25 48.3	-0.6
YAIG				*e*S	Sn	06 26 11.6	-2.7
PNIG	**Pinotepa**	**3.62**	**124**	*i* P	Pn	06 26 08.8	-0.4
PNIG				*i* S	Sn	06 26 49.1	-1.7
PNIG	**Pinotepa**	**3.62**	**124**	*i* P	Pn	06 26 08.8	-0.4
PNIG				*i* S	Sn	06 26 49.1	-1.7

*THE **28** 06:51:41.7, 39°.92N×23°.72E, h6km, ML3.3/13, Error ellipse: s-maj=1.0km s-min=0.5km az=266.0*
*IDC **28** 06:51:41.1±1.6, 39°.70N×23°.81E, h0km, mb3.7/3, mb1 3.6/4, mb1mx3.4/24, mbtmp3.6/4, ML3.1/1, Error ellipse: s-maj=90.5km s-min=24.6km az=143.0*
*ATH **28** 06:51:41.6, 39°.93N×23°.76E, h5km±1km, MD3.0/7*
*CSEM **28** 06:51:41.4±0.1, 39°.91N×23°.74E, h0km±1km, ML3.3/13, Error ellipse: s-maj=3.5km s-min=3.1km az=83.0*
*ISCJB **28** 06:51:41.0±0.4, 39°.92N±0°.01×23°.74E±0°.03, h5km±3km, mb3.6/3, Error ellipse: s-maj=3.5km s-min=2.4km az=5.0*
*BEO **28** 06:51:42.3±0.7, 39°.85N×23°.63E, ML3.1/6*
ISC 28 06:51:41.5±0.8, 39°.90N±0°.02×23°.74E±0°.02, h6km±5km, n91, σ0§91/140, mb3.7/3, 16C-6D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAIG	**Paliouri**	**0.05**	**301**	P	**Pg**	**06 51 43.0**	**0.0**
PAIG				S	**Sg**	**06 51 44.0**	**+0.1**
PAIG	**Paliouri**	**0.05**	**301**	*e*PG	**Pg**	**06 51 43.0**	**0.0**
PAIG				*e*SG	**Sg**	**06 51 44.1**	**+0.1**
PAIG	**Paliouri**	**0.05**	**301**	P	**Pg**	**06 51 43.0**	**0.0**
PAIG				S	**Sg**	**06 51 44.0**	**+0.1**
OUR	**Ouranopolis**	**0.47**	**23**	P	**Pg**	**06 51 51.0**	**+0.4**
OUR				S	**Sg**	**06 51 57.8**	**+1.0**
OUR	**Ouranopolis**	**0.47**	**23**	P	**Pg**	**06 51 51.0**	**+0.4**
OUR				S	**Sg**	**06 51 57.8**	**+1.0**
PLG	**Polygyros**	**0.52**	**335**	P	**Pg**	**06 51 50.9**	**-0.6**
PLG				S	**Sg**	**06 51 58.0**	**-0.4**
PLG	**Polygyros**	**0.52**	**335**	*e*PB	**Pg**	**06 51 51.0**	**-0.6**
PLG				*e*SB	**Sg**	**06 51 58.0**	**-0.4**
PLG	**Polygyros**	**0.52**	**335**	*e*Pb	**Pg**	**06 51 51.0**	**-0.6**
PLG				S	**Sg**	**06 51 58.0**	**-0.4**
XOR	**Xorichti**	**0.68**	**218**	P	**Pg**	**06 51 55.0**	**+0.4**
XOR				S	**Sb**	**06 52 04.8**	**-0.7**
XOR	**Xorichti**	**0.68**	**218**	P	**Pg**	**06 51 55.0**	**+0.4**
XOR				S	**Sb**	**06 52 04.8**	**-0.7**
NEO	**Neokhori**	**0.71**	**214**	P	**Pg**	**06 51 55.7**	**+0.5**
NEO				S	**Sb**	**06 52 05.9**	**-0.5**
NEO	**Neokhori**	**0.71**	**214**	*e*PB	**Pg**	**06 51 55.9**	**+0.7**
NEO				*e*SB	**Sb**	**06 52 05.9**	**-0.5**
NEO	**Neokhori**	**0.71**	**214**	*e*Pb	**Pg**	**06 51 55.9**	**+0.7**
NEO				S	**Sb**	**06 52 05.9**	**-0.5**
AOS	**Alonnisos**	**0.74**	**171**	P	**Pg**	**06 51 56.1**	**+0.4**
AOS				S	**Sb**	**06 52 07.5**	**+0.4**
AOS	**Alonnisos**	**0.74**	**171**	*e*PB	**Pb**	**06 51 56.4**	**-0.4**
AOS				*e*SB	**Sb**	**06 52 07.7**	**+0.6**
AOS	**Alonnisos**	**0.74**	**171**	P	**Pg**	**06 51 56.1**	**+0.4**
AOS	**Alonnisos**	**0.74**	**171**	*e*Pb	**Pb**	**06 51 56.4**	**-0.4**
AOS				S	**Sb**	**06 52 07.5**	**+0.4**
SKIA	**Skiathos**	**0.76**	**196**	P	**Pb**	**06 51 56.8**	**-0.4**
SKIA				S	**Sb**	**06 52 07.5**	**-0.3**
SKIA	**Skiathos**	**0.76**	**196**	P	**Pb**	**06 51 56.8**	**-0.4**
SKIA				S	**Sb**	**06 52 07.5**	**-0.3**
HORT	**Hortiatis**	**0.85**	**325**	P	**Pg**	**06 51 56.8**	**-1.0**
HORT				S	**Sg**	**06 52 08.9**	**0.0**
HORT	**Hortiatis**	**0.85**	**325**	P	**Pg**	**06 51 56.8**	**-1.0**
HORT				S	**Sg**	**06 52 08.9**	**0.0**
THE	**Thessaloniki**	**0.94**	**321**	P	**Pg**	**06 51 59.0**	**-0.5**
THE				S	**Sg**	**06 52 11.5**	**-0.2**
THE	**Thessaloniki**	**0.94**	**321**	P	**Pg**	**06 51 59.0**	**-0.5**
THE				S	**Sg**	**06 52 11.5**	**-0.2**
SOH	**Sokhos**	**0.96**	**343**	P	**Pg**	**06 51 59.4**	**-0.6**
SOH				S	**Sg**	**06 52 13.1**	**+0.5**
SOH	**Sokhos**	**0.96**	**343**	*e*PG	**Pg**	**06 51 59.5**	**-0.6**
SOH				*e*SB	**Sg**	**06 52 13.2**	**+0.6**
SOH	**Sokhos**	**0.96**	**343**	*e*Pg	**Pg**	**06 51 59.5**	**-0.6**
SOH				S	**Sg**	**06 52 13.1**	**+0.5**
LIT	**Litokhoron**	**0.98**	**282**	P	**Pg**	**06 51 59.6**	**-0.7**
LIT				S	**Sb**	**06 52 13.7**	**-0.4**
LIT	**Litokhoron**	**0.98**	**282**	*e*PB	**Pg**	**06 52 00.5**	**+0.2**
LIT				*e*SB	**Sb**	**06 52 14.9**	**+0.8**
LIT	**Litokhoron**	**0.98**	**282**	P	**Pg**	**06 51 59.6**	**-0.7**
LIT				S	**Sb**	**06 52 13.7**	**-0.4**
LIT				*e*Sb	**Sb**	**06 52 14.9**	**+0.8**
LIA	**Limnos Island**	**1.11**	**90**	P	**Pg**	**06 52 02.2**	**-0.7**
LIA				S	**Sg**	**06 52 16.9**	**-0.4**
LIA	**Limnos Island**	**1.11**	**90**	*e*PN	**Pg**	**06 52 02.4**	**-0.5**
LIA				*e*SB	**Sb**	**06 52 18.0**	**+0.1**
LIA	**Limnos Island**	**1.11**	**90**	P	**Pg**	**06 52 02.2**	**-0.7**
LIA				S	**Sg**	**06 52 16.9**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**11.37**	**29**	Pn	Pn	06 56 00.9	+0.7
	0.3nm,0.3s,baz=212,slow=14,SNR=7.7						
SONM				Lg	Lg	06 59 17.1	
	0.1nm,0.3s,baz=208,slow=28,SNR=3.3						
MKAR	**Makanchi Array**	**14.63**	**311**	Pn	Pn	06 56 41.2	-3.5
	0.2nm,0.3s,baz=120,slow=13,SNR=8.0						
ZALV	**Zalesovo Beam**	**18.33**	**334**	P	Pn	06 57 31.4	-0.6
	0.6nm,0.3s,baz=146,slow=13,SNR=4.4						
KURBB	**Kurchatov Arra**	**18.79**	**318**	P	P	06 57 36.1	-1.0
	baz=125,slow=12,SNR=4.2						

*IDC **28** 07:14:27.0±0.7,3.°90S×142.°36E, h0km, mb4.3/15, mb1 4.5/17, mb1mx4.5/21, mbtmp4.4/17, ML4.8/2, MS3.8/12, Ms1 3.8/12, ms1mx3.6/24, Error ellipse: s-maj=23.4km s-min=12.8km az=87.0*

*MOS **28** 07:14:30.5±1.4, 3.°78S×142.°06E, h33km, mb5.0/9, Error ellipse: s-maj=15.8km s-min=8.2km az=101.9*

*AUST **28** 07:14:32.1±0.0, 3.°55S×142.°04E, h50km, Error ellipse: s-maj=1.5km s-min=0.8km az=31.0*

*DJA **28** 07:14:35.3±0.7, 4.°S±7.°×14.°2E±.°, h55km±6km, M4.9/17, mB5.2/6, mb4.9/17, MLv5.1/3, Mw(mB)4.6/6*

*BJI **28** 07:14:36.6, 3.°90S×142.°00E, h64km, mB5.1/13, mb4.8/20, Ms5.0/8, Ms7 4.7/9*

*NEIC **28** 07:14:38.6±1.6, 3.°95S×142.°06E, h88km±15km, mb4.6/12, Error ellipse: s-maj=11.0km s-min=9.5km az=75.0*

*ISCJB **28** 07:14:39.5±0.3, 3.°95S±0.°03×141.°96E±0.°04, h109km, mb4.5/43, Error ellipse: s-maj=6.3km s-min=4.2km az=167.9*

ISC 28 07:14:41.5±0.4, 4.°08S±0.°04×142.°03E±0.°05, h109km, n130, σ1§88/142, mb4.5/42, 1C, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.04**	**320**	P	Pn	07 15 01.1	-14
JAY	**Jayapura**	**2.04**	**320**	P	Pn	07 14 59.9	-15
	baz=1.7,SNR=120						
WAMI	**Wamena**	**3.32**	**273**	P	Pn	07 15 24.0	-7.7
BAKI	**Biak**	**6.58**	**296**	P	**Pn**	**07 16 17.5**	**+1.8**
PMG	**Port Moresby**	**7.34**	**136**	*e*Pn	**Pn**	**07 16 23.5**	**-2.7**
PMG				*e*Sn	**Sn**	**07 17 50.0**	**+2.0**
PMG				Sn	Sn	07 17 52.2	+4.2
PMG	**Port Moresby**	**7.34**	**136**	P	**Pn**	**07 16 26.4**	**+0.3**
	94nm,0.8s,1μm0.4nm						
PMG	**Port Moresby**	**7.34**	**136**	Pn	Pn	07 16 21.3	-4.9
	1.8nm,0.3s,baz=324,slow=19,SNR=4.3						
PMG				Sn	**Sn**	**07 17 52.2**	**+4.2**
	3.2nm,0.3s,baz=264,slow=19,SNR=2.2						
TLE	**Tual**	**9.39**	**260**	P	Pn	07 16 50.4	-3.5
	167nm,1.2s						
COEN	**Coen**	**9.88**	**174**	*e*Pn	**Pn**	**07 16 58.8**	**-1.8**
COEN				*e*Sn	**Sn**	**07 18 53.6**	**+3.9**
COEN	**Coen**	**9.88**	**174**	P	**Pn**	**07 16 59.0**	**-1.6**
	baz=10,SNR=13						
SWI	**Sorong**	**11.22**	**286**	P	**Pn**	**07 17 21.0**	**+2.2**
KDU	**Kakadu**	**12.74**	**227**	P	Pn	07 17 33.9	-4.9
	baz=13,SNR=22						
MTSU	**Mount Surprise**	**14.15**	**171**	P	**Pn**	**07 17 58.7**	**+1.6**
	baz=15,SNR=15						
CTA	**Charters Tower**	**16.44**	**166**	Pn	**P**	**07 18 27.3**	**+0.6**
CTA				Lg	Lg	07 23 26.4	
CTA	**Charters Tower**	**16.44**	**166**	Pn	**P**	**07 18 27.3**	**+0.6**
	0.4nm,0.3s,baz=331,slow=15,SNR=10						
CTA				Lg	Lg	07 23 26.4	
	0.2nm,0.3s,baz=41,slow=20,SNR=2.2						
CTAO	**Charters Tower**	**16.44**	**166**	*e*P	**P**	**07 18 28.2**	**+1.6**
CTAO				pmax	pmax		
	comp=Z,37nm,1.2s						
CTAO	**Charters Tower**	**16.44**	**166**	*e*P	**P**	**07 18 28.2**	**+1.6**
	comp=Z,37nm,1.2s						
KNRA	**Kununurra**	**17.41**	**228**	P	**P**	**07 18 35.2**	**-2.2**
	baz=18,SNR=33						
KNRA				S	**Sn**	**07 21 45.8**	**-6.0**
	baz=18,SNR=4.3						
WRAB	**Tennant Creek**	**17.45**	**205**	*e*P	**P**	**07 18 35.6**	**-2.2**
WRAB				*e*S	**S**	**07 21 53.8**	**0.0**
WRAB				pmax	pmax		
	comp=Z,30nm,0.7s						
WRAB	**Tennant Creek**	**17.45**	**205**	*e*P	**P**	**07 18 35.6**	**-2.2**
	comp=Z,30nm,0.7s						
WRAB				*e*S	**S**	**07 21 53.8**	**0.0**
WRA	**Warramunga Arr**	**17.46**	**205**	P	**P**	**07 18 35.6**	**-2.3**
WRA				S	**Sn**	**07 21 51.8**	**-1.3**
WRA				Lg	Lg	07 23 42.2	
WRA	**Warramunga Arr**	**17.46**	**205**	P	**P**	**07 18 35.6**	**-2.3**
	comp=Z,1.8nm,0.3s,baz=28,slow=13,SNR=46						
WRA				S	**Sn**	**07 21 51.8**	**-1.3**
	comp=Z,0.4nm,0.3s,baz=17,slow=22,SNR=4.7						
WRA				Lg	Lg	07 23 42.2	
	baz=23,slow=34,SNR=2.9						
WRA				LR	LR	07 25 50.8	
	comp=Z,522nm,18.0s,baz=25,slow=38						
SOEI	**Soe**	**18.51**	**251**	P	**P**	**07 18 48.4**	**-1.2**
	comp=Z,158nm,1.0s,comp=Z,2μm						
SOEI	**Soe**	**18.51**	**251**	P	**Pn**	**07 18 50.3**	**-0.8**
	baz=19,SNR=7.6						
HNR	**Honiara**	**18.56**	**108**	LR	LR	07 24 42.5	
	comp=Z,147nm,20.4s,baz=254,slow=34						
BATI	**Baumata**	**19.21**	**251**	P	**P**	**07 18 57.0**	**-0.2**
BATI	**Baumata**	**19.21**	**251**	P	**P**	**07 18 57.4**	**+0.3**
	comp=Z,93nm,0.9s						
BATI	**Baumata**	**19.21**	**251**	P	**P**	**07 18 57.0**	**-0.2**
	comp=Z,11nm,0.3s,baz=122,slow=8.8,SNR=5.8						
MRSI	**Marisa**	**20.58**	**282**	P	**P**	**07 19 08.3**	**-3.6**
	comp=Z,41nm,1.1s,comp=Z,2μm						
APSI	**Ampana**	**20.60**	**278**	P	**P**	**07 19 10.5**	**-1.7**
	comp=Z,104nm,0.8s,comp=Z,951nm						
AS31	**Alice Springs**	**20.99**	**201**	*e*P	**P**	**07 19 15.8**	**-0.5**
AS31				*e*S	**S**	**07 23 10.8**	**+6.6**
ASAR	**Alice Springs**	**20.99**	**201**	P	**P**	**07 19 15.8**	**-0.5**
ASAR				S	**S**	**07 23 07.2**	**+2.9**
ASAR				Lg	Lg	07 25 47.7	
ASAR	**Alice Springs**	**20.99**	**201**	P	**P**	**07 19 15.8**	**-0.5**
	comp=Z,15nm,0.6s,baz=30,slow=8.9,SNR=50						
ASAR				S	**S**	**07 23 07.2**	**+2.9**
	comp=Z,3.3nm,1.0s,baz=22,slow=18,SNR=3.0						
ASAR				Lg	Lg	07 25 47.7	
	comp=Z,9.3nm,0.9s,baz=16,slow=30,SNR=3.4						
ASAR				LR	LR	07 28 02.0	
	comp=Z,436nm,20.9s,baz=19,slow=38						
FITZ	**Fitzroy Crossi**	**21.25**	**228**	*e*P	**P**	**07 19 19.8**	**+0.6**
FITZ				*e*S	**S**	**07 23 09.6**	**+0.3**
FITZ				Lg	Lg	07 25 52.0	
FITZ	**Fitzroy Crossi**	**21.25**	**228**	P	**P**	**07 19 18.6**	**-0.5**
	comp=Z,10.0nm,0.5s,baz=42,slow=11,SNR=41						
FITZ				S	**S**	**07 23 08.4**	**-0.8**
	comp=Z,28nm,1.1s,baz=93,slow=14,SNR=3.6						
FITZ				Lg	Lg	07 25 52.0	
	comp=Z,21nm,0.9s,baz=141,slow=14,SNR=2.6						
FITZ				LR	LR	07 28 01.4	
	comp=Z,233nm,21.3s,baz=48,slow=38						
FITZ	**Fitzroy Crossi**	**21.25**	**228**	P	**P**	**07 19 18.4**	**-0.7**
	baz=22,SNR=30						
BNSI	**Bone**	**21.87**	**268**	P	**P**	**07 19 24.0**	**-1.7**
	comp=Z,83nm,1.3s						
BKSI	**Bulukumba**	**21.87**	**266**	P	**P**	**07 19 24.7**	**-1.0**
	comp=Z,66nm,0.8s,comp=Z,571nm						
SPSI	**Sidrap Palu**	**22.21**	**270**	P	**P**	**07 19 28.0**	**-1.3**
	comp=Z,28nm,1.0s						
KAPI	**Kappang**	**22.23**	**267**	P	**P**	**07 19 29.2**	**-0.3**
KAPI	**Kappang**	**22.23**	**267**	P	**P**	**07 19 29.2**	**-0.3**
	comp=Z,13nm,0.6s,baz=85,slow=7.5,SNR=8.5						
WSI	**Waingapu**	**22.27**	**254**	P	P	07 19 23.4	-6.5
	baz=22,SNR=3.1						
QLP	**Quilpie**	**22.48**	**175**	P	**P**	**07 19 32.4**	**+0.6**
	baz=23,SNR=4.8						
EIDS	**Eidsvold**	**22.89**	**159**	*e*P	**P**	**07 19 37.4**	**+1.4**
	comp=Z,40nm,0.8s						
EIDS	**Eidsvold**	**22.89**	**159**	P	**P**	**07 19 38.2**	**+2.2**
	baz=24,SNR=8.0						
RMQ	**Roma**	**23.19**	**165**	P	**P**	**07 19 41.8**	**+2.8**
	baz=24,SNR=7.5						
STKA	**Stephens Creek**	**27.66**	**181**	P	**P**	**07 20 19.3**	**+0.1**
STKA	**Stephens Creek**	**27.66**	**181**	P	**P**	**07 20 19.3**	**+0.1**
	comp=Z,2.4nm,0.6s,baz=359,slow=10.0,SNR=9.6						
STKA				LR	LR	07 33 08.2	
	comp=Z,370nm,19.2s,baz=16,slow=40						
STKA	**Stephens Creek**	**27.66**	**181**	P	**P**	**07 20 21.1**	**+2.0**
	baz=28,SNR=5.4						
BBOO	**Buckleboo**	**29.12**	**190**	P	**P**	**07 20 33.9**	**+1.8**
	baz=30,SNR=9.8						
FORT	**Forrest**	**29.65**	**205**	P	**P**	**07 20 38.2**	**+1.4**
	baz=30,SNR=15						
DZM	**Mont Dzumac**	**29.66**	**129**	*e*P	**P**	**07 20 37.5**	**+0.3**
DZM	**Mont Dzumac**	**29.66**	**129**	P	**P**	**07 20 37.0**	**-0.2**
	comp=Z,2.6nm,0.7s,baz=262,slow=5.6,SNR=8.2						
YNG	**Young**	**30.64**	**170**	P	**P**	**07 20 47.8**	**+2.1**
	baz=31,SNR=4.7						
CBIJ	**Chichi jima**	**30.99**	**0**	LR	LR	07 30 25.7	
	comp=Z,91nm,19.1s,baz=110,slow=31						
MEEK	**Meekatharra**	**31.70**	**223**	P	**P**	**07 20 55.0**	**0.0**
	baz=32,SNR=7.1						
CISI	**Cisompet, Garu**	**34.20**	**263**	P	**P**	**07 21 14.0**	**-3.1**
	baz=34,SNR=3.0						
MORW	**Morawa**	**35.01**	**222**	P	**P**	**07 21 23.8**	**+0.1**
	baz=36,SNR=7.7						
BLDU	**Ballidu**	**35.60**	**219**	P	**P**	**07 21 29.0**	**+0.2**
	baz=36,SNR=20						
MSVF	**Nonsavu**	**37.78**	**114**	*i* P	**P**	**07 21 46.4**	**-1.2**
MJAR	**Matsushiro Arr**	**40.57**	**355**	P	**P**	**07 22 07.8**	**-2.6**
MJAR	**Matsushiro Arr**	**40.57**	**355**	P	**P**	**07 22 07.8**	**-2.6**
	comp=Z,0.7nm,0.3s,baz=178,slow=6.7,SNR=3.0						
MJAR				LR	LR	07 36 04.5	
	comp=Z,62nm,21.9s,baz=300,slow=32						
MAJO	**Matsushiro**	**40.57**	**355**	*e*P	P	07 22 05.5	-4.9
NJ2	**Nanjing**	**42.15**	**330**	*e*P	**P**	**07 22 23.5**	**+0.1**
NJ2				pmax	pmax		
	comp=Z,20nm,1.4s						
TJN	**Taejon**	**42.52**	**342**	*e*P	P	07 22 21.5	-4.8
KSAR	**Wonju Array Be**	**43.36**	**344**	P	**P**	**07 22 31.8**	**-1.2**
KSRS	**Korea Array**	**43.36**	**344**	P	**P**	**07 22 31.8**	**-1.2**
	comp=Z,0.4nm,0.3s,baz=157,slow=8.2,SNR=3.4						
KSRS				LR	LR	07 37 42.9	
	comp=Z,52nm,20.7s,baz=312,slow=32						
GYA	**Guiyang**	**45.74**	**314**	*e*P	**P**	**07 22 51.8**	**-0.5**
GYA				pP	pP	07 23 07.5	-10
GYA				sP	sP	07 23 15.0	-15
GYA				PP	**PP**	**07 24 39.5**	**-2.2**
GYA				ScP	**ScP**	**07 28 16.0**	**+4.4**
GYA				S	**S**	**07 29 30.8**	**+2.9**
GYA				sS	sS	07 29 56.5	-15
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,90nm,4.9s						
GYA				LR	LR		
	comp=N,480nm,17.9s						
GYA				LR	LR		
	comp=E,390nm,18.2s						
GYA				LR	LR		
	comp=Z,440nm,17.8s						
ERM	**Erimo**	**45.89**	**1**	*c i* P	P	07 22 46.6	-6.4
ERM				pmax	pmax		
	comp=Z,65nm,1.2s						
RPZ	**Rata Peaks**	**47.07**	**151**	P	**P**	**07 23 00.1**	**-2.3**
RPZ	**Rata Peaks**	**47.07**	**151**	P	**P**	**07 23 00.1**	**-2.3**
	comp=Z,23nm,1.0s,baz=346,slow=17,SNR=2.3						
KMI	**Kunming**	**47.94**	**309**	P	**P**	**07 23 08.5**	**-1.1**
KMI				S	**S**	**07 30 03.8**	**+4.4**
KMI				pmax	pmax		
	comp=Z,7.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**47.99**	**299**	P	**P**	**07 23 08.9**	**-1.0**
CMAR	**Chiang Mai Arr**	**47.99**	**299**	P	**P**	**07 23 08.9**	**-1.0**
	comp=Z,0.9nm,0.4s,baz=106,slow=6.7,SNR=3.7						
USRK	**Ussuriysk Arra**	**48.90**	**350**	P	**P**	**07 23 14.5**	**-1.8**
	comp=Z,0.6nm,0.6s,baz=176,slow=7.2,SNR=2.2						
USRK				LR	LR	07 40 42.6	
	comp=Z,84nm,21.6s,baz=151,slow=32						
MDJ	**Mudanjiang**	**49.74**	**348**	P	**P**	**07 23 23.0**	**+0.2**
MDJ				pP	pP	07 23 36.5	-12
MDJ				sP	sP	07 23 42.8	-18
MDJ				S	**S**	**07 30 27.0**	**+3.4**
MDJ				sS	sS	07 30 51.5	-17
MDJ				pmax	pmax		
	comp=Z,7.0nm,1.7s						
MDJ				pmax	pmax		
	comp=Z,60nm,5.9s						
BJI	**Beijing**	**49.92**	**334**	P	**P**	**07 23 24.0**	**-0.2**
BJI				S	S	07 30 33.8	+7.6
BJI				pmax	pmax		
	comp=Z,8.0nm,0.7s						
BJI				pmax	pmax		
	comp=Z,89nm,3.8s						
CN2	**Changchun**	**49.95**	**344**	*e*P	**P**	**07 23 21.3**	**-3.0**
CD2	**Chengdu**	**50.44**	**316**	P	**P**	**07 23 29.5**	**+1.2**
CD2				pP	pP	07 23 44.8	-9.4
CD2				sP	sP	07 23 51.8	-15
CD2				PP	**PP**	**07 25 26.5**	**+1.4**
CD2				S	**S**	**07 30 36.8**	**+3.0**
CD2				sS	sS	07 31 03.3	-15
CD2				SS	**SS**	**07 34 08.3**	**-1.0**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				LR	LR		
	comp=N,1μm,4.8s						
CD2				LR	LR		
	comp=Z,780nm,5.3s						
YSS	**Yuzh-Sakhalins**	**50.82**	**1**	*e*P	P	07 23 27.2	-3.6
HHC	**Hu-ho-hao-te**	**52.69**	**331**	*e*P	**P**	**07 23 45.0**	**0.0**
HHC				pP	pP	07 24 00.5	-11
HHC				sP	sP	07 24 07.8	-15
HHC				PcP	**PcP**	**07 24 54.5**	**+1.1**
HHC				S	**S**	**07 31 06.0**	**+1.5**
HHC				sS	sS	07 31 33.0	-16
HHC				SS	**SS**	**07 34 43.5**	**-1.2**
HHC				pmax	pmax		
	comp=Z,23nm,0.7s						
HHC				pmax	pmax		
	comp=Z,190nm,5.5s						
HHC				LR	LR		
	comp=N,580nm,15.1s						
HHC				LR	LR		
	comp=E,420nm,15.8s						
HHC				LR	LR		
	comp=Z,260nm,15.5s						
LZH	**Lanzhou**	**53.59**	**322**	*e*P	**P**	**07 23 52.5**	**+0.8**
LZH				pP	pP	07 24 06.8	-11
LZH				sP	sP	07 24 12.5	-17
LZH				PP	**PP**	**07 25 54.3**	**+0.7**
LZH				*e*S	**S**	**07 31 20.3**	**+3.3**
LZH				sS	sS	07 31 45.0	-17
LZH				SS	**SS**	**07 35 01.0**	**+1.9**
LZH				pmax	pmax		
	comp=Z,22nm,1.0s						
LZH				pmax	pmax		
	comp=Z,200nm,4.2s						
LZH				LR	LR		
	comp=N,630nm,15.6s						
LZH				LR	LR		
	comp=E,710nm,16.0s						
LZH				LR	LR		
	comp=Z,890nm,17.2s						
GTA	**Gaotai**	**58.15**	**322**	*e*P	**P**	**07 24 22.0**	**-2.2**
GTA				PcP	**PcP**	**07 25 16.5**	**+1.8**
GTA				pmax	pmax		
	comp=Z,5.0nm,0.6s						
PETK	**Petropavlovsk-**	**58.49**	**11**	LR	LR	07 47 31.0	
	comp=Z,47nm,18.0s,baz=334,slow=34						
SONM	**Songino Array**	**60.40**	**333**	P	**P**	**07 24 38.1**	**-1.4**
SONM	**Songino Array**	**60.40**	**333**	P	**P**	**07 24 38.1**	**-1.4**
	comp=Z,0.3nm,0.5s,baz=130,slow=5.8,SNR=3.6						
SONM				LR	LR	07 49 54.7	
	comp=Z,101nm,20.6s,baz=170,slow=35						
ZAK	**Zakamensk**	**63.66**	**333**	*e*P	**P**	**07 24 58.4**	**-2.8**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
WMQ	**Urumqi**	**68.15**	**321**	*e*P	**P**	**07 25 31.0**	**+0.9**
WMQ				pP	PcP	07 25 47.5	-7.8
WMQ				sP	sP	07 25 54.0	-15
WMQ				pmax	pmax		
	comp=Z,9.0nm,0.8s						
WMQ				pmax	pmax		
	comp=Z,180nm,4.6s						
HVS	**Khovu-Aksy**	**68.72**	**330**	*e*P	**P**	**07 25 30.7**	**-2.8**
HVS				pmax	pmax		
	comp=Z,29nm,1.3s						
MK31	**Makanchi Array**	**72.90**	**322**	*e*P	**P**	**07 25 58.3**	**-0.6**
MK31	**Makanchi Array**	**72.90**	**322**	*e*P	**P**	**07 25 58.3**	**-0.6**
MKAR	**Makanchi Array**	**72.90**	**322**	*e*P	**P**	**07 25 58.3**	**-0.6**
MKAR	**Makanchi Array**	**72.90**	**322**	*e*P	**P**	**07 25 58.4**	**-0.6**
MKAR	**Makanchi Array**	**72.90**	**322**	P	**P**	**07 25 58.1**	**-0.8**
	comp=Z,3.7nm,0.7s,baz=110,slow=7.8,SNR=34						
VNDA	**Vanda**	**74.15**	**176**	*e*P	**P**	**07 26 06.9**	**+1.2**
	comp=Z,50nm,2.8s						
VNDA	**Vanda**	**74.15**	**176**	P	**P**	**07 26 06.8**	**+1.2**
	comp=Z,2.1nm,0.7s,baz=342,slow=4.0,SNR=11						
VNDA				LR	LR	07 58 21.9	
	comp=Z,153nm,21.4s,baz=353,slow=36						
KSH	**Kashi**	**74.43**	**313**	*e*P	**P**	**07 26 08.5**	**+0.3**
KSH				pP	**PcP**	**07 26 25.0**	**+2.8**
KSH				PP	**PP**	**07 28 57.0**	**+1.0**
KSH				S	**S**	**07 35 36.3**	**+1.9**
KSH				ScS	**ScS**	**07 36 10.5**	**+0.8**
KSH				SS	**SS**	**07 40 25.5**	**+2.3**
KSH				pmax	pmax		
	comp=Z,77nm,4.7s						
KSH				LR	LR		
	comp=N,180nm,6.5s						
KSH				LR	LR		
	comp=E,150nm,6.3s						
KSH				LR	LR		
	comp=Z,160nm,7.6s						
ZALV	**Zalesovo Beam**	**74.79**	**329**	P	**P**	**07 26 09.0**	**-0.7**
ZALV	**Zalesovo Beam**	**74.79**	**329**	P	**P**	**07 26 09.0**	**-0.7**
ZALV	**Zalesovo Beam**	**74.79**	**329**	P	**P**	**07 26 09.0**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=127,slow=3.8,SNR=1.7						
TKM2	**Tokmak 2**	**75.82**	**316**	*e*P	**P**	**07 26 15.4**	**-0.7**
TKM2				pmax	pmax		
	comp=Z,5.0nm,1.1s						
TKM2	**Tokmak 2**	**75.82**	**316**	*e*P	**P**	**07 26 15.4**	**-0.7**
	comp=Z,5.1nm,1.1s						
AAK	**Ala-Archa**	**76.49**	**315**	*e*P	**P**	**07 26 17.0**	**-2.9**
AAK				pmax	pmax		
	comp=Z,13nm,2.0s						
AAK	**Ala-Archa**	**76.49**	**315**	*e*P	**P**	**07 26 19.0**	**-0.9**
	comp=Z,6.5nm,1.2s						
KURK	**Kurchatov**	**76.75**	**324**	*e*P	P	07 26 16.9	-4.0
KURK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
VOSK	**Vostochnaya**	**81.90**	**324**	*e*P	**P**	**07 26 49.2**	**+0.3**
VOSK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
VOSK	**Vostochnaya**	**81.90**	**324**	*e*P	**P**	**07 26 49.2**	**+0.3**
	comp=Z,5.2nm,0.8s						
MAW	**Mawson**	**82.12**	**202**	P	**P**	**07 26 50.7**	**+1.0**
MAW	**Mawson**	**82.12**	**202**	P	**P**	**07 26 50.7**	**+1.0**
	comp=Z,3.0nm,0.9s,baz=70,slow=4.6,SNR=6.3						
BRVK	**Borovoye**	**82.40**	**325**	*e*P	**P**	**07 26 50.1**	**-1.4**
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.7s						
BRVK	**Borovoye**	**82.40**	**325**	*e*P	**P**	**07 26 50.1**	**-1.4**
	comp=Z,6.3nm,0.7s						
CAST	**Castle Rocks**	**83.10**	**24**	*e*P	**P**	**07 26 53.4**	**-1.5**
	comp=Z,5.2nm,0.7s						
IMA2	**Indian Mountai**	**83.57**	**22**	*e*P	**P**	**07 26 57.0**	**-0.4**
MCK	**McKinley**	**84.52**	**25**	*e*P	**P**	**07 26 59.6**	**-2.5**
MCK				pmax	pmax		
	comp=Z,12nm,0.8s						
MCK	**McKinley**	**84.52**	**25**	*e*P	**P**	**07 26 59.6**	**-2.5**
	comp=Z,12nm,0.8s						
DIV	**Divide**	**85.05**	**28**	*e*P	**P**	**07 27 03.8**	**-1.1**
	comp=Z,9.0nm,0.7s						
COLA	**College**	**85.36**	**24**	*e*P	P	07 27 01.7	-4.5
ILAR	**Eielson Array**	**85.71**	**24**	P	P	07 27 04.7	-3.3
ILAR	**Eielson Array**	**85.71**	**24**	P	P	07 27 04.7	-3.3
	comp=Z,2.7nm,0.6s,baz=256,slow=4.4,SNR=40						
QSPA	**South Pole Qui**	**85.88**	**180**	*e*P	**P**	**07 27 09.6**	**+0.6**
QSPA	**South Pole Qui**	**85.88**	**180**	P	**P**	**07 27 09.0**	**0.0**
	comp=Z,2.5nm,0.7s,baz=325,slow=3.0,SNR=8.0						
EGAK	**Eagle**	**88.07**	**25**	*e*P	**P**	**07 27 19.4**	**0.0**
	comp=Z,6.7nm,0.8s						
DAWY	**Dawson**	**88.66**	**26**	*e*P	**P**	**07 27 21.2**	**-1.1**
LVV	**L'vov**	**110.93**	**322**	*e*PKIKP		07 33 00.1	
TORD	**Torodi Ar. Bea**	**139.82**	**286**	PKP	**PKPdf**	**07 33 57.0**	**-0.8**
TORD	**Torodi Ar. Bea**	**139.82**	**286**	PKP	**PKPdf**	**07 33 57.0**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=58,slow=1.7,SNR=2.3						
LPAZ	**La Paz**	**143.96**	**125**	PKP	PKPbc	07 34 04.7	+0.6
LPAZ	**La Paz**	**143.96**	**125**	PKP	PKPbc	07 34 04.7	+0.6
	comp=Z,0.8nm,0.6s,baz=229,slow=11,SNR=6.6						
DBIC	**Dimbokro**	**146.94**	**276**	PKPbc	**PKPbc**	**07 34 11.8**	**-0.7**
DBIC	**Dimbokro**	**146.94**	**276**	PKPbc	**PKPbc**	**07 34 11.8**	**-0.7**
	comp=Z,1.8nm,0.7s,baz=139,slow=4.1,SNR=3.3						

*ISN **28** 07:44:41.2±22.0, 35.°30N×46.°12E, h0km±91km, ML3.5*

*IDC **28** 07:44:53.5±1.9, 35.°02N×45.°43E, h0km, mb3.5/2, mb1 3.4/6, mb1mx3.3/27, mbtmp3.4/6, ML3.6/4, MS2.7/3, Ms1 2.6/3, ms1mx2.4/33, Error ellipse: s-maj=54.4km s-min=19.2km az=151.0*

*ISCJB **28** 07:44:54.4±1.0, 34.°93N±0.°03×45.°37E±0.°05, h11km±6km, mb3.4/2, Error ellipse: s-maj=7.0km s-min=5.8km az=172.8*

*TEH **28** 07:44:57.3, 35.°10N×45.°44E, h4km, ML3.8*

*KISR **28** 07:44:57.4±0.8, 34.°57N×45.°22E, h8km±999km, ML3.8*

*CSEM **28** 07:44:58.0±0.7, 34.°99N×45.°56E, h5km, ML3.2, Error ellipse: s-maj=13.8km s-min=9.6km az=134.0*

ISC 28 07:44:56.4±1.8, 35.°01N±0.°04×45.°41E±0.°04, h14km±12km, n49, σ1§32/57, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.86**	**110**	*e*Pg	**Pb**	**07 45 11.8**	**-1.4**
IDHR				*e*Sg	**Sg**	**07 45 24.7**	**+0.2**
IDHR				*e*		07 45 27.0	
	comp=Z,91μm,0.1s						
IDHR	**Dehrash**	**0.86**	**110**	*e*Pg	**Pb**	**07 45 11.8**	**-1.4**
IDHR				*e*Sg	**Sg**	**07 45 24.7**	**+0.2**
IGHG	**Ghaleghazi**	**1.17**	**125**	*e*Pg	**Pn**	**07 45 18.5**	**0.0**
IGHG				*e*		07 45 46.0	
	comp=Z,21μm,0.1s						
IGHG	**Ghaleghazi**	**1.17**	**125**	*e*Pg	**Pn**	**07 45 18.5**	**0.0**
ILIN	**Lien**	**1.28**	**93**	*e*Pg	**Pn**	**07 45 20.0**	**-0.1**
ILIN				*e*Sg	**Sb**	**07 45 36.9**	**+0.1**
ILIN				*e*		07 45 42.0	
	comp=Z,26μm,0.2s						
ILIN	**Lien**	**1.28**	**93**	*e*Pg	**Pn**	**07 45 20.

NAY			AML	AML	07 47 33.1	
	comp=Z,17nm,0.6s					
NAY	**Al-Naaiem**	**5.95 164**	*e*P	**Pn**	**07 46 25.0**	**+1.0**
NAY			*e*S	**Sn**	**07 47 30.6**	**-1.3**
	comp=Z,17nm,0.6s					
IZEF	**Zefreh**	**6.13 108**	*e*Pn	**Pn**	**07 46 28.6**	**+1.9**
IZEF	**Zefreh**	**6.13 108**	*e*Pn	**Pn**	**07 46 28.6**	**+1.9**
KBD	**Kabd**	**6.13 161**	*e*P	**Pn**	**07 46 27.8**	**+1.4**
KBD			*e*S	**Sn**	**07 47 36.1**	**-0.2**
KBD			AML	AML	07 47 36.2	
	comp=Z,16nm,0.3s					
KBD	**Kabd**	**6.13 161**	*e*P	**Pn**	**07 46 27.8**	**+1.4**
KBD			*e*S	**Sn**	**07 47 36.1**	**-0.2**
RDF	**Al-Radifah**	**6.33 163**	*e*P	**Pn**	**07 46 30.9**	**+1.8**
RDF			*e*S	**Sn**	**07 47 40.9**	**-0.4**
RDF			AML	AML	07 47 42.6	
	comp=Z,60nm,0.6s					
RDF	**Al-Radifah**	**6.33 163**	*e*P	**Pn**	**07 46 31.0**	**+1.8**
RDF			*e*S	**Sn**	**07 47 40.9**	**-0.4**
NASN	**Na'in**	**6.54 108**	*e*Pn	Pn	07 46 38.4	+6.0
QRN	**Al-Qurain**	**6.60 160**	*e*P	**Pn**	**07 46 34.4**	**+1.5**
QRN			*e*S	**Sn**	**07 47 47.0**	**-0.9**
QRN			AML	AML	07 47 49.1	
	comp=Z,53nm,0.3s					
ASF	**Jabal al Asfar**	**7.64 251**	Pn	**Pn**	**07 46 47.8**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=356,slow=11,SNR=2.7					
ASF			Pg	Pg	07 47 20.8	-1.9
	comp=Z,0.4nm,0.3s,baz=66,slow=20,SNR=3.8					
ASF			Lg	Lg	07 48 58.2	
	comp=Z,0.3nm,0.3s,baz=90,slow=2.0,SNR=2.7					
ASF			LR	LR	07 50 27.1	
	comp=Z,54nm,20.3s,baz=247,slow=44					
MMAI	**Mount Meron Ar**	**8.54 259**	Pn	**Pn**	**07 47 00.8**	**+1.2**
	comp=Z,0.5nm,0.3s,baz=84,slow=15,SNR=3.1					
KBZ	**Khabaz**	**8.93 348**	LR	LR	07 51 22.9	
	comp=Z,34nm,19.0s,baz=306,slow=44					
EIL	**Elat**	**10.32 242**	LR	LR	07 52 14.0	
	comp=Z,57nm,20.9s,baz=255,slow=43					
AKTO	**Aktyubinsk**	**17.95 27**	P	**Pn**	**07 49 04.5**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=211,slow=11,SNR=8.5					
AKASG	**Malin Array Be**	**19.60 328**	P	**P**	**07 49 22.5**	**-1.5**
	comp=Z,0.3nm,0.3s,baz=142,slow=9.4,SNR=3.6					
MKAR	**Makanchi Array**	**30.00 56**	P	**P**	**07 51 04.0**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=249,slow=8.3,SNR=6.8					
TORD	**Torodi Ar. Bea**	**45.00 252**	P	**P**	**07 53 09.9**	**-1.7**
	comp=Z,0.4nm,0.9s,baz=40,slow=5.6,SNR=3.1					

PRU ***28*** *07:46:47.2,39°.92N×25°.12E,h0km,M4.2*
MOS ***28*** *07:46:52.9±0.8,39°.89N×23°.79E,h10km,mb4.3/11,Error ellipse: s-maj=7.2km s-min=4.0km az=85.0*
ISCJB ***28*** *07:46:53.6±0.3,39°.90N±0°.01×23°.77E±0°.02,h10km±2km, mb3.9/20,MS3.3/8,Error ellipse: s-maj=2.1km s-min=1.8km az=42.2*
PDG ***28*** *07:46:53.9±0.4,39°.89N×23°.79E,h11km,ML3.9/11,Error ellipse: s-maj=0.5km s-min=0.7km az=0.0*
IDC ***28*** *07:46:53.6±0.7,39°.86N×23°.74E,h0km,mb3.9/14, mb1 4.0/20,mb1mx3.9/31,mbtmp3.9/20,ML4.0/5,MS3.2/11, Ms1 3.2/11,ms1mx3.0/39,Error ellipse: s-maj=13.3km s-min=11.8km az=99.0*
THE ***28*** *07:46:54.5,39°.92N×23°.75E,h7km±1km,ML4.0/13,Error ellipse: s-maj=1.2km s-min=0.6km az=266.0*
NEIC ***28*** *07:46:54.5,39°.92N×23°.75E,h7km,ML3.7(ATH), ML4.0(THE),After THE.*
CSEM ***28*** *07:46:54.0±0.1,39°.85N×23°.76E,h5km,mb4.1/8,Error ellipse: s-maj=2.3km s-min=2.1km az=33.0*
ATH ***28*** *07:46:54.1,39°.93N×23°.75E,h28km±1km,MD3.3/19, ML3.7*
TIR ***28*** *07:46:56.2±5.0,41°.20N×23°.23E,h7km±19km*
BEO ***28*** *07:46:56.4±0.7,39°.92N×23°.69E,h11km±3km,ML3.9/1*
ISC 28 07:46:54.2±0.7,39°.91N±0°.01×23°.74E±0°.01,h6km±4km, n413,σ1°13/529,mb4.0/20,MS3.4/8,29C-33D,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAIG	**Paliouri**	**0.05**	**292**	P	**Pg**	**07 46 55.7**	**0.0**
PAIG				S	**Sg**	**07 46 57.0**	**+0.2**

BZS	**Buzias**	**5.92**	**345**	*e*Pn	**Pn**	**07 48 22.8**	**+0.5**
BZS	**Buzias**	**5.92**	**345**	P	**Pn**	**07 48 22.4**	**+0.1**
BZS	**Buzias**	**5.92**	**345**	*e*Pn	**Pn**	**07 48 22.8**	**+0.5**
FGSL	**Fruska Gora**	**6.00**	**332**	*e*Pn	**Pn**	**07 48 24.7**	**+1.2**
FRGS	**Fruska Gora**	**6.00**	**332**	*e*Pn	**Pn**	**07 48 24.7**	**+1.2**
DEV	**Deva**	**6.00**	**354**	⇓P	**Pn**	**07 48 25.4**	**+1.8**
DEV	**Deva**	**6.00**	**354**	⇓*i*P	**Pn**	**07 48 25.4**	**+1.8**
DEV	**Deva**	**6.00**	**354**	P	**Pn**	**07 48 25.4**	**+1.8**
SVRH	**Sivrihisar-ESK**	**6.02**	**92**	*e*PN	**Pn**	**07 48 24.1**	**+0.3**
SVRH	**Sivrihisar-ESK**	**6.02**	**92**	*e*Pn	**Pn**	**07 48 24.2**	**+0.3**
CUC	**Castrocucco**	**6.09**	**273**	*e*Pn	**Pn**	**07 48 26.3**	**+1.5**
	17nm,0.4s						
CUC				*e*Sn	**Sn**	**07 49 32.6**	**-2.3**
CUC	**Castrocucco**	**6.09**	**273**	*e*Pn	**Pn**	**07 48 26.3**	**+1.5**
	17nm,0.4s						
CUC				*e*Sn	**Sn**	**07 49 32.6**	**-2.3**
DOPR	**Dopca**	**6.18**	**11**	⇓*i*P	**Pn**	**07 48 27.7**	**+1.8**
DOPR	**Dopca**	**6.18**	**11**	⇓*i*P	**Pn**	**07 48 27.7**	**+1.8**
CFR	**Carcaliu**	**6.18**	**30**	⇑P	**Pn**	**07 48 27.3**	**+1.3**
CFR	**Carcaliu**	**6.18**	**30**	⇑*i*P	**Pn**	**07 48 27.3**	**+1.3**
CFR	**Carcaliu**	**6.18**	**30**	P	**Pn**	**07 48 27.3**	**+1.3**
PLOR	**Plostina**	**6.31**	**19**	⇑P	**Pn**	**07 48 30.4**	**+2.6**
PLOR	**Plostina**	**6.31**	**19**	⇑*i*P	**Pn**	**07 48 30.4**	**+2.6**
PLOR	**Plostina**	**6.31**	**19**	P	**Pn**	**07 48 30.4**	**+2.6**
VRI	**Vrincioaia**	**6.35**	**19**	⇓P	**Pn**	**07 48 30.7**	**+2.4**
VRI	**Vrincioaia**	**6.35**	**19**	⇓*i*P	**Pn**	**07 48 30.7**	**+2.4**
VRI	**Vrincioaia**	**6.35**	**19**	P	**Pn**	**07 48 30.7**	**+2.4**
TLCR		**6.47**	**34**	⇓P	**Pn**	**07 48 30.9**	**+1.0**
TLCR		**6.47**	**34**	⇓*i*P	**Pn**	**07 48 30.9**	**+1.0**
TLCR		**6.47**	**34**	P	**Pn**	**07 48 30.9**	**+1.0**
SIRR	**Siria**	**6.54**	**347**	⇓*i*P	**Pn**	**07 48 31.5**	**+0.6**
SIRR	**Siria**	**6.54**	**347**	⇓*i*P	**Pn**	**07 48 31.5**	**+0.6**
DRGR		**6.92**	**354**	⇓*i*P	Pn	07 48 45.4	+9.2
DRGR		**6.92**	**354**	*e*Pn	**Pn**	**07 48 38.1**	**+1.9**
DRGR		**6.92**	**354**	*e*Pn	**Pn**	**07 48 38.1**	**+1.9**
TESR	**Tescani**	**6.93**	**17**	⇓*i*P	**Pn**	**07 48 38.5**	**+2.2**
TESR	**Tescani**	**6.93**	**17**	⇓*i*P	**Pn**	**07 48 38.5**	**+2.2**
BR131	**Keskin Array S**	**7.62**	**88**	*e*Pn	**Pn**	**07 48 45.8**	**-0.1**
	4.6nm,0.4s						
BR131	**Keskin Array S**	**7.62**	**88**	*e*Pn	**Pn**	**07 48 45.8**	**-0.1**
	4.6nm,0.4s						
BRTR	**Keskin Array B**	**7.62**	**88**	Pn	**Pn**	**07 48 45.9**	**-0.1**
BRTR				Lg	Lg	07 50 58.4	
BRTR	**Keskin Array B**	**7.62**	**88**	Pn	**Pn**	**07 48 45.9**	**-0.1**
	2.0nm,0.3s,baz=269,slow=12,SNR=34						
BRTR				Lg	Lg	07 50 58.4	
	0.1nm,0.3s,baz=277,slow=24,SNR=3.2						
BRTR	**Keskin Array B**	**7.62**	**88**	Pn	**Pn**	**07 48 45.8**	**-0.1**
BRTR				Lg	Lg	07 50 58.3	
BURAR	**Bucovina Array**	**7.78**	**7**	⇑P	**Pn**	**07 48 50.0**	**+2.0**
BURAR	**Bucovina Array**	**7.78**	**7**	⇑*i*P	**Pn**	**07 48 50.0**	**+2.0**
BURAR	**Bucovina Array**	**7.78**	**7**	⇑*i*P	**Pn**	**07 48 50.0**	**+2.0**
BUR08	**Bucovina Ar. S**	**7.81**	**7**	*e*Pn	**Pn**	**07 48 50.0**	**+1.6**
BUR08	**Bucovina Ar. S**	**7.81**	**7**	*e*Pn	**Pn**	**07 48 50.0**	**+1.6**
KIS	**Kishinev**	**7.99**	**26**	*e*	Pb	07 49 17.0	+4.0
NVLJ	**Novalja**	**8.06**	**308**	*i* Pn	**Pn**	**07 48 51.5**	**-0.3**
NVLJ				*i* Sn	**Sn**	**07 50 21.0**	**-2.1**
BOJS	**Bojanci**	**8.39**	**315**	*i* Pn	**Pn**	**07 48 58.3**	**+2.1**
BOJS				*i* Sn	**Sn**	**07 50 28.9**	**-2.3**
BOJS	**Bojanci**	**8.39**	**315**	*i* Pn	**Pn**	**07 48 58.3**	**+2.1**
CRES	**Cresnjev**	**8.48**	**317**	*i* Pn	**Pn**	**07 48 59.6**	**+2.0**
CRES				*i* Sn	**Sn**	**07 50 34.9**	**+1.3**
CRES	**Cresnjev**	**8.48**	**317**	*i* Pn	**Pn**	**07 48 59.6**	**+2.0**
CRES				*i* Sn	**Sn**	**07 50 34.9**	**+1.3**
VISS	**Visnje**	**8.80**	**315**	*i* Pn	**Pn**	**07 49 03.7**	**+1.8**
VISS				*i* Sn	**Sn**	**07 50 41.1**	**-0.3**
VISS	**Visnje**	**8.80**	**315**	*i* Pn	**Pn**	**07 49 03.7**	**+1.8**
VISS				*i* Sn	**Sn**	**07 50 41.1**	**-0.3**
KOLS	**Kolonicke sedl**	**9.09**	**354**	*e*	Sg	07 51 44.1	
VRAC	**Vranov**	**10.69**	**334**	LR	LR	07 53 06.4	
	comp=Z,62nm,20.3s,baz=146,slow=35						
KIEV	**Kiev**	**11.45**	**18**	*i* P	**Pn**	**07 49 39.3**	**+1.2**
KIEV	**Kiev**	**11.45**	**18**	*i* P	**Pn**	**07 49 39.3**	**+1.2**
GERES	**GERESS Array B**	**11.46**	**325**	Pn	**Pn**	**07 49 40.4**	**+2.0**
GERES	**GERESS Array B**	**11.46**	**325**	Pn	**Pn**	**07 49 40.4**	**+2.0**
	0.5nm,0.3s,baz=148,slow=14,SNR=8.1						
GERES				LR	LR	07 54 26.6	
	comp=Z,73nm,18.3s,baz=137,slow=39						
GERES	**GERESS Array B**	**11.46**	**325**	Pn	**Pn**	**07 49 40.4**	**+2.0**
AKASG	**Malin Array Be**	**11.46**	**18**	P	**Pn**	**07 49 37.6**	**-0.7**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.3s						
AKASG	**Malin Array Be**	**11.46**	**18**	Pn	**Pn**	**07 49 37.6**	**-0.7**
AKASG	**Malin Array Be**	**11.46**	**18**	Pn	**Pn**	**07 49 37.6**	**-0.7**
	comp=Z,2.4nm,0.3s,baz=203,slow=12,SNR=12						
AKASG	**Malin Array Be**	**11.46**	**18**	Pn	**Pn**	**07 49 37.6**	**-0.7**
KHC	**Kasperske Hory**	**11.72**	**325**	*e*P	**Pn**	**07 49 42.7**	**+0.7**
KHC	**Kasperske Hory**	**11.72**	**325**	*e*P	**Pn**	**07 49 42.7**	**+0.7**
KHC				*e*x	x	07 49 54.4	
KHC				*e*x	x	07 49 59.5	
KHC				*e*x	x	07 50 01.5	
KHC	**Kasperske Hory**	**11.72**	**325**	P	**Pn**	**07 49 42.7**	**+0.7**
KEST	**Kesra**	**12.12**	**254**	Pn	**Pn**	**07 49 46.8**	**-0.7**
KEST	**Kesra**	**12.12**	**254**	Pn	**Pn**	**07 49 46.8**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=72,slow=13,SNR=2.4						
KEST				LR	LR	07 54 52.8	
	comp=Z,25nm,20.5s,baz=26,slow=40						
KEST	**Kesra**	**12.12**	**254**	Pn	**Pn**	**07 49 46.8**	**-0.7**
KIV	**Kislovodsk**	**14.66**	**68**	*e*P	**Pn**	**07 50 20.3**	**-1.9**
KIV				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KIV	**Kislovodsk**	**14.66**	**68**	*e*P	**Pn**	**07 50 20.3**	**-1.9**
	comp=Z,6.0nm,0.9s						
VORD	**Divnogorie**	**15.50**	**39**	*e*P	**Pn**	**07 50 32.4**	**-0.8**
VORD				pmax	pmax		
	comp=Z,20nm,1.5s						
VORD				pmax	pmax		
	comp=N,10.0nm,1.1s						
VORD				pmax	pmax		
	comp=E,20nm,0.9s						
VORD	**Divnogorie**	**15.50**	**39**	*e*P	**Pn**	**07 50 32.4**	**-0.8**
	comp=E,10.0nm,1.1s						
VSR	**Storozhevoye**	**15.60**	**38**	*e*P	**Pn**	**07 50 34.1**	**-0.4**
VSR				pmax	pmax		
	comp=Z,20nm,1.1s						
VSR				pmax	pmax		
	comp=N,20nm,1.2s						
VSR				pmax	pmax		
	comp=E,40nm,1.2s						
VSR	**Storozhevoye**	**15.60**	**38**	*e*P	**Pn**	**07 50 34.1**	**-0.4**
	comp=E,20nm,1.1s						
VRHR	**Novokhopersk**	**16.75**	**42**	*e*P	**Pn**	**07 50 46.8**	**-2.5**
VRHR				pmax	pmax		
	comp=Z,9.0nm,0.4s						
VRHR				pmax	pmax		
	comp=N,50nm,1.8s						
VRHR				pmax	pmax		
	comp=E,60nm,2.3s						
OBN	**Obninsk**	**17.46**	**25**	⇑*e*P	**Pn**	**07 50 56.8**	**-1.3**
OBN				*e*S	**Sn**	**07 54 08.2**	**-4.4**
OBN				pmax	pmax		
	comp=Z,29nm,1.4s						
OBN				MLR	MLR		
	comp=Z,100nm,15.0s						
VSU	**Vasula**	**18.67**	**5**	⇑*i*P	**P**	**07 51 11.4**	**-1.3**
VSU	**Vasula**	**18.67**	**5**	*i* P	**P**	**07 51 11.4**	**-1.3**
HFS	**Hagfors**	**21.21**	**346**	P	**P**	**07 51 41.7**	**+1.4**
HFS	**Hagfors**	**21.21**	**346**	P	**P**	**07 51 41.7**	**+1.4**
	comp=Z,2.3nm,0.5s,baz=140,slow=11,SNR=8.7						
HFS				LR	LR	08 01 11.4	
	comp=Z,105nm,20.1s,baz=327,slow=40						
HFS	**Hagfors**	**21.21**	**346**	P	**P**	**07 51 41.7**	**+1.4**
ESDC	**Sonseca Array**	**21.26**	**278**	P	**P**	**07 51 42.0**	**+0.8**
ESDC	**Sonseca Array**	**21.26**	**278**	P	**P**	**07 51 42.0**	**+0.8**
	comp=Z,1.9nm,0.8s,baz=71,slow=11,SNR=9.9						
ESDC	**Sonseca Array**	**21.26**	**278**	P	**P**	**07 51 42.0**	**+0.8**
FINES	**FINESS Array B**	**21.61**	**3**	P	**P**	**07 51 44.1**	**-0.6**
FINES	**FINESS Array B**	**21.61**	**3**	P	**P**	**07 51 44.1**	**-0.6**
	comp=Z,9.1nm,1.1s,baz=175,slow=16,SNR=3.3						
FINES				LR	LR	08 00 25.2	
	comp=Z,149nm,19.8s,baz=203,slow=38						
FINES	**FINESS Array B**	**21.61**	**3**	P	**P**	**07 51 44.1**	**-0.6**
NB2	**NORSAR Subarra**	**22.53**	**344**	P	**P**	**07 51 56.3**	**+1.7**
	comp=Z,12nm,1.2s,baz=156,slow=9.3						
NB2	**NORSAR Subarra**	**22.53**	**344**	P	**P**	**07 51 56.3**	**+1.7**
	comp=Z,12nm,1.2s,SNR=5.8						
NOA	**NORSAR Array B**	**22.53**	**344**	P	**P**	**07 51 55.9**	**+1.2**
NOA	**NORSAR Array B**	**22.53**	**344**	P	**P**	**07 51 55.9**	**+1.2**
	comp=Z,2.3nm,0.6s,baz=153,slow=11,SNR=7.0						
NOA				LR	LR	08 01 17.6	
	comp=Z,56nm,19.0s,baz=165,slow=38						
NOA	**NORSAR Array B**	**22.53**	**344**	P	**P**	**07 51 55.8**	**+1.2**
KLMR	**Klimovskoe**	**23.14**	**20**	*e*P	**P**	**07 51 59.7**	**-1.1**
KLMR				pmax	pmax		
	comp=Z,40nm,1.8s						
KLMR	**Klimovskoe**	**23.14**	**20**	*e*P	**P**	**07 51 59.7**	**-1.1**
	comp=Z,40nm,1.8s						
EKA	**Eskdalemuir Ar**	**23.60**	**320**	P	**P**	**07 52 05.2**	**-0.4**
EKA	**Eskdalemuir Ar**	**23.60**	**320**	P	**P**	**07 52 05.2**	**-0.4**
	comp=Z,0.3nm,0.4s,baz=114,slow=10,SNR=3.3						
EKA	**Eskdalemuir Ar**	**23.60**	**320**	P	**P**	**07 52 05.2**	**-0.4**
MDT	**Midelt**	**23.84**	**262**	LR	LR	08 02 02.2	
	comp=Z,19nm,21.1s,baz=126,slow=38						
ABKAR	**Abkulak array**	**27.20**	**58**	*e*P	**P**	**07 52 38.9**	**+0.4**
	comp=Z,0.3nm,0.5s						
ABKAR	**Abkulak array**	**27.20**	**58**	*e*P	**P**	**07 52 38.9**	**+0.4**
	comp=Z,0.3nm,0.5s						
ARCES	**ARCESS Array B**	**29.71**	**1**	LR	LR	08 05 30.2	
	comp=Z,188nm,19.4s,baz=13,slow=38						
TORD	**Torodi Ar. Bea**	**32.97**	**222**	P	**P**	**07 53 30.3**	**+0.4**
TORD	**Torodi Ar. Bea**	**32.97**	**222**	P	**P**	**07 53 30.3**	**+0.4**
	comp=Z,1.3nm,0.9s,baz=29,slow=8.8,SNR=9.3						
TORD	**Torodi Ar. Bea**	**32.97**	**222**	P	**P**	**07 53 30.3**	**+0.4**
BRVK	**Borovoye**	**34.02**	**52**	⇑*i*P	**P**	**07 53 39.0**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BRVK	**Borovoye**	**34.02**	**52**	*i* P	**P**	**07 53 39.0**	**+0.3**
	comp=Z,5.0nm,1.0s						
AAK	**Ala-Archa**	**37.78**	**69**	*i* P	**P**	**07 54 10.6**	**-0.6**
AAK				pmax	pmax		
	comp=Z,7.0nm,1.3s						
AAK	**Ala-Archa**	**37.78**	**69**	*i* P	**P**	**07 54 10.6**	**-0.6**
	comp=Z,7.0nm,1.3s						
KURK	**Kurchatov**	**39.23**	**55**	*i* P	**P**	**07 54 21.7**	**-1.4**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KURK	**Kurchatov**	**39.23**	**55**	*i* P	**P**	**07 54 21.7**	**-1.4**
	comp=Z,1.0nm,0.6s						
DBIC	**Dimbokro**	**41.88**	**225**	LR	LR	08 13 07.6	
	comp=Z,54nm,18.2s,baz=52,slow=38						
MK31	**Makanchi Array**	**42.26**	**61**	*e*P	**P**	**07 54 49.1**	**+0.8**
MK31	**Makanchi Array**	**42.26**	**61**	*e*P	**P**	**07 54 49.1**	**+0.8**
MK31	**Makanchi Array**	**42.26**	**61**	*e*P	**P**	**07 54 49.1**	**+0.8**
MKAR	**Makanchi Array**	**42.26**	**61**	P	**P**	**07 54 49.1**	**+0.9**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
MKAR	**Makanchi Array**	**42.26**	**61**	P	**P**	**07 54 49.1**	**+0.9**
MKAR	**Makanchi Array**	**42.26**	**61**	P	**P**	**07 54 49.1**	**+0.9**
	comp=Z,2.5nm,0.5s,baz=270,slow=7.5,SNR=40						
MKAR	**Makanchi Array**	**42.26**	**61**	P	**P**	**07 54 49.1**	**+0.9**
ZALV	**Zalesovo Beam**	**42.66**	**50**	P	**P**	**07 54 52.3**	**+1.0**
ZALV				pmax	pmax		
	comp=Z,3.0nm,0.4s						
ZALV				MLR	MLR		
	comp=Z,44nm,18.5s						
ZALV	**Zalesovo Beam**	**42.66**	**50**	P	**P**	**07 54 52.3**	**+1.0**
ZALV	**Zalesovo Beam**	**42.66**	**50**	P	**P**	**07 54 52.3**	**+1.0**
	comp=Z,3.2nm,0.4s,baz=274,slow=8.6,SNR=3.6						
ZALV				LR	LR	08 14 42.9	
	comp=Z,44nm,18.5s,baz=78,slow=39						
ZALV	**Zalesovo Beam**	**42.66**	**50**	P	**P**	**07 54 52.3**	**+1.0**
TLY	**Talaya**	**54.27**	**49**	*e*P	**P**	**07 56 23.6**	**+2.8**
TLY				pmax	pmax		
	comp=Z,2.0nm,1.3s						
TLY				MLR	MLR		
	comp=Z,46nm,12.0s						
TLY	**Talaya**	**54.27**	**49**	*e*P	**P**	**07 56 23.6**	**+2.8**
	comp=Z,46nm,12.0s						
SONM	**Songino Array**	**57.42**	**52**	P	**P**	**07 56 43.6**	**0.0**
SONM	**Songino Array**	**57.42**	**52**	P	**P**	**07 56 43.6**	**0.0**
	comp=Z,0.3nm,0.5s,baz=284,slow=6.0,SNR=4.0						
SONM	**Songino Array**	**57.42**	**52**	P	**P**	**07 56 43.6**	**0.0**
SCHQ	**Schefferville**	**58.89**	**317**	P	**P**	**07 56 53.6**	**-0.1**
SCHQ	**Schefferville**	**58.89**	**317**	P	**P**	**07 56 53.6**	**-0.1**
	comp=Z,1.4nm,0.6s,baz=72,slow=6.4,SNR=4.4						
SCHQ	**Schefferville**	**58.89**	**317**	P	**P**	**07 56 53.6**	**-0.1**
CMAR	**Chiang Mai Arr**	**67.19**	**85**	P	**P**	**07 57 49.8**	**+0.4**
CMAR	**Chiang Mai Arr**	**67.19**	**85**	P	**P**	**07 57 49.8**	**+0.4**
	comp=Z,0.7nm,0.3s,baz=316,slow=5.0,SNR=5.1						
CMAR	**Chiang Mai Arr**	**67.19**	**85**	P	**P**	**07 57 49.8**	**+0.4**
KSAR	**Wonju Array Be**	**76.27**	**53**	P	**P**	**07 58 42.8**	**-1.0**
KSAR	**Wonju Array Be**	**76.27**	**53**	P	**P**	**07 58 42.8**	**-1.0**
KSRS	**Korea Array**	**76.29**	**53**	P	**P**	**07 58 42.8**	**-1.0**
	comp=Z,0.8nm,0.5s,baz=311,slow=5.6,SNR=4.1						
KSRS	**Korea Array**	**76.29**	**53**	P	**P**	**07 58 42.8**	**-1.0**
	comp=Z,1.0nm,0.8s						
PDAR	**Pinedale Array**	**87.49**	**328**	P	**P**	**07 59 42.5**	**-0.6**
PDAR	**Pinedale Array**	**87.49**	**328**	P	**P**	**07 59 42.5**	**-0.6**
	comp=Z,0.3nm,0.8s,baz=70,slow=7.8,SNR=2.9						
PDAR	**Pinedale Array**	**87.49**	**328**	P	**P**	**07 59 42.5**	**-0.6**
TXAR	**Lajitas Array**	**95.54**	**316**	P	**P**	**08 00 20.7**	**+0.2**
TXAR	**Lajitas Array**	**95.54**	**316**	P	**P**	**08 00 20.7**	**+0.2**
	comp=Z,0.3nm,0.8s,baz=69,slow=4.9,SNR=3.2						
TXAR	**Lajitas Array**	**95.54**	**316**	P	**P**	**08 00 20.7**	**+0.2**

AUST ***28*** *07:48:39.0, 6°.00N×127°.01E, h60km*
IDC ***28*** *07:49:28.9±2.0, 2°.32N×128°.48E, h228km±20km, mb3.3/10, mb1 3.5/10, mb1mx3.4/22, mbtmp3.3/10, Error ellipse: s-maj=35.0km s-min=9.4km az=82.0*
ISCJB ***28*** *07:49:29.7±0.5, 2°.36N±0°.06×128°.67E±0°.09, h250km, mb3.6/9, Error ellipse: s-maj=12.0km s-min=8.4km az=3.6*
ISC 28 07:49:31.1±0.7, 2°.31N±0°.08×128°.6E±0°.1, h250km, n20, σ1$15/20, mb3.7/9, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**6.36**	**145**	P	**Pn**	**07 51 04.0**	**+0.2**
	baz=10,SNR=4.3						
LUWI	**Luwuk**	**6.69**	**240**	S	**S**	**07 52 27.2**	**+1.6**
	baz=8.2,SNR=3.1						
BNDI	**Bandanaira**	**6.91**	**169**	P	Pn	07 51 15.6	+4.9
	baz=11,SNR=3.4						
WSI	**Waingapu**	**14.48**	**215**	P	Pn	07 52 37.0	-8.1
	baz=17,SNR=3.4						
WSI				S	S	07 55 36.8	+11
	baz=17,SNR=4.1						
KDU	**Kakadu**	**15.39**	**166**	P	**Pn**	**07 52 55.6**	**-0.5**
	baz=20,SNR=5.3						
KDU				S	S	07 56 18.0	+33
	baz=20,SNR=22						
KNRA	**Kununurra**	**17.87**	**179**	P	**Pn**	**07 53 23.2**	**-2.1**
	baz=22,SNR=9.3						
FITZ	**Fitzroy Crossi**	**20.49**	**188**	P	**P**	**07 53 49.0**	**-1.5**
	1.5nm,0.6s,baz=2.6,slow=9.8,SNR=9.3						
FITZ	**Fitzroy Crossi**	**20.49**	**188**	P	**P**	**07 53 49.0**	**-1.5**
	baz=24,SNR=5.3						
WRA	**Warramunga Arr**	**22.82**	**166**	P	**P**	**07 54 12.8**	**+0.1**
	3.1nm,0.4s,baz=338,slow=10,SNR=62						
WRA				ScP	**ScP**	**08 01 11.6**	**+1.8**
	0.7nm,0.9s,baz=344,slow=2.6,SNR=2.9						
ASAR	**Alice Springs**	**26.33**	**169**	P	**P**	**07 54 44.6**	**+0.1**
	1.6nm,0.5s,baz=356,slow=8.1,SNR=40						
ASAR				ScP	**ScP**	**08 01 21.6**	**+2.0**
	0.3nm,0.6s,baz=344,slow=2.7,SNR=5.3						
PATS	**Pohnpei**	**29.97**	**80**	S	**S**	**07 59 57.2**	**+1.2**
	baz=31,SNR=3.2						
KSRS	**Korea Array**	**34.98**	**359**	P	**P**	**07 55 59.7**	**-0.2**
	0.9nm,0.5s,baz=179,slow=8.3,SNR=3.5						
MJAR	**Matsushiro Arr**	**35.21**	**14**	P	**P**	**07 56 00.7**	**-1.1**
	1.0nm,0.4s,baz=193,slow=11,SNR=5.2						
BBOO	**Buckleboo**	**35.64**	**169**	P	**P**	**07 56 05.9**	**+0.4**
	baz=40,SNR=23						
STKA	**Stephens Creek**	**36.18**	**161**	P	**P**	**07 56 10.5**	**+0.4**
	2.4nm,0.3s,baz=342,slow=7.7,SNR=26						
STKA	**Stephens Creek**	**36.18**	**161**	P	**P**	**07 56 10.6**	**+0.5**
	baz=40,SNR=20						
USRK	**Ussuriysk Arra**	**41.83**	**4**	P	**P**	**07 56 56.5**	**-0.1**
	0.6nm,0.5s,baz=181,slow=8.1,SNR=2.9						
SONM	**Songino Array**	**49.24**	**340**	P	**P**	**07 57 54.4**	**-0.2**
	0.3nm,0.5s,baz=148,slow=8.5,SNR=2.4						
MKAR	**Makanchi Array**	**59.77**	**325**	P	**P**	**07 59 09.8**	**-0.3**
	1.0nm,0.4s,baz=114,slow=7.9,SNR=20						
ILAR	**Eielson Array**	**85.59**	**25**	P	**P**	**08 01 41.5**	**+0.4**
	0.4nm,1.0s,baz=247,slow=5.3,SNR=7.0						

IDC 28 07:54:30.0±2.1, 6°.14S×130°.21E, h0km, mb3.4/1, mb1 3.4/4, mb1mx3.3/19, mbtmp3.3/4, ML2.9/3, Error ellipse: s-maj=87.6km s-min=27.9km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.70**	**200**	Pn	Pn	07 57 32.5	+0.6
	0.1nm,0.3s,baz=15,slow=12,SNR=2.3						
FITZ				Sn	Sn	07 59 37.3	-17
	0.1nm,0.3s,baz=310,slow=17,SNR=2.8						
WRA	**Warramunga Arr**	**14.29**	**164**	Pn	Pn	07 57 54.3	+0.5
	0.1nm,0.3s,baz=343,slow=12,SNR=4.4						
WRA				Sn	Sn	08 00 20.0	-13
	0.1nm,0.3s,baz=339,slow=22,SNR=5.8						
ASAR	**Alice Springs**	**17.78**	**169**	P	Pn	07 58 38.3	-0.8
	0.0nm,0.3s,baz=356,slow=12,SNR=2.8						
MKAR	**Makanchi Array**	**67.63**	**327**	P	P	08 05 28.8	0.0
	0.2nm,0.5s,baz=117,slow=6.9,SNR=3.3						

AUST ***28*** *07:59:47.7±4.6, 7°.45S×136°.91E, h455km, Error ellipse: s-maj=3.5km s-min=1.8km az=15.0*
IDC ***28*** *07:59:53.1±2.2, 6°.07S×129°.85E, h0km, mb3.7/1, mb1 3.5/4, mb1mx3.4/20, mbtmp3.3/4, ML3.2/3, Error ellipse: s-maj=93.6km s-min=28.4km az=76.0*
ISCJB ***28*** *08:00:03.3±1.6, 6°.81S±0°.08×129°.4E±0°.2, h78km, mb3.5/1, Error ellipse: s-maj=23.0km s-min=10.4km az=13.7*
ISC 28 08:00:03.8±1.8, 6°.88S±0°.09×129°.6E±0°.2, h78km, n7, σ2$99/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**4.76**	**34**	P	**Pn**	**08 01 13.5**	**+0.5**
	baz=6.5,SNR=7.1						
KDU	**Kakadu**	**6.44**	**154**	P	**Pn**	**08 01 34.5**	**-1.5**
	baz=6.8,SNR=21						
KDU				S	**Sn**	**08 02 52.1**	**+4.0**
	baz=6.8,SNR=9.0						
KNRA	**Kununurra**	**8.78**	**185**	P	Pn	08 02 15.9	+7.9
	baz=12,SNR=3.3						
FITZ	**Fitzroy Crossi**	**11.79**	**199**	Pn	Pn	08 02 55.3	+6.2
	0.1nm,0.3s,baz=15,slow=17,SNR=4.9						
FITZ				Sn	**Sn**	**08 05 00.0**	**+1.1**
	0.1nm,0.3s,baz=3.5,slow=19,SNR=3.7						
WRA	**Warramunga Arr**	**13.79**	**161**	Pn	**P**	**08 03 19.9**	**-1.8**
	0.1nm,0.3s,baz=344,slow=14,SNR=8.2						
WRA				Sn	**Sn**	**08 05 45.6**	**-1.9**
	0.2nm,0.3s,baz=352,slow=23,SNR=7.6						
ASAR	**Alice Springs**	**17.20**	**166**	P	**P**	**08 04 02.7**	**+3.1**
	0.1nm,0.3s,baz=346,slow=7.9,SNR=3.8						
MKAR	**Makanchi Array**	**67.89**	**327**	P	P	08 10 50.2	-3.8
	0.3nm,0.4s,baz=123,slow=7.1,SNR=7.1						

DJA ***28*** *08:04:48.6±0.7, 8°.5±5°.×10°.7E±°., h20km, M4.0/9, MLv4.0/9*
ISC 28 08:04:45.2±1.9, 8°.16S±0°.06×107°.18E±0°.05, h1km±14km, n12, σ0$81/17, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.87**	**47**	P	**Pg**	**08 05 01.9**	**0.0**
CISI				S	**Sg**	**08 05 11.7**	**-1.5**
CISI	**Cisompet, Garu**	**0.87**	**47**	P	**Pg**	**08 05 01.9**	**0.0**
	baz=29,SNR=380						
SKJI	**Sukabumi**	**1.30**	**332**	P	**Pn**	**08 05 09.9**	**-0.6**
SKJI				S	**Sb**	**08 05 27.2**	**-0.4**
LEM	**Lembang**	**1.39**	**18**	P	**Pn**	**08 05 11.7**	**-0.2**
LEM				S	**Sb**	**08 05 31.0**	**+0.6**
LEM	**Lembang**	**1.39**	**18**	P	**Pn**	**08 05 11.1**	**-0.8**
	baz=29,SNR=32						
DBJI	**Dramaga**	**1.65**	**345**	P	**Pn**	**08 05 15.9**	**+0.6**
DBJI				S	**Sg**	**08 05 39.4**	**+1.3**
KPJI	**Karang Pucung**	**1.92**	**65**	P	**Pn**

SOH				*e*SB		**Sg**	**08 18 56.7 +0.2**
SOH	**Sokhos**	**0.97**	**342**	P		**Pg**	**08 18 43.6 -0.3**
SOH	**Sokhos**	**0.97**	**342**	*e*Pb		**Pg**	**08 18 44.0 +0.1**
SOH				*e*Sb		**Sg**	**08 18 56.7 +0.2**
SOH				S		**Sb**	**08 18 57.9 +0.4**
LIT	**Litokhoron**	**0.99**	**282**	P		**Pg**	**08 18 43.9 -0.4**
LIT				S		**Sb**	**08 18 58.7 +0.6**
LIT	**Litokhoron**	**0.99**	**282**	*e*PG		**Pg**	**08 18 44.2 -0.1**
LIT				*e*SB		**Sb**	**08 18 58.8 +0.6**
LIT	**Litokhoron**	**0.99**	**282**	P		**Pg**	**08 18 43.9 -0.4**
LIT	**Litokhoron**	**0.99**	**282**	*e*Pg		**Pg**	**08 18 44.2 -0.1**
LIT				S		**Sb**	**08 18 58.7 +0.6**
LIA	**Limnos Island**	**1.10**	**90**	P		**Pg**	**08 18 46.2 -0.2**
LIA				S		**Sb**	**08 19 01.2 +0.1**
LIA	**Limnos Island**	**1.10**	**90**	*e*PN		**Pg**	**08 18 46.4 0.0**
LIA				*e*SB		**Sb**	**08 19 01.2 +0.1**
LIA	**Limnos Island**	**1.10**	**90**	P		**Pg**	**08 18 46.2 -0.2**
LIA				S		**Sb**	**08 19 01.2 +0.1**
MRKA	**Markates**	**1.20**	**186**	P		**Pg**	**08 18 47.6 -0.7**
MRKA				S		**Sg**	**08 19 03.4 -0.5**
MRKA	**Markates**	**1.20**	**186**	P		**Pg**	**08 18 47.6 -0.7**
MRKA				S		**Sg**	**08 19 03.4 -0.5**
SRS	**Serrai**	**1.22**	**354**	P		**Pb**	**08 18 48.1 -0.6**
SRS				S		**Sn**	**08 19 05.2 -0.4**
SRS	**Serrai**	**1.22**	**354**	P		**Pb**	**08 18 48.1 -0.6**
SRS				S		**Sn**	**08 19 05.2 -0.4**
KAVA	**Kavala**	**1.24**	**28**	P		**Pb**	**08 18 48.0 -1.0**
KAVA				S		**Sb**	**08 19 05.3 +0.2**
KAVA	**Kavala**	**1.24**	**28**	P		**Pb**	**08 18 48.0 -1.0**
KAVA				S		**Sb**	**08 19 05.3 +0.2**
AGG	**Agios Georgios**	**1.41**	**232**	P		**Pn**	**08 18 50.7 -0.7**
AGG				S		**Sg**	**08 19 11.1 +0.5**
AGG	**Agios Georgios**	**1.41**	**232**	P		**Pn**	**08 18 50.7 -0.7**
AGG				S		**Sg**	**08 19 11.1 +0.5**
KNT	**Kendrikon**	**1.42**	**333**	P		**Pn**	**08 18 51.5 0.0**
KNT				S		**Sg**	**08 19 11.5 +0.6**
KNT	**Kendrikon**	**1.42**	**333**	P		**Pn**	**08 18 51.5 0.0**
KNT				S		**Sg**	**08 19 11.5 +0.6**
NVR	**Nevrokopi**	**1.45**	**3**	P		**Pn**	**08 18 51.6 -0.4**
NVR				S		**Sn**	**08 19 10.6 -0.6**
NVR	**Nevrokopi**	**1.45**	**3**	*e*PG		**Pn**	**08 18 52.1 +0.1**
NVR	**Nevrokopi**	**1.45**	**3**	P		**Pn**	**08 18 51.6 -0.4**
NVR	**Nevrokopi**	**1.45**	**3**	*e*Pg		**Pn**	**08 18 52.1 +0.1**
NVR				S		**Sn**	**08 19 10.6 -0.6**
SMTH	**Samothraki Isl**	**1.47**	**67**	P		**Pn**	**08 18 51.2 -1.1**
SMTH	**Samothraki Isl**	**1.47**	**67**	P		**Pn**	**08 18 51.2 -1.1**
MAKR	**Makrakomi, Fth**	**1.54**	**235**	P		**Pn**	**08 18 53.1 -0.1**
MAKR				S		**Sb**	**08 19 14.2 +0.3**
MAKR	**Makrakomi, Fth**	**1.54**	**235**	P		**Pn**	**08 18 53.1 -0.1**
MAKR				S		**Sb**	**08 19 14.2 +0.3**
VAY	**Valandovo**	**1.68**	**328**	*e*Pn		**Pb**	**08 18 56.8 +0.3**
VAY				*e*Sg		**Sn**	**08 19 17.4 +0.5**
VAY	**Valandovo**	**1.68**	**328**	*e*Pn		**Pn**	**08 18 55.6 +0.5**
VAY				*e*Sn		**Sn**	**08 19 16.4 -0.5**
VAY	**Valandovo**	**1.68**	**328**	*e*Pn		**Pb**	**08 18 56.8 +0.3**
VAY				*e*Sn		**Sn**	**08 19 15.9 -1.0**
VAY				*e*Sg		**Sn**	**08 19 17.4 +0.5**
RDO	**Rodhopi**	**1.84**	**47**	P		**Pn**	**08 18 56.5 -0.8**
RDO	**Rodhopi**	**1.84**	**47**	P		**Pn**	**08 18 56.5 -0.8**
ALN	**Alexandroupoli**	**2.01**	**60**	P		**Pn**	**08 18 58.7 -0.9**
ALN	**Alexandroupoli**	**2.01**	**60**	P		**Pn**	**08 18 58.7 -0.9**
BIA	**Bitola**	**2.16**	**302**	*e*Pn		**Pn**	**08 19 01.7 -0.1**
BIA				*e*Sn		**Sn**	**08 19 29.6 +0.7**
BIA	**Bitola**	**2.16**	**302**	*e*Pn		**Pn**	**08 19 01.2 -0.6**
BIA				*e*Sn		**Sn**	**08 19 29.1 +0.2**
PLD	**Plovdiv**	**2.31**	**18**	*e*Pn		**Pn**	**08 19 05.3 +1.5**
PLD				*e*Sg		**Sg**	**08 19 41.1 +1.5**
PLD	**Plovdiv**	**2.31**	**18**	*e*Pn		**Pn**	**08 19 05.3 +1.5**
PLD				*e*Sg		**Sg**	**08 19 41.1 +1.5**
VTS	**Vitosha**	**2.72**	**351**	||*e*P		**Pn**	**08 19 10.4 +0.9**
VTS	**Vitosha**	**2.72**	**351**	*e*Sg		**Sg**	**08 19 53.8 +1.2**
VTS	**Vitosha**	**2.72**	**351**	||*e*P		**Pn**	**08 19 10.4 +0.9**
VTS				*e*Sg		**Sg**	**08 19 53.8 +1.2**
BARS	**Barje**	**3.26**	**334**	*e*Pn		**Pn**	**08 19 17.0 +0.2**
BARS	**Barje**	**3.26**	**334**	*e*Pn		**Pn**	**08 19 17.0 +0.2**
JMB	**Yambol**	**3.33**	**39**	*e*Pn		**Pb**	**08 19 22.8 -1.9**
JMB				*e*Sg		**Sg**	**08 20 13.6 +1.3**
JMB	**Yambol**	**3.33**	**39**	*e*Pn		**Pb**	**08 19 22.8 -1.9**
JMB				*e*Sg		**Sg**	**08 20 13.6 +1.3**
ZAPS	**Zavoj**	**3.47**	**346**	*e*Pn		**Pn**	**08 19 21.6 +1.8**
SELS	**Selova**	**3.86**	**330**	*e*Pn		**Pn**	**08 19 25.2 +0.1**
GRUS	**Gruza**	**4.58**	**331**	*e*Pn		**Pn**	**08 19 35.3 +0.3**
GRUS	**Gruza**	**4.58**	**331**	*e*Pn		**Pn**	**08 19 35.3 +0.3**
CIOR	**Ciorogarla**	**4.81**	**18**	||*e*P		Pg	08 20 08.7 +11
DIVS	**Divibare**	**5.04**	**327**	*e*Pn		**Pn**	**08 19 40.9 -0.5**
DIVS	**Divibare**	**5.04**	**327**	*e*Pn		**Pn**	**08 19 40.9 -0.5**
ARR	**Arges**	**5.50**	**6**	||*e*P		**Pn**	**08 19 48.3 +0.6**
ARR	**Arges**	**5.50**	**6**	||*e*P		**Pn**	**08 19 48.3 +0.6**
VOIR		**5.61**	**9**	||*e*P		**Pn**	**08 19 50.5 +1.3**
VOIR		**5.61**	**9**	||*e*P		**Pn**	**08 19 50.5 +1.3**
TLB	**Topalu**	**5.66**	**33**	||*e*P		**Pn**	**08 19 51.2 +1.5**
TLB	**Topalu**	**5.66**	**33**	||*e*P		**Pn**	**08 19 51.2 +1.5**
TIRR	**Tirgusor**	**5.72**	**36**	||*e*P		**Pn**	**08 19 52.3 +1.8**
TIRR	**Tirgusor**	**5.72**	**36**	||*e*P		**Pn**	**08 19 52.3 +1.8**
MLR	**Muntele Rosu**	**5.81**	**15**	||*e*P		**Pn**	**08 19 54.1 +2.1**
MLR	**Muntele Rosu**	**5.81**	**15**	||*e*P		**Pn**	**08 19 54.1 +2.1**
BZS	**Buzias**	**5.92**	**345**	||*e*P		**Pn**	**08 19 53.8 +0.4**
BZS	**Buzias**	**5.92**	**345**	*e*Pn		**Pn**	**08 19 54.0 +0.6**
BZS	**Buzias**	**5.92**	**345**	*e*Pn		**Pn**	**08 19 54.0 +0.6**
DOPR	**Dopca**	**6.18**	**11**	||*e*P		**Pn**	**08 19 58.9 +2.0**
DOPR	**Dopca**	**6.18**	**11**	||*e*P		**Pn**	**08 19 58.9 +2.0**
CFR	**Carcaliu**	**6.18**	**30**	||*e*P		Pn	08 19 49.6 -7.4
PLOR	**Plostina**	**6.31**	**19**	||*e*P		**Pn**	**08 20 01.6 +2.8**
PLOR	**Plostina**	**6.31**	**19**	||*e*P		**Pn**	**08 20 01.6 +2.8**
VRI	**Vrincioaia**	**6.35**	**19**	||*e*P		**Pn**	**08 20 02.2 +3.0**
VRI	**Vrincioaia**	**6.35**	**19**	||*e*P		**Pn**	**08 20 02.2 +3.0**
TLCR		**6.47**	**34**	||*e*P		**Pn**	**08 20 01.6 +0.8**
TLCR		**6.47**	**34**	||*e*P		**Pn**	**08 20 01.6 +0.8**
DRGR		**6.93**	**354**	||*e*P		**Pb**	**08 20 23.0 -3.0**
TESR	**Tescani**	**6.94**	**17**	||*e*P		**Pn**	**08 20 09.9 +2.6**
TESR	**Tescani**	**6.94**	**17**	||*e*P		**Pn**	**08 20 09.9 +2.6**
BRTR	**Keskin Array B**	**7.61**	**88**	Pn		**Pn**	**08 20 17.9 +1.2**
	0.4nm,0.3s,baz=266,slow=12,SNR=9.8						
BURAR	**Bucovina Array**	**7.78**	**7**	||*e*P		**Pn**	**08 20 20.7 +1.7**
BURAR	**Bucovina Array**	**7.78**	**7**	||*e*P		**Pn**	**08 20 20.7 +1.7**
AKASG	**Malin Array Be**	**11.46**	**18**	Pn		**Pn**	**08 21 08.8 -0.5**
	0.5nm,0.3s,baz=203,slow=11,SNR=3.0						
TORD	**Torodi Ar. Bea**	**32.98**	**222**	P		**P**	**08 24 59.9 -0.9**
	0.3nm,0.8s,baz=29,slow=8.6,SNR=3.7						
MKAR	**Makanchi Array**	**42.26**	**61**	P		**P**	**08 26 20.4 +1.2**
	1.0nm,0.5s,baz=276,slow=7.1,SNR=16						
ZALV	**Zalesovo Beam**	**42.66**	**50**	P		**P**	**08 26 23.7 +1.4**
	1.3nm,0.3s,baz=271,slow=9.5,SNR=2.8						
SONM	**Songino Array**	**57.41**	**52**	P		**P**	**08 28 15.8 +1.2**
	0.3nm,0.6s,baz=284,slow=5.8,SNR=2.8						

IDC 28 08:24:41.0±2.0, 14°.02N×93°.11E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.5/27, mbtmp3.5/5, ML3.7/1, Error ellipse: s-maj=60.3km s-min=23.1km az=70.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.13**	**51**	Pn	Pn	08 26 26.4	-0.2
	0.4nm,0.3s,baz=240,slow=14,SNR=3.7						
CMAR				Sn	Sn	08 27 40.5	-8.0
	0.2nm,0.3s,baz=242,slow=23,SNR=2.1						
MKAR	**Makanchi Array**	**33.91**	**347**	P	P	08 31 25.6	-0.2
	0.5nm,0.5s,baz=164,slow=8.1,SNR=7.0						
SONM	**Songino Array**	**35.48**	**15**	P	P	08 31 39.5	+0.1
	0.2nm,0.3s,baz=186,slow=10,SNR=2.7						
WRA	**Warramunga Arr**	**52.77**	**129**	P	P	08 33 57.9	-0.4
	0.3nm,0.5s,baz=312,slow=8.3,SNR=11						
ASAR	**Alice Springs**	**54.72**	**133**	P	P	08 34 12.7	+0.1
	0.5nm,0.7s,baz=307,slow=7.1,SNR=8.3						

MAN 28 08:24:54, 7°.82N×123°.11E, h32km, mb3.9, ML2.6, MS2.2, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAGZ	**Pagadian**	**0.28**	**85**	*e*P	Pn	08 25 03.1	+1.3
PAGZ				*e*S	Sn	08 25 08.1	+1.1
IPIL	**Ipil**	**0.53**	**266**	*e*P	Pn	08 25 07.2	+1.8
IPIL				*e*S	Sn	08 25 14.9	+1.6
DCPH	**Dipolog City**	**0.79**	**18**	||*e*P	Pb	08 25 09.6	+0.2
DCPH				*e*S	Sb	08 25 20.7	+0.9
BUKP	**Musuan**	**1.94**	**88**	*e*P	Pb	08 25 31.8	+3.0

NIED ***28*** *08:26:00, 27°.80N×127°.90E, h5km, Mw4.3 Best double couple: M0 2.69000×10^15 NP1:φs 193.00000°, δ74.00000°, λ-135.00000°. NP2:φs 88.00000°, δ47.00000°, λ-22.00000°.*
JMA ***28*** *08:26:33.8±0.3, 27°.84N×127°.86E, h21km±4km, M4.3*
IDC ***28*** *08:26:33.2±0.9, 27°.64N×127°.51E, h0km, mb3.6/6, mb1 3.7/9, mb1mx3.7/27, mbtmp3.6/9, ML3.7/2, MS3.5/10, Ms1 3.6/10, ms1mx3.4/29, Error ellipse: s-maj=36.1km s-min=17.1km az=82.0*
ISC 28 08:26:34.2±3.5, 27°.78N±0°.05×127°.93E±0°.06, h13km±24km, n25, σ0°91/21, mb3.6/6, MS3.6/8, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIH	**Iheya**	**0.74**	**177**	P	**Pb**	**08 26 48.9**	**-0.1**
JIH				S	**Sb**	**08 26 59.4**	**+0.4**
JTK	**Tokunoshima**	**0.91**	**89**	P	**Pb**	**08 26 51.7**	**-0.1**
JTK				S	**Sb**	**08 27 04.4**	**+0.6**
JOW	**Kunigami**	**0.99**	**162**	P	**Pb**	**08 26 53.0**	**-0.3**
JOW				S	**Sb**	**08 27 07.7**	**+1.4**
JAMN	**Amaminishikomi**	**1.20**	**67**	P	**Pn**	**08 26 55.9**	**-0.7**
JAGN	**Aguni-jima**	**1.33**	**207**	P	**Pn**	**08 26 57.9**	**-0.6**
JAM	**Amami Oshima**	**1.61**	**67**	P	**Pn**	**08 27 02.0**	**-0.3**
JAM				S	**Sn**	**08 27 22.8**	**-0.1**
JJT2	**Tamagusuku 2**	**1.64**	**186**	P	**Pn**	**08 27 03.7**	**+0.9**
JKE	**Kume jima 2**	**1.77**	**215**	P	**Pn**	**08 27 03.9**	**-0.6**
JNN	**Nakanoshima**	**2.67**	**39**	P	**Pn**	**08 27 18.7**	**+1.8**
JMZ	**Minamidaito 2**	**3.53**	**123**	P	**Pn**	**08 27 28.4**	**-0.4**
JMZ				S	**Sn**	**08 28 09.1**	**-1.3**
JNU	**Nakatsue**	**5.90**	**25**	Pn	Pn	08 28 07.4	+6.0
	3.1nm,0.3s,baz=171,slow=8.3,SNR=23						
KSRS	**Korea Array**	**9.65**	**360**	Pn	Pn	08 28 57.1	+4.5
	0.3nm,0.3s,baz=175,slow=13,SNR=2.5						
KSRS				LR	LR	08 32 47.2	
	comp=Z,188nm,18.4s,baz=180,slow=38						
MJAR	**Matsushiro Arr**	**12.33**	**42**	Pn	**P**	**08 29 40.3**	**-1.3**
	0.2nm,0.3s,baz=234,slow=15,SNR=3.0						
MJAR				LR	LR	08 34 54.2	
	comp=Z,87nm,19.5s,baz=195,slow=40						
USRK	**Ussuriysk Arra**	**16.71**	**10**	Pn	P	08 30 32.3	+2.1
	0.1nm,0.3s,baz=174,slow=16,SNR=3.7						
SONM	**Songino Array**	**26.11**	**326**	P	**P**	**08 32 08.1**	**+0.2**
	1.6nm,0.8s,baz=143,slow=8.5,SNR=9.1						
SONM				LR	LR	08 42 58.9	
	comp=Z,77nm,19.7s,baz=330,slow=38						
CMAR	**Chiang Mai Arr**	**28.17**	**257**	LR	LR	08 43 02.2	
	comp=Z,28nm,20.7s,baz=0.0,slow=36						
MKAR	**Makanchi Array**	**40.31**	**311**	P	**P**	**08 34 10.5**	**-0.7**
	0.2nm,0.5s,baz=98,slow=11,SNR=3.4						
MKAR				LR	LR	08 53 04.4	
	comp=Z,48nm,18.1s,baz=3.6,slow=40						
ZALV	**Zalesovo Beam**	**40.86**	**322**	LR	LR	08 52 35.2	
	comp=Z,68nm,18.3s,baz=61,slow=38						
WRA	**Warramunga Arr**	**47.85**	**172**	P	**P**	**08 35 11.9**	**+0.1**
	0.6nm,0.6s,baz=353,slow=8.3,SNR=6.9						
WRA				LR	LR	08 54 46.7	
	comp=Z,64nm,19.6s,baz=125,slow=36						
ASAR	**Alice Springs**	**51.47**	**173**	P	**P**	**08 35 40.3**	**+0.9**
	0.4nm,0.8s,baz=355,slow=7.4,SNR=5.6						
STKA	**Stephens Creek**	**60.74**	**167**	P	**P**	**08 36 46.7**	**+1.2**
	1.7nm,0.9s,baz=322,slow=8.9,SNR=4.0						
ILAR	**Eielson Array**	**63.21**	**29**	P	P	08 37 03.6	+1.8
	0.3nm,0.8s,baz=284,slow=7.3,SNR=4.0						
FINES	**FINESS Array B**	**71.39**	**330**	LR	LR	09 13 01.3	
	comp=Z,121nm,20.0s,baz=111,slow=39						
NOA	**NORSAR Array B**	**77.81**	**334**	LR	LR	09 17 12.8	
	comp=Z,48nm,18.4s,baz=345,slow=39						
GERES	**GERESS Array B**	**83.81**	**323**	LR	LR	09 19 57.3	
	comp=Z,68nm,18.1s,baz=2.5,slow=38						

ISCJB ***28*** *08:44:37.8±0.3, 23°.75N±0°.02×121°.73E±0°.02, h44km±6km, Error ellipse: s-maj=4.1km s-min=2.6km az=135.1*
TAP ***28*** *08:44:37.7, 23°.77N×121°.69E, h46km, ML3.1, C*
JMA ***28*** *08:44:38.3±0.3, 23°.91N×121°.76E, h84km, M2.4*
ISC 28 08:44:38.2±1.4, 23°.75N±0°.03×121°.71E±0°.03, h36km±2km, n39, σ0°84/71, 5C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEGC	**Jichi Village**	**0.16**	**255**	*e*P	Pn	08 44 45.7	-2.6
	baz=245						
ESF	**Shoufeng Towns**	**0.22**	**303**	*e*P	**Pn**	**08 44 45.8**	**-1.0**
	baz=296						
HWA	**Hwalien**	**0.24**	**337**	*e*P	**Pn**	**08 44 45.9**	**-0.6**
	baz=349						
HWA				*e*S	**Sn**	**08 44 52.9**	**-1.2**
	baz=349						
ESL	**Shilin**	**0.26**	**284**	||*i*P	**Pn**	**08 44 45.8**	**-0.6**
	baz=281						
ESL				S	**Sn**	**08 44 51.5**	**-2.2**
	baz=281						
TWD	**Chiawan**	**0.34**	**342**	*i*P	**Pn**	**08 44 46.7**	**+0.1**
	baz=352						
TWD				S	**Sn**	**08 44 53.5**	**+0.3**
	baz=352						
EHY	**Hungye**	**0.43**	**236**	||*i*P	**Pn**	**08 44 47.7**	**-0.1**
	baz=240						
EHY				S	**Sn**	**08 44 55.0**	**+0.4**
	baz=240						
TWF1	**Yuli**	**0.55**	**224**	||*i*P	**Pn**	**08 44 49.1**	**-0.5**
	baz=229						
TWF1				*e*S	**Sn**	**08 44 57.4**	**-0.2**
	baz=229						
WHF	**Hehuan Shan**	**0.57**	**314**	||*i*P	**Pn**	**08 44 49.5**	**-0.8**
	baz=310						
WHF				S	**Sn**	**08 44 58.3**	**-0.2**
	baz=310						
ENA	**Nanau**	**0.68**	**2**	*e*P	**Pn**	**08 44 51.3**	**-0.1**
	baz=14						
ENA				*e*S	**Sn**	**08 45 00.8**	**+0.1**
	baz=14						
CHKT	**Chengkung**	**0.72**	**206**	*e*P	**Pn**	**08 44 51.5**	**-0.4**
	baz=195						
CHKT				S	**Sn**	**08 45 01.7**	**0.0**
	baz=195						
NNS	**Nan Shan**	**0.75**	**336**	P	**Pn**	**08 44 52.0**	**-0.4**
	baz=338						
NNS				*e*S	**Sn**	**08 45 01.8**	**-0.8**
	baz=338						
SMLT	**Sun Moon Lake**	**0.75**	**280**	||*i*P	**Pn**	**08 44 52.3**	**-0.1**
	baz=282						
SMLT				S	**Sn**	**08 45 02.3**	**-0.4**
	baz=282						
TYC	**Yuchr**	**0.80**	**281**	*e*P	**Pn**	**08 44 52.8**	**-0.1**
	baz=283						
TYC				*e*S	**Sn**	**08 45 04.3**	**+0.7**
	baz=283						
ELDTW	**Lidau**	**0.85**	**229**	*e*P	**Pn**	**08 44 53.0**	**-0.7**
	baz=224						
ELDTW				*e*S	**Sn**	**08 45 04.3**	**-0.7**
	baz=224						
TWC	**Suao**	**0.86**	**8**	P	**Pn**	**08 44 54.2**	**+0.4**
	baz=17						
TWC				S	**Sn**	**08 45 05.7**	**+0.5**
	baz=17						
ENTT	**Nioudou**	**0.90**	**352**	*e*P	**Pn**	**08 44 54.2**	**-0.1**
	baz=354						
WNT	**Mingjian**	**0.95**	**278**	*e*P	**Pn**	**08 44 55.5**	**+0.5**
	baz=277						
WNT				*e*S	**Sn**	**08 45 08.4**	**+1.1**
	baz=277						
CHN5	**Tsauling**	**0.96**	**261**	*e*P	**Pn**	**08 44 55.5**	**+0.3**
	baz=260						
CHN5				*e*S	**Sn**	**08 45 08.6**	**+0.9**
	baz=260						
TWE	**Neicheng**	**0.97**	**358**	*e*P	**Pn**	**08 44 55.2**	**0.0**
	baz=352						
TWE				*e*S	**Sn**	**08 45 08.7**	**+1.0**
	baz=352						
NSK	**Sanguang**	**0.97**	**341**	*e*P	**Pn**	**08 44 55.1**	**-0.3**
	baz=343						
NSK				*e*S	**Sn**	**08 45 07.2**	**-0.8**
	baz=343						
TCU	**Taichung**	**1.03**	**293**	*e*P	**Pn**	**08 44 57.3**	**+1.3**
	baz=293						
TWQ1	**Liyutan**	**1.04**	**305**	P	**Pn**	**08 44 56.8**	**+0.5**
	baz=305						
TWQ1				*e*S	**Sn**	**08 45 10.7**	**+1.1**
	baz=305						
NSTT	**Nanjuang**	**1.09**	**324**	*e*P	**Pn**	**08 44 57.0**	**+0.1**
	baz=312						
NSTT				*e*S	**Sn**	**08 45 11.2**	**+0.4**
	baz=312						
NSY	**Sanyi**	**1.09**	**308**	*e*P	**Pn**	**08 44 56.6**	**-0.4**
	baz=308						
TWG	**Pinlang**	**1.10**	**213**	*e*P	**Pn**	**08 44 55.5**	**-1.5**
	baz=209						
TWG				*e*S	**Sn**	**08 45 10.1**	**-0.8**
	baz=209						
WTP	**Ta-pu**	**1.12**	**244**	*e*P	**Pn**	**08 44 57.8**	**+0.3**
	baz=241						
WTP				*e*S	**Sn**	**08 45 13.3**	**+1.6**
	baz=241						
TWK	**Hsinying**	**1.22**	**247**	*e*P	**Pn**	**08 44 59.0**	**+0.2**
	baz=245						
TWK				*e*S	**Sn**	**08 45 14.9**	**+0.8**
	baz=245						
CHN1	**Nanshi**	**1.22**	**243**	*e*P	**Pn**	**08 44 59.5**	**+0.7**
	baz=241						
CHN1				*e*S	**Sn**	**08 45 15.3**	**+1.2**
	baz=241						
SGST	**Jiashian**	**1.23**	**237**	*e*P	**Pn**	**08 45 00.5**	**+1.7**
	baz=247						
SGST				*e*S	**Sn**	**08 45 16.5**	**+2.2**
	baz=247						
NWF	**Wu-fen Shan**	**1.32**	**3**	*e*P	**Pn**	**08 45 00.7**	**+0.6**
	baz=354						
NWF				*e*S	**Sn**	**08 45 17.2**	**+0.7**
	baz=354						
YOJ	**Yonaguni jima**	**1.38**	**59**	P	**Pn**	**08 45 01.2**	**+0.3**
YOJ				S	**Sn**	**08 45 18.3**	**+0.3**
TWM1	**Shoushan**	**1.50**	**232**	*e*P	**Pn**	**08 45 04.0**	**+1.4**
	baz=243						
EAST	**Anshuo**	**1.58**	**210**	*e*P	**Pn**	**08 45 02.7**	**-1.0**
	baz=202						
EAST				*e*S	**Sn**	**08 45 23.2**	**+0.4**
	baz=202						
SCZT	**Fangliau**	**1.70**	**216**	*e*P	**Pn**	**08 45 06.4**	**+1.1**
	baz=213						
SCZT				*e*S	**Sn**	**08 45 27.6**	**+1.8**
	baz=213						
HATJ	**Hateruma jima**	**1.94**	**81**	P	**Pn**	**08 45 09.1**	**+0.5**
HATJ				S	**Sn**	**08 45 32.0**	**+0.3**
PNG	**Penghu**	**1.98**	**265**	*e*P	**Pn**	**08 45 08.9**	**-0.3**
	baz=265						
PNG				*e*S	**Sn**	**08 45 31.9**	**-0.9**
	baz=265						
JKRS	**Kuro-shima**	**2.16**	**77**	P	**Pn**	**08 45 12.3**	**+0.7**
JKRS				S	**Sn**	**08 45 38.2**	**+1.1**
JIJ	**Ishigaki jima**	**2.31**	**74**	P	**Pn**	**08 45 13.7**	**+0.1**
JIJ				S	**Sn**	**08 45 40.2**	**-0.6**
JTJ	**Tarama**	**2.87**	**71**	P	**Pn**	**08 45 21.5**	**+0.1**
JTJ				S	**Sn**	**08 45 55.3**	**+0.6**

ISCJB ***28*** *08:53:05.6±0.6, 33°.36S±0°.04×148°.81E±0°.05, h10km, Error ellipse: s-maj=6.0km s-min=5.6km az=142.3*
AUST ***28*** *08:53:06.4±0.7, 33°.46S×148°.93E, h2km, Error ellipse: s-maj=0.9km s-min=0.8km az=286.0*
IDC ***28*** *08:53:09.7±7.2, 32°.90S×148°.69E, h0km, mb1 3.8/3, mb1mx3.5/15, mbtmp3.6/3, ML3.4/3, Error ellipse: s-maj=101.0km s-min=45.7km az=172.0*
ISC 28 08:53:06.6±0.9, 33°.39S±0°.05×148°.86E±0°.04, h10km, n16, σ1°83/21, New South Wales

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YNG	**Young**	**0.99**	**203**	P	**Pg**	**08 53 24.2**	**-1.3**
	baz=0.9,SNR=178						
YNG				S	**Sb**	**08 53 38.1**	**-0.7**
	baz=0.9,SNR=12						
MGCD	**Mangrove Creek**	**1.89**	**85**	P	**Sn**	**08 54 04.3**	**+1.4**
	baz=40,SNR=4.3						
MGCD	**Mangrove Creek**	**1.89**	**85**	P	**Pn**	**08 53 38.6**	**-0.3**
	baz=1.8,SNR=543						
MGCD				S	**Sn**	**08 54 02.9**	**0.0**
	baz=1.8,SNR=7.5						
CNB	**Canberra Magne**	**1.97**	**168**	P	**Sg**	**08 54 13.5**	**+3.7**
	baz=41,SNR=7.4						
CNB	**Canberra Magne**	**1.97**	**168**	P	**Pn**	**08 53 39.1**	**-0.9**
	baz=1.9,SNR=75						
CNB				S	**Sb**	**08 54 05.3**	**-1.9**
	baz=1.9,SNR=9.5						
MILA	**Mila**	**3.67**	**176**	P	**Pn**	**08 54 03.6**	**+0.1**
	baz=3.6,SNR=6.4						
ARMA	**Armidale**	**3.78**	**39**	P	**Pn**	**08 54 07.0**	**+1.9**
	baz=39,SNR=6.6						
ARMA	**Armidale**	**3.78**	**39**	P	**Pn**	**08 54 07.0**	**+1.9**
	baz=3.8,SNR=6.6						
TOO	**Toolangi**	**5.00**	**212**	P	**Pn**	**08 54 22.7**	**+1.0**
	baz=41,SNR=8.5						
TOO	**Toolangi**	**5.00**	**212**	P	**Pn**	**08 54 22.7**	**+1.0**
	baz=5.0,SNR=8.5						
STKA	**Stephens Creek**	**6.31**	**282**	Pn	**Pn**	**08 54 40.8**	**+1.1**
	0.6nm,0.3s,baz=105

SONM	Songino Array	71.49	328	P	P	09 19 08.9 +0.7
	1.5nm,0.7s,baz=141,slow=5.6,SNR=7.0					
MKAR	Makanchi Array	85.27	319	P	P	09 20 23.4 -0.8
	0.9nm,0.9s,baz=101,slow=6.3,SNR=5.2					
ILAR	Eielson Array	86.04	21	P	P	09 20 28.1 +0.5
	0.2nm,0.8s,baz=248,slow=4.8,SNR=3.3					
TORD	Torodi Ar. Bea	153.32	280	PKPbc	PKPbc	09 27 45.6 -1.1
	0.2nm,0.9s,baz=74,slow=1.7,SNR=2.5					

*CSEM **28** 09:16:19.8±0.3, 39°.70N×23°.49E, h10km, ML3.1, Error ellipse: s-maj=7.0km s-min=5.7km az=118.0*
*IDC **28** 09:16:20.6±1.5, 39°.66N×23°.89E, h0km, mb3.7/3, mb1 3.6/6, mb1mx3.4/27, mbtmp3.5/6, ML3.6/3, Error ellipse: s-maj=25.4km s-min=23.5km az=136.0*
*ATH **28** 09:16:21.0, 39°.92N×23°.75E, h29km±1km, ML3.1*
*BEO **28** 09:16:23.7±1.1, 39°.90N×23°.71E, h38km±6km, ML3.1/5*

ISC 28 09:16:19.3±1.1, 39°.81N±0°.02×23°.67E±0°.02, h2km±9km, n131, σ1§47/142, mb3.6/3, 23C-8D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAIG	Paliouri	0.12	5	ePG	Pg	09 16 18.7	-2.9
PAIG				eSG	Sg	09 16 19.7	-3.4
PLG	Polygyros	0.59	343	ePG	Pg	09 16 26.5	-4.1
PLG				eSB	Sg	09 16 31.2	-7.0
PLG	Polygyros	0.59	343	ePN	Pg	09 16 31.0	+0.4
PLG				eSN	Sg	09 16 38.4	+0.2
PLG	Polygyros	0.59	343	ePn	Pg	09 16 31.0	+0.4
PLG				eSn	Sg	09 16 38.4	+0.2
NEO	Neokhori	0.61	214	ePB	Pg	09 16 31.2	+0.2
NEO	Neokhori	0.61	214	ePN	Pn	09 16 35.1	+0.1
NEO				eSN	Sn	09 16 46.7	+1.3
NEO	Neokhori	0.61	214	ePn	Pn	09 16 35.1	+0.1
NEO				eSn	Sn	09 16 46.7	+1.3
AOS	Alonnisos	0.66	165	ePG	Pg	09 16 31.7	-0.3
AOS	Alonnisos	0.66	165	ePN	Pn	09 16 36.6	+0.9
AOS				eSN	Sn	09 16 48.0	+1.4
AOS	Alonnisos	0.66	165	ePg	Pg	09 16 31.7	-0.3
AOS	Alonnisos	0.66	165	ePn	Pn	09 16 36.6	+0.9
AOS				eSn	Sn	09 16 48.0	+1.4
LIT	Litokhoron	0.95	288	ePB	Pg	09 16 32.2	-5.3
LIT	Litokhoron	0.95	288	ePN	Pn	09 16 39.9	+0.2
LIT	Litokhoron	0.95	288	ePn	Pn	09 16 39.9	+0.2
SOH	Sokhos	1.04	347	ePN	Pg	09 16 34.9	-4.3
SOH	Sokhos	1.04	347	ePN	Pn	09 16 40.5	-0.4
SOH				eSN	Sg	09 16 53.5	+0.9
SOH	Sokhos	1.04	347	ePn	Pn	09 16 40.5	-0.4
SOH				eSn	Sg	09 16 53.5	+0.9
LIA	Limnos Island	1.17	85	ePN	Pb	09 16 39.3	-2.9
LIA	Limnos Island	1.17	85	ePN	Pb	09 16 41.5	-0.7
LIA	Limnos Island	1.17	85	ePn	Pb	09 16 41.5	-0.7
LKR	Lokris	1.27	204	ePN	Pn	09 16 41.2	-2.8
LKR	Lokris	1.27	204	ePB	Pg	09 16 45.6	+2.0
LKR	Lokris	1.27	204	ePn	Pn	09 16 41.2	-2.8
LKR	Lokris	1.27	204	ePb	Pg	09 16 45.6	+2.0
THL	Klokotos Trika	1.30	260	ePB	Pn	09 16 41.7	-2.7
THL	Klokotos Trika	1.30	260	ePN	Pg	09 16 45.9	+1.7
THL	Klokotos Trika	1.30	260	ePb	Pn	09 16 41.7	-2.7
THL	Klokotos Trika	1.30	260	ePn	Pg	09 16 45.9	+1.7
AGG	Agios Georgios	1.30	233	ePG	Pn	09 16 41.5	-3.0
AGG	Agios Georgios	1.30	233	ePB	Pg	09 16 46.0	+1.8
AGG	Agios Georgios	1.30	233	ePg	Pn	09 16 41.5	-3.0
AGG	Agios Georgios	1.30	233	ePb	Pg	09 16 46.0	+1.8
KZN	Kozani	1.54	289	ePB	Pn	09 16 45.3	-2.5
KZN	Kozani	1.54	289	ePb	Pn	09 16 45.3	-2.5
NVR	Nevrokopi	1.54	5	ePN	Pn	09 16 42.7	-5.2
NVR	Nevrokopi	1.54	5	ePN	Pn	09 16 47.5	-0.4
NVR				eSN	Sn	09 17 06.4	-2.1
NVR	Nevrokopi	1.54	5	ePn	Pn	09 16 47.5	-0.4
NVR				eSn	Sn	09 17 06.4	-2.1
SMTH	Samothraki Isl	1.57	65	ePB	Pn	09 16 46.5	-1.8
SMTH	Samothraki Isl	1.57	65	ePb	Pn	09 16 46.5	-1.8
VAY	Valandovo	1.72	331	ePg	Pg	09 16 53.4	+1.1
VAY				*i* Sg	Sg	09 17 16.9	+2.2
VAY	Valandovo	1.72	331	ePn	Pg	09 16 52.1	-0.3
VAY				eSn	Sg	09 17 15.1	+0.4
VAY	Valandovo	1.72	331	ePn	Pb	09 16 51.5	-0.2
VAY				eSn	Sg	09 17 14.5	-0.2
VAY				*i* Sg	Sg	09 17 16.9	+2.2
ATH	Athens Observa	1.84	179	ePN	Pg	09 16 54.0	-0.5
ATH	Athens Observa	1.84	179	ePn	Pg	09 16 54.0	-0.5
KALE	Kalithea	1.85	220	ePN	Pg	09 16 54.3	-0.5
KALE	Kalithea	1.85	220	ePn	Pg	09 16 54.3	-0.5
TRIZ	Trizonia	1.90	221	ePN	Pb	09 16 54.6	-0.1
TRIZ	Trizonia	1.90	221	ePn	Pb	09 16 54.6	-0.1
EFP	Efpalio	1.95	225	ePN	Pg	09 16 56.0	-0.6
EFP	Efpalio	1.95	225	ePn	Pg	09 16 56.0	-0.6
RDO	Rodhopi	1.95	46	ePG	Pn	09 16 52.7	-0.7
RDO	Rodhopi	1.95	46	ePN	Pn	09 16 52.1	-1.3
RDO	Rodhopi	1.95	46	ePn	Pn	09 16 52.1	-1.3
FNA	Florina	2.00	300	ePN	Pn	09 16 52.0	-2.2
FNA	Florina	2.00	300	ePB	Pb	09 16 55.2	-1.3
FNA	Florina	2.00	300	ePn	Pn	09 16 52.0	-2.2
FNA	Florina	2.00	300	ePb	Pb	09 16 55.2	-1.3
LAKA	Lakka	2.05	220	ePB	Pg	09 16 58.3	-0.2
LAKA	Lakka	2.05	220	ePb	Pg	09 16 58.3	-0.2
PRK	Paraskevi	2.09	105	ePG	Pb	09 16 56.8	-1.1
PRK	Paraskevi	2.09	105	ePB	Pb	09 16 56.8	-1.1
PRK	Paraskevi	2.09	105	ePb	Pb	09 16 56.8	-1.1
ALN	Alexandroupoli	2.12	58	ePN	Pn	09 16 54.7	-1.0
ALN	Alexandroupoli	2.12	58	ePN	Pn	09 16 54.9	-0.8
ALN	Alexandroupoli	2.12	58	ePn	Pn	09 16 54.9	-0.8
GUR	Goura	2.14	209	ePN	Pb	09 16 58.5	-0.3
GUR	Goura	2.14	209	ePn	Pb	09 16 58.5	-0.3
CHOS	Chios island	2.34	127	ePB	Pn	09 16 58.9	+0.1
CHOS	Chios island	2.34	127	ePN	Pn	09 16 59.1	+0.2
CHOS	Chios island	2.34	127	ePn	Pn	09 16 59.1	+0.2
PLD	Plovdiv	2.42	19	ePn	Pn	09 17 00.0	+0.1
PLD				eSg	Sg	09 17 38.2	+1.1
PLD	Plovdiv	2.42	19	ePn	Pn	09 17 00.0	+0.1
PLD				eSg	Sg	09 17 38.2	+1.1
VTS	Vitosha	2.80	353 ⇑	*i* P	Pn	09 17 07.2	+2.0
VTS	Vitosha	2.80	353	ePn	Pn	09 17 05.3	+0.1
VTS				eSn	Sn	09 17 35.7	-3.9
VTS	Vitosha	2.80	353	ePn	Pn	09 17 05.3	+0.1
VTS	Vitosha	2.80	353 ⇑	*i* P	Pn	09 17 07.2	+2.0
BARS	Barje	3.31	336	ePn	Pn	09 17 12.3	+0.2
BARS				eSg	Sg	09 18 06.9	+1.3
BARS	Barje	3.31	336	ePn	Pn	09 17 12.3	+0.2
BARS				eSg	Sg	09 18 06.9	+1.3
ZAPS	Zavoj	3.54	348	ePn	Pn	09 17 14.4	-1.0
SELS	Selova	3.91	332	ePn	Pn	09 17 20.3	0.0
BOLS	Boljevac	4.21	343	ePn	Pn	09 17 24.0	-0.5
BOLS	Boljevac	4.21	343	ePn	Pn	09 17 24.0	-0.5
PDG	Podgorica	4.24	310	ePn	Pn	09 17 25.3	+0.5
PDG	Podgorica	4.24	310	ePn	Pn	09 17 25.3	+0.5
TREB	Trebinje	4.95	308	ePn	Pn	09 17 35.7	+1.1
TREB	Trebinje	4.95	308	ePn	Pn	09 17 35.7	+1.1
TRUS	Trudelj	5.03	332	ePn	Pn	09 17 35.9	+0.1
TRUS	Trudelj	5.03	332	ePn	Pn	09 17 35.9	+0.1
DIVS	Divibare	5.08	329	ePn	Pn	09 17 36.6	0.0
DIVS	Divibare	5.08	329	ePn	Pn	09 17 36.6	0.0
STON	Ston	5.43	306	ePn	Pn	09 17 41.4	+0.2
STON	Ston	5.43	306	ePn	Pn	09 17 41.4	+0.2
ARR	Arges	5.60	7 ⇑	*i* P	Pn	09 17 45.3	+1.7
ARR	Arges	5.60	7 ⇑	*i* P	Pn	09 17 45.3	+1.7
LOT	Lotru	5.63	1 ⇓	*i* P	Pn	09 17 46.2	+2.1
LOT	Lotru	5.63	1 ⇓	*i* P	Pn	09 17 46.2	+2.1
TEKS	Tekeris	5.64	328	ePn	Pn	09 17 43.9	-0.3
TEKS	Tekeris	5.64	328	ePn	Pn	09 17 43.9	-0.3
VOIR		5.71	10 ⇑	*i* P	Pn	09 17 46.6	+1.4
VOIR		5.71	10 ⇑	*i* P	Pn	09 17 46.6	+1.4
TLB	Topalu	5.77	33 ⇑	*i* P	Pn	09 17 47.0	+1.1
TLB	Topalu	5.77	33 ⇑	*i* P	Pn	09 17 47.0	+1.1
TIRR	Tirgusor	5.83	36 ⇓	*i* P	Pn	09 17 47.5	+0.8
TIRR	Tirgusor	5.83	36 ⇓	*i* P	Pn	09 17 47.5	+0.8
MLR	Muntele Rosu	5.92	16 ⇑	*i* P	Pn	09 17 50.3	+2.2
MLR	Muntele Rosu	5.92	16 ⇑	*i* P	Pn	09 17 50.3	+2.2
BZS	Buzias	6.00	346 ⇓	*i* P	Pn	09 17 49.1	+0.1
BZS	Buzias	6.00	346	ePn	Pn	09 17 48.1	-0.9
BZS	Buzias	6.00	346	ePn	Pn	09 17 48.1	-0.9
BZS	Buzias	6.00	346 ⇓	*i* P	Pn	09 17 49.1	+0.1
DOPR	Dopca	6.28	11 ⇓	*i* P	Pn	09 17 55.0	+2.1
DOPR	Dopca	6.28	11 ⇓	*i* P	Pn	09 17 55.0	+2.1
CFR	Carcaliu	6.30	30 ⇑	*i* P	Pn	09 17 55.4	+2.3
CFR	Carcaliu	6.30	30 ⇑	*i* P	Pn	09 17 55.4	+2.3
PLOR	Plostina	6.42	19 ⇑	*i* P	Pn	09 17 57.7	+2.8
PLOR	Plostina	6.42	19 ⇑	*i* P	Pn	09 17 57.7	+2.8
VRI	Vrincioaia	6.46	19 ⇑	*i* P	Pn	09 17 57.9	+2.6
VRI	Vrincioaia	6.46	19 ⇑	*i* P	Pn	09 17 57.9	+2.6
TLCR		6.58	34 ⇑	*i* P	Pn	09 17 58.3	+1.3
TLCR		6.58	34 ⇑	*i* P	Pn	09 17 58.3	+1.3
DRGR		7.01	355 ⇑	*i* P	Pb	09 18 13.5	-8.3
TESR	Tescani	7.04	17 ⇑	*i* P	Pn	09 18 06.5	+3.1
TESR	Tescani	7.04	17 ⇑	*i* P	Pn	09 18 06.5	+3.1
BRTR	Keskin Array B	7.68	87	Pn	Pn	09 18 13.1	+0.7
	0.2nm,0.3s,baz=265,slow=14,SNR=5.7					
BURAR	Bucovina Array	7.88	8 ⇑	*i* P	Pn	09 18 16.8	+1.8
BURAR	Bucovina Array	7.88	8 ⇑	*i* P	Pn	09 18 16.8	+1.8
GERES	GERESS Array B	11.50	325	Pn	Pn	09 19 11.2	+6.6
	0.2nm,0.3s,baz=140,slow=14,SNR=3.2					
AKASG	Malin Array Be	11.57	18	Pn	Pn	09 19 05.3	0.0
	0.8nm,0.3s,baz=204,slow=12,SNR=3.4					
TORD	Torodi Ar. Bea	32.86	222	P	P	09 22 55.0	+0.4
	0.1nm,0.4s,baz=27,slow=9.4,SNR=3.1					
MKAR	Makanchi Array	42.36	61	P	P	09 24 16.4	+1.6
	0.6nm,0.5s,baz=269,slow=7.5,SNR=9.2					
ZALV	Zalesovo Beam	42.77	50	P	P	09 24 19.6	+1.6
	1.0nm,0.3s,baz=280,slow=8.6,SNR=2.2					

IDC 28 09:25:32.7±5.4, 12°.33S×167°.37E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/19, mbtmp3.5/3, Error ellipse: s-maj=268.8km s-min=33.7km az=140.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	32.57	252	P	P	09 32 05.9	-0.2
	0.3nm,0.8s,baz=83,slow=9.9,SNR=3.8						
ASAR	Alice Springs	33.68	246	P	P	09 32 15.8	+0.1
	0.7nm,0.8s,baz=74,slow=9.5,SNR=8.5						
ILAR	Eielson Array	84.23	18	P	P	09 38 05.8	0.0
	0.3nm,0.6s,baz=219,slow=6.6,SNR=5.5						

FUNV 28 09:31:57.2, 10°.85N×68°.01W, h12km, MW4.0, 3C-1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TURV	Turiamo	0.43	158 ⇓	eP	Pg	09 32 05.5	-0.2
TURV				eS	Sg	09 32 10.9	-0.4
JACV	Jacura	0.84	287	eS	Sg	09 32 24.3	-0.4
FUNV	FUNVISIS	1.23	108 ⇑	eP	Pn	09 32 19.8	-0.6
FUNV				eS	Sb	09 32 36.2	-0.3
TEPV	Terepaima	1.46	233	eP	Pn	09 32 22.7	-0.8
TEPV				eS	Sn	09 32 42.1	-0.5
BIRV	Birongo	1.75	102 ⇑	eP	Pn	09 32 26.8	-0.6
BIRV				eS	Sn	09 32 48.7	-0.9
BAUV	El Baul	1.89	181	eP	Pn	09 32 28.8	-0.6
BAUV				eS	Sn	09 32 52.1	-1.0
ORCV	Isla La Orchil	2.02	61	eP	Pn	09 32 30.0	-1.1
ORCV				eS	Sn	09 32 55.2	-1.1
CURV	Curarigua	2.10	247	eP	Pn	09 32 31.7	-0.6
CURV				eS	Sn	09 32 57.2	-1.1
MONV	Montecano	2.22	300	eP	Pn	09 32 33.5	-0.4
MONV				eS	Sn	09 32 59.5	-1.8
MERV	Las Mercedes	2.31	133	eP	Pn	09 32 34.7	-0.4
MERV				eS	Sn	09 33 02.3	-1.2
CUPV	Cœpira	2.32	110	eP	Pn	09 32 35.2	-0.1
CUPV				eS	Sn	09 33 02.2	-1.6
QARV	Quebrada Arrib	2.56	256	eP	Pn	09 32 37.6	-0.9
QARV				eS	Sn	09 33 07.6	-2.1
DABV	Dabajuro	2.58	272	eP	Pn	09 32 38.2	-0.7
DABV				eS	Sn	09 33 07.8	-2.5
PCRV	Puerto La Cruz	3.38	101	eP	Pn	09 32 49.6	-0.3
PCRV				eS	Sn	09 33 27.4	-2.6
SOCV	Socops	3.79	228	eP	Pn	09 32 54.4	-1.2
SOCV				eS	Sn	09 33 36.1	-4.1
VIGV	El Vigia	3.87	239	eP	Pn	09 32 55.7	-0.9
VIGV				eS	Sn	09 33 38.7	-3.3
ELOV	Elorza	4.09	201	eP	Pn	09 32 58.8	-0.8
VIRV	Villa del Rosa	4.34	266 ⇑	eP	Pn	09 33 02.0	-1.1
VIRV				eS	Sn	09 33 49.4	-4.2
CAPV	Capacho	5.18	235	eP	Pn	09 33 12.7	-2.3

IDC 28 10:14:30.4±5.2, 2°.94S×139°.75E, h0km, mb3.1/2, mb1 3.4/3, mb1mx3.3/17, mbtmp3.2/3, ML3.4/1, Error ellipse: s-maj=202.6km s-min=29.3km az=88.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	17.71	197	P	Pn	10 18 38.3	-0.3
	0.1nm,0.3s,baz=16,slow=11,SNR=9.9						
ASAR	Alice Springs	21.37	195	P	P	10 19 19.1	-0.6
	0.5nm,0.6s,baz=18,slow=11,SNR=11						
MKAR	Makanchi Array	70.60	322	P	P	10 25 48.0	+0.3
	0.1nm,0.3s,baz=98,slow=6.0,SNR=2.5						

*IDC **28** 10:24:48.8±3.3, 16°.89N×99°.87W, h0km, mb3.9/4, mb1 4.0/6, mb1mx3.8/22, mbtmp3.7/6, ML2.9/2, MS3.3/4, Ms1 3.3/4, ms1mx2.9/26, Error ellipse: s-maj=72.3km s-min=46.7km az=50.0*
*NEIC **28** 10:24:55.0±0.7, 16°.96N×100°.93W, h8km, MD4.0(MEX), After MEX.*
*MEX **28** 10:24:55.0±0.7, 16°.96N×100°.93W, h8km±9km, MD4.0*

ISC 28 10:24:54.4±1.2, 17°.02N±0°.05×100°.92W±0°.03, h13km±8km, n160, σ1§68/164, mb3.8/4, 62C-58D, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	El Cayaco	0.62	87	*i* P	Pg	10 25 06.0	-0.6
CAIG				*i* S	Sg	10 25 14.3	-0.5
CAIG	El Cayaco	0.62	87	*i* P	Pg	10 25 06.0	-0.6
CAIG				*i* S	Sg	10 25 14.3	-0.5
ZIIG	Zihuatanejo	0.79	318	*i* P	Pg	10 25 08.8	-0.9
ZIIG				*i* S	Sg	10 25 19.7	-0.3
ZIIG	Zihuatanejo	0.79	318	*i* P	Pg	10 25 08.8	-0.9
ZIIG				*i* S	Sg	10 25 19.7	-0.3
ACX	Acapulco	1.02	98	*i* P	Pn	10 25 16.3	+1.8
ACX				*i* S	Sb	10 25 29.3	+1.9
ACX	Acapulco	1.02	98	*i* P	Pn	10 25 16.3	+1.8
ACX				*i* S	Sb	10 25 29.3	+1.9
ARIG	Puente Sto Nin	1.37	23	*i* P	Pn	10 25 17.5	-1.8
ARIG				*i* S	Sn	10 25 34.5	-2.8
MEIG	Mezcala	1.53	54	eP	Pn	10 25 20.0	-1.6
MEIG				*i* S	Sn	10 25 39.6	-1.8
MEIG	Mezcala	1.53	54	eP	Pn	10 25 20.0	-1.6
MEIG				*i* S	Sn	10 25 39.6	-1.8
PLIG	Platanillo	1.92	44	*i* P	Pn	10 25 25.6	-1.4
PLIG				*i* S	Sn	10 25 49.7	-1.3
PLIG	Platanillo	1.92	44	*i* P	Pn	10 25 25.6	-1.4
PLIG				*i* S	Sn	10 25 49.7	-1.3
YAIG	Yautepec	2.54	44	*i* P	Pn	10 25 33.6	-2.0
YAIG				*i* S	Sn	10 26 05.7	-0.8
YAIG	Yautepec	2.54	44	*i* P	Pn	10 25 33.6	-2.0
YAIG				*i* S	Sn	10 26 05.7	-0.8
MMIG	Aquila	2.64	299	*i* P	Pn	10 25 35.4	-1.4
MMIG				*i* S	Sn	10 26 06.0	-2.7
MMIG	Aquila	2.64	299	*i* P	Pn	10 25 35.4	-1.4
MMIG				*i* S	Sn	10 26 06.0	-2.7
MOIG	Morelia	2.66	354	*i* P	Pn	10 25 38.6	+1.3
MOIG				*i* S	Sn	10 26 10.8	+1.4
MOIG	Morelia	2.66	354	*i* P	Pn	10 25 38.6	+1.3
MOIG				*i* S	Sn	10 26 10.8	+1.4
PNIG	Pinotepa	2.74	103	*i* P	Pn	10 25 37.2	-1.0
PNIG				*i* S	Sn	10 26 09.5	-1.8
PNIG	Pinotepa	2.74	103	*i* P	Pn	10 25 37.2	-1.0
PNIG				*i* S	Sn	10 26 09.5	-1.8
UNM	Universidad Na	2.83	35	*i* P	Pn	10 25 39.0	-0.6
UNM				*i* S	Sn	10 26 12.4	-1.4
UNM	Universidad Na	2.83	35	*i* P	Pn	10 25 39.0	-0.6
UNM				*i* S	Sn	10 26 12.4	-1.4
PPM	Popocatepetl	2.98	47	*i* P	Pn	10 25 40.8	-1.2
PPM				*i* S	Sn	10 26 17.6	-0.3
PPM	Popocatepetl	2.98	47	*i* P	Pn	10 25 40.8	-1.2
PPM				*i* S	Sn	10 26 17.6	-0.3
APG	El Apazote	10.25	100	LR	LR	10 31 22.8	
	comp=Z,121nm,18.8s,baz=21,slow=43						
631A	Perdido Creek	12.34	1	⇑P	Pn	10 27 52.0	+2.1
	baz=12						
TEIG	Tepich	12.40	73	Pn	Pn	10 27 42.5	-8.2
TEIG				Sn	Sn	10 29 58.7	-10
TEIG	Tepich	12.40	73	Pn	Pn	10 27 42.5	-8.2
	0.2nm,0.3s,baz=212,slow=1.4,SNR=2.5						
TEIG				Sn	Sn	10 29 58.7	-10
	0.4nm,0.3s,baz=231,slow=10.0,SNR=2.5						
632A	Uvalde	12.47	5	⇓P	Pn	10 27 53.8	+2.1
	baz=13						
TXAR	Lajitas Array	12.52	349	Pn	Pn	10 27 55.6	+3.1
TXAR				Lg	Lg	10 31 35.4	
TXAR	Lajitas Array	12.52	349	Pn	Pn	10 27 55.6	+3.1
	0.0nm,0.3s,baz=168,slow=10,SNR=2.9						
TXAR				Lg	Lg	10 31 35.4	
	0.0nm,0.3s,baz=166,slow=32,SNR=9.9						
628A	Black Gap, Mar	12.54	352	⇑P	Pn	10 27 56.1	+3.4
	baz=13						
627A	Terlingua Ranc	12.58	350	⇓P	Pn	10 27 57.4	+4.1
	baz=13						
626A	Big Bend Ranch	12.82	347	⇑P	Pn	10 28 00.4	+3.8
	baz=13						
530A	J-C Ranch, Com	13.08	358	⇓P	Pn	10 28 02.2	+2.1
	baz=13						
532A	Rocksprings	13.08	4	⇑P	Pn	10 28 01.4	+1.3
	baz=13						
531A	Rocksprings	13.09	1	⇓P	Pn	10 28 01.8	+1.6
	baz=13						
529A	Stev Forest Ra	13.10	355	⇓P	Pn	10 28 02.8	+2.4
	baz=13						
526A	Mary Lane Ranc	13.30	348	⇑P	Pn	10 28 06.4	+3.1
	baz=13						
429A	Davenport Ranc	13.57	356	⇓P	Pn	10 28 07.9	+1.1
	baz=14						
431A	Sonora	13.61	1	⇑P	Pn	10 28 07.7	+0.5
	baz=14						
430A	Baggett Ranch,	13.71	359	⇓P	Pn	10 28 10.2	+1.5
	baz=14						
428A	Kincaid Ranch,	13.74	354	⇓P	Pn	10 28 10.6	+1.4
	baz=14						
432A	Menard	13.83	4	⇓P	Pn	10 28 11.1	+0.7
	baz=14						
426A	McDonald Obser	13.88	349	⇑P	Pn	10 28 13.1	+1.9
	baz=14						
427A	Hayter Ranch,	13.95	351	⇓P	Pn	10 28 13.6	+1.5
	baz=14						
425A	Indio Mountain	14.20	346	⇑P	Pn	10 28 17.4	+1.9
	baz=14						
330A	Mertzon	14.33	359	⇑P	Pn	10 28 17.3	+0.1
	baz=14						
332A	Millersview	14.34	4	⇑P	Pn	10 28 17.4	+0.1
	baz=14						
328A	Wristen Ranch,	14.40	353	⇑P	Pn	10 28 18.7	+0.5
	baz=14						
232A	Coleman	14.85	4	⇓P	Pn	10 28 25.0	+0.8
	baz=15,SNR=6.2						
231A	Bronte	14.86	2	⇓P	Pn	10 28 24.2	-0.2
	baz=15						
324A	Moseley Ranch,	14.95	345	⇓P	Pn	10 28 29.6	+3.9
	baz=15,SNR=8.2						
225A	Deer Hill, Car	15.44	347	⇑P	Pn	10 28 34.0	+1.8
	baz=16						
130A	Snyder	15.51	360	⇑P	Pn	10 28 34.4	+1.3
	baz=16						
224A	Cornudas Mount	15.56	345	⇓P	Pn	10 28 37.0	+3.2
	baz=16,SNR=8.3						
129A	Stewart Farms,	15.57	357	⇓P	Pn	10 28 34.5	+0.7
	baz=16						
ABTX	Abilene, Hawle	15.58	4	⇑P	Pn	10 28 34.2	+0.3
	baz=16						
131A	Roby	15.60	2	⇑P	Pn	10 28 34.2	+0.1
	baz=16						
128A	Castleberry Fa	15.60	355	⇓P	Pn	10 28 35.1	+0.8
	baz=16						
127A	Arkansas Junct	15.75	352	⇑P	Pn	10 28 37.1	+0.9
	baz=16						
125A	Gardner Draw,	15.94	348	⇓P	Pn	10 28 40.9	+2.3
	baz=16,SNR=5.3						
124A	Stringfield Ra	16.14	346	⇑P	Pn	10 28 42.2	+0.8
	baz=16,SNR=7.5						
Z29A	Hungry Hill Ra	16.19	358	⇓P	Pn	10 28 41.4	-0.4
	baz=16						
319A	Douglas	16.19	333	⇓P	Pn	10 28 45.2	+3.3
	baz=16						
Z30A	Sanderson Ranc	16.20	359	⇑P	Pn	10 28 42.0	+0.1
	baz=16,SNR=5.5						
Z31A	Sharp Cattle R	16.25	2	⇑P	Pn	10 28 41.6	-0.9
	baz=16						
Z28A	Tucker Farm, M	16.25	356	⇓P	Pn	10 28 42.2	-0.4
	baz=16						
Z32A	Haskell	16.27	4	⇑P	Pn	10 28 41.7	-1.1
	baz=16						
Z27A	Tatum

U21A	Nageezi	20.24 344	⇓P	P	10 29 29.5	-0.2
	baz=20					
U20A	Newcomb	20.43 342	⇑P	P	10 29 32.0	+0.3
	baz=20					
T23A	Casias Ranch,	20.45 348	⇓P	P	10 29 30.9	-1.1
	baz=21					
S28A	Manter	20.51 358	⇑P	P	10 29 30.1	-2.4
	baz=21					
S29A	Ulysses	20.52 360	⇓P	P	10 29 30.2	-2.4
	baz=21					
S31A	Mullinville	20.56 3	⇑P	P	10 29 30.2	-2.7
	baz=21					
T22A	Edith	20.61 346	⇑P	P	10 29 32.9	-0.8
	baz=21					
WUAZ	Wupatki	20.65 335	⇓P	P	10 29 36.0	+1.9
	baz=21,SNR=5.0					
Y12C	Blythe	20.67 326	⇑P	P	10 29 35.9	+1.7
	baz=21					
T21A	Navajo Lake	20.74 345	⇓P	P	10 29 34.1	-1.0
	baz=21					
S25A	Robets Cordova	20.80 352	⇓P	P	10 29 34.5	-1.2
	baz=21					
PDMCI	Parker Dam,Lak	20.90 328	⇑P	P	10 29 38.8	+2.2
	baz=21					
BC3	Big Chuckawall	21.10 324	⇑P	P	10 29 42.8	+3.8
	baz=21					
MONP	Monument Peak	21.11 321	⇓P	P	10 29 43.6	+4.5
	baz=21					
R30A	Dighton	21.19 1	⇓P	P	10 29 37.5	-2.3
	baz=21					
MVCO	Mesa Verde	21.20 343	⇑P	P	10 29 39.1	-1.0
	baz=21					
R27A	Eads	21.25 356	⇑P	P	10 29 38.3	-2.2
	baz=21					
R25A	Fountain Ranch	21.26 353	⇑P	P	10 29 38.9	-1.7
	baz=21					
R28A	Tribune	21.26 358	⇑P	P	10 29 38.3	-2.2
	baz=21,SNR=5.1					
S22A	4UR Ranch, Cre	21.30 347	⇓P	P	10 29 39.6	-1.6
	baz=21					
IRM	Iron Mountain	21.32 326	⇓P	P	10 29 43.6	+2.5
	baz=21					
R26A	Arlington	21.32 355	⇑P	P	10 29 39.0	-2.2
	baz=22					
W13A	Hualapai Mount	21.41 330	⇓P	P	10 29 44.1	+1.7
	baz=22					
S21A	Coal Bank Pass	21.44 345	⇑P	P	10 29 41.9	-0.8
	baz=22					
R24A	Sanders Place,	21.45 351	⇑P	P	10 29 40.3	-2.4
	baz=22					
R23A	Moffat	21.53 349	⇓P	P	10 29 41.9	-1.8
	baz=22					
PFO	Pinyon Flat Ob	21.64 323 LR		LR	10 39 22.4	
	comp=Z,93nm,20.9s,baz=190,slow=39					
BELC	Belle Mtn. Jos	21.66 324	⇓P	P	10 29 48.8	+3.8
	baz=22					
S20A	Disappointment	21.74 344	⇓P	P	10 29 45.9	0.0
	baz=22					
R22A	Saguache, Gunn	21.74 348	⇑P	P	10 29 45.1	-0.9
	baz=22					
Q29A	Oakley	21.79 360	⇑P	P	10 29 43.8	-2.5
	baz=22					
Q26A	Hugo	21.94 355	⇓P	P	10 29 46.0	-2.0
	baz=22					
KSCO	Kaye Shedlock'	21.96 356	⇑P	P	10 29 46.4	-1.8
	baz=22					
GMRC	Granite Mounta	22.06 326	⇓P	P	10 29 51.5	+2.2
	baz=22					
P28A	Saint Francis	22.48 358	⇓P	P	10 29 51.1	-2.6
	baz=23					
P27A	Ficken Ranch,	22.50 357	⇑P	P	10 29 51.2	-2.8
	baz=23					
TUQ	Turquoise Moun	22.70 327	⇑P	P	10 29 58.3	+2.2
	baz=23					
ISCO	Idaho Springs	23.06 351	⇓P	P	10 29 58.0	-2.0
	baz=23					
P19A	Cripple Cowboy	23.60 344	⇓P	P	10 30 04.4	-1.0
	baz=24					
O19A	Miners Draw (B	24.26 345	⇓P	P	10 30 11.1	-0.4
	baz=24					
R11A	Troy Canyon, C	24.84 332	⇑P	P	10 30 17.6	+0.8
	baz=25					
DUG	Dugway	25.30 338	⇑P	P	10 30 20.4	-0.4
	baz=25					
PDAR	Pinedale Array	26.70 346 P		P	10 30 33.5	-0.2
PDAR	Pinedale Array	26.70 346 P		P	10 30 33.5	-0.2
	1.4nm,0.9s,baz=147,slow=9.5,SNR=9.3					
YBH	Yreka Blue Hor	30.93 327 LR		LR	10 47 03.9	
	comp=Z,45nm,18.8s,baz=355,slow=42					
SCHQ	Schefferville	45.91 27 P		P	10 33 10.3	-6.5
SCHQ	Schefferville	45.91 27 P		P	10 33 10.3	-6.5
	2.3nm,0.9s,baz=225,slow=20,SNR=2.2					
YKA	Yellowknife Ar	46.43 351 P		P	10 33 18.6	-2.1
YKA	Yellowknife Ar	46.43 351 P		P	10 33 18.6	-2.1
	0.4nm,0.6s,baz=160,slow=7.9,SNR=3.7					
ILAR	Eielson Array	56.78 338 P		P	10 34 38.2	+0.2
ILAR	Eielson Array	56.78 338 P		P	10 34 38.2	+0.2
	1.3nm,1.0s,baz=146,slow=6.1,SNR=9.9					

IDC 28 10:51:52.7±1.2, 2°.50N×126°.70E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.8/23, mbtmp3.8/7, Error ellipse: s-maj=118.5km s-min=19.7km az=70.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	20.50	183	P	Pn	10 56 33.7	-1.0
	1.1nm,0.6s,baz=2.2,slow=9.9,SNR=3.1						
WRA	Warramunga Arr	23.53	162	P	P	10 57 04.9	+0.1
	4.2nm,0.6s,baz=339,slow=10,SNR=65						
ASAR	Alice Springs	26.94	165	P	P	10 57 36.1	0.0
	0.5nm,0.3s,baz=347,slow=7.2,SNR=34						
ASAR				PcP	PcP	11 00 57.2	-1.1
	0.3nm,0.5s,baz=353,slow=2.2,SNR=5.9						
STKA	Stephens Creek	37.00	159	P	P	10 59 04.0	-0.3
	3.5nm,0.5s,baz=327,slow=8.6,SNR=16						
SONM	Songino Array	48.44	342	P	P	11 00 38.7	+1.6
	0.2nm,0.3s,baz=146,slow=8.0,SNR=1.3						
MKAR	Makanchi Array	58.54	326	P	P	11 01 50.0	-1.2
	0.4nm,0.5s,baz=120,slow=8.5,SNR=3.8						
VNDA	Vanda	82.22	173	P	P	11 04 15.3	0.0
	0.7nm,0.8s,baz=326,slow=8.1,SNR=2.7						

CASC 28 10:56:45.0±2.1, 14°.99N×89°.81W, h19km±8km, MD3.6, ML3.2, 1C, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRL	Marmol	0.14	57	eP	Pb	10 56 44.4	-3.3
NBG	Las Nubes	0.65	232	eP	Pb	10 56 56.3	-1.9
RBDL	Robledal	0.88	172	eP	Pb	10 57 01.2	-0.7
RBDL				eS	Sg	10 57 14.0	-0.3
PCG	Pacaya	0.97	233	eP	Pb	10 57 02.3	-1.3
RTR	El Retiro	1.10	172	eP	Pn	10 57 05.2	-0.5
FUG	Fuego 3	1.13	242	eP	Pn	10 57 04.0	-2.1
FUG				eS	Sg	10 57 22.5	+0.2
SNJE	San Jose	1.13	170	eP	Pn	10 57 05.6	-0.6
SBLS	San Blas	1.16	171	eP	Pn	10 57 06.1	-0.4
BOQS	Boqueron	1.35	157	eP	Pn	10 57 09.1	0.0
BOQS				eS	Sb	10 57 27.7	+0.5
LFU	La Fuente	1.41	151	eP	Pn	10 57 09.0	-0.8
SNET	Serv Nac Est T	1.41	156	eP	Pn	10 57 09.4	-0.5
SNET				eS	Sb	10 57 28.5	-0.2
SNET				AML	AML	10 57 37.5	
	comp=Z,324nm,0.4s						
LBRS	Las Brisas	1.45	149	eP	Pn	10 57 10.2	-0.2
LBRS				eS	Sn	10 57 29.2	+0.3
LFRS	El Faro	1.54	152	eP	Pn	10 57 11.4	-0.2
LFRS				eS	Sn	10 57 31.4	+0.1
JAT	Jato	1.89	250	eP	Pn	10 57 17.3	+1.0
JAT				eS	Sg	10 57 46.4	+0.5
CAHU	Cacacuatique	1.97	128	eP	Pn	10 57 18.1	+0.4
CAHU				eS	Sb	10 57 43.5	-1.4

IDC 28 11:06:43.6±1.7, 11°.39S×161°.61E, h0km, mb3.6/4, mb1 3.8/6, mb1mx3.6/21, mbtmp3.6/6, ML3.5/2, Error ellipse: s-maj=35.0km s-min=29.7km az=100.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	2.54	320	Pn	Pn	11 07 26.6	+0.5
	22nm,0.3s,baz=205,slow=6.8,SNR=9.6						
HNR				Sn	Sg	11 08 04.9	-0.4
	131nm,0.3s,baz=142,slow=21,SNR=8.8						
DZM	Mont Dzumac	11.59	157	Pn	Pn	11 09 29.7	-0.9
	0.1nm,0.3s,baz=301,slow=5.9,SNR=6.5						
DZM				Sn	Sn	11 11 34.0	-6.9
	0.1nm,0.3s,baz=151,slow=19,SNR=2.1						
CTA	Charters Tower	17.11	238	P	P	11 10 47.7	+1.5
	0.3nm,0.3s,baz=66,slow=20,SNR=5.5						
WRA	Warramunga Arr	27.56	249	P	P	11 12 33.0	+0.3
	0.9nm,1.0s,baz=77,slow=9.6,SNR=5.6						
ASAR	Alice Springs	29.04	241	P	P	11 12 46.2	+0.5
	0.7nm,0.9s,baz=66,slow=9.7,SNR=9.7						
FITZ	Fitzroy Crossi	35.37	255	P	P	11 13 40.1	-1.2
	1.9nm,1.0s,baz=85,slow=11,SNR=2.3						
ILAR	Eielson Array	85.16	20	P	P	11 19 21.5	0.0
	0.1nm,0.5s,baz=236,slow=6.1,SNR=4.5						
DIB	Dawson Inlet,	85.18	33	T	T	12 52 23.7	
	SNR=7.5						

*IDC **28** 11:16:59.0±1.6, 7°.65S×104°.36E, h0km, mb3.8/11, mb1 3.9/11, mb1mx3.8/24, mbtmp3.8/11, MS3.5/3, Ms1 3.5/3, ms1mx2.9/44, Error ellipse: s-maj=60.4km s-min=17.2km az=58.0*
*DJA **28** 11:17:06.2±1.0, 7°.5S±14°.×10°.4E±°, h10km, M5.0/7, mb5.9/3, mB8.2/1, MLv4.5/7, Mw(mB)8.4/1*
ISC 28 11:17:05.9±0.9, 7°.1S±0°.1×104°.16E±0°.07, h24km, n28, σ2°.33/20, mb3.8/12, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LWLI	Liwa	2.08	357	P	Pb	11 17 42.7	-0.2
SBJI	Serang	2.19	64	P	Sn	11 18 12.3	+5.3
KLI	Kotabumi	2.33	17	P	Sn	11 18 07.1	-3.5
SKJI	Sukabumi	2.38	88	P	Sn	11 18 09.9	-1.9
EGSI	Enggano, Bengk	2.56	313	P	Pn	11 17 46.3	+0.4
DBJI	Dramaga	2.63	78	P	Pn	11 17 47.2	+0.4
LEM	Lembang	3.44	86	P	Pn	11 17 58.1	-0.1
KPJI	Karang Pucung	4.74	93	P	Pn	11 18 21.3	+5.5
SJI	Sawahan	7.57	95	P	Pn	11 18 58.6	+3.8
	57nm,0.6s,0.4nm						
PWJI	Pagerwojo	7.63	97	P	Pn	11 18 58.8	+3.2
SISI	Saibi	7.65	318	P	Pn	11 18 59.4	+3.5
	36μm,0.9s,148nm						
KAPI	Kappang	15.64	83	LR	LR	11 29 05.9	
	comp=Z,77nm,18.2s,baz=333,slow=47						
BATI	Baumata	19.52	100	LR	LR	11 29 22.9	
	comp=Z,99nm,18.8s,baz=154,slow=39						
FITZ	Fitzroy Crossi	23.61	120	P	P	11 22 15.8	+0.6
	0.7nm,0.5s,baz=289,slow=10,SNR=4.5						
CMAR	Chiang Mai Arr	25.92	349	P	P	11 22 37.9	+1.6
	1.4nm,0.3s,baz=181,slow=8.5,SNR=8.8						
WRA	Warramunga Arr	31.92	117	P	P	11 23 23.0	-7.0
	0.7nm,0.9s,baz=287,slow=10,SNR=5.9						
ASAR	Alice Springs	32.95	123	P	P	11 23 32.3	-6.7
	0.1nm,0.7s,baz=148,slow=18,SNR=3.4						
ASAR				PcP	PcP	11 26 18.7	-4.4
	0.4nm,1.0s,baz=286,slow=1.7,SNR=2.9						
STKA	Stephens Creek	42.69	130	P	P	11 24 53.0	-8.1
	1.4nm,0.9s,baz=290,slow=10,SNR=2.2						
KSRS	Korea Array	49.58	25	P	P	11 25 56.1	+1.0
	0.4nm,0.4s,baz=216,slow=8.7,SNR=2.7						
SONM	Songino Array	54.73	2	P	P	11 26 34.1	+0.6
	1.1nm,0.7s,baz=174,slow=8.6,SNR=7.0						
OPO	Ambohidratompo	56.50	253	LR	LR	11 44 19.7	
	comp=Z,98nm,20.2s,baz=188,slow=29						
USRK	Ussuriysk Arra	56.91	24	P	P	11 26 49.0	0.0
	1.2nm,0.8s,baz=213,slow=6.4,SNR=3.4						
MKAR	Makanchi Array	57.08	342	P	P	11 26 50.5	+0.4
	0.3nm,0.5s,baz=156,slow=8.3,SNR=3.3						
KURBB	Kurchatov Arra	61.62	342	P	P	11 27 23.3	+1.9
	0.2nm,0.2s,baz=159,slow=5.6,SNR=2.3						
ZALV	Zalesovo Beam	62.97	347	P	P	11 27 30.6	+0.2
	0.5nm,0.3s,baz=174,slow=2.9,SNR=2.1						
PETK	Petropavlovsk-	75.07	30	P	P	11 28 43.6	-2.0
	3.4nm,0.9s,baz=158,slow=7.5,SNR=16						
YKA	Yellowknife Ar	117.91	19	PKP	PKPdf	11 35 47.8	-2.3
	0.8nm,0.7s,baz=335,slow=2.7,SNR=3.6						
TXAR	Lajitas Array	145.71	46	PKPbc	PKPdf	11 36 41.9	-1.3
	0.2nm,0.7s,baz=305,slow=4.4,SNR=3.8						

*IDC **28** 11:24:34.9±2.5, 1°.96S×98°.87E, h0km, mb3.5/7, mb1 3.7/8, mb1mx3.6/26, mbtmp3.5/8, ML3.0/1, Error ellipse: s-maj=99.4km s-min=19.9km az=59.0*
*DJA **28** 11:24:37.8±1.6, 2°.5S±16°.×9°.9E±1°.4, h15km, M4.2/3, MLv4.2/3*
*ISCJB **28** 11:24:39.1±0.9, 1°.66S±0°.09×99°.29E±0°.08, h33km, mb3.5/6, Error ellipse: s-maj=13.8km s-min=10.1km az=151.8*
ISC 28 11:24:41.6±1.2, 1°.7S±0°.1×99°.4E±0°.1, h35km, n12, σ1°.08/14, mb3.4/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	Padang	1.29	55	P	Pn	11 25 01.8	-1.3
PDSI				S	Sn	11 25 19.2	+0.1
PPI	Padang Panjang	1.54	40	P	Pn	11 25 04.4	-2.2
PPI				S	Sn	11 25 27.3	+1.8
BKNI	Bangkinang	2.55	40	P	Pn	11 25 20.4	-0.1
PSI	Prapat	4.45	354	Pn	Pn	11 25 45.9	-0.7
	0.7nm,0.3s,baz=175,slow=11,SNR=2.9						
CMAR	Chiang Mai Arr	19.98	359	P	Pn	11 29 13.3	+0.3
	2.0nm,0.3s,baz=183,slow=11,SNR=3.6						
WRA	Warramunga Arr	38.69	120	P	P	11 32 02.6	+0.3
	0.6nm,0.7s,baz=303,slow=9.0,SNR=7.5						
ASAR	Alice Springs	39.94	126	P	P	11 32 13.7	+0.9
	0.4nm,0.8s,baz=288,slow=7.9,SNR=5.2						
SONM	Songino Array	49.66	6	P	P	11 33 30.7	+0.8
	0.1nm,0.3s,baz=195,slow=9.0,SNR=2.7						
MKAR	Makanchi Array	50.53	345	P	P	11 33 36.1	-0.3
	0.3nm,0.3s,baz=149,slow=8.2,SNR=8.2						
KURBB	Kurchatov Arra	55.05	344	P	P	11 34 09.2	-0.5
	0.2nm,0.6s,baz=160,slow=7.4,SNR=3.3						
ZALV	Zalesovo Beam	56.72	350	P	P	11 34 20.8	-0.8
	0.5nm,0.3s,baz=169,slow=6.5,SNR=3.2						
TXAR	Lajitas Array	144.78	36	PKPbc	PKPdf	11 44 15.6	-0.1
	0.6nm,0.5s,baz=257,slow=0.7,SNR=12						

*AUST **28** 11:51:07.3±1.8, 46°.18S×166°.18E, h2km, Error ellipse: s-maj=1.9km s-min=0.9km az=8.0*
*WEL **28** 11:51:09.5±0.6, 46°.13S×166°.09E, h28km±1km, ML4.2/14, Error ellipse: s-maj=6.5km s-min=2.3km az=90.0*
*NEIC **28** 11:51:10.5, 46°.11S×166°.17E, h28km, ML4.2(WEL), After WEL.*
*IDC **28** 11:51:11.9±1.7, 45°.20S×165°.99E, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.6/14, mbtmp3.6/3, ML3.9/1, MS3.2/1, Ms1 3.2/1, ms1mx2.8/17, Error ellipse: s-maj=54.7km s-min=26.2km az=0.0*
ISC 28 11:51:07.6±1.9, 46°.15S±0°.05×166°.18E±0°.05, h0km±12km, n58, σ1°.40/65, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	Puysegur Point	0.35	93	P*	Pb	11 51 18.1	+1.3
PYZ				S*	Sb	11 51 24.2	+1.3
PYZ	Puysegur Point	0.35	93	P*	Pb	11 51 18.1	+1.3
PYZ				S*	Sb	11 51 24.3	+1.4
DCZ	Deep Cove	0.96	46	PN	Pg	11 51 26.5	+0.5
DCZ				SN	Sg	11 51 38.8	+0.3
DCZ				AML	AML	11 51 41.5	
DCZ				AML	AML	11 51 43.3	
DCZ				AML	AML	11 51 43.6	
DCZ	Deep Cove	0.96	46	Pn	Pg	11 51 26.5	+0.5
DCZ				Sn	Sg	11 51 38.8	+0.3
WHZ	Wether Hill Ro	1.26	79	PN	Pg	11 51 32.1	+0.3
WHZ				SN	Sg	11 51 46.9	-1.2
WHZ				AML	AML	11 51 55.7	
WHZ	Wether Hill Ro	1.26	79	Pn	Pg	11 51 32.1	+0.3
APZ	The Paps	1.43	119	PN	Pn	11 51 33.9	-0.9
APZ				SN	Sb	11 51 51.6	-2.3
APZ	The Paps	1.43	119	Pn	Pn	11 51 33.9	-0.9
MLZ	Mavora Lakes	1.61	61	AML	AML	11 52 04.7	
MLZ				AML	AML	11 52 06.4	
MLZ	Mavora Lakes	1.61	61	Pn	Pn	11 51 37.6	+0.2
MSZ	Milford Sound	1.93	40	PN	Pn	11 51 41.1	-0.6
MSZ				AML	AML	11 52 19.0	
MSZ				AML	AML	11 52 19.1	
MSZ				AML	AML	11 52 25.3	
MSZ				AML	AML	11 52 25.4	
MSZ	Milford Sound	1.93	40	Pn	Pn	11 51 41.0	-0.6
SYZ	Scrubby Hill	2.09	102	PN	Pn	11 51 43.7	-0.2
SYZ	Scrubby Hill	2.09	102	Pn	Pn	11 51 44.0	+0.1
EAZ	Earnscleugh	2.38	68	PN	Pn	11 51 49.3	+1.4
EAZ				AML	AML	11 52 28.7	
EAZ				AML	AML	11 52 28.7	
EAZ				AML	AML	11 52 32.0	
EAZ				AML	AML	11 52 32.0	
EAZ	Earnscleugh	2.38	68	Pn	Pn	11 51 49.3	+1.4
WKZ	Wanaka	2.40	58	PN	Pb	11 51 50.1	-1.5
WKZ				AML	AML	11 51 54.7	
WKZ				AML	AML	11 52 30.9	
WKZ				AML	AML	11 52 38.0	
WKZ				AML	AML	11 52 38.0	
WKZ	Wanaka	2.40	58	Pn	Pb	11 51 50.1	-1.5
TUZ	Tuapeka	2.42	87	PN	Pn	11 51 49.0	+0.7
TUZ				AML	AML	11 52 23.6	
TUZ				AML	AML	11 52 23.8	
TUZ	Tuapeka	2.42	87	Pn	Pn	11 51 49.5	+1.2
JCZ	Jackson Bay	2.77	42	PN	Pn	11 51 54.2	+0.9
JCZ				AML	AML	11 52 45.5	
JCZ				AML	AML	11 52 46.2	
JCZ	Jackson Bay	2.77	42	Pn	Pn	11 51 54.7	+1.4
HHSZ	Highcliff Hill	3.09	87	PN	Pn	11 51 58.9	+1.2
ODZ	Otahua Downs	3.33	72	PN	Pn	11 52 00.7	-0.1
ODZ	Otahua Downs	3.33	72	Pn	Pn	11 52 00.5	-0.4
LBZ	Lake Benmore	3.34	59	PN	Pn	11 52 01.6	+0.6
LBZ				AML	AML	11 52 42.9	
LBZ				AML	AML	11 53 01.0	
LBZ	Lake Benmore	3.34	59	Pn	Pn	11 52 01.6	+0.6
FOZ	Fox Glacier	3.60	45	PN	Pn	11 52 06.4	+1.8
FOZ				AML	AML	11 53 16.6	
FOZ				AML	AML	11 53 29.4	
FOZ	Fox Glacier	3.60	45	Pn	Pn	11 52 06.4	+1.8
RPZ	Rata Peaks	4.23	57	PN	Pn	11 52 13.3	-0.2
RPZ				AML	AML	11 53 31.9	
RPZ				AML	AML	11 53 37.2	
RPZ	Rata Peaks	4.23	57	Pn	Pn	11 52 13.3	-0.1
RPZ				Sn	Sn	11 53 00.8	-2.7
RPZ	Rata Peaks	4.23	57	Pn	Pn	11 52 13.4	+0.1
	7.4nm,0.3s,baz=227,slow=7.9,SNR=30						
RPZ				LR	LR	11 52 58.8	
	comp=Z,302nm,20.1s,baz=182,slow=27						
RPZ				Sn	Sn	11 53 00.8	-2.7
	12nm,0.3s,baz=76,slow=21,SNR=6.3						
WVZ	Waitaha Valley	4.48	48	PN	Pn	11 52 16.9	+0.3
WVZ	Waitaha Valley	4.48	48	Pn	Pn	11 52 17.0	+0.3
OXZ	Oxford	5.04	58	PN	Pn	11 52 23.7	-0.8
MQZ	McQueen's Vall	5.21	64	PN	Pn	11 52 26.7	0.0
MQZ	McQueen's Vall	5.21	64	Pn	Pn	11 52 26.0	-0.7
LTZ	Lake Taylor	5.51	54	PN	Pn	11 52 30.0	-0.9
LTZ				AML	AML	11 55 01.4	
LTZ	Lake Taylor	5.51	54	Pn	Pn	11 52 30.0	-0.9
DSZ	Denniston Nort	5.99	45	PN	Pn	11 52 37.5	0.0
DSZ	Denniston Nort	5.99	45	Pn	Pn	11 52 37.5	0.0
THZ	Tophouse	6.54	50	PN	Pn	11 52 44.4	-0.7
THZ	Tophouse	6.54	50	Pn	Pn	11 52 44.4	-0.7
QRZ	Quartz Range	7.05	43	PN	Pn	11 52 52.7	+0.7
QRZ	Quartz Range	7.05	43	Pn	Pn	11 52 52.7	+0.7
NNZ	Nelson	7.18	49	PN	Pn	11 52 54.6	+0.8
NNZ	Nelson	7.18	49	Pn	Pn	11 52 56.6	+2.8
MOO	Moorlands	14.09	278	P	Pn	11 54 26.6	-1.8
	baz=14,SNR=3.4						
MILA	Mila	15.62	300	P	Pn	11 54 47.8	-1.2
	baz=16,SNR=7.0						
TOO	Toolangi	17.59	292	P	Pn	11 55 14.7	+0.5
	baz=18,SNR=7.5						
ASAR	Alice Springs	34.32	300	P	P	11 57 55.1	-0.8
ASAR	Alice Springs	34.32	300	P	P	11 57 55.1	-0.8
	0.5nm,0.6s,baz=132,slow=8.1,SNR=11						
WRA	Warramunga Arr	36.93	304	P	P	11 58 16.9	-1.4
WRA	Warramunga Arr	36.93	304	P	P	11 58 16.9	-1.4
	0.5nm,0.8s,baz=137,slow=7.6,SNR=8.3						
TORD	Torodi Ar. Bea	144.58	207	PKPbc	PKPdf	12 10 50.9	+4.5
TORD	Torodi Ar. Bea	144.58	207	PKPbc	PKPdf	12 10 50.9	+4.5
	0.3nm,0.5s,baz=176,slow=1.7,SNR=2.8						
NOA	NORSAR Array B	159.15	325	PKPab	PKPab	12 11 44.0	+0.4
NOA	NORSAR Array B	159.15	325	PKPab	PKPab	12 11 44.0	+0.4
	1.2nm,0.7s,baz=110,slow=6.7,SNR=3.4						

DJA 28 11:53:59.2±0.9, 7°.S±5°.×10°.5E±°, h11km±9km, M3.7/9, MLv3.7/9, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KASI	Kota Agung	1.16	343	P	Pb	11 54 20.0	-1.2
KASI				S	Sb	11 54 35.1	-1.2
BLSI	Bandar Lampung	1.33	18	P	Pn	11 54 21.7	-2.1
BLSI				S	Sb	11 54 39.9	-1.4
SBJI	Serang	1.39	68	P	Pn	11 54 23.6	-1.0
SKJI	Sukabumi	1.75	102	P	Pn	11 54 29.0	-0.6
SKJI				S	Sn	11 54 51.3	-0.6
KLI	Kotabumi	1.77	1	P	Pn	11 54 30.1	+0.4
KLI				S	Sb	11 54 53.5	-0.3
LWLI	Liwa	1.79	335	P	Pn	11 54 29.1	-1.1
TNG	Tangerang	1.86	76	P	Pn	11 54 31.2	+0.1
TNG				S	Sn	11 54 55.5	+0.9
DBJI	Dramaga	1.91	88	P	Pn	11 54 31.0	-0.7
DBJI				S	Sb	11 54 57.0	-1.0
MDSI	Maura Dua	2.24	343	P	Pn	11 54 36.6	+0.4

*IDC **28** 11:59:07.0±1.5, 38°.40N×22°.32E, h0km, mb3.6/4, mb1 3.5/5, mb1mx3.4/24, mbtmp3.5/5, ML3.1/1, Error ellipse: s-maj=48.1km s-min=25.6km az=135.0*
*ISCJB **28** 11:59:08.5±0.2, 38°.38N±0°.01×21°.99E±0°.02, h9km±2km, mb3.5/4, Error ellipse: s-maj=2.6km s-min=2.3km az=21.2*
*CSEM **28** 11:59:08.2±0.3, 38°.39N×22°.00E, h10km, ML3.1, Error ellipse: s-maj=1.9km s-min=1.7km az=111.0*
*ATH **28** 11:59:08.5, 38°.39N×21°.99E, h11km±1km, MD3.0/22, ML3.0*
*THE **28** 11:59:09.0, 38°.38N×22°.00E, h7km±1km, ML3.4/13, Error ellipse: s-maj=1.6km s-min=0.7km az=207.0*
ISC 28 11:59:08.4±0.7, 38°.39N±0°.01×21°.99E±0°.01, h11km±3km, n95, σ0°.72/171, mb3.6/4, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRIZ	Trizonia	0.07	111	P	Pg	11 59 10.7	+0.1
TRIZ				S	Sg	11 59 12.3

DRO	Drossia	0.49	207	P		Pg	11 59 17.9	-0.1
DRO				S		Sg	11 59 24.1	-0.3
AXS	Araxos	0.52	249	P		Pg	11 59 18.8	+0.2
AXS				S		Sb	11 59 26.6	-0.6
AXS	Araxos	0.52	249	P		Pg	11 59 18.8	+0.2
AXS				S		Sg	11 59 25.6	+0.1
GUR	Goura	0.53	149	P		Pg	11 59 18.2	-0.5
GUR				S		Sg	11 59 26.4	+0.7
GUR	Goura	0.53	149	ePB		Pg	11 59 18.3	-0.5
GUR				eSB		Sg	11 59 26.5	+0.7
GUR	Goura	0.53	149	ePb		Pg	11 59 18.3	-0.5
GUR				S		Sg	11 59 26.1	+0.4
RLS	Riolos of Patr	0.53	232	P		Pg	11 59 18.8	+0.1
RLS				S		Sb	11 59 27.4	0.0
RLS	Riolos of Patr	0.53	232	P		Pg	11 59 18.8	+0.1
RLS				S		Sg	11 59 26.5	+0.8
EVR	Evrytania	0.55	345	P		Pg	11 59 19.1	0.0
EVR				S		Sb	11 59 28.7	+0.7
EVR	Evrytania	0.55	345	ePB		Pg	11 59 19.2	+0.1
EVR				eSB		Sg	11 59 26.2	-0.1
EVR	Evrytania	0.55	345	P		Pg	11 59 19.0	0.0
EVR				eSb		Sg	11 59 26.2	-0.1
EVR				S		Sb	11 59 27.4	-0.6
MAKR	Makrakomi, Fth	0.63	10	P		Pg	11 59 20.5	-0.2
MAKR				S		Sb	11 59 31.6	+1.1
MAKR	Makrakomi, Fth	0.63	10	P		Pg	11 59 20.5	-0.2
MAKR				S		Sb	11 59 31.6	+1.1
AXAR	Agios Charalam	0.64	54	P		Pg	11 59 20.6	-0.3
AXAR				S		Sb	11 59 31.3	+0.6
AXAR	Agios Charalam	0.64	54	P		Pg	11 59 20.6	-0.3
AXAR				S		Sb	11 59 31.0	+0.3
AGG	Agios Georgios	0.69	23	P		Pg	11 59 20.7	-0.9
AGG				S		Sb	11 59 31.9	-0.1
AGG	Agios Georgios	0.69	23	ePB		Pg	11 59 20.8	-0.9
AGG				eSB		Sg	11 59 31.2	+0.5
AGG	Agios Georgios	0.69	23	ePb		Pg	11 59 20.8	-0.9
AGG	Agios Georgios	0.69	23	P		Pg	11 59 21.1	-0.6
AGG				S		Sg	11 59 30.3	-0.4
AGG				eSb		Sg	11 59 31.2	+0.5
LKR	Lokris	0.83	71	P		Pg	11 59 23.7	-0.7
LKR				S		Sn	11 59 37.7	-0.7
LKR	Lokris	0.83	71	ePB		Pg	11 59 24.2	-0.2
LKR				eSB		Sb	11 59 36.7	+0.6
LKR	Lokris	0.83	71	P		Pg	11 59 23.7	-0.7
LKR	Lokris	0.83	71	ePb		Pg	11 59 24.2	-0.2
LKR				eSb		Sb	11 59 36.7	+0.6
LKR				S		Sn	11 59 37.7	-0.7
LTK	Loutraki	0.85	115	P		Pg	11 59 24.6	-0.2
LTK	Loutraki	0.85	115	ePB		Pg	11 59 25.0	+0.2
LTK				eSB		Sg	11 59 36.2	+0.3
LTK	Loutraki	0.85	115	P		Pg	11 59 24.6	-0.2
LTK	Loutraki	0.85	115	ePb		Pg	11 59 25.0	+0.2
LTK				eSb		Sg	11 59 36.2	+0.3
AMT	Artemida-Makis	0.88	195	P		Pg	11 59 25.3	-0.1
AMT				S		Sn	11 59 40.9	+1.2
AMT	Artemida-Makis	0.88	195	ePB		Pg	11 59 25.3	-0.1
AMT				eSB		Sb	11 59 38.2	+0.5
AMT	Artemida-Makis	0.88	195	ePb		Pg	11 59 25.3	-0.1
AMT				S		Sb	11 59 38.0	+0.3
KFL	Anninata	0.99	254	P		Pg	11 59 27.0	-0.4
KFL				S		Sn	11 59 44.1	+1.8
KFL	Anninata	0.99	254	P		Pg	11 59 27.1	-0.4
KFL				S		Sn	11 59 42.1	-0.2
VLX	Vlachokerasia	1.06	163	P		Pb	11 59 27.7	-1.1
VLX				S		Sn	11 59 44.3	+0.1
VLX	Vlachokerasia	1.06	163	ePB		Pb	11 59 27.8	-1.1
VLX				eSB		Sn	11 59 43.8	-0.4
VLX	Vlachokerasia	1.06	163	ePb		Pb	11 59 27.8	-1.1
VLX				eSb		Sn	11 59 43.8	-0.4
VLX				S		Sn	11 59 44.3	+0.1
VLS	Valsamata	1.12	260	P		Pb	11 59 28.8	-1.1
VLS				S		Sn	11 59 46.5	+0.9
VLS	Valsamata	1.12	260	ePG		Pb	11 59 29.0	-1.0
VLS				eSB		Sn	11 59 46.3	+0.7
VLS	Valsamata	1.12	260	P		Pb	11 59 28.9	-1.0
VLS				eSb		Sn	11 59 46.3	+0.7
THL	Klokotos Trika	1.17	1	P		Pb	11 59 30.1	-0.6
THL				S		Sn	11 59 49.2	+2.4
THL	Klokotos Trika	1.17	1	ePB		Pn	11 59 30.9	+0.1
THL				eSB		Sn	11 59 47.4	+0.6
THL	Klokotos Trika	1.17	1	P		Pb	11 59 30.1	-0.6
THL	Klokotos Trika	1.17	1	ePb		Pn	11 59 30.9	+0.1
THL				eSb		Sn	11 59 47.4	+0.6
THL				S		Sn	11 59 49.2	+2.4
ITM	Ithomi	1.21	183	P		Pn	11 59 30.3	-1.0
ITM	Ithomi	1.21	183	ePN		Pn	11 59 30.7	-0.6
ITM				eSB		Sn	11 59 48.3	+0.6
ITM	Ithomi	1.21	183	P		Pn	11 59 30.4	-0.9
ITM	Ithomi	1.21	183	ePn		Pn	11 59 30.7	-0.6
ITM				S		Sb	11 59 46.5	-0.5
ITM				eSb		Sn	11 59 48.3	+0.6
DID	Didima	1.32	131	P		Pb	11 59 33.3	0.0
DID				S		Sg	11 59 53.1	+2.2
DID	Didima	1.32	131	ePB		Pb	11 59 33.4	+0.1
DID				eSB		Sg	11 59 52.5	+1.6
DID	Didima	1.32	131	ePb		Pb	11 59 33.4	+0.1
DID				eSb		Sg	11 59 52.5	+1.6
DID				S		Sg	11 59 53.1	+2.2
NEO	Neokhori	1.33	46	ePB		Pb	11 59 33.6	+0.2
NEO				eSB		Sg	11 59 51.6	+0.4
NEO	Neokhori	1.33	46	ePb		Pb	11 59 33.6	+0.2
NEO				eSb		Sg	11 59 51.6	+0.4
NAIG	Nisos Aigina	1.34	118	ePG		Pb	11 59 33.4	-0.1
NAIG	Nisos Aigina	1.34	118	ePg		Pb	11 59 33.4	-0.1
SFD	Strofades	1.37	215	ePB		Pg	11 59 34.8	0.0
SFD	Strofades	1.37	215	ePb		Pg	11 59 34.8	0.0
ATH	Athens Observa	1.42	107	ePB		Pg	11 59 35.5	-0.2
ATH				eSB		Sg	11 59 54.5	+0.4
ATH	Athens Observa	1.42	107	ePb		Pg	11 59 35.5	-0.2
ATH				eSb		Sg	11 59 54.5	+0.4
PYL	PYLOS	1.50	188	P		Pn	11 59 34.6	-0.8
PYL	PYLOS	1.50	188	ePG		Pb	11 59 36.1	-0.3
PYL				eSB		Sg	11 59 58.4	+1.6
PYL	PYLOS	1.50	188	P		Pn	11 59 35.6	+0.2
PYL	PYLOS	1.50	188	ePg		Pb	11 59 36.1	-0.3
PYL				eSb		Sg	11 59 58.4	+1.6
PTL	Penteli	1.51	102	ePB		Pb	11 59 36.3	-0.2
PTL	Penteli	1.51	102	ePb		Pb	11 59 36.3	-0.2
AOS	Alonnisos	1.67	62	ePB		Pb	11 59 39.5	+0.3
AOS	Alonnisos	1.67	62	ePb		Pb	11 59 39.5	+0.3
VLI	Veliai	1.83	156	ePB		Pb	11 59 41.0	-0.9
VLI	Veliai	1.83	156	ePb		Pb	11 59 41.0	-0.9
KYTH	Kithira	2.26	158	ePN		Pb	11 59 48.4	-0.9
KYTH	Kithira	2.26	158	ePn		Pb	11 59 48.4	-0.9
BRTR	Keskin Array B 0.2nm,0.3s,baz=271,slow=11,SNR=3.6	9.16	78	Pn		Pn	12 01 16.4	-4.3
FINES	FINESS Array B 1.9nm,0.8s,baz=185,slow=14,SNR=2.5	23.22	5	P		P	12 04 15.2	0.0
TORD	Torodi Ar. Bea 0.4nm,0.6s,baz=28,slow=8.6,SNR=4.4	30.94	221	P		P	12 05 27.1	+1.7
MKAR	Makanchi Array 0.3nm,0.4s,baz=275,slow=7.6,SNR=7.0	44.20	59	P		P	12 07 17.3	-0.1
ZALV	Zalesovo Beam 0.5nm,0.4s,baz=263,slow=7.1,SNR=2.5	44.69	48	P		P	12 07 18.0	-3.1

ISCJB ***28*** *12:13:15.7±0.2,25°.60S±0°.04×13°.79W±0°.06,h10km, mb5.0/91,MS4.8/46,Error ellipse: s-maj=8.2km s-min=5.6km az=25.5*

MOS ***28*** *12:13:15.8±1.0,25°.58S×13°.76W,h10km,mb5.5/42, MS4.8/7,Error ellipse: s-maj=14.8km s-min=5.9km az=73.4*

IDC ***28*** *12:13:15.9±0.4,25°.59S×13°.78W,h0km,mb4.5/29, mb1 4.6/29,mb1mx4.6/33,mbtmp4.5/29,MS4.7/32, Ms1 4.7/32,ms1mx4.7/37,Error ellipse: s-maj=15.4km s-min=11.5km az=118.0*

BJI ***28*** *12:13:17.8,25°.60S×13°.80W,h10km,mB5.7/13,Ms5.4/12, Ms7 4.9/14*

NEIC ***28*** *12:13:17.5±0.2,25°.63S×13°.75W,h10km,mb5.4/50,Error ellipse: s-maj=7.3km s-min=5.7km az=126.0*

TEH ***28*** *12:13:18.0,25°.63S×13°.82W,h10km,ML5.3*

GCMT ***28*** *12:13:21.2±0.1,25°.77S×13°.64W,h12km,MW5.4, Moment Tensor Solution. s92,c148; s99,c210; Moment tensor: Scale 10^{17}Nm; M_{rr}-0.25±.02; $M_{\theta\theta}$-0.62±.02; $M_{\phi\phi}$0.87±.02; $M_{r\theta}$0.01±.05; $M_{\theta\phi}$1.35±.02; $M_{\phi r}$0.11±.05; Best double couple: $M_0$1.50000×10^{17} NP1:ϕ_s346.00000°, δ90.00000°,λ176.00000°. NP2:ϕ_s76.00000°,δ86.00000°,*

λ0.00000°. Principal axes: T 1.6700, Plg3.0000°, Azm301.0000°; N -0.2500, Plg86.0000°, Azm160.0000°; P -1.4200, Plg3.0000°, Azm31.0000°; Data Used: II IU IC G CN. Surface waves from 111 sta.

ISC 28 12:13:18.0±0.8,25°.77S±0°.06×13°.77W±0°.06,h13km±4km, n333,σ1≥57/343,mb5.1/91,MS4.8/47,26C-10D,Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	Riachuelo 349nm,1.5s	29.00	309	eP	P	12 19 16.8	-1.0
TSUM	Tsumeb	29.65	84	P	P	12 19 21.6	-1.9
TSUM	Tsumeb 4.1nm,1.0s,baz=255,slow=12,SNR=4.4	29.65	84	P	P	12 19 21.6	-1.9
TSUM	comp=Z,2μm,19.5s,baz=85,slow=31			LR	LR	12 28 22.5	
SPB	Sao Paulo 50nm,0.9s	30.62	267	eP	P	12 19 31.5	-0.5
SUR	Sutherland	30.84	110	P	P	12 19 35.5	+1.4
SUR	Sutherland 7.8nm,0.8s,baz=306,slow=14,SNR=2.6	30.84	110	P	P	12 19 35.5	+1.4
SUR	comp=Z,3μm,21.3s,baz=260,slow=30			LR	LR	12 28 54.4	
BB16B	Bebedouro	32.24	271	⇑iP	P	12 19 44.1	-2.3
BB16B				i		12 19 47.3	
BB16B				i		12 19 49.8	
BB16B				i		12 19 56.4	
BB16B				i		12 19 59.6	
BB16B				i		12 20 04.7	
BB16B				i		12 20 12.5	
LIC	Lamto 54nm,1.5s,baz=210	32.91	16	⇑iP	P	12 19 51.3	-0.9
LIC	3μm,20.8s			eR			
LIC	Lamto 47nm,1.5s	32.91	16	eP	P	12 19 51.2	-0.9
LIC	Lamto 54nm,1.5s	32.91	16	⇑iP	P	12 19 51.3	-0.9
KIC	Kosan Boka 49nm,0.9s	33.12	17	eP	P	12 19 52.9	-1.0
TIC	Toumodi 53nm,1.1s	33.32	16	eP	P	12 19 52.1	-3.6
DBIC	Dimbokro 17nm,1.1s	33.38	16	eP	P	12 19 55.6	-0.7
DBIC	Dimbokro 5.7nm,0.7s,baz=184,slow=11,SNR=7.1	33.38	16	P	P	12 19 54.8	-1.5
DBIC	comp=Z,2μm,19.8s,baz=175,slow=30			LR	LR	12 30 01.9	
BDFB	Brasilia	33.49	281	eP	P	12 19 57.1	-0.3
BDFB	Brasilia 70nm,0.8s,baz=104,slow=7.1,SNR=72	33.49	281	P	P	12 19 57.2	-0.3
BDFB	comp=Z,3μm,18.2s,baz=282,slow=33			LR	LR	12 31 49.8	
BOSA	Boshof	34.73	104	P	P	12 20 07.8	-0.3
BOSA	Boshof 7.1nm,0.8s,baz=239,slow=6.0,SNR=8.1	34.73	104	P	P	12 20 07.8	-0.3
BOSA	comp=Z,2μm,18.2s,baz=268,slow=33			LR	LR	12 32 29.1	
LBTB	Lobatse 48nm,1.4s	35.48	98	eP	P	12 20 12.8	-1.7
LBTB	Lobatse 5.7nm,0.6s,baz=263,slow=7.5,SNR=8.3	35.48	98	P	P	12 20 11.7	-2.9
BBTS	Babate	40.27	356	P	P	12 20 49.3	-5.5
BBTS	Babate 6.7nm,0.3s,baz=188,slow=2.2,SNR=2.4	40.27	356	P	P	12 20 49.3	-5.5
BBTS	comp=Z,794nm,20.6s,baz=186,slow=31			LR	LR	12 34 10.5	
LSZ	Lusaka 216nm,2.8s	40.50	83	eP	P	12 20 56.7	-0.4
LSZ	Lusaka 4.5nm,0.8s,baz=259,slow=5.2,SNR=3.3	40.50	83	P	P	12 20 57.2	+0.2
TOA0	Torodi Ar. Sit	41.51	23	eP	P	12 21 03.0	-2.1
TORD	Torodi Ar. Bea	41.51	23	P	P	12 21 03.0	-2.1
TORD	Torodi Ar. Bea 7.5nm,0.9s,baz=201,slow=8.9,SNR=31	41.51	23	P	P	12 21 03.0	-2.1
TORD	comp=Z,2μm,20.9s,baz=195,slow=31			LR	LR	12 34 47.0	
EFI	East Falkland	42.26	220	iP	P	12 21 11.7	+0.9
TRQA	Tornquist 68nm,1.1s	42.29	241	eP	P	12 21 11.6	+0.1
VNA1	Neumayer--Stat	45.03	177	eP	P	12 21 35.4	+2.5
VNA1	Neumayer--Stat	45.03	177	ePP	PP	12 23 16.5	-1.5
VNA2	Neumayer--Watz	45.34	177	eP	P	12 21 36.8	+1.4
VNA2	Neumayer--Watz	45.34	177	ePP	PP	12 23 17.0	-4.4
VNA3	Neumayer Olymp	45.57	178	eP	P	12 21 38.2	+0.9
VNA3	Neumayer Olymp	45.57	178	ePP	PP	12 23 17.8	-6.0
SNAA	Sanae	46.35	175	eP	P	12 21 44.7	+1.2
SNAA	Sanae	46.35	175	ePP	PP	12 23 20.7	-12
SNAA	Sanae 58nm,2.1s	46.35	175	eP	P	12 21 45.1	+1.6
SNAA	Sanae 0.8nm,0.9s,baz=343,slow=7.2,SNR=11	46.35	175	P	P	12 21 45.0	+1.5
MAIT	Maitri	47.35	169	eP	P	12 21 50.1	-1.0
PLCA	Paso Flores 30nm,0.9s	48.98	237	eP	P	12 22 04.6	+0.3
PLCA	Paso Flores 19nm,0.8s,baz=91,slow=5.0,SNR=40	48.98	237	P	P	12 22 04.6	+0.3
PLCA	comp=Z,771nm,18.7s,baz=124,slow=32			LR	LR	12 39 43.9	
USHA	Ushuaia	49.13	219	P	P	12 22 07.5	+2.4
USHA	Ushuaia 8.7nm,0.8s,baz=49,slow=13,SNR=3.1	49.13	219	P	P	12 22 07.5	+2.4
SAML	Samuel 127nm,1.0s	49.73	280	eP	P	12 22 11.1	+0.8
LVC	Limon Verde 64nm,1.5s	50.10	261	eP	P	12 22 12.4	-0.9
PMSA	Palmer Station	50.39	205	P	P	12 22 14.6	+0.1
PMSA	Palmer Station 11nm,1.0s,baz=36,slow=14,SNR=6.8	50.39	205	P	P	12 22 14.6	+0.1
LPAZ	La Paz 47nm,1.1s	51.31	269	eP	P	12 22 22.0	-0.9
LPAZ	La Paz 25nm,0.9s,baz=106,slow=5.4,SNR=62	51.31	269	P	P	12 22 22.1	-0.9
LPAZ	comp=Z,2μm,19.0s,baz=250,slow=34			LR	LR	12 42 29.1	
SYO	Syowa Base	53.33	159	⇑eP	P	12 22 36.6	+0.2
SYO	Syowa Base	53.33	159	‖ePP	P	12 22 38.2	+1.8
KMBO	Kilima Mbogo	54.86	72	LR	LR	12 44 19.6	
MDT	comp=Z,386nm,19.1s,baz=108,slow=34 Midelt	58.91	9	LR	LR	12 45 55.1	
MAW	comp=Z,962nm,20.3s,baz=185,slow=33 Mawson	61.37	155	P	P	12 23 34.9	+1.8
MAW	Mawson 9.0nm,0.9s,baz=274,slow=11,SNR=17	61.37	155	P	P	12 23 34.9	+1.8
MAW	comp=Z,400nm,20.6s,baz=278,slow=30			LR	LR	12 43 48.1	
EVOP	Sao Brissos	64.17	5	⇑iP	P	12 23 52.1	0.0
EVOP	comp=Z,22nm,1.1s			pmax	pmax		
EVOP	Sao Brissos comp=Z,22nm,1.1s	64.17	5	⇑iP	P	12 23 52.1	0.0
EVO	Evora comp=Z,22nm,1.1s	64.19	5	⇑iP	P	12 23 52.1	-0.1
EVO	comp=Z,381nm,21.8s			eR			
KEST	Kesra	64.95	21	eP	P	12 23 57.9	+0.5
KEST	Kesra comp=Z,5.6nm,1.2s,baz=200,slow=8.7,SNR=6.1	64.95	21	P	P	12 23 57.3	-0.1
KEST	comp=Z,387nm,19.8s,baz=156,slow=34			LR	LR	12 50 16.9	
SDV	Santo Domingo comp=Z,81nm,1.4s	65.12	294	eP	P	12 23 59.5	+0.3
ESDC	Sonseca Array	65.74	8	P	P	12 24 01.7	-0.7
ESDC	Sonseca Array comp=Z,0.2nm,0.3s,baz=180,slow=5.4,SNR=5.4	65.74	8	P	P	12 24 01.7	-0.7
ESDC	comp=Z,249nm,19.1s,baz=195,slow=34			LR	LR	12 50 14.2	
SJG	San Juan	67.05	305	LR	LR	12 50 57.0	
OTAV	Otavalo comp=Z,23nm,1.4s	67.43	282	eP	P	12 24 13.8	-0.6
ETSF	Etsaut comp=Z,60nm,1.5s	69.40	10	eP	P	12 24 24.7	-0.8
ETSF	Etsaut	69.40	10	eP	P	12 24 24.7	-0.8
ETSF	comp=Z,60nm,1.5s			pmax	pmax		
ETSF	Etsaut comp=Z,60nm,1.5s	69.40	10	eP	P	12 24 24.7	-0.8
SJPF	Ste Jean comp=Z,61nm,1.2s	69.50	10	eP	P	12 24 25.5	-0.6
SJPF	Ste Jean	69.50	10	eP	P	12 24 25.5	-0.6
SJPF	comp=Z,61nm,1.2s			pmax	pmax		
SJPF	Ste Jean comp=Z,61nm,1.2s	69.50	10	eP	P	12 24 25.5	-0.6
EPF	Esparros comp=Z,32nm,1.3s	69.68	11	eP	P	12 24 26.5	-0.7
EPF	Esparros comp=Z,32nm,1.3s	69.68	11	eP	P	12 24 26.5	-0.7
EPF				pmax	pmax		
EPF	Esparros comp=Z,32nm,1.3s	69.68	11	eP	P	12 24 26.5	-0.7
MTLF	Montolieu comp=Z,38nm,1.5s	70.32	12	eP	P	12 24 30.8	-0.3
MTLF	Montolieu comp=Z,38nm,1.5s	70.32	12	eP	P	12 24 30.8	-0.3
MTLF				pmax	pmax		
MTLF	Montolieu comp=Z,38nm,1.5s	70.32	12	eP	P	12 24 30.8	-0.3
IDI	Anoyia	70.89	33	P	P	12 24 33.0	-1.7
IDI	Anoyia comp=Z,7.6nm,0.8s,baz=41,slow=9.3,SNR=3.2	70.89	33	P	P	12 24 33.1	-1.7
PGF	Pioggiola comp=Z,56nm,1.3s	71.15	18	eP	P	12 24 34.7	-1.5
PGF	Pioggiola comp=Z,56nm,1.3s	71.15	18	eP	P	12 24 34.7	-1.5
PGF				pmax	pmax		
PGF	Pioggiola comp=Z,56nm,1.3s	71.15	18	eP	P	12 24 34.7	-1.5
LMR	La Mourre comp=Z,45nm,1.3s	71.24	15	eP	P	12 24 35.8	-0.9
LMR	La Mourre comp=Z,45nm,1.3s	71.24	15	eP	P	12 24 35.8	-0.9
LMR				pmax	pmax		
LMR	La Mourre comp=Z,45nm,1.3s	71.24	15	eP	P	12 24 35.8	-0.9
LASF	Ste Croix comp=Z,42nm,1.4s	71.35	13	eP	P	12 24 36.3	-1.1
LASF	Ste Croix comp=Z,42nm,1.4s	71.35	13	eP	P	12 24 36.3	-1.1
FRF	La Foret Royal	71.49	16	eP	P	12 24 37.0	-1.2
FRF	La Foret Royal	71.49	16	eP	P	12 24 37.0	-1.2
FRF	La Foret Royal	71.49	16	eP	P	12 24 37.0	-1.2
LFF	La Frestale comp=Z,50nm,1.1s	71.60	11	eP	P	12 24 38.0	-0.8
LFF	La Frestale comp=Z,50nm,1.1s	71.60	11	eP	P	12 24 38.0	-0.8
LFF				pmax	pmax		
LFF	La Frestale comp=Z,50nm,1.1s	71.60	11	eP	P	12 24 38.0	-0.8
SMRF	Simiane la Rot comp=Z,27nm,1.1s	71.63	15	eP	P	12 24 38.7	-0.4
SMRF	Simiane la Rot comp=Z,27nm,1.1s	71.63	15	eP	P	12 24 38.7	-0.4
CAF	Calviac comp=Z,35nm,1.4s	71.82	12	eP	P	12 24 39.0	-1.2
CAF	Calviac comp=Z,35nm,1.4s	71.82	12	eP	P	12 24 39.0	-1.2
CAF				pmax	pmax		
CAF	Calviac comp=Z,35nm,1.4s	71.82	12	eP	P	12 24 39.0	-1.2
SBF	Sospel comp=Z,27nm,0.9s	71.97	16	eP	P	12 24 40.0	-1.1
SBF	Sospel comp=Z,27nm,0.9s	71.97	16	eP	P	12 24 40.0	-1.1
SBF				pmax	pmax		
SBF	Sospel comp=Z,27nm,0.9s	71.97	16	eP	P	12 24 40.0	-1.1
RJF	Les Rejaudoux comp=Z,31nm,1.2s	72.09	11	eP	P	12 24 40.7	-1.0
RJF	comp=Z,751nm,18.5s			eR			
RJF	Les Rejaudoux comp=Z,31nm,1.2s	72.09	11	eP	P	12 24 40.7	-1.0
RJF				pmax	pmax		
RJF	Les Rejaudoux comp=Z,31nm,1.2s	72.09	11	eP	P	12 24 40.7	-1.0
EIL	Elat	72.25	43	P	P	12 24 42.5	-0.6
EIL	Elat comp=Z,7.3nm,0.9s,baz=305,slow=7.5,SNR=4.9	72.25	43	P	P	12 24 42.5	-0.6
EIL				LR	LR	12 53 54.7	
VIVF	comp=Z,418nm,19.1s,baz=97,slow=34 Saint-Julien-l comp=Z,75nm,1.4s	72.27	14	eP	P	12 24 42.1	-0.8
VIVF	Saint-Julien-l comp=Z,75nm,1.4s	72.27	14	eP	P	12 24 42.1	-0.8
VIVF				pmax	pmax		
VIVF	Saint-Julien-l comp=Z,75nm,1.4s	72.27	14	eP	P	12 24 42.1	-0.8
ORIF	Oris-en-Rattie comp=Z,26nm,1.0s	72.59	14	eP	P	12 24 44.4	-0.5
ORIF	comp=Z,1μm,22.0s			eR			
ORIF	Oris-en-Rattie comp=Z,26nm,1.0s	72.59	14	eP	P	12 24 44.4	-0.5
ORIF				pmax	pmax		
ORIF	Oris-en-Rattie comp=Z,26nm,1.0s	72.59	14	eP	P	12 24 44.4	-0.5
MBDF	Montbardon comp=Z,30nm,0.9s	72.62	15	eP	P	12 24 44.7	-0.4
MBDF	Montbardon comp=Z,30nm,0.9s	72.62	15	eP	P	12 24 44.7	-0.4
MBDF				pmax	pmax		
MBDF	Montbardon comp=Z,30nm,0.9s	72.62	15	eP	P	12 24 44.7	-0.4
APE	Apeiranthos	72.62	32	iP	P	12 24 43.5	-1.7
SSB	Saint Sauveur	72.65	13	eP	P	12 24 44.4	-0.7
SSB	Saint Sauveur	72.65	13	eP	P	12 24 44.4	-0.7
BNI	Bardonecchia	72.91	15	eP	P	12 24 48.5	+1.7
BNI				e*PP	PcP	12 25 03.3	-0.5
BNI	comp=Z,19nm,1.3s			pmax	pmax		
BNI	Bardonecchia comp=Z,19nm,1.3s	72.91	15	eP	P	12 24 48.5	+1.7
BNI				epP	PcP	12 25 03.2	-0.5
MFF	Saint Martin d comp=Z,60nm,1.4s	73.08	10	eP	P	12 24 46.7	-0.9
MFF	Saint Martin d comp=Z,60nm,1.4s	73.08	10	eP	P	12 24 46.7	-0.9
MFF				pmax	pmax		
MFF	Saint Martin d comp=Z,60nm,1.4s	73.08	10	eP	P	12 24 46.7	-0.9
TCF	Toulx Ste Croi comp=Z,79nm,1.6s	73.16	12	eP	P	12 24 47.4	-0.7
TCF	Toulx Ste Croi comp=Z,79nm,1.6s	73.16	12	eP	P	12 24 47.4	-0.7
TCF				pmax	pmax		
TCF	Toulx Ste Croi comp=Z,79nm,1.6s	73.16	12	eP	P	12 24 47.4	-0.7
LPG	La Plagne comp=Z,49nm,0.9s	73.34	15	eP	P	12 24 49.0	-0.5
LPG	La Plagne comp=Z,49nm,0.9s	73.34	15	eP	P	12 24 49.0	-0.5
LPG				pmax	pmax		
LPG	La Plagne comp=Z,49nm,0.9s	73.34	15	eP	P	12 24 49.0	-0.5
LPL	La Plagne comp=Z,54nm,1.0s	73.36	15	eP	P	12 24 49.0	-0.5
LPL	La Plagne comp=Z,54nm,1.0s	73.36	15	eP	P	12 24 49.0	-0.5
LPL				pmax	pmax		
LPL	La Plagne comp=Z,54nm,1.0s	73.36	15	eP	P	12 24 49.0	-0.5
SMF	Signal de Mont comp=Z,102nm,1.7s	73.81	13	eP	P	12 24 51.0	-0.9
SMF	Signal de Mont comp=Z,103nm,1.7s	73.81	13	eP	P	12 24 51.0	-0.9
SMF				pmax	pmax		
SMF	Signal de Mont comp=Z,102nm,1.7s	73.81	13	eP	P	12 24 51.0	-0.9
AVF	Avril sur Loir

comp=Z,36nm,1.0s
CABF La Chapelle 74.25 14 *e*P **P 12 24 53.4 -1.2**
CABF pmax pmax
comp=Z,36nm,1.0s
CABF La Chapelle 74.25 14 *e*P **P 12 24 53.4 -1.2**
comp=Z,36nm,1.0s
ROSF Rostrenen 74.36 7 *e*P **P 12 24 53.8 -1.3**
ROSF Rostrenen 74.36 7 *e*P **P 12 24 53.8 -1.3**
ROSF Rostrenen 74.36 7 *e*P **P 12 24 53.8 -1.3**
LOR Lormes 74.41 12 *e*P **P 12 24 54.3 -1.1**
LOR *e*R
comp=Z,750nm,23.0s
LOR Lormes 74.41 12 *e*P **P 12 24 54.3 -1.1**
GRR Gorron 74.72 9 *e*P **P 12 24 56.0 -1.1**
comp=Z,63nm,1.4s
GRR Gorron 74.72 9 *e*P **P 12 24 56.0 -1.1**
GRR pmax pmax
comp=Z,63nm,1.4s
GRR Gorron 74.72 9 *e*P **P 12 24 56.0 -1.1**
comp=Z,63nm,1.4s
MMAI Mount Meron Ar 74.88 41 P **P 12 24 59.6 +1.1**
MMAI Mount Meron Ar 74.88 41 P **P 12 24 59.6 +1.1**
comp=Z,5.1nm,0.9s,baz=221,slow=3.3,SNR=6.7
MMAI LR LR 12 53 58.0
comp=Z,181nm,21.9s,baz=245,slow=33
LDF La Druitiere 75.02 9 *e*P **P 12 24 57.7 -1.2**
comp=Z,105nm,1.6s
LDF La Druitiere 75.02 9 *e*P **P 12 24 57.7 -1.2**
LDF pmax pmax
comp=Z,105nm,1.6s
LDF La Druitiere 75.02 9 *e*P **P 12 24 57.7 -1.2**
comp=Z,105nm,1.6s
FLN La Foliniere 75.14 9 *e*P **P 12 24 58.5 -1.0**
comp=Z,71nm,1.5s
FLN *e*R
comp=Z,701nm,21.5s
FLN La Foliniere 75.14 9 *e*P **P 12 24 58.5 -1.0**
FLN pmax pmax
comp=Z,71nm,1.5s
FLN La Foliniere 75.14 9 *e*P **P 12 24 58.5 -1.0**
comp=Z,71nm,1.5s
ASF Jabal al Asfar 75.19 43 P **P 12 25 01.3 +1.0**
ASF Jabal al Asfar 75.19 43 P **P 12 25 01.3 +1.0**
comp=Z,1.3nm,0.3s,baz=207,slow=9.0,SNR=2.5
ASF LR LR 12 55 47.1
comp=Z,237nm,18.7s,baz=174,slow=34
DAVOX Davos/Dischmat 75.31 17 P **P 12 24 59.6 -1.3**
DAVOX Davos/Dischmat 75.31 17 P **P 12 24 59.6 -1.3**
comp=Z,5.0nm,0.7s,baz=11,slow=14,SNR=4.1
RAYN Ar Rayn 75.44 55 *e*pP pP 12 25 09.7 +3.3
DAVA Damuels 75.78 16⇑*i*P **P 12 25 00.9 -2.6**
comp=Z,20nm,1.1s
ABTA Abfaltersbach 75.99 18⇑*i*P **P 12 25 03.8 -0.8**
comp=Z,12nm,1.3s
PAGF Fort de Pagny 76.02 13 *e*P **P 12 25 03.7 -0.9**
PAGF Fort de Pagny 76.02 13 *e*P **P 12 25 03.7 -0.9**
CDF Champ du Feu 76.21 14 *e*P **P 12 25 04.8 -1.1**
CDF Champ du Feu 76.21 14 *e*P **P 12 25 04.8 -1.1**
CDF Champ du Feu 76.21 14 *e*P **P 12 25 04.8 -1.1**
BFO Black Forest 76.38 15 *e*P **P 12 25 05.9 -0.8**
BFO Black Forest 76.38 15 *e*P **P 12 25 05.9 -0.8**
SBA Scott Base 76.61 180 *e*P **P 12 25 09.8 +2.0**
SBA pmax pmax
comp=Z,22nm,0.9s
SBA Scott Base 76.61 180 *e*P **P 12 25 09.8 +2.0**
comp=Z,22nm,0.9s
SOKA Soboth 76.67 20⇑*i*P **P 12 25 08.4 -0.1**
comp=Z,11nm,0.9s
VNDA Vanda 76.92 179 P **P 12 25 11.1 +1.6**
VNDA Vanda 76.92 179 P **P 12 25 11.1 +1.6**
comp=Z,8.4nm,1.0s,baz=219,slow=6.0,SNR=28
VNDA LR LR 12 54 11.2
comp=Z,745nm,21.6s,baz=284,slow=32
BAIF Baives 77.16 12 *e*P **P 12 25 09.8 -1.2**
comp=Z,49nm,1.2s
BAIF Baives 77.16 12 *e*P **P 12 25 09.8 -1.2**
BAIF pmax pmax
comp=Z,49nm,1.2s
BAIF Baives 77.16 12 *e*P **P 12 25 09.8 -1.2**
comp=Z,49nm,1.2s
DOU Dourbes 77.26 12 P **P 12 25 13.0 +1.4**
comp=Z,12nm,2.7s
GIVF Givet 77.31 12 *e*P **P 12 25 10.7 -1.2**
comp=Z,84nm,1.4s
GIVF Givet 77.31 12 *e*P **P 12 25 10.7 -1.2**
GIVF pmax pmax
comp=Z,84nm,1.4s
GIVF Givet 77.31 12 *e*P **P 12 25 10.7 -1.2**
comp=Z,84nm,1.4s
MOA Molln 77.49 19⇑*i*P **P 12 25 11.8 -1.2**
comp=Z,6.5nm,0.7s
BCLA Clavier 77.71 12 P **P 12 25 13.9 -0.2**
comp=Z,15nm,1.9s
JTS JuntasAbangare 77.91 288 LR LR 12 59 01.3
comp=Z,954nm,20.5s,baz=126,slow=35
BZS Buzias 77.99 25⇑P **P 12 25 13.6 -2.2**
BZS Buzias 77.99 25⇑*i*P **P 12 25 13.6 -2.2**
GEC2 GERESS Array S 78.23 18 *e*P P 12 25 23.1 +5.9
GEC2 GERESS Array S 78.23 18 *e*P P 12 25 23.1 +5.9
GERES GERESS Array B 78.23 18 P **P 12 25 16.2 -1.0**
GERES GERESS Array B 78.23 18 P **P 12 25 16.2 -1.0**
comp=Z,1.6nm,0.7s,baz=191,slow=4.1,SNR=8.4
GERES LR LR 12 59 25.9
comp=Z,381nm,18.4s,baz=224,slow=36
GZR Gura Zlata 78.25 25⇑P **P 12 25 16.6 -0.7**
GZR Gura Zlata 78.25 25⇑*i*P **P 12 25 16.6 -0.7**
GRF Grafenberg Arr 78.34 16 *e*P **P 12 25 16.7 -1.0**
comp=Z,17nm,1.4s
GRF *e*L L 12 57 15.0
comp=Z,339nm,21.5s
GRF Grafenberg Arr 78.34 16 *e*P **P 12 25 16.7 -1.0**
GRF pmax pmax
comp=Z,17nm,1.4s
KHC Kasperske Hory 78.45 18 *e*P **P 12 25 16.3 -2.1**
KHC *e* 12 25 22.8
KHC *e* 12 25 27.6
KHC MLR MLR
comp=Z,500nm,18.7s
KHC Kasperske Hory 78.45 18 *e*P **P 12 25 16.3 -2.1**
KHC *e*pP **pP 12 25 22.8 0.0**
KHC *e*PCP **PcP 12 25 27.6 +0.1**
KHC AMS AMS 12 59 00.0
comp=Z,500nm,18.7s
SIRR Siria 78.56 24⇓*i*P **P 12 25 19.7 +0.7**
LOT Lotru 78.68 26⇑*i*P P 12 25 23.7 +3.9
BR131 Keskin Array S 78.73 35 *e*P **P 12 25 19.0 -1.2**
comp=Z,6.2nm,0.9s
BRTR Keskin Array B 78.73 35 P **P 12 25 20.5 +0.3**
BRTR Keskin Array B 78.73 35 P **P 12 25 20.5 +0.3**
comp=Z,2.4nm,0.8s,baz=193,slow=5.1,SNR=9.0
BRTR LR LR 13 00 17.2
comp=Z,83nm,19.6s,baz=16,slow=36
ARR Arges 78.96 26⇑*i*P P 12 25 25.5 +4.3
TREC Trest 79.15 19 AMS AMS 12 57 20.0
comp=Z,600nm,21.8s
NKC Novy Kostel 79.16 17 *e*P **P 12 25 23.2 +1.0**
NKC *e* 12 25 30.3
NKC Novy Kostel 79.16 17 *e*P **P 12 25 23.2 +1.0**
NKC *e*PCP **PcP 12 25 30.3 -0.2**
VOIR 79.18 27⇑P **P 12 25 21.0 -1.5**
VOIR 79.18 27⇑*i*P **P 12 25 21.0 -1.5**
MOX Moxa 79.32 16 *e*L L 12 56 32.6
comp=Z,392nm,21.4s
PSZ Piszkesteto 79.34 22⇑P **P 12 25 24.9 +1.6**
PSZ Piszkesteto 79.34 22 *e*P **P 12 25 21.7 -1.5**
comp=Z,26nm,1.1s
PSZ Piszkesteto 79.34 22⇑*i*P **P 12 25 24.9 +1.6**
DRGR 79.39 25⇓P **P 12 25 22.8 -0.8**
DRGR 79.39 25⇓*i*P **P 12 25 22.8 -0.8**
VRAC Vranov 79.49 20 P **P 12 25 22.7 -1.3**
VRAC Vranov 79.49 20 P **P 12 25 22.7 -1.3**
comp=Z,2.3nm,0.5s,baz=244,slow=17,SNR=4.5
PRU Pruhonice 79.50 18 *e*P **P 12 25 22.1 -1.9**
PRU *e* 12 25 30.5
PRU MLR MLR
comp=Z,700nm,20.1s
PRU Pruhonice 79.50 18 *e*P **P 12 25 22.1 -1.9**
PRU *e*x x 12 25 30.5
PRU AMS AMS 12 58 40.0
comp=Z,700nm,20.1s
PRA Prague 79.54 18 P **P 12 25 23.0 -1.2**
MLR Muntele Rosu 79.59 27 P **P 12 25 23.3 -1.5**
MLR Muntele Rosu 79.59 27 P **P 12 25 23.3 -1.5**
comp=Z,2.3nm,1.0s,baz=166,slow=7.3,SNR=8.0
TLB Topalu 79.76 29⇑P **P 12 25 25.0 -0.5**

TLB Topalu 79.76 29⇑*i*P **P 12 25 25.0 -0.5**
PVCC Panska Ves 79.99 18 *e*P **P 12 25 26.3 -0.4**
PVCC *e* 12 25 34.1
PVCC MLR MLR
comp=Z,800nm,18.5s
PVCC Panska Ves 79.99 18 *e*P **P 12 25 26.3 -0.4**
PVCC *e*PCP **PcP 12 25 34.1 0.0**
PVCC AMS AMS 12 58 40.0
comp=Z,800nm,18.5s
KECS Kecovo 80.03 22 *e*P **P 12 25 26.0 -0.9**
KECS Kecovo 80.03 22 *e*P **P 12 25 26.0 -0.9**
BRG Berggiesshubel 80.14 17 *e*P P 12 25 19.6 -7.8
comp=Z,10nm,1.4s
BRG Berggiesshubel 80.14 17 S **SKSac 12 35 50.0 +5.7**
BRG SS **SS 12 40 42.0 -0.9**
BRG
comp=N,303nm,18.2s
BRG
comp=E,217nm,15.5s
BRG
comp=Z,551nm,18.8s
BRG Berggiesshubel 80.14 17 *e*P P 12 25 19.6 -7.8
BRG S **SKSac 12 35 50.0 +5.7**
BRG SS **SS 12 40 42.0 -0.9**
BRG pmax pmax
comp=Z,6.0nm,1.4s
BRG MLR MLR
comp=N,10µm,18.2s
BRG MLR MLR
comp=E,303nm,15.5s
BRG MLR MLR
comp=Z,217nm,18.8s
PLOR Plostina 80.17 27⇓P P 12 25 35.0 +7.2
PLOR Plostina 80.17 27⇓*i*P P 12 25 35.0 +7.2
MORC Moravsky Berou 80.19 20 *e*P **P 12 25 27.1 -0.7**
MORC Moravsky Berou 80.19 20 *e*P **P 12 25 27.1 -0.7**
VRI Vrincioaia 80.22 27⇑P **P 12 25 26.5 -1.5**
VRI Vrincioaia 80.22 27⇑*i*P **P 12 25 26.5 -1.5**
CFR Carcaliu 80.27 29⇓P **P 12 25 26.1 -2.1**
CFR Carcaliu 80.27 29⇓*i*P **P 12 25 26.1 -2.1**
CLL Collm 80.28 17 *e*P **P 12 25 27.0 -1.2**
CLL *e*S **S 12 35 35.0 +2.0**
CLL MLR MLR
comp=Z,400nm,19.0s
CLL Collm 80.28 17 *e*P **P 12 25 27.0 -1.2**
CLL *e*PP **PP 12 28 36.0 +4.7**
CLL *e*S **S 12 35 35.0 +2.0**
CLL *e* 12 36 54.0
CLL *e*SS **SS 12 40 42.0 -3.0**
CLL *e*SSS SSS 12 44 06.0
CLL *e*SSSS 12 46 30.0
CLL LH 12 57 00.0
comp=N,400nm,21.5s
CLL LH 12 57 00.0
comp=E,100nm,20.1s
CLL Lm MLR 13 00 00.0
comp=N,200nm,21.5s
CLL Lm MLR 13 00 00.0
comp=E,300nm,19.7s
CLL Lm MLR 13 00 00.0
comp=Z,400nm,19.0s
DPC Dobruska-Polom 80.34 19 *e*P **P 12 25 29.8 +1.2**
DPC *e* 12 25 35.8
DPC Dobruska-Polom 80.34 19 *e*P **P 12 25 29.8 +1.2**
DPC *e*PCP **PcP 12 25 35.8 +0.2**
DPC *e*x x 12 25 41.6
DPC AMS AMS 12 58 00.0
DPC Dobruska-Polom 80.34 19 *e*P **P 12 25 30.3 +1.7**
comp=Z,292nm,2.1s
UPC Upice 80.39 19 *e*P **P 12 25 28.3 -0.5**
UPC *e* 12 25 33.5
UPC Upice 80.39 19 *e*P **P 12 25 28.3 -0.5**
UPC *e*pP **pP 12 25 33.5 +0.2**
OKC Ostrava-Krasne 80.44 20 *e*P **P 12 25 26.8 -2.3**
OKC *e* 12 25 30.9
OKC MLR MLR
comp=Z,600nm,16.6s
OKC Ostrava-Krasne 80.44 20 *e*P **P 12 25 26.8 -2.3**
OKC *e*pP **pP 12 25 30.9 -2.6**
OKC *e*x x 12 25 40.4
OKC AMS AMS 13 01 30.0
comp=Z,600nm,16.6s
CRVS Cervenica-Dubn 80.72 23 *e*P **P 12 25 32.2 +1.5**
CRVS Cervenica-Dubn 80.72 23 *e*P **P 12 25 32.2 +1.5**
UZH Uzhgorod 80.79 23 *e*P P 12 25 25.3 -5.7
UZH *e* 12 25 26.7
UZH *e*S S 12 35 30.1 -8.3
BURAR Bucovina Array 81.03 26⇓P P 12 25 37.3 +4.8
BURAR Bucovina Array 81.03 26⇓*i*P P 12 25 37.3 +4.8
EKA Eskdalemuir Ar 81.28 6 P **P 12 25 32.9 -0.5**
EKA Eskdalemuir Ar 81.28 6 P **P 12 25 32.9 -0.5**
comp=Z,5.0nm,0.8s,baz=179,slow=5.8,SNR=5.3
LVV L'vov 82.41 24 *e*P **P 12 25 39.9 +0.4**
APG El Apazote 84.88 289 LR LR 13 03 22.1
comp=Z,993nm,20.1s,baz=116,slow=35
KIEV Kiev 85.07 26 *e*P **P 12 25 53.2 +0.1**
KIEV pmax pmax
comp=Z,8.0nm,0.8s
KIEV Kiev 85.07 26 *e*P **P 12 25 53.2 +0.1**
comp=Z,8.5nm,0.8s
AKASG Malin Array Be 85.08 26 P **P 12 25 50.8 -2.4**
AKASG Malin Array Be 85.08 26 P **P 12 25 50.8 -2.4**
AKASG Malin Array Be 85.08 26 P **P 12 25 50.8 -2.4**
comp=Z,3.4nm,0.7s,baz=222,slow=4.6,SNR=12
AKASG LR LR 13 03 56.8
comp=Z,281nm,19.4s,baz=225,slow=36
TEIG Tepich 85.55 295 LR LR 13 03 13.1
comp=Z,532nm,19.6s,baz=167,slow=35
DRV Dumont d'Urvil 85.74 170 S S 12 36 17.0 -11
DRV SS **SS 12 42 01.0 -2.7**
DRV L L 12 48 00.0
DRV R 12 54 00.0
ISAD Sadrabad 86.18 52 *e*P **P 12 25 59.4 -0.1**
KBZ Khabaz 86.48 37 LR LR 13 06 13.6
comp=Z,102nm,19.3s,baz=231,slow=37
KIV Kislovodsk 86.51 37 *e*P **P 12 25 59.3 -1.3**
KIV *e* 12 36 26.1
KIV *e*SS SS 12 42 13.8 -4.1
KIV pmax pmax
comp=Z,9.0nm,1.0s
IMEH Mehriz 86.56 53 *e*P **P 12 26 01.0 -0.3**
IBAF Bafgh 87.35 53 *e*P **P 12 26 04.5 -0.6**
IBAF *e* 12 35 03.0
comp=Z,67nm,0.0s
KMSC Kings Mountain 88.03 311 *e*P **P 12 26 08.2 +0.1**
HFS Hagfors 88.50 13 P **P 12 26 07.3 -2.3**
HFS Hagfors 88.50 13 P **P 12 26 07.3 -2.3**
comp=Z,3.4nm,0.9s,baz=204,slow=3.2,SNR=2.7
HFS LR LR 13 01 08.5
comp=Z,449nm,20.9s,baz=216,slow=32
NB2 NORSAR Subarra 88.85 12 P **P 12 26 13.0 +1.7**
comp=Z,24nm,1.4s,baz=200,slow=4.8
NB2 NORSAR Subarra 88.85 12 P **P 12 26 13.0 +1.7**
baz=200,slow=4.8
NOA NORSAR Array B 88.85 12 P **P 12 26 12.4 +1.1**
NOA NORSAR Array B 88.85 12 P **P 12 26 12.4 +1.1**
comp=Z,3.5nm,0.9s,baz=200,slow=5.2,SNR=4.5
NOA LR LR 13 01 47.9
comp=Z,162nm,18.2s,baz=210,slow=33
VORD Divnogorie 89.56 30 *e*P **P 12 26 14.2 -0.6**
VORD pmax pmax
comp=N,10.0nm,1.0s
VORD pmax pmax
comp=Z,6.0nm,1.0s
VORD pmax pmax
comp=E,10.0nm,0.9s
VSR Storozhevoye 89.67 30 *e*P **P 12 26 16.6 +1.3**
VSR pmax pmax
comp=Z,10.0nm,1.5s
VSR pmax pmax
comp=N,10.0nm,1.1s
VSR pmax pmax
comp=E,10.0nm,0.9s
VRHR Novokhopersk 90.72 31 *e*P **P 12 26 21.4 +1.2**
VRHR pmax pmax
comp=Z,9.0nm,0.8s
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,30nm,1.2s
OBN Obninsk 91.33 26⇑*e*P **P 12 26 20.6 -2.3**
OBN *e* 12 29 55.7
OBN *e*S **SKSac 12 36 52.6 -1.9**
OBN *e*PS **PnS 12 38 36.4 +4.0**

OBN *e*SS **SS 12 43 31.7 +4.5**
OBN pmax pmax
comp=Z,7.0nm,1.2s
OBN MLR MLR
comp=Z,200nm,20.0s
SCHQ Schefferville 92.24 332 LR LR 13 01 10.8
comp=Z,712nm,20.0s,baz=334,slow=31
FINES FINESS Array B 92.66 18 P **P 12 26 29.6 +0.6**
FINES FINESS Array B 92.66 18 P **P 12 26 29.6 +0.6**
comp=Z,8.0nm,1.0s,baz=211,slow=2.2,SNR=5.5
FINES LR LR 13 08 37.6
comp=Z,335nm,18.8s,baz=233,slow=36
SFJD Kangerlussuaq 96.54 346 LR LR 13 00 40.9
comp=Z,252nm,19.4s,baz=158,slow=30
ARCES ARCESS Array B 99.16 13 LR LR 13 10 56.1
comp=Z,238nm,18.4s,baz=230,slow=35
KSH Kashi 105.71 53 *e*Pdif **Pdif 12 27 29.5 +1.0**
KSH PP **PP 12 31 53.5 +2.0**
KSH S **Sdif 12 39 21.8 -3.4**
KSH SS **SKKPbc 12 46 46.8 -2.8**
KSH LR LR
comp=N,170nm,7.0s
KSH LR LR
comp=E,130nm,6.1s
KSH LR LR
comp=Z,270nm,7.3s
TBI Tubuai 115.00 225 *e*LR LR 13 06 30.3
comp=Z,328nm,33.5s
WMQ Urumqi 115.34 52 *e*PKP **PKPdf 12 31 57.0 -2.4**
WMQ LR LR
comp=E,200nm,26.8s
WMQ LR LR
comp=Z,200nm,28.0s
PPT2 Papeete2 119.13 230 *e*SS SS 12 49 49.0 +1.5
comp=Z,184nm,25.2s
PPT2 Papeete2 119.13 230 *e*LR LR 13 08 34.2
comp=Z,426nm,24.2s
ASAR Alice Springs 121.74 145 PKP **PKPdf 12 32 11.2 -1.2**
ASAR PKKPbc PKKPbc 12 42 01.8 -9.1
ASAR Alice Springs 121.74 145 PKP **PKPdf 12 32 11.2 -1.2**
comp=Z,0.7nm,0.5s,baz=209,slow=1.8,SNR=19
ASAR PKKPbc PKKPbc 12 42 01.8 -9.1
comp=Z,0.2nm,0.5s,baz=93,slow=6.8,SNR=1.8
KMI Kunming 123.19 76 PKP **PKPdf 12 32 15.8 +0.6**
KMI sPKP 12 32 20.0
KMI PP **PP 12 34 00.3 +4.7**
KMI PKS **PKSdf 12 35 51.5 -0.7**
KMI SKKS 12 40 51.0
KMI SS **SS 12 50 42.5 +1.2**
KMI LR LR
comp=Z,180nm,27.6s
GTA Gaotai 123.56 58 PKP **PKPdf 12 32 20.0 +4.6**
GTA PP **PP 12 34 01.0 +3.3**
GTA SKS **SKSdf 12 39 27.0 -0.2**
GTA SKKS **SKKSac 12 40 51.5 -4.5**
GTA SS **SS 12 50 47.8 +2.5**
GTA AMB AMB
comp=Z,250nm,5.2s
GTA LR LR
comp=N,180nm,19.5s
GTA LR LR
comp=E,180nm,17.6s
GTA LR LR
comp=Z,250nm,21.4s
MOY Mondy 124.99 44 *e*PKIKP PKPdf 12 32 25.6 +7.8
WRA Warramunga Arr 125.01 143 PKP **PKPdf 12 32 16.9 -1.8**
WRA PKKPbc **PKKPab 12 42 04.3 +4.5**
WRA Warramunga Arr 125.01 143 PKP **PKPdf 12 32 16.9 -1.8**
comp=Z,0.9nm,0.7s,baz=239,slow=1.9,SNR=10.0
WRA PKKPbc **PKKPab 12 42 04.3 +4.5**
comp=Z,0.3nm,0.3s,baz=92,slow=8.4,SNR=22
CD2 Chengdu 125.39 69 PKP **PKPdf 12 32 18.8 -0.3**
CD2 PP **PP 12 34 13.8 +3.7**
CD2 PKS **PKSdf 12 35 54.0 -1.8**
CD2 SKS **SKSdf 12 39 28.0 -2.8**
CD2 SKKS **SKKSac 12 41 04.5 -3.4**
CD2 SS **SS 12 51 09.3 +0.7**
LZH Lanzhou 126.30 63 *e*PKP **PKPdf 12 32 16.5 -4.3**
LZH sPKP 12 32 28.5
LZH PP **PP 12 34 17.0 +0.9**
LZH AMB AMB
comp=Z,170nm,5.8s
LZH LR LR
comp=N,390nm,16.0s
LZH LR LR
comp=E,440nm,16.5s
LZH LR LR
comp=Z,520nm,18.0s
ZAK Zakamensk 126.48 45 *e*PKIKP **PKPdf 12 32 20.8 +0.2**
ZAK pmax pmax
comp=Z,2.0nm,1.1s
TLY Talaya 126.64 44 *i*PKIKP PKPdf 12 32 27.9 +7.1
TLY pmax pmax
comp=Z,2.0nm,0.5s
GYA Guiyang 126.94 75 Pdif **Pdif 12 29 01.8 -1.4**
GYA PKP **PKPdf 12 32 22.0 -0.3**
GYA PP **PP 12 34 24.3 +3.7**
GYA PKS **PKSdf 12 35 55.5 -3.6**
GYA SKKS 12 41 15.0
GYA SS **SS 12 51 29.5 +1.1**
GYA AMB AMB
comp=Z,140nm,8.0s
GYA LR LR
comp=N,280nm,22.0s
GYA LR LR
comp=E,190nm,23.4s
GYA LR LR
comp=Z,250nm,21.8s
QIZ Qiongzhong 127.76 85 PKP **PKPdf 12 32 22.5 -1.4**
QIZ PP **PP 12 34 25.0 -0.9**
SONM Songino Array 128.66 48 PKP **PKPdf 12 32 26.6 +1.7**
SONM Songino Array 128.66 48 PKP **PKPdf 12 32 26.6 +1.7**
comp=Z,0.6nm,0.6s,baz=207,slow=2.9,SNR=4.8
ILAR Eielson Array 130.90 336 PKP **PKPdf 12 32 28.8 +0.3**
ILAR Eielson Array 130.90 336 PKP **PKPdf 12 32 28.8 +0.3**
comp=Z,1.2nm,0.9s,baz=33,slow=1.5,SNR=12
DZM Mont Dzumac 132.45 180 *e*LR LR 13 14 39.6
comp=Z,254nm,21.8s
IMA2 Indian Mountai 132.54 339 *e*PKPdf **PKPdf 12 32 31.8 +0.1**
HHC Hu-ho-hao-te 132.63 57 *e*PKP **PKPdf 12 32 32.0 -0.6**
HHC PP **PP 12 35 00.0 +2.8**
HHC PKS **PKSdf 12 36 07.0 -2.1**
HHC SKS **SKSdf 12 39 41.8 -2.0**
HHC SKKS **SKKSac 12 41 50.8 -2.0**
HHC SS **SS 12 52 39.3 +1.7**
HHC AMB AMB
comp=Z,230nm,7.4s
HHC LR LR
comp=N,500nm,21.4s
HHC LR LR
comp=E,610nm,21.6s
HHC LR LR
comp=Z,170nm,20.3s
WHN Wuhan 134.33 72 PKP PKPdf 12 32 43.3 +7.3
BJI Beijing 136.18 58 PKP **PKPdf 12 32 37.5 -1.6**
BJI PP **PP 12 35 19.0 -0.5**
BJI AMB AMB
comp=Z,190nm,10.6s
BJI LR LR
comp=N,330nm,21.1s
BJI LR LR
comp=E,350nm,23.2s
BJI LR LR
comp=Z,180nm,39.1s
KLR Kul'dur 144.46 40 *e*PKHKP PKPpre 12 32 48.0
HNR Honiara 144.49 169 PKP **PKPdf 12 32 55.5 +0.6**
HNR Honiara 144.49 169 PKP **PKPdf 12 32 55.5 +0.6**
comp=Z,99nm,0.9s,baz=218,slow=4.0,SNR=6.2
MDJ Mudanjiang 145.02 48 PKP PKPbc 12 32 52.8 -1.5
MDJ pPKP **PKiKP 12 32 57.3 -1.5**
MDJ PP **PP 12 36 12.8 -0.6**
MDJ LR LR
comp=N,190nm,51.5s
MDJ LR LR
comp=Z,150nm,29.4s
MDJ Mudanjiang 145.02 48 *e*PKPdf **PKPdf 12 32 54.8 -0.2**
KSAR Wonju Array Be 145.55 61 PKPbc **PKPdf 12 32 54.3 -1.8**
KSRS Korea Array 145.57 61 PKPbc **PKPdf 12 32 54.3 -1.8**
comp=Z,8.4nm,1.1s,baz=278,slow=2.7,SNR=14
USRK Ussuriysk Arra 146.77 48 PKPbc **PKPdf 12 32 57.0 -1.0**
comp=Z,5.3nm,0.9s,baz=286,slow=2.5,SNR=7.8
YSS Yuzh-Sakhalins 151.83 35 *e*PKIKP **PKPbc 12 33 12.0 -0.3**
PETK Petropavlovsk- 151.95 11 PKIKP **PKPbc 12 33 13.6 +1.2**
PETK Petropavlovsk- 151.95 11 PKPbc **PKPbc 12 33 13.6 +1.2**
PETK Petropavlovsk- 151.95 11 PKPbc **PKPbc 12 33 13.6 +1.2**

comp=Z,6.4nm,0.9s,baz=205,slow=5.0,SNR=5.9
MJAR Matsushiro Arr 153.81 59 PKPbc **PKPbc 12 33 16.5 -0.6**
MJAR Matsushiro Arr 153.81 59 PKPbc **PKPbc 12 33 16.5 -0.6**
comp=Z,1.5nm,0.7s,baz=250,slow=4.7,SNR=3.4

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*JMA **28** 12:17:50.9±0.3,27°.86N×127°.83E,h11km,M2.9*
*ISCJB **28** 12:17:53.6±0.7,27°.81N±0°.05×127°.92E±0°.06,h33km, mb3.2/3,Error ellipse: s-maj=8.6km s-min=5.6km az=34.5*
*IDC **28** 12:18:08.0±5.1,28°.12N×128°.29E,h150km±56km,mb2.9/3, mb1 3.1/5,mb1mx3.0/26,mbtmp3.1/5,MS2.8/1,Ms1 2.8/1, ms1mx2.4/9,Error ellipse: s-maj=45.8km s-min=23.1km az=66.0*
ISC 28 12:17:55.6±0.9,27°.78N±0°.06×127°.96E±0°.07,h35km,n14, σ2§03/17,mb3.5/3,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIH	**Iheya**	**0.74**	**180**	P	**Pn**	**12 18 06.6**	**-2.9**
JIH				S	**Sn**	**12 18 17.6**	**-2.0**
JTK	**Tokunoshima**	**0.88**	**89**	P	**Pn**	**12 18 09.6**	**-1.8**
JTK				S	**Sn**	**12 18 22.7**	**-0.3**
JOW	**Kunigami**	**0.98**	**163**	P	**Pn**	**12 18 10.8**	**-2.1**
JOW				S	**Sn**	**12 18 25.8**	**+0.2**
JAMN	**Amaminishikomi**	**1.17**	**66**	P	**Pn**	**12 18 14.0**	**-1.4**
JAGN	**Aguni-jima**	**1.35**	**209**	P	**Pn**	**12 18 15.8**	**-2.1**
JAGN				S	**Sn**	**12 18 33.6**	**-0.9**
JAM	**Amami Oshima**	**1.58**	**66**	P	**Pn**	**12 18 19.7**	**-1.4**
JJT2	**Tamagusuku 2**	**1.64**	**187**	P	**Pn**	**12 18 22.5**	**+0.5**
JJT2				S	**Sn**	**12 18 44.7**	**+2.8**
JKE	**Kume jima 2**	**1.79**	**216**	P	**Pn**	**12 18 21.6**	**-2.3**
JNU	**Nakatsue**	**5.89**	**25**	P	Pn	12 19 27.4	+7.0
	0.2nm,0.3s,baz=236,slow=4.3,SNR=2.5						
KSRS	**Korea Array**	**9.65**	**360**	LR	LR	12 23 45.6	
	comp=Z,63nm,19.6s,baz=185,slow=36						
ASAJ	**Asahikawa**	**20.10**	**32**	P	**P**	**12 22 25.0**	**-1.2**
	1.3nm,0.3s,baz=162,slow=13,SNR=11						
SONM	**Songino Array**	**26.13**	**326**	P	**P**	**12 23 28.4**	**+2.0**
	1.2nm,1.0s,baz=126,slow=10,SNR=5.5						
MKAR	**Makanchi Array**	**40.34**	**311**	P	**P**	**12 25 29.1**	**-0.6**
	0.1nm,0.5s,baz=117,slow=8.6,SNR=2.6						
WRA	**Warramunga Arr**	**47.84**	**172**	P	**P**	**12 26 32.9**	**+2.9**
	0.4nm,0.9s,baz=353,slow=7.8,SNR=2.6						

IDC 28 12:30:08.5±1.9,1°.11N×124°.12E,h0km,mb3.4/3, mb1 3.6/3,mb1mx3.4/23,mbtmp3.5/3,Error ellipse: s-maj=203.9km s-min=25.8km az=63.0,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.19**	**155**	P	P	12 35 17.0	-0.2
	1.7nm,0.7s,baz=333,slow=10,SNR=17						
ASAR	**Alice Springs**	**26.40**	**159**	P	P	12 35 47.0	+0.1
	0.2nm,0.9s,baz=329,slow=9.8,SNR=3.7						
MKAR	**Makanchi Array**	**58.28**	**327**	P	P	12 40 05.1	0.0
	0.5nm,0.5s,baz=121,slow=8.5,SNR=4.7						

IDC 28 12:37:56.6±1.6,7°.45S×154°.93E,h0km,mb3.7/4, mb1 3.9/4,mb1mx3.6/17,mbtmp3.7/4,MS3.7/1,Ms1 3.7/1, ms1mx3.0/24,Error ellipse: s-maj=87.9km s-min=26.0km az=125.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.51**	**236**	P	P	12 43 09.5	+1.0
	3.3nm,0.8s,baz=59,slow=10.0,SNR=11						
ASAR	**Alice Springs**	**25.83**	**229**	P	P	12 43 30.2	+0.4
	0.6nm,0.6s,baz=63,slow=9.5,SNR=11						
STKA	**Stephens Creek**	**27.30**	**205**	P	P	12 43 42.4	-0.6
	2.2nm,0.9s,baz=34,slow=15,SNR=6.3						
AFI	**Afiamalu**	**33.31**	**104**	LR	LR	12 55 19.6	
	comp=Z,120nm,18.0s,baz=100,slow=31						
ILAR	**Eielson Array**	**83.82**	**21**	P	P	12 50 28.7	+1.1
	0.2nm,0.7s,baz=243,slow=6.0,SNR=2.5						
TORD	**Torodi Ar. Bea**	**153.08**	**284**	PKPbc	PKPbc	12 57 55.3	-1.9
	0.4nm,0.9s,baz=96,slow=2.6,SNR=2.9						

FUNV 28 12:43:52.1,6°.96N×73°.01W,h162km,MW3.6,1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.14**	**37**	i P	Pn	12 44 19.1	-0.4
CAPV				eS	Sn	12 44 38.1	-2.4
VIGV	**El Vigia**	**2.48**	**41**	eP	Pn	12 44 33.2	-0.5
VIGV				eS	Sn	12 45 02.6	-3.3
SOCV	**Socops**	**2.51**	**58**	eP	Pn	12 44 33.3	-0.8
SOCV				eS	Sn	12 45 03.7	-2.8
ELOV	**Elorza**	**3.50**	**89**	eP	Pn	12 44 44.3	-2.0
ELOV				eS	Sn	12 45 24.2	-4.3
VIRV	**Villa del Rosa**	**3.57**	**10**	eP	Pn	12 44 45.7	-1.5
VIRV				eS	Sn	12 45 25.8	-4.4
QARV	**Quebrada Arrib**	**4.06**	**37**	eS	Sn	12 45 36.4	-5.1
CURV	**Curarigua**	**4.28**	**45**	eP	Pn	12 44 55.5	-1.0
DABV	**Dabajuro**	**4.59**	**31**	eP	Pn	12 44 58.5	-1.9
TEPV	**Terepaima**	**4.82**	**51**	eP	Pn	12 45 02.5	-0.9
SIQV	**Siquisique**	**4.85**	**41**	eP	Pn	12 45 01.9	-1.9
SIQV				eS	Sn	12 45 53.9	-5.9
BAUV	**El Baul**	**5.30**	**68**	eP	Pn	12 45 08.3	-1.5
MONV	**Montecano**	**5.80**	**31**	eP	Pn	12 45 14.2	-2.1
MONV				eS	Sn	12 46 15.2	-7.2
TURV	**Turiamo**	**6.18**	**55**	eP	Pn	12 45 18.9	-2.4

IDC 28 13:09:03.2±0.9,56°.27S×25°.80W,h0km,mb4.1/4, mb1 4.2/4,mb1mx3.9/15,mbtmp4.1/4,Error ellipse: s-maj=44.8km s-min=23.6km az=88.0,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QSPA	**South Pole Qui**	**33.98**	**180**	P	P	13 15 48.2	+0.1
	1.7nm,0.5s,baz=189,slow=1.3,SNR=43						
VNDA	**Vanda**	**46.39**	**182**	P	P	13 17 30.1	-0.5
	0.5nm,0.5s,baz=173,slow=4.7,SNR=7.0						
LPAZ	**La Paz**	**51.14**	**304**	P	P	13 18 08.5	0.0
	1.5nm,0.5s,baz=133,slow=9.5,SNR=8.5						
TORD	**Torodi Ar. Bea**	**72.87**	**28**	P	P	13 20 33.5	-0.2
	1.6nm,0.5s,baz=202,slow=6.3,SNR=17						
MKAR	**Makanchi Array**	**136.22**	**71**	PKP	PKPdf	13 28 27.1	+1.6
	0.1nm,0.4s,baz=99,slow=1.9,SNR=3.0						
ILAR	**Eielson Array**	**150.84**	**311**	PKPbc	PKPbc	13 28 55.3	-0.7
	0.7nm,0.8s,baz=157,slow=3.6,SNR=8.5						

MEX 28 13:11:14.1±0.4,16°.32N×94°.73W,h26km±23km,MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.44**	**248**	i P	Pn	13 11 35.8	-2.8
HUIG				i S	Sn	13 11 53.2	-3.4
PCIG		**1.57**	**113**	i P	Pn	13 11 38.3	-2.1
PCIG				i S	Sn	13 11 56.5	-3.5
TGIG		**1.60**	**73**	i P	Pn	13 11 38.0	-2.9
TGIG				eS	Sn	13 11 57.9	-3.0
VHO	**Vista Hermosa**	**2.06**	**291**	i P	Pn	13 11 45.5	-1.9
VHO				eS	Sn	13 12 09.4	-3.1
PNIG	**Pinotepa**	**3.27**	**272**	i P	Pn	13 12 01.9	-1.8
PNIG				i S	Sn	13 12 39.1	-2.7

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*ISCJB **28** 13:11:34.8±0.5,6°.11S±0°.04×130°.19E±0°.05,h146km, mb3.5/7,Error ellipse: s-maj=6.8km s-min=5.4km az=28.3*
*AUST **28** 13:11:38.2,5°.98S×130°.53E,h200km*
*IDC **28** 13:11:39.5±2.8,6°.13S×129°.89E,h198km±26km,mb3.2/7, mb1 3.5/12,mb1mx3.4/23,mbtmp3.4/12,Error ellipse: s-maj=25.5km s-min=11.3km az=66.0*
ISC 28 13:11:35.4±0.7,6°.15S±0°.06×130°.18E±0°.06,h146km,n24, σ2§23/25,mb3.5/7,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.64**	**350**	P	Pn	13 12 11.2	+4.9
	baz=1.6,SNR=7.9						
TLE	**Tual**	**2.59**	**79**	P	Pn	13 12 24.1	+6.5
	baz=2.2,SNR=46						
FAKI	**Fak Fak**	**3.82**	**33**	P	**Pn**	**13 12 35.1**	**+1.9**
	baz=3.5,SNR=503						
FAKI				S	**Sn**	**13 13 17.7**	**-0.5**
	baz=3.5,SNR=20						
SWI	**Sorong**	**5.37**	**12**	P	**Pn**	**13 12 53.7**	**0.0**
	baz=5.2,SNR=9.9						
SWI				S	Sn	13 13 49.1	-5.6
	baz=5.2,SNR=7.8						
SOEI	**Soe**	**6.86**	**238**	P	Pn	13 13 19.5	+5.7
	baz=7.3,SNR=5.2						
SOEI				S	**Sn**	**13 14 32.7**	**+1.8**
	baz=7.3,SNR=11						
KDU	**Kakadu**	**6.87**	**161**	P	Pn	13 13 17.9	+4.1
	baz=7.0,SNR=121						
KDU				S	**Sn**	**13 14 31.6**	**+0.7**
	baz=7.0,SNR=5.1						
BATI	**Baumata**	**7.60**	**238**	P	**Pn**	**13 13 24.6**	**+0.9**
	6.9nm,0.3s,baz=103,slow=6.5,SNR=9.0						
BATI				S	**Sn**	**13 14 49.9**	**+1.3**
	14nm,0.3s,baz=117,slow=24,SNR=9.7						
KNRA	**Kununurra**	**9.56**	**188**	P	**Pn**	**13 13 52.6**	**+2.8**
	baz=9.9,SNR=22						
KNRA				S	**Sn**	**13 15 32.5**	**-3.3**
	baz=9.9,SNR=10						
FITZ	**Fitzroy Crossi**	**12.68**	**200**	P	**Pn**	**13 14 31.4**	**+0.8**
	1.2nm,0.3s,baz=31,slow=10.0,SNR=32						
FITZ				S	Sn	13 16 44.0	-6.8
	1.4nm,0.3s,baz=77,slow=20,SNR=8.0						
FITZ	**Fitzroy Crossi**	**12.68**	**200**	P	**Pn**	**13 14 33.7**	**+3.0**
	baz=13,SNR=8.3						
FITZ				S	Sn	13 16 45.0	-5.8
	baz=13,SNR=4.3						
WRA	**Warramunga Arr**	**14.29**	**164**	P	**Pn**	**13 14 53.0**	**+1.7**
	0.3nm,0.3s,baz=337,slow=10,SNR=32						
WRA				S	**Sn**	**13 17 26.8**	**-3.0**
	1.1nm,0.3s,baz=355,slow=20,SNR=10						
COEN	**Coen**	**14.95**	**122**	P	**P**	**13 15 04.2**	**+2.7**
	baz=15,SNR=11						
COEN				S	**Sn**	**13 17 41.3**	**-4.4**
	baz=15,SNR=5.7						
PMG	**Port Moresby**	**17.13**	**102**	P	**Pn**	**13 15 30.1**	**+3.9**
	0.5nm,0.3s,baz=288,slow=6.3,SNR=3.6						
ASAR	**Alice Springs**	**17.78**	**169**	P	**Pn**	**13 15 35.2**	**+1.3**
	1.5nm,0.3s,baz=348,slow=11,SNR=142						
ASAR				S	**S**	**13 18 48.4**	**-1.5**
	0.2nm,0.3s,baz=352,slow=20,SNR=8.7						
MEEK	**Meekatharra**	**23.16**	**207**	P	**P**	**13 16 28.6**	**-0.5**
	baz=24,SNR=4.9						
BLDU	**Ballidu**	**27.43**	**206**	P	**P**	**13 17 07.4**	**-0.3**
	baz=28,SNR=5.7						
STKA	**Stephens Creek**	**27.73**	**159**	P	**P**	**13 17 10.8**	**+0.5**
	0.6nm,0.4s,baz=279,slow=6.4,SNR=4.9						
LHMI	**Lhok Sumawe**	**35.05**	**288**	P	P	13 18 19.7	+5.1
	baz=35,SNR=3.5						
CMAR	**Chiang Mai Arr**	**39.34**	**309**	P	P	13 18 47.8	-3.0
	0.8nm,0.6s,baz=133,slow=7.7,SNR=8.4						
SONM	**Songino Array**	**57.70**	**341**	P	**P**	**13 21 08.7**	**-2.2**
	0.2nm,0.4s,baz=153,slow=1.6,SNR=3.0						
MKAR	**Makanchi Array**	**67.62**	**327**	P	**P**	**13 22 14.0**	**-2.5**
	0.8nm,0.6s,baz=126,slow=8.6,SNR=8.0						
KURBB	**Kurchatov Arra**	**71.89**	**328**	P	P	13 22 39.3	-3.2
	0.3nm,0.5s,baz=126,slow=4.6,SNR=4.5						
VNDA	**Vanda**	**73.26**	**173**	P	**P**	**13 22 49.4**	**-0.8**
	0.7nm,0.8s,baz=296,slow=8.1,SNR=2.5						
MAW	**Mawson**	**75.80**	**201**	P	**P**	**13 23 04.1**	**-0.9**
	0.9nm,0.9s,baz=82,slow=7.7,SNR=1.2						

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*IDC **28** 13:23:55.9±1.0,2°.09S×120°.51E,h0km,mb3.7/6, mb1 3.9/8,mb1mx3.7/24,mbtmp3.8/8,ML3.7/2,MS3.3/1, Ms1 3.3/1,ms1mx2.9/28,Error ellipse: s-maj=47.4km s-min=15.9km az=71.0*
*ISCJB **28** 13:23:58.5±0.4,2°.15S±0°.03×120°.63E±0°.05,h10km, mb3.7/6,Error ellipse: s-maj=8.0km s-min=3.6km az=26.8*
*DJA **28** 13:24:00.3±0.2,2°.5±2°×12°.1E±°,h15km,M4.2/11, MLv4.2/11*
ISC 28 13:23:57.3±0.7,2°.06S±0°.03×120°.55E±0°.05,h10km,n19, σ1§48/29,mb3.8/6,Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APSI	**Ampana**	**1.59**	**44**	P	**Pb**	**13 24 26.0**	**-0.8**
APSI				S	**Sg**	**13 24 48.9**	**+0.4**
MMSI	**Mamuju**	**1.75**	**249**	P	**Pn**	**13 24 28.0**	**+0.2**
MMSI				S	**Sg**	**13 24 53.4**	**-0.3**
SPSI	**Sidrap Palu**	**2.04**	**202**	P	**Pb**	**13 24 32.4**	**-2.2**
SPSI				S	**Sb**	**13 25 00.2**	**+0.2**
MJSI	**Majene**	**2.15**	**227**	P	**Pb**	**13 24 35.7**	**-0.7**
MJSI				S	**Sg**	**13 25 05.5**	**-1.1**
BNSI	**Bone**	**2.36**	**191**	P	**Pn**	**13 24 36.7**	**+0.5**
BNSI				S	**Sb**	**13 25 09.8**	**+0.5**
KKSI	**Kolaka, Sulawe**	**2.37**	**152**	P	**Pb**	**13 24 37.0**	**-3.1**
LUWI	**Luwuk**	**2.44**	**66**	P	**Pn**	**13 24 38.3**	**+1.0**
LUWI				S	**Sb**	**13 25 11.7**	**+0.1**
MRSI	**Marisa**	**2.88**	**29**	P	**Pn**	**13 24 45.3**	**+2.0**
MRSI				S	**Sb**	**13 25 22.0**	**-2.2**
KAPI	**Kappang**	**3.04**	**195**	P	**Pn**	**13 24 45.2**	**-0.3**
KAPI	**Kappang**	**3.04**	**195**	Pn	**Pn**	**13 24 45.1**	**-0.3**
	7.4nm,0.3s,baz=21,slow=9.5,SNR=18						
KAPI				Sn	**Sn**	**13 25 23.1**	**+1.1**
	14nm,0.3s,baz=216,slow=21,SNR=7.6						
TOLI	**Toli-Toli**	**3.17**	**4**	P	**Pb**	**13 24 52.5**	**-1.4**
TOLI				S	**Sb**	**13 25 30.1**	**-2.5**
BKSI	**Bulukumba**	**3.27**	**187**	P	**Pn**	**13 24 50.0**	**+1.4**
BKSI				S	**Sn**	**13 25 29.8**	**+2.2**
BATI	**Baumata**	**8.66**	**159**	Pn	**Pn**	**13 26 02.5**	**-0.3**
	1.3nm,0.3s,baz=72,slow=9.6,SNR=1.6						
BATI				LR	LR	13 29 42.7	
	comp=Z,192nm,18.1s,baz=119,slow=40						
WRA	**Warramunga Arr**	**22.30**	**144**	P	**P**	**13 28 53.5**	**-1.7**
	3.0nm,0.9s,baz=320,slow=10,SNR=9.3						
ASAR	**Alice Springs**	**25.07**	**150**	P	**P**	**13 29 21.6**	**-0.6**
	1.5nm,0.9s,baz=334,slow=8.8,SNR=13						
STKA	**Stephens Creek**	**35.68**	**148**	P	**P**	**13 30 57.9**	**+1.9**
	1.3nm,0.8s,baz=308,slow=9.3,SNR=4.7						
SONM	**Songino Array**	**51.21**	**348**	P	**P**	**13 33 03.3**	**+2.1**
	0.7nm,0.7s,baz=163,slow=7.4,SNR=5.1						
MKAR	**Makanchi Array**	**59.12**	**330**	P	**P**	**13 33 57.1**	**-1.1**
	0.3nm,0.7s,baz=123,slow=7.6,SNR=2.8						
ZALV	**Zalesovo Beam**	**63.21**	**337**	P	**P**	**13 34 25.1**	**-0.6**
	0.3nm,0.3s,baz=116,slow=6.6,SNR=2.2						

DDA 28 13:57:06.8,40°.30N×29°.92E,h7km,MD2.5,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEYT	**Eskypehyr**	**1.06**	**137**	i P	Pb	13 57 27.5	-0.1
DURS	**Dursunbey**	**1.31**	**238**	i P	Pn	13 57 31.5	-0.3
DURS				i S	Sn	13 57 50.5	+0.9

DDA 28 13:57:13.8,38°.73N×30°.56E,h7km,MD2.4,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLV	**Bolvadin**	**0.30**	**92**	i P	Pg	13 57 20.3	+0.4
BOLV				i S	Sg	13 57 24.6	+0.4
SEYT	**Eskypehyr**	**0.82**	**16**	i P	Pg	13 57 28.6	-1.2
SEYT				i S	Sb	13 57 41.7	-0.3
KHAL	**Karahalli**	**0.91**	**247**	i P	Pg	13 57 31.8	+0.3
KHAL				i S	Sb	13 57 44.1	-0.5

IDC 28 14:20:29.1±31.0,21°.60S×178°.92W,h0km,mb3.8/4, mb1 4.0/4,mb1mx3.7/18,mbtmp3.8/4,Error ellipse: s-maj=592.8km s-min=139.5km az=89.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.54**	**245**	P	P	14 27 35.8	-0.9
	1.5nm,0.9s,baz=90,slow=15,SNR=2.9						
ASAR	**Alice Springs**	**43.44**	**258**	P	P	14 28 33.8	-0.4
	0.5nm,0.5s,baz=93,slow=7.3,SNR=25						
WRA	**Warramunga Arr**	**43.61**	**263**	P	P	14 28 36.3	+0.7
	0.8nm,0.4s,baz=95,slow=8.3,SNR=56						
FITZ	**Fitzroy Crossi**	**52.04**	**263**	P	P	14 29 41.0	0.0
	1.6nm,1.1s,baz=96,slow=9.2,SNR=4.6						

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*IDC **28** 14:38:51.6±0.5,6°.12S×152°.36E,h0km,mb4.7/20, mb1 4.8/23,mb1mx4.8/24,mbtmp4.7/23,ML4.1/3,MS4.1/19, Ms1 4.1/19,ms1mx4.0/24,Error ellipse: s-maj=16.3km s-min=11.9km az=96.0*
*BJI **28** 14:38:53.9,6°.15S×152°.71E,h39km,mB5.4/27,mb4.9/37, Ms5.2/18,Ms7 4.9/17*
*ISCJB **28** 14:38:54.1±1.5,6°.14S±0°.04×152°.19E±0°.04,h22km±10km, mb5.0/81,MS4.2/21,Error ellipse: s-maj=7.0km s-min=5.7km az=146.4*
*AUST **28** 14:38:56.0,6°.13S×152°.64E,h35km*
*NEIC **28** 14:38:56.8±0.2,6°.16S×152°.29E,mb5.1/29,Error ellipse: s-maj=6.9km s-min=4.8km az=115.0*
*GCMT **28** 14:38:57.1±0.2,6°.30S×152°.37E,h12km,MW5.0,Moment Tensor Solution. s45,c60; s80,c138; Moment tensor: Scale 10^16Nm; M_{rr}=3.63±.09; $M_{\theta\theta}$3.21±.07; $M_{\phi\phi}$0.43±.09; $M_{r\theta}$-1.16±.24; $M_{\theta\phi}$-1.05±.07; $M_{\phi r}$-0.62±.33; Best double couple: $M_0$3.80000×10^16 NP1:ϕ_s95.00000°,δ54.00000°, λ-106.00000°. NP2:ϕ_s301.00000°,δ39.00000°, λ-69.00000°. Principal axes: T 3.6800, Plg7.0000°, Azm197.0000°; N 0.2900, Plg13.0000°, Azm105.0000°; P -3.9600, Plg75.0000°, Azm315.0000°; Data Used: II IU G CN IC.*
*MOS **28** 14:38:57.0±0.9,5°.77S×152°.29E,h33km,mb5.4/22 Error ellipse: s-maj=20.4km s-min=9.0km az=120.8*
*BKK **28** 14:39:00.5±1.2,6°.5±6°×15°.2E±1°.9,h10km,M5.3/12, mB5.8/2,mb5.2/12,MLv5.3/1,Mw(mB)5.4/2*
*DJA **28** 14:39:07.4±2.6,6°.5±12°×15°.2E±1°.5,h157km±18km, M4.9/24,mB5.4/2,mb4.9/24,Mw(mB)4.8/2*
ISC 28 14:38:57.2±0.4,6°.17S±0°.05×152°.32E±0°.05,h38km±2km, n253,σ1§27/292,mb5.0/81,MS4.1/21,3C-5D,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.98**	**355**	P	**Pn**	**14 39 27.3**	**-0.9**
	baz=2.0,SNR=49						
PMG	**Port Moresby**	**6.04**	**238**	eP	**Pn**	**14 40 24.6**	**+0.6**
	289nm,0.8s						
PMG				eS	**Sn**	**14 41 34.4**	**+2.5**
PMG				Sn	**Sn**	**14 41 35.1**	**+3.2**
PMG	**Port Moresby**	**6.04**	**238**	Pn	**Pn**	**14 40 24.9**	**+0.9**
	32nm,0.3s,baz=62,slow=5.7,SNR=97						
PMG				Sn	**Sn**	**14 41 35.1**	**+3.2**
	43nm,0.3s,baz=149,slow=22,SNR=8.2						
MANU	**Manus Island**	**6.42**	**310**	P	Pn	14 40 34.2	+5.0
	baz=6.7,SNR=11						
HNR	**Honiara**	**8.22**	**114**	Pn	**Pn**	**14 40 52.7**	**-1.3**
HNR	**Honiara**	**8.22**	**114**	Pn	**Pn**	**14 40 52.7**	**-1.3**
	6.6nm,0.3s,baz=217,slow=5.0,SNR=2.8						
HNR				LR	LR	14 43 24.0	
	comp=Z,191nm,18.9s,baz=229,slow=33						
COEN	**Coen**	**11.87**	**229**	eP	**Pn**	**14 41 43.0**	**-0.9**
	127nm,0.9s						
COEN	**Coen**	**11.87**	**229**	P	**Pn**	**14 41 45.3**	**+1.4**
	baz=12,SNR=4.9						
MTSU	**Mount Surprise**	**14.22**	**213**	P	**Pn**	**14 42 16.9**	**+0.8**
	baz=14,SNR=7.5						
CTA	**Charters Tower**	**15.04**	**203**	Pn	**Pn**	**14 42 27.9**	**+0.9**
CTA	**Charters Tower**	**15.04**	**203**	Pn	**Pn**	**14 42 27.9**	**+0.9**
	0.2nm,0.3s,baz=20,slow=15,SNR=2.6						
CTA				LR	LR	14 47 26.1	
	comp=Z,1μm,20.6s,baz=309,slow=34						
CTAO	**Charters Tower**	**15.04**	**203**	P	**Pn**	**14 42 28.3**	**+1.3**
CTAO				pmax	pmax		
	comp=Z,37nm,1.4s						
CTAO	**Charters Tower**	**15.04**	**203**	P	**Pn**	**14 42 28.3**	**+1.3**
	comp=Z,37nm,1.4s						
EIDS	**Eidsvold**	**19.12**	**183**	eP	**Pn**	**14 43 18.2**	**0.0**
	comp=Z,46nm,1.4s						
EIDS	**Eidsvold**	**19.12**	**183**	P	**Pn**	**14 43 18.2**	**0.0**
	baz=19,SNR=8.8						
TLE	**Tual**	**19.49**	**271**	P	**Pn**	**14 43 22.9**	**+0.3**
	comp=Z,119nm,2.4s						
TLE	**Tual**	**19.49**	**271**	P	**Pn**	**14 43 23.4**	**+0.8**
	baz=20,SNR=5.1						
FAKI	**Fak Fak**	**20.26**	**278**	P	Pn	14 43 31.4	-0.5
	baz=21,SNR=4.3						
RMQ	**Roma**	**20.48**	**189**	P	Pn	14 43 33.7	-0.6
	baz=21,SNR=37						
KDU	**Kakadu**	**20.61**	**250**	P	**P**	**14 43 33.8**	**+0.5**
	baz=21,SNR=76						
KDU				S	Sn	14 47 32.6	+5.1
	baz=21,SNR=3.4						
DZM	**Mont Dzumac**	**20.88**	**141**	P	**P**	**14 43 36.6**	**+0.2**
DZM	**Mont Dzumac**	**20.88**	**141**	P	**P**	**14 43 36.6**	**+0.2**
	comp=Z,29nm,0.9s,baz=352,slow=11,SNR=24						
DZM				LR	LR	14 50 34.7	
	comp=Z,837nm,19.9s,baz=55,slow=34						
QLP	**Quilpie**	**21.71**	**200**	P	**P**	**14 43 45.8**	**+0.7**
	baz=22,SNR=28						
WRAB	**Tennant Creek**	**22.18**	**230**	eP	**P**	**14 43 49.5**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,39nm,0.8s						
WRAB	**Tennant Creek**	**22.18**	**230**	eP	**P**	**14 43 49.5**	**-0.8**
	comp=Z,39nm,0.8s						
WRAB	**Tennant Creek**	**22.18**	**230**	P	**P**	**14 43 51.5**	**+1.3**
	comp=Z,282nm,0.8s,SNR=13						
WRA	**Warramunga Arr**	**22.19**	**230**	P	**P**	**14 43 50.1**	**-0.3**
WRA				PcP	**PcP**	**14 47 46.8**	**+0.4**
WRA	**Warramunga Arr**	**22.19**	**230**	P	**P**	**14 43 50.1**	**-0.3**
	comp=Z,20nm,0.8s,baz=54,slow=8.7,SNR=55						
WRA				PcP	**PcP**	**14 47 46.8**	**+0.4**
	comp=Z,4.5nm,0.8s,baz=45,slow=1.7,SNR=5.0						
WRA				LR	LR	14 52 17.7	
	comp=Z,710nm,19.4s,baz=65,slow=36						
PALU	**Palau**	**22.30**	**307**	P	**P**	**14 43 51.9**	**+0.3**
	baz=23,SNR=6.9						
AS31	**Alice Springs**	**24.82**	**224**	eP	**P**	**14 44 16.6**	**+0.5**
ASAR	**Alice Springs**	**24.82**	**224**	P	**P**	**14 44 16.6**	**+0.4**
ASAR				PcP	**PcP**	**14 47 51.8**	**-0.1**
ASAR	**Alice Springs**	**24.82**	**224**	P	**P**	**14 44 16.6**	**+0.4**
	comp=Z,26nm,0.6s,baz=58,slow=9.4,SNR=184						
ASAR				PcP	**PcP**	**14 47 51.8**	**-0.1**
	comp=Z,2.6nm,1.0s,baz=77,slow=2.4,SNR=4.2						
ASAR				LR	LR	14 53 47.2	
	comp=Z,437nm,20.0s,baz=65,slow=36						
KNRA	**Kununurra**	**24.96**	**246**	P	**P**	**14 44 18.0**	**+0.7**
	baz=25,SNR=60

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YHNB Yeheng          42.99 317 eP        P        14 46 55.7 +2.5
KPJI Karang Pucung   43.09 266 P         P        14 46 53.4 -0.7
     comp=Z,55nm,1.6s
MJAR Matsushiro Arr  44.50 344 P         P        14 47 02.9 -2.2
MJAR Matsushiro Arr  44.50 344 P         P        14 47 02.9 -2.2
     comp=Z,1.0nm,0.5s,baz=155,slow=7.8,SNR=3.8
MJAR                           LR        LR       15 03 21.6
     comp=Z,190nm,21.9s,baz=165,slow=33
MDSI Maura Dua       47.95 270 P         P        14 47 31.4 -1.2
     comp=Z,41nm,1.3s
QIZ  Qiongzhong      48.77 302 P         P        14 47 37.3 -1.5
QIZ                            S         S        14 54 39.8 +0.3
QIZ                            pmax      pmax
     comp=Z,50nm,1.4s
QIZ                            pmax      pmax
     comp=Z,1µm,5.3s
KSRS Korea Array     49.01 334 P         P        14 47 40.0 -0.3
     comp=Z,2.4nm,0.7s,baz=151,slow=7.5,SNR=15
KSRS                           LR        LR       15 05 25.6
     comp=Z,72nm,19.0s,baz=352,slow=32
KSAR Wonju Array Be  49.02 334 P         P        14 47 40.0 -0.4
INCN Inchon          49.60 333 eP        P        14 47 43.8 -1.1
WHN  Wuhan           51.52 317 P         P        14 48 02.0 +2.6
PPI  Padang Panjang  52.12 274 P         P        14 48 03.2 -1.0
     comp=Z,69nm,1.1s
USRK Ussuriysk Arra  53.39 342 P         P        14 48 12.6 -0.4
     comp=Z,3.8nm,0.8s,baz=189,slow=9.7,SNR=8.3
USRK                           LR        LR       15 07 14.4
     comp=Z,92nm,19.7s,baz=207,slow=32
MDJ  Mudanjiang      54.54 340 P         P        14 48 21.8 +0.4
MDJ                            pP        pP       14 48 30.8 -1.8
MDJ                            pmax      pmax
     comp=Z,15nm,2.4s
MDJ                            pmax      pmax
     comp=Z,69nm,4.9s
ENH  Enshi           54.74 314 P         P        14 48 22.7 -0.6
     comp=Z,10nm,0.9s
GYA  Guiyang         54.85 308 P         P        14 48 25.5 +1.3
GYA                            pP        pP       14 48 35.8 +0.4
GYA                            PcP       PcP      14 49 28.0 +1.8
GYA                            PP        PP       14 50 30.3 +2.8
GYA                            ScP       ScP      14 53 21.5 -0.5
GYA                            S         S        14 56 04.0 +0.8
GYA                            sS        sS       14 56 18.3 -3.4
GYA                            SS        SS       14 59 45.8 -1.4
GYA                            pmax      pmax
     comp=Z,20nm,1.0s
GYA                            pmax      pmax
     comp=Z,120nm,5.0s
GYA                            LR        LR
     comp=N,580nm,18.6s
GYA                            LR        LR
     comp=E,490nm,19.2s
GYA                            LR        LR
     comp=Z,550nm,18.5s
GSI  Gunungsitoli    55.15 276 P         P        14 48 25.5 -1.0
     comp=Z,51nm,1.2s
KCSI Kotacane, Aceh  55.31 279 P         P        14 48 25.2 -2.4
BJI  Beijing         56.77 327 P         P        14 48 37.0 -0.5
BJI                            pmax      pmax
     comp=Z,9.0nm,1.0s
SUKH Sukhothai       57.09 295 P         P        14 48 41.6 +1.4
     comp=Z,3.8nm,0.9s
KMI  Kunming         57.37 305 P         P        14 48 43.3 +1.0
KMI                            pP        pP       14 48 53.8 +0.3
KMI                            PP        PP       14 50 53.5 +3.5
KMI                            S         S        14 56 34.3 -2.6
KMI                            SS        SS       15 00 27.8 +0.8
KMI                            pmax      pmax
     comp=Z,12nm,0.7s
CRAI Chiangrai       57.40 299 P         P        14 48 41.2 -1.2
     comp=Z,78nm,1.2s
LAMP Lampang         57.44 296 P         P        14 48 43.6 +0.9
     comp=Z,5.9nm,0.8s
KLR  Kul'dur         58.02 344 eP        P        14 48 42.3 -3.9
CM31 Chiang Mai Arr  58.04 296 eP        P        14 48 47.2 +0.3
     comp=Z,7.3nm,0.8s
CMAR Chiang Mai Arr  58.04 296 P         P        14 48 47.4 +0.5
CMAR                           PcP       PcP      14 49 38.4 -0.2
CMAR Chiang Mai Arr  58.04 296 P         P        14 48 47.4 +0.5
     comp=Z,6.1nm,0.9s,baz=118,slow=5.4,SNR=49
CMAR                           PcP       PcP      14 49 38.4 -0.2
     comp=Z,3.3nm,0.9s,baz=111,slow=2.7,SNR=4.8
CMAR                           LR        LR       15 16 14.2
     comp=Z,56nm,18.6s,baz=180,slow=39
CHTO Chiang Mai      58.16 297 eP        P        14 48 47.9 +0.2
CHTO                           pmax      pmax
     comp=Z,50nm,1.2s
CHTO Chiang Mai      58.16 297 eP        P        14 48 47.9 +0.2
     comp=Z,50nm,1.2s
CHTO Chiang Mai      58.16 297 P         P        14 48 49.1 +1.4
     comp=Z,258nm,1.6s
PEA0B Petropavlovsk- 59.23  4 eP        P        14 48 55.0 +0.4
PETK Petropavlovsk-  59.23  4 P         P        14 48 54.9 +0.4
PETK Petropavlovsk-  59.23  4 P         P        14 48 54.9 +0.4
PETK Petropavlovsk-  59.23  4 P         P        14 48 54.9 +0.4
     comp=Z,5.1nm,0.8s,baz=165,slow=8.3,SNR=30
PETK                           LR        LR       15 08 50.2
     comp=Z,188nm,21.1s,baz=166,slow=30
CD2  Chengdu         59.27 311 P         P        14 48 57.8 +2.5
CD2                            pP        pP       14 49 07.5 +0.9
CD2                            sP        sP       14 49 11.5 +0.5
CD2                            PcP       PcP      14 49 45.5 +2.2
CD2                            S         S        14 57 02.0 +0.8
CD2                            sS        sS       14 57 18.3 -1.5
CD2                            SS        SS       15 00 58.3 +1.8
CD2                            pmax      pmax
     comp=Z,30nm,0.5s
CD2                            pmax      pmax
     comp=Z,520nm,6.3s
CD2                            LR        LR
     comp=N,2µm,5.9s
CD2                            LR        LR
     comp=Z,1µm,5.7s
HHC  Hu-ho-hao-te    59.88 325 eP        P        14 49 02.3 +2.9
HHC                            pP        pP       14 49 15.0 +4.3
HHC                            PP        PP       14 51 16.8 +4.8
HHC                            ScP       ScP      14 53 43.5 -0.4
HHC                            S         S        14 57 09.8 +0.9
HHC                            ScS       ScS      14 58 45.0 -2.2
HHC                            SS        SS       15 01 07.8 +1.9
HHC                            pmax      pmax
     comp=Z,46nm,0.5s
HHC                            pmax      pmax
     comp=Z,330nm,5.8s
HHC                            LR        LR
     comp=N,590nm,16.1s
HHC                            LR        LR
     comp=E,460nm,16.3s
HHC                            LR        LR
     comp=Z,280nm,16.6s
LZH  Lanzhou         61.88 317 eP        P        14 49 16.0 +2.8
LZH                            pP        pP       14 49 26.0 +1.5
LZH                            sP        sP       14 49 30.5 +1.6
LZH                            PP        PP       14 51 33.3 +3.5
LZH                            eS        S        14 57 31.5 -3.2
LZH                            sS        sS       14 57 50.5 -2.9
LZH                            SS        SS       15 01 38.5 +1.0
LZH                            pmax      pmax
     comp=Z,29nm,1.0s
LZH                            pmax      pmax
     comp=Z,240nm,4.5s
LZH                            LR        LR
     comp=N,630nm,15.0s
LZH                            LR        LR
     comp=E,610nm,14.3s
LZH                            LR        LR
     comp=Z,990nm,16.8s
GTA  Gaotai          66.34 318 eP        P        14 49 43.3 +0.9
GTA                            pP        pP       14 49 53.0 -0.8
GTA                            sP        sP       14 49 57.0 -1.1
GTA                            ScP       14 54 12.5
GTA                            pmax      pmax
     comp=Z,3.0nm,1.0s
ULN  Ulaanbaatar     66.91 329 eP        P        14 49 46.2 +0.4
     comp=Z,6.0nm,1.0s
SONM Songino Array   67.23 328 P         P        14 49 48.7 +0.9
SONM Songino Array   67.23 328 P         P        14 49 48.7 +0.9
     comp=Z,3.0nm,0.6s,baz=147,slow=5.6,SNR=17
SONM                           LR        LR       15 15 51.2
     comp=Z,140nm,19.2s,baz=126,slow=33
LSA  Lhasa           68.62 305 P         P        14 49 57.8 +0.4
LSA  Lhasa           68.62 305 eP        P        14 49 58.1 +0.7
LSA                            e         14 50 08.2
LSA                            pmax      pmax
     comp=Z,9.0nm,0.8s
LSA  Lhasa           68.62 305 eP        P        14 49 58.1 +0.7
     comp=Z,8.6nm,0.8s
LSA                            e         14 50 08.2
SEY  Seymchan        68.91   0 iP        P        14 49 57.4 -0.5
YAK  Yakutsk         70.22 349 eP        P        14 50 05.4 -0.6
YAK                            pmax      pmax
     comp=Z,22nm,1.0s
YAK                            pmax      pmax
     comp=N,9.0nm,1.3s
ZAK  Zakamensk       70.41 329 eP        P        14 50 07.3 -0.3
ZAK                            pmax      pmax
     comp=Z,11nm,1.0s
TAPN Taplejung       70.71 302 eP        P        14 50 09.6 -0.5
     comp=Z,23nm,0.8s
ODAN Odare           70.83 301 eP        P        14 50 10.9 +0.1
     comp=Z,31nm,0.9s
TLY  Talaya          71.02 330 eP        P        14 50 12.2 +1.0
TLY                            pmax      pmax
     comp=Z,16nm,1.3s
VNDA Vanda           71.48 178 P         P        14 50 14.0 +0.5
VNDA Vanda           71.48 178 P         P        14 50 14.0 +0.5
     comp=Z,5.4nm,0.9s,baz=332,slow=6.2,SNR=27
VNDA                           LR        LR       15 19 45.9
     comp=Z,110nm,18.9s,baz=341,slow=34
JIRN Jiri            72.09 302 eP        P        14 50 17.9 -0.6
     comp=Z,12nm,0.6s
MOY  Mondy           72.34 329 eP        P        14 50 20.0 +0.8
GUN  Gumba           72.42 302 eP        P        14 50 20.6 +0.1
     comp=Z,30nm,0.7s
PKI  Pulchoki        72.72 301 eP        P        14 50 21.8 -0.5
KKN  Kakani          72.90 301 eP        P        14 50 23.0 -0.2
     comp=Z,50nm,1.2s
DMN  Daman           72.99 301 eP        P        14 50 24.0 +0.2
     comp=Z,38nm,0.9s
GKN  Gorkha          73.50 301 eP        P        14 50 26.5 -0.2
KOLN Koldanda        74.32 301 eP        P        14 50 31.2 -0.3
     comp=Z,26nm,0.8s
DANN Dangsing        74.34 302 eP        P        14 50 31.2 -0.5
HVS  Khovu-Aksy      75.92 326 eiP       P        14 50 41.1 +1.0
HVS                            pmax      pmax
     comp=Z,225nm,1.2s
WMQ  Urumqi          76.42 318 P         P        14 50 44.0 +0.9
WMQ                            pP        pP       14 50 54.0 -0.7
WMQ                            sP        sP       14 50 58.0 -1.0
WMQ                            pmax      pmax
     comp=Z,17nm,1.3s
WMQ                            pmax      pmax
     comp=Z,190nm,4.2s
HYB  Hyderabad       76.49 289 iP        P        14 50 43.0 -0.9
KDAK Kodiak Island   77.61  27 LR        LR       15 19 30.0
     comp=Z,239nm,19.2s,baz=244,slow=31
TIXI Tiksi           79.19 353 eP        P        14 50 59.4 +1.7
TIXI                           pmax      pmax
     comp=Z,11nm,0.8s
TIXI                           MLR       MLR
     comp=Z,37nm,16.0s
SEW  Seward          80.22  26 eP        P        14 51 04.6 +1.0
     comp=Z,75nm,1.3s
PPLA Purkeypile      80.62  22 eP        P        14 51 06.3 +0.5
     comp=Z,17nm,1.1s
MK31 Makanchi Array  81.04 319 iP        P        14 51 07.9 -0.5
MK31                           pmax      pmax
     comp=Z,15nm,0.9s
MK31 Makanchi Array  81.04 319 eP        P        14 51 08.5 +0.1
MKAR Makanchi Array  81.04 319 P         P        14 51 08.6 +0.2
MKAR Makanchi Array  81.04 319 P         P        14 51 08.6 +0.2
MKAR Makanchi Array  81.04 319 P         P        14 51 08.6 +0.2
     comp=Z,8.9nm,0.9s,baz=101,slow=6.3,SNR=50
MKAR                           LR        LR       15 24 25.8
     comp=Z,58nm,19.0s,baz=244,slow=34
POO  Poona           81.09 290 eP        P        14 51 08.0 -1.2
PMR  Palmer          81.13  24 eP        P        14 51 08.3 -0.1
PMR                            pmax      pmax
     comp=Z,13nm,0.8s
PMR  Palmer          81.13  24 eP        P        14 51 08.3 -0.1
     comp=Z,13nm,0.8s
SML  Sawmill         81.56  24 eP        P        14 51 27.8 +17
BPAW Bear Paw Mtn.   81.73  22 eP        P        14 51 11.5 -0.1
     comp=Z,8.5nm,0.9s
IM04 Indian Mountai  81.81  20 eP        P        14 51 12.8 +0.8
IM04                           e         14 51 22.8
IMA2 Indian Mountai  81.90  19 eP        P        14 51 13.2 +0.6
IMA2                           e         14 51 23.5
ZAA0 Zalesovo Array  82.03 327 eP        P        14 51 12.7 -0.7
ZAA0                           e         14 51 22.6
ZALV Zalesovo Beam   82.03 327 P         P        14 51 12.7 -0.6
ZALV Zalesovo Beam   82.03 327 P         P        14 51 12.7 -0.6
ZALV Zalesovo Beam   82.03 327 P         P        14 51 12.7 -0.6
     comp=Z,18nm,0.7s,baz=110,slow=5.5,SNR=96
ZALV                           LR        LR       15 26 03.1
     comp=Z,42nm,19.0s,baz=67,slow=34
MCK  McKinley        82.31  23 eP        P        14 51 14.6  0.0
MCK                            pmax      pmax
     comp=Z,44nm,1.0s
MCK  McKinley        82.31  23 eP        P        14 51 14.6  0.0
     comp=Z,44nm,1.0s
BMRM Bremner River   82.74  26 eP        P        14 51 18.1 +1.1
     comp=Z,19nm,0.9s
NVS  Novosibirsk     83.21 327 eP        P        14 51 17.4 -2.1
NVS                            pmax      pmax
     comp=N,10.0nm,1.5s
NVS                            pmax      pmax
     comp=Z,29nm,1.5s
NVS                            pmax      pmax
     comp=E,17nm,1.4s
COLA College         83.30  22 eP        P        14 51 19.3 -0.3
COLA                           e         14 51 29.4
COLA                           pmax      pmax
     comp=Z,98nm,0.8s
COLA College         83.30  22 eP        P        14 51 19.3 -0.3
     comp=Z,98nm,0.8s
COLA                           e         14 51 29.4
KSH  Kashi           83.46 311 P         P        14 51 21.3  0.0
KSH                            pP        pP       14 51 31.8 -1.2
KSH                            PP        PP       14 54 34.8 +0.9
KSH                            S         S        15 01 37.5 -3.0
KSH                            pmax      pmax
     comp=Z,150nm,4.5s
KSH                            LR        LR
     comp=N,150nm,5.6s
KSH                            LR        LR
     comp=E,160nm,5.1s
KSH                            LR        LR
     comp=Z,200nm,5.2s
ILAR Eielson Array   83.60  22 P         P        14 51 20.5 -0.8
ILAR Eielson Array   83.60  22 P         P        14 51 20.5 -0.8
     comp=Z,12nm,0.8s,baz=254,slow=5.0,SNR=79
ILAR                           LR        LR       15 23 21.1
     comp=Z,143nm,21.7s,baz=144,slow=32
COLD Coldfoot        83.70  19 eP        P        14 51 23.2 +1.4
     comp=Z,7.2nm,0.8s
ULHL Ulahol          83.91 314 iP        P        14 51 24.6 +0.9
ULHL Ulahol          83.91 314 P         P        14 51 24.6 +0.9
     SNR=6.7
MENT Mentasta        83.99  24 P         P        14 51 25.1 +1.7
MAW  Mawson          84.13 203 P         P        14 51 23.0 -0.9
MAW  Mawson          84.13 203 P         P        14 51 23.0 -0.9
     comp=Z,5.9nm,1.0s,baz=112,slow=5.4,SNR=5.6
MAW                            LR        LR       15 23 57.0
     comp=Z,242nm,21.7s,baz=108,slow=32
MAW  Mawson          84.13 203 P         P        14 51 25.0 +1.1
     baz=84,SNR=4.0
TKM2 Tokmak 2        84.53 314 P         P        14 51 27.4 +0.7
TKM2                           pmax      pmax
     comp=Z,16nm,0.8s
TKM2 Tokmak 2        84.53 314 P         P        14 51 27.5 +0.7
     SNR=16
TKM2 Tokmak 2        84.53 314 eP        P        14 51 27.5 +0.7
     comp=Z,29nm,1.1s
TKM2                           e         14 51 37.6
KURK Kurchatov       84.55 322 P         P        14 51 26.3 -0.1
     comp=Z,133nm,1.0s,SNR=27
KURK Kurchatov       84.55 322 diP       P        14 51 26.3 -0.1
KURK                           pmax      pmax
     comp=Z,34nm,1.2s
KURK Kurchatov       84.55 322 eP        P        14 51 26.0 -0.4
     comp=Z,20nm,0.9s
KURK                           e         14 51 36.7
KZA  Kyzart          84.59 313 iP        P        14 51 29.1 +1.7
KZA  Kyzart          84.59 313 P         P        14 51 29.1 +1.7
     SNR=31
KBK  Karagaybulak    84.94 314 iP        P        14 51 29.8 +1.0
KBK  Karagaybulak    84.94 314 P         P        14 51 29.8 +1.0
     SNR=12
CHMS Chumysh         85.16 314 iP        P        14 51 30.2 +0.5
CHMS Chumysh         85.16 314 P         P        14 51 30.2 +0.5
     SNR=17
FRU  Bishkek         85.22 314 iP        P        14 51 30.5 +0.5
FRU                            pmax      pmax
     comp=Z,70nm,1.8s
AAK  Ala-Archa       85.26 314 P         P        14 51 31.9 +1.5
     comp=Z,156nm,0.8s,SNR=11
AAK  Ala-Archa       85.26 314 diP       P        14 51 31.4 +1.0
AAK                            pmax      pmax
     comp=Z,54nm,0.9s
AAK  Ala-Archa       85.26 314 P         P        14 51 31.4 +1.0
     SNR=17
AAK  Ala-Archa       85.26 314 eP        P        14 51 31.4 +1.0
     comp=Z,17nm,0.6s
AAK                            e         14 51 41.4
USP  Ospenovka       85.39 314 iP        P        14 51 31.8 +0.9
USP  Ospenovka       85.39 314 P         P        14 51 31.8 +0.9
     SNR=37
AML  Almayashu       85.73 313 iP        P        14 51 34.4 +1.3
AML  Almayashu       85.73 313 P         P        14 51 34.4 +1.3
     SNR=61
EKS2 Erkin-Say       85.78 314 eP        P        14 51 34.0 +1.0
EKS2                           e         14 51 44.0
EKS2                           pmax      pmax
     comp=Z,22nm,0.7s
EKS2 Erkin-Say       85.78 314 P         P        14 51 34.1 +1.0
     SNR=42
EKS2 Erkin-Say       85.78 314 eP        P        14 51 34.0 +1.0
     comp=Z,22nm,0.7s
EKS2                           e         14 51 44.0
EGAK Eagle           85.80  23 eP        P        14 51 33.6 +1.2
     comp=Z,20nm,0.9s
EGAK                           e         14 51 44.0
HYT  Haines Junctio  85.87  28 eP        P        14 51 34.7 +1.7
KK31 Karatay Array   88.22 314 iP        P        14 51 44.8 +0.1
KK31                           pmax      pmax
     comp=Z,4.0nm,0.6s
KKAR Karatay Array   88.22 314 eP        P        14 51 45.0 +0.3
KKAR                           e         14 51 55.0
KKAR                           pmax      pmax
     comp=Z,11nm,1.0s
KKAR Karatay Array   88.22 314 eP        P        14 51 45.0 +0.3
     comp=Z,11nm,1.0s
KKAR                           e         14 51 55.0
DLBC Dease Lake      88.80  31 eP        P        14 51 48.0 +0.9
INK  Inuvik          89.90  21 eP        P        14 51 52.4 +0.5
     comp=Z,13nm,1.1s
INK                            e         14 52 02.3
BVA0 Borovoye Array  90.05 323 iP        P        14 51 52.2 -0.8
BVA0                           pmax      pmax
     comp=Z,11nm,0.8s
BRVK Borovoye        90.12 323 ⇓iP       P        14 51 52.8 -0.5
BRVK                           pmax      pmax
     comp=Z,9.0nm,0.8s
BRVK Borovoye        90.12 323 eP        P        14 51 52.6 -0.6
     comp=Z,6.9nm,0.8s
BRVK                           e         14 52 02.9
PKM  Peak Mountain   91.74  55 P         P        14 52 03.0 +1.5
     baz=92
SYO  Syowa Base      92.22 199⇓eX        P        14 52 01.0 -1.7
SYO  Syowa Base      92.22 199⇓esP       sP       14 52 19.8 +1.0
ISA  Isabella        92.91  55 P         P        14 52 08.1 +1.4
     baz=93
EDW2 Edwards Air Fo  93.23  55 P         P        14 52 09.3 +1.1
     baz=93
CWC  Cottonwood Cre  93.30  54 P         P        14 52 09.9 +1.2
     baz=93
NV11 Mina Array Sit  93.42  52 eP        P        14 52 10.1 +0.9
NV11                           e         14 52 20.2
BFSC Mount Baldy Ra  93.45  56 P         P        14 52 10.3 +1.0
     baz=94
MPMC Manual Prospec  93.74  54 P         P        14 52 11.8 +1.1
     baz=94
MONP Monument Peak   94.37  58 P         P        14 52 15.0 +1.3
     baz=94
PFO  Pinyon Flat Ob  94.39  57 P         P        14 52 15.1 +1.4
     baz=94
HEC  Hector,Ludlow   94.59  56 P         P        14 52 16.2 +1.7
     baz=95
SHOC Shoshone        94.71  55 P         P        14 52 16.9 +1.9
     baz=95
BELC Belle Mtn. Jos  94.80  56 P         P        14 52 17.1 +1.6
     baz=95
GMRC Granite Mounta  95.14  56 P         P        14 52 18.5 +1.4
     baz=95
BC3  Big Chuckawall  95.23  57 P         P        14 52 19.5 +2.0
     baz=95
R11A Troy Canyon, C  95.43  52 P         P        14 52 19.9 +1.5
     baz=96
IRM  Iron Mountain   95.52  56 P         P        14 52 20.2 +1.5
     baz=96
LDFC Landfair        95.61  55 eP        P        14 52 22.2 +3.0
     comp=Z,4.4nm,0.5s
SHPR Sheep Range     95.65  54 eP        P        14 52 22.0 +2.6
     comp=Z,11nm,1.4s
AB31 Akbulak array   96.18 319 P         P        14 52 19.1 -2.2
ABKAR Akbulak array  96.18 319 eP        P        14 52 19.3 -2.0
     comp=Z,1.8nm,0.8s
HLID Hailey          96.58  47 P         P        14 52 24.6 +1.1
     baz=97
YKA  Yellowknife Ar  96.86  28 P         P        14 52 24.7 +0.6
YKA  Yellowknife Ar  96.86  28 P         P        14 52 24.7 +0.6
     comp=Z,2.5nm,0.8s,baz=268,slow=5.1,SNR=4.5
ARU  Arti            97.18 326 diP       P        14 52 25.2 -0.5
ARU                            e         14 56 21.9
ARU                            S         SKSac    15 02 59.6 -0.3
ARU                            SS        SS       15 10 22.2 -1.9
ARU                            pmax      pmax
     comp=Z,6.0nm,1.2s
EDM  Edmonton        97.50  37 eP        Pdif     14 52 27.8 +0.5
EDM  Edmonton        97.50  37 eP        Pdif     14 52 27.8 +0.5
U15A North Rim       97.96  54 P         Pdif     14 52 31.5 +1.4
     baz=98
PDAR Pinedale Array  100.12  48 P         Pdif     14 52 40.0 +0.5
PDAR Pinedale Array  100.12  48 P         Pdif     14 52 40.1 +0.5
     comp=Z,0.5nm,0.8s,baz=260,slow=5.4,SNR=3.1
SNAA Sanae           100.61 188 eP        Pdif     14 52 42.2 +1.3
G20A Bridger         101.02  45 P         Pdif     14 52 44.5 +1.2
     baz=101
VNA3 Neumayer Olymp  101.82 186 eP        Pdif     14 52 45.6 -0.6
VNA2 Neumayer--Watz  101.87 187 eP        Pdif     14 52 46.2 -0.2
Q22A Crested Butte,  102.23  52 P         Pdif     14 52 50.3 +1.2
     baz=102
Y23A Lovelace Mesa,  103.06  57 P         Pdif     14 52 53.5 +0.8
     baz=103
CLL  Collm           123.81 330 ePKIKP    PKPdf    14 57 55.0 +3.9
CLL  Collm           123.81 330 e(PKPdf)  PKPdf    14 57 55.0 +3.9
GERES GERESS Array B 124.96 328 PKP       PKPdf    14 57 53.3 -0.3
GERES GERESS Array B 124.96 328 PKP       PKPdf    14 57 53.3 -0.3
     comp=Z,0.1nm,0.3s,baz=10,slow=6.0,SNR=3.5
LPAZ La Paz          134.18 120 PKP       PKPdf    14 58 13.6 +1.0
LPAZ La Paz          134.18 120 PKP       PKPdf    14 58 13.6 +1.0
     comp=Z,1.4nm,0.8s,baz=229,slow=2.7,SNR=5.5
ESDC Sonseca Array   140.40 331 PP        PP       15 01 21.1 +0.6
ESDC Sonseca Array   140.40 331 PP        PP       15 01 21.1 +0.6
     comp=Z,1.1nm,0.6s,baz=37,slow=5.8,SNR=4.8
LZG  Guadaloupe-1    145.17  71 eP        PKPdf    14 58 32.0 +0.2
SSG  Sans Toucher    145.27  71 eP        PKPdf    14 58 32.6 +0.4
TAG  Tarade          145.29  71 eP        PKPdf    14 58 32.7 +0.6
LKG  Breislack       145.30  71 eP        PKPdf    14 58 32.6 +0.4
ECG  Echelle         145.30  71 eP        PKPab    14 58 32.4 +0.2
PHG  Guadaloupe-2    145.32  71 eP        PKPdf    14 58 32.8 +0.6
DOG  Dongo Capester  145.34  71 eP        PKPab    14 58 32.7 +0.6
TBG  Guadaloupe-3    145.35  71 eP        PKPab    14 58 32.7 +0.6
SEG  Port Louis      145.36  70 eP        PKPdf    14 58 32.3 +0.2
TOA0 Torodi Ar. Sit  150.25 286 ePKPbc    PKPbc    14 58 45.3 -0.1
TOA0                           e         14 58 55.7
TORD Torodi Ar. Bea  150.25 286 PKPbc     PKPbc    14 58 45.4 +0.1
TORD Torodi Ar. Bea  150.25 286 PKPbc     PKPbc    14 58 45.4 +0.1
     comp=Z,38nm,0.8s,baz=66,slow=2.4,SNR=47
BDFB Brasilia        150.41 137 PKP       PKPdf    14 58 41.3 +0.7
BDFB                            PKPbc     PKPbc    14 58 45.9  0.0
BDFB Brasilia        150.41 137 PKP       PKPdf    14 58 41.3 +0.7
     comp=Z,8.6nm,0.8s,baz=144,slow=3.0,SNR=3.5
BDFB                            PKPbc     PKPbc    14 58 45.9  0.0
     comp=Z,6.1nm,0.8s,baz=184,slow=4.7,SNR=5.0
DBIC Dimbokro        157.31 273 PKP       PKPdf    14 58 49.6 -0.7
DBIC                            PKPab     PKPab    14 59 20.9 -0.6
DBIC Dimbokro        157.31 273 PKP       PKPdf    14 58 49.6 -0.7
     comp=Z,2.6nm,0.9s,baz=102,slow=9.3,SNR=2.7
DBIC                            PKPab     PKPab    14 59 20.9 -0.6
     comp=Z,4.0nm,0.8s,baz=86,slow=5.2,SNR=5.0
```

SKHL 28 15:02:23.1±0.9, 54°.68N×135°.17E, h10km±1km, mb3.8/6,

Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKMR	**Ekimchan**	**2.08**	**220**	*e*Pn	Pn	15 02 57.5	-0.6
EKMR				*e*Pg	Pb	15 03 00.5	-0.5
EKMR				AMB	AMB	15 03 02.3	
	28nm,0.3s						
EKMR				AMB	AMB	15 03 02.3	
	33nm,0.3s						
EKMR				AMB	AMB	15 03 02.3	
	52nm,0.3s						
EKMR				*e*Sg	Sb	15 03 27.2	+0.3
EKMR				A	A	15 03 30.0	
	76nm,0.5s						
EKMR				A	A	15 03 30.0	
	160nm,0.5s						
EKMR				A	A	15 03 30.0	
	53nm,0.5s						
NKL	**Nikolayevsk**	**3.60**	**113**	*e*rx	rx	15 03 59.0	
NKL				*e*Sn	Sn	15 04 02.4	+1.0
NKL				A	A	15 04 07.0	
	38nm,0.7s						
NKL				A	A	15 04 07.0	
	42nm,0.7s						
GRNR	**Gornyy**	**3.99**	**169**	*e*Pg	Pg	15 03 36.8	-2.8
GRNR				AMB	AMB	15 03 37.2	
	10.0nm,0.2s						
GRNR				*e*Sg	Sg	15 04 28.0	-3.3
GRNR				A	A	15 04 29.2	
	21nm,0.5s						
ZEA	**Zeya**	**4.74**	**262**	*e*Pg	Pb	15 03 49.5	+3.2
ZEA				AMB	AMB	15 03 51.1	
	10.0nm,0.4s						
ZEA				*e*Sg	Sb	15 04 49.4	+6.0
ZEA				A	A	15 04 55.6	
	59nm,0.9s						
ZEA				A	A	15 04 55.6	
	22nm,0.9s						
KROS	**Kirovskiy**	**4.78**	**270**	*e*Pn	Pn	15 03 35.0	-0.1
KROS				*e*Pg	Pb	15 03 48.5	+1.6
KROS				AMB	AMB	15 03 51.0	
	3.0nm,0.6s						
KROS				*e*Sn	Sn	15 04 31.3	+0.7
KROS				*e*Sg	Sg	15 04 51.5	-5.0
KROS				A	A	15 04 55.7	
	29nm,0.5s						
KROS				A	A	15 04 55.7	
	10.0nm,0.5s						
KROS				A	A	15 04 55.7	
	13nm,0.5s						
CGD	**Chagda**	**4.79**	**330**	*e*Pn	Pn	15 03 37.3	+2.1
CGD				*e*Pg	Pb	15 03 49.8	+2.8
CGD				AMB	AMB	15 03 53.4	
	7.0nm,0.4s						
CGD				*e*Sg	Sg	15 04 52.4	-4.3
CGD				A	A	15 04 55.8	
	27nm,0.4s						
KLR	**Kul'dur**	**5.85**	**203**	*e*Sn	Sn	15 04 55.1	-1.9
KLR				*e*Sg	Sb	15 05 21.3	+6.0
IENR	**Iengra**	**6.07**	**289**	*e*Pg	Pg	15 04 15.0	-4.4
IENR				AMB	AMB	15 04 19.8	
	3.0nm,0.7s						
IENR				*e*Sg	Sg	15 05 35.2	-2.8
IENR				A	A	15 05 41.2	
	32nm,1.0s						
KHBR	**Khabarovsk**	**6.22**	**181**	*e*Sg	Sg	15 05 40.5	-2.0
KHN	**Khani**	**8.95**	**291**	*e*Sg	Sg	15 06 58.5	-12
KHN				A	A	15 06 58.9	
	3.0nm,0.7s						

IDC 28 15:43:39.8±1.1, 5°.02N×126°.17E, h0km, mb3.7/9, mb1 3.8/9, mb1mx3.7/25, mbtmp3.7/9, 1C, Error ellipse: s-maj=108.5km s-min=15.2km az=71.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**2.90**	**319**	⇑*i*P	Pb	15 44 31.1	-1.4
FITZ	**Fitzroy Crossi**	**22.98**	**181**	P	P	15 48 46.3	+0.1
	0.6nm,0.4s,baz=351,slow=13,SNR=5.1						
WRA	**Warramunga Arr**	**26.08**	**162**	P	P	15 49 14.6	-0.7
	1.6nm,0.6s,baz=344,slow=10,SNR=9.3						
ASAR	**Alice Springs**	**29.50**	**165**	P	P	15 49 46.2	+0.3
	0.3nm,1.0s,baz=350,slow=7.2,SNR=7.9						
STKA	**Stephens Creek**	**39.53**	**159**	P	P	15 51 12.9	+0.4
	1.6nm,0.7s,baz=348,slow=13,SNR=2.9						
SONM	**Songino Array**	**45.90**	**341**	P	P	15 52 04.1	-0.2
	0.5nm,0.8s,baz=142,slow=7.3,SNR=4.0						
MKAR	**Makanchi Array**	**56.18**	**325**	P	P	15 53 21.7	+0.2
	0.3nm,0.5s,baz=121,slow=7.3,SNR=6.4						
ZALV	**Zalesovo Beam**	**59.19**	**333**	P	P	15 53 42.9	+0.4
	0.4nm,0.4s,baz=144,slow=7.0,SNR=2.7						
BVAR	**Borovoye Array**	**65.94**	**327**	P	P	15 54 27.0	-0.7
	0.3nm,0.4s,baz=141,slow=9.3,SNR=3.0						
ARCES	**ARCESS Array B**	**89.05**	**340**	P	P	15 56 36.6	+0.1
	2.8nm,1.0s,baz=98,slow=6.5,SNR=5.3						

IDC 28 15:47:40.5±3.0, 30°.12S×177°.94W, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.5/16, mbtmp3.4/2, Error ellipse: s-maj=69.3km s-min=20.6km az=114.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.86**	**1**	Pn	Pn	15 47 59.3	-0.5
	168nm,0.3s,baz=105,slow=19,SNR=5.4						
RAO				Sn	Sn	15 48 15.1	+2.0
	259nm,0.3s,baz=68,slow=11,SNR=6.9						
ASAR	**Alice Springs**	**43.17**	**267**	P	P	15 55 43.7	+0.4
	0.3nm,0.6s,baz=102,slow=7.5,SNR=11						
WRA	**Warramunga Arr**	**44.14**	**272**	P	P	15 55 50.3	-0.8
	0.3nm,0.4s,baz=110,slow=8.1,SNR=9.3						
AKASG	**Malin Array Be**	**151.10**	**323**	PKPbc	PKPbc	16 07 35.1	-0.1
	0.3nm,0.4s,baz=46,slow=2.8,SNR=2.7						

IDC 28 15:57:57.6±0.8, 46°.08N×27°.57W, h0km, mb3.9/8, mb1 3.9/9, mb1mx3.7/34, mbtmp3.8/9, ML4.1/1, MS3.6/21, Ms1 3.6/21, ms1mx3.5/44, Error ellipse: s-maj=27.8km s-min=18.8km az=31.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**18.41**	**102**	P	P	16 02 16.0	+1.7
	0.1nm,0.3s,baz=298,slow=12,SNR=2.9						
ESDC				LR	LR	16 07 49.0	
	comp=Z,198nm,19.6s,baz=300,slow=32						
SCHQ	**Schefferville**	**26.18**	**304**	P	P	16 03 34.2	+0.7
	3.7nm,0.7s,baz=74,slow=9.2,SNR=3.4						
SCHQ				LR	LR	16 11 38.1	
	comp=Z,171nm,20.3s,baz=83,slow=31						
NOA	**NORSAR Array B**	**26.97**	**42**	LR	LR	16 14 45.8	
	comp=Z,49nm,18.4s,baz=355,slow=37						
GERES	**GERESS Array B**	**27.80**	**60**	LR	LR	16 14 22.4	
	comp=Z,176nm,18.3s,baz=250,slow=35						
KEST	**Kesra**	**29.52**	**97**	LR	LR	16 14 25.8	
	comp=Z,102nm,19.9s,baz=326,slow=34						
VRAC	**Vranov**	**29.59**	**67**	LR	LR	16 15 47.7	
	comp=Z,225nm,18.3s,baz=237,slow=36						
FINES	**FINESS Array B**	**34.12**	**44**	LR	LR	16 16 59.9	
	comp=Z,87nm,19.2s,baz=195,slow=34						
ARCES	**ARCESS Array B**	**35.00**	**29**	LR	LR	16 16 58.7	
	comp=Z,70nm,18.1s,baz=339,slow=33						
TORD	**Torodi Ar. Bea**	**41.08**	**134**	P	P	16 05 42.6	-0.4
	8.7nm,1.0s,baz=325,slow=7.9,SNR=36						
TORD				LR	LR	16 21 26.0	
	comp=Z,206nm,19.7s,baz=315,slow=34						
DBIC	**Dimbokro**	**43.89**	**146**	P	P	16 06 06.2	+0.3
	3.5nm,0.8s,baz=342,slow=9.7,SNR=3.6						
DBIC				LR	LR	16 23 00.8	
	comp=Z,125nm,18.6s,baz=309,slow=34						
ULM	**Lac du Bonnet**	**44.30**	**301**	LR	LR	16 22 57.8	
	comp=Z,107nm,18.5s,baz=231,slow=34						
BRTR	**Keskin Array B**	**44.31**	**75**	LR	LR	16 23 35.2	
	comp=Z,42nm,20.6s,baz=28,slow=35						
KBZ	**Khabaz**	**48.45**	**66**	LR	LR	16 27 19.6	
	comp=Z,83nm,18.9s,baz=35,slow=36						
PDAR	**Pinedale Array**	**56.14**	**299**	LR	LR	16 30 09.6	
	comp=Z,96nm,19.0s,baz=66,slow=34						
NEW	**Newport**	**57.47**	**308**	LR	LR	16 29 23.8	
	comp=Z,57nm,21.0s,baz=36,slow=33						
ANMO	**Albuquerque**	**58.69**	**289**	LR	LR	16 32 56.6	
	comp=Z,94nm,18.4s,baz=260,slow=36						
BVAR	**Borovoye Array**	**59.07**	**44**	P	P	16 07 59.3	+0.1
	0.5nm,0.5s,baz=278,slow=4.1,SNR=3.6						
BVAR				LR	LR	16 34 32.3	
	comp=Z,42nm,18.1s,baz=121,slow=37						
ILAR	**Eielson Array**	**59.83**	**334**	P	P	16 08 04.3	+0.1
	0.4nm,0.8s,baz=40,slow=7.1,SNR=5.1						
TXAR	**Lajitas Array**	**60.26**	**283**	P	P	16 08 07.9	0.0
	0.3nm,0.7s,baz=69,slow=4.9,SNR=2.7						
KURBB	**Kurchatov Arra**	**64.50**	**43**	P	P	16 08 35.8	0.0
	0.5nm,0.6s,baz=316,slow=6.7,SNR=13						
ZALV	**Zalesovo Beam**	**65.02**	**37**	LR	LR	16 35 42.7	
	comp=Z,37nm,18.2s,baz=340,slow=35						
AAK	**Ala-Archa**	**67.84**	**51**	LR	LR	16 38 04.6	
	comp=Z,49nm,18.4s,baz=143,slow=36						
MKAR	**Makanchi Array**	**68.95**	**44**	P	P	16 09 04.4	+0.1
	0.6nm,0.6s,baz=327,slow=5.6,SNR=10						
MKAR				LR	LR	16 37 02.7	
	comp=Z,34nm,18.4s,baz=100,slow=34						
CFAA	**Coronel Fontan**	**85.64**	**214**	LR	LR	16 48 45.3	
	comp=Z,7.9nm,19.8s,baz=100,slow=36						
WRA	**Warramunga Arr**	**149.99**	**36**	PKPbc	PKPbc	16 17 49.2	-0.9
	0.7nm,0.7s,baz=333,slow=2.3,SNR=5.5						
ASAR	**Alice Springs**	**153.09**	**40**	PKPbc	PKPbc	16 17 56.0	-1.2
	0.3nm,0.8s,baz=358,slow=2.8,SNR=6.4						
ASAR				PKPab	PKPab	16 18 08.0	-0.6
	0.6nm,0.6s,baz=331,slow=4.1,SNR=11						

IDC 28 16:12:31.2±3.4, 23°.48N×94°.68E, h89km±31km, mb3.2/5, mb1 3.4/6, mb1mx3.1/28, mbtmp3.2/6, Error ellipse: s-maj=73.1km s-min=14.8km az=59.0, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**3.28**	**310**	*e*PN	Pn	16 13 15.0	-5.8
SHL				*e*SN	Sn	16 13 47.5	-12
CMAR	**Chiang Mai Arr**	**6.40**	**141**	P	Pn	16 14 02.6	-0.3
	0.4nm,0.3s,baz=315,slow=14,SNR=7.5						
CMAR				S	Sn	16 15 15.3	+0.8
	0.2nm,0.3s,baz=320,slow=25,SNR=3.2						
MKAR	**Makanchi Array**	**25.30**	**340**	P	P	16 17 49.5	0.0
	0.8nm,0.7s,baz=144,slow=10.0,SNR=11						
KURBB	**Kurchatov Arra**	**29.86**	**339**	P	P	16 18 30.2	+0.2
	0.1nm,0.6s,baz=167,slow=7.0,SNR=2.7						
WRA	**Warramunga Arr**	**57.95**	**135**	P	P	16 22 14.5	-0.1
	0.2nm,0.4s,baz=322,slow=7.4,SNR=6.8						
ASAR	**Alice Springs**	**60.40**	**138**	P	P	16 22 31.5	0.0
	0.3nm,0.5s,baz=319,slow=6.9,SNR=27						
ARCES	**ARCESS Array B**	**60.94**	**338**	P	P	16 22 34.3	-0.2
	2.3nm,0.9s,baz=96,slow=8.2,SNR=2.8						

WEL 28 16:17:17.5±0.4, 37°.87S×176°.05E, h177km±4km, ML3.5/16, 2C-4D, Error ellipse: s-maj=3.8km s-min=3.5km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.93**	**116**	PN	Pn	16 17 44.4	0.0
URZ				SN	Sn	16 18 04.6	-0.5
MWZ	**Matawai**	**1.26**	**112**	⇓PN	Pn	16 17 47.3	+0.3
MWZ				SN	Sn	16 18 09.0	-0.9
RAHZ	**Arahi**	**1.33**	**143**	PN	Pn	16 17 47.8	+0.1
RAHZ				SN	Sn	16 18 10.5	-0.6
BKZ	**Black Stump Fm**	**1.34**	**165**	⇑PN	Pn	16 17 47.6	-0.3
BKZ				AML	AML	16 18 11.4	
NMHZ	**Naumai**	**1.37**	**155**	PN	Pn	16 17 48.7	+0.6
NMHZ				SN	Sn	16 18 11.7	-0.2
FWVZ	**Far West T-bar**	**1.44**	**196**	PN	Pn	16 17 49.3	+0.4
WHVZ	**Whangaehu Hut**	**1.46**	**194**	⇓PN	Pn	16 17 49.3	+0.2
WNVZ	**Wahianoa**	**1.50**	**194**	PN	Pn	16 17 49.5	+0.1
PKVZ	**Pokaka**	**1.53**	**201**	PN	Pn	16 17 49.8	+0.2
MOVZ	**Moawhango**	**1.56**	**189**	PN	Pn	16 17 49.4	-0.5
MTVZ	**Mangateitei**	**1.58**	**196**	PN	Pn	16 17 50.1	+0.1
BHHZ	**Black Hill Sta**	**1.62**	**180**	PN	Pn	16 17 49.9	-0.6
MCHZ	**McNeill Hill**	**1.66**	**162**	PN	Pn	16 17 51.0	+0.2
MCHZ				SN	Sn	16 18 15.6	-1.0
KNZ	**Kokohu**	**1.72**	**133**	PN	Pn	16 17 51.1	-0.2
PUZ	**Puketiti**	**1.76**	**97**	PN	Pn	16 17 51.6	-0.2
PRGZ	**Paritu Road**	**1.79**	**127**	PN	Pn	16 17 51.9	-0.2
CNGZ	**Carnagh Statio**	**1.81**	**111**	PN	Pn	16 17 53.1	+0.8
MHGZ	**Mahia Peninsul**	**1.94**	**132**	PN	Pn	16 17 53.7	-0.1
CKHZ	**Cape Kidnapper**	**1.96**	**156**	⇓PN	Pn	16 17 53.8	-0.1
KAHZ	**Kahuranaki**	**2.03**	**162**	PN	Pn	16 17 54.4	-0.4
PNHZ	**Pukenui**	**2.05**	**177**	PN	Pn	16 17 53.9	-1.0
WAZ	**Wanganui**	**2.06**	**203**	PN	Pn	16 17 54.9	-0.2
TSZ	**Takapari Road**	**2.19**	**182**	⇑PN	Pn	16 17 55.4	-1.2
WPHZ	**Waipukurau**	**2.22**	**172**	PN	Pn	16 17 55.8	-1.0
PXZ	**Pawanui**	**2.25**	**164**	PN	Pn	16 17 56.2	-1.0
DVHZ	**Dannevirke**	**2.43**	**178**	PN	Pn	16 17 57.6	-1.6
PRHZ	**Porangahau**	**2.44**	**169**	PN	Pn	16 17 58.2	-1.1
POWZ	**Post Office Ro**	**2.53**	**185**	PN	Pn	16 17 58.7	-1.7
ANWZ	**Angora Road**	**2.61**	**173**	PN	Pn	16 17 59.9	-1.4
PRWZ	**Pori Road**	**2.69**	**181**	PN	Pn	16 18 00.7	-1.5
BFZ	**Birch Farm**	**2.82**	**177**	PN	Pn	16 18 01.7	-2.0
MRZ	**Mangatainoka R**	**2.82**	**187**	PN	Pn	16 18 01.5	-2.2
MRZ				AML	AML	16 18 37.5	
MRZ				AML	AML	16 18 37.6	
TIWZ	**Tintock**	**2.91**	**182**	PN	Pn	16 18 02.6	-2.3
OGWZ	**Otaki Gorge**	**3.03**	**193**	PN	Pn	16 18 04.1	-2.2
CPWZ	**Castlepoint**	**3.04**	**178**	*e*PN	Pn	16 18 03.7	-2.8
HOWZ	**Holdsworth Sta**	**3.06**	**188**	PN	Pn	16 18 04.1	-2.7
KIW	**Kapiti Island**	**3.12**	**196**	PN	Pn	16 18 05.0	-2.5
TMWZ	**Te Maipa**	**3.24**	**182**	PN	Pn	16 18 06.4	-2.6
MTW	**Mount Morrison**	**3.32**	**187**	PN	Pn	16 18 06.7	-3.1
CAW	**Cannon Point**	**3.33**	**193**	PN	Pn	16 18 07.2	-2.8
TRWZ	**Traveller**	**3.54**	**184**	PN	Pn	16 18 09.7	-2.9
PAWZ	**Paruwai Farm**	**3.54**	**188**	PN	Pn	16 18 09.7	-3.1
WEL	**Wellington**	**3.56**	**196**	PN	Pn	16 18 10.0	-2.8
MSWZ	**Moikau Station**	**3.60**	**190**	PN	Pn	16 18 10.1	-3.3
TCW	**Tory Channel**	**3.61**	**202**	PN	Pn	16 18 11.0	-2.5
PLWZ	**Palliser**	**3.75**	**189**	PN	Pn	16 18 11.7	-3.7
TUWZ	**Tuamarina**	**3.92**	**204**	PN	Pn	16 18 14.3	-3.1
QRZ	**Quartz Range**	**4.03**	**222**	PN	Pn	16 18 15.5	-3.3
THZ	**Tophouse**	**4.58**	**211**	PN	Pn	16 18 22.7	-3.3
KHZ	**Kahutara**	**4.94**	**202**	⇓PN	Pn	16 18 26.8	-3.7
LTZ	**Lake Taylor**	**5.70**	**209**	PN	Pn	16 18 36.5	-4.0

MAN 28 16:18:04, 11°.89N×124°.15E, h38km, mb4.5, ML3.4, MS3.3, 3D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNP	**Catarman**	**0.80**	**39**	*e*P	Pn	16 18 19.6	+0.8
CNP				*e*S	Sn	16 18 32.3	+2.9
OCLP	**Ormoc**	**0.94**	**152**	*e*P	Pn	16 18 21.4	+0.7
PLP	**Palo**	**1.08**	**131**	⇓*e*P	Pn	16 18 24.5	+1.9
PLP				*i* S	Sn	16 18 40.9	+4.5
BESP	**Borongan**	**1.29**	**103**	*e*P	Pn	16 18 27.2	+1.7
RCP	**Roxas**	**1.42**	**257**	⇓*e*P	Pn	16 18 27.6	+0.3
RCP				*i* S	Sn	16 18 46.6	+2.0
LLP	**Lapu-Lapu**	**1.57**	**187**	*e*P	Pn	16 18 29.9	+0.5
LLP				*e*S	Sn	16 18 52.1	+3.7
PVCP	**Virac**	**1.70**	**0**	⇓*i*P	Pn	16 18 32.9	+1.8
MSLP	**Maasin**	**1.87**	**158**	*e*P	Pn	16 18 34.6	+1.1
GUIM	**Jordan**	**1.98**	**231**	*e*P	Pn	16 18 37.8	+2.8
AUQP	**San Andres**	**2.03**	**315**	*e*P	Pn	16 18 39.0	+3.3
OTRP	**Odiongan**	**2.14**	**283**	*e*P	Pn	16 18 38.8	+1.7
TBP	**Tagbilaran**	**2.20**	**187**	*e*P	Pn	16 18 40.1	+2.1
BOAC	**Boac**	**2.74**	**305**	*e*P	Pn	16 18 47.7	+2.3

IDC ***28*** *16:31:47.0±0.8, 4°.76N×82°.75W, h0km, mb4.1/11, mb1 4.3/12, mb1mx4.1/25, mbtmp4.1/12, ML3.7/1, MS3.8/16, Ms1 3.8/16, ms1mx3.6/33, Error ellipse: s-maj=32.7km s-min=14.8km az=59.0*

NEIC ***28*** *16:31:48.9±3.4, 4°.73N×82°.62W, h12km±21km, mb4.6/12, Error ellipse: s-maj=12.1km s-min=6.1km az=49.0*

CASC ***28*** *16:31:55.1±1.9, 5°.32N×82°.82W, h35km±72km, MD4.2*

ISC 28 16:31:49.3±0.6, 4°.90N±0°.07×82°.69W±0°.06, h12km, n287, σ158/276, mb4.4/21, MS3.8/12, 113C-99D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**3.76**	**353**	*e*P	Pn	16 32 44.4	-2.7
BRU2	**Volcan**	**3.87**	**360**	⇑*i*P	**Pn**	**16 32 46.2**	**-2.5**
BRU	**Baru**	**3.88**	**2**	*e*P	**Pn**	**16 32 47.7**	**-1.5**
CTCR	**Cotoan**	**3.97**	**359**	⇑*i*P	**Pn**	**16 32 48.7**	**-1.5**
CNI	**Changuinola**	**4.49**	**2**	⇑*i*P	**Pn**	**16 32 57.1**	**0.0**
QCR	**Quepos**	**4.72**	**342**	*e*P	**Pn**	**16 32 58.2**	**-2.2**
QCR				*e*S	Sn	16 33 47.3	-7.8
BUS	**Buena Vista**	**4.74**	**347**	*e*P	**Pn**	**16 32 59.8**	**-1.2**
ZANG	**Zanguenga, Cho**	**4.91**	**35**	⇑*i*P	**Pn**	**16 33 03.3**	**+0.4**
ZANG				*e*S	**Sn**	**16 33 57.9**	**-1.8**
URSC	**Urasca**	**5.02**	**348**	⇓*i*P	**Pn**	**16 33 03.6**	**-1.0**
BCIP	**Isla Barro Col**	**5.09**	**34**	*e*P	**Pn**	**16 33 04.8**	**-0.7**
BCIP				*e*S	**Sn**	**16 34 01.1**	**-3.2**
BCIP	**Isla Barro Col**	**5.09**	**34**	*e*P	**Pn**	**16 33 05.4**	**-0.1**
	58nm,0.4s						
UPA	**Univ. de Panam**	**5.12**	**38**	⇓*i*P	**Pn**	**16 33 05.5**	**-0.4**
UPA				*e*S	**Sn**	**16 34 02.6**	**-2.3**
SJS	**Escuela Geolog**	**5.18**	**345**	*e*P	**Pn**	**16 33 06.0**	**-0.8**
SJS				*e*S	Sn	16 34 00.5	-6.2
CAO	**Cobano**	**5.33**	**333**	*e*P	Pn	16 33 06.4	-2.4
CGA2	**Cerro Gallo 2**	**5.38**	**341**	*e*P	**Pn**	**16 33 08.0**	**-1.5**
CGA2				*e*S	Sn	16 34 02.8	-8.7
JCR	**Jicaral**	**5.47**	**334**	*e*P	Pn	16 33 08.4	-2.3
JCR				*e*S	Sn	16 34 00.6	-13
JTS	**JuntasAbangare**	**5.80**	**337**	*e*P	**Pn**	**16 33 13.4**	**-1.8**
	1μm,0.4s						
JTS				Sn	**Sn**	**16 34 18.4**	**-3.4**
JTS	**JuntasAbangare**	**5.80**	**337**	Pn	**Pn**	**16 33 13.6**	**-1.7**
	68nm,0.3s,baz=109,slow=9.9,SNR=68						
JTS				Sn	**Sn**	**16 34 18.4**	**-3.4**
	27nm,0.3s,baz=120,slow=16,SNR=6.0						
VCR	**Vista de Mar**	**5.95**	**331**	*e*P	**Pn**	**16 33 16.0**	**-1.4**
AMAS	**Alto Masis**	**6.11**	**338**	*i* P	**Pn**	**16 33 18.8**	**-0.8**
PTEN	**Parque Tenorio**	**6.21**	**339**	*i* P	**Pn**	**16 33 20.7**	**-0.2**
OTAV	**Otavalo**	**6.28**	**137**	*e*P	Pn	16 33 18.1	-4.0
	28nm,1.0s						
LAPC	**Finca la Perla**	**6.43**	**335**	*i* P	**Pn**	**16 33 22.7**	**-1.1**
GB1A	**Borinquen Arri**	**6.46**	**336**	*i* P	**Pn**	**16 33 23.6**	**-0.8**
GBS2	**Las Lilas**	**6.50**	**335**	*i* P	**Pn**	**16 33 23.4**	**-1.4**
ROSC	**El Rosal**	**8.33**	**90**	LR	LR	16 36 30.2	
	comp=Z,183nm,20.4s,baz=14,slow=34						
TGUH	**Tegucigalpa,Un**	**10.16**	**334**	P	Pn	16 34 18.4	+3.4
	24nm,0.5s						
APG	**El Apazote**	**12.62**	**323**	Pn	Pn	16 34 52.7	+3.7
APG	**El Apazote**	**12.62**	**323**	Pn	Pn	16 34 52.7	+3.7
	2.1nm,0.3s,baz=141,slow=7.1,SNR=11						
APG				LR	LR	16 39 07.5	
	comp=Z,407nm,19.3s,baz=184,slow=35						
ATAH	**Atahualpa**	**12.70**	**160**	LR	LR	16 39 09.8	
	comp=Z,1μm,21.4s,baz=337,slow=35						
TEIG	**Tepich**	**16.17**	**341**	Pn	**Pn**	**16 35 36.8**	**+0.3**
TEIG	**Tepich**	**16.17**	**341**	Pn	**Pn**	**16 35 36.8**	**+0.3**
	0.3nm,0.3s,baz=134,slow=8.2,SNR=4.9						
TEIG				LR	LR	16 41 09.2	
	comp=Z,306nm,21.1s,baz=113,slow=34						
SDDR	**Presa de Saban**	**17.88**	**38**	*e*P	**P**	**16 36 00.2**	**+1.5**
	20nm,0.9s						
SJG	**San Juan**	**20.83**	**50**	P	Pn	16 36 32.4	-1.0
SJG	**San Juan**	**20.83**	**50**	P	Pn	16 36 32.4	-1.0
	11nm,0.3s,baz=348,slow=23,SNR=7.1						
SJG				LR	LR	16 43 49.8	
	comp=Z,171nm,21.7s,baz=265,slow=34						
CBYP	**Canovanas**	**21.15**	**50**	*e*P	**P**	**16 36 34.2**	**-0.2**
	24nm,0.9s						
SAML	**Samuel**	**23.82**	**125**	*e*P	**P**	**16 36 59.6**	**-2.8**
	27nm,1.1s						
LPAZ	**La Paz**	**25.51**	**146**	*e*P	**P**	**16 37 17.2**	**-1.3**
	11nm,1.2s						
LPAZ	**La Paz**	**25.51**	**146**	P	**P**	**16 37 17.2**	**-1.3**
	5.4nm,1.0s,baz=338,slow=9.9,SNR=10						
LPAZ				LR	LR	16 48 27.1	
	comp=Z,248nm,19.8s,baz=282,slow=39						
732A	**Laxson Ranch,**	**28.82**	**327**	⇑P	**P**	**16 37 48.6**	**+1.1**
	baz=29						
632A	**Uvalde**	**29.34**	**328**	⇑P	**P**	**16 37 53.3**	**+1.2**
	baz=30						
SIV	**San Ignacio**	**29.81**	**135**	P	**P**	**16 37 54.9**	**-1.5**
SIV	**San Ignacio**	**29.81**	**135**	P	**P**	**16 37 54.9**	**-1.5**
	3.0nm,1.0s,baz=298,slow=13,SNR=5.8						
SIV				LR	LR	16 50 07.2	
	comp=Z,479nm,18.4s,slow=37						
532A	**Rocksprings**	**29.89**	**329**	⇑P	**P**	**16 37 58.5**	**+1.5**
	baz=30						
531A	**Rocksprings**	**30.25**	**328**	⇓P	**P**	**16 38 02.3**	**+2.0**
	baz=30						
WHTX	**Lake Whitney**	**30.29**	**335**	⇑P	**P**	**16 38 01.8**	**+1.3**
	baz=31						
530A	**J-C Ranch, Com**	**30.66**	**327**	⇓P	**P**	**16 38 05.5**	**+1.6**
	baz=31						
431A	**Sonora**	**30.70**	**329**	⇓P	**P**	**16 38 05.7**	**+1.5**
	baz=31						
332A	**Millersview**	**30.83**	**331**	⇑P	**P**	**16 38 06.2**	**+0.9**
	baz=31						
628A	**Black Gap, Mar**	**31.03**	**324**	⇓P	**P**	**16 38 08.6**	**+1.5**
	baz=31						
430A	**Baggett Ranch,**	**31.11**	**328**	⇓P	**P**	**16 38 09.1**	**+1.3**
	baz=31						
627A	**Terlingua Ranc**	**31.30**	**324**

W25A **X Bar L Ranch,** 36.26 329 ⇑P P 16 38 54.9 +2.2
baz=37
X24A **Lazy VL Ranch,** 36.27 327 ⇓P P 16 38 55.0 +2.2
baz=37
319A **Douglas** 36.29 320 ⇑P P 16 38 55.3 +2.3
baz=37
V26A **Tequesquite Ra** 36.37 330 ⇓P P 16 38 55.7 +2.0
baz=37
S30A **Montezuma** 36.41 336 ⇑P P 16 38 55.6 +1.8
baz=37
Z21A **St. Cloud Mine** 36.61 324 ⇑P P 16 38 57.9 +2.1
baz=37
120A **U Bar Ranch, L** 36.66 322 ⇑P P 16 38 59.0 +2.8
baz=37
W24A **Lazy 6 Ranch,** 36.74 328 ⇓P P 16 38 59.1 +2.2
baz=37
V25A **Rancho No Teng** 36.82 330 ⇓P P 16 38 59.3 +1.7
baz=37,SNR=11
R30A **Dighton** 36.88 337 ⇑P P 16 38 59.6 +1.7
baz=37
Z20A **Nine Sixteen R** 37.02 322 ⇑P P 16 39 01.6 +2.4
baz=37
V24A **Rampart Ranch,** 37.07 329 ⇓P P 16 39 01.3 +1.6
baz=37
X22A **Bernardo** 37.09 326 ⇑P P 16 39 02.3 +2.5
baz=37
W23A **Werner Place,** 37.10 327 ⇓P P 16 39 02.0 +2.1
baz=37
ANMO **Albuquerque** 37.11 327 *e*P P 16 39 01.8 +1.8
ANMO **Albuquerque** 37.11 327 P P 16 39 01.4 +1.4
6.6nm,1.0s,baz=152,slow=9.8,SNR=11
Y21A **Point of Rocks** 37.11 324 ⇑P P 16 39 02.5 +2.4
baz=37,SNR=6.2
U25A **Circle Dot Ran** 37.16 330 ⇓P P 16 39 02.5 +2.1
baz=38
Y20A **Horse Springs,** 37.45 324 ⇑P P 16 39 05.3 +2.3
baz=38,SNR=7.2
X21A **Alamocita Cree** 37.49 325 ⇓P P 16 39 05.4 +2.2
baz=38
R28A **Tribune** 37.56 335 ⇓P P 16 39 05.3 +1.6
baz=38
S26A **Kim** 37.69 333 ⇓P P 16 39 06.4 +1.5
baz=38
T25A **Trinidad** 37.75 331 ⇑P P 16 39 06.9 +1.5
baz=38
R27A **Eads** 37.94 334 ⇓P P 16 39 07.9 +1.0
baz=38
P30A **Selden** 37.97 338 ⇓P P 16 39 07.8 +0.8
baz=38
X20A **Quemado** 37.97 324 ⇓P P 16 39 09.3 +1.9
baz=38
U23A **El Rito** 38.01 328 ⇓P P 16 39 09.4 +1.7
baz=38,SNR=7.5
V22A **San Miguel Ran** 38.07 327 ⇑P P 16 39 10.1 +1.9
baz=38
S25A **Robets Cordova** 38.17 332 ⇑P P 16 39 10.7 +1.8
baz=38
R26A **Arlington** 38.24 333 ⇑P P 16 39 11.2 +1.8
baz=38
W20A **Ramah** 38.38 325 ⇓P P 16 39 13.2 +2.4
baz=39
U22A **Llaves** 38.39 328 ⇓P P 16 39 13.0 +2.1
baz=39,SNR=10
T23A **Casias Ranch,** 38.47 329 ⇓P P 16 39 13.8 +2.3
baz=39
S24A **Houchin Ranch,** 38.53 331 ⇓P P 16 39 14.2 +2.0
baz=39
SDCO **Great Sand Dun** 38.76 331 *e*P P 16 39 15.3 +1.4
13nm,1.3s
X18A **Snowflake** 38.82 323 ⇑P P 16 39 16.4 +1.9
baz=39
CFAA **Coronel Fontan** 38.83 160 P P 16 39 13.6 -0.7
CFAA **Coronel Fontan** 38.83 160 P P 16 39 13.6 -0.7
0.1nm,0.4s,baz=284,slow=4.2,SNR=2.8
V20A **Brimhall** 38.85 326 ⇑P P 16 39 16.8 +2.1
baz=39
R24A **Sanders Place,** 38.95 331 ⇓P P 16 39 17.3 +1.7
baz=39
214A **Organ Pipe Nat** 38.98 317 ⇓P P 16 39 17.7 +2.0
baz=39,SNR=6.0
W18A **Petrified Fore** 39.09 324 *e*P P 16 39 18.3 +1.5
W18A **Petrified Fore** 39.09 324 ⇑P P 16 39 18.5 +1.8
baz=39,SNR=5.4
Q25A **Bedland, Calha** 39.10 333 ⇑P P 16 39 18.2 +1.4
baz=39
T21A **Navajo Lake** 39.21 328 ⇑P P 16 39 20.0 +2.3
baz=40
P26A **Davis Ranch, A** 39.23 334 ⇑P P 16 39 19.8 +2.0
baz=40
R23A **Moffat** 39.26 331 ⇑P P 16 39 20.3 +2.1
baz=40
U20A **Newcomb** 39.29 326 ⇓P P 16 39 20.3 +1.9
baz=40
S22A **4UR Ranch, Cre** 39.42 329 ⇑P P 16 39 21.2 +1.6
baz=40,SNR=7.0
Q24A **Divide** 39.55 332 ⇑P P 16 39 22.4 +1.7
baz=40
CPUP **Villa Florida** 39.59 143 LR LR 16 55 40.4
comp=Z,143nm,20.4s,baz=153,slow=36
X16A **Lo Mia Camp, P** 39.65 321 ⇓P P 16 39 23.2 +1.7
baz=40,SNR=5.8
R22A **Saguache, Gunn** 39.75 330 ⇓P P 16 39 23.9 +1.6
baz=40
O26A **Horse Wrangler** 39.79 335 ⇓P P 16 39 24.3 +1.9
baz=40
Q23A **Hartsel** 39.83 331 ⇑P P 16 39 25.0 +2.0
baz=40
S21A **Coal Bank Pass** 39.85 328 ⇓P P 16 39 25.2 +2.0
baz=40
OGNE **Ogallala** 39.86 337 ⇓P P 16 39 24.5 +1.5
baz=40
MVCO **Mesa Verde** 39.89 327 ⇑P P 16 39 25.0 +1.5
baz=40
BDFB **Brasilia** 39.94 121 LR LR 16 56 29.0
comp=Z,148nm,18.1s,baz=81,slow=37
P23A **Jefferson** 40.20 332 ⇑P P 16 39 28.1 +1.9
baz=40
R21A **Cimarron** 40.26 329 ⇑P P 16 39 28.2 +1.7
baz=41
S20A **Disappointment** 40.28 328 ⇓P P 16 39 28.7 +2.1
baz=41
Q22A **Crested Butte,** 40.32 330 ⇓P P 16 39 28.5 +1.4
baz=41,SNR=5.9
Y14A **Wickenburg** 40.34 320 ⇑P P 16 39 28.9 +2.0
baz=41
WUAZ **Wupatki** 40.34 323 *e*P P 16 39 28.8 +1.7
17nm,1.0s
WUAZ **Wupatki** 40.34 323 ⇑P P 16 39 29.1 +1.9
baz=41,SNR=11
ISCO **Idaho Springs** 40.44 332 ⇓P P 16 39 29.5 +1.5
baz=41
O24A **Longmont** 40.45 333 ⇓P P 16 39 29.5 +1.6
baz=41
R20A **Redvale** 40.55 328 ⇑P P 16 39 30.4 +1.5
baz=41
SMCO **Snowmass** 40.59 331 *e*P P 16 39 31.0 +1.6
8.8nm,1.0s
Q21A **Lamborn Mesa,** 40.63 330 ⇑P P 16 39 30.9 +1.5
baz=41
M26A **McRoberts Ranc** 40.74 336 ⇓P P 16 39 31.6 +1.3
baz=41
P22A **Eagle** 40.81 331 ⇓P P 16 39 32.5 +1.5
baz=41
O23A **Lake Granby, G** 40.91 333 ⇓P P 16 39 33.5 +1.6
baz=41
GLA **Glamis** 41.00 317 ⇓P P 16 39 34.5 +2.0
baz=41
P21A **Newcastle** 41.09 330 ⇓P P 16 39 35.4 +2.0
baz=41
O22A **Kremmling** 41.16 332 ⇑P P 16 39 35.6 +1.6
baz=42
N23A **Red Feather La** 41.47 333 ⇑P P 16 39 37.9 +1.5
baz=42
U15A **North Rim** 41.51 323 ⇓P P 16 39 39.1 +2.3
baz=42,SNR=9.2
N22A **Wattenberg Ran** 41.62 333 ⇑P P 16 39 39.7 +2.0
baz=42
W13A **Hualapai Mount** 41.63 320 ⇓P P 16 39 40.0 +2.2
baz=42
O21A **Pagoda** 41.64 331 ⇓P P 16 39 40.0 +2.2
baz=42
BC3 **Big Chuckawall** 41.78 317 ⇑P P 16 39 40.8 +1.9
baz=42,SNR=5.4
IRM **Iron Mountain** 41.88 318 ⇓P P 16 39 41.3 +1.6
baz=42
MONP **Monument Peak** 42.01 316 ⇓P P 16 39 42.5 +1.6
baz=42
N21A **Black Mountain** 42.09 332 ⇓P P 16 39 43.1 +1.6
baz=42,SNR=6.4
M22A **Cedar Creek Ra** 42.17 333 ⇑P P 16 39 43.5 +1.4
baz=42
L23A **Garrett** 42.35 334 ⇑P P 16 39 44.8 +1.2
baz=43
BELC **Belle Mtn. Jos** 42.35 317 ⇑P P 16 39 45.5 +1.8
baz=43
H29A **Onida** 42.45 341 ⇑P P 16 39 45.3 +1.2
baz=43
N20A **Spence Gulch,** 42.50 331 ⇑P P 16 39 46.6 +1.7
baz=43
I27A **Quinn** 42.57 339 ⇑P P 16 39 46.4 +1.2
baz=43
GMRC **Granite Mounta** 42.59 319 ⇓P P 16 39 47.7 +2.2
baz=43
L22A **Ellis Ranch, M** 42.60 334 ⇓P P 16 39 47.5 +1.9
baz=43
J25A **Sunshine Ranch** 42.63 337 ⇓P P 16 39 47.6 +1.9
baz=43
M21A **Separation Pea** 42.68 332 ⇓P P 16 39 48.1 +1.8
baz=43
K23A **Bowen Ranch, D** 42.84 335 ⇑P P 16 39 48.7 +1.3
baz=43
L21A **Rawlins** 42.97 333 ⇑P P 16 39 49.9 +1.3
baz=43
M20A **Sweetwater, Wa** 42.97 332 ⇓P P 16 39 50.5 +1.8
baz=43
HEC **Hector,Ludlow** 43.06 318 ⇓P P 16 39 51.8 +2.5
baz=43
H27A **Howes** 43.07 340 ⇓P P 16 39 50.2 +1.0
baz=43
K22A **Casper** 43.14 334 ⇑P P 16 39 51.2 +1.3
baz=44
I25A **Rochford** 43.14 338 ⇑P P 16 39 51.4 +1.5
baz=44
TUQ **Turquoise Moun** 43.15 319 ⇑P P 16 39 52.1 +2.0
baz=43
H26A **Fairpoint** 43.30 339 ⇑P P 16 39 52.3 +1.2
baz=44
SHPR **Sheep Range** 43.32 321 *e*P P 16 39 52.8 +1.3
24nm,1.5s
K21A **Alcova** 43.44 334 ⇑P P 16 39 53.6 +1.2
baz=44
H25A **Fruitdale** 43.60 338 ⇑P P 16 39 55.0 +1.5
baz=44
GSC **Goldstone** 43.65 318 ⇓P P 16 39 55.9 +1.8
baz=44
J22A **Midwest** 43.74 335 ⇓P P 16 39 55.7 +1.0
baz=44
K20A **Yellowstone Ra** 43.96 333 ⇑P P 16 39 57.2 +0.7
baz=44,SNR=7.8
H24A **Dirks Ranch, A** 44.07 338 ⇑P P 16 39 58.7 +1.4
baz=44
J21A **Lysite** 44.10 334 P P 16 39 59.1 +1.4
baz=44
I22A **9 Mile Ranch,** 44.13 335 ⇑P P 16 39 58.8 +0.9
baz=44
M17A **Scullys Gap (B** 44.17 330 ⇑P P 16 39 59.5 +1.2
baz=44
L18A **Fontenelle, Gr** 44.20 331 ⇓P P 16 39 59.6 +1.1
baz=44
EDW2 **Edwards Air Fo** 44.20 317 ⇑P P 16 40 00.2 +1.7
baz=44
K19A **Absolon Red Bu** 44.32 332 ⇓P P 16 40 00.3 +0.8
baz=45,SNR=5.4
LRMC **Laurel Mountai** 44.34 318 ⇓P P 16 40 01.8 +2.2
baz=45
FURC **Furnace Creek,** 44.38 320 ⇓P P 16 40 02.0 +2.3
baz=45
DUG **Dugway** 44.38 327 ⇓P P 16 40 01.8 +1.9
baz=45
J20A **Shoshoni** 44.39 333 ⇑P P 16 40 00.9 +1.0
baz=45
I21A **Big Trails, Te** 44.41 334 ⇓P P 16 40 01.0 +0.9
baz=45
MPMC **Manual Prospec** 44.55 319 ⇓P P 16 40 02.4 +1.0
baz=45
PDAR **Pinedale Array** 44.61 332 P P 16 40 02.4 +0.6
PDAR **Pinedale Array** 44.61 332 P P 16 40 02.4 +0.6
1.1nm,0.8s,baz=126,slow=11,SNR=6.7
PDAR LR LR 17 00 40.3
comp=Z,74nm,20.0s,baz=276,slow=39
H22A **Clearmont** 44.65 336 ⇑P P 16 40 03.0 +1.0
baz=45
HWUT **Hardware Ranch** 44.73 329 *e*P P 16 40 03.3 +0.6
6.9nm,1.0s
R11A **Troy Canyon, C** 44.74 323 ⇑P P 16 40 04.3 +1.4
baz=45,SNR=11
J19A **Crowheart** 44.76 333 ⇓P P 16 40 03.8 +0.9
baz=45
BSC **Santa Cruz Isl** 44.86 315 ⇑P P 16 40 05.6 +2.0
baz=45
I20A **Worland** 44.88 334 ⇑P P 16 40 04.7 +0.9
baz=45,SNR=8.7
ISA **Isabella** 44.97 318 ⇑P P 16 40 06.3 +1.6
baz=45
GRAC **Grapevine Rang** 45.02 320 ⇑P P 16 40 06.6 +1.6
baz=45,SNR=5.0
MDND **Maddock** 45.18 344 ⇑P P 16 40 07.1 +1.1
baz=46
F23A **Volborg** 45.22 338 ⇑P P 16 40 07.5 +1.2
baz=46
D26A **Manning** 45.30 341 ⇓P P 16 40 07.3 +0.3
baz=46
I19A **Meeteetse** 45.33 333 ⇓P P 16 40 09.2 +1.7
baz=46
PKM **Peak Mountain** 45.47 316 ⇑P P 16 40 10.1 +1.4
baz=46
E24A **Baker** 45.52 339 ⇑P P 16 40 09.9 +1.1
baz=46
F22A **Rosebud** 45.59 337 ⇑P P 16 40 10.2 +0.8
baz=46
G20A **Bridger** 45.93 335 ⇓P P 16 40 12.5 +0.3
baz=46
D24A **Glendive** 46.01 340 ⇑P P 16 40 13.6 +1.0
baz=46,SNR=5.7
E22A **Miles City** 46.02 338 ⇓P P 16 40 13.6 +0.8
baz=46
A29A **Manning Farm,** 46.07 345 ⇓P P 16 40 13.5 +0.5
baz=46
H18A **Shoshone NF, C** 46.13 333 ⇑P P 16 40 14.7 +0.9
baz=46
D23A **Lindsay** 46.37 339 ⇓P P 16 40 16.5 +1.0
baz=47,SNR=5.8
F20A **Billings** 46.37 335 ⇓P P 16 40 16.9 +1.3
baz=47
C24A **Savage** 46.40 340 ⇓P P 16 40 16.9 +1.2
baz=47
D22A **Cohagen** 46.70 338 ⇓P P 16 40 18.9 +0.8
baz=47
F19A **Roth Farm, Mol** 46.74 335 ⇓P P 16 40 19.4 +0.9
baz=47
C23A **Lambert** 46.90 339 ⇑P P 16 40 20.7 +1.1
baz=47
E20A **Meyer Farm, Mu** 46.93 336 ⇓P P 16 40 20.8 +0.9
baz=47,SNR=5.2
D21A **La Casta Ranch** 46.94 337 ⇓P P 16 40 21.4 +1.4
baz=47
C22A **Vida** 47.10 339 ⇑P P 16 40 21.9 +0.8
baz=47,SNR=6.1
DGMT **Dagmar** 47.13 341 ⇑P P 16 40 22.5 +1.1
baz=48
E19A **Rath Farm, Rou** 47.16 336 ⇓P P 16 40 23.0 +1.2
baz=48
A25A **Svangstu Ranch** 47.20 342 ⇓P P 16 40 22.9 +1.1
baz=48
WAKR **Walker** 47.23 320 *e*P P 16 40 23.6 +1.0
9.6nm,1.2s
B23A **Brockton** 47.40 340 ⇓P P 16 40 24.3 +0.9
baz=48,SNR=6.5
D20A **Manuel Ranch,** 47.41 336 ⇑P P 16 40 24.7 +1.1
baz=48
A24A **Westby** 47.47 341 ⇓P P 16 40 24.9 +1.0
baz=48
HLID **Hailey** 47.59 329 ⇑P P 16 40 26.1 +0.9
baz=48
B22A **Reddig Ranch S** 47.61 339 ⇑P P 16 40 26.0 +0.9
baz=48
C21A **Desert Coulee** 47.61 338 ⇑P P 16 40 26.4 +1.2
baz=48
BOZ **Bozeman (W)** 47.77 333 *e*P P 16 40 26.8 +0.3
11nm,1.5s
D19A **Cripps Ranch,** 47.77 336 ⇑P P 16 40 27.4 +1.0
baz=48
A22A **Carney Farms,** 48.17 340 ⇓P P 16 40 30.6 +1.1
baz=48,SNR=6.0
MFID **Camas Ranch** 48.23 328 ⇓P P 16 40 31.6 +1.5
baz=48
C19A **Slack Wire Ran** 48.30 336 ⇓P P 16 40 32.0 +1.5
baz=49
B20A **Solberg Farm,** 48.47 338 ⇓P P 16 40 33.8 +2.1
baz=49
A21A **Bergtoll Ranch** 48.52 339 ⇑P P 16 40 33.7 +1.5
baz=49
A20A **Cobblestone Ra** 48.80 338 ⇑P P 16 40 35.6 +1.3
baz=49
B19A **Brinkman Farms** 48.84 337 ⇑P P 16 40 35.6 +1.0
baz=49
WVOR **Wild Horse Val** 49.14 325 *e*P P 16 40 37.9 +0.8
18nm,1.2s
A19A **Klindworth Far** 49.14 337 ⇓P P 16 40 38.3 +1.3
baz=50
MSO **Missoula** 49.72 332 ⇑P P 16 40 42.2 +0.7
baz=50
SCHQ **Schefferville** 51.41 12 P P 16 40 54.8 +0.8
SCHQ **Schefferville** 51.41 12 P P 16 40 54.8 +0.8
8.3nm,1.0s,baz=143,slow=6.5,SNR=4.6
NEW **Newport** 52.25 331 ⇓P P 16 41 01.7 +1.3
baz=52
YKA **Yellowknife Ar** 62.10 344 P P 16 42 09.8 0.0
YKA **Yellowknife Ar** 62.10 344 P P 16 42 09.8 0.0
1.5nm,0.7s,baz=135,slow=7.0,SNR=3.3
DLBC **Dease Lake** 64.70 335 *e*P P 16 42 28.1 +1.0
ILAR **Eielson Array** 74.78 336 P P 16 43 28.8 -0.3
ILAR **Eielson Array** 74.78 336 P P 16 43 28.8 -0.3
1.1nm,0.9s,baz=126,slow=4.0,SNR=7.1
ILAR LR LR 17 19 30.2
comp=Z,51nm,18.9s,baz=142,slow=38
ESDC **Sonseca Array** 78.21 51 P P 16 43 49.5 +0.4
ESDC **Sonseca Array** 78.21 51 P P 16 43 49.5 +0.4
0.8nm,0.6s,baz=275,slow=5.1,SNR=4.8
ESDC LR LR 17 12 38.7
comp=Z,38nm,18.4s,baz=130,slow=31
TORD **Torodi Ar. Bea** 83.44 77 P P 16 44 18.0 +0.5
TORD **Torodi Ar. Bea** 83.44 77 P P 16 44 18.0 +0.5
0.5nm,0.8s,baz=275,slow=5.8,SNR=2.5
NOA **NORSAR Array B** 87.64 29 LR LR 17 16 58.6
comp=Z,41nm,19.6s,baz=0.0,slow=31
ARCES **ARCESS Array B** 91.72 20 LR LR 17 28 49.0
comp=Z,55nm,18.2s,baz=197,slow=37
FINES **FINESS Array B** 94.56 27 LR LR 17 22 38.2
comp=Z,47nm,18.7s,baz=261,slow=32
MKAR **Makanchi Array** 126.83 13 PKP PKPdf 16 50 53.5 +0.2
MKAR **Makanchi Array** 126.83 13 PKP PKPdf 16 50 53.5 +0.2
0.6nm,1.0s,baz=48,slow=2.1,SNR=3.3
ASAR **Alice Springs** 140.12 238 PKP PKPdf 16 51 16.7 -2.2
ASAR **Alice Springs** 140.12 238 PKP PKPdf 16 51 16.7 -2.2
0.3nm,0.8s,baz=127,slow=2.4,SNR=3.4
WRA **Warramunga Arr** 141.00 244 PKP PKPdf 16 51 17.4 -3.1
WRA **Warramunga Arr** 141.00 244 PKP PKPdf 16 51 17.4 -3.1
0.5nm,0.8s,baz=110,slow=1.9,SNR=2.8

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*CSEM **28** 16:50:16.7±0.1,45°.80N×13°.98E,h15km,ML1.9/13,Error ellipse: s-maj=1.8km s-min=1.2km az=41.0*
*LJU **28** 16:50:16.4,45°.81N×13°.99E,h16km,ML1.3*
*VIE **28** 16:50:17.2±0.3,45°.83N×14°.01E,h5km±9km,mb1.1/1, ML1.5/2,Error ellipse: s-maj=1.3km s-min=0.7km az=19.0*
19 km S of Idrija

ROM 28 16:50:16.9±0.4,45°.82N×13°.97E,h7km±3km,Md2.1/4, Ml1.3/4,3C-4D,Error ellipse: s-maj=4.8km s-min=2.0km az=78.0,Northern Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JAVS	**Javornik**	**0.10**	**43**	⇓*i*Pg			Pg	16 50 20.2	+0.9
JAVS				*i* Sg			Sg	16 50 22.6	+1.6
JAVS	comp=Z,24nm,0.1s								
JAVS	**Javornik**	**0.10**	**43**	⇓*i*Pg			Pg	16 50 20.2	+0.9
JAVS				*i* Sg			Sg	16 50 22.6	+1.6
JAVS	comp=Z,24nm,0.1s								
TRI	**Trieste**	**0.18**	**232**	⇓*e*Pg			Pg	16 50 21.1	+0.5
TRI				*e*Sg			Sg	16 50 24.2	+1.2
TRI	**Trieste**	**0.18**	**232**	Pg			Pg	16 50 21.1	+0.6
TRI				Sg			Sg	16 50 24.2	+1.2
TRI	comp=Z,83nm,0.3s								
TRI	**Trieste**	**0.18**	**232**	*e*P			Pg	16 50 21.1	+0.6
TRI				*e*Sg			Sg	16 50 24.8	+1.8
VOJS	**Vojsko**	**0.22**	**345**	*i* Pg			Pg	16 50 22.0	+0.6
VOJS				*i* Sg			Sg	16 50 25.9	+1.4
VOJS	comp=Z,11nm,0.1s								
VOJS	**Vojsko**	**0.22**	**345**	*i* Pg			Pg	16 50 22.0	+0.6
VOJS				*i* Sg			Sg	16 50 25.9	+1.4
VOJS	comp=Z,11nm,0.1s								
SKDS	**Skadanscina**	**0.28**	**173**	*i* Pg			Pg	16 50 22.4	0.0
SKDS				*i* Sg			Sg	16 50 26.7	+0.5
SKDS	comp=Z,32nm,0.1s								
SKDS	**Skadanscina**	**0.28**	**173**	*i* Pg			Pg	16 50 22.4	0.0
SKDS				*i* Sg			Sg	16 50 26.7	+0.6
SKDS	comp=Z,32nm,0.1s								
SABO	**M.te Sabotino**	**0.30**	**302**	⇑*e*Pg			Pg	16 50 23.2	+0.3
SABO				*e*Sg			Sg	16 50 28.2	+1.3
SABO	**M.te Sabotino**	**0.30**	**302**	Pg			Pg	16 50 23.2	+0.3
SABO				Sg			Sg	16 50 28.3	+1.3
SABO	comp=Z,24nm,0.3s								
SABO	**M.te Sabotino**	**0.30**	**302**	*e*P			Pg	16 50 23.2	+0.3
SABO				*e*Sg			Sg	16 50 28.2	+1.2
CRNS	**Crni Vrh**	**0.33**	**38**	*i* Pg			Pg	16 50 23.6	+0.1
CRNS				*i* Sg			Sg	16 50 28.9	+0.9
CRNS	comp=Z,10.0nm,0.1s								
CEY	**Cerknica**	**0.33**	**104**	*i* Pg			Pg	16 50 23.2	-0.3
CEY				*i* Sg			Sg	16 50 27.9	0.0
CEY	comp=Z,8.0nm,0.1s								
CEY	**Cerknica**	**0.33**	**104**	*i* Pg			Pg	16 50 23.2	-0.3
CEY				*i* Sg			Sg	16 50 28.0	+0.1
CEY	comp=Z,8.0nm,0.1s								
KNDS	**Knezji Dol**	**0.41**	**135**	*i* Sg			Sg	16 50 30.9	+0.4
KNDS									
KNDS	comp=Z,5.0nm,0.1s								
KNDS	**Knezji Dol**	**0.41**	**135**	*i* Sg			Sg	16 50 30.9	+0.3
KNDS	comp=Z,5.0nm,0.1s								
DRE	**Drenchia**	**0.42**	**327**	*e*Sg			Sg	16 50 31.7	+1.0
DRE	**Drenchia**	**0.42**	**327**	*e*S			Sg	16 50 31.7	+0.9
CADS	**Cadrg**	**0.44**	**339**	*i* Sg			Sg	16 50 32.3	+1.0
CADS									
CADS	comp=Z,8.0nm,0.1s								
CADS	**Cadrg**	**0.44**	**339**	*i* Sg			Sg	16 50 32.3	+1.0
CADS	comp=Z,8.0nm,0.1s								
LJU	**Ljubljana**	**0.45**	**60**	*i* Sg			Sg	16 50 32.6	+1.0
LJU									
LJU	comp=Z,21nm,0.1s								
LJU	**Ljubljana**	**0.45**	**60**	*i* Sg			Sg	16 50 32.6	+1.0
LJU	comp=Z,21nm,0.1s								
GORS	**Gorjuse**	**0.50**	**2**	*i* Pg			Pg	16 50 27.3	+0.6
GORS				*i* Sg			Sg	16 50 34.2	+0.9
GORS	comp=Z,6.0nm,0.1s								
GORS	**Gorjuse**	**0.50**	**2**	*i* Pg			Pg	16 50 27.3	+0.6
GORS				*i* Sg			Sg	16 50 34.2	+0.9
GORS	comp=Z,6.0nm,0.1s								
MOZS	**Mozjanca**	**0.58**	**35**	*i* Pg			Pg	16 50 28.6	+0.5
MOZS	**Mozjanca**	**0.58**	**35**	*i* Pg			Pg	16 50 28.6	+0.5
VNDS	**Vrh nad Dolski**	**0.58**	**61**	*i* Pg			Pg	16 50 28.5	+0.2
VNDS				*e*Sg			Sg	16 50 35.8	-0.1
VNDS	comp=Z,6.0nm,0.1s								
VISS	**Visnje**	**0.61**	**91**	*i* Pg			Pg	16 50 28.6	-0.1
VISS				*i* Sg			Sg	16 50 36.7	0.0
VISS	comp=Z,6.0nm,0.2s								
VISS	**Visnje**	**0.61**	**91**	*i* Pg			Pg	16 50 28.6	-0.1
VISS				*i* Sg			Sg	16 50 36.7	0.0
VISS	comp=Z,6.0nm,0.2s								
VINO	**Villanova**	**0.65**	**313**	*e*Sg			Sb	16 50 39.1	-0.8
VINO	**Villanova**	**0.65**	**313**	*e*S			Sb	16 50 39.1	-0.9
GBRS	**Gornja Briga**	**0.66**	**116**	*i* Pg			Pg	16 50 29.2	-0.5
GBRS				*i* Sg			Sg	16 50 39.2	+0.9
PTCC	**Patocco-Chiusa**	**0.72**	**324**	Pg			Pb	16 50 31.8	-0.2
PTCC				Sg			Sb	16 50 41.8	-0.4
PTCC	comp=Z,6.0nm,0.6s								
PTCC	**Patocco-Chiusa**	**0.72**	**324**	Pg			Pb	16 50 31.8	-0.2
PTCC				Sg			Sb	16 50 41.8	-0.4
PTCC	comp=Z,6.0nm,0.6s								
PDKS	**Podkum**	**0.76**	**71**	*i* Pg			Pg	16 50 31.4	-0.2
PDKS				*i* Sg			Sg	16 50 41.9	+0.3
PDKS	comp=Z,8.0nm,0.1s								

PDKS	**Podkum**	**0.76**	**71**	*i* Pg	Pg	16 50 31.4	-0.2
PDKS				*i* Sg	Sg	16 50 41.9	+0.4
comp=Z,8.0nm,0.1s							
ACOM	**Acomizza, Ital**	**0.79**	**337**	Pg	Pg	16 50 32.4	0.0
ACOM				Sg	Sg	16 50 43.5	+0.6
comp=Z,19nm,0.4s							
ACOM	**Acomizza, Ital**	**0.79**	**337**	Pg	Pg	16 50 32.4	0.0
ACOM				Sg	Sg	16 50 43.5	+0.6
comp=Z,19nm,0.4s							
OBKA	**Obir**	**0.80**	**30**	⇑*i*Pg	Pg	16 50 32.3	-0.1
OBKA				⇓*i*Sg	Sg	16 50 43.3	+0.3
comp=Z,3.5nm,0.2s							
OBKA	**Obir**	**0.80**	**30**	Pg	Pg	16 50 32.3	-0.1
OBKA				*i* Sg	Sg	16 50 43.2	+0.3
MYKA	**Terra Mystica**	**0.84**	**345**	⇑*i*Sg	Sb	16 50 45.1	-0.5
comp=Z,2.0nm,0.2s							
MYKA	**Terra Mystica**	**0.84**	**345**	Sg	Sb	16 50 45.1	-0.5
comp=Z,2.0nm,0.2s							
BOJS	**Bojanci**	**0.95**	**109**	*i* Pg	Pg	16 50 35.2	-0.1
BOJS							
comp=Z,2.0nm,0.1s							
BOJS	**Bojanci**	**0.95**	**109**	*i* Pg	Pg	16 50 35.2	-0.1
comp=Z,2.0nm,0.1s							
ZOU	**Zoufplan**	**1.01**	**317**	*e*Pg	Pg	16 50 36.8	+0.2
CRES	**Cresnjev**	**1.04**	**89**	*i* Pg	Pg	16 50 36.6	-0.3
CRES							
comp=Z,3.0nm,0.1s							
CRES	**Cresnjev**	**1.04**	**89**	*i* Pg	Pg	16 50 36.6	-0.4
comp=Z,3.0nm,0.1s							
GOLS	**Golise**	**1.17**	**80**	*i* Pg	Pg	16 50 38.9	-0.6
GOLS							
comp=Z,3.0nm,0.1s							
GOLS	**Golise**	**1.17**	**80**	*i* Pg	Pg	16 50 38.8	-0.7
comp=Z,3.0nm,0.1s							
NVLJ	**Novalja**	**1.41**	**153**	*e*Pn	Pn	16 50 42.9	-0.1
NVLJ				Sn	Sg	16 51 02.5	+0.3
UDBI	**Udbina**	**1.81**	**135**	*e*Pn	Pn	16 50 47.1	-1.5
UDBI				Sn	Sb	16 51 13.7	+0.2

MAN 28 16:52:27.8±85N×125°71E,h11km,mb4.4,ML3.2,MS3.1, 2C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.15**	**323**	*e*P	Pb	16 52 32.4	+0.6
BUTP				*e*S	Sg	16 52 38.0	+5.0
SCPH	**Surigao**	**0.95**	**347**	⇑*e*P	Pg	16 52 45.4	0.0
CGP	**Cagayan de Oro**	**1.08**	**249**	*e*P	Pb	16 52 46.8	-0.9
CGP				*i* S	Sn	16 53 04.0	+0.9
BUKP	**Musuan**	**1.16**	**214**	*e*P	Pg	16 52 49.5	+0.1
BUKP				*e*S	Sn	16 53 09.9	+4.8
MSLP	**Maasin**	**1.53**	**327**	*e*P	Pn	16 52 54.4	+0.1
MATI	**Mati**	**1.96**	**164**	*e*P	Pn	16 53 01.0	+0.7
TBP	**Tagbilaran**	**2.01**	**295**	*e*P	Pn	16 53 01.9	+1.0
CTBH	**Cotabato--PC H**	**2.17**	**222**	⇑*e*P	Pb	16 53 06.8	+0.4

*IDC **28** 16:54:54.3±2.4, 19°45S×177°34W, h385km±27km, mb3.7/7, mb1 3.8/9, mb1mx3.4/20, mbtmp3.6/9, Error ellipse: s-maj=58.2km s-min=16.7km az=134.0*
*AUST **28** 16:54:59.9±7.8, 18°97S×177°02W, h497km±2km, Error ellipse: s-maj=4.3km s-min=2.8km az=297.0*

ISC 28 16:54:50.4±1.0,19°75±0°2×177°1W±0°1,h351km,n27, σ1°54/26,mb4.0/7,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**6.81**	**86**	P	P	16 56 44.6	+13
baz=6.7,SNR=3.4							
AFI	**Afiamalu**	**7.71**	**42**	P	**P**	**16 56 45.3**	**+2.7**
1.7nm,0.3s,baz=295,slow=23,SNR=6.1							
AFI				S	**S**	**16 58 10.5**	**-1.0**
3.5nm,0.3s,baz=225,slow=22,SNR=6.8							
DZM	**Mont Dzumac**	**15.54**	**258**	P	**Pn**	**16 58 13.1**	**-0.5**
0.1nm,0.3s,baz=90,slow=19,SNR=3.7							
ARMA	**Armidale**	**30.16**	**243**	P	**P**	**17 00 31.4**	**+2.0**
baz=31,SNR=6.3							
RMQ	**Roma**	**32.04**	**251**	P	**P**	**17 00 47.1**	**+1.4**
baz=32,SNR=7.8							
CMSA	**Cobar Meteorol**	**35.38**	**243**	P	**P**	**17 01 15.2**	**+1.1**
baz=36,SNR=12							
PATS	**Pohnpei**	**35.79**	**315**	S	**S**	**17 06 28.6**	**-0.2**
baz=35,SNR=3.7							
QLP	**Quilpie**	**36.09**	**252**	P	**P**	**17 01 20.4**	**+0.3**
baz=36,SNR=6.3							
MTSU	**Mount Surprise**	**36.47**	**266**	P	**P**	**17 01 22.8**	**-0.7**
baz=37,SNR=7.8							
STKA	**Stephens Creek**	**38.88**	**243**	P	**P**	**17 01 44.1**	**+0.8**
2.3nm,0.4s,baz=99,slow=9.7,SNR=17							
STKA	**Stephens Creek**	**38.88**	**243**	P	**P**	**17 01 44.5**	**+1.2**
baz=39,SNR=13							
MMPI	**Merauke**	**42.60**	**279**	S	**S**	**17 08 14.2**	**+4.5**
baz=43,SNR=3.4							
BBOO	**Buckleboo**	**43.64**	**243**	P	**P**	**17 02 22.1**	**+0.5**
baz=44,SNR=11							
ASAR	**Alice Springs**	**45.51**	**256**	P	**P**	**17 02 36.0**	**-0.4**
21nm,0.6s,baz=89,slow=8.3,SNR=497							
ASAR				S	S	17 08 42.3	-9.2
0.7nm,0.9s,baz=93,slow=16,SNR=5.6							
WRA	**Warramunga Arr**	**45.54**	**261**	P	**P**	**17 02 35.3**	**-1.4**
7.1nm,0.5s,baz=97,slow=8.5,SNR=165							
KDU	**Kakadu**	**48.77**	**270**	P	**P**	**17 02 60.0**	**-1.4**
baz=49,SNR=3.1							
KNRA	**Kununurra**	**51.55**	**265**	P	**P**	**17 03 21.1**	**-0.9**
baz=52,SNR=24							
FITZ	**Fitzroy Crossi**	**53.96**	**262**	P	**P**	**17 03 39.2**	**-0.3**
baz=54,SNR=12							
SOEI	**Soe**	**57.31**	**271**	P	**P**	**17 04 03.9**	**+0.5**
baz=57,SNR=7.9							
MEEK	**Meekatharra**	**58.97**	**250**	P	**P**	**17 04 13.3**	**-1.1**
baz=59,SNR=6.0							
MJAR	**Matsushiro Arr**	**70.08**	**323**	P	**P**	**17 05 23.5**	**-1.8**
1.7nm,0.6s,baz=156,slow=6.1,SNR=10							
PETK	**Petropavlovsk-**	**75.73**	**345**	P	**P**	**17 05 56.6**	**-1.2**
2.5nm,0.8s,baz=130,slow=4.5,SNR=6.1							
KSRS	**Korea Array**	**76.86**	**318**	P	**P**	**17 06 04.0**	**-0.5**
0.7nm,0.6s,baz=140,slow=6.0,SNR=4.3							
CMAR	**Chiang Mai Arr**	**90.64**	**289**	P	**P**	**17 07 14.3**	**+0.1**
1.2nm,0.8s,baz=128,slow=3.0,SNR=9.0							
MKAR	**Makanchi Array**	**111.26**	**314**	PKiKP	**PKiKP**	**17 12 41.1**	**-1.7**
0.2nm,0.8s,baz=27,slow=0.6,SNR=4.1							
AKASG	**Malin Array Be**	**142.72**	**332**	PKhKP	PKPpre	17 13 36.4	
0.2nm,0.3s,baz=41,slow=3.9,SNR=4.5							
BRTR	**Keskin Array B**	**146.91**	**314**	PKPbc	**PKPdf**	**17 13 51.0**	**+1.2**
0.6nm,0.5s,baz=142,slow=5.5,SNR=3.6							

IDC 28 17:04:17.9±59.0,16°26S×176°94W,h0km,mb3.7/3, mb1 3.8/3,mb1mx3.6/18,mbtmp3.7/3,Error ellipse: s-maj=1100.0km s-min=167.4km az=78.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.66**	**240**	P	P	17 12 00.4	+0.3
1.8nm,0.9s,baz=99,slow=8.4,SNR=6.5							
WRA	**Warramunga Arr**	**46.33**	**258**	P	P	17 12 45.6	-0.5
0.1nm,0.4s,baz=94,slow=8.2,SNR=5.7							
ASAR	**Alice Springs**	**46.60**	**253**	P	P	17 12 48.0	-0.2
0.6nm,0.4s,baz=88,slow=7.8,SNR=34							

DJA 28 17:05:54.2±0.4,0°N±3°×10°0E±°,h15km,M3.5/7,MLv3.5/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKNI	**Bangkinang**	**0.94**	**100**	P	Pb	17 06 10.0	-2.3
BKNI				S	Sb	17 06 24.5	-0.1
BKNI	**Bangkinang**	**0.94**	**100**	P	Pb	17 06 10.0	-2.3
baz=82,SNR=19							
PPI	**Padang Panjang**	**0.98**	**163**	P	Pb	17 06 09.9	-3.1
PPI				S	Sb	17 06 24.4	-1.4
PPI	**Padang Panjang**	**0.98**	**163**	P	Pb	17 06 10.2	-2.8
baz=83,SNR=22							
PDSI	**Padang**	**1.44**	**166**	P	Pn	17 06 18.5	-1.3
PDSI				S	Sb	17 06 39.4	+0.5
SDSI	**Sungai Dareh**	**1.93**	**137**	P	Pn	17 06 26.7	+0.2
GSI	**Gunungsitoli**	**2.66**	**288**	P	Pn	17 06 36.1	-0.5
KCSI	**Kotacane, Aceh**	**3.81**	**322**	P	Pn	17 06 53.0	+0.5
IPM	**Ipoh**	**4.07**	**13**	P	Pn	17 06 56.2	+0.2

*BJI **28** 17:26:24.7, 32°45N×90°50E, h8km, mb3.9/3, ML3.7/4, Ms7 3.6/2*
*IDC **28** 17:26:25.5±0.8, 32°36N×90°57E, h0km, mb3.8/11, mb1 4.0/14, mb1mx3.8/29, mbtmp3.8/14, ML3.3/3, MS3.4/2, Ms1 3.4/2, ms1mx2.9/33, Error ellipse: s-maj=32.9km s-min=15.6km az=56.0*

ISC 28 17:26:28.7±0.6,32°51N±0°06×90°45E±0°07,h10km,n31, σ1°98/31,mb3.9/11,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**2.87**	**168**	Pg	**Pn**	**17 27 16.8**	**+1.9**
LSA				Sg	**Sb**	**17 27 56.3**	**+0.8**
LSA				smax	smax		
comp=N,210nm,1.0s							
LSA				smax	smax		
comp=E,400nm,1.0s							
TAPN	**Taplejung**	**5.67**	**206**	*e*P	**Pn**	**17 27 54.9**	**+1.6**
comp=E,24nm,0.4s							
GUN	**Gumba**	**6.05**	**222**	*e*P	Pn	17 28 02.3	+3.6
comp=E,26nm,0.4s							
JIRN	**Jiri**	**6.08**	**218**	*e*P	**Pn**	**17 28 02.1**	**+3.0**
comp=E,19nm,0.4s							
ODAN	**Odare**	**6.23**	**206**	*e*P	**Pn**	**17 28 01.5**	**+0.6**
comp=E,51nm,0.6s							
RAMN	**Ramite**	**6.47**	**212**	*e*P	**Pn**	**17 28 04.6**	**+0.3**
comp=E,80nm,0.4s							
KKN	**Kakani**	**6.49**	**225**	*e*P	**Pn**	**17 28 06.8**	**+2.2**
comp=E,16nm,0.4s							
PKI	**Pulchoki**	**6.58**	**223**	*e*P	**Pn**	**17 28 08.1**	**+2.2**
comp=E,17nm,0.3s							
PKIN	**Phulchoki**	**6.58**	**223**	*e*P	**Pn**	**17 28 08.3**	**+2.4**
comp=E,12nm,0.3s							
DMN	**Daman**	**6.73**	**225**	*e*P	**Pn**	**17 28 09.1**	**+1.2**
comp=E,18nm,0.6s							
GKN	**Gorkha**	**6.74**	**230**	*e*P	**Pn**	**17 28 09.1**	**+1.2**
DANN	**Dangsing**	**7.11**	**236**	*e*P	**Pn**	**17 28 14.4**	**+1.3**
comp=E,14nm,0.3s							
KOLN	**Koldanda**	**7.58**	**233**	*e*P	**Pn**	**17 28 19.2**	**-0.3**
comp=E,10nm,0.3s							
GTA	**Gaotai**	**10.24**	**45**	*e*P	**Pn**	**17 28 54.8**	**-1.1**
GTA				pP		17 28 58.0	
GTA				sP		17 29 00.8	
GTA				S	**Sn**	**17 30 54.0**	**+3.2**
GTA				sS		17 30 59.5	
GTA				SS	**SnSn**	**17 31 08.0**	**+5.3**
GTA				pmax	pmax		
comp=Z,4.0nm,1.1s							
GTA				LR	LR		
comp=Z,270nm,11.9s							
MKAR	**Makanchi Array**	**15.57**	**339**	Pn	**Pn**	**17 30 07.0**	**-1.3**
comp=Z,0.1nm,0.3s,baz=147,slow=13,SNR=13							
CMAR	**Chiang Mai Arr**	**15.94**	**149**	Pn	Pn	17 30 08.2	-5.0
comp=Z,0.1nm,0.3s,baz=328,slow=12,SNR=7.4							
AAK	**Ala-Archa**	**16.17**	**313**	Pn	**Pn**	**17 30 18.1**	**+1.9**
comp=Z,0.2nm,0.3s,baz=112,slow=11,SNR=3.1							
SONM	**Songino Array**	**19.50**	**34**	P	**P**	**17 30 55.7**	**-0.4**
comp=Z,0.1nm,0.3s,baz=222,slow=10.0,SNR=12							
KURBB	**Kurchatov Arra**	**20.13**	**338**	P	**P**	**17 31 02.4**	**-0.3**
comp=Z,3.3nm,0.9s,baz=146,slow=12,SNR=27							
ZALV	**Zalesovo Beam**	**21.80**	**351**	P	**P**	**17 31 20.0**	**-0.8**
comp=Z,6.7nm,0.7s,baz=169,slow=11,SNR=25							
ZALV				LR	LR	17 40 39.8	
comp=Z,64nm,18.4s,baz=65,slow=39							
BVAR	**Borovoye Array**	**25.09**	**331**	P	**P**	**17 31 53.4**	**+0.1**
comp=Z,2.0nm,0.8s,baz=137,slow=11,SNR=14							
BRTR	**Keskin Array B**	**45.80**	**296**	P	**P**	**17 34 53.6**	**+2.7**
comp=Z,1.3nm,1.0s,baz=61,slow=12,SNR=3.0							
KAPI	**Kappang**	**46.56**	**138**	LR	LR	17 54 17.3	
comp=Z,51nm,20.8s,baz=327,slow=36							
AKASG	**Malin Array Be**	**47.82**	**311**	P	**P**	**17 35 05.5**	**-0.8**
comp=Z,0.2nm,0.3s,baz=78,slow=6.5,SNR=2.8							
FINES	**FINESS Array B**	**49.86**	**325**	P	**P**	**17 35 21.4**	**-0.4**
comp=Z,1.2nm,0.7s,baz=112,slow=6.7,SNR=2.9							
ARCES	**ARCESS Array B**	**51.20**	**336**	P	**P**	**17 35 32.2**	**+0.3**
comp=Z,1.8nm,0.9s,baz=105,slow=6.8,SNR=2.3							
GERES	**GERESS Array B**	**58.03**	**311**	P	**P**	**17 36 21.9**	**0.0**
comp=Z,0.2nm,0.5s,baz=58,slow=7.3,SNR=4.2							
WRA	**Warramunga Arr**	**66.95**	**135**	P	**P**	**17 37 18.9**	**-2.8**
comp=Z,1.2nm,0.9s,baz=326,slow=6.2,SNR=6.1							
ASAR	**Alice Springs**	**69.58**	**138**	P	**P**	**17 37 35.6**	**-2.5**
comp=Z,1.8nm,0.8s,baz=325,slow=7.0,SNR=16							
ILAR	**Eielson Array**	**73.27**	**22**	P	**P**	**17 37 58.3**	**-1.6**
comp=Z,1.0nm,0.8s,baz=297,slow=5.5,SNR=6.2							
TORD	**Torodi Ar. Bea**	**82.02**	**280**	P	**P**	**17 38 48.3**	**-1.2**
comp=Z,0.4nm,0.7s,baz=47,slow=4.7,SNR=4.5							

MEX 28 17:49:12.4±0.8,18°69N×102°78W,h82km±17km,MD3.8, Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.67**	**233**	*i* P	Pn	17 49 26.1	-1.9
MMIG				*i* S	Sn	17 49 38.1	-1.4
EZ5V		**1.10**	**315**	*i* P	Pn	17 49 31.8	-1.4
EZ5V				*i* S	Sn	17 49 46.9	-1.9
R15V		**1.23**	**293**	*i* P	Pn	17 49 33.5	-1.0
R15V				*i* S	Sn	17 49 49.8	-1.3
ZIIG	**Zihuatanejo**	**1.65**	**131**	*i* P	Pn	17 49 39.1	-0.7
ZIIG				*i* S	Sn	17 49 59.3	-1.3
ARIG	**Puente Sto Nin**	**2.35**	**100**	*i* P	Pn	17 49 48.3	-0.8
ARIG				*i* S	Sn	17 50 14.8	-2.3

*IDC **28** 18:18:50.5±4.9, 22°91S×68°35W, h0km, mb4.2/2, mb1 4.0/3, mb1mx3.7/16, mbtmp4.0/3, ML3.4/1, Error ellipse: s-maj=133.2km s-min=54.3km az=64.0*
*GUC **28** 18:19:08.0±0.6, 21°70S×68°73W, h125km±4km, MD3.5, ML3.8*

ISC 28 18:19:07.7±1.2,21°68S±0°06×68°6W±0°2,h124km±14km, n13,σ0°98/17,4C,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**Plate Boundary**	**0.60**	**258**	⇑*i*P	**Pn**	**18 19 27.1**	**+0.1**
PB09				*i* S	**Sn**	**18 19 41.4**	**-0.2**
PB09				AML	AML	18 19 47.0	
comp=E,3μm,0.6s							
PB04	**Plate Boundary**	**1.00**	**234**	⇑*i*P	Pn	18 19 36.2	+6.1
PB04				*i* S	Sn	18 19 57.4	+10
PB04				AML	AML	18 19 59.8	
comp=E,963nm,0.4s							
MACH	**Maria Elena**	**1.19**	**244**	*i* P	**Pn**	**18 19 32.0**	**-0.2**
MACH				*i* S	**Sn**	**18 19 50.3**	**-0.6**
PB07	**Plate Boundary**	**1.19**	**267**	*e*P	**Pn**	**18 19 32.3**	**+0.1**
PB07				*i* S	**Sn**	**18 19 50.3**	**-0.5**
PB07				AML	AML	18 19 53.3	
comp=E,2μm,0.4s							
HMBC	**Humberstone**	**1.83**	**319**	⇑*i*P	**Pn**	**18 19 39.7**	**+0.1**
HMBC				*i* S	**Sn**	**18 20 04.3**	**+0.5**
HMBC				AML	AML	18 20 05.7	
comp=E,1μm,0.8s							
CEN1	**Los Morros**	**2.25**	**221**	⇑*i*P	**Pn**	**18 19 45.3**	**+0.6**
CEN1				*i* S	**Sn**	**18 20 15.1**	**+2.1**
PSGC	**Pisagua**	**2.51**	**325**	*e*P	**Pn**	**18 19 47.3**	**-0.7**
PSGC				*i* S	**Sn**	**18 20 18.2**	**-0.6**
PSGC				AML	AML	18 20 19.8	
comp=N,550nm,0.4s							
PB10	**Plate Boundary**	**2.56**	**224**	AML	AML	18 20 26.4	
comp=N,477nm,0.2s							
MNMC	**Minimini**	**2.70**	**340**	*e*P	**Pn**	**18 19 51.8**	**+1.2**
MNMC				*i* S	**Sn**	**18 20 25.2**	**+1.8**
MNMC				AML	AML	18 20 33.6	
comp=N,468nm,0.4s							
LPAZ	**La Paz**	**5.38**	**5**	Pn	Pn	18 20 29.3	+2.8
comp=N,0.4nm,0.3s,baz=190,slow=6.4,SNR=4.0							
DBIC	**Dimbokro**	**68.52**	**73**	P	**P**	**18 29 56.7**	**-0.5**
comp=N,2.9nm,0.7s,baz=216,slow=9.4,SNR=4.3							
TORD	**Torodi Ar. Bea**	**77.15**	**70**	P	**P**	**18 30 47.4**	**-0.8**
comp=N,0.6nm,0.3s,baz=253,slow=6.0,SNR=19							
MKAR	**Makanchi Array**	**145.61**	**36**	PKPbc	**PKPab**	**18 38 32.9**	**+0.7**
comp=N,0.3nm,0.6s,baz=328,slow=3.8,SNR=4.2							

*ISCJB **28** 18:41:17.3±0.8, 34°95N±0°06×23°07E±0°06, h10km, mb3.5/6, MS3.2/1, Error ellipse: s-maj=9.7km s-min=5.5km az=33.7*
*IDC **28** 18:41:17.4±1.3, 35°03N×23°12E, h0km, mb3.7/6, mb1 3.7/9, mb1mx3.5/28, mbtmp3.6/9, ML3.5/3, MS2.9/3, Ms1 2.8/3, ms1mx2.1/51, Error ellipse: s-maj=25.0km s-min=20.3km az=21.0*
*THE **28** 18:41:19.1, 35°06N×23°13E, h0km±3km, ML3.3/1, Error ellipse: s-maj=8.8km s-min=1.5km az=222.0*
*CSEM **28** 18:41:20.8±0.9, 35°22N×23°29E, h2km, MD3.3, Error ellipse: s-maj=24.9km s-min=6.5km az=41.0*
*ATH **28** 18:41:20.6, 35°20N×23°29E, h5km, MD3.3/6*

ISC 28 18:41:19.5±0.9,35°09N±0°06×23°17E±0°05,h10km,n43, σ1°04/47,mb3.7/6,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.79**	**108**	P	**Pg**	**18 41 34.8**	**0.0**
GVD				S	**Sb**	**18 41 47.1**	**+1.0**
GVD	**Gavdhos**	**0.79**	**108**	*e*PG	**Pg**	**18 41 34.8**	**0.0**
GVD	**Gavdhos**	**0.79**	**108**	P	**Pg**	**18 41 34.8**	**0.0**
GVD				S	**Sb**	**18 41 47.1**	**+1.0**
VAM	**Vamos**	**0.90**	**69**	P	**Pg**	**18 41 36.2**	**-0.7**
VAM	**Vamos**	**0.90**	**69**	*e*PB	**Pg**	**18 41 36.1**	**-0.8**
VAM				*e*SB	**Sg**	**18 41 47.3**	**-1.3**
VAM	**Vamos**	**0.90**	**69**	*e*Pb	**Pg**	**18 41 36.1**	**-0.8**
VAM				*e*Sb	**Sg**	**18 41 47.3**	**-1.3**
KYTH	**Kithira**	**1.20**	**355**	P	**Pn**	**18 41 41.2**	**-1.2**
KYTH	**Kithira**	**1.20**	**355**	*e*PG	**Pn**	**18 41 41.2**	**-1.2**
KYTH	**Kithira**	**1.20**	**355**	P	**Pn**	**18 41 41.2**	**-1.2**
SIVA	**Sivas**	**1.34**	**93**	P	**Pb**	**18 41 44.9**	**+0.1**
SIVA	**Sivas**	**1.34**	**93**	P	**Pb**	**18 41 44.9**	**+0.1**
IDI	**Anoyia**	**1.42**	**81**	P	**Pn**	**18 41 45.5**	**0.0**
IDI	**Anoyia**	**1.42**	**81**	*e*PB	**Pn**	**18 41 45.9**	**+0.4**
IDI	**Anoyia**	**1.42**	**81**	Pn	**Pn**	**18 41 45.4**	**-0.1**
3.8nm,0.3s,baz=267,slow=15,SNR=40							
IDI	**Anoyia**	**1.42**	**81**	P	**Pn**	**18 41 45.5**	**0.0**
IDI	**Anoyia**	**1.42**	**81**	*e*Pb	**Pn**	**18 41 45.9**	**+0.4**
VLI	**Veliai**	**1.64**	**353**	P	**Pb**	**18 41 49.0**	**-0.9**
VLI				S	**Sg**	**18 42 11.8**	**-0.4**
VLI	**Veliai**	**1.64**	**353**	*e*PB	**Pb**	**18 41 49.9**	**0.0**
VLI	**Veliai**	**1.64**	**353**	P	**Pb**	**18 41 49.0**	**-0.9**
VLI	**Veliai**	**1.64**	**353**	*e*Pb	**Pb**	**18 41 49.9**	**0.0**
VLI				S	**Sg**	**18 42 11.8**	**-0.4**
LAST	**Lasithi**	**1.89**	**87**	*e*PN	**Pb**	**18 41 54.4**	**+0.2**
LAST	**Lasithi**	**1.89**	**87**	*e*Pn	**Pb**	**18 41 54.4**	**+0.2**
NPS	**Neapolis**	**2.01**	**84**	*e*PG	**Pb**	**18 41 55.9**	**-0.2**
NPS	**Neapolis**	**2.01**	**84**	*e*Pg	**Pb**	**18 41 55.9**	**-0.2**
THR3	**Thira Island,**	**2.24**	**53**	P	**Pn**	**18 41 58.5**	**+1.8**
THR3	**Thira Island,**	**2.24**	**53**	P	**Pn**	**18 41 58.5**	**+1.8**
ITM	**Ithomi**	**2.32**	**335**	*e*PN	**Pb**	**18 42 02.0**	**+0.5**
GUR	**Goura**	**2.92**	**347**	P	**Pn**	**18 42 06.1**	**-0.1**
GUR	**Goura**	**2.92**	**347**	P	**Pn**	**18 42 06.1**	**-0.1**
BRTR	**Keskin Array B**	**9.52**	**58**	Pn	**Pn**	**18 43 39.9**	**+3.0**
0.1nm,0.3s,baz=231,slow=15,SNR=3.7							
MMAI	**Mount Meron Ar**	**10.36**	**98**	Pn	**Pn**	**18 43 49.6**	**+1.4**
0.6nm,0.3s,baz=251,slow=18,SNR=4.0							
MMAI				Sn	**Sn**	**18 45 44.0**	**-0.4**
0.4nm,0.3s,baz=298,slow=19,SNR=3.1							
EIL	**Elat**	**11.32**	**115**	Pn	**Pn**	**18 43 59.7**	**-1.7**
0.1nm,0.3s,baz=3.4,slow=19,SNR=1.9							
GERES	**GERESS Array B**	**15.43**	**336**	Pn	**Pn**	**18 44 58.9**	**+1.6**
0.1nm,0.3s,baz=153,slow=11,SNR=3.5							
AKASG	**Malin Array Be**	**16.21**	**14**	Pn	**P**	**18 45 12.7**	**+2.2**
0.4nm,0.3s,baz=204,slow=8.7,SNR=3.0							
KBZ	**Khabaz**	**17.48**	**55**	LR	LR	18 52 07.4	
comp=Z,24nm,18.4s,baz=26,slow=37							
GNI	**Garni**	**17.80**	**67**	LR	LR	18 53 34.3	
comp=Z,20nm,18.6s,baz=260,slow=41							
HFS	**Hagfors**	**25.81**	**349**	P	**P**	**18 46 49.7**	**-0.9**
2.0nm,0.7s,baz=145,slow=15,SNR=3.7							
FINES	**FINESS Array B**	**26.44**	**3**	P	**P**	**18 46 54.9**	**-1.4**
1.3nm,0.8s,baz=172,slow=11,SNR=2.0							
TORD	**Torodi Ar. Bea**	**29.22**	**227**	P	**P**	**18 47 20.4**	**-1.2**
0.2nm,0.7s,baz=27,slow=8.8,SNR=5.2							
ARCES	**ARCESS Array B**	**34.52**	**1**	P	**P**	**18 48 08.8**	**+1.2**
1.4nm,0.9s,baz=182,slow=8.1,SNR=3.0							
DBIC	**Dimbokro**	**38.27**	**229**	LR	LR	19 05 30.8	
comp=Z,40nm,20.7s,baz=304,slow=38							
MKAR	**Makanchi Array**	**45.17**	**56**	P	**P**	**18 49 36.0**	**-0.4**
0.2nm,0.3s,baz=270,slow=7.7,SNR=8.2							
ZALV	**Zalesovo Beam**	**46.23**	**46**	P	**P**	**18 49 44.5**	**-0.1**
0.5nm,0.6s,baz=266,slow=8.5,SNR=2.4							

*NIED **28** 18:49:00, 27°80N×127°80E, h5km, Mw4.7 Best double couple: M0:1.14000×10^16 NP1:φs38.00000°, δ73.00000°, λ-119.00000°. NP2:φs280.00000°, δ33.00000°, λ-32.00000°.*
*IDC **28** 18:49:28.4±1.3, 27°89N×127°90E, h0km, mb3.9/9, mb1 4.0/9, mb1mx3.8/26, mbtmp3.9/9, MS3.8/11, Ms1 3.8/11, ms1mx3.6/42, Error ellipse: s-maj=55.4km s-min=15.8km az=64.0*
*JMA **28** 18:49:29.1±0.3, 27°84N×127°82E, h13km±4km, M4.5*

ISC 28 18:49:29.1±1.8,27°77N±0°05×127°87E±0°06,h3km±12km, n27,σ1°29/28,mb3.8/9,MS3.8/8,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIH	**Iheya**	**0.74**	**173**	P	**Pg**	**18 49 44.3**	**+0.9**
JIH				*e*S	**Sb**	**18 49 55.3**	**+0.1**
JTK	**Tokunoshima**	**0.96**	**89**	P	**Pg**

ms1mx1.8/36, Error ellipse: s-maj=24.0km s-min=8.2km az=71.0
TIF ***28*** *18:57:44.6, 42°.55N×43°.53E, h17km*
ISCJB ***28*** *18:57:45.6±0.3, 42°.57N±0°.02×43°.53E±0°.02, h11km±3km, mb3.4/5, MS2.9/1, Error ellipse: s-maj=3.5km s-min=2.7km az=138.3*
MOS ***28*** *18:57:45.4±1.1, 42°.53N×43°.52E, h11km, mb4.0/2, Error ellipse: s-maj=7.8km s-min=4.7km az=86.0*
CSEM ***28*** *18:57:45.7±0.2, 42°.56N×43°.54E, h10km, mb4.0, Error ellipse: s-maj=4.5km s-min=3.3km az=115.0*
DDA ***28*** *18:57:46.0, 42°.66N×43°.39E, h11km, MD3.2*
NNC ***28*** *18:57:49.9±2.4, 42°.82N×44°.22E, h0km, mb3.8, Error ellipse: s-maj=51.4km s-min=23.1km az=123.0*

ISC 28 18:57:45.6±0.7, 42°.53N±0°.02×43°.52E±0°.02, h10km±5km, n109, σ1$05/162, mb3.5/6, 14C-11D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.08**	**319**	*i* PG	**Pg**	**18 57 48.0**	**0.0**
ONI	**Oni**	**0.08**	**319**	P	**Pg**	**18 57 48.0**	**0.0**
ONI				S	**Sg**	**18 57 50.2**	**+0.5**
ONI	**Oni**	**0.08**	**319**	*i* Pg	**Pg**	**18 57 48.0**	**0.0**
ONI	**Oni**	**0.08**	**319**	P	**Pg**	**18 57 48.1**	**0.0**
ONI				S	**Sg**	**18 57 50.2**	**+0.5**
DIGR	**Digorskoe uzhe**	**0.37**	**6**	⇓*i*PG	**Pg**	**18 57 52.4**	**-0.6**
DIGR				*i* S	**Sg**	**18 57 58.0**	**0.0**
DIGR	**Digorskoe uzhe**	**0.37**	**6**	*i* Pg	**Pg**	**18 57 52.4**	**-0.6**
DIGR				*i* Sg	**Sg**	**18 57 58.0**	**0.0**
LACR	**Lac**	**0.64**	**62**	⇓*i*PG	**Pg**	**18 57 57.3**	**-0.8**
LACR				*i* S	**Sg**	**18 58 06.5**	**0.0**
LACR	**Lac**	**0.64**	**62**	*i* Pg	**Pg**	**18 57 57.3**	**-0.8**
LACR				*i* Sg	**Sg**	**18 58 06.5**	**0.0**
KORR	**Kora**	**0.69**	**36**	⇑*i*PG	**Pg**	**18 57 58.0**	**-0.9**
KORR				*e*S	**Sg**	**18 57 08.7**	**0.0**
KORR	**Kora**	**0.69**	**36**	*i* Pg	**Pg**	**18 57 58.0**	**-0.9**
KORR				*e*Sg	**Sg**	**18 57 08.7**	**0.0**
LSNR	**Lesken**	**0.78**	**16**	⇓*i*PG	**Pg**	**18 58 00.4**	**-0.3**
LSNR				*e*S	**Sg**	**18 58 11.4**	**+0.6**
LSNR	**Lesken**	**0.78**	**16**	*i* Pg	**Pg**	**18 58 00.4**	**-0.3**
LSNR				*e*Sg	**Sg**	**18 58 11.4**	**+0.6**
STDR	**Stavd-Durt**	**0.93**	**25**	⇓*i*PG	**Pg**	**18 58 03.7**	**+0.3**
STDR				*e*S	**Sb**	**18 58 16.7**	**+0.5**
STDR	**Stavd-Durt**	**0.93**	**25**	*i* Pg	**Pg**	**18 58 03.7**	**+0.3**
STDR				*e*Sg	**Sb**	**18 58 16.7**	**+0.5**
NCK	**Nalchik**	**0.97**	**3**	⇓*i*PG	**Pg**	**18 58 04.3**	**+0.1**
NCK				*i* S	**Sn**	**18 58 18.6**	**-0.5**
NCK	**Nalchik**	**0.97**	**3**	*i* Pg	**Pg**	**18 58 04.3**	**+0.1**
NCK				*i* Sg	**Sn**	**18 58 18.6**	**-0.5**
VLKR	**Vladikavkaz**	**0.99**	**58**	*e*PG	**Pg**	**18 58 04.4**	**-0.3**
VLKR				*e*S	**Sb**	**18 58 18.3**	**+0.2**
VLKR	**Vladikavkaz**	**0.99**	**58**	*e*Pg	**Pg**	**18 58 04.4**	**-0.3**
VLKR				*e*Sg	**Sb**	**18 58 18.3**	**+0.2**
CHVG	**Ch'k'valeri**	**1.08**	**281**	P	**Pg**	**18 58 05.5**	**-0.8**
CHVG				S	**Sb**	**18 58 20.9**	**+0.4**
CHVG	**Ch'k'valeri**	**1.08**	**281**	P	**Pg**	**18 58 05.5**	**-0.8**
CHVG				S	**Sb**	**18 58 20.9**	**+0.4**
AKH	**Akhalkalaki**	**1.12**	**181**	*i* PG	**Pb**	**18 58 06.2**	**-0.9**
AKH	**Akhalkalaki**	**1.12**	**181**	P	**Pb**	**18 58 06.2**	**-0.9**
AKH				S	**Sb**	**18 58 22.0**	**+0.2**
AKH	**Akhalkalaki**	**1.12**	**181**	*i* Pg	**Pb**	**18 58 06.2**	**-0.9**
AKH	**Akhalkalaki**	**1.12**	**181**	P	**Pb**	**18 58 06.2**	**-0.9**
AKH				S	**Sb**	**18 58 22.0**	**+0.2**
BTKR	**Batakoyurt**	**1.13**	**41**	⇑*i*PG	**Pn**	**18 58 09.0**	**+1.5**
BTKR				*e*S	**Sn**	**18 58 24.3**	**+1.3**
BTKR	**Batakoyurt**	**1.13**	**41**	*i* Pg	**Pn**	**18 58 09.0**	**+1.5**
BTKR				*e*Sg	**Sn**	**18 58 24.3**	**+1.3**
TBLG	**Delisi**	**1.21**	**131**	*i* PG	**Pb**	**18 58 07.8**	**-0.7**
TBLG				*i* S	**Sg**	**18 58 24.6**	**+0.2**
TBLG	**Delisi**	**1.21**	**131**	P	**Pb**	**18 58 07.8**	**-0.7**
TBLG				S	**Sg**	**18 58 24.6**	**+0.2**
TBLG	**Delisi**	**1.21**	**131**	P	**Pb**	**18 58 07.8**	**-0.7**
TBLG				S	**Sg**	**18 58 24.6**	**+0.2**
TBLG	**Delisi**	**1.21**	**131**	P	**Pb**	**18 58 07.8**	**-0.7**
TBLG				S	**Sg**	**18 58 24.6**	**+0.2**
KUBR	**Kubataba**	**1.27**	**356**	⇑*i*PG	**Pg**	**18 58 10.4**	**+0.4**
KUBR				*e*S	**Sn**	**18 58 27.6**	**+1.0**
KUBR	**Kubataba**	**1.27**	**356**	*i* Pg	**Pg**	**18 58 10.4**	**+0.4**
KUBR				*e*Sg	**Sn**	**18 58 27.6**	**+1.0**
KBZ	**Khabaz**	**1.28**	**339**	PG	**Pn**	**18 58 08.8**	**-0.7**
KBZ				pmax	pmax		
	comp=Z,21nm,0.3s						
KBZ	**Khabaz**	**1.28**	**339**	Pg	**Pn**	**18 58 08.8**	**-0.7**
	comp=Z,20nm,0.3s,baz=176,slow=9.0,SNR=253						
KBZ				Lg	Lg	18 58 25.6	
	comp=Z,59nm,0.3s,baz=72,slow=21,SNR=18						
KBZ	**Khabaz**	**1.28**	**339**	Pg	**Pn**	**18 58 08.8**	**-0.7**
PRTR	**Priterechnaya**	**1.34**	**24**	⇑*i*PG	**Pg**	**18 58 11.3**	**0.0**
PRTR				*e*S	**Sg**	**18 58 29.3**	**+0.6**
PRTR	**Priterechnaya**	**1.34**	**24**	*i* Pg	**Pg**	**18 58 11.3**	**0.0**
PRTR				*e*Sg	**Sg**	**18 58 29.3**	**+0.6**
SHAR	**Shatzhatmas**	**1.36**	**333**	⇑*i*PG	**Pn**	**18 58 11.2**	**+0.3**
SHAR				*i* S	**Sb**	**18 58 29.0**	**+0.1**
SHAR	**Shatzhatmas**	**1.36**	**333**	*i* Pg	**Pn**	**18 58 11.2**	**+0.3**
SHAR				*i* Sg	**Sb**	**18 58 29.0**	**+0.1**
TRKR	**Terskaya**	**1.48**	**36**	⇓*i*PG	**Pb**	**18 58 13.7**	**+0.4**
TRKR				*e*S	**Sg**	**18 58 33.8**	**+0.4**
TRKR	**Terskaya**	**1.48**	**36**	*i* Pg	**Pb**	**18 58 13.7**	**+0.4**
TRKR				*e*Sg	**Sg**	**18 58 33.8**	**+0.4**
PYA	**Pyatigorsk**	**1.54**	**347**	⇓*i*PG	**Pb**	**18 58 14.0**	**-0.2**
PYA				*i* S	**Sb**	**18 58 34.7**	**+0.9**
PYA	**Pyatigorsk**	**1.54**	**347**	*i* Pg	**Pb**	**18 58 14.0**	**-0.2**
PYA				*i* Sg	**Sb**	**18 58 34.7**	**+0.9**
DOMR	**Dombai**	**1.59**	**299**	⇑*e*PG	**Pb**	**18 58 15.5**	**+0.3**
DOMR				*i* S	**Sg**	**18 58 38.0**	**+1.3**
DOMR	**Dombai**	**1.59**	**299**	*e*Pg	**Pb**	**18 58 15.5**	**+0.3**
DOMR				*i* Sg	**Sg**	**18 58 38.0**	**+1.3**
DGRG	**David-gareji**	**1.75**	**127**	*e*PN	**Pb**	**18 58 18.2**	**+0.4**
DGRG	**David-gareji**	**1.75**	**127**	P	**Pb**	**18 58 18.3**	**+0.4**
DGRG				S	**Sg**	**18 58 44.4**	**+2.5**
DGRG	**David-gareji**	**1.75**	**127**	*e*Pn	**Pb**	**18 58 18.2**	**+0.4**
DGRG	**David-gareji**	**1.75**	**127**	P	**Pb**	**18 58 18.3**	**+0.4**
DGRG				S	**Sg**	**18 58 44.4**	**+2.5**
ARTV	**Artvin**	**1.80**	**222**	*i* P	**Pn**	**18 58 17.3**	**+0.5**
ARTV				*i* S	**Sb**	**18 58 41.7**	**+0.4**
ARTV	**Artvin**	**1.80**	**222**	*i* P	**Pn**	**18 58 17.3**	**+0.5**
ARTV				*i* S	**Sb**	**18 58 41.7**	**+0.4**
DBOC	**Borcka**	**1.82**	**230**	*i* P	**Pn**	**18 58 17.2**	**+0.2**
DBOC				*i* S	**Sn**	**18 58 40.8**	**+0.6**
DBOC	**Borcka**	**1.82**	**230**	*i* P	**Pn**	**18 58 17.2**	**+0.2**
DBOC				*i* S	**Sn**	**18 58 40.8**	**+0.6**
DAGI	**Agillar**	**1.89**	**220**	*i* P	**Pn**	**18 58 19.1**	**+1.1**
DAGI				*i* S	**Sb**	**18 58 44.8**	**+1.0**
DBAD	**Bademkaya**	**2.04**	**223**	*i* P	**Pn**	**18 58 21.5**	**+1.5**
DBAD				*i* S	**Sb**	**18 58 47.5**	**-0.7**
DBAD	**Bademkaya**	**2.04**	**223**	*i* P	**Pn**	**18 58 21.5**	**+1.5**
DBAD				*i* S	**Sb**	**18 58 47.5**	**-0.7**
DIGO	**Kars**	**2.12**	**183**	*i* P	**Pn**	**18 58 22.2**	**+1.0**
DIGO				*i* S	**Sb**	**18 58 50.1**	**-0.5**
DIGO	**Kars**	**2.12**	**183**	*i* P	**Pn**	**18 58 22.2**	**+1.0**
DIGO				*i* S	**Sb**	**18 58 50.1**	**-0.5**
DBC	**Dubki**	**2.48**	**78**	⇑*i*PN	**Pb**	**18 58 28.9**	**-1.4**
DBC				*i* S	**Sb**	**18 59 02.6**	**+1.6**
GNI	**Garni**	**2.55**	**159**	Pn	**Pn**	**18 58 29.4**	**+2.3**
	comp=Z,6.4nm,0.3s,baz=321,slow=5.5,SNR=33						
GNI				Sn	**Sb**	**18 59 03.2**	**+0.3**
	comp=Z,14nm,0.3s,baz=44,slow=15,SNR=6.7						
GNI	**Garni**	**2.55**	**159**	Pn	**Pn**	**18 58 29.4**	**+2.3**
	comp=Z,6.0nm,0.3s						
GOF	**Gofitskoye**	**2.55**	**352**	*e*PN	**Pb**	**18 58 29.8**	**-1.6**
GOF				*i* S	**Sb**	**18 59 04.2**	**+1.3**
GOF				pmax	pmax		
	comp=Z,53nm,0.7s						
GOF				smax	smax		
	comp=E,338nm,1.1s						
GOF				smax	smax		
	comp=E,2μm,1.3s						
HOMI	**Horasan**	**2.77**	**207**	*e*P	**Pn**	**18 58 31.1**	**+0.9**
HOMI				*e*S	**Sb**	**18 59 08.6**	**-0.6**
SOC	**Sochi**	**2.98**	**292**	*c i*PN	**Pn**	**18 58 34.1**	**+1.2**
SOC	**Sochi**	**2.98**	**292**	*i* Pn	**Pn**	**18 58 34.1**	**+1.2**
ERZM	**Erzurum**	**3.09**	**213**	*i* P	**Pn**	**18 58 36.7**	**+2.1**
ERZM	**Erzurum**	**3.09**	**213**	*i* P	**Pn**	**18 58 36.7**	**+2.1**
MACK	**Trabzon**	**3.23**	**242**	*i* P	**Pn**	**18 58 35.5**	**-0.8**
MACK				*e*S	Sn	18 59 06.4	-8.4
MACK	**Trabzon**	**3.23**	**242**	*i* P	**Pn**	**18 58 35.5**	**-0.8**
ANN	**Anapa**	**4.97**	**299**	*e*PN	**Pn**	**18 59 01.8**	**+1.6**
ANN				*e*S	**Sn**	**19 00 02.2**	**+4.6**
ANN				pmax	pmax		
	comp=Z,6.0nm,0.4s						
ANN	**Anapa**	**4.97**	**299**	*e*Pn	**Pn**	**18 59 01.8**	**+1.6**
	comp=Z,6.0nm,0.4s						
BRTR	**Keskin Array B**	**7.97**	**253**	Pn	**Pn**	**18 59 42.1**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=40,slow=11,SNR=9.6						
BRTR				Sn	Sn	19 01 05.2	-6.6
	baz=80,slow=28,SNR=2.5						
BRTR	**Keskin Array B**	**7.97**	**253**	P	**Pn**	**18 59 42.1**	**+0.5**
AKTK	**Aktyubinsk**	**12.72**	**47**	P	**Pn**	**19 00 44.6**	**-1.8**
AKTO	**Aktyubinsk**	**12.72**	**47**	⇑Pn	**Pn**	**19 00 44.2**	**-2.2**
	comp=Z,4.2nm,1.1s						
AKTO				⇑Sn	Sn	19 03 00.7	-7.4
	comp=Z,4.4nm,1.1s						
AKTO	**Aktyubinsk**	**12.72**	**47**	P	**Pn**	**19 00 44.6**	**-1.9**
AKTO	**Aktyubinsk**	**12.72**	**47**	Pn	**Pn**	**19 00 44.5**	**-1.9**
	comp=Z,0.4nm,0.3s,baz=252,slow=8.5,SNR=7.0						
AKTO	**Aktyubinsk**	**12.72**	**47**	Pn	**Pn**	**19 00 44.2**	**-2.2**
	comp=Z,4.2nm,1.1s						
AB31	**Akbulak array**	**13.25**	**54**	⇓Pn	**Pn**	**19 00 51.5**	**-2.2**
	comp=Z,1.6nm,0.7s,baz=242,slow=11,SNR=26						
AB31				⇑Sn	Sn	19 03 14.0	-7.0
	comp=Z,1.3nm,0.7s,baz=238,slow=18,SNR=4.6						
AB31	**Akbulak array**	**13.25**	**54**	Pn	**Pn**	**19 00 51.5**	**-2.2**
	comp=Z,1.6nm,0.7s,baz=242,SNR=26						
ARU	**Arti**	**16.94**	**30**	*c i*P	**Pn**	**19 01 42.4**	**-0.1**
ARU				S	**Sn**	**19 04 51.6**	**+0.9**
ARU				pmax	pmax		
	comp=Z,9.0nm,1.7s						
ARU	**Arti**	**16.94**	**30**	*i* P	**Pn**	**19 01 42.4**	**-0.1**
	comp=Z,9.0nm,1.7s						
SVE	**Sverdlovsk**	**18.02**	**32**	*e*P	**Pn**	**19 01 54.8**	**-1.1**
SVE	**Sverdlovsk**	**18.02**	**32**	*e*P	**Pn**	**19 01 54.8**	**-1.1**
KK31	**Karatay Array**	**19.78**	**79**	⇓P	**P**	**19 02 16.7**	**+0.8**
	comp=Z,0.8nm,0.5s,baz=290,slow=11,SNR=13						
KK31	**Karatay Array**	**19.78**	**79**	P	**P**	**19 02 16.7**	**+0.8**
	comp=Z,0.8nm,0.5s,SNR=13						
BRVK	**Borovoye**	**20.71**	**50**	⇓P	**P**	**19 02 25.9**	**0.0**
	comp=Z,7.3nm,0.8s						
BRVK	**Borovoye**	**20.71**	**50**	⇑*i*P	**P**	**19 02 26.4**	**+0.5**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BRVK	**Borovoye**	**20.71**	**50**	P	**P**	**19 02 25.9**	**0.0**
	comp=Z,7.3nm,0.8s						
BVA0	**Borovoye Array**	**20.76**	**50**	⇓P	**P**	**19 02 26.3**	**-0.1**
	comp=Z,4.8nm,0.9s,baz=229,slow=8.3,SNR=9.4						
BVA0	**Borovoye Array**	**20.76**	**50**	P	**P**	**19 02 26.3**	**-0.1**
	comp=Z,4.8nm,0.9s,SNR=9.4						
BVAR	**Borovoye Array**	**20.76**	**50**	P	**P**	**19 02 26.5**	**+0.1**
BVAR	**Borovoye Array**	**20.76**	**50**	P	**P**	**19 02 26.5**	**+0.1**
	comp=Z,1.8nm,0.7s,baz=238,slow=8.5,SNR=12						
BVAR	**Borovoye Array**	**20.76**	**50**	P	**P**	**19 02 26.5**	**+0.1**
VOSK	**Vostochnaya**	**21.00**	**51**	⇑P	**P**	**19 02 28.1**	**-1.0**
	comp=Z,2.4nm,0.9s						
FINES	**FINESS Array B**	**21.64**	**337**	P	**P**	**19 02 34.1**	**-1.7**
	comp=Z,1.9nm,0.8s,baz=145,slow=15,SNR=2.2						
FINES	**FINESS Array B**	**21.64**	**337**	P	**P**	**19 02 34.1**	**-1.7**
CLL	**Collm**	**22.48**	**304**	*e*P	P	19 02 56.0	+11
AAK	**Ala-Archa**	**22.75**	**79**	*e*P	**P**	**19 02 50.8**	**+2.8**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
AAK	**Ala-Archa**	**22.75**	**79**	P	**P**	**19 02 48.1**	**+0.2**
	comp=Z,0.7nm,0.4s,baz=243,slow=4.5,SNR=3.2						
KURBB	**Kurchatov Arra**	**25.20**	**59**	P	**P**	**19 03 11.8**	**+0.7**
	comp=Z,0.4nm,0.8s,baz=271,slow=11,SNR=10						
KURK	**Kurchatov**	**25.26**	**59**	*e*P	**P**	**19 03 13.5**	**+1.8**
KURK	**Kurchatov**	**25.26**	**59**	*e*P	**P**	**19 03 13.5**	**+1.8**
NOA	**NORSAR Array B**	**26.82**	**325**	LR	LR	19 15 39.0	
	comp=Z,30nm,19.4s,baz=350,slow=40						
MK31	**Makanchi Array**	**27.70**	**68**	P	**P**	**19 03 33.7**	**-0.2**
	comp=Z,0.7nm,0.8s,baz=274,slow=7.6,SNR=9.7						
MK31	**Makanchi Array**	**27.70**	**68**	P	**P**	**19 03 33.7**	**-0.2**
	comp=Z,0.7nm,0.8s,SNR=9.7						
MKAR	**Makanchi Array**	**27.70**	**68**	P	**P**	**19 03 33.8**	**-0.1**
MKAR	**Makanchi Array**	**27.70**	**68**	P	**P**	**19 03 33.8**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=270,slow=9.0,SNR=10						
MKAR	**Makanchi Array**	**27.70**	**68**	P	**P**	**19 03 33.8**	**-0.1**

IDC ***28*** *18:59:49.6±1.1, 5°.68S×152°.94E, h0km, mb4.2/18, mb1 4.3/18, mb1mx4.3/23, mbtmp4.3/18, Error ellipse: s-maj=35.6km s-min=15.2km az=112.0*
ISCJB ***28*** *18:59:54.4±0.5, 5°.59S±0°.06×152°.79E±0°.09, h37km, mb4.2/19, Error ellipse: s-maj=13.1km s-min=7.3km az=24.8*
AUST ***28*** *18:59:56.7, 5°.64S×153°.12E, h60km*

ISC 28 18:59:55.1±0.8, 5°.66S±0°.08×153°.0E±0°.1, h37km, n32, σ1$50/32, mb4.2/18, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.68**	**331**	P	**Pn**	**19 00 21.4**	**-0.5**
	baz=1.7,SNR=55						
PMG	**Port Moresby**	**6.88**	**237**	Pn	**Pn**	**19 01 33.9**	**+0.5**
	3.0nm,0.3s,baz=55,slow=12,SNR=13						
PMG				Sn	**Sn**	**19 02 49.6**	**-0.8**
	15nm,0.3s,baz=92,slow=22,SNR=13						
MTSU	**Mount Surprise**	**15.02**	**214**	P	**P**	**19 03 31.8**	**+2.1**
	baz=15,SNR=10						
CTA	**Charters Tower**	**15.77**	**204**	Pn	**P**	**19 03 39.2**	**+1.2**
	0.1nm,0.3s,baz=23,slow=12,SNR=7.7						
EIDS	**Eidsvold**	**19.68**	**185**	P	**P**	**19 04 17.0**	**-4.2**
	baz=20,SNR=4.5						
DZM	**Mont Dzumac**	**20.87**	**143**	P	Pn	19 04 38.2	+1.4
	8.7nm,1.1s,baz=354,slow=8.1,SNR=3.9						
RMQ	**Roma**	**21.10**	**191**	P	**P**	**19 04 40.1**	**+3.6**
	baz=21,SNR=5.6						
KDU	**Kakadu**	**21.41**	**250**	P	**P**	**19 04 39.4**	**-0.5**
	baz=22,SNR=31						
QLP	**Quilpie**	**22.42**	**201**	P	**P**	**19 04 51.2**	**+0.5**
	baz=23,SNR=7.8						
WRA	**Warramunga Arr**	**23.03**	**230**	P	**P**	**19 04 56.1**	**-1.1**
	3.4nm,0.8s,baz=55,slow=10,SNR=14						
ASAR	**Alice Springs**	**25.66**	**224**	P	**P**	**19 05 21.6**	**0.0**
	3.9nm,0.8s,baz=55,slow=9.0,SNR=37						
KNRA	**Kununurra**	**25.77**	**245**	P	**P**	**19 05 26.4**	**+3.7**
	baz=26,SNR=9.3						
STKA	**Stephens Creek**	**28.18**	**201**	P	**P**	**19 05 43.7**	**-0.5**
	1.4nm,0.6s,baz=36,slow=14,SNR=5.5						
FITZ	**Fitzroy Crossi**	**29.43**	**243**	P	**P**	**19 05 54.9**	**-0.6**
	4.4nm,0.7s,baz=104,slow=7.0,SNR=14						
FITZ	**Fitzroy Crossi**	**29.43**	**243**	P	**P**	**19 05 55.0**	**-0.4**
	baz=30,SNR=18						
MEEK	**Meekatharra**	**38.84**	**234**	P	P	19 07 20.2	+3.3
	baz=39,SNR=9.8						
JNU	**Nakatsue**	**43.91**	**333**	P	**P**	**19 07 57.5**	**-0.9**
	6.0nm,0.9s,baz=146,slow=3.6,SNR=4.7						
KSRS	**Korea Array**	**48.85**	**333**	P	**P**	**19 08 37.1**	**+0.1**
	1.1nm,0.7s,baz=153,slow=9.3,SNR=5.7						
ASAJ	**Asahikawa**	**50.43**	**350**	P	**P**	**19 08 49.4**	**+0.5**
	8.3nm,0.8s,baz=218,slow=18,SNR=2.9						
USRK	**Ussuriysk Arra**	**53.11**	**341**	P	**P**	**19 09 09.5**	**+0.5**
	1.2nm,0.6s,baz=133,slow=8.5,SNR=3.4						
CMAR	**Chiang Mai Arr**	**58.41**	**296**	P	**P**	**19 09 46.9**	**-0.6**
	1.2nm,0.8s,baz=120,slow=5.6,SNR=12						
PETK	**Petropavlovsk-**	**58.68**	**3**	P	**P**	**19 09 49.9**	**+1.1**
	9.4nm,0.9s,baz=170,slow=7.5,SNR=12						
SONM	**Songino Array**	**67.15**	**328**	P	**P**	**19 10 46.0**	**+0.7**
	1.5nm,0.5s,baz=142,slow=5.5,SNR=13						
MKAR	**Makanchi Array**	**81.09**	**319**	P	**P**	**19 12 07.2**	**+0.6**
	1.4nm,0.7s,baz=98,slow=6.5,SNR=14						
ZALV	**Zalesovo Beam**	**81.97**	**326**	P	**P**	**19 12 10.4**	**-0.6**
	1.2nm,0.5s,baz=118,slow=6.0,SNR=7.0						
ILAR	**Eielson Array**	**82.88**	**22**	P	**P**	**19 12 15.3**	**-0.2**
	2.4nm,0.9s,baz=255,slow=5.5,SNR=14						
KURBB	**Kurchatov Arra**	**84.59**	**322**	P	**P**	**19 12 23.6**	**-1.0**
	0.8nm,0.6s,baz=283,slow=3.0,SNR=9.8						
AAK	**Ala-Archa**	**85.39**	**313**	P	**P**	**19 12 30.2**	**+1.1**
	4.3nm,0.9s,baz=109,slow=3.0,SNR=7.9						
INK	**Inuvik**	**89.19**	**21**	P	**P**	**19 12 46.6**	**0.0**
	3.6nm,1.0s,baz=287,slow=5.9,SNR=2.9						
BVAR	**Borovoye Array**	**90.04**	**323**	P	**P**	**19 12 50.8**	**-0.1**
	0.8nm,0.5s,baz=120,slow=7.4,SNR=7.2						
GERES	**GERESS Array B**	**124.88**	**328**	PKP	**PKPdf**	**19 18 52.5**	**+1.1**
	0.4nm,0.5s,baz=90,slow=0.5,SNR=4.3						
TORD	**Torodi Ar. Bea**	**150.74**	**287**	PKPbc	**PKPbc**	**19 19 44.8**	**+0.2**
	1.5nm,0.7s,baz=57,slow=1.9,SNR=10						
TORD				PKPab	**PKPab**	**19 19 49.5**	**-2.1**
	2.7nm,0.7s,baz=76,slow=2.1,SNR=23						

CSEM ***28*** *19:04:43.5, 11°.93N×43°.60E, h10km, ML3.8, After DHMR*

DHMR 28 19:04:43.5±1.3, 11°.93N×43°.60E, h10km, ML3.8, 3C, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.39**	**211**	⇑*i*P	Pb	19 05 09.9	0.0
TRBA				*i* S	Sg	19 05 28.4	-0.4
TRBA				AML	AML	19 05 28.9	
	comp=N,2μm,0.3s						
UDYN	**Al 'Udayn**	**2.06**	**10**	⇑*i*P	Pb	19 05 19.9	-1.3
UDYN				*i* S	Sb	19 05 48.6	+1.5
UDYN				AML	AML	19 05 56.3	
	comp=E,933nm,0.7s						
UDYN	**Al 'Udayn**	**2.06**	**10**	⇑*i*P	Pb	19 05 20.0	-1.2
UDYN				*i* S	Sb	19 05 48.6	+1.5
LBOS		**2.52**	**40**	*i* P	Pn	19 05 27.0	+2.1
LBOS				*i* S	Sb	19 06 01.7	+1.2
BDHA	**Al Bayda'**	**2.80**	**43**	*i* P	Pn	19 05 31.0	+2.3
BDHA				*i* S	Sb	19 06 08.1	-0.4
BDHA				AML	AML	19 06 15.1	
	comp=N,755nm,0.5s						
BDHA	**Al Bayda'**	**2.80**	**43**	*i* P	Pn	19 05 31.0	+2.3
BDHA				*i* S	Sb	19 06 08.1	-0.5
HAJJ	**Hajjah**	**3.75**	**0**	*i* P	Pn	19 05 43.9	+2.1
HAJJ				*i* S	Sn	19 06 30.8	+4.7
HAJJ				AML	AML	19 06 48.2	
	comp=Z,364nm,0.5s						
HAJJ	**Hajjah**	**3.75**	**0**	*i* P	Pn	19 05 43.9	+2.2
HAJJ				*i* S	Sn	19 06 30.8	+4.7

NIED ***28*** *19:15:00, 27°.90N×127°.90E, h5km, Mw4.6 Best double couple: M0 9.33000×10^15 NP1:φ=41.00000°, δ71.00000°, λ=-110.00000°. NP2:φ=270.00000°, δ27.00000°, λ=-45.00000°.*
ISCJB ***28*** *19:15:09.7±1.7, 27°.87N±0°.04×127°.84E±0°.05, h3km±11km, mb3.8/9, Error ellipse: s-maj=8.6km s-min=6.0km az=25.9*
IDC ***28*** *19:15:11.0±0.8, 27°.75N×127°.62E, h0km, mb3.8/9, mb1 4.0/9, mb1mx3.8/25, mbtmp3.8/9, Error ellipse: s-maj=37.0km s-min=16.3km az=74.0*
JMA ***28*** *19:15:10.8±0.3, 27°.87N×127°.86E, h9km±4km, M4.6*

ISC 28 19:15:11.5±1.8, 27°.79N±0°.05×127°.93E±0°.06, h6km±11km, n20, σ1$03/23, mb3.9/9, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIH	**Iheya**	**0.75**	**177**	P	**Pg**	**19 15 26.6**	**+0.6**
JIH				S	**Sb**	**19 15 37.7**	**+0.1**
JTK	**Tokunoshima**	**0.91**	**90**	P	**Pg**	**19 15 28.8**	**-0.2**
JTK				S	**Sb**	**19 15 41.8**	**-0.3**
JOW	**Kunigami**	**1.00**	**162**	P	**Pg**	**19 15 31.1**	**+0.3**
JOW				S	**Sn**	**19 15 45.5**	**-1.1**
JAMN	**Amaminishikomi**	**1.19**	**68**	P	**Pb**	**19 15 33.6**	**-1.0**
JAGN	**Aguni-jima**	**1.34**	**207**	P	**Pn**	**19 15 35.8**	**-1.0**
JAGN				S	**Sb**	**19 15 53.7**	**-0.8**
JAM	**Amami Oshima**	**1.61**	**67**	P	**Pn**	**19 15 39.8**	**-0.7**
JJT2	**Tamagusuku 2**	**1.65**	**186**	P	**Pb**	**19 15 42.1**	**-0.3**
JJT2				S	**Sg**	**19 16 05.2**	**+0.5**
JKE	**Kume jima 2**	**1.78**	**215**	P	**Pn**	**19 15 41.8**	**-1.0**
JNU	**Nakatsue**	**5.89**	**25**	Pn	Pn	19 16 45.7	+6.2
	1.0nm,0.3s,baz=201,slow=4.8,SNR=8.0						
**K

NDR			⇑S		Sn	19 19 53.0	+1.6
NDR	**Nardaran**	**0.55 345**	P		**Pn**	**19 19 40.8**	**-0.7**
	SNR=53						
NDR			S		**Sn**	**19 19 53.0**	**+1.6**
ALIB	**Äli-Bayra**	**0.90 265**	⇓P		**Pn**	**19 19 46.6**	**+1.2**
ALIB	**Äli-Bayra**	**0.90 265**	P		**Pn**	**19 19 46.6**	**+1.2**
ATGJ	**Altiaghaj**	**1.25 311**	⇑P		**Pn**	**19 19 50.6**	**+0.8**
ATGJ			⇑S		**Sn**	**19 20 06.5**	**+0.4**
ATGJ	**Altiaghaj**	**1.25 311**	P		**Pn**	**19 19 50.6**	**+0.8**
ATGJ			S		**Sn**	**19 20 06.5**	**+0.4**
PQL	**Pirkuli**	**1.42 302**	⇓P		**Pn**	**19 19 52.1**	**0.0**
PQL			⇓S		**Sn**	**19 20 09.9**	**-0.3**
PQL	**Pirkuli**	**1.42 302**	P		**Pn**	**19 19 52.1**	**0.0**
PQL			S		**Sn**	**19 20 09.9**	**-0.3**
GLBA	**Clilabad**	**1.59 240**	⇑Pn		**Pn**	**19 19 53.2**	**-1.0**
GLBA			⇑S		**Sn**	**19 20 13.6**	**-0.5**
GLBA	**Clilabad**	**1.59 240**	Pn		**Pn**	**19 19 53.2**	**-1.0**
GLBA			S		**Sn**	**19 20 13.6**	**-0.5**
IML	**Ismayilli**	**1.69 297**	⇑Pn		**Pn**	**19 19 55.2**	**-0.4**
	SNR=40						
IML			⇓S		**Sn**	**19 20 15.4**	**-1.2**
IML	**Ismayilli**	**1.69 297**	Pn		**Pn**	**19 19 55.2**	**-0.4**
	SNR=40						
IML			S		**Sn**	**19 20 15.4**	**-1.2**
LKRN	**Lenkeran, Azer**	**1.72 219**	⇓S		**Sn**	**19 20 16.0**	**-1.1**
LKRN	**Lenkeran, Azer**	**1.72 219**	S		**Sn**	**19 20 16.0**	**-1.1**
QUBA	**Quba, Azerbaij**	**1.83 316**	⇑Pn		**Pn**	**19 19 56.4**	**-1.0**
QUBA	**Quba, Azerbaij**	**1.83 316**	Pn		**Pn**	**19 19 56.4**	**-1.0**
BRDA	**Brd**	**2.31 276**	⇓Pn		**Pn**	**19 20 04.0**	**+0.2**
BRDA			⇑S		**Sn**	**19 20 32.1**	**+1.0**
BRDA	**Brd**	**2.31 276**	Pn		**Pn**	**19 20 04.0**	**+0.2**
BRDA			S		**Sn**	**19 20 32.1**	**+1.0**
SEKA	**Sheki**	**2.55 298**	⇑Pn		**Pn**	**19 20 06.6**	**-0.5**
SEKA			⇓S		**Sn**	**19 20 36.8**	**-0.3**
SEKA	**Sheki**	**2.55 298**	Pn		**Pn**	**19 20 06.6**	**-0.5**
SEKA			S		**Sn**	**19 20 36.8**	**-0.3**
GANJ	**Ganja**	**3.00 283**	⇑Pn		**Pn**	**19 20 11.9**	**-1.4**
	SNR=8.4						
GANJ			⇑S		**Sn**	**19 20 45.7**	**-2.5**
GANJ	**Ganja**	**3.00 283**	Pn		**Pn**	**19 20 11.9**	**-1.4**
	SNR=8.4						
GANJ			S		**Sn**	**19 20 45.7**	**-2.5**
NAX	**Nakhchivan**	**3.72 258**	⇑Pn		**Pn**	**19 20 21.6**	**-1.5**
NAX	**Nakhchivan**	**3.72 258**	Pn		**Pn**	**19 20 21.6**	**-1.5**
KBZ	**Khabaz**	**6.56 306**	Pn		Pn	19 20 58.1	-3.5
	0.1nm,0.3s,baz=135,slow=5.7,SNR=2.0						
KBZ			Sn		Sn	19 22 08.5	-6.5
	0.2nm,0.3s,baz=300,slow=20,SNR=2.5						
AB31	**Akbulak array**	**11.53 34**	⇑Pn		**Pn**	**19 22 07.9**	**-1.6**
	0.1nm,0.2s,baz=220,slow=13,SNR=15						
AB31			⇑Sn		**Sn**	**19 24 11.6**	**-4.8**
	0.5nm,0.5s,baz=224,slow=25,SNR=3.0						
AKTO	**Aktyubinsk**	**11.76 25**	⇓Pn		**Pn**	**19 22 09.9**	**-2.7**
	2.5nm,0.3s						
AKTO			⇑Sn		Sn	19 24 15.1	-6.8
	0.7nm,0.4s						
KK31	**Karatay Array**	**15.52 72**	⇓P		**P**	**19 23 04.1**	**-1.3**
	0.6nm,0.6s,baz=275,slow=12,SNR=5.1						
BRVK	**Borovoye**	**18.90 40**	⇓P		**Pn**	**19 23 44.6**	**+0.7**
	3.8nm,0.8s						
BRVK	**Borovoye**	**18.90 40**	P		**Pn**	**19 23 44.6**	**+0.7**
	3.8nm,0.8s						
BVA0	**Borovoye Array**	**18.93 40**	⇓P		**Pn**	**19 23 44.8**	**+0.5**
	0.8nm,0.6s						
BVA0	**Borovoye Array**	**18.93 40**	P		**Pn**	**19 23 44.8**	**+0.5**
	0.8nm,0.6s						
BVAR	**Borovoye Array**	**18.93 40**	P		**Pn**	**19 23 45.5**	**+1.2**
	0.6nm,0.3s,baz=220,slow=12,SNR=13						
VOSK	**Vostochnaya**	**19.06 41**	⇑P		**Pn**	**19 23 46.2**	**+0.4**
	2.6nm,0.6s						
MK31	**Makanchi Array**	**24.16 63**	P		**P**	**19 24 40.3**	**+3.0**
	0.6nm,0.5s,baz=257,slow=9.5,SNR=12						
MK31	**Makanchi Array**	**24.16 63**	P		**P**	**19 24 40.3**	**+3.0**
	0.6nm,0.5s,SNR=12						
MKAR	**Makanchi Array**	**24.16 63**	P		**P**	**19 24 40.2**	**+2.9**
	0.8nm,0.6s,baz=258,slow=9.8,SNR=13						
FINES	**FINESS Array B**	**26.00 333**	P		**P**	**19 24 55.0**	**+1.2**
	2.2nm,0.9s,baz=140,slow=11,SNR=3.7						
ARCES	**ARCESS Array B**	**32.30 344**	P		**P**	**19 25 51.3**	**+1.7**
	2.4nm,1.0s,baz=138,slow=9.6,SNR=4.0						
TORD	**Torodi Ar. Bea**	**50.17 252**	P		**P**	**19 28 18.1**	**+1.7**
	0.1nm,0.3s,baz=56,slow=6.8,SNR=4.4						

IDC 28 19:20:57.5±1.0,55°.36S×27°.61W,h0km,mb3.7/3, mb1 3.9/3,mb1mx3.7/16,mbtmp3.7/3,Error ellipse: s-maj=45.8km s-min=26.7km az=78.0,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**19.47**	**157**	P	Pn	19 25 26.5	-0.3
	baz=308,slow=15						
VNDA	**Vanda**	**47.26**	**183**	P	P	19 29 31.5	-0.2
	0.4nm,0.7s,baz=184,slow=5.9,SNR=4.3						
LPAZ	**La Paz**	**49.78**	**305**	P	P	19 29 53.3	+0.7
	1.1nm,0.9s,baz=153,slow=11,SNR=3.6						
TORD	**Torodi Ar. Bea**	**72.57**	**30**	P	P	19 32 26.7	+0.4
	1.3nm,0.8s,baz=202,slow=6.1,SNR=6.5						
ILAR	**Eielson Array**	**149.47**	**313**	PKPbc	PKPbc	19 40 45.4	-1.7
	0.7nm,0.8s,baz=108,slow=2.9,SNR=4.7						
SONM	**Songino Array**	**150.92**	**86**	PKPbc	PKPbc	19 40 50.7	-0.6
	0.6nm,0.7s,baz=210,slow=4.8,SNR=2.8						

BJI ***28*** *19:22:54.3,27°.65N×128°.02E,h10km,mB6.2/61,mb5.4/53, Ms6.2/79,Ms7 6.0/69*

IDC ***28*** *19:22:55.6±0.3,27°.97N×127°.84E,h0km,mb5.1/33, mb1 5.1/35,mb1mx5.1/37,mbtmp5.1/35,ML4.2/2,MS5.6/41, Ms1 5.6/41,ms1mx5.5/48,Error ellipse: s-maj=12.0km s-min=9.6km az=71.0*

JMA ***28*** *19:22:56.2±0.3,27°.87N×127°.86E,h13km±3km,M6.1*

JMA Felt III/ J1.

ISCJB ***28*** *19:22:57.0±0.5,27°.87N±0°.02×127°.84E±0°.02,h15km±3km, mb5.5/274,MS5.7/212,Error ellipse: s-maj=2.7km s-min=2.1km az=149.5*

NEIC ***28*** *19:22:57.1±0.1,27°.93N×127°.82E,h9km,mb5.7/161, ME5.3,MS5.6/118,MW5.8,MW5.9(NIED),Error ellipse: s-maj=4.3km s-min=3.3km az=134.0,Moment Tensor Solution. s63 Moment tensor: Scale 10^{17}Nm; M_{rr}-5.47; $M_{\theta\theta}$3.89; $M_{\phi\phi}$1.58; $M_{r\theta}$-2.46; $M_{\theta\phi}$2.18; $M_{\phi r}$-2.96; Best double couple: $M_0$6.60000×10^{17} NP1:ϕ_s48.00000°, δ63.00000°,λ-99.00000°. NP2:ϕ_s248.00000°,δ29.00000°, λ-73.00000°. Principal axes: T 6.3500, Plg17.0000°, Azm145.0000°; N 0.4500, Plg8.0000°, Azm52.0000°; P -6.8000, Plg70.0000°, Azm298.0000°; Broadband fault plane solution: P waves. NP1:ϕ_s235.00000°,δ15.00000°, λ-90.00000°. NP2:ϕ_s55.00000°,δ75.00000°,λ-90.00000°. Principal axes: T Plg30.0000°, Azm145.0000°; N Plg0.0000°, Azm0.0000°; P Plg60.0000°, Azm325.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Recorded [3 JMA] on Tokuno-shima; [2 JMA] on Iheya-jima, Okinawa, Okino-erabu-shima, Uke-jima and Yoron-jima; [1 JMA] on Amami-oshima and Yoro-shima.

SZGRF ***28*** *19:22:58.1,27°.63N×128°.42E,h33km,mb5.3,MS6.4, Ryukyu Islands, Japan*

TEH ***28*** *19:22:58.0,27°.94N×127°.87E,h10km,ML5.9*

BKK ***28*** *19:22:59.1±0.4,28°N±5°×12°8E±°,h10km,M5.9/39, mb5.5/39,mB6.2/30,MLv6.5/1,Mw(mB)5.8/30,Mwp5.1/1*

MOS ***28*** *19:22:59.3±1.1,27°.91N×127°.85E,h33km,mb5.7/100, MS5.8/51,Error ellipse: s-maj=6.6km s-min=3.7km az=110.2*

NIED ***28*** *19:23:00,27°.80N×127°.90E,h5km,Mw5.9 Best double couple: $M_0$7.76000×10^{17} NP1:ϕ_s59.00000°,δ64.00000°, λ-82.00000°. NP2:ϕ_s221.00000°,δ27.00000°, λ-106.00000°.*

GCMT ***28*** *19:23:01.2±0.1,27°.77N×127°.81E,h12km,MW5.8, Moment Tensor Solution. s99,c210; s64,c91; Moment tensor: Scale 10^{17}Nm; M_{rr}-5.56±.05; $M_{\theta\theta}$3.67±.04; $M_{\phi\phi}$1.90±.05; $M_{r\theta}$-0.47±.12; $M_{\theta\phi}$4.10±.04; $M_{\phi r}$1.22±.12; Best double couple: $M_0$6.50000×10^{17} NP1:ϕ_s216.00000°, δ49.00000°,λ-111.00000°. NP2:ϕ_s66.00000°,δ45.00000°, λ-68.00000°. Principal axes: T 6.9900, Plg2.0000°, Azm321.0000°; N -1.0700, Plg15.0000°, Azm230.0000°; P -5.9200, Plg74.0000°, Azm57.0000°; Data Used: II IU IC G CN. Surface waves: sta=114, comp=258, per= 50.*

DJA ***28*** *19:23:06.5±1.4,28°N±7°×12°8E±°,h55km±13km,M5.9/16, mB6.1/13,mb5.5/16,MLv6.3/1,Mw(mB)5.8/13*

ISC 28 19:22:58.4±0.3,27°.80N±0°.02×127°.97E±0°.02,h15km±1km, h14km:pP-P,n1253,o1s59/1293,mb5.6/272,MS5.7/212, 193C-188D,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIH	**Iheya**	**0.76**	**180**	⇑P	**Pg**	**19 23 12.0**	**-1.2**
JIH				S	**Sg**	**19 23 23.4**	**+0.2**
JTK	**Tokunoshima**	**0.87**	**91**	⇑P	**Pb**	**19 23 14.4**	**-0.8**
JTK				S	**Sg**	**19 23 27.2**	**+0.4**
JOW	**Kunigami**	**1.00**	**164**	⇑P	**Pb**	**19 23 16.1**	**-1.4**
JOW				S	**Sb**	**19 23 30.6**	**+0.1**
JOW	**Kunigami**	**1.00**	**164**	*e*Pn	**Pb**	**19 23 16.6**	**-0.9**
JOW				*e*Sn	**Sb**	**19 23 30.1**	**-0.3**
JAMN	**Amaminishikomi**	**1.16**	**67**	P	**Pn**	**19 23 18.5**	**-1.6**
JAMN				S	**Sn**	**19 23 35.6**	**0.0**
JAGN	**Aguni-jima**	**1.37**	**208**	⇑P	**Pn**	**19 23 21.4**	**-1.5**
JAM	**Amami Oshima**	**1.57**	**67**	⇓P	**Pn**	**19 23 25.0**	**-0.8**
JAM				S	**Sb**	**19 23 46.4**	**-0.5**
JJT2	**Tamagusuku 2**	**1.67**	**187**	P	**Pn**	**19 23 26.4**	**-0.7**
JJT2				S	**Sb**	**19 23 49.4**	**-0.2**
JKE	**Kume jima 2**	**1.81**	**216**	P	**Pn**	**19 23 27.4**	**-1.6**
JZK	**Kikaishima**	**1.85**	**73**	P	**Pb**	**19 23 31.2**	**-0.6**
JNN	**Nakanoshima**	**2.63**	**39**	⇓P	**Pn**	**19 23 40.1**	**-0.3**
JMZ	**Minamidaito 2**	**3.52**	**123**	P	**Pn**	**19 23 51.1**	**-1.4**
JOGS	**Gusukube**	**3.80**	**218**	P	**Pn**	**19 23 57.2**	**+0.8**
JMJ	**Miyako jima 2**	**3.82**	**219**	P	**Pn**	**19 23 57.6**	**+0.9**
JTJ	**Tarama**	**4.30**	**224**	P	**Pn**	**19 24 02.5**	**-0.8**
JIJ	**Ishigaki jima**	**4.85**	**226**	P	**Pn**	**19 24 11.5**	**+0.6**
JKRS	**Kuro-shima**	**5.03**	**226**	P	**Pn**	**19 24 14.7**	**+1.4**
IRIF	**Iriomote-Funau**	**5.14**	**229**	P	**Pn**	**19 24 16.1**	**+1.3**
HATJ	**Hateruma jima**	**5.28**	**226**	P	**Pn**	**19 24 17.6**	**+0.8**
YOJ	**Yonaguni jima**	**5.56**	**234**	P	**Pn**	**19 24 22.6**	**+2.0**
JNU	**Nakatsue**	**5.87**	**25**	Pn	Pn	19 24 29.1	+4.2
JNU				Sn	**Sn**	**19 25 37.7**	**+5.7**
JNU	**Nakatsue**	**5.87**	**25**	Pn	Pn	19 24 29.1	+4.2
	19nm,0.3s,baz=210,slow=9.0,SNR=123						
JNU				Sn	**Sn**	**19 25 37.7**	**+5.7**
	baz=0.0,slow=13,SNR=1.0						
JNU				LR	LR	19 26 57.5	
	comp=Z,30μm,18.0s,baz=210,slow=42						
TATO	**Taipei**	**6.45**	**246**	Pn	Pn	19 24 38.8	+5.9
	SNR=6.4						
TATO	**Taipei**	**6.45**	**246**	*e*P	**Pn**	**19 24 33.4**	**+0.5**
	118nm,1.0s						
YHNB	**Yeheng**	**6.69**	**244**	*e*P	**Pn**	**19 24 38.2**	**+2.0**
	1μm,1.0s						
SSE	**Sheshan**	**6.76**	**301**	Pn	**Pn**	**19 24 36.0**	**-1.1**
SSE				Sn	**Sn**	**19 25 52.3**	**-1.6**
SSE				LR	LR		
	comp=N,83μm,17.7s						
SSE				LR	LR		
	comp=E,62μm,17.5s						
SSE				LR	LR		
	comp=Z,74μm,12.4s						
NACB	**Ninganchiao**	**6.77**	**239**	*e*P	**Pn**	**19 24 38.5**	**+1.2**
	comp=Z,445nm,0.9s						
YULB	**Yu-li**	**7.45**	**235**	*e*P	**Pn**	**19 24 45.6**	**-1.0**
	comp=Z,632nm,1.5s						
SSLB	**Suanglung**	**7.47**	**239**	*e*P	**Pn**	**19 24 47.9**	**+0.9**
	comp=Z,590nm,0.9s						
TWG	**Pinlang**	**7.97**	**233**	*e*P	**Pn**	**19 24 51.4**	**-2.3**
	comp=Z,306nm,0.6s						
TPUB	**Ta-pu**	**8.00**	**238**	*e*P	**Pn**	**19 24 55.2**	**+1.1**
	comp=Z,407nm,0.9s						
TJN	**Taejon**	**8.57**	**357**	*e*P	Pn	19 25 05.2	+3.3
QZH	**Quanzhou**	**8.87**	**253**	⇓*i*P	**Pn**	**19 25 05.3**	**-0.8**
QZH				S	**Sn**	**19 26 46.0**	**+0.1**
QZH				pmax	pmax		
	comp=Z,580nm,0.8s						
QZH				LR	LR		
	comp=N,143μm,13.6s						
QZH				LR	LR		
	comp=E,88μm,13.8s						
QZH				LR	LR		
	comp=Z,112μm,9.3s						
NJ2	**Nanjing**	**8.97**	**300**	*e*P	**Pn**	**19 25 05.3**	**-2.1**
NJ2				S	**Sn**	**19 26 45.5**	**-2.7**
NJ2				pmax	pmax		
	comp=Z,140nm,0.7s						
NJ2				pmax	pmax		
	comp=Z,4μm,8.4s						
NJ2				LR	LR		
	comp=N,71μm,10.6s						
NJ2				LR	LR		
	comp=E,70μm,13.7s						
NJ2				LR	LR		
	comp=Z,55μm,13.8s						
KSAR	**Wonju Array Be**	**9.62**	**360**	Pn	**Pn**	**19 25 18.2**	**+1.9**
KSAR				Sn	**Sn**	**19 27 07.6**	**+3.5**
KSAR				PKiKP	**PKiKP**	**19 39 31.7**	**-0.2**
KSRS	**Korea Array**	**9.63**	**360**	Pn	**Pn**	**19 25 18.2**	**+1.8**
	comp=Z,0.2nm,0.3s,baz=181,slow=12,SNR=25						
KSRS				Sn	**Sn**	**19 27 07.6**	**+3.3**
	baz=180,slow=27,SNR=2.3						
KSRS				LR	LR	19 29 10.6	
	comp=Z,50μm,18.8s,baz=180,slow=40						
KSRS				PKiKP	**PKiKP**	**19 39 31.7**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=153,slow=1.4,SNR=4.5						
INCN	**Inchon**	**9.72**	**354**	*e*P	**Pn**	**19 25 18.0**	**+0.3**
	comp=Z,109nm,1.0s						
JIE	**Ise**	**9.96**	**47**	P	**Pn**	**19 25 22.5**	**+1.5**
JFM	**Mihama**	**10.29**	**40**	P	Pn	19 25 29.0	+3.4
JAO	**Obara**	**10.87**	**44**	P	**Pn**	**19 25 35.2**	**+1.7**
JYZW	**Yoshizawa**	**11.00**	**47**	P	**Pn**	**19 25 36.8**	**+1.6**
JGF	**Kuroka**	**11.15**	**43**	P	**Pn**	**19 25 39.8**	**+2.5**
JNY	**Yasuok**	**11.31**	**46**	P	**Pn**	**19 25 40.9**	**+1.4**
APYP	**Conner**	**11.67**	**213**	*e*P	**Pn**	**19 25 46.2**	**+1.8**
PALP	**Palanan**	**11.85**	**207**	⇓*e*P	**Pn**	**19 25 45.8**	**-1.1**
JOD2	**Odawara 2**	**12.05**	**49**	P	**Pn**	**19 25 51.7**	**+2.1**
ABRA	**Dolores**	**12.11**	**215**	*e*P	**Pn**	**19 25 53.0**	**+2.5**
CAUP	**Cauayan**	**12.20**	**209**	*e*P	**Pn**	**19 25 52.5**	**+0.7**
WHN	**Wuhan**	**12.21**	**286**	⇑P	**Pn**	**19 25 53.3**	**+1.5**
WHN				S	**Sn**	**19 28 12.5**	**+4.8**
WHN				LR	LR		
	comp=N,77μm,5.3s						
WHN				LR	LR		
	comp=E,92μm,12.8s						
WHN				LR	LR		
	comp=Z,110μm,14.7s						
DL2	**Dalian**	**12.27**	**336**	P	**Pn**	**19 25 53.8**	**+1.2**
DL2				S	**Sn**	**19 28 11.5**	**+2.3**
DL2				pmax	pmax		
	comp=Z,75nm,1.5s						
DL2				pmax	pmax		
	comp=Z,5μm,11.0s						
DL2				LR	LR		
	comp=N,26μm,16.2s						
DL2				LR	LR		
	comp=E,26μm,15.6s						
DL2				LR	LR		
	comp=Z,44μm,12.0s						
MAT	**Matsushiro**	**12.29**	**42**	P	**Pn**	**19 25 51.1**	**-1.8**
MAT				*e*S	**Sn**	**19 28 11.2**	**+1.5**
MAT	**Matsushiro**	**12.29**	**42**	P	**Pn**	**19 25 55.2**	**+2.3**
MAJO	**Matsushiro**	**12.29**	**42**	*e*P	**Pn**	**19 25 54.8**	**+1.9**
MAJO				pmax	pmax		
	comp=Z,1μm,1.7s						
MAJO	**Matsushiro**	**12.29**	**42**	*e*P	**Pn**	**19 25 54.8**	**+1.9**
	comp=Z,1μm,1.7s						
JRY	**Ryogami san**	**12.38**	**46**	P	**Pn**	**19 25 57.0**	**+2.9**
TIA	**Tai'an**	**12.44**	**315**	⇑P	Pn	19 25 58.8	+3.8
TIA				pmax	pmax		
	comp=Z,130nm,2.3s						
TIA				pmax	pmax		
	comp=Z,10μm,10.4s						
TIA				LR	LR		
	comp=N,65μm,12.0s						
TIA				LR	LR		
	comp=E,60μm,12.6s						
TIA				LR	LR		
	comp=Z,77μm,13.0s						
CBIJ	**Chichi jima**	**12.65**	**90**	Pn	**Pn**	**19 26 00.1**	**+2.3**
CBIJ	**Chichi jima**	**12.65**	**90**	Pn	**Pn**	**19 26 00.1**	**+2.3**
	comp=Z,4.7nm,0.3s,baz=274,slow=19,SNR=3.6						
CBIJ				LR	LR	19 30 42.2	
	comp=Z,11μm,18.5s,baz=273,slow=37						
JAG	**Ashikaga**	**12.98**	**46**	P	**Pn**	**19 26 05.5**	**+3.2**
BALP	**Baler**	**13.38**	**208**	*e*P	**Pn**	**19 26 10.4**	**+2.5**
GZH	**Guangzhou**	**14.02**	**254**	P	Pn	19 26 12.3	-4.2
GZH				S	**Sn**	**19 28 51.8**	**-0.1**
GZH				LR	LR		
	comp=N,120μm,14.5s						
GZH				LR	LR		
	comp=E,64μm,15.6s						
SNY	**Shenyang**	**14.45**	**347**	⇑P	**P**	**19 26 26.5**	**-2.6**
SNY				pmax	pmax		
	comp=Z,150nm,2.8s						
SNY				pmax	pmax		
	comp=Z,12μm,6.9s						
SNY				LR	LR		
	comp=N,44μm,15.7s						
SNY				LR	LR		
	comp=E,72μm,14.3s						
SNY				LR	LR		
	comp=Z,40μm,19.1s						
TGY	**Tagaytay City**	**15.12**	**207**	Pn	**P**	**19 26 40.0**	**+3.3**
TGY	**Tagaytay City**	**15.12**	**207**	Pn	**P**	**19 26 40.0**	**+3.3**
	comp=Z,22nm,0.3s,baz=209,slow=6.4,SNR=7.8						
TGY				LR	LR	19 32 50.8	
	comp=Z,54nm,19.1s,baz=226,slow=39						
VLA	**Vladivostok**	**15.61**	**11**	⇑*i*P	**P**	**19 26 41.5**	**-0.5**
VLA				S	**Sn**	**19 29 33.2**	**+2.6**
VLA				pmax	pmax		
	comp=Z,315nm,1.5s						
BJT	**Baijiatuao**	**15.62**	**324**	*e*P	**P**	**19 26 41.6**	**-0.5**
	comp=Z,459nm,0.9s						
BJI	**Beijing**	**15.63**	**324**	P	**Pn**	**19 26 39.5**	**+1.4**
BJI				S	**Sn**	**19 29 35.5**	**+4.5**
BJI				pmax	pmax		
	comp=Z,10μm,6.6s						
BJI				LR	LR		
	comp=N,55μm,18.8s						
BJI				LR	LR		
	comp=E,36μm,19.5s						
BJI				LR	LR		
	comp=Z,26μm,26.9s						
CN2	**Changchun**	**16.10**	**353**	P	**P**	**19 26 46.3**	**-1.1**
CN2				pmax	pmax		
	comp=Z,180nm,1.3s						
CN2				pmax	pmax		
	comp=Z,18μm,7.0s						
CN2				LR	LR		
	comp=N,52μm,12.0s						
CN2				LR	LR		
	comp=E,47μm,12.0s						
CN2				LR	LR		
	comp=Z,58μm,13.0s						
ENH	**Enshi**	**16.35**	**283**	*e*P	**P**	**19 26 51.1**	**+0.7**
	comp=Z,186nm,1.1s						
TIY	**Taiyuan**	**16.36**	**311**	*e*P	**P**	**19 26 50.3**	**-0.2**
TIY				S	**Sn**	**19 29 53.3**	**+4.3**
TIY				pmax	pmax		
	comp=Z,80nm,0.7s						
TIY				pmax	pmax		
	comp=Z,8μm,10.2s						
TIY				LR	LR		
	comp=N,34μm,10.5s						
TIY				LR	LR		
	comp=E,12μm,10.3s						
TIY				LR	LR		
	comp=Z,47μm,13.5s						
USRK	**Ussuriysk Arra**	**16.68**	**10**	Pn	**P**	**19 26 55.0**	**+1.1**
	comp=Z,2.6nm,0.3s,baz=198,slow=12,SNR=77						
USRK				LR	LR	19 32 43.2	
	comp=Z,10μm,19.9s,baz=181,slow=36						
PLP	**Palo**	**16.79**	**190**	⇑*e*P	**Pn**	**19 26 52.4**	**-0.6**
MDJ	**Mudanjiang**	**16.83**	**4**	P	**P**	**19 26 57.3**	**+1.7**
MDJ				PcP	**PcP**	**19 31 40.5**	**-0.4**
MDJ				pmax	pmax		
	comp=Z,350nm,2.1s						
MDJ				pmax	pmax		
	comp=Z,16μm,9.3s						
MDJ				LR	LR		
	comp=N,10μm,21.3s						
MDJ				LR	LR		
	comp=E,28μm,17.8s						
MDJ				LR	LR		
	comp=Z,29μm,17.8s						
MDJ	**Mudanjiang**	**16.83**	**4**	*e*P	**P**	**19 26 56.7**	**+1.2**
	comp=Z,756nm,1.5s						
RCP	**Roxas**	**16.88**	**198**	⇑*e*P	**P**	**19 26 58.3**	**+2.0**
OCLP	**Ormoc**	**16.96**	**191**	*e*P	**P**	**19 27 00.8**	**+3.7**
XAN	**Xi'an**	**17.48**	**296**	P	**Pn**	**19 27 01.5**	**-0.2**
XAN				pP	**pP**	**19 27 11.0**	**+4.1**
XAN				sP	sP	19 27 14.5	+5.7
XAN				S	**Sn**	**19 30 18.3**	**+2.3**
XAN				pmax	pmax		
	comp=Z,2μm,13.1s						
XAN				LR	LR		
	comp=N,54μm,16.4s						
XAN				LR	LR		
	comp=E,9μm,17.0s						
XAN				LR	LR		
	comp=Z,16μm,14.5s						
LLP	**Lapu-Lapu**	**17.79**	**193**	⇑*e*P	**P**	**19 27 09.3**	**+3.0**
MSLP	**Maasin**	**17.82**	**190**	*e*P	**P**	**19 27 10.7**	**+4.1**
SCPH	**Surigao**	**18.07**	**188**	⇑*e*P	**P**	**19 27 12.7**	**+3.3**
HHC	**Hu-ho-hao-te**	**18.75**	**318**	*e*P	**P**	**19 27 16.8**	**0.0**
HHC				sP	**sP**	**19 27 24.0**	**+1.1**
HHC				S	**Sn**	**19 30 48.0**	**+1.2**
HHC				PcP	**PcP**	**19 31 46.3**	**+2.0**
HHC				pmax	pmax		
	comp=Z,3μm,5.5s						
HHC				LR	LR		
	comp=N,43μm,10.8s						
HHC				LR	LR		
	comp=E,33μm,10.1s						
HHC				LR	LR		
	comp=Z,62μm,10.8s						
QIZ	**Qiongzhong**	**18.77**	**246**	P	**P**	**19 27 16.5**	**-0.6**
QIZ				sP	**sP**	**19 27 22.3**	**-0.8**
QIZ				S	**Sn**	**19 30 47.3**	**-0.1**
QIZ				pmax	pmax		
	comp=Z,140nm,1.9s						
QIZ				pmax	pmax		
	comp=Z,4μm,6.3s						
QIZ				LR	LR		
	comp=N,29μm,13.0s						
QIZ				LR	LR		
	comp=Z,16μm,13.2s						
ERM	**Erimo**	**18.84**	**37**	*e*P	**P**	**19 27 16.2**	**-1.4**
ERM				pmax	pmax		
	comp=Z,191nm,1.1s						
ERM	**Erimo**	**18.84**	**37**	*e*P	**P**	**19 27 16.2**	**-1.4**
	comp=Z,191nm,1.1s						
BUTP	**Butuan**	**18.86**	**187**	*e*P	**Pn**	**19 27 22.6**	**+3.9**
GYA	**Guiyang**	**19.01**	**271**	⇑*i*P	**Pn**	**19 27 21.8**	**+1.2**
GYA				PP	**PnPn**	**19 27 35.5**	**+2.4**
GYA				SS	SS	19 31 11.3	
GYA				PcP	**PcP**	**19 31

comp=N,83μm,17.8s
CD2 LR LR
comp=Z,43μm,14.7s
HABR Khabarovsk 21.36 13c *i*P **P 19 27 43.7 -1.3**
HABR *e**SP sP 19 27 56.7 +5.6
HABR *e* 19 28 03.4
HABR *e*S **S 19 31 38.9 -2.8**
HABR *e* 19 31 46.9
HABR *e**SS Sn 19 31 53.4 +4.0
HABR *e*SS **SnSn 19 32 03.6 -1.0**
HABR *e*SSS SSS 19 32 17.6
HABR pmax pmax
comp=E,43nm,2.1s
HABR pmax pmax
comp=Z,29nm,2.1s
HABR pmax pmax
comp=N,23nm,2.1s
HABR MLR MLR
comp=Z,18μm,14.0s
HABR MLR MLR
comp=E,27μm,12.0s
HABR MLR MLR
comp=N,21μm,12.0s
KLR Kul'dur 21.60 7 *e*P P 19 27 42.2 -5.4
KLR *e*S Sn 19 31 52.0 -3.1
KLR pmax pmax
comp=N,5μm,7.0s
KLR pmax pmax
comp=Z,6μm,7.0s
KLR MLR MLR
comp=N,2μm,11.0s
KLR MLR MLR
comp=Z,32μm,11.0s
YUK Yuzh-Kuril'sk 21.66 37 *i*P **P 19 27 48.2 -0.1**
YUK *i*S **S 19 31 51.2 +3.5**
YUK *e*SS **SnSn 19 32 13.7 +1.6**
YUK pmax pmax
comp=N,47nm,0.9s
YUK pmax pmax
comp=Z,1μm,1.8s
YUK pmax pmax
comp=E,328nm,0.9s
YUK pmax pmax
comp=Z,2μm,1.8s
YUK MLR MLR
comp=N,217nm,21.0s
YUK MLR MLR
comp=E,9μm,21.0s
YUK MLR MLR
comp=Z,13μm,21.0s
LZH Lanzhou 22.03 298 P **P 19 27 52.3 -0.3**
LZH pP **pP 19 27 55.5 -1.3**
LZH sP **sP 19 27 58.0 -0.7**
LZH PP **PnPn 19 28 18.0 +3.5**
LZH S **S 19 31 59.5 +4.1**
LZH pmax pmax
comp=Z,780nm,1.1s
LZH pmax pmax
comp=Z,8μm,5.1s
LZH LR LR
comp=N,32μm,12.6s
LZH LR LR
comp=E,39μm,12.3s
LZH LR LR
comp=Z,46μm,13.2s
HIA Hailar 22.35 346 *e*P **P 19 27 55.5 -0.3**
comp=Z,96nm,1.0s
YSS Yuzh-Sakhalins 22.37 27 *e*P P 19 27 50.0 -5.9
YSS *e**SP sP 19 27 54.8 -7.2
YSS *e* 19 28 15.5
YSS *e*PPP PPP 19 28 29.2
YSS *e*S S 19 31 46.0 -15
YSS *e*SSS SSS 19 32 52.0
YSS MLR MLR
comp=E,15μm,13.0s
YSS MLR MLR
comp=Z,15μm,13.0s
KMI Kunming 22.73 269 ⇓P **P 19 28 00.0 -0.2**
KMI pP **pP 19 28 03.0 -1.4**
KMI sP **sP 19 28 04.3 -2.0**
KMI PP **PnPn 19 28 28.8 +4.6**
KMI S **S 19 32 02.8 -5.9**
KMI SS **SnSn 19 32 44.8 +6.0**
KMI pmax pmax
comp=Z,93nm,0.7s
KMI pmax pmax
comp=Z,5μm,5.8s
KMI LR LR
comp=N,32μm,12.9s
KMI LR LR
comp=E,16μm,12.5s
KMI LR LR
comp=Z,14μm,13.3s
KDM Kudat 23.30 209 P P 19 28 11.3 +5.5
KUR Kuril'sk 23.53 37 *d i*P P 19 27 59.9 -8.0
KUR *i*S **S 19 32 22.1 +0.8**
KUR pmax pmax
comp=Z,840nm,1.4s
KUR pmax pmax
comp=E,118nm,1.4s
KUR pmax pmax
comp=N,281nm,1.7s
KUR pmax pmax
comp=Z,6μm,4.6s
KUR MLR MLR
comp=N,6μm,16.0s
KUR MLR MLR
comp=E,4μm,16.0s
KUR MLR MLR
comp=Z,8μm,16.0s
SGSI Sangihe 24.09 186 P **P 19 28 14.2 +0.7**
comp=Z,450nm,0.9s,comp=Z,6μm
MYLDM Lahad Datu 24.23 204 P **P 19 28 17.0 +2.2**
MYLDM Lahad Datu 24.23 204 P **P 19 28 17.4 +2.6**
comp=Z,268nm,1.8s,comp=Z,8μm
SDKM Sandakan 24.30 207 P **P 19 28 16.5 +0.9**
UBPT Khong Chiam 24.30 244 P **P 19 28 17.2 +1.7**
comp=Z,166nm,2.3s
UBPT Khong Chiam 24.30 244 P P 19 28 22.8 +7.3
KKM Kota Kinabalu 24.35 209 *e*P **P 19 28 16.4 +0.5**
comp=Z,489nm,1.5s
KKM LR LR
comp=Z,11μm,19.0s
KKM Kota Kinabalu 24.35 209 P **P 19 28 18.1 +2.1**
KKM Kota Kinabalu 24.35 209 P **P 19 28 18.6 +2.6**
comp=Z,214nm,1.6s,comp=Z,7μm
NONG Nongkai 24.79 252 P **P 19 28 24.1 +4.2**
comp=Z,61nm,2.6s
TSM Tawau 25.28 204 P **P 19 28 25.2 +0.9**
ULN Ulaanbaatar 25.82 326 P **P 19 28 28.7 -0.4**
SNR=211
ULN Ulaanbaatar 25.82 326 *e*P **P 19 28 28.4 -0.7**
comp=Z,403nm,1.1s
ULN Ulaanbaatar 25.82 326 P **P 19 28 29.1 -0.1**
comp=Z,351nm,1.2s,comp=Z,8μm
GTA Gaotai 26.04 304 ⇓P **P 19 28 30.0 -1.3**
GTA pP **pP 19 28 33.5 -2.2**
GTA sP **sP 19 28 36.0 -1.6**
GTA PcP **PcP 19 31 59.8 +0.7**
GTA S **S 19 33 00.5 -1.4**
GTA sS **sS 19 33 08.5 -0.8**
GTA SS SnSn 19 34 10.8 +11
GTA PcS **PcS 19 35 39.5 -0.5**
GTA ScS **ScS 19 39 25.8 -2.3**
GTA pmax pmax
comp=Z,120nm,0.9s
GTA pmax pmax
comp=Z,4μm,6.7s
GTA LR LR
comp=N,35μm,18.5s
GTA LR LR
comp=E,30μm,14.7s
GTA LR LR
comp=Z,35μm,12.8s
SONM Songino Array 26.12 326 P **P 19 28 31.4 -0.5**
SONM PcP **PcP 19 31 59.7 +0.6**
SONM Songino Array 26.12 326 P **P 19 28 31.4 -0.5**
comp=Z,254nm,0.9s,baz=138,slow=7.2,SNR=126
SONM PcP **PcP 19 31 59.7 +0.6**
comp=Z,5.1nm,1.0s,baz=130,slow=1.1,SNR=3.8
SONM LR LR 19 39 46.5
comp=Z,22μm,20.7s,baz=51,slow=39
CRAI Chiangrai 26.27 259 P **P 19 28 35.5 +2.2**
comp=Z,210nm,1.0s
CIT Chita 26.50 340 *e*P **P 19 28 34.9 -0.3**
CIT *e* 19 28 45.8
CIT *e* 19 29 15.0
CIT pmax pmax
comp=Z,453nm,1.5s
LOEI Loei 26.63 253 P **P 19 28 36.6 0.0**
comp=Z,45nm,0.7s
TNTI Ternate 26.88 181 P **P 19 28 40.8 +2.0**
comp=Z,256nm,1.3s,comp=Z,5μm
PAYA Payao 27.04 258 P P 19 28 47.6 +7.3
comp=Z,6.9nm,0.8s,comp=Z,96nm
PBKT Sadao Pong 27.32 252 P **P 19 28 43.9 +1.1**
comp=Z,66nm,1.3s
PBKT Sadao Pong 27.32 252 P **P 19 28 45.1 +2.3**
comp=Z,142nm,1.9s
GTOI Gorontalo 27.42 191 P **P 19 28 43.0 -0.7**
comp=Z,110nm,1.3s,comp=Z,3μm
LAMP Lampang 27.58 257 P **P 19 28 47.1 +1.9**
comp=Z,11nm,0.9s,comp=Z,112nm
MRSI Marisa 27.77 193 P **P 19 28 48.7 +1.9**
comp=Z,96nm,1.4s,comp=Z,2μm
SUKH Sukhothai 28.03 255 P P 19 28 54.9 +5.7
comp=Z,4.7nm,1.4s
CHTO Chiang Mai 28.06 258 *e*P **P 19 28 48.7 -0.7**
CHTO *e* 19 32 03.9
CHTO pmax pmax
comp=Z,76nm,0.8s
CHTO MLR MLR
comp=Z,9μm,19.0s
CHTO Chiang Mai 28.06 258 *e*P **P 19 28 48.7 -0.7**
comp=Z,76nm,0.8s
CHTO *e*PcP **PcP 19 32 03.9 -0.2**
CHTO LR LR
comp=Z,9μm,19.0s
CHTO Chiang Mai 28.06 258 P **P 19 28 50.6 +1.2**
comp=Z,144nm,2.1s
CHTO Chiang Mai 28.06 258 P **P 19 28 51.5 +2.1**
comp=Z,277nm,1.2s
CM31 Chiang Mai Arr 28.20 257 *e*P **P 19 28 51.2 +0.5**
comp=Z,6.5nm,0.7s
CM31 *e*PcP **PcP 19 32 04.9 +0.5**
CMAR Chiang Mai Arr 28.20 257 P **P 19 28 50.2 -0.5**
CMAR PcP **PcP 19 32 04.7 +0.3**
CMAR PKiKP **PKiKP 19 39 39.9 -0.3**
CMAR *e* 20 01 13.6
CMAR Chiang Mai Arr 28.20 257 P **P 19 28 50.2 -0.5**
comp=Z,3.4nm,0.8s,baz=56,slow=7.8,SNR=21
CMAR PcP **PcP 19 32 04.7 +0.3**
comp=Z,13nm,0.9s,baz=46,slow=1.3,SNR=16
CMAR PKiKP **PKiKP 19 39 39.9 -0.3**
comp=Z,1.5nm,1.1s,baz=320,slow=2.7,SNR=4.7
CMAR LR LR 19 40 38.2
comp=Z,7μm,19.1s,baz=72,slow=38
CMAR P3KPbc 20 01 13.6
comp=Z,0.8nm,0.8s,baz=253,slow=5.5,SNR=5.3
LBMI Labuha 28.28 181 P **P 19 28 53.2 +1.9**
comp=Z,188nm,1.2s,comp=Z,3μm
BTM Bintulu 28.29 213 P **P 19 28 52.6 +1.1**
SWI Sorong 28.67 173 P **P 19 28 57.5 +2.6**
comp=Z,34nm,1.0s,comp=Z,2μm
CLNS Chul'man 29.10 357 *e*P **P 19 28 58.7 +0.3**
CLNS pmax pmax
comp=E,14nm,0.9s
CLNS pmax pmax
comp=Z,26nm,1.2s
CLNS pmax pmax
comp=N,22nm,1.3s
CLNS MLR MLR
comp=E,11μm,10.0s
CLNS MLR MLR
comp=Z,27μm,11.0s
CLNS MLR MLR
comp=N,23μm,13.0s
LUWI Luwuk 29.11 191 P P 19 29 02.5 +3.8
comp=N,65nm,1.3s,comp=N,2μm
ZAK Zakamensk 29.34 327 *e*P **P 19 28 59.0 -1.7**
ZAK pmax pmax
comp=Z,28nm,1.6s
SBUM Sibu 29.36 214 P **P 19 29 01.9 +0.9**
BAKI Biak 29.87 163 P P 19 29 10.4 +4.9
TLY Talaya 30.04 329 *e*P **P 19 29 04.7 -2.1**
TLY *e* 19 30 11.3
TLY *e*S **S 19 34 08.4 +3.9**
TLY pmax pmax
comp=Z,153nm,1.5s
TLY MLR MLR
comp=Z,22μm,13.0s
TLY Talaya 30.04 329 P **P 19 29 06.2 -0.6**
comp=Z,413nm,1.6s,SNR=18
IRK Irkutsk 30.16 331 *e*P **P 19 29 06.4 -1.3**
IRK *e* 19 30 19.9
IRK pmax pmax
comp=Z,165nm,1.9s
KSM Kuching 31.16 216 *e*P **P 19 29 16.8 -0.1**
comp=Z,46nm,0.8s
KSM LR LR
comp=Z,2μm,19.0s
KSM Kuching 31.16 216 P **P 19 29 18.3 +1.4**
SKR Severo-Kuril's 31.26 35 *e*P P 19 29 10.0 -7.4
SKR *e*PPP PPP 19 30 34.0
SKR *e* 19 32 06.0
SKR *e*S **S 19 34 18.0 -5.4**
SKR *e*SS **SnSn 19 36 13.0 +6.8**
SKR pmax pmax
comp=Z,640nm,1.5s
SKR pmax pmax
comp=N,3μm,10.0s
SKR pmax pmax
comp=E,2μm,10.0s
SKR pmax pmax
comp=Z,3μm,10.0s
SKR smax smax
comp=N,3μm,10.0s
SKR smax smax
comp=E,3μm,10.0s
SKR MLR MLR
comp=N,8μm,16.0s
SKR MLR MLR
comp=E,5μm,16.0s
SKR MLR MLR
comp=Z,6μm,16.0s
MOY Mondy 31.28 327 *e*P **P 19 29 16.2 -1.6**
MOY pmax pmax
comp=Z,217nm,2.0s
SHL Shillong 32.25 274 *e*P **P 19 29 26.0 -0.7**
SHL *i*x x 19 34 43.0
SHL *i*x x 19 39 16.0
LSA Lhasa 32.25 282 P **P 19 29 26.3 -0.7**
LSA Lhasa 32.25 282 *e*P **P 19 29 26.5 -0.5**
LSA pmax pmax
comp=Z,51nm,1.0s
LSA Lhasa 32.25 282 *e*P **P 19 29 26.5 -0.5**
comp=Z,51nm,1.0s
KTGM Kuala Trenggan 32.51 231 P P 19 29 25.2 -3.5
SRIT Nakonsritamara 32.88 240 P **P 19 29 33.6 +1.5**
comp=Z,346nm,0.7s,comp=Z,23μm
SKLT Songkhla 33.04 237 P **P 19 29 35.7 +2.3**
comp=Z,98nm,1.5s,comp=Z,2μm
PEA0B Petropavlovsk- 33.50 33 *e*P **P 19 29 37.1 0.0**
PETK Petropavlovsk- 33.50 33 P **P 19 29 35.8 -1.3**
PETK 19 32 17.3
PETK pmax pmax
comp=Z,26nm,1.0s
PETK pmax pmax
comp=Z,9.0nm,0.9s
PETK MLR MLR
comp=Z,4μm,21.3s
PETK Petropavlovsk- 33.50 33 P **P 19 29 35.8 -1.3**
PETK PcP **PcP 19 32 17.3 -0.5**
PETK Petropavlovsk- 33.50 33 P **P 19 29 35.8 -1.3**
comp=Z,26nm,1.0s,baz=201,slow=4.8,SNR=16
PETK PcP **PcP 19 32 17.3 -0.5**
comp=Z,9.1nm,0.8s,baz=182,slow=5.3,SNR=5.4
PETK LR LR 19 42 34.9
comp=Z,4μm,21.3s,baz=332,slow=35
KAPI Kappang 33.57 195 P **P 19 29 38.8 +0.8**
KAPI LR LR
comp=Z,5μm,20.0s
KAPI Kappang 33.57 195 P **P 19 29 38.8 +0.8**
comp=Z,13nm,1.1s,baz=56,slow=9.1,SNR=4.4
PET Petropavlovsk 33.91 34 *d i*P **P 19 29 38.5 -2.1**
PET *e*S **S 19 35 00.9 -3.7**
PET pmax pmax
comp=Z,2μm,5.1s
PET pmax pmax
comp=Z,111nm,1.3s
PET pmax pmax
comp=Z,900nm,6.6s
PET MLR MLR
comp=Z,3μm,14.0s
PET MLR MLR
comp=Z,3μm,18.0s
YAK Yakutsk 34.25 1 *i*P **P 19 29 42.1 -1.3**
YAK *e* 19 31 05.5
YAK *e*PPP PPP 19 31 09.6
YAK *e* 19 32 18.4
YAK *e*S **S 19 35 13.8 +4.2**
YAK *e*SS **SS 19 37 34.3 -3.6**
YAK *e* 19 39 57.4
YAK pmax pmax
comp=N,37nm,1.2s
YAK pmax pmax
comp=Z,59nm,1.1s
YAK pmax pmax
comp=E,4.0nm,1.1s
YAK pmax pmax
comp=N,4μm,8.7s
YAK pmax pmax
comp=Z,4μm,10.1s
YAK pmax pmax
comp=E,178nm,3.8s
YAK smax smax
comp=N,2μm,7.1s
YAK smax smax
comp=E,525nm,5.6s
YAK MLR MLR
comp=Z,13μm,13.0s
YAK MLR MLR
comp=E,6μm,12.0s
YAK MLR MLR
comp=N,7μm,11.0s
KULM Kulim 34.28 234 *e*P **P 19 29 44.7 +0.4**
comp=N,94nm,0.9s
KULM LR LR
comp=Z,5μm,19.0s
KULM Kulim 34.28 234 P **P 19 29 45.5 +1.2**
IPM Ipoh 34.58 233 *e*P **P 19 29 46.8 0.0**
comp=Z,127nm,0.9s
IPM Ipoh 34.58 233 P **P 19 29 48.3 +1.4**
MYKOM Kota Tinggi 34.66 226 P **P 19 29 47.7 +0.2**
HVS Khovu-Aksy 34.76 322 *d i*P **P 19 29 47.2 -1.0**
HVS pmax pmax
comp=Z,805nm,1.2s
KGM Kluang 34.83 227 P **P 19 29 49.1 +0.1**
FRIM Kepong 35.05 230 P **P 19 29 52.5 +1.6**
TAPN Taplejung 35.58 279 *e*P **P 19 29 54.7 -1.0**
comp=Z,333nm,1.3s
ODAN Odare 35.95 278 *e*P **P 19 29 57.6 -1.2**
comp=Z,273nm,0.9s
WMQ Urumqi 35.97 307 P **P 19 29 58.0 -0.6**
WMQ pP **pP 19 30 02.5 -0.6**
WMQ sP **sP 19 30 05.0 0.0**
WMQ PP **PnPn 19 31 19.0 -0.3**
WMQ PcP **PcP 19 32 26.0 +0.8**
WMQ S **S 19 35 34.3 -2.4**
WMQ ScS **ScS 19 40 14.0 -2.4**
WMQ pmax pmax
comp=Z,140nm,1.3s
WMQ pmax pmax
comp=Z,3μm,6.5s
WMQ LR LR
comp=N,18μm,24.4s
WMQ LR LR
comp=E,14μm,22.3s
WMQ LR LR
comp=Z,17μm,24.4s
RAMN Ramite 36.62 279 *e*P **P 19 30 03.3 -1.3**
comp=Z,134nm,1.2s
JIRN Jiri 36.85 280 *e*P **P 19 30 06.1 -0.6**
comp=Z,92nm,1.0s
GUN Gumba 37.08 280 *e*P **P 19 30 07.7 -0.9**
comp=Z,247nm,1.1s
PSI Prapat 37.24 233 P **P 19 30 10.1 +0.3**
PSI PcP **PcP 19 32 29.6 +0.1**
PSI Prapat 37.24 233 P **P 19 30 10.1 +0.3**
comp=Z,34nm,0.8s,baz=350,slow=5.5,SNR=11
PSI PcP **PcP 19 32 29.6 +0.1**
comp=Z,4.0nm,0.3s,baz=288,slow=4.4,SNR=4.8
PKI Pulchoki 37.55 280 *e*P **P 19 30 11.2 -1.4**
comp=Z,218nm,1.1s
PKIN Phulchoki 37.56 280 *e*P **P 19 30 11.9 -0.7**
comp=Z,183nm,1.2s
KKN Kakani 37.62 280 *e*P **P 19 30 11.9 -1.2**
comp=Z,272nm,1.2s
DMN Daman 37.80 280 *e*P **P 19 30 13.2 -1.5**
comp=Z,267nm,1.2s
BATI Baumata 38.01 187 P **P 19 30 13.8 -2.3**
BATI Baumata 38.01 187 P **P 19 30 13.8 -2.3**
comp=Z,100nm,0.8s,baz=3.5,slow=1.2,SNR=14
GKN Gorkha 38.14 281 *e*P **P 19 30 15.9 -1.5**
comp=Z,228nm,1.1s
SEY Seymchan 38.60 18 *e*P **P 19 30 20.8 +0.2**
DANN Dangsing 38.84 282 *e*P **P 19 30 22.6 -0.9**
comp=Z,305nm,1.1s
KOLN Koldanda 39.09 281 *e*P **P 19 30 24.5 -0.9**
comp=Z,144nm,1.1s
MK31 Makanchi Array 40.33 311 *e*P **P 19 30 33.8 -1.5**
MK31 Makanchi Array 40.33 311 *e*P **P 19 30 33.8 -1.5**
MKAR Makanchi Array 40.33 311 P **P 19 30 33.7 -1.6**
MKAR 19 32 36.5
MKAR pmax pmax
comp=Z,17nm,0.9s
MKAR pmax pmax
comp=Z,7.0nm,0.8s
MKAR MLR MLR
comp=Z,9μm,18.4s
MKAR Makanchi Array 40.33 311 P **P 19 30 33.7 -1.6**
MKAR PcP **PcP 19 32 36.5 -2.1**
MKAR Makanchi Array 40.33 311 P **P 19 30 33.7 -1.6**
comp=Z,17nm,0.9s,baz=95,slow=8.3,SNR=60
MKAR PcP **PcP 19 32 36.5 -2.1**
comp=Z,6.5nm,0.8s,baz=90,slow=4.9,SNR=3.6
MKAR LR LR 19 48 14.4
comp=Z,9μm,18.4s,baz=263,slow=38
ZAA0 Zalesovo Array 40.87 322 *e*P **P 19 30 37.5 -2.0**
ZALV Zalesovo Beam 40.87 322 P **P 19 30 37.8 -1.7**
ZALV 19 32 38.5
ZALV pmax pmax
comp=Z,41nm,0.8s
ZALV pmax pmax
comp=Z,11nm,1.0s
ZALV pmax pmax
comp=N,1.0nm,0.8s
ZALV MLR MLR
comp=Z,25μm,18.6s
ZALV Zalesovo Beam 40.87 322 P **P 19 30 37.8 -1.7**
ZALV PcP **PcP 19 32 38.5 -1.7**
ZALV ScP **ScP 19 36 29.4 0.0**
ZALV Zalesovo Beam 40.87 322 P **P 19 30 37.8 -1.7**
comp=Z,41nm,0.8s,baz=101,slow=7.7,SNR=84
ZALV PcP **PcP 19 32 38.5 -1.7**
comp=Z,11nm,1.0s,baz=119,slow=5.2,SNR=3.6
ZALV ScP **ScP 19 36 29.4 0.0**
comp=Z,1.3nm,0.8s,baz=95,slow=5.2,SNR=4.3
ZALV LR LR 19 49 19.0
comp=Z,25μm,18.6s,baz=84,slow=39
PMG Port Moresby 41.39 151 P **P 19 30 45.6 +1.3**
comp=Z,5.4nm,0.9s
PMG *e*PcP **PcP 19 32 43.3 +0.9**
PMG LR LR
comp=Z,12μm,20.0s
PMG Port Moresby 41.39 151 P **P 19 30 45.6 +1.3**
comp=Z,56nm,0.8s,baz=2.8,slow=10,SNR=12
FX1 Attu Island--F 41.64 40 P **P 19 30 45.8 -0.2**
FX1 PcP **PcP 19 32 41.8 -0.9**
FX1 Attu Island--F 41.64 40 P **P 19 30 45.8 -0.2**
comp=Z,31nm,0.8s,baz=15,slow=22,SNR=6.2
FX1 PcP **PcP 19 32 41.8 -0.9**
comp=Z,31nm,0.9s,baz=14,slow=4.2,SNR=3.4
NVS Novosibirsk 42.06 323 ⇑*i*P **P 19 30 47.3 -2.0**
NVS *i* 19 32 21.8
NVS *e*S **S 19 37 03.7 -4.2**
NVS pmax pmax
comp=N,51nm,1.6s
NVS pmax pmax
comp=E,115nm,1.6s
NVS pmax pmax
comp=Z,160nm,1.6s
NVS smax smax
comp=E,229nm,3.5s
KURK Kurchatov 43.53 316 *d i*P **P 19 30 59.4 -1.9**
KURK pmax pmax
comp=Z,123nm,1.7s
KURK Kurchatov 43.53 316 P **P 19 31 00.2 -1.2**

SNR=68
KURK Kurchatov 43.53 316 eP P 19 30 59.0 -2.3
comp=Z,130nm,1.4s
KURK PcP **PcP 19 32 47.8 -1.2**
KURK LR LR
comp=Z,9μm,22.0s
KURBB Kurchatov Arra 43.56 315 P P 19 31 00.0 -1.6
comp=Z,23nm,0.7s,baz=104,slow=8.1,SNR=83
KURBB PcP **PcP 19 32 47.8 -1.3**
comp=Z,4.4nm,0.8s,baz=110,slow=3.1,SNR=4.4
TIXI Tiksi 43.90 0c iP P 19 31 02.8 -1.2
TIXI pmax pmax
comp=Z,21nm,1.7s
TIXI MLR MLR
comp=Z,14μm,19.0s
SMLA Simla 44.05 287 eP P 19 31 05.1 -0.6
COEN Coen 44.05 159 eP P 19 31 06.1 +0.2
comp=Z,932nm,1.3s
ULHL Ulahol 44.09 303 iP P 19 31 07.5 +1.2
ULHL Ulahol 44.09 303 P P 19 31 07.5 +1.2
SNR=12
KSH Kashi 44.28 299⇓iP P 19 31 10.3 +2.6
KSH sP **sP 19 31 17.3 +3.2**
KSH PcS **PcS 19 36 46.0 +0.7**
KSH S **S 19 37 43.8 +2.6**
KSH SS **SS 19 40 54.3 -5.1**
KSH ScS **ScS 19 41 05.0 -1.0**
KSH pmax pmax
comp=Z,280nm,1.8s
KSH pmax pmax
comp=Z,2μm,8.0s
KSH LR LR
comp=N,8μm,12.3s
KSH LR LR
comp=E,18μm,14.7s
KSH LR LR
comp=Z,19μm,16.9s
TKM2 Tokmak 2 44.59 304 eP P 19 31 09.3 -1.0
TKM2 pmax pmax
comp=Z,330nm,1.5s
TKM2 Tokmak 2 44.59 304 P P 19 31 09.7 -0.6
SNR=58
TKM2 Tokmak 2 44.59 304 eP P 19 31 09.3 -1.0
comp=Z,330nm,1.5s
KZA Kyzart 44.83 303 iP P 19 31 14.4 +2.0
KZA Kyzart 44.83 303 P P 19 31 14.4 +2.0
SNR=41
KBK Karagaybulak 45.06 304 iP P 19 31 13.3 -0.7
KBK Karagaybulak 45.06 304 P P 19 31 13.3 -0.7
SNR=22
CHMS Chumysh 45.22 304 iP P 19 31 15.9 +0.9
CHMS Chumysh 45.22 304 P P 19 31 15.9 +0.9
SNR=24
FRU Bishkek 45.31 304 eP P 19 31 14.0 -1.8
FRU e 19 32 59.0
FRU eS **S 19 37 54.0 -1.9**
FRU pmax pmax
comp=Z,280nm,1.8s
FRU pmax pmax
comp=Z,2μm,8.5s
FRU smax smax
comp=E,920nm,4.4s
FRU MLR MLR
comp=E,14μm,17.0s
FRU MLR MLR
comp=Z,11μm,17.0s
UCH Uchtor 45.38 303 iP P 19 31 18.9 +2.1
UCH Uchtor 45.38 303 P P 19 31 18.9 +2.1
SNR=12
AAK Ala-Archa 45.40 304d iP P 19 31 15.8 -0.8
AAK pmax pmax
comp=Z,109nm,1.7s
AAK Ala-Archa 45.40 304 P P 19 31 16.0 -0.7
SNR=34
AAK Ala-Archa 45.40 304 P P 19 31 17.7 +1.1
SNR=14
AAK Ala-Archa 45.40 304 eP P 19 31 15.9 -0.8
comp=Z,115nm,1.5s
AAK LR LR
comp=Z,9μm,20.0s
AAK Ala-Archa 45.40 304 P P 19 31 15.3 -1.3
comp=Z,5.1nm,0.5s,baz=117,slow=6.0,SNR=15
USP Ospenovka 45.41 304 iP P 19 31 17.4 +0.8
USP Ospenovka 45.41 304 P P 19 31 17.4 +0.8
SNR=17
FITZ Fitzroy Crossi 45.69 183 eP P 19 31 18.5 -0.3
comp=Z,80nm,1.2s
FITZ Fitzroy Crossi 45.69 183 P P 19 31 19.1 +0.3
comp=Z,30nm,0.8s,baz=8.0,slow=8.0,SNR=58
EKS2 Erkin-Say 45.92 304 eP P 19 31 19.5 -1.3
EKS2 pmax pmax
comp=Z,115nm,1.5s
EKS2 MLR MLR
comp=Z,11μm,20.0s
EKS2 Erkin-Say 45.92 304 P P 19 31 21.8 +1.0
SNR=18
EKS2 Erkin-Say 45.92 304 eP P 19 31 19.5 -1.3
comp=Z,115nm,1.5s
EKS2 LR LR
comp=Z,11μm,20.0s
AML Almayashu 45.98 303 iP P 19 31 21.6 0.0
AML Almayashu 45.98 303 P P 19 31 21.6 0.0
SNR=26
HYB Hyderabad 46.51 268 iP P 19 31 25.0 -0.5
HYB ePcP **PcP 19 32 59.0 -0.9**
HYB eS **S 19 38 12.0 -1.7**
AKL Akola 46.72 273⇑iP P 19 31 27.3 +0.2
AKL AMP 19 31 29.6
comp=Z,58nm,1.0s
AKL ix x 19 38 19.5
ADK Adak 47.45 44 PFAKE 19 31 40.0 +7.6
ADK LR LR
comp=Z,3μm,20.0s
WRAB Tennant Creek 47.85 172 eP P 19 31 35.4 -0.4
WRAB pmax pmax
comp=Z,122nm,1.3s
WRAB Tennant Creek 47.85 172 eP P 19 31 35.4 -0.4
comp=Z,122nm,1.3s
WRAB Tennant Creek 47.85 172 P P 19 31 36.8 +1.0
comp=Z,324nm,1.1s,SNR=14
WRA Warramunga Arr 47.86 172 P P 19 31 35.5 -0.4
WRA S **S 19 38 31.1 -1.5**
WRA Warramunga Arr 47.86 172 P P 19 31 35.5 -0.4
comp=Z,26nm,1.1s,baz=353,slow=8.2,SNR=53
WRA S **S 19 38 31.1 -1.5**
comp=Z,6.4nm,1.3s,baz=345,slow=15,SNR=6.5
WRA LR LR 19 50 20.6
comp=Z,5μm,21.6s,baz=10.0,slow=34
MIDW Midway 47.91 76 PFAKE 19 31 50.0 +14
MIDW LR LR
comp=Z,3μm,21.0s
HNR Honiara 48.25 136 P P 19 31 40.6 +1.6
HNR Honiara 48.25 136 P P 19 31 40.6 +1.6
comp=Z,19nm,0.6s,baz=300,slow=15,SNR=2.8
KKAR Karatay Array 48.32 304 eP P 19 31 37.8 -1.6
KKAR pmax pmax
comp=Z,180nm,1.5s
KKAR Karatay Array 48.32 304 eP P 19 31 37.8 -1.6
comp=Z,180nm,1.5s
BVAR Borovoye Array 48.96 317 P P 19 31 42.6 -1.4
BVAR pmax pmax
comp=Z,20nm,0.5s
BVAR Borovoye Array 48.96 317 P P 19 31 42.6 -1.4
BVAR Borovoye Array 48.96 317 P P 19 31 42.6 -1.4
comp=Z,19nm,0.5s,baz=80,slow=11,SNR=66
BRVK Borovoye 49.02 317d iP P 19 31 42.4 -2.1
BRVK pmax pmax
comp=Z,124nm,1.7s
BRVK Borovoye 49.02 317 P P 19 31 44.6 0.0
SNR=75
BRVK Borovoye 49.02 317 eP P 19 31 42.7 -1.9
comp=Z,159nm,1.1s
BRVK LR LR
comp=Z,49μm,19.0s
BRVK Borovoye 49.02 317 P P 19 31 43.1 -1.4
comp=Z,588nm,0.7s,SNR=19
MBWA Marble Bar 49.32 190 eP P 19 31 46.7 -0.3
comp=Z,45nm,1.0s
MBWA LR LR
comp=Z,2μm,22.0s
COCO West Island 49.90 221 PFAKE 19 32 00.0 +8.4
COCO LR LR
comp=Z,2μm,22.0s
KBL Kabul 50.26 293 eP P 19 31 52.3 -2.2
KBL pmax pmax
comp=Z,135nm,1.3s
KBL Kabul 50.26 293 eP P 19 31 52.3 -2.2
comp=Z,135nm,1.3s
POO Poona 50.27 272⇑iP P 19 31 52.0 -2.5
comp=Z,94nm,1.0s
POO ix x 19 33 04.0
POO ix x 19 39 16.0
TARA Tarawa 50.39 114 PFAKE 19 32 10.0 +15
TARA LR LR
comp=Z,7μm,20.0s
CTAO Charters Tower 50.79 158 eP P 19 31 59.3 +1.1
CTAO pmax pmax
comp=Z,80nm,1.3s
CTAO MLR MLR
comp=Z,5μm,21.0s
CTAO Charters Tower 50.79 158 eP P 19 31 59.3 +1.1
comp=Z,80nm,1.3s
CTAO LR LR
comp=Z,5μm,21.0s
AS31 Alice Springs 51.48 173 eP P 19 32 03.8 +0.3
ASAR Alice Springs 51.49 173 P P 19 32 04.0 +0.5
ASAR PcP **PcP 19 33 18.5 +0.8**
ASAR S **S 19 39 24.9 +1.7**
ASAR P'P' 20 02 41.7
ASAR Alice Springs 51.49 173 P P 19 32 04.0 +0.5
comp=Z,19nm,0.9s,baz=352,slow=6.1,SNR=62
ASAR PcP **PcP 19 33 18.5 +0.8**
comp=Z,7.3nm,0.8s,baz=359,slow=2.1,SNR=4.8
ASAR S **S 19 39 24.9 +1.7**
comp=Z,4.2nm,1.2s,baz=7.8,slow=21,SNR=8.1
ASAR LR LR 19 52 36.9
comp=Z,5μm,21.4s,baz=352,slow=34
ASAR PKPPKP P'P'df 20 02 41.7 +6.2
comp=Z,1.7nm,1.1s,baz=151,slow=2.1,SNR=4.9
SVE Sverdlovsk 54.88 322⇓eP P 19 32 26.7 -1.4
SVE ePPP PPP 19 35 46.0
SVE eS S 19 39 58.9 -10
SVE pmax pmax
comp=Z,139nm,1.4s
SVE pmax pmax
comp=Z,756nm,10.8s
SVE MLR MLR
comp=Z,20μm,14.0s
SVE MLR MLR
comp=E,13μm,15.0s
ABKAR Abkulak array 55.41 312 eP P 19 32 30.2 -1.9
comp=E,35nm,0.8s
ARU Arti 56.02 321d iP P 19 32 34.5 -1.8
ARU 19 33 31.9
ARU 19 34 41.6
ARU PPP PPP 19 36 00.0
ARU S **S 19 40 20.8 -3.3**
ARU pmax pmax
comp=Z,77nm,1.2s
ARU MLR MLR
comp=Z,18μm,15.0s
ARU Arti 56.02 321 P P 19 32 33.8 -2.5
comp=Z,348nm,1.1s,SNR=31
SOKR Solikamsk 56.99 325c iP P 19 32 44.7 +1.6
SOKR S **S 19 40 39.2 +2.5**
SOKR pmax pmax
comp=Z,80nm,1.6s
SOKR MLR MLR
comp=Z,18μm,19.0s
IMYA Miami 57.10 297 eP P 19 32 45.1 +0.6
ISRO Mashad 57.60 297 eP P 19 32 45.8 -2.2
IMOG Moghan 57.75 297 eP P 19 32 49.0 -0.3
IEMG Emamgholi 58.01 299 eP P 19 32 51.5 +0.4
IAKL Akhelmad 58.10 298 eP P 19 32 52.3 +0.6
IDAH Dahanechah 58.12 293 eP P 19 32 50.5 -1.4
IKRD Kardeh 58.25 298 eP P 19 32 49.1 -3.7
FORT Forrest 58.25 180 eP P 19 32 51.9 -0.3
comp=Z,63nm,0.9s
CHGN Chignik 58.37 39 eP P 19 32 50.7 -2.2
ISFR Sfrayin 58.59 298 eP P 19 32 56.1 +0.9
ITEG Tejag 58.99 293 eP P 19 32 56.0 -1.9
IM04 Indian Mountai 60.19 28 eP P 19 33 03.3 -2.1
IMA2 Indian Mountai 60.23 27 eP P 19 33 04.2 -1.6
STKA Stephens Creek 60.75 167 eP P 19 33 09.4 -0.1
comp=Z,29nm,1.7s
STKA Stephens Creek 60.75 167 P P 19 33 09.2 -0.3
comp=Z,35nm,1.2s,baz=342,slow=7.2,SNR=25
STKA LR LR 20 01 11.5
comp=Z,3μm,20.5s,baz=340,slow=38
BBOO Buckleboo 60.77 172 eP P 19 33 09.3 -0.3
comp=Z,752nm,1.0s
RSO Redoubt South 61.01 34 eP P 19 33 10.1 -1.2
comp=Z,298nm,0.9s
PPLA Purkeypile 61.06 31 eP P 19 33 11.1 -0.4
comp=Z,24nm,1.6s
OHAK Old Harbor 61.10 38 eP P 19 33 10.1 -1.6
comp=Z,132nm,1.0s
NWAO Narrogin (SRO) 61.25 190 eP P 19 33 13.6 +0.7
comp=Z,99nm,1.3s
NWAO LR LR
comp=Z,2μm,21.0s
KDAK Kodiak Island 61.40 37 eP P 19 33 12.2 -1.5
comp=Z,217nm,1.0s
KDAK LR LR
comp=Z,2μm,20.0s
KDAK Kodiak Island 61.40 37 P P 19 33 12.0 -1.7
comp=Z,1μm,0.9s,SNR=20
KDAK Kodiak Island 61.40 37 P P 19 33 12.4 -1.3
comp=Z,179nm,1.0s,baz=340,slow=2.3,SNR=49
BPAW Bear Paw Mtn. 61.49 30 eP P 19 33 13.2 -1.0
comp=Z,69nm,1.0s
COLD Coldfoot 61.55 26 eP P 19 33 13.8 -0.8
comp=Z,46nm,1.3s
IBAF Bafgh 61.94 293 eP P 19 33 17.6 -0.4
DZM Mont Dzumac 61.97 139 eP P 19 33 20.3 +2.2
comp=Z,197nm,1.4s
DZM eS **S 19 41 39.4 -2.7**
comp=Z,12μm,29.7s
DZM Mont Dzumac 61.97 139 eLR LR 19 51 48.1
comp=Z,16μm,22.9s
IGLO Ghaloghah 61.97 299 eP P 19 33 18.2 -0.1
IANJ Anjilo 62.18 297 eP P 19 33 15.9 -3.8
IBND Bandar-abas 62.39 288 eP P 19 33 20.4 -0.5
MCK McKinley 62.43 30 eP P 19 33 18.9 -1.7
MCK pmax pmax
comp=Z,108nm,1.0s
MCK McKinley 62.43 30 eP P 19 33 18.9 -1.7
comp=Z,108nm,1.0s
ISHM Shahmirzad 62.58 298 eP P 19 33 21.5 -0.9
PMR Palmer 62.63 32 eP P 19 33 19.7 -2.2
PMR pmax pmax
comp=Z,76nm,1.0s
PMR Palmer 62.63 32 eP P 19 33 19.7 -2.2
comp=Z,76nm,1.0s
SEW Seward 62.69 34 eP P 19 33 20.7 -1.6
comp=Z,128nm,1.0s
COLA College 62.75 29 eP P 19 33 21.5 -1.1
COLA pmax pmax
comp=Z,70nm,0.7s
COLA MLR MLR
comp=Z,2μm,20.0s
COLA College 62.75 29 eP P 19 33 21.5 -1.1
comp=Z,70nm,0.7s
COLA LR LR
comp=Z,2μm,20.0s
IMEH Mehriz 62.77 293 eP P 19 33 20.0 -3.7
ILAS Lasjerd 62.95 298 eP P 19 33 23.4 -1.5
HOQ Hoqain 63.01 284 P P 19 33 25.1 -0.1
SNR=8.3
IFIR Firoozkooh 63.04 298 eP P 19 33 25.7 +0.2
ILAR Eielson Array 63.17 29 P P 19 33 23.2 -2.3
ILAR P'P' 20 02 26.1
ILAR Eielson Array 63.17 29 P P 19 33 23.2 -2.3
comp=Z,15nm,0.9s,baz=277,slow=4.6,SNR=64
ILAR LR LR 20 00 45.5
comp=Z,2μm,18.4s,baz=295,slow=36
ILAR PKPPKP **P'P'df 20 02 26.1 -4.4**
comp=Z,0.8nm,0.9s,baz=103,slow=1.9,SNR=5.6
ISAD Sadrabad 63.37 294 eP P 19 33 27.1 -0.7
IDMV Damavand 63.63 298 eP P 19 33 29.5 +0.1
ASHO Ashiyiah 63.71 285 P P 19 33 30.3 +0.6
SNR=9.4
ISFB Sefidab 63.81 297 eP P 19 33 29.4 -1.0
DGAR Diego Garcia 64.02 245 PFAKE 19 33 40.0 +8.2
DGAR LR LR
comp=Z,2μm,20.0s
IVRN Varamin 64.03 298 eP P 19 33 32.4 +0.6
PAX Paxson 64.09 30 eP P 19 33 30.4 -1.3
PAX pmax pmax
comp=Z,50nm,1.1s
PAX Paxson 64.09 30 eP P 19 33 30.4 -1.3
comp=Z,50nm,1.1s
IZEF Zefreh 64.17 295 eP P 19 33 32.7 -0.3
DIV Divide 64.30 33 eP P 19 33 32.4 -0.7
comp=Z,86nm,1.0s
IR3 Iran Long-Peri 64.44 298 eP P 19 33 33.9 -0.6
ISRV Sarvestan 64.63 291 eP P 19 33 32.9 -3.2
IKLH Kolahrood 64.64 296 eP P 19 33 34.4 -1.7
IMHD Mahdasht 64.66 299 eP P 19 33 36.8 +0.9
IGZV Ghazvin 64.80 299 eP P 19 33 28.5 -8.5
MENT Mentasta 64.88 30 eP P 19 33 35.0 -1.8
BMRM Bremner River 64.89 33 eP P 19 33 35.6 -1.3
comp=Z,74nm,0.9s
MAK Makhachkala 64.99 307 eP P 19 33 35.9 -1.9
MAK eS **S 19 42 17.8 -1.5**
MAK e 19 43 22.9
MAK pmax pmax
comp=Z,209nm,1.7s
MAK MLR MLR
comp=Z,12μm,17.0s
IRAZ Razeghan 65.32 298 eP P 19 33 35.9 -4.5
TMCR Tamitsa 65.32 331 eP P 19 33 38.0 -1.6
TMCR pmax pmax
comp=Z,38nm,1.2s
KLMR Klimovskoe 65.40 327 eP P 19 33 37.3 -2.8
KLMR pmax pmax
comp=Z,39nm,1.5s
KLMR MLR MLR
comp=Z,13μm,15.0s
IKAZ Kazeroun 65.55 292 eP P 19 33 39.7 -2.4
EGAK Eagle 65.58 28 eP P 19 33 40.0 -1.3
comp=Z,46nm,0.9s
EGAK LR LR
comp=Z,2μm,22.0s
CAN Canberra 65.85 161 eP P 19 33 44.2 +0.9
CAN pmax pmax
comp=Z,136nm,1.5s
CAN MLR MLR
comp=Z,4μm,21.0s
CAN Canberra 65.85 161 eP P 19 33 44.2 +0.9
comp=Z,136nm,1.5s
CAN LR LR
comp=Z,4μm,21.0s
ISRB Sarab 66.33 302 eP P 19 33 44.3 -2.5
APA Apatity 66.34 335⇓iP P 19 33 46.2 +0.1
APA i 19 34 16.2
APA i 19 36 13.0
APA iPPP PPP 19 37 45.6
APA iS **S 19 42 34.0 -1.0**
APA iPS **PnS 19 43 00.0 +4.6**
APA i 19 43 40.0
APA MLR MLR
comp=Z,8μm,20.0s
MSVF Nonsavu 66.34 127 eP P 19 33 48.5 +1.6
MSVF pmax pmax
comp=Z,62nm,1.3s
MSVF MLR MLR
comp=Z,4μm,19.0s
MSVF Nonsavu 66.34 127 eP P 19 33 48.5 +1.6
comp=Z,62nm,1.3s
MSVF LR LR
comp=Z,4μm,19.0s
DAWY Dawson 66.50 29 eP P 19 33 46.4 -0.9
VRHR Novokhopersk 66.69 317 eP P 19 33 45.6 -3.0
VRHR e 19 36 15.3
VRHR pmax pmax
comp=Z,10.0nm,0.9s
VRHR pmax pmax
comp=N,30nm,1.9s
VRHR pmax pmax
comp=E,20nm,0.9s
VRHR pmax pmax
comp=Z,30nm,1.2s
VRHR pmax pmax
comp=N,40nm,1.8s
VRHR pmax pmax
comp=E,60nm,1.7s
VRHR MLR MLR
comp=Z,11μm,18.0s
VRHR MLR MLR
comp=N,660nm,19.0s
VRHR MLR MLR
comp=E,7μm,17.0s
KIP Kipapa 66.69 77 PFAKE 19 34 00.0 +11
KIP LR LR
comp=Z,3μm,21.0s
DGRG David-gareji 66.93 306 P P 19 33 51.7 +1.2
DGRG S S 19 42 52.9 +10
SPITS Spitsbergen Ar 67.25 348 LR LR 20 02 33.4
comp=Z,8μm,21.4s,baz=60,slow=36
TBLG Delisi 67.30 306 eP P 19 33 53.2 +0.5
TBLG Delisi 67.30 306 P P 19 33 53.2 +0.5
TBLG S S 19 42 55.9 +8.3
INK Inuvik 67.55 23 eP P 19 33 51.9 -1.8
comp=Z,56nm,1.2s
KBS Kingsbay 67.66 349 e P 19 33 55.3 +1.0
KBS AMS AMS 20 01 47.2
comp=Z,5μm,18.2s
KBS Kingsbay 67.66 349 PFAKE 19 34 10.0 +16
KBS LR LR
comp=Z,6μm,19.0s
MOS Moscow 67.69 322 eP P 19 33 52.0 -2.8
MOS e 19 34 15.0
MOS e 19 36 21.6
MOS e 19 38 04.6
MOS pmax pmax
comp=Z,62nm,1.2s
MOS MLR MLR
comp=E,15μm,18.0s
MOS MLR MLR
comp=Z,21μm,18.0s
MOS MLR MLR
comp=N,8μm,16.0s
GNI Garni 67.79 305 P P 19 33 58.2 +2.2
SNR=6.5
GNI Garni 67.79 305 P P 19 33 53.8 -2.2
comp=N,66nm,1.5s
KEV Kevo 67.89 338 PFAKE 19 34 10.0 +14
KEV LR LR
comp=Z,8μm,19.0s
ONI Oni 67.95 308 P P 19 33 55.5 -1.4
ONI S **S 19 42 56.9 +1.5**
VOR Voronezh 67.97 318 P P 19 33 57.0 +0.3
VOR pmax pmax
comp=Z,250nm,1.2s
KBZ Khabaz 67.99 309 P P 19 33 56.9 -0.1
KBZ pmax pmax
comp=Z,17nm,0.9s
KBZ MLR MLR
comp=Z,6μm,18.8s
KBZ Khabaz 67.99 309 P P 19 33 56.9 -0.1
KBZ Khabaz 67.99 309 P P 19 33 56.9 -0.1
comp=Z,17nm,0.9s,baz=124,slow=6.4,SNR=12
KBZ LR LR 20 06 06.3
comp=Z,6μm,18.8s,baz=77,slow=38
KIV Kislovodsk 68.07 309 eP P 19 33 55.5 -2.1
KIV e 19 36 26.6
KIV eS **S 19 42 53.2 -3.6**
KIV eSS **SS 19 47 17.0 -1.7**
KIV pmax pmax
comp=Z,60nm,1.0s
KIV pmax pmax
comp=Z,669nm,5.2s
KIV MLR MLR
comp=Z,4μm,18.0s
KIV Kislovodsk 68.07 309 P P 19 33 58.4 +0.8
comp=Z,307nm,1.8s,SNR=7.7
VORD Divnogorie 68.14 317 eP P 19 33 57.8 0.0
VORD e 19 36 30.0
VORD pmax pmax
comp=Z,20nm,1.3s
VORD pmax pmax
comp=N,30nm,0.7s
VORD pmax pmax
comp=E,30nm,0.8s
VORD pmax pmax
comp=Z,50nm,3.7s
VORD pmax pmax
comp=N,130nm,2.7s
VORD pmax pmax
comp=E,20nm,0.6s
VORD MLR MLR
comp=N,4μm,17.0s
VORD MLR MLR
comp=Z,13μm,17.0s
VORD MLR MLR
comp=E,9μm,19.0s

VSR	**Storozhevoye**	**68.14 317**	*e*P	**P**	**19 33 57.7**	**-0.1**
VSR			*e*		19 36 30.0	
VSR			pmax	pmax		
	comp=Z,30nm,1.3s					
VSR			pmax	pmax		
	comp=N,20nm,0.9s					
VSR			pmax	pmax		
	comp=E,30nm,1.0s					
VSR			pmax	pmax		
	comp=Z,90nm,2.2s					
VSR			pmax	pmax		
	comp=N,10.0nm,2.1s					
VSR			pmax	pmax		
	comp=E,10.0nm,2.7s					
VSR			MLR	MLR		
	comp=N,6μm,18.0s					
VSR			MLR	MLR		
	comp=E,10μm,18.0s					
VSR			MLR	MLR		
	comp=Z,15μm,18.0s					
AKH	**Akhalkalaki**	**68.29 306**	P	**P**	**19 33 59.8**	**+0.6**
AKH			S	S	19 43 07.1	+7.4
OBN	**Obninsk**	**68.45 322**⇑	*e*P	**P**	**19 33 57.8**	**-1.8**
OBN			*e*		19 36 32.9	
OBN			*e*S	S	19 42 52.1	-8.6
OBN			*e*SS	**SS**	**19 47 24.5**	**+0.7**
OBN			pmax	pmax		
	comp=Z,44nm,1.7s					
OBN			MLR	MLR		
	comp=Z,22μm,21.0s					
ARCES	**ARCESS Array B**	**68.47 338**	P	**P**	**19 33 58.6**	**-0.9**
ARCES	**ARCESS Array B**	**68.47 338**	P	**P**	**19 33 58.6**	**-0.9**
	comp=Z,5.1nm,0.9s,baz=44,slow=5.4,SNR=5.7					
ARCES			LR	LR	20 09 55.3	
	comp=Z,8μm,18.9s,baz=51,slow=41					
ARE0	**ARCESS Array S**	**68.47 338**	*e*	**P**	**19 34 00.8**	**+1.3**
JOF	**Joensuu**	**68.56 331**	*e*P	**P**	**19 33 57.3**	**-2.9**
JOF			pmax	pmax		
	comp=Z,9.0nm,0.9s					
JOF	**Joensuu**	**68.56 331**	*e*p	**P**	**19 33 57.3**	**-2.9**
	comp=Z,9.0nm,0.9s					
KBD	**Kabd**	**69.15 293**	*e*P	**P**	**19 34 05.4**	**+0.9**
RDF	**Al-Radifah**	**69.36 293**	*e*P	**P**	**19 34 06.0**	**+0.2**
RDF			AMb	AMB	19 34 08.4	
	comp=Z,34nm,1.3s					
NAY	**Al-Naaiem**	**69.49 293**	*e*P	**P**	**19 34 05.4**	**-1.2**
NAY			AMb	AMB	19 34 09.0	
	comp=Z,19nm,1.3s					
SKAG	**Skagway**	**69.75 33**	*e*P	**P**	**19 34 07.7**	**0.0**
	comp=Z,37nm,1.0s					
SOC	**Sochi**	**70.22 309**	*c i*P	**P**	**19 34 09.4**	**-1.4**
SOC			*e*		19 34 32.0	
SOC			*e*		19 36 41.8	
SOC			*e*S	**S**	**19 43 18.4**	**-3.7**
SOC			*e*		19 44 11.7	
SOC			*e*SS	**SS**	**19 47 49.8**	**-1.9**
SOC			pmax	pmax		
	comp=Z,34nm,0.8s					
SOC			MLR	MLR		
	comp=Z,5μm,17.0s					
TRO	**Tromso**	**70.52 339**	*e*PP	PP	19 36 47.3	-0.6
KAF	**Kangasniemi**	**71.02 331**	*e*P	P	19 34 12.0	-3.3
KAF	**Kangasniemi**	**71.02 331**	*e*p	P	19 34 12.0	-3.3
ANN	**Anapa**	**71.34 311**	*e*P	**P**	**19 34 17.4**	**-0.2**
ANN			*e*PPP	PPP	19 38 43.8	
ANN			*e*S	**S**	**19 43 35.6**	**+0.6**
ANN			*e*SS	**SS**	**19 48 12.6**	**+3.8**
ANN			pmax	pmax		
	comp=Z,809nm,6.8s					
ANN			pmax	pmax		
	comp=Z,126nm,1.9s					
FINES	**FINESS Array B**	**71.39 330**	P	**P**	**19 34 14.8**	**-2.8**
FINES	**FINESS Array B**	**71.39 330**	P	**P**	**19 34 14.8**	**-2.8**
	comp=Z,11nm,1.0s,baz=70,slow=6.3,SNR=21					
FINES			LR	LR	20 09 32.1	
	comp=Z,19μm,18.2s,baz=67,slow=39					
AFI	**Afiamalu**	**71.58 117**	PFAKE		19 34 30.0	+10
AFI			LR	LR		
	comp=Z,4μm,20.0s					
CRAG	**Craig**	**72.35 36**	*e*P	**P**	**19 34 23.8**	**+0.3**
	comp=Z,187nm,1.8s					
WRAK	**Wrangell Islan**	**72.37 35**	*e*P	**P**	**19 34 23.9**	**+0.3**
	comp=Z,41nm,1.0s					
TAU	**Tasmania Unive**	**72.58 165**	*e*P	**P**	**19 34 26.7**	**+1.9**
TAU			pmax	pmax		
	comp=Z,103nm,1.4s					
TAU			MLR	MLR		
	comp=Z,6μm,21.0s					
TAU	**Tasmania Unive**	**72.58 165**	*e*P	**P**	**19 34 26.7**	**+1.9**
	comp=Z,103nm,1.4s					
TAU			LR	LR		
	comp=Z,6μm,21.0s					
DLBC	**Dease Lake**	**72.68 33**	*e*P	**P**	**19 34 24.5**	**-1.1**
DLBC	**Dease Lake**	**72.68 33**	LR	LR	20 07 05.0	
	comp=Z,2μm,18.7s,baz=306,slow=36					
MALT	**Malatya**	**73.02 305**	⇓P	**P**	**19 34 25.9**	**-2.1**
MALT	**Malatya**	**73.02 305**	⇓*i*P	**P**	**19 34 25.9**	**-2.1**
RAYN	**Ar Rayn**	**73.09 288**	P	**P**	**19 34 26.5**	**-2.1**
	comp=Z,61nm,1.6s,SNR=7.7					
MICGM	**Minsk**	**73.36 323**	*e*P	**P**	**19 34 28.0**	**-1.5**
MNK	**Minsk**	**73.39 323**⇓	*e*P	**P**	**19 34 28.0**	**-1.6**
MNK			*e*S	**S**	**19 43 56.0**	**-2.1**
MNK			*e*PS	**PnS**	**19 44 40.0**	**+10**
MNK			MLR	MLR		
	comp=Z,16μm,19.0s					
MNK			MLR	MLR		
	comp=E,9μm,18.0s					
MNK			MLR	MLR		
	comp=E,12μm,16.0s					
MNK			MLR	MLR		
	comp=Z,32μm,20.0s					
MNK			MLR	MLR		
	comp=Z,28μm,16.0s					
MNK			MLR	MLR		
	comp=E,24μm,20.0s					
MNK			MLR	MLR		
	comp=N,8μm,16.0s					
SIM	**Simferopol'**	**73.48 312**	*ce*P	**P**	**19 34 32.0**	**+1.6**
SIM			*e*		19 37 18.0	
SIM			*e*PPP	PPP	19 39 02.0	
SIM			*e*S	**SKiKP**	**19 44 04.0**	**+3.3**
SIM			pmax	pmax		
	comp=Z,430nm,9.6s					
SIM			MLR	MLR		
	comp=Z,1μm,17.0s					
DAG	**Danmarks Havn**	**73.67 352**	*e*P	**P**	**19 34 31.9**	**+0.9**
DAG			MLR	MLR		
	comp=Z,2μm,18.0s					
DAG	**Danmarks Havn**	**73.67 352**	*i* P	**P**	**19 34 31.9**	**+0.9**
DAG						
	comp=Z,2μm,17.0s					
NACGM	**Naroch**	**73.77 324**	*e*P	P	19 34 27.0	-4.9
RES	**Resolute Bay**	**74.06 11**	LR	LR	20 07 40.6	
	comp=Z,3μm,20.4s,baz=97,slow=36					
AKASG	**Malin Array Be**	**74.19 319**	P	**P**	**19 34 31.5**	**-2.9**
AKASG					19 37 23.3	
AKASG			pmax	pmax		
	comp=Z,7.0nm,0.7s					
AKASG			MLR	MLR		
	comp=Z,24μm,18.9s					
AKASG	**Malin Array Be**	**74.19 319**	P	**P**	**19 34 31.5**	**-2.9**
AKASG			PP	**PP**	**19 37 23.2**	**+3.5**
AKASG	**Malin Array Be**	**74.19 319**	P	**P**	**19 34 31.5**	**-2.9**
	comp=Z,6.9nm,0.7s,baz=54,slow=6.1,SNR=28					
AKASG			PP	**PP**	**19 37 23.2**	**+3.5**
	comp=Z,0.3nm,0.3s,baz=60,slow=8.7,SNR=4.1					
AKASG			LR	LR	20 09 35.8	
	comp=Z,24μm,18.9s,baz=70,slow=38					
KIEV	**Kiev**	**74.20 319**	*e*P	**P**	**19 34 31.4**	**-3.1**
KIEV			pmax	pmax		
	comp=Z,10.0nm,0.8s					
KIEV			MLR	MLR		
	comp=Z,23μm,19.0s					
KIEV	**Kiev**	**74.20 319**	*e*P	**P**	**19 34 31.4**	**-3.1**
	comp=Z,10.0nm,0.8s					
KIEV			LR	LR		
	comp=Z,23μm,19.0s					
BR131	**Keskin Array S**	**75.89 308**	*e*P	**P**	**19 34 42.4**	**-2.3**
	comp=Z,6.8nm,0.8s					
BRTR	**Keskin Array B**	**75.89 308**	P	**P**	**19 34 42.1**	**-2.6**
BRTR	**Keskin Array B**	**75.89 308**	P	**P**	**19 34 42.1**	**-2.6**
	comp=Z,2.6nm,0.7s,baz=102,slow=4.3,SNR=13					
BRTR			LR	LR	20 13 31.9	
	comp=Z,2μm,18.2s,baz=223,slow=40					
KIS	**Kishinev**	**76.01 316**⇑	*i*P	**P**	**19 34 44.0**	**-1.0**
	comp=Z,900nm,6.0s					
KIS	**Kishinev**	**76.01 316**	*i* PcP	PcP	19 34 52.0	-5.3
KIS	**Kishinev**	**76.01 316**	*e*PP	PP	19 37 38.0	+2.8
KIS	**Kishinev**	**76.01 316**	*e*PPP	PPP	19 39 34.0	
KIS	**Kishinev**	**76.01 316**	*e*PsP		19 40 40.0	
KIS			*e*S	S	19 44 20.0	-7.7
KIS			*e*ScS	ScS	19 44 36.0	-23
KIS	**Kishinev**	**76.01 316**	*e*PS		19 45 00.0	
KIS			*e*SS	SS	19 49 40.0	+20
KIS			*e*LQ	LQ	20 03 30.0	
	comp=Z,6μm,15.0s					
KIS			LRM	MLR	20 12 10.0	
	comp=Z,3μm,16.0s					
KIS	**Kishinev**	**76.01 316***c i*P		**P**	**19 34 44.0**	**-1.0**
KIS			*i*		19 34 52.0	
KIS			*e*		19 37 38.0	
KIS			*e*S	S	19 44 20.0	-7.7
KIS			*e*PS	**PnS**	**19 45 00.0**	**-4.6**
KIS			pmax	pmax		
	comp=Z,900nm,6.0s					
KIS			pmax	pmax		
	comp=Z,900nm,12.0s					
KIS			MLR	MLR		
	comp=Z,8μm,15.0s					
KIS			MLR	MLR		
	comp=N,3μm,16.0s					
KIS			MLR	MLR		
	comp=E,7μm,16.0s					
KIS			MLR	MLR		
	comp=Z,8μm,16.0s					
SUW	**Suwalki**	**76.05 324**	*e*P	**P**	**19 34 43.3**	**-1.8**
SUW			pmax	pmax		
	comp=Z,16nm,0.4s					
SUW	**Suwalki**	**76.05 324**	*e*P	**P**	**19 34 43.3**	**-1.8**
	comp=Z,16nm,0.4s					
SUW	**Suwalki**	**76.05 324**	*e*P	**P**	**19 34 43.4**	**-1.7**
SUW			LMZ	LR	20 11 22.9	
ANTO	**Ankara**	**76.42 308**	PFAKE		19 35 00.0	+12
ANTO			LR	LR		
	comp=Z,3μm,20.0s					
ASF	**Jabal al Asfar**	**76.59 299**	LR	LR	20 12 08.5	
	comp=Z,2μm,20.8s,baz=239,slow=39					
RAO	**Raoul Island**	**76.81 133**	PFAKE		19 35 00.0	+10
RAO			LR	LR		
	comp=Z,6μm,20.0s					
MSEY	**Mahe Island**	**76.81 257**	PFAKE		19 35 00.0	+10
MSEY			LR	LR		
	comp=Z,3μm,22.0s					
JMIC	**Jan Mayen**	**76.83 347**	LR	LR	20 10 14.2	
	comp=Z,2μm,18.2s,baz=74,slow=37					
YKW3	**Yellowknife Ar**	**77.16 25**	*e*P	**P**	**19 34 50.3**	**-1.0**
	comp=Z,1.6nm,1.0s					
YKA	**Yellowknife Ar**	**77.21 25**	P	**P**	**19 34 50.4**	**-1.1**
YKA	**Yellowknife Ar**	**77.21 25**	P	**P**	**19 34 50.3**	**-1.1**
	comp=Z,36nm,0.9s,baz=302,slow=5.5,SNR=29					
CFR	**Carcaliu**	**77.23 314** ⇑P		**P**	**19 34 51.0**	**-0.9**
CFR	**Carcaliu**	**77.23 314**⇑*i*P		**P**	**19 34 51.0**	**-0.9**
HFS	**Hagfors**	**77.33 332**	LR	LR	20 12 24.1	
	comp=Z,6μm,18.0s,baz=45,slow=38					
MMAI	**Mount Meron Ar**	**77.39 301**	LR	LR	20 14 39.1	
	comp=Z,2μm,18.2s,baz=50,slow=40					
TESR	**Tescani**	**77.56 316**⇓*i*P		**P**	**19 34 51.1**	**-2.7**
LVV	**L'vov**	**77.57 320**	*e*P	**P**	**19 34 52.0**	**-1.8**
LVV			*e*		19 35 01.0	
LVV			*e*S	S	19 44 36.0	-8.7
LVV			MLR	MLR		
	comp=Z,16μm,19.0s					
LVV	**L'vov**	**77.57 320**	*e*P	**P**	**19 34 52.3**	**-1.5**
LVV			*e*		19 35 03.3	
LVV			*e*		19 37 47.7	
LVV			*e*S	S	19 44 38.5	-6.2
LVV			*e*		19 45 21.1	
LVV			*e*		19 53 01.3	
LVV			MLR	MLR		
	comp=Z,14μm,18.0s					
LVV			MLR	MLR		
	comp=N,3μm,19.0s					
LVV			MLR	MLR		
	comp=E,12μm,18.0s					
VRI	**Vrincioaia**	**77.80 315** ⇓P		**P**	**19 34 54.2**	**-1.0**
VRI	**Vrincioaia**	**77.80 315**⇓*i*P		**P**	**19 34 54.2**	**-1.0**
NB2	**NORSAR Subarra**	**77.81 334**	P	**P**	**19 34 52.7**	**-2.2**
	comp=Z,34nm,1.4s,baz=55,slow=5.6					
NB2	**NORSAR Subarra**	**77.81 334**	P	**P**	**19 34 52.7**	**-2.2**
	baz=55,slow=5.6					
NOA	**NORSAR Array B**	**77.81 334**	P	**P**	**19 34 52.2**	**-2.7**
NOA	**NORSAR Array B**	**77.81 334**	P	**P**	**19 34 52.2**	**-2.7**
	comp=Z,5.5nm,0.9s,baz=51,slow=5.5,SNR=7.3					
NOA			LR	LR	20 10 34.0	
	comp=Z,8μm,21.6s,baz=45,slow=37					
KULLO	**Kullorsuaq**	**77.82 1**	*e*P	**P**	**19 34 55.5**	**+0.8**
KULLO			MLR	MLR		
	comp=Z,4μm,20.0s					
NC602	**NORSAR Array S**	**77.86 333**	*e*	**P**	**19 34 55.5**	**+0.4**
PLOR	**Plostina**	**77.86 315**⇓*i*P		**P**	**19 34 55.1**	**-0.4**
PSN	**Preselentsi**	**77.87 313**	*e*P	**P**	**19 34 57.9**	**+2.3**
BUR08	**Bucovina Ar. S**	**77.91 318**	*e*P	**P**	**19 34 53.7**	**-2.2**
BURAR	**Bucovina Array**	**77.92 318** ⇑P		**P**	**19 34 54.0**	**-1.9**
BURAR	**Bucovina Array**	**77.92 318**⇑*i*P		**P**	**19 34 54.0**	**-1.9**
CSS	**Prodhromos**	**78.12 303**	PFAKE		19 35 10.0	+13
CSS			LR	LR		
	comp=Z,2μm,19.0s					
MOL	**Molde**	**78.26 336**	AMS	AMS	20 14 23.9	
	comp=Z,8μm,18.7s					
ISR	**Istrita**	**78.26 315**⇑*i*P		P	19 35 01.5	+3.7
KWP	**Kalwaria Pacla**	**78.41 320** ⇓P		**P**	**19 34 56.6**	**-1.9**
KWP	**Kalwaria Pacla**	**78.41 320** *e*P		**P**	**19 34 56.8**	**-1.7**
	comp=Z,32nm,1.0s					
KWP			LR	LR		
	comp=Z,24μm,19.0s					
KWP	**Kalwaria Pacla**	**78.41 320**⇓*i*P		**P**	**19 34 56.6**	**-1.9**
KWP	**Kalwaria Pacla**	**78.41 320** *e*P		**P**	**19 34 56.8**	**-1.7**
KWP			LMZ	LR	20 11 55.1	
MLR	**Muntele Rosu**	**78.46 315**⇑*i*P		**P**	**19 34 57.2**	**-1.8**
MLR	**Muntele Rosu**	**78.46 315**	LR	LR	20 12 36.6	
	comp=Z,2μm,20.2s,baz=60,slow=38					
PRD	**Provadia**	**78.60 313**	*e*P	**P**	**19 34 57.8**	**-1.8**
ISP	**Isparta**	**78.91 307**	PFAKE		19 35 10.0	+8.4
ISP			LR	LR		
	comp=Z,4μm,22.0s					
KOLS	**Kolonicke sedl**	**79.00 320**	*e*P	**P**	**19 35 00.8**	**-1.0**
KOLS			pmax	pmax		
	comp=Z,5.0nm,1.1s					
KOLS	**Kolonicke sedl**	**79.00 320**	*e*P	**P**	**19 35 00.8**	**-1.0**
VOIR		**79.05 316** ⇓P		**P**	**19 35 00.7**	**-1.4**
VOIR		**79.05 316**⇓*i*P		**P**	**19 35 00.7**	**-1.4**
UZH	**Uzhgorod**	**79.14 319**	*e*P	**P**	**19 35 01.7**	**-0.8**
UZH			*e*		19 35 09.5	
UZH			*e*		19 35 15.6	
UZH			*e*PPP	PPP	19 39 56.9	
UZH			*e*S	S	19 44 55.0	-6.6
UZH			*e*PS	PnS	19 45 57.9	+13
UZH			*e*SS	**SS**	**19 50 06.9**	**0.0**
UZH			MLR	MLR		
	comp=N,4μm,20.0s					
UZH			MLR	MLR		
	comp=E,14μm,20.0s					
UZH			MLR	MLR		
	comp=Z,3μm,20.0s					
EIL	**Elat**	**79.17 298**	LR	LR	20 14 06.7	
	comp=Z,1μm,19.1s,baz=81,slow=39					
TRPA	**Tarpa**	**79.25 319**⇑*i*P		**P**	**19 35 01.5**	**-1.6**
KONO	**Kongsberg**	**79.28 333**	*e*	**P**	**19 35 04.6**	**+1.6**
KONO			AMS	AMS	20 14 01.1	
	comp=Z,9μm,16.4s					
KONO	**Kongsberg**	**79.28 333**	PFAKE		19 35 10.0	+7.0
KONO			LR	LR		
	comp=Z,12μm,20.0s					
ARR	**Arges**	**79.34 316**⇓*i*P		**P**	**19 35 02.7**	**-1.0**
STHS	**Stebnicka Huta**	**79.35 320**	*e*P	**P**	**19 35 03.3**	**-0.3**
STHS			pmax	pmax		
	comp=Z,3.0nm,1.1s					
STHS	**Stebnicka Huta**	**79.35 320**	*e*P	**P**	**19 35 03.3**	**-0.3**
SUMG	**Summit**	**79.46 356**	*e*P	**P**	**19 35 02.6**	**-1.7**
SUMG			pmax	pmax		
	comp=Z,46nm,1.1s					
SUMG	**Summit**	**79.46 356**	*i* P	**P**	**19 35 03.2**	**-1.1**
	comp=Z,24nm,0.9s					
SUMG						
	comp=Z,4μm,24.0s					
SUMG	**Summit**	**79.46 356**	*e*P	**P**	**19 35 02.6**	**-1.7**
	comp=Z,46nm,1.1s					
CRVS	**Cervenica-Dubn**	**79.48 320**	*e*P	**P**	**19 35 04.0**	**-0.4**
CRVS			pmax	pmax		
	comp=Z,200nm,4.2s					
CRVS	**Cervenica-Dubn**	**79.48 320**	*e*P	**P**	**19 35 04.0**	**-0.4**
BSD	**Bornholm Skovb**	**79.61 327**	*e*P	P	19 35 08.3	+3.4
BSD			*e*S	S	19 45 15.9	+10
BSD			MLR	MLR		
	comp=Z,10μm,14.0s					
BSD	**Bornholm Skovb**	**79.61 327**	*i* P	P	19 35 08.3	+3.4
BSD	**Bornholm Skovb**	**79.61 327**	*e*S	S	19 45 15.9	+10
BSD						
	comp=Z,10μm,13.0s					
SCO	**Scoresbysund**	**79.67 350**	*e*P	**P**	**19 35 07.9**	**+3.0**
SCO	**Scoresbysund**	**79.67 350**	*i* P	**P**	**19 35 07.9**	**+3.0**
OJC	**Ojcow**	**79.74 322**	*e*P	**P**	**19 35 03.4**	**-2.3**
OJC	**Ojcow**	**79.74 322**	*e*P	**P**	**19 35 03.4**	**-2.3**
DRGR		**79.81 318** ⇓P		**P**	**19 35 03.7**	**-2.6**
DRGR		**79.81 318**⇓*i*P		**P**	**19 35 03.7**	**-2.6**
NIE	**Niedzica**	**79.87 321**	*e*P	**P**	**19 35 05.5**	**-1.0**
NIE	**Niedzica**	**79.87 321**	*e*P	**P**	**19 35 05.5**	**-1.0**
SUE	**Sulen**	**80.25 336**	*e*SS	SS	19 50 23.7	+1.0
SUE			AMS	AMS	20 15 51.6	
	comp=Z,7μm,10.3s					
COP	**Copenhagen**	**80.44 329**	*e*P	**P**	**19 35 08.9**	**-0.4**
COP			MLR	MLR		
	comp=Z,4μm,16.0s					
COP	**Copenhagen**	**80.44 329**	*i* P	**P**	**19 35 08.9**	**-0.4**
COP						
	comp=Z,4μm,16.0s					
BER	**Bergen**	**80.48 335**	*e*SS	SS	19 50 28.6	+2.4
BER			AMS	AMS	20 15 54.9	
	comp=Z,13μm,14.9s					
PGC	**Sidney**	**80.79 40**	*e*P	**P**	**19 35 11.0**	**-0.4**
	comp=Z,5.6nm,1.4s					
OKC	**Ostrava-Krasne**	**80.85 322**	*e*P	**P**	**19 35 09.9**	**-1.8**
OKC			*e*		19 38 12.4	
OKC			*e*SS	SS	19 50 34.9	+2.6
OKC			MLR	MLR		
	comp=Z,14μm,17.1s					
OKC	**Ostrava-Krasne**	**80.85 322**	*e*P	**P**	**19 35 09.9**	**-1.8**
OKC			*e*PP	**PP**	**19 38 12.4**	**-3.1**
OKC			*e*x	x	19 45 31.3	
OKC			*e*SS	SS	19 50 34.9	+2.6
OKC			*e*x	x	19 54 50.3	
OKC			AMS	AMS	20 13 40.0	
	comp=Z,14μm,17.1s					
MPEP	**Malo Peshtene**	**80.88 314**	*e*P	**P**	**19 35 12.3**	**+0.3**
PSZ	**Piszkesteto**	**80.88 320**	PFAKE		19 35 20.0	+8.0
PSZ			LR	LR		
	comp=Z,16μm,19.0s					
MORC	**Moravsky Berou**	**81.21 322**	*e*P	**P**	**19 35 11.0**	**-2.7**
MORC			pmax	pmax		
	comp=Z,19nm,1.2s					
MORC	**Moravsky Berou**	**81.21 322**	*e*P	**P**	**19 35 11.0**	**-2.7**
	comp=Z,18nm,1.2s					
NLWA	**Neilton Lookou**	**81.21 41**	*e*P	**P**	**19 35 14.1**	**+0.3**
	comp=Z,156nm,1.6s					
NLWA			LR	LR		
	comp=Z,1μm,19.0s					
SNZO	**South Karori**	**81.24 146**	PFAKE		19 35 30.0	+16
SNZO			LR	LR		
	comp=Z,4μm,21.0s					
KSP	**Ksiaz**	**81.29 323**	*e*P	**P**	**19 35 12.9**	**-1.2**
KSP			*e*		19 45 28.0	
KSP			*e*SS	SS	19 50 34.0	-4.9
KSP			MLR	MLR		
	comp=Z,38μm,18.0s					
KSP	**Ksiaz**	**81.29 323**	*e*P	**P**	**19 35 14.6**	**+0.5**
KSP			LMZ	LR	20 14 34.5	
RPZ	**Rata Peaks**	**81.40 150**	*e*P	**P**	**19 35 15.5**	**+1.0**
	comp=Z,49nm,0.9s					
MUD	**Monsted U'grnd**	**81.43 331**	*e*P	**P**	**19 35 15.6**	**+1.0**
MUD			MLR	MLR		
	comp=Z,13μm,14.0s					
MUD	**Monsted U'grnd**	**81.43 331**	*i* P	**P**	**19 35 15.6**	**+1.0**
MUD						
	comp=Z,13μm,14.0s					
KRLC	**Kraliky**	**81.46 323**	*e*P	**P**	**19 35 14.1**	**-0.9**
KRLC			*e*		19 38 17.9	
KRLC	**Kraliky**	**81.46 323**	*e*P	**P**	**19 35 14.1**	**-0.9**
KRLC			*e*PP	**PP**	**19 38 17.9**	**-2.7**
DPC	**Dobruska-Polom**	**81.55 323**	*i* P	**P**	**19 35 15.5**	**0.0**
DPC			*e*		19 35 21.0	
DPC			*e*		19 38 20.9	
DPC			*e*S	**S**	**19 45 30.5**	**+3.5**
DPC			*e*		19 46 13.1	
DPC			*e*SS	**SS**	**19 50 43.7**	**+0.8**
DPC	**Dobruska-Polom**	**81.55 323**	*i* P	**P**	**19 35 15.5**	**0.0**
DPC			*e*PCP	**PcP**	**19 35 21.0**	**-0.4**
DPC			*e*PP	**PP**	**19 38 20.9**	**-0.5**
DPC			*e*S	**S**	**19 45 30.5**	**+3.5**
DPC			*e*PS	**PnS**	**19 46 13.1**	**-1.5**
DPC			*e*SS	**SS**	**19 50 43.7**	**+0.8**
DPC			*e*x	x	19 54 18.1	
DPC			AMS	AMS	20 14 40.0	
VTS	**Vitosha**	**81.59 314** ⇑P		**P**	**19 35 14.3**	**-1.7**
VTS	**Vitosha**	**81.59 314**⇑*i*P		**P**	**19 35 14.3**	**-1.7**
UPC	**Upice**	**81.63 323**	*e*P	**P**	**19 35 15.9**	**0.0**
UPC			*e*		19 38 22.2	
UPC	**Upice**	**81.63 323**	*e*P	**P**	**19 35 15.9**	**0.0**
UPC			*e*PP	**PP**	**19 38 22.2**	**+0.3**
MMB	**Musomiste**	**81.76 313**	*e*P	P	19 35 12.6	-4.2
VRAC	**Vranov**	**81.98 322**	LR	LR	20 13 21.6	
	comp=Z,3μm,18.2s,baz=63,slow=37					
KKB	**Krupnik**	**82.04 313**	*e*P	**P**	**19 35 20.0**	**+1.8**
PVCC	**Panska Ves**	**82.38 324**	*e*P	**P**	**19 35 19.6**	**-0.2**
PVCC			*e*		19 35 28.3	
PVCC			*e*		19 38 24.0	
PVCC			*e*SS	SS	19 50 56.5	+1.5
PVCC			MLR	MLR		
	comp=Z,18μm,17.2s					
PVCC	**Panska Ves**	**82.38 324**	*e*P	**P**	**19 35 19.6**	**-0.2**
PVCC			*e*x	x	19 35 28.3	
PVCC			*e*PP	**PP**	**19 38 24.0**	**-4.1**
PVCC			*e*x	x	19 45 49.9	
PVCC			*e*SS	SS	19 50 56.5	+1.5
PVCC			AMS	AMS	20 15 10.0	
	comp=Z,18μm,17.2s					
BSEG	**Bad Segeberg**	**82.47 328**	*e*P	**P**	**19 35 19.1**	**-1.0**
	comp=Z,41nm,1.4s					
BSEG	**Bad Segeberg**	**82.47 328**	*e*P	**P**	**19 35 19.1**	**-1.0**
BSEG			pmax	pmax		
	comp=Z,41nm,1.4s					
BRG	**Berggiesshubel**	**82.50 324**	*e*P	**P**	**19 35 20.4**	**0.0**
	comp=Z,13nm,1.2s					
BRG			*e*		19 38 29.3	
	comp=Z,21nm,1.5s					
BRG			PP	**PP**	**19 38 31.0**	**+1.9**
BRG			SS	SS	19 51 04.0	+7.1
BRG						
	comp=N,10μm,17.9s					
BRG						
	comp=E,15μm,15.9s					
BRG						
	comp=Z,21μm,16.8s					
BRG	**Berggiesshubel**	**82.50 324**	*e*P	**P**	**19 35 20.3**	**-0.1**
	comp=Z,16nm,1.4s					
BRG			*e*PP	**PP**	**19 38 30.2**	**+1.1**
BRG			*e*S	**S**	**19 45 36.8**	**+0.2**
BRG	**Berggiesshubel**	**82.50 324**	*e*P	**P**	**19 35 20.4**	**0.0**
BRG			*e*		19 38 29.3	
BRG			pmax	pmax		
	comp=Z,3.0nm,1.3s					
BRG			pmax	pmax		
	comp=Z,13nm,1.5s					
BRG			MLR	MLR		
	comp=N,21μm,17.9s					
BRG			MLR	MLR		
	comp=E,10μm,15.9s					
BRG			MLR	MLR		
	comp=Z,15μm,16.8s					
TREC	**Trest**	**82.59 322**	*e*P	**P**	**19 35 18.7**	**-2.3**
TREC			*e*		19 38 26.0	
TREC			*e*S	**S**	**19 45 37.1**	**-0.5**
TREC			*e*		19 46 24.4	
TREC			*e*SS	**SS**	**19 51 01.1**	**+2.8**
TREC			MLR	M

PRU				*e*			19 35 27.0
PRU				*e*			19 38 30.1
PRU				*e*SS	SS		19 51 06.0 +6.1
PRU				MLR	MLR		
	comp=Z,15µm,17.9s						
PRU	**Pruhonice**	**82.70**	**323**	*e*P	**P**		**19 35 20.3 -1.2**
PRU				*ex*	x		19 35 27.0
PRU				*e*PP	**PP**		**19 38 30.1 -0.6**
PRU				*ex*	x		19 45 47.7
PRU				*e*SS	SS		19 51 06.0 +6.1
PRU				*ex*	x		19 55 12.0
PRU				AMS	AMS		20 15 20.0
	comp=Z,15µm,17.9s						
PRA	**Prague**	**82.71**	**323**	P	**P**		**19 35 21.0 -0.5**
PRA				PP	**PP**		**19 38 31.0 +0.2**
PRA				SS	SS		19 51 10.0 +10
FMW	**Mount Fremont**	**82.73**	**40**	P	**P**		**19 35 21.9 -0.1**
TDL	**Tradedollar La**	**82.73**	**41**	P	**P**		**19 35 22.0 +0.1**
CLL	**Collm**	**82.73**	**325**	*e*P	**P**		**19 35 21.8 +0.2**
	comp=Z,26nm,1.2s						
CLL				*e*PP	**PP**		**19 38 31.5 +0.5**
CLL	**Collm**	**82.73**	**325**	*e*P	**P**		**19 35 19.0 -2.6**
CLL				*i*			19 35 26.6
CLL				*i*			19 38 30.9
CLL				*e*S	**S**		**19 45 40.0 +1.1**
CLL				pmax	pmax		
	comp=Z,26nm,1.2s						
CLL				pmax	pmax		
	comp=Z,58nm,1.6s						
LON	**Longmire**	**82.75**	**41**	*e*P	**P**		**19 35 21.2 -0.7**
LON				pmax	pmax		
	comp=Z,55nm,1.2s						
LON	**Longmire**	**82.75**	**41**	*e*P	**P**		**19 35 21.2 -0.7**
	comp=Z,55nm,1.2s						
WPW	**White Pass**	**82.93**	**41**	P	**P**		**19 35 23.4 +0.5**
MPOR	**Mary's Peak**	**82.93**	**43**	P	**P**		**19 35 24.5 +1.5**
ETW	**Entiat**	**83.11**	**39**	P	**P**		**19 35 23.3 -0.6**
CONA	**Conrad Observa**	**83.16**	**321**	⇑*i*P	**P**		**19 35 22.4 -1.6**
	comp=Z,18nm,1.4s,SNR=5.6						
ASR	**Mount Adams--S**	**83.20**	**41**	P	**P**		**19 35 24.2 0.0**
ILULI	**Ilulissat**	**83.27**	**360**	*e*P	**P**		**19 35 23.5 -0.5**
ILULI				MLR	MLR		
	comp=Z,3µm,17.0s						
VLMM	**Larch Mountain**	**83.27**	**42**	P	**P**		**19 35 26.0 +1.3**
KEBM	**Edson Butte**	**83.31**	**45**	*e*P	**P**		**19 35 25.1 +0.2**
	comp=Z,305nm,1.2s						
EDM	**Edmonton**	**83.39**	**32**	*e*P	**P**		**19 35 22.6 -2.5**
EDM	**Edmonton**	**83.39**	**32**	*e*P	**P**		**19 35 22.6 -2.5**
NRDL	**Niedersach Rie**	**83.45**	**327**	*e*P	**P**		**19 35 23.9 -1.3**
	comp=Z,24nm,1.5s						
TANN	**Tannenbergstha**	**83.54**	**324**	*e*P	**P**		**19 35 24.7 -1.2**
	comp=Z,28nm,1.6s						
TANN				*e*PP	**PP**		**19 38 36.9 -0.8**
NKC	**Novy Kostel**	**83.65**	**324**	*e*P	**P**		**19 35 26.2 -0.2**
NKC				*e*			19 35 31.5
NKC				*e*			19 35 41.9
NKC				*e*			19 38 38.4
NKC				*e*			19 46 36.0
NKC				MLR	MLR		
	comp=Z,13µm,16.6s						
NKC	**Novy Kostel**	**83.65**	**324**	*e*P	**P**		**19 35 26.2 -0.2**
NKC				*e*pP	**pP**		**19 35 31.5 +0.2**
NKC				*ex*	x		19 35 41.9
NKC				*e*PP	**PP**		**19 38 38.4 -0.2**
NKC				*ex*	x		19 45 55.2
NKC				*e*PS	**PnS**		**19 46 36.0 -4.5**
NKC				*e*SS	SS		19 51 20.9 +6.9
NKC				*ex*	x		19 55 30.8
NKC				AMS	AMS		20 16 00.0
	comp=Z,13µm,16.6s						
KHC	**Kasperske Hory**	**83.71**	**323**	*i* P	**P**		**19 35 27.1 +0.3**
KHC				*e*			19 35 36.4
KHC				*e*			19 35 44.3
KHC				*e*			19 38 36.1
KHC				*e*S	**S**		**19 45 52.6 +3.6**
KHC				*e*			19 46 36.1
KHC				*e*SS	**SS**		**19 51 15.9 +1.0**
KHC				MLR	MLR		
	comp=Z,15µm,17.9s						
KHC	**Kasperske Hory**	**83.71**	**323**	*i* P	**P**		**19 35 27.1 +0.3**
KHC				*ex*	x		19 35 36.4
KHC				*ex*	x		19 35 44.3
KHC				*e*PP	**PP**		**19 38 36.1 -3.0**
KHC				*e*S	**S**		**19 45 52.6 +3.6**
KHC				*e*PS	**PnS**		**19 46 36.1 -5.1**
KHC				*e*SS	**SS**		**19 51 15.9 +1.0**
KHC				*ex*	x		19 55 08.8
KHC				AMS	AMS		20 15 50.0
	comp=Z,15µm,17.9s						
KHC	**Kasperske Hory**	**83.71**	**323**	*e*P	**P**		**19 35 27.1 +0.3**
	comp=Z,26nm,1.4s						
CLZ	**Clausthal**	**83.73**	**326**	*e*P	**P**		**19 35 25.5 -1.3**
	comp=Z,76nm,1.4s						
CLZ				*e*S	**S**		**19 45 48.4 -0.7**
CLZ	**Clausthal**	**83.73**	**326**	*e*P	**P**		**19 35 25.5 -1.3**
CLZ				*e*S	**S**		**19 45 48.4 -0.7**
CLZ				pmax	pmax		
	comp=Z,76nm,1.4s						
VFP	**Flag Point**	**83.73**	**42**	P	**P**		**19 35 27.5 +0.4**
GEC2	**GERESS Array S**	**83.81**	**323**	*e*P	**P**		**19 35 27.3 -0.1**
	comp=Z,17nm,1.2s						
GEC2				*e*PP	**PP**		**19 38 39.2 -0.8**
GEC2				*e*S	**S**		**19 45 50.1 -0.1**
GEC2	**GERESS Array S**	**83.81**	**323**	*e*P	**P**		**19 35 27.3 -0.1**
GEC2				*e*			19 38 39.2
GEC2				*e*S	**S**		**19 45 50.1 -0.1**
GEC2				pmax	pmax		
	comp=Z,17nm,1.2s						
GERES	**GERESS Array B**	**83.81**	**323**	P	**P**		**19 35 24.4 -2.9**
GERES				PKKPbc	**PKKPbc**		**19 53 44.0 +0.3**
GERES	**GERESS Array B**	**83.81**	**323**	P	**P**		**19 35 24.4 -2.9**
	comp=Z,7.0nm,1.1s,baz=57,slow=4.9,SNR=28						
GERES				PKKPbc	**PKKPbc**		**19 53 44.0 +0.3**
	comp=Z,2.0nm,1.0s,baz=211,slow=2.3,SNR=10.0						
GERES				LR	LR		20 16 02.2
	comp=Z,12µm,18.3s,baz=57,slow=38						
MOX	**Moxa**	**83.83**	**325**	*e*P	**P**		**19 35 26.5 -0.8**
	comp=Z,17nm,1.3s						
MOX				*e*S	**S**		**19 45 49.8 -0.4**
MOX				*e*L	L		20 17 09.9
	comp=Z,14µm,18.3s						
MOX	**Moxa**	**83.83**	**325**	*e*P	**P**		**19 35 26.5 -0.8**
MOX				*e*S	**S**		**19 45 49.8 -0.4**
MOX				pmax	pmax		
	comp=Z,17nm,1.3s						
MOX				MLR	MLR		
	comp=Z,14µm,18.3s						
ROTZ	**Rotzenmuhle**	**84.06**	**324**	*e*P	**P**		**19 35 27.9 -0.6**
	comp=Z,44nm,1.5s						
ROTZ				*e*PP	**PP**		**19 38 44.2 +2.4**
WET	**Wettzell**	**84.08**	**323**	*e*P	**P**		**19 35 28.4 -0.2**
	comp=Z,16nm,1.4s						
WET				*e*PP	**PP**		**19 38 43.0 +1.0**
WET				*e*S	**S**		**19 45 54.0 +1.3**
WET	**Wettzell**	**84.08**	**323**	*e*P	**P**		**19 35 28.4 -0.2**
WET				*e*			19 38 43.0
WET				*e*S	**S**		**19 45 54.0 +1.3**
WET				pmax	pmax		
	comp=Z,16nm,1.4s						
HAWA	**Hanford**	**84.25**	**40**	*e*P	**P**		**19 35 29.8 +0.3**
	comp=Z,112nm,1.1s						
HAWA				LR	LR		
	comp=Z,1µm,21.0s						
KRMB	**Red Mountain**	**84.29**	**46**	*e*P	**P**		**19 35 30.0 0.0**
	comp=Z,68nm,1.4s						
PERS	**Pernice**	**84.31**	**320**	*i* P	**P**		**19 35 29.5 -0.4**
HUMO	**Hull Mountain**	**84.31**	**45**	*e*P	**P**		**19 35 30.7 +0.7**
	comp=Z,65nm,1.4s						
SOKA	**Soboth**	**84.33**	**320**	⇑*i*pP	**P**		**19 35 29.1 -0.9**
	comp=Z,20nm,1.3s,SNR=10						
TIR	**Tirane**	**84.37**	**314**	PFAKE			19 35 40.0 +10
TIR				LR	LR		
	comp=Z,6µm,20.0s						
NEW	**Newport**	**84.50**	**38**	*e*P	**P**		**19 35 30.2 -0.6**
	comp=Z,95nm,1.1s						
NEW				LR	LR		
	comp=Z,2µm,19.0s						
NEW	**Newport**	**84.50**	**38**	⇓P	**P**		**19 35 30.2 -0.6**
	baz=84						
UBBA	**Unterbreizbach**	**84.54**	**326**	*e*P	**P**		**19 35 29.7 -1.1**
	comp=Z,17nm,1.3s						
UBBA				*e*S	**S**		**19 45 57.1 +0.1**
GRF	**Grafenberg Arr**	**84.61**	**324**	*e*P	**P**		**19 35 30.8 -0.5**
	comp=Z,96nm,1.6s						
GRF				*e*PP	**PP**		**19 38 48.9 +2.5**
GRF				*e*S	**S**		**19 45 58.8 +0.8**
GRF				*e*L	L		20 16 56.0
	comp=Z,19µm,18.4s						
GRF	**Grafenberg Arr**	**84.61**	**324**	*e*P	**P**		**19 35 30.8 -0.5**
GRF				*e*			19 38 48.9
GRF				*e*S	**S**		**19 45 58.8 +0.8**
GRF				pmax	pmax		
	comp=Z,96nm,1.6s						
GRF				MLR	MLR		
	comp=Z,19µm,18.4s						
GRFO	**Grafenberg**	**84.61**	**324**	*e*P	**P**		**19 35 29.3 -2.0**
GRFO				pmax	pmax		
	comp=Z,61nm,1.3s						
GRFO	**Grafenberg**	**84.61**	**324**	*e*P	**P**		**19 35 29.3 -2.0**
	comp=Z,61nm,1.3s						
IBBN	**Ibbenburen**	**84.69**	**328**	*e*P	**P**		**19 35 30.8 -0.8**
	comp=Z,47nm,1.0s						
BORG	**Borgarnes**	**84.70**	**347**	LR	LR		20 14 23.9
	comp=Z,3µm,20.6s,baz=191,slow=36						
KHMM	**Horse Mountain**	**84.75**	**46**	*e*P	**P**		**19 35 32.2 -0.2**
	comp=Z,148nm,1.4s						
BOJS	**Bojanci**	**84.88**	**319**	*i* P	**P**		**19 35 31.8 -0.9**
YBH	**Yreka Blue Hor**	**84.94**	**45**	*e*P	**P**		**19 35 33.5 +0.3**
	comp=Z,172nm,1.6s						
YBH	**Yreka Blue Hor**	**84.94**	**45**	P	**P**		**19 35 33.4 +0.2**
	comp=Z,34nm,1.1s,baz=309,slow=2.2,SNR=31						
VISS	**Visnje**	**84.94**	**320**	*i* P	**P**		**19 35 31.8 -1.2**
RJOB	**Jochberg**	**84.95**	**322**	*e*P	**P**		**19 35 31.8 -1.3**
	comp=Z,19nm,1.0s						
KBA	**Koelnbreinsper**	**85.04**	**321**	⇓*i*P	**P**		**19 35 32.0 -1.7**
	comp=Z,16nm,1.1s						
JAVS	**Javornik**	**85.33**	**320**	*i* P	**P**		**19 35 32.5 -2.7**
BUG	**Bochum--Univer**	**85.48**	**327**	*e*P	**P**		**19 35 33.8 -1.8**
	comp=Z,22nm,1.3s						
BUG				*e*S	**S**		**19 46 05.1 -1.3**
KCPM	**Cahto Peak**	**85.48**	**47**	*e*P	**P**		**19 35 33.2 -2.9**
	comp=Z,87nm,1.4s						
KIPM	**Iron Peak**	**85.48**	**47**	*e*P	**P**		**19 35 36.5 +0.4**
	comp=Z,91nm,1.1s						
SFJD	**Kangerlussuaq**	**85.50**	**359**	*i* P	**P**		**19 35 33.4 -1.9**
SFJD	**Kangerlussuaq**	**85.50**	**359**	*e*S	**S**		**19 46 07.1 +1.1**
SFJD							
	comp=Z,3µm,16.0s						
SFJD	**Kangerlussuaq**	**85.50**	**359**	*e*P	**P**		**19 35 33.6 -1.7**
	comp=Z,104nm,1.4s						
SFJD	**Kangerlussuaq**	**85.50**	**359**	LR	LR		20 17 50.3
	comp=Z,4µm,18.4s,baz=354,slow=39						
FUR	**Furstenfeldbru**	**85.51**	**323**	*e*P	**P**		**19 35 35.4 -0.5**
	comp=Z,35nm,0.9s						
FUR				*e*S	**S**		**19 46 07.2 +0.2**
FUR	**Furstenfeldbru**	**85.51**	**323**	*e*P	**P**		**19 35 35.4 -0.5**
FUR				*e*S	**S**		**19 46 07.2 +0.2**
FUR				pmax	pmax		
	comp=Z,35nm,0.9s						
WDC	**Whiskeytown Da**	**85.67**	**46**	*e*P	**P**		**19 35 36.6 -0.2**
WDC				pmax	pmax		
	comp=Z,86nm,1.1s						
WDC	**Whiskeytown Da**	**85.67**	**46**	*e*P	**P**		**19 35 36.6 -0.2**
	comp=Z,86nm,1.1s						
TNS	**Taunus Mts**	**85.69**	**326**	*e*P	**P**		**19 35 35.9 -0.8**
	comp=Z,76nm,2.3s						
TNS				*e*PP	**PP**		**19 38 58.6 +3.5**
TNS	**Taunus Mts**	**85.69**	**326**	*e*P	**P**		**19 35 35.9 -0.8**
TNS				*e*			19 38 58.6
TNS				pmax	pmax		
	comp=Z,76nm,2.3s						
ABTA	**Abfaltersbach**	**85.70**	**321**	⇑*i*P	**P**		**19 35 34.4 -2.5**
	comp=Z,16nm,1.0s,SNR=7.4						
WALA	**Waterton Lakes**	**85.71**	**36**	*e*P	**P**		**19 35 36.5 -0.4**
	comp=Z,6.2nm,1.8s						
WTTA	**Wattenberg**	**85.87**	**322**	⇓*i*P	**P**		**19 35 36.1 -1.7**
	comp=Z,29nm,1.3s,SNR=8.0						
HOPS	**Hopland**	**86.19**	**48**	*e*P	**P**		**19 35 39.3 -0.1**
	comp=Z,85nm,1.2s						
STU	**Stuttgart**	**86.23**	**324**	*e*S	**S**		**19 46 10.4 -3.5**
MOD	**Modoc**	**86.34**	**44**	*e*P	**P**		**19 35 40.4 +0.1**
	comp=Z,436nm,1.1s						
BMO	**Blue Mountains**	**86.42**	**40**	PFAKE			19 35 50.0 +9.5
BMO				LR	LR		
	comp=Z,2µm,19.0s						
FETA	**Feichten**	**86.50**	**322**	⇑*i*P	**P**		**19 35 38.9 -2.1**
	comp=Z,15nm,1.1s						
MCCM	**Marconi Confer**	**86.78**	**48**	*e*P	**P**		**19 35 42.9 +0.6**
	comp=Z,129nm,1.0s						
DAVA	**Damuels**	**86.80**	**323**	⇑*i*P	**P**		**19 35 40.6 -1.8**
	comp=Z,16nm,1.1s,SNR=5.9						
BFO	**Black Forest**	**86.95**	**324**	*e*P	**P**		**19 35 41.7 -1.3**
	comp=Z,23nm,1.4s						
BFO				*e*PP	**PP**		**19 39 06.9 +1.6**
BFO				*e*S	**S**		**19 46 18.1 -2.9**
BFO	**Black Forest**	**86.95**	**324**	*e*P	**P**		**19 35 41.3 -1.7**
BFO				pmax	pmax		
	comp=Z,20nm,1.4s						
BFO				MLR	MLR		
	comp=Z,15µm,19.0s						
BFO	**Black Forest**	**86.95**	**324**	*e*P	**P**		**19 35 41.3 -1.7**
	comp=Z,20nm,1.4s						
BFO				LR	LR		
	comp=Z,15µm,19.0s						
WVOR	**Wild Horse Val**	**87.05**	**43**	*e*P	**P**		**19 35 44.0 +0.3**
WVOR				pmax	pmax		
	comp=Z,57nm,1.1s						
WVOR	**Wild Horse Val**	**87.05**	**43**	*e*P	**P**		**19 35 44.0 +0.3**
	comp=Z,57nm,1.1s						
SLMT	**Seeley Lake**	**87.07**	**37**	*e*P	**P**		**19 35 42.6 -1.1**
	comp=Z,100nm,1.1s						
MSO	**Missoula**	**87.08**	**37**	⇑P	**P**		**19 35 43.1 -0.7**
	baz=87						
WLF	**Walferdange**	**87.18**	**326**	P	**P**		**19 35 43.2 -0.8**
WLF	**Walferdange**	**87.18**	**326**	*e*P	**P**		**19 35 42.3 -1.7**
	comp=Z,14nm,1.1s						
EKA	**Eskdalemuir Ar**	**87.26**	**334**	LR	LR		20 19 20.2
	comp=Z,7µm,20.8s,baz=0.0,slow=39						
ESK	**Eskdalemuir**	**87.29**	**334**	PFAKE			19 35 50.0 +5.6
ESK				LR	LR		
	comp=Z,7µm,20.0s						
FFC	**Flin Flon**	**87.30**	**26**	*e*P	**P**		**19 35 42.7 -1.7**
FFC				pmax	pmax		
	comp=Z,251nm,1.4s						
FFC				MLR	MLR		
	comp=Z,881nm,21.0s						
FFC	**Flin Flon**	**87.30**	**26**	*e*P	**P**		**19 35 42.7 -1.7**
	comp=Z,251nm,1.4s						
FFC				LR	LR		
	comp=Z,881nm,21.0s						
FFC	**Flin Flon**	**87.30**	**26**	P	**P**		**19 35 43.6 -0.9**
	comp=Z,298nm,0.9s,SNR=8.4						
CHMT	**Chamberlain Mo**	**87.40**	**37**	*e*P	**P**		**19 35 44.4 -1.1**
	comp=Z,24nm,1.2s						
CDF	**Champ du Feu**	**87.44**	**325**	*e*P	**P**		**19 35 43.9 -1.5**
CDF	**Champ du Feu**	**87.44**	**325**	*e*P	**P**		**19 35 43.9 -1.5**
CDF	**Champ du Feu**	**87.44**	**325**	*e*P	**P**		**19 35 43.9 -1.5**
BEKR	**Beckworth**	**87.46**	**46**	*e*P	**P**		**19 35 45.1 -0.6**
	comp=Z,50nm,1.1s						
GIVF	**Givet**	**87.53**	**327**	*e*P	**P**		**19 35 45.2 -0.5**
GIVF	**Givet**	**87.53**	**327**	*e*P	**P**		**19 35 45.2 -0.5**
GIVF	**Givet**	**87.53**	**327**	*e*P	**P**		**19 35 45.2 -0.5**
TUE	**Stuetta**	**87.59**	**323**	*e*P	**P**		**19 35 44.4 -2.0**
	comp=Z,19nm,0.9s						
ECH	**Echery**	**87.62**	**325**	PFAKE			19 36 00.0 +14
ECH				LR	LR		
	comp=Z,9µm,19.0s						
DOU	**Dourbes**	**87.65**	**327**	P	**P**		**19 35 44.1 -2.2**
CUC	**Castrocucco**	**87.69**	**315**	PFAKE			19 36 00.0 +13
CUC				LR	LR		
	comp=Z,5µm,19.0s						
FRB	**Frobisher Bay**	**87.83**	**7**	LR	LR		20 19 20.2
	comp=Z,3µm,18.1s,baz=349,slow=39						
MOF	**Molkenrain**	**87.87**	**325**	*e*P	**P**		**19 35 45.6 -1.9**
HINF	**Hinteralfeld**	**88.04**	**325**	*e*P	**P**		**19 35 46.2 -2.0**
HINF	**Hinteralfeld**	**88.04**	**325**	*e*P	**P**		**19 35 46.2 -2.0**
HINF	**Hinteralfeld**	**88.04**	**325**	*e*P	**P**		**19 35 46.2 -2.0**
PAGF	**Fort de Pagny**	**88.12**	**326**	*e*P	**P**		**19 35 47.2 -1.4**
	comp=Z,7.5nm,1.1s						
PAGF	**Fort de Pagny**	**88.12**	**326**	*e*P	**P**		**19 35 47.2 -1.4**
	comp=Z,7.5nm,1.1s						
MFID	**Camas Ranch**	**88.13**	**41**	⇓P	**P**		**19 35 48.2 -0.6**
	baz=88						
PAHR	**Pah Rah Range**	**88.16**	**45**	*e*P	**P**		**19 35 48.7 -0.4**
	comp=Z,105nm,1.1s						
HAU	**Haudompre**	**88.17**	**325**	*e*P	**P**		**19 35 47.0 -1.8**
	comp=Z,12nm,1.0s						
HAU	**Haudompre**	**88.17**	**325**	*e*P	**P**		**19 35 47.0 -1.8**
HAU				pmax	pmax		
	comp=Z,12nm,1.0s						
HAU	**Haudompre**	**88.17**	**325**	*e*P	**P**		**19 35 47.0 -1.8**
	comp=Z,12nm,1.0s						
HRY	**Holter Researc**	**88.28**	**37**	*e*P	**P**		**19 35 49.5 0.0**
	comp=Z,55nm,1.0s						
A19A	**Klindworth Far**	**88.39**	**33**	⇓P	**P**		**19 35 49.2 -0.7**
	baz=88,SNR=16						
CMB	**Columbia Colle**	**88.48**	**47**	*e*P	**P**		**19 35 49.6 -0.9**
CMB				pmax	pmax		
	comp=Z,76nm,1.1s						
CMB	**Columbia Colle**	**88.48**	**47**	*e*P	**P**		**19 35 49.6 -0.9**
	comp=Z,76nm,1.1s						
SAO	**San Andreas Ge**	**88.49**	**49**	*e*P	**P**		**19 35 50.9 +0.4**
SAO				pmax	pmax		
	comp=Z,83nm,1.5s						
SAO	**San Andreas Ge**	**88.49**	**49**	*e*P	**P**		**19 35 50.9 +0.4**
	comp=Z,83nm,1.5s						
MEZF	**Maizieres J'vi**	**88.49**	**326**	*e*P	**P**		**19 35 49.1 -1.2**
MEZF	**Maizieres J'vi**	**88.49**	**326**	*e*P	**P**		**19 35 49.1 -1.2**
EGMT	**Eagleton**	**88.50**	**35**	*e*P	**P**		**19 35 50.0 -0.4**
	comp=Z,104nm,1.1s						
EGMT				LR	LR		
	comp=Z,1µm,19.0s						
EGMT	**Eagleton**	**88.50**	**35**	⇑P	**P**		**19 35 50.1 -0.4**
	baz=88,SNR=11						
LRM	**Limekiln Ridge**	**88.52**	**37**	*e*P	**P**		**19 35 50.1 -0.7**
	comp=Z,1µm,1.6s						
B19A	**Brinkman Farms**	**88.61**	**34**	⇑P	**P**		**19 35 50.4 -0.6**
	baz=88,SNR=14						
CEL	**Celeste**	**88.62**	**313**	PFAKE			19 36 00.0 +8.8
CEL				LR	LR		
	comp=Z,4µm,19.0s						
SFTF	**Sexfontaines**	**88.70**	**326**	*e*P	**P**		**19 35 49.7 -1.6**
	comp=Z,75nm,1.4s						
SFTF	**Sexfontaines**	**88.70**	**326**	*e*P	**P**		**19 35 49.7 -1.6**
	comp=Z,75nm,1.4s						
DLMT	**Dillon**	**88.73**	**38**	*e*P	**P**		**19 35 51.4 -0.3**
	comp=Z,121nm,1.0s						
WAKR	**Walker**	**88.82**	**46**	*e*P	**P**		**19 35 52.9 +0.5**
	comp=Z,117nm,1.7s						
A20A	**Cobblestone Ra**	**88.82**	**33**	⇑P	**P**		**19 35 51.6 -0.3**
	baz=88,SNR=9.1						
HLID	**Hailey**	**88.85**	**40**	*e*P	**P**		**19 35 52.6 +0.2**
	comp=Z,98nm,1.0s						
HLID	**Hailey**	**88.85**	**40**	⇓P	**P**		**19 35 52.1 -0.3**
	baz=89						
MCMT	**McKenzie Canyo**	**88.94**	**38**	*e*P	**P**		**19 35 52.5 -0.3**
	comp=Z,26nm,1.5s						
C19A	**Slack Wire Ran**	**89.04**	**34**	⇓P	**P**		**19 35 53.0 0.0**
	baz=89,SNR=7.1						
BOZ	**Bozeman (W)**	**89.08**	**37**	PFAKE			19 36 00.0 +6.7
BOZ				LR	LR		
	comp=Z,1µm,20.0s						
B20A	**Solberg Farm,**	**89.08**	**34**	⇑P	**P**		**19 35 52.7 -0.5**
	baz=89,SNR=14						
BMN	**Battle Mountai**	**89.09**	**44**	*e*P	**P**		**19 35 54.2 +0.7**
BMN				pmax	pmax		
	comp=Z,59nm,1.1s						
BMN				MLR	MLR		
	comp=Z,951nm,19.0s						
BMN	**Battle Mountai**	**89.09**	**44**	*e*P	**P**		**19 35 54.2 +0.7**
	comp=Z,59nm,1.1s						
BMN				LR	LR		
	comp=Z,951nm,19.0s						
CABF	**La Chapelle**	**89.22**	**324**	*e*P	**P**		**19 35 52.1 -1.8**
CABF	**La Chapelle**	**89.22**	**324**	*e*P	**P**		**19 35 52.1 -1.8**
CABF	**La Chapelle**	**89.22**	**324**	*e*P	**P**		**19 35 52.1 -1.8**
A21A	**Bergtoll Ranch**	**89.23**	**33**	⇑P	**P**		**19 35 53.6 -0.2**
	baz=89,SNR=44						
D19A	**Cripps Ranch,**	**89.51**	**35**	⇑P	**P**		**19 35 55.2 0.0**
	baz=89,SNR=29						
B21A	**Ellsworth Farm**	**89.57**	**33**	⇓P	**P**		**19 35 54.9 -0.6**
	baz=89,SNR=15						
C20A	**Veseth Ranch,**	**89.58**	**34**	⇑P	**P**		**19 35 55.1 -0.3**
	baz=89,SNR=49						
LPL	**La Plagne**	**89.60**	**323**	*e*P	**P**		**19 35 54.4 -1.5**
	comp=Z,28nm,1.4s						
LPL	**La Plagne**	**89.60**	**323**	*e*P	**P**		**19 35 54.4 -1.5**
LPL				pmax	pmax		
	comp=Z,28nm,1.4s						
LPL	**La Plagne**	**89.60**	**323**	*e*P	**P**		**19 35 54.4 -1.5**
	comp=Z,28nm,1.4s						
LPG	**La Plagne**	**89.61**	**323**	*e*P	**P**		**19 35 54.6 -1.4**
	comp=Z,8.5nm,0.8s						
LPG	**La Plagne**	**89.61**	**323**	*e*P	**P**		**19 35 54.6 -1.4**
LPG				pmax	pmax		
	comp=Z,9.0nm,0.8s						
LPG	**La Plagne**	**89.61**	**323**	*e*P	**P**		**19 35 54.6 -1.4**
	comp=Z,8.5nm,0.8s						
NV11	**Mina Array Sit**	**89.68**	**46**	*e*P	**P**		**19 35 55.8 -0.5**
A22A	**Carney Farms,**	**89.71**	**32**	⇑P	**P**		**19 35 55.3 -0.8**
	baz=89,SNR=34						
QLMT	**Earthquake Lak**	**89.71**	**38**	*e*P	**P**		**19 35 56.9 +0.5**
	comp=Z,8.5nm,1.2s						
MLAC	**Mammoth Lakes**	**89.71**	**47**	⇑P	**P**		**19 35 55.9 -0.7**
	baz=90						
LOR	**Lormes**	**89.92**	**326**	*e*P	**P**		**19 35 55.0 -2.0**
LOR	**Lormes**	**89.92**	**326**	*e*P	**P**		**19 35 55.0 -2.0**
D20A	**Manuel Ranch,**	**89.93**	**35**	⇓P	**P**		**19 35 56.9 -0.3**
	baz=90,SNR=47						
BNI	**Bardonecchia**	**89.94**	**323**	PFAKE			19 36 10.0 +13
BNI				LR	LR		
	comp=Z,25µm,19.0s						
C21A	**Desert Coulee**	**89.95**	**34**	⇓P	**P**		**19 35 57.0 -0.2**
	baz=90,SNR=16						
GCMT	**Greycliff**	**90.02**	**36**	*e*P	P		19 35 53.5 -4.3
	comp=Z,42nm,1.0s						
E19A	**Rath Farm, Rou**	**90.03**	**35**	⇓P	**P**		**19 35 57.5 -0.2**
	baz=90,SNR=24						
YMR	**Madison River**	**90.07**	**38**	*e*P	**P**		**19 35 58.8 +0.7**
	comp=Z,101nm,1.1s						
MBDF	**Montbardon**	**90.10**	**322**	*e*P	**P**		**19 35 56.1 -2.0**
	comp=Z,10nm,1.1s						
MBDF	**Montbardon**	**90.10**	**322**

comp=Z,10.0nm,1.1s
ORIF Oris-en-Rattie 90.45 323 *e*P **P 19 35 57.9 -1.8**
comp=Z,9.8nm,1.1s
H17A Grant Village 90.46 38 ⇑P **P 19 36 00.7 +0.8**
baz=90
TPH Tonopah 90.49 46 PFAKE 19 36 10.0 +10
TPH LR LR
comp=Z,826nm,20.0s
B23A Brockton 90.51 32 ⇓P **P 19 35 59.4 -0.4**
baz=90,SNR=22
D21A La Casta Ranch 90.52 34 ⇑P **P 19 35 59.8 -0.2**
baz=90,SNR=51
IMW Indian Meadow 90.58 38 *e*P **P 19 36 01.1 +0.5**
comp=Z,93nm,1.2s
VES Vestal, Richgr 90.58 48 ⇓P **P 19 35 59.9 -0.5**
baz=90
C22A Vida 90.59 33 ⇓P **P 19 35 59.9 -0.3**
baz=90,SNR=15
FLWY Flagg Ranch 90.59 38 *e*P **P 19 36 02.2 +1.6**
comp=Z,174nm,1.2s
PKM Peak Mountain 90.64 50 ⇓P **P 19 36 00.6 -0.3**
baz=90,SNR=14
A24A Westby 90.65 31 ⇑P **P 19 36 00.1 -0.3**
baz=90,SNR=15
RLMT Red Lodge 90.68 37 PFAKE 19 36 10.0 +9.1
RLMT LR LR
comp=Z,1µm,21.0s
RRI2 Red Ridge 90.73 39 *e*P **P 19 36 01.7 +0.4**
comp=Z,46nm,1.1s
H18A Shoshone NF, C 90.76 37 ⇓P **P 19 36 01.1 -0.2**
baz=90,SNR=32
I17A Pilgrim Ck. 90.77 38 ⇓P **P 19 36 00.8 -0.6**
baz=90,SNR=15
MOOW Moose Ponds 90.79 38 *e*P **P 19 36 01.7 +0.2**
comp=Z,93nm,1.5s
F20A Billings 90.80 36 ⇑P **P 19 36 00.9 -0.4**
baz=90,SNR=5.8
E21A Keefer Ranch, 90.84 34 ⇑P **P 19 36 01.2 -0.2**
baz=90
TPAW Teton Pass 90.84 39 *e*P **P 19 36 02.1 +0.3**
comp=Z,57nm,1.1s
D22A Cohagen 90.86 34 ⇓P **P 19 36 00.8 -0.7**
baz=91,SNR=18
ABPO Ambohimpanom 90.88 249 *e*P **P 19 36 01.0 -1.1**
ABPO pmax pmax
comp=Z,21nm,0.9s
ABPO MLR MLR
comp=Z,3µm,21.0s
ABPO Ambohimpanom 90.88 249 *e*P **P 19 36 01.0 -1.1**
comp=Z,21nm,0.9s
ABPO LR LR
comp=Z,3µm,21.0s
DGMT Dagmar 90.88 32 *e*P **P 19 36 01.1 -0.5**
comp=Z,226nm,1.3s
DGMT LR LR
comp=Z,2µm,20.0s
DGMT Dagmar 90.88 32 ⇓P **P 19 36 00.9 -0.7**
baz=91,SNR=20
C23A Lambert 90.89 33 ⇓P **P 19 36 01.3 -0.3**
baz=91,SNR=20
CWC Cottonwood Cre 90.90 47 ⇑P **P 19 36 01.3 -0.7**
baz=91
HVU Hansel Valley 90.91 41 *e*P **P 19 36 01.9 -0.1**
HVU pmax pmax
comp=Z,77nm,1.1s
HVU Hansel Valley 90.91 41 *e*P **P 19 36 01.9 -0.1**
comp=Z,77nm,1.1s
SSB Saint Sauveur 90.92 324 PFAKE 19 36 10.0 +8.2
SSB LR LR
comp=Z,5µm,20.0s
LOHW Long Hollow 90.95 38 *e*P **P 19 36 03.8 +1.6**
comp=Z,43nm,1.1s
SBC Santa Barbara 90.97 50 ⇑P **P 19 36 01.3 -0.8**
baz=91
SNOW Snow King Moun 90.97 38 *e*P **P 19 36 03.9 +1.6**
comp=Z,54nm,1.1s
REDW Red Top Meadow 90.98 39 *e*P **P 19 36 02.1 -0.2**
comp=Z,69nm,1.4s
GRAC Grapevine Rang 91.03 47 ⇓P **P 19 36 02.7 +0.2**
baz=91,SNR=6.0
A25A Svangstu Ranch 91.04 31 ⇓P **P 19 36 02.0 -0.3**
baz=91,SNR=7.0
ISA Isabella 91.09 48 *e*P **P 19 36 01.7 -1.1**
ISA pmax pmax
comp=Z,19nm,1.2s
ISA Isabella 91.09 48 *e*P **P 19 36 01.7 -1.1**
comp=Z,19nm,1.2s
ISA Isabella 91.09 48 ⇓P **P 19 36 02.3 -0.5**
baz=91,SNR=16
H19A Powell 91.13 37 ⇑P **P 19 36 02.8 -0.1**
baz=91,SNR=9.1
VIVF Saint-Julien-I 91.13 324 *e*P **P 19 36 01.0 -1.8**
comp=Z,6.4nm,1.0s
VIVF Saint-Julien-I 91.13 324 *e*P **P 19 36 01.0 -1.8**
VIVF pmax pmax
comp=Z,6.0nm,1.0s
VIVF Saint-Julien-I 91.13 324 *e*P **P 19 36 01.0 -1.8**
comp=Z,6.4nm,1.0s
LMR La Mourre 91.15 321 *e*P **P 19 36 01.4 -1.4**
comp=Z,39nm,1.3s
LMR La Mourre 91.15 321 *e*P **P 19 36 01.4 -1.4**
LMR pmax pmax
comp=Z,39nm,1.3s
LMR La Mourre 91.15 321 *e*P **P 19 36 01.4 -1.4**
comp=Z,39nm,1.3s
KMBO Kilima Mbogo 91.15 269 *e*P **P 19 36 02.9 -0.8**
comp=Z,16nm,1.3s
KMBO Kilima Mbogo 91.15 269 P **P 19 36 02.9 -0.8**
comp=Z,5.4nm,0.9s,baz=31,slow=7.3,SNR=9.5
KMBO LR LR 20 18 10.5
comp=Z,2µm,21.9s,baz=90,slow=36
G20A Bridger 91.16 36 ⇑P **P 19 36 02.6 -0.4**
baz=91,SNR=15
LAO LASA Array 91.16 34 *e*P **P 19 36 03.0 0.0**
comp=Z,140nm,1.1s
LAO LR LR
comp=Z,1µm,22.0s
ARVC Arvin 91.17 49 ⇑P **P 19 36 03.1 0.0**
baz=91
NRS Narsarsuaq 91.20 357 *e*P **P 19 36 00.2 -2.4**
NRS MLR MLR
comp=Z,2µm,20.0s
AHID Auburn Hatcher 91.23 39 *e*P **P 19 36 02.7 -0.8**
comp=Z,55nm,1.1s
AHID LR LR
comp=Z,1µm,19.0s
BGU Big Grassy Mou 91.30 42 *e*P **P 19 36 04.3 +0.5**
comp=Z,61nm,1.2s
F21A Absaloka Mine, 91.31 35 ⇑P **P 19 36 03.3 -0.3**
baz=91
D23A Lindsay 91.32 33 ⇑P **P 19 36 03.9 +0.2**
baz=91,SNR=22
R11A Troy Canyon, C 91.35 45 *e*P **P 19 36 03.7 -0.4**
R11A Troy Canyon, C 91.35 45 ⇓P **P 19 36 03.9 -0.2**
baz=91,SNR=72
SPUT South Promonto 91.40 41 *e*P **P 19 36 04.3 0.0**
comp=Z,50nm,1.1s
TCF Toulx Ste Croi 91.42 326 *e*P **P 19 36 02.3 -1.7**
TCF Toulx Ste Croi 91.42 326 *e*P **P 19 36 02.3 -1.7**
TCF Toulx Ste Croi 91.42 326 *e*P **P 19 36 02.3 -1.7**
C24A Savage 91.44 32 ⇓P **P 19 36 03.6 -0.6**
baz=91,SNR=9.6
E22A Miles City 91.47 34 ⇓P **P 19 36 03.7 -0.7**
baz=91,SNR=20
B25A Knox Farm, Ray 91.50 31 ⇑P **P 19 36 04.5 +0.1**
baz=91,SNR=7.1
MPMC Manual Prospec 91.51 48 ⇓P **P 19 36 04.5 -0.4**
baz=91,SNR=41
OSI Osito Adit 91.53 49 ⇓P **P 19 36 03.7 -1.2**
baz=91
I19A Meeteetse 91.55 37 ⇑P **P 19 36 04.9 -0.1**
baz=91,SNR=18
A26A Wade Farm, Ken 91.56 30 ⇑P **P 19 36 04.5 -0.2**
baz=91
BLG Laguna Peak 91.60 50 ⇑P **P 19 36 04.7 -0.4**
baz=91
PPT Papeete 91.62 109 LR LR 20 09 29.5
comp=Z,2µm,20.2s,baz=335,slow=30
PPT2 Papeete2 91.63 109 *e*S S 19 46 54.5 -11
comp=Z,2µm,24.0s
PPT2 *e*SS **SS 19 53 08.6 -4.5**
comp=Z,1µm,26.0s
PPT2 *e*LQ LQ 20 01 18.4
comp=Z,4µm,34.5s
PPT2 *e*LR LR 20 05 22.1
comp=Z,4µm,23.0s,baz=292
FURC Furnace Creek, 91.67 47 ⇑P **P 19 36 05.9 +0.5**
baz=92,SNR=18

G21A Lodge Grass 91.68 35 ⇓P **P 19 36 05.3 -0.1**
baz=91,SNR=10.0
HWUT Hardware Ranch 91.72 40 *e*P **P 19 36 06.0 +0.2**
comp=Z,154nm,1.1s
HWUT LR LR
comp=Z,2µm,19.0s
LRMC Laurel Mountai 91.72 48 ⇓P **P 19 36 05.1 -0.7**
baz=92
H20A Greybull 91.77 36 ⇑P **P 19 36 05.9 +0.1**
baz=92,SNR=21
F22A Rosebud 91.78 35 ⇑P **P 19 36 05.0 -0.8**
baz=92,SNR=29
D24A Glendive 91.79 33 ⇑P **P 19 36 05.7 -0.1**
baz=92,SNR=21
B26A Jensen Ranch, 91.85 31 ⇓P **P 19 36 06.0 -0.1**
baz=92
C25A Freed Ranch, W 91.86 32 ⇑P **P 19 36 06.1 0.0**
baz=92,SNR=6.1
A27A Ledoux Ranch, 91.87 30 ⇑P **P 19 36 05.8 -0.3**
baz=92,SNR=12
EDW2 Edwards Air Fo 91.87 49 ⇓P **P 19 36 06.3 -0.2**
baz=92,SNR=22
DUG Dugway 91.89 42 *e*P **P 19 36 07.1 +0.6**
DUG pmax pmax
comp=Z,86nm,1.0s
DUG Dugway 91.89 42 *e*P **P 19 36 07.1 +0.6**
comp=Z,86nm,1.0s
DUG Dugway 91.89 42 ⇓P **P 19 36 06.4 -0.1**
baz=92,SNR=44
DECC Green Verdugo 92.01 49 ⇑P **P 19 36 06.7 -0.3**
baz=92
J19A Crowheart 92.03 38 ⇓P **P 19 36 06.9 -0.3**
baz=92,SNR=38
I20A Worland 92.07 37 ⇑P **P 19 36 07.0 -0.2**
baz=92,SNR=19
BW06 Boulder Array 92.09 38 *e*P **P 19 36 06.7 -0.8**
comp=Z,38nm,1.1s
BW06 LR LR
comp=Z,1µm,21.0s
PDAR Pinedale Array 92.09 38 P **P 19 36 06.8 -0.7**
PDAR PP **PP 19 39 50.7 +4.0**
PDAR P'P' 20 01 32.3
PDAR Pinedale Array 92.09 38 P **P 19 36 06.8 -0.7**
comp=Z,25nm,1.0s,baz=303,slow=1.2,SNR=76
PDAR PP **PP 19 39 50.7 +4.0**
comp=Z,3.6nm,1.2s,baz=288,slow=5.6,SNR=4.6
PDAR PKPPKP P'P'df 20 01 32.3 -6.3
comp=Z,0.3nm,0.5s,baz=131,slow=6.1,SNR=3.7
G22A Birney 92.15 35 ⇓P **P 19 36 06.6 -1.0**
baz=92,SNR=20
H21A Big Horn, Sher 92.17 36 ⇓P **P 19 36 07.4 -0.3**
baz=92,SNR=14
E24A Baker 92.19 33 ⇑P **P 19 36 07.3 -0.4**
baz=92,SNR=9.3
MWC Mount Wilson 92.21 49 *e*P **P 19 36 08.1 -0.1**
MWC pmax pmax
comp=Z,52nm,1.2s
MWC Mount Wilson 92.21 49 *e*P **P 19 36 08.1 -0.1**
comp=Z,52nm,1.2s
D25A Fairfield 92.24 32 ⇑P **P 19 36 07.5 -0.4**
baz=92
F23A Volborg 92.25 34 ⇓P **P 19 36 07.4 -0.6**
baz=92,SNR=37
SGMF Saint Gilles 92.27 329 *e*P **P 19 36 06.6 -1.3**
SGMF Saint Gilles 92.27 329 *e*P **P 19 36 06.6 -1.3**
SGMF Saint Gilles 92.27 329 *e*P **P 19 36 06.6 -1.3**
B27A Peters Farms, 92.27 30 ⇑P **P 19 36 07.6 -0.3**
baz=92
M17A Scullys Gap (B 92.32 40 ⇑P **P 19 36 07.9 -0.7**
baz=92,SNR=36
C26A Wahner Farm, P 92.32 31 ⇓P **P 19 36 07.6 -0.6**
baz=92
A28A Rude Farm, Bot 92.33 30 ⇑P **P 19 36 07.7 -0.5**
baz=92,SNR=7.8
FMP Fort Macarthur 92.35 50 ⇑P **P 19 36 08.0 -0.5**
baz=92
L18A Fontenelle, Gr 92.38 39 ⇑P **P 19 36 08.9 +0.1**
baz=92,SNR=24
SHOC Shoshone 92.39 47 ⇑P **P 19 36 09.0 +0.2**
baz=92,SNR=19
GSC Goldstone 92.40 48 *e*P **P 19 36 09.0 +0.1**
GSC pmax pmax
comp=Z,75nm,1.0s
GSC Goldstone 92.40 48 *e*P **P 19 36 09.0 +0.1**
comp=Z,75nm,1.0s
GSC Goldstone 92.40 48 ⇑P **P 19 36 08.6 -0.3**
baz=92,SNR=46
JLU Jordanelle 92.43 41 *e*P **P 19 36 09.0 -0.2**
comp=Z,42nm,1.1s
K19A Absolon Red Bu 92.44 38 ⇓P **P 19 36 08.6 -0.5**
baz=92,SNR=7.0
RJF Les Rejaudoux 92.45 325 *e*P **P 19 36 07.4 -1.4**
comp=Z,27nm,1.5s
RJF Les Rejaudoux 92.45 325 *e*P **P 19 36 07.4 -1.4**
RJF pmax pmax
comp=Z,27nm,1.5s
RJF Les Rejaudoux 92.45 325 *e*P **P 19 36 07.4 -1.4**
comp=Z,27nm,1.5s
CIS Catalina Islan 92.45 50 ⇓P **P 19 36 08.8 -0.3**
baz=92,SNR=7.0
BFSC Mount Baldy Ra 92.47 49 ⇑P **P 19 36 08.7 -0.6**
baz=92,SNR=17
NLU North Lily Min 92.48 42 *e*P **P 19 36 09.9 +0.6**
comp=Z,67nm,1.0s
J20A Shoshoni 92.49 37 ⇓P **P 19 36 08.7 -0.5**
baz=92,SNR=24
ROSF Rostrenen 92.53 330 *e*P **P 19 36 07.7 -1.4**
comp=Z,8.5nm,0.9s
ROSF Rostrenen 92.53 330 *e*P **P 19 36 07.7 -1.4**
ROSF pmax pmax
comp=Z,9.0nm,0.9s
ROSF Rostrenen 92.53 330 *e*P **P 19 36 07.7 -1.4**
comp=Z,8.5nm,0.9s
RRX Edison Barstow 92.53 48 ⇓P **P 19 36 08.9 -0.5**
baz=92
H22A Clearmont 92.55 36 ⇓P **P 19 36 08.8 -0.7**
baz=92,SNR=13
I21A Big Trails, Te 92.60 37 ⇓P **P 19 36 09.3 -0.5**
baz=92,SNR=22
SCI San Clemente I 92.60 51 ⇑P **P 19 36 08.9 -0.9**
baz=92
G23A Biddle 92.62 35 ⇓P **P 19 36 09.1 -0.6**
baz=92,SNR=21
F24A Ekalaka 92.63 34 ⇓P **P 19 36 09.7 -0.1**
baz=92,SNR=15
B28A Dugan Ranch, T 92.64 30 ⇑P **P 19 36 09.2 -0.4**
baz=92,SNR=8.4
DAU Daniels Canyon 92.67 41 *e*P **P 19 36 10.3 0.0**
DAU pmax pmax
comp=Z,61nm,1.1s
DAU Daniels Canyon 92.67 41 *e*P **P 19 36 10.3 0.0**
comp=Z,61nm,1.1s
C27A Sayler Ranch, 92.67 31 ⇑P **P 19 36 09.5 -0.3**
baz=92
E25A Miller Ranch, 92.67 33 ⇓P **P 19 36 09.7 -0.2**
baz=92,SNR=12
MPU Maple Canyon 92.70 42 *e*P **P 19 36 10.8 +0.4**
comp=Z,87nm,1.2s
SHPR Sheep Range 92.74 46 *e*P **P 19 36 11.1 +0.5**
comp=Z,79nm,1.2s
D26A Manning 92.74 32 ⇓P **P 19 36 09.8 -0.4**
baz=92,SNR=12
A29A Manning Farm, 92.77 29 ⇓P **P 19 36 09.2 -1.0**
baz=92
K20A Yellowstone Ra 92.83 38 ⇑P **P 19 36 10.5 -0.3**
baz=92,SNR=23
J21A Lysite 92.84 37 ⇑P **P 19 36 10.6 -0.3**
baz=93,SNR=54
TUQ Turquoise Moun 92.90 47 ⇑P **P 19 36 10.9 -0.4**
baz=93,SNR=19
BBRC Big Bear Solar 92.95 49 ⇑P **P 19 36 10.9 -0.8**
baz=93
I22A 9 Mile Ranch, 92.97 36 ⇓P **P 19 36 11.1 -0.4**
baz=93,SNR=23
HEC Hector,Ludlow 93.00 48 ⇓P **P 19 36 11.6 -0.1**
baz=93,SNR=81
G24A Alzada 93.02 34 ⇓P **P 19 36 11.1 -0.5**
baz=93
ARUT Antelope Range 93.03 44 *e*P **P 19 36 12.1 +0.2**
ARUT pmax pmax
comp=Z,414nm,1.0s
ARUT Antelope Range 93.03 44 *e*P **P 19 36 12.1 +0.2**
comp=Z,414nm,1.0s
F25A Bowman 93.06 33 ⇓P **P 19 36 11.2 -0.5**
baz=93,SNR=12
B29A Wagenman Farm, 93.06 29 ⇑P **P 19 36 11.5 -0.1**
baz=93
H23A Clabaugh Cattl 93.06 35 ⇓P **P 19 36 11.3 -0.5**

baz=93
D27A Center 93.11 31 ⇓P **P 19 36 12.0 +0.1**
baz=93,SNR=5.1
ULM Lac du Bonnet 93.12 26 *e*P **P 19 36 09.5 -2.3**
comp=Z,48nm,1.4s
ULM Lac du Bonnet 93.12 26 P **P 19 36 11.1 -0.7**
comp=Z,12nm,0.9s,baz=319,slow=6.9,SNR=6.7
ULM LR LR 20 19 05.1
comp=Z,1µm,19.6s,baz=342,slow=36
E26A Carlson Angus 93.14 32 ⇓P **P 19 36 11.4 -0.7**
baz=93,SNR=7.3
M19A Rock Springs 93.15 39 ⇓P **P 19 36 11.9 -0.5**
baz=93
A30A Hoffart Farm, 93.15 28 ⇑P **P 19 36 11.5 -0.5**
baz=93
MURC Murrieta 93.15 49 ⇑P **P 19 36 11.8 -0.5**
baz=93,SNR=9.0
C28A Hausauer Farms 93.17 30 ⇑P **P 19 36 12.6 +0.4**
baz=93,SNR=6.0
CCUT Cedar City 93.22 44 *e*P **P 19 36 13.0 +0.1**
comp=Z,19nm,1.1s
L20A Wamsutter 93.27 38 ⇑P **P 19 36 12.8 -0.2**
baz=93,SNR=14
J22A Midwest 93.31 36 ⇓P **P 19 36 12.4 -0.6**
baz=93
MVU Marysvale 93.33 43 *e*P **P 19 36 13.8 +0.5**
comp=Z,44nm,1.2s
MVU LR LR
comp=Z,996nm,22.0s
H24A Dirks Ranch, A 93.36 35 ⇑P **P 19 36 12.4 -0.8**
baz=93,SNR=21
TMUT Trail Mountain 93.42 42 *e*P **P 19 36 14.3 +0.5**
comp=Z,25nm,1.1s
MDND Maddock 93.42 30 ⇓P **P 19 36 13.0 -0.3**
baz=93
K21A Alcova 93.43 37 ⇑P **P 19 36 13.2 -0.5**
baz=93,SNR=37
I23A Meade Ranch, G 93.45 36 ⇓P **P 19 36 13.0 -0.7**
baz=93
GMRC Granite Mounta 93.47 48 ⇑P **P 19 36 13.9 0.0**
baz=93,SNR=55
D28A Regan 93.48 31 ⇑P **P 19 36 13.4 -0.1**
baz=93
F26A Lodgepole 93.49 33 ⇓P **P 19 36 13.4 -0.3**
baz=93,SNR=6.3
B30A Myrvik Farm, E 93.52 29 ⇑P **P 19 36 13.3 -0.4**
baz=93
E27A Carson 93.59 32 ⇓P **P 19 36 14.0 -0.1**
baz=93
G25A Newell 93.61 34 ⇑P **P 19 36 13.8 -0.5**
baz=93,SNR=14
109C Camp Elliot, M 93.64 50 ⇑P **P 19 36 14.0 -0.5**
baz=93,SNR=5.3
PFO Pinyon Flat Ob 93.65 49 *e*P **P 19 36 14.8 +0.1**
comp=Z,100nm,1.0s
PFO LR LR
comp=Z,1µm,19.0s
PFO Pinyon Flat Ob 93.65 49 ⇑P **P 19 36 14.4 -0.3**
baz=93,SNR=42
Q16A Castle Valley 93.68 42 *e*P **P 19 36 16.3 +1.4**
Q16A Castle Valley 93.68 42 ⇑P **P 19 36 14.6 -0.3**
baz=93
M20A Sweetwater, Wa 93.70 39 ⇑P **P 19 36 14.6 -0.3**
baz=93,SNR=11
G27A Dupree 93.71 33 ⇑P **P 19 36 16.4 +1.8**
baz=94,SNR=15
BELC Belle Mtn. Jos 93.72 48 ⇑P **P 19 36 14.5 -0.5**
baz=94,SNR=29
F27A Lemmon 93.79 32 ⇑P **P 19 36 14.7 -0.3**
baz=94,SNR=10
J23A Dilts Ranch, B 93.80 36 ⇓P **P 19 36 14.6 -0.6**
baz=94
K22A Casper 93.81 37 ⇓P **P 19 36 14.7 -0.7**
baz=94,SNR=12
L21A Rawlins 93.83 38 ⇓P **P 19 36 15.0 -0.5**
baz=94,SNR=13
E28A Huff 93.89 31 ⇑P **P 19 36 15.0 -0.4**
baz=94
H25A Fruitdale 93.93 34 ⇓P **P 19 36 15.6 -0.1**
baz=94,SNR=13
G26A Maurine 93.93 33 ⇑P **P 19 36 15.4 -0.3**
baz=94,SNR=19
SRU San Rafael 93.94 42 *e*P **P 19 36 16.1 0.0**
SRU pmax pmax
comp=Z,31nm,1.0s
SRU San Rafael 93.94 42 *e*P **P 19 36 16.1 0.0**
comp=Z,31nm,1.0s
I24A Kuemmerle Ranc 93.95 35 ⇓P **P 19 36 15.1 -0.9**
baz=94,SNR=9.0
O19A Miners Draw (B 93.97 40 ⇓P **P 19 36 15.9 -0.3**
baz=94,SNR=6.0
D29A Pettibone, Tap 94.02 30 ⇓P **P 19 36 16.0 -0.1**
baz=94
C30A Mose, Pekin 94.03 29 ⇑P **P 19 36 15.9 -0.2**
baz=94
BAR Barrett 94.05 50 *e*P **P 19 36 16.4 -0.1**
comp=Z,73nm,1.1s
RSSD Black Hills 94.07 35 *e*P **P 19 36 16.2 -0.4**
RSSD pmax pmax
comp=Z,283nm,1.3s
RSSD Black Hills 94.07 35 *e*P **P 19 36 16.1 -0.4**
comp=Z,282nm,1.3s
M21A Separation Pea 94.07 38 ⇑P **P 19 36 16.2 -0.5**
baz=94,SNR=8.6
MONP Monument Peak 94.10 50 ⇑P **P 19 36 16.9 0.0**
baz=94,SNR=41
N20A Spence Gulch, 94.10 39 ⇓P **P 19 36 16.6 -0.2**
baz=94,SNR=22
IRM Iron Mountain 94.18 48 ⇓P **P 19 36 16.8 -0.3**
baz=94,SNR=54
K23A Bowen Ranch, D 94.21 36 ⇓P **P 19 36 16.4 -0.8**
baz=94,SNR=6.6
BC3 Big Chuckawall 94.28 48 ⇓P **P 19 36 17.5 -0.1**
baz=94,SNR=46
L22A Ellis Ranch, M 94.29 37 ⇓P **P 19 36 17.0 -0.7**
baz=94,SNR=12
I25A Rochford 94.29 35 ⇓P **P 19 36 17.4 -0.2**
baz=94,SNR=32
J24A Dixon Ranch, L 94.31 36 ⇑P **P 19 36 17.0 -0.6**
baz=94,SNR=8.7
KEST Kesra 94.33 314 LR LR 20 25 07.0
comp=Z,2µm,18.6s,baz=146,slow=40
H26A Fairpoint 94.34 34 ⇓P **P 19 36 17.2 -0.4**
baz=94
D30A Buchanan 94.36 30 ⇑P **P 19 36 17.2 -0.4**
baz=94
E29A Napoleon 94.37 31 ⇑P **P 19 36 17.2 -0.5**
baz=94
F28A McLaughlin 94.38 32 ⇑P **P 19 36 17.7 -0.1**
baz=94,SNR=6.3
W13A Hualapai Mount 94.42 46 ⇑P **P 19 36 18.4 0.0**
baz=94,SNR=25
TBI Tubuai 94.45 114 *e*S S 19 47 23.3 -7.0
comp=Z,1µm,27.0s
TBI Tubuai 94.45 114 *e*LQ LQ 20 02 32.3
comp=Z,2µm,35.2s
TBI *e*LR LR 20 06 36.9
comp=Z,4µm,33.2s,baz=297
DVTC Desert V Tower 94.45 50 ⇑P **P 19 36 18.4 0.0**
baz=94,SNR=13
SWSC Sam W. Stewart 94.49 49 ⇑P **P 19 36 18.3 -0.1**
baz=94,SNR=16
P19A Cripple Cowboy 94.50 40 ⇓P **P 19 36 18.4 -0.3**
baz=94,SNR=26
N21A Black Mountain 94.56 39 ⇓P **P 19 36 18.7 -0.2**
baz=94,SNR=11
O20A White River Ci 94.58 40 *e*P **P 19 36 18.8 -0.3**
O20A White River Ci 94.58 40 ⇓P **P 19 36 18.7 -0.3**
baz=94
U15A North Rim 94.60 45 ⇑P **P 19 36 19.2 0.0**
baz=94,SNR=49
DRV Dumont d'Urvil 94.61 175 L L 20 02 00.0
DRV R 20 08 00.0
L23A Garrett 94.62 37 ⇑P **P 19 36 18.2 -0.9**
baz=94,SNR=22
M22A Cedar Creek Ra 94.63 38 ⇓P **P 19 36 18.5 -0.7**
baz=94,SNR=14
K24A Anderson Ranch 94.66 36 ⇑P **P 19 36 18.3 -0.9**
baz=94
H27A Howes 94.67 33 ⇓P **P 19 36 18.5 -0.6**
baz=94
J25A Sunshine Ranch 94.71 35 ⇓P **P 19 36 18.6 -0.7**
baz=94
I26A New Underwood 94.72 34 ⇑P **P 19 36 19.0 -0.4**
baz=94,SNR=6.6
CASY Casey 94.72 187 PFAKE 19 36 30.0 +12
CASY LR LR
comp=Z,1µm,20.0s

E30A	Jud	94.75	30	⇑P	P	19 36 18.4	-1.0
	baz=94,SNR=9.7						
PDMCI	Parker Dam,Lak	94.75	47	⇑P	P	19 36 19.4	-0.2
	baz=94,SNR=18						
Y12C	Blythe	94.84	48	⇑P	P	19 36 20.4	+0.4
	baz=95,SNR=17						
F29A	Eureka	94.84	31	⇑P	P	19 36 19.2	-0.6
	baz=94						
G28A	Parade	94.90	32	⇑P	P	19 36 19.5	-0.7
	baz=95						
P20A	De Beque	94.92	40	⇑P	P	19 36 20.2	-0.3
	baz=95,SNR=10						
O21A	Pagoda	94.96	39	⇑P	P	19 36 20.4	-0.5
	baz=95						
GLA	Glamis	95.07	49	eP	P	19 36 21.9	+0.7
GLA				pmax	pmax		
	comp=Z,76nm,1.1s						
GLA	Glamis	95.07	49	eP	P	19 36 21.9	+0.7
	comp=Z,76nm,1.1s						
GLA	Glamis	95.07	49	⇑P	P	19 36 21.3	+0.2
	baz=95,SNR=18						
L24A	Wheatland	95.08	37	⇓P	P	19 36 20.8	-0.4
	baz=95						
I27A	Quinn	95.09	34	⇓P	P	19 36 20.4	-0.7
	baz=95,SNR=13						
N22A	Wattenberg Ran	95.12	38	⇑P	P	19 36 21.1	-0.4
	baz=95,SNR=7.4						
J26A	Sides Ranch, S	95.13	35	⇑P	P	19 36 21.3	0.0
	baz=95,SNR=18						
H28A	Mission Ridge	95.15	33	⇑P	P	19 36 21.0	-0.2
	baz=95						
K25A	Mack Ranch, Ha	95.23	36	⇓P	P	19 36 21.3	-0.5
	baz=95						
G29A	Hoven	95.28	32	⇑P	P	19 36 21.6	-0.2
	baz=95						
PHWY	Pilot Hill	95.32	37	eP	P	19 36 21.3	-1.2
	comp=Z,238nm,0.8s						
N23A	Red Feather La	95.34	38	⇓P	P	19 36 22.1	-0.4
	baz=95,SNR=15						
Q20A	Ridgley Place,	95.34	41	⇓P	P	19 36 22.3	-0.2
	baz=95						
P21A	Newcastle	95.44	40	⇑P	P	19 36 22.1	-0.9
	baz=95						
L25A	Engebretsen Ra	95.51	36	⇑P	P	19 36 22.3	-0.8
	baz=95						
O22A	Kremmling	95.51	39	⇑P	P	19 36 23.2	-0.2
	baz=95,SNR=12						
K26A	Motz Farm, Whi	95.52	35	⇓P	P	19 36 22.3	-0.8
	baz=95,SNR=9.6						
M24A	Cheyenne	95.54	37	⇓P	P	19 36 22.3	-1.1
	baz=95						
H29A	Onida	95.57	32	⇑P	P	19 36 22.7	-0.5
	baz=95						
G30A	Faulkton	95.69	31	⇓P	P	19 36 23.2	-0.5
	baz=95						
J27A	Elkhorn Farm,	95.71	34	⇓P	P	19 36 23.2	-0.7
	baz=95						
WUAZ	Wupatki	95.75	45	eP	P	19 36 24.8	+0.4
	comp=Z,19nm,1.0s						
WUAZ	Wupatki	95.75	45	⇓P	P	19 36 23.8	-0.6
	baz=96,SNR=9.7						
P22A	Eagle	95.78	39	⇓P	P	19 36 24.0	-0.5
	baz=96,SNR=16						
R20A	Redvale	95.81	41	⇓P	P	19 36 24.4	-0.3
	baz=96,SNR=12						
O23A	Lake Granby, G	95.83	38	⇓P	P	19 36 24.7	-0.1
	baz=96,SNR=7.1						
Q21A	Lamborn Mesa,	95.84	40	⇓P	P	19 36 24.1	-0.7
	baz=96						
113A	Mohawk Valley,	95.94	48	⇑P	P	19 36 24.9	-0.1
	baz=96,SNR=10						
SMCO	Snowmass	95.95	40	eP	P	19 36 25.6	0.0
	comp=Z,26nm,1.1s						
N24A	Carr	95.96	37	⇑P	P	19 36 24.4	-0.9
	baz=96						
J28A	Allard Ranch,	95.97	34	⇑P	P	19 36 25.0	0.0
	baz=96						
M25A	Palm-Egli Farm	95.97	37	⇑P	P	19 36 24.7	-0.6
	baz=96						
I29A	Vivian Onida	95.98	33	⇓P	P	19 36 24.6	-0.4
	baz=96						
K27A	Flueckinger Fa	96.00	35	⇓P	P	19 36 24.6	-0.7
	baz=96						
L26A	Underwood Farm	96.05	36	⇓P	P	19 36 24.7	-0.9
	baz=96						
S20A	Disappointment	96.06	42	⇓P	P	19 36 25.2	-0.6
	baz=96,SNR=12						
Z14A	Wintersburg	96.11	47	⇓P	P	19 36 25.2	-0.6
	baz=96						
R21A	Cimarron	96.17	41	⇑P	P	19 36 26.4	0.0
	baz=96,SNR=9.1						
Q22A	Crested Butte,	96.20	40	⇓P	P	19 36 26.0	-0.5
	baz=96,SNR=18						
ISCO	Idaho Springs	96.28	39	eP	P	19 36 26.1	-0.8
ISCO				pmax	pmax		
	comp=Z,44nm,1.6s						
ISCO	Idaho Springs	96.28	39	eP	P	19 36 26.1	-0.8
	comp=Z,44nm,1.6s						
ISCO	Idaho Springs	96.28	39	⇑P	P	19 36 26.5	-0.4
	baz=96,SNR=6.9						
BRSD	Miller	96.30	32	⇓P	P	19 36 25.4	-1.1
	baz=96						
MVCO	Mesa Verde	96.39	42	eP	P	19 36 29.0	+1.6
	comp=Z,46nm,1.5s						
MVCO	Mesa Verde	96.39	42	⇓P	P	19 36 27.0	-0.4
	baz=96,SNR=5.7						
L27A	T5 Ranch, Ells	96.41	35	⇑P	P	19 36 26.6	-0.6
	baz=96						
X16A	Lo Mia Camp, P	96.41	46	⇑P	P	19 36 27.6	+0.1
	baz=96,SNR=9.0						
J29A	Okreek	96.42	33	⇑P	P	19 36 26.6	-0.5
	baz=96						
K28A	Ten Mile Ranch	96.43	34	⇓P	P	19 36 26.7	-0.5
	baz=96						
P23A	Jefferson	96.45	39	⇓P	P	19 36 27.3	-0.5
	baz=96,SNR=8.0						
I30A	Oacoma	96.47	32	⇓P	P	19 36 26.9	-0.4
	baz=96						
S21A	Coal Bank Pass	96.51	41	⇑P	P	19 36 27.5	-0.5
	baz=96,SNR=9.5						
R22A	Saguache, Gunn	96.72	40	⇑P	P	19 36 27.6	-1.4
	baz=96						
SCHQ	Schefferville	96.73	9	eP	P	19 36 25.9	-2.3
	comp=Z,18nm,1.1s						
SCHQ	Schefferville	96.73	9	P	P	19 36 26.1	-2.1
	comp=Z,11nm,0.9s,baz=2.1,slow=7.1,SNR=7.1						
SCHQ				LR	LR	20 22 08.0	
	comp=Z,3μm,20.6s,baz=351,slow=37						
Q23A	Hartsel	96.78	39	⇓P	P	19 36 27.9	-1.3
	baz=96						
K29A	Lazy Trails An	96.91	34	⇓P	P	19 36 29.4	+0.1
	baz=97						
S22A	4UR Ranch, Cre	97.01	41	⇑P	P	19 36 29.8	-0.5
	baz=97,SNR=8.4						
214A	Organ Pipe Nat	97.08	48	⇓P	P	19 36 30.3	0.0
	baz=97,SNR=8.0						
T21A	Navajo Lake	97.11	42	⇑P	P	19 36 30.6	0.0
	baz=97						
Q24A	Divide	97.12	39	⇓P	P	19 36 30.7	-0.1
	baz=97						
O26A	Horse Wrangler	97.22	37	⇑P	P	19 36 30.2	-0.7
	baz=97						
N27A	Anderson Farm,	97.22	36	⇓P	P	19 36 30.5	-0.4
	baz=97						
P25A	Willow Gulch B	97.28	38	⇓P	P	19 36 31.1	-0.2
	baz=97						
R23A	Moffat	97.28	40	⇑P	P	19 36 30.8	-0.7
	baz=97						
X18A	Snowflake	97.28	45	⇑P	P	19 36 31.3	0.0
	baz=97						
K30A	Basset	97.32	33	⇓P	Pdif	19 36 31.6	+0.3
	baz=97						
L29A	Maesberg Ranch	97.35	34	⇓P	P	19 36 31.1	-0.3
	baz=97						
V20A	Brimhall	97.36	43	⇓P	Pdif	19 36 31.8	0.0
	baz=97,SNR=5.1						
OGNE	Ogallala	97.38	36	eP	P	19 36 30.8	-0.8
OGNE				LR	LR		
	comp=Z,49nm,1.3s						
OGNE	Ogallala	97.38	36	⇑P	P	19 36 31.0	-0.6
	comp=Z,1μm,19.0s						
U21A	Nageezi	97.42	42	⇓P	Pdif	19 36 32.3	+0.2
	baz=97,SNR=7.9						
T22A	Edith	97.47	41	⇓P	Pdif	19 36 32.3	0.0
	baz=97,SNR=10						
Q25A	Bedland, Calha	97.66	38	⇓P	P	19 36 32.5	-0.6
	baz=97						
R24A	Sanders Place,	97.66	39	⇓P	P	19 36 32.9	-0.1
	baz=97,SNR=6.8						
SDCO	Great Sand Dun	97.77	40	eP	P	19 36 29.6	-4.1
	comp=Z,4.7nm,1.0s						
SDCO				LR	LR		
	comp=Z,1μm,19.0s						
W20A	Ramah	97.78	44	⇓P	P	19 36 32.4	-1.3
	baz=98						
ECSD	EROS Data Cent	97.92	31	PFAKE		19 36 40.0	+6.1
ECSD				LR	LR		
	comp=Z,2μm,19.0s						
U22A	Llaves	97.93	42	⇓P	P	19 36 33.7	-0.7
	baz=98						
S24A	Houchin Ranch,	98.01	40	⇑P	P	19 36 34.3	-0.4
	baz=98						
X20A	Quemado	98.17	44	⇑P	P	19 36 34.3	-1.1
	baz=98,SNR=10						
R25A	Fountain Ranch	98.18	39	⇓P	P	19 36 34.6	-0.7
	baz=98,SNR=5.6						
TUC	Tucson	98.19	47	eP	Pdif	19 36 36.4	+1.0
TUC				pmax	pmax		
	comp=Z,8.0nm,1.1s						
TUC	Tucson	98.19	47	eP	Pdif	19 36 36.4	+1.0
	comp=Z,7.6nm,1.1s						
V22A	San Miguel Ran	98.21	42	⇓P	Pdif	19 36 35.8	+0.2
	baz=98						
U23A	El Rito	98.35	41	⇑P	Pdif	19 36 36.4	+0.1
	baz=98,SNR=7.1						
S25A	Robets Cordova	98.44	39	⇓P	P	19 36 35.3	-1.2
	baz=98						
P28A	Saint Francis	98.53	37	⇓P	P	19 36 36.1	-0.7
	baz=98						
R26A	Arlington	98.53	38	⇑P	P	19 36 35.7	-1.1
	baz=98,SNR=7.6						
Y20A	Horse Springs,	98.67	44	⇑Pdiff	P	19 36 37.2	-0.5
	baz=98						
X21A	Alamocita Cree	98.67	44	⇑Pdiff	Pdif	19 36 37.9	+0.1
	baz=98						
R27A	Eads	98.90	38	⇓Pdiff	P	19 36 37.4	-1.1
	baz=99						
BGNE	Belgrade	98.99	33	⇓Pdiff	Pdif	19 36 39.0	+0.3
	baz=99						
Y21A	Point of Rocks	99.03	44	⇑Pdiff	Pdif	19 36 39.8	+0.4
	baz=99						
Z20A	Nine Sixteen R	99.06	45	⇑Pdiff	Pdif	19 36 40.8	+1.4
	baz=99						
PBRG	Braganca	99.08	327	ePP	PP	19 40 40.7	+0.2
X22A	Bernardo	99.11	43	⇑Pdiff	Pdif	19 36 40.7	+1.1
	baz=99						
COWI	Conover	99.11	25	PFAKE		19 36 50.0	+11
COWI				LR	LR		
	comp=Z,2μm,19.0s						
ANMO	Albuquerque	99.14	43	eP	Pdif	19 36 39.7	0.0
	comp=Z,8.0nm,1.1s						
ANMO				LR	LR		
	comp=Z,1μm,19.0s						
W23A	Werner Place,	99.18	42	⇓Pdiff	Pdif	19 36 39.8	-0.1
	baz=99						
T26A	Comanche Natio	99.25	39	⇓Pdiff	Pdif	19 36 39.9	-0.3
	baz=99						
V24A	Rampart Ranch,	99.31	41	⇑Pdiff	Pdif	19 36 41.0	+0.5
	baz=99						
ESDC	Sonseca Array	99.31	324	P	Pdif	19 36 37.8	-2.4
ESDC				PP	PP	19 40 41.8	-0.6
ESDC	Sonseca Array	99.31	324	P	Pdif	19 36 37.8	-2.4
	comp=Z,1.3nm,0.9s,baz=35,slow=4.5,SNR=4.6						
ESDC				PP	PP	19 40 41.8	-0.6
	comp=Z,2.2nm,0.9s,baz=39,slow=7.4,SNR=11						
ESDC				LR	LR	20 26 38.9	
	comp=Z,6μm,18.1s,baz=55,slow=39						
U25A	Circle Dot Ran	99.34	40	⇓Pdiff	Pdif	19 36 40.5	-0.1
	baz=99						
R28A	Tribune	99.39	37	⇑Pdiff	Pdif	19 36 41.1	+0.4
	baz=99						
120A	U Bar Ranch, L	99.41	46	⇑Pdiff	Pdif	19 36 41.1	+0.2
	baz=99						
Z21A	St. Cloud Mine	99.51	44	⇓Pdiff	Pdif	19 36 41.8	+0.4
	baz=99						
Y22A	Socorro	99.52	44	⇑Pdiff	Pdif	19 36 42.5	+1.1
	baz=99						
BNM	Barren Site	99.58	43	eP	Pdif	19 36 42.6	+0.8
	comp=Z,6.0nm,1.1s						
PAB	San Pablo	99.61	325	PFAKE		19 36 50.0	+8.4
PAB				LR	LR		
	comp=Z,11μm,20.0s						
V25A	Rancho No Teng	99.61	41	⇓Pdiff	Pdif	19 36 42.9	+1.1
	baz=99						
PGAV	Gavieira, Arco	99.67	328	ePP	PP	19 40 48.4	+3.3
PGAV	Gavieira, Arco	99.67	328	eSS	SS	19 55 18.9	+14
PGAV	Gavieira, Arco	99.67	328	eLR	LR	20 12 57.9	
	comp=Z,7μm,20.0s						
MVO	Moncorvo	99.71	327	ePP	PP	19 40 45.2	-0.2
MVO	Moncorvo	99.71	327	eSS	SS	19 55 08.3	+3.2
MVO	Moncorvo	99.71	327	eLR	LR	20 12 12.1	
	comp=Z,7μm,16.0s						
220A	Playas Peak, P	99.90	46	⇓Pdiff	Pdif	19 36 43.9	+0.8
	baz=100						
POLO	Lamas de Olo	99.91	328	ePP	PP	19 40 47.1	+0.2
POLO				eSKSac	SKSac	19 47 18.6	-2.9
POLO				eSS	SS	19 55 20.6	+13
121A	Cookes Peak, D	99.95	45	⇑Pdiff	Pdif	19 36 44.1	+0.8
	baz=100						
PVRL	Vila Real	99.95	328	ePP	PP	19 40 51.5	+4.3
Z22A	Elephant Butte	99.98	44	⇑Pdiff	Pdif	19 36 44.8	+1.4
	baz=100						
X24A	Lazy VL Ranch,	100.01	42	⇓Pdiff	Pdif	19 36 44.4	+0.8
	baz=100						
Y23A	Lovelace Mesa,	100.08	43	⇓Pdiff	Pdif	19 36 44.7	+0.8
	baz=100						
V26A	Tequesquite Ra	100.12	40	⇑Pdiff	Pdif	19 36 44.6	+0.6
	baz=100						
W25A	X Bar L Ranch,	100.13	41	⇓Pdiff	Pdif	19 36 44.1	0.0
	baz=100						
Z23A	Rita Site, Whi	100.42	44	⇑Pdiff	Pdif	19 36 45.6	+0.2
	baz=100						
Y24A	Capitan	100.45	43	⇓Pdiff	Pdif	19 36 45.5	-0.1
	baz=100						
PVIS	Viseu	100.47	327	ePP	PP	19 40 51.3	+0.2
X25A	Clemmons Ranch	100.50	42	⇓Pdiff	Pdif	19 36 46.0	+0.2
	baz=100						
MTE	Manteigas	100.55	327	ePP	PP	19 40 53.0	+1.3
MTE				eSKSac	SKSac	19 47 29.5	+4.9
MTE				eSS	SS	19 55 30.5	+14
MTE	Manteigas	100.55	327	eLR	LR	20 11 54.9	
	comp=Z,8μm,18.0s						
MTE	Manteigas	100.55	327	PFAKE		19 37 00.0	+14
MTE				LR	LR		
	comp=Z,9μm,19.0s						
SCIA	State Center	100.89	30	PFAKE		19 37 00.0	+13
SCIA				LR	LR		
	comp=Z,2μm,19.0s						
Y25A	Mesa, Roswell	100.90	42	⇑Pdiff	Pdif	19 36 47.2	-0.4
	baz=101						
PCBR	Castelo Branco	100.95	327	ePP	PP	19 40 57.3	+2.6
X26A	CR and CF Fran	100.98	41	⇑Pdiff	Pdif	19 36 47.8	0.0
	baz=101						
W27A	Bowe Ranch, En	101.05	41	⇓Pdiff	Pdif	19 36 48.1	0.0
	baz=101						
PMRV	Marv??o	101.23	326	ePP	PP	19 40 55.6	-1.2
PMRV				eSKSac	SKSac	19 47 26.9	-0.9
PMRV				eSS	SS	19 55 29.3	+3.2
PMRV	Marv??o	101.23	326	eLR	LR	20 12 21.2	
	comp=Z,9μm,18.0s						
PMRV				eLQ	LQ	20 15 34.3	
124A	Stringfield Ra	101.28	44	⇓Pdiff	Pdif	19 36 50.3	+1.0
	baz=101						
Z25A	Roswell	101.33	43	⇑Pdiff	Pdif	19 36 50.6	+1.1
	baz=101						
KSU1	Kansas State U	101.51	34	PFAKE		19 37 00.0	+10
KSU1				LR	LR		
	comp=Z,2μm,19.0s						
224A	Cornudas Mount	101.67	44	⇑Pdiff	Pdif	19 36 51.2	+0.2
	baz=101						
PESTR	Estremoz	101.76	326	ePP	PP	19 41 00.3	-0.5
PESTR				eSKSac	SKSac	19 47 36.8	+6.5
PESTR				eSS	SS	19 55 46.5	+13
Z26A	Caprock	101.78	42	⇑Pdiff	Pdif	19 36 51.7	+0.3
	baz=102						
125A	Gardner Draw,	101.80	43	⇓Pdiff	Pdif	19 36 52.3	+0.8
	baz=102						
PMTG	Montargil	101.91	327	ePP	PP	19 41 01.4	-0.5
PMTG				eSKSac	SKSac	19 47 36.8	+5.8
PMTG				eSS	SS	19 55 45.3	+10
MNTX	Cornudas Mount	102.02	44	PFAKE		19 37 00.0	+7.6
MNTX				LR	LR		
	comp=Z,1μm,19.0s						
PBAR	Barrancos	102.02	325	ePP	PP	19 41 01.6	-1.2
PBAR				eSKSac	SKSac	19 47 33.6	+2.1
PBAR				eSS	SS	19 55 42.9	+5.8
324A	Moseley Ranch,	102.13	45	⇓Pdiff	Pdif	19 36 53.5	+0.5
	baz=102						
Z27A	Tatum	102.20	42	⇑Pdiff	Pdif	19 36 53.8	+0.5
	baz=102						
EVO	Evora	102.23	326	ePP	PP	19 41 03.0	-1.3
PACT	Alcochete	102.44	327	ePP	PP	19 41 08.9	+3.0
226B	Tecolote Peak,	102.50	43	⇓Pdiff	Pdif	19 36 54.9	+0.2
	baz=102						
PMAFR	Mafra	102.52	327	ePP	PP	19 41 09.8	+3.3
PMAFR				eSKSac	SKSac	19 47 36.8	+2.9
PNCL	Nicolau / Gran	102.81	326	ePP	PP	19 41 07.9	-0.8
PNCL				eSKSac	SKSac	19 47 39.3	+4.0
PNCL				eSS	SS	19 56 00.3	+12
425A	Indio Mountain	102.89	45	⇓Pdiff	Pdif	19 36 56.6	+0.2
	baz=103						
PCVE	Castro Verde	102.94	326	ePP	PP	19 41 09.9	+0.2
PCVE				eSKSac	SKSac	19 47 41.2	+5.3
PVAQ	Vaqueiros	102.95	325	ePP	PP	19 41 10.5	+0.7
PVAQ				eSKSac	SKSac	19 47 38.1	+2.1
PVAQ	Vaqueiros	102.95	325	eLR	LR	20 13 11.1	
	comp=Z,4μm,18.0s						
PVAQ				eLQ	LQ	20 17 22.0	
Z29A	Hungry Hill Ra	103.13	41	⇑Pdiff	Pdif	19 36 57.3	0.0
	baz=103						
PBDV	Barranco-do-Ve	103.18	325	ePP	PP	19 41 12.4	+0.8
PBDV				eSKS	SKSac	19 47 39.9	+2.7
PTEO	Sao Teotonio	103.35	326	ePP	PP	19 41 13.6	+0.9
Z30A	Sanderson Ranc	103.44	41	⇑Pdiff	Pdif	19 36 59.0	+0.3
	baz=103						
MORF	Marmelete	103.50	326	ePP	PP	19 41 13.6	-0.3
426A	McDonald Obser	103.56	44	⇓Pdiff	Pdif	19 36 59.3	-0.2
	baz=103						
HDIL	Hopedale	103.69	28	PFAKE		19 37 10.0	+10
HDIL				LR	LR		
	comp=Z,2μm,20.0s						
PFVI	Vila Bisbo	103.72	326	ePP	PP	19 41 15.2	-0.3
PFVI				eSKSac	SKSac	19 47 43.5	+3.9
526A	Mary Lane Ranc	103.95	45	⇓Pdiff	Pdif	19 37 02.2	+1.0
	baz=104						
Z31A	Sharp Cattle R	103.98	40	⇑Pdiff	Pdif	19 37 01.4	+0.3
	baz=104						
329A	Wagon Wheel Ra	104.23	42	⇑Pdiff	Pdif	19 37 02.8	+0.5
	baz=104						
626A	Big Bend Ranch	104.27	45	⇓Pdiff	Pdif	19 37 03.0	+0.5
	baz=104						
428A	Kincaid Ranch,	104.35	43	⇑Pdiff	Pdif	19 37 03.9	+1.1
	baz=104						
Z32A	Haskell	104.37	40	⇓Pdiff	Pdif	19 37 03.5	+0.7
	baz=104						
528A	Cox Ranch, San	104.68	44	⇓Pdiff	Pdif	19 37 05.1	+0.8
	baz=104						
TXAR	Lajitas Array	104.72	45	Pdif	Pdif	19 37 05.3	+0.8
TXAR				PP	PKiKP	19 41 21.6	+1.5
TXAR				PKKP	PKKPdf	19 52 56.0	-1.3
TXAR	Lajitas Array	104.72	45	Pdif	Pdif	19 37 05.3	+0.8
	comp=Z,2.8nm,0.8s,baz=300,slow=3.6,SNR=13						
TXAR				PP	PKiKP	19 41 21.6	+1.5
	comp=Z,1.5nm,0.9s,baz=292,slow=4.8,SNR=7.6						
TXAR				PKKP	PKKPdf	19 52 56.0	-1.3
	comp=Z,0.2nm,0.5s,baz=110,slow=1.9,SNR=4.0						
627A	Terlingua Ranc	104.81	45	⇓Pdiff	Pdif	19 37 06.3	+1.3
	baz=105						
LONY	Lake Ozonia	105.04	16	PFAKE		19 37 20.0	+14
LONY				LR	LR		
	comp=Z,3μm,19.0s						
628A	Black Gap, Mar	105.09	44	⇓Pdiff	Pdif	19 37 07.0	+0.8
	baz=105						
RTC	Rabat Centre	105.11	322	PFAKE		19 37 20.0	+14
RTC				LR	LR		
	comp=Z,3μm,20.0s						
LSZ	Lusaka	105.47	261	eP	Pdif	19 37 06.2	-1.8
	comp=Z,16nm,1.2s						
LSZ				LR	LR		
	comp=Z,2μm,19.0s						
530A	J-C Ranch, Com	105.58	43	⇓PKiKP	PKiKP	19 41 21.3	-0.3
	baz=105						
PKME	Peaks-Kenny Pk	105.60	13	PFAKE		19 41 30.0	
PKME				LR	LR		
	comp=Z,3μm,20.0s						
332A	Millersview	105.63	41	⇑PKiKP	PKiKP	19 41 21.1	-0.5
	baz=105						
431A	Sonora	105.63	42	⇑PKiKP	PKiKP	19 41 21.4	-0.3
	baz=105						
NCB	Newcomb	105.74	16	PFAKE		19 41 30.0	
NCB				LR	LR		
	comp=Z,3μm,19.0s						
ERPA	Erie	105.80	21	PFAKE		19 41 30.0	
ERPA				LR	LR		
	comp=Z,2μm,19.0s						
LBNH	Lisbon	106.03	15	PFAKE		19 41 30.0	
LBNH				LR	LR		
	comp=Z,2μm,21.0s						
531A	Rocksprings	106.04	42	⇓PKiKP	PKiKP	19 41 23.4	+0.9
	baz=106						
JCT	Junction City	106.25	42	⇑PKiKP	PKiKP	19 41 23.2	+0.3
	baz=106						
RKT	Rikitea	106.34	108	eSS	SS	19 56 35.9	-3.2
	comp=Z,1μm,31.8s						
RKT	Rikitea	106.34	108	eLR	LR	20 12 11.8	
	comp=Z,5μm,22.2s,baz=299						
ACSO	Alum Creek Sta	106.45	24	PFAKE		19 41 30.0	
ACSO				LR	LR		
	comp=Z,2μm,22.0s						
MAW	Mawson	106.59	201	PKKPbc	PKKPbc	19 52 39.9	-3.8
	comp=Z,3.4nm,1.0s,baz=236,slow=7.3,SNR=4.6						
BINY	Binghamton	106.92	18	PFAKE		19 41 30.0	
BINY				LR	LR		
	comp=Z,2μm,20.0s						
632A	Uvalde	106.97	42	⇓PKiKP	PKiKP	19 41 24.2	0.0
	baz=107						
VNDA	Vanda	107.03	173	Pdif	Pdif	19 37 18.2	+4.8
VNDA				PKiKP	PKiKP	19 41 23.7	+1.0
VNDA				PKKPbc	PKKPbc	19 52 40.5	-2.1
VNDA	Vanda	107.03	173	Pdif	Pdif	19 37 18.2	+4.8
	comp=Z,1.0nm,1.1s,baz=303,slow=3.7,SNR=3.3						
VNDA				PKiKP	PKiKP	19 41 23.7	+1.0
	comp=Z,1.2nm,0.9s,baz=5.7,slow=3.6,SNR=3.6						
VNDA				PKKPbc	PKKPbc	19 52 40.5	-2.1
	comp=Z,2.4nm,1.2s,baz=200,slow=2.7,SNR=4.7						
SBA	Scott Base	107.89	172	PFAKE		19 41 40.0	
SBA				LR	LR		
	comp=Z,3μm,22.0s						
MCWV	Mont Chateau	108.06	22	PFAKE		19 41 40.0	
MCWV				LR	LR		
	comp=Z,2μm,20.0s						
OXF	Oxford	108.64	32	PFAKE		19 41 40.0	
OXF				LR	LR		
	comp=Z,2μm,20.0s						
BLA	Blac

SUR				LR	LR			
	comp=Z,2μm,21.0s							
BBSR	**BB Station**	**118.96**	**12**	PFAKE			19 42 00.0	+13
BBSR				LR	LR			
	comp=Z,1μm,19.0s							
TEIG	**Tepich**	**120.76**	**40**	PKP	**PKPdf**		**19 41 50.9**	**+0.3**
TEIG				PKKPbc	**PKKPbc**		**19 51 56.1**	**+1.7**
TEIG				LR	LR			
	comp=Z,1μm,20.0s							
TEIG	**Tepich**	**120.76**	**40**	PKP	**PKPdf**		**19 41 50.9**	**+0.3**
	comp=Z,5.4nm,0.9s,baz=307,slow=10,SNR=3.4							
TEIG				PKKPbc	**PKKPbc**		**19 51 56.1**	**+1.7**
	comp=Z,4.7nm,0.6s,baz=227,slow=3.0,SNR=5.1							
DBIC	**Dimbokro**	**123.00**	**300**	PKP	**PKPdf**		**19 41 54.5**	**-0.5**
DBIC	**Dimbokro**	**123.00**	**300**	PKP	**PKPdf**		**19 41 54.5**	**-0.5**
	comp=Z,6.2nm,1.0s,baz=354,slow=9.7,SNR=5.1							
KIC	**Kosan Boka**	**123.10**	**299**	*e*P	**PKPdf**		**19 41 54.5**	**-0.8**
	comp=Z,72nm,1.5s							
TIC	**Toumodi**	**123.14**	**300**	*e*P	**PKPdf**		**19 41 51.3**	**-4.0**
	comp=Z,20nm,0.9s							
LIC	**Lamto**	**123.41**	**299**	*e*PKIKP	**PKPdf**		**19 41 53.2**	**-2.6**
	comp=Z,17nm,1.0s							
LIC	**Lamto**	**123.41**	**299**	*e*P	**PKPdf**		**19 41 53.9**	**-1.9**
	comp=Z,22nm,1.0s							
LIC	**Lamto**	**123.41**	**299**	*e*PKPdf	**PKPdf**		**19 41 53.2**	**-2.6**
APG	**El Apazote**	**123.45**	**46**	PKP	**PKPdf**		**19 41 55.2**	**-0.9**
APG	**El Apazote**	**123.45**	**46**	PKP	**PKPdf**		**19 41 55.2**	**-0.9**
	comp=Z,5.3nm,0.9s,baz=274,slow=3.8,SNR=5.8							
TGUH	**Tegucigalpa,Un**	**126.17**	**44**	PFAKE			19 42 10.0	+9.0
TGUH				LR	LR			
	comp=Z,905nm,19.0s							
GRTK	**Grand Turk**	**127.62**	**23**	PFAKE			19 42 10.0	+6.3
GRTK				LR	LR			
	comp=Z,2μm,20.0s							
SNAA	**Sanae**	**128.55**	**198**	*e*PKP	**PKPdf**		**19 42 03.2**	**-0.8**
SNAA	**Sanae**	**128.55**	**198**	*es*PKP	pPKPdf		19 42 09.0	0.0
SNAA	**Sanae**	**128.55**	**198**	*e*PP	PP		19 44 10.7	+1.0
SNAA	**Sanae**	**128.55**	**198**	*e*PKPdf	**PKPdf**		**19 42 04.0**	**0.0**
SACV	**Santiago Islan**	**129.34**	**323**	PFAKE			19 42 20.0	+13
SACV				LR	LR			
	comp=Z,2μm,19.0s							
SDDR	**Presa de Saban**	**129.90**	**24**	PFAKE			19 42 20.0	+12
SDDR				LR	LR			
	comp=Z,1μm,22.0s							
VNA2	**Neumayer--Watz**	**130.19**	**198**	*e*PKP	**PKPdf**		**19 42 07.4**	**+0.3**
VNA2	**Neumayer--Watz**	**130.19**	**198**	*es*PKP	pPKPdf		19 42 10.7	-1.4
JTS	**JuntasÀbangare**	**130.50**	**45**	PKP	**PKPdf**		**19 42 09.7**	**+0.3**
JTS				LR	LR			
	comp=Z,1μm,20.0s							
JTS	**JuntasÀbangare**	**130.50**	**45**	PKP	**PKPdf**		**19 42 09.7**	**+0.3**
	comp=Z,9.2nm,1.0s,baz=222,slow=8.8,SNR=4.1							
VNA1	**Neumayer--Stat**	**130.59**	**198**	*e*PKP	**PKPdf**		**19 42 09.7**	**+1.9**
VNA1	**Neumayer--Stat**	**130.59**	**198**	*es*PKP	pPKPdf		19 42 13.6	+0.8
SJG	**San Juan**	**132.36**	**18**	PFAKE			19 42 20.0	+7.2
SJG				LR	LR			
	comp=Z,822nm,21.0s							
ANWB	**Willy Bob**	**133.82**	**13**	PFAKE			19 42 30.0	+14
ANWB				LR	LR			
	comp=Z,1μm,21.0s							
BCIP	**Isla Barro Col**	**134.45**	**40**	PFAKE			19 42 30.0	+13
BCIP				LR	LR			
	comp=Z,931nm,19.0s							
PAYG	**Puerto Ayora**	**134.51**	**60**	PFAKE			19 42 30.0	+13
PAYG				LR	LR			
	comp=Z,1μm,19.0s							
SHEL	**Horse Pasture**	**135.69**	**275**	PFAKE			19 42 30.0	+11
SHEL				LR	LR			
	comp=Z,1μm,20.0s							
BBGH	**Gun Hill**	**138.65**	**11**	PFAKE			19 42 40.0	+15
BBGH				LR	LR			
	comp=Z,2μm,21.0s							
GRGR	**Grenville**	**139.22**	**14**	PFAKE			19 42 40.0	+14
GRGR				LR	LR			
	comp=Z,899nm,21.0s							
ASCN	**Ascension**	**139.30**	**292**	PFAKE			19 42 40.0	+14
ASCN				LR	LR			
	comp=Z,718nm,21.0s							
SDV	**Santo Domingo**	**139.33**	**29**	*e*PKPdf	**PKPdf**		**19 42 25.5**	**-0.6**
ROSC	**El Rosal**	**141.05**	**37**	*e*PKPpre	PKPpre		19 42 25.5	
ROSC				PKPpre	PKPpre		19 42 25.6	
ROSC	**El Rosal**	**141.05**	**37**	PKhKP	PKPpre		19 42 25.6	
	comp=Z,22nm,0.8s,baz=257,slow=1.6,SNR=10							
PMSA	**Palmer Station**	**142.23**	**172**	PFAKE			19 42 40.0	+11
PMSA				LR	LR			
	comp=Z,1μm,20.0s							
OTAV	**Otavalo**	**142.32**	**47**	*e*PKPpre	PKPpre		19 42 27.2	
OTAV				LR	LR			
	comp=Z,1μm,20.0s							
ATAH	**Atahualpa**	**147.66**	**55**	PKPbc	**PKPbc**		**19 42 42.7**	**-1.0**
ATAH	**Atahualpa**	**147.66**	**55**	PKPbc	**PKPbc**		**19 42 42.7**	**-1.0**
	comp=Z,130nm,1.1s,baz=351,slow=2.8,SNR=31							
USHA	**Ushuaia**	**150.47**	**161**	PKPbc	**PKPbc**		**19 42 49.6**	**+0.6**
USHA	**Ushuaia**	**150.47**	**161**	PKPbc	**PKPbc**		**19 42 49.6**	**+0.6**
	comp=Z,72nm,1.0s,baz=202,slow=1.7,SNR=13							
NNA	**Nana**	**151.95**	**61**	*e*PKPbc	**PKPbc**		**19 42 52.8**	**-0.9**
NNA				LR	LR			
	comp=Z,1μm,20.0s							
RCBR	**Riachuelo**	**153.31**	**322**	PFAKE			19 43 00.0	+3.2
RCBR				LR	LR			
	comp=Z,2μm,22.0s							
EFI	**East Falkland**	**155.72**	**171**	PFAKE			19 43 00.0	+8.6
EFI				LR	LR			
	comp=Z,897nm,20.0s							
SAML	**Samuel**	**158.50**	**31**	*e*PKPdf	**PKPdf**		**19 42 56.5**	**+0.4**
SAML				LR	LR			
	comp=Z,2μm,21.0s							
PLCA	**Paso Flores**	**160.04**	**135**	PKPab	**PKPab**		**19 43 37.2**	**+0.2**
PLCA	**Paso Flores**	**160.04**	**135**	PKPab	**PKPab**		**19 43 37.2**	**+0.2**
	comp=Z,7.0nm,1.0s,baz=205,slow=4.2,SNR=3.2							
LPAZ	**La Paz**	**161.21**	**56**	PKP	**PKPdf**		**19 43 00.2**	**+0.4**
LPAZ				*e*PKPdf	**PKPdf**		**19 43 00.4**	**+0.6**
LPAZ				PKPab	**PKPab**		**19 43 43.0**	**-0.3**
LPAZ	**La Paz**	**161.21**	**56**	PKP	**PKPdf**		**19 43 00.2**	**+0.4**
	comp=Z,20nm,1.2s,baz=2.5,slow=4.2,SNR=18							
LPAZ				PKPab	**PKPab**		**19 43 43.0**	**-0.3**
	comp=Z,16nm,1.0s,baz=360,slow=5.8,SNR=8.7							
LCO	**Las Campanas**	**163.53**	**99**	PFAKE			19 43 10.0	+8.6
LCO				LR	LR			
	comp=Z,2μm,21.0s							
LVC	**Limon Verde**	**163.88**	**75**	PFAKE			19 43 10.0	+8.1
LVC				LR	LR			
	comp=Z,2μm,21.0s							
CFAA	**Coronel Fontan**	**165.42**	**109**	PKP	**PKPdf**		**19 43 02.6**	**-0.1**
CFAA				PKPab	**PKPab**		**19 44 02.8**	**+1.9**
CFAA				PP	**PP**		**19 47 51.5**	**+3.3**
CFAA	**Coronel Fontan**	**165.42**	**109**	PKP	**PKPdf**		**19 43 02.6**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=209,slow=4.0,SNR=3.8							
CFAA				PKPab	**PKPab**		**19 44 02.8**	**+1.9**
	comp=Z,0.6nm,0.9s,baz=243,slow=6.0,SNR=3.7							
CFAA				PP	**PP**		**19 47 51.5**	**+3.3**
	comp=Z,0.1nm,0.4s,baz=204,slow=6.7,SNR=3.4							
SIV	**San Ignacio**	**165.57**	**37**	PKP	**PKPdf**		**19 43 03.2**	**0.0**
SIV				PKPab	**PKPab**		**19 44 00.3**	**-1.4**
SIV				PP	**PP**		**19 47 49.2**	**+1.4**
SIV	**San Ignacio**	**165.57**	**37**	PKP	**PKPdf**		**19 43 03.2**	**0.0**
	comp=Z,11nm,1.1s,baz=16,slow=0.7,SNR=15							
SIV				PKPab	**PKPab**		**19 44 00.3**	**-1.4**
	comp=Z,20nm,0.9s,baz=332,slow=3.3,SNR=17							
SIV				PP	**PP**		**19 47 49.2**	**+1.4**
	comp=Z,2.8nm,0.9s,baz=309,slow=14,SNR=4.2							
BDFB	**Brasilia**	**167.34**	**342**	PKP	**PKPdf**		**19 43 04.1**	**-0.6**
BDFB				PKPab	**PKPab**		**19 44 06.6**	**-2.8**
BDFB	**Brasilia**	**167.34**	**342**	PKP	**PKPdf**		**19 43 04.1**	**-0.6**
	comp=Z,8.3nm,0.9s,baz=40,slow=2.3,SNR=6.8							
BDFB				PKPab	**PKPab**		**19 44 06.6**	**-2.8**
	comp=Z,6.1nm,0.9s,baz=8.7,slow=1.8,SNR=3.6							
LPA	**La Plata**	**171.30**	**146**	*de*PKIKP	**PKPdf**		**19 43 05.0**	**-1.4**
SPB	**Sao Paulo**	**174.10**	**314**	PFAKE			19 43 20.0	+12
SPB				LR	LR			
	comp=Z,2μm,20.0s							
CPUP	**Villa Florida**	**175.06**	**74**	PKP	**PKPdf**		**19 43 08.7**	**+0.5**
CPUP				PKPab	**PKPab**		**19 44 43.9**	**+0.3**
CPUP	**Villa Florida**	**175.06**	**74**	PKP	**PKPdf**		**19 43 08.7**	**+0.5**
	comp=Z,0.6nm,0.4s,baz=175,slow=1.7,SNR=4.2							
CPUP				PKPab	**PKPab**		**19 44 43.9**	**+0.3**
	comp=Z,8.8nm,1.0s,baz=332,slow=3.1,SNR=3.2							

JMA 28 19:29:41.2±0.4, 27°.86N×127°.95E, h6km, M3.5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
JIH	**Iheya**	**0.82**	**179**	P	Pg		19 29 57.0	0.0
JIH				S	Sg		19 30 08.1	+0.4
JTK	**Tokunoshima**	**0.89**	**95**	P	Pg		19 29 57.9	-0.4
JTK				S	Sg		19 30 10.0	+0.1
JOW	**Kunigami**	**1.06**	**164**	P	Pg		19 30 01.2	-0.5
JOW				S	Sg		19 30 15.6	+0.1
JAMN	**Amaminishikomi**	**1.15**	**70**	P	Pb		19 30 03.6	+0.1
JAGN	**Aguni-jima**	**1.41**	**207**	P	Pn		19 30 06.4	-1.1
JAM	**Amami Oshima**	**1.56**	**69**	P	Pn		19 30 09.4	-0.1
JJT2	**Tamagusuku 2**	**1.72**	**186**	P	Pb		19 30 12.8	-0.5
JKE	**Kume jima 2**	**1.85**	**214**	P	Pn		19 30 13.1	-0.3

BJI ***28*** *19:32:43.0, 39°.55N×77°.43E, h4km, ML3.5/7*
NNC ***28*** *19:32:45.2±5.7, 39°.66N×77°.00E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=56.8km s-min=38.3km az=162.0*

ISC 28 19:32:49.5±2.4, 39°.9N±0°.2×77°.2E±0°.1, h10km, n5, σ1§55/7, 5C-5D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
KSH	**Kashi**	**1.05**	**248**	⇑*i*Pg	**Pg**		**19 33 08.5**	**-1.2**
KSH				Sg	**Sn**		**19 33 26.5**	**+1.4**
KSH				smax	smax			
	comp=N,590nm,0.4s							
KSH				smax	smax			
	comp=E,870nm,0.5s							
TKM2	**Tokmak 2**	**3.24**	**338**	⇓Pn	**Pn**		**19 33 40.9**	**+0.3**
	comp=E,12nm,0.3s							
TKM2				Pg	Pb		19 33 45.5	-1.7
TKM2				⇑Lg	Lg		19 34 31.8	
	comp=E,35nm,0.5s							
KNDC	**Almaty**	**3.30**	**357**	⇑Pn	**Pb**		**19 33 47.4**	**-0.8**
KNDC				⇓Lg	Lg		19 34 37.0	
KK31	**Karatay Array**	**5.96**	**304**	⇑Pn	**Pn**		**19 34 16.5**	**-1.4**
	comp=E,6.2nm,1.0s,baz=129,slow=13,SNR=8.3							
KK31				⇑Pg	**Pb**		**19 34 34.7**	**+1.2**
	comp=E,2.3nm,0.7s,baz=128,slow=16,SNR=6.8							
KK31				⇓Lg	Lg		19 35 54.7	
	comp=E,8.4nm,0.6s,baz=124,slow=28,SNR=8.6							
MK31	**Makanchi Array**	**7.80**	**27**	⇓Pn	**Pn**		**19 34 44.5**	**+1.5**
	comp=E,3.3nm,1.1s,baz=193,slow=14,SNR=9.9							
MK31				⇓Lg	Lg		19 36 53.0	
	comp=E,2.4nm,0.6s							

CSEM ***28*** *19:35:41.0, 39°.96N×23°.76E, h5km, MD2.6, After ATH*

ATH 28 19:35:41.0, 39°.96N×23°.76E, h5km, MD2.6/5, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
PAIG	**Paliouri**	**0.07**	**242**	*e*PG	Pg		19 35 42.7	+0.1
PAIG				*e*SG	Sg		19 35 43.6	-0.1
PAIG	**Paliouri**	**0.07**	**242**	*e*Pg	Pg		19 35 42.7	+0.1
PAIG				*e*Sg	Sg		19 35 43.6	-0.1
PLG	**Polygyros**	**0.48**	**330**	*e*PG	Pg		19 35 50.4	+0.1
PLG				*e*SB	Sg		19 35 56.9	+0.3
PLG	**Polygyros**	**0.48**	**330**	*e*Pg	Pg		19 35 50.4	+0.1
PLG				*e*Sb	Sg		19 35 56.9	+0.3
NEO	**Neokhori**	**0.77**	**213**	*e*PB	Pg		19 35 56.1	+0.2
NEO				*e*SB	Sg		19 36 06.9	+0.9
NEO	**Neokhori**	**0.77**	**213**	*e*Pb	Pg		19 35 56.1	+0.2
NEO				*e*Sb	Sg		19 36 06.9	+0.9
AOS	**Alonnisos**	**0.79**	**173**	*e*PB	Pg		19 35 56.5	+0.2
AOS				*e*SB	Sb		19 36 07.6	-0.8
AOS	**Alonnisos**	**0.79**	**173**	*e*Pb	Pg		19 35 56.5	+0.2
AOS				*e*Sb	Sb		19 36 07.6	-0.8
SOH	**Sokhos**	**0.92**	**340**	*e*PB	Pg		19 35 58.8	+0.1
SOH				*e*SB	Sb		19 36 11.4	-0.6
SOH	**Sokhos**	**0.92**	**340**	*e*Pb	Pg		19 35 58.8	+0.1
SOH				*e*Sb	Sb		19 36 11.4	-0.6
LIT	**Litokhoron**	**0.98**	**279**	*e*PB	Pg		19 35 59.9	-0.1
LIT				*e*SB	Sb		19 36 13.7	-0.3
LIT	**Litokhoron**	**0.98**	**279**	*e*Pb	Pg		19 35 59.9	-0.1
LIT				*e*Sb	Sb		19 36 13.7	-0.3
NVR	**Nevrokopi**	**1.39**	**3**	*e*PB	Pn		19 36 07.3	+0.1
NVR	**Nevrokopi**	**1.39**	**3**	*e*Pb	Pn		19 36 07.3	+0.1
GRG	**Griva**	**1.44**	**314**	*e*PB	Pg		19 36 08.6	-0.1
GRG	**Griva**	**1.44**	**314**	*e*Pb	Pg		19 36 08.6	-0.1

JMA ***28*** *19:36:23.8±0.3, 27°.91N×127°.84E, h12km±4km, M3.2*
IDC ***28*** *19:36:25.3±1.6, 27°.70N×127°.25E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.5/25, mbtmp3.6/5, ML3.2/1, Error ellipse: s-maj=49.3km s-min=26.6km az=71.0*
ISCJB ***28*** *19:36:26.3±0.6, 27°.84N±0°.05×127°.88E±0°.06, h33km, mb3.4/4, Error ellipse: s-maj=7.6km s-min=6.0km az=39.3*

ISC 28 19:36:27.9±1.0, 27°.81N±0°.06×127°.93E±0°.07, h35km, n14, σ1§30/16, mb3.5/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
JIH	**Iheya**	**0.77**	**178**	P	**Pn**		**19 36 40.4**	**-1.9**
JIH				S	**Sn**		**19 36 51.6**	**-1.1**
JTK	**Tokunoshima**	**0.90**	**91**	P	**Pn**		**19 36 42.1**	**-2.0**
JTK				S	**Sn**		**19 36 55.8**	**-0.1**
JOW	**Kunigami**	**1.02**	**163**	P	**Pn**		**19 36 44.8**	**-0.9**
JOW				S	**Sn**		**19 36 59.6**	**+0.8**
JAMN	**Amaminishikomi**	**1.18**	**68**	P	**Pn**		**19 36 46.5**	**-1.4**
JAMN				*e*S	**Sn**		**19 37 03.4**	**+0.7**
JAGN	**Aguni-jima**	**1.36**	**207**	P	**Pn**		**19 36 49.2**	**-1.2**
JAM	**Amami Oshima**	**1.59**	**68**	P	**Pn**		**19 36 53.0**	**-0.6**
JJT2	**Tamagusuku 2**	**1.68**	**186**	P	**Pn**		**19 36 54.7**	**0.0**
JKE	**Kume jima 2**	**1.80**	**215**	P	**Pn**		**19 36 55.2**	**-1.2**
JNU	**Nakatsue**	**5.87**	**25**	Pn	Pn		19 37 58.9	+6.5
	0.6nm,0.3s,baz=203,slow=7.7,SNR=9.8							
KSRS	**Korea Array**	**9.62**	**360**	Pn	Pn		19 38 49.6	+5.9
	0.1nm,0.3s,baz=170,slow=15,SNR=3.5							
SONM	**Songino Array**	**26.09**	**326**	P	**P**		**19 41 58.8**	**+0.4**
	1.7nm,0.9s,baz=144,slow=8.1,SNR=7.5							
MKAR	**Makanchi Array**	**40.30**	**311**	P	**P**		**19 44 01.5**	**-0.2**
	0.3nm,0.7s,baz=95,slow=7.7,SNR=3.9							
ZALV	**Zalesovo Beam**	**40.84**	**322**	P	**P**		**19 44 05.2**	**-0.8**
	0.5nm,0.6s,baz=118,slow=9.1,SNR=3.2							
ASAR	**Alice Springs**	**51.50**	**173**	P	**P**		**19 45 32.5**	**+2.3**
	0.6nm,1.0s,baz=356,slow=11,SNR=4.6							

CSEM ***28*** *20:04:39.1, 35°.17N×23°.41E, h8km, MD3.5, After ATH*

ATH 28 20:04:39.1, 35°.17N×23°.41E, h8km±2km, MD3.5/7, Crete

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
GVD	**Gavdhos**	**0.65**	**121**	*e*PB	Pg		20 04 51.5	-0.1
GVD				*e*SB	Sg		20 05 00.2	+0.1
GVD	**Gavdhos**	**0.65**	**121**	*e*Pb	Pg		20 04 51.5	-0.1
GVD				*e*Sb	Sg		20 05 00.2	+0.1
VAM	**Vamos**	**0.69**	**70**	*e*PB	Pg		20 04 52.8	+0.4
VAM				*e*SB	Sb		20 05 02.3	-0.8
VAM	**Vamos**	**0.69**	**70**	*e*Pb	Pg		20 04 52.8	+0.4
VAM				*e*Sb	Sb		20 05 02.3	-0.8
SIVA	**Sivas**	**1.16**	**97**	*e*PB	Pg		20 05 01.2	-0.1
SIVA				*e*SB	Sb		20 05 16.9	+0.4
SIVA	**Sivas**	**1.16**	**97**	*e*Pb	Pg		20 05 01.2	-0.1
SIVA				*e*Sb	Sb		20 05 16.9	+0.4
IDI	**Anoyia**	**1.22**	**84**	*e*PN	Pb		20 05 01.7	-0.8
IDI				*e*SB	Sn		20 05 19.1	-0.2
IDI	**Anoyia**	**1.22**	**84**	*e*Pn	Pb		20 05 01.7	-0.8
IDI				*e*Sb	Sn		20 05 19.1	-0.2
VLI	**Veliai**	**1.59**	**346**	*e*PB	Pb		20 05 08.9	+0.1
VLI				*e*SB	Sg		20 05 30.8	+0.4
VLI	**Veliai**	**1.59**	**346**	*e*Pb	Pb		20 05 08.9	+0.1
VLI				*e*Sb	Sg		20 05 30.8	+0.4
LAST	**Lasithi**	**1.69**	**90**	*e*PN	Pg		20 05 11.5	-0.2
LAST	**Lasithi**	**1.69**	**90**	*e*Pn	Pg		20 05 11.5	-0.2
NPS	**Neapolis**	**1.81**	**86**	*e*PN	Pb		20 05 12.3	-0.2
NPS	**Neapolis**	**1.81**	**86**	*e*Pn	Pb		20 05 12.3	-0.2
PYL	**PYLOS**	**2.19**	**322**	*e*PN	Pb		20 05 18.7	-0.3
PYL	**PYLOS**	**2.19**	**322**	*e*Pn	Pb		20 05 18.7	-0.3
ITM	**Ithomi**	**2.34**	**330**	*e*PN	Pb		20 05 20.0	-1.5
ITM	**Ithomi**	**2.34**	**330**	*e*Pn	Pb		20 05 20.0	-1.5
VLX	**Vlachokerasia**	**2.35**	**340**	*e*PN	Pn		20 05 19.9	+1.8
VLX	**Vlachokerasia**	**2.35**	**340**	*e*Pn	Pn		20 05 19.9	+1.8

IDC 28 20:28:33.3±6.7, 18°.84S×175°.96W, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.6/17, mbtmp3.5/3, Error ellipse: s-maj=299.9km s-min=36.6km az=144.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
WRA	**Warramunga Arr**	**46.75**	**260**	P	P		20 37 04.7	-0.1
	0.2nm,0.3s,baz=96,slow=7.4,SNR=12							
ASAR	**Alice Springs**	**46.78**	**255**	P	P		20 37 04.7	-0.3
	0.4nm,0.5s,baz=98,slow=7.3,SNR=5.9							
ILAR	**Eielson Array**	**86.29**	**12**	P	P		20 41 16.5	-0.1
	0.3nm,0.7s,baz=190,slow=4.5,SNR=2.2							
AKASG	**Malin Array Be**	**142.44**	**334**	PKP	PKPdf		20 48 07.9	-0.1
	0.6nm,0.5s,baz=44,slow=5.2,SNR=4.1							

NNC 28 20:34:28.6±9.7, 36°.85N×71°.63E, h231km±120km, mb2.4, mpv3.6, 4C-1D, Error ellipse: s-maj=94.6km s-min=62.5km az=24.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
KK31	**Karatay Array**	**6.30**	**352**	P	Pn		20 36 00.8	+0.6
	2.0nm,0.2s,baz=173,slow=11,SNR=124							
KK31				⇓S	S		20 37 13.6	+0.4
	1.1nm,0.5s,baz=190,slow=25,SNR=7.1							
TKM2	**Tokmak 2**	**6.79**	**25**	⇑P	Pn		20 36 04.6	-1.9
	1.6nm,0.6s							
TKM2				⇑S	S		20 37 25.9	+1.1
	1.6nm,0.5s							
AB31	**Akbulak array**	**15.03**	**329**	⇑P	Pn		20 37 52.9	+3.2
	0.3nm,0.5s,baz=155,slow=12,SNR=16							
AB31				⇑S	S		20 40 33.3	-2.4
	0.6nm,0.8s							

IDC 28 20:43:03.1±1.4, 63°.31N×169°.87W, h0km, mb3.7/5, mb1 4.1/8, mb1mx3.7/27, mbtmp3.9/8, ML4.0/3, MS4.3/1, Ms1 4.3/1, ms1mx3.0/43, Error ellipse: s-maj=39.4km s-min=15.3km az=23.0, St. Lawrence Island region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
KDAK	**Kodiak Island**	**10.14**	**115**	Pn	Pn		20 45 28.7	-0.9
	2.8nm,0.3s,baz=339,slow=8.3,SNR=26							
KDAK				Sn	Sn		20 47 18.8	-5.1
	0.1nm,0.3s,baz=220,slow=16,SNR=1.3							
ILAR	**Eielson Array**	**10.16**	**71**	Pn	Pn		20 45 25.2	-4.8
	0.3nm,0.3s,baz=272,slow=13,SNR=15							
ILAR				Sn	Sn		20 47 08.4	-16
	0.1nm,0.3s,baz=254,slow=13,SNR=2.7							
INK	**Inuvik**	**15.53**	**55**	Pn	Pn		20 46 42.8	-0.2
	0.4nm,0.3s,baz=266,slow=11,SNR=4.4							
PETK	**Petropavlovsk-**	**19.67**	**254**	P	Pn		20 47 37.9	+3.3
	0.1nm,0.3s,baz=73,slow=12,SNR=3.7							
PDAR	**Pinedale Array**	**39.80**	**92**	P	P		20 50 38.5	+0.7
	0.5nm,0.7s,baz=335,slow=6.7,SNR=4.0							
PFO	**Pinyon Flat Ob**	**44.26**	**106**	LR	LR		21 08 15.3	
	comp=Z,378nm,19.1s,baz=137,slow=34							
SONM	**Songino Array**	**46.17**	**292**	P	P		20 51 30.3	+1.1
	0.3nm,0.7s,baz=38,slow=7.3,SNR=3.5							
ZALV	**Zalesovo Beam**	**49.52**	**311**	P	P		20 51 53.6	-1.2
	0.7nm,0.6s,baz=40,slow=7.2,SNR=3.7							
TXAR	**Lajitas Array**	**53.56**	**97**	P	P		20 52 26.6	+1.1
	0.3nm,0.8s,baz=325,slow=5.8,SNR=3.2							
FINES	**FINESS Array B**	**54.98**	**351**	P	P		20 52 33.8	-1.5
	8.9nm,1.2s,baz=348,slow=3.3,SNR=4.8							

IDC 28 21:24:23.5±3.2, 6°.25S×147°.63E, h0km, mb2.8/1, mb1 3.2/3, mb1mx3.1/16, mbtmp3.0/3, ML2.7/2, Error ellipse: s-maj=82.8km s-min=34.4km az=95.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
PMG	**Port Moresby**	**3.17**	**188**	Pn	Pn		21 25 16.6	+1.8
	2.0nm,0.3s,baz=301,slow=5.9,SNR=3.7							
PMG				Sn	Sn		21 25 52.7	-0.6
	1.9nm,0.3s,baz=344,slow=20,SNR=3.2							
WRA	**Warramunga Arr**	**18.76**	**222**	P	P		21 28 44.5	+0.1
	0.1nm,0.3s,baz=49,slow=11,SNR=5.9							
ASAR	**Alice Springs**	**21.78**	**216**	P	P		21 29 16.9	-0.2
	0.2nm,0.4s,baz=50,slow=8.9,SNR=6.4							
TORD	**Torod

0.8nm,0.7s,baz=98,slow=9.1,SNR=4.0
KURBB **Kurchatov Arra 43.50 315** P **P 21 55 57.1 +0.1**
0.3nm,0.4s,baz=105,slow=9.0,SNR=4.9
WRA **Warramunga Arr 47.86 172** P **P 21 56 31.4 -0.4**
0.4nm,0.8s,baz=356,slow=8.5,SNR=3.8

GUC 28 21:51:37.7±0.5,30°.94S×71°.47W,h40km±2km,MD3.6, ML3.5,2C-2D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.46**	**120**	⇑*i*P	Pn	21 51 48.3	+0.2
CMCH				*i* S	Sn	21 51 56.0	+0.7
CMCH				AML	AML	21 51 56.8	
	comp=E,16μm,0.6s						
CHNG	**Los Chungos**	**0.94**	**182**	⇓*i*P	Pn	21 51 54.9	+0.5
CHNG				*i* S	Sn	21 52 07.6	+1.0
TLL	**Tololo Astrono**	**0.96**	**37**	⇑*i*P	Pn	21 51 55.9	+0.8
TLL				*i* S	Sn	21 52 09.5	+1.7
ROCH	**El Roble**	**2.06**	**169**	⇓*i*P	Pn	21 52 11.3	+1.1
ROCH				*i* S	Sn	21 52 37.2	+2.5
ROCH				AML	AML	21 52 44.9	
	comp=N,363nm,0.6s						
PEL	**Peldehue**	**2.29**	**163**	AML	AML	21 52 47.9	
	comp=E,322nm,0.3s						
CLCH	**Cerro Calan**	**2.57**	**162**	AML	AML	21 53 13.0	
	comp=E,170nm,0.8s						
LMEL	**Las Melosas**	**3.09**	**160**	AML	AML	21 53 12.2	
	comp=N,124nm,0.3s						

IDC 28 22:00:09.9±2.9,14°.87S×167°.21E,h161km±22km,mb3.7/9, mb1 3.8/11,mb1mx3.6/21,mbtmp3.8/11,Error ellipse: s-maj=25.2km s-min=14.8km az=66.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.20**	**186**	P	Pn	22 01 52.3	-0.4
	1.9nm,0.3s,baz=40,slow=18,SNR=16						
DZM				S	Sn	22 03 13.7	+0.1
	2.0nm,0.3s,baz=343,slow=19,SNR=5.6						
HNR	**Honiara**	**8.92**	**306**	P	Pn	22 02 16.4	+0.8
	42nm,0.3s,baz=200,slow=7.4,SNR=4.5						
HNR				S	Sn	22 03 53.9	-1.0
	29nm,0.3s,baz=207,slow=6.7,SNR=3.6						
CTA	**Charters Tower**	**20.64**	**252**	P	P	22 04 38.6	+1.5
	5.1nm,0.7s,baz=117,slow=9.0,SNR=7.0						
STKA	**Stephens Creek**	**28.86**	**230**	P	P	22 05 54.9	+1.5
	1.8nm,0.4s,baz=38,slow=8.0,SNR=9.1						
WRA	**Warramunga Arr**	**31.73**	**256**	P	P	22 06 17.1	-1.8
	0.7nm,0.5s,baz=84,slow=9.1,SNR=12						
ASAR	**Alice Springs**	**32.57**	**249**	P	P	22 06 25.6	-0.5
	1.2nm,0.4s,baz=79,slow=9.1,SNR=27						
ASAR				PcP	PcP	22 09 08.3	-0.6
	0.6nm,0.8s,baz=103,slow=2.9,SNR=4.7						
FITZ	**Fitzroy Crossi**	**39.93**	**259**	P	P	22 07 28.7	0.0
	2.1nm,0.5s,baz=90,slow=7.6,SNR=12						
VNDA	**Vanda**	**62.72**	**181**	P	P	22 10 17.1	-0.1
	1.7nm,0.6s,baz=3.2,slow=7.9,SNR=18						
SONM	**Songino Array**	**82.58**	**324**	P	P	22 12 15.9	+0.9
	0.6nm,0.6s,baz=139,slow=6.5,SNR=4.3						
SNAA	**Sanae**	**93.40**	**183**	*e*P	P	22 13 05.2	-1.4
VNA2	**Neumayer--Watz**	**94.34**	**182**	*e*P	P	22 13 09.6	-1.2
VNA1	**Neumayer--Stat**	**94.64**	**182**	*e*P	P	22 13 05.7	-6.4
MKAR	**Makanchi Array**	**97.27**	**316**	P	Pdif	22 13 24.7	+0.1
	0.5nm,0.8s,baz=98,slow=6.4,SNR=5.0						
ZALV	**Zalesovo Beam**	**97.47**	**324**	P	P	22 13 25.1	-0.1
	0.4nm,0.5s,baz=94,slow=2.2,SNR=2.5						
ARCES	**ARCESS Array B**	**120.38**	**345**	PKP	PKPdf	22 18 40.5	-1.0
	0.6nm,0.3s,baz=73,slow=2.4,SNR=22						
FINES	**FINESS Array B**	**125.83**	**338**	PKP	PKPdf	22 18 52.0	-0.1
	3.6nm,1.0s,baz=299,slow=3.9,SNR=3.7						
KEST	**Kesra**	**151.28**	**320**	PKPbc	PKPbc	22 19 44.9	0.0
	0.6nm,0.6s,baz=67,slow=4.2,SNR=8.2						
TORD	**Torodi Ar. Bea**	**165.84**	**265**	PKP	PKPdf	22 19 55.9	-0.6
	0.4nm,0.6s,baz=38,slow=49,SNR=4.2						
TORD				PKPab	PKPab	22 20 56.3	-0.7
	0.4nm,0.8s,baz=97,slow=3.5,SNR=2.6						

WEL 28 22:11:35.1±0.3,37°.37S×178°.40E,h35km±1km,ML3.7/4, 2C,Error ellipse: s-maj=2.5km s-min=2.4km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.21**	**202**	⇑PN	Pn	22 11 41.9	-0.4
MXZ				SN	Sn	22 11 46.9	-0.6
MXZ				AML	AML	22 11 47.4	
MXZ				AML	AML	22 11 47.4	
MXZ				AML	AML	22 11 47.4	
PUZ	**Puketiti**	**0.71**	**189**	⇑PN	Pn	22 11 48.4	-0.4
PUZ				SN	Sn	22 11 58.0	-0.6
PUZ				AML	AML	22 11 59.7	
CNGZ	**Carnagh Statio**	**1.12**	**188**	PN	Pn	22 11 54.2	-0.2
MWZ	**Matawai**	**1.19**	**215**	PN	Pn	22 11 55.3	0.0
MWZ				SN	Sn	22 12 10.2	-0.1
MWZ				AML	AML	22 12 12.0	
URZ	**Urewera**	**1.36**	**229**	PN	Pn	22 11 57.2	-0.4
URZ				SN	Sn	22 12 13.5	-0.9
URZ				AML	AML	22 12 15.0	
NMHZ	**Naumai**	**2.14**	**216**	PN	Pn	22 12 08.1	-0.3
BKZ	**Black Stump Fm**	**2.34**	**219**	PN	Pn	22 12 10.7	-0.5
MKAZ	**Moumakai**	**2.60**	**275**	PN	Pn	22 12 15.2	+0.6

IDC 28 22:25:31.9±12.0,10°.98N×92°.05E,h0km,mb3.5/2, mb1 3.8/3,mb1mx3.3/26,mbtmp3.6/3,ML4.2/1,MS3.9/1, Ms1 3.9/1,ms1mx2.7/33,Error ellipse: s-maj=205.0km s-min=68.0km az=174.0,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.98**	**41**	Pn	Pn	22 27 56.7	0.0
	0.6nm,0.3s,baz=235,slow=16,SNR=4.5						
MKAR	**Makanchi Array**	**36.64**	**349**	P	P	22 32 40.2	0.0
	0.5nm,0.8s,baz=163,slow=8.7,SNR=4.7						
ZALV	**Zalesovo Beam**	**43.24**	**354**	P	P	22 33 34.6	-0.3
	0.6nm,0.6s,baz=188,slow=9.0,SNR=3.9						
PMG	**Port Moresby**	**58.43**	**108**	LR	LR	23 03 38.2	
	comp=Z,95nm,19.9s,baz=266,slow=39						

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*ISCJB **28** 22:42:41.4±0.7, 11°.9N±0°.1×86°.7W±0°.1,h93km±9km, mb3.9/7,Error ellipse: s-maj=26.2km s-min=8.3km az=135.3*
*IDC **28** 22:42:42.8±1.1, 12°.04N×86°.44W,h89km±13km,mb3.7/7, mb1 3.9/9,mb1mx3.6/25,mbtmp3.7/9,MS3.4/1,Ms1 3.3/1, ms1mx2.6/32,Error ellipse: s-maj=35.1km s-min=9.0km az=48.0*
*CASC **28** 22:42:42.0±3.1, 11°.86N×86°.82W,h35km±999km,MD4.3*
ISC 28 22:42:42.8±1.1,11°.8N±0°.1×86°.7W±0°.1,h88km±12km,n34, σ1°.75/40,mb4.1/7,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GBS2	**Las Lilas**	**1.60**	**128**	*i* P	**Pn**	**22 43 09.9**	**+0.2**
GBS3	**Finca Las lm^¡**	**1.63**	**130**	*i* P	**Pn**	**22 43 10.2**	**0.0**
GB1A	**Borinquen Arri**	**1.65**	**128**	*i* P	**Pn**	**22 43 08.9**	**-1.5**
BUEV	**Buena Vista**	**1.66**	**128**	*i* P	**Pn**	**22 43 08.9**	**-1.6**
LAPC	**Finca la Perla**	**1.66**	**130**	*i* P	**Pn**	**22 43 10.8**	**+0.3**
LIM1	**Limonal**	**1.84**	**128**	*i* P	**Pn**	**22 43 11.6**	**-1.3**
MESS	**Mesas**	**1.86**	**126**	*i* P	**Pn**	**22 43 11.9**	**-1.3**
MESS				*i* S	**Sn**	**22 43 35.0**	**-1.2**
CUI	**Cuipilapa**	**1.93**	**127**	*i* P	**Pn**	**22 43 13.4**	**-0.7**
VCR	**Vista de Mar**	**2.01**	**148**	*e*P	**Pn**	**22 43 13.2**	**-2.0**
VCR				*e*S	**Sn**	**22 43 40.9**	**+1.0**
PTEN	**Parque Tenorio**	**2.04**	**123**	*i* P	**Pn**	**22 43 14.3**	**-1.3**
AMAS	**Alto Masis**	**2.09**	**125**	*i* P	**Pn**	**22 43 15.0**	**-1.3**
JTS	**JuntasAbangare**	**2.32**	**131**	P	**Pn**	**22 43 17.8**	**-1.4**
	18nm,0.3s,baz=320,slow=18,SNR=49						
JTS				S	**Sn**	**22 43 46.9**	**-0.3**
	65nm,0.3s,baz=344,slow=17,SNR=7.0						
JCR	**Jicaral**	**2.53**	**141**	*e*P	**Pn**	**22 43 21.3**	**-0.8**
CGA2	**Cerro Gallo 2**	**2.87**	**129**	*e*P	**Pn**	**22 43 27.8**	**+1.1**
SJS	**Escuela Geolog**	**3.23**	**125**	*e*P	**Pn**	**22 43 34.3**	**+2.7**
URSC	**Urasca**	**3.51**	**124**	*e*P	**Pn**	**22 43 35.6**	**+0.2**
URSC				*e*S	Sn	22 44 23.0	+6.9
BUS	**Buena Vista**	**3.69**	**128**	*e*P	**Pn**	**22 43 39.5**	**+1.3**
BUS				*e*S	**Sn**	**22 44 26.0**	**+5.1**
ACR	**Cerro Adams**	**4.72**	**132**	*e*P	**Pn**	**22 43 53.5**	**+1.7**
ACR				*e*S	**Sn**	**22 44 44.6**	**-0.6**
CNI	**Changuinola**	**4.79**	**120**	*e*P	**Pn**	**22 43 53.3**	**+0.7**
APG	**El Apazote**	**4.81**	**311**	P	**Pn**	**22 43 52.7**	**-0.4**
	0.9nm,0.3s,baz=128,slow=7.5,SNR=7.9						
APG				S	**Sn**	**22 44 51.8**	**+4.1**
	1.4nm,0.3s,baz=128,slow=18,SNR=3.9						
CTCR	**Cotoan**	**4.88**	**126**	*e*P	**Pn**	**22 43 56.0**	**+2.1**
BRU2	**Volcan**	**4.99**	**127**	*e*P	**Pn**	**22 43 57.0**	**+1.5**
TBS2		**5.02**	**127**	*e*S	**Sn**	**22 44 54.7**	**+2.0**
BRU	**Baru**	**5.09**	**126**	*e*P	**Pn**	**22 43 59.9**	**+2.9**
TXAR	**Lajitas Array**	**23.50**	**320**	P	**P**	**22 47 45.0**	**-0.1**
	7.7nm,0.8s,baz=138,slow=11,SNR=42						
ANMO	**Albuquerque**	**29.16**	**325**	P	**P**	**22 48 36.4**	**+0.3**
	1.9nm,0.6s,baz=149,slow=8.3,SNR=8.0						
PDAR	**Pinedale Array**	**36.65**	**331**	P	**P**	**22 49 40.1**	**-1.0**
	1.1nm,0.5s,baz=130,slow=11,SNR=11						
SIV	**San Ignacio**	**37.53**	**137**	P	**P**	**22 49 48.9**	**+0.1**
	1.3nm,0.5s,baz=317,slow=8.5,SNR=6.8						
SCHQ	**Schefferville**	**45.66**	**16**	P	**P**	**22 50 52.9**	**-1.8**
	1.9nm,0.5s,baz=215,slow=16,SNR=7.0						
SCHQ				LR	LR	23 10 18.0	
	comp=Z,48nm,21.7s,baz=36,slow=36						
PLCA	**Paso Flores**	**54.41**	**165**	P	**P**	**22 52 00.5**	**-0.5**
	1.3nm,0.7s,baz=341,slow=11,SNR=3.8						
ILAR	**Eielson Array**	**66.86**	**336**	P	**P**	**22 53 23.4**	**-1.8**
	0.2nm,0.4s,baz=143,slow=5.1,SNR=5.1						
ASAR	**Alice Springs**	**139.69**	**247**	PKP	**PKPdf**	**23 02 02.7**	**+1.3**
	0.5nm,0.6s,baz=106,slow=2.1,SNR=5.4						
WRA	**Warramunga Arr**	**139.77**	**253**	PKP	**PKPdf**	**23 02 02.8**	**+1.2**
	0.6nm,0.6s,baz=84,slow=2.0,SNR=9.6						
FITZ	**Fitzroy Crossi**	**148.15**	**255**	PKPbc	**PKPbc**	**23 02 20.4**	**+0.9**
	3.1nm,0.9s,baz=112,slow=2.0,SNR=8.1						

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*NIED **28** 22:48:00,27°.80N×127°.80E,h5km,Mw4.5 Best double couple: M0=7.46000×10^15 NP1:φ=64.00000°,δ=65.00000°, λ=-90.00000°. NP2:φ=245.00000°,δ=25.00000°, λ=-89.00000°.*
*BJI **28** 22:48:43.2,27°.29N×127°.88E,h23km,mB4.8/12,mb4.4/20, Ms4.3/8,Ms7 4.2/8*
*NEIC **28** 22:48:44.5±0.5,27°.81N×127°.94E,h10km,mb4.4/11,Error ellipse: s-maj=18.7km s-min=7.2km az=62.0*
NEIC Recorded [1 JMA] on Yoron-jima.
*JMA **28** 22:48:44.1±0.3,27°.83N×127°.82E,h12km±3km,M4.3*
JMA Felt I J1.
*IDC **28** 22:48:54.1±2.9,27°.81N×127°.73E,h88km±28km,mb3.9/10, mb1 4.0/12,mb1mx3.7/28,mbtmp3.8/12,MS3.7/12, Ms1 3.7/12,ms1mx3.4/40,Error ellipse: s-maj=30.7km s-min=13.8km az=68.0*
ISC 28 22:48:44.2±1.8,27°.80N±0°.05×127°.85E±0°.05,h9km±12km, n59,σ0°.88/57,mb4.3/22,MS3.8/11,1C,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIH	**Iheya**	**0.77**	**172**	P	**Pg**	**22 48 59.2**	**+0.2**
JIH				S	**Sg**	**22 49 09.8**	**+0.7**
JTK	**Tokunoshima**	**0.97**	**91**	P	**Pb**	**22 49 02.8**	**-0.4**
JTK				S	**Sg**	**22 49 15.9**	**+0.3**
JOW	**Kunigami**	**1.03**	**159**	P	**Pb**	**22 49 03.6**	**-0.7**
JOW				*e*S	**Sb**	**22 49 18.1**	**+0.1**
JOW	**Kunigami**	**1.03**	**159**	⇑*i*P	**Pb**	**22 49 03.4**	**-0.9**
JOW				*e*S	**Sb**	**22 49 17.6**	**-0.4**
JAMN	**Amaminishikomi**	**1.25**	**69**	P	**Pn**	**22 49 07.1**	**-0.8**
JAGN	**Aguni-jima**	**1.32**	**204**	P	**Pn**	**22 49 08.4**	**-0.5**
JJT2	**Tamagusuku 2**	**1.66**	**183**	P	**Pb**	**22 49 14.3**	**-0.6**
JAM	**Amami Oshima**	**1.66**	**68**	P	**Pn**	**22 49 14.0**	**+0.4**
JAM				*e*S	**Sb**	**22 49 35.6**	**-0.5**
JKE	**Kume jima 2**	**1.75**	**213**	P	**Pn**	**22 49 14.4**	**-0.4**
JNU	**Nakatsue**	**5.91**	**25**	*e*Pn	Pb	22 50 19.1	-8.4
JNU	**Nakatsue**	**5.91**	**25**	P	Pn	22 50 18.9	+6.9
	3.9nm,0.3s,baz=198,slow=10,SNR=24						
YHNB	**Yeheng**	**6.60**	**243**	*e*Pn	Pn	22 50 26.9	+5.3
NACB	**Ninganchiao**	**6.69**	**239**	*e*P	Pn	22 50 27.6	+4.9
SSLB	**Suanglung**	**7.39**	**239**	*e*Pn	Pn	22 50 37.2	+4.8
KSAR	**Wonju Array Be**	**9.61**	**0**	P	Pn	22 51 09.8	+7.1
KSRS	**Korea Array**	**9.63**	**0**	P	Pn	22 51 09.8	+6.9
	0.2nm,0.3s,baz=175,slow=13,SNR=6.0						
KSRS				LR	LR	22 54 58.4	
	comp=Z,577nm,18.8s,baz=176,slow=38						
BJT	**Baijiatuan**	**15.56**	**325**	*e*Pn	**P**	**22 52 27.1**	**-1.0**
ENH	**Enshi**	**16.25**	**283**	*e*Pn	**P**	**22 52 35.2**	**-0.7**
	7.2nm,0.8s						
USRK	**Ussuriysk Arra**	**16.70**	**10**	P	P	22 52 45.4	+4.7
	0.1nm,0.3s,baz=154,slow=10.0,SNR=12						
USRK				LR	LR	22 58 41.1	
	comp=Z,138nm,19.1s,baz=191,slow=35						
ASAJ	**Asahikawa**	**20.14**	**32**	LR	LR	23 00 25.3	
	comp=Z,127nm,21.1s,baz=96,slow=34						
LZH	**Lanzhou**	**21.95**	**298**	*e*P	P	22 53 42.3	+3.9
LZH				pmax	pmax		
	comp=Z,14nm,1.0s						
ULN	**Ulaanbaatar**	**25.76**	**327**	*e*P	**P**	**22 54 16.4**	**+1.0**
	comp=Z,25nm,1.1s						
GTA	**Gaotai**	**25.96**	**304**	P	**P**	**22 54 17.8**	**+0.5**
GTA				PP	PnPn	22 55 01.0	+6.3
GTA				S	**S**	**22 58 48.3**	**+0.4**
GTA				SS	SnSn	22 59 59.0	+14
GTA				pmax	pmax		
	comp=Z,19nm,0.8s						
GTA				pmax	pmax		
	comp=Z,210nm,4.3s						
GTA				LR	LR		
	comp=N,510nm,14.2s						
GTA				LR	LR		
	comp=E,400nm,12.3s						
GTA				LR	LR		
	comp=Z,500nm,12.3s						
SONM	**Songino Array**	**26.06**	**326**	P	**P**	**22 54 19.2**	**+1.1**
SONM	**Songino Array**	**26.06**	**326**	P	**P**	**22 54 19.2**	**+1.1**
	comp=Z,17nm,0.9s,baz=140,slow=10,SNR=34						
SONM				LR	LR	23 05 42.6	
	comp=Z,242nm,19.0s,baz=200,slow=39						
CMAR	**Chiang Mai Arr**	**28.11**	**257**	PcP	**PcP**	**22 57 52.3**	**+1.3**
CMAR	**Chiang Mai Arr**	**28.11**	**257**	PcP	**PcP**	**22 57 52.3**	**+1.3**
	comp=Z,1.1nm,0.4s,baz=67,slow=2.3,SNR=4.4						
CMAR				LR	LR	23 05 23.2	
	comp=Z,48nm,19.2s,baz=75,slow=35						
LSA	**Lhasa**	**32.15**	**282**	*e*P	**P**	**22 55 13.8**	**+0.9**
	comp=Z,2.2nm,0.7s						
MK31	**Makanchi Array**	**40.25**	**311**	*e*P	**P**	**22 56 20.4**	**-1.0**
MKAR	**Makanchi Array**	**40.25**	**311**	P	**P**	**22 56 21.6**	**+0.3**
MKAR				PcP	**PcP**	**22 58 24.3**	**-0.9**
MKAR	**Makanchi Array**	**40.25**	**311**	P	**P**	**22 56 21.6**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=99,slow=11,SNR=13						
MKAR				PcP	**PcP**	**22 58 24.3**	**-0.9**
	comp=Z,0.5nm,0.8s,baz=126,slow=2.5,SNR=3.6						
MKAR				LR	LR	23 15 22.7	
	comp=Z,72nm,18.9s,baz=11,slow=40						
ZAA0	**Zalesovo Array**	**40.80**	**322**	*e*P	**P**	**22 56 25.4**	**-0.4**
ZALV	**Zalesovo Beam**	**40.80**	**322**	P	**P**	**22 56 26.0**	**+0.2**
ZALV				PcP	**PcP**	**22 58 24.1**	**-2.7**
ZALV	**Zalesovo Beam**	**40.80**	**322**	P	**P**	**22 56 26.0**	**+0.2**
	comp=Z,2.9nm,0.7s,baz=108,slow=7.9,SNR=14						
ZALV				PcP	**PcP**	**22 58 24.0**	**-2.7**
	comp=Z,1.1nm,0.9s,baz=108,slow=4.7,SNR=2.8						
ZALV				LR	LR	23 15 06.0	
	comp=Z,205nm,19.1s,baz=339,slow=39						
KURK	**Kurchatov**	**43.46**	**316**	*e*P	**P**	**22 56 46.3**	**-1.2**
	comp=Z,12nm,1.6s						
KURBB	**Kurchatov Arra**	**43.49**	**315**	P	**P**	**22 56 48.2**	**+0.4**
	comp=Z,1.1nm,0.5s,baz=103,slow=8.9,SNR=18						
TKM2	**Tokmak 2**	**44.51**	**304**	*e*P	**P**	**22 56 56.7**	**+0.4**
	comp=Z,7.2nm,1.1s						
AAK	**Ala-Archa**	**45.31**	**304**	*e*P	**P**	**22 57 01.9**	**-0.8**
	comp=Z,2.1nm,0.7s						
FITZ	**Fitzroy Crossi**	**45.68**	**183**	*e*P	**P**	**22 57 06.2**	**+0.7**
FITZ	**Fitzroy Crossi**	**45.68**	**183**	P	**P**	**22 57 06.1**	**+0.6**
	comp=Z,2.5nm,0.8s,baz=332,slow=22,SNR=6.1						
WRAB	**Tennant Creek**	**47.87**	**172**	*e*P	**P**	**22 57 23.2**	**+0.6**
	comp=Z,4.3nm,0.9s						
WRA	**Warramunga Arr**	**47.88**	**172**	P	**P**	**22 57 23.3**	**+0.6**
WRA	**Warramunga Arr**	**47.88**	**172**	P	**P**	**22 57 23.3**	**+0.6**
	comp=Z,1.5nm,0.7s,baz=353,slow=8.3,SNR=9.7						
WRA				LR	LR	23 14 34.6	
	comp=Z,24nm,20.9s,baz=165,slow=32						
KKAR	**Karatay Array**	**48.24**	**304**	*e*P	**P**	**22 57 26.4**	**+0.9**
	comp=Z,2.5nm,1.0s						
BRVK	**Borovoye**	**48.96**	**318**	*e*P	**P**	**22 57 30.5**	**-0.3**
	comp=Z,6.6nm,1.3s						
KBL	**Kabul**	**50.17**	**293**	*e*P	**P**	**22 57 40.6**	**0.0**
	comp=Z,7.4nm,1.1s						
ASAR	**Alice Springs**	**51.50**	**173**	P	**P**	**22 57 51.0**	**+0.6**
ASAR				PcP	**PcP**	**22 59 04.5**	**0.0**
ASAR	**Alice Springs**	**51.50**	**173**	P	**P**	**22 57 51.0**	**+0.6**
	comp=Z,1.1nm,0.9s,baz=3.3,slow=7.9,SNR=7.7						
ASAR				PcP	**PcP**	**22 59 04.5**	**0.0**
	comp=Z,0.9nm,0.7s,baz=357,slow=3.7,SNR=3.3						
ABKAR	**Akbulak array**	**55.34**	**312**	*e*P	**P**	**22 58 18.4**	**+0.1**
	comp=Z,2.3nm,0.8s						
STKA	**Stephens Creek**	**60.77**	**167**	LR	LR	23 27 19.7	
	comp=Z,101nm,20.2s,baz=26,slow=38						
FINES	**FINESS Array B**	**71.34**	**330**	P	**P**	**23 00 03.0**	**-1.1**
FINES	**FINESS Array B**	**71.34**	**330**	P	**P**	**23 00 03.0**	**-1.1**
	comp=Z,2.3nm,0.7s,baz=62,slow=4.5,SNR=10						
NOA	**NORSAR Array B**	**77.76**	**334**	LR	LR	23 36 08.9	
	comp=Z,69nm,22.0s,baz=60,slow=36						
MLR	**Muntele Rosu**	**78.39**	**315**	LR	LR	23 38 32.8	
	comp=Z,34nm,18.4s,baz=297,slow=38						
VRAC	**Vranov**	**81.92**	**322**	LR	LR	23 42 11.6	
	comp=Z,55nm,18.1s,baz=355,slow=39						
NEW	**Newport**	**84.56**	**37**	P	**P**	**23 01 18.1**	**+0.2**
NEW	**Newport**	**84.56**	**37**	P	**P**	**23 01 18.1**	**+0.2**
	comp=Z,4.8nm,1.1s,baz=335,slow=3.1,SNR=3.9						
PDAR	**Pinedale Array**	**92.15**	**38**	P	**P**	**23 01 55.2**	**+0.7**
PDAR	**Pinedale Array**	**92.15**	**38**	P	**P**	**23 01 55.2**	**+0.7**
	comp=Z,1.2nm,0.8s,baz=346,slow=1.5,SNR=7.0						

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*IDC **28** 23:04:59.1±2.7,27°.55S×69°.89W,h0km,mb4.2/2, mb1 3.9/3,mb1mx3.6/16,mbtmp3.9/3,ML3.3/1,MS3.9/1, Ms1 3.9/1,ms1mx2.8/22,Error ellipse: s-maj=86.3km s-min=60.0km az=71.0*
*ISCJB **28** 23:05:01.0±0.6,27°.56S±0°.03×70°.4W±0°.2,h50km±13km, mb4.0/2,MS3.8/1,Error ellipse: s-maj=24.5km s-min=5.4km az=1.4*
*NEIC **28** 23:05:02.2,27°.63S×70°.81W,h45km,MG4.3(GUC),After GUC.*
NEIC Felt [III] at Copiapo and Tierra Amarilla and [II] at Caldera.
*GUC **28** 23:05:02.2±0.5,27°.63S×70°.81W,h45km±3km,ML4.3*
ISC 28 23:05:02.2±0.9,27°.58S±0°.04×70°.6W±0°.2,h52km±11km, n19,σ1°.10/24,2D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCH	**Caldera**	**0.55**	**337**	⇓*e*P	**Pn**	**23 05 14.1**	**0.0**
CDCH				*i* S	**Sn**	**23 05 22.7**	**0.0**
CDCH				AML	AML	23 05 23.2	
	comp=N,36μm,0.3s						
VACH	**Vallenar**	**1.01**	**189**	*e*P	**Pn**	**23 05 19.7**	**-0.4**
VACH				*i* S	**Sn**	**23 05 33.0**	**-0.3**
VACH				AML	AML	23 05 33.9	
	comp=N,27μm,0.4s						
LCO	**Las Campanas**	**1.43**	**184**	*e*Pn	**Pn**	**23 05 25.4**	**-0.6**
LCO				*e*Sn	**Sn**	**23 05 42.7**	**-1.2**
LCO	**Las Campanas**	**1.43**	**184**	⇓*i*P	**Pn**	**23 05 25.7**	**-0.3**
LCO				*i* S	**Sn**	**23 05 44.2**	**+0.3**
TLL	**Tololo Astrono**	**2.59**	**184**	*e*P	**Pn**	**23 05 42.0**	**+0.1**
TLL				*i* S	**Sn**	**23 06 12.5**	**+0.3**
TLL				AML	AML	23 06 30.5	
	comp=E,692nm,0.4s						
LVC	**Limon Verde**	**5.17**	**17**	*e*Pn	**Pn**	**23 06 18.3**	**+1.0**
	comp=E,55nm,0.3s						
LVC				*e*Sn	**Sn**	**23 07 14.2**	**-1.5**
LPAZ	**La Paz**	**11.46**	**12**	*e*Pn	**Pn**	**23 07 44.5**	**+0.7**
LPAZ	**La Paz**	**11.46**	**12**	Pn	**Pn**	**23 07 43.4**	**-0.4**
	comp=E,0.1nm,0.3s,baz=209,slow=6.9,SNR=2.3						
TRQA	**Tornquist**	**12.70**	**148**	*e*Pn	**Pn**	**23 08 00.1**	**+0.1**
OTAV	**Otavalo**	**28.67**	**343**	*e*P	**P**	**23 10 54.5**	**-0.3**
PMSA	**Palmer Station**	**37.44**	**175**	LR	LR	23 27 19.7	
	comp=E,160nm,19.8s,baz=165,slow=36						
DBIC	**Dimbokro**	**71.98**	**72**	P	**P**	**23 16 21.7**	**+0.9**
DBIC	**Dimbokro**	**71.98**	**72**	P	**P**	**23 16 21.7**	**+0.9**
	comp=E,2.5nm,0.6s,baz=217,slow=5.1,SNR=3.7						
TORD	**Torodi Ar. Bea**	**80.84**	**70**	P	**P**	**23 17 11.9**	**+0.9**
TORD	**Torodi Ar. Bea**	**80.84**	**70**	P	**P**	**23 17 11.9**	**+0.9**
	comp=E,0.8nm,0.6s,baz=257,slow=5.0,SNR=12						
ZALV	**Zalesovo Beam**	**148.05**	**28**	PKPbc	**PKPbc**	**23 24 42.2**	**+0.7**
ZALV	**Zalesovo Beam**	**148.05**	**28**	PKPbc	**PKPbc**	**23 24 42.2**	**+0.7**
	comp=E,0.7nm,0.5s,baz=300,slow=3.2,SNR=3.4						
MKAR	**Makanchi Array**	**151.33**	**41**	PKPbc	**PKPab**	**23 24 55.5**	**-2.6**
MKAR	**Makanchi Array**	**151.33**	**41**	PKPbc	**PKPab**	**23 24 55.5**	**-2.6**
	comp=E,0.2nm,0.4s,baz=286,slow=2.7,SNR=3.3						

**TAP 28 23:14:49.9,23°.96N×121°.

	baz=238							
CHN5				eS	Sn	23 15 22.7	-0.1
	baz=238							
ELDTW	Lidau	0.93	215	eP	Pg	23 15 07.0	-0.9
	baz=215							
WGK	Gukeng	0.98	254	eP	Pn	23 15 10.2	0.0
	baz=257							
WGK				eS	Sn	23 15 25.5	+1.2
	baz=257							
HSN	Hsinchu	1.01	326	eP	Pb	23 15 10.0	+0.2
	baz=328							
TWA	Mucha	1.02	360	eP	Pb	23 15 10.2	+0.3
	baz=351							
NCU	National Centr	1.07	340	eP	Pn	23 15 11.8	+0.4
	baz=351							
NCU				eS	Sn	23 15 27.8	+1.2
	baz=351							
TAP1	Taipei	1.08	357	eP	Pn	23 15 11.3	-0.2
	baz=357							
TAP	Taipei	1.08	356	eP	Pb	23 15 10.9	-0.1
	baz=357							
TWB1	Santiao Chiao	1.11	19	eP	Pg	23 15 11.2	0.0
	baz=11							
NWF	Wu-fen Shan	1.12	9	eP	Pg	23 15 11.7	+0.1
	baz=8.0							
NWF				eS	Sb	23 15 26.7	-0.1
	baz=8.0							
TWS1	Kuangyinshan	1.15	352	eP	Pn	23 15 13.1	+0.7
	baz=1.0							
TWS1				eS	Sn	23 15 29.5	+1.0
	baz=1.0							
CHY	Chiayi	1.16	247	eP	Pn	23 15 13.7	+1.0
	baz=249							
WTCT	Ta-ch'eng	1.20	266	eP	Pn	23 15 15.0	+1.8
	baz=266							
TWK	Hsinying	1.22	236	eP	Pn	23 15 14.1	+0.5
	baz=227							
TWK				eS	Sn	23 15 31.3	+0.9
	baz=227							
TWG	Pinlang	1.23	203	eP	Pb	23 15 11.8	-1.8
	baz=206							
CHN1	Nanshi	1.24	232	eP	Pg	23 15 14.4	+0.6
	baz=236							
CHN1				eS	Sn	23 15 32.1	+1.2
	baz=236							
SGST	Jiashian	1.27	227	eP	Pg	23 15 15.2	+0.8
	baz=231							
SGST				eS	Sn	23 15 33.3	+1.7
	baz=231							
YOJ	Yonaguni jima	1.39	69	eP	Pn	23 15 15.2	-0.6
	baz=67							
TWM1	Shoushan	1.56	224	eP	Pg	23 15 20.4	+0.5
	baz=228							
EAST	Anshuo	1.71	204	eP	Pb	23 15 21.4	-0.4
	baz=196							
SCZT	Fangliau	1.81	210	eP	Pb	23 15 23.0	-0.5
	baz=213							
WDGT	Dungji	1.90	249	eP	Pn	23 15 23.3	+0.4
	baz=254							
PNG	Penghu	1.91	259	eP	Pn	23 15 23.4	+0.5
	baz=261							
PNG				eS	Sb	23 15 48.9	-0.1
	baz=261							

IDC 28 23:33:54.1±6.0, 1°26S×101°05E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/22, mbtmp3.4/3, Error ellipse: s-maj=315.6km s-min=27.6km az=53.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	37.48	122	P	P	23 41 10.0	+0.2
0.3nm,0.4s,baz=298,slow=8.2,SNR=2.4							
ASAR	Alice Springs	38.85	128	P	P	23 41 21.0	-0.5
0.2nm,0.3s,baz=306,slow=7.9,SNR=3.6							
MKAR	Makanchi Array	50.62	343	P	P	23 42 54.9	-0.1
0.2nm,0.5s,baz=153,slow=9.2,SNR=6.6							

CASC 29 00:40:14.4±2.4, 4°91N×82°69W, h35km±999km, MD4.3, 3C-4D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	Cerro Adams	3.75	353↑	eP	Pn	00 41 09.4	-0.5
ACR				eS	Sn	00 41 52.0	-0.9
TBS2		3.86	0↑	iP	Pn	00 41 13.1	+1.6
TBS2				eS	Sn	00 41 58.5	+2.7
BRU2	Volcan	3.86	360↓	iP	Pn	00 41 11.8	+0.2
BRU2				eS	Sn	00 41 57.2	+1.4
BRU	Baru	3.87	2	eP	Pn	00 41 12.8	+0.8
CTCR	Cotoan	3.96	359↑	iP	Pn	00 41 13.5	+0.5
CNI	Changuinola	4.48	2	eP	Pn	00 41 21.8	+2.0
CNI				eS	Sn	00 42 11.2	+0.5
QCR	Quepos	4.72	342↓	eP	Pn	00 41 23.1	0.0
QCR				eS	Sn	00 42 17.9	+1.3
BUS	Buena Vista	4.74	347↓	eP	Pn	00 41 24.6	+0.6
BUS				eS	Sn	00 42 19.4	+1.3
ZANG	Zanguenga, Cho	4.90	35	eS	Sn	00 42 21.2	+0.1
URSC	Urasca	5.01	348↓	eP	Pn	00 41 28.4	+1.0
URSC				eS	Sn	00 42 25.6	+1.4
BCIP	Isla Barro Col	5.09	34	eP	Pn	00 41 30.8	+2.6
BCIP				eS	Sn	00 42 25.8	0.0
SJS	Escuela Geolog	5.18	345	eP	Pn	00 41 34.5	+4.9
CAO	Cobano	5.33	333	eP	Pn	00 41 31.3	-0.3
CGA2	Cerro Gallo 2	5.37	341	eP	Pn	00 41 32.8	+0.5
CGA2				eS	Sn	00 42 36.5	+3.4
JCR	Jicaral	5.46	334	eP	Pn	00 41 33.8	+0.4
JCR				eS	Sn	00 42 28.4	-6.8

KRSC 29 00:49:36.6±4.9, 50°92N×158°08E, h17km±16km, ML3.5, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	Pauzhetka	0.97	305	eP	Pg	00 49 55.3	-0.1
PAU				iS	Sb	00 50 07.1	-0.3
SKR	Severo-Kuril's	1.27	260	eP	Pb	00 49 59.9	-0.1
SKR				iS	Sb	00 50 15.3	-0.7
ASAK	Asacha	1.47	356	eP	Pn	00 50 02.4	0.0
RUS	Russkaya	1.54	10	eP	Pn	00 50 02.8	-0.4
RUS				iS	Sn	00 50 19.9	-2.9
MTVR	Mutnovka	1.57	2	eP	Pn	00 50 03.9	+0.1
MTVR				iS	Sn	00 50 21.8	-2.1
MIPR	Malaya Ipel'ka	1.59	329	eP	Pn	00 50 04.3	+0.3
MIPR				iS	Sn	00 50 23.9	-0.2
GRL	Gorelyy	1.63	360	eP	Pn	00 50 04.4	-0.3
GRL				iS	Sn	00 50 24.0	-1.5
APC	Apacha	2.09	344	eP	Pn	00 50 11.3	+0.5
UGLR	Uglovaya	2.34	11	eP	Pn	00 50 15.0	+0.6
AVH	Avacha	2.38	10	eP	Pn	00 50 16.3	+1.3
SMAR	Somma	2.39	10	eP	Pn	00 50 16.1	+0.9
KOK	Koryaka	2.40	8	eP	Pn	00 50 16.6	+1.4
KOK				iS	Sn	00 50 45.9	+1.6
SDLR	Sedlovina	2.41	12	eP	Pn	00 50 15.3	-0.1
KRER	Koryakskii	2.42	10	eP	Pn	00 50 16.5	+0.8
KRER				iS	Sn	00 50 46.4	+1.3
KRX	Arik	2.47	8	eP	Pn	00 50 17.2	+1.0
KRX				iS	Sn	00 50 47.4	+1.3
SPN	Mys Shipunski	2.49	28	P	Pb	00 50 19.1	-1.7
GNL	Ganaly	2.78	358	eP	Pn	00 50 21.7	+1.2

DJA 29 00:51:27.6±1.8, 0°S±4°×12°3E±°, h72km±19km, M3.8/3, MLv3.8/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	Luwuk	0.80	198	P	Pn	00 51 44.7	+0.9
LUWI				S	Sn	00 51 58.0	+2.3
GTOI	Gorontalo	0.91	359	P	Pn	00 51 47.1	+2.0
GTOI				S	Sn	00 52 01.9	+3.8
MRSI	Marisa	1.32	305	P	Pn	00 51 50.7	+0.5
MRSI				S	Sn	00 52 08.2	+1.0

IDC 29 00:59:57.4±5.1, 13°93N×93°05E, h141km±46km, mb3.3/10, mb1 3.4/11, mb1mx3.3/26, mbtmp3.2/11, Error ellipse: s-maj=36.4km s-min=15.9km az=52.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	7.23	51	P	Pn	01 01 41.5	+0.9
0.4nm,0.3s,baz=238,slow=15,SNR=5.9							
CMAR				S	Sn	01 02 49.2	-12
0.8nm,0.3s,baz=238,slow=27,SNR=4.5							
MKAR	Makanchi Array	33.98	347	P	P	01 06 27.2	-0.3
0.7nm,0.7s,baz=158,slow=8.3,SNR=7.0							
SONM	Songino Array	35.58	16	P	P	01 06 41.2	-0.1
0.5nm,0.8s,baz=202,slow=7.3,SNR=2.4							
ZALV	Zalesovo Beam	40.45	353	P	P	01 07 20.6	-1.3
0.9nm,0.5s,baz=179,slow=10.0,SNR=5.6							
WRA	Warramunga Arr	52.75	129	P	P	01 08 57.9	-0.3
0.5nm,0.7s,baz=308,slow=7.6,SNR=2.9							
ASAR	Alice Springs	54.70	133	P	P	01 09 12.0	-0.3
0.2nm,0.4s,baz=312,slow=7.0,SNR=5.7							
BRTR	Keskin Array B	57.77	308	P	P	01 09 33.5	-0.6
0.5nm,0.7s,baz=90,slow=8.3,SNR=3.0							
FINES	FINESS Array B	66.90	331	P	P	01 10 34.6	+0.4
2.5nm,0.9s,baz=108,slow=4.5,SNR=3.0							
GERES	GERESS Array B	72.65	317	P	P	01 11 10.6	+0.8
0.5nm,0.5s,baz=81,slow=6.1,SNR=3.0							
TORD	Torodi Ar. Bea	88.19	283	P	P	01 12 33.4	+0.2
0.3nm,0.6s,baz=75,slow=4.1,SNR=3.4							
ILAR	Eielson Array	89.56	22	P	P	01 12 39.2	+0.5
0.2nm,0.7s,baz=306,slow=3.1,SNR=3.4							

*AUST **29** 01:08:33.0, 23°13S×174°21W, h450km*
*IDC **29** 01:09:04.8±2.8, 25°14S×179°59W, h368km±30km, mb3.5/6, mb1 3.6/7, mb1mx3.4/15, mbtmp3.5/7, Error ellipse: s-maj=18.8km s-min=13.3km az=1.0*

ISC 29 01:09:06.4±0.8, 25°1S±0°2×179°7W±0°1, h400km, n25, σ1°89/18, mb3.8/8, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	Rarotonga	18.67	82	P	P	01 12 57.2	-1.0
3.5nm,0.3s,baz=270,slow=11,SNR=3.0							
HNR	Honiara	24.88	305	P	P	01 13 57.3	+2.1
162nm,0.7s,baz=238,slow=15,SNR=2.6							
ARMA	Armidale	25.93	252	S	S	01 18 42.9	+38
baz=31,SNR=4.4							
PPT	Papeete	28.95	81	P	P	01 14 32.0	+0.9
34nm,0.6s,baz=180,slow=14,SNR=3.8							
QLP	Quilpie	32.48	259	P	P	01 15 04.1	+2.4
baz=38,SNR=4.2							
MTSU	Mount Surprise	34.13	274	P	P	01 15 18.7	+2.7
baz=39,SNR=17							
STKA	Stephens Creek	34.60	250	P	P	01 15 21.4	+1.7
1.6nm,0.3s,baz=119,slow=13,SNR=2.9							
MANU	Manus Island	39.19	301	S	S	01 21 41.6	+13
baz=43,SNR=6.9							
ASAR	Alice Springs	42.17	262	P	P	01 16 23.1	+1.0
2.0nm,0.4s,baz=95,slow=7.5,SNR=37							
ASAR				PcP	PP	01 18 08.9	-1.0
0.4nm,0.5s,baz=105,slow=4.5,SNR=4.7							
ASAR				S	S	01 22 01.7	-10
0.2nm,0.4s,baz=98,slow=16,SNR=3.8							
WRA	Warramunga Arr	42.66	267	P	P	01 16 26.7	+0.7
3.5nm,0.3s,baz=99,slow=6.7,SNR=41							
WRA				PcP	PP	01 18 10.9	-4.1
0.4nm,0.5s,baz=102,slow=7.0,SNR=5.3							
WRA				S	S	01 22 09.9	-9.1
1.7nm,1.0s,baz=104,slow=14,SNR=5.0							
KDU	Kakadu	46.72	276	P	P	01 16 58.2	+0.6
baz=52,SNR=4.7							
KDU				S	S	01 24 06.5	+50
baz=52,SNR=8.1							
KNRA	Kununurra	49.01	271	P	P	01 17 16.1	+1.2
baz=54,SNR=8.9							
FITZ	Fitzroy Crossi	51.07	266	P	P	01 17 31.5	+1.3
baz=56,SNR=13							
VNDA	Vanda	53.24	185	P	P	01 17 44.0	-1.0
0.5nm,0.7s,baz=11,slow=5.2,SNR=4.0							
KLBR	Kellerberrin	54.84	248	P	P	01 17 57.4	+0.2
baz=60,SNR=7.5							
MORW	Morawa	56.78	251	P	P	01 18 11.3	+0.5
baz=62,SNR=5.0							
MAW	Mawson	76.76	200	P	P	01 20 17.4	+2.8
0.9nm,0.4s,baz=180,slow=9.1,SNR=5.4							
KSRS	Korea Array	79.35	320	P	P	01 20 30.9	+1.8
1.3nm,0.6s,baz=119,slow=6.5,SNR=5.4							
ARCES	ARCESS Array B	133.10	348	PKP	PKPdf	01 27 35.7	+1.4
0.8nm,0.5s,baz=69,slow=1.7,SNR=4.4							
FINES	FINESS Array B	139.66	341	PKhKP	PKPpre	01 27 40.8	
3.6nm,0.9s,baz=98,slow=3.9,SNR=5.2							
FINES				PKP	PKiKP	01 27 49.7	+0.6
1.5nm,0.8s,baz=48,slow=2.1,SNR=3.9							
NB2	NORSAR Subarra	143.29	351	PKP	PKPdf	01 27 52.5	-0.8
comp=Z,0.8nm,0.5s,baz=16,slow=3.2							
NOA	NORSAR Array B	143.29	351	PKP	PKPdf	01 27 53.0	-0.2
comp=Z,1.5nm,0.7s,baz=23,slow=3.8,SNR=4.2							
AKASG	Malin Array Be	146.13	327	PKPbc	PKPab	01 28 01.1	-0.6
comp=Z,1.4nm,0.4s,baz=45,slow=4.2,SNR=10							
BRTR	Keskin Array B	148.53	306	PKPbc	PKPab	01 28 08.3	-3.7
comp=Z,0.7nm,0.5s,baz=112,slow=2.5,SNR=7.8							
TORD	Torodi Ar. Bea	168.06	186	PKP	PKPdf	01 28 28.4	+2.0
comp=Z,0.2nm,0.8s,baz=304,slow=0.5,SNR=2.3							
TORD				PKPab	PKPab	01 29 39.0	+2.5
comp=Z,0.8nm,1.0s,baz=174,slow=4.4,SNR=3.2							

*CSEM **29** 01:09:34.6±0.2, 38°64N×20°52E, h2km, ML3.4/16, Error ellipse: s-maj=5.1km s-min=2.6km az=246.0*
*THE **29** 01:09:35.3, 38°65N×20°55E, h0km, ML3.4/16, Error ellipse: s-maj=0.8km s-min=0.3km az=246.0*
*ATH **29** 01:09:35.0, 38°66N×20°58E, h9km±1km, MD3.6/29*
*IDC **29** 01:09:45.5±3.7, 38°91N×20°06E, h105km±39km, mb3.3/4, mb1 3.2/6, mb1mx3.1/26, mbtmp3.1/6, Error ellipse: s-maj=33.4km s-min=21.4km az=132.0*

ISC 29 01:09:34.8±1.1, 38°67N±0°02×20°51E±0°02, h8km±8km, n147, σ1°19/195, mb3.6/4, 4C-11D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	Valsamata	0.49	172	P	Pg	01 09 44.2	-0.1
VLS				S	Sg	01 09 51.9	+1.2
VLS	Valsamata	0.49	172	ePB	Pg	01 09 44.0	-0.3
VLS				eSB	Sg	01 09 52.1	+1.4
VLS	Valsamata	0.49	172	ePb	Pg	01 09 44.0	-0.3
VLS				S	Sg	01 09 51.9	+1.2
KFL	Anninata	0.60	158	P	Pg	01 09 45.6	-0.7
KFL				S	Sg	01 09 54.9	+0.8
PVO	Paravola	0.80	93	P	Pg	01 09 49.6	-0.6
PVO				S	Sb	01 10 01.4	-0.5
PVO	Paravola	0.80	93	P	Pg	01 09 49.6	-0.6
PVO				S	Sb	01 10 01.4	-0.5
AXS	Araxos	0.83	124	P	Pg	01 09 49.8	-0.9
AXS				S	Sg	01 10 02.0	+0.5
AXS	Araxos	0.83	124	P	Pg	01 09 49.8	-0.9
AXS				S	Sg	01 10 02.0	+0.5
IGT	Igoumenitsa	0.88	351	P	Pg	01 09 51.9	+0.2
IGT				S	Sn	01 10 05.6	-0.8
IGT	Igoumenitsa	0.88	351	P	Pg	01 09 51.9	+0.2
IGT				S	Sn	01 10 05.6	-0.8
RLS	Riolos of Patr	0.97	128	P	Pg	01 09 52.6	-0.8
RLS	Riolos of Patr	0.97	128	ePG	Pg	01 09 52.2	-1.2
RLS	Riolos of Patr	0.97	128	ePg	Pg	01 09 52.2	-1.2
RLS	Riolos of Patr	0.97	128	P	Pg	01 09 52.6	-0.8
RLS				S	Sb	01 10 06.9	+0.2
JAN	Janina	1.03	15	P	Pg	01 09 54.4	-0.1
JAN				S	Sn	01 10 09.9	-0.2
JAN	Janina	1.03	15	ePB	Pg	01 09 54.3	-0.2
JAN				eSB	Sb	01 10 08.9	+0.4
JAN	Janina	1.03	15	P	Pg	01 09 54.4	-0.1
JAN				eSb	Sb	01 10 08.9	+0.4
JAN				S	Sn	01 10 10.1	0.0
EVR	Evrytania	1.05	76	P	Pg	01 09 54.5	-0.4
EVR				S	Sb	01 10 09.6	+0.4
EVR	Evrytania	1.05	76	ePG	Pg	01 09 53.2	-1.7
EVR				eSB	Sg	01 10 08.0	-0.6
EVR	Evrytania	1.05	76	ePg	Pg	01 09 53.2	-1.7
EVR	Evrytania	1.05	76	P	Pg	01 09 54.5	-0.4
EVR				eSb	Sg	01 10 08.0	-0.6
EVR				S	Sb	01 10 09.6	+0.4
UPR	University Cam	1.07	110	P	Pg	01 09 54.7	-0.7
UPR	University Cam	1.07	110	P	Pg	01 09 54.7	-0.7
EFP	Efpalio	1.12	102	ePG	Pg	01 09 54.7	-1.6
EFP	Efpalio	1.12	102	P	Pg	01 09 54.4	-1.9
EFP	Efpalio	1.12	102	ePg	Pg	01 09 54.7	-1.6
EFP				S	Sn	01 10 12.1	-0.3
KEK	Kerkira	1.18	333	P	Pn	01 09 57.7	+0.1
KEK				S	Sn	01 10 16.0	+2.1
KEK	Kerkira	1.18	333	ePB	Pn	01 09 57.9	+0.3
KEK	Kerkira	1.18	333	P	Pg	01 09 57.4	-0.1
KEK	Kerkira	1.18	333	ePb	Pn	01 09 57.9	+0.3
KEK				S	Sn	01 10 16.0	+2.1
DRO	Drossia	1.19	127	P	Pg	01 09 55.9	-1.6
DRO				S	Sn	01 10 15.3	+1.3
LAKA	Lakka	1.23	110	ePB	Pg	01 09 57.7	-0.7
LAKA	Lakka	1.23	110	P	Pg	01 09 56.4	-2.0
LAKA	Lakka	1.23	110	ePb	Pg	01 09 57.7	-0.7
SRN	Sarande	1.27	342	P	Pg	01 09 59.4	+0.1
SRN				S	Sn	01 10 18.6	+2.4
SRN	Sarande	1.27	342	P	Pg	01 09 59.4	+0.1
SRN				S	Sn	01 10 18.6	+2.4
MAKR	Makrakomi, Fth	1.32	74	P	Pn	01 09 59.1	-0.4
MAKR				S	Sn	01 10 18.3	+1.0
MAKR	Makrakomi, Fth	1.32	74	P	Pn	01 09 59.1	-0.4
MAKR				S	Sn	01 10 18.3	+1.0
KLV	Kalavryta, Ach	1.43	115	P	Pn	01 10 01.1	0.0
KLV	Kalavryta, Ach	1.43	115	ePB	Pn	01 10 01.1	0.0
KLV	Kalavryta, Ach	1.43	115	P	Pn	01 10 01.1	0.0
KLV				S	Sg	01 10 22.8	+1.9
AGG	Agios Georgios	1.47	75	P	Pn	01 10 01.6	0.0
AGG				S	Sg	01 10 22.3	+0.3
AGG	Agios Georgios	1.47	75	ePG	Pn	01 10 01.2	-0.4
AGG	Agios Georgios	1.47	75	ePg	Pn	01 10 01.2	-0.4
AGG	Agios Georgios	1.47	75	P	Pn	01 10 01.6	0.0
AGG				S	Sg	01 10 22.3	+0.3
AMT	Artemida-Makis	1.48	140	ePB	Pn	01 10 02.0	+0.3
AMT	Artemida-Makis	1.48	140	ePb	Pn	01 10 02.0	+0.3
AMT	Artemida-Makis	1.48	140	P	Pn	01 10 02.3	+0.6
THL	Klokotos Trika	1.48	52	P	Pb	01 10 02.3	-0.2
THL				S	Sg	01 10 23.2	+0.9
THL	Klokotos Trika	1.48	52	ePG	Pn	01 10 01.4	-0.3
THL	Klokotos Trika	1.48	52	ePg	Pn	01 10 01.4	-0.3
THL	Klokotos Trika	1.48	52	P	Pb	01 10 02.3	-0.2
THL				S	Sg	01 10 23.2	+0.9
DSF	Desfina	1.60	98	P	Pn	01 10 03.4	-0.1
DSF				S	Sb	01 10 25.8	+0.6
DSF	Desfina	1.60	98	P	Pn	01 10 03.4	-0.1
DSF				S	Sb	01 10 25.8	+0.6
GUR	Goura	1.62	116	P	Pn	01 10 04.1	+0.4
GUR				S	Sb	01 10 26.1	+0.5
GUR	Goura	1.62	116	ePB	Pb	01 10 04.6	-0.3
GUR	Goura	1.62	116	P	Pn	01 10 04.1	+0.4
GUR	Goura	1.62	116	ePb	Pb	01 10 04.6	-0.3
GUR				S	Sb	01 10 26.1	+0.5
AXAR	Agios Charalam	1.69	86	P	Pn	01 10 04.5	-0.1
AXAR				S	Sb	01 10 28.1	+0.6
AXAR	Agios Charalam	1.69	86	P	Pn	01 10 04.5	-0.1
AXAR				S	Sb	01 10 28.1	+0.6
ITM	Ithomi	1.86	142	P	Pn	01 10 07.4	+0.4
ITM				S	Sb	01 10 32.3	-0.2
ITM	Ithomi	1.86	142	ePN	Pb	01 10 08.4	-0.6
ITM	Ithomi	1.86	142	P	Pn	01 10 07.4	+0.4
ITM	Ithomi	1.86	142	ePn	Pb	01 10 08.4	-0.6
KZN	Kozani	1.91	30	P	Pn	01 10 08.7	+1.0
KZN				S	Sb	01 10 34.3	+0.3
KZN	Kozani	1.91	30	ePG	Pb	01 10 10.0	+0.1
KZN	Kozani	1.91	30	P	Pn	01 10 08.7	+1.0
KZN	Kozani	1.91	30	ePg	Pb	01 10 10.0	+0.1
KZN				S	Sb	01 10 34.3	+0.3
LKR	Lokris	1.95	90	P	Pn	01 10 08.5	+0.3
LKR	Lokris	1.95	90	ePN	Pb	01 10 09.8	-0.8
LKR	Lokris	1.95	90	P	Pn	01 10 08.5	+0.3
LKR	Lokris	1.95	90	ePn	Pb	01 10 09.8	-0.8
VLX	Vlachokerasia	1.96	131	P	Pn	01 10 09.1	+0.6
VLX				S	Sn	01 10 34.7	+1.3
VLX	Vlachokerasia	1.96	131	ePG	Pb	01 10 10.5	-0.4
VLX	Vlachokerasia	1.96	131	P	Pn	01 10 09.1	+0.6
VLX	Vlachokerasia	1.96	131	ePg	Pb	01 10 10.5	-0.4
PYL	PYLOS	2.02	151	ePN	Pn	01 10 10.4	+1.3
PYL	PYLOS	2.02	151	ePn	Pn	01 10 10.4	+1.3
LTK	Loutraki	2.04	108	ePG	Pb	01 10 11.9	-0.2
LTK	Loutraki	2.04	108	ePg	Pb	01 10 11.9	-0.2
LIT	Litokhoron	2.10	46	P	Pn	01 10 11.3	+1.0
LIT				S	Sb	01 10 38.4	-1.0
LIT	Litokhoron	2.10	46	ePN	Pb	01 10 12.1	-1.1
LIT	Litokhoron	2.10	46	P	Pn	01 10 11.3	+1.0
LIT	Litokhoron	2.10	46	ePn	Pb	01 10 12.1	-1.1
LIT				S	Sb	01 10 38.4	-1.0
XOR	Xorichti	2.21	71	P	Pn	01 10 12.3	+0.6
XOR	Xorichti	2.21	71	P	Pn	01 10 12.3	+0.6
NEO	Neokhori	2.21	72	ePN	Pn	01 10 13.1	+1.3
NEO	Neokhori	2.21	72	ePn	Pn	01 10 13.1	+1.3
FNA	Florina	2.22	17	P	Pn	01 10 13.2	+1.2
FNA				S	Sb	01 10 42.2	-0.7
FNA	Florina	2.22	17	ePN	Pb	01 10 13.5	+1.5
FNA	Florina	2.22	17	P	Pn	01 10 13.2	+1.2
FNA	Florina	2.22	17	ePn	Pb	01 10 13.5	+1.5
FNA				S	Sb	01 10 42.2	-0.7
BIA	Bitola	2.43	15	ePn	Pb	01 10 17.2	-1.7
BIA				eSg	Sb	01 10 47.8	-1.3
BIA	Bitola	2.43	15	ePn	Pn	01 10 16.6	+1.7
BIA				eSg	Sn	01 10 47.2	+2.3
DID	Didima	2.45	117	ePN	Pn	01 10 17.0	+2.0
DID	Didima	2.45	117	ePn	Pn	01 10 17.0	+2.0
NAIG	Nisos Aigina	2.52	110	ePN	Pb	01 10 18.4	-1.8
NAIG	Nisos Aigina	2.52	110	ePn	Pb	01 10 18.4	-1.8
AOS	Alonnisos	2.68	78	ePN	Pn	01 10 20.0	+1.8
AOS	Alonnisos	2.68	78	ePn	Pn	01 10 20.0	+1.8
GRG	Griva	2.71	32	P	Pn	01 10 19.6	+0.9
GRG				S	Sn	01 10 54.1	+2.3
GRG	Griva	2.71	32	ePB	Pn	01 10 20.0	+1.3
GRG	Griva	2.71	32	P	Pn	01 10 19.6	+0.9
GRG	Griva	2.71	32	ePb	Pn	01 10 20.0	+1.3
GRG				S	Sn	01 10 54.1	+2.3
PLG	Polygyros	2.84	52	ePN	Pn	01 10 21.2	+0.7
PLG	Polygyros	2.84	52	ePn	Pn	01 10 21.2	+0.7
SOH	Sokhos	3.08	45	ePN	Pn	01 10 25.9	+2.2
SOH	Sokhos	3.08	45	ePn	Pn	01 10 25.9	+2.2
VAY	Valandovo	3.09	30	ePn	Pn	01 10 26.2	+2.3
VAY			

NIED ***29*** *01:16:00, 27°.80N×127°.90E, h5km, Mw4.0 Best double couple: Mo1.32000×1015 NP1:φ=48.00000°, δ65.00000°, λ-105.00000°. NP2:φ=260.00000°, δ29.00000°, λ-61.00000°.*

JMA 29 01:16:08.7±0.4, 27°.78N×127°.87E, h7km, M3.5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIH	**Iheya**	**0.75**	**173**	P	Pg	01 16 23.0	-0.1
JIH				eS	Sg	01 16 32.9	+0.1
JTK	**Tokunoshima**	**0.96**	**89**	P	Pg	01 16 26.6	-0.5
JTK				eS	Sg	01 16 38.8	-0.8
JOW	**Kunigami**	**1.01**	**159**	P	Pg	01 16 28.2	+0.1
JOW				eS	Sg	01 16 41.6	+0.3
JAMN	**Amaminishikomi**	**1.24**	**68**	P	Pg	01 16 32.6	0.0
JAGN	**Aguni-jima**	**1.31**	**205**	P	Pn	01 16 32.4	-1.0
JAGN				eS	Sb	01 16 49.7	-1.0

IDC 29 01:35:35.0±43.0, 29°.70S×177°.28W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.8/15, mbtmp3.8/3, Error ellipse: s-maj=787.7km s-min=174.4km az=97.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**35.25**	**256**	P	P	01 42 31.7	+0.3
	2.6nm,1.0s,baz=75,slow=20,SNR=3.2						
ASAR	**Alice Springs**	**43.78**	**266**	P	P	01 43 42.2	-0.5
	0.2nm,0.3s,baz=107,slow=7.4,SNR=4.8						
WRA	**Warramunga Arr**	**44.70**	**271**	P	P	01 43 49.9	-0.2
	0.7nm,0.3s,baz=111,slow=8.2,SNR=9.2						

MEX 29 01:37:08.8±0.4, 14°.47N×92°.82W, h16km±16km, MD4.2, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.29**	**343**	*i* P	Pn	01 37 28.4	-3.9
PCIG				*i* S	Sb	01 37 44.1	-5.0
CCIG	**Comitan**	**1.92**	**20**	*i* P	Pn	01 37 37.7	-3.5
CCIG				*i* S	Sn	01 38 00.5	-4.8
TGIG		**2.32**	**353**	*i* P	Pn	01 37 43.8	-2.7
TGIG				*i* S	Sn	01 38 10.5	-4.3
HUIG	**Huatulco**	**3.43**	**293**	*i* P	Pn	01 37 59.4	-2.4
HUIG				eS	Sn	01 38 38.3	-3.9

ISCJB ***29*** *01:37:23.3±0.4, 37°.43N±0°.08×134°.70E±0°.06, h378km, mb3.1/5, Error ellipse: s-maj=10.2km s-min=6.9km az=178.7*
IDC ***29*** *01:37:24.1±1.4, 37°.36N×134°.76E, h387km±16km, mb2.9/5, mb1 3.2/9, mb1mx3.0/29, mbtmp3.1/9, Error ellipse: s-maj=23.3km s-min=17.0km az=74.0*
JMA ***29*** *01:37:24.0±0.3, 37°.30N×134°.78E, h388km±3km, M3.3*

ISC 29 01:37:23.7±0.7, 37°.45N±0°.08×134°.76E±0°.06, h378km, n28, σ1§38/30, mb3.1/5, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKG	**Kaga**	**1.72**	**133**	P	**Pn**	**01 38 16.9**	**+1.0**
JSZ	**Suzu**	**2.07**	**89**	P	**Pn**	**01 38 19.7**	**+1.7**
JWT	**Wachi**	**2.23**	**166**	P	**Pn**	**01 38 19.8**	**+0.5**
JGM	**Miyama**	**2.35**	**137**	P	**Pn**	**01 38 20.1**	**-0.1**
JSD	**Sado**	**2.83**	**77**	P	**Pn**	**01 38 25.2**	**+1.5**
JNG	**Nsakai**	**2.87**	**110**	P	**Pn**	**01 38 25.0**	**+0.7**
MAT	**Matsushiro**	**2.90**	**107**	P	**Pn**	**01 38 25.2**	**+0.8**
MAT				S	**S**	**01 39 17.1**	**+3.7**
MAT	**Matsushiro**	**2.90**	**107**	P	**Pn**	**01 38 25.1**	**+0.7**
JNY	**Yasuok**	**3.26**	**129**	P	**Pn**	**01 38 27.6**	**0.0**
JHK	**Hiroka**	**3.40**	**92**	P	**Pn**	**01 38 29.6**	**+0.9**
JNU	**Nakatsue**	**5.36**	**217**	P	**Pn**	**01 38 48.0**	**-0.7**
	1.6nm,0.3s,baz=36,slow=8.9,SNR=9.5						
KSRS	**Korea Array**	**5.44**	**272**	P	**Pn**	**01 38 50.6**	**+1.3**
	0.5nm,0.3s,baz=93,slow=12,SNR=14						
USRK	**Ussuriysk Arra**	**7.06**	**344**	P	**P**	**01 39 10.3**	**+2.1**
	1.3nm,0.3s,baz=171,slow=11,SNR=37						
ASAJ	**Asahikawa**	**8.92**	**39**	P	**P**	**01 39 29.3**	**-0.5**
	7.2nm,0.3s,baz=232,slow=11,SNR=18						
ASAJ				S	**S**	**01 41 07.3**	**-4.3**
	1.6nm,0.3s,baz=309,slow=30,SNR=11						
SONM	**Songino Array**	**23.18**	**306**	P	**P**	**01 41 58.7**	**+0.1**
	0.2nm,0.3s,baz=104,slow=6.1,SNR=2.3						
CMAR	**Chiang Mai Arr**	**36.58**	**249**	P	**P**	**01 43 54.6**	**-0.8**
	1.8nm,0.6s,baz=44,slow=8.5,SNR=8.2						
MKAR	**Makanchi Array**	**39.37**	**301**	P	**P**	**01 44 17.8**	**-0.4**
	0.4nm,0.7s,baz=97,slow=10.0,SNR=4.7						
TAPN	**Taplejung**	**40.62**	**270**	*e*P	**P**	**01 44 28.7**	**-0.2**
	6.9nm,0.4s						
ODAN	**Odare**	**41.10**	**269**	*e*P	**P**	**01 44 32.1**	**-0.6**
	5.0nm,0.5s						
RAMN	**Ramite**	**41.69**	**270**	*e*P	**P**	**01 44 37.5**	**+0.1**
JIRN	**Jiri**	**41.70**	**271**	*e*P	**P**	**01 44 38.0**	**+0.4**
	4.5nm,0.3s						
GUN	**Gumba**	**41.83**	**272**	*e*P	**P**	**01 44 38.6**	**-0.1**
	6.5nm,0.4s						
KKN	**Kakani**	**42.36**	**272**	*e*P	**P**	**01 44 43.3**	**+0.5**
GKN	**Gorkha**	**42.78**	**272**	*e*P	**P**	**01 44 46.1**	**+0.1**
	9.2nm,0.5s						
DANN	**Dangsing**	**43.33**	**273**	*e*P	**P**	**01 44 50.8**	**+0.3**
KOLN	**Koldanda**	**43.71**	**273**	*e*P	**P**	**01 44 54.4**	**+1.0**
	3.4nm,0.2s						
WRA	**Warramunga Arr**	**57.09**	**180**	P	**P**	**01 46 31.1**	**-1.0**
	0.9nm,0.5s,baz=357,slow=7.5,SNR=7.7						
ASAR	**Alice Springs**	**60.80**	**181**	P	**P**	**01 46 56.4**	**-0.9**
	0.2nm,0.3s,baz=0.0,slow=11,SNR=5.0						

IDC ***29*** *01:47:53.3±0.6, 19°.88N×64°.47W, h0km, mb4.0/17, mb1 4.3/19, mb1mx4.1/31, mbtmp4.1/19, ML3.4/2, MS3.3/6, Ms1 3.3/6, ms1mx3.0/32, Error ellipse: s-maj=15.2km s-min=13.6km az=36.0*
RSPR ***29*** *01:47:59.0, 19°.99N×64°.62W, h46km±26km, MD4.0/20*
NEIC ***29*** *01:47:59.0, 19°.99N×64°.62W, h46km, MD4.0(RSPR), After RSPR.*

ISC 29 01:47:55.8±4.6, 19°.95N±0°.05×64°.50W±0°.03, h18km±29km, n102, σ1§09/126, mb4.1/17, MS3.4/5, 22C-9D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**1.53**	**184**	⇑*e*P	**Pn**	**01 48 22.1**	**-0.1**
TBVI	**Tortola**	**1.53**	**184**	⇓*e*P	**Pn**	**01 48 22.1**	**-0.1**
STVI	**Saint Thomas**	**1.65**	**195**	⇑*e*P	**Pn**	**01 48 23.9**	**+0.1**
STVI	**Saint Thomas**	**1.65**	**195**	⇓*e*P	**Pn**	**01 48 23.9**	**+0.1**
STVI				eS	**Sn**	**01 48 44.4**	**-0.2**
MTP	**Monte Pirata**	**2.09**	**209**	⇑*e*P	**Pn**	**01 48 30.9**	**+0.8**
MTP	**Monte Pirata**	**2.09**	**209**	*e*S	**Sn**	**01 48 54.8**	**-0.8**
MTP	**Monte Pirata**	**2.09**	**209**	*e*Pn	**Pn**	**01 48 30.3**	**+0.2**
MTP				eS	**Sn**	**01 48 55.0**	**-0.7**
CBYP	**Canovanas**	**2.10**	**218**	⇑*e*P	**Pn**	**01 48 30.5**	**+0.2**
CBYP	**Canovanas**	**2.10**	**218**	*e*S	**Sn**	**01 48 55.4**	**-0.6**
CBYP	**Canovanas**	**2.10**	**218**	*e*Pn	**Pn**	**01 48 29.8**	**-0.5**
CBYP				eS	**Sn**	**01 48 54.3**	**-1.8**
CDVI	**St. Croix**	**2.20**	**187**	⇓*e*P	**Pn**	**01 48 32.9**	**+1.4**
CDVI	**St. Croix**	**2.20**	**187**	*e*Pn	**Pn**	**01 48 32.7**	**+1.2**
CDVI				eS	**Sn**	**01 48 59.2**	**+0.9**
HUMP	**Col San Antoni**	**2.21**	**216**	⇑*e*P	**Pn**	**01 48 31.6**	**0.0**
HUMP	**Col San Antoni**	**2.21**	**216**	⇓*e*P	**Pn**	**01 48 31.6**	**0.0**
HUMP				eS	**Sn**	**01 48 58.2**	**-0.2**
SMRT	**St. Maarten**	**2.32**	**144**	⇑*e*P	**Pn**	**01 48 33.1**	**0.0**
SMRT	**St. Maarten**	**2.32**	**144**	⇓*e*P	**Pn**	**01 48 33.1**	**0.0**
SMRT				eS	**Sn**	**01 48 59.9**	**-1.3**
CPD	**Cerro la Pandu**	**2.33**	**215**	⇑*e*P	**Pn**	**01 48 33.5**	**+0.3**
CPD	**Cerro la Pandu**	**2.33**	**215**	⇓*e*P	**Pn**	**01 48 33.5**	**+0.3**
CPD				eS	**Sn**	**01 49 01.2**	**-0.2**
SJG	**San Juan**	**2.40**	**221**	⇓*e*P	**Pn**	**01 48 34.2**	**-0.1**
SJG	**San Juan**	**2.40**	**221**	⇑*e*P	**Pn**	**01 48 34.4**	**+0.1**
SJG				eS	**Sn**	**01 49 01.7**	**-1.6**
SJG	**San Juan**	**2.40**	**221**	*e*Pn	**Pn**	**01 48 34.2**	**-0.1**
SJG				eS	**Sn**	**01 49 01.8**	**-1.6**
SJG				Sn	Sn	01 49 02.1	-1.3
SJG	**San Juan**	**2.40**	**221**	Pn	**Pn**	**01 48 34.2**	**-0.1**
	0.7nm,0.3s,baz=49,slow=7.6,SNR=83						
SJG				Sn	**Sn**	**01 49 02.1**	**-1.3**
	2.1nm,0.3s,baz=258,slow=19,SNR=17						
AOPR	**Arecibo Observ**	**2.66**	**234**	⇑*e*P	**Pn**	**01 48 37.7**	**-0.2**
AOPR	**Arecibo Observ**	**2.66**	**234**	⇓*e*P	**Pn**	**01 48 37.7**	**-0.2**
AOPR				eS	**Sn**	**01 49 08.1**	**-1.6**
CELP	**Cerrillos**	**2.71**	**227**	⇑*e*P	**Pn**	**01 48 38.7**	**+0.1**
CELP				eS	**Sn**	**01 49 09.1**	**-1.9**
CELP	**Cerrillos**	**2.71**	**227**	*e*Pn	**Pn**	**01 48 38.6**	**0.0**
CELP				eS	**Sn**	**01 49 09.6**	**-1.4**
OBIP	**Obispado Ponce**	**2.75**	**227**	⇓*e*P	**Pn**	**01 48 39.1**	**0.0**
OBIP	**Obispado Ponce**	**2.75**	**227**	⇑*e*P	**Pn**	**01 48 39.1**	**0.0**
OBIP				eS	**Sn**	**01 49 10.1**	**-1.8**
LRS	**Lares**	**2.76**	**234**	⇑*e*P	**Pn**	**01 48 38.9**	**-0.4**
LRS				eS	**Sn**	**01 49 10.8**	**-1.5**
LRS	**Lares**	**2.76**	**234**	*e*Pn	**Pn**	**01 48 38.7**	**-0.7**
LRS				eS	**Sn**	**01 49 11.0**	**-1.3**
AGPR	**Aguadilla, PR**	**2.88**	**240**	⇓*e*P	**Pn**	**01 48 40.9**	**+0.1**
AGPR	**Aguadilla, PR**	**2.88**	**240**	*e*S	**Sn**	**01 49 13.6**	**-1.4**
AGPR	**Aguadilla, PR**	**2.88**	**240**	*e*Pn	**Pn**	**01 48 40.6**	**-0.2**
AGPR				eS	**Sn**	**01 49 14.2**	**-0.8**
GBPR	**Guanica, Bosqu**	**2.99**	**229**	⇓*e*P	**Pn**	**01 48 42.8**	**+0.5**
GBPR	**Guanica, Bosqu**	**2.99**	**229**	⇑*e*P	**Pn**	**01 48 42.8**	**+0.5**
GBPR				eS	**Sn**	**01 49 17.2**	**-0.6**
LSP	**Las Mesas**	**3.02**	**235**	⇑*e*P	**Pn**	**01 48 42.9**	**+0.1**
LSP	**Las Mesas**	**3.02**	**235**	*e*Pn	**Pn**	**01 48 42.5**	**-0.3**
LSP				eS	**Sn**	**01 49 17.6**	**-0.9**
SKI	**Saint Kitts**	**3.09**	**147**	*e*P	**Pn**	**01 48 43.5**	**-0.2**
SKI				eS	**Sn**	**01 49 20.3**	**0.0**
CRPR	**Cabo Rojo, PR**	**3.14**	**232**	⇑*e*P	**Pn**	**01 48 45.2**	**+0.8**
CRPR	**Cabo Rojo, PR**	**3.14**	**232**	*e*S	**Sn**	**01 49 19.4**	**-2.0**
CRPR	**Cabo Rojo, PR**	**3.14**	**232**	*e*Pn	**Pn**	**01 48 44.9**	**+0.5**
CRPR				eS	**Sn**	**01 49 21.2**	**-0.2**
IDE	**Isla Desecheo**	**3.21**	**242**	⇑*e*P	**Pn**	**01 48 45.1**	**-0.4**
IDE	**Isla Desecheo**	**3.21**	**242**	⇓*e*P	**Pn**	**01 48 45.1**	**-0.4**
IDE				eS	**Sn**	**01 49 21.2**	**-2.2**
ANWB	**Willy Bob**	**3.42**	**131**	*e*Pn	**Pn**	**01 48 46.1**	**-2.2**
ANWB				eS	**Sn**	**01 49 26.1**	**-2.4**
BPA	**Boggy Peak**	**3.82**	**139**	*e*P	**Pn**	**01 48 53.2**	**-0.7**
BPA				eS	**Sn**	**01 49 34.0**	**-4.4**
SEG	**Port Louis**	**4.53**	**141**	*e*P	**Pn**	**01 49 02.8**	**-0.8**
LZG	**Guadaloupe-1**	**4.59**	**145**	*e*P	**Pn**	**01 49 04.0**	**-0.3**
SSG	**Sans Toucher**	**4.68**	**145**	*e*P	**Pn**	**01 49 06.2**	**+0.5**
FNG	**Fond-Bernard**	**4.70**	**145**	*e*P	**Pn**	**01 49 05.7**	**-0.3**
BCG	**Bois Riant Cap**	**4.72**	**144**	*e*P	**Pn**	**01 49 05.9**	**-0.2**
SCG	**Saint Claude**	**4.73**	**145**	*e*P	**Pn**	**01 49 07.5**	**+1.1**
ECG	**Echelle**	**4.73**	**145**	*e*P	**Pn**	**01 49 06.5**	**0.0**
DR12	**Loma Pena Alta**	**4.75**	**257**	⇓*e*P	**Pn**	**01 49 06.5**	**-0.2**
DR12				eS	**Sn**	**01 49 59.1**	**-2.4**
DR12	**Loma Pena Alta**	**4.75**	**257**	⇑*e*P	**Pn**	**01 49 06.5**	**-0.2**
DR12				eS	**Sn**	**01 49 59.1**	**-2.4**
HMG	**Houelmont**	**4.76**	**146**	*e*P	**Pn**	**01 49 06.7**	**0.0**
DOG	**Dongo Capester**	**4.76**	**144**	*e*P	**Pn**	**01 49 07.1**	**+0.3**
PHG	**Guadaloupe-2**	**4.76**	**145**	*e*P	**Pn**	**01 49 07.4**	**+0.5**
DEG	**La Desirade**	**4.87**	**137**	*e*P	**Pn**	**01 49 06.4**	**-1.9**
TBG	**Guadaloupe-3**	**4.89**	**146**	*e*P	**Pn**	**01 49 08.9**	**+0.4**
MGG	**Marie-Galante**	**5.02**	**142**	*e*P	**Pn**	**01 49 09.8**	**-0.5**
GRTK	**Grand Turk**	**6.40**	**285**	*e*Pn	**Pn**	**01 49 26.7**	**-2.6**
GRTK				eS	Sn	01 50 34.1	-7.9
SDDR	**Presa de Saban**	**6.48**	**263**	⇑*e*P	**Pn**	**01 49 31.6**	**+1.2**
SDDR	**Presa de Saban**	**6.48**	**263**	*e*Pn	**Pn**	**01 49 31.6**	**+1.2**
SDDR				eS	**Sn**	**01 50 43.1**	**-0.9**
ROSC	**El Rosal**	**17.80**	**214**	P	**Pn**	**01 52 03.2**	**0.0**
ROSC	**El Rosal**	**17.80**	**214**	P	**Pn**	**01 52 03.2**	**0.0**
	1.3nm,0.3s,baz=89,slow=21,SNR=6.4						
ROSC				LR	LR	01 59 13.5	
	comp=Z,47nm,19.4s,baz=163,slow=38						
JTS	**JuntasAbangare**	**21.93**	**247**	P	**P**	**01 52 47.1**	**-1.5**
JTS	**JuntasAbangare**	**21.93**	**247**	P	**P**	**01 52 47.1**	**-1.5**
	3.3nm,0.6s,baz=314,slow=20,SNR=3.8						
TEIG	**Tepich**	**22.33**	**275**	P	**P**	**01 52 53.4**	**+0.6**
TEIG	**Tepich**	**22.33**	**275**	P	**P**	**01 52 53.4**	**+0.6**
	4.7nm,0.8s,baz=90,slow=7.6,SNR=4.7						
APG	**El Apazote**	**25.24**	**263**	P	**P**	**01 53 22.6**	**+1.4**
APG	**El Apazote**	**25.24**	**263**	P	**P**	**01 53 22.6**	**+1.4**
	7.9nm,0.8s,baz=97,slow=7.0,SNR=10						
SADO	**Sadowa**	**27.58**	**337**	LR	LR	02 03 28.0	
	comp=Z,50nm,21.6s,baz=121,slow=34						
SCHQ	**Schefferville**	**34.87**	**358**	LR	LR	02 09 01.3	
	comp=Z,37nm,18.1s,baz=55,slow=36						
SIV	**San Ignacio**	**35.87**	**174**	P	**P**	**01 54 53.8**	**-1.2**
SIV	**San Ignacio**	**35.87**	**174**	P	**P**	**01 54 53.8**	**-1.2**
	2.4nm,0.7s,baz=14,slow=9.1,SNR=7.2						
TXAR	**Lajitas Array**	**36.67**	**293**	P	**P**	**01 55 03.0**	**+1.1**
TXAR	**Lajitas Array**	**36.67**	**293**	P	**P**	**01 55 03.0**	**+1.1**
	0.8nm,0.9s,baz=108,slow=8.1,SNR=5.7						
BDFB	**Brasilia**	**38.90**	**154**	P	**P**	**01 55 21.6**	**+0.9**
BDFB	**Brasilia**	**38.90**	**154**	P	**P**	**01 55 21.6**	**+0.9**
	6.5nm,0.8s,baz=345,slow=7.9,SNR=8.1						
BDFB				LR	LR	02 11 38.3	
	comp=Z,67nm,19.6s,baz=192,slow=37						
PDAR	**Pinedale Array**	**44.05**	**311**	P	**P**	**01 56 03.9**	**+0.9**
PDAR	**Pinedale Array**	**44.05**	**311**	P	**P**	**01 56 03.9**	**+0.9**
	1.1nm,0.8s,baz=108,slow=9.5,SNR=5.3						
CPUP	**Villa Florida**	**46.52**	**171**	P	**P**	**01 56 20.8**	**-1.6**
CPUP	**Villa Florida**	**46.52**	**171**	P	**P**	**01 56 20.8**	**-1.6**
	6.4nm,0.7s,baz=341,slow=7.5,SNR=11						
CPUP				LR	LR	02 15 01.1	
	comp=Z,42nm,19.1s,baz=358,slow=35						
NVAR	**Mina Array Bea**	**49.74**	**304**	P	**P**	**01 56 49.3**	**+1.7**
NVAR	**Mina Array Bea**	**49.74**	**304**	P	**P**	**01 56 49.3**	**+1.7**
	0.6nm,0.7s,baz=97,slow=6.5,SNR=5.2						
NEW	**Newport**	**50.66**	**317**	P	**P**	**01 56 54.4**	**+0.2**
NEW	**Newport**	**50.66**	**317**	P	**P**	**01 56 54.4**	**+0.2**
	2.4nm,0.9s,baz=113,slow=9.9,SNR=5.7						
YKA	**Yellowknife Ar**	**54.52**	**334**	P	**P**	**01 57 22.5**	**+0.2**
YKA	**Yellowknife Ar**	**54.52**	**334**	P	**P**	**01 57 22.5**	**+0.2**
	2.0nm,0.7s,baz=120,slow=9.2,SNR=2.8						
ESDC	**Sonseca Array**	**55.05**	**55**	P	**P**	**01 57 28.4**	**+1.6**
ESDC	**Sonseca Array**	**55.05**	**55**	P	**P**	**01 57 28.4**	**+1.6**
	0.7nm,0.8s,baz=259,slow=6.4,SNR=4.1						
DBIC	**Dimbokro**	**59.24**	**94**	P	**P**	**01 57 57.3**	**+0.6**
DBIC	**Dimbokro**	**59.24**	**94**	P	**P**	**01 57 57.3**	**+0.6**
	2.8nm,0.8s,baz=285,slow=13,SNR=2.8						
PLCA	**Paso Flores**	**60.63**	**185**	P	**P**	**01 58 05.2**	**-0.5**
PLCA	**Paso Flores**	**60.63**	**185**	P	**P**	**01 58 05.2**	**-0.5**
	2.9nm,0.9s,baz=348,slow=7.1,SNR=5.0						
TORD	**Torodi Ar. Bea**	**63.48**	**85**	P	**P**	**01 58 25.6**	**+0.2**
TORD	**Torodi Ar. Bea**	**63.48**	**85**	P	**P**	**01 58 25.6**	**+0.2**
	1.2nm,0.7s,baz=287,slow=6.2,SNR=9.1						
GERES	**GERESS Array B**	**67.56**	**44**	P	**P**	**01 58 51.1**	**-0.3**
GERES	**GERESS Array B**	**67.56**	**44**	P	**P**	**01 58 51.1**	**-0.3**
	0.3nm,0.6s,baz=258,slow=7.5,SNR=2.5						
ILAR	**Eielson Array**	**68.91**	**333**	P	**P**	**01 58 59.2**	**-0.2**
ILAR	**Eielson Array**	**68.91**	**333**	P	**P**	**01 58 59.2**	**-0.2**
	1.3nm,0.9s,baz=103,slow=4.2,SNR=11						
FINES	**FINESS Array B**	**72.97**	**30**	LR	LR	02 30 39.2	
	comp=Z,50nm,18.0s,baz=232,slow=35						

IDC ***29*** *02:04:03.8±0.8, 5°.21S×101°.01E, h0km, mb4.3/15, mb1 4.4/16, mb1mx4.3/25, mbtmp4.3/16, ML3.8/1, MS3.9/7, Ms1 3.9/7, ms1mx3.4/37, Error ellipse: s-maj=29.7km s-min=13.3km az=55.0*
ISCJB ***29*** *02:04:05.3±0.4, 5°.20S±0°.05×101°.05E±0°.04, h22km, mb4.6/32, MS4.3/13, Error ellipse: s-maj=7.5km s-min=3.9km az=33.9*
BJI ***29*** *02:04:06.5, 5°.30S×101°.00E, h34km, mB5.4/24, mb4.9/33, Ms5.0/20, Ms7 4.7/19*
NEIC ***29*** *02:04:08.3±2.8, 5°.18S×100°.97E, h30km±4km, mb4.6/7, Error ellipse: s-maj=18.7km s-min=6.5km az=50.0*
DJA ***29*** *02:04:09.4±0.6, 5°.5±5°.×10°.1E±°, h55km±14km, M4.9/15, mb5.0/9, mB5.8/3, MLv4.8/15, Mw(mB)5.4/3*

ISC 29 02:04:07.4±0.5, 5°.23S±0°.05×101°.04E±0°.05, h22km, n109, σ1§99/140, mb4.7/32, MS4.3/14, 1C, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGSI	**Enggano, Bengk**	**1.23**	**96**	P	**Pn**	**02 04 28.1**	**-1.2**
MNAI	**Manna**	**2.09**	**66**	*e*Pn	**Pn**	**02 04 41.0**	**-0.2**
MNAI				eSn	**Sn**	**02 05 02.1**	**-3.5**
MNAI	**Manna**	**2.09**	**66**	P	**Pn**	**02 04 40.0**	**-1.2**
MNAI				S	**Sn**	**02 05 05.5**	**-1.1**
KSI	**Kapahiang**	**2.20**	**45**	P	**Pn**	**02 04 41.4**	**-1.3**
MASI	**Maura Aman, Be**	**2.40**	**30**	P	**Pn**	**02 04 43.2**	**-2.2**
LWLI	**Liwa**	**3.01**	**86**	P	**Pn**	**02 04 53.3**	**-0.6**
MDSI	**Maura Dua**	**3.21**	**77**	P	**Pn**	**02 04 56.2**	**-0.3**
KASI	**Kota Agung**	**3.45**	**95**	P	**Pn**	**02 04 58.9**	**-0.9**
KASI				S	**Sn**	**02 05 36.0**	**-4.1**
KLI	**Kotabumi**	**3.82**	**85**	P	**Pb**	**02 05 15.3**	**+1.2**
PDSI	**Padang**	**4.33**	**352**	P	**Pn**	**02 05 09.4**	**-2.6**
PDSI				S	**Sn**	**02 05 55.9**	**-6.0**
PPI	**Padang Panjang**	**4.79**	**352**	P	**Pn**	**02 05 16.3**	**-1.9**
BKNI	**Bangkinang**	**5.52**	**360**	P	**Pn**	**02 05 25.6**	**-2.7**
	131nm,1.1s,2μm0.7nm						
DBJI	**Dramaga**	**5.83**	**103**	P	Pb	02 05 41.4	-7.0
CBJI	**Citeko**	**5.90**	**102**	P	**Pn**	**02 05 35.9**	**+2.4**
	480nm,0.9s,5.1nm						
PPBI	**Pangkal Pinang**	**5.93**	**59**	P	**Pn**	**02 05 34.0**	**+0.1**
	88nm,0.4s,34μm2.1nm						
LEM	**Lembang**	**6.73**	**104**	P	**Pn**	**02 05 46.3**	**+1.2**
	154nm,1.1s,0.6nm						
XMIS	**Christmas Isla**	**6.93**	**139**	*e*Pn	**Pn**	**02 05 47.9**	**+0.2**
XMIS				eSn	Sn	02 06 56.8	-9.2
CISI	**Cisompet, Garu**	**7.12**	**109**	*e*Pn	**Pn**	**02 05 48.4**	**-1.9**
CISI	**Cisompet, Garu**	**7.12**	**109**	P	**Pn**	**02 05 48.4**	**-1.9**
	210nm,0.6s,10μm0.8nm						
GSI	**Gunungsitoli**	**7.36**	**332**	P	**Pn**	**02 05 52.4**	**-1.2**
	72nm,0.7s,0.3nm						
COCO	**West Island**	**8.07**	**211**	*e*Pn	Pn	02 05 58.8	-4.5
KPJI	**Karang Pucung**	**8.11**	**105**	P	**Pn**	**02 06 03.9**	**-0.1**
	63nm,1.0s						
TGJI	**Tegal**	**8.20**	**102**	P	**Pn**	**02 06 06.8**	**+1.7**
	67nm,0.9s						
PSI	**Prapat**	**8.26**	**345**	*e*Pn	Pn	02 06 02.2	-3.8
PSI	**Prapat**	**8.26**	**345**	Pn	Pn	02 06 02.2	-3.8
	1.1nm,0.3s,baz=124,slow=7.3,SNR=3.0						
PSI				LR	LR	02 09 47.9	
	comp=Z,606nm,19.1s,baz=156,slow=42						
SNSI	**Sinabang, Aceh**	**8.93**	**328**	P	**Pn**	**02 06 16.8**	**+1.6**
KCSI	**Kotacane, Aceh**	**9.29**	**339**	P	Pn	02 06 28.7	+8.6
UGM	**Wanagama**	**9.79**	**106**	*e*Pn	**Pn**	**02 06 24.6**	**-2.4**
UGM				eSn	Sn	02 08 09.4	-6.9
PWJI	**Pagerwojo**	**11.04**	**105**	P	**Pn**	**02 06 42.8**	**-1.3**
SBUM	**Sibu**	**13.52**	**56**	*e*Pn	**Pn**	**02 07 19.9**	**+1.8**
SBUM	**Sibu**	**13.52**	**56**	P	**Pn**	**02 07 20.2**	**+2.1**
KAPI	**Kappang**	**18.64**	**90**	*e*P	**P**	**02 08 20.4**	**-3.4**
KAPI	**Kappang**	**18.64**	**90**	P	**P**	**02 08 20.4**	**-3.4**
	0.5nm,0.3s,baz=148,slow=19,SNR=3.0						
SPSI	**Sidrap Palu**	**18.71**	**87**	P	**Pn**	**02 08 24.9**	**-0.1**
LBFI	**Labuhan Bajo,**	**18.99**	**101**	P	**Pn**	**02 08 28.2**	**-0.2**
BKSI	**Bulukumba**	**19.00**	**91**	P	**P**	**02 08 26.1**	**-1.7**
BNSI	**Bone**	**19.02**	**88**	P	**Pn**	**02 08 28.5**	**-0.3**
APSI	**Ampana**	**21.02**	**79**	P	**P**	**02 08 52.8**	**+3.1**
BATI	**Baumata**	**22.95**	**104**	P	**P**	**02 09 08.8**	**-1.6**
	44nm,0.7s,baz=266,slow=2.5,SNR=8.0						
BATI				S	**S**	**02 13 16.0**	**-3.6**
	16nm,0.3s,baz=135,slow=1.9,SNR=4.7						
CM01	**Chiang Mai Arr**	**23.59**	**355**	*e*P	**P**	**02 09 15.3**	**-1.5**
CM31	**Chiang Mai Arr**	**23.63**	**355**	*e*P	**P**	**02 09 15.8**	**-1.4**
CMAR	**Chiang Mai Arr**	**23.63**	**355**	P	**P**	**02 09 15.8**	**-1.4**
	13nm,0.9s,baz=186,slow=8.8,SNR=53						
CMAR				LR	LR	02 19 30.5	
	comp=Z,214nm,18.4s,baz=172,slow=39						
QIZ	**Qiongzhong**	**25.62**	**20**	P	**P**	**02 09 32.5**	**-2.9**
QIZ				S	**S**	**02 14 04.3**	**+1.7**
QIZ				pmax	pmax		
	comp=Z,2μm,5.0s						
FITZ	**Fitzroy Crossi**	**27.22**	**120**	*e*P	**P**	**02

comp=Z,23nm,0.7s
BJI LR LR
comp=N,290nm,19.5s
BJI LR LR
comp=E,420nm,18.4s
KS15 Wonju Array Si 49.28 28 *eP* **P 02 12 54.5 -0.1**
KSRS Korea Array 49.30 28 P **P 02 12 54.5 -0.3**
comp=E,6.0nm,0.8s,baz=217,slow=7.8,SNR=25
KS01 Wonju Array Si 49.31 28 *eP* **P 02 12 53.6 -1.3**
KSH Kashi 50.18 335 P **P 02 13 00.0 -1.6**
KSH pP **pP 02 13 10.0 +1.4**
KSH PP **PP 02 14 55.3 -1.8**
KSH PcS **PcS 02 18 16.5 -1.4**
KSH S S 02 20 05.5 -7.1
KSH ScS **ScS 02 22 46.0 -5.9**
KSH pmax pmax
comp=Z,3.0nm,0.7s
KSH pmax pmax
comp=Z,180nm,5.2s
KSH LR LR
comp=N,120nm,5.2s
KSH LR LR
comp=E,93nm,5.3s
KSH LR LR
comp=Z,140nm,6.5s
WMQ Urumqi 50.29 347 P **P 02 13 02.5 +0.2**
WMQ pP **pP 02 13 12.5 +3.3**
WMQ sP **sP 02 13 16.5 +4.6**
WMQ pmax pmax
comp=Z,23nm,0.8s
WMQ pmax pmax
comp=Z,190nm,4.8s
WMQ LR LR
comp=N,100nm,16.0s
WMQ LR LR
comp=E,110nm,22.3s
SONA0 Songino Array 53.05 5 *eP* **P 02 13 23.5 +0.5**
SONM Songino Array 53.05 5 P **P 02 13 23.5 +0.5**
comp=E,14nm,0.9s,baz=183,slow=9.1,SNR=68
SONA1 Songino Array 53.06 5 *eP* **P 02 13 22.8 -0.3**
ULN Ulaanbaatar 53.13 5 *eP* **P 02 13 23.7 +0.1**
comp=E,12nm,1.0s
TKM2 Tokmak 2 53.19 337 *eP* **P 02 13 23.9 -0.4**
comp=E,3.9nm,0.8s
CN2 Changchun 53.55 22 *eP* **P 02 13 25.8 -0.7**
CN2 *es*P **sP 02 13 38.0 +1.9**
CN2 *eS* **S 02 20 57.5 -0.9**
CN2 pmax pmax
comp=Z,20nm,0.7s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,200nm,15.0s
CN2 LR LR
comp=E,300nm,15.0s
CN2 LR LR
comp=Z,300nm,16.0s
EKS2 Erkin-Say 53.71 335 *eP* **P 02 13 27.1 -0.8**
comp=Z,6.9nm,0.8s
MAT Matsushiro 54.17 37 P **P 02 13 28.9 -2.3**
MK32 Makanchi Array 54.40 344 *eP* **P 02 13 32.5 -0.2**
MKAR Makanchi Array 54.40 344 *eP* **P 02 13 32.6 -0.1**
MKAR Makanchi Array 54.40 344 P **P 02 13 32.5 -0.2**
comp=Z,6.5nm,0.8s,baz=146,slow=8.8,SNR=52
MDJ Mudanjiang 55.85 24 P **P 02 13 45.0 +1.8**
MDJ pP **pP 02 13 54.3 +4.1**
MDJ sP **sP 02 13 58.0 +5.2**
MDJ PP **PP 02 15 48.0 -0.1**
MDJ S **S 02 21 33.0 +3.6**
MDJ pmax pmax
comp=Z,4.0nm,0.6s
MDJ pmax pmax
comp=Z,190nm,5.1s
MDJ LR LR
comp=N,250nm,11.8s
MDJ LR LR
comp=E,160nm,14.7s
MDJ LR LR
comp=Z,290nm,12.6s
USRK Ussuriysk Arra 56.54 26 P **P 02 13 47.8 -0.3**
comp=Z,22nm,0.8s,baz=222,slow=6.2,SNR=44
IPAR Pars 57.71 310 *eP* **P 02 13 56.4 -0.7**
KURK Kurchatov 58.98 344 *eP* **P 02 14 04.8 -0.3**
comp=Z,3.5nm,0.8s
ZALV Zalesovo Beam 60.52 349 P **P 02 14 15.0 -0.6**
comp=Z,15nm,0.9s,baz=160,slow=4.7,SNR=44
ZALV LR LR 02 44 10.3
comp=Z,47nm,18.3s,baz=339,slow=40
VOSK Vostochnaya 63.10 340 *eP* **P 02 14 30.9 -2.3**
comp=Z,25nm,2.3s
ABKAR Akbulak array 64.96 332 *eP* **P 02 14 44.5 -0.9**
MAW Mawson 67.44 195 LR LR 02 38 38.9
comp=Z,87nm,19.1s,baz=276,slow=31
BOSA Boshof 75.04 242 LR LR 02 43 10.3
comp=Z,115nm,18.8s,baz=265,slow=31
BR101 Keskin Array S 76.26 313 *eP* **P 02 15 54.0 -0.7**
BRTR Keskin Array B 76.26 313 P **P 02 15 54.0 -0.7**
comp=Z,0.5nm,0.7s,baz=152,slow=7.4,SNR=3.2
VNDA Vanda 78.81 169 *eP* **P 02 16 08.5 +0.4**
comp=Z,6.5nm,1.4s
VNDA Vanda 78.81 169 P **P 02 16 08.3 +0.2**
comp=Z,1.1nm,0.8s,baz=289,slow=5.7,SNR=6.8
AKASG Malin Array Be 82.66 322 P **P 02 16 27.6 -1.6**
comp=Z,0.1nm,0.3s,baz=80,slow=5.7,SNR=3.2
AKBB Malin Array Si 82.66 322 *eP* **P 02 16 27.6 -1.6**
GEC2 GERESS Array S 92.15 319 *eP* **P 02 17 16.9 +1.5**
GERES GERESS Array B 92.15 319 P **P 02 17 16.9 +1.5**
comp=Z,0.3nm,0.5s,baz=71,slow=9.5,SNR=3.9
NOA NORSAR Array B 94.45 331 LR LR 03 05 43.9
comp=Z,42nm,21.4s,baz=45,slow=39
EGMT Eagleton 129.90 27 *e*PKPdf **PKPdf 02 23 11.1 -4.5**
WMOK Wichita Mounta 145.38 29 *e*PKPbc **PKPbc 02 23 43.7 -0.4**
OLIL Olney 145.63 13 *e*PKPdf **PKPab 02 23 45.1 +0.1**
LTX Lajitas 146.52 41 *e*PKPdf **PKPab 02 23 48.6 -0.2**
TXAR Lajitas Array 146.52 41 PKPbc **PKPab 02 23 48.6 -0.2**
comp=Z,5.0nm,0.8s,baz=293,slow=1.2,SNR=35
JCT Junction City 148.12 36 *e*PKPdf **PKPbc 02 23 52.6 +0.4**
WVT Waverly 148.19 14 *e*PKPdf **PKPbc 02 23 51.6 -0.5**

JMA 29 02:34:00.5±0.5, **45°.03N×148°.40E, h163**km, **M3.6, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**2.53**	**230**	P	Pn	02 34 42.8	+0.2
NEM2				*e*S	Sn	02 35 15.8	+0.6
JAK	**Akkeshi**	**3.36**	**234**	P	Pn	02 34 53.1	+0.3
JAK				*e*S	Sn	02 35 33.4	-0.1
JAR	**Ashorobuto**	**3.75**	**244**	P	Pn	02 34 58.8	+0.9
JCH	**Churui**	**4.37**	**238**	P	Pn	02 35 05.8	-0.1
JCH				*e*S	Sn	02 35 56.3	-0.6
JNBK	**Urakawa-nobuka**	**4.93**	**238**	P	Pn	02 35 12.3	-0.9
JKB	**Kayabe**	**6.21**	**242**	P	Pn	02 35 29.4	-0.7

IDC 29 02:39:45.4±3.7, **11°.21S×164°.49E, h0**km, **mb3.7**/4, **mb1 3.9**/4, **mb1mx3.7**/17, **mbtmp3.7**/4, **Error ellipse: s-maj=157.1km s-min=32.3km az=137.0, Santa Cruz Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**30.27**	**250**	P	P	02 45 58.6	+0.1
0.8nm,0.8s,baz=81,slow=9.6,SNR=9.3							
ASAR	**Alice Springs**	**31.62**	**243**	P	P	02 46 10.2	-0.2
0.3nm,0.5s,baz=64,slow=10,SNR=4.4							
ILAR	**Eielson Array**	**84.06**	**19**	P	P	02 52 17.6	-0.1
0.8nm,0.9s,baz=227,slow=5.1,SNR=5.8							
MKAR	**Makanchi Array**	**92.80**	**317**	P	P	02 53 00.0	0.0
0.3nm,0.6s,baz=114,slow=3.5,SNR=3.9							

ATH ***29*** *03:09:29.7, 37°.70N×26°.83E, h19*km*, MD3.4/9, ML3.1*
ISK ***29*** *03:09:30.9, 37°.70N×26°.80E, h5*km*, ML3.4*
CSEM ***29*** *03:09:31.5±0.1, 37°.69N×26°.76E, h8*km*, MD3.4, Error ellipse: s-maj=2.6km s-min=2.5km az=19.0*
ISCJB ***29*** *03:09:31.1±0.4, 37°.70N±0°.02×26°.75E±0°.02, h9*km*±3*km*, Error ellipse: s-maj=2.8km s-min=2.6km az=145.7*
DDA ***29*** *03:09:31.7, 37°.74N×26°.87E, h22*km*, ML3.2*
THE ***29*** *03:09:32.2, 37°.72N×26°.83E, h8*km*, ML3.5/4, Error ellipse: s-maj=0.6km s-min=0.5km az=85.0*
ISC 29 03:09:31.0±0.8, **37°.71N**±0°.02×**26°.80E**±0°.02, **h13**km±4km, **n161**, σ1§**23**/187, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.03**	**90**	P	**Pg**	03 09 33.7	+0.2
SMG				S	**Sg**	03 09 35.0	-0.2
SMG	**Samos**	**0.03**	**90**	*e*PB	**Pg**	03 09 33.7	+0.2
SMG				*e*SB	**Sg**	03 09 34.9	-0.2
SMG	**Samos**	**0.03**	**90**	P	**Pg**	03 09 33.7	+0.2
GCAM	**G?zelcaml?**	**0.35**	**91**	*i* P	**Pb**	03 09 38.5	-0.5
GCAM				*i* S	**Sb**	03 09 44.1	-0.3
GCAM	**G?zelcaml?**	**0.35**	**91**	*i* P	**Pb**	03 09 38.5	-0.5
GCAM				*i* S	**Sb**	03 09 44.1	-0.3
URLA	**Izmir**	**0.67**	**346**	*i* P	**Pn**	03 09 45.6	-0.6
URLA				*i* S	**Sb**	03 09 54.3	+0.5
URLA	**Izmir**	**0.67**	**346**	*i* P	**Pn**	03 09 45.6	-0.6
URLA				*i* S	**Sb**	03 09 54.3	+0.5
BODT	**Bodrum**	**0.76**	**147**	*e*PG	**Pb**	03 09 45.9	-0.3
BODT				*e*SG	**Sb**	03 09 56.8	+0.3
BODT	**Bodrum**	**0.76**	**147**	*e*Pg	**Pb**	03 09 45.9	-0.3
BODT				*e*Sg	**Sb**	03 09 56.8	+0.3
IZM	**Izmir**	**0.78**	**28**	*e*PG	**Pb**	03 09 46.0	-0.5
IZM				*e*SG	**Sb**	03 09 57.9	+0.9
IZM	**Izmir**	**0.78**	**28**	*e*Pg	**Pb**	03 09 46.0	-0.5
IZM				*e*Sg	**Sb**	03 09 57.9	+0.9
BDRM	**Kayabasi**	**0.82**	**141**	*i* P	**Pn**	03 09 47.6	-0.8
BDRM	**Kayabasi**	**0.82**	**141**	*i* P	**Pn**	03 09 47.6	-0.8
AYDN	**Tasoluk**	**0.86**	**93**	*i* P	**Pb**	03 09 47.5	-0.3
AYDN				*i* S	**Sb**	03 09 59.0	-0.3
AYDN	**Tasoluk**	**0.86**	**93**	*i* P	**Pb**	03 09 47.5	-0.3
AYDN				*i* S	**Sb**	03 09 59.0	-0.3
CHOS	**Chios island**	**0.90**	**319**	P	**Pn**	03 09 49.2	-0.2
CHOS				S	**Sn**	03 10 02.6	+0.3
CHOS	**Chios island**	**0.90**	**319**	*e*PG	**Pn**	03 09 48.9	-0.5
CHOS				*e*SG	**Sb**	03 10 01.6	+1.2
CHOS	**Chios island**	**0.90**	**319**	*e*PN	**Pb**	03 09 48.5	0.0
CHOS				*e*SN	**Sb**	03 10 00.5	+0.1
CHOS	**Chios island**	**0.90**	**319**	*e*Pn	**Pb**	03 09 48.5	0.0
CHOS	**Chios island**	**0.90**	**319**	*e*Pg	**Pn**	03 09 48.9	-0.5
CHOS	**Chios island**	**0.90**	**319**	P	**Pn**	03 09 49.2	-0.2
CHOS				*e*Sn	**Sb**	03 10 00.5	+0.1
CHOS				*e*Sg	**Sb**	03 10 01.6	+1.2
CHOS				S	**Sn**	03 10 02.6	+0.3
NIS1	**Nisyros Isl.**	**1.15**	**164**	P	**Pn**	03 09 53.5	+0.8
NIS1				S	**Sn**	03 10 09.2	+0.9
NIS1	**Nisyros Isl.**	**1.15**	**164**	*e*PN	**Pn**	03 09 53.5	+0.8
NIS1	**Nisyros Isl.**	**1.15**	**164**	P	**Pn**	03 09 53.5	+0.8
NIS1				S	**Sn**	03 10 09.2	+0.9
DAT	**Datca**	**1.16**	**147**	*e*PN	**Pn**	03 09 53.2	+0.2
DAT				*e*SN	**Sn**	03 10 09.5	+0.7
DAT	**Datca**	**1.16**	**147**	*e*Pn	**Pn**	03 09 53.2	+0.2
DAT				*e*Sn	**Sn**	03 10 09.5	+0.7
APE	**Apeiranthos**	**1.19**	**238**	P	**Pn**	03 09 53.9	+0.5
APE				S	**Sn**	03 10 11.6	+2.0
APE	**Apeiranthos**	**1.19**	**238**	*e*PN	**Pn**	03 09 54.0	+0.5
APE	**Apeiranthos**	**1.19**	**238**	*e*Pn	**Pn**	03 09 53.4	-0.1
APE				*e*SN	**Sn**	03 10 09.7	+0.1
APE	**Apeiranthos**	**1.19**	**238**	*e*Pn	**Pn**	03 09 54.0	+0.5
APE				*e*Sn	**Sn**	03 10 09.7	+0.1
APE				S	**Sn**	03 10 11.6	+2.0
YER	**Yerkesik**	**1.31**	**115**	*e*PN	**Pg**	03 09 55.7	-0.6
YER	**Yerkesik**	**1.31**	**115**	*e*Pn	**Pg**	03 09 55.7	-0.6
AKHS	**Akhisar**	**1.42**	**34**	*i* P	**Pg**	03 09 57.7	-0.6
AKHS				*i* S	**Sg**	03 10 17.3	+0.6
AKHS	**Akhisar**	**1.42**	**34**	*i* P	**Pg**	03 09 57.7	-0.6
AKHS				*i* S	**Sg**	03 10 17.3	+0.6
AKS	**Akhisar**	**1.42**	**34**	*e*PN	**Pg**	03 09 58.0	-0.3
AKS	**Akhisar**	**1.42**	**34**	*e*Pn	**Pg**	03 09 58.0	-0.3
PRK	**Paraskevi**	**1.59**	**345**	P	**Pn**	03 09 59.0	+0.1
PRK				S	**Sb**	03 10 20.7	+0.5
PRK	**Paraskevi**	**1.59**	**345**	*e*PB	**Pn**	03 09 58.4	-0.5
PRK				*e*SN	**Sb**	03 10 20.6	+0.4
PRK	**Paraskevi**	**1.59**	**345**	*e*Pb	**Pn**	03 09 58.4	-0.5
PRK	**Paraskevi**	**1.59**	**345**	P	**Pn**	03 09 59.0	+0.1
PRK				*e*Sn	**Sb**	03 10 20.6	+0.4
MANT	**Manisa**	**1.59**	**60**	*i* P	**Pg**	03 10 01.5	-0.2
MANT	**Manisa**	**1.59**	**60**	*i* P	**Pg**	03 10 01.5	-0.2
THR2	**Thira island,**	**1.67**	**221**	P	**Pb**	03 10 00.7	-0.8
THR2	**Thira island,**	**1.67**	**221**	P	**Pb**	03 10 00.7	-0.8
KULA	**Kula-Manisa**	**1.68**	**61**	P	**Pn**	03 10 00.1	0.0
KULA				S	**Sn**	03 10 21.8	+0.3
KULA	**Kula-Manisa**	**1.68**	**61**	*e*PN	**Pb**	03 10 01.4	-0.4
KULA	**Kula-Manisa**	**1.68**	**61**	P	**Pn**	03 10 00.1	0.0
KULA	**Kula-Manisa**	**1.68**	**61**	*e*Pn	**Pb**	03 10 01.4	-0.4
KULA				S	**Sn**	03 10 21.8	+0.3
THR1	**Thera Island**	**1.71**	**219**	P	**Pb**	03 10 01.3	-1.1
THR1	**Thera Island**	**1.71**	**219**	P	**Pb**	03 10 01.3	-1.1
THR1	**Thera Island**	**1.71**	**219**	*e*Pn	**Pb**	03 10 01.7	-0.7
THR3	**Thira Island,**	**1.71**	**221**	P	**Pb**	03 10 01.6	-0.7
THR3	**Thira Island,**	**1.71**	**221**	P	**Pb**	03 10 01.6	-0.7
DALY	**Dalyan (Mu¨la**	**1.73**	**120**	*e*PN	**Pb**	03 10 02.1	-0.5
DALY	**Dalyan (Mu¨la**	**1.73**	**120**	*e*Pn	**Pb**	03 10 02.1	-0.5
THR5	**Thira Island,**	**1.73**	**222**	*e*Pn	**Pb**	03 10 02.3	-0.4
DENT	**Denizli**	**1.77**	**88**	*e*PN	**Pb**	03 10 03.1	-0.3
DENT	**Denizli**	**1.77**	**88**	*e*Pn	**Pb**	03 10 03.1	-0.3
DNZL	**Cakiroluk**	**1.78**	**90**	*i* P	**Pb**	03 10 02.6	-1.1
DNZL	**Cakiroluk**	**1.78**	**90**	*i* P	**Pb**	03 10 02.6	-1.1
ARG	**Arkhangelos**	**1.83**	**144**	*e*PN	**Pb**	03 10 02.8	-1.6
ARG	**Arkhangelos**	**1.83**	**144**	*e*Pn	**Pb**	03 10 02.8	-1.6
DEMI	**Demirci**	**2.01**	**48**	*e*P	**Pn**	03 10 04.4	-0.4
DEMI	**Demirci**	**2.01**	**48**	*e*P	**Pn**	03 10 04.4	-0.4
BALB	**Balikesir**	**2.11**	**23**	*e*PN	**Pb**	03 10 08.1	-1.0
BALB	**Balikesir**	**2.11**	**23**	*e*Pn	**Pb**	03 10 08.1	-1.0
FETY	**Fethiye**	**2.12**	**120**	*e*PN	**Pb**	03 10 07.8	-1.5
FETY	**Fethiye**	**2.12**	**120**	*e*Pn	**Pb**	03 10 07.8	-1.5
BALY	**Balya**	**2.13**	**17**	*e*P	**Pn**	03 10 06.3	0.0
BALY				*i* S	**Sg**	03 10 37.9	-1.6
BALY	**Balya**	**2.13**	**17**	*e*P	**Pn**	03 10 06.3	0.0
BALY				*i* S	**Sg**	03 10 37.9	-1.6
KARP	**Karpathos**	**2.18**	**172**	P	**Pn**	03 10 07.8	+0.8
KARP	**Karpathos**	**2.18**	**172**	*e*PB	**Pn**	03 10 06.0	-1.0
KARP	**Karpathos**	**2.18**	**172**	*e*Pb	**Pn**	03 10 06.0	-1.0
KARP	**Karpathos**	**2.18**	**172**	P	**Pn**	03 10 07.8	+0.8
KHAL	**Karahalli**	**2.23**	**72**	*e*P	**Pn**	03 10 08.7	+1.0
KHAL	**Karahalli**	**2.23**	**72**	*e*P	**Pn**	03 10 08.7	+1.0
KHL	**Karahalli**	**2.24**	**73**	*e*PN	**Pb**	03 10 09.8	-1.6
KHL	**Karahalli**	**2.24**	**73**	*e*Pn	**Pb**	03 10 09.8	-1.6
GOLH	**Golhisar**	**2.25**	**101**	*i* P	**Pb**	03 10 09.8	-1.7
GOLH	**Golhisar**	**2.25**	**101**	*i* P	**Pb**	03 10 09.8	-1.7
PTL	**Penteli**	**2.34**	**279**	*e*PB	**Pn**	03 10 10.1	+0.8
PTL	**Penteli**	**2.34**	**279**	*e*Pb	**Pn**	03 10 10.1	+0.8
GONE	**Gonen-Balikesi**	**2.44**	**16**	*e*PN	**Pn**	03 10 12.1	+1.6
GONE	**Gonen-Balikesi**	**2.44**	**16**	*e*Pn	**Pn**	03 10 12.1	+1.6
ATH	**Athens Observa**	**2.45**	**277**	*e*PN	**Pn**	03 10 11.6	+0.9
ATH	**Athens Observa**	**2.45**	**277**	*e*Pn	**Pn**	03 10 11.6	+0.9
LIA	**Limnos Island**	**2.52**	**331**	*e*PB	**Pn**	03 10 13.3	+1.6
LIA	**Limnos Island**	**2.52**	**331**	*e*Pb	**Pn**	03 10 13.3	+1.6
NPS	**Neapolis**	**2.62**	**202**	*e*PN	**Pn**	03 10 13.4	+0.3
NPS	**Neapolis**	**2.62**	**202**	*e*Pn	**Pn**	03 10 13.4	+0.3
NAIG	**Nisos Aigina**	**2.62**	**272**	*e*PN	**Pn**	03 10 13.1	0.0
NAIG	**Nisos Aigina**	**2.62**	**272**	*e*Pn	**Pn**	03 10 13.1	0.0
ZKR	**Zakros**	**2.63**	**190**	*e*PN	**Pb**	03 10 15.1	-2.9
ZKR	**Zakros**	**2.63**	**190**	*e*PB	**Pn**	03 10 13.9	+0.7
ZKR	**Zakros**	**2.63**	**190**	*e*Pb	**Pn**	03 10 13.9	+0.7
ZKR	**Zakros**	**2.63**	**190**	*e*Pn	**Pb**	03 10 15.1	-2.9
LPK	**Lapseki**	**2.66**	**359**	*e*PN	**Pb**	03 10 16.1	-2.3
LPK	**Lapseki**	**2.66**	**359**	*e*Pn	**Pb**	03 10 16.2	-2.3
ELL	**Elmali**	**2.66**	**110**	*e*PN	**Pb**	03 10 15.6	-3.0
ELL	**Elmali**	**2.66**	**110**	*e*Pn	**Pb**	03 10 15.6	-3.0
AKAS	**Kas**	**2.69**	**122**	*i* P	**Pn**	03 10 15.9	+1.8
AKAS	**Kas**	**2.69**	**122**	*i* P	**Pn**	03 10 15.9	+1.8
KRBG	**Karabiga-Canak**	**2.71**	**8**	*e*PN	**Pb**	03 10 16.7	-2.6
KRBG	**Karabiga-Canak**	**2.71**	**8**	*e*Pn	**Pb**	03 10 16.7	-2.6
AOS	**Alonnisos**	**2.72**	**303**	*e*PN	**Pn**	03 10 15.1	+0.8
AOS	**Alonnisos**	**2.72**	**303**	*e*Pn	**Pn**	03 10 15.1	+0.8
LAST	**Lasithi**	**2.76**	**203**	*e*PN	**Pn**	03 10 15.0	0.0
LAST	**Lasithi**	**2.76**	**203**	*e*Pn	**Pn**	03 10 15.0	0.0
BNT	**Bandirma**	**2.79**	**18**	*e*PN	**Pb**	03 10 17.8	-2.8
BNT	**Bandirma**	**2.79**	**18**	*e*Pn	**Pb**	03 10 17.8	-2.8
KCTX	**Karacabey (Bur**	**2.83**	**25**	*e*PN	**Pn**	03 10 18.3	+2.4
KCTX	**Karacabey (Bur**	**2.83**	**25**	*e*Pn	**Pn**	03 10 18.3	+2.4
DID	**Didima**	**2.83**	**267**	*e*PN	**Pn**	03 10 16.5	+0.5
DID	**Didima**	**2.83**	**267**	*e*Pn	**Pn**	03 10 16.5	+0.5
IDI	**Anoyia**	**2.86**	**213**	*e*PB	**Pn**	03 10 17.6	+1.2
IDI	**Anoyia**	**2.86**	**213**	*e*Pb	**Pn**	03 10 17.6	+1.2
SMTH	**Samothraki Isl**	**2.93**	**341**	*e*PN	**Pn**	03 10 17.6	+0.3
SMTH	**Samothraki Isl**	**2.93**	**341**	*e*Pn	**Pn**	03 10 17.6	+0.3
RKY	**Sarkoy-Tekirda**	**2.99**	**6**	*e*PN	**Pn**	03 10 20.9	+2.7
RKY	**Sarkoy-Tekirda**	**2.99**	**6**	*e*Pn	**Pn**	03 10 20.9	+2.7
LTK	**Loutraki**	**3.05**	**277**	*e*PN	**Pn**	03 10 20.0	+1.1
LTK	**Loutraki**	**3.05**	**277**	*e*Pn	**Pn**	03 10 20.0	+1.1
VAM	**Vamos**	**3.11**	**223**	*e*PN	**Pn**	03 10 20.9	+1.2
VAM	**Vamos**	**3.11**	**223**	*e*Pn	**Pn**	03 10 20.9	+1.2
MDNY	**Mudanya-Bursa**	**3.11**	**31**	*e*PN	**Pn**	03 10 22.6	+2.8
MDNY	**Mudanya-Bursa**	**3.11**	**31**	*e*Pn	**Pn**	03 10 22.6	+2.8
LKR	**Lokris**	**3.14**	**289**	*e*PN	**Pn**	03 10 20.3	+0.2
LKR	**Lokris**	**3.14**	**289**	*e*Pn	**Pn**	03 10 20.3	+0.2
VLI	**Veliai**	**3.24**	**253**	*e*PN	**Pn**	03 10 21.7	+0.2
VLI	**Veliai**	**3.24**	**253**	*e*Pn	**Pn**	03 10 21.7	+0.2
ALN	**Alexandroupoli**	**3.24**	**350**	*e*PN	Pn	03 10 24.8	+3.3
ALN	**Alexandroupoli**	**3.24**	**350**	*e*PN	**Pn**	03 10 21.6	+0.1
ALN	**Alexandroupoli**	**3.24**	**350**	*e*Pn	**Pn**	03 10 21.6	+0.1
ARMT	**Armutlu**	**3.27**	**29**	*e*PN	**Pn**	03 10 24.9	+2.8
ARMT	**Armutlu**	**3.27**	**29**	*e*Pn	**Pn**	03 10 24.9	+2.8
VLX	**Vlachokerasia**	**3.53**	**266**	*e*PN	**Pn**	03 10 27.1	+1.5
VLX	**Vlachokerasia**	**3.53**	**266**	*e*Pn	**Pn**	03 10 27.1	+1.5
GUR	**Goura**	**3.54**	**275**	*e*PN	**Pn**	03 10 26.6	+0.9
GUR	**Goura**	**3.54**	**275**	*e*Pn	**Pn**	03 10 26.6	+0.9
ADVT	**Abdulvahap**	**3.56**	**39**	*e*PN	**Pn**	03 10 28.7	+2.8
ADVT	**Abdulvahap**	**3.56**	**39**	*e*Pn	**Pn**	03 10 28.7	+2.8
RDO	**Rodhopi**	**3.57**	**345**	*e*PN	**Pn**	03 10 26.6	+0.5
RDO	**Rodhopi**	**3.57**	**345**	*e*Pn	**Pn**	03 10 26.6	+0.5
KLV	**Kalavryta, Ach**	**3.69**	**277**	*e*PN	**Pn**	03 10 29.1	+1.3
KLV	**Kalavryta, Ach**	**3.69**	**277**	*e*Pn	**Pn**	03 10 29.1	+1.3
AGG	**Agios Georgios**	**3.75**	**292**	*e*PN	**Pn**	03 10 28.9	+0.3
AGG	**Agios Georgios**	**3.75**	**292**	*e*Pn	**Pn**	03 10 28.9	+0.3
GULT	**Gulveren**	**3.97**	**46**	*e*PN	Pn	03 10 34.8	+3.1
GULT	**Gulveren**	**3.97**	**46**	*e*Pn	Pn	03 10 34.8	+3.1
SVRH	**Sivrihisar-ESK**	**4.09**	**63**	*e*PN	Pn	03 10 36.3	+3.0
SVRH	**Sivrihisar-ESK**	**4.09**	**63**	*e*Pn	Pn	03 10 36.3	+3.0
PYL	**PYLOS**	**4.11**	**260**	*e*PN	**Pn**	03 10 34.8	+1.3
PYL	**PYLOS**	**4.11**	**260**	*e*Pn	**Pn**	03 10 34.8	+1.3
KIZT	**Kizilcal**	**4.17**	**72**	*e*PN	Pn	03 10 37.5	+3.1
KIZT	**Kizilcal**	**4.17**	**72**	*e*Pn	Pn	03 10 37.5	+3.1
NVR	**Nevrokopi**	**4.29**	**329**	*e*PN	**Pn**	03 10 36.2	+0.2
NVR	**Nevrokopi**	**4.29**	**329**	*e*Pn	**Pn**	03 10 36.2	+0.2
MDUB	**Mudurnu**	**4.40**	**50**	*e*PN	Pn	03 10 40.6	+3.0
MDUB	**Mudurnu**	**4.40**	**50**	*e*Pn	Pn	03 10 40.6	+3.0
HDMB	**Hadim**	**4.59**	**98**	*e*PN	**Pn**	03 10 42.9	+2.5
HDMB	**Hadim**	**4.59**	**98**	*e*Pn	**Pn**	03 10 42.9	+2.5

IDC ***29*** *03:40:40.5±3.0, 8°.28S×112°.28E, h0*km*, mb3.3/3, mb1 3.6/4, mb1mx3.4/21, mbtmp3.4/4, ML3.2/1, Error ellipse: s-maj=176.7km s-min=24.8km az=49.0*
ISCJB ***29*** *03:40:51.8±0.6, 8°.4S±0°.1×112°.34E±0°.04, h110*km*±6*km*, mb3.1/3, Error ellipse: s-maj=19.0km s-min=6.7km az=5.9*
DJA ***29*** *03:40:53.9±0.4, 8°S±8°×11°2E°, h85*km*±6*km*, M3.4/10, MLv3.4/10*
ISC 29 03:40:52.6±1.0, **8°.4S**±0°.1×**112°.35E**±0°.04, **h104**km±8km, **n14**, σ0§**67**/20, **mb3.3**/3, **Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRKI	**Karangkates**	**0.28**	**22**	P	**Pn**	03 41 08.3	+0.7
KRKI				S	**Sn**	03 41 19.5	+0.7
PWJI	**Pagerwojo**	**0.66**	**306**	P	**Pn**	03 41 09.7	-0.4
PWJI				S	**Sn**	03 41 23.0	-0.3
SJI	**Sawahan**	**0.89**	**320**	P	**Pn**	03 41 12.0	-0.3
SJI				S	**Sn**	03 41 27.3	+0.2
GMJI	**Gumukmas**	**1.09**	**83**	P	**Pn**	03 41 14.4	0.0
GMJI				S	**Sn**	03 41 30.9	+0.1
PCJI	**Pacitan**	**1.18**	**281**	P	**Pn**	03 41 15.7	+0.4
PCJI				S	**Sn**	03 41 32.5	0.0
BLJI	**Banyuglugur**	**1.40**	**62**	P	**Pn**	03 41 18.2	+0.2
BLJI				S	**Sn**	03 41 37.4	+0.2
GRJI	**Gresik**	**1.50**	**5**	P	**Pn**	03 41 19.2	+0.1
UGM	**Wanagama**	**1.87**	**285**	P	**Pn**	03 41 24.0	+0.2
ABJI	**Asem Bagus**	**1.97**	**72**	P	**Pn**	03 41 25.9	+0.9
KPJI	**Karang Pucung**	**3.55**	**287**	P	**Pn**	03 41 47.2	+1.4
FITZ	**Fitzroy Crossi**	**16.12**	**128**	Pn	**Pn**	03 44 31.7	-1.5
0.1nm,0.3s,baz=322,slow=12,SNR=3.7							
FITZ				Sn	Sn	03 47 18.8	-13
0.1nm

ASAR	Alice Springs	51.53 173	P	P	04 29 48.3	-0.8
	0.2nm,0.7s,baz=0.0,slow=10,SNR=2.8					
AKTO	Aktyubinsk	56.50 314	LR	LR	04 56 12.1	
	comp=Z,32nm,18.9s,baz=88,slow=38					
KBZ	Khabaz	67.92 309	LR	LR	05 01 07.1	
	comp=Z,38nm,22.0s,baz=299,slow=36					
ARCES	ARCESS Array B	68.41 338	LR	LR	05 07 18.7	
	comp=Z,65nm,19.3s,baz=171,slow=41					
FINES	FINESS Array B	71.32 330	LR	LR	05 07 25.5	
	comp=Z,107nm,18.5s,baz=32,slow=39					
AKASG	Malin Array Be	74.12 319	LR	LR	05 07 20.2	
	comp=Z,100nm,18.3s,baz=65,slow=38					
NOA	NORSAR Array B	77.74 334	LR	LR	05 08 30.5	
	comp=Z,32nm,18.0s,baz=0.0,slow=37					

IDC 29 04:30:04.7±1.0, 4°.50N×125°.88E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.7/24, mbtmp3.9/6, 1C, Error ellipse: s-maj=54.2km s-min=14.3km az=79.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	General Santos	1.83	330	eP	Pg	04 30 48.3	+8.5
GSPH				eS	Sg	04 31 13.2	+10
CTBH	Cotabato--PC H	3.15	329	i/P	Pg	04 31 06.6	+1.5
FITZ	Fitzroy Crossi	22.46	181	P	P	04 35 07.4	+1.8
	1.7nm,0.5s,baz=9.9,slow=10,SNR=13						
FITZ				S	S	04 39 13.6	+0.4
	0.8nm,0.7s,baz=119,slow=19,SNR=9.2						
WRA	Warramunga Arr	25.68	161	P	P	04 35 36.6	+0.1
	4.0nm,0.4s,baz=341,slow=10,SNR=37						
ASAR	Alice Springs	29.07	165	P	P	04 36 06.8	-0.2
	0.4nm,0.5s,baz=346,slow=7.2,SNR=4.5						
STKA	Stephens Creek	39.15	159	P	P	04 37 34.0	-0.2
	3.0nm,0.4s,baz=330,slow=9.0,SNR=13						
MKAR	Makanchi Array	56.44	325	P	P	04 39 49.2	+1.0
	0.4nm,0.4s,baz=119,slow=6.0,SNR=5.2						
KURBB	Kurchatov Arra	60.63	327	P	P	04 40 16.0	-1.4
	0.4nm,0.7s,baz=131,slow=6.2,SNR=6.1						
TXAR	Lajitas Array	121.80	51	PKP	PKPdf	04 49 01.6	0.0
	0.0nm,0.3s,baz=353,slow=2.3,SNR=3.5						

*ISCJB **29** 04:31:37.7±2.0, 22°.7N±0°.4×93°.3E±0°.6, h58km, mb3.3/4, Error ellipse: s-maj=94.7km s-min=10.6km az=147.9*
*IDC **29** 04:31:45.9±4.1, 23°.34N×94°.51E, h96km±37km, mb3.0/4, mb1 3.2/5, mb1mx3.0/27, mbtmp3.0/5, Error ellipse: s-maj=101.9km s-min=17.7km az=59.0*
ISC 29 04:31:40.7±2.6, 22°.8N±0°.6×93°.5E±0°.8, h58km, n6, σ2$20/7, mb3.4/4, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	Shillong	3.07	332	ePN	Pn	04 32 29.5	+2.5
SHL				eSN	Sn	04 32 59.5	-3.1
CMAR	Chiang Mai Arr	6.74	129	P	Pn	04 33 17.5	+0.4
	0.9nm,0.3s,baz=313,slow=14,SNR=7.7						
MKAR	Makanchi Array	25.55	342	P	P	04 37 04.4	+0.4
	0.5nm,0.6s,baz=148,slow=9.1,SNR=5.5						
KURBB	Kurchatov Arra	30.08	341	P	P	04 37 44.5	+0.1
	0.2nm,0.7s,baz=160,slow=8.0,SNR=2.8						
WRA	Warramunga Arr	58.31	134	P	P	04 41 29.2	-0.7
	0.2nm,0.4s,baz=324,slow=7.5,SNR=3.7						
ASAR	Alice Springs	60.68	137	P	P	04 41 44.7	-1.5
	0.2nm,0.4s,baz=323,slow=6.7,SNR=3.3						

IDC 29 04:33:33.6±7.8, 0°.13S×153°.20E, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.5/16, mbtmp3.7/3, Error ellipse: s-maj=243.2km s-min=32.4km az=99.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	27.00	222	P	P	04 39 16.6	-0.9
	0.6nm,0.6s,baz=48,slow=10,SNR=3.6						
ASAR	Alice Springs	29.97	217	P	P	04 39 45.1	+1.1
	0.3nm,0.5s,baz=56,slow=7.7,SNR=5.2						
SONM	Songino Array	62.64	326	P	P	04 44 00.0	-0.1
	0.9nm,0.6s,baz=133,slow=8.2,SNR=6.2						

IDC 29 04:37:34.5±2.7, 1°.90S×98°.85E, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.6/24, mbtmp3.6/7, ML2.8/1, MS2.8/1, Ms1 2.8/1, ms1mx2.6/23, Error ellipse: s-maj=102.2km s-min=19.7km az=60.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	4.67	1	Pn	Pn	04 38 46.7	+0.1
	0.4nm,0.3s,baz=148,slow=19,SNR=2.1						
PSI				LR	LR	04 40 25.6	
	comp=Z,96nm,18.9s,baz=196,slow=38						
CMAR	Chiang Mai Arr	20.23	0	P	P	04 42 10.9	-0.5
	0.6nm,0.3s,baz=186,slow=8.2,SNR=3.5						
WRA	Warramunga Arr	39.04	120	P	P	04 45 02.9	-0.6
	0.4nm,0.6s,baz=302,slow=9.0,SNR=6.1						
ASAR	Alice Springs	40.25	125	P	P	04 45 13.4	-0.1
	0.4nm,0.8s,baz=307,slow=7.7,SNR=4.1						
SONM	Songino Array	49.97	7	P	P	04 46 30.0	-0.6
	0.2nm,0.3s,baz=193,slow=5.9,SNR=2.5						
MKAR	Makanchi Array	50.63	345	P	P	04 46 36.1	+0.6
	1.1nm,0.6s,baz=147,slow=7.4,SNR=11						
ZALV	Zalesovo Beam	56.87	350	P	P	04 47 19.1	-1.9
	1.2nm,0.6s,baz=160,slow=4.6,SNR=4.7						
TXAR	Lajitas Array	145.31	36	PKPbc	PKPdf	04 57 15.7	+0.4
	0.7nm,0.7s,baz=269,slow=1.4,SNR=9.0						

*THR **29** 05:08:03.7±0.3, 27°.04N×56°.34E, h16km±7km, ML3.7*
*ISCJB **29** 05:08:05.0±1.0, 27°.02N±0°.07×56°.05E±0°.04, h14km, mb3.6/4, Error ellipse: s-maj=10.9km s-min=5.3km az=171.2*
*IDC **29** 05:08:04.2±2.6, 26°.96N×56°.02E, h0km, mb3.7/4, mb1 3.8/5, mb1mx3.5/27, mbtmp3.7/5, ML3.4/1, Error ellipse: s-maj=52.2km s-min=32.0km az=153.0*
*TEH **29** 05:08:05.9, 27°.11N×56°.10E, h23km, ML3.6*
*CSEM **29** 05:08:07.9±0.9, 27°.16N×56°.12E, h10km, ML3.6, Error ellipse: s-maj=20.4km s-min=6.6km az=171.0*
ISC 29 05:08:06.0±1.3, 27°.06N±0°.10×56°.16E±0°.06, h14km, n30, σ1$09/37, mb3.5/4, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	Bandar-Abbas	0.34	1	ePg	Pg	05 08 11.7	-1.4
BNDS				AML	AML	05 08 23.6	
	comp=N,8μm,0.3s						
BNDS	Bandar-Abbas	0.34	1	ePg	Pg	05 08 11.7	-1.4
IBND	Bandar-abas	0.52	40	ePg	Pb	05 08 17.3	+0.5
IBND				eSg	Sn	05 08 26.0	-1.5
IBND				e		05 08 34.7	
	comp=Z,70μm,0.2s						
IBND	Bandar-abas	0.52	40	ePg	Pb	05 08 17.3	+0.5
IBND				eSg	Sn	05 08 26.0	-1.5
GHIR	Ghir-Karzin	3.07	294	ePn	Pn	05 08 55.8	+1.6
GHIR				eSg	Sg	05 09 44.1	-0.6
GHIR				AML	AML	05 10 05.0	
	comp=E,167nm,0.4s						
GHIR	Ghir-Karzin	3.07	294	ePn	Pn	05 08 55.8	+1.6
GHIR				eSg	Sg	05 09 44.2	-0.6
ISRV	Sarvestan	3.55	311	ePn	Pn	05 09 02.6	+1.6
ISRV				eSg	Sg	05 10 01.1	+1.0
ISRV				e		05 10 22.7	
	comp=Z,2μm,0.4s						
ISRV	Sarvestan	3.55	311	ePn	Pn	05 09 02.6	+1.6
ISRV				eSg	Sg	05 10 01.1	+1.0
IPAR	Pars	3.90	316	ePn	Pn	05 09 06.9	+1.1
IPAR				e		05 10 20.6	
	comp=Z,1μm,0.4s						
IPAR	Pars	3.90	316	ePn	Pn	05 09 06.9	+1.1
IMEH	Mehriz	4.53	343	ePn	Pn	05 09 15.5	+1.2
IMEH				e		05 10 52.4	
	comp=Z,295nm,0.4s						
IMEH	Mehriz	4.53	343	ePn	Pn	05 09 15.5	+1.2
IBAF	Bafgh	4.55	354	ePn	Pn	05 09 15.8	+1.2
IBAF				e		05 09 41.2	
	comp=Z,210nm,0.3s						
IBAF	Bafgh	4.55	354	ePn	Pn	05 09 15.8	+1.2
IKAZ	Kazeroun	4.68	306	ePn	Pn	05 09 17.3	+0.8
IKAZ				e		05 10 15.9	
	comp=Z,963nm,0.2s						
IKAZ	Kazeroun	4.68	306	ePn	Pn	05 09 17.3	+0.8
ISAD	Sadrabad	5.30	337	ePn	Pn	05 09 26.2	+1.2
ISAD				e		05 10 36.5	
	comp=Z,206nm,0.2s						
ISAD	Sadrabad	5.30	337	ePn	Pn	05 09 26.2	+1.2
NASN	Na'in	6.42	334	ePn	Pn	05 09 41.4	+0.9
NASN	Na'in	6.42	334	ePn	Pn	05 09 41.4	+0.9
IZEF	Zefreh	6.70	331	ePn	Pn	05 09 44.3	0.0
IZEF				ePn	Pn	05 09 44.4	+0.1
IZEF				e	Pb	05 09 59.0	-3.5
	comp=Z,64nm,0.2s						
IZEF	Zefreh	6.70	331	ePn	Pn	05 09 44.4	+0.1
KBD	Kabd	7.77	288	eP	Pn	05 09 58.7	0.0
UMR	Umm Al-Rimmam	7.85	290	eP	Pn	05 10 00.0	+0.2
UMR				AML	AML	05 11 24.9	
	comp=Z,11nm,0.4s						
NAY	Al-Naaiem	8.17	288	eP	Pn	05 10 04.3	+0.1
NAY				AML	AML	05 11 34.7	
	comp=Z,8.3nm,0.3s						
KBZ	Khabaz	19.80	331	P	Pn	05 12 38.3	+0.8
	comp=Z,0.0nm,0.3s,baz=135,slow=13,SNR=3.0						
BRTR	Keskin Array B	22.59	310	P	P	05 13 05.5	-0.6
	comp=Z,2.6nm,0.8s,baz=132,slow=12,SNR=9.7						
MKAR	Makanchi Array	26.50	39	P	P	05 14 02.5	+1.7
	comp=Z,0.4nm,0.7s,baz=225,slow=8.6,SNR=4.6						
AKASG	Malin Array Be	31.27	326	P	P	05 14 24.4	-0.9
	comp=Z,0.1nm,0.3s,baz=133,slow=8.1,SNR=3.3						
TORD	Torodi Ar. Bea	52.62	266	P	P	05 17 19.4	-0.4
	comp=Z,2.3nm,0.6s,baz=61,slow=7.0,SNR=34						

*NIED **29** 05:23:00.27°.80N×127°.80E, h5km, Mw4.4 Best double couple: M0=4.20000×10^15 NP1:φs=41.00000°, δ59.00000°, λ-117.00000°. NP2:φs=266.00000°, δ40.00000°, λ-53.00000°.*
*ISCJB **29** 05:23:26.4±2.0, 27°.83N±0°.04×127°.78E±0°.05, h13km±14km, mb3.6/5, MS3.5/7, Error ellipse: s-maj=8.1km s-min=5.6km az=37.7*
*JMA **29** 05:23:26.2±0.4, 27°.82N×127°.84E, h3km±4km, M4.3*
*IDC **29** 05:23:27.1±1.2, 27°.45N×127°.13E, h0km, mb3.7/5, mb1 3.8/7, mb1mx3.7/26, mbtmp3.7/7, ML3.5/2, MS3.5/10, Ms1 3.5/10, ms1mx3.3/44, Error ellipse: s-maj=45.0km s-min=19.4km az=74.0*
ISC 29 05:23:26.4±2.0, 27°.81N±0°.06×127°.84E±0°.07, h6km±13km, n20, σ0°90/19, mb3.8/5, MS3.7/7, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIH	Iheya	0.78	172	P	Pg	05 23 41.5	+0.1
JIH				eS	Sg	05 23 52.0	+0.6
JTK	Tokunoshima	0.98	91	P	Pg	05 23 45.0	-0.3
JTK				eS	Sg	05 23 58.4	+0.3
JOW	Kunigami	1.04	158	P	Pg	05 23 46.3	-0.2
JOW				eS	Sg	05 24 00.4	+0.4
JAMN	Amaminishikomi	1.26	69	P	Pg	05 23 50.1	-0.5
JAMN				eS	Sn	05 24 08.1	+0.3
JAGN	Aguni-jima	1.32	204	P	Pn	05 23 51.4	0.0
JJT2	Tamagusuku 2	1.66	183	P	Pb	05 23 57.2	-0.3
JJT2				eS	Sb	05 24 18.8	+0.1
JAM	Amami Oshima	1.67	68	P	Pn	05 23 56.4	+0.2
JAM				eS	Sn	05 24 17.8	-0.2
JKE	Kume jima 2	1.75	213	P	Pn	05 23 56.6	-0.7
JNU	Nakatsue	5.91	26	Pn	Pb	05 25 03.4	-6.5
	1.2nm,0.3s,baz=208,slow=13,SNR=7.2						
JNU				LR	LR	05 27 21.7	
	comp=Z,252nm,19.4s,baz=212,slow=36						
KSRS	Korea Array	9.62	0	Pn	Pn	05 25 52.5	+7.1
	0.3nm,0.3s,baz=173,slow=13,SNR=2.8						
KSRS				LR	LR	05 29 41.3	
	comp=Z,345nm,18.2s,baz=175,slow=38						
USRK	Ussuriysk Arra	16.70	10	LR	LR	05 33 33.6	
	comp=Z,78nm,19.2s,baz=3.5,slow=35						
ASAJ	Asahikawa	20.14	32	LR	LR	05 36 13.1	
	comp=Z,54nm,18.2s,baz=18,slow=37						
SONM	Songino Array	26.05	326	P	P	05 29 03.5	+2.9
	3.4nm,0.8s,baz=139,slow=10,SNR=16						
SONM				LR	LR	05 40 24.6	
	comp=Z,186nm,18.1s,baz=236,slow=39						
PETK	Petropavlovsk-	33.55	33	LR	LR	05 42 55.2	
	comp=Z,52nm,21.3s,baz=64,slow=34						
MKAR	Makanchi Array	40.24	311	P	P	05 31 03.0	-1.0
	0.3nm,0.6s,baz=97,slow=10,SNR=3.7						
MKAR				LR	LR	05 48 13.0	
	comp=Z,54nm,18.6s,baz=338,slow=37						
ZALV	Zalesovo Beam	40.79	322	P	P	05 31 07.6	-0.8
	0.8nm,0.4s,baz=114,slow=9.7,SNR=2.6						
ZALV				LR	LR	05 49 48.4	
	comp=Z,141nm,18.9s,baz=68,slow=39						
WRA	Warramunga Arr	47.88	172	P	P	05 32 04.7	-0.7
	0.5nm,0.5s,baz=354,slow=8.1,SNR=5.2						
ASAR	Alice Springs	51.51	173	P	P	05 32 33.0	0.0
	0.7nm,0.8s,baz=350,slow=6.4,SNR=4.9						
SPITS	Spitsbergen Ar	67.22	348	LR	LR	06 09 55.1	
	comp=Z,50nm,18.9s,baz=290,slow=41						
ARCES	ARCESS Array B	68.42	338	LR	LR	06 11 00.3	
	comp=Z,71nm,18.6s,baz=52,slow=42						

*ISK **29** 05:54:55.3, 40°.42N×34°.87E, h5km, ML3.9*
*DDA **29** 05:54:55.4, 40°.40N×34°.84E, h4km, MD3.7, ML3.9*
*ISCJB **29** 05:54:56.2±0.6, 40°.43N±0°.02×34°.84E±0°.02, h4km±4km, mb3.7/5, MS3.4/2, Error ellipse: s-maj=3.1km s-min=2.9km az=137.0*
*CSEM **29** 05:54:56.6±0.1, 40°.44N×34°.85E, h2km, ML3.9*
*IDC **29** 05:54:56.0±0.9, 40°.37N×34°.84E, h0km, mb3.8/5, mb1 3.8/10, mb1mx3.6/28, mbtmp3.7/10, ML3.9/5, MS3.1/4, Ms1 3.1/4, ms1mx2.7/35, Error ellipse: s-maj=15.4km s-min=9.0km az=137.0*
ISC 29 05:54:57.1±1.0, 40°.41N±0°.02×34°.85E±0°.02, h8km±7km, n112, σ1$15/143, mb3.8/5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTKT	Corum	0.21	347	iP	Pg	05 55 01.2	-0.3
CTKT				iS	Sg	05 55 07.1	+2.7
CTKT	Corum	0.21	347	iP	Pg	05 55 01.2	-0.3
CORM	Corum	0.29	216	PG	Pg	05 55 02.2	-0.6
CORM				eSG	Sg	05 55 07.5	+0.8
CORM	Corum	0.29	216	iPg	Pg	05 55 02.2	-0.6
CORM				eSg	Sg	05 55 07.5	+0.8
YOZ	Yozgat	0.85	155	ePG	Pg	05 55 12.3	-1.1
YOZ	Yozgat	0.85	155	ePg	Pg	05 55 12.3	-1.1
CDAG	Cicekdag	0.87	205	iP	Pg	05 55 12.4	-1.4
CDAG				iS	Sg	05 55 24.5	-0.7
CDAG	Cicekdag	0.87	205	iP	Pg	05 55 12.4	-1.4
CDAG				iS	Sg	05 55 24.5	-0.7
TOS	Tosya	0.89	315	ePG	Pg	05 55 12.9	-1.2
TOS				eSG	Sb	05 55 26.9	+0.1
TOS	Tosya	0.89	315	ePg	Pg	05 55 12.9	-1.2
TOS				eSg	Sb	05 55 26.9	+0.1
HAVZ	Havza	0.93	45	iP	Pg	05 55 13.4	-1.6
HAVZ				iS	Sb	05 55 27.9	-0.2
HAVZ	Havza	0.93	45	iP	Pg	05 55 13.4	-1.6
HAVZ				iS	Sb	05 55 27.9	-0.2
BOYT	Boyabat	1.01	2	iP	Pg	05 55 14.9	-1.5
BOYT				iS	Sg	05 55 27.5	-2.0
BOYT	Boyabat	1.01	2	iP	Pg	05 55 14.9	-1.5
BOYT				iS	Sg	05 55 27.5	-2.0
BYBT	Boyabat	1.06	356	ePG	Pg	05 55 16.8	-0.5
BYBT				eSG	Sb	05 55 32.1	+0.5
BYBT	Boyabat	1.06	356	ePg	Pg	05 55 16.8	-0.5
BYBT				eSg	Sb	05 55 32.1	+0.5
ILGA	Ilgaz	1.07	307	iP	Pg	05 55 16.3	-1.4
ILGA				iS	Sg	05 55 31.3	-0.4
ILGA	Ilgaz	1.07	307	iP	Pg	05 55 16.3	-1.4
ILGA				iS	Sg	05 55 31.3	-0.4
ELDT	Eldivan	1.09	274	iP	Pg	05 55 16.4	-1.6
ELDT				iS	Sg	05 55 30.7	-1.5
ELDT	Eldivan	1.09	274	iP	Pg	05 55 16.4	-1.6
ELDT				iS	Sg	05 55 30.7	-1.5
KVT	Kavak	1.12	53	ePN	Pg	05 55 17.1	-1.6
KVT				eSN	Sb	05 55 34.3	+0.6
KVT	Kavak	1.12	53	ePn	Pg	05 55 17.1	-1.6
KVT				eSn	Sb	05 55 34.3	+0.6
BRTR	Keskin Array B	1.16	234	Pg	Pg	05 55 16.8	-2.5
	56nm,0.3s,baz=64,slow=15,SNR=433						
BRTR				Lg	Lg	05 55 32.9	
	70nm,0.3s,baz=68,slow=23,SNR=27						
TOKA	Tokat	1.25	94	iP	Pg	05 55 19.6	-1.4
TOKA				iS	Sg	05 55 37.4	+0.3
TOKA	Tokat	1.25	94	iP	Pg	05 55 19.6	-1.4
TOKA				iS	Sg	05 55 37.4	+0.3
DIKM	Dikmen	1.27	14	ePN	Pg	05 55 20.4	-1.1
DIKM	Dikmen	1.27	14	ePn	Pg	05 55 20.4	-1.1
TOKT	Tokat	1.30	94	ePN	Pg	05 55 20.3	-1.6
TOKT	Tokat	1.30	94	ePn	Pg	05 55 20.3	-1.6
ERBA	Erbaa	1.47	79	iP	Pn	05 55 23.0	-1.0
ERBA				iS	Sg	05 55 44.0	-0.4
ERBA	Erbaa	1.47	79	iP	Pn	05 55 23.0	-1.0
ERBA				iS	Sg	05 55 44.0	-0.4
BBAL	Bala	1.59	237	iP	Pn	05 55 24.9	-0.8
BBAL				iS	Sb	05 55 47.8	+0.7
BBAL	Bala	1.59	237	iP	Pn	05 55 24.9	-0.8
BBAL				iS	Sb	05 55 47.8	+0.7
AVNT	Avonos	1.63	180	iP	Pn	05 55 25.4	-0.9
AVNT				iS	Sb	05 55 48.9	+0.6
AVNT	Avonos	1.63	180	iP	Pn	05 55 25.4	-0.9
AVNT				iS	Sb	05 55 48.9	+0.6
BZK	Bozkurt	1.67	338	ePN	Pn	05 55 27.1	+0.4
BZK	Bozkurt	1.67	338	ePn	Pn	05 55 27.1	+0.4
AFSR	Af`ar-Bala (A	1.68	235	ePN	Pn	05 55 26.7	-0.1
AFSR	Af`ar-Bala (A	1.68	235	ePn	Pn	05 55 26.7	-0.1
SVSK	Karacayir	1.72	106	ePN	Pn	05 55 27.4	+0.1
SVSK	Karacayir	1.72	106	ePn	Pn	05 55 27.4	+0.1
BNN	Bunyan	1.74	153	ePN	Pn	05 55 27.9	+0.2
BNN	Bunyan	1.74	153	ePn	Pn	05 55 27.9	+0.2
SCER	sogukcermik	1.83	107	iP	Pn	05 55 29.4	+0.4
SCER				iS	Sb	05 55 54.6	+0.6
SCER	sogukcermik	1.83	107	iP	Pn	05 55 29.4	+0.4
SCER				iS	Sb	05 55 54.6	+0.6
SAFT	Safranbolu	1.84	297	ePN	Pn	05 55 29.8	+0.8
SAFT	Safranbolu	1.84	297	ePn	Pn	05 55 29.8	+0.8
RSDY	Resadiye-TOKAT	1.89	90	ePN	Pn	05 55 30.1	+0.4
RSDY	Resadiye-TOKAT	1.89	90	ePn	Pn	05 55 30.1	+0.4
PINB	Pinarbasi	2.11	145	iP	Pn	05 55 33.4	+0.5
PINB				iS	Sb	05 56 02.6	+0.4
PINB	Pinarbasi	2.11	145	iP	Pn	05 55 33.4	+0.5
PINB				iS	Sb	05 56 02.6	+0.4
NIG	Nigde	2.31	185	ePN	Pn	05 55 36.1	+0.5
NIG	Nigde	2.31	185	ePn	Pn	05 55 36.2	+0.5
SUSE	Susehri	2.57	93	iP	Pn	05 55 40.0	+0.8
SUSE				iS	Sg	05 56 21.0	+1.4
SUSE	Susehri	2.57	93	iP	Pn	05 55 40.0	+0.8
GRSN	GIRESUNGRSN	2.65	78	iP	Pn	05 55 42.1	+2.0
GRSN	GIRESUNGRSN	2.65	78	iP	Pn	05 55 42.1	+2.0
SVRH	Sivrihisar-ESK	2.74	250	ePN	Pn	05 55 42.5	+1.1
SVRH	Sivrihisar-ESK	2.74	250	ePn	Pn	05 55 42.5	+1.1
DARE	Darende-Malaty	2.74	131	ePN	Pn	05 55 42.2	+0.7
KIZT	Kizilcal	2.76	237	ePN	Pn	05 55 42.9	+1.1
KIZT	Kizilcal	2.76	237	ePn	Pn	05 55 42.9	+1.1
MDUB	Mudurnu	2.79	272	ePN	Pn	05 55 42.9	+0.7
MDUB	Mudurnu	2.79	272	ePn	Pn	05 55 42.9	+0.7
ESPY	Espiye-Giresun	2.99	79	ePN	Pn	05 55 45.8	+1.0
ESPY	Espiye-Giresun	2.99	79	ePn	Pn	05 55 45.8	+1.0
ILIC	ilic-Erzincan	3.01	107	ePN	Pn	05 55 46.2	+0.9
ILIC	ilic-Erzincan	3.01	107	ePn	Pn	05 55 46.2	+0.9
KOZT	Kozan	3.03	165	ePN	Pn	05 55 46.9	+1.6
KOZT	Kozan	3.03	165	ePn	Pn	05 55 46.9	+1.6
KEMA	Kemaliye	3.03	111	iP	Pn	05 55 45.3	-0.1
KEMA				iS	Sg	05 56 32.0	-2.3
KEMA	Kemaliye	3.03	111	iP	Pn	05 55 45.3	-0.1
GULE	Gulek	3.13	181	iP	Pb	05 55 52.2	-0.8
GULE				iS	Sb	05 56 31.5	+0.1
KONT	Konya--Tatoy	3.13	219	ePN	Pn	05 55 48.4	+1.6
KONT	Konya--Tatoy	3.13	219	ePn	Pn	05 55 48.4	+1.6
KARA	Karaisali	3.15	177	ePN	Pn	05 55 48.0	+1.0
KARA	Karaisali	3.15	177	ePn	Pn	05 55 48.1	+1.0
ESKT	Eskisehir	3.20	255	ePN	Pn	05 55 48.8	+0.9
ESKT	Eskisehir	3.20	255	ePn	Pn	05 55 48.8	+0.9
GULT	Gulveren	3.31	272	ePN	Pn	05 55 50.6	+1.4
GULT	Gulveren	3.31	272	ePn	Pn	05 55 50.7	+1.4
KMRS	Kahramanmaras	3.31	151	ePN	Pn	05 55 50.3	+1.0
KMRS	Kahramanmaras	3.31	151	ePn	Pn	05 55 50.3	+1.0
MALT	Malatya	3.48	126	ePN	Pn	05 55 52.8	+1.2
MALT	Malatya	3.48	126	ePn	Pn	05 55 52.8	+1.2
GUMT	Gumushane	3.53	88	ePN	Pn	05 55 52.9	+0.5
GUMT	Gumushane	3.53	88	ePn	Pn	05 55 52.9	+0.5
PTK	Pertek	3.82	112	ePN	Pn	05 55 57.4	+1.0
PTK	Pertek	3.82	112	ePn	Pn	05 55 57.4	+1.0
ERZN	Erzincan	3.83	101	ePN	Pn	05 55 57.7	+1.2
CAVI	Cavuskoy	3.84	268	ePN	Pn	05 55 57.4	+0.9
CAVI	Cavuskoy	3.84	268	ePn	Pn	05 55 57.4	+0.9
HDMB	Hadim	3.91	209	ePN	Pn	05 55 59.2	+1.5
HDMB	Hadim	3.91	209	ePn	Pn	05 55 59.2	+1.5
IKL	Isikli	4.27	193	ePN	Pn	05 56 04.0	+1.6
IKL	Isikli	4.27	193	ePn	Pn	05 56 04.0	+1.6
URFA	Urfa	4.29	133	ePN	Pn	05 56 04.0	+1.3
URFA	Urfa	4.29	133	ePn	Pn	05 56 04.0	+1.3
KBZ	Khabaz	6.84	58	Pn	Pn	05 56 38.6	+0.9
	0.7nm,0.3s,baz=244,slow=8.3,SNR=6.1						
MMAI	Mount Meron Ar	7.40	176	Pn	Pn	05 56 45.4	0.0
	1.5nm,0.3s,baz=349,slow=15,SNR=2.7						
IDI	Anoyia	9.39	240	LR	LR	06 00 54.7	
	comp=Z,52nm,19.6s,baz=277,slow=38						
EIL	Elat	10.72	180	LR	LR	06 02 43.1	
	comp=Z,40nm,18.3s,baz=36,slow=44						
AKASG	Malin Array Be	11.01	341	Pn	Pn	05 57 33.3	-1.6
	1.4nm,0.3s,baz

JAMN			S	Sn	06 01 25.7	+0.9
JAGN	**Aguni-jima**	**1.33 203**	P	**Pn**	**06 01 07.5**	**-0.8**
JAGN			S	**Sg**	**06 01 27.2**	**+1.3**
JJT2	**Tamagusuku 2**	**1.67 182**	P	**Pn**	**06 01 13.2**	**+0.1**
JJT2			*e*S	**Sb**	**06 01 35.9**	**+0.1**
JAM	**Amami Oshima**	**1.68 69**	P	**Pn**	**06 01 13.1**	**0.0**
JAM			*e*S	**Sb**	**06 01 36.0**	**+0.1**
JKE	**Kume jima 2**	**1.75 212**	P	**Pn**	**06 01 13.8**	**-0.3**
JZK	**Kikaishima**	**1.96 75**	P	**Pn**	**06 01 17.2**	**+0.2**
KSRS	**Korea Array**	**9.61 0**	LR	LR	06 06 57.1	
	comp=Z,250nm,18.7s,baz=180,slow=37					
USRK	**Ussuriysk Arra**	**16.69 10**	P	P	06 04 45.8	+5.8
	0.0nm,0.3s,baz=183,slow=12,SNR=5.7					
SONM	**Songino Array**	**26.04 326**	P	**P**	**06 06 18.3**	**+1.0**
	6.2nm,0.8s,baz=139,slow=8.7,SNR=17					
BATI	**Baumata**	**38.01 187**	LR	LR	06 23 59.2	
	comp=Z,147nm,19.8s,baz=24,slow=36					
MKAR	**Makanchi Array**	**40.22 311**	P	**P**	**06 08 19.4**	**-1.2**
	0.7nm,0.6s,baz=102,slow=9.2,SNR=3.2					
ZALV	**Zalesovo Beam**	**40.77 322**	P	**P**	**06 08 24.4**	**-0.6**
	2.5nm,0.8s,baz=131,slow=5.9,SNR=2.7					
PMG	**Port Moresby**	**41.47 150**	P	P	06 08 34.6	+3.5
	11nm,0.8s,baz=282,slow=9.2,SNR=3.8					
KURBB	**Kurchatov Arra**	**43.47 315**	P	**P**	**06 08 47.1**	**0.0**
	1.3nm,0.7s,baz=104,slow=9.1,SNR=4.6					
WRA	**Warramunga Arr**	**47.90 172**	P	**P**	**06 09 22.1**	**-0.3**
	1.0nm,0.7s,baz=352,slow=8.3,SNR=4.6					
BVAR	**Borovoye Array**	**48.86 317**	P	**P**	**06 09 30.0**	**+0.5**
	0.7nm,0.5s,baz=94,slow=12,SNR=2.7					
ASAR	**Alice Springs**	**51.52 173**	P	**P**	**06 09 48.9**	**-1.0**
	1.0nm,0.8s,baz=357,slow=8.2,SNR=8.9					
ILAR	**Eielson Array**	**63.22 29**	P	**P**	**06 11 14.1**	**+2.0**
	0.4nm,0.7s,baz=295,slow=7.0,SNR=4.6					
BRTR	**Keskin Array B**	**75.78 307**	P	**P**	**06 12 28.7**	**-1.7**
	0.4nm,0.5s,baz=31,slow=6.7,SNR=2.5					
NVAR	**Mina Array Bea**	**89.67 46**	P	**P**	**06 13 43.4**	**+0.7**
	0.5nm,0.7s,baz=293,slow=4.8,SNR=3.1					
PDAR	**Pinedale Array**	**92.15 38**	P	**P**	**06 13 54.2**	**+0.1**
	0.6nm,0.9s,baz=5.7,slow=1.5,SNR=4.5					

DMN ***29*** *06:01:10.1±0.4, 31°.34N×83°.10E, h10km, Ml5.0/8, Error ellipse: s-maj=8.6km s-min=6.7km az=38.0*
BJI ***29*** *06:01:10.6, 30°.84N×83°.26E, h13km, mB5.2/29, mb4.7/40, Ms4.9/41, Ms7 4.7/38*
IDC ***29*** *06:01:11.3±0.5, 30°.87N×83°.53E, h0km, mb4.4/31, mb1 4.5/34, mb1mx4.5/38, mbtmp4.4/34, ML4.0/3, MS4.2/36, Ms1 4.2/36, ms1mx4.1/52, Error ellipse: s-maj=14.9km s-min=10.6km az=39.0*
NEIC ***29*** *06:01:13.3±0.3, 30°.89N×83°.49E, h10km, mb5.0/17, Error ellipse: s-maj=8.4km s-min=5.8km az=218.0*
ISCJB ***29*** *06:01:14.7±0.9, 30°.97N±0°.02×83°.40E±0°.02, h28km±6km, mb4.6/71, MS4.3/51, Error ellipse: s-maj=3.8km s-min=2.5km az=38.0*
MOS ***29*** *06:01:14.6±1.2, 30°.89N×83°.44E, h33km, mb5.0/23, MS4.4/11, Error ellipse: s-maj=9.6km s-min=4.6km az=114.8*
TEH ***29*** *06:01:14.0, 30°.94N×83°.49E, h10km, ML5.0*
NDI ***29*** *06:01:15.3±8.9, 30°.60N×83°.45E, h10km, mb5.0, mb5.0(NEIC)*
GCMT ***29*** *06:01:18.8±0.3, 30°.56N×83°.55E, h21km±1km, MW5.0, Moment Tensor Solution. s25,c29; s80,c127; Moment tensor: Scale 10^{16}Nm; M_{rr}-2.38±.23; $M_{\theta\theta}$-2.46±.15; $M_{\phi\phi}$4.84±.16; $M_{r\theta}$-0.69±.30; $M_{\theta\phi}$-0.16±.10; $M_{r\phi}$0.64±.23; Best double couple: $M_0$4.00000×10^{16} NP1:ϕ_s144.00000°, δ65.00000°, λ-142.00000°. NP2:ϕ_s36.00000°, δ56.00000°, λ-31.00000°. Principal axes: T 4.9000, Plg5.0000°, Azm268.0000°; N -1.7800, Plg45.0000°, Azm173.0000°; P -3.1300, Plg44.0000°, Azm3.0000°; Data Used: IU II IC G CN.*

ISC 29 06:01:14.5±0.4, 30°.91N±0°.03×83°.41E±0°.02, h15km±2km, h15km:pP-P, n258, σ1s79/295, mb4.7/71, MS4.4/52, 10C-5D, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DANN	**Dangsing**	**2.57**	**173**	*e*Pn	**Pn**	**06 01 56.3**	**+0.4**
PTH	**Pithoragarh**	**3.08**	**245**	*ex*	Pn	06 01 57.9	-4.8
PTH				*e*S	**Sn**	**06 02 37.3**	**-2.0**
LGTI	**Lohaghat**	**3.10**	**243**	*e*P	**Pg**	**06 02 14.6**	**+0.7**
LGTI				*e*S	**Sg**	**06 02 59.6**	**+5.5**
KOLN	**Koldanda**	**3.13**	**177**	*e*Pn	**Pn**	**06 02 04.1**	**+0.6**
KOLN				*e*Sn	**Sn**	**06 02 43.4**	**+2.6**
	1μm,0.7s						
KKN	**Kakani**	**3.52**	**152**	*e*Pn	**Pn**	**06 02 09.5**	**+0.7**
DMN	**Daman**	**3.61**	**155**	*e*Pn	**Pn**	**06 02 11.3**	**+1.2**
DMN				*e*Sn	**Sn**	**06 02 56.2**	**+3.6**
	4μm,1.3s						
GUN	**Gumba**	**3.69**	**144**	*e*Pn	**Pn**	**06 02 12.2**	**+0.9**
GUN				*e*Sn	**Sn**	**06 02 58.6**	**+3.9**
	3μm,1.0s						
PKIN	**Phulchoki**	**3.75**	**152**	*e*Pn	**Pn**	**06 02 13.8**	**+1.7**
PKI	**Pulchoki**	**3.76**	**152**	*e*Pn	**Pn**	**06 02 13.7**	**+1.4**
PKI				*e*Sn	**Sn**	**06 03 00.0**	**+3.6**
	2μm,1.2s						
JIRN	**Jiri**	**4.05**	**142**	*e*Pn	**Pn**	**06 02 17.7**	**+1.4**
JIRN				*e*Sn	**Sn**	**06 03 07.5**	**+3.8**
	958nm,1.0s						
DDI	**Dehra Dun**	**4.65**	**264**	*e*P	**Pn**	**06 02 26.1**	**+1.9**
DDI				*ex*	**Sb**	**06 03 28.3**	**-3.2**
RAMN	**Ramite**	**4.84**	**144**	*e*Pn	**Pn**	**06 02 27.5**	**+0.5**
RAMN				*e*Sn	**Sn**	**06 03 26.1**	**+3.2**
	1μm,1.1s						
TAPN	**Taplejung**	**5.17**	**132**	*e*Pn	**Pn**	**06 02 32.1**	**+0.4**
TAPN				*e*Sn	**Sn**	**06 03 33.7**	**+2.4**
	3μm,1.9s						
ODAN	**Odare**	**5.34**	**138**	*e*Pn	**Pn**	**06 02 34.3**	**+0.4**
ODAN				*e*Sn	**Sn**	**06 03 37.0**	**+1.8**
	2μm,1.6s						
SMLA	**Simla**	**5.36**	**274**	*i* P	**Pn**	**06 02 36.6**	**+2.7**
SMLA				*e*S	**Sn**	**06 03 37.1**	**+1.7**
SDNR	**Sundarnagar**	**5.54**	**278**	*e*4		06 02 43.0	
SDNR				*e*4		06 04 32.0	
NDI	**New Delhi**	**5.82**	**249**	*e*P	**Pg**	**06 03 03.5**	**-2.4**
NDI				*e*S	Sn	06 03 55.0	+8.3
BHK	**Bhakra**	**6.01**	**277**	*ex*	Pn	06 02 47.4	+4.5
DHRM	**DHARAMSHALA**	**6.21**	**284**	*e*P	**Pn**	**06 02 46.9**	**+1.1**
DHRM				*ex*	**Sn**	**06 03 59.6**	**+2.9**
THN	**Thein Dam**	**6.73**	**285**	*e*P	**Pn**	**06 02 55.1**	**+2.4**
LSA	**Lhasa**	**6.80**	**98**	Pn	**Pn**	**06 02 55.8**	**+1.6**
LSA				Sn	**Sn**	**06 04 13.0**	**+1.3**
LSA				LR	LR		
	comp=N,3μm,9.6s						
LSA				LR	LR		
	comp=E,4μm,11.1s						
BOK	**Bokaro**	**7.42**	**162**	*e*P	Pn	06 02 58.4	-3.9
BOK				*ex*	x	06 05 00.4	
CHCP	**Chirah Chowk**	**9.01**	**290**	P	Pn	06 03 27.4	+3.3
SHL	**Shillong**	**9.18**	**123**	*e*P	**Pn**	**06 03 25.0**	**-1.5**
SHL				*ex*	Sn	06 05 00.0	-10
BHPL	**Bhopal**	**9.31**	**216**	*e*P	**Pn**	**06 03 25.8**	**-2.5**
BHPL				*ex*	x	06 04 57.3	
THW	**Thamme Wali**	**10.10**	**284**	P	**Pn**	**06 03 39.1**	**+0.1**
CEP	**Cherat**	**10.15**	**290**	P	**Pn**	**06 03 41.6**	**+1.9**
CEP				S	**Sn**	**06 05 32.0**	**-1.4**
KSH	**Kashi**	**10.52**	**327**	P	**Pn**	**06 03 44.3**	**-0.5**
KSH				sP		06 03 50.3	
KSH				PP	**PnPn**	**06 03 52.5**	**0.0**
KSH				S	**Sn**	**06 05 40.8**	**-1.5**
KSH				sS		06 05 45.8	
KSH				SS	**SnSn**	**06 05 54.0**	**-0.3**
KSH				pmax	pmax		
	comp=Z,19nm,0.6s						
KSH				LR	LR		
	comp=N,3μm,9.3s						
KSH				LR	LR		
	comp=E,6μm,9.6s						
KSH				LR	LR		
	comp=Z,3μm,10.6s						
AKL	**Akola**	**11.68**	**211⇑**	*i*P	Pn	**06 03 59.6**	**-1.1**
AKL				*i* x	x	06 06 01.4	
KBL	**Kabul**	**12.62**	**290**	*e*P	**Pn**	**06 04 14.0**	**+0.3**
KBL	**Kabul**	**12.62**	**290**	*e*Pn	**Pn**	**06 04 14.0**	**+0.3**
WMQ	**Urumqi**	**13.33**	**14**	P	**Pn**	**06 04 24.3**	**+1.2**
WMQ				pP	pP	06 04 28.3	
WMQ				sP	sP	06 04 31.3	
WMQ				PP	**P**	**06 04 35.3**	**+2.5**
WMQ				S	**Sn**	**06 06 53.0**	**+2.0**
WMQ				SS	**SnSn**	**06 07 08.3**	**+4.8**
WMQ				pmax	pmax		
	comp=Z,37nm,1.2s						
WMQ				pmax	pmax		
	comp=Z,310nm,4.3s						
WMQ				LR	LR		
	comp=N,4μm,13.8s						
WMQ				LR	LR		
	comp=E,2μm,20.0s						
WMQ				LR	LR		
	comp=Z,4μm,14.2s						
TKM2	**Tokmak 2**	**13.51**	**335**	*e*P	**Pn**	**06 04 26.7**	**+1.0**
TKM2	**Tokmak 2**	**13.51**	**335**	*e*Pn	**Pn**	**06 04 26.7**	**+1.0**
AAK	**Ala-Archa**	**13.70**	**331**	Pn	**Pn**	**06 04 28.3**	**0.0**
	comp=Z,131nm,0.8s,SNR=6.3						
AAK	**Ala-Archa**	**13.70**	**331**	*de*P	**Pn**	**06 04 28.4**	**+0.1**
AAK				pmax	pmax		
	comp=Z,12nm,1.2s						
AAK	**Ala-Archa**	**13.70**	**331**	*e*Pn	**Pn**	**06 04 29.6**	**+1.3**
AAK				Sn	**Sn**	**06 07 01.0**	**+0.8**
AAK				Lg	Lg	06 08 22.6	
AAK	**Ala-Archa**	**13.70**	**331**	Pn	**Pn**	**06 04 29.5**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=156,slow=16,SNR=7.0						
AAK				Sn	**Sn**	**06 07 01.0**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=177,slow=18,SNR=1.8						
AAK				Lg	Lg	06 08 22.6	
	comp=Z,0.2nm,0.3s,baz=180,slow=15,SNR=1.5						
AAK				LR	LR	06 09 59.9	
	comp=Z,1μm,20.2s,baz=126,slow=38						
FRU	**Bishkek**	**13.81**	**332**	*e*P	**Pn**	**06 04 30.0**	**+0.3**
FRU				*i* S	**Sn**	**06 07 04.0**	**+1.2**
FRU				pmax	pmax		
	comp=Z,90nm,2.0s						
FRU				pmax	pmax		
	comp=E,90nm,2.0s						
EKS2	**Erkin-Say**	**14.02**	**329**	*e*P	**Pn**	**06 04 33.8**	**+1.1**
EKS2	**Erkin-Say**	**14.02**	**329**	*e*Pn	**Pn**	**06 04 33.8**	**+1.1**
HYB	**Hyderabad**	**14.14**	**199⇓**	*i*P	Pn	06 04 30.0	-4.4
HYB				*e*S	**Sn**	**06 07 12.0**	**+0.9**
HYB				*e*SS	SbSb	06 08 20.0	+10
POO	**Poona**	**15.07**	**217**	*e*PP	**P**	**06 04 53.0**	**+0.8**
GTA	**Gaotai**	**15.86**	**53**	P	**P**	**06 05 00.0**	**-1.0**
GTA				pP	**pP**	**06 05 03.3**	**-1.9**
GTA				sP	**sP**	**06 05 06.0**	**-1.2**
GTA				S	**Sn**	**06 07 54.0**	**+1.2**
GTA				sS	S	06 07 58.5	-8.6
GTA				SS	**SnSn**	**06 08 13.0**	**+7.3**
GTA				pmax	pmax		
	comp=Z,12nm,1.3s						
GTA				pmax	pmax		
	comp=Z,370nm,5.2s						
GTA				LR	LR		
	comp=N,3μm,14.7s						
GTA				LR	LR		
	comp=E,2μm,15.2s						
GTA				LR	LR		
	comp=Z,2μm,11.9s						
MK31	**Makanchi Array**	**15.88**	**357**	*i* P	**Pn**	**06 04 57.3**	**-0.1**
MK31				pmax	pmax		
	comp=Z,80nm,1.5s						
MKAR	**Makanchi Array**	**15.88**	**357**	*e*P	**Pn**	**06 04 56.6**	**-0.8**
MKAR	**Makanchi Array**	**15.88**	**357**	*e*Pn	**Pn**	**06 04 56.6**	**-0.8**
MKAR	**Makanchi Array**	**15.88**	**357**	Pn	**Pn**	**06 04 55.9**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=180,slow=12,SNR=24						
MKAR				LR	LR	06 12 06.4	
	comp=Z,887nm,19.7s,baz=185,slow=41						
KK31	**Karatay Array**	**15.92**	**323**	P	**Pn**	**06 04 55.7**	**-2.2**
KK31				pmax	pmax		
	comp=Z,25nm,0.9s						
KKAR	**Karatay Array**	**15.92**	**323**	*e*P	**Pn**	**06 04 55.8**	**-2.1**
KKAR	**Karatay Array**	**15.92**	**323**	*e*Pn	**Pn**	**06 04 55.8**	**-2.1**
KAD	**Karad**	**15.93**	**214**	*e*P	**Pn**	**06 04 59.2**	**+0.9**
CD2	**Chengdu**	**17.47**	**85**	P	**Pn**	**06 05 17.5**	**-0.1**
CD2				pP	**pP**	**06 05 21.0**	**-2.1**
CD2				sP	**sP**	**06 05 24.5**	**-0.5**
CD2				PP	**PnPn**	**06 05 32.0**	**+4.1**
CD2				S	**Sn**	**06 08 29.5**	**-2.4**
CD2				SS	**SnSn**	**06 08 51.0**	**+5.8**
CD2				pmax	pmax		
	comp=Z,20nm,0.6s						
CD2				pmax	pmax		
	comp=Z,910nm,5.9s						
CD2				LR	LR		
	comp=N,3μm,10.1s						
CD2				LR	LR		
	comp=Z,2μm,5.9s						
LZH	**Lanzhou**	**17.80**	**68**	P	**Pn**	**06 05 22.0**	**+0.1**
LZH				pP	**pP**	**06 05 25.0**	**-1.8**
LZH				sP	**sP**	**06 05 28.3**	**-0.5**
LZH				*e*S	**Sn**	**06 08 36.8**	**-3.3**
LZH				SS	**SnSn**	**06 08 57.5**	**+3.9**
LZH				pmax	pmax		
	comp=Z,84nm,1.5s						
LZH				pmax	pmax		
	comp=Z,260nm,5.7s						
LZH				LR	LR		
	comp=N,3μm,12.4s						
LZH				LR	LR		
	comp=E,3μm,10.4s						
LZH				LR	LR		
	comp=Z,4μm,13.9s						
KMI	**Kunming**	**18.01**	**104**	P	**P**	**06 05 25.0**	**0.0**
KMI				pP	**pP**	**06 05 27.5**	**-1.8**
KMI				S	**Sn**	**06 08 44.5**	**-0.9**
KMI				SS	**SnSn**	**06 09 05.5**	**+6.6**
KMI				pmax	pmax		
	comp=Z,15nm,0.7s						
KMI				LR	LR		
	comp=N,3μm,11.3s						
KMI				LR	LR		
	comp=E,2μm,9.8s						
KMI				LR	LR		
	comp=Z,1μm,11.1s						
CHTO	**Chiang Mai**	**18.52**	**127**	*e*P	**Pn**	**06 05 30.1**	**-0.4**
CHTO				pmax	pmax		
	comp=Z,82nm,1.1s						
CHTO	**Chiang Mai**	**18.52**	**127**	*e*Pn	**Pn**	**06 05 30.1**	**-0.4**
	comp=Z,82nm,1.1s						
CMAR	**Chiang Mai Arr**	**18.76**	**128**	P	**P**	**06 05 32.3**	**-0.8**
CMAR				PcP	**PcP**	**06 10 01.3**	**+0.8**
CMAR	**Chiang Mai Arr**	**18.76**	**128**	P	**P**	**06 05 32.3**	**-0.8**
	comp=Z,0.7nm,0.3s,baz=307,slow=9.7,SNR=21						
CMAR				PcP	**PcP**	**06 10 01.3**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=270,slow=1.8,SNR=4.0						
CMAR				LR	LR	06 13 31.2	
	comp=Z,879nm,21.0s,baz=322,slow=40						
KURBB	**Kurchatov Arra**	**20.03**	**351**	P	**P**	**06 05 46.0**	**-0.7**
	comp=Z,15nm,0.8s,baz=168,slow=10,SNR=98						
IDAH	**Dahanechah**	**20.08**	**281**	*e*P	Pn	06 05 49.1	-0.5
KURK	**Kurchatov**	**20.10**	**351**	P	**P**	**06 05 47.3**	**-0.2**
	comp=Z,148nm,1.5s,SNR=20						
KURK	**Kurchatov**	**20.10**	**351⇓**	*e*P	**P**	**06 05 47.0**	**-0.5**
KURK				pmax	pmax		
	comp=Z,63nm,1.7s						
KURK	**Kurchatov**	**20.10**	**351**	*e*P	**P**	**06 05 47.6**	**+0.1**
	comp=Z,86nm,1.6s						
IMYA	**Miami**	**20.13**	**292**	*e*P	Pn	06 05 49.6	-0.4
ISRO	**Mashad**	**20.63**	**292**	*e*P	**P**	**06 05 53.2**	**-0.3**
IMOG	**Moghan**	**20.70**	**291**	*e*P	**P**	**06 05 55.4**	**+0.9**
IKOO	**Kooshah**	**20.82**	**281**	*e*P	Pn	06 05 57.3	-0.9
GYA	**Guiyang**	**20.87**	**96**	P	**P**	**06 05 56.3**	**+0.1**
GYA				PP	**PnPn**	**06 06 18.3**	**+3.7**
GYA				S	**S**	**06 09 43.5**	**-5.1**
GYA				SS	**SnSn**	**06 10 14.8**	**+5.8**
GYA				ScP	**ScP**	**06 13 41.5**	**+0.9**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,4.9s						
GYA				LR	LR		
	comp=N,550nm,17.8s						
GYA				LR	LR		
	comp=E,430nm,18.0s						
GYA				LR	LR		
	comp=Z,580nm,17.7s						
IAKL	**Akhelmad**	**21.24**	**292**	*e*P	**P**	**06 06 01.1**	**+0.8**
IEMG	**Emamgholi**	**21.45**	**294**	*e*P	**P**	**06 06 03.1**	**+0.6**
IKRD	**Kardeh**	**21.46**	**293**	*e*P	P	06 05 54.6	-8.0
ISFR	**Sfrayin**	**21.91**	**293**	*e*P	**P**	**06 06 09.3**	**+1.9**
ZALV	**Zalesovo Beam**	**23.05**	**2**	P	**P**	**06 06 17.8**	**-1.2**
ZALV	**Zalesovo Beam**	**23.05**	**2**	P	**P**	**06 06 17.8**	**-1.2**
ZALV	**Zalesovo Beam**	**23.05**	**2**	P	**P**	**06 06 17.8**	**-1.2**
	comp=Z,10.0nm,0.8s,baz=186,slow=8.5,SNR=36						
VOSK	**Vostochnaya**	**23.61**	**341**	P	**P**	**06 06 24.3**	**-0.4**
VOSK				pmax	pmax		
	comp=Z,71nm,2.0s						
IBAF	**Bafgh**	**23.79**	**279**	*e*P	**P**	**06 06 23.3**	**-3.5**
NVS	**Novosibirsk**	**23.92**	**360**	*e*P	**P**	**06 06 25.1**	**-2.5**
NVS				pmax	pmax		
	comp=Z,45nm,1.9s						
NVS				pmax	pmax		
	comp=N,35nm,1.8s						
NVS				pmax	pmax		
	comp=E,23nm,1.9s						
BVA0	**Borovoye Array**	**24.05**	**340**	*i* P	**P**	**06 06 28.9**	**0.0**
BVA0				pmax	pmax		
	comp=Z,46nm,2.0s						
BVAR	**Borovoye Array**	**24.05**	**340**	P	**P**	**06 06 29.2**	**+0.4**
BVAR	**Borovoye Array**	**24.05**	**340**	P	**P**	**06 06 29.2**	**+0.4**
BVAR	**Borovoye Array**	**24.05**	**340**	P	**P**	**06 06 29.2**	**+0.4**
	comp=Z,2.8nm,0.5s,baz=120,slow=8.8,SNR=16						
BVAR				LR	LR	06 17 59.9	
	comp=Z,129nm,21.6s,baz=152,slow=42						
BRVK	**Borovoye**	**24.11**	**340**	*ce*P	**P**	**06 06 30.2**	**+0.8**
BRVK				pmax	pmax		
	comp=Z,19nm,1.7s						
BRVK	**Borovoye**	**24.11**	**340**	*e*P	**P**	**06 06 29.4**	**0.0**
	comp=Z,15nm,0.9s						
SONM	**Songino Array**	**24.38**	**40**	P	**P**	**06 06 31.8**	**-0.3**
SONM	**Songino Array**	**24.38**	**40**	P	**P**	**06 06 31.8**	**-0.3**
	comp=Z,6.9nm,0.8s,baz=223,slow=9.6,SNR=11						
SONM				LR	LR	06 17 02.2	
	comp=Z,967nm,18.9s,baz=233,slow=39						
ZAK	**Zakamensk**	**24.47**	**32**	*e*P	**P**	**06 06 30.3**	**-2.6**
ZAK				pmax	pmax		
	comp=Z,9.0nm,1.7s						
IMEH	**Mehriz**	**24.62**	**279**	*e*P	**P**	**06 06 33.1**	**-1.5**
ULN	**Ulaanbaatar**	**24.76**	**40**	*e*P	**P**	**06 06 36.2**	**+0.6**
	comp=Z,26nm,1.2s						
HHC	**Hu-ho-hao-te**	**24.79**	**59**	*e*P	**P**	**06 06 34.5**	**-1.4**
HHC				PP	**PnPn**	**06 07 10.5**	**+2.5**
HHC				PcP	**PcP**	**06 10 13.3**	**+1.1**
HHC				S	**S**	**06 10 53.0**	**-4.8**
HHC				SS	**SnSn**	**06 11 49.5**	**+4.8**
HHC				ScP	**ScP**	**06 13 50.0**	**-0.6**
HHC				PcS	**PcS**	**06 13 51.3**	**-1.0**
HHC				pmax	pmax		
	comp=Z,44nm,0.7s						
HHC				pmax	pmax		
	comp=Z,820nm,4.7s						
HHC				LR	LR		
	comp=N,2μm,12.1s						
HHC				LR	LR		
	comp=E,1μm,12.0s						
HHC				LR	LR		
	comp=Z,2μm,12.0s						
IANJ	**Anjilo**	**25.05**	**288**	*e*P	**P**	**06 06 39.2**	**+0.8**
AB31	**Akbulak array**	**25.48**	**323**	*i* P	**P**	**06 06 42.5**	**+0.6**
AB31				pmax	pmax		
	comp=Z,20nm,1.1s						
ABKAR	**Akbulak array**	**25.48**	**323**	*e*P	**P**	**06 06 42.7**	**+0.8**
TLY	**Talaya**	**25.57**	**30**	*e*P	**P**	**06 06 44.6**	**+1.9**
TLY				*e*S	**S**	**06 11 09.5**	**-0.4**
TLY				*e*SS	SnSn	06 12 20.7	+17
TLY				pmax	pmax		
	comp=Z,11nm,1.3s						
TLY				MLR	MLR		
	comp=Z,426nm,14.0s						
ISHM	**Shahmirzad**	**25.57**	**289**	*e*P	**P**	**06 06 45.0**	**+1.8**
IPAR	**Pars**	**26.18**	**276**	*e*P	**P**	**06 06 50.9**	**+2.1**
ISRV	**Sarvestan**	**26.20**	**274**	*e*P	**P**	**06 06 48.0**	**-1.1**
IZEF	**Zefreh**	**26.41**	**282**	*e*P	**P**	**06 06 53.0**	**+2.1**
ISFB	**Sefidab**	**26.42**	**286**	*e*P	**P**	**06 06 48.2**	**-2.5**
WHN	**Wuhan**	**26.56**	**83⇑**	*i*P	**P**	**06 06 52.5**	**+0.6**
QIZ	**Qiongzhong**	**26.66**	**110**	P	**P**	**06 06 51.5**	**-1.3**
QIZ				S	**S**	**06 11 26.0**	**-1.6**
QIZ				pmax	pmax		
	comp=Z,86nm,2.1s						
QIZ				pmax	pmax		
	comp=Z,1μm,4.2s						
IKLH	**Kolahrood**	**27.01**	**284**	*e*P	**P**	**06 06 58.9**	**+2.6**
AKTO	**Aktyubinsk**	**27.18**	**323**	P	**P**	**06 06 58.0**	**+0.7**
AKTO	**Aktyubinsk**	**27.18**	**323**	P	**P**	**06 06 58.0**	**+0.7**
AKTO	**Aktyubinsk**	**27.18**	**323**	P	**P**	**06 06 58.0**	**+0.7**
	comp=Z,4.3nm,0.7s,baz=127,slow=10,SNR=6.2						
AKTO				LR	LR	06 19 10.1	
	comp=Z,525nm,19.9s,baz=297,slow=40						
BJI	**Beijing**	**28.07**	**62**	P	**P**	**06 07 04.5**	**-0.8**
BJI				S	**S**	**06 11 47.8**	**-1.7**
BJI				pmax	pmax		
	comp=Z,12nm,1.4s						
BJI				LR	LR		
	comp=N,2μm,21.3s						
BJI				LR	LR		
	comp=E,410nm,22.2s						
BJI				LR	LR		
	comp=Z,400nm,20.2s						
NJ2	**Nanjing**	**30.17**	**78**	*e*P	**P**	**06 07 25.0**	**+0.9**
NJ2				pP	**pP**	**06 07 29.5**	**+0.8**
NJ2				S	**S**	**06 12 21.5**	**-1.2**
NJ2				sS	**sS**	**06 12 34.5**	**+4.1**
NJ2				pmax	pmax		
	comp=Z,20nm,0.7s						
NJ2				pmax	pmax		
	comp=Z,1μm,5.2s						
NJ2				LR	LR		
	comp=N,2μm,21.2s						
NJ2				LR	LR		
	comp=E,850nm,20.3s						
NJ2				LR	LR		
	comp=Z,1μm,16.4s						
SVE	**Sverdlovsk**	**30.38**	**335⇓**	*e*P	**P**	**06 07 26.6**	**+0.9**
SVE				pmax	pmax		
	comp=Z,26nm,1.4s						
SVE				MLR	MLR		
	comp=Z,895nm,13.0s						
ARU	**Arti**	**30.87**	**333**	*c i*P	**P**	**06 07 30.9**	**+0.9**
ARU						06 08 30.1	
ARU				S	**S**	**06 12 37.4**	**+4.2**
ARU				SS	**SnSn**	**06 14 16.5**	**+3.9**
ARU				pmax	pmax		
	comp=Z,18nm,1.2s						
SOKR	**Solikamsk**	**33.80**	**336⇑**	*i*P	**P**	**06 07 56.7**	**+1.1**
SOKR				pmax	pmax		
	comp=Z,60nm,1.4s						
SOKR				MLR	MLR		
	comp=Z,530nm,14.0s						
SNY	**Shenyang**	**33.85**	**60⇑**	P	**P**	**06 07 56.0**	**-0.3**
SNY				S	S	06 13 11.3	-8.7
SNY				pmax	pmax		
	comp=Z,300nm,4.7s						
SNY				LR	LR		
	comp=N,1μ

comp=E,446nm,18.6s,baz=94,slow=38
ANN Anapa 38.35 304 *e*P P 06 08 30.4 -4.3
ANN *e*S **S** **06 14 23.8 -4.9**
ANN pmax pmax
comp=Z,194nm,5.6s
ANN MLR MLR
comp=Z,383nm,21.0s
MDJ Mudanjiang 38.49 56 P **P** **06 08 34.8 -1.1**
MDJ pP **pP** **06 08 38.0 -2.6**
MDJ S **S** **06 14 28.3 -2.5**
MDJ ScS **ScS** **06 18 47.3 +1.0**
MDJ pmax pmax
comp=Z,5.0nm,0.5s
MDJ pmax pmax
comp=Z,130nm,6.9s
MDJ LR LR
comp=N,440nm,13.9s
MDJ LR LR
comp=E,310nm,13.1s
MDJ LR LR
comp=Z,610nm,15.9s
ASF Jabal al Asfar 39.42 284 LR LR 06 26 42.0
comp=Z,197nm,18.8s,baz=156,slow=39
VLA Vladivostok 40.06 58 *i* P **P** **06 08 46.7 -2.4**
USRK Ussuriysk Arra 40.17 57 P **P** **06 08 49.3 -0.7**
comp=Z,4.0nm,0.8s,baz=242,slow=4.1,SNR=5.8
USRK LR LR 06 25 55.3
comp=Z,540nm,18.3s,baz=87,slow=37
MOS Moscow 40.48 321 *e*P **P** **06 08 50.2 -2.2**
KLR Kul'dur 40.49 49 *e*P P 06 08 48.0 -4.6
KLR MLR MLR
comp=E,1μm,10.5s
KLR MLR MLR
comp=Z,2μm,10.5s
MMAI Mount Meron Ar 40.50 286 LR LR 06 27 34.7
comp=Z,128nm,18.0s,baz=65,slow=39
OBN Obninsk 40.87 320⇑ *i* P **P** **06 08 56.2 +0.6**
OBN *i* 06 10 35.1
OBN *e*SS SS 06 18 06.2 -1.3
OBN pmax pmax
comp=Z,61nm,1.6s
OBN MLR MLR
comp=Z,500nm,15.0s
BRTR Keskin Array B 41.10 296 P **P** **06 08 59.0 +1.1**
BRTR Keskin Array B 41.10 296 P **P** **06 08 59.0 +1.1**
comp=Z,1.4nm,0.9s,baz=142,slow=6.2,SNR=8.3
KLMR Klimovskoe 41.50 329 *e*P **P** **06 08 59.3 -1.4**
KLMR pmax pmax
comp=Z,66nm,1.5s
KLMR MLR MLR
comp=Z,807nm,14.0s
EIL Elat 41.60 281 P **P** **06 09 03.4 +1.4**
EIL Elat 41.60 281 P **P** **06 09 03.4 +1.4**
comp=Z,4.9nm,0.6s,baz=87,slow=6.1,SNR=3.5
EIL LR LR 06 28 35.8
comp=Z,292nm,19.7s,baz=84,slow=39
ATD Arta Tunnel 42.14 252 LR LR 06 24 22.0
comp=Z,126nm,22.0s,baz=63,slow=33
TMCR Tamitsa 43.61 333 *e*P **P** **06 09 19.3 +1.5**
TMCR pmax pmax
comp=Z,40nm,0.9s
AKASG Malin Array Be 44.41 313 P **P** **06 09 23.5 -0.9**
AKASG Malin Array Be 44.41 313 P **P** **06 09 23.5 -0.9**
AKASG Malin Array Be 44.41 313 P **P** **06 09 23.5 -0.9**
comp=Z,1.9nm,0.5s,baz=82,slow=7.5,SNR=14
AKASG LR LR 06 29 37.2
comp=Z,250nm,21.6s,baz=75,slow=38
KIEV Kiev 44.42 313 *e*P **P** **06 09 26.1 +1.6**
KIEV Kiev 44.42 313 *e*P **P** **06 09 26.1 +1.6**
JOF Joensuu 45.88 330 *e*P **P** **06 09 35.5 -0.4**
JOF pmax pmax
comp=Z,3.0nm,0.4s
JOF Joensuu 45.88 330 *e*p **P** **06 09 35.5 -0.4**
comp=Z,2.7nm,0.4s
MLR Muntele Rosu 46.49 305 LR LR 06 30 13.5
comp=Z,78nm,20.5s,baz=238,slow=37
APA Apatity 46.84 336⇓ *i* P P 06 09 49.2 +5.8
APA *i* 06 11 19.6
APA *i* S S 06 16 42.0 +9.0
APA MLR MLR
comp=Z,900nm,12.0s
TIXI Tiksi 47.48 18⇑ *e*P **P** **06 09 48.3 0.0**
TIXI pmax pmax
comp=Z,26nm,2.5s
ASAJ Asahikawa 47.80 57 LR LR 06 31 53.6
comp=Z,454nm,18.4s,baz=86,slow=39
FINES FINESS Array B 47.84 327 P **P** **06 09 50.9 -0.3**
FINES FINESS Array B 47.84 327 P **P** **06 09 50.9 -0.3**
comp=Z,5.5nm,0.7s,baz=108,slow=7.6,SNR=16
FINES LR LR 06 30 35.6
comp=Z,475nm,18.5s,baz=275,slow=37
KAF Kangasniemi 47.88 328 *e*P P 06 09 43.0 -8.6
KAF pmax pmax
comp=Z,1.0nm,0.3s
KAF Kangasniemi 47.88 328 *e*p P 06 09 43.0 -8.6
comp=Z,0.8nm,0.3s
IDI Anoyia 48.61 292 *e*P **P** **06 09 58.6 +0.9**
comp=Z,53nm,1.3s
UZH Uzhgorod 48.86 310 *e*P **P** **06 09 57.2 -2.1**
CRVS Cervenica-Dubn 49.40 310 *e*P **P** **06 10 03.1 -0.4**
CRVS Cervenica-Dubn 49.40 310 *e*P **P** **06 10 03.1 -0.4**
KEV Kevo 49.85 338 *e*P P 06 09 59.2 -7.4
KEV pmax pmax
comp=Z,1.0nm,0.4s
KEV Kevo 49.85 338 *e*p P 06 09 59.2 -7.4
comp=Z,0.7nm,0.4s
ARCES ARCESS Array B 50.27 337 P **P** **06 10 10.1 +0.3**
ARCES ARCESS Array B 50.27 337 P **P** **06 10 10.1 +0.3**
comp=Z,4.5nm,0.8s,baz=100,slow=7.4,SNR=11
ARCES LR LR 06 32 08.1
comp=Z,368nm,20.6s,baz=110,slow=37
DPC Dobruska-Polom 52.63 312 *e*P **P** **06 10 27.9 +0.1**
DPC *e* 06 10 37.7
DPC Dobruska-Polom 52.63 312 *e*P **P** **06 10 27.9 +0.1**
DPC *e*pP **pP** **06 10 33.2 +0.6**
DPC *e*x x 06 10 37.7
DPC AMS AMS 06 35 10.0
TREC Trest 53.28 311 AMS AMS 06 35 40.0
comp=Z,600nm,15.0s
SEY Seymchan 53.44 32⇑ *i* P **P** **06 10 33.9 +0.4**
HFS Hagfors 53.72 324 P **P** **06 10 34.4 -1.2**
HFS Hagfors 53.72 324 P **P** **06 10 34.4 -1.2**
comp=Z,8.2nm,0.9s,baz=99,slow=7.7,SNR=20
HFS LR LR 06 34 37.0
comp=Z,954nm,18.9s,baz=86,slow=37
PVCC Panska Ves 53.73 312 AMS AMS 06 35 40.0
comp=Z,500nm,15.6s
PRU Pruhonice 53.81 312 AMS AMS 06 36 00.0
comp=Z,400nm,14.4s
BRG Berggiesshubel 54.09 313 *e*P **P** **06 10 39.1 +0.6**
comp=Z,5.0nm,1.0s
BRG *e* 06 15 48.0
BRG
comp=N,315nm,12.6s
BRG
comp=E,356nm,14.2s
BRG
comp=Z,516nm,14.7s
BRG Berggiesshubel 54.09 313 *e*P **P** **06 10 39.1 +0.6**
BRG pmax pmax
comp=Z,5.0nm,1.0s
BRG MLR MLR
comp=N,315nm,12.6s
BRG MLR MLR
comp=E,356nm,14.2s
BRG MLR MLR
comp=Z,516nm,14.7s
KMBO Kilima Mbogo 54.18 243 *e*P **P** **06 10 41.7 +1.8**
comp=Z,6.3nm,0.9s
KMBO Kilima Mbogo 54.18 243 P **P** **06 10 40.1 +0.3**
comp=Z,4.5nm,0.8s,baz=51,slow=9.9,SNR=9.1
GERES GERESS Array B 54.50 310 P **P** **06 10 39.8 -1.8**
GERES GERESS Array B 54.50 310 P **P** **06 10 39.8 -1.8**
comp=Z,0.3nm,0.2s,baz=50,slow=4.2,SNR=5.0
GERES LR LR 06 38 47.7
comp=Z,168nm,18.2s,baz=250,slow=41
KHC Kasperske Hory 54.54 311 *e*P **P** **06 10 42.1 +0.3**
KHC *e* 06 10 49.4
KHC MLR MLR
comp=Z,400nm,12.4s
KHC Kasperske Hory 54.54 311 *e*P **P** **06 10 42.1 +0.3**
KHC *e*pP **pP** **06 10 45.2 -1.5**
KHC *e*x x 06 10 49.4
KHC AMS AMS 06 36 30.0
comp=Z,400nm,12.4s
CUC Castrocucco 54.62 299 *e*P **P** **06 10 43.1 +0.5**
comp=Z,12nm,0.8s
CLL Collm 54.63 314 *e*P P 06 10 37.0 -5.4
CLL MLR MLR
comp=Z,300nm,20.0s
NB2 NORSAR Subarra 54.94 326 P **P** **06 10 43.3 -1.2**
comp=Z,1.3nm,0.5s,baz=86,slow=7.4
NOA NORSAR Array B 54.94 326 P **P** **06 10 43.6 -0.9**
NOA NORSAR Array B 54.94 326 P **P** **06 10 43.6 -0.9**
comp=Z,2.7nm,0.6s,baz=88,slow=7.3,SNR=7.7
NOA LR LR 06 36 06.8
comp=Z,173nm,19.2s,baz=90,slow=38
CEL Celeste 54.97 297 *e*P **P** **06 10 45.0 -0.2**
comp=Z,31nm,1.0s
NKC Novy Kostel 55.12 312 AMS AMS 06 36 50.0
comp=Z,400nm,14.7s
SPITS Spitsbergen Ar 55.30 347 LR LR 06 38 40.1
comp=Z,468nm,18.6s,baz=0.0,slow=41
KBS Kingsbay 56.33 347⇑ *e*P **P** **06 10 54.8 +0.6**
KBS pmax pmax
comp=Z,55nm,1.7s
DAVOX Davos/Dischmat 57.40 309 LR LR 06 38 25.3
comp=Z,191nm,19.1s,baz=69,slow=39
PGF Pioggiola 58.99 304 *e*P **P** **06 11 13.4 -0.3**
comp=Z,11nm,0.9s
PGF Pioggiola 58.99 304 *e*P **P** **06 11 13.4 -0.3**
PGF pmax pmax
comp=Z,11nm,0.9s
PGF Pioggiola 58.99 304 *e*P **P** **06 11 13.4 -0.3**
comp=Z,11nm,0.9s
SBF Sospel 59.76 306 *e*P **P** **06 11 19.0 +0.1**
comp=Z,16nm,0.7s
SBF Sospel 59.76 306 *e*P **P** **06 11 19.0 +0.1**
SBF pmax pmax
comp=Z,16nm,0.7s
SBF Sospel 59.76 306 *e*P **P** **06 11 19.0 +0.1**
comp=Z,16nm,0.7s
LPG La Plagne 59.81 308 *e*P **P** **06 11 18.7 -0.8**
comp=Z,18nm,0.9s
LPG La Plagne 59.81 308 *e*P **P** **06 11 18.7 -0.8**
LPG pmax pmax
comp=Z,18nm,0.9s
LPG La Plagne 59.81 308 *e*P **P** **06 11 18.7 -0.8**
comp=Z,18nm,0.9s
LPL La Plagne 59.81 308 *e*P **P** **06 11 18.5 -0.9**
comp=Z,14nm,0.8s
LPL La Plagne 59.81 308 *e*P **P** **06 11 18.5 -0.9**
LPL pmax pmax
comp=Z,14nm,0.8s
LPL La Plagne 59.81 308 *e*P **P** **06 11 18.5 -0.9**
comp=Z,14nm,0.8s
CABF La Chapelle 59.98 309 *e*P **P** **06 11 20.3 -0.1**
CABF La Chapelle 59.98 309 *e*P **P** **06 11 20.3 -0.1**
CABF La Chapelle 59.98 309 *e*P **P** **06 11 20.3 -0.1**
MBDF Montbardon 59.99 307 *e*P **P** **06 11 20.5 -0.1**
comp=Z,5.3nm,0.7s
MBDF Montbardon 59.99 307 *e*P **P** **06 11 20.5 -0.1**
MBDF pmax pmax
comp=Z,5.0nm,0.7s
MBDF Montbardon 59.99 307 *e*P **P** **06 11 20.5 -0.1**
comp=Z,5.3nm,0.7s
KEST Kesra 60.71 296 *e*P **P** **06 11 26.3 +0.8**
KEST Kesra 60.71 296 P **P** **06 11 26.4 +0.8**
comp=Z,4.9nm,1.1s,baz=49,slow=3.0,SNR=6.6
KEST LR LR 06 43 27.7
comp=Z,63nm,18.8s,baz=274,slow=42
EKA Eskdalemuir Ar 63.32 320 P **P** **06 11 41.9 -0.8**
EKA Eskdalemuir Ar 63.32 320 P **P** **06 11 41.9 -0.8**
comp=Z,2.4nm,0.8s,baz=85,slow=8.1,SNR=3.5
FITZ Fitzroy Crossi 63.42 134 P **P** **06 11 43.4 -0.3**
FITZ Fitzroy Crossi 63.42 134 P **P** **06 11 43.4 -0.3**
comp=Z,1.9nm,0.7s,baz=293,slow=2.4,SNR=3.7
GRR Gorron 64.00 312 *e*P **P** **06 11 45.6 -1.7**
GRR Gorron 64.00 312 *e*P **P** **06 11 45.6 -1.7**
GRR Gorron 64.00 312 *e*P **P** **06 11 45.6 -1.7**
ESDC Sonseca Array 69.18 304 P **P** **06 12 19.2 -1.4**
ESDC Sonseca Array 69.18 304 P **P** **06 12 19.2 -1.4**
comp=Z,0.3nm,0.2s,baz=59,slow=6.6,SNR=6.7
ESDC LR LR 06 45 18.2
comp=Z,60nm,20.9s,baz=100,slow=38
SUMG Summit 69.47 344 *e*P **P** **06 12 22.1 -0.1**
SUMG pmax pmax
comp=Z,17nm,0.8s
SUMG Summit 69.47 344 *i* P **P** **06 12 22.5 +0.3**
comp=Z,16nm,0.8s
SUMG Summit 69.47 344 *e*P **P** **06 12 22.1 -0.1**
comp=Z,17nm,0.8s
WRA Warramunga Arr 70.35 129 P **P** **06 12 25.9 -2.0**
WRA Warramunga Arr 70.35 129 P **P** **06 12 25.9 -2.0**
comp=Z,5.1nm,0.7s,baz=324,slow=6.3,SNR=25
WRA LR LR 06 43 23.5
comp=Z,107nm,21.9s,baz=315,slow=36
WRAB Tennant Creek 70.35 129 P **P** **06 12 26.9 -1.0**
comp=Z,54nm,0.7s,SNR=5.5
MDT Midelt 72.50 298 LR LR 06 46 18.3
comp=Z,88nm,20.3s,baz=302,slow=37
ASAR Alice Springs 72.71 132 P **P** **06 12 39.7 -2.4**
ASAR Alice Springs 72.71 132 P **P** **06 12 39.7 -2.4**
comp=Z,1.3nm,0.7s,baz=318,slow=6.4,SNR=11
ASAR LR LR 06 45 13.5
comp=Z,134nm,20.8s,baz=286,slow=36
IMA2 Indian Mountai 73.96 21 *e*P P 06 12 45.8 -3.2
COLD Coldfoot 74.20 19 *e*P **P** **06 12 50.5 +0.3**
BPAW Bear Paw Mtn. 76.14 22 *e*P **P** **06 13 01.6 +0.1**
comp=Z,21nm,1.1s
TORD Torodi Ar. Bea 76.33 277 P **P** **06 13 01.5 -1.9**
TORD PP **PP** **06 15 54.0 -0.8**
TORD Torodi Ar. Bea 76.33 277 P **P** **06 13 01.5 -1.9**
comp=Z,2.9nm,0.8s,baz=40,slow=5.2,SNR=8.0
TORD PP **PP** **06 15 54.0 -0.8**
comp=Z,0.6nm,0.8s,baz=49,slow=5.8,SNR=3.7
TORD LR LR 06 52 03.8
comp=Z,212nm,18.1s,baz=90,slow=40
SFJD Kangerlussuaq 76.39 343 *i* P **P** **06 13 01.5 -1.3**
COLA College 76.55 20 *e*P **P** **06 13 04.0 +0.3**
COLA College 76.55 20 *e*P **P** **06 13 04.0 +0.3**
SVW2 Sparrevohn 76.61 25 *e*P **P** **06 13 05.1 +1.0**
comp=Z,35nm,1.4s
ILAR Eielson Array 76.91 20 P **P** **06 13 05.1 -0.7**
ILAR Eielson Array 76.91 20 P **P** **06 13 05.1 -0.7**
comp=Z,11nm,1.1s,baz=304,slow=4.5,SNR=46
ILAR LR LR 06 50 49.3
comp=Z,242nm,18.8s,baz=309,slow=39
SPU Mount Spurr 77.82 24 *e*P **P** **06 13 11.1 +0.1**
RSO Redoubt South 78.06 25 *e*P **P** **06 13 13.5 +0.9**
PMR Palmer 78.53 23 *e*P **P** **06 13 13.7 -1.1**
PMR Palmer 78.53 23 *e*P **P** **06 13 13.7 -1.1**
CTA Charters Tower 78.81 122 P **P** **06 13 15.9 -1.1**
CTA Charters Tower 78.81 122 P **P** **06 13 15.9 -1.1**
comp=Z,1.1nm,0.3s,baz=336,slow=9.5,SNR=4.1
KDAK Kodiak Island 79.97 27 P **P** **06 13 22.4 -0.3**
KDAK *e*P **P** **06 13 23.4 +0.6**
KDAK Kodiak Island 79.97 27 P **P** **06 13 22.4 -0.3**
comp=Z,14nm,1.1s,baz=66,slow=2.3,SNR=5.6
KDAK LR LR 06 52 06.3
comp=Z,181nm,18.1s,baz=299,slow=38
BOSA Boshof 81.07 229 P **P** **06 13 29.8 +0.6**
BOSA Boshof 81.07 229 P **P** **06 13 29.8 +0.6**
comp=Z,5.1nm,0.9s,baz=64,slow=5.9,SNR=5.5
BOSA LR LR 06 43 58.2
comp=Z,273nm,20.7s,baz=45,slow=32
STKA Stephens Creek 83.29 133 P **P** **06 13 38.2 -2.4**
STKA Stephens Creek 83.29 133 P **P** **06 13 38.2 -2.4**
comp=Z,1.4nm,0.5s,baz=12,slow=5.2,SNR=3.4
STKA LR LR 06 55 46.7
comp=Z,161nm,19.3s,baz=25,slow=39
DBIC Dimbokro 85.13 275 P **P** **06 13 49.2 -1.3**
DBIC Dimbokro 85.13 275 P **P** **06 13 49.2 -1.3**
comp=Z,5.1nm,0.8s,baz=65,slow=5.1,SNR=5.5
DBIC LR LR 06 56 24.6
comp=Z,116nm,19.6s,baz=36,slow=39
YKA Yellowknife Ar 85.80 8 P **P** **06 13 52.7 -0.2**
YKA Yellowknife Ar 85.80 8 P **P** **06 13 52.7 -0.2**
comp=Z,3.1nm,0.9s,baz=342,slow=5.8,SNR=2.6
NEW Newport 99.06 14 LR LR 07 08 10.9
comp=Z,153nm,18.1s,baz=0.2,slow=41
ULM Lac du Bonnet 99.19 360 LR LR 07 03 07.7
comp=Z,161nm,19.8s,baz=37,slow=37
MAW Mawson 99.42 188 LR LR 06 54 58.5
comp=Z,161nm,18.4s,baz=185,slow=32
TXAR Lajitas Array 119.71 7 PKP **PKPdf** **06 20 04.0 -0.5**
TXAR Lajitas Array 119.71 7 PKP **PKPdf** **06 20 04.0 -0.5**
comp=Z,0.3nm,0.6s,baz=329,slow=0.2,SNR=5.3
CPUP Villa Florida 145.35 268 PKPbc **PKPab** **06 20 53.2 +1.1**
CPUP Villa Florida 145.35 268 PKPbc **PKPab** **06 20 53.2 +1.1**
comp=Z,4.9nm,0.8s,baz=8.1,slow=6.1,SNR=4.5

IDC 29 06:02:22.4±16.0, 11°.17S×163°.37E, h285km±146km, mb3.4/7, mb1 3.5/8, mb1mx3.4/20, mbtmp3.4/8, MS3.6/5, Ms1 3.6/5, ms1mx3.4/19, Error ellipse: s-maj=76.7km s-min=27.7km az=66.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**16.04**	**275**	LR	LR	LR	06 11 41.1	
	comp=Z,175nm,18.5s,baz=78,slow=35							
CTA	**Charters Tower**	**18.70**	**240**	P	P	P	06 06 20.6	0.0
	0.4nm,0.3s,baz=76,slow=12,SNR=10							
STKA	**Stephens Creek**	**28.78**	**221**	LR	LR	LR	06 20 07.8	
	comp=Z,212nm,18.0s,baz=27,slow=37							
WRA	**Warramunga Arr**	**29.25**	**249**	P	P	P	06 07 59.1	+0.3
	1.9nm,0.9s,baz=77,slow=9.2,SNR=8.9							
WRA				LR	LR	LR	06 18 48.5	
	comp=Z,87nm,19.4s,baz=95,slow=34							
ASAR	**Alice Springs**	**30.66**	**242**	P	P	P	06 08 11.2	+0.1
	0.6nm,0.6s,baz=62,slow=10,SNR=6.9							
FITZ	**Fitzroy Crossi**	**37.10**	**255**	P	P	P	06 09 05.6	-0.6
	2.7nm,0.7s,baz=80,slow=8.3,SNR=5.5							
FITZ				LR	LR	LR	06 22 48.7	
	comp=Z,72nm,20.5s,baz=188,slow=33							
MJAR	**Matsushiro Arr**	**53.04**	**335**	LR	LR	LR	06 30 48.2	
	comp=Z,86nm,18.4s,baz=285,slow=32							
VNDA	**Vanda**	**66.35**	**180**	P	P	P	06 12 40.4	0.0
	1.3nm,0.9s,baz=343,slow=6.0,SNR=6.2							
SONM	**Songino Array**	**77.40**	**325**	P	P	P	06 13 46.5	+0.1
	0.8nm,0.8s,baz=117,slow=6.0,SNR=3.7							
MKAR	**Makanchi Array**	**92.02**	**317**	P	P	P	06 14 59.8	+0.6
	0.9nm,0.8s,baz=81,slow=7.5,SNR=5.4							
ZALV	**Zalesovo Beam**	**92.30**	**325**	P	P	P	06 14 59.6	-0.7
	0.7nm,0.3s,baz=116,slow=3.4,SNR=3.7							

*ISCJB **29** 06:20:53.0±0.8, 38°.14N±0°.03×29°.54E±0°.08, h4km±9km, Error ellipse: s-maj=10.4km s-min=4.4km az=4.3*
*CSEM **29** 06:20:52.9±0.3, 38°.14N×29°.55E, h5km, MD2.7, Error ellipse: s-maj=8.7km s-min=3.9km az=94.0*
*DDA **29** 06:20:53.0, 38°.14N×29°.53E, h7km, MD2.7*
ISC 29 06:20:52.8±1.1, 38°.14N±0°.03×29°.51E±0°.05, h7km±12km, n14, σ0°.52/26, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
KHL	**Karahalli**	**0.19**	**4**	*e*PG	**Pg**	**Pg**	**06 20 55.8**	**-0.8**
KHL				*e*SG	**Sg**	**Sg**	**06 20 59.3**	**+0.1**
KHL	**Karahalli**	**0.19**	**4**	*e*Pg	**Pg**	**Pg**	**06 20 55.8**	**-0.8**
KHL				*e*Sg	**Sg**	**Sg**	**06 20 59.3**	**+0.1**
KHAL	**Karahalli**	**0.23**	**357**	*i* P	**Pg**	**Pg**	**06 20 57.5**	**0.0**
KHAL				*i* S	**Sg**	**Sg**	**06 21 01.9**	**+1.2**
KHAL	**Karahalli**	**0.23**	**357**	*i* P	**Pg**	**Pg**	**06 20 57.5**	**0.0**
KHAL				*i* S	**Sg**	**Sg**	**06 21 01.9**	**+1.2**
DNZL	**Cakiroluk**	**0.57**	**219**	*i* P	**Pg**	**Pb**	**06 21 03.8**	**-0.2**
DNZL				*i* S	**Sb**	**Sb**	**06 21 13.6**	**-0.2**
DNZL	**Cakiroluk**	**0.57**	**219**	*i* P	**Pg**	**Pb**	**06 21 03.8**	**-0.2**
DNZL				*i* S	**Sb**	**Sb**	**06 21 13.6**	**-0.2**
KULA	**Kula-Manisa**	**0.76**	**300**	*e*PN	**Pg**	**Pb**	**06 21 06.8**	**-0.8**
KULA	**Kula-Manisa**	**0.76**	**300**	*e*Pn	**Pg**	**Pb**	**06 21 06.8**	**-0.8**
MANT	**Manisa**	**0.82**	**296**	*i* P	**Pb**	**Pb**	**06 21 09.9**	**+0.2**
MANT				*i* S	**Sb**	**Sb**	**06 21 21.1**	**0.0**
MANT	**Manisa**	**0.82**	**296**	*i* P	**Pb**	**Pb**	**06 21 09.9**	**+0.2**
MANT				*i* S	**Sb**	**Sb**	**06 21 21.1**	**0.0**
GOLH	**Golhisar**	**0.90**	**177**	*i* P	**Pb**	**Pb**	**06 21 10.7**	**-0.1**
GOLH				*i* S	**Sb**	**Sb**	**06 21 23.4**	**+0.3**
GOLH	**Golhisar**	**0.90**	**177**	*i* P	**Pb**	**Pb**	**06 21 10.7**	**-0.1**
GOLH				*i* S	**Sb**	**Sb**	**06 21 23.4**	**+0.3**
GDZ	**Gediz**	**0.95**	**359**	*i* P	**Pb**	**Pb**	**06 21 11.7**	**-0.1**
GDZ				*i* S	**Sb**	**Sb**	**06 21 24.7**	**+0.1**
GDZ	**Gediz**	**0.95**	**359**	*i* P	**Pb**	**Pb**	**06 21 11.7**	**-0.1**
GDZ				*i* S	**Sb**	**Sb**	**06 21 24.7**	**+0.1**

*THR **29** 06:32:04.5±1.5, 36°.87N×55°.38E, h14km±11km, ML4.0*
*CSEM **29** 06:32:04.9±0.1, 36°.91N×55°.43E, h2km, ML4.3, Error ellipse: s-maj=4.7km s-min=3.3km az=151.0*
*BJI **29** 06:32:04.9, 37°.35N×55°.03E, h13km, mB5.1/5, mb4.5/8, Ms4.5/6, Ms7 4.3/5*
*IDC **29** 06:32:04.2±0.7, 36°.77N×55°.40E, h0km, mb3.9/18, mb1 4.1/24, mb1mx4.0/35, mbtmp4.0/24, ML4.0/6, MS3.8/20, Ms1 3.8/20, ms1mx3.6/56, Error ellipse: s-maj=16.3km s-min=11.3km az=176.0*
*ISCJB **29** 06:32:06.2±0.2, 36°.89N±0°.03×55°.41E±0°.03, h24km, mb4.1/24, MS3.8/14, Error ellipse: s-maj=4.1km s-min=3.0km az=152.1*
*NEIC **29** 06:32:06.9, 36°.87N×55°.40E, h10km, mb4.3/5, MN4.3(TEH), After TEH.*
*TEH **29** 06:32:09.2, 36°.89N×55°.38E, h31km, ML4.3*
*NNC **29** 06:32:13.7±4.2, 37°.57N×56°.21E, h0km, mb4.5, Error ellipse: s-maj=46.7km s-min=32.2km az=179.0*
ISC 29 06:32:08.0±0.4, 37°.00N±0°.04×55°.38E±0°.03, h24km, n197, σ1.9/72/194, mb4.1/24, MS3.8/14, 9C-3D, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
IMND	**Minoodasht**	**0.26**	**5⇓**	*e*Pg	**Pb**	**Pb**	**06 32 12.9**	**-1.5**
IMND				*e*Sg	**Sb**	**Sb**	**06 32 19.1**	**+0.4**
IMND	**Minoodasht**	**0.26**	**5⇓**	*e*Pg	**Pb**	**Pb**	**06 32 12.9**	**-1.5**
MRVT	**Maraveh tapeh**	**0.87**	**41**	*e*Pg	**Pb**	**Pb**	**06 32 22.0**	**-2.5**
MRVT				AML	AML	AML	06 32 42.5	
	comp=N,4μm,0.7s							
MRVT	**Maraveh tapeh**	**0.87**	**41**	*e*Pg	**Pb**	**Pb**	**06 32 22.0**	**-2.5**
SHRO	**Shahrood**	**1.13**	**153**	*e*Pg	Pn	06 32 22.6	-5.9	
SHRO	**Shahrood**	**1.13**	**153**	*e*Pg	Pn	06 32 22.6	-5.9	
IKIA	**Kiasar**	**1.58**	**240**	*e*Pn	**Pn**	**06 32 31.6**	**-3.1**	
IKIA				*e*		06 32 37.0		
	comp=Z,20μm,0.2s							
BJRD	**Bojnurd**	**1.76**	**66**	*e*Pg	**Pb**	**06 32 38.6**	**-1.1**	
BJRD				AML	AML	06 33 09.4		
	comp=N,2μm,0.6s							
BJRD				AML	AML	06 33 15.9		
	comp=E,1μm,0.6s							
BJRD	**Bojnurd**	**1.76**	**66**	*e*Pg	**Pb**	**06 32 38.6**	**-1.1**	
ISHV	**Shirvan**	**1.93**	**73**	*e*Pn	**Pn**	**06 32 40.3**	**+0.7**	
ISHV				*e*		06 33 12.0		
	comp=Z,51μm,0.8s							
ISHV	**Shirvan**	**1.93**	**73**	*e*Pn	**Pn**	**06 32 40.3**	**+0.7**	
IANJ	**Anjilo**	**1.93**	**218**	*e*Pn	**Pn**	**06 32 36.7**	**-3.0**	
IANJ				*e*		06 33 15.7		
	comp=Z,23μm,0.4s							
IANJ	**Anjilo**	**1.93**	**218**	*e*Pn	**Pn**	**06 32 36.7**	**-3.0**	
ISHM	**Shahmirzad**	**2.06**	**235**	*e*Pn	**Pn**	**06 32 40.6**	**-0.8**	
ISHM				*e*Sg	**Sb**	**06 33 12.4**	**+2.1**	
ISHM				*e*		06 33 22.7		
	comp=Z,40μm,0.4s							
ISHM	**Shahmirzad**	**2.06**	**235**	*e*Pn	**Pn**	**06 32 40.6**	**-0.8**	
ISHM				*e*Sg	**Sb**	**06 33 12.4**	**+2.1**	
ISFR	**Sfrayin**	**2.10**	**88**	*e*Pn	**Pn**	**06 32 42.2**	**+0.2**	
ISFR				*e*		06 33 17.8		
	comp=Z,37μm,0.3s							
ISFR	**Sfrayin**	**2.10**	**88**	*e*Pn	**Pn**	**06 32 42.2**	**+0.2**	
IALA	**Alasht**	**2.26**	**247**	*e*Pn	**Pn**	**06 32 44.0**	**-0.2**	
IALA				*e*		06 33 26.4		
	comp=Z,21μm,0.3s							
IALA	**Alasht**	**2.26**	**247**	*e*Pn	**Pn**	**06 32 44.0**	**-0.2**	
IFIR	**Firoozkooh**	**2.52**	**238**	*e*Pn	**Pn**	**06 32 47.5**	**-0.2**	
IFIR				*e*		06 32 51.4		
	comp=Z,11μm,0.2s							
IFIR	**Firoozkooh**	**2.52**	**238**	*e*Pn	**Pn**	**06 32 47.5**	**-0.2**	
IKRD	**Kardeh**	**2.52**	**94**	*e*Pn	Pb	06 32 59.0	+6.2	
IKRD				*e*		06 34 05.1		
	comp=Z,14μm,0.5s							
ILAS	**Lasjerd**	**2.54**	**231**	*e*Pn	**Pn**	**06 32 47.4**	**-0.6**	
ILAS				*e*		06 33 36.8		
	comp=Z,11μm,0.3s							
ILAS	**Lasjerd**	**2.54**	**231**	*e*Pn	**Pn**	**06 32 47.4**	**-0.6**	
IPRN	**Peran**	**2.56**	**254**	*e*Pn	**Pn**	**06 32 48.2**	**0.0**	
IPRN				*e*		06 33 38.2		
	comp=Z,36μm,0.2s							
IEMG	**Emamgholi**	**2.65**	**80**	*e*Pn	**Pn**	**06 32 49.8**	**+0.3**	
IEMG				*e*		06 33 44.6		
	comp=Z,26μm,0.4s							
IEMG	**Emamgholi**	**2.65**	**80**	*e*Pn	**Pn**	**06 32 49.8**	**+0.3**	
IAKL	**Akhelmad**	**2.74**	**97**	*e*Pn	**Pn**	**06 32 50.4**	**-0.4**	
IAKL				*e*		06 33 34.2		
	comp=N,14μm,0.2s							
IDMV	**Damavand**	**3.05**	**243**	*e*Pn	**Pn**	**06 32 54.7**	**-0.4**	
IDMV				*e*		06 33 52.4		

comp=Z,9μm,0.4s
IDMV **Damavand** 3.05 243 *e*Pn Pn 06 32 54.7 -0.4
IMOG **Moghan** 3.31 104 *e*Pn Pn 06 32 58.3 -0.3
IMOG *e* 06 33 56.7
comp=Z,5μm,0.3s
IMOG **Moghan** 3.31 104 *e*Pn Pn 06 32 58.3 -0.3
ISRO **Mashad** 3.36 101 *e*Pn Pn 06 32 59.1 -0.1
ISRO **Mashad** 3.36 101 *e*Pn Pn 06 32 59.1 -0.1
IVRN **Varamin** 3.57 237⇑*e*Pn Pn 06 33 01.4 -0.6
IVRN *e* 06 34 22.0
comp=Z,4μm,0.3s
IVRN **Varamin** 3.57 237⇑*e*Pn Pn 06 33 01.4 -0.6
TABS **Tabas** 3.63 156 *e*Pn Pn 06 33 01.6 -1.3
TABS AML AML 06 34 09.2
comp=E,193nm,0.8s
TABS AML AML 06 34 10.2
comp=N,376nm,0.8s
TABS **Tabas** 3.63 156 *e*Pn Pn 06 33 01.6 -1.3
ISFB **Sefidab** 3.67 225 *e*Pn Pn 06 33 01.4 -2.1
ISFB *e* 06 34 16.6
comp=Z,3μm,0.4s
ISFB **Sefidab** 3.67 225 *e*Pn Pn 06 33 01.4 -2.1
IR3 **Iran Long-Peri** 3.83 248 *e*Pn Pn 06 33 05.3 -0.3
IR3 **Iran Long-Peri** 3.83 248 *e*Pn Pn 06 33 05.3 -0.3
IMYA **Miami** 3.85 98 *e*Pn Pn 06 33 05.8 -0.2
IMYA **Miami** 3.85 98 *e*Pn Pn 06 33 05.8 -0.2
IMHD **Mahdasht** 4.02 252 *e*Pn Pn 06 33 08.9 +0.7
IMHD **Mahdasht** 4.02 252 *e*Pn Pn 06 33 08.9 +0.7
GHVR **GHOM** 4.17 234 *e*Pn Pn 06 33 09.4 -0.8
GHVR **GHOM** 4.17 234 *e*Pn Pn 06 33 09.4 -0.8
IR5 **Iran Long-Peri** 4.27 247 *e*Pn Pn 06 33 11.7 0.0
IR5 **Iran Long-Peri** 4.27 247 *e*Pn Pn 06 33 11.7 0.0
IRAZ **Razeghan** 4.69 252 *e*Pn Pn 06 33 17.4 -0.1
IRAZ **Razeghan** 4.69 252 *e*Pn Pn 06 33 17.4 -0.1
NASN **Na'in** 4.69 207 *e*Pn Pn 06 33 15.2 -2.5
NASN **Na'in** 4.69 207 *e*Pn Pn 06 33 15.2 -2.5
IZEF **Zefreh** 4.80 212 *e*Pn Pn 06 33 17.5 -1.6
IZEF *e* 06 34 42.6
comp=Z,1μm,0.4s
IZEF **Zefreh** 4.80 212 *e*Pn Pn 06 33 17.5 -1.6
IKLH **Kolahrood** 4.81 221 *e*Pn Pn 06 33 18.1 -1.2
IKLH **Kolahrood** 4.81 221 *e*Pn Pn 06 33 18.1 -1.2
ITEG **Tejag** 4.94 145 *e*Pn Pn 06 33 20.0 -1.0
ITEG *e* 06 33 21.7
comp=Z,3μm,0.1s
ITEG **Tejag** 4.94 145 *e*Pn Pn 06 33 20.0 -1.0
ASAO **Ashtian** 4.99 242 *e*Pn Pn 06 33 20.5 -1.2
ASAO **Ashtian** 4.99 242 *e*Pn Pn 06 33 20.5 -1.2
SHRT **Shahrakht** 5.23 128 *e*Pn Pn 06 33 22.8 -2.0
SHRT AML AML 06 35 08.3
comp=E,61nm,1.1s
SHRT **Shahrakht** 5.23 128 *e*Pn Pn 06 33 22.8 -2.0
IGAR **Gharneh** 5.35 212 *e*Pn Pn 06 33 25.3 -1.3
ZNJK **Zanjan** 5.38 268 *e*Pn Pn 06 33 26.9 -0.1
ZNJK **Zanjan** 5.38 268 *e*Pn Pn 06 33 26.9 -0.1
IKOO **Kooshah** 5.46 146 *e*Pn Pn 06 33 25.8 -2.3
IKOO **Kooshah** 5.46 146 *e*Pn Pn 06 33 25.8 -2.3
KHMZ **Khomeyn** 5.49 235 *e*Pn Pn 06 33 27.1 -1.5
KHMZ *e*Pg Pb 06 33 41.2 -2.2
KHMZ *e*Sg Sb 06 34 52.0 +3.1
KHMZ **Khomeyn** 5.49 235 *e*Pn Pn 06 33 27.1 -1.5
IDAH **Dahanechah** 5.63 138 *e*Pn Pn 06 33 29.0 -1.5
IDAH **Dahanechah** 5.63 138 *e*Pn Pn 06 33 29.0 -1.5
IPAR **Pars** 7.40 196 *e*Pn Pn 06 33 53.1 -1.7
IPAR **Pars** 7.40 196 *e*Pn Pn 06 33 53.1 -1.7
ISRV **Sarvestan** 7.83 195 *e*Pn Pn 06 33 59.3 -1.5
ISRV **Sarvestan** 7.83 195 *e*Pn Pn 06 33 59.3 -1.5
IBDR **Badra** 8.66 246 *e*PN4 Px 06 35 34.4
IBDR *e*SN4 Sx 06 36 19.8
GNI **Garni** 8.90 294 *e*Pn Pn 06 34 17.0 +1.7
comp=E,19nm,0.6s
GNI **Garni** 8.90 294 *e*Pn Pn 06 34 17.0 +1.7
comp=E,19nm,0.6s
GHIR **Ghir-Karzin** 8.92 194 *e*Pn Pn 06 34 13.8 -1.7
GHIR **Ghir-Karzin** 8.92 194 *e*Pn Pn 06 34 13.8 -1.7
DGRG **David-gareji** 8.94 303 P Pn 06 34 16.1 +0.4
NSR **Nassriya** 9.72 235 *e*PG Px 06 35 13.5
NSR *e*Sg Sx 06 35 47.0
BHD **Baghdad** 9.74 251 *e*PN4 Px 06 35 38.2
KBL **Kabul** 11.37 98 *e*Pn Pn 06 34 48.6 -0.6
comp=E,15nm,1.0s
KBL **Kabul** 11.37 98 *e*Pn Pn 06 34 48.6 -0.6
comp=E,15nm,1.0s
KBZ **Khabaz** 11.64 309 Pn Pn 06 34 54.2 +1.6
KBZ Sn Sn 06 36 58.8 -3.0
KBZ **Khabaz** 11.64 309 Pn Pn 06 34 54.2 +1.6
comp=E,0.9nm,0.3s,baz=220,slow=4.8,SNR=5.6
KBZ Sn Sn 06 36 58.8 -3.0
comp=E,0.4nm,0.3s,baz=135,slow=11,SNR=3.1
KBZ **Khabaz** 11.64 309 Pn Pn 06 34 54.2 +1.6
AB31 **Akbulak array** 12.69 14 *e*Pn Pn 06 35 04.2 -2.7
comp=E,3.5nm,0.6s,baz=195,slow=12,SNR=30
AB31 ⇑Sn Sn 06 37 21.7 -5.6
comp=E,4.3nm,0.6s,baz=199,slow=20,SNR=5.3
ABKAR **Akbulak array** 12.69 14 *e*Pn Pn 06 35 05.6 -1.3
comp=E,3.8nm,0.6s
ABKAR **Akbulak array** 12.69 14 *e*Pn Pn 06 35 05.6 -1.3
comp=E,3.8nm,0.6s
KK31 **Karatay Array** 13.09 58 Pn Pn 06 35 09.5 -3.0
comp=E,1.7nm,0.5s,baz=242,slow=16,SNR=28
KK31 ⇑Sn Sn 06 37 32.9 -4.3
comp=E,19nm,1.1s,baz=233,slow=32,SNR=3.7
KK31 **Karatay Array** 13.09 58 Pn Pn 06 35 09.5 -3.0
comp=E,1.7nm,0.5s,baz=242,SNR=28
KKAR **Karatay Array** 13.09 58 *e*Pn Pn 06 35 08.3 -4.1
comp=E,2.5nm,0.4s
AKTO **Aktyubinsk** 13.56 7 ⇑Pn Pn 06 35 16.3 -2.5
comp=E,23nm,1.2s
AKTO ⇑Sn Sn 06 37 43.1 -5.6
comp=E,27nm,1.2s
AKTO **Aktyubinsk** 13.56 7 Pn Pn 06 35 17.2 -1.6
AKTO Sn Sn 06 37 44.7 -4.0
AKTO **Aktyubinsk** 13.56 7 Pn Pn 06 35 17.2 -1.6
comp=E,1.2nm,0.3s,baz=186,slow=14,SNR=13
AKTO Sn Sn 06 37 44.7 -4.0
comp=E,0.5nm,0.3s,baz=59,slow=16,SNR=3.6
AKTO LR LR 06 42 03.7
comp=E,551nm,19.3s,baz=12,slow=44
AKTO **Aktyubinsk** 13.56 7 Pn Pn 06 35 17.2 -1.6
EKS2 **Erkin-Say** 15.21 63 *e*Pn Pn 06 35 39.9 -1.5
comp=E,11nm,1.0s
EKS2 **Erkin-Say** 15.21 63 *e*Pn Pn 06 35 39.9 -1.5
comp=E,11nm,1.0s
AAK **Ala-Archa** 15.72 63 *e*Pn Pn 06 35 45.8 -2.2
AAK Sn Sn 06 38 45.7 +4.2
AAK **Ala-Archa** 15.72 63 Pn Pn 06 35 45.3 -2.7
comp=E,0.4nm,0.3s,baz=231,slow=7.5,SNR=12
AAK Sn Sn 06 38 45.7 +4.2
comp=E,0.1nm,0.3s,baz=24,slow=18,SNR=3.9
AAK LR LR 06 42 15.7
comp=E,416nm,18.7s,baz=255,slow=39
AAK **Ala-Archa** 15.72 63 *e*Pn Pn 06 35 45.8 -2.2
ASF **Jabal al Asfar** 15.96 258 LR LR 06 42 57.9
comp=E,196nm,21.2s,baz=15,slow=41
TKM2 **Tokmak 2** 16.58 63 *e*Pn Pn 06 35 57.0 -2.0
comp=E,11nm,1.1s
TKM2 **Tokmak 2** 16.58 63 *e*Pn Pn 06 35 57.0 -2.0
comp=E,11nm,1.1s
MMAI **Mount Meron Ar** 16.84 262 LR LR 06 43 01.2
comp=E,104nm,21.3s,baz=55,slow=39
BRTR **Keskin Array B** 17.26 286 P P 06 36 09.4 +0.5
BRTR **Keskin Array B** 17.26 286 P P 06 36 09.4 +0.5
comp=E,0.1nm,0.3s,baz=104,slow=12,SNR=3.3
BRTR LR LR 06 44 23.7
comp=E,255nm,18.6s,baz=92,slow=43
BRTR **Keskin Array B** 17.26 286 P P 06 36 09.4 +0.5
EIL **Elat** 18.55 253 P Pn 06 36 23.5 +0.2
EIL **Elat** 18.55 253 P Pn 06 36 23.5 +0.2
comp=E,0.1nm,0.3s,baz=58,slow=8.5,SNR=3.6
EIL LR LR 06 44 52.9
comp=E,585nm,18.0s,baz=79,slow=42
EIL **Elat** 18.55 253 P Pn 06 36 23.5 +0.2
BRVK **Borovoye** 19.14 28 ⇑P Pn 06 36 29.5 -0.7
comp=E,42nm,1.4s
BRVK **Borovoye** 19.14 28 *e*P Pn 06 36 30.0 -0.3
comp=E,20nm,1.0s
BRVK **Borovoye** 19.14 28 *e*P Pn 06 36 30.0 -0.3
comp=E,20nm,1.0s
BVA0 **Borovoye Array** 19.15 28 ⇓P P 06 36 29.2 -0.3
comp=E,26nm,1.1s,baz=233,slow=41,SNR=62
BVA0 **Borovoye Array** 19.15 28 P P 06 36 29.2 -0.3
comp=E,26nm,1.1s,SNR=62
BVAR **Borovoye Array** 19.15 28 P Pn 06 36 30.0 -0.4
BVAR **Borovoye Array** 19.15 28 P Pn 06 36 30.0 -0.4
comp=E,2.4nm,0.3s,baz=201,slow=12,SNR=34
BVAR LR LR 06 44 24.4
comp=E,177nm,19.9s,baz=227,slow=38
BVAR **Borovoye Array** 19.15 28 P Pn 06 36 30.0 -0.4
KURBB **Kurchatov Arra** 21.44 43 ⇑P P 06 36 58.3 +4.0
comp=E,17nm,1.1s
KURBB **Kurchatov Arra** 21.44 43 P P 06 36 54.8 +0.5
comp=E,1.5nm,0.4s,baz=246,slow=15,SNR=13
KURK **Kurchatov** 21.53 43 ⇑P P 06 36 55.1 -0.2
comp=E,17nm,1.3s
KURK **Kurchatov** 21.53 43 *e*P P 06 36 55.8 +0.5
KURK **Kurchatov** 21.53 43 *e*P P 06 36 55.8 +0.5
MK31 **Makanchi Array** 22.20 55 P P 06 37 02.8 +0.2
comp=E,44nm,1.6s,baz=247,slow=11,SNR=48
MK31 **Makanchi Array** 22.20 55 *e*P P 06 37 03.1 +0.6
MK31 **Makanchi Array** 22.20 55 P P 06 37 02.8 +0.2
comp=E,44nm,1.6s,SNR=48
MKAR **Makanchi Array** 22.20 55 P P 06 37 02.8 +0.3
MKAR **Makanchi Array** 22.20 55 P P 06 37 02.8 +0.3
comp=E,9.9nm,1.0s,baz=244,slow=13,SNR=25
MKAR **Makanchi Array** 22.20 55 P P 06 37 02.8 +0.3
AKASG **Malin Array Be** 23.16 315 P P 06 37 13.6 +1.1
AKASG **Malin Array Be** 23.16 315 P P 06 37 13.6 +1.1
comp=E,1.3nm,0.4s,baz=121,slow=9.0,SNR=5.8
AKASG **Malin Array Be** 23.16 315 P P 06 37 13.6 +1.1
KIEV **Kiev** 23.16 315 *e*P P 06 37 13.5 +1.0
comp=E,18nm,0.9s
KIEV **Kiev** 23.16 315 *e*P P 06 37 13.5 +1.0
comp=E,18nm,0.9s
MLR **Muntele Rosu** 23.60 300 P P 06 37 18.4 +1.3
MLR **Muntele Rosu** 23.60 300 P P 06 37 18.4 +1.3
comp=E,5.0nm,1.2s,baz=117,slow=4.7,SNR=9.8
MLR **Muntele Rosu** 23.60 300 P P 06 37 18.4 +1.3
GVD **Gavdhos** 25.38 275 *e*P P 06 37 24.6 -8.8
comp=E,114nm,0.4s
ZALV **Zalesovo Beam** 26.43 41 P P 06 37 43.2 +0.5
ZALV **Zalesovo Beam** 26.43 41 P P 06 37 43.2 +0.5
comp=E,0.8nm,0.4s,baz=253,slow=8.9,SNR=3.7
ZALV LR LR 06 49 26.5
comp=E,164nm,19.2s,baz=251,slow=39
ZALV **Zalesovo Beam** 26.43 41 P P 06 37 43.2 +0.5
ATD **Arta Tunnel** 27.76 207 LR LR 06 50 02.6
comp=E,232nm,19.3s,baz=122,slow=39
VRAC **Vranov** 30.51 306 LR LR 06 53 09.6
comp=E,122nm,19.5s,baz=354,slow=41
FINES **FINESS Array B** 30.57 332 P P 06 38 22.4 +2.9
FINES **FINESS Array B** 30.57 332 P P 06 38 22.4 +2.9
comp=E,3.0nm,1.0s,baz=142,slow=14,SNR=2.4
FINES **FINESS Array B** 30.57 332 P P 06 38 22.4 +2.9
GERES **GERESS Array B** 32.34 305 P P 06 38 36.5 +1.1
GERES **GERESS Array B** 32.34 305 P P 06 38 36.5 +1.1
comp=E,0.4nm,0.4s,baz=84,slow=9.0,SNR=4.7
GERES **GERESS Array B** 32.34 305 P P 06 38 36.5 +1.1
GTA **Gaotai** 34.74 72 *e*P P 06 38 59.0 +2.6
GTA pP pP 06 39 03.8 +0.2
GTA sP sP 06 39 06.8 +0.2
GTA pmax pmax
comp=Z,8.0nm,1.7s
GTA pmax pmax
comp=Z,280nm,5.7s
GTA LR LR
comp=N,350nm,16.6s
GTA LR LR
comp=E,330nm,23.3s
GTA LR LR
comp=Z,390nm,18.1s
DAVOX **Davos/Dischmat** 34.82 301 LR LR 06 56 23.2
comp=Z,145nm,19.1s,baz=82,slow=42
ARCES **ARCESS Array B** 36.38 343 LR LR 06 55 22.0
comp=Z,106nm,19.6s,baz=263,slow=38
NOA **NORSAR Array B** 36.58 325 P P 06 39 14.3 +2.5
NOA **NORSAR Array B** 36.58 325 P P 06 39 14.3 +2.5
comp=Z,1.5nm,0.9s,baz=72,slow=4.7,SNR=3.4
NOA **NORSAR Array B** 36.58 325 P P 06 39 14.3 +2.5
SONM **Songino Array** 38.54 57 P P 06 39 30.9 +2.1
SONM **Songino Array** 38.54 57 P P 06 39 30.9 +2.1
comp=Z,0.3nm,0.3s,baz=269,slow=9.0,SNR=6.0
SONM LR LR 06 56 05.9
comp=Z,160nm,18.9s,baz=91,slow=37
SONM **Songino Array** 38.54 57 P P 06 39 30.9 +2.1
ULN **Ulaanbaatar** 38.98 57 *e*P P 06 39 34.8 +2.4
comp=Z,7.6nm,1.1s
ULN **Ulaanbaatar** 38.98 57 *e*P P 06 39 34.8 +2.4
comp=Z,7.6nm,1.1s
CMAR **Chiang Mai Arr** 42.34 104 P P 06 40 00.5 +0.2
CMAR **Chiang Mai Arr** 42.34 104 P P 06 40 00.5 +0.2
comp=Z,1.5nm,0.3s,baz=298,slow=7.6,SNR=8.1
CMAR LR LR 06 59 20.8
comp=Z,87nm,18.7s,baz=176,slow=39
CMAR **Chiang Mai Arr** 42.34 104 P P 06 40 00.5 +0.2
EKA **Eskdalemuir Ar** 43.07 314 P P 06 40 07.5 +1.7
EKA **Eskdalemuir Ar** 43.07 314 P P 06 40 07.5 +1.7
comp=Z,0.4nm,0.4s,baz=96,slow=8.5,SNR=4.7
EKA **Eskdalemuir Ar** 43.07 314 P P 06 40 07.5 +1.7
SPITS **Spitsbergen Ar** 44.39 349 LR LR 07 04 20.2
comp=Z,92nm,20.2s,baz=55,slow=43
ESDC **Sonseca Array** 45.88 292 P P 06 40 30.6 +2.0
ESDC **Sonseca Array** 45.88 292 P P 06 40 30.6 +2.0
comp=Z,1.5nm,0.7s,baz=54,slow=8.2,SNR=8.0
ESDC **Sonseca Array** 45.88 292 P P 06 40 30.6 +2.0
JMIC **Jan Mayen** 47.03 336 LR LR 07 04 22.6
comp=Z,71nm,21.1s,baz=273,slow=41
PSI **Prapat** 52.51 120 LR LR 07 05 38.0
comp=Z,132nm,18.7s,baz=350,slow=38
TORD **Torodi Ar. Bea** 53.32 258 P P 06 41 23.6 -1.8
TORD **Torodi Ar. Bea** 53.32 258 P P 06 41 23.6 -1.8
comp=Z,1.7nm,1.1s,baz=44,slow=7.6,SNR=7.5
TORD **Torodi Ar. Bea** 53.32 258 P P 06 41 23.6 -1.8
KSAR **Wonju Array Be** 56.34 66 P P 06 41 47.6 +0.6
KSAR **Wonju Array Be** 56.34 66 P P 06 41 47.6 +0.6
KSRS **Korea Array** 56.36 66 P P 06 41 47.6 +0.5
comp=Z,1.5nm,0.6s,baz=283,slow=6.9,SNR=5.5
KSRS LR LR 07 06 41.3
comp=Z,94nm,21.6s,baz=126,slow=37
DBIC **Dimbokro** 62.36 257 P P 06 42 27.2 -1.7
DBIC **Dimbokro** 62.36 257 P P 06 42 27.2 -1.7
comp=Z,2.6nm,0.8s,baz=51,slow=6.5,SNR=3.0
DBIC **Dimbokro** 62.36 257 P P 06 42 27.2 -1.7
BBTS **Babate** 66.96 271 LR LR 07 17 12.3
comp=Z,98nm,18.1s,baz=335,slow=40
PETK **Petropavlovsk-** 67.97 39 LR LR 07 14 39.1
comp=Z,74nm,20.1s,baz=123,slow=38
ILAR **Eielson Array** 77.06 10 P P 06 43 58.6 -0.2
ILAR **Eielson Array** 77.06 10 P P 06 43 58.6 -0.2
comp=Z,0.8nm,1.0s,baz=340,slow=4.6,SNR=5.9
ILAR **Eielson Array** 77.06 10 P P 06 43 58.6 -0.2
WRA **Warramunga Arr** 93.38 112 P P 06 45 20.2 -1.2
WRA **Warramunga Arr** 93.38 112 P P 06 45 20.2 -1.2
comp=Z,0.4nm,0.8s,baz=318,slow=4.1,SNR=2.7
WRA **Warramunga Arr** 93.38 112 P P 06 45 20.2 -1.2
ASAR **Alice Springs** 95.35 116 P P 06 45 30.4 0.0
ASAR **Alice Springs** 95.35 116 P P 06 45 30.4 0.0
comp=Z,0.3nm,0.8s,baz=314,slow=5.8,SNR=3.1
ASAR **Alice Springs** 95.35 116 P P 06 45 30.4 0.0

IDC 29 06:33:49.5±0.8, 31°.42S×179°.99E, h395km±9km, mb3.1/3, mb1 3.5/5, mb1mx3.2/18, mbtmp3.4/5, Error ellipse: s-maj=26.7km s-min=13.2km az=126.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	2.82	40	P	Pn	06 34 51.0	+0.2
	96nm,0.3s,baz=46,slow=23,SNR=8.0						
RAO				S	S	06 35 40.8	+0.3
	178nm,0.3s,baz=241,slow=23,SNR=5.4						
URZ	**Urewera**	7.22	198	P	Pn	06 35 35.0	-0.4
	63nm,0.3s,baz=278,slow=2.6,SNR=107						
URZ				S	S	06 37 02.1	+0.1
	20nm,0.3s,baz=94,slow=22,SNR=13						
AFI	**Afiamalu**	19.00	25	P	P	06 37 45.1	+0.1
	1.9nm,0.3s,baz=44,slow=15,SNR=3.8						
ASAR	**Alice Springs**	41.34	269	P	P	06 40 58.5	-0.4
	0.6nm,0.6s,baz=104,slow=7.3,SNR=10						
WRA	**Warramunga Arr**	42.43	274	P	P	06 41 07.3	-0.3
	1.6nm,0.4s,baz=112,slow=7.8,SNR=11						
FITZ	**Fitzroy Crossi**	50.65	272	P	P	06 42 11.0	+0.5
	0.5nm,0.4s,baz=172,slow=15,SNR=4.5						
KEV	**Kevo**	138.71	346	*ep*	PKPdf	06 52 34.8	+6.6
	0.3nm,0.4s						
ARCES	**ARCESS Array B**	139.20	347	PKhKP	PKPpre	06 52 22.1	
	2.2nm,0.9s,baz=89,slow=0.9,SNR=4.9						
JOF	**Joensuu**	142.70	337	*ep*	PKPpre	06 52 22.9	
	0.5nm,0.3s						
KAF	**Kangasniemi**	144.90	339	*ep*	PKPdf	06 52 36.1	-3.3
	1.2nm,0.3s						
FINES	**FINESS Array B**	145.47	338	PKPbc	PKPdf	06 52 40.8	+0.3
	2.3nm,0.3s,baz=56,slow=4.2,SNR=25						
HFS	**Hagfors**	149.86	346	PKPbc	PKPbc	06 52 52.2	-0.8
	3.6nm,0.9s,baz=72,slow=4.7,SNR=3.7						
HFS				PKPab	PKPab	06 52 59.1	-0.9
	1.5nm,0.4s,baz=72,slow=4.7,SNR=7.3						
TORD	**Torodi Ar. Bea**	161.75	185	PKPab	PKPab	06 53 52.0	-0.2
	0.8nm,0.9s,baz=161,slow=4.3,SNR=5.5						

GUC 29 06:37:07.7±0.7, 29°.80S×70°.31W, h46km±3km, MD3.7, ML3.1, 3C-2D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLL	**Tololo Astrono**	0.56	230	⇓*i*P	Pn	06 37 20.6	+0.8
TLL				*i* S	Sn	06 37 29.9	+1.4
TLL				AML	AML	06 37 31.6	
	comp=E,697nm,0.3s						
LCO	**Las Campanas**	0.86	337	⇓*i*P	Pn	06 37 24.7	+0.8
LCO				*i* S	Sn	06 37 37.5	+2.0
LCO				AML	AML	06 37 38.2	
	comp=E,502nm,0.3s						
VACH	**Vallenar**	1.28	342	⇑*i*P	Pn	06 37 29.7	+0.4
VACH				*i* S	Sn	06 37 46.7	+1.4
CMCH	**Combarbala**	1.49	203	⇑*i*P	Pn	06 37 30.9	-1.3
CMCH				*i* S	Sn	06 37 49.7	-0.8
CMCH				AML	AML	06 38 01.0	
	comp=E,473nm,0.4s						
ROCH	**El Roble**	3.21	191	⇑*i*P	Pn	06 37 56.7	+0.7
ROCH				*i* S	Sn	06 38 34.8	+1.5
ROCH				AML	AML	06 38 49.8	
	comp=N,82nm,0.6s						
PEL	**Peldehue**	3.35	185	AML	AML	06 38 55.7	
	comp=E,96nm,0.7s						

*KRSC **29** 06:41:42.5±4.3, 53°.38N×162°.85E, h16km±16km, ML4.3*
*IDC **29** 06:41:43.4±1.1, 53°.50N×162°.63E, h0km, mb3.4/4, mb1 3.9/6, mb1mx3.6/28, mbtmp3.6/6, ML4.3/2, Error ellipse: s-maj=44.3km s-min=12.1km az=178.0*
*MOS **29** 06:41:43.7±0.6, 53°.45N×162°.77E, h18km, mb4.4/1, Error ellipse: s-maj=13.9km s-min=11.2km az=70.7*

ISC 29 06:41:42.5±2.4, 53°.38N±0°.04×162°.84E±0°.04, h10km±16km, n58, σ1°.79/92, mb3.4/4, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	1.35	331	PN	Pb	06 42 06.6	-1.2
MKZ				S	Sn	06 42 22.3	-3.1
MKZ	**Mys Kozlova**	1.35	331	P	Pb	06 42 06.6	-1.2
MKZ				*e*S	Sn	06 42 22.3	-3.1
SPN	**Mys Shipunski**	1.71	262	PN	Pb	06 42 12.8	-1.2
SPN				S	Sn	06 42 31.8	-2.5
SPN	**Mys Shipunski**	1.71	262	P	Pb	06 42 12.8	-1.2
SPN				*e*S	Sn	06 42 31.8	-2.5
NLC	**Nalytchevo**	2.11	266	PN	Pb	06 42 18.4	-2.3
NLC				S	Sn	06 42 41.8	-2.2
NLC	**Nalytchevo**	2.11	266	*e*P	Pb	06 42 18.4	-2.3
NLC				*e*S	Sn	06 42 41.8	-2.2
KII	**Karymskiy**	2.12	290	*e*P	Pn	06 42 18.5	+0.5
KII				*e*S	Sn	06 42 42.3	-2.2
SDLR	**Sedlovina**	2.37	269	P	Pn	06 42 22.5	+1.0
SDLR				*e*S	Sn	06 42 48.7	-2.1
UGLR	**Uglovaya**	2.42	268	P	Pb	06 42 23.4	-2.6
UGLR				*e*S	Sn	06 42 50.8	-1.0
SMAR	**Somma**	2.42	269	P	Pn	06 42 23.2	+0.9
SMAR				*e*S	Sn	06 42 50.6	-1.5
KRER	**Koryakskii**	2.45	270	*e*P	Pb	06 42 24.0	-2.7
KRER				*e*S	Sn	06 42 51.9	-0.9
AVH	**Avacha**	2.46	269	*e*P	Pb	06 42 24.1	-2.7
AVH				*e*S	Sn	06 42 51.9	-1.0
KRX	**Arik**	2.51	271	*e*P	Pn	06 42 24.3	+0.9
KRX				*e*S	Sn	06 42 52.2	-2.0
KOK	**Koryaka**	2.52	270	P	Pn	06 42 24.6	+1.0
KOK				*e*S	Sn	06 42 51.7	-2.7
PET	**Petropavlovsk**	2.54	264	*e*PN	Pb	06 42 25.4	-2.7
PET	**Petropavlovsk**	2.54	264	*e*P	Pb	06 42 25.1	-3.0
PET				*e*S	Sn	06 42 53.2	-1.5
BKI	**Bering**	2.59	44	PN	Pn	06 42 25.1	+0.7
BKI	**Bering**	2.59	44	*e*P	Pn	06 42 25.1	+0.7
BKI				*e*S	Sn	06 42 52.0	-4.0
RUS	**Russkaya**	2.78	252	PN	Pn	06 42 28.0	+1.0
RUS	**Russkaya**	2.78	252	*e*P	Pn	06 42 28.0	+1.0
RUS				*e*S	Sn	06 42 58.3	-2.4
KMNR	**Kamenistaya**	2.83	329	*e*P	Pn	06 42 28.8	+1.1
KMNR				*e*S	Sn	06 43 01.2	-0.7
KBTR	**Krutoberegovo**	2.84	360	PN	Pn	06 42 27.6	-0.2
KBTR	**Krutoberegovo**	2.84	360	P	Pn	06 42 27.6	-0.2
KBTR				*e*S	Sn	06 42 57.8	-4.2
BZGR	**Bezymyannyi-Gr**	2.85	335	*e*P	Pn	06 42 29.1	+0.9
BZGR				*e*S	Sn	06 43 01.8	-0.8
ZLN	**Zelenaya**	2.90	337	*e*P	Pb	06 42 30.8	-3.5
ZLN				*e*S	Sn	06 43 04.1	+0.4
BZMR	**Bezymyannaya**	2.91	333	*e*P	Pn	06 42 30.1	+1.2
BZMR				*e*S	Sn	06 43 04.0	+0.1
BZWR	**Bezymyannyi-We**	2.93	333	*e*P	Pb	06 42 31.4	-3.4
BZWR				*e*S	Sn	06 43 05.4	+0.9
GNL	**Ganaly**	2.94	278	P	Pn	06 42 31.0	+1.7
GNL				*e*S	Sn	06 43 04.5	-0.2
MTVR	**Mutnovka**	2.96	254	*e*P	Pn	06 42 31.1	+1.5
MTVR				*e*S	Sn	06 43 03.9	-1.3
KIRR	**Kirishev**	2.96	332	*e*P	Pn	06 42 31.0	+1.3
KIRR				*e*S	Sn	06 43 03.2	-2.1
LGNR	**Loginova**	2.98	336	*e*S	Sn	06 43 06.1	0.0
GRL	**Gorelyy**	3.00	256	*e*P	Pn	06 42 32.0	+1.9
GRL				*e*S	Sn	06 43 05.6	-0.5
CIRR	**Tsirk**	3.00	337	*e*S	Sn	06 43 07.5	+1.2
KPT	**Kopyto**	3.01	331	*e*P	Pn	06 42 31.9	+1.7
PETK	**Petropavlovsk-**	3.10	267	PN	Pn	06 42 33.3	+1.9
PETK						06 43 07.5	
PETK				pmax	pmax		
	comp=Z,13nm,0.3s						
PETK				smax	smax		
	comp=N,30nm,0.3s						
PETK	**Petropavlovsk-**	3.10	267	Pn	Pn	06 42 33.3	+1.9
	comp=N,13nm,0.3s,baz=89,slow=18,SNR=176						
PETK				Sn	Sn	06 43 07.5	-1.0
	comp=N,30nm,0.3s,baz=104,slow=18,SNR=14						
KRSR	**Krestovskiy**	3.14	336	*e*P	Pn	06 42 33.3	+1.3
KRSR				*e*S	Sn	06 43 08.4	-1.2
ASAK	**Asacha**	3.15	254	*e*P	Pn	06 42 34.1	+1.9
ASAK				*e*S	Sn	06 43 09.5	-0.4
KOZR	**Kozyr**	3.19	329	PN	Pn	06 42 34.2	+1.5
KOZR				S	Sn	06 43 10.1	-0.7
KOZ	**Kozyrevsk**	3.19	329	*e*P	Pn	06 42 34.2	+1.5
KOZ				*e*S	Sn	06 43 10.1	-0.7
KLY	**Klyuchi**	3.20	338	*e*S	Sn	06 43 10.0	-1.0
SMKR	**Semkarok**	3.31	347	*e*P	Pn	06 42 35.3	+0.9
SMKR				*e*S	Sn	06 43 11.4	-2.4
BDR	**Baidarnaya**	3.33	344	*e*P	Pn	06 42 36.2	+1.5
BDR				*e*S	Sn	06 43 12.3	-2.1
SRKR	**Sorokina**	3.42	344	*e*P	Pn	06 42 36.9	+1.0
SRKR				*e*S	Sn	06 43 13.9	-2.7
APC	**Apacha**	3.45	265	*e*P	Pn	06 42 38.8	+2.6
APC				*e*S	Sn	06 43 16.8	-0.3
SRDR	**Sredinnyy**	3.46	330	*e*P	Pn	06 42 37.1	+0.7
SRDR				*e*S	Sn	06 43 15.5	-1.9
ESO	**Esso**	3.51	318	PN	Pn	06 42 37.9	+0.9
ESO	**Esso**	3.51	318	*e*P	Pn	06 42 37.9	+0.9
ESO				*e*S	Sn	06 43 15.6	-

*ISCJB **29** 06:44:11.2±0.4, 8.°06S±0.°04×120.°00E±0.°06, h50km, mb4.0/6, Error ellipse: s-maj=8.7km s-min=4.9km az=168.9*
*DJA **29** 06:44:12.6±0.4, 8.°S±3.°×12.°0E±.°, h30km±5km, M4.4/13, mb4.8/1, MLv4.3/13*
*IDC **29** 06:44:14.1±0.8, 7.°77S×120.°63E, h58km±7km, mb3.7/7, mb1 3.8/10, mb1mx3.6/25, mbtmp3.7/10, MS3.2/2, Ms1 3.2/2, ms1mx2.8/38, Error ellipse: s-maj=51.8km s-min=8.9km az=64.0*

ISC 29 06:44:12.6±0.7, 8.°08S±0.°04×120.°06E±0.°06, h50km, n26, σ1°81/28, mb4.0/6, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBFI	**Labuhan Bajo,**	**0.43**	**203**	P	**Pn**	**06 44 24.0**	**+0.9**
LBFI				S	**Sn**	**06 44 30.6**	**0.0**
WSI	**Waingapu**	**1.59**	**172**	P	Pn	06 44 33.6	-4.9
MMRI	**Maumere**	**2.22**	**104**	P	**Pn**	**06 44 47.0**	**-0.1**
MMRI				S	Sn	06 45 20.2	+6.8
BKSI	**Bulukumba**	**2.74**	**1**	P	**Pn**	**06 44 52.8**	**-1.4**
BKSI				S	**Sn**	**06 45 26.6**	**+0.5**
KAPI	**Kappang**	**3.06**	**354**	P	**Pn**	**06 44 57.3**	**-1.3**
KAPI	**Kappang**	**3.06**	**354**	P	**Pn**	**06 44 56.4**	**-2.1**
	57nm,0.3s,baz=156,slow=12,SNR=107						
KAPI				S	**Sn**	**06 45 31.0**	**-3.0**
	30nm,0.3s,baz=128,slow=22,SNR=9.3						
KAPI				LR	LR	06 46 22.6	
	comp=Z,344nm,19.2s,baz=169,slow=45						
BNSI	**Bone**	**3.66**	**1**	P	**Pn**	**06 45 07.3**	**+0.6**
MTNI	**Mataram**	**3.89**	**262**	P	**Pn**	**06 45 09.1**	**-0.8**
SPSI	**Sidrap Palu**	**4.10**	**356**	P	**Pn**	**06 45 13.0**	**+0.2**
BATI	**Baumata**	**4.14**	**121**	P	Pn	06 45 18.5	+5.2
BATI	**Baumata**	**4.14**	**121**	LR	LR	06 47 10.5	
	comp=Z,298nm,19.6s,baz=296,slow=46						
KKSI	**Kolaka, Sulawe**	**4.19**	**22**	P	Pn	06 45 17.2	+3.1
SOEI	**Soe**	**4.48**	**112**	P	**Pn**	**06 45 20.1**	**+2.0**
DNP	**Denpasar**	**4.84**	**263**	P	**Pn**	**06 45 21.2**	**-1.7**
MMSI	**Mamuju**	**5.48**	**348**	P	**Pn**	**06 45 32.4**	**+0.7**
FITZ	**Fitzroy Crossi**	**11.34**	**152**	P	**Pn**	**06 46 51.8**	**-0.3**
	0.2nm,0.3s,baz=336,slow=12,SNR=9.6						
FITZ				S	**Sn**	**06 48 52.6**	**-4.8**
	0.5nm,0.3s,baz=202,slow=14,SNR=7.4						
SGSI	**Sangihe**	**12.90**	**25**	P	Pn	06 47 08.0	-5.4
WRA	**Warramunga Arr**	**18.17**	**132**	P	**P**	**06 48 20.4**	**-0.9**
	0.2nm,0.3s,baz=309,slow=12,SNR=4.3						
ASAR	**Alice Springs**	**20.40**	**141**	P	Pn	06 48 46.4	-1.7
	3.7nm,0.7s,baz=326,slow=13,SNR=30						
ASAR				S	**S**	**06 52 29.2**	**-2.3**
	0.3nm,0.7s,baz=316,slow=22,SNR=4.4						
STKA	**Stephens Creek**	**31.02**	**143**	P	**P**	**06 50 26.8**	**+1.1**
	1.6nm,0.5s,baz=320,slow=6.6,SNR=6.9						
SONM	**Songino Array**	**56.97**	**349**	P	**P**	**06 53 52.9**	**-0.2**
	1.2nm,1.0s,baz=156,slow=7.1,SNR=4.4						
MKAR	**Makanchi Array**	**64.13**	**332**	P	**P**	**06 54 42.9**	**+1.1**
	2.0nm,0.6s,baz=142,slow=7.4,SNR=20						
MKAR				pP	**pP**	**06 54 58.5**	**+2.7**
	1.3nm,1.0s,baz=133,slow=7.1,SNR=4.4						
ZALV	**Zalesovo Beam**	**68.57**	**339**	P	**P**	**06 55 10.4**	**+0.4**
	1.3nm,0.3s,baz=136,slow=5.5,SNR=4.6						
ZALV				pP	**pP**	**06 55 25.6**	**+1.4**
	1.0nm,0.3s,baz=134,slow=6.4,SNR=2.2						
KURBB	**Kurchatov Arra**	**68.62**	**333**	P	**P**	**06 55 11.3**	**+0.9**
	0.5nm,0.5s,baz=145,slow=5.8,SNR=4.0						
KURBB				pP	**pP**	**06 55 27.6**	**+3.0**
	0.6nm,0.7s,baz=144,slow=5.3,SNR=3.1						
VNDA	**Vanda**	**72.73**	**171**	P	**P**	**06 55 36.8**	**+1.7**
	0.5nm,0.7s,baz=330,slow=8.9,SNR=4.6						
TORD	**Torodi Ar. Bea**	**119.33**	**281**	PKP	**PKPdf**	**07 02 56.3**	**-1.2**
	0.4nm,0.6s,baz=38,slow=1.8,SNR=2.8						

*ISCJB **29** 06:52:36.8±0.4, 37.°15N±0.°04×55.°34E±0.°05, h24km, mb3.6/1, Error ellipse: s-maj=7.5km s-min=3.9km az=141.1*
*CSEM **29** 06:52:36.8±0.6, 37.°00N×55.°40E, h14km±5km, ML4.0, Error ellipse: s-maj=10.7km s-min=5.5km az=158.0*
*TEH **29** 06:52:37.1, 36.°85N×55.°43E, h3km, ML4.0*
*NNC **29** 06:52:38.6±4.5, 37.°34N×55.°64E, h0km, mb3.8, Error ellipse: s-maj=68.1km s-min=21.4km az=71.0*

ISC 29 06:52:36.9±0.8, 36.°98N±0.°05×55.°35E±0.°04, h24km, n49, σ1°77/55, 5C-5D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMND	**Minoodasht**	**0.28**	**9**	⇓*e*Pg	**Pb**	**06 52 42.9**	**-0.6**
IMND				*e*Sg	**Sb**	**06 52 47.8**	**-0.3**
IMND	**Minoodasht**	**0.28**	**9**	⇓*e*Pg	**Pb**	**06 52 42.9**	**-0.6**
IMND				*e*Sg	**Sb**	**06 52 47.8**	**-0.3**
MRVT	**Maraveh tapeh**	**0.90**	**41**	*e*Pg	**Pb**	**06 52 52.2**	**-1.6**
IKIA	**Kiasar**	**1.55**	**241**	*e*		06 53 06.6	
	comp=Z,5μm,0.2s						
IKIA				*e*Pn	**Pn**	**06 53 02.1**	**-1.1**
IANJ	**Anjilo**	**1.91**	**218**	*e*Sg	**Sb**	**06 53 34.2**	**-0.3**
IANJ				*e*Pn	**Pn**	**06 53 07.3**	**-0.8**
IANJ				*e*		06 53 36.1	
	comp=Z,10μm,0.5s						
ISHV	**Shirvan**	**1.96**	**73**	*e*Pn	**Pn**	**06 53 10.4**	**+1.7**
ISHV				*e*		06 53 50.1	
	comp=Z,23μm,0.4s						
ISHV	**Shirvan**	**1.96**	**73**	*e*Pn	**Pn**	**06 53 10.4**	**+1.7**
ISHM	**Shahmirzad**	**2.03**	**235**	*e*Pn	**Pn**	**06 53 11.6**	**+1.7**
ISHM				*e*Pn	**Pb**	**06 53 11.8**	**-1.5**
ISHM				*e*		06 53 48.0	
	comp=E,21μm,0.5s						
ISHM	**Shahmirzad**	**2.03**	**235**	*e*Pn	**Pn**	**06 53 11.6**	**+1.7**
ISFR	**Sfrayin**	**2.12**	**87**	*e*Pn	**Pn**	**06 53 12.6**	**+1.5**
ISFR				*e*		06 53 45.8	
	comp=E,25μm,0.2s						
ISFR	**Sfrayin**	**2.12**	**87**	*e*Pn	**Pn**	**06 53 12.6**	**+1.5**
IALA	**Alasht**	**2.23**	**247**	*e*Pn	**Pn**	**06 53 15.2**	**+2.5**
IALA	**Alasht**	**2.23**	**247**	*e*Pn	**Pn**	**06 53 15.2**	**+2.5**
IFIR	**Firoozkooh**	**2.49**	**238**	*e*Pn	**Pn**	**06 53 18.6**	**+2.5**
IFIR				*e*		06 53 23.0	
	comp=Z,5μm,0.2s						
IFIR	**Firoozkooh**	**2.49**	**238**	*e*Pn	**Pn**	**06 53 18.6**	**+2.5**
ILAS	**Lasjerd**	**2.51**	**231**	*e*Pn	**Pn**	**06 53 18.5**	**+2.1**
ILAS				*e*		06 54 09.6	
	comp=Z,4μm,0.3s						
ILAS	**Lasjerd**	**2.51**	**231**	*e*Pn	**Pn**	**06 53 18.5**	**+2.1**
IPRN	**Peran**	**2.53**	**254**	*e*Pn	**Pn**	**06 53 18.9**	**+2.3**
IPRN				*e*		06 54 01.5	
	comp=Z,13μm,0.3s						
IKRD	**Kardeh**	**2.54**	**94**	*e*Pn	Pb	06 53 29.2	+7.2
IKRD				*e*		06 54 34.8	
	comp=Z,2μm,0.6s						
IKRD	**Kardeh**	**2.54**	**94**	*e*Pn	Pb	06 53 29.2	+7.2
IEMG	**Emamgholi**	**2.67**	**80**	⇑*e*Pn	**Pn**	**06 53 20.0**	**+1.3**
IEMG				*e*Sg	**Sb**	**06 53 59.6**	**+3.0**
IEMG				*e*		06 54 22.0	
	comp=Z,3μm,0.3s						
IEMG	**Emamgholi**	**2.67**	**80**	⇑*e*Pn	**Pn**	**06 53 20.0**	**+1.3**
IEMG				*e*Sg	**Sb**	**06 53 59.6**	**+3.0**
IAKL	**Akhelmad**	**2.76**	**97**	*e*Pn	**Pn**	**06 53 20.9**	**+1.0**
IAKL				*e*		06 54 07.4	
	comp=Z,3μm,0.4s						
IDMV	**Damavand**	**3.03**	**243**	*e*Pn	**Pn**	**06 53 26.0**	**+2.5**
IDMV				*e*		06 54 20.9	
	comp=Z,3μm,0.6s						
IDMV	**Damavand**	**3.03**	**243**	*e*Pn	**Pn**	**06 53 26.0**	**+2.5**
IMOG	**Moghan**	**3.33**	**104**	*e*Pn	**Pn**	**06 53 28.7**	**+1.0**
IMOG				*e*		06 54 21.8	
	comp=Z,1μm,0.3s						
IMOG	**Moghan**	**3.33**	**104**	*e*Pn	**Pn**	**06 53 28.7**	**+1.0**
ISRO	**Mashad**	**3.38**	**100**	*e*Pn	**Pn**	**06 53 29.4**	**+1.2**
ISRO	**Mashad**	**3.38**	**100**	*e*Pn	**Pn**	**06 53 29.4**	**+1.2**
IVRN	**Varamin**	**3.54**	**237**	*e*Pn	**Pn**	**06 53 32.6**	**+2.1**
IVRN				*e*		06 54 39.8	
	comp=Z,2μm,0.4s						
IVRN	**Varamin**	**3.54**	**237**	*e*Pn	**Pn**	**06 53 32.6**	**+2.1**
IR3	**Iran Long-Peri**	**3.81**	**248**	*e*Pn	**Pn**	**06 53 36.6**	**+2.5**
IR3	**Iran Long-Peri**	**3.81**	**248**	*e*Pn	**Pn**	**06 53 36.6**	**+2.5**
IMYA	**Miami**	**3.87**	**98**	*e*Pn	**Pn**	**06 53 36.2**	**+1.1**
IMYA				*e*		06 53 51.1	
	comp=Z,3μm,0.5s						
IMYA	**Miami**	**3.87**	**98**	*e*Pn	**Pn**	**06 53 36.2**	**+1.1**
IR5	**Iran Long-Peri**	**4.25**	**247**	*e*Pn	**Pn**	**06 53 43.3**	**+3.1**
IR5	**Iran Long-Peri**	**4.25**	**247**	*e*Pn	**Pn**	**06 53 43.3**	**+3.1**
NASN	**Na'in**	**4.67**	**207**	*e*Pn	**Pn**	**06 53 46.8**	**+0.7**
SHRT	**Shahrakht**	**5.23**	**128**	*e*Pn	**Pn**	**06 53 52.8**	**-0.9**
AB31	**Akbulak array**	**12.72**	**14**	⇓Pn	**Pn**	**06 55 36.1**	**0.0**
	comp=Z,0.8nm,0.6s,baz=195,slow=13,SNR=6.2						
AB31				⇑Sn	**Sn**	**06 57 54.8**	**-2.0**
	comp=Z,0.6nm,0.4s,baz=202,slow=22,SNR=7.1						
AB31	**Akbulak array**	**12.72**	**14**	Pn	**Pn**	**06 55 36.1**	**0.0**
	comp=Z,0.8nm,0.6s,baz=195,SNR=6.2						
AKTO	**Aktyubinsk**	**13.59**	**7**	⇑Pn	**Pn**	**06 55 47.4**	**-0.5**
	comp=Z,1.8nm,0.8s						
AKTO				⇓Sn	**Sn**	**06 58 15.0**	**-3.0**
	comp=Z,2.3nm,0.7s						
AKTO	**Aktyubinsk**	**13.59**	**7**	Pn	**Pn**	**06 55 47.4**	**-0.5**
	comp=Z,1.8nm,0.8s						
BRVK	**Borovoye**	**19.17**	**28**	⇑P	**Pn**	**06 56 59.9**	**+0.4**
	comp=Z,5.3nm,0.8s						
BRVK	**Borovoye**	**19.17**	**28**	P	**Pn**	**06 56 59.9**	**+0.4**
	comp=Z,5.3nm,0.8s						
BVA0	**Borovoye Array**	**19.18**	**28**	P	**P**	**06 56 58.3**	**-0.3**
	comp=Z,4.8nm,1.0s,baz=279,slow=74,SNR=15						
BVA0	**Borovoye Array**	**19.18**	**28**	P	**P**	**06 56 58.3**	**-0.3**
	comp=Z,4.8nm,1.0s,SNR=15						
VOSK	**Vostochnaya**	**19.18**	**30**	⇓P	**P**	**06 56 57.5**	**-1.1**
	comp=Z,4.4nm,1.2s						
MK31	**Makanchi Array**	**22.23**	**55**	P	**P**	**06 57 32.7**	**+1.0**
	comp=Z,1.7nm,0.7s,baz=246,slow=13,SNR=10						

*ISCJB **29** 07:03:57.1±0.5, 25.°45S±0.°09×13.°51W±0.°09, h10km, mb4.0/17, MS4.0/19, Error ellipse: s-maj=13.0km s-min=12.0km az=151.2*
*IDC **29** 07:03:57.3±0.6, 25.°45S×13.°51W, h0km, mb4.0/14, mb1 4.1/14, mb1mx4.0/24, mbtmp4.0/14, MS3.9/19, Ms1 3.9/19, ms1mx3.9/23, Error ellipse: s-maj=18.5km s-min=16.8km az=134.0*
*NEIC **29** 07:03:58.9±0.3, 25.°44S×13.°51W, h10km, mb4.5/3, Error ellipse: s-maj=10.9km s-min=9.0km az=174.0*

ISC 29 07:03:58.9±0.5, 25.°4S±0.°1×13.°5W±0.°1, h10km, n46, σ0°79/35, mb4.2/17, MS4.0/19, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSUM	**Tsumeb**	**29.39**	**84**	P	**P**	**07 10 02.7**	**-0.1**
TSUM	**Tsumeb**	**29.39**	**84**	P	**P**	**07 10 02.7**	**-0.1**
	2.8nm,0.9s,baz=231,slow=12,SNR=2.4						
TSUM				LR	LR	07 19 58.1	
	comp=Z,63nm,18.5s,baz=181,slow=33						
SUR	**Sutherland**	**30.76**	**111**	LR	LR	07 19 34.4	
	comp=Z,568nm,18.8s,baz=212,slow=30						
DBIC	**Dimbokro**	**32.99**	**16**	P	**P**	**07 10 34.3**	**0.0**
	1.9nm,0.6s,baz=162,slow=9.1,SNR=3.1						
DBIC				LR	LR	07 20 41.9	
	comp=Z,228nm,20.1s,baz=172,slow=30						
BDFB	**Brasilia**	**33.64**	**280**	P	**P**	**07 10 39.0**	**-1.2**
BDFB	**Brasilia**	**33.64**	**280**	P	**P**	**07 10 39.0**	**-1.2**
	2.5nm,0.8s,baz=103,slow=9.4,SNR=3.2						
BDFB				LR	LR	07 22 12.8	
	comp=Z,295nm,19.1s,baz=139,slow=32						
BOSA	**Boshof**	**34.60**	**104**	P	**P**	**07 10 47.2**	**-1.2**
BOSA	**Boshof**	**34.60**	**104**	P	**P**	**07 10 47.2**	**-1.2**
	5.5nm,0.9s,baz=305,slow=8.4,SNR=5.0						
BOSA				LR	LR	07 22 32.7	
	comp=Z,275nm,18.2s,baz=268,slow=32						
LBTB	**Lobatse**	**35.31**	**98**	*e*P	**P**	**07 10 53.5**	**-1.0**
	8.2nm,1.0s						
LBTB	**Lobatse**	**35.31**	**98**	P	**P**	**07 10 53.7**	**-0.9**
	4.0nm,0.7s,baz=261,slow=9.0,SNR=7.1						
CPUP	**Villa Florida**	**39.28**	**259**	LR	LR	07 25 22.7	
	comp=Z,79nm,18.6s,baz=84,slow=33						
TORD	**Torodi Ar. Bea**	**41.11**	**23**	P	**P**	**07 11 43.4**	**+0.2**
TORD	**Torodi Ar. Bea**	**41.11**	**23**	P	**P**	**07 11 43.4**	**+0.2**
	4.6nm,1.0s,baz=202,slow=8.4,SNR=16						
SIV	**San Ignacio**	**45.25**	**272**	P	**P**	**07 12 16.9**	**-0.1**
SIV	**San Ignacio**	**45.25**	**272**	P	**P**	**07 12 16.9**	**-0.1**
	1.7nm,0.8s,baz=113,slow=10,SNR=5.0						
VNA2	**Neumayer--Watz**	**45.67**	**177**	*e*P	**P**	**07 12 19.1**	**-0.4**
	baz=336,slow=10						
SNAA	**Sanae**	**46.67**	**175**	*e*P	**P**	**07 12 30.2**	**+2.8**
SNAA	**Sanae**	**46.67**	**175**	P	**P**	**07 12 27.4**	**-0.1**
SNAA	**Sanae**	**46.67**	**175**	P	**P**	**07 12 27.4**	**-0.1**
	0.4nm,0.9s,baz=301,slow=5.6,SNR=3.6						
CFAA	**Coronel Fontan**	**48.06**	**249**	P	**P**	**07 12 39.1**	**+0.3**
CFAA	**Coronel Fontan**	**48.06**	**249**	P	**P**	**07 12 39.1**	**+0.3**
	0.2nm,0.8s,baz=91,slow=8.2,SNR=3.5						
SAML	**Samuel**	**49.88**	**280**	*e*P	**P**	**07 12 53.0**	**+0.1**
	3.0nm,0.7s						
LPAZ	**La Paz**	**51.54**	**269**	LR	LR	07 32 25.3	
	comp=Z,183nm,18.6s,baz=283,slow=33						
OPO	**Ambohidratompo**	**56.31**	**96**	LR	LR	07 38 36.9	
	comp=Z,157nm,19.3s,baz=22,slow=37						
MAW	**Mawson**	**61.59**	**155**	P	**P**	**07 14 16.5**	**+0.4**
MAW	**Mawson**	**61.59**	**155**	P	**P**	**07 14 16.5**	**+0.4**
	1.7nm,0.8s,baz=284,slow=11,SNR=4.3						
MAW				LR	LR	07 35 35.5	
	comp=Z,81nm,18.3s,baz=172,slow=31						
KEST	**Kesra**	**64.55**	**20**	LR	LR	07 40 56.9	
	comp=Z,48nm,19.4s,baz=298,slow=34						
QSPA	**South Pole Qui**	**64.80**	**180**	*e*P	**P**	**07 14 38.2**	**+0.5**
	2.5nm,0.7s						
QSPA	**South Pole Qui**	**64.80**	**180**	LR	LR	07 39 49.5	
	comp=Z,125nm,18.1s,baz=205,slow=33						
ESDC	**Sonseca Array**	**65.37**	**8**	LR	LR	07 40 03.7	
	comp=Z,39nm,18.3s,baz=0.0,slow=33						
ATD	**Arta Tunnel**	**66.05**	**63**	LR	LR	07 39 36.0	
	comp=Z,51nm,19.1s,baz=250,slow=32						
ROSC	**El Rosal**	**66.19**	**288**	LR	LR	07 42 51.1	
	comp=Z,265nm,18.4s,baz=143,slow=35						
VNDA	**Vanda**	**77.25**	**179**	P	**P**	**07 15 52.4**	**-0.4**
VNDA	**Vanda**	**77.25**	**179**	P	**P**	**07 15 52.4**	**-0.4**
	0.6nm,0.9s,baz=165,slow=4.2,SNR=2.8						
VNDA				LR	LR	07 44 31.5	
	comp=Z,142nm,18.6s,baz=180,slow=32						
GERES	**GERESS Array B**	**77.84**	**18**	P	**P**	**07 15 56.2**	**-0.2**
GERES	**GERESS Array B**	**77.84**	**18**	P	**P**	**07 15 56.3**	**-0.2**
	0.2nm,0.2s,baz=194,slow=3.7,SNR=2.6						
BRTR	**Keskin Array B**	**78.32**	**35**	P	**P**	**07 15 59.8**	**+0.4**
BRTR	**Keskin Array B**	**78.32**	**35**	P	**P**	**07 15 59.8**	**+0.4**
	0.6nm,0.7s,baz=179,slow=7.4,SNR=4.3						
BRTR				LR	LR	07 46 29.2	
	comp=Z,29nm,21.1s,baz=311,slow=33						
AKASG	**Malin Array Be**	**84.68**	**26**	P	**P**	**07 16 32.5**	**-0.1**
AKASG	**Malin Array Be**	**84.68**	**26**	P	**P**	**07 16 32.5**	**-0.1**
	0.2nm,0.3s,baz=218,slow=4.4,SNR=2.4						
NOA	**NORSAR Array B**	**88.47**	**12**	P	**P**	**07 16 52.2**	**+1.2**
NOA	**NORSAR Array B**	**88.47**	**12**	P	**P**	**07 16 52.3**	**+1.2**
	1.4nm,0.9s,baz=202,slow=4.8,SNR=2.6						
NOA				LR	LR	07 52 28.8	
	comp=Z,46nm,18.4s,baz=10.0,slow=33						
SCHQ	**Schefferville**	**92.04**	**332**	LR	LR	07 52 30.3	
	comp=Z,85nm,21.9s,baz=340,slow=32						
ARCES	**ARCESS Array B**	**98.78**	**13**	LR	LR	08 01 37.2	
	comp=Z,75nm,18.7s,baz=236,slow=35						
KSAR	**Wonju Array Be**	**145.19**	**60**	PKPbc	**PKPdf**	**07 23 36.6**	**-0.3**
KSRS	**Korea Array**	**145.22**	**60**	PKPbc	**PKPab**	**07 23 36.7**	**-0.1**
	0.7nm,0.4s,baz=273,slow=4.3,SNR=3.9						

*ISCJB **29** 07:08:16.9±1.6, 2.°95S±0.°03×130.°06E±0.°03, h11km±11km, mb4.1/11, MS3.4/3, Error ellipse: s-maj=5.9km s-min=5.4km az=136.8*
*IDC **29** 07:08:17.5±0.7, 3.°25S×129.°74E, h0km, mb4.1/9, mb1 4.2/13, mb1mx4.1/26, mbtmp4.1/13, ML4.0/4, MS3.4/5, Ms1 3.4/5, ms1mx3.0/31, Error ellipse: s-maj=30.3km s-min=10.6km az=72.0*
*AUST **29** 07:08:19.9, 2.°99S×130.°01E, h5km*
*DJA **29** 07:08:20.1±1.0, 3.°S±2.°×13.°0E±.°, h24km±12km, M4.8/14, mb5.0/13, mB5.1/1, MLv4.7/14, Mw(mB)4.5/1*
*NEIC **29** 07:08:22.8±0.5, 3.°20S×129.°70E, h35km, mb4.2/8, Error ellipse: s-maj=13.3km s-min=7.8km az=63.0*

ISC 29 07:08:20.0±0.8, 3.°04S±0.°04×130.°07E±0.°04, h20km±3km, n75, σ1°36/76, mb4.1/11, MS3.2/3, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**1.18**	**255**	P	**Pn**	**07 08 40.8**	**-0.7**
MSAI				S	**Sg**	**07 08 59.0**	**+0.5**
BNDI	**Bandanaira**	**1.49**	**186**	P	**Pg**	**07 08 48.0**	**-0.7**
BNDI				S	**Sg**	**07 09 09.7**	**+1.5**
BNDI	**Bandanaira**	**1.49**	**186**	P	**Pg**	**07 08 48.1**	**-0.7**
	baz=1.5,SNR=16						
AAI	**Ambon**	**1.98**	**251**	P	**Pn**	**07 08 53.4**	**+0.9**
AAI				S	**Sb**	**07 09 19.0**	**-0.8**
AAI	**Ambon**	**1.98**	**251**	P	**Pb**	**07 08 54.1**	**-1.3**
	baz=1.9,SNR=9.6						
FAKI	**Fak Fak**	**2.18**	**87**	P	**Pb**	**07 08 57.3**	**-1.4**
FAKI				S	**Sn**	**07 09 22.1**	**+0.5**
FAKI	**Fak Fak**	**2.18**	**87**	P	**Pb**	**07 08 58.0**	**-0.7**
	baz=2.2,SNR=20						
SWI	**Sorong**	**2.46**	**29**	P	**Pn**	**07 08 59.0**	**-0.1**
SWI				S	**Sn**	**07 09 25.0**	**-3.6**
SWI	**Sorong**	**2.46**	**29**	P	**Pn**	**07 09 00.9**	**+1.8**
	baz=2.5,SNR=11						
NLAI	**Namlea**	**2.98**	**266**	P	**Pn**	**07 09 06.3**	**+0.2**
LBMI	**Labuha**	**3.50**	**313**	P	**Pn**	**07 09 11.4**	**-2.0**
KMPI	**Kaimana, Papua**	**3.68**	**100**	P	**Pn**	**07 09 16.0**	**+0.2**
TLE	**Tual**	**3.71**	**134**	P	**Pb**	**07 09 22.3**	**-2.6**
TLE	**Tual**	**3.71**	**134**	P	**Pb**	**07 09 22.2**	**-2.6**
	baz=3.8,SNR=7.5						
TNTI	**Ternate**	**4.65**	**324**	P	**Pn**	**07 09 27.2**	**-2.0**
SAUI	**Saumlaki**	**5.06**	**166**	P	**Pn**	**07 09 36.9**	**+2.0**
	164nm,0.8s,1.1nm						
SRPI	**Serui, Papua**	**6.27**	**80**	P	**Pn**	**07 09 50.6**	**-0.9**
	212nm,0.4s,2.5nm						
BAKI	**Biak**	**6.30**	**73**	P	**Pn**	**07 09 51.2**	**-0.7**
	180nm,1.2s,0.7nm						
KMSI	**Cibinong**	**7.07**	**300**	P	**Pn**	**07 10 00.9**	**-1.5**
	172nm,0.5s,2.7nm						
LUWI	**Luwuk**	**7.56**	**285**	P	**Pn**	**07 10 08.2**	**-1.0**
	78nm,1.2s,0.4nm						
LUWI	**Luwuk**	**7.56**	**285**	P	**Pn**	**07 10 09.4**	**+0.2**
	baz=7.5,SNR=3.2						
BBSI	**Bau Bau**	**7.87**	**252**	P	**Pn**	**07 10 14.0**	**+0.6**
	101nm,1.1s,0.4nm						
SGSI	**Sangihe**	**8.07**	**326**	P	**Pn**	**07 10 14.3**	**-2.0**
	146nm,0.5s,1.0nm						
KKSI	**Kolaka, Sulawe**	**8.48**	**262**	P	**Pn**	**07 10 21.8**	**0.0**
	32nm,0.6s						
APSI	**Ampana**	**8.68**	**284**	P	**Pn**	**07 10 23.9**	**-0.7**
	117nm,0.9s,1μm						
SOEI	**Soe**	**8.82**	**221**	P	**Pn**	**07 10 27.8**	**+1.2**
	60nm,1.6s						
MRSI	**Marisa**	**8.85**	**293**	P	**Pn**	**07 10 25.6**	**-1.3**
	28nm,0.8s						
BATI	**Baumata**	**9.55**	**221**	Pn	Pn	07 10 32.2	-4.3
BATI	**Baumata**	**9.55**	**221**	Pn	Pn	07 10 32.2	-4.3
	4.3nm,0.3s,baz=39,slow=6.5,SNR=2.0						
BATI				LR	LR	07 13 59.2	
	comp=Z,361nm,20.1s,baz=84,slow=37						
MMRI	**Maumere**	**9.57**	**234**	P	**Pn**	**07 10 37.9**	**+1.0**
KDU	**Kakadu**	**9.88**	**166**	P	**Pn**	**07 10 42.2**	**+1.2**
	baz=10.0,SNR=11						
KAPI	**Kappang**	**10.48**	**259**	Pn	Pn	07 10 43.4	-5.9
KAPI	**Kappang**	**10.48**	**259**	Pn	Pn	07 10 43.4	-5.9
	1.3nm,0.3s,baz=73,slow=14,SNR=2.3						
FITZ	**Fitzroy Crossi**	**15.59**	**196**	*e*P	**Pn**	**07 11 59.5**	**+0.7**
	14nm,1.1s						
FITZ	**Fitzroy Crossi**	**15.59**	**196**	Pn	**Pn**	**07 11 56.2**	**-2.6**
	0.4nm,0.3s,baz=21,slow=10,SNR=18						
FITZ				LR	LR	07 17 02.1	
	comp=Z,105nm,21.6s,baz=22,slow=34						
FITZ	**Fitzroy Crossi**	**15.59**	**196**	P	**Pn**	**07 11 59.7**	**+0.9**
	baz=16,SNR=7.8						
COEN	**Coen**	**16.89**	**131**	*e*P	**P**	**07 12 18.3**	**+1.0**
	130nm,0.9s						
COEN	**Coen**	**16.89**	**131**	P	P	07 12 25.7	+8.4
	baz=17,SNR=4.5						
WRAB	**Tennant Creek**	**17.31**	**166**	*e*P	**Pn**	**07 12 19.2**	**-1.4**
	26nm,1.3s						
WRA	**Warramunga Arr**	**17.31**	**166**	P	**Pn**	**07 12 19.0**	**-1.7**
WRA				S	**Sn**	**07 15 30.8**	**-2.2**
WRA	**Warramunga Arr**	**17.31**	**166**	P	**Pn**	**07 12 19.0**	**-1.7**
	0.4nm,0.3s,baz=340,slow=13,SNR=24						
WRA				S	**Sn**	**07 15 30.8**	**-2.2**
	0.2nm,0.3s,baz=340,slow=22,SNR=3.6						
MTSU	**Mount Surprise**	**20.49**	**138**	P	Pn	07 13 01.4	+2.2
	baz=21,SNR=10						
MBWA	**Marble Bar**	**20.64**	**208**	*e*P	**P**	**07 12 56.8**	**-1.6**
	14nm,0.9s						
AS31	**Alice Springs**	**20.84**	**170**	*e*P	**P**	**07 13 01.3**	**+

comp=Z,280nm,19.7s,baz=170,slow=32
STKA Stephens Creek 39.70 308 P P 08 30 19.1 +1.8
3.8nm,0.9s,baz=165,slow=16,SNR=3.4
MAW Mawson 40.13 213 P P 08 30 20.9 +0.5
2.1nm,0.9s,baz=347,slow=4.3,SNR=4.5
MAW LR LR 08 47 04.9
comp=Z,275nm,18.9s,baz=331,slow=36
ASAR Alice Springs 49.90 304 P P 08 31 38.1 -0.6
1.6nm,1.0s,baz=158,slow=8.2,SNR=7.6
WRA Warramunga Arr 53.17 306 P P 08 32 01.6 -1.7
1.7nm,1.0s,baz=156,slow=6.5,SNR=6.5
WRA LR LR 08 52 14.8
comp=Z,124nm,18.9s,baz=295,slow=33
CPUP Villa Florida 79.74 132 LR LR 09 11 23.7
comp=Z,43nm,18.2s,baz=352,slow=37
BOSA Boshof 84.55 204 LR LR 09 10 14.9
comp=Z,149nm,18.5s,baz=163,slow=34
ILAR Eielson Array 131.72 19 PKP PKPdf 08 41 56.1 -0.5
0.8nm,1.1s,baz=227,slow=3.9,SNR=4.3
BRTR Keskin Array B 147.51 237 PKPbc PKPbc 08 42 28.9 +0.1
1.4nm,0.9s,baz=167,slow=5.8,SNR=6.7

FUNV 29 08:29:09.5,6°52N×73°27W,h123km,MW3.8,1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.64**	**35**	⇑*i*P	Pn	08 29 39.1	0.0
CAPV				*e*S	Sn	08 29 59.6	-1.9
SOCV	**Socops**	**2.97**	**54**	*e*P	Pn	08 29 54.4	-1.1
SOCV				*e*S	Sn	08 30 27.1	-3.8
VIGV	**El Vigia**	**2.98**	**39**	*e*P	Pn	08 29 55.1	-0.6
VIGV				*e*S	Sn	08 30 27.7	-3.7
ELOV	**Elorza**	**3.79**	**83**	*e*P	Pn	08 30 04.4	-1.9
ELOV				*e*S	Sn	08 30 46.2	-4.2
VIRV	**Villa del Rosa**	**4.05**	**12**	*e*P	Pn	08 30 07.5	-2.3
VIRV				*e*S	Sn	08 30 51.8	-4.8
QARV	**Quebrada Arrib**	**4.56**	**36**	*e*P	Pn	08 30 15.2	-1.5
CURV	**Curarigua**	**4.77**	**43**	*e*P	Pn	08 30 17.4	-2.2
CURV				*e*S	Sn	08 31 08.7	-5.3
DABV	**Dabajuro**	**5.09**	**31**	*e*P	Pn	08 30 22.0	-1.7
DABV				*e*S	Sn	08 31 16.0	-5.5
TEPV	**Terepaima**	**5.29**	**49**	*e*P	Pn	08 30 24.7	-1.8
BAUV	**El Baul**	**5.71**	**65**	*e*P	Pn	08 30 29.6	-2.5
MONV	**Montecano**	**6.31**	**31**	*e*P	Pn	08 30 37.9	-2.3
BIRV	**Birongo**	**7.96**	**60**	*e*P	Pn	08 30 59.4	-3.1
CUPV	**Cœpira**	**8.20**	**64**	*e*P	Pn	08 31 03.5	-2.3

ISCJB ***29*** *08:53:19.3±0.2,51°52N±0°01×16°09E±0°02,h0km, mb3.9/12,Error ellipse: s-maj=2.1km s-min=1.7km az=170.1*
MOS ***29*** *08:53:20.1±1.1,51°65N×16°07E,h10km,mb4.3/8,Error ellipse: s-maj=8.7km s-min=4.5km az=85.4*
IPEC ***29*** *08:53:20.9±0.4,51°57N×16°16E,h2km±2km,ML3.4/3, Error ellipse: s-maj=4.0km s-min=1.8km az=59.0*
CSEM ***29*** *08:53:20.6±0.2,51°54N×16°02E,h0km,mb4.0/6,ML4.3/25, Ms4.0,Error ellipse: s-maj=4.3km s-min=3.1km az=172.0*
IDC ***29*** *08:53:21.2±0.5,51°54N×16°05E,h0km,mb3.8/7, mb1 3.8/14,mb1mx3.8/29,mbtmp3.8/14,ML3.7/6,Error ellipse: s-maj=9.3km s-min=5.4km az=108.0*
BGR ***29*** *08:53:21.8±0.4,51°55N×16°14E,h1km,ML3.9/17,Error ellipse: s-maj=4.4km s-min=2.2km az=17.0*
LDG ***29*** *08:53:21.1±0.2,51°50N×16°03E,h1km,Ml4.2/9,Error ellipse: s-maj=6.3km s-min=3.0km az=177.0,Suspected Mining induced.*
PRU ***29*** *08:53:22.3,51°51N×16°07E,h0km*
WAR ***29*** *08:53:22.0,51°55N×16°11E*
VIE ***29*** *08:53:23.8±0.5,51°30N×16°03E,h0km,mb3.5/13, ML3.4/12,Ms4.0/3,Error ellipse: s-maj=3.4km s-min=2.4km az=5.0 71 km WNW of Wroclaw Suspected Mining induced.*

ISC 29 08:53:20.5±0.5,51°58N±0°02×16°10E±0°02,h0km,n210, σ1§28/302,mb4.0/12,19C-26D,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.74**	**171**	*e*Pg	**Pg**	**08 53 35.4**	**+0.7**
KSP				*e*Sg	**Sg**	**08 53 45.2**	**+0.8**
KSP	**Ksiaz**	**0.74**	**171**	⇓*i*P	**Pg**	**08 53 35.4**	**+0.7**
KSP				*e*		08 53 48.6	
KSP	**Ksiaz**	**0.74**	**171**	*e*Pg	**Pg**	**08 53 35.4**	**+0.7**
KSP				*e*Sg	**Sg**	**08 53 45.0**	**+0.7**
KSP	**Ksiaz**	**0.74**	**171**	Pg	**Pg**	**08 53 35.4**	**+0.7**
KSP				Sg	**Sg**	**08 53 45.2**	**+0.8**
KSP				*e*S	**Sb**	**08 53 48.6**	**+1.6**
UPC	**Upice**	**1.07**	**183**	⇓*i*P	**Pg**	**08 53 41.4**	**+0.4**
UPC				*e*		08 53 53.4	
UPC				smax	smax		
	comp=N,376nm,0.5s						
UPC	**Upice**	**1.07**	**183**	⇓*i*PG	**Pg**	**08 53 41.4**	**+0.4**
UPC				*e*SG	**Sg**	**08 53 53.4**	**-1.5**
	comp=N,376nm,0.5s						
UPC	**Upice**	**1.07**	**183**	Pg	**Pg**	**08 53 41.4**	**+0.4**
UPC				Sg	**Sg**	**08 53 53.4**	**-1.5**
	comp=N,376nm,0.5s						
DPC	**Dobruska-Polom**	**1.24**	**173**	*e*Pg	**Pg**	**08 53 44.2**	**+0.1**
DPC				*e*Sg	**Sg**	**08 54 00.1**	**0.0**
DPC	**Dobruska-Polom**	**1.24**	**173**	⇓*i*P	**Pg**	**08 53 44.2**	**+0.1**
DPC				*e*		08 53 58.9	
DPC	**Dobruska-Polom**	**1.24**	**173**	⇓*i*PG	**Pg**	**08 53 44.2**	**+0.1**
DPC				*e*SG	**Sg**	**08 53 58.9**	**-1.2**
DPC				AMS	AMS	08 54 10.0	
DPC	**Dobruska-Polom**	**1.24**	**173**	*i* P	**Pg**	**08 53 44.2**	**+0.1**
DPC				Sg	**Sg**	**08 54 00.1**	**0.0**
PVCC	**Panska Ves**	**1.43**	**223**	⇓*i*P	**Pn**	**08 53 47.7**	**+0.1**
PVCC				*e*		08 54 07.2	
PVCC				smax	smax		
	comp=N,2μm,0.6s						
PVCC	**Panska Ves**	**1.43**	**223**	⇓*i*PG	**Pn**	**08 53 47.7**	**+0.1**
PVCC				*e*SG	**Sn**	**08 54 07.2**	**+0.1**
	comp=N,2μm,0.6s						
PVCC	**Panska Ves**	**1.43**	**223**	Pg	**Pn**	**08 53 47.7**	**+0.1**
PVCC				Sg	**Sn**	**08 54 07.2**	**+0.1**
	comp=N,2μm,0.6s						
BRG	**Berggiesshubel**	**1.53**	**243**	PN	**Pn**	**08 53 48.3**	**-0.7**
BRG				PG	**Pg**	**08 53 50.2**	**+0.5**
BRG				SG	**Sg**	**08 54 10.5**	**+1.0**
	comp=N,800nm,0.5s						
BRG	**Berggiesshubel**	**1.53**	**243**	*e*Pn	**Pn**	**08 53 48.7**	**-0.3**
BRG				*e*Sg	**Sg**	**08 54 10.7**	**+1.2**
BRG	**Berggiesshubel**	**1.53**	**243**	P	**Pn**	**08 53 48.3**	**-0.7**
BRG						08 54 10.5	
BRG				smax	smax		
	comp=N,800nm,0.5s						
BRG	**Berggiesshubel**	**1.53**	**243**	P	**Pn**	**08 53 48.3**	**-0.7**
BRG	**Berggiesshubel**	**1.53**	**243**	Pn	**Pn**	**08 53 48.7**	**-0.3**
BRG				Sg	**Sg**	**08 54 10.7**	**+1.2**
KRLC	**Kraliky**	**1.56**	**164**	*e*P	**Pn**	**08 53 49.3**	**-0.2**
KRLC				*e*		08 54 09.6	
KRLC	**Kraliky**	**1.56**	**164**	⇓*e*PG	**Pn**	**08 53 49.3**	**-0.2**
KRLC				*e*SG	**Sn**	**08 54 09.6**	**-0.9**
KRLC	**Kraliky**	**1.56**	**164**	Pg	**Pn**	**08 53 49.3**	**-0.2**
KRLC				Sg	**Sn**	**08 54 09.6**	**-0.9**
GKP	**Gorka Klasztor**	**1.83**	**22**	*e*Pn	**Pn**	**08 53 51.2**	**-1.9**
GKP				*e*Pg	**Pg**	**08 53 56.0**	**+0.4**
GKP				*e*PP	PnPn	08 54 00.9	+0.4
GKP				*e*Sn	**Sn**	**08 54 17.3**	**+0.2**
GKP				*e*Sg	**Sg**	**08 54 20.6**	**+1.3**
GKP	**Gorka Klasztor**	**1.83**	**22**	*e*Pn	**Pn**	**08 53 51.3**	**-1.9**
FBE	**Freiberg**	**1.85**	**250**	*e*Pn	**Pn**	**08 53 53.3**	**-0.1**
FBE				*e*Sg	**Sg**	**08 54 20.3**	**+0.6**
FBE	**Freiberg**	**1.85**	**250**	Pn	**Pn**	**08 53 53.3**	**-0.1**
FBE				Sg	**Sg**	**08 54 20.3**	**+0.6**
PRU	**Pruhonice**	**1.87**	**212**	⇓*i*P	**Pn**	**08 53 53.6**	**-0.1**
PRU				*e*		08 54 19.2	
PRU				smax	smax		
	comp=N,346nm,0.4s						
PRU				MLR	MLR		
	comp=Z,700nm,5.7s						
PRU	**Pruhonice**	**1.87**	**212**	⇓*i*PN	**Pn**	**08 53 53.6**	**-0.1**
PRU				*e*PG	**Pb**	**08 53 55.7**	**+0.2**
PRU				*e*SG	**Sb**	**08 54 19.2**	**-0.3**
	comp=Z,346nm,0.4s						
PRU				AMS	AMS	08 54 30.0	
	comp=Z,700nm,5.7s						
PRU	**Pruhonice**	**1.87**	**212**	Pn	**Pn**	**08 53 53.6**	**-0.1**
CLL	**Collm**	**1.96**	**263**	*e*Pn	**Pn**	**08 53 54.6**	**-0.3**
CLL	**Collm**	**1.96**	**263**	*i* P	**Pn**	**08 53 54.6**	**-0.3**
CLL				*e*		08 54 24.0	
CLL	**Collm**	**1.96**	**263**	*i* Pn	**Pn**	**08 53 54.6**	**-0.3**
CLL				*i* Pg	**Pg**	**08 53 57.8**	**-0.1**
CLL				*i*		08 54 01.6	
CLL				*e*Sg	**Sg**	**08 54 24.0**	**+0.7**
	comp=Z,337nm,0.4s						
CLL	**Collm**	**1.96**	**263**	Pn	**Pn**	**08 53 54.6**	**-0.3**
CLL				*e*S	**Sg**	**08 54 24.0**	**+0.7**
RAC	**Raciborz**	**2.00**	**138**	*e*P	**Pg**	**08 53 59.1**	**+0.3**
RAC				*e*		08 54 25.1	
RAC	**Raciborz**	**2.00**	**138**	*e*P	**Pg**	**08 53 59.1**	**+0.3**
MORC	**Moravsky Berou**	**2.02**	**152**	*e*Pn	**Pn**	**08 53 55.2**	**-0.6**
MORC				*e*Sg	**Sb**	**08 54 23.8**	**0.0**
MORC	**Moravsky Berou**	**2.02**	**152**	Pn	**Pn**	**08 53 55.2**	**-0.6**
MORC				Sg	**Sb**	**08 54 23.8**	**0.0**
OKC	**Ostrava-Krasne**	**2.17**	**142**	*e*Pn	**Pn**	**08 53 57.0**	**-0.8**
OKC				*e*Sg	**Sb**	**08 54 28.9**	**+0.8**
OKC	**Ostrava-Krasne**	**2.17**	**142**	*e*P	**Pn**	**08 53 56.9**	**-1.0**
OKC				*e*		08 54 28.6	
OKC				smax	smax		
	comp=N,354nm,0.6s						
OKC	**Ostrava-Krasne**	**2.17**	**142**	⇓*e*PN	**Pn**	**08 53 56.9**	**-1.0**
OKC				*e*PG	**Pb**	**08 54 00.7**	**+0.1**
OKC				*e*SG	**Sb**	**08 54 28.6**	**+0.5**
	comp=N,354nm,0.6s						
OKC	**Ostrava-Krasne**	**2.17**	**142**	Pn	**Pn**	**08 53 57.0**	**-0.8**
VRAC	**Vranov**	**2.29**	**172**	Pn	**Pn**	**08 53 59.6**	**0.0**
	comp=N,14nm,0.3s,baz=351,slow=14,SNR=32						
VRAC				Pg	**Pg**	**08 54 03.8**	**-0.6**
	comp=N,27nm,0.3s,baz=352,slow=16,SNR=34						
VRAC				Lg	Lg	08 54 33.3	
	comp=N,62nm,0.3s,baz=276,slow=23,SNR=12						
VRAC	**Vranov**	**2.29**	**172**	*e*Pn	**Pn**	**08 53 59.6**	**0.0**
VRAC				*e*Sg	**Sb**	**08 54 32.1**	**+0.5**
TREC	**Trest**	**2.32**	**190**	*e*P	**Pn**	**08 54 00.3**	**+0.4**
TREC				*e*		08 54 33.1	
TREC				smax	smax		
	comp=N,315nm,0.7s						
TREC	**Trest**	**2.32**	**190**	⇓*e*PN	**Pn**	**08 54 00.3**	**+0.4**
TREC				*e*PG	**Pb**	**08 54 03.4**	**+0.3**
TREC				*e*SG	**Sb**	**08 54 33.1**	**+0.8**
	comp=N,315nm,0.7s						
TREC	**Trest**	**2.32**	**190**	Pn	**Pn**	**08 54 00.3**	**+0.4**
KRUC	**Moravsky**	**2.52**	**176**	*e*Pn	**Pn**	**08 54 02.6**	**-0.1**
	baz=357						
KRUC				*e*Sg	**Sb**	**08 54 39.7**	**+1.5**
	comp=N,120nm,0.4s,baz=357						
TANN	**Tannenbergstha**	**2.58**	**245**	*e*Pn	**Pn**	**08 54 03.8**	**+0.3**
TANN				*e*Sg	**Sg**	**08 54 43.8**	**+0.6**
TANN	**Tannenbergstha**	**2.58**	**245**	Pn	**Pn**	**08 54 03.8**	**+0.3**
TANN				Sg	**Sg**	**08 54 43.8**	**+0.6**
WERD	**Werda**	**2.65**	**246**	*e*Pn	**Pn**	**08 54 04.7**	**+0.2**
WERD	**Werda**	**2.65**	**246**	Pn	**Pn**	**08 54 04.7**	**+0.2**
NKC	**Novy Kostel**	**2.67**	**241**	*e*P	**Pn**	**08 54 05.1**	**+0.3**
NKC				*e*		08 54 47.4	
NKC				smax	smax		
	comp=N,415nm,0.6s						
NKC	**Novy Kostel**	**2.67**	**241**	⇓*e*PN	**Pn**	**08 54 05.1**	**+0.3**
NKC				*e*PG	**Pg**	**08 54 11.0**	**-0.7**
NKC				*e*SG	**Sg**	**08 54 47.4**	**+1.0**
	comp=N,415nm,0.6s						
NKC	**Novy Kostel**	**2.67**	**241**	Pn	**Pn**	**08 54 05.1**	**+0.3**
OJC	**Ojcow**	**2.71**	**119**	*e*Pn	**Pn**	**08 54 03.5**	**-1.7**
OJC				*e*Sg	**Sg**	**08 54 48.2**	**+0.8**
OJC	**Ojcow**	**2.71**	**119**	*e*P	**Pn**	**08 54 03.3**	**-1.9**
OJC				*e*		08 54 46.7	
OJC	**Ojcow**	**2.71**	**119**	*e*Pn	**Pn**	**08 54 03.3**	**-1.9**
OJC				*e*Pg	**Pg**	**08 54 11.9**	**-0.4**
OJC				*e*Sg	**Sg**	**08 54 46.7**	**-0.7**
OJC				*e*		08 54 47.6	
OJC	**Ojcow**	**2.71**	**119**	Pn	**Pn**	**08 54 03.5**	**-1.7**
OJC	**Ojcow**	**2.71**	**119**	*e*Pg	**Pg**	**08 54 11.9**	**-0.4**
OJC				Sg	**Sg**	**08 54 48.2**	**+0.8**
BEL	**Belsk**	**2.93**	**83**	*e*Pn	**Pn**	**08 54 09.6**	**+1.3**
BEL				*e*Pg	Pg	08 54 20.5	+3.9
BEL	**Belsk**	**2.93**	**83**	*e*Pn	**Pn**	**08 54 09.6**	**+1.3**
KHC	**Kasperske Hory**	**2.93**	**214**	⇓*i*P	**Pn**	**08 54 08.3**	**-0.1**
KHC				*e*		08 54 43.3	
KHC				smax	smax		
	comp=N,141nm,0.5s						
KHC	**Kasperske Hory**	**2.93**	**214**	⇓*i*PN	**Pn**	**08 54 08.3**	**-0.1**
KHC				*e*PG	**Pb**	**08 54 14.6**	**+1.0**
KHC				*e*SN	**Sn**	**08 54 43.3**	**-1.0**
KHC				*e*SG	**Sg**	**08 54 53.3**	**-1.3**
	comp=N,141nm,0.5s						
KHC				AMS	AMS	08 55 00.0	
	comp=N,300nm,6.5s						
KHC	**Kasperske Hory**	**2.93**	**214**	Pn	**Pn**	**08 54 08.3**	**-0.1**
MOX	**Moxa**	**2.98**	**253**	*e*Pn	**Pn**	**08 54 09.0**	**+0.1**
MOX				*e*Sg	**Sg**	**08 54 57.7**	**+1.7**
MOX	**Moxa**	**2.98**	**253**	*e*P	**Pn**	**08 54 09.0**	**+0.1**
MOX	**Moxa**	**2.98**	**253**	Pn	**Pn**	**08 54 09.0**	**+0.1**
MOX				Sg	**Sg**	**08 54 57.7**	**+1.7**
MANZ	**Manzenberg**	**2.99**	**239**	*e*Pn	**Pn**	**08 54 09.8**	**+0.7**
MANZ				*e*Sg	**Sg**	**08 54 56.3**	**-0.2**
MANZ	**Manzenberg**	**2.99**	**239**	Pn	**Pn**	**08 54 09.8**	**+0.7**
MANZ				Sg	**Sg**	**08 54 56.3**	**-0.2**
ROTZ	**Rotzenmuhle**	**3.07**	**235**	*e*Pn	**Pn**	**08 54 10.7**	**+0.5**
ROTZ				*e*Sg	**Sg**	**08 54 59.1**	**+0.1**
ROTZ	**Rotzenmuhle**	**3.07**	**235**	Pn	**Pn**	**08 54 10.7**	**+0.5**
ROTZ				Sg	**Sg**	**08 54 59.1**	**+0.1**
GEC2	**GERESS Array S**	**3.14**	**210**	*e*Pn	**Pn**	**08 54 12.0**	**+0.8**
GEC2	**GERESS Array S**	**3.14**	**210**	*e*P	**Pn**	**08 54 12.0**	**+0.8**
GEC2	**GERESS Array S**	**3.14**	**210**	Pn	**Pn**	**08 54 12.0**	**+0.8**
GERES	**GERESS Array B**	**3.14**	**210**	Pn	**Pn**	**08 54 11.2**	**0.0**
	comp=N,12nm,0.3s,baz=30,slow=12,SNR=170						
GERES				Pg	**Pb**	**08 54 18.3**	**+1.2**
	comp=N,22nm,0.3s,baz=28,slow=17,SNR=48						
GERES				Sn	**Sn**	**08 54 47.2**	**-2.3**
	comp=N,13nm,0.3s,baz=36,slow=28,SNR=6.7						
GERES				Lg	Lg	08 54 59.7	
	comp=N,26nm,0.3s,baz=24,slow=26,SNR=4.9						
GERES	**GERESS Array B**	**3.14**	**210**	P	**Pn**	**08 54 11.3**	**0.0**
	comp=N,22nm,0.3s						
SMOL	**Smolenice**	**3.18**	**164**	*e*P	**Pg**	**08 54 21.0**	**-0.4**
SMOL	**Smolenice**	**3.18**	**164**	*e*PG	**Pg**	**08 54 21.0**	**-0.4**
SMOL				*e*SG	**Sg**	**08 55 02.9**	**+0.2**
SMOL	**Smolenice**	**3.18**	**164**	*e*Pg	**Pg**	**08 54 21.0**	**-0.4**
SMOL				*e*Sg	**Sg**	**08 55 02.9**	**+0.2**
WET	**Wettzell**	**3.19**	**222**	*e*Pn	**Pn**	**08 54 12.5**	**+0.6**
WET	**Wettzell**	**3.19**	**222**	*e*P	**Pn**	**08 54 12.5**	**+0.6**
WET	**Wettzell**	**3.19**	**222**	Pn	**Pn**	**08 54 12.5**	**+0.6**
ZST	**Bratislava**	**3.45**	**169**	*e*P	**Pg**	**08 54 24.9**	**-1.6**
ZST	**Bratislava**	**3.45**	**169**	*e*PG	**Pg**	**08 54 24.9**	**-1.6**
ZST				*e*SG	**Sg**	**08 55 08.8**	**-2.3**
ZST	**Bratislava**	**3.45**	**169**	*e*Pg	**Pg**	**08 54 24.9**	**-1.6**
ZST				*e*Sg	**Sg**	**08 55 08.8**	**-2.3**
NIE	**Niedzica**	**3.45**	**127**	*e*P	**Pg**	**08 54 25.6**	**-0.9**
NIE	**Niedzica**	**3.45**	**127**	*e*P	**Pg**	**08 54 25.6**	**-0.9**
NIE				*e*S	**Sg**	**08 55 10.2**	**-1.0**
CLZ	**Clausthal**	**3.57**	**276**	*e*Pn	**Pn**	**08 54 18.3**	**+1.2**
CLZ				*e*Sg	**Sg**	**08 55 14.8**	**-0.4**
CLZ	**Clausthal**	**3.57**	**276**	*e*P	**Pn**	**08 54 18.3**	**+1.2**
CLZ	**Clausthal**	**3.57**	**276**	Pn	**Pn**	**08 54 18.3**	**+1.2**
CLZ				Sg	**Sg**	**08 55 14.8**	**-0.4**
BSD	**Bornholm Skovb**	**3.61**	**349**	*i* P	**Pn**	**08 54 17.8**	**+0.2**
	SNR=49						
BSD				*i* S	**Sn**	**08 54 57.9**	**-3.1**
GRA1	**Grafenberg Arr**	**3.63**	**241**	Pn	**Pn**	**08 54 18.7**	**+0.7**
GRA1				Sg	**Sg**	**08 55 18.1**	**+1.0**
GRF	**Grafenberg Arr**	**3.63**	**241**	*e*Pn	**Pn**	**08 54 18.7**	**+0.7**
GRF				*e*Sg	**Sg**	**08 55 18.1**	**+1.0**
GRF	**Grafenberg Arr**	**3.63**	**241**	*e*P	**Pn**	**08 54 18.7**	**+0.7**
CONA	**Conrad Observa**	**3.66**	**183**	⇑*i*Pn	**Pn**	**08 54 18.5**	**+0.2**
	SNR=21						
CONA				⇑*i*Sg	**Sb**	**08 55 13.9**	**+3.1**
	comp=N,199nm,0.5s						
CONA	**Conrad Observa**	**3.66**	**183**	Pn	**Pn**	**08 54 18.5**	**+0.2**
	SNR=21						
CONA				Sg	**Sb**	**08 55 13.9**	**+3.1**
	comp=N,199nm,0.5s						
SOP	**Sopron**	**3.91**	**175**	⇑*e*pn	**Pn**	**08 54 22.3**	**+0.6**
SOP				*e*sn	**Sb**	**08 55 19.6**	**+1.6**
SOP	**Sopron**	**3.91**	**175**	⇑*e*Pn	**Pn**	**08 54 22.3**	**+0.6**
MOA	**Molln**	**3.92**	**198**	⇓*i*Pn	**Pn**	**08 54 22.2**	**+0.3**
	SNR=70						
MOA				⇑*i*Sg	**Sg**	**08 55 25.3**	**-0.9**
	comp=N,227nm,0.7s						
MOA	**Molln**	**3.92**	**198**	Pn	**Pn**	**08 54 22.2**	**+0.3**
	SNR=70						
MOA				Sg	**Sg**	**08 55 25.3**	**-0.9**
	comp=N,227nm,0.7s						
STHS	**Stebnicka Huta**	**3.93**	**121**	*e*P	**Pn**	**08 54 22.7**	**+0.6**
STHS	**Stebnicka Huta**	**3.93**	**121**	*e*PN	**Pn**	**08 54 22.7**	**+0.6**
STHS				*e*PG	**Pg**	**08 54 37.3**	**+1.5**
STHS				*e*SG	**Sg**	**08 55 31.3**	**+4.6**
STHS	**Stebnicka Huta**	**3.93**	**121**	*e*P	**Pn**	**08 54 22.7**	**+0.6**
KECS	**Kecovo**	**4.19**	**136**	*e*P	**Pn**	**08 54 25.3**	**-0.3**
KECS	**Kecovo**	**4.19**	**136**	*e*PN	**Pn**	**08 54 25.3**	**-0.3**
KECS				*e*PG	**Pg**	**08 54 41.6**	**+0.8**
KECS				*e*SG	**Sg**	**08 55 38.5**	**+3.4**
KECS	**Kecovo**	**4.19**	**136**	*e*P	**Pn**	**08 54 25.3**	**-0.3**
ARSA	**Arzberg**	**4.35**	**185**	⇓*i*Pn	**Pn**	**08 54 27.3**	**-0.5**
	SNR=14						
ARSA				⇑*i*Sg	**Sg**	**08 55 37.4**	**-2.6**
	comp=N,173nm,0.8s						
ARSA	**Arzberg**	**4.35**	**185**	Pn	**Pn**	**08 54 27.3**	**-0.5**
	SNR=14						
ARSA				Sg	**Sg**	**08 55 37.4**	**-2.6**
	comp=N,173nm,0.8s						
CRVS	**Cervenica-Dubn**	**4.36**	**126**	*e*P	**Pn**	**08 54 28.0**	**+0.1**
CRVS	**Cervenica-Dubn**	**4.36**	**126**	*e*PN	**Pn**	**08 54 28.0**	**+0.1**
CRVS				*e*PG	**Pg**	**08 54 45.2**	**+1.2**
CRVS				*e*SG	**Sg**	**08 55 40.2**	**-0.2**
CRVS	**Cervenica-Dubn**	**4.36**	**126**	*e*P	**Pn**	**08 54 28.0**	**+0.1**
PSZ	**Piszkesteto**	**4.41**	**145**	⇓*e*	**Pn**	**08 54 29.5**	**+0.8**
PSZ	**Piszkesteto**	**4.41**	**145**	⇓*e*Pn	**Pn**	**08 54 29.5**	**+0.8**
PKSG		**4.45**	**160**	⇓*e*pn	**Pn**	**08 54 29.1**	**0.0**
PKSG		**4.45**	**160**	⇓*e*Pn	**Pn**	**08 54 29.1**	**0.0**
KWP	**Kalwaria Pacla**	**4.64**	**112**	*e*Pn	**Pn**	**08 54 32.1**	**+0.4**
KWP				*e*		08 54 46.1	
KWP				*e*Pg	**Pg**	**08 54 50.8**	**+1.5**
KWP				*e*Sn	**Sn**	**08 55 29.3**	**+3.1**
KWP				*e*Sg	**Sg**	**08 55 50.8**	**+1.5**
KWP	**Kalwaria Pacla**	**4.64**	**112**	*e*Pn	**Pn**	**08 54 32.2**	**+0.5**
KOLS	**Kolonicke sedl**	**4.76**	**121**	*e*P	**Pn**	**08 54 33.3**	**-0.2**
KOLS	**Kolonicke sedl**	**4.76**	**121**	*e*PN	**Pn**	**08 54 33.2**	**-0.2**
KOLS				*e*PG	**Pg**	**08 54 54.7**	**+3.0**
KOLS				*e*SG	**Sg**	**08 55 54.5**	**+1.1**
KOLS	**Kolonicke sedl**	**4.76**	**121**	*e*P	**Pn**	**08 54 33.3**	**-0.2**
KBA	**Koelnbreinsper**	**4.85**	**203**	⇓*i*Pn	**Pn**	**08 54 35.6**	**+0.8**
	SNR=19						
KBA				⇑*i*Sg	**Sg**	**08 55 54.9**	**-1.3**
	comp=N,126nm,0.5s						
KBA	**Koelnbreinsper**	**4.85**	**203**	Pn	**Pn**	**08 54 35.6**	**+0.8**
	SNR=19						
KBA				Sg	**Sg**	**08 55 54.9**	**-1.3**
	comp=N,126nm,0.5s						
UZH	**Uzhgorod**	**4.96**	**124**	*e*P	**Pn**	**08 54 37.0**	**+0.9**
UZH				*e*S	**Sn**	**08 55 32.0**	**-2.1**
UZH				smax	smax		
	comp=N,70nm,1.0s						
UZH				smax	smax		
	comp=E,60nm,1.0s						
UZH				smax	smax		
	comp=Z,60nm,1.0s						
UZH	**Uzhgorod**	**4.96**	**124**	*e*P	**Pn**	**08 54 37.0**	**+0.9**
UZH				*e*S	**Sn**	**08 55 32.0**	**-2.1**
WATA	**Walderalm**	**5.17**	**217**	⇑*i*Pn	**Pn**	**08 54 39.7**	**+0.5**
	SNR=9.6						
WATA				⇑*i*Sg	**Sg**	**08 56 05.4**	**-1.0**
	comp=Z,61nm,0.6s						
WATA	**Walderalm**	**5.17**	**217**	Pn	**Pn**	**08 54 39.7**	**+0.5**
	SNR=9.6						
WATA				Sg	**Sg**	**08 56 05.4**	**-1.0**
	comp=Z,61nm,0.6s						
OBKA	**Obir**	**5.17**	**192**	⇓*i*Pn	**Pn**	**08 54 39.3**	**+0.1**
OBKA				⇑*i*Sg	**Sg**	**08 56 05.9**	**-0.7**
	comp=Z,117nm,0.8s						
OBKA	**Obir**	**5.17**	**192**	Pn	**Pn**	**08 54 39.3**	**+0.1**
OBKA				Sg	**Sg**	**08 56 05.9**	**-0.7**
	comp=Z,117nm,0.8s						
WTTA	**Wattenberg**	**5.21**	**216**	⇓*i*Pn	**Pn**	**08 54 39.7**	**0.0**
	SNR=9.9						
WTTA				⇑*i*Sg	**Sg**	**08 56 08.6**	**+0.9**
	comp=Z,72nm,0.6s						
WTTA	**Wattenberg**	**5.21**	**216**	Pn	**Pn**	**08 54 39.7**	**0.0**
	SNR=9.9						
WTTA				Sg	**Sg**	**08 56 08.6**	**+0.9**
	comp=Z,72nm,0.6s						
LVV	**L'vov**	**5.34**	**106**	*e*P	Pb	08 54 50.5	-4.1
LVV				*e*S	**Sb**	**08 55 55.3**	**-3.8**
**MO

comp=N,27nm,0.8s
LOR Lormes 9.07 246 *e*Pn **Pn 08 55 30.5 -2.0**
LOR *e*Sg Sn 08 58 01.9 +47
comp=N,14nm,0.8s
MBDF Montbardon 9.26 226 *e*P **Pn 08 55 37.7 +2.4**
MBDF *e*Sg Sn 08 58 07.5 +47
comp=N,22nm,1.1s
MBDF Montbardon 9.26 226 *e*P **Pn 08 55 37.7 +2.4**
SSF Saint Saulge 9.38 246 *e*Pn **Pn 08 55 34.5 -2.3**
SSF Saint Saulge 9.38 246 *e*Pn **Pn 08 55 34.5 -2.3**
SMF Signal de Mont 9.43 243 *e*Sg Sn 08 58 13.8 +50
comp=N,40nm,0.9s
ORIF Oris-en-Rattie 9.53 230 *e*P **Pn 08 55 39.9 +1.0**
ORIF Oris-en-Rattie 9.53 230 *e*P **Pn 08 55 39.9 +1.0**
AVF Avril sur Loir 9.62 245 *e*Pn **Pn 08 55 37.3 -2.8**
AVF Avril sur Loir 9.62 245 *e*Pn **Pn 08 55 37.3 -2.8**
SBF Sospel 9.67 220 *e*P **Pn 08 55 41.3 +0.4**
SBF Sospel 9.67 220 *e*P **Pn 08 55 41.3 +0.4**
NOA NORSAR Array B 9.86 346 Pn **Pn 08 55 41.4 -2.0**
comp=N,0.2nm,0.3s,baz=164,slow=12,SNR=2.7
FINES FINESS Array B 11.30 25 Pn **Pn 08 56 00.2 -2.9**
comp=N,0.6nm,0.3s,baz=211,slow=9.5,SNR=8.7
FINES Sn Sn 08 58 00.0 -10
comp=N,0.7nm,0.3s,baz=222,slow=21,SNR=5.4
KAF Kangasniemi 11.93 24 *e*P **Pn 08 56 11.0 -0.6**
KAF pmax pmax
comp=Z,1.0nm,0.3s
KAF Kangasniemi 11.93 24 *e*p **Pn 08 56 11.0 -0.6**
comp=Z,1.2nm,0.3s
EKA Eskdalemuir Ar 12.07 296 Pn Pn 08 56 09.7 -3.8
baz=102,slow=14,SNR=5.9
JOF Joensuu 13.98 30 *e*P **Pn 08 56 37.7 -1.9**
JOF pmax pmax
comp=Z,1.0nm,0.3s
JOF Joensuu 13.98 30 *e*p **Pn 08 56 37.7 -1.9**
comp=Z,0.6nm,0.3s
ARCES ARCESS Array B 18.56 10 P **P 08 57 35.8 -2.7**
comp=Z,0.2nm,0.3s,baz=196,slow=12,SNR=7.2
KEV Kevo 18.95 12 *e*P **P 08 57 41.5 -1.2**
KEV pmax pmax
comp=Z,1.0nm,0.4s
KEV Kevo 18.95 12 *e*p **P 08 57 41.5 -1.2**
comp=Z,0.6nm,0.4s
KIV Kislovodsk 19.35 103 *e*P **Pn 08 57 52.0 +3.6**
KIV pmax pmax
comp=Z,11nm,1.0s
ARU Arti 25.11 62*d i*P P 08 58 52.5 +5.9
ARU 08 59 25.3
ARU SS SS 09 04 10.0
ARU pmax pmax
comp=Z,12nm,1.7s
AKTK Aktyubinsk 26.14 76 P **P 08 58 56.4 +0.4**
comp=Z,2.0nm,0.7s
AKTO Aktyubinsk 26.14 76 P **P 08 58 56.4 +0.3**
AKTO pmax pmax
comp=Z,2.0nm,0.7s
AKTO Aktyubinsk 26.14 76 P **P 08 58 56.4 +0.3**
comp=Z,2.1nm,0.7s,baz=289,slow=11,SNR=7.9
BRVK Borovoye 32.50 66ǁ *e*P **P 08 59 55.2 +2.8**
BRVK pmax pmax
comp=Z,3.0nm,0.9s
BRVK Borovoye 32.50 66 *e*P **P 08 59 55.2 +2.8**
comp=Z,3.0nm,0.9s
KURBB Kurchatov Arra 38.16 66 P **P 09 00 41.5 +0.4**
comp=Z,0.8nm,0.7s,baz=301,slow=9.4,SNR=5.6
KURK Kurchatov 38.16 66ǁ *e*P **P 09 00 43.0 +1.8**
KURK pmax pmax
comp=Z,2.0nm,1.7s
KURK Kurchatov 38.16 66 *e*P **P 09 00 43.0 +1.8**
comp=Z,2.0nm,1.7s
AAK Ala-Archa 39.77 79ǁ *e*P **P 09 00 57.1 +2.2**
AAK pmax pmax
comp=Z,10.0nm,1.2s
AAK Ala-Archa 39.77 79 *e*P **P 09 00 57.1 +2.2**
comp=Z,10.0nm,1.2s
TORD Torodi Ar. Bea 40.06 202 P **P 09 00 57.4 0.0**
comp=Z,1.1nm,1.0s,baz=11,slow=8.0,SNR=6.0
ZALV Zalesovo Beam 40.17 59 P **P 09 00 58.2 +0.3**
ZALV pmax pmax
comp=Z,1.0nm,0.3s
ZALV Zalesovo Beam 40.17 59 P **P 09 00 58.2 +0.3**
comp=Z,0.7nm,0.3s,baz=319,slow=4.2,SNR=2.3
ZALV Zalesovo Beam 40.17 59 P **P 09 00 58.2 +0.3**
comp=Z,1.0nm,0.3s
MKAR Makanchi Array 42.20 69 P **P 09 01 14.7 0.0**
MKAR Makanchi Array 42.20 69 P **P 09 01 14.7 0.0**
comp=Z,0.4nm,0.6s,baz=300,slow=5.6,SNR=4.9
MKAR Makanchi Array 42.20 69 P **P 09 01 14.7 0.0**
SONM Songino Array 54.88 55 P **P 09 02 53.7 +1.2**
comp=Z,0.5nm,0.5s,baz=274,slow=7.1,SNR=5.0
SONM Songino Array 54.88 55 P **P 09 02 53.7 +1.2**
comp=Z,1.0nm,0.5s
PDAR Pinedale Array 74.88 322 P **P 09 05 03.9 +0.8**
comp=Z,0.6nm,0.6s,baz=52,slow=5.7,SNR=6.2
ASAR Alice Springs 125.36 84 PKP **PKPdf 09 12 22.9 -0.2**
comp=Z,0.2nm,0.6s,baz=321,slow=1.3,SNR=4.5
VNDA Vanda 151.03 165 PKPbc **PKPbc 09 13 14.0 +0.4**
comp=Z,0.3nm,0.8s,baz=257,slow=5.1,SNR=2.2

MOS ***29*** *09:14:01.9± 1.1, 6°.75S × 129°.50E, h151km, mb4.9/17, Error ellipse: s-maj=14.1km s-min=6.9km az=118.0*
BJI ***29*** *09:14:02.8, 7°.00S × 129°.60E, h161km, mB5.2/19, mb4.8/26*
ISCJB ***29*** *09:14:05.5± 0.3, 6°.89S ± 0°.02 × 129°.62E ± 0°.03, h192km ± 3km, mb4.7/67, Error ellipse: s-maj=4.4km s-min=3.4km az=146.3*
TEH ***29*** *09:14:06.0, 7°.02S × 129°.56E, h162km, ML4.8*
NEIC ***29*** *09:14:07.0± 0.6, 6°.88S × 129°.54E, h188km ± 6km, mb4.9/15, Error ellipse: s-maj=7.0km s-min=4.2km az=53.0*
IDC ***29*** *09:14:06.0± 0.7, 6°.88S × 129°.45E, h178km ± 6km, mb4.3/23, mb1 4.3/26, mb1mx4.3/28, mbtmp4.3/26, MS3.4/4, Ms1 3.4/4, ms1mx2.9/32, Error ellipse: s-maj=12.0km s-min=7.9km az=69.0*
AUST ***29*** *09:14:07.4, 6°.98S × 129°.54E, h200km*
DJA ***29*** *09:14:07.5± 0.2, 7°.S ± 2° × 13°.0E ± °, h180km ± 3km, M5.0/51, mB5.5/22, mb5.0/51, MLv5.3/14, Mw(mB)4.9/22*
BKK ***29*** *09:14:08.8± 0.5, 7°.S ± 5° × 13°.0E ± °, h197km ± 6km, M4.8/17, mB5.1/5, mb4.9/17, MLv5.0/3, Mw(mB)4.4/5*
ISC 29 09:14:04.8±0.3, **6°.93S**±0°.03×**129°.58E**±0°.03, **h169**km±2km, **h169**km:**pP-P, n634,** σ=**1.31/688, mb4.8/67, 156C-157D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.00**	**122**	P	**Pn**	**09 14 43.9**	**+2.7**
SAUI				S	**Sn**	**09 15 13.2**	**+3.9**
BNDI	**Bandanaira**	**2.42**	**8**	P	**Pn**	**09 14 48.2**	**+2.2**
BNDI				S	**Sn**	**09 15 20.2**	**+2.3**
BNDI	**Bandanaira**	**2.42**	**8**	P	**Pn**	**09 14 48.2**	**+2.2**
baz=2.5,SNR=23							
TLE	**Tual**	**3.39**	**68**	P	**Pn**	**09 14 59.9**	**+2.1**
TLE				S	**Sn**	**09 15 40.9**	**+1.7**
TLE	**Tual**	**3.39**	**68**	P	**Pn**	**09 15 00.0**	**+2.1**
baz=3.5,SNR=254							
TLE				S	**Sn**	**09 15 36.6**	**-2.5**
baz=3.5,SNR=12							
AAI	**Ambon**	**3.51**	**337**	P	**Pn**	**09 15 01.4**	**+2.0**
AAI				S	**Sn**	**09 15 43.0**	**+1.1**
MSAI	**Masohi**	**3.62**	**350**	P	**Pn**	**09 15 03.3**	**+2.5**
NLAI	**Namlea**	**4.42**	**326**	P	**Pn**	**09 15 14.0**	**+2.9**
FAKI	**Fak Fak**	**4.79**	**34**	P	**Pn**	**09 15 14.4**	**-1.5**
FAKI	**Fak Fak**	**4.79**	**34**	P	**Pn**	**09 15 14.4**	**-1.5**
baz=4.9,SNR=72							
FAKI				S	**Sn**	**09 16 06.4**	**-5.2**
baz=4.9,SNR=28							
KMPI	**Kaimana, Papua**	**5.24**	**52**	P	**Pn**	**09 15 22.0**	**+0.3**
560nm,0.4s							
SOEI	**Soe**	**5.96**	**242**	P	**Pn**	**09 15 32.9**	**+1.5**
398nm,0.8s,11μm4.4nm							
SOEI	**Soe**	**5.96**	**242**	P	**Pn**	**09 15 32.9**	**+1.5**
baz=5.9,SNR=48							
SOEI				S	**Sn**	**09 16 38.9**	**-0.4**
baz=5.9,SNR=10							
SWI	**Sorong**	**6.26**	**16**	P	**Pn**	**09 15 33.4**	**-1.8**
245nm,0.7s,14μm3.3nm							
SWI	**Sorong**	**6.26**	**16**	P	**Pn**	**09 15 33.5**	**-1.7**
baz=6.4,SNR=24							
SWI				S	Sn	09 16 39.5	-6.7
baz=6.4,SNR=12							
KDU	**Kakadu**	**6.39**	**154**	P	**Pn**	**09 15 37.4**	**+0.5**
baz=6.4,SNR=1000							
KDU				S	**Sn**	**09 16 47.8**	**-1.5**
baz=6.4,SNR=5.8							
LBMI	**Labuha**	**6.59**	**342**	P	**Pn**	**09 15 41.0**	**+1.4**
1μm,0.8s,11μm3.7nm							
BATI	**Baumata**	**6.70**	**241**	P	**Pn**	**09 15 42.3**	**+1.3**
BATI				S	**Sn**	**09 16 54.3**	**-2.4**
BATI	**Baumata**	**6.70**	**241**	P	**Pn**	**09 15 42.2**	**+1.3**
206nm,0.9s,5μm1.8nm							
BATI	**Baumata**	**6.70**	**241**	P	**Pn**	**09 15 42.3**	**+1.3**
56nm,0.3s,baz=64,slow=1.3,SNR=35							
BATI				S	**Sn**	**09 16 54.3**	**-2.4**
98nm,0.3s,baz=125,slow=9.3,SNR=18							
MMRI	**Maumere**	**7.47**	**256**	*e*Pn	**Pn**	**09 15 53.2**	**+2.0**
MMRI	**Maumere**	**7.47**	**256**	P	**Pn**	**09 15 53.2**	**+2.0**
107nm,0.6s,0.5nm							
TNTI	**Ternate**	**7.96**	**344**	*e*Pn	**Pn**	**09 15 58.8**	**+1.0**
TNTI	**Ternate**	**7.96**	**344**	P	**Pn**	**09 16 00.3**	**+2.5**
173nm,1.2s,2μm0.7nm							
BAKI	**Biak**	**8.65**	**49**	P	**Pn**	**09 16 08.2**	**+1.3**
477nm,0.8s,5μm							
KNRA	**Kununurra**	**8.73**	**185**	P	**Pn**	**09 16 07.6**	**-0.3**
baz=8.7,SNR=455							
KNRA				S	**Sn**	**09 17 39.4**	**-5.8**
baz=8.7,SNR=13							
KMSI	**Cibinong**	**9.32**	**323**	P	Pn	09 16 19.1	+3.4
280nm,1.3s,18μm							
BKSI	**Bulukumba**	**9.54**	**279**	P	**Pn**	**09 16 20.4**	**+1.8**
29nm,0.8s,787nm							
WSI	**Waingapu**	**9.58**	**253**	S	Sn	09 17 56.5	-9.2
baz=9.5,SNR=14							
LBFI	**Labuhan Bajo,**	**9.73**	**260**	P	Pn	09 16 24.6	+3.5
92nm,0.7s							
BNSI	**Bone**	**9.76**	**284**	P	Pn	09 16 25.8	+4.3
69nm,1.0s,901nm							
APSI	**Ampana**	**9.92**	**307**	P	Pn	09 16 27.4	+3.8
56nm,1.1s							
KAPI	**Kappang**	**9.96**	**280**	*e*Pn	**Pn**	**09 16 25.4**	**+1.3**
KAPI	**Kappang**	**9.96**	**280**	P	Pn	09 16 28.0	+3.9
39nm,0.8s							
KAPI	**Kappang**	**9.96**	**280**	P	**Pn**	**09 16 23.9**	**-0.2**
1.0nm,0.3s,baz=116,slow=8.5,SNR=6.4							
SPSI	**Sidrap Palu**	**10.20**	**286**	P	Pn	09 16 31.7	+4.4
56nm,0.7s							
MRSI	**Marisa**	**10.60**	**314**	P	**Pn**	**09 16 35.6**	**+3.1**
59nm,0.7s							
MMPI	**Merauke**	**10.81**	**99**	P	**Pn**	**09 16 36.0**	**+0.7**
455nm,0.6s							
MJSI	**Majene**	**11.08**	**287**	P	**P**	**09 16 43.5**	**-2.8**
87nm,0.9s							
SGSI	**Sangihe**	**11.30**	**339**	P	**Pn**	**09 16 43.9**	**+2.3**
217nm,1.0s							
MMSI	**Mamuju**	**11.44**	**291**	P	**P**	**09 16 52.1**	**+1.8**
FITZ	**Fitzroy Crossi**	**11.75**	**199**	*e*Pn	**Pn**	**09 16 45.5**	**-1.9**
FITZ				*e*Sn	**Sn**	**09 18 53.9**	**-3.9**
FITZ	**Fitzroy Crossi**	**11.75**	**199**	P	**Pn**	**09 16 45.5**	**-1.9**
10nm,0.3s,baz=31,slow=10,SNR=162							
FITZ				S	Sn	09 18 48.9	-8.9
9.3nm,0.3s,baz=83,slow=15,SNR=3.2							
FITZ				LR	LR	09 22 13.7	
comp=Z,107nm,18.5s,baz=78,slow=42							
FITZ	**Fitzroy Crossi**	**11.75**	**199**	P	**Pn**	**09 16 45.6**	**-1.9**
baz=12,SNR=345							
JAY	**Jayapura**	**11.92**	**69**	P	**Pn**	**09 16 49.9**	**+0.2**
33nm,0.6s,4μm							
JAY	**Jayapura**	**11.92**	**69**	P	**P**	**09 16 54.8**	**-1.0**
baz=12,SNR=4.7							
MTNI	**Mataram**	**13.39**	**262**	P	**P**	**09 17 12.3**	**+0.2**
40nm,0.6s							
WRAB	**Tennant Creek**	**13.73**	**161**	*e*P	**Pn**	**09 17 10.3**	**-2.4**
WRAB				*e*		09 19 36.7	
WRAB				pmax	pmax		
comp=Z,147nm,0.7s							
WRAB	**Tennant Creek**	**13.73**	**161**	*e*Pn	**Pn**	**09 17 10.3**	**-2.4**
comp=Z,147nm,0.7s							
WRAB				*e*Sn	Sn	09 19 36.7	-8.6
WRA	**Warramunga Arr**	**13.73**	**161**	P	**Pn**	**09 17 10.2**	**-2.5**
WRA				S	Sn	09 19 36.7	-8.7
WRA	**Warramunga Arr**	**13.73**	**161**	P	**Pn**	**09 17 10.2**	**-2.5**
comp=Z,10nm,0.3s,baz=345,slow=13,SNR=292							
WRA				S	Sn	09 19 36.7	-8.7
comp=Z,31nm,0.3s,baz=340,slow=19,SNR=7.3							
BKB	**Balikpapan**	**13.85**	**293**	P	P	09 17 21.6	+4.5
COEN	**Coen**	**15.07**	**119**	*e*Pn	**P**	**09 17 30.8**	**+0.1**
comp=Z,533nm,0.6s							
COEN				*e*Sn	**Sn**	**09 20 11.2**	**-6.4**
COEN	**Coen**	**15.07**	**119**	P	**Pn**	**09 17 30.2**	**+0.8**
baz=15,SNR=168							
COEN				S	Sn	09 20 07.1	-11
baz=15,SNR=6.2							
ABJI	**Asem Bagus**	**15.24**	**266**	P	**P**	**09 17 35.3**	**+2.7**
comp=Z,72nm,0.9s							
MTKI	**Muara Teweh, K**	**15.81**	**291**	P	**P**	**09 17 40.6**	**+1.8**
comp=Z,160nm,1.0s,comp=Z,8μm							
BLJI	**Banyuglugur**	**15.88**	**266**	P	**P**	**09 17 39.6**	**0.0**
comp=Z,115nm,0.8s							
TSM	**Tawau**	**16.15**	**313**	P	**P**	**09 17 40.5**	**-2.2**
MYLDM	**Lahad Datu**	**16.34**	**317**	P	**P**	**09 17 43.0**	**-1.8**
GRJI	**Gresik**	**16.98**	**269**	P	**Pn**	**09 17 55.4**	**+2.8**
comp=Z,95nm,0.7s,comp=Z,873nm							
KRKI	**Karangkates**	**17.02**	**265**	P	**Pn**	**09 17 53.1**	**0.0**
comp=Z,182nm,0.4s,comp=Z,19μm							
MBWA	**Marble Bar**	**17.05**	**213**	*e*Pn	**Pn**	**09 17 53.7**	**+0.3**
MBWA				*e*S	**Sn**	**09 21 03.1**	**-1.6**
AS31	**Alice Springs**	**17.15**	**166**	*e*P	**Pn**	**09 17 55.3**	**+0.7**
AS31				*e*S	**S**	**09 21 04.3**	**+0.6**
ASAR	**Alice Springs**	**17.15**	**166**	P	**Pn**	**09 17 55.0**	**+0.4**
ASAR				S	**S**	**09 20 58.2**	**-5.6**
ASAR	**Alice Springs**	**17.15**	**166**	P	**Pn**	**09 17 55.0**	**+0.4**
comp=Z,39nm,0.3s,baz=345,slow=10.0,SNR=2664							
ASAR				S	**S**	**09 20 58.2**	**-5.6**
comp=Z,2.9nm,0.3s,baz=348,slow=26,SNR=4.4							
ASAR				LR	LR	09 25 10.3	
comp=Z,128nm,20.7s,baz=292,slow=38							
PMG	**Port Moresby**	**17.57**	**99**	*e*P	**P**	**09 17 59.2**	**+1.0**
comp=Z,28nm,0.8s							
PMG				*e*S	**Sn**	**09 21 15.5**	**-1.7**
PMG	**Port Moresby**	**17.57**	**99**	P	**P**	**09 17 58.6**	**+0.4**
comp=Z,41nm,1.3s							
PMG	**Port Moresby**	**17.57**	**99**	P	**P**	**09 17 59.3**	**+1.0**
comp=Z,1.6nm,0.3s,baz=249,slow=6.4,SNR=6.6							
PMG				S	**S**	**09 21 09.4**	**-2.9**
comp=Z,1.3nm,0.3s,baz=170,slow=21,SNR=1.5							
SDKM	**Sandakan**	**17.57**	**315**	P	**Pn**	**09 18 00.8**	**+1.1**
PWJI	**Pagerwojo**	**17.66**	**265**	P	**P**	**09 17 58.3**	**-0.9**
SJI	**Sawahan**	**17.69**	**266**	P	**P**	**09 17 58.2**	**-1.4**
PCJI	**Pacitan**	**18.29**	**265**	P	**P**	**09 18 05.1**	**-1.0**
PBKI	**Pangkalan Bun**	**18.33**	**282**	P	**Pn**	**09 18 07.8**	**-0.8**
comp=Z,310nm,1.1s,comp=Z,5μm							
WOJI	**Wonogiri, Jawa**	**18.52**	**266**	P	**Pn**	**09 18 10.5**	**-0.4**
comp=Z,97nm,0.8s							
KKM	**Kota Kinabalu**	**18.55**	**314**	*e*Pn	**Pn**	**09 18 13.2**	**+2.0**
KKM	**Kota Kinabalu**	**18.55**	**314**	P	**Pn**	**09 18 14.1**	**+2.8**
KKM	**Kota Kinabalu**	**18.55**	**314**	P	Pn	09 18 18.1	+6.8
KDM	**Kudat**	**18.73**	**317**	P	**Pn**	**09 18 16.9**	**+3.6**
BTM	**Bintulu**	**19.30**	**301**	P	**Pn**	**09 18 20.6**	**+0.6**
SBUM	**Sibu**	**19.68**	**298**	*e*P	**Pn**	**09 18 23.8**	**-0.6**
comp=Z,28nm,0.8s							
SBUM	**Sibu**	**19.68**	**298**	P	**Pn**	**09 18 23.2**	**-1.2**
SBUM	**Sibu**	**19.68**	**298**	P	**Pn**	**09 18 23.4**	**-1.0**
comp=Z,42nm,1.2s							
BJII	**Banjamegara**	**19.72**	**268**	P	**Pn**	**09 18 27.9**	**+2.8**
KPJI	**Karang Pucung**	**20.49**	**268**	P	**P**	**09 18 29.0**	**-0.9**
CTA	**Charters Tower**	**20.80**	**131**	P	**P**	**09 18 35.0**	**+1.9**
CTA	**Charters Tower**	**20.80**	**131**	P	**P**	**09 18 35.0**	**+1.9**
comp=Z,18nm,0.9s,baz=312,slow=12,SNR=18							
CTAO	**Charters Tower**	**20.80**	**131**	*e*P	**P**	**09 18 34.8**	**+1.7**
CTAO				*e*S	**S**	**09 22 16.0**	**+0.1**
CTAO				pmax	pmax		
comp=Z,19nm,0.9s							
CTAO	**Charters Tower**	**20.80**	**131**	*e*P	**P**	**09 18 34.8**	**+1.7**
comp=Z,20nm,0.9s							
CTAO				*e*S	**S**	**09 22 16.0**	**+0.1**
KSM	**Kuching**	**20.97**	**293**	*e*P	**P**	**09 18 36.2**	**+1.3**
comp=Z,16nm,0.4s							
KSM	**Kuching**	**20.97**	**293**	P	**P**	**09 18 36.4**	**+1.5**
KSM	**Kuching**	**20.97**	**293**	P	**P**	**09 18 36.0**	**+1.1**
comp=Z,51nm,1.0s							
KSM	**Kuching**	**20.97**	**293**	P	**P**	**09 18 36.3**	**+1.3**
baz=21,SNR=4.5							
CISI	**Cisompet, Garu**	**21.60**	**267**	P	**P**	**09 18 42.1**	**+0.3**
comp=Z,169nm,1.1s,comp=Z,3μm							
LEM	**Lembang**	**21.81**	**269**	P	**P**	**09 18 46.2**	**+2.2**
comp=Z,86nm,1.1s							
MEEK	**Meekatharra**	**22.20**	**207**	P	**P**	**09 18 48.3**	**+0.6**
baz=22,SNR=15							
CBJI	**Citeko**	**22.58**	**270**	P	**P**	**09 18 54.9**	**+3.6**
comp=Z,587nm,0.3s,comp=Z,40μm							
TGY	**Tagaytay City**	**22.59**	**338**	LR	LR	09 28 06.0	
comp=Z,57nm,21.1s,baz=3.7,slow=37							
FORT	**Forrest**	**23.77**	**183**	*e*P	**P**	**09 19 02.8**	**+0.9**
comp=Z,96nm,0.6s							
FORT	**Forrest**	**23.77**	**183**	P	**P**	**09 19 03.1**	**+1.2**
baz=24,SNR=15							
PPBI	**Pangkal Pinang**	**23.84**	**280**	P	**P**	**09 19 04.4**	**+1.6**
comp=Z,31nm,1.0s,comp=Z,14μm							
QLP	**Quilpie**	**24.01**	**146**	P	**P**	**09 19 05.5**	**+1.3**
baz=24,SNR=49							
PMBI	**Palembang**	**25.03**	**278**	S	S	09 23 34.7	+9.3
baz=25,SNR=8.1							
MORW	**Morawa**	**25.46**	**208**	P	**P**	**09 19 17.9**	**+0.6**
baz=26,SNR=5.3							
BBOO	**Buckleboo**	**26.44**	**168**	*e*P	**P**	**09 19 26.7**	**+0.7**
comp=Z,515nm,0.6s							
BBOO	**Buckleboo**	**26.44**	**168**	P	**P**	**09 19 26.8**	**+0.7**
baz=26,SNR=36							
BLDU	**Ballidu**	**26.47**	**206**	P	**P**	**09 19 27.9**	**+1.5**
baz=26,SNR=8.0							
RMQ	**Roma**	**26.67**	**139**	P	**P**	**09 19 30.2**	**+1.9**
baz=27,SNR=5.5							
KLBR	**Kellerberrin**	**26.91**	**203**	P	**P**	**09 19 31.3**	**+1.0**
baz=27,SNR=6.4							
MYKOM	**Kota Tinggi**	**27.10**	**288**	P	**P**	**09 19 31.2**	**-1.0**
STKA	**Stephens Creek**	**27.23**	**157**	P	**P**	**09 19 34.2**	**+1.1**
STKA	**Stephens Creek**	**27.23**	**157**	P	**P**	**09 19 34.2**	**+1.1**
comp=Z,25nm,0.5s,baz=331,slow=8.5,SNR=96							
STKA	**Stephens Creek**	**27.23**	**157**	P	**P**	**09 19 34.2**	**+1.1**
baz=27,SNR=74							
KGM	**Kluang**	**27.68**	**288**	P	**P**	**09 19 38.6**	**+1.3**
NWAO	**Narrogin (SRO)**	**28.30**	**202**	P	**P**	**09 19 43.4**	**+0.8**
NWAO	**Narrogin (SRO)**	**28.30**	**202**	P	**P**	**09 19 43.4**	**+0.8**
comp=Z,7.8nm,0.6s,baz=50,slow=11,SNR=7.5							
CMSA	**Cobar Meteorol**	**28.74**	**150**	P	**P**	**09 19 48.0**	**+1.4**
baz=29,SNR=69							
FRIM	**Kepong**	**29.68**	**289**	P	**P**	**09 19 55.0**	**-0.1**
PPI	**Padang Panjang**	**29.81**	**281**	P	**P**	**09 19 56.7**	**+0.5**
comp=Z,45nm,1.1s							
IPM	**Ipoh**	**30.67**	**291**	P	**P**	**09 20 06.0**	**+2.2**
ARMA	**Armidale**	**31.21**	**141**	P	**P**	**09 20 11.5**	**+3.0**
baz=31,SNR=4.2							
KULM	**Kulim**	**31.32**	**292**	P	**P**	**09 20 10.1**	**+0.6**
ARPS	**Mount Arapiles**	**31.74**	**161**	P	**P**	**09 20 14.7**	**+1.9**
baz=32,SNR=30							
PSI	**Prapat**	**32.09**	**287**	P	**P**	**09 20 13.6**	**-2.8**
PSI	**Prapat**	**32.09**	**287**	P	**P**	**09 20 13.6**	**-2.8**
comp=Z,7.0nm,0.6s,baz=134,slow=5.5,SNR=4.7							
YNG	**Young**	**32.30**	**150**	P	**P**	**09 20 19.9**	**+2.0**
baz=32,SNR=23							
QIZ	**Qiongzhong**	**32.31**	**323**	P	**P**	**09 20 20.0**	**+1.9**
QIZ				sP	**sP**	**09 21 13.0**	**0.0**
QIZ				S	**S**	**09 25 24.8**	**+5.3**
QIZ				pmax	pmax		
comp=Z,2μm,5.4s							
GSI	**Gunungsitoli**	**32.97**	**283**	P	**P**	**09 20 25.1**	**+1.2**
comp=Z,47nm,0.8s							
CAN	**Canberra**	**33.42**	**150**	*e*P	**P**	**09 20 30.0**	**+2.4**
CAN				pmax	pmax		
comp=Z,15nm,0.6s							
CAN	**Canberra**	**33.42**	**150**	*e*P	**P**	**09 20 30.0**	**+2.4**
comp=Z,15nm,0.6s							
TOO	**Toolangi**	**33.76**	**157**	P	**P**	**09 20 33.3**	**+2.8**
baz=34,SNR=8.8							
SKNT	**Sakolnakorn**	**34.71**	**313**	P	**P**	**09 20 37.0**	**-1.9**
comp=Z,262nm,1.6s							
DZM	**Mont Dzumac**	**38.59**	**117**	P	**P**	**09 21 12.4**	**+0.5**
DZM	**Mont Dzumac**	**38.59**	**117**	P	**P**	**09 21 12.4**	**+0.5**
comp=Z,5.7nm,0.8s,baz=198,slow=4.7,SNR=4.0							
MOO	**Moorlands**	**38.64**	**159**	P	**P**	**09 21 14.8**	**+2.9**
baz=39,SNR=3.6							
LAMP	**Lampang**	**38.89**	**311**	P	**P**	**09 21 14.0**	**-0.2**
comp=Z,9.7nm,0.8s							
CMAR	**Chiang Mai Arr**	**39.37**	**310**	P	**P**	**09 21 17.8**	**-0.4**
CMAR				PcP	**PcP**	**09 23 24.3**	**+1.1**
CMAR				ScP	**ScP**	**09 26 55.5**	**-0.6**
CMAR	**Chiang Mai Arr**	**39.37**	**310**	P	**P**	**09 21 17.8**	**-0.4**
comp=Z,12nm,0.6s,baz=136,slow=7.0,SNR=57							
CMAR				PcP	**PcP**	**09 23 24.3**	**+1.1**
comp=Z,2.0nm,0.6s,baz=156,slow=3.0,SNR=5.7							
CMAR				ScP	**ScP**	**09 26 55.5**	**-0.6**
comp=Z,1.2nm,0.4s,baz=159,slow=3.3,SNR=4.4							
CHTO	**Chiang Mai**	**39.58**	**311**	P	**P**	**09 21 19.5**	**-0.5**
comp=Z,157nm,1.6s							
CHTO	**Chiang Mai**	**39.58**	**311**	P	**P**	**09 21 19.5**	**-0.5**
comp=Z,157nm,1.6s							
GYA	**Guiyang**	**39.95**	**327**	*e*P	P	09 21 26.8	+3.8
GYA				pP	pP	09 22 01.5	+1.9
GYA				sP	sP	09 22 21.5	+2.8
GYA				PP	**PnPn**	**09 23 05.0**	**+1.4**
GYA				PcP	**PcP**	**09 23 29.8**	**+4.7**
GYA				ScP	**ScP**	**09 27 01.3**	**+3.0**
GYA				PcS	**PcS**	**09 27 18.5**	**+2.7**
GYA				S	**S**	**09 27 21.3**	**+5.5**
GYA				sS	sS	09 28 20.3	+0.5
GYA				ScS	**ScS**	**09 31 14.0**	**+1.8**
GYA				pmax	pmax		
comp=Z,10.0nm,1.0s							
GYA				pmax	pmax		
comp=Z,90nm,5.0s							
NJ2	**Nanjing**	**40.09**	**346**	*e*P	P	09 21 27.5	+3.6
NJ2				pmax	pmax		
comp=Z,10.0nm,0.6s							
KMI	**Kunming**	**41.20**	**322**	P	**P**	**09 21 36.5**	**+3.1**
KMI				pmax	pmax		
comp=Z,8.0nm,0.7s							
MAJO	**Mats

comp=Z,6.5nm,0.7s,baz=180,slow=6.8,SNR=18
RPZ Rata Peaks 51.54 142 P **P** 09 22 55.7 +2.2
RPZ Rata Peaks 51.54 142 P **P** 09 22 55.7 +2.2
comp=Z,6.5nm,0.6s,baz=48,slow=17,SNR=7.6
ASAJ Asahikawa 52.16 12 P **P** 09 22 57.2 -0.7
ASAJ Asahikawa 52.16 12 P **P** 09 22 57.2 -0.7
comp=Z,25nm,1.2s,baz=262,slow=28,SNR=5.9
ODAN Odare 52.90 311 *e*P **P** 09 23 03.1 -0.9
comp=Z,26nm,0.5s
TAPN Taplejung 52.93 312 *e*P **P** 09 23 03.5 -0.8
RAMN Ramite 53.54 311 *e*P **P** 09 23 08.2 -0.5
comp=Z,42nm,0.5s
GTA Gaotai 53.71 332 *e*P **P** 09 23 09.0 -0.6
GTA pP **pP** 09 23 46.8 -1.4
GTA sP **sP** 09 24 04.8 -2.0
GTA PcP **PcP** 09 24 14.0 +0.4
GTA ScP **ScP** 09 27 54.5 -1.1
GTA pmax pmax
comp=Z,10.0nm,0.6s
JIRN Jiri 54.23 311 *e*P **P** 09 23 13.0 -0.9
comp=Z,15nm,0.5s
GUN Gumba 54.59 311 *e*P **P** 09 23 15.6 -0.9
comp=Z,41nm,0.5s
PKI Pulchoki 54.77 311 *e*P **P** 09 23 16.5 -1.2
comp=Z,18nm,0.5s
PKIN Phulchoki 54.78 311 *e*P **P** 09 23 17.1 -0.6
YSS Yuzh-Sakhalins 54.91 11 *i*P **P** 09 23 16.6 -1.3
KKN Kakani 54.98 311 *e*P **P** 09 23 18.1 -1.0
comp=Z,22nm,0.5s
DMN Daman 55.01 311 *e*P **P** 09 23 18.5 -0.9
GKN Gorkha 55.57 311 *e*P **P** 09 23 22.3 -1.0
comp=Z,41nm,0.4s
HYB Hyderabad 55.91 296 *i*P **P** 09 23 25.0 -0.7
KLR Kul'dur 55.96 2 *e*P P 09 23 21.2 -4.2
KOLN Koldanda 56.24 310 *e*P **P** 09 23 27.3 -0.7
comp=Z,39nm,0.5s
DANN Dangsing 56.41 311 *e*P **P** 09 23 28.1 -1.3
comp=Z,41nm,0.5s
KAAM Kaadhehdhoo 56.93 275 P P 09 23 27.1 -5.8
baz=57,SNR=4.3
ULN Ulaanbaatar 58.07 342 *e*P **P** 09 23 40.7 +0.2
comp=Z,17nm,0.8s
ULN Ulaanbaatar 58.07 342 P **P** 09 23 40.6 +0.2
comp=Z,21nm,0.8s,comp=Z,573nm
SONM Songino Array 58.25 342 P **P** 09 23 41.6 0.0
SONM pP **pP** 09 24 23.0 +2.2
SONM Songino Array 58.25 342 P **P** 09 23 41.6 0.0
comp=Z,5.8nm,0.7s,baz=158,slow=6.6,SNR=24
SONM pP **pP** 09 24 23.0 +2.2
comp=Z,1.4nm,0.9s,baz=166,slow=5.1,SNR=1.4
ZAK Zakamensk 61.47 341 *e*P P 09 24 00.5 -3.0
ZAK pmax pmax
comp=Z,4.0nm,1.2s
TLY Talaya 62.48 342 *e*P **P** 09 24 10.6 +0.4
TLY pmax pmax
comp=Z,7.0nm,0.8s
WMQ Urumqi 63.11 327 P **P** 09 24 15.5 +0.9
WMQ PcP **PcP** 09 24 51.5 +0.8
WMQ pP **pP** 09 24 53.5 -0.8
WMQ sP **sP** 09 25 10.5 -2.1
WMQ pmax pmax
comp=Z,17nm,0.7s
WMQ pmax pmax
comp=Z,100nm,4.2s
PETK Petropavlovsk- 64.39 18 P **P** 09 24 21.8 -0.8
PETK Petropavlovsk- 64.39 18 P **P** 09 24 21.8 -0.8
PETK Petropavlovsk- 64.39 18 P **P** 09 24 21.8 -0.8
comp=Z,2.8nm,0.7s,baz=190,slow=7.2,SNR=3.6
PET Petropavlovsk 64.62 19 *e*P **P** 09 24 23.2 -0.9
KSH Kashi 67.69 318 P **P** 09 24 44.8 +0.7
KSH PcP **PcP** 09 25 11.5 +1.7
KSH pP **pP** 09 25 23.3 -1.1
KSH S **S** 09 33 24.8 -3.3
KSH ScS **SKiKP** 09 34 23.3 -0.9
KSH pmax pmax
comp=Z,6.0nm,0.5s
KSH pmax pmax
comp=Z,110nm,5.3s
KSH LR LR
comp=N,120nm,6.2s
KSH LR LR
comp=E,180nm,7.3s
KSH LR LR
comp=Z,200nm,5.8s
MK31 Makanchi Array 67.94 327 *e*P **P** 09 24 45.0 -0.4
MK31 Makanchi Array 67.94 327 *e*P **P** 09 24 45.0 -0.4
MKAR Makanchi Array 67.94 327 P **P** 09 24 45.1 -0.4
MKAR Makanchi Array 67.94 327 P **P** 09 24 45.1 -0.4
MKAR Makanchi Array 67.94 327 P **P** 09 24 45.1 -0.4
comp=Z,29nm,0.5s,baz=121,slow=7.9,SNR=243
YAK Yakutsk 68.76 0 *e*P **P** 09 24 47.8 -2.3
YAK pmax pmax
comp=Z,38nm,0.9s
YAK pmax pmax
comp=N,9.0nm,1.1s
YAK pmax pmax
comp=E,7.0nm,1.4s
KZA Kyzart 69.46 320 *i*P **P** 09 24 55.9 +0.5
KZA Kyzart 69.46 320 P **P** 09 24 55.9 +0.5
SNR=13
TKM2 Tokmak 2 69.67 321 *e*P **P** 09 24 56.3 -0.1
TKM2 pmax pmax
comp=Z,19nm,0.6s
TKM2 Tokmak 2 69.67 321 P **P** 09 24 56.4 0.0
SNR=26
TKM2 Tokmak 2 69.67 321 *e*P **P** 09 24 56.3 -0.1
comp=Z,18nm,0.6s
KBK Karagaybulak 69.94 320 *i*P **P** 09 24 58.3 +0.3
KBK Karagaybulak 69.94 320 P **P** 09 24 58.4 +0.3
SNR=8.8
AAK Ala-Archa 70.22 320*d i*P **P** 09 25 00.1 +0.4
AAK pmax pmax
comp=Z,43nm,0.9s
AAK Ala-Archa 70.22 320 P **P** 09 25 00.1 +0.4
SNR=13
AAK Ala-Archa 70.22 320 *e*P **P** 09 24 59.9 +0.1
comp=Z,19nm,0.8s
AAK Ala-Archa 70.22 320 P **P** 09 25 00.1 +0.4
comp=Z,15nm,0.7s,baz=129,slow=5.7,SNR=25
AML Almayashu 70.49 319 *i*P **P** 09 25 02.4 +0.7
AML Almayashu 70.49 319 P **P** 09 25 02.4 +0.7
SNR=16
USP Ospenovka 70.53 321 *i*P **P** 09 25 01.5 0.0
USP Ospenovka 70.53 321 P **P** 09 25 01.5 0.0
SNR=20
EKS2 Erkin-Say 70.69 320 *e*P **P** 09 25 02.9 +0.3
EKS2 pmax pmax
comp=Z,21nm,0.7s
EKS2 Erkin-Say 70.69 320 P **P** 09 25 03.1 +0.5
SNR=25
EKS2 Erkin-Say 70.69 320 *e*P **P** 09 25 02.9 +0.3
comp=Z,21nm,0.7s
ZAA0 Zalesovo Array 71.34 334 *e*P **P** 09 25 04.7 -1.3
ZALV Zalesovo Beam 71.34 334 P **P** 09 25 04.3 -1.7
ZALV Zalesovo Beam 71.34 334 P **P** 09 25 04.3 -1.7
ZALV pP **pP** 09 25 48.8 +2.1
ZALV Zalesovo Beam 71.34 334 P **P** 09 25 04.3 -1.7
comp=Z,12nm,0.5s,baz=119,slow=5.2,SNR=20
ZALV pP **pP** 09 25 48.8 +2.1
comp=Z,1.2nm,0.4s,baz=150,slow=3.2,SNR=1.0
SEY Seymchan 71.82 11⇑*e*P **P** 09 25 08.7 0.0
SEY *i* *PP **pP** 09 25 47.9 -1.5
KURBB Kurchatov Arra 72.24 329 P **P** 09 25 10.9 -0.5
comp=Z,21nm,0.6s,baz=128,slow=5.2,SNR=198
KURBB pP **pP** 09 25 53.1 +0.9
comp=Z,1.8nm,0.9s,baz=119,slow=4.2,SNR=1.5
KURK Kurchatov 72.24 329*c i*P **P** 09 25 11.0 -0.5
KURK pmax pmax
comp=Z,23nm,1.2s
KURK Kurchatov 72.24 329 P **P** 09 25 10.9 -0.6
KURK pP **pP** 09 25 53.1 +0.9
VNDA Vanda 72.56 173 P **P** 09 25 13.6 +0.6
VNDA Vanda 72.56 173 P **P** 09 25 13.6 +0.6
comp=Z,2.5nm,0.6s,baz=319,slow=6.8,SNR=27
VNDA LR LR 09 56 16.2
comp=Z,62nm,19.1s,baz=336,slow=35
NVS Novosibirsk 72.63 334 *e*P **P** 09 25 11.2 -2.4
NVS pmax pmax
comp=Z,17nm,0.9s
NVS pmax pmax
comp=N,7.0nm,0.8s
NVS pmax pmax
comp=E,12nm,0.9s
KK31 Karatay Array 73.02 319 *i*P **P** 09 25 16.1 -0.2
KK31 pmax pmax
comp=Z,6.0nm,0.6s
KKAR Karatay Array 73.02 319 *e*P **P** 09 25 16.5 +0.2
KKAR pmax pmax
comp=Z,3.0nm,0.4s
KKAR Karatay Array 73.02 319 *e*P **P** 09 25 16.4 +0.2
comp=Z,2.7nm,0.4s
MAW Mawson 74.86 201 *e*P **P** 09 25 25.5 -0.9
comp=Z,1.5nm,0.7s
MAW Mawson 74.86 201 P **P** 09 25 25.5 -0.9
comp=Z,6.2nm,0.6s,baz=71,slow=6.1,SNR=15
MAW Mawson 74.86 201 P **P** 09 25 27.8 +1.3
baz=75,SNR=9.8
VOSK Vostochnaya 77.32 328 P **P** 09 25 39.6 -1.1
VOSK pmax pmax
comp=Z,12nm,0.6s
BVA0 Borovoye Array 77.78 328 *i*P **P** 09 25 42.5 -0.7
BVA0 pmax pmax
comp=Z,34nm,1.1s
BVAR Borovoye Array 77.78 328 P **P** 09 25 42.5 -0.7
BVAR Borovoye Array 77.78 328 P **P** 09 25 42.6 -0.7
comp=Z,13nm,0.9s,baz=130,slow=6.2,SNR=37
BRVK Borovoye 77.86 328*ce*P **P** 09 25 42.8 -0.8
BRVK pmax pmax
comp=Z,24nm,0.8s
BRVK Borovoye 77.86 328 *e*P **P** 09 25 43.1 -0.5
comp=Z,23nm,0.8s
IMOG Moghan 78.38 309 *e*P **P** 09 25 48.3 +1.1
TIXI Tiksi 78.42 360⇓*e*P **P** 09 25 44.9 -1.4
TIXI pmax pmax
comp=Z,8.0nm,0.9s
IAKL Akhelmad 78.97 309 *e*P **P** 09 25 50.3 -0.2
IEMG Emamgholi 79.30 310 *e*P **P** 09 25 52.1 -0.1
ISFR Sfrayin 79.69 310 *e*P **P** 09 25 54.6 +0.3
AB31 Akbulak array 82.20 322 *i*P **P** 09 26 05.8 -1.1
AB31 pmax pmax
comp=Z,11nm,0.6s
ABKAR Akbulak array 82.20 322 *e*P **P** 09 26 06.1 -0.8
comp=Z,11nm,0.6s
QSPA South Pole Qui 83.04 180 *e*P **P** 09 26 11.1 -0.1
comp=Z,4.1nm,0.7s
SYO Syowa Base 83.57 201⇑*e*P **P** 09 26 13.1 -0.6
AKTO Aktyubinsk 83.77 322 P **P** 09 26 14.5 -0.5
AKTO Aktyubinsk 83.77 322 P **P** 09 26 14.5 -0.5
AKTO Aktyubinsk 83.77 322 P **P** 09 26 14.5 -0.5
comp=Z,8.5nm,0.6s,baz=102,slow=7.0,SNR=20
SVE Sverdlovsk 84.50 329⇓*e*P **P** 09 26 18.2 -0.3
SVE pmax pmax
comp=Z,42nm,1.0s
ARU Arti 85.43 328*d i*P **P** 09 26 21.6 -1.6
ARU 09 29 37.5
ARU S S 09 36 30.6 -9.3
ARU SS **SS** 09 42 17.6 -1.6
ARU pmax pmax
comp=Z,28nm,1.0s
NAY Al-Naaiem 86.71 300 *e*P **P** 09 26 28.9 -1.2
NAY AMb AMB 09 26 29.9
comp=Z,37nm,0.7s
RST Umm Al-Ruwaisa 86.96 300 *e*P **P** 09 26 29.7 -1.6
RST AMb AMB 09 26 31.4
comp=Z,462nm,0.8s
KMBO Kilima Mbogo 92.18 269 P **P** 09 26 56.2 -0.1
KMBO Kilima Mbogo 92.18 269 P **P** 09 26 56.2 -0.1
comp=Z,0.9nm,0.4s,baz=40,slow=22,SNR=3.9
KBZ Khabaz 92.35 314 P **P** 09 26 56.1 0.0
KBZ Khabaz 92.35 314 P **P** 09 26 56.1 0.0
KBZ Khabaz 92.35 314 P **P** 09 26 56.1 0.0
comp=Z,2.6nm,0.8s,baz=48,slow=9.4,SNR=4.5
ILAR Eielson Array 93.46 25 P **P** 09 26 58.5 -2.4
ILAR pP **pP** 09 27 45.8 +2.5
ILAR Eielson Array 93.46 25 P **P** 09 26 58.5 -2.4
comp=Z,1.9nm,0.7s,baz=250,slow=4.6,SNR=28
ILAR pP **pP** 09 27 45.8 +2.5
comp=Z,0.3nm,0.6s,baz=248,slow=4.8,SNR=1.9
BRTR Keskin Array B 98.95 309 P **P** 09 27 24.9 -1.6
BRTR Keskin Array B 98.95 309 P **P** 09 27 24.9 -1.6
comp=Z,0.8nm,0.7s,baz=137,slow=6.6,SNR=4.9
ARCES ARCESS Array B 101.37 340 P **Pdif** 09 27 34.8 -1.6
ARCES ARCESS Array B 101.37 340 P **Pdif** 09 27 34.8 -1.6
comp=Z,1.5nm,0.6s,baz=83,slow=7.4,SNR=4.9
AKASG Malin Array Be 101.89 320 P **Pdif** 09 27 37.2 -1.9
AKASG Malin Array Be 101.89 320 P **Pdif** 09 27 37.2 -1.9
AKASG Malin Array Be 101.89 320 P **Pdif** 09 27 37.2 -1.9
comp=Z,0.4nm,0.5s,baz=72,slow=5.5,SNR=3.4
ZST Bratislava 110.06 319 *i*P **Pdif** 09 28 15.2 -0.3
ZST Bratislava 110.06 319 PDIF **Pdif** 09 28 15.2 -0.3
VES Vestal, Richgr 111.31 54 ⇓PKiKP **PKiKP** 09 32 20.4 +1.2
baz=111
GERES GERESS Array B 112.10 320 PKiKP **PKiKP** 09 32 20.1 -0.3
GERES GERESS Array B 112.10 320 PKiKP **PKiKP** 09 32 20.1 -0.3
comp=Z,1.2nm,0.5s,baz=80,slow=1.5,SNR=7.0
EDW2 Edwards Air Fo 112.31 55 ⇑PKiKP **PKiKP** 09 32 22.4 +1.2
baz=112
MFID Camas Ranch 112.53 46 ⇓PKiKP **PKiKP** 09 32 22.3 +0.9
baz=112
MPMC Manual Prospec 112.56 54 ⇑PKiKP **PKiKP** 09 32 22.5 +0.7
baz=113
BFSC Mount Baldy Ra 112.67 56 ⇓PKiKP **PKiKP** 09 32 23.2 +1.2
baz=113
GSC Goldstone 113.22 55 ⇓PKiKP **PKiKP** 09 32 23.8 +0.8
baz=113
HLID Hailey 113.50 45 *e*PKPdf **PKiKP** 09 32 24.3 +1.0
HLID Hailey 113.50 45 ⇑PKiKP **PKiKP** 09 32 24.5 +1.2
baz=114
SHOC Shoshone 113.56 54 ⇑PKiKP **PKiKP** 09 32 24.3 +0.8
baz=114
HEC Hector,Ludlow 113.67 55 ⇑PKiKP **PKiKP** 09 32 24.5 +0.7
baz=114
R11A Troy Canyon, C 113.70 51 ⇑PKiKP **PKiKP** 09 32 24.7 +0.8
baz=114
TUQ Turquoise Moun 113.91 54 ⇑PKiKP **PKiKP** 09 32 25.6 +1.3
baz=114
GMRC Granite Mounta 114.23 55 ⇓PKiKP **PKiKP** 09 32 25.8 +0.9
baz=114
SWSC Sam W. Stewart 114.38 57 ⇑PKiKP **PKiKP** 09 32 26.0 +0.9
baz=114
BC3 Big Chuckawall 114.56 56 ⇑PKiKP **PKiKP** 09 32 26.3 +0.7
baz=115
IRM Iron Mountain 114.74 56 ⇓PKiKP **PKiKP** 09 32 26.7 +0.9
baz=115
Y12C Blythe 115.31 56 ⇓PKiKP **PKPdf** 09 32 28.0 +1.1
baz=115
C19A Slack Wire Ran 115.93 40 ⇓PKiKP **PKiKP** 09 32 28.5 +0.8
baz=116
SNOW Snow King Moun 116.10 45 *e*PKPdf **PKPdf** 09 32 29.4 +0.9
LOHW Long Hollow 116.16 45 *e*PKPdf **PKPdf** 09 32 29.2 +0.7
D19A Cripps Ranch, 116.23 40 ⇑PKiKP **PKPdf** 09 32 28.2 -0.1
baz=116
B20A Solberg Farm, 116.34 39 ⇑PKiKP **PKiKP** 09 32 28.8 +0.3
baz=116
H18A Shoshone NF, C 116.50 43 ⇓PKiKP **PKiKP** 09 32 30.3 +1.1
baz=116
E19A Rath Farm, Rou 116.53 41 ⇓PKiKP **PKPdf** 09 32 28.8 -0.1
baz=116
Y14A Wickenburg 116.53 56 ⇑PKiKP **PKiKP** 09 32 29.6 +0.3
baz=116
C20A Veseth Ranch, 116.60 40 ⇑PKiKP **PKPdf** 09 32 29.1 +0.1
baz=117
F19A Roth Farm, Mol 116.62 42 ⇑PKiKP **PKiKP** 09 32 29.6 +0.4
baz=117
D20A Manuel Ranch, 116.73 40 ⇓PKiKP **PKiKP** 09 32 29.7 +0.4
baz=117
A21A Bergtoll Ranch 116.81 38 ⇑PKiKP **PKiKP** 09 32 30.0 +0.6
baz=117
E20A Meyer Farm, Mu 116.94 41 ⇓PKiKP **PKiKP** 09 32 30.1 +0.4
baz=117
H19A Powell 116.96 43 ⇓PKiKP **PKiKP** 09 32 30.8 +0.8
baz=117
B21A Ellsworth Farm 116.97 39 ⇓PKiKP **PKiKP** 09 32 30.3 +0.6
baz=117
PGF Pioggiola 117.00 314 *e*PKIKP **PKPdf** 09 32 29.1 -0.9
PGF Pioggiola 117.00 314 *e*PKIKP **PKPdf** 09 32 29.1 -0.9
PGF Pioggiola 117.00 314 *e*PKPdf **PKPdf** 09 32 29.1 -0.9
214A Organ Pipe Nat 117.02 58 ⇓PKiKP **PKiKP** 09 32 30.8 +0.5
baz=117
L18A Fontenelle, Gr 117.03 46 ⇑PKiKP **PKiKP** 09 32 30.7 +0.4
baz=117
C21A Desert Coulee 117.14 39 ⇓PKiKP **PKiKP** 09 32 30.5 +0.4
baz=117
PDAR Pinedale Array 117.14 45 PKP **PKPdf** 09 32 30.2 -0.2
PDAR Pinedale Array 117.14 45 PKP **PKPdf** 09 32 30.2 -0.2
comp=Z,1.5nm,0.7s,baz=166,slow=1.4,SNR=13
F20A Billings 117.16 42 ⇑PKiKP **PKiKP** 09 32 30.6 +0.4
baz=117
G20A Bridger 117.31 42 ⇓PKiKP **PKiKP** 09 32 31.2 +0.6
baz=117
J19A Crowheart 117.35 45 ⇑PKiKP **PKiKP** 09 32 31.5 +0.7
baz=117
A22A Carney Farms, 117.43 38 ⇓PKiKP **PKiKP** 09 32 31.6 +1.1
baz=117
D21A La Casta Ranch 117.47 40 ⇓PKiKP **PKiKP** 09 32 31.9 +1.1
baz=117
WUAZ Wupatki 117.55 54 ⇓PKiKP **PKiKP** 09 32 32.2 +0.8
baz=118
K19A Absolon Red Bu 117.62 45 ⇓PKiKP **PKPdf** 09 32 31.4 +0.1
baz=118
LPG La Plagne 117.63 318 *e*PKIKP **PKPdf** 09 32 30.7 -0.7
LPG La Plagne 117.63 318 *e*PKIKP **PKPdf** 09 32 30.7 -0.7
LPG La Plagne 117.63 318 *e*PKPdf **PKPdf** 09 32 30.7 -0.7
LPL La Plagne 117.64 318 *e*PKIKP **PKPdf** 09 32 30.6 -0.7
comp=Z,5.4nm,0.5s
LPL La Plagne 117.64 318 *e*PKIKP **PKPdf** 09 32 30.6 -0.7
LPL La Plagne 117.64 318 *e*PKPdf **PKPdf** 09 32 30.6 -0.7
B22A Reddig Ranch S 117.64 38 ⇓PKiKP **PKiKP** 09 32 31.6 +0.5
baz=118
CABF La Chapelle 117.68 320 *e*PKIKP **PKPdf** 09 32 30.6 -0.6
comp=Z,10nm,0.6s
CABF La Chapelle 117.68 320 *e*PKIKP **PKPdf** 09 32 30.6 -0.6
CABF La Chapelle 117.68 320 *e*PKPdf **PKPdf** 09 32 30.6 -0.6
H20A Greybull 117.69 43 ⇑PKiKP **PKiKP** 09 32 31.9 +0.6
baz=118
X16A Lo Mia Camp, P 117.72 55 ⇑PKiKP **PKiKP** 09 32 32.8 +1.1
baz=118
I20A Worland 117.77 44 ⇑PKiKP **PKiKP** 09 32 32.1 +0.6
baz=118
M19A Rock Springs 117.78 47 ⇓PKiKP **PKiKP** 09 32 32.5 +0.7
baz=118
MBDF Montbardon 117.88 317 *e*PKIKP **PKPdf** 09 32 31.8 +0.1
comp=Z,6.3nm,0.8s
MBDF Montbardon 117.88 317 *e*PKIKP **PKPdf** 09 32 31.8 +0.1
MBDF Montbardon 117.88 317 *e*PKPdf **PKPdf** 09 32 31.8 +0.1
D22A Cohagen 117.96 40 ⇓PKiKP **PKiKP** 09 32 32.4 +0.8
baz=118
G21A Lodge Grass 117.98 42 ⇑PKiKP **PKiKP** 09 32 32.7 +0.9
baz=118
J20A Shoshoni 117.99 44 ⇓PKiKP **PKiKP** 09 32 32.4 +0.4
baz=118
K20A Yellowstone Ra 118.03 45 ⇑PKiKP **PKPdf** 09 32 32.3 +0.2
baz=118
B23A Brockton 118.20 38 ⇑PKiKP **PKiKP** 09 32 32.4 +0.3
baz=118
L20A Wamsutter 118.22 46 ⇓PKiKP **PKiKP** 09 32 33.0 +0.5
baz=118
H21A Big Horn, Sher 118.29 43 ⇓PKiKP **PKPdf** 09 32 32.7 +0.2
baz=118
C23A Lambert 118.34 39 ⇑PKiKP **PKiKP** 09 32 33.4 +1.0
baz=118
E22A Miles City 118.37 40 ⇑PKiKP **PKiKP** 09 32 33.2 +0.7
baz=118
I21A Big Trails, Te 118.39 44 ⇓PKiKP **PKiKP** 09 32 33.1 +0.4
baz=118
ORIF Oris-en-Rattie 118.41 318 *e*PKIKP **PKPdf** 09 32 31.8 -0.8
comp=Z,5.0nm,0.6s
ORIF Oris-en-Rattie 118.41 318 *e*PKIKP **PKPdf** 09 32 31.8 -0.8
ORIF Oris-en-Rattie 118.41 318 *e*PKPdf **PKPdf** 09 32 31.8 -0.8
F22A Rosebud 118.41 41 ⇑PKiKP **PKiKP** 09 32 33.1 +0.6
baz=118
J21A Lysite 118.44 44 ⇓PKiKP **PKiKP** 09 32 33.2 +0.3
baz=118
LMR La Mourre 118.51 316 *e*PKIKP **PKPdf** 09 32 33.8 +1.1
comp=Z,10nm,0.9s
LMR La Mourre 118.51 316 *e*PKIKP **PKPdf** 09 32 33.8 +1.1
LMR La Mourre 118.51 316 *e*PKPdf **PKPdf** 09 32 33.8 +1.1
D23A Lindsay 118.57 39 ⇓PKiKP **PKiKP** 09 32 33.7 +0.8
baz=118
G22A Birney 118.59 42 ⇑PKiKP **PKiKP** 09 32 34.1 +1.1
baz=118
A24A Westby 118.61 37 ⇓PKiKP **PKiKP** 09 32 33.6 +0.8
baz=119
N20A Spence Gulch, 118.62 47 ⇑PKiKP **PKiKP** 09 32 34.3 +0.9
baz=119
DGMT Dagmar 118.68 38 ⇓PKiKP **PKiKP** 09 32 33.8 +0.8
baz=119
E23A Ismay 118.76 40 ⇓PKiKP **PKiKP** 09 32 33.6 +0.3
baz=119
H22A Clearmont 118.77 42 ⇑PKiKP **PKiKP** 09 32 34.2 +0.8
baz=119
K21A Alcova 118.80 45 ⇓PKiKP **PKiKP** 09 32 34.1 +0.5
baz=119
O20A White River Ci 118.84 48 *e*PKPdf **PKPdf** 09 32 34.4 +0.6
O20A White River Ci 118.84 48 ⇑PKiKP **PKiKP** 09 32 34.6 +0.8
baz=119
LOR Lormes 118.85 321 *e*PKIKP **PKPdf** 09 32 33.6 +0.3
LOR Lormes 118.85 321 *e*PKPdf **PKPdf** 09 32 33.6 +0.3
P20A De Beque 118.90 49 ⇓PKiKP **PKiKP** 09 32 35.0 +1.1
baz=119
I22A 9 Mile Ranch, 118.92 43 ⇑PKiKP **PKiKP** 09 32 34.1 +0.4
baz=119
C24A Savage 118.92 39 ⇑PKiKP **PKiKP** 09 32 34.4 +0.9
baz=119
L21A Rawlins 118.92 46 ⇓PKiKP **PKiKP** 09 32 34.4 +0.5
baz=119
SMRF Simiane la Rot 118.94 317 *e*PKIKP **PKPdf** 09 32 33.4 -0.2
SMRF Simiane la Rot 118.94 317 *e*PKPdf **PKPdf** 09 32 33.4 -0.2
F23A Volborg 118.99 41 ⇓PKiKP **PKPdf** 09 32 33.7 +0.1
baz=119
M21A Separation Pea 119.04 46 ⇓PKiKP **PKiKP** 09 32 34.5 +0.3
baz=119
J22A Midwest 119.08 44 ⇑PKiKP **PKPdf** 09 32 34.2 +0.1
baz=119
Q20A Ridgley Place, 119.12 49 ⇑PKiKP **PKiKP** 09 32 34.8 +0.4
baz=119
SSF Saint Saulge 119.16 321 *e*PKIKP **PKPdf** 09 32 33.3 -0.6
comp=Z,7.2nm,0.7s
SSF Saint Saulge 119.16 321 *e*PKIKP **PKPdf** 09 32 33.3 -0.6
SSF Saint Saulge 119.16 321 *e*PKPdf **PKPdf** 09 32 33.3 -0.6
N21A Black Mountain 119.18 47 ⇓PKiKP **PKiKP** 09 32 35.0 +0.5
baz=119
G23A Biddle 119.19 42 ⇓PKiKP **PKPdf** 09 32 34.4 +0.3
baz=119
R20A Redvale 119.26 50 ⇓PKiKP **PKiKP** 09 32 35.0 +0.3
baz=119
K22A Casper 119.30 45 ⇑PKiKP **PKPdf** 09 32 34.7 +0.2
baz=119
S20A Disappointment 119.37 50 ⇑PKiKP **PKiKP** 09 32 35.5 +0.5
baz=119
E24A Baker 119.38 40 ⇑PKiKP **PKiKP** 09 32 35.2 +0.8
baz=119
O21A Pagoda 119.38 48 ⇓PKiKP **PKiKP** 09 32 35.4 +0.5
baz=119
MVCO Mesa Verde 119.42 51 ⇑PKiKP **PKiKP** 09 32 35.6 +0.5
baz=119
L22A Ellis Ranch, M 119.57 45 ⇓PKiKP **PKiKP** 09 32 35.7 +0.6
baz=120
U20A Newcomb 119.62 52 ⇑PKiKP **PKiKP** 09 32 36.1 +0.7
baz=120
M22A Cedar Creek Ra 119.65 46 ⇓PKiKP **PKiKP** 09 32 36.4 +1.0
baz=120
J23A Dilts Ranch, B 119.72 44 ⇓PKiKP **PKiKP** 09 32 36.4 +1.1
baz=120
D25A Fairfield 119.76 39 ⇑PKiKP **PKiKP** 09 32 36.1 +0.9
baz=120
V20A Brimhall 119.80 53 ⇑PKiKP **PKiKP** 09 32 36.4 +0.6
baz=120
H24A Dirks Ranch, A 119.91 42 ⇑PKiKP **PKPdf** 09 32 35.5 0.0
baz=120
W20A Ramah 119.93 53 ⇑PKiKP **PKiKP** 09 32 37.1 +0.9
baz=120
N22A Wattenberg Ran 119.94 47 ⇓PKiKP **PKiKP** 09 32 36.7 +0.7
baz=120
E25A Miller Ranch, 119.97 40 ⇑PKiKP **PKiKP** 09 32 36.5 +0.9
baz=120
L23A Garrett 120.05 45 ⇓PKiKP **PKPdf** 09 32 35.4 -0.6
baz=120
X20A Quemado 120.07 54 ⇓PKiKP **PKiKP** 09 32 37.1 +0.7
baz=120
O22A Kremmling 120.07 47 ⇑PKiKP **PKiKP** 09 32 36.8 +0.5
baz=120
319A Douglas 120.08 58 ⇑PKiKP **PKiKP** 09 32 37.4 +1.0
baz=120
P22A Eagle 120.08 48 ⇓PKiKP **PKiKP** 09 32 37.2 +0.9
baz=120
I24A Kuemmerle Ranc 120.19 43 ⇓PKiKP **PKiKP** 09 32 37.7 +1.4
baz=120
Q22A Crested Butte, 120.19 49 ⇓PKiKP **PKiKP** 09 32 37.7 +1.1
baz=120
T21A Navajo Lake 120.23 51 ⇑PKiKP **PKiKP** 09 32 37.5 +0.9
baz=120
U21A Nageezi 120.28 52 ⇑PKiKP **PKiKP** 09 32 37.5 +0.7
baz=120
N23A Red Feather La 120.28 46 ⇑PKiKP **PKiKP** 09 32 37.6 +0.9
baz=120
TCF Toulx Ste Croi 120.28 320 *e*PKIKP **PKPdf** 09 32 35.5 -0.6
comp=Z,5.0nm,0.6s

TCF	Toulx Ste Croi	120.28	320	ePKIKP	PKPdf	09 32 35.5	-0.6
TCF	Toulx Ste Croi	120.28	320	ePKPdf	PKPdf	09 32 35.5	-0.6
Z20A	Nine Sixteen R baz=120	120.30	56	⇑PKiKP	PKiKP	09 32 37.4	+0.6
Y20A	Horse Springs, baz=120	120.31	55	⇓PKiKP	PKiKP	09 32 37.3	+0.4
J24A	Dixon Ranch, L baz=120	120.35	43	⇑PKiKP	PKiKP	09 32 37.7	+1.2
D26A	Manning baz=120	120.36	39	⇑PKiKP	PKiKP	09 32 36.6	+0.3
120A	U Bar Ranch, L baz=120	120.39	56	⇑PKiKP	PKiKP	09 32 37.7	+0.7
K24A	Anderson Ranch baz=120	120.46	44	⇑PKiKP	PKiKP	09 32 37.7	+0.9
G25A	Newell baz=120	120.48	41	⇓PKiKP	PKiKP	09 32 37.1	+0.4
R22A	Saguache, Gunn baz=120	120.48	50	⇓PKiKP	PKiKP	09 32 38.6	+1.4
RSSD	Black Hills	120.48	42	ePKIKP	PKPdf	09 32 36.3	-0.5
RSSD	Black Hills	120.48	42	ePKPdf	PKPdf	09 32 36.3	-0.5
O23A	Lake Granby, G baz=120	120.51	47	⇓PKiKP	PKiKP	09 32 37.9	+0.7
S22A	4UR Ranch, Cre baz=120	120.56	50	⇓PKiKP	PKiKP	09 32 38.4	+1.0
E26A	Carlson Angus baz=120	120.58	39	⇑PKiKP	PKiKP	09 32 37.3	+0.5
220A	Playas Peak, P baz=121	120.61	57	⇓PKiKP	PKiKP	09 32 38.0	+0.6
X21A	Alamocita Cree baz=121	120.66	54	⇓PKiKP	PKiKP	09 32 38.1	+0.5
F26A	Lodgepole baz=121	120.70	40	⇓PKiKP	PKiKP	09 32 37.8	+0.7
T22A	Edith baz=121	120.71	51	⇓PKiKP	PKiKP	09 32 38.7	+1.1
320A	Kipp Ranch, An baz=121	120.72	58	⇓PKiKP	PKiKP	09 32 38.8	+1.2
G27A	Dupree baz=121	120.72	41	⇓PKiKP	PKiKP	09 32 38.0	+0.9
I25A	Rochford baz=121	120.73	42	⇑PKiKP	PKPdf	09 32 36.9	-0.3
P23A	Jefferson baz=121	120.83	48	⇓PKiKP	PKiKP	09 32 39.0	+1.1
Y21A	Point of Rocks baz=121	120.85	54	⇑PKiKP	PKiKP	09 32 38.7	+0.7
D27A	Center baz=121	120.89	38	⇑PKiKP	PKiKP	09 32 38.6	+1.2
M24A	Cheyenne baz=121	120.89	45	⇓PKiKP	PKPdf	09 32 37.6	0.0
J25A	Sunshine Ranch baz=121	120.91	43	⇑PKiKP	PKPdf	09 32 37.6	0.0
U22A	Llaves baz=121	120.92	52	⇑PKiKP	PKiKP	09 32 39.3	+1.3
Q23A	Hartsel baz=121	120.98	49	⇑PKiKP	PKiKP	09 32 38.9	+0.8
V22A	San Miguel Ran baz=121	120.99	52	⇑PKiKP	PKiKP	09 32 39.6	+1.4
Z21A	St. Cloud Mine baz=121	121.02	55	⇓PKiKP	PKiKP	09 32 39.1	+0.9
121A	Cookes Peak, D baz=121	121.09	56	⇓PKiKP	PKiKP	09 32 39.3	+0.9
H26A	Fairpoint baz=121	121.13	41	⇓PKiKP	PKPdf	09 32 38.1	+0.3
O24A	Longmont baz=121	121.16	47	⇑PKiKP	PKiKP	09 32 38.8	+0.5
E27A	Carson baz=121	121.16	39	⇓PKiKP	PKiKP	09 32 38.3	+0.3
R23A	Moffat baz=121	121.19	49	⇑PKiKP	PKiKP	09 32 39.5	+0.9
S23A	Nye Farm, Mont baz=121	121.20	50	⇑PKiKP	PKiKP	09 32 39.5	+0.9
X22A	Bernardo baz=121	121.27	54	⇓PKiKP	PKiKP	09 32 39.6	+0.9
I26A	New Underwood baz=121	121.30	42	⇑PKiKP	PKPdf	09 32 38.2	0.0
C28A	Hausauer Farms baz=121	121.31	37	⇓PKiKP	PKiKP	09 32 38.4	+0.3
T23A	Casias Ranch, baz=121	121.37	51	⇑PKiKP	PKiKP	09 32 40.2	+1.2
A29A	Manning Farm, baz=121	121.42	36	⇓PKiKP	PKPdf	09 32 37.8	-0.4
J26A	Sides Ranch, S baz=121	121.44	43	⇑PKiKP	PKiKP	09 32 38.9	+0.3
Y22A	Socorro baz=121	121.44	54	⇓PKiKP	PKiKP	09 32 40.1	+1.0
U23A	El Rito baz=121	121.44	51	⇑PKiKP	PKiKP	09 32 40.3	+1.3
H27A	Howes baz=122	121.58	41	⇓PKiKP	PKPdf	09 32 38.3	-0.3
ANMO	Albuquerque	121.60	53	PKP	PKPdf	09 32 39.9	+0.7
ANMO	Albuquerque comp=Z,3.0nm,0.8s,baz=196,slow=3.0,SNR=14	121.60	53	PKP	PKPdf	09 32 39.9	+0.7
Z22A	Elephant Butte baz=122	121.60	55	⇑PKiKP	PKiKP	09 32 40.1	+0.8
V23A	Ortiz Mt. (NFS baz=122	121.61	52	⇑PKiKP	PKiKP	09 32 40.9	+1.5
MFF	Saint Martin d comp=Z,10nm,0.6s	121.62	321	ePKIKP	PKPdf	09 32 38.0	-0.6
MFF	Saint Martin d	121.62	321	ePKIKP	PKPdf	09 32 38.0	-0.6
MFF	Saint Martin d	121.62	321	ePKPdf	PKPdf	09 32 38.0	-0.6
E28A	Huff baz=122	121.64	39	⇑PKiKP	PKiKP	09 32 39.3	+0.4
BNM	Barren Site	121.66	54	ePKPdf	PKPdf	09 32 39.6	+0.2
122A	Conniff Cattle baz=122	121.70	56	⇑PKiKP	PKiKP	09 32 40.8	+1.3
R24A	Sanders Place, baz=122	121.72	49	⇑PKiKP	PKiKP	09 32 40.2	+0.7
W23A	Werner Place, baz=122	121.79	53	⇑PKiKP	PKiKP	09 32 40.9	+1.1
S24A	Houchin Ranch, baz=122	121.82	50	⇑PKiKP	PKiKP	09 32 40.7	+0.8
I27A	Quinn baz=122	121.82	42	⇑PKiKP	PKPdf	09 32 39.3	+0.1
O25A	Wiggins baz=122	121.85	47	⇑PKiKP	PKiKP	09 32 40.5	+0.8
T24B	San Luis baz=122	121.86	50	⇓PKiKP	PKiKP	09 32 41.0	+1.1
F28A	McLaughlin baz=122	121.89	39	⇓PKiKP	PKPdf	09 32 39.4	+0.2
A30A	Hoffart Farm, baz=122	121.95	35	⇓PKiKP	PKPdf	09 32 39.5	+0.3
P25A	Willow Gulch B baz=122	122.01	47	⇓PKiKP	PKiKP	09 32 40.9	+0.9
M26A	McRoberts Ranc baz=122	122.07	45	⇓PKiKP	PKiKP	09 32 40.5	+0.5
G28A	Parade baz=122	122.15	40	⇓PKiKP	PKPdf	09 32 39.9	+0.2
B30A	Myrvik Farm, E baz=122	122.17	36	⇓PKiKP	PKPdf	09 32 39.7	0.0
J27A	Elkhorn Farm, baz=122	122.18	43	⇓PKiKP	PKiKP	09 32 40.5	+0.4
Y23A	Lovelace Mesa, baz=122	122.18	54	⇑PKiKP	PKiKP	09 32 41.1	+0.6
Z23A	Rita Site, Whi baz=122	122.20	55	⇓PKiKP	PKiKP	09 32 41.5	+1.0
K27A	Flueckinger Fa baz=122	122.24	43	⇑PKiKP	PKPdf	09 32 39.6	-0.5
H28A	Mission Ridge baz=122	122.25	41	⇑PKiKP	PKiKP	09 32 40.5	+0.3
V24A	Rampart Ranch, baz=122	122.33	52	⇑PKiKP	PKiKP	09 32 41.8	+0.9
W24A	Lazy 6 Ranch, baz=122	122.36	53	⇓PKiKP	PKiKP	09 32 41.7	+0.8
R25A	Fountain Ranch baz=122	122.37	49	⇑PKiKP	PKiKP	09 32 41.0	+0.3
O26A	Horse Wrangler baz=122	122.39	46	⇑PKiKP	PKiKP	09 32 40.9	+0.2
S25A	Robets Cordova baz=122	122.40	50	⇑PKiKP	PKiKP	09 32 41.4	+0.5
I28A	Midland baz=122	122.43	41	⇑PKiKP	PKPdf	09 32 40.6	+0.3
C30A	Mose, Pekin baz=122	122.45	37	⇑PKiKP	PKPdf	09 32 40.1	-0.1
F29A	Eureka baz=122	122.50	39	⇓PKiKP	PKPdf	09 32 40.2	-0.2
D30A	Buchanan baz=122	122.57	37	⇓PKiKP	PKPdf	09 32 40.2	-0.3
T25A	Trinidad baz=123	122.58	50	⇑PKiKP	PKiKP	09 32 41.5	+0.2
P26A	Davis Ranch, A baz=123	122.60	47	⇓PKiKP	PKiKP	09 32 41.5	+0.4
ULM	Lac du Bonnet	122.62	33	PKP	PKPdf	09 32 39.5	-0.8
ULM	Lac du Bonnet comp=Z,2.5nm,0.5s,baz=305,slow=6.1,SNR=5.4	122.62	33	PKP	PKPdf	09 32 39.5	-0.8
J28A	Allard Ranch, baz=123	122.62	42	⇓PKiKP	PKiKP	09 32 41.2	+0.2
Y24A	Capitan baz=123	122.68	54	⇑PKiKP	PKiKP	09 32 41.9	+0.4
Q26A	Hugo baz=123	122.68	48	⇓PKiKP	PKPdf	09 32 41.3	+0.2
N27A	Anderson Farm, baz=123	122.74	45	⇑PKiKP	PKiKP	09 32 41.7	+0.3
E30A	Jud baz=123	122.77	38	⇓PKiKP	PKPdf	09 32 40.7	-0.2
H29A	Onida baz=123	122.79	40	⇑PKiKP	PKPdf	09 32 40.9	-0.1
U25A	Circle Dot Ran baz=123	122.80	51	⇓PKiKP	PKiKP	09 32 42.4	+0.7
K28A	Ten Mile Ranch baz=123	122.82	43	⇑PKiKP	PKPdf	09 32 41.2	0.0
Z24A	Sheeppen Canyo baz=123	122.89	55	⇓PKiKP	PKiKP	09 32 42.7	+0.8
R26A	Arlington baz=123	122.94	49	⇑PKiKP	PKiKP	09 32 42.2	+0.4
124A	Stringfield Ra baz=123	122.97	55	⇑PKiKP	PKiKP	09 32 42.9	+0.7
O27A	Beecher Island baz=123	123.00	46	⇓PKiKP	PKPdf	09 32 41.9	+0.3
OGNE	Ogallala baz=123	123.04	45	⇓PKiKP	PKiKP	09 32 42.2	+0.4
224A	Cornudas Mount baz=123	123.06	56	⇓PKiKP	PKiKP	09 32 42.5	+0.3
W25A	X Bar L Ranch, baz=123	123.10	52	⇓PKiKP	PKiKP	09 32 42.6	+0.4
X25A	Clemmons Ranch baz=123	123.14	53	⇓PKiKP	PKiKP	09 32 42.8	+0.5
S26A	Kim baz=123	123.14	49	⇑PKiKP	PKiKP	09 32 42.9	+0.7
P27A	Ficken Ranch, baz=123	123.16	47	⇓PKiKP	PKPdf	09 32 42.3	+0.4
T26A	Comanche Natio baz=123	123.19	50	⇑PKiKP	PKiKP	09 32 42.8	+0.3
J29A	Okreek baz=123	123.24	42	⇑PKiKP	PKPdf	09 32 41.8	0.0
324A	Moseley Ranch, baz=123	123.24	57	⇓PKiKP	PKiKP	09 32 43.0	+0.4
G30A	Faulkton baz=123	123.25	40	⇓PKiKP	PKPdf	09 32 41.6	-0.2
MNTX	Cornudas Mount	123.27	57	ePKPdf	PKPdf	09 32 43.0	+0.7
Y25A	Mesa, Roswell baz=123	123.27	54	⇓PKiKP	PKiKP	09 32 43.2	+0.6
U26A	Atchley Ranch, baz=123	123.32	51	⇓PKiKP	PKiKP	09 32 43.6	+0.9
Z25A	Roswell baz=123	123.42	55	⇑PKiKP	PKiKP	09 32 43.6	+0.7
R27A	Eads baz=123	123.43	48	⇓PKiKP	PKiKP	09 32 43.3	+0.6
V26A	Tequesquite Ra baz=123	123.46	51	⇓PKiKP	PKPdf	09 32 42.9	+0.2
N28A	Pribbeno Ranch baz=123	123.48	45	⇓PKiKP	PKPdf	09 32 42.6	+0.1
K29A	Lazy Trails An baz=124	123.51	43	⇓PKiKP	PKPdf	09 32 42.5	0.0
I30A	Oacoma baz=124	123.61	41	⇓PKiKP	PKPdf	09 32 42.5	0.0
125A	Gardner Draw, baz=124	123.63	55	⇓PKiKP	PKiKP	09 32 43.9	+0.5
225A	Deer Hill, Car baz=124	123.63	56	⇓PKiKP	PKiKP	09 32 44.0	+0.6
W26A	Owens Ranch, T baz=124	123.69	52	⇑PKiKP	PKiKP	09 32 43.8	+0.5
P28A	Saint Francis baz=124	123.74	47	⇑PKiKP	PKiKP	09 32 43.6	+0.2
X26A	CR and CF Fran baz=124	123.81	53	⇓PKiKP	PKPdf	09 32 43.7	+0.3
425A	Indio Mountain baz=124	123.81	58	⇓PKiKP	PKiKP	09 32 44.0	+0.2
J30A	Dallas baz=124	123.82	42	⇓PKiKP	PKPdf	09 32 42.8	-0.2
Q28A	Sharon Springs baz=124	123.87	47	⇑PKiKP	PKiKP	09 32 43.9	+0.3
T27A	Campo baz=124	123.89	50	⇓PKiKP	PKiKP	09 32 44.2	+0.5
U27A	Thompson Grove baz=124	124.01	50	⇓PKiKP	PKiKP	09 32 44.6	+0.6
K30A	Basset baz=124	124.02	42	⇑PKiKP	PKiKP	09 32 43.8	+0.1
Z26A	Caprock baz=124	124.02	54	⇑PKiKP	PKPdf	09 32 44.0	+0.2
N29A	Votaw Ranch, W baz=124	124.08	45	⇓PKiKP	PKiKP	09 32 44.1	+0.2
R28A	Tribune baz=124	124.14	48	⇑PKiKP	PKPdf	09 32 44.2	+0.4
126A	Clayton Basin, baz=124	124.15	55	⇑PKiKP	PKPdf	09 32 44.4	+0.3
226B	Tecolote Peak, baz=124	124.18	56	⇑PKiKP	PKiKP	09 32 44.5	+0.2
V27A	Dan Oppiter Fa baz=124	124.21	51	⇓PKiKP	PKiKP	09 32 44.7	+0.3
O29A	4D Ranch, Culb baz=124	124.22	46	⇑PKiKP	PKiKP	09 32 44.4	+0.1
W27A	Bowe Ranch, En baz=124	124.25	52	⇑PKiKP	PKPdf	09 32 44.3	+0.1
T28A	Walsh baz=124	124.33	49	⇓PKiKP	PKiKP	09 32 44.8	+0.2
S28A	Manter baz=124	124.33	49	⇓PKiKP	PKiKP	09 32 44.7	+0.2
X27A	F and S Farms, baz=124	124.34	53	⇓PKiKP	PKiKP	09 32 44.8	+0.2
U28A	Mallet baz=124	124.49	50	⇑PKiKP	PKiKP	09 32 45.4	+0.5
Y27A	Causey baz=124	124.51	53	⇓PKiKP	PKiKP	09 32 45.4	+0.4
326A	Caldwell Ranch baz=124	124.52	57	⇓PKiKP	PKiKP	09 32 45.6	+0.5
Q29A	Oakley baz=124	124.55	47	⇑PKiKP	PKiKP	09 32 45.4	+0.4
R29A	Marienthal baz=125	124.61	48	⇑PKiKP	PKiKP	09 32 45.3	+0.3
Z27A	Tatum baz=125	124.62	54	⇓PKiKP	PKiKP	09 32 46.0	+0.7
426A	McDonald Obser baz=125	124.64	57	⇓PKiKP	PKiKP	09 32 45.9	+0.4
526A	Mary Lane Ranc baz=125	124.73	58	⇓PKiKP	PKiKP	09 32 46.1	+0.5
O30A	MW Ranch, Wils baz=125	124.73	45	⇑PKiKP	PKiKP	09 32 45.3	+0.1
L31A	Butterfield Fa baz=125	124.75	43	⇓PKiKP	PKPdf	09 32 45.0	+0.2
MSTX	Muleshoe	124.79	53	ePKPdf	PKPdf	09 32 45.6	+0.4
MSTX	Muleshoe baz=125	124.79	53	⇓PKiKP	PKPdf	09 32 45.7	+0.4
626A	Big Bend Ranch baz=125	124.80	59	⇑PKiKP	PKiKP	09 32 45.9	+0.2
P30A	Selden baz=125	124.84	46	⇓PKiKP	PKPdf	09 32 45.4	+0.3
S29A	Ulysses baz=125	124.90	49	⇑PKiKP	PKiKP	09 32 46.0	+0.4
T29A	Hugoton baz=125	124.93	49	⇓PKiKP	PKiKP	09 32 46.1	+0.4
M31A	Lambtecht Ranc baz=125	125.01	44	⇓PKiKP	PKiKP	09 32 46.5	+0.8
Q30A	Quinter baz=125	125.07	47	⇓PKiKP	PKiKP	09 32 46.7	+0.8
X28A	Dimmitt baz=125	125.09	52	⇑PKiKP	PKiKP	09 32 46.6	+0.5
527A	Woodward Ranch baz=125	125.11	58	⇑PKiKP	PKiKP	09 32 46.9	+0.6
427A	Hayter Ranch, baz=125	125.12	57	⇓PKiKP	PKiKP	09 32 46.7	+0.4
V29A	Stinnett baz=125	125.19	51	⇓PKiKP	PKiKP	09 32 46.7	+0.4
Y28A	McKinney Farm, baz=125	125.23	53	⇑PKiKP	PKiKP	09 32 47.0	+0.6
TXAR	Lajitas Array	125.25	59	PKP	PKPdf	09 32 46.7	+0.5
TXAR	Lajitas Array comp=Z,1.2nm,0.5s,baz=181,slow=2.4,SNR=28	125.25	59	PKP	PKPdf	09 32 46.7	+0.5
O31A	Woolen Ranch, baz=125	125.25	45	⇓PKiKP	PKiKP	09 32 47.0	+0.8
R30A	Dighton baz=125	125.29	47	⇑PKiKP	PKiKP	09 32 46.9	+0.5
W29A	Amraillo baz=125	125.33	52	⇑PKiKP	PKiKP	09 32 47.5	+0.9
S30A	Montezuma baz=125	125.38	48	⇑PKiKP	PKiKP	09 32 47.3	+0.7
128A	Castleberry Fa baz=125	125.41	55	⇓PKiKP	PKiKP	09 32 47.1	+0.3
228A	UT Block 9, Go baz=125	125.46	55	⇑PKiKP	PKiKP	09 32 47.3	+0.4
627A	Terlingua Ranc baz=126	125.46	59	⇑PKiKP	PKiKP	09 32 47.7	+0.7
328A	Wristen Ranch, baz=126	125.47	56	⇑PKiKP	PKiKP	09 32 47.5	+0.6
X29A	Tulia baz=126	125.50	52	⇑PKiKP	PKiKP	09 32 47.2	+0.2
BGNE	Belgrade baz=126	125.54	43	⇑PKiKP	PKPdf	09 32 46.7	+0.4
T30A	Plains baz=126	125.54	49	⇑PKiKP	PKiKP	09 32 47.5	+0.6
U30A	WK&E Inc. Balk baz=126	125.63	50	⇓PKiKP	PKiKP	09 32 47.7	+0.5
Y29A	Porterfield Fa baz=126	125.70	53	⇓PKiKP	PKiKP	09 32 47.9	+0.6
428A	Kincaid Ranch, baz=126	125.74	57	⇑PKiKP	PKiKP	09 32 48.4	+0.8
528A	Cox Ranch, San baz=126	125.80	58	⇑PKiKP	PKiKP	09 32 48.5	+0.8
R31A	Burdett baz=126	125.83	47	⇑PKiKP	PKiKP	09 32 48.0	+0.6
Z29A	Hungry Hill Ra baz=126	125.85	54	⇓PKiKP	PKiKP	09 32 48.1	+0.4
V30A	Spur Ranch, Mi baz=126	125.86	51	⇓PKiKP	PKiKP	09 32 48.0	+0.4
628A	Black Gap, Mar baz=126	125.88	59	⇑PKiKP	PKiKP	09 32 48.0	+0.2
129A	Stewart Farms, baz=126	125.91	55	⇑PKiKP	PKiKP	09 32 48.3	+0.5
329A	Wagon Wheel Ra baz=126	126.13	56	⇓PKiKP	PKiKP	09 32 48.7	+0.5
229A	Bryant Ranch, baz=126	126.14	55	⇓PKiKP	PKPdf	09 32 48.3	+0.4
X30A	Coker Ranch, T baz=126	126.15	52	⇑PKiKP	PKiKP	09 32 48.5	+0.3
T31A	Randall Ranch, baz=126	126.16	49	⇑PKiKP	PKiKP	09 32 48.8	+0.7
529A	Stev Forest Ra baz=126	126.28	58	⇑PKiKP	PKiKP	09 32 48.9	+0.3
Z30A	Sanderson Ranc baz=126	126.31	54	⇑PKiKP	PKPdf	09 32 48.6	+0.5
Y30A	Stafford Cattl baz=126	126.31	53	⇓PKiKP	PKiKP	09 32 49.1	+0.5
429A	Davenport Ranc baz=126	126.43	57	⇓PKiKP	PKiKP	09 32 49.2	+0.3
V31A	Spring Creek L baz=126	126.51	50	⇑PKiKP	PKiKP	09 32 49.6	+0.7
W31A	Holland Ranch, baz=127	126.63	51	⇑PKiKP	PKiKP	09 32 49.4	+0.3
130A	Snyder baz=127	126.64	54	⇑PKiKP	PKiKP	09 32 49.6	+0.4
230A	Sterling City baz=127	126.73	55	⇑PKiKP	PKiKP	09 32 49.6	+0.2
Y31A	Rekieta Farm, baz=127	126.78	52	⇓PKiKP	PKiKP	09 32 49.6	+0.2
330A	Mertzon baz=127	126.81	56	⇑PKiKP	PKPdf	09 32 49.5	+0.4
430A	Baggett Ranch, baz=127	126.93	57	⇑PKiKP	PKiKP	09 32 50.0	+0.1
530A	J-C Ranch, Com baz=127	127.02	57	⇓PKiKP	PKiKP	09 32 50.2	+0.1
Z31A	Sharp Cattle R baz=127	127.08	53	⇓PKiKP	PKiKP	09 32 50.3	+0.2
131A	Roby baz=127	127.08	54	⇓PKiKP	PKiKP	09 32 50.3	+0.2
SPMN	St. Paul baz=127	127.09	37	⇓PKiKP	PKiKP	09 32 49.9	+0.2
231A	Bronte baz=127	127.36	55	⇓PKiKP	PKiKP	09 32 50.8	+0.2
331A	San Angelo baz=127	127.45	56	⇑PKiKP	PKiKP	09 32 51.2	+0.4
431A	Sonora baz=128	127.48	57	⇑PKiKP	PKiKP	09 32 51.3	+0.3
Z32A	Haskell baz=128	127.61	53	⇓PKiKP	PKiKP	09 32 51.8	+0.7
531A	Rocksprings baz=128	127.67	57	⇑PKiKP	PKiKP	09 32 51.8	+0.4
ABTX	Abilene, Hawle baz=128	127.70	54	⇑PKiKP	PKiKP	09 32 51.7	+0.4
631A	Perdido Creek baz=128	127.85	58	⇑PKiKP	PKiKP	09 32 52.0	+0.3
232A	Coleman baz=128	127.92	55	⇑PKiKP	PKiKP	09 32 52.1	+0.3
332A	Millersview baz=128	127.99	55	⇓PKiKP	PKiKP	09 32 52.5	+0.6
432A	Menard baz=128	128.10	56	⇓PKiKP	PKPdf	09 32 52.1	+0.5
JCT	Junction City	128.20	57	ePKIKP	PKPdf	09 32 51.6	-0.1
JCT	Junction City	128.20	57	ePKPdf	PKPdf	09 32 51.6	-0.1
JCT	Junction City baz=128	128.20	57	⇓PKiKP	PKiKP	09 32 52.9	+0.5
532A	Rocksprings baz=128	128.22	57	⇑PKiKP	PKiKP	09 32 52.9	+0.5
TORD	Torodi Ar. Bea	128.39	281	PKP	PKPdf	09 32 51.9	-0.5
TORD				SKPbc	SKiKP	09 35 54.6	-19
TORD	Torodi Ar. Bea comp=Z,3.6nm,0.7s,baz=74,slow=1.6,SNR=26	128.39	281	PKP	PKPdf	09 32 51.9	-0.5
TORD				SKPbc	SKiKP	09 35 54.6	-19
	comp=Z,0.6nm,0.7s,baz=86,slow=3.2,SNR=3.6						
632A	Uvalde baz=128	128.49	58	⇓PKiKP	PKiKP	09 32 53.7	+0.7
732A	Laxson Ranch, baz=128	128.54	59	⇑PKiKP	PKiKP	09 32 53.3	+0.3
TUL1	Tulsa baz=130	129.51	48	⇑PKiKP	PKiKP	09 32 55.1	+0.3
WHTX	Lake Whitney baz=130	129.65	54	⇑PKiKP	PKiKP	09 32 56.0	+0.8
DBIC	Dimbokro	134.77	273	PKP	PKPdf	09 33 04.0	-0.5
DBIC	Dimbokro comp=Z,14nm,1.2s,baz=227,slow=1.2,SNR=5.5	134.77	273	PKP	PKPdf	09 33 04.0	-0.5
LIC	Lamto	134.91	272	ePKIKP	PKPdf	09 33 04.3	-0.5
LIC	Lamto	134.91	272	ePKPdf	PKPdf	09 33 04.3	-0.5
KMSC	Kings Mountain baz=140	140.06	41	⇑PKiKP	PKiKP	09 33 16.0	-0.2
LVC	Limon Verde	145.50	149	ePKPbc	PKPab	09 33 25.8	+1.0
CPUP	Villa Florida	146.26	169	ePKPbc	PKPbc	09 33 26.5	+0.3
CPUP				SKPbc	SKPbc	09 36 47.9	-1.4
CPUP	Villa Florida comp=Z,7.8nm,0.6s,baz=189,slow=2.7,SNR=19	146.26	169	PKPbc	PKPbc	09 33 26.6	+0.4
CPUP				SKPbc	SKPbc	09 36 47.9	-1.4
	comp=Z,3.1nm,0.7s,baz=76,slow=2.4,SNR=4.5						
LPAZ	La Paz	151.03	143	ePKPdf	PKPdf	09 33 34.4	+0.8
LPAZ				ePKPbc	PKiKP	09 33 40.4	+0.4
LPAZ				ePKPab	PKPab	09 33 47.7	+0.2

IDC 29 09:18:17.7±2.2, 26°.81N×140°.25E, h471km±16km, mb3.2/6, mb1 3.2/8, mb1mx3.0/27, mbtmp3.2/8, Error ellipse: s-maj=63.3km s-min=23.6km az=3.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima 10.0nm,0.3s,baz=270,slow=19,SNR=21	1.75	80	P	P	09 19 18.6	-0.3
CBIJ				S	S	09 20 03.5	-4.9
	33nm,0.3s,baz=293,slow=24,SNR=17						
JNU	Nakatsue 0.4nm,0.3s,baz=113,slow=14,SNR=2.5	10.27	310	P	P	09 20 39.2	+1.4
USRK	Ussuriysk Arra 0.1nm,0.3s,baz=172,slow=11,SNR=6.3	18.59	341	P	P	09 22 04.1	-0.7
KURBB	Kurchatov Arra 1.4nm,0.4s,baz=90,slow=6.9,SNR=8.8	52.01	315	P	P	09 26 42.0	-0.1
BVAR	Borovoye Array 1.1nm,0.4s,baz=88,slow=6.8,SNR=4.1	57.08	318	P	P	09 27 17.9	0.0
ILAR	Eielson Array 0.2nm,0.4s,baz=259,slow=5.5,SNR=2.4	58.79	29	P	P	09 27 29.3	0.0
INK	Inuvik 1.8nm,1.1s,baz=309,slow=6.5,SNR=2.8	64.00	24	P	P	09 28 03.9	+0.4
ARCES	ARCESS Array B 3.6nm,0.8s,baz=60,slow=7.4,SNR=5.4

*ISCJB **29** 09:26:50.0±0.5, 36°.12N±0°.03×71°.03E±0°.07, h102km, mb3.5/5, Error ellipse: s-maj=9.0km s-min=3.3km az=160.5*
*NNC **29** 09:26:57.5±6.1, 36°.70N×70°.57E, h121km±64km, mb3.7, mpv4.4, Error ellipse: s-maj=46.8km s-min=29.0km az=17.0*

ISC 29 09:26:51.4±0.7, 36°.13N±0°.05×71°.03E±0°.08, h102km, n53, σ1§68/58, mb3.6/5, 10C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.42**	**162**	⇑P	**Pn**	**09 27 31.7**	**+2.0**
CEP				S	**Sn**	**09 28 02.0**	**+3.1**
CHCP	**Chirah Chowk**	**3.08**	**143**	⇑P	**Pn**	**09 27 41.1**	**+2.7**
THW	**Thamme Wali**	**3.38**	**170**	P	**Pn**	**09 27 43.9**	**+1.5**
THN	**Thein Dam**	**5.36**	**132**	*e*P	**Pn**	**09 28 09.0**	**0.0**
THN				*e*S	**Sn**	**09 29 09.3**	**-0.1**
DLH	**Dalhousie**	**5.44**	**130**	*e*P	**Pn**	**09 28 11.0**	**+0.7**
DLH				*e*S	**Sn**	**09 29 13.0**	**+1.3**
AML	**Almayashu**	**6.34**	**18**	P	**Pn**	**09 28 23.5**	**+0.9**
	SNR=48						
BHK	**Bhakra**	**6.50**	**135**	*e*x	x	09 28 37.2	
UCH	**Uchtor**	**6.66**	**23**	P	Sn	09 29 40.8	-1.3
	SNR=8.4						
SDNR	**Sundarnagar**	**6.77**	**131**	*e*P	**Pn**	**09 28 30.0**	**+1.8**
SDNR				*e*4	Sn	09 29 41.0	-2.9
KZA	**Kyzart**	**6.78**	**28**	P	**Pn**	**09 28 29.5**	**+0.8**
	SNR=47						
EKS2	**Erkin-Say**	**6.86**	**17**	P	**Pn**	**09 28 30.9**	**+1.4**
	SNR=31						
KK31	**Karatay Array**	**6.97**	**357**	P	**Pn**	**09 28 30.0**	**-0.9**
	5.4nm,0.3s,baz=178,slow=12,SNR=116						
KK31				⇑S	Sn	09 29 42.7	-5.9
	18nm,0.5s,baz=188,slow=24,SNR=8.9						
AAK	**Ala-Archa**	**7.02**	**21**	P	**Pn**	**09 28 32.8**	**+1.0**
	SNR=26						
AAK	**Ala-Archa**	**7.02**	**21**	P	**Pn**	**09 28 32.8**	**+1.0**
	4.5nm,0.3s,baz=178,slow=6.4,SNR=33						
AAK				S	**Sn**	**09 29 49.2**	**-0.9**
	5.1nm,0.3s,baz=314,slow=21,SNR=19						
SMLA	**Simla**	**7.15**	**133**	*i* P	**Pn**	**09 28 34.4**	**+1.0**
SMLA				*i* S	**Sn**	**09 29 52.6**	**-0.4**
SMLA				AML	AML	09 29 54.8	
	comp=N,1μm,0.3s						
SMLA				AML	AML	09 29 56.4	
	comp=E,1μm,0.2s						
KBK	**Karagaybulak**	**7.19**	**24**	P	**Pn**	**09 28 35.5**	**+1.5**
	SNR=7.7						
ULHL	**Ulahol**	**7.32**	**32**	P	**Pn**	**09 28 36.8**	**+1.0**
	SNR=9.1						
CHMS	**Chumysh**	**7.43**	**22**	P	**Pn**	**09 28 38.6**	**+1.4**
	SNR=9.5						
USP	**Ospenovka**	**7.61**	**20**	P	**Pn**	**09 28 40.3**	**+0.7**
	SNR=8.3						
TKM2	**Tokmak 2**	**7.64**	**26**	⇑P	**Pn**	**09 28 40.9**	**+0.7**
	comp=E,21nm,0.6s						
TKM2				⇓S	**Sn**	**09 30 04.3**	**-1.0**
	comp=E,16nm,0.8s						
TKM2	**Tokmak 2**	**7.64**	**26**	P	**Pn**	**09 28 41.5**	**+1.3**
	SNR=16						
NDI	**New Delhi**	**9.09**	**143**	*e*P	**Pn**	**09 28 59.0**	**-0.7**
AYAN	**Aya Nagar**	**9.21**	**144**	*e*P	**Pn**	**09 29 00.2**	**-1.2**
AYAN				*e*S	**Sn**	**09 30 38.5**	**-4.7**
KUDL	**Kundal**	**9.21**	**148**	*e*P	**Pn**	**09 29 00.0**	**-1.4**
KUDL				*e*S	Sn	09 30 34.7	-8.6
KUDL				AML	AML	09 30 41.1	
	comp=E,21nm,0.3s						
KUDL				AML	AML	09 30 41.5	
	comp=N,16nm,0.3s						
SONA	**Sohna**	**9.38**	**145**	*e*P	**Pn**	**09 29 03.2**	**-0.6**
SONA				*e*S	Sn	09 30 39.6	-7.8
SONA				AML	AML	09 30 49.6	
	comp=E,26nm,0.5s						
SONA				AML	AML	09 30 55.4	
	comp=N,20nm,0.5s						
DANN	**Dangsing**	**13.27**	**122**	*e*P	**Pn**	**09 29 53.5**	**-2.6**
	comp=N,17nm,0.5s						
KOLN	**Koldanda**	**13.54**	**124**	*e*P	**Pn**	**09 29 57.1**	**-2.4**
	comp=N,14nm,0.5s						
MK31	**Makanchi Array**	**13.58**	**35**	P	**Pn**	**09 30 00.8**	**+1.1**
	comp=N,1.9nm,0.6s,baz=223,slow=13,SNR=12						
MKAR	**Makanchi Array**	**13.58**	**35**	P	**Pn**	**09 30 00.6**	**+0.9**
	comp=N,0.2nm,0.3s,baz=220,slow=14,SNR=9.6						
GKN	**Gorkha**	**14.09**	**121**	*e*P	**Pn**	**09 30 04.4**	**-2.3**
DMN	**Daman**	**14.66**	**121**	*e*P	**Pn**	**09 30 12.1**	**-2.0**
KKN	**Kakani**	**14.67**	**121**	*e*P	**Pn**	**09 30 12.2**	**-1.9**
PKIN	**Phulchoki**	**14.88**	**121**	*e*P	**Pn**	**09 30 14.5**	**-2.4**
	comp=N,19nm,0.5s						
PKI	**Pulchoki**	**14.90**	**121**	*e*P	**Pn**	**09 30 14.8**	**-2.3**
	comp=N,24nm,0.6s						
JIRN	**Jiri**	**15.39**	**119**	*e*P	**Pn**	**09 30 22.6**	**-0.8**
	comp=N,25nm,0.5s						
AB31	**Akbulak array**	**15.41**	**332**	P	**Pn**	**09 30 19.8**	**-3.3**
	comp=N,9.0nm,0.7s,baz=146,slow=12,SNR=64						
AB31				⇑S	Sn	09 32 58.7	-15
	comp=N,2.3nm,0.6s,baz=160,slow=23,SNR=5.0						
KURBB	**Kurchatov Arra**	**15.46**	**18**	⇑P	**Pn**	**09 30 20.2**	**-3.4**
	comp=N,5.6nm,0.9s						
KURBB	**Kurchatov Arra**	**15.46**	**18**	P	**Pn**	**09 30 21.7**	**-2.0**
	comp=N,0.0nm,0.3s,baz=207,slow=12,SNR=4.1						
KURK	**Kurchatov**	**15.57**	**18**	⇑P	**Pn**	**09 30 22.9**	**-2.1**
	comp=N,4.9nm,1.2s						
RAMN	**Ramite**	**16.11**	**120**	*e*P	**Pn**	**09 30 31.3**	**-0.9**
	comp=N,19nm,0.7s						
VOSK	**Vostochnaya**	**16.59**	**360**	⇑P	**Pn**	**09 30 36.8**	**-0.9**
	comp=N,4.5nm,1.1s						
TAPN	**Taplejung**	**16.66**	**117**	*e*P	**P**	**09 30 39.8**	**+0.1**
BVA0	**Borovoye Array**	**16.89**	**359**	P	**Pn**	**09 30 41.4**	**-0.1**
	comp=N,4.1nm,1.1s,baz=110,slow=43,SNR=12						
BVAR	**Borovoye Array**	**16.89**	**359**	P	**Pn**	**09 30 41.1**	**-0.3**
	comp=N,0.4nm,0.3s,baz=152,slow=9.9,SNR=7.7						
BRVK	**Borovoye**	**16.93**	**358**	⇑P	**P**	**09 30 43.7**	**+1.5**
	comp=N,7.6nm,1.1s						
AKTO	**Aktyubinsk**	**17.11**	**331**	⇓P	**Pn**	**09 30 43.7**	**-0.4**
	comp=N,17nm,0.9s						
AKTO				⇑S	Sn	09 33 39.5	-15
	comp=N,8.3nm,1.2s						
AKTO	**Aktyubinsk**	**17.11**	**331**	P	**Pn**	**09 30 43.8**	**-0.2**
	comp=N,0.5nm,0.3s,baz=149,slow=14,SNR=21						
ZALV	**Zalesovo Beam**	**20.24**	**24**	P	**P**	**09 31 19.4**	**+1.1**
	comp=N,18nm,0.6s,baz=218,slow=12,SNR=28						
ARCES	**ARCESS Array B**	**41.49**	**338**	P	**P**	**09 34 29.4**	**+1.4**
	comp=N,1.8nm,0.8s,baz=96,slow=12,SNR=3.6						
NOA	**NORSAR Array B**	**44.68**	**323**	P	**P**	**09 34 54.1**	**+0.2**
	comp=N,0.8nm,0.8s,baz=100,slow=7.8,SNR=3.3						
TORD	**Torodi Ar. Bea**	**65.73**	**269**	P	**P**	**09 37 23.2**	**-2.3**
	comp=N,0.3nm,0.3s,baz=48,slow=6.0,SNR=10						
WRA	**Warramunga Arr**	**81.78**	**122**	P	**P**	**09 38 59.4**	**+0.2**
	comp=N,0.3nm,0.4s,baz=324,slow=4.9,SNR=5.5						
ASAR	**Alice Springs**	**84.03**	**125**	P	**P**	**09 39 11.1**	**+0.4**
	comp=N,0.2nm,0.6s,baz=319,slow=5.2,SNR=3.5						

*TIR **29** 10:16:15.6±2.0, 41°.42N×20°.46E, h7km±21km, ML2.9*
*ISCJB **29** 10:16:18.4±1.4, 41°.42N±0°.05×20°.48E±0°.07, h10km, Error ellipse: s-maj=9.2km s-min=5.4km az=140.7*
*CSEM **29** 10:16:19.2±1.2, 41°.42N×20°.50E, h2km, ML2.9, Error ellipse: s-maj=19.9km s-min=10.6km az=130.0*
*BEO **29** 10:16:20.0±0.9, 41°.35N×20°.50E, h0km, ML1.9/4*

ISC 29 10:16:19.3±1.7, 41°.42N±0°.06×20°.48E±0°.05, h10km, n14, σ1§55/25, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHP	**Peshkopia**	**0.26**	**354**	*e*PG	**Pg**	**10 16 23.7**	**-1.0**
PHP				*e*SG	**Sg**	**10 16 26.9**	**-1.4**
PHP	**Peshkopia**	**0.26**	**354**	*e*Pg	**Pg**	**10 16 23.7**	**-1.0**
	SNR=117						
PHP				*e*Sg	**Sg**	**10 16 26.9**	**-1.4**
	SNR=117						
TIR	**Tirane**	**0.47**	**261**	*e*PG	**Pg**	**10 16 27.3**	**-1.1**
TIR				*e*SG	**Sg**	**10 16 34.3**	**-0.3**
TIR	**Tirane**	**0.47**	**261**	*e*Pg	**Pg**	**10 16 28.2**	**-0.2**
TIR	**Tirane**	**0.47**	**261**	*e*Pg	**Pg**	**10 16 28.2**	**-0.2**
TIR				*e*Sg	**Sg**	**10 16 34.3**	**-0.3**
	SNR=96						
PUK	**Puka**	**0.76**	**325**	*e*PG	**Pg**	**10 16 32.1**	**-1.9**
PUK				*e*SG	**Sg**	**10 16 42.4**	**-1.5**
PUK	**Puka**	**0.76**	**325**	*e*Pg	**Pg**	**10 16 32.1**	**-1.9**
	SNR=92						
PUK				*e*Sg	**Sg**	**10 16 42.4**	**-1.5**
	SNR=92						
PDG	**Podgorica**	**1.36**	**318**	*e*Pg	**Pg**	**10 16 45.9**	**+0.5**
PDG				*e*Sg	**Sg**	**10 17 05.4**	**+2.4**
PDG	**Podgorica**	**1.36**	**318**	*e*Pg	**Pg**	**10 16 45.9**	**+0.5**
PDG				*e*Sg	**Sg**	**10 17 05.4**	**+2.4**
BARS	**Barje**	**1.71**	**35**	*e*Sg	**Sg**	**10 17 16.3**	**+1.9**
BARS	**Barje**	**1.71**	**35**	*e*Sg	**Sg**	**10 17 16.3**	**+1.9**
SJES	**Sjenica**	**1.87**	**349**	*e*Pg	**Pg**	**10 16 55.1**	**-0.2**
SJES				*e*Sg	**Sg**	**10 17 21.2**	**+1.6**
TREB	**Trebinje**	**2.04**	**310**	*e*Pn	**Pb**	**10 16 56.4**	**-0.1**
TREB				*e*Sg	**Sg**	**10 17 27.4**	**+2.4**
TREB	**Trebinje**	**2.04**	**310**	*e*Pn	**Pb**	**10 16 56.4**	**-0.1**
TREB				*e*Sg	**Sg**	**10 17 27.4**	**+2.4**

*IDC **29** 10:19:14.4±3.4, 6°.44S×128°.22E, h387km±36km, mb2.9/1, mb1 3.1/5, mb1mx2.9/20, mbtmp3.0/5, Error ellipse: s-maj=48.4km s-min=14.8km az=65.0*

ISC 29 10:19:11.3±1.1, 6°.30S±0°.09×128°.49E±0°.09, h334km, n11, σ2§27/14, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLE	**Tual**	**4.27**	**81**	P	S	10 21 13.1	-6.3
	baz=5.0,SNR=4.1						
FAKI	**Fak Fak**	**5.03**	**48**	P	**S**	**10 21 36.1**	**+1.6**
	baz=7.7,SNR=3.7						
SOEI	**Soe**	**5.41**	**230**	P	**S**	**10 21 43.7**	**+1.1**
	baz=8.3,SNR=4.3						
BATI	**Baumata**	**6.16**	**231**	P	**Pn**	**10 20 46.1**	**+2.6**
	4.9nm,0.3s,baz=56,slow=7.3,SNR=2.3						
BATI				S	**S**	**10 21 57.5**	**-0.6**
	11nm,0.3s,baz=278,slow=20,SNR=9.8						
KDU	**Kakadu**	**7.47**	**149**	P	**Pn**	**10 21 02.0**	**+3.1**
	baz=2.1,SNR=7.1						
KNRA	**Kununurra**	**9.33**	**178**	P	**P**	**10 21 23.2**	**-0.7**
	baz=6.3,SNR=13						
FITZ	**Fitzroy Crossi**	**12.06**	**193**	P	**Pn**	**10 21 54.6**	**+0.6**
	0.2nm,0.3s,baz=23,slow=10,SNR=8.8						
FITZ				S	**S**	**10 24 10.3**	**+2.0**
	0.1nm,0.3s,baz=128,slow=19,SNR=1.0						
FITZ	**Fitzroy Crossi**	**12.06**	**193**	P	**P**	**10 21 54.8**	**+0.6**
	baz=10,SNR=4.1						
WRA	**Warramunga Arr**	**14.71**	**158**	P	**P**	**10 22 23.8**	**+0.3**
	0.6nm,0.3s,baz=340,slow=11,SNR=67						
WRA				S	**S**	**10 24 58.8**	**-4.2**
	0.2nm,0.3s,baz=326,slow=23,SNR=7.3						
ASAR	**Alice Springs**	**18.04**	**164**	P	**P**	**10 22 59.7**	**+0.1**
	0.3nm,0.3s,baz=344,slow=12,SNR=32						
ASAR				S	**S**	**10 26 06.2**	**-2.8**
	0.2nm,0.3s,baz=348,slow=23,SNR=13						
MKAR	**Makanchi Array**	**66.82**	**327**	P	**P**	**10 29 25.5**	**-2.3**
	0.4nm,0.6s,baz=128,slow=7.9,SNR=5.2						

*IDC **29** 10:30:58.9±1.8, 39°.76N×77°.23E, h0km, mb3.8/2, mb1 3.6/6, mb1mx3.4/30, mbtmp3.6/6, ML3.3/3, MS3.0/2, Ms1 3.0/2, ms1mx2.6/39, Error ellipse: s-maj=37.0km s-min=18.2km az=130.0*
*BJI **29** 10:31:00.3, 39°.89N×77°.43E, h9km, mb4.1/4, ML3.7/8*
*NNC **29** 10:31:09.8±2.9, 40°.33N×77°.96E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=25.5km s-min=18.6km az=173.0*

ISC 29 10:30:59.5±1.3, 39°.6N±0°.1×77°.41E±0°.10, h10km, n15, σ1§55/14, 8C, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.12**	**265**	Pg	Pg	10 31 30.0	+9.0
KSH				Sg	Sn	10 31 52.0	+15
KSH				smax	smax		
	comp=N,310nm,0.7s						
KSH				smax	smax		
	comp=E,350nm,0.8s						
TKM2	**Tokmak 2**	**3.57**	**338**	⇑Pn	**Pb**	**10 32 02.0**	**-0.9**
	comp=E,37nm,0.8s						
TKM2				⇑Lg	Lg	10 32 46.5	
	comp=E,140nm,1.9s						
KNDC	**Almaty**	**3.61**	**355**	⇑Pn	**Pn**	**10 31 58.6**	**+3.0**
	comp=E,60nm,0.6s						
KNDC				⇑Lg	Lg	10 32 44.2	
	comp=E,384nm,0.8s						
MK31	**Makanchi Array**	**8.01**	**25**	⇑Pn	**Pn**	**10 32 57.6**	**+1.7**
	comp=E,1.8nm,0.7s,baz=210,slow=12,SNR=6.9						
MK31				⇑Sn	**Sn**	**10 34 26.1**	**-0.4**
	comp=E,3.5nm,0.8s,baz=97,slow=17,SNR=3.7						
MK31				Lg	Lg	10 34 56.7	
	comp=E,4.3nm,0.7s,baz=208,slow=27,SNR=5.9						
MKAR	**Makanchi Array**	**8.01**	**25**	Pn	**Pn**	**10 32 56.8**	**+0.9**
	comp=E,0.3nm,0.3s,baz=212,slow=12,SNR=5.5						
MKAR				Sn	**Sn**	**10 34 24.7**	**-1.8**
	comp=E,0.1nm,0.3s,baz=196,slow=21,SNR=3.8						
MKAR				Lg	Lg	10 35 07.5	
	comp=E,0.3nm,0.3s,baz=192,slow=20,SNR=4.9						
WMQ	**Urumqi**	**8.76**	**58**	*e*Pn	Pg	10 33 43.5	-3.6
WMQ				smax	smax		
	comp=N,49nm,1.3s						
WMQ				smax	smax		
	comp=E,25nm,0.8s						
KURBB	**Kurchatov Arra**	**11.03**	**4**	⇑Lg	Lg	10 36 40.5	
	comp=E,12nm,1.2s						
KURBB	**Kurchatov Arra**	**11.03**	**4**	Pn	**Pn**	**10 33 35.6**	**-1.7**
	comp=E,0.1nm,0.3s,baz=192,slow=12,SNR=9.4						
KURBB				Lg	Lg	10 36 46.8	
	comp=E,0.4nm,0.3s,baz=193,slow=29,SNR=8.0						
KURK	**Kurchatov**	**11.13**	**4**	⇑Lg	Lg	10 36 40.7	
	comp=E,14nm,1.5s						
BVAR	**Borovoye Array**	**14.25**	**343**	LR	LR	10 40 02.4	
	comp=E,47nm,18.8s,baz=294,slow=39						
ZALV	**Zalesovo Beam**	**15.19**	**17**	Pn	**Pn**	**10 34 35.1**	**+1.1**
	comp=E,0.1nm,0.3s,baz=200,slow=12,SNR=2.6						
ZALV				LR	LR	10 40 37.1	
	comp=E,71nm,20.9s,baz=238,slow=38						
GTA	**Gaotai**	**17.29**	**84**	*e*P	**Pn**	**10 35 00.5**	**-0.5**
GTA				pP	**pP**	**10 35 03.8**	**-1.5**
GTA				sP	**sP**	**10 35 07.0**	**+0.4**
GTA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
AKTO	**Aktyubinsk**	**17.41**	**315**	P	**Pn**	**10 35 01.4**	**-0.9**
	baz=124,slow=15						
SONM	**Songino Array**	**22.40**	**59**	P	**P**	**10 35 59.5**	**+1.4**
	comp=Z,1.1nm,0.6s,baz=252,slow=11,SNR=11						
TORD	**Torodi Ar. Bea**	**70.78**	**271**	P	**P**	**10 42 16.2**	**-0.2**
	comp=Z,2.1nm,0.8s,baz=42,slow=4.9,SNR=9.8						

*NIED **29** 10:57:00, 27°.80N×127°.90E, h5km, Mw3.9 Best double couple: M0 9.27000×10^14 NP1:φ=49.00000°, δ56.00000°, λ-104.00000°. NP2:φ=253.00000°, δ36.00000°, λ-70.00000°.*
*ISCJB **29** 10:57:50.3±1.9, 27°.80N±0°.05×127°.89E±0°.05, h9km±13km, mb3.5/4, Error ellipse: s-maj=9.8km s-min=5.6km az=135.7*
*JMA **29** 10:57:50.4±0.1, 27°.82N×127°.89E, h11km±2km, M3.5*
*IDC **29** 10:58:15.2±4.5, 28°.76N×130°.32E, h295km±84km, mb3.0/4, mb1 2.9/6, mb1mx2.8/27, mbtmp2.8/6, Error ellipse: s-maj=177.3km s-min=18.8km az=64.0*

ISC 29 10:57:51.2±1.9, 27°.76N±0°.07×127°.94E±0°.07, h11km±12km, n12, σ0§52/15, mb3.6/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIH	**Iheya**	**0.73**	**178**	P	**Pg**	**10 58 05.3**	**0.0**
JIH				S	**Sb**	**10 58 15.9**	**+0.1**
JTK	**Tokunoshima**	**0.89**	**88**	P	**Pg**	**10 58 08.2**	**-0.2**
JTK				S	**Sg**	**10 58 20.6**	**+0.5**
JOW	**Kunigami**	**0.97**	**162**	P	**Pg**	**10 58 09.8**	**-0.2**
JOW				S	**Sb**	**10 58 23.4**	**+0.4**
JAMN	**Amaminishikomi**	**1.19**	**66**	P	**Pn**	**10 58 12.9**	**-0.9**
JAMN				*e*S	**Sn**	**10 58 29.7**	**-0.2**
JAGN	**Aguni-jima**	**1.33**	**208**	P	**Pn**	**10 58 15.1**	**-0.6**
JAGN				*e*S	**Sb**	**10 58 32.4**	**-0.7**
JAM	**Amami Oshima**	**1.60**	**66**	P	**Pn**	**10 58 19.4**	**-0.1**
JAM				*e*S	**Sb**	**10 58 40.8**	**-0.3**
JNU	**Nakatsue**	**5.91**	**25**	P	Pb	10 59 26.5	-7.8
	0.7nm,0.3s,baz=178,slow=9.7,SNR=3.1						
KSRS	**Korea Array**	**9.66**	**360**	P	Pn	11 00 18.1	+7.9
	0.1nm,0.3s,baz=168,slow=12,SNR=2.9						
SONM	**Songino Array**	**26.14**	**326**	P	**P**	**11 03 26.2**	**+0.8**
	2.4nm,0.9s,baz=142,slow=11,SNR=10						
MKAR	**Makanchi Array**	**40.33**	**311**	P	P	11 05 32.7	+4.0
	0.2nm,0.6s,baz=116,slow=6.6,SNR=2.8						
ZALV	**Zalesovo Beam**	**40.88**	**322**	P	**P**	**11 05 33.3**	**+0.2**
	0.5nm,0.4s,baz=99,slow=9.5,SNR=2.9						
WRA	**Warramunga Arr**	**47.83**	**172**	P	**P**	**11 06 29.2**	**+0.2**
	0.6nm,0.9s,baz=353,slow=8.3,SNR=3.5						

IDC 29 11:14:28.1±1.9, 11°.26S×164°.52E, h0km, mb3.6/4, mb1 3.9/6, mb1mx3.7/20, mbtmp3.8/6, ML4.1/2, Error ellipse: s-maj=48.9km s-min=29.9km az=147.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.85**	**292**	Pn	Pn	11 15 43.7	+1.2
	26nm,0.3s,baz=154,slow=6.8,SNR=5.7						
HNR				Sn	Sn	11 16 38.9	-0.5
	20nm,0.3s,baz=228,slow=17,SNR=2.2						
CTA	**Charters Tower**	**19.64**	**241**	P	P	11 18 57.6	-1.0
	0.2nm,0.3s,baz=51,slow=14,SNR=2.6						
WRA	**Warramunga Arr**	**30.28**	**250**	P	P	11 20 41.0	-0.3
	0.7nm,0.9s,baz=80,slow=9.2,SNR=4.3						
ASAR	**Alice Springs**	**31.62**	**243**	P	P	11 20 54.2	+1.0
	0.2nm,0.6s,baz=70,slow=11,SNR=4.9						
FITZ	**Fitzroy Crossi**	**38.16**	**255**	P	P	11 21 49.3	-0.4
	1.8nm,0.9s,baz=102,slow=7.6,SNR=3.9						
ILAR	**Eielson Array**	**84.10**	**19**	P	P	11 27 00.5	-0.1
	0.6nm,0.9s,baz=239,slow=4.6,SNR=5.0						

GUC 29 11:14:35.0±0.6, 20°.53S×69°.78W, h35km±3km, ML3.7, 3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**Plate Boundary**	**0.58**	**152**	⇓*i*P	Pn	11 14 46.6	-0.3
PB01				*i* S	Sn	11 14 54.8	-0.5
PB01				AML	AML	11 14 55.2	
	comp=N,5μm,0.1s						
PSGC	**Pisagua**	**0.98**	**341**	⇓*i*P	Pn	11 14 52.8	+0.3
PSGC				*i* S	Sn	11 15 05.9	+0.6
PSGC				AML	AML	11 15 06.8	
	comp=E,4μm,0.3s						
PB07	**Plate Boundary**	**1.20**	**185**	⇓*i*P	Pb	11 14 56.5	-0.9
PB07				*i* S	Sb	11 15 12.2	-0.6
PB07				AML	AML	11 15 14.4	
	comp=E,2μm,0.6s						
MNMC	**Minimini**	**1.40**	**7**	*i* P	Pn	11 14 59.7	+1.2
MNMC				*i* S	Sb	11 15 18.4	-0.5
MNMC				AML	AML	11 15 24.4	
	comp=N,3μm,0.3s						
PB04	**Plate Boundary**	**1.75**	**171**	*e*P	Pb	11 15 06.2	-0.3
PB04				*i* S	Sb	11 15 29.8	+1.7
PB04				AML	AML	11 15 34.0	
	comp=E,1μm,0.6s						
PB10	**Plate Boundary**	**3.05**	**193**	AML	AML	11 16 15.0	
	comp=N,472nm,0.7s						

JMA 29 11:14:58.8±0.4, 27°.79N×127°.92E, h11km, M1.6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIH	**Iheya**	**0.75**	**177**	P	Pg	11 15 13.0	-0.4
JIH				S	Sg	11 15 23.3	+0.1
JTK	**Tokunoshima**	**0.91**	**90**	P	Pg	11 15 16.1	-0.3
JTK				S	Sg	11 15 27.4	-1.0
JOW	**Kunigami**	**1.00**	**162**	P	Pg	11 15 17.4	-0.8
JOW				S	Sg	11 15 31.2	-0.1

*NIED **29** 11:15:00, 27°.80N×127°.90E, h5km, Mw3.8 Best double couple: M0 4.88000×10^14 NP1:φ=244.00000°, δ55.00000°, λ-70.00000°. NP2:φ=32.00000°, δ40.00000°, λ-116.00000°.*

JMA 29 11:15:48.1±0.1, 27°.81N×127°.90E, h16km±2km, M3.5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIH	**Iheya**	**0.77**	**176**	P	Pb	11 16 02.7	-0.5
JIH				S	Sg	11 16 13.1	-0.3
JTK	**Tokunoshima**	**0.93**	**91**	P	Pb	11 16 05.5	-0.4
JTK				S	Sb	11 16 17.5	-0.5
JOW	**Kunigami**	**1.03**	**161**	P	Pb	11 16 07.1	-0.5
JOW				S	Sb	11 16 20.7	-0.2
JAMN	**Amaminishikomi**	**1.21**	**69**	P	Pn	11 16 10.1	-0.2
JAGN	**Aguni-jima**	**1.35**	**206**	P	Pn	11 16 12.1	-0.2
JAM	**Amami Oshima**	**1.62**	**68**	P	Pn	11 16 16.2	+0.2
JJT2	**Tamagusuku 2**	**1.67**	**185**	P	Pg	11 16 19.7	-0.5
JKE	**Kume jima 2**	**1.78**	**214**	P	Pb	11 16 19.3	-1.1

*ISCJB **29** 11:20:06.9±0.9, 8°.16S±0°.07×123°.40E±0°.07, h33km, mb3.4/2, Error ellipse: s-maj=12.0km s-min=7.4km az=38.6*
*IDC **29** 11:20:06.1±1.3, 7°.94S×123°.99E, h0km, mb3.4/2, mb1 3.9/6, mb1mx3.7/21, mbtmp3.8/6, ML4.0/4, MS3.1/2, Ms1 3.1/2, ms1mx2.7/21, Error ellipse: s-maj=66.8km s-min=20.1km az=75.0*
*DJA **29** 11:20:12.1±1.2, 8°.5±8°.×12°.3E±°, h29km±13km, M4.0/4, MLv4.0/4*

ISC 29 11:20:07.8±1.2, 8°.13S±0°.08×123°.39E±0°.08, h35km, n11, σ3§13/13, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**1.25**	**246**	P	**Pn**	**11 20 27.8**	**-0.9**
MMRI				S	**Sn**	**11 20 43.7**	**-0.6**
SOEI	**Soe**	**1.84**	**152**	P	Pn	11 20 42.0	+5.0
SOEI				S	**Sn**	**11 21 03.5**	**+4.4**
BATI	**Baumata**	**2.09**	**173**	P	Pn	11 20 45.3	+4.9
BATI				S	**Sn**	**11 21 06.2**	**+1.1**
BATI	**Baumata**	**2.09**	**173**	Pn	Pn	11 20 46.4	+6.1
	219nm,0.3s,baz=7.8,slow=2.4,SNR=196						
BATI				Sn	Sn	11 21 18.9	+14
	19nm,0.3s,baz=344,slow=23,

CHMT	**Chamberlain Mo**	**2.12 191**	*e*Pn	**Pn**	**11 35 31.2**	**+1.2**
CHMT			*e*Sn	**Sn**	**11 35 58.2**	**+1.6**
EGMT	**Eagleton**	**2.16 116**	P	**Pn**	**11 35 31.4**	**+1.0**
	baz=2.2					
EGMT			Sb	**Sb**	**11 36 02.0**	**+1.5**
	baz=2.2					
MSO	**Missoula**	**2.34 202**	Pb	**Pb**	**11 35 36.3**	**-0.3**
	baz=2.4					
MSO			Sb	**Sb**	**11 36 06.5**	**+1.0**
	baz=2.4					
B19A	**Brinkman Farms**	**2.52 101**	Sn	**Sn**	**11 36 06.8**	**+0.8**
	baz=2.5					
A19A	**Klindworth Far**	**2.58 90**	P	**Pn**	**11 35 37.4**	**+1.2**
	baz=2.6					
A19A			Sn	**Sn**	**11 36 09.1**	**+1.4**
	baz=2.6					
C19A	**Slack Wire Ran**	**2.72 116**	P	**Pn**	**11 35 39.2**	**+1.1**
	baz=2.7					
C19A			Sb	**Sb**	**11 36 18.5**	**+2.0**
	baz=2.7					
NEW	**Newport**	**3.05 258**	Pn	**Pn**	**11 35 42.8**	**+0.2**
NEW			Sn	**Sn**	**11 36 19.6**	**+0.4**
NEW	**Newport**	**3.05 258**	P	**Pn**	**11 35 42.9**	**+0.2**
	baz=3.1					
NEW			Sb	**Sb**	**11 36 28.5**	**+2.5**
	baz=3.1					
B20A	**Solberg Farm,**	**3.12 99**	Sn	**Sn**	**11 36 20.5**	**-0.5**
	baz=3.1					
A20A	**Cobblestone Ra**	**3.12 90**	Sn	**Sn**	**11 36 21.3**	**+0.3**
	baz=3.1					
D19A	**Cripps Ranch,**	**3.13 125**	P	**Pn**	**11 35 44.3**	**+0.6**
	baz=3.1					
D19A			Sn	**Sn**	**11 36 21.1**	**-0.1**
	baz=3.1					
LRM	**Limekiln Ridge**	**3.18 177**	*e*Pn	**Pn**	**11 35 44.5**	**-0.2**
LRM			*e*Sn	**Sn**	**11 36 22.9**	**+0.1**
C20A	**Veseth Ranch,**	**3.36 111**	Sn	**Sn**	**11 36 26.1**	**-0.7**
	baz=3.3					
DLMT	**Dillon**	**3.64 179**	*e*Pn	**Pn**	**11 35 50.8**	**-0.1**
E19A	**Rath Farm, Rou**	**3.65 133**	P	**Pn**	**11 35 51.6**	**+0.7**
	baz=3.6					
C09A	**Chrisman Ranch**	**3.93 254**	⇑Sg	**Sb**	**11 36 54.4**	**+3.2**
SLEB	**Sale Mountain**	**4.14 304**	*e*Pg	**Pg**	**11 36 12.9**	**-0.6**
SLEB			*e*Sg	**Sb**	**11 37 02.2**	**+4.8**
SLEB	**Sale Mountain**	**4.14 304**	⇓Pg	**Pg**	**11 36 12.9**	**-0.6**
SLEB			⇓Sg	**Sb**	**11 37 02.2**	**+4.8**
MCMT	**McKenzie Canyo**	**4.18 182**	*e*Pn	**Pn**	**11 35 58.3**	**0.0**
EDM	**Edmonton**	**4.25 354**	*e*Pn	**Pn**	**11 35 58.4**	**-0.7**
EDM	**Edmonton**	**4.25 354**	⇓Sg	**Sg**	**11 37 05.9**	**-4.8**
B08A	**Colville Reser**	**4.47 264**	⇑Sg	**Sb**	**11 37 11.0**	**+4.3**
YMR	**Madison River**	**4.49 164**	*e*Pn	**Pn**	**11 36 02.6**	**+0.1**
RLMT	**Red Lodge**	**4.52 148**	*e*Pn	**Pn**	**11 36 03.0**	**0.0**
RLMT			Sn	**Sn**	**11 36 55.6**	**0.0**
DOWB	**Downie Slide**	**4.52 306**	*e*Pg	**Pg**	**11 36 19.8**	**-1.1**
DOWB			*e*Sg	**Sg**	**11 37 20.5**	**+1.0**
DOWB	**Downie Slide**	**4.52 306**	⇓Pg	**Pg**	**11 36 19.8**	**-1.1**
DOWB			⇓Sg	**Sg**	**11 37 20.5**	**+1.0**
PNT	**Penticton**	**4.58 277**	⇑Sg	**Sg**	**11 37 16.1**	**-5.1**
MNB	**Mounoet Dainar**	**4.85 313**	⇓Sg	**Sg**	**11 37 27.8**	**-2.2**
BLBC	**Blue River**	**5.19 308**	*e*Pg	Pg	11 36 30.2	-3.4
BLBC			*e*Sg	**Sg**	**11 37 36.9**	**-3.9**
BLBC	**Blue River**	**5.19 308**	⇓Pg	Pg	11 36 30.2	-3.4
BLBC			⇓Sg	**Sg**	**11 37 36.9**	**-3.9**
IMW	**Indian Meadow**	**5.24 166**	*e*Pn	**Pn**	**11 36 14.4**	**+1.4**
	1.6nm,0.4s					
LTY	**Liberty**	**5.64 255**	⇓Sg	Sb	11 37 47.9	+7.5
GPW	**Glacier Peak**	**5.70 264**	⇑Sg	Sb	11 37 49.9	+7.6
RPW	**Rockport**	**5.89 268**	⇓Sg	Sb	11 37 55.7	+8.1
LLLB	**Lillooet**	**6.18 289**	⇓Sg	Sg	11 38 06.2	-6.5
A05A	**Maple Falls**	**6.20 274**	⇑Sg	**Sg**	**11 38 08.9**	**-4.4**

*NEIC **29** 11:35:43.1, 15°.59N×92°.60W, h93km, MD4.0(MEX), After MEX.*

MEX 29 11:35:43.1±0.4, 15°.59N×92°.60W, h93km±7km, MD4.0, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.61**	**281**	*i* P	Pn	11 35 58.0	-1.0
PCIG				*i* S	Sn	11 36 09.2	-1.8
PCIG		**0.61**	**281**	*i* P	Pn	11 35 58.0	-1.0
PCIG				*i* S	Sn	11 36 09.2	-1.8
CCIG	**Comitan**	**0.82**	**33**	*i* P	Pn	11 35 59.9	-1.4
CCIG				*i* S	Sn	11 36 13.5	-1.4
CCIG	**Comitan**	**0.82**	**33**	*i* P	Pn	11 35 59.9	-1.4
CCIG				*i* S	Sn	11 36 13.5	-1.4
TGIG		**1.28**	**337**	*i* P	Pn	11 36 05.3	-1.2
TGIG				*i* S	Sn	11 36 22.4	-1.7
TGIG		**1.28**	**337**	*i* P	Pn	11 36 05.3	-1.2
TGIG				*i* S	Sn	11 36 22.4	-1.7
HUIG	**Huatulco**	**3.39**	**273**	*i* P	Pn	11 36 20.6	-13
HUIG				*i* S	Sn	11 36 36.5	-37
HUIG	**Huatulco**	**3.39**	**273**	*i* P	Pn	11 36 20.6	-13
HUIG				*i* S	Sn	11 36 36.5	-37

*NIED **29** 11:42:00, 27°.80N×127°.90E, h5km, Mw3.9 Best double couple: M0 7.83000×10^14 NP1:φs252.00000°, δ59.00000°, λ-81.00000°. NP2:φs54.00000°, δ32.00000°, λ-105.00000°.*
*JMA **29** 11:42:06.4±0.1, 27°.82N×127°.88E, h15km±2km, M3.6*
*ISCJB **29** 11:42:07.4±0.6, 27°.74N±0°.04×127°.96E±0°.06, h10km, mb3.6/5, MS3.1/2, Error ellipse: s-maj=7.6km s-min=5.7km az=18.7*
*IDC **29** 11:42:07.5±1.3, 27°.52N×127°.83E, h0km, mb3.7/5, mb1 3.8/6, mb1mx3.6/26, mbtmp3.7/6, ML3.4/1, MS3.1/3, Ms1 3.1/3, ms1mx2.7/36, Error ellipse: s-maj=51.9km s-min=19.8km az=74.0*

ISC 29 11:42:07.9±0.9, 27°.66N±0°.06×128°.09E±0°.08, h10km, n14, σ0§92/14, mb3.8/5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIH	**Iheya**	**0.64**	**190**	P	**Pb**	**11 42 21.2**	**+0.1**
JIH				S	**Sn**	**11 42 31.6**	**-1.5**
JTK	**Tokunoshima**	**0.77**	**81**	P	**Pn**	**11 42 24.1**	**-0.7**
JTK				S	**Sn**	**11 42 36.7**	**+0.3**
JOW	**Kunigami**	**0.84**	**169**	P	**Pn**	**11 42 25.7**	**-0.1**
JOW				S	**Sn**	**11 42 39.3**	**+1.1**
JAMN	**Amaminishikomi**	**1.12**	**59**	P	**Pb**	**11 42 28.4**	**-0.9**
JAGN	**Aguni-jima**	**1.31**	**216**	P	**Pn**	**11 42 30.8**	**-1.4**
JAM	**Amami Oshima**	**1.53**	**60**	P	**Pn**	**11 42 34.9**	**-0.3**
JNU	**Nakatsue**	**5.95**	**23**	Pn	Pn	11 43 40.2	+4.1
	0.9nm,0.3s,baz=191,slow=10,SNR=8.7						
KSRS	**Korea Array**	**9.77**	**359**	LR	LR	11 47 48.2	
	comp=Z,63nm,20.9s,baz=331,slow=34						
SONM	**Songino Array**	**26.30**	**326**	P	**P**	**11 47 44.7**	**+1.0**
	1.8nm,0.8s,baz=137,slow=11,SNR=11						
SONM				LR	LR	11 59 54.1	
	comp=Z,24nm,20.1s,baz=248,slow=41						
MKAR	**Makanchi Array**	**40.50**	**311**	P	**P**	**11 49 48.1**	**+1.2**
	0.4nm,0.7s,baz=98,slow=10,SNR=4.7						
ZALV	**Zalesovo Beam**	**41.04**	**322**	P	**P**	**11 49 51.2**	**0.0**
	0.6nm,0.4s,baz=99,slow=7.4,SNR=2.6						
PMG	**Port Moresby**	**41.22**	**151**	LR	LR	12 04 52.7	
	comp=Z,66nm,19.1s,baz=65,slow=33						
FITZ	**Fitzroy Crossi**	**45.56**	**183**	P	**P**	**11 50 27.9**	**-0.1**
	1.3nm,0.9s,baz=348,slow=14,SNR=3.1						
WRA	**Warramunga Arr**	**47.71**	**172**	P	**P**	**11 50 45.1**	**+0.2**
	0.6nm,0.7s,baz=352,slow=8.4,SNR=5.3						

*CSEM **29** 11:44:44.0, 63°.98N×27°.98E, h0km, ML1.4, Mining explosion. After HEL*

HEL 29 11:44:44.0±0.3, 63°.98N×27°.98E, h0km, ML1.4, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUL	**Oulu**	**1.43**	**322**	PG	Pn	11 45 10.9	-0.2
OUL				SG	Sb	11 45 30.2	0.0
OUL				MSG		11 45 30.2	
	comp=Z,0.5nm,0.1s						
OUL				RG	Rg	11 45 33.7	
OUL	**Oulu**	**1.43**	**322**	Pg	Pn	11 45 10.9	-0.2
OUL				Sg	Sb	11 45 30.2	0.0
SUF	**Sumiainen**	**1.51**	**214**	PG	Pn	11 45 11.8	-0.5
SUF				SG	Sg	11 45 30.9	-1.7
SUF				MSG		11 45 30.9	
	comp=Z,1.2nm,0.4s						
SUF				RG	Rg	11 45 36.6	
SUF	**Sumiainen**	**1.51**	**214**	Pg	Pn	11 45 11.8	-0.5
SUF				Sg	Sg	11 45 30.9	-1.7
JOF	**Joensuu**	**1.84**	**124**	PG	Pn	11 45 15.9	-0.8
JOF				SG	Sn	11 45 40.1	-0.6
JOF				MSG		11 45 40.1	
	comp=Z,7.9nm,0.4s						
JOF	**Joensuu**	**1.84**	**124**	Pg	Pn	11 45 15.9	-0.9
JOF				Sg	Sn	11 45 40.1	-0.6
MSF	**Maaselka**	**1.99**	**13**	PN	Pn	11 45 19.6	+0.7
MSF				SG	Sn	11 45 44.1	-0.4
MSF				MSG		11 45 44.1	
	comp=Z,1.5nm,0.4s						
MSF	**Maaselka**	**1.99**	**13**	Pn	Pn	11 45 19.6	+0.7
MSF				Sg	Sn	11 45 44.1	-0.4
KAF	**Kangasniemi**	**2.03**	**203**	PN	Pn	11 45 20.4	+1.1
KAF				SG	Sb	11 45 47.0	-0.4
KAF				MSG		11 45 47.0	
	comp=Z,5.3nm,0.1s						
KAF	**Kangasniemi**	**2.03**	**203**	Pn	Pn	11 45 20.4	+1.1
KAF				Sg	Sb	11 45 47.0	-0.4
KU6	**Riekki**	**2.21**	**21**	PN	Pn	11 45 23.1	+1.3
	baz=199						
KU6				SG	Sn	11 45 50.2	+0.4
KU6				MSG		11 45 50.2	
	comp=Z,1.4nm,0.4s						
KU6	**Riekki**	**2.21**	**21**	Pn	Pn	11 45 23.1	+1.2
KU6				Sg	Sn	11 45 50.2	+0.4
VAF	**Ylistaro**	**2.56**	**251**	SG	Sb	11 46 02.3	-0.4
VAF				MSG		11 46 02.3	
	comp=Z,1.5nm,0.4s						
VAF	**Ylistaro**	**2.56**	**251**	Sg	Sb	11 46 02.3	-0.4
FIA0	**FINESS Array S**	**2.69**	**200**	PN	Pn	11 45 30.7	+2.2
	baz=22						
FIA0				SG	Sb	11 46 05.6	-1.0
FIA0				MSG		11 46 05.6	
	comp=Z,2.2nm,0.4s						
FIA0	**FINESS Array S**	**2.69**	**200**	Pn	Pn	11 45 30.7	+2.2
FIA0				Sg	Sb	11 46 05.6	-1.0

HEL 29 11:45:17.8±0.3, 68°.16N×33°.33E, h0km, ML1.7, Explosion, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRF	**Varrio**	**1.46**	**255**	PN	Pn	11 45 44.1	-1.4
VRF	**Varrio**	**1.46**	**255**	PG	Pn	11 45 44.1	-1.4
	baz=65						
VRF				SG	Sg	11 46 03.2	-1.6
VRF				MSG		11 46 03.2	
	comp=Z,5.9nm,0.2s						
VRF	**Varrio**	**1.46**	**255**	Pn	Pn	11 45 44.0	-1.4
KEV	**Kevo**	**2.79**	**308**	PN	Pn	11 46 05.4	+1.8
KEV				SG	Sb	11 46 42.6	-0.4
KEV				MSG		11 46 42.6	
	comp=Z,3.4nm,0.2s						
ARA0	**ARCESS Array S**	**3.15**	**300**	PN	Pn	11 46 09.3	+0.6
ARA0				SG	Sb	11 46 52.4	-1.3
ARA0				MSG	Sg	11 46 52.4	-6.7
	comp=Z,1.7nm,0.2s						
ARA0				SG	Sg	11 46 52.4	-6.7
ARA0				MSG		11 46 52.4	
	comp=Z,1.7nm,0.2s						
RNF	**Rovaniemi**	**3.23**	**245**	SG	Pn	11 46 09.3	-0.3
RNF				MSG		11 46 09.3	
	comp=Z,0.8nm,0.1s						
RNF	**Rovaniemi**	**3.23**	**245**	PN	Pn	11 46 09.3	-0.3
	baz=65						
RNF	**Rovaniemi**	**3.23**	**245**	Sg	Pn	11 46 09.3	-0.3
HEF	**Hetta**	**3.60**	**278**	PN	Pn	11 46 15.0	+0.1
	baz=94						
HEF				SG	Sb	11 47 06.7	+0.2
HEF				MSG		11 47 06.7	
	comp=Z,0.8nm,0.4s						

*NIED **29** 12:03:00, 43°.60N×144°.70E, h8km, Mw4.3 Best double couple: M0 3.74000×10^15 NP1:φs347.00000°, δ86.00000°, λ-9.00000°. NP2:φs77.00000°, δ81.00000°, λ-176.00000°.*
*BJI **29** 12:03:16.1, 43°.61N×144°.96E, h5km, mB4.9/15, mb4.5/22, Ms4.1/13, Ms7 3.8/12*
*IDC **29** 12:03:17.4±0.7, 43°.55N×144°.74E, h0km, mb4.1/14, mb1 4.3/17, mb1mx4.2/27, mbtmp4.1/17, ML3.6/2, MS3.6/8, Ms1 3.6/8, ms1mx3.4/21, Error ellipse: s-maj=18.5km s-min=14.3km az=170.0*
*ISCJB **29** 12:03:18.1±0.5, 43°.58N±0°.03×144°.69E±0°.03, h11km±3km, mb4.3/40, MS3.9/10, Error ellipse: s-maj=5.9km s-min=3.7km az=159.7*
*NEIC **29** 12:03:19.3±0.3, 43°.50N×144°.74E, h10km, mb4.5/14, MW4.3(NIED), Error ellipse: s-maj=10.0km s-min=5.4km az=145.0*
NEIC Recorded [4 JMA] in eastern Hokkaido.
*JMA **29** 12:03:19.3, 43°.63N×144°.66E, h5km±1km, M4.5*
JMA Felt IV J1.
*SKHL **29** 12:03:19.1±0.3, 43°.61N×144°.60E, h25km±5km, mb5.4/2, Ms4.2/1*
*MOS **29** 12:03:20.3±1.3, 43°.56N×144°.69E, h33km, mb4.4/19, Error ellipse: s-maj=9.7km s-min=7.4km az=76.2*
MOS Felt (II) at Yuzhno-Kuril'sk.

ISC 29 12:03:20.3±0.5, 43°.59N±0°.03×144°.71E±0°.02, h14km±2km, n121, σ1§60/161, mb4.4/40, MS3.9/10, 7C-6D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNK	**Nakash**	**0.01**	**148**	⇓P	**Pg**	**12 03 20.5**	**-2.2**
JNK				*e*S	**Sg**	**12 03 21.7**	**-2.6**
JRA	**Rausu**	**0.45**	**41**	⇑P	**Pg**	**12 03 27.9**	**-1.4**
JRA				*e*S	**Sg**	**12 03 34.1**	**-1.3**
JAK	**Akkeshi**	**0.60**	**181**	⇑P	**Pg**	**12 03 30.7**	**-1.3**
JTKR	**Abashiri--Toko**	**0.69**	**303**	⇓P	**Pg**	**12 03 31.2**	**-2.6**
JTKR				S	**Sg**	**12 03 40.2**	**-2.7**
JAR	**Ashorobuto**	**0.75**	**247**	⇑P	**Pg**	**12 03 32.8**	**-2.0**
JOB	**Onbets**	**0.94**	**223**	⇑P	**Pb**	**12 03 36.3**	**-2.1**
YUK	**Yuzh-Kuril'sk**	**0.94**	**62**	*i* PN	**Pb**	**12 03 36.6**	**-1.8**
YUK				*i* S	**Sb**	**12 03 49.8**	**-0.9**
YUK				pmax	pmax		
	comp=N,433nm,0.2s						
YUK				pmax	pmax		
	comp=Z,3μm,0.5s						
YUK				pmax	pmax		
	comp=E,762nm,0.4s						
YUK				smax	smax		
	comp=E,2μm,0.4s						
YUK				smax	smax		
	comp=N,6μm,0.8s						
YUK				smax	smax		
	comp=N,11μm,2.2s						
YUK				smax	smax		
	comp=E,7μm,1.8s						
YUK	**Yuzh-Kuril'sk**	**0.94**	**62**	*i* P	**Pb**	**12 03 36.6**	**-1.8**
YUK				AMB	AMB	12 03 38.8	
	comp=E,433nm,0.2s						
YUK				AMB	AMB	12 03 38.8	
	comp=E,762nm,0.2s						
YUK				AMB	AMB	12 03 38.8	
	comp=E,3μm,0.2s						
YUK				*i* S	**Sb**	**12 03 49.8**	**-0.9**
YUK				A	A	12 03 53.8	
	comp=E,6μm,0.4s						
YUK				A	A	12 03 53.8	
	comp=E,224nm,0.4s						
YUK				A	A	12 03 57.3	
	comp=E,11μm,0.2s						
YUK				A	A	12 03 57.3	
	comp=E,7μm,0.2s						
JMP	**Maruseppu**	**1.06**	**293**	⇓P	**Pb**	**12 03 38.0**	**-2.5**
JMP				S	**Sb**	**12 03 52.0**	**-2.2**
ASAJ	**Asahikawa**	**1.62**	**290**	*e*Pn	**Pn**	**12 03 47.1**	**-1.2**
ASAJ				*e*Sn	**Sb**	**12 04 09.8**	**-0.3**
ASAJ	**Asahikawa**	**1.62**	**290**	Pn	**Pn**	**12 03 46.7**	**-1.7**
	comp=E,391nm,0.3s,baz=104,slow=16,SNR=1647						
ASAJ				Sn	**Sn**	**12 04 09.4**	**+0.4**
	comp=E,282nm,0.3s,baz=338,slow=25,SNR=5.5						
ASAJ				LR	LR	12 04 33.4	
	comp=E,1μm,18.7s,baz=121,slow=46						
ERM	**Erimo**	**1.95**	**216**	*de*PN	**Pn**	**12 03 51.5**	**-1.4**
ERM				pmax	pmax		
	comp=Z,598nm,1.0s						
ERM	**Erimo**	**1.95**	**216**	*e*P	**Pn**	**12 03 51.5**	**-1.4**
ERM	**Erimo**	**1.95**	**216**	*e*Pn	**Pn**	**12 03 51.8**	**-1.1**
ERM				*e*Sn	**Sb**	**12 04 20.9**	**+1.3**
KUR	**Kuril'sk**	**2.79**	**53**	⇑*i*PN	**Pn**	**12 04 03.7**	**-0.8**
KUR				*e*S	**Sb**	**12 04 45.6**	**+1.7**
KUR				pmax	pmax		
	comp=Z,369nm,0.8s						
KUR				pmax	pmax		
	comp=N,41nm,0.8s						
KUR				pmax	pmax		
	comp=E,70nm,0.8s						
KUR				smax	smax		
	comp=E,432nm,0.8s						
KUR				smax	smax		
	comp=N,462nm,0.8s						
KUR	**Kuril'sk**	**2.79**	**53**	*i* P	**Pn**	**12 04 03.7**	**-0.8**
KUR				AMB	AMB	12 04 08.6	
	comp=N,41nm,0.8s						
KUR				AMB	AMB	12 04 08.6	
	comp=N,71nm,0.8s						
KUR				AMB	AMB	12 04 08.6	
	comp=N,369nm,0.8s						
KUR				*e*S	**Sb**	**12 04 45.6**	**+1.7**
KUR				A	A	12 04 47.6	
	comp=N,462nm,0.8s						
KUR				A	A	12 04 47.6	
	comp=N,432nm,0.8s						
YSS	**Yuzh-Sakhalins**	**3.63**	**338**	*e*PN	**Pn**	**12 04 14.5**	**-1.6**
YSS	**Yuzh-Sakhalins**	**3.63**	**338**	*e*P	**Pn**	**12 04 14.0**	**-2.1**
YSS				*e*S	**Sn**	**12 04 55.0**	**-3.7**
YSS				A	A	12 04 59.0	
	comp=N,340nm,1.0s						
YSS				A	A	12 04 59.0	
	comp=N,190nm,1.0s						
YSS				AMS	AMS	12 05 56.0	
	comp=N,2μm,13.0s						
YSS				AMS	AMS	12 05 56.0	
	comp=N,3μm,13.0s						
YSS				AMS	AMS	12 05 56.0	
	comp=N,1μm,13.0s						
HABR	**Khabarovsk**	**8.30**	**309**	*e*PN	**Pn**	**12 05 19.3**	**-0.9**
HABR				pmax	pmax		
	comp=Z,9.0nm,1.2s						
HABR				MLR	MLR		
	comp=Z,275nm,19.0s						
MAJO	**Matsushiro**	**8.63**	**217**	*e*PN	**Pn**	**12 05 23.8**	**-0.9**
MAJO	**Matsushiro**	**8.63**	**217**	*e*P	**Pn**	**12 05 24.5**	**-0.2**
MAJO	**Matsushiro**	**8.63**	**217**	*e*Pn	**Pn**	**12 05 23.8**	**-0.9**
MAJO				*e*Sn	**Sn**	**12 06 59.5**	**-2.3**
MAT	**Matsushiro**	**8.63**	**217**	P	**Pn**	**12 05 22.7**	**-2.0**
MAT				*e*S	**Sn**	**12 07 00.2**	**-1.6**
USRK	**Ussuriysk Arra**	**9.21**	**278**	Pn	**Pn**	**12 05 31.6**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=95,slow=16,SNR=4.3						
USRK				LR	LR	12 09 05.0	
	comp=Z,191nm,20.3s,baz=228,slow=38						
SKR	**Severo-Kuril's**	**10.51**	**44**	*e*PN	Pn	12 05 45.5	-4.9
SKR				pmax	pmax		
	comp=Z,180nm,1.0s						
SKR				MLR	MLR		
	comp=Z,2μm,16.0s						
KLR	**Kul'dur**	**10.57**	**307**	*e*PN	**Pn**	**12 05 52.1**	**+0.8**
KLR				MLR	MLR		
	comp=Z,600nm,12.5s						
MDJ	**Mudanjiang**	**10.92**	**281**	P	**Pn**	**12 05 56.8**	**+0.7**
MDJ				S	**Sn**	**12 07 59.5**	**+1.4**
MDJ				PcP	**PcP**	**12 11 53.8**	**-1.2**
MDJ				PcS	**PcS**	**12 15 27.3**	**-1.3**
MDJ				ScS	**ScS**	**12 19 02.5**	**+0.5**
MDJ				pmax	pmax		
	comp=Z,9.0nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,84nm,4.0s						
MDJ				LR	LR		
	comp=N,730nm,15.0s						
MDJ				LR	LR		
	comp=E,220nm,16.1s						
PEA0B	**Petropavlovsk-**	**12.83**	**38**	*e*Pn	**Pn**	**12 06 23.0**	**+0.9**
PETK	**Petropavlovsk-**	**12.83**	**38**	PN	**Pn**	**12 06 22.8**	**+0.7**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK	**Petropavlovsk-**	**12.83**	**38**	Pn	**Pn**	**12 06 22.8**	**+0.7**
PETK	**Petropavlovsk-**	**12.83**	**38**	Pn	**Pn**	**12 06 22.8**	**+0.7**
	comp=Z,0.6nm,0.3s,baz=197,slow=13,SNR=19						
PETK				LR	LR	12 10 58.0	
	comp=Z,215nm,20.3s,baz=88,slow=36						
PET	**Petropavlovsk**	**13.21**	**40**	*e*PN	**Pn**	**12 06 27.2**	**-0.1**
PET	**Petropavlovsk**	**13.21**	**40**	*e*P	**Pn**	**12 06 27.2**	**-0.1**
CN2	**Changchun**	**13.94**	**278**	*e*P	**Pn**	**12 06 40.0**	**+2.7**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
KSRS	**Korea Array**	**14.16**	**250**	Pn	**Pn**	**12 06 38.5**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=65,slow=12,SNR=7.3						
KSRS				LR	LR	12 11 38.1	
	comp=Z,218nm,18.9s,baz=242,slow=35						
KSAR	**Wonju Array Be**	**14.19**	**250**	Pn	**Pn**	**12 06 38.5**	**-2.2**
SEY	**Seymchan**	**19.88**	**10**	⇑*e*P	**P**	**12 07 50.0**	**-0.9**
SEY	**Seymchan**	**19.88**	**10**	*e*P	**P**	**12 07 50.0**	**-0.9**
BJI	**Beijing**	**21.52**	**270**	P	**P**	**12 08 08.5**	**-0.2**
BJI				S	**S**	**12 12 09.0**	**+2.2**
BJI				pmax	pmax		
	comp=Z,6.0nm,0.7s						
HHC	**Hu-ho-hao-te**	**24.61**	**275**	*e*P	**P**	**12 08 38.3**	**-1.9**
HHC				PP	**PnPn**	**12 09 14.0**	**+2.6**
HHC				PcP	**PcP**	**12 12 17.0**	**-0.6**
HHC				S	**S**	**12 12 55.5**	**-5.4**
HHC				SS	**SnSn**	**12 13 51.5**	**+5.4**
HHC				ScP	**ScP**	**12 15 53.5**	**-2.3**
HHC				PcS	**PcS**	**12 15 55.5**	**-2.1**
HHC				ScS	**ScS**	**12 19 40.8**	**-2.9**
HHC				pmax	pmax		
	comp=Z,40nm,0.6s						
HHC				pmax	pmax		
	comp=Z,860nm,5.0s						
HHC				LR	LR		
	comp=N,660nm,12.3s						
HHC				LR	LR		
	comp=E,550nm,12.8s						
HHC				LR	LR		
	comp=Z,290nm,11.8s						
ULN	**Ulaanbaatar**	**26.45**	**293**	*e*P	**P**	**12 08 58.2**	**+1.4**
ULN	**Ulaanbaatar**	**26.45**	**293**	*e*P	**P**	**12 08 58.8**	**+2.0**
	comp=Z,6.2nm,1.1s						
SONM	**Songino Array**	**26.90**	**293**	P	**P**	**12 09 00.0**	**-0.8**
SONM	**Songino Array**	**26.90**	**293**	P	**P**	**12 09 00.0**	**-0.8**
	comp=Z,4.0nm,0.7s,baz=82,slow=8.4,SNR=13						
ZAK	**Zakamensk**	**28.77**	**298**	*e*P	**P**	**12 09 15.7**	**-1.8**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.2s						
LZH	**Lanzhou**	**32.01**	**271**	*e*P	**P**	**12 09 47.5**	**+1.2**
LZH				pP	**pP**	**12 09 51.0**	**+0.5**
LZH				sP	**sP**	**12 09 53.8**	**+1.5**
LZH				PP	**PnPn**	**12 10 55.0**	**+3.6**
LZH				*e*S	**S**	**12 14 56.5**	**-1.1**
LZH				sS	**sS**	**12 15 04.5**	**-0.1**
LZH				SS	**SnSn**	**12 16 50.5**	**+3.8**
LZH				pmax	pmax		
	comp=Z,18nm,1.0s						
LZH				pmax	pmax		
	comp=Z,160nm,5.4s						
LZH				LR	LR		
	comp=N,310nm,12.0s						
LZH				LR	LR		
	comp=E,270

	comp=Z,9.0nm,1.4s				
ZALV	**Zalesovo Beam**	**39.68 307**	P	**P**	**12 10 51.7 +0.1**
ZALV					12 12 57.7
ZALV			pmax	pmax	
	comp=Z,1.0nm,0.4s				
ZALV			pmax	pmax	
	comp=Z,2.0nm,0.6s				
ZALV	**Zalesovo Beam**	**39.68 307**	P	**P**	**12 10 51.7 +0.1**
ZALV			PcP	**PcP**	**12 12 57.7 -0.3**
ZALV	**Zalesovo Beam**	**39.68 307**	P	**P**	**12 10 51.7 +0.1**
	comp=Z,1.0nm,0.3s,baz=51,slow=7.6,SNR=2.9				
ZALV			PcP	**PcP**	**12 12 57.7 -0.3**
	comp=Z,1.6nm,0.6s,baz=106,slow=2.8,SNR=5.6				
PPLA	**Purkeypile**	**40.42 39**	*e*P	**P**	**12 10 58.7 +0.9**
	comp=Z,22nm,1.3s				
WMQ	**Urumqi**	**40.50 291**	P	**P**	**12 10 59.8 +1.1**
WMQ			pP	**pP**	**12 11 04.8 +1.8**
WMQ			sP	**sP**	**12 11 06.8 +2.1**
WMQ			pmax	pmax	
	comp=Z,12nm,0.9s				
WMQ			pmax	pmax	
	comp=Z,120nm,5.1s				
WMQ			LR	LR	
	comp=E,94nm,18.2s				
WMQ			LR	LR	
	comp=Z,98nm,15.0s				
SPU	**Mount Spurr**	**40.57 42**	*e*P	**P**	**12 10 59.2 +0.2**
KDAK	**Kodiak Island**	**40.65 47**	P	**P**	**12 10 59.3 -0.3**
KDAK	**Kodiak Island**	**40.65 47**	P	**P**	**12 10 59.3 -0.3**
	comp=Z,6.1nm,0.9s,baz=316,slow=7.3,SNR=4.2				
COLD	**Coldfoot**	**41.23 32**	*e*P	**P**	**12 11 05.2 +0.9**
MCK	**McKinley**	**41.84 38**	*e*P	**P**	**12 11 08.8 -0.5**
MCK			pmax	pmax	
	comp=Z,21nm,1.6s				
MCK	**McKinley**	**41.84 38**	*e*P	**P**	**12 11 08.8 -0.5**
	comp=Z,21nm,1.6s				
COLA	**College**	**42.24 36**	*e*P	**P**	**12 11 12.2 -0.3**
COLA			pmax	pmax	
	comp=Z,9.0nm,0.8s				
COLA	**College**	**42.24 36**	*e*P	**P**	**12 11 12.2 -0.3**
COLA	**College**	**42.24 36**	*e*P	**P**	**12 11 12.2 -0.3**
	comp=Z,8.5nm,0.8s				
ILAR	**Eielson Array**	**42.66 36**	P	**P**	**12 11 14.7 -1.2**
ILAR	**Eielson Array**	**42.66 36**	P	**P**	**12 11 14.7 -1.2**
	comp=Z,5.2nm,0.9s,baz=250,slow=5.3,SNR=34				
ILAR			LR	LR	12 30 16.0
	comp=Z,44nm,19.2s,baz=348,slow=38				
MK31	**Makanchi Array**	**43.08 297**	*e*P	**P**	**12 11 20.1 +0.4**
MK31	**Makanchi Array**	**43.08 297**	*e*P	**P**	**12 11 20.1 +0.4**
MKAR	**Makanchi Array**	**43.08 297**	P	**P**	**12 11 19.9 +0.2**
MKAR					12 13 10.1
MKAR			pmax	pmax	
	comp=Z,1.0nm,0.6s				
MKAR			pmax	pmax	
	comp=Z,1.0nm,0.7s				
MKAR			MLR	MLR	
	comp=Z,88nm,21.8s				
MKAR	**Makanchi Array**	**43.08 297**	*e*P	**P**	**12 11 20.2 +0.5**
MKAR			PcP	**PcP**	**12 13 10.1 +0.7**
MKAR	**Makanchi Array**	**43.08 297**	P	**P**	**12 11 19.9 +0.2**
	comp=Z,1.1nm,0.6s,baz=84,slow=7.5,SNR=12				
MKAR			PcP	**PcP**	**12 13 10.1 +0.7**
	comp=Z,0.7nm,0.7s,baz=61,slow=3.6,SNR=3.5				
MKAR			LR	LR	12 30 15.1
	comp=Z,88nm,21.8s,baz=112,slow=38				
PAX	**Paxson**	**43.47 39**	*e*P	**P**	**12 11 23.4 +0.7**
PAX			pmax	pmax	
	comp=Z,3.0nm,0.9s				
PAX	**Paxson**	**43.47 39**	*e*P	**P**	**12 11 23.4 +0.7**
	comp=Z,3.1nm,0.9s				
KURK	**Kurchatov**	**44.14 303**	*de*P	**P**	**12 11 27.7 -0.4**
KURK			pmax	pmax	
	comp=Z,6.0nm,1.7s				
KURK	**Kurchatov**	**44.14 303**	*e*P	**P**	**12 11 27.7 -0.4**
KURK	**Kurchatov**	**44.14 303**	*e*P	**P**	**12 11 29.2 +1.0**
	comp=Z,2.1nm,0.8s				
MENT	**Mentasta**	**44.27 38**	*e*P	**P**	**12 11 29.0 -0.1**
EGAK	**Eagle**	**45.09 36**	*e*P	**P**	**12 11 34.5 -1.1**
	comp=Z,9.3nm,1.0s				
CMAR	**Chiang Mai Arr**	**45.79 252**	P	**P**	**12 11 41.3 -0.3**
CMAR	**Chiang Mai Arr**	**45.79 252**	P	**P**	**12 11 41.3 -0.3**
	comp=Z,0.9nm,0.8s,baz=35,slow=8.0,SNR=5.0				
HYT	**Haines Junctio**	**47.60 40**	*e*P	**P**	**12 11 56.3 +0.9**
TKM2	**Tokmak 2**	**48.97 295**	*e*P	**P**	**12 12 09.0 +2.6**
TKM2			pmax	pmax	
	comp=Z,6.0nm,0.9s				
TKM2	**Tokmak 2**	**48.97 295**	*e*P	**P**	**12 12 09.0 +2.6**
	comp=Z,5.7nm,0.9s				
AAK	**Ala-Archa**	**49.82 295**⇑	*e*P	**P**	**12 12 15.1 +2.3**
AAK			pmax	pmax	
	comp=Z,11nm,1.7s				
AAK	**Ala-Archa**	**49.82 295**	*e*P	**P**	**12 12 15.1 +2.3**
KSH	**Kashi**	**50.26 290**	*e*P	P	12 12 20.3 +4.1
KSH			pP	pP	12 12 24.8 +4.2
KSH			PP	PP	12 14 17.0 +5.7
KSH			ScP	**ScP**	**12 17 32.3 +2.0**
KSH			S	**S**	**12 19 33.0 +4.8**
KSH			ScS	**ScS**	**12 22 07.8 +0.8**
KSH			pmax	pmax	
	comp=Z,94nm,4.9s				
KSH			LR	LR	
	comp=Z,170nm,5.6s				
ARU	**Arti**	**53.24 316**	*d*P	**P**	**12 12 39.1 +1.1**
ARU					12 14 38.4
ARU			S	**S**	**12 20 11.8 +3.4**
ARU			SS	**SS**	**12 23 46.7 -0.8**
ARU			pmax	pmax	
	comp=Z,4.0nm,1.2s				
ARU	**Arti**	**53.24 316**	*e*P	**P**	**12 12 39.1 +1.1**
ABKAR	**Akbulak array**	**55.77 308**	*e*P	**P**	**12 12 57.5 +1.0**
	comp=Z,2.3nm,0.6s				
WRAB	**Tennant Creek**	**63.92 191**	*e*P	**P**	**12 13 52.1 -0.6**
WRAB			pmax	pmax	
	comp=Z,2.0nm,0.8s				
WRAB	**Tennant Creek**	**63.92 191**	*e*P	**P**	**12 13 52.1 -0.6**
	comp=Z,1.6nm,0.8s				
WRA	**Warramunga Arr**	**63.94 191**	P	**P**	**12 13 51.2 -1.6**
WRA	**Warramunga Arr**	**63.94 191**	P	**P**	**12 13 51.2 -1.6**
	comp=Z,1.1nm,0.8s,baz=7.2,slow=6.7,SNR=8.8				
FINES	**FINESS Array B**	**64.20 332**	P	**P**	**12 13 53.3 -0.7**
FINES	**FINESS Array B**	**64.20 332**	P	**P**	**12 13 53.3 -0.7**
	comp=Z,2.1nm,0.7s,baz=46,slow=6.6,SNR=6.1				
FINES			LR	LR	12 45 50.5
	comp=Z,74nm,18.4s,baz=60,slow=40				
ASAR	**Alice Springs**	**67.66 191**	P	**P**	**12 14 16.3 -0.5**
ASAR	**Alice Springs**	**67.66 191**	P	**P**	**12 14 16.3 -0.5**
	comp=Z,0.7nm,0.8s,baz=9.9,slow=5.5,SNR=7.8				
LRM	**Limekiln Ridge**	**67.77 47**	*e*P	**P**	**12 14 18.6 +0.9**
	comp=Z,14nm,0.8s				
KIV	**Kislovodsk**	**68.53 311**	*e*P	**P**	**12 14 23.8 +1.5**
KIV			pmax	pmax	
	comp=Z,16nm,1.1s				
KIV			MLR	MLR	
	comp=Z,76nm,18.0s				
KBZ	**Khabaz**	**68.56 310**	P	**P**	**12 14 24.0 +1.7**
KBZ			pmax	pmax	
	comp=Z,3.0nm,0.8s				
KBZ	**Khabaz**	**68.56 310**	P	**P**	**12 14 24.0 +1.7**
KBZ	**Khabaz**	**68.56 310**	P	**P**	**12 14 24.0 +1.7**
	comp=Z,3.1nm,0.8s,baz=17,slow=8.5,SNR=4.7				
NB2	**NORSAR Subarra**	**69.09 338**	P	**P**	**12 14 27.5 +2.1**
	comp=Z,3.9nm,0.9s,baz=34,slow=6.2				
NOA	**NORSAR Array B**	**69.09 338**	P	**P**	**12 14 24.3 -1.2**
NOA	**NORSAR Array B**	**69.09 338**	P	**P**	**12 14 24.3 -1.2**
	comp=Z,1.5nm,0.8s,baz=36,slow=6.1,SNR=2.4				
RRI2	**Red Ridge**	**70.00 49**	*e*P	**P**	**12 14 32.1 +0.5**
	comp=Z,19nm,1.8s				
MOOW	**Moose Ponds**	**70.05 48**	*e*P	**P**	**12 14 32.1 +0.2**
	comp=Z,4.1nm,1.2s				
TPAW	**Teton Pass**	**70.11 49**	*e*P	P	12 14 38.0 +5.8
	comp=Z,7.2nm,1.3s				
AKASG	**Malin Array Be**	**70.64 323**	P	**P**	**12 14 34.8 -0.2**
AKASG	**Malin Array Be**	**70.64 323**	P	**P**	**12 14 34.8 -0.2**
AKASG	**Malin Array Be**	**70.64 323**	P	**P**	**12 14 34.8 -0.2**
	comp=Z,0.4nm,0.3s,baz=38,slow=5.7,SNR=4.4				
PDAR	**Pinedale Array**	**71.35 48**	P	**P**	**12 14 39.1 -0.7**
PDAR	**Pinedale Array**	**71.35 48**	P	**P**	**12 14 39.1 -0.7**
	comp=Z,1.5nm,0.6s,baz=315,slow=2.0,SNR=11				
SCHQ	**Schefferville**	**78.33 18**	LR	LR	12 53 56.8
	comp=Z,54nm,21.8s,baz=328,slow=39				
TXAR	**Lajitas Array**	**84.20 55**	P	**P**	**12 15 51.1 -0.3**
TXAR	**Lajitas Array**	**84.20 55**	P	**P**	**12 15 51.1 -0.3**
	comp=Z,1.4nm,0.8s,baz=294,slow=3.5,SNR=14				
KEST	**Kesra**	**91.21 325**	LR	LR	12 58 11.1
	comp=Z,26nm,18.4s,baz=264,slow=36				
TORD	**Torodi Ar. Bea**	**114.21 320**	PKP	PKPdf	12 21 58.2 -1.5
TORD	**Torodi Ar. Bea**	**114.21 320**	PKP	PKPdf	12 21 58.2 -1.5
	comp=Z,0.2nm,0.6s,baz=17,slow=2.4,SNR=3.3				
SNAA	**Sanae**	**147.76 199**	*e*PKP	**PKPab**	**12 23 04.8 -1.0**
VNA2	**Neumayer--Watz**	**149.32 198**	*e*PKP	**PKPbc**	**12 23 06.9 -0.4**

JMA 29 12:03:44.3, 43°.63N×144°.68E, h3km±1km, M3.9, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JNK	**Nakash**	**0.05**	**148**	P		Pg	12 03 45.4	-0.1
JNK				*e*S		Sg	12 03 46.6	+0.4
JRA	**Rausu**	**0.44**	**46**	P		Pg	12 03 53.0	+0.2
JRA				*e*S		Sg	12 03 59.2	+0.6

JMA 29 12:03:58.4, 43°.62N×144°.66E, h4km±1km, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JNK	**Nakash**	**0.06**	**129**	P		Pg	12 03 59.6	-0.1
JNK				*e*S		Sg	12 04 00.8	+0.2
JRA	**Rausu**	**0.46**	**46**	*e*S		Sg	12 04 13.5	+0.2

DHMR 29 12:17:21.3±3.0, 13°.29N×43°.73E, h25km±22km, ML2.9, 1C, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**0.38**	**99**⇑	*i*P		Pb	12 17 29.7	-0.2
TRBA				*i* S		Sb	12 17 35.1	-0.6
TRBA	**At Turbah**	**0.38**	**99**	*i* P		Pb	12 17 29.7	-0.2
TRBA				*i* S		Sb	12 17 32.7	-2.9
TRBA				*i* S		Sn	12 17 35.0	-3.2
UDYN	**Al 'Udayn**	**0.71**	**19**	*i* P		Pn	12 17 35.7	-0.3
UDYN				*e*			12 17 35.7	
	baz=225,slow=12							
UDYN				*i* S		Sn	12 17 45.6	-0.6
UDYN				AML		AML	12 17 48.1	
	comp=E,428nm,0.2s							
UDYN	**Al 'Udayn**	**0.71**	**19**	*i* P		Pn	12 17 35.7	-0.3
UDYN				*i* S		Sn	12 17 45.6	-0.6
UDYN				AML		AML	12 17 48.1	
	comp=E,428nm,0.2s							
BDHA	**Al Bayda'**	**1.91**	**69**	*i* P		Pn	12 17 54.0	+1.4
BDHA				*i* S		Sb	12 18 19.1	-0.3
BDHA				AML		AML	12 18 23.2	
	comp=N,82nm,0.3s							
BDHA	**Al Bayda'**	**1.91**	**69**	*i* P		Pb	12 17 56.2	+0.5
BDHA				*i* S		Sb	12 18 19.3	-0.2

*ISCJB **29** 12:27:15.8±0.6, 41°.62N±0°.04×141°.40E±0°.05, h101km±4km, mb3.4/3, Error ellipse: s-maj=7.3km s-min=5.7km az=38.8*
*JMA **29** 12:27:16.5±0.1, 41°.63N×141°.41E, h96km±1km, M2.8*
*IDC **29** 12:27:24.1±5.5, 42°.44N×141°.19E, h121km±27km, mb3.1/3, mb1 3.2/4, mb1mx3.0/24, mbtmp3.0/4, Error ellipse: s-maj=80.2km s-min=20.5km az=161.0*
ISC 29 12:27:16.6±1.0, 41°.63N±0°.04×141°.43E±0°.04, h98km±7km, n17, σ1°.28/30, mb3.4/3, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JOT	**Ohata**	**0.38**	**229**	P		**Pn**	**12 27 31.0**	**-0.4**
JOT				*e*S		**Sn**	**12 27 42.7**	**+0.3**
JKB	**Kayabe**	**0.39**	**311**	P		**Pn**	**12 27 31.1**	**-0.3**
JKB				*e*S		**Sn**	**12 27 42.9**	**+0.4**
JSR	**Shiriuchi**	**0.76**	**263**	P		**Pn**	**12 27 34.3**	**-0.1**
JSR				*e*S		**Sn**	**12 27 47.2**	**-0.5**
JNB	**Noboribetsu**	**0.88**	**341**	P		**Pn**	**12 27 35.2**	**-0.4**
JNB				*e*S		**Sn**	**12 27 49.7**	**-0.2**
JTM	**Tenmabayashi**	**0.89**	**198**	P		**Pn**	**12 27 35.5**	**-0.2**
JTM				*e*S		**Sn**	**12 27 49.9**	**-0.1**
JYM2	**Yakumo 2**	**0.92**	**302**	P		**Pn**	**12 27 36.1**	**+0.1**
JYM2				*e*S		**Sn**	**12 27 50.8**	**+0.2**
JNBK	**Urakawa-nobuka**	**1.18**	**56**	P		**Pn**	**12 27 38.9**	**0.0**
JNBK				*e*S		**Sn**	**12 27 56.9**	**+1.1**
JEW	**Eniwo**	**1.21**	**1**	P		**Pn**	**12 27 39.5**	**+0.3**
JEW				*e*S		**Sn**	**12 27 56.3**	**0.0**
JANG	**Nango**	**1.26**	**177**	P		**Pn**	**12 27 39.2**	**-0.7**
JANG				*e*S		**Sn**	**12 27 56.1**	**-1.3**
JBT2	**Biratori 2**	**1.34**	**31**	P		**Pn**	**12 27 41.1**	**+0.3**
JBT2				*e*S		**Sn**	**12 27 59.0**	**-0.1**
JOSM	**Okushiri--Mats**	**1.52**	**288**	P		**Pn**	**12 27 42.4**	**-0.6**
JOSM				*e*S		**Sn**	**12 28 01.8**	**-1.2**
JCH	**Churui**	**1.74**	**55**	P		**Pn**	**12 27 46.2**	**+0.4**
JCH				*e*S		**Sn**	**12 28 08.4**	**+0.4**
ASAJ	**Asahikawa**	**2.63**	**19**	P		**Pn**	**12 27 57.3**	**0.0**
	0.7nm,0.3s,baz=228,slow=14,SNR=10.0							
ASAJ				S		**Sn**	**12 28 22.8**	**-5.8**
	1.7nm,0.3s,baz=244,slow=13,SNR=2.9							
USRK	**Ussuriysk Arra**	**7.38**	**293**	P		**Pn**	**12 29 02.9**	**+1.4**
	0.2nm,0.3s,baz=98,slow=15,SNR=3.6							
ZALV	**Zalesovo Beam**	**38.95**	**308**	P		**P**	**12 34 32.8**	**+0.1**
	0.6nm,0.5s,baz=90,slow=8.6,SNR=2.7							
MKAR	**Makanchi Array**	**41.83**	**298**	P		**P**	**12 34 57.0**	**+0.3**
	0.3nm,0.6s,baz=88,slow=8.5,SNR=4.6							
ILAR	**Eielson Array**	**45.66**	**35**	P		**P**	**12 35 27.4**	**+0.4**
	0.4nm,0.7s,baz=268,slow=5.4,SNR=7.5							

*NIED **29** 12:53:00, 27°.80N×127°.90E, h5km, Mw4.0 Best double couple: M0=1.18000×10^15 NP1:φs=49.00000°, δ=61.00000°, λ=-98.00000°. NP2:φs=245.00000°, δ=30.00000°, λ=-76.00000°.*
*ISCJB **29** 12:53:05.6±0.6, 27°.82N±0°.04×127°.87E±0°.06, h10km, mb3.6/5, MS3.9/2, Error ellipse: s-maj=7.2km s-min=6.0km az=179.4*
*JMA **29** 12:53:05.6±0.3, 27°.82N×127°.89E, h4km±4km, M3.5*
*IDC **29** 12:53:06.8±1.4, 27°.50N×127°.26E, h0km, mb3.7/5, mb1 3.7/7, mb1mx3.5/27, mbtmp3.6/7, ML3.5/1, MS3.8/2, Ms1 3.8/2, ms1mx3.0/32, Error ellipse: s-maj=43.4km s-min=23.3km az=74.0*
ISC 29 12:53:06.4±0.9, 27°.78N±0°.06×127°.94E±0°.06, h10km, n15, σ0°.83/14, mb3.7/5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JIH	**Iheya**	**0.74**	**178**	P		**Pb**	**12 53 20.7**	**-0.6**
JIH				S		**Sb**	**12 53 31.2**	**-0.3**
JTK	**Tokunoshima**	**0.89**	**89**	P		**Pb**	**12 53 23.4**	**-0.6**
JTK				S		**Sb**	**12 53 36.0**	**0.0**
JOW	**Kunigami**	**0.98**	**162**	P		**Pb**	**12 53 25.2**	**-0.4**
JOW				S		**Sb**	**12 53 39.6**	**+1.0**
JAMN	**Amaminishikomi**	**1.19**	**67**	P		**Pg**	**12 53 28.7**	**-0.5**
JAGN	**Aguni-jima**	**1.34**	**208**	P		**Pb**	**12 53 30.5**	**-1.1**
JAM	**Amami Oshima**	**1.60**	**66**	P		**Pb**	**12 53 35.4**	**-0.6**
JNU	**Nakatsue**	**5.90**	**25**	Pn		Pb	12 54 42.0	-7.4
	1.2nm,0.3s,baz=204,slow=16,SNR=9.9							
KSRS	**Korea Array**	**9.65**	**360**	Pn		Pn	12 55 32.4	+7.1
	0.0nm,0.3s,baz=180,slow=12,SNR=2.9							
SONM	**Songino Array**	**26.13**	**326**	P		**P**	**12 58 41.9**	**+1.2**
	2.0nm,0.6s,baz=134,slow=10,SNR=5.2							
MKAR	**Makanchi Array**	**40.33**	**311**	P		**P**	**13 00 43.0**	**-1.0**
	0.3nm,0.7s,baz=93,slow=8.9,SNR=3.3							
ZALV	**Zalesovo Beam**	**40.87**	**322**	P		**P**	**13 00 49.4**	**+1.0**
	0.5nm,0.3s,baz=109,slow=7.8,SNR=3.2							
KURBB	**Kurchatov Arra**	**43.57**	**315**	P		**P**	**13 01 10.2**	**-0.2**
	0.4nm,0.4s,baz=101,slow=8.5,SNR=4.9							
WRA	**Warramunga Arr**	**47.84**	**172**	P		**P**	**13 01 45.1**	**+0.6**
	0.6nm,0.8s,baz=354,slow=8.4,SNR=3.7							
FINES	**FINESS Array B**	**71.40**	**330**	LR		LR	13 40 33.7	
	comp=Z,58nm,20.5s,baz=36,slow=40							
NVAR	**Mina Array Bea**	**89.62**	**46**	LR		LR	13 40 04.5	
	comp=Z,55nm,20.6s,baz=315,slow=31							

*NIED **29** 12:55:00, 27°.80N×127°.90E, h5km, Mw4.3 Best double couple: M0=2.81000×10^15 NP1:φs=253.00000°, δ=58.00000°, λ=-75.00000°. NP2:φs=47.00000°, δ=35.00000°, λ=-112.00000°.*
*ISCJB **29** 12:55:39.0±0.6, 27°.82N±0°.04×127°.87E±0°.05, h10km, mb3.7/8, MS3.3/7, Error ellipse: s-maj=7.0km s-min=5.7km az=178.8*
*JMA **29** 12:55:39.6, 27°.82N×127°.87E, h15km±1km, M3.6*
*IDC **29** 12:55:51.9±3.2, 27°.83N×127°.98E, h114km±30km, mb3.4/8, mb1 3.5/11, mb1mx3.4/28, mbtmp3.3/11, MS3.4/10, Ms1 3.4/10, ms1mx3.3/19, Error ellipse: s-maj=28.5km s-min=17.0km az=68.0*
ISC 29 12:55:40.4±0.8, 27°.76N±0°.05×127°.94E±0°.06, h10km, n21, σ0°.93/17, mb3.9/8, MS3.3/7, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JIH	**Iheya**	**0.72**	**178**	P		**Pb**	**12 55 54.5**	**-0.5**
JIH				S		**Sb**	**12 56 05.0**	**0.0**
JTK	**Tokunoshima**	**0.90**	**88**	P		**Pg**	**12 55 57.5**	**-0.2**
JTK				S		**Sg**	**12 56 09.9**	**+0.5**
JOW	**Kunigami**	**0.97**	**162**	P		**Pg**	**12 55 59.0**	**-0.1**
JOW				S		**Sg**	**12 56 12.9**	**+1.2**
JAMN	**Amaminishikomi**	**1.20**	**66**	P		**Pn**	**12 56 02.0**	**-1.2**
JAGN	**Aguni-jima**	**1.32**	**208**	P		**Pn**	**12 56 03.9**	**-0.9**
JAM	**Amami Oshima**	**1.61**	**66**	P		**Pn**	**12 56 08.4**	**-0.5**
JNU	**Nakatsue**	**5.92**	**25**	P		Pb	12 57 14.2	-9.4
	0.9nm,0.3s,baz=209,slow=9.0,SNR=8.2							
JNU				LR		LR	12 59 41.9	
	comp=Z,306nm,18.1s,baz=216,slow=39							
KSRS	**Korea Array**	**9.67**	**360**	P		Pn	12 58 08.7	+9.1
	0.0nm,0.3s,baz=177,slow=13,SNR=4.1							
KSRS				LR		LR	13 01 54.4	
	comp=Z,316nm,19.1s,baz=292,slow=38							
USRK	**Ussuriysk Arra**	**16.73**	**10**	P		**P**	**12 59 38.4**	**+1.4**
	0.1nm,0.3s,baz=207,slow=12,SNR=3.3							
USRK				LR		LR	13 05 37.3	
	comp=Z,127nm,21.4s,baz=194,slow=35							
ASAJ	**Asahikawa**	**20.13**	**32**	LR		LR	13 07 30.1	
	comp=Z,84nm,19.9s,baz=322,slow=35							
SONM	**Songino Array**	**26.14**	**326**	P		**P**	**13 01 15.8**	**+1.1**
	2.5nm,0.9s,baz=126,slow=4.1,SNR=3.1							
SONM				LR		LR	13 13 09.5	
	comp=Z,114nm,19.4s,baz=53,slow=40							
CMAR	**Chiang Mai Arr**	**28.17**	**257**	LR		LR	13 13 21.9	
	comp=Z,57nm,21.7s,baz=95,slow=37							
PETK	**Petropavlovsk-**	**33.55**	**33**	LR		LR	13 16 24.2	
	comp=Z,17nm,19.1s,baz=205,slow=37							
MKAR	**Makanchi Array**	**40.33**	**311**	P		**P**	**13 03 19.1**	**+1.0**
	0.4nm,0.5s,baz=96,slow=8.9,SNR=4.5							
MKAR				LR		LR	13 22 09.8	
	comp=Z,42nm,20.3s,baz=5.9,slow=39							
ZALV	**Zalesovo Beam**	**40.88**	**322**	P		**P**	**13 03 21.0**	**-1.5**
	1.4nm,0.5s,baz=103,slow=12,SNR=3.2							
ZALV				LR		LR	13 22 02.4	
	comp=Z,128nm,18.9s,baz=69,slow=38							
PMG	**Port Moresby**	**41.37**	**151**	LR		LR	13 18 06.6	
	comp=Z,104nm,19.2s,baz=292,slow=32							
KURBB	**Kurchatov Arra**	**43.58**	**315**	P		**P**	**13 03 43.4**	**-1.0**
	0.8nm,0.5s,baz=104,slow=8.0,SNR=7.2							
WRA	**Warramunga Arr**	**47.82**	**172**	P		**P**	**13 04 18.5**	**+0.2**
	1.1nm,0.8s,baz=352,slow=8.5,SNR=5.0							
ASAR	**Alice Springs**	**51.45**	**173**	P		**P**	**13 04 46.3**	**+0.4**
	0.5nm,0.9s,baz=346,slow=6.7,SNR=3.2							
ILAR	**Eielson Array**	**63.22**	**29**	P		**P**	**13 06 08.6**	**0.0**
	0.8nm,0.9s,baz=296,slow=6.9,SNR=6.8							
PDAR	**Pinedale Array**	**92.13**	**38**	P		P	13 08 46.9	-3.6
	0.6nm,0.9s,baz=318,slow=3.6,SNR=2.8							

*ISCJB **29** 12:59:12.3±0.5, 4°.09N±0°.06×128°.04E±0°.10, h71km, mb4.1/9, Error ellipse: s-maj=15.8km s-min=4.3km az=150.2*
*IDC **29** 12:59:13.5±0.8, 4°.12N×128°.05E, h73km±6km, mb3.9/9, mb1 4.1/10, mb1mx3.8/25, mbtmp3.9/10, Error ellipse: s-maj=33.7km s-min=12.6km az=75.0*
*MAN **29** 12:59:17, 4°.27N×127°.64E, h184km, mb4.9, ML3.8, MS3.8*
*AUST **29** 12:59:39.2, 2°.50N×128°.00E, h200km*
ISC 29 12:59:14.3±0.6, 4°.07N±0°.06×127°.91E±0°.09, h71km, n36, σ1°.28/39, mb4.1/9, 1C-1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**3.56**	**304**	*e*P		**Pn**	**13 00 06.9**	**-0.5**
KCP	**Kidapawan**	**4.05**	**316**	*e*P		**Pn**	**13 00 16.4**	**+2.5**
KCP				*i* S		**Sn**	**13 00 57.9**	**-2.3**
BUKP	**Musuan**	**4.73**	**323**	*e*P		**Pn**	**13 00 25.7**	**+2.5**
BUKP				*e*S		**Sn**	**13 01 18.8**	**+2.0**
CTBH	**Cotabato--PC H**	**4.80**	**311**⇑	*i*P		**Pn**	**13 00 25.7**	**+1.5**
BUTP	**Butuan**	**5.37**	**335**	*e*P		**Pn**	**13 00 33.5**	**+1.5**
PAGZ	**Pagadian**	**5.86**	**310**	*e*P		**Pn**	**13 00 39.4**	**+0.8**
SWI	**Sorong**	**5.93**	**146**	S		**Sn**	**13 01 46.5**	**+0.2**
	baz=4.7,SNR=14							
SCPH	**Surigao**	**6.17**	**337**‖	*e*P		**Pn**	**13 00 42.8**	**0.0**
LUWI	**Luwuk**	**7.21**	**225**	P		Pn	13 01 10.7	+14
	baz=6.3,SNR=5.0							
FAKI	**Fak Fak**	**8.18**	**148**	P		Pn	13 01 14.1	+3.6
	baz=6.9,SNR=4.3							
FAKI				S		**Sn**	**13 02 42.1**	**+0.7**
	baz=6.9,SNR=6.5							
TLE	**Tual**	**10.78**	**153**	P		Pn	13 01 51.1	+5.2
	baz=9.4,SNR=4.1							
KAPI	**Kappang**	**12.15**	**222**	P		**Pn**	**13 02 06.9**	**+2.3**
	0.9nm,0.3s,baz=208,slow=14,SNR=1.5							
SOEI	**Soe**	**14.20**	**195**	P		**P**	**13 02 36.6**	**-0.9**
	baz=13,SNR=5.3							
JAY	**Jayapura**	**14.36**	**117**	P		**P**	**13 02 41.5**	**+2.3**
	baz=14,SNR=4.5							
BATI	**Baumata**	**14.79**	**197**	P		**P**	**13 02 43.8**	**-0.2**
	6.0nm,0.3s,baz=8.2,slow=4.2,SNR=9.1							
KDU	**Kakadu**	**17.25**	**165**	P		**Pn**	**13 03 10.1**	**-0.5**
	baz=16,SNR=17							
KNRA	**Kununurra**	**19.63**	**178**	P		**P**	**13 03 37.5**	**+0.2**
	baz=18,SNR=37							
FITZ	**Fit

ASAR	**Alice Springs**	**42.05 261**	P	P	13 31 51.8	-0.2
	1.7nm,0.7s,baz=103,slow=8.0,SNR=15					
WRA	**Warramunga Arr**	**42.42 266**	P	P	13 31 55.0	0.0
	0.6nm,0.3s,baz=102,slow=8.0,SNR=45					

MEX 29 13:55:21.3±0.4, 16°.13N×97°.20W, h6km±6km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.93**	**286**	*i* P		Pg	13 55 36.7	-2.5
PNIG				*i* S		Sg	13 55 49.3	-2.0
VHO	**Vista Hermosa**	**1.04**	**25**	*i* P		Pg	13 55 38.7	-2.8
VHO				*i* S		Sg	13 55 52.1	-3.1
HUIG	**Huatulco**	**1.11**	**109**	*i* P		Pg	13 55 39.6	-3.0
HUIG				*i* S		Sg	13 55 53.6	-3.5
PCIG		**3.85**	**96**	*i* P		Pn	13 56 17.4	-3.7
PCIG				*i* S		Sn	13 57 01.2	-5.6

TRN 29 14:03:04.5, 15°.04N×61°.26W, h151km, MD3.7, M3.4(FDF), 5C-2D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
MGG	**Marie-Galante**	**0.88**	**356**	⇑*i* P		Pn	14 03 29.5	+1.1
TBG	**Guadaloupe-3**	**0.89**	**335**	*e* P		Pn	14 03 29.6	+1.0
PHG	**Guadaloupe-2**	**1.04**	**339**	*e* P		Pn	14 03 31.1	+1.2
DOG	**Dongo Capester**	**1.05**	**341**	*e* P		Pn	14 03 31.0	+1.1
SLW	**Petit Monier**	**1.06**	**163**	*e* P		Pn	14 03 30.8	+0.8
SLW	**Petit Monier**	**1.06**	**163**	⇑*i* P		Pn	14 03 31.0	+1.0
SLW				*e* S		Sn	14 03 50.4	+1.0
SCG	**Saint Claude**	**1.07**	**337**	*e* P		Pn	14 03 31.4	+1.3
ECG	**Echelle**	**1.07**	**339**	*e* P		Pn	14 03 31.3	+1.0
TAG	**Tarade**	**1.07**	**339**	⇑*i* P		Pn	14 03 31.5	+1.3
CRG	**Carmichael**	**1.08**	**339**	*e* P		Pn	14 03 31.4	+1.0
FNG	**Fond-Bernard**	**1.10**	**338**	⇓*i* P		Pn	14 03 31.6	+1.2
SSG	**Sans Toucher**	**1.12**	**339**	*e* P		Pn	14 03 31.6	+0.9
LZG	**Guadaloupe-1**	**1.21**	**336**	⇓*i* P		Pn	14 03 32.2	+1.0
SLB	**Belfond**	**1.22**	**170**	*e* P		Pn	14 03 32.5	+1.0
SLB				*e* S		Sn	14 03 52.7	+0.6
SLPA	**Patience**	**1.22**	**164**	*e* P		Pn	14 03 33.0	+1.6
SLPA				*e* S		Sn	14 03 53.0	+0.9
SLDE	**Delcer**	**1.24**	**171**	*e* P		Pn	14 03 32.9	+1.2
SLDE				*e* S		Sn	14 03 54.0	+1.6
DEG	**La Desirade**	**1.28**	**8**	*e* P		Pn	14 03 32.5	+0.4
MCLT	**Moule a Chique**	**1.35**	**167**	*e* P		Pn	14 03 33.3	+0.5
MCLT				*e* S		Sn	14 03 54.7	+0.3
SEG	**Port Louis**	**1.38**	**350**	*e* P		Pn	14 03 33.8	+0.8
SVB	**Belmont**	**1.76**	**180**	⇑*i* P		Pn	14 03 38.1	+1.1
SVB	**Belmont**	**1.76**	**180**	⇑*i* P		Pn	14 03 38.1	+1.1
SVB				*e* S		Sn	14 04 02.2	+0.2
ANWB	**Willy Bob**	**2.67**	**349**	*e* P		Pn	14 03 46.8	-0.9
GRGR	**Grenville**	**2.91**	**188**	*e* P		Pn	14 03 51.6	+0.7
TOSP	**Speyside**	**3.78**	**169**	*e* P		Pn	14 04 02.7	+0.7
TOSP				*e* S		Sn	14 04 47.0	+0.3

*ISCJB **29** 14:13:40.7±0.9, 7°.03N±0°.07×73°.06W±0°.10, h143km±11km, mb3.0/1, Error ellipse: s-maj=17.9km s-min=7.7km az=33.6*
*IDC **29** 14:13:42.5±6.0, 6°.50N×73°.30W, h205km±46km, mb2.9/1, mb1 2.9/1, mb1mx2.7/20, mbtmp2.9/1, Error ellipse: s-maj=170.1km s-min=35.7km az=156.0*
*FUNV **29** 14:13:45.0, 7°.06N×72°.94W, h145km, MW4.2*

ISC 29 14:13:39.4±0.9, 6°.98N±0°.06×73°.05W±0°.08, h159km±8km, n20, σ2°.9±21/31, 2C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
CAPV	**Capacho**	**1.14**	**40**	⇑*i* P		**Pn**	**14 14 09.2**	**+2.7**
CAPV				*e* S		**Sn**	**14 14 27.1**	**-0.2**
ROSC	**El Rosal**	**2.46**	**211**	P		**Pn**	**14 14 21.3**	**+0.4**
	121nm,0.3s,baz=82,slow=11,SNR=39							
ROSC				S		**Sn**	**14 14 51.5**	**-1.5**
	182nm,0.3s,baz=92,slow=18,SNR=16							
VIGV	**El Vigia**	**2.49**	**42**	⇑*i* P		**Pn**	**14 14 23.7**	**+2.8**
VIGV				*e* S		**Sn**	**14 14 51.4**	**-1.6**
SOCV	**Socops**	**2.53**	**59**	*e* P		**Pn**	**14 14 23.4**	**+2.1**
SOCV				*e* S		**Sn**	**14 14 51.8**	**-2.1**
ELOV	**Elorza**	**3.54**	**89**	*e* P		**Pn**	**14 14 36.1**	**+2.1**
VIRV	**Villa del Rosa**	**3.56**	**10**	⇓*i* P		**Pn**	**14 14 35.9**	**+1.7**
VIRV				*e* S		**Sn**	**14 15 14.6**	**-2.3**
QARV	**Quebrada Arrib**	**4.07**	**38**	*e* P		**Pn**	**14 14 43.6**	**+2.8**
QARV				*e* S		**Sn**	**14 15 25.8**	**-2.9**
SANV	**Sanarito**	**4.29**	**54**	*e* P		**Pn**	**14 14 45.9**	**+2.2**
SANV				*e* S		**Sn**	**14 15 30.2**	**-3.7**
CURV	**Curarigua**	**4.29**	**45**	*e* P		**Pn**	**14 14 46.0**	**+2.2**
CURV				*e* S		**Sn**	**14 15 31.2**	**-2.8**
DABV	**Dabajuro**	**4.59**	**31**	*e* P		**Pn**	**14 14 50.0**	**+2.4**
DABV				*e* S		**Sn**	**14 15 37.9**	**-2.9**
TEPV	**Terepaima**	**4.83**	**52**	*e* P		**Pn**	**14 14 53.0**	**+2.2**
SIQV	**Siquisique**	**4.86**	**41**	*e* P		**Pn**	**14 14 53.0**	**+1.9**
SIQV				*e* S		**Sn**	**14 15 43.6**	**-3.6**
MONV	**Montecano**	**5.80**	**31**	*e* P		**Pn**	**14 15 05.4**	**+1.8**
TURV	**Turiamo**	**6.20**	**56**	*e* P		**Pn**	**14 15 10.1**	**+1.2**
GWJ	**Greenwich**	**11.60**	**342**	*i* PA		**P**	**14 16 26.9**	**-0.5**
STH	**Stony Hill**	**11.62**	**342**	*i* PA		**P**	**14 16 27.2**	**-0.4**
BBJ	**Bamboo Saint A**	**12.06**	**340**	*i* PA		**P**	**14 16 32.7**	**+0.3**
TORD	**Torodi Ar. Bea**	**73.64**	**78**	P		**P**	**14 24 56.2**	**0.0**
	0.1nm,0.3s,baz=284,slow=7.2,SNR=4.3							
ASAR	**Alice Springs**	**149.26**	**234**	PKPbc		**PKPdf**	**14 33 06.2**	**+0.4**
	1.4nm,0.5s,baz=119,slow=2.8,SNR=6.5							
WRA	**Warramunga Arr**	**150.47**	**241**	PKPbc		**PKPdf**	**14 33 09.2**	**+1.4**
	1.6nm,0.4s,baz=109,slow=2.4,SNR=7.6							
WRA				pPKPbc		**pPKPbc**	**14 33 53.6**	**-1.4**
	0.7nm,0.5s,baz=108,slow=2.5,SNR=5.1							

*NIED **29** 14:16:00, 27°.80N×127°.90E, h5km, Mw4.4 Best double couple: M0=4.22000×10^15 NP1:φs=44.00000°, δ58.00000°, λ-100.00000°. NP2:φs=243.00000°, δ33.00000°, λ-74.00000°.*
*ISCJB **29** 14:16:31.7±0.5, 27°.85N±0°.04×127°.89E±0°.05, h10km, mb3.9/9, MS3.9/13, Error ellipse: s-maj=6.8km s-min=5.6km az=177.3*
*JMA **29** 14:16:31.8±0.2, 27°.84N×127°.89E, h9km, M4.1*
*IDC **29** 14:16:44.4±3.0, 27°.87N×127°.85E, h105km±30km, mb3.6/9, mb1 3.6/12, mb1mx3.5/30, mbtmp3.5/12, MS3.7/16, Ms1 3.7/16, ms1mx3.6/30, Error ellipse: s-maj=28.6km s-min=14.4km az=71.0*

ISC 29 14:16:32.6±0.7, 27°.78N±0°.05×127°.93E±0°.06, h10km, n30, σ0°.99/20, mb3.8/9, MS3.8/13, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
JIH	**Iheya**	**0.75**	**178**	P		**Pb**	**14 16 47.2**	**-0.5**
JIH				S		**Sb**	**14 16 57.8**	**-0.1**
JTK	**Tokunoshima**	**0.90**	**90**	P		**Pb**	**14 16 49.6**	**-0.7**
JTK				S		**Sb**	**14 17 02.2**	**-0.2**
JOW	**Kunigami**	**1.00**	**162**	P		**Pb**	**14 16 51.5**	**-0.4**
JOW				S		**Sb**	**14 17 05.7**	**+0.6**
JAMN	**Amaminishikomi**	**1.19**	**67**	P		**Pg**	**14 16 54.2**	**-1.2**
JAGN	**Aguni-jima**	**1.34**	**207**	P		**Pn**	**14 16 56.4**	**-0.9**
JJT2	**Tamagusuku 2**	**1.65**	**186**	P		**Pg**	**14 17 03.2**	**-1.0**
JKE	**Kume jima 2**	**1.78**	**215**	P		**Pb**	**14 17 03.7**	**-1.5**
JNU	**Nakatsue**	**5.90**	**25**	P		Pb	14 18 07.5	-8.0
	1.2nm,0.3s,baz=171,slow=16,SNR=9.8							
KSRS	**Korea Array**	**9.64**	**360**	P		Pn	14 19 00.3	+8.9
	0.1nm,0.3s,baz=172,slow=13,SNR=7.6							
KSRS				LR		LR	14 22 47.0	
	comp=Z,393nm,18.9s,baz=178,slow=38							
CBIJ	**Chichi jima**	**12.68**	**90**	LR		LR	14 23 10.1	
	comp=Z,101nm,21.9s,baz=100,slow=30							
USRK	**Ussuriysk Arra**	**16.70**	**10**	P		P	14 20 32.2	+3.2
	0.1nm,0.3s,baz=186,slow=13,SNR=4.0							
USRK				LR		LR	14 26 57.3	
	comp=Z,50nm,19.7s,baz=198,slow=37							
ASAJ	**Asahikawa**	**20.11**	**32**	LR		LR	14 28 33.3	
	comp=Z,63nm,19.3s,baz=153,slow=35							
SONM	**Songino Array**	**26.11**	**326**	P		**P**	**14 22 08.0**	**+1.3**
	8.5nm,1.0s,baz=120,slow=8.6,SNR=9.0							
SONM				LR		LR	14 33 21.9	
	comp=Z,184nm,18.8s,baz=62,slow=38							
MKAR	**Makanchi Array**	**40.31**	**311**	P		**P**	**14 24 10.4**	**+0.3**
	0.7nm,0.8s,baz=105,slow=7.6,SNR=6.7							
MKAR				LR		LR	14 43 02.2	
	comp=Z,87nm,18.7s,baz=298,slow=39							
ZALV	**Zalesovo Beam**	**40.86**	**322**	P		**P**	**14 24 14.0**	**-0.4**
	2.1nm,1.0s,baz=101,slow=7.5,SNR=6.7							
ZALV				LR		LR	14 42 55.0	
	comp=Z,211nm,18.8s,baz=250,slow=38							
KURBB	**Kurchatov Arra**	**43.55**	**315**	P		**P**	**14 24 36.5**	**0.0**
	0.8nm,0.5s,baz=103,slow=8.6,SNR=9.6							
AAK	**Ala-Archa**	**45.38**	**304**	LR		LR	14 47 07.8	
	comp=Z,89nm,19.0s,baz=203,slow=40							
FITZ	**Fitzroy Crossi**	**45.67**	**183**	P		**P**	**14 24 55.2**	**+1.6**
	1.3nm,0.6s,baz=12,slow=11,SNR=6.2							
WRA	**Warramunga Arr**	**47.85**	**172**	P		**P**	**14 25 12.2**	**+1.5**
	0.9nm,0.6s,baz=355,slow=8.4,SNR=9.8							
BVAR	**Borovoye Array**	**48.95**	**317**	LR		LR	14 45 33.8	
	comp=Z,110nm,21.9s,baz=105,slow=35							
ASAR	**Alice Springs**	**51.48**	**173**	P		**P**	**14 25 39.9**	**+1.6**
	0.9nm,0.9s,baz=354,slow=5.8,SNR=7.3							
ASAR				PcP		**PcP**	**14 26 52.7**	**0.0**
	0.3nm,0.7s,baz=353,slow=4.7,SNR=3.1							
STKA	**Stephens Creek**	**60.74**	**167**	LR		LR	14 50 27.9	
	comp=Z,100nm,20.0s,baz=205,slow=33							
ILAR	**Eielson Array**	**63.20**	**29**	P		**P**	**14 27 00.5**	**-0.1**
	0.4nm,0.7s,baz=247,slow=6.7,SNR=5.4							
KBZ	**Khabaz**	**67.98**	**309**	LR		LR	15 01 18.5	
	comp=Z,48nm,18.0s,baz=319,slow=39							
ARCES	**ARCESS Array B**	**68.47**	**338**	LR		LR	15 04 07.8	
	comp=Z,51nm,19.5s,baz=84,slow=42							
FINES	**FINESS Array B**	**71.39**	**330**	LR		LR	15 03 07.9	
	comp=Z,152nm,19.7s,baz=207,slow=39							
AKASG	**Malin Array Be**	**74.18**	**319**	LR		LR	15 03 11.9	
	comp=Z,180nm,18.9s,baz=55,slow=38							
NOA	**NORSAR Array B**	**77.81**	**334**	LR		LR	15 03 45.9	
	comp=Z,73nm,18.1s,baz=55,slow=36							
GERES	**GERESS Array B**	**83.81**	**323**	LR		LR	15 09 28.8	
	comp=Z,83nm,18.1s,baz=335,slow=38							
PDAR	**Pinedale Array**	**92.12**	**38**	P		**P**	**14 29 42.6**	**0.0**
	0.9nm,0.9s,baz=321,slow=2.1,SNR=5.1							

MAN 29 14:20:15, 9°.10N×122°.64E, h34km, mb3.7, ML2.4, MS1.9, Negros

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
SNPH	**Sibulan**	**0.64**	**67**	*i* P		Pb	14 20 31.7	+3.7
SNPH				*i* S		Sb	14 20 40.0	+3.2
IPIL	**Ipil**	**1.30**	**183**	*e* P		Pn	14 20 37.8	+1.0
IPIL				*e* S		Sn	14 20 51.9	-1.2
PAGZ	**Pagadian**	**1.44**	**149**	*e* P		Pn	14 20 39.9	+1.2
GUIM	**Jordan**	**1.52**	**358**	*e* P		Pb	14 20 41.4	-1.3

*IDC **29** 14:29:33.0±2.8, 22°.81S×70°.47W, h0km, mb4.0/1, mb1 3.9/3, mb1mx3.7/17, mbtmp3.9/3, ML3.8/2, MS2.8/1, Ms1 2.8/1, ms1mx2.5/19, Error ellipse: s-maj=87.3km s-min=54.7km az=115.0*
*ISCJB **29** 14:29:42.0±1.3, 22°.00S±0°.07×70°.4W±0°.1, h56km±11km, mb3.8/1, Error ellipse: s-maj=23.5km s-min=7.0km az=26.8*
*NEIC **29** 14:29:42.4, 22°.09S×70°.27W, h42km, MG3.7(GUC), After GUC.*
NEIC Felt [III] at Tocopilla and [II] at Maria Elena.
*GUC **29** 14:29:42.4±0.8, 22°.09S×70°.27W, h42km±2km, ML3.7*

ISC 29 14:29:42.9±1.3, 21°.99S±0°.06×70°.4W±0°.1, h44km±13km, n20, σ1°.26/26, 4C-7D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
PB07	**Plate Boundary**	**0.54**	**62**	⇓*i* P		**Pn**	**14 29 53.9**	**-0.6**
PB07				*i* S		**Sn**	**14 30 01.7**	**-1.0**
PB07	**Plate Boundary**	**0.54**	**62**	⇓*i* P		**Pn**	**14 29 53.9**	**-0.6**
PB07				*i* S		**Sn**	**14 30 01.7**	**-1.0**
PB07				AML	AML		14 30 02.1	
	comp=N,17μm,0.3s							
PB04	**Plate Boundary**	**0.89**	**108**	⇑*i* P		Pn	14 29 50.9	-8.1
PB04				*i* S		Sn	14 29 56.6	-14
PB04				AML	AML		14 29 57.2	
	comp=E,12μm,0.3s							
PB09	**Plate Boundary**	**1.09**	**80**	⇓*i* P		**Pn**	**14 30 01.8**	**-0.1**
PB09				*i* S		**Sn**	**14 30 16.0**	**+0.1**
PB09	**Plate Boundary**	**1.09**	**80**	⇓*i* P		**Pn**	**14 30 01.8**	**-0.1**
PB09				*i* S		**Sn**	**14 30 16.0**	**+0.1**
PB09				AML	AML		14 30 18.8	
	comp=E,4μm,0.4s							
PB01	**Plate Boundary**	**1.27**	**42**	⇓*i* P		**Pn**	**14 30 04.8**	**+0.6**
PB01				*i* S		**Sn**	**14 30 22.1**	**+2.0**
PB01	**Plate Boundary**	**1.27**	**42**	⇓*i* P		**Pn**	**14 30 04.8**	**+0.6**
PB01				*i* S		**Sn**	**14 30 22.1**	**+2.0**
PB01				AML	AML		14 30 27.5	
	comp=E,1μm,0.2s							
CEN1	**Los Morros**	**1.41**	**173**	⇑*i* P		**Pn**	**14 30 08.1**	**+1.9**
CEN1				*i* S		**Sn**	**14 30 27.0**	**+3.4**
LVC	**Limon Verde**	**1.51**	**115**	*e* P		**Pn**	**14 30 07.8**	**0.0**
PB10	**Plate Boundary**	**1.53**	**185**	⇓*i* P		**Pn**	**14 30 06.5**	**-1.2**
ANCH	**Antofagasta**	**1.69**	**180**	⇑*i* P		**Pn**	**14 30 09.2**	**-0.8**
ANCH				*i* S		**Sn**	**14 30 29.7**	**-0.6**
ANCH	**Antofagasta**	**1.69**	**180**	⇑*i* P		**Pn**	**14 30 09.2**	**-0.8**
ANCH				*i* S		**Sn**	**14 30 29.7**	**-0.6**
LPAZ	**La Paz**	**6.06**	**21**	*e* P		Pn	14 31 15.6	+5.0
	comp=E,3.4nm,0.6s							
LPAZ	**La Paz**	**6.06**	**21**	Pn		Pn	14 31 15.5	+5.0
	comp=E,0.4nm,0.3s,baz=190,slow=7.8,SNR=7.1							
SIV	**San Ignacio**	**10.65**	**58**	Pn		**Pn**	**14 32 13.8**	**+0.9**
SIV	**San Ignacio**	**10.65**	**58**	Pn		**Pn**	**14 32 13.8**	**+0.9**
	comp=E,0.9nm,0.3s,baz=242,slow=14,SNR=9.0							
SIV				LR		LR	14 35 58.9	
	comp=E,42nm,18.8s,slow=35							
TORD	**Torodi Ar. Bea**	**78.82**	**71**	P		**P**	**14 41 40.4**	**-1.4**
TORD	**Torodi Ar. Bea**	**78.82**	**71**	P		**P**	**14 41 40.4**	**-1.4**
	comp=E,0.6nm,0.5s,baz=250,slow=5.1,SNR=8.8							
MKAR	**Makanchi Array**	**146.83**	**35**	PKPbc		**PKPdf**	**14 49 18.3**	**-0.2**
MKAR	**Makanchi Array**	**146.83**	**35**	PKPbc		**PKPdf**	**14 49 18.3**	**-0.2**
	comp=E,0.5nm,0.8s,baz=313,slow=3.0,SNR=3.2							

IDC 29 14:56:43.9±1.5, 0°.24N×97°.23E, h0km, mb3.6/5, mb1 3.6/7, mb1mx3.5/26, mbtmp3.5/7, ML3.2/2, Error ellipse: s-maj=41.4km s-min=19.9km az=63.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
PSI	**Prapat**	**3.06**	**34**	Pn		Pn	14 57 32.7	-1.0
	0.8nm,0.3s,baz=259,slow=5.2,SNR=2.6							
PSI				Sn		Sn	14 58 09.9	-1.2
	0.5nm,0.3s,baz=225,slow=20,SNR=2.3							
CMAR	**Chiang Mai Arr**	**18.18**	**5**	P		P	15 00 58.5	+0.1
	0.1nm,0.3s,baz=200,slow=12,SNR=9.3							
WRA	**Warramunga Arr**	**41.51**	**121**	P		P	15 04 32.9	-0.4
	0.3nm,0.8s,baz=303,slow=8.9,SNR=2.9							
ASAR	**Alice Springs**	**42.80**	**126**	P		P	15 04 43.9	+0.1
	0.3nm,1.0s,baz=306,slow=8.8,SNR=2.8							
MKAR	**Makanchi Array**	**48.17**	**346**	P		P	15 05 25.6	-0.4
	0.7nm,0.6s,baz=157,slow=8.3,SNR=10							
KURBB	**Kurchatov Arra**	**52.66**	**345**	P		P	15 06 00.2	+0.4
	0.2nm,0.6s,baz=166,slow=6.7,SNR=4.8							
ZALV	**Zalesovo Beam**	**54.50**	**351**	P		P	15 06 13.0	-0.3
	1.8nm,0.4s,baz=160,slow=6.6,SNR=9.8							

*DJA **29** 15:01:06.2±5.1, 3°.N±46°×12°.7E±2°.0, h10km, M4.4/6, mb4.6/3, mB4.9/2, MLv4.3/6, Mw(mB)4.1/2*
*IDC **29** 15:01:15.2±1.2, 1°.40N×126°.10E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.6/22, mbtmp3.8/6, ML3.4/1, Error ellipse: s-maj=104.8km s-min=17.4km az=67.0*
*ISCJB **29** 15:01:19.3±1.0, 1°.7N±0°.1×126°.53E±0°.08, h47km, mb3.8/5, Error ellipse: s-maj=16.3km s-min=9.6km az=27.8*

ISC 29 15:01:21.1±1.2, 1°.6N±0°.1×126°.51E±0°.08, h47km, n13, σ1°.37/14, mb3.9/5, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
TNTI	**Ternate**	**1.21**	**135**	P		**Pn**	**15 01 41.9**	**+0.3**
LBMI	**Labuha**	**2.46**	**156**	P		**Pn**	**15 01 59.5**	**+0.7**
KMSI	**Cibinong**	**2.73**	**248**	P		**Pn**	**15 02 01.6**	**-0.9**
GTOI	**Gorontalo**	**3.63**	**254**	P		**Pn**	**15 02 15.1**	**+0.3**
LUWI	**Luwuk**	**4.58**	**235**	P		**Pn**	**15 02 30.1**	**+2.2**
	85nm,0.7s,916nm0.4nm							
APSI	**Ampana**	**5.47**	**243**	P		**Pn**	**15 02 41.3**	**+1.2**
	52nm,1.0s,833nm0.2nm							
AAI	**Ambon**	**5.54**	**162**	P		**Pn**	**15 02 42.7**	**+1.6**
FITZ	**Fitzroy Crossi**	**19.62**	**182**	P		**P**	**15 05 43.3**	**-2.5**
	0.1nm,0.3s,baz=9,slow=9.8,SNR=3.8							
WRA	**Warramunga Arr**	**22.77**	**161**	P		**P**	**15 06 18.2**	**-1.6**
	1.5nm,0.5s,baz=337,slow=11,SNR=31							
ASAR	**Alice Springs**	**26.15**	**164**	P		**P**	**15 06 50.5**	**-0.7**
	0.8nm,0.6s,baz=343,slow=7.1,SNR=20							
ASAR				PcP		**PcP**	**15 10 18.2**	**+0.6**
	0.1nm,0.5s,baz=350,slow=2.1,SNR=4.7							
STKA	**Stephens Creek**	**36.27**	**158**	P		**P**	**15 08 19.8**	**-0.2**
	1.0nm,0.6s,baz=353,slow=10,SNR=3.3							
MKAR	**Makanchi Array**	**59.15**	**326**	P		**P**	**15 11 17.6**	**+0.5**
	0.7nm,0.6s,baz=120,slow=8.4,SNR=10							
KURBB	**Kurchatov Arra**	**63.38**	**328**	P		**P**	**15 11 46.3**	**+0.7**
	0.6nm,0.3s,baz=130,slow=6.2,SNR=16							

IDC 29 15:06:44.9±2.4, 5°.66S×133°.55E, h0km, mb4.0/4, mb1 3.9/7, mb1mx3.7/19, mbtmp3.8/7, ML3.6/2, Error ellipse: s-maj=116.7km s-min=25.9km az=84.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.22**	**177**	Pn		Pn	15 10 07.3	-0.5
	0.1nm,0.3s,baz=352,slow=13,SNR=9.0							
WRA				Sn		Sn	15 12 43.2	-3.3
	0.1nm,0.3s,baz=357,slow=24,SNR=4.1							
FITZ	**Fitzroy Crossi**	**14.59**	**211**	Pn		Pn	15 10 12.3	-0.5
	0.2nm,0.3s,baz=36,slow=12,SNR=7.2							
FITZ				Sn		Sn	15 12 48.0	-7.3
	0.4nm,0.3s,baz=200,slow=17,SNR=6.4							
ASAR	**Alice Springs**	**17.91**	**179**	P		P	15 10 56.1	-0.2
	0.2nm,0.3s,baz=8.6,slow=8.9,SNR=19							
MKAR	**Makanchi Array**	**69.10**	**325**	P		P	15 17 53.1	+0.2
	0.7nm,0.5s,baz=118,slow=7.8,SNR=9.7							
ZALV	**Zalesovo Beam**	**72.00**	**332**	P		P	15 18 09.7	-0.7
	0.9nm,0.5s,baz=103,slow=4.6,SNR=3.6							
KURBB	**Kurchatov Arra**	**73.27**	**327**	P		P	15 18 18.2	+0.2
	0.6nm,0.8s,baz=126,slow=4.5,SNR=7.4							
BVAR	**Borovoye Array**	**78.85**	**327**	P		P	15 18 50.2	+0.4
	0.7nm,0.6s,baz=101,slow=7.5,SNR=4.9							

IDC 29 15:09:14.9±8.8, 2°.06S×139°.22E, h0km, mb3.9/2, mb1 4.1/3, mb1mx3.6/16, mbtmp3.9/3, ML4.0/1, Error ellipse: s-maj=160.7km s-min=99.0km az=134.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.40**	**195**	P		Pn	15 13 31.6	-0.1
	0.5nm,0.3s,baz=14,slow=11,SNR=8.8							
ASAR	**Alice Springs**	**22.09**	**193**	P		P	15 14 12.2	+0.3
	2.3nm,0.8s,baz=23,slow=9.9,SNR=16							
STKA	**Stephens Creek**	**29.74**	**176**	P		P	15 15 22.8	-0.4
	2.3nm,0.8s,baz=349,slow=7.6,SNR=4.1							

*AUST **29** 15:22:08.5±6.2, 1°.96S×139°.00E, h0km±1km, Error ellipse: s-maj=2.9km s-min=1.1km az=350.0*
*IDC **29** 15:22:11.6±1.3, 2°.45S×139°.38E, h0km, mb3.8/6, mb1 4.0/8, mb1mx3.8/19, mbtmp3.9/8, ML3.9/2, Error ellipse: s-maj=46.3km s-min=18.6km az=93.0*
*ISCJB **29** 15:22:13.9±0.9, 2°.26S±0°.09×138°.91E±0°.05, h37km, mb3.9/5, Error ellipse: s-maj=12.8km s-min=6.3km az=170.2*

ISC 29 15:22:16.2±1.2, 2°.4S±0°.1×138°.96E±0°.05, h37km, n18, σ1°.20/17, mb4.0/5, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
JAY	**Jayapura**	**1.75**	**94**	P		**Pn**	**15 22 42.5**	**-1.6**
	baz=1.8,SNR=12							
JAY				S		**Sn**	**15 23 05.8**	**+0.7**
	baz=1.8,SNR=5.3							
FAKI	**Fak Fak**	**6.72**	**265**	P		**Pn**	**15 23 51.7**	**-0.7**
	baz=6.8,SNR=14							
FAKI				S		**Sn**	**15 25 07.4**	**-0.4**
	baz=6.8,SNR=3.5							
KDU	**Kakadu**	**12.07**	**212**	P		**Pn**	**15 25 06.7**	**+1.0**
	baz=12,SNR=5.5							
KNRA	**Kununurra**	**16.58**	**217**	P		**P**	**15 26 07.1**	**-1.0**
	baz=17,SNR=7.1							
KNRA				S		**Sn**	**15 29 10.2**	**+1.1**
	baz=17,SNR=3.1							
WRA	**Warramunga Arr**	**18.01**	**194**	P		**P**	**15 26 24.3**	**+0.4**
	0.8nm,0.3s,baz=19,slow=12,SNR=26							
WRA				S		**Sn**	**15 29 41.9**	**-1.9**
	0.1nm,0.3s,baz=13,slow=22,SNR=5.5							
CTA	**Charters Tower**	**18.97**	**158**	P		**P**	**15 26 34.0**	**-0.5**
	0.1nm,

s-min=13.7km az=83.0

ISC 29 15:33:27.2±0.5, 56°56S±0°09×27°3W±0°1, h112km, n47, σ1§18/57, mb4.6/9, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**18.30**	**155**	P	**Pn**	**15 37 34.0**	**+0.6**
SNAA				S	**S**	**15 40 52.0**	**-3.4**
SNAA				PcP	**PcP**	**15 41 58.7**	**+0.1**
SNAA				ScP	**ScP**	**15 45 21.5**	**-1.9**
SNAA	**Sanae**	**18.30**	**155**	P	**Pn**	**15 37 34.0**	**+0.6**
	1.3nm,0.3s,baz=302,slow=11,SNR=198						
SNAA				S	**S**	**15 40 51.9**	**-3.4**
	0.0nm,0.3s,baz=325,slow=19,SNR=2.2						
SNAA				PcP	**PcP**	**15 41 58.7**	**+0.1**
	0.1nm,0.3s,baz=267,slow=3.9,SNR=5.7						
SNAA				ScP	**ScP**	**15 45 21.5**	**-1.9**
	0.0nm,0.3s,baz=185,slow=2.3,SNR=5.0						
PMSA	**Palmer Station**	**19.52**	**230**	*e*P	**Pn**	**15 37 49.1**	**+1.4**
	34nm,0.7s						
PMSA	**Palmer Station**	**19.52**	**230**	P	**Pn**	**15 37 47.9**	**+0.2**
	3.0nm,0.3s,baz=44,slow=7.2,SNR=15						
TRQA	**Tornquist**	**29.48**	**294**	*e*P	**P**	**15 39 20.1**	**-0.4**
QSPA	**South Pole Qui**	**33.69**	**180**	*e*P	P	15 39 59.6	+2.5
	10.0nm,0.7s						
QSPA				*e*PcP	**PcP**	**15 42 34.7**	**+0.6**
QSPA				PcP	PcP	15 42 34.8	+0.7
QSPA				ScP	**ScP**	**15 46 06.5**	**-1.7**
QSPA	**South Pole Qui**	**33.69**	**180**	P	P	15 39 59.7	+2.5
	5.7nm,0.4s,baz=15,slow=0.6,SNR=129						
QSPA				PcP	**PcP**	**15 42 34.8**	**+0.6**
	3.4nm,0.5s,baz=226,slow=2.2,SNR=7.9						
QSPA				ScP	**ScP**	**15 46 06.4**	**-1.7**
	1.2nm,0.9s,baz=188,slow=2.1,SNR=10						
QSPA				LR	LR	15 53 15.2	
	comp=Z,44nm,18.1s,baz=192,slow=35						
CFAA	**Coronel Fontan**	**37.71**	**294**	P	**P**	**15 40 29.2**	**-2.6**
CFAA				PcP	**PcP**	**15 42 46.5**	**0.0**
CFAA	**Coronel Fontan**	**37.71**	**294**	P	**P**	**15 40 29.2**	**-2.6**
	0.2nm,0.5s,baz=151,slow=10,SNR=4.1						
CFAA				PcP	**PcP**	**15 42 46.5**	**0.0**
	0.2nm,0.5s,baz=153,slow=2.2,SNR=3.7						
MAW	**Mawson**	**39.77**	**143**	P	**P**	**15 40 49.7**	**+1.3**
MAW	**Mawson**	**39.77**	**143**	P	**P**	**15 40 49.7**	**+1.3**
	1.7nm,0.3s,baz=224,slow=7.7,SNR=8.9						
LCO	**Las Campanas**	**41.05**	**294**	*e*P	P	15 40 55.4	-4.4
	34nm,0.8s						
VNDA	**Vanda**	**46.06**	**183**	*e*P	P	15 41 41.5	+2.6
VNDA	**Vanda**	**46.06**	**183**	P	**P**	**15 41 40.9**	**+1.9**
	8.0nm,0.6s,baz=187,slow=6.8,SNR=39						
LBTB	**Lobatse**	**49.21**	**73**	*e*P	**P**	**15 42 03.4**	**-0.7**
LPAZ	**La Paz**	**50.63**	**306**	P	**P**	**15 42 15.9**	**+0.5**
LPAZ				PcP	**PcP**	**15 43 31.7**	**+0.3**
LPAZ	**La Paz**	**50.63**	**306**	P	**P**	**15 42 15.9**	**+0.5**
	8.0nm,0.5s,baz=120,slow=4.6,SNR=29						
LPAZ				PcP	**PcP**	**15 43 31.7**	**+0.3**
	1.4nm,0.5s,baz=153,slow=4.5,SNR=1.8						
RCBR	**Riachuelo**	**51.09**	**349**	LR	LR	15 59 18.6	
	comp=Z,419nm,18.5s,slow=30						
DBIC	**Dimbokro**	**65.65**	**25**	P	**P**	**15 43 59.4**	**0.0**
DBIC	**Dimbokro**	**65.65**	**25**	P	**P**	**15 43 59.4**	**0.0**
	1.9nm,0.6s,baz=226,slow=6.4,SNR=2.4						
TOA0	**Torodi Ar. Sit**	**73.53**	**29**	*e*P	**P**	**15 44 47.5**	**-0.1**
TORD	**Torodi Ar. Bea**	**73.53**	**29**	P	**P**	**15 44 47.8**	**+0.2**
TORD				pP	**pP**	**15 45 17.1**	**+1.4**
TORD	**Torodi Ar. Bea**	**73.53**	**29**	P	**P**	**15 44 47.8**	**+0.2**
	4.0nm,0.6s,baz=202,slow=6.3,SNR=34						
TORD				pP	**pP**	**15 45 17.1**	**+1.4**
	3.6nm,0.9s,baz=202,slow=6.0,SNR=8.8						
STKA	**Stephens Creek**	**91.41**	**171**	P	**P**	**15 46 21.4**	**+1.0**
STKA	**Stephens Creek**	**91.41**	**171**	P	**P**	**15 46 21.4**	**+1.0**
	1.9nm,0.5s,baz=169,slow=5.3,SNR=11						
STKA	**Stephens Creek**	**91.41**	**171**	P	**P**	**15 46 21.9**	**+1.5**
	baz=28,SNR=4.0						
ASAR	**Alice Springs**	**98.52**	**163**	P	Pdif	15 46 53.5	+0.4
ASAR	**Alice Springs**	**98.52**	**163**	P	Pdif	15 46 53.5	+0.4
	1.1nm,0.7s,baz=183,slow=3.8,SNR=8.4						
PDAR	**Pinedale Array**	**120.57**	**302**	PKP	**PKPdf**	**15 52 03.6**	**-1.4**
PDAR	**Pinedale Array**	**120.57**	**302**	PKP	**PKPdf**	**15 52 03.6**	**-1.4**
	0.3nm,0.4s,baz=120,slow=6.3,SNR=4.0						
FINES	**FINESS Array B**	**124.86**	**28**	PKP	**PKPdf**	**15 52 12.0**	**-0.3**
FINES	**FINESS Array B**	**124.86**	**28**	PKP	**PKPdf**	**15 52 12.0**	**-0.3**
	1.0nm,0.5s,baz=150,slow=1.7,SNR=9.9						
CMAR	**Chiang Mai Arr**	**124.94**	**111**	PKP	**PKPdf**	**15 52 13.2**	**-0.6**
CMAR	**Chiang Mai Arr**	**124.94**	**111**	PKP	**PKPdf**	**15 52 13.2**	**-0.6**
	0.6nm,0.3s,baz=182,slow=2.7,SNR=4.6						
ARCES	**ARCESS Array B**	**131.44**	**22**	PKP	**PKPdf**	**15 52 24.5**	**-0.2**
ARCES	**ARCESS Array B**	**131.44**	**22**	PKP	**PKPdf**	**15 52 24.5**	**-0.2**
	2.3nm,1.0s,baz=212,slow=3.2,SNR=3.5						
YKA	**Yellowknife Ar**	**136.51**	**318**	PKP	**PKPdf**	**15 52 34.2**	**-0.2**
YKA	**Yellowknife Ar**	**136.51**	**318**	PKP	**PKPdf**	**15 52 34.2**	**-0.2**
	0.7nm,0.3s,baz=136,slow=1.9,SNR=4.1						
MKAR	**Makanchi Array**	**137.10**	**72**	PKP	**PKPdf**	**15 52 36.3**	**+0.3**
MKAR	**Makanchi Array**	**137.10**	**72**	PKP	**PKPdf**	**15 52 36.3**	**+0.3**
	0.2nm,0.5s,baz=199,slow=1.9,SNR=2.4						
ZALV	**Zalesovo Beam**	**142.64**	**64**	PKP	**PKPdf**	**15 52 46.4**	**+0.6**
ZALV	**Zalesovo Beam**	**142.64**	**64**	PKP	**PKPdf**	**15 52 46.4**	**+0.6**
	1.2nm,0.5s,baz=243,slow=2.5,SNR=4.8						
PAX	**Paxson**	**149.34**	**308**	*e*PKPbc	**PKPbc**	**15 53 02.0**	**+0.6**
ILAR	**Eielson Array**	**150.41**	**311**	PKPbc	**PKPbc**	**15 53 03.8**	**-0.2**
ILAR	**Eielson Array**	**150.41**	**311**	PKPbc	**PKPbc**	**15 53 03.8**	**-0.2**
	5.1nm,0.8s,baz=120,slow=1.3,SNR=31						
MCK	**McKinley**	**151.05**	**309**	*e*PKPbc	**PKPbc**	**15 53 06.0**	**+0.6**
BPAW	**Bear Paw Mtn.**	**152.01**	**309**	*e*PKPbc	**PKPbc**	**15 53 07.5**	**-0.2**
BPAW				*e*PKPab	**PKPab**	**15 53 17.6**	**-0.1**

*NNC **29** 15:40:36.9±9.7, 37°45N×70°91E, h88km±145km, mb3.5, mpv3.8, Error ellipse: s-maj=73.8km s-min=45.5km az=14.0*

*IDC **29** 15:40:36.2±7.9, 37°26N×71°47E, h103km±52km, mb3.5/3, mb1 3.5/9, mb1mx3.2/32, mbtmp3.4/9, Error ellipse: s-maj=68.9km s-min=33.9km az=171.0*

ISC 29 15:40:30.8±1.0, 36°97N±0°07×71°2E±0°1, h88km, n44, σ1§91/43, mb3.7/3, 5C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.50**	**20**	P	**Pn**	**15 41 52.0**	**+1.5**
	SNR=31						
THN	**Thein Dam**	**5.86**	**139**	*e*S	**Sn**	**15 43 06.5**	**+5.8**
DLH	**Dalhousie**	**5.91**	**137**	*e*P	Pn	15 42 03.0	+7.1
DLH				*e*S	**Sn**	**15 43 05.0**	**+2.7**
EKS2	**Erkin-Say**	**6.02**	**18**	P	**Pn**	**15 41 59.4**	**+2.1**
	SNR=10						
KK31	**Karatay Array**	**6.15**	**355**	⇑P	**Pn**	**15 41 59.9**	**+1.0**
	4.9nm,0.5s,baz=188,slow=15,SNR=50						
KK31				⇑S	**Sn**	**15 43 04.6**	**-3.2**
	46nm,1.1s,baz=181,slow=23,SNR=6.0						
AAK	**Ala-Archa**	**6.20**	**23**	P	**Pn**	**15 42 02.1**	**+2.3**
	SNR=8.2						
AAK	**Ala-Archa**	**6.20**	**23**	P	**Pn**	**15 42 01.1**	**+1.4**
	1.6nm,0.3s,baz=188,slow=11,SNR=13						
AAK				S	**Sn**	**15 43 07.2**	**-2.0**
	1.8nm,0.3s,baz=326,slow=23,SNR=12						
CHMS	**Chumysh**	**6.61**	**23**	P	**Pn**	**15 42 07.0**	**+1.8**
	SNR=8.9						
USP	**Ospenovka**	**6.78**	**21**	P	**Pn**	**15 42 08.7**	**+1.1**
	SNR=7.2						
TKM2	**Tokmak 2**	**6.83**	**28**	⇓P	**Pn**	**15 42 09.7**	**+1.3**
	3.7nm,0.5s						
TKM2				⇑S	**Sn**	**15 43 21.8**	**-3.0**
	8.0nm,0.7s						
TKM2	**Tokmak 2**	**6.83**	**28**	P	Pn	15 42 11.6	+3.1
	SNR=12						
SDNR	**Sundarnagar**	**7.25**	**137**	*e*P	Pn	15 42 19.0	+4.9
SDNR				*e*4	**Sn**	**15 43 35.0**	**+0.2**
SMLA	**Simla**	**7.64**	**138**	*i* P	Pn	15 42 24.0	+4.6
SMLA				*i* S	**Sn**	**15 43 43.8**	**-0.6**
SMLA				AML	AML	15 43 46.9	
	comp=E,822nm,0.4s						
SMLA				AML	AML	15 43 49.3	
	comp=N,924nm,0.3s						
KKR	**Kurukshetra**	**8.42**	**145**	*e*S	**Sn**	**15 44 02.8**	**-0.5**
NDI	**New Delhi**	**9.69**	**147**	*ex*	Sn	15 44 28.0	-6.3
AYAN	**Aya Nagar**	**9.82**	**148**	*e*S	**Sn**	**15 44 35.8**	**-1.7**
KUDL	**Kundal**	**9.86**	**152**	*e*P	Pn	15 42 53.4	+3.8
KUDL				*e*S	**Sn**	**15 44 36.4**	**-2.2**
KUDL				AML	AML	15 44 39.4	
	comp=E,20nm,0.4s						
KUDL				AML	AML	15 44 40.6	
	comp=N,12nm,0.3s						
SONA	**Sohna**	**10.01**	**149**	*e*S	**Sn**	**15 44 38.5**	**-3.5**
SONA				AML	AML	15 44 50.2	
	comp=N,21nm,0.4s						
SONA				AML	AML	15 44 51.7	
	comp=E,29nm,0.1s						
AGRA	**Agra**	**11.26**	**148**	*e*S	**Sn**	**15 45 08.1**	**-4.5**
AGRA				AML	AML	15 45 16.1	
	comp=N,44nm,0.5s						
AGRA				AML	AML	15 45 17.7	
	comp=E,53nm,0.3s						
MK31	**Makanchi Array**	**12.81**	**37**	P	**Pn**	**15 43 29.1**	**-0.4**
	comp=E,1.0nm,0.6s,baz=222,slow=14,SNR=9.8						
MKAR	**Makanchi Array**	**12.81**	**37**	P	**Pn**	**15 43 29.5**	**0.0**
	comp=E,0.1nm,0.3s,baz=224,slow=15,SNR=15						
DANN	**Dangsing**	**13.62**	**126**	*e*P	**Pn**	**15 43 40.9**	**+0.4**
	comp=E,14nm,0.4s						
KOLN	**Koldanda**	**13.91**	**128**	*e*P	**Pn**	**15 43 44.6**	**+0.4**
	comp=E,11nm,0.3s						
GKN	**Gorkha**	**14.43**	**124**	*e*P	**Pn**	**15 43 51.2**	**+0.4**
	comp=E,19nm,0.4s						
KURBB	**Kurchatov Arra**	**14.62**	**19**	⇓P	**P**	**15 43 57.2**	**+0.2**
	comp=E,4.0nm,1.1s						
KURBB	**Kurchatov Arra**	**14.62**	**19**	P	**Pn**	**15 43 53.2**	**+0.2**
	comp=E,0.1nm,0.3s,baz=208,slow=10,SNR=3.4						
KURK	**Kurchatov**	**14.73**	**19**	⇑P	**P**	**15 43 57.7**	**-0.4**
	comp=E,1.5nm,1.0s						
AB31	**Akbulak array**	**14.76**	**330**	⇓P	**Pn**	**15 43 53.1**	**-1.6**
	comp=E,0.4nm,0.5s,baz=142,slow=12,SNR=11						
AB31				⇓S	Sn	15 46 26.6	-11
	comp=E,2.3nm,0.6s,baz=158,slow=23,SNR=6.0						
KKN	**Kakani**	**14.99**	**124**	*e*P	**Pn**	**15 43 58.0**	**-0.1**
	comp=E,15nm,0.6s						
DMN	**Daman**	**15.00**	**125**	*e*P	**Pn**	**15 43 57.9**	**-0.3**
	comp=E,7.3nm,0.3s						
PKIN	**Phulchoki**	**15.21**	**124**	*e*P	**Pn**	**15 44 01.3**	**+0.3**
	comp=E,19nm,0.8s						
PKI	**Pulchoki**	**15.22**	**124**	*e*P	**Pn**	**15 44 01.4**	**+0.2**
GUN	**Gumba**	**15.32**	**122**	*e*P	**Pn**	**15 44 02.0**	**-0.4**
	comp=E,72nm,1.0s						
JIRN	**Jiri**	**15.69**	**122**	*e*P	**Pn**	**15 44 07.1**	**0.0**
	comp=E,41nm,0.6s						
BVAR	**Borovoye Array**	**16.06**	**358**	P	**Pn**	**15 44 11.6**	**+0.3**
	comp=E,0.2nm,0.3s,baz=143,slow=12,SNR=3.8						
RAMN	**Ramite**	**16.43**	**123**	*e*P	**Pn**	**15 44 16.0**	**-0.2**
	comp=E,34nm,0.8s						
AKTO	**Aktyubinsk**	**16.46**	**329**	⇑P	**P**	**15 44 19.6**	**+2.3**
	comp=E,4.7nm,1.2s						
AKTO				⇓S	Sn	15 47 08.5	-10
	comp=E,3.6nm,1.1s						
AKTO	**Aktyubinsk**	**16.46**	**329**	P	**P**	**15 44 19.4**	**+2.0**
	comp=E,0.3nm,0.3s,baz=132,slow=12,SNR=4.1						
TAPN	**Taplejung**	**16.93**	**120**	*e*P	**P**	**15 44 22.5**	**-0.5**
	comp=E,16nm,0.6s						
ODAN	**Odare**	**17.02**	**122**	*e*P	**Pn**	**15 44 23.4**	**-0.1**
	comp=E,19nm,0.6s						
ZALV	**Zalesovo Beam**	**19.42**	**25**	P	**Pn**	**15 44 50.3**	**-1.5**
	comp=E,0.8nm,0.3s,baz=222,slow=10,SNR=17						
HFS	**Hagfors**	**42.80**	**322**	P	P	15 48 22.5	+3.1
	comp=E,1.6nm,0.5s,baz=94,slow=11,SNR=9.5						
NOA	**NORSAR Array B**	**44.10**	**323**	P	P	15 48 33.1	+3.1
	comp=E,0.8nm,0.6s,baz=96,slow=7.6,SNR=3.0						
ILAR	**Eielson Array**	**74.28**	**16**	P	**P**	**15 51 59.9**	**+1.9**
	comp=E,0.5nm,0.8s,baz=328,slow=3.2,SNR=4.8						

*ISCJB **29** 15:40:43.3±0.6, 10°30S±0°05×122°43E±0°06, h100km, mb3.9/2, Error ellipse: s-maj=8.4km s-min=6.5km az=144.4*

*AUST **29** 15:40:43.5, 10°00S×122°49E, h100km*

*IDC **29** 15:40:47.3±2.0, 10°26S×122°83E, h112km±17km, mb3.6/2, mb1 3.3/5, mb1mx3.1/19, mbtmp3.2/5, Error ellipse: s-maj=55.4km s-min=16.4km az=74.0*

ISC 29 15:40:46.4±1.1, 10°32S±0°07×122°62E±0°10, h100km, n16, σ2§07/17, Savu Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**1.03**	**84**	P	**Pn**	**15 41 07.1**	**-0.1**
	126nm,0.3s,baz=282,slow=8.0,SNR=65						
SOEI	**Soe**	**1.71**	**71**	P	**Pn**	**15 41 15.4**	**-0.1**
	baz=1.8,SNR=94						
WSI	**Waingapu**	**2.38**	**286**	P	Pn	15 41 18.4	-5.4
	baz=2.2,SNR=8.9						
KNRA	**Kununurra**	**8.01**	**132**	P	**Pn**	**15 42 40.7**	**+0.7**
	baz=8.3,SNR=27						
KNRA				S	**Sn**	**15 44 09.5**	**+0.6**
	baz=8.3,SNR=11						
FITZ	**Fitzroy Crossi**	**8.27**	**160**	P	**Pn**	**15 42 45.1**	**+1.6**
	0.1nm,0.3s,baz=340,slow=10,SNR=17						
FITZ				S	**Sn**	**15 44 15.9**	**+0.5**
	1.3nm,0.3s,baz=154,slow=10,SNR=12						
FITZ	**Fitzroy Crossi**	**8.27**	**160**	P	**Pn**	**15 42 45.9**	**+2.3**
	baz=8.7,SNR=9.2						
FITZ				S	**Sn**	**15 44 14.5**	**-0.8**
	baz=8.7,SNR=5.0						
KDU	**Kakadu**	**9.94**	**105**	P	**Pn**	**15 43 06.5**	**+0.3**
	baz=10,SNR=5.0						
UGM	**Wanagama**	**12.18**	**280**	P	Pn	15 43 30.4	-6.2
	baz=12,SNR=5.0						
WRA	**Warramunga Arr**	**14.80**	**132**	P	**Pn**	**15 44 09.8**	**-0.9**
	0.2nm,0.3s,baz=309,slow=14,SNR=19						
WRA				S	Sn	15 46 46.9	-7.2
	0.7nm,0.3s,baz=296,slow=22,SNR=12						
MEEK	**Meekatharra**	**16.67**	**193**	P	**P**	**15 44 38.1**	**+3.5**
	baz=17,SNR=6.8						
MEEK				S	Sn	15 47 32.5	-6.5
	baz=17,SNR=12						
ASAR	**Alice Springs**	**17.09**	**142**	P	**P**	**15 44 40.0**	**+0.7**
	0.1nm,0.3s,baz=318,slow=12,SNR=8.4						
ASAR				S	**Sn**	**15 47 46.8**	**-2.4**
	0.2nm,0.3s,baz=315,slow=22,SNR=10						
JAY	**Jayapura**	**19.56**	**68**	S	**S**	**15 48 43.4**	**+1.2**
	baz=20,SNR=26						
MORW	**Morawa**	**19.64**	**197**	S	**S**	**15 48 38.2**	**-5.4**
	baz=20,SNR=6.4						
EIDS	**Eidsvold**	**30.85**	**123**	S	S	15 51 41.4	-8.6
	baz=31,SNR=8.6						
USRK	**Ussuriysk Arra**	**54.92**	**8**	P	**P**	**15 50 06.0**	**-0.7**
	1.3nm,0.4s,baz=187,slow=6.4,SNR=9.2						
MKAR	**Makanchi Array**	**67.29**	**331**	P	**P**	**15 51 29.8**	**-0.5**
	0.5nm,0.8s,baz=147,slow=5.9,SNR=4.8						

IDC 29 15:42:06.9±2.3, 15°16S×173°93W, h0km, mb4.3/4, mb1 4.6/5, mb1mx4.1/18, mbtmp4.3/5, ML2.8/1, MS3.9/17, Ms1 3.9/17, ms1mx3.9/23, Error ellipse: s-maj=128.1km s-min=21.5km az=151.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.43**	**60**	Pn	Pn	15 42 46.3	-1.7
	130nm,0.3s,baz=304,slow=3.6,SNR=181						
AFI				Sn	Sn	15 43 11.3	-7.1
	214nm,0.3s,baz=143,slow=20,SNR=4.1						
DZM	**Mont Dzumac**	**19.82**	**247**	*e*LR	LR	15 51 35.6	
	461nm,29.4s						
PAE	**Paea**	**23.49**	**99**	*e*T	T	16 11 45.8	
	9.0nm,0.2s						
PPT	**Papeete**	**23.49**	**99**	LR	LR	15 54 32.0	
	comp=Z,198nm,21.1s,baz=172,slow=32						
PPT2	**Papeete2**	**23.49**	**99**	*e*LR	LR	15 53 02.5	
	456nm,27.8s						
PPT2	**Papeete2**	**23.49**	**99**	*e*T	T	16 11 46.6	
	15nm,0.4s						
TIAR	**Tiarei**	**23.71**	**99**	*e*T	T	16 12 02.0	
	29nm,0.3s						
TVO	**Taravao**	**23.81**	**100**	*e*T	T	16 12 10.0	
	19nm,0.3s						
TBI	**Tubuai**	**24.47**	**113**	*e*LQ	LQ	15 52 32.9	
	865nm,26.2s						
TBI				*e*LR	LR	15 53 25.6	
	556nm,30.2s						
TBI	**Tubuai**	**24.47**	**113**	*e*T	T	16 13 11.0	
	23nm,0.3s						
PMOR	**Pomariorio Ree**	**25.14**	**93**	*e*T	T	16 13 44.1	
	6.6nm,0.2s						
HNR	**Honiara**	**26.13**	**280**	LR	LR	15 56 03.0	
	comp=Z,146nm,20.6s,baz=118,slow=32						
RKT	**Rikitea**	**37.56**	**108**	*e*T	T	16 29 27.5	
	6.0nm,0.4s						
STKA	**Stephens Creek**	**43.71**	**240**	LR	LR	16 04 40.9	
	comp=Z,133nm,20.9s,baz=207,slow=31						
WRA	**Warramunga Arr**	**49.40**	**257**	P	P	15 50 58.1	-0.7
	1.2nm,0.6s,baz=89,slow=6.8,SNR=14						
ASAR	**Alice Springs**	**49.70**	**252**	P	P	15 51 00.9	-0.3
	20nm,0.6s,baz=84,slow=8.0,SNR=146						
ASAR				LR	LR	16 09 58.8	
	comp=Z,195nm,19.1s,baz=185,slow=34						
FITZ	**Fitzroy Crossi**	**57.76**	**258**	LR	LR	16 15 20.8	
	comp=Z,89nm,19.8s,baz=180,slow=34						
BATI	**Baumata**	**60.92**	**267**	LR	LR	16 16 09.2	
	comp=Z,168nm,19.0s,baz=126,slow=34						
VNDA	**Vanda**	**63.56**	**186**	LR	LR	16 16 27.3	
	comp=Z,57nm,18.4s,baz=296,slow=32						
NWAO	**Narrogin (SRO)**	**64.29**	**241**	LR	LR	16 21 28.0	
	comp=Z,139nm,18.1s,baz=52,slow=37						
PETK	**Petropavlovsk-**	**72.25**	**342**	LR	LR	16 19 27.9	
	comp=Z,33nm,21.6s,baz=359,slow=31						
KSRS	**Korea Array**	**75.63**	**316**	LR	LR	16 19 45.5	
	comp=Z,58nm,21.6s,baz=13,slow=30						
USRK	**Ussuriysk Arra**	**76.88**	**323**	LR	LR	16 24 58.8	
	comp=Z,67nm,18.8s,baz=212,slow=34						
TXAR	**Lajitas Array**	**80.91**	**56**	LR	LR	16 21 53.8	
	comp=Z,61nm,20.6s,baz=185,slow=30						
ILAR	**Eielson Array**	**82.31**	**11**	P	P	15 54 29.1	-0.9
	1.1nm,0.9s,baz=223,slow=6.0,SNR=6.0						
PDAR	**Pinedale Array**	**82.43**	**42**	P	P	15 54 32.6	+1.1
	0.3nm,0.4s,baz=255,slow=3.5,SNR=3.6						
PDAR				LR	LR	16 26 45.1	
	comp=Z,74nm,19.2s,baz=257,slow=32						
MAW	**Mawson**	**87.86**	**199**	LR	LR	16 30 57.2	
	comp=Z,122nm,18.3s,baz=346,slow=33						
PLCA	**Paso Flores**	**90.05**	**132**	LR	LR	16 25 30.0	
	comp=Z,106nm,19.8s,baz=317,slow=29						
ULM	**Lac du Bonnet**	**94.07**	**39**	LR	LR	16 33 44.3	
	comp=Z,99nm,18.5s,baz=359,slow=33						
SONM	**Songino Array**	**94.32**	**318**	LR	LR	16 31 17.1	
	comp=Z,69nm,20.8s,baz=36,slow=31						
BRTR	**Keskin Array B**	**145.65**	**321**	PKPbc	PKPbc	16 01 48.0	-0.1
	3.2nm,0.9s,baz=62,slow=2.9,SNR=12						
GERES	**GERESS Array B**	**145.83**	**351**	PKPbc	PKPdf	16 01 47.9	+0.1
	0.4nm,0.5s,baz=46,slow=2.8,SNR=2.8						

*ISCJB **29** 15:42:47.4±0.5, 52°56S±0°09×27°8E±0°2, h10km, mb3.9/10, MS3.0/5, Error ellipse: s-maj=21.5km s-min=10.5km az=157.4*

*IDC **29** 15:42:47.2±0.8, 52°58S×27°81E, h0km, mb3.9/10, mb1 4.0/10, mb1mx3.9/21, mbtmp3.9/10, MS3.2/5, Ms1 3.1/5, ms1mx3.0/22, Error ellipse: s-maj=29.6km s-min=16.8km az=73.0*

*NEIC **29** 15:42:48.8±0.4, 52°56S×27°78E, h10km, mb4.5/3, Error ellipse: s-maj=16.2km s-min=8.9km az=72.0*

ISC 29 15:42:48.7±0.7, 52°6S±0°1×28°0E±0°2, h10km, n27, σ1§32/27, mb4.0/10, MS3.0/5, South of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**20.87**	**343**	*e*P	**P**	**15 47 30.1**	**-0.9**
	141nm,1.8s						
SUR	**Sutherland**	**20.87**	**343**	P	**P**	**15 47 31.3**	**+0.4**
	7.2nm,0.8s,baz=200,slow=14,SNR=3.9						
MAW	**Mawson**	**22.53**	**145**	P	**P**	**15 47 50.6**	**+2.3**
MAW				S	**S**	**15 51 51.8**	**-3.2**
MAW	**Mawson**	**22.53**	**145**	P	**P**	**15 47 50.6**	**+2.3**
	2.4nm,0.8s,baz=309,slow=13,SNR=4.4						
MAW				S	**S**	**15 51 51.8**	**-3.2**
	1.2nm,0.4s,baz=332,slow=19,SNR=5.0						
MAW				LR	LR	15 54 27.9	
	comp=Z,50nm,19.6s,baz=130,slow=31						
SNAA	**Sanae**	**23.43**	**204**	*e*P	**P**	**15 47 58.9**	**+1.2**
	5.5nm,0.9s						
SNAA	**Sanae**	**23.43**	**204**	P	**P**	**15 47 58.8**	**+1.2**
	1.3nm,0.9s,baz=84,slow=9.8,SNR=15						
SNAA				LR	LR	15 56 09.2	
	comp=Z,22nm,18.1s,baz=206,slow=34						
BOSA	**Boshof**	**24.05**	**354**	P	**P**	**15 48 04.3**	**+0.3**
BOSA	**Boshof**	**24.05**	**354**	P	**P**	**15 48 04.3**	**+0.3**
	3.4nm,0.8s,baz=162,slow=9.6,SNR=4.0						
BOSA				LR	LR	15 54 54.6	
	comp=Z,68nm,21.9s,baz=315,slow=30						
LBTB	**Lobatse**	**27.61**	**355**	LR	LR	15 58 50.1	
	comp=Z,31nm,19.7s,baz=157,slow=35						
MATP	**Matopo**	**32.12**	**1**	LR	LR	15 59 19.8	
	comp=Z,102nm,19.7s,slow=31						
QSPA	**South Pole Qui**	**37.61**	**180**	P	**P**	**15 50 02.8**	**-0.5**
QSPA	**South Pole Qui**	**37.61**	**180**	P	**P**	**15 50 02.8**	**-0.5**
	2.1nm,0.4s,baz=250,slow=1.3,SNR=16						
VNDA	**Vanda**	**47.03**	**168**	P	**P**	**15 51 19.9**	**+0.3**
VNDA	**Vanda**	**47.03**	**168**	P	**P**	**15 51 19.9**	**+0.3**
	1.1nm,0.6s,baz=206,slow=6.3,SNR=7.5						
CPUP

CHOS					S	Sg	16 37 56.1	+0.3
BALY	**Balya**	**1.27**	**80**	*i*	P	Pb	16 37 43.1	+0.4
BALY				*i*	S	Sb	16 37 58.6	-0.3
BALY	**Balya**	**1.27**	**80**	*i*	P	Pb	16 37 43.1	+0.4
BALY				*i*	S	Sb	16 37 58.6	-0.3
ALN	**Alexandroupoli**	**1.38**	**1**		P	Pn	16 37 43.6	-0.1
ALN					S	Sb	16 38 02.2	+0.4
ALN	**Alexandroupoli**	**1.38**	**1**		P	Pn	16 37 44.2	+0.5
ALN	**Alexandroupoli**	**1.38**	**1**		P	Pn	16 37 43.6	-0.1
ALN					S	Sb	16 38 02.2	+0.4
SART	**Tekirdag**	**1.48**	**37**	*i*	P	Pn	16 37 45.2	0.0
SART				*i*	S	Sb	16 38 05.4	+0.5
SART	**Tekirdag**	**1.48**	**37**	*i*	P	Pn	16 37 45.2	0.0
SART				*i*	S	Sb	16 38 05.4	+0.5

*ISCJB **29** 16:37:21.4±0.5, 39°.92N±0°.02×23°.75E±0°.05, h5km±4km, Error ellipse: s-maj=5.9km s-min=3.6km az=3.5*
*CSEM **29** 16:37:21.2±0.2, 39°.91N×23°.74E, h5km, ML2.3/5, Error ellipse: s-maj=4.7km s-min=2.8km az=93.0*
*ATH **29** 16:37:21.3, 39°.93N×23°.77E, h5km, MD2.9/5*
*THE **29** 16:37:21.6, 39°.93N×23°.70E, h9km, ML2.3/5, Error ellipse: s-maj=1.6km s-min=0.6km az=277.0*

ISC 29 16:37:21.1±1.0, 39°.93N±0°.02×23°.78E±0°.03, h5km±8km, n22, σ0°39/42, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAIG	**Paliouri**	**0.08**	**267**	P	**Pg**	**16 37 22.9**	**+0.1**
PAIG				S	**Sg**	**16 37 24.0**	**0.0**
PAIG	**Paliouri**	**0.08**	**267**	*e*PG	**Pg**	**16 37 22.9**	**+0.1**
PAIG				*e*SG	**Sg**	**16 37 24.0**	**0.0**
PAIG	**Paliouri**	**0.08**	**267**	P	**Pg**	**16 37 22.9**	**+0.1**
PAIG				S	**Sg**	**16 37 24.0**	**0.0**
OUR	**Ouranopolis**	**0.43**	**21**	P	**Pb**	**16 37 30.8**	**-0.4**
OUR				S	**Sb**	**16 37 37.6**	**-0.4**
OUR	**Ouranopolis**	**0.43**	**21**	P	**Pb**	**16 37 30.8**	**-0.4**
OUR				S	**Sb**	**16 37 37.6**	**-0.4**
PLG	**Polygyros**	**0.51**	**330**	P	**Pg**	**16 37 30.7**	**-0.2**
PLG				S	**Sg**	**16 37 37.8**	**+0.2**
PLG	**Polygyros**	**0.51**	**330**	*e*PG	**Pg**	**16 37 30.9**	**0.0**
PLG				*e*SB	**Sg**	**16 37 37.9**	**+0.3**
PLG	**Polygyros**	**0.51**	**330**	*e*Pg	**Pg**	**16 37 30.9**	**0.0**
PLG				S	**Sg**	**16 37 37.8**	**+0.2**
XOR	**Xorichti**	**0.72**	**219**	P	**Pg**	**16 37 34.9**	**-0.1**
XOR				S	**Sg**	**16 37 45.0**	**+0.6**
XOR	**Xorichti**	**0.72**	**219**	P	**Pg**	**16 37 34.9**	**-0.1**
XOR				S	**Sg**	**16 37 45.0**	**+0.6**
NEO	**Neokhori**	**0.76**	**215**	*e*PB	**Pg**	**16 37 36.0**	**+0.4**
NEO				*e*SB	**Sb**	**16 37 46.6**	**-0.8**
NEO	**Neokhori**	**0.76**	**215**	*e*Pb	**Pg**	**16 37 36.0**	**+0.4**
NEO				*e*Sb	**Sb**	**16 37 46.6**	**-0.8**
AOS	**Alonnisos**	**0.76**	**174**	P	**Pg**	**16 37 35.6**	**-0.1**
AOS				S	**Sb**	**16 37 47.6**	**+0.1**
AOS	**Alonnisos**	**0.76**	**174**	*e*PB	**Pg**	**16 37 36.1**	**+0.4**
AOS				*e*SB	**Sb**	**16 37 47.2**	**-0.3**
AOS	**Alonnisos**	**0.76**	**174**	P	**Pg**	**16 37 35.6**	**-0.1**
AOS	**Alonnisos**	**0.76**	**174**	*e*Pb	**Pg**	**16 37 36.1**	**+0.4**
AOS				*e*Sb	**Sb**	**16 37 47.2**	**-0.3**
LIT	**Litokhoron**	**1.01**	**280**	*e*PB	**Pg**	**16 37 40.3**	**-0.1**
LIT				*e*SB	**Sb**	**16 37 54.5**	**-0.1**
LIT	**Litokhoron**	**1.01**	**280**	*e*Pb	**Pg**	**16 37 40.3**	**-0.1**
LIT				*e*Sb	**Sb**	**16 37 54.5**	**-0.1**
KAVA	**Kavala**	**1.20**	**27**	P	**Pg**	**16 37 44.1**	**0.0**
KAVA				S	**Sb**	**16 38 01.1**	**+0.9**
KAVA	**Kavala**	**1.20**	**27**	P	**Pg**	**16 37 44.1**	**0.0**
GRG	**Griva**	**1.47**	**315**	*e*PB	**Pb**	**16 37 48.9**	**0.0**
GRG				*e*SB	**Sg**	**16 38 09.1**	**+0.8**
GRG	**Griva**	**1.47**	**315**	*e*Pb	**Pb**	**16 37 48.9**	**0.0**
GRG				*e*Sb	**Sg**	**16 38 09.1**	**+0.8**

IDC 29 16:40:51.7±1.7, 4°.05N×126°.93E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.5/23, mbtmp3.5/5, 1C, Error ellipse: s-maj=103.2km s-min=23.1km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**4.13**	**320**	⇑*i* P	Pb	16 42 02.4	-3.0
FITZ	**Fitzroy Crossi**	**22.04**	**183**	P	P	16 45 48.0	-0.1
	0.9nm,0.7s,baz=17,slow=14,SNR=3.0						
WRA	**Warramunga Arr**	**24.93**	**163**	P	P	16 46 16.5	-0.2
	0.5nm,0.5s,baz=344,slow=10,SNR=10						
ASAR	**Alice Springs**	**28.37**	**166**	P	P	16 46 47.6	-0.2
	0.5nm,1.1s,baz=342,slow=6.8,SNR=3.3						
STKA	**Stephens Creek**	**38.35**	**160**	P	P	16 48 14.8	+0.3
	1.5nm,0.7s,baz=329,slow=5.9,SNR=5.0						
MKAR	**Makanchi Array**	**57.41**	**325**	P	P	16 50 42.1	-0.1
	0.2nm,0.6s,baz=126,slow=7.3,SNR=4.0						

IDC 29 16:47:43.4±1.8, 15°.20S×174°.28W, h0km, mb4.2/3, mb1 4.4/4, mb1mx3.9/19, mbtmp4.2/4, ML2.5/1, Error ellipse: s-maj=135.1km s-min=26.2km az=153.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.74**	**62**	Pn	Pn	16 48 29.0	+0.3
	45nm,0.3s,baz=349,slow=5.2,SNR=75						
AFI				Sn	Sn	16 48 54.8	-7.9
	137nm,0.3s,baz=346,slow=19,SNR=16						
STKA	**Stephens Creek**	**43.40**	**240**	P	P	16 55 47.3	-0.7
	4.5nm,1.1s,baz=84,slow=10,SNR=5.1						
WRA	**Warramunga Arr**	**49.06**	**257**	P	P	16 56 32.9	+0.2
	0.7nm,0.4s,baz=91,slow=6.8,SNR=34						
ASAR	**Alice Springs**	**49.37**	**252**	P	P	16 56 35.3	+0.2
	5.0nm,0.6s,baz=86,slow=8.4,SNR=174						
BRTR	**Keskin Array B**	**145.47**	**320**	PKPbc	PKPbc	17 07 22.6	-1.4
	0.5nm,0.6s,baz=90,slow=1.4,SNR=3.6						

MEX 29 16:50:21.0±0.6, 17°.15N×99°.92W, h16km±16km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.35**	**254**	*i* P	Pg	16 50 27.5	-0.8
CAIG				*i* S	Sg	16 50 31.3	-1.8
ARIG	**Puente Sto Nin**	**1.20**	**340**	*i* P	Pn	16 50 39.4	-3.8
ARIG				*i* S	Sb	16 50 53.8	-5.0
PLIG	**Platanillo**	**1.30**	**18**	*i* P	Pn	16 50 40.4	-4.3
PLIG				*i* S	Sb	16 50 56.7	-5.1

*CSEM **29** 17:01:41.2, 42°.24N×13°.60E, h8km, MD1.9/10, After ROM*

ROM 29 17:01:41.2±0.1, 42°.24N×13°.60E, h8km, Md1.9/10, Ml1.2/6, Error ellipse: s-maj=1.6km s-min=1.2km az=41.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAGN	**Fagnano**	**0.03**	**341**	Pg	Pg	17 01 43.1	+0.3
FAGN				Sg	Sg	17 01 43.9	-0.1
	3μm,0.2s						
FAGN	**Fagnano**	**0.03**	**341**	Pg	Pg	17 01 43.1	+0.3
FAGN				Sg	Sg	17 01 43.9	-0.1
	3μm,0.2s						
VCEL	**Villa Celiera**	**0.24**	**49**	Pg	Pg	17 01 46.9	+0.7
VCEL				Sg	Sg	17 01 50.7	+1.2
VCEL	**Villa Celiera**	**0.24**	**49**	Pg	Pg	17 01 46.9	+0.7
VCEL				Sg	Sg	17 01 50.7	+1.2
PTQR	**Pietraquaria**	**0.26**	**214**	Pg	Pb	17 01 47.7	-0.6
	5.0nm,0.2s						
PTQR	**Pietraquaria**	**0.26**	**214**	Pg	Pb	17 01 47.7	-0.6
	5.0nm,0.2s						
INTR	**Introdacqua**	**0.32**	**135**	Pg	Pg	17 01 48.5	+0.8
INTR				Sg	Sb	17 01 53.9	-0.9
	44nm,0.6s						
INTR	**Introdacqua**	**0.32**	**135**	Pg	Pg	17 01 48.5	+0.8
INTR				Sg	Sb	17 01 53.9	-0.9
	44nm,0.6s						
CAMP	**Campotosto**	**0.33**	**335**	Pg	Pg	17 01 48.1	+0.2
CAMP				Sg	Sg	17 01 53.3	+0.9
	15nm,0.4s						
CAMP	**Campotosto**	**0.33**	**335**	Pg	Pg	17 01 48.1	+0.2
CAMP				Sg	Sg	17 01 53.3	+0.9
	15nm,0.4s						
FIAM	**Fiamignano**	**0.36**	**275**	Pg	Pg	17 01 49.0	+0.6
FIAM				Sg	Sb	17 01 54.8	-1.0
	32nm,0.9s						
FIAM	**Fiamignano**	**0.36**	**275**	Pg	Pg	17 01 49.0	+0.6
FIAM				Sg	Sb	17 01 54.8	-1.0
	32nm,0.9s						
TERO	**Teramo**	**0.38**	**1**	Pg	Pb	17 01 49.6	-0.7
TERO				Sg	Sb	17 01 55.9	-0.6
	24nm,0.3s						
TERO	**Teramo**	**0.38**	**1**	Pg	Pb	17 01 49.6	-0.7
TERO				Sg	Sb	17 01 55.9	-0.6
	24nm,0.3s						
LPEL	**Lama dei Pelig**	**0.48**	**114**	Pg	Pg	17 01 50.9	+0.3
LPEL				Sg	Sb	17 01 58.1	-1.1
LPEL	**Lama dei Pelig**	**0.48**	**114**	Pg	Pg	17 01 50.9	+0.3
LPEL				Sg	Sb	17 01 58.1	-1.1
NRCA	**Norcia**	**0.69**	**329**	Pg	Pg	17 01 54.9	+0.2
NRCA				Sg	Sb	17 02 05.8	+0.3
	9.0nm,0.1s						
NRCA	**Norcia**	**0.69**	**329**	Pg	Pg	17 01 54.9	+0.2
NRCA				Sg	Sb	17 02 05.8	+0.3
	9.0nm,0.1s						

*ISCJB **29** 17:03:48.8±0.7, 22°.6S±0°.1×171°.20E±0°.08, h42km, mb4.4/9, MS3.7/7, Error ellipse: s-maj=15.7km s-min=10.0km az=169.1*
*IDC **29** 17:03:51.3±8.5, 22°.69S×171°.17E, h51km±61km, mb4.0/5, mb1 4.2/6, mb1mx3.8/17, mbtmp4.1/6, ML4.5/1, MS3.6/11, Ms1 3.6/11, ms1mx3.4/29, Error ellipse: s-maj=55.2km s-min=51.6km az=141.0*
*NEIC **29** 17:03:52.8±1.4, 22°.51S×171°.15E, h66km±12km, mb4.7/6, Error ellipse: s-maj=30.1km s-min=10.6km az=161.0*
*AUST **29** 17:03:53.6, 22°.99S×171°.63E, h100km*

ISC 29 17:03:51.0±0.8, 22°.6S±0°.1×171°.17E±0°.08, h42km, n44, σ1°11/37, mb4.4/9, MS3.6/7, 1D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.41**	**276**	P	**Pn**	**17 04 56.2**	**+0.7**
DZM				S	**Sn**	**17 05 46.7**	**+1.0**
DZM	**Mont Dzumac**	**4.41**	**276**	P	**Pn**	**17 04 56.2**	**+0.7**
	27nm,0.3s,baz=97,slow=18,SNR=309						
DZM				S	**Sn**	**17 05 46.7**	**+1.0**
	39nm,0.3s,baz=109,slow=17,SNR=15						
DZM				LR	LR	17 06 18.4	
	comp=Z,306nm,20.9s,baz=114,slow=33						
NFK	**Norfolk Island**	**7.03**	**204**	P	**Pn**	**17 05 32.2**	**+0.9**
	baz=6.9,SNR=5.0						
MSVF	**Nonsavu**	**8.09**	**54**	⇓*e*Pn	**Pn**	**17 05 47.1**	**+1.1**
	109nm,1.2s						
RAO	**Raoul Island**	**11.83**	**126**	LR	LR	17 10 17.3	
	comp=Z,272nm,20.8s,baz=208,slow=33						
URZ	**Urewera**	**16.40**	**163**	LR	LR	17 12 25.5	
	comp=Z,125nm,21.3s,baz=310,slow=32						
HNR	**Honiara**	**16.96**	**319**	LR	LR	17 12 39.2	
	comp=Z,139nm,21.3s,baz=209,slow=31						
EIDS	**Eidsvold**	**18.55**	**258**	*e*P	**Pn**	**17 08 06.3**	**+1.5**
	10nm,1.2s						
EIDS	**Eidsvold**	**18.55**	**258**	P	**Pn**	**17 08 07.6**	**+2.8**
	baz=19,SNR=4.1						
RMQ	**Roma**	**20.74**	**255**	P	Pn	17 08 32.1	+1.2
	baz=21,SNR=12						
CTA	**Charters Tower**	**23.33**	**272**	P	**P**	**17 08 56.1**	**+0.4**
CTA	**Charters Tower**	**23.33**	**272**	P	**P**	**17 08 56.1**	**+0.4**
	3.4nm,0.6s,baz=111,slow=10,SNR=8.2						
CTAO	**Charters Tower**	**23.33**	**272**	*e*P	**P**	**17 08 55.5**	**-0.1**
	53nm,1.8s						
CMSA	**Cobar Meteorol**	**24.32**	**243**	P	**P**	**17 09 06.0**	**+1.2**
	baz=24,SNR=24						
QLP	**Quilpie**	**24.79**	**255**	P	**P**	**17 09 10.0**	**+0.9**
	baz=25,SNR=9.9						
MTSU	**Mount Surprise**	**25.55**	**275**	P	**P**	**17 09 17.1**	**+1.0**
	baz=26,SNR=65						
PMG	**Port Moresby**	**26.50**	**296**	P	**P**	**17 09 23.1**	**-1.6**
PMG	**Port Moresby**	**26.50**	**296**	LR	LR	17 17 52.6	
	comp=Z,110nm,19.2s,baz=234,slow=32						
STKA	**Stephens Creek**	**27.79**	**244**	P	**P**	**17 09 35.4**	**-0.8**
STKA	**Stephens Creek**	**27.79**	**244**	P	**P**	**17 09 35.4**	**-0.8**
	2.7nm,0.8s,baz=89,slow=10,SNR=4.2						
STKA				LR	LR	17 18 58.1	
	comp=Z,116nm,20.7s,baz=26,slow=33						
AS31	**Alice Springs**	**34.22**	**261**	*e*P	**P**	**17 10 32.3**	**-0.6**
ASAR	**Alice Springs**	**34.22**	**261**	P	**P**	**17 10 32.3**	**-0.7**
ASAR	**Alice Springs**	**34.22**	**261**	P	**P**	**17 10 32.3**	**-0.7**
	6.8nm,0.8s,baz=86,slow=9.1,SNR=15						
ASAR				LR	LR	17 23 44.2	
	comp=Z,118nm,20.6s,baz=151,slow=35						
WRAB	**Tennant Creek**	**34.36**	**267**	*e*P	**P**	**17 10 32.4**	**-1.7**
	2.9nm,0.6s						
WRA	**Warramunga Arr**	**34.37**	**267**	P	**P**	**17 10 32.8**	**-1.4**
WRA	**Warramunga Arr**	**34.37**	**267**	P	**P**	**17 10 32.8**	**-1.4**
	1.3nm,0.4s,baz=100,slow=8.0,SNR=38						
PPT	**Papeete**	**37.13**	**89**	LR	LR	17 22 29.3	
	comp=Z,168nm,20.4s,baz=318,slow=30						
KDU	**Kakadu**	**38.07**	**278**	P	**P**	**17 11 05.1**	**-0.8**
	baz=38,SNR=3.6						
KNRA	**Kununurra**	**40.54**	**272**	P	**P**	**17 11 25.7**	**-0.8**
	baz=41,SNR=3.3						
FITZ	**Fitzroy Crossi**	**42.80**	**267**	*e*P	**P**	**17 11 44.6**	**-0.3**
	8.8nm,0.6s						
FITZ	**Fitzroy Crossi**	**42.80**	**267**	LR	LR	17 28 27.9	
	comp=Z,62nm,20.0s,baz=312,slow=34						
FITZ	**Fitzroy Crossi**	**42.80**	**267**	P	**P**	**17 11 44.9**	**-0.1**
	baz=43,SNR=18						
BATI	**Baumata**	**47.02**	**277**	LR	LR	17 32 31.7	
	comp=Z,272nm,18.8s,baz=238,slow=37						
MBWA	**Marble Bar**	**47.56**	**262**	*e*P	**P**	**17 12 22.1**	**-0.7**
	12nm,0.9s						
MEEK	**Meekatharra**	**47.67**	**254**	P	**P**	**17 12 23.0**	**-0.6**
	baz=48,SNR=5.3						
NWAO	**Narrogin (SRO)**	**48.37**	**245**	*e*P	**P**	**17 12 28.0**	**-0.8**
NWAO	**Narrogin (SRO)**	**48.37**	**245**	LR	LR	17 32 43.2	
	comp=Z,116nm,18.8s,baz=294,slow=36						
KSM	**Kuching**	**63.89**	**284**	*e*P	**P**	**17 14 18.2**	**-1.8**
	12nm,0.8s						
CMAR	**Chiang Mai Arr**	**81.52**	**294**	P	**P**	**17 16 04.8**	**+0.2**
CMAR	**Chiang Mai Arr**	**81.52**	**294**	P	**P**	**17 16 04.8**	**+0.2**
	1.5nm,0.8s,baz=136,slow=4.3,SNR=11						
GERES	**GERESS Array B**	**148.31**	**331**	PKPbc	**PKPdf**	**17 23 30.5**	**+1.2**
GERES	**GERESS Array B**	**148.31**	**331**	PKPbc	**PKPdf**	**17 23 30.5**	**+1.2**
	0.2nm,0.5s,baz=20,slow=3.1,SNR=4.1						
TORD	**Torodi Ar. Bea**	**166.25**	**229**	PKPab	**PKPab**	**17 24 52.4**	**-1.2**
TORD	**Torodi Ar. Bea**	**166.25**	**229**	PKPab	**PKPab**	**17 24 52.4**	**-1.2**
	0.6nm,1.0s,baz=95,slow=4.0,SNR=2.7						

*NIED **29** 17:21:00, 41°.50N×142°.10E, h53km, Mw4.5 Best double couple: M0:6.34000×10^15 NP1:φs=26.00000°, δ74.00000°, λ96.00000°. NP2:φs=187.00000°, δ17.00000°, λ72.00000°.*
*BJI **29** 17:21:41.2, 41°.39N×142°.19E, h68km, mB5.1/28, mb4.9/44, Ms4.5/21, MS7 4.4/14*
*ISCJB **29** 17:21:43.1±0.2, 41°.50N±0°.02×142°.07E±0°.03, h68km±1km, mb4.6/118, Error ellipse: s-maj=3.7km s-min=2.4km az=33.9*
*MOS **29** 17:21:43.0±0.8, 41°.58N×142°.03E, h62km, mb5.0/66, Error ellipse: s-maj=7.5km s-min=4.8km az=113.3*
*JMA **29** 17:21:43.3±0.1, 41°.49N×142°.07E, h63km±2km, M4.3 Broadband fault plane solution: P waves. NP1: φs=17.00000°, δ79.00000°, λ92.00000°. NP2:φs=187.00000°, δ11.00000°, λ80.00000°. Principal axes: T Plg56.0000°, Azm289.0000°; N Plg2.0000°, Azm196.0000°; P Plg34.0000°, Azm105.0000°;*
JMA Felt II J1.
*IDC **29** 17:21:43.7±0.6, 41°.47N×142°.07E, h62km±4km, mb4.2/20, mb1 4.4/23, mb1mx4.3/29, mbtmp4.2/23, MS3.5/7, Ms1 3.5/7, ms1mx3.4/38 Error ellipse: s-maj=14.2km s-min=8.5km az=100.0*
*NEIC **29** 17:21:44.2±0.2, 41°.54N×142°.05E, mb4.7/23, MW4.5(NIED), Error ellipse: s-maj=5.7km s-min=3.6km az=139.0*
NEIC Felt at Misawa, Honshu. Recorded [2 JMA] in southwestern Hokkaido. Also recorded [2 JMA] in Aomori and [1 JMA] in Iwate, Honshu.
*TEH **29** 17:21:45.0, 41°.58N×142°.00E, h66km, ML4.7*

ISC 29 17:21:43.9±0.3, 41°.49N±0°.02×142°.09E±0°.03, h64km±2km, h64km:pP-P, n350, σ1°07/447, mb4.8/118, 16C-25D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOT	**Ohata**	**0.79**	**263**	⇓P	**Pn**	**17 21 58.7**	**-0.8**
JOT				*e*S	**Sn**	**17 22 10.5**	**-0.4**
JKB	**Kayabe**	**0.89**	**297**	⇓P	**Pn**	**17 21 59.7**	**-1.0**
JKB				*e*S	**Sn**	**17 22 12.2**	**-0.9**
JNBK	**Urakawa-nobuka**	**0.94**	**32**	P	**Pn**	**17 22 00.5**	**-0.8**
JNBK				*e*S	**Sn**	**17 22 13.7**	**-0.4**
ERM	**Erimo**	**0.96**	**56**	*d i*P	**Pn**	**17 22 01.1**	**-0.4**
ERM	**Erimo**	**0.96**	**56**	*e*Pn	**Pn**	**17 22 01.3**	**-0.2**
JEM	**Erimo**	**0.96**	**56**	⇑P	**Pn**	**17 22 01.2**	**-0.3**
JEM				*e*S	**Sn**	**17 22 14.7**	**+0.1**
JTM	**Tenmabayashi**	**1.04**	**228**	⇓P	**Pn**	**17 22 02.4**	**-0.2**
JTM				*e*S	**Sn**	**17 22 15.8**	**-0.7**
JANG	**Nango**	**1.19**	**202**	⇓P	**Pn**	**17 22 04.1**	**-0.5**
JANG				S	**Sn**	**17 22 19.2**	**-0.9**
JNB	**Noboribetsu**	**1.26**	**322**	⇓P	**Pn**	**17 22 04.3**	**-1.1**
JNB				*e*S	**Sn**	**17 22 20.2**	**-1.3**
JSR	**Shiriuchi**	**1.26**	**273**	⇓P	**Pn**	**17 22 04.9**	**-0.5**
JBT2	**Biratori 2**	**1.31**	**9**	⇓P	**Pn**	**17 22 06.1**	**0.0**
JBT2				*e*S	**Sn**	**17 22 23.1**	**+0.4**
JSI2	**Shiura 2**	**1.34**	**252**	⇓P	**Pn**	**17 22 06.6**	**+0.1**
JSI2				*e*S	**Sn**	**17 22 24.0**	**+0.6**
JYM2	**Yakumo 2**	**1.43**	**297**	⇓P	**Pn**	**17 22 07.7**	**0.0**
JYM2				*e*S	**Sn**	**17 22 26.2**	**+0.5**
JEW	**Eniwo**	**1.43**	**341**	⇓P	**Pn**	**17 22 07.6**	**-0.2**
JEW				*e*S	**Sn**	**17 22 25.4**	**-0.4**
JCH	**Churui**	**1.47**	**40**	⇓P	**Pn**	**17 22 08.8**	**+0.5**
JCH				*e*S	**Sn**	**17 22 27.1**	**+0.4**
JTH	**Tanohata**	**1.56**	**186**	⇑P	**Pn**	**17 22 08.0**	**-1.4**
JTH				*e*S	**Sn**	**17 22 28.2**	**-0.5**
JKZ	**Kuzumaki**	**1.61**	**201**	⇓P	**Pn**	**17 22 10.1**	**-0.1**
JKZ				*e*S	**Sn**	**17 22 29.2**	**-0.8**
JAH	**Hinai**	**1.70**	**221**	P	**Pn**	**17 22 11.4**	**0.0**
JAH				*e*S	**Sn**	**17 22 33.2**	**+1.0**
JFR	**Furan**	**1.72**	**12**	⇓P	**Pn**	**17 22 11.4**	**-0.2**
JIW	**Iwasaki**	**1.81**	**241**	⇓P	**Pn**	**17 22 12.9**	**0.0**
JSH	**Shimam**	**1.91**	**308**	⇓P	**Pn**	**17 22 13.6**	**-0.6**
JSH				*e*S	**Sn**	**17 22 36.4**	**-0.8**
MIYJ	**Miyakonagasawa**	**1.92**	**186**	P	**Pn**	**17 22 13.7**	**-0.6**
MIYJ				*e*S	**Sn**	**17 22 37.1**	**-0.3**
JOB	**Onbets**	**1.92**	**42**	⇓P	**Pn**	**17 22 14.8**	**+0.5**
JOB				*e*S	**Sn**	**17 22 38.6**	**+1.2**
JAB	**Ashibetsu**	**2.02**	**3**	⇓P	**Pn**	**17 22 16.6**	**+0.9**
JAB				*e*S	**Sn**	**17 22 42.5**	**+2.6**
JOSM	**Okushiri--Mats**	**2.04**	**288**	⇓P	**Pn**	**17 22 15.1**	**-0.9**
JOSM				*e*S	**Sn**	**17 22 38.7**	**-1.7**
JOM	**Ohasama**	**2.10**	**197**	P	**Pn**	**17 22 17.0**	**+0.2**
JOM				*e*S	**Sn**	**17 22 42.3**	**+0.5**
JAR	**Ashorobuto**	**2.20**	**34**	⇓P	**Pn**	**17 22 18.0**	**-0.1**
JAR				*e*S	**Sn**	**17 22 43.6**	**-0.5**
JSK	**Shakotan**	**2.21**	**328**	P	**Pn**	**17 22 18.6**	**+0.3**
JHR	**Hokuryu**	**2.27**	**353**	⇓P	**Pn**	**17 22 19.8**	**+0.7**
JHR				*e*S	**Sn**	**17 22 47.1**	**+1.1**
ASAJ	**Asahikawa**	**2.66**	**8**	*e*Pn	**Pn**	**17 22 24.8**	**+0.6**
ASAJ				S	**Sn**	**17 22 57.2**	**+1.9**
ASAJ	**Asahikawa**	**2.66**	**8**	P	**Pn**	**17 22 24.9**	**+0.6**
	34nm,0.3s,baz=222,slow=15,SNR=222						
ASAJ				S	**Sn**	**17 22 57.2**	**+1.9**
	40nm,0.3s,baz=319,slow=19,SNR=6.0						
YUK	**Yuzh-Kuril'sk**	**3.77**	**46**	*d i*P	**Pn**	**17 22 38.9**	**-0.6**
YUK				*i* S	**Sn**	**17 23 19.2**	**-3.3**
YUK				pmax	pmax		
	comp=N,71nm,0.1s						
YUK				pmax	pmax		
	comp=E,66nm,0.1s						
YUK				pmax	pmax		
	comp=Z,229nm,0.3s						
YUK				smax	smax		
	comp=E,1μm,0.5s						
YSS	**Yuzh-Sakhalins**	**5.49**	**5**	*e*P	**Pn**	**17 23 04.0**	**+1.0**
KUR	**Kuril'sk**	**5.63**	**46**	⇑*i*P	**Pn**	**17 23 05.3**	**+0.3**
KUR				*i* S	**Sn**	**17 24 08.2**	**-0.1**
KUR				pmax	pmax		
	comp=Z,40nm,0.9s						
KUR				pmax	pmax		
	comp=E,29nm,0.7s						
KUR				pmax	pmax		
	comp=N,24nm,0.8s						
KUR				smax	smax		
	comp=E,38nm,0.3s						
KUR				smax	smax		
	comp=N,96nm,0.6s						
MAJO	**Matsushiro**	**5.79**	**213**	*e*P	**Pn**	**17 23 09.2**	**+2.0**
MAJO				pmax	pmax		
	comp=Z,30nm,0.6s						
MAJO	**Matsushiro**	**5.79**	**213**	*e*Pn	**Pn**	**17 23 09.2**	**+2.0**
	comp=Z,30nm,0.6s						
MAT	**Matsushiro**	**5.79**	**213**	P	**Pn**	**17 23 09.6**	**+2.4**
MAT				S	**Sn**	**17 24 15.6**	**+3.4**
VLA	**Vladivostok**	**7.74**	**286**	*i* P	Pn	17 23 37.0	+3.2
VLA				pmax	pmax		
	comp=Z,62nm,1.4s						
USRK	**Ussuriysk Arra**	**7.90**	**293**	P	**Pn**	**17 23 36.1**	**+0.1**
	comp=Z,1.5nm,0.3s,baz=102,slow=14,SNR=34						
USRK				LR	LR	17 26 32.0	
	comp=Z,402nm,21.6s,baz=71,slow=36						
HABR	**Khabarovsk**	**8.58**	**327**	*e*P	**Pn**	**17 23 44.4**	**-0.9**
HABR				pmax	pmax		
	comp=E,11nm,0.9s						
HABR				pmax	pmax		
	comp=Z,18nm,1.7s						
HABR				pmax	pmax		
	comp=N,11nm,0.9s						
MDJ	**Mudanjiang**	**9.67**	**293**	P	**Pn**	**17 24 02.5**	**+2.3**
MDJ				S	**Sn**	**17 25 49.0**	**+1.9**
MDJ				PcP	**PcP**	**17 30 08.8**	**-1.6**
MDJ				pmax	pmax		
	comp

YAK MLR MLR
comp=N,91nm,17.0s
YAK MLR MLR
comp=E,38nm,12.0s
SEY Seymchan 22.33 12⇑ *eP* **P 17 26 33.8 -2.1**
HHC Hu-ho-hao-te 22.94 279 *eP* **P 17 26 39.3 -3.4**
HHC PP **PnPn 17 27 11.0 +1.2**
HHC PcP **PcP 17 30 30.3 -0.4**
HHC S S 17 30 39.8 -8.0
HHC SS **SnSn 17 31 29.0 +4.1**
HHC ScP **ScP 17 34 01.3 -1.5**
HHC PcS **PcS 17 34 07.3 -2.5**
HHC ScS **ScS 17 37 47.0 -1.7**
HHC pmax pmax
comp=Z,37nm,0.7s
HHC pmax pmax
comp=Z,340nm,4.8s
HHC LR LR
comp=N,710nm,10.8s
HHC LR LR
comp=E,760nm,10.4s
HHC LR LR
comp=Z,530nm,10.1s
ULN Ulaanbaatar 25.56 296 *eP* **P 17 27 06.1 -0.7**
comp=Z,10nm,0.9s
SONM Songino Array 26.00 296 P **P 17 27 10.7 -0.1**
SONM Songino Array 26.00 296 P **P 17 27 10.7 -0.1**
comp=Z,13nm,0.8s,baz=87,slow=8.5,SNR=17
SONM LR LR 17 38 16.7
comp=Z,159nm,18.0s,baz=55,slow=38
TLY Talaya 28.02 305 *eP* **P 17 27 28.6 -0.1**
TLY pmax pmax
comp=Z,8.0nm,1.3s
TLY MLR MLR
comp=Z,93nm,15.0s
ZAK Zakamensk 28.14 302 *eP* **P 17 27 28.9 -1.0**
ZAK pmax pmax
comp=Z,6.0nm,1.3s
MOY Mondy 29.66 304 *eP* **P 17 27 43.5 +0.1**
LZH Lanzhou 30.12 272 *eP* **P 17 27 47.8 +0.2**
LZH pP **pP 17 28 02.0 -1.3**
LZH sP **sP 17 28 10.3 -0.5**
LZH PP **PnPn 17 28 46.0 -1.1**
LZH *e*S **S 17 32 38.0 -4.0**
LZH pmax pmax
comp=Z,16nm,1.0s
LZH pmax pmax
comp=Z,240nm,4.9s
LZH LR LR
comp=N,490nm,11.8s
LZH LR LR
comp=E,560nm,10.2s
LZH LR LR
comp=Z,770nm,13.6s
GTA Gaotai 32.01 281 *eP* **P 17 28 06.5 +2.3**
GTA pP **pP 17 28 22.3 +2.4**
GTA sP **sP 17 28 30.5 +3.1**
GTA PcP **PcP 17 30 54.0 +1.4**
GTA S **S 17 33 11.0 -0.3**
GTA sS **sS 17 33 37.8 -0.3**
GTA ScP **ScP 17 34 33.0 +2.6**
GTA PcS **PcS 17 34 39.0 +1.5**
GTA pmax pmax
comp=Z,12nm,0.7s
GTA pmax pmax
comp=Z,120nm,5.7s
GTA LR LR
comp=N,140nm,13.8s
GTA LR LR
comp=E,180nm,16.1s
GTA LR LR
comp=Z,200nm,14.7s
CD2 Chengdu 32.45 263 P **P 17 28 07.0 -1.0**
CD2 pP **pP 17 28 25.0 +1.3**
CD2 sP **sP 17 28 32.8 +1.6**
CD2 PP **PnPn 17 29 18.5 +1.5**
CD2 S **S 17 33 17.0 -1.1**
CD2 sS **sS 17 33 44.5 -0.4**
CD2 SS **SnSn 17 35 15.3 -1.4**
CD2 pmax pmax
comp=Z,30nm,0.5s
CD2 pmax pmax
comp=Z,450nm,5.3s
CD2 LR LR
comp=N,2μm,4.6s
CD2 LR LR
comp=Z,690nm,5.5s
GYA Guiyang 32.73 254 *eP* **P 17 28 11.0 +0.5**
GYA pP **pP 17 28 27.8 +1.6**
GYA sP **sP 17 28 35.0 +1.2**
GYA PP **PnPn 17 29 22.3 +1.6**
GYA S **S 17 33 22.5 -0.1**
GYA sS **sS 17 33 51.0 +1.6**
GYA ScP **ScP 17 34 33.0 0.0**
GYA ScS **ScS 17 38 31.8 -1.4**
GYA pmax pmax
comp=Z,10.0nm,0.8s
GYA pmax pmax
comp=Z,80nm,4.8s
HVS Khovu-Aksy 34.23 303*c i*P **P 17 28 23.1 -0.2**
HVS pmax pmax
comp=Z,55nm,1.0s
QIZ Qiongzhong 35.41 241 P **P 17 28 33.8 +0.1**
QIZ S **S 17 34 05.5 +1.6**
QIZ pmax pmax
comp=Z,65nm,2.1s
KMI Kunming 36.36 256 P **P 17 28 44.5 +2.4**
KMI pmax pmax
comp=Z,8.0nm,0.9s
ZAA0 Zalesovo Array 39.43 308 *eP* **P 17 29 06.8 -0.5**
ZAA0 *e*PcP **PcP 17 31 14.4 +0.3**
ZALV Zalesovo Beam 39.43 308 P **P 17 29 07.1 -0.2**
ZALV *PP **pP 17 29 23.1 -0.2**
ZALV 17 31 14.4
ZALV pmax pmax
comp=Z,24nm,0.8s
ZALV pmax pmax
comp=Z,8.0nm,0.7s
ZALV pmax pmax
comp=Z,4.0nm,0.6s
ZALV Zalesovo Beam 39.43 308 P **P 17 29 07.1 -0.2**
ZALV pP **pP 17 29 23.1 -0.2**
ZALV PcP **PcP 17 31 14.4 +0.3**
ZALV Zalesovo Beam 39.43 308 P **P 17 29 07.1 -0.2**
comp=Z,24nm,0.8s,baz=89,slow=7.7,SNR=85
ZALV pP **pP 17 29 23.1 -0.2**
comp=Z,7.6nm,0.7s,baz=81,slow=9.2,SNR=4.4
ZALV PcP **PcP 17 31 14.4 +0.3**
comp=Z,4.2nm,0.6s,baz=100,slow=2.6,SNR=6.3
ZALV LR LR 17 46 14.4
comp=Z,95nm,19.6s,baz=250,slow=37
WMQ Urumqi 39.47 292 P **P 17 29 08.5 +0.6**
WMQ pP **pP 17 29 23.5 -0.4**
WMQ sP **sP 17 29 31.5 +0.1**
WMQ pmax pmax
comp=Z,33nm,0.7s
WMQ pmax pmax
comp=Z,170nm,4.8s
WMQ LR LR
comp=E,98nm,18.4s
NVS Novosibirsk 40.26 310⇑ *i*P **P 17 29 12.9 -1.3**
NVS pmax pmax
comp=Z,8.0nm,0.9s
NVS pmax pmax
comp=N,2.0nm,0.5s
NVS pmax pmax
comp=E,3.0nm,0.7s
MK31 Makanchi Array 42.34 298 *i* P **P 17 29 31.2 -0.2**
MK31 pmax pmax
comp=Z,15nm,0.8s
MK31 Makanchi Array 42.34 298 *eP* **P 17 29 30.8 -0.6**
MKAR Makanchi Array 42.34 298 P **P 17 29 31.2 -0.2**
MKAR 17 31 23.8
MKAR pmax pmax
comp=Z,16nm,0.9s
MKAR pmax pmax
comp=Z,2.0nm,0.8s
MKAR MLR MLR
comp=Z,59nm,19.2s
MKAR Makanchi Array 42.34 298 P **P 17 29 31.2 -0.2**
MKAR PcP **PcP 17 31 23.9 +0.1**
MKAR Makanchi Array 42.34 298 P **P 17 29 31.2 -0.2**
comp=Z,16nm,0.9s,baz=84,slow=9.6,SNR=35
MKAR PcP **PcP 17 31 23.8 +0.1**
comp=Z,2.3nm,0.8s,baz=72,slow=4.3,SNR=5.0

MKAR LR LR 17 48 25.2
comp=Z,59nm,19.2s,baz=176,slow=38
IM04 Indian Mountai 42.58 33 *eP* **P 17 29 33.1 0.0**
CHTO Chiang Mai 43.05 252 *eP* **P 17 29 37.7 +0.3**
CHTO pmax pmax
comp=Z,35nm,0.8s
CHTO Chiang Mai 43.05 252 *eP* **P 17 29 37.7 +0.3**
comp=Z,35nm,0.8s
CMAR Chiang Mai Arr 43.28 251 P **P 17 29 40.1 +0.8**
CMAR PcP **PcP 17 31 27.5 +0.2**
CMAR Chiang Mai Arr 43.28 251 P **P 17 29 40.1 +0.8**
comp=Z,2.3nm,0.7s,baz=41,slow=7.8,SNR=16
CMAR PcP **PcP 17 31 27.5 +0.2**
comp=Z,0.7nm,0.5s,baz=28,slow=2.0,SNR=5.7
KDAK Kodiak Island 43.51 45 P **P 17 29 40.9 +0.3**
KDAK Kodiak Island 43.51 45 P **P 17 29 40.9 +0.3**
comp=Z,5.8nm,0.9s,baz=263,slow=8.1,SNR=2.3
KURK Kurchatov 43.72 305*c i*P **P 17 29 42.1 -0.3**
KURK pmax pmax
comp=Z,11nm,0.7s
KURK Kurchatov 43.72 305 *eP* **P 17 29 42.2 -0.3**
comp=Z,19nm,0.9s
KURK *e*PcP **PcP 17 31 28.2 0.0**
MCK McKinley 44.69 36 *eP* **P 17 29 50.5 +0.5**
MCK pmax pmax
comp=Z,8.0nm,1.0s
MCK McKinley 44.69 36 *eP* **P 17 29 50.5 +0.5**
comp=Z,7.7nm,1.0s
COLA College 45.08 35 *eP* **P 17 29 54.3 +1.3**
COLA pmax pmax
comp=Z,85nm,0.9s
COLA College 45.08 35 *eP* **P 17 29 54.3 +1.3**
comp=Z,85nm,0.9s
SML Sawmill 45.15 39 *eP* **P 17 29 53.6 -0.1**
SML Sawmill 45.15 39 *eP* **P 17 29 53.6 -0.1**
ILAR Eielson Array 45.49 35 P **P 17 29 56.6 +0.2**
ILAR Eielson Array 45.49 35 P **P 17 29 56.6 +0.2**
comp=Z,11nm,1.0s,baz=271,slow=6.5,SNR=50
TAPN Taplejung 46.31 270 *eP* **P 17 30 04.4 +0.8**
comp=Z,50nm,0.9s
ODAN Odare 46.81 270 *eP* **P 17 30 07.9 +0.4**
comp=Z,46nm,0.9s
JIRN Jiri 47.28 271 *eP* **P 17 30 12.5 +1.2**
comp=Z,30nm,0.6s
RAMN Ramite 47.35 270 *eP* **P 17 30 11.9 +0.1**
comp=Z,86nm,0.8s
GUN Gumba 47.38 272 *eP* **P 17 30 12.5 +0.4**
comp=Z,114nm,0.7s
VOSK Vostochnaya 47.80 309 P **P 17 30 13.9 -0.6**
VOSK pmax pmax
comp=Z,11nm,0.9s
KKN Kakani 47.90 272 *eP* **P 17 30 16.2 +0.3**
comp=Z,61nm,0.8s
ULHL Ulahol 47.91 294 *i* P **P 17 30 16.2 +0.4**
ULHL Ulahol 47.91 294 P **P 17 30 16.2 +0.4**
SNR=5.9
PKI Pulchoki 47.92 272 *eP* **P 17 30 16.2 0.0**
comp=Z,68nm,1.1s
PKIN Phulchoki 47.92 272 *eP* **P 17 30 17.0 +0.8**
comp=Z,16nm,0.6s
EGAK Eagle 47.93 34 *eP* **P 17 30 15.5 +0.1**
comp=Z,9.5nm,1.2s
BVA0 Borovoye Array 48.05 310 *i* P **P 17 30 16.6 +0.1**
BVA0 pmax pmax
comp=Z,6.0nm,0.6s
TKM2 Tokmak 2 48.09 295 *i* P **P 17 30 18.1 +0.9**
TKM2 Tokmak 2 48.09 295 P **P 17 30 18.1 +0.9**
SNR=30
TKM2 Tokmak 2 48.09 295 *eP* **P 17 30 17.7 +0.4**
comp=Z,24nm,0.7s
BRVK Borovoye 48.11 310*ce*P **P 17 30 17.1 +0.2**
BRVK pmax pmax
comp=Z,14nm,1.2s
BRVK Borovoye 48.11 310 *eP* **P 17 30 17.0 +0.2**
comp=Z,8.9nm,0.8s
DMN Daman 48.12 272 *eP* **P 17 30 17.9 +0.2**
comp=Z,40nm,0.8s
GKN Gorkha 48.27 273 *eP* **P 17 30 18.5 -0.2**
comp=Z,35nm,0.6s
KBK Karagaybulak 48.64 295 *i* P **P 17 30 22.0 +0.6**
KBK Karagaybulak 48.64 295 P **P 17 30 22.0 +0.6**
SNR=21
KZA Kyzart 48.66 294 *i* P **P 17 30 23.2 +1.4**
KZA Kyzart 48.66 294 P **P 17 30 23.2 +1.4**
SNR=6.2
USP Ospenovka 48.71 296 *i* P **P 17 30 22.1 +0.4**
USP Ospenovka 48.71 296 P **P 17 30 22.1 +0.4**
SNR=14
DANN Dangsing 48.74 274 *eP* **P 17 30 23.1 +0.6**
comp=Z,193nm,0.6s
AAK Ala-Archa 48.95 295*c i*P **P 17 30 23.5 -0.3**
AAK pmax pmax
comp=Z,14nm,1.1s
AAK Ala-Archa 48.95 295 P **P 17 30 24.0 +0.1**
SNR=6.4
AAK Ala-Archa 48.95 295 *eP* **P 17 30 23.4 -0.3**
comp=Z,4.8nm,0.8s
AAK P **P 17 30 23.9 +0.1**
AAK Ala-Archa 48.95 295 P **P 17 30 23.9 +0.1**
comp=Z,2.8nm,0.3s,baz=85,slow=6.5,SNR=11
KSM Kuching 49.06 224 *eP* **P 17 30 25.7 +1.1**
KOLN Koldanda 49.17 273 *eP* **P 17 30 26.0 +0.3**
comp=Z,27nm,0.6s
KSH Kashi 49.19 291 P P 17 30 30.3 +4.7
KSH pP pP 17 30 46.0 +3.9
KSH PP PP 17 32 25.5 +5.9
KSH ScP **ScP 17 35 41.0 +3.6**
KSH S **S 17 37 31.8 +5.3**
KSH ScS **ScS 17 40 13.5 +1.8**
KSH pmax pmax
comp=Z,73nm,4.8s
KSH LR LR
comp=N,140nm,7.7s
KSH LR LR
comp=E,130nm,5.3s
KSH LR LR
comp=Z,150nm,7.0s
EKS2 Erkin-Say 49.43 296 *eP* **P 17 30 27.0 -0.4**
EKS2 *e* 17 31 48.7
EKS2 pmax pmax
comp=Z,5.0nm,0.6s
EKS2 Erkin-Say 49.43 296 P **P 17 30 27.7 +0.3**
SNR=9.5
EKS2 Erkin-Say 49.43 296 *eP* **P 17 30 27.0 -0.4**
comp=Z,5.3nm,0.6s
EKS2 *e*PcP **PcP 17 31 48.7 -0.1**
AML Almayashu 49.70 295 *i* P **P 17 30 30.6 +0.8**
AML Almayashu 49.70 295 P **P 17 30 30.6 +0.8**
SNR=9.4
INK Inuvik 50.21 29 *eP* **P 17 30 32.9 +0.1**
comp=Z,14nm,0.8s
HYT Haines Junctio 50.46 39 *eP* **P 17 30 36.3 +1.4**
KK31 Karatay Array 51.45 297 *i* P **P 17 30 42.2 -0.3**
KK31 pmax pmax
comp=Z,4.0nm,0.5s
KKAR Karatay Array 51.45 297 *eP* **P 17 30 42.0 -0.5**
KKAR pmax pmax
comp=Z,5.0nm,0.5s
KKAR Karatay Array 51.45 297 *eP* **P 17 30 42.0 -0.5**
comp=Z,5.1nm,0.5s
KULM Kulim 51.59 237 *eP* **P 17 30 44.7 +0.9**
comp=Z,9.9nm,0.7s
SVE Sverdlovsk 52.22 317⇓ *eP* **P 17 30 48.3 +0.4**
SVE pmax pmax
comp=Z,15nm,1.1s
SOKR Solikamsk 53.16 321⇓ *i*P **P 17 30 55.4 +0.6**
SOKR pmax pmax
comp=Z,10.0nm,0.9s
ARU Arti 53.43 317*d i*P **P 17 30 56.7 -0.2**
ARU *PP **pP 17 31 11.9 -1.7**
ARU 17 32 54.0
ARU S **S 17 38 25.1 +0.9**
ARU SS **SS 17 42 03.6 -0.8**
ARU pmax pmax
comp=Z,8.0nm,1.0s
AB31 Akbulak array 55.54 308 *i* P **P 17 31 12.3 0.0**
AB31 pmax pmax
comp=Z,10.0nm,0.6s
ABKAR Akbulak array 55.54 308 *eP* **P 17 31 12.3 0.0**
comp=Z,9.3nm,0.6s
ABKAR *e* 17 31 21.1
AKTO Aktyubinsk 56.15 310 P **P 17 31 16.6 -0.1**
AKTO pmax pmax
comp=Z,6.0nm,0.8s
KBL Kabul 56.41 289 *eP* **P 17 31 16.8 -2.2**
KBL pmax pmax

comp=Z,10.0nm,0.9s
KBL Kabul 56.41 289 *eP* **P 17 31 16.8 -2.2**
comp=Z,10nm,0.9s
KEV Kevo 59.48 339 *eP* **P 17 31 39.3 -0.3**
KEV pmax pmax
comp=Z,1.0nm,0.3s
KEV Kevo 59.48 339 *ep* **P 17 31 39.3 -0.3**
comp=Z,0.7nm,0.3s
ARCES ARCESS Array B 60.03 339 P **P 17 31 43.5 0.0**
ARCES ARCESS Array B 60.03 339 P **P 17 31 43.5 0.0**
comp=Z,5.2nm,1.0s,baz=61,slow=8.5,SNR=8.1
KLMR Klimovskoe 60.30 327 *eP* **P 17 31 44.3 -1.1**
KLMR pmax pmax
comp=Z,25nm,1.4s
FITZ Fitzroy Crossi 61.22 198 P **P 17 31 52.2 +0.2**
FITZ Fitzroy Crossi 61.22 198 P **P 17 31 52.2 +0.2**
comp=Z,3.0nm,1.1s,baz=47,slow=6.6,SNR=2.7
WRAB Tennant Creek 61.53 188 *eP* **P 17 31 51.2 -2.9**
WRAB pmax pmax
comp=Z,7.0nm,1.2s
WRAB Tennant Creek 61.53 188 *eP* **P 17 31 51.2 -2.9**
comp=Z,6.7nm,1.2s
WRA Warramunga Arr 61.54 188 P **P 17 31 53.7 -0.5**
WRA pP **pP 17 32 10.2 -1.0**
WRA Warramunga Arr 61.54 188 P **P 17 31 53.7 -0.5**
comp=Z,2.7nm,0.7s,baz=6.1,slow=6.9,SNR=23
WRA pP **pP 17 32 10.3 -1.0**
comp=Z,2.6nm,0.9s,baz=7.0,slow=7.6,SNR=4.7
JOF Joensuu 62.30 331 *eP* **P 17 31 57.7 -1.2**
JOF pmax pmax
comp=Z,2.0nm,0.4s
JOF Joensuu 62.30 331 *ep* **P 17 31 57.7 -1.2**
comp=Z,1.5nm,0.4s
ITEG Tejag 64.53 292 *eP* **P 17 32 14.4 +0.1**
KAF Kangasniemi 64.61 332 *eP* P 17 32 07.7 -6.4
KAF pmax pmax
comp=Z,1.0nm,0.4s
KAF Kangasniemi 64.61 332 *ep* P 17 32 07.7 -6.4
comp=Z,1.1nm,0.4s
VRHR Novokhopersk 64.78 317 *eP* P **17 32 12.3 -3.1**
VRHR pmax pmax
comp=Z,10.0nm,0.7s
VRHR pmax pmax
comp=N,9.0nm,0.5s
VRHR pmax pmax
comp=E,6.0nm,0.5s
OBN Obninsk 64.87 322⇑ *eP* **P 17 32 16.3 +0.4**
OBN pmax pmax
comp=Z,18nm,1.1s
FINES FINESS Array B 65.14 332 P **P 17 32 17.3 -0.3**
FINES FINESS Array B 65.14 332 P **P 17 32 17.3 -0.3**
comp=Z,11nm,0.7s,baz=55,slow=7.3,SNR=33
ASAR Alice Springs 65.26 188 P **P 17 32 18.9 +0.2**
ASAR pP **pP 17 32 35.9 -0.1**
ASAR Alice Springs 65.26 188 P **P 17 32 18.9 +0.2**
comp=Z,1.8nm,0.8s,baz=8.3,slow=5.3,SNR=18
ASAR pP **pP 17 32 35.9 -0.1**
comp=Z,2.6nm,0.8s,baz=4.6,slow=6.6,SNR=11
VSR Storozhevoye 65.96 318 *eP* **P 17 32 22.4 -0.6**
VSR pmax pmax
comp=Z,10.0nm,0.4s
VSR pmax pmax
comp=N,10.0nm,1.1s
VSR pmax pmax
comp=E,10.0nm,1.0s
VORD Divnogorie 66.05 318 *eP* **P 17 32 23.2 -0.4**
VORD pmax pmax
comp=Z,10.0nm,0.5s
VORD pmax pmax
comp=N,70nm,0.7s
VORD pmax pmax
comp=E,10.0nm,0.6s
SUMG Summit 66.24 0 *i* P **P 17 32 25.6 +0.6**
SUMG pmax pmax
comp=Z,12nm,0.8s
SUMG Summit 66.24 0 *i* P **P 17 32 25.6 +0.6**
comp=Z,12nm,0.8s
ZEI Tsey 68.42 308 *eP* **P 17 32 37.3 -1.7**
ZEI pmax pmax
comp=Z,6.0nm,0.6s
KIV Kislovodsk 68.42 310 *eP* **P 17 32 39.2 +0.3**
KIV pmax pmax
comp=Z,47nm,1.1s
KBZ Khabaz 68.44 310 P **P 17 32 39.0 +0.2**
KBZ pmax pmax
comp=Z,8.0nm,0.9s
KBZ Khabaz 68.44 310 P **P 17 32 39.0 +0.2**
KBZ Khabaz 68.44 310 P **P 17 32 39.0 +0.2**
comp=Z,8.3nm,0.9s,baz=17,slow=6.2,SNR=11
IZEF Zefreh 68.94 296 *eP* **P 17 32 42.0 -0.5**
IHRS Heris 69.18 303 *eP* **P 17 32 43.9 +0.1**
NB2 NORSAR Subarra 70.29 337 P **P 17 32 49.9 -0.1**
comp=Z,2.6nm,0.6s,baz=35,slow=6.5
NOA NORSAR Array B 70.29 337 P **P 17 32 50.0 -0.1**
NOA pP **pP 17 33 06.1 -1.3**
NOA NORSAR Array B 70.29 337 P **P 17 32 50.0 -0.1**
comp=Z,7.0nm,0.9s,baz=36,slow=6.1,SNR=14
NOA pP **pP 17 33 06.1 -1.3**
comp=Z,3.1nm,0.8s,baz=36,slow=6.2,SNR=4.4
AKASG Malin Array Be 71.11 322 P **P 17 32 55.0 -0.2**
AKASG *PP **pP 17 33 10.7 -1.9**
AKASG pmax pmax
comp=Z,10.0nm,0.6s
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKASG Malin Array Be 71.11 322 P **P 17 32 55.0 -0.2**
AKASG pP **pP 17 33 10.7 -1.9**
AKASG Malin Array Be 71.11 322 P **P 17 32 55.0 -0.2**
comp=Z,9.4nm,0.6s,baz=44,slow=6.0,SNR=55
AKASG pP **pP 17 33 10.7 -1.9**
comp=Z,2.1nm,0.6s,baz=42,slow=6.4,SNR=4.1
KIEV Kiev 71.13 322 *eP* **P 17 32 54.6 -0.6**
KIEV pmax pmax
comp=Z,8.0nm,0.7s
KIEV Kiev 71.13 322 *eP* **P 17 32 54.6 -0.6**
comp=Z,7.8nm,0.7s
MOOW Moose Ponds 72.90 46 P **P 17 33 07.1 +0.8**
comp=Z,2.3nm,0.8s
PDAR Pinedale Array 74.20 47 P **P 17 33 14.2 +0.2**
PDAR Pinedale Array 74.20 47 P **P 17 33 14.2 +0.2**
comp=Z,1.3nm,0.6s,baz=275,slow=3.3,SNR=9.9
KBD Kabd 74.35 295 *eP* **P 17 33 14.6 -0.2**
RDF Al-Radifah 74.61 295 *eP* **P 17 33 16.1 -0.2**
RDF AMb AMB 17 33 16.8
comp=Z,50nm,0.6s
NAY Al-Naaiem 74.61 295 *eP* **P 17 33 15.6 -0.6**
NAY AMb AMB 17 33 16.3
comp=Z,26nm,0.7s
RST Umm Al-Ruwaisa 74.62 296 *eP* **P 17 33 15.6 -0.7**
RST AMb AMB 17 33 16.5
comp=Z,334nm,0.8s
BUR08 Bucovina Ar. S 75.14 321 *eP* **P 17 33 19.6 +0.4**
KOLS Kolonicke sedl 75.54 324 *eP* **P 17 33 22.1 +0.9**
KOLS Kolonicke sedl 75.54 324 *eP* **P 17 33 22.1 +0.9**
STHS Stebnicka Huta 75.63 325 *eP* **P 17 33 23.4 +1.6**
STHS pmax pmax
comp=Z,4.0nm,0.7s
STHS Stebnicka Huta 75.63 325 *eP* **P 17 33 23.4 +1.6**
OJC Ojcow 75.64 326 *eP* **P 17 33 22.6 +0.8**
OJC Ojcow 75.64 326 *eP* **P 17 33 22.6 +0.8**
CRVS Cervenica-Dubn 75.92 324 *eP* **P 17 33 24.0 +0.6**
CRVS pmax pmax
comp=Z,5.0nm,1.1s
CRVS Cervenica-Dubn 75.92 324 *eP* **P 17 33 24.0 +0.6**
BR131 Keskin Array S 76.31 311 *eP* **P 17 33 25.8 -0.2**
comp=Z,2.6nm,0.7s
BRTR Keskin Array B 76.31 311 P **P 17 33 26.2 +0.3**
BRTR pP **pP 17 33 44.0 +0.5**
BRTR Keskin Array B 76.31 311 P **P 17 33 26.2 +0.3**
comp=Z,3.7nm,0.7s,baz=59,slow=4.4,SNR=22
BRTR pP **pP 17 33 44.0 +0.5**
comp=Z,1.8nm,0.9s,baz=15,slow=5.4,SNR=3.7
OKC Ostrava-Krasne 76.63 326 *eP* **P 17 33 28.2 +0.8**
OKC Ostrava-Krasne 76.63 326 *eP* **P 17 33 28.2 +0.8**
KECS Kecovo 76.66 324 *eP* **P 17 33 28.3 +0.7**
KECS pmax pmax
comp=Z,2.0nm,0.8s
KECS Kecovo 76.66 324 *eP* **P 17 33 28.3 +0.7**
MORC Moravsky Berou 76.92 327 *eP* **P 17 33 28.7 -0.4**
MORC pmax pmax
comp=Z,12nm,1.1s
MORC Moravsky Berou 76.92 327 *eP* **P 17 33 28.7 -0.4**
comp=Z,12nm,1.1s
DPC Dobruska-Polom 76.97 328 *eP* **P 17 33 29.8 +0.4**
DPC Dobruska-Polom 76.97 328 *eP* **P 17 33 29.8 +0.4**

UPC	Upice	76.97	328	eP	P	17 33 29.3	-0.1
UPC	Upice	76.97	328	eP	P	17 33 29.3	-0.1
PSZ	Piszkesteto	77.35	324	eP	P	17 33 32.0	+0.4
PSZ	comp=Z,4.0nm,0.8s			pmax	pmax		
PSZ	Piszkesteto	77.35	324	eP	P	17 33 32.0	+0.4
	comp=Z,3.9nm,0.8s						
BRG	Berggiesshubel	77.49	329	eP	P	17 33 32.3	0.0
	comp=Z,4.0nm,1.0s						
BRG	Berggiesshubel	77.49	329	eP	P	17 33 32.3	+0.1
BRG				pmax	pmax		
	comp=Z,4.0nm,1.0s						
CLL	Collm	77.50	330	eP	P	17 33 31.8	-0.5
	comp=Z,7.0nm,0.8s						
CLL	Collm	77.50	330⇑	iP	P	17 33 32.1	-0.2
CLL				e*PP	pP	17 33 50.0	+0.1
CLL				pmax	pmax		
	comp=Z,7.0nm,0.8s						
CLL	Collm	77.50	330⇑	iP	P	17 33 32.1	-0.2
	comp=Z,7.0nm,0.8s						
CLL				epP	pP	17 33 50.0	+0.1
PRU	Pruhonice	77.97	328	eP	P	17 33 34.9	0.0
PRU	Pruhonice	77.97	328	eP	P	17 33 34.9	0.0
CLZ	Clausthal	78.03	332	eP	P	17 33 35.5	+0.2
	comp=Z,7.0nm,0.9s						
CLZ	Clausthal	78.03	332	eP	P	17 33 35.5	+0.2
CLZ				pmax	pmax		
	comp=Z,7.0nm,0.9s						
TANN	Tannenbergstha	78.43	330	eP	P	17 33 37.6	+0.1
	comp=Z,11nm,1.5s						
IBBN	Ibbenburen	78.55	333	eP	P	17 33 37.8	-0.2
	comp=Z,14nm,0.8s						
KHC	Kasperske Hory	79.03	328	eP	P	17 33 41.2	+0.4
KHC	Kasperske Hory	79.03	328	eP	P	17 33 41.2	+0.4
KHC	Kasperske Hory	79.03	328	eP	P	17 33 41.2	+0.4
	comp=Z,5.4nm,0.9s						
ROTZ	Rotzenmuhle	79.05	330	eP	P	17 33 41.4	+0.5
	comp=Z,6.0nm,1.1s						
GERES	GERESS Array B	79.21	328	P	P	17 33 42.0	+0.1
GERES	GERESS Array B	79.21	328	P	P	17 33 42.0	+0.1
	comp=Z,1.8nm,0.8s,baz=36,slow=7.0,SNR=14						
WET	Wettzell	79.29	329	eP	P	17 33 42.7	+0.5
	comp=Z,8.0nm,1.1s						
WET	Wettzell	79.29	329	eP	P	17 33 42.7	+0.5
WET				pmax	pmax		
	comp=Z,8.0nm,1.1s						
GRF	Grafenberg Arr	79.48	330	eP	P	17 33 43.8	+0.6
	comp=Z,11nm,0.9s						
GRF	Grafenberg Arr	79.48	330	eP	P	17 33 43.8	+0.6
GRF				pmax	pmax		
	comp=Z,11nm,0.9s						
GROS	Grobnik	80.37	326	eP	P	17 33 48.5	+0.3
PERS	Pernice	80.39	326	eP	P	17 33 48.7	+0.5
SOKA	Soboth	80.39	326	iP	P	17 33 48.9	+0.6
	comp=Z,9.2nm,0.9s,SNR=7.1						
RJOB	Jochberg	80.46	328	eP	P	17 33 49.4	+0.8
	comp=Z,8.0nm,0.8s						
LEGS	Legarje	80.85	326	iP	P	17 33 50.7	0.0
CEY	Cerknica	81.40	326	iP	P	17 33 53.5	-0.1
MOTA	Moosalm	81.45	329⇑	iP	P	17 33 54.4	+0.4
	comp=Z,11nm,1.0s,SNR=6.5						
RETA	Reutte	81.46	329⇑	iP	P	17 33 54.9	+0.9
	comp=Z,15nm,1.4s						
BFO	Black Forest	81.68	331	eP	P	17 33 55.1	+0.1
	comp=Z,14nm,1.6s						
BFO	Black Forest	81.68	331	eP	P	17 33 55.1	+0.1
BFO				pmax	pmax		
	comp=Z,14nm,1.6s						
FETA	Feichten	81.86	329⇑	iP	P	17 33 56.6	+0.4
	comp=Z,5.9nm,0.9s						
DAVA	Damuels	81.97	329⇑	iP	P	17 33 57.3	+0.5
	comp=Z,12nm,0.9s,SNR=5.3						
CDF	Champ du Feu	81.99	331	eP	P	17 33 56.9	+0.1
CDF	Champ du Feu	81.99	331	eP	P	17 33 56.9	+0.1
CDF	Champ du Feu	81.99	331	eP	P	17 33 56.9	+0.1
PAGF	Fort de Pagny	82.42	332	eP	P	17 33 59.2	+0.3
	comp=Z,6.6nm,0.9s						
PAGF	Fort de Pagny	82.42	332	eP	P	17 33 59.2	+0.3
	comp=Z,6.6nm,0.9s						
HAU	Haudompre	82.67	332	eP	P	17 34 00.1	-0.1
HAU	Haudompre	82.67	332	eP	P	17 34 00.1	-0.1
HAU	Haudompre	82.67	332	eP	P	17 34 00.1	-0.1
SFTF	Sexfontaines	82.95	333	eP	P	17 34 01.8	+0.1
SFTF	Sexfontaines	82.95	333	eP	P	17 34 01.8	+0.1
LOR	Lormes	84.17	333	eP	P	17 34 07.9	0.0
	comp=Z,12nm,0.8s						
LOR	Lormes	84.17	333	eP	P	17 34 07.9	0.0
	comp=Z,12nm,0.8s						
FLN	La Foliniere	84.26	336	eP	P	17 34 08.2	-0.1
	comp=Z,9.2nm,0.9s						
FLN	La Foliniere	84.26	336	eP	P	17 34 08.2	-0.1
FLN				pmax	pmax		
	comp=Z,9.0nm,0.9s						
FLN	La Foliniere	84.26	336	eP	P	17 34 08.2	-0.1
	comp=Z,9.2nm,0.9s						
LDF	La Druitiere	84.30	336	eP	P	17 34 08.3	-0.2
	comp=Z,3.6nm,0.6s						
LDF	La Druitiere	84.30	336	eP	P	17 34 08.3	-0.2
LDF				pmax	pmax		
	comp=Z,4.0nm,0.6s						
LDF	La Druitiere	84.30	336	eP	P	17 34 08.3	-0.2
	comp=Z,3.6nm,0.6s						
SSF	Saint Saulge	84.47	333	eP	P	17 34 09.5	+0.1
SSF	Saint Saulge	84.47	333	eP	P	17 34 09.5	+0.1
SSF	Saint Saulge	84.47	333	eP	P	17 34 09.5	+0.1
LPL	La Plagne	84.64	330	eP	P	17 34 11.1	+0.5
	comp=Z,16nm,0.9s						
LPL	La Plagne	84.64	330	eP	P	17 34 11.1	+0.5
LPL				pmax	pmax		
	comp=Z,16nm,0.9s						
LPL	La Plagne	84.64	330	eP	P	17 34 11.1	+0.5
	comp=Z,16nm,0.9s						
LPG	La Plagne	84.65	330	eP	P	17 34 11.3	+0.6
	comp=Z,19nm,0.8s						
LPG	La Plagne	84.65	330	eP	P	17 34 11.3	+0.6
LPG				pmax	pmax		
	comp=Z,19nm,0.8s						
LPG	La Plagne	84.65	330	eP	P	17 34 11.3	+0.6
	comp=Z,19nm,0.8s						
GRR	Gorron	84.71	336	eP	P	17 34 10.7	+0.1
	comp=Z,8.8nm,0.7s						
GRR	Gorron	84.71	336	eP	P	17 34 10.7	+0.1
GRR				pmax	pmax		
	comp=Z,9.0nm,0.7s						
GRR	Gorron	84.71	336	eP	P	17 34 10.7	+0.1
	comp=Z,8.8nm,0.7s						
SMF	Signal de Mont	84.71	333	eP	P	17 34 10.8	+0.1
	comp=Z,18nm,0.9s						
SMF	Signal de Mont	84.71	333	eP	P	17 34 10.8	+0.1
SMF				pmax	pmax		
	comp=Z,19nm,0.9s						
SMF	Signal de Mont	84.71	333	eP	P	17 34 10.8	+0.1
	comp=Z,18nm,0.9s						
AVF	Avril sur Loir	84.75	333	eP	P	17 34 11.0	+0.2
	comp=Z,10nm,0.7s						
AVF	Avril sur Loir	84.75	333	eP	P	17 34 11.0	+0.2
AVF				pmax	pmax		
	comp=Z,10.0nm,0.7s						
AVF	Avril sur Loir	84.75	333	eP	P	17 34 11.0	+0.2
	comp=Z,10nm,0.7s						
BNI	Bardonecchia	85.05	330	eP	P	17 34 12.8	+0.2
BNI				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BNI	Bardonecchia	85.05	330	eP	P	17 34 12.8	+0.2
	comp=Z,5.3nm,0.9s						
MBDF	Montbardon	85.29	330	eP	P	17 34 13.6	-0.2
	comp=Z,17nm,0.9s						
MBDF	Montbardon	85.29	330	eP	P	17 34 13.6	-0.2
MBDF				pmax	pmax		
	comp=Z,17nm,0.9s						
MBDF	Montbardon	85.29	330	eP	P	17 34 13.6	-0.2
	comp=Z,17nm,0.9s						
ROSF	Rostrenen	85.46	338	eP	P	17 34 14.8	+0.4
	comp=Z,6.5nm,0.7s						
ROSF	Rostrenen	85.46	338	eP	P	17 34 14.8	+0.4
ROSF				pmax	pmax		
	comp=Z,7.0nm,0.7s						
ROSF	Rostrenen	85.46	338	eP	P	17 34 14.8	+0.4
	comp=Z,6.5nm,0.7s						
ORIF	Oris-en-Rattie	85.47	330	eP	P	17 34 14.9	+0.3
	comp=Z,12nm,0.8s						
ORIF	Oris-en-Rattie	85.47	330	eP	P	17 34 14.9	+0.3
ORIF				pmax	pmax		
	comp=Z,12nm,0.8s						
ORIF	Oris-en-Rattie	85.47	330	eP	P	17 34 14.9	+0.3
	comp=Z,12nm,0.8s						
TCF	Toulx Ste Croi	85.58	333	eP	P	17 34 15.5	+0.5
	comp=Z,13nm,1.0s						
TCF	Toulx Ste Croi	85.58	333	eP	P	17 34 15.5	+0.5
TCF				pmax	pmax		
	comp=Z,13nm,1.0s						
TCF	Toulx Ste Croi	85.58	333	eP	P	17 34 15.5	+0.5
	comp=Z,13nm,1.0s						
SBF	Sospel	85.77	329	eP	P	17 34 15.5	-0.6
	comp=Z,31nm,1.0s						
SBF	Sospel	85.77	329	eP	P	17 34 15.5	-0.6
SBF				pmax	pmax		
	comp=Z,31nm,1.0s						
SBF	Sospel	85.77	329	eP	P	17 34 15.5	-0.6
	comp=Z,31nm,1.0s						
QUIF	Quistinic	85.81	337	eP	P	17 34 16.3	+0.2
	comp=Z,23nm,1.1s						
QUIF	Quistinic	85.81	337	eP	P	17 34 16.3	+0.2
QUIF				pmax	pmax		
	comp=Z,23nm,1.1s						
QUIF	Quistinic	85.81	337	eP	P	17 34 16.3	+0.2
	comp=Z,23nm,1.1s						
VIVF	Saint-Julien-l	85.96	331	eP	P	17 34 17.4	+0.4
	comp=Z,20nm,1.0s						
VIVF	Saint-Julien-l	85.96	331	eP	P	17 34 17.4	+0.4
VIVF				pmax	pmax		
	comp=Z,20nm,1.0s						
VIVF	Saint-Julien-l	85.96	331	eP	P	17 34 17.4	+0.4
	comp=Z,20nm,1.0s						
MFF	Saint Martin d	86.07	335	eP	P	17 34 18.1	+0.7
	comp=Z,34nm,1.0s						
MFF	Saint Martin d	86.07	335	eP	P	17 34 18.1	+0.7
MFF				pmax	pmax		
	comp=Z,34nm,1.0s						
MFF	Saint Martin d	86.07	335	eP	P	17 34 18.1	+0.7
	comp=Z,34nm,1.0s						
FRF	La Foret Royal	86.33	329	eP	P	17 34 18.9	+0.1
FRF	La Foret Royal	86.33	329	eP	P	17 34 18.9	+0.1
FRF	La Foret Royal	86.33	329	eP	P	17 34 18.9	+0.1
SMRF	Simiane la Rot	86.38	330	eP	P	17 34 19.4	+0.3
SMRF	Simiane la Rot	86.38	330	eP	P	17 34 19.4	+0.3
LMR	La Mourre	86.58	329	eP	P	17 34 20.0	+0.1
	comp=Z,17nm,1.0s						
LMR	La Mourre	86.58	329	eP	P	17 34 20.0	+0.1
LMR				pmax	pmax		
	comp=Z,17nm,1.0s						
LMR	La Mourre	86.58	329	eP	P	17 34 20.0	+0.1
	comp=Z,17nm,1.0s						
RJF	Les Rejaudoux	86.67	333	eP	P	17 34 21.1	+0.7
	comp=Z,14nm,0.9s						
RJF	Les Rejaudoux	86.67	333	eP	P	17 34 21.1	+0.7
RJF				pmax	pmax		
	comp=Z,14nm,0.9s						
RJF	Les Rejaudoux	86.67	333	eP	P	17 34 21.1	+0.7
	comp=Z,14nm,0.9s						
CAF	Calviac	86.82	333	eP	P	17 34 22.3	+1.1
	comp=Z,28nm,0.8s						
CAF	Calviac	86.82	333	eP	P	17 34 22.3	+1.1
CAF				pmax	pmax		
	comp=Z,28nm,0.8s						
CAF	Calviac	86.82	333	eP	P	17 34 22.3	+1.1
	comp=Z,28nm,0.8s						
LASF	Ste Croix	86.93	331	eP	P	17 34 22.5	+0.8
	comp=Z,9.2nm,0.9s						
LASF	Ste Croix	86.93	331	eP	P	17 34 22.5	+0.8
	comp=Z,9.2nm,0.9s						
TXAR	Lajitas Array	87.00	53	P	P	17 34 22.6	+0.2
TXAR				pP	pP	17 34 42.6	+2.3
TXAR	Lajitas Array	87.00	53	P	P	17 34 22.6	+0.2
	comp=Z,0.4nm,0.7s,baz=316,slow=3.5,SNR=6.1						
TXAR				pP	pP	17 34 42.6	+2.3
	comp=Z,0.7nm,0.7s,baz=297,slow=4.0,SNR=6.6						
LFF	La Frestale	87.26	334	eP	P	17 34 24.3	+1.1
	comp=Z,30nm,1.0s						
LFF	La Frestale	87.26	334	eP	P	17 34 24.3	+1.1
LFF				pmax	pmax		
	comp=Z,30nm,1.0s						
LFF	La Frestale	87.26	334	eP	P	17 34 24.3	+1.1
	comp=Z,30nm,1.0s						
MTLF	Montolieu	88.15	332	eP	P	17 34 28.4	+0.8
MTLF	Montolieu	88.15	332	eP	P	17 34 28.4	+0.8
MTLF	Montolieu	88.15	332	eP	P	17 34 28.4	+0.8
ETSF	Etsaut	89.50	334	eP	P	17 34 35.1	+1.1
	comp=Z,7.5nm,0.8s						
ETSF	Etsaut	89.50	334	eP	P	17 34 35.1	+1.1
ETSF				pmax	pmax		
	comp=Z,8.0nm,0.8s						
ETSF	Etsaut	89.50	334	eP	P	17 34 35.1	+1.1
	comp=Z,7.5nm,0.8s						
SJPF	Ste Jean	89.53	334	eP	P	17 34 35.1	+1.1
SJPF	Ste Jean	89.53	334	eP	P	17 34 35.1	+1.1
SJPF	Ste Jean	89.53	334	eP	P	17 34 35.1	+1.1
ESDC	Sonseca Array	93.52	334	P	P	17 34 52.5	-0.2
ESDC	Sonseca Array	93.52	334	P	P	17 34 52.5	-0.2
	comp=Z,0.4nm,0.3s,baz=17,slow=4.0,SNR=7.9						
SNAA	Sanae	145.14	199	ePKP	PKPbc	17 41 12.4	-0.1
SNAA	Sanae	145.14	199	ePKPdf	PKPbc	17 41 12.5	0.0
VNA2	Neumayer--Watz	146.72	198	ePKP	PKPab	17 41 18.1	-0.5

IDC ***29*** *17:21:58.2±1.2, 1°.11N×126°.67E, h0km, mb4.1/4, mb1 4.2/6, mb1mx3.8/22, mbtmp4.1/6, ML4.2/1, Error ellipse: s-maj=51.3km s-min=21.1km az=68.0*
ISCJB ***29*** *17:22:06.2±0.5, 0°.85N±0°.05×126°.51E±0°.04, h39km, mb4.2/4, Error ellipse: s-maj=7.5km s-min=5.0km az=26.6*
DJA ***29*** *17:22:06.3±0.8, 1°.N±.3×12°.7E±°.,h21km±11km, M4.3/12, mb4.5/1, mB4.7/1, MLv4.1/12, Mw(mB)4.0/1*
AUST ***29*** *17:22:08.2, 1°.00N×126°.50E, h100km*
ISC 29 17:22:06.5±0.7, 0°.84N±0°.07×126°.46E±0°.04, h39km, n34, σ2°59/25, mb4.2/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TNTI	Ternate	0.91	94	P		Pn	17 22 22.7	0.0
TNTI				S		Sn	17 22 34.0	-0.6
LBMI	Labuha	1.79	145	P		Pn	17 22 36.4	+1.5
KMSI	Cibinong	2.50	264	P		Pn	17 22 46.5	+1.9
KMSI				S		Sn	17 23 18.2	+4.4
SGSI	Sangihe	2.98	342	P		Pn	17 22 52.2	+0.9
SGSI				S		Sn	17 23 26.5	+0.7
GTOI	Gorontalo	3.46	267	P		Pn	17 23 00.8	+3.0
NLAI	Namlea	4.10	171	P		Pn	17 23 08.5	+1.9
LUWI	Luwuk	4.13	243	P		Pn	17 23 10.8	+3.7
LUWI	Luwuk	4.13	243	P		Pn	17 23 13.0	+5.8
	baz=4.3,SNR=6.0							
MRSI	Marisa	4.54	266	P		Pn	17 23 13.3	+0.7
AAI	Ambon	4.81	159	P		Pn	17 23 18.8	+2.3
AAI	Ambon	4.81	159	P		Pn	17 23 19.6	+3.1
	baz=5.0,SNR=8.0							
MSAI	Masohi	4.83	149	P		Pn	17 23 20.4	+3.7
APSI	Ampana	5.12	250	P		Pn	17 23 24.0	+3.4
BNDI	Bandanaira	6.33	147	P		Pn	17 23 43.9	+6.5
	baz=6.5,SNR=4.0							
FAKI	Fak Fak	6.88	123	P		Pn	17 23 47.6	+2.7
	baz=7.0,SNR=10							
KAPI	Kappang	8.87	229	Pn		Pn	17 24 12.6	+0.4
	2.2nm,0.3s,baz=46,slow=12,SNR=5.0							
TLE	Tual	8.98	136	P		Pn	17 24 16.8	+3.1
	baz=9.1,SNR=8.7							
KDU	Kakadu	14.70	156	P		Pn	17 25 30.9	-0.9
	baz=15,SNR=6.3							
KNRA	Kununurra	16.56	172	P		Pn	17 25 56.3	+0.4
	baz=17,SNR=9.6							
FITZ	Fitzroy Crossi	18.84	182	P		P	17 26 22.5	-0.7
	0.2nm,0.3s,baz=14,slow=13,SNR=7.5							
FITZ	Fitzroy Crossi	18.84	182	P		P	17 26 22.4	-0.7
	baz=19,SNR=4.8							
WRA	Warramunga Arr	22.05	160	P		P	17 26 56.7	-1.3
	5.1nm,0.4s,baz=340,slow=11,SNR=77							
ASAR	Alice Springs	25.41	164	P		P	17 27 29.6	-0.9
	1.7nm,0.3s,baz=336,slow=9.3,SNR=37							
ASAR				PcP		PcP	17 31 00.2	-2.1
	0.2nm,0.5s,baz=339,slow=2.1,SNR=4.5							
BKNI	Bangkinang	25.43	269	P		S	17 32 06.9	+12
BKNI				S		S	17 32 20.9	+26
BKNI	Bangkinang	25.43	269	S		S	17 32 06.6	+11
	baz=26,SNR=23							
PDSI	Padang	26.06	266	P		S	17 32 08.1	+2.7
PPI	Padang Panjang	26.10	267	P		S	17 31 59.9	-6.0
PPI	Padang Panjang	26.10	267	S		S	17 32 00.1	-5.8
	baz=26,SNR=43							
GIRL	Giralia	26.20	206	S		S	17 31 51.6	-16
	baz=26,SNR=3.8							
GSI	Gunungsitoli	28.89	271	P		S	17 32 36.2	-14
STKA	Stephens Creek	35.55	158	P		P	17 28 59.2	-0.9
	2.3nm,0.7s,baz=340,slow=9.8,SNR=5.5							
STKA	Stephens Creek	35.55	158	P		P	17 28 59.5	-0.6
	baz=36,SNR=4.5							
MKAR	Makanchi Array	59.78	326	P		P	17 32 04.8	-3.0
	1.0nm,0.5s,baz=122,slow=7.9,SNR=6.5							
TORD	Torodi Ar. Bea	123.52	286	PKP		PKPdf	17 40 58.2	-2.5
	0.4nm,0.7s,baz=38,slow=1.8,SNR=2.7							

IDC ***29*** *17:48:08.1±0.3, 15°.57S×172°.08W, h0km, mb5.9/33, mb1 6.0/33, mb1mx6.0/33, mbtmp5.9/33, MS8.0/32, Ms1 8.0/32, ms1mx7.8/43, Error ellipse: s-maj=12.0km s-min=8.7km az=141.0*
MOS ***29*** *17:48:08.1±4.1, 15°.57S×172°.08W, h33km, mb6.7/41, MS8.0/73, Error ellipse: s-maj=0.0km s-min=0.0km az=90.0 Broadband fault plane solution: P waves. NP1: φs346.00000°, δ21.00000°, λ-63.00000°. NP2: φs138.00000°, δ71.00000°, λ-100.00000°. Principal axes: T Plg25.0000°, Azm236.0000°; N Plg9.0000°, Azm141.0000°; P Plg63.0000°, Azm33.0000°;*
ISCJB ***29*** *17:48:09.1±0.1, 15°.38S±0°.03×171°.96W±0°.02, h10km, mb6.7/370, MS8.0/239 Error ellipse: s-maj=4.3km s-min=2.0km az=161.5*
NEIC ***29*** *17:48:11.0±0.1, 15°.49S×172°.10W, h18km, mb7.1/196, ME8.0, MS8.1/156, MW8.0, Error ellipse: s-maj=4.9km s-min=3.1km az=150.0, Complex earthquake observed on broadband displacement seismograms. A small event is followed by at least one large event about 22 seconds later. Depth and focal mechanism based on large event. Energy computed from CMT mechanism.*
NEIC At least 149 people killed in Samoa, 34 killed in American Samoa and 9 killed, 7 injured and 500 displaced on Niuatoputapu, Tonga. Widespread damage to infrastructure occurred at Pago Pago, American Samoa, in many parts of Samoa and on Niuatoputapu, Tonga. Nearly all of the casualties and damage was caused by large tsunamis, with runup heights of 12 m at Poloa, 7 m at Pago Pago and Tula, American Samoa and 3 m on Niuatoputapu. Felt [VI] at Nu'uuli and [IV] at Ili'ili and Tafuna, American Samoa. Felt [V] at Apia, Samoa. Felt in much of American Samoa, Samoa and northern Tonga and as far away as Wallis and Futuna Islands. The tsunami was recorded with the following wave heights [peak-to-trough] on these selected tide stations: 411 cm at Pago Pago, American Samoa; 140 cm at Apia, Samoa; 111 cm at Rarotonga, Cook Islands; 64 cm in the Chatham Islands, 37 cm at Raoul, 21 cm at Tauranga, 14 cm at Gisborne and 11 cm at Wellington, New Zealand; 28 cm at Nuku'alofa, Tonga; 22 cm at Point Kemblao, Australia; 25 cm at Luganville, Vanuatu; 36 cm at Honolulu, Hawaii; 29 cm at Papeete, French Polynesia; 36 cm at Ofunato, Japan; 11 cm at Old Harbor and 4 cm at Seward, Alaska; 66 cm at Crescent City and 26 cm at Los Angeles, California; 42 cm at Cabo San Lucas, Mexico; 27 cm on Baltra, Ecuador; 73 cm at Antofagasta and 40 cm at Valparaiso, Chile.
BJI ***29*** *17:48:10.7, 14°.80S×171°.57W, h16km, mB7.3/45, mb6.9/17, Ms8.1/70, Ms7 7.9/62*
AUST ***29*** *17:48:10.2±2.1, 15°.70S×171°.91W, h6km, Error ellipse: s-maj=1.0km s-min=0.8km az=254.0*
SZGRF ***29*** *17:48:12.9, 15°.77S×171°.68W, h33km, mb8.2, Samoa Islands region*
BKK ***29*** *17:48:12.7±0.4, 16°S±7°×17°2W±°, h10km, M8.4/45, mb6.5/45, mB7.9/45, Mw(mB)8.1/45, Mwp8.3/38*
DJA ***29*** *17:48:13.1±0.3, 16°S±5°×17°2W±°, h10km, M8.0/126, mb6.9/126, mB8.0/124, Mw(mB)8.2/124, Mwp7.4/121*
GCMT ***29*** *17:48:26.8±0.2, 15°.13S×171°.97W, h12km, MW8.1, Moment Tensor Solution. s58,c84; s99,c300; Moment tensor: Scale 10^21Nm; Mrr-1.30±.01; Mθθ0.52±.01; Mφφ0.77±.01; Mrθ-0.29±.10; Mθφ-0.73±.01; Mφr-0.97±.09; Best double couple: M0 1.70000×10^21 NP1:φs346.00000°, δ62.00000°, λ-63.00000°. NP2:φs119.00000°, δ38.00000°, λ-131.00000°. Principal axes: T 1.5100, Plg13.0000°, Azm57.0000°; N 0.3000, Plg24.0000°, Azm153.0000°; P -1.8200, Plg62.0000°, Azm301.0000°; Data Used: II IU IC G CN. LP body wave period 50 sec. Mantle wave period 200 sec. Mantle waves from 123 sta. Surface waves: sta= 27, comp= 39, per= 50.*
NEIC ***29*** *17:48:52.6±0.0, 15°.47S×172°.49W, h10km, Moment Tensor Solution. s134 Moment tensor: Scale 10^21Nm; Mrr-1.07; Mθθ0.37; Mφφ0.71; Mrθ-0.34; Mθφ-0.52; Mφr-0.38; Best double couple: M0 1.20000×10^21 NP1:φs124.00000°, δ46.00000°, λ-120.00000°. NP2:φs345.00000°, δ52.00000°, λ-61.00000°. Principal axes: T 1.0900, Plg3.0000°, Azm55.0000°; N 0.1900, Plg21.0000°, Azm146.0000°; P -1.2800, Plg68.0000°, Azm317.0000°;*
ISC 29 17:48:11.6±0.3, 15°.51S±0°.04×171°.94W±0°.03, h19km±1km, h19km:pP-P, n2308, σ1°40/2269, mb6.9/367, MS8.1/239, 270C-394D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	1.60	6	ePn		Pn	17 48 31.3	-7.7
AFI	Afiamalu	1.60	6	Pn		Pn	17 48 31.8	-7.2
	1μm,0.3s,baz=208,slow=10,SNR=288							
AFI				LR		LR	17 49 21.4	
	comp=Z,1344μm,18.6s,baz=303,slow=44							
NIUE	Niue	4.03	152	P		Pn	17 49 07.6	-4.8
	baz=3.9,SNR=210							
MSVF	Nonsavu	9.85	256⇑	eP		Pn	17 50 34.3	+1.9
MSVF	Nonsavu	9.85	256⇑	ePn		Pn	17 50 34.3	+1.9
MSVF	Nonsavu	9.85	256	Pn		Pn	17 50 35.0	+2.6
	16μm,1.1s							
FUNA	Funafuti	11.11	308	ePn		Pn	17 50 46.3	-3.2
	11μm,1.4s							
FUNA				eSn		Sn	17 52 37.3	-16
RAR	Rarotonga	12.86	118	ePn		Pn	17 51 08.0	-5.5
	11μm,1.0s							
RAR				Sn		Sn	17 53 48.8	+13
RAR	Rarotonga	12.86	118	Pn		Pn	17 51 08.9	-4.6
	53nm,0.3s,baz=270,slow=11,SNR=55							
RAR				Sn		Sn	17 53 48.8	+13
	108nm,0.3s,baz=90,slow=14,SNR=2.2							
RAR				LR		LR	17 55 12.1	
	comp=Z,2743μm,21.5s,baz=360,slow=33							
RAO	Raoul Island	14.74	201	ePn		Pn	17 51 32.9	-6.3
	18μm,1.0s							
RAO				Sn		Sn	17 54 25.4	+3.2
RAO	Raoul Island	14.74	201	Pn		Pn	17 51 34.1	-5.1
	104nm,0.3s,baz=82,slow=15,SNR=9.0							
RAO				Sn		Sn	17 54 25.4	+3.2
	604nm,0.3s,baz=94,slow=19,SNR=3.1							
DZM	Mont Dzumac	21.47	249	eP		P	17 52 54.6	-4.7
	26μm,1.6s							
DZM				eS		S	17 56 45.4	-12
	3699μm,28.3s							
DZM				eLR		LR	17 57 58.6	
	22044μm,29.2s							
DZM	Mont Dzumac	21.47	249	eP		P	17 52 54.6	-4.7
	9.4nm,1.8s							
DZM				S		Sn	17 57 01.8	-3.4
DZM

TARA LR LR
comp=Z,4203μm,20.0s
TBI Tubuai 22.56 114 *eP* **P 17 53 11.5 +0.6**
TBI *e*LR LR 17 58 40.3
comp=Z,5508μm,29.5s
XMAS Kiritimati 22.58 41⇓*eP* **P 17 53 12.6 +1.5**
XMAS LR LR
comp=Z,3431μm,21.0s
NFK Norfolk Island 22.93 231 P P 17 53 32.8 +18
baz=23,SNR=4.6
MEH Mehetia 22.98 99 *eP* **P 17 53 15.8 +0.4**
comp=Z,6μm,1.4s
PMOR Pomariorio Ree 23.20 92 *eP* **P 17 53 17.8 +0.2**
comp=Z,25μm,1.4s
VAH Vaihoa 23.44 93 *eP* **P 17 53 19.7 -0.3**
comp=Z,16μm,1.5s
OUZ Omahuta 23.53 211 *eP* **P 17 53 19.4 -1.3**
comp=Z,22nm,0.1s
URZ Urewera 24.64 201 *eP* **P 17 53 28.5 -2.5**
comp=Z,0.7nm,0.8s
URZ S S 17 58 01.9 +10
URZ Urewera 24.64 201 P **P 17 53 30.5 -0.5**
comp=Z,350nm,0.5s,baz=43,slow=4.1,SNR=50
URZ S S 17 58 01.9 +10
comp=Z,490nm,0.9s,baz=27,slow=18,SNR=2.4
HNR Honiara 28.09 279 P **P 17 54 00.8 -1.7**
HNR S S 17 58 55.8 +9.0
HNR Honiara 28.09 279 P **P 17 54 00.7 -1.7**
comp=Z,195nm,1.0s,baz=102,slow=13,SNR=4.2
HNR S S 17 58 55.8 +9.0
comp=Z,177nm,0.9s,baz=115,slow=19,SNR=1.4
SNZO South Karori 28.19 202 *eP* **P 17 54 00.4 -2.6**
comp=Z,2μm,0.8s
SNZO *e*S S 17 59 01.4 +14
SNZO LR LR
comp=Z,5259μm,21.0s
KHZ Kahutara 29.58 202 *eP* **P 17 54 14.1 -1.2**
comp=Z,794nm,1.2s
LHI Lord Howe Isla 30.87 234 P **P 17 54 29.7 +2.8**
baz=31,SNR=5.2
KWAJ Kwajalein Atol 31.53 319 *eP* **P 17 54 32.3 -0.5**
KWAJ pmax pmax
comp=Z,471nm,1.3s
KWAJ Kwajalein Atol 31.53 319 *eP* **P 17 54 32.3 -0.5**
comp=Z,472nm,1.3s
RPZ Rata Peaks 31.63 204 P **P 17 54 30.7 -2.7**
RPZ S S 17 59 49.9 +8.2
RPZ Rata Peaks 31.63 204 P **P 17 54 30.7 -2.7**
comp=Z,11nm,0.8s,baz=352,slow=10,SNR=2.7
RPZ S S 17 59 49.9 +8.2
comp=Z,53nm,0.6s,baz=27,slow=9.0,SNR=1.3
TAOE Nuku Hiva Isla 31.74 82 *eP* **P 17 54 36.3 +1.4**
comp=Z,4μm,1.3s
TAOE *e*LQ LQ 18 01 24.5
comp=Z,2278μm,30.0s
TAOE *e*LR LR 18 02 56.0
comp=Z,9548μm,31.9s
TAOE Nuku Hiva Isla 31.74 82 *eP* **P 17 54 32.8 -2.1**
comp=Z,876nm,1.4s
ODZ Otahua Downs 32.91 203⇑*eP* **P 17 54 44.9 +0.2**
comp=Z,279nm,1.3s
RKT Rikitea 35.62 108 *eP* **P 17 55 09.8 +1.4**
comp=Z,1μm,1.3s
RKT *e*S **S 18 00 46.5 +2.5**
comp=Z,600μm,30.5s
RKT *e*LQ LQ 18 03 15.8
comp=Z,2581μm,31.8s
RKT *e*LR LR 18 04 43.2
comp=Z,3395μm,32.5s
EIDS Eidsvold 35.91 248⇑*eP* P 17 55 04.5 -6.4
comp=Z,215nm,1.5s
EIDS Eidsvold 35.91 248 P P 17 55 07.2 -3.7
baz=36,SNR=24
ARMA Armidale 36.50 240 *eP* **P 17 55 13.5 -2.5**
comp=Z,63nm,0.8s
ARMA Armidale 36.50 240 P **P 17 55 13.9 -2.2**
baz=36,SNR=40
PATS Pohnpei 36.90 305 P **P 17 55 22.4 +3.0**
baz=37,SNR=9.0
MGCD Mangrove Creek 37.75 235 P **P 17 55 25.6 -0.8**
baz=38,SNR=20
RMQ Roma 38.15 247 P **P 17 55 27.4 -2.6**
baz=38,SNR=48
HON Honolulu 39.08 21 *eP* **P 17 55 38.9 +1.2**
HON Honolulu 39.08 21 *eP* **P 17 55 38.9 +1.2**
KIP Kipapa 39.16 21⇓*eP* **P 17 55 39.8 +1.4**
KIP pmax pmax
comp=Z,2μm,1.4s
KIP MLR MLR
comp=Z,730μm,17.0s
KIP Kipapa 39.16 21 *eP* **P 17 55 38.5 0.0**
comp=Z,3μm,1.1s
KIP LR LR
comp=Z,1115μm,19.0s
CNB Canberra Magne 39.80 233 P **P 17 55 43.0 -0.8**
baz=40,SNR=73
CTA Charters Tower 39.99 257 P **P 17 55 42.7 -2.8**
CTA S **S 18 01 55.0 +4.5**
CTA Charters Tower 39.99 257 P **P 17 55 42.7 -2.8**
comp=Z,22nm,0.6s,baz=93,slow=9.5,SNR=20
CTA S **S 18 01 55.0 +4.5**
comp=Z,42nm,0.9s,baz=91,slow=6.2,SNR=2.5
CTAO Charters Tower 39.99 257⇑*eP* P 17 55 41.4 -4.1
CTAO pmax pmax
comp=Z,1μm,1.3s
CTAO MLR MLR
comp=Z,2353μm,22.0s
CTAO Charters Tower 39.99 257⇑*eP* P 17 55 41.4 -4.1
comp=Z,1μm,1.3s
CTAO LR LR
comp=Z,2353μm,22.0s
CAN Canberra 40.09 233⇑*eP* **P 17 55 43.4 -2.7**
CAN pmax pmax
comp=Z,2μm,1.4s
CAN MLR MLR
comp=Z,1595μm,19.0s
CAN Canberra 40.09 233⇑*eP* **P 17 55 43.4 -2.7**
comp=Z,2μm,1.4s
CAN LR LR
comp=Z,1595μm,19.0s
YNG Young 40.23 235 P **P 17 55 46.4 -1.0**
baz=40,SNR=50
PMG Port Moresby 40.35 274⇑*eP* **P 17 55 46.0 -2.4**
comp=Z,2μm,1.4s
PMG S **S 18 01 59.9 +4.0**
PMG LR LR
comp=Z,1418μm,22.0s
PMG Port Moresby 40.35 274 P **P 17 55 47.2 -1.2**
comp=Z,95nm,1.1s,baz=86,slow=8.5,SNR=13
PMG S **S 18 01 59.9 +4.0**
comp=Z,36nm,1.1s,baz=88,slow=9.4,SNR=1.7
WAKE Wake Island 40.49 328 *eP* **P 17 55 49.2 -0.2**
comp=Z,9μm,1.4s
WAKE LR LR
comp=Z,1959μm,20.0s
MILA Mila 40.57 231 P **P 17 55 49.4 -0.7**
baz=40,SNR=23
CMSA Cobar Meteorol 41.71 240 P **P 17 55 56.5 -3.1**
baz=42,SNR=229
MTSU Mount Surprise 41.88 260 P **P 17 55 58.8 -2.3**
baz=42,SNR=30
QLP Quilpie 42.18 247 P **P 17 56 00.3 -3.1**
baz=42,SNR=97
MANU Manus Island 42.28 284 P **P 17 56 05.5 +1.2**
baz=42,SNR=4.6
COEN Coen 43.38 266⇑*iP* **P 17 56 10.6 -2.7**
comp=Z,13μm,0.9s
COEN Coen 43.38 266 P **P 17 56 11.9 -1.4**
baz=43,SNR=56
TOO Toolangi 43.49 231 P **P 17 56 13.0 -1.0**
baz=43,SNR=64
MIDW Midway 43.79 353⇓*eP* **P 17 56 16.0 -0.2**
comp=Z,4μm,1.4s
MIDW LR LR
comp=Z,1684μm,19.0s
MOO Moorlands 44.09 224 P **P 17 56 19.6 +1.0**
baz=44,SNR=7.5
TAU Tasmania Unive 44.20 223 P **P 17 56 19.0 -0.5**
comp=Z,1μm,1.3s,SNR=8.8
TAU Tasmania Unive 44.20 223 *eP* **P 17 56 18.6 -0.9**
comp=Z,5μm,1.8s
TAU LR LR
comp=Z,3472μm,19.0s
MCQ Macquarie Isla 44.99 204 *eP* P 17 56 30.1 +4.5
MCQ Macquarie Isla 44.99 204 *eP* P 17 56 30.1 +4.5
baz=65,SNR=56
KMSI Cibinong 65.25 278 P **P 17 58 53.0 +0.4**
comp=Z,3μm,1.5s,comp=Z,81μm
KLBR Kellerberrin 65.43 242 P **P 17 58 53.0 -0.6**
baz=65,SNR=92
NWAO Narrogin (SRO) 65.79 241 P **P 17 58 57.6 +1.7**
SNR=29
NWAO Narrogin (SRO) 65.79 241 *eP* **P 17 58 55.0 -0.9**
comp=Z,4μm,1.8s
NWAO Narrogin (SRO) 65.79 241 LR LR 18 28 27.1
comp=Z,1225μm,18.0s,baz=99,slow=37
DAV Davao City (W) 65.82 285 P **P 17 58 58.4 +2.1**
SNR=30
DAV Davao City (W) 65.82 285 *eP* **P 17 58 57.3 +1.0**
comp=Z,385nm,0.8s
DAV LR LR
comp=Z,841μm,20.0s
DAV Davao City (W) 65.82 285 P **P 17 58 57.3 +1.0**
comp=Z,2μm,3.2s,comp=Z,154μmcomp=Z,789μm
RKGY Rocky Gully 65.92 239 P **P 17 58 57.8 +1.2**
baz=66,SNR=10.0
LUWI Luwuk 65.94 276 P **P 17 58 58.0 +0.9**
comp=Z,3μm,1.6s,comp=Z,137μm
LUWI Luwuk 65.94 276 P **P 17 58 58.2 +1.1**
baz=66,SNR=37
GSPH General Santos 66.08 284 *eP* P 17 59 13.0 +15
WSI Waingapu 66.17 266 P **P 17 58 58.7 +0.1**
comp=Z,3μm,1.9s,comp=Z,126μm
WSI Waingapu 66.17 266 P **P 17 58 59.5 +0.9**
baz=66,SNR=6.7
KKSI Kolaka, Sulawe 66.17 272 P **P 17 58 59.4 +0.8**
comp=Z,597nm,2.5s,comp=Z,75μm
GTOI Gorontalo 66.19 278 P **P 17 59 00.2 +1.5**
comp=Z,2μm,2.0s,comp=Z,134μm
KCP Kidapawan 66.26 285 *eP* P 17 59 13.3 +14
BLDU Ballidu 66.40 243 P **P 17 58 59.2 -0.6**
baz=66,SNR=51
BUTP Butuan 66.46 287 *eP* **P 17 59 02.0 +1.7**
LBFI Labuhan Bajo, 66.83 267 P **P 17 59 02.5 -0.3**
comp=Z,3μm,1.8s,comp=Z,139μm
SCPH Surigao 66.87 288⇓*eP* **P 17 59 03.7 +0.7**
AMKA Amchitka 67.04 354 *eP* **P 17 59 03.9 +0.6**
comp=Z,864nm,1.0s
WBSI Waikabubak, Su 67.05 266 P **P 17 59 04.9 +0.7**
comp=Z,2μm,1.8s,comp=Z,107μmcomp=Z,929μm
APSI Ampana 67.05 276 P **P 17 59 05.4 +1.2**
comp=Z,4μm,1.8s,comp=Z,148μm
MORW Morawa 67.11 245 P **P 17 59 04.6 +0.2**
baz=67,SNR=30
CTBH Cotabato--PC H 67.12 285⇓*eP* **P 17 59 05.7 +1.1**
CGP Cagayan de Oro 67.13 286 *eP* **P 17 59 05.8 +1.1**
MRSI Marisa 67.17 277 P **P 17 59 04.5 -0.5**
comp=Z,758nm,2.5s,comp=Z,78μmcomp=Z,905μm
ADK Adak 67.24 357 *eP* **P 17 59 04.3 -0.2**
ADK *e*S S 18 08 14.7 +16
ADK MLR MLR
comp=Z,697μm,20.0s
ADK Adak 67.24 357 *eP* **P 17 59 04.3 -0.2**
comp=Z,14μm,1.4s
ADK *e*S S 18 08 14.7 +16
ADK LR LR
comp=Z,697μm,20.0s
BKSI Bulukumba 67.36 271 P **P 17 59 06.0 -0.1**
comp=Z,783nm,2.1s,comp=Z,67μmcomp=Z,914μm
MSLP Maasin 67.58 288 *eP* **P 17 59 08.7 +1.2**
BNSI Bone 67.60 272 P **P 17 59 07.5 -0.2**
comp=Z,2μm,1.6s,comp=Z,99μm
KAPI Kappang 67.79 271 P **P 17 59 09.2 +0.3**
SNR=31
KAPI Kappang 67.79 271 *eP* **P 17 59 07.3 -1.6**
comp=Z,2μm,1.6s
KAPI LR LR
comp=Z,253μm,20.0s
KAPI Kappang 67.79 271 P **P 17 59 08.4 -0.5**
comp=Z,1μm,0.8s,SNR=17
KAPI Kappang 67.79 271 P **P 17 59 08.9 0.0**
comp=Z,373nm,1.6s,comp=Z,90μm
PLP Palo 67.84 289⇓*eP* **P 17 59 08.9 -0.3**
SPSI Sidrap Palu 68.04 272 P **P 17 59 10.4 -0.1**
comp=Z,773nm,2.7s,comp=Z,66μmcomp=Z,916μm
PAGZ Pagadian 68.14 285 *eP* **P 17 59 13.2 +2.2**
OCLP Ormoc 68.14 289 *eP* **P 17 59 12.1 +1.1**
TBP Tagbilaran 68.33 287 *eP* P 17 59 16.9 +4.6
DCPH Dipolog City 68.42 286 *eP* **P 17 59 13.9 +1.1**
TOLI Toli-Toli 68.45 278 P **P 17 59 13.1 0.0**
comp=Z,1μm,1.9s,comp=Z,98μm
LLP Lapu-Lapu 68.46 288⇑*eP* **P 17 59 14.3 +1.3**
CNP Catarman 68.63 290 *eP* **P 17 59 15.7 +1.6**
SNPH Sibulan 68.79 287 *eP* P 17 59 20.9 +5.8
IPIL Ipil 68.87 285⇑*eP* **P 17 59 16.8 +1.2**
MJSI Majene 68.91 272 P **P 17 59 17.7 +1.8**
comp=Z,3μm,1.4s,comp=Z,127μm
SMY Shemya 69.02 351 *eP* **P 17 59 15.1 -0.6**
SMY pmax pmax
comp=Z,7μm,1.6s
SMY Shemya 69.02 351 *eP* **P 17 59 15.1 -0.6**
comp=Z,7μm,1.6s
MMSI Mamuju 69.20 273 P **P 17 59 18.8 +1.0**
comp=Z,1μm,4.2s,comp=Z,168μm
UNV Unalaska Valle 69.23 3 *eP* **P 17 59 14.1 -2.9**
comp=Z,2μm,1.5s
FX1 Attu Island--F 69.32 350 *eP* **P 17 59 15.4 -2.2**
FX1 S **S 18 08 28.2 +5.1**
FX1 Attu Island--F 69.32 350 P **P 17 59 17.0 -0.6**
comp=Z,111nm,0.8s,baz=165,slow=6.2,SNR=26
FX1 S **S 18 08 28.2 +5.1**
comp=Z,12nm,0.8s,baz=142,slow=17,SNR=1.5
FX1 LR LR 18 27 40.7
comp=Z,1018μm,18.9s,baz=178,slow=34
PVCP Virac 69.50 291⇓*eP* **P 17 59 20.8 +1.3**
GIRL Giralia 69.53 251 P **P 17 59 20.8 +1.2**
baz=69,SNR=14
AKUT Akutan 69.57 4 *eP* **P 17 59 18.2 -0.8**
comp=Z,2μm,1.3s
GUIM Jordan 69.84 288 *eP* **P 17 59 21.8 +0.2**
MAJO Matsushiro 69.94 319 *eP* **P 17 59 20.6 -1.3**
MAJO pmax pmax
comp=Z,4μm,1.7s
MAJO MLR MLR
comp=Z,1851μm,21.0s
MAJO Matsushiro 69.94 319 *eP* **P 17 59 20.6 -1.3**
comp=Z,4μm,1.7s
MAJO LR LR
comp=Z,1851μm,21.0s
MAT Matsushiro 69.94 319 P **P 17 59 20.8 -1.0**
MAT S **S 18 08 26.0 -5.2**
RCP Roxas 70.03 289⇑*eP* P 17 59 26.8 +4.1
SCI San Clemente I 70.17 46 ⇑P **P 17 59 22.9 -0.4**
baz=70,SNR=37
SBC Santa Barbara 70.22 44 ⇓P **P 17 59 23.7 +0.2**
baz=70
MTNI Mataram 70.37 266 P **P 17 59 24.3 -0.6**
comp=Z,1μm,2.2s,comp=Z,67μmcomp=Z,858μm
SAC San Andreas 70.38 40 *eP* **P 17 59 23.8 -0.6**
SAC pmax pmax
comp=Z,3μm,1.2s
SAC San Andreas 70.38 40 *eP* **P 17 59 23.8 -0.6**
comp=Z,3μm,1.2s
PKM Peak Mountain 70.41 44 ⇑P **P 17 59 24.4 -0.6**
baz=71,SNR=68
KALP Kalibo 70.44 289 *eP* P 17 59 38.1 +13
MCCM Marconi Confer 70.45 39 *eP* **P 17 59 24.0 -0.8**
comp=Z,3μm,1.4s
BLG Laguna Peak 70.46 45 ⇓P **P 17 59 25.2 +0.1**
baz=71,SNR=18
FALS False Pass 70.46 5 *eP* **P 17 59 23.7 -0.8**
comp=Z,821nm,1.0s
SAO San Andreas Ge 70.48 41 *eP* **P 17 59 25.8 +0.7**
SAO pmax pmax
comp=Z,3μm,1.4s
SAO San Andreas Ge 70.48 41 *eP* **P 17 59 25.8 +0.7**
comp=Z,3μm,1.4s
CIS Catalina Islan 70.51 46 ⇓P **P 17 59 25.0 -0.4**
baz=71,SNR=45
SMMC Simmler 70.54 43 ⇑P **P 17 59 25.7 +0.2**
baz=71,SNR=110
ERM Erimo 70.64 326 P **P 17 59 27.6 +1.7**
comp=Z,943nm,0.9s,SNR=7.9
ERM Erimo 70.64 326*cP* **P 17 59 26.5 +0.6**
ERM pmax pmax
comp=Z,600nm,2.7s
ERM Erimo 70.64 326 *eP* **P 17 59 25.6 -0.3**
comp=Z,596nm,1.0s
ERM LR LR
comp=Z,1676μm,20.0s
AUQP San Andres 70.73 290 *eP* P 17 59 33.7 +6.6
FMP Fort Macarthur 70.76 45 ⇓P **P 17 59 26.9 +0.1**
MCQ Macquarie Isla 44.99 204 P P 17 56 37.8 +12
baz=45,SNR=4.9
STKA Stephens Creek 45.20 240 *eP* **P 17 56 25.2 -2.5**
comp=Z,2.3nm,1.2s
STKA S **S 18 03 11.8 +4.9**
STKA Stephens Creek 45.20 240 P **P 17 56 25.4 -2.4**
comp=Z,220nm,0.9s,baz=78,slow=7.5,SNR=132
STKA S **S 18 03 11.8 +4.9**
comp=Z,38nm,0.9s,baz=56,slow=12,SNR=1.8
STKA LR LR 18 14 18.2
comp=Z,960μm,18.0s,baz=248,slow=35
STKA Stephens Creek 45.20 240 P **P 17 56 25.4 -2.4**
baz=45,SNR=217
MMPI Merauke 47.08 273 P **P 17 56 45.0 +2.3**
MMPI Merauke 47.08 273 P P 17 56 54.7 +12
baz=47,SNR=5.1
JAY Jayapura 48.39 281 P **P 17 56 52.3 -0.6**
comp=Z,2μm,1.7s,comp=Z,100μm
JAY S Px 17 57 12.8
comp=Z,100μmcomp=Z,2μm,1.7s
JAY Jayapura 48.39 281 P **P 17 56 52.6 -0.3**
baz=48,SNR=11
BBOO Buckleboo 49.98 240 *eP* **P 17 57 02.6 -2.2**
comp=Z,26μm,1.4s
BBOO Buckleboo 49.98 240 P **P 17 57 03.3 -1.5**
baz=50,SNR=99
WRAB Tennant Creek 51.18 257⇑*eP* P 17 57 10.3 -3.8
WRAB pmax pmax
comp=Z,356nm,1.5s
WRAB MLR MLR
comp=Z,2295μm,20.0s
WRAB Tennant Creek 51.18 257⇑*eP* P 17 57 10.3 -3.8
comp=Z,356nm,1.5s
WRAB LR LR
comp=Z,2295μm,20.0s
WRAB Tennant Creek 51.18 257 P **P 17 57 11.9 -2.2**
comp=Z,1μm,1.1s,SNR=60
WRA Warramunga Arr 51.19 257 P **P 17 57 11.3 -2.8**
WRA S **S 18 04 32.5 +0.5**
WRA P'P' 18 27 48.1
WRA Warramunga Arr 51.19 257 P **P 17 57 11.3 -2.8**
comp=Z,192nm,1.1s,baz=90,slow=7.1,SNR=268
WRA S **S 18 04 32.5 +0.5**
comp=Z,34nm,1.1s,baz=89,slow=14,SNR=3.6
WRA LR LR 18 17 15.2
comp=Z,1684μm,21.8s,baz=90,slow=34
WRA PKPPKP P'P'df 18 27 48.1 -11
comp=Z,8.5nm,0.7s,baz=314,slow=2.4,SNR=4.7
AS31 Alice Springs 51.42 252 *eP* **P 17 57 12.7 -3.1**
ASAR Alice Springs 51.42 252 P **P 17 57 13.1 -2.8**
ASAR S **S 18 04 36.4 +1.3**
ASAR P'P' 18 27 53.6
ASAR Alice Springs 51.42 252 P **P 17 57 13.1 -2.8**
comp=Z,389nm,0.8s,baz=88,slow=7.2,SNR=1088
ASAR S **S 18 04 36.4 +1.3**
comp=Z,42nm,1.0s,baz=79,slow=14,SNR=2.4
ASAR LR LR 18 17 56.2
comp=Z,2905μm,21.1s,baz=91,slow=35
ASAR PKPPKP P'P'df 18 27 53.6 -5.6
comp=Z,7.6nm,0.9s,baz=284,slow=1.5,SNR=3.0
GUMO Guam 51.59 302 *eP* **P 17 57 18.8 +1.8**
comp=Z,9μm,1.5s
GUMO LR LR
comp=Z,618μm,19.0s
SRPI Serui, Papua 52.83 280 P **P 17 57 27.6 +1.2**
comp=Z,2μm,1.6s,comp=Z,102μm
BAKI Biak 53.17 280 P P 17 57 32.2 +3.3
comp=Z,2μm,1.6s,comp=Z,127μm
KDU Kakadu 53.87 265 P **P 17 57 33.4 -0.6**
baz=54,SNR=22
KMPI Kaimana, Papua 54.73 277 P P 17 57 36.9 -3.4
comp=Z,3μm,1.6s,comp=Z,120μm
TLE Tual 55.13 274 P **P 17 57 43.5 +0.2**
comp=Z,3μm,1.7s,comp=Z,213μm
TLE Tual 55.13 274 P **P 17 57 43.4 +0.2**
baz=55,SNR=53
SAUI Saumlaki 55.94 271 P **P 17 57 50.1 +1.0**
comp=Z,3μm,1.7s,comp=Z,172μm
FAKI Fak Fak 56.33 277 P **P 17 57 52.8 +0.9**
comp=Z,1μm,2.9s,comp=Z,110μm
FAKI Fak Fak 56.33 277 P **P 17 57 52.4 +0.6**
baz=56,SNR=9.1
FORT Forrest 56.62 243 *eP* **P 17 57 51.6 -2.2**
comp=Z,1μm,0.8s
FORT Forrest 56.62 243 P **P 17 57 52.1 -1.6**
baz=56,SNR=52
KNRA Kununurra 56.94 261 P **P 17 57 55.1 -1.1**
baz=57,SNR=97
PALU Palau 57.73 289 P **P 17 58 03.8 +2.0**
baz=58,SNR=4.4
SWI Sorong 57.88 279 P **P 17 58 03.8 +1.0**
comp=Z,3μm,1.5s,comp=Z,129μm
SWI Sorong 57.88 279 P **P 17 58 03.9 +1.0**
baz=58,SNR=74
BNDI Bandanaira 58.14 274 P **P 17 58 05.3 +0.6**
baz=58,SNR=18
MSAI Masohi 59.39 275 P **P 17 58 15.7 +2.3**
comp=Z,386nm,1.4s,comp=Z,22μmcomp=Z,288μm
FITZ Fitzroy Crossi 59.57 258 *eP* **P 17 58 13.4 -1.0**
comp=Z,81nm,1.6s
FITZ Fitzroy Crossi 59.57 258 LR LR 18 22 23.7
comp=Z,2345μm,21.4s,baz=98,slow=35
FITZ Fitzroy Crossi 59.57 258 P **P 17 58 13.5 -1.0**
baz=60,SNR=96
DRV Dumont d'Urvil 59.97 200 P **P 17 58 19.0 +2.6**
DRV Dumont d'Urvil 59.97 200 PP PP 18 00 30.0 +1.4
DRV S **S 18 06 22.0 -5.7**
DRV SS **SS 18 10 29.0 +5.0**
DRV L L 18 13 00.0
DRV R 18 17 00.0
AAI Ambon 60.01 275 P **P 17 58 18.0 +0.4**
comp=Z,2μm,1.4s,comp=Z,99μm
AAI Ambon 60.01 275 P **P 17 58 18.9 +1.3**
baz=60,SNR=16
NLAI Namlea 61.18 275 P **P 17 58 25.9 +0.3**
comp=Z,2μm,1.7s,comp=Z,86μm
CBIJ Chichi jima 61.45 313 P **P 17 58 25.1 -2.1**
CBIJ S S 18 06 57.4 +10
CBIJ Chichi jima 61.45 313 P **P 17 58 25.1 -2.1**
comp=Z,110nm,0.9s,baz=157,slow=7.7,SNR=2.6
CBIJ S S 18 06 57.4 +10
comp=Z,75nm,0.8s,baz=284,slow=19,SNR=1.9
CBIJ LR LR 18 21 05.6
comp=Z,1908μm,20.4s,baz=135,slow=32
LBMI Labuha 61.53 278 P **P 17 58 29.2 +1.2**
comp=Z,3μm,1.6s,comp=Z,120μmcomp=Z,990μm
TNTI Ternate 62.08 279 P **P 17 58 32.2 +0.5**
comp=Z,4μm,2.2s,comp=Z,166μm
SOEI Soe 62.33 267 P **P 17 58 35.1 +1.6**
comp=Z,5μm,1.3s,comp=Z,150μm
SOEI Soe 62.33 267 P **P 17 58 34.5 +1.0**
baz=62,SNR=83
BATI Baumata 62.82 266 P **P 17 58 37.5 +0.8**
comp=Z,765nm,1.6s,comp=Z,70μmcomp=Z,58μm
SBA Scott Base 63.26 185 *eP* **P 17 58 38.9 +0.4**
SBA pmax pmax
comp=Z,45nm,0.7s
SBA MLR MLR
comp=Z,1238μm,19.0s
SBA Scott Base 63.26 185 *eP* **P 17 58 38.9 +0.4**
comp=Z,45nm,0.7s
SBA LR LR
comp=Z,1238μm,19.0s
VNDA Vanda 63.41 186 P **P 17 58 39.8 +0.3**
VNDA S S 18 07 17.3 +6.2
VNDA ⇑*e* 18 27 43.0
VNDA Vanda 63.41 186 P **P 17 58 39.8 +0.3**
comp=Z,52nm,0.9s,baz=6.5,slow=6.8,SNR=75
VNDA S S 18 07 17.3 +6.2
comp=Z,24nm,0.9s,baz=9.4,slow=8.6,SNR=2.2
VNDA LR LR 18 20 27.5
comp=Z,472μm,21.0s,baz=22,slow=31
VNDA PKP2bc 18 27 43.0
comp=Z,20nm,1.1s,baz=233,slow=3.5,SNR=3.1
MMRI Maumere 64.53 268 P **P 17 58 46.8 -1.2**
comp=Z,3μm,1.9s,comp=Z,133μm
MBWA Marble Bar 64.68 254 P **P 17 58 48.9 0.0**
SNR=37
MBWA Marble Bar 64.68 254⇑*eP* **P 17 58 47.9 -1.0**
comp=Z,44nm,0.7s
MBWA LR LR
comp=Z,954μm,19.0s
SGSI Sangihe 64.74 282 P **P 17 58 49.4 +0.1**
comp=Z,3μm,1.5s,comp=Z,98μmcomp=Z,840μm
BBSI Bau Bau 64.95 271 P **P 17 58 51.6 +0.9**
comp=Z,2μm,2.9s,comp=Z,85μmcomp=Z,893μm
MEEK Meekatharra 65.08 248 P **P 17 58 50.6 -0.8**

baz=71
HOPS Hopland 70.87 38 *e*P **P 17 59 27.3 -0.2**
comp=Z,4μm,1.3s
CASY Casey 70.90 205 *e*P **P 17 59 27.1 -0.1**
comp=Z,109nm,0.7s
CASY LR LR
comp=Z,500μm,20.0s
OTRP Odiongan 70.98 289 *e*P **P 17 59 29.6 +1.1**
KCPM Cahto Peak 71.02 38 *e*P **P 17 59 28.9 +0.5**
comp=Z,4μm,1.9s
DECC Green Verdugo 71.04 45 ⇓P **P 17 59 28.7 +0.1**
baz=71,SNR=17
SGKI Sangatta, Kali 71.04 275 P P 17 59 33.8 +4.8
comp=Z,3μm,2.5s,comp=Z,157μm
109C Camp Elliot, M 71.12 47 ⇑P **P 17 59 29.3 +0.2**
baz=71,SNR=10
KIPM Iron Peak 71.16 38 *e*P **P 17 59 30.3 +1.0**
comp=Z,2μm,1.3s
ARVC Arvin 71.21 44 ⇓P **P 17 59 29.1 -0.5**
baz=72,SNR=34
MWC Mount Wilson 71.21 45 *e*P **P 17 59 29.5 -0.3**
MWC pmax pmax
comp=Z,4μm,1.5s
MWC Mount Wilson 71.21 45 *e*P **P 17 59 29.5 -0.3**
comp=Z,4μm,1.5s
SDPT Sand Point 71.25 7 *e*P **P 17 59 28.5 -0.8**
comp=Z,5μm,1.4s
DNP Denpasar 71.29 266 P **P 17 59 30.5 0.0**
comp=Z,3μm,2.6s,comp=Z,163μm
SPIG San Pedro Mart 71.30 49 P **P 17 59 30.0 -0.6**
BAR Barrett 71.31 47 *e*Pn **P 17 59 29.5 -0.8**
comp=Z,1μm,1.4s
CUYO Cuyo Island 71.36 287 *e*P **P 17 59 32.5 +1.6**
SRBI Singaraja 71.42 267 P **P 17 59 31.6 +0.3**
comp=Z,2μm,1.9s,comp=Z,127μmcomp=Z,968μm
SMKI Samarinda 71.44 275 P **P 17 59 33.4 +1.9**
MURC Murrieta 71.45 46 ⇓P **P 17 59 30.2 -0.9**
baz=72,SNR=76
VES Vestal, Richgr 71.45 43 ⇑P **P 17 59 30.1 -0.9**
baz=72,SNR=123
BFSC Mount Baldy Ra 71.49 45 ⇑P **P 17 59 30.8 -0.7**
baz=72,SNR=100
BKB Balikpapan 71.52 274 P **P 17 59 34.3 +2.4**
comp=Z,2μm,2.0s,comp=Z,156μm
BOAC Boac 71.53 290 *e*P **P 17 59 33.9 +2.0**
MONP Monument Peak 71.60 47 ⇑P **P 17 59 31.6 -0.7**
baz=72,SNR=129
RCTC Rector, Farmer 71.63 43 ⇓P **P 17 59 31.2 -0.8**
baz=72
EDW2 Edwards Air Fo 71.63 44 ⇓P **P 17 59 31.8 -0.4**
baz=72,SNR=226
JOW Kunigami 71.69 306 *e*P **P 17 59 33.5 +0.8**
comp=Z,1μm,1.6s
KHMM Horse Mountain 71.70 37 *e*P **P 17 59 32.7 +0.1**
comp=Z,2μm,1.2s
DVTC Desert V Tower 71.70 47 ⇑P **P 17 59 31.9 -0.8**
baz=72,SNR=55
ISA Isabella 71.75 44 *e*P **P 17 59 33.1 +0.2**
ISA pmax pmax
comp=Z,6μm,1.6s
ISA Isabella 71.75 44 *e*P **P 17 59 33.1 +0.2**
comp=Z,6μm,1.6s
ISA Isabella 71.75 44 ⇓P **P 17 59 33.0 0.0**
baz=72,SNR=171
SJMP San Jose 71.83 289 *e*P **P 17 59 35.8 +2.1**
SRIG Santa Rosalia 71.85 54 P **P 17 59 32.9 -0.7**
MYLDM Lahad Datu 71.86 281 P P 17 59 37.5 +3.6
MYLDM Lahad Datu 71.86 281 P P 17 59 37.4 +3.5
comp=Z,3μm,2.2s,comp=Z,173μm
LPIG La Paz 71.90 58 P **P 17 59 34.4 +0.5**
LPIG S **SKiKP 18 09 04.4 -6.8**
LPIG La Paz 71.90 58 P **P 17 59 34.4 +0.5**
comp=Z,248nm,1.0s,baz=241,slow=6.8,SNR=27
LPIG S **SKiKP 18 09 04.4 -6.8**
comp=Z,21nm,0.5s,baz=238,slow=13,SNR=2.2
LPIG LR LR 18 23 47.1
comp=Z,956μm,21.3s,baz=250,slow=30
CMB Columbia Colle 71.92 41 ⇑*e*P **P 17 59 34.0 +0.1**
CMB pmax pmax
comp=Z,2μm,1.2s
CMB Columbia Colle 71.92 41 ⇑*e*P **P 17 59 34.0 +0.1**
comp=Z,2μm,1.2s
PFO Pinyon Flat Ob 71.97 46 P **P 17 59 34.8 +0.4**
comp=Z,1μm,1.2s,SNR=78
PFO Pinyon Flat Ob 71.97 46 P **P 17 59 35.0 +0.6**
PFO S **SKiKP 18 09 10.0 -1.3**
PFO Pinyon Flat Ob 71.97 46 P **P 17 59 35.0 +0.6**
comp=Z,139nm,1.0s,baz=248,slow=6.2,SNR=45
PFO S **SKiKP 18 09 10.0 -1.3**
comp=Z,6.7nm,0.8s,baz=293,slow=7.7,SNR=2.1
PFO LR LR 18 23 49.5
comp=Z,1084μm,20.7s,baz=261,slow=30
PFO Pinyon Flat Ob 71.97 46 ⇑P **P 17 59 33.4 -1.0**
baz=72,SNR=44
BBRC Big Bear Solar 72.01 46 ⇑P **P 17 59 34.5 -0.2**
baz=72
KRMB Red Mountain 72.03 36 *e*P **P 17 59 35.3 +0.8**
comp=Z,820nm,1.1s
LQP Lukban 72.05 291 ⇑*e*P P 17 59 29.1 -6.2
SWSC Sam W. Stewart 72.07 47 ⇓P **P 17 59 34.8 0.0**
baz=72,SNR=32
LRMC Laurel Mountai 72.17 44 ⇓P **P 17 59 35.5 0.0**
baz=72,SNR=42
TSM Tawau 72.18 280 P **P 17 59 37.7 +1.8**
WDC Whiskeytown Da 72.20 37 *e*P **P 17 59 35.7 +0.3**
WDC pmax pmax
comp=Z,2μm,1.4s
WDC Whiskeytown Da 72.20 37 *e*P **P 17 59 35.7 +0.3**
comp=Z,2μm,1.4s
BYJI Banyuwangi 72.22 266 P **P 17 59 36.0 -0.1**
comp=Z,2μm,1.6s,comp=Z,130μmcomp=Z,972μm
RRX Edison Barstow 72.30 45 ⇑P **P 17 59 35.9 -0.3**
baz=73,SNR=15
KBO Bosley Butte 72.30 35 *e*P **P 17 59 37.4 +1.2**
comp=Z,10μm,2.1s
PALP Palanan 72.37 294 ⇓*e*P **P 17 59 38.1 +1.2**
ASAJ Asahikawa 72.39 327 P **P 17 59 35.9 -0.5**
ASAJ S **SKiKP 18 09 05.8 -5.5**
ASAJ Asahikawa 72.39 327 P **P 17 59 35.9 -0.5**
comp=Z,308nm,0.8s,baz=213,slow=7.7,SNR=92
ASAJ S **SKiKP 18 09 05.8 -5.5**
comp=Z,37nm,0.9s,baz=137,slow=15,SNR=3.6
ASAJ LR LR 18 25 30.3
comp=Z,645μm,21.5s,baz=147,slow=31
ABJI Asem Bagus 72.43 267 P **P 17 59 38.5 +1.1**
comp=Z,2μm,1.4s,comp=Z,129μm
CHGN Chignik 72.43 8 *e*P **P 17 59 35.4 -1.0**
CWC Cottonwood Cre 72.46 43 ⇑P **P 17 59 37.3 +0.1**
baz=73,SNR=30
BELC Belle Mtn. Jos 72.50 46 ⇓P **P 17 59 37.8 +0.2**
baz=73,SNR=148
BUSP Coron 72.51 288 *e*P **P 17 59 39.5 +1.7**
BALP Baler 72.62 292 *e*P **P 17 59 39.6 +1.2**
MPMC Manual Prospec 72.64 44 ⇑P **P 17 59 38.5 +0.1**
baz=73,SNR=387
MLAC Mammoth Lakes 72.67 42 ⇑P **P 17 59 38.7 +0.1**
baz=73,SNR=23
GSC Goldstone 72.67 45 *e*P **P 17 59 38.0 -0.4**
GSC pmax pmax
comp=Z,2μm,1.4s
GSC Goldstone 72.67 45 *e*P **P 17 59 38.0 -0.4**
comp=Z,2μm,1.4s
GSC Goldstone 72.67 45 ⇓P **P 17 59 37.7 -0.8**
baz=73,SNR=148
KEBM Edson Butte 72.68 35 *e*P **P 17 59 38.7 +0.4**
comp=Z,4μm,1.5s
BC3 Big Chuckawall 72.70 47 ⇓P **P 17 59 38.7 0.0**
baz=73,SNR=126
TIN Tinemaha 72.72 42 ⇓P **P 17 59 38.3 -0.5**
baz=73,SNR=72
HEC Hector,Ludlow 72.73 45 ⇑P **P 17 59 38.1 -0.7**
baz=73,SNR=50
WAKR Walker 72.80 41 *e*P **P 17 59 39.1 -0.2**
comp=Z,9μm,1.4s
PET Petropavlovsk 72.81 342 *d i*P **P 17 59 38.1 -0.6**
PET *e*PS PnS 18 09 53.2 +17
PET pmax pmax
comp=Z,140μm,20.5s
PET pmax pmax
comp=Z,112μm,12.7s
PET pmax pmax
comp=Z,1μm,1.6s
PET MLR MLR
comp=Z,677μm,18.0s
PET MLR MLR
comp=Z,601μm,18.0s
GLA Glamis 72.82 48 *e*P **P 17 59 39.3 0.0**

GLA pmax pmax
comp=Z,2μm,1.3s
GLA Glamis 72.82 48 *e*P **P 17 59 39.3 0.0**
comp=Z,2μm,1.3s
GLA Glamis 72.82 48 ⇓P **P 17 59 38.8 -0.6**
baz=73,SNR=83
YBH Yreka Blue Hor 72.84 36 *e*P **P 17 59 39.6 +0.2**
comp=Z,2μm,1.1s
YBH S **S 18 09 08.4 +3.7**
YBH Yreka Blue Hor 72.84 36 P **P 17 59 39.9 +0.5**
comp=Z,292nm,0.8s,baz=186,slow=4.5,SNR=61
YBH S **S 18 09 08.4 +3.7**
comp=Z,29nm,0.8s,baz=189,slow=12,SNR=4.6
YBH LR LR 18 24 31.4
comp=Z,1129μm,21.5s,baz=242,slow=30
CAUP Cauayan 72.86 294 *e*P P 17 59 44.6 +4.8
KMMI Kalianget 72.87 267 P **P 17 59 41.1 +1.1**
comp=Z,1μm,1.6s,comp=Z,107μm
JNU Nakatsue 72.91 312 *e*P **P 17 59 38.2 -1.7**
comp=Z,2μm,1.8s
JNU S **SKiKP 18 09 14.6 +2.0**
JNU Nakatsue 72.91 312 P **P 17 59 38.6 -1.2**
comp=Z,116nm,0.8s,baz=112,slow=5.3,SNR=46
JNU S **SKiKP 18 09 14.6 +2.0**
comp=Z,18nm,0.9s,baz=49,slow=10,SNR=2.0
JNU LR LR 18 26 55.6
comp=Z,915μm,21.2s,baz=119,slow=32
ENPP El Nido 72.95 287 *e*P **P 17 59 42.6 +2.2**
BEKR Beckworth 73.06 39 *e*P **P 17 59 40.0 -0.8**
comp=Z,1μm,1.4s
BLJI Banyuglugur 73.06 266 P **P 17 59 41.3 +0.2**
comp=Z,2μm,2.5s,comp=Z,115μmcomp=Z,964μm
GMJI Gumukmas 73.08 266 P **P 17 59 41.1 -0.1**
comp=Z,1μm,2.0s,comp=Z,94μmcomp=Z,983μm
LUBP Lubang 73.08 290 *e*P **P 17 59 42.8 +1.7**
PPR Puerto Princes 73.11 285 *e*P **P 17 59 44.5 +3.1**
CVP Callao Caves 73.15 294 ⇓*e*P **P 17 59 42.4 +0.9**
SGCP Mt. Cagua 73.16 295 *e*P **P 17 59 42.7 +1.2**
GMRC Granite Mounta 73.16 46 ⇓P **P 17 59 41.2 -0.2**
baz=73,SNR=213
PEA0B Petropavlovsk- 73.18 341 *e*P **P 17 59 40.0 -0.9**
PETK Petropavlovsk- 73.18 341 P **P 17 59 40.1 -0.8**
PETK S **S 18 09 06.5 -1.3**
PETK pmax pmax
comp=Z,309nm,0.9s
PETK smax smax
comp=N,37nm,0.9s
PETK MLR MLR
comp=Z,439μm,20.3s
PETK Petropavlovsk- 73.18 341 P **P 17 59 40.1 -0.8**
PETK S **S 18 09 06.5 -1.3**
PETK Petropavlovsk- 73.18 341 P **P 17 59 40.1 -0.8**
comp=Z,309nm,0.9s,baz=133,slow=6.9,SNR=189
PETK S **S 18 09 06.5 -1.3**
comp=Z,37nm,0.8s,baz=132,slow=8.6,SNR=4.4
PETK LR LR 18 28 01.6
comp=Z,439μm,20.3s,baz=143,slow=33
IRM Iron Mountain 73.18 46 ⇓P **P 17 59 41.4 0.0**
baz=73,SNR=252
LTIM Timbered Crate 73.20 37 P **P 17 59 41.6 +0.1**
SDKM Sandakan 73.23 281 P **P 17 59 44.0 +1.8**
GRAC Grapevine Rang 73.25 43 ⇑P **P 17 59 42.2 +0.4**
baz=74,SNR=240
HUMO Hull Mountain 73.27 36 *e*P **P 17 59 42.1 +0.3**
comp=Z,8μm,1.6s
FURC Furnace Creek, 73.29 44 ⇓P **P 17 59 42.6 +0.6**
baz=74,SNR=62
TUQ Turquoise Moun 73.34 45 ⇓P **P 17 59 42.5 0.0**
baz=74,SNR=74
SHOC Shoshone 73.36 44 ⇑P **P 17 59 42.5 +0.1**
baz=74,SNR=39
Y12C Blythe 73.40 47 ⇓P **P 17 59 43.5 +0.8**
baz=74,SNR=70
113A Mohawk Valley, 73.43 48 ⇓P **P 17 59 43.4 +0.5**
baz=74,SNR=106
MTKI Muara Teweh, K 73.53 274 P **P 17 59 45.5 +1.6**
comp=Z,927nm,2.7s,comp=Z,81μm
PAHR Pah Rah Range 73.56 40 *e*P **P 17 59 43.7 0.0**
comp=Z,585nm,1.6s
NV11 Mina Array Sit 73.57 41 *e*P **P 17 59 42.8 -1.0**
BBOR Butler Butte 73.61 35 P **P 17 59 44.8 +0.9**
BATP Bataraza 73.66 284 *e*P **P 17 59 46.5 +2.0**
HSIG 73.67 53 P **P 17 59 44.1 -0.2**
RNO Roman Nose 73.69 34 P **P 17 59 45.7 +1.4**
LDFC Landfair 73.70 46 *e*P **P 17 59 44.4 -0.3**
comp=Z,6μm,1.5s
214A Organ Pipe Nat 73.71 49 ⇑P **P 17 59 45.1 +0.5**
baz=74,SNR=74
APYP Conner 73.72 294 *e*P **P 17 59 45.4 +0.5**
TPH Tonopah 73.96 42 PFAKE 18 00 00.0 +14
TPH LR LR
comp=Z,1108μm,22.0s
PDMCI Parker Dam,Lak 73.97 47 ⇓P **P 17 59 46.0 0.0**
baz=74,SNR=173
KDM Kudat 73.97 282 P **P 17 59 48.0 +1.6**
KRKI Karangkates 74.06 266 P **P 17 59 48.9 +1.9**
comp=Z,4μm,2.1s,comp=Z,165μm
ABRA Dolores 74.10 294 *e*P **P 17 59 48.2 +1.1**
OHAK Old Harbor 74.11 10 *e*P **P 17 59 46.1 -0.2**
comp=Z,725nm,1.0s
SCZP Santa Cruz 74.12 292 *e*P P 17 59 51.4 +4.2
MPOR Mary's Peak 74.19 34 P **P 17 59 48.4 +1.1**
KKM Kota Kinabalu 74.28 281 *e*P **P 17 59 48.3 -0.2**
comp=Z,2μm,1.2s
KKM LR LR
comp=Z,331μm,22.0s
KKM Kota Kinabalu 74.28 281 P **P 17 59 50.5 +2.1**
KKM Kota Kinabalu 74.28 281 P **P 17 59 49.7 +1.3**
comp=Z,1μm,2.8s,comp=Z,90μm
KKM Kota Kinabalu 74.28 281 P **P 17 59 45.3 -3.1**
baz=74,SNR=18
YSS Yuzh-Sakhalins 74.29 330 *κ i*P **P 17 59 48.0 +0.5**
YSS *e* 18 00 02.8
YSS *e*PPP PPP 18 04 22.0
YSS *e*S **SKiKP 18 09 10.0 -4.1**
YSS *e*PPS PPS 18 09 45.0
YSS *e*SS **SS 18 14 04.0 -3.0**
YSS *e*SSS SSS 18 17 08.0
YSS pmax pmax
comp=Z,530nm,1.0s
YSS pmax pmax
comp=N,160nm,0.9s
YSS pmax pmax
comp=N,4μm,5.0s
YSS pmax pmax
comp=Z,13μm,5.0s
YSS pmax pmax
comp=E,3μm,6.0s
YSS smax smax
comp=E,27μm,10.0s
YSS smax smax
comp=N,36μm,13.0s
YSS MLR MLR
comp=Z,558μm,19.0s
YSS MLR MLR
comp=E,345μm,18.0s
Z14A Wintersburg 74.33 48 ⇓P **P 17 59 48.7 +0.6**
baz=75,SNR=30
GRJI Gresik 74.33 267 P P 17 59 55.0 +6.4
comp=E,1μm,1.1s,comp=E,22μmcomp=E,11μm
BOLP Bolinao 74.34 292 *e*P P 18 00 00.7 +12
MOD Modoc 74.34 37 *e*P **P 17 59 47.8 -0.5**
comp=E,929nm,0.8s
CJM Chamela 74.41 64 P **P 17 59 49.0 +0.1**
SHPR Sheep Range 74.45 44 *e*P **P 17 59 48.4 -0.6**
comp=E,144nm,0.5s
QSPA South Pole Qui 74.53 180 *e*P **P 17 59 47.6 -1.4**
comp=E,2μm,1.0s
QSPA South Pole Qui 74.53 180 LR LR 18 28 31.6
comp=E,1181μm,19.9s,baz=52,slow=32
W13A Hualapai Mount 74.56 46 ⇓P **P 17 59 49.9 +0.1**
baz=75,SNR=152
Y14A Wickenburg 74.58 48 ⇑P **P 17 59 49.3 -0.4**
baz=75,SNR=115
MAIG Mazatlaan 74.71 60 P **P 17 59 51.6 +1.0**
PWJI Pagerwojo 74.72 266 P **P 17 59 51.2 +0.4**
comp=E,1μm,1.9s,comp=E,97μmcomp=E,933μm
KDAK Kodiak Island 74.76 11 *e*P **P 17 59 50.2 +0.1**
comp=E,3μm,1.4s
KDAK S **S 18 09 24.2 -1.2**
KDAK Kodiak Island 74.76 11 P **P 17 59 50.1 +0.1**
comp=E,3μm,1.2s,SNR=27
KDAK Kodiak Island 74.76 11 P **P 17 59 50.2 +0.1**
comp=E,255nm,0.9s,baz=218,slow=6.3
KDAK S **S 18 09 24.2 -1.2**
comp=E,67nm,1.2s,baz=157,slow=7.7,SNR=2.2

KDAK LR LR 18 25 50.9
comp=E,1026μm,21.9s,baz=209,slow=30
SJI Sawahan 74.82 266 P **P 17 59 52.0 +0.5**
R11A Troy Canyon, C 75.18 43 *e*P **P 17 59 52.9 -0.3**
R11A Troy Canyon, C 75.18 43 ⇓P **P 17 59 52.9 -0.3**
baz=75,SNR=228
NGJI Ngawi 75.20 266 P **P 17 59 56.0 +2.4**
comp=E,1μm,1.5s,comp=E,164μm
PINOR Pine Mountain 75.21 36 P **P 17 59 54.6 +1.6**
PCJI Pacitan 75.28 265 P **P 17 59 53.6 -0.5**
comp=E,5μm,1.4s,comp=E,123μmcomp=E,914μm
BMN Battle Mountai 75.32 40 *e*P **P 17 59 53.5 -0.4**
BMN pmax pmax
comp=Z,305nm,1.4s
BMN MLR MLR
comp=Z,1214μm,22.0s
BMN Battle Mountai 75.32 40 *e*P **P 17 59 53.5 -0.4**
comp=Z,305nm,1.4s
BMN LR LR
comp=Z,1214μm,22.0s
TUC Tucson 75.38 50 *e*P **P 17 59 54.5 +0.1**
TUC pmax pmax
comp=Z,3μm,1.7s
TUC MLR MLR
comp=Z,698μm,20.0s
TUC Tucson 75.38 50 *e*P **P 17 59 54.5 +0.1**
comp=Z,3μm,1.7s
TUC LR LR
comp=Z,698μm,20.0s
MMIG Aquila 75.44 66 P **P 17 59 54.2 -0.7**
ANIG Ahuacatlan 75.47 63 P **P 17 59 55.7 +0.6**
GMO Grizzlie Mount 75.56 35 P **P 17 59 57.1 +1.8**
WOJI Wonogiri, Jawa 75.61 266 P **P 17 59 56.1 +0.1**
comp=Z,3μm,1.6s,comp=Z,122μm
TDH Tom, Dick, Har 75.65 34 P **P 17 59 57.3 +1.6**
WVOR Wild Horse Val 75.65 38 *e*P **P 17 59 55.5 -0.3**
WVOR pmax pmax
comp=Z,176nm,0.7s
WVOR MLR MLR
comp=Z,1289μm,21.0s
WVOR Wild Horse Val 75.65 38 *e*P **P 17 59 55.5 -0.3**
comp=Z,176nm,0.7s
WVOR LR LR
comp=Z,1289μm,21.0s
TWG Pinlang 75.81 299 *e*P **P 17 59 55.5 -1.4**
comp=Z,7μm,1.4s
VLL Laurance Lake 75.82 34 P **P 17 59 57.8 +1.1**
LVP Lakeview Peak 75.83 33 P **P 17 59 57.6 +1.0**
YULB Yu-li 75.85 299 *e*P **P 17 59 56.7 -0.4**
comp=Z,2μm,1.5s
NACB Ninganchiao 75.92 300 *e*P **P 17 59 56.3 -1.2**
comp=Z,3μm,1.3s
X16A Lo Mia Camp, P 75.94 48 ⇓P **P 17 59 57.2 -0.5**
baz=76,SNR=210
NLWA Neilton Lookou 75.95 31 *e*P **P 17 59 57.6 +0.3**
comp=Z,2μm,1.1s
NLWA LR LR
comp=Z,734μm,21.0s
UGM Wanagama 75.97 266 P **P 17 59 57.6 -0.5**
comp=Z,2μm,1.4s,comp=Z,113μm
UGM Wanagama 75.97 266 P **P 17 59 57.4 -0.7**
baz=76,SNR=27
319A Douglas 76.05 52 ⇑P **P 17 59 58.7 +0.4**
baz=76,SNR=39
PBKI Pangkalan Bun 76.17 271 P **P 18 00 00.2 +1.0**
comp=Z,4μm,1.4s,comp=Z,117μmcomp=Z,955μm
YOGI Yogyakarta 76.22 266 P **P 18 00 00.2 +0.7**
comp=Z,5μm,1.3s,comp=Z,180μm
CCUT Cedar City 76.22 44 *e*P **P 17 59 59.6 +0.4**
comp=Z,963nm,0.5s
ARUT Antelope Range 76.29 44 *e*P **P 17 59 59.2 -0.4**
ARUT pmax pmax
comp=Z,2μm,0.5s
ARUT Antelope Range 76.29 44 *e*P **P 17 59 59.2 -0.4**
comp=Z,2μm,0.5s
SSLB Suanglung 76.30 300 *e*P **P 17 59 58.2 -1.5**
comp=Z,696nm,1.1s
YHNB Yeheng 76.30 301 *e*P **P 18 00 00.1 +0.3**
comp=Z,3μm,1.4s
YHNB LR LR
comp=Z,838μm,20.0s
TATO Taipei 76.34 301 P **P 18 00 00.4 +0.6**
SNR=12
TATO Taipei 76.34 301 *e*P **P 18 00 00.1 +0.2**
comp=Z,9μm,1.3s
TATO LR LR
comp=Z,471μm,20.0s
U15A North Rim 76.36 46 ⇑P **P 18 00 00.1 0.0**
baz=77,SNR=165
TPUB Ta-pu 76.37 299 *e*P **P 17 59 58.5 -1.6**
comp=Z,1μm,0.9s
BTM Bintulu 76.42 277 P **P 18 00 02.6 +1.9**
SFJM Santa Fe 76.53 64 P **P 18 00 03.9 +2.6**
WUAZ Wupatki 76.54 47 *e*P **P 18 00 01.3 +0.3**
comp=Z,2μm,1.3s
WUAZ LR LR
comp=Z,967μm,22.0s
WUAZ Wupatki 76.54 47 ⇓P **P 18 00 01.8 +0.8**
baz=77,SNR=39
CGIG 76.58 53 P **P 18 00 02.6 +1.3**
LON Longmire 76.58 33 *e*P **P 18 00 01.0 +0.1**
LON pmax pmax
comp=Z,3μm,1.6s
LON Longmire 76.58 33 *e*P **P 18 00 01.0 +0.1**
comp=Z,3μm,1.6s
320A Kipp Ranch, An 76.60 52 ⇑P **P 18 00 01.7 +0.2**
baz=77,SNR=67
WPW White Pass 76.69 33 P **P 18 00 01.3 -0.2**
ELK Elko 76.74 41 *e*P **P 18 00 01.7 -0.5**
comp=Z,9.3nm,1.6s
ZIIG Zihuatanejo 76.85 67 P **P 18 00 04.3 +1.4**
220A Playas Peak, P 76.87 51 ⇓P **P 18 00 02.4 -0.5**
baz=77,SNR=361
BJII Banjamegara 76.89 266 P **P 18 00 04.9 +1.5**
comp=Z,1μm,2.0s,comp=Z,136μm
HPIG 76.91 57 P **P 18 00 04.2 +0.9**
PGC Sidney 77.01 31 *e*P **P 18 00 03.3 +0.2**
comp=Z,94nm,1.1s
SBUM Sibu 77.04 276 P **P 18 00 06.8 +2.7**
SBUM Sibu 77.04 276 P **P 18 00 05.5 +1.4**
comp=Z,898nm,2.1s,comp=Z,76μm
X18A Snowflake 77.06 48 ⇓P **P 18 00 04.4 +0.4**
baz=77,SNR=46
120A U Bar Ranch, L 77.09 51 ⇓P **P 18 00 03.5 -0.7**
baz=77,SNR=160
STKI Sintang 77.09 274 P **P 18 00 06.0 +1.6**
comp=Z,2μm,1.8s,comp=Z,89μmcomp=Z,747μm
KSRS Korea Array 77.23 315 P **P 18 00 04.5 -0.1**
comp=Z,113nm,0.9s,baz=126,slow=5.7,SNR=182
KSRS S **S 18 09 56.1 +2.6**
comp=Z,7.0nm,1.0s,baz=142,slow=6.2,SNR=2.9
KSRS LR LR 18 28 49.4
comp=Z,583μm,20.6s,baz=113,slow=32
KSAR Wonju Array Be 77.25 315 P **P 18 00 04.5 -0.2**
KSAR S **S 18 09 56.1 +2.4**
RSO Redoubt South 77.27 10 *e*P **P 18 00 03.4 -1.2**
comp=Z,26μm,1.1s
Z20A Nine Sixteen R 77.38 50 ⇑P **P 18 00 05.9 +0.1**
baz=78,SNR=209
CLJI Cilicap 77.47 265 P **P 18 00 06.5 0.0**
comp=Z,2μm,1.2s,comp=Z,68μmcomp=Z,880μm
221A Mesquite Ranch 77.48 52 ⇓P **P 18 00 06.4 +0.1**
baz=78,SNR=54
MVU Marysvale 77.49 44 *e*P **P 18 00 06.3 -0.1**
comp=Z,128nm,2.5s
W18A Petrified Fore 77.50 48 *e*P **P 18 00 06.0 -0.5**
W18A Petrified Fore 77.50 48 ⇑P **P 18 00 06.4 -0.1**
baz=78,SNR=21
SEW Seward 77.52 11 *e*P **P 18 00 04.6 -1.1**
comp=Z,13nm,0.9s
MID Middleton Isla 77.53 13 *e*P **P 18 00 06.0 +0.3**
MID pmax pmax
comp=Z,1μm,1.0s
MID Middleton Isla 77.53 13 *e*P **P 18 00 06.0 +0.3**
comp=Z,1μm,1.0s
HAWA Hanford 77.57 34 *e*P **P 18 00 06.4 +0.1**
comp=Z,284nm,1.8s
HAWA LR LR
comp=Z,883μm,21.0s
TGJI Tegal 77.58 266 P **P 18 00 07.1 0.0**
comp=Z,2μm,1.4s,comp=Z,113μmcomp=Z,819μm
KPJI Karang Pucung 77.64 266 P **P 18 00 06.7 -0.8**
comp=Z,1μm,1.4s,comp=Z,107μm
121A Cookes Peak, D 77.71 51 ⇓P **P 18 00 07.2 -0.5**
baz=78,SNR=157
CAIG El Cayaco 77.73 68 P **P 18 00 08.7 +0.9**
VLA Vladivostok 77.77 322 *κ i*P **P 18 00 06.2 -1.3**

VLA				*e*			18 00 15.8
VLA				*e*			18 03 02.9
VLA				*e*S		**S**	**18 09 56.7 -2.4**
VLA				pmax		pmax	
	comp=Z,133nm,1.5s						
ZAIG	**Zacatecas**	**77.81**	**62**	P		**P**	**18 00 09.8 +1.3**
MOIG	**Morelia**	**77.84**	**66**	P		**P**	**18 00 06.5 -2.3**
BMO	**Blue Mountains**	**77.87**	**36**	*e*P		**P**	**18 00 07.2 -1.0**
BMO				pmax		pmax	
	comp=Z,212nm,2.0s						
BMO				MLR		MLR	
	comp=Z,750µm,20.0s						
BMO	**Blue Mountains**	**77.87**	**36**	*e*P		**P**	**18 00 07.2 -1.0**
	comp=Z,212nm,2.0s						
BMO				LR		LR	
	comp=Z,750µm,20.0s						
MFID	**Camas Ranch**	**77.89**	**38**	⇑P		**P**	**18 00 08.8 +0.4**
	baz=78						
Y20A	**Horse Springs,**	**77.91**	**50**	⇓P		**P**	**18 00 09.0 +0.1**
	baz=78,SNR=193						
CRAG	**Craig**	**77.92**	**21**	*e*P		**P**	**18 00 09.3 +1.2**
	comp=Z,2µm,1.5s						
DUG	**Dugway**	**77.99**	**42**	*e*P		**P**	**18 00 08.4 -0.6**
DUG				pmax		pmax	
	comp=Z,6µm,1.3s						
DUG				MLR		MLR	
	comp=Z,997µm,21.0s						
DUG	**Dugway**	**77.99**	**42**	*e*P		**P**	**18 00 08.4 -0.6**
	comp=Z,6µm,1.3s						
DUG				LR		LR	
	comp=Z,997µm,21.0s						
DUG	**Dugway**	**77.99**	**42**	⇑P		**P**	**18 00 08.5 -0.5**
	baz=78						
ACX	**Acapulco**	**78.03**	**69**	P		**P**	**18 00 12.3 +2.7**
222A	**Williams Famil**	**78.03**	**52**	⇓P		**P**	**18 00 09.3 -0.2**
	baz=78,SNR=75						
X20A	**Quemado**	**78.12**	**49**	⇓P		**P**	**18 00 09.9 -0.1**
	baz=78,SNR=125						
INCN	**Inchon**	**78.13**	**314**	P		**P**	**18 00 10.3 +0.6**
	SNR=120						
INCN	**Inchon**	**78.13**	**314**	*e*P		**P**	**18 00 10.4 +0.8**
	comp=Z,10µm,1.8s						
INCN				LR		LR	
	comp=Z,526µm,20.0s						
Z21A	**St. Cloud Mine**	**78.16**	**50**	⇑P		**P**	**18 00 10.2 0.0**
	baz=78,SNR=129						
BGU	**Big Grassy Mou**	**78.24**	**42**	*e*P		**P**	**18 00 09.6 -0.8**
	comp=Z,603nm,0.7s						
USRK	**Ussuriysk Arra**	**78.33**	**322**	P		**P**	**18 00 10.4 -0.2**
	comp=Z,86nm,1.0s,baz=99,slow=4.7,SNR=55						
USRK				S		S	18 10 16.3 +11
	comp=Z,2.0nm,0.8s,baz=136,slow=29,SNR=1.9						
USRK				LR		LR	18 29 58.3
	comp=Z,1384µm,21.4s,baz=296,slow=32						
NLU	**North Lily Min**	**78.34**	**43**	*e*P		**P**	**18 00 10.3 -0.8**
	comp=Z,61nm,1.0s						
122A	**Conniff Cattle**	**78.38**	**51**	⇓P		**P**	**18 00 11.0 -0.3**
	baz=79,SNR=28						
W20A	**Ramah**	**78.40**	**48**	⇓P		**P**	**18 00 11.5 0.0**
	baz=79,SNR=141						
Q16A	**Castle Valley**	**78.40**	**44**	*e*P		**P**	**18 00 11.3 -0.2**
Q16A	**Castle Valley**	**78.40**	**44**	⇓P		**P**	**18 00 11.6 +0.2**
	baz=79,SNR=149						
SIT	**Sitka**	**78.45**	**19**	*e*P		**P**	**18 00 11.5 +0.6**
SIT				pmax		pmax	
	comp=Z,2µm,1.5s						
SIT	**Sitka**	**78.45**	**19**	*e*P		**P**	**18 00 11.5 +0.6**
	comp=Z,2µm,1.5s						
Y21A	**Point of Rocks**	**78.48**	**50**	⇑P		**P**	**18 00 12.5 +0.5**
	baz=79,SNR=150						
223A	**Chaparral, Ant**	**78.50**	**52**	⇑P		**P**	**18 00 12.2 +0.2**
	baz=79						
TMUT	**Trail Mountain**	**78.57**	**44**	*e*P		**P**	**18 00 13.0 +0.5**
	comp=Z,7µm,0.6s						
X21A	**Alamocita Cree**	**78.60**	**49**	⇓P		**P**	**18 00 12.9 +0.2**
	baz=79,SNR=165						
KSM	**Kuching**	**78.60**	**275**	*e*P		**P**	**18 00 13.0 +0.2**
	comp=Z,5µm,1.4s						
KSM				LR		LR	
	comp=Z,218µm,22.0s						
KSM	**Kuching**	**78.60**	**275**	P		**P**	**18 00 14.9 +2.1**
KSM	**Kuching**	**78.60**	**275**	P		**P**	**18 00 14.6 +1.8**
	comp=Z,3µm,1.4s,comp=Z,91µm						
KSM	**Kuching**	**78.60**	**275**	P		**P**	**18 00 13.9 +1.1**
	baz=79,SNR=57						
MEIG	**Mezcala**	**78.61**	**68**	P		**P**	**18 00 14.8 +2.0**
Z22A	**Elephant Butte**	**78.66**	**51**	⇑P		**P**	**18 00 12.8 -0.1**
	baz=79,SNR=232						
CISI	**Cisompet, Garu**	**78.66**	**265**	P		**P**	**18 00 12.8 -0.4**
	comp=Z,3µm,1.6s,comp=Z,92µm						
CISI	**Cisompet, Garu**	**78.66**	**265**	P		**P**	**18 00 12.8 -0.4**
	baz=79,SNR=16						
MPU	**Maple Canyon**	**78.66**	**43**	*e*P		**P**	**18 00 12.3 -0.5**
	comp=Z,9µm,0.6s						
QZH	**Quanzhou**	**78.73**	**300**	⇓*i*P		**P**	**18 00 12.0 -1.2**
QZH				S		**S**	**18 10 08.0 -2.2**
QZH				pmax		pmax	
	comp=Z,3µm,1.6s						
QZH				pmax		pmax	
	comp=Z,157µm,11.4s						
QZH				LR		LR	
	comp=N,174µm,16.8s						
QZH				LR		LR	
	comp=E,501µm,18.8s						
QZH				LR		LR	
	comp=Z,1420µm,30.7s						
V20A	**Brimhall**	**78.74**	**48**	⇑P		**P**	**18 00 13.5 +0.2**
	baz=79,SNR=40						
SPUT	**South Promonto**	**78.82**	**41**	*e*P		**P**	**18 00 13.2 -0.4**
	comp=Z,885nm,0.5s						
HLID	**Hailey**	**78.83**	**39**	*e*P		**P**	**18 00 13.3 -0.4**
	comp=Z,3µm,0.6s						
HLID				LR		LR	
	comp=Z,817µm,22.0s						
HLID	**Hailey**	**78.83**	**39**	⇑P		**P**	**18 00 13.5 -0.1**
	baz=79						
HVU	**Hansel Valley**	**78.86**	**41**	*e*P		**P**	**18 00 13.2 -0.6**
HVU				pmax		pmax	
	comp=Z,145nm,1.4s						
HVU	**Hansel Valley**	**78.86**	**41**	*e*P		**P**	**18 00 13.2 -0.6**
	comp=Z,145nm,1.4s						
PLIG	**Platanillo**	**78.88**	**67**	P		**P**	**18 00 15.9 +1.6**
123A	**Bell Site, Whi**	**78.91**	**52**	⇑P		**P**	**18 00 13.8 -0.4**
	baz=79,SNR=15						
SRU	**San Rafael**	**78.94**	**44**	*e*P		**P**	**18 00 14.1 -0.3**
SRU				pmax		pmax	
	comp=Z,48nm,0.6s						
SRU	**San Rafael**	**78.94**	**44**	*e*P		**P**	**18 00 14.1 -0.3**
	comp=Z,48nm,0.6s						
WRAK	**Wrangell Islan**	**78.94**	**21**	*e*P		**P**	**18 00 14.3 +0.7**
	comp=Z,234nm,1.8s						
WRAK				LR		LR	
	comp=Z,610µm,22.0s						
CTU	**Camp Tracy**	**78.94**	**42**	*e*P		**P**	**18 00 13.9 -0.4**
	comp=Z,2µm,1.3s						
PMR	**Palmer**	**78.96**	**11**	*e*P		**P**	**18 00 12.2 -1.4**
PMR				pmax		pmax	
	comp=Z,2µm,1.3s						
PMR	**Palmer**	**78.96**	**11**	*e*P		**P**	**18 00 12.2 -1.4**
	comp=Z,2µm,1.3s						
Y22A	**Socorro**	**78.97**	**50**	⇓P		**P**	**18 00 14.9 +0.3**
	baz=79,SNR=7.5						
U20A	**Newcomb**	**78.98**	**47**	⇓P		**P**	**18 00 14.6 0.0**
	baz=79,SNR=78						
324A	**Moseley Ranch,**	**78.98**	**53**	⇓P		**P**	**18 00 14.4 -0.3**
	baz=79,SNR=202						
W21A	**San Fidel**	**79.01**	**49**	⇑P		**P**	**18 00 15.8 +0.9**
	baz=79						
LEM	**Lembang**	**79.03**	**266**	P		**P**	**18 00 15.7 +0.3**
	comp=Z,4µm,1.8s,comp=Z,201µm						
LEM	**Lembang**	**79.03**	**266**	P		**P**	**18 00 16.6 +1.2**
	baz=79,SNR=31						
LAZ	**Ladron**	**79.05**	**50**	P		**P**	**18 00 14.6 -0.5**
Y22D	**IRIS PASSCAL I**	**79.06**	**50**	⇓P		**P**	**18 00 16.1 +1.0**
	baz=79						
LENM	**Lemitar**	**79.06**	**50**	*e*P		**P**	**18 00 15.3 +0.2**
425A	**Indio Mountain**	**79.08**	**54**	⇓P		**P**	**18 00 15.0 -0.3**
	baz=79,SNR=249						
JLU	**Jordanelle**	**79.09**	**42**	*e*P		**P**	**18 00 14.2 -1.0**
	comp=Z,2µm,1.2s						
DAU	**Daniels Canyon**	**79.12**	**43**	*e*P		**P**	**18 00 15.7 +0.3**
DAU				pmax		pmax	
	comp=Z,6µm,0.6s						
DAU	**Daniels Canyon**	**79.12**	**43**	*e*P		**P**	**18 00 15.7 +0.3**
	comp=Z,6µm,0.6s						
SSE	**Sheshan**	**79.15**	**307**	P		**P**	**18 00 16.3 +0.9**
SSE				pP		**pP**	**18 00 22.3 +0.7**
SSE				S		**S**	**18 10 13.0 -1.5**
SSE				ScS		**ScS**	**18 10 36.3 -1.1**
SSE				pmax		pmax	
	comp=Z,49µm,11.0s						
SSE				LR		LR	
	comp=N,211µm,27.3s						
SSE				LR		LR	
	comp=E,393µm,27.3s						
SSE				LR		LR	
	comp=Z,562µm,28.5s						
MNTX	**Cornudas Mount**	**79.17**	**53**	*e*P		**P**	**18 00 15.0 -0.5**
	comp=Z,270nm,2.2s						
MNTX				LR		LR	
	comp=Z,649µm,22.0s						
HABR	**Khabarovsk**	**79.19**	**327**	*i* P		**P**	**18 00 15.9 +0.7**
HABR				*e**PP		**pP**	**18 00 19.8 -1.5**
HABR				*e*			18 00 21.8
HABR							18 03 12.6
HABR				PPP		PPP	18 05 00.6
HABR				*e*S		**S**	**18 10 12.4 -1.7**
HABR				*e**SS		**sS**	**18 10 22.6 -1.6**
HABR				*e*			18 10 33.8
HABR				*e*SS		**SS**	**18 15 17.7 -3.4**
HABR				*e*SSS		SSS	18 18 42.9
HABR				pmax		pmax	
	comp=N,41nm,1.6s						
HABR				pmax		pmax	
	comp=Z,388nm,1.6s						
HABR				pmax		pmax	
	comp=E,67nm,1.1s						
HABR				pmax		pmax	
	comp=Z,16µm,5.3s						
HABR				MLR		MLR	
	comp=N,137µm,18.0s						
HABR				MLR		MLR	
	comp=E,232µm,21.0s						
HABR				MLR		MLR	
	comp=Z,288µm,18.0s						
DIV	**Divide**	**79.19**	**13**	*e*P		**P**	**18 00 14.0 -1.0**
	comp=Z,515nm,0.6s						
X22A	**Bernardo**	**79.19**	**50**	⇓P		**P**	**18 00 16.6 +0.8**
	baz=79,SNR=71						
Z23A	**Rita Site, Whi**	**79.21**	**51**	⇓P		**P**	**18 00 16.2 +0.3**
	baz=80,SNR=67						
224A	**Cornudas Mount**	**79.22**	**52**	⇓P		**P**	**18 00 16.8 +0.8**
	baz=80						
626A	**Big Bend Ranch**	**79.23**	**55**	⇓P		**P**	**18 00 16.1 +0.1**
	baz=80,SNR=204						
BMRM	**Bremner River**	**79.30**	**13**	*e*P		**P**	**18 00 14.2 -1.4**
	comp=Z,3µm,0.4s						
SZVM	**Salazar**	**79.31**	**66**	P		**P**	**18 00 18.9 +1.8**
BNM	**Barren Site**	**79.31**	**50**	*e*P		**P**	**18 00 16.5 -0.1**
	comp=Z,1µm,1.6s						
LPM	**Los Pinos Moun**	**79.38**	**50**	*e*P		**P**	**18 00 16.6 -0.3**
	comp=Z,1µm,1.3s						
MVCO	**Mesa Verde**	**79.39**	**47**	*e*P		**P**	**18 00 16.2 -0.7**
	comp=Z,3µm,0.6s						
MVCO				LR		LR	
	comp=Z,798µm,20.0s						
MVCO	**Mesa Verde**	**79.39**	**47**	⇓P		**P**	**18 00 17.1 +0.2**
	baz=80,SNR=101						
YAIG	**Yautepec**	**79.43**	**67**	P		**P**	**18 00 18.9 +1.5**
PNIG	**Pinotepa**	**79.43**	**70**	P		**P**	**18 00 18.7 +1.5**
526A	**Mary Lane Ranc**	**79.47**	**55**	⇑P		**P**	**18 00 17.7 +0.3**
	baz=80,SNR=241						
UNM	**Universidad Na**	**79.49**	**67**	P		**P**	**18 00 19.4 +1.5**
UNM	**Universidad Na**	**79.49**	**67**	P		**P**	**18 00 19.4 +1.5**
TXAR	**Lajitas Array**	**79.51**	**56**	P		**P**	**18 00 17.7 +0.1**
TXAR				S		**SKKSac**	**18 10 36.2 +1.0**
TXAR				PKKPbc		**PKKPbc**	**18 19 06.8 -0.3**
TXAR	**Lajitas Array**	**79.51**	**56**	P		**P**	**18 00 17.7 +0.1**
	comp=Z,74nm,1.1s,baz=229,slow=8.2,SNR=126						
TXAR				S		S	18 10 36.2 +18
	comp=Z,13nm,1.2s,baz=206,slow=6.0,SNR=2.1						
TXAR				PKKPbc		**PKKPbc**	**18 19 06.8 -0.3**
	comp=Z,4.1nm,1.1s,baz=95,slow=5.5,SNR=3.2						
TXAR				LR		LR	18 27 54.5
	comp=Z,808µm,21.7s,baz=15,slow=30						
HWUT	**Hardware Ranch**	**79.54**	**42**	*e*P		**P**	**18 00 16.5 -1.1**
	comp=Z,3µm,0.7s						
HWUT				LR		LR	
	comp=Z,1592µm,22.0s						
124A	**Stringfield Ra**	**79.55**	**52**	⇑P		**P**	**18 00 18.5 +0.6**
	baz=80,SNR=173						
W22A	**Albuquerque**	**79.56**	**49**	⇑P		**P**	**18 00 18.5 +0.6**
	baz=80,SNR=17						
U21A	**Nageezi**	**79.61**	**48**	⇑P		**P**	**18 00 18.0 -0.1**
	baz=80,SNR=189						
PBVM	**Pinon**	**79.61**	**66**	P		**P**	**18 00 19.6 +1.4**
Y23A	**Lovelace Mesa,**	**79.64**	**50**	⇑P		**P**	**18 00 18.3 0.0**
	baz=80,SNR=119						
PTVM	**Pico Tres Padr**	**79.64**	**66**	P		**P**	**18 00 19.9 +1.2**
PPLA	**Purkeypile**	**79.67**	**9**	*e*P		**P**	**18 00 15.7 -2.1**
	comp=Z,2µm,0.4s						
225A	**Deer Hill, Car**	**79.77**	**53**	⇓P		**P**	**18 00 19.1 +0.1**
	baz=80						
426A	**McDonald Obser**	**79.78**	**54**	⇑P		**P**	**18 00 19.2 +0.1**
	baz=80,SNR=294						
627A	**Terlingua Ranc**	**79.78**	**56**	⇑P		**P**	**18 00 19.0 -0.1**
	baz=80						
S20A	**Disappointment**	**79.78**	**46**	⇓P		**P**	**18 00 19.0 -0.1**
	baz=80,SNR=193						
ANMO	**Albuquerque**	**79.80**	**49**	*e*P		**P**	**18 00 18.6 -0.6**
	comp=Z,1µm,1.4s						
ANMO				S		S	18 10 28.4 +6.7
ANMO				LR		LR	
	comp=Z,673µm,20.0s						
ANMO	**Albuquerque**	**79.80**	**49**	S		S	18 10 28.4 +6.7
	comp=Z,17nm,1.2s,baz=187,slow=5.5,SNR=1.7						
X23A	**Hourglass Bar**	**79.83**	**50**	⇑P		**P**	**18 00 19.7 +0.3**
	baz=80,SNR=15						
527A	**Woodward Ranch**	**79.89**	**55**	⇓P		**P**	**18 00 20.1 +0.4**
	baz=80						
PPM	**Popocatepetl**	**79.89**	**67**	P		**P**	**18 00 22.1 +1.7**
PPM	**Popocatepetl**	**79.89**	**67**	P		**P**	**18 00 22.1 +1.7**
Z24A	**Sheeppen Canyo**	**79.89**	**51**	⇑P		**P**	**18 00 20.0 +0.3**
	baz=80,SNR=70						
V22A	**San Miguel Ran**	**79.91**	**48**	⇑P		**P**	**18 00 20.1 +0.3**
	baz=80,SNR=65						
DBJI	**Dramaga**	**79.93**	**266**	P		**P**	**18 00 20.1 0.0**
	comp=Z,4µm,1.7s,comp=Z,152µmcomp=Z,913µm						
R20A	**Redvale**	**79.94**	**46**	⇓P		**P**	**18 00 20.3 +0.4**
	baz=80,SNR=30						
DEIG	**Demacu**	**79.96**	**66**	P		**P**	**18 00 21.3 +0.9**
T21A	**Navajo Lake**	**79.97**	**47**	⇑P		**P**	**18 00 20.9 +0.9**
	baz=80,SNR=74						
MDJ	**Mudanjiang**	**79.98**	**322**	P		**P**	**18 00 21.0 +1.4**
MDJ				pP		**pP**	**18 00 23.5 -2.3**
MDJ				sP		**sP**	**18 00 24.8 -3.2**
MDJ				PP		**PP**	**18 03 26.3 +4.5**
MDJ				pmax		pmax	
	comp=Z,7µm,7.1s						
MDJ				LR		LR	
	comp=N,678µm,21.9s						
MDJ				LR		LR	
	comp=E,1042µm,22.6s						
MDJ				LR		LR	
	comp=Z,1733µm,21.2s						
MDJ	**Mudanjiang**	**79.98**	**322**	*e*P		**P**	**18 00 19.3 -0.4**
	comp=Z,5µm,2.1s						
MDJ				LR		LR	
	comp=Z,1855µm,21.0s						
IIO	**Organos**	**79.99**	**66**	P		**P**	**18 00 22.5 +1.8**
XMI	**Christmas Isla**	**80.00**	**262**	P		P	18 00 31.6 +11
	baz=80,SNR=3.0						
SKJI	**Sukabumi**	**80.01**	**265**	P		**P**	**18 00 20.4 -0.1**
	comp=Z,3µm,1.1s,comp=Z,93µmcomp=Z,782µm						
NEW	**Newport**	**80.01**	**34**	*e*P		**P**	**18 00 18.1 -1.8**
	comp=Z,3µm,2.0s						
NEW				S		S	18 10 42.5 +19
NEW				LR		LR	
	comp=Z,811µm,21.0s						
NEW	**Newport**	**80.01**	**34**	S		S	18 10 42.5 +19
	comp=Z,7.5nm,1.0s,baz=318,slow=12,SNR=1.5						
NEW	**Newport**	**80.01**	**34**	⇓P		**P**	**18 00 19.6 -0.2**
	baz=80,SNR=90						
XMIS	**Christmas Isla**	**80.02**	**262**	*e*P		**P**	**18 00 20.9 +0.3**
	comp=Z,18µm,1.7s						
XMIS	**Christmas Isla**	**80.02**	**262**	P		**P**	**18 00 21.9 +1.3**
	baz=80,SNR=5.3						
TPI	**Tanjungpandan**	**80.03**	**270**	P		**P**	**18 00 21.2 +0.6**
	comp=Z,812nm,1.6s,comp=Z,47µmcomp=Z,801µm						
M17A	**Scullys Gap (B**	**80.05**	**42**	⇓P		**P**	**18 00 20.4 +0.1**
	baz=80						
326A	**Caldwell Ranch**	**80.09**	**54**	⇓P		**P**	**18 00 21.0 +0.4**
	baz=80,SNR=91						
Y24A	**Capitan**	**80.10**	**51**	⇑P		**P**	**18 00 20.6 -0.2**
	baz=80,SNR=113						
S21A	**Coal Bank Pass**	**80.10**	**46**	P		**P**	**18 00 20.6 -0.3**
	baz=80						
W23A	**Werner Place,**	**80.12**	**49**	⇑P		**P**	**18 00 21.2 +0.3**
	baz=80,SNR=93						
TNG	**Tangerang**	**80.13**	**266**	P		**P**	**18 00 23.5 +2.3**
	comp=Z,7µm,1.7s,comp=Z,233µm						
125A	**Gardner Draw,**	**80.13**	**52**	⇑P		**P**	**18 00 21.4 +0.5**
	baz=80,SNR=167						
GDL2	**Guadalupe Moun**	**80.16**	**53**	*e*P		**P**	**18 00 21.2 +0.2**
	comp=Z,51nm,0.4s						
U22A	**Llaves**	**80.16**	**48**	⇓P		**P**	**18 00 21.9 +0.7**
	baz=80,SNR=45						
628A	**Black Gap, Mar**	**80.19**	**56**	⇑P		**P**	**18 00 21.5 +0.3**
	baz=80						
P19A	**Cripple Cowboy**	**80.23**	**44**	⇑P		**P**	**18 00 21.4 0.0**
	baz=80						
226B	**Tecolote Peak,**	**80.26**	**53**	⇓P		**P**	**18 00 21.8 +0.3**
	baz=80,SNR=315						
427A	**Hayter Ranch,**	**80.34**	**54**	⇑P		**P**	**18 00 22.4 +0.3**
	baz=81,SNR=53						
Z25A	**Roswell**	**80.36**	**52**	⇓P		**P**	**18 00 22.6 +0.5**
	baz=81,SNR=102						
V23A	**Ortiz Mt. (NFS**	**80.36**	**49**	⇑P		**P**	**18 00 23.3 +1.1**
	baz=81,SNR=91						
Q20A	**Ridgley Place,**	**80.37**	**45**	⇑P		**P**	**18 00 22.3 +0.2**
	baz=81						
X24A	**Lazy VL Ranch,**	**80.38**	**50**	⇑P		**P**	**18 00 22.6 +0.3**
	baz=81,SNR=15						
SKAG	**Skagway**	**80.41**	**18**	⇓*e*P		**P**	**18 00 22.4 +0.8**
	comp=Z,969nm,1.0s						
T22A	**Edith**	**80.42**	**47**	⇓P		**P**	**18 00 22.8 +0.2**
	baz=81,SNR=105						
AHID	**Auburn Hatcher**	**80.44**	**41**	*e*P		**P**	**18 00 20.2 -2.2**
	comp=Z,1µm,0.7s						
AHID				LR		LR	
	comp=Z,1093µm,22.0s						
MCMT	**McKenzie Canyo**	**80.46**	**38**	*e*P		**P**	**18 00 21.7 -0.9**
	comp=Z,848nm,1.2s						
O19A	**Miners Draw (B**	**80.47**	**44**	⇑P		**P**	**18 00 23.0 +0.5**
	baz=81						
327A	**Balmorhea Ranc**	**80.49**	**54**	⇓P		**P**	**18 00 23.4 +0.7**
	baz=81						
528A	**Cox Ranch, San**	**80.54**	**55**	⇑P		**P**	**18 00 23.3 +0.2**
	baz=81						
CLNB	**Carlsbad**	**80.56**	**53**	*e*P		**P**	**18 00 22.9 -0.3**
	comp=Z,307nm,1.4s						
P20A	**De Beque**	**80.57**	**45**	⇑P		**P**	**18 00 23.6 +0.4**
	baz=81						
R21A	**Cimarron**	**80.60**	**46**	⇑P		**P**	**18 00 24.1 +0.6**
	baz=81,SNR=138						
RRI2	**Red Ridge**	**80.60**	**40**	*e*P		**P**	**18 00 22.6 -0.8**
	comp=Z,3µm,1.2s						
126A	**Clayton Basin,**	**80.61**	**52**	⇓P		**P**	**18 00 23.5 0.0**
	baz=81,SNR=115						
U23A	**El Rito**	**80.62**	**48**	⇓P		**P**	**18 00 24.7 +1.1**
	baz=81,SNR=45						
Y25A	**Mesa, Roswell**	**80.65**	**51**	⇑P		**P**	**18 00 23.6 -0.1**
	baz=81,SNR=150						
L18A	**Fontenelle, Gr**	**80.68**	**42**	⇓P		**P**	**18 00 23.6 -0.2**
	baz=81,SNR=96						
W24A	**Lazy 6 Ranch,**	**80.69**	**50**	⇓P		**P**	**18 00 24.0 +0.1**
	baz=81,SNR=44						
TPIG	**Tehuac#an**	**80.80**	**68**	P		**P**	**18 00 26.7 +1.9**
Q21A	**Lamborn Mesa,**	**80.81**	**46**	P		**P**	**18 00 24.3 -0.2**
	baz=81						
S22A	**4UR Ranch, Cre**	**80.81**	**47**	⇑P		**P**	**18 00 24.8 +0.2**
	baz=81,SNR=275						
428A	**Kincaid Ranch,**	**80.85**	**55**	⇓P		**P**	**18 00 24.5 -0.3**
	baz=81,SNR=215						
REDW	**Red Top Meadow**	**80.90**	**40**	*e*P		**P**	**18 00 24.2 -0.8**
	comp=Z,360nm,2.5s						
DLMT	**Dillon**	**80.90**	**38**	⇓*e*P		**P**	**18 00 22.1 -2.7**
	comp=Z,893nm,1.7s						
TPAW	**Teton Pass**	**80.91**	**40**	*e*P		**P**	**18 00 24.3 -0.7**
	comp=Z,8.6nm,1.6s						
227A	**Bennet, Jal**	**80.91**	**53**	⇓P		**P**	**18 00 25.1 0.0**
	baz=81						
Z26A	**Caprock**	**80.91**	**52**	⇓P		**P**	**18 00 24.3 -0.8**
	baz=81,SNR=144						
VHO	**Vista Hermosa**	**80.91**	**69**	P		**P**	**18 00 27.6 +2.1**
HYT	**Haines Junctio**	**80.91**	**16**	*e*P		**P**	**18 00 23.2 -1.3**
PAX	**Paxson**	**80.92**	**12**	⇓*i*P		**P**	**18 00 23.7 -0.7**
PAX				pmax		pmax	
	comp=Z,913nm,1.4s						
PAX	**Paxson**	**80.92**	**12**	⇓*i*P		**P**	**18 00 23.7 -0.7**
	comp=Z,913nm,1.4s						
OXX	**Oaxaca**	**80.92**	**69**	P		**P**	**18 00 25.4 -0.2**
MSO	**Missoula**	**80.93**	**36**	⇓P		**P**	**18 00 24.4 -0.5**
	baz=81,SNR=309						
X25A	**Clemmons Ranch**	**80.94**	**50**	⇓P		**P**	**18 00 24.7 -0.5**
	baz=81,SNR=36						
O20A	**White River Ci**	**80.97**	**44**	⇓*e*P		**P**	**18 00 24.4 -1.0**
O20A	**White River Ci**	**80.97**	**44**	⇑P		**P**	**18 00 25.5 +0.1**
	baz=81						
529A	**Stev Forest Ra**	**80.98**	**55**	⇓P		**P**	**18 00 25.1 -0.3**
	baz=81,SNR=311						
MCK	**McKinley**	**80.98**	**10**	*e*P		**P**	**18 00 22.3 -2.3**
MCK				pmax		pmax	
	comp=Z,2µm,1.0s						
MCK	**McKinley**	**80.98**	**10**	*e*P		**P**	**18 00 22.3 -2.3**
	comp=Z,2µm,1.0s						
BPAW	**Bear Paw Mtn.**	**80.99**	**9**	*e*P		**P**	**18 00 23.1 -1.6**
	comp=Z,5µm,1.1s						
V24A	**Rampart Ranch,**	**81.01**	**49**	⇓P		**P**	**18 00 25.3 -0.4**
	baz=81,SNR=66						
SNOW	**Snow King Moun**	**81.02**	**40**	*e*P		**P**	**18 00 24.6 -1.0**
	comp=Z,3µm,1.1s						
328A	**Wristen Ranch,**	**81.02**	**54**	⇓P		**P**	**18 00 25.1 -0.5**
	baz=81,SNR=160						
BSMT	**Bassoo Peak**	**81.04**	**35**	*e*P		**P**	**18 00 24.3 -1.2**
	comp=Z,11µm,0.9s						
M19A	**Rock Springs**	**81.04**	**43**	⇑P		**P**	**18 00 25.1 -0.6**
	baz=81,SNR=95						
T23A	**Casias Ranch,**	**81.05**	**48**	⇑P		**P**	**18 00 26.4 +0.5**
	baz=81,SNR=25						
HUIG	**Huatulco**	**81.06**	**71**	P		**P**	**18 00 27.4 +1.3**
R22A	**Saguache, Gunn**	**81.09**	**46**	⇓P

CHMT	Chamberlain Mo	81.37	36	*e*P	P	18 00 26.2	-1.2
	comp=Z,870nm,1.6s						
S23A	Nye Farm, Mont	81.38	47	⇑P	P	18 00 27.9	+0.2
	baz=82						
SMCO	Snowmass	81.38	45	*e*P	P	18 00 26.9	-0.9
	comp=Z,18nm,1.8s						
W25A	X Bar L Ranch,	81.39	50	⇑P	P	18 00 27.3	-0.3
	baz=82,SNR=82						
BW06	Boulder Array	81.41	41	*e*P	P	18 00 24.6	-3.0
	comp=Z,105nm,1.4s						
BW06				LR	LR		
	comp=Z,1256μm,22.0s						
PDAR	Pinedale Array	81.41	41	P	P	18 00 26.8	-0.9
PDAR				S	S	18 10 44.0	+5.7
PDAR				PKKP	PKKPdf	18 18 53.0	-1.4
PDAR				PKKPbc	PKKPbc	18 19 03.0	-0.8
PDAR	Pinedale Array	81.41	41	P	P	18 00 26.8	-0.9
	comp=Z,98nm,0.8s,baz=214,slow=4.4,SNR=150						
PDAR				S	S	18 10 44.0	+5.7
	comp=Z,7.5nm,0.3s,baz=68,slow=22,SNR=3.8						
PDAR				PKKP	PKKPdf	18 18 53.0	-1.4
	comp=Z,4.5nm,1.0s,baz=93,slow=3.7,SNR=2.4						
PDAR				PKKPbc	PKKPbc	18 19 03.0	-0.8
	comp=Z,8.0nm,1.0s,baz=100,slow=3.6,SNR=4.8						
PDAR				LR	LR	18 30 19.5	
	comp=Z,1010μm,21.6s,baz=260,slow=31						
SLMT	Seeley Lake	81.42	36	*e*P	P	18 00 26.0	-1.5
	comp=Z,2μm,1.5s						
429A	Davenport Ranc	81.44	55	⇑P	P	18 00 27.5	-0.3
	baz=82,SNR=783						
YBMT	Yellow Bay	81.48	35	*e*P	P	18 00 27.3	-0.4
	comp=Z,870nm,1.6s						
YFT	Old Faithful	81.48	39	⇓*e*P	P	18 00 26.6	-1.4
	comp=Z,3μm,1.5s						
228A	UT Block 9, Go	81.49	53	⇑P	P	18 00 28.2	+0.1
	baz=82,SNR=76						
Z27A	Tatum	81.51	52	⇑P	P	18 00 28.2	-0.1
	baz=82,SNR=92						
YMR	Madison River	81.51	39	*e*P	P	18 00 28.6	+0.4
	comp=Z,2μm,0.7s						
HKC	Hong Kong Obse	81.52	296	⇑*i*P	P	18 00 30.0	+1.6
T24B	San Luis	81.53	48	⇑P	P	18 00 28.7	+0.2
	baz=82,SNR=74						
O21A	Pagoda	81.53	44	⇑P	P	18 00 28.5	+0.1
	baz=82,SNR=30						
V25A	Rancho No Teng	81.54	49	⇑P	P	18 00 27.9	-0.6
	baz=82,SNR=222						
X26A	CR and CF Fran	81.58	51	⇑P	P	18 00 28.4	-0.3
	baz=82,SNR=124						
H17A	Grant Village	81.61	39	*e*P	P	18 00 29.2	+0.5
H17A	Grant Village	81.61	39	⇓P	P	18 00 28.8	+0.1
	baz=82,SNR=44						
BOZ	Bozeman (W)	81.63	38	⇓*e*P	P	18 00 27.8	-0.8
BOZ				pmax	pmax		
	comp=Z,705nm,1.4s						
BOZ				MLR	MLR		
	comp=Z,956μm,22.0s						
BOZ	Bozeman (W)	81.63	38	⇓*e*P	P	18 00 27.8	-0.8
	comp=Z,705nm,1.4s						
BOZ				LR	LR		
	comp=Z,956μm,22.0s						
PPBI	Pangkal Pinang	81.65	270	P	P	18 00 30.8	+1.5
	comp=Z,1μm,1.7s,comp=Z,86μmcomp=Z,680μm						
M20A	Sweetwater, Wa	81.67	43	⇑P	P	18 00 29.6	+0.6
	baz=82,SNR=81						
BLSI	Bandar Lampung	81.68	267	P	P	18 00 29.7	+0.2
	comp=Z,1μm,1.6s,comp=Z,68μmcomp=Z,716μm						
530A	J-C Ranch, Com	81.69	56	⇑P	P	18 00 29.0	-0.2
	baz=82,SNR=276						
YNR	Norris Junctio	81.71	39	⇓*i*P	P	18 00 30.8	+1.5
	comp=Z,6μm,1.7s						
329A	Wagon Wheel Ra	81.71	54	⇓P	P	18 00 29.4	+0.1
	baz=82,SNR=134						
P22A	Eagle	81.72	45	⇑P	P	18 00 29.4	0.0
	baz=82,SNR=90						
SDCO	Great Sand Dun	81.75	47	⇓*e*P	P	18 00 28.8	-0.8
	comp=Z,10μm,1.4s						
SDCO				LR	LR		
	comp=Z,608μm,21.0s						
N21A	Black Mountain	81.76	44	⇓P	P	18 00 29.5	-0.1
	baz=82,SNR=138						
PAYG	Puerto Ayora	81.77	88	*e*P	P	18 00 26.5	-3.4
	comp=Z,1μm,1.4s						
PAYG				LR	LR		
	comp=Z,293μm,20.0s						
128A	Castleberry Fa	81.78	53	⇓P	P	18 00 29.1	-0.5
	baz=82,SNR=221						
Y27A	Causey	81.79	52	⇑P	P	18 00 29.0	-0.7
	baz=82,SNR=222						
LKWY	Lake	81.80	39	⇓*e*P	P	18 00 30.7	+1.0
LKWY				pmax	pmax		
	comp=Z,2μm,1.3s						
LKWY				MLR	MLR		
	comp=Z,789μm,22.0s						
LKWY	Lake	81.80	39	⇓*e*P	P	18 00 30.7	+1.0
	comp=Z,2μm,1.3s						
LKWY				LR	LR		
	comp=Z,789μm,22.0s						
L20A	Wamsutter	81.82	42	⇑P	P	18 00 28.8	-1.0
	baz=82,SNR=162						
W26A	Owens Ranch, T	81.84	50	⇑P	P	18 00 29.0	-1.0
	baz=82,SNR=23						
K19A	Absolon Red Bu	81.89	42	⇑P	P	18 00 29.4	-0.7
	baz=82,SNR=99						
S24A	Houchin Ranch,	81.91	47	⇑P	P	18 00 30.8	+0.3
	baz=82,SNR=224						
U25A	Circle Dot Ran	81.94	49	⇑P	P	18 00 30.0	-0.6
	baz=82,SNR=130						
J19A	Crowheart	81.98	41	⇓P	P	18 00 30.0	-0.6
	baz=82,SNR=190						
631A	Perdido Creek	82.01	57	⇓P	P	18 00 30.3	-0.6
	baz=82,SNR=388						
430A	Baggett Ranch,	82.02	55	⇑P	P	18 00 30.6	-0.3
	baz=82,SNR=95						
Q23A	Hartsel	82.04	46	⇑P	P	18 00 31.2	0.0
	baz=82,SNR=217						
HRY	Holter Researc	82.08	37	*e*P	P	18 00 30.1	-0.9
	comp=Z,54μm,1.4s						
CN2	Changchun	82.08	320	⇓P	P	18 00 31.3	+0.4
CN2				*es*P	sP	18 00 42.0	+2.8
CN2				*e*S	S	18 10 43.5	-1.1
CN2				pmax	pmax		
	comp=Z,13μm,8.0s						
MSTX	Muleshoe	82.12	52	*e*P	P	18 00 30.4	-1.0
MSTX	Muleshoe	82.12	52	⇓P	P	18 00 30.6	-0.8
	baz=82,SNR=202						
O22A	Kremmling	82.13	45	⇓P	P	18 00 31.0	-0.6
	baz=82,SNR=258						
Z28A	Tucker Farm, M	82.13	52	⇓P	P	18 00 31.3	-0.2
	baz=82,SNR=98						
Z28A				⇓SKSac	SKSac	18 10 58.5	+7.0
	baz=82						
V26A	Tequesquite Ra	82.13	50	⇓P	P	18 00 31.0	-0.5
	baz=82,SNR=75						
K20A	Yellowstone Ra	82.14	42	⇓P	P	18 00 30.8	-0.6
	baz=82,SNR=60						
X27A	F and S Farms,	82.16	51	⇑P	P	18 00 31.5	-0.2
	baz=82,SNR=17						
KLI	Kotabumi	82.18	267	P	P	18 00 33.2	+1.1
	comp=Z,885nm,1.4s,comp=Z,42μmcomp=Z,786μm						
WALA	Waterton Lakes	82.20	34	*e*P	P	18 00 30.2	-1.4
	comp=Z,4.3nm,0.8s						
COLA	College	82.22	10	*e*P	P	18 00 29.3	-1.7
COLA				pmax	pmax		
	comp=Z,8μm,1.0s						
COLA				MLR	MLR		
	comp=Z,1021μm,22.0s						
COLA	College	82.22	10	*e*P	P	18 00 29.3	-1.7
	comp=Z,8μm,1.0s						
COLA				LR	LR		
	comp=Z,1021μm,22.0s						
732A	Laxson Ranch,	82.24	57	⇑P	P	18 00 32.6	+0.5
	baz=82,SNR=75						
R24A	Sanders Place,	82.25	47	⇑P	P	18 00 32.2	+0.1
	baz=82,SNR=121						
P23A	Jefferson	82.25	46	⇓P	P	18 00 32.5	+0.2
	baz=82,SNR=172						
T25A	Trinidad	82.26	48	⇑P	P	18 00 32.2	-0.1
	baz=82,SNR=79						
129A	Stewart Farms,	82.26	53	⇓P	P	18 00 32.0	-0.2
	baz=82,SNR=54						
M21A	Separation Pea	82.27	43	⇓P	P	18 00 31.6	-0.6
	baz=82						
DL2	Dalian	82.27	314	⇓P	P	18 00 33.0	+1.0
DL2				S	S	18 10 48.8	+2.0
DL2				pmax	pmax		
	comp=Z,1μm,1.6s						
DL2				pmax	pmax		
	comp=Z,42μm,11.8s						
DL2				LR	LR		
	comp=E,197μm,19.6s						
DL2				LR	LR		
	comp=Z,256μm,21.6s						
ILAR	Eielson Array	82.29	11	P	P	18 00 30.2	-1.3
ILAR				S	S	18 10 55.0	+9.1
ILAR	Eielson Array	82.29	11	P	P	18 00 30.2	-1.3
	comp=Z,84nm,0.8s,baz=217,slow=5.5,SNR=184						
ILAR				S	S	18 10 55.0	+9.1
	comp=Z,2.8nm,1.0s,baz=202,slow=6.8,SNR=1.5						
ILAR				LR	LR	18 33 55.1	
	comp=Z,369μm,19.6s,baz=13,slow=33						
330A	Mertzon	82.31	55	⇓P	P	18 00 31.3	-1.2
	baz=82,SNR=50						
H18A	Shoshone NF, C	82.31	40	⇓P	P	18 00 32.2	-0.1
	baz=83,SNR=90						
SNY	Shenyang	82.31	317	⇑P	P	18 00 32.0	-0.1
SNY				LR	LR		
	comp=N,217μm,19.2s						
SNY				LR	LR		
	comp=E,300μm,20.4s						
SNY				LR	LR		
	comp=Z,426μm,22.4s						
531A	Rocksprings	82.33	56	⇓P	P	18 00 31.9	-0.6
	baz=83,SNR=471						
W27A	Bowe Ranch, En	82.36	51	⇑P	P	18 00 31.9	-0.8
	baz=83,SNR=87						
KASI	Kota Agung	82.36	266	P	P	18 00 32.9	-0.1
	comp=Z,2μm,1.6s,comp=Z,95μmcomp=Z,776μm						
IM04	Indian Mountai	82.38	7	*e*P	P	18 00 30.8	-1.2
I19A	Meeteetse	82.41	40	⇓P	P	18 00 32.5	-0.4
	baz=83,SNR=142						
RWWY	Rawlins	82.41	43	*e*P	P	18 00 37.9	+4.9
	comp=Z,3μm,1.3s						
U26A	Atchley Ranch,	82.42	49	⇓P	P	18 00 32.4	-0.7
	baz=83,SNR=126						
L21A	Rawlins	82.43	43	⇓P	P	18 00 32.2	-0.8
	baz=83,SNR=121						
S25A	Robets Cordova	82.47	48	⇓P	P	18 00 32.6	-0.7
	baz=83,SNR=185						
431A	Sonora	82.48	55	⇓P	P	18 00 32.7	-0.6
	baz=83,SNR=53						
IMA2	Indian Mountai	82.48	7	*e*P	P	18 00 32.0	-0.7
Y28A	McKinney Farm,	82.49	52	⇓P	P	18 00 33.1	-0.3
	baz=83,SNR=57						
N22A	Wattenberg Ran	82.49	44	⇑P	P	18 00 33.4	-0.1
	baz=83,SNR=152						
Q24A	Divide	82.54	46	⇓P	P	18 00 33.7	-0.2
	baz=83,SNR=136						
230A	Sterling City	82.55	54	⇓P	P	18 00 33.2	-0.5
	baz=83,SNR=73						
O23A	Lake Granby, G	82.58	45	⇓P	P	18 00 34.2	+0.3
	baz=83,SNR=111						
ISCO	Idaho Springs	82.60	45	⇓*e*P	P	18 00 33.4	-0.7
ISCO				MLR	MLR		
	comp=Z,514μm,21.0s						
ISCO	Idaho Springs	82.60	45	⇓*e*P	P	18 00 33.4	-0.7
	comp=Z,17μm,1.5s						
ISCO				LR	LR		
	comp=Z,514μm,21.0s						
ISCO	Idaho Springs	82.60	45	⇑P	P	18 00 33.7	-0.4
	baz=83,SNR=171						
Z29A	Hungry Hill Ra	82.64	53	⇑P	P	18 00 33.5	-0.7
	baz=83,SNR=166						
J20A	Shoshoni	82.64	41	⇓P	P	18 00 33.8	-0.2
	baz=83,SNR=200						
M22A	Cedar Creek Ra	82.68	44	⇓P	P	18 00 34.4	0.0
	baz=83,SNR=145						
632A	Uvalde	82.68	57	⇓P	P	18 00 34.6	+0.3
	baz=83,SNR=139						
H19A	Powell	82.73	40	⇑P	P	18 00 35.4	+1.0
	baz=83,SNR=67						
PMBI	Palembang	82.76	269	P	P	18 00 36.7	+1.6
	comp=Z,4μm,1.4s,comp=Z,118μm						
PMBI	Palembang	82.76	269	P	P	18 00 38.8	+3.7
	baz=83,SNR=4.4						
X28A	Dimmitt	82.78	51	⇓P	P	18 00 34.8	-0.1
	baz=83,SNR=20						
RLMT	Red Lodge	82.78	39	⇓*e*P	P	18 00 35.0	+0.2
	comp=Z,221nm,2.0s						
RLMT				LR	LR		
	comp=Z,538μm,22.0s						
R25A	Fountain Ranch	82.79	47	⇑P	P	18 00 34.3	-0.6
	baz=83,SNR=189						
V27A	Dan Oppiter Fa	82.81	50	⇑P	P	18 00 35.3	+0.2
	baz=83,SNR=44						
532A	Rocksprings	82.82	56	⇓P	P	18 00 35.6	+0.5
	baz=83,SNR=212						
K21A	Alcova	82.83	42	⇑P	P	18 00 34.5	-0.6
	baz=83,SNR=163						
T26A	Comanche Natio	82.86	48	⇑P	P	18 00 34.7	-0.7
	baz=83,SNR=93						
331A	San Angelo	82.86	55	⇑P	P	18 00 35.0	-0.3
	baz=83,SNR=64						
N23A	Red Feather La	82.88	44	⇓P	P	18 00 35.3	-0.2
	baz=83,SNR=150						
GCMT	Greycliff	82.88	39	*e*P	P	18 00 34.8	-0.4
	comp=Z,922nm,0.7s						
I20A	Worland	82.91	41	⇓P	P	18 00 35.2	-0.2
	baz=83,SNR=63						
Y29A	Porterfield Fa	82.91	52	⇓P	P	18 00 35.2	-0.3
	baz=83,SNR=52						
LWLI	Liwa	82.91	267	P	P	18 00 36.5	+0.5
	comp=Z,4μm,1.6s,comp=Z,75μmcomp=Z,683μm						
MDSI	Maura Dua	82.93	267	P	P	18 00 35.2	-0.8
	comp=Z,1μm,2.3s,comp=Z,76μmcomp=Z,738μm						
130A	Snyder	82.94	54	⇑P	P	18 00 35.3	-0.4
	baz=83,SNR=48						
P24A	Kohler Place,	82.96	46	⇑P	P	18 00 35.8	0.0
	baz=83,SNR=13						
SEY	Seymchan	83.00	344	*de*P	P	18 00 35.1	-0.1
JCT	Junction City	83.04	56	⇓*e*P	P	18 00 34.6	-1.7
JCT				pmax	pmax		
	comp=Z,3μm,0.6s						
JCT				MLR	MLR		
	comp=Z,618μm,22.0s						
JCT	Junction City	83.04	56	⇓*e*P	P	18 00 34.6	-1.7
	comp=Z,3μm,0.6s						
JCT				LR	LR		
	comp=Z,618μm,22.0s						
JCT	Junction City	83.04	56	⇓P	P	18 00 36.0	-0.3
	baz=83,SNR=99						
J21A	Lysite	83.05	42	⇑P	P	18 00 35.9	-0.3
	baz=83,SNR=326						
W28A	Vega	83.07	51	⇑P	P	18 00 35.9	-0.5
	baz=83						
L22A	Ellis Ranch, M	83.08	43	⇓P	P	18 00 36.5	+0.1
	baz=83,SNR=143						
Z30A	Sanderson Ranc	83.09	53	⇑P	P	18 00 35.7	-0.8
	baz=83,SNR=202						
U27A	Thompson Grove	83.10	49	⇑P	P	18 00 36.6	+0.1
	baz=83,SNR=102						
O24A	Longmont	83.12	45	⇑P	P	18 00 37.0	+0.4
	baz=83,SNR=30						
X29A	Tulia	83.12	52	⇓P	P	18 00 36.7	+0.1
	baz=83,SNR=48						
S26A	Kim	83.14	48	⇑P	P	18 00 36.7	0.0
	baz=83,SNR=145						
Q25A	Bedland, Calha	83.15	47	⇓P	P	18 00 36.4	-0.5
	baz=83,SNR=100						
231A	Bronte	83.19	54	⇓P	P	18 00 35.5	-1.4
	baz=83,SNR=182						
432A	Menard	83.20	56	⇑P	P	18 00 36.1	-1.0
	baz=83,SNR=101						
H20A	Greybull	83.25	40	⇓P	P	18 00 36.2	-0.9
	baz=84,SNR=46						
V28A	Channing	83.26	50	⇓P	P	18 00 37.1	-0.3
	baz=84,SNR=27						
K22A	Casper	83.31	42	⇓P	P	18 00 37.0	-0.5
	baz=84,SNR=115						
F19A	Roth Farm, Mol	83.35	39	⇑P	P	18 00 36.8	-0.7
	baz=84,SNR=133						
I21A	Big Trails, Te	83.37	41	⇑P	P	18 00 37.2	-0.6
	baz=84,SNR=288						
PHWY	Pilot Hill	83.39	44	*e*P	P	18 00 36.9	-1.2
	comp=Z,91nm,1.2s						
EGAK	Eagle	83.41	13	*e*P	P	18 00 36.4	-0.9
	comp=Z,6μm,1.3s						
EGAK				LR	LR		
	comp=Z,747μm,20.0s						
131A	Roby	83.42	54	⇓P	P	18 00 37.5	-0.7
	baz=84,SNR=95						
332A	Millersview	83.43	55	⇑P	P	18 00 37.6	-0.6
	baz=84,SNR=272						
W29A	Amraillo	83.44	51	⇓P	P	18 00 37.3	-0.9
	baz=84,SNR=88						
T27A	Campo	83.44	49	⇑P	P	18 00 37.9	-0.4
	baz=84,SNR=94						
R26A	Arlington	83.45	47	⇓P	P	18 00 37.7	-0.6
	baz=84,SNR=143						
P25A	Willow Gulch B	83.47	46	⇓P	P	18 00 38.5	+0.1
	baz=84,SNR=224						
G20A	Bridger	83.48	40	⇓P	P	18 00 38.2	-0.1
	baz=84,SNR=106						
PMSA	Palmer Station	83.50	156	P	P	18 00 37.7	-0.2
PMSA	Palmer Station	83.50	156	P	P	18 00 37.7	-0.2
	comp=Z,112nm,1.1s,baz=228,slow=5.9,SNR=40						
PMSA				LR	LR	18 29 16.2	
	comp=Z,1074μm,20.9s,baz=248,slow=30						
Y30A	Stafford Cattl	83.50	52	⇓P	P	18 00 38.5	-0.1
	baz=84,SNR=81						
U28A	Mallet	83.52	50	⇓P	P	18 00 38.4	-0.3
	baz=84,SNR=40						
N24A	Carr	83.56	45	⇓P	P	18 00 39.1	+0.3
	baz=84,SNR=80						
S27A	Las Animas	83.58	48	⇑P	P	18 00 38.3	-0.7
	baz=84,SNR=110						
L23A	Garrett	83.60	43	⇓P	P	18 00 38.6	-0.5
	baz=84,SNR=212						
Q26A	Hugo	83.67	47	⇓P	P	18 00 39.4	0.0
	baz=84,SNR=85						
PCIG		83.68	72	P	P	18 00 41.6	+1.9
J22A	Midwest	83.70	42	⇑P	P	18 00 38.9	-0.6
	baz=84						
232A	Coleman	83.70	55	⇑P	P	18 00 39.2	-0.4
	baz=84,SNR=203						
E19A	Rath Farm, Rou	83.75	38	⇓P	P	18 00 39.6	0.0
	baz=84,SNR=73						
X30A	Coker Ranch, T	83.75	52	⇓P	P	18 00 39.6	-0.2
	baz=84,SNR=47						
O25A	Wiggins	83.77	46	⇓P	P	18 00 40.3	+0.4
	baz=84,SNR=35						
F20A	Billings	83.80	39	⇑P	P	18 00 39.6	-0.3
	baz=84,SNR=67						
V29A	Stinnett	83.83	50	⇑P	P	18 00 40.2	0.0
	baz=84,SNR=38						
Z31A	Sharp Cattle R	83.86	53	⇑P	P	18 00 39.8	-0.6
	baz=84,SNR=116						
M24A	Cheyenne	83.89	44	⇑P	P	18 00 40.2	-0.4
	baz=84,SNR=111						
R27A	Eads	83.91	48	⇑P	P	18 00 40.1	-0.5
	baz=84,SNR=108						
T28A	Walsh	83.91	49	⇑P	P	18 00 39.8	-0.9
	baz=84,SNR=66						
H21A	Big Horn, Sher	83.92	41	⇓P	P	18 00 40.2	-0.3
	baz=84,SNR=124						
I22A	9 Mile Ranch,	83.92	41	⇑P	P	18 00 39.8	-0.7
	baz=84,SNR=207						
K23A	Bowen Ranch, D	83.94	43	⇓P	P	18 00 41.0	+0.2
	baz=84,SNR=169						
EGMT	Eagleton	83.97	37	*e*P	P	18 00 40.1	-0.5
	comp=Z,2μm,1.3s						
EGMT				LR	LR		
	comp=Z,932μm,22.0s						
EGMT	Eagleton	83.97	37	⇓P	P	18 00 39.8	-0.9
	baz=84						
ABTX	Abilene, Hawle	83.98	54	*e*P	P	18 00 39.9	-1.1
ABTX	Abilene, Hawle	83.98	54	⇑P	P	18 00 40.6	-0.5
	baz=84,SNR=279						
Y31A	Rekieta Farm,	84.02	52	⇑P	P	18 00 40.7	-0.5
	baz=84,SNR=69						
COLD	Coldfoot	84.04	8	⇓*e*P	P	18 00 40.7	+0.2
	comp=Z,2μm,0.4s						
D19A	Cripps Ranch,	84.04	38	⇓P	P	18 00 40.5	-0.6
	baz=84,SNR=223						
P26A	Davis Ranch, A	84.06	46	⇑P	P	18 00 41.2	-0.3
	baz=84,SNR=99						
L24A	Wheatland	84.08	44	⇑P	P	18 00 41.9	+0.4
	baz=84,SNR=64						
TGIG		84.09	71	P	P	18 00 43.1	+1.2
N25A	Grover	84.10	45	⇑P	P	18 00 41.3	-0.3
	baz=84,SNR=22						
G21A	Lodge Grass	84.10	40	⇑P	P	18 00 41.1	-0.3
	baz=84,SNR=53						
MNAI	Manna	84.14	267	P	P	18 00 43.6	+1.4
	comp=Z,5μm,1.8s,comp=Z,165μm						
MNAI	Manna	84.14	267	P	P	18 00 46.9	+4.6
	baz=84,SNR=3.3						
E20A	Meyer Farm, Mu	84.16	39	⇑P	P	18 00 41.3	-0.4
	baz=84,SNR=185						
C19A	Slack Wire Ran	84.23	37	⇑P	P	18 00 41.7	-0.3
	baz=84						
U29A	Oasis Ranch, S	84.25	50	⇓P	P	18 00 41.6	-0.8
	baz=84,SNR=15						
QIZ	Qiongzhong	84.26	291	P	P	18 00 43.5	+0.8
QIZ				PP	PP	18 03 55.5	-2.1
QIZ				S	S	18 11 12.3	+4.6
QIZ				sS	ScS	18 11 25.8	+6.1
QIZ				SS	SS	18 16 37.8	0.0
QIZ				pmax	pmax		
	comp=Z,73μm,12.7s						
QIZ				LR	LR		
	comp=N,156μm,22.4s						
QIZ				LR	LR		
	comp=Z,503μm,28.1s						
QIZ	Qiongzhong	84.26	291	*e*P	P	18 00 48.0	+5.4
	comp=Z,8μm,2.6s						
QIZ				LR	LR		
	comp=Z,443μm,21.0s						
S28A	Manter	84.26	49	⇓P	P	18 00 42.3	-0.2
	baz=84,SNR=25						
W30A	Crocket Farms	84.26	51	⇑P	P	18 00 41.9	-0.5
	baz=84						
J23A	Dilts Ranch, B	84.29	42	⇑P	P	18 00 41.7	-0.8
	baz=84,SNR=14						
WHN	Wuhan	84.33	304	⇓P	P	18 00 43.8	+1.1
WHN				LR	LR		
	comp=N,526μm,25.0s						
WHN				LR	LR		
	comp=E,992μm,21.3s						
WHN				LR	LR		
	comp=Z,1173μm,19.9s						
KSCO	Kaye Shedlock'	84.33	47	⇓*e*P	P	18 00 43.0	+0.2
KSCO	Kaye Shedlock'	84.33	47	⇓P	P	18 00 42.4	-0.4
	baz=85,SNR=35						
H22A	Clearmont	84.33	41	⇑P	P	18 00 42.1	-0.6
	baz=85						
TIA	Tai'an	84.36	310	⇓P	P	18 00 43.8	+1.0
TIA				pP	pP	18 00 55.0	+6.0
TIA				sP	sP	18 00 58.0	+6.8
TIA				LR	LR		
	comp=N,358μm,19.6s						
TIA				LR	LR		
	comp=E,573μm,20.2s						
TIA				LR	LR		
	comp=Z,683μm,20.6s						
Z32A	Haskell	84.37	53	⇓P	P	18 00 42.7	-0.3
	baz=85,SNR=122						
O26A	Horse Wrangler	84.38	46	⇑P	P	18 00 43.4	+0.4
	baz=85						
M25A	Palm-Egli Farm	84.39	44	⇑P	P	18 00 43.2	+0.1
	baz=85,SNR=20						
V30A	Spur Ranch, Mi	84.41	51	⇑P	P	18 00 43.2	0.0
	baz=85,SNR=76						
F21A	Absaloka Mine,	84.44	39	⇓P	P	18 00 43.2	+0.1
	baz=85,SNR=17						
D20A	Manuel Ranch,	84.45	38	⇓P	P	18 00 43.0	-0.1
	baz=85,SNR=212						
K24A	Anderson Ranch	84.46	43	⇓P	P	18 00

baz=85,SNR=82
E21A Keefer Ranch, 84.81 39 ⇓P P 18 00 45.0 0.0
baz=85,SNR=15
C20A Veseth Ranch, 84.83 38 ⇑P P 18 00 44.8 -0.2
baz=85
J24A Dixon Ranch, L 84.83 43 ⇓P P 18 00 45.5 +0.2
baz=85
S29A Ulysses 84.84 49 ⇑P P 18 00 45.1 -0.3
baz=85
CCIG Comitan 84.84 72 P P 18 00 48.0 +2.1
EDM Edmonton 84.85 31 eP P 18 00 43.9 -1.0
EDM Edmonton 84.85 31 eP P 18 00 43.9 -1.0
BTDF Bukit Timah Da 84.86 273 P P 18 00 47.1 +1.2
baz=85,SNR=23
BTDF P P 18 00 47.1 +1.2
baz=85,SNR=23
MYKOM Kota Tinggi 84.90 273 P P 18 00 47.9 +1.9
MYKOM Kota Tinggi 84.90 273 P P 18 00 46.6 +0.6
comp=Z,1μm,2.3s,comp=Z,78μm
Q28A Sharon Springs 84.92 47 ⇓P P 18 00 45.0 -0.7
baz=85
H23A Clabaugh Cattl 84.92 41 ⇓P P 18 00 45.1 -0.5
baz=85
O27A Beecher Island 84.93 46 ⇑P P 18 00 45.4 -0.4
baz=85,SNR=77
F22A Rosebud 84.95 40 ⇑P P 18 00 45.6 0.0
baz=85,SNR=112
A19A Klindworth Far 85.01 36 ⇑P P 18 00 45.6 -0.3
baz=85
M26A McRoberts Ranc 85.02 45 ⇑P P 18 00 46.5 +0.3
baz=85,SNR=28
K25A Mack Ranch, Ha 85.03 43 ⇑P P 18 00 46.7 +0.4
baz=85,SNR=90
USHA Ushuaia 85.04 146 P P 18 00 46.1 +0.2
USHA Ushuaia 85.04 146 P P 18 00 46.1 +0.2
comp=Z,86nm,0.9s,baz=228,slow=4.6,SNR=19
USHA LR LR 18 30 09.9
comp=Z,1320μm,21.4s,baz=216,slow=30
T30A Plains 85.04 50 ⇑P P 18 00 46.0 -0.3
baz=85,SNR=30
V31A Spring Creek L 85.05 51 ⇓P P 18 00 46.5 +0.2
baz=85,SNR=111
I24A Kuemmerle Ranc 85.10 42 ⇑P P 18 00 46.1 -0.4
baz=85,SNR=43
D21A La Casta Ranch 85.12 38 ⇓P P 18 00 46.6 +0.1
baz=85
MASI Maura Aman, Be 85.15 268 P P 18 00 48.0 +0.6
comp=Z,3μm,1.7s,comp=Z,96μmcomp=Z,725μm
R29A Marienthal 85.15 48 ⇑P P 18 00 46.7 -0.1
baz=85
N27A Anderson Farm, 85.16 45 ⇑P P 18 00 46.4 -0.5
baz=85,SNR=48
B20A Solberg Farm, 85.18 37 ⇑P P 18 00 47.1 +0.3
baz=85
P28A Saint Francis 85.18 47 ⇓P P 18 00 46.5 -0.5
baz=85
G23A Biddle 85.22 41 ⇑P P 18 00 46.5 -0.6
baz=86
U31A Nine Bar Ranch 85.27 50 ⇑P P 18 00 47.1 -0.4
baz=86,SNR=36
L26A Underwood Farm 85.31 44 ⇓P P 18 00 47.2 -0.4
baz=86,SNR=14
S30A Montezuma 85.32 49 ⇑P P 18 00 47.8 +0.1
baz=86
O28A Krutsinger Ran 85.40 46 P P 18 00 48.5 +0.4
baz=86
LAO LASA Array 85.40 39 eP P 18 00 48.1 +0.2
comp=Z,4μm,1.4s
LAO LR LR
comp=Z,576μm,21.0s
C21A Desert Coulee 85.42 38 ⇓P P 18 00 47.9 -0.1
baz=86
J25A Sunshine Ranch 85.42 43 ⇓P P 18 00 48.2 +0.1
baz=86,SNR=60
E22A Miles City 85.45 39 ⇑P P 18 00 48.5 +0.3
baz=86,SNR=61
F23A Volborg 85.45 40 ⇓P P 18 00 48.1 -0.1
baz=86,SNR=144
WMOK Wichita Mounta 85.45 52 eP P 18 00 46.7 -1.7
WMOK pmax pmax
comp=Z,612nm,1.2s
WMOK MLR MLR
comp=Z,734μm,22.0s
WMOK Wichita Mounta 85.45 52 eP P 18 00 46.7 -1.7
comp=Z,612nm,1.2s
WMOK LR LR
comp=Z,734μm,22.0s
Q29A Oakley 85.45 48 ⇑P P 18 00 48.2 -0.1
baz=86,SNR=35
A20A Cobblestone Ra 85.45 37 ⇑P P 18 00 47.9 -0.2
baz=86
WHTX Lake Whitney 85.47 55 eP P 18 00 48.1 -0.3
WHTX Lake Whitney 85.47 55 ⇑P P 18 00 48.6 +0.1
baz=86,SNR=104
KGM Kluang 85.47 273 P P 18 00 51.1 +2.2
K26A Motz Farm, Whi 85.53 44 ⇑P P 18 00 48.6 -0.1
baz=86,SNR=57
H24A Dirks Ranch, A 85.54 41 ⇑P P 18 00 47.7 -1.0
baz=86
OGNE Ogallala 85.56 46⇓eP P 18 00 48.7 -0.2
comp=Z,1μm,1.4s
OGNE LR LR
comp=Z,589μm,22.0s
OGNE Ogallala 85.56 46 ⇓P P 18 00 48.5 -0.3
baz=86
M27A Reverse DX Ran 85.56 45 ⇓P P 18 00 48.3 -0.6
baz=86
RSSD Black Hills 85.59 42 eP P 18 00 47.9 -1.3
RSSD pmax pmax
comp=Z,9μm,1.4s
RSSD Black Hills 85.59 42 eP P 18 00 47.9 -1.3
comp=Z,9μm,1.4s
D22A Cohagen 85.64 39 ⇑P P 18 00 49.2 +0.1
baz=86
T31A Randall Ranch, 85.69 50 ⇑P P 18 00 49.7 +0.2
baz=86,SNR=88
R30A Dighton 85.71 49 ⇓P P 18 00 49.7 +0.1
baz=86,SNR=49
I25A Rochford 85.75 42 ⇑P P 18 00 49.7 -0.1
baz=86
B21A Ellsworth Farm 85.76 37 ⇓P P 18 00 49.6 -0.1
baz=86
P29A Atwood 85.78 47 ⇑P P 18 00 50.0 0.0
baz=86
RGRI Rengat 85.79 271 P P 18 00 52.4 +1.9
comp=Z,3μm,1.3s,comp=Z,118μmcomp=Z,632μm
N28A Pribbeno Ranch 85.79 46 ⇓P P 18 00 49.9 -0.1
baz=86,SNR=19
L27A T5 Ranch, Ells 85.85 44 ⇓P P 18 00 49.8 -0.5
baz=86
J26A Sides Ranch, S 85.87 43 ⇓P P 18 00 50.3 0.0
baz=86,SNR=29
E23A Ismay 85.87 39 ⇓P P 18 00 50.3 +0.1
baz=86
G24A Alzada 85.89 41 ⇑P P 18 00 50.2 -0.2
baz=86
Q30A Quinter 86.03 48 ⇓P P 18 00 51.3 +0.1
baz=86,SNR=52
S31A Mullinville 86.03 49 ⇑P P 18 00 51.1 -0.1
baz=86
HKT Hockley 86.05 58⇓eP P 18 00 51.0 -0.3
HKT pmax pmax
comp=Z,6μm,1.8s
HKT Hockley 86.05 58⇓eP P 18 00 51.0 -0.3
comp=Z,6μm,1.8s
O29A 4D Ranch, Culb 86.08 47 ⇓P P 18 00 51.2 -0.2
baz=86
A21A Bergtoll Ranch 86.08 37 ⇑P P 18 00 51.0 -0.2
baz=86
H25A Fruitdale 86.10 42 ⇓P P 18 00 51.1 -0.3
baz=86
C22A Vida 86.10 38 ⇑P P 18 00 51.5 +0.1
baz=86
F24A Ekalaka 86.11 40 ⇑P P 18 00 51.6 +0.2
baz=86
K27A Flueckinger Fa 86.16 44 ⇑P P 18 00 51.5 -0.3
baz=86
M28A Bar X Bar Ranc 86.20 45 ⇑P P 18 00 51.2 -0.8
baz=86
P30A Selden 86.24 47 ⇑P P 18 00 51.7 -0.5
baz=86
D23A Lindsay 86.24 39 ⇑P P 18 00 52.2 +0.1
baz=86
R31A Burdett 86.26 49 ⇑P P 18 00 52.0 -0.4
baz=86
B22A Reddig Ranch S 86.30 38 ⇓P P 18 00 52.6 +0.3
baz=86
I26A New Underwood 86.32 42 ⇓P P 18 00 52.1 -0.4
baz=87
L28A Connealy Angus 86.35 45 ⇑P P 18 00 52.2 -0.6
baz=87
RTR El Retiro 86.44 75 eP P 18 00 57.5 +3.6
SBLS San Blas 86.44 75 eP P 18 00 57.0 +3.1
RBDL Robledal 86.46 74 eP P 18 00 56.6 +2.6
G25A Newell 86.46 41 ⇓P P 18 00 52.7 -0.5
baz=87
SNJE San Jose 86.47 75 eP P 18 00 56.7 +2.7
N29A Votaw Ranch, W 86.48 46 ⇓P P 18 00 52.7 -0.7
baz=87
E24A Baker 86.51 40 ⇓P P 18 00 53.0 -0.4
baz=87
SCIG Sabancuy 86.52 69 P P 18 00 55.3 +1.4
KTGM Kuala Trenggan 86.54 276 P P 18 00 56.6 +2.4
J27A Elkhorn Farm, 86.55 43 ⇓P P 18 00 53.4 -0.3
baz=87
C23A Lambert 86.55 38 ⇑P P 18 00 53.4 -0.1
baz=87
BJT Baijiatuau 86.57 313⇓eP P 18 00 54.3 +0.6
comp=Z,13nm,1.1s
BJT LR LR
comp=Z,423μm,21.0s
BJI Beijing 86.57 313 P P 18 00 54.5 +0.8
BJI PP PP 18 04 16.8 +0.9
BJI S S 18 11 36.0 +6.3
BJI SS SS 18 17 14.8 +3.7
BJI LR LR
comp=N,252μm,21.3s
BJI LR LR
comp=E,406μm,20.9s
BJI LR LR
comp=Z,570μm,27.2s
O30A MW Ranch, Wils 86.62 47 ⇑P P 18 00 53.2 -0.9
baz=87
H26A Fairpoint 86.62 42 ⇓P P 18 00 53.8 -0.2
baz=87
Q31A Ellis 86.63 48 ⇓P P 18 00 53.4 -0.8
baz=87
A22A Carney Farms, 86.67 37 ⇓P P 18 00 54.2 +0.1
baz=87
M29A Burnside Ranch 86.69 45 ⇑P P 18 00 54.3 -0.1
baz=87
BOQS Boqueron 86.73 75 eP P 18 00 57.9 +2.5
K28A Ten Mile Ranch 86.75 44 ⇑P P 18 00 54.1 -0.6
baz=87
F25A Bowman 86.76 41 ⇓P P 18 00 54.9 +0.3
baz=87
SNET Serv Nac Est T 86.76 75 eP P 18 00 58.6 +3.3
N30A Hueftle Ranch, 86.84 46 ⇑P P 18 00 54.8 -0.4
baz=87
P31A Stockton 86.84 48 P P 18 00 55.1 -0.1
baz=87
G27A Dupree 86.85 41 ⇓P P 18 00 57.9 +2.8
baz=88
I27A Quinn 86.86 43 ⇓P P 18 00 54.6 -0.5
baz=87
C24A Savage 86.88 39 ⇓P P 18 00 55.5 +0.3
baz=87
LFRS El Faro 86.90 75 eP P 18 00 58.3 +2.3
B23A Brockton 86.97 38 ⇓P P 18 00 56.2 +0.6
baz=87
G26A Maurine 87.03 41 ⇑P P 18 00 55.7 -0.2
baz=87
E25A Miller Ranch, 87.05 40 ⇓P P 18 00 56.4 +0.4
baz=87
H27A Howes 87.08 42 ⇑P P 18 00 56.0 -0.3
baz=87
L29A Maesberg Ranch 87.08 45 ⇓P P 18 00 56.0 -0.4
baz=87
UBPT Khong Chiam 87.11 287 P P 18 00 58.8 +1.9
comp=Z,733nm,1.6s,comp=Z,55μm
UBPT Khong Chiam 87.11 287 P P 18 01 00.0 +3.1
comp=Z,732nm,1.6s,comp=Z,55μm
O31A Woolen Ranch, 87.13 47 P P 18 00 56.5 0.0
baz=87
J28A Allard Ranch, 87.13 44 ⇑P P 18 00 56.4 -0.1
baz=87
BKNI Bangkinang 87.22 271 P P 18 00 58.8 +1.3
comp=Z,2μm,1.8s,comp=Z,102μmcomp=Z,982μm
BKNI Bangkinang 87.22 271 P P 18 00 59.6 +2.1
baz=87,SNR=7.2
F26A Lodgepole 87.22 41 ⇓P P 18 00 56.4 -0.5
baz=88
A23A Redstone 87.26 37 ⇓P P 18 00 56.9 0.0
baz=88
M30A Dale-Ortello V 87.29 46 ⇑P P 18 00 57.1 -0.3
baz=88
D25A Fairfield 87.38 40 ⇑P P 18 00 58.1 +0.5
baz=88
I28A Midland 87.41 43 P P 18 00 57.8 0.0
baz=88
FRIM Kepong 87.43 274 P P 18 01 00.3 +1.7
P32A Huiting Farm, 87.44 48 P P 18 00 58.2 +0.2
baz=88
DGMT Dagmar 87.44 38 eP P 18 00 57.9 +0.1
comp=Z,3μm,1.5s
DGMT LR LR
comp=Z,1224μm,21.0s
DGMT Dagmar 87.44 38 ⇓P P 18 00 58.0 +0.2
baz=88
PDSI Padang 87.45 270 P P 18 00 58.2 -0.5
comp=Z,1μm,1.9s,comp=Z,91μm
K29A Lazy Trails An 87.47 44 ⇓P P 18 00 58.4 +0.3
baz=88
L30A Spencer Herefo 87.56 45 P P 18 00 58.5 -0.1
baz=88
VSM San Miguel 87.58 75 eP P 18 01 02.3 +2.8
NATX Nacogdoches 87.61 56 eP P 18 00 59.3 +0.3
comp=Z,11μm,1.8s
NATX LR LR
comp=Z,846μm,22.0s
PPI Padang Panjang 87.63 270 P P 18 01 00.1 +0.6
comp=Z,990nm,1.0s,comp=Z,71μm
PPI Padang Panjang 87.63 270 P P 18 01 02.9 +3.4
baz=88,SNR=6.8
F27A Lemmon 87.64 41 ⇓P P 18 00 58.9 0.0
baz=88
N31A Bailey Ranch, 87.65 47 ⇓P P 18 00 58.5 -0.5
baz=88
C25A Freed Ranch, W 87.67 39 P P 18 00 59.8 +0.8
baz=88
J29A Okreek 87.73 44 ⇓P P 18 00 58.6 -0.7
baz=88
A24A Westby 87.76 38 ⇓P P 18 00 59.3 -0.1
baz=88
H28A Mission Ridge 87.78 42 ⇓P P 18 00 59.3 -0.3
baz=88
M31A Lambtecht Ranc 87.83 46 ⇑P P 18 00 59.5 -0.4
baz=88
D26A Manning 87.88 40 ⇓P P 18 00 59.5 -0.5
baz=88
O32A Brockman Farm, 87.91 47 P P 18 01 00.2 -0.1
baz=88
K30A Basset 87.92 45 ⇑P P 18 01 00.2 -0.1
baz=88
CNCH Conchagua 87.95 76 eP P 18 01 03.3 +2.2
COCO West Island 87.96 258 P P 18 00 55.5 -5.5
COCO pmax pmax
comp=Z,3μm,1.6s
COCO MLR MLR
comp=Z,462μm,20.0s
COCO West Island 87.96 258 P P 18 00 55.5 -5.5
comp=Z,3μm,1.6s
COCO LR LR
comp=Z,462μm,20.0s
COCO West Island 87.96 258 P P 18 01 02.9 +1.9
comp=Z,1μm,1.8s,comp=Z,89μmcomp=Z,629μm
B25A Knox Farm, Ray 87.97 39 ⇑P P 18 01 00.4 0.0
baz=88
I29A Vivian Onida 87.99 43 ⇓P P 18 01 00.0 -0.6
baz=88
G28A Parade 88.02 42 ⇓P P 18 00 59.9 -0.8
baz=88
P33A Williams Farm, 88.02 48 P P 18 01 00.9 +0.1
baz=88
INK Inuvik 88.05 13 eP P 18 00 59.3 -0.9
comp=Z,137nm,0.8s
INK Inuvik 88.05 13 P P 18 00 59.6 -0.5
comp=Z,86nm,0.9s,baz=218,slow=5.1,SNR=64
INK LR LR 18 33 08.1
comp=Z,593μm,21.8s,baz=217,slow=31
N32A Stulken Farm, 88.09 47 P P 18 01 00.7 -0.4
baz=88
MAW Mawson 88.13 198 P P 18 01 00.3 -0.5
MAW PKKPbc PKKPbc 18 18 46.7 -0.8
MAW Mawson 88.13 198 P P 18 01 00.3 -0.5
comp=Z,156nm,1.0s,baz=127,slow=6.1,SNR=156
MAW PKKPbc PKKPbc 18 18 46.7 -0.8
comp=Z,5.6nm,0.8s,baz=315,slow=3.0,SNR=4.2
MAW LR LR 18 37 44.0
comp=Z,1487μm,20.4s,baz=123,slow=34
MAW Mawson 88.13 198 P P 18 01 00.7 -0.1
baz=88,SNR=152
HIA Hailar 88.14 322⇓iP P 18 01 00.7 -0.5
comp=Z,3μm,1.9s
HIA LR LR
comp=Z,1471μm,22.0s
TUL1 Tulsa 88.15 52 eP P 18 01 01.2 -0.3
TUL1 Tulsa 88.15 52 ⇓P P 18 01 00.9 -0.6
baz=88
E27A Carson 88.16 41 ⇑P P 18 01 01.0 -0.4
baz=88
ENH Enshi 88.17 302 eP P 18 01 02.0 +0.2
comp=Z,42nm,2.1s
ENH LR LR
comp=Z,2μm,19.0s
L31A Butterfield Fa 88.25 45 ⇑P P 18 01 01.2 -0.6
baz=88
J30A Dallas 88.25 44 ⇑P P 18 01 01.6 -0.2
baz=88
A25A Svangstu Ranch 88.29 38 ⇓P P 18 01 01.7 -0.2
baz=88
H29A Onida 88.29 43 ⇑P P 18 01 01.2 -0.8
baz=88
IPM Ipoh 88.33 275⇓eP P 18 01 03.6 +0.7
comp=Z,1μm,1.0s
IPM Ipoh 88.33 275 P P 18 01 05.7 +2.8
IPM Ipoh 88.33 275 P P 18 01 04.0 +1.1
comp=Z,1μm,1.4s,comp=Z,72μmcomp=Z,878μm
PLCA Paso Flores 88.39 132 P P 18 01 02.8 0.0
PLCA PKKPbc PKKPbc 18 18 45.3 -0.8
PLCA Paso Flores 88.39 132 P P 18 01 02.8 0.0
comp=Z,161nm,1.1s,baz=243,slow=6.4,SNR=5.1
PLCA PKKPbc PKKPbc 18 18 45.3 -0.8
comp=Z,10nm,1.0s,baz=55,slow=3.8,SNR=5.5
PLCA LR LR 18 32 45.0
comp=Z,563μm,21.5s,baz=253,slow=30
TIY Taiyuan 88.40 310 eP P 18 01 05.0 +2.3
TIY pP pP 18 01 12.3 +3.4
TIY S S 18 11 45.5 -2.1
TIY sS sS 18 12 01.0 +3.2
TIY SS SS 18 17 41.0 +2.9
TIY pmax pmax
comp=Z,2μm,1.1s
TIY LR LR
comp=N,91μm,18.1s
TIY LR LR
comp=E,368μm,18.6s
TIY LR LR
comp=Z,629μm,20.8s
F28A McLaughlin 88.41 41 ⇑P P 18 01 01.4 -1.2
baz=89
C26A Wahner Farm, P 88.42 39 ⇑P P 18 01 02.7 +0.1
baz=89
BGNE Belgrade 88.43 46⇓eP P 18 01 01.9 -0.8
BGNE Belgrade 88.43 46 ⇑P P 18 01 02.7 0.0
baz=89
PANO Nakornpanom 88.44 288 P P 18 01 06.4 +3.2
comp=Z,679nm,1.9s,comp=Z,47μm
D27A Center 88.47 40 ⇑P P 18 01 03.0 +0.2
baz=89
I30A Oacoma 88.53 44 ⇓P P 18 01 01.5 -1.6
baz=89
CCHI Chillan 88.57 128 eP P 18 01 05.8 +2.2
B26A Jensen Ranch, 88.57 39 ⇑P P 18 01 02.1 -1.1
baz=89
KSU1 Kansas State U 88.68 49⇓eP P 18 01 03.2 -0.7
comp=Z,593nm,1.1s
KSU1 LR LR
comp=Z,982μm,22.0s
TGUH Tegucigalpa,Un 88.69 75⇓eP P 18 01 05.2 +0.8
comp=Z,4μm,1.5s
TGUH LR LR
comp=Z,587μm,19.0s
G29A Hoven 88.71 42 ⇑P P 18 01 01.8 -2.2
baz=89
C27A Sayler Ranch, 88.74 40 ⇓P P 18 01 03.8 -0.2
baz=89
E28A Huff 88.77 41 ⇓P P 18 01 03.6 -0.6
baz=89
COPN Copaltepe 88.81 77 eP P 18 01 06.0 +0.9
KULM Kulim 88.91 276 P P 18 01 03.8 -1.8
comp=Z,2μm,1.4s
KULM LR LR
comp=Z,301μm,22.0s
KULM Kulim 88.91 276 P P 18 01 08.8 +3.2
KULM Kulim 88.91 276 P P 18 01 07.7 +2.1
comp=Z,983nm,3.0s,comp=Z,72μmcomp=Z,890μm
A26A Wade Farm, Ken 88.91 38 ⇑P P 18 01 04.3 -0.5
baz=89
SKNT Sakolnakorn 88.97 288 P P 18 01 07.8 +2.1
comp=Z,1μm,2.9s,comp=Z,65μm
CLNS Chul'man 89.02 331 eP P 18 01 05.2 +0.1
CLNS pmax pmax
comp=E,91nm,1.0s
CLNS pmax pmax
comp=Z,182nm,1.3s
CLNS pmax pmax
comp=N,100nm,1.0s
F29A Eureka 89.02 42 ⇓P P 18 01 03.7 -1.7
baz=89
BRSD Miller 89.05 43⇓eP P 18 01 04.3 -1.2
BRSD Miller 89.05 43 ⇓P P 18 01 04.1 -1.4
baz=89
D28A Regan 89.10 40 ⇓P P 18 01 04.9 -0.9
baz=89
B27A Peters Farms, 89.17 39 ⇓P P 18 01 04.9 -1.1
baz=89
G30A Faulkton 89.19 43 ⇑P P 18 01 04.3 -1.9
baz=89
CHBT CHBT 89.33 283 P P 18 01 11.0 +3.5
comp=N,659nm,2.8s,comp=N,49μmcomp=N,937μm
CHBT CHBT 89.33 283 P P 18 01 12.2 +4.7
comp=N,659nm,2.8s,comp=N,49μm
GYA Guiyang 89.34 298⇑iP P 18 01 09.8 +2.3
GYA PP PP 18 04 40.3 +1.6
GYA SKS SKSac 18 11 33.5 -3.7
GYA S S 18 11 59.8 +2.8
GYA SS SS 18 17 52.0 -0.3
GYA pmax pmax
comp=Z,890nm,1.2s
GYA LR LR
comp=N,220μm,20.5s
GYA LR LR
comp=E,127μm,24.2s
GYA LR LR
comp=Z,317μm,21.4s
A27A Ledoux Ranch, 89.42 38 ⇑P P 18 01 06.2 -1.0
baz=90
C28A Hausauer Farms 89.43 40 ⇑P P 18 01 06.4 -0.9
baz=90
E29A Napoleon 89.43 41 ⇓P P 18 01 05.7 -1.7
baz=90
SKLT Songkhla 89.44 278 P P 18 01 10.6 +2.6
comp=Z,2μm,2.1s,comp=Z,87μmcomp=Z,980μm
SKLT Songkhla 89.44 278 P P 18 01 10.7 +2.7
comp=Z,2μm,1.8s,comp=Z,87μm
TEIG Tepich 89.51 69 eP P 18 01 08.5 +0.3
comp=Z,3μm,1.4s
TEIG LR LR
comp=Z,405μm,21.0s
F30A Leola 89.54 42 P P 18 01 06.9 -0.9
baz=90
JCR Jicaral 89.57 80 eP P 18 01 15.6 +6.9
YKA Yellowknife Ar 89.64 23 P P 18 01 07.8 0.0
YKA PP PP 18 04 37.2 -2.8
YKA Yellowknife Ar 89.64 23 P P 18 01 07.8 0.0
comp=Z,74nm,0.9s,baz=234,slow=4.3,SNR=50
YKA PP PP 18 04 37.2 -2.8
comp=Z,17nm,0.9s,baz=225,slow=6.2,SNR=2.1
D29A Pettibone, Tap 89.66 41 ⇑P P 18 01 06.6 -1.8
baz=90
YKW3 Yellowknife Ar 89.68 23⇓eP P 18 01 07.5 -0.5
comp=Z,4.3nm,3.2s
B28A Dugan Ranch, T 89.74 39 ⇓P P 18 01 07.4 -1.2
baz=90
YAK Yakutsk 89.78 336diP P 18 01 07.2 -1.3
YAK e 18 01 23.6
YAK e 18 04 38.6
YAK eS SKSac 18 11 35.5 -2.3
YAK e 18 13 41.2
YAK pmax pmax
comp=Z,387nm,1.3s

YAK				pmax	pmax		
	comp=N,80nm,1.6s						
YAK				pmax	pmax		
	comp=E,111nm,2.1s						
YAK				pmax	pmax		
	comp=N,6μm,7.1s						
YAK				pmax	pmax		
	comp=E,13μm,9.3s						
YAK				pmax	pmax		
	comp=Z,26μm,11.1s						
YAK				smax	smax		
	comp=N,30μm,13.6s						
YAK				smax	smax		
	comp=E,33μm,13.6s						
JTS	**JuntasAbangare**	**89.84**	**79**	*e*P	**P**	**18 01 10.4**	**+0.5**
	comp=E,38μm,1.5s						
JTS				LR	LR		
	comp=Z,1135μm,22.0s						
JTS	**JuntasAbangare**	**89.84**	**79**	P	**P**	**18 01 12.0**	**+2.1**
	comp=Z,3μm,1.1s,SNR=63						
XAN	**Xi'an**	**89.84**	**305**	P	**P**	**18 01 10.0**	**+0.4**
XAN				pP	pP	18 01 22.0	+6.2
XAN				sP	sP	18 01 25.5	+7.5
XAN				S	**S**	**18 11 59.3**	**-1.9**
XAN				LR	LR		
	comp=N,388μm,20.6s						
XAN				LR	LR		
	comp=E,168μm,21.1s						
XAN				LR	LR		
	comp=Z,151μm,20.6s						
E30A	**Jud**	**89.87**	**41**	⇑P	**P**	**18 01 07.3**	**-2.0**
	baz=90						
PSI	**Prapat**	**89.91**	**273**	P	**P**	**18 01 10.0**	**-0.5**
PSI				PKKPbc	**PKKPbc**	**18 18 43.0**	**+1.2**
PSI	**Prapat**	**89.91**	**273**	P	**P**	**18 01 10.0**	**-0.5**
	comp=Z,179nm,1.0s,baz=174,slow=4.0,SNR=54						
PSI				PKKPbc	**PKKPbc**	**18 18 43.0**	**+1.2**
	comp=Z,3.8nm,0.5s,baz=282,slow=7.4,SNR=2.3						
PSI	**Prapat**	**89.91**	**273**	P	**P**	**18 01 11.0**	**+0.5**
	baz=90,SNR=25						
MDND	**Maddock**	**89.97**	**40**	*e*P	**P**	**18 01 08.3**	**-1.4**
MDND	**Maddock**	**89.97**	**40**	⇓P	**P**	**18 01 08.7**	**-1.0**
	baz=90						
A28A	**Rude Farm, Bot**	**89.98**	**39**	⇓P	**P**	**18 01 08.9**	**-0.9**
	baz=90						
NONG	**Nongkai**	**90.04**	**289**	P	**P**	**18 01 12.7**	**+2.0**
	comp=Z,652nm,2.6s,comp=Z,44μm						
HHC	**Hu-ho-hao-te**	**90.14**	**312**	*e*P	**P**	**18 01 10.8**	**-0.1**
HHC				PP	**PP**	**18 04 47.0**	**+2.3**
HHC				SKS	**SKSac**	**18 11 39.0**	**-2.2**
HHC				S	**S**	**18 12 01.3**	**-2.5**
HHC				sS	**sS**	**18 12 12.0**	**-2.1**
HHC				SS	**SS**	**18 18 04.0**	**+0.7**
HHC				pmax	pmax		
	comp=Z,19μm,6.3s						
HHC				LR	LR		
	comp=N,410μm,19.0s						
HHC				LR	LR		
	comp=E,562μm,18.8s						
HHC				LR	LR		
	comp=Z,502μm,18.8s						
D30A	**Buchanan**	**90.20**	**41**	⇓P	**P**	**18 01 09.7**	**-1.2**
	baz=90						
ECSD	**EROS Data Cent**	**90.34**	**45**	⇓*e*P	**P**	**18 01 10.0**	**-1.6**
	comp=Z,764nm,1.3s						
ECSD				LR	LR		
	comp=Z,748μm,21.0s						
QCR	**Quepos**	**90.36**	**80**	*e*P	P	18 01 16.2	+3.9
B29A	**Wagenman Farm,**	**90.36**	**39**	⇓P	**P**	**18 01 10.3**	**-1.3**
	baz=91						
UALR	**University of**	**90.43**	**54**	⇓*e*P	**P**	**18 01 12.7**	**+0.5**
	comp=Z,515nm,1.0s						
ROCH	**El Roble**	**90.55**	**124**	*e*P	**P**	**18 01 15.3**	**+2.0**
C30A	**Mose, Pekin**	**90.61**	**40**	⇑P	**P**	**18 01 11.7**	**-1.0**
	baz=91						
A29A	**Manning Farm,**	**90.61**	**39**	⇓P	**P**	**18 01 11.9**	**-0.9**
	baz=91						
PEL	**Peldehue**	**90.76**	**125**	*e*P	**P**	**18 01 15.7**	**+1.7**
BUS	**Buena Vista**	**90.78**	**80**	*e*P	**P**	**18 01 17.7**	**+2.9**
CLCH	**Cerro Calan**	**90.79**	**125**	*e*P	**P**	**18 01 15.5**	**+1.3**
GSI	**Gunungsitoli**	**90.81**	**271**	P	**P**	**18 01 17.0**	**+2.5**
	comp=Z,3μm,2.2s,comp=Z,119μmcomp=Z,894μm						
URSC	**Urasca**	**90.83**	**80**	*e*P	**P**	**18 01 17.7**	**+3.0**
B30A	**Myrvik Farm, E**	**90.98**	**40**	⇑P	**P**	**18 01 13.5**	**-1.0**
	baz=91						
VBMS	**Vicksburg**	**91.09**	**57**	*e*P	**P**	**18 01 16.1**	**+0.8**
	comp=Z,5μm,1.7s						
VBMS				LR	LR		
	comp=Z,467μm,21.0s						
ACR	**Cerro Adams**	**91.10**	**81**	*e*P	**P**	**18 01 17.9**	**+2.0**
BTO	**Baotou**	**91.16**	**312**	*e*P	**P**	**18 01 17.5**	**+1.9**
A30A	**Hoffart Farm,**	**91.19**	**39**	⇑P	**P**	**18 01 14.8**	**-0.7**
	baz=91						
KCSI	**Kotacane, Aceh**	**91.21**	**273**	P	**P**	**18 01 17.7**	**+1.4**
	comp=Z,1μm,1.7s,comp=Z,57μmcomp=Z,555μm						
FFC	**Flin Flon**	**91.42**	**33**	*e*P	**P**	**18 01 15.5**	**-0.8**
FFC				pmax	pmax		
	comp=Z,6μm,1.8s						
FFC				MLR	MLR		
	comp=Z,336μm,22.0s						
FFC	**Flin Flon**	**91.42**	**33**	*e*P	**P**	**18 01 15.5**	**-0.8**
	comp=Z,6μm,1.8s						
FFC				LR	LR		
	comp=Z,336μm,22.0s						
FFC	**Flin Flon**	**91.42**	**33**	P	**P**	**18 01 16.0**	**-0.3**
	comp=Z,1μm,1.4s,SNR=39						
ATAH	**Atahualpa**	**91.51**	**98**	LR	LR	18 35 44.1	
	comp=Z,787μm,18.3s,baz=270,slow=31						
LOEI	**Loei**	**91.61**	**288**	P	**P**	**18 01 18.2**	**+0.1**
	comp=Z,488nm,1.6s,comp=Z,32μm						
TLL	**Tololo Astrono**	**91.62**	**122**	*e*P	**P**	**18 01 19.9**	**+1.6**
PBKT	**Sadao Pong**	**91.63**	**287**	P	**P**	**18 01 20.0**	**+1.9**
	comp=Z,827nm,1.3s						
PBKT	**Sadao Pong**	**91.63**	**287**	P	**P**	**18 01 20.4**	**+2.3**
	comp=Z,827nm,1.3s,comp=Z,47μm						
NNA	**Nana**	**91.66**	**103**	⇓*i*P	**P**	**18 01 19.7**	**+1.3**
	comp=Z,920nm,1.6s						
NNA				LR	LR		
	comp=Z,222μm,19.0s						
NNA	**Nana**	**91.66**	**103**	P	**P**	**18 01 21.0**	**+2.5**
	comp=Z,749nm,1.2s,SNR=7.6						
PKDT	**Phuket**	**91.82**	**278**	P	P	18 01 30.7	+12
HBAR	**Harrisburg**	**91.99**	**54**	⇓*i*P	**P**	**18 01 19.5**	**+0.1**
EFI	**East Falkland**	**92.00**	**145**	*d i*P	**P**	**18 01 20.3**	**+1.0**
EFI				pmax	pmax		
	comp=Z,2μm,2.1s						
EFI				MLR	MLR		
	comp=Z,1303μm,18.0s						
EFI	**East Falkland**	**92.00**	**145**	⇓*e*P	**P**	**18 01 20.2**	**+1.0**
	comp=Z,4μm,1.4s						
EFI				LR	LR		
	comp=Z,716μm,21.0s						
EFI	**East Falkland**	**92.00**	**145**	P	**P**	**18 01 21.5**	**+2.3**
	comp=Z,2μm,1.4s,SNR=7.8						
SCIA	**State Center**	**92.07**	**47**	*e*P	**P**	**18 01 18.3**	**-1.3**
	comp=Z,3μm,1.9s						
SCIA				LR	LR		
	comp=Z,852μm,22.0s						
LCO	**Las Campanas**	**92.08**	**121**	*e*P	**P**	**18 01 21.7**	**+1.2**
	comp=Z,2μm,1.4s						
LCO				LR	LR		
	comp=Z,701μm,19.0s						
LCO	**Las Campanas**	**92.08**	**121**	*e*P	**P**	**18 01 22.5**	**+2.1**
LCO	**Las Campanas**	**92.08**	**121**	P	P	18 01 23.8	+3.3
	baz=92,SNR=4.4						
SNSI	**Sinabang, Aceh**	**92.31**	**272**	P	**P**	**18 01 22.5**	**+1.1**
	comp=Z,978nm,1.5s,comp=Z,65μmcomp=Z,582μm						
KMI	**Kunming**	**92.35**	**295**	⇓P	**P**	**18 01 23.5**	**+1.9**
KMI				pP	**pP**	**18 01 29.3**	**+1.5**
KMI				sP	**sP**	**18 01 32.3**	**+2.3**
KMI				PP	**PP**	**18 05 04.5**	**+1.8**
KMI				SKS	**SKSac**	**18 11 55.0**	**+0.2**
KMI				S	**S**	**18 12 25.0**	**+0.2**
KMI				sS	**sS**	**18 12 32.0**	**-3.1**
KMI				SS	**SS**	**18 18 35.8**	**-0.2**
KMI				pmax	pmax		
	comp=Z,6μm,5.4s						
KMI				LR	LR		
	comp=N,223μm,19.1s						
KMI				LR	LR		
	comp=E,359μm,16.9s						
KMI				LR	LR		
	comp=Z,505μm,18.1s						
LHMI	**Lhok Sumawe**	**92.45**	**275**	P	P	18 01 26.9	+4.8
AGMN	**Agassiz Nation**	**92.46**	**40**	⇓*e*P	**P**	**18 01 19.7**	**-1.6**
	comp=Z,561nm,1.4s						
AGMN				LR	LR		
	comp=Z,623μm,21.0s						
GNAR	**Gosnell**	**92.61**	**54**	⇓*e*P	**P**	**18 01 22.6**	**+0.3**
	comp=Z,29μm,1.5s						
OXF	**Oxford**	**92.66**	**55**	⇓*i*P	**P**	**18 01 22.5**	**0.0**
OXF				pmax	pmax		
	comp=Z,2μm,1.3s						
OXF				MLR	MLR		
	comp=Z,818μm,21.0s						
OXF	**Oxford**	**92.66**	**55**	⇓*i*P	**P**	**18 01 22.5**	**0.0**
	comp=Z,2μm,1.3s						
OXF				LR	LR		
	comp=Z,818μm,21.0s						
SNAA	**Sanae**	**92.72**	**177**	*e*P	**P**	**18 01 22.8**	**+0.5**
SNAA	**Sanae**	**92.72**	**177**	*e*pP	pP	18 01 44.7	+16
SNAA	**Sanae**	**92.72**	**177**	⇓*e*P	**P**	**18 01 21.6**	**-0.6**
	comp=Z,1μm,1.2s						
SYO	**Syowa Base**	**92.76**	**191**	⇓*e*P	**P**	**18 01 19.8**	**-2.6**
SYO	**Syowa Base**	**92.76**	**191**	⇓*i*PcP	**P**	**18 01 21.3**	**-1.1**
PVMO	**Portageville**	**92.98**	**53**	*e*P	**P**	**18 01 24.9**	**+1.0**
	comp=Z,2μm,1.1s						
PARMO	**Parma**	**93.02**	**53**	*e*P	**P**	**18 01 23.9**	**-0.2**
CD2	**Chengdu**	**93.07**	**301**	⇑*i*P	**P**	**18 01 23.5**	**-1.1**
CD2				PP	**PP**	**18 05 09.3**	**+1.2**
CD2				S	S	18 12 19.3	-11
CD2				pmax	pmax		
	comp=Z,51μm,11.8s						
CD2				LR	LR		
	comp=N,470μm,22.6s						
CD2				LR	LR		
	comp=Z,407μm,22.6s						
SUKH	**Sukhothai**	**93.11**	**287**	P	**P**	**18 01 26.9**	**+2.0**
	comp=Z,51nm,1.1s,comp=Z,2μm						
HALT	**Halls**	**93.12**	**54**	*e*P	**P**	**18 01 25.4**	**+0.8**
VNA2	**Neumayer--Watz**	**93.12**	**175**	*e*P	**P**	**18 01 25.2**	**+1.1**
	baz=172,slow=3.0						
VNA2	**Neumayer--Watz**	**93.12**	**175**	*e*pP	pP	18 01 47.2	+17
	baz=172,slow=3.0						
ULM	**Lac du Bonnet**	**93.14**	**39**	⇓*e*P	**P**	**18 01 23.3**	**-1.1**
	comp=Z,1.5nm,0.6s						
ULM	**Lac du Bonnet**	**93.14**	**39**	P	**P**	**18 01 23.9**	**-0.5**
	comp=Z,58nm,1.1s,baz=239,slow=4.7,SNR=26						
ULM				LR	LR	18 37 11.2	
	comp=Z,1338μm,22.0s,baz=256,slow=32						
CRAI	**Chiangrai**	**93.14**	**290**	P	**P**	**18 01 25.7**	**+0.6**
	comp=Z,422nm,2.0s,comp=Z,25μm						
SLM	**Saint Louis**	**93.23**	**51**	⇓*e*P	**P**	**18 01 24.0**	**-1.1**
SLM				pmax	pmax		
	comp=Z,2μm,1.8s						
SLM	**Saint Louis**	**93.23**	**51**	⇓*e*P	**P**	**18 01 24.0**	**-1.1**
	comp=Z,2μm,1.8s						
GLAT	**Glass**	**93.26**	**53**	*e*P	**P**	**18 01 25.9**	**+0.6**
VNA1	**Neumayer--Stat**	**93.31**	**175**	*e*P	**P**	**18 01 26.1**	**+1.2**
VNA1	**Neumayer--Stat**	**93.31**	**175**	*e*pP	pP	18 01 48.0	+17
LAMP	**Lampang**	**93.38**	**288**	P	**P**	**18 01 28.2**	**+2.0**
	comp=Z,51nm,1.2s,comp=Z,2μm						
SPMN	**St. Paul**	**93.42**	**44**	⇓*e*P	**P**	**18 01 25.0**	**-0.8**
SPMN	**St. Paul**	**93.42**	**44**	⇓P	**P**	**18 01 24.6**	**-1.2**
	baz=94						
OTAV	**Otavalo**	**93.42**	**91**	⇓*i*P	**P**	**18 01 28.6**	**+1.4**
	comp=Z,442nm,1.4s						
OTAV				LR	LR		
	comp=Z,291μm,19.0s						
BRAL	**Brewton**	**93.58**	**59**	PFAKE		18 01 40.0	+13
BRAL				LR	LR		
	comp=Z,205μm,19.0s						
SIUC	**Southern Illin**	**93.73**	**52**	*e*P	**P**	**18 01 27.7**	**+0.3**
	comp=Z,620nm,1.1s						
MAIT	**Maitri**	**93.89**	**181**	*e*P	**P**	**18 01 26.1**	**-1.5**
CM31	**Chiang Mai Arr**	**93.99**	**288**	*e*P	**P**	**18 01 30.5**	**+1.5**
	comp=Z,22nm,2.2s						
CMAR	**Chiang Mai Arr**	**93.99**	**288**	P	**P**	**18 01 28.9**	**-0.1**
CMAR				PKKPbc	**PKKPdf**	**18 18 30.7**	**-0.4**
CMAR	**Chiang Mai Arr**	**93.99**	**288**	P	**P**	**18 01 29.0**	**-0.1**
	comp=Z,37nm,1.1s,baz=88,slow=2.7,SNR=79						
CMAR				PKKPbc	**PKKPdf**	**18 18 30.7**	**-0.4**
	comp=Z,5.5nm,0.9s,baz=286,slow=3.4,SNR=6.1						
CMAR				LR	LR	18 43 38.2	
	comp=Z,382μm,20.2s,baz=260,slow=36						
CHTO	**Chiang Mai**	**94.08**	**288**	*e*P	**P**	**18 01 29.2**	**-0.2**
CHTO				MLR	MLR		
	comp=Z,415μm,21.0s						
CHTO	**Chiang Mai**	**94.08**	**288**	P	**P**	**18 01 30.9**	**+1.5**
	SNR=33						
CHTO	**Chiang Mai**	**94.08**	**288**	*e*P	**P**	**18 01 29.2**	**-0.2**
	comp=Z,11μm,1.9s						
CHTO				LR	LR		
	comp=Z,415μm,21.0s						
CHTO	**Chiang Mai**	**94.08**	**288**	P	**P**	**18 01 30.2**	**+0.7**
	comp=Z,2μm,2.6s,comp=Z,146μm						
CHTO	**Chiang Mai**	**94.08**	**288**	P	**P**	**18 01 31.0**	**+1.5**
	comp=Z,705nm,1.0s,comp=Z,146μm						
LRAL	**Lakeview Retre**	**94.17**	**57**	⇓*e*P	**P**	**18 01 29.1**	**-0.4**
	comp=Z,1μm,1.9s						
LRAL				LR	LR		
	comp=Z,376μm,22.0s						
CEN1	**Los Morros**	**94.32**	**116**	*e*P	**P**	**18 01 33.1**	**+2.4**
WVT	**Waverly**	**94.35**	**54**	*e*P	**P**	**18 01 29.7**	**-0.6**
WVT				pmax	pmax		
	comp=Z,650nm,1.5s						
WVT	**Waverly**	**94.35**	**54**	*e*P	**P**	**18 01 29.7**	**-0.6**
	comp=Z,650nm,1.5s						
WVT				*e*PP	PP	18 05 34.2	+16
BCIP	**Isla Barro Col**	**94.41**	**82**	⇓*e*P	**P**	**18 01 32.2**	**+1.2**
	comp=Z,1μm,1.7s						
BCIP				LR	LR		
	comp=Z,191μm,20.0s						
LZH	**Lanzhou**	**94.43**	**306**	⇓P	**P**	**18 01 32.5**	**+1.6**
LZH				pP	**pP**	**18 01 36.3**	**-0.8**
LZH				PP	**PP**	**18 05 22.3**	**+3.6**
LZH				S	S	18 12 35.5	-7.1
LZH				SS	**SS**	**18 19 04.0**	**-1.3**
LZH				pmax	pmax		
	comp=Z,3μm,1.5s						
LZH				pmax	pmax		
	comp=Z,6μm,5.5s						
LZH				LR	LR		
	comp=N,317μm,18.0s						
LZH				LR	LR		
	comp=E,341μm,18.6s						
LZH				LR	LR		
	comp=Z,400μm,20.5s						
JFWS	**Jewell Farm**	**94.47**	**47**	*e*P	**P**	**18 01 29.2**	**-1.5**
	comp=Z,712nm,1.1s						
JFWS				LR	LR		
	comp=Z,1079μm,22.0s						
HDIL	**Hopedale**	**94.48**	**49**	*e*P	**P**	**18 01 28.8**	**-1.9**
	comp=Z,2μm,1.6s						
HDIL				LR	LR		
	comp=Z,1104μm,22.0s						
OLIL	**Olney**	**94.86**	**51**	*e*P	**P**	**18 01 32.7**	**+0.1**
	comp=Z,723nm,1.5s						
SOR	**Soroa**	**94.92**	**68**	*e*	**P**	**18 01 34.4**	**+1.2**
USIN	**University of**	**94.98**	**52**	*e*P	**P**	**18 01 33.1**	**0.0**
	comp=Z,434nm,1.4s						
EYMN	**Ely**	**95.11**	**42**	*e*P	**P**	**18 01 32.5**	**-1.1**
	comp=Z,1μm,1.9s						
EYMN				LR	LR		
	comp=Z,832μm,22.0s						
PAF	**Port-aux-Franc**	**95.36**	**216**	PFAKE		18 01 50.0	+15
PAF				LR	LR		
	comp=Z,756μm,21.0s						
ULN	**Ulaanbaatar**	**95.45**	**318**	P	**P**	**18 01 35.8**	**+0.5**
	SNR=64						
ULN	**Ulaanbaatar**	**95.45**	**318**	⇓*e*P	**P**	**18 01 35.0**	**-0.3**
	comp=Z,657nm,1.3s						
ULN				LR	LR		
	comp=Z,784μm,22.0s						
ULN	**Ulaanbaatar**	**95.45**	**318**	P	**P**	**18 01 35.6**	**+0.3**
TIXI	**Tiksi**	**95.49**	**344**	*d i*P	**P**	**18 01 34.3**	**-0.4**
TIXI				pmax	pmax		
	comp=Z,216nm,1.9s						
TRQA	**Tornquist**	**95.54**	**132**	*e*P	**P**	**18 01 36.9**	**+1.0**
	comp=Z,886nm,1.5s						
TRQA				*e*PKKP	**PKKPdf**	**18 18 27.5**	**-0.2**
TRQA				LR	LR		
	comp=Z,517μm,21.0s						
SWET	**Sewanee**	**95.60**	**55**	⇓*e*P	**P**	**18 01 35.8**	**-0.3**
	comp=Z,192nm,1.5s						
LVC	**Limon Verde**	**95.69**	**115**	⇓*e*P	**P**	**18 01 39.3**	**+2.1**
	comp=Z,903nm,1.6s						
LVC				LR	LR		
	comp=Z,465μm,21.0s						
CMBY	**CAMPBELL BAY**	**95.81**	**276**	*e*P	P	18 01 34.2	-3.2
SONM	**Songino Array**	**95.87**	**318**	P	**P**	**18 01 37.6**	**+0.4**
SONM				PP	**PP**	**18 05 30.6**	**+1.0**
SONM	**Songino Array**	**95.87**	**318**	P	**P**	**18 01 37.6**	**+0.4**
	comp=Z,116nm,0.9s,baz=114,slow=3.9,SNR=23						
SONM				PP	**PP**	**18 05 30.6**	**+1.0**
	comp=Z,72nm,1.3s,baz=103,slow=4.6,SNR=3.1						
SONM				LR	LR	18 39 24.9	
	comp=Z,817μm,21.8s,baz=118,slow=32						
SFIN	**Scholer Farm**	**96.04**	**50**	⇓*e*P	**P**	**18 01 37.2**	**-0.7**
SFIN	**Scholer Farm**	**96.04**	**50**	⇑P	**P**	**18 01 37.5**	**-0.4**
	baz=96						
WCI	**Wyandotte Cave**	**96.09**	**52**	*e*P	**P**	**18 01 37.4**	**-0.9**
WCI				*e*		18 05 32.8	
WCI				pmax	pmax		
	comp=Z,46nm,0.9s						
WCI	**Wyandotte Cave**	**96.09**	**52**	*e*P	**P**	**18 01 37.4**	**-0.9**
	comp=Z,46nm,0.9s						
WCI				*e*PP	**PP**	**18 05 32.8**	**+1.5**
COWI	**Conover**	**96.13**	**44**	⇓*e*P	**P**	**18 01 37.9**	**-0.3**
	comp=Z,612nm,1.2s						
COWI				LR	LR		
	comp=Z,1555μm,22.0s						
BLO	**Bloomington**	**96.16**	**51**	*e*P	**P**	**18 01 37.9**	**-0.6**
BLO				pmax	pmax		
	comp=Z,190nm,1.1s						
BLO	**Bloomington**	**96.16**	**51**	*e*P	**P**	**18 01 37.9**	**-0.6**
	comp=Z,190nm,1.1s						
TIGA	**Tifton**	**96.56**	**59**	*e*P	**P**	**18 01 41.4**	**+1.0**
TIGA	**Tifton**	**96.56**	**59**	⇓P	**P**	**18 01 40.8**	**+0.3**
	baz=97						
CPCT	**Cooper Cave**	**96.77**	**55**	⇓*e*P	**P**	**18 01 40.9**	**-0.5**
FCC	**Fort Churchill**	**96.95**	**31**	⇓*e*P	**P**	**18 01 40.5**	**-1.1**
FCC	**Fort Churchill**	**96.95**	**31**	⇓*e*P	**P**	**18 01 40.5**	**-1.1**
	comp=Z,14nm,1.2s						
MGV	**Manicaragua**	**97.47**	**69**	*e*	Pdif	18 01 48.8	+3.9
TZTN	**Tazewell**	**97.80**	**54**	⇓*e*P	**P**	**18 01 45.8**	**-0.2**
	comp=Z,253nm,1.5s						
PBA	**Port Blair**	**98.10**	**280**	*e*P	P	18 01 42.8	-5.0
DGPR	**DIGLIPUR**	**98.29**	**281**	*e*P	**P**	**18 01 46.4**	**-2.2**
GTA	**Gaotai**	**98.35**	**308**	P	Pdif	18 01 49.3	+0.7
GTA				pP	pP	18 01 56.3	+1.5
GTA				sP	sP	18 01 59.3	+2.3
GTA				PP	**PP**	**18 05 53.0**	**+4.1**
GTA				SKS	**SKSac**	**18 12 25.5**	**-0.4**
GTA				S	**S**	**18 13 12.5**	**-3.7**
GTA				sS	**ScS**	**18 13 21.0**	**+4.7**
GTA				SS	**SS**	**18 20 01.0**	**+0.4**
GTA				pmax	pmax		
	comp=Z,22μm,11.9s						
GTA				LR	LR		
	comp=N,159μm,19.5s						
GTA				LR	LR		
	comp=E,619μm,21.8s						
GTA				LR	LR		
	comp=Z,847μm,20.9s						
LPAZ	**La Paz**	**98.44**	**109**	*e*P	Pdif	18 01 51.2	+1.0
	comp=Z,134nm,0.6s						
LPAZ	**La Paz**	**98.44**	**109**	P	Pdif	18 01 52.8	+2.6
	comp=Z,13nm,1.0s,baz=268,slow=3.0,SNR=24						
LPAZ				LR	LR	18 40 30.3	
	comp=Z,158μm,18.6s,baz=113,slow=32						
ROSC	**El Rosal**	**98.60**	**87**	*e*P	**P**	**18 01 50.1**	**-0.5**
ROSC	**El Rosal**	**98.60**	**87**	P	Pdif	18 01 54.1	+3.5
	comp=Z,11nm,0.3s,baz=276,slow=4.7,SNR=4.1						
TLY	**Talaya**	**98.60**	**321**	*d i*P	**P**	**18 01 48.8**	**-0.5**
TLY				*e*		18 05 51.3	
TLY				*e*S	**SS**	**18 20 09.6**	**+6.3**
TLY				pmax	pmax		
	comp=Z,275nm,1.6s						
ACSO	**Alum Creek Sta**	**99.06**	**51**	*e*Pdif	**Pdif**	**18 01 51.0**	**-0.6**
	comp=Z,180nm,1.2s						
ACSO				LR	LR		
	comp=Z,689μm,19.0s						
KMSC	**Kings Mountain**	**99.24**	**56**	*e*Pdif	**Pdif**	**18 01 51.7**	**-0.8**
KMSC	**Kings Mountain**	**99.24**	**56**	⇑Pdiff	**Pdif**	**18 01 52.5**	**0.0**
	baz=100						
LPA	**La Plata**	**99.84**	**130**	PDIFF	**Pdif**	**18 01 59.0**	**+3.8**
LPA				PKIKP	**PKiKP**	**18 06 22.0**	**-1.7**
LPA				SKIKP		18 09 56.0	
BLA	**Blacksburg**	**100.39**	**54**	*e*P	**Pdif**	**18 01 57.1**	**-0.5**
BLA				pmax	pmax		
	comp=Z,40nm,1.1s						
BLA				MLR	MLR		
	comp=Z,685μm,21.0s						
BLA	**Blacksburg**	**100.39**	**54**	*e*Pdif	**Pdif**	**18 01 57.1**	**-0.5**
	comp=Z,40nm,1.1s						
BLA				LR	LR		
	comp=Z,685μm,21.0s						
VWCC	**Virginia Weste**	**100.75**	**54**	*e*Pdif	**Pdif**	**18 01 59.3**	**+0.1**
RCC	**Rio Carpintero**	**100.89**	**72**	*e*	**Pdif**	**18 02 01.7**	**+1.6**
MCWV	**Mont Chateau**	**101.31**	**52**	PFAKE		18 02 10.0	+8.4
MCWV				LR	LR		
	comp=Z,819μm,22.0s						
GTBY	**Guantanamo Bay**	**101.41**	**72**	*e*Pdif	**Pdif**	**18 02 03.7**	**+1.3**
	comp=Z,38nm,1.1s						
GTBY				LR	LR		
	comp=Z,281μm,19.0s						
ERPA	**Erie**	**101.65**	**49**	PFAKE		18 02 10.0	+6.9
ERPA				LR	LR		
	comp=Z,711μm,21.0s						
MOAC	**Moa**	**101.71**	**72**	*e*	**Pdif**	**18 02 11.3**	**+7.6**
SHL	**Shillong**	**101.99**	**293**	*e*P	**Pdif**	**18 02 04.0**	**-1.2**
SHL				*i* PP	**PP**	**18 06 15.0**	**-1.9**
MASC	**Masc**	**102.27**	**72**	*e*	**Pdif**	**18 02 11.3**	**+5.0**
JSRW	**J. Sargeant Re**	**102.47**	**54**	*e*Pdif	**Pdif**	**18 02 08.1**	**+1.3**
CBN	**Corbin**	**102.95**	**54**	*e*Pdif	**Pdif**	**18 02 06.5**	**-2.4**
CBN				LR	LR		
	comp=Z,705μm,22.0s						
SSPA	**Standing Stone**	**102.96**	**51**	*e*Pdif	**Pdif**	**18 02 07.9**	**-1.0**
	comp=Z,312nm,1.6s						
SDV	**Santo Domingo**	**103.15**	**84**	*e*Pdif	**Pdif**	**18 02 12.6**	**+2.0**
	comp=Z,90nm,1.6s						
SDV				LR	LR		
	comp=Z,33μm,20.0s						
LSA	**Lhasa**	**103.41**	**297**	*e*P	**Pdif**	**18 02 12.2**	**+0.4**
LSA				pmax	pmax		
	comp=Z,2μm,2.6s						
LSA				MLR	MLR		
	comp=Z,278μm,21.0s						
LSA	**Lhasa**	**103.41**	**297**	*e*Pdif	**Pdif**	**18 02 12.2**	**+0.4**
	comp=Z,2μm,2.6s						
LSA				LR	LR		
	comp=Z,278μm,21.0s						
CPUP	**Villa Florida**	**104.06**	**123**	Pdif	**Pdif**	**18 02 14.3**	**+0.1**
CPUP				PKKPbc	**PKKPbc**	**18 18 02.6**	**-0.7**
CPUP	**Villa Florida**	**104.06**	**123**

comp=Z,34µm,11.0s
WMQ LR LR
comp=N,258µm,27.8s
WMQ LR LR
comp=E,235µm,29.5s
WMQ LR LR
comp=Z,323µm,29.5s
VIS Vishakhapatnam 108.31 284 *eP* **Pdif 18 02 27.5 -5.6**
SJG San Juan 109.36 76 PFAKE 18 06 50.0
SJG LR LR
comp=Z,328µm,19.0s
PKME Peaks-Kenny Pk 109.71 47 *eP*dif **Pdif 18 02 40.6 +1.8**
PKME LR LR
comp=Z,595µm,20.0s
ZAA0 Zalesovo Array 110.18 322 *e*Pdif **Pdif 18 02 40.8 +0.1**
ZALV Zalesovo Beam 110.18 322 P **Pdif 18 02 40.2 -0.5**
ZALV pmax pmax
comp=Z,2.0nm,0.7s
ZALV Zalesovo Beam 110.18 322 Pdif **Pdif 18 02 40.2 -0.5**
ZALV PKiKP **PKiKP 18 06 41.5 -0.5**
ZALV PKKPbc **PKKPbc 18 17 43.7 -1.5**
ZALV Zalesovo Beam 110.18 322 Pdiff **Pdif 18 02 40.2 -0.5**
comp=Z,1.9nm,0.7s,baz=97,slow=4.6,SNR=8.6
ZALV PKiKP **PKiKP 18 06 41.5 -0.5**
comp=Z,10nm,0.8s,baz=119,slow=1.3,SNR=4.9
ZALV PKKPbc **PKKPbc 18 17 43.7 -1.5**
comp=Z,6.4nm,0.9s,baz=266,slow=4.2,SNR=2.2
MDRS Chennai 110.31 278 *eP* **PKiKP 18 06 41.9 -1.5**
SCHQ Schefferville 111.23 37 PKiKP **PKiKP 18 06 44.0 0.0**
SCHQ PKKP **PKKPdf 18 17 59.3 -1.1**
SCHQ Schefferville 111.23 37 PKiKP **PKiKP 18 06 44.0 0.0**
comp=Z,5.3nm,0.9s,baz=287,slow=6.1,SNR=2.3
SCHQ PKKP **PKKPdf 18 17 59.3 -1.1**
comp=Z,11nm,1.0s,baz=110,slow=3.8,SNR=4.2
MK31 Makanchi Array 111.91 315 *eP* **Pdif 18 02 48.6 0.0**
MK31 *e* 18 06 43.1
MK31 Makanchi Array 111.91 315 *e*Pdif **Pdif 18 02 48.5 0.0**
MK31 *e*PKPdf **PKiKP 18 06 43.1 -2.5**
MKAR Makanchi Array 111.91 315 P **Pdif 18 02 48.5 -0.1**
MKAR pmax pmax
comp=Z,1.0nm,0.9s
MKAR Makanchi Array 111.91 315 Pdif **Pdif 18 02 48.5 -0.1**
MKAR PKiKP **PKiKP 18 06 45.1 -0.5**
MKAR PKKPbc **PKKPbc 18 17 37.9 -1.4**
MKAR PKKPab **PKKPab 18 17 45.4 -0.8**
MKAR Makanchi Array 111.91 315 Pdiff **Pdif 18 02 48.5 -0.1**
comp=Z,1.3nm,0.9s,baz=96,slow=5.8,SNR=7.7
MKAR PKiKP **PKiKP 18 06 45.1 -0.5**
comp=Z,12nm,0.9s,baz=89,slow=1.9,SNR=5.0
MKAR PKKPbc **PKKPbc 18 17 37.9 -1.4**
comp=Z,8.9nm,1.0s,baz=279,slow=4.1,SNR=2.8
MKAR PKKPab **PKKPab 18 17 45.4 -0.8**
comp=Z,8.6nm,0.8s,baz=268,slow=2.5,SNR=4.7
DGAR Diego Garcia 112.28 255 PFAKE 18 07 00.0
DGAR LR LR
comp=Z,722µm,21.0s
GRGR Grenville 112.48 83 PFAKE 18 07 00.0
GRGR LR LR
comp=Z,145µm,20.0s
BBSR BB Station 112.55 61 PFAKE 18 07 00.0
BBSR LR LR
comp=Z,228µm,22.0s
HYB Hyderabad 112.73 283 *i* Pdiff **Pdif 18 02 52.0 -0.9**
HYB *e*PKP **PKiKP 18 06 46.5 -1.5**
HYB *e*PP PP 18 07 42.0 +6.3
HYB *e*SKS **SKSdf 18 13 53.0 -6.7**
HYB *e* 18 15 44.0
HYB *e* 18 17 16.0
HYB *e*PKKP **PKKPbc 18 17 36.0 +0.2**
HYB Hyderabad 112.73 283 *e*P **PKiKP 18 06 47.4 -0.6**
NGP Nagpur 112.86 287 *e*P **PKiKP 18 06 45.8 -2.3**
NGP *ex* x 18 15 43.4
SPB Sao Paulo 113.28 125 PFAKE 18 07 00.0
SPB LR LR
comp=Z,567µm,19.0s
TOSP Speyside 113.38 84 *e* **PKKPab 18 17 40.0 -1.1**
ANWB Willy Bob 113.38 77 PFAKE 18 07 00.0
ANWB LR LR
comp=Z,233µm,19.0s
MCLT Moule a Chique 113.47 82 *e* **PKKPab 18 17 44.3 +3.7**
BB16B Bebedouro 113.60 122 ⇓ *i*P Pdif 18 03 19.0 +22
BB16B *i* 18 03 27.7
BB16B *i* 18 07 59.9
BB16B *i* 18 17 39.0
BB16B *i* 18 27 47.9
BB16B *i* 18 34 52.0
BB16B *i* 18 34 57.5
BB16B *i* 18 37 31.7
BB16B *i* 18 43 24.2
BB16B *i* 18 46 20.5
KURK Kurchatov 114.15 319 *d* iPKIKP PKPdf 18 06 48.7 -1.0
KURK MLR MLR
comp=Z,289µm,20.0s
KURK Kurchatov 114.15 319 *e*Pdif **Pdif 18 02 58.4 -0.1**
KURK *e*PKPdf PKPdf 18 06 49.1 -0.5
KURK PKKPbc **PKKPbc 18 17 30.2 -1.6**
KURK LR LR
comp=Z,310µm,21.0s
KURBB Kurchatov Arra 114.22 319 PKiKP PKPdf 18 06 49.1 -0.7
comp=Z,24nm,0.9s,baz=97,slow=1.9,SNR=16
KURBB PKKPbc **PKKPbc 18 17 30.2 -1.4**
comp=Z,9.4nm,0.9s,baz=257,slow=4.1,SNR=9.5
BHPL Bhopal 114.63 289 *e*P PKPdf 18 06 49.7 -1.8
AKL Akola 114.68 286 *e*P PKPdf 18 06 46.3 -5.3
AKL AMS AMS 18 43 16.6
comp=Z,73µm,26.9s
BBGH Gun Hill 114.68 82 PFAKE 18 07 00.0 +8.3
BBGH LR LR
comp=Z,495µm,22.0s
DDI Dehra Dun 114.75 297 *e*P PKPdf 18 06 50.4 -1.2
DDI *ex* x 18 07 29.0
DDI Dehra Dun 114.75 297 *e*P **SP 18 17 25.5 -0.8**
LATR Latur 114.77 283 *e*P PKPdf 18 06 47.6 -4.2
LATR Latur 114.77 283 ⇑ *e*P PKKPdf 18 17 47.2 -5.5
LATR *ex* x 18 18 18.2
comp=Z,29µm,14.2s
SMLA Simla 115.57 297 *e*P **PKPdf 18 06 50.9 -2.1**
SMLA *i* x x 18 16 06.0
SFJD Kangerlussuaq 116.19 22 *i* P PKPdf 18 07 02.4 +9.3
SFJD Kangerlussuaq 116.19 22 *e*PKPdf **PKPdf 18 06 49.3 -3.8**
SFJD LR LR
comp=Z,405µm,19.0s
BHK Bhakra 116.22 298 *e*P **PKPdf 18 06 53.2 -1.1**
BHK *ex* x 18 08 19.8
DHRM DHARAMSHALA 116.36 299 *e*P **PKPdf 18 06 54.0 -0.9**
DHRM AMS AMS 19 03 38.2
comp=Z,174µm,4.5s
KBS Kingsbay 116.53 359 *e*P **PKPdf 18 06 53.8 +0.3**
KBS Kingsbay 116.53 359 *d* iPKIKP **PKPdf 18 06 54.2 +0.7**
KBS MLR MLR
comp=Z,255µm,20.0s
KBS Kingsbay 116.53 359 *e*PKPdf **PKPdf 18 06 54.0 +0.4**
KBS LR LR
comp=Z,249µm,20.0s
BDFB Brasilia 116.56 117 PKP **PKPdf 18 06 55.7 +0.2**
BDFB PKKP **PKKPdf 18 17 47.4 -1.6**
BDFB Brasilia 116.56 117 PKP **PKPdf 18 06 55.7 +0.2**
comp=Z,13nm,0.9s,baz=254,slow=5.0,SNR=7.7
BDFB PKKP **PKKPdf 18 17 47.4 -1.6**
comp=Z,35nm,1.1s,baz=69,slow=6.0,SNR=6.9
KSH Kashi 116.67 307 Pdif **Pdif 18 03 09.0 -1.1**
KSH PKP **PKPdf 18 06 52.5 -2.6**
KSH sPKP 18 07 06.8
KSH PP **PP 18 08 07.0 +4.0**
KSH PKS **PKSdf 18 10 28.0 -3.9**
KSH SKS **SKSdf 18 13 59.8 -6.8**
KSH SKKS SKKSac 18 14 56.0 -7.3
KSH AMB AMB
comp=Z,7µm,5.6s
KSH LR LR
comp=N,328µm,19.2s
KSH LR LR
comp=E,397µm,19.0s
KSH LR LR
comp=Z,534µm,21.5s
TKM2 Tokmak 2 116.81 310 *e*PKiKP **PKPdf 18 06 51.6 -3.7**
TKM2 MLR MLR
comp=Z,536µm,21.0s
TKM2 Tokmak 2 116.81 310 *e*PKPdf **PKPdf 18 06 51.6 -3.7**
TKM2 LR LR
comp=Z,536µm,21.0s
THN Thein Dam 116.86 299 *e*P **PKPdf 18 06 52.5 -2.9**
THN *ex* x 18 12 10.7
GOA Goa 116.88 280 *e*P **PKPdf 18 06 52.4 -3.5**

SUMG Summit 116.95 14 *e*PKIKP **PKPdf 18 06 54.7 -0.3**
SUMG Summit 116.95 14 *i* P PKPdf 18 07 00.4 +5.4
SUMG *e* 18 18 01.2
SUMG *i* 18 24 27.3
SUMG
comp=Z,478µm,22.0s
SUMG Summit 116.95 14 *e*PKPdf **PKPdf 18 06 54.7 -0.3**
SPA0 Spitsbergen Ar 117.18 358 *e*P **PKPdf 18 06 54.8 -0.1**
SPA0 IAMS 18 54 42.7
comp=Z,360µm,21.1s
DAG Danmarks Havn 117.19 7 *i* P **PKPdf 18 06 54.8 0.0**
DAG
comp=Z,342µm,20.0s
POO Poona 117.33 283 *e*PKP **PKPdf 18 06 55.0 -1.8**
POO *e*P **PKiKP 18 06 56.2 -0.6**
AAK Ala-Archa 117.63 310 *c* iPKIKP **PKPdf 18 06 56.2 -0.7**
AAK MLR MLR
comp=Z,1236µm,22.0s
AAK Ala-Archa 117.63 310 Pdif **Pdif 18 03 13.3 -1.0**
AAK *e*PKPdf **PKPdf 18 06 55.8 -1.1**
AAK PKP **PKPdf 18 06 56.2 -0.7**
AAK LR LR
comp=Z,460µm,20.0s
AAK Ala-Archa 117.63 310 Pdiff **Pdif 18 03 13.3 -1.0**
comp=Z,0.6nm,0.3s,baz=31,slow=3.6,SNR=1.6
AAK PKP **PKPdf 18 06 56.2 -0.7**
comp=Z,9.2nm,1.0s,baz=144,slow=2.5,SNR=3.9
EKS2 Erkin-Say 118.16 310 P **Pdif 18 03 16.7 +0.1**
EKS2 *e* 18 06 57.7
EKS2 MLR MLR
comp=Z,445µm,22.0s
EKS2 Erkin-Say 118.16 310 Pdif **Pdif 18 03 16.7 +0.1**
EKS2 *e*PKPdf **PKPdf 18 06 57.7 -0.1**
EKS2 LR LR
comp=Z,445µm,22.0s
BVAR Borovoye Array 118.83 322 P **Pdif 18 03 18.0 -1.2**
BVAR 18 06 57.6
BVAR Borovoye Array 118.83 322 Pdif **Pdif 18 03 18.0 -1.2**
BVAR PKP **PKPdf 18 06 57.6 -1.1**
BVAR PKKPbc **PKKPbc 18 17 14.2 -1.2**
BVAR Borovoye Array 118.83 322 Pdiff **Pdif 18 03 18.0 -1.2**
comp=Z,0.1nm,0.3s,baz=79,slow=3.1,SNR=2.3
BVAR PKP **PKPdf 18 06 57.6 -1.1**
comp=Z,21nm,0.9s,baz=96,slow=3.0,SNR=14
BVAR PKKPbc **PKKPbc 18 17 14.2 -1.2**
comp=Z,4.1nm,0.8s,baz=256,slow=3.0,SNR=2.4
BRVK Borovoye 118.89 322 *d* iPKIKP **PKPdf 18 06 58.2 -0.5**
BRVK MLR MLR
comp=Z,696µm,20.0s
BRVK Borovoye 118.89 322 PKPdf **PKPdf 18 06 59.7 +1.0**
SNR=9.0
BRVK Borovoye 118.89 322 *e*Pdif **Pdif 18 03 16.9 -2.6**
BRVK *e*PKPdf **PKiKP 18 06 58.9 +0.1**
BRVK LR LR
comp=Z,745µm,21.0s
MRIV Mauritius Mete 119.79 235 *e*PKPdf **PKPdf 18 07 00.1 -1.4**
KKAR Karatay Array 120.50 311 *e*PKPdf **PKPdf 18 06 59.2 -3.0**
BJO Bjornoya 120.68 357 *e*P PP 18 08 43.1 +14
RER Riviere de l'E 120.69 233 PKPdf **PKPdf 18 07 04.1 +0.8**
RER LR LR
comp=Z,296µm,20.0s
BHJ Bhuj 121.75 288 *e*P **PKPdf 18 07 01.9 -3.2**
SCO Scoresbysund 122.06 11 *i* P **PKPdf 18 07 05.5 +1.2**
SCO
comp=Z,302µm,19.0s
KBL Kabul 122.42 301 *e*PKIKP **PKPdf 18 07 06.6 +0.2**
KBL Kabul 122.42 301 *e*PKPdf **PKPdf 18 07 06.6 +0.2**
JMIC Jan Mayen 123.64 6 *e*P **PKPdf 18 07 09.9 +2.5**
TRIS Tristan da Cun 124.29 160 PFAKE 18 07 20.0 +10
TRIS LR LR
comp=Z,291µm,21.0s
KEV Kevo 124.51 352 *e*PKIKP **PKPdf 18 07 08.3 -0.8**
KEV MLR MLR
comp=Z,548µm,22.0s
KEV Kevo 124.51 352 *ep* **PKPdf 18 07 08.2 -0.8**
comp=Z,47nm,0.8s
KEV Kevo 124.51 352 *e*PKPdf **PKPdf 18 07 08.3 -0.8**
KEV LR LR
comp=Z,548µm,22.0s
LVZ Lovozero 124.91 348 *c* iPKIKP **PKPdf 18 07 09.8 -0.1**
LVZ MLR MLR
comp=Z,716µm,20.0s
ARCES ARCESS Array B 124.91 353 PKP **PKPdf 18 07 09.5 -0.4**
ARCES SKKPbc SKKPbc 18 20 42.8 -1.6
ARCES ARCESS Array B 124.91 353 PKP **PKPdf 18 07 09.5 -0.4**
comp=Z,70nm,0.9s,baz=0.0,slow=1.5,SNR=47
ARCES SKKPbc SKKPbc 18 20 42.8 -1.6
comp=Z,16nm,1.1s,baz=176,slow=4.2,SNR=2.8
ARE0 ARCESS Array S 124.91 353 *e*PKPdf **PKPdf 18 07 09.8 -0.1**
ARE0 IAMS 19 02 11.4
comp=Z,619µm,18.6s
ARE0 ARCESS Array S 124.91 353 *e*PKPdf **PKPdf 18 07 09.4 -0.5**
TRO Tromso 125.48 355 *e*P **PKPdf 18 07 12.1 +1.2**
TRO IAMS 18 58 08.8
comp=Z,258µm,22.2s
KTK1 Kautokeino 125.67 353 *e*P **PKPdf 18 07 12.1 +0.8**
ABKAR Akbulak array 126.21 320 *e*PKPdf **PKPdf 18 07 11.6 -1.3**
BORG Borgarnes 126.90 15 *e*PKPdf **PKPdf 18 07 14.8 +1.1**
BORG LR LR
comp=Z,531µm,22.0s
AKTO Aktyubinsk 126.94 322 PKIKP **PKPdf 18 07 13.6 -0.7**
AKTO Aktyubinsk 126.94 322 PKP **PKPdf 18 07 13.6 -0.7**
AKTO Aktyubinsk 126.94 322 PKP **PKPdf 18 07 13.6 -0.7**
comp=Z,23nm,0.9s,baz=41,slow=1.6,SNR=17
STEI Steigen 127.41 357 *eP* **PKPdf 18 07 15.5 +0.9**
ABPO Ambohimpanom 128.39 230 *e*PKIKP **PKPdf 18 07 19.2 +1.0**
ABPO MLR MLR
comp=Z,775µm,20.0s
ABPO Ambohimpanom 128.39 230 *e*PKPdf **PKPdf 18 07 19.2 +1.0**
ABPO LR LR
comp=Z,775µm,20.0s
MSEY Mahe Island 128.95 251 *e*PKPdf **PKPdf 18 07 20.6 +1.4**
MSEY LR LR
comp=Z,354µm,20.0s
FLOS Flostrand 129.09 357 *e*P **PKPdf 18 07 16.7 -1.2**
STOK Stokkvaagen 129.11 357 *e*P **PKPdf 18 07 20.5 +2.6**
JOF Joensuu 129.92 346 *ep* PKPpre 18 07 12.1
comp=Z,45nm,0.7s
SUR Sutherland 130.84 194 *e*PKPdf **PKPdf 18 07 23.1 +0.4**
SUR LR LR
comp=Z,451µm,20.0s
NSS Namsos 130.96 358 *e*P **PKPdf 18 07 23.3 +1.8**
RCBR Riachuelo 131.57 113 *e*PKPdf **PKPdf 18 07 25.1 +0.8**
RCBR LR LR
comp=Z,457µm,20.0s
KAF Kangasniemi 131.69 349 *ep* PKPpre 18 07 14.0
SOFL Sornfelli, Far 132.29 10 *e*P **PKPdf 18 07 20.2 -4.0**
SOFL AMS AMS 19 05 16.2
comp=Z,387µm,19.7s
TBLU Trondheim 132.29 359 *e*P PKPdf 18 07 30.1 +6.1
TBLU *e* 18 27 30.0
TBLU IAMS 19 05 04.2
comp=Z,304µm,26.8s
FIA1 FINESS Array S 132.34 348 *e*PKPdf **PKPdf 18 07 23.6 -0.6**
FINES FINESS Array B 132.34 348 PKPpre PKPpre 18 07 12.1
FINES PKP **PKPdf 18 07 23.1 -1.1**
FINES SKKPbc SKKPbc 18 20 14.2 -3.7
FINES FINESS Array B 132.34 348 PKhKP PKPpre 18 07 12.1
comp=Z,4.3nm,0.8s,baz=263,slow=1.1,SNR=4.9
FINES PKP **PKPdf 18 07 23.1 -1.1**
comp=Z,37nm,0.9s,baz=29,slow=3.2,SNR=7.0
FINES SKKPbc SKKPbc 18 20 14.2 -3.7
comp=Z,10nm,0.9s,baz=224,slow=5.6,SNR=3.6
JMDO Jabal Madar 132.35 286 PKPdf **PKPdf 18 07 27.1 +1.7**
SNR=27
SMDO Samad 132.41 287 PKPdf **PKPdf 18 07 28.1 +2.5**
SNR=29
PUL Pulkovo 132.90 345 ⇑ *i* PKIKP **PKPdf 18 07 26.2 +0.9**
MOL Molde 133.00 0 *eP* **PKPdf 18 07 28.0 +2.6**
BOSA Boshof 133.09 201 PKPpre PKPpre 18 07 13.2
BOSA PKP **PKPdf 18 07 25.4 -1.5**
BOSA *e*PKPdf **PkiKP 18 07 27.4 -0.7**
BOSA Boshof 133.09 201 PKhKP PKPpre 18 07 13.2
comp=Z,6.8nm,1.1s,baz=210,slow=3.3,SNR=3.3
BOSA PKP **PKPdf 18 07 25.4 -1.5**
comp=Z,15nm,1.1s,baz=158,slow=3.3,SNR=6.1
ASHO Ashiyiah 134.21 289 PKPdf **PKPdf 18 07 31.0 +2.1**
SNR=20
HYA Hoyanger 134.39 1 *eP* **PKPdf 18 07 30.6 +2.6**
SUE Sulen 134.46 2 *eP* **PKPdf 18 07 27.6 -0.5**
NB2 NORSAR Subarra 134.48 358 PKPdf PKPpre 18 07 19.6
comp=Z,4µm,2.5s,baz=4.5,slow=1.9
NB2 NORSAR Subarra 134.48 358 PKPdf PKPpre 18 07 19.6
baz=4.5,slow=1.9

NOA NORSAR Array B 134.48 358 PKPpre PKPpre 18 07 19.1
NOA PKP **PKPdf 18 07 27.3 -1.0**
NOA SKKPbc SKKPbc 18 20 00.4 -10
NOA NORSAR Array B 134.48 358 PKhKP PKPpre 18 07 19.1
comp=Z,14nm,1.0s,baz=34,slow=2.0,SNR=18
NOA PKP **PKPdf 18 07 27.3 -1.0**
comp=Z,18nm,0.9s,baz=15,slow=3.7,SNR=13
NOA SKKPbc SKKPbc 18 20 00.4 -10
comp=Z,3.3nm,0.9s,baz=179,slow=6.0,SNR=3.4
NC602 NORSAR Array S 134.77 358 *eP* **PKPdf 18 07 31.2 +2.4**
NC602 IAMS 19 07 48.2
comp=Z,544µm,20.9s
VSU Vasula 134.92 346 ⇑ *i* PKIKP **PKPdf 18 07 29.7 +0.6**
VSU MLR MLR
comp=Z,1830µm,22.0s
LRW Lerwick 134.93 7 *eP* PKPpre 18 07 19.5
LRW AMS AMS 19 00 14.3
comp=Z,361µm,23.5s
RUND Rundenannen 135.12 2 *eP* **PKPdf 18 07 30.7 +1.2**
BER Bergen 135.15 2 *eP* **PKPdf 18 07 31.9 +2.4**
HFS Hagfors 135.26 356 PKPpre PKPpre 18 07 16.6
HFS PKP **PKPdf 18 07 29.3 -0.4**
HFS Hagfors 135.26 356 PKhKP PKPpre 18 07 16.6
comp=Z,21nm,0.8s,baz=0.0,slow=0.3,SNR=14
HFS PKP **PKPdf 18 07 29.3 -0.4**
comp=Z,60nm,0.8s,baz=56,slow=3.6,SNR=14
ODD1 Odda 135.66 1 *eP* **PKPdf 18 07 33.2 +2.6**
ODD1 AMS AMS 19 08 08.1
comp=Z,347µm,22.2s
KONO Kongsberg 135.92 359 *eP* **PKPdf 18 07 33.7 +2.7**
KONO Kongsberg 135.92 359 *e*PKIKP **PKPdf 18 07 30.0 -0.9**
KONO MLR MLR
comp=Z,326µm,22.0s
KONO Kongsberg 135.92 359 *e*PKPdf **PKPdf 18 07 30.0 -0.9**
KONO LR LR
comp=Z,326µm,22.0s
LBTB Lobatse 136.24 203 PKPpre PKPpre 18 07 27.4
KMY Karmoy 136.32 2 *eP* **PKPdf 18 07 33.1 +1.4**
KMY AMS AMS 19 08 59.8
comp=Z,240µm,21.7s
MVH1 Achvaich 136.68 9 *eP* **PKPdf 18 07 29.9 -2.5**
KAC Achnashellach 136.89 11 *eP* **PKPdf 18 07 30.8 -2.1**
KPL Plockton 136.98 11 *eP* PKPdf 18 07 23.3 -10
KPL *e* 18 10 17.4
KPL AMS AMS 19 04 12.8
comp=Z,347µm,20.5s
MDO Dochfour 137.11 10 *eP* PKPdf 18 07 25.7 -7.5
MCD Coleburn Disti 137.15 9 *eP* **PKPdf 18 07 28.4 -4.9**
HOMB Homborsund 137.31 360 *eP* **PKPdf 18 07 33.4 -0.1**
MME1 Meikle Cairn 137.45 9 *eP* PKPdf 18 07 27.2 -6.7
DRUM Mains of Drumt 137.91 9 *eP* PKPdf 18 07 26.1 -8.6
DRUM AMS AMS 18 56 46.9
comp=Z,272µm,26.5s
NACGM Naroch 138.10 344 *eP* **Pdif 18 04 50.0 +5.2**
EAB Aberfoyle 138.31 10 *eP* PKPdf 18 07 26.6 -8.8
PGBU Glenifferbraes 138.64 11 *eP* PKPdf 18 07 30.0 -6.1
PGBU *e* 18 10 21.9
PGBU AMS AMS 19 04 51.6
comp=Z,339µm,19.9s
DGRG David-gareji 138.74 316 P **PKPdf 18 07 40.7 +3.9**
EDI Edinburgh 138.75 10 *eP* PKPpre 18 07 24.6
EDI *e* 18 10 18.1
EDI AMS AMS 19 04 23.9
comp=Z,308µm,21.2s
ESY Stoneypath 138.85 9 *eP* **PKPdf 18 07 32.2 -4.3**
EBL Broad Law 138.92 10 *eP* PKPpre 18 07 25.8
TBLG Delisi 139.02 317 P **PKPdf 18 07 40.2 +2.9**
MUD Monsted U'grnd 139.13 359 *i* P **PKPdf 18 07 39.0 +2.1**
MUD
comp=Z,298µm,22.0s
KBZ Khabaz 139.17 321 *i* PKIKP PKPpre 18 07 32.1
KBZ Khabaz 139.17 321 PKPpre PKPpre 18 07 32.1
KBZ Khabaz 139.17 321 PKhKP PKPpre 18 07 32.1
comp=Z,6.7nm,0.9s,baz=44,slow=2.4,SNR=3.9
KIV Kislovodsk 139.18 321 *i* PKIKP **PKPdf 18 07 37.6 0.0**
KIV *e* 18 10 28.8
KIV *e* 18 20 51.2
KIV *e*SS SS 18 28 44.8 -2.3
KIV MLR MLR
comp=Z,560µm,23.0s
ESK Eskdalemuir 139.33 10 *eP* **PKPdf 18 07 36.9 -0.5**
ESK *e* 18 10 19.1
ESK AMS AMS 19 05 25.1
comp=Z,338µm,21.0s
ESK Eskdalemuir 139.33 10 *i* PKIKP **PKPdf 18 07 37.5 +0.1**
ESK Eskdalemuir 139.33 10 PFAKE 18 07 50.0 +13
ESK LR LR
comp=Z,431µm,22.0s
ONI Oni 139.43 319 P PKPdf 18 07 43.7 +5.6
ECK Cauldkaine Hil 139.48 10 *eP* PKPdf 18 07 31.1 -6.5
GAL1 Galloway 139.50 11 *eP* **PKPdf 18 07 35.5 -2.1**
GAL1 *e* 18 10 33.1
GAL1 AMS AMS 19 02 15.6
comp=Z,327µm,23.5s
GCD Castle Douglas 139.64 11 *eP* PKPdf 18 07 31.9 -6.1
GNI Garni 139.76 315 *eP* PKPdf 18 07 47.6 +8.7
GNI Garni 139.76 315 *e*PKPdf **PKPdf 18 07 36.1 -2.7**
GNI LR LR
comp=Z,381µm,21.0s
COP Copenhagen 139.77 356 *i* P **PKPdf 18 07 36.1 -2.0**
COP *i* 18 23 08.7
COP
comp=Z,153µm,22.0s
SUW Suwalki 139.80 346 *e*PKPdf **PKPdf 18 07 33.1 -5.2**
SUW *e*PKiKP **PKiKP 18 07 36.2 -4.5**
SUW *ep*PKPdf **pPKPdf 18 07 40.8 -3.8**
SUW *e* 18 08 04.4
SUW *e*PP PP 18 10 38.7 +5.3
SUW *e*SS SS 18 29 20.0 +27
SUW *e* 18 30 06.1
SUW *e* 18 34 27.4
SUW LMZ LR 19 06 25.5
GMM Mts of Mourne 139.84 13 *eP* PKPpre 18 07 26.8
XAL Allendale 139.93 9 *eP* PKPdf 18 07 30.6 -7.9
AKH Akhalkalaki 140.00 317 P PKPdf 18 07 47.6 +8.3
KESW Keswick, Cumbr 140.05 10 *eP* PKPpre 18 07 27.8
KESW AMS AMS 19 00 28.0
comp=Z,359µm,25.7s
BSD Bornholm Skovb 140.12 354 *i* P **PKPdf 18 07 34.1 -4.7**
BSD
comp=Z,314µm,21.0s
LLD Lille Linde 140.13 356 *i* P **PKPdf 18 07 40.6 +1.8**
LLD
comp=Z,153µm,24.0s
CHVG Ch'k'valeri 140.22 320 P **PKPdf 18 07 41.9 +2.4**
PCED Cedros 140.37 47 *e*PKP PKPdf 18 07 45.6 +5.8
MUKL Al Mukalla 140.45 274 *eP* **PKPdf 18 07 41.0 +0.5**
PCAN Candelaria 140.59 47 *e*PKP **PKPdf 18 07 39.8 -0.4**
PICO Pico 140.62 47 *e*PKP **PKPdf 18 07 45.2 +4.8**
ROSA Rosais 140.65 47 *e*PKP **PKPdf 18 07 41.3 +1.0**
ROSA Rosais 140.65 47 *e*SS SS 18 29 21.2 +16
KARS Kars 140.65 316 *eP* **PKPdf 18 07 43.3 +2.8**
PGRA Graciosa 140.70 46 *e*PKP **PKPdf 18 07 37.5 -2.9**
PGRA Graciosa 140.70 46 *e*SS SS 18 29 20.7 +15
PPNO Prainha do Nor 140.74 47 *e*PKP **PKPdf 18 07 43.3 +2.7**
CLDR Caldiran 140.78 314 *eP* **PKPdf 18 07 38.4 -2.4**
PMAN Manadas 140.80 47 *e*PKP **PKPdf 18 07 43.1 +2.5**
VAL Valentia 140.83 18 *eP* **PKPdf 18 07 36.3 -3.9**
HPK Haverah Park 140.89 9 *eP* PKPpre 18 07 25.3
HPK AMS AMS 19 00 13.5
comp=Z,301µm,25.7s
WME Myndd Eilian 140.97 12 *eP* PKPpre 18 07 32.5
AKASG Malin Array Be 140.97 339 *i* PKHKP PKPpre 18 07 29.6
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKASG Malin Array Be 140.97 339 PKPpre PKPpre 18 07 29.6
AKASG Malin Array Be 140.97 339 PKhKP PKPpre 18 07 29.6
comp=Z,2.3nm,0.6s,baz=34,slow=4.0,SNR=5.5
KIEV Kiev 140.98 339 *e*PKIKP PKPpre 18 07 33.6
KIEV MLR MLR
comp=Z,695µm,22.0s
KIEV Kiev 140.98 339 *e*PKPpre PKPpre 18 07 33.5
KIEV LR LR
comp=Z,695µm,22.0s
WLF1 Llynfaes 141.05 12 *eP* PKPpre 18 07 26.1
WLF1 AMS AMS 18 59 41.9
comp=Z,388µm,27.3s
YRC Rhoscolyn 141.05 12 *eP* **PKPdf 18 07 35.7 -4.8**
KBD Kabd 141.10 297 *eP* PKPdf 18 07 35.3 -6.1
WPM1 Penmaenmawr 141.17 11 *eP* PKPdf 18 07 35.6 -5.2
BCA Borcka 141.19 318 *eP* **PKPdf 18 07 43.3 +2.0**
AGRB Hanur-Agry 141.22 315 *eP* **PKPdf 18 07 44.6 +3.0**
YLL Llanberis 141.24 12 *eP* PKPdf 18 07 34.1 -6.8

RDF	**Al-Radifah**	**141.27**	**297**	*e*P	PKPdf	18 07 36.1	-5.7
RDF				AMb	AMB	18 08 08.1	
comp=Z,1μm,1.2s							
YRE	**Yr Eifl**	**141.33**	**12**	*e*P	PKPdf	18 07 35.3	-5.8
ADH	**Angra Heroismo**	**141.39**	**46**	*e*PKP	**PKPdf**	**18 07 42.1**	**+0.5**
NAY	**Al-Naaiem**	**141.47**	**298**	*e*P	PKPdf	18 07 36.0	-6.1
NAY				AMb	AMB	18 07 57.9	
comp=Z,448nm,1.4s							
LMK	**Market Rasen**	**141.57**	**8**	*e*P	PKPdf	18 07 32.8	-8.7
LMK				AMS	AMS	19 13 23.8	
comp=Z,346μm,20.2s							
KBI1	**Birley Grange**	**141.59**	**9**	*e*P	**PKPdf**	**18 07 36.8**	**-4.7**
BSEG	**Bad Segeberg**	**141.62**	**358**	*e*PKP	PKPdf	18 07 35.8	-5.7
RST	**Umm Al-Ruwaisa**	**141.62**	**298**	*e*P	PKPdf	18 07 36.5	-5.8
RST				AMb	AMB	18 08 10.1	
comp=Z,5μm,1.1s							
STNC	**Stoke**	**141.64**	**10**	*e*P	PKPdf	18 07 35.1	-6.5
STNC				AMS	AMS	19 01 25.7	
comp=Z,419μm,24.3s							
GKP	**Gorka Klasztor**	**141.64**	**351**	*e*PKPdf	**PKPdf**	**18 07 41.8**	**+0.2**
GKP				*e*		18 08 02.5	
GKP				*e*SS	SS	18 29 45.8	+32
GKP				*e*		18 30 43.0	
GKP				*e*		18 35 05.3	
GKP				LMZ	LR	19 04 48.6	
FOEL	**Foel Wylfa**	**141.66**	**11**	*e*P	PKPdf	18 07 33.3	-8.4
FOEL				AMS	AMS	18 59 30.1	
comp=Z,326μm,29.4s							
CUKT	**Cukurca**	**141.82**	**311**	*e*P	PKPdf	18 07 37.3	-5.4
HLM1	**Long Mynd**	**142.07**	**11**	*e*P	PKPdf	18 07 36.6	-5.8
EZM	**Erzurum**	**142.15**	**317**	*e*P	**PKPdf**	**18 07 42.6**	**-0.8**
LPW	**Lampeter**	**142.23**	**12**	*e*P	PKPdf	18 07 36.1	-6.6
BEL	**Belsk**	**142.36**	**347**	*e*PKPdf	**PKPdf**	**18 07 39.3**	**-3.6**
BEL				*ep*PKPdf	**PKiKP**	**18 07 45.8**	**-0.2**
BEL				*e*		18 08 03.0	
BEL				*e*SS	SS	18 29 38.3	+16
BEL				*e*		18 30 35.8	
BEL				LMZ	LR	19 07 42.9	
VRTB	**Varto-Mus**	**142.46**	**315**	*e*P	**PKPdf**	**18 07 39.5**	**-4.3**
MCH1	**Michaelchurch**	**142.55**	**11**	*e*P	PKPdf	18 07 32.6	-11
MCH1				AMS	AMS	19 06 33.7	
comp=Z,334μm,23.0s							
SIRT	**Sirnak**	**142.55**	**312**	*e*P	**PKPdf**	**18 07 39.5**	**-4.4**
AEU	**East Anglia Un**	**142.58**	**7**	*e*P	**PKPdf**	**18 07 42.1**	**-1.2**
SSW	**Stow on the Wo**	**142.78**	**10**	*e*P	**PKPdf**	**18 07 39.8**	**-3.9**
PSET	**Sete Cidades**	**142.83**	**47**	*e*PKP	**PKPdf**	**18 07 40.9**	**-3.4**
PSET	**Sete Cidades**	**142.83**	**47**	*e*SS	SS	18 29 18.0	-12
RUE	**Ruedersdorf**	**142.84**	**354**	*e*PKP	**PKPdf**	**18 07 39.8**	**-3.9**
PDA	**Ponta Delgada**	**142.90**	**47**	*e*PKP	PKPdf	18 07 37.0	-7.3
BTMT	**Batman**	**142.90**	**314**	*e*P	PKPdf	18 07 55.0	+11
CMLA	**Cha da Macela**	**142.99**	**47**	*e*PKIKP	**PKPdf**	**18 07 43.4**	**-1.2**
CMLA				MLR	MLR		
comp=Z,350μm,22.0s							
CMLA	**Cha da Macela**	**142.99**	**47**	*e*PKPdf	**PKPdf**	**18 07 43.4**	**-1.2**
CMLA				LR	LR		
comp=Z,350μm,22.0s							
BNGB	**Bing¶ll**	**143.07**	**316**	*e*P	PKPbc	18 07 42.0	+0.4
NRDL	**Niedersach Rie**	**143.07**	**358**	*e*PKP	PKPbc	18 07 41.1	+0.2
GUMT	**Gumushane**	**143.09**	**319**	*e*P	**PKPdf**	**18 07 44.6**	**-0.2**
SKP1	**Kophill**	**143.19**	**9**	*e*P	PKPab	18 07 39.6	-0.4
HTL	**Hartland**	**143.19**	**13**	*e*P	PKPab	18 07 35.3	-4.8
HTL				AMS	AMS	18 59 50.1	
comp=Z,281μm,24.9s							
SWN1	**Swindon**	**143.23**	**10**	*e*P	PKPab	18 07 35.2	-4.9
SWN1				AMS	AMS	19 02 47.3	
comp=Z,381μm,24.7s							
BART	**Pico Bartolome**	**143.23**	**47**	*e*PKP	**PKPdf**	**18 07 46.1**	**+1.0**
IBBN	**Ibbenburen**	**143.29**	**0**	*e*PKP	PKPbc	18 07 42.3	+0.7
ESPY	**Espiye-Giresun**	**143.31**	**320**	*e*P	PKPab	18 07 40.7	-0.2
ERZN	**Erzincan**	**143.40**	**317**	*e*P	**PKPdf**	**18 07 45.8**	**+0.5**
LSZ	**Lusaka**	**143.51**	**214**	*e*PKPdf	PKPab	18 07 42.7	+0.2
LSZ				LR	LR		
comp=Z,509μm,20.0s							
WOL	**Wolverton**	**143.52**	**10**	*e*P	PKPab	18 07 29.8	-12
WOL				AMS	AMS	19 02 56.9	
comp=Z,397μm,24.0s							
EZC	**Erzincan**	**143.55**	**318**	*e*P	**PKPdf**	**18 07 45.2**	**-0.5**
WTSB	**Winterswijk**	**143.62**	**1**	*e*PKPdf	PKPab	18 07 41.2	-0.4
comp=Z,465nm,1.3s							
PSMA	**Santa Maria**	**143.62**	**48**	*e*PKP	**PKPdf**	**18 07 45.2**	**-0.5**
PSMN	**Pico do Norte,**	**143.67**	**48**	*e*PKP	PKPbc	18 07 43.9	+0.7
PSMN	**Pico do Norte,**	**143.67**	**48**	*e*SS	SS	18 29 20.3	-19
CCA1	**Carnmenellis**	**143.77**	**14**	*e*P	PKPab	18 07 35.9	-6.5
CCA1				AMS	AMS	19 00 00.2	
comp=Z,372μm,30.9s							
DYA	**Yadsworthy**	**143.84**	**13**	*e*P	PKPab	18 07 35.2	-7.4
DYA				AMS	AMS	18 56 31.2	
comp=Z,401μm,47.3s							
DIY	**Diyarbakir**	**143.92**	**314**	*e*P	**PKPdf**	**18 07 47.1**	**+0.8**
KWP	**Kalwaria Pacla**	**143.94**	**344**	*e*PKIKP	PKPab	18 07 42.2	-0.9
KWP				MLR	MLR		
comp=Z,593μm,21.0s							
KWP	**Kalwaria Pacla**	**143.94**	**344**	*e*PKPdf	PKPab	18 07 42.2	-0.8
KWP				LR	LR		
comp=Z,593μm,21.0s							
KWP	**Kalwaria Pacla**	**143.94**	**344**	⇓*i*P	PKPbc	18 07 43.4	-0.2
KWP	**Kalwaria Pacla**	**143.94**	**344**	*e*PKPdf	PKPbc	18 07 43.4	-0.2
KWP				*ep*PKPdf	pPKPdf	18 07 51.7	-0.5
KWP				*e*		18 08 09.3	
KWP				*e*SS	SS	18 30 03.6	+23
KWP				*e*		18 31 06.1	
KWP				*e*		18 35 56.6	
KWP				LMZ	LR	19 03 14.4	
MAZI	**Mazidag**	**143.98**	**314**	*e*P	PKPbc	18 07 45.1	+0.8
PTK	**Pertek**	**143.98**	**316**	*e*P	PKPbc	18 07 44.6	+0.2
ELSH	**Elham, Standar**	**144.02**	**7**	*e*P	PKPab	18 07 37.5	-5.7
ELSH				AMS	AMS	19 15 19.4	
comp=Z,312μm,20.7s							
CLL	**Collm**	**144.07**	**355**	*e*PKP	**PKPab**	**18 07 43.1**	**-0.4**
CLL	**Collm**	**144.07**	**355**	*e*PKPdf	PKPbc	18 07 44.0	+0.1
comp=Z,179nm,1.0s							
CLL				*e*		18 07 51.0	
comp=Z,270nm,1.0s							
CLL				*i* PKPmax		18 08 04.3	
comp=Z,461nm,1.0s							
CLL				*i*		18 08 06.7	
comp=Z,707nm,1.1s							
CLL				*es*P		18 08 12.0	
CLL				*e*		18 08 22.0	
CLL				*e*		18 09 43.0	
CLL				*e*PP	**PP**	**18 10 59.0**	**-0.2**
CLL				*e*		18 11 11.0	
CLL				*es*PPmax		18 11 30.0	
CLL				*e*		18 12 48.0	
CLL				*e*		18 13 48.0	
CLL				*e*SKSdf	**SKSdf**	**18 14 48.0**	**-6.6**
CLL				*e*		18 18 30.0	
CLL				*e*PcPP		18 19 44.0	
CLL				*e*PSKSmax		18 21 37.0	
CLL				*e*PPPrmax		18 22 51.0	
CLL				*e*PPSmax		18 24 01.0	
CLL				*e*		18 25 11.0	
CLL				*e*SSmax		18 30 06.0	
CLL				*e*PSPSmax		18 31 06.0	
CLL				*e*SSS	SSS	18 35 06.0	
CLL				*e*SSSS		18 38 54.0	
OJC	**Ojcow**	**144.10**	**347**	*e*PKPdf	**PKPab**	**18 07 43.7**	**+0.1**
OJC				*ep*PKPdf	pPKPdf	18 08 04.0	+12
OJC				*e*PP	PP	18 11 09.2	+10
OJC				*e*SS	SS	18 30 02.9	+20
OJC				L	L	19 09 31.0	
comp=Z,629μm,21.7s							
KSP	**Ksiaz**	**144.14**	**351**	*e*PKPdf	PKPbc	18 07 44.0	-0.2
KSP				*e*		18 08 06.2	
KSP				*e*SS	SS	18 30 13.8	+31
KSP				*e*		18 31 20.9	
KSP				*e*		18 35 45.8	
KSP				LMZ	LR	19 06 49.7	
BUG	**Bochum--Univer**	**144.15**	**1**	*e*PKP	**PKPab**	**18 07 43.9**	**+0.2**
KIS	**Kishinev**	**144.17**	**336**	⇓*i*PKHKP	**PKPab**	**18 07 43.0**	**-1.0**
KIS	**Kishinev**	**144.17**	**336**	*i* PKIKP	PKPdf	18 07 59.0	+13
KIS	**Kishinev**	**144.17**	**336**	*e*PP	PP	18 10 59.0	-1.2
KIS	**Kishinev**	**144.17**	**336**	*e*PPP	PPP	18 14 18.0	
KIS				*e*SKKS		18 18 11.0	
KIS	**Kishinev**	**144.17**	**336**	⇑*i*P	**PKPab**	**18 07 43.6**	**-0.4**
HMNX	**Herstmonceux**	**144.19**	**8**	*e*P	**PKPab**	**18 07 41.0**	**-2.9**
HMNX				AMS	AMS	19 08 26.1	
comp=Z,443μm,21.1s							
ILIC	**ilic-Erzincan**	**144.22**	**318**	*e*P	**PKPab**	**18 07 43.3**	**-1.3**
TSUM	**Tsumeb**	**144.25**	**196**	*e*PKPdf	**PKPab**	**18 07 45.3**	**+0.1**
TSUM				LR	LR		
comp=Z,944μm,20.0s							
NEUB	**Neuenburg**	**144.27**	**356**	*e*PKP	**PKPab**	**18 07 44.3**	**+0.1**
BRG	**Berggiesshubel**	**144.41**	**354**	⇑*i*PKP	PKPbc	18 07 45.5	+0.5
comp=Z,80nm,1.0s							
BRG				*i*		18 07 51.5	
comp=Z,334nm,1.2s							
BRG				*i*		18 08 13.4	
comp=Z,2μm,1.7s							
BRG				SS	SS	18 30 02.0	+16
BRG							
comp=N,337μm,21.0s							
BRG							
comp=E,187μm,22.9s							
BRG							
comp=Z,443μm,20.6s							
BRG	**Berggiesshubel**	**144.41**	**354**	*e*PKP	**PKPab**	**18 07 44.3**	**-0.4**
FBE	**Freiberg**	**144.42**	**354**	*e*PKP	**PKPab**	**18 07 44.9**	**+0.1**
RSDY	**Resadiye-TOKAT**	**144.47**	**320**	*e*P	**PKPdf**	**18 07 47.0**	**-0.1**
UPC	**Upice**	**144.51**	**351**	⇓*e*PKP	**PKPab**	**18 07 44.8**	**-0.3**
UPC				*ex*	x	18 08 05.5	
UPC				*ex*	x	18 08 22.3	
STHS	**Stebnicka Huta**	**144.51**	**345**	*e*PKP	**PKPab**	**18 07 45.0**	**-0.2**
MZRK	**Al-Mazaregh**	**144.58**	**311**	*e*P	PKPbc	18 07 46.7	+0.6
DPC	**Dobruska-Polom**	**144.61**	**351**	*e*PKP	**PKPab**	**18 07 44.9**	**-0.7**
DPC				*ex*	x	18 07 49.6	
DPC				*ep*PKP	**pPKPdf**	**18 07 55.2**	**+1.8**
DPC				*ex*	x	18 08 04.5	
DPC				*ex*	x	18 08 17.5	
DPC				*e*SS	SS	18 29 56.6	+8.0
DPC				*ex*	x	18 35 11.5	
DPC				AMS	AMS	19 11 50.0	
UCC	**Uccle**	**144.68**	**4**	PKP	**PKPab**	**18 07 44.7**	**-1.0**
PVCC	**Panska Ves**	**144.68**	**353**	⇓*i*PKP	PKPbc	18 07 46.0	+0.1
PVCC				*ex*	x	18 08 06.7	
PVCC				*ex*	x	18 08 24.3	
PVCC				*ex*	x	18 30 13.6	
PVCC				*ex*	x	18 35 21.2	
PVCC				AMS	AMS	19 11 30.0	
comp=Z,428μm,21.2s							
KOLS	**Kolonicke sedl**	**144.69**	**344**	*e*PKP	**PKPab**	**18 07 45.3**	**-0.6**
KOLS				*e*SS	SS	18 30 04.2	+15
MENF	**Mencas**	**144.72**	**7**	PKP	**PKPab**	**18 07 44.9**	**-0.9**
NIE	**Niedzica**	**144.74**	**346**	*e*PKPdf	PKPbc	18 07 46.7	+0.5
NIE				*ep*PKPdf	pPKPdf	18 08 09.5	+16
NIE				*e*PP	PP	18 11 12.1	+8.7
NIE				*e*SS	SS	18 30 09.2	+19
NIE				L	L	19 11 16.0	
comp=Z,512μm,21.6s							
UBBA	**Unterbreizbach**	**144.75**	**358**	*e*PKPbc	**PKPab**	**18 07 44.6**	**-1.2**
BEBN	**Eben Emael**	**144.75**	**3**	PKP	**PKPab**	**18 07 45.2**	**-0.8**
OKC	**Ostrava-Krasne**	**144.79**	**349**	⇓*e*PKP	**PKPab**	**18 07 45.0**	**-1.2**
OKC				*ep*PKP	**pPKPdf**	**18 07 53.4**	**-0.3**
OKC				*ex*	x	18 08 04.7	
OKC				*ex*	x	18 08 16.7	
OKC				*e*SS	SS	18 29 51.7	+1.1
OKC				AMS	AMS	19 12 40.0	
comp=Z,417μm,21.5s							
HGN	**Heimansgroeve**	**144.80**	**2**	*e*PKPdf	**PKPab**	**18 07 44.7**	**-1.4**
comp=Z,13μm,3.6s							
HGN	**Heimansgroeve**	**144.80**	**2**	*e*SS	SS	18 31 08.0	+78
HGN				*e*SS2		18 46 52.0	
KRLC	**Kraliky**	**144.81**	**350**	⇓*e*PKP	**PKPdf**	**18 07 47.6**	**+0.2**
KRLC				*ep*PKP	**pPKPdf**	**18 07 55.6**	**+1.8**
KRLC				*ex*	x	18 08 04.8	
LEOM	**Leova**	**144.83**	**336**	⇓*i*P	**PKPab**	**18 07 46.1**	**-0.3**
KVT	**Kavak**	**144.84**	**322**	*e*P	**PKPdf**	**18 07 48.4**	**+0.7**
MOX	**Moxa**	**144.84**	**356**	*e*PKPbc	**PKPab**	**18 07 44.9**	**-1.4**
MOX				*e*L	L	19 14 37.6	
comp=Z,443μm,20.8s							
PRAR	**RASCA**	**144.85**	**338**	⇓*i*P	**PKPab**	**18 07 46.2**	**-0.3**
MALT	**Malatya**	**144.93**	**316**	*e*P	**PKPdf**	**18 07 48.0**	**-0.1**
MALT	**Malatya**	**144.93**	**316**	⇓*i*P	**PKPdf**	**18 07 48.8**	**+0.7**
DHBB	**Dhamar BB**	**144.93**	**273**	⇑*e*P	**PKPdf**	**18 07 48.9**	**0.0**
CRVS	**Cervenica-Dubn**	**144.94**	**345**	*e*PKP	**PKPab**	**18 07 46.2**	**-0.6**
CRVS				*e*SS	SS	18 30 12.9	+21
DIKM	**Dikmen**	**144.94**	**323**	*e*P	**PKPdf**	**18 07 48.4**	**+0.6**
MEM	**Membach**	**144.95**	**2**	PKP	**PKPab**	**18 07 45.4**	**-1.4**
SVSK	**Karacayir**	**144.96**	**320**	*e*P	**PKPdf**	**18 07 47.6**	**-0.3**
SNF	**Seneffe**	**144.96**	**4**	PKP	**PKPab**	**18 07 46.1**	**-0.6**
MORC	**Moravsky Berou**	**144.97**	**349**	*e*PKIKP	**PKPab**	**18 07 45.9**	**-1.0**
MORC	**Moravsky Berou**	**144.97**	**349**	*e*PKPdf	**PKPab**	**18 07 45.9**	**-1.0**
MORC	**Moravsky Berou**	**144.97**	**349**	⇓*i*P	**PKPdf**	**18 07 47.3**	**-0.4**
BURAR	**Bucovina Array**	**144.98**	**340**	⇓*i*P	PKPbc	18 07 47.2	+0.1
WERD	**Werda**	**144.99**	**355**	*e*PKPbc	**PKPab**	**18 07 45.5**	**-1.4**
TOKT	**Tokat**	**145.00**	**321**	*e*P	**PKPdf**	**18 07 49.4**	**+1.3**
TANN	**Tannenbergstha**	**145.00**	**355**	*e*PKPbc	**PKPab**	**18 07 45.5**	**-1.5**
TRBA	**At Turbah**	**145.03**	**271**	⇑*e*P	**PKPdf**	**18 07 49.4**	**+0.4**
GUNZ	**Gunzen**	**145.07**	**355**	*e*PKPbc	**PKPbc**	**18 07 45.9**	**-1.3**
BCLA	**Clavier**	**145.11**	**3**	PKP	**PKPbc**	**18 07 46.1**	**-1.1**
URFA	**Urfa**	**145.11**	**315**	*e*P	**PKPdf**	**18 07 49.3**	**+0.9**
PRA	**Prague**	**145.15**	**353**	⇓PKP	**PKPbc**	**18 07 47.0**	**-0.4**
PRA				*ex*	x	18 08 07.0	
PRA				*ex*	x	18 30 20.0	
PRU	**Pruhonice**	**145.21**	**353**	⇓*i*PKP	**PKPbc**	**18 07 46.7**	**-0.9**
PRU				*ep*PKP	**pPKPdf**	**18 07 56.6**	**+2.2**
PRU				*ex*	x	18 08 05.6	
PRU				*ex*	x	18 08 19.4	
PRU				*ex*	x	18 30 18.6	
PRU				*ex*	x	18 35 19.0	
PRU				AMS	AMS	19 12 10.0	
comp=Z,480μm,21.7s							
BYBT	**Boyabat**	**145.34**	**324**	*e*P	**PKPdf**	**18 07 50.7**	**+2.2**
TRPA	**Tarpa**	**145.35**	**343**	⇓*i*P	**PKPdf**	**18 07 48.4**	**+0.1**
TNS	**Taunus Mts**	**145.38**	**360**	*e*PKPbc	**PKPbc**	**18 07 47.0**	**-1.2**
JSA	**Saint Aubin**	**145.39**	**12**	*e*P	PKPbc	18 07 41.8	-6.3
JSA				AMS	AMS	19 18 08.8	
comp=Z,320μm,20.0s							
DOU	**Dourbes**	**145.39**	**4**	PKP	**PKPbc**	**18 07 46.3**	**-1.9**
GIVF	**Givet**	**145.40**	**4**	*e*PKIKP	**PKPbc**	**18 07 46.9**	**-1.3**
comp=Z,7μm,1.6s							
GIVF	**Givet**	**145.40**	**4**	*e*PKIKP	**PKPbc**	**18 07 46.9**	**-1.3**
GIVF	**Givet**	**145.40**	**4**	*e*PKPdf	**PKPbc**	**18 07 46.9**	**-1.3**
BAIF	**Baives**	**145.40**	**4**	*e*PKIKP	**PKPbc**	**18 07 47.1**	**-1.1**
comp=Z,9μm,1.4s							
BAIF	**Baives**	**145.40**	**4**	*e*PKIKP	**PKPbc**	**18 07 47.1**	**-1.1**
BAIF	**Baives**	**145.40**	**4**	*e*PKPdf	**PKPbc**	**18 07 47.1**	**-1.1**
DARE	**Darende-Malaty**	**145.41**	**317**	*e*P	**PKPab**	**18 07 49.4**	**+0.4**
TESR	**Tescani**	**145.41**	**337**	⇓*i*P	**PKPab**	**18 07 48.6**	**0.0**
BZK	**Bozkurt**	**145.45**	**325**	*e*P	**PKPab**	**18 07 49.7**	**+0.8**
MANZ	**Manzenberg**	**145.46**	**355**	*e*PKPbc	**PKPbc**	**18 07 47.5**	**-1.0**
BMR	**Baia Mare**	**145.48**	**341**	⇓*i*P	**PKPab**	**18 07 48.9**	**+0.1**
GHRR		**145.50**	**336**	⇓*i*P	**PKPab**	**18 07 49.7**	**+0.8**
KECS	**Kecovo**	**145.57**	**345**	*e*PKP	**PKPdf**	**18 07 48.2**	**-0.5**
KECS				*e*		18 08 08.0	
TLCR		**145.63**	**334**	⇓*i*P	**PKPdf**	**18 07 48.7**	**-0.2**
ROTZ	**Rotzenmuhle**	**145.67**	**355**	*e*PKPbc	**PKPdf**	**18 07 48.4**	**-0.4**
TREC	**Trest**	**145.77**	**351**	⇓*e*PKP	**PKPdf**	**18 07 48.5**	**-0.5**
TREC				*ex*	x	18 08 07.5	
TREC				*ex*	x	18 30 33.3	
TREC				*ex*	x	18 35 27.4	
TREC				AMS	AMS	19 11 00.0	
comp=Z,646μm,23.1s							
HAJJ	**Hajjah**	**145.80**	**275**	⇑*e*P	**PKPbc**	**18 07 50.8**	**0.0**
BST	**Brest**	**145.81**	**14**	PKP	**PKPdf**	**18 07 49.1**	**0.0**
GRF	**Grafenberg Arr**	**145.81**	**356**	*e*PKPbc	**PKPdf**	**18 07 48.8**	**-0.3**
GRF				*e*L	L	19 19 59.5	
comp=Z,406μm,19.9s							
GRFO	**Grafenberg**	**145.81**	**356**	*e*PKP2	**PKPdf**	**18 07 48.8**	**-0.3**
GRFO	**Grafenberg**	**145.81**	**356**	*e*PKPdf	**PKPdf**	**18 07 48.8**	**-0.3**
PETR	**Petresti**	**145.85**	**336**	⇓*i*P	**PKPab**	**18 07 51.0**	**+0.8**
SHEL	**Horse Pasture**	**145.89**	**156**	PFAKE		18 08 00.0	+8.8
SHEL				LR	LR		
comp=Z,309μm,21.0s							
WLF	**Walferdange**	**145.90**	**2**	PKP	**PKPdf**	**18 07 49.4**	**+0.2**
WLF	**Walferdange**	**145.90**	**2**	*e*PKPbc	**PKPdf**	**18 07 49.2**	**0.0**
WLF	**Walferdange**	**145.90**	**2**	*e*PKP2	**PKPbc**	**18 07 49.7**	**-0.1**
WLF				MLR	MLR		
comp=Z,541μm,21.0s							
WLF	**Walferdange**	**145.90**	**2**	*e*PKPbc	**PKPbc**	**18 07 49.7**	**-0.1**
WLF				LR	LR		
comp=Z,541μm,21.0s							
CFR	**Carcaliu**	**145.93**	**334**	⇓*i*P	**PKPbc**	**18 07 50.2**	**+0.2**
VRI	**Vrincioaia**	**145.93**	**336**	⇓*i*P	**PKPab**	**18 07 50.3**	**-0.2**
ROSF	**Rostrenen**	**145.96**	**14**	*e*PKIKP	**PKPdf**	**18 07 48.3**	**-1.0**
comp=Z,7μm,1.5s							
ROSF	**Rostrenen**	**145.96**	**14**	*e*PKP2	**PKPdf**	**18 07 48.3**	**-1.0**
ROSF	**Rostrenen**	**145.96**	**14**	*e*PKPdf	**PKPdf**	**18 07 48.3**	**-1.0**
PLOR	**Plostina**	**145.97**	**337**	⇓*i*P	**PKPbc**	**18 07 50.0**	**-0.2**
TOS	**Tosya**	**146.05**	**324**	*e*P	**PKPdf**	**18 07 50.2**	**+0.3**
FLN	**La Foliniere**	**146.11**	**10**	*e*PKIKP	**PKPdf**	**18 07 48.7**	**-0.9**
comp=Z,14μm,1.4s							
FLN				*e*R			
comp=Z,686μm,20.5s							
FLN	**La Foliniere**	**146.11**	**10**	*e*PKP2	**PKPdf**	**18 07 48.7**	**-0.9**
FLN	**La Foliniere**	**146.11**	**10**	*e*PKPdf	**PKPdf**	**18 07 48.7**	**-0.9**
YOZ	**Yozgat**	**146.16**	**321**	*e*P	**PKPab**	**18 07 52.2**	**+0.4**
KHC	**Kasperske Hory**	**146.17**	**353**	*e*PKP2	**PKPdf**	**18 07 49.5**	**-0.3**
KHC	**Kasperske Hory**	**146.17**	**353**	⇓*i*PKP	**PKPdf**	**18 07 49.8**	**0.0**
KHC				*ep*PKP	**PKiKP**	**18 07 54.4**	**+0.4**
KHC				*ex*	x	18 07 59.4	
KHC				*ex*	x	18 08 09.3	
KHC				*ex*	x	18 30 21.2	
KHC				*ex*	x	18 35 32.8	
KHC				AMS	AMS	19 12 50.0	
comp=Z,467μm,20.5s							
KHC	**Kasperske Hory**	**146.17**	**353**	*e*PKPdf	**PKPdf**	**18 07 49.5**	**-0.3**
SGMF	**Saint Gilles**	**146.20**	**13**	*e*PKIKP	**PKPdf**	**18 07 49.0**	**-0.7**
comp=Z,12μm,1.6s							
SGMF	**Saint Gilles**	**146.20**	**13**	*e*PKP2	**PKPdf**	**18 07 49.0**	**-0.7**
SGMF	**Saint Gilles**	**146.20**	**13**	*e*PKPdf	**PKPdf**	**18 07 49.0**	**-0.7**
SMOL	**Smolenice**	**146.20**	**349**	*e*PKP	**PKPab**	**18 07 51.2**	**-0.2**
SMOL				*e*		18 08 10.6	
WET	**Wettzell**	**146.23**	**354**	*e*PKPbc	**PKPdf**	**18 07 50.1**	**+0.3**
GRER		**146.23**	**336**	⇑*i*P	**PKPab**	**18 07 52.2**	**+0.5**
PSZ	**Piszkesteto**	**146.24**	**346**	*e*PKP2	**PKPdf**	**18 07 49.7**	**-0.3**
PSZ				MLR	MLR		
comp=Z,462μm,21.0s							
PSZ	**Piszkesteto**	**146.24**	**346**	*e*PKPdf	**PKPdf**	**18 07 49.6**	**-0.3**
PSZ				LR	LR		
comp=Z,462μm,21.0s							
PSZ	**Piszkesteto**	**146.24**	**346**	⇓*i*P	**PKPab**	**18 07 51.7**	**0.0**
PSZ	**Piszkesteto**	**146.24**	**346**	⇓*e*PKPdf	**PKPab**	**18 07 51.9**	**+0.2**
CORM	**Corum**	**146.25**	**322**	*e*P	**PKPbc**	**18 07 51.3**	**-0.1**
JHLN	**Al Jahlan**	**146.25**	**312**	*e*P	**PKPdf**	**18 07 49.3**	**-1.0**
BNN	**Bunyan**	**146.31**	**319**	*e*P	**PKPab**	**18 07 53.3**	**+1.0**
LDF	**La Druitiere**	**146.33**	**10**	*e*PKIKP	**PKPdf**	**18 07 49.2**	**-0.8**
comp=Z,21μm,1.8s							
LDF	**La Druitiere**	**146.33**	**10**	*e*PKP2	**PKPdf**	**18 07 49.2**	**-0.8**
LDF	**La Druitiere**	**146.33**	**10**	*e*PKPdf	**PKPdf**	**18 07 49.2**	**-0.8**
KMRS	**Kahramanmaras**	**146.38**	**316**	*e*P	**PKPbc**	**18 07 51.3**	**-0.5**
QUIF	**Quistinic**	**146.38**	**14**	*e*PKIKP	**PKPdf**	**18 07 49.6**	**-0.5**
comp=Z,14μm,1.8s							
QUIF	**Quistinic**	**146.38**	**14**	*e*PKP2	**PKPdf**	**18 07 49.6**	**-0.5**
QUIF	**Quistinic**	**146.38**	**14**	*e*PKPdf	**PKPdf**	**18 07 49.6**	**-0.5**
TIRR	**Tirgusor**	**146.38**	**333**	*e*PKPdf	**PKPdf**	**18 07 50.1**	**-0.1**
TIRR	**Tirgusor**	**146.38**	**333**	⇓*i*P	**PKPdf**	**18 07 50.7**	**+0.5**
GRR	**Gorron**	**146.40**	**11**	*e*PKIKP	**PKPdf**	**18 07 49.6**	**-0.5**
comp=Z,12μm,1.6s							
GRR	**Gorron**	**146.40**	**11**	*e*PKP2	**PKPdf**	**18 07 49.6**	**-0.5**
GRR	**Gorron**	**146.40**	**11**	*e*PKPdf	**PKPdf**	**18 07 49.6**	**-0.5**
GEC2	**GERESS Array S**	**146.44**	**353**	*e*PKPbc	**PKPdf**	**18 07 50.7**	**+0.4**
GERES	**GERESS Array B**	**146.44**	**353**	PKPbc	**PKPdf**	**18 07 50.1**	**-0.2**
GERES	**GERESS Array B**	**146.44**	**353**	PKPbc	**PKPdf**	**18 07 50.1**	**-0.2**
comp=

comp=Z,109µm,22.0s
PRD Provadia 147.83 333 i P PKPab 18 07 59.6 +1.6
SLE Schleitheim 147.84 359 ↓↓ iPKPdf PKPdf 18 07 52.5 -0.1
comp=Z,4µm,2.9s
PKS9 Tamasi 147.86 347 ↓↓ ePKPdf PKPbc 18 07 55.8 +0.3
ARNB Al Arnab 147.89 314 eP PKPbc 18 07 57.0 +0.9
BZS Buzias 147.90 342 ↑↑ iP PKPbc 18 07 55.6 -0.1
MDUB Mudurnu 148.01 326 eP PKPdf 18 07 53.7 +0.5
HYF Humbligny 148.02 7 ePKIKP PKPdf 18 07 54.1 +1.2
HYF Humbligny 148.02 7 ePKPdf PKPdf 18 07 54.1 +1.2
RETA Reutte 148.04 357 i PKPbc PKPdf 18 07 53.1 +0.1
comp=Z,146µm,7.1s,SNR=92
SULZ Cheisacher 148.08 360 ↓↓ iPKPdf PKPdf 18 07 53.0 0.0
comp=Z,2µm,1.4s
WATA Walderalm 148.13 355 ↓↓ iPKPbc PKPdf 18 07 53.5 +0.3
comp=Z,3µm,1.5s,SNR=62
LOR Lormes 148.14 5 ePKIKP PKPdf 18 07 53.8 +0.7
comp=Z,7µm,1.5s
LOR eR
comp=Z,635µm,21.2s
LOR Lormes 148.14 5 ePKPdf PKPdf 18 07 53.8 +0.7
SULT Sultanhani-AKS 148.16 320 eP PKPbc 18 07 56.0 -0.7
MOTA Moosalm 148.16 356 ↑↑ iPKPbc PKPdf 18 07 53.1 -0.1
comp=Z,4µm,1.5s,SNR=104
WILA Wila 148.18 359 ↓↓ iPKPdf PKPdf 18 07 53.3 +0.1
comp=Z,3µm,1.7s
WTTA Wattenberg 148.20 355 ↓↓ iPKPbc PKPdf 18 07 53.2 -0.2
comp=Z,154µm,7.3s,SNR=95
BOURR Bourrignon 148.20 1 ↓↓ iPKPdf PKPdf 18 07 53.5 +0.3
comp=Z,3µm,2.1s
KBA Koelnbreinsper 148.22 353 ↓↓ iPKPdf PKPdf 18 07 53.0 -0.5
comp=Z,82µm,6.2s,SNR=38
ZUR Degenried 148.23 359 ↓↓ iPKPdf PKPdf 18 07 53.7 +0.5
comp=Z,5µm,3.5s
LOMF Lomont 148.24 2 PKP PKPbc 18 07 55.0 -1.6
MFF Saint Martin d 148.25 11 ePKIKP PKPdf 18 07 53.3 +0.1
comp=Z,7µm,1.4s
MFF Saint Martin d 148.25 11 ePKP2 PKPdf 18 07 53.3 +0.1
MFF Saint Martin d 148.25 11 ePKPdf PKPdf 18 07 53.3 +0.1
BALST Balsthal 148.27 0 ↓↓ iPKPdf PKPdf 18 07 53.9 +0.5
comp=Z,3µm,1.4s
DAVA Damuels 148.28 358 ↑↑ iPKPdf PKPdf 18 07 53.2 -0.2
comp=Z,129µm,7.0s,SNR=125
BEHE Becsehely 148.29 349 ↑↑ ePKPdf PKPbc 18 07 56.2 -0.5
LIENZ Kamor/St.Gall 148.29 358 ↓↓ iPKPdf PKPdf 18 07 54.0 +0.5
comp=Z,2µm,1.4s
SSF Saint Saulge 148.31 6 ePKIKP PKPdf 18 07 53.9 +0.6
comp=Z,8µm,1.4s
SSF Saint Saulge 148.31 6 ePKP2 PKPdf 18 07 53.9 +0.6
SSF Saint Saulge 148.31 6 ePKPdf PKPdf 18 07 53.9 +0.6
SPNC Sapanca-Adapaz 148.34 327 eP PKPbc 18 07 56.0 -0.9
SILT Sile 148.34 328 eP PKPdf 18 07 54.2 +0.6
SOKA Soboth 148.39 351 ↓↓ iPKPdf PKPdf 18 07 53.2 -0.4
comp=Z,81µm,6.2s,SNR=117
FKH Fakeheh 148.40 311 eP PKPbc 18 07 57.8 +0.2
SZH Strazhica 148.40 335 i P PKPab 18 08 00.7 +0.4
GULT Gulveren 148.41 326 eP PKPdf 18 07 54.4 +0.6
KOGS Kog 148.41 349 ePKPdf PKPdf 18 07 53.4 -0.1
PERS Pernice 148.41 351 ePKPdf PKPdf 18 07 53.4 -0.2
PERS e 18 31 00.9
MARH Ras Al Marh 148.45 311 eP PKPab 18 08 00.2 -1.0
FETA Feichten 148.50 357 ↓↓ iPKPbc PKPdf 18 07 53.9 0.0
comp=Z,98µm,6.5s,SNR=109
SVRH Sivrihisar-ESK 148.53 324 eP PKPab 18 07 59.9 -1.2
PLONS Plons/SG 148.54 359 ↓↓ iPKPdf PKPdf 18 07 54.1 +0.3
comp=Z,3µm,2.7s
AVF Avril sur Loir 148.57 6 ePKIKP PKPdf 18 07 53.4 -0.3
comp=Z,8µm,1.6s
AVF Avril sur Loir 148.57 6 ePKP2 PKPdf 18 07 53.4 -0.3
AVF Avril sur Loir 148.57 6 ePKPdf PKPdf 18 07 53.4 -0.3
KLYT Kilyos 148.57 329 eP PKPbc 18 07 56.0 -1.5
HRT Hereke 148.57 328 eP PKPdf 18 07 54.4 +0.4
GPA Golpazari 148.62 326 eP PKPbc 18 07 58.6 +0.8
OBKA Obir 148.62 351 ↑↑ iPKPdf PKPdf 18 07 53.2 -0.8
comp=Z,75µm,6.6s,SNR=73
MYKA Terra Mystica 148.63 353 ↑↑ iPKPdf PKPdf 18 07 53.3 -0.7
comp=Z,75µm,7.6s,SNR=50
MUO Muotathal 148.63 359 ↓↓ iPKPdf PKPdf 18 07 54.4 +0.3
comp=Z,7µm,3.2s
ABTA Abfaltersbach 148.64 354 ↑↑ iPKPdf PKPdf 18 07 53.5 -0.5
comp=Z,33µm,4.2s,SNR=112
BRANT Les Verrieres 148.64 2 ↓↓ iPKPdf PKPdf 18 07 54.5 +0.5
comp=Z,4µm,2.6s
PVL Pavlikeni 148.69 335 i P PKPab 18 08 05.0 +3.6
ISK Istanbul-Kandi 148.70 329 P PKPdf 18 07 53.6 -0.5
ISK Istanbul-Kandi 148.70 329 PKP2 PKPdf 18 07 53.6 -0.5
ISK Istanbul-Kandi 148.70 329 eP PKPdf 18 07 53.5 -0.6
ISK Istanbul-Kandi 148.70 329 P PKPdf 18 07 53.6 -0.5
KIZT Kizilcal 148.71 323 eP PKPdf 18 07 56.0 +1.6
HWQ Hawqa 148.72 312 eP PKPdf 18 07 55.1 +0.6
BNALP Bannalp 148.73 360 ↓↓ iPKPdf PKPdf 18 07 54.6 +0.4
comp=Z,4µm,2.2s
BGF Bois d'Agland 148.74 7 ePKIKP PKPdf 18 07 54.7 +0.6
comp=Z,13µm,1.8s
BGF Bois d'Agland 148.74 7 ePKP2 PKPdf 18 07 54.7 +0.6
BGF Bois d'Agland 148.74 7 ePKPdf PKPdf 18 07 54.7 +0.6
LLS Linth-Limmern 148.75 359 ↓↓ iPKPdf PKPdf 18 07 54.8 +0.5
comp=Z,3µm,2.6s
BGKT Bogazkoy 148.76 329 eP PKPdf 18 07 56.0 +1.8
SMF Signal de Mont 148.76 6 ePKIKP PKPdf 18 07 54.4 +0.3
comp=Z,11µm,1.7s
SMF Signal de Mont 148.76 6 ePKP2 PKPdf 18 07 54.4 +0.3
SMF Signal de Mont 148.76 6 ePKPdf PKPdf 18 07 54.4 +0.3
CTYL Yal??k??y-??at 148.77 330 eP PKPdf 18 07 54.8 +0.5
JMB Yambol 148.78 333 P PKPdf 18 07 54.8 +0.6
JMB Yambol 148.78 333 PKP2 PKPdf 18 07 54.8 +0.6
JMB Yambol 148.78 333 eP PKPdf 18 07 55.5 +1.3
JMB Yambol 148.78 333 P PKPdf 18 07 54.8 +0.6
JMB Yambol 148.78 333 i P PKPab 18 08 02.3 +0.5
DAVOX Davos/Dischmat 148.79 358 ↓↓ iPKPdf PKPdf 18 07 54.8 +0.4
comp=Z,5µm,2.9s
TOTH TOTAH 148.81 310 eP PKPab 18 08 05.0 +2.7
ADVT Abdulvahap 148.82 327 eP PKPdf 18 07 52.2 -2.1
QASN Qassioun 148.84 310 eP PKPdf 18 07 51.2 -3.5
CTKS Kestanelik-??a 148.85 329 eP PKPdf 18 07 53.5 -0.9
HASLI Hasliberg/Brie 148.85 360 ↓↓ iPKPdf PKPdf 18 07 54.8 +0.4
comp=Z,5µm,2.3s
MOZS Mozjanca 148.85 351 ePKPdf PKPdf 18 07 53.7 -0.6
ESKT Eskisehir 148.86 325 eP PKPbc 18 07 58.6 0.0
SALA Sala 148.87 309 eP PKPbc 18 07 59.0 +0.1
TCF Toulx Ste Croi 148.93 8 ePKIKP PKPdf 18 07 54.9 +0.5
comp=Z,10µm,1.7s
TCF Toulx Ste Croi 148.93 8 ePKP2 PKPdf 18 07 54.9 +0.5
TCF Toulx Ste Croi 148.93 8 ePKPdf PKPdf 18 07 54.9 +0.5
CAVI Cavuskoy 148.93 327 eP PKPdf 18 07 55.1 +0.5
WIMIS Wimmis 148.94 1 ↓↓ iPKPdf PKPdf 18 07 55.2 +0.8
comp=Z,3µm,2.3s
GOLS Golise 148.94 350 ePKPdf PKPdf 18 07 54.6 +0.2
CABF La Chapelle 148.95 3 ePKIKP PKPdf 18 07 55.3 +0.8
comp=Z,9µm,1.4s
CABF La Chapelle 148.95 3 ePKP2 PKPdf 18 07 55.3 +0.8
CABF La Chapelle 148.95 3 ePKPdf PKPdf 18 07 55.3 +0.8
PDKS Podkum 148.99 351 ePKPdf PKPdf 18 07 54.4 -0.1
SLVT Silivri 149.00 330 eP PKPbc 18 07 59.9 +1.2
VNDS Vrh nad Dolski 149.00 351 ePKPdf PKPdf 18 07 54.4 -0.1
CADS Cadrg 149.01 352 ePKPdf PKPdf 18 07 54.0 -0.5
PHSR Pinarhisar 149.01 331 eP PKPbc 18 07 58.6 -0.1
KONT Konya--Tatoy 149.03 321 eP PKPdf 18 07 56.0 +1.2
GIMEL St. Georges / 149.03 2 ↓↓ iPKPdf PKPdf 18 07 55.3 +0.6
comp=Z,5µm,2.4s
LJU Ljubljana 149.08 351 ePKPdf PKPdf 18 07 55.0 +0.3
LJU e 18 31 07.5
VDL Val di Lei 149.10 358 ↓↓ iPKPdf PKPdf 18 07 55.3 +0.4
comp=Z,7µm,3.4s
BHL Bhannes 149.11 311 eP PKPdf 18 07 55.5 +0.3
TUE Stuetta 149.11 358 ePKPdf PKPdf 18 07 54.9 0.0
TUE ePKPbc PKPbc 18 07 59.4 +0.4
TUE LR LR
comp=Z,529µm,21.0s
BRBR Barbar 149.13 310 eP PKPdf 18 07 56.6 +1.3
FUSIO Fusio 149.15 359 ↓↓ iPKPdf PKPdf 18 07 55.5 +0.6
comp=Z,4µm,1.9s
BERNI Berninapass 149.15 357 ↓↓ iPKPdf PKPdf 18 07 55.4 -0.3
comp=Z,5µm,2.3s
ARMT Armutlu 149.17 328 eP PKPdf 18 07 54.8 -0.2
RCY Rachaya 149.18 311 eP PKPbc 18 07 59.1 -0.5
VOY Vojsko 149.18 352 ePKPdf PKPdf 18 07 54.8 -0.1
VOY e 18 07 59.5
VOY e 18 08 17.0
MPEP Malo Peshtene 149.19 337 i P PKPbc 18 07 59.2 +0.1
EDRB Edirne 149.20 332 P PKPdf 18 07 54.5 -0.4
EDRB Edirne 149.20 332 eP PKPdf 18 07 53.5 -1.4
EDRB Edirne 149.20 332 P PKPdf 18 07 54.5 -0.4
IKL Isikli 149.22 317 eP PKPdf 18 07 54.9 -0.2

AIGLE Aigle 149.25 2 ↓↓ iPKPdf PKPdf 18 07 55.7 +0.7
comp=Z,5µm,2.5s
AGO Saint Agoulin 149.27 7 PKP PKPdf 18 07 55.6 +0.6
EREN Erenkoy 149.30 315 eP PKPdf 18 07 56.0 +0.8
MDNY Mudanya-Bursa 149.31 328 eP PKPbc 18 07 57.3 -2.1
SISC Sisak 149.32 349 P PKPbc 18 07 57.6 -1.7
SACV Santiago Islan 149.45 87 ePKPbc PKPbc 18 07 59.8 -0.8
SACV LR LR
comp=Z,249µm,21.0s
TCHB Talchebab 149.47 309 eP PKPbc 18 08 01.2 +1.0
VERF Verneugheol 149.49 8 PKP PKPdf 18 07 57.1 +1.7
BOJS Bojanci 149.49 350 ePKPdf PKPdf 18 07 55.8 +0.5
BOJS e 18 31 10.1
TKR Tekirdag 149.51 330 eP PKPab 18 08 02.4 -2.4
TRI Trieste 149.52 352 ePKP2 PKPdf 18 07 55.5 +0.2
TRI Trieste 149.52 352 ePKPdf PKPdf 18 07 55.5 +0.2
PYM Petit Puy Mans 149.56 7 PKP PKPdf 18 07 55.7 +0.2
HDMB Hadim 149.56 319 eP PKPdf 18 07 55.7 -0.3
DIM Dimitrovgrad 149.57 334 i P PKPbc 18 08 00.8 +0.7
SKDS Skadanscina 149.64 352 i PKPdf PKPdf 18 07 55.5 -0.1
KCTX Karacabey (Bur 149.65 328 eP PKPdf 18 07 53.5 -2.3
MUGIO Muggio 149.67 359 ↓↓ iPKPdf PKPdf 18 07 55.8 +0.1
comp=Z,5µm,3.4s
PHNC Paralimni 149.68 315 P PKPdf 18 07 57.0 +1.1
comp=Z,71nm,1.3s
PGB Panagyurishte 149.71 336 i P PKPbc 18 08 01.8 +1.3
DIVS Divibare 149.75 343 P PKPdf 18 07 56.2 +0.3
RJF Les Rejaudoux 149.79 9 ePKIKP PKPdf 18 07 56.3 +0.5
comp=Z,7µm,1.5s
RJF eR
comp=Z,729µm,22.8s
RJF Les Rejaudoux 149.79 9 ePKP2 PKPdf 18 07 56.3 +0.5
RJF Les Rejaudoux 149.79 9 ePKPdf PKPdf 18 07 56.3 +0.5
BNT Bandirma 149.81 329 eP PKPbc 18 08 01.8 +1.1
COLF Collangettes 149.86 6 PKP PKPbc 18 08 01.1 +0.3
PLD Plovdiv 149.87 335 P PKPdf 18 07 55.2 -0.8
PLD Plovdiv 149.87 335 PKHKP PKPpre 18 07 55.2
PLD Plovdiv 149.87 335 eP PKPdf 18 07 56.1 +0.1
PLD Plovdiv 149.87 335 P PKPdf 18 07 55.2 -0.8
PLD Plovdiv 149.87 335 i P PKPbc 18 08 02.0 +1.2
LFK Lefkose 149.87 315 eP PKPdf 18 07 53.5 -2.8
RKY Sarkoy-Tekirda 149.91 330 eP PKPbc 18 08 03.7 +2.7
KDZ Kurdzhali 149.95 333 i P PKPbc 18 08 01.8 +0.8
LFF La Frestale 150.02 10 ePKIKP PKPdf 18 07 56.5 +0.4
comp=Z,8µm,1.4s
LFF La Frestale 150.02 10 ePKIKP PKPdf 18 07 56.5 +0.4
LFF La Frestale 150.02 10 ePKPdf PKPdf 18 07 56.5 +0.4
VTS Vitosha 150.04 337 P PKPdf 18 07 56.7 +0.2
VTS Vitosha 150.04 337 PKIKP PKPdf 18 07 56.7 +0.2
VTS Vitosha 150.04 337 eP PKPdf 18 07 56.2 -0.2
VTS Vitosha 150.04 337 P PKPdf 18 07 56.7 +0.2
VTS Vitosha 150.04 337 ↓↓ iP PKPdf 18 07 56.3 -0.2
VTS Vitosha 150.04 337 i P PKPbc 18 08 02.6 +1.2
AKIN Ak¯nc¯-lar- K 150.06 315 eP PKPbc 18 07 59.9 -1.7
LPL La Plagne 150.07 2 ePKIKP PKPdf 18 07 57.2 +0.7
comp=Z,3µm,1.4s
LPL La Plagne 150.07 2 ePKIKP PKPdf 18 07 57.2 +0.7
LPL La Plagne 150.07 2 ePKPdf PKPdf 18 07 57.2 +0.7
KRBG Karabiga-Canak 150.08 330 eP PKPdf 18 07 53.5 -2.9
LPG La Plagne 150.09 2 ePKIKP PKPdf 18 07 57.5 +0.9
comp=Z,8µm,1.6s
LPG La Plagne 150.09 2 ePKIKP PKPdf 18 07 57.5 +0.9
LPG La Plagne 150.09 2 ePKPdf PKPdf 18 07 57.5 +0.9
LBL Lubilhac 150.10 7 PKP PKPdf 18 07 58.0 +1.6
PGAV Gavieira, Arco 150.11 25 ePKPdf PKPdf 18 07 57.7 +1.2
PGAV Gavieira, Arco 150.11 25 ePP PP 18 11 59.2 +24
PGAV Gavieira, Arco 150.11 25 eSS SS 18 31 08.6 +17
PGAV Gavieira, Arco 150.11 25 eLQ LQ 18 50 41.0
PGAV eLR LR 18 58 13.0
comp=Z,438µm,22.0s
MAMC Mammari 150.15 316 P PKPdf 18 07 57.2 +0.5
GONE Gonen-Balikesi 150.16 329 eP PKPdf 18 07 56.0 -0.5
SSB Saint Sauveur 150.18 5 ePKIKP PKPdf 18 07 56.1 -0.4
SSB e 18 08 01.0
SSB e 18 08 02.9
SSB MLR MLR
comp=Z,565µm,20.0s
SSB Saint Sauveur 150.18 5 PKP PKPbc 18 08 02.1 +0.6
SSB Saint Sauveur 150.18 5 ePKPdf PKPdf 18 07 56.1 -0.4
SSB ePKPbc PKPbc 18 08 01.0 -0.5
SSB ePKPab PKiKP 18 08 02.9 +0.5
SSB LR LR
comp=Z,565µm,20.0s
CSS Prodhromos 150.19 315 P PKPdf 18 07 57.1 +0.3
comp=Z,52nm,1.4s
CSS Prodhromos 150.19 315 P PKPdf 18 07 55.2 -1.6
CSS Prodhromos 150.19 315 eP PKPdf 18 07 59.2 +2.5
CSS Prodhromos 150.19 315 ePKPdf PKPdf 18 07 56.7 -0.1
CSS ePKPbc PKiKP 18 08 02.3 -0.3
CSS LR LR
comp=Z,332µm,22.0s
ISP Isparta 150.21 322 P PKPdf 18 07 56.0 -0.8
ISP Isparta 150.21 322 ePKIKP PKPbc 18 08 01.7 -0.2
ISP MLR MLR
comp=Z,339µm,21.0s
ISP Isparta 150.21 322 eP PKPpre 18 07 51.2
ISP Isparta 150.21 322 ePKPbc PKPbc 18 08 01.7 -0.2
ISP LR LR
comp=Z,339µm,21.0s
ISP Isparta 150.21 322 ↓↓ iP PKPdf 18 07 56.1 -0.8
RZN Rozhen 150.21 334 i P PKPbc 18 08 03.4 +1.5
CAF Calviac 150.24 9 ePKIKP PKPdf 18 07 57.1 +0.5
comp=Z,4µm,1.5s
CAF Calviac 150.24 9 ePKIKP PKPdf 18 07 57.1 +0.5
CAF Calviac 150.24 9 ePKPdf PKPdf 18 07 57.1 +0.5
ALN Alexandroupoli 150.28 332 P PKPdf 18 07 56.0 -0.7
ALN Alexandroupoli 150.28 332 eP PKPdf 18 07 53.7 -2.9
ALN Alexandroupoli 150.28 332 P PKPdf 18 07 56.0 -0.7
GRN Groble 150.30 3 PKP PKPbc 18 08 02.9 +1.0
UDBI Udbina 150.35 349 P PKPdf 18 07 57.3 +0.5
GDM Grand'Maison 150.36 3 PKP PKPdf 18 07 59.4 +2.5
LPK Lapseki 150.36 330 eP PKPdf 18 07 56.8 0.0
BALB Balikesir 150.37 328 eP PKPdf 18 07 56.0 -0.8
LEF Lefka 150.40 316 eP PKPdf 18 07 56.0 -1.0
BCK Bucak 150.41 322 eP PKPbc 18 08 02.4 0.0
KHL Karahalli 150.44 324 eP PKPdf 18 07 57.3 +0.2
NVLJ Novalja 150.47 350 P PKPdf 18 07 58.0 +1.2
GELI Tayfur-Gelibol 150.47 331 eP PKPdf 18 07 56.0 -0.9
BNI Bardonecchia 150.53 2 ePKIKP PKPdf 18 07 57.9 +0.8
BNI MLR MLR
comp=Z,453µm,19.0s
BNI Bardonecchia 150.53 2 ePKPdf PKPdf 18 07 57.9 +0.8
BNI LR LR
comp=Z,453µm,19.0s
ALFC Alevga 150.57 316 P PKPdf 18 07 57.9 +0.5
comp=Z,27nm,1.3s
SZAC Souni-Zanaja 150.61 315 P PKPdf 18 07 57.7 +0.3
comp=Z,77nm,1.6s
VIVF Saint-Julien-l 150.61 5 ePKIKP PKPdf 18 07 57.6 +0.5
comp=Z,9µm,1.6s
VIVF Saint-Julien-l 150.61 5 ePKIKP PKPdf 18 07 57.6 +0.5
VIVF Saint-Julien-l 150.61 5 ePKPdf PKPdf 18 07 57.6 +0.5
ORIF Oris-en-Rattie 150.63 3 ePKIKP PKPdf 18 07 57.6 +0.4
comp=Z,14µm,1.9s
ORIF eR
comp=Z,833µm,23.0s
ORIF Oris-en-Rattie 150.63 3 ePKIKP PKPdf 18 07 57.6 +0.4
ORIF Oris-en-Rattie 150.63 3 ePKPdf PKPdf 18 07 57.6 +0.4
PLE Pljevlja 150.63 343 ↓↓ iPKP PKPdf 18 07 56.7 -0.6
MMB Musomiste 150.70 336 i P PKPbc 18 08 03.7 +0.8
KKB Krupnik 150.71 337 i P PKPbc 18 08 03.4 +0.5
POLO Lamas de Olo 150.80 25 ePKPdf PKPdf 18 07 59.9 +2.3
POLO Lamas de Olo 150.80 25 ePP PP 18 12 02.5 +23
AKMC Akamas 150.82 316 P PKPdf 18 07 59.7 +2.0
NVR Nevrokopi 150.84 335 P PKPdf 18 07 56.9 -0.7
NVR Nevrokopi 150.84 335 eP PKPbc 18 08 03.7 +0.5
NVR Nevrokopi 150.84 335 P PKPdf 18 07 56.9 -0.7
PBRG Braganca 150.85 23 ePKPdf PKPbc 18 08 00.7 -2.5
PBRG Braganca 150.85 23 ePP PP 18 12 03.0 +24
SMTH Samothraki Isl 150.85 332 P PKPdf 18 07 56.9 -0.7
SMTH Samothraki Isl 150.85 332 eP PKPbc 18 08 03.2 0.0
SMTH Samothraki Isl 150.85 332 P PKPdf 18 07 56.9 -0.7
MBDF Montbardon 150.86 2 ePKIKP PKPdf 18 07 58.0 +0.3
comp=Z,7µm,1.6s
MBDF Montbardon 150.86 2 ePKIKP PKPdf 18 07 58.0 +0.3
MBDF Montbardon 150.86 2 ePKPdf PKPdf 18 07 58.0 +0.3
KAVA Kavala 150.87 334 P PKPdf 18 07 57.4 -0.2
KAVA Kavala 150.87 334 P PKPdf 18 07 57.4 -0.2
UPM Unac-Piva 150.88 344 ePKP PKPdf 18 07 56.2 -1.6
PPCY Paphos 150.90 316 P PKPdf 18 07 59.7 +1.9
IVA Berane 150.91 342 ↓↓ iPKP PKPdf 18 07 56.7 -1.0
PVRL Vila Real 150.92 25 ePKPdf PKPbc 18 08 02.6 -0.8

AKS Akhisar 150.97 327 eP PKPbc 18 08 02.4 -1.1
SURF Saint Ours 151.10 2 PKP PKPdf 18 07 58.6 +0.5
DENT Denizli 151.11 324 eP PKPbc 18 08 03.7 -0.3
PVY Plav 151.14 342 ↓↓ iPKP PKPdf 18 07 57.7 -0.4
SRS Serrai 151.15 335 P PKPdf 18 07 56.7 -1.3
SRS Serrai 151.15 335 PKIKP PKPdf 18 07 56.7 -1.3
SRS Serrai 151.15 335 P PKPdf 18 07 56.7 -1.3
OG25 Le Caire 151.19 3 PKP PKPbc 18 08 02.0 -2.0
SKO Skopje 151.22 339 P PKPdf 18 07 59.0 +0.9
SKO Skopje 151.22 339 PKIKP PKPdf 18 07 59.0 +0.9
SKO Skopje 151.22 339 P PKPdf 18 07 59.0 +0.9
SKO Skopje 151.22 339 ePKP PKPdf 18 07 59.5 +1.4
NKY Niksic 151.22 343 ePKP PKPdf 18 07 56.7 -1.5
OSSF Osses 151.22 14 PKP PKPdf 18 07 59.0 +0.9
BRY Bratogost 151.26 344 ePKP PKPdf 18 07 56.5 -1.8
NKME Niksic 151.28 343 ↓↓ iPKP PKPdf 18 07 57.6 -0.6
MVO Moncorvo 151.28 24 ePKPdf PKPdf 18 08 00.6 +2.3
MVO Moncorvo 151.28 24 ePP PP 18 12 05.4 +23
MVO Moncorvo 151.28 24 eSS SS 18 31 22.4 +18
MVO Moncorvo 151.28 24 eLQ LQ 18 51 12.0
MVO eLR LR 18 58 47.4
comp=Z,526µm,22.0s
ELL Elmali 151.29 322 eP PKPdf 18 07 57.3 -1.2
LASF Ste Croix 151.31 6 ePKIKP PKPdf 18 07 59.1 +0.9
comp=Z,6µm,1.4s
LASF Ste Croix 151.31 6 ePKPdf PKPdf 18 07 59.1 +0.9
PVIS Viseu 151.31 26 ePKPdf PKPbc 18 08 02.1 -2.3
ORDF Ordiarp 151.34 14 PKP PKPdf 18 07 59.5 +1.3
PMOZ Porto Moniz, M 151.34 49 ePKPdf PKPdf 18 08 00.6 +1.9
PMOZ Porto Moniz, M 151.34 49 ePP PP 18 12 16.4 +33
PMOZ Porto Moniz, M 151.34 49 eLQ LQ 18 50 24.4
PMOZ eLR LR 18 59 24.4
comp=Z,432µm,22.0s
SJPF Ste Jean 151.37 14 ePKIKP PKPdf 18 07 59.2 +0.9
comp=Z,6µm,1.4s
SJPF Ste Jean 151.37 14 ePKIKP PKPdf 18 07 59.2 +0.9
SJPF Ste Jean 151.37 14 ePKPdf PKPdf 18 07 59.2 +0.9
VAY Valandovo 151.38 337 P PKPdf 18 07 56.4 -1.9
VAY Valandovo 151.38 337 PKIKP PKPdf 18 07 56.4 -1.9
VAY Valandovo 151.38 337 P PKPdf 18 07 56.4 -1.9
VAY Valandovo 151.38 337 ePKP PKPdf 18 07 57.4 -1.0
VLC Villacollemand 151.38 357 ePKPdf PKPdf 18 07 58.0 -0.3
VLC ePKPbc PKPbc 18 08 04.5 +0.1
VLC LR LR
comp=Z,706µm,22.0s
KNT Kendrikon 151.39 336 P PKPdf 18 07 57.9 -0.5
KNT Kendrikon 151.39 336 P PKPdf 18 07 57.9 -0.5
PRK Paraskevi 151.47 329 P PKPdf 18 07 58.1 -0.4
PRK Paraskevi 151.47 329 PKIKP PKPdf 18 07 58.1 -0.4
PRK Paraskevi 151.47 329 eP PKPbc 18 08 05.1 +0.4
PRK Paraskevi 151.47 329 P PKPdf 18 07 58.1 -0.4
LIA Limnos Island 151.47 332 P PKPdf 18 07 58.1 -0.4
LIA Limnos Island 151.47 332 eP PKPbc 18 08 04.4 -0.2
LIA Limnos Island 151.47 332 P PKPdf 18 07 58.1 -0.4
LARF Larrau 151.49 14 PKP PKPdf 18 08 00.3 +1.8
SOH Sokhos 151.50 335 P PKPdf 18 07 57.3 -1.3
SOH Sokhos 151.50 335 PKIKP PKPdf 18 07 57.3 -1.3
SOH Sokhos 151.50 335 P PKPdf 18 07 57.3 -1.3
PDG Podgorica 151.50 342 P PKPdf 18 07 58.7 +0.2
TTG Podgorica 151.50 342 ↓↓ iPKP PKPdf 18 07 57.3 -1.2
TTG Podgorica 151.50 342 PKIKP PKPdf 18 07 58.7 +0.2
TTG Podgorica 151.50 342 P PKPdf 18 07 58.7 +0.2
STON Ston 151.51 345 P PKPdf 18 07 59.0 +0.5
ATE Arette 151.51 14 PKP PKPdf 18 07 59.5 +1.0
SMRF Simiane la Rot 151.55 4 ePKIKP PKPdf 18 07 59.6 +1.0
comp=Z,9µm,1.5s
SMRF Simiane la Rot 151.55 4 ePKPdf PKPdf 18 07 59.6 +1.0
TOUF Mont Tournerai 151.58 1 PKP PKPbc 18 08 02.3 -2.8
PMAR Madeira 151.60 48 ePKPdf PKPdf 18 08 01.6 +2.4
PMAR Madeira 151.60 48 ePP PP 18 12 15.9 +31
AUTN L'Aution 151.60 1 PKP PKPdf 18 07 59.5 +0.6
IZM Izmir 151.61 327 eP PKPbc 18 08 05.3 +0.2
SAOF Saorge 151.62 1 PKP PKPdf 18 07 59.3 +0.6
OUR Ouranopolis 151.64 334 P PKPdf 18 07 58.1 -0.7
OUR Ouranopolis 151.64 334 PKIKP PKPdf 18 07 58.1 -0.7
OUR Ouranopolis 151.64 334 eP PKPbc 18 08 02.7 -2.3
OUR Ouranopolis 151.64 334 P PKPdf 18 07 58.1 -0.7
PUK Puka 151.66 341 i P PKPdf 18 07 59.3 +0.5
HCY Herceg Novi 151.70 344 ↓↓ iPKP PKPdf 18 07 58.1 -0.7
MVIF Mont Vial 151.70 1 PKP PKPdf 18 07 59.3 +0.3
LUCF Luceram 151.71 1 PKP PKPdf 18 07 59.4 +0.5
MTE Manteigas 151.72 26 ePKPdf PKPdf 18 08 00.4 +1.4
MTE Manteigas 151.72 26 ePP PP 18 12 10.7 +26
MTE Manteigas 151.72 26 eLQ LQ 18 51 06.3
MTE eLR LR 18 59 04.8
comp=Z,528µm,22.0s
MTE Manteigas 151.72 26 ePKPdf PKPdf 18 07 59.1 +0.1
MTE LR LR
comp=Z,535µm,22.0s
BUM Brajici-Budva 151.72 343 ↓↓ iPKP PKPdf 18 07 58.2 -0.8
ETSF Etsaut 151.72 13 ePKIKP PKPdf 18 08 00.1 +1.2
comp=Z,8µm,1.4s
ETSF Etsaut 151.72 13 ePKIKP PKPdf 18 08 00.1 +1.2
ETSF Etsaut 151.72 13 ePKPdf PKPdf 18 08 00.1 +1.2
SBF Sospel 151.74 1 ePKIKP PKPdf 18 07 58.9 0.0
comp=Z,7µm,1.5s
SBF Sospel 151.74 1 ePKIKP PKPdf 18 07 58.9 0.0
SBF Sospel 151.74 1 ePKPdf PKPdf 18 07 58.9 0.0
DRME Dracevica, Mon 151.74 342 ↓↓ iPKP PKPdf 18 07 57.6 -1.3
GRG Griva 151.76 337 P PKPdf 18 07 58.4 -0.6
GRG Griva 151.76 337 PKIKP PKPdf 18 07 58.4 -0.6
GRG Griva 151.76 337 P PKPdf 18 07 58.4 -0.6
EPF Esparros 151.79 12 ePKIKP PKPdf 18 07 59.7 +0.7
comp=Z,4µm,1.4s
EPF Esparros 151.79 12 ePKPdf PKPdf 18 07 59.7 +0.7
HORT Hortiatis 151.79 335 P PKPdf 18 07 57.7 -1.4
HORT Hortiatis 151.79 335 P PKPdf 18 07 57.7 -1.4
PHP Peshkopia 151.81 340 i P PKPdf 18 07 58.0 -1.0
PHP Peshkopia 151.81 340 P PKPdf 18 07 58.4 -0.7
PHP Peshkopia 151.81 340 PKIKP PKPdf 18 07 58.4 -0.7
PHP Peshkopia 151.81 340 P PKPdf 18 07 58.4 -0.7
THE Thessaloniki 151.81 336 P PKPdf 18 07 57.8 -1.2
THE Thessaloniki 151.81 336 PKIKP PKPdf 18 07 57.8 -1.2
THE Thessaloniki 151.81 336 P PKPdf 18 07 57.8 -1.2
MTLF Montolieu 151.82 9 ePKIKP PKPdf 18 07 59.4 +0.4
comp=Z,6µm,1.9s
MTLF Montolieu 151.82 9 ePKIKP PKPdf 18 07 59.4 +0.4
MTLF Montolieu 151.82 9 ePKPdf PKPdf 18 07 59.4 +0.4
PMPST Porto Santo, M 151.82 47 ePKPdf PKPdf 18 08 01.8 +2.5
PMPST Porto Santo, M 151.82 47 ePP PP 18 12 18.3 +32
CALN Calern 151.84 2 PKP PKPdf 18 07 59.9 +0.7
PMPS Porto Santo 151.84 47 ePKPdf PKPbc 18 08 03.7 -2.0
PLG Polygyros 151.84 335 P PKPdf 18 07 57.9 -1.2
PLG Polygyros 151.84 335 eP PKPbc 18 08 05.3 -0.2
PLG Polygyros 151.84 335 P PKPdf 18 07 57.9 -1.2
FETY Fethiye 151.85 322 eP PKPdf 18 07 57.3 -2.0
REVF Revere 151.86 1 PKP PKPdf 18 08 00.5 +1.4
VIEF Viey 151.86 13 PKP PKPdf 18 08 01.2 +2.0
ULC Ulcinj 151.93 342 ↓↓ iPKP PKPdf 18 07 58.2 -1.0
YER Yerkesik 151.97 324 eP PKPbc 18 08 06.2 +0.3
DALY Dalyan (Mu¯la 151.98 323 eP PKPbc 18 08 08.8 +2.9
PTOM Tomar 151.99 28 ePKPdf PKPdf 18 08 00.7 +1.4
RESF Ens 152.00 12 PKP PKPdf 18 08 01.2 +1.8
MLS Moulis 152.00 11 PKP PKPdf 18 08 00.4 +1.1
FRF La Foret Royal 152.02 2 ePKIKP PKPdf 18 07 59.1 -0.2
comp=Z,9µm,1.9s
FRF La Foret Royal 152.02 2 ePKIKP PKPdf 18 07 59.1 -0.2
FRF La Foret Royal 152.02 2 ePKPdf PKPdf 18 07 59.1 -0.2
MELF Melles 152.02 11 PKP PKPdf 18 08 00.6 +1.2
BIA Bitola 152.10 338 ePKP PKPdf 18 08 01.7 +2.1
PAIG Paliouri 152.11 334 P PKPdf 18 07 58.3 -1.2
PAIG Paliouri 152.11 334 PKIKP PKPdf 18 07 58.3 -1.2
PAIG Paliouri 152.11 334 P PKPdf 18 07 58.3 -1.2
PMAFR Mafra 152.12 30 ePKPdf PKPdf 18 08 01.0 +1.4
PMAFR Mafra 152.12 30 ePP PP 18 12 13.5 +27
PCBR Castelo Branco 152.22 26

TIR	Tirane	152.30	341	*e*PKIKP	PKPdf	18 08 00.4	+0.6
TIR				*e*		18 08 07.3	
TIR				MLR	MLR		
comp=Z,1008μm,21.0s							
TIR	Tirane	152.30	341	*e*PKPdf	PKPdf	18 08 00.4	+0.6
TIR				*e*PKPbc	PKiKP	18 08 07.3	+0.5
TIR				LR	LR		
comp=Z,1008μm,21.0s							
PMST	Lisbon--Monsan	152.34	30	*e*PKPdf	PKPdf	18 08 01.8	+1.9
PMST	Lisbon--Monsan	152.34	30	*e*PP	PP	18 12 15.9	+28
SMG	Samos	152.35	327	P	PKPdf	18 07 58.5	-1.5
SMG	Samos	152.35	327	*e*P	PKPbc	18 08 07.0	+0.2
SMG	Samos	152.35	327	P	PKPdf	18 07 58.5	-1.5
LIS	Lisbon	152.37	30	*e*P	PKPdf	18 08 00.8	+0.9
LIS				AMS	AMS	19 09 58.3	
comp=Z,723μm,21.0s							
LIS	Lisbon	152.37	30	*e*P	PKPdf	18 08 00.8	+0.9
LIS	Lisbon	152.37	30	A	A	19 09 58.3	
comp=Z,723μm,21.0s							
CARF	Carcanieres	152.41	10	PKP	PKPdf	18 08 01.7	+1.7
LIT	Litokhoron	152.46	336	P	PKPdf	18 07 59.1	-1.0
LIT	Litokhoron	152.46	336	PKIKP	PKPdf	18 07 59.1	-1.0
LIT	Litokhoron	152.46	336	P	PKPdf	18 07 59.1	-1.0
PACT	Alcochete	152.48	29	*e*PKPdf	PKPdf	18 08 02.4	+2.3
PMTG	Montargil	152.52	28	*e*PKPdf	PKPdf	18 08 01.4	+1.3
PMTG	Montargil	152.52	28	*e*PP	PP	18 12 13.1	+24
KZN	Kozani	152.56	337	P	PKPdf	18 07 59.7	-0.6
KZN	Kozani	152.56	337	*e*P	PKPbc	18 08 10.2	+3.0
KZN	Kozani	152.56	337	P	PKPdf	18 07 59.7	-0.6
BODT	Bodrum	152.57	325	*e*P	PKPdf	18 07 57.3	-3.0
PMRV	Marv??o	152.59	27	*e*PKPdf	PKPdf	18 08 01.3	+1.0
PMRV	Marv??o	152.59	27	*e*PP	PP	18 12 16.4	+27
PMRV	Marv??o	152.59	27	*e*SS	SS	18 31 11.9	-6.9
PMRV	Marv??o	152.59	27	*e*LQ	LQ	18 50 58.1	
PMRV				*e*LR	LR	18 59 30.1	
comp=Z,287μm,24.0s							
KBN	Korca	152.64	339	*i* P	PKPdf	18 08 01.9	+1.6
KBN	Korca	152.64	339	P	PKPdf	18 08 00.6	+0.2
KBN	Korca	152.64	339	PKIKP	PKPdf	18 08 00.6	+0.2
KBN	Korca	152.64	339	P	PKPdf	18 08 00.6	+0.2
AOS	Alonnisos	152.65	333	P	PKPdf	18 07 58.9	-1.4
AOS	Alonnisos	152.65	333	*e*P	PKPdf	18 07 59.4	-0.9
AOS	Alonnisos	152.65	333	P	PKPdf	18 07 58.9	-1.4
DAT	Datca	152.66	324	*e*P	PKPdf	18 07 58.6	-2.0
ARG	Arkhangelos	152.70	323	P	PKPdf	18 08 02.1	+1.6
ARG	Arkhangelos	152.70	323	PKIKP	PKPdf	18 08 02.1	+1.6
ARG	Arkhangelos	152.70	323	*e*P	PKPbc	18 08 08.6	+1.0
ARG	Arkhangelos	152.70	323	P	PKPdf	18 08 02.1	+1.6
VALF	Valcebollere	152.70	10	PKP	PKPdf	18 08 01.4	+0.9
NEST	Nestorio	152.73	338	P	PKPdf	18 08 00.9	+0.3
XOR	Xorichti	152.79	334	P	PKPdf	18 07 59.8	-0.8
XOR	Xorichti	152.79	334	P	PKPdf	18 07 59.8	-0.8
NEO	Neokhori	152.82	334	P	PKPdf	18 07 59.7	-0.9
NEO	Neokhori	152.82	334	*e*P	PKPbc	18 08 07.7	-0.1
NEO	Neokhori	152.82	334	P	PKPdf	18 07 59.7	-0.9
SKIA	Skiathos	152.83	333	P	PKPdf	18 08 00.0	-0.6
PESTR	Estremoz	152.97	28	*e*PKPdf	PKPdf	18 08 02.6	+1.8
PESTR	Estremoz	152.97	28	*e*PP	PP	18 12 14.5	+23
NIS1	Nisyros Isl.	152.97	325	P	PKPdf	18 08 00.3	-0.6
NIS1	Nisyros Isl.	152.97	325	*e*P	PKPdf	18 07 58.2	-2.7
NIS1	Nisyros Isl.	152.97	325	P	PKPdf	18 08 00.3	-0.6
NIS2	Nisyros Isl.	152.99	325	P	PKPdf	18 08 00.1	-0.8
EVOP	Sao Brissos	153.00	29	||*i*PKIKP	PKPdf	18 08 02.2	+1.4
EVOP	Sao Brissos	153.00	29	||*i*PKPdf	PKPdf	18 08 02.2	+1.4
NIS3	Nisyros Isl.	153.00	325	P	PKPdf	18 08 00.0	-0.9
PGF	Pioggiola	153.04	358	*e*PKIKP	PKPdf	18 08 00.6	-0.4
comp=Z,8μm,1.9s							
PGF	Pioggiola	153.04	358	*e*PKIKP	PKPdf	18 08 00.6	-0.4
PGF	Pioggiola	153.04	358	*e*PKPdf	PKPdf	18 08 00.6	-0.4
EVO	Evora	153.05	29	||*i*PKIKP	PKPdf	18 08 02.2	+1.3
comp=Z,7μm,1.6s							
EVO				*e*R			
comp=Z,655μm,21.5s							
EVO	Evora	153.05	29	*e*PKPdf	PKPdf	18 08 02.4	+1.5
EVO	Evora	153.05	29	*e*PP	PP	18 12 20.2	+28
THL	Klokotos Trika	153.10	336	P	PKPdf	18 08 00.5	-0.5
THL	Klokotos Trika	153.10	336	*e*P	PKPbc	18 08 06.4	-1.9
PNCL	Nicolau / Gran	153.14	30	*e*PKPdf	PKPdf	18 08 02.5	+1.4
PNCL	Nicolau / Gran	153.14	30	*e*PP	PP	18 12 15.0	+22
MRKA	Markates	153.16	332	P	PKPdf	18 08 00.5	-0.6
SMIA	Simia	153.18	333	P	PKPdf	18 08 00.5	-0.7
ERET	Eretria	153.28	332	P	PKPdf	18 08 00.3	-1.1
AGG	Agios Georgios	153.44	335	P	PKPdf	18 08 00.8	-0.7
AGG	Agios Georgios	153.44	335	PKIKP	PKPdf	18 08 00.8	-0.7
AGG	Agios Georgios	153.44	335	P	PKPdf	18 08 00.8	-0.7
LKR	Lokris	153.47	333	P	PKPdf	18 08 00.8	-0.7
LKR	Lokris	153.47	333	*e*P	PKPbc	18 08 09.2	0.0
LKR	Lokris	153.47	333	P	PKPdf	18 08 00.8	-0.7
JAN	Janina	153.47	338	P	PKPdf	18 08 01.7	+0.1
JAN	Janina	153.47	338	PKIKP	PKPdf	18 08 01.7	+0.1
JAN	Janina	153.47	338	P	PKPdf	18 08 01.7	+0.1
PTEO	Sao Teotonio	153.49	31	*e*PKPdf	PKPdf	18 08 03.5	+1.9
APE	Apeiranthos	153.51	327	P	PKPdf	18 08 00.0	-1.7
APE	Apeiranthos	153.51	327	PKIKP	PKPdf	18 08 00.0	-1.7
APE	Apeiranthos	153.51	327	*e*P	PKPdf	18 07 59.5	-2.3
APE	Apeiranthos	153.51	327	*e*P	PKPbc	18 08 08.8	-0.6
APE	Apeiranthos	153.51	327	P	PKPdf	18 08 00.0	-1.7
APE	Apeiranthos	153.51	327	||*i*P	PKPdf	18 08 01.3	-0.4
AXAR	Agios Charalam	153.51	334	P	PKPdf	18 08 01.2	-0.4
AXAR	Agios Charalam	153.51	334	P	PKPdf	18 08 01.2	-0.4
MAKR	Makrakomi, Fth	153.53	335	P	PKPdf	18 08 01.5	-0.2
MAKR	Makrakomi, Fth	153.53	335	P	PKPdf	18 08 01.5	-0.2
PTL	Penteli	153.57	331	P	PKPdf	18 08 01.1	-0.7
PTL	Penteli	153.57	331	*e*P	PKPbc	18 08 09.3	-0.2
PTL	Penteli	153.57	331	P	PKPdf	18 08 01.1	-0.7
SRN	Sarande	153.57	339	*i* P	PKPdf	18 08 04.6	+2.9
SRN	Sarande	153.57	339	P	PKPdf	18 08 01.6	0.0
SRN	Sarande	153.57	339	P	PKPdf	18 08 01.6	0.0
ATHU	Athens Univers	153.67	331	P	PKPdf	18 08 00.6	-1.3
ATHU	Athens Univers	153.67	331	P	PKPdf	18 08 00.6	-1.3
PAB	San Pablo	153.71	22	*e*PKIKP	PKPdf	18 08 02.1	+0.1
PAB				*e*		18 08 10.6	
PAB				MLR	MLR		
comp=Z,686μm,22.0s							
PAB	San Pablo	153.71	22	*e*PKPdf	PKPdf	18 08 02.1	+0.1
PAB				*e*PKPbc	PKiKP	18 08 10.6	+0.7
PAB				LR	LR		
comp=Z,686μm,22.0s							
MORF	Marmelete	153.72	31	*e*PKPdf	PKPdf	18 08 03.7	+1.7
ESDC	Sonseca Array	153.73	21	PKP	PKPdf	18 08 01.7	-0.2
ESDC				PKPbc	PKPbc	18 08 09.6	-0.2
ESDC	Sonseca Array	153.73	21	PKP	PKPdf	18 08 01.7	-0.2
comp=Z,12nm,0.8s,baz=342,slow=2.5,SNR=48							
ESDC				PKPbc	PKPbc	18 08 09.6	-0.2
comp=Z,66nm,0.8s,baz=330,slow=2.5,SNR=52							
KARP	Karpathos	153.73	323	P	PKPdf	18 08 02.0	-0.1
KARP	Karpathos	153.73	323	*e*P	PKPbc	18 08 11.1	+1.2
KARP	Karpathos	153.73	323	P	PKPdf	18 08 02.0	-0.1
EVR	Evrytania	153.74	335	P	PKPdf	18 08 02.3	+0.2
EVR	Evrytania	153.74	335	*e*P	PKPbc	18 08 10.8	+0.9
EVR	Evrytania	153.74	335	P	PKPdf	18 08 02.3	+0.2
PCVE	Castro Verde	153.76	30	*e*PKPdf	PKPdf	18 08 03.6	+1.6
PCVE	Castro Verde	153.76	30	*e*PP	PP	18 12 22.1	+26
PFVI	Vila Bisbo	153.76	32	*e*PKPdf	PKPdf	18 08 03.7	+1.7
PFVI	Vila Bisbo	153.76	32	*e*PP	PP	18 12 26.5	+30
IGT	Igoumenitsa	153.77	338	P	PKPdf	18 08 02.1	+0.1
IGT	Igoumenitsa	153.77	338	PKIKP	PKPdf	18 08 02.1	+0.1
IGT	Igoumenitsa	153.77	338	P	PKPdf	18 08 02.1	+0.1
PBAR	Barrancos	153.78	28	*e*PKPdf	PKPdf	18 08 04.2	+2.2
PBAR	Barrancos	153.78	28	*e*PP	PP	18 12 24.1	+28
KEK	Kerkira	153.79	339	P	PKPdf	18 08 01.9	-0.1
KEK	Kerkira	153.79	339	*e*P	PKPbc	18 08 10.7	+0.8
KEK	Kerkira	153.79	339	P	PKPdf	18 08 01.9	-0.1
DSF	Desfina	153.87	334	P	PKPdf	18 08 01.0	-1.2
DSF	Desfina	153.87	334	P	PKPdf	18 08 01.0	-1.2
OSPF	L'Ospedale	153.92	358	PKP	PKPdf	18 08 03.7	+1.5
LTK	Loutraki	154.00	332	P	PKPdf	18 08 01.1	-1.2
LTK	Loutraki	154.00	332	P	PKPdf	18 08 01.1	-1.2
PVAQ	Vaqueiros	154.09	30	*e*PKPdf	PKPdf	18 08 04.5	+2.0
PVAQ	Vaqueiros	154.09	30	*e*PP	PP	18 12 26.9	+29
PVAQ	Vaqueiros	154.09	30	*e*LQ	LQ	18 52 00.7	
PVAQ				*e*LR	LR	19 00 19.2	
comp=Z,473μm,22.0s							
PVO	Paravola	154.11	335	P	PKPdf	18 08 02.6	+0.1
PBDV	Barranco-do-Ve	154.12	30	*e*PKPdf	PKPdf	18 08 04.2	+1.6
PBDV	Barranco-do-Ve	154.12	30	*e*PP	PP	18 12 29.3	+31
ACOR	Acrocorinthos	154.15	332	P	PKPdf	18 07 59.3	-3.3
PSA1	Psathopyrgos	154.21	334	*e*P	PKPbc	18 08 12.4	+1.6
LAKA	Lakka	154.25	334	P	PKPdf	18 08 03.3	+0.6
LAKA	Lakka	154.25	334	P	PKPdf	18 08 03.3	+0.6
DID	Didima	154.30	331	P	PKPdf	18 08 01.3	-1.5
DID	Didima	154.30	331	P	PKPdf	18 08 01.3	-1.5
DIDY	Didyma	154.33	331	P	PKPdf	18 08 01.9	-1.0
KLV	Kalavryta, Ach	154.34	334	P	PKPdf	18 08 02.4	-0.5
KLV	Kalavryta, Ach	154.34	334	*e*P	PKPdf	18 08 03.4	+0.5
KLV	Kalavryta, Ach	154.34	334	P	PKPdf	18 08 02.4	-0.5
GUR	Goura	154.34	333	P	PKPdf	18 08 02.5	-0.5
GUR	Goura	154.34	333	P	PKPdf	18 08 02.5	-0.5
AXS	Araxos	154.53	335	P	PKPdf	18 08 03.4	+0.4
ZKR	Zakros	154.58	323	P	PKPdf	18 08 03.6	+0.4
ZKR	Zakros	154.58	323	*e*P	PKPbc	18 08 10.4	-1.3
ZKR	Zakros	154.58	323	P	PKPdf	18 08 03.6	+0.4
DRO	Drossia	154.60	334	P	PKPdf	18 08 03.4	+0.2
RLS	Riolos of Patr	154.61	335	P	PKPdf	18 08 03.9	+0.7
RLS	Riolos of Patr	154.61	335	*e*P	PKPbc	18 08 16.3	+4.7
RLS	Riolos of Patr	154.61	335	P	PKPdf	18 08 03.9	+0.7
CUC	Castrocucco	154.69	346	*e*PKPdf	PKPdf	18 08 02.2	-1.1
CUC				*e*PKPbc	PKPbc	18 08 10.6	-1.2
CUC				LR	LR		
comp=Z,360μm,21.0s							
VLX	Vlachokerasia	154.80	332	P	PKPdf	18 08 03.5	-0.1
VLX	Vlachokerasia	154.80	332	P	PKPdf	18 08 03.5	-0.1
NPS	Neapolis	154.81	325	P	PKPdf	18 08 04.1	+0.5
NPS	Neapolis	154.81	325	PKIKP	PKPdf	18 08 04.1	+0.5
NPS	Neapolis	154.81	325	*e*P	PKPbc	18 08 13.0	+0.8
NPS	Neapolis	154.81	325	P	PKPdf	18 08 04.1	+0.5
VLS	Valsamata	154.86	336	P	PKPdf	18 08 03.4	-0.1
VLS	Valsamata	154.86	336	PKIKP	PKPdf	18 08 03.4	-0.1
VLS	Valsamata	154.86	336	*e*P	PKPbc	18 08 11.6	-0.6
VLS	Valsamata	154.86	336	P	PKPdf	18 08 03.4	-0.1
LAST	Lasithi	154.96	325	P	PKPdf	18 08 04.0	+0.1
LAST	Lasithi	154.96	325	P	PKPdf	18 08 04.0	+0.1
VLI	Veliai	155.08	331	P	PKPdf	18 08 02.9	-1.0
VLI	Veliai	155.08	331	*e*P	PKPdf	18 08 11.8	+7.9
VLI	Veliai	155.08	331	P	PKPdf	18 08 02.9	-1.0
ITM	Ithomi	155.16	333	P	PKPdf	18 08 03.7	-0.3
ITM	Ithomi	155.16	333	*e*P	PKPdf	18 08 12.3	+8.3
ITM	Ithomi	155.16	333	P	PKPdf	18 08 03.7	-0.3
IDI	Anoyia	155.19	326	P	PKPdf	18 08 03.9	-0.3
IDI	Anoyia	155.19	326	*e*P	PKPdf	18 08 00.1	-4.1
IDI	Anoyia	155.19	326	*e*PKPdf	PKPdf	18 08 05.0	+0.8
IDI				*e*PKPbc	PKPbc	18 08 13.7	
SIVA	Sivas	155.44	325	P	PKPdf	18 08 04.8	+0.4
SIVA	Sivas	155.44	325	*e*P	PKPdf	18 08 08.3	+3.9
SIVA	Sivas	155.44	325	P	PKPdf	18 08 04.8	+0.4
VAM	Vamos	155.47	327	P	PKPdf	18 08 04.7	+0.3
VAM	Vamos	155.47	327	PKIKP	PKPdf	18 08 04.7	+0.3
VAM	Vamos	155.47	327	*e*P	PKPdf	18 08 14.5	+10
VAM	Vamos	155.47	327	P	PKPdf	18 08 04.7	+0.3
ANKY	Antikythira Is	155.58	329	P	PKPdf	18 08 04.7	+0.1
ANKY	Antikythira Is	155.58	329	*e*P	PKPdf	18 08 05.7	+1.1
ANKY	Antikythira Is	155.58	329	P	PKPdf	18 08 04.7	+0.1
GVD	Gavdhos	155.97	326	*e*P	PKPdf	18 08 09.0	+3.9
VSL	Villasalto	156.08	357	*e*PKPdf	PKPdf	18 08 05.1	0.0
VSL				LR	LR		
comp=Z,366μm,20.0s							
CEL	Celeste	156.31	345	*e*PKPdf	PKPdf	18 08 04.9	-0.7
CEL				LR	LR		
comp=Z,527μm,22.0s							
ABA	Alger-Bouzarea	158.33	11	P	PKPdf	18 08 15.0	+6.9
USTO	Oran	158.44	19	P	PKPdf	18 08 18.0	+10
EBNR	Beni Rached	158.50	15	P	PKPdf	18 08 10.5	+2.2
OLHC	Oulhaca	158.58	22	P	PKPdf	18 08 12.0	+3.5
ECHA	Ech Chlef	158.59	15	P	PKPdf	18 08 10.3	+1.9
EANR	'Ain N'Sour	158.72	16	P	PKPdf	18 08 09.9	+1.3
CAEH	'Ain El Ouahch	158.79	3	P	PKPdf	18 08 09.7	+1.1
EMHD	Djebel Mahouad	158.90	12	P	PKPdf	18 08 12.0	+3.1
ODJA	Bouhanifia	158.94	19	P	PKPdf	18 08 15.0	+6.1
DFRA	Djebel Bou Aff	158.96	5	P	PKPdf	18 08 10.9	+1.9
CMAH	Djebel Manchou	158.96	1	P	PKPdf	18 08 08.4	-0.5
OJGS	Djebel Guires	159.04	17	P	PKPdf	18 08 19.0	+10
CKFL	Kef-Lekhel	159.16	3	P	PKPdf	18 08 10.5	+1.3
SET	Setif	159.26	6	P	PKPdf	18 08 12.0	+2.7
CASM	Ain Smara	159.29	4	P	PKPdf	18 08 10.7	+1.4
ETRT	Tiaret	159.30	16	P	PKPdf	18 08 11.0	+1.6
ABSA	Djebel Ababsia	159.32	1	P	PKPdf	18 08 09.5	+0.1
CKHR	Kef el Ahmar	159.45	6	P	PKPdf	18 08 12.0	+2.4
CTEI	Djebel Teioual	159.48	4	P	PKPdf	18 08 10.1	+0.5
KEST	Kesra	159.83	357	PKP	PKPdf	18 08 09.2	-0.8
KEST				*e*PKPdf	PKPdf	18 08 10.4	+0.5
KEST	Kesra	159.83	357	PKP	PKPdf	18 08 09.2	-0.8
comp=Z,21nm,1.0s,baz=313,slow=1.7,SNR=32							
LIC	Lamto	164.19	124	||*i*PKIKP	PKPdf	18 08 14.5	-0.4
comp=Z,1μm,1.6s							
LIC				*e*R			
comp=Z,1015μm,23.0s							
LIC	Lamto	164.19	124	*e*PKIKP	PKPdf	18 08 13.9	-1.0
comp=Z,1μm,1.6s							
LIC	Lamto	164.19	124	||*i*PKPdf	PKPdf	18 08 14.5	-0.4
TIC	Toumodi	164.44	123	*e*PKIKP	PKPdf	18 08 14.3	-0.9
comp=Z,3μm,1.6s							
KIC	Kosan Boka	164.49	125	*e*PKIKP	PKPdf	18 08 14.5	-0.7
comp=Z,3μm,1.6s							
DBIC	Dimbokro	164.58	123	PKP	PKPdf	18 08 14.7	-0.6
DBIC				*e*PKPdf	PKPdf	18 08 15.0	-0.2
DBIC	Dimbokro	164.58	123	PKP	PKPdf	18 08 14.7	-0.6
comp=Z,31nm,0.8s,baz=214,slow=1.2,SNR=22							
TOA0	Torodi Ar. Sit	173.40	110	*e*PKPdf	PKPdf	18 08 19.8	-0.9
TORD	Torodi Ar. Bea	173.40	110	PKP	PKPdf	18 08 19.7	-1.0
TORD				PP	PP	18 13 42.0	+0.7
TORD	Torodi Ar. Bea	173.40	110	PKP	PKPdf	18 08 19.7	-1.0
comp=Z,41nm,1.0s,baz=311,slow=1.0,SNR=116							
TORD				PP	PP	18 13 42.0	+0.7
comp=Z,30nm,1.1s,baz=242,slow=4.6,SNR=3.5							

IDC ***29*** *17:56:03.5±0.7, 15°.48S×172°.96W, h0km, mb5.4/20, mb1 5.6/20, mb1mx5.5/26, mbtmp5.4/20, Error ellipse: s-maj=28.7km s-min=14.8km az=143.0*

NEIC ***29*** *17:56:05.8±0.3, 15°.36S×173°.16W, h10km, mb6.0/65, Error ellipse: s-maj=11.2km s-min=6.2km az=148.0*

ISCJB ***29*** *17:56:07.6±0.2, 15°.38S±0°.07×173°.30W±0°.04, h29km, mb5.8/84, Error ellipse: s-maj=9.9km s-min=5.2km az=158.1*

MOS ***29*** *17:56:08.1±1.4, 15°.26S×173°.17W, h33km, mb5.8/27, Error ellipse: s-maj=13.6km s-min=8.9km az=135.6*

ISC 29 17:56:08.9±0.4, 15°.37S±0°.09×173°.19W±0°.09, h29km, n406, σ0°92/398, mb5.8/84, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.00	44	*e*Pn	Pn	17 56 35.8	-5.0
TARA	Tarawa 4μm,1.7s	21.55	319	P	P	18 00 57.6	+1.4
EIDS	Eidsvold 30nm,0.8s	34.84	248	*e*P	P	18 02 55.9	-1.8
CTA	Charters Tower	38.84	257	P	P	18 03 32.4	+0.6
CTA	Charters Tower 38nm,0.8s,baz=67,slow=9.8,SNR=6.0	38.84	257	P	P	18 03 32.4	+0.6
CTAO	Charters Tower	38.84	257	*e*P	P	18 03 33.0	+1.2
CTAO	comp=Z,86nm,1.0s			pmax	pmax		
CTAO	Charters Tower	38.84	257	*e*P	P	18 03 33.0	+1.2
comp=Z,86nm,1.0s							
PMG	Port Moresby	39.13	274	*e*P	P	18 03 34.7	+0.4
comp=Z,103nm,1.0s							
WAKE	Wake Island	39.74	329	*e*P	P	18 03 39.8	+0.7
comp=Z,757nm,1.2s							
TAU	Tasmania Unive	43.48	223	*e*P	P	18 04 09.5	-0.1
TAU				pmax	pmax		
comp=Z,164nm,1.5s							
TAU	Tasmania Unive	43.48	223	*e*P	P	18 04 09.5	-0.1
comp=Z,164nm,1.5s							
STKA	Stephens Creek	44.23	240	*e*P	P	18 04 14.7	-1.1
comp=Z,22nm,0.9s							
STKA	Stephens Creek	44.23	240	P	P	18 04 14.8	-0.9
comp=Z,59nm,0.8s,baz=89,slow=11,SNR=7.6							
WRAB	Tennant Creek	50.03	257	*e*P	P	18 05 00.8	-0.5
WRAB				pmax	pmax		
comp=Z,480nm,1.3s							
WRAB	Tennant Creek	50.03	257	*e*P	P	18 05 00.8	-0.5
comp=Z,480nm,1.3s							
WRA	Warramunga Arr	50.05	257	P	P	18 05 00.9	-0.4
WRA	Warramunga Arr	50.05	257	P	P	18 05 00.9	-0.4
comp=Z,30nm,0.5s,baz=90,slow=6.8,SNR=14							
AS31	Alice Springs	50.31	252	*e*P	P	18 05 02.0	-1.4
ASAR	Alice Springs	50.31	252	P	P	18 05 02.8	-0.6
ASAR	Alice Springs	50.31	252	P	P	18 05 02.7	-0.6
comp=Z,222nm,0.8s,baz=88,slow=7.9,SNR=12							
GUMO	Guam	50.48	303	P	P	18 05 03.0	-1.7
comp=Z,214nm,1.1s							
SBA	Scott Base	63.30	185	*e*P	P	18 06 36.2	+1.6
SBA				pmax	pmax		
comp=Z,866nm,1.9s							
SBA	Scott Base	63.30	185	*e*P	P	18 06 36.2	+1.6
comp=Z,866nm,1.9s							
VNDA	Vanda	63.43	186	P	P	18 06 36.1	+0.6
comp=Z,85nm,1.2s							
MBWA	Marble Bar	63.56	254	*e*P	P	18 06 37.2	0.0
comp=Z,168nm,1.4s							
FX1	Attu Island--F	68.98	351	P	P	18 07 11.1	-0.2
FX1	Attu Island--F	68.98	351	P	P	18 07 11.1	-0.2
comp=Z,42nm,0.7s,baz=173,slow=8.1,SNR=4.8							
MAJO	Matsushiro	69.05	320	*e*P	P	18 07 12.4	+0.3
MAJO				pmax	pmax		
comp=Z,69nm,1.0s							
MAJO	Matsushiro	69.05	320	*e*P	P	18 07 12.4	+0.3
comp=Z,69nm,1.0s							
CASY	Casey	70.52	205	*e*P	P	18 07 21.3	+0.6
comp=Z,32nm,0.9s							
SAO	San Andreas Ge	71.17	42	P	P	18 07 28.1	+3.0
SAO				pmax	pmax		
comp=Z,59nm,1.2s							
SAO	San Andreas Ge	71.17	42	P	P	18 07 28.1	+3.0
comp=Z,59nm,1.2s							
ASAJ	Asahikawa	71.62	328	P	P	18 07 28.9	+1.3
ASAJ	Asahikawa	71.62	328	P	P	18 07 28.9	+1.3
comp=Z,78nm,0.9s,baz=193,slow=4.3,SNR=8.7							
JNU	Nakatsue	71.92	313	P	P	18 07 30.3	+0.5
JNU	Nakatsue	71.92	313	P	P	18 07 30.3	+0.5
comp=Z,35nm,1.0s,baz=108,slow=6.4,SNR=4.5							
EDW2	Edwards Air Fo	72.38	45	P	P	18 07 33.1	+0.5
baz=72							
CMB	Columbia Colle	72.61	41	*e*P	P	18 07 32.0	-1.8
CMB				pmax	pmax		
comp=Z,39nm,1.0s							
CMB	Columbia Colle	72.61	41	*e*P	P	18 07 32.0	-1.8
comp=Z,39nm,1.0s							
PEA0B	Petropavlovsk-	72.66	342	*e*P	P	18 07 34.5	+0.8
PETK	Petropavlovsk-	72.66	342	P	P	18 07 33.8	+0.2
PETK				pmax	pmax		
comp=Z,48nm,0.8s							
PETK	Petropavlovsk-	72.66	342	P	P	18 07 33.8	+0.2
PETK	Petropavlovsk-	72.66	342	P	P	18 07 33.8	+0.2
comp=Z,46nm,0.8s,baz=130,slow=6.4,SNR=7.5							
LRMC	Laurel Mountai	72.92	45	P	P	18 07 36.2	+0.4
baz=73							
KKM	Kota Kinabalu	73.07	281	*e*P	P	18 07 37.1	0.0
comp=Z,54nm,0.9s							
MPMC	Manual Prospec	73.38	44	P	P	18 07 39.3	+0.8
baz=74							
GSC	Goldstone	73.42	45	P	P	18 07 39.5	+0.8
baz=74							
YBH	Yreka Blue Hor	73.45	37	P	P	18 07 38.3	-0.4
YBH	Yreka Blue Hor	73.45	37	P	P	18 07 38.3	-0.4
comp=Z,26nm,1.0s,baz=205,slow=5.2,SNR=4.3							
HEC	Hector,Ludlow	73.50	46	P	P	18 07 40.3	+1.2
baz=74							
GLA	Glamis	73.62	48	P	P	18 07 39.9	0.0
baz=74							

224A	Cornudas Mount	80.10	53	P	P	18 08 18.1 +1.5
	baz=80					
LPM	Los Pinos Moun	80.22	50	eP	P	18 08 18.4 +1.1
	comp=Z,87nm,1.5s					
HWUT	Hardware Ranch	80.24	42	eP	P	18 08 12.7 -4.4
	comp=Z,140nm,1.5s					
W22A	Albuquerque	80.38	50	P	P	18 08 19.4 +1.3
	baz=80					
526A	Mary Lane Ranc	80.38	55	P	P	18 08 19.4 +1.2
	baz=80					
U21A	Nageezi	80.42	48	P	P	18 08 19.6 +1.3
	baz=80					
TXAR	Lajitas Array	80.43	56	P	P	18 08 16.0 -2.4
TXAR	Lajitas Array	80.43	56	P	P	18 08 16.0 -2.4
	comp=Z,33nm,1.1s,baz=224,slow=5.2,SNR=5.6					
S20A	Disappointment	80.56	47	P	P	18 08 20.5 +1.4
	baz=81					
NEW	Newport	80.57	34	P	P	18 08 17.6 -1.0
NEW	Newport	80.57	34	P	P	18 08 17.6 -1.0
	comp=Z,23nm,1.0s,baz=266,slow=5.9,SNR=4.8					
NEW	Newport	80.57	34	P	P	18 08 20.4 +1.8
	baz=81					
ANMO	Albuquerque	80.63	50	eP	P	18 08 16.7 -2.8
	comp=Z,86nm,1.2s					
ANMO	Albuquerque	80.63	50	P	P	18 08 18.0 -1.4
	comp=Z,62nm,1.1s,baz=233,slow=5.5,SNR=6.2					
225A	Deer Hill, Car	80.65	53	P	P	18 08 20.2 +0.6
	baz=81					
426A	McDonald Obser	80.68	55	P	P	18 08 21.2 +1.4
	baz=81					
627A	Terlingua Ranc	80.70	56	P	P	18 08 20.7 +0.9
	baz=81					
R20A	Redvale	80.72	46	P	P	18 08 21.1 +1.2
	baz=81					
V22A	San Miguel Ran	80.72	49	P	P	18 08 20.2 +0.2
	baz=81					
T21A	Navajo Lake	80.76	48	P	P	18 08 20.6 +0.5
	baz=81					
527A	Woodward Ranch	80.80	55	P	P	18 08 21.2 +0.9
	baz=81					
S21A	Coal Bank Pass	80.88	47	P	P	18 08 21.6 +0.7
	baz=81					
Y24A	Capitan	80.95	51	P	P	18 08 21.4 +0.3
	baz=81					
W23A	Werner Place,	80.95	50	P	P	18 08 22.4 +1.2
	baz=81					
MCK	McKinley	81.06	11	eP	P	18 08 21.2 +0.4
MCK				pmax	pmax	
	comp=Z,205nm,1.1s					
MCK	McKinley	81.06	11	eP	P	18 08 21.2 +0.4
	comp=Z,205nm,1.1s					
MCMT	McKenzie Canyo	81.11	39	eP	P	18 08 22.0 +0.2
	comp=Z,54nm,1.1s					
628A	Black Gap, Mar	81.11	56	P	P	18 08 22.4 +0.5
	baz=81					
AHID	Auburn Hatcher	81.12	41	eP	P	18 08 22.2 +0.3
	comp=Z,328nm,1.8s					
Q20A	Ridgley Place,	81.13	46	P	P	18 08 23.4 +1.5
	baz=81					
226B	Tecolote Peak,	81.15	53	P	P	18 08 23.0 +0.9
	baz=81					
V23A	Ortiz Mt. (NFS	81.18	49	P	P	18 08 23.9 +1.5
	baz=81					
Z25A	Roswell	81.22	52	P	P	18 08 23.2 +0.7
	baz=81					
X24A	Lazy VL Ranch,	81.22	51	P	P	18 08 23.5 +0.9
	baz=81					
427A	Hayter Ranch,	81.25	55	P	P	18 08 23.7 +1.0
	baz=81					
P20A	De Beque	81.32	45	P	P	18 08 24.0 +1.0
	baz=81					
R21A	Cimarron	81.38	46	P	P	18 08 24.4 +1.0
	baz=82					
L18A	Fontenelle, Gr	81.39	42	P	P	18 08 24.4 +1.1
	baz=82					
U23A	El Rito	81.43	49	P	P	18 08 24.4 +0.8
	baz=82					
528A	Cox Ranch, San	81.46	56	P	P	18 08 24.0 +0.2
	baz=82					
126A	Clayton Basin,	81.49	53	P	P	18 08 23.4 -0.6
	baz=82					
Y25A	Mesa, Roswell	81.51	51	P	P	18 08 24.0 0.0
	baz=82					
W24A	Lazy 6 Ranch,	81.52	50	P	P	18 08 24.6 +0.5
	baz=82					
MSO	Missoula	81.54	37	P	P	18 08 24.4 +0.5
	baz=82					
Q21A	Lamborn Mesa,	81.57	46	P	P	18 08 24.3 -0.1
	baz=82					
S22A	4UR Ranch, Cre	81.60	47	P	P	18 08 25.4 +0.7
	baz=82					
BSMT	Bassoo Peak	81.62	35	eP	P	18 08 24.1 -0.3
	comp=Z,101nm,1.1s					
SNOW	Snow King Moun	81.69	41	eP	P	18 08 26.1 +1.2
	comp=Z,324nm,1.5s					
O20A	White River Ci	81.72	45	P	P	18 08 26.0 +0.9
	baz=82					
M19A	Rock Springs	81.76	43	P	P	18 08 26.0 +0.7
	baz=82					
Z26A	Caprock	81.78	52	P	P	18 08 25.9 +0.5
	baz=82					
X25A	Clemmons Ranch	81.78	51	P	P	18 08 25.9 +0.4
	baz=82					
V24A	Rampart Ranch,	81.84	50	P	P	18 08 26.5 +0.6
	baz=82					
T23A	Casias Ranch,	81.85	48	P	P	18 08 27.2 +1.2
	baz=82					
LRM	Limekiln Ridge	81.87	38	eP	P	18 08 25.9 +0.1
	comp=Z,3µm,2.0s					
R22A	Saguache, Gunn	81.87	47	P	P	18 08 27.2 +1.1
	baz=82					
529A	Stev Forest Ra	81.90	56	P	P	18 08 27.3 +1.2
	baz=82					
QLMT	Earthquake Lak	81.97	39	eP	P	18 08 27.7 +1.4
	comp=Z,22nm,1.3s					
P21A	Newcastle	81.98	45	P	P	18 08 27.2 +0.7
	baz=82					
CHMT	Chamberlain Mo	81.98	37	eP	P	18 08 26.3 0.0
	comp=Z,100nm,1.3s					
127A	Arkansas Junct	82.01	53	P	P	18 08 27.5 +0.8
	baz=82					
N20A	Spence Gulch,	82.03	44	P	P	18 08 26.6 -0.1
	baz=82					
I17A	Pilgrim Ck.	82.03	40	P	P	18 08 28.1 +1.4
	baz=82					
PDAR	Pinedale Array	82.11	42	P	P	18 08 25.5 -1.6
PDAR	Pinedale Array	82.11	42	P	P	18 08 25.5 -1.6
	comp=Z,33nm,1.1s,baz=205,slow=4.0,SNR=4.5					
YFT	Old Faithful	82.14	40	eP	P	18 08 25.9 -1.3
	comp=Z,285nm,1.6s					
SMCO	Snowmass	82.15	46	eP	P	18 08 28.1 +0.5
	comp=Z,268nm,1.5s					
Y26A	Elida	82.16	52	P	P	18 08 27.7 +0.2
	baz=82					
YMR	Madison River	82.17	40	eP	P	18 08 24.9 -2.5
	comp=Z,208nm,1.3s					
W25A	X Bar L Ranch,	82.22	50	P	P	18 08 28.7 +0.9
	baz=82					
H17A	Grant Village	82.27	40	eP	P	18 08 29.4 +1.5
H17A	Grant Village	82.27	40	P	P	18 08 29.7 +1.7
	baz=82					
COLA	College	82.29	11	eP	P	18 08 27.2 0.0
COLA				pmax	pmax	
	comp=Z,851nm,0.9s					
COLA	College	82.29	11	eP	P	18 08 27.2 0.0
	comp=Z,851nm,0.9s					
T24B	San Luis	82.33	48	P	P	18 08 28.6 +0.1
	baz=82					
429A	Davenport Ranc	82.35	55	P	P	18 08 28.6 +0.2
	baz=82					
V25A	Rancho No Teng	82.37	50	P	P	18 08 29.0 +0.4
	baz=82					
YNR	Norris Junctio	82.37	40	eP	P	18 08 30.3 +1.8
	comp=Z,477nm,1.8s					
ILAR	Eielson Array	82.38	11	P	P	18 08 26.9 -0.8
ILAR	Eielson Array	82.38	11	P	P	18 08 26.9 -0.8
	comp=Z,19nm,0.8s,baz=241,slow=6.0,SNR=5.7					
228A	UT Block 9, Go	82.38	54	P	P	18 08 29.2 +0.5
	baz=82					
M20A	Sweetwater, Wa	82.39	43	P	P	18 08 29.7 +1.0
	baz=82					
X26A	CR and CF Fran	82.43	51	P	P	18 08 29.6 +0.8
	baz=82					
LKWY	Lake	82.47	40	eP	P	18 08 29.2 +0.2
LKWY	Lake	82.47	40	eP	P	18 08 29.2 +0.2
P22A	Eagle	82.48	46	P	P	18 08 29.8 +0.7
	baz=83					
N21A	Black Mountain	82.50	44	P	P	18 08 30.2 +1.0
	baz=83					
R23A	Moffat	82.51	47	P	P	18 08 29.9 +0.5
	baz=83					
L20A	Wamsutter	82.53	43	P	P	18 08 30.5 +1.2
	baz=83					
SDCO	Great Sand Dun	82.55	48	eP	P	18 08 29.8 +0.2
	comp=Z,277nm,1.6s					
K19A	Absolon Red Bu	82.59	42	P	P	18 08 30.4 +0.8
	baz=83					
530A	J-C Ranch, Com	82.61	56	P	P	18 08 30.2 +0.4
	baz=83					
329A	Wagon Wheel Ra	82.61	55	P	P	18 08 30.4 +0.5
	baz=83					
Y27A	Causey	82.65	52	P	P	18 08 30.6 +0.6
	baz=83					
128A	Castleberry Fa	82.67	53	P	P	18 08 30.6 +0.5
	baz=83					
J19A	Crowheart	82.67	42	P	P	18 08 31.3 +1.2
	baz=83					
W26A	Owens Ranch, T	82.69	51	P	P	18 08 31.4 +1.2
	baz=83					
HRY	Holter Researc	82.70	38	eP	P	18 08 30.0 +0.1
	comp=Z,291nm,1.4s					
S24A	Houchin Ranch,	82.71	48	P	P	18 08 31.4 +0.9
	baz=83					
U25A	Circle Dot Ran	82.76	49	P	P	18 08 30.9 +0.2
	baz=83					
WALA	Waterton Lakes	82.77	35	eP	P	18 08 28.8 -1.5
	comp=Z,5.3nm,1.4s					
Q23A	Hartsel	82.82	47	P	P	18 08 31.2 +0.2
	baz=83					
K20A	Yellowstone Ra	82.84	42	P	P	18 08 31.1 +0.3
	baz=83					
O22A	Kremmling	82.88	45	P	P	18 08 31.7 +0.4
	baz=83					
430A	Baggett Ranch,	82.94	56	P	P	18 08 31.9 +0.4
	baz=83					
631A	Perdido Creek	82.95	57	P	P	18 08 31.8 +0.2
	baz=83					
V26A	Tequesquite Ra	82.97	50	P	P	18 08 32.3 +0.7
	baz=83					
MSTX	Muleshoe	82.98	52	P	P	18 08 32.2 +0.5
	baz=83					
M21A	Separation Pea	82.99	44	P	P	18 08 32.5 +0.7
	baz=83					
Z28A	Tucker Farm, M	83.01	53	P	P	18 08 32.5 +0.7
	baz=83					
X27A	F and S Farms,	83.01	51	P	P	18 08 31.9 +0.1
	baz=83					
P23A	Jefferson	83.02	46	P	P	18 08 33.1 +1.0
	baz=83					
R24A	Sanders Place,	83.04	47	P	P	18 08 33.2 +1.2
	baz=83					
T25A	Trinidad	83.07	49	P	P	18 08 33.5 +1.3
	baz=83					
I19A	Meeteetse	83.08	41	P	P	18 08 32.9 +0.8
	baz=83					
RWWY	Rawlins	83.13	44	eP	P	18 08 38.8 +6.3
	comp=Z,399nm,1.4s					
129A	Stewart Farms,	83.15	54	P	P	18 08 32.9 +0.3
	baz=83					
L21A	Rawlins	83.15	43	P	P	18 08 33.0 +0.4
	baz=83					
W27A	Bowe Ranch, En	83.20	51	P	P	18 08 33.5 +0.7
	baz=83					
330A	Mertzon	83.22	55	P	P	18 08 32.6 -0.4
	baz=83					
N22A	Wattenberg Ran	83.24	45	P	P	18 08 34.3 +1.2
	baz=83					
U26A	Atchley Ranch,	83.24	50	P	P	18 08 33.5 +0.4
	baz=83					
531A	Rocksprings	83.25	56	P	P	18 08 33.7 +0.6
	baz=83					
S25A	Robets Cordova	83.27	48	P	P	18 08 33.9 +0.6
	baz=83					
Q24A	Divide	83.32	47	P	P	18 08 34.6 +1.0
	baz=83					
O23A	Lake Granby, G	83.34	45	P	P	18 08 34.7 +1.0
	baz=84					
J20A	Shoshoni	83.34	42	P	P	18 08 34.7 +1.3
	baz=84					
Y28A	McKinney Farm,	83.36	52	P	P	18 08 33.6 0.0
	baz=84					
ISCO	Idaho Springs	83.36	46	P	P	18 08 34.8 +1.0
	baz=84					
H19A	Powell	83.40	40	P	P	18 08 35.1 +1.4
	baz=84					
M22A	Cedar Creek Ra	83.41	44	P	P	18 08 34.7 +0.8
	baz=84					
RLMT	Red Lodge	83.44	40	eP	P	18 08 35.3 +1.3
	comp=Z,330nm,1.7s					
GCMT	Greycliff	83.53	39	eP	P	18 08 34.8 +0.5
	comp=Z,107nm,1.3s					
K21A	Alcova	83.54	43	P	P	18 08 35.0 +0.5
	baz=84					
R25A	Fountain Ranch	83.59	48	P	P	18 08 34.6 -0.2
	baz=84					
I20A	Worland	83.59	41	P	P	18 08 34.7 0.0
	baz=84					
632A	Uvalde	83.62	57	P	P	18 08 35.3 +0.3
	baz=84					
N23A	Red Feather La	83.62	45	P	P	18 08 35.2 +0.1
	baz=84					
X28A	Dimmitt	83.64	52	P	P	18 08 35.2 +0.1
	baz=84					
V27A	Dan Oppiter Fa	83.65	50	P	P	18 08 36.5 +1.3
	baz=84					
J21A	Lysite	83.75	42	P	P	18 08 36.1 +0.6
	baz=84					
532A	Rocksprings	83.75	57	P	P	18 08 35.5 -0.2
	baz=84					
Y29A	Porterfield Fa	83.78	53	P	P	18 08 35.8 0.0
	baz=84					
L22A	Ellis Ranch, M	83.81	44	P	P	18 08 36.5 +0.6
	baz=84					
130A	Snyder	83.84	54	P	P	18 08 36.5 +0.4
	baz=84					
O24A	Longmont	83.88	46	P	P	18 08 36.8 +0.6
	baz=84					
W28A	Vega	83.92	51	P	P	18 08 36.1 -0.5
	baz=84					
H20A	Greybull	83.93	41	P	P	18 08 36.5 +0.1
	baz=84					
U27A	Thompson Grove	83.93	50	P	P	18 08 36.5 -0.1
	baz=84					
S26A	Kim	83.95	49	P	P	18 08 37.1 +0.4
	baz=84					
JCT	Junction City	83.97	56	P	P	18 08 37.3 +0.5
	baz=84					
Z30A	Sanderson Ranc	83.97	53	P	P	18 08 36.9 +0.1
	baz=84					
X29A	Tulia	83.98	52	P	P	18 08 37.2 +0.3
	baz=84					
F19A	Roth Farm, Mol	84.00	39	P	P	18 08 37.2 +0.5
	baz=84					
K22A	Casper	84.03	43	P	P	18 08 35.8 -1.2
	baz=84					
M23A	Laramie	84.03	44	P	P	18 08 37.4 +0.3
	baz=84					
I21A	Big Trails, Te	84.06	42	P	P	18 08 37.1 0.0
	baz=84					
COLD	Coldfoot	84.08	9	eP	P	18 08 38.5 +2.1
	comp=Z,85nm,1.1s					
231A	Bronte	84.10	55	P	P	18 08 37.2 -0.2
	baz=84					
V28A	Channing	84.11	51	P	P	18 08 37.2 -0.3
	baz=84					
432A	Menard	84.12	56	P	P	18 08 37.0 -0.6
	baz=84					
PMSA	Palmer Station	84.12	156	eP	P	18 08 35.9 -1.0
	comp=Z,39nm,1.2s					
P25A	Willow Gulch B	84.25	47	P	P	18 08 38.4 +0.2
	baz=84					
R26A	Arlington	84.25	48	P	P	18 08 38.5 +0.3
	baz=84					
T27A	Campo	84.27	49	P	P	18 08 38.4 +0.1
	baz=84					
W29A	Amraillo	84.29	51	P	P	18 08 38.3 -0.1
	baz=84					
131A	Roby	84.32	54	P	P	18 08 37.4 -1.1
	baz=84					
N24A	Carr	84.32	45	P	P	18 08 39.1 +0.7
	baz=84					
L23A	Garrett	84.33	44	P	P	18 08 38.8 +0.2
	baz=84					
332A	Millersview	84.35	55	P	P	18 08 39.6 +1.0
	baz=84					
Y30A	Stafford Cattl	84.38	53	P	P	18 08 39.0 +0.1
	baz=84					
E19A	Rath Farm, Rou	84.39	39	P	P	18 08 39.1 +0.5
	baz=84					
S27A	Las Animas	84.39	49	P	P	18 08 39.5 +0.6
	baz=84					
J22A	Midwest	84.40	42	P	P	18 08 38.7 -0.2
	baz=84					
F20A	Billings	84.46	40	P	P	18 08 39.1 +0.1
	baz=85					
O25A	Wiggins	84.54	46	P	P	18 08 40.2 +0.7
	baz=85					
EGMT	Eagleton	84.58	37	eP	P	18 08 40.3 +0.7
	comp=Z,476nm,1.7s					
EGMT	Eagleton	84.58	37	P	P	18 08 39.0 -0.6
	baz=85					
H21A	Big Horn, Sher	84.60	41	P	P	18 08 40.3 +0.5
	baz=85					
232A	Coleman	84.61	55	P	P	18 08 40.1 +0.1
	baz=85					
I22A	9 Mile Ranch,	84.62	42	P	P	18 08 39.9 0.0
	baz=85					
M24A	Cheyenne	84.63	45	P	P	18 08 40.8 +0.7
	baz=85					
K23A	Bowen Ranch, D	84.67	43	P	P	18 08 40.2 0.0
	baz=85					
D19A	Cripps Ranch,	84.68	38	P	P	18 08 41.2 +1.2
	baz=85					
V29A	Stinnett	84.68	51	P	P	18 08 40.5 +0.2
	baz=85					
R27A	Eads	84.71	48	P	P	18 08 40.5 +0.1
	baz=85					
Z31A	Sharp Cattle R	84.75	54	P	P	18 08 40.1 -0.6
	baz=85					
E20A	Meyer Farm, Mu	84.81	39	P	P	18 08 41.6 +0.9
	baz=85					
L24A	Wheatland	84.81	44	P	P	18 08 41.5 +0.5
	baz=85					
C19A	Slack Wire Ran	84.85	38	P	P	18 08 41.8 +0.9
	baz=85					
ABTX	Abilene, Hawle	84.88	54	P	P	18 08 41.5 +0.1
	baz=85					
Y31A	Rekieta Farm,	84.90	53	P	P	18 08 41.1 -0.3
	baz=85					
S28A	Manter	85.08	49	P	P	18 08 42.1 -0.2
	baz=85					
D20A	Manuel Ranch,	85.08	38	P	P	18 08 43.4 +1.4
	baz=85					
U29A	Oasis Ranch, S	85.09	50	P	P	18 08 42.6 +0.2
	baz=85					
F21A	Absaloka Mine,	85.10	40	P	P	18 08 43.9 +1.6
	baz=85					
M25A	Palm-Egli Farm	85.14	45	P	P	18 08 43.8 +1.2
	baz=85					
O26A	Horse Wrangler	85.15	46	P	P	18 08 43.4 +0.7
	baz=85					
K24A	Anderson Ranch	85.19	43	P	P	18 08 43.4 +0.5
	baz=85					
V30A	Spur Ranch, Mi	85.26	51	P	P	18 08 44.2 +1.0
	baz=85					
Z32A	Haskell	85.26	54	P	P	18 08 43.7 +0.5
	baz=85					
B19A	Brinkman Farms	85.27	37	P	P	18 08 43.8 +0.8
	baz=85					
I23A	Meade Ranch, G	85.31	42	P	P	18 08 44.6 +1.2
	baz=85					
G22A	Birney	85.34	41	P	P	18 08 43.4 -0.1
	baz=86					
T29A	Hugoton	85.35	50	P	P	18 08 44.4 +0.8
	baz=86					
X31A	McDonald Ranch	85.37	52	P	P	18 08 43.7 -0.1
	baz=86					
R28A	Tribune	85.44	48	P	P	18 08 45.0 +0.9
	baz=86					
C20A	Veseth Ranch,	85.46	38	P	P	18 08 44.2 +0.3
	baz=86					
E21A	Keefer Ranch,	85.47	39	P	P	18 08 44.5 +0.6
	baz=86					
Y32A	R-V Farms, Ver	85.55	53	P	P	18 08 45.2 +0.5
	baz=86					
J24A	Dixon Ranch, L	85.55	43	P	P	18 08 43.4 -1.2
	baz=86					
BJT	Baijiatuau	85.59	313	eP	P	18 08 41.7 -2.9
	comp=Z,70nm,1.0s					
W31A	Holland Ranch,	85.60	52	P	P	18 08 43.6 -1.3
	baz=86					
A19A	Klindworth Far	85.62	37	P	P	18 08 45.3 +0.6
	baz=86					
S29A	Ulysses	85.66	49	P	P	18 08 45.6 +0.4
	baz=86					
D21A	La Casta Ranch	85.76	39	P	P	18 08 46.4 +1.0
	baz=86					
B20A	Solberg Farm,	85.80	37	P	P	18 08 46.0 +0.4
	baz=86					
V31A	Spring Creek L	85.90	51	P	P	18 08 47.2 +0.8
	baz=86					
G23A	Biddle	85.91	41	P	P	18 08 46.8 +0.5
	baz=86					
C21A	Desert Coulee	86.06	38	P	P	18 08 46.6 -0.3
	baz=86					
LAO	LASA Array	86.06	39	eP	P	18 08 45.1 -1.8
	comp=Z,282nm,1.4s					
A20A	Cobblestone Ra	86.07	37	P	P	18 08 46.3 -0.6
	baz=86					
E22A	Miles City	86.11	40	P	P	18 08 47.3 +0.1
	baz=86					
F23A	Volborg	86.13	41	P	P	18 08 47.3 0.0
	baz=86					
H24A	Dirks Ranch, A	86.24	42	P	P	18 08 48.5 +0.6
	baz=86					
RSSD	Black Hills	86.30	42	P	P	18 08 46.6 -1.8
RSSD				pmax	pmax	
	comp=Z,631nm,1.4s					
RSSD	Black Hills	86.30	42	P	P	18 08 46.6 -1.8
	comp=Z,631nm,1.4s					
WHTX	Lake Whitney	86.38	56	P	P	18 08 49.0 +0.2
	baz=86					
B21A	Ellsworth Farm	86.38	38	P	P	18 08 48.5 +0.1
	baz=86					
A21A	Bergtoll Ranch	86.70	37	P	P	18 08 49.7 -0.3
	baz=87					
B22A	Reddig Ranch S	86.93	38	P	P	18 08 51.4 +0.2
	baz=87					
ENH	Enshi	87.07	302	eP	P	18 08 51.4 -0.8
	comp=Z,205nm,1.6s					
E24A	Baker	87.18	40	P	P	18 08 53.2 +0.7
	baz=87					
J27A	Elkhorn Farm,	87.28	44	P	P	18 08 53.0 0.0
	baz=87					
HIA	Hailar	87.29	323	eP	P	18 08 54.5 +1.7
B23A	Brockton	87.60	38	P	P	18 08 54.9 +0.5
	baz=88					
KULM	Kulim	87.69	276	eP	P	18 08 55.7 +0.2
	comp=Z,40nm,1.0s					
MAW	Mawson	87.89	199	P	P	18 08 55.8 +0.4
MAW	Mawson	87.89	199	P	P	18 08 55.8 +0.4
	comp=Z,28nm,0.7s,baz=137,slow=5.9,SNR=8.9					
DGMT	Dagmar	88.08	38	eP	P	18 08 55.9 -0.8
	comp=Z,296nm,1.3s					
DGMT	Dagmar	88.08	38	P	P	18 08 56.8 +0.1
	baz=88					
K29A	Lazy Trails An	88.22	45	P	P	18 08 57.0 -0.5
	baz=88					
A24A	Westby	88.39	38	P	P	18 08 57.8 -0.3
	baz=88					
NATX	Nacogdoches	88.54	57	eP	P	18 09 00.3 +1.1
	comp=Z,980nm,1.9s					
K30A	Basset	88.67	45	P	P	18 09 00.3 +0.7
	baz=89					
G28A	Parade	88.73	42	P	P	18 09 00.2 +0.4
	baz=89					
BGNE	Belgrade	89.21	47	P	P	18 09 01.7 -0.5
	baz=89					
PLCA	Paso Flores	89.39	132	P	P	18 09 04.2 +1.0
E28A	Huff	89.46	41	P	P	18 09 02.0 -1.1
	baz=90					
YKA	Yellowknife Ar	89.99	23	P	P	18 09 04.3 -0.9
YKA	Yellowknife Ar	89.99	23	P	P	18 09 04.3 -0.9
	comp=Z,13nm,0.9s,baz=239,slow=4.5,SNR=4.9					
MDND	Maddock	90.64	40	P	P	18 09 07.5 -1.1
	baz=91					
CMAR	Chiang Mai Arr	92.79	288	P	P	18 09 20.5 +1.2
CMAR	Chiang Mai Arr	92.79	288	P	P	18 09 20.5 +1.2
	comp=Z,10nm,0.9s,baz=85,slow=2.3,SNR=4.5					
SCIA	State Center	92.86	47	P	P	18 09 19.4 +0.3
	comp=Z,525nm,1.8s					
CHTO	Chiang Mai	92.89	289	P	P	18 09 21.2 +1.5
CHTO				pmax	pmax	
	comp=Z,86nm,0.9s					
CHTO	Chiang Mai	92.89	289	P	P	18 09 21.1 +1.5

comp=Z,86nm,0.9s
JFWS Jewell Farm 95.26 47 P **P 18 09 29.7 -0.4**
JFWS pmax pmax
comp=Z,108nm,1.1s
JFWS Jewell Farm 95.26 47 P **P 18 09 29.7 -0.4**
comp=Z,108nm,1.1s
ZALV Zalesovo Beam 109.32 322 PKiKP **PKiKP 18 14 35.2 -0.9**
ZALV Zalesovo Beam 109.32 322 PKiKP **PKiKP 18 14 35.2 -0.9**
comp=Z,4.5nm,0.7s,baz=90,slow=0.1,SNR=2.4
MKAR Makanchi Array 110.95 315 *i* PKiKP 18 14 38.9
MKAR pmax pmax
comp=Z,4.0nm,0.7s
MKAR Makanchi Array 110.95 315 PKiKP **PKiKP 18 14 38.9 -0.5**
MKAR Makanchi Array 110.95 315 PKiKP **PKiKP 18 14 38.9 -0.5**
comp=Z,4.3nm,0.7s,baz=226,slow=1.6,SNR=4.8
KURK Kurchatov 113.25 319 PKIKP 18 14 43.8
KURK Kurchatov 113.25 319 PKiKP **PKiKP 18 14 43.8 +0.1**
KURBB Kurchatov Arra 113.31 319 PKiKP **PKiKP 18 14 43.7 0.0**
comp=Z,7.0nm,1.0s,baz=75,slow=1.6,SNR=4.1
BVAR Borovoye Array 117.98 322 PKIKP **PKPdf 18 14 52.6 -0.1**
BVAR pmax pmax
comp=Z,5.0nm,0.6s
BVAR Borovoye Array 117.98 322 PKP **PKPdf 18 14 52.6 -0.1**
BVAR Borovoye Array 117.98 322 PKP **PKPdf 18 14 52.6 -0.1**
comp=Z,4.6nm,0.6s,baz=125,slow=2.5,SNR=5.1
ARCES ARCESS Array B 124.61 352 PKP **PKPdf 18 15 04.7 -0.3**
ARCES ARCESS Array B 124.61 352 PKP **PKPdf 18 15 04.7 -0.3**
comp=Z,12nm,1.0s,baz=34,slow=2.3,SNR=3.4
FINES FINESS Array B 131.95 348 PKP **PKPdf 18 15 18.2 -0.9**
FINES FINESS Array B 131.95 348 PKP **PKPdf 18 15 18.2 -0.9**
comp=Z,44nm,1.2s,baz=29,slow=3.2,SNR=3.0
NOA NORSAR Array B 134.28 357 PKP **PKPdf 18 15 23.0 -0.6**
NOA NORSAR Array B 134.28 357 PKP **PKPdf 18 15 23.0 -0.6**
comp=Z,5.7nm,1.0s,baz=18,slow=3.7,SNR=2.4
AKASG Malin Array Be 140.39 338 PKIKP **PKPdf 18 15 32.7 -2.4**
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKASG Malin Array Be 140.39 338 PKP **PKPdf 18 15 32.7 -2.4**
AKASG Malin Array Be 140.39 338 PKP **PKPdf 18 15 32.7 -2.4**
comp=Z,2.6nm,0.6s,baz=34,slow=3.4,SNR=4.8
CLL Collm 143.81 353 *e*PKPdf **PKPdf 18 15 43.0 +1.8**
UPC Upice 144.17 350 *e*PKP **PKPdf 18 15 41.4 -0.5**
DPC Dobruska-Polom 144.27 350 *e*PKP PKPdf 18 15 49.9 +7.8
OKC Ostrava-Krasne 144.40 347 *e*PKP PKPdf 18 15 49.5 +7.2
PRA Prague 144.84 351 PKP **PKPdf 18 15 45.0 +1.9**
PRU Pruhonice 144.90 351 *e*PKP **PKPdf 18 15 44.0 +0.8**
KECS Kecovo 145.11 344 *e*PKP **PKPdf 18 15 44.7 +1.1**
TREC Trest 145.43 350 *e*PKP **PKPab 18 15 46.4 +2.1**
KMBO Kilima Mbogo 145.73 244 PKPbc **PKPdf 18 15 46.5 +0.4**
KMBO Kilima Mbogo 145.73 244 PKPbc **PKPdf 18 15 46.5 +0.4**
comp=Z,38nm,0.9s,baz=106,slow=4.0,SNR=13
WLF Walferdange 145.79 1 *e*PKP2 **PKPbc 18 15 45.5 +0.3**
WLF Walferdange 145.79 1 *e*PKPdf **PKPbc 18 15 45.5 +0.3**
KHC Kasperske Hory 145.88 352 *e*PKP **PKPab 18 15 47.3 +1.3**
GERES GERESS Array B 146.14 352 PKPbc **PKPdf 18 15 44.7 -0.8**
GERES GERESS Array B 146.14 352 PKPbc **PKPdf 18 15 44.7 -0.8**
comp=Z,28nm,1.1s,baz=29,slow=2.2,SNR=5.6
BRTR Keskin Array B 146.26 321 PKPbc **PKPdf 18 15 46.2 +0.2**
BRTR Keskin Array B 146.26 321 PKPbc **PKPdf 18 15 46.3 +0.2**
comp=Z,125nm,1.0s,baz=80,slow=2.4,SNR=9.9
BFO Black Forest 147.11 358 *e*PKP2 **PKPab 18 15 50.5 -0.2**
BFO Black Forest 147.11 358 *e*PKPbc **PKPab 18 15 50.5 -0.2**
CSS Prodhromos 149.22 314 *e*PKPbc **PKPdf 18 15 53.2 +2.3**
ESDC Sonseca Array 154.01 19 PKPbc **PKPbc 18 16 05.7 -0.4**
ESDC Sonseca Array 154.01 19 PKPbc **PKPbc 18 16 05.7 -0.4**
comp=Z,5.1nm,0.8s,baz=336,slow=3.4,SNR=4.7

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*IDC **29** 17:57:26.3±0.5, 15°.60S×173°.25W, h0km, mb5.3/20, mb1 5.4/20, mb1mx5.3/28, mbtmp5.3/20, Error ellipse: s-maj=22.1km s-min=15.5km az=124.0*
*NEIC **29** 17:57:26.9±0.3, 15°.82S×173°.13W, h10km, mb5.6/30, Error ellipse: s-maj=13.5km s-min=8.1km az=136.0*
*ISCJB **29** 17:57:28.3±0.2, 15°.83S±0°.07×173°.22W±0°.06, h26km, mb5.5/50, Error ellipse: s-maj=11.5km s-min=5.9km az=139.5*
*MOS **29** 17:57:28.7±1.7, 16°.09S×172°.86W, h33km, mb5.7/26, Error ellipse: s-maj=13.4km s-min=9.9km az=52.0*
ISC 29 17:57:30.1±0.3, 15°.83S±0°.08×173°.19W±0°.09, h26km, n197, σ1§34/188, mb5.5/50, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.34**	**36**	Pn	**Pn**	**17 58 08.0**	**+1.0**
RAR	**Rarotonga**	**13.80**	**115**	*e*Pn	Pn	18 00 36.6	-7.5
RPZ	**Rata Peaks**	**30.87**	**203**	P	**P**	**18 03 47.0**	**+2.7**
RPZ	**Rata Peaks**	**30.87**	**203**	P	**P**	**18 03 47.0**	**+2.7**
74nm,0.8s,baz=45,slow=7.1,SNR=2.9							
EIDS	**Eidsvold**	**34.67**	**248**	*e*P	**P**	**18 04 18.2**	**+0.4**
88nm,1.2s							
CTAO	**Charters Tower**	**38.75**	**258**	P	**P**	**18 04 51.4**	**-1.2**
CTAO				pmax	pmax		
comp=Z,46nm,1.0s							
CTAO	**Charters Tower**	**38.75**	**258**	P	**P**	**18 04 51.4**	**-1.2**
comp=Z,46nm,1.0s							
PMG	**Port Moresby**	**39.17**	**275**	*e*P	P	18 05 00.1	+4.0
comp=Z,118nm,1.1s							
TAU	**Tasmania Unive**	**43.15**	**223**	P	**P**	**18 05 26.6**	**-1.9**
TAU				pmax	pmax		
comp=Z,54nm,1.1s							
TAU	**Tasmania Unive**	**43.15**	**223**	P	**P**	**18 05 26.6**	**-1.9**
comp=Z,54nm,1.1s							
STKA	**Stephens Creek**	**44.00**	**240**	*e*P	**P**	**18 05 33.0**	**-2.5**
comp=Z,31nm,1.1s							
STKA	**Stephens Creek**	**44.00**	**240**	P	**P**	**18 05 36.1**	**+0.5**
comp=Z,78nm,0.9s,baz=60,slow=9.6,SNR=4.3							
WRAB	**Tennant Creek**	**49.94**	**257**	P	**P**	**18 06 22.6**	**+0.5**
WRAB				pmax	pmax		
comp=Z,194nm,1.3s							
WRAB	**Tennant Creek**	**49.94**	**257**	P	**P**	**18 06 22.6**	**+0.5**
comp=Z,194nm,1.3s							
WRA	**Warramunga Arr**	**49.95**	**257**	P	**P**	**18 06 22.4**	**+0.2**
WRA	**Warramunga Arr**	**49.95**	**257**	P	**P**	**18 06 22.4**	**+0.2**
comp=Z,34nm,0.8s,baz=94,slow=6.8,SNR=6.0							
ASAR	**Alice Springs**	**50.17**	**252**	P	**P**	**18 06 24.2**	**+0.2**
ASAR	**Alice Springs**	**50.17**	**252**	P	**P**	**18 06 24.2**	**+0.2**
comp=Z,81nm,0.6s,baz=88,slow=8.0,SNR=5.2							
SBA	**Scott Base**	**62.84**	**185**	*e*P	**P**	**18 07 52.7**	**-0.5**
SBA				pmax	pmax		
comp=Z,83nm,0.9s							
SBA	**Scott Base**	**62.84**	**185**	*e*P	**P**	**18 07 52.7**	**-0.5**
comp=Z,83nm,0.9s							
VNDA	**Vanda**	**62.97**	**186**	P	**P**	**18 07 53.5**	**-0.5**
comp=Z,58nm,1.2s							
MBWA	**Marble Bar**	**63.44**	**254**	*e*P	**P**	**18 07 57.8**	**-0.3**
comp=Z,119nm,1.0s							
NWAO	**Narrogin (SRO)**	**64.59**	**241**	*e*P	**P**	**18 08 05.4**	**-0.1**
comp=Z,91nm,1.1s							
MAJO	**Matsushiro**	**69.40**	**320**	P	P	18 08 39.8	+4.0
MAJO				pmax	pmax		
comp=Z,40nm,1.1s							
MAJO	**Matsushiro**	**69.40**	**320**	P	P	18 08 39.8	+4.0
comp=Z,40nm,1.1s							
CASY	**Casey**	**70.11**	**205**	*e*P	**P**	**18 08 39.1**	**-0.7**
comp=Z,41nm,1.0s							
ASAJ	**Asahikawa**	**72.01**	**328**	P	**P**	**18 08 50.0**	**-1.6**
ASAJ	**Asahikawa**	**72.01**	**328**	P	**P**	**18 08 50.0**	**-1.6**
comp=Z,9.4nm,0.8s,baz=112,slow=5.4,SNR=1.9							
JNU	**Nakatsue**	**72.24**	**313**	P	**P**	**18 08 52.5**	**-0.8**
JNU	**Nakatsue**	**72.24**	**313**	P	**P**	**18 08 52.5**	**-0.8**
comp=Z,15nm,1.0s,baz=126,slow=5.2,SNR=2.2							
ISA	**Isabella**	**72.81**	**44**	*e*P	**P**	**18 08 55.4**	**-1.3**
ISA				pmax	pmax		
comp=Z,37nm,1.1s							
ISA	**Isabella**	**72.81**	**44**	*e*P	**P**	**18 08 55.4**	**-1.3**
comp=Z,37nm,1.1s							
CMB	**Columbia Colle**	**72.95**	**41**	P	**P**	**18 08 55.4**	**-2.0**
CMB				pmax	pmax		
comp=Z,27nm,0.9s							
CMB	**Columbia Colle**	**72.95**	**41**	P	**P**	**18 08 55.4**	**-2.0**
comp=Z,27nm,0.9s							
PETK	**Petropavlovsk-**	**73.10**	**342**	P	**P**	**18 08 56.0**	**-1.9**
PETK				pmax	pmax		
comp=Z,26nm,0.8s							
PETK	**Petropavlovsk-**	**73.10**	**342**	P	**P**	**18 08 56.0**	**-1.9**
PETK	**Petropavlovsk-**	**73.10**	**342**	P	**P**	**18 08 56.0**	**-1.9**
comp=Z,26nm,0.8s,baz=123,slow=7.9,SNR=2.6							
YBH	**Yreka Blue Hor**	**73.81**	**37**	P	**P**	**18 09 02.9**	**+0.5**
YBH	**Yreka Blue Hor**	**73.81**	**37**	P	**P**	**18 09 02.9**	**+0.5**
comp=Z,29nm,0.7s,baz=168,slow=5.0,SNR=4.7							
QSPA	**South Pole Qui**	**74.22**	**180**	*e*P	**P**	**18 09 02.8**	**-1.8**
comp=Z,145nm,1.0s							
NV11	**Mina Array Sit**	**74.61**	**42**	*e*P	**P**	**18 09 05.7**	**-1.5**
KDAK	**Kodiak Island**	**75.30**	**11**	P	**P**	**18 09 09.9**	**-0.6**
KDAK	**Kodiak Island**	**75.30**	**11**	P	**P**	**18 09 09.9**	**-0.6**
comp=Z,15nm,0.8s,baz=238,slow=6.9,SNR=2.0							
TPUB	**Ta-pu**	**75.48**	**300**	*e*P	**P**	**18 09 13.8**	**+1.4**
comp=Z,63nm,0.8s							
NLWA	**Neilton Lookou**	**76.85**	**32**	*e*P	**P**	**18 09 20.9**	**+1.1**
comp=Z,133nm,1.1s							
X16A	**Lo Mia Camp, P**	**77.05**	**48**	P	**P**	**18 09 20.3**	**-1.0**
baz=77							
KSM	**Kuching**	**77.43**	**275**	*e*P	**P**	**18 09 25.8**	**+2.1**
comp=Z,88nm,1.1s							
220A	**Playas Peak, P**	**78.00**	**52**	P	**P**	**18 09 27.3**	**+0.6**
baz=78							
HAWA	**Hanford**	**78.51**	**35**	*e*P	P	18 09 25.3	-3.7
comp=Z,50nm,0.9s							
DUG	**Dugway**	**79.03**	**43**	*e*P	**P**	**18 09 29.9**	**-2.3**
DUG				pmax	pmax		
comp=Z,68nm,1.2s							
DUG	**Dugway**	**79.03**	**43**	*e*P	**P**	**18 09 29.9**	**-2.3**
comp=Z,68nm,1.2s							
Y20A	**Horse Springs,**	**79.03**	**50**	P	**P**	**18 09 32.0**	**-0.5**
baz=79							
PMR	**Palmer**	**79.50**	**11**	P	**P**	**18 09 36.1**	**+2.1**
PMR				pmax	pmax		
comp=Z,117nm,1.2s							
PMR	**Palmer**	**79.50**	**11**	P	**P**	**18 09 36.1**	**+2.1**
comp=Z,117nm,1.2s							
HLID	**Hailey**	**79.83**	**39**	P	**P**	**18 09 37.2**	**+0.7**
baz=80							
425A	**Indio Mountain**	**80.24**	**54**	P	**P**	**18 09 38.8**	**-0.1**
baz=80							
HWUT	**Hardware Ranch**	**80.57**	**42**	P	**P**	**18 09 43.1**	**+2.5**
comp=Z,50nm,1.2s							
PV10	**Paradox Valley**	**80.66**	**46**	*e*P	**P**	**18 09 41.0**	**-0.2**
comp=Z,860nm,0.8s							
TXAR	**Lajitas Array**	**80.68**	**56**	P	**P**	**18 09 41.2**	**-0.1**
TXAR	**Lajitas Array**	**80.68**	**56**	P	**P**	**18 09 41.2**	**-0.1**
comp=Z,7.2nm,0.7s,baz=221,slow=5.4,SNR=5.5							
PV01	**Paradox Valley**	**80.87**	**46**	*e*P	**P**	**18 09 42.0**	**-0.2**
comp=Z,3μm,0.9s							
S20A	**Disappointment**	**80.87**	**47**	P	**P**	**18 09 42.6**	**+0.2**
baz=81							
ANMO	**Albuquerque**	**80.92**	**50**	*e*P	**P**	**18 09 41.3**	**-1.3**
comp=Z,37nm,1.0s							
ANMO	**Albuquerque**	**80.92**	**50**	P	**P**	**18 09 42.0**	**-0.6**
comp=Z,21nm,1.0s,baz=235,slow=7.2,SNR=3.1							
225A	**Deer Hill, Car**	**80.92**	**53**	P	**P**	**18 09 42.7**	**0.0**
baz=81							
426A	**McDonald Obser**	**80.94**	**55**	P	**P**	**18 09 42.6**	**-0.2**
baz=81							
NEW	**Newport**	**80.94**	**34**	*e*P	**P**	**18 09 40.0**	**-2.2**
comp=Z,30nm,0.9s							
NEW	**Newport**	**80.94**	**34**	P	**P**	**18 09 42.4**	**+0.2**
comp=Z,20nm,0.8s,baz=233,slow=7.2,SNR=4.0							
NEW	**Newport**	**80.94**	**34**	P	**P**	**18 09 43.0**	**+0.8**
baz=81							
Y24A	**Capitan**	**81.23**	**51**	P	**P**	**18 09 43.8**	**-0.5**
baz=81							
W23A	**Werner Place,**	**81.24**	**50**	P	**P**	**18 09 44.4**	**+0.1**
baz=81							
MCK	**McKinley**	**81.50**	**11**	*e*P	**P**	**18 09 44.4**	**-0.4**
MCK				pmax	pmax		
comp=Z,156nm,1.1s							
MCK	**McKinley**	**81.50**	**11**	*e*P	**P**	**18 09 44.4**	**-0.4**
comp=Z,156nm,1.1s							
427A	**Hayter Ranch,**	**81.50**	**55**	P	**P**	**18 09 45.4**	**-0.2**
baz=82							
126A	**Clayton Basin,**	**81.76**	**53**	P	**P**	**18 09 47.0**	**0.0**
baz=82							
Z26A	**Caprock**	**82.05**	**52**	P	**P**	**18 09 48.3**	**-0.3**
baz=82							
T23A	**Casias Ranch,**	**82.15**	**48**	P	**P**	**18 09 49.1**	**0.0**
baz=82							
R22A	**Saguache, Gunn**	**82.18**	**47**	P	**P**	**18 09 49.5**	**+0.2**
baz=82							
328A	**Wristen Ranch,**	**82.18**	**54**	P	**P**	**18 09 48.6**	**-0.5**
baz=82							
127A	**Arkansas Junct**	**82.28**	**53**	P	**P**	**18 09 49.4**	**-0.4**
baz=82							
Q22A	**Crested Butte,**	**82.36**	**46**	P	**P**	**18 09 50.0**	**-0.3**
baz=82							
Y26A	**Elida**	**82.44**	**52**	P	**P**	**18 09 50.1**	**-0.5**
baz=82							
PDAR	**Pinedale Array**	**82.45**	**42**	P	**P**	**18 09 50.4**	**-0.1**
PDAR	**Pinedale Array**	**82.45**	**42**	P	**P**	**18 09 50.4**	**-0.1**
comp=Z,16nm,0.9s,baz=224,slow=3.8,SNR=3.3							
429A	**Davenport Ranc**	**82.60**	**55**	P	**P**	**18 09 50.8**	**-0.6**
baz=83							
H17A	**Grant Village**	**82.62**	**40**	P	**P**	**18 09 52.1**	**+0.7**
baz=83							
228A	**UT Block 9, Go**	**82.65**	**54**	P	**P**	**18 09 51.1**	**-0.5**
baz=83							
V25A	**Rancho No Teng**	**82.66**	**50**	P	**P**	**18 09 52.1**	**+0.4**
baz=83							
COLA	**College**	**82.74**	**11**	*e*P	**P**	**18 09 51.9**	**+0.7**
COLA				pmax	pmax		
comp=Z,536nm,0.9s							
COLA	**College**	**82.74**	**11**	*e*P	**P**	**18 09 51.9**	**+0.7**
comp=Z,536nm,0.9s							
R23A	**Moffat**	**82.81**	**47**	P	**P**	**18 09 52.7**	**+0.1**
baz=83							
ILAR	**Eielson Array**	**82.82**	**11**	P	**P**	**18 09 51.0**	**-0.6**
ILAR	**Eielson Array**	**82.82**	**11**	P	**P**	**18 09 51.0**	**-0.6**
comp=Z,12nm,0.7s,baz=229,slow=5.4,SNR=2.9							
SDCO	**Great Sand Dun**	**82.85**	**48**	*e*P	**P**	**18 09 51.1**	**-1.7**
comp=Z,54nm,1.3s							
L20A	**Wamsutter**	**82.87**	**43**	P	**P**	**18 09 52.8**	**+0.1**
baz=83							
329A	**Wagon Wheel Ra**	**82.88**	**55**	P	**P**	**18 09 52.1**	**-0.7**
baz=83							
Y27A	**Causey**	**82.93**	**52**	P	**P**	**18 09 52.2**	**-0.8**
baz=83							
S24A	**Houchin Ranch,**	**83.01**	**48**	P	**P**	**18 09 54.0**	**+0.3**
baz=83							
U25A	**Circle Dot Ran**	**83.05**	**49**	P	**P**	**18 09 53.7**	**-0.1**
baz=83							
Q23A	**Hartsel**	**83.13**	**46**	P	**P**	**18 09 54.0**	**-0.3**
baz=83							
WALA	**Waterton Lakes**	**83.15**	**35**	*e*P	P	18 09 50.6	-3.2
comp=Z,1.2nm,0.8s							
X27A	**F and S Farms,**	**83.29**	**51**	P	**P**	**18 09 54.6**	**-0.3**
baz=83							
R24A	**Sanders Place,**	**83.34**	**47**	P	**P**	**18 09 55.4**	**+0.2**
baz=83							
I19A	**Meeteetse**	**83.43**	**41**	P	**P**	**18 09 55.8**	**+0.2**
baz=84							
U26A	**Atchley Ranch,**	**83.54**	**49**	P	**P**	**18 09 55.7**	**-0.6**
baz=84							
S25A	**Robets Cordova**	**83.57**	**48**	P	**P**	**18 09 55.3**	**-1.1**
baz=84							
PMSA	**Palmer Station**	**83.70**	**156**	*e*P	**P**	**18 09 56.3**	**0.0**
comp=Z,46nm,1.0s							
PMSA	**Palmer Station**	**83.70**	**156**	P	**P**	**18 09 57.1**	**+0.8**
comp=Z,33nm,1.0s,baz=208,slow=5.9,SNR=5.4							
R25A	**Fountain Ranch**	**83.89**	**48**	P	**P**	**18 09 57.7**	**-0.3**
baz=84							
U27A	**Thompson Grove**	**84.22**	**50**	P	**P**	**18 09 58.7**	**-0.9**
baz=84							
S26A	**Kim**	**84.25**	**48**	P	**P**	**18 09 59.2**	**-0.6**
baz=84							
F19A	**Roth Farm, Mol**	**84.35**	**39**	P	**P**	**18 10 00.1**	**+0.1**
baz=84							
P25A	**Willow Gulch B**	**84.56**	**47**	P	**P**	**18 10 00.4**	**-1.0**
baz=85							
T27A	**Campo**	**84.56**	**49**	P	**P**	**18 10 00.6**	**-0.8**
baz=85							
W29A	**Amraillo**	**84.57**	**51**	P	**P**	**18 10 00.7**	**-0.7**
baz=85							
E19A	**Rath Farm, Rou**	**84.74**	**39**	P	**P**	**18 10 02.0**	**-0.1**
baz=85							
S28A	**Manter**	**85.38**	**49**	P	**P**	**18 10 04.1**	**-1.3**
baz=86							
USHA	**Ushuaia**	**85.45**	**146**	P	**P**	**18 10 06.3**	**+0.9**
USHA	**Ushuaia**	**85.45**	**146**	P	**P**	**18 10 06.3**	**+0.9**
comp=Z,25nm,0.9s,baz=280,slow=6.1,SNR=3.8							
Z32A	**Haskell**	**85.53**	**54**	P	**P**	**18 10 05.9**	**-0.3**
baz=86							
V30A	**Spur Ranch, Mi**	**85.54**	**51**	P	**P**	**18 10 05.1**	**-1.2**
baz=86							
P27A	**Ficken Ranch,**	**85.69**	**47**	P	**P**	**18 10 06.5**	**-0.5**
baz=86							
R28A	**Tribune**	**85.74**	**48**	P	**P**	**18 10 06.7**	**-0.5**
baz=86							
E21A	**Keefer Ranch,**	**85.82**	**39**	P	**P**	**18 10 07.1**	**-0.2**
baz=86							
Y32A	**R-V Farms, Ver**	**85.82**	**53**	P	**P**	**18 10 06.1**	**-1.4**
baz=86							
W31A	**Holland Ranch,**	**85.88**	**52**	P	**P**	**18 10 07.1**	**-0.8**
baz=86							
BJT	**Baijiatuau**	**85.91**	**313**	*e*P	**P**	**18 10 08.8**	**+0.9**
comp=Z,73nm,1.0s							
O27A	**Beecher Island**	**86.02**	**46**	P	**P**	**18 10 06.9**	**-1.6**
baz=86							
A20A	**Cobblestone Ra**	**86.43**	**37**	P	**P**	**18 10 10.2**	**-0.1**
baz=87							
B21A	**Ellsworth Farm**	**86.74**	**38**	P	**P**	**18 10 11.9**	**+0.1**
baz=87							
R30A	**Dighton**	**86.83**	**49**	P	**P**	**18 10 12.2**	**-0.3**
baz=87							
Q30A	**Quinter**	**87.14**	**48**	P	**P**	**18 10 13.7**	**-0.3**
baz=87							
ENH	**Enshi**	**87.32**	**302**	P	**P**	**18 10 14.8**	**-0.3**
comp=Z,27nm,0.9s							
MAW	**Mawson**	**87.45**	**199**	P	**P**	**18 10 15.9**	**+0.9**
MAW	**Mawson**	**87.45**	**199**	P	**P**	**18 10 15.9**	**+0.9**
comp=Z,41nm,1.0s,baz=167,slow=4.9,SNR=3.5							
HIA	**Hailar**	**87.66**	**323**	P	**P**	**18 10 18.1**	**+1.8**
KULM	**Kulim**	**87.75**	**276**	P	**P**	**18 10 15.0**	**-2.5**
comp=Z,41nm,1.2s							
N30A	**Hueftle Ranch,**	**87.93**	**47**	P	**P**	**18 10 17.4**	**-0.4**
baz=88							
P31A	**Stockton**	**87.95**	**48**	P	**P**	**18 10 17.6**	**-0.3**
baz=88							
INK	**Inuvik**	**88.63**	**14**	P	**P**	**18 10 19.6**	**-0.7**
INK	**Inuvik**	**88.63**	**14**	P	**P**	**18 10 19.6**	**-0.7**
comp=Z,11nm,0.9s,baz=217,slow=4.9,SNR=2.0							
PLCA	**Paso Flores**	**89.07**	**132**	*e*P	**P**	**18 10 21.7**	**-1.7**
PLCA	**Paso Flores**	**89.07**	**132**	P	**P**	**18 10 24.7**	**+1.3**
comp=Z,9.5nm,1.1s,baz=218,slow=4.7,SNR=3.4							
YKA	**Yellowknife Ar**	**90.41**	**23**	P	**P**	**18 10 28.3**	**-0.5**
YKA	**Yellowknife Ar**	**90.41**	**23**	P	**P**	**18 10 28.3**	**-0.5**
comp=Z,9.6nm,0.9s,baz=243,slow=4.4,SNR=2.9							
SNAA	**Sanae**	**92.47**	**177**	*e*P	**P**	**18 10 37.9**	**-0.6**
VNA2	**Neumayer--Watz**	**92.91**	**175**	*e*P	**P**	**18 10 42.0**	**+1.5**
baz=164,slow=2.1							
VNA1	**Neumayer--Stat**	**93.11**	**175**	*e*P	**P**	**18 10 42.9**	**+1.6**
ZALV	**Zalesovo Beam**	**109.69**	**322**	PKiKP	**PKiKP**	**18 15 59.8**	**+1.4**
ZALV	**Zalesovo Beam**	**109.69**	**322**	PKiKP	**PKiKP**	**18 15 59.8**	**+1.4**
comp=Z,2.1nm,0.7s,baz=48,slow=2.1,SNR=2.1							
MKAR	**Makanchi Array**	**111.27**	**314**	*i* PKiKP	**PKiKP**	**18 16 01.6**	**-0.1**
MKAR				pmax	pmax		
comp=Z,5.0nm,0.8s							
MKAR				pmax	pmax		
comp=Z,3.0nm,1.0s							
MKAR	**Makanchi Array**	**111.27**	**314**	PKiKP	**PKiKP**	**18 16 01.6**	**-0.1**
MKAR				PKKPbc	**PKKPbc**	**18 26 55.9**	**-2.9**
MKAR	**Makanchi Array**	**111.27**	**314**	PKiKP	**PKiKP**	**18 16 01.6**	**-0.1**
comp=Z,4.5nm,0.8s,baz=65,slow=0.8,SNR=3.8							
MKAR				PKKPbc	**PKKPbc**	**18 26 55.9**	**-2.9**
comp=Z,3.4nm,1.0s,baz=274,slow=4.0,SNR=2.7							
KURK	**Kurchatov**	**113.59**	**319**	*i* PKIKP	**PKiKP**	**18 16 06.3**	**+0.4**
KURK				pmax	pmax		
comp=Z,3.0nm,0.8s							
KURK	**Kurchatov**	**113.59**	**319**	PKiKP	**PKiKP**	**18 16 06.3**	**+0.4**
KURBB	**Kurchatov Arra**	**113.66**	**319**	PKiKP	**PKiKP**	**18 16 06.3**	**+0.3**
comp=Z,3.0nm,0.8s,baz=87,slow=1.1,SNR=3.0							
BVAR	**Borovoye Array**	**118.34**	**322**	PKIKP	**PKPdf**	**18 16 14.8**	**-0.3**
BVAR				pmax	pmax		
comp=Z,7.0nm,0.9s							
BVAR	**Borovoye Array**	**118.34**	**322**	PKP	**PKPdf**	**18 16 14.8**	**-0.3**
BVAR	**Borovoye Array**	**118.34**	**322**	PKP	**PKPdf**	**18 16 14.8**	**-0.3**
comp=Z,6.6nm,0.9s,baz=100,slow=3.4,SNR=2.8							
KEV	**Kevo**	**124.65**	**352**	*e*p	**PKPdf**	**18 16 28.9**	**+2.3**
comp=Z,0.5nm,0.4s							
ARCES	**ARCESS Array B**	**125.06**	**352**	PKP	**PKPdf**	**18 16 27.1**	**-0.4**
ARCES	**ARCESS Array B**	**125.06**	**352**	PKP	**PKPdf**	**18 16 27.1**	**-0.4**
comp=Z,14nm,0.8s,baz=346,slow=2.3,SNR=5.2							
JOF	**Joensuu**	**129.93**	**346**	*e*p	**PKPdf**	**18 16 37.2**	**+0.3**
comp=Z,1.7nm,0.4s							
KAF	**Kangasniemi**	**131.75**	**348**	*e*p	**PKPdf**	**18 16 40.6**	**+0.2**
comp=Z,1.3nm,0.4s							
FINES	**FINESS Array B**	**132.40**	**348**	PKPpre	PKPpre	18 16 37.0	
FINES				PKP	**PKPdf**	**18 16 41.8**	**+0.1**
FINES	**FINESS Array B**	**132.40**	**348**	PKhKP	PKPpre	18 16 37.0	
comp=Z,4.7nm,0.8s,baz=38,slow=2.5,SNR=2.5							
FINES				PKP	**PKPdf**	**18 16 41.8**	**+0.1**
comp=Z,9.7nm,0.8s,baz=31,slow=3.2,SNR=4.5							
AKASG	**Malin Array Be**	**140.81**	**337**	*i* PKIKP	PKPpre	18 16 52.8	
AKASG				pmax	pmax		
comp=Z,3.0nm,0.6s							
AKASG	**Malin Array Be**	**140.81**	**337**	PKPpre	PKPpre	18 16 52.8	
AKASG	**Malin Array Be**	**140.81**	**337**	PKhKP	PKPpre	18 16 52.8	
comp=Z,3.0nm,0.6s,baz=38,slow=4.0,SNR=3.5							
CLL	**Collm**	**144.26**	**353**	*e*PKPdf	**PKPdf**	**18 17 04.0**	**+0.4**
comp=Z,46nm,1.0s							
STHS	**Stebnicka Huta**	**144.49**	**344**	*e*PKP	**PKPdf**	**18 17 07.4**	**+3.2**
**U

CMAR	Chiang Mai Arr	92.59	288	P	P	18 13 28.4 +1.3
CMAR	Chiang Mai Arr	92.59	288	P	P	18 13 28.4 +1.3
	3.3nm,0.9s,baz=116,slow=2.4,SNR=2.9					
ARCES	ARCESS Array B	125.13	352	PKP	PKPdf	18 19 16.7 +2.2
ARCES	ARCESS Array B	125.13	352	PKP	PKPdf	18 19 16.7 +2.2
	8.9nm,0.9s,baz=29,slow=2.1,SNR=2.6					
AKASG	Malin Array Be	140.77	337	PKPpre	PKPpre	18 19 38.0
AKASG	Malin Array Be	140.77	337	PKhKP	PKPpre	18 19 38.0
	3.9nm,0.9s,baz=35,slow=4.3,SNR=2.9					
KIS	Kishinev	143.88	334	*e*P	Pdif	18 17 20.0 +4.7
KMBO	Kilima Mbogo	145.10	244	PKPbc	PKPdf	18 19 54.3 +0.9
KMBO	Kilima Mbogo	145.10	244	PKPbc	PKPdf	18 19 54.3 +0.9
	4.8nm,0.9s,baz=90,slow=2.0,SNR=5.1					
BRTR	Keskin Array B	146.45	320	PKPbc	PKPdf	18 19 55.4 +0.5
BRTR	Keskin Array B	146.45	320	PKPbc	PKPdf	18 19 55.4 +0.5
	22nm,1.1s,baz=46,slow=1.1,SNR=7.2					
GERES	GERESS Array B	146.66	351	PKPbc	PKPdf	18 19 54.2 -0.7
GERES	GERESS Array B	146.66	351	PKPbc	PKPdf	18 19 54.2 -0.7
	7.7nm,1.0s,baz=320,slow=2.6,SNR=2.9					

IDC ***29*** *18:00:19.2±0.8, 16°.45S×172°.76W, h0km, mb4.8/11, mb1 4.9/11, mb1mx4.8/21, mbtmp4.8/11, Error ellipse: s-maj=32.3km s-min=21.1km az=116.0*
ISCJB ***29*** *18:00:22.6±0.8, 16°.4S±0°.1×172°.9W±0°.2, h32km, mb4.8/12, Error ellipse: s-maj=24.5km s-min=14.3km az=32.6*
ISC 29 18:00:24.2±0.7, 16°.4S±0°.1×172°.8W±0°.2, h32km, n44, σ1§42/42, mb4.8/12, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	23.55	200	P	P	18 05 33.8	+2.1
URZ	Urewera	23.55	200	P	P	18 05 33.8	+2.1
	31nm,0.7s,baz=284,slow=4.2,SNR=2.9						
RPZ	Rata Peaks	30.52	203	P	P	18 06 34.5	0.0
	15nm,0.7s,baz=12,slow=4.6,SNR=4.7						
RPZ	Rata Peaks	30.52	203	P	P	18 06 34.5	0.0
EIDS	Eidsvold	34.83	249	P	P	18 07 11.1	-1.3
	baz=34,SNR=3.3						
ARMA	Armidale	35.35	240	P	P	18 07 17.2	+0.2
	baz=34,SNR=6.1						
YNG	Young	39.06	235	P	P	18 07 50.6	+2.3
	baz=38,SNR=18						
QLP	Quilpie	41.09	248	P	P	18 08 04.4	-0.8
	baz=40,SNR=4.0						
WRA	Warramunga Arr	50.19	257	P	P	18 09 16.1	-1.2
	5.3nm,0.5s,baz=98,slow=6.1,SNR=5.4						
WRA	Warramunga Arr	50.19	257	P	P	18 09 16.1	-1.2
ASAR	Alice Springs	50.37	253	P	P	18 09 17.7	-1.0
	24nm,0.6s,baz=87,slow=8.1,SNR=6.3						
ASAR	Alice Springs	50.37	253	P	P	18 09 17.7	-1.0
KDU	Kakadu	52.98	266	P	P	18 09 37.8	-0.4
	baz=51,SNR=4.4						
KNRA	Kununurra	56.00	262	P	P	18 09 59.6	-0.6
	baz=54,SNR=4.8						
ASAJ	Asahikawa	72.66	328	P	P	18 11 49.4	+0.7
	14nm,1.0s,baz=141,slow=12,SNR=4.9						
ASAJ	Asahikawa	72.66	328	P	P	18 11 49.4	+0.7
JNU	Nakatsue	72.88	313	P	P	18 11 50.6	+0.3
JNU	Nakatsue	72.88	313	P	P	18 11 50.6	+0.3
	4.9nm,0.7s,baz=56,slow=3.6,SNR=3.7						
PETK	Petropavlovsk-	73.72	342	P	P	18 11 54.4	-0.4
	19nm,0.8s,baz=121,slow=8.4,SNR=10						
PETK	Petropavlovsk-	73.72	342	P	P	18 11 54.4	-0.4
USRK	Ussuriysk Arra	78.50	323	P	P	18 12 24.5	+2.4
	6.6nm,1.0s,baz=142,slow=4.3,SNR=3.4						
TXAR	Lajitas Array	80.67	56	P	P	18 12 34.8	+0.4
	1.5nm,0.7s,baz=231,slow=5.7,SNR=5.0						
TXAR	Lajitas Array	80.67	56	P	P	18 12 34.8	+0.4
ILAR	Eielson Array	83.28	11	P	P	18 12 46.4	-0.9
	5.6nm,0.6s,baz=230,slow=6.3,SNR=6.0						
ILAR	Eielson Array	83.28	11	P	P	18 12 46.4	-0.9
MAW	Mawson	87.06	198	P	P	18 13 04.2	-2.1
MAW	Mawson	87.06	198	P	P	18 13 04.2	-2.1
	3.7nm,0.6s,baz=176,slow=11,SNR=5.4						
CMAR	Chiang Mai Arr	93.46	288	P	P	18 13 38.4	+1.2
	3.5nm,0.8s,baz=104,slow=2.4,SNR=7.4						
CMAR	Chiang Mai Arr	93.46	288	P	P	18 13 38.4	+1.2
ARCES	ARCESS Array B	125.64	352	PKP	PKPdf	18 19 23.0	+1.3
	14nm,1.1s,baz=4.8,slow=1.1,SNR=3.6						
AKASG	Malin Array Be	141.45	338	PKhKP	PKPpre	18 19 48.3	
	2.1nm,0.6s,baz=35,slow=3.8,SNR=4.8						
AKASG	Malin Array Be	141.45	338	PKPpre	PKPpre	18 19 48.3	
KMBO	Kilima Mbogo	145.62	242	PKPbc	PKPab	18 20 02.4	+1.2
	11nm,1.0s,baz=52,slow=2.6,SNR=4.5						
KMBO	Kilima Mbogo	145.62	242	PKPbc	PKPab	18 20 02.4	+1.2
BCLA	Clavier	146.00	2	PKP	SKSdf	18 27 07.4	+0.9
KECS	Kecovo	146.17	344	*e*PKP	SKSdf	18 27 02.3	-4.6
KECS				*e*		18 27 06.7	
SMOL	Smolenice	146.86	348	*e*PKP	SKSdf	18 27 05.4	-2.5
SMOL				*e*		18 27 10.1	
MLR	Muntele Rosu	146.98	335	PKPbc	PKPdf	18 20 02.4	+0.6
MLR	Muntele Rosu	146.98	335	PKPbc	PKPdf	18 20 02.4	+0.6
	7.6nm,1.2s,baz=149,slow=12,SNR=2.2						
GERES	GERESS Array B	147.17	352	PKPbc	PKPbc	18 20 04.0	-0.2
	7.8nm,0.9s,baz=5.7,slow=3.0,SNR=3.1						
GERES	GERESS Array B	147.17	352	PKPbc	PKPbc	18 20 04.0	-0.2
ZST	Bratislava	147.23	348	*e*PKP	SKSdf	18 27 10.2	+1.8
BRTR	Keskin Array B	147.27	321	PKPbc	PKPab	18 20 06.0	-0.6
	18nm,0.9s,baz=133,slow=2.3,SNR=6.4						
BRTR	Keskin Array B	147.27	321	PKPbc	PKPab	18 20 06.0	-0.6

IDC ***29*** *18:00:59.7±0.8, 16°.18S×171°.67W, h0km, mb4.9/8, mb1 5.1/8, mb1mx4.9/20, mbtmp4.9/8, Error ellipse: s-maj=35.4km s-min=23.0km az=140.0*
NEIC ***29*** *18:01:00.8±0.4, 16°.25S×171°.71W, h10km, mb5.1/9, Error ellipse: s-maj=23.4km s-min=10.2km az=139.0*
ISCJB ***29*** *18:01:02.7±0.4, 16°.4S±0°.2×171°.75W±0°.10, h33km, mb4.9/16, Error ellipse: s-maj=25.6km s-min=8.2km az=153.7*
ISC 29 18:01:04.5±0.5, 16°.4S±0°.1×171°.7W±0°.1, h35km, n183, σ0§75/185, mb5.0/16, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	23.96	202	P	P	18 06 18.5	+2.9
URZ	Urewera	23.96	202	P	P	18 06 18.5	+2.9
	38nm,0.8s,baz=297,slow=6.8,SNR=3.1						
STKA	Stephens Creek	45.04	241	P	P	18 09 17.1	0.0
	15nm,1.3s						
WRAB	Tennant Creek	51.27	257	*e*P	P	18 10 05.0	-0.4
	138nm,1.4s						
WRA	Warramunga Arr	51.28	257	P	P	18 10 05.4	-0.1
WRA	Warramunga Arr	51.28	257	P	P	18 10 05.4	-0.1
	20nm,1.1s,baz=93,slow=7.8,SNR=3.7						
AS31	Alice Springs	51.43	253	*e*P	P	18 10 06.6	0.0
ASAR	Alice Springs	51.43	253	P	P	18 10 06.5	-0.1
ASAR	Alice Springs	51.43	253	P	P	18 10 06.5	-0.1
	63nm,1.0s,baz=85,slow=8.5,SNR=6.1						
MBWA	Marble Bar	64.72	254	*e*P	P	18 11 38.8	-0.9
	66nm,1.3s						
CASY	Casey	70.25	205	P	P	18 12 11.6	-2.2
	23nm,1.1s						
BSC	Santa Cruz Isl	70.41	44	P	P	18 12 16.1	+0.7
	baz=71						
CIS	Catalina Islan	70.90	45	P	P	18 12 18.6	+0.3
	baz=71						
MURC	Murrieta	71.83	46	P	P	18 12 24.7	+0.8
	baz=72						
VES	Vestal, Richgr	71.87	43	P	P	18 12 24.9	+0.8
	baz=72						
BFSC	Mount Baldy Ra	71.88	45	P	P	18 12 24.8	+0.4
	baz=72						
EDW2	Edwards Air Fo	72.03	44	P	P	18 12 25.7	+0.5
	baz=72						
KHMM	Horse Mountain	72.21	36	*e*P	P	18 12 27.1	+0.9
	46nm,1.3s						
CMB	Columbia Colle	72.38	40	*e*P	P	18 12 27.3	+0.2
	13nm,0.9s						
MPMC	Manual Prospec	73.05	43	P	P	18 12 32.3	+0.9
	baz=73						
HEC	Hector,Ludlow	73.12	45	P	P	18 12 32.0	+0.3
	baz=73						
GMRC	Granite Mounta	73.55	45	P	P	18 12 34.7	+0.5
	baz=74						
IRM	Iron Mountain	73.56	46	P	P	18 12 34.7	+0.5
	baz=74						
GRAC	Grapevine Rang	73.67	43	P	P	18 12 35.4	+0.5
	baz=74						
PETK	Petropavlovsk-	74.06	341	P	P	18 12 35.9	-0.7
PETK	Petropavlovsk-	74.06	341	P	P	18 12 35.9	-0.7
	6.6nm,0.8s,baz=131,slow=8.5,SNR=3.7						
Z14A	Wintersburg	74.68	48	P	P	18 12 41.2	+0.4
	baz=75						
Y14A	Wickenburg	74.94	47	P	P	18 12 42.8	+0.5
	baz=75						
X16A	Lo Mia Camp, P	76.29	48	P	P	18 12 51.4	+1.2
	baz=76						
319A	Douglas	76.35	51	P	P	18 12 51.6	+1.1
	baz=76						
WUAZ	Wupatki	76.91	47	P	P	18 12 54.7	+1.1
	baz=77						
220A	Playas Peak, P	77.17	51	P	P	18 12 56.0	+0.8
	baz=77						
ELK	Elko	77.19	40	P	P	18 12 55.5	+0.3
	7.8nm,0.9s						
Z20A	Nine Sixteen R	77.70	50	P	P	18 12 59.2	+1.1
	baz=78						
221A	Mesquite Ranch	77.78	51	P	P	18 12 59.8	+1.3
	baz=78						
KSRS	Korea Array	78.02	315	P	P	18 13 00.3	+0.8
	3.6nm,0.8s,baz=124,slow=6.2,SNR=4.6						
121A	Cookes Peak, D	78.02	51	P	P	18 13 01.0	+1.1
	baz=78						
KSAR	Wonju Array Be	78.04	315	P	P	18 13 00.3	+0.6
Y20A	Horse Springs,	78.24	49	P	P	18 13 02.5	+1.3
	baz=78						
X20A	Quemado	78.46	49	P	P	18 13 03.4	+1.0
	baz=79						
Z21A	St. Cloud Mine	78.47	50	P	P	18 13 03.1	+0.6
	baz=79						
122A	Conniff Cattle	78.69	51	P	P	18 13 04.8	+1.3
	baz=79						
W20A	Ramah	78.74	48	P	P	18 13 05.1	+1.1
	baz=79						
324A	Moseley Ranch,	79.26	53	P	P	18 13 07.5	+0.8
	baz=79						
HLID	Hailey	79.30	38	P	P	18 13 07.6	+0.9
	baz=80						
U20A	Newcomb	79.34	47	P	P	18 13 08.1	+1.0
	baz=80						
425A	Indio Mountain	79.35	54	P	P	18 13 08.3	+1.0
	baz=80						
224A	Cornudas Mount	79.51	52	P	P	18 13 09.5	+1.4
	baz=80						
Z23A	Rita Site, Whi	79.52	51	P	P	18 13 09.4	+1.3
	baz=80						
X22A	Bernardo	79.52	49	P	P	18 13 09.7	+1.6
	baz=80						
TXAR	Lajitas Array	79.75	55	P	P	18 13 09.7	+0.3
TXAR	Lajitas Array	79.75	55	P	P	18 13 09.7	+0.3
	4.3nm,1.0s,baz=224,slow=4.7,SNR=2.6						
W22A	Albuquerque	79.89	49	P	P	18 13 11.6	+1.4
	baz=80						
Y23A	Lovelace Mesa,	79.96	50	P	P	18 13 11.1	+0.5
	baz=80						
U21A	Nageezi	79.97	47	P	P	18 13 11.5	+0.9
	baz=80						
225A	Deer Hill, Car	80.06	52	P	P	18 13 12.1	+1.0
	baz=80						
ANMO	Albuquerque	80.13	49	*e*P	P	18 13 11.8	+0.3
	17nm,0.8s						
ANMO	Albuquerque	80.13	49	P	P	18 13 12.5	+1.1
	14nm,0.8s,baz=250,slow=4.5,SNR=7.9						
X23A	Hourglass Bar	80.16	50	P	P	18 13 12.5	+0.9
	baz=80						
S20A	Disappointment	80.16	46	P	P	18 13 12.8	+1.2
	baz=80						
V22A	San Miguel Ran	80.26	48	P	P	18 13 13.3	+1.1
	baz=80						
T21A	Navajo Lake	80.33	47	P	P	18 13 13.7	+1.2
	baz=80						
Y24A	Capitan	80.41	50	P	P	18 13 14.0	+1.0
	baz=80						
628A	Black Gap, Mar	80.43	55	P	P	18 13 13.9	+0.9
	baz=80						
W23A	Werner Place,	80.45	49	P	P	18 13 14.2	+1.0
	baz=81						
S21A	Coal Bank Pass	80.47	46	P	P	18 13 14.3	+0.9
	baz=81						
M17A	Scullys Gap (B	80.48	42	P	P	18 13 13.5	+0.3
	baz=81						
226B	Tecolote Peak,	80.55	53	P	P	18 13 14.7	+1.0
	baz=81						
NEW	Newport	80.55	33	P	P	18 13 11.8	-1.4
	20nm,1.3s						
427A	Hayter Ranch,	80.60	54	P	P	18 13 14.1	+0.1
	baz=81						
Z25A	Roswell	80.66	51	P	P	18 13 14.7	+0.5
	baz=81						
V23A	Ortiz Mt. (NFS	80.70	49	P	P	18 13 15.8	+1.3
	baz=81						
X24A	Lazy VL Ranch,	80.70	50	P	P	18 13 14.8	+0.3
	baz=81						
T22A	Edith	80.78	47	P	P	18 13 14.6	-0.4
	baz=81						
126A	Clayton Basin,	80.90	52	P	P	18 13 16.2	+0.7
	baz=81						
Y25A	Mesa, Roswell	80.96	51	P	P	18 13 16.2	+0.4
	baz=81						
U23A	El Rito	80.97	48	P	P	18 13 16.7	+0.7
	baz=81						
428A	Kincaid Ranch,	81.11	54	P	P	18 13 16.4	-0.2
	baz=81						
L18A	Fontenelle, Gr	81.12	42	P	P	18 13 17.3	+0.6
	baz=81						
S22A	4UR Ranch, Cre	81.18	47	P	P	18 13 17.7	+0.5
	baz=81						
Q21A	Lamborn Mesa,	81.19	45	P	P	18 13 16.8	-0.2
	baz=81						
Z26A	Caprock	81.21	52	P	P	18 13 17.8	+0.6
	baz=81						
529A	Stev Forest Ra	81.22	55	P	P	18 13 16.2	-1.1
	baz=81						
X25A	Clemmons Ranch	81.25	50	P	P	18 13 17.4	0.0
	baz=81						
328A	Wristen Ranch,	81.29	54	P	P	18 13 17.3	-0.2
	baz=81						
V24A	Rampart Ranch,	81.35	49	P	P	18 13 18.0	-0.1
	baz=82						
O20A	White River Ci	81.38	44	P	P	18 13 17.3	-0.7
	baz=82						
127A	Arkansas Junct	81.42	52	P	P	18 13 18.4	+0.1
	baz=82						
M19A	Rock Springs	81.47	42	P	P	18 13 18.5	0.0
	baz=82						
Y26A	Elida	81.61	51	P	P	18 13 19.5	+0.2
	baz=82						
Q22A	Crested Butte,	81.66	46	P	P	18 13 19.1	-0.6
	baz=82						
429A	Davenport Ranc	81.69	55	P	P	18 13 19.6	-0.1
	baz=82						
W25A	X Bar L Ranch,	81.71	50	P	P	18 13 19.2	-0.6
	baz=82						
228A	UT Block 9, Go	81.77	53	P	P	18 13 20.4	+0.3
	baz=82						
Z27A	Tatum	81.80	52	P	P	18 13 20.7	+0.3
	baz=82						
I17A	Pilgrim Ck.	81.83	40	P	P	18 13 19.9	-0.5
	baz=82						
X26A	CR and CF Fran	81.89	51	P	P	18 13 21.5	+0.7
	baz=82						
O21A	Pagoda	81.93	44	P	P	18 13 21.1	+0.1
	baz=82						
128A	Castleberry Fa	82.06	53	P	P	18 13 22.0	+0.3
	baz=82						
H17A	Grant Village	82.08	39	P	P	18 13 22.4	+0.8
	baz=82						
Y27A	Causey	82.09	51	P	P	18 13 22.1	+0.3
	baz=82						
R23A	Moffat	82.09	47	P	P	18 13 22.5	+0.6
	baz=82						
P22A	Eagle	82.11	45	P	P	18 13 22.4	+0.4
	baz=82						
631A	Perdido Creek	82.24	56	P	P	18 13 23.0	+0.5
	baz=82						
L20A	Wamsutter	82.25	42	P	P	18 13 23.3	+0.7
	baz=82						
S24A	Houchin Ranch,	82.27	47	P	P	18 13 23.8	+0.9
	baz=82						
U25A	Circle Dot Ran	82.28	49	P	P	18 13 23.4	+0.6
	baz=82						
MSTX	Muleshoe	82.42	51	P	P	18 13 23.8	+0.3
	baz=82						
Q23A	Hartsel	82.42	46	P	P	18 13 24.3	+0.7
	baz=82						
X27A	F and S Farms,	82.47	51	P	P	18 13 24.2	+0.4
	baz=83						
O22A	Kremmling	82.53	45	P	P	18 13 23.4	-0.9
	baz=83						
531A	Rocksprings	82.56	56	P	P	18 13 24.3	0.0
	baz=83						
W27A	Bowe Ranch, En	82.67	50	P	P	18 13 25.4	+0.6
	baz=83						
M21A	Separation Pea	82.68	43	P	P	18 13 25.2	+0.3
	baz=83						
Y28A	McKinney Farm,	82.79	52	P	P	18 13 25.7	+0.3
	baz=83						
N22A	Wattenberg Ran	82.90	44	P	P	18 13 26.3	+0.3
	baz=83						
Q24A	Divide	82.92	46	P	P	18 13 26.5	+0.2
	baz=83						
Z29A	Hungry Hill Ra	82.92	52	P	P	18 13 26.7	+0.6
	baz=83						
ISCO	Idaho Springs	82.99	45	P	P	18 13 26.3	-0.3
	baz=83						
ILAR	Eielson Array	83.06	10	P	P	18 13 25.4	-0.5
ILAR	Eielson Array	83.06	10	P	P	18 13 25.4	-0.5
	9.2nm,0.7s,baz=216,slow=5.4,SNR=5.9						
X28A	Dimmitt	83.08	51	P	P	18 13 26.9	-0.1
	baz=83						
J20A	Shoshoni	83.08	41	P	P	18 13 27.1	+0.2
	baz=83						
R25A	Fountain Ranch	83.15	47	P	P	18 13 28.2	+0.9
	baz=83						
H19A	Powell	83.19	40	P	P	18 13 27.8	+0.5
	baz=83						
Y29A	Porterfield Fa	83.20	52	P	P	18 13 27.4	-0.2
	baz=83						
K21A	Alcova	83.26	42	P	P	18 13 27.5	-0.3
	baz=83						
I20A	Worland	83.36	41	P	P	18 13 29.0	+0.8
	baz=84						
Z30A	Sanderson Ranc	83.38	53	P	P	18 13 28.4	0.0
	baz=84						
231A	Bronte	83.45	54	P	P	18 13 28.6	-0.3
	baz=84						
J21A	Lysite	83.48	41	P	P	18 13 29.1	+0.2
	baz=84						
L22A	Ellis Ranch, M	83.50	43	P	P	18 13 29.3	+0.2
	baz=84						
O24A	Longmont	83.51	45	P	P	18 13 30.1	+1.0
	baz=84						
Q25A	Bedland, Calha	83.52	46	P	P	18 13 29.3	+0.1
	baz=84						
131A	Roby	83.69	53	P	P	18 13 29.8	-0.3
	baz=84						
M23A	Laramie	83.70	44	P	P	18 13 30.1	0.0
	baz=84						
W29A	Amraillo	83.75	51	P	P	18 13 30.8	+0.5
	baz=84						
R26A	Arlington	83.81	47	P	P	18 13 30.4	-0.2
	baz=84						
I21A	Big Trails, Te	83.81	41	P	P	18 13 29.4	-1.1
	baz=84						
F19A	Roth Farm, Mol	83.82	39	P	P	18 13 30.3	-0.2
	baz=84						
P25A	Willow Gulch B	83.85	46	P	P	18 13 30.8	-0.1
	baz=84						
U28A	Mallet	83.85	49	P	P	18 13 30.1	-0.8
	baz=84						
232A	Coleman	83.96	54	P	P	18 13 31.5	+0.1
	baz=84						
L23A	Garrett	84.02	43	P	P	18 13 31.7	0.0
	baz=84						
Z31A	Sharp Cattle R	84.14	53	P	P	18 13 32.5	+0.2
	baz=84						
ABTX	Abilene, Hawle	84.25	54	P	P	18 13 33.0	+0.2
	baz=84						
R27A	Eads	84.26	48	P	P	18 13 32.7	-0.2
	baz=84						
P26A	Davis Ranch, A	84.44	46	P	P	18 13 33.6	-0.2
	baz=85						
EGMT	Eagleton	84.48	37	P	P	18 13 34.2	+0.4
	baz=85						
D19A	Cripps Ranch,	84.53	38	P	P	18 13 33.3	-0.8
	baz=85						
G21A	Lodge Grass	84.56	40	P	P	18 13 33.5	-0.8
	baz=85						
Z32A	Haskell	84.65	53	P	P	18 13 35.0	+0.1
	baz=85						
V30A	Spur Ranch, Mi	84.72	51	P	P	18 13 35.0	-0.3
	baz=85						
D20A	Manuel Ranch,	84.93	38	P	P	18 13 36.7	+0.7
	baz=85						
Y32A	R-V Farms, Ver	84.95	53	P	P	18 13 36.2	-0.2
	baz=85						
I23A	Meade Ranch, G	85.04	42	P	P	18 13 37.0	+0.3
	baz=85						
W31A	Holland Ranch,	85.04	51	P	P	18 13 36.8	-0.1
	baz=85						
U30A	WK&E Inc. Balk	85.07	50	P	P	18 13 37.3	+0.3
	baz=85						
S29A	Ulysses	85.18	49	P	P	18 13 37.5	0.0
	baz=85						
V31A	Spring Creek L	85.36	51	P	P	18 13 38.3	-0.1
	baz=86						
T31A	Randall Ranch,	86.01	50	P	P	18 13 41.7	0.0
	baz=86						
B21A	Ellsworth Farm	86.26	37	P	P	18 13 42.1	-0.4
	baz=86						
ARCES	ARCESS Array B	125.77	353	PKP	PKPdf	18 20 01.9	-0.1
ARCES	ARCESS Array B	125.77	353	PKP	PKPdf	18 20 01.9	-0.1
	3.8nm,0.5s,baz=23,slow=1.2,SNR=5.2						
JOF	Joensuu	130.80	346	*ep*	PP	18 22 29.1	+1.9
	0.7nm,0.4s						
NOA	NORSAR Array B	135.32	358	PKP	PKPdf	18 20 20.4	+0.1
NOA	NORSAR Array B	135.32	358	PKP	PKPdf	18 20 20.4	+0.1
	12nm,1.1s,baz=89,slow=2.8,SNR=4.6						
AKASG	Malin Array Be	141.85	338	PKP	PKPdf	18 20 33.2	+0.7
AKASG	Malin Array Be	141.85	338	PKP	PKPdf	18 20 33.2	+0.7
	1.7nm,0.8s,baz=31,slow=4.0,SNR=2.5						
SNF	Seneffe	145.77	5	PKP	PKPab	18 20 40.3	+0.1
MEM	Membach	145.78	3	PKP	PKPab	18 20 40.2	0.0
BCLA	Clavier	145.93	3	PKP	PKPab	18 20 41.2	+0.4
DOU	Dourbes	146.20	4	PKP	PKPab	18 20 41.7	-0.1
KMBO	Kilima Mbogo	146.60	241	PKPbc	PKPab	18 20 44.7	-0.1
KMBO	Kilima Mbogo	146.60	241	PKPbc	PKPab	18 20 44.7	-0.1
	4.2nm,0.7s,baz=57,slow=8.9,SNR=3.2						
GERES	GERESS Array B	147.30	353	PKPbc	PKPbc	18 20 44.8	+0.3
GERES	GERESS Array B	147.30	353	PKPbc	PKPbc	18 20 44.8	+0.3
	5.5nm,0.6s,baz=26,slow=2.5,SNR=6.5						
BRTR	Keskin Array B	147.95	322	PKPbc	PKPbc	18 20 46.0	-0.6
BRTR	Keskin Array B	147.95	322	PKPbc	PKPbc	18 20 46.0	-0.6
	12nm,0.8s,baz=126,slow=1.9,SNR=2.8						
KEST	Kesra	160.68	358	PKP	PKPdf	18 21 01.6	+0.4
KEST	Kesra	160.68	358	PKP	PKPdf	18 21 01.6	+0.4
	4.5nm,1.0s,baz=141,slow=7.8,SNR=3.1						
TORD	Torodi Ar. Bea	172.81	115	PKP	PKPdf	18 21 10.0	-0.9
TORD				PKPab	PKPab	18 22 36.4	-0.8
TORD	Torodi Ar. Bea	172.81	115	PKP	PKPdf	18 21 10.0	-0.9
	10.0nm,1.1s,baz=268,slow=0.6,SNR=3.1						
TORD				PKPab	PKPab	18 22 36.4	-0.8
	2.0nm,0.8s,baz=258,slow=4.9,SNR=3.5						

**ROM 29 18:02:41.7±0.1, 42°.50N×13°.36E

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.31**	**135**	P	Pn	18 04 24.9	-3.9
	baz=4.3,SNR=4.1						
DZM	**Mont Dzumac**	**20.22**	**250**	P	Pn	18 07 59.6	-0.6
DZM	**Mont Dzumac**	**20.22**	**250**	P	Pn	18 07 59.6	-0.6
	20nm,1.0s,baz=76,slow=19,SNR=2.2						
URZ	**Urewera**	**23.77**	**199**	P	**P**	**18 08 35.2**	**-0.1**
URZ	**Urewera**	**23.77**	**199**	P	**P**	**18 08 35.2**	**-0.1**
	16nm,0.3s,baz=63,slow=4.5,SNR=2.8						
SNZO	**South Karori**	**27.31**	**200**	*eP*	**P**	**18 09 08.0**	**+0.5**
	58nm,1.0s						
RPZ	**Rata Peaks**	**30.72**	**203**	P	**P**	**18 09 39.3**	**+1.5**
RPZ	**Rata Peaks**	**30.72**	**203**	P	**P**	**18 09 39.3**	**+1.5**
	27nm,0.8s,baz=39,slow=13,SNR=1.9						
EIDS	**Eidsvold**	**34.66**	**248**	*eP*	**P**	**18 10 09.9**	**-2.6**
	18nm,0.9s						
ARMA	**Armidale**	**35.26**	**240**	P	**P**	**18 10 17.2**	**-0.5**
	baz=36,SNR=5.4						
RMQ	**Roma**	**36.90**	**247**	P	**P**	**18 10 31.4**	**-0.3**
	baz=38,SNR=6.2						
RMQ				S	S	18 15 56.2	-19
	baz=38,SNR=4.5						
CNB	**Canberra Magne**	**38.59**	**233**	P	**P**	**18 10 45.2**	**-0.8**
	baz=39,SNR=6.5						
CTA	**Charters Tower**	**38.77**	**258**	P	**P**	**18 10 47.4**	**-0.2**
CTA	**Charters Tower**	**38.77**	**258**	P	**P**	**18 10 47.4**	**-0.2**
	3.5nm,0.4s,baz=89,slow=12,SNR=4.4						
CTAO	**Charters Tower**	**38.77**	**258**	P	**P**	**18 10 47.4**	**-0.2**
CTAO				pmax	pmax		
	comp=Z,30nm,1.0s						
CTAO	**Charters Tower**	**38.77**	**258**	P	**P**	**18 10 47.4**	**-0.2**
	comp=Z,30nm,1.0s						
PMG	**Port Moresby**	**39.25**	**275**	P	**P**	**18 10 52.2**	**+0.6**
PMG	**Port Moresby**	**39.25**	**275**	P	**P**	**18 10 52.2**	**+0.6**
	comp=Z,19nm,0.8s,baz=80,slow=11,SNR=3.2						
CMSA	**Cobar Meteorol**	**40.47**	**240**	P	**P**	**18 11 00.7**	**-1.0**
	baz=41,SNR=5.1						
MTSU	**Mount Surprise**	**40.67**	**261**	P	**P**	**18 11 03.4**	**-0.1**
	baz=41,SNR=5.0						
QLP	**Quilpie**	**40.93**	**248**	P	**P**	**18 11 04.9**	**-0.6**
	baz=42,SNR=7.1						
COEN	**Coen**	**42.21**	**267**	P	**P**	**18 11 15.7**	**-0.4**
	baz=43,SNR=9.8						
TOO	**Toolangi**	**42.29**	**231**	P	**P**	**18 11 15.6**	**-0.8**
	baz=43,SNR=9.0						
STKA	**Stephens Creek**	**43.96**	**241**	*eP*	**P**	**18 11 28.4**	**-1.6**
	comp=Z,8.1nm,0.8s						
STKA	**Stephens Creek**	**43.96**	**241**	P	P	18 11 36.3	+6.2
	baz=45,SNR=6.8						
JAY	**Jayapura**	**47.37**	**282**	P	**P**	**18 11 59.1**	**+1.8**
	baz=48,SNR=3.4						
WRAB	**Tennant Creek**	**49.95**	**257**	*eP*	**P**	**18 12 16.0**	**-1.1**
WRAB				pmax	pmax		
	comp=Z,28nm,0.8s						
WRAB	**Tennant Creek**	**49.95**	**257**	*eP*	**P**	**18 12 16.0**	**-1.1**
	comp=Z,28nm,0.8s						
WRA	**Warramunga Arr**	**49.97**	**257**	P	**P**	**18 12 16.1**	**-1.1**
WRA	**Warramunga Arr**	**49.97**	**257**	P	**P**	**18 12 16.1**	**-1.1**
	comp=Z,24nm,0.8s,baz=95,slow=6.5,SNR=9.7						
ASAR	**Alice Springs**	**50.18**	**252**	P	**P**	**18 12 17.5**	**-1.3**
ASAR	**Alice Springs**	**50.18**	**252**	P	**P**	**18 12 17.5**	**-1.3**
	comp=Z,36nm,0.9s,baz=89,slow=7.9,SNR=6.4						
KDU	**Kakadu**	**52.69**	**266**	P	**P**	**18 12 37.7**	**+0.1**
	baz=53,SNR=4.6						
KNRA	**Kununurra**	**55.74**	**262**	P	**P**	**18 12 59.2**	**-0.6**
	baz=56,SNR=7.7						
SWI	**Sorong**	**56.83**	**280**	P	**P**	**18 13 07.3**	**-0.3**
	baz=57,SNR=5.5						
FITZ	**Fitzroy Crossi**	**58.34**	**258**	P	**P**	**18 13 17.3**	**-0.9**
FITZ	**Fitzroy Crossi**	**58.34**	**258**	P	**P**	**18 13 17.3**	**-0.9**
	comp=Z,9.2nm,0.8s,baz=98,slow=6.6,SNR=6.9						
FITZ	**Fitzroy Crossi**	**58.34**	**258**	P	**P**	**18 13 17.7**	**-0.6**
	baz=59,SNR=3.7						
SOEI	**Soe**	**61.17**	**268**	P	**P**	**18 13 39.7**	**+1.7**
	baz=62,SNR=5.2						
BATI	**Baumata**	**61.65**	**267**	P	**P**	**18 13 41.3**	**+0.2**
BATI	**Baumata**	**61.65**	**267**	P	**P**	**18 13 41.3**	**+0.2**
	comp=Z,31nm,0.8s,baz=239,slow=21,SNR=4.4						
SBA	**Scott Base**	**62.66**	**185**	P	**P**	**18 13 49.5**	**+2.7**
SBA				pmax	pmax		
	comp=Z,31nm,1.2s						
SBA	**Scott Base**	**62.66**	**185**	P	**P**	**18 13 49.5**	**+2.7**
	comp=Z,31nm,1.2s						
VNDA	**Vanda**	**62.79**	**186**	P	**P**	**18 13 49.5**	**+1.8**
	comp=Z,36nm,1.4s						
MBWA	**Marble Bar**	**63.45**	**254**	*eP*	**P**	**18 13 51.2**	**-1.8**
	comp=Z,108nm,1.5s						
KLBR	**Kellerberrin**	**64.19**	**242**	P	**P**	**18 13 57.0**	**-0.7**
	baz=65,SNR=8.4						
BLDU	**Ballidu**	**65.15**	**243**	P	**P**	**18 14 02.7**	**-1.3**
	baz=66,SNR=7.9						
CASY	**Casey**	**69.96**	**205**	P	P	18 14 28.5	-5.2
JNU	**Nakatsue**	**72.41**	**313**	P	**P**	**18 14 49.2**	**+0.1**
JNU	**Nakatsue**	**72.41**	**313**	P	**P**	**18 14 49.2**	**+0.1**
	comp=Z,9.3nm,0.9s,baz=106,slow=6.7,SNR=3.6						
CMB	**Columbia Colle**	**73.05**	**41**	*eP*	**P**	**18 14 52.4**	**-0.4**
CMB				pmax	pmax		
	comp=Z,31nm,1.3s						
CMB	**Columbia Colle**	**73.05**	**41**	*eP*	**P**	**18 14 52.4**	**-0.4**
	comp=Z,31nm,1.3s						
KKM	**Kota Kinabalu**	**73.26**	**281**	P	**P**	**18 14 54.4**	**-0.3**
	comp=Z,38nm,1.0s						
PETK	**Petropavlovsk-**	**73.30**	**342**	P	**P**	**18 14 54.6**	**+0.8**
PETK	**Petropavlovsk-**	**73.30**	**342**	P	**P**	**18 14 54.6**	**+0.8**
PETK	**Petropavlovsk-**	**73.30**	**342**	P	**P**	**18 14 54.6**	**+0.8**
	comp=Z,10nm,0.9s,baz=118,slow=6.6,SNR=4.6						
QSPA	**South Pole Qui**	**74.03**	**180**	*eP*	**P**	**18 14 59.2**	**+0.9**
	comp=Z,60nm,1.1s						
UGM	**Wanagama**	**74.80**	**266**	P	**P**	**18 15 03.3**	**-0.3**
	baz=76,SNR=5.9						
TPH	**Tonopah**	**75.10**	**43**	*eP*	P	18 14 55.4	-10
TPH				pmax	pmax		
	comp=Z,82nm,1.4s						
TPH	**Tonopah**	**75.10**	**43**	*eP*	P	18 14 55.4	-10
	comp=Z,82nm,1.4s						
MOD	**Modoc**	**75.44**	**38**	*eP*	**P**	**18 15 06.6**	**-0.2**
	comp=Z,140nm,1.3s						
KSRS	**Korea Array**	**76.78**	**316**	P	**P**	**18 15 15.2**	**+0.9**
	comp=Z,3.5nm,1.0s,baz=124,slow=6.1,SNR=4.1						
KSAR	**Wonju Array Be**	**76.80**	**316**	P	**P**	**18 15 15.2**	**+0.8**
CISI	**Cisompet, Garu**	**77.48**	**266**	P	**P**	**18 15 18.2**	**-0.7**
	baz=78,SNR=3.7						
KSM	**Kuching**	**77.51**	**275**	P	**P**	**18 15 18.7**	**-0.2**
	comp=Z,34nm,1.0s						
PMR	**Palmer**	**79.67**	**11**	*eP*	**P**	**18 15 30.2**	**+0.5**
PMR				pmax	pmax		
	comp=Z,51nm,1.1s						
PMR	**Palmer**	**79.67**	**11**	*eP*	**P**	**18 15 30.2**	**+0.5**
	comp=Z,51nm,1.1s						
HWUT	**Hardware Ranch**	**80.67**	**42**	*eP*	**P**	**18 15 37.0**	**+1.1**
	comp=Z,41nm,1.4s						
TXAR	**Lajitas Array**	**80.73**	**56**	P	**P**	**18 15 37.5**	**+1.1**
TXAR	**Lajitas Array**	**80.73**	**56**	P	**P**	**18 15 37.5**	**+1.1**
	comp=Z,2.6nm,0.9s,baz=217,slow=6.7,SNR=2.8						
ANMO	**Albuquerque**	**80.99**	**50**	P	**P**	**18 15 38.6**	**+0.8**
	comp=Z,15nm,1.1s						
NEW	**Newport**	**81.07**	**34**	*eP*	**P**	**18 15 36.7**	**-0.9**
MCK	**McKinley**	**81.68**	**11**	*eP*	**P**	**18 15 39.7**	**-0.8**
MCK				pmax	pmax		
	comp=Z,90nm,1.1s						
MCK	**McKinley**	**81.68**	**11**	*eP*	**P**	**18 15 39.7**	**-0.8**
	comp=Z,90nm,1.1s						
PDAR	**Pinedale Array**	**82.55**	**42**	P	**P**	**18 15 45.3**	**-0.5**
PDAR	**Pinedale Array**	**82.55**	**42**	P	**P**	**18 15 45.3**	**-0.5**
	comp=Z,4.1nm,0.8s,baz=214,slow=3.1,SNR=4.5						
BOZ	**Bozeman (W)**	**82.73**	**38**	*eP*	**P**	**18 15 45.4**	**-1.2**
BOZ				pmax	pmax		
	comp=Z,47nm,1.5s						
BOZ	**Bozeman (W)**	**82.73**	**38**	*eP*	**P**	**18 15 45.4**	**-1.2**
	comp=Z,47nm,1.5s						
COLA	**College**	**82.92**	**11**	*eP*	**P**	**18 15 45.1**	**-1.8**
COLA				pmax	pmax		
	comp=Z,192nm,0.9s						
COLA	**College**	**82.92**	**11**	*eP*	**P**	**18 15 45.1**	**-1.8**
	comp=Z,192nm,0.9s						
SDCO	**Great Sand Dun**	**82.93**	**48**	*eP*	**P**	**18 15 48.4**	**+0.4**
	comp=Z,8.7nm,1.0s						
ILAR	**Eielson Array**	**83.00**	**11**	P	**P**	**18 15 46.1**	**-1.2**
ILAR	**Eielson Array**	**83.00**	**11**	P	**P**	**18 15 46.1**	**-1.2**
	comp=Z,3.8nm,0.6s,baz=228,slow=5.3,SNR=6.0						
WALA	**Waterton Lakes**	**83.27**	**35**	*eP*	**P**	**18 15 48.9**	**-0.4**
	comp=Z,1.7nm,1.6s						
PMSA	**Palmer Station**	**83.51**	**156**	*eP*	**P**	**18 15 47.2**	**-2.9**
	comp=Z,15nm,0.9s						
MAW	**Mawson**	**87.30**	**199**	P	**P**	**18 16 09.0**	**0.0**
MAW	**Mawson**	**87.30**	**199**	P	**P**	**18 16 09.0**	**0.0**
	comp=Z,12nm,0.9s,baz=143,slow=6.1,SNR=4.9						
ENH	**Enshi**	**87.47**	**302**	*eP*	**P**	**18 16 10.6**	**-0.1**
	comp=Z,12nm,0.8s						
INK	**Inuvik**	**88.80**	**14**	P	**P**	**18 16 16.2**	**+0.3**
SNAA	**Sanae**	**92.28**	**177**	P	**P**	**18 16 32.9**	**+0.4**
	comp=Z,12nm,0.9s						
CM31	**Chiang Mai Arr**	**93.06**	**288**	*eP*	**P**	**18 16 37.8**	**+0.8**
	comp=Z,8.3nm,0.6s						
CMAR	**Chiang Mai Arr**	**93.06**	**288**	P	**P**	**18 16 37.7**	**+0.7**
CMAR	**Chiang Mai Arr**	**93.06**	**288**	P	**P**	**18 16 37.7**	**+0.7**
	comp=Z,11nm,0.8s,baz=127,slow=3.0,SNR=16						
CHTO	**Chiang Mai**	**93.16**	**289**	*eP*	**P**	**18 16 37.8**	**+0.4**
CHTO				pmax	pmax		
	comp=Z,51nm,0.8s						
CHTO	**Chiang Mai**	**93.16**	**289**	*eP*	**P**	**18 16 37.8**	**+0.4**
	comp=Z,51nm,0.8s						
SONM	**Songino Array**	**95.48**	**318**	P	**P**	**18 16 47.6**	**+0.1**
SONM	**Songino Array**	**95.48**	**318**	P	**P**	**18 16 47.6**	**+0.1**
	comp=Z,2.5nm,1.0s,baz=90,slow=4.3,SNR=2.5						
MKAR	**Makanchi Array**	**111.45**	**314**	PKIKP	**PKiKP**	**18 21 57.7**	**+0.8**
MKAR	**Makanchi Array**	**111.45**	**314**	PKiKP	**PKiKP**	**18 21 57.7**	**+0.8**
MKAR	**Makanchi Array**	**111.45**	**314**	PKiKP	**PKiKP**	**18 21 57.7**	**+0.8**
	comp=Z,3.6nm,0.9s,baz=116,slow=1.0,SNR=2.9						
KEV	**Kevo**	**124.84**	**352**	*ep*	**PKPdf**	**18 22 24.2**	**+2.4**
	comp=Z,0.3nm,0.3s						
ARCES	**ARCESS Array B**	**125.25**	**352**	PKP	**PKPdf**	**18 22 23.7**	**+1.0**
ARCES	**ARCESS Array B**	**125.25**	**352**	PKP	**PKPdf**	**18 22 23.7**	**+1.0**
	comp=Z,13nm,0.9s,baz=29,slow=2.1,SNR=5.0						
KAF	**Kangasniemi**	**131.94**	**348**	*ep*	**PKPdf**	**18 22 32.1**	**-3.5**
	comp=Z,0.7nm,0.4s						
FINES	**FINESS Array B**	**132.60**	**348**	PKP	**PKPdf**	**18 22 37.3**	**+0.5**
FINES	**FINESS Array B**	**132.60**	**348**	PKP	**PKPdf**	**18 22 37.3**	**+0.5**
	comp=Z,4.1nm,0.8s,baz=67,slow=3.6,SNR=3.2						
AKASG	**Malin Array Be**	**141.01**	**337**	PKIKP	PKPpre	18 22 47.7	
AKASG						18 22 54.5	
AKASG	**Malin Array Be**	**141.01**	**337**	PKPpre	PKPpre	18 22 47.7	
AKASG				PKP	**PKiKP**	**18 22 54.5**	**-0.9**
AKASG	**Malin Array Be**	**141.01**	**337**	PKhKP	PKPpre	18 22 47.7	
	comp=Z,1.0nm,0.5s,baz=37,slow=3.7,SNR=3.9						
AKASG				PKP	**PKiKP**	**18 22 54.5**	**-0.9**
	comp=Z,3.4nm,0.9s,baz=31,slow=2.9,SNR=4.1						
CLL	**Collm**	**144.45**	**353**	*e*PKPdf	**PKPdf**	**18 22 59.0**	**+0.2**
CLL				*i* PKPdf	max	18 23 00.8	
BUR08	**Bucovina Ar. S**	**145.02**	**338**	*e*PKPab	**PKPab**	**18 22 59.4**	**0.0**
KMBO	**Kilima Mbogo**	**145.50**	**243**	PKPbc	**PKPdf**	**18 23 01.9**	**-0.2**
KMBO				*e*PKPdf	**PKPab**	**18 23 02.5**	**+0.1**
KMBO	**Kilima Mbogo**	**145.50**	**243**	PKPbc	**PKPdf**	**18 23 01.9**	**-0.2**
	comp=Z,11nm,0.9s,baz=54,slow=0.1,SNR=5.5						
MLR	**Muntele Rosu**	**146.54**	**335**	PKPbc	**PKPab**	**18 23 05.4**	**+0.2**
MLR	**Muntele Rosu**	**146.54**	**335**	PKPbc	**PKPab**	**18 23 05.4**	**+0.2**
	comp=Z,2.8nm,0.8s,baz=27,slow=4.9,SNR=3.1						
GERES	**GERESS Array B**	**146.79**	**352**	PKPbc	**PKPab**	**18 23 05.8**	**-0.2**
GERES	**GERESS Array B**	**146.79**	**352**	PKPbc	**PKPab**	**18 23 05.8**	**-0.2**
	comp=Z,3.5nm,0.7s,baz=25,slow=3.2,SNR=5.2						
BR131	**Keskin Array S**	**146.80**	**321**	*e*PKPdf	**PKPdf**	**18 23 01.1**	**-2.3**
BRTR	**Keskin Array B**	**146.80**	**321**	PKP	**PKPdf**	**18 23 01.5**	**-1.9**
BRTR				PKPbc	**PKPab**	**18 23 06.8**	**+0.4**
BRTR	**Keskin Array B**	**146.80**	**321**	PKP	**PKPdf**	**18 23 01.5**	**-1.9**
	comp=Z,9.1nm,0.9s,baz=128,slow=2.7,SNR=3.6						
BRTR				PKPbc	**PKPab**	**18 23 06.8**	**+0.4**
	comp=Z,18nm,0.7s,baz=112,slow=1.6,SNR=11						
ASF	**Jabal al Asfar**	**148.37**	**306**	PKPbc	**PKPbc**	**18 23 10.8**	**+1.2**
ASF	**Jabal al Asfar**	**148.37**	**306**	PKPbc	**PKPbc**	**18 23 10.8**	**+1.2**
	comp=Z,8.4nm,0.9s,baz=63,slow=2.3,SNR=4.1						
MMAI	**Mount Meron Ar**	**149.16**	**308**	PKPbc	**PKPbc**	**18 23 11.8**	**+0.1**
MMAI	**Mount Meron Ar**	**149.16**	**308**	PKPbc	**PKPbc**	**18 23 11.8**	**+0.1**
	comp=Z,24nm,0.8s,baz=59,slow=0.8,SNR=7.4						
DAVOX	**Davos/Dischmat**	**149.22**	**356**	PKPbc	**PKPbc**	**18 23 11.8**	**+0.3**
DAVOX	**Davos/Dischmat**	**149.22**	**356**	PKPbc	**PKPbc**	**18 23 11.8**	**+0.3**
	comp=Z,22nm,0.9s,baz=354,slow=4.0,SNR=6.0						
CSS	**Prodhromos**	**149.72**	**313**	*e*PKPbc	**PKPbc**	**18 23 12.1**	**-0.8**
EIL	**Elat**	**150.87**	**303**	PKPbc	**PKPbc**	**18 23 17.9**	**+2.1**
EIL	**Elat**	**150.87**	**303**	PKPbc	**PKPbc**	**18 23 17.9**	**+2.1**
	comp=Z,11nm,0.8s,baz=0.0,slow=5.1,SNR=4.6						
ESDC	**Sonseca Array**	**154.60**	**20**	PKP	**PKPdf**	**18 23 15.6**	**+0.3**
ESDC	**Sonseca Array**	**154.60**	**20**	PKP	**PKPdf**	**18 23 15.6**	**+0.3**
	comp=Z,1.0nm,0.6s,baz=338,slow=3.3,SNR=2.7						
TORD	**Torodi Ar. Bea**	**174.23**	**119**	PKP	**PKPdf**	**18 23 31.8**	**-1.4**
TORD	**Torodi Ar. Bea**	**174.23**	**119**	PKP	**PKPdf**	**18 23 31.8**	**-1.4**
	comp=Z,2.6nm,0.9s,baz=294,slow=2.4,SNR=1.8						

*IDC **29** 18:05:35.8±0.6, 16.°06S×172.°94W, h0^{km}, mb4.8/15, mb1 5.0/15, mb1mx4.9/23, mbtmp4.8/15, Error ellipse: s-maj=29.4km s-min=16.4km az=126.0*

*NEIC **29** 18:05:37.4±0.3, 16.°02S×173.°06W, h10^{km}, mb5.1/8, Error ellipse: s-maj=18.3km s-min=9.8km az=129.0*

*ISCJB **29** 18:05:38.0±0.2, 16.°00S±0.°09×173.°18W±0.°07, h26^{km}, mb4.8/22, Error ellipse: s-maj=15.5km s-min=5.3km az=143.3*

ISC 29 18:05:39.9±0.5, 16.°0S±0.°1×173.°0W±0.°1, h26^{km}, n192, σ0.84/189, mb4.9/22, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**20.30**	**250**	P	**P**	**18 10 14.8**	**+0.8**
DZM	**Mont Dzumac**	**20.30**	**250**	P	**P**	**18 10 14.8**	**+0.8**
	56nm,0.7s,baz=73,slow=16,SNR=7.7						
URZ	**Urewera**	**23.79**	**200**	P	**P**	**18 10 49.5**	**-1.0**
URZ	**Urewera**	**23.79**	**200**	P	**P**	**18 10 49.5**	**-1.0**
	22nm,0.5s,baz=126,slow=15,SNR=5.7						
SNZO	**South Karori**	**27.33**	**200**	*eP*	**P**	**18 11 25.5**	**+2.8**
	31nm,0.7s						
RPZ	**Rata Peaks**	**30.74**	**203**	P	**P**	**18 11 52.2**	**-0.7**
RPZ	**Rata Peaks**	**30.74**	**203**	P	**P**	**18 11 52.2**	**-0.7**
	21nm,0.9s,baz=41,slow=5.2,SNR=2.5						
EIDS	**Eidsvold**	**34.73**	**249**	*eP*	P	18 12 24.0	-4.1
	43nm,1.3s						
EIDS	**Eidsvold**	**34.73**	**249**	P	**P**	**18 12 26.3**	**-1.9**
	baz=29,SNR=4.4						
ARMA	**Armidale**	**35.32**	**240**	P	**P**	**18 12 31.9**	**-1.4**
	baz=30,SNR=7.2						
CNB	**Canberra Magne**	**38.65**	**233**	P	**P**	**18 13 00.1**	**-1.4**
	baz=33,SNR=5.8						
PMG	**Port Moresby**	**39.33**	**275**	*eP*	P	18 12 58.4	-8.9
	24nm,0.9s						
CMSA	**Cobar Meteorol**	**40.54**	**240**	P	**P**	**18 13 15.5**	**-1.7**
	baz=35,SNR=6.8						
QLP	**Quilpie**	**41.00**	**248**	P	**P**	**18 13 19.1**	**-2.0**
	baz=35,SNR=6.8						
TOO	**Toolangi**	**42.34**	**231**	P	**P**	**18 13 30.4**	**-1.6**
	baz=37,SNR=4.1						
AS31	**Alice Springs**	**50.25**	**252**	*eP*	**P**	**18 14 32.3**	**-2.0**
ASAR	**Alice Springs**	**50.25**	**252**	P	**P**	**18 14 32.8**	**-1.6**
ASAR	**Alice Springs**	**50.25**	**252**	P	**P**	**18 14 32.8**	**-1.6**
	21nm,0.6s,baz=88,slow=8.0,SNR=6.9						
KDU	**Kakadu**	**52.77**	**266**	P	**P**	**18 14 52.8**	**-0.4**
	baz=48,SNR=4.6						
SWI	**Sorong**	**56.91**	**280**	P	**P**	**18 15 23.4**	**+0.1**
	baz=52,SNR=3.3						
SOEI	**Soe**	**61.25**	**268**	P	P	18 15 57.8	+4.3
	baz=56,SNR=3.5						
VNDA	**Vanda**	**62.79**	**186**	P	**P**	**18 16 04.0**	**+1.3**
	13nm,1.3s						
MBWA	**Marble Bar**	**63.52**	**254**	P	**P**	**18 16 07.1**	**-1.4**
	19nm,0.9s						
MEEK	**Meekatharra**	**63.90**	**248**	P	**P**	**18 16 09.8**	**-1.2**
	baz=58,SNR=4.0						
NWAO	**Narrogin (SRO)**	**64.62**	**241**	P	**P**	**18 16 18.0**	**+2.4**
	35nm,1.2s						
VES	**Vestal, Richgr**	**72.56**	**44**	P	**P**	**18 17 05.2**	**+0.4**
	baz=73						
BFSC	**Mount Baldy Ra**	**72.61**	**46**	P	**P**	**18 17 05.0**	**-0.4**
	baz=73						
EDW2	**Edwards Air Fo**	**72.74**	**45**	P	**P**	**18 17 06.4**	**+0.3**
	baz=73						
CMB	**Columbia Colle**	**73.00**	**41**	*eP*	**P**	**18 17 07.5**	**-0.1**
	11nm,1.1s						
PETK	**Petropavlovsk-**	**73.33**	**342**	P	**P**	**18 17 08.3**	**-0.8**
PETK	**Petropavlovsk-**	**73.33**	**342**	P	**P**	**18 17 08.3**	**-0.8**
	3.8nm,0.8s,baz=165,slow=6.0,SNR=2.7						
MPMC	**Manual Prospec**	**73.74**	**44**	P	**P**	**18 17 12.0**	**-0.2**
	baz=74						
GSC	**Goldstone**	**73.78**	**45**	P	**P**	**18 17 12.2**	**-0.1**
	baz=74						
BC3	**Big Chuckawall**	**73.82**	**47**	P	**P**	**18 17 11.8**	**-0.8**
	baz=74						
HEC	**Hector,Ludlow**	**73.85**	**46**	P	**P**	**18 17 12.2**	**-0.5**
	baz=74						
YBH	**Yreka Blue Hor**	**73.89**	**37**	P	**P**	**18 17 11.5**	**-1.3**
YBH	**Yreka Blue Hor**	**73.89**	**37**	P	**P**	**18 17 11.5**	**-1.3**
	9.1nm,0.8s,baz=121,slow=18,SNR=4.0						
QSPA	**South Pole Qui**	**74.02**	**180**	*eP*	**P**	**18 17 13.2**	**-0.1**
	12nm,0.8s						
113A	**Mohawk Valley,**	**74.56**	**49**	P	**P**	**18 17 15.6**	**-1.2**
	baz=75						
UGM	**Wanagama**	**74.88**	**266**	P	**P**	**18 17 21.4**	**+2.3**
	baz=70,SNR=4.2						
PDMCI	**Parker Dam,Lak**	**75.09**	**47**	P	**P**	**18 17 20.1**	**+0.3**
	baz=75						
Y14A	**Wickenburg**	**75.71**	**48**	P	**P**	**18 17 23.1**	**-0.4**
	baz=76						
X16A	**Lo Mia Camp, P**	**77.07**	**48**	P	**P**	**18 17 31.7**	**+0.4**
	baz=77						
319A	**Douglas**	**77.20**	**52**	P	**P**	**18 17 32.4**	**+0.4**
	baz=77						
U15A	**North Rim**	**77.48**	**46**	P	**P**	**18 17 34.0**	**+0.3**
	baz=78						
WUAZ	**Wupatki**	**77.67**	**47**	P	**P**	**18 17 35.4**	**+0.8**
	baz=78						
320A	**Kipp Ranch, An**	**77.75**	**52**	P	**P**	**18 17 35.7**	**+0.5**
	baz=78						
220A	**Playas Peak, P**	**78.02**	**52**	P	**P**	**18 17 37.5**	**+0.9**
	baz=78						
USRK	**Ussuriysk Arra**	**78.09**	**323**	P	**P**	**18 17 36.2**	**-0.3**
	2.0nm,0.7s,baz=108,slow=4.7,SNR=2.4						
X18A	**Snowflake**	**78.20**	**49**	P	**P**	**18 17 38.1**	**+0.5**
	baz=78						
120A	**U Bar Ranch, L**	**78.23**	**51**	P	**P**	**18 17 38.4**	**+0.6**
	baz=78						
Z20A	**Nine Sixteen R**	**78.53**	**51**	P	**P**	**18 17 40.0**	**+0.6**
	baz=79						
W18A	**Petrified Fore**	**78.64**	**48**	P	**P**	**18 17 40.9**	**+0.9**
	baz=79						
121A	**Cookes Peak, D**	**78.86**	**51**	P	**P**	**18 17 41.8**	**+0.5**
	baz=79						
MFID	**Camas Ranch**	**78.96**	**39**	P	**P**	**18 17 42.0**	**+0.5**
	baz=79						
Y20A	**Horse Springs,**	**79.05**	**50**	P	**P**	**18 17 42.8**	**+0.3**
	baz=79						
X20A	**Quemado**	**79.26**	**49**	P	**P**	**18 17 44.4**	**+0.8**
	baz=79						
Z21A	**St. Cloud Mine**	**79.30**	**51**	P	**P**	**18 17 45.0**	**+1.3**
	baz=80						
Q16A	**Castle Valley**	**79.51**	**44**	P	**P**	**18 17 46.1**	**+1.4**
	baz=80						
W20A	**Ramah**	**79.53**	**49**	P	**P**	**18 17 45.9**	**+0.9**
	baz=80						
Z22A	**Elephant Butte**	**79.81**	**51**	P	**P**	**18 17 47.1**	**+0.7**
	baz=80						
HLID	**Hailey**	**79.89**	**39**	P	**P**	**18 17 47.2**	**+0.5**
	baz=80						
U20A	**Newcomb**	**80.11**	**48**	P	**P**	**18 17 48.3**	**+0.3**
	baz=80						
Y22A	**Socorro**	**80.11**	**50**	P	**P**	**18 17 48.8**	**+0.7**
	baz=80						
324A	**Moseley Ranch,**	**80.13**	**53**	P	**P**	**18 17 48.1**	**-0.1**
	baz=80						
425A	**Indio Mountain**	**80.24**	**54**	P	**P**	**18 17 49.3**	**+0.5**
	baz=80						
X22A	**Bernardo**	**80.33**	**50**	P	**P**	**18 17 49.8**	**+0.6**
	baz=80						
Z23A	**Rita Site, Whi**	**80.36**	**51**	P	**P**	**18 17 50.0**	**+0.6**
	baz=80						
224A	**Cornudas Mount**	**80.38**	**53**	P	**P**	**18 17 50.1**	**+0.6**
	baz=80						
526A	**Mary Lane Ranc**	**80.64**	**55**	P	**P**	**18 17 50.4**	**-0.6**
	baz=81						
TXAR	**Lajitas Array**	**80.67**	**56**	P	**P**	**18 17 51.2**	**+0.1**
TXAR	**Lajitas Array**	**80.67**	**56**	P	**P**	**18 17 51.2**	**+0.1**
	1.9nm,0.

baz=84
S25A Robets Cordova 83.60 48 P P 18 18 06.1 -0.3
baz=84
O23A Lake Granby, G 83.69 45 P P 18 18 07.3 +0.4
baz=84
J20A Shoshoni 83.73 42 P P 18 18 07.2 +0.3
baz=84
Z29A Hungry Hill Ra 83.79 53 P P 18 18 07.5 +0.1
baz=84
H19A Powell 83.80 40 P P 18 18 07.7 +0.5
baz=84
632A Uvalde 83.85 57 P P 18 18 07.9 +0.3
baz=84
R25A Fountain Ranch 83.92 48 P P 18 18 07.9 -0.1
baz=84
X28A Dimmitt 83.93 52 P P 18 18 07.7 -0.3
baz=84
V27A Dan Oppiter Fa 83.96 50 P P 18 18 08.0 -0.1
baz=84
I20A Worland 83.99 41 P P 18 18 08.3 +0.1
baz=84
J21A Lysite 84.13 42 P P 18 18 09.6 +0.6
baz=84
L22A Ellis Ranch, M 84.18 43 P P 18 18 09.6 +0.4
baz=84
U27A Thompson Grove 84.24 50 P P 18 18 09.1 -0.5
baz=84
Z30A Sanderson Ranc 84.25 53 P P 18 18 09.2 -0.5
baz=84
M23A Laramie 84.39 44 P P 18 18 08.7 -1.7
baz=85
F19A Roth Farm, Mol 84.41 39 P P 18 18 09.4 -0.8
baz=85
I21A Big Trails, Te 84.45 42 P P 18 18 09.5 -1.0
baz=85
G20A Bridger 84.55 40 P P 18 18 10.3 -0.7
baz=85
R26A Arlington 84.58 48 P P 18 18 09.8 -1.5
baz=85
W29A Amraillo 84.58 51 P P 18 18 10.1 -1.2
baz=85
332A Millersview 84.59 55 P P 18 18 10.3 -1.1
baz=85
Y30A Stafford Cattl 84.66 53 P P 18 18 11.2 -0.6
baz=85
U28A Mallet 84.67 50 P P 18 18 10.8 -1.0
baz=85
N24A Carr 84.67 45 P P 18 18 11.9 +0.1
baz=85
L23A Garrett 84.70 44 P P 18 18 11.5 -0.4
baz=85
E19A Rath Farm, Rou 84.81 39 P P 18 18 12.3 +0.1
baz=85
X30A Coker Ranch, T 84.90 52 P P 18 18 12.5 -0.4
baz=85
I22A 9 Mile Ranch, 85.01 42 P P 18 18 13.4 0.0
baz=85
Z31A Sharp Cattle R 85.02 53 P P 18 18 12.7 -0.9
baz=85
K23A Bowen Ranch, D 85.04 43 P P 18 18 13.9 +0.3
baz=85
ABTX Abilene, Hawle 85.14 54 P P 18 18 13.6 -0.5
baz=85
E20A Meyer Farm, Mu 85.22 39 P P 18 18 14.6 +0.4
baz=85
Z32A Haskell 85.53 54 P P 18 18 15.9 -0.2
baz=86
X31A McDonald Ranch 85.65 52 P P 18 18 15.9 -0.7
baz=86
Y32A R-V Farms, Ver 85.82 53 P P 18 18 17.1 -0.4
baz=86
W31A Holland Ranch, 85.89 52 P P 18 18 17.6 -0.2
baz=86
D21A La Casta Ranch 86.18 39 P P 18 18 18.9 -0.1
baz=86
R29A Marienthal 86.28 48 P P 18 18 19.8 +0.1
baz=86
P28A Saint Francis 86.31 47 P P 18 18 19.5 -0.4
baz=86
MAW Mawson 87.31 199 P P 18 18 24.4 +0.3
MAW Mawson 87.31 199 P P 18 18 24.4 +0.3
5.2nm,0.8s,baz=160,slow=4.7˝,SNR=3.0
R31A Burdett 87.39 49 P P 18 18 24.4 -0.7
baz=88
I26A New Underwood 87.41 43 P P 18 18 24.7 -0.4
baz=88
CMAR Chiang Mai Arr 93.14 288 P P 18 18 54.0 +1.6
CMAR Chiang Mai Arr 93.14 288 P P 18 18 54.0 +1.6
33nm,1.2s,baz=263,slow=3.8,SNR=8.7
ULM Lac du Bonnet 94.20 39 P P 18 18 57.2 +0.7
ULM Lac du Bonnet 94.20 39 P P 18 18 57.2 +0.7
12nm,0.9s,baz=296,slow=2.5,SNR=4.1
SONM Songino Array 95.54 318 P P 18 19 05.1 +2.2
SONM Songino Array 95.54 318 P P 18 19 05.1 +2.2
3.7nm,0.9s,baz=176,slow=1.5,SNR=3.5
ZALV Zalesovo Beam 109.93 322 PKiKP PKiKP 18 24 09.5 +0.8
ZALV Zalesovo Beam 109.93 322 PKiKP PKiKP 18 24 09.5 +0.8
0.8nm,0.5s,baz=336,slow=39,SNR=2.5
MKAR Makanchi Array 111.51 314 PKiKP PKiKP 18 24 12.9 +0.8
MKAR Makanchi Array 111.51 314 PKiKP PKiKP 18 24 12.9 +0.8
2.1nm,1.0s,baz=79,slow=3.4,SNR=2.3
ARCES ARCESS Array B 125.28 352 PKP PKPdf 18 24 37.8 0.0
ARCES ARCESS Array B 125.28 352 PKP PKPdf 18 24 37.8 0.0
3.1nm,0.8s,baz=8.1,slow=1.3,SNR=4.9
FINES FINESS Array B 132.63 348 PKP PKPdf 18 24 51.1 -0.8
FINES FINESS Array B 132.63 348 PKP PKPdf 18 24 51.1 -0.8
4.5nm,1.0s,baz=46,slow=4.0,SNR=3.3
AKASG Malin Array Be 141.05 337 PKP PKPdf 18 25 06.8 -1.0
AKASG Malin Array Be 141.05 337 PKP PKPdf 18 25 06.8 -1.0
0.9nm,0.7s,baz=38,slow=3.3,SNR=2.8
KMBO Kilima Mbogo 145.57 243 PKPbc PKPab 18 25 18.2 +0.6
KMBO Kilima Mbogo 145.57 243 PKPbc PKPab 18 25 18.2 +0.6
6.1nm,1.0s,baz=154,slow=0.6,SNR=3.7
GERES GERESS Array B 146.81 352 PKPbc PKPbc 18 25 19.9 0.0
GERES GERESS Array B 146.81 352 PKPbc PKPbc 18 25 19.9 0.0
1.7nm,0.8s,baz=28,slow=4.4,SNR=4.5
BRTR Keskin Array B 146.86 321 PKPbc PKPab 18 25 21.7 0.0
BRTR Keskin Array B 146.86 321 PKPbc PKPab 18 25 21.7 0.0
12nm,0.9s,baz=90,slow=1.7,SNR=5.2
MMAI Mount Meron Ar 149.23 309 PKPbc PKPbc 18 25 28.1 +1.2
MMAI Mount Meron Ar 149.23 309 PKPbc PKPbc 18 25 28.1 +1.2
4.0nm,0.8s,baz=29,slow=3.3,SNR=2.8

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*ISCJB **29** 18:07:22.2±1.0, 15˚.8S±0˚.2×173˚.7W±0˚.2, h10km, mb4.9/8, Error ellipse: s-maj=34.8km s-min=17.1km az=29.3*
*IDC **29** 18:07:23.8±1.6, 15˚.62S×173˚.78W, h0km, mb4.9/6, mb1 5.0/6, mb1mx4.7/19, mbtmp4.9/6, Error ellipse: s-maj=63.3km s-min=31.6km az=144.0*
*NEIC **29** 18:07:24.5±0.6, 15˚.76S×173˚.80W, h10km, mb5.2/2, Error ellipse: s-maj=29.2km s-min=15.6km az=124.0*
ISC 29 18:07:24.3±0.9, 15˚.7S±0˚.2×173˚.8W±0˚.2, h10km, n43, σ1§07/39, mb5.0/8, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNZO	**South Karori**	**27.36**	**199**	*eP*	**P**	**18 13 09.7**	**+0.1**
	88nm,1.2s						
EIDS	**Eidsvold**	**34.17**	**248**	P	P	18 14 13.8	+3.8
	35nm,1.5s						
WRAB	**Tennant Creek**	**49.40**	**257**	P	P	18 16 09.9	-4.7
AS31	**Alice Springs**	**49.65**	**252**	*eP*	**P**	**18 16 16.0**	**-0.6**
ASAR	**Alice Springs**	**49.65**	**252**	P	**P**	**18 16 16.4**	**-0.2**
ASAR	**Alice Springs**	**49.65**	**252**	P	**P**	**18 16 16.4**	**-0.2**
	20nm,0.6s,baz=85,slow=7.8,SNR=4.7						
FX1	**Attu Island--F**	**69.27**	**352**	P	**P**	**18 18 31.9**	**+0.5**
FX1	**Attu Island--F**	**69.27**	**352**	P	**P**	**18 18 31.9**	**+0.5**
	23nm,0.9s,baz=249,slow=18,SNR=4.1						
PETK	**Petropavlovsk-**	**72.84**	**342**	P	**P**	**18 18 52.4**	**-0.8**
PETK	**Petropavlovsk-**	**72.84**	**342**	P	**P**	**18 18 52.4**	**-0.8**
	10nm,0.9s,baz=138,slow=8.9,SNR=4.2						
YBH	**Yreka Blue Hor**	**74.09**	**37**	P	**P**	**18 18 59.7**	**-1.2**
YBH	**Yreka Blue Hor**	**74.09**	**37**	P	**P**	**18 18 59.7**	**-1.2**
	6.6nm,0.7s,baz=211,slow=5.9,SNR=4.5						
KSRS	**Korea Array**	**76.15**	**316**	P	**P**	**18 19 13.6**	**+1.0**
	4.4nm,1.0s,baz=120,slow=5.4,SNR=3.8						
KSAR	**Wonju Array Be**	**76.17**	**316**	P	**P**	**18 19 13.6**	**+0.9**
ILAR	**Eielson Array**	**82.85**	**11**	P	**P**	**18 19 49.0**	**+0.4**
ILAR	**Eielson Array**	**82.85**	**11**	P	**P**	**18 19 49.0**	**+0.4**
	4.5nm,0.9s,baz=214,slow=5.4,SNR=3.9						
NOA	**NORSAR Array B**	**134.62**	**357**	PKP	**PKPdf**	**18 26 41.4**	**-1.3**
NOA	**NORSAR Array B**	**134.62**	**357**	PKP	**PKPdf**	**18 26 41.4**	**-1.3**
	0.9nm,0.8s,baz=333,slow=3.7,SNR=2.7						
AKASG	**Malin Array Be**	**140.51**	**337**	PKPpre	PKPpre	18 26 48.8	
AKASG	**Malin Array Be**	**140.51**	**337**	PKhKP	PKPpre	18 26 48.8	
	1.3nm,0.7s,baz=39,slow=3.2,SNR=2.9						
CLL	**Collm**	**144.11**	**353**	*e*PKPdf	**PKPdf**	**18 27 03.0**	**+2.7**
VRAC	**Vranov**	**145.47**	**348**	PKPbc	**PKPab**	**18 27 03.2**	**+0.3**
VRAC	**Vranov**	**145.47**	**348**	PKPbc	**PKPab**	**18 27 03.2**	**+0.3**
	20nm,1.0s,baz=34,slow=3.3,SNR=3.6						
GRFO	**Grafenberg**	**145.90**	**354**	*e*PKPdf	**PKPdf**	**18 27 01.5**	**-1.9**
MLR	**Muntele Rosu**	**146.02**	**335**	PKPbc	**PKPab**	**18 27 06.1**	**+0.8**
MLR	**Muntele Rosu**	**146.02**	**335**	PKPbc	**PKPab**	**18 27 06.1**	**+0.8**
	6.1nm,1.1s,baz=57,slow=17,SNR=2.5						
KHC	**Kasperske Hory**	**146.16**	**351**	*e*PKPdf	**PKPdf**	**18 27 04.0**	**0.0**
WLF	**Walferdange**	**146.17**	**0**	PKP	**PKPab**	**18 27 06.3**	**+0.8**
WLF	**Walferdange**	**146.17**	**0**	*e*PKPdf	**PKPbc**	**18 27 04.2**	**-0.7**
BR131	**Keskin Array S**	**146.19**	**320**	*e*PKPbc	**PKPab**	**18 27 05.5**	**0.0**
BRTR	**Keskin Array B**	**146.19**	**320**	PKPbc	**PKPab**	**18 27 05.6**	**-0.5**
BRTR	**Keskin Array B**	**146.19**	**320**	PKPbc	**PKPab**	**18 27 05.6**	**-0.5**
	25nm,1.0s,baz=105,slow=2.4,SNR=6.2						
GERES	**GERESS Array B**	**146.43**	**351**	PKPbc	**PKPab**	**18 27 06.0**	**-0.6**
GERES	**GERESS Array B**	**146.43**	**351**	PKPbc	**PKPab**	**18 27 06.0**	**-0.6**
	19nm,0.9s,baz=20,slow=3.1,SNR=13						
BFO	**Black Forest**	**147.46**	**357**	*e*PKPbc	**PKPbc**	**18 27 08.8**	**+0.1**
MMAI	**Mount Meron Ar**	**148.49**	**308**	PKPbc	**PKPab**	**18 27 13.8**	**-1.5**
MMAI	**Mount Meron Ar**	**148.49**	**308**	PKPbc	**PKPab**	**18 27 13.8**	**-1.5**
	4.3nm,0.8s,baz=66,slow=3.6,SNR=2.8						
DAVOX	**Davos/Dischmat**	**148.91**	**355**	PKPbc	**PKPbc**	**18 27 13.8**	**+1.1**
DAVOX	**Davos/Dischmat**	**148.91**	**355**	PKPbc	**PKPbc**	**18 27 13.8**	**+1.1**
	23nm,1.0s,baz=8.2,slow=5.2,SNR=5.6						
SSB	**Saint Sauveur**	**150.52**	**2**	*e*PKPbc	**PKPbc**	**18 27 17.6**	**+1.1**
MTE	**Manteigas**	**152.67**	**23**	*e*PKPbc	**PKPbc**	**18 27 23.2**	**+1.6**
ESDC	**Sonseca Array**	**154.55**	**19**	PKPbc	**PKPbc**	**18 27 27.4**	**+1.6**
ESDC	**Sonseca Array**	**154.55**	**19**	PKPbc	**PKPbc**	**18 27 27.4**	**+1.6**
	5.9nm,0.9s,baz=328,slow=3.2,SNR=2.6						

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*BJI **29** 18:08:20.8, 15˚.50S×172˚.10W, h10km, mB6.6/8, mb5.7/21, Ms6.1/6, Ms7 5.8/6*
*IDC **29** 18:08:20.9±0.4, 15˚.63S×171˚.87W, h0km, mb5.1/23, mb1 5.2/23, mb1mx5.2/30, mbtmp5.1/23, Error ellipse: s-maj=18.7km s-min=13.4km az=130.0*
*MOS **29** 18:08:21.9±3.2, 15˚.56S×172˚.02W, h33km, mb5.5/30, Error ellipse: s-maj=11.6km s-min=8.6km az=52.5*
*NEIC **29** 18:08:22.0±0.2, 15˚.56S×172˚.02W, h10km, mb5.6/54, Error ellipse: s-maj=11.0km s-min=5.4km az=136.0*
*ISCJB **29** 18:08:23.3±0.1, 15˚.52S±0˚.04×171˚.97W±0˚.03, h23km, mb5.5/118, MS6.0/4, Error ellipse: s-maj=6.9km s-min=3.0km az=151.5*
*AUST **29** 18:08:27.9, 15˚.89S×171˚.88W, h30km*
ISC 29 18:08:24.6±0.3, 15˚.45S±0˚.06×172˚.12W±0˚.06, h23km, n613, σ1§28/576, mb5.6/118, MS5.8/4, 100C-108D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.56**	**12**	*e*Pn	**Pn**	**18 08 49.7**	**-1.3**
AFI				Sn	**Sn**	**18 09 09.1**	**-1.6**
AFI	**Afiamalu**	**1.56**	**12**	Pn	**Pn**	**18 08 49.7**	**-1.3**
	576nm,0.3s,baz=108,slow=20,SNR=2.3						
AFI				Sn	**Sn**	**18 09 09.1**	**-1.6**
	11μm,0.3s,baz=36,slow=22,SNR=17						
MSVF	**Nonsavu**	**9.70**	**255**	*e*P	Pn	18 10 48.4	+5.6
MSVF	**Nonsavu**	**9.70**	**255**	Pn	Pn	18 10 48.6	+5.8
	3μm,1.1s,SNR=6.2						
RAR	**Rarotonga**	**13.04**	**118**	*e*Pn	Pn	18 11 20.7	-7.8
	1μm,1.1s						
DZM	**Mont Dzumac**	**21.33**	**249**	*e*P	**P**	**18 13 14.3**	**+4.1**
	652nm,1.4s						
DZM	**Mont Dzumac**	**21.33**	**249**	P	**P**	**18 13 10.5**	**+0.3**
DZM	**Mont Dzumac**	**21.33**	**249**	P	**P**	**18 13 10.5**	**+0.3**
	105nm,1.1s,baz=61,slow=19,SNR=3.3						
TIAR	**Tiarei**	**21.93**	**99**	*e*P	P	18 13 22.2	+5.6
	167nm,0.9s						
TBI	**Tubuai**	**22.75**	**114**	*e*P	**P**	**18 13 29.4**	**+4.1**
	1μm,1.1s						
PMOR	**Pomariorio Ree**	**23.38**	**92**	*e*P	P	18 13 37.2	+5.4
	837nm,1.4s						
OUZ	**Omahuta**	**23.49**	**210**	*e*P	**P**	**18 13 32.4**	**-0.3**
	145nm,0.9s						
VAH	**Vaihoa**	**23.62**	**93**	*e*P	P	18 13 39.0	+4.9
	452nm,1.3s						
URZ	**Urewera**	**24.63**	**201**	P	**P**	**18 13 43.2**	**-0.1**
URZ	**Urewera**	**24.63**	**201**	P	**P**	**18 13 43.2**	**-0.1**
	103nm,0.8s,baz=48,slow=4.0,SNR=12						
SNZO	**South Karori**	**28.19**	**201**	*e*P	**P**	**18 14 13.2**	**-2.2**
	200nm,1.6s						
KHZ	**Kahutara**	**29.57**	**202**	P	**P**	**18 14 29.5**	**+1.9**
	110nm,0.9s						
RPZ	**Rata Peaks**	**31.62**	**204**	P	P	18 14 48.6	+2.8
RPZ	**Rata Peaks**	**31.62**	**204**	P	P	18 14 48.6	+2.8
	14nm,0.5s,baz=347,slow=14,SNR=6.3						
EIDS	**Eidsvold**	**35.77**	**248**	*e*P	**P**	**18 15 22.0**	**-0.1**
	20nm,0.8s						
EIDS	**Eidsvold**	**35.77**	**248**	P	**P**	**18 15 22.3**	**+0.2**
	baz=36,SNR=9.8						
ARMA	**Armidale**	**36.38**	**239**	*e*P	**P**	**18 15 25.6**	**-1.8**
	839nm,2.5s						
ARMA	**Armidale**	**36.38**	**239**	P	P	18 15 32.9	+5.5
	baz=36,SNR=5.6						
PATS	**Pohnpei**	**36.72**	**305**	P	P	18 15 35.6	+5.3
	baz=37,SNR=3.8						
PATS				S	S	18 21 22.8	+10
	baz=37,SNR=3.5						
RMQ	**Roma**	**38.01**	**247**	P	**P**	**18 15 40.5**	**-0.7**
	baz=38,SNR=6.6						
KIP	**Kipapa**	**39.17**	**21**	*e*P	**P**	**18 15 52.7**	**+1.9**
KIP				pmax	pmax		
	comp=Z,291nm,1.1s						
KIP	**Kipapa**	**39.17**	**21**	*e*P	**P**	**18 15 52.7**	**+1.9**
	comp=Z,291nm,1.1s						
CNB	**Canberra Magne**	**39.70**	**233**	P	P	18 16 02.0	+6.7
	baz=40,SNR=5.9						
CTAO	**Charters Tower**	**39.84**	**257**	*e*P	**P**	**18 15 55.3**	**-1.3**
CTAO				pmax	pmax		
	comp=Z,16nm,0.7s						
CTAO	**Charters Tower**	**39.84**	**257**	*e*P	**P**	**18 15 55.3**	**-1.3**
	comp=Z,16nm,0.7s						
PMG	**Port Moresby**	**40.17**	**274**	Pn	**P**	**18 16 00.3**	**+0.9**
	comp=Z,74nm,1.0s						
PMG	**Port Moresby**	**40.17**	**274**	P	P	18 16 02.4	+3.0
PMG	**Port Moresby**	**40.17**	**274**	P	**P**	**18 16 01.6**	**+2.3**
	comp=Z,33nm,1.0s,baz=194,slow=8.2,SNR=4.1						
CMSA	**Cobar Meteorol**	**41.59**	**240**	P	**P**	**18 16 10.8**	**-0.1**
	baz=42,SNR=8.3						
MTSU	**Mount Surprise**	**41.72**	**260**	P	**P**	**18 16 12.2**	**+0.1**
	baz=42,SNR=4.4						
QLP	**Quilpie**	**42.04**	**247**	P	**P**	**18 16 13.8**	**-0.8**
	baz=42,SNR=6.5						
MANU	**Manus Island**	**42.10**	**284**	S	S	18 22 13.0	-21
	baz=42,SNR=3.6						
COEN	**Coen**	**43.21**	**266**	*e*P	**P**	**18 16 24.4**	**+0.1**
	comp=Z,351nm,1.0s						
COEN	**Coen**	**43.21**	**266**	P	**P**	**18 16 24.9**	**+0.6**
	baz=43,SNR=20						
TOO	**Toowoomba**	**43.40**	**231**	P	**P**	**18 16 25.6**	**0.0**
	baz=43,SNR=9.1						
ARPS	**Mount Arapiles**	**45.95**	**234**	P	**P**	**18 16 45.9**	**0.0**
	baz=46,SNR=5.8						
JAY	**Jayapura**	**48.21**	**281**	P	P	18 17 07.5	+3.6
BBOO	**Buckleboo**	**49.86**	**240**	P	**P**	**18 17 16.2**	**0.0**
	baz=50,SNR=15						
WRAB	**Tennant Creek**	**51.03**	**257**	*e*P	**P**	**18 17 23.7**	**-1.6**
WRAB				pmax	pmax		
	comp=Z,117nm,0.9s						
WRAB	**Tennant Creek**	**51.03**	**257**	*e*P	**P**	**18 17 23.6**	**-1.6**
	comp=Z,117nm,0.9s						
AS31	**Alice Springs**	**51.27**	**252**	*e*P	**P**	**18 17 25.6**	**-1.5**
ASAR	**Alice Springs**	**51.27**	**252**	P	**P**	**18 17 26.8**	**-0.4**
ASAR	**Alice Springs**	**51.27**	**252**	P	**P**	**18 17 26.8**	**-0.4**
	comp=Z,61nm,0.6s,baz=85,slow=8.2,SNR=15						
KDU	**Kakadu**	**53.70**	**265**	P	P	18 17 38.3	-6.8
	baz=54,SNR=4.7						
KMPI	**Kaimana, Papua**	**54.55**	**277**	P	**P**	**18 17 53.9**	**+2.6**
TLE	**Tual**	**54.95**	**274**	P	**P**	**18 17 56.3**	**+2.0**
TLE	**Tual**	**54.95**	**274**	P	**P**	**18 17 56.6**	**+2.3**
	baz=55,SNR=3.5						
SAUI	**Saumlaki**	**55.77**	**271**	P	P	18 18 03.6	+3.4
FAKI	**Fak Fak**	**56.15**	**277**	P	**P**	**18 18 05.2**	**+2.3**
FAKI	**Fak Fak**	**56.15**	**277**	S	**S**	**18 25 46.1**	**-5.1**
	baz=56,SNR=6.7						
KNRA	**Kununurra**	**56.78**	**261**	P	**P**	**18 18 07.8**	**+0.4**
	baz=57,SNR=7.6						
SWI	**Sorong**	**57.69**	**279**	P	**P**	**18 18 15.6**	**+1.7**
	baz=58,SNR=17						
SWI				S	S	18 26 27.9	+16
	baz=58,SNR=9.3						
BNDI	**Bandanaira**	**57.96**	**274**	P	**P**	**18 18 17.2**	**+1.5**
	comp=Z,195nm,1.7s						
MSAI	**Masohi**	**59.21**	**275**	P	P	18 18 30.5	+6.0
	comp=Z,27nm,3.9s						
FITZ	**Fitzroy Crossi**	**59.41**	**258**	P	**P**	**18 18 25.9**	**+0.1**
FITZ	**Fitzroy Crossi**	**59.41**	**258**	P	**P**	**18 18 25.9**	**+0.1**
	comp=Z,11nm,0.7s,baz=112,slow=6.0,SNR=6.8						
FITZ	**Fitzroy Crossi**	**59.41**	**258**	P	**P**	**18 18 26.5**	**+0.7**
	baz=60,SNR=10.0						
AAI	**Ambon**	**59.83**	**275**	P	**P**	**18 18 29.9**	**+1.2**
	comp=Z,120nm,1.2s						
AAI	**Ambon**	**59.83**	**275**	P	**P**	**18 18 31.3**	**+2.6**
	baz=60,SNR=4.4						
NLAI	**Namlea**	**61.00**	**275**	P	**P**	**18 18 38.5**	**+1.8**
	comp=Z,2μm,1.1s,comp=Z,259μm						
LBMI	**Labuha**	**61.35**	**278**	P	**P**	**18 18 41.7**	**+2.6**
	comp=Z,1μm,1.1s,comp=Z,227μm						
TNTI	**Ternate**	**61.90**	**279**	P	**P**	**18 18 45.5**	**+2.7**
	comp=Z,197nm,1.2s						
SOEI	**Soe**	**62.16**	**267**	P	**P**	**18 18 47.1**	**+2.4**
	comp=Z,208nm,2.4s,comp=Z,366μm						
SOEI	**Soe**	**62.16**	**267**	P	**P**	**18 18 46.9**	**+2.1**
	baz=62,SNR=12						
BATI	**Baumata**	**62.65**	**266**	P	**P**	**18 18 50.1**	**+2.2**
BATI	**Baumata**	**62.65**	**266**	P	**P**	**18 18 50.1**	**+2.2**
	comp=Z,41nm,0.9s,baz=122,slow=4.0,SNR=5.7						
SBA	**Scott Base**	**63.30**	**185**	*e*P	**P**	**18 18 50.5**	**-0.7**
SBA				pmax	pmax		
	comp=Z,58nm,1.2s						
SBA	**Scott Base**	**63.30**	**185**	*e*P	**P**	**18 18 50.5**	**-0.7**
	comp=Z,58nm,1.2s						
VNDA	**Vanda**	**63.46**	**186**	P	**P**	**18 18 51.2**	**-1.0**
VNDA	**Vanda**	**63.46**	**186**	P	**P**	**18 18 51.2**	**-1.0**
	comp=Z,13nm,1.1s,baz=11,slow=6.4,SNR=5.4						
MMRI	**Maumere**	**64.36**	**268**	P	**P**	**18 18 59.5**	**+0.3**
	comp=Z,114nm,4.8s						
MBWA	**Marble Bar**	**64.53**	**254**	*e*P	**P**	**18 19 00.8**	**+0.6**
	comp=Z,166nm,1.4s						
SGSI	**Sangihe**	**64.56**	**282**	P	**P**	**18 19 01.7**	**+1.3**
	comp=Z,196nm,1.5s						
BBSI	**Bau Bau**	**64.78**	**271**	P	P	18 19 05.1	+3.2
	comp=Z,90nm,4.2s						
MEEK	**Meekatharra**	**64.94**	**248**	P	**P**	**18 19 02.6**	**-0.2**
	baz=65,SNR=6.9						
KMSI	**Cibinong**	**65.07**	**278**	P	P	18 19 09.7	+5.9
	comp=Z,216nm,1.2s						
KLBR	**Kellerberrin**	**65.31**	**242**	P	P	18 19 11.6	+6.5
	baz=65,SNR=5.8						
NWAO	**Narrogin (SRO)**	**65.67**	**241**	*e*P	**P**	**18 19 07.2**	**-0.2**
	comp=Z,164nm,1.3s						
NWAO	**Narrogin (SRO)**	**65.67**	**241**	P	**P**	**18 19 08.1**	**+0.6**
	comp=Z,18nm,1.0s,baz=71,slow=6.8,SNR=5.9						
LUWI	**Luwuk**	**65.76**	**276**	P	**P**	**18 19 10.1**	**+1.8**
LUWI	**Luwuk**	**65.76**	**276**	P	**P**	**18 19 11.1**	**+2.8**
	baz=66,SNR=6.6						
WSI	**Waingapu**	**66.00**	**266**	P	**P**	**18 19 09.5**	**-0.3**
	comp=Z,244nm,1.6s						
GTOI	**Gorontalo**	**66.01**	**278**	P	**P**	**18 19 12.4**	**+2.5**
	comp=Z,100nm,1.2s						
BLDU	**Ballidu**	**66.27**	**243**	P	**P**	**18 19 10.7**	**-0.6**
	baz=66,SNR=6.2						
BLDU				S	**S**	**18 27 54.0**	**-5.7**
	baz=66,SNR=5.2						
LBFI	**Labuhan Bajo,**	**66.66**	**267**	P	**P**	**18 19 13.5**	**-0.5**
	comp=Z,141nm,1.4s						
APSI	**Ampana**	**66.87**	**276**	P	**P**	**18 19 18.2**	**+2.8**
	comp=Z,233nm,1.4s						
MORW	**Morawa**	**66.98**	**245**	P	**P**	**18 19 15.9**	**0.0**
	baz=67,SNR=5.2						
MRSI	**Marisa**	**66.99**	**277**	P	P	18 19 22.0	+5.9
	comp=Z,56nm,1.4s						
BKSI	**Bulukumba**	**67.18**	**271**	P	P	18 19 20.7	+3.3
BNSI	**Bone**	**67.43**	**272**	P	**P**	**18 19 21.0**	**+2.1**
KAPI	**Kappang**	**67.61**	**271**	P	P	18 19 24.4	+4.3
SPSI	**Sidrap Palu**	**67.86**	**272**	P	P	18 19 28.7	+7.0
	comp=Z,61nm,3.6s						
TOLI	**Toli-Toli**	**68.27**	**278**	P	P	18 19 29.5	+5.2
	comp=Z,98nm,2.3s						
MJSI	**Majene**	**68.73**	**272**	P	P	18 19 30.7	+3.6
	comp=Z,169nm,4.0s						
MMSI	**Mamuju**	**69.02**	**273**	P	P	18 19 32.5	+3.5
MAJO	**Matsushiro**	**69.78**	**319**	*e*P	**P**	**18 19 33.8**	**+0.6**
MTNI	**Mataram**	**70.20**	**266**	P	**P**	**18 19 36.9**	**+0.7**
	comp=Z,65nm,2.1s						
PKM	**Peak Mountain**	**70.49**	**44**	⇓P	**P**	**18 19 38.6**	**+0.8**
	baz=71						
SAO	**San Andreas Ge**	**70.55**	**41**	*e*P	**P**	**18 19 38.3**	**+0.5**
SAO				pmax	pmax		
	comp=Z,68nm,1.2s						
SAO	**San Andreas Ge**	**70.55**	**41**	*e*P	**P**	**18 19 38.3**	**+0.5**
	comp=Z,68nm,1.2s						
CIS	**Catalina Islan**	**70.59**	**46**	⇑P	**P**	**18 19 38.7**	**+0.5**
	baz=71						
SMMC	**Simmler**	**70.61**	**43**	⇑P	**P**	**18 19 39.1**	**+0.8**
	baz=71						
CASY	**Casey**	**70.88**	**205**	*e*P	P	18 19 42.2	+2.8
	comp=Z,39nm,1.0s						
HOPS	**Hopland**	**70.93**	**39**	*e*P	**P**	**18 19 40.5**	**+0.4**
	comp=Z,50nm,1.3s						
SRBI	**Singaraja**	**71.25**	**267**	P	P	18 19 45.5	+2.9
	comp=Z,84nm,2.4s						
ARVC	**Arvin**	**71.28**	**44**	⇓P	**P**	**18 19 42.9**	**+0.6**
	baz=72						
MWC	**Mount Wilson**	**71.29**	**45**	*e*P	**P**	**18 19 42.4**	**-0.3**
MWC				pmax	pmax		
	comp=Z,15nm,1.0s						
MWC	**Mount Wilson**	**71.29**	**45**	*e*P	**P**	**18 19 42.4**	**-0.3**
	comp=Z,15nm,1.0s						
VES	**Vestal, Richgr**	**71.53**	**43**	⇓P	**P**	**18 19 44.0**	**+0.2**
	baz=72,SNR=8.4						
MURC	**Murrieta**	**71.53**	**46**	⇓P	**P**	**18 19 44.0**	**+0.1**
	baz=72						
BFSC	**Mount Baldy Ra**	**71.57**	**45**	⇓P	**P**	**18 19 44.2**	**0.0**
	baz=72						
MYLDM	**Lahad Datu**	**71.67**	**281**	P	P	18 19 49.6	+4.5
MONP	**Monument Peak**	**71.69**	**47**	⇑P	**P**	**18 19 44.9**	**-0.2**
	baz=72						
EDW2	**Edwards Air F

GLA	Glamis	72.91	48	eP	P	18 19 52.5	+0.3
	comp=Z,34nm,1.0s						
GLA	Glamis	72.91	48	⇓P	P	18 19 52.5	+0.3
	baz=73						
GMJI	Gumukmas	72.91	266	P	P	18 19 55.1	+2.6
	comp=Z,79nm,3.4s						
PEA0B	Petropavlovsk-	73.06	342	eP	P	18 19 53.3	+0.7
PETK	Petropavlovsk-	73.06	342	P	P	18 19 53.3	+0.7
PETK				pmax	pmax		
	comp=Z,12nm,0.8s						
PETK	Petropavlovsk-	73.06	342	P	P	18 19 53.3	+0.7
PETK	Petropavlovsk-	73.06	342	P	P	18 19 53.3	+0.7
	comp=Z,12nm,0.8s,baz=148,slow=9.7,SNR=6.3						
BEKR	Beckworth	73.12	39	eP	P	18 19 50.9	-2.6
	comp=Z,13nm,1.0s						
GMRC	Granite Mounta	73.24	46	⇓P	P	18 19 54.0	-0.3
	baz=73						
IRM	Iron Mountain	73.27	47	⇑P	P	18 19 54.1	-0.2
	baz=73						
HUMO	Hull Mountain	73.32	36	eP	P	18 19 48.3	-6.1
	comp=Z,115nm,1.7s						
GRAC	Grapevine Rang	73.32	43	⇑P	P	18 19 55.0	+0.4
	baz=74						
FURC	Furnace Creek,	73.36	44	⇑P	P	18 19 55.0	+0.4
	baz=74						
TUQ	Turquoise Moun	73.42	45	⇑P	P	18 19 55.4	+0.1
	baz=74						
SHOC	Shoshone	73.43	44	⇓P	P	18 19 55.4	+0.2
	baz=74						
NV11	Mina Array Sit	73.64	41	eP	P	18 19 56.1	-0.4
TPH	Tonopah	74.03	42	eP	P	18 19 59.9	+1.0
TPH				pmax	pmax		
	comp=Z,53nm,1.2s						
TPH	Tonopah	74.03	42	eP	P	18 19 59.9	+1.0
	comp=Z,53nm,1.2s						
KKM	Kota Kinabalu	74.10	281	eP	P	18 20 02.2	+2.6
	comp=Z,132nm,1.5s						
KKM	Kota Kinabalu	74.10	281	P	P	18 20 03.9	+4.2
	comp=Z,76nm,1.4s						
YSS	Yuzh-Sakhalins	74.14	330	eP	P	18 20 00.2	+1.2
MOD	Modoc	74.40	38	eP	P	18 20 01.0	+0.1
	comp=Z,296nm,1.3s						
PWJI	Pagerwojo	74.55	266	P	P	18 20 05.2	+3.0
	comp=Z,86nm,1.1s						
QSPA	South Pole Qui	74.60	180	eP	P	18 20 00.2	-1.5
	comp=Z,64nm,1.4s						
QSPA	South Pole Qui	74.60	180	P	P	18 20 01.1	-0.6
	comp=Z,49nm,0.9s,baz=50,slow=2.4,SNR=10						
W13A	Hualapai Mount	74.65	46	⇑P	P	18 20 02.7	+0.2
	baz=75						
SJI	Sawahan	74.65	266	P	P	18 20 04.4	+1.5
	comp=Z,93nm,1.2s						
Y14A	Wickenburg	74.67	48	⇑P	P	18 20 02.7	+0.2
	baz=75						
KDAK	Kodiak Island	74.73	11	P	P	18 20 02.9	+0.6
KDAK	Kodiak Island	74.73	11	P	P	18 20 02.9	+0.6
	comp=Z,30nm,1.2s,baz=160,slow=6.6,SNR=5.2						
NGJI	Ngawi	75.03	266	P	P	18 20 12.3	+7.3
	comp=Z,195nm,3.1s						
PCJI	Pacitan	75.11	265	P	P	18 20 11.3	+5.9
	comp=Z,204nm,1.1s						
R11A	Troy Canyon, C	75.25	43	⇑P	P	18 20 05.9	0.0
	baz=75						
BMN	Battle Mountai	75.39	40	eP	P	18 20 06.4	-0.3
BMN				pmax	pmax		
	comp=Z,31nm,1.3s						
BMN	Battle Mountai	75.39	40	eP	P	18 20 06.3	-0.3
	comp=Z,31nm,1.3s						
WOJI	Wonogiri, Jawa	75.44	266	P	P	18 20 11.6	+4.3
	comp=Z,130nm,1.2s						
YULB	Yu-li	75.67	300	P	P	18 20 04.6	-3.8
	comp=Z,23nm,0.8s						
WVOR	Wild Horse Val	75.71	38	eP	P	18 20 07.3	-1.1
WVOR				pmax	pmax		
	comp=Z,76nm,1.2s						
WVOR	Wild Horse Val	75.71	38	eP	P	18 20 07.3	-1.1
	comp=Z,76nm,1.2s						
NACB	Ningnchiao	75.73	300	P	P	18 20 07.7	-1.1
	comp=Z,104nm,1.3s						
UGM	Wanagama	75.80	266	P	P	18 20 09.7	+0.2
	baz=76,SNR=6.3						
NLWA	Neilton Lookou	75.99	31	eP	P	18 20 10.1	+0.3
	comp=Z,57nm,1.0s						
PBKI	Pangkalan Bun	76.00	271	P	P	18 20 18.6	+8.1
LON	Longmire	76.63	33	eP	P	18 20 14.0	+0.6
LON				pmax	pmax		
	comp=Z,51nm,1.2s						
LON	Longmire	76.63	33	eP	P	18 20 14.0	+0.6
	comp=Z,51nm,1.2s						
BJII	Banjamegara	76.72	266	P	P	18 20 20.5	+5.7
	comp=Z,107nm,3.7s						
SBUM	Sibu	76.86	276	P	P	18 20 24.1	+8.7
STKI	Sintang	76.92	274	P	P	18 20 19.1	+3.4
PGC	Sidney	77.04	31	eP	P	18 20 16.1	+0.5
	comp=Z,5.0nm,1.0s						
KSRS	Korea Array	77.06	315	P	P	18 20 19.4	+3.4
	comp=Z,3.6nm,1.0s,baz=119,slow=4.0,SNR=4.9						
KSAR	Wonju Array Be	77.08	315	P	P	18 20 19.4	+3.3
CLJI	Cilicap	77.30	265	P	P	18 20 22.1	+4.2
	comp=Z,110nm,1.0s						
TGJI	Tegal	77.41	266	P	P	18 20 20.7	+2.2
KPJI	Karang Pucung	77.47	266	P	P	18 20 26.9	+8.0
MVU	Marysvale	77.57	44	eP	P	18 20 20.6	+1.4
	comp=Z,143nm,1.9s						
HAWA	Hanford	77.61	34	P	P	18 20 17.6	-1.4
	comp=Z,38nm,1.0s						
BMO	Blue Mountains	77.92	36	eP	P	18 20 19.0	-1.8
	comp=Z,55nm,1.3s						
USRK	Ussuriysk Arra	78.17	323	P	P	18 20 25.4	+3.4
	comp=Z,7.8nm,1.1s,baz=96,slow=4.3,SNR=2.3						
KSM	Kuching	78.42	275	P	P	18 20 28.3	+4.1
	comp=Z,343nm,1.3s						
KSM	Kuching	78.42	275	P	P	18 20 27.5	+3.3
	comp=Z,186nm,1.2s						
KSM	Kuching	78.42	275	P	P	18 20 27.9	+3.7
	baz=79,SNR=3.9						
LEM	Lembang	78.86	266	P	P	18 20 29.1	+2.3
	comp=Z,198nm,1.3s						
LEM	Lembang	78.86	266	P	P	18 20 36.1	+9.4
	baz=79,SNR=3.4						
HLID	Hailey	78.89	39	eP	P	18 20 25.9	-0.3
	comp=Z,38nm,1.0s						
U20A	Newcomb	79.06	47	⇓P	P	18 20 27.8	+0.4
	baz=79						
324A	Moseley Ranch,	79.08	53	⇑P	P	18 20 27.5	-0.1
	baz=79						
DIV	Divide	79.17	13	eP	P	18 20 27.0	-0.2
	comp=Z,140nm,1.1s						
425A	Indio Mountain	79.18	54	⇑P	P	18 20 28.0	-0.1
	baz=79						
MNTX	Cornudas Mount	79.27	53	eP	P	18 20 25.1	-3.3
	comp=Z,84nm,1.5s						
BMRM	Bremner River	79.27	13	eP	P	18 20 27.8	0.0
	comp=Z,124nm,1.0s						
224A	Cornudas Mount	79.32	52	⇓P	P	18 20 29.1	+0.2
	baz=79						
626A	Big Bend Ranch	79.33	55	⇓P	P	18 20 29.1	+0.2
	baz=79						
526A	Mary Lane Ranc	79.58	55	⇓P	P	18 20 30.6	+0.2
	baz=80						
TXAR	Lajitas Array	79.61	56	P	P	18 20 30.5	+0.1
TXAR	Lajitas Array	79.61	56	P	P	18 20 30.5	+0.1
	comp=Z,49nm,1.2s,baz=232,slow=4.4,SNR=8.7						
124A	Stringfield Ra	79.64	52	⇓P	P	18 20 31.3	+0.6
	baz=80						
U21A	Nageezi	79.70	48	⇑P	P	18 20 31.1	+0.2
	baz=80						
CBJI	Citeko	79.70	266	P	P	18 20 31.7	+0.6
	comp=Z,297nm,1.0s						
Y23A	Lovelace Mesa,	79.73	51	⇓P	P	18 20 30.9	-0.3
	baz=80						
DBJI	Dramaga	79.76	266	P	P	18 20 33.6	+2.1
	comp=Z,131nm,1.1s						
MDJ	Mudanjiang	79.82	322	P	P	18 20 31.8	+0.7
MDJ				pmax	pmax		
	comp=Z,14nm,1.4s						
MDJ				pmax	pmax		
	comp=Z,11μm,9.7s						
SKJI	Sukabumi	79.84	266	P	P	18 20 35.2	+3.3
	comp=Z,305nm,1.5s						
TPI	Tanjungpandan	79.86	270	P	P	18 20 36.3	+4.3
	comp=Z,48nm,3.0s						
225A	Deer Hill, Car	79.87	53	⇓P	P	18 20 31.8	-0.1
	baz=80						
426A	McDonald Obser	79.88	54	⇓P	P	18 20 31.8	-0.2
	baz=80,SNR=5.5						
627A	Terlingua Ranc	79.89	56	⇑P	P	18 20 31.3	-0.6
	baz=80						
ANMO	Albuquerque	79.89	49	eP	P	18 20 30.2	-1.8
	comp=Z,32nm,1.1s						
X23A	Hourglass Bar	79.92	50	⇓P	P	18 20 32.2	0.0
	baz=80						
527A	Woodward Ranch	79.99	55	⇓P	P	18 20 32.4	-0.2
	baz=80						
T21A	Navajo Lake	80.05	47	⇑P	P	18 20 32.9	+0.1
	baz=80						
NEW	Newport	80.06	34	P	P	18 20 32.7	+0.3
NEW	Newport	80.06	34	P	P	18 20 32.7	+0.3
	comp=Z,3.9nm,0.5s,baz=288,slow=17,SNR=3.3						
M17A	Scullys Gap (B	80.11	42	⇓P	P	18 20 32.9	-0.2
	baz=80						
326A	Caldwell Ranch	80.19	54	⇓P	P	18 20 33.4	-0.2
	baz=80						
Y24A	Capitan	80.19	51	⇓P	P	18 20 33.6	-0.1
	baz=80						
W23A	Werner Place,	80.21	49	⇓P	P	18 20 34.0	+0.2
	baz=80						
125A	Gardner Draw,	80.23	52	⇑P	P	18 20 33.8	0.0
	baz=80						
U22A	Llaves	80.25	48	⇑P	P	18 20 34.1	+0.1
	baz=80						
GDL2	Guadalupe Moun	80.26	53	eP	P	18 20 33.6	-0.3
	comp=Z,28nm,0.6s						
628A	Black Gap, Mar	80.30	56	⇑P	P	18 20 34.2	0.0
	baz=80						
P19A	Cripple Cowboy	80.31	44	⇓P	P	18 20 34.6	+0.4
	baz=80						
226B	Tecolote Peak,	80.36	53	⇓P	P	18 20 34.4	0.0
	baz=80,SNR=6.9						
427A	Hayter Ranch,	80.45	54	⇑P	P	18 20 35.0	0.0
	baz=81						
Z25A	Roswell	80.45	52	⇑P	P	18 20 35.5	+0.5
	baz=81						
O19A	Miners Draw (B	80.54	44	⇓P	P	18 20 35.2	-0.1
	baz=81						
327A	Balmorhea Ranc	80.59	54	⇑P	P	18 20 36.1	+0.5
	baz=81						
P20A	De Beque	80.64	45	⇑P	P	18 20 36.5	+0.6
	baz=81						
528A	Cox Ranch, San	80.65	55	⇓P	P	18 20 36.2	+0.1
	baz=81						
R21A	Cimarron	80.68	46	⇓P	P	18 20 36.3	+0.1
	baz=81						
U23A	El Rito	80.70	48	⇑P	P	18 20 36.4	0.0
	baz=81						
126A	Clayton Basin,	80.71	52	⇓P	P	18 20 35.8	-0.5
	baz=81						
Y25A	Mesa, Roswell	80.75	51	⇑P	P	18 20 36.7	+0.1
	baz=81						
W24A	Lazy 6 Ranch,	80.78	50	⇑P	P	18 20 36.7	0.0
	baz=81						
PAX	Paxson	80.89	12	P	P	18 20 34.3	-2.3
PAX				pmax	pmax		
	comp=Z,32nm,1.1s						
PAX	Paxson	80.89	12	P	P	18 20 34.3	-2.3
	comp=Z,32nm,1.1s						
HYT	Haines Junctio	80.90	16	P	P	18 20 36.8	+0.1
MCK	McKinley	80.94	10	eP	P	18 20 36.6	-0.2
MCK				pmax	pmax		
	comp=Z,64nm,0.9s						
MCK	McKinley	80.94	10	eP	P	18 20 36.6	-0.2
	comp=Z,64nm,0.9s						
428A	Kincaid Ranch,	80.96	55	⇓P	P	18 20 37.7	0.0
	baz=81						
MSO	Missoula	80.98	36	⇑P	P	18 20 37.2	-0.2
	baz=81						
Z26A	Caprock	81.01	52	⇑P	P	18 20 37.8	-0.1
	baz=81,SNR=5.8						
227A	Bennet, Jal	81.01	53	⇓P	P	18 20 37.9	0.0
	baz=81						
X25A	Clemmons Ranch	81.03	51	⇓P	P	18 20 38.1	0.0
	baz=81						
529A	Stev Forest Ra	81.08	55	⇑P	P	18 20 38.5	+0.2
	baz=81						
328A	Wristen Ranch,	81.13	54	⇑P	P	18 20 38.4	-0.2
	baz=81						
127A	Arkansas Junct	81.23	53	⇑P	P	18 20 39.0	-0.2
	baz=81						
Q22A	Crested Butte,	81.36	46	⇓P	P	18 20 40.1	+0.2
	baz=82						
Y26A	Elida	81.40	51	⇑P	P	18 20 40.2	+0.2
	baz=82						
FLWY	Flagg Ranch	81.43	40	eP	P	18 20 38.1	-1.9
	comp=Z,89nm,1.5s						
PPBI	Pangkal Pinang	81.47	270	P	P	18 20 44.2	+3.5
	comp=Z,64nm,3.2s						
W25A	X Bar L Ranch,	81.48	50	⇑P	P	18 20 40.4	0.0
	baz=82						
BLSI	Bandar Lampung	81.51	267	P	P	18 20 44.1	+3.2
429A	Davenport Ranc	81.54	55	⇑P	P	18 20 40.5	-0.2
	baz=82,SNR=6.8						
228A	UT Block 9, Go	81.59	53	⇓P	P	18 20 40.7	-0.3
	baz=82,SNR=5.4						
Z27A	Tatum	81.61	52	⇑P	P	18 20 41.3	+0.2
	baz=82						
V25A	Rancho No Teng	81.63	49	⇑P	P	18 20 41.3	0.0
	baz=82						
X26A	CR and CF Fran	81.68	51	⇓P	P	18 20 41.7	+0.2
	baz=82						
M20A	Sweetwater, Wa	81.74	43	⇓P	P	18 20 42.1	+0.3
	baz=82						
530A	J-C Ranch, Com	81.80	56	⇓P	P	18 20 42.2	+0.2
	baz=82						
329A	Wagon Wheel Ra	81.82	54	⇓P	P	18 20 42.0	-0.2
	baz=82,SNR=7.5						
N21A	Black Mountain	81.83	44	⇑P	P	18 20 42.9	+0.6
	baz=82						
128A	Castleberry Fa	81.88	53	⇓P	P	18 20 42.6	+0.1
	baz=82						
Y27A	Causey	81.88	52	⇑P	P	18 20 42.4	-0.1
	baz=82						
CN2	Changchun	81.92	320	eP	P	18 20 43.3	+1.0
CN2				pmax	pmax		
	comp=Z,30nm,1.2s						
S24A	Houchin Ranch,	81.99	48	⇑P	P	18 20 43.3	0.0
	baz=82						
631A	Perdido Creek	82.12	57	⇓P	P	18 20 43.2	-0.6
	baz=82,SNR=9.0						
KASI	Kota Agung	82.19	266	P	P	18 20 48.6	+4.2
	comp=Z,202nm,1.1s						
O22A	Kremmling	82.21	45	⇑P	P	18 20 44.6	+0.3
	baz=82						
Z28A	Tucker Farm, M	82.23	52	⇑P	P	18 20 44.0	-0.4
	baz=82,SNR=5.4						
X27A	F and S Farms,	82.25	51	⇓P	P	18 20 44.5	0.0
	baz=82						
ILAR	Eielson Array	82.26	11	P	P	18 20 43.2	-0.4
ILAR	Eielson Array	82.26	11	P	P	18 20 43.2	-0.4
	comp=Z,5.6nm,0.7s,baz=223,slow=6.0,SNR=6.4						
R24A	Sanders Place,	82.33	47	⇑P	P	18 20 44.8	-0.1
	baz=82						
732A	Laxson Ranch,	82.35	58	⇑P	P	18 20 44.9	-0.1
	baz=82						
129A	Stewart Farms,	82.36	53	⇓P	P	18 20 44.6	-0.4
	baz=82,SNR=5.6						
330A	Mertzon	82.42	55	⇑P	P	18 20 45.0	-0.3
	baz=82						
531A	Rocksprings	82.43	56	⇑P	P	18 20 45.1	-0.4
	baz=82,SNR=5.4						
W27A	Bowe Ranch, En	82.45	51	⇓P	P	18 20 45.5	0.0
	baz=83						
RWWY	Rawlins	82.48	43	eP	P	18 20 44.3	-1.4
	comp=Z,309nm,1.8s						
U26A	Atchley Ranch,	82.51	49	⇑P	P	18 20 46.2	+0.3
	baz=83						
S25A	Roberts Cordova	82.56	48	⇑P	P	18 20 46.0	-0.1
	baz=83						
N22A	Wattenberg Ran	82.57	44	⇑P	P	18 20 46.2	+0.1
	baz=83						
431A	Sonora	82.58	55	⇑P	P	18 20 45.4	-0.8
	baz=83						
Y28A	McKinney Farm,	82.59	52	⇑P	P	18 20 45.9	-0.3
	baz=83						
PMBI	Palembang	82.59	269	P	P	18 20 49.2	+2.7
	comp=Z,284nm,1.2s						
Q24A	Divide	82.63	46	⇑P	P	18 20 46.3	-0.3
	baz=83						
230A	Sterling City	82.66	54	⇓P	P	18 20 46.3	-0.3
	baz=83						
O23A	Lake Granby, G	82.66	45	⇑P	P	18 20 46.7	0.0
	baz=83						
ISCO	Idaho Springs	82.68	45	⇓P	P	18 20 46.9	+0.1
	baz=83						
J20A	Shoshoni	82.71	41	⇓P	P	18 20 46.9	+0.2
	baz=83						
Z29A	Hungry Hill Ra	82.74	53	⇑P	P	18 20 46.8	-0.1
	baz=83						
LWLI	Liwa	82.74	267	P	P	18 20 47.5	0.0
	comp=Z,187nm,1.2s						
MDSI	Maura Dua	82.76	267	P	P	18 20 54.9	+7.5
H19A	Powell	82.79	40	⇓P	P	18 20 47.0	-0.1
	baz=83						
632A	Uvalde	82.80	57	⇓P	P	18 20 46.8	-0.5
	baz=83						
X28A	Dimmitt	82.87	51	⇑P	P	18 20 47.3	-0.4
	baz=83						
R25A	Fountain Ranch	82.88	47	⇓P	P	18 20 47.7	0.0
	baz=83						
V27A	Dan Oppiter Fa	82.91	50	⇓P	P	18 20 47.8	-0.1
	baz=83						
N23A	Red Feather La	82.95	44	⇓P	P	18 20 48.1	-0.1
	baz=83						
331A	San Angelo	82.97	55	⇓P	P	18 20 47.6	-0.6
	baz=83						
I20A	Worland	82.97	41	⇑P	P	18 20 48.0	0.0
	baz=83						
130A	Snyder	83.05	54	⇓P	P	18 20 48.3	-0.3
	baz=83						
J21A	Lysite	83.11	42	⇓P	P	18 20 49.2	+0.4
	baz=83						
JCT	Junction City	83.15	56	⇑P	P	18 20 48.9	-0.2
	baz=83						
L22A	Ellis Ranch, M	83.15	43	⇓P	P	18 20 48.9	-0.2
	baz=83						
U27A	Thompson Grove	83.19	49	⇓P	P	18 20 48.9	-0.5
	baz=83						
Z30A	Sanderson Ranc	83.19	53	⇓P	P	18 20 48.8	-0.5
	baz=83,SNR=5.0						
O24A	Longmont	83.20	45	⇓P	P	18 20 49.6	+0.3
	baz=83						
X29A	Tulia	83.22	52	⇑P	P	18 20 49.3	-0.1
	baz=83						
231A	Bronte	83.30	54	⇑P	P	18 20 49.4	-0.4
	baz=83						
432A	Menard	83.31	56	⇓P	P	18 20 49.5	-0.5
	baz=83						
H20A	Greybull	83.31	40	⇓P	P	18 20 50.3	+0.5
	baz=84						
V28A	Channing	83.36	50	⇓P	P	18 20 50.2	0.0
	baz=84						
K22A	Casper	83.38	43	⇓P	P	18 20 50.3	+0.1
	baz=84						
F19A	Roth Farm, Mol	83.41	39	⇑P	P	18 20 50.2	0.0
	baz=84						
I21A	Big Trails, Te	83.43	41	⇑P	P	18 20 50.3	-0.2
	baz=84						
131A	Roby	83.53	54	⇑P	P	18 20 50.7	-0.3
	baz=84						
W29A	Amraillo	83.53	51	⇑P	P	18 20 51.0	-0.1
	baz=84						
T27A	Campo	83.53	49	⇑P	P	18 20 50.4	-0.7
	baz=84						
R26A	Arlington	83.54	48	⇑P	P	18 20 50.4	-0.6
	baz=84						
332A	Millersview	83.54	55	⇓P	P	18 20 50.5	-0.6
	baz=84						
P25A	Willow Gulch B	83.55	46	⇓P	P	18 20 51.1	0.0
	baz=84						
Y30A	Stafford Cattl	83.60	52	⇓P	P	18 20 50.8	-0.6
	baz=84						
U28A	Mallet	83.61	50	⇓P	P	18 20 51.0	-0.4
	baz=84						
N24A	Carr	83.64	45	⇑P	P	18 20 51.4	-0.2
	baz=84						
S27A	Las Animas	83.67	48	⇑P	P	18 20 51.5	-0.3
	baz=84						
L23A	Garrett	83.67	43	⇓P	P	18 20 51.8	0.0
	baz=84						
Q26A	Hugo	83.75	47	⇑P	P	18 20 51.9	-0.3
	baz=84						
J22A	Midwest	83.77	42	⇓P	P	18 20 52.4	+0.3
	baz=84						
232A	Coleman	83.81	55	⇑P	P	18 20 51.9	-0.6
	baz=84						
E19A	Rath Farm, Rou	83.81	38	⇓P	P	18 20 52.5	+0.3
	baz=84						
X30A	Coker Ranch, T	83.85	52	⇑P	P	18 20 52.5	-0.1
	baz=84						
O25A	Wiggins	83.85	46	⇑P	P	18 20 52.7	0.0
	baz=84						
M24A	Cheyenne	83.97	44	⇓P	P	18 20 53.2	-0.1
	baz=84						
Z31A	Sharp Cattle R	83.97	53	⇑P	P	18 20 52.9	-0.4
	baz=84						
H21A	Big Horn, Sher	83.98	41	⇑P	P	18 20 53.6	+0.4
	baz=84						
I22A	9 Mile Ranch,	83.99	41	⇑P	P	18 20 53.6	+0.3
	baz=84						
R27A	Eads	83.99	48	⇑P	P	18 20 53.2	-0.1
	baz=84						
T28A	Walsh	84.00	49	⇑P	P	18 20 52.6	-0.8
	baz=84						
QIZ	Qiongzhong	84.07	291	P	P	18 20 53.5	-0.5
QIZ				S	S	18 31 17.3	-0.4
QIZ				pmax	pmax		
	comp=Z,70nm,2.5s						
ABTX	Abilene, Hawle	84.09	54	eP	P	18 20 53.3	-0.6
ABTX	Abilene, Hawle	84.09	54	⇑P	P	18 20 53.7	-0.2
	baz=84,SNR=5.2						
D19A	Cripps Ranch,	84.10	38	⇓P	P	18 20 54.0	+0.3
	baz=84						
Y31A	Rekieta Farm,	84.12	53	⇓P	P	18 20 53.9	-0.1
	baz=84						
P26A	Davis Ranch, A	84.14	46	⇓P	P	18 20 53.9	-0.3
	baz=84						
L24A	Wheatland	84.15	44	⇑P	P	18 20 54.5	+0.4
	baz=84						
G21A	Lodge Grass	84.16	40	⇓P	P	18 20 54.2	+0.2
	baz=84						
E20A	Meyer Farm, Mu	84.22	39	⇑P	P	18 20 54.7	+0.4
	baz=84						
C19A	Slack Wire Ran	84.29	37	⇓P	P	18 20 55.0	+0.4
	baz=84						
S28A	Manter	84.35	49	⇑P	P	18 20 55.5	+0.3
	baz=84						
EGSI	Enggano, Bengk	84.37	266	P	P	18 21 00.3	+4.6
	comp=Z,2μm,2.4s						
H22A	Clearmont	84.40	41	⇑P	P	18 20 55.4	+0.1
	baz=85						
O26A	Horse Wrangler	84.46	46	⇓P	P	18 20 55.8	0.0
	baz=85						
M25A	Palm-Egli Farm	84.47	44	⇑P	P	18 20 55.8	0.0
	baz=85						
Z32A	Haskell	84.47	53	⇓P	P	18 20 55.6	-0.3
	baz=85						
V30A	Spur Ranch, Mi	84.50	51	⇑P	P	18 20 55.8	-0.2
	baz=85						
D20A	Manuel Ranch,	84.50	38	⇓P	P	18 20 56.4	+0.7
	baz=85						
B19A	Brinkman Farms	84.71	37	⇑P	P	18 20 57.2	+0.5
	baz=85						
R28A	Tribune	84.72	48	⇓P	P	18 20 57.0	0.0
	baz=85						
Y32A	R-V Farms, Ver	84.77	53	⇑P	P	18 20 57.0	-0.2
	baz=85						
W31A	Holland Ranch,	84.84	52	⇓P	P	18 20 57.4	-0.2
	baz=85						
L25A	Engebretsen Ra	84.84	44	⇓P	P	18 20 57.9	+0.2
	baz=85						
EDM	Edmonton	84.89	31	eP	P	18 20 56.3	-1.1
EDM	Edmonton	84.89	31	eP	P	18 20 56.3	-1.1
C20A	Veseth Ranch,	84.89	38

A20A Cobblestone Ra 85.51 37 ⇓P P 18 21 01.1 +0.5
baz=86
E22A Miles City 85.51 39 ⇓P P 18 21 01.4 +0.6
baz=86
WHTX Lake Whitney 85.57 55 *eP* P 18 20 57.2 -4.1
WHTX Lake Whitney 85.57 55 ⇑P P 18 21 01.3 -0.1
baz=86
H24A Dirks Ranch, A 85.61 41 ⇓P P 18 21 01.1 -0.3
baz=86
T31A Randall Ranch, 85.78 50 ⇓P P 18 21 02.9 +0.6
baz=86
R30A Dighton 85.80 49 ⇑P P 18 21 02.5 +0.1
baz=86
B21A Ellsworth Farm 85.81 37 ⇓P P 18 21 02.9 +0.7
baz=86
I25A Rochford 85.82 42 ⇓P P 18 21 02.6 +0.1
baz=86
E23A Ismay 85.93 40 ⇓P P 18 21 02.7 -0.1
baz=86
Q30A Quinter 86.12 48 ⇑P P 18 21 03.6 -0.4
baz=86
S31A Mullinville 86.12 49 ⇑P P 18 21 03.3 -0.7
baz=86
A21A Bergtoll Ranch 86.14 37 ⇓P P 18 21 04.1 +0.3
baz=86
C22A Vida 86.16 38 ⇑P P 18 21 04.2 +0.3
baz=86
H25A Fruitdale 86.17 42 ⇓P P 18 21 04.2 +0.1
baz=86
D23A Lindsay 86.30 39 ⇓P P 18 21 05.4 +0.7
baz=86
BJI Beijing 86.40 313 P P 18 21 14.0 +8.8
BJI pmax pmax
comp=Z,70nm,1.5s
BJI LR LR
comp=Z,146μm,19.6s
PDSI Padang 87.27 270 P P 18 21 13.1 +3.0
NATX Nacogdoches 87.72 56 P P **18 21 12.4 +0.6**
comp=Z,399nm,1.8s
INK Inuvik 88.03 13 P P **18 21 11.9 -0.5**
comp=Z,103nm,1.4s
MAW Mawson 88.14 198 P P **18 21 13.0 -0.2**
MAW Mawson 88.14 198 P P **18 21 13.0 -0.2**
comp=Z,39nm,1.1s,baz=121,slow=2.9,SNR=5.6
PLCA Paso Flores 88.56 132 P P **18 21 14.3 -1.5**
PLCA Paso Flores 88.56 132 P P **18 21 14.3 -1.5**
comp=Z,32nm,1.1s,baz=252,slow=6.7,SNR=3.5
CHBT CHBT 89.15 283 P P 18 21 29.4 +10
GYA Guiyang 89.16 298⇑ *iP* P **18 21 19.0 +0.1**
GYA PP **PP 18 24 51.3 +1.7**
GYA SKS **SKSac 18 31 47.5 -0.5**
GYA S **S 18 32 07.0 -0.1**
GYA SS **SS 18 38 05.5 +3.9**
GYA pmax pmax
comp=Z,190nm,1.2s
GYA pmax pmax
comp=Z,890nm,6.3s
GYA LR LR
comp=N,880nm,20.2s
GYA LR LR
comp=E,750nm,24.0s
GYA LR LR
comp=Z,940nm,21.3s
SKLT Songkhla 89.26 278 P P 18 21 28.1 +8.6
TEIG Tepich 89.65 69 *eP* P **18 21 20.9 -0.3**
comp=Z,140nm,1.5s
YKA Yellowknife Ar 89.65 23 P P **18 21 20.4 +0.2**
YKA Yellowknife Ar 89.65 23 P P **18 21 20.4 +0.2**
comp=Z,7.5nm,0.9s,baz=232,slow=3.8,SNR=6.0
PSI Prapat 89.73 273 P P **18 21 24.3 +2.4**
PSI Prapat 89.73 273 P P **18 21 24.3 +2.4**
comp=Z,9.3nm,0.5s,baz=169,slow=5.2,SNR=3.5
HHC Hu-ho-hao-te 89.97 313 *eP* P **18 21 20.0 -2.4**
HHC PP **PP 18 24 55.3 -0.4**
HHC SKS **SKSac 18 31 48.5 -3.6**
HHC S **S 18 32 10.5 -3.6**
HHC SS **SS 18 38 13.0 +0.3**
HHC pmax pmax
comp=Z,130nm,1.0s
HHC LR LR
comp=N,840nm,16.9s
HHC LR LR
comp=E,870nm,16.3s
HHC LR LR
comp=Z,2μm,17.4s
KMI Kunming 92.16 295 P P **18 21 33.0 -0.1**
KMI pmax pmax
comp=Z,19nm,2.0s
CD2 Chengdu 92.89 301 P P **18 21 37.0 +0.9**
CD2 pmax pmax
comp=Z,30nm,0.5s
VNA2 Neumayer–Watz 93.20 175 *eP* P **18 21 36.2 -0.5**
VNA1 Neumayer–Stat 93.39 175 *eP* P **18 21 36.9 -0.7**
CMAR Chiang Mai Arr 93.80 288 P P **18 21 42.1 +1.6**
CMAR Chiang Mai Arr 93.80 288 P P **18 21 42.1 +1.6**
comp=Z,5.8nm,1.2s,baz=108,slow=3.2,SNR=2.6
LZH Lanzhou 94.25 306 *eP* P **18 21 41.8 -0.6**
LZH pP **pP 18 21 46.5 -3.5**
LZH sP **sP 18 21 49.3 -3.4**
LZH PP **PP 18 25 32.0 +2.4**
LZH SKS **SKSac 18 32 10.0 -6.5**
LZH S **S 18 32 48.0 -4.9**
LZH SS **SS 18 39 13.3 -1.4**
LZH pmax pmax
comp=Z,140nm,1.3s
LZH pmax pmax
comp=Z,650nm,5.4s
LZH LR LR
comp=N,4μm,16.8s
LZH LR LR
comp=E,5μm,15.6s
LZH LR LR
comp=Z,5μm,17.3s
GTA Gaotai 98.17 309 *eP* P **18 21 59.3 -0.8**
GTA pP **pP 18 22 03.8 -3.9**
GTA sP **sP 18 22 06.8 -3.6**
GTA pmax pmax
comp=Z,30nm,1.6s
ZALV Zalesovo Beam 110.02 322 PKiKP **PKiKP 18 26 53.9 -0.1**
ZALV Zalesovo Beam 110.02 322 PKiKP **PKiKP 18 26 53.9 -0.1**
comp=Z,0.6nm,0.5s,baz=27,slow=1.6,SNR=2.4
MKAR Makanchi Array 111.74 315 PKiKP **PKiKP 18 26 57.4 -0.2**
MKAR Makanchi Array 111.74 315 PKiKP **PKiKP 18 26 57.4 -0.2**
comp=Z,3.2nm,1.0s,baz=68,slow=0.3,SNR=2.8
KURK Kurchatov 113.99 319 *i* PKIKP 18 27 01.5
KURK pmax pmax
comp=Z,1.0nm,0.8s
KURK Kurchatov 113.99 319 PKiKP **PKiKP 18 27 01.5 -0.1**
KURBB Kurchatov Arra 114.05 319 PKiKP **PKiKP 18 27 01.5 -0.3**
comp=Z,0.7nm,0.8s,baz=67,slow=1.9,SNR=3.2
KSH Kashi 116.49 307 *e*Pdif **Pdif 18 23 25.5 +3.9**
KSH PKP **PKiKP 18 27 09.0 +2.0**
KSH PP PP 18 28 23.0 +8.9
KSH PKS **PKSdf 18 30 44.3 +0.5**
KSH SKS **SKSdf 18 34 20.0 +2.0**
KSH SKKS **SKKSac 18 35 16.0 +2.1**
KSH SS SS 18 44 28.0 +10
BVAR Borovoye Array 118.68 322 PKIKP **PKPdf 18 27 11.0 +0.4**
BVAR pmax pmax
comp=Z,1.0nm,0.6s
BVAR Borovoye Array 118.68 322 PKP **PKPdf 18 27 11.0 +0.4**
BVAR Borovoye Array 118.68 322 PKP **PKPdf 18 27 11.0 +0.4**
comp=Z,0.6nm,0.6s,baz=90,slow=1.7,SNR=2.9
ARCES ARCESS Array B 124.82 353 PKP **PKPdf 18 27 21.3 -0.7**
ARCES ARCESS Array B 124.82 353 PKP **PKPdf 18 27 21.3 -0.7**
comp=Z,4.8nm,0.7s,baz=20,slow=1.1,SNR=8.3
FINES FINESS Array B 132.25 348 PKP **PKPdf 18 27 36.5 +0.2**
FINES FINESS Array B 132.25 348 PKP **PKPdf 18 27 36.4 +0.2**
comp=Z,4.3nm,0.9s,baz=67,slow=4.7,SNR=3.9
NB2 NORSAR Subarra134.41 358 PKPdf **PKPdf 18 27 43.7 +3.2**
comp=Z,220nm,3.3s,baz=6.6,slow=1.8
NB2 NORSAR Subarra134.41 358 PKPdf **PKPdf 18 27 43.7 +3.2**
baz=6.6,slow=1.8
NOA NORSAR Array B 134.41 358 PKP **PKPdf 18 27 42.4 +1.9**
NOA NORSAR Array B 134.41 358 PKP **PKPdf 18 27 42.4 +1.9**
comp=Z,1.5nm,0.9s,baz=40,slow=1.3,SNR=2.6
AKASG Malin Array Be 140.85 338 PKIKP **PKPdf 18 27 52.0 -0.6**
AKASG pmax pmax
comp=Z,3.0nm,0.8s
AKASG Malin Array Be 140.85 338 PKP **PKPdf 18 27 52.0 -0.6**
AKASG Malin Array Be 140.85 338 PKP **PKPdf 18 27 52.0 -0.6**
comp=Z,3.2nm,0.8s,baz=32,slow=3.6,SNR=5.4
KWP Kalwaria Pacla 143.83 344⇓ *iP* **PKPdf 18 28 01.3 +3.4**
CLL Collm 143.99 355 *e*PKPdf **PKPdf 18 27 58.0 -0.1**
CLL *e*PKiKP **PKiKP 18 28 02.0 +0.4**

KSP Ksiaz 144.05 351 *e*PKP PKPdf 18 28 04.2 +5.9
BRG Berggiesshubel 144.33 353 *i* PKP **PKPdf 18 27 57.8 -1.0**
comp=Z,147nm,2.0s
STHS Stebnicka Huta 144.41 345 *e*PKP **PKPdf 18 27 58.6 -0.4**
STHS *e* 18 28 07.0
UPC Upice 144.42 351 *e*PKP PKPbc 18 27 57.7 +0.3
UPC *ex* x 18 28 06.3
DPC Dobruska-Polom 144.52 351 *e*PKP PKPbc 18 27 57.9 +0.1
DPC *i* x x 18 28 07.0
KOLS Kolonicke sedl 144.58 344 *e*PKP PKPbc 18 27 58.0 0.0
KOLS *e* 18 28 07.1
PVCC Panska Ves 144.59 353 *e*PKP **PKPdf 18 27 58.3 -0.9**
PVCC *ex* x 18 28 07.0
UCC Uccle 144.62 4 PKP **PKPdf 18 27 59.0 -0.3**
UCC E 18 28 07.0
MENF Mencas 144.68 6 PKP **PKPab 18 27 57.5 -0.5**
BEBN Eben Emael 144.70 2 PKP **PKPdf 18 27 58.5 -0.8**
BEBN E 18 28 07.3
OKC Ostrava-Krasne 144.70 348 *e*PKP **PKPdf 18 27 58.6 -0.8**
OKC *i* x x 18 28 07.4
KRLC Kraliky 144.72 350 *e*PKP **PKPdf 18 27 58.9 -0.6**
KRLC *ex* x 18 28 07.3
HGN Heimansgroeve 144.74 2 *e*PKPdf **PKPab 18 27 57.1 -1.1**
comp=Z,333nm,2.1s
CRVS Cervenica-Dubn 144.83 344 *e*PKP **PKPdf 18 27 58.9 -0.8**
CRVS *e* 18 28 08.1
BUR08 Bucovina Ar. S 144.84 340 *e*PKPdf **PKPdf 18 28 00.1 +0.2**
MEM Membach 144.90 2 PKP **PKPdf 18 27 59.1 -0.6**
MEM E 18 28 07.6
SNF Seneffe 144.91 4 E **PKiKP 18 28 07.9 +4.4**
BCLA Clavier 145.06 3 PKP **PKPdf 18 27 59.5 -0.5**
BCLA E 18 28 08.0
PRA Prague 145.06 353 PKP **PKPdf 18 28 00.0 0.0**
PRU Pruhonice 145.13 352 *i* PKP **PKPab 18 27 59.4 -0.3**
PRU *i* x x 18 28 08.7
DOU Dourbes 145.34 4 PKP **PKPbc 18 28 00.1 -0.2**
DOU E 18 28 09.0
KECS Kecovo 145.46 345 *e*PKP **PKPab 18 28 01.6 +0.6**
KECS *e* 18 28 10.1
VRAC Vranov 145.49 350 PKPbc **PKPab 18 28 00.8 -0.3**
VRAC Vranov 145.49 350 PKPbc **PKPab 18 28 00.8 -0.3**
comp=Z,42nm,1.3s,baz=25,slow=3.7,SNR=8.9
TREC Trest 145.68 351 *e*PKP **PKPab 18 28 01.8 0.0**
TREC *i* x x 18 28 10.6
GRFO Grafenberg 145.74 356 *e*PKP2 **PKPab 18 28 02.6 +0.6**
GRFO Grafenberg 145.74 356 *e*PKPdf **PKPab 18 28 02.6 +0.6**
BST Brest 145.79 14 PKP **PKPab 18 28 02.9 +0.7**
ATD Arta Tunnel 145.80 268 PKPbc **PKPab 18 28 04.4 +1.0**
ATD Arta Tunnel 145.80 268 PKPbc **PKPab 18 28 04.4 +1.0**
comp=Z,31nm,1.1s,baz=71,slow=3.3,SNR=7.5
WLF Walferdange 145.85 2 PKP **PKPab 18 28 02.7 +0.4**
WLF E 18 28 10.7
WLF Walferdange 145.85 2 *e*PKP2 **PKPab 18 28 02.9 +0.6**
WLF Walferdange 145.85 2 *e*PKPdf **PKPab 18 28 02.9 +0.6**
KHC Kasperske Hory 146.09 353 *e*PKP2 **PKPab 18 28 03.8 +0.4**
KHC Kasperske Hory 146.09 353 *e*PKP **PKPab 18 28 03.4 +0.1**
KHC *ex* x 18 28 11.0
KHC Kasperske Hory 146.09 353 *e*PKPbc **PKPab 18 28 03.8 +0.4**
SMOL Smolenice 146.10 349 *e*PKP **PKPab 18 28 04.5 +1.1**
SMOL *e* 18 28 12.2
TIRR Tirgusor 146.25 333⇓ *iP* **PKPab 18 28 03.5 -0.5**
GERES GERESS Array B 146.35 353 PKPbc **PKPab 18 28 04.1 -0.4**
GERES GERESS Array B 146.35 353 PKPbc **PKPab 18 28 04.1 -0.4**
comp=Z,11nm,1.1s,baz=29,slow=3.0,SNR=6.4
MLR Muntele Rosu 146.41 337 PKPbc **PKPab 18 28 04.2 -0.6**
MLR Muntele Rosu 146.41 337 PKPbc **PKPab 18 28 04.2 -0.6**
comp=Z,3.7nm,1.1s,baz=13,slow=4.4,SNR=4.0
ZST Bratislava 146.47 349 *e*PKP **PKPab 18 28 05.3 +0.5**
ZST *e* 18 28 14.9
LANF Langenberg 146.56 0 PKP **PKPbc 18 28 04.2 +0.1**
KMBO Kilima Mbogo 146.62 243 *e*PKPbc **PKPab 18 28 05.8 -0.9**
KMBO Kilima Mbogo 146.62 243 PKPbc **PKPab 18 28 06.0 -0.7**
comp=Z,19nm,1.2s,baz=37,slow=3.9,SNR=5.8
STU Stuttgart 146.75 358 *e*PKPbc **PKPab 18 28 05.1 -0.7**
CONA Conrad Observa 146.95 350⇑ *iP*KPab **PKPbc 18 28 05.7 +0.3**
comp=Z,141nm,1.7s,SNR=5.5
BRTR Keskin Array B 146.96 322 PKPbc **PKPab 18 28 07.7 +0.4**
BRTR Keskin Array B 146.96 322 PKPbc **PKPab 18 28 07.7 +0.4**
comp=Z,5.7nm,0.7s,baz=115,slow=3.0,SNR=3.3
SIRR Siria 147.18 342⇑ *iP* **PKPbc 18 28 05.6 -0.4**
BFO Black Forest 147.21 359 *e*PKPbc **PKPbc 18 28 05.7 -0.3**
LOT Lotru 147.24 339⇓ *iP* **PKPbc 18 28 05.2 -1.1**
THEF They Montfort 147.28 2 PKP **PKPbc 18 28 06.1 -0.1**
ECH Echery 147.32 1 PKP **PKPbc 18 28 06.1 -0.2**
ARNB Al Arnab 147.72 314 *eP* **PKPab 18 28 13.8 +3.6**
BZS Buzias 147.78 342⇑ *iP* PKPab 18 28 16.4 +6.4
ZALF Zalf 148.15 300 *eP* **PKPab 18 28 12.1 +0.1**
KOGS Kog 148.31 349 *e*PKPbc **PKPbc 18 28 09.2 +0.2**
PERS Pernice 148.32 350 *e*PKPbc **PKPbc 18 28 09.0 -0.1**
PERS *e* 18 28 17.3
SALA Sala 148.70 308 *eP* **PKPab 18 28 14.3 -0.1**
DAVOX Davos/Dischmat 148.72 357 PKPbc **PKPbc 18 28 11.8 +1.5**
DAVOX Davos/Dischmat 148.72 357 PKPbc **PKPbc 18 28 11.8 +1.5**
comp=Z,22nm,1.1s,baz=9.4,slow=5.0,SNR=4.6
ASF Jabal al Asfar 148.81 307 PKPbc **PKPbc 18 28 10.8 -0.1**
ASF Jabal al Asfar 148.81 307 PKPbc **PKPbc 18 28 10.8 -0.1**
comp=Z,1.8nm,0.6s,baz=341,slow=2.8,SNR=3.5
BRBR Barbar 148.96 310 *eP* **PKPbc 18 28 12.4 +1.0**
AGO Saint Agoulin 149.23 6 PKP **PKPbc 18 28 11.7 +0.3**
TCHB Talchebab 149.29 309 *eP* **PKPab 18 28 20.1 +3.5**
PYM Petit Puy Mans 149.51 7 PKP **PKPbc 18 28 12.4 +0.2**
MMAI Mount Meron Ar 149.55 310 PKPbc **PKPbc 18 28 13.0 +0.3**
MMAI Mount Meron Ar 149.55 310 PKPbc **PKPbc 18 28 13.0 +0.3**
comp=Z,6.4nm,0.9s,baz=61,slow=2.1,SNR=5.3
VTS Vitosha 149.91 337⇓ *iP* **PKPab 18 28 21.7 +2.8**
CSS Prodhromos 150.02 315 *e*PKPbc **PKPbc 18 28 14.1 +0.3**
ISP Isparta 150.05 322⇓ *iP* **PKPab 18 28 16.5 -3.1**
LBL Lubilhac 150.05 7 PKP **PKPbc 18 28 14.3 +0.7**
PGAV Gavieira, Arco 150.13 25 *e*PKPdf **PKPdf 18 28 08.9 +0.1**
PGAV Gavieira, Arco 150.13 25 *e*PKPbc **PKPbc 18 28 13.8 -0.1**
PGAV Gavieira, Arco 150.13 25 *e*PKPab **PKPab 18 28 22.3 +2.5**
SSB Saint Sauveur 150.13 5 *e*PKIKP **PKPbc 18 28 13.7 0.0**
SSB Saint Sauveur 150.13 5 *e*PKPbc **PKPbc 18 28 13.7 0.0**
PCAB Cabril 150.44 25 *e*PKPbc **PKPbc 18 28 14.6 +0.1**
PCAB Cabril 150.44 25 *e*PKPab **PKPab 18 28 23.5 +2.5**
PTO Porto 150.68 26 *e*PKPbc **PKPbc 18 28 15.2 +0.2**
PTO Porto 150.68 26 *e*PKPab **PKPab 18 28 24.1 +2.2**
POLO Lamas de Olo 150.82 25 *e*PKPbc **PKPbc 18 28 15.6 +0.1**
POLO Lamas de Olo 150.82 25 *e*PKPab **PKPab 18 28 24.2 +1.6**
PBRG Braganca 150.86 23 *e*PKPbc **PKPbc 18 28 15.2 -0.3**
PBRG Braganca 150.86 23 *e*PKPab **PKPab 18 28 24.0 +1.3**
PVRL Vila Real 150.93 25 *e*PKPbc **PKPbc 18 28 15.8 +0.1**
PVRL Vila Real 150.93 25 *e*PKPab **PKPab 18 28 24.1 +1.1**
SKO Skopje 151.10 339 *e*PKP **PKPab 18 28 26.5 +2.8**
VAY Valandovo 151.25 337 *e*PKP **PKPab 18 28 24.0 -0.3**
MVO Moncorvo 151.30 24 *e*PKPbc **PKPbc 18 28 16.9 +0.3**
MVO Moncorvo 151.30 24 *e*PKPab **PKPab 18 28 25.6 +1.0**
PVIS Viseu 151.33 26 *e*PKPbc **PKPbc 18 28 16.7 0.0**
PVIS Viseu 151.33 26 *e*PKPab **PKPab 18 28 25.2 +0.5**
EIL Elat 151.37 304 PKPbc **PKPbc 18 28 16.3 -0.8**
EIL Elat 151.37 304 PKPbc **PKPbc 18 28 16.3 -0.8**
comp=Z,7.7nm,0.9s,baz=45,slow=4.0,SNR=2.5
TOUF Mont Tournerai 151.52 1 PKP **PKPbc 18 28 16.6 -0.6**
AUTN L'Aution 151.54 1 PKP **PKPbc 18 28 14.8 -2.5**
SAOF Saorge 151.55 0 PKP **PKPbc 18 28 16.8 -0.3**
MVIF Mont Vial 151.64 1 PKP **PKPbc 18 28 17.0 -0.4**
LUCF Luceram 151.65 1 PKP **PKPbc 18 28 17.2 -0.2**
PMAR Madeira 151.68 48 *e*PKPab **PKPab 18 28 26.9 +0.3**
MTE Manteigas 151.74 25 *e*PKPbc **PKPbc 18 28 18.0 +0.3**
MTE Manteigas 151.74 25 *e*PKPab **PKPab 18 28 26.3 -0.1**
MTE Manteigas 151.74 25 *e*PKPbc **PKPbc 18 28 17.3 -0.4**
CALN Calern 151.78 2 PKP **PKPbc 18 28 17.6 -0.1**
REVF Revere 151.80 1 PKP **PKPbc 18 28 17.2 -0.5**
PMPST Porto Santo, M 151.91 47 *e*PKPbc **PKPbc 18 28 18.2 0.0**
PMPST Porto Santo, M 151.91 47 *e*PKPab **PKPab 18 28 27.4 +0.1**
PMPS Porto Santo 151.92 47 *e*PKPbc **PKPbc 18 28 18.7 +0.5**
PMPS Porto Santo 151.92 47 *e*PKPab **PKPab 18 28 27.5 +0.1**
BIA Bitola 151.98 338 *e*PKP **PKPab 18 28 26.0 -1.4**
PTOM Tomar 152.01 28 *e*PKPbc **PKPbc 18 28 18.1 -0.1**
PTOM Tomar 152.01 28 *e*PKPab **PKPab 18 28 27.2 -0.3**
PCBR Castelo Branco 152.24 26 *e*PKPbc **PKPbc 18 28 18.3 -0.4**
PCBR Castelo Branco 152.24 26 *e*PKPab **PKPab 18 28 27.3 -1.1**
PMTG Montargil 152.54 28 *e*PKPbc **PKPbc 18 28 19.1 -0.3**
PMTG Montargil 152.54 28 *e*PKPab **PKPab 18 28 28.0 -1.7**
PMRV Marv??o 152.62 26 *e*PKPbc **PKPbc 18 28 19.8 +0.2**
PMRV Marv??o 152.62 26 *e*PKPab **PKPab 18 28 28.3 -1.8**
PESTR Estremoz 152.99 27 *e*PKPbc **PKPbc 18 28 20.2 -0.3**
PESTR Estremoz 152.99 27 *e*PKPab **PKPab 18 28 29.4 -2.3**
EVO Evora 153.08 28 *e*PKPbc **PKPbc 18 28 20.9 +0.3**
EVO Evora 153.08 28 *e*PKPab **PKPab 18 28 29.2 -2.8**
PNCL Nicolau / Gran 153.17 30 *e*PKPbc **PKPbc 18 28 21.0 +0.2**

PNCL Nicolau / Gran 153.17 30 *e*PKPab **PKPab 18 28 29.4 -3.0**
PTEO Sao Teotonio 153.53 31 *e*PKPab **PKPab 18 28 30.9 -3.0**
ESDC Sonseca Array 153.73 21 PKPbc **PKPbc 18 28 22.0 -0.1**
ESDC PKPab **PKPab 18 28 35.4 +0.6**
ESDC Sonseca Array 153.73 21 PKPbc **PKPbc 18 28 22.0 -0.1**
comp=Z,1.7nm,0.6s,baz=323,slow=3.4,SNR=3.3
ESDC PKPab **PKPab 18 28 35.4 +0.6**
comp=Z,12nm,1.0s,baz=329,slow=3.5,SNR=8.5
MORF Marmelete 153.75 31 *e*PKPdf **PKPdf 18 28 14.9 +0.6**
MORF Marmelete 153.75 31 *e*PKPbc **PKPbc 18 28 22.5 +0.3**
MORF Marmelete 153.75 31 *e*PKPab **PKPab 18 28 31.5 -3.5**
PCVE Castro Verde 153.79 30 *e*PKPbc **PKPbc 18 28 22.0 -0.2**
PCVE Castro Verde 153.79 30 *e*PKPab **PKPab 18 28 31.3 -3.8**
PFVI Vila Bisbo 153.80 31 *e*PKPdf **PKPdf 18 28 15.7 +1.4**
PFVI Vila Bisbo 153.80 31 *e*PKPbc **PKPbc 18 28 23.1 +0.9**
PFVI Vila Bisbo 153.80 31 *e*PKPab **PKPab 18 28 31.7 -3.4**
PBAR Barrancos 153.81 27 *e*PKPdf **PKPdf 18 28 14.8 +0.5**
PBAR Barrancos 153.81 27 *e*PKPbc **PKPbc 18 28 22.5 +0.3**
PBAR Barrancos 153.81 27 *e*PKPab **PKPab 18 28 31.4 -3.7**
PVAQ Vaqueiros 154.13 29 *e*PKPbc **PKPbc 18 28 23.3 +0.4**
PVAQ Vaqueiros 154.13 29 *e*PKPab **PKPab 18 28 32.1 -4.4**
PBDV Barranco-do-Ve 154.15 30 *e*PKPbc **PKPbc 18 28 21.5 -1.5**
PBDV Barranco-do-Ve 154.15 30 *e*PKPab **PKPab 18 28 32.5 -4.1**
MDT Midelt 159.32 31 PKP **PKPdf 18 28 21.1 -0.7**
MDT PKPab **PKPab 18 28 59.3 +0.2**
MDT Midelt 159.32 31 PKP **PKPdf 18 28 21.1 -0.7**
comp=Z,4.9nm,1.1s,baz=285,slow=1.3,SNR=3.8
MDT PKPab **PKPab 18 28 59.3 +0.2**
comp=Z,11nm,1.1s,baz=329,slow=3.1,SNR=3.6
TOA0 Torodi Ar. Sit 173.58 110 *e*PKPdf **PKPdf 18 28 30.3 -2.9**
TOA0 *e*PKPab **PKPab 18 29 59.9 -2.5**
TORD Torodi Ar. Bea 173.58 110 PKP **PKPdf 18 28 30.8 -2.3**
TORD PKPab **PKPab 18 30 00.2 -2.2**
TORD Torodi Ar. Bea 173.58 110 PKP **PKPdf 18 28 30.8 -2.3**
comp=Z,12nm,1.2s,baz=291,slow=1.4,SNR=4.0
TORD PKPab **PKPab 18 30 00.2 -2.2**
comp=Z,13nm,1.2s,baz=248,slow=4.8,SNR=4.5

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*ISCJB **29** 18:08:28.5±0.6, 15°.7S±0°.1×171°.7W±0°.2, h10km, mb5.2/18, Error ellipse: s-maj=21.9km s-min=16.0km az=18.2*
*IDC **29** 18:08:28.6±0.5, 15°.68S×171°.71W, h0km, mb5.3/18, mb1 5.3/18, mb1mx5.3/25, mbtmp5.2/18, Error ellipse: s-maj=22.3km s-min=18.1km az=101.0*
ISC 29 18:08:29.8±0.5, 15°.7S±0°.1×171°.7W±0°.2, h10km, n59, σ0=95/57, mb5.3/18, 8C-8D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**40.55**	**274**	P	**P**	**18 16 09.6**	**-0.2**
	25nm,0.8s,baz=88,slow=16,SNR=3.2						
ASAR	**Alice Springs**	**51.56**	**252**	P	**P**	**18 17 37.0**	**+0.4**
	63nm,0.8s,baz=89,slow=7.9,SNR=9.5						
VNDA	**Vanda**	**63.30**	**186**	P	**P**	**18 18 59.1**	**+0.7**
	20nm,1.1s,baz=358,slow=6.3,SNR=7.7						
ASAJ	**Asahikawa**	**72.61**	**327**	P	**P**	**18 19 58.1**	**+0.7**
	12nm,0.8s,baz=235,slow=13,SNR=5.9						
JNU	**Nakatsue**	**73.15**	**312**	P	**P**	**18 20 01.6**	**+0.6**
	19nm,0.8s,baz=256,slow=0.9,SNR=5.5						
PETK	**Petropavlovsk-**	**73.37**	**341**	P	**P**	**18 20 01.8**	**+0.1**
	37nm,0.9s,baz=152,slow=6.5,SNR=11						
QSPA	**South Pole Qui**	**74.40**	**180**	P	**P**	**18 20 08.1**	**+0.2**
	27nm,0.9s,baz=180,slow=3.9,SNR=4.2						
KDAK	**Kodiak Island**	**74.86**	**10**	P	**P**	**18 20 11.1**	**+0.8**
	64nm,1.2s,baz=224,slow=4.7,SNR=6.1						
KSRS	**Korea Array**	**77.47**	**315**	P	**P**	**18 20 26.9**	**+1.3**
	37nm,1.1s,baz=127,slow=6.7,SNR=23						
USRK	**Ussuriysk Arra**	**78.56**	**322**	P	**P**	**18 20 32.9**	**+1.3**
	15nm,1.0s,baz=106,slow=4.7,SNR=5.2						
PDAR	**Pinedale Array**	**81.39**	**41**	P	**P**	**18 20 46.4**	**-0.8**
	7.0nm,0.9s,baz=165,slow=3.7,SNR=4.4						
ILAR	**Eielson Array**	**82.39**	**10**	P	**P**	**18 20 51.7**	**0.0**
	12nm,0.9s,baz=224,slow=4.6,SNR=4.0						
MAW	**Mawson**	**88.06**	**198**	P	**P**	**18 21 19.7**	**-0.5**
	36nm,1.1s,baz=157,slow=7.4,SNR=5.0						
INK	**Inuvik**	**88.14**	**13**	P	**P**	**18 21 19.6**	**-0.8**
	17nm,0.9s,baz=296,slow=6.1,SNR=3.8						
YKA	**Yellowknife Ar**	**89.69**	**23**	P	**P**	**18 21 28.9**	**+1.1**
	9.6nm,0.8s,baz=236,slow=4.3,SNR=8.0						
PSI	**Prapat**	**90.11**	**273**	P	**P**	**18 21 29.9**	**-1.2**
	31nm,0.9s,baz=194,slow=4.8,SNR=5.4						
CMAR	**Chiang Mai Arr**	**94.22**	**288**	P	**P**	**18 21 51.2**	**+1.4**
	16nm,1.1s,baz=100,slow=2.9,SNR=7.8						
SONM	**Songino Array**	**96.10**	**318**	P	P	18 22 00.3	+2.3
	4.0nm,1.0s,baz=116,slow=3.4,SNR=2.3						
ZALV	**Zalesovo Beam**	**110.41**	**322**	PKiKP	**PKiKP**	**18 27 01.3**	**-0.9**
	1.9nm,0.7s,baz=116,slow=3.4,SNR=3.5						
MKAR	**Makanchi Array**	**112.15**	**315**	PKiKP	**PKiKP**	**18 27 04.8**	**-0.9**
	1.8nm,0.8s,baz=86,slow=3.2,SNR=3.2						
KURBB	**Kurchatov Arra**	**114.45**	**319**	PKiKP	**PKiKP**	**18 27 09.2**	**-0.7**
	3.4nm,0.9s,baz=83,slow=1.7,SNR=7.7						
BVAR	**Borovoye Array**	**119.06**	**322**	PKP	**PKPdf**	**18 27 18.7**	**-0.1**
	5.0nm,0.8s,baz=90,slow=2.9,SNR=8.8						
ARCES	**ARCESS Array B**	**125.07**	**353**	PKP	**PKPdf**	**18 27 30.3**	**+0.4**
	12nm,0.9s,baz=20,slow=2.9,SNR=8.1						
AKTO	**Aktyubinsk**	**127.17**	**322**	PKP	**PKPdf**	**18 27 33.9**	**-0.6**
	9.8nm,1.1s,baz=72,slow=3.2,SNR=5.7						
FINES	**FINESS Array B**	**132.52**	**348**	PKP	**PKPdf**	**18 27 44.1**	**-0.2**
	7.4nm,0.9s,baz=48,slow=2.1,SNR=6.4						
BOSA	**Boshof**	**133.03**	**201**	PKP	**PKPdf**	**18 27 45.9**	**-0.6**
	3.2nm,0.8s,baz=117,slow=2.3,SNR=3.9						
NOA	**NORSAR Array B**	**134.62**	**358**	PKP	**PKPdf**	**18 27 48.6**	**+0.3**
	2.1nm,0.9s,baz=350,slow=2.0,SNR=3.6						
HFS	**Hagfors**	**135.41**	**356**	PKP	**PKPdf**	**18 27 50.0**	**+0.3**
	7.0nm,0.9s,baz=134,slow=4.2,SNR=3.6						
KBZ	**Khabaz**	**139.41**	**321**	PKhKP	PKPpre	18 27 55.8	
	3.1nm,0.9s,baz=301,slow=5.9,SNR=2.5						
AKASG	**Malin Array Be**	**141.17**	**339**	PKhKP	PKPpre	18 27 58.5	
	11nm,1.0s,baz=35,slow=3.4,SNR=8.2						
KWP	**Kalwaria Pacla**	**144.13**	**344**	*e*PKP	**PKPdf**	**18 28 04.4**	**-1.5**
LEOM	**Leova**	**145.04**	**336**	⇓*iP*	**PKPdf**	**18 28 06.9**	**-0.6**
MORC	**Moravsky Berou**	**145.14**	**349**	⇑*iP*	**PKPdf**	**18 28 06.3**	**-1.4**
MALT	**Malatya**	**145.16**	**316**	⇓*iP*	**PKPdf**	**18 28 08.8**	**+0.6**
BURAR	**Bucovina Array**	**145.18**	**340**	⇑*iP*	**PKPdf**	**18 28 08.2**	**+0.3**
TESR	**Tescani**	**145.62**	**337**	⇓*iP*	**PKPab**	**18 28 08.6**	**-0.4**
BMR	**Baia Mare**	**145.67**	**342**	⇑*iP*	**PKPab**	**18 28 08.0**	**-1.2**
GHRR		**145.71**	**336**	⇓*iP*	**PKPab**	**18 28 08.6**	**-0.8**
VRAC	**Vranov**	**145.75**	**350**	PKPbc	**PKPab**	**18 28 10.2**	**+0.8**
	71nm,1.1s,baz=9.9,slow=3.1,SNR=11						
CFR	**Carcaliu**	**146.13**	**334**	⇑*iP*	**PKPab**	**18 28 09.9**	**-1.1**
ATD	**Arta Tunnel**	**146.16**	**267**	PKPbc	**PKPab**	**18 28 13.0**	**+0.9**
	44nm,1.0s,baz=276

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	49.95	252	P	P	18 18 33.2	-0.5
ASAR	Alice Springs	49.95	252	P	P	18 18 33.2	-0.5
	45nm,0.8s,baz=86,slow=8.3,SNR=2.5						
PETK	Petropavlovsk-	72.20	342	P	P	18 21 03.3	-0.7
PETK	Petropavlovsk-	72.20	342	P	P	18 21 03.3	-0.7
	27nm,1.1s,baz=101,slow=4.6,SNR=2.6						
YBH	Yreka Blue Hor	73.48	37	P	P	18 21 12.2	+0.3
YBH	Yreka Blue Hor	73.48	37	P	P	18 21 12.2	+0.3
	19nm,1.0s,baz=207,slow=6.8,SNR=2.4						
PDMCI	Parker Dam,Lak	74.89	48	P	P	18 21 19.8	-0.4
	baz=75						
X16A	Lo Mia Camp, P	76.89	49	P	P	18 21 31.4	-0.5
	baz=77						
WUAZ	Wupatki	77.47	48	P	P	18 21 34.6	-0.5
	baz=78						
220A	Playas Peak, P	77.91	52	P	P	18 21 37.8	+0.2
	baz=78						
120A	U Bar Ranch, L	78.11	52	P	P	18 21 39.0	+0.3
	baz=78						
Z20A	Nine Sixteen R	78.39	51	P	P	18 21 40.2	0.0
	baz=78						
W18A	Petrified Fore	78.46	49	P	P	18 21 41.2	+0.6
	baz=79						
221A	Mesquite Ranch	78.52	52	P	P	18 21 41.1	+0.2
	baz=79						
MFID	Camas Ranch	78.58	39	P	P	18 21 41.3	+0.3
	baz=79						
121A	Cookes Peak, D	78.75	52	P	P	18 21 42.5	+0.3
	baz=79						
DUG	Dugway	78.79	43	P	P	18 21 42.7	+0.4
	baz=79						
X20A	Quemado	79.10	50	P	P	18 21 43.6	-0.6
	baz=79						
Z21A	St. Cloud Mine	79.17	51	P	P	18 21 44.4	-0.2
	baz=79						
W20A	Ramah	79.36	49	P	P	18 21 46.0	+0.4
	baz=80						
122A	Conniff Cattle	79.42	52	P	P	18 21 45.9	+0.1
	baz=80						
HLID	Hailey	79.53	39	P	P	18 21 46.4	+0.2
	baz=80						
U20A	Newcomb	79.91	48	P	P	18 21 49.4	+0.9
	baz=80						
324A	Moseley Ranch,	80.06	54	P	P	18 21 50.0	+0.6
	baz=80						
425A	Indio Mountain	80.18	54	P	P	18 21 50.3	+0.3
	baz=80						
Z23A	Rita Site, Whi	80.24	52	P	P	18 21 50.4	+0.2
	baz=80						
224A	Cornudas Mount	80.29	53	P	P	18 21 51.1	+0.5
	baz=80						
W22A	Albuquerque	80.54	50	P	P	18 21 53.1	+1.1
	baz=81						
U21A	Nageezi	80.56	48	P	P	18 21 52.9	+0.8
	baz=81						
526A	Mary Lane Ranc	80.59	55	P	P	18 21 52.5	+0.2
	baz=81						
124A	Stringfield Ra	80.60	53	P	P	18 21 52.4	+0.1
	baz=81						
TXAR	Lajitas Array	80.65	56	P	P	18 21 52.9	+0.4
TXAR	Lajitas Array	80.65	56	P	P	18 21 52.9	+0.4
	18nm,1.0s,baz=216,slow=4.5,SNR=3.1						
S20A	Disappointment	80.69	47	P	P	18 21 53.5	+0.8
	baz=81						
ANMO	Albuquerque	80.79	50	eP	P	18 21 53.3	+0.1
	19nm,1.1s						
ANMO	Albuquerque	80.79	50	P	P	18 21 53.6	+0.3
	9.0nm,0.9s,baz=244,slow=6.6,SNR=2.2						
225A	Deer Hill, Car	80.84	53	P	P	18 21 54.2	+0.6
	baz=81						
426A	McDonald Obser	80.88	55	P	P	18 21 54.2	+0.3
	baz=81						
627A	Terlingua Ranc	80.92	56	P	P	18 21 54.4	+0.4
	baz=81						
Z24A	Sheeppen Canyo	80.93	52	P	P	18 21 54.5	+0.4
	baz=81						
527A	Woodward Ranch	81.01	56	P	P	18 21 55.1	+0.6
	baz=81						
S21A	Coal Bank Pass	81.01	47	P	P	18 21 54.6	+0.1
	baz=81						
W23A	Werner Place,	81.11	50	P	P	18 21 55.3	+0.3
	baz=81						
Y24A	Capitan	81.12	51	P	P	18 21 54.8	-0.3
	baz=81						
125A	Gardner Draw,	81.19	53	P	P	18 21 55.9	+0.5
	baz=81						
Q20A	Ridgley Place,	81.25	46	P	P	18 21 55.4	-0.2
	baz=81						
V23A	Ortiz Mt. (NFS	81.33	49	P	P	18 21 56.4	+0.2
	baz=81						
226B	Tecolote Peak,	81.34	54	P	P	18 21 56.6	+0.5
	baz=81						
T22A	Edith	81.36	48	P	P	18 21 56.4	+0.1
	baz=82						
X24A	Lazy VL Ranch,	81.39	51	P	P	18 21 56.1	-0.4
	baz=82						
Z25A	Roswell	81.40	52	P	P	18 21 56.2	-0.3
	baz=82						
427A	Hayter Ranch,	81.45	55	P	P	18 21 56.7	-0.1
	baz=82						
L18A	Fontenelle, Gr	81.47	43	P	P	18 21 56.9	+0.1
	baz=82						
U23A	El Rito	81.58	49	P	P	18 21 57.6	+0.1
	baz=82						
528A	Cox Ranch, San	81.67	56	P	P	18 21 57.6	-0.4
	baz=82						
126A	Clayton Basin,	81.68	53	P	P	18 21 57.5	-0.4
	baz=82						
W24A	Lazy 6 Ranch,	81.68	50	P	P	18 21 57.9	-0.1
	baz=82						
Q21A	Lamborn Mesa,	81.69	46	P	P	18 21 57.6	-0.4
	baz=82						
M19A	Rock Springs	81.85	43	P	P	18 21 58.1	-0.7
	baz=82						
X25A	Clemmons Ranch	81.95	51	P	P	18 21 59.2	-0.2
	baz=82						
Z26A	Caprock	81.96	53	P	P	18 21 59.2	-0.2
	baz=82						
428A	Kincaid Ranch,	81.97	55	P	P	18 21 59.5	0.0
	baz=82						
T23A	Casias Ranch,	81.99	48	P	P	18 21 59.6	-0.1
	baz=82						
V24A	Rampart Ranch,	82.00	50	P	P	18 21 59.9	+0.1
	baz=82						
L19A	Farson	82.00	43	P	P	18 21 59.7	+0.1
	baz=82						
R22A	Saguache, Gunn	82.00	47	P	P	18 21 59.9	+0.1
	baz=82						
P21A	Newcastle	82.09	46	P	P	18 21 59.9	-0.3
	baz=82						
I17A	Pilgrim Ck.	82.10	41	P	P	18 22 00.0	0.0
	baz=82						
529A	Stev Forest Ra	82.11	56	P	P	18 21 59.8	-0.4
	baz=82						
328A	Wristen Ranch,	82.13	55	P	P	18 22 00.1	-0.1
	baz=82						
N20A	Spence Gulch,	82.13	44	P	P	18 22 00.3	-0.1
	baz=82						
ILAR	Eielson Array	82.14	11	P	P	18 21 59.0	-0.5
ILAR	Eielson Array	82.14	11	P	P	18 21 59.0	-0.5
	9.7nm,1.0s,baz=204,slow=5.8,SNR=2.5						
Q22A	Crested Butte,	82.17	46	P	P	18 22 00.5	-0.1
	baz=82						
PDAR	Pinedale Array	82.19	42	P	P	18 22 00.4	-0.1
PDAR	Pinedale Array	82.19	42	P	P	18 22 00.4	-0.1
	16nm,0.9s,baz=217,slow=3.5,SNR=3.6						
127A	Arkansas Junct	82.20	53	P	P	18 22 00.4	-0.3
	baz=82						
U24A	Moreno Valley	82.28	49	P	P	18 22 01.1	-0.2
	baz=82						
H17A	Grant Village	82.33	40	P	P	18 22 01.8	+0.5
	baz=82						
Y26A	Elida	82.34	52	P	P	18 22 00.8	-0.7
	baz=82						
O21A	Pagoda	82.39	45	P	P	18 22 02.0	+0.3
	baz=82						
W25A	X Bar L Ranch,	82.39	51	P	P	18 22 01.9	+0.2
	baz=82						
T24B	San Luis	82.48	49	P	P	18 22 02.8	+0.5
	baz=83						
M20A	Sweetwater, Wa	82.49	44	P	P	18 22 02.2	+0.1
	baz=83						
V25A	Rancho No Teng	82.53	50	P	P	18 22 02.5	+0.1
	baz=83						
429A	Davenport Ranc	82.56	56	P	P	18 22 02.8	+0.2
	baz=83						
Z27A	Tatum	82.57	53	P	P	18 22 02.8	+0.2
	baz=83						
228A	UT Block 9, Go	82.58	54	P	P	18 22 02.0	-0.7
	baz=83						
N21A	Black Mountain	82.60	44	P	P	18 22 03.6	+0.8
	baz=83						
P22A	Eagle	82.60	46	P	P	18 22 02.2	-0.6
	baz=83						
X26A	CR and CF Fran	82.61	51	P	P	18 22 01.7	-1.1
	baz=83						
L20A	Wamsutter	82.62	43	P	P	18 22 03.3	+0.4
	baz=83						
R23A	Moffat	82.64	47	P	P	18 22 03.0	-0.1
	baz=83						
K19A	Absolon Red Bu	82.67	42	P	P	18 22 02.2	-0.8
	baz=83						
J19A	Crowheart	82.75	42	P	P	18 22 02.6	-0.8
	baz=83						
329A	Wagon Wheel Ra	82.82	55	P	P	18 22 03.6	-0.3
	baz=83						
530A	J-C Ranch, Com	82.83	56	P	P	18 22 03.6	-0.3
	baz=83						
Y27A	Causey	82.83	52	P	P	18 22 02.9	-1.0
	baz=83						
S24A	Houchin Ranch,	82.85	48	P	P	18 22 03.0	-1.2
	baz=83						
W26A	Owens Ranch, T	82.86	51	P	P	18 22 03.7	-0.4
	baz=83						
128A	Castleberry Fa	82.86	54	P	P	18 22 03.4	-0.7
	baz=83						
U25A	Circle Dot Ran	82.91	50	P	P	18 22 04.3	-0.2
	baz=83						
K20A	Yellowstone Ra	82.92	43	P	P	18 22 03.3	-1.0
	baz=83						
Q23A	Hartsel	82.94	47	P	P	18 22 04.5	-0.1
	baz=83						
O22A	Kremmling	83.00	45	P	P	18 22 05.1	+0.2
	baz=83						
M21A	Separation Pea	83.09	44	P	P	18 22 05.3	0.0
	baz=83						
I19A	Meeteetse	83.15	41	P	P	18 22 05.0	-0.5
	baz=83						
MSTX	Muleshoe	83.16	52	P	P	18 22 05.5	-0.2
	baz=83						
R24A	Sanders Place,	83.17	48	P	P	18 22 05.8	0.0
	baz=83						
631A	Perdido Creek	83.18	57	P	P	18 22 05.4	-0.3
	baz=83						
X27A	F and S Farms,	83.18	52	P	P	18 22 05.4	-0.4
	baz=83						
Z28A	Tucker Farm, M	83.19	53	P	P	18 22 05.1	-0.8
	baz=83						
T25A	Trinidad	83.22	49	P	P	18 22 05.8	-0.2
	baz=83						
L21A	Rawlins	83.25	43	P	P	18 22 05.9	-0.1
	baz=83						
N22A	Wattenberg Ran	83.34	45	P	P	18 22 05.9	-0.8
	baz=84						
129A	Stewart Farms,	83.34	54	P	P	18 22 06.2	-0.4
	baz=83						
W27A	Bowe Ranch, En	83.37	51	P	P	18 22 06.5	-0.3
	baz=84						
U26A	Atchley Ranch,	83.40	50	P	P	18 22 06.9	-0.1
	baz=84						
J20A	Shoshoni	83.42	42	P	P	18 22 07.3	+0.5
	baz=84						
S25A	Robets Cordova	83.42	48	P	P	18 22 07.2	+0.2
	baz=84						
732A	Laxson Ranch,	83.42	58	P	P	18 22 07.0	0.0
	baz=84						
O23A	Lake Granby, G	83.45	46	P	P	18 22 07.7	+0.4
	baz=84						
Q24A	Divide	83.45	47	P	P	18 22 07.8	+0.5
	baz=84						
H19A	Powell	83.46	40	P	P	18 22 07.6	+0.6
	baz=84						
531A	Rocksprings	83.47	57	P	P	18 22 07.6	+0.3
	baz=84						
K21A	Alcova	83.63	43	P	P	18 22 07.8	-0.2
	baz=84						
230A	Sterling City	83.66	55	P	P	18 22 08.1	-0.1
	baz=84						
I20A	Worland	83.66	41	P	P	18 22 08.3	+0.2
	baz=84						
Z29A	Hungry Hill Ra	83.71	53	P	P	18 22 08.2	-0.3
	baz=84						
R25A	Fountain Ranch	83.72	48	P	P	18 22 08.2	-0.3
	baz=84						
N23A	Red Feather La	83.73	45	P	P	18 22 08.7	0.0
	baz=84						
X28A	Dimmitt	83.81	52	P	P	18 22 08.7	-0.3
	baz=84						
J21A	Lysite	83.83	42	P	P	18 22 09.3	+0.4
	baz=84						
P24A	Kohler Place,	83.85	46	P	P	18 22 09.4	+0.2
	baz=84						
L22A	Ellis Ranch, M	83.90	44	P	P	18 22 09.0	-0.4
	baz=84						
Y29A	Porterfield Fa	83.96	53	P	P	18 22 09.5	-0.2
	baz=84						
532A	Rocksprings	83.98	57	P	P	18 22 08.9	-1.0
	baz=84						
331A	San Angelo	83.99	56	P	P	18 22 08.7	-1.2
	baz=84						
H20A	Greybull	84.00	41	P	P	18 22 09.4	-0.3
	baz=84						
O24A	Longmont	84.00	46	P	P	18 22 10.4	+0.5
	baz=84						
130A	Snyder	84.04	54	P	P	18 22 09.9	-0.2
	baz=84						
F19A	Roth Farm, Mol	84.05	39	P	P	18 22 10.0	0.0
	baz=84						
Q25A	Bedland, Calha	84.07	47	P	P	18 22 09.8	-0.5
	baz=84						
U27A	Thompson Grove	84.09	50	P	P	18 22 09.8	-0.6
	baz=84						
S26A	Kim	84.10	49	P	P	18 22 09.9	-0.5
	baz=84						
K22A	Casper	84.11	43	P	P	18 22 10.5	+0.1
	baz=84						
M23A	Laramie	84.13	44	P	P	18 22 10.4	-0.3
	baz=84						
I21A	Big Trails, Te	84.14	42	P	P	18 22 10.4	-0.1
	baz=84						
X29A	Tulia	84.17	52	P	P	18 22 10.7	0.0
	baz=84						
Z30A	Sanderson Ranc	84.17	53	P	P	18 22 10.0	-0.7
	baz=84						
231A	Bronte	84.30	55	P	P	18 22 10.8	-0.7
	baz=84						
432A	Menard	84.34	56	P	P	18 22 11.0	-0.7
	baz=84						
P25A	Willow Gulch B	84.37	47	P	P	18 22 11.4	-0.5
	baz=84						
R26A	Arlington	84.39	48	P	P	18 22 11.8	-0.1
	baz=84						
T27A	Campo	84.42	49	P	P	18 22 11.9	-0.2
	baz=84						
L23A	Garrett	84.43	44	P	P	18 22 11.8	-0.3
	baz=84						
N24A	Carr	84.43	45	P	P	18 22 11.8	-0.3
	baz=84						
E19A	Rath Farm, Rou	84.44	39	P	P	18 22 11.9	+0.1
	baz=84						
W29A	Amraillo	84.46	52	P	P	18 22 12.1	-0.2
	baz=85						
J22A	Midwest	84.48	42	P	P	18 22 11.5	-0.8
	baz=85						
131A	Roby	84.52	54	P	P	18 22 11.5	-1.0
	baz=85						
Y30A	Stafford Cattl	84.57	53	P	P	18 22 12.6	-0.2
	baz=85						
Q26A	Hugo	84.59	47	P	P	18 22 13.1	+0.2
	baz=85						
O25A	Wiggins	84.66	46	P	P	18 22 12.6	-0.6
	baz=85						
H21A	Big Horn, Sher	84.67	41	P	P	18 22 13.3	+0.1
	baz=85						
I22A	9 Mile Ranch,	84.69	42	P	P	18 22 13.2	-0.1
	baz=85						
D19A	Cripps Ranch,	84.72	38	P	P	18 22 13.2	0.0
	baz=85						
M24A	Cheyenne	84.74	45	P	P	18 22 13.3	-0.3
	baz=85						
K23A	Bowen Ranch, D	84.76	43	P	P	18 22 12.6	-1.1
	baz=85						
X30A	Coker Ranch, T	84.80	52	P	P	18 22 11.4	-2.5
	baz=85						
232A	Coleman	84.82	55	P	P	18 22 12.0	-2.0
	baz=85						
G21A	Lodge Grass	84.84	41	P	P	18 22 12.8	-1.2
	baz=85						
R27A	Eads	84.85	48	P	P	18 22 13.4	-0.8
	baz=85						
E20A	Meyer Farm, Mu	84.86	39	P	P	18 22 13.6	-0.4
	baz=85						
C19A	Slack Wire Ran	84.89	38	P	P	18 22 14.2	+0.1
	baz=85						
T28A	Walsh	84.89	50	P	P	18 22 13.0	-1.4
	baz=85						
L24A	Wheatland	84.91	44	P	P	18 22 14.5	0.0
	baz=85						
Z31A	Sharp Cattle R	84.94	54	P	P	18 22 14.4	-0.3
	baz=85						
N25A	Grover	84.97	46	P	P	18 22 13.9	-0.9
	baz=85						
P26A	Davis Ranch, A	84.97	47	P	P	18 22 14.6	-0.3
	baz=85						
ABTX	Abilene, Hawle	85.08	55	P	P	18 22 15.5	+0.1
	baz=85						
Y31A	Rekieta Farm,	85.09	53	P	P	18 22 15.4	0.0
	baz=85						
H22A	Clearmont	85.09	41	P	P	18 22 15.5	+0.2
	baz=85						
D20A	Manuel Ranch,	85.13	39	P	P	18 22 15.7	+0.3
	baz=85						
M25A	Palm-Egli Farm	85.25	45	P	P	18 22 16.6	+0.4
	baz=85						
KSCO	Kaye Shedlock'	85.26	48	P	P	18 22 16.1	-0.2
	baz=85						
O26A	Horse Wrangler	85.27	46	P	P	18 22 16.9	+0.6
	baz=85						
K24A	Anderson Ranch	85.28	44	P	P	18 22 16.0	-0.3
	baz=85						
V30A	Spur Ranch, Mi	85.43	51	P	P	18 22 17.6	+0.5
	baz=86						
Z32A	Haskell	85.46	54	P	P	18 22 16.9	-0.4
	baz=86						
C20A	Veseth Ranch,	85.50	38	P	P	18 22 17.6	+0.5
	baz=86						
E21A	Keefer Ranch,	85.52	39	P	P	18 22 17.7	+0.4
	baz=86						
X31A	McDonald Ranch	85.55	53	P	P	18 22 17.9	+0.2
	baz=86						
N26A	Koester Ranch,	85.58	46	P	P	18 22 17.5	-0.3
	baz=86						
A19A	Klindworth Far	85.64	37	P	P	18 22 17.4	-0.4
	baz=86						
J24A	Dixon Ranch, L	85.64	43	P	P	18 22 18.4	+0.3
	baz=86						
Y32A	R-V Farms, Ver	85.74	53	P	P	18 22 18.3	-0.3
	baz=86						
U30A	WK&E Inc. Balk	85.75	51	P	P	18 22 19.0	+0.4
	baz=86						
W31A	Holland Ranch,	85.78	52	P	P	18 22 18.7	-0.2
	baz=86						
A20A	Cobblestone Ra	86.09	37	P	P	18 22 20.0	-0.1
	baz=86						
C21A	Desert Coulee	86.09	38	P	P	18 22 20.2	+0.1
	baz=86						
H24A	Dirks Ranch, A	86.32	42	P	P	18 22 21.0	-0.3
	baz=86						
B21A	Ellsworth Farm	86.42	38	P	P	18 22 21.9	+0.3
	baz=86						
I25A	Rochford	86.54	43	P	P	18 22 22.5	0.0
	baz=87						
E23A	Ismay	86.59	40	P	P	18 22 22.6	0.0
	baz=87						
WHTX	Lake Whitney	86.60	56	P	P	18 22 22.2	-0.7
	baz=87						
D23A	Lindsay	86.95	39	P	P	18 22 23.3	-1.0
	baz=87						
C23A	Lambert	87.24	39	P	P	18 22 26.0	+0.3
	baz=87						
E24A	Baker	87.24	40	P	P	18 22 25.6	-0.2
	baz=87						
C24A	Savage	87.58	39	P	P	18 22 27.4	+0.1
	baz=88						
B23A	Brockton	87.64	38	P	P	18 22 27.6	+0.1
	baz=88						
N30A	Hueftle Ranch,	87.74	47	P	P	18 22 27.7	-0.6
	baz=88						
YKA	Yellowknife Ar	89.88	23	P	P	18 22 37.5	-0.3
YKA	Yellowknife Ar	89.88	23	P	P	18 22 37.4	-0.3
	9.0nm,0.9s,baz=234,slow=4.7,SNR=4.2						
ARCES	ARCESS Array B	124.21	352	PKP	PKPdf	18 28 36.3	-0.9
ARCES	ARCESS Array B	124.21	352	PKP	PKPdf	18 28 36.3	-0.9
	8.8nm,0.8s,baz=15,slow=3.7,SNR=5.3						
FINES	FINESS Array B	131.53	347	PKP	PKPdf	18 28 51.9	+0.5
FINES	FINESS Array B	131.53	347	PKP	PKPdf	18 28 51.9	+0.5
	3.2nm,0.8s,baz=101,slow=2.8,SNR=2.8						
NB2	NORSAR Subarra	133.93	357	PKPdf	PKPdf	18 28 57.1	+1.1
	comp=Z,17nm,1.4s,baz=4.5,slow=1.9						
NB2	NORSAR Subarra	133.93	357	PKPdf	PKPdf	18 28 57.1	+1.1
	baz=4.5,slow=1.9						
NOA	NORSAR Array B	133.93	357	PKP	PKPdf	18 28 57.0	+1.1
NOA	NORSAR Array B	133.93	357	PKP	PKPdf	18 28 57.0	+1.1
	comp=Z,2.9nm,0.9s,baz=13,slow=4.1,SNR=3.5						
HFS	Hagfors	134.65	355	PKP	PKPdf	18 28 58.8	+1.5
HFS	Hagfors	134.65	355	PKP	PKPdf	18 28 58.8	+1.5
	comp=Z,6.8nm,0.9s,baz=90,slow=0.4,SNR=2.8						
WLF	Walferdange	145.46	0	ePKPbc	PKPab	18 29 17.9	+0.5
BRTR	Keskin Array B	145.69	321	PKPbc	PKPab	18 29 19.8	+1.0
BRTR	Keskin Array B	145.69	321	PKPbc	PKPab	18 29 19.8	+1.0
	comp=Z,9.3nm,0.8s,baz=99,slow=1.3,SNR=1.9						
GERES	GERESS Array B	145.74	351	PKPbc	PKPab	18 29 19.6	+1.1
GERES	GERESS Array B	145.74	351	PKPbc	PKPab	18 29 19.7	+1.1
	comp=Z,8.5nm,1.0s,baz=35,slow=3.6,SNR=2.6						
DAVOX	Davos/Dischmat	148.21	355	PKPbc	PKPbc	18 29 25.8	+0.4
DAVOX	Davos/Dischmat	148.21	355	PKPbc	PKPbc	18 29 25.8	+0.4
	comp=Z,18nm,0.9s,baz=124,slow=3.6,SNR=2.0						

*IDC **29** 18:13:01.5±0.5, 16°.35S×173°.25W, h0km, mb4.6/15, mb1 4.7/16, mb1mx4.6/24, mbtmp4.5/16, ML4.0/1, Error ellipse: s-maj=24.9km s-min=15.5km az=129.0*
*NEIC **29** 18:13:02.8±0.4, 16°.32S×173°.25W, h10km, mb5.1/3, Error ellipse: s-maj=18.4km s-min=11.2km az=134.0*
*ISCJB **29** 18:13:04.8±0.2, 16°.37S±0°.08×173°.20W±0°.06, h32km, mb4.6/18, Error ellipse: s-maj=12.6km s-min=6.0km az=149.2*
*AUST **29** 18:13:08.8, 15°.96S×172°.39W, h100km*
ISC 29 18:13:06.3±0.4, 16°.35S±0°.10×173°.18W±0°.09, h32km, n114, σ0.97/107, mb4.5/18, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.78	29	Pn	Pn	18 13 42.0	-6.6
AFI				Sn	Sn	18 14 07.0	-14
AFI	Afiamalu	2.78	29	Pn	Pn	18 13 42.0	-6.6
	308nm,0.3s,baz=70,slow=21,SNR=2.3						
AFI				Sn	Sn	18 14 07.0	-14
	2um,0.3s,baz=354,slow=22,SNR=6.6						
NIUE	Niue	4.12	132	P	Pn	18 14 06.8	-0.3
	baz=3.9,SNR=3.3						
DZM	Mont Dzumac	20.06	250	P	P	18 17 34.6	-2.5
DZM	Mont Dzumac	20.06	250	P	P	18 17 34.6	-2.5
	0.5nm,0.3s,baz=79,slow=19,SNR=2.3						
URZ	Urewera	23.44	199	P	P	18 18 11.0	-1.7
URZ	Urewera	23.44	199	P	P	18 18 11.0	-1.7
	59nm,0.7s,baz=94,slow=18,SNR=3.0						
ARMA	Armidale	35.05	240	P	P	18 19 57.5	+1.0
	baz=36,SNR=4.0						
CTA	Charters Tower	38.65	258	P	P	18 20 26.6	-0.4
CTA	Charters Tower	38.65	258	P	P	18 20 26.6	-0.4
	7.1nm,0.9s,baz=261,slow=7.4,SNR=3.1						
CTAO	Charters Tower	38.65	258	P	P	18 20 27.1	0.0
YNG	Young	38.78	235	P	P	18 20 29.6	+1.5
	baz=40,SNR=23						
CMSA	Cobar Meteorol	40.26	240	P	P	18 20 40.9	+0.5
	baz=41,SNR=6.1						
QLP	Quilpie	40.75	248	P	P	18 20 44.4	-0.2
	baz=42,SNR=4.4						
COEN	Coen	42.14	267	P	P	18 20 57.1	+1.0
	baz=43,SNR=8.1						
STKA	Stephens Creek	43.75	241	P	P	18 21 12.8	+3.9
	baz=45,SNR=42						
BBOO	Buckleboo	48.53	241	P	P	18 21 47.0	+0.5
	baz=49,SNR=5.0						
WRAB	Tennant Creek	49.83	258	eP	P	18 21 55.5	-1.2
	11nm,0.7s						
WRA	Warramunga Arr	49.84	258	P	P	18 21 56.5	-0.2
WRA	Warramunga Arr	49.84	258	P	P	18 21 56.5	-0.2
	5.4nm,0.6s,baz=90,slow=6.8,SNR=15						

AS31	**Alice Springs**	50.02	253	*e*P	P	18 21 57.4	-0.8
ASAR	**Alice Springs**	50.02	253	P	P	18 21 58.0	-0.1
ASAR	**Alice Springs**	50.02	253	P	P	18 21 58.0	-0.1
	17nm,0.8s,baz=86,slow=8.0,SNR=6.4						
KDU	**Kakadu**	52.61	266	P	P	18 22 17.8	+0.2
	baz=53,SNR=5.2						
KNRA	**Kununurra**	55.64	262	P	P	18 22 39.5	-0.1
	baz=56,SNR=3.6						
FITZ	**Fitzroy Crossi**	58.23	259	P	P	18 22 59.7	+1.8
	baz=59,SNR=4.5						
SOEI	**Soe**	61.10	268	P	P	18 23 33.5	+15
	baz=62,SNR=3.8						
VNDA	**Vanda**	62.46	186	P	P	18 23 25.8	-0.2
VNDA	**Vanda**	62.46	186	P	P	18 23 25.8	-0.2
	3.8nm,1.0s,baz=251,slow=5.9,SNR=3.5						
MBWA	**Marble Bar**	63.30	254	*e*P	P	18 23 31.8	-0.7
	40nm,1.2s						
MEEK	**Meekatharra**	63.65	248	P	P	18 23 34.9	+0.1
	baz=64,SNR=4.6						
CASY	**Casey**	69.64	205	P	P	18 24 14.5	+2.3
	14nm,1.1s						
EDW2	**Edwards Air Fo**	73.06	45	P	P	18 24 34.4	+0.9
	baz=73						
ISA	**Isabella**	73.18	44	P	P	18 24 35.2	+1.1
	baz=73						
PETK	**Petropavlovsk-**	73.59	342	P	P	18 24 36.1	0.0
PETK	**Petropavlovsk-**	73.59	342	P	P	18 24 36.1	0.0
	2.6nm,0.7s,baz=122,slow=8.7,SNR=5.4						
QSPA	**South Pole Qui**	73.70	180	P	P	18 24 39.0	+2.1
QSPA	**South Pole Qui**	73.70	180	P	P	18 24 38.9	+2.1
	3.1nm,0.8s,baz=54,slow=1.8,SNR=5.4						
BELC	**Belle Mtn. Jos**	73.94	47	P	P	18 24 39.1	+0.3
	baz=74						
MPMC	**Manual Prospec**	74.06	44	P	P	18 24 39.7	+0.2
	baz=74						
GSC	**Goldstone**	74.10	45	P	P	18 24 40.8	+1.2
	baz=74						
YBH	**Yreka Blue Hor**	74.22	37	P	P	18 24 41.5	+1.3
YBH	**Yreka Blue Hor**	74.22	37	P	P	18 24 41.5	+1.3
	4.8nm,0.6s,baz=100,slow=17,SNR=3.0						
GRAC	**Grapevine Rang**	74.67	43	P	P	18 24 43.7	+0.8
	baz=75						
UGM	**Wanagama**	74.72	266	P	P	18 24 43.9	+0.3
	baz=76,SNR=5.3						
TUQ	**Turquoise Moun**	74.78	45	P	P	18 24 44.3	+0.7
	baz=75						
113A	**Mohawk Valley,**	74.88	49	P	P	18 24 45.0	+1.0
	baz=75						
PDMCI	**Parker Dam,Lak**	75.41	47	P	P	18 24 48.4	+1.4
	baz=76						
CISI	**Cisompet, Garu**	77.40	266	P	P	18 24 59.1	+0.2
	baz=78,SNR=5.2						
TXAR	**Lajitas Array**	80.96	56	P	P	18 25 19.2	+1.1
TXAR	**Lajitas Array**	80.96	56	P	P	18 25 19.2	+1.1
	2.9nm,1.0s,baz=216,slow=4.5,SNR=3.4						
Y23A	**Lovelace Mesa,**	81.09	51	P	P	18 25 19.2	+0.3
	baz=81						
225A	**Deer Hill, Car**	81.23	53	P	P	18 25 19.3	-0.3
	baz=81						
426A	**McDonald Obser**	81.23	55	P	P	18 25 19.7	+0.1
	baz=81						
ANMO	**Albuquerque**	81.25	50	P	P	18 25 21.6	+1.9
ANMO	**Albuquerque**	81.25	50	P	P	18 25 21.6	+1.9
	1.9nm,0.7s,baz=288,slow=3.2,SNR=2.0						
P20A	**De Beque**	82.00	45	P	P	18 25 23.8	+0.4
	baz=82						
Q22A	**Crested Butte,**	82.71	46	P	P	18 25 27.0	-0.3
	baz=83						
N20A	**Spence Gulch,**	82.72	44	P	P	18 25 26.8	-0.5
	baz=83						
PDAR	**Pinedale Array**	82.83	42	P	P	18 25 26.7	-1.1
PDAR	**Pinedale Array**	82.83	42	P	P	18 25 26.7	-1.1
	2.7nm,0.7s,baz=198,slow=2.6,SNR=4.0						
P22A	**Eagle**	83.16	46	P	P	18 25 29.2	-0.4
	baz=83						
K19A	**Absolon Red Bu**	83.31	42	P	P	18 25 29.4	-0.9
	baz=84						
ILAR	**Eielson Array**	83.33	11	P	P	18 25 28.1	-1.5
ILAR	**Eielson Array**	83.33	11	P	P	18 25 28.1	-1.5
	1.7nm,0.6s,baz=224,slow=3.8,SNR=7.7						
S24A	**Houchin Ranch,**	83.35	48	P	P	18 25 30.2	-0.5
	baz=84						
J19A	**Crowheart**	83.39	41	P	P	18 25 30.1	-0.5
	baz=84						
631A	**Perdido Creek**	83.47	57	P	P	18 25 30.1	-1.0
	baz=84						
O22A	**Kremmling**	83.56	45	P	P	18 25 31.6	-0.2
	baz=84						
T25A	**Trinidad**	83.70	49	P	P	18 25 32.4	0.0
	baz=84						
J20A	**Shoshoni**	84.06	42	P	P	18 25 33.5	-0.5
	baz=84						
J21A	**Lysite**	84.46	42	P	P	18 25 35.6	-0.5
	baz=85						
U27A	**Thompson Grove**	84.55	50	P	P	18 25 35.6	-1.1
	baz=85						
W29A	**Amraillo**	84.89	51	P	P	18 25 38.2	-0.1
	baz=85						
Y30A	**Stafford Cattl**	84.96	53	P	P	18 25 38.4	-0.2
	baz=85						
L23A	**Garrett**	85.03	44	P	P	18 25 38.1	-0.9
	baz=85						
X30A	**Coker Ranch, T**	85.20	52	P	P	18 25 40.7	+0.8
	baz=85						
Z32A	**Haskell**	85.83	54	P	P	18 25 43.0	0.0
	baz=86						
W31A	**Holland Ranch,**	86.20	52	P	P	18 25 44.9	+0.1
	baz=86						
MAW	**Mawson**	86.97	199	P	P	18 25 46.4	-1.5
MAW	**Mawson**	86.97	199	P	P	18 25 46.4	-1.5
	1.7nm,0.7s,baz=158,slow=3.3,SNR=2.5						
CMAR	**Chiang Mai Arr**	93.11	288	P	P	18 26 18.8	+1.2
CMAR	**Chiang Mai Arr**	93.11	288	P	P	18 26 18.8	+1.2
	3.8nm,0.7s,baz=90,slow=2.7,SNR=9.6						
SONM	**Songino Array**	95.69	318	P	P	18 26 30.2	+1.2
SONM	**Songino Array**	95.69	318	P	P	18 26 30.2	+1.2
	1.6nm,0.9s,baz=103,slow=4.6,SNR=2.7						
MKAR	**Makanchi Array**	111.64	314	PKiKP	PKiKP	18 31 36.5	-1.1
MKAR	**Makanchi Array**	111.64	314	PKiKP	PKiKP	18 31 36.5	-1.1
	0.3nm,0.5s,baz=87,slow=1.5,SNR=6.4						
KURK	**Kurchatov**	113.98	319	PKiKP	PKiKP	18 31 41.0	-1.0
KURBB	**Kurchatov Arra**	114.05	319	PKiKP	PKiKP	18 31 41.0	-1.1
	0.3nm,0.5s,baz=88,slow=1.8,SNR=4.5						
ARCES	**ARCESS Array B**	125.57	352	PKP	PKPdf	18 32 02.9	-0.9
ARCES	**ARCESS Array B**	125.57	352	PKP	PKPdf	18 32 02.9	-0.9
	2.0nm,0.6s,baz=15,slow=3.7,SNR=7.8						
FINES	**FINESS Array B**	132.91	348	PKP	PKPdf	18 32 18.3	+0.4
FINES	**FINESS Array B**	132.91	348	PKP	PKPdf	18 32 18.3	+0.4
	0.9nm,0.5s,baz=7.6,slow=4.2,SNR=7.2						
AKASG	**Malin Array Be**	141.29	337	PKPpre	PKPpre	18 32 30.8	
AKASG	**Malin Array Be**	141.29	337	PKhKP	PKPpre	18 32 30.8	
	0.2nm,0.3s,baz=38,slow=3.8,SNR=2.6						
CLL	**Collm**	144.77	353	*e*PKPdf	PKPbc	18 32 39.0	+0.2
KMBO	**Kilima Mbogo**	145.30	243	PKPbc	PKPdf	18 32 43.2	+1.0
KMBO	**Kilima Mbogo**	145.30	243	PKPbc	PKPdf	18 32 43.2	+1.0
	5.8nm,1.0s,baz=118,slow=2.5,SNR=3.5						
MLR	**Muntele Rosu**	146.81	335	PKPbc	PKPbc	18 32 45.2	-0.2
MLR	**Muntele Rosu**	146.81	335	PKPbc	PKPbc	18 32 45.2	-0.2
	0.9nm,0.7s,baz=217,slow=5.1,SNR=3.9						
BR131	**Keskin Array S**	147.02	320	*e*PKPdf	PKPbc	18 32 45.7	-0.5
BRTR	**Keskin Array B**	147.02	320	PKPbc	PKPbc	18 32 46.4	+0.1
BRTR	**Keskin Array B**	147.02	320	PKPbc	PKPbc	18 32 46.4	+0.1
	7.1nm,0.9s,baz=105,slow=2.0,SNR=5.9						
GERES	**GERESS Array B**	147.10	352	PKPbc	PKPbc	18 32 46.0	-0.1
GERES	**GERESS Array B**	147.10	352	PKPbc	PKPbc	18 32 46.0	-0.1
	1.3nm,0.8s,baz=22,slow=3.2,SNR=4.7						
MMAI	**Mount Meron Ar**	149.32	308	PKPbc	PKPbc	18 32 53.0	+0.6
MMAI	**Mount Meron Ar**	149.32	308	PKPbc	PKPbc	18 32 53.0	+0.6
	3.3nm,0.6s,baz=64,slow=3.4,SNR=7.2						
DAVOX	**Davos/Dischmat**	149.55	356	PKPbc	PKPbc	18 32 52.5	-0.2
DAVOX	**Davos/Dischmat**	149.55	356	PKPbc	PKPbc	18 32 52.5	-0.2
	4.8nm,0.7s,baz=333,slow=4.5,SNR=4.7						
CSS	**Prodhromos**	149.90	313	*e*PKPbc	PKPbc	18 32 53.5	-0.2
EIL	**Elat**	151.00	302	PKPbc	PKPbc	18 32 56.5	0.0
EIL	**Elat**	151.00	302	PKPbc	PKPbc	18 32 56.5	0.0
	4.7nm,0.8s,baz=27,slow=2.3,SNR=2.9						
TORD	**Torodi Ar. Bea**	174.11	122	PKP	PKPdf	18 33 13.4	-0.2
TORD	**Torodi Ar. Bea**	174.11	122	PKP	PKPdf	18 33 13.4	-0.2
	2.4nm,1.1s,baz=314,slow=0.8,SNR=3.0						

IDC ***29*** *18:13:33.2±0.6, 16˙.08S×173˙.09W, h0km, mb4.9/17, mb1 5.0/17, mb1mx5.0/24, mbtmp4.9/17, Error ellipse: s-maj=23.6km s-min=16.1km az=133.0*
ISCJB ***29*** *18:13:34.9±0.2, 16˙.06S±0˙.08×173˙.07W±0˙.07, h26km, mb4.9/39, Error ellipse: s-maj=14.6km s-min=5.8km az=142.3*
NEIC ***29*** *18:13:34.0±0.2, 16˙.00S×173˙.08W, h10km, mb5.1/24, Error ellipse: s-maj=14.5km s-min=6.1km az=140.0*
MOS ***29*** *18:13:34.0±3.1, 16˙.00S×173˙.08W, h33km, mb5.3/9, Error ellipse: s-maj=20.0km s-min=11.8km az=51.4*
ISC 29 18:13:36.7±0.4,**16˙.0S**±0˙.1×**173˙.1W**±0˙.1,**h26**km,**n238,**
σ0:**91**/230,**mb5.0**/39,**Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	2.43	32	*e*Pn	Pn	18 14 03.9	-11
DZM	**Mont Dzumac**	20.25	249	P	P	18 18 10.2	-0.1
DZM	**Mont Dzumac**	20.25	249	P	P	18 18 10.2	-0.1
	26nm,0.9s,baz=82,slow=15,SNR=3.7						
URZ	**Urewera**	23.81	199	P	P	18 18 47.1	-0.3
URZ	**Urewera**	23.81	199	P	P	18 18 47.1	-0.3
	40nm,0.7s,baz=319,slow=20,SNR=3.6						
SNZO	**South Karori**	27.35	200	P	P	18 19 19.5	-0.1
EIDS	**Eidsvold**	34.69	248	*e*P	P	18 20 22.8	-1.7
	7.9nm,0.8s						
ARMA	**Armidale**	35.29	240	*e*P	P	18 20 28.8	-0.9
	3µm,3.7s						
CTA	**Charters Tower**	38.79	258	P	P	18 21 00.1	+0.6
CTA	**Charters Tower**	38.79	258	P	P	18 21 00.1	+0.6
	5.8nm,0.6s,baz=89,slow=13,SNR=5.7						
CTAO	**Charters Tower**	38.79	258	P	P	18 21 00.2	+0.7
CTAO				pmax	pmax		
	comp=Z,8.0nm,0.7s						
CTAO	**Charters Tower**	38.79	258	P	P	18 21 00.2	+0.7
	comp=Z,8.1nm,0.7s						
TAU	**Tasmania Unive**	43.08	223	P	P	18 21 34.3	-0.3
WRA	**Warramunga Arr**	49.98	257	P	P	18 22 28.5	-0.6
WRA	**Warramunga Arr**	49.98	257	P	P	18 22 28.5	-0.6
	comp=Z,10nm,0.9s,baz=90,slow=7.0,SNR=7.6						
ASAR	**Alice Springs**	50.20	252	P	P	18 22 30.1	-0.7
ASAR	**Alice Springs**	50.20	252	P	P	18 22 30.1	-0.7
	comp=Z,26nm,0.5s,baz=87,slow=8.5,SNR=8.7						
FITZ	**Fitzroy Crossi**	58.37	258	P	P	18 23 30.0	-0.1
FITZ	**Fitzroy Crossi**	58.37	258	P	P	18 23 30.0	-0.1
	comp=Z,5.2nm,0.5s,baz=94,slow=4.1,SNR=4.3						
BATI	**Baumata**	61.66	267	P	P	18 23 54.0	+1.1
BATI	**Baumata**	61.66	267	P	P	18 23 54.0	+1.1
	comp=Z,12nm,0.6s,baz=111,slow=4.1,SNR=3.7						
SBA	**Scott Base**	62.70	185	*e*P	P	18 24 00.6	+1.8
SBA				pmax	pmax		
	comp=Z,23nm,0.9s						
SBA	**Scott Base**	62.70	185	*e*P	P	18 24 00.6	+1.8
	comp=Z,23nm,0.9s						
VNDA	**Vanda**	62.83	186	*e*P	P	18 24 00.3	+0.6
	comp=Z,8.7nm,0.9s						
VNDA	**Vanda**	62.83	186	P	P	18 24 00.5	+0.8
	comp=Z,4.7nm,0.8s,baz=17,slow=8.1,SNR=5.6						
MBWA	**Marble Bar**	63.47	254	*e*P	P	18 24 04.2	-0.6
	comp=Z,19nm,0.9s						
ARVC	**Arvin**	72.33	44	P	P	18 25 00.8	+0.5
	baz=72						
MURC	**Murrieta**	72.59	46	P	P	18 25 01.7	-0.2
	baz=73						
BFSC	**Mount Baldy Ra**	72.62	46	P	P	18 25 02.0	-0.2
	baz=73						
MONP	**Monument Peak**	72.75	47	P	P	18 25 02.7	-0.4
	baz=73						
EDW2	**Edwards Air Fo**	72.76	45	P	P	18 25 03.3	+0.4
	baz=73						
SWSC	**Sam W. Stewart**	73.22	48	P	P	18 25 05.8	+0.2
	baz=73						
PETK	**Petropavlovsk-**	73.27	342	P	P	18 25 08.6	+3.1
PETK	**Petropavlovsk-**	73.27	342	P	P	18 25 08.6	+3.1
PETK	**Petropavlovsk-**	73.27	342	P	P	18 25 08.6	+3.1
	comp=Z,10nm,0.9s,baz=146,slow=6.6,SNR=3.9						
BELC	**Belle Mtn. Jos**	73.64	47	P	P	18 25 08.8	+0.5
	baz=74						
MPMC	**Manual Prospec**	73.76	44	P	P	18 25 09.4	+0.4
	baz=74						
GSC	**Goldstone**	73.80	45	P	P	18 25 09.4	+0.3
	baz=74						
BC3	**Big Chuckawall**	73.84	47	P	P	18 25 08.9	-0.6
	baz=74						
HEC	**Hector,Ludlow**	73.86	46	P	P	18 25 09.3	-0.2
	baz=74						
YBH	**Yreka Blue Hor**	73.89	37	*e*P	P	18 25 10.2	+0.7
	comp=Z,24nm,1.1s						
QSPA	**South Pole Qui**	74.07	180	P	P	18 25 11.6	+1.3
QSPA	**South Pole Qui**	74.07	180	P	P	18 25 11.5	+1.3
	comp=Z,8.0nm,0.7s,baz=66,slow=2.7,SNR=5.2						
BEKR	**Beckworth**	74.14	40	*e*P	P	18 25 10.9	-0.2
	comp=Z,6.6nm,1.0s						
GMRC	**Granite Mounta**	74.30	46	P	P	18 25 11.8	-0.3
	baz=74						
IRM	**Iron Mountain**	74.33	47	P	P	18 25 12.5	+0.4
	baz=74						
Y12C	**Blythe**	74.55	48	P	P	18 25 13.9	+0.5
	baz=75						
PAHR	**Pah Rah Range**	74.64	40	P	P	18 25 14.2	+0.2
	comp=Z,30nm,1.1s						
PDMCI	**Parker Dam,Lak**	75.11	47	P	P	18 25 16.6	0.0
	baz=75						
Z14A	**Wintersburg**	75.48	49	P	P	18 25 18.2	-0.6
	baz=76						
W13A	**Hualapai Mount**	75.70	47	P	P	18 25 21.1	+0.7
	baz=76						
R11A	**Troy Canyon, C**	76.29	43	P	P	18 25 23.7	+0.1
	baz=76						
BMN	**Battle Mountai**	76.41	41	*e*P	P	18 25 24.4	+0.2
BMN				pmax	pmax		
	comp=Z,23nm,1.0s						
BMN	**Battle Mountai**	76.41	41	*e*P	P	18 25 24.4	+0.2
	comp=Z,23nm,1.0s						
KSRS	**Korea Array**	76.77	316	P	P	18 25 27.9	+1.9
	comp=Z,3.9nm,1.1s,baz=127,slow=6.2,SNR=4.8						
KSAR	**Wonju Array Be**	76.79	316	P	P	18 25 27.9	+1.8
X16A	**Lo Mia Camp, P**	77.09	48	P	P	18 25 28.9	+0.7
	baz=77						
319A	**Douglas**	77.23	52	P	P	18 25 29.2	+0.3
	baz=77						
320A	**Kipp Ranch, An**	77.78	52	P	P	18 25 32.3	+0.3
	baz=78						
PGC	**Sidney**	77.99	31	*e*P	P	18 25 32.9	+0.4
	comp=Z,3.1nm,1.2s						
220A	**Playas Peak, P**	78.04	52	P	P	18 25 34.1	+0.6
	baz=78						
221A	**Mesquite Ranch**	78.66	52	P	P	18 25 37.2	+0.4
	baz=79						
121A	**Cookes Peak, D**	78.89	51	P	P	18 25 38.1	-0.1
	baz=79						
MFID	**Camas Ranch**	78.96	39	P	P	18 25 39.1	+0.9
	baz=79						
DUG	**Dugway**	79.10	43	P	P	18 25 39.7	+0.6
	baz=79						
Z21A	**St. Cloud Mine**	79.33	51	P	P	18 25 41.3	+0.7
	baz=80						
Q16A	**Castle Valley**	79.53	44	P	P	18 25 42.5	+0.9
Q16A	**Castle Valley**	79.53	44	P	P	18 25 42.1	+0.6
	baz=80						
122A	**Conniff Cattle**	79.55	52	P	P	18 25 42.0	+0.3
	baz=80						
W20A	**Ramah**	79.55	49	P	P	18 25 42.1	+0.3
	baz=80						
X21A	**Alamocita Cree**	79.76	50	P	P	18 25 42.5	-0.4
	baz=80						
MPU	**Maple Canyon**	79.78	43	*e*P	P	18 25 42.4	-0.5
	comp=Z,35nm,1.2s						
Z22A	**Elephant Butte**	79.83	51	P	P	18 25 42.7	-0.5
	baz=80						
HLID	**Hailey**	79.90	39	P	P	18 25 43.8	+0.4
	baz=80						
CTU	**Camp Tracy**	80.05	43	*e*P	P	18 25 45.1	+0.8
	comp=Z,15nm,0.9s						
SRU	**San Rafael**	80.06	45	*e*P	P	18 25 42.4	-2.1
SRU				pmax	pmax		
	comp=Z,18nm,1.2s						
SRU	**San Rafael**	80.06	45	*e*P	P	18 25 42.4	-2.1
	comp=Z,18nm,1.2s						
U20A	**Newcomb**	80.12	48	P	P	18 25 45.4	+0.6
	baz=80						
324A	**Moseley Ranch,**	80.16	53	P	P	18 25 44.8	-0.3
	baz=80						
425A	**Indio Mountain**	80.27	54	P	P	18 25 45.6	-0.1
	baz=80						
TXAR	**Lajitas Array**	80.70	56	P	P	18 25 49.1	+1.1
TXAR	**Lajitas Array**	80.70	56	P	P	18 25 49.1	+1.1
	comp=Z,14nm,1.1s,baz=217,slow=5.6,SNR=6.8						
W22A	**Albuquerque**	80.72	50	P	P	18 25 48.1	+0.1
	baz=81						
Y23A	**Lovelace Mesa,**	80.81	51	P	P	18 25 47.9	-0.7
	baz=81						
S20A	**Disappointment**	80.92	46	P	P	18 25 49.4	+0.2
	baz=81						
225A	**Deer Hill, Car**	80.95	53	P	P	18 25 48.6	-0.8
	baz=81						
ANMO	**Albuquerque**	80.96	50	*e*P	P	18 25 49.7	+0.3
	comp=Z,25nm,1.2s						
426A	**McDonald Obser**	80.97	55	P	P	18 25 48.4	-1.2
	baz=81						
NEW	**Newport**	81.03	34	P	P	18 25 48.4	-0.8
	comp=Z,22nm,1.2s						
Z24A	**Sheeppen Canyo**	81.06	52	P	P	18 25 49.5	-0.5
	baz=81						
M17A	**Scullys Gap (B**	81.15	42	P	P	18 25 51.0	+0.8
	baz=81						
S21A	**Coal Bank Pass**	81.24	47	P	P	18 25 51.4	+0.5
	baz=81						
Y24A	**Capitan**	81.27	51	P	P	18 25 51.0	0.0
	baz=81						
W23A	**Werner Place,**	81.28	50	P	P	18 25 51.6	+0.5
	baz=81						
125A	**Gardner Draw,**	81.31	53	P	P	18 25 51.3	+0.1
	baz=81						
226B	**Tecolote Peak,**	81.45	53	P	P	18 25 50.7	-1.2
	baz=82						
Q20A	**Ridgley Place,**	81.50	46	P	P	18 25 51.7	-0.4
	baz=82						
427A	**Hayter Ranch,**	81.53	55	P	P	18 25 51.4	-0.9
	baz=82						
Z25A	**Roswell**	81.53	52	P	P	18 25 52.0	-0.3
	baz=82						
RRI2	**Red Ridge**	81.69	41	*e*P	P	18 25 49.8	-3.4
	comp=Z,33nm,1.2s						
528A	**Cox Ranch, San**	81.74	55	P	P	18 25 53.5	0.0
	baz=82						
R21A	**Cimarron**	81.74	46	P	P	18 25 53.5	0.0
	baz=82						
U23A	**El Rito**	81.77	49	P	P	18 25 54.0	+0.3
	baz=82						
Y25A	**Mesa, Roswell**	81.83	51	P	P	18 25 53.8	-0.1
	baz=82						
W24A	**Lazy 6 Ranch,**	81.85	50	P	P	18 25 53.9	-0.2
	baz=82						
Q21A	**Lamborn Mesa,**	81.94	46	P	P	18 25 54.5	0.0
	baz=82						
MSO	**Missoula**	81.98	37	P	P	18 25 54.1	-0.3
	baz=82						
TPAW	**Teton Pass**	81.99	41	*e*P	P	18 25 53.4	-1.4
	comp=Z,12nm,1.1s						
428A	**Kincaid Ranch,**	82.05	55	P	P	18 25 54.1	-1.0
	baz=82						
SNOW	**Snow King Moun**	82.10	41	*e*P	P	18 25 54.7	-0.6
	comp=Z,26nm,1.1s						
529A	**Stev Forest Ra**	82.17	56	P	P	18 25 53.5	-2.2
	baz=82						
V24A	**Rampart Ranch,**	82.17	50	P	P	18 25 55.1	-0.7
	baz=82						
IMW	**Indian Meadow**	82.21	40	*e*P	P	18 25 56.1	+0.2
	comp=Z,36nm,1.4s						
LOHW	**Long Hollow**	82.27	41	*e*P	P	18 25 55.6	-0.6
	comp=Z,20nm,1.3s						
Q22A	**Crested Butte,**	82.41	46	P	P	18 25 57.4	+0.3
	baz=83						
N20A	**Spence Gulch,**	82.42	44	P	P	18 25 57.1	+0.1
	baz=83						
I17A	**Pilgrim Ck.**	82.45	40	P	P	18 25 57.0	0.0
	baz=83						
PDAR	**Pinedale Array**	82.51	42	P	P	18 25 58.0	+0.6
PDAR	**Pinedale Array**	82.51	42	P	P	18 25 58.0	+0.6
	comp=Z,12nm,1.2s,baz=207,slow=3.0,SNR=5.7						
SMCO	**Snowmass**	82.51	46	*e*P	P	18 25 57.8	+0.1
	comp=Z,37nm,1.4s						
228A	**UT Block 9, Go**	82.68	54	P	P	18 25 57.2	-1.2
	baz=83						
BOZ	**Bozeman (W)**	82.70	38	*e*P	P	18 25 58.3	+0.1
BOZ				pmax	pmax		
	comp=Z,41nm,1.5s						
BOZ	**Bozeman (W)**	82.70	38	*e*P	P	18 25 58.3	+0.1
	comp=Z,41nm,1.5s						
V25A	**Rancho No Teng**	82.70	50	P	P	18 25 58.1	-0.4
	baz=83						
X26A	**CR and CF Fran**	82.75	51	P	P	18 25 58.3	-0.5
	baz=83						
M20A	**Sweetwater, Wa**	82.78	43	P	P	18 25 59.1	+0.2
	baz=83						
P22A	**Eagle**	82.85	46	P	P	18 25 58.4	-0.8
	baz=83						
N21A	**Black Mountain**	82.88	44	P	P	18 25 58.5	-0.9
	baz=83						
329A	**Wagon Wheel Ra**	82.90	55	P	P	18 25 58.0	-1.5
	baz=83						
L20A	**Wamsutter**	82.93	43	P	P	18 25 59.0	-0.6
	baz=83						
ILAR	**Eielson Array**	82.96	11	P	P	18 25 59.2	+0.3
ILAR	**Eielson Array**	82.96	11	P	P	18 25 59.2	+0.3
	comp=Z,6.0nm,0.7s,baz=225,slow=6.1,SNR=5.7						
Y27A	**Causey**	82.96	52	P	P	18 25 59.6	-0.3
	baz=83						
K19A	**Absolon Red Bu**	83.00	42	P	P	18 25 58.4	-1.5
	baz=83						
J19A	**Crowheart**	83.08	41	P	P	18 25 58.8	-1.5
	baz=83						
U25A	**Circle Dot Ran**	83.10	49	P	P	18 25 58.8	-1.8
	baz=83						
WALA	**Waterton Lakes**	83.23	35	P	P	18 26 01.0	+0.1
	comp=Z,1.8nm,1.6s						
K20A	**Yellowstone Ra**	83.24	42	P	P	18 25 59.8	-1.3
	baz=83						
O22A	**Kremmling**	83.26	45	P	P	18 26 00

F20A	Billings	84.88	40	P	P	18 26 09.7	+0.4
	baz=85						
H21A	Big Horn, Sher	85.01	41	P	P	18 26 09.3	-0.7
	baz=85						
I22A	9 Mile Ranch,	85.02	42	P	P	18 26 10.0	-0.1
	baz=85						
EGMT	Eagleton	85.02	37	eP	P	18 26 10.5	+0.5
	comp=Z,290nm,2.3s						
EGMT	Eagleton	85.02	37	P	P	18 26 10.3	+0.3
	baz=85						
Z31A	Sharp Cattle R	85.05	53	P	P	18 26 09.6	-0.8
	baz=85						
K23A	Bowen Ranch, D	85.06	43	P	P	18 26 10.2	-0.2
	baz=85						
R27A	Eads	85.06	48	P	P	18 26 10.5	+0.1
	baz=85						
T28A	Walsh	85.07	49	P	P	18 26 10.7	+0.2
	baz=85						
D19A	Cripps Ranch,	85.11	38	P	P	18 26 10.8	+0.4
	baz=85						
L24A	Wheatland	85.19	44	P	P	18 26 11.3	+0.3
	baz=85						
E20A	Meyer Farm, Mu	85.23	39	P	P	18 26 11.4	+0.4
	baz=85						
C19A	Slack Wire Ran	85.29	38	P	P	18 26 11.3	0.0
	baz=86						
H22A	Clearmont	85.43	41	P	P	18 26 13.1	+1.0
	baz=86						
D20A	Manuel Ranch,	85.51	38	P	P	18 26 13.3	+0.9
	baz=86						
V30A	Spur Ranch, Mi	85.58	51	P	P	18 26 12.6	-0.4
	baz=86						
B19A	Brinkman Farms	85.71	37	P	P	18 26 13.9	+0.6
	baz=86						
EDM	Edmonton	85.83	31	eP	P	18 26 14.2	+0.4
EDM	Edmonton	85.83	31	eP	P	18 26 14.2	+0.4
W31A	Holland Ranch,	85.92	52	P	P	18 26 12.5	-2.2
	baz=86						
MAW	Mawson	87.33	199	P	P	18 26 20.5	-0.4
MAW	Mawson	87.33	199	P	P	18 26 20.5	-0.4
	comp=Z,6.5nm,0.7s,baz=132,slow=6.3,SNR=4.8						
CMAR	Chiang Mai Arr	93.06	288	P	P	18 26 51.6	+2.8
CMAR	Chiang Mai Arr	93.06	288	P	P	18 26 51.6	+2.8
	comp=Z,7.4nm,0.8s,baz=121,slow=3.0,SNR=9.2						
SONM	Songino Array	95.46	318	P	P	18 27 00.2	+0.9
SONM	Songino Array	95.46	318	P	P	18 27 00.2	+0.9
	comp=Z,7.9nm,1.2s,baz=101,slow=5.0,SNR=4.2						
ARCES	ARCESS Array B	125.22	352	PKP	PKPdf	18 32 33.8	-0.6
ARCES	ARCESS Array B	125.22	352	PKP	PKPdf	18 32 33.8	-0.6
	comp=Z,5.4nm,0.9s,baz=337,slow=1.2,SNR=3.3						
FINES	FINESS Array B	132.57	348	PKP	PKPdf	18 32 49.3	+0.8
FINES	FINESS Array B	132.57	348	PKP	PKPdf	18 32 49.3	+0.8
	comp=Z,4.0nm,0.8s,baz=350,slow=1.7,SNR=3.8						
AKASG	Malin Array Be	140.98	337	PKIKP	PKPdf	18 33 02.6	-1.8
AKASG	Malin Array Be	140.98	337	PKPpre	PKPpre	18 33 02.6	
AKASG	Malin Array Be	140.98	337	PKhKP	PKPpre	18 33 02.6	
	comp=Z,3.1nm,0.9s,baz=36,slow=3.8,SNR=4.6						
CLL	Collm	144.42	353	ePKPdf	PKPbc	18 33 09.0	0.0
CLL				e		18 33 21.0	
MEM	Membach	145.45	1	PKP	PKPab	18 33 12.6	+0.1
KMBO	Kilima Mbogo	145.53	243	PKPbc	PKPab	18 33 14.2	0.0
KMBO				ePKPdf	PKPbc	18 33 15.4	+1.4
KMBO	Kilima Mbogo	145.53	243	PKPbc	PKPab	18 33 14.2	0.0
	comp=Z,16nm,1.0s,baz=55,slow=2.7,SNR=5.5						
BCLA	Clavier	145.62	2	PKP	PKPab	18 33 15.6	+2.5
DOU	Dourbes	145.92	3	PKP	PKPab	18 33 14.3	0.0
GRFO	Grafenberg	146.19	355	PKP2	PKPbc	18 33 13.8	-0.9
GRFO	Grafenberg	146.19	355	PKPdf	PKPbc	18 33 13.8	-0.9
PSZ	Piszkesteto	146.39	344	ePKP2	PKPdf	18 33 12.6	-1.5
PSZ	Piszkesteto	146.39	344	ePKPdf	PKPdf	18 33 12.6	-1.5
WLF	Walferdange	146.40	1	PKP	PKPdf	18 33 13.9	-0.1
WLF	Walferdange	146.40	1	ePKP2	PKPdf	18 33 13.0	-1.0
WLF	Walferdange	146.40	1	ePKPdf	PKPdf	18 33 13.0	-1.0
MLR	Muntele Rosu	146.51	335	PKPbc	PKPab	18 33 17.5	+0.7
MLR	Muntele Rosu	146.51	335	PKPbc	PKPab	18 33 17.5	+0.7
	comp=Z,2.5nm,0.7s,baz=254,slow=7.4,SNR=4.7						
GERES	GERESS Array B	146.75	352	PKPbc	PKPab	18 33 17.2	-0.4
GERES	GERESS Array B	146.75	352	PKPbc	PKPab	18 33 17.2	-0.4
	comp=Z,6.9nm,1.0s,baz=15,slow=4.2,SNR=4.6						
BRTR	Keskin Array B	146.78	321	PKPbc	PKPab	18 33 16.9	-1.2
BRTR	Keskin Array B	146.78	321	PKPbc	PKPab	18 33 16.9	-1.2
	comp=Z,20nm,1.0s,baz=161,slow=2.2,SNR=7.3						
BFO	Black Forest	147.72	358	ePKP2	PKPdf	18 33 16.4	+0.1
BFO	Black Forest	147.72	358	ePKPdf	PKPdf	18 33 16.4	+0.1
ASF	Jabal al Asfar	148.36	306	PKPbc	PKPab	18 33 22.4	-2.2
ASF	Jabal al Asfar	148.36	306	PKPbc	PKPab	18 33 22.4	-2.2
	comp=Z,3.8nm,0.7s,baz=89,slow=3.2,SNR=3.9						
MMAI	Mount Meron Ar	149.15	309	PKPbc	PKPbc	18 33 23.9	+0.6
MMAI	Mount Meron Ar	149.15	309	PKPbc	PKPbc	18 33 23.9	+0.6
	comp=Z,8.9nm,0.8s,baz=33,slow=3.4,SNR=3.6						
DAVOX	Davos/Dischmat	149.19	356	PKPbc	PKPbc	18 33 23.2	0.0
DAVOX	Davos/Dischmat	149.19	356	PKPbc	PKPbc	18 33 23.2	0.0
	comp=Z,10nm,0.9s,baz=72,slow=3.2,SNR=3.9						
TUE	Stuetta	149.53	357	ePKPbc	PKPbc	18 33 22.9	-1.1
SSB	Saint Sauveur	150.73	3	ePKIKP	PKPbc	18 33 26.6	-0.1
SSB	Saint Sauveur	150.73	3	ePKPbc	PKPbc	18 33 26.6	-0.1
EIL	Elat	150.86	303	PKPbc	PKPbc	18 33 26.7	-0.8
EIL	Elat	150.86	303	PKPbc	PKPbc	18 33 26.7	-0.8
	comp=Z,8.8nm,1.1s,baz=180,slow=3.0,SNR=3.6						
ESDC	Sonseca Array	154.56	20	PKPbc	PKPbc	18 33 35.9	+0.4
ESDC				PKPab	PKPab	18 33 51.3	+1.3
ESDC	Sonseca Array	154.56	20	PKPbc	PKPbc	18 33 35.9	+0.4
	comp=Z,0.3nm,0.4s,baz=348,slow=1.0,SNR=4.3						
ESDC				PKPab	PKPab	18 33 51.3	+1.3
	comp=Z,0.6nm,0.4s,baz=341,slow=3.4,SNR=4.7						
TORD	Torodi Ar. Bea	174.24	119	PKP	PKPdf	18 33 43.9	-1.1
TORD	Torodi Ar. Bea	174.24	119	PKP	PKPdf	18 33 43.9	-1.1
	comp=Z,5.5nm,1.2s,baz=208,slow=0.4,SNR=2.8						

AUST ***29*** *18:14:46.0, 16°.87S×171°.76W, h0km*
IDC ***29*** *18:14:50.8±0.7, 16°.25S×173°.02W, h0km, mb4.8/17, mb1 4.9/17, mb1mx4.9/23, mbtmp4.8/17, Error ellipse: s-maj=30.1km s-min=15.9km az=149.0*
NEIC ***29*** *18:14:52.6±0.3, 16°.15S×173°.08W, h10km, mb5.1/5, Error ellipse: s-maj=17.6km s-min=8.3km az=145.0*
ISCJB ***29*** *18:14:53.5±0.2, 16°.2S±0°.1×173°.07W±0°.07, h26km, mb4.8/21, Error ellipse: s-maj=16.9km s-min=5.0km az=152.3*

ISC 29 18:14:55.2±0.5, 16°.2S±0°.1×173°.0W±0°.1, h26km, n188, σ0°.84/188, mb4.9/20, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	20.27	250	P	P	18 19 28.9	-0.2
DZM	Mont Dzumac	20.27	250	P	P	18 19 28.9	-0.2
	23nm,0.8s,baz=84,slow=18,SNR=1.7						
RPZ	Rata Peaks	30.64	203	P	P	18 21 09.4	+2.1
RPZ	Rata Peaks	30.64	203	P	P	18 21 09.4	+2.1
	13nm,0.7s,baz=40,slow=7.4,SNR=3.0						
EIDS	Eidsvold	34.71	249	eP	P	18 21 43.4	+0.2
	21nm,0.7s						
EIDS	Eidsvold	34.71	249	P	P	18 21 43.6	+0.3
	baz=36,SNR=7.5						
ARMA	Armidale	35.28	240	P	P	18 21 47.0	-1.3
	baz=36,SNR=8.8						
RMQ	Roma	36.94	247	P	P	18 22 04.5	+2.0
	baz=38,SNR=5.5						
CNB	Canberra Magne	38.59	233	P	P	18 22 15.1	-1.2
	baz=39,SNR=6.9						
CTA	Charters Tower	38.84	258	P	P	18 22 16.8	-1.7
CTA	Charters Tower	38.84	258	P	P	18 22 16.8	-1.7
	3.5nm,0.5s,baz=96,slow=10,SNR=2.2						
CTAO	Charters Tower	38.84	258	P	P	18 22 17.6	-0.9
	7.5nm,0.6s						
CMSA	Cobar Meteorol	40.50	240	P	P	18 22 30.6	-1.6
	baz=41,SNR=9.0						
MTSU	Mount Surprise	40.76	261	P	P	18 22 34.9	+0.3
	baz=42,SNR=6.3						
QLP	Quilpie	40.98	248	P	P	18 22 34.5	-1.7
	baz=42,SNR=12						
TOO	Toolangi	42.29	231	P	P	18 22 45.6	-1.2
	baz=43,SNR=6.4						
COEN	Coen	42.31	267	P	P	18 22 47.6	+0.4
	baz=43,SNR=7.5						
WRAB	Tennant Creek	50.03	257	eP	P	18 23 46.2	-1.8
	11nm,0.5s						
WRA	Warramunga Arr	50.04	257	P	P	18 23 46.1	-1.9
WRA	Warramunga Arr	50.04	257	P	P	18 23 46.1	-1.9
	11nm,0.6s,baz=91,slow=7.0,SNR=4.4						
AS31	Alice Springs	50.23	252	eP	P	18 23 47.1	-2.5
ASAR	Alice Springs	50.23	252	P	P	18 23 47.0	-2.5
ASAR	Alice Springs	50.23	252	P	P	18 23 47.0	-2.5
	36nm,0.7s,baz=87,slow=8.5,SNR=6.7						
KDU	Kakadu	52.79	266	P	P	18 24 11.3	+2.6
	baz=54,SNR=4.7						
KNRA	Kununurra	55.82	262	P	P	18 24 30.4	-0.4
	baz=57,SNR=3.5						
SWI	Sorong	56.95	280	P	P	18 24 39.5	+0.6
	baz=58,SNR=3.1						
SOEI	Soe	61.27	268	P	P	18 25 12.7	+3.8
	baz=62,SNR=4.0						
VNDA	Vanda	62.67	186	P	P	18 25 22.1	+4.9
	16nm,1.1s						
KLBR	Kellerberrin	64.22	242	P	P	18 25 27.6	-0.7
	baz=65,SNR=5.0						
NWAO	Narrogin (SRO)	64.58	241	P	P	18 25 33.1	+2.5
	45nm,1.1s						
DVTC	Desert V Tower	72.90	48	P	P	18 26 22.2	-0.2
	baz=73						
ISA	Isabella	72.93	44	P	P	18 26 22.9	+0.4
	baz=73						
PETK	Petropavlovsk-	73.45	342	P	P	18 26 24.8	-0.4
PETK	Petropavlovsk-	73.45	342	P	P	18 26 24.7	-0.4
	5.4nm,0.9s,baz=126,slow=5.9,SNR=3.4						
BELC	Belle Mtn. Jos	73.69	47	P	P	18 26 27.1	0.0
	baz=74						
MPMC	Manual Prospec	73.81	44	P	P	18 26 28.0	0.0
	baz=74						
GSC	Goldstone	73.85	45	P	P	18 26 28.0	0.0
	baz=74						
YBH	Yreka Blue Hor	73.97	37	P	P	18 26 28.6	+0.1
YBH	Yreka Blue Hor	73.97	37	P	P	18 26 28.7	+0.1
	8.8nm,0.7s,baz=236,slow=7.3,SNR=3.3						
GMRC	Granite Mounta	74.35	46	P	P	18 26 31.1	+0.1
	baz=75						
IRM	Iron Mountain	74.37	47	P	P	18 26 31.0	0.0
	baz=75						
TUQ	Turquoise Moun	74.53	45	P	P	18 26 32.0	0.0
	baz=75						
SHOC	Shoshone	74.54	45	P	P	18 26 31.7	-0.2
	baz=75						
Y12C	Blythe	74.60	47	P	P	18 26 32.1	-0.1
	baz=75						
113A	Mohawk Valley,	74.63	49	P	P	18 26 32.3	-0.2
	baz=75						
UGM	Wanagama	74.89	266	P	P	18 26 34.7	+0.3
	baz=76,SNR=4.3						
214A	Organ Pipe Nat	74.91	50	P	P	18 26 33.8	-0.4
	baz=75						
PDMCI	Parker Dam,Lak	75.16	47	P	P	18 26 35.8	+0.3
	baz=75						
Z14A	Wintersburg	75.52	49	P	P	18 26 37.2	-0.4
	baz=76						
KDAK	Kodiak Island	75.58	11	P	P	18 26 37.1	-0.2
KDAK	Kodiak Island	75.58	11	P	P	18 26 37.1	-0.2
	13nm,0.8s,baz=200,slow=6.9,SNR=3.1						
W13A	Hualapai Mount	75.75	47	P	P	18 26 38.8	-0.3
	baz=76						
Y14A	Wickenburg	75.77	48	P	P	18 26 38.4	-0.7
	baz=76						
R11A	Troy Canyon, C	76.35	43	P	P	18 26 41.9	-0.6
	baz=77						
KSRS	Korea Array	76.95	316	P	P	18 26 46.5	+0.8
	1.9nm,0.9s,baz=122,slow=5.4,SNR=2.0						
KSAR	Wonju Array Be	76.97	315	P	P	18 26 46.5	+0.7
X16A	Lo Mia Camp, P	77.13	48	P	P	18 26 46.9	-0.1
	baz=77						
319A	Douglas	77.26	52	P	P	18 26 47.7	0.0
	baz=78						
CISI	Cisompet, Garu	77.58	266	P	P	18 26 51.0	+1.2
	baz=79,SNR=4.1						
320A	Kipp Ranch, An	77.81	52	P	P	18 26 51.5	+0.7
	baz=78						
220A	Playas Peak, P	78.07	52	P	P	18 26 53.2	+0.9
	baz=78						
USRK	Ussuriysk Arra	78.20	323	P	P	18 26 52.8	+0.4
	1.8nm,0.8s,baz=162,slow=5.9,SNR=2.7						
X18A	Snowflake	78.26	49	P	P	18 26 54.0	+0.7
	baz=78						
Z20A	Nine Sixteen R	78.58	51	P	P	18 26 55.6	+0.5
	baz=79						
221A	Mesquite Ranch	78.69	52	P	P	18 26 55.9	+0.3
	baz=79						
Z22A	Elephant Butte	79.86	51	P	P	18 27 02.2	+0.1
	baz=80						
U20A	Newcomb	80.17	48	P	P	18 27 04.4	+0.7
	baz=80						
324A	Moseley Ranch,	80.19	53	P	P	18 27 03.9	0.0
	baz=80						
425A	Indio Mountain	80.29	54	P	P	18 27 04.5	+0.1
	baz=80						
224A	Cornudas Mount	80.43	53	P	P	18 27 05.3	+0.2
	baz=81						
526A	Mary Lane Ranc	80.69	55	P	P	18 27 06.7	+0.1
	baz=81						
TXAR	Lajitas Array	80.72	56	P	P	18 27 06.7	0.0
TXAR	Lajitas Array	80.72	56	P	P	18 27 06.7	0.0
	2.8nm,0.8s,baz=219,slow=6.9,SNR=2.5						
U21A	Nageezi	80.81	48	P	P	18 27 07.6	+0.4
	baz=81						
225A	Deer Hill, Car	80.98	53	P	P	18 27 08.3	+0.2
	baz=81						
426A	McDonald Obser	80.99	55	P	P	18 27 08.5	+0.2
	baz=81						
ANMO	Albuquerque	81.00	50	P	P	18 27 08.1	-0.1
ANMO	Albuquerque	81.00	50	P	P	18 27 08.1	-0.1
	6.4nm,0.9s,baz=272,slow=3.9,SNR=3.6						
Z24A	Sheeppen Canyo	81.10	52	P	P	18 27 09.3	+0.6
	baz=81						
NEW	Newport	81.12	34	P	P	18 27 08.6	+0.3
	baz=81						
R20A	Redvale	81.13	46	P	P	18 27 08.7	-0.1
	baz=81						
S21A	Coal Bank Pass	81.29	47	P	P	18 27 10.0	+0.2
	baz=82						
Y24A	Capitan	81.30	51	P	P	18 27 10.1	+0.3
	baz=82						
W23A	Werner Place,	81.32	50	P	P	18 27 09.9	0.0
	baz=82						
226B	Tecolote Peak,	81.47	53	P	P	18 27 10.8	+0.2
	baz=82						
427A	Hayter Ranch,	81.55	55	P	P	18 27 11.5	+0.4
	baz=82						
V23A	Ortiz Mt. (NFS	81.56	49	P	P	18 27 11.1	-0.1
	baz=82						
X24A	Lazy VL Ranch,	81.58	50	P	P	18 27 11.5	+0.2
	baz=82						
P20A	De Beque	81.75	45	P	P	18 27 12.7	+0.7
	baz=82						
528A	Cox Ranch, San	81.76	55	P	P	18 27 12.8	+0.6
	baz=82						
R21A	Cimarron	81.79	46	P	P	18 27 13.1	+0.7
	baz=82						
126A	Clayton Basin,	81.82	53	P	P	18 27 12.8	+0.3
	baz=82						
Y25A	Mesa, Roswell	81.86	51	P	P	18 27 13.0	+0.3
	baz=82						
Q21A	Lamborn Mesa,	81.99	46	P	P	18 27 13.8	+0.5
	baz=82						
S22A	4UR Ranch, Cre	82.00	47	P	P	18 27 13.9	+0.4
	baz=82						
428A	Kincaid Ranch,	82.07	55	P	P	18 27 13.5	-0.2
	baz=82						
Z26A	Caprock	82.12	52	P	P	18 27 14.3	+0.3
	baz=82						
328A	Wristen Ranch,	82.23	54	P	P	18 27 14.6	0.0
	baz=82						
R22A	Saguache, Gunn	82.28	47	P	P	18 27 15.4	+0.4
	baz=82						
127A	Arkansas Junct	82.34	53	P	P	18 27 15.3	+0.1
	baz=82						
Q22A	Crested Butte,	82.46	46	P	P	18 27 16.5	+0.6
	baz=83						
Y26A	Elida	82.51	52	P	P	18 27 16.2	+0.1
	baz=83						
PDAR	Pinedale Array	82.58	42	P	P	18 27 15.9	-0.5
PDAR	Pinedale Array	82.58	42	P	P	18 27 15.9	-0.5
	7.3nm,0.8s,baz=222,slow=1.2,SNR=7.3						
W25A	X Bar L Ranch,	82.59	50	P	P	18 27 16.4	-0.1
	baz=83						
429A	Davenport Ranc	82.65	55	P	P	18 27 16.9	+0.1
	baz=83						
228A	UT Block 9, Go	82.70	54	P	P	18 27 16.7	-0.4
	baz=83						
M20A	Sweetwater, Wa	82.84	43	P	P	18 27 18.0	+0.3
	baz=83						
R23A	Moffat	82.91	47	P	P	18 27 17.3	-1.0
	baz=83						
L20A	Wamsutter	82.99	43	P	P	18 27 18.4	-0.1
	baz=83						
Y27A	Causey	82.99	52	P	P	18 27 18.1	-0.5
	baz=83						
ILAR	Eielson Array	83.11	11	P	P	18 27 18.0	-0.3
ILAR	Eielson Array	83.11	11	P	P	18 27 18.0	-0.3
	12nm,0.6s,baz=226,slow=5.9,SNR=12						
U25A	Circle Dot Ran	83.14	49	P	P	18 27 19.2	-0.2
	baz=83						
J19A	Crowheart	83.14	41	P	P	18 27 19.0	-0.2
	baz=83						
631A	Perdido Creek	83.23	57	P	P	18 27 19.3	-0.5
	baz=83						
O22A	Kremmling	83.31	45	P	P	18 27 20.4	+0.1
	baz=84						
MSTX	Muleshoe	83.33	52	P	P	18 27 20.3	0.0
	baz=84						
V26A	Tequesquite Ra	83.33	50	P	P	18 27 20.6	+0.2
	baz=84						
Z28A	Tucker Farm, M	83.34	53	P	P	18 27 20.1	-0.3
	baz=84						
M21A	Separation Pea	83.44	43	P	P	18 27 19.6	-1.3
	baz=84						
330A	Mertzon	83.53	55	P	P	18 27 19.3	-2.0
	baz=84						
531A	Rocksprings	83.54	56	P	P	18 27 20.2	-1.2
	baz=84						
L21A	Rawlins	83.60	43	P	P	18 27 20.6	-1.1
	baz=84						
U26A	Atchley Ranch,	83.62	49	P	P	18 27 21.1	-0.8
	baz=84						
N22A	Wattenberg Ran	83.67	44	P	P	18 27 21.8	-0.3
	baz=84						
J20A	Shoshoni	83.80	42	P	P	18 27 22.7	+0.1
	baz=84						
632A	Uvalde	83.90	57	P	P	18 27 23.9	+0.7
	baz=84						
R25A	Fountain Ranch	83.98	48	P	P	18 27 22.8	-0.8
	baz=84						
331A	San Angelo	84.08	55	P	P	18 27 24.3	+0.2
	baz=84						
MAW	Mawson	87.20	199	P	P	18 27 38.8	-0.1
MAW	Mawson	87.20	199	P	P	18 27 38.8	-0.1
	14nm,1.1s,baz=162,slow=3.2,SNR=2.1						
CMAR	Chiang Mai Arr	93.20	288	P	P	18 28 08.8	+0.8
CMAR	Chiang Mai Arr	93.20	288	P	P	18 28 08.8	+0.8
	2.3nm,0.7s,baz=97,slow=2.7,SNR=4.5						
SONM	Songino Array	95.65	318	P	P	18 28 19.1	+0.4
SONM	Songino Array	95.65	318	P	P	18 28 19.1	+0.4
	2.3nm,1.0s,baz=121,slow=3.7,SNR=1.9						
LPAZ	La Paz	99.21	110	P	Pdif	18 28 35.0	-1.1
LPAZ	La Paz	99.21	110	P	Pdif	18 28 35.0	-1.1
	2.1nm,0.4s,baz=60,slow=9.5,SNR=12						
MKAR	Makanchi Array	111.61	314	PKiKP	PKiKP	18 33 26.6	-1.0
MKAR	Makanchi Array	111.61	314	PKiKP	PKiKP	18 33 26.5	-1.0
	0.9nm,0.9s,baz=103,slow=3.0,SNR=2.9						
KURK	Kurchatov	113.95	319	PKiKP	PKiKP	18 33 30.1	-1.7
KURBB	Kurchatov Arra	114.01	319	PKiKP	PKiKP	18 33 30.1	-1.9
	0.4nm,0.8s,baz=77,slow=1.5,SNR=2.3						
ARCES	ARCESS Array B	125.40	352	PKP	PKPdf	18 33 52.7	-0.6
ARCES	ARCESS Array B	125.40	352	PKP	PKPdf	18 33 52.7	-0.6
	3.0nm,0.8s,baz=38,slow=1.6,SNR=4.0						
JOF	Joensuu	130.28	346	ep	PKPdf	18 34 03.3	+0.5
	0.6nm,0.4s						
KAF	Kangasniemi	132.10	348	ep	PKPdf	18 34 06.3	+0.1
	0.7nm,0.4s						
FINES	FINESS Array B	132.75	348	PKP	PKPdf	18 34 07.6	+0.1
FINES	FINESS Array B	132.75	348	PKP	PKPdf	18 34 07.6	+0.1
	2.9nm,0.8s,baz=60,slow=3.4,SNR=4.0						
CLL	Collm	144.60	353	ePKPdf	PKPab	18 34 27.0	-0.9
CLL				e(pPKiKP)		18 34 35.0	
CLL				e		18 34 45.0	
UPC	Upice	144.96	350	ePKP	PKPab	18 34 29.7	+0.4
UPC				ex	x	18 34 40.3	
DPC	Dobruska-Polom	145.06	350	ePKP	PKPbc	18 34 30.4	+0.7
PVCC	Panska Ves	145.17	352	ePKP	PKPbc	18 34 30.2	+0.2
OKC	Ostrava-Krasne	145.20	347	ePKP	PKPbc	18 34 29.6	-0.5
MORC	Moravsky Berou	145.38	348	ePKPdf	PKPbc	18 34 30.4	-0.3
KMBO	Kilima Mbogo	145.53	243	PKPbc	PKPdf	18 34 32.8	+0.3
KMBO	Kilima Mbogo	145.53	243	PKPbc	PKPdf	18 34 32.8	+0.3
	4.3nm,0.8s,baz=58,slow=5.0,SNR=3.5						
MEM	Membach	145.62	1	PKP	PKPdf	18 34 31.6	+0.4
PRU	Pruhonice	145.70	351	ePKP	PKPdf	18 34 30.7	-0.7
PRU				ex	x	18 34 44.1	
BCLA	Clavier	145.79	2	PKP	PKPdf	18 34 31.9	+0.4
VRAC	Vranov	146.01	349	PKPbc	PKPdf	18 34 33.0	+1.1
VRAC	Vranov	146.01	349	PKPbc	PKPdf	18 34 33.0	+1.1
	21nm,1.2s,baz=21,slow=3.6,SNR=6.8						
DOU	Dourbes	146.09	3	PKP	PKPdf	18 34 32.7	+0.7
TREC	Trest	146.22	350	ePKP	PKPdf	18 34 33.2	+0.9
TREC				ex	x	18 34 48.6	
GRFO	Grafenberg	146.37	355	ePKPbc	PKPbc	18 34 34.8	+1.0
WLF	Walferdange	146.57	1	PKP	PKPbc	18 34 34.6	+0.3
WLF	Walferdange	146.57	1	ePKPbc	PKPbc	18 34 34.9	+0.6
KHC	Kasperske Hory	146.67	352	ePKP	PKPbc	18 34 35.3	+0.6
KHC				ex	x	18 34 49.2	
KHC	Kasperske Hory	146.67	352	ePKPbc	PKPbc	18 34 35.7	+1.0
MLR	Muntele Rosu	146.70	335	PKPbc	PKPdf	18 34 34.8	+1.4
MLR	Muntele Rosu	146.70	335	PKPbc	PKPdf	18 34 34.8	+1.4
	3.9nm,1.1s,baz=207,slow=2.3,SNR=4.8						
GERES	GERESS Array B	146.93	352	PKPbc	PKPbc	18 34 35.7	+0.1
GERES	GERESS Array B	146.93	352	PKPbc	PKPbc	18 34 35.7	+0.1
	4.3nm,0.8s,baz=11,slow=2.0,SNR=3.8						
BR131	Keskin Array S	146.97	321	ePKPbc	PKPbc	18 34 36.2	+0.2
BRTR	Keskin Array B	146.97

VAH Vaihoa 24.59 93 eP P 18 22 53.5 +0.5
320nm,1.2s
SNZO South Karori 27.91 200 eP P 18 23 21.6 -1.1
62nm,0.7s
KHZ Kahutara 29.29 200 eP P 18 23 34.3 -0.7
73nm,0.9s
RPZ Rata Peaks 31.31 202 P P 18 23 51.8 -1.0
RPZ Rata Peaks 31.31 202 P P 18 23 51.8 -1.0
28nm,0.7s,baz=50,slow=6.8,SNR=7.2
EIDS Eidsvold 34.90 248 eP P 18 24 22.3 -2.2
17nm,0.7s
EIDS Eidsvold 34.90 248 P P 18 24 22.9 -1.6
baz=36,SNR=6.1
ARMA Armidale 35.59 239 P P 18 24 29.6 -0.8
baz=36,SNR=12
MGCD Mangrove Creek 36.89 235 P P 18 24 41.5 +0.1
baz=38,SNR=5.7
RMQ Roma 37.15 246 P P 18 24 42.8 -1.0
baz=38,SNR=15
CTA Charters Tower 38.91 257 P P 18 24 57.0 -1.7
CTA Charters Tower 38.91 257 P P 18 24 57.0 -1.7
10.0nm,0.8s,baz=84,slow=12,SNR=6.4
CTAO Charters Tower 38.91 257 eP P 18 24 57.0 -1.7
CTAO pmax pmax
comp=Z,26nm,0.9s
CTAO Charters Tower 38.91 257 eP P 18 24 57.0 -1.7
comp=Z,26nm,0.9s
CNB Canberra Magne 38.98 232 P P 18 24 58.6 -0.6
baz=40,SNR=15
PMG Port Moresby 39.20 274 P P 18 25 01.1 -0.1
PMG Port Moresby 39.20 274 P P 18 25 01.1 -0.1
comp=Z,16nm,0.7s,baz=36,slow=3.4,SNR=5.7
MTSU Mount Surprise 40.78 260 P P 18 25 13.6 -0.7
baz=41,SNR=32
CMSA Cobar Meteorol 40.80 239 P P 18 25 13.1 -1.1
baz=42,SNR=13
QLP Quilpie 41.18 247 P P 18 25 15.7 -1.7
baz=42,SNR=9.6
COEN Coen 42.25 266 eP P 18 25 26.1 -0.2
comp=Z,213nm,0.7s
COEN Coen 42.25 266 P P 18 25 26.5 +0.2
baz=43,SNR=19
TOO Toolangi 42.69 231 P P 18 25 29.0 -0.6
baz=43,SNR=15
STKA Stephens Creek 44.28 240 P P 18 25 41.8 -0.7
STKA Stephens Creek 44.28 240 P P 18 25 41.8 -0.7
comp=Z,31nm,0.8s,baz=77,slow=10.0,SNR=6.3
STKA Stephens Creek 44.28 240 P P 18 25 42.0 -0.6
baz=45,SNR=12
STKA S S 18 32 14.9 +0.2
baz=45,SNR=33
ARPS Mount Arapiles 45.22 233 P P 18 25 49.6 -0.3
baz=46,SNR=5.5
JAY Jayapura 47.25 281 P P 18 26 01.5 -4.7
baz=48,SNR=3.2
JAY S S 18 32 29.0 -29
baz=48,SNR=4.2
BBOO Buckleboo 49.06 240 P P 18 26 18.9 -1.0
baz=50,SNR=11
WRAB Tennant Creek 50.10 257 eP P 18 26 26.9 -1.2
WRAB pmax pmax
comp=Z,24nm,0.5s
WRAB Tennant Creek 50.10 257 eP P 18 26 26.9 -1.2
comp=Z,24nm,0.5s
WRA Warramunga Arr 50.11 257 P P 18 26 27.1 -1.1
WRA Warramunga Arr 50.11 257 P P 18 26 27.1 -1.1
comp=Z,25nm,0.7s,baz=91,slow=6.7,SNR=21
AS31 Alice Springs 50.37 252 eP P 18 26 28.6 -1.5
ASAR Alice Springs 50.37 252 P P 18 26 29.0 -1.2
ASAR Alice Springs 50.37 252 P P 18 26 29.0 -1.2
comp=Z,92nm,0.8s,baz=88,slow=8.3,SNR=19
KDU Kakadu 52.74 266 P P 18 26 47.0 -0.9
baz=53,SNR=6.4
FORT Forrest 55.67 243 P P 18 27 07.6 -1.4
baz=56,SNR=18
SWI Sorong 56.73 279 P P 18 27 16.9 0.0
baz=57,SNR=4.5
FITZ Fitzroy Crossi 58.48 258 P P 18 27 27.9 -1.2
FITZ Fitzroy Crossi 58.48 258 P P 18 27 27.9 -1.2
comp=Z,1.9nm,0.5s,baz=84,slow=4.7,SNR=6.0
SOEI Soe 61.20 267 P P 18 27 48.8 +0.7
baz=62,SNR=8.1
BATI Baumata 61.69 267 P P 18 27 51.2 0.0
BATI Baumata 61.69 267 P P 18 27 51.2 0.0
comp=Z,28nm,0.7s,baz=107,slow=6.6,SNR=5.1
SBA Scott Base 63.30 185 eP P
SBA pmax pmax
comp=Z,316nm,1.3s
SBA Scott Base 63.30 185 eP P 18 28 04.3 +3.4
comp=Z,316nm,1.3s
VNDA Vanda 63.43 186 P P 18 28 02.5 +0.7
VNDA Vanda 63.43 186 P P 18 28 02.5 +0.7
comp=Z,25nm,0.8s,baz=2.0,slow=6.2,SNR=3.1
MBWA Marble Bar 63.63 254 eP P 18 28 02.7 -1.3
comp=Z,145nm,1.3s
MEEK Meekatharra 64.07 248 P P 18 28 06.7 -0.3
baz=65,SNR=5.3
KLBR Kellerberrin 64.49 242 P P 18 28 08.8 -0.8
baz=65,SNR=14
CASY Casey 70.54 205 eP P 18 28 48.0 +0.9
comp=Z,27nm,0.9s
ASAJ Asahikawa 71.66 328 P P 18 28 55.3 +1.1
ASAJ Asahikawa 71.66 328 P P 18 28 55.3 +1.1
comp=Z,10nm,0.8s,baz=117,slow=6.8,SNR=5.1
CMB Columbia Colle 72.57 41 eP P 18 28 59.4 -0.5
CMB pmax pmax
comp=Z,24nm,1.0s
CMB Columbia Colle 72.57 41 eP P 18 28 59.4 -0.5
comp=Z,24nm,1.0s
PETK Petropavlovsk- 72.69 342 P P 18 29 00.1 -0.1
PETK pmax pmax
comp=Z,29nm,0.7s
PETK Petropavlovsk- 72.69 342 P P 18 29 00.1 -0.1
PETK Petropavlovsk- 72.69 342 P P 18 29 00.1 -0.1
comp=Z,28nm,0.7s,baz=137,slow=8.7,SNR=16
KKM Kota Kinabalu 73.14 281 eP P 18 29 03.7 -0.1
comp=Z,20nm,0.6s
QSPA South Pole Qui 74.67 180 P P 18 29 13.8 +2.0
QSPA South Pole Qui 74.67 180 P P 18 29 13.8 +2.0
comp=Z,113nm,1.0s,baz=36,slow=3.7,SNR=14
UGM Wanagama 74.84 266 P P 18 29 14.2 +0.5
baz=76,SNR=3.5
KDAK Kodiak Island 74.84 11 P P 18 29 12.1 -0.5
KDAK Kodiak Island 74.84 11 P P 18 29 12.1 -0.5
comp=Z,22nm,0.7s,baz=200,slow=4.4,SNR=11
KSRS Korea Array 76.33 315 P P 18 29 23.5 +1.9
comp=Z,4.1nm,0.8s,baz=128,slow=6.1,SNR=8.3
KSAR Wonju Array Be 76.35 315 P P 18 29 23.5 +1.8
KSM Kuching 77.45 275 P P 18 29 28.4 -0.1
comp=Z,20nm,0.9s
USRK Ussuriysk Arra 77.53 323 P P 18 29 29.2 +1.0
comp=Z,3.0nm,0.8s,baz=132,slow=6.4,SNR=4.0
DIV Divide 79.31 13 eP P 18 29 36.9 -0.9
comp=Z,58nm,1.1s
U21A Nageezi 80.37 48 P P 18 29 44.9 +0.6
baz=81
TXAR Lajitas Array 80.38 56 P P 18 29 45.5 +1.1
TXAR Lajitas Array 80.38 56 P P 18 29 45.5 +1.1
comp=Z,4.4nm,1.0s,baz=232,slow=4.0,SNR=3.8
ANMO Albuquerque 80.58 50 P P 18 29 46.2 +0.8
comp=Z,11nm,1.0s
225A Deer Hill, Car 80.60 53 P P 18 29 46.0 +0.4
baz=81
426A McDonald Obser 80.62 55 P P 18 29 46.0 +0.2
baz=81
Y24A Capitan 80.90 51 P P 18 29 47.0 -0.2
baz=81
W23A Werner Place, 80.90 50 P P 18 29 47.6 +0.5
baz=81
326A Caldwell Ranch 80.93 54 P P 18 29 47.7 +0.4
baz=81
MCK McKinley 81.05 11 eP P 18 29 46.1 -0.9
MCK pmax pmax
comp=Z,55nm,0.8s
MCK McKinley 81.05 11 eP P 18 29 46.1 -0.9
comp=Z,55nm,0.8s
X24A Lazy VL Ranch, 81.17 51 P P 18 29 48.7 +0.1
baz=81
126A Clayton Basin, 81.44 53 P P 18 29 50.1 +0.1
baz=82
MSO Missoula 81.50 37 P P 18 29 49.3 -0.6
baz=82
Z26A Caprock 81.73 52 P P 18 29 51.3 -0.2
baz=82
V24A Rampart Ranch, 81.79 50 P P 18 29 52.5 +0.6
baz=82
L19A Farson 81.87 42 P P 18 29 52.5 +0.3
baz=82
PDAR Pinedale Array 82.07 42 P P 18 29 53.1 -0.1
PDAR Pinedale Array 82.07 42 P P 18 29 53.1 -0.1
comp=Z,3.9nm,0.8s,baz=248,slow=4.8,SNR=3.8
T24B San Luis 82.29 48 P P 18 29 55.1 +0.6
baz=82
COLA College 82.29 11 eP P 18 29 52.7 -0.8
COLA pmax pmax
comp=Z,332nm,0.8s
COLA College 82.29 11 eP P 18 29 52.7 -0.8
comp=Z,332nm,0.8s
V25A Rancho No Teng 82.32 50 P P 18 29 55.1 +0.4
baz=82
Z27A Tatum 82.33 53 P P 18 29 55.0 +0.4
baz=82
ILAR Eielson Array 82.37 11 P P 18 29 52.9 -1.1
ILAR Eielson Array 82.37 11 P P 18 29 52.9 -1.1
comp=Z,8.6nm,0.7s,baz=222,slow=5.5,SNR=15
X26A CR and CF Fran 82.38 51 P P 18 29 55.2 +0.2
baz=83
R23A Moffat 82.46 47 P P 18 29 56.0 +0.5
baz=83
L20A Wamsutter 82.49 43 P P 18 29 56.3 +0.9
baz=83
SDCO Great Sand Dun 82.50 48 eP P 18 29 56.5 +0.8
comp=Z,19nm,1.3s
329A Wagon Wheel Ra 82.56 55 P P 18 29 55.4 -0.5
baz=83
Y27A Causey 82.60 52 P P 18 29 55.8 -0.2
baz=83
128A Castleberry Fa 82.61 53 P P 18 29 55.9 -0.2
baz=83
S24A Houchin Ranch, 82.66 48 P P 18 29 57.2 +0.7
baz=83
U25A Circle Dot Ran 82.71 49 P P 18 29 57.1 +0.5
baz=83
WALA Waterton Lakes 82.74 35 eP P 18 29 56.0 -0.5
comp=Z,2.4nm,1.6s
Q23A Hartsel 82.77 47 P P 18 29 57.1 0.0
baz=83
K20A Yellowstone Ra 82.80 42 P P 18 29 57.0 +0.1
baz=83
O22A Kremmling 82.84 45 P P 18 29 57.7 +0.2
baz=83
430A Baggett Ranch, 82.88 56 P P 18 29 56.9 -0.6
baz=83
631A Perdido Creek 82.89 57 P P 18 29 57.1 -0.4
baz=83
V26A Tequesquite Ra 82.92 50 P P 18 29 57.7 0.0
baz=83
H18A Shoshone NF, C 82.94 40 P P 18 29 58.4 +0.7
baz=83
M21A Separation Pea 82.95 44 P P 18 29 58.2 +0.4
baz=83
R24A Sanders Place, 82.99 47 P P 18 29 58.6 +0.5
baz=83
T25A Trinidad 83.02 49 P P 18 29 58.9 +0.6
baz=83
I19A Meeteetse 83.05 41 P P 18 29 59.0 +0.7
baz=83
732A Laxson Ranch, 83.13 58 P P 18 29 58.8 0.0
baz=83
W27A Bowe Ranch, En 83.15 51 P P 18 29 58.6 -0.3
baz=83
330A Mertzon 83.17 55 P P 18 29 58.4 -0.6
baz=83
N22A Wattenberg Ran 83.19 45 P P 18 29 59.7 +0.5
baz=83
U26A Atchley Ranch, 83.19 50 P P 18 29 58.6 -0.6
baz=83
531A Rocksprings 83.20 56 P P 18 29 59.1 0.0
baz=83
S25A Robets Cordova 83.22 48 P P 18 29 59.5 +0.2
baz=83
O23A Lake Granby, G 83.29 45 P P 18 29 59.9 +0.1
baz=84
J20A Shoshoni 83.30 42 P P 18 30 00.4 +0.9
baz=84
Y28A McKinney Farm, 83.31 52 P P 18 30 00.4 +0.7
baz=84
H19A Powell 83.36 40 P P 18 29 59.8 0.0
baz=84
230A Sterling City 83.40 55 P P 18 30 00.3 +0.2
baz=84
R25A Fountain Ranch 83.54 48 P P 18 30 01.2 +0.4
baz=84
I20A Worland 83.55 41 P P 18 30 01.1 +0.3
baz=84
J21A Lysite 83.70 42 P P 18 30 01.8 +0.2
baz=84
L22A Ellis Ranch, M 83.76 43 P P 18 30 02.1 +0.1
baz=84
O24A Longmont 83.83 46 P P 18 30 02.7 +0.3
baz=84
U27A Thompson Grove 83.88 50 P P 18 30 02.4 -0.2
baz=84
H20A Greybull 83.89 41 P P 18 30 02.0 -0.4
baz=84
X29A Tulia 83.93 52 P P 18 30 02.5 -0.4
baz=84
F19A Roth Farm, Mol 83.96 39 P P 18 30 02.9 +0.1
baz=84
K22A Casper 83.98 43 P P 18 30 02.7 -0.4
baz=84
M23A Laramie 83.98 44 P P 18 30 03.0 -0.1
baz=84
I21A Big Trails, Te 84.02 42 P P 18 30 03.1 -0.1
baz=84
231A Bronte 84.04 55 P P 18 30 03.0 -0.5
baz=84
PMSA Palmer Station 84.09 156 eP P 18 30 04.5 +1.6
comp=Z,30nm,0.8s
P25A Willow Gulch B 84.20 47 P P 18 30 04.2 0.0
baz=84
R26A Arlington 84.20 48 P P 18 30 03.7 -0.5
baz=84
T27A Campo 84.22 49 P P 18 30 03.9 -0.5
baz=84
W29A Amraillo 84.24 51 P P 18 30 04.0 -0.4
baz=84
L23A Garrett 84.29 44 P P 18 30 04.3 -0.4
baz=84
332A Millersview 84.29 55 P P 18 30 03.4 -1.3
baz=84
U28A Mallet 84.31 50 P P 18 30 04.4 -0.4
baz=84
Y30A Stafford Cattl 84.33 53 P P 18 30 03.7 -1.2
baz=84
S27A Las Animas 84.34 49 P P 18 30 03.9 -1.1
baz=84
E19A Rath Farm, Rou 84.35 39 P P 18 30 03.7 -1.0
baz=85
J22A Midwest 84.36 42 P P 18 30 04.0 -0.9
baz=85
Q26A Hugo 84.41 47 P P 18 30 05.0 -0.3
baz=85
F20A Billings 84.42 40 P P 18 30 05.4 +0.3
baz=85
EGMT Eagleton 84.55 37 P P 18 30 05.7 0.0
baz=85
I22A 9 Mile Ranch, 84.58 42 P P 18 30 05.9 -0.1
baz=85
D19A Cripps Ranch, 84.64 38 P P 18 30 06.3 +0.1
baz=85
T28A Walsh 84.69 49 P P 18 30 05.7 -1.0
baz=85
L24A Wheatland 84.77 44 P P 18 30 07.3 +0.3
baz=85
E20A Meyer Farm, Mu 84.77 39 P P 18 30 07.1 +0.3
baz=85
P26A Davis Ranch, A 84.80 47 P P 18 30 07.6 +0.3
baz=85
C19A Slack Wire Ran 84.82 38 P P 18 30 07.4 +0.3
baz=85
ABTX Abilene, Hawle 84.83 54 P P 18 30 07.5 +0.1
baz=85
D20A Manuel Ranch, 85.05 38 P P 18 30 08.3 +0.1
baz=85
M25A Palm-Egli Farm 85.10 45 P P 18 30 09.0 +0.3
baz=85
V30A Spur Ranch, Mi 85.21 51 P P 18 30 09.6 +0.3
baz=85
Z32A Haskell 85.21 54 P P 18 30 09.6 +0.3
baz=85
B19A Brinkman Farms 85.23 37 P P 18 30 09.4 +0.4
baz=85
X31A McDonald Ranch 85.32 52 P P 18 30 08.9 -0.8
baz=86
C20A Veseth Ranch, 85.42 38 P P 18 30 10.3 +0.3
baz=86
E21A Keefer Ranch, 85.43 39 P P 18 30 10.7 +0.6
baz=86
W31A Holland Ranch, 85.55 52 P P 18 30 10.5 -0.4
baz=86
A19A Klindworth Far 85.58 37 P P 18 30 10.6 -0.2
baz=86
S29A Ulysses 85.61 49 P P 18 30 11.4 +0.1
baz=86
D21A La Casta Ranch 85.72 39 P P 18 30 11.7 +0.2
baz=86
B20A Solberg Farm, 85.76 37 P P 18 30 11.6 -0.1
baz=86
V31A Spring Creek L 85.85 51 P P 18 30 12.6 +0.1
baz=86
G23A Biddle 85.86 41 P P 18 30 12.0 -0.3
baz=86
C21A Desert Coulee 86.02 38 P P 18 30 12.9 -0.1
baz=86
A20A Cobblestone Ra 86.03 37 P P 18 30 12.9 -0.1
baz=86
F23A Volborg 86.09 41 P P 18 30 12.7 -0.7
baz=86
B21A Ellsworth Farm 86.35 38 P P 18 30 15.0 +0.4
baz=86
T31A Randall Ranch, 86.47 50 P P 18 30 15.4 0.0
baz=87
R30A Dighton 86.48 49 P P 18 30 15.3 -0.2
baz=87
L27A T5 Ranch, Ells 86.55 45 P P 18 30 15.0 -0.8
baz=87
A21A Bergtoll Ranch 86.66 37 P P 18 30 15.7 -0.4
baz=87
S31A Mullinville 86.81 50 P P 18 30 17.3 +0.2
baz=87
D23A Lindsay 86.86 39 P P 18 30 17.2 0.0
baz=87
B22A Reddig Ranch S 86.89 38 P P 18 30 17.4 +0.2
baz=87
ENH Enshi 87.13 302 P P 18 30 18.5 -0.4
comp=Z,11nm,0.8s
C23A Lambert 87.15 39 P P 18 30 18.6 +0.1
baz=87
N29A Votaw Ranch, W 87.21 46 P P 18 30 19.0 0.0
baz=87
J27A Elkhorn Farm, 87.23 44 P P 18 30 19.0 -0.2
baz=87
Q31A Ellis 87.39 48 P P 18 30 20.0 +0.1
baz=88
B23A Brockton 87.56 38 P P 18 30 21.1 +0.6
baz=88
KULM Kulim 87.76 276 P P 18 30 20.4 -1.8
MAW Mawson 87.90 199 P P 18 30 23.2 +1.4
MAW Mawson 87.90 199 P P 18 30 23.2 +1.4
comp=Z,28nm,1.0s,baz=138,slow=6.5,SNR=13
MAW Mawson 87.90 199 P P 18 30 23.6 +1.8
baz=88,SNR=11
DGMT Dagmar 88.04 38 P P 18 30 22.5 -0.3
baz=88
INK Inuvik 88.18 14 P P 18 30 22.2 -0.7
INK Inuvik 88.18 14 P P 18 30 22.2 -0.7
comp=Z,6.9nm,0.7s,baz=257,slow=6.4,SNR=9.5
PLCA Paso Flores 89.33 132 P P 18 30 31.6 +2.4
PLCA Paso Flores 89.33 132 P P 18 30 31.6 +2.4
comp=Z,4.0nm,0.8s,baz=232,slow=12,SNR=3.0
YKA Yellowknife Ar 89.97 23 P P 18 30 30.6 -0.8
YKA Yellowknife Ar 89.97 23 P P 18 30 30.6 -0.8
comp=Z,6.1nm,0.7s,baz=234,slow=5.0,SNR=6.5
A29A Manning Farm, 91.23 39 P P 18 30 37.3 -0.3
baz=91
CMAR Chiang Mai Arr 92.86 288 P P 18 30 47.0 +1.1
CMAR Chiang Mai Arr 92.86 288 P P 18 30 47.0 +1.1
comp=Z,3.4nm,0.8s,baz=100,slow=3.3,SNR=7.7
SNAA Sanae 92.92 177 eP P 18 30 46.7 +1.4
SNAA Sanae 92.92 177 P P 18 30 46.1 +0.9
SNAA Sanae 92.92 177 P P 18 30 46.1 +0.9
comp=Z,5.3nm,1.0s,baz=190,slow=6.4,SNR=6.2
VNA2 Neumayer--Watz 93.36 175 eP P 18 30 49.5 +2.3
VNA1 Neumayer--Stat 93.55 175 eP P 18 30 50.2 +2.1
ULM Lac du Bonnet 93.74 39 P P 18 30 47.2 -2.0
ULM Lac du Bonnet 93.74 39 P P 18 30 47.2 -2.0
comp=Z,6.3nm,0.9s,baz=287,slow=10,SNR=4.1
SONM Songino Array 95.01 318 P P 18 30 55.6 +0.3
SONM Songino Array 95.01 318 P P 18 30 55.6 +0.3
comp=Z,1.3nm,0.8s,baz=122,slow=5.1,SNR=2.8
ZALV Zalesovo Beam 109.37 322 PKiKP PKiKP 18 36 01.5 -1.0
ZALV Zalesovo Beam 109.37 322 PKiKP PKiKP 18 36 01.5 -1.0
comp=Z,0.8nm,0.6s,baz=79,slow=3.1,SNR=3.7
MKAR Makanchi Array 111.00 315 P Pdif 18 32 08.2 +1.5
MKAR i 18 36 04.3
MKAR Makanchi Array 111.00 315 Pdif Pdif 18 32 08.2 +1.5
MKAR PKiKP PKiKP 18 36 04.3 -1.5
MKAR Makanchi Array 111.00 315 Pdiff Pdif 18 32 08.1 +1.5
comp=Z,0.9nm,0.7s,baz=112,slow=1.6,SNR=3.2
MKAR PKiKP PKiKP 18 36 04.3 -1.5
comp=Z,1.2nm,0.6s,baz=72,slow=1.6,SNR=6.2
KURK Kurchatov 113.30 319 i PKiKP PKiKP 18 36 09.7 -0.4
KURK pmax pmax
comp=Z,2.0nm,0.8s
KURK Kurchatov 113.30 319 PKiKP PKiKP 18 36 09.7 -0.4
KURBB Kurchatov Arra 113.36 319 PKiKP PKiKP 18 36 09.7 -0.5
comp=Z,1.6nm,0.8s,baz=81,slow=1.8,SNR=10
BVAR Borovoye Array 118.03 322 PKIKP PKPdf 18 36 18.6 -0.5
BVAR pmax pmax
comp=Z,2.0nm,0.7s
BVAR Borovoye Array 118.03 322 PKP PKPdf 18 36 18.6 -0.5
BVAR Borovoye Array 118.03 322 PKP PKPdf 18 36 18.6 -0.5
comp=Z,2.4nm,0.7s,baz=107,slow=2.3,SNR=6.8
ARCES ARCESS Array B 124.62 352 PKP PKPdf 18 36 31.2 -0.1
ARCES ARCESS Array B 124.62 352 PKP PKPdf 18 36 31.2 -0.1
comp=Z,2.4nm,0.6s,baz=355,slow=2.2,SNR=4.6
AKTO Aktyubinsk 126.13 322 PKIKP PKPdf 18 36 34.8 0.0
AKTO pmax pmax
comp=Z,3.0nm,0.9s
AKTO pmax pmax
comp=Z,84nm,1.1s
AKTO Aktyubinsk 126.13 322 PKP PKPdf 18 36 34.8 0.0
AKTO P'P'ab 18 52 49.5
AKTO Aktyubinsk 126.13 322 PKP PKPdf 18 36 34.8 0.0
comp=Z,2.7nm,0.9s,baz=319,slow=1.4,SNR=3.6
AKTO PKP2ab 18 52 49.5
comp=Z,84nm,1.1s,baz=313,slow=0.0,SNR=60
JOF Joensuu 129.51 346 ep PKPdf 18 36 40.0 -0.8
comp=Z,0.5nm,0.4s
KAF Kangasniemi 131.32 348 ep PKPdf 18 36 38.4 -5.9
comp=Z,0.5nm,0.4s
FINES FINESS Array B 131.98 348 PKP PKPdf 18 36 45.0 -0.6
FINES FINESS Array B 131.98 348 PKP PKPdf 18 36 44.9 -0.6
comp=Z,1.5nm,0.7s,baz=20,slow=4.4,SNR=4.8
BOSA Boshof 132.79 202 PKP PKPdf 18 36 48.6 +0.3
BOSA Boshof 132.79 202 PKP PKPdf 18 36 48.6 +0.3
comp=Z,4.3nm,0.9s,baz=125,slow=1.2,SNR=5.3
HFS Hagfors 135.03 355 PKP PKPdf 18 36 51.0 -0.3
HFS Hagfors 135.03 355 PKP PKPdf 18 36 51.0 -0.3
comp=Z,2.9nm,0.7s,baz=144,slow=2.7,SNR=3.3
EKA Eskdalemuir Ar 139.38 9 PKPpre PKPpre 18 36 54.2
EKA PKP PKPdf 18 36 59.0 -0.5
EKA Eskdalemuir Ar 139.38 9 PKhKP PKPpre 18 36 54.2
comp=Z,1.5nm,0.9s,baz=202,slow=26,SNR=3.3
EKA PKP PKPdf 18 36 59.0 -0.5
comp=Z,1.0nm,0.8s,baz=355,slow=3.6,SNR=3.9
AKASG Malin Array Be 140.42 338 i PKHKP PKPpre 18 36 55.3
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKASG Malin Array Be 140.42 338 PKPpre PKPpre 18 36 55.2
AKASG Malin Array Be 140.42 338 PKhKP PKPpre 18 36 55.2
comp=Z,2.3nm,0.6s,baz=38,slow=4.4,SNR=11
LSZ Lusaka 142.97 216 ePKPdf PKPdf 18 37 04.8 -2.5
CLL Collm 143.82 353 ePKPdf PKPbc 18 37 05.0 -0.2
MALT Malatya 144.03 316 ||i P PKPab 18 37 03.6 -2.3
TSUM Tsumeb 144.06 197 ePKPdf PKPdf 18 37 08.4 -0.8
UPC Upice 144.19 350 ePKP PKPdf 18 37 08.5 +0.2
DPC Dobruska-Polom 144.29 350 ePKP PKPdf 18 37 08.9 +0.4
PVCC Panska Ves 144.39 352 ePKP PKPdf 18 37 11.8 +3.2
OKC Ostrava-Krasne 144.43 347 ePKP PKPdf 18 37 12.7 +4.0
BURAR Bucovina Array 144.44 339 ⇑i P PKPab 18 37 05.8 -1.4
TESR Tescani 144.84 336 ||i P PKPdf 18 37 12.3 +2.8
ATD Arta Tunnel 144.84 268 PKP PKPdf 18 37 11.8 +1.3
ATD Arta Tunnel 144.84 268 PKP PKPdf 18 37 11.8 +1.3
comp=Z,18nm,0.8s,baz=89,slow=4.8,SNR=7.3
MEM Membach 144.85 1 PKP PKPbc 18 37 08.8 +0.3
PRA Prague 144.86 352 PKP PKPdf 18 37 11.0 +1.6
TRPA Tarpa 144.87 342 ||i P PKPab 18 37 08.2 -0.3
SNF Seneffe 144.90 3 PKP PKPdf 18 37 09.7 +0.3
GHRR 144.90 335 ⇑i P PKPab 18 37 07.7 -1.0

PRU	Pruhonice	144.92	351	*e*PKP	PKPdf	18 37 10.2	+0.7
TLCR		145.00	333	⇓*i*P	PKPbc	18 37 08.7	-0.4
BCLA	Clavier	145.02	2	PKP	PKPbc	18 37 08.6	-0.5
VRAC	Vranov	145.24	349	PKP	PKPbc	18 37 09.8	0.0
VRAC	Vranov	145.24	349	PKP	PKPbc	18 37 09.8	0.0
	comp=Z,21nm,1.1s,baz=34,slow=3.3,SNR=5.5						
CFR	Carcaliu	145.30	333	⇓*i*P	PKPbc	18 37 08.1	-2.0
DOU	Dourbes	145.32	3	PKP	PKPbc	18 37 09.8	-0.2
VRI	Vrincioaia	145.34	335	⇑*i*P	PKPbc	18 37 09.5	-0.7
PLOR	Plostina	145.38	335	⇓*i*P	PKPbc	18 37 07.7	-2.7
TREC	Trest	145.45	350	*e*PKP	PKPab	18 37 11.6	+0.9
GRFO	Grafenberg	145.59	355	*e*PKIKP	PKPdf	18 37 10.8	+0.1
GRFO	Grafenberg	145.59	355	*e*PKPdf	PKPdf	18 37 10.8	+0.1
GRER		145.63	335	⇑*i*P	PKPab	18 37 16.1	+4.7
TIRR	Tirgusor	145.74	332	*e*PKP2	PKPab	18 37 11.8	0.0
TIRR	Tirgusor	145.74	332	*e*PKPdf	PKPab	18 37 11.8	0.0
TIRR	Tirgusor	145.74	332	⇓*i*P	PKPab	18 37 11.9	0.0
KMBO	Kilima Mbogo	145.79	244	PKPbc	PKPab	18 37 13.9	+0.6
KMBO	Kilima Mbogo	145.79	244	PKPbc	PKPab	18 37 13.9	+0.6
	comp=Z,17nm,0.8s,baz=70,slow=3.1,SNR=15						
WLF	Walferdange	145.80	1	PKP	PKPab	18 37 12.4	+0.4
WLF	Walferdange	145.80	1	*e*PKP2	PKPab	18 37 12.0	+0.1
WLF	Walferdange	145.80	1	*e*PKPdf	PKPab	18 37 12.0	+0.1
TLB	Topalu	145.81	333	⇑*i*P	PKPab	18 37 12.6	+0.5
PSZ	Piszkesteto	145.81	344	*e*PKP2	PKPab	18 37 13.4	+1.3
PSZ	Piszkesteto	145.81	344	*e*PKPdf	PKPab	18 37 13.4	+1.3
PSZ	Piszkesteto	145.81	344	⇓*i*P	PKPdf	18 37 10.9	-0.3
KHC	Kasperske Hory	145.89	352	*e*PKP2	PKPbc	18 37 11.8	-0.1
KHC	Kasperske Hory	145.89	352	*e*PKP	PKPbc	18 37 12.0	+0.1
KHC				*ep*PKP	PKiKP	18 37 17.0	+1.6
KHC				*ex*	x	18 37 29.5	
KHC	Kasperske Hory	145.89	352	*e*PKPdf	PKPbc	18 37 11.8	-0.1
MLR	Muntele Rosu	145.96	336	PKPbc	PKPdf	18 37 11.5	-0.1
MLR	Muntele Rosu	145.96	336	⇓*i*P	PKPbc	18 37 12.2	-0.1
MLR	Muntele Rosu	145.96	336	PKPbc	PKPdf	18 37 11.5	-0.1
	comp=Z,2.3nm,0.9s,baz=62,slow=4.3,SNR=4.9						
DRGR		146.01	340	⇓*i*P	PKPbc	18 37 12.3	-0.1
ISR	Istrita	146.02	335	⇑*i*P	PKPab	18 37 13.1	+0.1
GERES	GERESS Array B	146.16	352	PKPbc	PKPbc	18 37 12.8	0.0
GERES	GERESS Array B	146.16	352	PKPbc	PKPbc	18 37 12.8	0.0
	comp=Z,5.8nm,0.8s,baz=20,slow=3.1,SNR=8.9						
MANR	Mangalia	146.16	331	⇑*i*P	PKPab	18 37 13.7	+0.3
BR131	Keskin Array S	146.31	321	*e*PKPbc	PKPab	18 37 14.1	-0.3
BRTR	Keskin Array B	146.31	321	PKPbc	PKPab	18 37 14.2	-0.3
BRTR	Keskin Array B	146.31	321	PKPbc	PKPab	18 37 14.2	-0.3
	comp=Z,26nm,0.7s,baz=91,slow=1.4,SNR=17						
VOIR		146.35	337	⇓*i*P	PKPbc	18 37 13.6	+0.1
SULR		146.50	335	⇑*i*P	PKPab	18 37 14.5	-0.2
ARR	Arges	146.57	337	⇓*i*P	PKPab	18 37 14.8	-0.3
ANTO	Ankara	146.72	322	⇑PKP2	PKPab	18 37 15.4	-0.5
ANTO	Ankara	146.72	322	*e*PKPbc	PKPab	18 37 15.4	-0.5
ANTO	Ankara	146.72	322	⇑*i*P	PKPab	18 37 15.4	-0.5
SIRR	Siria	146.81	341	⇓*i*P	PKPbc	18 37 14.9	+0.2
BFO	Black Forest	147.12	358	*e*PKP2	PKPbc	18 37 15.4	-0.1
BFO	Black Forest	147.12	358	*e*PKPbc	PKPbc	18 37 15.4	-0.1
GZR	Gura Zlata	147.21	339	⇑*i*P	PKPab	18 37 15.9	0.0
ECH	Echery	147.25	360	*e*PKP2	PKPbc	18 37 16.7	+0.8
ECH	Echery	147.25	360	*e*PKPbc	PKPbc	18 37 16.7	+0.8
BZS	Buzias	147.40	341	⇑*i*P	PKPdf	18 37 14.4	+0.5
ASF	Jabal al Asfar	147.99	307	PKPbc	PKPbc	18 37 19.0	+0.5
ASF	Jabal al Asfar	147.99	307	PKPbc	PKPbc	18 37 19.0	+0.5
	comp=Z,14nm,1.1s,baz=18,slow=2.7,SNR=8.2						
DAVOX	Davos/Dischmat	148.59	356	PKPbc	PKPbc	18 37 19.7	0.0
DAVOX	Davos/Dischmat	148.59	356	PKPbc	PKPbc	18 37 19.7	0.0
	comp=Z,12nm,0.7s,baz=23,slow=4.0,SNR=10.0						
MMAI	Mount Meron Ar	148.76	309	PKPbc	PKPbc	18 37 21.5	+1.1
MMAI	Mount Meron Ar	148.76	309	PKPbc	PKPbc	18 37 21.5	+1.1
	comp=Z,20nm,0.7s,baz=64,slow=4.2,SNR=21						
TUE	Stuetta	148.93	357	*e*PKPbc	PKPbc	18 37 21.4	+0.7
TRI	Trieste	149.21	351	*e*PKP2	PKPbc	18 37 22.2	+1.1
TRI	Trieste	149.21	351	*e*PKPbc	PKPbc	18 37 22.2	+1.1
CSS	Prodhromos	149.28	314	*e*PKPbc	PKPbc	18 37 21.9	+0.3
VTS	Vitosha	149.46	336	⇓*i*P	PKPdf	18 37 17.9	+0.3
SSB	Saint Sauveur	150.12	3	*e*PKP2	PKPbc	18 37 25.4	+2.0
SSB	Saint Sauveur	150.12	3	*e*PKPbc	PKPbc	18 37 25.4	+2.0
BNI	Bardonecchia	150.42	0	*e*PKIKP	PKPbc	18 37 26.7	+2.5
BNI	Bardonecchia	150.42	0	*e*PKPbc	PKPbc	18 37 26.7	+2.5
EIL	Elat	150.52	304	PKPbc	PKPbc	18 37 24.7	-0.1
EIL	Elat	150.52	304	PKPbc	PKPbc	18 37 24.7	-0.1
	comp=Z,17nm,0.7s,baz=333,slow=4.5,SNR=12						
ESDC	Sonseca Array	154.00	19	PKPbc	PKPbc	18 37 31.7	-0.7
ESDC				PKPab	PKPab	18 37 44.8	-0.9
ESDC	Sonseca Array	154.00	19	PKPbc	PKPbc	18 37 31.7	-0.7
	comp=Z,1.3nm,0.7s,baz=330,slow=2.4,SNR=4.6						
ESDC				PKPab	PKPab	18 37 44.8	-0.9
	comp=Z,4.6nm,1.0s,baz=323,slow=4.5,SNR=5.3						
MDT	Midelt	159.74	29	PKP	PKPdf	18 37 32.4	+0.4
MDT				PKPab	PKPab	18 38 10.7	+0.1
MDT	Midelt	159.74	29	PKP	PKPdf	18 37 32.4	+0.4
	comp=Z,1.8nm,0.7s,baz=102,slow=2.7,SNR=3.6						
MDT				PKPab	PKPab	18 38 10.7	+0.1
	comp=Z,2.6nm,0.7s,baz=341,slow=4.9,SNR=3.7						
LIC	Lamto	165.19	127	*e*P	PKPab	18 38 33.7	-1.3
	comp=Z,44nm,1.4s						
TIC	Toumodi	165.46	125	*e*P	PKPab	18 38 36.3	+0.1
	comp=Z,85nm,1.4s						
KIC	Kosan Boka	165.50	127	*e*P	PKPab	18 38 36.5	+0.2
	comp=Z,60nm,1.3s						
DBIC	Dimbokro	165.60	126	PKP	PKPdf	18 37 36.9	-1.2
DBIC	Dimbokro	165.60	126	PKP	PKPdf	18 37 36.9	-1.2
	comp=Z,3.4nm,0.8s,baz=252,slow=3.2,SNR=3.3						
TORD	Torodi Ar. Bea	174.51	113	PKP	PKPdf	18 37 43.1	-0.1
TORD				PKPab	PKPab	18 39 15.4	-0.9
TORD	Torodi Ar. Bea	174.51	113	PKP	PKPdf	18 37 43.1	-0.1
	comp=Z,2.7nm,1.1s,baz=285,slow=1.4,SNR=3.6						
TORD				PKPab	PKPab	18 39 15.4	-0.9
	comp=Z,5.1nm,1.0s,baz=252,slow=3.9,SNR=5.4						

BJI ***29*** *18:19:32.5, 16′.21S×171°.42W, h6km, mB5.7/2, mb5.5/6, Ms5.7/1, Ms7 5.6/1*
IDC ***29*** *18:19:34.2±0.5, 15°.94S×171°.58W, h0km, mb5.2/19, mb1 5.3/20, mb1mx5.2/25, mbtmp5.2/20, Error ellipse: s-maj=21.1km s-min=14.1km az=136.0*
NEIC ***29*** *18:19:35.9±0.2, 15°.94S×171°.66W, h10km, mb5.6/43, Error ellipse: s-maj=10.7km s-min=5.3km az=140.0*
ISCJB ***29*** *18:19:38.8±0.2, 15°.90S±0°.06×171°.67W±0°.04, h33km, mb5.4/72, MS5.5/1, Error ellipse: s-maj=9.4km s-min=4.2km az=150.8*
AUST ***29*** *18:19:39.1±4.5, 15°.66S×171°.70W, h15km, Error ellipse: s-maj=2.0km s-min=1.0km az=306.0*
MOS ***29*** *18:19:40.7±1.3, 15°.47S×171°.48W, h33km, mb5.8/11, Error ellipse: s-maj=21.8km s-min=9.9km az=70.9*
ISC 29 18:19:40.2±0.3, 15°.91S±0°.07×171°.52W±0°.07, h35km, n612, σ1°.09/614, mb5.5/72, 165C-199D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	2.00	353	Pn	Pn	18 20 08.3	-3.3
AFI				Sn	Sn	18 20 31.6	-4.0
AFI	Afiamalu	2.00	353	Pn	Pn	18 20 08.3	-3.3
	2μm,0.3s,baz=206,slow=4.6,SNR=5.3						
AFI				Sn	Sn	18 20 31.6	-4.0
	8μm,0.3s,baz=82,slow=21,SNR=12						
NIUE	Niue	3.50	155	P	Sn	18 20 59.8	-12
	baz=3.8,SNR=4.4						
MSVF	Nonsavu	10.15	258	Pn	Pn	18 22 05.5	+1.8
	2μm,1.5s,SNR=7.6						
RAR	Rarotonga	12.32	117	*e*Pn	Pn	18 22 25.2	-8.0
	1μm,1.1s						
DZM	Mont Dzumac	21.71	250	*e*P	P	18 24 24.7	-3.8
	393nm,1.3s						
DZM	Mont Dzumac	21.71	250	P	P	18 24 24.8	-3.8
DZM	Mont Dzumac	21.71	250	P	P	18 24 24.8	-3.8
	32nm,0.9s,baz=270,slow=7.3,SNR=4.4						
PMOR	Pomariorio Ree	22.79	91	*e*P	P	18 24 49.4	+9.5
	486nm,1.3s						
OUZ	Omahuta	23.40	212	*e*P	P	18 24 45.1	-0.9
	308nm,1.3s						
URZ	Urewera	24.42	202	P	P	18 24 59.4	+3.9
URZ	Urewera	24.42	202	P	P	18 24 59.4	+3.9
	151nm,0.5s,baz=21,slow=5.2,SNR=22						
RPZ	Rata Peaks	31.43	205	P	P	18 26 03.4	+5.2
RPZ	Rata Peaks	31.43	205	P	P	18 26 03.4	+5.2
	28nm,0.8s,baz=40,slow=16,SNR=3.5						
EIDS	Eidsvold	36.14	249	*e*P	P	18 26 37.2	-2.1
	28nm,0.9s						
EIDS	Eidsvold	36.14	249	P	P	18 26 37.4	-2.0
	baz=36,SNR=3.7						
PATS	Pohnpei	37.46	305	S	S	18 32 46.0	+8.9
	baz=37,SNR=3.1						

RMQ	Roma	38.37	247	P	P	18 26 56.7	-1.5
	baz=38,SNR=5.4							
KIP	Kipapa	39.40	20	*e*P	P	18 27 08.5	+1.8
KIP				pmax	pmax			
	comp=Z,201nm,1.1s							
KIP	Kipapa	39.40	20	*e*P	P	18 27 08.5	+1.8
	comp=Z,201nm,1.1s							
CNB	Canberra Magne	39.89	234	P	P	18 27 10.3	-0.6
	baz=40,SNR=7.8							
CTA	Charters Tower	40.30	258	P	P	18 27 11.6	-2.9
CTA	Charters Tower	40.30	258	P	P	18 27 11.6	-2.9
	comp=Z,14nm,0.7s,baz=83,slow=8.1,SNR=8.3							
CMSA	Cobar Meteorol	41.87	240	P	P	18 27 26.3	-0.9
	baz=42,SNR=14							
MTSU	Mount Surprise	42.22	260	P	P	18 27 30.7	+0.5
	baz=42,SNR=7.0							
QLP	Quilpie	42.40	248	P	P	18 27 30.1	-1.5
	baz=42,SNR=9.3							
TOO	Toangi	43.56	232	P	P	18 27 40.4	-0.6
	baz=44,SNR=5.9							
COEN	Coen	43.76	266	*e*P	P	18 27 43.1	+0.4
	comp=Z,304nm,0.6s							
COEN	Coen	43.76	266	P	P	18 27 40.0	-2.7
	baz=44,SNR=18							
STKA	Stephens Creek	45.36	241	P	P	18 27 54.4	-0.9
STKA	Stephens Creek	45.36	241	P	P	18 27 54.4	-0.9
	comp=Z,62nm,1.0s,baz=85,slow=8.2,SNR=7.1							
STKA	Stephens Creek	45.36	241	P	P	18 27 55.1	-0.2
	baz=45,SNR=5.4							
JAY	Jayapura	48.87	281	P	P	18 28 24.5	+1.5
	baz=49,SNR=6.0							
WRA	Warramunga Arr	51.50	257	P	P	18 28 42.1	-0.7
WRA	Warramunga Arr	51.50	257	P	P	18 28 42.1	-0.7
	comp=Z,124nm,1.2s,baz=91,slow=7.1,SNR=6.1							
AS31	Alice Springs	51.68	252	*e*P	P	18 28 43.4	-0.8
ASAR	Alice Springs	51.68	252	P	P	18 28 44.2	+0.1
ASAR	Alice Springs	51.68	252	P	P	18 28 44.2	+0.1
	comp=Z,69nm,0.6s,baz=87,slow=8.0,SNR=19							
KDU	Kakadu	54.24	266	P	P	18 29 03.1	0.0
	baz=54,SNR=5.5							
KNRA	Kununurra	57.28	261	P	P	18 29 25.5	+0.6
	baz=57,SNR=3.7							
SWI	Sorong	58.34	279	P	P	18 29 33.0	+0.7
	baz=58,SNR=5.2							
SOEI	Soe	62.72	267	P	P	18 30 05.3	+2.9
	baz=62,SNR=5.0							
BATI	Baumata	63.20	266	P	P	18 30 08.2	+2.7
BATI	Baumata	63.20	266	P	P	18 30 08.2	+2.7
	comp=Z,35nm,0.9s,baz=123,slow=15,SNR=4.4							
KLBR	Kellerberrin	65.61	242	P	P	18 30 22.6	+1.6
	baz=66,SNR=7.8							
MORW	Morawa	67.31	245	P	P	18 30 30.9	-1.0
	baz=67,SNR=3.2							
PKM	Peak Mountain	70.42	43	⇑P	P	18 30 51.4	+0.2
	baz=71							
CIS	Catalina Islan	70.50	45	⇑P	P	18 30 51.8	+0.2
	baz=71							
SMMC	Simmler	70.55	43	⇓P	P	18 30 53.4	+1.5
	baz=71							
DECC	Green Verdugo	71.04	45	⇓P	P	18 30 56.1	+1.3
	baz=71							
BFSC	Mount Baldy Ra	71.48	45	⇓P	P	18 30 58.3	+0.6
	baz=72							
MONP	Monument Peak	71.58	47	⇓P	P	18 30 59.2	+0.8
	baz=72							
EDW2	Edwards Air Fo	71.63	44	⇓P	P	18 30 59.5	+1.1
	baz=72							
DVTC	Desert V Tower	71.68	47	⇓P	P	18 30 59.6	+0.8
	baz=72							
ISA	Isabella	71.76	43	*e*P	P	18 31 00.1	+0.8
ISA				pmax	pmax			
	comp=Z,18nm,1.1s							
ISA	Isabella	71.76	43	*e*P	P	18 31 00.1	+0.8
	comp=Z,18nm,1.1s							
ISA	Isabella	71.76	43	⇑P	P	18 31 00.5	+1.3
	baz=72							
PFO	Pinyon Flat Ob	71.95	46	⇑P	P	18 31 01.1	+0.6
	baz=72							
CMB	Columbia Colle	71.96	40	*e*P	P	18 31 00.9	+0.5
CMB				pmax	pmax			
	comp=Z,16nm,1.3s							
CMB	Columbia Colle	71.96	40	*e*P	P	18 31 00.9	+0.5
	comp=Z,16nm,1.3s							
SWSC	Sam W. Stewart	72.05	47	⇓P	P	18 31 00.8	-0.1
	baz=72							
LRMC	Laurel Mountai	72.17	44	⇓P	P	18 31 02.8	+1.0
	baz=72							
CWC	Cottonwood Cre	72.48	43	⇓P	P	18 31 04.9	+1.3
	baz=73							
BELC	Belle Mtn. Jos	72.49	46	⇑P	P	18 31 03.9	+0.2
	baz=73							
MPMC	Manual Prospec	72.64	43	⇑P	P	18 31 05.6	+0.9
	baz=73							
GSC	Goldstone	72.67	44	⇓P	P	18 31 05.4	+0.7
	baz=73							
BC3	Big Chuckawall	72.67	46	⇓P	P	18 31 04.9	+0.1
	baz=73							
HEC	Hector,Ludlow	72.72	45	⇓P	P	18 31 05.3	+0.3
	baz=73							
TIN	Tinemaha	72.74	42	⇓P	P	18 31 06.6	+1.5
	baz=73							
GLA	Glamis	72.79	47	*e*P	P	18 31 06.0	+0.6
GLA				pmax	pmax			
	comp=Z,30nm,1.3s							
GLA	Glamis	72.79	47	*e*P	P	18 31 06.0	+0.6
	comp=Z,30nm,1.3s							
GLA	Glamis	72.79	47	⇓P	P	18 31 06.5	+1.1
	baz=73							
YBH	Yreka Blue Hor	72.92	36	P	P	18 31 06.3	+0.3
YBH	Yreka Blue Hor	72.92	36	P	P	18 31 06.3	+0.3
	comp=Z,30nm,1.0s,baz=168,slow=3.0,SNR=4.3							
GMRC	Granite Mounta	73.15	45	⇑P	P	18 31 08.1	+0.4
	baz=73							
IRM	Iron Mountain	73.16	46	⇑P	P	18 31 08.8	+1.2
	baz=74							
GRAC	Grapevine Rang	73.27	43	⇓P	P	18 31 09.4	+1.2
	baz=74							
FURC	Furnace Creek,	73.30	43	⇓P	P	18 31 09.0	+0.8
	baz=74							
TUQ	Turquoise Moun	73.34	45	⇓P	P	18 31 09.4	+0.7
	baz=74							
SHOC	Shoshone	73.36	44	⇑P	P	18 31 09.4	+0.7
	baz=74							
Y12C	Blythe	73.38	47	⇓P	P	18 31 09.9	+1.1
	baz=74							
113A	Mohawk Valley,	73.39	48	⇑P	P	18 31 09.4	+0.6
	baz=74							
214A	Organ Pipe Nat	73.66	49	⇓P	P	18 31 10.8	+0.2
	baz=74							
PEA0B	Petropavlovsk-	73.68	341	*e*P	P	18 31 08.3	-1.9
PETK	Petropavlovsk-	73.68	341	P	P	18 31 08.7	-1.4
PETK	Petropavlovsk-	73.68	341	P	P	18 31 08.7	-1.4
PETK	Petropavlovsk-	73.68	341	P	P	18 31 08.7	-1.4
	comp=Z,40nm,1.1s,baz=139,slow=6.8,SNR=9.7							
PDMCI	Parker Dam,Lak	73.94	47	⇓P	P	18 31 13.0	+0.9
	baz=74							
QSPA	South Pole Qui	74.14	180	P	P	18 31 11.4	-1.5
QSPA	South Pole Qui	74.14	180	P	P	18 31 11.4	-1.5
	comp=Z,48nm,1.1s,baz=21,slow=2.4,SNR=3.9							
Z14A	Wintersburg	74.29	48	⇓P	P	18 31 14.8	+0.6
	baz=75							
W13A	Hualapai Mount	74.55	46	⇓P	P	18 31 16.9	+1.0
	baz=75							
Y14A	Wickenburg	74.55	47	⇑P	P	18 31 16.6	+0.9
	baz=75							
KDAK	Kodiak Island	75.08	10	P	P	18 31 18.4	+0.3
KDAK	Kodiak Island	75.08	10	P	P	18 31 18.4	+0.3
	comp=Z,73nm,1.2s,baz=171,slow=2.9,SNR=5.5							
R11A	Troy Canyon, C	75.20	42	⇑P	P	18 31 20.4	+0.8
	baz=76							
WVOR	Wild Horse Val	75.72	38	*e*P	P	18 31 22.6	+0.2
WVOR				pmax	pmax			
	comp=Z,2μm,3.4s							
WVOR	Wild Horse Val	75.72	38	*e*P	P	18 31 22.6	+0.2
	comp=Z,2μm,3.4s							
X16A	Lo Mia Camp, P	75.90	48	⇑P	P	18 31 24.9	+1.2
	baz=76							
319A	Douglas	75.98	51	⇑P	P	18 31 25.1	+1.0
	baz=76							
NLWA	Neilton Lookou	76.08	31	*e*P	P	18 31 25.3	+1.1
	comp=Z,123nm,1.8s							
U15A	North Rim	76.35	45	⇑P	P	18 31 28.1	+1.8
	baz=77							
WUAZ	Wupatki	76.51	47	⇓P	P	18 31 28.7	+1.6
	baz=77							
320A	Kipp Ranch, An	76.53	52	⇓P	P	18 31 28.7	+1.4
	baz=77,SNR=5.2							

ELK	Elko	76.78	40	*e*P	P	18 31 29.0	+0.4
	comp=Z,55nm,1.6s							
220A	Playas Peak, P	76.80	51	⇓P	P	18 31 29.7	+1.0
	baz=77,SNR=8.0							
120A	U Bar Ranch, L	77.02	50	⇓P	P	18 31 30.6	+0.5
	baz=77							
X18A	Snowflake	77.03	48	⇑P	P	18 31 31.4	+1.3
	baz=77							
PGC	Sidney	77.14	30	*e*P	P	18 31 30.6	+0.5
	comp=Z,4.4nm,1.3s							
Z20A	Nine Sixteen R	77.32	50	⇑P	P	18 31 33.3	+1.6
	baz=78,SNR=7.7							
221A	Mesquite Ranch	77.41	51	⇓P	P	18 31 33.3	+1.1
	baz=78							
W18A	Petrified Fore	77.47	48	P	P	18 31 31.6	-0.9
W18A	Petrified Fore	77.47	48	⇑P	P	18 31 33.7	+1.2
	baz=78							
121A	Cookes Peak, D	77.65	51	⇓P	P	18 31 34.5	+0.9
	baz=78,SNR=5.4							
HAWA	Hanford	77.67	34	*e*P	P	18 31 33.6	+0.5
	comp=Z,104nm,1.7s							
KSRS	Korea Array	77.80	315	P	P	18 31 32.5	-1.5
	comp=Z,15nm,1.2s,baz=127,slow=5.6,SNR=7.7							
KSAR	Wonju Array Be	77.82	315	P	P	18 31 32.5	-1.7
Y20A	Horse Springs,	77.86	49	⇑P	P	18 31 36.3	+1.5
	baz=78,SNR=8.4							
MFID	Camas Ranch	77.96	38	⇓P	P	18 31 35.9	+0.9
	baz=78							
222A	Williams Famil	77.96	52	⇑P	P	18 31 36.2	+0.9
	baz=78							
X20A	Quemado	78.08	49	⇑P	P	18 31 37.4	+1.5
	baz=78							
Z21A	St. Cloud Mine	78.10	50	⇑P	P	18 31 37.4	+1.3
	baz=78,SNR=9.9							
BGU	Big Grassy Mou	78.27	41	*e*P	P	18 31 37.1	+0.3
	comp=Z,161nm,2.1s							
122A	Conniff Cattle	78.31	51	⇓P	P	18 31 38.8	+1.6
	baz=79							
W20A	Ramah	78.36	48	⇓P	P	18 31 39.4	+1.9
	baz=79							
Q16A	Castle Valley	78.41	44	⇑P	P	18 31 39.2	+1.5
	baz=79							
Y21A	Point of Rocks	78.42	50	⇑P	P	18 31 39.5	+1.6
	baz=79,SNR=5.4							
X21A	Alamocita Cree	78.55	49	⇑P	P	18 31 40.3	+1.7
	baz=79							
TMUT	Trail Mountain	78.58	43	*e*P	P	18 31 40.2	+1.4
	comp=Z,59nm,1.1s							
Z22A	Elephant Butte	78.59	51	⇓P	P	18 31 40.1	+1.4
	baz=79,SNR=9.3							
MPU	Maple Canyon	78.68	43	*e*P	P	18 31 40.0	+0.9
	comp=Z,12nm,0.9s							
V20A	Brimhall	78.71	48	⇓P	P	18 31 40.4	+1.0
	baz=79							
123A	Bell Site, Whi	78.84	51	⇑P	P	18 31 40.9	+0.8
	baz=79							
SPUT	South Promonto	78.84	41	*e*P	P	18 31 40.5	+0.5
	comp=Z,172nm,1.9s							
HLID	Hailey	78.88	38	⇑P	P	18 31 41.6	+1.5
	baz=79,SNR=9.3							
USRK	Ussuriysk Arra	78.89	322	P	P	18 31 39.6	-0.3
	comp=Z,6.2nm,1.0s,baz=104,slow=6.1,SNR=4.7							
324A	Moseley Ranch,	78.89	53	⇑P	P	18 31 40.8	+0.4
	baz=79,SNR=6.2							
HVU	Hansel Valley	78.90	41	*e*P	P	18 31 40.4	+0.1
HVU				pmax	pmax			
	comp=Z,132nm,1.7s							
HVU	Hansel Valley	78.90	41	*e*P	P	18 31 40.4	+0.1
	comp=Z,132nm,1.7s							
SRU	San Rafael	78.94	44	*e*P	P	18 31 41.3	+0.7
SRU				pmax	pmax			
	comp=Z,86nm,1.6s							
SRU	San Rafael	78.94	44	*e*P	P	18 31 41.3	+0.7
	comp=Z,86nm,1.6s							
U20A	Newcomb	78.95	47	⇓P	P	18 31 42.0	+1.3
	baz=79,SNR=8.1							
CTU	Camp Tracy	78.96	42	*e*P	P	18 31 40.7	+0.1
	comp=Z,27nm,1.1s							
425A	Indio Mountain	78.99	54	⇓P	P	18 31 41.5	+0.5
	baz=79							
KSM	Kuching	79.04	275	P	P	18 31 42.8	+1.4
	baz=79,SNR=6.3							
MNTX	Cornudas Mount	79.

baz=81,SNR=6.8
Q20A Ridgley Place, 80.36 45 ⇓P P 18 31 49.3 +1.0
baz=81,SNR=5.7
T22A Edith 80.39 47 ⇑P P 18 31 49.8 +1.2
baz=81
528A Cox Ranch, San 80.44 55 ⇑P P 18 31 49.1 +0.2
baz=81
AHID Auburn Hatcher 80.47 40 eP P 18 31 47.9 -1.0
comp=Z,19nm,0.9s
O19A Miners Draw (B 80.47 43 ⇓P P 18 31 49.5 +0.7
baz=81
126A Clayton Basin, 80.53 52 ⇓P P 18 31 49.7 +0.5
baz=81,SNR=6.2
P20A De Beque 80.56 44 ⇓P P 18 31 50.9 +1.5
baz=81,SNR=8.9
U23A El Rito 80.58 48 ⇓P P 18 31 51.0 +1.4
baz=81,SNR=9.4
R21A Cimarron 80.59 46 ⇑P P 18 31 51.0 +1.4
baz=81,SNR=6.3
Y25A Mesa, Roswell 80.59 51 ⇑P P 18 31 50.3 +0.8
baz=81,SNR=11
W24A Lazy 6 Ranch, 80.64 49 ⇓P P 18 31 50.9 +1.0
baz=81,SNR=12
RRI2 Red Ridge 80.64 40 eP P 18 31 49.0 -0.8
comp=Z,60nm,1.1s
L18A Fontenelle, Gr 80.71 42 ⇑P P 18 31 51.0 +0.9
baz=81
428A Kincaid Ranch, 80.75 54 ⇓P P 18 31 51.6 +1.2
baz=81
S22A 4UR Ranch, Cre 80.79 47 ⇑P P 18 31 52.4 +1.7
baz=81,SNR=12
Z26A Caprock 80.84 52 ⇓P P 18 31 51.5 +0.6
baz=81,SNR=10
529A Stev Forest Ra 80.87 55 ⇑P P 18 31 52.0 +0.9
baz=81
X25A Clemmons Ranch 80.88 50 ⇓P P 18 31 51.7 +0.6
baz=81,SNR=8.8
328A Wristen Ranch, 80.93 54 ⇓P P 18 31 51.3 -0.1
baz=81,SNR=5.7
REDW Red Top Meadow 80.94 40 eP P 18 31 51.8 +0.4
comp=Z,212nm,2.0s
V24A Rampart Ranch, 80.97 49 ⇑P P 18 31 52.9 +1.2
baz=81,SNR=5.1
MSO Missoula 81.02 36 ⇓P P 18 31 52.1 +0.6
baz=81,SNR=6.7
T23A Casias Ranch, 81.02 47 ⇓P P 18 31 53.1 +1.2
baz=81
127A Arkansas Junct 81.05 52 ⇑P P 18 31 51.9 -0.1
baz=81
SNOW Snow King Moun 81.06 40 eP P 18 31 51.7 -0.3
comp=Z,19nm,0.8s
M19A Rock Springs 81.06 42 ⇓P P 18 31 52.7 +0.7
baz=81,SNR=9.4
R22A Saguache, Gunn 81.07 46 ⇓P P 18 31 54.2 +1.9
baz=81,SNR=5.2
IMW Indian Meadow 81.17 40 eP P 18 31 53.2 +0.5
comp=Z,56nm,1.4s
P21A Newcastle 81.21 45 ⇑P P 18 31 53.9 +1.0
baz=82
PAX Paxson 81.22 12 eP P 18 31 52.1 -0.1
PAX pmax pmax
comp=Z,33nm,1.4s
PAX Paxson 81.22 12 eP P 18 31 52.1 -0.1
comp=Z,33nm,1.4s
Y26A Elida 81.24 51 ⇑P P 18 31 53.6 +0.6
baz=82,SNR=7.2
Q22A Crested Butte, 81.26 46 ⇓P P 18 31 54.5 +1.2
baz=82,SNR=8.1
U24A Moreno Valley 81.27 48 ⇑P P 18 31 54.5 +1.1
baz=82
MCK McKinley 81.30 10 eP P 18 31 52.7 +0.2
MCK pmax pmax
comp=Z,139nm,1.0s
MCK McKinley 81.30 10 eP P 18 31 52.7 +0.2
comp=Z,139nm,1.0s
N20A Spence Gulch, 81.31 43 ⇑P P 18 31 54.2 +0.8
baz=82
429A Davenport Ranc 81.33 55 ⇓P P 18 31 54.0 +0.5
baz=82,SNR=8.8
W25A X Bar L Ranch, 81.33 50 ⇓P P 18 31 54.0 +0.5
baz=82,SNR=6.4
SMCO Snowmass 81.37 45 eP P 18 31 54.8 +0.8
comp=Z,151nm,1.7s
228A UT Block 9, Go 81.40 53 ⇓P P 18 31 54.2 +0.3
baz=82,SNR=5.8
I17A Pilgrim Ck. 81.41 40 ⇓P P 18 31 55.3 +1.5
baz=82
FLWY Flagg Ranch 81.42 40 eP P 18 31 51.5 -2.4
comp=Z,131nm,1.6s
Z27A Tatum 81.43 52 ⇑P P 18 31 54.8 +0.7
baz=82,SNR=7.4
PDAR Pinedale Array 81.44 41 P P 18 31 54.5 +0.5
PDAR Pinedale Array 81.44 41 P P 18 31 54.5 +0.5
comp=Z,11nm,0.8s,baz=212,slow=3.2,SNR=11
V25A Rancho No Teng 81.49 49 ⇑P P 18 31 55.3 +0.8
baz=82,SNR=8.9
T24B San Luis 81.49 48 ⇑P P 18 31 56.2 +1.7
baz=82
X26A CR and CF Fran 81.52 51 ⇓P P 18 31 54.8 +0.3
baz=82,SNR=8.3
YMR Madison River 81.57 39 eP P 18 31 55.8 +1.1
comp=Z,223nm,1.8s
530A J-C Ranch, Com 81.58 55 ⇓P P 18 31 55.2 +0.4
baz=82
329A Wagon Wheel Ra 81.62 54 ⇑P P 18 31 55.5 +0.5
baz=82,SNR=5.2
H17A Grant Village 81.66 39 eP P 18 31 56.5 +1.3
H17A Grant Village 81.66 39 ⇓P P 18 31 56.8 +1.6
baz=82
M20A Sweetwater, Wa 81.68 43 ⇓P P 18 31 56.3 +1.0
baz=82,SNR=5.2
BOZ Bozeman (W) 81.69 38 eP P 18 31 55.8 +0.6
BOZ pmax pmax
comp=Z,62nm,1.5s
BOZ Bozeman (W) 81.69 38 eP P 18 31 55.8 +0.6
comp=Z,62nm,1.5s
128A Castleberry Fa 81.70 53 ⇑P P 18 31 56.1 +0.7
baz=82,SNR=7.0
P22A Eagle 81.72 45 ⇓P P 18 31 56.6 +1.1
baz=82,SNR=6.5
Y27A Causey 81.72 51 ⇓P P 18 31 55.9 +0.4
baz=82,SNR=15
SDCO Great Sand Dun 81.72 47 eP P 18 31 56.5 +0.8
N21A Black Mountain 81.76 44 ⇓P P 18 31 57.1 +1.3
baz=82,SNR=6.8
YNR Norris Junctio 81.76 39 eP P 18 31 58.7 +3.0
comp=Z,49nm,1.4s
W26A Owens Ranch, T 81.79 50 ⇑P P 18 31 58.3 +2.4
baz=82
L20A Wamsutter 81.84 42 ⇑P P 18 31 57.4 +1.3
baz=82,SNR=11
S24A Houchin Ranch, 81.88 47 ⇑P P 18 31 57.9 +1.3
baz=82,SNR=13
631A Perdido Creek 81.89 56 ⇑P P 18 31 56.6 +0.2
baz=82
U25A Circle Dot Ran 81.89 49 ⇑P P 18 31 57.2 +0.7
baz=82,SNR=6.4
430A Baggett Ranch, 81.91 55 ⇑P P 18 31 56.8 +0.2
baz=82
NJ2 Nanjing 81.92 306 eP P 18 31 56.3 -0.2
NJ2 pmax pmax
comp=Z,370nm,0.9s
K19A Absolon Red Bu 81.92 41 ⇑P P 18 31 56.8 +0.2
baz=82,SNR=5.3
J19A Crowheart 82.02 41 ⇓P P 18 31 57.7 +0.7
baz=82,SNR=6.0
Q23A Hartsel 82.02 46 ⇑P P 18 31 58.6 +1.3
baz=82,SNR=11
MSTX Muleshoe 82.05 51 eP P 18 31 57.9 +0.6
MSTX Muleshoe 82.05 51 ⇓P P 18 31 57.7 +0.5
baz=82,SNR=14
Z28A Tucker Farm, M 82.05 52 ⇓P P 18 31 57.8 +0.6
baz=82,SNR=12
V26A Tequesquite Ra 82.08 49 ⇑P P 18 31 58.0 +0.6
baz=82
X27A F and S Farms, 82.09 51 ⇓P P 18 31 58.5 +1.0
baz=82
732A Laxson Ranch, 82.11 57 ⇓P P 18 31 58.6 +1.0
baz=82
O22A Kremmling 82.13 45 ⇓P P 18 31 59.1 +1.3
baz=82,SNR=25
K20A Yellowstone Ra 82.16 42 ⇓P P 18 31 58.2 +0.5
baz=82,SNR=6.0
129A Stewart Farms, 82.17 53 ⇓P P 18 31 58.4 +0.5
baz=82,SNR=6.3
330A Mertzon 82.21 54 ⇓P P 18 31 58.4 +0.3
baz=82
531A Rocksprings 82.21 56 ⇓P P 18 31 58.6 +0.5
baz=82,SNR=6.0
R24A Sanders Place, 82.22 47 ⇑P P 18 31 59.5 +1.3
baz=82,SNR=17
T25A Trinidad 82.22 48 ⇑P P 18 31 58.9 +0.7
baz=82,SNR=7.6
P23A Jefferson 82.24 45 ⇑P P 18 32 00.1 +1.6
baz=82,SNR=11
M21A Separation Pea 82.28 43 ⇓P P 18 31 59.0 +0.5
baz=83,SNR=14
W27A Bowe Ranch, En 82.30 50 ⇑P P 18 31 59.0 +0.5
baz=83,SNR=12
WALA Waterton Lakes 82.31 34 eP P 18 31 58.3 0.0
comp=Z,25nm,2.8s
H18A Shoshone NF, C 82.36 39 ⇓P P 18 32 00.0 +1.2
baz=83
431A Sonora 82.37 55 ⇑P P 18 31 59.2 +0.3
baz=83
U26A Atchley Ranch, 82.37 49 ⇓P P 18 31 59.9 +0.9
baz=83,SNR=18
Y28A McKinney Farm, 82.42 52 ⇓P P 18 31 59.7 +0.5
baz=83
S25A Robets Cordova 82.44 48 ⇓P P 18 32 00.3 +0.9
baz=83,SNR=13
I19A Meeteetse 82.44 40 ⇓P P 18 32 00.7 +1.4
baz=83,SNR=5.0
L21A Rawlins 82.45 43 ⇓P P 18 32 00.0 +0.7
baz=83,SNR=7.1
230A Sterling City 82.45 54 ⇓P P 18 31 59.5 +0.1
baz=83,SNR=5.2
N22A Wattenberg Ran 82.49 44 ⇓P P 18 32 00.9 +1.3
baz=83,SNR=14
Q24A Divide 82.53 46 ⇓P P 18 32 00.9 +0.9
baz=83,SNR=20
COLA College 82.53 10 eP P 18 31 59.1 +0.2
COLA pmax pmax
comp=Z,659nm,1.1s
COLA College 82.53 10 eP P 18 31 59.1 +0.2
comp=Z,659nm,1.1s
Z29A Hungry Hill Ra 82.56 52 ⇑P P 18 32 00.0 +0.1
baz=83,SNR=7.8
632A Uvalde 82.56 57 ⇑P P 18 31 59.8 -0.1
baz=83
O23A Lake Granby, G 82.58 45 ⇑P P 18 32 01.4 +1.3
baz=83,SNR=8.8
ISCO Idaho Springs 82.59 45 eP P 18 32 00.9 +0.6
ISCO pmax pmax
comp=Z,132nm,1.8s
ISCO Idaho Springs 82.59 45 eP P 18 32 00.9 +0.6
comp=Z,132nm,1.8s
ISCO Idaho Springs 82.59 45 ⇑P P 18 32 01.4 +1.2
baz=83,SNR=8.6
ILAR Eielson Array 82.61 10 P P 18 31 59.2 -0.1
ILAR Eielson Array 82.61 10 P P 18 31 59.2 -0.1
comp=Z,15nm,0.8s,baz=217,slow=5.7,SNR=14
J20A Shoshoni 82.67 41 ⇑P P 18 32 01.4 +1.0
baz=83,SNR=9.3
M22A Cedar Creek Ra 82.69 43 ⇓P P 18 32 01.5 +0.9
baz=83,SNR=12
532A Rocksprings 82.71 56 ⇑P P 18 32 01.3 +0.5
baz=83
X28A Dimmitt 82.71 51 ⇑P P 18 32 00.9 +0.2
baz=83
331A San Angelo 82.76 55 ⇑P P 18 32 01.5 +0.6
baz=83
V27A Dan Oppiter Fa 82.76 50 ⇓P P 18 32 01.9 +0.9
baz=83,SNR=6.5
R25A Fountain Ranch 82.76 47 ⇓P P 18 32 01.8 +0.8
baz=83,SNR=18
H19A Powell 82.77 40 ⇓P P 18 32 02.4 +1.5
baz=83,SNR=9.7
T26A Comanche Natio 82.82 48 ⇓P P 18 32 01.3 -0.1
baz=83
RLMT Red Lodge 82.83 39 eP P 18 32 02.2 +0.9
comp=Z,26nm,1.2s
Y29A Porterfield Fa 82.83 52 ⇑P P 18 32 01.8 +0.5
baz=83
K21A Alcova 82.85 42 ⇓P P 18 32 02.3 +0.9
baz=83,SNR=15
130A Snyder 82.86 53 ⇑P P 18 32 01.7 +0.3
baz=83
N23A Red Feather La 82.88 44 ⇑P P 18 32 02.4 +0.7
baz=83,SNR=11
JCT Junction City 82.93 56 ⇑P P 18 32 02.1 +0.2
baz=83
I20A Worland 82.94 41 ⇑P P 18 32 02.7 +1.0
baz=83,SNR=9.3
P24A Kohler Place, 82.94 46 ⇑P P 18 32 03.0 +1.1
baz=83
Z30A Sanderson Ranc 83.01 53 ⇓P P 18 32 02.1 -0.1
baz=83,SNR=10
W28A Vega 83.01 50 ⇓P P 18 32 02.4 +0.2
baz=83
X29A Tulia 83.05 51 ⇓P P 18 32 02.5 0.0
baz=83
U27A Thompson Grove 83.05 49 ⇓P P 18 32 02.7 +0.2
baz=83,SNR=12
J21A Lysite 83.07 41 ⇓P P 18 32 03.7 +1.2
baz=83,SNR=26
432A Menard 83.09 55 ⇓P P 18 32 02.6 -0.1
baz=83
L22A Ellis Ranch, M 83.09 43 ⇑P P 18 32 04.0 +1.3
baz=83,SNR=12
231A Bronte 83.09 54 ⇓P P 18 32 02.4 -0.3
baz=83,SNR=7.1
S26A Kim 83.11 48 ⇑P P 18 32 03.2 +0.5
baz=83,SNR=14
O24A Longmont 83.11 45 ⇑P P 18 32 04.0 +1.3
baz=83,SNR=5.3
Q25A Bedland, Calha 83.13 46 ⇓P P 18 32 03.4 +0.4
baz=83,SNR=12
V28A Channing 83.21 50 ⇓P P 18 32 03.5 +0.2
baz=84
H20A Greybull 83.29 40 ⇓P P 18 32 03.7 +0.2
baz=84,SNR=15
332A Millersview 83.33 55 ⇓P P 18 32 04.5 +0.6
baz=84,SNR=6.9
K22A Casper 83.33 42 ⇑P P 18 32 04.5 +0.7
baz=84,SNR=9.8
131A Roby 83.33 53 ⇓P P 18 32 03.2 -0.7
baz=84
W29A Amraillo 83.37 51 ⇓P P 18 32 04.7 +0.6
baz=84,SNR=9.5
PHWY Pilot Hill 83.39 44 eP P 18 32 04.6 +0.3
comp=Z,55nm,1.2s
I21A Big Trails, Te 83.40 41 ⇓P P 18 32 04.7 +0.5
baz=84,SNR=21
F19A Roth Farm, Mol 83.40 39 ⇓P P 18 32 04.9 +0.8
baz=84,SNR=15
T27A Campo 83.40 49 ⇓P P 18 32 04.5 +0.2
baz=84,SNR=11
R26A Arlington 83.42 47 ⇑P P 18 32 05.3 +1.0
baz=84,SNR=27
Y30A Stafford Cattl 83.42 52 ⇑P P 18 32 04.0 -0.4
baz=84
P25A Willow Gulch B 83.45 46 ⇑P P 18 32 05.6 +1.0
baz=84,SNR=23
U28A Mallet 83.47 49 ⇑P P 18 32 04.3 -0.3
baz=84,SNR=5.4
G20A Bridger 83.52 39 ⇑P P 18 32 05.4 +0.6
baz=84,SNR=5.0
S27A Las Animas 83.54 48 ⇓P P 18 32 05.4 +0.4
baz=84,SNR=13
N24A Carr 83.56 45 ⇓P P 18 32 06.1 +1.1
baz=84
232A Coleman 83.60 54 ⇑P P 18 32 05.1 -0.2
baz=84,SNR=10
L23A Garrett 83.61 43 ⇑P P 18 32 06.2 +0.8
baz=84,SNR=28
Q26A Hugo 83.64 47 ⇑P P 18 32 06.1 +0.6
baz=84,SNR=11
X30A Coker Ranch, T 83.67 52 ⇑P P 18 32 05.7 +0.1
baz=84,SNR=6.4
J22A Midwest 83.72 42 ⇓P P 18 32 06.3 +0.5
baz=84,SNR=21
O25A Wiggins 83.75 45 ⇑P P 18 32 06.8 +0.8
baz=84
V29A Stinnett 83.78 50 ⇓P P 18 32 06.8 +0.6
baz=84,SNR=7.0
Z31A Sharp Cattle R 83.78 53 ⇓P P 18 32 05.8 -0.4
baz=84,SNR=5.4
E19A Rath Farm, Rou 83.81 38 ⇑P P 18 32 07.1 +1.0
baz=84,SNR=7.9
F20A Billings 83.85 39 ⇑P P 18 32 06.9 +0.6
baz=84,SNR=5.5
T28A Walsh 83.87 49 ⇓P P 18 32 06.6 0.0
baz=84,SNR=11
R27A Eads 83.87 48 ⇑P P 18 32 06.8 +0.2
baz=84,SNR=8.9
ABTX Abilene, Hawle 83.89 54 eP P 18 32 06.8 +0.1
ABTX Abilene, Hawle 83.89 54 ⇑P P 18 32 06.9 +0.1
baz=84,SNR=7.6
M24A Cheyenne 83.89 44 ⇓P P 18 32 07.8 +1.1
baz=84,SNR=11
Y31A Rekieta Farm, 83.94 52 ⇓P P 18 32 06.8 -0.2
baz=84,SNR=5.3
I22A 9 Mile Ranch, 83.95 41 ⇓P P 18 32 07.6 +0.7
baz=84,SNR=13
H21A Big Horn, Sher 83.95 40 ⇑P P 18 32 07.8 +0.9
baz=84,SNR=13
K23A Bowen Ranch, D 83.96 43 ⇓P P 18 32 07.7 +0.7
baz=84,SNR=21
P26A Davis Ranch, A 84.04 46 ⇑P P 18 32 08.3 +0.7
baz=84,SNR=9.2
EGMT Eagleton 84.05 36 eP P 18 32 07.5 +0.2
comp=Z,41nm,0.9s
EGMT Eagleton 84.05 36 ⇑P P 18 32 08.1 +0.8
baz=84,SNR=8.2
L24A Wheatland 84.08 43 ⇓P P 18 32 08.7 +1.0
baz=84,SNR=9.3
N25A Grover 84.09 45 ⇑P P 18 32 09.4 +1.7
baz=84
D19A Cripps Ranch, 84.11 38 ⇓P P 18 32 08.7 +1.1
baz=84,SNR=17
G21A Lodge Grass 84.14 40 ⇑P P 18 32 09.0 +1.1
baz=84
U29A Oasis Ranch, S 84.20 50 ⇓P P 18 32 08.9 +0.6
baz=84,SNR=5.0
E20A Meyer Farm, Mu 84.22 38 ⇓P P 18 32 09.2 +1.1
baz=84,SNR=7.4
S28A Manter 84.22 48 ⇑P P 18 32 08.8 +0.4
baz=84,SNR=6.2
Z32A Haskell 84.28 53 ⇑P P 18 32 08.9 +0.2
baz=84,SNR=6.9
C19A Slack Wire Ran 84.30 37 ⇑P P 18 32 09.7 +1.2
baz=85,SNR=14
KSCO Kaye Shedlock' 84.31 47 eP P 18 32 09.3 +0.5
KSCO Kaye Shedlock' 84.31 47 ⇑P P 18 32 09.7 +0.9
baz=85
J23A Dilts Ranch, B 84.31 42 ⇓P P 18 32 09.8 +1.0
baz=85
V30A Spur Ranch, Mi 84.35 51 ⇓P P 18 32 10.2 +1.1
baz=85,SNR=8.6
O26A Horse Wrangler 84.37 46 ⇓P P 18 32 09.8 +0.7
baz=85,SNR=8.9
H22A Clearmont 84.37 41 ⇓P P 18 32 09.5 +0.5
baz=85,SNR=8.5
M25A Palm-Egli Farm 84.39 44 ⇑P P 18 32 10.7 +1.4
baz=85
K24A Anderson Ranch 84.47 43 ⇑P P 18 32 11.0 +1.3
baz=85,SNR=6.3
T29A Hugoton 84.47 49 ⇑P P 18 32 09.8 +0.1
baz=85
F21A Absaloka Mine, 84.49 39 ⇑P P 18 32 11.4 +1.9
baz=85
D20A Manuel Ranch, 84.51 38 ⇓P P 18 32 10.8 +1.2
baz=85,SNR=11
P27A Ficken Ranch, 84.58 46 ⇓P P 18 32 11.7 +1.5
baz=85
Y32A R-V Farms, Ver 84.58 53 ⇑P P 18 32 10.3 +0.1
baz=85,SNR=12
R28A Tribune 84.60 48 ⇑P P 18 32 11.0 +0.7
baz=85,SNR=7.3
I23A Meade Ranch, G 84.63 42 ⇑P P 18 32 12.3 +1.9
baz=85
W31A Holland Ranch, 84.67 51 ⇑P P 18 32 11.0 +0.4
baz=85,SNR=12
N26A Koester Ranch, 84.69 45 ⇑P P 18 32 11.5 +0.8
baz=85
U30A WK&E Inc. Balk 84.69 50 ⇓P P 18 32 10.8 0.0
baz=85
G22A Birney 84.71 40 ⇓P P 18 32 11.1 +0.4
baz=85,SNR=6.7
B19A Brinkman Farms 84.73 36 ⇓P P 18 32 11.8 +1.1
baz=85,SNR=10
L25A Engebretsen Ra 84.78 44 ⇓P P 18 32 12.6 +1.4
baz=85
S29A Ulysses 84.80 49 ⇓P P 18 32 11.6 +0.3
baz=85,SNR=5.4
J24A Dixon Ranch, L 84.85 42 ⇓P P 18 32 11.8 +0.3
baz=85,SNR=7.1
E21A Keefer Ranch, 84.87 39 ⇑P P 18 32 12.7 +1.3
baz=85,SNR=17
Q28A Sharon Springs 84.89 47 ⇓P P 18 32 12.5 +0.7
baz=85
C20A Veseth Ranch, 84.90 37 ⇓P P 18 32 12.6 +1.1
baz=85,SNR=13
O27A Beecher Island 84.92 46 ⇓P P 18 32 12.7 +0.8
baz=85,SNR=5.9
EDM Edmonton 84.98 31 eP P 18 32 11.6 -0.2
EDM Edmonton 84.98 31 eP P 18 32 11.6 -0.2
V31A Spring Creek L 84.98 51 ⇓P P 18 32 13.6 +1.4
baz=85,SNR=18
T30A Plains 84.99 49 ⇑P P 18 32 12.1 -0.2
baz=85,SNR=5.8
F22A Rosebud 85.00 40 ⇓P P 18 32 12.5 +0.4
baz=85,SNR=6.0
M26A McRoberts Ranc 85.02 45 ⇓P P 18 32 13.3 +0.9
baz=85
K25A Mack Ranch, Ha 85.04 43 ⇑P P 18 32 13.2 +0.6
baz=85,SNR=5.5
A19A Klindworth Far 85.09 36 ⇑P P 18 32 13.4 +0.9
baz=85,SNR=8.8
R29A Marienthal 85.11 48 ⇑P P 18 32 13.6 +0.8
baz=85
I24A Kuemmerle Ranc 85.12 42 ⇓P P 18 32 13.1 +0.3
baz=85
N27A Anderson Farm, 85.14 45 ⇓P P 18 32 13.4 +0.3
baz=85
P28A Saint Francis 85.16 47 ⇑P P 18 32 14.4 +1.3
baz=85
D21A La Casta Ranch 85.17 38 ⇑P P 18 32 14.0 +1.1
baz=86,SNR=9.5
B20A Solberg Farm, 85.26 37 ⇓P P 18 32 14.0 +0.7
baz=86,SNR=9.6
G23A Biddle 85.26 40 ⇑P P 18 32 14.4 +1.0
baz=86
S30A Montezuma 85.28 49 ⇓P P 18 32 13.8 +0.1
baz=86
WHTX Lake Whitney 85.36 55 eP P 18 32 13.2 -0.9
WHTX Lake Whitney 85.36 55 ⇑P P 18 32 13.9 -0.3
baz=86
WMOK Wichita Mounta 85.37 52 eP P 18 32 13.9 -0.3
WMOK pmax pmax
comp=Z,55nm,1.7s
WMOK Wichita Mounta 85.37 52 eP P 18 32 13.9 -0.3
comp=Z,56nm,1.7s
Q29A Oakley 85.42 48 ⇑P P 18 32 15.3 +0.9
baz=86,SNR=5.5
J25A Sunshine Ranch 85.44 43 ⇓P P 18 32 15.3 +0.9
baz=86
LAO LASA Array 85.45 39 eP P 18 32 15.6 +1.2
comp=Z,539nm,2.4s
C21A Desert Coulee 85.49 38 ⇑P P 18 32 15.1 +0.6
baz=86,SNR=6.7
F23A Volborg 85.49 40 ⇑P P 18 32 15.1 +0.6
baz=86,SNR=8.0
E22A Miles City 85.50 39 ⇓P P 18 32 15.1 +0.5
baz=86
A20A Cobblestone Ra 85.53 36 ⇑P P 18 32 15.4 +0.7
baz=86,SNR=12
K26A Motz Farm, Whi 85.54 43 ⇑P P 18 32 16.6 +1.7
baz=86
M27A Reverse DX Ran 85.56 45 ⇓P P 18 32 16.0 +0.9
baz=86
H24A Dirks Ranch, A 85.57 41 ⇑P P 18 32 15.1 +0.1
baz=86,SNR=15
RSSD Black Hills 85.62 42 eP P 18 32 15.3 -0.1
RSSD pmax pmax
comp=Z,222nm,1.1s
RSSD Black Hills 85.62 42 eP P 18 32 15.3 -0.1
comp=Z,222nm,1.1s
T31A Randall Ranch, 85.63 50 ⇓P P 18 32 15.9 +0.5
baz=86,SNR=14
R30A Dighton 85.67 48 ⇑P P 18 32 16.0 +0.4
baz=86,SNR=8.1
D22A Cohagen 85.70 38 ⇓P P 18 32 16.5 +0.9
baz=86,SNR=6.4
P29A Atwood 85.75 47 ⇑P P 18 32 16.8 +0.8
baz=86
I25A Rochford 85.77 42 ⇓P P 18 32 16.1 0.0
baz=86,SNR=9.3
N28A Pribbeno Ranch 85.78 46 ⇓P P 18 32 16.6 +0.5
baz=86
B21A Ellsworth Farm 85.83 37 ⇓P P 18 32 16.8 +0.6
baz=86,SNR=10
L27A T5 Ranch, Ells 85.85 44 ⇑P P 18 32 17.4 +1.0

baz=86
J26A Sides Ranch, S 85.88 43 ⇓P P 18 32 17.7 +1.1
baz=86
E23A Ismay 85.92 39 ⇑P P 18 32 17.4 +0.7
baz=86
S31A Mullinville 85.98 49 ⇓P P 18 32 17.9 +0.8
baz=86
Q30A Quinter 86.00 48 ⇑P P 18 32 18.3 +1.1
baz=86
H25A Fruitdale 86.12 42 ⇓P P 18 32 18.8 +1.1
baz=86
F24A Ekalaka 86.15 40 ⇓P P 18 32 19.1 +1.3
baz=86
A21A Bergtoll Ranch 86.16 37 ⇓P P 18 32 18.0 +0.2
baz=86,SNR=6.8
C22A Vida 86.16 38 ⇓P P 18 32 18.6 +0.7
baz=86
P30A Selden 86.21 47 ⇑P P 18 32 19.3 +1.0
baz=86,SNR=5.2
R31A Burdett 86.22 49 ⇑P P 18 32 18.0 -0.3
baz=86
D23A Lindsay 86.30 39 ⇓P P 18 32 19.3 +0.8
baz=87,SNR=5.4
I26A New Underwood 86.34 42 ⇓P P 18 32 19.8 +1.0
baz=87
B22A Reddig Ranch S 86.36 38 ⇑P P 18 32 18.8 0.0
baz=87,SNR=8.4
J27A Elkhorn Farm, 86.56 43 ⇑P P 18 32 20.4 +0.5
baz=87
C23A Lambert 86.61 38 ⇓P P 18 32 20.9 +0.9
baz=87
M29A Burnside Ranch 86.68 45 ⇑P P 18 32 21.2 +0.6
baz=87
A22A Carney Farms, 86.74 37 ⇑P P 18 32 20.8 +0.1
baz=87
F25A Bowman 86.80 40 ⇓P P 18 32 22.1 +1.1
baz=87
G27A Dupree 86.89 41 ⇑P P 18 32 24.7 +3.3
baz=88
C24A Savage 86.93 39 ⇑P P 18 32 22.0 +0.4
baz=87
B23A Brockton 87.03 38 ⇓P P 18 32 23.0 +1.0
baz=87
G26A Maurine 87.06 41 ⇑P P 18 32 23.3 +1.0
baz=87
L29A Maesberg Ranch 87.08 45 ⇓P P 18 32 23.0 +0.6
baz=87
E25A Miller Ranch, 87.09 40 ⇑P P 18 32 23.9 +1.5
baz=87
H27A Howes 87.10 42 ⇓P P 18 32 23.9 +1.4
baz=87
J28A Allard Ranch, 87.14 43 ⇓P P 18 32 23.4 +0.7
baz=87
K29A Lazy Trails An 87.47 44 ⇑P P 18 32 25.0 +0.6
baz=88
J29A Okreek 87.73 44 ⇓P P 18 32 25.9 +0.4
baz=88
PLCA Paso Flores 87.82 132 P **P 18 32 25.4 -0.9**
PLCA Paso Flores 87.82 132 P **P 18 32 25.4 -0.9**
comp=Z,7.7nm,1.0s,baz=255,slow=5.8,SNR=5.7
MAW Mawson 87.88 198 P **P 18 32 25.1 -0.8**
MAW Mawson 87.88 198 P **P 18 32 25.1 -0.8**
comp=Z,7.8nm,0.8s,baz=123,slow=5.3,SNR=5.5
K30A Basset 87.91 45 ⇓P P 18 32 26.8 +0.3
baz=88
D26A Manning 87.92 40 ⇑P P 18 32 27.3 +0.9
baz=88
I29A Vivian Onida 88.00 43 ⇑P P 18 32 27.0 +0.2
baz=88
TUL1 Tulsa 88.08 52 ⇓P P 18 32 28.1 +0.8
baz=88
J30A Dallas 88.25 44 ⇓P P 18 32 27.9 -0.1
baz=88
H29A Onida 88.31 43 ⇑P P 18 32 28.8 +0.6
baz=89
INK Inuvik 88.34 13 P **P 18 32 27.4 -0.3**
INK Inuvik 88.34 13 P **P 18 32 27.4 -0.3**
comp=Z,15nm,0.8s,baz=220,slow=3.7,SNR=9.8
A25A Svangstu Ranch 88.36 38 ⇓P P 18 32 29.6 +1.3
baz=89
BGNE Belgrade 88.41 46 *eP* **P 18 32 28.6 -0.2**
BGNE Belgrade 88.41 46 ⇓P P 18 32 29.2 +0.4
baz=89
C26A Wahner Farm, P 88.47 39 ⇑P P 18 32 29.7 +0.8
baz=89
E28A Huff 88.81 41 ⇑P P 18 32 30.6 0.0
baz=89
A26A Wade Farm, Ken 88.97 38 ⇓P P 18 32 32.3 +1.0
baz=89
KULM Kulim 89.36 276 *eP* **P 18 32 34.8 +1.0**
comp=Z,42nm,1.3s
JTS JuntasÀbangare 89.52 79 P **P 18 32 36.2 +1.6**
comp=Z,235nm,1.2s,SNR=5.3
B28A Dugan Ranch, T 89.79 39 ⇑P P 18 32 35.5 +0.4
baz=90
YKA Yellowknife Ar 89.85 23 P **P 18 32 34.8 -0.2**
YKA Yellowknife Ar 89.85 23 P **P 18 32 34.7 -0.2**
comp=Z,17nm,1.0s,baz=237,slow=4.3,SNR=9.9
MDND Maddock 90.01 40 ⇓P P 18 32 36.5 +0.4
baz=90
A28A Rude Farm, Bot 90.04 39 ⇑P P 18 32 36.9 +0.6
baz=90
D30A Buchanan 90.24 41 ⇓P P 18 32 36.7 -0.5
baz=90
C30A Mose, Pekin 90.65 40 ⇑P P 18 32 39.2 +0.1
baz=91
A29A Manning Farm, 90.67 39 ⇑P P 18 32 39.4 +0.3
baz=91
HHC Hu-ho-hao-te 90.70 312 *eP* **P 18 32 39.8 +0.1**
HHC sP sP 18 32 45.8 -9.0
HHC PP **PP 18 36 18.5 +2.9**
HHC SKS **SKSac 18 43 08.5 -0.4**
HHC S **S 18 43 32.5 -1.0**
HHC sS **ScS 18 43 40.3 +3.4**
HHC SS **SS 18 49 39.5 +3.1**
HHC pmax pmax
comp=Z,670nm,7.1s
HHC LR LR
comp=N,840nm,16.9s
HHC LR LR
comp=E,970nm,16.3s
HHC LR LR
comp=Z,2μm,17.4s
SYO Syowa Base 92.45 191 *i P* **P 18 32 44.0 -3.1**
KMI Kunming 92.88 295 P **P 18 32 51.0 +0.7**
KMI pmax pmax
comp=Z,9.0nm,1.5s
ULM Lac du Bonnet 93.19 39 P **P 18 32 48.9 -1.9**
ULM Lac du Bonnet 93.19 39 P **P 18 32 48.9 -1.9**
comp=Z,13nm,1.1s,baz=254,slow=4.2,SNR=5.4
SPMN St. Paul 93.42 44 *eP* **P 18 32 50.0 -2.0**
SPMN St. Paul 93.42 44 ⇑P P 18 32 51.8 -0.1
baz=94
TRQA Tornquist 94.98 132 *eP* **P 18 32 58.9 -0.6**
MKAR Makanchi Array 112.48 314 PKIKP **PKiKP 18 38 11.7 -1.1**
MKAR Makanchi Array 112.48 314 PKiKP **PKiKP 18 38 11.7 -1.1**
MKAR Makanchi Array 112.48 314 PKiKP **PKiKP 18 38 11.7 -1.1**
comp=Z,0.7nm,0.7s,baz=80,slow=1.6,SNR=3.9
KURK Kurchatov 114.72 319 PKIKP PKPdf 18 38 15.8 -1.0
KURK Kurchatov 114.72 319 PKiKP PKPdf 18 38 15.8 -1.0
KURBB Kurchatov Arra 114.78 319 PKiKP PKPdf 18 38 15.8 -1.2
comp=Z,1.5nm,1.0s,baz=120,slow=0.7,SNR=3.4
KSH Kashi 117.23 307 *e*Pdif **Pdif 18 34 42.0 +3.3**
KSH PKP **PKiKP 18 38 23.5 +1.2**
KSH PP PP 18 39 41.3 +8.0
KSH PKS **PKSdf 18 41 59.5 +0.5**
KSH SKS **SKSdf 18 45 35.0 +3.0**
KSH SKKS **SKKSac 18 46 33.5 +2.0**
KSH SS SS 18 55 49.8 +8.9
BVAR Borovoye Array 119.39 322 PKIKP **PKPdf 18 38 24.5 -1.3**
BVAR Borovoye Array 119.39 322 PKP **PKPdf 18 38 24.5 -1.3**
BVAR Borovoye Array 119.39 322 PKP **PKPdf 18 38 24.5 -1.3**
comp=Z,2.4nm,1.0s,baz=48,slow=2.3,SNR=4.3
KKAR Karatay Array 121.07 311 *e*PKIKP **PKPdf 18 38 28.1 -1.3**
KKAR Karatay Array 121.07 311 *e*PKPdf **PKPdf 18 38 28.1 -1.3**
KBL Kabul 122.97 301 *e*PKIKP **PKPdf 18 38 33.2 -0.4**
KBL Kabul 122.97 301 *e*PKPdf **PKPdf 18 38 33.2 -0.4**
ARCES ARCESS Array B 125.35 353 PKP **PKPdf 18 38 34.9 -1.9**
ARCES ARCESS Array B 125.35 353 PKP **PKPdf 18 38 34.9 -1.9**
comp=Z,3.5nm,0.8s,baz=18,slow=3.9,SNR=6.2
ARE0 ARCESS Array S 125.35 353 *e*PKPdf **PKPdf 18 38 38.8 +2.0**
FINES FINESS Array B 132.81 349 PKP **PKPdf 18 38 51.1 -0.1**
FINES FINESS Array B 132.81 349 PKP **PKPdf 18 38 51.1 -0.1**
comp=Z,9.4nm,1.1s,baz=343,slow=4.4,SNR=3.6
BOSA Boshof 132.86 200 PKP **PKPdf 18 38 53.2 +0.6**
BOSA Boshof 132.86 200 PKP **PKPdf 18 38 53.2 +0.6**
comp=Z,6.6nm,1.1s,baz=167,slow=4.0,SNR=3.6
TSUM Tsumeb 143.98 195 *e*PKPdf PKPab 18 39 10.1 -0.2
KWP Kalwaria Pacla 144.43 344 *e*PKIKP **PKPab 18 39 10.9 -0.1**
KWP Kalwaria Pacla 144.43 344 *e*PKPdf **PKPab 18 39 10.9 -0.1**
KWP Kalwaria Pacla 144.43 344 *e*PKP PKPbc 18 39 11.4 +0.1
CLL Collm 144.50 355 *i* PKPdf PKPbc 18 39 11.3 -0.1
comp=Z,41nm,1.4s
KSP Ksiaz 144.59 351 *e*PKP **PKPdf 18 39 12.5 -0.5**
KIS Kishinev 144.70 336 *eP* PKPdf 18 39 21.0 +7.7
BRG Berggiesshubel 144.85 354 *eP* **PKPab 18 39 12.5 0.0**
comp=Z,46nm,1.5s
UPC Upice 144.96 352 ⇓*e*PKP PKPbc 18 39 13.1 +0.2
UPC *ep*PKP **PKiKP 18 39 18.3 +0.8**
MENF Mencas 145.06 7 PKP **PKPbc 18 39 12.6 -0.6**
DPC Dobruska-Polom 145.07 351 ⇓*i*PKP **PKPab 18 39 13.6 +0.2**
PVCC Panska Ves 145.12 353 ⇓*e*PKP **PKPab 18 39 13.5 0.0**
BEBN Eben Emael 145.13 3 PKP **PKPdf 18 39 14.1 +0.2**
HGN Heimansgroeve 145.17 3 *e*PKPdf **PKPbc 18 39 13.5 -0.1**
comp=Z,124nm,1.5s
OKC Ostrava-Krasne 145.26 349 ⇓*e*PKP **PKPbc 18 39 13.9 0.0**
KRLC Kraliky 145.26 351 ⇓*e*PKP **PKPdf 18 39 14.3 0.0**
SNF Seneffe 145.32 5 PKP **PKPdf 18 39 14.7 +0.5**
MEM Membach 145.33 3 PKP **PKPdf 18 39 14.4 +0.2**
MORC Moravsky Berou 145.43 350 *e*PKIKP **PKPbc 18 39 14.5 0.0**
MORC Moravsky Berou 145.43 350 *e*PKPdf **PKPbc 18 39 14.5 0.0**
BCLA Clavier 145.48 4 PKP **PKPab 18 39 14.8 0.0**
BCLA APKP **PKiKP 18 39 20.2 +1.7**
PRA Prague 145.59 353 ⇓PKP **PKPbc 18 39 15.0 +0.1**
PRU Pruhonice 145.66 353 ⇓*i*PKP **PKPbc 18 39 15.3 +0.1**
PRU *ep*PKP **PKiKP 18 39 20.7 +1.8**
DOU Dourbes 145.76 4 PKP **PKPab 18 39 16.0 +0.1**
DOU APKP **PKiKP 18 39 20.7 +1.6**
VRAC Vranov 146.04 350 PKPbc **PKPbc 18 39 16.6 +0.2**
VRAC Vranov 146.04 350 PKPbc **PKPbc 18 39 16.6 +0.2**
comp=Z,35nm,1.1s,baz=14,slow=5.1,SNR=14
TREC Trest 146.22 352 ⇓*e*PKP **PKPbc 18 39 16.9 -0.1**
GRFO Grafenberg 146.23 357 *e*PKP2 **PKPbc 18 39 17.0 0.0**
GRFO Grafenberg 146.23 357 *e*PKPbc **PKPbc 18 39 17.0 0.0**
WLF Walferdange 146.28 3 PKP **PKPab 18 39 17.7 -0.2**
WLF Walferdange 146.28 3 *e*PKP2 **PKPab 18 39 17.7 -0.2**
WLF Walferdange 146.28 3 *e*PKPbc **PKPab 18 39 17.7 -0.2**
ATD Arta Tunnel 146.36 267 PKPbc **PKPbc 18 39 18.9 +0.4**
ATD Arta Tunnel 146.36 267 PKPbc **PKPbc 18 39 18.9 +0.4**
comp=Z,2.7nm,0.3s,baz=198,slow=20,SNR=8.6
KHC Kasperske Hory 146.61 354 *e*PKP2 **PKPbc 18 39 18.2 0.0**
KHC Kasperske Hory 146.61 354 ⇓*e*PKP **PKPbc 18 39 18.4 +0.3**
KHC Kasperske Hory 146.61 354 *e*PKPbc **PKPbc 18 39 18.1 0.0**
GERES GERESS Array B 146.88 354 PKPbc **PKPbc 18 39 18.3 -0.7**
GERES GERESS Array B 146.88 354 PKPbc **PKPbc 18 39 18.3 -0.7**
comp=Z,25nm,1.0s,baz=28,slow=2.3,SNR=14
KMBO Kilima Mbogo 146.92 242 PKPbc **PKPbc 18 39 20.1 -0.2**
KMBO Kilima Mbogo 146.92 242 PKPbc **PKPbc 18 39 20.1 -0.2**
comp=Z,13nm,1.1s,baz=90,slow=3.9,SNR=4.5
LANF Langenberg 147.01 1 PKP **PKPab 18 39 20.0 -0.7**
MLR Muntele Rosu 147.06 337 PKPbc **PKPbc 18 39 19.2 -0.4**
MLR Muntele Rosu 147.06 337 PKPbc **PKPbc 18 39 19.2 -0.4**
comp=Z,9.1nm,1.1s,baz=84,slow=2.2,SNR=6.4
STU Stuttgart 147.22 359 *e*PKP2 **PKPbc 18 39 19.7 -0.1**
STU Stuttgart 147.22 359 *e*PKPbc **PKPbc 18 39 19.7 -0.1**
BFO Black Forest 147.67 0 *e*PKP2 **PKPbc 18 39 21.2 +0.1**
BFO Black Forest 147.67 0 *e*PKPbc **PKPbc 18 39 21.2 +0.1**
BRTR Keskin Array B 147.68 322 PKPbc **PKPbc 18 39 21.5 -0.1**
BRTR Keskin Array B 147.68 322 PKPbc **PKPbc 18 39 21.5 -0.1**
comp=Z,27nm,1.0s,baz=82,slow=0.8,SNR=5.6
THEF They Montfort 147.71 3 PKP **PKPbc 18 39 20.6 -0.6**
ECH Echery 147.76 2 *e*PKPbc **PKPbc 18 39 21.5 +0.1**
ANTO Ankara 148.08 323 *e*PKIKP **PKPbc 18 39 21.8 -0.8**
ANTO Ankara 148.08 323 *e*PKPbc **PKPbc 18 39 21.8 -0.8**
MOF Molkenrain 148.13 2 PKP **PKPbc 18 39 22.6 +0.1**
LOMF Lomont 148.62 2 PKP **PKPbc 18 39 23.9 +0.2**
DAVOX Davos/Dischmat 149.20 358 PKPbc **PKPbc 18 39 25.5 +0.2**
DAVOX Davos/Dischmat 149.20 358 PKPbc **PKPbc 18 39 25.5 +0.2**
comp=Z,22nm,0.9s,baz=22,slow=3.9,SNR=7.6
TUE Stuetta 149.52 359 *e*PKPbc **PKPbc 18 39 26.2 0.0**
ASF Jabal al Asfar 149.55 307 PKPbc **PKPbc 18 39 24.5 -2.1**
ASF Jabal al Asfar 149.55 307 PKPbc **PKPbc 18 39 24.5 -2.1**
comp=Z,6.3nm,1.0s,baz=288,slow=3.2,SNR=3.4
AGO Saint Agoulin 149.62 7 PKP **PKPbc 18 39 26.3 +0.1**
PLDF La Plantade 149.75 7 PKP **PKPbc 18 39 26.8 +0.2**
PYM Petit Puy Mans 149.90 8 PKP **PKPbc 18 39 27.0 0.0**
TRI Trieste 149.96 353 *e*PKPbc **PKPbc 18 39 26.5 -0.5**
MMAI Mount Meron Ar 150.29 310 PKPbc **PKPbc 18 39 28.9 +0.6**
MMAI Mount Meron Ar 150.29 310 PKPbc **PKPbc 18 39 28.9 +0.6**
comp=Z,17nm,0.9s,baz=51,slow=4.6,SNR=4.9
LBL Lubilhac 150.44 8 PKP **PKPbc 18 39 29.1 +0.8**
SSB Saint Sauveur 150.53 6 *e*PKIKP **PKPbc 18 39 28.9 +0.4**
SSB Saint Sauveur 150.53 6 *e*PKPbc **PKPbc 18 39 28.9 +0.4**
CSS Prodhromos 150.75 315 *e*PKPbc **PKPbc 18 39 27.1 -2.2**
BNI Bardonecchia 150.91 3 *e*PKIKP **PKPbc 18 39 30.7 +1.2**
BNI Bardonecchia 150.91 3 *e*PKPbc **PKPbc 18 39 30.7 +1.2**
MTE Manteigas 151.90 27 *e*PKPbc **PKPbc 18 39 31.3 -0.5**
TOUF Mont Tournerai 151.97 2 PKP **PKPbc 18 39 32.5 +0.5**
AUTN L'Aution 151.99 2 PKP **PKPbc 18 39 32.5 +0.4**
SAOF Saorge 152.00 1 PKP **PKPbc 18 39 32.5 +0.6**
LUCF Luceram 152.09 2 PKP **PKPbc 18 39 32.5 +0.3**
EIL Elat 152.10 304 PKPbc **PKPbc 18 39 31.7 -0.9**
EIL Elat 152.10 304 PKPbc **PKPbc 18 39 31.7 -0.9**
comp=Z,27nm,1.1s,baz=60,slow=3.9,SNR=5.0
REVF Revere 152.24 2 PKP **PKPbc 18 39 33.0 +0.5**
ESDC Sonseca Array 153.94 22 PKPbc **PKPbc 18 39 36.0 -0.4**
ESDC PKPab **PKPab 18 39 49.1 -0.5**
ESDC Sonseca Array 153.94 22 PKPbc **PKPbc 18 39 36.0 -0.4**
comp=Z,3.5nm,1.0s,baz=336,slow=2.7,SNR=4.4
ESDC PKPab **PKPab 18 39 49.1 -0.5**
comp=Z,1.6nm,0.8s,baz=316,slow=3.3,SNR=4.2
TORD Torodi Ar. Bea 172.88 112 PKP **PKPdf 18 39 44.8 -1.8**
TORD PKPab **PKPab 18 41 10.9 -2.3**
TORD Torodi Ar. Bea 172.88 112 PKP **PKPdf 18 39 44.8 -1.8**
comp=Z,11nm,1.3s,baz=272,slow=1.7,SNR=4.0
TORD PKPab **PKPab 18 41 10.9 -2.3**
comp=Z,4.3nm,1.2s,baz=262,slow=3.2,SNR=2.6

IDC ***29*** *18:21:10.8±0.6, 16°.01S×172°.85W, h0km, mb4.8/22, mb1 4.9/22, mb1mx4.9/28, mbtmp4.8/22, Error ellipse: s-maj=24.3km s-min=13.8km az=144.0*
NEIC ***29*** *18:21:12.1±0.4, 16°.04S×172°.84W, h10km, mb5.1/11, Error ellipse: s-maj=16.6km s-min=7.9km az=140.0*
ISCJB ***29*** *18:21:13.2±0.3, 16°.0S±0°.1×172°.95W±0°.06, h26km, mb4.9/34, Error ellipse: s-maj=15.8km s-min=6.4km az=155.8*
ISC 29 18:21:14.3±0.5, 16°.1S±0°.1×172°.8W±0°.1, h26km, n174, σ1°.19/166, mb4.9/34, 1C, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**20.49**	**250**	P	Pn		18 25 52.1	-0.8
DZM	**Mont Dzumac**	**20.49**	**250**	P	Pn		18 25 52.1	-0.8
	20nm,0.8s,baz=77,slow=19,SNR=1.4							
URZ	**Urewera**	**23.80**	**200**	P	**P**		**18 26 26.5**	**+1.5**
URZ	**Urewera**	**23.80**	**200**	P	**P**		**18 26 26.5**	**+1.5**
	14nm,0.4s,baz=248,slow=5.4,SNR=2.5							
EIDS	**Eidsvold**	**34.93**	**249**	*eP*	**P**		**18 28 04.5**	**+0.3**
	33nm,1.2s							
PMG	**Port Moresby**	**39.57**	**275**	P	**P**		**18 28 42.4**	**-1.4**
PMG	**Port Moresby**	**39.57**	**275**	P	**P**		**18 28 42.4**	**-1.4**
	13nm,0.9s,baz=31,slow=5.9,SNR=2.7							
STKA	**Stephens Creek**	**44.20**	**241**	*eP*	**P**		**18 29 20.4**	**-1.0**
	7.6nm,0.9s							
STKA	**Stephens Creek**	**44.20**	**241**	P	**P**		**18 29 21.2**	**-0.3**
	16nm,0.7s,baz=96,slow=8.2,SNR=3.7							
WRA	**Warramunga Arr**	**50.26**	**257**	P	**P**		**18 30 07.7**	**-1.2**
WRA	**Warramunga Arr**	**50.26**	**257**	P	**P**		**18 30 07.7**	**-1.2**
	8.1nm,0.7s,baz=96,slow=6.7,SNR=5.8							
ASAR	**Alice Springs**	**50.45**	**252**	P	**P**		**18 30 09.9**	**-0.4**
ASAR	**Alice Springs**	**50.45**	**252**	P	**P**		**18 30 09.9**	**-0.4**
	25nm,0.8s,baz=90,slow=7.2,SNR=4.3							
FITZ	**Fitzroy Crossi**	**58.64**	**258**	P	**P**		**18 31 08.7**	**-1.1**
FITZ	**Fitzroy Crossi**	**58.64**	**258**	P	**P**		**18 31 08.7**	**-1.1**
	5.0nm,0.6s,baz=113,slow=7.7,SNR=5.2							
BATI	**Baumata**	**61.96**	**267**	P	**P**		**18 31 34.4**	**+1.8**
BATI	**Baumata**	**61.96**	**267**	P	**P**		**18 31 34.4**	**+1.8**
	18nm,0.8s,baz=202,slow=7.3,SNR=2.0							
MBWA	**Marble Bar**	**63.73**	**254**	*eP*	**P**		**18 31 42.5**	**-1.8**
	85nm,1.1s							
FX1	**Attu Island--F**	**69.76**	**351**	P	**P**		**18 32 20.3**	**-1.7**
FX1	**Attu Island--F**	**69.76**	**351**	P	**P**		**18 32 20.3**	**-1.7**
	14nm,0.8s,baz=114,slow=18,SNR=2.7							
MAJO	**Matsushiro**	**69.85**	**320**	P	**P**		**18 32 22.8**	**-0.1**
	15nm,1.0s							
CASY	**Casey**	**70.02**	**205**	*eP*	**P**		**18 32 22.6**	**-0.9**
	9.1nm,0.8s							
JOW	**Kunigami**	**71.36**	**306**	*eP*		P	18 32 27.6	-4.8
	12nm,0.9s							
CIS	**Catalina Islan**	**71.51**	**46**	P		**P**	**18 32 34.1**	**+1.0**
	baz=72							
ARVC	**Arvin**	**72.20**	**44**	P		**P**	**18 32 37.7**	**+0.5**
	baz=72							
ASAJ	**Asahikawa**	**72.44**	**328**	P		**P**	**18 32 39.1**	**+0.7**
ASAJ	**Asahikawa**	**72.44**	**328**	P		**P**	**18 32 39.1**	**+0.7**
	17nm,0.7s,baz=156,slow=3.6,SNR=6.9							
VES	**Vestal, Richgr**	**72.44**	**43**	P		**P**	**18 32 38.9**	**+0.3**
	baz=73							
EDW2	**Edwards Air Fo**	**72.62**	**45**	P		**P**	**18 32 39.8**	**0.0**
	baz=73							
JNU	**Nakatsue**	**72.70**	**313**	P		**P**	**18 32 41.2**	**+0.9**
JNU	**Nakatsue**	**72.70**	**313**	P		**P**	**18 32 41.2**	**+0.9**
	9.5nm,0.8s,baz=136,slow=3.9,SNR=4.0							
ISA	**Isabella**	**72.74**	**44**	P		**P**	**18 32 41.9**	**+1.3**
	11nm,0.9s							
ISA	**Isabella**	**72.74**	**44**	P		**P**	**18 32 40.6**	**+0.1**
	baz=73							
CMB	**Columbia Colle**	**72.90**	**41**	P		**P**	**18 32 41.8**	**+0.4**
	13nm,1.0s							
PFO	**Pinyon Flat Ob**	**72.97**	**47**	P		**P**	**18 32 43.7**	**+1.7**
PFO	**Pinyon Flat Ob**	**72.97**	**47**	P		**P**	**18 32 43.7**	**+1.7**
	1.9nm,0.4s,baz=29,slow=0.6,SNR=3.5							
LRMC	**Laurel Mountai**	**73.16**	**44**	P		**P**	**18 32 43.1**	**0.0**
	baz=73							
PETK	**Petropavlovsk-**	**73.47**	**342**	P		**P**	**18 32 44.0**	**-0.4**
PETK	**Petropavlovsk-**	**73.47**	**342**	P		**P**	**18 32 44.0**	**-0.4**
	7.0nm,0.7s,baz=147,slow=9.7,SNR=4.3							
MPMC	**Manual Prospec**	**73.63**	**44**	P		**P**	**18 32 46.0**	**+0.1**
	baz=74							
HEC	**Hector,Ludlow**	**73.73**	**46**	P		**P**	**18 32 46.1**	**-0.3**
	baz=74							
YBH	**Yreka Blue Hor**	**73.80**	**37**	P		**P**	**18 32 47.6**	**+1.0**
YBH	**Yreka Blue Hor**	**73.80**	**37**	P		**P**	**18 32 47.6**	**+1.0**
	3.4nm,0.3s,baz=150,slow=14,SNR=1.9							
IRM	**Iron Mountain**	**74.18**	**47**	P		**P**	**18 32 49.0**	**0.0**
	baz=74							
GRAC	**Grapevine Rang**	**74.24**	**43**	P		**P**	**18 32 49.6**	**+0.3**
	baz=74							
113A	**Mohawk Valley,**	**74.43**	**49**	P		**P**	**18 32 51.5**	**+1.1**
	baz=75							
KDAK	**Kodiak Island**	**75.49**	**11**	P		**P**	**18 32 55.0**	**-0.8**
KDAK	**Kodiak Island**	**75.49**	**11**	P		**P**	**18 32 55.0**	**-0.8**
	13nm,0.7s,baz=243,slow=7.0,SNR=8.1							
R11A	**Troy Canyon, C**	**76.17**	**43**	P		**P**	**18 33 00.6**	**+0.1**
	baz=76							
X16A	**Lo Mia Camp, P**	**76.94**	**48**	P		**P**	**18 33 06.0**	**+1.0**
	baz=77							
319A	**Douglas**	**77.06**	**52**	P		**P**	**18 33 06.3**	**+0.7**
	baz=77							
KSRS	**Korea Array**	**77.06**	**315**	P		**P**	**18 33 06.7**	**+1.3**
	3.1nm,0.7s,baz=126,slow=5.6,SNR=6.9							
KSAR	**Wonju Array Be**	**77.08**	**315**	P		**P**	**18 33 06.7**	**+1.2**
KSM	**Kuching**	**77.83**	**275**	*eP*		**P**	**18 33 10.4**	**+0.2**
	32nm,1.3s							
220A	**Playas Peak, P**	**77.87**	**52**	P		**P**	**18 33 12.3**	**+2.0**
	baz=78							
120A	**U Bar Ranch, L**	**78.09**	**51**	P		**P**	**18 33 13.1**	**+1.7**
	baz=78							
USRK	**Ussuriysk Arra**	**78.29**	**323**	P		**P**	**18 33 13.2**	**+1.1**
	7.0nm,1.1s,baz=114,slow=3.5,SNR=4.3							
Z20A	**Nine Sixteen R**	**78.39**	**50**	P		**P**	**18 33 15.4**	**+2.3**
	baz=78							
MVU	**Marysvale**	**78.48**	**44**	P		**P**	**18 33 13.9**	**+0.3**
	70nm,1.5s							
122A	**Conniff Cattle**	**79.39**	**51**	P		**P**	**18 33 20.2**	**+1.7**
	baz=80							
123A	**Bell Site, Whi**	**79.91**	**52**	P		**P**	**18 33 21.1**	**-0.3**
	baz=80							
DIV	**Divide**	**79.94**	**13**	*eP*		**P**	**18 33 19.4**	**-1.4**
	75nm,1.2s							
224A	**Cornudas Mount**	**80.23**	**53**	P		**P**	**18 33 24.3**	**+1.2**
	baz=80							
626A	**Big Bend Ranch**	**80.24**	**55**	P		**P**	**18 33 24.5**	**+1.3**
	baz=80							
TXAR	**Lajitas Array**	**80.52**	**56**	P		**P**	**18 33 27.2**	**+2.6**
TXAR	**Lajitas Array**	**80.52**	**56**	P		**P**	**18 33 27.2**	**+2.6**
	12nm,1.2s,baz=218,slow=5.7,SNR=5.1							
124A	**Stringfield Ra**	**80.55**	**52**	P		**P**	**18 33 26.4**	**+1.4**
	baz=81							
225A	**Deer Hill, Car**	**80.78**	**53**	P		**P**	**18 33 26.6**	**+0.5**
	baz=81							
426A	**McDonald Obser**	**80.78**	**54**	P		**P**	**18 33 26.4**	**+0.2**
	baz=81							
527A	**Woodward Ranch**	**80.89**	**55**	P		**P**	**18 33 27.5**	**+0.8**
	baz=81							
Y24A	**Capitan**	**81.10**	**51**	P		**P**	**18 33 29.5**	**+1.7**
	baz=81							
W23A	**Werner Place,**	**81.12**	**50**	P		**P**	**18 33 28.9**	**+1.0**
	baz=81							
628A	**Black Gap, Mar**	**81.20**	**56**	P		**P**	**18 33 29.7**	**+1.5**
	baz=81							
427A	**Hayter Ranch,**	**81.35**	**55**	P		**P**	**18 33 30.2**	**+1.1**
	baz=82							
V23A	**Ortiz Mt. (NFS**	**81.36**	**49**	P		**P**	**18 33 30.6**	**+1.4**
	baz=82							
528A	**Cox Ranch, San**	**81.55**	**55**	P		**P**	**18 33 32.0**	**+1.8**
	baz=82							
Y25A	**Mesa, Roswell**	**81.66**	**51**	P		**P**	**18 33 31.5**	**+0.8**
	baz=82							
Q21A	**Lamborn Mesa,**	**81.80**	**46**	P		**P**	**18 33 31.7**	**+0.2**
	baz=82							
428A	**Kincaid Ranch,**	**81.86**	**55**	P		**P**	**18 33 31.9**	**+0.1**
	baz=82							
Z26A	**Caprock**	**81.92**	**52**	P		**P**	**18 33 32.3**	**+0.2**
	baz=82							
529A	**Stev Forest Ra**	**81.98**	**56**	P		**P**	**18 33 33.0**	**+0.6**
	baz=82							
127A	**Arkansas Junct**	**82.14**	**53**	P		**P**	**18 33 34.6**	**+1.4**
	baz=82							
L19A	**Farson**	**82.19**	**42**	P		**P**	**18 33 35.0**	**+1.6**
	baz=82							
Y26A	**Elida**	**82.31**	**52**	P		**P**	**18 33 34.9**	**+0.8**
	baz=82							
PDAR	**Pinedale Array**	**82.39**	**42**	P		**P**	**18 33 34.9**	**+0.4**
PDAR	**Pinedale Array**	**82.39**	**42**	P		**P**	**18 33 34.9**	**+0.4**
	5.0nm,0.8s,baz=214,slow=3.1,SNR=5.2							
Z27A	**Tatum**	**82.52**	**52**	P		**P**	**18 33 36.2**	**+1.0**
	baz=83							
X26A	**CR and CF Fran**	**82.59**	**51**	P		**P**	**18 33 35.8**	**+0.3**
	baz=83							
R23A	**Moffat**	**82.72**	**47**	P		**P**	**18 33 37.2**	**+0.8**
	baz=83							
128A	**Castleberry Fa**	**82.79**	**53**	P		**P**	**18 33 36.6**	**0.0**
	baz=83							
Y27A	**Causey**	**82.79**	**52**	P		**P**	**18 33 37.0**	**+0.3**
	baz=83							
L20A	**Wamsutter**	**82.81**	**43**	P		**P**	**18 33 37.1**	**+0.4**
	baz=83							
**

baz=84
W29A Amraillo 84.44 51 P **P 18 33 44.5 -0.6**
baz=85
R26A Arlington 84.45 48 P **P 18 33 44.9 -0.1**
baz=85
Y31A Rekieta Farm, 85.03 53 P **P 18 33 47.3 -0.6**
baz=85
E20A Meyer Farm, Mu 85.13 39 P **P 18 33 48.3 +0.1**
baz=85
C19A Slack Wire Ran 85.19 37 P **P 18 33 48.8 +0.3**
baz=85
Z32A Haskell 85.38 54 P **P 18 33 49.6 -0.1**
baz=86
X31A McDonald Ranch 85.51 52 P **P 18 33 50.2 -0.1**
baz=86
A19A Klindworth Far 85.97 36 P **P 18 33 52.3 -0.1**
baz=86
WHTX Lake Whitney 86.47 55 P **P 18 33 54.8 -0.3**
baz=87
GYA Guiyang 88.89 298⇑ *i*P P 18 33 58.5 -8.5
GYA PP PP 18 37 56.5 +20
GYA Guiyang 88.89 298 SKS **SKSac 18 44 35.0 -0.3**
HHC Hu-ho-hao-te 89.93 313 S **S 18 45 05.3 +2.6**
HHC Hu-ho-hao-te 89.93 313 sS S 18 45 13.0 +10
YKA Yellowknife Ar 90.50 23 P **P 18 34 13.7 +0.2**
YKA Yellowknife Ar 90.50 23 P **P 18 34 13.7 +0.2**
2.8nm,0.7s,baz=246,slow=4.5,SNR=3.0
KMI Kunming 91.85 295 P P 18 34 14.8 -6.2
KMI pmax pmax
comp=Z,13nm,1.4s
CD2 Chengdu 92.67 301 P P 18 34 14.5 -10
CD2 pmax pmax
comp=Z,40nm,0.5s
CMAR Chiang Mai Arr 93.39 288 P **P 18 34 30.6 +2.8**
CMAR Chiang Mai Arr 93.39 288 P **P 18 34 30.6 +2.8**
comp=Z,1.1nm,0.7s,baz=122,slow=2.8,SNR=6.7
LZH Lanzhou 94.11 306 S S 18 45 49.0 +8.4
SONM Songino Array 95.75 318 P **P 18 34 38.8 +0.5**
SONM Songino Array 95.75 318 P **P 18 34 38.8 +0.5**
comp=Z,0.7nm,0.6s,baz=116,slow=3.4,SNR=3.3
ZALV Zalesovo Beam 110.13 322 PKiKP **PKiKP 18 39 43.7 +0.2**
ZALV Zalesovo Beam 110.13 322 PKiKP **PKiKP 18 39 43.7 +0.2**
comp=Z,0.7nm,0.7s,baz=90,slow=2.0,SNR=2.7
MKAR Makanchi Array 111.73 314 PKiKP **PKiKP 18 39 46.3 -0.5**
MKAR Makanchi Array 111.73 314 PKiKP **PKiKP 18 39 46.3 -0.5**
comp=Z,0.7nm,0.7s,baz=99,slow=0.8,SNR=3.2
KURK Kurchatov 114.05 319 PKiKP PKPdf 18 39 50.8 -0.3
KURBB Kurchatov Arra 114.11 319 PKiKP PKPdf 18 39 50.8 -0.4
comp=Z,0.7nm,1.0s,baz=165,slow=0.6,SNR=2.6
KEV Kevo 124.97 352 *e*p **Pdif 18 36 39.8 -7.9**
comp=Z,0.2nm,0.4s
ARCES ARCESS Array B 125.38 352 PKP **PKPdf 18 40 12.3 0.0**
ARCES ARCESS Array B 125.38 352 PKP **PKPdf 18 40 12.3 0.0**
comp=Z,4.8nm,0.8s,baz=60,slow=2.2,SNR=3.8
FINES FINESS Array B 132.75 348 PKP **PKPdf 18 40 27.0 +0.4**
FINES FINESS Array B 132.75 348 PKP **PKPdf 18 40 27.0 +0.4**
comp=Z,4.6nm,0.9s,baz=20,slow=4.9,SNR=3.7
NOA NORSAR Array B 135.03 357 PKP **PKPdf 18 40 31.8 +0.9**
NOA NORSAR Array B 135.03 357 PKP **PKPdf 18 40 31.8 +0.9**
comp=Z,0.9nm,0.8s,baz=114,slow=3.2,SNR=3.0
CLL Collm 144.57 354 *e*PKPdf **PKPdf 18 40 48.0 -0.4**
ATD Arta Tunnel 145.12 267 PKP **PKPdf 18 40 51.5 +1.0**
ATD Arta Tunnel 145.12 267 PKP **PKPdf 18 40 51.5 +1.0**
comp=Z,14nm,0.8s,baz=277,slow=17,SNR=4.6
MORC Moravsky Berou 145.38 348 PKPdf **PKPbc 18 40 49.5 -0.4**
KMBO Kilima Mbogo 145.75 243 PKPbc **PKPab 18 40 54.1 +1.4**
KMBO Kilima Mbogo 145.75 243 PKPbc **PKPab 18 40 54.1 +1.4**
comp=Z,8.2nm,1.0s,baz=109,slow=2.5,SNR=3.8
VRAC Vranov 146.00 349 PKPbc **PKPab 18 40 52.5 +0.2**
VRAC Vranov 146.00 349 PKPbc **PKPab 18 40 52.5 +0.2**
comp=Z,11nm,1.0s,baz=347,slow=3.8,SNR=3.5
GERES GERESS Array B 146.91 352 PKPbc **PKPbc 18 40 54.3 -0.3**
GERES GERESS Array B 146.91 352 PKPbc **PKPbc 18 40 54.3 -0.3**
comp=Z,1.7nm,0.7s,baz=33,slow=3.8,SNR=3.8
BR131 Keskin Array S 147.06 321 *e*PKPbc **PKPbc 18 40 55.8 +0.4**
BRTR Keskin Array B 147.06 321 PKPbc **PKPbc 18 40 55.7 +0.3**
BRTR Keskin Array B 147.06 321 PKPbc **PKPbc 18 40 55.7 +0.3**
comp=Z,17nm,0.8s,baz=120,slow=2.0,SNR=7.6
ANTO Ankara 147.48 322 *e*PKPbc **PKPbc 18 40 56.9 +0.5**
ASF Jabal al Asfar 148.67 306 PKPbc **PKPbc 18 40 58.9 -0.9**
ASF Jabal al Asfar 148.67 306 PKPbc **PKPbc 18 40 58.9 -0.9**
comp=Z,4.2nm,0.7s,baz=25,slow=0.8,SNR=3.9
DAVOX Davos/Dischmat 149.33 356 PKPbc **PKPbc 18 41 01.4 +0.2**
DAVOX Davos/Dischmat 149.33 356 PKPbc **PKPbc 18 41 01.4 +0.2**
comp=Z,6.5nm,0.8s,baz=225,slow=2.9,SNR=3.9
MMAI Mount Meron Ar 149.46 309 PKPbc **PKPbc 18 41 02.5 +0.7**
MMAI Mount Meron Ar 149.46 309 PKPbc **PKPbc 18 41 02.5 +0.7**
comp=Z,11nm,0.8s,baz=68,slow=3.9,SNR=5.3
CSS Prodhromos 150.01 314 *e*PKPbc **PKPbc 18 41 03.1 +0.1**
EIL Elat 151.18 303 PKPbc **PKPbc 18 41 04.8 -1.1**
EIL Elat 151.18 303 PKPbc **PKPbc 18 41 04.8 -1.1**
comp=Z,10nm,0.9s,baz=158,slow=5.4,SNR=4.0
ESDC Sonseca Array 154.56 20 PKPab **PKPab 18 41 27.0 -0.7**
ESDC Sonseca Array 154.56 20 PKPab **PKPab 18 41 27.0 -0.7**
comp=Z,1.1nm,0.6s,baz=328,slow=3.7,SNR=3.2
TORD Torodi Ar. Bea 173.91 118 PKP **PKPdf 18 41 22.0 -0.5**
TORD PKPab **PKPab 18 42 51.8 -1.3**
TORD Torodi Ar. Bea 173.91 118 PKP **PKPdf 18 41 22.0 -0.5**
comp=Z,1.9nm,0.8s,baz=272,slow=2.5,SNR=3.2
TORD PKPab **PKPab 18 42 51.8 -1.3**
comp=Z,8.5nm,0.9s,baz=297,slow=2.2,SNR=3.7

ISCJB ***29*** *18:21:41.0±0.1, 16°.24S±0°.05×172°.94W±0°.03, h10km, mb5.6/145, MS6.1/4, Error ellipse: s-maj=7.3km s-min=3.5km az=157.5*
IDC ***29*** *18:21:41.1±0.4, 16°.20S×172°.93W, h0km, mb5.3/31, mb1 5.4/31, mb1mx5.3/35, mbtmp5.3/31, Error ellipse: s-maj=16.6km s-min=11.9km az=137.0*
NEIC ***29*** *18:21:42.5±0.1, 16°.21S×172°.98W, h10km, mb5.8/98, Error ellipse: s-maj=6.9km s-min=3.4km az=147.0*
BJI ***29*** *18:21:43.2, 15°.88S×173°.18W, h10km, mB6.1/6, mb5.8/28, Ms6.4/10, Ms7 6.2/7*
MOS ***29*** *18:21:45.1±1.0, 16°.08S×173°.01W, h33km, mb5.9/37, Error ellipse: s-maj=12.0km s-min=8.2km az=47.5*
SZGRF ***29*** *18:21:48.0, 15°.81S×172°.26W, h33km, Samoa Islands region*
AUST ***29*** *18:21:54.7, 16°.51S×172°.85W, h100km*
ISC 29 18:21:43.6±0.5, 16°.21S±0°.07×172°.93W±0°.05, h17km±2km**, h16**km**:pP-P, n801,** σ0**93/810, mb5.7/144, MS6.0/4, 197C-182D, Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.54**	**26**	*e*Pn	Pn	18 22 07.6	-17
AFI				*e*Sn	Sn	18 22 45.4	-9.3
RAR	**Rarotonga**	**13.42**	**114**	Pn	**P**	**18 24 59.8**	**-2.9**
RAO	**Raoul Island**	**13.77**	**199**	Pn	Pn	18 24 48.5	-10
DZM	**Mont Dzumac**	**20.33**	**250**	*e*P	Pn	18 26 26.0	+4.7
736nm,1.6s
DZM	**Mont Dzumac**	**20.33**	**250**	P	**P**	**18 26 19.1**	**-0.1**
DZM	**Mont Dzumac**	**20.33**	**250**	P	**P**	**18 26 19.1**	**-0.1**
63nm,1.0s,baz=97,slow=18,SNR=2.6
PAE	**Paea**	**22.38**	**97**	*e*P	**P**	**18 26 40.2**	**-1.0**
89nm,1.5s
PPT2	**Papeete2**	**22.39**	**97**	*e*P	**P**	**18 26 40.6**	**-0.7**
324nm,1.3s
TIAR	**Tiarei**	**22.61**	**97**	*e*P	**P**	**18 26 42.6**	**-1.0**
159nm,1.0s
TVO	**Taravao**	**22.70**	**97**	*e*P	**P**	**18 26 43.6**	**-1.0**
544nm,1.3s
URZ	**Urewera**	**23.65**	**200**	**P**	**P**	**18 26 54.8**	**+0.7**
132nm,0.9s
URZ	**Urewera**	**23.65**	**200**	P	**P**	**18 26 55.3**	**+1.2**
52nm,0.5s,baz=49,slow=11,SNR=5.8
PMOR	**Pomariorio Ree**	**24.14**	**91**	*e*P	**P**	**18 26 57.6**	**-1.3**
401nm,1.5s
VAH	**Vaihoa**	**24.37**	**91**	*e*P	**P**	**18 26 59.2**	**-1.8**
231nm,1.2s
RPZ	**Rata Peaks**	**30.61**	**203**	P	**P**	**18 27 57.5**	**+0.8**
RPZ	**Rata Peaks**	**30.61**	**203**	P	**P**	**18 27 57.5**	**+0.8**
20nm,0.5s,baz=1.9,slow=5.8,SNR=3.4
EIDS	**Eidsvold**	**34.77**	**249**	*e*P	**P**	**18 28 31.0**	**-2.3**
32nm,1.0s
EIDS	**Eidsvold**	**34.77**	**249**	P	**P**	**18 28 35.5**	**+2.2**
baz=35,SNR=3.3
ARMA	**Armidale**	**35.32**	**240**	P	**P**	**18 28 39.2**	**+1.0**
baz=35,SNR=6.3
CNB	**Canberra Magne**	**38.62**	**233**	P	**P**	**18 29 06.9**	**+0.8**
baz=38,SNR=5.3
CTAO	**Charters Tower**	**38.91**	**258**	P	**P**	**18 29 09.3**	**+0.6**
CTAO				pmax	pmax		
comp=Z,35nm,1.0s
CTAO	**Charters Tower**	**38.91**	**258**	P	**P**	**18 29 09.3**	**+0.6**
comp=Z,35nm,1.0s
PMG	**Port Moresby**	**39.45**	**275**	P	**P**	**18 29 13.4**	**+0.2**
PMG	**Port Moresby**	**39.45**	**275**	P	**P**	**18 29 13.4**	**+0.2**
comp=Z,77nm,1.0s,baz=96,slow=8.6,SNR=8.5
QLP	**Quilpie**	**41.03**	**248**	P	**P**	**18 29 24.6**	**-1.6**
baz=41,SNR=5.1
QLP				S	**S**	**18 35 32.6**	**-5.5**
baz=41,SNR=11
TOO	**Toolangi**	**42.31**	**232**	P	P	18 29 40.9	+4.3
baz=42,SNR=4.6
COEN	**Coen**	**42.39**	**267**	*e*P	**P**	**18 29 37.4**	**0.0**
STKA	**Stephens Creek**	**44.03**	**241**	P	**P**	**18 29 51.9**	**+1.3**
STKA	**Stephens Creek**	**44.03**	**241**	P	**P**	**18 29 52.3**	**+1.7**
comp=Z,41nm,0.9s,baz=90,slow=8.1,SNR=4.8
JAY	**Jayapura**	**47.59**	**282**	P	**P**	**18 30 19.4**	**+0.5**
baz=48,SNR=4.3
BBOO	**Buckleboo**	**48.80**	**240**	P	**P**	**18 30 28.3**	**+0.2**
baz=49,SNR=6.0
WRAB	**Tennant Creek**	**50.10**	**257**	*e*P	**P**	**18 30 36.2**	**-1.9**
WRAB				pmax	pmax		
comp=Z,56nm,1.1s
WRAB	**Tennant Creek**	**50.10**	**257**	*e*P	**P**	**18 30 36.2**	**-1.9**
comp=Z,56nm,1.1s
WRA	**Warramunga Arr**	**50.11**	**257**	P	**P**	**18 30 37.5**	**-0.7**
WRA	**Warramunga Arr**	**50.11**	**257**	P	**P**	**18 30 37.5**	**-0.7**
comp=Z,14nm,0.6s,baz=94,slow=6.9,SNR=5.6
AS31	**Alice Springs**	**50.30**	**253**	*e*P	**P**	**18 30 37.9**	**-1.7**
ASAR	**Alice Springs**	**50.30**	**253**	P	**P**	**18 30 38.2**	**-1.4**
ASAR	**Alice Springs**	**50.30**	**253**	P	**P**	**18 30 38.2**	**-1.4**
comp=Z,103nm,0.8s,baz=88,slow=8.2,SNR=9.2
KDU	**Kakadu**	**52.87**	**266**	P	**P**	**18 31 00.6**	**+1.8**
baz=53,SNR=3.7
TLE	**Tual**	**54.23**	**275**	P	P	18 31 13.8	+4.9
baz=54,SNR=3.3
FORT	**Forrest**	**55.46**	**244**	*e*P	**P**	**18 31 16.3**	**-1.3**
SWI	**Sorong**	**57.05**	**280**	P	**P**	**18 31 29.3**	**+0.1**
baz=57,SNR=4.6
FITZ	**Fitzroy Crossi**	**58.49**	**258**	*e*P	**P**	**18 31 38.4**	**-0.9**
comp=Z,58nm,1.3s
FITZ	**Fitzroy Crossi**	**58.49**	**258**	P	**P**	**18 31 38.6**	**-0.6**
comp=Z,10nm,0.7s,baz=121,slow=5.9,SNR=3.8
AAI	**Ambon**	**59.12**	**275**	P	**P**	**18 31 45.3**	**+1.6**
baz=59,SNR=3.8
SOEI	**Soe**	**61.34**	**268**	P	**P**	**18 32 00.4**	**+1.3**
baz=61,SNR=6.2
BATI	**Baumata**	**61.82**	**267**	P	**P**	**18 32 02.6**	**+0.4**
BATI	**Baumata**	**61.82**	**267**	P	**P**	**18 32 02.6**	**+0.4**
comp=Z,31nm,0.6s,baz=197,slow=11,SNR=6.5
SBA	**Scott Base**	**62.49**	**185**	*e*P	**P**	**18 32 07.8**	**+2.2**
SBA				pmax	pmax		
comp=Z,199nm,1.6s
SBA	**Scott Base**	**62.49**	**185**	*e*P	**P**	**18 32 07.8**	**+2.2**
comp=Z,199nm,1.6s
VNDA	**Vanda**	**62.62**	**186**	*e*P	**P**	**18 32 07.1**	**+0.6**
comp=Z,125nm,1.7s
MBWA	**Marble Bar**	**63.57**	**254**	*e*P	**P**	**18 32 12.3**	**-1.5**
comp=Z,130nm,1.3s
NWAO	**Narrogin (SRO)**	**64.62**	**241**	P	**P**	**18 32 20.1**	**-0.4**
KAPI	**Kappang**	**66.85**	**271**	P	**P**	**18 32 33.9**	**-1.2**
KAPI	**Kappang**	**66.85**	**271**	P	**P**	**18 32 33.9**	**-1.2**
comp=Z,15nm,0.9s,baz=160,slow=6.8,SNR=3.7
FX1	**Attu Island--F**	**69.85**	**351**	*e*P	**P**	**18 32 52.7**	**-0.4**
FX1	**Attu Island--F**	**69.85**	**351**	P	**P**	**18 32 52.9**	**-0.2**
comp=Z,48nm,0.9s,baz=204,slow=4.2,SNR=5.9
CASY	**Casey**	**69.87**	**205**	*e*P	**P**	**18 32 53.4**	**+0.2**
comp=Z,159nm,1.7s
SCI	**San Clemente I**	**71.34**	**46**	⇑P	**P**	**18 33 03.5**	**+0.8**
baz=72
PKM	**Peak Mountain**	**71.57**	**44**	⇓P	**P**	**18 33 05.2**	**+1.0**
baz=72
SAO	**San Andreas Ge**	**71.63**	**41**	*e*P	**P**	**18 33 04.7**	**+0.4**
SAO				pmax	pmax		
comp=Z,88nm,1.3s
SAO	**San Andreas Ge**	**71.63**	**41**	*e*P	**P**	**18 33 04.7**	**+0.4**
comp=Z,88nm,1.3s
CIS	**Catalina Islan**	**71.68**	**46**	⇑P	**P**	**18 33 05.3**	**+0.6**
baz=72
HOPS	**Hopland**	**72.01**	**39**	*e*P	**P**	**18 33 06.9**	**+0.4**
KIPM	**Iron Peak**	**72.29**	**38**	*e*P	**P**	**18 33 09.4**	**+1.0**
109C	**Camp Elliot, M**	**72.29**	**47**	⇑P	**P**	**18 33 08.7**	**+0.4**
baz=72
ARVC	**Arvin**	**72.37**	**44**	⇑P	**P**	**18 33 09.4**	**+0.6**
baz=73
MWC	**Mount Wilson**	**72.38**	**45**	*e*P	**P**	**18 33 09.2**	**+0.1**
MWC				pmax	pmax		
comp=Z,772nm,2.6s
MWC	**Mount Wilson**	**72.38**	**45**	*e*P	**P**	**18 33 09.2**	**+0.1**
comp=Z,772nm,2.6s
ASAJ	**Asahikawa**	**72.46**	**328**	P	**P**	**18 33 10.1**	**+1.0**
ASAJ	**Asahikawa**	**72.46**	**328**	P	**P**	**18 33 10.1**	**+1.0**
comp=Z,47nm,1.0s,baz=130,slow=6.1,SNR=5.4
BAR	**Barrett**	**72.48**	**47**	*e*P	**P**	**18 33 09.4**	**-0.2**
comp=Z,41nm,1.6s
VES	**Vestal, Richgr**	**72.61**	**43**	⇑P	**P**	**18 33 10.6**	**+0.4**
baz=73
MURC	**Murrieta**	**72.62**	**46**	⇑P	**P**	**18 33 10.8**	**+0.4**
baz=73
BFSC	**Mount Baldy Ra**	**72.66**	**46**	⇑P	**P**	**18 33 10.8**	**+0.1**
baz=73
JNU	**Nakatsue**	**72.68**	**313**	P	**P**	**18 33 11.1**	**+0.4**
JNU	**Nakatsue**	**72.68**	**313**	P	**P**	**18 33 11.1**	**+0.4**
comp=Z,14nm,0.7s,baz=120,slow=3.3,SNR=6.1
MONP	**Monument Peak**	**72.78**	**47**	⇓P	**P**	**18 33 11.8**	**+0.3**
baz=73,SNR=7.7
RCTC	**Rector, Farmer**	**72.78**	**43**	⇓P	**P**	**18 33 11.5**	**+0.4**
baz=73
EDW2	**Edwards Air Fo**	**72.79**	**45**	⇓P	**P**	**18 33 12.0**	**+0.6**
baz=73,SNR=7.5
KHMM	**Horse Mountain**	**72.83**	**37**	*e*P	**P**	**18 33 12.3**	**+0.7**
comp=Z,76nm,1.4s
DVTC	**Desert V Tower**	**72.88**	**48**	⇑P	**P**	**18 33 12.4**	**+0.5**
baz=73,SNR=6.2
ISA	**Isabella**	**72.91**	**44**	*e*P	**P**	**18 33 12.4**	**+0.3**
ISA				pmax	pmax		
comp=Z,181nm,1.6s
ISA	**Isabella**	**72.91**	**44**	*e*P	**P**	**18 33 12.4**	**+0.3**
comp=Z,181nm,1.6s
ISA	**Isabella**	**72.91**	**44**	⇑P	**P**	**18 33 13.0**	**+0.9**
baz=73,SNR=7.3
CMB	**Columbia Colle**	**73.07**	**41**	*e*P	**P**	**18 33 13.2**	**+0.3**
CMB				pmax	pmax		
comp=Z,110nm,1.5s
CMB	**Columbia Colle**	**73.07**	**41**	*e*P	**P**	**18 33 13.2**	**+0.3**
comp=Z,110nm,1.5s
PFO	**Pinyon Flat Ob**	**73.14**	**47**	P	**P**	**18 33 13.8**	**+0.2**
PFO	**Pinyon Flat Ob**	**73.14**	**47**	P	**P**	**18 33 13.8**	**+0.2**
comp=Z,12nm,0.9s,baz=259,slow=3.6,SNR=5.5
PFO	**Pinyon Flat Ob**	**73.14**	**47**	⇑P	**P**	**18 33 13.9**	**+0.2**
baz=73
SWSC	**Sam W. Stewart**	**73.24**	**48**	⇓P	**P**	**18 33 13.9**	**-0.1**
baz=73
WDC	**Whiskeytown Da**	**73.33**	**38**	*e*P	**P**	**18 33 15.0**	**+0.6**
WDC				pmax	pmax		
comp=Z,176nm,1.5s
WDC	**Whiskeytown Da**	**73.33**	**38**	*e*P	**P**	**18 33 15.0**	**+0.6**
comp=Z,176nm,1.5s
LRMC	**Laurel Mountai**	**73.33**	**44**	⇓P	**P**	**18 33 15.0**	**+0.3**
baz=74
PEA0B	**Petropavlovsk-**	**73.53**	**342**	*e*P	**P**	**18 33 15.8**	**+0.5**
PETK	**Petropavlovsk-**	**73.53**	**342**	P	**P**	**18 33 16.2**	**+0.9**
PETK				pmax	pmax		
comp=Z,53nm,0.9s
PETK	**Petropavlovsk-**	**73.53**	**342**	P	**P**	**18 33 16.2**	**+0.9**
PETK	**Petropavlovsk-**	**73.53**	**342**	P	**P**	**18 33 16.2**	**+0.9**
comp=Z,52nm,0.9s,baz=132,slow=8.6,SNR=16
CWC	**Cottonwood Cre**	**73.62**	**43**	⇓P	**P**	**18 33 16.5**	**+0.2**
baz=74
BELC	**Belle Mtn. Jos**	**73.67**	**47**	⇓P	**P**	**18 33 17.2**	**+0.5**
baz=74,SNR=6.2
KEBM	**Edson Butte**	**73.80**	**35**	*e*P	**P**	**18 33 17.5**	**+0.4**
comp=Z,157nm,1.2s
MPMC	**Manual Prospec**	**73.80**	**44**	⇓P	**P**	**18 33 18.0**	**+0.5**
baz=74,SNR=8.3
GSC	**Goldstone**	**73.83**	**45**	*e*P	**P**	**18 33 17.9**	**+0.3**
GSC				pmax	pmax		
comp=Z,127nm,1.5s
GSC	**Goldstone**	**73.83**	**45**	*e*P	**P**	**18 33 17.9**	**+0.3**
comp=Z,127nm,1.5s
GSC	**Goldstone**	**73.83**	**45**	⇓P	**P**	**18 33 17.8**	**+0.3**
baz=74,SNR=5.4
QSPA	**South Pole Qui**	**73.84**	**180**	P	**P**	**18 33 17.8**	**+0.6**
QSPA	**South Pole Qui**	**73.84**	**180**	P	**P**	**18 33 17.8**	**+0.6**
comp=Z,34nm,0.9s,baz=12,slow=2.6,SNR=6.2
BC3	**Big Chuckawall**	**73.87**	**47**	⇑P	**P**	**18 33 18.3**	**+0.5**
baz=74,SNR=7.1
TIN	**Tinemaha**	**73.88**	**43**	⇓P	**P**	**18 33 18.5**	**+0.7**
baz=74
HEC	**Hector,Ludlow**	**73.90**	**46**	⇑P	**P**	**18 33 18.0**	**+0.1**
baz=74,SNR=6.6
YBH	**Yreka Blue Hor**	**73.97**	**37**	*e*P	**P**	**18 33 19.1**	**+0.9**
comp=Z,66nm,1.0s
YBH	**Yreka Blue Hor**	**73.97**	**37**	P	**P**	**18 33 19.1**	**+0.9**
comp=Z,41nm,0.8s,baz=215,slow=1.9,SNR=12
GLA	**Glamis**	**73.99**	**48**	*e*P	**P**	**18 33 19.1**	**+0.6**
GLA				pmax	pmax		
comp=Z,75nm,1.4s
GLA	**Glamis**	**73.99**	**48**	*e*P	**P**	**18 33 19.1**	**+0.6**
comp=Z,75nm,1.4s
GLA	**Glamis**	**73.99**	**48**	⇓P	**P**	**18 33 19.1**	**+0.6**
baz=74,SNR=6.0
BEKR	**Beckworth**	**74.20**	**39**	*e*P	**P**	**18 33 20.2**	**+0.5**
comp=Z,99nm,1.7s
GMRC	**Granite Mounta**	**74.33**	**46**	⇓P	**P**	**18 33 20.6**	**0.0**
baz=74,SNR=6.0
IRM	**Iron Mountain**	**74.35**	**47**	⇓P	**P**	**18 33 20.7**	**+0.2**
baz=75,SNR=9.0
HUMO	**Hull Mountain**	**74.39**	**36**	*e*P	**P**	**18 33 21.6**	**+1.0**
comp=Z,238nm,1.7s
GRAC	**Grapevine Rang**	**74.41**	**43**	⇓P	**P**	**18 33 21.2**	**+0.4**
baz=75
FURC	**Furnace Creek,**	**74.45**	**44**	⇑P	**P**	**18 33 21.5**	**+0.5**
baz=75
TUQ	**Turquoise Moun**	**74.51**	**45**	⇑P	**P**	**18 33 21.5**	**0.0**
baz=75,SNR=5.9
SHOC	**Shoshone**	**74.52**	**45**	⇓P	**P**	**18 33 22.6**	**+1.1**
baz=75
Y12C	**Blythe**	**74.58**	**47**	⇑P	**P**	**18 33 22.0**	**+0.2**
baz=75,SNR=5.5
BUOR	**Burton Butte**	**74.58**	**37**	P	**P**	**18 33 23.0**	**+1.1**
113A	**Mohawk Valley,**	**74.60**	**49**	⇑P	**P**	**18 33 22.5**	**+0.5**
baz=75,SNR=9.6
NV11	**Mina Array Sit**	**74.72**	**42**	*e*P	**P**	**18 33 23.1**	**+0.3**
214A	**Organ Pipe Nat**	**74.88**	**50**	⇓P	**P**	**18 33 24.1**	**+0.4**
baz=75,SNR=7.2
PDMCI	**Parker Dam,Lak**	**75.14**	**47**	⇓P	**P**	**18 33 25.5**	**+0.5**
baz=75,SNR=6.4
YULB	**Yu-li**	**75.36**	**300**	*e*P	**P**	**18 33 24.6**	**-1.9**
comp=Z,24nm,0.8s
NACB	**Ninganchiao**	**75.45**	**301**	*e*P	**P**	**18 33 26.5**	**-0.6**
comp=Z,117nm,1.1s
MOD	**Modoc**	**75.48**	**38**	*e*P	**P**	**18 33 27.4**	**+0.3**
comp=Z,929nm,1.5s
Z14A	**Wintersburg**	**75.50**	**48**	⇓P	**P**	**18 33 27.9**	**+0.8**
baz=76,SNR=5.6
KDAK	**Kodiak Island**	**75.62**	**11**	P	**P**	**18 33 27.5**	**+0.3**
KDAK	**Kodiak Island**	**75.62**	**11**	P	**P**	**18 33 27.5**	**+0.3**
comp=Z,68nm,1.2s,baz=216,slow=4.8,SNR=5.7
W13A	**Hualapai Mount**	**75.73**	**47**	⇓P	**P**	**18 33 29.4**	**+0.6**
baz=76,SNR=5.5
Y14A	**Wickenburg**	**75.75**	**48**	⇓P	**P**	**18 33 29.2**	**+0.5**
baz=76,SNR=6.1
SSLB	**Suanglung**	**75.81**	**300**	*e*P	**P**	**18 33 28.1**	**-1.1**
comp=Z,37nm,0.8s
YHNB	**Yeheng**	**75.84**	**301**	*e*P	**P**	**18 33 29.0**	**-0.4**
comp=Z,48nm,0.9s
TATO	**Taipei**	**75.88**	**302**	*e*P	**P**	**18 33 29.5**	**0.0**
comp=Z,309nm,0.9s
TPUB	**Ta-pu**	**75.88**	**300**	*e*P	**P**	**18 33 28.3**	**-1.3**
comp=Z,169nm,1.2s
R11A	**Troy Canyon, C**	**76.34**	**43**	*e*P	**P**	**18 33 32.1**	**+0.1**
R11A	**Troy Canyon, C**	**76.34**	**43**	⇓P	**P**	**18 33 32.7**	**+0.6**
baz=76
BMN	**Battle Mountai**	**76.47**	**40**	*e*P	**P**	**18 33 33.2**	**+0.5**
BMN				pmax	pmax		
comp=Z,231nm,1.8s
BMN	**Battle Mountai**	**76.47**	**40**	*e*P	**P**	**18 33 33.2**	**+0.5**
comp=Z,231nm,1.8s
TUC	**Tucson**	**76.55**	**50**	*e*P	**P**	**18 33 33.9**	**+0.6**
TUC				pmax	pmax		
comp=Z,184nm,1.6s
TUC	**Tucson**	**76.55**	**50**	*e*P	**P**	**18 33 33.9**	**+0.6**
comp=Z,184nm,1.6s
WVOR	**Wild Horse Val**	**76.78**	**38**	*e*P	**P**	**18 33 34.9**	**+0.5**
WVOR				pmax	pmax		
comp=Z,202nm,1.6s
WVOR	**Wild Horse Val**	**76.78**	**38**	*e*P	**P**	**18 33 34.9**	**+0.5**
comp=Z,202nm,1.6s
NLWA	**Neilton Lookou**	**77.04**	**32**	*e*P	**P**	**18 33 36.5**	**+0.8**
comp=Z,200nm,1.5s
KSRS	**Korea Array**	**77.05**	**315**	P	**P**	**18 33 37.5**	**+1.6**
comp=Z,16nm,1.1s,baz=123,slow=5.6,SNR=6.7
KSAR	**Wonju Array Be**	**77.07**	**315**	P	**P**	**18 33 37.5**	**+1.5**
X16A	**Lo Mia Camp, P**	**77.11**	**48**	⇓P	**P**	**18 33 37.5**	**+1.0**
baz=77,SNR=7.8
TDL	**Tradedollar La**	**77.21**	**33**	P	**P**	**18 33 38.0**	**+1.3**
319A	**Douglas**	**77.23**	**52**	⇓P	**P**	**18 33 37.8**	**+0.6**
baz=77,SNR=9.6
CCUT	**Cedar City**	**77.38**	**45**	*e*P	**P**	**18 33 38.6**	**+0.6**
comp=Z,109nm,1.4s
ARUT	**Antelope Range**	**77.46**	**44**	*e*P	**P**	**18 33 39.1**	**+0.7**
ARUT				pmax	pmax		
comp=Z,5μm,1.7s
ARUT	**Antelope Range**	**77.46**	**44**	*e*P	**P**	**18 33 39.1**	**+0.7**
comp=Z,5μm,1.7s
U15A	**North Rim**	**77.53**	**46**	⇑P	**P**	**18 33 40.1**	**+1.2**
baz=78,SNR=7.9
CISI	**Cisompet, Garu**	**77.65**	**266**	P	**P**	**18 33 40.1**	**+0.3**
baz=78,SNR=3.5
GLK	**Glacier Lake**	**77.67**	**33**	P	**P**	**18 33 40.2**	**+0.9**
LON	**Longmire**	**77.69**	**33**	*e*P	**P**	**18 33 39.4**	**+0.1**
LON				pmax	pmax		
comp=Z,154nm,1.6s
LON	**Longmire**	**77.69**	**33**	*e*P	**P**	**18 33 39.4**	**+0.1**
comp=Z,154nm,1.6s
WUAZ	**Wupatki**	**77.71**	**47**	*e*P	**P**	**18 33 40.6**	**+0.8**
comp=Z,364nm,2.1s
WUAZ	**Wupatki**	**77.71**	**47**	⇑P	**P**	**18 33 40.8**	**+1.0**
baz=78,SNR=5.7
KSM	**Kuching**	**77.71**	**275**	*e*P	**P**	**18 33 40.6**	**+0.5**
comp=Z,55nm,1.0s
KSM	**Kuching**	**77.71**	**275**	P	**P**	**18 33 41.5**	**+1.4**
baz=78,SNR=3.9
320A	**Kipp Ranch, An**	**77.78**	**52**	⇓P	**P**	**18 33 41.1**	**+0.8**
baz=78,SNR=9.0
WPW	**White Pass**	**77.79**	**33**	P	**P**	**18 33 40.7**	**+0.8**
ELK	**Elko**	**77.89**	**41**	*e*P	**P**	**18 33 41.0**	**+0.3**
comp=Z,84nm,1.4s
LEM	**Lembang**	**78.03**	**266**	P	**P**	**18 33 43.0**	**+1.0**
baz=78,SNR=4.0
220A	**Playas Peak, P**	**78.05**	**52**	⇑P	**P**	**18 33 42.7**	**+1.0**
baz=78,SNR=7.0
PGC	**Sidney**	**78.09**	**31**	*e*P	**P**	**18 33 41.8**	**+0.4**
comp=Z,17nm,1.5s
RSO	**Redoubt South**	**78.12**	**10**	*e*P

222A	Williams Famil baz=79	79.21	52	⇓P	P	18 33 48.5	+0.4
WTV	Waterville	79.27	33	P	P	18 33 48.4	+0.4
X20A	Quemado baz=80,SNR=6.7	79.30	49	⇑P	P	18 33 49.6	+0.9
Z21A	St. Cloud Mine baz=80,SNR=8.0	79.33	51	⇑P	P	18 33 49.9	+1.0
BGU	Big Grassy Mou comp=Z,164nm,1.9s	79.39	42	eP	P	18 33 49.0	0.0
NLU	North Lily Min comp=Z,132nm,1.8s	79.50	43	eP	P	18 33 49.8	+0.2
122A	Conniff Cattle baz=80,SNR=6.5	79.56	52	⇓P	P	18 33 51.2	+1.2
Q16A	Castle Valley	79.57	44	eP	P	18 33 50.9	+0.9
Q16A	Castle Valley baz=80	79.57	44	⇓P	P	18 33 51.3	+1.3
W20A	Ramah baz=80,SNR=7.5	79.57	49	⇑P	P	18 33 51.1	+0.9
Y21A	Point of Rocks baz=80,SNR=6.6	79.65	50	⇓P	P	18 33 51.7	+1.1
TMUT	Trail Mountain comp=Z,63nm,0.8s	79.73	44	eP	P	18 33 52.0	+0.9
X21A	Alamocita Cree baz=80	79.77	50	⇑P	P	18 33 52.2	+0.9
PMR	Palmer	79.82	11	eP	P	18 33 50.3	-0.3
PMR				pmax	pmax		
	comp=Z,222nm,1.5s						
PMR	Palmer comp=Z,222nm,1.5s	79.82	11	eP	P	18 33 50.3	-0.3
MPU	Maple Canyon	79.82	43	eP	P	18 33 51.5	+0.1
Z22A	Elephant Butte baz=80,SNR=7.5	79.83	51	⇑P	P	18 33 52.3	+0.7
V20A	Brimhall baz=80	79.91	48	⇑P	P	18 33 52.7	+0.7
MDJ	Mudanjiang	79.94	322	P	P	18 33 52.8	+1.2
MDJ				pmax	pmax		
	comp=Z,44nm,1.4s						
MDJ	Mudanjiang	79.94	322	eP	P	18 33 53.0	+1.3
HLID	Hailey comp=Z,44nm,1.0s	79.96	39	eP	P	18 33 52.5	+0.4
HLID	Hailey baz=80	79.96	39	⇑P	P	18 33 53.2	+1.1
SPUT	South Promonto comp=Z,142nm,1.6s	79.97	42	eP	P	18 33 52.4	+0.3
HVU	Hansel Valley	80.01	41	eP	P	18 33 52.5	+0.2
HVU				pmax	pmax		
	comp=Z,64nm,1.3s						
HVU	Hansel Valley comp=Z,64nm,1.3s	80.01	41	eP	P	18 33 52.5	+0.2
123A	Bell Site, Whi baz=80	80.08	52	⇑P	P	18 33 53.4	+0.5
SRU	San Rafael	80.10	44	eP	P	18 33 53.3	+0.4
SRU				pmax	pmax		
	comp=Z,118nm,1.5s						
SRU	San Rafael comp=Z,118nm,1.5s	80.10	44	eP	P	18 33 53.3	+0.4
U20A	Newcomb baz=80	80.15	48	⇓P	P	18 33 53.2	0.0
324A	Moseley Ranch, baz=80,SNR=6.5	80.16	53	⇑P	P	18 33 53.5	+0.1
Y22D	IRIS PASSCAL I baz=80	80.24	50	⇓P	P	18 33 54.3	+0.6
JLU	Jordanelle comp=Z,88nm,1.4s	80.24	43	eP	P	18 33 53.9	+0.1
425A	Indio Mountain baz=80,SNR=8.8	80.26	54	⇓P	P	18 33 54.4	+0.5
MNTX	Cornudas Mount comp=Z,94nm,1.5s	80.34	53	eP	P	18 33 54.5	+0.4
X22A	Bernardo baz=80	80.37	50	⇑P	P	18 33 55.7	+1.3
Z23A	Rita Site, Whi baz=81	80.39	51	⇑P	P	18 33 55.2	+0.7
224A	Cornudas Mount baz=81	80.40	53	⇓P	P	18 33 55.3	+0.7
626A	Big Bend Ranch baz=81	80.41	55	⇓P	P	18 33 55.4	+0.7
MVCO	Mesa Verde baz=81	80.56	47	⇑P	P	18 33 55.8	+0.3
526A	Mary Lane Ranc baz=81,SNR=5.6	80.65	55	⇑P	P	18 33 56.5	+0.5
TXAR	Lajitas Array	80.69	56	P	P	18 33 56.5	+0.3
TXAR	Lajitas Array comp=Z,6.8nm,0.7s,baz=215,slow=6.1,SNR=12	80.69	56	P	P	18 33 56.5	+0.3
124A	Stringfield Ra baz=81	80.72	52	⇑P	P	18 33 57.1	+0.7
W22A	Albuquerque baz=81	80.73	49	⇓P	P	18 33 57.5	+1.1
PV10	Paradox Valley comp=Z,724nm,0.7s	80.75	46	eP	P	18 33 56.6	+0.1
U21A	Nageezi baz=81	80.78	48	⇑P	P	18 33 57.5	+0.8
Y23A	Lovelace Mesa, baz=81,SNR=5.2	80.82	51	⇓P	P	18 33 57.5	+0.6
225A	Deer Hill, Car baz=81	80.95	53	⇑P	P	18 33 58.5	+0.8
PV01	Paradox Valley comp=Z,5μm,1.0s	80.95	46	eP	P	18 33 57.9	+0.3
S20A	Disappointment baz=81	80.95	46	⇑P	P	18 33 58.5	+0.9
426A	McDonald Obser baz=81,SNR=6.7	80.95	54	⇓P	P	18 33 58.3	+0.6
627A	Terlingua Ranc baz=81	80.96	56	⇑P	P	18 33 58.3	+0.7
ANMO	Albuquerque comp=Z,31nm,1.0s	80.97	50	eP	P	18 33 58.2	+0.5
X23A	Hourglass Bar baz=81	81.01	50	⇑P	P	18 33 58.6	+0.7
NJ2	Nanjing	81.01	307	eP	P	18 33 58.0	+0.3
NJ2				pmax	pmax		
	comp=Z,30nm,1.3s						
527A	Woodward Ranch baz=81	81.06	55	⇑P	P	18 33 58.6	+0.4
Z24A	Sheeppen Canyo baz=81	81.07	52	⇑P	P	18 33 58.8	+0.6
V22A	San Miguel Ran baz=81	81.08	49	⇓P	P	18 33 59.0	+0.7
R20A	Redvale baz=81	81.11	46	⇓P	P	18 33 59.1	+0.7
NEW	Newport comp=Z,77nm,1.5s	81.12	34	eP	P	18 33 57.6	-0.3
NEW	Newport baz=81,SNR=5.4	81.12	34	⇑P	P	18 33 57.9	-0.1
T21A	Navajo Lake baz=81	81.14	47	⇓P	P	18 33 59.5	+0.9
M17A	Scullys Gap (B baz=81	81.20	42	⇓P	P	18 33 58.6	-0.2
326A	Caldwell Ranch baz=81	81.27	54	⇑P	P	18 33 59.4	+0.2
Y24A	Capitan baz=82,SNR=6.8	81.28	51	⇓P	P	18 33 59.8	+0.5
W23A	Werner Place, baz=82,SNR=8.5	81.30	50	⇑P	P	18 33 59.8	+0.4
125A	Gardner Draw, baz=82	81.31	52	⇓P	P	18 33 59.7	+0.3
U22A	Llaves baz=82	81.34	48	⇓P	P	18 33 59.5	-0.1
628A	Black Gap, Mar baz=82	81.37	56	⇓P	P	18 33 59.9	+0.2
P19A	Cripple Cowboy baz=82	81.40	45	⇓P	P	18 34 00.5	+0.6
226B	Tecolote Peak, baz=82,SNR=5.2	81.44	53	⇓P	P	18 34 00.6	+0.5
427A	Hayter Ranch, baz=82,SNR=6.3	81.52	55	⇑P	P	18 34 01.0	+0.4
Q20A	Ridgley Place, baz=82,SNR=7.0	81.53	45	⇑P	P	18 34 01.4	+0.8
V23A	Ortiz Mt. (NFS baz=82,SNR=7.4	81.53	49	⇑P	P	18 34 01.5	+0.8
Z25A	Roswell baz=82	81.53	52	⇓P	P	18 34 01.2	+0.6
X24A	Lazy VL Ranch, baz=82,SNR=6.1	81.56	50	⇓P	P	18 34 00.9	+0.1
AHID	Auburn Hatcher comp=Z,15nm,0.9s	81.58	41	eP	P	18 34 01.0	+0.3
T22A	Edith baz=82	81.59	48	⇑P	P	18 34 01.8	+0.8
O19A	Miners Draw (B baz=82	81.62	44	⇓P	P	18 34 01.6	+0.6
327A	Balmorhea Ranc baz=82	81.67	54	⇑P	P	18 34 01.7	+0.4
528A	Cox Ranch, San baz=82	81.72	55	⇓P	P	18 34 02.0	+0.3
P20A	De Beque baz=82,SNR=6.4	81.73	45	⇓P	P	18 34 02.2	+0.6
RRI2	Red Ridge comp=Z,224nm,1.6s	81.75	40	eP	P	18 34 01.7	0.0
R21A	Cimarron baz=82,SNR=9.5	81.77	46	⇑P	P	18 34 02.8	+0.9
U23A	El Rito baz=82,SNR=7.4	81.79	49	⇑P	P	18 34 02.6	+0.5
126A	Clayton Basin, baz=82,SNR=5.0	81.79	53	⇓P	P	18 34 02.1	+0.1
PAX	Paxson	81.80	12	eP	P	18 34 00.4	-0.8
PAX				pmax	pmax		
	comp=Z,145nm,1.6s						
PAX	Paxson comp=Z,145nm,1.6s	81.80	12	eP	P	18 34 00.4	-0.8
BPAW	Bear Paw Mtn. comp=Z,53nm,1.5s	81.83	10	eP	P	18 34 00.1	-1.2
MCK	McKinley	81.83	11	eP	P	18 34 01.1	-0.2
MCK				pmax	pmax		
	comp=Z,268nm,1.4s						
MCK	McKinley comp=Z,268nm,1.4s	81.83	11	eP	P	18 34 01.1	-0.2
Y25A	Mesa, Roswell baz=82,SNR=5.9	81.83	51	⇓P	P	18 34 02.3	+0.1
L18A	Fontenelle, Gr baz=82,SNR=5.1	81.83	42	⇑P	P	18 34 02.1	0.0
W24A	Lazy 6 Ranch, baz=82,SNR=5.5	81.86	50	⇓P	P	18 34 02.4	-0.1
S22A	4UR Ranch, Cre baz=82,SNR=11	81.98	47	⇑P	P	18 34 03.9	+0.7
CN2	Changchun	81.99	320	eP	P	18 34 04.0	+1.4
CN2				pmax	pmax		
	comp=Z,80nm,0.7s						
428A	Kincaid Ranch, baz=82	82.03	55	⇑P	P	18 34 03.7	+0.4
DLMT	Dillon comp=Z,205nm,1.6s	82.04	38	eP	P	18 34 03.0	0.0
REDW	Red Top Meadow comp=Z,96nm,1.4s	82.05	41	eP	P	18 34 03.5	+0.3
TPAW	Teton Pass comp=Z,77nm,1.4s	82.05	40	eP	P	18 34 03.5	+0.2
MSO	Missoula baz=82,SNR=8.0	82.06	36	⇓P	P	18 34 03.1	+0.1
Z26A	Caprock baz=82,SNR=7.6	82.09	52	⇑P	P	18 34 03.9	+0.4
X25A	Clemmons Ranch baz=82,SNR=6.4	82.11	51	⇑P	P	18 34 04.0	+0.3
O20A	White River Ci	82.14	44	eP	P	18 34 04.1	+0.3
O20A	White River Ci baz=82	82.14	44	⇑P	P	18 34 04.1	+0.3
529A	Stev Forest Ra baz=82	82.16	56	⇑P	P	18 34 03.9	0.0
SNOW	Snow King Moun comp=Z,216nm,1.6s	82.16	41	eP	P	18 34 04.4	+0.5
V24A	Rampart Ranch, baz=82,SNR=5.4	82.19	49	⇓P	P	18 34 04.5	+0.3
M19A	Rock Springs baz=82,SNR=7.4	82.20	43	⇓P	P	18 34 04.4	+0.3
328A	Wristen Ranch, baz=82	82.20	54	⇑P	P	18 34 04.0	-0.1
T23A	Casias Ranch, baz=82,SNR=6.7	82.22	48	⇑P	P	18 34 04.9	+0.6
R22A	Saguache, Gunn baz=82,SNR=7.3	82.26	47	⇓P	P	18 34 05.6	+1.1
IMW	Indian Meadow comp=Z,164nm,1.5s	82.27	40	eP	P	18 34 04.9	+0.4
DLBC	Dease Lake	82.28	21	eP	P	18 34 04.2	+0.3
127A	Arkansas Junct baz=82	82.31	53	⇓P	P	18 34 04.7	0.0
MOOW	Moose Ponds comp=Z,87nm,1.7s	82.31	40	eP	P	18 34 04.9	+0.3
LOHW	Long Hollow comp=Z,149nm,1.5s	82.33	40	eP	P	18 34 05.0	+0.3
P21A	Newcastle baz=83	82.38	45	⇑P	P	18 34 05.6	+0.5
Q22A	Crested Butte, baz=83,SNR=10	82.44	46	⇓P	P	18 34 06.1	+0.5
N20A	Spence Gulch, baz=83,SNR=7.2	82.46	44	⇑P	P	18 34 06.1	+0.7
BLMT	Blacktail Moun comp=Z,36nm,1.4s	82.48	35	eP	P	18 34 03.9	-1.5
Y26A	Elida baz=83,SNR=6.3	82.48	52	⇓P	P	18 34 05.5	-0.2
U24A	Moreno Valley baz=83	82.49	49	⇓P	P	18 34 06.0	+0.3
I17A	Pilgrim Ck. baz=83,SNR=6.6	82.51	40	⇓P	P	18 34 06.6	+1.0
FLWY	Flagg Ranch comp=Z,216nm,1.5s	82.51	40	eP	P	18 34 06.1	+0.4
SMCO	Snowmass comp=Z,240nm,1.5s	82.55	46	eP	P	18 34 06.3	+0.1
W25A	X Bar L Ranch, baz=83,SNR=9.4	82.56	50	⇑P	P	18 34 06.0	0.0
BW06	Boulder Array comp=Z,53nm,1.0s	82.56	42	eP	P	18 34 05.4	-0.6
PDAR	Pinedale Array	82.56	42	P	P	18 34 06.2	+0.2
PDAR	Pinedale Array comp=Z,25nm,0.8s,baz=201,slow=2.5,SNR=21	82.56	42	P	P	18 34 06.2	+0.2
429A	Davenport Ranc baz=83,SNR=5.5	82.61	55	⇑P	P	18 34 06.4	+0.1
YFT	Old Faithful comp=Z,108nm,1.4s	82.62	40	eP	P	18 34 08.0	+1.8
228A	UT Block 9, Go baz=83	82.67	54	⇓P	P	18 34 06.8	+0.2
Z27A	Tatum baz=83	82.69	52	⇑P	P	18 34 06.5	-0.2
O21A	Pagoda baz=83,SNR=5.1	82.69	45	⇑P	P	18 34 06.8	+0.1
T24B	San Luis baz=83,SNR=5.7	82.70	48	⇓P	P	18 34 07.4	+0.5
V25A	Rancho No Teng baz=83,SNR=7.5	82.72	50	⇑P	P	18 34 07.0	+0.1
H17A	Grant Village baz=83	82.75	40	⇑P	P	18 34 08.1	+1.2
X26A	CR and CF Fran baz=83,SNR=8.1	82.76	51	⇓P	P	18 34 06.8	-0.2
BOZ	Bozeman (W)	82.77	38	eP	P	18 34 07.1	+0.3
BOZ				pmax	pmax		
	comp=Z,55nm,1.3s						
BOZ	Bozeman (W) comp=Z,55nm,1.3s	82.77	38	eP	P	18 34 07.1	+0.3
M20A	Sweetwater, Wa baz=83,SNR=7.2	82.83	43	⇑P	P	18 34 07.5	+0.2
YNR	Norris Junctio comp=Z,180nm,1.6s	82.85	39	eP	P	18 34 08.6	+1.2
530A	J-C Ranch, Com baz=83	82.87	56	⇑P	P	18 34 07.6	0.0
P22A	Eagle baz=83,SNR=5.4	82.89	45	⇓P	P	18 34 08.2	+0.5
329A	Wagon Wheel Ra baz=83	82.89	54	⇑P	P	18 34 07.8	+0.1
N21A	Black Mountain baz=83,SNR=6.8	82.92	44	⇓P	P	18 34 08.7	+0.8
SDCO	Great Sand Dun	82.92	48	eP	P	18 34 08.1	+0.1
LKWY	Lake	82.95	40	eP	P	18 34 09.6	+1.7
LKWY				pmax	pmax		
	comp=Z,57nm,1.0s						
LKWY	Lake comp=Z,57nm,1.0s	82.95	40	eP	P	18 34 09.6	+1.7
128A	Castleberry Fa baz=83	82.96	53	⇑P	P	18 34 08.3	+0.2
Y27A	Causey baz=83,SNR=5.2	82.96	52	⇓P	P	18 34 07.8	-0.3
L20A	Wamsutter baz=83,SNR=7.3	82.97	43	⇓P	P	18 34 09.0	+0.9
W26A	Owens Ranch, T baz=83,SNR=6.3	83.02	51	⇑P	P	18 34 08.5	+0.1
K19A	Absolon Red Bu baz=83,SNR=6.1	83.05	42	⇑P	P	18 34 08.3	-0.1
COLA	College	83.07	11	eP	P	18 34 07.4	-0.3
COLA				pmax	pmax		
	comp=Z,534nm,1.0s						
COLA	College comp=Z,534nm,1.0s	83.07	11	eP	P	18 34 07.4	-0.3
S24A	Houchin Ranch, baz=83,SNR=8.3	83.08	48	⇑P	P	18 34 09.5	+0.7
U25A	Circle Dot Ran baz=83,SNR=5.8	83.11	49	⇓P	P	18 34 09.0	+0.1
J19A	Crowheart baz=83,SNR=8.2	83.13	41	⇑P	P	18 34 09.2	+0.3
ILAR	Eielson Array	83.15	11	P	P	18 34 08.1	-0.1
ILAR	Eielson Array comp=Z,42nm,1.1s,baz=225,slow=4.7,SNR=15	83.15	11	P	P	18 34 08.1	-0.1
631A	Perdido Creek baz=83,SNR=5.0	83.19	57	⇓P	P	18 34 08.9	-0.3
IM04	Indian Mountai	83.19	8	eP	P	18 34 08.1	-0.3
Q23A	Hartsel baz=83,SNR=7.3	83.21	46	⇑P	P	18 34 09.9	+0.4
K20A	Yellowstone Ra baz=84,SNR=10	83.29	42	⇑P	P	18 34 09.6	0.0
O22A	Kremmling baz=84,SNR=8.2	83.29	45	⇓P	P	18 34 10.3	+0.4
MSTX	Muleshoe	83.30	52	eP	P	18 34 09.8	-0.1
MSTX	Muleshoe baz=84,SNR=6.8	83.30	52	⇑P	P	18 34 09.5	-0.3
V26A	Tequesquite Ra baz=84,SNR=6.5	83.31	50	⇑P	P	18 34 09.6	-0.3
Z28A	Tucker Farm, M baz=84,SNR=6.5	83.31	53	⇑P	P	18 34 09.7	-0.2
WALA	Waterton Lakes comp=Z,7.2nm,1.6s	83.32	35	eP	P	18 34 09.3	-0.2
X27A	F and S Farms, baz=84,SNR=6.3	83.33	51	⇑P	P	18 34 10.1	+0.1
R24A	Sanders Place, baz=84,SNR=9.2	83.42	47	⇑P	P	18 34 11.1	+0.7
732A	Laxson Ranch, baz=84	83.42	58	⇑P	P	18 34 09.0	-1.4
P23A	Jefferson baz=84,SNR=5.8	83.42	46	⇓P	P	18 34 11.1	+0.5
M21A	Separation Pea baz=84,SNR=8.4	83.42	43	⇑P	P	18 34 10.6	+0.1
T25A	Trinidad baz=84	83.43	48	⇓P	P	18 34 10.5	-0.1
129A	Stewart Farms, baz=84	83.44	53	⇑P	P	18 34 10.4	-0.2
H18A	Shoshone NF, C baz=84,SNR=7.0	83.46	40	⇓P	P	18 34 11.2	+0.7
330A	Mertzon baz=84	83.49	55	⇓P	P	18 34 09.8	-1.0
531A	Rocksprings baz=84	83.50	56	⇓P	P	18 34 10.9	0.0
W27A	Bowe Ranch, En baz=84,SNR=8.8	83.53	51	⇑P	P	18 34 11.0	0.0
I19A	Meeteetse baz=84,SNR=8.2	83.55	41	⇑P	P	18 34 11.6	+0.6
RWWY	Rawlins comp=Z,349nm,1.5s	83.56	43	eP	P	18 34 16.8	+5.6
L21A	Rawlins baz=84	83.59	43	⇓P	P	18 34 11.2	0.0
U26A	Atchley Ranch, baz=84,SNR=5.9	83.59	49	⇓P	P	18 34 11.1	-0.3
QIZ	Qiongzhong	83.63	292	S	S	18 44 28.5	-5.2
QIZ				pmax	pmax		
	comp=Z,53nm,2.1s						
QIZ	Qiongzhong	83.63	292	P	P	18 34 10.3	-1.4
QIZ				S	S	18 44 33.5	-0.2
QIZ				pmax	pmax		
	comp=Z,94nm,2.3s						
S25A	Robets Cordova baz=84,SNR=8.0	83.64	48	⇑P	P	18 34 11.7	+0.1
N22A	Wattenberg Ran baz=84,SNR=7.7	83.65	44	⇑P	P	18 34 12.0	+0.3
431A	Sonora baz=84	83.66	56	⇑P	P	18 34 10.9	-0.7
Y28A	McKinney Farm, baz=84	83.67	52	⇓P	P	18 34 11.4	-0.3
Q24A	Divide baz=84,SNR=5.8	83.71	47	⇓P	P	18 34 12.3	+0.2
230A	Sterling City baz=84	83.73	54	⇑P	P	18 34 11.4	-0.7
O23A	Lake Granby, G baz=84,SNR=5.8	83.75	45	⇓P	P	18 34 12.4	+0.2
ISCO	Idaho Springs	83.77	46	eP	P	18 34 12.2	-0.1
ISCO				pmax	pmax		
	comp=Z,134nm,1.8s						
ISCO	Idaho Springs comp=Z,134nm,1.8s	83.77	46	eP	P	18 34 12.2	-0.1
ISCO	Idaho Springs baz=84,SNR=5.1	83.77	46	⇑P	P	18 34 12.5	+0.2
J20A	Shoshoni baz=84,SNR=8.4	83.79	42	⇑P	P	18 34 12.7	+0.6
Z29A	Hungry Hill Ra baz=84,SNR=5.9	83.82	53	⇑P	P	18 34 12.4	-0.1
M22A	Cedar Creek Ra baz=84,SNR=5.7	83.84	44	⇑P	P	18 34 13.1	+0.5
632A	Uvalde baz=84	83.86	57	⇓P	P	18 34 12.2	-0.4
H19A	Powell baz=84,SNR=6.1	83.87	40	⇑P	P	18 34 13.4	+0.8
RLMT	Red Lodge comp=Z,24nm,0.8s	83.92	40	eP	P	18 34 13.4	+0.5
X28A	Dimmitt baz=84,SNR=6.3	83.95	52	⇓P	P	18 34 12.9	-0.3
R25A	Fountain Ranch baz=84,SNR=6.6	83.96	48	⇓P	P	18 34 13.2	0.0
K21A	Alcova baz=84,SNR=8.5	83.98	43	⇑P	P	18 34 13.4	+0.1
V27A	Dan Oppiter Fa baz=84	83.99	50	⇑P	P	18 34 13.0	-0.3
532A	Rocksprings baz=84	84.00	56	⇓P	P	18 34 12.6	-0.8
T26A	Comanche Natio baz=84,SNR=6.3	84.04	49	⇓P	P	18 34 13.3	-0.4
N23A	Red Feather La baz=84	84.04	45	⇑P	P	18 34 13.8	+0.1
331A	San Angelo baz=84	84.04	55	⇑P	P	18 34 12.8	-0.8
I20A	Worland baz=84,SNR=8.3	84.05	41	⇑P	P	18 34 13.8	+0.3
Y29A	Porterfield Fa baz=84	84.09	52	⇑P	P	18 34 13.5	-0.3
130A	Snyder baz=84	84.12	54	⇓P	P	18 34 13.4	-0.6
J21A	Lysite baz=84,SNR=8.5	84.20	42	⇑P	P	18 34 14.6	+0.3
JCT	Junction City baz=84	84.22	56	⇓P	P	18 34 13.9	-0.6
L22A	Ellis Ranch, M baz=84,SNR=7.4	84.24	43	⇑P	P	18 34 15.1	+0.5
W28A	Vega baz=84	84.25	51	⇓P	P	18 34 14.2	-0.4
Z30A	Sanderson Ranc baz=84,SNR=6.4	84.27	53	⇑P	P	18 34 14.4	-0.4
U27A	Thompson Grove baz=84,SNR=5.7	84.28	50	⇓P	P	18 34 14.3	-0.5
O24A	Longmont baz=84	84.28	46	⇓P	P	18 34 14.5	-0.3
EGAK	Eagle comp=Z,557nm,2.1s	84.30	13	eP	P	18 34 14.4	+0.3
X29A	Tulia baz=84	84.30	52	⇓P	P	18 34 14.6	-0.3
S26A	Kim baz=84,SNR=7.8	84.31	48	⇑P	P	18 34 14.7	-0.2
Q25A	Bedland, Calha baz=84	84.32	47	⇑P	P	18 34 14.9	-0.2
231A	Bronte baz=84,SNR=7.1	84.37	55	⇓P	P	18 34 14.3	-0.9
432A	Menard baz=84	84.38	56	⇓P	P	18 34 14.6	-0.7
H20A	Greybull baz=85,SNR=6.4	84.40	41	⇓P	P	18 34 15.3	+0.1
V28A	Channing baz=85	84.44	50	⇓P	P	18 34 15.3	-0.4
K22A	Casper baz=85,SNR=6.4	84.47	43	⇓P	P	18 34 15.8	+0.2
F19A	Roth Farm, Mol baz=85,SNR=9.2	84.48	39	⇑P	P	18 34 15.8	+0.2
I21A	Big Trails, Te baz=85,SNR=7.2	84.52	41	⇓P	P	18 34 15.9	0.0
PHWY	Pilot Hill comp=Z,127nm,1.8s	84.55	44	eP	P	18 34 15.7	-0.6
131A	Roby baz=85,SNR=5.2	84.60	54	⇑P	P	18 34 16.2	-0.2
332A	Millersview baz=85,SNR=7.3	84.61	55	⇓P	P	18 34 15.8	-0.7
W29A	Amraillo baz=85,SNR=7.3	84.61	51	⇑P	P	18 34 16.1	-0.4
G20A	Bridger baz=85	84.62	40	⇑P	P	18 34 16.4	+0.1
T27A	Campo baz=85,SNR=5.8	84.62	49	⇓P	P	18 34 16.4	-0.1
R26A	Arlington baz=85,SNR=6.8	84.62	48	⇓P	P	18 34 16.3	-0.2
P25A	Willow Gulch B baz=85	84.64	46	⇓P	P	18 34 16.5	-0.1
Y30A	Stafford Cattl baz=85,SNR=6.3	84.68	53	⇓P	P	18 34 16.4	-0.4
U28A	Mallet baz=85	84.70	50	⇑P	P	18 34 16.3	-0.6
S27A	Las Animas baz=85,SNR=6.7	84.75	48	⇓P	P	18 34 16.5	-0.7
L23A	Garrett baz=85,SNR=9.7	84.76	44	⇑P	P	18 34 17.3	+0.1
Q26A	Hugo baz=85	84.84	47	⇓P	P	18 34 17.3	-0.3
J22A	Midwest baz=85,SNR=7.0	84.85	42	⇓P	P	18 34 17.6	0.0
COLD	Coldfoot comp=Z,150nm,1.4s	84.87	9	eP	P	18 34 17.2	+0.3
232A	Coleman baz=85	84.88	55	⇑P	P	18 34 17.1	-0.7

E19A	Rath Farm, Rou	84.88	39	⇓P	P	18 34 18.0	+0.4
	baz=85,SNR=9.4						
X30A	Coker Ranch, T	84.93	52	⇑P	P	18 34 17.7	-0.3
	baz=85						
F20A	Billings	84.94	39	⇓P	P	18 34 18.3	+0.4
	baz=85						
V29A	Stinnett	85.01	51	⇓P	P	18 34 18.2	-0.2
	baz=85						
Z31A	Sharp Cattle R	85.04	53	⇓P	P	18 34 18.1	-0.5
	baz=85,SNR=7.0						
M24A	Cheyenne	85.05	44	⇓P	P	18 34 18.4	-0.2
	baz=85						
H21A	Big Horn, Sher	85.06	41	⇑P	P	18 34 18.7	+0.1
	baz=85,SNR=6.9						
I22A	9 Mile Ranch,	85.07	42	⇓P	P	18 34 18.6	0.0
	baz=85,SNR=6.4						
R27A	Eads	85.08	48	⇑P	P	18 34 18.5	-0.3
	baz=85,SNR=7.3						
T28A	Walsh	85.09	49	⇑P	P	18 34 18.4	-0.4
	baz=85,SNR=6.5						
EGMT	Eagleton	85.10	37	⇑P	P	18 34 19.0	+0.4
	baz=85,SNR=5.8						
K23A	Bowen Ranch, D	85.10	43	⇓P	P	18 34 18.7	-0.1
	baz=85,SNR=6.2						
ABTX	Abilene, Hawle	85.16	54	eP	P	18 34 18.5	-0.7
ABTX	Abilene, Hawle	85.16	54	⇑P	P	18 34 18.7	-0.5
	baz=85,SNR=5.6						
D19A	Cripps Ranch,	85.18	38	⇑P	P	18 34 19.7	+0.7
	baz=85,SNR=6.0						
Y31A	Rekieta Farm,	85.20	53	⇑P	P	18 34 19.1	-0.3
	baz=85,SNR=6.4						
P26A	Davis Ranch, A	85.23	47	⇑P	P	18 34 18.9	-0.7
	baz=85						
L24A	Wheatland	85.24	44	⇓P	P	18 34 19.2	-0.3
	baz=85						
G21A	Lodge Grass	85.25	40	⇓P	P	18 34 19.6	+0.1
	baz=85						
E20A	Meyer Farm, Mu	85.30	39	⇑P	P	18 34 20.2	+0.6
	baz=86						
C19A	Slack Wire Ran	85.36	37	⇓P	P	18 34 20.9	+0.9
	baz=86,SNR=6.9						
U29A	Oasis Ranch, S	85.43	50	⇑P	P	18 34 20.3	-0.3
	baz=86						
S28A	Manter	85.44	49	⇓P	P	18 34 19.5	-1.0
	baz=86						
H22A	Clearmont	85.48	41	⇓P	P	18 34 21.1	+0.4
	baz=86						
O26A	Horse Wrangler	85.55	46	⇑P	P	18 34 21.1	0.0
	baz=86						
Z32A	Haskell	85.55	54	⇑P	P	18 34 21.0	-0.2
	baz=86,SNR=8.4						
M25A	Palm-Egli Farm	85.56	45	⇓P	P	18 34 21.1	0.0
	baz=86						
D20A	Manuel Ranch,	85.58	38	⇓P	P	18 34 21.6	+0.6
	baz=86,SNR=6.3						
F21A	Absaloka Mine,	85.58	40	⇑P	P	18 34 21.9	+0.8
	baz=86						
V30A	Spur Ranch, Mi	85.59	51	⇑P	P	18 34 21.5	+0.2
	baz=86						
K24A	Anderson Ranch	85.62	43	⇓P	P	18 34 21.4	-0.1
	baz=86						
B19A	Brinkman Farms	85.78	37	⇓P	P	18 34 22.5	+0.5
	baz=86,SNR=7.9						
R28A	Tribune	85.81	48	⇑P	P	18 34 21.6	-0.8
	baz=86						
G22A	Birney	85.81	41	⇓P	P	18 34 22.2	-0.1
	baz=86						
Y32A	R-V Farms, Ver	85.85	53	⇑P	P	18 34 22.1	-0.4
	baz=86,SNR=6.5						
W31A	Holland Ranch,	85.92	52	⇓P	P	18 34 22.6	-0.4
	baz=86,SNR=5.5						
L25A	Engebretsen Ra	85.93	44	⇓P	P	18 34 22.7	-0.2
	baz=86						
EDM	Edmonton	85.94	31	eP	P	18 34 22.3	-0.3
EDM	Edmonton	85.94	31	eP	P	18 34 22.3	-0.3
E21A	Keefer Ranch,	85.95	39	⇓P	P	18 34 23.7	+0.9
	baz=86,SNR=5.5						
C20A	Veseth Ranch,	85.97	38	⇑P	P	18 34 23.5	+0.6
	baz=86,SNR=6.6						
J24A	Dixon Ranch, L	85.99	43	⇑P	P	18 34 22.6	-0.6
	baz=86						
S29A	Ulysses	86.01	49	⇓P	P	18 34 22.6	-0.8
	baz=86						
F22A	Rosebud	86.09	40	⇑P	P	18 34 23.4	-0.1
	baz=86						
O27A	Beecher Island	86.10	46	⇑P	P	18 34 22.9	-0.9
	baz=86						
A19A	Klindworth Far	86.14	37	⇑P	P	18 34 23.8	+0.1
	baz=86,SNR=5.9						
K25A	Mack Ranch, Ha	86.19	44	⇑P	P	18 34 24.0	-0.3
	baz=86						
T30A	Plains	86.22	50	⇑P	P	18 34 23.9	-0.5
	baz=86						
V31A	Spring Creek L	86.22	51	⇑P	P	18 34 24.1	-0.3
	baz=86						
I24A	Kuemmerle Ranc	86.25	42	⇑P	P	18 34 24.1	-0.4
	baz=86						
D21A	La Casta Ranch	86.25	39	⇓P	P	18 34 24.6	+0.2
	baz=86						
B20A	Solberg Farm,	86.31	37	⇓P	P	18 34 24.8	+0.3
	baz=86,SNR=6.2						
N27A	Anderson Farm,	86.32	46	⇑P	P	18 34 24.4	-0.5
	baz=86						
R29A	Marienthal	86.32	48	⇓P	P	18 34 24.3	-0.6
	baz=86						
BJT	Baijiatuau	86.35	313	eP	P	18 34 26.0	+1.1
	comp=Z,363nm,2.0s						
BJI	Beijing	86.35	313	P	P	18 34 25.8	+0.9
BJI				pmax	pmax		
	comp=Z,120nm,1.3s						
P28A	Saint Francis	86.35	47	⇓P	P	18 34 24.1	-1.0
	baz=86						
G23A	Biddle	86.37	41	⇓P	P	18 34 24.8	-0.1
	baz=87						
LAO	LASA Array	86.54	39	eP	P	18 34 26.1	+0.4
	comp=Z,88nm,1.4s						
C21A	Desert Coulee	86.56	38	⇓P	P	18 34 25.1	-0.7
	baz=87						
J25A	Sunshine Ranch	86.58	43	⇓P	P	18 34 25.4	-0.7
	baz=87						
A20A	Cobblestone Ra	86.58	37	⇓P	P	18 34 26.1	+0.2
	baz=87,SNR=8.6						
E22A	Miles City	86.59	40	⇑P	P	18 34 25.5	-0.5
	baz=87						
F23A	Volborg	86.60	40	⇓P	P	18 34 25.7	-0.4
	baz=87						
Q29A	Oakley	86.63	48	⇑P	P	18 34 25.1	-1.2
	baz=87						
WHTX	Lake Whitney	86.64	55	eP	P	18 34 26.0	-0.5
WHTX	Lake Whitney	86.64	55	⇓P	P	18 34 25.3	-1.3
	baz=87						
K26A	Motz Farm, Whi	86.69	44	⇓P	P	18 34 25.6	-1.0
	baz=87						
H24A	Dirks Ranch, A	86.69	42	⇓P	P	18 34 25.9	-0.7
	baz=87,SNR=6.0						
D22A	Cohagen	86.78	39	⇓P	P	18 34 26.3	-0.6
	baz=87						
T31A	Randall Ranch,	86.86	50	⇑P	P	18 34 25.6	-2.0
	baz=87						
R30A	Dighton	86.89	49	⇑P	P	18 34 26.5	-1.1
	baz=87						
B21A	Ellsworth Farm	86.89	38	⇑P	P	18 34 28.0	+0.6
	baz=87,SNR=6.5						
I25A	Rochford	86.90	42	⇓P	P	18 34 27.3	-0.4
	baz=87,SNR=5.2						
N28A	Pribbeno Ranch	86.96	46	⇓P	P	18 34 27.0	-1.0
	baz=87						
L27A	T5 Ranch, Ells	87.01	45	⇑P	P	18 34 27.5	-0.7
	baz=87						
E23A	Ismay	87.01	40	⇑P	P	18 34 27.7	-0.3
	baz=87						
J26A	Sides Ranch, S	87.02	43	⇓P	P	18 34 27.7	-0.5
	baz=87						
MAW	Mawson	87.17	199	P	P	18 34 29.0	+0.6
MAW	Mawson	87.17	199	P	P	18 34 29.0	+0.6
	comp=Z,22nm,0.8s,baz=134,slow=4.7,SNR=8.1						
MAW	Mawson	87.17	199	P	P	18 34 30.0	+1.5
	baz=87,SNR=7.5						
Q30A	Quinter	87.20	48	⇑P	P	18 34 27.9	-1.3
	baz=87						
S31A	Mullinville	87.20	50	⇓P	P	18 34 28.3	-0.9
	baz=87						
A21A	Bergtoll Ranch	87.21	37	⇓P	P	18 34 28.9	-0.1
	baz=87,SNR=6.0						
C22A	Vida	87.24	38	⇓P	P	18 34 28.6	-0.6
	baz=87						
H25A	Fruitdale	87.25	42	⇓P	P	18 34 28.9	-0.4
	baz=87						
M28A	Bar X Bar Ranc	87.37	46	⇑P	P	18 34 29.3	-0.6
	baz=88						
D23A	Lindsay	87.38	39	⇓P	P	18 34 29.4	-0.4
	baz=88						
P30A	Selden	87.41	48	⇑P	P	18 34 29.1	-1.1
	baz=88						
B22A	Reddig Ranch S	87.43	38	⇓P	P	18 34 29.7	-0.3
	baz=88,SNR=5.4						
R31A	Burdett	87.43	49	⇑P	P	18 34 29.0	-1.3
	baz=88						
I26A	New Underwood	87.47	43	⇑P	P	18 34 29.4	-1.0
	baz=88						
C23A	Lambert	87.68	39	⇑P	P	18 34 31.6	+0.3
	baz=88,SNR=6.3						
J27A	Elkhorn Farm,	87.71	44	⇓P	P	18 34 29.5	-2.1
	baz=88						
ENH	Enshi	87.73	302	eP	P	18 34 32.3	+0.4
	comp=Z,25nm,1.0s						
M29A	Burnside Ranch	87.86	46	⇑P	P	18 34 31.7	-0.6
	baz=88						
F25A	Bowman	87.91	41	⇑P	P	18 34 31.8	-0.6
	baz=88						
K28A	Ten Mile Ranch	87.91	44	⇓P	P	18 34 32.1	-0.4
	baz=88						
G27A	Dupree	88.00	42	⇑P	P	18 34 35.0	+2.2
	baz=89						
C24A	Savage	88.02	39	⇑P	P	18 34 32.6	-0.3
	baz=88						
KULM	Kulim	88.03	276	P	P	18 34 34.6	+1.0
B23A	Brockton	88.10	38	⇓P	P	18 34 33.1	-0.1
	baz=88						
HIA	Hailar	88.11	323	eP	P	18 34 34.1	+0.9
G26A	Maurine	88.18	42	⇓P	P	18 34 33.0	-0.7
	baz=88						
H27A	Howes	88.24	42	⇑P	P	18 34 32.6	-1.4
	baz=88						
L29A	Maesberg Ranch	88.25	45	⇑P	P	18 34 33.3	-0.8
	baz=88						
J28A	Allard Ranch,	88.29	44	⇑P	P	18 34 33.2	-1.1
	baz=88						
DGMT	Dagmar	88.58	38	eP	P	18 34 34.6	-0.8
	comp=Z,78nm,1.2s						
DGMT	Dagmar	88.58	38	⇑P	P	18 34 35.0	-0.4
	baz=89						
PLCA	Paso Flores	88.64	132	eP	P	18 34 37.1	+0.9
	comp=Z,81nm,1.8s						
PLCA	Paso Flores	88.64	132	P	P	18 34 37.3	+1.1
	comp=Z,5.0nm,0.7s,baz=236,slow=4.6,SNR=7.3						
K29A	Lazy Trails An	88.64	45	⇓P	P	18 34 35.4	-0.5
	baz=89						
GYA	Guiyang	88.82	298	S	S	18 45 18.8	-5.7
GYA	Guiyang	88.82	298	⇑iP	P	18 34 38.5	+1.3
GYA				PP	PP	18 38 08.5	+1.8
GYA				SKS	SKSac	18 45 05.0	-1.5
GYA				S	ScS	18 45 27.8	-2.0
GYA				SS	SS	18 51 18.0	+0.9
GYA				pmax	pmax		
	comp=Z,60nm,1.2s						
GYA				LR	LR		
	comp=N,980nm,20.8s						
GYA				LR	LR		
	comp=E,820nm,24.3s						
J29A	Okreek	88.89	44	⇓P	P	18 34 35.5	-1.6
	baz=89						
INK	Inuvik	88.94	14	eP	P	18 34 36.1	-0.6
	comp=E,146nm,1.5s						
INK	Inuvik	88.94	14	P	P	18 34 36.9	+0.3
	comp=E,31nm,1.1s,baz=247,slow=3.7,SNR=7.9						
PSI	Prapat	88.99	273	P	P	18 34 37.9	-0.5
PSI	Prapat	88.99	273	P	P	18 34 37.9	-0.5
	comp=E,11nm,0.9s,baz=216,slow=5.2,SNR=5.4						
PSI	Prapat	88.99	273	P	P	18 34 42.3	+4.0
	baz=89,SNR=3.5						
D26A	Manning	89.02	40	⇓P	P	18 34 36.7	-0.9
	baz=89						
H29A	Onida	89.45	43	⇑P	P	18 34 38.8	-0.8
	baz=90						
BGNE	Belgrade	89.60	47	⇓P	P	18 34 39.2	-1.3
	baz=90						
HHC	Hu-ho-hao-te	89.91	313	SS	SS	18 51 37.5	+5.2
HHC				pmax	pmax		
	comp=Z,510nm,1.0s						
HHC				pmax	pmax		
	comp=Z,510nm,6.1s						
HHC				LR	LR		
	comp=N,840nm,16.9s						
HHC				LR	LR		
	comp=E,960nm,16.3s						
HHC				LR	LR		
	comp=Z,2μm,17.4s						
HHC	Hu-ho-hao-te	89.91	313	eP	P	18 34 42.8	+0.8
HHC				sP	sP	18 34 49.0	-0.8
HHC				PP	PP	18 38 18.0	+3.0
HHC				SKS	SKSac	18 45 11.5	-0.8
HHC				S	S	18 45 32.5	-1.5
HHC				sS	sS	18 45 41.0	-2.5
HHC				SS	SS	18 51 34.0	+1.7
HHC				pmax	pmax		
	comp=Z,780nm,1.1s						
HHC				pmax	pmax		
	comp=Z,270nm,6.2s						
HHC				LR	LR		
	comp=N,5μm,20.2s						
HHC				LR	LR		
	comp=E,6μm,20.2s						
HHC				LR	LR		
	comp=Z,5μm,19.0s						
A26A	Wade Farm, Ken	90.05	39	⇑P	P	18 34 42.2	-0.1
	baz=90						
F29A	Eureka	90.18	42	⇓P	P	18 34 42.3	-0.8
	baz=90						
G30A	Faulkton	90.34	43	⇓P	P	18 34 43.2	-0.6
	baz=90						
TEIG	Tepich	90.64	69	eP	P	18 34 46.2	+0.4
	comp=Z,103nm,1.4s						
YKA	Yellowknife Ar	90.66	23	P	P	18 34 44.9	+0.1
YKA	Yellowknife Ar	90.66	23	P	P	18 34 44.9	+0.1
	comp=Z,8.4nm,0.9s,baz=236,slow=4.6,SNR=6.6						
JTS	JuntasAbangare	90.91	80	P	P	18 34 47.3	+0.2
JTS	JuntasAbangare	90.91	80	P	P	18 34 48.6	+1.5
	comp=Z,484nm,1.0s,SNR=6.9						
JTS	JuntasAbangare	90.91	80	P	P	18 34 47.3	+0.2
	comp=Z,44nm,0.9s,baz=301,slow=3.3,SNR=12						
MDND	Maddock	91.11	40	⇑P	P	18 34 46.0	-1.3
	baz=91						
A28A	Rude Farm, Bot	91.12	39	⇓P	P	18 34 46.3	-1.0
	baz=91						
D30A	Buenavan	91.35	41	⇓P	P	18 34 46.9	-1.5
	baz=92						
A29A	Manning Farm,	91.75	39	⇑P	P	18 34 49.1	-1.1
	baz=92						
C30A	Mose, Pekin	91.75	41	⇓P	P	18 34 48.7	-1.6
	baz=92						
KMI	Kunming	91.78	296	P	P	18 34 52.3	+1.1
KMI				pmax	pmax		
	comp=Z,44nm,1.7s						
SYO	Syowa Base	91.90	191	⇑iP	P	18 34 48.5	-2.1
SNAA	Sanae	92.08	177	eP	P	18 34 51.7	+0.1
SNAA	Sanae	92.08	177	eP	P	18 34 51.0	-0.5
	comp=Z,67nm,1.2s						
B30A	Myrvik Farm, E	92.13	40	⇑P	P	18 34 50.7	-1.4
	baz=92						
A30A	Hoffart Farm,	92.33	40	⇑P	P	18 34 51.9	-1.0
	baz=92						
CD2	Chengdu	92.62	301	P	P	18 34 55.0	+0.3
CD2				pmax	pmax		
	comp=Z,50nm,0.5s						
VNA1	Neumayer--Stat	92.71	175	eP	P	18 34 55.5	+1.1
CM31	Chiang Mai Arr	93.30	288	eP	P	18 34 59.3	+1.2
	comp=Z,10nm,0.6s						
CMAR	Chiang Mai Arr	93.30	288	P	P	18 34 60.0	+1.9
CMAR	Chiang Mai Arr	93.30	288	P	P	18 34 60.0	+1.9
	comp=Z,12nm,0.9s,baz=92,slow=2.9,SNR=15						
CHTO	Chiang Mai	93.39	288	eP	P	18 34 59.6	+1.1
CHTO				pmax	pmax		
	comp=Z,158nm,1.2s						
CHTO	Chiang Mai	93.39	288	eP	P	18 34 59.6	+1.1
	comp=Z,158nm,1.2s						
AGMN	Agassiz Nation	93.61	41	eP	P	18 34 57.1	-1.7
	comp=Z,89nm,1.7s						
LZH	Lanzhou	94.07	306	P	P	18 35 03.0	+1.5
LZH				pP	pP	18 35 07.0	-0.2
LZH				sP	sP	18 35 09.3	+0.1
LZH				PP	PP	18 38 48.0	-0.1
LZH				SKS	SKSac	18 45 37.5	+1.5
LZH				S	S	18 46 12.0	+0.2
LZH				sS	sS	18 46 20.0	-1.3
LZH				SS	SS	18 52 31.0	-1.5
LZH				pmax	pmax		
	comp=Z,96nm,1.2s						
LZH				pmax	pmax		
	comp=Z,650nm,5.8s						
LZH				LR	LR		
	comp=N,5μm,16.4s						
LZH				LR	LR		
	comp=E,4μm,14.8s						
LZH				LR	LR		
	comp=Z,5μm,17.9s						
ULM	Lac du Bonnet	94.27	39	eP	P	18 35 00.4	-1.5
SPMN	St. Paul	94.58	44	eP	P	18 35 02.4	-0.9
SPMN	St. Paul	94.58	44	⇓P	P	18 35 02.0	-1.4
	baz=95						
JFWS	Jewell Farm	95.64	47	eP	P	18 35 06.5	-1.8
JFWS				pmax	pmax		
	comp=Z,143nm,1.5s						
JFWS	Jewell Farm	95.64	47	eP	P	18 35 06.5	-1.8
	comp=Z,143nm,1.5s						
SONM	Songino Array	95.75	318	P	P	18 35 08.7	-0.1
SONM	Songino Array	95.75	318	P	P	18 35 08.7	-0.1
	comp=Z,3.2nm,1.0s,baz=130,slow=4.8,SNR=5.8						
COWI	Conover	97.29	44	eP	P	18 35 14.7	-1.0
	comp=Z,39nm,1.2s						
GTA	Gaotai	98.04	309	eP	Pdif	18 35 19.5	+0.1
GTA				pP	pP	18 35 24.3	-0.8
GTA				sP	sP	18 35 27.0	-0.2
GTA				pmax	pmax		
	comp=Z,14nm,1.1s						
LPAZ	La Paz	99.11	110	eP	Pdif	18 35 26.0	+0.7
	comp=Z,9.9nm,1.4s						
ZALV	Zalesovo Beam	110.14	322	PKiKP	PKiKP	18 40 14.2	0.0
ZALV	Zalesovo Beam	110.14	322	PKiKP	PKiKP	18 40 14.2	0.0
	comp=Z,0.6nm,0.5s,baz=116,slow=3.4,SNR=2.2						
MKAR	Makanchi Array	111.71	314	iPKIKP	PKiKP	18 40 16.9	-0.5
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	Makanchi Array	111.71	314	PKiKP	PKiKP	18 40 16.9	-0.5
MKAR	Makanchi Array	111.71	314	PKiKP	PKiKP	18 40 16.9	-0.5
	comp=Z,0.6nm,0.6s,baz=202,slow=0.4,SNR=3.8						
KURK	Kurchatov	114.04	319	iPKIKP	PKiKP	18 40 20.9	-0.8
KURK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KURK	Kurchatov	114.04	319	PKiKP	PKPdf	18 40 20.9	-0.7
KURBB	Kurchatov Arra	114.11	319	PKiKP	PKPdf	18 40 20.9	-0.9
	comp=Z,1.5nm,0.9s,baz=104,slow=1.4,SNR=3.9						
KSH	Kashi	116.32	306	ePdif	Pdif	18 36 44.5	+3.8
KSH				PKP	PKiKP	18 40 29.0	+2.4
KSH				PP	PP	18 41 41.3	+8.5
KSH				PKS	PKSdf	18 44 04.5	+1.1
KSH				SKS	SKSdf	18 47 40.0	+1.7
KSH				SKKS	SKKSac	18 48 34.3	+1.0
KSH				LR	LR		
	comp=N,25μm,15.8s						
KSH				LR	LR		
	comp=E,20μm,14.1s						
KSH				LR	LR		
	comp=Z,36μm,25.6s						
BVAR	Borovoye Array	118.80	322	PKIKP	PKPdf	18 40 29.1	-1.7
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BVAR	Borovoye Array	118.80	322	PKP	PKPdf	18 40 29.1	-1.7
BVAR	Borovoye Array	118.80	322	PKP	PKPdf	18 40 29.1	-1.7
	comp=Z,1.8nm,0.7s,baz=48,slow=2.1,SNR=3.6						
ARCES	ARCESS Array B	125.47	352	PKP	PKPdf	18 40 42.5	-0.7
ARCES	ARCESS Array B	125.47	352	PKP	PKPdf	18 40 42.5	-0.7
	comp=Z,8.6nm,1.0s,baz=343,slow=2.8,SNR=4.5						
ABKAR	Akbulak array	126.12	320	ePKPdf	PKPdf	18 40 44.8	-0.1
AKTO	Aktyubinsk	126.90	322	PKIKP	PKPdf	18 40 46.3	-0.1
AKTO	Aktyubinsk	126.90	322	PKP	PKPdf	18 40 46.3	-0.1
AKTO	Aktyubinsk	126.90	322	PKP	PKPdf	18 40 46.3	-0.1
	comp=Z,0.9nm,0.6s,baz=47,slow=5.3,SNR=4.0						
BOSA	Boshof	132.09	202	ePKPdf	PKPdf	18 40 56.4	-0.9
BOSA				PKP	PKPdf	18 40 58.0	+0.8
BOSA	Boshof	132.09	202	PKP	PKPdf	18 40 58.0	+0.8
	comp=Z,5.9nm,1.0s,baz=165,slow=3.8,SNR=4.1						
FINES	FINESS Array B	132.82	348	PKP	PKPdf	18 40 58.2	+0.9
FINES	FINESS Array B	132.82	348	PKP	PKPdf	18 40 58.2	+0.9
	comp=Z,2.8nm,0.7s,baz=64,slow=3.2,SNR=3.2						
HFS	Hagfors	135.87	355	PKP	PKPdf	18 41 05.0	+1.9
HFS	Hagfors	135.87	355	PKP	PKPdf	18 41 05.0	+1.9
	comp=Z,4.0nm,0.8s,baz=316,slow=4.0,SNR=3.0						
EKA	Eskdalemuir Ar	140.17	9	PKPpre	PKPpre	18 41 02.0	
EKA	Eskdalemuir Ar	140.17	9	PKhKP	PKPpre	18 41 02.0	
	comp=Z,1.2nm,0.8s,baz=115,slow=9.6,SNR=3.0						
AKASG	Malin Array Be	141.26	337	iPKIKP	PKPpre	18 41 08.8	
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKASG	Malin Array Be	141.26	337	PKPpre	PKPpre	18 41 08.8	
AKASG	Malin Array Be	141.26	337	PKhKP	PKPpre	18 41 08.8	
	comp=Z,2.2nm,0.6s,baz=38,slow=4.1,SNR=8.2						
LSZ	Lusaka	142.40	215	ePKPdf	PKPdf	18 41 16.3	-0.2
BEL	Belsk	142.81	346	ePKP	PKPdf	18 41 13.2	-2.8
IBBN	Ibbenburen	143.98	359	ePKPbc	PKPab	18 41 15.5	+0.2
WTSB	Winterswijk	144.32	0	ePKPdf	PKPbc	18 41 16.8	-0.1
	comp=Z,210nm,1.8s						
KWP	Kalwaria Pacla	144.33	343	ePKIKP	PKPbc	18 41 17.1	+0.1
KWP	Kalwaria Pacla	144.33	343	ePKPdf	PKPbc	18 41 17.1	0.0
KWP	Kalwaria Pacla	144.33	343	⇓iP	PKPab	18 41 16.7	0.0
KWP	Kalwaria Pacla	144.33	343	ePKP	PKPbc	18 41 17.7	+0.7
CLZ	Clausthal	144.35	356	ePKPbc	PKPbc	18 41 17.2	+0.1
KIS	Kishinev	144.40	334	eP	PKPab	18 41 17.0	0.0
	comp=Z,200nm,1.8s						
KSP	Ksiaz	144.66	350	ePKP	PKPbc	18 41 18.6	+0.5
CLL	Collm	144.66	354	iPKPdf	PKPab	18 41 17.4	-0.5
	comp=Z,54nm,1.2s						
MALT	Malatya	144.75	315	⇑iP	PKPdf	18 41 20.5	+0.5
BUG	Bochum--Univer	144.85	360	ePKPbc	PKPab	18 41 17.7	-0.8
STHS	Stebnicka Huta	144.93	344	ePKP	PKPdf	18 41 20.0	+0.2
BRG	Berggiesshubel	144.98	352	⇑iPKP	PKPbc	18 41 19.1	+0.1
	comp=Z,136nm,2.0s						
BRG	Berggiesshubel	144.98	352	ePKPbc	PKPab	18 41 18.3	-0.8
ATD	Arta Tunnel	144.99	267	PKP	PKPdf	18 41 22.7	+1.7
ATD	Arta Tunnel	144.99	267	PKP	PKPdf	18 41 22.7	+1.7
	baz=270,slow=19						
UPC	Upice	145.03	350	iPKP	PKPdf	18 41 20.0	+0.1
UPC				epPKP	pPKPdf	18 41 25.3	-0.5
KOLS	Kolonicke sedl	145.08	342	ePKP	PKPdf	18 41 20.2	+0.1
DPC	Dobruska-Polom	145.13	350	ePKP	PKPab	18 41 19.9	+0.2
DPC				ex	x	18 41 31.8	
PVCC	Panska Ves	145.24	352	ePKP	PKPab	18 41 20.1	+0.1
OKC	Ostrava-Krasne	145.28	347	ePKP	PKPdf	18 41 20.3	-0.1
BURAR	Bucovina Array	145.28	338	⇑iP	PKPd

GRF	Grafenberg Arr	146.43	355	*e*PKPbc	PKPbc	18 41 23.9	+0.2
GRFO	Grafenberg	146.44	355	*e*PKP2	PKPbc	18 41 24.1	+0.4
GRFO	Grafenberg	146.44	355	*e*PKPbc	PKPbc	18 41 24.1	+0.4
TIRR	Tirgusor	146.56	332	*e*PKP2	PKPab	18 41 24.9	-0.2
TIRR	Tirgusor	146.56	332	*e*PKPbc	PKPab	18 41 24.9	-0.2
TIRR	Tirgusor	146.56	332 ⇓	*i*P	PKPab	18 41 25.0	-0.2
WLF	Walferdange	146.62	1	PKP	PKPbc	18 41 24.6	+0.4
WLF	Walferdange	146.62	1	*e*PKPbc	PKPbc	18 41 24.4	+0.2
WLF	Walferdange	146.62	1	*e*PKP2	PKPab	18 41 25.1	-0.2
WLF	Walferdange	146.62	1	*e*PKPbc	PKPab	18 41 25.1	-0.2
TLB	Topalu	146.63	332 ⇓	*i*P	PKPab	18 41 25.1	-0.3
PSZ	Piszkesteto	146.66	344 ⇑	*i*P	PKPbc	18 41 23.7	-0.8
KHC	Kasperske Hory	146.74	352	*e*PKP2	PKPbc	18 41 25.2	+0.6
KHC	Kasperske Hory	146.74	352	*e*PKP	PKPbc	18 41 24.8	+0.2
KHC				epPKP	pPKPdf	18 41 31.4	+2.6
KHC	Kasperske Hory	146.74	352	*e*PKPbc	PKPbc	18 41 25.2	+0.6
MLR	Muntele Rosu	146.79	335	PKP	PKPbc	18 41 24.3	-0.7
MLR	Muntele Rosu	146.79	335 ⇑	*i*P	PKPab	18 41 26.0	-0.2
MLR	Muntele Rosu	146.79	335	PKP	PKPbc	18 41 24.3	-0.7
	comp=Z,20nm,1.2s,baz=341,slow=4.5,SNR=11						
WET	Wettzell	146.81	353	*e*PKPbc	PKPbc	18 41 25.0	+0.2
ISR	Istrita	146.85	334 ⇓	*i*P	PKPab	18 41 26.1	-0.3
DRGR		146.85	340 ⇓	*i*P	PKPbc	18 41 25.0	-0.1
GEC2	GERESS Array S	147.00	352	*e*PKPbc	PKPbc	18 41 25.2	-0.3
GERES	GERESS Array B	147.00	352	PKPbc	PKPbc	18 41 25.7	+0.2
GERES	GERESS Array B	147.00	352	PKPbc	PKPbc	18 41 25.7	+0.2
	comp=Z,19nm,1.0s,baz=29,slow=2.2,SNR=12						
ZST	Bratislava	147.05	348	*e*PKP	PKPab	18 41 26.5	-0.5
BR131	Keskin Array S	147.07	321	*e*PKPbc	PKPbc	18 41 26.4	+0.4
BRTR	Keskin Array B	147.07	321	PKPbc	PKPbc	18 41 26.7	+0.7
BRTR	Keskin Array B	147.07	321	PKPbc	PKPbc	18 41 26.7	+0.7
	comp=Z,21nm,0.7s,baz=124,slow=1.6,SNR=6.6						
VOIR		147.18	336 ⇑	*i*P	PKPbc	18 41 25.1	-1.0
LANF	Langenberg	147.31	359	PKP	PKPbc	18 41 26.1	-0.1
SULR		147.32	334 ⇑	*i*P	PKPab	18 41 27.5	-0.6
ARR	Arges	147.40	337 ⇑	*i*P	PKPab	18 41 27.8	-0.7
STU	Stuttgart	147.48	357	*e*PKPbc	PKPbc	18 41 26.5	-0.2
STU	Stuttgart	147.48	357	*e*PKP2	PKPbc	18 41 27.0	+0.3
STU	Stuttgart	147.48	357	*e*PKPbc	PKPbc	18 41 27.0	+0.3
ANTO	Ankara	147.49	322	*e*PKP2	PKPbc	18 41 27.6	+0.5
ANTO	Ankara	147.49	322	*e*PKPbc	PKPbc	18 41 27.6	+0.5
ANTO	Ankara	147.49	322 ⇓	*i*P	PKPab	18 41 28.1	-1.0
CONA	Conrad Observa	147.55	349 ⇑	*i*sPKPdf	PKPab	18 41 28.2	-0.9
	comp=Z,240nm,1.5s,SNR=8.8						
SIRR	Siria	147.65	341 ⇑	*i*P	PKPbc	18 41 28.0	+0.8
MOA	Molln	147.89	351 ⇑	*i*sPKPdf	PKPab	18 41 28.6	-1.7
	comp=Z,100nm,1.5s,SNR=5.6						
FUR	Furstenfeldbru	147.94	355	*e*PKPbc	PKPbc	18 41 27.7	-0.3
BFO	Black Forest	147.95	358	*e*PKPbc	PKPbc	18 41 27.7	-0.3
BFO	Black Forest	147.95	358	*e*PKP2	PKPbc	18 41 28.1	+0.1
BFO	Black Forest	147.95	358	*e*PKPbc	PKPbc	18 41 28.1	+0.1
GZR	Gura Zlata	148.05	339 ⇑	*i*P	PKPbc	18 41 28.9	+0.5
THEF	They Montfort	148.06	1	PKP	PKPbc	18 41 28.0	-0.3
ECH	Echery	148.08	360	*e*PKP2	PKPbc	18 41 28.5	+0.2
ECH	Echery	148.08	360	PKP	PKPbc	18 41 28.9	+0.6
ECH	Echery	148.08	360	*e*PKPbc	PKPbc	18 41 28.5	+0.2
RJOB	Jochberg	148.21	353	*e*PKPbc	PKPbc	18 41 28.5	-0.2
BZS	Buzias	148.24	340 ⇑	*i*P	PKPbc	18 41 28.8	0.0
ARSA	Arzberg	148.26	349	*i* sPKPdf	PKPab	18 41 29.6	-2.2
	comp=Z,91nm,1.5s,SNR=5.9						
MOF	Molkenrain	148.44	360	PKP	PKPbc	18 41 28.9	-0.5
ASF	Jabal al Asfar	148.63	306	PKPbc	PKPbc	18 41 29.8	-0.6
ASF	Jabal al Asfar	148.63	306	PKPbc	PKPbc	18 41 29.8	-0.6
	comp=Z,16nm,0.9s,baz=45,slow=3.9,SNR=6.1						
RETA	Reutte	148.66	355	*i* sPKPdf	PKPab	18 41 30.1	-3.4
	comp=Z,126nm,1.4s,SNR=9.6						
WATA	Walderalm	148.74	354 ⇑	*i*sPKPdf	PKPab	18 41 30.0	-3.9
	comp=Z,80nm,1.2s,SNR=7.5						
WTTA	Wattenberg	148.80	354 ⇑	*i*PKiKP	PKPbc	18 41 30.9	+0.5
	comp=Z,160nm,1.6s,SNR=8.3						
SOKA	Soboth	148.91	349	*i* sPKPdf	PKPab	18 41 30.9	-3.6
	comp=Z,134nm,1.4s,SNR=8.7						
DAVA	Damuels	148.92	356 ⇑	*i*PKiKP	PKPbc	18 41 31.4	+0.6
	comp=Z,152nm,1.5s,SNR=7.2						
PERS	Pernice	148.93	349	*e*PKPbc	PKPbc	18 41 30.3	-0.4
LOMF	Lomont	148.95	0	PKP	PKPbc	18 41 30.6	-0.1
FETA	Feichten	149.13	355	*i* PKiKP	PKiKP	18 41 32.1	-0.4
	comp=Z,134nm,1.4s,SNR=8.0						
OBKA	Obir	149.15	350 ⇑	*i*sPKPdf	PKPab	18 41 31.2	-4.3
	comp=Z,55nm,1.4s,SNR=5.1						
MYKA	Terra Mystica	149.18	351	*i* sPKPdf	PKPab	18 41 31.2	-4.4
	comp=Z,110nm,1.5s,SNR=8.9						
ABTA	Abfaltersbach	149.22	353	*i* PKiKP	PKPbc	18 41 31.6	+0.2
	comp=Z,145nm,1.4s,SNR=10						
MMAI	Mount Meron Ar	149.42	308	PKPbc	PKPbc	18 41 32.5	+0.1
MMAI	Mount Meron Ar	149.42	308	PKPbc	PKPbc	18 41 32.5	+0.1
	comp=Z,38nm,1.0s,baz=49,slow=4.4,SNR=5.8						
DAVOX	Davos/Dischmat	149.43	356	PKPbc	PKPbc	18 41 31.6	-0.4
DAVOX	Davos/Dischmat	149.43	356	PKPbc	PKPbc	18 41 31.6	-0.4
	comp=Z,21nm,0.8s,baz=270,slow=3.0,SNR=8.1						
LJU	Ljubljana	149.61	350	*e*PKPbc	PKPbc	18 41 32.3	0.0
TUE	Stuetta	149.77	357	*e*PKPbc	PKPbc	18 41 33.5	+0.5
CSS	Prodhromos	149.99	313	*e*PKPbc	PKPbc	18 41 34.1	+0.5
TRI	Trieste	150.06	351	*e*PKP2	PKPbc	18 41 33.1	-0.2
TRI	Trieste	150.06	351	*e*PKPbc	PKPbc	18 41 33.1	-0.2
AGO	Saint Agoulin	150.06	6	PKP	PKPbc	18 41 35.0	+1.6
PLDF	La Plantade	150.19	5	PKP	PKPbc	18 41 35.6	+1.8
OG35	Corcelles	150.23	2	PKP	PKPbc	18 41 34.0	+0.1
VTS	Vitosha	150.29	336 ⇑	*i*P	PKPbc	18 41 34.7	+0.4
PYM	Petit Puy Mans	150.35	6	PKP	PKPbc	18 41 35.0	+0.8
COLF	Collangettes	150.64	5	PKP	PKPbc	18 41 34.6	-0.3
LBL	Lubilhac	150.89	6	PKP	PKPbc	18 41 37.0	+1.5
SSB	Saint Sauveur	150.94	4	*e*PKiKP	PKPbc	18 41 36.3	+0.7
SSB	Saint Sauveur	150.94	4	PKP	PKPbc	18 41 35.1	-0.5
SSB	Saint Sauveur	150.94	4	*e*PKPbc	PKPbc	18 41 36.3	+0.7
EIL	Elat	151.13	303	PKPbc	PKPbc	18 41 37.3	+0.9
EIL	Elat	151.13	303	PKPbc	PKPbc	18 41 37.3	+0.9
	comp=Z,14nm,0.8s,baz=354,slow=4.4,SNR=4.5						
BNI	Bardonecchia	151.24	1	*e*PKIKP	PKPbc	18 41 37.8	+1.4
BNI	Bardonecchia	151.24	1	*e*PKPbc	PKPbc	18 41 37.8	+1.4
SKO	Skopje	151.50	337	*e*PKP	PKPbc	18 41 39.0	+2.1
VAY	Valandovo	151.62	335	*e*PKP	PKPbc	18 41 35.2	-2.0
TOUF	Mont Tournerai	152.28	360	PKP	PKPbc	18 41 38.4	-0.5
SAOF	Saorge	152.31	359	PKP	PKPbc	18 41 37.9	-0.8
BIA	Bitola	152.37	336	*e*PKP	PKPbc	18 41 38.9	0.0
MVIF	Mont Vial	152.40	360	PKP	PKPbc	18 41 39.7	+0.6
LUCF	Luceram	152.40	360	PKP	PKPbc	18 41 39.2	+0.2
CALN	Calern	152.54	0	PKP	PKPbc	18 41 40.1	+0.7
REVF	Revere	152.56	360	PKP	PKPbc	18 41 39.4	+0.1
ESDC	Sonseca Array	154.71	20	PKP	PKPdf	18 41 34.9	-0.7
ESDC				PKPab	PKPab	18 41 59.0	+0.1
ESDC	Sonseca Array	154.71	20	PKP	PKPdf	18 41 34.9	-0.7
	comp=Z,2.2nm,0.9s,baz=324,slow=7.3,SNR=4.7						
ESDC				PKPab	PKPab	18 41 59.0	+0.1
	comp=Z,4.2nm,0.7s,baz=326,slow=3.8,SNR=7.6						
CUC	Castrocucco	155.11	344	*e*PKPab	PKPab	18 41 59.4	-1.2
IDI	Anoyia	155.20	323	*e*PKPdf	PKPdf	18 41 35.3	-1.1
IDI				PKPab	PKPab	18 42 01.7	+0.6
IDI	Anoyia	155.20	323	PKPab	PKPab	18 42 01.7	+0.6
	comp=Z,21nm,1.0s,baz=172,slow=3.1,SNR=3.0						
TOA0	Torodi Ar. Sit	173.97	120	*e*PKPdf	PKPdf	18 41 51.5	-1.7
TORD	Torodi Ar. Bea	173.97	120	PKP	PKPdf	18 41 52.4	-0.8
TORD				PKPab	PKPab	18 43 22.4	-1.6
TORD	Torodi Ar. Bea	173.97	120	PKP	PKPdf	18 41 52.4	-0.8
	comp=Z,5.9nm,1.0s,baz=282,slow=3.0,SNR=5.0						
TORD				PKPab	PKPab	18 43 22.4	-1.6
	comp=Z,27nm,1.3s,baz=261,slow=3.1,SNR=5.3						

AUST **29** *18:22:10.6, 15.˚53S×172.˚96W, h0km*
IDC **29** *18:22:11.6±0.5, 16.˚10S×173.˚23W, h0km, mb5.3/25, mb1 5.4/25, mb1mx5.3/29, mbtmp5.3/25, ML6.3/1, MS8.7/1, Ms1 8.7/1, ms1mx6.2/41, Error ellipse: s-maj=18.8km s-min=13.0km az=149.0*
NEIC **29** *18:22:13.0±0.2, 16.˚13S×173.˚26W, h10km, mb5.7/16, Error ellipse: s-maj=10.2km s-min=6.4km az=145.0*
ISCJB **29** *18:22:14.1±0.2, 16.˚13S±0.˚06×173.˚26W±0.˚04, h26km, mb5.5/48, MS5.6/2, Error ellipse: s-maj=8.6km s-min=4.5km az=160.4*
MOS **29** *18:22:15.8±1.4, 16.˚20S×173.˚27W, h33km, mb5.6/23, Error ellipse: s-maj=14.8km s-min=10.5km az=149.7*
ISC 29 18:22:15.7±0.3,**16.˚14S**±0.˚08×**173.˚21W**±0.˚07,**h26**km, **n226**, σ0.9**86**/217,**mb5.6**/48,**Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.62**	**32**	Pn	Pn	18 22 44.4	-12
AFI				Sn	Sn	18 23 15.6	-12
AFI	**Afiamalu**	**2.62**	**32**	Pn	Pn	18 22 44.4	-12
	1μm,0.3s,baz=30,slow=20,SNR=3.3						
AFI				Sn	Sn	18 23 15.6	-12
	4μm,0.3s,baz=40,slow=19,SNR=9.0						
AFI				LR	LR	18 23 19.8	
	comp=Z,167972μm,21.8s,baz=91,slow=26						
RAO	**Raoul Island**	**13.75**	**198**	Pn	**Pn**	**18 25 29.0**	**0.0**
RAO	**Raoul Island**	**13.75**	**198**	Pn	**Pn**	**18 25 29.0**	**0.0**
	138nm,0.3s,baz=251,slow=24,SNR=3.9						
DZM	**Mont Dzumac**	**20.10**	**250**	P	**P**	**18 26 47.1**	**-0.7**
DZM	**Mont Dzumac**	**20.10**	**250**	P	**P**	**18 26 47.1**	**-0.7**
	62nm,0.9s,baz=93,slow=19,SNR=2.9						
TARA	**Tarawa**	**22.13**	**321**	*e*P	**P**	**18 27 10.2**	**+0.6**
	203nm,0.6s						
PAE	**Paea**	**22.66**	**97**	*e*P	**P**	**18 27 15.2**	**0.0**
	91nm,1.1s						
PPT	**Papeete**	**22.66**	**97**	P	**P**	**18 27 15.0**	**-0.3**
PPT	**Papeete**	**22.66**	**97**	P	**P**	**18 27 15.0**	**-0.3**
	414nm,1.1s,baz=297,slow=16,SNR=4.7						
PPT2	**Papeete2**	**22.66**	**97**	*e*P	**P**	**18 27 15.6**	**+0.3**
	509nm,1.3s						
TIAR	**Tiarei**	**22.88**	**97**	*e*P	**P**	**18 27 17.5**	**0.0**
	449nm,1.1s						
TVO	**Taravao**	**22.97**	**98**	*e*P	**P**	**18 27 18.5**	**0.0**
	933nm,1.3s						
TBI	**Tubuai**	**23.45**	**112**	*e*P	**P**	**18 27 24.6**	**+1.4**
	970nm,1.3s						
URZ	**Urewera**	**23.63**	**199**	P	**P**	**18 27 25.1**	**+0.3**
URZ	**Urewera**	**23.63**	**199**	P	**P**	**18 27 25.1**	**+0.3**
	75nm,0.7s,baz=22,slow=5.4,SNR=3.2						
MEH	**Mehetia**	**24.10**	**98**	*e*P	**P**	**18 27 29.3**	**-0.2**
	736nm,1.3s						
PMOR	**Pomariorio Ree**	**24.41**	**91**	*e*P	**P**	**18 27 32.7**	**+0.4**
	1μm,1.2s						
VAH	**Vaihoa**	**24.64**	**91**	*e*P	**P**	**18 27 34.3**	**-0.1**
	351nm,1.0s						
HNR	**Honiara**	**27.00**	**281**	P	**P**	**18 27 55.4**	**-0.3**
HNR	**Honiara**	**27.00**	**281**	P	**P**	**18 27 55.4**	**-0.3**
	119nm,0.8s,baz=119,slow=6.5,SNR=5.1						
EIDS	**Eidsvold**	**34.54**	**249**	*e*P	**P**	**18 28 60.0**	**-2.3**
	43nm,0.9s						
CTA	**Charters Tower**	**38.66**	**258**	P	**P**	**18 29 37.6**	**+0.1**
CTA	**Charters Tower**	**38.66**	**258**	P	**P**	**18 29 37.6**	**+0.1**
	17nm,0.4s,baz=89,slow=10,SNR=7.4						
CTAO	**Charters Tower**	**38.66**	**258**	P	**P**	**18 29 37.4**	**-0.1**
CTAO				pmax	pmax		
	comp=Z,38nm,0.8s						
CTAO	**Charters Tower**	**38.66**	**258**	P	**P**	**18 29 37.4**	**-0.1**
	comp=Z,38nm,0.8s						
YNG	**Young**	**38.87**	**235**	P	**P**	**18 29 42.1**	**+3.0**
	baz=39,SNR=10						
YNG				S	S	18 35 58.6	+23
	baz=39,SNR=11						
PMG	**Port Moresby**	**39.17**	**275**	P	**P**	**18 29 42.8**	**+0.9**
PMG	**Port Moresby**	**39.17**	**275**	P	**P**	**18 29 42.8**	**+0.9**
	comp=Z,86nm,0.8s,baz=90,slow=9.9,SNR=6.5						
MTSU	**Mount Surprise**	**40.57**	**261**	P	**P**	**18 29 54.9**	**+1.4**
	baz=41,SNR=5.1						
QLP	**Quilpie**	**40.81**	**248**	P	**P**	**18 29 54.9**	**-0.3**
	baz=41,SNR=3.6						
COEN	**Coen**	**42.12**	**267**	*e*P	**P**	**18 30 06.7**	**+0.5**
	comp=Z,404nm,0.7s						
COEN	**Coen**	**42.12**	**267**	P	**P**	**18 30 06.9**	**+0.7**
	baz=42,SNR=8.1						
TOO	**Toolangi**	**42.15**	**231**	P	**P**	**18 30 07.6**	**+1.5**
	baz=43,SNR=3.9						
STKA	**Stephens Creek**	**43.83**	**241**	*e*P	**P**	**18 30 18.8**	**-1.0**
	comp=Z,30nm,0.9s						
STKA	**Stephens Creek**	**43.83**	**241**	P	**P**	**18 30 19.4**	**-0.5**
	comp=Z,112nm,0.8s,baz=87,slow=8.6,SNR=12						
STKA	**Stephens Creek**	**43.83**	**241**	P	**P**	**18 30 19.9**	**+0.1**
	baz=44,SNR=4.7						
JAY	**Jayapura**	**47.31**	**282**	P	**P**	**18 30 48.0**	**+0.3**
	baz=47,SNR=5.3						
WRAB	**Tennant Creek**	**49.85**	**257**	*e*P	**P**	**18 31 06.1**	**-1.0**
WRAB				pmax	pmax		
	comp=Z,55nm,0.7s						
WRAB	**Tennant Creek**	**49.85**	**257**	*e*P	**P**	**18 31 06.1**	**-1.0**
	comp=Z,55nm,0.7s						
WRA	**Warramunga Arr**	**49.86**	**257**	P	**P**	**18 31 06.4**	**-0.8**
WRA	**Warramunga Arr**	**49.86**	**257**	P	**P**	**18 31 06.4**	**-0.8**
	comp=Z,44nm,0.7s,baz=96,slow=6.2,SNR=17						
AS31	**Alice Springs**	**50.06**	**252**	*e*P	**P**	**18 31 07.0**	**-1.7**
ASAR	**Alice Springs**	**50.06**	**252**	P	**P**	**18 31 07.5**	**-1.3**
ASAR	**Alice Springs**	**50.06**	**252**	P	**P**	**18 31 07.5**	**-1.3**
	comp=Z,115nm,0.7s,baz=88,slow=8.2,SNR=7.1						
FORT	**Forrest**	**55.25**	**244**	*e*P	**P**	**18 31 45.3**	**-1.7**
	comp=Z,154nm,0.8s						
KNRA	**Kununurra**	**55.64**	**262**	P	**P**	**18 31 50.1**	**+0.1**
	baz=56,SNR=6.8						
SWI	**Sorong**	**56.77**	**280**	P	**P**	**18 31 58.4**	**+0.3**
	baz=57,SNR=4.3						
SWI				S	S	18 40 13.4	+23
	baz=57,SNR=7.5						
FITZ	**Fitzroy Crossi**	**58.24**	**258**	*e*P	**P**	**18 32 07.2**	**-1.1**
	comp=Z,254nm,1.7s						
FITZ	**Fitzroy Crossi**	**58.24**	**258**	P	**P**	**18 32 07.4**	**-1.0**
	comp=Z,28nm,0.8s,baz=108,slow=4.8,SNR=11						
FITZ	**Fitzroy Crossi**	**58.24**	**258**	P	**P**	**18 32 08.3**	**-0.1**
	baz=59,SNR=5.9						
MBWA	**Marble Bar**	**63.33**	**254**	*e*P	**P**	**18 32 41.7**	**-1.3**
	comp=Z,76nm,0.9s						
KAPI	**Kappang**	**66.58**	**271**	P	**P**	**18 33 03.4**	**-0.9**
KAPI	**Kappang**	**66.58**	**271**	P	**P**	**18 33 03.4**	**-0.9**
	comp=Z,20nm,0.8s,baz=144,slow=7.0,SNR=5.0						
ADK	**Adak**	**67.80**	**358**	*e*P	**P**	**18 33 13.8**	**+2.7**
ADK				pmax	pmax		
	comp=Z,902nm,1.3s						
ADK	**Adak**	**67.80**	**358**	*e*P	**P**	**18 33 13.8**	**+2.7**
	comp=Z,902nm,1.3s						
GIRL	**Giralia**	**68.17**	**252**	P	**P**	**18 33 14.9**	**+0.7**
	baz=68,SNR=3.1						
CASY	**Casey**	**69.81**	**205**	*e*P	**P**	**18 33 24.4**	**+0.7**
	comp=Z,28nm,0.9s						
ASAJ	**Asahikawa**	**72.26**	**328**	P	**P**	**18 33 39.1**	**+0.4**
ASAJ	**Asahikawa**	**72.26**	**328**	P	**P**	**18 33 39.1**	**+0.4**
	comp=Z,11nm,0.6s,baz=151,slow=6.0,SNR=3.5						
VES	**Vestal, Richgr**	**72.75**	**44**	P	**P**	**18 33 42.2**	**+0.4**
	baz=73						
KHMM	**Horse Mountain**	**72.94**	**37**	P	**P**	**18 33 43.4**	**+0.4**
	comp=Z,45nm,0.9s						
DVTC	**Desert V Tower**	**73.03**	**48**	P	**P**	**18 33 43.8**	**+0.1**
	baz=73						
CMB	**Columbia Colle**	**73.20**	**41**	P	**P**	**18 33 43.6**	**-0.9**
CMB				pmax	pmax		
	comp=Z,63nm,1.0s						
CMB	**Columbia Colle**	**73.20**	**41**	P	**P**	**18 33 43.6**	**-0.9**
	comp=Z,63nm,1.0s						
PFO	**Pinyon Flat Ob**	**73.29**	**47**	P	**P**	**18 33 46.4**	**+1.1**
PFO	**Pinyon Flat Ob**	**73.29**	**47**	P	**P**	**18 33 46.4**	**+1.1**
	comp=Z,14nm,0.9s,baz=108,slow=3.2,SNR=3.8						
PFO	**Pinyon Flat Ob**	**73.29**	**47**	P	**P**	**18 33 45.8**	**+0.5**
	baz=74						
PETK	**Petropavlovsk-**	**73.39**	**342**	P	**P**	**18 33 45.0**	**-0.2**
PETK				pmax	pmax		
	comp=Z,21nm,0.9s						
PETK	**Petropavlovsk-**	**73.39**	**342**	P	**P**	**18 33 45.0**	**-0.2**
PETK	**Petropavlovsk-**	**73.39**	**342**	P	**P**	**18 33 45.0**	**-0.2**
	comp=Z,21nm,0.9s,baz=139,slow=7.8,SNR=4.2						
SWSC	**Sam W. Stewart**	**73.40**	**48**	P	**P**	**18 33 45.5**	**-0.3**
	baz=74						
WDC	**Whiskeytown Da**	**73.45**	**38**	P	**P**	**18 33 46.6**	**+0.8**
WDC				pmax	pmax		
	comp=Z,207nm,1.6s						
WDC	**Whiskeytown Da**	**73.45**	**38**	P	**P**	**18 33 46.6**	**+0.8**
	comp=Z,207nm,1.6s						
LRMC	**Laurel Mountai**	**73.47**	**45**	P	**P**	**18 33 46.6**	**+0.3**
	baz=74						
BELC	**Belle Mtn. Jos**	**73.82**	**47**	P	**P**	**18 33 48.5**	**+0.1**
	baz=74						
QSPA	**South Pole Qui**	**73.91**	**180**	P	**P**	**18 33 49.9**	**+1.5**
QSPA	**South Pole Qui**	**73.91**	**180**	P	**P**	**18 33 49.9**	**+1.5**
	comp=Z,50nm,0.8s,baz=92,slow=3.4,SNR=7.5						
GSC	**Goldstone**	**73.98**	**45**	P	**P**	**18 33 48.8**	**-0.4**
GSC				pmax	pmax		
	comp=Z,76nm,1.3s						
GSC	**Goldstone**	**73.98**	**45**	P	**P**	**18 33 48.8**	**-0.4**
	comp=Z,76nm,1.3s						
BC3	**Big Chuckawall**	**74.02**	**47**	P	**P**	**18 33 49.2**	**-0.3**
	baz=74						
HEC	**Hector,Ludlow**	**74.04**	**46**	P	**P**	**18 33 49.5**	**-0.1**
	baz=74						
YBH	**Yreka Blue Hor**	**74.08**	**37**	P	**P**	**18 33 50.4**	**+0.8**
YBH	**Yreka Blue Hor**	**74.08**	**37**	P	**P**	**18 33 50.4**	**+0.8**
	comp=Z,25nm,0.9s,baz=240,slow=4.0,SNR=3.8						
GMRC	**Granite Mounta**	**74.48**	**46**	P	**P**	**18 33 51.9**	**-0.3**
	baz=75						
IRM	**Iron Mountain**	**74.50**	**47**	P	**P**	**18 33 52.0**	**-0.2**
	baz=75						
UGM	**Wanagama**	**74.70**	**266**	P	**P**	**18 33 55.4**	**+1.5**
	baz=75,SNR=5.3						
TPUB	**Ta-pu**	**75.61**	**300**	*e*P	**P**	**18 33 57.5**	**-1.3**
	comp=Z,93nm,0.8s						
Z14A	**Wintersburg**	**75.66**	**49**	P	**P**	**18 33 59.0**	**+0.2**
	baz=76						
KSRS	**Korea Array**	**76.81**	**316**	P	**P**	**18 34 07.0**	**+1.7**
	comp=Z,11nm,1.1s,baz=120,slow=6.1,SNR=5.5						
KSAR	**Wonju Array Be**	**76.83**	**316**	P	**P**	**18 34 07.0**	**+1.5**
WVOR	**Wild Horse Val**	**76.90**	**38**	P	**P**	**18 34 06.9**	**+1.0**
WVOR				pmax	pmax		
	comp=Z,172nm,1.5s						
WVOR	**Wild Horse Val**	**76.90**	**38**	P	**P**	**18 34 06.9**	**+1.0**
	comp=Z,172nm,1.5s						
CISI	**Cisompet, Garu**	**77.39**	**266**	P	**P**	**18 34 09.2**	**0.0**
	baz=78,SNR=4.7						
319A	**Douglas**	**77.40**	**52**	P	**P**	**18 34 08.0**	**-0.9**
	baz=78						
WUAZ	**Wupatki**	**77.86**	**47**	P	**P**	**18 34 11.1**	**-0.4**
	baz=78						
USRK	**Ussuriysk Arra**	**78.08**	**323**	P	**P**	**18 34 12.2**	**-0.1**
	comp=Z,6.1nm,0.9s,baz=127,slow=4.3,SNR=4.5						
MFID	**Camas Ranch**	**79.15**	**39**	P	**P**	**18 34 18.2**	**-0.1**
	baz=79						
X20A	**Quemado**	**79.46**	**49**	P	**P**	**18 34 20.2**	**-0.2**
	baz=80						
X21A	**Alamocita Cree**	**79.93**	**50**	P	**P**	**18 34 23.0**	**+0.1**
	baz=80						
V20A	**Brimhall**	**80.07**	**48**	P	**P**	**18 34 22.6**	**-1.0**
	baz=80						
TXAR	**Lajitas Array**	**80.87**	**56**	P	**P**	**18 34 28.4**	**+0.4**
TXAR	**Lajitas Array**	**80.87**	**56**	P	**P**	**18 34 28.4**	**+0.4**
	comp=Z,9.7nm,1.0s,baz=216,slow=6.2,SNR=3.7						
124A	**Stringfield Ra**	**80.90**	**52**	P	**P**	**18 34 27.3**	**-0.9**
	baz=81						
U21A	**Nageezi**	**80.94**	**48**	P	**P**	**18 34 28.2**	**-0.1**
	baz=81						
NEW	**Newport**	**81.21**	**34**	P	**P**	**18 34 28.9**	**-0.4**
	baz=81						
M17A	**Scullys Gap (B**	**81.33**	**42**	P	**P**	**18 34 29.9**	**-0.4**
	baz=82						
S21A	**Coal Bank Pass**	**81.42**	**47**	P	**P**	**18 34 30.9**	**-0.1**
	baz=82						
Q20A	**Ridgley Place,**	**81.68**	**46**	P	**P**	**18 34 32.3**	**+0.1**
	baz=82						
V23A	**Ortiz Mt. (NFS**	**81.69**	**49**	P	**P**	**18 34 32.8**	**+0.5**
	baz=82						
427A	**Hayter Ranch,**	**81.70**	**55**	P	**P**	**18 34 31.3**	**-1.0**
	baz=82						
Z25A	**Roswell**	**81.70**	**52**	P	**P**	**18 34 32.0**	**-0.3**
	baz=82						
T22A	**Edith**	**81.75**	**48**	P

baz=122,SNR=5.0
KEV Kevo 124.95 352 eP PKPdf 18 41 14.6 +1.7
comp=Z,0.8nm,0.4s
ARCES ARCESS Array B 125.36 352 PKP PKPdf 18 41 13.5 -0.2
ARCES ARCESS Array B 125.36 352 PKP PKPdf 18 41 13.5 -0.2
comp=Z,14nm,0.7s,baz=4.2,slow=1.1,SNR=7.3
AKTO Aktyubinsk 126.68 322 PKIKP PKPdf 18 41 16.8 0.0
AKTO pmax pmax
comp=Z,4.0nm,0.8s
AKTO Aktyubinsk 126.68 322 PKP PKPdf 18 41 16.8 0.0
AKTO Aktyubinsk 126.68 322 PKP PKPdf 18 41 16.8 0.0
comp=Z,3.5nm,0.8s,baz=93,slow=5.9,SNR=5.9
JOF Joensuu 130.23 346 ep PKPdf 18 41 23.5 +0.4
comp=Z,2.4nm,0.4s
KAF Kangasniemi 132.05 348 ep PKPdf 18 41 24.9 -1.7
comp=Z,1.4nm,0.4s
FINES FINESS Array B 132.70 348 PKP PKPdf 18 41 28.0 +0.1
FINES FINESS Array B 132.70 348 PKP PKPdf 18 41 28.0 +0.1
comp=Z,12nm,0.7s,baz=42,slow=2.3,SNR=10
NOA NORSAR Array B 135.05 357 PKP PKPdf 18 41 31.9 -0.4
NOA NORSAR Array B 135.05 357 PKP PKPdf 18 41 31.9 -0.4
comp=Z,1.8nm,0.8s,baz=14,slow=3.7,SNR=3.8
HFS Hagfors 135.78 355 PKP PKPdf 18 41 33.0 -0.6
HFS Hagfors 135.78 355 PKP PKPdf 18 41 33.0 -0.6
comp=Z,4.3nm,0.7s,baz=90,slow=4.3,SNR=3.3
NACGM Naroch 138.35 343 e PKPpre 18 41 28.0
EKA Eskdalemuir Ar 140.14 9 PKPpre PKPpre 18 41 36.6
EKA Eskdalemuir Ar 140.14 9 PKhKP PKPpre 18 41 36.6
comp=Z,1.1nm,0.6s,baz=131,slow=2.0,SNR=4.3
AKASG Malin Array Be 141.09 337 i PKHKP PKPpre 18 41 37.6
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKASG Malin Array Be 141.09 337 PKPpre PKPpre 18 41 37.6
AKASG Malin Array Be 141.09 337 PKhKP PKPpre 18 41 37.6
comp=Z,3.0nm,0.6s,baz=37,slow=4.0,SNR=4.1
CLL Collm 144.57 353 i PKPdf PKPbc 18 41 48.5 0.0
comp=Z,27nm,0.7s
CLL e 18 42 00.0
UPC Upice 144.92 350 ePKP PKPdf 18 41 50.1 -0.4
DPC Dobruska-Polom 145.02 349 ePKP PKPdf 18 41 51.2 +0.5
PVCC Panska Ves 145.13 351 ePKP PKPab 18 41 50.6 +0.2
OKC Ostrava-Krasne 145.15 347 ePKP PKPbc 18 41 50.2 -0.2
KMBO Kilima Mbogo 145.37 243 PKPbc PKPab 18 41 53.0 +0.3
KMBO Kilima Mbogo 145.37 243 PKPbc PKPab 18 41 53.0 +0.3
comp=Z,30nm,0.8s,baz=69,slow=5.9,SNR=8.2
PRA Prague 145.60 351 PKP PKPab 18 41 53.0 +0.9
PRU Pruhonice 145.66 351 ePKP PKPab 18 41 52.9 +0.5
VRAC Vranov 145.97 349 PKPbc PKPbc 18 41 53.0 -0.1
VRAC Vranov 145.97 349 PKPbc PKPbc 18 41 53.0 -0.1
comp=Z,91nm,1.2s,baz=43,slow=3.8,SNR=6.2
TREC Trest 146.18 350 ePKP PKPab 18 41 54.5 +0.1
GRFO Grafenberg 146.34 355 PKP2 PKPab 18 41 54.6 -0.4
GRFO Grafenberg 146.34 355 PKPdf PKPab 18 41 54.6 -0.4
PSZ Piszkesteto 146.52 344 ePKP2 PKPbc 18 41 55.0 +0.2
PSZ Piszkesteto 146.52 344 eP PKPbc 18 41 55.0 +0.2
MLR Muntele Rosu 146.62 335 PKPbc PKPdf 18 41 53.7 0.0
MLR Muntele Rosu 146.62 335 PKPbc PKPdf 18 41 53.7 0.0
comp=Z,8.1nm,0.8s,baz=270,slow=2.0,SNR=6.8
KHC Kasperske Hory 146.63 352 ePKP PKPbc 18 41 55.3 +0.2
BRTR Keskin Array B 146.84 320 PKPbc PKPbc 18 41 55.6 -0.5
BRTR Keskin Array B 146.84 320 PKPbc PKPbc 18 41 55.6 -0.5
comp=Z,38nm,0.6s,baz=99,slow=2.0,SNR=10
GERES GERESS Array B 146.90 352 PKPbc PKPbc 18 41 55.4 -0.6
GERES GERESS Array B 146.90 352 PKPbc PKPbc 18 41 55.4 -0.6
comp=Z,16nm,0.7s,baz=24,slow=2.7,SNR=7.1
ASF Jabal al Asfar 148.38 306 PKPbc PKPbc 18 41 58.8 -1.7
ASF Jabal al Asfar 148.38 306 PKPbc PKPbc 18 41 58.8 -1.7
comp=Z,10nm,0.7s,baz=270,slow=4.0,SNR=4.0
MMAI Mount Meron Ar 149.17 308 PKPbc PKPbc 18 42 01.2 -1.3
MMAI Mount Meron Ar 149.17 308 PKPbc PKPbc 18 42 01.2 -1.3
comp=Z,42nm,0.7s,baz=56,slow=3.6,SNR=7.7
DAVOX Davos/Dischmat 149.34 356 PKPbc PKPbc 18 42 02.1 -0.5
DAVOX Davos/Dischmat 149.34 356 PKPbc PKPbc 18 42 02.1 -0.5
comp=Z,26nm,0.7s,baz=315,slow=4.3,SNR=6.9
CSS Prodhromos 149.75 313 ePKPbc PKPbc 18 42 03.5 -0.3
ISP Isparta 149.93 320 ePKPbc PKPbc 18 42 03.3 -0.9
EIL Elat 150.87 302 PKPbc PKPbc 18 42 06.2 -0.3
EIL Elat 150.87 302 PKPbc PKPbc 18 42 06.2 -0.3
comp=Z,33nm,0.7s,baz=57,slow=1.6,SNR=6.9
EIL Elat 150.87 302 P PKPbc 18 42 07.6 +1.0
baz=151,SNR=3.3
LIC Lamto 164.79 129 ePKIKP PKPdf 18 42 18.2 -0.2
comp=Z,27nm,0.9s
TIC Toumodi 165.07 128 ePKIKP PKPdf 18 42 17.8 -0.9
comp=Z,97nm,1.4s
KIC Kosan Boka 165.10 129 ePKIKP PKPdf 18 42 17.8 -0.9
comp=Z,80nm,1.3s
TORD Torodi Ar. Bea 174.24 120 PKP PKPdf 18 42 22.9 -1.1
TORD PKPab PKPab 18 43 54.5 -1.4
TORD Torodi Ar. Bea 174.24 120 PKP PKPdf 18 42 22.9 -1.1
comp=Z,5.2nm,0.8s,baz=244,slow=1.1,SNR=5.7
TORD PKPab PKPab 18 43 54.5 -1.4
comp=Z,4.0nm,0.9s,baz=260,slow=4.8,SNR=2.5

*IDC **29** 18:27:48.9±0.6, 16°.17S×172°.95W, h0km, mb4.7/14, mb1 4.8/14, mb1mx4.6/23, mbtmp4.7/14, Error ellipse: s-maj=27.2km s-min=16.6km az=140.0*
*NEIC **29** 18:27:50.4±0.3, 16°.10S×173°.00W, h10km, mb4.8/14, Error ellipse: s-maj=15.2km s-min=7.2km az=140.0*
*AUST **29** 18:27:50.0±99.0, 16°.33S×172°.78W, h0km±3km, Error ellipse: s-maj=4.2km s-min=1.8km az=309.0*
*ISCJB **29** 18:27:51.4±0.3, 16°.1S±0°.1×173°.05W±0°.09, h26km, mb4.7/28, Error ellipse: s-maj=18.0km s-min=7.7km az=142.9*
ISC 29 18:27:53.1±0.5, 16°.1S±0°.1×173°.0W±0°.1, h26km, n74, σ0.9 91/73, mb4.8/29, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	20.32	250	P	P		P	18 32 28.6	+1.1
DZM	Mont Dzumac	20.32	250	P	P		P	18 32 28.6	+1.1
8.9nm,1.0s,baz=343,slow=20,SNR=2.4									
RPZ	Rata Peaks	30.69	203	P	P		P	18 34 06.6	+0.9
RPZ	Rata Peaks	30.69	203	P	P		P	18 34 06.6	+0.9
9.3nm,0.5s,baz=318,slow=11,SNR=3.4									
EIDS	Eidsvold	34.76	249	eP	P		P	18 34 39.3	-2.2
7.7nm,0.8s									
ARMA	Armidale	35.34	240	P	P		P	18 34 47.3	+0.7
baz=35,SNR=4.6									
CTAO	Charters Tower	38.89	258	P	P		P	18 35 15.7	-1.0
YNG	Young	39.08	235	S	S		S	18 41 45.4	+29
baz=39,SNR=11									
QLP	Quilpie	41.03	248	P	P		P	18 35 34.3	-0.2
baz=41,SNR=3.9									
TOO	Toolangi	42.34	231	P	P		P	18 35 47.1	+2.0
baz=42,SNR=4.3									
STKA	Stephens Creek	44.04	241	eP	P		P	18 35 57.6	-1.3
3.6nm,0.9s									
STKA	Stephens Creek	44.04	241	P	P		P	18 35 57.8	-1.1
6.2nm,0.8s,baz=82,slow=7.1,SNR=4.1									
STKA	Stephens Creek	44.04	241	P	P		P	18 35 59.4	+0.5
baz=44,SNR=6.0									
WRA	Warramunga Arr	50.08	257	P	P		P	18 36 44.9	-1.3
WRA	Warramunga Arr	50.08	257	P	P		P	18 36 44.9	-1.3
3.9nm,0.9s,baz=93,slow=7.1,SNR=16									
ASAR	Alice Springs	50.28	252	P	P		P	18 36 46.5	-1.3
ASAR	Alice Springs	50.28	252	P	P		P	18 36 46.5	-1.3
22nm,0.6s,baz=89,slow=7.8,SNR=8.8									
KDU	Kakadu	52.83	266	P	P		P	18 37 06.2	-0.6
baz=53,SNR=4.6									
KNRA	Kununurra	55.87	262	P	P		P	18 37 28.7	-0.2
baz=56,SNR=3.9									
SOEI	Soe	61.30	268	P	P		P	18 38 11.3	+4.2
baz=62,SNR=4.8									
BATI	Baumata	61.78	267	P	P		P	18 38 10.4	+0.3
BATI	Baumata	61.78	267	P	P		P	18 38 10.4	+0.3
12nm,0.9s,baz=83,slow=8.1,SNR=2.5									
SBA	Scott Base	62.59	185	eP	P		P	18 38 15.9	+1.4
7.1nm,0.8s									
CASY	Casey	69.94	205	eP	P		P	18 39 00.5	-1.3
14nm,1.0s									
PETK	Petropavlovsk-	73.42	342	P	P		P	18 39 23.3	+0.6
PETK	Petropavlovsk-	73.42	342	P	P		P	18 39 23.3	+0.6
8.3nm,0.8s,baz=141,slow=9.6,SNR=10									
QSPA	South Pole Qui	73.95	180	P	P		P	18 39 24.8	-1.2
QSPA	South Pole Qui	73.95	180	P	P		P	18 39 24.8	-1.2
17nm,1.0s,baz=111,slow=4.0,SNR=6.0									
MVU	Marysvale	78.61	44	eP	P		P	18 39 53.7	+0.7
7.0nm,0.8s									
DUG	Dugway	79.10	43	eP	P		P	18 39 55.6	+0.1
441nm,3.0s									
HLID	Hailey	79.91	39	eP	P		P	18 39 59.8	-0.2
7.8nm,0.9s									

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SRU	San Rafael	80.06	44	eP	P		P	18 40 01.1	+0.3
12nm,1.1s									
TXAR	Lajitas Array	80.67	56	P	P		P	18 40 04.3	+0.1
TXAR	Lajitas Array	80.67	56	P	P		P	18 40 04.3	+0.1
1.5nm,0.6s,baz=219,slow=7.9,SNR=5.5									
PV10	Paradox Valley	80.70	46	P	P		P	18 40 04.1	-0.3
ANMO	Albuquerque	80.94	50	eP	P		P	18 40 04.7	-1.0
15nm,1.2s									
MCK	McKinley	81.73	11	eP	P		P	18 40 08.8	-0.2
20nm,0.9s									
TPAW	Teton Pass	82.00	40	eP	P		P	18 40 11.4	+0.1
11nm,1.1s									
FLWY	Flagg Ranch	82.46	40	eP	P		P	18 40 14.0	+0.4
18nm,1.1s									
SMCO	Snowmass	82.51	46	eP	P		P	18 40 12.8	-1.3
13nm,0.8s									
BW06	Boulder Array	82.52	42	eP	P		P	18 40 13.5	-0.4
3.0nm,1.0s									
PDAR	Pinedale Array	82.52	42	P	P		P	18 40 13.4	-0.5
PDAR	Pinedale Array	82.52	42	P	P		P	18 40 13.4	-0.5
6.5nm,0.8s,baz=212,slow=3.2,SNR=15									
SDCO	Great Sand Dun	82.88	48	eP	P		P	18 40 15.7	-0.3
10nm,1.3s									
COLA	College	82.97	11	eP	P		P	18 40 15.3	0.0
177nm,1.1s									
ILAR	Eielson Array	83.05	11	P	P		P	18 40 15.3	-0.5
ILAR	Eielson Array	83.05	11	P	P		P	18 40 15.3	-0.5
2.9nm,0.8s,baz=231,slow=6.0,SNR=5.5									
WALA	Waterton Lakes	83.25	35	eP	P		P	18 40 17.1	-0.3
0.2nm,0.8s									
MAW	Mawson	87.26	199	P	P		P	18 40 36.2	-0.8
MAW	Mawson	87.26	199	P	P		P	18 40 36.2	-0.8
4.1nm,0.9s,baz=119,slow=12,SNR=4.6									
JTS	JuntasAbangare	90.94	80	P	P		P	18 40 55.7	+0.2
JTS	JuntasAbangare	90.94	80	P	P		P	18 40 55.7	+0.2
12nm,0.9s,baz=294,slow=8.0,SNR=6.5									
CMAR	Chiang Mai Arr	93.22	288	P	P		P	18 41 07.8	+1.9
CMAR	Chiang Mai Arr	93.22	288	P	P		P	18 41 07.8	+1.9
1.5nm,0.9s,baz=106,slow=3.3,SNR=5.2									
CLL	Collm	144.55	354	ePKPdf		PKPdf		18 47 27.0	-0.2
DPC	Dobruska-Polom	145.02	350	i PKP		pPKPdf		18 47 28.4	+0.3
DPC				ep PKP		pPKPdf		18 47 34.8	-2.0
MEM	Membach	145.57	1	PKP		PKPab		18 47 29.4	+0.1
KMBO	Kilima Mbogo	145.59	243	PKPbc		PKPab		18 47 31.1	+0.2
KMBO	Kilima Mbogo	145.59	243	PKPbc		PKPab		18 47 31.1	+0.2
4.4nm,1.0s,baz=253,slow=0.5,SNR=4.2									
PRU	Pruhonice	145.65	351	i PKP		PKPab		18 47 30.0	+0.3
BCLA	Clavier	145.74	2	PKP		PKPab		18 47 29.9	-0.1
DOU	Dourbes	146.03	3	PKP		PKPab		18 47 30.9	-0.2
WLF	Walferdange	146.52	1	PKP		PKPab		18 47 32.7	-0.2
WLF				PKP				18 49 04.9	
KHC	Kasperske Hory	146.63	352	ePKP		PKPab		18 47 33.2	-0.3
GERES	GERESS Array B	146.89	352	PKPbc		PKPbc		18 47 33.0	-0.2
GERES	GERESS Array B	146.89	352	PKPbc		PKPbc		18 47 33.0	-0.2
3.8nm,0.8s,baz=26,slow=2.5,SNR=8.7									
BRTR	Keskin Array B	146.95	321	PKPbc		PKPab		18 47 34.6	-0.6
BRTR	Keskin Array B	146.95	321	PKPbc		PKPab		18 47 34.6	-0.6
3.9nm,0.7s,baz=143,slow=3.0,SNR=5.6									
DAVOX	Davos/Dischmat	149.32	356	PKPbc		PKPbc		18 47 39.9	0.0
DAVOX	Davos/Dischmat	149.32	356	PKPbc		PKPbc		18 47 39.9	0.0
5.0nm,0.9s,baz=318,slow=0.2,SNR=3.7									
MMAI	Mount Meron Ar	149.32	308	PKPab		PKPab		18 47 43.9	-0.9
MMAI	Mount Meron Ar	149.32	308	PKPab		PKPab		18 47 43.9	-0.9
9.0nm,0.9s,baz=64,slow=5.7,SNR=7.0									
TORD	Torodi Ar. Bea	174.07	119	PKP		PKPdf		18 48 02.9	+1.6
TORD	Torodi Ar. Bea	174.07	119	PKP		PKPdf		18 48 02.9	+1.6
1.1nm,0.9s,baz=238,slow=1.6,SNR=2.1									

*BJI **29** 18:29:23.9, 15°.90S×173°.20W, h6km, mB5.6/7, mb5.2/16, Ms5.4/5, Ms7 5.2/4*
*AUST **29** 18:29:24.1±27.0, 15°.15S×172°.39W, h30km±1km, Error ellipse: s-maj=6.8km s-min=2.2km az=259.0*
*IDC **29** 18:29:25.1±0.6, 15°.91S×173°.17W, h0km, mb4.8/14, mb1 5.0/14, mb1mx4.8/21, mbtmp4.8/14, Error ellipse: s-maj=24.8km s-min=16.6km az=129.0*
*NEIC **29** 18:29:26.2±0.2, 15°.91S×173°.17W, h10km, mb5.1/43, Error ellipse: s-maj=10.0km s-min=5.4km az=139.0*
*ISCJB **29** 18:29:27.4±0.2, 15°.98S±0°.06×173°.17W±0°.04, h26km, mb5.1/63, MS5.3/3, Error ellipse: s-maj=9.8km s-min=4.2km az=149.5*
*MOS **29** 18:29:29.8±1.8, 16°.21S×172°.58W, h33km, mb5.2/15, Error ellipse: s-maj=24.3km s-min=11.4km az=61.2*
ISC 29 18:29:29.0±0.3, 15°.89S±0°.08×173°.16W±0°.07, h26km, n427, σ0.9 96/424, mb5.1/64, MS5.3/3, 130C-125D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.38	34	Pn			Pb	18 30 10.8	-0.4
AFI				TT				18 32 42.0	
AFI	Afiamalu	2.38	34	T			T	18 32 42.0	
1μm,0.3s,baz=71,slow=20,SNR=4.4									
RAR	Rarotonga	13.75	115	Pn			Pn	18 32 43.0	+0.7
DZM	Mont Dzumac	20.24	249	P			Pn	18 34 03.5	-1.1
DZM	Mont Dzumac	20.24	249	P			Pn	18 34 03.5	-1.1
11nm,0.8s,baz=90,slow=19,SNR=2.1									
URZ	Urewera	23.88	199	P			P	18 34 40.0	-0.4
URZ	Urewera	23.88	199	P			P	18 34 40.0	-0.4
12nm,0.4s,baz=262,slow=5.8,SNR=5.3									
SNZO	South Karori	27.42	200	P			P	18 35 11.6	-1.0
23nm,0.6s									
EIDS	Eidsvold	34.68	248	eP			P	18 36 15.8	-1.0
12nm,0.8s									
EIDS	Eidsvold	34.68	248	P			P	18 36 18.7	+1.9
baz=36,SNR=4.5									
ARMA	Armidale	35.29	240	eP			P	18 36 21.1	-1.1
16nm,0.9s									
ARMA	Armidale	35.29	240	P			P	18 36 21.8	-0.4
baz=36,SNR=13									
PATS	Pohnpei	36.17	307	P			P	18 36 22.6	-7.1
baz=36,SNR=3.9									
CNB	Canberra Magne	38.64	233	P			P	18 36 50.9	+0.4
baz=40,SNR=7.0									
YNG	Young	39.06	235	S			S	18 43 07.3	+15
baz=40,SNR=5.5									
PMG	Port Moresby	39.21	275	P			P	18 37 01.0	+5.6
69nm,1.4s									
CMSA	Cobar Meteorol	40.51	240	P			P	18 37 05.4	-0.7
baz=42,SNR=7.4									
MTSU	Mount Surprise	40.66	261	P			P	18 37 08.5	+1.0
baz=42,SNR=5.1									
QLP	Quilpie	40.95	248	P			P	18 37 09.0	-0.7
baz=42,SNR=7.0									
MANU	Manus Island	41.24	285	P			P	18 37 10.1	-2.2
baz=42,SNR=4.6									
COEN	Coen	42.19	267	P			P	18 37 21.6	+1.6
baz=43,SNR=4.5									
TOO	Toolangi	42.34	231	P			P	18 37 20.8	-0.3
baz=43,SNR=5.0									
STKA	Stephens Creek	44.00	240	eP			P	18 37 33.3	-1.2
4.1nm,0.9s									
STKA	Stephens Creek	44.00	240	P			P	18 37 33.6	-0.8
14nm,0.8s,baz=75,slow=9.6,SNR=4.0									
STKA	Stephens Creek	44.00	240	P			P	18 37 34.3	-0.2
baz=45,SNR=6.9									
STKA				S			S	18 44 27.3	+22
baz=45,SNR=4.2									
BBOO	Buckleboo	48.77	240	P			P	18 38 13.2	+1.2
baz=50,SNR=5.9									
WRAB	Tennant Creek	49.95	257	eP			P	18 38 21.2	0.0
WRAB				pmax			pmax		
comp=Z,15nm,0.8s									
WRAB	Tennant Creek	49.95	257	eP			P	18 38 21.2	0.0
comp=Z,15nm,0.8s									
WRA	Warramunga Arr	49.96	257	P			P	18 38 20.1	-1.2
WRA	Warramunga Arr	49.96	257	P			P	18 38 20.1	-1.2
comp=Z,7.1nm,0.8s,baz=91,slow=6.9,SNR=7.2									
AS31	Alice Springs	50.18	252	eP			P	18 38 22.0	-1.0
ASAR	Alice Springs	50.19	252	P			P	18 38 22.4	-0.6
ASAR	Alice Springs	50.19	252	P			P	18 38 22.4	-0.6
comp=Z,16nm,0.6s,baz=87,slow=8.2,SNR=11									
KNRA	Kununurra	55.73	262	P			P	18 38 56.1	-7.8
baz=56,SNR=3.1									
SWI	Sorong	56.78	280	P			P	18 39 13.5	+2.0
baz=57,SNR=7.4									
SOEI	Soe	61.14	267	P			P	18 39 44.8	+2.9
baz=62,SNR=3.6									
SBA	Scott Base	62.78	185	eP			P	18 39 52.4	+0.7
SBA	Scott Base	62.78	185	eP			P	18 39 52.4	+0.7
comp=Z,427nm,2.6s									
VNDA	Vanda	62.91	186	eP			P	18 39 51.2	-1.3
comp=Z,9.2nm,1.1s									
MBWA	Marble Bar	63.45	254	eP			P	18 39 56.9	-0.2

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
comp=Z,10nm,0.6s									
MEEK	Meekatharra	63.85	248	P			P	18 39 59.6	-0.1
baz=65,SNR=4.6									
KLBR	Kellerberrin	64.22	242	P			P	18 40 02.1	+0.1
baz=65,SNR=11									
NWAO	Narrogin (SRO)	64.58	241	eP			P	18 40 03.6	-0.8
comp=Z,7.0nm,0.7s									
CASY	Casey	70.06	205	P			P	18 40 35.5	-2.9
comp=Z,18nm,1.1s									
MONP	Monument Peak	72.72	47	↑P			P	18 40 55.3	0.0
baz=73									
EDW2	Edwards Air Fo	72.72	45	↑P			P	18 40 55.3	+0.2
baz=73									
ISA	Isabella	72.84	44	eP			P	18 40 59.4	+3.6
ISA				pmax			pmax		
comp=Z,26nm,1.2s									
ISA	Isabella	72.84	44	eP			P	18 40 59.4	+3.6
comp=Z,26nm,1.2s									
CMB	Columbia Colle	72.98	41	eP			P	18 40 56.9	+0.4
CMB				pmax			pmax		
comp=Z,10.0nm,1.0s									
CMB	Columbia Colle	72.98	41	eP			P	18 40 56.9	+0.4
comp=Z,9.9nm,1.0s									
PETK	Petropavlovsk-	73.17	342	P			P	18 40 56.2	-1.0
PETK	Petropavlovsk-	73.17	342	P			P	18 40 56.2	-1.0
PETK	Petropavlovsk-	73.17	342	P			P	18 40 56.2	-1.0
comp=Z,13nm,0.8s,baz=142,slow=9.8,SNR=13									
WDC	Whiskeytown Da	73.22	38	P			P	18 40 58.6	+0.8
WDC				pmax			pmax		
comp=Z,34nm,1.6s									
WDC	Whiskeytown Da	73.22	38	P			P	18 40 58.6	+0.8
comp=Z,34nm,1.6s									
MPMC	Manual Prospec	73.72	44	↑P			P	18 41 01.6	+0.5
baz=74									
GSC	Goldstone	73.76	45	↑P			P	18 41 01.5	+0.2
baz=74									
BC3	Big Chuckawall	73.81	47	⇓P			P	18 41 02.3	+0.7
baz=74									
HEC	Hector,Ludlow	73.83	46	⇓P			P	18 41 02.6	+0.9
baz=74									
QSPA	South Pole Qui	74.16	180	P			P	18 41 01.6	-1.5
QSPA	South Pole Qui	74.16	180	P			P	18 41 01.6	-1.5
comp=Z,23nm,1.0s,baz=44,slow=5.0,SNR=6.2									
GMRC	Granite Mounta	74.27	46	⇓P			P	18 41 04.5	+0.2
baz=74									
IRM	Iron Mountain	74.30	47	↑P			P	18 41 04.4	+0.1
baz=74									
GRAC	Grapevine Rang	74.33	43	⇓P			P	18 41 04.8	+0.3
baz=74									
FURC	Furnace Creek,	74.37	44	⇓P			P	18 41 05.0	+0.4
baz=75									
SHOC	Shoshone	74.45	45	↑P			P	18 41 05.4	+0.2
baz=75									
Y12C	Blythe	74.52	48	↑P			P	18 41 06.1	+0.5
baz=75									
113A	Mohawk Valley,	74.56	49	↑P			P	18 41 06.0	+0.2
baz=75									
214A	Organ Pipe Nat	74.85	50	⇓P			P	18 41 07.9	+0.3
baz=75									
TPH	Tonopah	75.03	43	P			P	18 41 01.7	-7.0
TPH				pmax			pmax		
comp=Z,86nm,1.8s									
TPH	Tonopah	75.03	43	P			P	18 41 01.7	-7.0
comp=Z,86nm,1.8s									
PDMCI	Parker Dam,Lak	75.08	47	↑P			P	18 41 09.2	+0.4
baz=75									
MOD	Modoc	75.36	38	eP			P	18 41 10.3	-0.2
comp=Z,57nm,1.0s									
Z14A	Wintersburg	75.45	49	⇓P			P	18 41 11.7	+0.7
baz=76									
W13A	Hualapai Mount	75.67	47	⇓P			P	18 41 13.3	+0.8
baz=76									
Y14A	Wickenburg	75.70	48	↑P			P	18 41 12.7	+0.2
baz=76									
R11A	Troy Canyon, C	76.25	43	eP			P	18 41 15.4	-0.3
R11A	Troy Canyon, C	76.25	43	↑P			P	18 41 16.0	+0.3
baz=76									
WVOR	Wild Horse Val	76.67	38	eP			P	18 41 17.4	-0.5
WVOR				pmax			pmax		
comp=Z,7.0nm,1.0s									
WVOR	Wild Horse Val	76.67	38	eP			P	18 41 17.4	-0.5
comp=Z,7.1nm,1.0s									
KSRS	Korea Array	76.67	316	P			P	18 41 16.6	-1.2
comp=Z,3.7nm,1.0s,baz=134,slow=6.9,SNR=7.4									
KSAR	Wonju Array Be	76.69	316	P			P	18 41 16.6	-1.3
X16A	Lo Mia Camp, P	77.06	48	⇓P			P	18 41 20.5	+0.2
baz=77									
319A	Douglas	77.21	52	↑P			P	18 41 21.9	+0.7
baz=77									
CCUT	Cedar City	77.31	45	eP			P	18 41 21.5	-0.2
comp=Z,18nm,1.3s									
U15A	North Rim	77.47	46	⇓P			P	18 41 23.2	+0.5
baz=78									
WUAZ	Wupatki	77.66	47	⇓P			P	18 41 24.1	+0.5
baz=78									
320A	Kipp Ranch, An	77.76	52	⇓P			P	18 41 24.7	+0.4
baz=78									
USRK	Ussuriysk Arra	77.92	323	P			P	18 41 24.2	-0.4
comp=Z,1.3nm,0.6s,baz=177,slow=5.8,SNR=3.4									
220A

Z23A	Rita Site, Whi	80.36	51	⇓P	P	18 41 38.8	+0.3
	baz=80						
224A	Cornudas Mount	80.38	53	⇓P	P	18 41 38.6	0.0
	baz=80						
626A	Big Bend Ranch	80.41	56	⇑P	P	18 41 38.6	-0.2
	baz=81						
HWUT	Hardware Ranch	80.60	42	eP	P	18 41 39.6	0.0
526A	Mary Lane Ranc	80.65	55	⇓P	P	18 41 39.9	-0.3
	baz=81						
TXAR	Lajitas Array	80.69	56	P	P	18 41 40.1	-0.2
TXAR	Lajitas Array	80.69	56	P	P	18 41 40.1	-0.2
	comp=Z,4.6nm,1.1s,baz=234,slow=5.5,SNR=6.3						
124A	Stringfield Ra	80.70	52	⇓P	P	18 41 40.6	+0.1
	baz=81						
U21A	Nageezi	80.74	48	⇓P	P	18 41 40.8	+0.3
	baz=81						
Y23A	Lovelace Mesa,	80.79	51	⇓P	P	18 41 40.6	-0.3
	baz=81						
PV01	Paradox Valley	80.89	46	P	P	18 41 39.8	-1.6
	comp=Z,2μm,1.2s						
S20A	Disappointment	80.89	47	⇑P	P	18 41 41.2	-0.2
	baz=81						
225A	Deer Hill, Car	80.93	53	⇓P	P	18 41 41.3	-0.3
	baz=81						
ANMO	Albuquerque	80.94	50	eP	P	18 41 41.3	-0.3
	comp=Z,11nm,1.0s						
426A	McDonald Obser	80.95	55	⇓P	P	18 41 41.6	-0.2
	baz=81						
627A	Terlingua Ranc	80.96	56	⇓P	P	18 41 41.6	-0.1
	baz=81						
X23A	Hourglass Bar	80.97	50	⇓P	P	18 41 41.9	+0.1
	baz=81						
NEW	Newport	80.98	34	eP	P	18 41 40.1	-1.2
NEW	Newport	80.98	34	⇑P	P	18 41 42.0	+0.6
	baz=81						
V22A	San Miguel Ran	81.04	49	⇓P	P	18 41 42.3	+0.1
	baz=81						
Z24A	Sheeppen Canyo	81.04	52	⇑P	P	18 41 42.1	-0.1
	baz=81						
R20A	Redvale	81.05	46	⇓P	P	18 41 42.4	+0.2
	baz=81						
527A	Woodward Ranch	81.06	55	⇓P	P	18 41 42.2	-0.1
	baz=81						
T21A	Navajo Lake	81.08	48	⇑P	P	18 41 42.6	+0.2
	baz=81						
M17A	Scullys Gap (B	81.11	42	⇓P	P	18 41 42.8	+0.4
	baz=81						
Y24A	Capitan	81.25	51	⇑P	P	18 41 43.5	+0.2
	baz=81,SNR=7.1						
326A	Caldwell Ranch	81.26	54	⇓P	P	18 41 43.5	+0.2
	baz=81						
W23A	Werner Place,	81.26	50	⇑P	P	18 41 43.4	+0.1
	baz=81,SNR=5.2						
U22A	Llaves	81.29	48	⇑P	P	18 41 43.5	0.0
	baz=82						
125A	Gardner Draw,	81.29	53	⇑P	P	18 41 43.5	0.0
	baz=81						
P19A	Cripple Cowboy	81.32	45	⇓P	P	18 41 43.4	-0.2
	baz=82						
628A	Black Gap, Mar	81.37	56	⇑P	P	18 41 43.7	-0.2
	baz=82						
226B	Tecolote Peak,	81.43	53	⇑P	P	18 41 43.9	-0.2
	baz=82,SNR=5.2						
Q20A	Ridgley Place,	81.47	46	⇑P	P	18 41 44.1	-0.2
	baz=82						
V23A	Ortiz Mt. (NFS	81.49	49	⇓P	P	18 41 44.7	+0.1
	baz=82						
Z25A	Roswell	81.51	52	⇑P	P	18 41 44.9	+0.3
	baz=82						
427A	Hayter Ranch,	81.52	55	⇑P	P	18 41 44.6	-0.1
	baz=82						
X24A	Lazy VL Ranch,	81.52	51	⇓P	P	18 41 45.0	+0.2
	baz=82						
T22A	Edith	81.54	48	⇓P	P	18 41 45.1	+0.3
	baz=82						
O19A	Miners Draw (B	81.55	44	⇓P	P	18 41 45.1	+0.4
	baz=82						
MCK	McKinley	81.56	11	eP	P	18 41 42.5	-1.5
MCK				pmax	pmax		
	comp=Z,24nm,0.9s						
MCK	McKinley	81.56	11	eP	P	18 41 42.5	-1.5
	comp=Z,24nm,0.9s						
CN2	Changchun	81.61	320	eP	P	18 41 47.0	+2.3
CN2				pmax	pmax		
	comp=Z,20nm,0.7s						
P20A	De Beque	81.66	45	⇑P	P	18 41 46.0	+0.7
	baz=82						
R21A	Cimarron	81.71	46	⇑P	P	18 41 46.1	+0.4
	baz=82						
U23A	El Rito	81.75	49	⇑P	P	18 41 45.9	0.0
	baz=82						
126A	Clayton Basin,	81.78	53	⇑P	P	18 41 46.2	+0.3
	baz=82						
Y25A	Mesa, Roswell	81.80	51	⇑P	P	18 41 46.0	-0.1
	baz=82						
W24A	Lazy 6 Ranch,	81.83	50	⇑P	P	18 41 46.4	+0.1
	baz=82						
S22A	4UR Ranch, Cre	81.93	47	⇓P	P	18 41 47.3	+0.3
	baz=82,SNR=8.8						
MSO	Missoula	81.93	37	⇓P	P	18 41 47.1	+0.6
	baz=82						
REDW	Red Top Meadow	81.95	41	eP	P	18 41 47.0	+0.1
	comp=Z,30nm,1.5s						
TPAW	Teton Pass	81.95	41	eP	P	18 41 46.1	-0.8
	comp=Z,9.0nm,0.9s						
428A	Kincaid Ranch,	82.03	55	⇓P	P	18 41 47.8	+0.4
	baz=82						
SNOW	Snow King Moun	82.06	41	eP	P	18 41 48.0	+0.6
	comp=Z,16nm,1.0s						
O20A	White River Ci	82.06	45	⇑P	P	18 41 47.9	+0.4
	baz=82						
Z26A	Caprock	82.07	52	⇑P	P	18 41 47.4	-0.1
	baz=82,SNR=12						
X25A	Clemmons Ranch	82.08	51	⇑P	P	18 41 47.6	0.0
	baz=82						
M19A	Rock Springs	82.11	43	⇑P	P	18 41 48.2	+0.5
	baz=82						
V24A	Rampart Ranch,	82.15	50	⇓P	P	18 41 47.9	-0.2
	baz=82						
529A	Stev Forest Ra	82.16	56	⇑P	P	18 41 47.9	-0.1
	baz=82						
T23A	Casias Ranch,	82.17	48	⇓P	P	18 41 48.1	0.0
	baz=82						
328A	Wristen Ranch,	82.19	54	⇑P	P	18 41 48.2	0.0
	baz=82						
R22A	Saguache, Gunn	82.20	47	⇑P	P	18 41 48.9	+0.6
	baz=82,SNR=9.0						
MOOW	Moose Ponds	82.21	40	eP	P	18 41 48.1	-0.1
LOHW	Long Hollow	82.23	41	eP	P	18 41 47.7	-0.6
	comp=Z,92nm,2.4s						
127A	Arkansas Junct	82.30	53	⇓P	P	18 41 48.8	+0.1
	baz=82						
P21A	Newcastle	82.31	45	⇑P	P	18 41 49.7	+0.9
	baz=82						
N20A	Spence Gulch,	82.38	44	⇓P	P	18 41 49.2	0.0
	baz=83,SNR=5.2						
Q22A	Crested Butte,	82.38	46	⇓P	P	18 41 49.4	+0.1
	baz=83,SNR=9.2						
Y26A	Elida	82.46	52	⇓P	P	18 41 49.2	-0.4
	baz=83						
BW06	Boulder Array	82.47	42	eP	P	18 41 48.6	-1.0
	comp=Z,15nm,1.1s						
PDAR	Pinedale Array	82.47	42	P	P	18 41 49.4	-0.2
PDAR	Pinedale Array	82.47	42	P	P	18 41 49.4	-0.2
	comp=Z,8.9nm,0.9s,baz=214,slow=2.9,SNR=16						
SMCO	Snowmass	82.48	46	eP	P	18 41 49.5	-0.4
	comp=Z,38nm,1.3s						
W25A	X Bar L Ranch,	82.53	50	⇓P	P	18 41 49.7	-0.2
	baz=83						
429A	Davenport Ranc	82.61	55	⇑P	P	18 41 49.6	-0.8
	baz=83						
O21A	Pagoda	82.62	45	⇑P	P	18 41 50.9	+0.5
	baz=83						
BOZ	Bozeman (W)	82.65	38	eP	P	18 41 50.0	-0.4
BOZ				pmax	pmax		
	comp=Z,13nm,1.2s						
BOZ	Bozeman (W)	82.65	38	eP	P	18 41 50.0	-0.4
	comp=Z,13nm,1.2s						
T24B	San Luis	82.65	48	⇑P	P	18 41 50.6	-0.1
	baz=83						
228A	UT Block 9, Go	82.66	54	⇓P	P	18 41 50.7	+0.1
	baz=83						
Z27A	Tatum	82.67	52	⇓P	P	18 41 50.1	-0.5
	baz=83						
V25A	Rancho No Teng	82.68	50	⇓P	P	18 41 50.6	-0.2
	baz=83,SNR=7.3						
X26A	CR and CF Fran	82.73	51	⇑P	P	18 41 50.6	-0.4
	baz=83						
M20A	Sweetwater, Wa	82.75	43	⇑P	P	18 41 51.3	+0.3
	baz=83,SNR=6.0						
COLA	College	82.80	11	eP	P	18 41 50.9	+0.5
COLA				pmax	pmax		
	comp=Z,125nm,1.0s						
COLA	College	82.80	11	eP	P	18 41 50.9	+0.5
	comp=Z,125nm,1.0s						
P22A	Eagle	82.82	46	⇑P	P	18 41 51.7	+0.2
	baz=83						
N21A	Black Mountain	82.84	44	⇑P	P	18 41 51.9	+0.4
	baz=83,SNR=5.5						
SDCO	Great Sand Dun	82.87	48	eP	P	18 41 51.1	-0.8
	comp=Z,11nm,1.0s						
530A	J-C Ranch, Com	82.87	56	⇓P	P	18 41 51.7	0.0
	baz=83						
ILAR	Eielson Array	82.88	11	P	P	18 41 52.2	+1.4
ILAR	Eielson Array	82.88	11	P	P	18 41 52.2	+1.4
	comp=Z,3.4nm,0.7s,baz=225,slow=5.9,SNR=10						
329A	Wagon Wheel Ra	82.89	55	⇑P	P	18 41 51.6	-0.2
	baz=83						
L20A	Wamsutter	82.89	43	⇓P	P	18 41 52.0	+0.2
	baz=83,SNR=11						
Y27A	Causey	82.94	52	⇑P	P	18 41 51.8	-0.3
	baz=83						
128A	Castleberry Fa	82.95	53	⇓P	P	18 41 51.7	-0.4
	baz=83						
K19A	Absolon Red Bu	82.96	42	⇓P	P	18 41 51.2	-0.9
	baz=83,SNR=5.7						
W26A	Owens Ranch, T	82.99	51	⇑P	P	18 41 52.1	-0.2
	baz=83						
S24A	Houchin Ranch,	83.03	48	⇓P	P	18 41 52.6	-0.1
	baz=83,SNR=8.3						
J19A	Crowheart	83.04	41	⇑P	P	18 41 52.6	+0.2
	baz=83,SNR=8.4						
U25A	Circle Dot Ran	83.07	49	⇓P	P	18 41 52.5	-0.3
	baz=83,SNR=11						
Q23A	Hartsel	83.15	46	⇓P	P	18 41 53.2	-0.1
	baz=83,SNR=12						
WALA	Waterton Lakes	83.18	35	eP	P	18 41 51.7	-1.3
631A	Perdido Creek	83.20	57	⇑P	P	18 41 53.1	-0.3
	baz=83						
K20A	Yellowstone Ra	83.20	42	⇑P	P	18 41 53.8	+0.5
	baz=83						
O22A	Kremmling	83.22	45	⇓P	P	18 41 53.6	0.0
	baz=83,SNR=9.8						
V26A	Tequesquite Ra	83.27	50	⇓P	P	18 41 53.5	-0.2
	baz=83						
MSTX	Muleshoe	83.27	52	eP	P	18 41 52.8	-1.0
MSTX	Muleshoe	83.27	52	⇑P	P	18 41 53.6	-0.1
	baz=83						
Z28A	Tucker Farm, M	83.29	53	⇓P	P	18 41 53.6	-0.3
	baz=83						
X27A	F and S Farms,	83.31	51	⇑P	P	18 41 53.7	-0.3
	baz=84						
QIZ	Qiongzhong	83.31	292	P	P	18 41 52.8	-1.3
QIZ				S	S	18 52 11.8	-1.9
QIZ				pmax	pmax		
	comp=Z,69nm,2.4s						
M21A	Separation Pea	83.34	44	⇓P	P	18 41 53.6	-0.5
	baz=84,SNR=8.4						
H18A	Shoshone NF, C	83.35	40	⇑P	P	18 41 54.4	+0.3
	baz=84						
P23A	Jefferson	83.36	46	⇓P	P	18 41 54.5	+0.2
	baz=84						
R24A	Sanders Place,	83.36	47	⇑P	P	18 41 54.5	+0.3
	baz=84,SNR=8.1						
T25A	Trinidad	83.39	49	⇓P	P	18 41 54.2	-0.3
	baz=84						
I19A	Meeteetse	83.45	41	⇓P	P	18 41 55.2	+0.6
	baz=84,SNR=8.0						
RWWY	Rawlins	83.48	44	eP	P	18 42 00.3	+5.4
	comp=Z,44nm,1.1s						
W27A	Bowe Ranch, En	83.50	51	⇑P	P	18 41 54.3	-0.6
	baz=84,SNR=9.5						
L21A	Rawlins	83.51	43	⇑P	P	18 41 54.9	-0.1
	baz=84						
531A	Rocksprings	83.51	56	⇑P	P	18 41 54.6	-0.4
	baz=84						
U26A	Atchley Ranch,	83.55	49	⇓P	P	18 41 54.9	-0.4
	baz=84,SNR=9.1						
N22A	Wattenberg Ran	83.58	45	⇓P	P	18 41 55.1	-0.3
	baz=84,SNR=8.3						
S25A	Robets Cordova	83.59	48	⇑P	P	18 41 55.0	-0.4
	baz=84,SNR=8.5						
Q24A	Divide	83.65	47	⇑P	P	18 41 55.8	-0.1
	baz=84,SNR=8.0						
O23A	Lake Granby, G	83.68	45	⇓P	P	18 41 55.6	-0.3
	baz=84						
J20A	Shoshoni	83.70	42	⇓P	P	18 41 56.1	+0.3
	baz=84,SNR=10						
ISCO	Idaho Springs	83.70	46	eP	P	18 41 55.5	-0.6
ISCO				pmax	pmax		
	comp=Z,110nm,2.5s						
ISCO	Idaho Springs	83.70	46	eP	P	18 41 55.5	-0.6
	comp=Z,110nm,2.5s						
ISCO	Idaho Springs	83.70	46	⇑P	P	18 41 56.3	+0.2
	baz=84						
M22A	Cedar Creek Ra	83.76	44	⇓P	P	18 41 56.1	-0.2
	baz=84,SNR=5.5						
H19A	Powell	83.77	40	⇑P	P	18 41 56.4	+0.2
	baz=84						
Z29A	Hungry Hill Ra	83.80	53	⇑P	P	18 41 56.3	-0.2
	baz=84						
RLMT	Red Lodge	83.82	40	eP	P	18 41 57.0	+0.5
	comp=Z,22nm,1.3s						
632A	Uvalde	83.87	57	⇑P	P	18 41 56.6	-0.2
	baz=84						
K21A	Alcova	83.90	43	⇑P	P	18 41 56.5	-0.4
	baz=84,SNR=8.9						
R25A	Fountain Ranch	83.91	48	⇓P	P	18 41 56.3	-0.7
	baz=84,SNR=6.9						
X28A	Dimmitt	83.93	52	⇑P	P	18 41 57.2	+0.1
	baz=84						
V27A	Dan Oppiter Fa	83.96	50	⇑P	P	18 41 57.4	+0.1
	baz=84						
I20A	Worland	83.96	41	⇑P	P	18 41 57.4	+0.3
	baz=84,SNR=12						
N23A	Red Feather La	83.97	45	⇓P	P	18 41 57.3	-0.1
	baz=84,SNR=6.1						
T26A	Comanche Natio	83.99	49	⇑P	P	18 41 57.2	-0.3
	baz=84						
532A	Rocksprings	84.01	57	⇓P	P	18 41 57.2	-0.4
	baz=84						
EGAK	Eagle	84.04	13	eP	P	18 41 57.9	+1.0
	comp=Z,14nm,1.0s						
J21A	Lysite	84.11	42	⇑P	P	18 41 58.0	+0.1
	baz=84,SNR=17						
L22A	Ellis Ranch, M	84.16	43	⇑P	P	18 41 57.9	-0.4
	baz=84,SNR=7.4						
JCT	Junction City	84.22	56	⇓P	P	18 41 58.5	-0.1
	baz=84						
U27A	Thompson Grove	84.24	50	⇑P	P	18 41 58.3	-0.4
	baz=84						
Z30A	Sanderson Ranc	84.26	53	⇓P	P	18 41 58.5	-0.3
	baz=84						
Q25A	Bedland, Calha	84.27	47	⇑P	P	18 41 58.3	-0.6
	baz=84						
S26A	Kim	84.27	48	⇑P	P	18 41 58.4	-0.4
	baz=84,SNR=6.0						
X29A	Tulia	84.28	52	⇑P	P	18 41 58.7	-0.1
	baz=84						
H20A	Greybull	84.30	41	⇑P	P	18 41 59.0	+0.2
	baz=84						
231A	Bronte	84.37	55	⇑P	P	18 41 59.3	-0.1
	baz=84						
F19A	Roth Farm, Mol	84.38	39	⇑P	P	18 41 59.1	-0.1
	baz=85,SNR=7.6						
432A	Menard	84.38	56	⇓P	P	18 41 59.6	+0.1
	baz=84						
K22A	Casper	84.38	43	ePKPdif	P	18 41 58.8	-0.5
K22A	Casper	84.38	43	⇑P	P	18 41 59.3	0.0
	baz=85						
V28A	Channing	84.41	51	⇑P	P	18 41 59.6	0.0
	baz=85						
I21A	Big Trails, Te	84.43	42	⇑P	P	18 41 59.7	+0.1
	baz=85,SNR=11						
G20A	Bridger	84.52	40	⇑P	P	18 42 00.1	+0.2
	baz=85						
R26A	Arlington	84.57	48	⇑P	P	18 42 00.3	0.0
	baz=85,SNR=5.7						
P25A	Willow Gulch B	84.58	46	⇓P	P	18 41 60.0	-0.4
	baz=85,SNR=7.6						
T27A	Campo	84.58	49	⇑P	P	18 42 00.2	-0.2
	baz=85						
W29A	Amraillo	84.59	51	⇓P	P	18 42 00.1	-0.4
	baz=85,SNR=5.1						
COLD	Coldfoot	84.59	9	eP	P	18 41 59.8	+0.2
	comp=Z,7.3nm,1.0s						
131A	Roby	84.59	54	⇓P	P	18 42 00.2	-0.3
	baz=85						
332A	Millersview	84.61	55	⇓P	P	18 42 00.4	-0.2
	baz=85						
Y30A	Stafford Cattl	84.66	53	⇓P	P	18 42 00.8	0.0
	baz=85						
L23A	Garrett	84.68	44	⇑P	P	18 42 00.4	-0.5
	baz=85,SNR=9.5						
S27A	Las Animas	84.71	49	⇓P	P	18 42 00.5	-0.6
	baz=85						
J22A	Midwest	84.76	42	⇓P	P	18 42 00.8	-0.4
	baz=85						
E19A	Rath Farm, Rou	84.77	39	⇑P	P	18 42 01.3	+0.2
	baz=85						
F20A	Billings	84.84	40	⇑P	P	18 42 01.7	+0.3
	baz=85						
232A	Coleman	84.88	55	⇓P	P	18 42 01.1	-0.8
	baz=85						
X30A	Coker Ranch, T	84.91	52	⇑P	P	18 42 01.8	-0.2
	baz=85						
H21A	Big Horn, Sher	84.97	41	⇓P	P	18 42 02.0	-0.2
	baz=85						
EGMT	Eagleton	84.98	37	⇑P	P	18 42 02.1	0.0
	baz=85						
M24A	Cheyenne	84.98	45	⇓P	P	18 42 02.0	-0.4
	baz=85						
I22A	9 Mile Ranch,	84.98	42	⇓P	P	18 42 01.9	-0.3
	baz=85,SNR=5.7						
K23A	Bowen Ranch, D	85.02	43	⇓P	P	18 42 02.0	-0.6
	baz=85,SNR=5.6						
R27A	Eads	85.03	48	⇓P	P	18 42 02.2	-0.4
	baz=85						
Z31A	Sharp Cattle R	85.03	53	⇑P	P	18 42 02.0	-0.6
	baz=85						
T28A	Walsh	85.05	49	⇑P	P	18 42 02.1	-0.6
	baz=85						
D19A	Cripps Ranch,	85.06	38	⇓P	P	18 42 02.6	+0.1
	baz=85						
G21A	Lodge Grass	85.14	40	⇓P	P	18 42 03.8	+0.7
	baz=85						
ABTX	Abilene, Hawle	85.16	54	eP	P	18 42 02.4	-0.9
ABTX	Abilene, Hawle	85.16	54	⇑P	P	18 42 03.2	0.0
	baz=85						
L24A	Wheatland	85.16	44	⇓P	P	18 42 03.3	+0.1
	baz=85						
Y31A	Rekieta Farm,	85.19	53	⇑P	P	18 42 03.4	0.0
	baz=85						
E20A	Meyer Farm, Mu	85.19	39	⇓P	P	18 42 03.6	+0.4
	baz=85						
C19A	Slack Wire Ran	85.24	38	⇑P	P	18 42 04.5	+1.1
	baz=85						
H22A	Clearmont	85.39	41	⇓P	P	18 42 04.8	+0.6
	baz=86						
D20A	Manuel Ranch,	85.47	38	⇑P	P	18 42 05.4	+0.8
	baz=86						
Z32A	Haskell	85.54	54	⇓P	P	18 42 05.5	+0.3
	baz=86						
V30A	Spur Ranch, Mi	85.56	51	⇑P	P	18 42 05.4	+0.1
	baz=86						
B19A	Brinkman Farms	85.66	37	⇓P	P	18 42 05.7	+0.3
	baz=86						
EDM	Edmonton	85.78	31	eP	P	18 42 04.0	-1.9
EDM	Edmonton	85.78	31	eP	P	18 42 04.0	-1.9
Y32A	R-V Farms, Ver	85.83	53	⇓P	P	18 42 06.6	0.0
	baz=86						
E21A	Keefer Ranch,	85.85	39	⇑P	P	18 42 07.1	+0.7
	baz=86						
C20A	Veseth Ranch,	85.85	38	⇓P	P	18 42 06.6	+0.2
	baz=86						
W31A	Holland Ranch,	85.90	52	⇓P	P	18 42 06.7	-0.2
	baz=86						
J24A	Dixon Ranch, L	85.91	43	⇑P	P	18 42 06.6	-0.3
	baz=86						
A19A	Klindworth Far	86.01	37	⇓P	P	18 42 07.3	+0.1
	baz=86						
D21A	La Casta Ranch	86.14	39	⇓P	P	18 42 08.3	+0.4
	baz=86						
T30A	Plains	86.18	50	⇑P	P	18 42 08.9	+0.5
	baz=86						
B20A	Solberg Farm,	86.19	37	⇓P	P	18 42 08.6	+0.5
	baz=86						
V31A	Spring Creek L	86.20	51	⇑P	P	18 42 08.8	+0.4
	baz=86						
C21A	Desert Coulee	86.44	38	⇓P	P	18 42 09.5	+0.2
	baz=87						
A20A	Cobblestone Ra	86.46	37	⇓P	P	18 42 09.5	+0.1
	baz=87						
K26A	Motz Farm, Whi	86.62	44	⇓P	P	18 42 10.8	+0.4
	baz=87						
D22A	Cohagen	86.67	39	⇓P	P	18 42 10.8	+0.3
	baz=87						
B21A	Ellsworth Farm	86.77	38	⇓P	P	18 42 11.7	+0.7
	baz=87						
I25A	Rochford	86.81	43	⇑P	P	18 42 11.4	0.0
	baz=87						
R30A	Dighton	86.84	49	⇓P	P	18 42 12.0	+0.4
	baz=87						
A21A	Bergtoll Ranch	87.09	37	⇑P	P	18 42 13.2	+0.7
	baz=87						
B22A	Reddig Ranch S	87.31	38	⇓P	P	18 42 14.1	+0.5
	baz=88						
MAW	Mawson	87.41	199	P	P	18 42 14.6	+0.9
MAW	Mawson	87.41	199	P	P	18 42 14.6	+0.9
	comp=Z,9.8nm,1.1s,baz=76,slow=9.7,SNR=5.3						
C23A	Lambert	87.57	39	⇑P	P	18 42 15.2	+0.4
	baz=88						
H26A	Fairpoint	87.69	42	⇑P	P	18 42 15.0	-0.5
	baz=88						
G27A	Dupree	87.91	42	⇑P	P	18 42 19.3	+2.8
	baz=89						
GYA	Guiyang	88.48	298	⇑P	P	18 42 20.0	+0.3
GYA				PP	PP	18 45 50.5	+2.3
GYA				SKS	SKSac	18 52 45.8	-1.8
GYA				pmax	pmax		
	comp=Z,20nm,1.2s						
GYA				pmax	pmax		
	comp=Z,120nm,6.8s						
GYA				LR	LR		
	comp=N,550nm,20.2s						
GYA				LR	LR		
	comp=E,470nm,24.0s						
GYA				LR	LR		
	comp=Z,540nm,21.9s						
INK	Inuvik	88.69	14	P	P	18 42 19.6	+0.1
HHC	Hu-ho-hao-te	89.53	313	eP	P	18 42 23.3	-1.0
HHC				sP	sP	18 42 30.3	-5.5
HHC				PP	PP	18 45 57.8	+1.5
HHC				SKS	SKSac	18 52 51.3	-1.9
HHC				S	S	18 53 12.3	-1.4
HHC				sS	ScS	18 53 21.0	+2.8
HHC				pmax	pmax		
	comp=Z,510nm,6.5s						
HHC				LR	LR		
	comp=N,350nm,16.9s						
HHC				LR	LR		
	comp=E,760nm,17.7s						
HHC				LR	LR		
	comp=Z,1μm,18.2s						
E29A	Napoleon	90.49	41	⇑P	P	18 42 29.3	+0.8
	baz=91						
TEIG	Tepich	90.74	69	eP	P	18 42 30.4	+0.1
	comp=Z,23nm,1.1s						
JTS	JuntasAbangare	91.06	80	P	P	18 42 31.9	-0.1
JTS	JuntasAbangare	91.06	80	P	P	18 42 31.9	-0.1
	comp=Z,21nm,0.9s,baz=217,slow=4.6,SNR=8.5						
KMI	Kunming	91.45	296	P	P	18 42 33.8	0.0
KMI				pmax	pmax		
	comp=Z,22nm,2.0s						
A29A	Manning Farm,	91.65	39	⇑P	P	18 42 34.4	+0.6
	baz=92						
CD2	Chengdu	92.27	301	P	P	18 42 38.0	+0.8
CD2

LZH pmax pmax
comp=Z,48nm,1.2s
LZH pmax pmax
comp=Z,250nm,5.4s
LZH LR LR
comp=N,1μm,17.2s
LZH LR LR
comp=E,1μm,15.1s
LZH LR LR
comp=Z,1μm,18.0s
SPMN St. Paul 94.50 44 ⇓P P 18 42 47.3 +0.2
baz=95
WMQ Urumqi 107.37 312 *e*P **Pdif 18 43 44.8 0.0**
KSH Kashi 115.95 307 PKP **PKPdf 18 48 12.0 +2.0**
KSH PP PP 18 49 22.8 +8.4
KSH PKS **PKSdf 18 51 47.3 +0.5**
KSH SKS **SKSdf 18 55 22.8 +2.2**
ARCES ARCESS Array B 125.12 352 PKP **PKPdf 18 48 27.6 +1.0**
ARCES ARCESS Array B 125.12 352 PKP **PKPdf 18 48 27.6 +1.0**
comp=Z,4.8nm,0.9s,baz=354,slow=1.8,SNR=3.5
FINES FINESS Array B 132.47 348 PKP **PKPdf 18 48 40.4 -0.3**
FINES FINESS Array B 132.47 348 PKP **PKPdf 18 48 40.4 -0.3**
comp=Z,3.9nm,1.0s,baz=235,slow=6.7,SNR=3.0
AKASG Malin Array Be 140.88 337 PKHKP PKPpre 18 48 51.9
AKASG Malin Array Be 140.88 337 PKPpre PKPpre 18 48 51.9
AKASG Malin Array Be 140.88 337 PKhKP PKPpre 18 48 51.8
comp=Z,1.0nm,0.6s,baz=35,slow=4.3,SNR=5.6
CLL Collm 144.33 353 *e*(PKPdf) **PKPab 18 48 58.0 -2.7**
CLL Collm 144.33 353 *e*PKPdf **PKPdf 18 49 04.0 +1.3**
CLL *e*PKiKP **PKiKP 18 49 08.0 +1.7**
BRG Berggiesshubel 144.64 352 *e*PKP **PKPab 18 48 59.0 -2.9**
comp=Z,13nm,1.1s
UPC Upice 144.69 350 *e*PKP **PKPdf 18 49 03.5 +0.1**
DPC Dobruska-Polom 144.78 349 *e*PKP **PKPab 18 49 01.9 -0.6**
PVCC Panska Ves 144.89 351 *e*PKP **PKPab 18 49 00.9 -1.9**
BURAR Bucovina Array 144.91 338 ⇓*i*P **PKPab 18 49 00.1 -3.0**
OKC Ostrava-Krasne 144.92 347 *e*PKP **PKPab 18 49 01.9 -1.0**
MORC Moravsky Berou 145.10 348 ⇑*i*P **PKPdf 18 49 05.1 +0.9**
TESR Tescani 145.29 336 ⇑*i*P **PKPbc 18 49 01.2 -3.1**
TRPA Tarpa 145.35 341 ⇑*i*P **PKPbc 18 49 03.2 -1.2**
GHRR 145.35 335 ⇑*i*P **PKPbc 18 49 03.9 -0.6**
MEM Membach 145.36 1 PKP **PKPdf 18 49 05.4 +0.9**
PRU Pruhonice 145.42 351 *e*PKP **PKPbc 18 49 02.4 -2.2**
TLCR 145.43 332 ⇑*i*P **PKPbc 18 49 04.5 -0.3**
BMR Baia Mare 145.45 340 ⇑*i*P **PKPab 18 49 09.7 +4.7**
KMBO Kilima Mbogo 145.53 243 PKPbc **PKPab 18 49 07.4 +0.8**
KMBO Kilima Mbogo 145.53 243 PKPbc **PKPab 18 49 07.4 +0.8**
comp=Z,7.5nm,1.0s,baz=47,slow=5.8,SNR=4.6
CFR Carcaliu 145.74 333 ⇓*i*P **PKPdf 18 49 04.6 -0.7**
VRI Vrincioaia 145.79 335 ⇓*i*P **PKPdf 18 49 03.7 -1.7**
DOU Dourbes 145.84 3 PKP **PKPab 18 49 06.0 -0.3**
TREC Trest 145.95 350 *e*PKP **PKPab 18 49 07.5 +0.7**
GRFO Grafenberg 146.10 355 *e*PKIKP **PKPab 18 49 06.9 -0.4**
GRFO Grafenberg 146.10 355 *e*PKPbc **PKPab 18 49 06.9 -0.4**
TLB Topalu 146.25 332 ⇑*i*P **PKPdf 18 49 05.9 -0.3**
PSZ Piszkesteto 146.30 344 *e*PKIKP **PKPbc 18 49 07.2 -0.3**
PSZ Piszkesteto 146.30 344 *e*PKPbc **PKPbc 18 49 07.2 -0.3**
PSZ Piszkesteto 146.30 344 ⇑*i*P **PKPbc 18 49 07.4 -0.1**
KHC Kasperske Hory 146.40 352 *e*PKHKP PKPpre 18 49 04.0
KHC Kasperske Hory 146.40 352 *e*PKP PKPpre 18 49 04.2
KHC *e*pPKP **PKiKP 18 49 10.0 -0.7**
KHC Kasperske Hory 146.40 352 *e*PKPdf PKPpre 18 49 04.0
MLR Muntele Rosu 146.41 335 ⇓*i*P **PKPbc 18 49 08.0 0.0**
DRGR 146.48 340 ⇑*i*P **PKPab 18 49 09.4 +0.4**
GERES GERESS Array B 146.66 352 PKPbc **PKPab 18 49 10.2 +0.5**
GERES GERESS Array B 146.66 352 PKPbc **PKPab 18 49 10.2 +0.5**
comp=Z,3.1nm,0.7s,baz=20,slow=3.2,SNR=8.4
BRTR Keskin Array B 146.69 321 PKPbc **PKPab 18 49 10.3 +0.2**
BRTR Keskin Array B 146.69 321 PKPbc **PKPab 18 49 10.3 +0.2**
comp=Z,12nm,0.9s,baz=130,slow=2.1,SNR=11
VOIR 146.81 336 ⇓*i*P **PKPab 18 49 11.1 +0.8**
ARR Arges 147.03 337 ⇓*i*P **PKPab 18 49 10.9 -0.2**
ANTO Ankara 147.10 322 *e*PKP2 **PKPab 18 49 12.1 +0.4**
ANTO Ankara 147.10 322 *e*PKPbc **PKPab 18 49 12.1 +0.4**
GZR Gura Zlata 147.68 339 ⇑*i*P **PKPbc 18 49 12.4 +0.9**
ECH Echery 147.76 360 *e*PKP2 **PKPbc 18 49 12.5 +0.9**
ECH Echery 147.76 360 *e*PKPbc **PKPbc 18 49 12.4 +0.9**
BZS Buzias 147.87 340 ⇓*i*P **PKPab 18 49 13.1 -1.3**
MMAI Mount Meron Ar 149.06 309 PKPbc **PKPbc 18 49 17.2 +1.7**
MMAI Mount Meron Ar 149.06 309 PKPbc **PKPbc 18 49 17.2 +1.7**
comp=Z,8.7nm,0.7s,baz=82,slow=3.1,SNR=7.8
DAVOX Davos/Dischmat 149.10 356 PKPbc **PKPbc 18 49 16.1 +0.8**
DAVOX Davos/Dischmat 149.10 356 PKPbc **PKPbc 18 49 16.1 +0.8**
comp=Z,4.9nm,0.7s,baz=217,slow=5.1,SNR=4.6
CSS Prodhromos 149.61 314 *e*PKPbc **PKPbc 18 49 16.5 -0.2**
VTS Vitosha 149.92 335 ⇓*i*P **PKPbc 18 49 15.2 -2.2**
SSB Saint Sauveur 150.64 3 *e*PKIKP **PKPdf 18 49 15.9 +2.4**
SSB Saint Sauveur 150.64 3 *e*PKPbc **PKPdf 18 49 15.9 +2.4**

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*IDC **29** 18:31:39.5±0.8, 15°.32S×173°.33W, h0km, mb4.6/11, mb1 4.7/11, mb1mx4.5/21, mbtmp4.5/11, Error ellipse: s-maj=32.3km s-min=19.2km az=114.0*
*NEIC **29** 18:31:41.0±0.4, 15°.28S×173°.28W, h10km, mb4.9/4, Error ellipse: s-maj=19.3km s-min=10.5km az=129.0*
*ISCJB **29** 18:31:42.5±0.5, 15°.2S±0°.1×173°.3W±0°.1, h30km, mb4.5/14, Error ellipse: s-maj=19.1km s-min=10.8km az=43.8*
ISC 29 18:31:44.1±0.5, 15°.3S±0°.1×173°.3W±0°.1, h30km, n44, σ1°.9/14/42, mb4.7/14, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.96**	**47**	Pn	**Pn**	**18 32 14.5**	**-0.8**
DZM	**Mont Dzumac**	**20.38**	**248**	P	Pn	18 36 21.1	+0.3
DZM	**Mont Dzumac**	**20.38**	**248**	P	Pn	18 36 21.1	+0.3
19nm,1.0s,baz=74,slow=20,SNR=3.8							
URZ	**Urewera**	**24.45**	**199**	P	**P**	**18 36 58.6**	**-1.7**
URZ	**Urewera**	**24.45**	**199**	P	**P**	**18 36 58.6**	**-1.7**
22nm,0.9s,baz=90,slow=10,SNR=2.7							
RPZ	**Rata Peaks**	**31.38**	**202**	P	**P**	**18 38 01.6**	**-0.6**
RPZ	**Rata Peaks**	**31.38**	**202**	P	**P**	**18 38 01.6**	**-0.6**
5.6nm,0.6s,baz=11,slow=5.2,SNR=1.8							
EIDS	**Eidsvold**	**34.83**	**247**	P	**P**	**18 38 34.4**	**+1.8**
STKA	**Stephens Creek**	**44.23**	**240**	*e*P	**P**	**18 39 49.2**	**-1.6**
1.4nm,0.7s							
STKA	**Stephens Creek**	**44.23**	**240**	P	**P**	**18 39 49.7**	**-1.1**
5.7nm,0.8s,baz=76,slow=11,SNR=6.7							
WRAB	**Tennant Creek**	**50.00**	**257**	*e*P	**P**	**18 40 35.3**	**-0.8**
12nm,0.8s							
WRA	**Warramunga Arr**	**50.01**	**257**	P	**P**	**18 40 35.0**	**-1.2**
WRA	**Warramunga Arr**	**50.01**	**257**	P	**P**	**18 40 35.0**	**-1.2**
4.7nm,0.7s,baz=91,slow=6.8,SNR=6.4							
ASAR	**Alice Springs**	**50.29**	**252**	P	**P**	**18 40 36.6**	**-1.7**
ASAR	**Alice Springs**	**50.29**	**252**	P	**P**	**18 40 36.6**	**-1.7**
7.4nm,0.5s,baz=87,slow=7.8,SNR=8.0							
SBA	**Scott Base**	**63.41**	**185**	*e*P	**P**	**18 42 12.6**	**+2.2**
8.3nm,0.8s							
VNDA	**Vanda**	**63.54**	**186**	*e*P	**P**	**18 42 12.6**	**+1.3**
6.1nm,0.9s							
PETK	**Petropavlovsk-**	**72.53**	**342**	P	**P**	**18 43 08.1**	**+0.2**
PETK	**Petropavlovsk-**	**72.53**	**342**	P	**P**	**18 43 08.1**	**+0.2**
4.3nm,0.8s,baz=140,slow=7.5,SNR=3.9							
QSPA	**South Pole Qui**	**74.80**	**180**	P	**P**	**18 43 22.3**	**+1.0**
QSPA	**South Pole Qui**	**74.80**	**180**	P	**P**	**18 43 22.3**	**+1.0**
16nm,1.0s,baz=47,slow=4.3,SNR=5.1							
TXAR	**Lajitas Array**	**80.41**	**56**	P	**P**	**18 43 53.8**	**+0.5**
TXAR	**Lajitas Array**	**80.41**	**56**	P	**P**	**18 43 53.8**	**+0.5**
2.4nm,1.1s,baz=219,slow=7.0,SNR=3.9							
ILAR	**Eielson Array**	**82.27**	**11**	P	**P**	**18 44 01.9**	**-0.3**
ILAR	**Eielson Array**	**82.27**	**11**	P	**P**	**18 44 01.9**	**-0.3**
2.2nm,0.8s,baz=228,slow=6.8,SNR=5.5							
MAW	**Mawson**	**87.98**	**199**	P	**P**	**18 44 29.8**	**-1.1**
MAW	**Mawson**	**87.98**	**199**	P	**P**	**18 44 29.8**	**-1.1**
5.0nm,1.1s,baz=130,slow=4.3,SNR=4.2							
CMAR	**Chiang Mai Arr**	**92.69**	**288**	P	**P**	**18 44 55.6**	**+1.8**
CMAR	**Chiang Mai Arr**	**92.69**	**288**	P	**P**	**18 44 55.6**	**+1.8**
1.0nm,0.9s,baz=94,slow=2.7,SNR=2.6							
MKAR	**Makanchi Array**	**110.82**	**315**	PKiKP	**PKiKP**	**18 50 13.5**	**-0.8**
MKAR	**Makanchi Array**	**110.82**	**315**	PKiKP	**PKiKP**	**18 50 13.5**	**-0.8**
0.4nm,0.8s,baz=72,slow=0.5,SNR=2.4							
KURK	**Kurchatov**	**113.11**	**319**	PKiKP	**PKiKP**	**18 50 17.6**	**-0.8**
KURBB	**Kurchatov Arra**	**113.18**	**319**	PKiKP	**PKiKP**	**18 50 17.6**	**-0.9**
0.6nm,0.8s,baz=84,slow=2.1,SNR=3.8							
KHC	**Kasperske Hory**	**145.75**	**352**	*e*PKPdf	**PKPab**	**18 51 20.7**	**+0.2**
GERES	**GERESS Array B**	**146.01**	**352**	PKPbc	**PKPab**	**18 51 21.7**	**+0.1**
GERES	**GERESS Array B**	**146.01**	**352**	PKPbc	**PKPab**	**18 51 21.7**	**+0.1**
2.6nm,0.9s,baz=7.6,slow=3.0,SNR=4.6							
BR131	**Keskin Array S**	**146.12**	**321**	*e*PKPbc	**PKPab**	**18 51 22.6**	**+0.2**
BRTR	**Keskin Array B**	**146.12**	**321**	PKPbc	**PKPbc**	**18 51 21.7**	**0.0**
BRTR	**Keskin Array B**	**146.12**	**321**	PKPbc	**PKPbc**	**18 51 21.7**	**0.0**
17nm,0.9s,baz=111,slow=2.0,SNR=11							
MMAI	**Mount Meron Ar**	**148.57**	**309**	PKPbc	**PKPbc**	**18 51 30.2**	**+1.6**
MMAI	**Mount Meron Ar**	**148.57**	**309**	PKPbc	**PKPbc**	**18 51 30.3**	**+1.6**
3.0nm,0.8s,baz=52,slow=5.4,SNR=4.0							
CSS	**Prodhromos**	**149.09**	**314**	*e*PKPbc	**PKPbc**	**18 51 30.3**	**+0.4**
TORD	**Torodi Ar. Bea**	**174.68**	**112**	PKP	**PKPdf**	**18 51 51.0**	**-1.0**
TORD	**Torodi Ar. Bea**	**174.68**	**112**	PKP	**PKPdf**	**18 51 51.0**	**-1.0**
1.6nm,1.1s,baz=256,slow=2.3,SNR=2.7							

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*IDC **29** 18:32:13.6±0.5, 15°.08S×172°.40W, h0km, mb4.7/14, mb1 4.8/14, mb1mx4.6/22, mbtmp4.6/14, Error ellipse: s-maj=27.1km s-min=16.8km az=131.0*
*ISCJB **29** 18:32:17.4±0.5, 15°.0S±0°.1×172°.5W±0°.1, h35km, mb4.6/14, Error ellipse: s-maj=22.8km s-min=14.1km az=42.2*
ISC 29 18:32:18.8±0.5, 15°.1S±0°.1×172°.4W±0°.2, h35km, n33, σ0°.76/30, mb4.5/14, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.34**	**28**	T	T	18 33 43.1	
348nm,0.3s,baz=167,slow=20,SNR=2.1							
RAR	**Rarotonga**	**13.48**	**119**	T	T	18 48 59.9	
92nm,0.3s,baz=90,slow=7.8,SNR=11							
URZ	**Urewera**	**24.85**	**200**	P	**P**	**18 37 38.5**	**+0.5**
21nm,0.9s,baz=315,slow=16,SNR=1.9							
STKA	**Stephens Creek**	**44.99**	**240**	P	**P**	**18 40 30.2**	**-0.9**
4.6nm,0.8s,baz=78,slow=9.3,SNR=2.1							
WRA	**Warramunga Arr**	**50.82**	**256**	P	**P**	**18 41 16.8**	**+0.5**
5.3nm,0.9s,baz=92,slow=6.9,SNR=3.5							
ASAR	**Alice Springs**	**51.09**	**252**	P	**P**	**18 41 18.1**	**-0.2**
7.1nm,0.8s,baz=89,slow=8.2,SNR=3.5							
PETK	**Petropavlovsk-**	**72.64**	**342**	P	**P**	**18 43 42.5**	**-0.1**
5.2nm,0.9s,baz=116,slow=10,SNR=2.1							
YBH	**Yreka Blue Hor**	**72.80**	**37**	P	**P**	**18 43 44.3**	**+0.3**
7.3nm,0.9s,baz=218,slow=7.1,SNR=3.9							
QSPA	**South Pole Qui**	**74.94**	**180**	P	**P**	**18 43 56.8**	**+0.6**
17nm,1.1s,baz=23,slow=4.8,SNR=3.8							
TXAR	**Lajitas Array**	**79.67**	**56**	P	**P**	**18 44 23.9**	**+0.6**
3.5nm,1.1s,baz=250,slow=3.6,SNR=6.2							
PDAR	**Pinedale Array**	**81.42**	**42**	P	**P**	**18 44 32.2**	**-0.4**
4.7nm,1.1s,baz=198,slow=4.2,SNR=6.0							
ILAR	**Eielson Array**	**81.97**	**11**	P	**P**	**18 44 33.3**	**-1.3**
3.5nm,0.9s,baz=210,slow=4.5,SNR=5.6							
MAW	**Mawson**	**88.37**	**198**	P	**P**	**18 45 06.3**	**-0.5**
8.2nm,1.0s,baz=118,slow=7.9,SNR=6.5							
PLCA	**Paso Flores**	**89.02**	**132**	P	**P**	**18 45 10.1**	**-0.5**
1.6nm,0.8s,baz=100,slow=13,SNR=3.0							
JTS	**JuntasAbangare**	**90.24**	**79**	P	**P**	**18 45 17.8**	**+1.1**
12nm,0.9s,baz=318,slow=4.3,SNR=4.4							
CMAR	**Chiang Mai Arr**	**93.41**	**288**	P	**P**	**18 45 33.4**	**+2.2**
2.5nm,1.1s,baz=104,slow=3.8,SNR=4.9							
MKAR	**Makanchi Array**	**111.28**	**315**	PKiKP	**PKiKP**	**18 50 49.5**	**+0.3**
0.4nm,0.7s,baz=75,slow=1.6,SNR=2.6							
KURBB	**Kurchatov Arra**	**113.59**	**319**	PKiKP	**PKiKP**	**18 50 52.9**	**-0.5**
1.1nm,1.0s,baz=86,slow=2.0,SNR=4.1							
ARCES	**ARCESS Array B**	**124.44**	**352**	PKP	**PKPdf**	**18 51 14.2**	**+0.4**
4.6nm,0.8s,baz=308,slow=4.4,SNR=5.2							
AKASG	**Malin Array Be**	**140.41**	**338**	PKP	**PKPdf**	**18 51 43.4**	**-0.8**
1.5nm,0.7s,baz=27,slow=2.6,SNR=4.6							
CLL	**Collm**	**143.62**	**354**	*e*(PKPdf)	PKPbc	18 51 48.0	+0.7
DPC	**Dobruska-Polom**	**144.13**	**350**	*e*PKP	**PKPdf**	**18 51 50.0**	**-1.0**
DPC				*ex*	x	18 51 55.9	
OKC	**Ostrava-Krasne**	**144.30**	**348**	*e*PKP	**PKPdf**	**18 51 51.0**	**-0.2**
TSUM	**Tsumeb**	**144.52**	**196**	PKP	**PKPdf**	**18 51 51.9**	**-0.8**
21nm,1.0s,baz=150,slow=5.8,SNR=14							
PRU	**Pruhonice**	**144.74**	**352**	*e*PKP	**PKPdf**	**18 51 51.7**	**-0.3**
PRU				*ex*	x	18 51 59.0	
TREC	**Trest**	**145.29**	**351**	*e*PKP	**PKPdf**	**18 51 53.0**	**0.0**
KHC	**Kasperske Hory**	**145.71**	**353**	*e*PKP	**PKPab**	**18 51 54.8**	**+0.4**
GERES	**GERESS Array B**	**145.97**	**353**	PKPbc	**PKPab**	**18 51 55.1**	**-0.4**
9.2nm,1.1s,baz=29,slow=3.0,SNR=8.7							
BRTR	**Keskin Array B**	**146.50**	**322**	PKPbc	**PKPbc**	**18 51 56.9**	**0.0**
4.0nm,0.7s,baz=115,slow=1.6,SNR=3.6							
KMBO	**Kilima Mbogo**	**146.50**	**244**	PKPbc	**PKPab**	**18 51 58.8**	**0.0**
21nm,1.1s,baz=51,slow=4.9,SNR=9.0							
DAVOX	**Davos/Dischmat**	**148.35**	**357**	PKPbc	**PKPbc**	**18 52 02.1**	**+0.3**
11nm,0.9s,baz=350,slow=5.8,SNR=5.8							
ESDC	**Sonseca Array**	**153.51**	**20**	PKPbc	**PKPbc**	**18 52 14.3**	**+0.2**
2.8nm,0.7s,baz=336,slow=1.9,SNR=7.1							
TORD	**Torodi Ar. Bea**	**173.98**	**108**	PKP	**PKPdf**	**18 52 24.4**	**-1.3**
4.7nm,1.1s,baz=259,slow=0.3,SNR=3.2							

IDC 29 18:34:08.0±0.7, 14°.97S×172°.61W, h0km, mb4.3/11, mb1 4.4/11, mb1mx4.3/21, mbtmp4.3/11, Error ellipse: s-maj=24.8km s-min=19.8km az=128.0, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**13.68**	**119**	T	T	18 51 12.8	
108nm,0.3s,baz=90,slow=15,SNR=12							
DZM	**Mont Dzumac**	**21.07**	**247**	P	P	18 38 52.4	-1.6
5.2nm,0.8s,baz=94,slow=18,SNR=1.8							
URZ	**Urewera**	**24.91**	**199**	P	P	18 39 33.5	+0.8
12nm,0.7s,baz=341,slow=6.7,SNR=3.4							
STKA	**Stephens Creek**	**44.91**	**240**	P	P	18 42 25.2	+0.5
4.7nm,0.8s,baz=81,slow=9.2,SNR=3.4							
WRA	**Warramunga Arr**	**50.69**	**256**	P	P	18 43 09.1	-0.7
2.8nm,0.8s,baz=92,slow=7.1,SNR=3.8							
ASAR	**Alice Springs**	**50.97**	**252**	P	P	18 43 10.1	-1.8
12nm,1.0s,baz=86,slow=8.7,SNR=5.3							
VNDA	**Vanda**	**63.88**	**186**	P	P	18 44 42.6	+0.5
1.6nm,1.0s,baz=49,slow=8.8,SNR=2.5							
QSPA	**South Pole Qui**	**75.07**	**180**	P	P	18 45 51.2	-0.4
5.0nm,0.9s,baz=45,slow=5.7,SNR=3.6							
KSRS	**Korea Array**	**76.39**	**315**	P	P	18 45 59.3	0.0
0.9nm,0.8s,baz=139,slow=6.5,SNR=3.7							
TXAR	**Lajitas Array**	**79.74**	**56**	P	P	18 46 18.0	-0.3
1.3nm,1.1s,baz=224,slow=3.8,SNR=3.1							
MAW	**Mawson**	**88.44**	**198**	P	P	18 47 02.7	+0.9
5.1nm,1.0s,baz=162,slow=6.4,SNR=4.3							
CMAR	**Chiang Mai Arr**	**93.21**	**288**	P	P	18 47 26.7	+1.7
1.1nm,1.1s,baz=120,slow=3.2,SNR=3.3							
TSUM	**Tsumeb**	**144.59**	**197**	PKP	PKPbc	18 53 46.4	+0.2
6.0nm,0.9s,baz=148,slow=7.6,SNR=4.4							
GERES	**GERESS Array B**	**145.83**	**353**	PKPbc	PKPdf	18 53 48.9	0.0
2.1nm,0.8s,baz=359,slow=4.9,SNR=6.6							
BRTR	**Keskin Array B**	**146.30**	**322**	PKPbc	PKPab	18 53 51.8	-0.1
4.0nm,1.0s,baz=127,slow=2.9,SNR=3.9							
DAVOX	**Davos/Dischmat**	**148.22**	**357**	PKPbc	PKPbc	18 53 55.7	-0.7
2.5nm,0.8s,baz=323,slow=5.1,SNR=3.5							
ESDC	**Sonseca Array**	**153.45**	**20**	PKPbc	PKPbc	18 54 08.4	-0.4
0.2nm,0.4s,baz=310,slow=1.0,SNR=3.1							
TORD	**Torodi Ar. Bea**	**174.18**	**107**	PKPab	PKPab	18 55 50.6	-1.8
1.3nm,1.0s,baz=281,slow=4.3,SNR=2.0							

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*IDC **29** 18:34:28.1±0.5, 14°.97S×172°.44W, h0km, mb4.7/17, mb1 4.9/17, mb1mx4.7/25, mbtmp4.7/17, Error ellipse: s-maj=20.8km s-min=15.3km az=119.0*
*NEIC **29** 18:34:29.8±0.2, 14°.95S×172°.45W, h10km, mb5.2/21, Error ellipse: s-maj=12.2km s-min=6.1km az=137.0*
*BJI **29** 18:34:30.4, 14°.58S×172°.76W, h6km, mB5.2/7, mb5.3/21, Ms5.6/6, Ms7 5.2/4*
*ISCJB **29** 18:34:32.2±0.2, 14°.99S±0°.07×172°.49W±0°.05, h35km, mb5.1/50, MS5.3/3, Error ellipse: s-maj=11.5km s-min=5.9km az=150.7*
*MOS **29** 18:34:32.9±1.2, 14°.75S×172°.48W, h33km, mb5.3/6, Error ellipse: s-maj=21.0km s-min=11.8km az=51.6*
ISC 29 18:34:33.9±0.4, 15°.02S±0°.08×172°.42W±0°.08, h35km, n447, σ0°.85/459, mb5.0/51, MS5.3/3, 5C, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.27**	**29**	Pn	Pn	18 34 40.0	-15
AFI				Sn	Sn	18 35 00.1	-11
AFI	**Afiamalu**	**1.27**	**29**	Pn	Pn	18 34 40.0	-15
196nm,0.3s,baz=45,slow=19,SNR=2.7							
AFI				Sn	Sn	18 35 00.1	-11
1μm,0.3s,baz=49,slow=20,SNR=5.2							
DZM	**Mont Dzumac**	**21.22**	**248**	P	**P**	**18 39 16.5**	**-0.4**
DZM	**Mont Dzumac**	**21.22**	**248**	P	**P**	**18 39 16.5**	**-0.4**
13nm,0.8s,baz=103,slow=20,SNR=3.8							
URZ	**Urewera**	**24.93**	**200**	P	**P**	**18 39 54.2**	**+0.3**
URZ	**Urewera**	**24.93**	**200**	P	**P**	**18 39 54.2**	**+0.3**
18nm,0.5s,baz=274,slow=16,SNR=6.1							
CTAO	**Charters Tower**	**39.65**	**257**	P	**P**	**18 42 03.5**	**+0.7**
CTAO	**Charters Tower**	**39.65**	**257**	P	**P**	**18 42 03.5**	**+0.7**
STKA	**Stephens Creek**	**45.04**	**240**	*e*P	**P**	**18 42 44.0**	**-2.5**
2.1nm,0.9s							
WRAB	**Tennant Creek**	**50.84**	**256**	P	**P**	**18 43 31.7**	**+0.1**
WRAB				pmax	pmax		
comp=Z,15nm,0.8s							
WRAB	**Tennant Creek**	**50.84**	**256**	P	**P**	**18 43 31.6**	**+0.1**
comp=Z,15nm,0.8s							
WRA	**Warramunga Arr**	**50.85**	**256**	P	**P**	**18 43 31.2**	**-0.5**
WRA	**Warramunga Arr**	**50.85**	**256**	P	**P**	**18 43 31.2**	**-0.5**
comp=Z,5.6nm,0.8s,baz=90,slow=6.5,SNR=4.6							
ASAR	**Alice Springs**	**51.13**	**252**	P	**P**	**18 43 31.9**	**-1.8**
ASAR	**Alice Springs**	**51.13**	**252**	P	**P**	**18 43 31.9**	**-1.8**
comp=Z,42nm,1.3s,baz=88,slow=7.7,SNR=4.0							
SBA	**Scott Base**	**63.70**	**185**	*e*P	**P**	**18 45 03.3**	**+1.9**
SBA				pmax	pmax		
comp=Z,9.0nm,1.0s							
SBA	**Scott Base**	**63.70**	**185**	*e*P	**P**	**18 45 03.3**	**+1.9**
comp=Z,9.3nm,1.0s							
VNDA	**Vanda**	**63.85**	**186**	P	**P**	**18 45 02.0**	**-0.4**
VNDA	**Vanda**	**63.85**	**186**	P	**P**	**18 45 02.0**	**-0.4**
comp=Z,2.8nm,0.9s,baz=45,slow=4.3,SNR=4.1							
BLG	**Laguna Peak**	**70.44**	**45**	P	**P**	**18 45 45.9**	**+0.9**
baz=71							
CASY	**Casey**	**71.14**	**205**	P	**P**	**18 45 48.6**	**-0.1**
comp=Z,5.8nm,0.9s							
VES	**Vestal, Richgr**	**71.42**	**43**	P	**P**	**18 45 51.2**	**+0.4**
baz=72							
MURC	**Murrieta**	**71.45**	**46**	P	**P**	**18 45 51.3**	**+0.2**
baz=72							
BFSC	**Mount Baldy Ra**	**71.48**	**46**	P	**P**	**18 45 50.7**	**-0.7**
baz=72							
EDW2	**Edwards Air Fo**	**71.61**	**45**	P	**P**	**18 45 51.9**	**-0.1**
baz=72							
MONP	**Monument Peak**	**71.61**	**47**	P	**P**	**18 45 51.6**	**-0.7**
baz=72							
DVTC	**Desert V Tower**	**71.72**	**48**	P	**P**	**18 45 52.0**	**-0.8**
baz=72							
ISA	**Isabella**	**71.72**	**44**	P	**P**	**18 45 51.8**	**-1.0**
ISA	**Isabella**	**71.72**	**44**	P	**P**	**18 45 51.8**	**-1.0**
ISA	**Isabella**	**71.72**	**44**	P	**P**	**18 45 52.0**	**-0.7**
baz=72							
CMB	**Columbia Colle**	**71.86**	**41**	P	**P**	**18 45 53.2**	**-0.3**
CMB	**Columbia Colle**	**71.86**	**41**	P	**P**	**18 45 53.2**	**-0.3**
SWSC	**Sam W. Stewart**	**72.08**	**48**	P	**P**	**18 45 56.1**	**+1.2**
baz=72							
WDC	**Whiskeytown Da**	**72.10**	**38**	P	**P**	**18 45 56.1**	**+1.3**
WDC				pmax	pmax		
comp=Z,28nm,1.4s							
WDC	**Whiskeytown Da**	**72.10**	**38**	P	**P**	**18 45 56.1**	**+1.3**
comp=Z,28nm,1.4s							
JNU	**Nakatsue**	**72.24**	**313**	P	**P**	**18 45 55.0**	**-0.8**
JNU	**Nakatsue**	**72.24**	**313**	P	**P**	**18 45 55.0**	**-0.8**
comp=Z,6.7nm,0.7s,baz=36,slow=10,SNR=4.2							
BELC	**Belle Mtn. Jos**	**72.51**	**47**	P	**P**	**18 45 57.2**	**-0.4**
baz=73							
PETK	**Petropavlovsk-**	**72.57**	**342**	P	**P**	**18 45 55.9**	**-1.4**
PETK	**Petropavlovsk-**	**72.57**	**342**	P	**P**	**18 45 55.9**	**-1.4**
PETK	**Petropavlovsk-**	**72.57**	**342**	P	**P**	**18 45 55.9**	**-1.4**
comp=Z,7.3nm,0.8s,baz=138,slow=7.9,SNR=7.7							
MPMC	**Manual Prospec**	**72.61**	**44**	P	**P**	**18 45 58.2**	**+0.1**
baz=73							
GSC	**Goldstone**	**72.65**	**45**	P	**P**	**18 45 57.8**	**-0.5**
baz=73							
BC3	**Big Chuckawall**	**72.71**	**47**	P	**P**	**18 45 58.5**	**-0.2**
baz=73							
HEC	**Hector,Ludlow**	**72.72**	**46**	P	**P**	**18 45 58.2**	**-0.5**
baz=73							
YBH	**Yreka Blue Hor**	**72.73**	**37**	P	**P**	**18 45 58.1**	**-

baz=79
X22A Bernardo 79.23 50 P P 18 46 35.9 -0.1
baz=79
MNTX Cornudas Mount 79.24 53 eP P 18 46 35.4 -0.5
comp=Z,39nm,1.8s
224A Cornudas Mount 79.30 53 P P 18 46 36.1 -0.3
baz=79
626A Big Bend Ranch 79.33 55 P P 18 46 36.6 +0.1
baz=79
MVCO Mesa Verde 79.39 47 P P 18 46 36.3 -0.6
baz=80
HWUT Hardware Ranch 79.48 42 eP P 18 46 36.7 -0.5
comp=Z,36nm,1.6s
526A Mary Lane Ranc 79.57 55 P P 18 46 38.1 +0.2
baz=80
124A Stringfield Ra 79.61 52 P P 18 46 38.2 0.0
baz=80
TXAR Lajitas Array 79.62 56 P P 18 46 38.4 +0.3
TXAR Lajitas Array 79.62 56 P P 18 46 38.4 +0.3
comp=Z,13nm,1.3s,baz=224,slow=3.5,SNR=8.3
U21A Nageezi 79.63 48 P P 18 46 38.3 +0.1
baz=80
Y23A Lovelace Mesa, 79.69 51 P P 18 46 38.4 -0.2
baz=80
PV01 Paradox Valley 79.78 46 eP P 18 46 38.9 -0.1
comp=Z,5µm,1.5s
S20A Disappointment 79.78 46 P P 18 46 38.8 -0.3
baz=80
ANMO Albuquerque 79.84 50 P P 18 46 37.7 -1.6
225A Deer Hill, Car 79.85 53 P P 18 46 39.5 +0.1
baz=80
426A McDonald Obser 79.87 54 P P 18 46 39.8 +0.2
baz=80
X23A Hourglass Bar 79.87 50 P P 18 46 40.0 +0.4
baz=80
627A Terlingua Ranc 79.89 56 P P 18 46 39.9 +0.3
baz=80
V22A San Miguel Ran 79.94 49 P P 18 46 39.2 -0.7
baz=80
Z24A Sheeppen Canyo 79.95 52 P P 18 46 39.9 -0.1
baz=80
T21A Navajo Lake 79.98 47 P P 18 46 40.7 +0.7
baz=80
527A Woodward Ranch 79.99 55 P P 18 46 40.3 +0.1
baz=80
M17A Scullys Gap (B 80.00 42 P P 18 46 39.9 -0.2
baz=80
S21A Coal Bank Pass 80.10 47 P P 18 46 41.0 +0.1
baz=80
Y24A Capitan 80.15 51 P P 18 46 41.3 +0.3
baz=80
W23A Werner Place, 80.16 50 P P 18 46 41.0 0.0
baz=80
326A Caldwell Ranch 80.17 54 P P 18 46 40.4 -0.7
baz=80
125A Gardner Draw, 80.20 52 P P 18 46 41.0 -0.3
baz=80
P19A Cripple Cowboy 80.21 45 P P 18 46 41.6 +0.3
baz=80
628A Black Gap, Mar 80.30 56 P P 18 46 41.6 -0.2
baz=80
226B Tecolote Peak, 80.34 53 P P 18 46 42.1 +0.2
baz=80
Q20A Ridgley Place, 80.36 45 P P 18 46 42.1 +0.1
baz=80
AHID Auburn Hatcher 80.37 41 P P 18 46 42.8 +0.8
comp=Z,15nm,1.4s
V23A Ortiz Mt. (NFS 80.39 49 P P 18 46 42.4 +0.1
baz=80
Z25A Roswell 80.42 52 P P 18 46 42.8 +0.4
baz=80
X24A Lazy VL Ranch, 80.43 50 P P 18 46 42.9 +0.4
baz=80
O19A Miners Draw (B 80.44 44 P P 18 46 41.9 -0.5
baz=81
427A Hayter Ranch, 80.44 55 P P 18 46 42.7 +0.2
baz=80
T22A Edith 80.44 48 P P 18 46 42.8 +0.2
baz=81
P20A De Beque 80.55 45 P P 18 46 43.2 +0.1
baz=81
HYT Haines Junctio 80.58 17 eP P 18 46 41.9 -0.8
MCK McKinley 80.58 10 eP P 18 46 41.1 -1.3
MCK McKinley 80.58 10 eP P 18 46 41.1 -1.3
comp=Z,1µm,0.6s
R21A Cimarron 80.60 46 P P 18 46 43.8 +0.4
baz=81
U23A El Rito 80.64 49 P P 18 46 44.0 +0.3
baz=81
528A Cox Ranch, San 80.65 55 P P 18 46 44.0 +0.3
baz=81
126A Clayton Basin, 80.69 53 P P 18 46 43.7 -0.1
baz=81
NJ2 Nanjing 80.70 307 eP P 18 46 44.0 +0.3
Y25A Mesa, Roswell 80.71 51 P P 18 46 43.9 -0.1
baz=81
W24A Lazy 6 Ranch, 80.73 50 P P 18 46 43.8 -0.3
baz=81
Q21A Lamborn Mesa, 80.80 46 P P 18 46 44.8 +0.4
baz=81
S22A 4UR Ranch, Cre 80.82 47 P P 18 46 45.0 +0.3
baz=81
O20A White River Ci 80.95 44 P P 18 46 45.2 +0.1
baz=81
428A Kincaid Ranch, 80.95 55 P P 18 46 45.3 0.0
baz=81
Z26A Caprock 80.98 52 P P 18 46 45.4 +0.1
baz=81
X25A Clemmons Ranch 80.99 51 P P 18 46 45.0 -0.4
baz=81
M19A Rock Springs 81.00 43 P P 18 46 45.0 -0.5
baz=81
V24A Rampart Ranch, 81.05 49 P P 18 46 45.0 -0.8
baz=81
T23A Casias Ranch, 81.07 48 P P 18 46 46.0 +0.1
baz=81
529A Stev Forest Ra 81.08 56 P P 18 46 45.4 -0.5
baz=81
R22A Saguache, Gunn 81.09 47 P P 18 46 46.4 +0.3
baz=81
328A Wristen Ranch, 81.11 54 P P 18 46 45.7 -0.4
baz=81
L19A Farson 81.16 42 P P 18 46 46.2 0.0
baz=81
P21A Newcastle 81.20 45 P P 18 46 46.6 0.0
baz=81
127A Arkansas Junct 81.21 53 P P 18 46 46.9 +0.3
baz=81
N20A Spence Gulch, 81.27 44 P P 18 46 46.5 -0.4
baz=81
Q22A Crested Butte, 81.27 46 P P 18 46 47.3 +0.2
baz=81
I17A Pilgrim Ck. 81.29 40 P P 18 46 47.6 +0.7
baz=81
PDAR Pinedale Array 81.36 42 P P 18 46 46.5 -0.8
PDAR Pinedale Array 81.36 42 P P 18 46 46.5 -0.8
comp=Z,3.1nm,0.9s,baz=208,slow=2.9,SNR=8.1
Y26A Elida 81.36 52 P P 18 46 47.0 -0.4
baz=82
CN2 Changchun 81.41 320 eP P 18 46 47.3 0.0
CN2 pmax pmax
comp=Z,10.0nm,0.8s
W25A X Bar L Ranch, 81.43 50 P P 18 46 47.5 -0.3
baz=82
BOZ Bozeman (W) 81.53 38 eP P 18 46 45.3 -2.8
BOZ pmax pmax
comp=Z,51nm,1.9s
BOZ Bozeman (W) 81.53 38 eP P 18 46 45.3 -2.8
comp=Z,51nm,1.9s
429A Davenport Ranc 81.54 55 P P 18 46 48.2 -0.2
baz=82
228A UT Block 9, Go 81.58 54 P P 18 46 49.1 +0.5
baz=82
V25A Rancho No Teng 81.58 50 P P 18 46 48.4 -0.2
baz=82
Z27A Tatum 81.58 52 P P 18 46 48.0 -0.6
baz=82
M20A Sweetwater, Wa 81.63 43 P P 18 46 49.0 +0.3
baz=82
X26A CR and CF Fran 81.64 51 P P 18 46 47.9 -1.0
baz=82
P22A Eagle 81.71 45 P P 18 46 49.0 -0.3
baz=82
R23A Moffat 81.73 47 P P 18 46 49.2 -0.3
baz=82
N21A Black Mountain 81.73 44 P P 18 46 49.7 +0.4
baz=82
SDCO Great Sand Dun 81.76 47 eP P 18 46 49.5 -0.2
comp=Z,13nm,1.2s
L20A Wamsutter 81.78 43 P P 18 46 49.8 +0.3
baz=82
530A J-C Ranch, Com 81.80 56 P P 18 46 49.8 +0.1
baz=82
329A Wagon Wheel Ra 81.81 54 P P 18 46 49.7 -0.1
baz=82
COLA College 81.82 10 eP P 18 46 47.8 -1.1
COLA College 81.82 10 eP P 18 46 47.8 -1.1
comp=Z,644nm,2.0s
Y27A Causey 81.85 52 P P 18 46 49.0 -1.0
baz=82
128A Castleberry Fa 81.86 53 P P 18 46 49.8 -0.2
baz=82
ILAR Eielson Array 81.90 11 P P 18 46 48.5 -0.8
ILAR Eielson Array 81.90 11 P P 18 46 48.5 -0.8
comp=Z,3.6nm,0.9s,baz=218,slow=5.8,SNR=7.5
J19A Crowheart 81.92 41 P P 18 46 50.1 -0.1
baz=82
S24A Houchin Ranch, 81.92 48 P P 18 46 50.3 -0.2
baz=82
U25A Circle Dot Ran 81.97 49 P P 18 46 50.5 -0.2
baz=82
Q23A Hartsel 82.04 46 P P 18 46 51.6 +0.5
baz=82
WALA Waterton Lakes 82.07 34 eP P 18 46 49.6 -1.2
comp=Z,0.6nm,1.3s
K20A Yellowstone Ra 82.08 42 P P 18 46 50.4 -0.7
baz=82
O22A Kremmling 82.11 45 P P 18 46 51.4 -0.1
baz=82
430A Baggett Ranch, 82.12 55 P P 18 46 51.3 -0.2
baz=82
631A Perdido Creek 82.13 57 P P 18 46 51.1 -0.3
baz=82
V26A Tequesquite Ra 82.17 50 P P 18 46 51.5 -0.2
baz=82
MSTX Muleshoe 82.18 52 P P 18 46 51.7 -0.1
baz=82
Z28A Tucker Farm, M 82.20 53 P P 18 46 51.4 -0.4
baz=82
M21A Separation Pea 82.23 43 P P 18 46 51.4 -0.6
baz=82
P23A Jefferson 82.25 46 P P 18 46 52.7 +0.4
baz=82
R24A Sanders Place, 82.25 47 P P 18 46 52.1 -0.1
baz=82
T25A Trinidad 82.28 48 P P 18 46 52.8 +0.5
baz=82
I19A Meeteetse 82.34 41 P P 18 46 52.6 +0.1
baz=82
732A Laxson Ranch, 82.37 58 P P 18 46 52.4 -0.3
baz=82
L21A Rawlins 82.39 43 P P 18 46 52.5 -0.3
baz=82
W27A Bowe Ranch, En 82.41 51 P P 18 46 52.6 -0.2
baz=82
330A Mertzon 82.41 55 P P 18 46 52.6 -0.3
baz=82
531A Rocksprings 82.44 56 P P 18 46 53.0 0.0
baz=82
U26A Atchley Ranch, 82.45 49 P P 18 46 53.2 0.0
baz=83
N22A Wattenberg Ran 82.47 44 P P 18 46 53.3 +0.1
baz=83
S25A Robets Cordova 82.49 48 P P 18 46 52.9 -0.4
baz=83
Q24A Divide 82.55 46 P P 18 46 54.0 +0.2
baz=83
O23A Lake Granby, G 82.56 45 P P 18 46 54.3 +0.4
baz=83
J20A Shoshoni 82.58 42 P P 18 46 53.7 +0.1
baz=83
431A Sonora 82.58 56 P P 18 46 54.4 +0.6
baz=83
ISCO Idaho Springs 82.59 46 P P 18 46 53.8 -0.2
ISCO pmax pmax
comp=Z,14nm,1.3s
ISCO Idaho Springs 82.59 46 P P 18 46 53.8 -0.2
comp=Z,14nm,1.3s
ISCO Idaho Springs 82.59 46 P P 18 46 53.8 -0.2
baz=83
230A Sterling City 82.64 54 P P 18 46 53.8 -0.3
baz=83
M22A Cedar Creek Ra 82.65 44 P P 18 46 53.9 -0.3
baz=83
H19A Powell 82.65 40 P P 18 46 54.5 +0.6
baz=83
Z29A Hungry Hill Ra 82.71 53 P P 18 46 54.2 -0.3
baz=83
K21A Alcova 82.78 42 P P 18 46 54.4 -0.3
baz=83
R25A Fountain Ranch 82.80 48 P P 18 46 54.6 -0.3
baz=83
632A Uvalde 82.81 57 P P 18 46 55.0 0.0
baz=83
I20A Worland 82.84 41 P P 18 46 54.9 0.0
baz=83
N23A Red Feather La 82.85 44 P P 18 46 55.1 -0.1
baz=83
V27A Dan Oppiter Fa 82.86 50 P P 18 46 55.0 -0.2
baz=83
T26A Comanche Natio 82.89 49 P P 18 46 54.9 -0.5
baz=83
532A Rocksprings 82.94 56 P P 18 46 55.5 -0.2
baz=83
331A San Angelo 82.97 55 P P 18 46 54.9 -0.9
baz=83
J21A Lysite 82.99 42 P P 18 46 56.1 +0.2
baz=83
130A Snyder 83.03 54 P P 18 46 56.1 0.0
baz=83
EGAK Eagle 83.04 13 eP P 18 46 54.8 -0.5
comp=Z,1µm,3.8s
L22A Ellis Ranch, M 83.04 43 P P 18 46 56.3 +0.2
baz=83
O24A Longmont 83.11 45 P P 18 46 57.0 +0.5
baz=83
U27A Thompson Grove 83.14 50 P P 18 46 56.2 -0.5
baz=83
JCT Junction City 83.15 56 P P 18 46 55.9 -0.9
baz=83
Q25A Bedland, Calha 83.16 47 P P 18 46 55.9 -0.9
baz=83
S26A Kim 83.16 48 P P 18 46 55.9 -0.9
baz=83
Z30A Sanderson Ranc 83.17 53 P P 18 46 55.5 -1.3
baz=83
H20A Greybull 83.18 41 P P 18 46 56.4 -0.3
baz=83
F19A Roth Farm, Mol 83.26 39 P P 18 46 56.8 -0.3
baz=83
M23A Laramie 83.26 44 P P 18 46 57.0 -0.3
baz=83
K22A Casper 83.27 43 P P 18 46 56.5 -0.8
baz=83
231A Bronte 83.29 55 P P 18 46 56.7 -0.7
baz=83
432A Menard 83.31 56 P P 18 46 56.4 -1.1
baz=83
I21A Big Trails, Te 83.31 41 P P 18 46 57.1 -0.3
baz=83
G20A Bridger 83.40 40 P P 18 46 57.8 0.0
baz=84
R26A Arlington 83.47 48 P P 18 46 58.0 -0.3
baz=84
P25A Willow Gulch B 83.47 46 P P 18 46 58.4 0.0
baz=84
T27A Campo 83.48 49 P P 18 46 57.7 -0.7
baz=84
W29A Amraillo 83.49 51 P P 18 46 58.4 -0.1
baz=84
131A Roby 83.51 54 P P 18 46 57.5 -1.0
baz=84
332A Millersview 83.53 55 P P 18 46 58.6 -0.1
baz=84
N24A Carr 83.55 45 P P 18 46 59.0 +0.3
baz=84
L23A Garrett 83.56 43 P P 18 46 58.5 -0.3
baz=84
Y30A Stafford Cattl 83.58 53 P P 18 46 58.4 -0.5
baz=84
S27A Las Animas 83.60 48 P P 18 46 58.4 -0.6
baz=84
COLD Coldfoot 83.63 9 eP P 18 46 58.3 0.0
comp=Z,2µm,1.2s
J22A Midwest 83.65 42 P P 18 46 58.9 -0.2
baz=84
E19A Rath Farm, Rou 83.65 39 P P 18 46 58.8 -0.2
baz=84
Q26A Hugo 83.67 47 P P 18 46 59.0 -0.4
baz=84
F20A Billings 83.72 39 P P 18 46 59.2 -0.2
baz=84
O25A Wiggins 83.76 46 P P 18 46 59.6 -0.2
baz=84
232A Coleman 83.80 55 P P 18 46 59.8 -0.2
baz=84
X30A Coker Ranch, T 83.81 52 P P 18 46 59.9 -0.2
baz=84
H21A Big Horn, Sher 83.85 41 P P 18 46 59.9 -0.3
baz=84
EGMT Eagleton 83.86 37 eP P 18 46 59.3 -0.7
comp=Z,79nm,1.8s
EGMT Eagleton 83.86 37 P P 18 47 00.0 0.0
baz=84
I22A 9 Mile Ranch, 83.86 42 P P 18 47 00.1 -0.2
baz=84
M24A Cheyenne 83.86 44 P P 18 46 59.9 -0.4
baz=84
V29A Stinnett 83.88 51 P P 18 47 00.5 +0.1
baz=84
K23A Bowen Ranch, D 83.90 43 P P 18 47 00.3 -0.2
baz=84
R27A Eads 83.92 48 P P 18 46 59.8 -0.8
baz=84
D19A Cripps Ranch, 83.94 38 P P 18 47 00.8 +0.3
baz=84
T28A Walsh 83.94 49 P P 18 46 59.7 -1.0
baz=84
Z31A Sharp Cattle R 83.94 53 P P 18 47 00.4 -0.3
baz=84
G21A Lodge Grass 84.03 40 P P 18 47 00.9 -0.1
baz=84
L24A Wheatland 84.05 44 P P 18 47 01.4 +0.2
baz=84
P26A Davis Ranch, A 84.06 47 P P 18 47 01.0 -0.3
baz=84
E20A Meyer Farm, Mu 84.07 39 P P 18 47 01.2 +0.1
baz=84
ABTX Abilene, Hawle 84.07 54 eP P 18 47 01.4 0.0
ABTX Abilene, Hawle 84.07 54 P P 18 47 01.4 0.0
baz=84
Y31A Rekieta Farm, 84.10 53 P P 18 47 02.0 +0.5
baz=84
C19A Slack Wire Ran 84.13 37 P P 18 47 01.4 0.0
baz=84
H22A Clearmont 84.27 41 P P 18 47 01.3 -1.0
baz=84
S28A Manter 84.29 49 P P 18 47 02.4 -0.1
baz=84
D20A Manuel Ranch, 84.35 38 P P 18 47 01.1 -1.4
baz=84
O26A Horse Wrangler 84.37 46 P P 18 47 03.1 +0.2
baz=84
K24A Anderson Ranch 84.42 43 P P 18 47 03.0 -0.1
baz=84
Z32A Haskell 84.46 54 P P 18 47 03.4 +0.1
baz=85
V30A Spur Ranch, Mi 84.46 51 P P 18 47 03.8 +0.4
baz=85
B19A Brinkman Farms 84.55 37 P P 18 47 03.6 +0.1
baz=85
X31A McDonald Ranch 84.57 52 P P 18 47 03.8 -0.1
baz=85
G22A Birney 84.60 40 P P 18 47 03.6 -0.2
baz=85
P27A Ficken Ranch, 84.60 47 P P 18 47 04.0 0.0
baz=85
R28A Tribune 84.66 48 P P 18 47 04.1 -0.2
baz=85
N26A Koester Ranch, 84.68 45 P P 18 47 04.3 -0.1
baz=85
E21A Keefer Ranch, 84.73 39 P P 18 47 04.6 +0.1
baz=85
C20A Veseth Ranch, 84.73 38 P P 18 47 04.9 +0.5
baz=85
Y32A R-V Farms, Ver 84.74 53 P P 18 47 04.7 -0.1
baz=85
W31A Holland Ranch, 84.80 52 P P 18 47 05.3 +0.2
baz=85
S29A Ulysses 84.87 49 P P 18 47 05.7 +0.3
baz=85
F22A Rosebud 84.88 40 P P 18 47 05.0 -0.2
baz=85
A19A Klindworth Far 84.90 36 P P 18 47 04.9 -0.4
baz=85
Q28A Sharon Springs 84.93 47 P P 18 47 05.9 +0.2
baz=85
O27A Beecher Island 84.93 46 P P 18 47 05.0 -0.7
baz=85
K25A Mack Ranch, Ha 85.00 44 P P 18 47 05.4 -0.7
baz=85
D21A La Casta Ranch 85.03 39 P P 18 47 05.9 -0.1
baz=85
I24A Kuemmerle Ranc 85.05 42 P P 18 47 05.7 -0.5
baz=85
B20A Solberg Farm, 85.07 37 P P 18 47 06.0 -0.1
baz=85
T30A Plains 85.08 50 P P 18 47 05.0 -1.4
baz=85
V31A Spring Creek L 85.10 51 P P 18 47 06.1 -0.5
baz=85
G23A Biddle 85.16 41 P P 18 47 06.3 -0.4
baz=85
R29A Marienthal 85.17 48 P P 18 47 06.7 -0.2
baz=85
P28A Saint Francis 85.19 47 P P 18 47 07.3 +0.3
baz=85
LAO LASA Array 85.32 39 P P 18 47 07.6 +0.2
comp=Z,20nm,0.7s
C21A Desert Coulee 85.32 38 P P 18 47 07.7 +0.4
baz=85
A20A Cobblestone Ra 85.34 37 P P 18 47 07.4 0.0
baz=86
F23A Volborg 85.38 40 P P 18 47 07.7 -0.1
baz=86
J25A Sunshine Ranch 85.38 43 P P 18 47 07.7 -0.2
baz=86
H24A Dirks Ranch, A 85.49 41 P P 18 47 07.9 -0.4
baz=86
K26A Motz Farm, Whi 85.50 44 P P 18 47 09.0 +0.5
baz=86
WMOK Wichita Mounta 85.52 52 eP P 18 47 07.3 -1.4
WMOK pmax pmax
comp=Z,1µm,3.9s
WMOK Wichita Mounta 85.52 52 eP P 18 47 07.3 -1.4
comp=Z,1µm,3.9s
RSSD Black Hills 85.55 42 eP P 18 47 08.2 -0.6
RSSD pmax pmax
comp=Z,110nm,1.1s
RSSD Black Hills 85.55 42 eP P 18 47 08.2 -0.6
comp=Z,110nm,1.1s
M27A Reverse DX Ran 85.55 45 P P 18 47 08.4 -0.3
baz=86
D22A Cohagen 85.56 39 P P 18 47 08.3 -0.3
baz=86
WHTX Lake Whitney 85.57 55 P P 18 47 08.3 -0.6
baz=86
B21A Ellsworth Farm 85.66 37 P P 18 47 09.3 +0.3
baz=86
I25A Rochford 85.70 42 P P 18 47 09.2 -0.4
baz=86
T31A Randall Ranch, 85.73 50 P P 18 47 09.9 +0.2
baz=86
E23A Ismay 85.79 40 P P 18 47 09.7 0.0
baz=86
A21A Bergtoll Ranch 85.97 37 P P 18 47 10.8 +0.2
baz=86
H25A Fruitdale 86.04 42 P P 18 47 11.4 +0.3
baz=86
Q30A Quinter 86.05 48 P P 18 47 11.8 +0.5
baz=86
D23A Lindsay 86.16 39 P P 18 47 12.4 +0.8
baz=86
B22A Reddig Ranch S 86.20 38 P P 18 47 11.9 +0.2
baz=86
I26A New Underwood 86.27 43 P P 18 47 12.1 -0.1
baz=86
R31A Burdett 86.29 49 P P 18 47 12.0 -0.4
baz=86
L28A Connealy Angus 86.33 45 P P 18 47 12.6 -0.1
baz=86
C23A Lambert 86.45 39 P P 18 47 12.9 -0.1
baz=87
B23A Brockton 86.87 38 P P 18 47 16.1 +1.1

baz=87
INK Inuvik 87.68 14 P P 18 47 16.9 -1.5
comp=Z,16nm,1.3s
MAW Mawson 88.45 198 P P 18 47 22.2 -0.1
MAW Mawson 88.45 198 P P 18 47 22.2 -0.1
comp=Z,6.6nm,0.9s,baz=125,slow=3.5,SNR=7.6
GYA Guiyang 88.70 298 ⇑ *i*P **P 18 47 24.3 -0.1**
GYA PP **PP 18 50 54.5 +0.8**
GYA S **S 18 58 09.0 -0.3**
GYA SS **SS 19 04 03.8 +2.1**
GYA pmax pmax
comp=Z,20nm,1.2s
GYA pmax pmax
comp=Z,120nm,6.5s
GYA LR LR
comp=N,560nm,20.0s
GYA LR LR
comp=E,480nm,23.0s
GYA LR LR
comp=Z,590nm,21.6s
HHC Hu-ho-hao-te 89.47 313 *e*P **P 18 47 25.5 -2.1**
HHC sP sP 18 47 32.8 -10
HHC PP **PP 18 50 59.0 -0.4**
HHC SKS **SKSac 18 57 53.0 -2.5**
HHC S **S 18 58 13.0 -2.8**
HHC sS **ScS 18 58 21.0 +0.6**
HHC SS **SS 19 04 11.5 -0.7**
HHC pmax pmax
comp=Z,170nm,0.9s
HHC pmax pmax
comp=Z,110nm,6.2s
HHC LR LR
comp=N,360nm,16.9s
HHC LR LR
comp=E,750nm,17.7s
HHC LR LR
comp=Z,1μm,18.2s
JTS JuntasAbangare 90.21 79 P P 18 47 32.4 +0.8
JTS JuntasAbangare 90.21 79 P **P 18 47 32.4 +0.8**
comp=Z,16nm,1.0s,baz=305,slow=4.9,SNR=6.4
KMI Kunming 91.72 295 P **P 18 47 39.5 +0.9**
KMI pmax pmax
comp=Z,14nm,2.0s
CD2 Chengdu 92.42 301 P **P 18 47 41.0 -0.5**
CD2 pmax pmax
comp=Z,30nm,0.5s
LZH Lanzhou 93.77 306 *e*P **P 18 47 47.0 -0.8**
LZH pP **PcP 18 47 51.5 +3.3**
LZH sP sP 18 47 54.3 -8.6
LZH PP **PP 18 51 34.3 +0.7**
LZH SKS **SKSac 18 58 22.0 +1.9**
LZH *e*S **S 18 58 51.0 -4.0**
LZH sS **ScS 18 58 59.0 +2.5**
LZH SS **SS 19 05 16.3 +1.9**
LZH pmax pmax
comp=Z,37nm,1.2s
LZH pmax pmax
comp=Z,260nm,4.8s
LZH LR LR
comp=N,990nm,15.9s
LZH LR LR
comp=E,1μm,16.2s
LZH LR LR
comp=Z,1μm,17.0s
WMQ Urumqi 107.33 312 *e*P **Pdif 18 48 47.3 -0.9**
MKAR Makanchi Array 111.24 315 PKIKP **PKiKP 18 53 03.5 -0.6**
MKAR Makanchi Array 111.24 315 PKiKP **PKiKP 18 53 03.5 -0.6**
MKAR Makanchi Array 111.24 315 PKiKP **PKiKP 18 53 03.5 -0.6**
comp=Z,0.7nm,0.6s,baz=29,slow=3.3,SNR=4.6
KURK Kurchatov 113.48 319 PKIKP **PKiKP 18 53 07.5 -0.7**
KURK Kurchatov 113.48 319 PKiKP **PKiKP 18 53 07.5 -0.7**
KURBB Kurchatov Arra 113.54 319 PKiKP **PKiKP 18 53 07.5 -0.8**
comp=Z,1.1nm,0.8s,baz=89,slow=1.7,SNR=10.0
KSH Kashi 116.01 307 *e*PKP **PKPdf 18 53 15.5 +1.9**
KSH PP PP 18 54 25.5 +7.1
KSH PKS **PKSdf 18 56 50.8 +0.4**
KSH SKS **SKSdf 19 00 26.5 +3.1**
KSH SKKS **SKKSac 19 01 18.5 +1.5**
BVAR Borovoye Array 118.16 322 PKIKP **PKPdf 18 53 16.6 -0.6**
BVAR Borovoye Array 118.16 322 PKP **PKPdf 18 53 16.6 -0.6**
BVAR Borovoye Array 118.16 322 PKP **PKPdf 18 53 16.6 -0.6**
comp=Z,1.8nm,0.7s,baz=48,slow=2.1,SNR=7.4
ARCES ARCESS Array B 124.36 352 PKP **PKPdf 18 53 28.4 -0.2**
ARCES ARCESS Array B 124.36 352 PKP **PKPdf 18 53 28.4 -0.2**
comp=Z,6.5nm,0.8s,baz=32,slow=7.1,SNR=7.2
FINES FINESS Array B 131.77 348 PKP **PKPdf 18 53 42.8 -0.2**
FINES FINESS Array B 131.77 348 PKP **PKPdf 18 53 42.8 -0.2**
comp=Z,3.9nm,0.8s,baz=350,slow=4.5,SNR=4.0
AKASG Malin Array Be 140.35 338 PKIKP **PKPdf 18 54 00.1 +0.9**
AKASG Malin Array Be 140.35 338 PKP **PKPdf 18 54 00.1 +0.9**
AKASG Malin Array Be 140.35 338 PKP **PKPdf 18 54 00.1 +0.9**
comp=Z,1.2nm,0.7s,baz=24,slow=2.2,SNR=5.4
CLL Collm 143.54 354 *e*PKPdf PKPbc 18 54 02.0 -0.2
comp=Z,9.0nm,1.2s
CLL *e*(PKiKP) 18 54 08.0
BRG Berggiesshubel 143.87 353 *e*PKP **PKPdf 18 54 05.4 -0.1**
comp=Z,35nm,1.9s
STHS Stebnicka Huta 143.92 345 *e*PKP **PKPdf 18 54 05.2 -0.5**
UPC Upice 143.95 351 *e*PKP **PKPdf 18 54 10.4 +4.7**
DPC Dobruska-Polom 144.06 350 *e*PKP PKPbc 18 54 04.0 +0.1
DPC *e*pPKP **PKiKP 18 54 12.1 +2.7**
KOLS Kolonicke sedl 144.09 343 *e*PKP PKPbc 18 54 04.6 +0.6
PVCC Panska Ves 144.14 352 *e*PKP **PKPdf 18 54 09.5 +3.5**
OKC Ostrava-Krasne 144.22 348 *e*PKP **PKPdf 18 54 05.7 -0.4**
CRVS Cervenica-Dubn 144.34 344 *e*PKP PKPbc 18 54 05.1 +0.3
TSUM Tsumeb 144.59 196 PKP PKPbc 18 54 06.8 +0.2
TSUM Tsumeb 144.59 196 PKP PKPbc 18 54 06.8 +0.2
comp=Z,8.1nm,0.9s,baz=167,slow=3.1,SNR=9.6
PRU Pruhonice 144.67 352 *e*PKP PKPbc 18 54 05.7 0.0
PRU *e*pPKP **PKiKP 18 54 13.6 +3.0**
KECS Kecovo 144.98 345 *e*PKP PKPbc 18 54 07.0 +0.2
TREC Trest 145.21 351 *e*PKP **PKPbc 18 54 07.2 -0.3**
GRFO Grafenberg 145.30 356 *e*PKIKP **PKPbc 18 54 07.3 -0.5**
GRFO Grafenberg 145.30 356 *e*PKPdf **PKPbc 18 54 07.3 -0.5**
SMOL Smolenice 145.63 348 *e*PKP **PKPab 18 54 09.8 +0.6**
KHC Kasperske Hory 145.63 353 *e*PKIKP **PKPdf 18 54 08.6 -0.1**
KHC Kasperske Hory 145.63 353 *e*PKP **PKPab 18 54 09.4 +0.2**
KHC *e*pPKP **PKiKP 18 54 15.2 +2.5**
KHC *e*x x 18 54 25.4
KHC Kasperske Hory 145.63 353 *e*PKPdf **PKPdf 18 54 08.6 -0.1**
PSZ Piszkesteto 145.65 345 *e*PKIKP **PKPbc 18 54 09.1 0.0**
PSZ Piszkesteto 145.65 345 *e*PKPdf **PKPbc 18 54 09.1 0.0**
GERES GERESS Array B 145.90 353 PKPbc **PKPdf 18 54 08.6 -0.6**
GERES GERESS Array B 145.90 353 PKPbc **PKPdf 18 54 08.6 -0.6**
comp=Z,4.3nm,0.9s,baz=46,slow=3.9,SNR=11
ZST Bratislava 146.00 349 *e*PKP **PKPab 18 54 11.7 +1.2**
LANF Langenberg 146.14 360 PKP **PKPab 18 54 10.9 -0.2**
BR131 Keskin Array S 146.45 322 *e*PKPdf **PKPdf 18 54 10.8 +0.4**
BRTR Keskin Array B 146.45 322 PKPbc **PKPdf 18 54 11.0 +0.5**
BRTR Keskin Array B 146.45 322 PKPbc **PKPdf 18 54 11.0 +0.5**
comp=Z,8.6nm,0.8s,baz=100,slow=3.2,SNR=8.0
CONA Conrad Observa 146.48 350 *i*pPKPbc **PKPab 18 54 13.0 +0.5**
comp=Z,54nm,1.8s,SNR=7.0
KMBO Kilima Mbogo 146.55 244 PKPbc **PKPbc 18 54 13.6 +0.5**
KMBO Kilima Mbogo 146.55 244 PKPbc **PKPbc 18 54 13.6 +0.5**
comp=Z,11nm,1.0s,baz=57,slow=3.6,SNR=8.0
ANTO Ankara 146.85 323 *e*PKP2 **PKPbc 18 54 13.1 +0.2**
ANTO Ankara 146.85 323 *e*PKPbc **PKPbc 18 54 13.1 +0.2**
THEF They Montfort 146.86 2 PKP **PKPbc 18 54 13.1 +0.5**
MOF Molkenrain 147.26 1 PKP **PKPdf 18 54 12.0 +0.5**
RETA Reutte 147.52 356 ⇑ *i*PKPab **PKPbc 18 54 14.7 +0.2**
comp=Z,35nm,1.4s,SNR=8.2
LOMF Lomont 147.76 1 PKP **PKPbc 18 54 15.9 +0.7**
DAVA Damuels 147.77 357 ⇑ *is*PKPdf **PKPbc 18 54 15.8 +0.4**
comp=Z,31nm,1.0s,SNR=6.1
SOKA Soboth 147.83 350 ⇑ *is*PKPdf **PKPbc 18 54 15.3 -0.1**
comp=Z,19nm,1.1s,SNR=5.6
FETA Feichten 147.99 356 ⇑ *is*PKPdf **PKPbc 18 54 16.1 +0.2**
comp=Z,20nm,1.2s,SNR=5.7
DAVOX Davos/Dischmat 148.28 357 PKPbc **PKPdf 18 54 14.3 +0.9**
DAVOX Davos/Dischmat 148.28 357 PKPbc **PKPdf 18 54 14.3 +0.9**
comp=Z,10nm,0.9s,baz=83,slow=5.4,SNR=6.9
AGO Saint Agoulin 148.84 6 PKP **PKPbc 18 54 19.3 +1.3**
PLDF La Plantade 148.97 5 PKP **PKPbc 18 54 20.0 +1.6**
MMAI Mount Meron Ar 149.06 310 PKPbc **PKPbc 18 54 19.1 +0.1**
MMAI Mount Meron Ar 149.06 310 PKPbc **PKPbc 18 54 19.1 +0.1**
comp=Z,10.0nm,0.9s,baz=28,slow=2.0,SNR=7.0
PYM Petit Puy Mans 149.13 6 PKP **PKPbc 18 54 20.4 +1.6**
CSS Prodhromos 149.51 315 *e*PKPbc **PKPbc 18 54 21.6 +1.6**
SSB Saint Sauveur 149.73 4 *e*PKP2 **PKPbc 18 54 21.1 +0.8**
SSB Saint Sauveur 149.73 4 *e*PKPbc **PKPbc 18 54 21.1 +0.8**
TOUF Mont Tournerai 151.10 0 PKP **PKPbc 18 54 24.3 +0.5**
AUTN L'Aution 151.12 0 PKP **PKPbc 18 54 22.8 -1.1**
SAOF Saorge 151.13 0 PKP **PKPbc 18 54 21.9 -1.7**
MVIF Mont Vial 151.22 1 PKP **PKPbc 18 54 23.9 -0.1**
CALN Calern 151.36 1 PKP **PKPbc 18 54 21.5 -2.8**
REVF Revere 151.38 0 PKP **PKPbc 18 54 24.3 +0.1**
MTE Manteigas 151.48 25 *e*PKPbc **PKPbc 18 54 24.9 +0.3**
ESDC Sonseca Array 153.44 20 PKPbc **PKPbc 18 54 28.5 -0.5**
ESDC Sonseca Array 153.44 20 PKPbc **PKPbc 18 54 28.5 -0.5**
comp=Z,4.6nm,0.8s,baz=338,slow=2.8,SNR=13
ESLA Sonseca Array 153.44 20 *e*PKPbc **PKPbc 18 54 29.5 +0.5**
TOA0 Torodi Ar. Sit 173.99 107 *e*PKPdf **PKPdf 18 54 39.4 -1.4**
TORD Torodi Ar. Bea 173.99 107 PKP **PKPdf 18 54 38.7 -2.1**
TORD PKPab **PKPab 18 56 11.2 -0.7**
TORD Torodi Ar. Bea 173.99 107 PKP **PKPdf 18 54 38.7 -2.1**
comp=Z,5.2nm,1.1s,baz=310,slow=2.2,SNR=5.7
TORD PKPab **PKPab 18 56 11.2 -0.7**
comp=Z,2.4nm,1.1s,baz=264,slow=2.4,SNR=3.9

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*IDC **29** 18:36:29.1±0.6, 15°.61S×172°.70W, h0km, mb4.6/15, mb1 4.7/15, mb1mx4.6/23, mbtmp4.6/15, Error ellipse: s-maj=23.3km s-min=15.7km az=127.0*
*NEIC **29** 18:36:30.4±0.4, 15°.58S×172°.76W, h10km, mb5.0/9, Error ellipse: s-maj=15.9km s-min=10.0km az=127.0*
*ISCJB **29** 18:36:32.3±0.2, 15°.64S±0°.08×172°.68W±0°.07, h35km, mb4.7/21, Error ellipse: s-maj=15.0km s-min=5.2km az=140.6*
ISC 29 18:36:34.4±0.5, 15°.7S±0°.1×172°.7W±0°.1, h35km, n165, σ1.9±10/157, mb4.7/21, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.93**	**26**	*e*Pn	Pn	18 36 56.7	-8.1
AFI				Sn	Sn	18 37 17.2	-11
AFI	**Afiamalu**	**1.93**	**26**	Pn	Pn	18 36 57.5	-7.4
398nm,0.3s,baz=68,slow=19,SNR=2.9							
AFI				Sn	Sn	18 37 17.2	-11
456nm,0.3s,baz=204,slow=19,SNR=4.7							
AFI				LR	LR	18 37 32.3	
comp=Z,88μm,21.7s,baz=94,slow=33							
MSVF	**Nonsavu**	**9.15**	**256**	*e*Pn	Pn	18 38 51.4	+7.4
3μm,2.3s							
FUNA	**Funafuti**	**10.66**	**311**	*e*Pn	Pn	18 38 54.6	-10
RAR	**Rarotonga**	**13.41**	**116**	T	T	18 53 17.2	
16nm,0.3s,baz=90,slow=16,SNR=3.3							
DZM	**Mont Dzumac**	**20.77**	**249**	P	**P**	**18 41 12.1**	**-0.6**
DZM	**Mont Dzumac**	**20.77**	**249**	P	**P**	**18 41 12.1**	**-0.6**
13nm,0.8s,baz=102,slow=14,SNR=3.6							
OUZ	**Omahuta**	**23.06**	**210**	*e*P	**P**	**18 41 36.1**	**-0.6**
141nm,1.2s							
URZ	**Urewera**	**24.26**	**200**	P	**P**	**18 41 48.6**	**+0.3**
URZ	**Urewera**	**24.26**	**200**	P	**P**	**18 41 48.6**	**+0.3**
33nm,0.5s,baz=101,slow=5.5,SNR=15							
SNZO	**South Karori**	**27.81**	**201**	P	**P**	**18 42 19.4**	**-0.8**
RPZ	**Rata Peaks**	**31.23**	**203**	P	**P**	**18 42 51.9**	**+1.3**
RPZ	**Rata Peaks**	**31.23**	**203**	P	**P**	**18 42 51.9**	**+1.3**
16nm,1.1s,baz=45,slow=7.1,SNR=3.6							
EIDS	**Eidsvold**	**35.22**	**248**	*e*P	**P**	**18 43 23.9**	**-1.7**
19nm,1.2s							
ARMA	**Armidale**	**35.83**	**239**	*e*P	P	18 43 26.3	-4.7
14nm,0.8s							
ARMA	**Armidale**	**35.83**	**239**	P	**P**	**18 43 30.7**	**-0.2**
baz=33,SNR=5.8							
CMSA	**Cobar Meteorol**	**41.05**	**240**	P	**P**	**18 44 14.4**	**-0.3**
baz=38,SNR=5.7							
MTSU	**Mount Surprise**	**41.18**	**260**	S	S	18 49 56.0	-31
baz=39,SNR=4.9							
QLP	**Quilpie**	**41.49**	**248**	P	**P**	**18 44 17.6**	**-0.8**
baz=39,SNR=3.8							
STKA	**Stephens Creek**	**44.54**	**240**	*e*P	**P**	**18 44 42.2**	**-0.8**
8.3nm,0.9s							
STKA	**Stephens Creek**	**44.54**	**240**	P	**P**	**18 44 42.5**	**-0.5**
17nm,1.0s,baz=78,slow=7.8,SNR=7.4							
STKA	**Stephens Creek**	**44.54**	**240**	P	**P**	**18 44 43.1**	**+0.1**
baz=42,SNR=4.7							
JAY	**Jayapura**	**47.74**	**281**	P	P	18 44 59.5	-9.0
baz=46,SNR=3.4							
WRAB	**Tennant Creek**	**50.48**	**257**	*e*P	**P**	**18 45 28.0**	**-1.3**
52nm,1.4s							
WRA	**Warramunga Arr**	**50.49**	**257**	P	**P**	**18 45 27.1**	**-2.3**
WRA	**Warramunga Arr**	**50.49**	**257**	P	**P**	**18 45 27.1**	**-2.3**
7.0nm,0.9s,baz=96,slow=6.2,SNR=8.4							
AS31	**Alice Springs**	**50.72**	**252**	*e*P	**P**	**18 45 28.0**	**-3.2**
ASAR	**Alice Springs**	**50.72**	**252**	P	**P**	**18 45 28.9**	**-2.3**
ASAR	**Alice Springs**	**50.72**	**252**	P	**P**	**18 45 28.9**	**-2.3**
8.4nm,0.5s,baz=88,slow=8.2,SNR=12							
KNRA	**Kununurra**	**56.24**	**261**	P	P	18 46 01.9	-10
baz=54,SNR=3.9							
FITZ	**Fitzroy Crossi**	**58.86**	**258**	P	**P**	**18 46 29.4**	**-0.8**
FITZ	**Fitzroy Crossi**	**58.86**	**258**	P	**P**	**18 46 29.4**	**-0.8**
2.6nm,0.7s,baz=106,slow=7.4,SNR=5.5							
FITZ	**Fitzroy Crossi**	**58.86**	**258**	P	**P**	**18 46 32.6**	**+2.4**
baz=56,SNR=3.8							
SBA	**Scott Base**	**63.06**	**185**	*e*P	**P**	**18 46 57.6**	**-0.1**
9.6nm,0.9s							
VNDA	**Vanda**	**63.20**	**186**	*e*P	**P**	**18 46 58.6**	**0.0**
4.5nm,1.0s							
VNDA	**Vanda**	**63.20**	**186**	P	**P**	**18 46 59.2**	**+0.6**
3.8nm,1.1s,baz=9.6,slow=6.4,SNR=3.8							
MBWA	**Marble Bar**	**63.98**	**254**	P	**P**	**18 47 04.8**	**+0.1**
53nm,1.2s							
MEEK	**Meekatharra**	**64.39**	**248**	P	**P**	**18 47 09.1**	**+1.7**
baz=62,SNR=3.7							
KLBR	**Kalberberrin**	**64.76**	**242**	P	**P**	**18 47 10.3**	**+0.6**
baz=62,SNR=7.4							
CASY	**Casey**	**70.48**	**205**	P	**P**	**18 47 45.6**	**+0.5**
8.9nm,1.1s							
QSPA	**South Pole Qui**	**74.39**	**180**	P	**P**	**18 48 08.1**	**-0.5**
QSPA	**South Pole Qui**	**74.39**	**180**	P	**P**	**18 48 08.1**	**-0.5**
17nm,1.2s,baz=47,slow=2.1,SNR=3.5							
KSRS	**Korea Array**	**76.84**	**315**	P	**P**	**18 48 24.7**	**+1.8**
3.1nm,1.1s,baz=125,slow=6.1,SNR=4.1							
KSAR	**Wonju Array Be**	**76.86**	**315**	P	**P**	**18 48 24.7**	**+1.7**
SRU	**San Rafael**	**79.52**	**44**	*e*P	**P**	**18 48 37.1**	**-0.8**
324A	**Moseley Ranch,**	**79.61**	**53**	P	**P**	**18 48 38.0**	**-0.6**
baz=80							
425A	**Indio Mountain**	**79.72**	**54**	P	**P**	**18 48 38.7**	**-0.5**
baz=80							
224A	**Cornudas Mount**	**79.86**	**53**	P	**P**	**18 48 39.5**	**-0.4**
baz=80							
526A	**Mary Lane Ranc**	**80.12**	**55**	P	**P**	**18 48 40.8**	**-0.5**
baz=80							
TXAR	**Lajitas Array**	**80.16**	**56**	P	**P**	**18 48 41.6**	**+0.1**
TXAR	**Lajitas Array**	**80.16**	**56**	P	**P**	**18 48 41.6**	**+0.1**
5.6nm,1.1s,baz=201,slow=4.8,SNR=4.0							
W22A	**Albuquerque**	**80.17**	**49**	P	**P**	**18 48 41.3**	**-0.3**
baz=80							
124A	**Stringfield Ra**	**80.18**	**52**	P	**P**	**18 48 41.4**	**-0.4**
baz=80							
U21A	**Nageezi**	**80.22**	**48**	P	**P**	**18 48 41.6**	**-0.3**
baz=80							
Y23A	**Lovelace Mesa,**	**80.26**	**51**	P	**P**	**18 48 41.6**	**-0.5**
baz=80							
S20A	**Disappointment**	**80.38**	**46**	P	**P**	**18 48 42.6**	**-0.2**
baz=81							
225A	**Deer Hill, Car**	**80.41**	**53**	P	**P**	**18 48 42.6**	**-0.3**
baz=81							
426A	**McDonald Obser**	**80.42**	**54**	P	**P**	**18 48 42.5**	**-0.5**
baz=81							
627A	**Terlingua Ranc**	**80.43**	**56**	P	**P**	**18 48 42.6**	**-0.4**
baz=81							
527A	**Woodward Ranch**	**80.53**	**55**	P	**P**	**18 48 43.4**	**-0.2**
baz=81							
S21A	**Coal Bank Pass**	**80.70**	**47**	P	**P**	**18 48 43.6**	**-0.9**
baz=81							
Y24A	**Capitan**	**80.72**	**51**	P	**P**	**18 48 43.5**	**-1.1**
baz=81							
628A	**Black Gap, Mar**	**80.84**	**56**	P	**P**	**18 48 44.8**	**-0.4**
baz=81							
226B	**Tecolote Peak,**	**80.90**	**53**	P	**P**	**18 48 44.8**	**-0.6**
baz=81							
Q20A	**Ridgley Place,**	**80.96**	**45**	P	**P**	**18 48 45.5**	**-0.2**
baz=81							
427A	**Hayter Ranch,**	**80.98**	**55**	P	**P**	**18 48 45.6**	**-0.3**
baz=81							
Z25A	**Roswell**	**80.98**	**52**	P	**P**	**18 48 45.5**	**-0.4**
baz=81							
528A	**Cox Ranch, San**	**81.19**	**55**	P	**P**	**18 48 46.6**	**-0.4**
baz=81							
126A	**Clayton Basin,**	**81.25**	**53**	P	**P**	**18 48 46.3**	**-1.0**
baz=81							
Y25A	**Mesa, Roswell**	**81.28**	**51**	P	**P**	**18 48 46.8**	**-0.6**
baz=82							
W24A	**Lazy 6 Ranch,**	**81.30**	**50**	P	**P**	**18 48 47.2**	**-0.5**
baz=82							
428A	**Kincaid Ranch,**	**81.50**	**55**	P	**P**	**18 48 47.4**	**-1.2**
baz=82							
Z26A	**Caprock**	**81.54**	**52**	P	**P**	**18 48 48.4**	**-0.4**
baz=82							
X25A	**Clemmons Ranch**	**81.56**	**51**	P	**P**	**18 48 48.0**	**-1.0**
baz=82							
529A	**Stev Forest Ra**	**81.62**	**56**	P	**P**	**18 48 48.4**	**-0.9**
baz=82							
328A	**Wristen Ranch,**	**81.66**	**54**	P	**P**	**18 48 48.6**	**-0.9**
baz=82							
R22A	**Saguache, Gunn**	**81.69**	**47**	P	**P**	**18 48 48.9**	**-0.8**
baz=82							
127A	**Arkansas Junct**	**81.77**	**53**	P	**P**	**18 48 49.1**	**-0.9**
baz=82							
L19A	**Farson**	**81.77**	**42**	P	**P**	**18 48 48.9**	**-1.2**
baz=82							
Q22A	**Crested Butte,**	**81.87**	**46**	P	**P**	**18 48 50.5**	**-0.2**
baz=82							
PDAR	**Pinedale Array**	**81.97**	**42**	P	**P**	**18 48 50.6**	**-0.5**
PDAR	**Pinedale Array**	**81.97**	**42**	P	**P**	**18 48 50.6**	**-0.5**
0.9nm,0.8s,baz=224,slow=3.3,SNR=2.7							
429A	**Davenport Ranc**	**82.08**	**55**	P	**P**	**18 48 50.8**	**-0.9**
baz=82							
X26A	**CR and CF Fran**	**82.20**	**51**	P	**P**	**18 48 51.2**	**-1.2**
baz=82							
R23A	**Moffat**	**82.32**	**47**	P	**P**	**18 48 52.0**	**-1.1**
baz=82							
530A	**J-C Ranch, Com**	**82.34**	**56**	P	**P**	**18 48 51.9**	**-1.1**
baz=82							
329A	**Wagon Wheel Ra**	**82.36**	**54**	P	**P**	**18 48 51.9**	**-1.2**
baz=82							
Y27A	**Causey**	**82.41**	**52**	P	**P**	**18 48 52.2**	**-1.2**
baz=83							
128A	**Castleberry Fa**	**82.42**	**53**	P	**P**	**18 48 52.7**	**-0.7**
baz=83							
U25A	**Circle Dot Ran**	**82.55**	**49**	P	**P**	**18 48 52.9**	**-1.3**
baz=83							
ILAR	**Eielson Array**	**82.56**	**11**	P	**P**	**18 48 52.2**	**-1.1**
ILAR	**Eielson Array**	**82.56**	**11**	P	**P**	**18 48 52.2**	**-1.1**
2.2nm,0.8s,baz=224,slow=3.6,SNR=4.6							
Q23A	**Hartsel**	**82.64**	**46**	P	**P**	**18 48 53.3**	**-1.4**
baz=83							
631A	**Perdido Creek**	**82.67**	**57**	P	**P**	**18 48 53.8**	**-0.9**
baz=83							
K20A	**Yellowstone Ra**	**82.70**	**42**	P	**P**	**18 48 54.3**	**-0.5**
baz=83							
O22A	**Kremmling**	**82.72**	**45**	P	**P**	**18 48 54.3**	**-0.8**
baz=83							
Z28A	**Tucker Farm, M**	**82.76**	**53**	P	**P**	**18 48 54.6**	**-0.6**
baz=83							
R24A	**Sanders Place,**	**82.85**	**47**	P	**P**	**18 48 55.6**	**-0.1**
baz=83							
T25A	**Trinidad**	**82.87**	**48**	P	**P**	**18 48 55.3**	**-0.6**
baz=83							
I19A	**Meeteetse**	**82.96**	**41**	P	**P**	**18 48 55.8**	**-0.4**
baz=83							
531A	**Rocksprings**	**82.98**	**56**	P	**P**	**18 48 55.5**	**-0.9**
baz=83							
W27A	**Bowe Ranch, En**	**82.98**	**51**	P	**P**	**18 48 55.0**	**-1.4**
baz=83							
U26A	**Atchley Ranch,**	**83.03**	**49**	P	**P**	**18 48 55.4**	**-1.2**
baz=83							
N22A	**Wattenberg Ran**	**83.07**	**44**	P	**P**	**18 48 56.5**	**-0.4**
baz=83							
O23A	**Lake Granby, G**	**83.17**	**45**	P	**P**	**18 48 55.2**	**-2.2**
baz=83							
ISCO	**Idaho Springs**	**83.19**	**46**	P	**P**	**18 48 56.9**	**-0.6**
baz=83							
Z29A	**Hungry Hill Ra**	**83.27**	**53**	P	**P**	**18 48 56.3**	**-1.6**
baz=83							
H19A	**Powell**	**83.28**	**40**	P	**P**	**18 48 57.6**	**-0.1**
baz=84							
R25A	**Fountain Ranch**	**83.39**	**48**	P	**P**	**18 48 57.7**	**-0.8**
baz=84							
K21A	**Alcova**	**83.40**	**42**	P	**P**	**18 48 57.5**	**-0.9**
baz=84							
I20A	**Worland**	**83.46**	**41**	P	**P**	**18 48 57.3**	**-1.3**
baz=84							
532A	**Rocksprings**	**83.48**	**56**	P	**P**	**18 48 57.6**	**-1.4**
baz=84							
331A	**San Angelo**	**83.51**	**55**	P	**P**	**18 48 57.7**	**-1.4**
baz=84							
130A	**Snyder**	**83.58**	**54**	P	**P**	**18 48 58.2**	**-1.3**
baz=84							
Z30A	**Sanderson Ranc**	**83.73**	**53**	P	**P**	**18 48 58.5**	**-1.6**
baz=84							
231A	**Bronte**	**83.83**	**55**	P	**P**	**18 48 59.0**	**-1.8**
baz=84							
432A	**Menard**	**83.85**	**56**	P	**P**	**18 48 59.2**	**-1.6**
baz=84							
F19A	**Roth Farm, Mol**	**83.89**	**39**	P	**P**	**18 49 00.2**	**-0.5**
baz=84							
I21A	**Big Trails, Te**	**83.93**	**41**	P	**P**	**18 49 00.2**	**-0.8**
baz=84							
R26A	**Arlington**	**84.05**	**48**	P	**P**	**18 49 01.2**	**-0.6**
baz=84							
W29A	**Amraillo**	**84.06**	**51**	P	**P**	**18 49 01.1**	**-0.8**
baz=84							
131A	**Roby**	**84.06**	**54**	P	**P**	**18 49 00.9**	**-1.0**
baz=84							
P25A	**Willow Gulch B**	**84.06**	**46**	P	**P**	**18 49 00.8**	**-1.1**
baz=84							
332A	**Millersview**	**84.08**	**55**	P	**P**	**18 49 01.0**	**-0.9**
baz=84							
Q26A	**Hugo**	**84.27**	**47**	P	**P**	**18 49 01.4**	**-1.5**
baz=84							
232A	**Coleman**	**84.34**	**55**	P	**P**	**18 49 02.0**	**-1.3**
baz=84							
M24A	**Cheyenne**	**84.47**	**44**	P	**P**	**18 49 02.6**	**-1.3**
baz=85							
D19A	**Cripps Ranch,**	**84.58**	**38**	P	**P**	**18 49 03.6**	**-0.6**
baz=85							
ABTX	**Abilene, Hawle**	**84.62**	**54**	P	**P**	**18 49 03.7**	**-1.0**
baz=85							
C19A	**Slack Wire Ran**	**84.76**	**37**	P	**P**	**18 49 04.9**	**-0.2**
baz=85							
O26A	**Horse Wrangler**	**84.97**	**46**	P	**P**	**18 49 05.5**	**-0.9**
baz=85							
D20A	**Manuel Ranch,**	**84.98**	**38**	P	**P**	**18 49 06.1**	**-0.1**
baz=85							
Z32A	**Haskell**	**85.01**	**54**	P	**P**	**18 49 05.5**	**-1.1**
baz=85							
Y32A	**R-V Farms, Ver**	**85.30**	**53**	P	**P**	**18 49 06.9**	**-1.2**
baz=86							
E21A	**Keefer Ranch,**	**85.36**	**39**	P	**P**	**18 49 07.5**	**-0.6**
baz=86							
C20A	**Veseth Ranch,**	**85.37**	**38**	P	**P**	**18 49 07.5**	**-0.6**
baz=86							
W31A	**Holland Ranch,**	**85.37**	**52**	P	**P**	**18 49 07.2**	**-1.2**
baz=86							
V31A	**Spring Creek L**	**85.67**	**51**	P	**P**	**18 49 09.6**	**-0.3**
baz=86							
B20A	**Solberg Farm,**	**85.71**	**37**	P	**P**	**18 49 09.6**	**-0.2**
baz=86							
WHTX	**Lake Whitney**	**86.11**	**55**	P	**P**	**18 49 11.7**	**-0.3**
baz=86

ESDC PKPab **PKPab** **18 56 42.5 -1.9**
0.4nm,0.6s,baz=337,slow=2.0,SNR=3.2
TORD Torodi Ar. Bea 173.98 114 PKPab **PKPab** **18 58 13.1 +0.8**
0.9nm,0.8s,baz=239,slow=3.5,SNR=2.1

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*ISCJB **29** 18:39:43.0±0.5,31°.85N±0°.04×104°.16E±0°.08,h15km, mb3.8/10,Error ellipse: s-maj=10.2km s-min=5.3km az=17.0*
*BJI **29** 18:39:43.9,31°.80N×104°.08E,h10km,ML3.7/10*
*IDC **29** 18:39:45.2±1.8,32°.20N×104°.17E,h0km,mb3.9/8, mb1 4.0/10,mb1mx3.9/28,mbtmp3.9/10,ML3.9/2,Error ellipse: s-maj=39.2km s-min=22.3km az=7.0*
ISC 29 18:39:44.9±0.7,31°.81N±0°.06×104°.18E±0°.10,h15km,n16, σ1$26/16,mb3.9/10,Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**0.97**	**202**	Pg	**Pb**	**18 40 02.8**	**-0.6**
CD2				Sg	**Sb**	**18 40 15.3**	**-0.7**
CD2				smax	smax		
	comp=N,2μm,0.8s						
CD2				smax	smax		
	comp=E,2μm,0.4s						
LZH	**Lanzhou**	**4.28**	**356**	*e*Pn	Pn	18 40 53.3	+3.7
LZH				Sg	**Sg**	**18 42 02.5**	**+0.3**
LZH				smax	smax		
	comp=N,130nm,0.8s						
LZH				smax	smax		
	comp=E,130nm,0.6s						
XAN	**Xi'an**	**4.56**	**60**	Pn	**Pn**	**18 40 55.5**	**+2.1**
XAN				Sn	**Sn**	**18 41 44.0**	**-2.2**
XAN				smax	smax		
	comp=N,190nm,0.8s						
XAN				smax	smax		
	comp=E,87nm,0.8s						
CMAR	**Chiang Mai Arr**	**14.11**	**201**	Pn	**P**	**18 43 12.9**	**+1.0**
	comp=E,0.5nm,0.3s,baz=8.2,slow=8.7,SNR=19						
SONM	**Songino Array**	**16.09**	**5**	Pn	**Pn**	**18 43 29.4**	**-1.3**
	comp=E,0.1nm,0.3s,baz=197,slow=4.5,SNR=2.8						
KSRS	**Korea Array**	**20.31**	**67**	P	Pn	18 44 21.6	-0.6
	comp=E,2.8nm,0.6s,baz=254,slow=10,SNR=12						
MKAR	**Makanchi Array**	**22.50**	**318**	P	**P**	**18 44 44.0**	**+0.3**
	comp=E,1.9nm,0.8s,baz=133,slow=10.0,SNR=7.3						
USRK	**Ussuriysk Arra**	**25.03**	**52**	P	**P**	**18 45 10.0**	**+1.7**
	comp=E,4.1nm,0.8s,baz=262,slow=8.6,SNR=8.1						
ZALV	**Zalesovo Beam**	**26.12**	**334**	P	**P**	**18 45 18.4**	**+0.3**
	comp=E,2.1nm,0.7s,baz=125,slow=9.3,SNR=5.5						
KURBB	**Kurchatov Arra**	**26.72**	**322**	P	**P**	**18 45 24.3**	**+0.8**
	comp=E,1.0nm,0.7s,baz=128,slow=8.7,SNR=9.9						
PETK	**Petropavlovsk-**	**43.64**	**45**	P	**P**	**18 47 47.3**	**-1.3**
	comp=E,3.3nm,0.8s,baz=90,slow=5.9,SNR=3.6						
JOF	**Joensuu**	**54.47**	**327**	*e*p	**P**	**18 49 12.3**	**+0.9**
	comp=E,0.4nm,0.3s						
KEV	**Kevo**	**56.12**	**336**	*e*p	**P**	**18 49 22.3**	**-0.9**
	comp=E,0.4nm,0.4s						
KAF	**Kangasniemi**	**56.84**	**327**	*e*p	P	18 49 22.5	-5.9
	comp=E,0.2nm,0.3s						
FINES	**FINESS Array B**	**57.02**	**326**	P	**P**	**18 49 29.7**	**-0.1**
	comp=E,1.0nm,0.4s,baz=92,slow=8.3,SNR=8.8						
NOA	**NORSAR Array B**	**64.10**	**327**	P	**P**	**18 50 17.2**	**-0.9**
	comp=E,0.7nm,0.7s,baz=63,slow=5.8,SNR=2.6						

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*AUST **29** 18:40:09.5,15°.53S×172°.96W,h0km*
*SZGRF **29** 18:40:09.0,15°.86S×172°.96W,h33km,Samoa Islands region*
*NEIC **29** 18:40:09.7±4.3,15°.36S×173°.24W,h2km±26km,mb5.5/109, Error ellipse: s-maj=8.8km s-min=4.5km az=139.0*
*BJI **29** 18:40:10.0,15°.30S×173°.30W,h10km,mB5.5/7,mb5.5/30, Ms5.5/6,Ms7 5.2/6*
*IDC **29** 18:40:10.1±0.4,15°.33S×173°.25W,h0km,mb5.2/32, mb1 5.3/32,mb1mx5.2/35,mbtmp5.2/32,MS6.6/1, Ms1 6.6/1,ms1mx5.9/40,Error ellipse: s-maj=15.8km s-min=10.6km az=128.0*
*ISCJB **29** 18:40:12.4±0.1,15°.40S±0°.05×173°.26W±0°.03,h29km, mb5.5/162,MS5.6/4,Error ellipse: s-maj=7.4km s-min=2.7km az=155.2*
*MOS **29** 18:40:13.4±1.4,15°.34S×173°.22W,h33km,mb5.6/44, Error ellipse: s-maj=11.9km s-min=7.8km az=49.4*
*DJA **29** 18:40:22.1±1.8,16°.S±5°×17°.4W±°,h73km±14km,M5.7/28, mB8.6/2,mb5.7/28,Mw(mB)9.0/2*
ISC 29 18:40:14.5±0.3,15°.35S±0°.06×173°.24W±0°.06,h29km, n867,σ1$06/863,mb5.5/162,MS5.5/4,167C-187D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.01**	**45**	*e*Pn	Pn	18 40 37.9	-8.7
AFI				Sn	Sn	18 40 58.0	-13
AFI	**Afiamalu**	**2.01**	**45**	Pn	Pn	18 40 40.1	-6.5
	876nm,0.3s,baz=41,slow=20,SNR=7.4						
AFI				Sn	Sn	18 40 58.0	-13
	5μm,0.3s,baz=112,slow=23,SNR=15						
NIUE	**Niue**	**4.87**	**140**	P	Pn	18 41 20.6	-5.2
	baz=4.6,SNR=9.3						
NIUE				S	Sn	18 42 13.3	-8.0
	baz=4.6,SNR=6.2						
MSVF	**Nonsavu**	**8.68**	**253**	*e*P	Pn	18 42 26.5	+8.2
MSVF	**Nonsavu**	**8.68**	**253**	*e*Pn	Pn	18 42 26.5	+8.2
FUNA	**Funafuti**	**10.04**	**312**	P	**Pn**	**18 42 35.3**	**-1.5**
RAR	**Rarotonga**	**14.05**	**117**	*e*Pn	Pn	18 43 25.1	-6.6
RAR				TT		18 57 43.5	
RAR	**Rarotonga**	**14.05**	**117**	T	T	18 57 43.5	
	72nm,0.3s,baz=90,slow=20,SNR=6.9						
DZM	**Mont Dzumac**	**20.36**	**248**	*e*P	**P**	**18 44 49.0**	**0.0**
	859nm,1.6s						
DZM	**Mont Dzumac**	**20.36**	**248**	*e*P	**P**	**18 44 48.6**	**-0.3**
	1μm,1.8s						
DZM	**Mont Dzumac**	**20.36**	**248**	P	**P**	**18 44 49.5**	**+0.5**
	56nm,0.9s,baz=84,slow=19,SNR=15						
TARA	**Tarawa**	**21.51**	**319**	*e*P	**P**	**18 45 03.2**	**+1.9**
	916nm,1.4s						
OUZ	**Omahuta**	**23.05**	**208**	*e*P	**P**	**18 45 19.4**	**+2.0**
	183nm,1.1s						
URZ	**Urewera**	**24.36**	**199**	P	**P**	**18 45 29.6**	**-0.4**
URZ	**Urewera**	**24.36**	**199**	P	**P**	**18 45 29.6**	**-0.4**
	102nm,0.6s,baz=326,slow=4.9,SNR=14						
PMOR	**Pomariorio Ree**	**24.46**	**93**	*e*P	P	18 45 22.5	-8.6
	311nm,1.2s						
HNR	**Honiara**	**26.83**	**280**	LR	LR	18 53 45.0	
	comp=Z,115μm,18.6s,baz=33,slow=30						
SNZO	**South Karori**	**27.90**	**200**	*e*P	**P**	**18 45 59.4**	**-2.5**
	37nm,0.7s						
RPZ	**Rata Peaks**	**31.29**	**202**	P	**P**	**18 46 31.1**	**-0.8**
RPZ	**Rata Peaks**	**31.29**	**202**	P	**P**	**18 46 31.1**	**-0.8**
	14nm,0.4s,baz=307,slow=2.2,SNR=11						
EIDS	**Eidsvold**	**34.81**	**248**	*e*P	**P**	**18 47 01.1**	**-1.9**
	18nm,0.8s						
EIDS	**Eidsvold**	**34.81**	**248**	P	**P**	**18 47 02.9**	**0.0**
	baz=35,SNR=10						
ARMA	**Armidale**	**35.50**	**239**	*e*P	**P**	**18 47 08.2**	**-0.8**
	30nm,0.7s						
ARMA	**Armidale**	**35.50**	**239**	P	**P**	**18 47 08.0**	**-1.0**
	baz=36,SNR=21						
MGCD	**Mangrove Creek**	**36.81**	**235**	P	**P**	**18 47 21.5**	**+1.5**
	baz=37,SNR=9.5						
RMQ	**Roma**	**37.06**	**246**	P	**P**	**18 47 21.6**	**-0.7**
	baz=37,SNR=15						
CTA	**Charters Tower**	**38.81**	**257**	P	**P**	**18 47 35.0**	**-2.1**
CTA	**Charters Tower**	**38.81**	**257**	P	**P**	**18 47 35.0**	**-2.1**
	22nm,0.8s,baz=66,slow=8.9,SNR=3.3						
CTAO	**Charters Tower**	**38.81**	**257**	*e*P	**P**	**18 47 35.9**	**-1.2**
CTAO				pmax	pmax		
	comp=Z,47nm,0.9s						
CTAO	**Charters Tower**	**38.81**	**257**	*e*P	**P**	**18 47 35.9**	**-1.2**
	comp=Z,47nm,0.9s						
CNB	**Canberra Magne**	**38.90**	**232**	P	**P**	**18 47 36.8**	**-0.9**
	baz=39,SNR=28						
PMG	**Port Moresby**	**39.09**	**274**	*e*P	**P**	**18 47 40.0**	**+0.5**
	comp=Z,74nm,1.1s						
PMG	**Port Moresby**	**39.09**	**274**	P	**P**	**18 47 40.3**	**+0.8**
PMG	**Port Moresby**	**39.09**	**274**	P	**P**	**18 47 40.6**	**+1.1**
	comp=Z,42nm,1.1s,baz=300,slow=16,SNR=5.7						
CAN	**Canberra**	**39.18**	**232**	*e*P	**P**	**18 47 39.3**	**-0.8**
CAN	**Canberra**	**39.18**	**232**	*e*P	**P**	**18 47 39.3**	**-0.8**
	comp=Z,11μm,1.3s						
YNG	**Young**	**39.30**	**234**	P	**P**	**18 47 40.2**	**-0.8**
	baz=39,SNR=8.1						
KIP	**Kipapa**	**39.48**	**23**	P	**P**	**18 47 43.0**	**+0.4**
KIP				pmax	pmax		
	comp=Z,211nm,1.1s						
KIP	**Kipapa**	**39.48**	**23**	P	**P**	**18 47 43.0**	**+0.4**
	comp=Z,211nm,1.1s						
MTSU	**Mount Surprise**	**40.68**	**260**	P	**P**	**18 47 51.9**	**-0.8**
	baz=41,SNR=63						
CMSA	**Cobar Meteorol**	**40.71**	**239**	P	**P**	**18 47 51.4**	**-1.3**
	baz=41,SNR=30						
QLP	**Quilpie**	**41.08**	**247**	P	**P**	**18 47 54.2**	**-1.7**
	baz=41,SNR=17						
COEN	**Coen**	**42.14**	**266**	*e*P	**P**	**18 48 04.3**	**-0.5**
	comp=Z,475nm,0.8s						
COEN	**Coen**	**42.14**	**266**	P	**P**	**18 48 04.8**	**+0.1**
	baz=42,SNR=40						
TOO	**Toolangi**	**42.62**	**231**	P	**P**	**18 48 07.2**	**-1.1**
	baz=43,SNR=25						
STKA	**Stephens Creek**	**44.20**	**240**	*e*P	**P**	**18 48 19.7**	**-1.5**
	comp=Z,25nm,1.2s						
STKA				PcP	**PcP**	**18 50 06.7**	**+1.1**
STKA	**Stephens Creek**	**44.20**	**240**	P	**P**	**18 48 20.1**	**-1.1**
	comp=Z,40nm,0.6s,baz=87,slow=10,SNR=33						
STKA				PcP	**PcP**	**18 50 06.7**	**+1.1**
	comp=Z,17nm,0.8s,baz=55,slow=5.7,SNR=3.7						
STKA	**Stephens Creek**	**44.20**	**240**	P	**P**	**18 48 20.1**	**-1.1**
	baz=44,SNR=17						
ARPS	**Mount Arapiles**	**45.15**	**233**	P	**P**	**18 48 27.8**	**-0.8**
	baz=45,SNR=7.6						
MMPI	**Meraukе**	**45.82**	**273**	P	**P**	**18 48 32.8**	**-1.4**
	comp=Z,187nm,2.1s						
JAY	**Jayapura**	**47.13**	**281**	P	**P**	**18 48 44.6**	**0.0**
BBOO	**Buckleboo**	**48.97**	**240**	*e*P	**P**	**18 48 57.2**	**-1.4**
	comp=Z,9μm,1.9s						
BBOO	**Buckleboo**	**48.97**	**240**	P	**P**	**18 48 57.2**	**-1.4**
	baz=49,SNR=21						
WRAB	**Tennant Creek**	**50.00**	**257**	*e*P	**P**	**18 49 04.7**	**-1.9**
WRAB				pmax	pmax		
	comp=Z,69nm,0.9s						
WRAB	**Tennant Creek**	**50.00**	**257**	*e*P	**P**	**18 49 04.7**	**-1.9**
	comp=Z,69nm,0.9s						
WRAB	**Tennant Creek**	**50.00**	**257**	P	**P**	**18 49 04.0**	**-2.6**
	comp=Z,387nm,0.7s,SNR=24						
WRA	**Warramunga Arr**	**50.01**	**257**	P	**P**	**18 49 04.8**	**-1.9**
WRA				PcP	**PcP**	**18 50 27.2**	**+0.7**
WRA	**Warramunga Arr**	**50.01**	**257**	P	**P**	**18 49 04.8**	**-1.9**
	comp=Z,44nm,0.8s,baz=92,slow=6.8,SNR=46						
WRA				PcP	**PcP**	**18 50 27.2**	**+0.7**
	comp=Z,37nm,0.9s,baz=91,slow=3.7,SNR=5.9						
AS31	**Alice Springs**	**50.27**	**252**	*e*P	**P**	**18 49 06.5**	**-2.2**
ASAR	**Alice Springs**	**50.27**	**252**	P	**P**	**18 49 06.8**	**-1.8**
ASAR	**Alice Springs**	**50.27**	**252**	P	**P**	**18 49 06.8**	**-1.8**
	comp=Z,174nm,0.9s,baz=90,slow=7.9,SNR=46						
KDU	**Kakadu**	**52.63**	**266**	P	**P**	**18 49 26.0**	**-0.3**
	baz=53,SNR=13						
TLE	**Tual**	**53.86**	**274**	P	**P**	**18 49 35.1**	**-0.4**
TLE	**Tual**	**53.86**	**274**	P	**P**	**18 49 35.2**	**-0.3**
	baz=54,SNR=7.4						
SAUI	**Saumlaki**	**54.69**	**271**	P	**P**	**18 49 41.0**	**-0.5**
FAKI	**Fak Fak**	**55.06**	**277**	P	**P**	**18 49 45.8**	**+1.6**
FORT	**Forrest**	**55.58**	**243**	*e*P	**P**	**18 49 45.7**	**-2.0**
	comp=Z,125nm,0.6s						
FORT	**Forrest**	**55.58**	**243**	P	**P**	**18 49 46.1**	**-1.5**
	baz=56,SNR=33						
KNRA	**Kununurra**	**55.73**	**261**	P	**P**	**18 49 47.4**	**-1.6**
	baz=56,SNR=11						
SWI	**Sorong**	**56.61**	**279**	P	**P**	**18 49 54.9**	**-0.4**
	comp=Z,156nm,0.7s						
SWI	**Sorong**	**56.61**	**279**	P	**P**	**18 49 56.8**	**+1.5**
	baz=57,SNR=12						
BNDI	**Bandanaira**	**56.88**	**275**	P	**P**	**18 49 54.7**	**-2.5**
	comp=Z,150nm,1.9s						
MSAI	**Masohi**	**58.13**	**276**	P	**P**	**18 50 05.5**	**-0.5**
	comp=Z,17nm,3.7s						
FITZ	**Fitzroy Crossi**	**58.37**	**258**	*e*P	**P**	**18 50 06.9**	**-0.8**
	comp=Z,21nm,1.1s						
FITZ	**Fitzroy Crossi**	**58.37**	**258**	P	**P**	**18 50 07.7**	**0.0**
	comp=Z,9.9nm,1.0s,baz=95,slow=7.2,SNR=7.8						
FITZ	**Fitzroy Crossi**	**58.37**	**258**	P	**P**	**18 50 06.6**	**-1.1**
	baz=59,SNR=7.0						
AAI	**Ambon**	**58.74**	**275**	P	**P**	**18 50 09.7**	**-0.6**
NLAI	**Namlea**	**59.91**	**275**	P	**P**	**18 50 17.8**	**-0.6**
LBMI	**Labuha**	**60.26**	**278**	P	**P**	**18 50 20.2**	**-0.6**
	comp=Z,103nm,0.8s						
TNTI	**Ternate**	**60.82**	**280**	P	P	18 50 19.7	-4.9
	comp=Z,69nm,1.9s						
SOEI	**Soe**	**61.09**	**267**	P	**P**	**18 50 25.6**	**-1.0**
	comp=Z,192nm,1.0s						
SOEI	**Soe**	**61.09**	**267**	P	**P**	**18 50 26.8**	**+0.3**
	baz=61,SNR=12						
BATI	**Baumata**	**61.58**	**267**	P	**P**	**18 50 30.3**	**+0.6**
BATI	**Baumata**	**61.58**	**267**	P	**P**	**18 50 27.3**	**-2.4**
BATI	**Baumata**	**61.58**	**267**	P	**P**	**18 50 30.3**	**+0.6**
	comp=Z,32nm,0.9s,baz=154,slow=5.1,SNR=7.0						
MMRI	**Maumere**	**63.28**	**268**	P	**P**	**18 50 40.3**	**-0.9**
SBA	**Scott Base**	**63.31**	**185**	*e*P	**P**	**18 50 42.3**	**+2.0**
	comp=Z,30nm,0.8s						
VNDA	**Vanda**	**63.44**	**186**	*e*P	**P**	**18 50 42.3**	**+1.2**
	comp=Z,90nm,1.6s						
VNDA	**Vanda**	**63.44**	**186**	P	**P**	**18 50 43.1**	**+2.0**
	comp=Z,12nm,0.8s,baz=12,slow=7.7,SNR=19						
SGSI	**Sangihe**	**63.48**	**282**	P	**P**	**18 50 41.8**	**-0.6**
	comp=Z,117nm,0.7s						
MBWA	**Marble Bar**	**63.52**	**254**	*e*P	**P**	**18 50 41.7**	**-0.9**
	comp=Z,44nm,1.1s						
MEEK	**Meekatharra**	**63.98**	**248**	P	**P**	**18 50 44.4**	**-1.2**
	baz=64,SNR=6.6						
KMSI	**Cibinong**	**63.98**	**278**	P	**P**	**18 50 45.1**	**-0.7**
	comp=Z,121nm,1.2s						
KLBR	**Kellerberrin**	**64.40**	**242**	P	**P**	**18 50 47.5**	**-0.8**
	baz=64,SNR=38						
LUWI	**Luwuk**	**64.67**	**276**	P	**P**	**18 50 49.9**	**-0.4**
	comp=Z,75nm,1.0s						
LUWI	**Luwuk**	**64.67**	**276**	P	P	18 50 56.3	+6.0
	baz=65,SNR=4.5						
NWAO	**Narrogin (SRO)**	**64.78**	**241**	*e*P	**P**	**18 50 50.5**	**-0.2**
	comp=Z,84nm,1.2s						
NWAO	**Narrogin (SRO)**	**64.78**	**241**	P	**P**	**18 50 50.9**	**+0.1**
	comp=Z,20nm,0.8s,baz=103,slow=7.0,SNR=8.6						
GTOI	**Gorontalo**	**64.93**	**278**	P	**P**	**18 50 52.7**	**+0.8**
	comp=Z,71nm,3.4s						
RKGY	**Rocky Gully**	**64.93**	**239**	P	**P**	**18 50 54.1**	**+2.4**
	baz=65,SNR=4.5						
BLDU	**Ballidu**	**65.35**	**243**	P	**P**	**18 50 53.5**	**-1.0**
	baz=66,SNR=9.2						
LBFI	**Labuhan Bajo,**	**65.58**	**268**	P	**P**	**18 50 55.7**	**-0.5**
APSI	**Ampana**	**65.79**	**276**	P	**P**	**18 50 57.1**	**-0.4**
	comp=Z,92nm,3.9s						
MRSI	**Marisa**	**65.90**	**278**	P	**P**	**18 50 57.9**	**-0.4**
MORW	**Morawa**	**66.05**	**245**	P	**P**	**18 50 58.8**	**-0.2**
	baz=66,SNR=5.7						
BKSI	**Bulumba**	**66.10**	**271**	P	**P**	**18 50 59.1**	**-0.4**
BNSI	**Bone**	**66.34**	**272**	P	**P**	**18 51 00.7**	**-0.4**
KAPI	**Kappang**	**66.53**	**271**	P	**P**	**18 51 01.8**	**-0.5**
SPSI	**Sidrap Palu**	**66.78**	**272**	P	**P**	**18 51 04.1**	**+0.2**
MJSI	**Majene**	**67.65**	**272**	P	**P**	**18 51 07.9**	**-1.5**
MMSI	**Mamuju**	**67.94**	**273**	P	P	18 51 15.6	+4.3
FX1	**Attu Island--F**	**68.96**	**351**	*e*P	**P**	**18 51 15.6**	**-1.2**
MAJO	**Matsushiro**	**69.00**	**320**	*e*P	**P**	**18 51 17.2**	**-0.2**
MAJO				pmax	pmax		
	comp=Z,63nm,1.3s						
MAJO	**Matsushiro**	**69.00**	**320**	*e*P	**P**	**18 51 17.1**	**-0.2**
	comp=Z,63nm,1.3s						
MAT	**Matsushiro**	**69.00**	**320**	P	**P**	**18 51 17.2**	**-0.2**
CASY	**Casey**	**70.52**	**205**	*e*P	**P**	**18 51 25.9**	**-0.4**
	comp=Z,36nm,0.9s						
MYLDM	**Lahad Datu**	**70.59**	**281**	P	**P**	**18 51 28.4**	**+0.7**
	comp=Z,102nm,4.9s						
BYJI	**Banyuwangi**	**70.97**	**266**	P	**P**	**18 51 29.3**	**-0.7**
	comp=Z,126nm,1.1s						
ABJI	**Asem Bagus**	**71.19**	**267**	P	**P**	**18 51 30.6**	**-0.7**
	comp=Z,90nm,3.6s						
SAO	**San Andreas Ge**	**71.19**	**42**	P	P	18 51 35.1	+4.3
SAO				pmax	pmax		
	comp=Z,41nm,1.0s						
SAO	**San Andreas Ge**	**71.19**	**42**	P	P	18 51 35.1	+4.3
	comp=Z,41nm,1.0s						
CIS	**Catalina Islan**	**71.30**	**46**	⇓P	**P**	**18 51 31.8**	**+0.2**
	baz=72						
HOPS	**Hopland**	**71.53**	**39**	P	**P**	**18 51 34.0**	**+1.2**
	comp=Z,61nm,1.2s						
ASAJ	**Asahikawa**	**71.58**	**328**	P	**P**	**18 51 33.8**	**+0.8**
ASAJ	**Asahikawa**	**71.58**	**328**	P	**P**	**18 51 33.8**	**+0.8**
	comp=Z,16nm,0.7s,baz=149,slow=2.9,SNR=9.0						
JNU	**Nakatsue**	**71.88**	**313**	*e*P	**P**	**18 51 34.9**	**-0.2**
	comp=Z,13nm,1.0s						
JNU	**Nakatsue**	**71.88**	**313**	P	**P**	**18 51 35.6**	**+0.5**
	comp=Z,23nm,0.9s,baz=102,slow=5.6,SNR=8.5						
ARVC	**Arvin**	**71.97**	**45**	⇑P	**P**	**18 51 35.9**	**+0.3**
	baz=72						
MWC	**Mount Wilson**	**71.99**	**46**	P	**P**	**18 51 36.2**	**+0.3**
MWC				pmax	pmax		
	comp=Z,47nm,1.2s						
MWC	**Mount Wilson**	**71.99**	**46**	P	**P**	**18 51 36.2**	**+0.3**
	comp=Z,47nm,1.2s						
VES	**Vestal, Richgr**	**72.20**	**44**	⇓P	**P**	**18 51 37.2**	**+0.3**
	baz=72						
MURC	**Murrieta**	**72.25**	**47**	⇑P	**P**	**18 51 37.8**	**+0.5**
	baz=72						
BFSC	**Mount Baldy Ra**	**72.28**	**46**	⇑P	**P**	**18 51 37.8**	**+0.2**
	baz=72						
PET	**Petropavlovsk**	**72.28**	**343**	*e*P	**P**	**18 51 37.7**	**+0.8**
KHMM	**Horse Mountain**	**72.33**	**37**	*e*P	**P**	**18 51 40.4**	**+2.6**
	comp=Z,31nm,1.1s						
EDW2	**Edwards Air Fo**	**72.40**	**45**	⇑P	**P**	**18 51 38.6**	**+0.4**
	baz=73						
MONP	**Monument Peak**	**72.42**	**48**	⇓P	**P**	**18 51 37.8**	**-0.8**
	baz=73						
ISA	**Isabella**	**72.51**	**44**	*e*P	**P**	**18 51 39.3**	**+0.4**
ISA				pmax	pmax		
	comp=Z,41nm,1.2s						
ISA	**Isabella**	**72.51**	**44**	*e*P	**P**	**18 51 39.2**	**+0.4**
	comp=Z,41nm,1.2s						
ISA	**Isabella**	**72.51**	**44**	⇑P	**P**	**18 51 38.7**	**-0.1**
	baz=73						
DVTC	**Desert V Tower**	**72.52**	**48**	⇑P	**P**	**18 51 39.3**	**+0.2**
	baz=73						
CMB	**Columbia Colle**	**72.62**	**41**	*e*P	**P**	**18 51 40.2**	**+0.7**
CMB				pmax	pmax		
	comp=Z,34nm,1.1s						
CMB	**Columbia Colle**	**72.62**	**41**	*e*P	**P**	**18 51 40.2**	**+0.7**
	comp=Z,34nm,1.1s						
PETK	**Petropavlovsk-**	**72.63**	**342**	P	**P**	**18 51 39.6**	**+0.5**
PETK				pmax	pmax		
	comp=Z,33nm,0.7s						
PETK	**Petropavlovsk-**	**72.63**	**342**	P	**P**	**18 51 39.5**	**+0.5**
PETK	**Petropavlovsk-**	**72.63**	**342**	P	**P**	**18 51 39.5**	**+0.5**
	comp=Z,33nm,0.7s,baz=139,slow=8.2,SNR=44						
PFO	**Pinyon Flat Ob**	**72.78**	**47**	P	**P**	**18 51 40.9**	**+0.4**
PFO	**Pinyon Flat Ob**	**72.78**	**47**	P	**P**	**18 51 40.9**	**+0.4**
	comp=Z,9.7nm,1.0s,baz=268,slow=10.0,SNR=4.2						
WDC	**Whiskeytown Da**	**72.84**	**38**	*e*P	**P**	**18 51 41.0**	**+0.4**
WDC				pmax	pmax		
	comp=Z,33nm,1.1s						
WDC	**Whiskeytown Da**	**72.84**	**38**	*e*P	**P**	**18 51 41.0**	**+0.4**
	comp=Z,33nm,1.1s						
SWSC	**Sam W. Stewart**	**72.89**	**48**	⇓P	**P**	**18 51 41.2**	**+0.1**
	baz=73						
LRMC	**Laurel Mountai**	**72.94**	**45**	⇓P	**P**	**18 51 41.9**	**+0.5**
	baz=73						
KKM	**Kota Kinabalu**	**73.02**	**281**	*e*P	**P**	**18 51 41.8**	**-0.6**
	comp=Z,38nm,1.0s						
CWC	**Cottonwood Cre**	**73.21**	**44**	⇑P	**P**	**18 51 42.9**	**-0.2**
	baz=73						
BELC	**Belle Mtn. Jos**	**73.31**	**47**	⇑P	**P**	**18 51 43.5**	**-0.2**
	baz=74						
MPMC	**Manual Prospec**	**73.39**	**44**	⇓P	**P**	**18 51 44.5**	**+0.2**
	baz=74						
GSC	**Goldstone**	**73.44**	**45**	⇑P	**P**	**18 51 44.2**	**-0.2**
	baz=74						
YBH	**Yreka Blue Hor**	**73.47**	**37**	*e*P	**P**	**18 51 45.3**	**+0.9**
	comp=Z,50nm,1.2s						
YBH	**Yreka Blue Hor**	**73.47**	**37**	P	**P**	**18 51 45.3**	**+0.9**
	comp=Z,14nm,0.7s,baz=242,slow=4.9,SNR=12						
BC3	**Big Chuckawall**	**73.51**	**47**	⇓P	**P**	**18 51 44.7**	**-0.2**
	baz=74						
HEC	**Hector,Ludlow**	**73.52**	**46**	⇓P	**P**	**18 51 44.9**	**0.0**
	baz=74						
YSS	**Yuzh-Sakhalins**	**73.52**	**330**	*e*P	**P**	**18 51 45.2**	**+0.8**
SJI	**Sawahan**	**73.58**	**266**	P	**P**	**18 51 44.0**	**-1.7**
GLA	**Glamis**	**73.64**	**48**	*e*P	**P**	**18 51 46.0**	**+0.4**
GLA				pmax	pmax		
	comp=Z,56nm,1.4s						
GLA	**Glamis**	**73.64**	**48**	*e*P	**P**	**18 51 46.0**	**+0.4**
	comp=Z,56nm,1.4s						
GLA	**Glamis**	**73.64**	**48**	⇓P	**P**	**18 51 45.5**	**-0.1**
	baz=74						
BEKR	**Beckworth**	**73.73**	**40**	*e*P	**P**	**18 51 46.6**	**+0.4**
	comp=Z,28nm,1.4s						
HUMO	**Hull Mountain**	**73.88**	**36**	*e*P	**P**	**18 51 47.2**	**+0.5**
	comp=Z,51nm,1.3s						
GMRC	**Granite Mounta**	**73.95**	**46**	⇑P	**P**	**18 51 47.1**	**-0.4**
	baz=74						
GRAC	**Grapevine Rang**	**73.99**	**44**	⇓P	**P**	**18 51 47.4**	**-0.2**
	baz=74						
PCJI	**Pacitan**	**74.04**	**266**	P	**P**	**18 51 48.7**	**+0.4**
TUQ	**Turquoise Moun**	**74.12**	**46**	⇑P	**P**	**18 51 48.0**	**-0.5**
	baz=74						
SHOC	**Shoshone**	**74.13**	**45**	⇑P	**P**	**18 51 48.0**	**-0.3**
	baz=74						
Y12C	**Blythe**	**74.22**	**48**	⇑P	**P**	**18 51 48.6**	**-0.3**
	baz=74						
PAHR	**P

KSM Kuching 77.34 275 P P 18 52 07.2 0.0
baz=78,SNR=9.4
WUAZ Wupatki 77.35 48 eP P 18 52 07.8 +0.9
comp=Z,87nm,1.5s
WUAZ Wupatki 77.35 48 ⇑P P 18 52 06.7 -0.3
baz=78
CISI Cisompet, Garu 77.42 266 P P 18 52 14.6 +6.9
baz=78,SNR=3.8
USRK Ussuriysk Arra 77.44 323 P P 18 52 07.9 +0.9
comp=Z,38nm,1.2s,baz=108,slow=4.7,SNR=45
ELK Elko 77.44 41 eP P 18 52 07.3 -0.1
comp=Z,41nm,1.3s
320A Kipp Ranch, An 77.50 52 ⇓P P 18 52 07.4 -0.4
baz=78
PGC Sidney 77.52 31 eP P 18 52 07.2 -0.1
comp=Z,1.7nm,0.8s
SEW Seward 77.61 12 eP P 18 52 06.3 -1.3
comp=Z,42nm,0.9s
220A Playas Peak, P 77.75 52 ⇓P P 18 52 09.0 -0.3
baz=78,SNR=9.2
X18A Snowflake 77.90 49 ⇓P P 18 52 09.4 -0.7
baz=78
120A U Bar Ranch, L 77.96 51 ⇑P P 18 52 09.9 -0.5
baz=78,SNR=5.9
HAWA Hanford 78.15 35 eP P 18 52 10.2 -0.8
comp=Z,90nm,1.4s
Z20A Nine Sixteen R 78.25 51 ⇑P P 18 52 11.9 -0.1
baz=78,SNR=10
MVU Marysvale 78.25 45 eP P 18 52 12.2 +0.2
comp=Z,48nm,1.3s
221A Mesquite Ranch 78.37 52 ⇑P P 18 52 12.4 -0.3
baz=78,SNR=6.2
BMO Blue Mountains 78.49 37 eP P 18 52 11.7 -1.3
BMO pmax pmax
comp=Z,66nm,1.4s
BMO Blue Mountains 78.49 37 eP P 18 52 11.7 -1.3
comp=Z,66nm,1.4s
MFID Camas Ranch 78.55 39 ⇓P P 18 52 12.9 -0.5
baz=79
121A Cookes Peak, D 78.59 52 ⇑P P 18 52 13.5 -0.4
baz=79,SNR=9.8
DUG Dugway 78.72 43 eP P 18 52 14.1 -0.3
DUG pmax pmax
comp=Z,54nm,1.3s
DUG Dugway 78.72 43 eP P 18 52 14.1 -0.3
comp=Z,54nm,1.3s
DUG Dugway 78.72 43 ⇓P P 18 52 14.5 0.0
baz=79,SNR=5.7
Y20A Horse Springs, 78.77 50 ⇓P P 18 52 14.6 -0.4
baz=79,SNR=8.4
222A Williams Famil 78.92 52 ⇓P P 18 52 15.2 -0.5
baz=79
BGU Big Grassy Mou 78.96 42 eP P 18 52 15.7 0.0
comp=Z,59nm,1.6s
X20A Quemado 78.97 50 ⇓P P 18 52 15.5 -0.6
baz=79,SNR=8.0
Z21A St. Cloud Mine 79.03 51 ⇑P P 18 52 15.8 -0.6
baz=79,SNR=7.5
MDJ Mudanjiang 79.08 322 P P 18 52 16.5 +0.4
MDJ pmax pmax
comp=Z,57nm,1.8s
MDJ Mudanjiang 79.08 322 eP P 18 52 16.6 +0.4
comp=Z,163nm,1.6s
NLU North Lily Min 79.08 43 P P 18 52 16.6 +0.1
Q16A Castle Valley 79.17 45 eP P 18 52 17.2 +0.2
Q16A Castle Valley 79.17 45 ⇓P P 18 52 16.6 -0.4
baz=79
W20A Ramah 79.23 49 ⇓P P 18 52 17.2 -0.3
baz=79,SNR=20
WRAK Wrangell Islan 79.25 22 eP P 18 52 15.4 -1.3
comp=Z,7.3nm,0.6s
122A Conniff Cattle 79.26 52 ⇑P P 18 52 17.2 -0.4
baz=79
DIV Divide 79.31 13 eP P 18 52 15.8 -1.3
comp=Z,57nm,0.6s
Y21A Point of Rocks 79.33 50 ⇑P P 18 52 18.3 +0.3
baz=80,SNR=7.3
BMRM Bremner River 79.43 14 eP P 18 52 16.3 -1.4
comp=Z,86nm,0.9s
X21A Alamocita Cree 79.45 50 ⇑P P 18 52 18.0 -0.7
baz=80
HLID Hailey 79.49 39 eP P 18 52 18.1 -0.5
comp=Z,31nm,0.9s
HLID Hailey 79.49 39 ⇓P P 18 52 18.2 -0.4
baz=80,SNR=26
SPUT South Promonto 79.53 42 eP P 18 52 18.1 -0.8
comp=Z,67nm,1.4s
Z22A Elephant Butte 79.53 51 ⇓P P 18 52 18.8 -0.3
baz=80,SNR=9.8
HVU Hansel Valley 79.57 41 eP P 18 52 17.9 -1.1
HVU pmax pmax
comp=Z,28nm,0.9s
HVU Hansel Valley 79.57 41 eP P 18 52 17.9 -1.1
comp=Z,28nm,0.9s
V20A Brimhall 79.57 48 ⇑P P 18 52 18.6 -0.6
baz=80
PPLA Purkeypile 79.72 10 eP P 18 52 18.8 -0.5
comp=Z,22nm,1.0s
U20A Newcomb 79.79 48 ⇓P P 18 52 20.1 -0.3
baz=80,SNR=6.8
JLU Jordanelle 79.82 43 P P 18 52 19.4 -1.2
comp=Z,32nm,1.1s
DAU Daniels Canyon 79.85 43 eP P 18 52 19.7 -1.1
DAU pmax pmax
comp=Z,127nm,1.7s
DAU Daniels Canyon 79.85 43 eP P 18 52 19.7 -1.1
comp=Z,127nm,1.7s
324A Moseley Ranch, 79.89 53 ⇓P P 18 52 20.9 -0.1
baz=80
LAZ Ladron 79.91 50 eP P 18 52 21.0 -0.1
comp=Z,29nm,1.4s
425A Indio Mountain 80.00 54 ⇑P P 18 52 21.2 -0.4
baz=80,SNR=13
X22A Bernardo 80.05 50 ⇑P P 18 52 21.7 -0.2
baz=80
MNTX Cornudas Mount 80.07 53 eP P 18 52 21.2 -0.6
Z23A Rita Site, Whi 80.09 52 ⇓P P 18 52 21.6 -0.4
baz=80
224A Cornudas Mount 80.12 53 ⇓P P 18 52 21.9 -0.4
baz=80,SNR=16
626A Big Bend Ranch 80.17 56 ⇓P P 18 52 22.0 -0.5
baz=80
MVCO Mesa Verde 80.20 47 eP P 18 52 23.9 +1.2
comp=Z,17nm,0.9s
MVCO Mesa Verde 80.20 47 ⇓P P 18 52 22.3 -0.4
baz=80
HWUT Hardware Ranch 80.25 42 eP P 18 52 21.6 -1.3
NJ2 Nanjing 80.26 307 eP P 18 52 21.5 -1.3
NJ2 pmax pmax
comp=Z,180nm,1.2s
PV10 Paradox Valley 80.36 46 P P 18 52 22.5 -1.1
comp=Z,722nm,0.6s
526A Mary Lane Ranc 80.41 55 ⇑P P 18 52 23.2 -0.7
baz=80,SNR=17
U21A Nageezi 80.44 48 ⇓P P 18 52 23.7 -0.3
baz=81,SNR=33
124A Stringfield Ra 80.44 52 ⇓P P 18 52 23.4 -0.7
baz=81
TXAR Lajitas Array 80.45 56 P P 18 52 24.3 +0.3
TXAR Lajitas Array 80.45 56 P P 18 52 24.3 +0.3
comp=Z,12nm,0.9s,baz=224,slow=5.2,SNR=21
Y23A Lovelace Mesa, 80.51 51 ⇑P P 18 52 23.5 -0.8
baz=81
PV01 Paradox Valley 80.58 46 eP P 18 52 24.1 -0.6
comp=Z,13µm,1.6s
NEW Newport 80.58 34 eP P 18 52 23.4 -0.8
comp=Z,42nm,1.4s
NEW Newport 80.58 34 P P 18 52 25.5 +1.2
comp=Z,9.8nm,0.8s,baz=238,slow=5.0,SNR=5.7
NEW Newport 80.58 34 ⇓P P 18 52 24.0 -0.2
baz=81
S20A Disappointment 80.58 47 ⇑P P 18 52 24.1 -0.7
baz=81,SNR=7.1
ANMO Albuquerque 80.65 50 P P 18 52 24.6 -0.5
comp=Z,281nm,2.1s
225A Deer Hill, Car 80.67 53 ⇓P P 18 52 25.0 -0.3
baz=81,SNR=9.0
426A McDonald Obser 80.70 55 ⇓P P 18 52 24.8 -0.8
baz=81,SNR=9.1
627A Terlingua Ranc 80.72 56 ⇓P P 18 52 25.1 -0.4
baz=81,SNR=16
R20A Redvale 80.73 46 ⇓P P 18 52 24.9 -0.6
baz=81
V22A San Miguel Ran 80.75 49 ⇓P P 18 52 25.2 -0.5
baz=81
M17A Scullys Gap (B 80.77 43 ⇓P P 18 52 25.3 -0.3
baz=81
Z24A Sheeppen Canyo 80.77 52 ⇓P P 18 52 25.3 -0.5
baz=81,SNR=8.8
T21A Navajo Lake 80.78 48 ⇓P P 18 52 25.4 -0.4
baz=81,SNR=7.0
527A Woodward Ranch 80.82 55 ⇑P P 18 52 25.5 -0.6
baz=81,SNR=9.4
W23A Werner Place, 80.97 50 ⇑P P 18 52 26.8 -0.1
baz=81,SNR=7.5
Y24A Capitan 80.97 51 ⇓P P 18 52 26.1 -0.7
baz=81,SNR=26
U22A Llaves 80.99 48 ⇑P P 18 52 26.5 -0.4
baz=81,SNR=5.9
P19A Cripple Cowboy 81.00 45 ⇑P P 18 52 26.1 -0.8
baz=81
326A Caldwell Ranch 81.00 54 ⇓P P 18 52 26.1 -0.8
baz=81
PAX Paxson 81.03 12 eP P 18 52 24.4 -1.9
PAX pmax pmax
comp=Z,23nm,0.9s
PAX Paxson 81.03 12 eP P 18 52 24.4 -1.9
comp=Z,23nm,0.9s
125A Gardner Draw, 81.03 53 ⇑P P 18 52 26.2 -0.9
baz=81
BPAW Bear Paw Mtn. 81.04 10 eP P 18 52 23.8 -2.5
comp=Z,12nm,0.8s
MCK McKinley 81.05 11 eP P 18 52 25.1 -1.2
MCK pmax pmax
comp=Z,109nm,0.8s
MCK McKinley 81.05 11 eP P 18 52 25.1 -1.2
comp=Z,108nm,0.8s
HYT Haines Junctio 81.12 17 eP P 18 52 26.2 -0.7
MCMT McKenzie Canyo 81.12 39 eP P 18 52 26.5 -1.0
comp=Z,15nm,0.8s
AHID Auburn Hatcher 81.14 41 eP P 18 52 26.2 -1.4
comp=Z,121nm,1.6s
628A Black Gap, Mar 81.14 56 ⇓P P 18 52 27.2 -0.5
baz=81,SNR=7.1
CN2 Changchun 81.15 320 eP P 18 52 32.0 +4.7
CN2 pmax pmax
comp=Z,10.0nm,0.8s
Q20A Ridgley Place, 81.15 46 ⇓P P 18 52 27.3 -0.4
baz=81
226B Tecolote Peak, 81.17 53 ⇑P P 18 52 27.6 -0.2
baz=81,SNR=18
V23A Ortiz Mt. (NFS 81.20 49 ⇑P P 18 52 27.7 -0.3
baz=81,SNR=11
O19A Miners Draw (B 81.22 44 ⇑P P 18 52 27.4 -0.6
baz=81
T22A Edith 81.24 48 ⇑P P 18 52 27.6 -0.7
baz=81
Z25A Roswell 81.24 52 ⇑P P 18 52 27.7 -0.6
baz=81
X24A Lazy VL Ranch, 81.24 51 ⇑P P 18 52 27.6 -0.7
baz=81
427A Hayter Ranch, 81.27 55 ⇓P P 18 52 28.1 -0.2
baz=81,SNR=19
P20A De Beque 81.34 45 ⇓P P 18 52 28.6 0.0
baz=82,SNR=7.0
SNY Shenyang 81.34 318 ⇑P P 18 52 27.5 -0.9
SNY pmax pmax
comp=Z,140nm,1.8s
R21A Cimarron 81.40 46 ⇑P P 18 52 28.8 -0.3
baz=82,SNR=17
L18A Fontenelle, Gr 81.40 42 ⇑P P 18 52 28.9 -0.1
baz=82
U23A El Rito 81.45 49 ⇑P P 18 52 29.1 -0.3
baz=82
528A Cox Ranch, San 81.48 56 ⇑P P 18 52 29.3 -0.3
baz=82,SNR=8.2
126A Clayton Basin, 81.52 53 ⇓P P 18 52 29.2 -0.4
baz=82,SNR=6.9
Y25A Mesa, Roswell 81.53 51 ⇑P P 18 52 29.3 -0.4
baz=82,SNR=19
W24A Lazy 6 Ranch, 81.54 50 ⇑P P 18 52 29.4 -0.5
baz=82,SNR=10
MSO Missoula 81.55 37 ⇓P P 18 52 29.2 -0.3
baz=82
REDW Red Top Meadow 81.60 41 eP P 18 52 29.1 -0.9
S22A 4UR Ranch, Cre 81.62 47 ⇑P P 18 52 30.2 -0.1
baz=82,SNR=18
BSMT Bassoo Peak 81.63 35 eP P 18 52 28.4 -1.6
comp=Z,58nm,1.1s
LWLI Liwa 81.67 267 P P 18 52 31.7 +0.8
comp=Z,108nm,0.7s
MDSI Maura Dua 81.69 268 P P 18 52 31.6 +0.8
O20A White River Ci 81.74 45 eP P 18 52 31.2 +0.5
O20A White River Ci 81.74 45 ⇓P P 18 52 30.2 -0.5
baz=82
M19A Rock Springs 81.78 43 ⇑P P 18 52 30.7 -0.3
baz=82
428A Kincaid Ranch, 81.79 55 ⇓P P 18 52 30.2 -0.9
baz=82
Z26A Caprock 81.80 52 ⇓P P 18 52 31.0 -0.2
baz=82,SNR=37
X25A Clemmons Ranch 81.81 51 ⇑P P 18 52 30.9 -0.3
baz=82,SNR=9.3
V24A Rampart Ranch, 81.86 50 ⇑P P 18 52 31.3 -0.3
baz=82,SNR=6.5
T23A Casias Ranch, 81.87 48 ⇓P P 18 52 31.0 -0.6
baz=82
LOHW Long Hollow 81.88 41 eP P 18 52 30.4 -1.1
comp=Z,121nm,1.6s
R22A Saguache, Gunn 81.89 47 ⇓P P 18 52 32.0 +0.2
baz=82,SNR=18
529A Stev Forest Ra 81.92 56 ⇓P P 18 52 31.2 -0.6
baz=82,SNR=8.5
328A Wristen Ranch, 81.95 54 ⇓P P 18 52 31.0 -0.9
baz=82,SNR=5.9
BLMT Blacktail Moun 81.96 35 eP P 18 52 29.6 -2.2
comp=Z,37nm,1.3s
QLMT Earthquake Lak 81.98 39 P P 18 52 33.2 +1.3
comp=Z,10nm,1.1s
P21A Newcastle 82.00 45 ⇓P P 18 52 31.5 -0.7
baz=82
SLMT Seeley Lake 82.03 36 eP P 18 52 33.3 +1.2
comp=Z,31nm,1.2s
127A Arkansas Junct 82.04 53 ⇑P P 18 52 31.6 -0.8
baz=82
I17A Pilgrim Ck. 82.05 40 ⇓P P 18 52 31.3 -1.1
baz=82
N20A Spence Gulch, 82.05 44 ⇑P P 18 52 31.9 -0.6
baz=82,SNR=12
FLWY Flagg Ranch 82.05 40 eP P 18 52 31.9 -0.5
comp=Z,105nm,1.3s
Q22A Crested Butte, 82.07 46 ⇑P P 18 52 32.0 -0.7
baz=82,SNR=21
YBMT Yellow Bay 82.07 36 eP P 18 52 29.6 -2.7
comp=Z,20nm,1.2s
BW06 Boulder Array 82.12 42 eP P 18 52 31.6 -1.2
comp=Z,74nm,1.4s
PDAR Pinedale Array 82.12 42 P P 18 52 31.7 -1.1
PDAR Pinedale Array 82.12 42 P P 18 52 31.7 -1.1
comp=Z,12nm,0.8s,baz=223,slow=3.7,SNR=19
YFT Old Faithful 82.16 40 eP P 18 52 33.4 +0.5
comp=Z,80nm,1.4s
YMR Madison River 82.19 40 eP P 18 52 31.4 -1.7
comp=Z,160nm,1.4s
Y26A Elida 82.19 52 ⇓P P 18 52 32.6 -0.6
baz=82,SNR=14
W25A X Bar L Ranch, 82.25 50 ⇓P P 18 52 32.3 -1.2
baz=82,SNR=15
BOZ Bozeman (W) 82.28 39 eP P 18 52 33.0 -0.5
BOZ pmax pmax
comp=Z,93nm,1.4s
BOZ Bozeman (W) 82.28 39 eP P 18 52 33.0 -0.5
comp=Z,93nm,1.4s
COLA College 82.28 11 eP P 18 52 31.6 -1.2
COLA College 82.28 11 eP P 18 52 31.6 -1.2
comp=Z,531nm,0.8s
H17A Grant Village 82.29 40 eP P 18 52 33.9 +0.3
H17A Grant Village 82.29 40 ⇓P P 18 52 32.8 -0.8
baz=82
O21A Pagoda 82.30 45 ⇓P P 18 52 32.8 -1.0
baz=82
T24B San Luis 82.36 48 ⇑P P 18 52 33.8 -0.4
baz=82,SNR=8.7
ILAR Eielson Array 82.37 11 P P 18 52 32.0 -1.2
ILAR Eielson Array 82.37 11 P P 18 52 32.0 -1.2
comp=Z,22nm,0.7s,baz=226,slow=6.4,SNR=45
429A Davenport Ranc 82.38 55 ⇓P P 18 52 33.6 -0.6
baz=82,SNR=26
V25A Rancho No Teng 82.39 50 ⇓P P 18 52 33.8 -0.5
baz=82,SNR=22
Z27A Tatum 82.41 53 ⇑P P 18 52 33.7 -0.6
baz=82,SNR=8.2
228A UT Block 9, Go 82.41 54 ⇓P P 18 52 33.4 -1.0
baz=82,SNR=6.0
M20A Sweetwater, Wa 82.41 43 ⇑P P 18 52 34.0 -0.3
baz=83,SNR=15
X26A CR and CF Fran 82.45 51 ⇓P P 18 52 34.0 -0.6
baz=83,SNR=6.1
P22A Eagle 82.50 46 ⇑P P 18 52 34.7 -0.1
baz=83,SNR=6.5
SEY Seymchan 82.51 345 eP P 18 52 33.6 -0.4
N21A Black Mountain 82.52 44 ⇑P P 18 52 34.8 -0.1
baz=83,SNR=13
L20A Wamsutter 82.55 43 ⇓P P 18 52 34.8 -0.3
baz=83,SNR=23
SDCO Great Sand Dun 82.57 48 eP P 18 52 34.6 -0.7
comp=Z,22nm,0.9s
K19A Absolon Red Bu 82.61 42 ⇓P P 18 52 34.8 -0.5
baz=83,SNR=13
530A J-C Ranch, Com 82.64 56 ⇓P P 18 52 34.9 -0.6
baz=83
329A Wagon Wheel Ra 82.64 55 ⇑P P 18 52 35.1 -0.5
baz=83,SNR=9.6
Y27A Causey 82.67 52 ⇓P P 18 52 35.1 -0.6
baz=83,SNR=23
128A Castleberry Fa 82.69 53 ⇓P P 18 52 35.3 -0.5
baz=83,SNR=32
J19A Crowheart 82.69 42 ⇓P P 18 52 35.2 -0.4
baz=83,SNR=10
W26A Owens Ranch, T 82.71 51 ⇑P P 18 52 35.5 -0.4
baz=83,SNR=6.3
HRY Holter Researc 82.71 38 eP P 18 52 34.8 -0.9
comp=Z,75nm,0.8s
S24A Houchin Ranch, 82.73 48 ⇓P P 18 52 35.4 -0.8
baz=83,SNR=18
U25A Circle Dot Ran 82.78 49 ⇓P P 18 52 35.4 -1.0
baz=83,SNR=25
WALA Waterton Lakes 82.78 35 eP P 18 52 34.8 -1.2
Q23A Hartsel 82.84 47 ⇓P P 18 52 35.9 -0.8
baz=83,SNR=23
K20A Yellowstone Ra 82.86 42 ⇑P P 18 52 35.7 -0.8
baz=83
O22A Kremmling 82.90 45 ⇓P P 18 52 36.3 -0.7
baz=83,SNR=14
229A Bryant Ranch, 82.96 54 ⇑P P 18 52 36.7 -0.5
baz=83
430A Baggett Ranch, 82.96 56 ⇓P P 18 52 36.3 -0.9
baz=83
631A Perdido Creek 82.97 57 ⇓P P 18 52 36.3 -1.0
baz=83,SNR=20
V26A Tequesquite Ra 82.99 50 ⇑P P 18 52 36.4 -0.9
baz=83,SNR=6.2
H18A Shoshone NF, C 82.99 40 ⇓P P 18 52 36.7 -0.6
baz=83,SNR=8.1
MSTX Muleshoe 83.00 52 ⇓P P 18 52 36.6 -0.8
baz=83,SNR=14
M21A Separation Pea 83.01 44 ⇓P P 18 52 36.6 -0.8
baz=83,SNR=20
Z28A Tucker Farm, M 83.03 53 ⇑P P 18 52 36.5 -1.1
baz=83
X27A F and S Farms, 83.03 51 ⇑P P 18 52 37.3 -0.3
baz=83,SNR=5.8
QIZ Qiongzhong 83.03 292 P P 18 52 34.5 -3.2
QIZ S S 19 02 56.5 +0.8
QIZ pmax pmax
comp=Z,57nm,2.1s
P23A Jefferson 83.04 46 ⇑P P 18 52 37.5 -0.3
baz=83,SNR=14
R24A Sanders Place, 83.06 47 ⇑P P 18 52 37.3 -0.4
baz=83,SNR=25
T25A Trinidad 83.09 49 ⇓P P 18 52 36.9 -1.1
baz=83,SNR=8.1
I19A Meeteetse 83.10 41 ⇑P P 18 52 37.0 -0.8
baz=83,SNR=15
L21A Rawlins 83.17 43 ⇑P P 18 52 37.7 -0.5
baz=83
129A Stewart Farms, 83.17 54 ⇑P P 18 52 37.5 -0.8
baz=83
732A Laxson Ranch, 83.22 58 ⇑P P 18 52 37.5 -1.0
baz=83
W27A Bowe Ranch, En 83.23 51 ⇑P P 18 52 37.6 -0.9
baz=83,SNR=29
330A Mertzon 83.24 55 ⇑P P 18 52 37.4 -1.2
baz=83
N22A Wattenberg Ran 83.25 45 ⇑P P 18 52 38.1 -0.7
baz=83,SNR=35
U26A Atchley Ranch, 83.27 50 ⇓P P 18 52 38.1 -0.7
baz=83,SNR=22
531A Rocksprings 83.28 56 ⇓P P 18 52 38.1 -0.8
baz=83,SNR=24
S25A Robets Cordova 83.29 48 ⇑P P 18 52 38.4 -0.6
baz=83,SNR=25
Q24A Divide 83.34 47 ⇓P P 18 52 38.4 -0.9
baz=84,SNR=15
J20A Shoshoni 83.35 42 ⇓P P 18 52 39.0 0.0
baz=84,SNR=14
O23A Lake Granby, G 83.36 45 ⇑P P 18 52 38.6 -0.7
baz=84,SNR=14
Y28A McKinney Farm, 83.38 52 ⇑P P 18 52 38.5 -0.8
baz=84
ISCO Idaho Springs 83.38 46 eP P 18 52 38.7 -0.8
comp=Z,19nm,0.9s
ISCO Idaho Springs 83.38 46 ⇑P P 18 52 39.0 -0.5
baz=84,SNR=5.9
H19A Powell 83.41 40 ⇓P P 18 52 38.9 -0.5
baz=84,SNR=6.5
431A Sonora 83.42 56 ⇓P P 18 52 38.6 -1.0
baz=84
KSI Kapahiang 83.43 268 P P 18 52 39.3 -0.7
comp=Z,139nm,0.8s
M22A Cedar Creek Ra 83.43 44 ⇓P P 18 52 39.1 -0.5
baz=84,SNR=6.0
RLMT Red Lodge 83.46 40 eP P 18 52 39.1 -0.6
comp=Z,54nm,1.1s
230A Sterling City 83.48 55 ⇓P P 18 52 39.9 0.0
baz=84,SNR=6.0
GCMT Greycliff 83.54 39 eP P 18 52 39.5 -0.4
comp=Z,62nm,1.2s
Z29A Hungry Hill Ra 83.54 53 ⇑P P 18 52 38.7 -1.5
baz=84
K21A Alcova 83.56 43 ⇓P P 18 52 39.3 -0.9
baz=84,SNR=17
BTDF Bukit Timah Da 83.60 273 P P 18 52 43.3 +2.5
baz=84,SNR=4.7
BTDF P P 18 52 43.3 +2.5
baz=84,SNR=4.7
I20A Worland 83.61 41 ⇓P P 18 52 39.5 -0.9
baz=84,SNR=38
R25A Fountain Ranch 83.61 48 ⇑P P 18 52 39.5 -1.0
baz=84,SNR=19
MYKOM Kota Tinggi 83.64 274 P P 18 52 41.9 +0.9
N23A Red Feather La 83.64 45 ⇓P P 18 52 40.2 -0.5
baz=84,SNR=16
632A Uvalde 83.65 57 ⇓P P 18 52 39.7 -1.0
baz=84
X28A Dimmitt 83.66 52 ⇓P P 18 52 40.1 -0.7
baz=84,SNR=5.9
V27A Dan Oppiter Fa 83.68 50 ⇓P P 18 52 40.1 -0.8
baz=84
T26A Comanche Natio 83.70 49 ⇑P P 18 52 40.0 -1.1
baz=84,SNR=5.3
P24A Kohler Place, 83.75 46 ⇑P P 18 52 40.4 -0.9
baz=84
J21A Lysite 83.76 42 ⇓P P 18 52 40.7 -0.5
baz=84,SNR=33
532A Rocksprings 83.78 57 ⇓P P 18 52 40.5 -0.9
baz=84,SNR=5.9
331A San Angelo 83.80 55 ⇓P P 18 52 40.6 -0.9
baz=84
Y29A Porterfield Fa 83.80 53 ⇓P P 18 52 40.7 -0.8
baz=84
L22A Ellis Ranch, M 83.82 44 ⇓P P 18 52 41.0 -0.6
baz=84,SNR=23
130A Snyder 83.86 54 ⇓P P 18 52 41.0 -0.8
baz=84
O24A Longmont 83.90 46 ⇑P P 18 52 41.4 -0.6
baz=84
H20A Greybull 83.94 41 ⇓P P 18 52 40.9 -1.1
baz=84,SNR=6.7
W28A Vega 83.95 51 ⇑P P 18 52 41.3 -0.9
baz=84
U27A Thompson Grove 83.95 50 ⇓P P 18 52 41.0 -1.3
baz=84,SNR=7.6
Q25A Bedland, Calha 83.96 47 ⇑P P 18 52 41.3 -1.1
baz=84
S26A Kim 83.97 49 ⇓P P 18 52 41.2 -1.1
baz=84,SNR=14
JCT Junction City 83.99 56 eP P 18 52 41.7 -0.8
JCT pmax pmax
comp=Z,26nm,0.8s
JCT Junction City 83.99 56 eP P 18 52 41.7 -0.8
comp=Z,26nm,0.8s
JCT Junction City 83.99 56 ⇑P P 18 52 41.1 -1.4
baz=84

Z30A	Sanderson Ranc	84.00	53	⇑P		P	18 52 41.3	-1.2
	baz=84,SNR=27							
X29A	Tulia	84.01	52	⇑P		P	18 52 41.6	-0.9
	baz=84,SNR=7.5							
F19A	Roth Farm, Mol	84.01	39	⇓P		P	18 52 41.5	-0.8
	baz=84,SNR=30							
K22A	Casper	84.04	43	⇓P		P	18 52 41.4	-1.2
	baz=84,SNR=9.4							
COLD	Coldfoot	84.07	9	eP		P	18 52 41.8	-0.2
	comp=Z,52nm,1.2s							
I21A	Big Trails, Te	84.08	42	⇓P		P	18 52 41.7	-1.1
	baz=84,SNR=43							
231A	Bronte	84.12	55	⇑P		P	18 52 42.2	-1.0
	baz=84,SNR=14							
V28A	Channing	84.13	51	⇑P		P	18 52 42.4	-0.8
	baz=84							
432A	Menard	84.14	56	⇑P		P	18 52 42.1	-1.2
	baz=84,SNR=6.3							
G20A	Bridger	84.16	40	⇑P		P	18 52 42.6	-0.5
	baz=84							
P25A	Willow Gulch B	84.27	47	⇑P		P	18 52 43.1	-0.8
	baz=84,SNR=25							
R26A	Arlington	84.27	48	⇓P		P	18 52 42.9	-1.0
	baz=84,SNR=18							
T27A	Campo	84.29	49	⇑P		P	18 52 42.8	-1.2
	baz=84,SNR=6.4							
W29A	Amrarillo	84.31	51	⇓P		P	18 52 43.2	-0.9
	baz=84,SNR=21							
N24A	Carr	84.33	45	⇑P		P	18 52 43.5	-0.7
	baz=84,SNR=7.1							
131A	Roby	84.34	54	⇓P		P	18 52 43.0	-1.2
	baz=84,SNR=5.6							
L23A	Garrett	84.35	44	⇓P		P	18 52 43.4	-0.9
	baz=84,SNR=39							
332A	Millersview	84.37	55	⇑P		P	18 52 43.5	-0.9
	baz=84,SNR=17							
U28A	Mallet	84.38	50	⇑P		P	18 52 43.4	-1.0
	baz=84							
E19A	Rath Farm, Rou	84.40	39	⇓P		P	18 52 43.9	-0.4
	baz=85,SNR=7.9							
Y30A	Stafford Cattl	84.40	53	⇓P		P	18 52 43.6	-0.9
	baz=84,SNR=19							
S27A	Las Animas	84.41	49	⇓P		P	18 52 43.4	-1.2
	baz=85,SNR=5.6							
J22A	Midwest	84.42	42	⇑P		P	18 52 43.8	-0.7
	baz=85							
F20A	Billings	84.47	40	⇑P		P	18 52 43.9	-0.8
	baz=85							
Q26A	Hugo	84.48	47	⇑P		P	18 52 44.0	-0.9
	baz=85							
RGRI	Rengat	84.53	271	P		P	18 52 44.5	-1.1
	comp=Z,3μm,0.9s							
O25A	Wiggins	84.56	46	⇓P		P	18 52 44.4	-0.8
	baz=85							
EGMT	Eagleton	84.60	37	eP		P	18 52 44.0	-1.2
	comp=Z,135nm,1.4s							
EGMT	Eagleton	84.60	37	⇓P		P	18 52 44.8	-0.5
	baz=85,SNR=16							
H21A	Big Horn, Sher	84.61	41	⇓P		P	18 52 44.8	-0.6
	baz=85,SNR=17							
232A	Coleman	84.63	55	⇓P		P	18 52 44.7	-1.0
	baz=85,SNR=16							
I22A	9 Mile Ranch,	84.63	42	⇓P		P	18 52 45.3	-0.3
	baz=85,SNR=22							
X30A	Coker Ranch, T	84.64	52	⇑P		P	18 52 44.8	-0.9
	baz=85,SNR=6.7							
M24A	Cheyenne	84.65	45	⇑P		P	18 52 45.1	-0.7
	baz=85,SNR=6.5							
K23A	Bowen Ranch, D	84.68	43	⇑P		P	18 52 45.0	-0.9
	baz=85,SNR=17							
D19A	Cripps Ranch,	84.69	38	⇓P		P	18 52 45.2	-0.5
	baz=85,SNR=26							
V29A	Stinnett	84.70	51	⇓P		P	18 52 44.9	-1.2
	baz=85							
R27A	Eads	84.73	48	⇓P		P	18 52 45.0	-1.1
	baz=85							
T28A	Walsh	84.76	49	⇓P		P	18 52 44.9	-1.4
	baz=85							
Z31A	Sharp Cattle R	84.77	54	⇓P		P	18 52 45.5	-0.9
	baz=85,SNR=20							
G21A	Lodge Grass	84.79	40	⇑P		P	18 52 45.5	-0.7
	baz=85,SNR=5.5							
E20A	Meyer Farm, Mu	84.82	39	⇑P		P	18 52 46.0	-0.4
	baz=85,SNR=27							
L24A	Wheatland	84.83	44	⇑P		P	18 52 46.0	-0.6
	baz=85							
P26A	Davis Ranch, A	84.86	47	⇓P		P	18 52 46.1	-0.8
	baz=85							
C19A	Slack Wire Ran	84.87	38	⇓P		P	18 52 46.5	-0.1
	baz=85,SNR=33							
ABTX	Abilene, Hawle	84.91	54	⇓P		P	18 52 46.6	-0.5
	baz=85,SNR=23							
Y31A	Rekieta Farm,	84.92	53	⇑P		P	18 52 46.6	-0.5
	baz=85,SNR=15							
J23A	Dilts Ranch, B	85.02	43	⇑P		P	18 52 46.8	-0.7
	baz=85							
H22A	Clearmont	85.04	41	⇑P		P	18 52 46.9	-0.6
	baz=85							
D20A	Manuel Ranch,	85.10	38	⇑P		P	18 52 47.5	-0.2
	baz=85,SNR=26							
S28A	Manter	85.10	49	⇓P		P	18 52 47.1	-0.9
	baz=85							
U29A	Oasis Ranch, S	85.11	50	⇓P		P	18 52 47.2	-0.9
	baz=85							
F21A	Absaloka Mine,	85.12	40	⇑P		P	18 52 47.2	-0.7
	baz=85							
KSCO	Kaye Shedlock'	85.15	48	P		P	18 52 45.7	-2.6
KSCO	Kaye Shedlock'	85.15	48	⇑P		P	18 52 47.6	-0.6
	baz=85							
O26A	Horse Wrangler	85.17	46	⇑P		P	18 52 47.5	-0.8
	baz=85							
K24A	Anderson Ranch	85.20	43	⇓P		P	18 52 47.6	-0.9
	baz=85							
V30A	Spur Ranch, Mi	85.28	51	⇓P		P	18 52 48.5	-0.4
	baz=85,SNR=8.0							
Z32A	Haskell	85.29	54	⇑P		P	18 52 48.5	-0.4
	baz=85,SNR=37							
G22A	Birney	85.36	41	⇓P		P	18 52 48.6	-0.5
	baz=86,SNR=5.2							
EDM	Edmonton	85.36	31	eP		P	18 52 45.8	-3.1
EDM	Edmonton	85.36	31	eP		P	18 52 45.8	-3.1
C20A	Veseth Ranch,	85.47	38	⇓P		P	18 52 49.1	-0.5
	baz=86,SNR=27							
N26A	Koester Ranch,	85.48	46	⇓P		P	18 52 49.3	-0.6
	baz=86							
E21A	Keefer Ranch,	85.48	39	⇓P		P	18 52 49.4	-0.3
	baz=86							
L25A	Engebretsen Ra	85.53	44	⇓P		P	18 52 49.3	-0.8
	baz=86							
BJT	Baijiatuau	85.55	313	eP		P	18 52 50.2	+0.2
	comp=Z,278nm,1.8s							
BJI	Beijing	85.55	313	P		P	18 52 50.5	+0.5
BJI				S		S	19 03 23.0	+3.0
BJI				pmax	pmax			
	comp=Z,67nm,2.3s							
J24A	Dixon Ranch, L	85.57	43	⇓P		P	18 52 49.2	-1.1
	baz=86							
Y32A	R-V Farms, Ver	85.57	53	⇑P		P	18 52 49.8	-0.5
	baz=86,SNR=6.4							
W31A	Holland Ranch,	85.63	52	⇑P		P	18 52 49.6	-1.0
	baz=86,SNR=24							
A19A	Klindworth Far	85.63	37	⇑P		P	18 52 49.6	-0.7
	baz=86,SNR=21							
F22A	Rosebud	85.64	40	⇓P		P	18 52 49.9	-0.6
	baz=86							
S29A	Ulysses	85.68	49	⇓P		P	18 52 50.1	-0.7
	baz=86							
O27A	Beecher Island	85.73	46	⇑P		P	18 52 50.0	-1.1
	baz=86							
D21A	La Casta Ranch	85.78	39	⇓P		P	18 52 50.6	-0.5
	baz=86,SNR=20							
K25A	Mack Ranch, Ha	85.78	44	⇓P		P	18 52 50.6	-0.8
	baz=86							
B20A	Solberg Farm,	85.81	37	⇓P		P	18 52 50.7	-0.6
	baz=86,SNR=20							
G23A	Biddle	85.92	41	⇑P		P	18 52 51.4	-0.5
	baz=86							
V31A	Spring Creek L	85.92	51	⇑P		P	18 52 51.9	-0.2
	baz=86,SNR=6.9							
C21A	Desert Coulee	86.07	38	⇓P		P	18 52 52.0	-0.5
	baz=86,SNR=7.0							
LAO	LASA Array	86.07	39	eP		P	18 52 52.0	-0.6
	comp=Z,151nm,1.4s							
A20A	Cobblestone Ra	86.08	37	⇓P		P	18 52 52.0	-0.6
	baz=86,SNR=27							
E22A	Miles City	86.13	40	⇑P		P	18 52 52.1	-0.8
	baz=86							
F23A	Volborg	86.14	41	⇓P		P	18 52 52.1	-0.8
	baz=86							
J25A	Sunshine Ranch	86.16	43	⇑P		P	18 52 52.2	-1.0
	baz=86							
H24A	Dirks Ranch, A	86.25	42	⇓P		P	18 52 52.9	-0.7
	baz=86,SNR=19							
Q29A	Oakley	86.28	48	⇑P		P	18 52 53.1	-0.7
	baz=86							
K26A	Motz Farm, Whi	86.29	44	⇓P		P	18 52 52.9	-0.9
	baz=86							
D22A	Cohagen	86.31	39	⇑P		P	18 52 53.2	-0.5
	baz=86							
WMOK	Wichita Mounta	86.35	53	eP		P	18 52 51.9	-2.3
WMOK				pmax	pmax			
	comp=Z,39nm,1.4s							
WMOK	Wichita Mounta	86.35	53	eP		P	18 52 51.9	-2.3
	comp=Z,39nm,1.4s							
PPI	Padang Panjang	86.37	271	P		P	18 52 58.2	+3.5
	baz=87,SNR=4.4							
B21A	Ellsworth Farm	86.40	38	⇓P		P	18 52 53.5	-0.6
	baz=87							
WHTX	Lake Whitney	86.41	56	⇓P		P	18 52 53.4	-1.1
	baz=86							
I25A	Rochford	86.47	43	⇓P		P	18 52 54.1	-0.7
	baz=87,SNR=8.8							
T31A	Randall Ranch,	86.54	50	⇑P		P	18 52 54.5	-0.6
	baz=87,SNR=5.3							
E23A	Ismay	86.55	40	⇓P		P	18 52 54.9	-0.1
	baz=87							
R30A	Dighton	86.55	49	⇓P		P	18 52 54.8	-0.4
	baz=87							
N28A	Pribbeno Ranch	86.59	46	⇓P		P	18 52 55.2	-0.1
	baz=87							
P29A	Atwood	86.59	48	⇑P		P	18 52 55.1	-0.2
	baz=87							
A21A	Bergtoll Ranch	86.71	37	⇓P		P	18 52 55.4	-0.2
	baz=87,SNR=14							
F24A	Ekalaka	86.80	41	⇑P		P	18 52 56.0	-0.3
	baz=87							
H25A	Fruitdale	86.82	42	⇑P		P	18 52 56.5	+0.2
	baz=87							
Q30A	Quinter	86.86	48	⇑P		P	18 52 56.7	0.0
	baz=87							
D23A	Lindsay	86.91	39	⇑P		P	18 52 56.6	-0.1
	baz=87							
B22A	Reddig Ranch S	86.94	38	⇑P		P	18 52 56.8	0.0
	baz=87,SNR=18							
HKT	Hockley	87.02	58	eP		P	18 52 57.9	+0.4
HKT				pmax	pmax			
	comp=Z,88nm,1.6s							
HKT	Hockley	87.02	58	eP		P	18 52 57.9	+0.4
	comp=Z,88nm,1.6s							
ENH	Enshi	87.03	302	eP		P	18 52 56.8	-0.8
	comp=Z,7.3nm,0.7s							
IPM	Ipoh	87.07	275	P		P	18 52 59.2	+1.0
R31A	Burdett	87.10	49	⇓P		P	18 52 57.4	-0.4
	baz=87							
C23A	Lambert	87.20	39	⇓P		P	18 52 57.8	-0.3
	baz=87,SNR=10							
HIA	Hailar	87.25	323	eP		P	18 52 58.2	-0.1
	comp=Z,41nm,1.1s							
J27A	Elkhorn Farm,	87.30	44	⇓P		P	18 52 58.3	-0.4
	baz=88,SNR=6.2							
C24A	Savage	87.55	39	⇑P		P	18 52 58.9	-0.8
	baz=88							
B23A	Brockton	87.61	38	⇑P		P	18 52 59.5	-0.5
	baz=88,SNR=5.4							
KULM	Kulim	87.65	276	eP		P	18 53 01.1	+0.1
	comp=Z,55nm,1.3s							
MAW	Mawson	87.89	199	eP		P	18 53 01.5	+0.5
	comp=Z,6.8nm,0.9s							
MAW	Mawson	87.89	199	P		P	18 53 02.2	+1.2
	comp=Z,23nm,0.8s,baz=152,slow=3.6,SNR=26							
MAW	Mawson	87.89	199	P		P	18 53 01.9	+0.9
	baz=88,SNR=14							
D25A	Fairfield	88.06	40	⇑P		P	18 53 02.1	-0.1
	baz=88							
DGMT	Dagmar	88.09	38	eP		P	18 53 02.1	-0.3
	comp=Z,58nm,0.6s							
DGMT	Dagmar	88.09	38	⇓P		P	18 53 02.0	-0.3
	baz=88							
GYA	Guiyang	88.16	298	⇑iP		P	18 53 03.0	-0.2
GYA				PP		PP	18 56 31.3	+0.6
GYA				SKS		SKSac	19 03 29.8	-0.6
GYA				S		S	19 03 45.5	-0.6
GYA				SS		SS	19 09 37.5	+1.9
GYA				pmax	pmax			
	comp=Z,30nm,1.2s							
GYA				pmax	pmax			
	comp=Z,140nm,6.8s							
GYA				LR	LR			
	comp=N,660nm,20.2s							
GYA				LR	LR			
	comp=E,580nm,23.4s							
GYA				LR	LR			
	comp=Z,790nm,21.5s							
INK	Inuvik	88.19	14	eP		P	18 53 01.2	-1.0
	comp=Z,20nm,0.9s							
F27A	Lemmon	88.35	41	⇓P		P	18 53 03.3	-0.3
	baz=88							
D26A	Manning	88.56	40	⇓P		P	18 53 04.6	0.0
	baz=89							
PSI	Prapat	88.65	273	P		P	18 53 06.0	+0.2
PSI	Prapat	88.65	273	P		P	18 53 06.0	+0.2
	comp=Z,16nm,0.8s,baz=59,slow=3.6,SNR=7.7							
PSI	Prapat	88.65	273	P		P	18 53 05.2	-0.6
	baz=89,SNR=4.8							
K30A	Basset	88.69	45	⇓P		P	18 53 04.6	-0.7
	baz=89							
HHC	Hu-ho-hao-te	89.11	313	eP		P	18 53 08.3	+0.9
HHC				sP		sP	18 53 15.3	-4.8
HHC				PP		PP	18 56 40.3	+2.4
HHC				SKS		SKSac	19 03 36.0	+0.6
HHC				S		S	19 03 55.5	+1.0
HHC				sS		ScS	19 04 03.0	+3.5
HHC				SS		SS	19 09 51.5	+2.7
HHC				pmax	pmax			
	comp=Z,200nm,1.3s							
HHC				LR	LR			
	comp=N,450nm,16.9s							
HHC				LR	LR			
	comp=E,860nm,17.7s							
HHC				LR	LR			
	comp=Z,1μm,18.2s							
GSI	Gunungsitoli	89.56	271	P		P	18 53 11.0	+1.0
KCSI	Kotacane, Aceh	89.95	274	P		P	18 53 11.2	-0.6
YKA	Yellowknife Ar	89.99	23	P		P	18 53 09.6	-1.2
YKA	Yellowknife Ar	89.99	23	P		P	18 53 09.6	-1.2
	comp=Z,12nm,0.8s,baz=242,slow=4.6,SNR=12							
TEIG	Tepich	90.62	69	eP		P	18 53 13.7	-1.0
	comp=Z,50nm,1.2s							
D30A	Buchanan	90.91	41	⇓P		P	18 53 14.7	-0.8
	baz=91							
ECSD	EROS Data Cent	91.11	45	eP		P	18 53 17.9	+1.4
	comp=Z,22nm,1.2s							
KMI	Kunming	91.15	296	P		P	18 53 18.0	+0.6
KMI				pmax	pmax			
	comp=Z,7.0nm,2.0s							
A29A	Manning Farm,	91.28	39	⇑P		P	18 53 16.8	-0.4
	baz=91							
SUKH	Sukhothai	91.86	288	P		P	18 53 24.4	+3.9
	comp=Z,6.7nm,0.8s							
CD2	Chengdu	91.92	301	P		P	18 53 21.3	+0.7
CD2				pmax	pmax			
	comp=Z,20nm,0.5s							
LAMP	Lampang	92.13	289	P		P	18 53 24.7	+2.9
	comp=Z,8.8nm,0.8s							
SYO	Syowa Base	92.68	191	⇓iX		P	18 53 15.4	-7.9
CMAR	Chiang Mai Arr	92.75	288	P		P	18 53 25.1	+0.5
CMAR	Chiang Mai Arr	92.75	288	P		P	18 53 25.1	+0.5
	comp=Z,8.3nm,0.9s,baz=110,slow=2.9,SNR=17							
CHTO	Chiang Mai	92.84	289	eP		P	18 53 26.7	+1.6
CHTO				pmax	pmax			
	comp=Z,63nm,1.0s							
CHTO	Chiang Mai	92.84	289	eP		P	18 53 26.7	+1.6
	comp=Z,63nm,1.0s							
CHTO	Chiang Mai	92.84	289	P		P	18 53 26.5	+1.4
CHTO	Chiang Mai	92.84	289	P		P	18 53 29.7	+4.6
SCIA	State Center	92.88	47	P		P	18 53 26.0	+1.2
	comp=Z,128nm,1.6s							
HBAR	Harrisburg	92.91	54	P		P	18 53 27.7	+2.7
SNAA	Sanae	92.95	177	eP		P	18 53 26.2	+1.5
SNAA	Sanae	92.95	177	eP		P	18 53 24.6	-0.1
	comp=Z,25nm,1.0s							
SNAA	Sanae	92.95	177	P		P	18 53 24.7	0.0
	comp=Z,2.1nm,0.8s,baz=194,slow=6.3,SNR=9.5							
AGMN	Agassiz Nation	93.16	41	eP		P	18 53 23.2	-2.6
	comp=Z,18nm,1.1s							
LZH	Lanzhou	93.32	306	eP		P	18 53 27.3	+0.2
LZH				pP		PcP	18 53 30.8	+3.1
LZH				sP		sP	18 53 33.8	-6.1
LZH				PP		PP	18 57 14.5	+3.0
LZH				SKS		SKSac	19 03 59.8	0.0
LZH				eS		S	19 04 30.0	-3.2
LZH				SS		SS	19 10 50.3	+0.4
LZH				pmax	pmax			
	comp=Z,33nm,1.3s							
LZH				pmax	pmax			
	comp=Z,190nm,5.0s							
LZH				LR	LR			
	comp=N,1μm,15.6s							
LZH				LR	LR			
	comp=E,1μm,17.1s							
LZH				LR	LR			
	comp=Z,2μm,17.8s							
VNA1	Neumayer--Stat	93.59	175	eP		P	18 53 29.8	+2.3
ULM	Lac du Bonnet	93.80	39	eP		P	18 53 25.5	-3.2
	comp=Z,30nm,1.3s							
ULM	Lac du Bonnet	93.80	39	P		P	18 53 28.0	-0.7
	comp=Z,7.2nm,0.8s,baz=248,slow=6.4,SNR=6.9							
ULN	Ulaanbaatar	94.50	318	P		P	18 53 33.0	+0.7
SONM	Songino Array	94.91	318	P		P	18 53 33.8	-0.3
SONM				PP		PP	18 57 20.2	-3.3
SONM	Songino Array	94.91	318	P		P	18 53 33.8	-0.3
	comp=Z,5.1nm,0.9s,baz=132,slow=2.1,SNR=11							
SONM				PP		PP	18 57 20.3	-3.3
	comp=Z,4.1nm,1.2s,baz=108,slow=4.7,SNR=4.5							
TIXI	Tiksi	95.00	344	eP		P	18 53 34.9	+1.1
JFWS	Jewell Farm	95.28	47	eP		P	18 53 34.2	-1.6
JFWS				pmax	pmax			
	comp=Z,42nm,0.9s							
JFWS	Jewell Farm	95.28	47	eP		P	18 53 34.2	-1.6
	comp=Z,42nm,0.9s							
HDIL	Hopedale	95.33	50	P		P	18 53 36.6	+0.6
	comp=Z,36nm,1.0s							
GTA	Gaotai	97.27	309	eP		Pdif	18 53 45.8	+0.6
GTA				pP		pP	18 53 51.3	-3.2
GTA				sP		sP	18 53 54.0	-3.8
GTA				pmax	pmax			
	comp=Z,17nm,2.0s							
TLY	Talaya	97.69	321	eP		Pdif	18 53 48.7	+2.1
WMQ	Urumqi	106.95	312	eP		Pdif	18 54 28.0	0.0
ZALV	Zalesovo Beam	109.28	322	P		Pdif	18 54 37.5	-0.5
ZALV				pmax	pmax			
	comp=Z,3.0nm,0.8s							
ZALV	Zalesovo Beam	109.28	322	Pdif		Pdif	18 54 37.5	-0.5
ZALV				PKiKP		PKiKP	18 58 41.0	-0.7
ZALV	Zalesovo Beam	109.28	322	Pdiff		Pdif	18 54 37.5	-0.5
	comp=Z,2.7nm,0.8s,baz=88,slow=3.5,SNR=7.0							
ZALV				PKiKP		PKiKP	18 58 41.0	-0.7
	comp=Z,3.0nm,0.7s,baz=152,slow=1.4,SNR=11							
MKAR	Makanchi Array	110.90	315	P		Pdif	18 54 44.7	-0.8
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
MKAR	Makanchi Array	110.90	315	Pdif		Pdif	18 54 44.7	-0.8
MKAR				PKiKP		PKiKP	18 58 45.0	0.0
MKAR	Makanchi Array	110.90	315	Pdiff		Pdif	18 54 44.7	-0.8
	comp=Z,0.5nm,0.8s,baz=107,slow=1.5,SNR=3.7							
MKAR				PKiKP		PKiKP	18 58 45.0	0.0
	comp=Z,4.5nm,0.7s,baz=68,slow=1.2,SNR=33							
KURK	Kurchatov	113.21	319	PKIKP		PKiKP	18 58 49.1	-0.1
KURK	Kurchatov	113.21	319	Pdif		Pdif	18 54 56.0	+0.5
KURK				PKiKP		PKiKP	18 58 49.6	+0.4
KURBB	Kurchatov Arra	113.27	319	Pdiff		Pdif	18 54 56.0	+0.2
	comp=Z,14nm,0.9s,baz=66,slow=2.7,SNR=4.7							
KURBB				PKiKP		PKiKP	18 58 49.6	+0.3
	comp=Z,5.5nm,0.7s,baz=83,slow=2.0,SNR=26							
KSH	Kashi	115.57	307	ePdif		Pdif	18 55 09.0	+2.5
KSH				PKP		PKiKP	18 58 55.5	+1.2
KSH				PP		PP	19 00 03.5	+6.8
KSH				PKS		PKSdf	19 02 31.0	0.0
KSH				SKS		SKSdf	19 06 06.8	+2.2
KSH				SKKS		SKKSac	19 06 56.5	+0.4
AAK	Ala-Archa	116.57	310	PKIKP		PKPdf	18 58 56.7	+0.6
AAK				pmax	pmax			
	comp=Z,4.0nm,0.8s							
AAK	Ala-Archa	116.57	310	PKP		PKPdf	18 58 56.7	+0.6
AAK	Ala-Archa	116.57	310	PKP		PKPdf	18 58 56.7	+0.6
	comp=Z,3.6nm,0.8s,baz=137,slow=5.2,SNR=9.2							
BRVK	Borovoye	118.00	322	PKIKP		PKPdf	18 58 57.6	-0.7
ARU	Arti	123.38	328	PKIKP		PKPdf	18 59 08.8	+0.2
KEV	Kevo	124.17	352	ep		PKPdf	18 59 14.6	+4.9
	comp=Z,0.6nm,0.4s							
ARCES	ARCESS Array B	124.58	352	PKP		PKPdf	18 59 10.2	-0.4
ARCES	ARCESS Array B	124.58	352	PKP		PKPdf	18 59 10.2	-0.4
	comp=Z,8.6nm,0.7s,baz=5.2,slow=1.0,SNR=13							
JOF	Joensuu	129.46	346	ep		PKPdf	18 59 19.4	-0.6
	comp=Z,0.7nm,0.4s							
KAF	Kangasniemi	131.28	348	ep		PKPdf	18 59 22.8	-0.6
	comp=Z,0.4nm,0.3s							
FINES	FINESS Array B	131.93	348	PKP		PKPdf	18 59 23.6	-1.1
FINES	FINESS Array B	131.93	348	PKP		PKPdf	18 59 23.6	-1.1
	comp=Z,3.8nm,0.7s,baz=70,slow=1.6,SNR=6.2							
OBN	Obninsk	134.13	337	PKIKP		PKPdf	18 59 29.9	+0.9
NB2	NORSAR Subarra	134.26	357	PKPdf		PKPdf	18 59 30.6	+1.4
	comp=Z,7.5nm,1.2s,baz=6.6,slow=1.8							
NB2	NORSAR Subarra	134.26	357	PKPdf		PKPdf	18 59 30.6	+1.4
	baz=6.6,slow=1.8							
NOA	NORSAR Array B	134.26	357	PKP		PKPdf	18 59 27.7	-1.5
NOA	NORSAR Array B	134.26	357	PKP		PKPdf	18 59 27.7	-1.5
	comp=Z,2.3nm,0.9s,baz=13,slow=3.9,SNR=3.5							
HFS	Hagfors	135.00	355	PKP		PKPdf	18 59 28.6	-1.9
HFS	Hagfors	135.00	355	PKP		PKPdf	18 59 28.6	-1.9
	comp=Z,4.4nm,0.9s,baz=28,slow=3.4,SNR=3.4							
KBZ	Khabaz	138.25	320	iPKHKP		PKPpre	18 59 29.7	
KBZ				pmax	pmax			
	comp=Z,5.0nm,0.9s							
KBZ	Khabaz	138.25	320	PKPpre		PKPpre	18 59 29.6	
KBZ	Khabaz	138.25	320	PKhKP		PKPpre	18 59 29.6	
	comp=Z,4.7nm,0.9s,baz=166,slow=4.2,SNR=6.8							
GNI	Garni	138.75	314	PKP		PKPdf	18 59 40.2	+1.8
GNI	Garni	138

JHLN	Al Jahlan	145.21	311	eP		PKPbc	PKPbc	18 59 49.2	-0.3
CFR	Carcaliu	145.23	333	⇓iP		PKPbc	PKPbc	18 59 48.7	-0.4
VRI	Vrincioaia	145.27	335	⇓iP		PKPbc	PKPbc	18 59 49.3	0.0
DOU	Dourbes	145.30	2	PKP		PKPbc	PKPbc	18 59 48.7	-0.5
PLOR	Plostina	145.31	335	⇓iP		PKPbc	PKPbc	18 59 48.6	-0.9
ROTZ	Rotzenmuhle	145.39	354	ePKPbc		PKPbc	PKPbc	18 59 49.2	-0.3
TREC	Trest	145.40	350	ePKP		PKPbc	PKPbc	18 59 49.0	-0.6
GRF	Grafenberg Arr	145.56	355	ePKPbc		PKPdf	PKPdf	18 59 49.6	-0.4
GRFO	Grafenberg	145.56	355	ePKPdf		PKPdf	PKPdf	18 59 49.6	-0.3
GRFO	Grafenberg	145.56	355	ePKPdf		PKPdf	PKPdf	18 59 49.6	-0.3
GRER		145.56	334	⇑iP		PKPab	PKPab	18 59 51.8	+1.3
TIRR	Tirgusor	145.67	332	⇑iP		PKPbc	PKPbc	18 59 50.4	-0.1
KMBO	Kilima Mbogo	145.70	244	PKPbc		PKPab	PKPab	18 59 52.2	-0.1
KMBO				ePKPdf		PKPbc	PKPbc	18 59 52.3	+0.4
KMBO	Kilima Mbogo	145.70	244	PKPbc		PKPab	PKPab	18 59 52.2	-0.1
	comp=Z,41nm,1.0s,baz=77,slow=4.7,SNR=30								
TLB	Topalu	145.73	333	⇑iP		PKPab	PKPab	18 59 51.0	-0.1
PSZ	Piszkesteto	145.76	344	ePKP2		PKPdf	PKPdf	18 59 50.5	+0.1
PSZ	Piszkesteto	145.76	344	ePKPdf		PKPdf	PKPdf	18 59 50.5	+0.1
PSZ	Piszkesteto	145.76	344	⇑iP		PKPab	PKPab	18 59 51.5	+0.3
WLF	Walferdange	145.78	1	PKP		PKPbc	PKPbc	18 59 50.8	0.0
WLF	Walferdange	145.78	1	ePKPbc		PKPbc	PKPbc	18 59 50.6	-0.1
WLF	Walferdange	145.78	1	ePKP2		PKPdf	PKPdf	18 59 50.4	+0.1
WLF	Walferdange	145.78	1	ePKPdf		PKPdf	PKPdf	18 59 50.4	+0.1
SMOL	Smolenice	145.78	347	ePKP		PKPab	PKPab	18 59 52.1	+0.9
KHC	Kasperske Hory	145.85	352	ePKP2		PKPdf	PKPdf	18 59 50.0	-0.5
KHC	Kasperske Hory	145.85	352	ePKP		PKPdf	PKPdf	18 59 50.0	-0.5
KHC				ex		x		18 59 53.5	
KHC	Kasperske Hory	145.85	352	ePKPdf		PKPdf	PKPdf	18 59 50.0	-0.5
MLR	Muntele Rosu	145.89	336	⇓iP		PKPdf	PKPdf	18 59 51.0	+0.2
WET	Wettzell	145.93	353	ePKPbc		PKPdf	PKPdf	18 59 50.9	+0.3
DRGR		145.95	340	⇓iP		PKPdf	PKPdf	18 59 50.9	+0.1
ISR	Istrita	145.95	335	⇓iP		PKPbc	PKPbc	18 59 51.7	+0.2
AMRR	Amara	146.02	333	⇓iP		PKPab	PKPab	18 59 54.1	+1.9
MANR	Mangalia	146.08	331	⇓iP		PKPab	PKPab	18 59 51.6	-0.2
GEC2	GERESS Array S	146.12	352	ePKPbc		PKPdf	PKPdf	18 59 51.2	+0.2
GERES	GERESS Array B	146.12	352	PKPbc		PKPbc	PKPbc	18 59 52.1	+0.2
GERES	GERESS Array B	146.12	352	PKPbc		PKPbc	PKPbc	18 59 52.1	+0.2
	comp=Z,19nm,0.8s,baz=18,slow=4.1,SNR=23								
ZST	Bratislava	146.15	348	ePKP		PKPab	PKPab	18 59 52.5	-0.1
BR131	Keskin Array S	146.22	321	ePKPdf		PKPbc	PKPbc	18 59 52.5	-0.1
BRTR	Keskin Array B	146.22	321	PKPbc		PKPab	PKPab	18 59 53.3	0.0
BRTR	Keskin Array B	146.22	321	PKPbc		PKPab	PKPab	18 59 53.3	0.0
	comp=Z,189nm,0.8s,baz=129,slow=2.5,SNR=59								
VOIR		146.28	337	⇑iP		PKPbc	PKPbc	18 59 52.5	0.0
SULR		146.43	335	⇑iP		PKPab	PKPab	18 59 56.8	+3.1
LANF	Langenberg	146.45	359	PKP		PKPbc	PKPbc	18 59 52.7	-0.1
ARR	Arges	146.50	337	⇓iP		PKPab	PKPab	18 59 54.4	+0.3
STU	Stuttgart	146.61	357	ePKPbc		PKPbc	PKPbc	18 59 53.4	+0.1
STU	Stuttgart	146.61	357	ePKP2		PKPab	PKPab	18 59 55.8	+1.5
STU	Stuttgart	146.61	357	ePKPbc		PKPab	PKPab	18 59 55.8	+1.5
ANTO	Ankara	146.63	322	⇓iP		PKPab	PKPab	18 59 55.2	+0.4
CONA	Conrad Observa	146.66	349	⇑iPKPbc		PKPdf	PKPdf	18 59 52.3	+0.3
	comp=Z,123nm,1.0s,SNR=35								
ROOS	tl_alroos	146.73	310	eP		PKPbc	PKPbc	18 59 53.9	-0.3
SIRR	Siria	146.75	341	⇑iP		PKPbc	PKPbc	18 59 54.3	+0.5
MOA	Molln	147.00	351	i PKPab		PKPbc	PKPbc	18 59 54.4	-0.1
SNR=15									
FUR	Furstenfeldbru	147.07	354	ePKPbc		PKPbc	PKPbc	18 59 54.7	+0.1
BFO	Black Forest	147.09	358	ePKPbc		PKPbc	PKPbc	18 59 54.7	0.0
BFO	Black Forest	147.09	358	PKP2		PKPbc	PKPbc	18 59 54.8	0.0
GZR	Gura Zlata	147.15	339	⇓iP		PKPbc	PKPbc	18 59 54.3	-0.7
THEF	They Montfort	147.21	1	PKP		PKPbc	PKPbc	18 59 54.7	-0.3
ECH	Echery	147.23	360	PKP		PKPbc	PKPbc	18 59 54.5	-0.6
RJOB	Jochberg	147.32	352	ePKPbc		PKPbc	PKPbc	18 59 54.8	-0.6
BZS	Buzias	147.34	341	⇓iP		PKPbc	PKPbc	18 59 54.5	-0.9
ARSA	Arzberg	147.37	349	⇑iPKPbc		PKPdf	PKPdf	18 59 53.6	+0.5
	comp=Z,65nm,1.3s,SNR=17								
MARH	Ras Al Marh	147.39	310	eP		PKPab	PKPab	18 59 57.7	-0.7
MOF	Molkenrain	147.59	360	PKP		PKPbc	PKPbc	18 59 55.5	-0.7
RETA	Reutte	147.79	355	⇑iSPKPbc		PKPdf	PKPdf	18 59 56.1	+2.3
	comp=Z,77nm,1.2s,SNR=16								
WATA	Walderalm	147.86	354	⇑iPKPab		PKPbc	PKPbc	18 59 57.2	+0.2
	comp=Z,48nm,1.1s,SNR=11								
MOTA	Moosalm	147.90	354	⇓iSPKPbc		PKPdf	PKPdf	18 59 56.9	+2.8
	comp=Z,57nm,1.0s,SNR=14								
WTTA	Wattenberg	147.92	354	⇓iPKPbc		PKPdf	PKPdf	18 59 55.7	+1.5
	comp=Z,84nm,1.1s,SNR=21								
SOKA	Soboth	148.01	349	⇓iSPKPdf		PKPdf	PKPdf	18 59 53.8	-0.4
	comp=Z,52nm,1.0s,SNR=16								
DAVA	Damuels	148.05	356	⇑iSPKPbc		PKPdf	PKPdf	18 59 57.0	+2.6
	comp=Z,90nm,1.1s,SNR=23								
LOMF	Lomont	148.09	360	PKP		PKPbc	PKPbc	18 59 56.2	-1.4
FETA	Feichten	148.25	355	⇓iSPKPdf		PKPdf	PKPdf	18 59 54.5	-0.3
	comp=Z,58nm,1.1s,SNR=13								
OBKA	Obir	148.26	350	⇑iPKPbc		PKPbc	PKPbc	18 59 57.0	-1.0
	comp=Z,32nm,1.0s,SNR=12								
MYKA	Terra Mystica	148.29	351	i PKPbc		PKPbc	PKPbc	18 59 56.9	-1.2
	comp=Z,55nm,1.1s,SNR=13								
ABTA	Abfaltersbach	148.33	352	⇑iSPKPdf		PKPdf	PKPdf	18 59 55.0	+0.3
	comp=Z,87nm,1.1s,SNR=23								
TCHB	Talchebab	148.39	308	eP		PKPbc	PKPbc	18 59 57.4	-1.3
PHNC	Paralimni	148.67	314	P		PKPbc	PKPbc	19 00 00.8	+1.5
	comp=Z,2.2nm,0.9s								
JAVS	Javornik	148.94	350	ePKPdf		PKPdf	PKPdf	18 59 55.9	+0.1
MAMC	Mammari	149.15	315	P		PKPbc	PKPbc	19 00 01.1	+0.5
CSS	Prodhromos	149.18	314	P		PKPbc	PKPbc	19 00 01.0	+0.3
	comp=Z,3.5nm,1.6s								
CSS	Prodhromos	149.18	314	ePKPbc		PKPbc	PKPbc	19 00 00.9	+0.3
AGO	Saint Agoulin	149.24	5	PKP		PKPbc	PKPbc	19 00 00.1	-0.4
ISP	Isparta	149.31	321	⇑iP		PKPbc	PKPbc	19 00 01.6	+0.6
PLDF	La Plantade	149.36	4	PKP		PKPbc	PKPbc	18 59 58.8	-2.0
VTS	Vitosha	149.39	336	⇑iP		PKPbc	PKPbc	19 00 00.3	-0.8
PYM	Petit Puy Mans	149.53	5	PKP		PKPbc	PKPbc	19 00 00.2	-1.1
ALFC	Alevga	149.58	315	P		PKPbc	PKPbc	19 00 01.5	-0.2
	comp=Z,2.3nm,0.9s								
SZAC	Souni-Zanaja	149.60	314	P		PKPbc	PKPbc	19 00 01.5	-0.2
	comp=Z,1.9nm,0.8s								
AKMC	Akamas	149.83	315	P		PKPbc	PKPbc	19 00 01.7	-0.6
PPCY	Paphos	149.90	315	P		PKPbc	PKPbc	19 00 01.9	-0.5
LBL	Lubilhac	150.06	5	PKP		PKPbc	PKPbc	19 00 03.4	+0.8
PLE	Pljevlja	150.10	341	ePKP		PKPbc	PKPbc	19 00 02.7	-0.1
SSB	Saint Sauveur	150.11	3	ePKIKP		PKPbc	PKPbc	19 00 03.0	+0.3
SSB	Saint Sauveur	150.11	3	ePKPbc		PKPbc	PKPbc	19 00 03.0	+0.3
IVA	Berane	150.35	340	ePKP		PKPbc	PKPbc	19 00 03.1	-0.3
UPM	Unac-Piva	150.36	342	⇑iPKP		PKPbc	PKPbc	19 00 02.5	-1.0
PGAV	Gavieira, Arco	150.48	23	ePKPbc		PKPbc	PKPbc	19 00 04.0	+0.3
PGAV	Gavieira, Arco	150.48	23	ePKPab		PKPab	PKPab	19 00 10.3	+0.1
PVY	Plav	150.57	340	⇑iPKP		PKPbc	PKPbc	19 00 02.8	-1.2
SKO	Skopje	150.60	337	ePKP		PKPbc	PKPbc	19 00 01.6	-2.3
NKY	Niksic	150.69	341	⇑iPKP		PKPbc	PKPbc	19 00 03.6	-0.6
VAY	Valandovo	150.72	335	ePKP		PKPdf	PKPdf	19 00 01.2	+2.6
NKME	Niksic	150.74	341	⇑iPKP		PKPbc	PKPbc	19 00 03.4	-0.8
BRY	Bratogost	150.74	342	⇑iPKP		PKPbc	PKPbc	19 00 03.2	-1.2
PCAB	Cabril	150.79	23	ePKPbc		PKPbc	PKPbc	19 00 04.5	+0.1
PCAB	Cabril	150.79	23	ePKPab		PKPab	PKPab	19 00 08.8	-2.6
POLO	Lamas de Olo	151.17	23	ePKPbc		PKPbc	PKPbc	19 00 05.4	0.0
POLO	Lamas de Olo	151.17	23	ePKPab		PKPab	PKPab	19 00 09.8	-3.3
HCY	Herceg Novi	151.17	342	⇑iPKP		PKPbc	PKPbc	19 00 03.6	-1.6
PBRG	Braganca	151.17	21	ePKPbc		PKPbc	PKPbc	19 00 04.3	-1.0
BUM	Brajici-Budva	151.18	341	ePKP		PKPdf	PKPdf	18 59 57.5	-1.9
PVRL	Vila Real	151.28	23	ePKPbc		PKPbc	PKPbc	19 00 05.5	-0.1
ULC	Ulcinj	151.38	340	ePKP		PKPdf	PKPdf	18 59 59.2	-0.5
TOUF	Mont Tournerai	151.43	359	PKP		PKPbc	PKPbc	19 00 05.7	-0.3
AUTN	L'Aution	151.44	359	PKP		PKPbc	PKPbc	19 00 05.7	-0.4
SAOF	Saorge	151.45	359	PKP		PKPbc	PKPbc	19 00 05.0	-0.8
BIA	Bitola	151.47	337	ePKP		PKPdf	PKPdf	19 00 01.6	+1.8
MVIF	Mont Vial	151.55	359	PKP		PKPbc	PKPbc	19 00 05.3	-0.9
LUCF	Luceram	151.55	359	PKP		PKPbc	PKPbc	19 00 05.5	-0.7
MVO	Moncorvo	151.63	22	ePKPbc		PKPbc	PKPbc	19 00 06.7	+0.3
PVIS	Viseu	151.69	24	ePKPbc		PKPbc	PKPbc	19 00 06.1	-0.4
REVF	Revere	151.70	359	PKP		PKPbc	PKPbc	19 00 05.3	-1.1
MTE	Manteigas	152.10	24	ePKPbc		PKPbc	PKPbc	19 00 07.4	-0.1
MTE	Manteigas	152.10	24	ePKPab		PKPab	PKPab	19 00 07.8	+0.3
PTOM	Tomar	152.41	26	ePKPbc		PKPbc	PKPbc	19 00 08.8	+0.7
PCBR	Castelo Branco	152.61	24	ePKPbc		PKPbc	PKPbc	19 00 07.4	-1.1
PMTG	Montargil	152.95	26	ePKPbc		PKPbc	PKPbc	19 00 11.0	+1.7
PMRV	Marv??o	152.99	25	ePKPbc		PKPbc	PKPbc	19 00 09.3	-0.1
PMRV	Marv??o	152.99	25	ePKPab		PKPab	PKPab	19 00 18.9	-1.8
PESTR	Estremoz	153.39	26	ePKPbc		PKPbc	PKPbc	19 00 10.4	+0.1
PESTR	Estremoz	153.39	26	ePKPab		PKPab	PKPab	19 00 23.6	+1.2
EVO	Evora	153.49	27	ePKPab		PKPab	PKPab	19 00 23.4	+0.6
PNCL	Nicolau / Gran	153.61	28	ePKPdf		PKPdf	PKPdf	19 00 02.9	-0.1
PNCL	Nicolau / Gran	153.61	28	ePKPbc		PKPbc	PKPbc	19 00 11.8	+1.0
PNCL	Nicolau / Gran	153.61	28	ePKPab		PKPab	PKPab	19 00 25.3	+2.0
ESDC	Sonseca Array	154.01	19	PKP		PKPdf	PKPdf	19 00 04.6	+1.0
ESDC				PKPab		PKPab	PKPab	19 00 25.1	+0.1
ESDC	Sonseca Array	154.01	19	PKP		PKPdf	PKPdf	19 00 04.6	+1.0
	comp=Z,1.4nm,0.8s,baz=337,slow=3.0,SNR=6.5								
ESDC				PKPab		PKPab	PKPab	19 00 25.1	+0.1
	comp=Z,2.0nm,0.7s,baz=328,slow=3.1,SNR=7.1								
ESLA	Sonseca Array	154.01	19	ePKPab		PKPab	PKPab	19 00 24.8	-0.2
PBAR	Barrancos	154.20	26	ePKPbc		PKPbc	PKPbc	19 00 11.4	-0.7
MORF	Marmelete	154.21	29	ePKPbc		PKPbc	PKPbc	19 00 11.2	-1.0
PCVE	Castro Verde	154.22	28	ePKPab		PKPab	PKPab	19 00 23.0	-2.9
PFVI	Vila Bisbo	154.26	30	ePKPdf		PKPdf	PKPdf	19 00 03.9	-0.1
PFVI	Vila Bisbo	154.26	30	ePKPbc		PKPbc	PKPbc	19 00 11.4	-0.8
PFVI	Vila Bisbo	154.26	30	ePKPab		PKPab	PKPab	19 00 19.4	-6.7
PVAQ	Vaqueiros	154.56	28	ePKPab		PKPab	PKPab	19 00 28.3	+1.0
PBDV	Barranco-do-Ve	154.59	28	ePKPbc		PKPbc	PKPbc	19 00 14.9	+1.9
KEST	Kesra	159.57	354	PKP		PKPdf	PKPdf	19 00 11.7	+0.7
KEST				PKPab		PKPab	PKPab	19 00 49.6	+0.6
KEST	Kesra	159.57	354	PKP		PKPdf	PKPdf	19 00 11.7	+0.7
	comp=Z,1.8nm,1.0s,baz=294,slow=5.9,SNR=2.2								
KEST				PKPab		PKPab	PKPab	19 00 49.6	+0.6
	comp=Z,3.6nm,0.9s,baz=319,slow=5.8,SNR=6.1								
LIC	Lamto	165.30	127	eP		PKPdf	PKPdf	19 00 22.5	+5.3
	comp=Z,21nm,0.8s								
TIC	Toumodi	165.56	126	eP		PKPdf	PKPdf	19 00 22.7	+5.3
	comp=Z,83nm,1.4s								
KIC	Kosan Boka	165.60	127	eP		PKPdf	PKPdf	19 00 20.7	+3.3
	comp=Z,37nm,1.1s								
DBIC	Dimbokro	165.71	126	PKP		PKPdf	PKPdf	19 00 18.2	+0.7
DBIC				PKPab		PKPab	PKPab	19 01 16.9	+0.4
DBIC	Dimbokro	165.71	126	PKP		PKPdf	PKPdf	19 00 18.2	+0.7
	comp=Z,3.3nm,0.8s,baz=150,slow=4.3,SNR=3.6								
DBIC				PKPab		PKPab	PKPab	19 01 16.9	+0.4
	comp=Z,4.0nm,0.8s,baz=202,slow=8.6,SNR=4.5								
TOA0	Torodi Ar. Sit	174.62	113	ePKPdf		PKPdf	PKPdf	19 00 21.6	-0.8
TOA0				ePKPab		PKPab	PKPab	19 01 56.6	+0.5
TORD	Torodi Ar. Bea	174.62	113	PKP		PKPdf	PKPdf	19 00 21.4	-1.0
TORD				PKPab		PKPab	PKPab	19 01 56.3	+0.2
TORD	Torodi Ar. Bea	174.62	113	PKP		PKPdf	PKPdf	19 00 21.4	-1.0
	comp=Z,3.4nm,1.1s,baz=335,slow=0.9,SNR=6.0								
TORD				PKPab		PKPab	PKPab	19 01 56.3	+0.2
	comp=Z,2.8nm,0.9s,baz=268,slow=3.8,SNR=5.1								

*IDC **29** 18:43:10.1±0.7, 17.°03S×172.°74W, h0km, mb4.7/10, mb1 5.0/10, mb1mx4.7/20, mbtmp4.7/10, Error ellipse: s-maj=31.7km s-min=20.9km az=139.0*
*NEIC **29** 18:43:12.3±0.5, 16.°88S×172.°95W, h10km, mb5.3/6, Error ellipse: s-maj=17.7km s-min=11.4km az=117.0*
*ISCJB **29** 18:43:15.1±0.6, 16.°92S±0.°09×173.°0W±0.°1, h41km, mb4.8/18, Error ellipse: s-maj=18.4km s-min=12.5km az=20.3*

ISC 29 18:43:16.3±0.5, 17.°0S±0.°1×172.°8W±0.°1, h41km, n55, σ1.°33/54, mb5.0/18, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
URZ	Urewera	22.97	201		P		P	18 48 17.8	+0.6
URZ	Urewera	22.97	201		P		P	18 48 17.8	+0.6
	36nm,0.5s,baz=20,slow=4.4,SNR=8.0								
SNZO	South Karori	26.52	201		P		P	18 48 52.4	+2.3
RPZ	Rata Peaks	29.95	204		P		P	18 49 26.2	+5.5
RPZ	Rata Peaks	29.95	204		P		P	18 49 26.2	+5.5
	29nm,0.8s,baz=42,slow=2.0,SNR=6.5								
EIDS	Eidsvold	34.59	250	eP			P	18 50 01.1	-0.4
	14nm,1.2s								
STKA	Stephens Creek	43.75	241	eP			P	18 51 15.2	-2.7
	4.3nm,1.1s								
WRA	Warramunga Arr	50.03	258		P		P	18 52 05.5	-1.7
WRA	Warramunga Arr	50.03	258		P		P	18 52 05.5	-1.7
	14nm,1.1s,baz=95,slow=6.9,SNR=5.0								
AS31	Alice Springs	50.16	253	eP			P	18 52 06.5	-1.7
ASAR	Alice Springs	50.16	253		P		P	18 52 06.8	-1.4
ASAR	Alice Springs	50.16	253		P		P	18 52 06.8	-1.4
	24nm,0.9s,baz=88,slow=8.8,SNR=5.0								
SBA	Scott Base	61.74	185		P		P	18 53 31.2	+1.1
	46nm,1.6s								
VNDA	Vanda	61.88	186	eP			P	18 53 31.9	+0.8
	17nm,1.2s								
MBWA	Marble Bar	63.46	254		P		P	18 53 42.2	-0.3
	33nm,1.1s								
QSPA	South Pole Qui	73.08	180		P		P	18 54 43.6	+1.4
	26nm,1.1s								
PEA0B	Petropavlovsk-	74.28	342		P		P	18 54 49.2	+0.1
PETK	Petropavlovsk-	74.28	342		P		P	18 54 49.0	-0.1
PETK	Petropavlovsk-	74.28	342		P		P	18 54 49.0	-0.1
	13nm,1.1s,baz=126,slow=6.4,SNR=4.2								
KSRS	Korea Array	77.66	316		P		P	18 55 10.0	+1.4
	7.6nm,1.1s,baz=127,slow=6.0,SNR=6.2								
KSAR	Wonju Array Be	77.67	316		P		P	18 55 10.0	+1.2
KSM	Kuching	77.87	275	eP			P	18 55 11.0	+0.6
	39nm,1.2s								
TXAR	Lajitas Array	81.04	56		P		P	18 55 27.1	-0.4
TXAR	Lajitas Array	81.04	56		P		P	18 55 27.1	-0.4
	3.6nm,1.1s,baz=233,slow=4.2,SNR=4.7								
PDAR	Pinedale Array	83.07	41		P		P	18 55 37.2	-0.8
PDAR	Pinedale Array	83.07	41		P		P	18 55 37.2	-0.8
	2.2nm,1.1s,baz=224,slow=3.8,SNR=4.2								
ILAR	Eielson Array	83.88	11		P		P	18 55 41.3	0.0
ILAR	Eielson Array	83.88	11		P		P	18 55 41.3	0.0
	3.5nm,0.9s,baz=221,slow=6.0,SNR=7.2								
PSI	Prapat	89.13	273		P		P	18 56 08.1	-0.2
PSI	Prapat	89.13	273		P		P	18 56 08.1	-0.2
	4.5nm,0.4s,baz=232,slow=6.2,SNR=4.0								
CMAR	Chiang Mai Arr	93.62	288		P		P	18 56 30.6	+1.6
CMAR	Chiang Mai Arr	93.62	288		P		P	18 56 30.6	+1.6
	4.8nm,1.1s,baz=96,slow=2.7,SNR=7.4								
MKAR	Makanchi Array	112.31	314	PKiKP			PKiKP	19 01 49.1	+1.4
MKAR	Makanchi Array	112.31	314	PKiKP			PKiKP	19 01 49.1	+1.4
	0.8nm,0.8s,baz=107,slow=1.5,SNR=3.9								
KURK	Kurchatov	114.67	318	PKiKP			PKiKP	19 01 52.8	+0.7
KURBB	Kurchatov Arra	114.74	318	PKiKP			PKiKP	19 01 52.8	+0.5
	0.6nm,0.2s,baz=79,slow=1.3,SNR=4.4								
AKASG	Malin Array Be	141.99	337	PKhKP			PKPpre	19 02 28.0	
	0.2nm,0.4s,baz=36,slow=4.8,SNR=4.1								
KMBO	Kilima Mbogo	145.31	242	PKP			PKPdf	19 02 52.0	+0.9
KMBO	Kilima Mbogo	145.31	242	PKP			PKPdf	19 02 52.0	+0.9
	11nm,0.9s,baz=56,slow=3.7,SNR=6.9								
CLL	Collm	145.43	354	ePKPdf			PKPbc	19 02 49.0	-0.8
UPC	Upice	145.80	350	ePKP			PKPab	19 02 53.2	+1.8
UPC				ex			x	19 03 01.2	
DPC	Dobruska-Polom	145.90	350	ePKP			PKPab	19 02 53.0	+1.2
DPC				ex			x	19 03 00.5	
PVCC	Panska Ves	146.00	352	ePKP			PKPab	19 02 53.1	+1.0
PVCC				ex			x	19 03 00.4	
OKC	Ostrava-Krasne	146.03	347	ePKP			PKPab	19 02 55.2	+2.9
OKC				ex			x	19 03 01.6	
PRA	Prague	146.47	352	PKP			PKPab	19 02 55.0	+1.1
PRU	Pruhonice	146.53	351	ePKP			PKPab	19 02 54.2	0.0
KHC	Kasperske Hory	147.50	352	epPKP			pPKPdf	19 03 03.4	-3.0
KHC				ex			x	19 03 10.0	
BRTR	Keskin Array B	147.71	320	PKPbc			PKPbc	19 02 58.2	+1.2
BRTR	Keskin Array B	147.71	320	PKPbc			PKPbc	19 02 58.2	+1.2
	8.2nm,0.8s,baz=116,slow=2.2,SNR=7.2								
GERES	GERESS Array B	147.77	352	PKPbc			PKPab	19 02 58.1	-1.1
GERES	GERESS Array B	147.77	352	PKPbc			PKPab	19 02 58.1	-1.1
	0.8nm,0.8s,baz=5.2,slow=3.3,SNR=2.3								
ESDC	Sonseca Array	155.39	21	PKPab			PKPab	19 03 30.6	-0.5
ESDC	Sonseca Array	155.39	21	PKPab			PKPab	19 03 30.6	-0.5
	0.4nm,0.4s,baz=347,slow=5.3,SNR=4.5								
TORD	Torodi Ar. Bea	173.49	125	PKP			PKPdf	19 03 21.4	-0.9
TORD				PKPab			PKPab	19 04 48.7	-2.5
TORD	Torodi Ar. Bea	173.49	125	PKP			PKPdf	19 03 21.4	-0.9
	1.8nm,1.0s,baz=192,slow=1.3,SNR=2.4								
TORD				PKPab			PKPab	19 04 48.7	-2.5
	1.4nm,0.9s,baz=265,slow=4.3,SNR=4.2								

*IDC **29** 18:44:30.3±0.6, 15.°17S×172.°19W, h0km, mb4.7/13, mb1 4.9/13, mb1mx4.7/21, mbtmp4.7/13, Error ellipse: s-maj=30.0km s-min=18.7km az=109.0*
*ISCJB **29** 18:44:31.5±0.3, 15.°15S±0.°09×172.°11W±0.°09, h18km, mb4.8/25, Error ellipse: s-maj=15.5km s-min=9.8km az=44.8*
*NEIC **29** 18:44:31.9±0.3, 15.°11S×172.°18W, h10km, mb5.1/12, Error ellipse: s-maj=15.2km s-min=8.6km az=118.0*

ISC 29 18:44:33.1±0.5, 15.°2S±0.°1×172.°1W±0.°2, h18km, n153, σ0.°70/148, mb4.9/25, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	Afiamalu	1.27	14		Pn		Pn	18 44 48.7	-7.3
AFI					Sn		Sb	18 45 04.1	-8.5
AFI	Afiamalu	1.27	14		Pn		Pn	18 44 48.7	-7.3
	330nm,0.3s,baz=357,slow=17,SNR=3.6								
AFI					Sn		Sb	18 45 04.1	-8.5
	2μm,0.3s,baz=0.0,slow=20,SNR=6.0								
WRA	Warramunga Arr	51.13	256		P		P	18 53 33.4	-2.0
WRA	Warramunga Arr	51.13	256		P		P	18 53 33.4	-2.0
	3.4nm,0.8s,baz=95,slow=8.8,SNR=3.1								
ASAR	Alice Springs	51.39	252		P		P	18 53 36.1	-1.2
ASAR	Alice Springs	51.39	252		P		P	18 53 36.1	-1.2
	13nm,0.7s,baz=89,slow=7.8,SNR=8.6								
SBA	Scott Base	63.61	185	eP			P	18 55 04.1	+1.6
	9.7nm,0.9s								
VNDA	Vanda	63.76	186		P		P	18 55

baz=84
T27A **Campo** 83.32 49 P P 18 56 58.5 -0.8
baz=84
W29A **Amraillo** 83.32 51 P P 18 56 58.7 -0.6
baz=84
P25A **Willow Gulch B** 83.32 46 P P 18 56 58.8 -0.6
baz=84
332A **Millersview** 83.34 55 P P 18 56 59.0 -0.4
baz=84
Q26A **Hugo** 83.53 47 P P 18 57 00.3 0.0
baz=84
E19A **Rath Farm, Rou** 83.55 38 P P 18 57 00.1 -0.1
baz=84
232A **Coleman** 83.61 55 P P 18 57 00.1 -0.7
baz=84
COLD **Coldfoot** 83.70 8 eP P 18 57 01.1 +0.7
11nm,1.1s
H21A **Big Horn, Sher** 83.74 41 P P 18 57 00.5 -0.7
baz=84
Z31A **Sharp Cattle R** 83.76 53 P P 18 57 00.7 -0.8
baz=84
EGMT **Eagleton** 83.77 37 eP P 18 57 01.1 -0.2
EGMT **Eagleton** 83.77 37 P P 18 57 01.1 -0.2
baz=84
R27A **Eads** 83.77 48 P P 18 57 01.3 -0.3
baz=84
K23A **Bowen Ranch, D** 83.78 43 P P 18 57 01.3 -0.2
baz=84
D19A **Cripps Ranch,** 83.85 38 P P 18 57 01.9 +0.2
baz=84
ABTX **Abilene, Hawle** 83.89 54 eP P 18 57 01.3 -0.9
ABTX **Abilene, Hawle** 83.89 54 P P 18 57 01.9 -0.3
baz=84
E20A **Meyer Farm, Mu** 83.97 39 P P 18 57 03.0 +0.6
baz=84
C19A **Slack Wire Ran** 84.03 37 P P 18 57 03.1 +0.4
baz=84
O26A **Horse Wrangler** 84.23 46 P P 18 57 04.2 +0.3
baz=84
D20A **Manuel Ranch,** 84.25 38 P P 18 57 04.3 +0.6
baz=84
Z32A **Haskell** 84.27 53 P P 18 57 03.2 -0.9
baz=84
V30A **Spur Ranch, Mi** 84.29 51 P P 18 57 05.2 +1.0
baz=84
K24A **Anderson Ranch** 84.30 43 P P 18 57 05.2 +1.0
baz=84
B19A **Brinkman Farms** 84.45 37 P P 18 57 05.3 +0.5
baz=85
Y32A **R-V Farms, Ver** 84.56 53 P P 18 57 05.2 -0.3
baz=85
E21A **Keefer Ranch,** 84.62 39 P P 18 57 06.3 +0.7
baz=85
W31A **Holland Ranch,** 84.63 52 P P 18 57 06.1 +0.2
baz=85
C20A **Veseth Ranch,** 84.64 38 P P 18 57 06.0 +0.4
baz=85
A19A **Klindworth Far** 84.81 36 P P 18 57 06.1 -0.4
baz=85
D21A **La Casta Ranch** 84.92 38 P P 18 57 07.8 +0.6
baz=85
B20A **Solberg Farm,** 84.98 37 P P 18 57 07.6 +0.2
baz=85
C21A **Desert Coulee** 85.23 38 P P 18 57 09.2 +0.6
baz=85
A20A **Cobblestone Ra** 85.25 37 P P 18 57 07.6 -1.1
baz=85
F23A **Volborg** 85.27 40 P P 18 57 08.5 -0.5
baz=86
H24A **Dirks Ranch, A** 85.37 41 P P 18 57 09.3 -0.1
baz=86
D22A **Cohagen** 85.45 39 P P 18 57 09.5 -0.3
baz=86
B21A **Ellsworth Farm** 85.56 37 P P 18 57 10.2 -0.1
baz=86
D23A **Lindsay** 86.05 39 P P 18 57 12.8 0.0
baz=86
B22A **Reddig Ranch S** 86.10 38 P P 18 57 11.9 -1.0
baz=86
MAW **Mawson** 88.43 198 P P 18 57 23.7 -0.2
MAW **Mawson** 88.43 198 P P 18 57 23.7 -0.2
21nm,1.0s,baz=149,slow=7.2,SNR=9.2
YKA **Yellowknife Ar** 89.37 23 P P 18 57 28.6 +0.3
YKA **Yellowknife Ar** 89.37 23 P P 18 57 28.5 +0.3
3.1nm,0.8s,baz=244,slow=4.5,SNR=3.8
SNAA **Sanae** 93.09 177 P P 18 57 45.6 0.0
SNAA **Sanae** 93.09 177 P P 18 57 45.6 0.0
2.2nm,1.1s,baz=162,slow=5.8,SNR=3.4
CMAR **Chiang Mai Arr** 93.74 288 P P 18 57 50.0 +0.4
CMAR **Chiang Mai Arr** 93.74 288 P P 18 57 50.0 +0.4
1.3nm,0.9s,baz=108,slow=2.9,SNR=2.8
ARCES **ARCESS Array B** 124.53 353 PKP PKPdf 19 03 30.4 -0.4
ARCES **ARCESS Array B** 124.53 353 PKP PKPdf 19 03 30.4 -0.4
4.1nm,1.0s,baz=294,slow=0.9,SNR=4.8
FINES **FINESS Array B** 131.96 348 PKP PKPdf 19 03 45.6 +0.5
FINES **FINESS Array B** 131.96 348 PKP PKPdf 19 03 45.6 +0.5
2.1nm,0.8s,baz=194,slow=1.1,SNR=2.4
AKASG **Malin Array Be** 140.58 339 PKPpre PKPpre 19 03 58.2
AKASG **Malin Array Be** 140.58 339 PKhKP PKPpre 19 03 58.2
1.4nm,0.8s,baz=38,slow=4.0,SNR=2.9
KHC **Kasperske Hory** 145.79 353 ePKP PKPab 19 04 12.0 +0.4
KHC ex x 19 04 19.5
GERES **GERESS Array B** 146.06 353 PKPbc PKPbc 19 04 11.9 -0.2
GERES **GERESS Array B** 146.06 353 PKPbc PKPbc 19 04 11.9 -0.2
7.2nm,1.0s,baz=26,slow=2.5,SNR=7.4
ESDC **Sonseca Array** 153.44 21 PKPab PKPab 19 04 44.0 +1.1
ESDC **Sonseca Array** 153.44 21 PKPab PKPab 19 04 44.0 +1.1
0.5nm,0.5s,baz=306,slow=2.8,SNR=4.1

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*AUST **29** 18:46:00.6, 15.'03S×173.'01W, h0km*
*IDC **29** 18:46:01.0±0.4, 15.'06S×173.'22W, h0km, mb4.8/24, mb1 4.9/24, mb1mx4.9/28, mbtmp4.8/24, Error ellipse: s-maj=19.0km s-min=12.8km az=116.0*
*BJI **29** 18:46:02.4, 14.'81S×173.'51W, h5km, mB5.7/6, mb5.2/23, Ms5.3/5, Ms7 5.0/5*
*NEIC **29** 18:46:02.1±0.2, 15.'07S×173.'19W, h10km, mb5.1/33, Error ellipse: s-maj=10.8km s-min=6.0km az=134.0*
*ISCJB **29** 18:46:03.6±0.2, 15.'07S±0.'06×173.'22W±0.'05, h29km, mb5.0/65, MS5.2/3, Error ellipse: s-maj=9.4km s-min=4.7km az=146.1*
*MOS **29** 18:46:05.1±1.5, 14.'94S×173.'23W, h33km, mb5.2/11, Error ellipse: s-maj=16.4km s-min=10.7km az=57.1*
ISC 29 18:46:05.5±0.3, 15.'11S±0.'07×173.'15W±0.'07, h29km, n445, σ1§01/447, mb5.0/65, MS5.1/3, 18C-6D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.79**	**48**	P	Pn	18 46 28.5	-6.0
AFI				Sn	Sn	18 46 42.5	-14
AFI	**Afiamalu**	**1.79**	**48**	Pn	Pn	18 46 28.4	-6.0
554nm,0.3s,baz=232,slow=22,SNR=2.6							
AFI				Sn	Sn	18 46 42.5	-14
2μm,0.3s,baz=74,slow=20,SNR=6.9							
DZM	**Mont Dzumac**	**20.53**	**247**	eP	Pn	18 50 45.5	+1.4
228nm,1.3s							
DZM	**Mont Dzumac**	**20.53**	**247**	P	P	18 50 41.2	-0.6
DZM	**Mont Dzumac**	**20.53**	**247**	P	P	18 50 41.2	-0.6
11nm,0.9s,baz=300,slow=20,SNR=2.7							
TIAR	**Tiarei**	**22.97**	**99**	eP	P	18 51 21.1	+13
313nm,1.3s							
PMOR	**Pomariorio Ree**	**24.39**	**93**	eP	P	18 51 36.3	+15
266nm,1.2s							
URZ	**Urewera**	**24.61**	**199**	P	P	18 51 22.3	-1.0
URZ	**Urewera**	**24.61**	**199**	P	P	18 51 22.3	-1.0
22nm,0.6s,baz=0.0,slow=13,SNR=3.8							
SNZO	**South Karori**	**28.15**	**200**	eP	P	18 51 52.9	-2.2
25nm,0.8s							
RPZ	**Rata Peaks**	**31.54**	**202**	P	P	18 52 23.9	-1.3
RPZ	**Rata Peaks**	**31.54**	**202**	P	P	18 52 23.9	-1.3
12nm,0.6s,baz=5.8,slow=4.0,SNR=5.1							
EIDS	**Eidsvold**	**34.98**	**247**	eP	P	18 52 52.4	-3.0
4.3nm,0.8s							
ARMA	**Armidale**	**35.70**	**239**	eP	P	18 53 00.8	-0.9
16nm,1.1s							
ARMA	**Armidale**	**35.70**	**239**	P	P	18 53 03.9	+2.2
baz=36,SNR=3.6							
CNB	**Canberra Magne**	**39.12**	**232**	P	P	18 53 28.5	-2.0
baz=39,SNR=7.0							
MTSU	**Mount Surprise**	**40.80**	**260**	P	P	18 53 43.2	-1.5
baz=41,SNR=5.6							
CMSA	**Cobar Meteorol**	**40.91**	**239**	P	P	18 53 44.3	-1.1
baz=41,SNR=5.1							
QLP	**Quilpie**	**41.25**	**247**	P	P	18 53 46.9	-1.4
baz=41,SNR=3.4							
TOO	**Toolangi**	**42.83**	**231**	P	P	18 54 02.0	+0.9
baz=43,SNR=5.1							
STKA	**Stephens Creek**	**44.39**	**240**	eP	P	18 54 11.6	-2.1
3.8nm,1.1s							
STKA	**Stephens Creek**	**44.39**	**240**	P	P	18 54 11.8	-1.9
11nm,0.9s,baz=91,slow=8.1,SNR=5.9							
STKA	**Stephens Creek**	**44.39**	**240**	P	P	18 54 12.4	-1.3
baz=44,SNR=7.3							
WRAB	**Tennant Creek**	**50.13**	**257**	eP	P	18 54 57.4	-1.3
WRAB				pmax	pmax		
comp=Z,7.0nm,0.5s							
WRAB	**Tennant Creek**	**50.13**	**257**	eP	P	18 54 57.4	-1.3
comp=Z,7.4nm,0.5s							
WRA	**Warramunga Arr**	**50.15**	**257**	P	P	18 54 56.9	-1.9
WRA	**Warramunga Arr**	**50.15**	**257**	P	P	18 54 56.9	-1.9
comp=Z,3.9nm,0.5s,baz=90,slow=6.9,SNR=20							
AS31	**Alice Springs**	**50.43**	**252**	eP	P	18 54 58.8	-2.1
ASAR	**Alice Springs**	**50.43**	**252**	P	P	18 54 58.8	-2.0
ASAR	**Alice Springs**	**50.43**	**252**	P	P	18 54 58.8	-2.0
comp=Z,20nm,0.6s,baz=87,slow=8.1,SNR=13							
SOEI	**Soe**	**61.18**	**267**	P	P	18 56 24.5	+6.3
baz=61,SNR=4.2							
SBA	**Scott Base**	**63.56**	**185**	eP	P	18 56 35.3	+2.4
SBA				pmax	pmax		
comp=Z,26nm,1.0s							
SBA	**Scott Base**	**63.56**	**185**	eP	P	18 56 35.3	+2.4
comp=Z,26nm,1.0s							
VNDA	**Vanda**	**63.69**	**186**	eP	P	18 56 35.5	+1.7
comp=Z,119nm,2.0s							
VNDA	**Vanda**	**63.69**	**186**	P	P	18 56 35.8	+2.0
comp=Z,13nm,1.1s,baz=18,slow=7.3,SNR=6.6							
MAJO	**Matsushiro**	**68.88**	**320**	eP	P	18 57 07.4	-0.2
MAJO				pmax	pmax		
comp=Z,5.0nm,0.8s							
MAJO	**Matsushiro**	**68.88**	**320**	eP	P	18 57 07.4	-0.2
comp=Z,5.1nm,0.8s							
MAT	**Matsushiro**	**68.88**	**320**	P	P	18 57 07.4	-0.2
CASY	**Casey**	**70.77**	**205**	eP	P	18 57 18.5	-0.3
comp=Z,15nm,1.1s							
ASAJ	**Asahikawa**	**71.42**	**328**	P	P	18 57 23.4	+0.4
ASAJ	**Asahikawa**	**71.42**	**328**	P	P	18 57 23.4	+0.4
comp=Z,16nm,0.9s,baz=252,slow=6.4,SNR=4.7							
JNU	**Nakatsue**	**71.78**	**313**	P	P	18 57 26.1	+0.6
JNU	**Nakatsue**	**71.78**	**313**	P	P	18 57 26.1	+0.6
comp=Z,17nm,0.9s,baz=88,slow=3.6,SNR=8.5							
VES	**Vestal, Richgr**	**71.97**	**44**	P	P	18 57 26.1	-0.4
baz=72							
KHMM	**Horse Mountain**	**72.09**	**37**	eP	P	18 57 26.6	-0.7
comp=Z,33nm,1.1s							
EDW2	**Edwards Air Fo**	**72.17**	**45**	P	P	18 57 27.3	-0.5
baz=72							
MONP	**Monument Peak**	**72.19**	**48**	P	P	18 57 27.2	-1.1
baz=72							
ISA	**Isabella**	**72.28**	**44**	eP	P	18 57 27.6	-0.9
ISA				pmax	pmax		
comp=Z,17nm,1.1s							
ISA	**Isabella**	**72.28**	**44**	eP	P	18 57 27.6	-0.9
comp=Z,17nm,1.1s							
ISA	**Isabella**	**72.28**	**44**	P	P	18 57 27.6	-0.9
baz=72							
CMB	**Columbia Colle**	**72.39**	**41**	eP	P	18 57 27.5	-1.6
CMB				pmax	pmax		
comp=Z,11nm,0.9s							
CMB	**Columbia Colle**	**72.39**	**41**	eP	P	18 57 27.5	-1.6
comp=Z,11nm,0.9s							
PEA0B	**Petropavlovsk-**	**72.43**	**342**	eP	P	18 57 26.8	-2.1
PETK	**Petropavlovsk-**	**72.43**	**342**	P	P	18 57 28.2	-0.7
PETK	**Petropavlovsk-**	**72.43**	**342**	P	P	18 57 28.1	-0.7
PETK	**Petropavlovsk-**	**72.43**	**342**	P	P	18 57 28.2	-0.7
comp=Z,8.8nm,0.9s,baz=147,slow=8.6,SNR=6.2							
BBRC	**Big Bear Solar**	**72.57**	**46**	P	P	18 57 28.8	-1.7
baz=73							
WDC	**Whiskeytown Da**	**72.60**	**38**	eP	P	18 57 29.4	-0.8
WDC				pmax	pmax		
comp=Z,13nm,1.0s							
WDC	**Whiskeytown Da**	**72.60**	**38**	eP	P	18 57 29.4	-0.8
comp=Z,13nm,1.0s							
BELC	**Belle Mtn. Jos**	**73.08**	**47**	P	P	18 57 32.6	-0.7
baz=73							
MPMC	**Manual Prospec**	**73.16**	**44**	P	P	18 57 33.2	-0.7
baz=73							
GSC	**Goldstone**	**73.22**	**45**	eP	P	18 57 33.2	-0.9
GSC				pmax	pmax		
comp=Z,12nm,1.2s							
GSC	**Goldstone**	**73.22**	**45**	eP	P	18 57 33.2	-0.9
comp=Z,12nm,1.2s							
GSC	**Goldstone**	**73.22**	**45**	P	P	18 57 33.7	-0.3
baz=73							
YBH	**Yreka Blue Hor**	**73.22**	**37**	P	P	18 57 33.2	-0.8
YBH	**Yreka Blue Hor**	**73.22**	**37**	P	P	18 57 33.2	-0.8
comp=Z,11nm,0.8s,baz=244,slow=1.9,SNR=8.6							
HEC	**Hector,Ludlow**	**73.29**	**46**	P	P	18 57 34.2	-0.3
baz=74							
GLA	**Glamis**	**73.42**	**48**	P	P	18 57 35.0	-0.3
baz=74							
BEKR	**Beckworth**	**73.49**	**40**	eP	P	18 57 35.0	-0.8
comp=Z,6.3nm,1.0s							
GMRC	**Granite Mounta**	**73.73**	**46**	P	P	18 57 36.3	-0.9
baz=74							
IRM	**Iron Mountain**	**73.76**	**47**	P	P	18 57 36.4	-0.9
baz=74							
Y12C	**Blythe**	**74.00**	**48**	P	P	18 57 38.5	-0.1
baz=74							
113A	**Mohawk Valley,**	**74.05**	**49**	P	P	18 57 38.5	-0.4
baz=74							
NV11	**Mina Array Sit**	**74.05**	**42**	eP	P	18 57 37.9	-1.2
214A	**Organ Pipe Nat**	**74.34**	**50**	P	P	18 57 40.2	-0.5
baz=75							
PDMCI	**Parker Dam,Lak**	**74.55**	**47**	P	P	18 57 41.9	+0.1
baz=75							
KDAK	**Kodiak Island**	**74.59**	**11**	P	P	18 57 40.1	-1.4
KDAK	**Kodiak Island**	**74.59**	**11**	P	P	18 57 40.1	-1.4
comp=Z,15nm,0.9s,baz=232,slow=7.0,SNR=5.0							
MOD	**Modoc**	**74.75**	**38**	eP	P	18 57 42.0	-1.0
comp=Z,103nm,1.1s							
QSPA	**South Pole Qui**	**74.93**	**180**	eP	P	18 57 44.8	+1.1
comp=Z,96nm,1.2s							
QSPA	**South Pole Qui**	**74.93**	**180**	P	P	18 57 45.0	+1.3
comp=Z,45nm,1.0s,baz=30,slow=2.9,SNR=11							
W13A	**Hualapai Mount**	**75.14**	**47**	P	P	18 57 45.5	0.0
baz=75							
Y14A	**Wickenburg**	**75.18**	**48**	P	P	18 57 44.9	-0.7
baz=75							
BMN	**Battle Mountai**	**75.78**	**41**	P	P	18 57 48.2	-0.8
BMN				pmax	pmax		
comp=Z,15nm,1.1s							
BMN	**Battle Mountai**	**75.78**	**41**	P	P	18 57 48.2	-0.8
comp=Z,15nm,1.1s							
WVOR	**Wild Horse Val**	**76.06**	**38**	eP	P	18 57 49.7	-0.8
WVOR				pmax	pmax		
comp=Z,26nm,1.2s							
WVOR	**Wild Horse Val**	**76.06**	**38**	eP	P	18 57 49.7	-0.8
comp=Z,26nm,1.2s							
KSRS	**Korea Array**	**76.12**	**315**	P	P	18 57 51.5	+0.8
comp=Z,5.6nm,1.0s,baz=121,slow=6.8,SNR=8.7							
KSAR	**Wonju Array Be**	**76.14**	**315**	P	P	18 57 51.5	+0.6
X16A	**Lo Mia Camp, P**	**76.55**	**48**	P	P	18 57 52.8	-0.7
baz=77							
U15A	**North Rim**	**76.93**	**46**	P	P	18 57 55.4	-0.3
baz=77							
WUAZ	**Wupatki**	**77.13**	**48**	P	P	18 57 56.7	-0.1
baz=77							
320A	**Kipp Ranch, An**	**77.28**	**52**	P	P	18 57 57.5	-0.1
baz=78							
USRK	**Ussuriysk Arra**	**77.30**	**323**	P	P	18 57 57.5	+0.3
comp=Z,10nm,1.0s,baz=98,slow=6.0,SNR=10							
220A	**Plays Peak, P**	**77.54**	**52**	P	P	18 57 58.7	-0.4
baz=78							
120A	**U Bar Ranch, L**	**77.75**	**51**	P	P	18 58 00.2	0.0
baz=78							
Z20A	**Nine Sixteen R**	**78.03**	**51**	P	P	18 58 01.8	0.0
baz=78							
221A	**Mesquite Ranch**	**78.15**	**52**	P	P	18 58 03.1	+0.6
baz=78							
MFID	**Camas Ranch**	**78.31**	**39**	P	P	18 58 02.7	-0.4
baz=78							
121A	**Cookes Peak, D**	**78.38**	**52**	P	P	18 58 03.8	0.0
baz=79							
DUG	**Dugway**	**78.49**	**43**	P	P	18 58 04.5	+0.3
baz=79							
Y20A	**Horse Springs,**	**78.55**	**50**	P	P	18 58 04.7	-0.1
baz=79							
222A	**Williams Famil**	**78.71**	**52**	P	P	18 58 05.4	-0.1
baz=79							
X20A	**Quemado**	**78.75**	**50**	P	P	18 58 05.6	-0.2
baz=79							
Z21A	**St. Cloud Mine**	**78.81**	**51**	P	P	18 58 06.2	0.0
baz=79							
W20A	**Ramah**	**79.01**	**49**	P	P	18 58 07.3	+0.1
baz=79							
122A	**Conniff Cattle**	**79.05**	**52**	P	P	18 58 07.6	+0.2
baz=79							
X21A	**Alamocita Cree**	**79.23**	**50**	P	P	18 58 08.3	-0.2
baz=79							
HLID	**Hailey**	**79.25**	**39**	P	P	18 58 08.0	-0.3
baz=80							
Z22A	**Elephant Butte**	**79.32**	**51**	P	P	18 58 08.5	-0.4
baz=80							
324A	**Moseley Ranch,**	**79.68**	**53**	P	P	18 58 10.4	-0.5
baz=80							
425A	**Indio Mountain**	**79.79**	**54**	P	P	18 58 11.2	-0.4
baz=80							
Z23A	**Rita Site, Whi**	**79.87**	**52**	P	P	18 58 12.0	+0.2
baz=80							
224A	**Cornudas Mount**	**79.91**	**53**	P	P	18 58 11.8	-0.3
baz=80							
626A	**Big Bend Ranch**	**79.97**	**56**	P	P	18 58 12.0	-0.4
baz=80							
NJ2	**Nanjing**	**80.18**	**307**	eP	P	18 58 13.8	+0.4
NJ2				pmax	pmax		
comp=Z,30nm,1.1s							
526A	**Mary Lane Ranc**	**80.20**	**55**	P	P	18 58 13.6	-0.2
baz=80							
U21A	**Nageezi**	**80.21**	**48**	P	P	18 58 13.7	-0.1
baz=80							
124A	**Stringfield Ra**	**80.22**	**52**	P	P	18 58 13.9	-0.1
baz=80							
TXAR	**Lajitas Array**	**80.25**	**56**	P	P	18 58 15.5	+1.5
TXAR	**Lajitas Array**	**80.25**	**56**	P	P	18 58 15.5	+1.5
comp=Z,3.1nm,0.9s,baz=240,slow=7.2,SNR=7.6							
Y23A	**Lovelace Mesa,**	**80.29**	**51**	P	P	18 58 13.8	-0.4
baz=80							
S20A	**Disappointment**	**80.36**	**47**	P	P	18 58 14.4	-0.1
baz=81							
ANMO	**Albuquerque**	**80.43**	**50**	P	P	18 58 14.6	-0.4
ANMO	**Albuquerque**	**80.43**	**50**	P	P	18 58 14.6	-0.4
comp=Z,4.7nm,0.9s,baz=166,slow=4.2,SNR=3.6							
225A	**Deer Hill, Car**	**80.46**	**53**	P	P	18 58 15.1	-0.1
baz=81							
426A	**McDonald Obser**	**80.50**	**55**	P	P	18 58 15.1	-0.3
baz=81							
627A	**Terlingua Ranc**	**80.52**	**56**	P	P	18 58 15.3	-0.1
baz=81							
V22A	**San Miguel Ran**	**80.53**	**49**	P	P	18 58 15.4	0.0
baz=81							
M17A	**Scullys Gap (B**	**80.54**	**43**	P	P	18 58 15.0	-0.4
baz=81							
Z24A	**Sheeppen Canyo**	**80.56**	**52**	P	P	18 58 15.1	-0.6
baz=81							
527A	**Woodward Ranch**	**80.62**	**55**	P	P	18 58 15.4	-0.6
baz=81							
S21A	**Coal Bank Pass**	**80.68**	**47**	P	P	18 58 16.6	+0.2
baz=81							
W23A	**Werner Place,**	**80.75**	**50**	P	P	18 58 16.5	-0.2
baz=81							
Y24A	**Capitan**	**80.76**	**51**	P	P	18 58 16.6	-0.1
baz=81							
U22A	**Llaves**	**80.77**	**48**	P	P	18 58 16.1	-0.6
baz=81							
BPAW	**Bear Paw Mtn.**	**80.79**	**10**	eP	P	18 58 15.2	-0.8
comp=Z,5.4nm,0.8s							
326A	**Caldwell Ranch**	**80.80**	**54**	P	P	18 58 16.1	-0.7
baz=81							
125A	**Gardner Draw,**	**80.82**	**53**	P	P	18 58 16.7	-0.3
baz=81							
Q20A	**Ridgley Place,**	**80.92**	**46**	P	P	18 58 16.9	-0.5
baz=81							
628A	**Black Gap, Mar**	**80.94**	**56**	P	P	18 58 17.4	-0.2
baz=81							
226B	**Tecolote Peak,**	**80.96**	**53**	P	P	18 58 17.6	-0.1
baz=81							
O19A	**Miners Draw (B**	**80.99**	**44**	P	P	18 58 18.4	+0.6
baz=81							
RRI2	**Red Ridge**	**81.06**	**41**	eP	P	18 58 17.4	-0.8
comp=Z,28nm,1.4s							
427A	**Hayter Ranch,**	**81.06**	**55**	P	P	18 58 18.4	+0.1
baz=81							
L18A	**Fontenelle, Gr**	**81.17**	**42**	P	P	18 58 19.0	+0.2
baz=81							
R21A	**Cimarron**	**81.17**	**46**	P	P	18 58 19.2	+0.4
baz=81							
528A	**Cox Ranch, San**	**81.28**	**56**	P	P	18 58 19.4	-0.1
baz=82							
126A	**Clayton Basin,**	**81.30**	**53**	P	P	18 58 19.2	-0.3
baz=82							
MSO	**Missoula**	**81.31**	**37**	P	P	18 58 18.2	-1.1
baz=82							
Y25A	**Mesa, Roswell**	**81.32**	**51**	P	P	18 58 19.5	-0.1
baz=82							
W24A	**Lazy 6 Ranch,**	**81.32**	**50**	P	P	18 58 18.8	-0.9
baz=82							
DLBC	**Dease Lake**	**81.35**	**21**	P	P	18 58 21.3	+2.1
Q21A	**Lamborn Mesa,**	**81.37**	**46**	P	P	18 58 19.5	-0.4
baz=82							
BSMT	**Bassoo Peak**	**81.39**	**35**	eP	P	18 58 18.4	-1.4
comp=Z,23nm,1.2s							
428A	**Kincaid Ranch,**	**81.58**	**55**	P	P	18 58 20.8	-0.3
baz=82							
Z26A	**Caprock**	**81.59**	**52**	P	P	18 58 20.5	-0.6
baz=82							
X25A	**Clemmons Ranch**	**81.59**	**51**	P	P	18 58 20.9	-0.2
baz=82							
V24A	**Rampart Ranch,**	**81.64**	**50**	P	P	18 58 21.4	-0.1
baz=82							
529A	**Stev Forest Ra**	**81.72**	**56**	P	P	18 58 21.0	-0.7
baz=82							
328A	**Wristen Ranch,**	**81.74**	**54**	P	P	18 58 21.2	-0.6
baz=82							
I17A	**Pilgrim Ck.**	**81.81**	**40**	P	P	18 58 22.7	+0.6
baz=82							
127A	**Arkansas Junct**	**81.83**	**53**	P	P	18 58 21.8	-0.5
baz=82							
PDAR	**Pinedale Array**	**81.89**	**42**	P	P	18 58 21.7	-0.9
PDAR	**Pinedale Array**	**81.89**	**42**	P	P	18 58 21.7	-0.9
comp=Z,2.8nm,0.8s,baz=216,slow=2.9,SNR=5.7							
SMCO	**Snowmass**	**81.94**	**46**	eP	P	18 58 22.6	-0.5
comp=Z,94nm,2.0s							
Y26A	**Elida**	**81.97**	**52**	P	P	18 58 22.3	-0.8
baz=82							
COLA	**College**	**82.04**	**11**	eP	P	18 58 21.3	-1.2
COLA	**College**	**82.04**	**11**	eP	P	18 58 21.3	-1.2
comp=Z,140nm,1.0s							
BOZ	**Bozeman (W)**	**82.04**	**39**	eP	P	18 58 23.9	+0.7
BOZ	**Bozeman (W)**	**82.04**	**39**	eP	P	18 58 23.9	+0.7
comp=Z,952nm,3.6s							
ILAR	**Eielson Array**	**82.12**	**11**	P	P	18 58 21.4	-1.6
ILAR	**Eielson Array**	**82.12**	**11**	P	P	18 58 21.4	-1.6
comp=Z,4.0nm,0.6s,baz=221,slow=5.5,SNR=9.9							
429A	**Davenport Ranc**	**82.17**	**55**	P	P	18 58 23.5	-0.6
baz=82							
V25A	**Rancho No Teng**	**82.17**	**50**	P	P	18 58 24.0	-0.2
baz=82							
228A	**UT Block 9, Go**	**82.20**	**54**	P	P	18 58 23.5	-0.8
baz=82							
X26A	**CR and CF Fran**	**82.24**	**51**	P	P	18 58 24.3	-0.2
baz=82							
L20A	**Wamsutter**	**82.32**	**43**	P	P	18 58 25.2	+0.4
baz=82							
SDCO	**Great Sand Dun**	**82.34**	**48**	eP	P	18 58 26.1	+0.9
comp=Z,13nm,1.4s							
329A	**Wagon Wheel Ra**	**82.43**	**55**	P	P	18 58 25.1	-0.4
baz=83							
J19A	**Crowheart**	**82.46**	**42**	P	P	18 58 24.8	-0.6
baz=83							
Y27A	**Causey**	**82.46**	**52**	P	P	18 58 24.8	-0.8
baz=83							
128A	**Castleberry Fa**	**82.48**	**53**	P	P	18 58 25.3	-0.4
baz=83							
W26A	**Owens Ranch, T**	**82.49**	**51**	P	P	18 58 25.8	0.0
baz=83							
S24A	**Houchin Ranch,**	**82.50**	**48**	P	P	18 58 25.1	-0.9
baz=83							
WALA	**Waterton Lakes

P23A Jefferson 82.81 46 P P 18 58 27.0 -0.7
baz=83
Z28A Tucker Farm, M 82.82 53 P P 18 58 26.6 -0.8
baz=83
R24A Sanders Place, 82.83 47 P P 18 58 27.4 -0.2
baz=83
L21A Rawlins 82.94 43 P P 18 58 28.5 +0.5
baz=83
W27A Bowe Ranch, En 83.01 51 P P 18 58 27.8 -0.7
baz=83
N22A Wattenberg Ran 83.03 45 P P 18 58 28.3 -0.3
baz=83
U26A Atchley Ranch, 83.05 50 P P 18 58 27.9 -0.8
baz=83
S25A Robets Cordova 83.07 48 P P 18 58 28.2 -0.6
baz=83
531A Rocksprings 83.08 56 P P 18 58 28.0 -0.8
baz=83
Q24A Divide 83.12 47 P P 18 58 28.7 -0.5
baz=83
J20A Shoshoni 83.12 42 P P 18 58 28.3 -0.6
baz=83
ISCO Idaho Springs 83.16 46 eP P 18 58 28.0 -1.4
ISCO pmax pmax
comp=Z,5.0nm,1.0s
ISCO Idaho Springs 83.16 46 eP P 18 58 28.0 -1.4
comp=Z,5.5nm,1.0s
ISCO Idaho Springs 83.16 46 P P 18 58 28.3 -1.0
baz=83
EGAK Eagle 83.29 13 eP P 18 58 27.2 -1.8
comp=Z,21nm,1.1s
I20A Worland 83.37 41 P P 18 58 29.3 -0.8
baz=84
R25A Fountain Ranch 83.39 48 P P 18 58 29.6 -0.8
baz=84
J21A Lysite 83.53 42 P P 18 58 30.9 -0.2
baz=84
532A Rocksprings 83.58 57 P P 18 58 31.0 -0.4
baz=84
L22A Ellis Ranch, M 83.59 44 P P 18 58 30.8 -0.6
baz=84
H20A Greybull 83.71 41 P P 18 58 31.5 -0.3
baz=84
U27A Thompson Grove 83.73 50 P P 18 58 31.0 -1.2
baz=84
F19A Roth Farm, Mol 83.78 39 P P 18 58 31.5 -0.6
baz=84
Z30A Sanderson Ranc 83.79 53 P P 18 58 31.3 -1.2
baz=84
X29A Tulia 83.80 52 P P 18 58 31.6 -0.8
baz=84
COLD Coldfoot 83.82 9 eP P 18 58 31.8 +0.1
comp=Z,34nm,1.3s
I21A Big Trails, Te 83.84 42 P P 18 58 31.6 -1.0
baz=84
231A Bronte 83.92 55 P P 18 58 31.9 -1.2
baz=84
P25A Willow Gulch B 84.04 47 P P 18 58 33.2 -0.5
baz=84
R26A Arlington 84.05 48 P P 18 58 33.2 -0.5
baz=84
T27A Campo 84.07 49 P P 18 58 33.1 -0.7
baz=84
W29A Amraillo 84.10 51 P P 18 58 33.3 -0.8
baz=84
L23A Garrett 84.12 44 P P 18 58 33.5 -0.6
baz=84
E19A Rath Farm, Rou 84.17 39 P P 18 58 33.4 -0.6
baz=84
J22A Midwest 84.19 42 P P 18 58 33.6 -0.7
baz=84
S27A Las Animas 84.19 49 P P 18 58 33.7 -0.8
baz=84
Y30A Stafford Cattl 84.19 53 P P 18 58 33.9 -0.6
baz=84
F20A Billings 84.24 40 P P 18 58 33.8 -0.7
baz=84
X30A Coker Ranch, T 84.43 52 P P 18 58 34.2 -1.5
baz=85
232A Coleman 84.43 55 P P 18 58 34.6 -1.1
baz=85
D19A Cripps Ranch, 84.45 38 P P 18 58 35.2 -0.3
baz=85
K23A Bowen Ranch, D 84.45 43 P P 18 58 34.9 -0.8
baz=85
V29A Stinnett 84.49 51 P P 18 58 35.4 -0.6
baz=85
R27A Eads 84.51 48 P P 18 58 35.3 -0.7
baz=85
T28A Walsh 84.54 49 P P 18 58 34.9 -1.3
baz=85
G21A Lodge Grass 84.55 40 P P 18 58 35.5 -0.6
baz=85
Z31A Sharp Cattle R 84.56 54 P P 18 58 35.3 -1.0
baz=85
E20A Meyer Farm, Mu 84.58 39 P P 18 58 35.6 -0.6
baz=85
C19A Slack Wire Ran 84.63 38 P P 18 58 36.3 -0.1
baz=85
ABTX Abilene, Hawle 84.70 54 eP P 18 58 36.2 -0.8
ABTX Abilene, Hawle 84.70 54 P P 18 58 36.3 -0.8
baz=85
Y31A Rekieta Farm, 84.71 53 P P 18 58 36.4 -0.7
baz=85
D20A Manuel Ranch, 84.86 38 P P 18 58 37.4 -0.1
baz=85
Z32A Haskell 85.08 54 P P 18 58 38.5 -0.4
baz=85
EDM Edmonton 85.12 31 eP P 18 58 36.6 -2.0
EDM Edmonton 85.12 31 eP P 18 58 36.6 -2.0
C20A Veseth Ranch, 85.23 38 P P 18 58 39.2 -0.2
baz=86
E21A Keefer Ranch, 85.24 39 P P 18 58 39.5 +0.1
baz=86
Y32A R-V Farms, Ver 85.36 53 P P 18 58 39.8 -0.5
baz=86
W31A Holland Ranch, 85.41 52 P P 18 58 39.8 -0.8
baz=86
BJT Baijiatuan 85.44 313 eP P 18 58 41.1 +0.6
comp=Z,51nm,1.3s
BJI Beijing 85.45 313 P P 18 58 40.0 -0.5
BJI pmax pmax
comp=Z,25nm,1.8s
D21A La Casta Ranch 85.54 39 P P 18 58 40.7 -0.2
baz=86
F23A Volborg 85.91 41 P P 18 58 42.2 -0.6
baz=86
H24A Dirks Ranch, A 86.02 42 P P 18 58 42.7 -0.8
baz=86
D22A Cohagen 86.07 39 P P 18 58 43.5 -0.1
baz=86
RSSD Black Hills 86.09 42 P P 18 58 43.5 -0.4
RSSD Black Hills 86.09 42 P P 18 58 43.5 -0.4
B21A Ellsworth Farm 86.16 38 P P 18 58 43.4 -0.6
baz=86
WHTX Lake Whitney 86.20 56 eP P 18 58 46.1 +1.6
B22A Reddig Ranch S 86.70 38 P P 18 58 46.2 -0.4
baz=87
G25A Newell 86.94 42 P P 18 58 47.2 -0.7
baz=87
C23A Lambert 86.97 39 P P 18 58 47.6 -0.4
baz=87
ENH Enshi 86.97 302 eP P 18 58 48.6 +0.2
comp=Z,13nm,1.0s
B23A Brockton 87.37 38 P P 18 58 49.7 -0.1
baz=88
DGMT Dagmar 87.85 38 P P 18 58 52.6 +0.4
baz=88
INK Inuvik 87.93 14 P P 18 58 51.6 -0.4
INK Inuvik 87.93 14 P P 18 58 51.6 -0.4
comp=Z,11nm,1.0s,baz=217,slow=5.1,SNR=5.5
GYA Guiyang 88.12 298 ⇑iP P 18 58 53.0 -1.1
GYA PP PP 19 02 21.5 +0.1
GYA SKS SKSac 19 09 20.0 -1.2
GYA S S 19 09 35.5 -1.3
GYA SS SS 19 15 25.8 -0.3
GYA pmax pmax
comp=Z,20nm,1.2s
GYA pmax pmax
comp=Z,120nm,6.0s
GYA LR LR
comp=N,520nm,20.5s
GYA LR LR
comp=E,490nm,23.2s
GYA LR LR
comp=Z,550nm,21.8s
MAW Mawson 88.14 199 P P 18 58 54.8 +1.6
MAW Mawson 88.14 199 P P 18 58 54.8 +1.6
comp=Z,12nm,0.9s,baz=144,slow=7.7,SNR=8.3
MAW Mawson 88.14 199 P P 18 58 55.1 +1.9
baz=88,SNR=8.8
I29A Vivian Onida 88.50 44 P P 18 58 55.9 +0.6
baz=89
HHC Hu-ho-hao-te 89.01 313 eP P 18 58 59.3 +1.4
HHC sP sP 18 59 06.3 -4.3
HHC PP PP 19 02 31.0 +2.9
HHC SKS SKSac 19 09 26.0 +0.2
HHC S S 19 09 44.3 -0.3
HHC sS ScS 19 09 52.5 +2.9
HHC SS SS 19 15 39.3 +0.9
HHC pmax pmax
comp=Z,190nm,1.0s
HHC pmax pmax
comp=Z,380nm,6.4s
HHC LR LR
comp=N,340nm,16.9s
HHC LR LR
comp=E,560nm,17.7s
PLCA Paso Flores 89.53 132 eP P 18 59 01.0 +0.5
comp=E,26nm,1.5s
YKA Yellowknife Ar 89.74 23 P P 18 58 57.8 -2.9
YKA Yellowknife Ar 89.74 23 P P 18 58 57.7 -2.9
comp=E,3.0nm,0.8s,baz=243,slow=5.6,SNR=3.4
TEIG Tepich 90.46 69 eP P 18 59 07.2 +2.2
comp=E,20nm,1.2s
ECSD EROS Data Cent 90.89 45 eP P 18 59 08.0 +1.5
comp=E,17nm,1.4s
JTS JuntasAbangare 90.92 80 P P 18 59 08.4 +1.1
comp=E,187nm,0.9s,SNR=5.1
KMI Kunming 91.12 296 P P 18 59 10.3 +2.0
KMI pmax pmax
comp=Z,5.0nm,0.9s
CD2 Chengdu 91.87 301 P P 18 59 11.0 -0.4
CD2 pmax pmax
comp=Z,40nm,0.5s
CMAR Chiang Mai Arr 92.75 288 P P 18 59 16.9 +1.2
CMAR Chiang Mai Arr 92.75 288 P P 18 59 16.9 +1.2
comp=Z,3.6nm,1.1s,baz=102,slow=2.6,SNR=6.3
SYO Syowa Base 92.93 191⇓eP P 18 59 14.0 -1.5
SNAA Sanae 93.18 177 eP P 18 59 17.3 +0.6
SNAA Sanae 93.18 177 P P 18 59 17.3 +0.6
SNAA Sanae 93.18 177 P P 18 59 17.3 +0.6
comp=Z,4.9nm,1.1s,baz=183,slow=4.2,SNR=4.5
LZH Lanzhou 93.25 306 eP P 18 59 17.8 0.0
LZH pP PcP 18 59 21.3 +2.9
LZH sP sP 18 59 24.0 -6.5
LZH PP PP 19 03 04.8 +2.9
LZH SKS SKSac 19 09 51.5 +1.1
LZH eS S 19 10 20.3 -3.2
LZH sS ScS 19 10 27.3 +2.1
LZH SS SS 19 16 40.8 +0.9
LZH pmax pmax
comp=Z,23nm,1.1s
LZH pmax pmax
comp=Z,190nm,4.6s
LZH LR LR
comp=N,900nm,15.3s
LZH LR LR
comp=E,900nm,15.4s
LZH LR LR
comp=Z,1μm,17.1s
VNA1 Neumayer--Stat 93.82 175 eP P 18 59 22.0 +2.4
SONM Songino Array 94.79 318 P P 18 59 25.0 +0.4
SONM Songino Array 94.79 318 P P 18 59 25.0 +0.4
comp=Z,1.5nm,0.9s,baz=94,slow=4.5,SNR=3.7
GTA Gaotai 97.19 309 eP Pdif 18 59 38.8 +3.0
GTA pP pP 18 59 43.3 -1.8
GTA sP sP 18 59 46.3 -2.1
GTA pmax pmax
comp=Z,26nm,1.7s
ZALV Zalesovo Beam 109.15 322 PKiKP PKiKP 19 04 31.8 -0.5
ZALV Zalesovo Beam 109.15 322 PKiKP PKiKP 19 04 31.8 -0.5
comp=Z,0.9nm,0.7s,baz=112,slow=1.6,SNR=3.5
MKAR Makanchi Array 110.80 315 PKiKP PKiKP 19 04 34.8 -1.0
MKAR Makanchi Array 110.80 315 PKiKP PKiKP 19 04 34.8 -1.0
MKAR Makanchi Array 110.80 315 PKiKP PKiKP 19 04 34.8 -1.0
comp=Z,0.8nm,0.7s,baz=90,slow=2.2,SNR=5.4
KURK Kurchatov 113.08 319 PKIKP PKiKP 19 04 39.7 -0.2
KURK Kurchatov 113.08 319 PKiKP PKiKP 19 04 39.7 -0.2
KURBB Kurchatov Arra 113.15 319 PKiKP PKiKP 19 04 39.7 -0.3
comp=Z,1.9nm,0.8s,baz=84,slow=2.0,SNR=6.3
KSH Kashi 115.50 307 ePKP PKPdf 19 04 46.3 +1.2
KSH PP PP 19 05 53.3 +6.1
KSH PKS PKSdf 19 08 21.5 -0.4
KSH SKS SKSdf 19 11 57.3 +1.8
KSH SKKS SKKSac 19 12 46.3 -0.4
KSH SS SS 19 21 49.8 +4.9
BRVK Borovoye 117.86 322 iPKIKP PKPdf 19 04 48.5 -0.6
KBL Kabul 121.21 301 P PKPdf 19 04 57.4 +1.1
baz=121,SNR=3.9
ARU Arti 123.22 329 iPKIKP PKPdf 19 04 58.3 -1.0
ARU 19 06 40.4
ARU 19 11 59.6
ARU SS SS 19 23 28.0 +5.2
ARCES ARCESS Array B 124.36 352 PKP PKPdf 19 05 00.9 -0.2
ARCES ARCESS Array B 124.36 352 PKP PKPdf 19 05 00.9 -0.2
comp=Z,6.7nm,0.8s,baz=29,slow=2.1,SNR=9.2
FINES FINESS Array B 131.71 348 PKP PKPdf 19 05 15.4 +0.1
FINES FINESS Array B 131.71 348 PKP PKPdf 19 05 15.4 +0.1
comp=Z,2.6nm,0.7s,baz=177,slow=2.6,SNR=5.7
BOSA Boshof 133.03 202 PKP PKPdf 19 05 18.8 -0.3
BOSA Boshof 133.03 202 PKP PKPdf 19 05 18.8 -0.3
comp=Z,6.6nm,0.9s,baz=138,slow=3.1,SNR=4.6
NOA NORSAR Array B 134.03 357 PKP PKPdf 19 05 19.9 +0.1
NOA NORSAR Array B 134.03 357 PKP PKPdf 19 05 19.9 +0.1
comp=Z,2.0nm,1.1s,baz=13,slow=1.7,SNR=2.9
AKASG Malin Array Be 140.17 338 PKHKP PKPpre 19 05 24.4
AKASG 19 05 30.5
AKASG Malin Array Be 140.17 338 PKPpre PKPpre 19 05 24.4
AKASG PKP PKPdf 19 05 30.5 -0.9
AKASG Malin Array Be 140.17 338 PKhKP PKPpre 19 05 24.4
comp=Z,0.7nm,0.5s,baz=37,slow=3.9,SNR=3.4
AKASG PKP PKPdf 19 05 30.5 -0.9
comp=Z,1.6nm,0.6s,baz=30,slow=2.2,SNR=7.6
CLL Collm 143.56 353 ePKPdf PKPbc 19 05 35.0 +0.3
STHS Stebnicka Huta 143.82 344 ePKP PKPbc 19 05 36.5 +0.9
MALT Malatya 143.83 316⇑iP PKPdf 19 05 37.9 -0.5
BRG Berggiesshubel 143.87 352 ePKP PKPdf 19 05 39.1 +1.1
comp=Z,41nm,1.8s
BRG e 19 05 39.6
comp=Z,41nm,1.8s
UPC Upice 143.92 350 ePKP PKPbc 19 05 36.8 +0.9
KOLS Kolonicke sedl 143.97 343 ePKP PKPdf 19 05 37.2 -1.0
DPC Dobruska-Polom 144.02 350 iPKP PKPbc 19 05 36.7 +0.5
PVCC Panska Ves 144.13 352 ePKP PKPdf 19 05 39.5 +1.1
PVCC ex x 19 05 52.9
OKC Ostrava-Krasne 144.16 347 ePKP PKPbc 19 05 37.2 +0.6
OKC ex x 19 05 49.7
BURAR Bucovina Array 144.19 339⇑iP PKPbc 19 05 37.0 +0.1
TSUM Tsumeb 144.30 198 PKP PKPdf 19 05 39.3 -0.6
TSUM Tsumeb 144.30 198 PKP PKPdf 19 05 39.3 -0.6
comp=Z,18nm,1.0s,baz=139,slow=3.4,SNR=9.0
MORC Moravsky Berou 144.34 348⇑iP PKPab 19 05 37.0 +0.1
MEM Membach 144.59 1 PKP PKPbc 19 05 37.8 -0.1
PRU Pruhonice 144.66 351 ePKP PKPbc 19 05 38.6 +0.4
PRU ex x 19 05 52.0
BMR Baia Mare 144.72 340⇑iP PKPbc 19 05 38.4 0.0
TLCR 144.75 333⇑iP PKPbc 19 05 38.7 +0.1
BCLA Clavier 144.76 2 PKP PKPab 19 05 38.2 -0.2
KECS Kecovo 144.88 344 ePKP PKPbc 19 05 39.2 +0.3
CFR Carcaliu 145.05 333⇑iP PKPbc 19 05 39.1 -0.5
DOU Dourbes 145.06 3 PKP PKPbc 19 05 39.3 -0.1
VRI Vrincioaia 145.09 335⇑iP PKPbc 19 05 39.4 -0.3
PLOR Plostina 145.13 336⇑iP PKPab 19 05 40.1 +0.2
TREC Trest 145.18 350 ePKP PKPbc 19 05 39.7 -0.2
GRFO Grafenberg 145.33 355 ePKIKP PKPbc 19 05 40.3 0.0
GRFO Grafenberg 145.33 355 ePKPdf PKPbc 19 05 40.3 0.0
TIRR Tirgusor 145.50 332⇑iP PKPab 19 05 41.3 +0.1
WLF Walferdange 145.53 1 PKP PKPbc 19 05 40.9 0.0
WLF Walferdange 145.53 1 ePKIKP PKPbc 19 05 41.0 0.0
WLF Walferdange 145.53 1 ePKPdf PKPbc 19 05 41.0 0.0
PSZ Piszkesteto 145.55 344 ePKIKP PKPdf 19 05 41.0 -0.1
PSZ Piszkesteto 145.55 344 ePKPdf PKPdf 19 05 41.0 -0.1
PSZ Piszkesteto 145.55 344⇑iP PKPab 19 05 41.5 0.0
TLB Topalu 145.56 333⇑iP PKPdf 19 05 40.8 -0.3
SMOL Smolenice 145.57 348 ePKP PKPab 19 05 41.8 +0.4
KHC Kasperske Hory 145.63 352 ePKIKP PKPdf 19 05 41.1 0.0
KHC Kasperske Hory 145.63 352 ePKP PKPdf 19 05 41.2 0.0
KHC ex x 19 05 53.8
KHC Kasperske Hory 145.63 352 ePKPdf PKPdf 19 05 41.1 0.0
MLR Muntele Rosu 145.71 336⇓iP PKPab 19 05 42.5 +0.3
DRGR 145.75 341⇓iP PKPdf 19 05 41.3 -0.2
ISR Istrita 145.77 335⇓iP PKPab 19 05 42.3 0.0
KMBO Kilima Mbogo 145.88 244 PKPbc PKPab 19 05 44.0 +0.1
KMBO Kilima Mbogo 145.88 244 PKPbc PKPab 19 05 44.0 +0.1
comp=Z,14nm,1.0s,baz=59,slow=3.2,SNR=9.7
GERES GERESS Array B 145.89 352 PKPbc PKPdf 19 05 41.9 +0.2
GERES GERESS Array B 145.89 352 PKPbc PKPdf 19 05 41.9 +0.2
comp=Z,17nm,0.8s,baz=20,slow=3.1,SNR=34
ZST Bratislava 145.94 348 ePKP PKPbc 19 05 42.0 -0.3
BR131 Keskin Array S 146.08 321 ePKPdf PKPbc 19 05 43.4 +0.1
BRTR Keskin Array B 146.08 321 PKPbc PKPbc 19 05 43.3 +0.1
BRTR Keskin Array B 146.08 321 PKPbc PKPbc 19 05 43.3 +0.1
comp=Z,17nm,0.8s,baz=100,slow=1.4,SNR=17
VOIR 146.10 337⇑iP PKPbc 19 05 43.2 +0.2
LANF Langenberg 146.22 359 PKP PKPbc 19 05 43.2 +0.1
ARR Arges 146.31 337⇑iP PKPab 19 05 44.5 +0.1
STU Stuttgart 146.38 357 ePKP2 PKPbc 19 05 43.7 +0.1
STU Stuttgart 146.38 357 ePKPbc PKPbc 19 05 43.7 +0.1
CONA Conrad Observa 146.44 349 iPKPdf PKPab 19 05 44.6 -0.2
comp=Z,129nm,1.6s,SNR=24
DEV Deva 146.49 340⇓iP PKPdf 19 05 42.9 +0.3
ANTO Ankara 146.50 322⇓iP PKPbc 19 05 43.9 -0.5
SIRR Siria 146.55 341⇑iP PKPbc 19 05 44.5 +0.3
MOA Molln 146.78 351 iPKPdf PKPbc 19 05 45.2 +0.4
comp=Z,54nm,1.1s,SNR=14
BFO Black Forest 146.85 358 PKP2 PKPbc 19 05 45.0 0.0
THEF They Montfort 146.97 1 PKP PKPbc 19 05 45.6 +0.2
ECH Echery 146.99 360 ePKP2 PKPbc 19 05 44.8 -0.6
ECH Echery 146.99 360 PKP PKPbc 19 05 45.4 0.0
ECH Echery 146.99 360 ePKPbc PKPbc 19 05 44.8 -0.6
BZS Buzias 147.14 341⇑iP PKPdf 19 05 44.7 +1.0
ARSA Arzberg 147.15 349 iPKPab PKPbc 19 05 46.0 +0.1
comp=Z,41nm,1.1s,SNR=13
ZALF Zalf 147.16 308 eP PKPbc 19 05 45.5 -0.9
MARH Ras Al Marh 147.31 311 eP PKPbc 19 05 47.9 +0.7
RETA Reutte 147.56 355 iPKPdf PKPbc 19 05 46.9 -0.2
comp=Z,70nm,1.3s,SNR=16
WATA Walderalm 147.63 354 iSKPdf PKPbc 19 05 47.3 -0.1
comp=Z,36nm,0.9s,SNR=15
MOTA Moosalm 147.67 355 iSKPdf PKPbc 19 05 47.3 -0.2
comp=Z,49nm,1.0s,SNR=17
WTTA Wattenberg 147.70 354 iSKPdf PKPbc 19 05 47.4 -0.2
comp=Z,105nm,1.5s,SNR=16
SALA Sala 147.71 308 eP PKPdf 19 05 45.1 -0.2
SOKA Soboth 147.79 349 iPKPdf PKPbc 19 05 47.0 -0.8
comp=Z,75nm,1.2s,SNR=23
DAVA Damuels 147.82 356 iSKPdf PKPbc 19 05 47.7 -0.3
comp=Z,81nm,1.2s,SNR=14
LOMF Lomont 147.86 0 PKP PKPbc 19 05 47.1 -0.8
BRBR Barbar 147.98 310 eP PKPbc 19 05 48.0 -0.8
FETA Feichten 148.02 355⇑iPKPbc PKPdf 19 05 46.3 +0.9
comp=Z,73nm,1.1s,SNR=19
OBKA Obir 148.04 350 iSKPdf PKPbc 19 05 48.0 -0.5
comp=Z,30nm,0.9s,SNR=12
MYKA Terra Mystica 148.07 351 iPKPdf PKPbc 19 05 47.3 -1.2
comp=Z,55nm,1.1s,SNR=18
ABTA Abfaltersbach 148.11 353 iPKPdf PKPbc 19 05 47.5 -1.1
comp=Z,69nm,1.2s,SNR=22
TCHB Talchebab 148.31 309 eP PKPbc 19 05 48.7 -0.8
AGO Saint Agoulin 149.00 5 PKP PKPbc 19 05 51.9 +1.0
PLDF La Plantade 149.12 4 PKP PKPbc 19 05 52.6 +1.4
VTS Vitosha 149.21 336⇑iP PKPdf 19 05 47.9 +0.5
PYM Petit Puy Mans 149.29 5 PKP PKPbc 19 05 52.9 +1.2
PGAV Gavieira, Arco 150.22 23 ePKPbc PKPbc 19 05 53.9 -0.2
EIL Elat 150.35 304 P PKPbc 19 05 55.5 +0.8
baz=150,SNR=11
PCAB Cabril 150.53 23 ePKPbc PKPbc 19 05 54.9 +0.1
PTO Porto 150.80 24 ePKPbc PKPbc 19 05 56.1 +0.8
POLO Lamas de Olo 150.91 23 ePKPbc PKPbc 19 05 55.8 0.0
PBRG Braganca 150.92 21 ePKPbc PKPbc 19 05 55.3 -0.4
PVRL Vila Real 151.03 23 ePKPbc PKPbc 19 05 56.4 +0.4
TOUF Mont Tournerai 151.19 359 PKP PKPbc 19 05 56.5 0.0
AUTN L'Aution 151.21 359 PKP PKPbc 19 05 58.0 +1.5
SAOF Saorge 151.21 359 PKP PKPbc 19 05 56.5 +0.2
MVIF Mont Vial 151.31 360 PKP PKPbc 19 05 58.6 +1.9
LUCF Luceram 151.31 359 PKP PKPbc 19 05 56.7 +0.1
MVO Moncorvo 151.38 22 ePKPbc PKPbc 19 05 57.2 +0.4
MVO Moncorvo 151.38 22 ePKPab PKPab 19 06 10.6 +5.7
PVIS Viseu 151.44 24 ePKPbc PKPbc 19 05 56.9 -0.1
CALN Calern 151.46 360 PKP PKPbc 19 05 57.3 +0.3
REVF Revere 151.46 359 PKP PKPbc 19 05 57.8 +0.9
MTE Manteigas 151.85 24 ePKPbc PKPbc 19 05 57.9 0.0
PTOM Tomar 152.16 26 ePKPbc PKPbc 19 05 58.9 +0.3
PCBR Castelo Branco 152.35 24 ePKPbc PKPbc 19 05 59.1 +0.1
PCBR Castelo Branco 152.35 24 ePKPab PKPab 19 06 12.5 +3.6
PMTG Montargil 152.70 26 ePKPbc PKPbc 19 05 59.2 -0.6
PMTG Montargil 152.70 26 ePKPab PKPab 19 06 11.1 +0.7
PMRV Marv??o 152.74 25 ePKPbc PKPbc 19 05 59.6 -0.3
PMRV Marv??o 152.74 25 ePKPab PKPab 19 06 13.1 +2.5
PNCL Nicolau / Gran 153.86 28 ePKPbc PKPbc 19 06 11.5 +0.3
PTEO Sao Teotonio 153.73 29 ePKPdf PKPdf 19 05 54.7 +0.5
PTEO Sao Teotonio 153.73 29 ePKPbc PKPbc 19 06 01.8 -0.3
ESDC Sonseca Array 153.76 19 PKPbc PKPbc 19 06 03.5 +1.3
ESDC PKPab PKPab 19 06 16.0 +1.1
ESDC Sonseca Array 153.76 19 PKPbc PKPbc 19 06 03.5 +1.3
comp=Z,2.5nm,1.0s,baz=335,slow=3.1,SNR=6.1
ESDC PKPab PKPab 19 06 16.0 +1.1
comp=Z,4.2nm,0.9s,baz=329,slow=2.6,SNR=7.4
PBAR Barrancos 153.95 26 ePKPbc PKPbc 19 06 02.9 +0.4
MORF Marmelete 153.96 29 ePKPbc PKPbc 19 06 03.0 +0.3
PCVE Castro Verde 153.97 28 ePKPbc PKPbc 19 06 02.6 0.0
PCVE Castro Verde 153.97 28 ePKPab PKPab 19 06 18.5 +2.6
PFVI Vila Bisbo 154.01 30 ePKPbc PKPbc 19 06 03.4 +0.7
PVAQ Vaqueiros 154.31 28 ePKPbc PKPbc 19 06 03.3 0.0
PVAQ Vaqueiros 154.31 28 ePKPab PKPab 19 06 19.0 +1.7
PBDV Barranco-do-Ve 154.34 28 ePKPbc PKPbc 19 06 03.8 +0.3
PBDV Barranco-do-Ve 154.34 28 ePKPab PKPab 19 06 17.5 0.0
TORD Torodi Ar. Bea 174.63 111 PKPab PKPab 19 07 46.1 -1.0
TORD Torodi Ar. Bea 174.63 111 PKPab PKPab 19 07 46.1 -1.0
comp=Z,4.0nm,0.9s,baz=263,slow=3.9,SNR=4.9

CSEM ***29*** *18:46:36.0,39.°93N×23.°77E,h5km,MD3.0,After ATH*
ATH 29 18:46:36.0,39.°93N×23.°77E,h5km±1km,MD3.0/8,
Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PAIG	Paliouri	0.07	268	ePG	Pg	18 46 37.5	-0.1
PAIG				eSG	Sg	18 46 38.6	-0.1
PAIG	Paliouri	0.07	268	ePg	Pg	18 46 37.5	-0.1
PAIG				eSg	Sg	18 46 38.6	-0.1
PLG	Polygyros	0.51	331	ePB	Pg	18 46 45.4	-0.5
PLG				eSB	Sg	18 46 52.1	-0.5
PLG	Polygyros	0.51	331	ePb	Pg	18 46 45.4	-0.5
PLG				eSb	Sg	18 46 52.1	-0.5
NEO	Neokhori	0.75	214	ePB	Pg	18 46 50.6	+0.1
NEO				eSB	Sb	18 47 01.3	-0.9
NEO	Neokhori	0.75	214	ePb	Pg	18 46 50.6	+0.1
NEO				eSb	Sb	18 47 01.3	-0.9
AOS	Alonnisos	0.76	174	ePG	Pg	18 46 50.5	-0.2
AOS	Alonnisos	0.76	174	ePg	Pg	18 46 50.5	-0.2
SOH	Sokhos	0.95	340	ePB	Pg	18 46 54.2	-0.1
SOH	Sokhos	0.95	340	ePb	Pg	18 46 54.2	-0.1
LIT	Litokhoron	1.00	280	ePG	Pg	18 46 54.7	-0.5
LIT	Litokhoron	1.00	280	ePg	Pg	18 46 54.7	-0.5
LIA	Limnos Island	1.09	91	ePB	Pg	18 46 56.7	-0.2
LIA	Limnos Island	1.09	91	ePb	Pg	18 46 56.7	-0.2
NVR	Nevrokopi	1.42	3	ePB	Pb	18 47 03.1	0.0
NVR	Nevrokopi	1.42	3	ePb	Pb	18 47 03.1	0.0
GRG	Griva	1.46	315	ePB	Pn	18 47 03.4	+0.3
GRG	Griva	1.46	315	ePb	Pn	18 47 03.4	+0.3

IDC 29 18:51:15.7±1.3,15.°53S×172.°90W,h0km,mb4.2/4,
mb1 4.4/4,mb1mx4.0/18,mbtmp4.2/4,Error ellipse:
s-maj=66.8km s-min=33.1km az=165.0,Samoa Islands
region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	44.38	240	P	P	18 59 26.5	-1.7
	2.0nm,0.8s,baz=69,slow=8.6,SNR=2.0						
WRA	Warramunga Arr	50.28	257	P	P	19 00 15.1	+0.7
	0.8nm,0.7s,baz=93,slow=7.8,SNR=5.2						
ASAR	Alice Springs	50.52	252	P	P	19 00 17.1	+0.9
	4.9nm,0.7s,baz=86,slow=8.1,SNR=7.3						
PLCA	Paso Flores	89.07	132	P	P	19 04 13.6	+0.4
	2.0nm,0.8s,baz=243,slow=6.8,SNR=4.4						
BRTR	Keskin Array B	146.56	321	PKPbc	PKPdf	19 10 58.1	-0.1
	2.2nm,0.8s,baz=111,slow=2.3,SNR=5.5						
ESDC	Sonseca Array	154.08	20	PKPbc	PKPbc	19 11 17.9	0.0
	0.1nm,0.3s,baz=300,slow=2.8,SNR=4.2						

*IDC **29** 18:51:43.6±0.6, 16°.03S×173°.07W, h0km, mb4.5/18, mb1 4.6/18, mb1mx4.5/25, mbtmp4.5/18, Error ellipse: s-maj=24.5km s-min=14.7km az=136.0*
*BJI **29** 18:51:45.7, 15°.84S×173°.10W, h11km, mB5.3/2, mb5.1/5, Ms5.0/1, Ms7 4.8/1*
*NEIC **29** 18:51:45.1±0.2, 16°.08S×173°.16W, h10km, mb4.7/21, Error ellipse: s-maj=8.7km s-min=5.8km az=146.0*
*ISCJB **29** 18:51:46.2±0.3, 16°.16S±0°.07×173°.08W±0°.07, h26km, mb4.6/37, MS4.8/1, Error ellipse: s-maj=11.9km s-min=7.5km az=143.7*
*AUST **29** 18:51:56.6±9.0, 16°.42S×172°.65W, h91km, Error ellipse: s-maj=6.7km s-min=1.6km az=318.0*

ISC 29 18:51:47.6±0.5, 16°.13S±0°.08×172°.88W±0°.10, h26km, n90, σ1§30/91, mb4.6/37, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.45	26	ePn			Pb	18 52 29.1	-1.9
RAR	Rarotonga 26µm,3.5s	13.41	114	ePn			Pn	18 55 00.1	+3.8
DZM	Mont Dzumac	20.41	250	P			P	18 56 22.7	-0.1
DZM	Mont Dzumac 4.3nm,0.7s,baz=60,slow=14,SNR=2.9	20.41	250	P			P	18 56 22.7	-0.1
URZ	Urewera	23.74	200	P			P	18 56 59.6	+1.8
URZ	Urewera 7.0nm,0.3s,baz=352,slow=14,SNR=5.7	23.74	200	P			P	18 56 59.6	+1.8
RPZ	Rata Peaks	30.71	203	P			P	18 58 03.9	+3.6
RPZ	Rata Peaks 13nm,0.8s,baz=358,slow=3.6,SNR=3.6	30.71	203	P			P	18 58 03.9	+3.6
EIDS	Eidsvold 9.4nm,1.0s	34.84	249	eP			P	18 58 35.0	-1.7
QLP	Quilpie baz=41,SNR=4.3	41.10	248	P			P	18 59 33.1	+3.5
COEN	Coen baz=43,SNR=4.2	42.44	267	P			P	18 59 45.2	+4.6
STKA	Stephens Creek 2.5nm,0.9s	44.11	241	eP			P	18 59 51.9	-2.1
STKA	Stephens Creek 5.9nm,0.8s,baz=86,slow=8.9,SNR=5.1	44.11	241	P			P	18 59 52.6	-1.4
STKA	Stephens Creek baz=44,SNR=3.8	44.11	241	P			P	18 59 55.5	+1.5
WRAB	Tennant Creek 5.1nm,0.9s	50.16	257	eP			P	19 00 38.7	-2.7
WRA	Warramunga Arr	50.17	257	P			P	19 00 40.3	-1.2
WRA	Warramunga Arr 3.0nm,0.8s,baz=95,slow=6.7,SNR=6.8	50.17	257	P			P	19 00 40.3	-1.2
AS31	Alice Springs	50.37	252	eP			P	19 00 40.1	-2.7
ASAR	Alice Springs	50.37	252	P			P	19 00 40.8	-2.1
ASAR	Alice Springs 14nm,0.7s,baz=86,slow=8.6,SNR=12	50.37	252	P			P	19 00 40.8	-2.1
KDU	Kakadu baz=53,SNR=3.7	52.92	266	P			P	19 01 03.4	+1.4
SWI	Sorong baz=57,SNR=5.1	57.08	280	P			P	19 01 34.5	+2.4
FITZ	Fitzroy Crossi	58.55	258	P			P	19 01 39.7	-2.7
FITZ	Fitzroy Crossi 2.7nm,1.0s,baz=82,slow=7.1,SNR=4.6	58.55	258	P			P	19 01 39.7	-2.7
FITZ	Fitzroy Crossi baz=59,SNR=3.5	58.55	258	P			P	19 01 41.8	-0.6
SOEI	Soe baz=62,SNR=6.9	61.40	268	P			P	19 02 05.9	+3.7
SBA	Scott Base 8.1nm,1.1s	62.57	185	eP			P	19 02 09.7	+0.9
VNDA	Vanda 4.4nm,1.0s	62.71	186	eP			P	19 02 09.9	+0.1
CASY	Casey 12nm,1.1s	69.96	205	eP			P	19 02 55.5	-0.9
PASC	Pasadena Art C 3.0nm,0.6s	72.17	45	eP			P	19 03 18.1	+7.8
JNU	Nakatsue	72.66	313	P			P	19 03 10.7	-2.6
JNU	Nakatsue 6.2nm,0.9s,baz=164,slow=7.4,SNR=3.1	72.66	313	P			P	19 03 10.7	-2.6
ISA	Isabella 10.0nm,1.1s	72.82	44	eP			P	19 03 15.2	+0.9
CMB	Columbia Colle 9.1nm,1.0s	72.98	41	P			P	19 03 15.6	+0.5
PETK	Petropavlovsk-	73.47	342	P			P	19 03 16.8	-0.8
PETK	Petropavlovsk- 7.7nm,0.7s,baz=138,slow=9.5,SNR=7.7	73.47	342	P			P	19 03 16.8	-0.8
YBH	Yreka Blue Hor	73.88	37	P			P	19 03 20.2	-0.1
YBH	Yreka Blue Hor 7.4nm,0.8s,baz=180,slow=1.0,SNR=8.5	73.88	37	P			P	19 03 20.3	-0.1
QSPA	South Pole Qui 12nm,1.0s	73.92	180	eP			P	19 03 20.4	0.0
QSPA	South Pole Qui 7.8nm,0.9s,baz=58,slow=2.1,SNR=6.8	73.92	180	P			P	19 03 20.3	0.0
NV11	Mina Array Sit	74.63	42	eP			P	19 03 25.7	+0.8
KSRS	Korea Array 0.5nm,0.5s,baz=120,slow=7.2,SNR=2.8	77.03	315	P			P	19 03 39.0	+0.6
KSAR	Wonju Array Be	77.05	315	P			P	19 03 39.0	+0.5
MVU	Marysvale 95nm,2.2s	78.56	44	eP			P	19 03 48.2	+0.9
DUG	Dugway 6.2nm,1.0s	79.05	43	eP			P	19 03 50.4	+0.6
HLID	Hailey 11nm,1.0s	79.87	39	eP			P	19 03 55.2	+0.9
MNTX	Cornudas Mount 7.5nm,1.2s	80.26	53	eP			P	19 03 57.0	+0.6
TXAR	Lajitas Array	80.60	56	P			P	19 03 59.2	+0.8
TXAR	Lajitas Array 1.4nm,0.7s,baz=212,slow=6.4,SNR=7.5	80.60	56	P			P	19 03 59.2	+0.8
ANMO	Albuquerque 6.2nm,1.0s	80.89	50	eP			P	19 04 00.7	+0.8
ANMO	Albuquerque 4.4nm,0.9s,baz=255,slow=5.9,SNR=5.6	80.89	50	P			P	19 04 00.9	+1.1
MCK	McKinley 8.9nm,0.8s	81.74	11	eP			P	19 04 04.0	+0.4
LOHW	Long Hollow 3.0nm,0.9s	82.24	40	eP			P	19 04 07.3	+0.4
SMCO	Snowmass 7.1nm,0.6s	82.46	46	eP			P	19 04 09.2	+0.9
PDAR	Pinedale Array	82.47	42	P			P	19 04 08.2	+0.1
PDAR	Pinedale Array 5.6nm,0.8s,baz=198,slow=2.7,SNR=27	82.47	42	P			P	19 04 08.2	+0.1
ILAR	Eielson Array	83.06	11	P			P	19 04 10.0	-0.4
ILAR	Eielson Array 3.5nm,0.6s,baz=218,slow=5.8,SNR=10	83.06	11	P			P	19 04 10.0	-0.4
RLMT	Red Lodge 9.3nm,0.9s	83.83	40	eP			P	19 04 15.6	+0.5
EGAK	Eagle 2.1nm,0.5s	84.21	13	eP			P	19 04 16.6	+0.3
COLD	Coldfoot 10nm,1.3s	84.78	9	eP			P	19 04 20.4	+1.3
MAW	Mawson	87.27	198	P			P	19 04 31.3	-0.2
MAW	Mawson 1.4nm,0.5s,baz=116,slow=9.8,SNR=3.6	87.27	198	P			P	19 04 31.3	-0.2
HHC	Hu-ho-hao-te	89.89	313	eP			P	19 04 44.5	-0.1
HHC				sP			sP	19 04 50.0	-6.0
HHC				PP			PP	19 08 18.5	+0.9
HHC				SKS			SKSac	19 15 12.3	-1.5
HHC				S			S	19 15 33.8	-1.8
HHC				sS			ScS	19 15 40.8	+1.1
HHC				SS			SS	19 21 35.5	+1.6
HHC	comp=Z,370nm,10.7s			pmax			pmax		
HHC	comp=N,280nm,20.2s			LR			LR		
HHC	comp=E,240nm,20.2s			LR			LR		
HHC	comp=Z,370nm,20.2s			LR			LR		
KMI	Kunming	91.79	296	P			P	19 04 56.0	+2.1
KMI	comp=Z,5.0nm,2.0s			pmax			pmax		
CMAR	Chiang Mai Arr	93.32	288	P			P	19 05 00.8	0.0
CMAR	Chiang Mai Arr comp=Z,0.7nm,0.7s,baz=101,slow=2.6,SNR=5.7	93.32	288	P			P	19 05 00.8	0.0
SONM	Songino Array	95.72	318	P			P	19 05 10.9	-0.5
SONM	Songino Array comp=Z,0.6nm,0.7s,baz=128,slow=2.4,SNR=2.3	95.72	318	P			P	19 05 10.9	-0.5
KSH	Kashi	116.31	306	ePKP			PKPdf	19 10 30.8	+1.6
KSH				PP			PP	19 11 42.0	+6.6
KSH				PKS			PKSdf	19 14 06.3	+0.3
KSH				SKS			SKSdf	19 17 41.8	+1.9
KSH				SKKS			SKKSac	19 18 35.0	+0.1
KSH				SS			SS	19 27 43.3	+5.0
UPC	Upice	144.97	350	ePKP			PKPdf	19 11 22.6	+0.2
DPC	Dobruska-Polom	145.06	350	*i* PKP			PKPdf	19 11 23.1	+0.4
PVCC	Panska Ves	145.16	352	ePKP			PKPdf	19 11 23.0	+0.2
OKC	Ostrava-Krasne	145.21	347	*i* PKP			PKPdf	19 11 23.4	+0.6
HGN	Heimansgroeve comp=Z,260µm,21.9s	145.44	1	eL			L	19 11 33.4	
PRU	Pruhonice	145.69	351	*i* PKP			PKPab	19 11 24.8	+0.5
VRAC	Vranov	146.02	349	PKPbc			PKPab	19 11 25.6	0.0
VRAC	Vranov comp=Z,7.5nm,1.1s,baz=358,slow=3.5,SNR=3.1	146.02	349	PKPbc			PKPab	19 11 25.6	0.0
TREC	Trest	146.22	350	*e*PKP			PKPab	19 11 26.3	-0.1
KHC	Kasperske Hory	146.67	352	*i* PKP			PKPab	19 11 28.1	0.0
MLR	Muntele Rosu	146.74	336	PKPbc			PKPab	19 11 28.2	-0.4
MLR	Muntele Rosu comp=Z,0.7nm,0.8s,baz=45,slow=2.9,SNR=3.0	146.74	336	PKPbc			PKPab	19 11 28.2	-0.4
GERES	GERESS Array B	146.93	352	PKPbc			PKPbc	19 11 27.2	-0.6
GERES	GERESS Array B comp=Z,2.5nm,0.9s,baz=35,slow=3.6,SNR=9.8	146.93	352	PKPbc			PKPbc	19 11 27.2	-0.6
BRTR	Keskin Array B	147.03	321	PKPbc			PKPbc	19 11 28.9	+0.3
BRTR	Keskin Array B comp=Z,3.4nm,0.8s,baz=116,slow=0.6,SNR=9.2	147.03	321	PKPbc			PKPbc	19 11 28.9	+0.3
DAVOX	Davos/Dischmat	149.35	356	PKPbc			PKPbc	19 11 33.3	-1.2
DAVOX	Davos/Dischmat comp=Z,3.0nm,0.8s,baz=330,slow=23,SNR=4.1	149.35	356	PKPbc			PKPbc	19 11 33.3	-1.2
ESDC	Sonseca Array	154.62	20	PKPab			PKPab	19 12 01.2	+0.1
ESDC	Sonseca Array comp=Z,0.6nm,0.7s,baz=334,slow=4.3,SNR=3.6	154.62	20	PKPab			PKPab	19 12 01.2	+0.1

*AUST **29** 18:52:14.7±6.7, 15°.88S×174°.14W, h168km, Error ellipse: s-maj=6.0km s-min=1.7km az=325.0*

IDC 29 18:52:50.6±1.0, 15°.39S×173°.41W, h0km, mb4.4/7, mb1 4.5/7, mb1mx4.2/20, mbtmp4.4/7, Error ellipse: s-maj=40.2km s-min=26.3km az=136.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
STKA	Stephens Creek 3.7nm,0.8s,baz=80,slow=6.1,SNR=2.0	44.03	240	P			P	19 00 59.6	-0.6
WRA	Warramunga Arr 5.6nm,0.9s,baz=91,slow=6.7,SNR=5.3	49.84	257	P			P	19 01 44.9	-0.9
ASAR	Alice Springs 6.6nm,0.7s,baz=88,slow=7.8,SNR=5.3	50.10	252	P			P	19 01 46.9	-1.0
ASAJ	Asahikawa 15nm,0.9s,baz=141,slow=13,SNR=5.4	71.53	328	P			P	19 04 14.5	+1.2
TXAR	Lajitas Array 1.7nm,0.9s,baz=216,slow=5.6,SNR=4.5	80.62	56	P			P	19 05 04.2	-1.5
MAW	Mawson 1.4nm,0.6s,baz=225,slow=1.4,SNR=2.4	87.80	199	P			P	19 05 42.8	+1.5
SNAA	Sanae 1.4nm,1.3s,baz=191,slow=15,SNR=3.3	92.91	177	P			P	19 06 05.4	+0.1
MLR	Muntele Rosu 1.1nm,0.8s,baz=211,slow=2.0,SNR=3.9	145.86	335	PKPbc			PKPdf	19 12 31.4	-0.3
GERES	GERESS Array B 1.5nm,0.9s,baz=11,slow=1.0,SNR=3.9	146.13	352	PKPbc			PKPdf	19 12 31.8	-0.2
BRTR	Keskin Array B 8.8nm,0.9s,baz=110,slow=1.9,SNR=8.7	146.15	321	PKPbc			PKPbc	19 12 33.0	-0.3

IDC 29 18:54:56.9±2.7, 18°.97S×171°.42W, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.8/18, mbtmp3.8/3, Error ellipse: s-maj=194.7km s-min=28.8km az=155.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ASAR	Alice Springs 3.9nm,0.8s,baz=85,slow=8.4,SNR=5.9	50.90	255	P			P	19 04 00.7	+0.4
WRA	Warramunga Arr 0.6nm,0.7s,baz=93,slow=7.0,SNR=3.6	50.96	259	P			P	19 03 59.3	-1.5
TXAR	Lajitas Array 0.2nm,0.6s,baz=267,slow=4.5,SNR=2.2	81.06	55	P			P	19 07 13.5	-0.8
VRAC	Vranov 2.5nm,0.4s,baz=320,slow=17,SNR=4.5	149.06	350	PKPbc			PKPbc	19 14 46.4	-0.7
GERES	GERESS Array B 0.2nm,0.3s,baz=17,slow=1.0,SNR=2.4	149.91	353	PKPbc			PKPbc	19 14 49.4	+0.1
BRTR	Keskin Array B 0.8nm,0.9s,baz=84,slow=3.3,SNR=2.6	150.10	319	PKPbc			PKPbc	19 14 51.0	+0.9

IDC 29 18:55:23.6±0.9, 15°.58S×173°.04W, h0km, mb4.2/8, mb1 4.4/9, mb1mx4.1/22, mbtmp4.2/9, ML3.0/1, Error ellipse: s-maj=41.3km s-min=16.7km az=135.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	Afiamalu 304nm,0.3s,baz=100,slow=11,SNR=3.8	2.06	36	Pn			Pn	18 55 59.1	-0.6
AFI	399nm,0.3s,baz=54,slow=19,SNR=4.2			Sn			Sn	18 56 15.0	-11
RAR	Rarotonga 22nm,0.3s,baz=270,slow=6.5,SNR=6.4	13.77	116	T			T	19 12 25.9	
DZM	Mont Dzumac 5.5nm,0.9s,baz=69,slow=19,SNR=2.1	20.46	248	P			Pn	19 00 04.8	-0.4
URZ	Urewera 6.2nm,0.5s,baz=0.0,slow=12,SNR=2.2	24.20	199	P			P	19 00 41.3	-0.7
RPZ	Rata Peaks 3.6nm,0.6s,baz=106,slow=7.8,SNR=2.8	31.15	203	P			P	19 01 44.7	+0.6
STKA	Stephens Creek 1.8nm,0.5s,baz=82,slow=8.3,SNR=5.9	44.25	240	P			P	19 03 34.5	-0.6
WRA	Warramunga Arr 0.9nm,0.7s,baz=93,slow=7.0,SNR=5.7	50.15	257	P			P	19 04 20.3	-1.0
ASAR	Alice Springs 5.4nm,0.6s,baz=89,slow=7.7,SNR=8.9	50.39	252	P			P	19 04 22.6	-0.6
TXAR	Lajitas Array 1.1nm,0.9s,baz=242,slow=2.7,SNR=4.7	80.42	56	P			P	19 07 38.4	+0.7
PDAR	Pinedale Array 0.8nm,0.6s,baz=212,slow=3.2,SNR=4.6	82.17	42	P			P	19 07 46.4	-0.4
BRTR	Keskin Array B 1.8nm,0.7s,baz=90,slow=2.5,SNR=4.5	146.52	321	PKPbc			PKPab	19 15 08.1	-0.3
ESDC	Sonseca Array 0.1nm,0.3s,baz=318,slow=5.2,SNR=3.6	154.16	20	PKPab			PKPab	19 15 38.6	-0.9

*ISCJB **29** 18:57:57.2±0.1, 16°.21S±0°.05×173°.00W±0°.03, h10km, mb5.2/128, MS5.3/4, Error ellipse: s-maj=7.4km s-min=2.9km az=155.9*
*IDC **29** 18:57:57.8±0.4, 16°.14S×173°.01W, h0km, mb4.9/34, mb1 4.9/34, mb1mx4.9/37, mbtmp4.9/34, Error ellipse: s-maj=14.8km s-min=11.2km az=137.0*
*NEIC **29** 18:57:58.8±0.2, 16°.14S×173°.00W, h10km, mb5.1/55, Error ellipse: s-maj=8.5km s-min=4.5km az=141.0*
*BJI **29** 18:58:00.9, 15°.67S×173°.86W, h6km, mB5.6/7, mb5.4/29, Ms5.4/7, Ms7 5.3/6*
*AUST **29** 18:58:01.6±0.8, 16°.29S×172°.62W, h40km, Error ellipse: s-maj=1.7km s-min=1.1km az=27.0*
*MOS **29** 18:58:01.5±1.6, 16°.08S×173°.00W, h33km, mb5.3/25, Error ellipse: s-maj=13.0km s-min=8.7km az=50.3*
*DJA **29** 18:58:33.9±0.7, 17°.S±6°.×17°.4W±°, h262km±7km, M6.0/42, mB7.3/2, mb5.2/42, MLv6.4/1, Mw(mB)7.3/2*

ISC 29 18:58:00.1±0.5, 16°.11S±0°.07×173°.03W±0°.06, h16km±2km, h17km: pP-P, n563, σ1§04/566, mb5.3/128, MS5.4/4, 20C-17D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.50	29	Pn			Pn	18 58 27.2	-13
AFI				Sn			Sn	18 58 59.5	-11
AFI				TT				19 00 56.7	
AFI	Afiamalu 303nm,0.3s,baz=119,slow=19,SNR=6.0	2.50	29	Pn			Pn	18 58 27.2	-13
AFI	1µm,0.3s,baz=50,slow=22,SNR=8.7			Sn			Sn	18 58 59.5	-11
AFI	565nm,0.3s,baz=1.7,slow=16,SNR=5.9			T			T	19 00 56.7	
NIUE	Niue baz=3.8,SNR=13	4.18	135	P			Pn	18 58 58.4	-4.9
NIUE	baz=3.8,SNR=7.4			S			Sn	18 59 40.1	-12
MSVF	Nonsavu	8.69	258	eP			Pn	19 00 13.8	+8.5
MSVF	Nonsavu 2µm,1.0s,SNR=20	8.69	258	Pn			Pn	19 00 13.6	+8.3
RAR	Rarotonga	13.55	114	Pn			Pn	19 01 03.0	-8.7
RAR	Rarotonga 20nm,0.3s,baz=90,slow=10,SNR=3.0	13.55	114	Pn			Pn	19 01 03.0	-8.7
DZM	Mont Dzumac	20.27	250	P			Pn	19 02 37.3	0.0
DZM	Mont Dzumac 66nm,1.0s,baz=84,slow=19,SNR=12	20.27	250	P			Pn	19 02 37.3	0.0
URZ	Urewera 38nm,0.5s	23.71	200	eP			P	19 03 11.4	0.0
URZ	Urewera 19nm,0.4s,baz=323,slow=1.7,SNR=18	23.71	200	P			P	19 03 11.6	+0.2
HNR	Honiara	27.15	281	P			P	19 03 44.8	+1.8
HNR	Honiara 132nm,0.9s,baz=228,slow=7.4,SNR=6.2	27.15	281	P			P	19 03 44.7	+1.8
SNZO	South Karori 99nm,1.3s	27.26	200	eP			P	19 03 41.8	-1.8
KHZ	Kahutara 24nm,0.5s	28.64	201	eP			P	19 03 56.5	+0.6
RPZ	Rata Peaks	30.66	203	eP			P	19 04 13.5	-0.5
RPZ	Rata Peaks 32nm,0.6s	30.66	203	P			P	19 04 18.0	+4.1
EIDS	Eidsvold 21nm,1.1s	34.71	249	eP			P	19 04 47.3	-2.2
EIDS	Eidsvold baz=35,SNR=7.4	34.71	249	P			P	19 04 47.9	-1.7
ARMA	Armidale 14nm,0.6s	35.28	240	eP			P	19 04 53.3	-1.3
ARMA	Armidale baz=36,SNR=31	35.28	240	P			P	19 04 53.5	-1.1
RMQ	Roma baz=37,SNR=5.1	36.94	247	P			P	19 05 07.8	-1.0
CNB	Canberra Magne baz=39,SNR=15	38.60	233	P			P	19 05 21.5	-1.2
CTA	Charters Tower	38.83	258	P			P	19 05 26.0	+1.2
CTA	Charters Tower 7.2nm,0.8s,baz=73,slow=7.8,SNR=6.6	38.83	258	P			P	19 05 26.0	+1.2
CTAO	Charters Tower	38.83	258	eP			P	19 05 24.0	-0.8
CTAO	comp=Z,11nm,0.9s			pmax			pmax		
CTAO	Charters Tower comp=Z,12nm,0.9s	38.83	258	eP			P	19 05 24.0	-0.8
PMG	Port Moresby comp=Z,49nm,1.0s	39.34	275	eP			P	19 05 29.6	+0.6
PMG	Port Moresby comp=Z,66nm,4.8s	39.34	275	P			P	19 05 32.5	+3.5
PMG	Port Moresby comp=Z,37nm,1.0s,baz=102,slow=12,SNR=6.2	39.34	275	P			P	19 05 30.7	+1.6
MILA	Mila baz=40,SNR=23	39.38	231	P			P	19 05 24.4	-4.8
KIP	Kipapa	40.10	22	eP			P	19 05 33.5	-1.7
KIP	comp=Z,138nm,1.7s			pmax			pmax		
CMSA	Cobar Meteorol baz=41,SNR=30	40.50	240	P			P	19 05 36.8	-1.7
MTSU	Mount Surprise baz=41,SNR=8.1	40.74	261	P			P	19 05 41.2	+0.5
QLP	Quilpie baz=41,SNR=24	40.97	248	P			P	19 05 40.5	-2.0
COEN	Coen comp=Z,62nm,0.6s	42.29	267	eP			P	19 05 53.1	-0.3
COEN	Coen baz=43,SNR=13	42.29	267	P			P	19 05 53.8	+0.4
TOO	Toolangi baz=42,SNR=12	42.30	231	P			P	19 05 51.9	-1.3
STKA	Stephens Creek	43.99	241	P			P	19 06 05.4	-1.6
STKA	Stephens Creek comp=Z,17nm,0.5s,baz=74,slow=9.9,SNR=36	43.99	241	P			P	19 06 05.4	-1.6
STKA	Stephens Creek baz=44,SNR=26	43.99	241	P			P	19 06 05.8	-1.2
JAY	Jayapura	47.47	282	P			P	19 06 34.6	-0.2
JAY	Jayapura baz=48,SNR=7.3	47.47	282	P			P	19 06 34.9	+0.1
BBOO	Buckleboo baz=49,SNR=13	48.77	240	P			P	19 06 43.1	-1.4
WRAB	Tennant Creek	50.02	257	eP			P	19 06 52.9	-1.3
WRAB	comp=Z,38nm,1.1s			pmax			pmax		
WRAB	Tennant Creek comp=Z,38nm,1.1s	50.02	257	eP			P	19 06 52.9	-1.3
WRAB	Tennant Creek comp=Z,130nm,0.7s,SNR=8.0	50.02	257	P			P	19 06 53.0	-1.3
WRA	Warramunga Arr	50.03	257	P			P	19 06 52.6	-1.7
WRA	Warramunga Arr comp=Z,19nm,0.8s,baz=90,slow=6.8,SNR=29	50.03	257	P			P	19 06 52.7	-1.7
AS31	Alice Springs	50.23	252	eP			P	19 06 54.0	-1.8
ASAR	Alice Springs	50.23	252	P			P	19 06 54.1	-1.8
ASAR	Alice Springs comp=Z,54nm,0.7s,baz=83,slow=8.7,SNR=41	50.23	252	P			P	19 06 54.1	-1.8
KDU	Kakadu baz=53,SNR=12	52.77	266	P			P	19 07 14.3	-0.6
TLE	Tual	54.12	275	P			P	19 07 26.6	+1.7
TLE	Tual baz=54,SNR=4.9	54.12	275	P			P	19 07 29.9	+5.1
SAUI	Saumlaki	54.90	272	P			P	19 07 32.0	+1.5
FAKI	Fak Fak	55.36	278	P			P	19 07 32.4	-1.5
FORT	Forrest comp=Z,50nm,0.8s	55.41	244	eP			P	19 07 32.3	-1.7
KNRA	Kununurra baz=56,SNR=14	55.81	262	P			P	19 07 35.9	-1.1
SWI	Sorong comp=Z,169nm,0.9s	56.93	280	P			P	19 07 44.5	-0.6
SWI	Sorong baz=57,SNR=24	56.93	280	P			P	19 07 45.2	+0.2
BNDI	Bandanaira comp=Z,104nm,1.3s	57.13	275	P			P	19 07 44.4	-2.2
MSAI	Masohi comp=Z,12nm,0.8s	58.40	276	P			P	19 07 57.1	+1.6
FITZ	Fitzroy Crossi comp=Z,15nm,1.0s	58.41	258	eP			P	19 07 54.7	-0.8
FITZ	Fitzroy Crossi comp=Z,6.0nm,0.7s,baz=95,slow=7.0,SNR=10.0	58.41	258	P			P	19 07 55.4	-0.1
FITZ	Fitzroy Crossi baz=59,SNR=9.6	58.41	258	P			P	19 07 54.9	-0.6
AAI	Ambon comp=Z,40nm,1.1s	59.01	275	P			P	19 08 02.3	+2.6
NLAI	Namlea comp=Z,30nm,0.7s	60.18	276	P			P	19 08 10.1	+2.3
LBMI	Labuha comp=Z,62nm,1.0s	60.57	279	P			P	19 08 10.6	+0.2
TNTI	Ternate comp=Z,67nm,2.0s	61.14	280	P			P	19 08 16.0	+1.7
SOEI	Soe comp=Z,154nm,1.0s	61.25	268	P			P	19 08 16.0	+0.7
SOEI	Soe baz=62,SNR=25	61.25	268	P			P	19 08 15.9	+0.7
BATI	Baumata	61.73	267	P			P	19 08 18.6	+0.2
BATI	Baumata	61.73	267	P			P	19 08 19.2	+0.9
BATI	Baumata comp=Z,29nm,1.0s,baz=122,slow=5.3,SNR=5.1	61.73	267	P			P	19 08 18.6	+0.2
SBA	Scott Base	62.58	185	eP			P	19 08 25.2	+2.2
SBA	comp=Z,20nm,1.2s			pmax			pmax		
SBA	Scott Base comp=Z,20nm,1.2s	62.58	185	eP			P	19 08 25.1	+2.2
VNDA	Vanda comp=Z,6.9nm,0.9s	62.71	186	eP			P	19 08 25.1	+1.3
VNDA	Vanda comp=Z,4.4nm,0.9s,baz=5.5,slow=5.5,SNR=14	62.71	186	P			P	19 08 25.6	+1.7
MMRI	Maumere comp=Z,77nm,2.0s	63.45	268	P			P	19 08 30.0	+0.1
MBWA	Marble Bar comp=Z,37nm,1.0s	63.50	254	eP			P	19 08 29.0	-1.1
SGSI	Sangihe comp=Z,80nm,0.9s	63.83	282	P			P	19 08 32.5	+0.2
MEEK	Meekatharra baz=64,SNR=8.9	63.87	248	P			P	19 08 31.2	-1.3
BBSI	Bau Bau comp=Z,51nm,2.1s	63.91	272	P			P	19 08 35.1	+2.2
KLBR	Kellerberrin baz=64,SNR=11	64.22	242	P			P	19 08 34.0	-0.7
KMSI	Cibinong comp=Z,99nm,1.1s	64.29	279	P			P	19 08 34.6	-0.7
NWAO	Narrogin (SRO)	64.58	241	P			P	19 08 35.8	-1.2
NWAO	Narrogin (SRO) comp=Z,22nm,0.9s,baz=112,slow=8.1,SNR=5.9	64.58	241	P			P	19 08 35.8	-1.2
LUWI	Luwuk comp=Z,62nm,1.0s	64.95	277	P			P	19 08 38.5	-1.2
LUWI	Luwuk baz=65,SNR=3.5	64.95	277	P			P	19 08 39.7	0.0
WSI	Waingapu comp=Z,155nm,0.7s	65.08	267	P			P	19 08 39.6	-0.9
BLDU	Ballidu baz=65,SNR=8.1	65.19

SMMC	Simmler	71.70	43	P	P	19 09 21.4	-0.1
	baz=72						
BLJI	Banyuglugur	71.97	267	P	P	19 09 24.1	+0.5
	comp=Z,90nm,1.0s						
ASAJ	Asahikawa	72.33	328	P	P	19 09 26.9	+1.9
ASAJ	Asahikawa	72.33	328	P	P	19 09 26.9	+1.9
	comp=Z,9.0nm,0.9s,baz=315,slow=4.3,SNR=6.0						
ARVC	Arvin	72.37	44	P	P	19 09 25.0	-0.5
	baz=72						
JNU	Nakatsue	72.54	313	P	P	19 09 28.4	+1.7
JNU	Nakatsue	72.54	313	P	P	19 09 28.4	+1.7
	comp=Z,8.4nm,0.8s,baz=135,slow=16,SNR=4.7						
VES	Vestal, Richgr	72.61	44	P	P	19 09 27.0	0.0
	baz=73						
MURC	Murrieta	72.62	46	P	P	19 09 26.7	-0.4
	baz=73						
BFSC	Mount Baldy Ra	72.66	46	P	P	19 09 26.9	-0.5
	baz=73						
MONP	Monument Peak	72.78	47	P	P	19 09 27.7	-0.7
	baz=73						
EDW2	Edwards Air Fo	72.80	45	P	P	19 09 27.8	-0.4
	baz=73						
DVTC	Desert V Tower	72.89	48	P	P	19 09 28.2	-0.6
	baz=73						
ISA	Isabella	72.91	44	eP	P	19 09 28.5	-0.3
ISA				pmax	pmax		
	comp=Z,59nm,1.8s						
ISA	Isabella	72.91	44	eP	P	19 09 28.5	-0.3
	comp=Z,59nm,1.8s						
ISA	Isabella	72.91	44	P	P	19 09 28.8	0.0
	baz=73						
CMB	Columbia Colle	73.06	41	eP	P	19 09 28.7	-1.0
CMB				pmax	pmax		
	comp=Z,11nm,0.3s						
CMB	Columbia Colle	73.06	41	eP	P	19 09 28.7	-1.0
	comp=Z,11nm,0.3s						
PFO	Pinyon Flat Ob	73.15	47	P	P	19 09 31.4	+1.0
PFO	Pinyon Flat Ob	73.15	47	P	P	19 09 31.4	+1.0
	comp=Z,3.2nm,0.6s,baz=27,slow=7.7,SNR=4.9						
PFO	Pinyon Flat Ob	73.15	47	P	P	19 09 30.3	-0.1
	baz=73						
WDC	Whiskeytown Da	73.32	38	eP	P	19 09 30.7	-0.3
WDC				pmax	pmax		
	comp=Z,73nm,1.9s						
WDC	Whiskeytown Da	73.32	38	eP	P	19 09 30.7	-0.3
	comp=Z,73nm,1.9s						
KKM	Kota Kinabalu	73.36	281	P	P	19 09 32.9	+0.8
	comp=Z,23nm,1.0s						
PEA0B	Petropavlovsk-	73.41	342	eP	P	19 09 31.3	0.0
PETK	Petropavlovsk-	73.41	342	P	P	19 09 31.5	+0.2
PETK	Petropavlovsk-	73.41	342	P	P	19 09 31.5	+0.2
PETK	Petropavlovsk-	73.41	342	P	P	19 09 31.5	+0.2
	comp=Z,16nm,0.9s,baz=130,slow=8.3,SNR=11						
PWJI	Pagerwojo	73.62	266	P	P	19 09 33.9	+0.5
	comp=Z,69nm,3.6s						
BELC	Belle Mtn. Jos	73.68	47	P	P	19 09 33.3	-0.2
	baz=74						
SJI	Sawahan	73.73	266	P	P	19 09 33.5	-0.7
MPMC	Manual Prospec	73.80	44	P	P	19 09 34.5	+0.2
	baz=74						
GSC	Goldstone	73.83	45	eP	P	19 09 33.5	-0.9
GSC				pmax	pmax		
	comp=Z,12nm,1.0s						
GSC	Goldstone	73.83	45	eP	P	19 09 33.5	-0.9
	comp=Z,12nm,1.0s						
GSC	Goldstone	73.83	45	P	P	19 09 33.9	-0.4
	baz=74						
BC3	Big Chuckawall	73.88	47	P	P	19 09 34.2	-0.4
	baz=74						
HEC	Hector,Ludlow	73.90	46	P	P	19 09 34.6	-0.1
	baz=74						
QSPA	South Pole Qui	73.94	180	P	P	19 09 34.8	+0.3
QSPA	South Pole Qui	73.94	180	P	P	19 09 34.8	+0.3
	comp=Z,16nm,0.9s,baz=41,slow=2.8,SNR=15						
WAKR	Walker	73.94	41	eP	P	19 09 34.7	-0.4
	comp=Z,14nm,0.6s						
YBH	Yreka Blue Hor	73.95	37	eP	P	19 09 35.0	+0.2
	comp=Z,18nm,0.8s						
YBH	Yreka Blue Hor	73.95	37	P	P	19 09 35.7	+0.9
	comp=Z,17nm,0.7s,baz=35,slow=3.4,SNR=14						
GLA	Glamis	74.00	48	eP	P	19 09 36.2	+0.9
GLA				pmax	pmax		
	comp=Z,11nm,0.9s						
GLA	Glamis	74.00	48	eP	P	19 09 36.1	+0.9
	comp=Z,11nm,0.9s						
GLA	Glamis	74.00	48	P	P	19 09 35.1	-0.2
	baz=74						
PCJI	Pacitan	74.18	266	P	P	19 09 37.2	+0.5
	comp=Z,139nm,1.0s						
BEKR	Beckworth	74.19	40	eP	P	19 09 35.2	-1.2
	comp=Z,5.9nm,0.8s						
YSS	Yuzh-Sakhalins	74.27	330	eP	P	19 09 36.9	+0.5
GMRC	Granite Mounta	74.34	46	P	P	19 09 36.8	-0.5
	baz=74						
IRM	Iron Mountain	74.36	47	P	P	19 09 36.8	-0.5
	baz=74						
HUMO	Hull Mountain	74.37	36	eP	P	19 09 37.6	+0.4
	comp=Z,37nm,1.5s						
WOJI	Wongiri, Jawa	74.51	266	P	P	19 09 38.6	0.0
	comp=Z,44nm,1.1s						
SHOC	Shoshone	74.52	45	P	P	19 09 38.0	-0.2
	baz=75						
Y12C	Blythe	74.58	47	P	P	19 09 38.6	0.0
	baz=75						
113A	Mohawk Valley,	74.61	49	P	P	19 09 38.0	-0.8
	baz=75						
NV11	Mina Array Sit	74.72	42	eP	P	19 09 38.8	-0.7
UGM	Wanagama	74.88	266	P	P	19 09 40.5	-0.3
	comp=Z,118nm,1.5s						
UGM	Wanagama	74.88	266	P	P	19 09 40.4	-0.4
	baz=75,SNR=7.8						
214A	Organ Pipe Nat	74.90	50	P	P	19 09 39.9	-0.6
	baz=75						
PBKI	Pangkalan Bun	75.13	271	P	P	19 09 42.8	+0.6
PDMCI	Parker Dam,Lak	75.14	47	P	P	19 09 41.7	-0.1
	baz=75						
MOD	Modoc	75.46	38	eP	P	19 09 43.6	-0.1
	comp=Z,65nm,0.8s						
KDAK	Kodiak Island	75.55	11	P	P	19 09 43.6	0.0
KDAK	Kodiak Island	75.55	11	P	P	19 09 43.6	0.0
	comp=Z,4.7nm,0.6s,baz=284,slow=8.3,SNR=7.7						
W13A	Hualapai Mount	75.74	47	P	P	19 09 45.0	-0.6
	baz=76						
Y14A	Wickenburg	75.76	48	P	P	19 09 45.2	-0.3
	baz=76						
SBUM	Sibu	76.06	277	P	P	19 09 48.1	+0.6
STKI	Sintang	76.08	274	P	P	19 09 48.0	+0.3
	comp=Z,29nm,2.2s						
R11A	Troy Canyon, C	76.33	43	eP	P	19 09 48.1	-0.7
R11A	Troy Canyon, C	76.33	43	P	P	19 09 48.4	-0.4
	baz=76						
CLJI	Cilicap	76.37	266	P	P	19 09 47.3	-2.0
	comp=Z,114nm,1.1s						
BMN	Battle Mountai	76.46	41	eP	P	19 09 49.2	-0.2
BMN				pmax	pmax		
	comp=Z,11nm,1.0s						
BMN	Battle Mountai	76.46	41	eP	P	19 09 49.2	-0.2
	comp=Z,10nm,1.0s						
TGJI	Tegal	76.48	267	P	P	19 09 49.8	-0.2
	comp=Z,50nm,3.1s						
KPJI	Karang Pucung	76.55	266	P	P	19 09 49.7	-0.6
	comp=Z,48nm,1.8s						
WVOR	Wild Horse Val	76.77	38	P	P	19 09 51.5	+0.4
WVOR				pmax	pmax		
	comp=Z,8.0nm,0.8s						
WVOR	Wild Horse Val	76.77	38	P	P	19 09 51.5	+0.4
	comp=Z,8.3nm,0.8s						
KSRS	Korea Array	76.91	316	P	P	19 09 52.9	+1.1
	comp=Z,1.7nm,0.9s,baz=135,slow=6.4,SNR=6.7						
KSAR	Wonju Array Be	76.93	315	P	P	19 09 52.9	+0.9
X16A	Lo Mia Camp, P	77.12	48	P	P	19 09 53.6	+0.3
	baz=77						
319A	Douglas	77.25	52	P	P	19 09 54.4	+0.4
	baz=77						
CCUT	Cedar City	77.38	45	eP	P	19 09 52.9	-1.9
	comp=Z,25nm,1.4s						
U15A	North Rim	77.53	46	P	P	19 09 55.9	+0.2
	baz=78						
CISI	Cisompet, Garu	77.56	266	P	P	19 09 56.3	+0.2
CISI	Cisompet, Garu	77.56	266	P	P	19 09 55.7	-0.4
	baz=78,SNR=4.9						
KSM	Kuching	77.60	275	eP	P	19 09 56.5	+0.2
	comp=Z,45nm,1.0s						
KSM	Kuching	77.60	275	P	P	19 09 56.5	+0.2
	comp=Z,51nm,4.6s						
KSM	Kuching	77.60	275	P	P	19 09 57.1	+0.9
	baz=78,SNR=11						
LON	Longmire	77.66	33	eP	P	19 09 55.4	-0.5
LON				pmax	pmax		
	comp=Z,10.0nm,0.8s						
LON	Longmire	77.66	33	eP	P	19 09 55.4	-0.5
	comp=Z,10nm,0.8s						
WUAZ	Wupatki	77.72	47	P	P	19 09 56.8	+0.2
	baz=78						
320A	Kipp Ranch, An	77.80	52	P	P	19 09 57.8	+0.6
	baz=78						
ELK	Elko	77.88	41	eP	P	19 09 56.0	-1.5
	comp=Z,2μm,3.9s						
LEM	Lembang	77.94	266	P	P	19 09 57.2	-1.1
	comp=Z,74nm,1.2s						
PGC	Sidney	78.06	31	eP	P	19 09 57.6	-0.4
	comp=Z,2.1nm,0.9s						
220A	Playas Peak, P	78.06	52	P	P	19 09 59.1	+0.5
	baz=78						
USRK	Ussuriysk Arra	78.16	323	P	P	19 09 58.9	+0.3
	comp=Z,5.3nm,0.9s,baz=158,slow=4.2,SNR=9.6						
X18A	Snowflake	78.25	49	P	P	19 10 00.3	+0.6
	baz=78						
120A	U Bar Ranch, L	78.28	51	P	P	19 10 00.4	+0.5
	baz=78						
Z20A	Nine Sixteen R	78.57	51	P	P	19 10 02.0	+0.6
	baz=79						
MVU	Marysvale	78.66	44	eP	P	19 10 01.7	-0.2
	comp=Z,17nm,0.9s						
221A	Mesquite Ranch	78.68	52	P	P	19 10 02.5	+0.5
	baz=79						
W18A	Petrified Fore	78.69	48	P	P	19 10 02.2	+0.1
	baz=79						
CBJI	Citeko	78.78	267	P	P	19 10 00.2	-2.6
	comp=Z,163nm,0.9s						
DBJI	Dramaga	78.84	266	P	P	19 10 02.2	-0.9
	comp=Z,68nm,5.0s						
121A	Cookes Peak, D	78.91	51	P	P	19 10 03.5	+0.1
	baz=79						
BMO	Blue Mountains	78.98	37	eP	P	19 10 02.7	-0.6
BMO				pmax	pmax		
	comp=Z,25nm,1.5s						
BMO	Blue Mountains	78.98	37	eP	P	19 10 02.7	-0.6
	comp=Z,25nm,1.5s						
MFID	Camas Ranch	79.02	39	P	P	19 10 04.0	+0.4
	baz=79						
Y20A	Horse Springs,	79.10	50	P	P	19 10 04.6	+0.1
	baz=79						
DUG	Dugway	79.14	43	P	P	19 10 04.4	0.0
	baz=79						
X20A	Quemado	79.31	49	P	P	19 10 06.0	+0.5
	baz=79						
Z21A	St. Cloud Mine	79.35	51	P	P	19 10 05.9	+0.1
	baz=80						
122A	Conniff Cattle	79.58	52	P	P	19 10 06.9	0.0
	baz=80						
W20A	Ramah	79.58	49	P	P	19 10 07.5	+0.5
	baz=80						
Y21A	Point of Rocks	79.67	50	P	P	19 10 07.8	+0.3
	baz=80						
X21A	Alamocita Cree	79.79	50	P	P	19 10 07.8	-0.3
	baz=80						
MDJ	Mudanjiang	79.80	322	P	P	19 10 08.0	+0.4
MDJ				pmax	pmax		
	comp=Z,7.0nm,1.1s						
MDJ	Mudanjiang	79.80	322	P	P	19 10 08.2	+0.5
Z22A	Elephant Butte	79.85	51	P	P	19 10 08.5	+0.1
	baz=80						
HLID	Hailey	79.95	39	P	P	19 10 08.4	-0.4
	baz=80						
DIV	Divide	80.00	13	eP	P	19 10 07.9	-0.6
	comp=Z,36nm,1.0s						
BMRM	Bremner River	80.12	14	eP	P	19 10 06.9	-2.2
	comp=Z,56nm,1.2s						
U20A	Newcomb	80.16	48	P	P	19 10 09.8	-0.3
	baz=80						
Y22A	Socorro	80.16	50	P	P	19 10 09.8	-0.3
	baz=80						
324A	Moseley Ranch,	80.18	53	P	P	19 10 09.8	-0.4
	baz=80						
425A	Indio Mountain	80.28	54	P	P	19 10 10.8	0.0
	baz=80						
MNTX	Cornudas Mount	80.37	53	eP	P	19 10 10.6	-0.5
	comp=Z,6.3nm,0.8s						
X22A	Bernardo	80.38	50	P	P	19 10 12.0	+0.7
	baz=80						
Z23A	Rita Site, Whi	80.40	51	P	P	19 10 12.0	+0.6
	baz=80						
224A	Cornudas Mount	80.42	53	P	P	19 10 11.8	+0.3
	baz=80						
626A	Big Bend Ranch	80.44	56	P	P	19 10 11.5	0.0
	baz=80						
PPBI	Pangkal Pinang	80.59	270	P	P	19 10 13.4	+0.7
526A	Mary Lane Ranc	80.68	55	P	P	19 10 12.9	-0.1
	baz=81						
TXAR	Lajitas Array	80.72	56	P	P	19 10 12.9	-0.2
TXAR	Lajitas Array	80.72	56	P	P	19 10 12.9	-0.2
	comp=Z,2.8nm,0.6s,baz=219,slow=8.6,SNR=21						
124A	Stringfield Ra	80.75	52	P	P	19 10 13.2	-0.1
	baz=81						
U21A	Nageezi	80.80	48	P	P	19 10 13.7	+0.1
	baz=81						
Y23A	Lovelace Mesa,	80.83	51	P	P	19 10 13.5	-0.2
	baz=81						
NJ2	Nanjing	80.87	307	eP	P	19 10 09.3	-4.4
NJ2				pmax	pmax		
	comp=Z,60nm,1.1s						
PV01	Paradox Valley	80.96	46	P	P	19 10 14.2	-0.2
225A	Deer Hill, Car	80.97	53	P	P	19 10 14.7	+0.2
	baz=81						
426A	McDonald Obser	80.98	55	P	P	19 10 14.1	-0.6
	baz=81						
627A	Terlingua Ranc	80.98	56	P	P	19 10 14.5	-0.1
	baz=81						
ANMO	Albuquerque	80.99	50	eP	P	19 10 13.2	-1.3
	comp=Z,1μm,3.6s						
Z24A	Sheeppen Canyo	81.09	52	P	P	19 10 14.9	-0.2
	baz=81						
527A	Woodward Ranch	81.09	55	P	P	19 10 14.8	-0.4
	baz=81						
NEW	Newport	81.09	34	eP	P	19 10 13.1	-1.5
	comp=Z,6.3nm,0.8s						
NEW	Newport	81.09	34	P	P	19 10 14.1	-0.5
	baz=81						
V22A	San Miguel Ran	81.10	49	P	P	19 10 14.3	-0.8
	baz=81						
KLI	Kotabumi	81.10	267	P	P	19 10 15.3	-0.1
	comp=Z,68nm,0.4s						
T21A	Navajo Lake	81.14	48	P	P	19 10 15.2	-0.2
	baz=81						
KASI	Kota Agung	81.27	267	P	P	19 10 15.5	-0.8
	comp=Z,75nm,1.1s						
S21A	Coal Bank Pass	81.28	47	P	P	19 10 16.3	+0.1
	baz=81						
326A	Caldwell Ranch	81.29	54	P	P	19 10 15.5	-0.6
	baz=81						
Y24A	Capitan	81.29	51	P	P	19 10 15.8	-0.4
	baz=81						
W23A	Werner Place,	81.31	50	P	P	19 10 16.0	-0.3
	baz=81						
125A	Gardner Draw,	81.33	52	P	P	19 10 16.1	-0.3
	baz=82						
U22A	Llaves	81.35	48	P	P	19 10 16.0	-0.5
	baz=82						
628A	Black Gap, Mar	81.40	56	P	P	19 10 16.0	-0.7
	baz=82						
226B	Tecolote Peak,	81.46	53	P	P	19 10 16.6	-0.4
	baz=82						
427A	Hayter Ranch,	81.55	55	P	P	19 10 17.0	-0.5
	baz=82						
V23A	Ortiz Mt. (NFS	81.55	49	P	P	19 10 17.6	+0.1
	baz=82						
Z25A	Roswell	81.55	52	P	P	19 10 17.2	-0.3
	baz=82						
X24A	Lazy VL Ranch,	81.57	50	P	P	19 10 17.3	-0.4
	baz=82						
T22A	Edith	81.60	48	P	P	19 10 17.4	-0.4
	baz=82						
PMBI	Palembang	81.70	269	P	P	19 10 19.0	+0.5
PMBI	Palembang	81.70	269	P	P	19 10 31.8	+13
	baz=82,SNR=3.2						
PAX	Paxson	81.72	12	eP	P	19 10 16.7	-0.9
PAX				pmax	pmax		
	comp=Z,8.0nm,1.1s						
PAX	Paxson	81.72	12	eP	P	19 10 16.7	-0.9
	comp=Z,7.9nm,1.1s						
528A	Cox Ranch, San	81.75	55	P	P	19 10 18.0	-0.6
	baz=82						
MCK	McKinley	81.75	11	eP	P	19 10 17.3	-0.4
MCK				pmax	pmax		
	comp=Z,40nm,1.0s						
MCK	McKinley	81.75	11	eP	P	19 10 17.2	-0.4
	comp=Z,40nm,1.0s						
CLNB	Carlsbad	81.76	53	P	P	19 10 18.2	-0.3
	comp=Z,0.9nm,0.2s						
HYT	Haines Junctio	81.78	17	eP	P	19 10 18.2	+0.2
U23A	El Rito	81.80	49	P	P	19 10 18.3	-0.5
	baz=82						
126A	Clayton Basin,	81.81	53	P	P	19 10 18.0	-0.8
	baz=82						
LWLI	Liwa	81.82	267	P	P	19 10 19.2	-0.1
	comp=Z,125nm,0.8s						
Y25A	Mesa, Roswell	81.85	51	P	P	19 10 18.4	-0.6
	baz=82						
MDSI	Maura Dua	81.85	268	P	P	19 10 18.1	-1.2
CN2	Changchun	81.85	320	∥P	P	19 10 19.0	+0.4
CN2				eSP	sP	19 10 26.0	+0.2
CN2				eS	S	19 20 30.3	-1.2
CN2				pmax	pmax		
	comp=Z,20nm,0.7s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,1μm,18.0s						
CN2				LR	LR		
	comp=E,1μm,18.0s						
CN2				LR	LR		
	comp=Z,2μm,19.0s						
W24A	Lazy 6 Ranch,	81.88	50	P	P	19 10 18.6	-0.6
	baz=82						
S22A	4UR Ranch, Cre	81.99	47	P	P	19 10 19.9	0.0
	baz=82						
MSO	Missoula	82.04	37	P	P	19 10 19.8	0.0
	baz=82						
428A	Kincaid Ranch,	82.06	55	P	P	19 10 19.7	-0.5
	baz=82						
MENT	Mentasta	82.06	13	eP	P	19 10 19.4	0.0
Z26A	Caprock	82.11	52	P	P	19 10 20.0	-0.4
	baz=82						
X25A	Clemmons Ranch	82.13	51	P	P	19 10 19.6	-0.9
	baz=82						
BSMT	Bassoo Peak	82.13	35	eP	P	19 10 19.2	-1.1
	comp=Z,19nm,1.3s						
529A	Stev Forest Ra	82.19	56	P	P	19 10 20.2	-0.6
	baz=82						
V24A	Rampart Ranch,	82.20	49	P	P	19 10 20.1	-1.0
	baz=82						
328A	Wristen Ranch,	82.23	54	P	P	19 10 20.4	-0.7
	baz=82						
DLBC	Dease Lake	82.23	21	P	P	19 10 19.4	-0.9
DLBC	Dease Lake	82.23	21	P	P	19 10 20.4	0.0
	comp=Z,2.5nm,0.8s,baz=217,slow=11,SNR=3.0						
R22A	Saguache, Gunn	82.26	47	P	P	19 10 20.2	-1.2
	baz=82						
127A	Arkansas Junct	82.33	53	P	P	19 10 20.9	-0.7
	baz=82						
Y26A	Elida	82.50	52	P	P	19 10 22.3	-0.2
	baz=83						
PDAR	Pinedale Array	82.56	42	P	P	19 10 22.3	-0.4
PDAR	Pinedale Array	82.56	42	P	P	19 10 22.3	-0.4
	comp=Z,7.0nm,0.7s,baz=218,slow=2.2,SNR=2.3						
429A	Davenport Ranc	82.64	55	P	P	19 10 22.5	-0.7
	baz=83						
228A	UT Block 9, Go	82.70	54	P	P	19 10 23.1	-0.4
	baz=83						
Z27A	Tatum	82.71	52	P	P	19 10 23.6	+0.1
	baz=83						
T24B	San Luis	82.71	48	P	P	19 10 23.9	+0.2
	baz=83						
V25A	Rancho No Teng	82.73	50	P	P	19 10 23.6	-0.1
	baz=83						
530A	J-C Ranch, Com	82.90	56	P	P	19 10 23.6	-0.9
	baz=83						
R23A	Moffat	82.90	47	P	P	19 10 23.9	-0.7
	baz=83						
329A	Wagon Wheel Ra	82.92	55	P	P	19 10 24.0	-0.6
	baz=83						
N21A	Black Mountain	82.92	44	P	P	19 10 23.3	-1.4
	baz=83						
SDCO	Great Sand Dun	82.93	48	eP	P	19 10 24.3	-0.5
	comp=Z,5.9nm,0.8s						
L20A	Wamsutter	82.97	43	P	P	19 10 25.4	+0.5
	baz=83						
128A	Castleberry Fa	82.98	53	P	P	19 10 24.2	-0.7
	baz=83						
Y27A	Causey	82.98	52	P	P	19 10 23.9	-1.1
	baz=83						
COLA	College	82.99	11	eP	P	19 10 23.4	-0.7
COLA				pmax	pmax		
	comp=Z,227nm,1.0s						
COLA	College	82.99	11	eP	P	19 10 23.4	-0.7
	comp=Z,226nm,1.0s						
W26A	Owens Ranch, T	83.04	51	P	P	19 10 24.1	-1.1
	baz=83						
ILAR	Eielson Array	83.07	11	P	P	19 10 23.3	-1.2
ILAR	Eielson Array	83.07	11	P	P	19 10 23.3	-1.2
	comp=Z,7.9nm,0.4s,baz=231,slow=5.7,SNR=27						
S24A	Houchin Ranch,	83.09	48	P	P	19 10 25.6	-0.1
	baz=83						
IMA2	Indian Mountai	83.21	8	eP	P	19 10 23.7	-1.7
631A	Perdido Creek	83.22	57	P	P	19 10 25.4	-0.8
	baz=83						
430A	Baggett Ranch,	83.23	55	P	P	19 10 24.9	-1.3
	baz=83						
K20A	Yellowstone Ra	83.28	42	P	P	19 10 26.2	-0.2
	baz=83						
SEY	Seymchan	83.29	345	∥eP	P	19 10 25.6	-0.1
WALA	Waterton Lakes	83.29	35	eP	P	19 10 25.4	-0.8
	comp=Z,0.2nm,0.7s						
MSTX	Muleshoe	83.31	52	eP	P	19 10 24.8	-1.9
MSTX	Muleshoe	83.31	52	P	P	19 10 26.5	-0.2
	baz=83						
Z28A	Tucker Farm, M	83.33	53	P	P	19 10 25.8	-0.9
	baz=83						
X27A	F and S Farms,	83.35	51	P	P	19 10 24.5	-2.4
	baz=84						
M21A	Separation Pea	83.42	43	P	P	19 10 26.2	-1.0
	baz=84						
R24A	Sanders Place,	83.42	47	P	P	19 10 26.6	-0.7
	baz=84						
732A	Laxson Ranch,	83.45	58	P	P	19 10 26.6	-0.7
	baz=84						
QIZ	Qiongzhong	83.50	292	P	P	19 10 26.5	-1.3
QIZ				S	S	19 20 48.8	-0.5
QIZ				pmax	pmax		
	comp=Z,41nm,1.3s						
330A	Mertzon	83.52	55	P	P	19 10 26.7	-1.0
	baz=84						
531A	Rocksprings	83.53	56	P	P	19 10 27.3	-0.5
	baz=84						
W27A	Bowe Ranch, En	83.55	51	P	P	19 10 27.3	-0.6
	baz=84						
KSI	Kapahiang	83.60	268	P	P	19 10 28.0	-0.5
	comp=Z,100nm,0.9s,comp=Z,57μm						
U26A	Atchley Ranch,	83.61	49	P	P	19 10 27.4	-0.8
	baz=84						
N22A	Wattenberg Ran	83.65	44	P	P	19 10 27.7	-0.7
	baz=84						
431A	Sonora	83.68	56	P	P	19 10 26.9	-1.7
	baz=84						
230A	Sterling City	83.76	54	P	P	19 10 27.8	-1.1
	baz=84						
Z29A	Hungry Hill Ra	83.84	53	P	P	19 10 28.2	-1.1
	baz=84						
H19A	Powell	83.86	40	P	P	19 10 28.5	-0.7
	baz=84						
632A	Uvalde	83.89	57	P	P	19 10 28.4	-1.2
	baz=84						
R25A	Fountain Ranch	83.97	48	P	P	19 10 29.1	-0.9
	baz=84						
532A	Rocksprings	84.03	56	P	P	19 10 29.2	-1.1
	baz=84						
I20A	Worland	84.05	41	P	P	19 10 29.9	-0.3
	baz=84						
331A	San Angelo	84.07	55	P	P	19 10 29.3	-1.2
	baz=84						
130A	Snyder	84.15	54	P	P	19 10 30.1	-0.8
	baz=84						
J21A	Lysite	84.19	42	P	P	19 10 30.7

JCT	Junction City	84.25	56	P		P	19 10 30.6	-0.8
	baz=84							
U27A	Thompson Grove	84.29	50	P		P	19 10 30.2	-1.4
	baz=84							
Z30A	Sanderson Ranc	84.29	53	P		P	19 10 29.9	-1.7
	baz=84							
X29A	Tulia	84.32	52	P		P	19 10 30.7	-1.1
	baz=84							
231A	Bronte	84.40	55	P		P	19 10 30.8	-1.4
	baz=84							
432A	Menard	84.41	56	P		P	19 10 30.6	-1.6
	baz=84							
I21A	Big Trails, Te	84.51	42	P		P	19 10 31.8	-0.8
	baz=85							
131A	Roby	84.63	54	P		P	19 10 32.2	-1.1
	baz=85							
W29A	Amraillo	84.63	51	P		P	19 10 32.6	-0.8
	baz=85							
332A	Millersview	84.64	55	P		P	19 10 32.9	-0.5
	baz=85							
Y30A	Stafford Cattl	84.70	53	P		P	19 10 33.3	-0.4
	baz=85							
RGRI	Rengat	84.75	271	P		P	19 10 34.8	+0.5
L23A	Garrett	84.76	44	P		P	19 10 33.5	-0.5
	baz=85							
COLD	Coldfoot	84.79	9	*e*P		P	19 10 33.2	-0.1
	comp=Z,17nm,1.1s							
E19A	Rath Farm, Rou	84.87	39	P		P	19 10 33.8	-0.4
	baz=85							
232A	Coleman	84.91	55	P		P	19 10 33.9	-0.8
	baz=85							
F20A	Billings	84.93	39	P		P	19 10 34.3	-0.3
	baz=85							
X30A	Coker Ranch, T	84.95	52	P		P	19 10 33.9	-0.9
	baz=85							
H21A	Big Horn, Sher	85.06	41	P		P	19 10 34.5	-0.8
	baz=85							
Z31A	Sharp Cattle R	85.06	53	P		P	19 10 34.6	-0.8
	baz=85							
EGMT	Eagleton	85.08	37	P		P	19 10 35.2	-0.1
	baz=85							
R27A	Eads	85.09	48	P		P	19 10 34.8	-0.8
	baz=85							
T28A	Walsh	85.10	49	P		P	19 10 35.2	-0.5
	baz=85							
KRJI	Kerinci	85.11	269	P		P	19 10 35.2	-1.0
	comp=Z,178nm,0.8s							
ABTX	Abilene, Hawle	85.19	54	*e*P		P	19 10 35.0	-1.1
ABTX	Abilene, Hawle	85.19	54	P		P	19 10 35.3	-0.8
	baz=85							
Y31A	Rekieta Farm,	85.22	53	P		P	19 10 35.6	-0.7
	baz=85							
U29A	Oasis Ranch, S	85.45	50	P		P	19 10 36.9	-0.5
	baz=86							
M25A	Palm-Egli Farm	85.56	45	P		P	19 10 38.2	+0.3
	baz=86							
Z32A	Haskell	85.58	54	P		P	19 10 37.7	-0.3
	baz=86							
V30A	Spur Ranch, Mi	85.60	51	P		P	19 10 38.1	0.0
	baz=86							
X31A	McDonald Ranch	85.70	52	P		P	19 10 37.7	-0.9
	baz=86							
Y32A	R-V Farms, Ver	85.87	53	P		P	19 10 38.9	-0.6
	baz=86							
EDM	Edmonton	85.91	31	*e*P		P	19 10 39.5	+0.3
EDM	Edmonton	85.91	31	*e*P		P	19 10 39.5	+0.3
W31A	Holland Ranch,	85.94	52	P		P	19 10 38.9	-0.9
	baz=86							
BJT	Baijiatuau	86.21	313	*e*P		P	19 10 42.0	+1.1
	comp=Z,25nm,0.8s							
BJI	Beijing	86.21	313	P		P	19 10 42.0	+1.1
BJI				pmax		pmax		
	comp=Z,19nm,1.1s							
PPI	Padang Panjang	86.58	271	P		P	19 10 54.5	+11
	baz=87,SNR=3.5							
Q29A	Oakley	86.64	48	P		P	19 10 42.7	-0.5
	baz=87							
WMOK	Wichita Mounta	86.65	53	*e*P		P	19 10 41.2	-2.1
WMOK				pmax		pmax		
	comp=Z,3.0nm,0.6s							
WMOK	Wichita Mounta	86.65	53	*e*P		P	19 10 41.2	-2.1
	comp=Z,2.8nm,0.6s							
WHTX	Lake Whitney	86.67	56	*e*P		P	19 10 42.4	-1.1
WHTX	Lake Whitney	86.67	56	P		P	19 10 42.9	-0.5
	baz=87							
T31A	Randall Ranch,	86.88	50	P		P	19 10 43.5	-0.9
	baz=87							
S31A	Mullinville	87.22	50	P		P	19 10 45.5	-0.5
	baz=87							
MAW	Mawson	87.23	199	P		P	19 10 45.7	+0.2
MAW	Mawson	87.23	199	P		P	19 10 45.7	+0.2
	comp=Z,7.3nm,0.8s,baz=137,slow=8.1,SNR=10.0							
MAW	Mawson	87.23	199	P		P	19 10 46.1	+0.6
	baz=87,SNR=7.4							
IPM	Ipoh	87.34	275	*e*P		P	19 10 47.8	+0.7
	comp=Z,16nm,0.7s							
ENH	Enshi	87.59	302	*e*P		P	19 10 47.7	-0.3
	comp=Z,8.9nm,0.9s							
GYA	Guiyang	88.69	298⇑	*i*P		P	19 10 53.3	-0.1
GYA				PP		PP	19 14 25.5	+3.1
GYA				SKS		SKSac	19 21 19.5	-3.1
GYA				S		S	19 21 38.0	-2.1
GYA				pmax		pmax		
	comp=Z,20nm,1.2s							
GYA				pmax		pmax		
	comp=Z,120nm,6.1s							
GYA				LR		LR		
	comp=N,540nm,20.9s							
GYA				LR		LR		
	comp=E,480nm,23.4s							
GYA				LR		LR		
	comp=Z,580nm,21.6s							
PLCA	Paso Flores	88.78	132	P		P	19 10 53.9	+0.3
	comp=Z,5.4nm,1.0s							
PLCA	Paso Flores	88.78	132	P		P	19 10 54.0	+0.5
	comp=Z,3.9nm,0.8s,baz=205,slow=4.8,SNR=7.9							
INK	Inuvik	88.87	14	*e*P		P	19 10 52.6	-0.5
	comp=Z,11nm,1.1s							
INK	Inuvik	88.87	14	P		P	19 10 53.6	+0.5
	comp=Z,1.7nm,0.4s,baz=273,slow=2.7,SNR=3.7							
HHC	Hu-ho-hao-te	89.76	313	*e*P		P	19 10 58.3	+0.2
HHC				sP		sP	19 11 04.0	-1.3
HHC				PP		PP	19 14 31.8	+1.1
HHC				SKS		SKSac	19 21 25.8	-2.5
HHC				S		S	19 21 46.5	-3.1
HHC				sS		ScS	19 21 54.8	+0.9
HHC				pmax		pmax		
	comp=Z,120nm,1.1s							
HHC				pmax		pmax		
	comp=Z,580nm,6.3s							
HHC				LR		LR		
	comp=N,350nm,16.9s							
HHC				LR		LR		
	comp=E,660nm,17.7s							
HHC				LR		LR		
	comp=Z,1μm,18.2s							
GSI	Gunungsitoli	89.77	271	P		P	19 10 59.7	+1.1
KCSI	Kotacane, Aceh	90.19	274	P		P	19 11 02.0	+1.4
YKA	Yellowknife Ar	90.61	23	P		P	19 11 00.8	-0.5
YKA	Yellowknife Ar	90.61	23	P		P	19 11 00.8	-0.5
	comp=Z,2.1nm,0.7s,baz=229,slow=4.6,SNR=3.5							
TEIG	Tepich	90.70	69	*e*P		P	19 11 02.3	-0.5
	comp=Z,15nm,1.1s							
TEIG	Tepich	90.70	69	P		P	19 11 02.8	0.0
	comp=Z,13nm,1.0s,baz=261,slow=1.8,SNR=7.5							
PBKT	Sadao Pong	90.79	287	P		P	19 11 04.4	+1.2
PBKT	Sadao Pong	90.79	287	P		P	19 11 06.1	+2.9
	comp=Z,422nm,0.8s							
JTS	JuntasAbangare	90.99	80	*e*P		P	19 11 05.0	+0.7
	comp=Z,238nm,0.9s							
JTS	JuntasAbangare	90.99	80	P		P	19 11 05.0	+0.7
	comp=Z,222nm,0.8s,SNR=7.6							
KMI	Kunming	91.65	296	P		P	19 11 08.8	+1.4
KMI				pmax		pmax		
	comp=Z,14nm,2.0s							
A29A	Manning Farm,	91.74	39	P		P	19 11 05.5	-1.5
	baz=92							
SYO	Syowa Base	91.97	191⇑	*e*P		P	19 11 06.3	-1.4
SNAA	Sanae	92.18	177	*e*P		P	19 11 09.4	+0.6
SNAA	Sanae	92.18	177	*e*P		P	19 11 08.3	-0.5
	comp=Z,11nm,1.1s							
SNAA	Sanae	92.18	177	P		P	19 11 09.1	+0.3
	comp=Z,1.9nm,0.9s,baz=216,slow=5.2,SNR=7.7							
SUKH	Sukhothai	92.27	287	P		P	19 11 11.9	+1.8
	comp=Z,7.9nm,0.9s							
A30A	Hoffart Farm,	92.32	40	P		P	19 11 08.7	-0.9
	baz=92							
CD2	Chengdu	92.48	301	P		P	19 11 10.5	-0.4
CD2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
LAMP	Lampang	92.56	288	P		P	19 11 13.1	+1.7
	comp=Z,17nm,0.8s,comp=Z,132nm							
VNA1	Neumayer--Stat	92.82	175	*e*P		P	19 11 13.8	+2.2
CMAR	Chiang Mai Arr	93.17	288	P		P	19 11 15.5	+1.2
CMAR	Chiang Mai Arr	93.17	288	P		P	19 11 15.5	+1.2
	comp=Z,14nm,0.9s,baz=96,slow=2.8,SNR=47							
CHTO	Chiang Mai	93.27	289	*e*P		P	19 11 15.3	+0.6
CHTO	Chiang Mai	93.27	289	*e*P		P	19 11 15.3	+0.6
	comp=Z,60nm,0.8s							
CHTO	Chiang Mai	93.27	289	P		P	19 11 15.5	+0.8
CHTO	Chiang Mai	93.27	289	P		P	19 11 15.9	+1.2
CFAA	Coronel Fontan	93.76	124	P		P	19 11 17.5	+0.6
CFAA	Coronel Fontan	93.76	124	P		P	19 11 17.5	+0.6
	comp=Z,0.2nm,0.5s,baz=288,slow=4.8,SNR=6.3							
LZH	Lanzhou	93.93	306	*e*P		P	19 11 20.0	+2.4
LZH				pP		pP	19 11 23.3	+0.4
LZH				sP		sP	19 11 25.5	+0.7
LZH				PP		PP	19 15 05.0	+1.3
LZH				*e*S		S	19 22 27.3	-0.2
LZH				sS		sS	19 22 34.5	-1.8
LZH				pmax		pmax		
	comp=Z,29nm,1.2s							
LZH				pmax		pmax		
	comp=Z,250nm,5.0s							
LZH				LR		LR		
	comp=N,870nm,15.6s							
LZH				LR		LR		
	comp=E,1μm,17.0s							
LZH				LR		LR		
	comp=Z,1μm,18.1s							
SONM	Songino Array	95.61	318	P		P	19 11 25.8	+0.8
SONM	Songino Array	95.61	318	P		P	19 11 25.8	+0.8
	comp=Z,1.3nm,0.9s,baz=98,slow=2.9,SNR=3.9							
TIXI	Tiksi	95.78	344⇓	*e*P		P	19 11 27.7	+2.7
TIXI				pmax		pmax		
	comp=Z,13nm,1.0s							
GTA	Gaotai	97.89	309	*e*P		Pdif	19 11 36.5	+0.9
GTA				pP		pP	19 11 41.5	+0.6
GTA				sP		sP	19 11 43.8	+1.1
GTA				pmax		pmax		
	comp=Z,10.0nm,1.0s							
MKAR	Makanchi Array	111.57	314	PKIKP		PKiKP	19 16 32.7	-1.2
MKAR	Makanchi Array	111.57	314	PKiKP		PKiKP	19 16 32.7	-1.2
MKAR	Makanchi Array	111.57	314	PKiKP		PKiKP	19 16 32.7	-1.2
	comp=Z,0.5nm,0.7s,baz=76,slow=1.1,SNR=4.8							
KURK	Kurchatov	113.90	319	PKIKP		PKiKP	19 16 36.6	-1.6
KURK	Kurchatov	113.90	319	PKiKP		PKiKP	19 16 36.6	-1.6
KURBB	Kurchatov Arra	113.97	319	PKiKP		PKiKP	19 16 36.6	-1.7
	comp=Z,1.1nm,0.9s,baz=90,slow=2.2,SNR=5.7							
KSH	Kashi	116.18	306	*e*PKP		PKPdf	19 16 44.8	+1.7
KSH				PP		PP	19 17 55.8	+7.2
KSH				PKS		PKSdf	19 20 20.3	+0.4
KSH				SKS		SKSdf	19 23 55.8	+0.9
KSH				SKKS		SKKSac	19 24 48.8	-0.5
BVAR	Borovoye Array	118.66	322	PKIKP		PKPdf	19 16 46.8	-0.5
BVAR	Borovoye Array	118.66	322	PKP		PKPdf	19 16 46.8	-0.5
BVAR	Borovoye Array	118.66	322	PKP		PKPdf	19 16 46.8	-0.5
	comp=Z,1.7nm,0.8s,baz=93,slow=2.9,SNR=7.8							
ARCES	ARCESS Array B	125.36	352	PKP		PKPdf	19 16 59.3	-0.4
ARCES	ARCESS Array B	125.36	352	PKP		PKPdf	19 16 59.3	-0.4
	comp=Z,6.7nm,0.9s,baz=7.1,slow=2.2,SNR=5.9							
BOSA	Boshof	132.15	202	PKP		PKPdf	19 17 15.7	+1.6
BOSA	Boshof	132.15	202	PKP		PKPdf	19 17 15.7	+1.6
	comp=Z,3.2nm,1.0s,baz=160,slow=3.1,SNR=4.3							
FINES	FINESS Array B	132.71	348	PKP		PKPdf	19 17 15.1	+1.2
FINES	FINESS Array B	132.71	348	PKP		PKPdf	19 17 15.1	+1.2
	comp=Z,1.4nm,0.7s,baz=90,slow=1.9,SNR=4.3							
OBN	Obninsk	134.90	336⇓	*i*PKIKP		PKPdf	19 17 21.4	+3.3
OBN				pmax		pmax		
	comp=Z,6.0nm,0.7s							
NB2	NORSAR Subarra	135.03	357	PKPdf		PKPdf	19 17 21.7	+3.4
	comp=Z,3.3nm,1.2s,baz=6.6,slow=1.8							
NOA	NORSAR Array B	135.03	357	PKP		PKPdf	19 17 21.3	+3.0
NOA	NORSAR Array B	135.03	357	PKP		PKPdf	19 17 21.3	+3.0
	comp=Z,1.4nm,0.9s,baz=14,slow=4.2,SNR=3.3							
EKA	Eskdalemuir Ar	140.09	9	PKP		PKPdf	19 17 22.7	-5.0
EKA	Eskdalemuir Ar	140.09	9	PKP		PKPdf	19 17 22.7	-5.0
	comp=Z,1.3nm,0.9s,baz=316,slow=2.0,SNR=3.1							
AKASG	Malin Array Be	141.13	337	PKIKP		PKPpre	19 17 26.3	
AKASG	Malin Array Be	141.13	337	PKPpre		PKPpre	19 17 26.3	
AKASG	Malin Array Be	141.13	337	PKhKP		PKPpre	19 17 26.3	
	comp=Z,0.9nm,0.5s,baz=39,slow=4.0,SNR=6.4							
CLL	Collm	144.56	353	*e*PKPdf		PKPdf	19 17 37.0	+1.2
	comp=Z,15nm,0.9s							
CLL				*e*			19 17 44.0	
MALT	Malatya	144.61	315⇑	*i*P		PKPdf	19 17 36.5	0.0
STHS	Stebnicka Huta	144.81	344	*e*PKP		PKPdf	19 17 36.1	-0.3
STHS				*e*			19 19 23.4	
BRG	Berggiesshubel	144.87	352	*e*PKP		PKPdf	19 17 37.9	+1.5
	comp=Z,8.7nm,1.0s							
UPC	Upice	144.92	350⇓	*e*PKP		PKPab	19 17 35.6	0.0
KOLS	Kolonicke sedl	144.95	342	*e*PKP		PKPdf	19 17 36.3	-0.3
DPC	Dobruska-Polom	145.02	350⇓	*i*PKP		PKPab	19 17 36.4	+0.3
DPC				*ep*PKP		pPKPdf	19 17 42.1	-0.1
PVCC	Panska Ves	145.12	352⇓	*e*PKP		PKPdf	19 17 38.3	+1.4
PVCC				*ep*PKP		pPKPdf	19 17 42.1	-0.2
BURAR	Bucovina Array	145.15	338⇑	*i*P		PKPbc	19 17 36.4	-0.3
OKC	Ostrava-Krasne	145.16	347⇓	*e*PKP		PKPab	19 17 36.5	0.0
CRVS	Cervenica-Dubn	145.21	343	*e*PKP		PKPdf	19 17 37.4	+0.3
MORC	Moravsky Berou	145.34	348⇑	*i*P		PKPbc	19 17 35.8	-1.3
KMBO	Kilima Mbogo	145.54	243	PKP		PKPab	19 17 39.7	+0.3
KMBO	Kilima Mbogo	145.54	243	PKP		PKPab	19 17 39.7	+0.3
	comp=Z,16nm,1.0s,baz=63,slow=2.9,SNR=14							
TESR	Tescani	145.54	336⇑	*i*P		PKPdf	19 17 37.5	-0.2
MEM	Membach	145.58	1	PKP		PKPbc	19 17 37.8	+0.1
TRPA	Tarpa	145.59	341⇑	*i*P		PKPdf	19 17 37.1	-0.6
GHRR		145.60	335⇑	*i*P		PKPab	19 17 39.2	+1.0
SNF	Seneffe	145.62	3	PKP		PKPdf	19 17 37.7	0.0
PRU	Pruhonice	145.66	351⇓	*i*PKP		PKPbc	19 17 38.1	+0.1
PRU				*ep*PKP		pPKPdf	19 17 43.1	-0.1
TLCR		145.68	332⇓	*i*P		PKPab	19 17 39.0	+0.4
BMR	Baia Mare	145.69	340⇑	*i*P		PKPab	19 17 39.7	+1.1
BCLA	Clavier	145.75	2	PKP		PKPbc	19 17 38.1	-0.2
KECS	Kecovo	145.86	344	*e*PKP		PKPab	19 17 39.2	0.0
KECS				*e*			19 19 26.8	
VRAC	Vranov	145.97	349	PKPbc		PKPab	19 17 39.8	+0.2
VRAC	Vranov	145.97	349	PKPbc		PKPab	19 17 39.8	+0.2
	comp=Z,10.0nm,1.0s,baz=44,slow=2.1,SNR=5.1							
CFR	Carcaliu	145.99	333⇑	*i*P		PKPbc	19 17 39.2	0.0
VRI	Vrincioaia	146.03	335⇑	*i*P		PKPab	19 17 39.8	-0.1
DOU	Dourbes	146.05	3	PKP		PKPbc	19 17 39.1	-0.1
PLOR	Plostina	146.08	335⇓	*i*P		PKPab	19 17 41.3	+1.2
TREC	Trest	146.18	350⇓	*e*PKP		PKPab	19 17 44.7	+4.3
TREC				*ex*		x	19 17 49.6	
GRFO	Grafenberg	146.33	355	*e*PKP2		PKPbc	19 17 40.4	+0.3
GRFO	Grafenberg	146.33	355	*e*PKPdf		PKPbc	19 17 40.4	+0.3
TIRR	Tirgusor	146.42	332⇑	*i*P		PKPbc	19 17 40.0	-0.5
TLB	Topalu	146.49	332⇑	*i*P		PKPbc	19 17 40.8	+0.1
WLF	Walferdange	146.53	1	PKP		PKPbc	19 17 41.0	+0.3
PSZ	Piszkesteto	146.54	344⇓	*i*P		PKPbc	19 17 41.2	+0.3
SMOL	Smolenice	146.56	347	*e*PKP		PKPab	19 17 41.8	0.0
KHC	Kasperske Hory	146.63	352	PKP2		PKPab	19 17 42.9	+0.8
KHC	Kasperske Hory	146.63	352⇓	*i*PKP		PKPbc	19 17 41.2	+0.1
KHC				*ex*		x	19 17 48.2	
MLR	Muntele Rosu	146.66	335	PKPbc		PKPbc	19 17 41.7	+0.3
MLR	Muntele Rosu	146.66	335⇑	*i*P		PKPbc	19 17 41.5	+0.1
MLR	Muntele Rosu	146.66	335	PKPbc		PKPbc	19 17 41.7	+0.3
	comp=Z,3.7nm,0.8s,baz=69,slow=4.6,SNR=16							
ISR	Istrita	146.72	334⇑	*i*P		PKPbc	19 17 41.9	+0.4
DRGR		146.72	340⇑	*i*P		PKPbc	19 17 41.2	-0.3
GERES	GERESS Array B	146.89	352	PKPbc		PKPbc	19 17 41.4	-0.5
GERES	GERESS Array B	146.89	352	PKPbc		PKPbc	19 17 41.4	-0.5
	comp=Z,5.0nm,0.7s,baz=25,slow=2.6,SNR=16							
BR131	Keskin Array S	146.93	321	*e*PKPdf		PKPdf	19 17 40.3	-0.2
BR131				*e*PKPbc		PKPbc	19 17 42.9	+0.5
BRTR	Keskin Array B	146.93	321	PKPbc		PKPbc	19 17 42.4	0.0
BRTR	Keskin Array B	146.93	321	PKPbc		PKPbc	19 17 42.4	0.0
	comp=Z,25nm,0.8s,baz=108,slow=1.8,SNR=29							
ARR	Arges	147.27	337⇑	*i*P		PKPab	19 17 44.7	-0.1
ANTO	Ankara	147.35	322⇓	*i*P		PKPdf	19 17 42.1	+1.0
SIRR	Siria	147.53	341⇑	*i*P		PKPbc	19 17 44.3	+0.6
BFO	Black Forest	147.85	358	*e*PKP2		PKPbc	19 17 44.4	-0.1
BFO	Black Forest	147.85	358	*e*PKPbc		PKPbc	19 17 44.4	-0.1
ZALF	Zalf	147.85	307	*e*P		PKPbc	19 17 44.8	-0.2
GZR	Gura Zlata	147.93	339⇓	*i*P		PKPbc	19 17 43.9	-0.9
MARH	Ras Al Marh	148.03	309	*e*P		PKPab	19 17 48.2	-0.3
BZS	Buzias	148.12	340⇑	*i*P		PKPbc	19 17 45.3	+0.1
SALA	Sala	148.40	307	*e*P		PKPdf	19 17 44.8	+1.6
TCHB	Talchebab	149.00	307	*e*P		PKPbc	19 17 48.5	+0.5
DAVOX	Davos/Dischmat	149.32	356	PKPbc		PKPbc	19 17 48.6	+0.1
DAVOX	Davos/Dischmat	149.32	356	PKPbc		PKPbc	19 17 48.6	+0.1
	comp=Z,6.5nm,0.6s,baz=76,slow=2.5,SNR=16							
CSS	Prodhromos	149.84	313	*e*PKPbc		PKPbc	19 17 49.8	-0.2
VTS	Vitosha	150.16	335⇓	*i*P		PKPbc	19 17 50.3	-0.4
PGAV	Gavieira, Arco	151.09	24	*e*PKPab		PKPab	19 17 59.9	-0.5
PCAB	Cabril	151.40	24	*e*PKPbc		PKPbc	19 17 53.4	-0.1
POLO	Lamas de Olo	151.78	24	*e*PKPbc		PKPbc	19 17 54.5	0.0
PBRG	Braganca	151.80	22	*e*PKPbc		PKPbc	19 17 54.3	-0.1
MVO	Moncorvo	152.25	23	*e*PKPdf		PKPdf	19 17 49.2	+0.4
MVO	Moncorvo	152.25	23	*e*PKPbc		PKPbc	19 17 55.9	+0.4
MVO	Moncorvo	152.25	23	*e*PKPab		PKPab	19 18 05.1	-0.1
PVIS	Viseu	152.30	25	*e*PKPbc		PKPbc	19 17 54.7	-0.9
MTE	Manteigas	152.71	25	*e*PKPbc		PKPbc	19 17 56.5	-0.1
PTOM	Tomar	153.00	27	*e*PKPbc		PKPbc	19 17 57.3	+0.2
PMAFR	Mafra	153.15	29	*e*PKPbc		PKPbc	19 17 58.4	+0.9
PCBR	Castelo Branco	153.21	25	*e*PKPbc		PKPbc	19 17 57.6	0.0
PMRV	Marv??o	153.59	26	*e*PKPbc		PKPbc	19 17 57.5	-1.0
PESTR	Estremoz	153.98	27	*e*PKPab		PKPab	19 18 13.9	+1.4
EVO	Evora	154.07	28	*e*PKPbc		PKPbc	19 17 59.4	-0.1
ESDC	Sonseca Array	154.66	20	PKPab		PKPab	19 18 16.7	+1.3
ESDC	Sonseca Array	154.66	20	PKPab		PKPab	19 18 16.7	+1.3
	comp=Z,1.1nm,0.6s,baz=330,slow=3.7,SNR=7.2							
MORF	Marmelete	154.77	30	*e*PKPab		PKPab	19 18 17.3	+1.3
PBAR	Barrancos	154.79	27	*e*PKPbc		PKPbc	19 18 01.5	+0.5
PCVE	Castro Verde	154.79	29	*e*PKPab		PKPab	19 18 15.9	-0.1
PFVI	Vila Bisbo	154.82	31	*e*PKPbc		PKPbc	19 18 01.9	+0.8
TORD	Torodi Ar. Bea	174.11	119	PKP		PKPdf	19 18 08.7	-1.4
TORD				PKPab		PKPab	19 19 40.1	-1.3
TORD	Torodi Ar. Bea	174.11	119	PKP		PKPdf	19 18 08.7	-1.4
	comp=Z,4.2nm,0.7s,baz=207,slow=1.3,SNR=14							
TORD				PKPab		PKPab	19 19 40.1	-1.3
	comp=Z,3.5nm,0.8s,baz=254,slow=4.3,SNR=6.7							

*IDC **29** 18:59:43.0±1.5, 16°.72S×172°.95W, h0km, mb4.4/6, mb1 4.6/6, mb1mx4.3/19, mbtmp4.4/6, Error ellipse: s-maj=64.8km s-min=28.4km az=146.0*
*ISCJB **29** 18:59:45.7±1.6, 16°.9S±0°.4×173°.0W±0°.3, h32km, mb4.3/6, Error ellipse: s-maj=60.4km s-min=23.8km az=148.0*
ISC 29 18:59:47.6±1.4, 16°.8S±0°.4×172°.9W±0°.3, h32km, n17, σ0.76/17, mb4.4/6, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	49.97	258	P	P	19 08 39.2	+0.1
	3.2nm,1.0s,baz=95,slow=6.9,SNR=6.9						
ASAR	Alice Springs	50.11	253	P	P	19 08 40.6	+0.5
	9.3nm,0.6s,baz=86,slow=8.4,SNR=5.0						
FITZ	Fitzroy Crossi	58.37	259	P	P	19 09 39.0	-1.3
	3.7nm,1.0s,baz=153,slow=9.0,SNR=1.4						
PETK	Petropavlovsk-	74.13	342	P	P	19 11 19.9	-0.7
	5.6nm,0.9s,baz=132,slow=6.0,SNR=4.0						
KSRS	Korea Array	77.50	316	P	P	19 11 41.6	+1.4
	1.1nm,0.9s,baz=112,slow=5.4,SNR=4.4						
TXAR	Lajitas Array	81.04	56	P	P	19 11 59.8	-0.1
	1.0nm,0.8s,baz=238,slow=3.1,SNR=3.3						
KMBO	Kilima Mbogo	145.29	242	PKPbc	PKPdf	19 19 24.7	+1.2
	2.7nm,0.5s,baz=93,slow=4.2,SNR=5.4						
UPC	Upice	145.65	350	*e*PKP	PKPab	19 19 23.2	-0.1
DPC	Dobruska-Polom	145.75	349	*i* PKP	PKPab	19 19 24.1	+0.4
DPC				*ex*	x	19 19 30.7	
PVCC	Panska Ves	145.86	351	*e*PKP	PKPab	19 19 24.0	-0.1
OKC	Ostrava-Krasne	145.89	347	*e*PKP	PKPab	19 19 23.8	-0.4
OKC				*ex*	x	19 19 31.7	
PRU	Pruhonice	146.39	351	*e*PKP	PKPbc	19 19 25.3	+0.1
PRU				*ex*	x	19 19 32.3	
VRAC	Vranov	146.70	349	PKPbc	PKPdf	19 19 24.4	-0.2

ISC 29 19:05:52.7±0.7, 15°.37S±0°.09×172°.1W±0°.2, h23km, n25, σ1°.23/26, mb4.3/8, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.47**	**11**	Pn	**Pb**	**19 06 21.3**	**+1.9**
AFI				Sn	**Sn**	**19 06 33.8**	**-2.7**
AFI	**Afiamalu**	**1.47**	**11**	Pn	Pb	19 06 23.1	+3.6
AFI	151nm,0.3s,baz=108,slow=20,SNR=2.1			Sn	**Sn**	**19 06 33.8**	**-2.7**
URZ	641nm,0.3s,baz=200,slow=22,SNR=8.7 **Urewera**	**24.73**	**201**	P	**P**	**19 11 10.7**	**-1.6**
URZ	**Urewera**	**24.73**	**201**	P	**P**	**19 11 10.7**	**-1.6**
STKA	8.8nm,0.9s,baz=108,slow=20,SNR=2.0 **Stephens Creek**	**45.17**	**240**	P	**P**	**19 14 07.3**	**-0.6**
STKA	**Stephens Creek**	**45.17**	**240**	P	**P**	**19 14 07.3**	**-0.6**
WRA	2.8nm,0.8s,baz=104,slow=8.3,SNR=3.0 **Warramunga Arr**	**51.11**	**257**	P	**P**	**19 14 54.7**	**+0.7**
WRA	**Warramunga Arr**	**51.11**	**257**	P	**P**	**19 14 54.7**	**+0.7**
ASAR	1.1nm,0.7s,baz=96,slow=8.3,SNR=5.7 **Alice Springs**	**51.35**	**252**	P	**P**	**19 14 57.0**	**+1.2**
ASAR	**Alice Springs**	**51.35**	**252**	P	**P**	**19 14 57.0**	**+1.2**
SBA	2.2nm,0.6s,baz=90,slow=7.7,SNR=5.5 **Scott Base**	**63.39**	**185**	*eP*	**P**	**19 16 20.4**	**+0.5**
QSPA	2.8nm,0.8s **South Pole Qui**	**74.68**	**180**	P	**P**	**19 17 29.1**	**-1.2**
QSPA	**South Pole Qui**	**74.68**	**180**	P	**P**	**19 17 29.1**	**-1.2**
TXAR	2.0nm,0.8s,baz=96,slow=2.7,SNR=3.7 **Lajitas Array**	**79.52**	**56**	P	**P**	**19 17 59.1**	**+1.0**
TXAR	**Lajitas Array**	**79.52**	**56**	P	**P**	**19 17 59.1**	**+1.0**
MAW	0.4nm,0.7s,baz=218,slow=5.7,SNR=4.2 **Mawson**	**88.23**	**198**	P	**P**	**19 18 42.1**	**+0.4**
MAW	**Mawson**	**88.23**	**198**	P	**P**	**19 18 42.1**	**+0.4**
GERES	2.3nm,0.8s,baz=124,slow=3.6,SNR=3.5 **GERESS Array B**	**146.28**	**353**	PKPbc	**PKPab**	**19 25 32.6**	**+0.4**
GERES	**GERESS Array B**	**146.28**	**353**	PKPbc	**PKPab**	**19 25 32.6**	**+0.4**
MLR	1.3nm,0.8s,baz=48,slow=0.4,SNR=4.4 **Muntele Rosu**	**146.36**	**337**	PKPbc	**PKPab**	**19 25 33.2**	**+0.5**
MLR	**Muntele Rosu**	**146.36**	**337**	PKPbc	**PKPab**	**19 25 33.2**	**+0.5**
KMBO	1.3nm,1.1s,baz=17,slow=19,SNR=3.7 **Kilima Mbogo**	**146.71**	**243**	PKPbc	**PKPbc**	**19 25 33.8**	**-0.2**
KMBO	**Kilima Mbogo**	**146.71**	**243**	PKPbc	**PKPbc**	**19 25 33.8**	**-0.2**
BRTR	2.1nm,0.8s,baz=103,slow=8.2,SNR=2.8 **Keskin Array B**	**146.93**	**322**	PKPbc	**PKPab**	**19 25 35.2**	**+0.1**
BRTR	**Keskin Array B**	**146.93**	**322**	PKPbc	**PKPab**	**19 25 35.2**	**+0.1**
	2.7nm,0.7s,baz=32,slow=1.0,SNR=6.0						

IDC 29 19:08:05.0±0.8, 16°.43S×172°.82W, h0km, mb4.1/7, mb1 4.4/7, mb1mx4.1/19, mbtmp4.0/7, Error ellipse: s-maj=40.6km s-min=23.9km az=145.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**50.16**	**258**	P	P	19 17 01.5	-1.2
ASAR	0.6nm,0.5s,baz=93,slow=7.8,SNR=6.1 **Alice Springs**	**50.33**	**253**	P	P	19 17 03.8	-0.3
QSPA	4.4nm,0.5s,baz=89,slow=8.0,SNR=15 **South Pole Qui**	**73.62**	**180**	P	P	19 19 40.3	+0.2
TXAR	1.5nm,0.7s,baz=97,slow=1.9,SNR=5.1 **Lajitas Array**	**80.72**	**56**	P	P	19 20 20.7	0.0
PDAR	0.2nm,0.3s,baz=216,slow=4.5,SNR=3.2 **Pinedale Array**	**82.66**	**42**	P	P	19 20 30.1	-0.7
ILAR	0.9nm,0.9s,baz=197,slow=3.1,SNR=3.5 **Eielson Array**	**83.35**	**11**	P	P	19 20 32.6	-0.8
CMAR	0.9nm,0.7s,baz=213,slow=5.0,SNR=4.5 **Chiang Mai Arr**	**93.47**	**288**	P	P	19 21 24.8	+1.6
GERES	1.0nm,0.8s,baz=104,slow=2.6,SNR=6.9 **GERESS Array B**	**147.24**	**352**	PKPbc	PKPbc	19 27 50.6	+0.1
BRTR	0.5nm,0.8s,baz=23,slow=5.3,SNR=2.0 **Keskin Array B**	**147.31**	**320**	PKPbc	PKPbc	19 27 50.5	-0.5
	1.5nm,1.0s,baz=53,slow=2.7,SNR=4.3						

IDC 29 19:10:30.2±10.0, 15°.98S×173°.90W, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.6/17, mbtmp3.6/3, Error ellipse: s-maj=470.8km s-min=34.7km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**49.25**	**257**	P	P	19 19 20.5	-0.5
ASAR	0.2nm,0.5s,baz=93,slow=7.3,SNR=4.6 **Alice Springs**	**49.48**	**252**	P	P	19 19 22.4	-0.4
ILAR	0.7nm,0.5s,baz=91,slow=7.5,SNR=3.0 **Eielson Array**	**83.11**	**11**	P	P	19 22 56.5	-1.0
BRTR	0.5nm,0.7s,baz=223,slow=6.2,SNR=3.5 **Keskin Array B**	**146.30**	**320**	PKPbc	PKPab	19 30 14.4	+0.3
	1.1nm,0.9s,baz=48,slow=2.1,SNR=3.2						

*IDC **29** 19:11:39.7±1.3, 15°.46S×173°.59W, h0km, mb4.0/5, mb1 4.3/5, mb1mx4.1/19, mbtmp4.0/5, Error ellipse: s-maj=61.1km s-min=37.0km az=90.0*
*ISCJB **29** 19:11:40.3±0.9, 15°.4S±0°.2×173°.6W±0°.4, h10km, mb3.9/5, Error ellipse: s-maj=52.9km s-min=23.8km az=15.8*

ISC 29 19:11:41.1±1.1, 15°.4S±0°.2×173°.7W±0°.4, h10km, n13, σ0°.76/10, mb4.1/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CASY	**Casey**	**70.31**	**205**	P	P	19 22 57.1	+2.6
PETK	**Petropavlovsk-**	**72.56**	**342**	P	**P**	**19 23 08.4**	**+0.3**
PETK	**Petropavlovsk-**	**72.56**	**342**	P	**P**	**19 23 08.5**	**+0.3**
QSPA	1.8nm,0.7s,baz=149,slow=5.9,SNR=2.4 **South Pole Qui**	**74.64**	**180**	P	**P**	**19 23 20.5**	**0.0**
QSPA	**South Pole Qui**	**74.64**	**180**	P	**P**	**19 23 20.5**	**0.0**
TXAR	1.7nm,0.9s,baz=22,slow=4.5,SNR=3.1 **Lajitas Array**	**80.81**	**56**	P	**P**	**19 23 56.5**	**+0.9**
TXAR	**Lajitas Array**	**80.81**	**56**	P	**P**	**19 23 56.5**	**+0.9**
PDAR	1.0nm,1.0s,baz=231,slow=7.4,SNR=4.5 **Pinedale Array**	**82.43**	**42**	P	**P**	**19 24 02.9**	**-1.0**
PDAR	**Pinedale Array**	**82.43**	**42**	P	**P**	**19 24 02.9**	**-1.0**
ILAR	1.0nm,0.8s,baz=198,slow=3.9,SNR=5.2 **Eielson Array**	**82.50**	**11**	P	P	19 24 05.0	+1.5
ILAR	**Eielson Array**	**82.50**	**11**	P	P	19 24 05.0	+1.5
GERES	1.3nm,0.6s,baz=221,slow=6.7,SNR=9.5 **GERESS Array B**	**146.11**	**351**	PKPbc	**PKPab**	**19 31 22.0**	**-0.1**
GERES	**GERESS Array B**	**146.11**	**351**	PKPbc	**PKPab**	**19 31 22.0**	**-0.1**
	0.3nm,0.5s,baz=46,slow=4.2,SNR=2.3						

*NEIC **29** 19:11:44.1±0.9, 14°.91S×173°.72W, h10km, mb4.8/3, Error ellipse: s-maj=31.5km s-min=20.8km az=127.0*
*ISCJB **29** 19:11:46.9±0.8, 15°.2S±0°.2×174°.3W±0°.1, h10km, mb4.4/13, Error ellipse: s-maj=22.3km s-min=19.2km az=159.9*
*IDC **29** 19:11:46.8±0.8, 15°.25S×174°.28W, h0km, mb4.3/11, mb1 4.5/12, mb1mx4.3/22, mbtmp4.3/12, ML3.2/1, Error ellipse: s-maj=30.2km s-min=18.9km az=150.0*

ISC 29 19:11:48.0±0.8, 15°.2S±0°.2×174°.3W±0°.2, h10km, n27, σ1°.06/21, mb4.5/13, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.77**	**64**	Sn	Sn	19 12 53.9	-12
AFI	**Afiamalu**	**2.77**	**64**	Sn	Sn	19 12 53.9	-12
AFI	3μm,0.3s,baz=188,slow=24,SNR=24 **Afiamalu**	**2.77**	**64**	Pn	Pn	19 12 18.7	-14
URZ	**Urewera**	**24.21**	**197**	P	**P**	**19 17 05.4**	**+0.5**
URZ	**Urewera**	**24.21**	**197**	P	**P**	**19 17 05.4**	**+0.5**
CTA	11nm,0.7s,baz=10,slow=11,SNR=3.2 **Charters Tower**	**37.82**	**257**	P	**P**	**19 19 05.9**	**+0.8**
CTA	**Charters Tower**	**37.82**	**257**	P	**P**	**19 19 05.9**	**+0.8**
STKA	1.2nm,0.3s,baz=96,slow=9.2,SNR=3.6 **Stephens Creek**	**43.37**	**240**	P	**P**	**19 19 49.5**	**-1.3**
STKA	**Stephens Creek**	**43.37**	**240**	P	**P**	**19 19 49.5**	**-1.3**
WRAB	6.6nm,0.8s,baz=80,slow=8.1,SNR=7.8 **Tennant Creek**	**49.01**	**257**	*eP*	**P**	**19 20 35.4**	**0.0**
WRA	13nm,1.1s **Warramunga Arr**	**49.02**	**257**	P	**P**	**19 20 36.3**	**+0.8**
WRA	**Warramunga Arr**	**49.02**	**257**	P	**P**	**19 20 36.3**	**+0.8**
ASAR	2.3nm,0.5s,baz=95,slow=7.1,SNR=14 **Alice Springs**	**49.33**	**252**	P	**P**	**19 20 38.8**	**+0.9**
ASAR	**Alice Springs**	**49.33**	**252**	P	**P**	**19 20 38.8**	**+0.9**
FITZ	12nm,0.9s,baz=83,slow=8.7,SNR=12 **Fitzroy Crossi**	**57.38**	**258**	P	**P**	**19 21 38.1**	**+1.0**
FITZ	**Fitzroy Crossi**	**57.38**	**258**	P	**P**	**19 21 38.1**	**+1.0**
SBA	1.0nm,0.6s,baz=105,slow=6.2,SNR=6.6 **Scott Base**	**63.41**	**184**	*eP*	P	19 22 18.1	+0.7
VNDA	9.9nm,1.0s **Vanda**	**63.52**	**186**	P	**P**	**19 22 17.2**	**-0.8**
VNDA	4.7nm,1.1s **Vanda**	**63.52**	**186**	P	**P**	**19 22 17.5**	**-0.6**
QSPA	2.5nm,1.0s,baz=4.9,slow=1.1,SNR=5.2 **South Pole Qui**	**74.88**	**180**	P	**P**	**19 23 29.1**	**+0.2**
	5.1nm,1.0s,baz=54,slow=4.5,SNR=6.0						
TXAR	**Lajitas Array**	**81.23**	**56**	P	**P**	**19 24 05.9**	**+1.2**
TXAR	**Lajitas Array**	**81.23**	**56**	P	**P**	**19 24 05.9**	**+1.2**
PDAR	1.4nm,1.0s,baz=250,slow=6.4,SNR=2.9 **Pinedale Array**	**82.70**	**42**	P	**P**	**19 24 11.8**	**-0.5**
CMAR	2.5nm,1.0s,baz=235,slow=3.2,SNR=4.0 **Chiang Mai Arr**	**91.69**	**289**	P	P	19 24 58.2	+1.9
CMAR	**Chiang Mai Arr**	**91.69**	**289**	P	P	19 24 58.2	+1.9
BRTR	1.0nm,0.9s,baz=78,slow=2.4,SNR=5.5 **Keskin Array B**	**145.41**	**320**	PKPbc	**PKPab**	**19 31 25.2**	**-1.7**
BRTR	**Keskin Array B**	**145.41**	**320**	PKPbc	**PKPab**	**19 31 25.2**	**-1.7**
	3.2nm,1.0s,baz=126,slow=1.7,SNR=7.6						

IDC 29 19:11:53.6±2.1, 16°.25S×173°.18W, h0km, mb4.3/5, mb1 4.6/5, mb1mx4.2/18, mbtmp4.2/5, Error ellipse: s-maj=111.5km s-min=26.2km az=145.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**49.86**	**257**	P	P	19 20 48.3	-0.8
ASAR	1.8nm,0.7s,baz=96,slow=7.4,SNR=8.1 **Alice Springs**	**50.05**	**253**	P	P	19 20 50.5	0.0
PDAR	8.2nm,0.9s,baz=88,slow=8.4,SNR=11 **Pinedale Array**	**82.76**	**42**	P	P	19 24 18.8	-1.1
PDAR	**Pinedale Array**	**82.76**	**42**	P	P	19 24 18.8	-1.1
ILAR	2.0nm,0.8s,baz=203,slow=3.8,SNR=7.9 **Eielson Array**	**83.24**	**11**	P	P	19 24 21.0	-0.5
ILAR	**Eielson Array**	**83.24**	**11**	P	P	19 24 21.0	-0.5
CMAR	2.2nm,0.8s,baz=226,slow=5.8,SNR=9.8 **Chiang Mai Arr**	**93.08**	**288**	P	P	19 25 08.4	-1.6
KMBO	0.6nm,0.8s,baz=60,slow=4.3,SNR=3.2 **Kilima Mbogo**	**145.35**	**243**	PKPbc	PKPbc	19 31 33.9	-0.8
MLR	8.1nm,0.9s,baz=30,slow=5.6,SNR=11 **Muntele Rosu**	**146.73**	**335**	PKPbc	PKPab	19 31 38.4	-0.5
BRTR	0.6nm,0.8s,baz=47,slow=2.8,SNR=3.3 **Keskin Array B**	**146.95**	**320**	PKPbc	PKPab	19 31 39.4	-0.6
GERES	4.7nm,1.1s,baz=106,slow=2.7,SNR=5.9 **GERESS Array B**	**147.01**	**352**	PKPbc	PKPbc	19 31 38.9	+0.5
	2.1nm,0.8s,baz=46,slow=3.9,SNR=9.7						

*ISCJB **29** 19:12:02.2±0.7, 15°.0S±0°.2×172°.1W±0°.2, h10km, mb4.6/8, Error ellipse: s-maj=36.1km s-min=14.8km az=143.3*
*IDC **29** 19:12:02.1±1.8, 15°.17S×171°.99W, h0km, mb4.7/5, mb1 4.8/5, mb1mx4.4/20, mbtmp4.7/5, Error ellipse: s-maj=54.5km s-min=36.9km az=122.0*
*NEIC **29** 19:12:03.6±0.6, 14°.99S×172°.04W, h10km, mb4.5/3, Error ellipse: s-maj=32.0km s-min=12.2km az=141.0*

ISC 29 19:12:03.1±0.9, 14°.9S±0°.2×172°.1W±0°.2, h10km, n27, σ1°.67/25, mb4.7/8, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.04**	**18**	Pn	Pg	19 12 33.5	+10
AFI	**Afiamalu**	**1.04**	**18**	Pn	Pg	19 12 33.5	+10
URZ	255nm,0.3s,baz=270,slow=20,SNR=3.9 **Urewera**	**25.15**	**200**	P	**P**	**19 17 27.9**	**-0.5**
URZ	**Urewera**	**25.15**	**200**	P	**P**	**19 17 27.9**	**-0.5**
STKA	21nm,0.3s,baz=64,slow=6.2,SNR=9.4 **Stephens Creek**	**45.36**	**240**	P	**P**	**19 20 21.1**	**-0.7**
STKA	**Stephens Creek**	**45.36**	**240**	P	**P**	**19 20 21.1**	**-0.7**
WRAB	8.2nm,0.7s,baz=86,slow=10,SNR=4.2 **Tennant Creek**	**51.16**	**256**	*eP*	**P**	**19 21 08.2**	**+1.3**
WRA	11nm,1.0s **Warramunga Arr**	**51.17**	**256**	P	**P**	**19 21 08.2**	**+1.2**
WRA	**Warramunga Arr**	**51.17**	**256**	P	**P**	**19 21 08.2**	**+1.2**
ASAR	5.7nm,0.8s,baz=92,slow=7.4,SNR=8.3 **Alice Springs**	**51.45**	**251**	P	**P**	**19 21 09.5**	**+0.5**
ASAR	**Alice Springs**	**51.45**	**251**	P	**P**	**19 21 09.5**	**+0.5**
FITZ	17nm,0.8s,baz=84,slow=8.7,SNR=8.3 **Fitzroy Crossi**	**59.53**	**258**	P	**P**	**19 22 09.0**	**+1.8**
FITZ	**Fitzroy Crossi**	**59.53**	**258**	P	**P**	**19 22 09.0**	**+1.8**
SDCO	0.8nm,0.5s,baz=40,slow=13,SNR=5.3 **Great Sand Dun**	**81.46**	**47**	*eP*	**P**	**19 24 21.0**	**-0.1**
MSTX	2.4nm,0.9s **Muleshoe**	**81.87**	**52**	*eP*	**P**	**19 24 24.5**	**+1.4**
EGAK	**Eagle**	**82.85**	**13**	*eP*	**P**	**19 24 27.3**	**0.0**
ABTX	3.7nm,1.1s **Abilene, Hawle**	**83.76**	**54**	*eP*	**P**	**19 24 34.8**	**+1.9**
ARCES	**ARCESS Array B**	**124.28**	**353**	PKP	**PKPdf**	**19 31 03.4**	**+1.7**
ARCES	**ARCESS Array B**	**124.28**	**353**	PKP	**PKPdf**	**19 31 03.4**	**+1.7**
UPC	4.3nm,0.9s,baz=339,slow=2.3,SNR=3.9 **Upice**	**143.88**	**351**	*e*PKP	**PKPab**	**19 31 33.4**	**-2.4**
UPC				*ex*	x	19 31 40.4	
DPC	**Dobruska-Polom**	**143.99**	**351**	*e*PKP	**PKPab**	**19 31 33.3**	**-2.9**
DPC				*ex*	x	19 31 41.1	
OKC	**Ostrava-Krasne**	**144.16**	**349**	*e*PKP	**PKPab**	**19 31 33.7**	**-3.2**
OKC				*ex*	x	19 31 41.2	
PRU	**Pruhonice**	**144.59**	**353**	*e*PKP	**PKPab**	**19 31 35.1**	**-3.3**
PRU				*ex*	x	19 31 42.4	
BRTR	**Keskin Array B**	**146.53**	**323**	PKPbc	**PKPab**	**19 31 46.6**	**+0.4**
BRTR	**Keskin Array B**	**146.53**	**323**	PKPbc	**PKPab**	**19 31 46.6**	**+0.4**
KMBO	3.1nm,0.9s,baz=54,slow=1.7,SNR=4.4 **Kilima Mbogo**	**146.87**	**244**	PKPbc	**PKPdf**	**19 31 44.5**	**-0.8**
KMBO	**Kilima Mbogo**	**146.87**	**244**	PKPbc	**PKPdf**	**19 31 44.5**	**-0.8**
	7.3nm,1.0s,baz=47,slow=4.8,SNR=6.0						

IDC 29 19:12:14.9±1.9, 14°.87S×171°.78W, h0km, mb4.2/4, mb1 4.5/4, mb1mx4.1/18, mbtmp4.2/4, Error ellipse: s-maj=88.1km s-min=32.9km az=154.0, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**51.49**	**256**	P	P	19 21 23.1	+0.4
ASAR	2.1nm,0.6s,baz=95,slow=7.6,SNR=3.6 **Alice Springs**	**51.76**	**251**	P	P	19 21 24.1	-0.5
KSRS	8.1nm,0.7s,baz=87,slow=7.9,SNR=4.6 **Korea Array**	**76.88**	**315**	P	P	19 24 09.0	0.0
TXAR	1.1nm,0.9s,baz=138,slow=6.0,SNR=4.8 **Lajitas Array**	**79.02**	**56**	P	P	19 24 21.4	+0.1
	0.7nm,0.8s,baz=211,slow=7.0,SNR=3.8						

*IDC **29** 19:13:23.5±0.8, 15°.38S×173°.49W, h0km, mb4.1/8, mb1 4.4/8, mb1mx4.2/18, mbtmp4.1/8, Error ellipse: s-maj=41.6km s-min=21.6km az=135.0*
*NEIC **29** 19:13:25.1±0.5, 15°.29S×173°.54W, h10km, mb4.7/4, Error ellipse: s-maj=22.2km s-min=14.0km az=139.0*
*ISCJB **29** 19:13:28.1±0.7, 15°.4S±0°.2×173°.6W±0°.1, h42km, mb4.3/11, Error ellipse: s-maj=26.6km s-min=16.8km az=146.6*

ISC 29 19:13:29.6±0.7, 15°.3S±0°.2×173°.5W±0°.2, h42km, n27, σ0°.78/25, mb4.3/11, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.21**	**50**	Pn	Pn	19 13 52.9	-11
AFI				Sn	Sn	19 14 11.2	-19
AFI	**Afiamalu**	**2.21**	**50**	Pn	Pn	19 13 52.9	-11
AFI	baz=203,slow=13,SNR=0.8			Sn	Sn	19 14 11.2	-19
COEN	662nm,0.3s,baz=131,slow=19,SNR=3.4 **Coen**	**41.86**	**266**	P	**P**	**19 21 17.4**	**+1.3**
STKA	160nm,1.3s **Stephens Creek**	**43.96**	**240**	P	**P**	**19 21 32.1**	**-0.7**
STKA	**Stephens Creek**	**43.96**	**240**	P	**P**	**19 21 32.1**	**-0.7**
WRAB	5.3nm,0.8s,baz=74,slow=8.2,SNR=3.5 **Tennant Creek**	**49.73**	**257**	*eP*	**P**	**19 22 16.6**	**-1.6**
WRA	12nm,1.1s **Warramunga Arr**	**49.73**	**257**	P	**P**	**19 22 17.9**	**-0.3**
WRA	**Warramunga Arr**	**49.73**	**257**	P	**P**	**19 22 17.9**	**-0.3**
ASAR	2.2nm,0.7s,baz=90,slow=6.8,SNR=4.8 **Alice Springs**	**50.01**	**252**	P	**P**	**19 22 19.9**	**-0.3**
ASAR	**Alice Springs**	**50.01**	**252**	P	**P**	**19 22 19.9**	**-0.3**
SBA	5.5nm,0.6s,baz=87,slow=8.0,SNR=4.4 **Scott Base**	**63.30**	**185**	*eP*	**P**	**19 23 55.0**	**+1.3**
VNDA	3.5nm,0.9s **Vanda**	**63.42**	**186**	*eP*	**P**	**19 23 55.0**	**+0.4**
VNDA	3.3nm,1.0s **Vanda**	**63.42**	**186**	P	**P**	**19 23 55.2**	**+0.7**
TXAR	1.7nm,0.9s,baz=326,slow=4.7,SNR=3.7 **Lajitas Array**	**80.68**	**56**	P	**P**	**19 25 37.6**	**-1.1**
TXAR	**Lajitas Array**	**80.68**	**56**	P	**P**	**19 25 37.6**	**-1.1**
PDAR	0.2nm,0.3s,baz=224,slow=5.0,SNR=5.0 **Pinedale Array**	**82.30**	**42**	P	**P**	**19 25 47.9**	**+0.7**
PDAR	**Pinedale Array**	**82.30**	**42**	P	**P**	**19 25 47.9**	**+0.7**
ILAR	0.5nm,0.6s,baz=240,slow=3.0,SNR=2.6 **Eielson Array**	**82.41**	**11**	P	**P**	**19 25 47.7**	**+0.7**
ILAR	**Eielson Array**	**82.41**	**11**	P	**P**	**19 25 47.7**	**+0.7**
MAW	0.9nm,0.9s,baz=217,slow=4.4,SNR=3.3 **Mawson**	**87.81**	**199**	P	**P**	**19 26 13.8**	**-0.3**
MAW	**Mawson**	**87.81**	**199**	P	**P**	**19 26 13.8**	**-0.3**
	1.3nm,0.5s,baz=83,slow=6.9,SNR=3.6						
MLR	**Muntele Rosu**	**145.76**	**335**	PKPbc	**PKPbc**	**19 33 04.1**	**-0.3**
MLR	**Muntele Rosu**	**145.76**	**335**	PKPbc	**PKPbc**	**19 33 04.1**	**-0.3**
	1.0nm,1.0s,baz=54,slow=19,SNR=3.1						
BRTR	**Keskin Array B**	**146.03**	**321**	PKPbc	**PKPab**	**19 33 06.0**	**-0.1**
BRTR	**Keskin Array B**	**146.03**	**321**	PKPbc	**PKPab**	**19 33 06.0**	**-0.1**
	6.7nm,0.9s,baz=108,slow=1.9,SNR=7.5						
GERES	**GERESS Array B**	**146.06**	**351**	PKPbc	**PKPbc**	**19 33 04.7**	**-0.5**
GERES	**GERESS Array B**	**146.06**	**351**	PKPbc	**PKPbc**	**19 33 04.7**	**-0.5**
	0.9nm,0.8s,baz=33,slow=2.3,SNR=3.1						

IDC 29 19:14:16.8±0.8, 16°.22S×173°.16W, h0km, mb4.3/11, mb1 4.5/11, mb1mx4.3/21, mbtmp4.3/11, Error ellipse: s-maj=41.6km s-min=18.5km az=132.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.65**	**30**	Sn	Sn	19 15 26.7	-7.2
URZ	baz=278,slow=17,SNR=1.5 **Urewera**	**23.57**	**199**	P	P	19 19 29.9	+0.9
STKA	6.4nm,0.4s,baz=328,slow=9.5,SNR=4.7 **Stephens Creek**	**43.84**	**241**	P	P	19 22 24.1	-0.8
WRA	3.8nm,0.7s,baz=90,slow=15,SNR=4.7 **Warramunga Arr**	**49.89**	**257**	P	P	19 23 12.0	-0.5
ASAR	1.5nm,0.5s,baz=90,slow=7.2,SNR=7.7 **Alice Springs**	**50.09**	**253**	P	P	19 23 13.6	-0.4
FITZ	4.9nm,0.5s,baz=89,slow=8.3,SNR=9.5 **Fitzroy Crossi**	**58.28**	**259**	P	P	19 24 13.2	-0.5
PDAR	1.1nm,0.5s,baz=164,slow=4.3,SNR=6.6 **Pinedale Array**	**82.71**	**42**	P	P	19 26 42.5	-0.4
ILAR	1.2nm,0.9s,baz=180,slow=4.0,SNR=4.0 **Eielson Array**	**83.20**	**11**	P	P	19 26 44.2	-0.3
MAW	1.3nm,0.6s,baz=233,slow=5.9,SNR=9.3 **Mawson**	**87.10**	**199**	P	P	19 27 03.5	-0.6
INK	1.4nm,0.7s,baz=174,slow=17,SNR=2.9 **Inuvik**	**89.00**	**14**	P	P	19 27 12.5	-0.5
YKA	2.0nm,0.4s,baz=254,slow=6.9,SNR=3.4 **Yellowknife Ar**	**90.75**	**23**	P	P	19 27 20.4	-0.9
CMAR	0.5nm,0.5s,baz=233,slow=7.0,SNR=2.5 **Chiang Mai Arr**	**93.09**	**288**	P	P	19 27 34.3	+1.1
ARCES	1.9nm,0.9s,baz=86,slow=2.8,SNR=8.1 **ARCESS Array B**	**125.44**	**352**	PKP	PKPdf	19 33 19.3	0.0
FINES	3.8nm,0.9s,baz=17,slow=1.3,SNR=6.4 **FINESS Array B**	**132.79**	**348**	PKP	PKPdf	19 33 32.9	-0.5
BRTR	1.5nm,0.7s,baz=54,slow=3.3,SNR=5.5 **Keskin Array B**	**146.93**	**320**	PKPbc	PKPbc	19 34 02.1	+0.4
GERES	2.9nm,0.6s,baz=123,slow=3.5,SNR=6.8 **GERESS Array B**	**146.98**	**352**	PKPbc	PKPbc	19 34 01.9	+0.4
DAVOX	1.3nm,0.7s,baz=5.7,slow=1.3,SNR=3.6 **Davos/Dischmat**	**149.42**	**356**	PKPbc	PKPbc	19 34 08.1	-0.1
	2.4nm,0.7s,baz=27,slow=18,SNR=2.4						

IDC 29 19:15:36.3±8.4, 16°.12S×173°.22W, h0km, mb3.9/2, mb1 4.1/2, mb1mx3.7/18, mbtmp3.9/2, Error ellipse: s-maj=432.0km s-min=45.8km az=144.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**49.85**	**257**	P	P	19 24 31.5	-0.2
ASAR	0.6nm,0.7s,baz=95,slow=7.4,SNR=2.2 **Alice Springs**	**50.06**	**252**	P	P	19 24 33.0	-0.2
BRTR	1.6nm,0.6s,baz=85,slow=8.0,SNR=2.7 **Keskin Array B**	**146.82**	**320**	PKPbc	PKPbc	19 35 21.0	+0.1
GERES	1.8nm,0.7s,baz=82,slow=1.4,SNR=3.6 **GERESS Array B**	**146.87**	**352**	PKPbc	PKPdf	19 35 19.3	+0.4
	1.4nm,0.8s,baz=358,slow=2.9,SNR=5.4						

IDC 29 19:17:23.4±4.7, 17°.07S×172°.27W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.8/19, mbtmp3.9/3, Error ellipse: s-maj=232.0km s-min=32.1km az=137.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**44.17**	**242**	P	P	19 25 33.2	-1.1
WRA	2.1nm,1.0s,baz=90,slow=7.1,SNR=1.8 **Warramunga Arr**	**50.54**	**258**	P	P	19 26 24.4	+0.3
ILAR	1.0nm,0.7s,baz=89,slow=6.7,SNR=4.1 **Eielson Array**	**83.87**	**11**	P	P	19 29 53.0	-1.6
GERES	0.8nm,0.9s,baz=201,slow=4.7,SNR=4.6 **GERESS Array B**	**147.94**	**353**	PKPbc	PKPbc	19 37 12.1	+1.2
BRTR	1.5nm,1.1s,baz=23,slow=1.3,SNR=3.9 **Keskin Array B**	**148.13**	**320**	PKPbc	PKPbc	19 37 11.9	+0.2
	5.5nm,1.0s,baz=73,slow=1.8,SNR=9.5						

*IDC **29** 19:18:51.2±0.5, 16°.92S×172°.74W, h0km, mb4.8/24, mb1 4.9/24, mb1mx4.8/29, mbtmp4.8/24, Error ellipse: s-maj=20.6km s-min=13.3km az=129.0*
*NE

BBOO	Buckleboo	48.72 241	P	P	19 27 36.5	-1.4
	baz=47,SNR=6.7					
WRAB	Tennant Creek	50.26 258	eP	P	19 27 47.4	-2.4
	18nm,0.9s					
WRAB	Tennant Creek	50.26 258	P	P	19 27 47.9	-1.9
	117nm,0.8s,SNR=9.2					
WRA	Warramunga Arr	50.27 258	P	P	19 27 47.0	-2.9
WRA	Warramunga Arr	50.27 258	P	P	19 27 47.0	-2.9
	14nm,0.8s,baz=92,slow=7.4,SNR=22					
AS31	Alice Springs	50.39 253	eP	P	19 27 48.8	-2.0
ASAR	Alice Springs	50.39 253	P	P	19 27 48.7	-2.1
ASAR	Alice Springs	50.39 253	P	P	19 27 48.7	-2.1
	47nm,0.9s,baz=84,slow=8.7,SNR=38					
TLE	Tual	54.63 275	P	P	19 28 22.1	-0.2
TLE	Tual	54.63 275	P	P	19 28 21.1	-1.2
	baz=53,SNR=4.4					
SAUI	Saumlaki	55.36 272	P	P	19 28 26.8	-0.8
	151nm,0.9s					
FORT	Forrest	55.42 244	eP	P	19 28 26.1	-1.7
	63nm,1.0s					
FORT	Forrest	55.42 244	P	P	19 28 27.6	-0.2
	baz=54,SNR=7.1					
KNRA	Kununurra	56.12 262	P	P	19 28 31.7	-1.3
	baz=54,SNR=4.8					
SWI	Sorong	57.51 280	P	P	19 28 42.5	-0.4
	55nm,2.3s					
SWI	Sorong	57.51 280	P	P	19 28 44.4	+1.5
	baz=56,SNR=3.4					
BNDI	Bandanaira	57.65 275	P	P	19 28 43.9	0.0
	74nm,1.3s					
FITZ	Fitzroy Crossi	58.67 259	P	P	19 28 49.6	-1.3
FITZ	Fitzroy Crossi	58.67 259	P	P	19 28 49.6	-1.3
	2.8nm,0.6s,baz=112,slow=5.2,SNR=5.7					
FITZ	Fitzroy Crossi	58.67 259	P	P	19 28 46.3	-4.7
	baz=57,SNR=3.3					
MSAI	Masohi	58.93 276	P	P	19 28 53.1	+0.3
	15nm,0.9s					
AAI	Ambon	59.52 276	P	P	19 28 57.4	+0.4
	47nm,1.3s					
NLAI	Namlea	60.70 276	P	P	19 29 04.4	-0.6
	30nm,3.4s					
LBMI	Labuha	61.13 279	P	P	19 29 08.0	0.0
	44nm,2.6s					
SOEI	Soe	61.65 268	P	P	19 29 12.0	+0.4
	129nm,1.1s					
SOEI	Soe	61.65 268	P	P	19 29 12.9	+1.2
	baz=60,SNR=17					
TNTI	Ternate	61.72 280	P	P	19 29 12.4	+0.4
SBA	Scott Base	61.75 185	eP	P	19 29 12.8	+1.7
	20nm,1.0s					
VNDA	Vanda	61.90 186	eP	P	19 29 13.4	+1.3
	17nm,1.2s					
VNDA	Vanda	61.90 186	P	P	19 29 13.8	+1.6
	7.1nm,1.0s,baz=0.5,slow=4.9,SNR=17					
BATI	Baumata	62.12 267	P	P	19 29 14.2	-0.4
BATI	Baumata	62.12 267	P	P	19 29 15.5	+0.8
	33nm,3.2s					
BATI	Baumata	62.12 267	P	P	19 29 14.2	-0.4
	24nm,0.8s,baz=93,slow=5.2,SNR=5.9					
MMRI	Maumere	63.87 269	P	P	19 29 25.7	-0.6
	51nm,1.1s					
MEEK	Meekatharra	63.95 248	P	P	19 29 26.1	-0.7
	baz=62,SNR=6.8					
KLBR	Kellerberrin	64.21 243	P	P	19 29 28.1	-0.2
	baz=63,SNR=8.7					
SGSI	Sangihe	64.44 283	P	P	19 29 31.3	+1.2
	55nm,1.5s					
NWAO	Narrogin (SRO)	64.54 241	P	P	19 29 30.2	-0.3
NWAO	Narrogin (SRO)	64.54 241	P	P	19 29 30.2	-0.3
	12nm,0.8s,baz=160,slow=9.5,SNR=8.4					
BLDU	Ballidu	65.19 244	P	P	19 29 34.8	0.0
	baz=64,SNR=14					
LUWI	Luwuk	65.48 277	P	P	19 29 37.0	+0.2
	51nm,1.3s					
MORW	Morawa	65.94 245	P	P	19 29 39.7	+0.1
	baz=64,SNR=6.7					
LBFI	Labuhan Bajo,	66.15 268	P	P	19 29 39.8	-1.4
	98nm,1.3s					
APSI	Ampana	66.59 277	P	P	19 29 44.6	+0.6
	52nm,1.5s					
MRSI	Marisa	66.75 278	P	P	19 29 45.2	+0.2
	15nm,1.2s					
BNSI	Bone	67.04 272	P	P	19 29 46.9	+0.1
MJSI	Majene	68.36 273	P	P	19 29 56.3	+1.2
	56nm,1.2s					
MMSI	Mamuju	68.67 274	P	P	19 29 57.3	+0.2
TWSI	Taliwang, Sumb	68.96 267	P	P	19 29 58.3	-0.6
	2μm,0.8s,80μm					
CASY	Casey	69.31 205	eP	P	19 30 00.2	0.0
	17nm,1.1s					
MTNI	Mataram	69.67 267	P	P	19 30 01.3	-2.0
MAJO	Matsushiro	70.65 320	P	P	19 30 09.0	+0.2
	10nm,0.9s					
ISA	Isabella	73.24 44	P	P	19 30 24.3	-0.2
	baz=74					
ASAJ	Asahikawa	73.29 328	P	P	19 30 24.1	-0.3
ASAJ	Asahikawa	73.29 328	P	P	19 30 24.1	-0.3
	8.2nm,0.9s,baz=199,slow=24,SNR=3.7					
CMB	Columbia Colle	73.43 41	P	P	19 30 25.3	-0.2
	14nm,1.3s					
JNU	Nakatsue	73.44 313	P	P	19 30 25.2	-0.5
JNU	Nakatsue	73.44 313	P	P	19 30 25.2	-0.5
	15nm,1.0s,baz=165,slow=1.9,SNR=5.4					
PWJI	Pagerwojo	74.00 266	P	P	19 30 30.8	+1.5
	37nm,1.3s					
SJI	Sawahan	74.11 267	P	P	19 30 29.8	-0.3
	43nm,2.4s,19μm					
MPMC	Manual Prospec	74.12 44	P	P	19 30 29.4	-0.4
	baz=74					
BC3	Big Chuckawall	74.15 47	P	P	19 30 29.3	-0.6
	baz=74					
PEA0B	Petropavlovsk-	74.36 342	P	P	19 30 30.2	-0.4
PETK	Petropavlovsk-	74.36 342	P	P	19 30 30.1	-0.4
PETK	Petropavlovsk-	74.36 342	P	P	19 30 30.1	-0.4
	12nm,0.9s,baz=134,slow=8.5,SNR=12					
YBH	Yreka Blue Hor	74.38 36	P	P	19 30 31.0	-0.1
YBH	Yreka Blue Hor	74.38 36	P	P	19 30 31.0	-0.1
	4.7nm,0.7s,baz=259,slow=5.2,SNR=5.1					
PCJI	Pacitan	74.55 266	P	P	19 30 32.7	+0.1
	86nm,1.1s					
GMRC	Granite Mounta	74.62 46	P	P	19 30 33.1	+0.4
	baz=75					
IRM	Iron Mountain	74.63 46	P	P	19 30 32.7	+0.1
	baz=75					
Y12C	Blythe	74.85 47	P	P	19 30 33.6	-0.2
	baz=75					
113A	Mohawk Valley,	74.86 48	P	P	19 30 34.6	+0.7
	baz=75					
WOJI	Wonogiri, Jawa	74.89 266	P	P	19 30 34.9	+0.4
	52nm,1.9s					
NV11	Mina Array Sit	75.07 41	P	P	19 30 34.5	-0.7
214A	Organ Pipe Nat	75.12 49	P	P	19 30 35.9	+0.4
	baz=75					
UGM	Wanagama	75.25 266	P	P	19 30 37.6	+0.9
	baz=74,SNR=3.9					
PDMCI	Parker Dam,Lak	75.41 47	P	P	19 30 37.8	+0.7
	baz=76					
PBKI	Pangkalan Bun	75.59 272	P	P	19 30 40.1	+1.5
	71nm,1.2s					
Y14A	Wickenburg	76.02 48	P	P	19 30 40.6	-0.1
	baz=76					
W13A	Hualapai Mount	76.02 46	P	P	19 30 40.7	-0.1
	baz=76					
BJII	Banjamegara	76.18 266	P	P	19 30 43.0	+1.0
	55nm,4.2s					
KDAK	Kodiak Island	76.31 11	P	P	19 30 41.5	-0.1
KDAK	Kodiak Island	76.31 11	P	P	19 30 41.5	-0.1
	15nm,1.0s,baz=146,slow=3.6,SNR=4.0					
STKI	Sintang	76.58 274	P	P	19 30 45.3	+1.1
	27nm,1.1s					
SBUM	Sibu	76.59 277	P	P	19 30 45.1	+0.8
R11A	Troy Canyon, C	76.67 43	P	P	19 30 44.1	-0.3
	baz=77					
CLJI	Cilicap	76.74 266	P	P	19 30 45.8	+0.7
	75nm,1.2s					
TGJI	Tegal	76.87 267	P	P	19 30 47.4	+1.6
KPJI	Karang Pucung	76.92 266	P	P	19 30 46.4	+0.3
	58nm,4.7s					
WVOR	Wild Horse Val	77.18 38	P	P	19 30 46.4	-0.7
	11nm,1.0s					
X16A	Lo Mia Camp, P	77.37 48	P	P	19 30 47.4	-1.1
	baz=78					
319A	Douglas	77.44 52	P	P	19 30 47.9	-0.9
	baz=78					
KSRS	Korea Array	77.83 315	P	P	19 30 49.9	-0.8
	8.3nm,1.0s,baz=124,slow=6.6,SNR=20					
KSAR	Wonju Array Be	77.85 315	P	P	19 30 49.9	-0.9
CISI	Cisompet, Garu	77.93 266	P	P	19 30 53.1	+1.2
	75nm,1.6s					
KSM	Kuching	78.11 275	eP	P	19 30 52.7	-0.1
	19nm,1.0s					
KSM	Kuching	78.11 275	P	P	19 30 54.0	+1.2
KSM	Kuching	78.11 275	P	P	19 30 53.9	+1.1
	baz=76,SNR=7.4					
220A	Playas Peak, P	78.26 51	P	P	19 30 53.0	-0.4
	baz=78					
LEM	Lembang	78.32 266	P	P	19 30 55.0	+0.9
	70nm,1.5s					
LEM	Lembang	78.32 266	P	P	19 30 54.8	+0.6
	baz=77,SNR=4.4					
120A	U Bar Ranch, L	78.49 51	P	P	19 30 54.8	+0.1
	baz=79					
Z20A	Nine Sixteen R	78.79 50	P	P	19 30 56.0	-0.3
	baz=79					
USRK	Ussuriysk Arra	79.11 323	P	P	19 30 56.9	-0.7
	2.1nm,0.8s,baz=70,slow=6.3,SNR=11					
121A	Cookes Peak, D	79.11 51	P	P	19 30 57.9	-0.2
	baz=79					
DBJI	Dramaga	79.22 266	P	P	19 30 59.1	+0.2
	49nm,1.4s					
X20A	Quemado	79.54 49	P	P	19 31 02.0	+1.5
	baz=80					
W20A	Ramah	79.83 49	P	P	19 31 01.6	-0.5
	baz=80					
Y21A	Point of Rocks	79.89 50	P	P	19 31 02.6	+0.2
	baz=80					
X21A	Alamocita Cree	80.01 49	P	P	19 31 03.0	-0.1
	baz=80					
Z22A	Elephant Butte	80.06 51	P	P	19 31 03.2	0.0
	baz=80					
V20A	Brimhall	80.17 48	P	P	19 31 03.9	0.0
	baz=80					
425A	Indio Mountain	80.44 54	P	P	19 31 05.0	-0.3
	baz=81					
MNTX	Cornudas Mount	80.54 53	eP	P	19 31 05.2	-0.5
	52nm,2.3s					
626A	Big Bend Ranch	80.57 55	P	P	19 31 05.6	-0.4
	baz=81					
224A	Cornudas Mount	80.60 52	P	P	19 31 05.8	-0.4
	baz=81					
DIV	Divide	80.75 13	P	P	19 31 05.1	-1.1
	46nm,1.5s					
MDJ	Mudanjiang	80.75 322	P	P	19 31 06.5	+0.1
MDJ			pmax	pmax		
	comp=Z,10.0nm,1.2s					
526A	Mary Lane Ranc	80.82 55	P	P	19 31 06.7	-0.7
	baz=81					
TXAR	Lajitas Array	80.84 56	P	P	19 31 07.0	-0.4
TXAR	Lajitas Array	80.84 56	P	P	19 31 07.0	-0.4
	comp=Z,5.3nm,1.2s,baz=270,slow=3.6,SNR=6.1					
BMRM	Bremner River	80.86 13	eP	P	19 31 07.0	+0.2
	comp=Z,36nm,1.3s					
124A	Stringfield Ra	80.93 52	P	P	19 31 08.0	-0.1
	baz=81					
U21A	Nageezi	81.05 48	P	P	19 31 08.6	0.0
	baz=81					
627A	Terlingua Ranc	81.11 56	P	P	19 31 08.7	-0.2
	baz=81					
426A	McDonald Obser	81.13 54	P	P	19 31 08.4	-0.7
	baz=81					
225A	Deer Hill, Car	81.15 53	P	P	19 31 08.5	-0.6
	baz=81					
ANMO	Albuquerque	81.22 49	P	P	19 31 09.2	-0.2
	comp=Z,6.0nm,1.3s					
527A	Woodward Ranch	81.23 55	P	P	19 31 08.6	-1.0
	baz=82					
125A	Gardner Draw,	81.52 52	P	P	19 31 10.9	-0.1
	baz=82					
628A	Black Gap, Mar	81.52 56	P	P	19 31 10.9	-0.1
	baz=82					
427A	Hayter Ranch,	81.69 54	P	P	19 31 10.8	-1.2
	baz=82					
528A	Cox Ranch, San	81.88 55	P	P	19 31 12.7	-0.3
	baz=82					
Y25A	Mesa, Roswell	82.05 51	P	P	19 31 13.4	-0.4
	baz=82					
LWLI	Liwa	82.22 267	P	P	19 31 16.5	+1.4
	comp=Z,69nm,1.9s					
MDSI	Maura Dua	82.25 268	P	P	19 31 17.7	+2.6
	comp=Z,17nm,1.8s					
529A	Stev Forest Ra	82.31 55	P	P	19 31 14.6	-0.6
	baz=83					
MSO	Missoula	82.47 36	P	P	19 31 14.2	-1.5
	baz=83					
MCK	McKinley	82.52 10	eP	P	19 31 14.6	-0.8
	comp=Z,30nm,1.1s					
429A	Davenport Ranc	82.78 55	P	P	19 31 16.9	-0.7
	baz=83					
128A	Castleberry Fa	83.15 53	P	P	19 31 19.0	-0.5
	baz=83					
BOZ	Bozeman (W)	83.16 38	P	P	19 31 20.3	+0.9
	comp=Z,21nm,1.6s					
Y27A	Causey	83.17 52	P	P	19 31 18.9	-0.7
	baz=83					
631A	Perdido Creek	83.33 57	P	P	19 31 20.1	-0.3
	baz=84					
S24A	Houchin Ranch,	83.35 48	P	P	19 31 21.8	+1.2
	baz=84					
MNAI	Manna	83.45 267	P	P	19 31 21.8	+0.4
	comp=Z,333nm,1.3s					
MSTX	Muleshoe	83.50 52	P	P	19 31 21.7	+0.3
	baz=84					
531A	Rocksprings	83.65 56	P	P	19 31 22.0	-0.2
	baz=84					
COLA	College	83.76 10	eP	P	19 31 21.8	+0.1
	comp=Z,69nm,0.9s					
ILAR	Eielson Array	83.83 11	P	P	19 31 21.4	-0.8
ILAR	Eielson Array	83.83 11	P	P	19 31 21.4	-0.8
	comp=Z,5.1nm,1.1s,baz=220,slow=5.2,SNR=14					
S25A	Robets Cordova	83.91 48	P	P	19 31 23.9	+0.5
	baz=84					
Q24A	Divide	84.00 46	P	P	19 31 24.6	+0.6
	baz=84					
532A	Rocksprings	84.15 56	P	P	19 31 24.1	-0.6
	baz=84					
R25A	Fountain Ranch	84.23 47	P	P	19 31 25.2	+0.2
	baz=84					
MASI	Maura Aman, Be	84.49 268	P	P	19 31 29.5	+2.8
	comp=Z,116nm,1.4s					
J21A	Lysite	84.54 42	P	P	19 31 25.4	-1.1
	baz=85					
L22A	Ellis Ranch, M	84.56 43	P	P	19 31 25.7	-0.9
	baz=85					
332A	Millersview	84.77 55	P	P	19 31 27.2	-0.6
	baz=85					
R26A	Arlington	84.89 48	P	P	19 31 27.7	-0.6
	baz=85					
EGAK	Eagle	84.97 13	eP	P	19 31 28.6	+0.7
	comp=Z,41nm,1.6s					
RGRI	Rengat	85.20 271	P	P	19 31 31.8	+1.6
	comp=Z,93nm,1.1s,comp=Z,69μm					
Z31A	Sharp Cattle R	85.23 53	P	P	19 31 29.3	-0.7
	baz=86					
ABTX	Abilene, Hawle	85.34 54	P	P	19 31 30.1	-0.5
	baz=86					
COLD	Coldfoot	85.57 9	eP	P	19 31 31.2	+0.3
	comp=Z,20nm,1.3s					
D19A	Cripps Ranch,	85.57 38	P	P	19 31 31.5	+0.1
	baz=86					
Z32A	Haskell	85.74 53	P	P	19 31 32.5	0.0
	baz=86					
C19A	Slack Wire Ran	85.77 37	P	P	19 31 32.3	-0.1
	baz=86					
D20A	Manuel Ranch,	85.97 38	P	P	19 31 32.8	-0.6
	baz=86					
Y32A	R-V Farms, Ver	86.04 53	P	P	19 31 33.2	-0.8
	baz=86					
C20A	Veseth Ranch,	86.36 38	P	P	19 31 34.7	-0.7
	baz=87					
MAW	Mawson	86.56 198	P	P	19 31 35.0	-0.9
MAW	Mawson	86.56 198	P	P	19 31 35.0	-0.9
	comp=Z,6.7nm,0.9s,baz=131,slow=8.8,SNR=10					
MAW	Mawson	86.56 198	P	P	19 31 36.8	+0.9
	baz=86,SNR=6.3					
BKNI	Bangkinang	86.63 271	P	P	19 31 38.8	+1.4
	comp=Z,61nm,3.5s					
BJT	Baijiatuau	87.11 313	P	P	19 31 39.4	+0.3
	comp=Z,8.9nm,0.4s					
PLCA	Paso Flores	87.88 132	eP	P	19 31 35.2	-7.8
	comp=Z,43nm,1.0s					
F25A	Bowman	88.27 41	P	P	19 31 43.4	-1.2
	baz=88					
ENH	Enshi	88.42 302	eP	P	19 31 46.9	+1.3
	comp=Z,27nm,1.4s					
PSI	Prapat	89.37 273	P	P	19 31 49.7	-0.9
PSI	Prapat	89.37 273	P	P	19 31 49.7	-0.9
	comp=Z,29nm,1.1s,baz=160,slow=6.8,SNR=8.3					
PSI	Prapat	89.37 273	P	P	19 31 51.8	+1.2
	baz=88,SNR=7.1					
GYA	Guiyang	89.47 298	P	P	19 31 52.3	+1.5
GYA			pmax	pmax		
	comp=Z,20nm,0.8s					
INK	Inuvik	89.61 14	P	P	19 31 50.0	-0.2
INK	Inuvik	89.61 14	P	P	19 31 50.0	-0.2
	comp=Z,2.9nm,0.5s,baz=198,slow=5.1,SNR=5.3					
GSI	Gunungsitoli	90.23 271	P	P	19 31 55.9	+1.4
	comp=Z,91nm,1.1s					
HHC	Hu-ho-hao-te	90.67 313	eP	P	19 31 56.0	0.0
HHC			sP	sP	19 32 02.0	-1.7
HHC			PP	PP	19 35 32.3	+0.7
HHC			SKS	SKSac	19 42 25.3	-1.8
HHC			S	S	19 42 48.8	-2.7
HHC			sS	sS	19 43 02.0	+1.1
HHC			SS	SS	19 48 53.8	0.0
HHC			pmax	pmax		
	comp=Z,170nm,6.3s					
HHC			LR	LR		
	comp=N,450nm,16.9s					
HHC			LR	LR		
	comp=E,680nm,17.7s					
HHC			LR	LR		
	comp=Z,1μm,18.2s					
KCSI	Kotacane, Aceh	90.68 273	P	P	19 31 57.6	+1.0
SYO	Syowa Base	91.21 191	epP	P	19 32 00.2	+2.3
YKA	Yellowknife Ar	91.23 23	P	P	19 31 58.4	+0.5
YKA	Yellowknife Ar	91.23 23	P	P	19 31 58.4	+0.5
	comp=Z,1.8nm,0.7s,baz=236,slow=4.4,SNR=2.8					
PBKT	Sadao Pong	91.46 287	P	P	19 32 01.9	+1.9
	comp=Z,32nm,3.6s					
PBKT	Sadao Pong	91.46 287	P	P	19 32 02.8	+2.8
	comp=Z,82nm,3.7s					
SNSI	Sinabang, Aceh	91.74 272	P	P	19 32 02.2	+0.7
	comp=Z,93nm,2.3s					
MLSI	Meulaboh, Aceh	92.20 274	P	P	19 32 04.5	+0.9
KMI	Kunming	92.41 295	P	P	19 32 06.5	+1.9
KMI			pmax	pmax		
	comp=Z,21nm,1.1s					
SUKH	Sukhothai	92.95 287	P	P	19 32 09.8	+2.9
	comp=Z,5.3nm,1.1s					
LAMP	Lampang	93.24 288	P	P	19 32 11.0	+2.7
CMAR	Chiang Mai Arr	93.85 288	P	P	19 32 13.2	+2.1
CMAR	Chiang Mai Arr	93.85 288	P	P	19 32 13.2	+2.1
	comp=Z,7.1nm,1.0s,baz=98,slow=2.7,SNR=29					
CHTO	Chiang Mai	93.95 288	P	P	19 32 13.1	+1.5
CHTO	Chiang Mai	93.95 288	P	P	19 32 13.8	+2.2
JFWS	Jewell Farm	95.92 47	eP	P	19 32 15.2	-4.8
	comp=Z,8.6nm,0.3s					
SONM	Songino Array	96.54 318	P	P	19 32 23.9	+1.0
SONM	Songino Array	96.54 318	P	P	19 32 23.8	+1.0
	comp=Z,0.5nm,0.4s,baz=94,slow=4.3,SNR=2.7					
MKAR	Makanchi Array	112.49 314	PKiKP	PKiKP	19 37 28.1	-1.3
MKAR	Makanchi Array	112.49 314	PKiKP	PKiKP	19 37 28.1	-1.3
	comp=Z,0.9nm,0.8s,baz=78,slow=2.7,SNR=7.1					
KURK	Kurchatov	114.84 318	PKP	PKPdf	19 37 32.8	-0.8
KURBB	Kurchatov Arra	114.90 318	PKP	PKPdf	19 37 32.8	-1.0
	comp=Z,0.8nm,0.8s,baz=83,slow=2.1,SNR=6.6					
KSH	Kashi	117.04 306	ePKP	PKPdf	19 37 40.3	+1.8
KSH			PP	PP	19 38 55.5	+7.2
KSH			PKS	PKSdf	19 41 15.8	+0.6
KSH			SKS	SKSdf	19 44 51.3	+1.2
KSH			SKKS	SKKSac	19 45 48.3	-0.3
KSH			SS	SS	19 55 01.5	+5.1
BVAR	Borovoye Array	119.60 322	PKP	PKPdf	19 37 42.3	-0.5
BVAR	Borovoye Array	119.60 322	PKP	PKPdf	19 37 42.3	-0.5
	comp=Z,1.4nm,0.8s,baz=64,slow=3.4,SNR=8.6					
ARCES	ARCESS Array B	126.27 352	PKP	PKPdf	19 37 54.3	-0.9
ARCES	ARCESS Array B	126.27 352	PKP	PKPdf	19 37 54.3	-0.9
	comp=Z,2.6nm,0.8s,baz=8.5,slow=1.8,SNR=3.9					
AKTO	Aktyubinsk	127.70 321	PKP	PKPdf	19 37 58.5	0.0
AKTO	Aktyubinsk	127.70 321	PKP	PKPdf	19 37 58.5	0.0
	comp=Z,0.5nm,0.3s,baz=117,slow=4.5,SNR=3.9					
AKASG	Malin Array Be	142.09 337	PKPpre	PKPpre	19 38 21.5	
AKASG	Malin Array Be	142.09 337	PKhKP	PKPpre	19 38 21.5	
	comp=Z,1.7nm,0.8s,baz=34,slow=3.2,SNR=4.0					
KIS	Kishinev	145.23 334	eP	PKPdf	19 38 31.0	+0.2
CLL	Collm	145.46 354	ePKPdf	PKPbc	19 38 31.0	-0.1
CLL			e		19 38 43.0	
KMBO	Kilima Mbogo	145.52 241	ePKPdf	PKPab	19 38 34.2	+1.2
KMBO			PKPbc	PKPab	19 38 34.5	+1.5
KMBO	Kilima Mbogo	145.52 241	PKPbc	PKPab	19 38 34.5	+1.5
	comp=Z,17nm,0.9s,baz=56,slow=4.2,SNR=23					
STHS	Stebnicka Huta	145.75 344	ePKP	PKPab	19 38 33.5	+1.0
BRG	Berggiesshubel	145.78 353	ePKP	PKPab	19 38 33.3	+0.8
	comp=Z,83nm,1.9s					
UPC	Upice	145.84 350	ePKP	PKPab	19 38 33.9	+1.2
DPC	Dobruska-Polom	145.94 350	ePKP	PKPab	19 38 33.2	0.0
PVCC	Panska Ves	146.04 352	ePKP	PKPab	19 38 34.7	+1.2
OKC	Ostrava-Krasne	146.09 348	ePKP	PKPdf	19 38 32.5	+0.3
CRVS	Cervenica-Dubn	146.16 343	ePKP	PKPbc	19 38 33.5	+0.1
PRU	Pruhonice	146.57 352	ePKP	PKPbc	19 38 34.6	+0.1
BCLA	Clavier	146.59 2	PKP	PKPab	19 38 36.2	+0.7
TREC	Trest	147.10 350	ePKP	PKPbc	19 38 35.2	-0.9
WLF	Walferdange	147.38 2	PKP	PKPab	19 38 39.5	+0.8
PSZ	Piszkesteto	147.49 344	ePKPbc	PKPbc	19 38 37.5	+0.2
SMOL	Smolenice	147.50 348	ePKP	PKPab	19 38 41.3	+2.1
KHC	Kasperske Hory	147.54 352	ePKP	PKPdf	19 38 35.6	+0.9
KHC			epPKP	pPKPdf	19 38 40.5	-0.1
KHC	Kasperske Hory	147.54 352	ePKPdf	PKPdf	19 38 36.0	+1.2
GERES	GERESS Array B	147.80 352	PKPbc	PKPbc	19 38 38.3	+0.1
GERES	GERESS Array B	147.80 352	PKPbc	PKPbc	19 38 38.3	+0.1
	comp=Z,9.5nm,1.2s,baz=14,slow=1.7,SNR=12					
BRTR	Keskin Array B	147.87 320	PKPbc	PKPbc	19 38 38.8	+0.1
BRTR	Keskin Array B	147.87 320	PKPbc	PKPbc	19 38 38.8	+0.1
	comp=Z,9.8nm,1.0s,baz=115,slow=1.8,SNR=10					
ZST	Bratislava	147.87 348	ePKP	PKPab	19 38 40.0	-0.6
TUE	Stuetta	150.55 357	ePKPdf	PKPbc	19 38 42.8	-2.4
TUE			ePKPbc	PKPab	19 38 49.3	-2.6
CSS	Prodhromos	150.75 313	ePKPdf	PKPdf	19 38 39.3	-1.0
TOA0	Torodi Ar. Sit	173.29 124	ePKPdf	PKPdf	19 39 02.8	-0.7
TORD	Torodi Ar. Bea	173.29 124	PKP	PKPdf	19 39 02.4	-1.0
TORD			PKPab	PKPab	19 40 30.7	-0.7
TORD	Torodi Ar. Bea	173.29 124	PKP	PKPdf	19 39 02.4	-1.0
	comp=Z,1.9nm,1.1s,baz=155,slow=0.8,SNR=4.0					
TORD			PKPab	PKPab	19 40 30.7	-0.7
	comp=Z,2.8nm,0.8s,baz=260,slow=4.6,SNR=5.2					

*IDC **29** 19:19:58.1±0.6, 15°.66S×172°.75W, h0km, mb4.7/15, mb1 4.9/15, mb1mx4.8/23, mbtmp4.8/15, MS6.3/1, Ms1 6.3/1, ms1mx5.7/35, Error ellipse: s-maj=29.8km s-min=15.4km az=136.0*

*NEIC **29** 19:19:59.5±0.3, 15°.60S×172°.83W, h10km, mb5.1/11, Error ellipse: s-maj=15.2km s-min=6.5km az=137.0*

*ISCJB **29** 19:20:01.2±0.3, 15°.7S±0°.1×172°.84W±0°.08, h33km, mb4.9/25, Error ellipse: s-maj=16.9km s-min=6.5km az=146.3*

ISC 29 19:20:02.5±0.5, 15°.4S±0°.1×172°.8W±0°.1, h29km, n221, σ1°.08/222, mb4.8/25, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	1.78	34	Sn	Sn	19 20 47.3	-5.9
AFI

VNDA	Vanda	63.43	186	P	P	19 30 28.2	-0.9
VNDA	Vanda	63.43	186	P	P	19 30 28.2	-0.9
	8.6nm,1.0s,baz=6.7,slow=7.4,SNR=5.3						
SMMC	Simmler	71.03	44	P	P	19 31 19.2	+1.2
	baz=71						
VES	Vestal, Richgr	71.94	44	P	P	19 31 24.2	+0.8
	baz=72						
BFSC	Mount Baldy Ra	72.00	46	P	P	19 31 24.4	+0.4
	baz=72						
EDW2	Edwards Air Fo	72.13	45	P	P	19 31 24.9	+0.3
	baz=72						
ISA	Isabella	72.25	44	P	P	19 31 26.3	+1.0
	baz=73						
CMB	Columbia Colle	72.38	41	P	P	19 31 27.1	+1.0
	22nm,1.2s						
SWSC	Sam W. Stewart	72.61	48	P	P	19 31 28.3	+0.9
	baz=73						
PETK	Petropavlovsk-	72.81	342	P	P	19 31 30.5	+2.2
PETK	Petropavlovsk-	72.81	342	P	P	19 31 30.5	+2.2
	8.4nm,0.8s,baz=120,slow=8.7,SNR=5.1						
BELC	Belle Mtn. Jos	73.03	47	P	P	19 31 30.7	+0.6
	baz=73						
MPMC	Manual Prospec	73.13	44	P	P	19 31 31.8	+1.0
	baz=74						
GSC	Goldstone	73.17	45	P	P	19 31 31.6	+0.7
	baz=74						
TIN	Tinemaha	73.20	43	P	P	19 31 31.9	+0.9
	baz=74						
HEC	Hector,Ludlow	73.24	46	P	P	19 31 31.8	+0.5
	baz=74						
YBH	Yreka Blue Hor	73.25	37	P	P	19 31 33.0	+1.8
YBH	Yreka Blue Hor	73.25	37	P	P	19 31 33.0	+1.8
	4.4nm,0.6s,baz=187,slow=8.1,SNR=2.8						
GMRC	Granite Mounta	73.68	46	P	P	19 31 34.2	+0.3
	baz=74						
IRM	Iron Mountain	73.71	47	P	P	19 31 34.5	+0.5
	baz=74						
GRAC	Grapevine Rang	73.74	43	P	P	19 31 35.4	+1.3
	baz=74						
TUQ	Turquoise Moun	73.85	45	P	P	19 31 35.6	+0.7
	baz=74						
Y12C	Blythe	73.94	48	P	P	19 31 36.3	+1.0
	baz=74						
NV11	Mina Array Sit	74.04	42	eP	P	19 31 36.5	+0.6
PDMCI	Parker Dam,Lak	74.49	47	P	P	19 31 39.3	+0.8
	baz=75						
MOD	Modoc	74.76	38	P	P	19 31 41.0	+0.8
	54nm,1.2s						
KDAK	Kodiak Island	74.81	11	P	P	19 31 41.0	+1.3
KDAK	Kodiak Island	74.81	11	P	P	19 31 41.0	+1.3
	6.1nm,0.8s,baz=194,slow=3.8,SNR=5.3						
W13A	Hualapai Mount	75.09	47	P	P	19 31 42.9	+0.7
	baz=75						
Y14A	Wickenburg	75.12	48	P	P	19 31 43.3	+1.1
	baz=75						
R11A	Troy Canyon, C	75.66	43	P	P	19 31 46.5	+1.1
	baz=76						
WVOR	Wild Horse Val	76.07	38	eP	P	19 31 47.8	+0.2
	12nm,1.1s						
X16A	Lo Mia Camp, P	76.48	48	P	P	19 31 51.0	+0.8
	baz=77						
KSRS	Korea Array	76.57	315	P	P	19 31 52.6	+2.3
	6.1nm,0.9s,baz=127,slow=6.1,SNR=10.0						
KSAR	Wonju Array Be	76.59	315	P	P	19 31 52.6	+2.2
319A	Douglas	76.63	52	P	P	19 31 52.3	+1.2
	baz=77						
U15A	North Rim	76.88	46	P	P	19 31 53.4	+0.9
	baz=77						
320A	Kipp Ranch, An	77.19	52	P	P	19 31 55.4	+1.2
	baz=78						
220A	Playas Peak, P	77.44	52	P	P	19 31 56.9	+1.3
	baz=78						
X18A	Snowflake	77.61	49	P	P	19 31 57.7	+1.2
	baz=78						
120A	U Bar Ranch, L	77.66	51	P	P	19 31 57.9	+1.1
	baz=78						
Z20A	Nine Sixteen R	77.95	51	P	P	19 31 59.9	+1.5
	baz=78						
221A	Mesquite Ranch	78.06	52	P	P	19 32 00.5	+1.5
	baz=78						
121A	Cookes Peak, D	78.29	51	P	P	19 32 01.5	+1.2
	baz=79						
DUG	Dugway	78.47	43	P	P	19 32 02.4	+1.3
	baz=79						
X20A	Quemado	78.67	49	P	P	19 32 03.9	+1.4
	baz=79						
W20A	Ramah	78.94	49	P	P	19 32 05.1	+1.1
	baz=79						
Y21A	Point of Rocks	79.04	50	P	P	19 32 05.6	+1.1
	baz=79						
Z22A	Elephant Butte	79.23	51	P	P	19 32 06.8	+1.3
	baz=80						
DIV	Divide	79.27	13	eP	P	19 32 06.0	+1.1
	32nm,1.2s						
U20A	Newcomb	79.51	48	P	P	19 32 08.7	+1.8
	baz=80						
Y22A	Socorro	79.53	50	P	P	19 32 08.6	+1.4
	baz=80						
324A	Moseley Ranch,	79.57	53	P	P	19 32 08.0	+0.6
	baz=80						
425A	Indio Mountain	79.68	54	P	P	19 32 09.0	+1.0
	baz=80						
X22A	Bernardo	79.75	50	P	P	19 32 08.5	+0.2
	baz=80						
MNTX	Cornudas Mount	79.76	53	eP	P	19 32 08.5	+0.3
	13nm,1.3s						
Z23A	Rita Site, Whi	79.78	51	P	P	19 32 08.1	-0.3
	baz=80						
224A	Cornudas Mount	79.81	53	P	P	19 32 09.4	+0.7
	baz=80						
626A	Big Bend Ranch	79.84	56	P	P	19 32 09.6	+0.8
	baz=80						
526A	Mary Lane Ranc	80.09	55	P	P	19 32 10.9	+0.7
	baz=80						
TXAR	Lajitas Array	80.13	56	P	P	19 32 11.2	+0.8
TXAR	Lajitas Array	80.13	56	P	P	19 32 11.2	+0.8
	16nm,1.1s,baz=230,slow=5.9,SNR=13						
124A	Stringfield Ra	80.13	52	P	P	19 32 11.4	+0.9
	baz=80						
U21A	Nageezi	80.15	48	P	P	19 32 11.5	+1.0
	baz=80						
Y23A	Lovelace Mesa,	80.21	51	P	P	19 32 11.6	+0.7
	baz=80						
ANMO	Albuquerque	80.36	50	eP	P	19 32 11.6	-0.1
	14nm,1.7s						
ANMO	Albuquerque	80.36	50	P	P	19 32 11.8	+0.2
	3.1nm,1.0s,baz=221,slow=6.0,SNR=3.9						
225A	Deer Hill, Car	80.36	53	P	P	19 32 12.5	+0.9
	baz=81						
426A	McDonald Obser	80.38	55	P	P	19 32 12.7	+0.8
	baz=81						
X23A	Hourglass Bar	80.39	50	P	P	19 32 12.5	+0.7
	baz=81						
627A	Terlingua Ranc	80.40	56	P	P	19 32 12.6	+0.7
	baz=81						
V22A	San Miguel Ran	80.46	49	P	P	19 32 12.6	+0.4
	baz=81						
T21A	Navajo Lake	80.50	48	P	P	19 32 13.8	+1.4
	baz=81						
527A	Woodward Ranch	80.50	55	P	P	19 32 13.1	+0.7
	baz=81						
S21A	Coal Bank Pass	80.62	47	P	P	19 32 14.2	+1.0
	baz=81						
Y24A	Capitan	80.67	51	P	P	19 32 13.7	+0.4
	baz=81						
W23A	Werner Place,	80.68	50	P	P	19 32 13.8	+0.4
	baz=81						
326A	Caldwell Ranch	80.69	54	P	P	19 32 13.7	+0.4
	baz=81						
U22A	Llaves	80.71	48	P	P	19 32 15.3	+1.8
	baz=81						
125A	Gardner Draw,	80.72	52	P	P	19 32 14.2	+0.7
	baz=81						
628A	Black Gap, Mar	80.81	56	P	P	19 32 14.8	+0.8
	baz=81						
226B	Tecolote Peak,	80.86	53	P	P	19 32 15.2	+1.0
	baz=81						
V23A	Ortiz Mt. (NFS	80.91	49	P	P	19 32 16.0	+1.4
	baz=81						
Z25A	Roswell	80.94	52	P	P	19 32 15.0	+0.4
	baz=81						
427A	Hayter Ranch,	80.95	55	P	P	19 32 15.4	+0.6
	baz=81						
T22A	Edith	80.96	48	P	P	19 32 16.9	+2.1
	baz=81						
MCK	McKinley	81.02	10	eP	P	19 32 14.4	+0.1
	21nm,0.9s						
P20A	De Beque	81.07	45	P	P	19 32 16.5	+1.2
	baz=81						
528A	Cox Ranch, San	81.16	55	P	P	19 32 16.7	+0.8
	baz=81						
126A	Clayton Basin,	81.20	53	P	P	19 32 16.2	+0.1
	baz=82						
Y25A	Mesa, Roswell	81.23	51	P	P	19 32 16.5	+0.3
	baz=82						
W24A	Lazy 6 Ranch,	81.25	50	P	P	19 32 16.7	+0.3
	baz=82						
Q21A	Lamborn Mesa,	81.32	46	P	P	19 32 17.7	+1.0
	baz=82						
MSO	Missoula	81.33	36	P	P	19 32 17.5	+1.1
	baz=82						
S22A	4UR Ranch, Cre	81.34	47	P	P	19 32 17.9	+0.9
	baz=82						
428A	Kincaid Ranch,	81.47	55	P	P	19 32 18.5	+1.0
	baz=82						
Z26A	Caprock	81.49	52	P	P	19 32 17.8	+0.2
	baz=82						
X25A	Clemmons Ranch	81.51	51	P	P	19 32 18.3	+0.6
	baz=82						
V24A	Rampart Ranch,	81.57	49	P	P	19 32 17.7	-0.4
	baz=82						
529A	Stev Forest Ra	81.60	56	P	P	19 32 18.4	+0.3
	baz=82						
328A	Wristen Ranch,	81.63	54	P	P	19 32 18.7	+0.4
	baz=82						
127A	Arkansas Junct	81.72	53	P	P	19 32 19.3	+0.5
	baz=82						
PDAR	Pinedale Array	81.88	42	P	P	19 32 19.6	0.0
PDAR	Pinedale Array	81.88	42	P	P	19 32 19.6	0.0
	4.0nm,0.9s,baz=216,slow=5.6,SNR=3.9						
Y26A	Elida	81.88	52	P	P	19 32 20.1	+0.4
	baz=82						
429A	Davenport Ranc	82.05	55	P	P	19 32 20.9	+0.3
	baz=82						
228A	UT Block 9, Go	82.09	54	P	P	19 32 21.0	+0.2
	baz=82						
Z27A	Tatum	82.10	52	P	P	19 32 20.9	+0.1
	baz=82						
COLA	College	82.26	10	eP	P	19 32 21.1	+0.4
	79nm,0.9s						
530A	J-C Ranch, Com	82.31	56	P	P	19 32 22.3	+0.4
	baz=83						
329A	Wagon Wheel Ra	82.32	55	P	P	19 32 22.2	+0.3
	baz=83						
ILAR	Eielson Array	82.34	11	P	P	19 32 22.2	+1.0
ILAR	Eielson Array	82.34	11	P	P	19 32 22.2	+1.0
	3.7nm,0.7s,baz=224,slow=5.4,SNR=6.6						
Y27A	Causey	82.37	52	P	P	19 32 22.3	+0.1
	baz=83						
128A	Castleberry Fa	82.38	53	P	P	19 32 22.3	+0.1
	baz=83						
Q23A	Hartsel	82.56	46	P	P	19 32 23.6	+0.2
	baz=83						
430A	Baggett Ranch,	82.64	55	P	P	19 32 23.3	-0.3
	baz=83						
631A	Perdido Creek	82.64	57	P	P	19 32 23.0	-0.5
	baz=83						
V26A	Tequesquite Ra	82.69	50	P	P	19 32 23.9	+0.1
	baz=83						
MSTX	Muleshoe	82.70	52	P	P	19 32 24.1	+0.2
	baz=83						
Z28A	Tucker Farm, M	82.72	53	P	P	19 32 23.4	-0.7
	baz=83						
R24A	Sanders Place,	82.78	47	P	P	19 32 25.1	+0.8
	baz=83						
129A	Stewart Farms,	82.86	53	P	P	19 32 25.0	+0.2
	baz=83						
W27A	Bowe Ranch, En	82.92	51	P	P	19 32 25.5	+0.4
	baz=83						
531A	Rocksprings	82.95	56	P	P	19 32 25.6	+0.4
	baz=83						
S25A	Robets Cordova	83.01	48	P	P	19 32 25.7	+0.1
	baz=83						
J20A	Shoshoni	83.11	42	P	P	19 32 26.8	+1.0
	baz=83						
230A	Sterling City	83.16	54	P	P	19 32 26.6	+0.4
	baz=83						
M22A	Cedar Creek Ra	83.17	44	P	P	19 32 26.6	+0.3
	baz=84						
Z29A	Hungry Hill Ra	83.23	53	P	P	19 32 27.1	+0.4
	baz=84						
K21A	Alcova	83.31	43	P	P	19 32 27.4	+0.4
	baz=84						
R25A	Fountain Ranch	83.33	48	P	P	19 32 27.4	+0.3
	baz=84						
I20A	Worland	83.36	41	P	P	19 32 28.2	+1.0
	baz=84						
N23A	Red Feather La	83.38	45	P	P	19 32 27.7	+0.2
	baz=84						
V27A	Dan Oppiter Fa	83.38	50	P	P	19 32 28.2	+0.8
	baz=84						
532A	Rocksprings	83.45	56	P	P	19 32 28.1	+0.3
	baz=84						
331A	San Angelo	83.48	55	P	P	19 32 27.5	-0.4
	baz=84						
J21A	Lysite	83.51	42	P	P	19 32 28.9	+0.8
	baz=84						
130A	Snyder	83.55	54	P	P	19 32 28.4	+0.1
	baz=84						
U27A	Thompson Grove	83.66	50	P	P	19 32 28.0	-0.9
	baz=84						
S26A	Kim	83.69	48	P	P	19 32 28.5	-0.5
	baz=84						
Z30A	Sanderson Ranc	83.69	53	P	P	19 32 28.3	-0.7
	baz=84						
H20A	Greybull	83.70	41	P	P	19 32 29.3	+0.5
	baz=84						
F19A	Roth Farm, Mol	83.78	39	P	P	19 32 29.9	+0.7
	baz=84						
M23A	Laramie	83.78	44	P	P	19 32 29.3	-0.2
	baz=84						
231A	Bronte	83.80	55	P	P	19 32 29.4	-0.2
	baz=84						
432A	Menard	83.82	56	P	P	19 32 29.3	-0.4
	baz=84						
I21A	Big Trails, Te	83.83	41	P	P	19 32 30.2	+0.6
	baz=84						
R26A	Arlington	83.99	48	P	P	19 32 30.8	+0.3
	baz=84						
P25A	Willow Gulch B	83.99	46	P	P	19 32 30.6	+0.1
	baz=84						
T27A	Campo	84.00	49	P	P	19 32 31.0	+0.4
	baz=84						
W29A	Amraillo	84.01	51	P	P	19 32 31.0	+0.3
	baz=84						
131A	Roby	84.02	54	P	P	19 32 30.6	0.0
	baz=84						
332A	Millersview	84.05	55	P	P	19 32 30.9	+0.1
	baz=84						
Y30A	Stafford Cattl	84.09	53	P	P	19 32 31.1	0.0
	baz=84						
232A	Coleman	84.31	55	P	P	19 32 32.2	0.0
	baz=85						
X30A	Coker Ranch, T	84.33	52	P	P	19 32 32.6	+0.4
	baz=85						
EGMT	Eagleton	84.38	37	P	P	19 32 32.5	+0.3
	baz=85						
R27A	Eads	84.44	48	P	P	19 32 32.8	0.0
	baz=85						
Z31A	Sharp Cattle R	84.46	53	P	P	19 32 32.6	-0.2
	baz=85						
T28A	Walsh	84.46	49	P	P	19 32 32.3	-0.6
	baz=85						
ABTX	Abilene, Hawle	84.59	54	P	P	19 32 33.3	-0.3
	baz=85						
E20A	Meyer Farm, Mu	84.59	39	P	P	19 32 34.3	+1.0
	baz=85						
D20A	Manuel Ranch,	84.87	38	P	P	19 32 35.8	+1.2
	baz=85						
Z32A	Haskell	84.97	54	P	P	19 32 35.6	+0.1
	baz=85						
I23A	Meade Ranch, G	85.07	42	P	P	19 32 36.9	+1.0
	baz=85						
R28A	Tribune	85.18	48	P	P	19 32 37.1	+0.6
	baz=86						
E21A	Keefer Ranch,	85.25	39	P	P	19 32 38.1	+1.5
	baz=86						
Y32A	R-V Farms, Ver	85.26	53	P	P	19 32 37.4	+0.5
	baz=86						
J24A	Dixon Ranch, L	85.31	43	P	P	19 32 37.5	+0.5
	baz=86						
W31A	Holland Ranch,	85.32	52	P	P	19 32 37.4	+0.2
	baz=86						
MAW	Mawson	87.98	198	P	P	19 32 48.8	-0.7
MAW	Mawson	87.98	198	P	P	19 32 48.8	-0.7
	19nm,1.0s,baz=122,slow=7.2,SNR=10						
MAW	Mawson	87.98	198	P	P	19 32 49.3	-0.2
	baz=82,SNR=8.1						
INK	Inuvik	88.13	14	P	P	19 32 50.9	+0.9
INK	Inuvik	88.13	14	P	P	19 32 50.9	+0.9
	1.7nm,0.3s,baz=156,slow=6.0,SNR=3.1						
ARCES	ARCESS Array B	124.69	352	PKP	PKPdf	19 38 59.0	+0.1
ARCES	ARCESS Array B	124.69	352	PKP	PKPdf	19 38 59.0	+0.1
	3.4nm,0.7s,baz=354,slow=2.7,SNR=4.8						
FINES	FINESS Array B	132.07	348	PKP	PKPdf	19 39 12.9	-0.1
FINES	FINESS Array B	132.07	348	PKP	PKPdf	19 39 12.9	-0.1
	2.9nm,0.7s,baz=60,slow=2.4,SNR=4.5						
HFS	Hagfors	135.09	355	PKP	PKPdf	19 39 18.3	-0.5
HFS	Hagfors	135.09	355	PKP	PKPdf	19 39 18.3	-0.5
	2.9nm,0.7s,baz=95,slow=3.5,SNR=3.7						
KECS	Kecovo	145.25	344	ePKP	PKPdf	19 39 38.8	+1.3
KMBO	Kilima Mbogo	146.06	244	PKPbc	PKPab	19 39 41.7	0.0
KMBO	Kilima Mbogo	146.06	244	PKPbc	PKPab	19 39 41.7	0.0
	6.1nm,0.8s,baz=67,slow=4.3,SNR=3.4						
GERES	GERESS Array B	146.23	352	PKPbc	PKPab	19 39 41.0	0.0
GERES	GERESS Array B	146.23	352	PKPbc	PKPab	19 39 41.1	0.0
	1.2nm,0.7s,baz=1.4,slow=3.9,SNR=2.4						
BRTR	Keskin Array B	146.53	322	PKPbc	PKPab	19 39 43.2	+0.6
BRTR	Keskin Array B	146.53	322	PKPbc	PKPab	19 39 43.2	+0.6
	4.4nm,0.7s,baz=105,slow=2.9,SNR=5.1						
PGAV	Gavieira, Arco	150.35	24	PKP	PKPbc	19 39 52.5	+1.0
PCAB	Cabril	150.66	24	PKP	PKPbc	19 39 53.2	+1.0
POLO	Lamas de Olo	151.04	24	PKP	PKPbc	19 39 53.8	+0.7
PBRG	Braganca	151.06	22	PKP	PKPbc	19 39 53.3	+0.2
PVRL	Vila Real	151.16	24	PKP	PKPbc	19 39 54.3	+1.0
MVO	Moncorvo	151.51	23	PKP	PKPbc	19 39 55.4	+1.2
PVIS	Viseu	151.56	25	PKP	PKPbc	19 39 54.3	0.0
MTE	Manteigas	151.97	24	PKP	PKPbc	19 39 56.0	+0.7
PTOM	Tomar	152.27	27	PKP	PKPbc	19 39 56.6	+0.7
PCBR	Castelo Branco	152.47	25	PKP	PKPbc	19 39 57.0	+0.7
PMTG	Montargil	152.81	27	PKP	PKPbc	19 39 57.1	0.0
PMRV	Marv??o	152.86	25	PKP	PKPbc	19 39 57.8	+0.6
PTEO	Sao Teotonio	153.81	30	PKP	PKPbc	19 39 59.9	+0.6
ESDC	Sonseca Array	153.92	20	PKPbc	PKPbc	19 40 00.4	+0.8
ESDC				PKPab	PKPab	19 40 13.9	+1.2
ESDC	Sonseca Array	153.92	20	PKPbc	PKPbc	19 40 00.4	+0.8
	0.1nm,0.3s,baz=316,slow=4.2,SNR=4.2						
ESDC				PKPab	PKPab	19 40 13.9	+1.2
	0.2nm,0.3s,baz=335,slow=5.7,SNR=5.6						
PBAR	Barrancos	154.06	26	PKP	PKPbc	19 40 02.4	+2.6

*AUST **29** 19:21:08.8±99.0, 15.°44S×173.°51W, h202km±3km, Error ellipse: s-maj=13.0km s-min=3.1km az=225.0*

IDC 29 19:20:15.1±0.9, 15.°14S×171.°97W, h0km, mb4.7/8, mb1 4.9/8, mb1mx4.6/19, mbtmp4.7/8, Error ellipse: s-maj=39.5km s-min=23.5km az=124.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	51.24	256	P	P	19 29 20.1	-1.0
	6.8nm,0.8s,baz=98,slow=8.4,SNR=5.3						
ASAR	Alice Springs	51.50	252	P	P	19 29 21.4	-1.5
	25nm,0.9s,baz=87,slow=8.2,SNR=5.7						
VNDA	Vanda	63.78	186	P	P	19 30 49.3	+0.8
	5.2nm,0.9s,baz=5.1,slow=6.3,SNR=4.0						
MEEK	Meekatharra	65.19	247	P	P	19 30 58.8	+0.2
	baz=64,SNR=3.5						
KDAK	Kodiak Island	74.41	11	P	P	19 31 55.5	+0.9
	8.0nm,0.8s,baz=152,slow=14,SNR=4.6						
KSRS	Korea Array	76.95	315	P	P	19 32 11.6	+2.0
	4.1nm,0.9s,baz=121,slow=6.6,SNR=5.4						
PDAR	Pinedale Array	81.16	41	P	P	19 32 31.8	-1.1
	1.6nm,0.6s,baz=224,slow=3.8,SNR=3.5						
ILAR	Eielson Array	81.93	11	P	P	19 32 34.4	-1.8
	1.8nm,0.7s,baz=213,slow=5.7,SNR=4.1						
INK	Inuvik	87.69	13	P	P	19 33 01.6	-3.5
	5.2nm,0.9s,baz=279,slow=11,SNR=2.5						
MAW	Mawson	88.47	198	P	P	19 33 09.3	+0.2
	15nm,1.0s,baz=37,slow=4.7,SNR=4.6						
ARCES	ARCESS Array B	124.54	353	PKP	PKPdf	19 39 16.3	+0.4
	2.8nm,0.7s,baz=31,slow=1.6,SNR=7.6						
FINES	FINESS Array B	131.98	348	PKP	PKPdf	19 39 29.4	-0.8
	9.9nm,1.2s,baz=78,slow=8.4,SNR=3.9						
GERES	GERESS Array B	146.07	353	PKPbc	PKPbc	19 39 57.0	-0.2
	6.8nm,1.1s,baz=90,slow=1.3,SNR=6.5						
BRTR	Keskin Array B	146.81	322	PKPbc	PKPbc	19 39 59.1	-0.6
	3.9nm,0.8s,baz=95,slow=1.8,SNR=5.5						

*AUST **29** 19:20:50.3±4.9, 15.°27S×172.°29W, h104km, Error ellipse: s-maj=5.0km s-min=1.7km az=316.0*

IDC 29 19:20:30.9±1.5, 15.°42S×171.°80W, h0km, mb5.0/4, mb1 5.1/4, mb1mx4.5/19, mbtmp5.0/4, Error ellipse: s-maj=100.9km s-min=30.2km az=88.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	Vanda	63.52	186	P	P	19 31 02.5	0.0
	9.2nm,1.0s,baz=358,slow=7.1,SNR=5.0						
PETK	Petropavlovsk-	73.13	341	P	P	19 32 03.5	+0.5
	8.4nm,0.9s,baz=150,slow=9.2,SNR=3.6						
MAW	Mawson	88.26	198	P	P	19 33 24.2	+0.4
	20nm,1.0s,baz=100,slow=6.9,SNR=7.1						
PSI	Prapat	90.04	273	P	P	19 33 33.1	-0.4
	8.3nm,0.4s,baz=197,slow=8.8,SNR=5.3						
BVAR	Borovoye Array	118.84	322	PKP	PKPdf	19 39 19.6	-1.6
	1.4nm,0.7s,baz=64,slow=3.4,SNR=4.7						
GERES	GERESS Array B	146.37	353	PKPbc	PKPdf	19 40 13.1	+0.4
	2.8nm,0.8s,baz=20,slow=3.1,SNR=3.2						
KMBO	Kilima Mbogo	146.91	243	PKPbc	PKPbc	19 40 15.9	-0.8
	11nm,0.9s,baz=79,slow=5.2,SNR=3.6						
BRTR	Keskin Array B	147.13	322	PKPbc	PKPbc	19 40 15.7	-0.8
	5.3nm,0.8s,baz=109,slow=2.1,SNR=3.2						

*ISCJB **29** 19:20:48.8±1.4, 16.°1S±0.°2×174.°3W±0.°2, h10km, mb4.9/9, Error ellipse: s-maj=34.6km s-min=20.2km az=22.0*
*IDC **29** 19:20:48.4±1.3, 16.°20S×174.°12W, h0km, mb4.9/8, mb1 5.0/8, mb1mx4.7/20, mbtmp4.9/8, Error ellipse: s-maj=46.4km s-min=23.8km az=126.0*
*NEIC **29** 19:20:49.7±0.7, 16.°18S×174.°11W, h10km, mb4.7/1, Error ellipse: s-maj=25.8km s-min=13.5km az=125.0*
*AUST **29** 19:20:51.5±0.0, 14.°87S×172.°78W, h90km, Error ellipse: s-maj=3.3km s-min=1.4km az=336.0*

ISC 29 19:20:49.4±1.1, 16.°2S±0.°2×174.°1W±0.°2, h10km, n35, σ0=82/30, mb4.9/9, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	23.36	198	P	P	19 25 58.4	+0.4
URZ	Urewera	23.36	198	P	P	19 25 58.4	+0.4
	57nm,0.8s,baz=19,slow=1.1,SNR=6.1						
EIDS	Eidsvold	33.77	248	P	P	19 27 31.6	0.0
	9.4nm,0.9s						
ARMA	Armidale	34.41	239	P	P	19 27 43.7	+6.5
	baz=36,SNR=4.5						
CNB	Canberra Magne	37.79	233	P	P	19 28 12.6	+6.5
	baz=40,SNR=4.7						
MTSU	Mount Surprise	39.76	261	P	P	19 28 31.1	+8.4
	baz=41,SNR=5.2						
QLP	Quilpie	40.04	248	P	P	19 28 30.8	+5.9
	baz=42,SNR=3.2						
TOO	Toolangi	41.50	231	P	P	19 28 42.5	+5.6
	baz=43,SNR=5.3						
STKA	Stephens Creek	43.11	240	P	P	19 28 49.9	-0.

KSRS Korea Array 76.24 316 P **P 19 32 40.3 +2.0**
3.8nm,0.9s,baz=123,slow=5.4,SNR=3.1
KSAR Wonju Array Be 76.26 316 P **P 19 32 40.3 +1.9**
ILAR Eielson Array 83.30 11 P **P 19 33 15.6 -0.4**
ILAR Eielson Array 83.30 11 P **P 19 33 15.6 -0.4**
2.0nm,0.6s,baz=236,slow=6.0,SNR=5.7
ARCES ARCESS Array B 125.25 352 PKP **PKPdf 19 39 49.7 -0.1**
ARCES ARCESS Array B 125.25 352 PKP **PKPdf 19 39 49.7 -0.1**
6.6nm,0.9s,baz=39,slow=0.8,SNR=4.3
FINES FINESS Array B 132.53 347 PKP **PKPdf 19 40 04.5 +0.7**
FINES FINESS Array B 132.53 347 PKP **PKPdf 19 40 04.5 +0.7**
4.9nm,1.0s,baz=342,slow=2.4,SNR=3.5
CLL Collm 144.47 352 *e*PKPdf **PKPdf 19 40 25.0 -1.0**
BRTR Keskin Array B 146.32 320 PKPbc **PKPbc 19 40 30.9 -0.1**
BRTR Keskin Array B 146.32 320 PKPbc **PKPbc 19 40 30.9 -0.1**
12nm,0.8s,baz=113,slow=1.9,SNR=7.2
GERES GERESS Array B 146.78 351 PKPbc **PKPab 19 40 32.8 -0.2**
GERES GERESS Array B 146.78 351 PKPbc **PKPab 19 40 32.8 -0.2**
2.2nm,0.7s,baz=25,slow=2.6,SNR=3.5

*IDC **29** 19:20:57.8±2.1, 1°.64S×134°.62E, h0km, mb3.5/3, mb1 4.0/6, mb1mx3.8/21, mbtmp3.9/6, ML3.9/3, Error ellipse: s-maj=76.3km s-min=21.8km az=85.0*
*DJA **29** 19:20:57.0±0.8, 1°.5±7°×13°.4E±°, h99km±29km, M4.7/5, MLv4.7/5*
*AUST **29** 19:20:59.1, 1°.47S×135°.00E, h100km*
ISC 29 19:21:00.7±0.9, 1°.40S±0°.08×134°.49E±0°.04, h29km, n21, σ2ŝ16/22, mb3.6/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAKI	**Biak**	**1.63**	**83**	P	**Pn**	**19 21 26.8**	**-0.7**
BAKI				S	**Sb**	**19 21 50.1**	**-0.3**
SRPI	**Serui, Papua**	**1.81**	**105**	P	**Pn**	**19 21 29.3**	**-0.7**
SRPI				S	**Sb**	**19 21 56.6**	**+1.0**
KMPI	**Kaimana, Papua**	**2.38**	**199**	P	**Pb**	**19 21 43.5**	**+0.7**
FAKI	**Fak Fak**	**2.70**	**236**	P	**Pn**	**19 21 42.8**	**+0.6**
FAKI				S	**Sb**	**19 22 20.3**	**-0.7**
FAKI	**Fak Fak**	**2.70**	**236**	P	**Pn**	**19 21 41.8**	**-0.3**
baz=3.1,SNR=34
SWI	**Sorong**	**3.27**	**279**	P	Pn	19 21 45.0	-5.0
SWI				S	**Sn**	**19 22 22.4**	**-5.6**
SWI	**Sorong**	**3.27**	**279**	P	**Pn**	**19 21 51.1**	**+1.0**
baz=3.8,SNR=12
TLE	**Tual**	**4.55**	**202**	P	**Pn**	**19 22 07.6**	**-0.1**
baz=4.7,SNR=5.6
BNDI	**Bandanaira**	**5.53**	**236**	P	Pn	19 22 27.5	+6.4
baz=5.9,SNR=4.1
BNDI				S	**Sn**	**19 23 28.6**	**+4.9**
baz=5.9,SNR=3.3
AAI	**Ambon**	**6.68**	**250**	P	Pn	19 22 39.7	+2.7
baz=7.2,SNR=4.6
KDU	**Kakadu**	**11.39**	**190**	P	**Pn**	**19 23 40.8**	**-0.7**
baz=12,SNR=7.6
LUWI	**Luwuk**	**11.72**	**272**	S	Sn	19 26 27.9	+32
baz=12,SNR=3.8
BATI	**Baumata**	**13.87**	**230**	Pn	**Pn**	**19 24 15.2**	**-0.2**
0.5nm,0.3s,baz=56,slow=3.6,SNR=2.4
KNRA	**Kununurra**	**15.27**	**201**	P	**Pn**	**19 24 35.4**	**+1.1**
baz=16,SNR=3.9
KNRA				S	**Sn**	**19 27 19.6**	**-3.0**
baz=16,SNR=3.9
WRA	**Warramunga Arr**	**18.43**	**180**	P	**P**	**19 25 12.0**	**-2.0**
0.4nm,0.3s,baz=352,slow=13,SNR=11
FITZ	**Fitzroy Crossi**	**18.73**	**207**	P	**Pn**	**19 25 16.8**	**-1.0**
0.4nm,0.3s,baz=35,slow=12,SNR=8.8
FITZ				S	Sn	19 28 28.2	-18
0.1nm,0.3s,baz=313,slow=19,SNR=2.8
FITZ	**Fitzroy Crossi**	**18.73**	**207**	P	**Pn**	**19 25 17.5**	**-0.3**
baz=19,SNR=5.1
ASAR	**Alice Springs**	**22.14**	**181**	P	**P**	**19 25 52.5**	**-1.8**
1.5nm,0.4s,baz=8.1,slow=12,SNR=16
PATS	**Pohnpei**	**25.15**	**71**	S	**S**	**19 30 48.8**	**+1.7**
baz=25,SNR=3.5
MKAR	**Makanchi Array**	**66.21**	**324**	P	P	19 31 50.1	+4.2
0.6nm,1.0s,baz=125,slow=7.2,SNR=3.5
KURBB	**Kurchatov Arra**	**70.26**	**326**	P	**P**	**19 32 13.7**	**+2.5**
0.1nm,0.2s,baz=119,slow=5.5,SNR=2.6

IDC 29 19:23:12.7±3.4, 16°.26S×172°.74W, h0km, mb4.0/4, mb1 4.3/4, mb1mx3.9/18, mbtmp4.0/4, Error ellipse: s-maj=189.2km s-min=28.0km az=147.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.52**	**22**	Sn	Sn	19 24 16.8	-10
133nm,0.3s,baz=198,slow=20,SNR=1.8
WRA	**Warramunga Arr**	**50.27**	**257**	P	P	19 32 11.9	+0.6
0.7nm,0.7s,baz=103,slow=9.6,SNR=2.5
ASAR	**Alice Springs**	**50.45**	**253**	P	P	19 32 11.2	-1.5
1.9nm,0.5s,baz=88,slow=8.4,SNR=5.0
PDAR	**Pinedale Array**	**82.48**	**42**	P	P	19 35 37.2	-0.3
1.1nm,1.0s,baz=274,slow=1.4,SNR=2.4
ILAR	**Eielson Array**	**83.17**	**11**	P	P	19 35 38.8	-1.4
1.1nm,0.6s,baz=221,slow=5.6,SNR=4.3
GERES	**GERESS Array B**	**147.08**	**352**	PKPbc	PKPab	19 42 58.6	-0.6
0.3nm,0.6s,baz=19,slow=6.2,SNR=2.2
BRTR	**Keskin Array B**	**147.22**	**321**	PKPbc	PKPbc	19 42 58.4	-0.1
2.4nm,0.8s,baz=76,slow=2.3,SNR=4.7

IDC 29 19:24:05.2±8.8, 15°.99S×172°.00W, h0km, mb4.0/2, mb1 4.3/2, mb1mx3.8/18, mbtmp4.0/2, Error ellipse: s-maj=426.5km s-min=59.9km az=142.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**51.02**	**257**	P	P	19 33 09.8	+0.3
0.6nm,0.4s,baz=93,slow=7.0,SNR=4.1
ASAR	**Alice Springs**	**51.21**	**252**	P	P	19 33 10.3	-0.6
2.0nm,0.7s,baz=87,slow=8.3,SNR=3.2
BRTR	**Keskin Array B**	**147.45**	**322**	PKPbc	PKPbc	19 43 50.8	-0.8
2.2nm,0.9s,baz=74,slow=1.8,SNR=3.3

*AUST **29** 19:25:14.7, 16°.87S×171°.76W, h35km*
*IDC **29** 19:25:18.0±0.8, 16°.27S×173°.37W, h0km, mb4.4/12, mb1 4.5/13, mb1mx4.3/23, mbtmp4.4/13, ML3.8/1, Error ellipse: s-maj=29.0km s-min=17.7km az=121.0*
*ISCJB **29** 19:25:20.3±0.8, 16°.4S±0°.1×173°.3W±0°.2, h26km, mb4.4/12, Error ellipse: s-maj=22.5km s-min=14.8km az=29.4*
ISC 29 19:25:21.3±0.8, 16°.2S±0°.1×173°.2W±0°.2, h26km, n27, σ1ŝ62/26, mb4.3/12, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.65**	**31**	Sn	**Sn**	**19 26 30.2**	**-3.6**
51nm,0.3s,baz=233,slow=20,SNR=2.2
DZM	**Mont Dzumac**	**20.10**	**250**	P	**P**	**19 29 49.9**	**-3.4**
0.3nm,0.3s,baz=66,slow=19,SNR=2.8
URZ	**Urewera**	**23.58**	**199**	P	**P**	**19 30 27.2**	**-2.7**
25nm,0.6s,baz=72,slow=5.0,SNR=7.4
RPZ	**Rata Peaks**	**30.53**	**203**	P	**P**	**19 31 31.9**	**-0.6**
7.8nm,0.6s,baz=72,slow=16,SNR=2.2
ARMA	**Armidale**	**35.11**	**240**	P	**P**	**19 32 11.9**	**-1.0**
baz=36,SNR=5.9
CMSA	**Cobar Meteorol**	**40.33**	**240**	P	**P**	**19 32 55.9**	**-1.0**
baz=41,SNR=5.6
QLP	**Quilpie**	**40.80**	**248**	P	**P**	**19 32 59.4**	**-1.4**
baz=42,SNR=3.8
TOO	**Toolangi**	**42.13**	**231**	P	**P**	**19 33 11.7**	**+0.1**
baz=43,SNR=5.4
STKA	**Stephens Creek**	**43.82**	**241**	P	**P**	**19 33 24.1**	**-1.3**
11nm,0.9s,baz=59,slow=7.6,SNR=5.6
WRA	**Warramunga Arr**	**49.86**	**257**	P	**P**	**19 34 12.1**	**-0.7**
2.2nm,0.8s,baz=92,slow=6.7,SNR=4.8
ASAR	**Alice Springs**	**50.06**	**253**	P	**P**	**19 34 13.3**	**-1.0**
19nm,0.6s,baz=88,slow=8.4,SNR=17
SWI	**Sorong**	**56.80**	**280**	P	**P**	**19 35 05.5**	**+1.7**
baz=58,SNR=7.6
FITZ	**Fitzroy Crossi**	**58.25**	**258**	P	**P**	**19 35 13.2**	**-0.9**
1.4nm,0.9s,baz=80,slow=11,SNR=2.1
SOEI	**Soe**	**61.09**	**268**	P	**P**	**19 35 36.2**	**+2.3**
baz=62,SNR=12
BATI	**Baumata**	**61.57**	**267**	P	**P**	**19 35 36.9**	**-0.1**
10nm,0.7s,baz=166,slow=4.2,SNR=3.9
VNDA	**Vanda**	**62.61**	**186**	P	**P**	**19 35 44.1**	**+1.2**
0.8nm,0.7s,baz=39,slow=6.3,SNR=3.5
MEEK	**Meekatharra**	**63.70**	**248**	P	**P**	**19 35 50.1**	**-1.0**
baz=65,SNR=3.2
KLBR	**Kellerberrin**	**64.05**	**242**	P	**P**	**19 35 53.0**	**-0.3**
baz=65,SNR=4.7
WSI	**Waingapu**	**64.92**	**267**	P	P	19 36 13.8	+15
baz=66,SNR=5.3
PETK	**Petropavlovsk-**	**73.44**	**342**	P	**P**	**19 36 52.0**	**+0.8**
1.6nm,0.8s,baz=158,slow=4.2,SNR=3.4
UGM	**Wanagama**	**74.72**	**266**	P	**P**	**19 37 00.6**	**+1.0**
baz=76,SNR=3.6
PDAR	**Pinedale Array**	**82.72**	**42**	P	**P**	**19 37 44.2**	**+1.1**
0.9nm,0.8s,baz=216,slow=4.5,SNR=3.3
ILAR	**Eielson Array**	**83.18**	**11**	P	**P**	**19 37 45.5**	**+0.7**
0.7nm,0.7s,baz=220,slow=5.6,SNR=2.8
CMAR	**Chiang Mai Arr**	**93.06**	**288**	P	**P**	**19 38 35.5**	**+2.1**
1.5nm,0.8s,baz=88,slow=2.1,SNR=8.2
KMBO	**Kilima Mbogo**	**145.37**	**243**	PKPbc	**PKPdf**	**19 44 59.4**	**+1.1**
4.8nm,0.8s,baz=59,slow=4.8,SNR=10
BRTR	**Keskin Array B**	**146.90**	**320**	PKPbc	**PKPbc**	**19 45 01.4**	**-0.5**
2.4nm,0.9s,baz=60,slow=3.5,SNR=3.6
GERES	**GERESS Array B**	**146.95**	**352**	PKPbc	**PKPab**	**19 45 02.7**	**-0.4**
0.4nm,0.6s,baz=29,slow=3.0,SNR=4.5

IDC 29 19:26:47.7±2.0, 15°.96S×172°.50W, h0km, mb4.0/5, mb1 4.4/5, mb1mx4.0/18, mbtmp4.0/5, Error ellipse: s-maj=120.3km s-min=25.5km az=151.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**50.57**	**257**	P	P	19 35 47.9	-0.7
2.9nm,0.9s,baz=94,slow=7.5,SNR=5.0
ASAR	**Alice Springs**	**50.77**	**252**	P	P	19 35 50.1	+0.1
3.9nm,0.8s,baz=86,slow=8.5,SNR=4.0
TXAR	**Lajitas Array**	**80.20**	**56**	P	P	19 39 00.6	0.0
1.3nm,1.0s,baz=234,slow=4.3,SNR=5.0
PDAR	**Pinedale Array**	**82.10**	**41**	P	P	19 39 10.5	-0.1
0.4nm,0.7s,baz=196,slow=5.3,SNR=2.5
ILAR	**Eielson Array**	**82.83**	**11**	P	P	19 39 13.3	-0.2
0.5nm,0.6s,baz=213,slow=6.5,SNR=3.9
BRTR	**Keskin Array B**	**147.14**	**321**	PKPbc	PKPbc	19 46 33.3	0.0
1.0nm,0.9s,baz=93,slow=3.6,SNR=2.0

*IDC **29** 19:28:55.8±1.3, 16°.63S×172°.61W, h0km, mb4.0/7, mb1 4.3/7, mb1mx4.0/18, mbtmp4.0/7, Error ellipse: s-maj=66.7km s-min=21.2km az=148.0*
*ISCJB **29** 19:28:57.9±1.2, 16°.8S±0°.3×172°.6W±0°.2, h24km, mb4.0/8, Error ellipse: s-maj=53.2km s-min=17.9km az=147.5*
*NEIC **29** 19:28:57.3±1.2, 16°.64S×172°.60W, h10km, mb4.5/1, Error ellipse: s-maj=63.1km s-min=17.9km az=148.0*
ISC 29 19:28:59.5±1.3, 16°.6S±0°.4×172°.6W±0°.3, h24km, n19, σ1ŝ15/19, mb4.1/8, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**44.07**	**241**	P	**P**	**19 37 05.1**	**-0.8**
STKA	**Stephens Creek**	**44.07**	**241**	P	**P**	**19 37 05.1**	**-0.8**
2.3nm,0.9s,baz=86,slow=13,SNR=2.7
WRAB	**Tennant Creek**	**50.28**	**258**	P	**P**	**19 37 55.4**	**+0.9**
5.8nm,1.1s
WRA	**Warramunga Arr**	**50.29**	**258**	P	**P**	**19 37 53.5**	**-1.1**
WRA	**Warramunga Arr**	**50.29**	**258**	P	**P**	**19 37 53.5**	**-1.1**
0.9nm,0.4s,baz=89,slow=6.8,SNR=6.3
ASAR	**Alice Springs**	**50.44**	**253**	P	**P**	**19 37 57.0**	**+1.4**
ASAR	**Alice Springs**	**50.44**	**253**	P	**P**	**19 37 57.0**	**+1.4**
6.8nm,0.7s,baz=90,slow=7.8,SNR=11
KSRS	**Korea Array**	**77.55**	**315**	P	**P**	**19 40 55.0**	**+1.4**
0.3nm,0.3s,baz=76,slow=11,SNR=2.4
KSAR	**Wonju Array Be**	**77.57**	**315**	P	**P**	**19 40 55.0**	**+1.3**
TXAR	**Lajitas Array**	**80.69**	**56**	P	**P**	**19 41 12.4**	**+1.3**
TXAR	**Lajitas Array**	**80.69**	**56**	P	**P**	**19 41 12.4**	**+1.3**
0.2nm,0.4s,baz=253,slow=6.1,SNR=2.7
PDAR	**Pinedale Array**	**82.69**	**41**	P	**P**	**19 41 21.1**	**-0.4**
PDAR	**Pinedale Array**	**82.69**	**41**	P	**P**	**19 41 21.1**	**-0.4**
1.9nm,1.0s,baz=242,slow=5.0,SNR=3.3
ILAR	**Eielson Array**	**83.51**	**11**	P	**P**	**19 41 23.7**	**-1.3**
ILAR	**Eielson Array**	**83.51**	**11**	P	**P**	**19 41 23.7**	**-1.3**
0.7nm,0.7s,baz=223,slow=5.8,SNR=4.8
GERES	**GERESS Array B**	**147.46**	**352**	PKPbc	**PKPbc**	**19 48 40.6**	**-1.0**
GERES	**GERESS Array B**	**147.46**	**352**	PKPbc	**PKPbc**	**19 48 40.6**	**-1.0**
0.6nm,0.7s,baz=76,slow=4.1,SNR=4.8
BRTR	**Keskin Array B**	**147.57**	**320**	PKPbc	**PKPbc**	**19 48 42.4**	**+0.1**
BRTR	**Keskin Array B**	**147.57**	**320**	PKPbc	**PKPbc**	**19 48 42.4**	**+0.1**
1.0nm,0.8s,baz=107,slow=1.5,SNR=3.6

IDC 29 19:30:28.6±5.8, 14°.69S×172°.43W, h0km, mb4.0/3, mb1 4.3/3, mb1mx3.8/18, mbtmp4.0/3, Error ellipse: s-maj=276.7km s-min=17.4km az=139.0, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.00**	**39**	Pn	Pb	19 30 48.8	-0.1
174nm,0.3s,baz=245,slow=19,SNR=3.3
AFI				Sn	Sn	19 31 05.0	+0.1
352nm,0.3s,baz=187,slow=24,SNR=6.0
WRA	**Warramunga Arr**	**50.92**	**256**	P	P	19 39 31.4	-0.7
21nm,1.1s,baz=93,slow=7.7,SNR=5.1
ASAR	**Alice Springs**	**51.22**	**251**	P	P	19 39 33.4	-1.0
2.5nm,0.4s,baz=90,slow=7.8,SNR=10
ILAR	**Eielson Array**	**81.58**	**11**	P	P	19 42 48.5	+0.7
0.7nm,0.9s,baz=226,slow=6.6,SNR=2.8
GERES	**GERESS Array B**	**145.57**	**353**	PKPbc	PKPdf	19 50 08.8	-0.2
0.7nm,0.7s,baz=5.7,slow=4.0,SNR=3.5
BRTR	**Keskin Array B**	**146.18**	**322**	PKPbc	PKPab	19 50 11.9	-0.2
2.2nm,1.0s,baz=69,slow=2.2,SNR=3.2

IDC 29 19:31:09.7±3.7, 17°.67S×172°.19W, h0km, mb4.0/4, mb1 4.3/4, mb1mx3.9/18, mbtmp4.0/4, Error ellipse: s-maj=217.9km s-min=33.7km az=151.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**50.50**	**258**	P	P	19 40 09.2	-0.8
0.3nm,0.5s,baz=96,slow=6.8,SNR=7.6
ASAR	**Alice Springs**	**50.55**	**254**	P	P	19 40 10.6	+0.2
2.3nm,0.6s,baz=88,slow=8.6,SNR=5.1
PDAR	**Pinedale Array**	**83.19**	**41**	P	P	19 43 37.8	-0.4
0.8nm,0.7s,baz=211,slow=3.9,SNR=5.1
CMAR	**Chiang Mai Arr**	**94.42**	**288**	P	P	19 44 32.4	+0.2
1.0nm,0.9s,baz=112,slow=2.2,SNR=6.5
BRTR	**Keskin Array B**	**148.64**	**320**	PKPbc	PKPbc	19 50 59.2	-0.1
0.8nm,0.8s,baz=53,slow=1.2,SNR=2.7

IDC 29 19:32:57.9±7.7, 15°.93S×172°.48W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.5/18, mbtmp3.6/2, Error ellipse: s-maj=400.4km s-min=44.5km az=144.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**50.59**	**257**	P	P	19 41 58.6	-0.3
0.4nm,0.7s,baz=94,slow=6.7,SNR=4.0
ASAR	**Alice Springs**	**50.79**	**252**	P	P	19 42 00.5	0.0
1.1nm,0.7s,baz=87,slow=8.3,SNR=6.0
GERES	**GERESS Array B**	**146.79**	**353**	PKPbc	PKPdf	19 52 41.1	+0.6
0.5nm,0.8s,baz=31,slow=2.6,SNR=2.2
BRTR	**Keskin Array B**	**147.12**	**321**	PKPbc	PKPbc	19 52 43.0	-0.4
4.0nm,1.1s,baz=49,slow=2.8,SNR=5.8

*ISCJB **29** 19:33:10.9±0.3, 16°.09S±0°.07×173°.27W±0°.06, h10km, mb4.8/50, MS4.8/1, Error ellipse: s-maj=11.7km s-min=5.9km az=138.9*
*IDC **29** 19:33:11.4±0.6, 16°.08S×173°.27W, h0km, mb4.6/20, mb1 4.8/20, mb1mx4.7/27, mbtmp4.6/20, Error ellipse: s-maj=21.8km s-min=13.4km az=132.0*
*BJI **29** 19:33:12.8, 15°.92S×173°.41W, h13km, mB5.1/3, mb5.0/12, Ms5.1/1, Ms7 4.8/2*
*NEIC **29** 19:33:12.4±0.3, 16°.01S×173°.29W, h10km, mb4.9/32, Error ellipse: s-maj=13.2km s-min=6.6km az=138.0*
*AUST **29** 19:33:51.4±0.0, 17°.28S×175°.23W, h217km, Error ellipse: s-maj=1.5km s-min=1.3km az=346.0*
ISC 29 19:33:12.7±0.4, 16°.07S±0°.09×173°.25W±0°.10, h10km, n163, σ1ŝ12/160, mb4.8/50, 17C-7D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.58**	**34**	Pn	Pn	19 33 44.3	-10
AFI				Sn	Sn	19 34 16.1	-10
AFI	**Afiamalu**	**2.58**	**34**	Pn	Pn	19 33 44.3	-10
96nm,0.3s,baz=232,slow=17,SNR=1.9
AFI				Sn	Sn	19 34 16.1	-10
169nm,0.3s,baz=216,slow=17,SNR=4.1
DZM	**Mont Dzumac**	**20.09**	**250**	P	Pn	19 37 47.6	-0.9
DZM	**Mont Dzumac**	**20.09**	**250**	P	Pn	19 37 47.6	-0.9
23nm,0.9s,baz=74,slow=17,SNR=7.3
URZ	**Urewera**	**23.68**	**199**	*e*P	**P**	**19 38 23.1**	**-1.4**
25nm,0.6s
URZ	**Urewera**	**23.68**	**199**	P	**P**	**19 38 23.3**	**-1.2**
22nm,0.6s,baz=15,slow=12,SNR=8.5
SNZO	**South Karori**	**27.22**	**200**	*e*P	**P**	**19 38 58.3**	**+1.5**
27nm,0.9s
RPZ	**Rata Peaks**	**30.62**	**203**	P	**P**	**19 39 27.4**	**+0.4**
RPZ	**Rata Peaks**	**30.62**	**203**	P	**P**	**19 39 27.4**	**+0.4**
3.7nm,0.3s,baz=32,slow=15,SNR=2.8
ODZ	**Otahua Downs**	**31.91**	**202**	P	P	19 39 43.5	+5.2
14nm,0.9s
EIDS	**Eidsvold**	**34.53**	**249**	*e*P	**P**	**19 39 59.5**	**-2.0**
6.7nm,0.8s
EIDS	**Eidsvold**	**34.53**	**249**	P	**P**	**19 40 00.4**	**-1.0**
baz=32,SNR=5.5
ARMA	**Armidale**	**35.12**	**240**	*e*P	**P**	**19 40 05.7**	**-1.0**
11nm,0.7s
ARMA	**Armidale**	**35.12**	**240**	P	**P**	**19 40 06.6**	**-0.1**
baz=33,SNR=9.0
RMQ	**Roma**	**36.76**	**247**	P	**P**	**19 40 20.6**	**-0.1**
baz=34,SNR=9.7
CNB	**Canberra Magne**	**38.46**	**233**	P	**P**	**19 40 34.6**	**-0.4**
baz=36,SNR=10.0
CTA	**Charters Tower**	**38.64**	**258**	P	**P**	**19 40 36.0**	**-0.6**
CTA	**Charters Tower**	**38.64**	**258**	P	**P**	**19 40 36.0**	**-0.6**
3.2nm,0.6s,baz=48,slow=12,SNR=3.1
CTAO	**Charters Tower**	**38.64**	**258**	P	**P**	**19 40 36.6**	**0.0**
CAN	**Canberra**	**38.74**	**233**	*e*P	**P**	**19 40 35.9**	**-1.5**
18nm,1.2s
PMG	**Port Moresby**	**39.13**	**275**	P	**P**	**19 40 39.7**	**-1.1**
39nm,1.1s
PMG	**Port Moresby**	**39.13**	**275**	P	**P**	**19 40 40.1**	**-0.6**
26nm,1.0s,baz=131,slow=20,SNR=2.2
CMSA	**Cobar Meteorol**	**40.34**	**240**	P	**P**	**19 40 49.9**	**-0.7**
baz=38,SNR=23
MTSU	**Mount Surprise**	**40.54**	**261**	P	**P**	**19 40 53.0**	**+0.4**
baz=38,SNR=13
QLP	**Quilpie**	**40.80**	**248**	P	**P**	**19 40 53.6**	**-0.9**
baz=39,SNR=3.3
COEN	**Coen**	**42.08**	**267**	P	**P**	**19 41 06.5**	**+1.3**
baz=40,SNR=11
TOO	**Toolangi**	**42.16**	**231**	P	**P**	**19 41 05.0**	**-0.6**
baz=40,SNR=7.1
STKA	**Stephens Creek**	**43.83**	**241**	P	**P**	**19 41 18.4**	**-0.7**
STKA	**Stephens Creek**	**43.83**	**241**	P	**P**	**19 41 18.4**	**-0.7**
18nm,0.8s,baz=88,slow=7.7,SNR=22
STKA	**Stephens Creek**	**43.83**	**241**	P	**P**	**19 41 18.9**	**-0.3**
baz=42,SNR=14
JAY	**Jayapura**	**47.26**	**282**	P	P	19 41 52.6	+6.0
baz=46,SNR=49
BBOO	**Buckleboo**	**48.60**	**240**	P	**P**	**19 41 56.6**	**-0.1**
baz=46,SNR=7.5
WRAB	**Tennant Creek**	**49.82**	**257**	*e*P	**P**	**19 42 04.2**	**-2.1**
9.9nm,0.8s
WRA	**Warramunga Arr**	**49.83**	**257**	P	**P**	**19 42 05.2**	**-1.1**
WRA	**Warramunga Arr**	**49.83**	**257**	P	**P**	**19 42 05.2**	**-1.1**
10nm,0.8s,baz=91,slow=7.0,SNR=38
AS31	**Alice Springs**	**50.04**	**252**	*e*P	**P**	**19 42 06.8**	**-1.1**
ASAR	**Alice Springs**	**50.04**	**252**	P	**P**	**19 42 07.2**	**-0.8**
ASAR	**Alice Springs**	**50.04**	**252**	P	**P**	**19 42 07.2**	**-0.8**
25nm,0.8s,baz=87,slow=8.4,SNR=38
KDU	**Kakadu**	**52.56**	**266**	P	**P**	**19 42 27.0**	**+0.1**
baz=51,SNR=9.4
FORT	**Forrest**	**55.24**	**244**	*e*P	**P**	**19 42 44.8**	**-1.5**
24nm,0.7s
FORT	**Forrest**	**55.24**	**244**	P	**P**	**19 42 45.4**	**-0.9**
baz=53,SNR=8.1
KNRA	**Kununurra**	**55.61**	**262**	P	**P**	**19 42 48.8

comp=Z,7.8nm,1.0s,baz=115,slow=3.7,SNR=12
MAW Mawson 87.21 199 P **P** 19 46 00.1 +1.2
baz=85,SNR=8.3
ENH Enshi 87.39 302 *eP* **P** 19 46 01.1 +0.5
comp=Z,15nm,1.3s
HHC Hu-ho-hao-te 89.58 313 *eP* **P** 19 46 10.5 -0.3
HHC sP **sP** 19 46 16.5 +1.2
HHC SKS **SKSac** 19 56 38.0 -3.5
HHC S **S** 19 56 58.3 -3.8
HHC SS **SS** 20 02 58.5 0.0
HHC pmax pmax
comp=Z,44nm,0.8s
HHC LR LR
comp=Z,360nm,20.2s
KMI Kunming 91.44 296 P **P** 19 46 19.3 -0.7
KMI pmax pmax
comp=Z,10.0nm,1.8s
SYO Syowa Base 91.97 191 ‖ *eP* **P** 19 46 20.8 -0.5
SYO Syowa Base 91.97 191 ‖ *eS* P 19 46 25.6 +4.3
CMAR Chiang Mai Arr 92.96 288 P P 19 46 28.5 +1.7
CMAR Chiang Mai Arr 92.96 288 P P 19 46 28.5 +1.7
comp=Z,8.6nm,0.9s,baz=94,slow=2.7,SNR=44
CHTO Chiang Mai 93.05 289 *eP* **P** 19 46 28.2 +0.9
comp=Z,63nm,1.4s
ZALV Zalesovo Beam 109.84 322 Pdif **Pdif** 19 47 42.0 +0.4
ZALV Zalesovo Beam 109.84 322 Pdiff **Pdif** 19 47 42.1 +0.4
comp=Z,0.2nm,0.3s,baz=129,slow=2.0,SNR=3.0
MKAR Makanchi Array 111.39 314 PKiKP **PKiKP** 19 51 46.1 -1.1
MKAR Makanchi Array 111.39 314 PKiKP **PKiKP** 19 51 46.1 -1.1
comp=Z,0.9nm,0.9s,baz=70,slow=4.0,SNR=4.7
KSH Kashi 115.98 306 *ePKP* **PKPdf** 19 51 57.5 +1.2
KSH PP PP 19 53 07.5 +6.8
KSH PKS **PKSdf** 19 55 33.0 -0.1
KSH SKS **SKSdf** 19 59 08.3 -0.5
KSH SKKS **SKKSac** 20 00 00.3 -1.9
KSH SS **SS** 20 09 07.5 +4.3
BVAR Borovoye Array 118.49 322 PKP **PKPdf** 19 51 59.8 -0.7
BVAR Borovoye Array 118.49 322 PKP **PKPdf** 19 51 59.8 -0.7
comp=Z,0.9nm,0.6s,baz=40,slow=2.5,SNR=6.4
ARCES ARCESS Array B 125.29 352 PKP **PKPdf** 19 52 12.4 -0.8
ARCES ARCESS Array B 125.29 352 PKP **PKPdf** 19 52 12.4 -0.8
comp=Z,2.8nm,0.8s,baz=358,slow=2.2,SNR=4.1
FINES FINESS Array B 132.62 348 PKP **PKPdf** 19 52 28.1 +0.8
FINES FINESS Array B 132.62 348 PKP **PKPdf** 19 52 28.1 +0.8
comp=Z,4.7nm,1.1s,baz=28,slow=3.6,SNR=4.0
AKASG Malin Array Be 141.01 337 PKP **PKPdf** 19 52 42.6 -0.5
AKASG Malin Array Be 141.01 337 PKP **PKPdf** 19 52 42.6 -0.5
comp=Z,0.7nm,0.5s,baz=29,slow=3.2,SNR=4.9
KWP Kalwaria Pacla 144.10 342 ‖ *iP* **PKPdf** 19 52 46.8 -1.9
MALT Malatya 144.43 315 ‖ *iP* **PKPdf** 19 52 50.2 +0.4
CLL Collm 144.49 353 *ePKPdf* **PKPdf** 19 52 48.0 -1.3
CLL *e* 19 52 58.0
CLL *e* 19 53 02.0
BRG Berggiesshubel 144.80 352 *ePKP* **PKPdf** 19 52 50.8 +0.9
comp=Z,3.2nm,1.0s
UPC Upice 144.84 350 *ePKP* **PKPdf** 19 52 49.7 -0.2
UPC *epPKP* **PKiKP** 19 52 55.2 +1.5
KOLS Kolonicke sedl 144.85 342 *ePKP* 19 38 33.9
DPC Dobruska-Polom 144.94 349 *ePKP* **PKPdf** 19 52 49.8 -0.4
DPC *ex* x 19 52 59.4
DPC *ex* x 19 53 02.8
BURAR Bucovina Array 145.04 338 ‖ *iP* **PKPdf** 19 52 50.5 0.0
PVCC Panska Ves 145.05 351 *ePKP* **PKPdf** 19 52 50.4 +0.1
OKC Ostrava-Krasne 145.07 347 *ePKP* **PKPdf** 19 52 49.9 -0.4
OKC *epPKP* **PKiKP** 19 52 56.6 +2.4
MORC Moravsky Berou 145.25 348 *ePKPdf* **PKPdf** 19 52 49.8 -0.9
MORC Moravsky Berou 145.25 348 ‖ *iP* **PKPdf** 19 52 51.0 +0.3
KMBO Kilima Mbogo 145.37 243 PKPbc **PKPdf** 19 52 53.7 +1.4
KMBO Kilima Mbogo 145.37 243 PKPbc **PKPdf** 19 52 53.7 +1.4
comp=Z,12nm,1.1s,baz=94,slow=3.6,SNR=13
TESR Tescani 145.41 336 ‖ *iP* **PKPab** 19 52 51.1 0.0
GHRR 145.47 334 ‖ *iP* **PKPab** 19 52 52.5 +1.2
TRPA Tarpa 145.49 341 ‖ *iP* **PKPab** 19 52 51.3 0.0
MEM Membach 145.54 1 PKP **PKPab** 19 52 51.9 +0.5
TLCR 145.55 332 ‖ *iP* **PKPab** 19 52 51.8 +0.2
BMR Baia Mare 145.58 340 ‖ *iP* **PKPab** 19 52 52.7 +1.0
PRU Pruhonice 145.58 351 *ePKP* **PKPab** 19 52 51.2 -0.4
PRU *ex* x 19 52 58.3
CFR Carcaliu 145.85 333 ‖ *iP* **PKPab** 19 52 52.7 -0.1
VRI Vrincioaia 145.91 335 ‖ *iP* **PKPab** 19 52 53.2 +0.2
PLOR Plostina 145.95 335 ‖ *iP* **PKPab** 19 52 53.8 +0.6
DOU Dourbes 146.01 2 PKP **PKPab** 19 52 53.1 -0.1
GRER 146.20 334 ‖ *iP* **PKPab** 19 52 54.0 -0.1
TLB Topalu 146.36 332 ‖ *iP* **PKPab** 19 52 54.7 0.0
PSZ Piszkesteto 146.44 344 *ePKPbc* **PKPab** 19 52 54.6 -0.4
PSZ Piszkesteto 146.44 344 ‖ *iP* **PKPab** 19 52 55.2 +0.2
MLR Muntele Rosu 146.53 335 ‖ *iP* **PKPab** 19 52 55.8 +0.3
KHC Kasperske Hory 146.56 352 *ePKP* **PKPab** 19 52 54.8 -0.6
KHC *epPKP* **PKiKP** 19 53 00.7 +3.4
KHC *ex* x 19 53 05.7
ISR Istrita 146.59 334 ‖ *iP* **PKPab** 19 52 54.8 -0.9
BRTR Keskin Array B 146.76 320 PKPbc **PKPab** 19 52 56.0 -0.7
BRTR Keskin Array B 146.76 320 PKPbc **PKPab** 19 52 56.0 -0.7
comp=Z,14nm,0.8s,baz=119,slow=2.2,SNR=35
GERES GERESS Array B 146.82 352 PKPbc **PKPab** 19 52 55.0 -1.5
GERES GERESS Array B 146.82 352 PKPbc **PKPab** 19 52 55.0 -1.5
comp=Z,2.7nm,0.8s,baz=31,slow=3.6,SNR=14
VOIR 146.93 336 ‖ *iP* **PKPab** 19 52 56.9 -0.1
ARR Arges 147.15 336 ‖ *iP* **PKPab** 19 52 58.0 +0.1
ANTO Ankara 147.18 321 *ePKPbc* **PKPab** 19 52 55.9 -2.3
ANTO Ankara 147.18 321 ‖ *iP* **PKPab** 19 52 56.1 -2.1
SIRR Siria 147.42 341 ‖ *iP* **PKPab** 19 52 57.6 -1.2
CSS Prodhromos 149.66 313 *ePKPbc* **PKPbc** 19 53 02.6 -0.5
VTS Vitosha 150.04 335 ‖ *iP* **PKPbc** 19 53 04.6 +0.6
TOAO Torodi Ar. Sit 174.31 120 *ePKPdf* **PKPdf** 19 53 22.0 -1.6
TORD Torodi Ar. Bea 174.31 120 PKP **PKPdf** 19 53 21.6 -2.1
TORD Torodi Ar. Bea 174.31 120 PKP **PKPdf** 19 53 21.6 -2.1
comp=Z,1.6nm,0.9s,baz=190,slow=0.4,SNR=3.0

IDC 29 19:36:16.2±1.6, 15°.37S×173°.32W, h0km, mb4.0/6, mb1 4.3/6, mb1mx4.0/18, mbtmp4.0/6, Error ellipse: s-maj=98.7km s-min=22.0km az=146.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**44.11**	**240**	P	P	19 44 25.9	-0.7
	2.2nm,0.7s,baz=79,slow=13,SNR=2.6						
WRA	**Warramunga Arr**	**49.92**	**257**	P	P	19 45 11.9	-0.2
	1.3nm,0.6s,baz=92,slow=6.6,SNR=6.0						
ASAR	**Alice Springs**	**50.19**	**252**	P	P	19 45 14.1	-0.1
	6.5nm,0.7s,baz=86,slow=8.5,SNR=7.2						
TXAR	**Lajitas Array**	**80.53**	**56**	P	P	19 48 31.7	+0.9
	0.4nm,0.4s,baz=224,slow=5.0,SNR=3.8						
PDAR	**Pinedale Array**	**82.20**	**42**	P	P	19 48 38.7	-0.8
	1.0nm,1.0s,baz=253,slow=2.7,SNR=4.3						
ILAR	**Eielson Array**	**82.40**	**11**	P	P	19 48 39.0	-0.8
	0.7nm,0.9s,baz=218,slow=6.5,SNR=3.5						
GERES	**GERESS Array B**	**146.12**	**352**	PKPbc	PKPdf	19 55 58.0	+0.4
	0.5nm,0.7s,baz=40,slow=5.1,SNR=3.3						
BRTR	**Keskin Array B**	**146.18**	**321**	PKPbc	PKPab	19 55 59.6	-0.1
	0.6nm,0.7s,baz=52,slow=2.4,SNR=2.5						

SKO 29 19:36:22.6, 41°.45N×20°.43E, h17km, M1.9, ML2.6, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIA	**Bitola**	**0.80**	**122**	*e*Pg	Pn	19 36 38.8	-0.4
BIA				*e*Sg	Sn	19 36 51.4	+0.6
BIA				*e*Lg	Lg	19 36 52.1	
	comp=E,17nm,0.2s						
BIA				*e*Lg	Lg	19 36 52.3	
	comp=N,22nm,0.3s						
SKO	**Skopje**	**0.92**	**55**	*e*Pg	Pn	19 36 40.8	0.0
SKO				*e*Sg	Sn	19 36 53.9	+0.4
SKO				*e*Lg	Lg	19 36 54.4	
	comp=E,56nm,0.6s						
SKO				*e*Lg	Lg	19 36 54.4	
	comp=N,80nm,0.4s						

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*IDC **29** 19:37:23.0±0.9, 16°.56S×173°.23W, h0km, mb4.3/10, mb1 4.4/11, mb1mx4.3/22, mbtmp4.2/11, ML3.2/1, Error ellipse: s-maj=32.6km s-min=18.0km az=118.0*
*NEIC **29** 19:37:24.5±0.5, 16°.55S×173°.26W, h10km, mb4.7/3, Error ellipse: s-maj=18.3km s-min=11.9km az=119.0*
*ISCJB **29** 19:37:26.2±0.8, 16°.6S±0°.1×173°.4W±0°.1, h32km, mb4.4/13, Error ellipse: s-maj=21.5km s-min=15.8km az=32.5*
ISC 29 19:37:27.8±0.7, 16°.6S±0°.1×173°.3W±0°.2, h32km, n32, σ0s95/31, mb4.2/13, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.00**	**29**	Sn	Sn	19 38 25.7	-23
	45nm,0.3s,baz=198,slow=20,SNR=2.5						
DZM	**Mont Dzumac**	**19.92**	**251**	P	**P**	**19 41 56.9**	**-0.2**
DZM	**Mont Dzumac**	**19.92**	**251**	P	**P**	**19 41 56.9**	**-0.2**
	0.1nm,0.3s,baz=139,slow=19,SNR=2.0						
URZ	**Urewera**	**23.21**	**200**	P	**P**	**19 42 31.8**	**-0.3**
URZ	**Urewera**	**23.21**	**200**	P	**P**	**19 42 31.8**	**-0.3**
	16nm,0.7s,baz=63,slow=3.3,SNR=5.6						
RPZ	**Rata Peaks**	**30.16**	**203**	P	**P**	**19 43 36.0**	**+1.0**
RPZ	**Rata Peaks**	**30.16**	**203**	P	**P**	**19 43 36.0**	**+1.0**
	3.8nm,0.4s,baz=6.0,slow=19,SNR=1.6						
STKA	**Stephens Creek**	**43.59**	**241**	P	**P**	**19 45 28.6**	**-0.5**
STKA	**Stephens Creek**	**43.59**	**241**	P	**P**	**19 45 28.6**	**-0.5**
	2.5nm,0.8s,baz=60,slow=14,SNR=5.8						
WRAB	**Tennant Creek**	**49.71**	**258**	*e*P	**P**	**19 46 16.6**	**-0.7**
	2.5nm,0.6s						
WRA	**Warramunga Arr**	**49.72**	**258**	P	**P**	**19 46 16.6**	**-0.8**
WRA	**Warramunga Arr**	**49.72**	**258**	P	**P**	**19 46 16.6**	**-0.8**
	0.9nm,0.4s,baz=96,slow=7.3,SNR=7.9						
ASAR	**Alice Springs**	**49.89**	**253**	P	**P**	**19 46 18.1**	**-0.6**
ASAR	**Alice Springs**	**49.89**	**253**	P	**P**	**19 46 18.1**	**-0.6**
	13nm,0.6s,baz=87,slow=8.6,SNR=25						
VNDA	**Vanda**	**62.24**	**186**	P	**P**	**19 47 46.6**	**+0.6**
VNDA	**Vanda**	**62.24**	**186**	P	**P**	**19 47 46.6**	**+0.6**
	0.8nm,0.6s,baz=322,slow=4.4,SNR=7.0						
MBWA	**Marble Bar**	**63.17**	**254**	*e*P	**P**	**19 47 52.6**	**-0.6**
	23nm,1.3s						
QSPA	**South Pole Qui**	**73.49**	**180**	*e*P	**P**	**19 48 57.2**	**0.0**
	5.4nm,0.7s						
PETK	**Petropavlovsk-**	**73.78**	**342**	P	**P**	**19 49 00.9**	**+2.2**
PETK	**Petropavlovsk-**	**73.78**	**342**	P	**P**	**19 49 00.9**	**+2.2**
	1.7nm,0.7s,baz=145,slow=10,SNR=1.9						
PDAR	**Pinedale Array**	**83.04**	**42**	P	**P**	**19 49 49.2**	**-1.2**
PDAR	**Pinedale Array**	**83.04**	**42**	P	**P**	**19 49 49.2**	**-1.2**
	1.2nm,0.9s,baz=197,slow=4.0,SNR=4.9						
ILAR	**Eielson Array**	**83.56**	**11**	P	**P**	**19 49 51.6**	**-0.6**
ILAR	**Eielson Array**	**83.56**	**11**	P	**P**	**19 49 51.6**	**-0.6**
	1.4nm,0.7s,baz=226,slow=6.2,SNR=12						
CMAR	**Chiang Mai Arr**	**93.11**	**288**	P	**P**	**19 50 40.4**	**+1.2**
CMAR	**Chiang Mai Arr**	**93.11**	**288**	P	**P**	**19 50 40.4**	**+1.2**
	0.6nm,0.9s,baz=104,slow=2.5,SNR=4.5						
MKAR	**Makanchi Array**	**111.74**	**314**	PKiKP	**PKiKP**	**19 55 59.4**	**0.0**
MKAR	**Makanchi Array**	**111.74**	**314**	PKiKP	**PKiKP**	**19 55 59.4**	**0.0**
	0.2nm,0.6s,baz=133,slow=0.5,SNR=2.6						
BRTR	**Keskin Array B**	**147.14**	**320**	PKPbc	**PKPab**	**19 57 08.5**	**-1.3**
BRTR	**Keskin Array B**	**147.14**	**320**	PKPbc	**PKPab**	**19 57 08.5**	**-1.3**
	1.1nm,0.7s,baz=146,slow=3.6,SNR=4.0						
GERES	**GERESS Array B**	**147.31**	**351**	PKPbc	**PKPbc**	**19 57 08.2**	**0.0**
GERES	**GERESS Array B**	**147.31**	**351**	PKPbc	**PKPbc**	**19 57 08.2**	**0.0**
	1.1nm,0.7s,baz=28,slow=3.2,SNR=7.6						

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*IDC **29** 19:40:49.5±0.8, 15°.81S×173°.05W, h0km, mb4.1/10, mb1 4.3/10, mb1mx4.2/19, mbtmp4.1/10, Error ellipse: s-maj=37.2km s-min=19.1km az=147.0*
*NEIC **29** 19:40:50.8±0.8, 15°.56S×172°.92W, h10km, mb4.5/4, Error ellipse: s-maj=34.7km s-min=12.0km az=132.0*
*ISCJB **29** 19:40:52.9±0.6, 15°.7S±0°.1×173°.2W±0°.1, h29km, mb4.3/14, Error ellipse: s-maj=26.0km s-min=14.4km az=137.7*
ISC 29 19:40:54.1±0.6, 15°.8S±0°.2×173°.1W±0°.2, h29km, n37, σ0s88/35, mb4.4/14, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.24**	**34**	Sn	Sn	19 41 46.0	-10
AFI	**Afiamalu**	**2.24**	**34**	Sn	Sn	19 41 46.0	-10
	69nm,0.3s,baz=262,slow=14,SNR=1.9						
DZM	**Mont Dzumac**	**20.35**	**249**	P	Pn	19 45 32.4	+1.8
DZM	**Mont Dzumac**	**20.35**	**249**	P	Pn	19 45 32.4	+1.8
	7.6nm,0.8s,baz=81,slow=17,SNR=4.6						
STKA	**Stephens Creek**	**44.12**	**240**	P	**P**	**19 48 59.4**	**-0.7**
STKA	**Stephens Creek**	**44.12**	**240**	P	**P**	**19 48 59.4**	**-0.7**
	4.4nm,0.7s,baz=79,slow=8.2,SNR=8.7						
WRAB	**Tennant Creek**	**50.05**	**257**	*e*P	**P**	**19 49 46.0**	**-0.6**
	2.5nm,0.7s						
WRA	**Warramunga Arr**	**50.06**	**257**	P	**P**	**19 49 46.1**	**-0.6**
WRA	**Warramunga Arr**	**50.06**	**257**	P	**P**	**19 49 46.1**	**-0.6**
	4.0nm,0.8s,baz=97,slow=6.2,SNR=15						
ASAR	**Alice Springs**	**50.29**	**252**	P	**P**	**19 49 48.0**	**-0.4**
ASAR	**Alice Springs**	**50.29**	**252**	P	**P**	**19 49 48.0**	**-0.4**
	4.1nm,0.6s,baz=87,slow=7.8,SNR=14						
FITZ	**Fitzroy Crossi**	**58.44**	**258**	P	**P**	**19 50 47.8**	**+0.1**
FITZ	**Fitzroy Crossi**	**58.44**	**258**	P	**P**	**19 50 47.8**	**+0.1**
	1.7nm,0.8s,baz=218,slow=8.7,SNR=3.5						
MBWA	**Marble Bar**	**63.55**	**254**	P	**P**	**19 51 22.3**	**-0.2**
	20nm,1.2s						
CASY	**Casey**	**70.19**	**205**	P	**P**	**19 52 03.2**	**-0.7**
PETK	**Petropavlovsk-**	**73.08**	**342**	P	**P**	**19 52 21.2**	**-0.1**
PETK	**Petropavlovsk-**	**73.08**	**342**	P	**P**	**19 52 21.2**	**-0.1**
	4.1nm,0.8s,baz=152,slow=9.8,SNR=5.7						
QSPA	**South Pole Qui**	**74.27**	**180**	*e*P	**P**	**19 52 29.7**	**+1.3**
	6.2nm,1.2s						
TXAR	**Lajitas Array**	**80.57**	**56**	P	**P**	**19 53 04.7**	**+0.4**
TXAR	**Lajitas Array**	**80.57**	**56**	P	**P**	**19 53 04.7**	**+0.4**
	0.3nm,0.6s,baz=236,slow=4.9,SNR=3.0						
MCK	**McKinley**	**81.44**	**11**	P	**P**	**19 53 08.4**	**+0.4**
	5.4nm,1.0s						
PDAR	**Pinedale Array**	**82.34**	**42**	P	**P**	**19 53 13.3**	**-0.2**
PDAR	**Pinedale Array**	**82.34**	**42**	P	**P**	**19 53 13.3**	**-0.2**
	1.2nm,0.9s,baz=222,slow=3.0,SNR=6.3						
ILAR	**Eielson Array**	**82.75**	**11**	P	**P**	**19 53 14.9**	**+0.1**
ILAR	**Eielson Array**	**82.75**	**11**	P	**P**	**19 53 14.9**	**+0.1**
	0.8nm,0.6s,baz=225,slow=6.5,SNR=8.2						
MAW	**Mawson**	**87.53**	**199**	P	**P**	**19 53 39.9**	**+0.9**
MAW	**Mawson**	**87.53**	**199**	P	**P**	**19 53 39.9**	**+0.9**
	1.2nm,0.7s,baz=111,slow=8.6,SNR=4.1						
CMAR	**Chiang Mai Arr**	**93.03**	**288**	P	**P**	**19 54 07.5**	**+1.9**
CMAR	**Chiang Mai Arr**	**93.03**	**288**	P	**P**	**19 54 07.5**	**+1.9**
	0.6nm,0.8s,baz=116,slow=2.3,SNR=4.1						
GERES	**GERESS Array B**	**146.56**	**352**	PKPbc	**PKPbc**	**20 00 31.9**	**-0.9**
GERES	**GERESS Array B**	**146.56**	**352**	PKPbc	**PKPbc**	**20 00 31.9**	**-0.9**
	0.4nm,0.7s,baz=84,slow=4.0,SNR=2.4						
BR131	**Keskin Array S**	**146.64**	**321**	*e*PKPbc	**PKPab**	**20 00 34.6**	**+0.1**
BRTR	**Keskin Array B**	**146.64**	**321**	PKPbc	**PKPab**	**20 00 34.6**	**0.0**
BRTR	**Keskin Array B**	**146.64**	**321**	PKPbc	**PKPab**	**20 00 34.6**	**0.0**
	2.1nm,0.8s,baz=110,slow=2.7,SNR=9.6						
CSS	**Prodhromos**	**149.59**	**314**	*e*PKPbc	**PKPbc**	**20 00 41.7**	**+0.4**
TORD	**Torodi Ar. Bea**	**174.30**	**117**	PKP	**PKPdf**	**20 01 00.0**	**-1.9**
TORD				PKPab	**PKPab**	**20 02 33.6**	**-0.7**
TORD	**Torodi Ar. Bea**	**174.30**	**117**	PKP	**PKPdf**	**20 01 00.0**	**-1.9**
	0.5nm,0.8s,baz=268,slow=0.6,SNR=3.3						
TORD				PKPab	**PKPab**	**20 02 33.6**	**-0.7**
	0.5nm,0.7s,baz=262,slow=4.4,SNR=2.6						

IDC 29 19:42:17.2±1.9, 15°.20S×173°.44W, h0km, mb3.9/5, mb1 4.2/5, mb1mx4.0/18, mbtmp3.9/5, MS4.7/1, Ms1 4.7/1, ms1mx4.3/38, Error ellipse: s-maj=114.5km s-min=25.6km az=152.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.05**	**52**	Pn	Pn	19 42 43.6	-10
	229nm,0.3s,baz=273,slow=19,SNR=4.8						
AFI				Sn	Sn	19 43 05.8	-14
	201nm,0.3s,baz=246,slow=20,SNR=2.5						
AFI				LR	LR	19 43 11.9	
	comp=Z,17μm,19.0s,baz=295,slow=27						
WRA	**Warramunga Arr**	**49.86**	**257**	P	P	19 51 12.5	-0.1
	0.9nm,0.8s,baz=93,slow=7.2,SNR=3.2						
ASAR	**Alice Springs**	**50.14**	**252**	P	P	19 51 14.6	-0.2
	2.2nm,0.6s,baz=87,slow=8.1,SNR=4.6						
TXAR	**Lajitas Array**	**80.53**	**56**	P	P	19 54 31.7	-0.1
	0.8nm,0.3s,baz=232,slow=3.0,SNR=3.4						
PDAR	**Pinedale Array**	**82.14**	**42**	P	P	19 54 40.5	+0.2
	0.5nm,0.7s,baz=190,slow=6.0,SNR=4.6						
ILAR	**Eielson Array**	**82.25**	**11**	P	P	19 54 39.6	-0.3
	0.6nm,0.7s,baz=226,slow=7.4,SNR=4.6						
GERES	**GERESS Array B**	**145.94**	**352**	PKPbc	PKPdf	20 01 58.5	+0.3
	0.7nm,0.7s,baz=343,slow=3.1,SNR=5.1						
BRTR	**Keskin Array B**	**145.98**	**321**	PKPbc	PKPdf	20 01 58.6	-0.1
	1.1nm,0.7s,baz=62,slow=2.7,SNR=4.5						

IDC 29 19:43:15.0±1.6, 16°.80S×171°.19W, h0km, mb4.3/4, mb1 4.5/4, mb1mx4.0/19, mbtmp4.3/4, Error ellipse: s-maj=64.4km s-min=27.9km az=124.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.92**	**349**	Sn	Sn	19 44 19.8	-19
	406nm,0.3s,baz=267,slow=18,SNR=6.1						
URZ	**Urewera**	**23.73**	**203**	P	P	19 48 28.3	-0.4
	37nm,1.2s,baz=3.4,slow=19,SNR=2.2						
WRA	**Warramunga Arr**	**51.61**	**258**	P	P	19 52 23.5	-0.2
	1.2nm,0.8s,baz=94,slow=7.0,SNR=4.9						
ASAR	**Alice Springs**	**51.72**	**253**	P	P	19 52 24.6	+0.1
	4.2nm,0.6s,baz=84,slow=8.5,SNR=9.3						
ILAR	**Eielson Array**	**83.42**	**10**	P	P	19 55 43.5	-0.3
	1.3nm,0.7s,baz=219,slow=5.9,SNR=9.5						
GERES	**GERESS Array B**	**147.79**	**354**	PKPbc	PKPbc	20 03 01.7	-0.3
	0.8nm,0.9s,baz=346,slow=3.2,SNR=4.5						
BRTR	**Keskin Array B**	**148.57**	**322**	PKPbc	PKPbc	20 03 04.0	-0.4
	1.1nm,0.7s,baz=76,slow=2.5,SNR=4.0						

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*NEIC **29** 19:44:16.1±0.9, 15°.15S×173°.10W, h10km, mb4.8/2, Error ellipse: s-maj=48.8km s-min=11.5km az=140.0*
*ISCJB **29** 19:44:17.0±0.8, 15°.0S±0°.3×173°.3W±0°.2, h29km, mb4.4/5, Error ellipse: s-maj=46.5km s-min=9.7km az=145.8*
*IDC **29** 19:44:17.8±4.7, 15°.17S×173°.62W, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.8/17, mbtmp4.2/3, Error ellipse: s-maj=218.4km s-min=40.1km az=138.0*
ISC 29 19:44:18.9±1.0, 15°.2S±0°.2×173°.1W±0°.2, h29km, n14, σ1s32/14, mb4.5/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.79**	**46**	Sn	**Sn**	**19 45 08.9**	**-1.0**
AFI	**Afiamalu**	**1.79**	**46**	Sn	**Sn**	**19 45 08.9**	**-1.0**
	baz=225,slow=16,SNR=2.2						
STKA	**Stephens Creek**	**44.40**	**240**	P	**P**	**19 52 26.7**	**-0.6**
STKA	**Stephens Creek**	**44.40**	**240**	P	**P**	**19 52 26.7**	**-0.6**
	2.7nm,0.8s,baz=75,slow=9.1,SNR=2.9						
WRA	**Warramunga Arr**	**50.18**	**257**	P	**P**	**19 53 12.3**	**-0.1**
WRA	**Warramunga Arr**	**50.18**	**257**	P	**P**	**19 53 12.3**	**-0.1**
	0.9nm,0.7s,baz=91,slow=8.5,SNR=8.7						
ASAR	**Alice Springs**	**50.45**	**252**	P	**P**	**19 53 13.9**	**-0.6**
ASAR	**Alice Springs**	**50.45**	**252**	P	**P**	**19 53 13.9**	**-0.6**
	5.8nm,0.7s,baz=87,slow=7.7,SNR=9.4						
MBWA	**Marble Bar**	**63.70**	**254**	*e*P	**P**	**19 54 47.2**	**-1.1**
	20nm,1.3s						
QSPA	**South Pole Qui**	**74.88**	**180**	*e*P	**P**	**19 55 57.3**	**+0.5**
	5.3nm,1.1s						
GERES	**GERESS Array B**	**145.95**	**352**	PKPbc	**PKPab**	**20 03 59.1**	**+2.7**
GERES	**GERESS Array B**	**145.95**	**352**	PKPbc	**PKPab**	**20 03 59.1**	**+2.7**
	0.1nm,0.3s,baz=359,slow=5.9,SNR=2.6						
BRTR	**Keskin Array B**	**146.16**	**321**	PKPbc	**PKPab**	**20 03 57.8**	**+0.2**
BRTR	**Keskin Array B**	**146.16**	**321**	PKPbc	**PKPab**	**20 03 57.8**	**+0.2**
	1.4nm,0.8s,baz=27,slow=3.5,SNR=4.7						

IDC 29 19:46:17.4±3.5, 15°.52S×173°.25W, h0km, mb3.8/4, mb1 4.2/4, mb1mx3.8/18, mbtmp3.8/4, Error ellipse: s-maj=184.6km s-min=27.8km az=145.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**49.96**	**257**	P	P	19 55 14.0	+0.4
	0.4nm,0.7s,baz=96,slow=6.9,SNR=4.0						
ASAR	**Alice Springs**	**50.21**	**252**	P	P	19 55 15.0	-0.6
	2.2nm,0.5s,baz=88,slow=8.4,SNR=12						
PDAR	**Pinedale Array**	**82.26**	**42**	P	P	19 58 41.5	+0.3
	0.6nm,0.6s,baz=199,slow=4.1,SNR=4.0						
ILAR	**Eielson Array**	**82.53**	**11**	P	P	19 58 41.7	-0.1
	0.5nm,0.8s,baz=215,slow=7.2,SNR=3.0						
GERES	**GERESS Array B**	**146.28**	**352**	PKPbc	PKPdf	20 05 58.3	-0.7
	0.1nm,0.3s,baz=0.0,slow=2.5,SNR=1.7						
BRTR	**Keskin Array B**	**146.34**	**321**	PKPbc	PKPbc	20 06 00.6	-0.1
	0.7nm,0.8s,baz=53,slow=2.9,SNR=2.4						

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*IDC **29** 19:47:44.2±0.7, 15°.77S×172°.96W, h0km, mb4.0/12, mb1 4.3/12, mb1mx4.1/21, mbtmp4.1/12, Error ellipse: s-maj=30.7km s-min=19.0km az=144.0*
*NEIC **29** 19:47:45.8±0.6, 15°.77S×172°.99W, h10km, mb4.6/6, Error ellipse: s-maj=20.2km s-min=14.2km az=139.0*
*ISCJB **29** 19:47:46.8±0.6, 15°.8S±0°.1×173°.1W±0°.1, h26km, mb4.2/14, Error ellipse: s-maj=20.2km s-min=14.5km az=144.1*
*AUST **29** 19:47:48.9±12.0, 14°.61S×172°.35W, h100km±2km, Error ellipse: s-maj=7.1km s-min=3.0km az=27.0*
ISC 29 19:47:48.2±0.7, 15°.8S±0°.2×173°.0W±0°.1, h26km, n40, σ0s97/35, mb4.2/14, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.19**	**32**	Pn	Pn	19 48 07.3	-16
AFI		

131nm,0.3s,baz=156,slow=20,SNR=2.9
DZM Mont Dzumac 20.59 249 P Pn 19 55 45.4 -0.3
15nm,0.9s,baz=71,slow=18,SNR=2.1
STKA Stephens Creek 44.36 240 P P 19 59 14.3 -0.7
5.2nm,0.9s,baz=79,slow=6.8,SNR=7.7
WRA Warramunga Arr 50.30 257 P P 20 00 00.4 -1.1
2.5nm,0.9s,baz=91,slow=7.5,SNR=7.8
ASAR Alice Springs 50.53 252 P P 20 00 02.0 -1.2
5.4nm,0.7s,baz=86,slow=7.9,SNR=16
VNDA Vanda 63.16 186 P P 20 01 33.0 +1.0
1.4nm,0.9s,baz=8.9,slow=4.6,SNR=5.9
PETK Petropavlovsk- 73.05 342 P P 20 02 34.9 +0.6
3.6nm,0.7s,baz=140,slow=9.5,SNR=7.5
QSPA South Pole Qui 74.38 180 P P 20 02 41.9 -0.3
2.2nm,0.8s,baz=80,slow=3.5,SNR=5.1
KDAK Kodiak Island 75.08 11 P P 20 02 46.1 +0.1
7.7nm,0.9s,baz=175,slow=19,SNR=4.8
TXAR Lajitas Array 80.32 56 P P 20 03 16.3 +0.2
0.8nm,0.7s,baz=224,slow=7.0,SNR=5.9
ILAR Eielson Array 82.61 11 P P 20 03 26.7 -0.6
2.1nm,0.7s,baz=221,slow=6.1,SNR=20
FINES FINESS Array B 132.32 348 PKP PKPdf 20 10 18.3 -0.1
2.8nm,0.8s,baz=123,slow=10,SNR=2.7
AKASG Malin Array Be 140.79 338 PKP PKPdf 20 10 32.7 -1.7
0.2nm,0.3s,baz=14,slow=4.3,SNR=3.1
KMBO Kilima Mbogo 145.89 243 PKPbc PKPab 20 10 45.8 -0.1
2.6nm,0.7s,baz=37,slow=10,SNR=7.1
GERES GERESS Array B 146.48 352 PKPbc PKPdf 20 10 45.1 +0.5
0.9nm,0.8s,baz=26,slow=3.4,SNR=5.2
BRTR Keskin Array B 146.70 321 PKPbc PKPbc 20 10 46.8 -0.2
4.3nm,0.8s,baz=108,slow=1.6,SNR=17
ESDC Sonseca Array 154.18 20 PKPab PKPab 20 11 18.3 -0.3
0.2nm,0.5s,baz=337,slow=4.9,SNR=4.1
TORD Torodi Ar. Bea 174.15 115 PKPab PKPab 20 12 45.3 -1.5
0.7nm,1.1s,baz=255,slow=4.4,SNR=2.4

*IDC **29** 19:51:49.0±0.8, 16°.49S×172°.47W, h0km, mb4.1/11, mb1 4.3/11, mb1mx4.2/21, mbtmp4.1/11, Error ellipse: s-maj=28.5km s-min=21.4km az=120.0*
*ISCJB **29** 19:51:50.8±0.7, 16°.4S±0°.1×172°.5W±0°.1, h24km, mb4.2/13, Error ellipse: s-maj=21.3km s-min=14.5km az=22.7*
*NEIC **29** 19:51:50.4±0.6, 16°.56S×172°.46W, h10km, mb4.6/3, Error ellipse: s-maj=19.4km s-min=14.4km az=119.0*
ISC 29 19:51:53.0±0.8, 16°.6S±0°.1×172°.5W±0°.2, h24km, n29, σ1§05/26, mb4.3/13, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.73**	**15**	Pn	Pn	19 52 27.5	-7.8
AFI				Sn	Sn	19 52 44.5	-23
AFI	**Afiamalu**	**2.73**	**15**	Pn	Pn	19 52 27.5	-7.8
	164nm,0.3s,baz=246,slow=20,SNR=2.6						
AFI				Sn	Sn	19 52 44.5	-23
	142nm,0.3s,baz=161,slow=19,SNR=3.8						
URZ	**Urewera**	**23.47**	**201**	P	**P**	**19 56 59.3**	**-1.4**
URZ	**Urewera**	**23.47**	**201**	P	**P**	**19 56 59.3**	**-1.4**
	5.2nm,0.4s,baz=28,slow=14,SNR=1.8						
STKA	**Stephens Creek**	**44.23**	**241**	P	**P**	**20 00 00.9**	**+0.4**
STKA	**Stephens Creek**	**44.23**	**241**	P	**P**	**20 00 00.9**	**+0.4**
	4.1nm,0.8s,baz=97,slow=12,SNR=3.7						
WRAB	**Tennant Creek**	**50.43**	**258**	*e*P	**P**	**20 00 48.8**	**-0.2**
	8.7nm,1.2s						
WRA	**Warramunga Arr**	**50.44**	**258**	P	**P**	**20 00 48.2**	**-0.8**
WRA	**Warramunga Arr**	**50.44**	**258**	P	**P**	**20 00 48.2**	**-0.8**
	1.4nm,0.7s,baz=91,slow=6.7,SNR=5.4						
ASAR	**Alice Springs**	**50.59**	**253**	P	**P**	**20 00 49.6**	**-0.6**
ASAR	**Alice Springs**	**50.59**	**253**	P	**P**	**20 00 49.6**	**-0.6**
	3.7nm,0.8s,baz=86,slow=8.3,SNR=5.2						
FITZ	**Fitzroy Crossi**	**58.83**	**259**	P	**P**	**20 01 50.4**	**+0.4**
FITZ	**Fitzroy Crossi**	**58.83**	**259**	P	**P**	**20 01 50.4**	**+0.4**
	2.3nm,1.0s,baz=84,slow=9.2,SNR=2.5						
SBA	**Scott Base**	**62.17**	**185**	*e*P	P	20 02 15.6	+3.7
	4.3nm,0.9s						
VNDA	**Vanda**	**62.32**	**186**	*e*P	**P**	**20 02 12.8**	**-0.1**
	3.9nm,1.1s						
VNDA	**Vanda**	**62.32**	**186**	P	**P**	**20 02 14.0**	**+1.2**
	1.8nm,0.9s,baz=16,slow=3.3,SNR=2.5						
QSPA	**South Pole Qui**	**73.49**	**180**	P	**P**	**20 03 24.2**	**+0.8**
QSPA	**South Pole Qui**	**73.49**	**180**	P	**P**	**20 03 24.2**	**+0.8**
	3.1nm,0.9s,baz=31,slow=3.5,SNR=5.0						
KSRS	**Korea Array**	**77.59**	**315**	P	**P**	**20 03 46.7**	**-0.5**
	1.5nm,1.0s,baz=108,slow=6.5,SNR=4.3						
KSAR	**Wonju Array Be**	**77.61**	**315**	P	**P**	**20 03 46.7**	**-0.6**
TXAR	**Lajitas Array**	**80.54**	**56**	P	**P**	**20 04 02.5**	**-1.2**
TXAR	**Lajitas Array**	**80.54**	**56**	P	**P**	**20 04 02.4**	**-1.2**
	0.9nm,0.9s,baz=197,slow=2.8,SNR=2.1						
ILAR	**Eielson Array**	**83.41**	**11**	P	**P**	**20 04 18.3**	**+0.4**
ILAR	**Eielson Array**	**83.41**	**11**	P	**P**	**20 04 18.3**	**+0.4**
	0.9nm,0.6s,baz=226,slow=6.0,SNR=5.3						
CMAR	**Chiang Mai Arr**	**93.80**	**288**	P	**P**	**20 05 09.5**	**+0.7**
CMAR	**Chiang Mai Arr**	**93.80**	**288**	P	**P**	**20 05 09.5**	**+0.7**
	0.7nm,0.9s,baz=87,slow=2.5,SNR=2.6						
CLL	**Collm**	**145.06**	**354**	*e*PKPdf	**PKPdf**	**20 11 31.0**	**+2.8**
BRTR	**Keskin Array B**	**147.60**	**321**	PKPbc	**PKPbc**	**20 11 34.5**	**-1.2**
BRTR	**Keskin Array B**	**147.60**	**321**	PKPbc	**PKPbc**	**20 11 34.5**	**-1.2**
	0.8nm,0.5s,baz=52,slow=2.1,SNR=2.4						

IDC 29 19:53:04.2±0.9, 16°.34S×172°.83W, h0km, mb4.0/6, mb1 4.4/6, mb1mx4.0/19, mbtmp4.0/6, Error ellipse: s-maj=42.6km s-min=24.3km az=142.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.62**	**23**	Sn	Sn	19 54 15.0	-5.6
	56nm,0.3s,baz=192,slow=19,SNR=2.2						
WRA	**Warramunga Arr**	**50.17**	**257**	P	P	20 02 00.4	-1.7
	1.4nm,0.9s,baz=94,slow=6.6,SNR=2.1						
ASAR	**Alice Springs**	**50.35**	**253**	P	P	20 02 03.4	-0.1
	2.3nm,0.7s,baz=88,slow=8.2,SNR=2.5						
QSPA	**South Pole Qui**	**73.71**	**180**	P	P	20 04 40.4	+0.5
	2.7nm,1.1s,baz=36,slow=4.8,SNR=2.3						
TXAR	**Lajitas Array**	**80.68**	**56**	P	P	20 05 18.0	-1.6
	0.5nm,0.7s,baz=213,slow=9.7,SNR=2.4						
PDAR	**Pinedale Array**	**82.60**	**42**	P	P	20 05 30.1	+0.4
	1.9nm,0.8s,baz=197,slow=4.6,SNR=5.2						
ILAR	**Eielson Array**	**83.26**	**11**	P	P	20 05 32.0	-0.2
	0.9nm,0.7s,baz=239,slow=6.9,SNR=4.3						
GERES	**GERESS Array B**	**147.15**	**352**	PKPbc	PKPbc	20 12 49.9	+0.4
	1.5nm,0.9s,baz=9.2,slow=4.2,SNR=5.2						
BRTR	**Keskin Array B**	**147.23**	**321**	PKPbc	PKPab	20 12 51.1	-0.6
	2.8nm,1.0s,baz=76,slow=2.1,SNR=3.3						

*IDC **29** 19:56:34.6±0.8, 14°.98S×173°.38W, h0km, mb4.1/10, mb1 4.3/10, mb1mx4.1/19, mbtmp4.1/10, Error ellipse: s-maj=30.4km s-min=20.1km az=112.0*
*NEIC **29** 19:56:36.5±0.4, 14°.96S×173°.40W, h10km, mb4.8/3, Error ellipse: s-maj=14.4km s-min=14.3km az=54.0*
*ISCJB **29** 19:56:37.4±0.5, 15°.0S±0°.1×173°.4W±0°.1, h30km, mb4.2/13, Error ellipse: s-maj=15.6km s-min=14.5km az=18.8*
ISC 29 19:56:39.3±0.5, 15°.0S±0°.1×173°.4W±0°.1, h30km, n42, σ1§08/40, mb4.3/13, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.86**	**55**	Pn	Pn	19 57 00.6	-8.7
AFI				Sn	Sn	19 57 15.7	-16
AFI	**Afiamalu**	**1.86**	**55**	Pn	Pn	19 57 00.6	-8.7
	29nm,0.3s,baz=247,slow=15,SNR=2.7						
AFI				Sn	Sn	19 57 15.7	-16
	230nm,0.3s,baz=260,slow=17,SNR=5.2						
RAR	**Rarotonga**	**14.31**	**118**	*e*Pn	**Pn**	**19 59 59.1**	**-0.8**
STKA	**Stephens Creek**	**44.29**	**240**	P	**P**	**20 04 44.9**	**-1.7**
STKA	**Stephens Creek**	**44.29**	**240**	P	**P**	**20 04 44.9**	**-1.7**
	2.8nm,1.0s,baz=72,slow=6.4,SNR=2.8						
WRAB	**Tennant Creek**	**49.98**	**256**	P	**P**	**20 05 30.2**	**-1.0**
	6.3nm,1.2s						
WRA	**Warramunga Arr**	**49.99**	**256**	P	**P**	**20 05 30.3**	**-0.9**
WRA	**Warramunga Arr**	**49.99**	**256**	P	**P**	**20 05 30.3**	**-0.9**
	0.9nm,0.6s,baz=90,slow=6.8,SNR=9.3						
ASAR	**Alice Springs**	**50.29**	**252**	P	**P**	**20 05 32.6**	**-0.8**
ASAR	**Alice Springs**	**50.29**	**252**	P	**P**	**20 05 32.6**	**-0.8**
	4.5nm,0.6s,baz=85,slow=8.2,SNR=15						
SBA	**Scott Base**	**63.66**	**185**	*e*P	**P**	**20 07 10.1**	**+2.9**
	52nm,2.1s						
VNDA	**Vanda**	**63.79**	**186**	P	**P**	**20 07 08.9**	**+0.8**
VNDA	**Vanda**	**63.79**	**186**	P	**P**	**20 07 08.9**	**+0.8**
	2.5nm,1.0s,baz=2.7,slow=6.4,SNR=6.8						
PETK	**Petropavlovsk-**	**72.26**	**342**	P	**P**	**20 08 00.4**	**-1.2**
PETK	**Petropavlovsk-**	**72.26**	**342**	P	**P**	**20 08 00.4**	**-1.2**
	2.7nm,0.9s,baz=141,slow=9.3,SNR=3.4						
QSPA	**South Pole Qui**	**75.05**	**180**	P	**P**	**20 08 18.0**	**-0.1**
QSPA	**South Pole Qui**	**75.05**	**180**	P	**P**	**20 08 18.0**	**-0.1**
	6.1nm,1.0s,baz=26,slow=2.9,SNR=7.9						
KSRS	**Korea Array**	**75.91**	**315**	P	**P**	**20 08 25.1**	**+1.9**
	0.7nm,0.8s,baz=120,slow=7.6,SNR=4.5						
KSAR	**Wonju Array Be**	**75.92**	**315**	P	**P**	**20 08 25.1**	**+1.8**
MCK	**McKinley**	**80.71**	**11**	*e*P	**P**	**20 08 48.9**	**-0.4**
	9.4nm,1.1s						
PDAR	**Pinedale Array**	**81.93**	**42**	P	**P**	**20 08 55.7**	**-0.8**
PDAR	**Pinedale Array**	**81.93**	**42**	P	**P**	**20 08 55.7**	**-0.8**
	0.4nm,0.7s,baz=245,slow=1.9,SNR=3.0						
ILAR	**Eielson Array**	**82.04**	**11**	P	**P**	**20 08 55.6**	**-0.5**
ILAR	**Eielson Array**	**82.04**	**11**	P	**P**	**20 08 55.6**	**-0.5**
	0.5nm,0.7s,baz=224,slow=3.9,SNR=4.7						
MAW	**Mawson**	**88.19**	**199**	P	**P**	**20 09 27.2**	**+0.1**
MAW	**Mawson**	**88.19**	**199**	P	**P**	**20 09 27.2**	**+0.1**
	0.8nm,0.4s,baz=95,slow=4.0,SNR=3.7						
DPC	**Dobruska-Polom**	**143.87**	**349**	*e*PKP	**PKPdf**	**20 16 11.4**	**-0.3**
PSZ	**Piszkesteto**	**145.38**	**344**	*e*PKPbc	**PKPdf**	**20 16 15.4**	**+0.9**
KHC	**Kasperske Hory**	**145.48**	**352**	*i* PKP	**PKPab**	**20 16 15.9**	**+1.1**
KHC	**Kasperske Hory**	**145.48**	**352**	*e*PKPdf	**PKPab**	**20 16 15.5**	**+0.7**
GERES	**GERESS Array B**	**145.75**	**352**	PKPbc	**PKPab**	**20 16 15.2**	**-0.6**
GERES	**GERESS Array B**	**145.75**	**352**	PKPbc	**PKPab**	**20 16 15.2**	**-0.6**
	4.0nm,1.0s,baz=46,slow=3.9,SNR=16						
BRTR	**Keskin Array B**	**145.87**	**321**	PKPbc	**PKPab**	**20 16 17.6**	**+1.0**
BRTR	**Keskin Array B**	**145.87**	**321**	PKPbc	**PKPab**	**20 16 17.6**	**+1.0**
	3.6nm,0.8s,baz=99,slow=2.1,SNR=17						
LANF	**Langenberg**	**146.09**	**359**	PKP	**PKPab**	**20 16 17.6**	**+0.6**
BFO	**Black Forest**	**146.73**	**358**	*e*PKPbc	**PKPab**	**20 16 19.1**	**-0.4**
THEF	**They Montfort**	**146.85**	**1**	PKP	**PKPab**	**20 16 19.8**	**-0.2**
ECH	**Echery**	**146.87**	**359**	PKP	**PKPab**	**20 16 20.9**	**+0.8**
MOF	**Molkenrain**	**147.23**	**359**	PKP	**PKPbc**	**20 16 19.6**	**-0.3**
LOMF	**Lomont**	**147.74**	**360**	PKP	**PKPab**	**20 16 22.4**	**-1.2**
CSS	**Prodhromos**	**148.86**	**315**	PKPdf	**PKPdf**	**20 16 21.9**	**+1.3**
BNI	**Bardonecchia**	**150.03**	**360**	*e*PKPbc	**PKPbc**	**20 16 28.9**	**+1.6**

*IDC **29** 19:57:43.9±0.6, 15°.14S×173°.45W, h0km, mb4.4/16, mb1 4.6/17, mb1mx4.5/24, mbtmp4.4/17, Error ellipse: s-maj=25.3km s-min=15.2km az=140.0*
*BJI **29** 19:57:44.9, 15°.20S×173°.10W, h10km, mB5.0/2, mb4.8/4*
*NEIC **29** 19:57:45.9±0.3, 15°.19S×173°.42W, h10km, mb4.6/15, Error ellipse: s-maj=13.0km s-min=9.0km az=140.0*
*ISCJB **29** 19:57:47.2±0.4, 15°.1S±0°.1×173°.67W±0°.10, h30km, mb4.5/31, Error ellipse: s-maj=18.0km s-min=8.8km az=139.7*
ISC 29 19:57:49.1±0.5, 15°.2S±0°.1×173°.5W±0°.1, h30km, n97, σ1§29/92, mb4.5/31, 8C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.05**	**53**	Pn	Pn	19 58 13.0	-8.7
AFI				Sn	Sn	19 58 36.6	-10
AFI	**Afiamalu**	**2.05**	**53**	Pn	Pn	19 58 13.0	-8.7
	baz=233,slow=20,SNR=1.3						
AFI				Sn	Sn	19 58 36.6	-10
	128nm,0.3s,baz=232,slow=19,SNR=2.4						
MSVF	**Nonsavu**	**8.53**	**251**	*e*Pn	Pn	19 59 56.1	+5.4
	78nm,1.4s						
RAR	**Rarotonga**	**14.34**	**117**	Pn	Pn	20 01 06.3	-3.9
RAR	**Rarotonga**	**14.34**	**117**	Pn	Pn	20 01 06.3	-3.9
	baz=90,slow=20,SNR=1.7						
DZM	**Mont Dzumac**	**20.23**	**247**	P	**P**	**20 02 21.9**	**-0.1**
DZM	**Mont Dzumac**	**20.23**	**247**	P	**P**	**20 02 21.9**	**-0.1**
	9.0nm,0.9s,baz=108,slow=20,SNR=3.1						
STKA	**Stephens Creek**	**44.10**	**240**	P	**P**	**20 05 55.5**	**+0.6**
STKA	**Stephens Creek**	**44.10**	**240**	P	**P**	**20 05 55.5**	**+0.6**
	1.5nm,0.6s,baz=98,slow=14,SNR=3.8						
WRAB	**Tennant Creek**	**49.82**	**257**	*e*P	**P**	**20 06 37.5**	**-2.3**
	0.5nm,0.4s						
WRA	**Warramunga Arr**	**49.83**	**257**	P	**P**	**20 06 37.5**	**-2.4**
WRA	**Warramunga Arr**	**49.83**	**257**	P	**P**	**20 06 37.5**	**-2.4**
	8.6nm,1.2s,baz=90,slow=6.9,SNR=8.3						
AS31	**Alice Springs**	**50.12**	**252**	*e*P	P	20 06 38.5	-3.6
ASAR	**Alice Springs**	**50.12**	**252**	P	**P**	**20 06 40.0**	**-2.0**
ASAR	**Alice Springs**	**50.12**	**252**	P	**P**	**20 06 40.0**	**-2.0**
	16nm,0.8s,baz=85,slow=8.6,SNR=16						
FITZ	**Fitzroy Crossi**	**58.19**	**258**	P	**P**	**20 07 39.5**	**-1.4**
FITZ	**Fitzroy Crossi**	**58.19**	**258**	P	**P**	**20 07 39.5**	**-1.4**
	1.8nm,0.8s,baz=66,slow=10.0,SNR=5.6						
SBA	**Scott Base**	**63.49**	**185**	P	**P**	**20 08 17.9**	**+1.9**
VNDA	**Vanda**	**63.62**	**186**	P	**P**	**20 08 15.5**	**-1.3**
PETK	**Petropavlovsk-**	**72.37**	**342**	P	**P**	**20 09 12.2**	**+0.1**
PETK	**Petropavlovsk-**	**72.37**	**342**	P	**P**	**20 09 12.2**	**+0.1**
	6.4nm,0.8s,baz=136,slow=9.8,SNR=9.7						
YBH	**Yreka Blue Hor**	**73.44**	**37**	P	**P**	**20 09 19.5**	**+0.7**
YBH	**Yreka Blue Hor**	**73.44**	**37**	P	**P**	**20 09 19.5**	**+0.7**
	1.3nm,0.3s,baz=200,slow=12,SNR=3.2						
NV11	**Mina Array Sit**	**74.29**	**42**	*e*P	P	20 09 28.1	+4.2
QSPA	**South Pole Qui**	**74.89**	**180**	*e*P	**P**	**20 09 27.3**	**+0.4**
	8.5nm,0.9s						
QSPA	**South Pole Qui**	**74.89**	**180**	P	**P**	**20 09 27.4**	**+0.4**
	7.1nm,0.9s,baz=17,slow=3.9,SNR=7.1						
BMN	**Battle Mountai**	**76.01**	**41**	P	**P**	**20 09 33.5**	**-0.3**
	6.8nm,1.0s						
WVOR	**Wild Horse Val**	**76.28**	**39**	*e*P	**P**	**20 09 35.2**	**0.0**
	7.2nm,1.2s						
USRK	**Ussuriysk Arra**	**77.14**	**323**	P	**P**	**20 09 39.9**	**0.0**
	0.8nm,0.6s,baz=108,slow=14,SNR=4.1						
ELK	**Elko**	**77.44**	**41**	*e*P	**P**	**20 09 41.4**	**-0.6**
	4.0nm,1.1s						
HLID	**Hailey**	**79.48**	**39**	*e*P	**P**	**20 09 53.7**	**+0.6**
	5.6nm,1.0s						
MNTX	**Cornudas Mount**	**80.14**	**53**	*e*P	**P**	**20 09 56.4**	**-0.3**
	2.2nm,1.1s						
TXAR	**Lajitas Array**	**80.53**	**56**	P	**P**	**20 09 57.2**	**-1.8**
TXAR	**Lajitas Array**	**80.53**	**56**	P	**P**	**20 09 57.2**	**-1.8**
	2.6nm,1.0s,baz=224,slow=5.2,SNR=8.4						
NEW	**Newport**	**80.54**	**34**	P	**P**	**20 09 59.6**	**+1.0**
	1.8nm,0.7s						
ANMO	**Albuquerque**	**80.70**	**50**	*e*P	**P**	**20 10 01.1**	**+1.2**
	502nm,3.9s						
MCK	**McKinley**	**80.89**	**11**	*e*P	**P**	**20 09 59.1**	**-0.9**
	19nm,0.9s						
GDL2	**Guadalupe Moun**	**81.13**	**53**	*e*P	**P**	**20 10 02.7**	**+0.5**
	2.8nm,0.7s						
MENT	**Mentasta**	**81.23**	**13**	*e*P	**P**	**20 10 01.7**	**-0.1**
PDAR	**Pinedale Array**	**82.13**	**42**	P	**P**	**20 10 05.2**	**-2.2**
PDAR	**Pinedale Array**	**82.13**	**42**	P	**P**	**20 10 05.2**	**-2.2**
	1.6nm,0.7s,baz=230,slow=3.8,SNR=7.2						
COLA	**College**	**82.13**	**11**	*e*P	**P**	**20 10 06.2**	**-0.3**
	139nm,1.1s						
ILAR	**Eielson Array**	**82.21**	**11**	P	**P**	**20 10 05.7**	**-1.3**
ILAR	**Eielson Array**	**82.21**	**11**	P	**P**	**20 10 05.7**	**-1.3**
	4.0nm,1.0s,baz=209,slow=6.2,SNR=11						
SDCO	**Great Sand Dun**	**82.60**	**48**	*e*P	**P**	**20 10 09.5**	**-0.5**
	6.0nm,1.2s						
MSTX	**Muleshoe**	**83.06**	**52**	*e*P	**P**	**20 10 11.2**	**-1.1**
EGAK	**Eagle**	**83.39**	**13**	*e*P	**P**	**20 10 12.6**	**-0.5**
	2.9nm,0.8s						
RLMT	**Red Lodge**	**83.45**	**40**	*e*P	**P**	**20 10 14.7**	**+0.5**
	6.7nm,0.6s						
COLD	**Coldfoot**	**83.91**	**9**	*e*P	**P**	**20 10 16.3**	**+0.6**
	6.6nm,1.0s						
PHWY	**Pilot Hill**	**84.17**	**45**	*e*P	**P**	**20 10 18.2**	**+0.2**
	3.7nm,0.7s						
ABTX	**Abilene, Hawle**	**84.97**	**54**	*e*P	**P**	**20 10 22.4**	**+0.5**
MAW	**Mawson**	**88.01**	**199**	P	**P**	**20 10 36.1**	**0.0**
MAW	**Mawson**	**88.01**	**199**	P	**P**	**20 10 36.1**	**0.0**
	2.3nm,0.7s,baz=126,slow=4.4,SNR=4.2						
INK	**Inuvik**	**88.04**	**14**	P	P	20 10 31.9	-4.2
INK	**Inuvik**	**88.04**	**14**	P	**P**	**20 10 33.7**	**-2.4**
	2.8nm,0.8s,baz=232,slow=5.4,SNR=3.0						
HHC	**Hu-ho-hao-te**	**88.80**	**313**	*e*P	P	20 10 43.5	+3.0
HHC				sP	sP	20 10 49.5	-4.1
HHC				PP	PP	20 14 16.0	+6.0
HHC				SKS	**SKSac**	**20 21 10.8**	**+2.8**
HHC				S	**ScS**	**20 21 31.5**	**+0.1**
HHC				sS	sS	20 21 37.5	-4.5
HHC				SS	SS	20 27 27.3	+8.4
HHC				pmax	pmax		
	comp=Z,210nm,6.0s						
YKA	**Yellowknife Ar**	**89.90**	**23**	P	**P**	**20 10 45.8**	**+0.9**
YKA	**Yellowknife Ar**	**89.90**	**23**	P	**P**	**20 10 45.8**	**+0.9**
	comp=Z,2.7nm,0.9s,baz=261,slow=11,SNR=3.4						
KMI	**Kunming**	**90.85**	**296**	P	**P**	**20 10 53.3**	**+2.7**
KMI				pmax	pmax		
	comp=Z,7.0nm,1.2s						
SONM	**Songino Array**	**94.61**	**318**	P	**P**	**20 11 06.0**	**-1.3**
SONM	**Songino Array**	**94.61**	**318**	P	**P**	**20 11 06.0**	**-1.3**
	comp=Z,0.5nm,0.5s,baz=150,slow=6.7,SNR=3.4						
KSH	**Kashi**	**115.27**	**307**	SKS	**SKSdf**	**20 23 43.0**	**+4.6**
BDFB	**Brasilia**	**118.05**	**117**	PKP	**PKPdf**	**20 16 33.3**	**-0.9**
BDFB	**Brasilia**	**118.05**	**117**	PKP	**PKPdf**	**20 16 33.3**	**-0.9**
	comp=Z,2.2nm,0.4s,baz=220,slow=7.9,SNR=4.5						
ARCES	**ARCESS Array B**	**124.35**	**352**	PKP	**PKPdf**	**20 16 43.4**	**-1.2**
ARCES	**ARCESS Array B**	**124.35**	**352**	PKP	**PKPdf**	**20 16 43.4**	**-1.2**
	comp=Z,3.1nm,0.8s,baz=354,slow=7.3,SNR=4.1						
CLL	**Collm**	**143.56**	**353**	*e*PKPdf	PKPbc	20 17 19.0	+0.8
UPC	**Upice**	**143.91**	**350**	*e*PKP	**PKPdf**	**20 17 25.0**	**+3.4**
DPC	**Dobruska-Polom**	**144.00**	**349**	*e*PKP	**PKPdf**	**20 17 24.5**	**+2.7**
PRU	**Pruhonice**	**144.65**	**351**	*e*PKP	**PKPdf**	**20 17 24.9**	**+2.1**
KECS	**Kecovo**	**144.83**	**344**	*e*PKP	**PKPab**	**20 17 21.8**	**-0.4**
DOU	**Dourbes**	**145.11**	**2**	PKP	**PKPdf**	**20 17 23.4**	**-0.2**
TLB	**Topalu**	**145.45**	**332**	*i* P	**PKPab**	**20 17 25.2**	**+0.6**
PSZ	**Piszkesteto**	**145.50**	**344**	*e*PKPdf	**PKPdf**	**20 17 23.9**	**-0.6**
PSZ	**Piszkesteto**	**145.50**	**344**	*i* P	**PKPab**	**20 17 24.6**	**-0.2**
WLF	**Walferdange**	**145.58**	**0**	PKP	**PKPab**	**20 17 25.9**	**+1.0**
WLF	**Walferdange**	**145.58**	**0**	*e*PKPdf	**PKPab**	**20 17 25.7**	**+0.8**
KMBO	**Kilima Mbogo**	**145.58**	**245**	PKPbc	**PKPab**	**20 17 26.5**	**+0.2**
KMBO	**Kilima Mbogo**	**145.58**	**245**	PKPbc	**PKPab**	**20 17 26.5**	**+0.2**
	baz=150,slow=8.1,SNR=3.9						
MLR	**Muntele Rosu**	**145.61**	**336**	*i* P	**PKPdf**	**20 17 23.9**	**-0.9**
KHC	**Kasperske Hory**	**145.62**	**352**	*i* PKP	**PKPab**	**20 17 25.5**	**+0.4**
KHC				*e*PKP	**PKiKP**	**20 17 29.2**	**+0.5**
DRGR		**145.68**	**340**	*i* P	**PKPab**	**20 17 25.3**	**-0.2**
GERES	**GERESS Array B**	**145.88**	**352**	PKPbc	**PKPbc**	**20 17 25.5**	**-0.3**
GERES	**GERESS Array B**	**145.88**	**352**	PKPbc	**PKPbc**	**20 17 25.5**	**-0.3**
	baz=46,slow=3.9,SNR=8.0						
BRTR	**Keskin Array B**	**145.92**	**321**	PKPbc	**PKPab**	**20 17 26.4**	**-0.3**
BRTR	**Keskin Array B**	**145.92**	**321**	PKPbc	**PKPab**	**20 17 26.4**	**-0.3**
	baz=103,slow=2.7,SNR=6.0						
VOIR		**146.01**	**336**	*i* P	**PKPab**	**20 17 27.2**	**+0.4**
ARR	**Arges**	**146.23**	**337**	*i* P	**PKPab**	**20 17 28.6**	**+1.0**
BFO	**Black Forest**	**146.88**	**358**	*e*PKPdf	**PKPdf**	**20 17 27.6**	**+0.8**
GZR	**Gura Zlata**	**146.88**	**339**	*i* P	**PKPbc**	**20 17 28.8**	**0.0**
ECH	**Echery**	**147.02**	**359**	*e*PKPdf	**PKPbc**	**20 17 29.1**	**0.0**
BZS	**Buzias**	**147.07**	**340**	*i* P	**PKPbc**	**20 17 29.7**	**+0.5**
MMAI	**Mount Meron Ar**	**148.35**	**309**	PKPbc	**PKPbc**	**20 17 34.2**	**+1.0**
MMAI	**Mount Meron Ar**	**148.35**	**309**	PKPbc	**PKPbc**	**20 17 34.2**	**+1.0**
	comp=Z,3.8nm,1.0s,baz=91,slow=7.9,SNR=2.7						
BNI	**Bardonecchia**	**150.19**	**360**	*e*PKPbc	**PKPbc**	**20 17 38.8**	**+1.3**
ESDC	**Sonseca Array**	**153.90**	**19**	PKPbc	**PKPbc**	**20 17 45.6**	**-0.4**
ESDC				PKPab	**PKPab**	**20 17 58.7**	**-0.3**
ESDC	**Sonseca Array**	**153.90**	**19**	PKPbc	**PKPbc**	**20 17 45.6**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=280,slow=3.8,SNR=4.4						
ESDC				PKPab	**PKPab**	**20 17 58.7**	**-0.3**
	baz=305,slow=1.1,SNR=4.6						

*IDC **29** 19:58:14.3±0.9, 16°.15S×173°.38W, h0km, mb4.3/10, mb1 4.5/10, mb1mx4.2/21, mbtmp4.3/10, Error ellipse: s-maj=33.5km s-min=22.9km az=112.0*
*ISCJB **29** 19:58:16.4±0.8, 16°.2S±0°.

ARMA	Armidale	35.33	241	P	P	20 06 35.6	-0.9
	baz=35,SNR=8.7						
CTA	Charters Tower	39.03	258	P	P	20 07 06.9	-1.1
CTA	Charters Tower	39.03	258	P	P	20 07 06.9	-1.1
	2.2nm,0.4s,baz=100,slow=18,SNR=3.4						
CMSA	Cobar Meteorol	40.55	241	P	P	20 07 19.2	-1.2
	baz=40,SNR=6.8						
CMSA				S	S	20 13 20.7	-7.7
	baz=40,SNR=7.8						
QLP	Quilpie	41.09	248	P	P	20 07 24.6	-0.3
	baz=40,SNR=7.3						
TOO	Toolangi	42.26	232	P	P	20 07 33.7	-0.8
	baz=42,SNR=3.6						
TOO				S	S	20 13 38.6	-15
	baz=42,SNR=3.8						
STKA	Stephens Creek	44.04	241	P	P	20 07 47.5	-1.3
STKA	Stephens Creek	44.04	241	P	P	20 07 47.5	-1.3
	6.3nm,0.7s,baz=73,slow=10,SNR=9.9						
STKA	Stephens Creek	44.04	241	P	P	20 07 48.2	-0.7
	baz=43,SNR=6.6						
JAY	Jayapura	47.84	282	P	P	20 08 19.7	+0.6
	baz=47,SNR=4.5						
JAY				S	S	20 15 00.4	-15
	baz=47,SNR=5.0						
WRAB	Tennant Creek	50.21	258	eP	P	20 08 35.4	-1.9
	19nm,1.3s						
WRA	Warramunga Arr	50.22	258	P	P	20 08 35.7	-1.6
	1.6nm,0.4s,baz=94,slow=6.8,SNR=12						
AS31	Alice Springs	50.38	253	eP	P	20 08 36.8	-1.7
ASAR	Alice Springs	50.38	253	P	P	20 08 36.9	-1.7
	20nm,0.5s,baz=89,slow=7.9,SNR=39						
KDU	Kakadu	53.03	266	P	P	20 08 58.5	+0.1
	baz=52,SNR=3.7						
KNRA	Kununurra	56.04	262	P	P	20 09 21.5	+1.3
	baz=55,SNR=3.9						
SWI	Sorong	57.29	280	P	P	20 09 29.6	+0.5
	baz=57,SNR=6.4						
FITZ	Fitzroy Crossi	58.61	259	P	P	20 09 35.8	-2.5
FITZ	Fitzroy Crossi	58.61	259	P	P	20 09 35.8	-2.5
	1.5nm,0.9s,baz=117,slow=4.5,SNR=2.3						
SBA	Scott Base	62.18	185	eP	P	20 10 03.5	+1.8
	6.5nm,0.8s						
VNDA	Vanda	62.32	186	P	P	20 10 02.5	-0.2
VNDA	Vanda	62.32	186	P	P	20 10 02.5	-0.2
	4.1nm,0.7s,baz=9.8,slow=5.9,SNR=16						
CASY	Casey	69.65	205	eP	P	20 10 50.3	+0.3
	14nm,1.1s						
QSPA	South Pole Qui	73.52	180	P	P	20 11 13.1	-0.4
QSPA	South Pole Qui	73.52	180	P	P	20 11 13.0	-0.4
	9.2nm,0.8s,baz=44,slow=2.4,SNR=16						
PETK	Petropavlovsk-	73.90	342	P	P	20 11 15.9	+0.3
PETK	Petropavlovsk-	73.90	342	P	P	20 11 15.9	+0.3
	3.9nm,0.9s,baz=131,slow=8.1,SNR=3.3						
GSC	Goldstone	73.93	45	eP	P	20 11 15.8	-0.4
	5.5nm,1.0s						
YBH	Yreka Blue Hor	74.11	37	P	P	20 11 16.8	-0.5
YBH	Yreka Blue Hor	74.11	37	P	P	20 11 16.8	-0.5
	4.6nm,1.0s,baz=270,slow=2.0,SNR=3.4						
NV11	Mina Array Sit	74.84	42	P	P	20 11 21.0	-0.6
UGM	Wanagama	75.14	266	P	P	20 11 24.7	+0.9
	baz=74,SNR=3.6						
KDAK	Kodiak Island	75.90	11	P	P	20 11 26.6	-0.4
KDAK	Kodiak Island	75.90	11	P	P	20 11 26.6	-0.4
	5.8nm,0.7s,baz=180,slow=3.0,SNR=4.4						
KSRS	Korea Array	77.41	315	P	P	20 11 37.3	+1.3
	1.5nm,0.7s,baz=124,slow=6.6,SNR=7.7						
KSAR	Wonju Array Be	77.43	315	P	P	20 11 37.3	+1.1
KSM	Kuching	77.93	275	eP	P	20 11 40.6	+1.1
	24nm,1.2s						
KSM	Kuching	77.93	275	P	P	20 11 40.9	+1.4
	baz=77,SNR=3.6						
USRK	Ussuriysk Arra	78.67	323	P	P	20 11 43.5	+0.7
	1.2nm,0.8s,baz=137,slow=11,SNR=5.1						
TXAR	Lajitas Array	80.71	56	P	P	20 11 54.0	-0.5
TXAR	Lajitas Array	80.71	56	P	P	20 11 54.0	-0.5
	0.3nm,0.4s,baz=225,slow=6.0,SNR=4.7						
PDAR	Pinedale Array	82.68	41	P	P	20 12 04.1	-0.6
PDAR	Pinedale Array	82.68	41	P	P	20 12 04.1	-0.6
	2.3nm,0.7s,baz=201,slow=3.1,SNR=7.8						
ILAR	Eielson Array	83.43	11	P	P	20 12 06.6	-1.2
ILAR	Eielson Array	83.43	11	P	P	20 12 06.6	-1.2
	1.5nm,0.6s,baz=236,slow=6.1,SNR=8.4						
MAW	Mawson	86.93	198	P	P	20 12 25.3	-0.2
MAW	Mawson	86.93	198	P	P	20 12 25.3	-0.2
	5.3nm,0.9s,baz=141,slow=7.0,SNR=6.9						
MAW	Mawson	86.93	198	P	P	20 12 26.8	+1.4
	baz=86,SNR=4.0						
PLCA	Paso Flores	88.28	132	P	P	20 12 32.0	-0.6
PLCA	Paso Flores	88.28	132	P	P	20 12 32.0	-0.6
	1.3nm,0.6s,baz=224,slow=8.0,SNR=3.9						
PSI	Prapat	89.20	273	P	P	20 12 38.6	+1.1
	baz=89,SNR=4.3						
CMAR	Chiang Mai Arr	93.58	288	P	P	20 12 58.4	+0.8
CMAR	Chiang Mai Arr	93.58	288	P	P	20 12 58.4	+0.8
	3.6nm,0.8s,baz=95,slow=2.2,SNR=18						
ARCES	ARCESS Array B	125.81	352	PKP	PKPdf	20 18 41.5	-0.5
ARCES	ARCESS Array B	125.81	352	PKP	PKPdf	20 18 41.5	-0.5
	5.3nm,1.0s,baz=48,slow=1.3,SNR=3.9						
CLL	Collm	145.01	354	ePKPdf	PKPdf	20 19 19.0	+1.0
CLL				e		20 19 33.0	
CLL	Collm	145.01	354	ePKP	PKPdf	20 19 20.0	+2.0
CLL				e		20 19 34.0	
ATD	Arta Tunnel	145.16	266	PKPbc	PKPbc	20 19 18.1	-0.9
ATD	Arta Tunnel	145.16	266	PKPbc	PKPbc	20 19 18.1	-0.9
	4.9nm,0.4s,baz=6.8,slow=19,SNR=2.1						
STHS	Stebnicka Huta	145.29	344	ePKP	PKPbc	20 19 19.4	+1.1
UPC	Upice	145.39	350	ePKP	PKPbc	20 19 18.0	-0.6
KOLS	Kolonicke sedl	145.44	342	ePKP	PKPbc	20 19 19.0	+0.2
DPC	Dobruska-Polom	145.49	350	ePKP	PKPdf	20 19 19.2	+0.3
PVCC	Panska Ves	145.58	352	ePKP	PKPdf	20 19 18.8	-0.2
KMBO	Kilima Mbogo	145.60	242	PKPbc	PKPdf	20 19 21.0	+0.5
KMBO				ePKPdf	PKiKP	20 19 34.7	+10
KMBO	Kilima Mbogo	145.60	242	PKPbc	PKPdf	20 19 21.0	+0.5
	3.2nm,0.9s,baz=67,slow=4.8,SNR=6.8						
OKC	Ostrava-Krasne	145.63	347	ePKP	PKPdf	20 19 19.9	+0.8
CRVS	Cervenica-Dubn	145.70	343	ePKP	PKPdf	20 19 20.3	+1.0
PRU	Pruhonice	146.12	352	ePKP	PKPdf	20 19 21.1	+1.2
KECS	Kecovo	146.35	344	ePKP	PKPdf	20 19 21.9	+1.5
KHC	Kasperske Hory	147.08	352	ePKP	PKPdf	20 19 23.5	+1.8
KHC				ex	x	20 19 35.0	
GERES	GERESS Array B	147.35	352	PKPbc	PKPdf	20 19 23.9	+1.7
GERES	GERESS Array B	147.35	352	PKPbc	PKPdf	20 19 23.9	+1.7
	1.0nm,0.9s,baz=2.9,slow=3.9,SNR=3.7						
BRTR	Keskin Array B	147.44	320	PKPbc	PKPdf	20 19 24.4	+1.7
	6.1nm,0.9s,baz=141,slow=3.0,SNR=6.5						
MMAI	Mount Meron Ar	149.77	308	PKPbc	PKPbc	20 19 31.6	+0.3
MMAI				PKPab	PKPab	20 19 36.9	+0.2
MMAI	Mount Meron Ar	149.77	308	PKPbc	PKPbc	20 19 31.6	+0.3
	2.0nm,0.7s,baz=59,slow=5.6,SNR=4.1						
MMAI				PKPab	PKPab	20 19 36.9	+0.2
	1.9nm,0.6s,baz=10,slow=5.1,SNR=4.8						
EIL	Elat	151.46	302	PKPbc	PKPbc	20 19 36.2	+0.9
EIL	Elat	151.46	302	PKPbc	PKPbc	20 19 36.2	+0.9
	3.0nm,0.5s,baz=129,slow=2.0,SNR=2.9						
ESDC	Sonseca Array	154.95	21	PKPab	PKPab	20 19 58.4	+0.4
ESDC	Sonseca Array	154.95	21	PKPab	PKPab	20 19 58.4	+0.4
	0.5nm,0.7s,baz=333,slow=1.8,SNR=3.0						
TORD	Torodi Ar. Bea	173.65	121	PKPab	PKPab	20 21 19.6	-1.1
TORD	Torodi Ar. Bea	173.65	121	PKPab	PKPab	20 21 19.6	-1.1
	2.0nm,0.8s,baz=252,slow=4.5,SNR=7.5						

IDC 29 20:03:52.8±46.0, 14.35S×171.44W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.8/18, mbtmp4.0/3, Error ellipse: s-maj=902.4km s-min=202.3km az=78.0, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	46.20	239	P	P	20 12 19.4	-0.3
	1.9nm,0.7s,baz=90,slow=8.1,SNR=2.9						
WRA	Warramunga Arr	51.94	256	P	P	20 13 04.1	+0.2
	0.5nm,0.5s,baz=91,slow=6.8,SNR=5.6						
ASAR	Alice Springs	52.24	251	P	P	20 13 05.8	-0.4
	2.9nm,0.6s,baz=87,slow=8.2,SNR=4.9						

*BJI **29** 20:05:39.9, 14.90S×173.80W, h10km, mB5.7/1, mb5.0/6, Ms5.3/1, Ms7 5.0/1*
*IDC **29** 20:05:39.4±0.5, 15.02S×173.59W, h0km, mb4.4/18, mb1 4.6/18, mb1mx4.5/24, mbtmp4.4/18, Error ellipse: s-maj=21.3km s-min=13.4km az=119.0*
*NEIC **29** 20:05:40.3±0.3, 14.98S×173.65W, h10km, mb4.7/33, Error ellipse: s-maj=15.5km s-min=7.8km az=135.0*
*ISCJB **29** 20:05:42.0±0.2, 15.02S±0.07×173.63W±0.06, h30km,*

mb4.6/51, MS5.0/1, Error ellipse: s-maj=12.0km s-min=5.6km az=144.2

ISC 29 20:05:43.8±0.4, 15.00S±0.09×173.6W±0.1, h30km, n341, σ0.74/344, mb4.6/51, 124C-99D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.08	59	ePn	Pn	20 06 07.1	-10
AFI				Sn	Sn	20 06 26.0	-16
AFI	Afiamalu	2.08	59	Pn	Pn	20 06 08.0	-8.7
	baz=63,slow=8.1,SNR=7.9						
AFI				Sn	Sn	20 06 26.0	-16
	baz=275,slow=18,SNR=9.0						
MSVF	Nonsavu	8.46	250	ePn	Pn	20 07 52.0	+7.5
RAR	Rarotonga	14.52	117	Pn	Pn	20 08 57.5	-10
RAR	Rarotonga	14.52	117	Pn	Pn	20 08 57.5	-10
	2.0nm,0.3s,baz=270,slow=11,SNR=2.7						
DZM	Mont Dzumac	20.17	247	P	Pn	20 10 18.3	+0.2
DZM	Mont Dzumac	20.17	247	P	Pn	20 10 18.3	+0.2
	2.9nm,0.6s,baz=77,slow=19,SNR=2.3						
URZ	Urewera	24.58	198	P	P	20 10 59.9	-1.3
URZ	Urewera	24.58	198	P	P	20 10 59.9	-1.3
	8.5nm,0.5s,baz=1.2,slow=12,SNR=3.4						
RPZ	Rata Peaks	31.48	202	P	P	20 12 04.4	+1.6
RPZ	Rata Peaks	31.48	202	P	P	20 12 04.4	+1.6
	5.8nm,0.7s,baz=11,slow=11,SNR=3.0						
EIDS	Eidsvold	34.62	247	P	P	20 12 26.1	-4.3
ARMA	Armidale	35.38	238	P	P	20 12 37.9	+0.8
	baz=18,SNR=4.0						
CMSA	Cobar Meteorol	40.59	239	P	P	20 13 21.4	+0.5
	baz=21,SNR=4.7						
STKA	Stephens Creek	44.06	240	eP	P	20 13 48.7	-0.5
	1.9nm,1.1s						
STKA	Stephens Creek	44.06	240	P	P	20 13 49.2	0.0
	3.2nm,0.7s,baz=87,slow=10,SNR=7.5						
STKA	Stephens Creek	44.06	240	P	P	20 13 49.3	0.0
	baz=23,SNR=7.0						
WRAB	Tennant Creek	49.73	256	eP	P	20 14 32.4	-1.4
	11nm,1.1s						
WRA	Warramunga Arr	49.74	256	P	P	20 14 33.1	-0.7
WRA	Warramunga Arr	49.74	256	P	P	20 14 33.1	-0.7
	2.7nm,0.8s,baz=89,slow=6.8,SNR=17						
AS31	Alice Springs	50.05	252	eP	P	20 14 35.0	-1.1
ASAR	Alice Springs	50.05	252	P	P	20 14 35.7	-0.4
ASAR	Alice Springs	50.05	252	P	P	20 14 35.7	-0.4
	8.7nm,0.9s,baz=87,slow=8.6,SNR=17						
FITZ	Fitzroy Crossi	58.10	258	P	P	20 15 34.0	-0.9
FITZ	Fitzroy Crossi	58.10	258	P	P	20 15 34.0	-0.9
	1.6nm,1.0s,baz=111,slow=8.6,SNR=2.0						
SBA	Scott Base	63.63	185	eP	P	20 16 12.3	+0.8
	5.0nm,0.8s						
VNDA	Vanda	63.75	186	eP	P	20 16 12.4	+0.1
	16nm,1.5s						
VNDA	Vanda	63.75	186	P	P	20 16 12.5	+0.1
	3.9nm,0.9s,baz=9.3,slow=6.5,SNR=17						
CASY	Casey	70.69	205	eP	P	20 16 51.6	-4.8
	14nm,1.3s						
ASAJ	Asahikawa	71.10	328	P	P	20 16 59.1	-0.1
ASAJ	Asahikawa	71.10	328	P	P	20 16 59.1	-0.1
	7.0nm,1.0s,baz=148,slow=11,SNR=3.4						
PETK	Petropavlovsk-	72.19	342	P	P	20 17 06.3	+0.6
PETK	Petropavlovsk-	72.19	342	P	P	20 17 06.3	+0.6
	4.5nm,0.8s,baz=128,slow=9.6,SNR=5.9						
EDW2	Edwards Air Fo	72.41	45	⇑P	P	20 17 06.9	-0.5
	baz=73						
MONP	Monument Peak	72.45	48	⇓P	P	20 17 07.3	-0.6
	baz=73						
CMB	Columbia Colle	72.60	42	P	P	20 17 08.3	-0.2
	2.8nm,0.8s						
BELC	Belle Mtn. Jos	73.33	47	⇓P	P	20 17 12.7	-0.3
	baz=74						
YBH	Yreka Blue Hor	73.40	37	P	P	20 17 12.9	-0.2
YBH	Yreka Blue Hor	73.40	37	P	P	20 17 13.0	-0.2
	3.1nm,0.7s,baz=225,slow=5.7,SNR=3.6						
GSC	Goldstone	73.45	46	⇓P	P	20 17 13.7	+0.1
	baz=74						
GMRC	Granite Mounta	73.97	47	⇓P	P	20 17 16.5	-0.3
	baz=74						
SHOC	Shoshone	74.13	45	⇑P	P	20 17 17.0	-0.6
	baz=74						
Y12C	Blythe	74.25	48	⇓P	P	20 17 17.5	-0.7
	baz=74						
NV11	Mina Array Sit	74.26	42	eP	P	20 17 17.5	-0.9
KDAK	Kodiak Island	74.57	11	P	P	20 17 20.0	+0.5
KDAK	Kodiak Island	74.57	11	P	P	20 17 20.0	+0.5
	14nm,1.1s,baz=174,slow=9.2,SNR=6.7						
214A	Organ Pipe Nat	74.61	50	⇓P	P	20 17 20.4	-0.1
	baz=75						
PDMCI	Parker Dam,Lak	74.80	48	⇓P	P	20 17 22.2	+0.8
	baz=75						
QSPA	South Pole Qui	75.04	180	eP	P	20 17 21.8	-0.7
	32nm,1.2s						
W13A	Hualapai Mount	75.39	47	⇑P	P	20 17 25.2	+0.1
	baz=76						
Y14A	Wickenburg	75.44	48	⇓P	P	20 17 25.7	+0.6
	baz=76						
KSRS	Korea Array	75.74	316	P	P	20 17 28.2	+1.5
	0.5nm,0.7s,baz=114,slow=6.3,SNR=1.9						
KSAR	Wonju Array Be	75.76	316	P	P	20 17 28.2	+1.4
WVOR	Wild Horse Val	76.25	39	eP	P	20 17 29.6	-0.1
	5.1nm,1.0s						
X16A	Lo Mia Camp, P	76.80	49	⇑P	P	20 17 33.4	+0.3
	baz=77						
USRK	Ussuriysk Arra	76.95	323	P	P	20 17 33.1	-0.3
	0.9nm,0.8s,baz=115,slow=6.5,SNR=2.7						
U15A	North Rim	77.17	47	⇑P	P	20 17 35.3	0.0
	baz=77						
WUAZ	Wupatki	77.38	48	⇑P	P	20 17 36.7	+0.4
	baz=78						
ELK	Elko	77.42	42	eP	P	20 17 36.2	-0.2
	2.1nm,1.0s						
320A	Kipp Ranch, An	77.56	53	⇑P	P	20 17 37.8	+0.4
	baz=78						
220A	Playas Peak, P	77.82	52	⇓P	P	20 17 39.0	+0.3
	baz=78						
120A	U Bar Ranch, L	78.02	51	⇑P	P	20 17 40.3	+0.4
	baz=78						
Z20A	Nine Sixteen R	78.30	51	⇑P	P	20 17 41.7	+0.2
	baz=78						
BMO	Blue Mountains	78.43	37	eP	P	20 17 41.1	-0.7
	11nm,1.3s						
221A	Mesquite Ranch	78.43	52	⇑P	P	20 17 42.2	0.0
	baz=79						
MFID	Camas Ranch	78.50	39	⇑P	P	20 17 42.8	+0.5
	baz=79						
121A	Cookes Peak, D	78.66	52	⇑P	P	20 17 43.6	+0.1
	baz=79						
DUG	Dugway	78.70	43	⇓P	P	20 17 43.9	+0.4
	baz=79						
PMR	Palmer	78.77	12	eP	P	20 17 42.4	-0.7
	14nm,1.0s						
Y20A	Horse Springs,	78.82	50	⇑P	P	20 17 44.7	+0.3
	baz=79						
X20A	Quemado	79.01	50	⇑P	P	20 17 45.9	+0.4
	baz=79						
Z21A	St. Cloud Mine	79.08	51	⇓P	P	20 17 46.4	+0.6
	baz=79						
Q16A	Castle Valley	79.17	45	⇑P	P	20 17 46.8	+0.6
	baz=79						
W20A	Ramah	79.27	49	⇑P	P	20 17 47.6	+0.7
	baz=79						
Y21A	Point of Rocks	79.39	51	⇑P	P	20 17 47.8	+0.3
	baz=80						
HLID	Hailey	79.45	39	eP	P	20 17 47.4	-0.1
	11nm,0.9s						
HLID	Hailey	79.45	39	⇓P	P	20 17 48.0	+0.4
	baz=80						
X21A	Alamocita Cree	79.50	50	⇑P	P	20 17 47.8	-0.3
	baz=80						
Z22A	Elephant Butte	79.59	51	⇑P	P	20 17 48.5	-0.1
	baz=80						
V20A	Brimhall	79.60	49	⇓P	P	20 17 48.5	-0.1
	baz=80						
U20A	Newcomb	79.82	48	⇓P	P	20 17 49.8	+0.1
	baz=80						
Y22A	Socorro	79.89	51	⇓P	P	20 17 49.9	-0.2
	baz=80						
LAZ	Ladron	79.96	50	eP	P	20 17 49.5	-1.1
	0.7nm,0.7s						
324A	Moseley Ranch,	79.97	54	⇑P	P	20 17 49.8	-0.8
	baz=80						
425A	Indio Mountain	80.08	54	⇓P	P	20 17 50.2	-1.1
	baz=80,SNR=5.9						
MNTX	Cornudas Mount	80.15	53	eP	P	20 17 51.0	-0.5
	3.0nm,1.0s						
Z23A	Rita Site, Whi	80.15	52	⇑P	P	20 17 51.3	-0.3
	baz=80						
MVCO	Mesa Verde	80.22	47	⇓P	P	20 17 51.6	-0.4
	baz=80						
HWUT	Hardware Ranch	80.23	42	P	P	20 17 49.4	-2.5
	4.6nm,0.9s						
626A	Big Bend Ranch	80.27	56	⇓P	P	20 17 51.0	-1.2
	baz=80,SNR=5.0						
PV10	Paradox Valley	80.38	46	eP	P	20 17 47.1	-5.7
U21A	Nageezi	80.47	48	⇑P	P	20 17 53.1	-0.3
	baz=81						
NEW	Newport	80.49	34	⇑P	P	20 17 52.6	-0.3
	baz=81						
526A	Mary Lane Ranc	80.50	55	⇑P	P	20 17 53.5	0.0
	baz=81						
TXAR	Lajitas Array	80.56	56	P	P	20 17 53.5	-0.2
TXAR	Lajitas Array	80.56	56	P	P	20 17 53.5	-0.2
	4.2nm,1.1s,baz=228,slow=4.9,SNR=17						
Y23A	Lovelace Mesa,	80.57	51	⇓P	P	20 17 53.0	-0.8
	baz=81						
PV01	Paradox Valley	80.59	46	P	P	20 17 53.6	-0.4
	366nm,0.6s						
S20A	Disappointment	80.60	47	⇓P	P	20 17 53.9	-0.1
	baz=81						
ANMO	Albuquerque	80.70	50	eP	P	20 17 53.7	-0.8
	2.3nm,0.8s						
225A	Deer Hill, Car	80.75	53	⇓P	P	20 17 54.0	-0.9
	baz=81,SNR=6.3						
PAX	Paxson	80.76	13	eP	P	20 17 52.3	-1.7
	9.0nm,1.3s						
MCK	McKinley	80.77	11	eP	P	20 17 54.0	0.0
	27nm,0.9s						
V22A	San Miguel Ran	80.78	49	⇓P	P	20 17 54.9	-0.1
	baz=81						
426A	McDonald Obser	80.79	55	⇑P	P	20 17 54.6	-0.5
	baz=81,SNR=7.6						
T21A	Navajo Lake	80.81	48	⇑P	P	20 17 55.0	-0.1
	baz=81						
627A	Terlingua Ranc	80.83	56	⇑P	P	20 17 55.3	0.0
	baz=81,SNR=7.4						
Z24A	Sheeppen Canyo	80.84	52	⇑P	P	20 17 54.8	-0.5
	baz=81						
527A	Woodward Ranch	80.92	56	⇓P	P	20 17 54.9	-0.9
	baz=81,SNR=5.3						
W23A	Werner Place,	81.02	50	⇓P	P	20 17 55.5	-0.7
	baz=81						
Y24A	Capitan	81.03	51	⇓P	P	20 17 55.4	-0.9
	baz=81,SNR=9.1						
125A	Gardner Draw,	81.10	53	⇓P	P	20 17 56.2	-0.5
	baz=81						
MENT	Mentasta	81.11	13	P	P	20 17 54.7	-1.1
Q20A	Ridgley Place,	81.16	46	⇑P	P	20 17 56.7	-0.2
	baz=81						
O19A	Miners Draw (B	81.22	44	⇑P	P	20 17 57.1	0.0
	baz=81						
628A	Black Gap, Mar	81.24	56	⇓P	P	20 17 56.9	-0.5
	baz=81,SNR=5.8						
V23A	Ortiz Mt. (NFS	81.24	49	⇓P	P	20 17 57.5	0.0
	baz=81						
226B	Tecolote Peak,	81.25	54	⇑P	P	20 17 56.9	-0.5
	baz=81,SNR=8.3						
RRI2	Red Ridge	81.26	41	eP	P	20 17 57.3	-0.2
	8.1nm,0.8s						
T22A	Edith	81.27	48	⇓P	P	20 17 57.5	-0.1
	baz=81						
Z25A	Roswell	81.31	52	⇑P	P	20 17 57.6	-0.1
	baz=82						
P20A	De Beque	81.34	45	⇑P	P	20 17 58.2	+0.3
	baz=82						
427A	Hayter Ranch,	81.36	55	⇓P	P	20 17 57.9	-0.1
	baz=82,SNR=5.6						
R21A	Cimarron	81.41	47	⇓P	P	20 17 58.3	-0.1
	baz=82						
MSO	Missoula	81.48	37	⇓P	P	20 17 58.6	+0.3
	baz=82						
REDW	Red Top Meadow	81.56	41	eP	P	20 17 58.7	-0.3
	5.5nm,1.0s						
TPAW	Teton Pass	81.56	41	eP	P	20 17 59.0	0.0
	11nm,0.9s						
528A	Cox Ranch, San	81.58	56	⇑P	P	20 17 59.4	+0.2
	baz=82,SNR=8.1						
126A	Clayton Basin,	81.59	53	⇓P	P	20 17 59.0	-0.2
	baz=82						
W24A	Lazy 6 Ranch,	81.59	50	⇓P	P	20 17 58.8	-0.4
	baz=82						
Y25A	Mesa, Roswell	81.59	52	⇑P	P	20 17 58.4	-0.9
	baz=82,SNR=5.8						
Q21A	Lamborn Mesa,	81.61	46	⇓P	P	20 17 59.5	+0.3
	baz=82						
S22A	4UR Ranch, Cre	81.65	47	⇑P	P	20 17 59.6	0.0
	baz=82						
M19A	Rock Springs	81.76	43	⇓P	P	20 18 00.4	+0.4
	baz=82						
MOOW	Moose Ponds	81.82	41	eP	P	20 17 59.9	-0.5
	3.4nm,1.1s						
LOHW	Long Hollow	81.84	41	eP	P	20 18 00.2	-0.2
	8.9nm,1.3s						
X25A	Clemmons Ranch	81.86	51	⇑P	P	20 18 00.6	-0.1
	baz=82						
Z26A	Caprock	81.87	52	⇑P	P	20 17 59.7	-1.0
	baz=82,SNR=12						
428A	Kincaid Ranch,	81.88	55	⇑P	P	20 18 01.3	+0.6
	baz=82,SNR=5.9						
R22A	Saguache, Gunn	81.91	47	⇑P	P	20 18 01.4	+0.3
	baz=82						
COLA	College	82.01	11	eP	P	20 18 00.6	+0.1
	38nm,0.6s						
I17A	Pilgrim Ck.	82.02	41	⇓P	P	20 18 01.9	+0.5
	baz=82		

U25A **Circle Dot Ran** 82.82 49 ⇑P P 20 18 05.3 -0.4
baz=83,SNR=9.9
K20A **Yellowstone Ra** 82.84 42 ⇑P P 20 18 05.1 -0.5
baz=83
Q23A **Hartsel** 82.86 47 ⇑P P 20 18 05.7 -0.3
baz=83,SNR=5.9
O22A **Kremmling** 82.91 45 ⇓P P 20 18 06.1 -0.1
baz=83,SNR=7.3
H18A **Shoshone NF, C** 82.96 40 ⇑P P 20 18 06.7 +0.4
baz=83
M21A **Separation Pea** 83.00 44 ⇓P P 20 18 06.4 -0.2
baz=83
V26A **Tequesquite Ra** 83.04 50 ⇑P P 20 18 06.6 -0.2
baz=83
229A **Bryant Ranch,** 83.05 54 ⇑P P 20 18 06.6 -0.2
baz=83
P23A **Jefferson** 83.06 46 ⇑P P 20 18 06.9 -0.1
baz=83
430A **Baggett Ranch,** 83.06 56 ⇓P P 20 18 06.4 -0.5
baz=83
I19A **Meeteetse** 83.07 41 ⇓P P 20 18 06.6 -0.2
baz=83,SNR=5.1
MSTX **Muleshoe** 83.07 52 *e*P P 20 18 06.1 -0.9
MSTX **Muleshoe** 83.07 52 ⇑P P 20 18 06.4 -0.5
baz=83
631A **Perdido Creek** 83.08 57 ⇓P P 20 18 06.8 -0.2
baz=83
R24A **Sanders Place,** 83.08 48 ⇑P P 20 18 06.6 -0.4
baz=83,SNR=5.7
X27A **F and S Farms,** 83.09 52 ⇑P P 20 18 06.8 -0.3
baz=83
Z28A **Tucker Farm, M** 83.10 53 ⇑P P 20 18 06.9 -0.2
baz=83
T25A **Trinidad** 83.13 49 ⇑P P 20 18 07.3 0.0
baz=83
L21A **Rawlins** 83.16 43 ⇓P P 20 18 06.8 -0.6
baz=83
N22A **Wattenberg Ran** 83.26 45 ⇑P P 20 18 08.0 0.0
baz=83
EGAK **Eagle** 83.28 13 *e*P P 20 18 07.2 0.0
18nm,1.4s
W27A **Bowe Ranch, En** 83.28 51 ⇑P P 20 18 07.4 -0.6
baz=83,SNR=8.6
U26A **Atchley Ranch,** 83.31 50 ⇓P P 20 18 07.6 -0.6
baz=84,SNR=6.3
S25A **Robets Cordova** 83.33 48 ⇑P P 20 18 07.8 -0.4
baz=84,SNR=6.2
732A **Laxson Ranch,** 83.33 58 ⇓P P 20 18 08.5 +0.3
baz=84
J20A **Shoshoni** 83.33 42 ⇓P P 20 18 07.4 -0.7
baz=84,SNR=11
O23A **Lake Granby, G** 83.36 46 ⇑P P 20 18 08.9 +0.4
baz=84
Q24A **Divide** 83.36 47 ⇓P P 20 18 08.4 -0.2
baz=84,SNR=7.4
H19A **Powell** 83.38 40 ⇑P P 20 18 09.0 +0.7
baz=84
531A **Rocksprings** 83.38 57 ⇑P P 20 18 08.2 -0.3
baz=84
ISCO **Idaho Springs** 83.40 46 *e*P P 20 18 07.2 -1.5
3.4nm,0.9s
ISCO **Idaho Springs** 83.40 46 ⇑P P 20 18 08.8 +0.1
baz=84
M22A **Cedar Creek Ra** 83.43 44 ⇑P P 20 18 08.3 -0.5
baz=84
431A **Sonora** 83.52 56 ⇑P P 20 18 08.7 -0.6
baz=84
K21A **Alcova** 83.54 43 ⇑P P 20 18 08.9 -0.4
baz=84,SNR=9.2
I20A **Worland** 83.58 41 ⇑P P 20 18 09.0 -0.3
baz=84,SNR=11
Z29A **Hungry Hill Ra** 83.62 53 ⇑P P 20 18 09.3 -0.4
baz=84
R25A **Fountain Ranch** 83.64 48 ⇑P P 20 18 09.7 -0.1
baz=84
N23A **Red Feather La** 83.64 45 ⇑P P 20 18 09.7 -0.2
baz=84,SNR=5.4
X28A **Dimmitt** 83.72 52 ⇑P P 20 18 09.9 -0.4
baz=84
T26A **Comanche Natio** 83.74 49 ⇑P P 20 18 09.8 -0.6
baz=84
J21A **Lysite** 83.74 42 ⇑P P 20 18 10.2 0.0
baz=84,SNR=12
632A **Uvalde** 83.76 57 ⇑P P 20 18 10.5 0.0
baz=84
L22A **Ellis Ranch, M** 83.81 44 ⇑P P 20 18 10.8 +0.1
baz=84
532A **Rocksprings** 83.89 57 ⇑P P 20 18 10.9 -0.2
baz=84
H20A **Greybull** 83.91 41 ⇓P P 20 18 10.9 -0.2
baz=84
F19A **Roth Farm, Mol** 83.97 39 ⇑P P 20 18 11.3 0.0
baz=84,SNR=13
U27A **Thompson Grove** 84.00 50 ⇑P P 20 18 11.1 -0.6
baz=84
S26A **Kim** 84.01 49 ⇓P P 20 18 11.2 -0.5
baz=84
K22A **Casper** 84.03 43 ⇓P P 20 18 11.3 -0.5
baz=84
I21A **Big Trails, Te** 84.05 42 ⇓P P 20 18 11.2 -0.6
baz=84,SNR=16
X29A **Tulia** 84.07 52 ⇑P P 20 18 11.7 -0.3
baz=84
Z30A **Sanderson Ranc** 84.08 53 ⇓P P 20 18 10.7 -1.4
baz=84,SNR=10.0
JCT **Junction City** 84.09 56 ⇓P P 20 18 11.4 -0.8
baz=84
231A **Bronte** 84.21 55 ⇓P P 20 18 11.9 -0.8
baz=84
432A **Menard** 84.24 56 ⇓P P 20 18 12.4 -0.6
baz=84
P25A **Willow Gulch B** 84.29 47 ⇑P P 20 18 12.6 -0.5
baz=84,SNR=5.9
R26A **Arlington** 84.30 48 ⇑P P 20 18 12.6 -0.6
baz=84
T27A **Campo** 84.33 49 ⇑P P 20 18 12.8 -0.6
baz=84
L23A **Garrett** 84.34 44 ⇑P P 20 18 13.1 -0.3
baz=84,SNR=12
N24A **Carr** 84.34 45 ⇓P P 20 18 13.2 -0.2
baz=84
E19A **Rath Farm, Rou** 84.36 39 ⇑P P 20 18 13.4 +0.2
baz=84,SNR=9.3
W29A **Amraillo** 84.37 52 ⇓P P 20 18 13.1 -0.4
baz=84
J22A **Midwest** 84.40 42 ⇓P P 20 18 13.3 -0.3
baz=85
131A **Roby** 84.42 54 ⇓P P 20 18 13.1 -0.7
baz=85
U28A **Mallet** 84.43 50 ⇑P P 20 18 13.0 -0.8
baz=85
F20A **Billings** 84.43 40 ⇓P P 20 18 13.6 -0.1
baz=85
S27A **Las Animas** 84.45 49 ⇑P P 20 18 13.0 -1.0
baz=85
332A **Millersview** 84.47 56 ⇓P P 20 18 13.5 -0.5
baz=85
Y30A **Stafford Cattl** 84.47 53 ⇓P P 20 18 13.3 -0.8
baz=85,SNR=5.6
Q26A **Hugo** 84.50 47 ⇑P P 20 18 13.2 -1.0
baz=85
EGMT **Eagleton** 84.53 37 *e*P P 20 18 13.7 -0.4
6.1nm,0.8s
EGMT **Eagleton** 84.53 37 ⇑P P 20 18 13.7 -0.4
baz=85
H21A **Big Horn, Sher** 84.58 41 ⇑P P 20 18 13.9 -0.6
baz=85,SNR=5.5
I22A **9 Mile Ranch,** 84.61 42 ⇑P P 20 18 14.1 -0.5
baz=85,SNR=8.6
D19A **Cripps Ranch,** 84.64 38 ⇓P P 20 18 14.4 -0.1
baz=85,SNR=9.2
M24A **Cheyenne** 84.65 45 ⇑P P 20 18 14.4 -0.5
baz=85
K23A **Bowen Ranch, D** 84.67 43 ⇓P P 20 18 14.7 -0.3
baz=85
X30A **Coker Ranch, T** 84.71 52 ⇑P P 20 18 14.6 -0.6
baz=85
232A **Coleman** 84.72 55 ⇑P P 20 18 14.7 -0.7
baz=85
G21A **Lodge Grass** 84.75 41 ⇑P P 20 18 15.0 -0.2
baz=85
E20A **Meyer Farm, Mu** 84.77 39 ⇑P P 20 18 15.6 +0.3
baz=85
T28A **Walsh** 84.80 50 ⇑P P 20 18 15.3 -0.4
baz=85
C19A **Slack Wire Ran** 84.81 38 ⇑P P 20 18 15.4 0.0
baz=85,SNR=12
L24A **Wheatland** 84.83 44 ⇑P P 20 18 15.6 -0.2
baz=85
Z31A **Sharp Cattle R** 84.85 54 ⇓P P 20 18 15.4 -0.6
baz=85
ABTX **Abilene, Hawle** 84.99 55 *e*P P 20 18 16.0 -0.7
ABTX **Abilene, Hawle** 84.99 55 ⇑P P 20 18 16.4 -0.3
baz=85
Y31A **Rekieta Farm,** 85.00 53 ⇓P P 20 18 16.4 -0.3
baz=85
H22A **Cleamont** 85.01 41 ⇓P P 20 18 16.7 +0.1
baz=85
D20A **Manuel Ranch,** 85.05 39 ⇓P P 20 18 16.9 +0.2
baz=85
M25A **Palm-Egli Farm** 85.16 45 ⇑P P 20 18 17.6 +0.1
baz=85
B19A **Brinkman Farms** 85.22 37 ⇓P P 20 18 17.8 +0.4
baz=85
G22A **Birney** 85.33 41 ⇑P P 20 18 17.9 -0.2
baz=86
Z32A **Haskell** 85.37 54 ⇓P P 20 18 18.6 +0.1
baz=86
C20A **Veseth Ranch,** 85.42 38 ⇓P P 20 18 18.6 +0.2
baz=86
E21A **Keefer Ranch,** 85.44 39 ⇑P P 20 18 18.5 -0.1
baz=86
R28A **Tribune** 85.50 49 ⇓P P 20 18 18.7 -0.5
baz=86
J24A **Dixon Ranch, L** 85.56 43 ⇑P P 20 18 19.0 -0.3
baz=86
A19A **Klindworth Far** 85.56 37 ⇓P P 20 18 19.2 0.0
baz=86
Y32A **R-V Farms, Ver** 85.65 53 ⇑P P 20 18 19.1 -0.8
baz=86
W31A **Holland Ranch,** 85.69 52 ⇑P P 20 18 19.9 -0.2
baz=86
D21A **La Casta Ranch** 85.73 39 ⇓P P 20 18 20.1 +0.1
baz=86
B20A **Solberg Farm,** 85.75 37 ⇑P P 20 18 20.2 +0.1
baz=86
G23A **Biddle** 85.89 41 ⇑P P 20 18 21.2 +0.3
baz=86
V31A **Spring Creek L** 85.98 52 ⇑P P 20 18 21.5 0.0
baz=86
A20A **Cobblestone Ra** 86.01 37 ⇑P P 20 18 21.4 0.0
baz=86
F23A **Volborg** 86.11 41 ⇑P P 20 18 21.8 -0.1
baz=86
H24A **Dirks Ranch, A** 86.23 42 ⇓P P 20 18 22.5 -0.1
baz=86
D22A **Cohagen** 86.26 39 ⇑P P 20 18 22.8 +0.1
baz=86
RSSD **Black Hills** 86.30 43 P P 20 18 22.1 -1.1
I25A **Rochford** 86.46 43 ⇓P P 20 18 23.8 -0.1
baz=87
WHTX **Lake Whitney** 86.50 56 ⇑P P 20 18 23.9 -0.3
baz=87
E23A **Ismay** 86.51 40 ⇑P P 20 18 24.1 +0.2
baz=87
B22A **Reddig Ranch S** 86.89 38 ⇓P P 20 18 25.8 +0.1
baz=87
Q30A **Quinter** 86.89 48 ⇓P P 20 18 26.0 0.0
baz=87
C23A **Lambert** 87.16 39 ⇓P P 20 18 26.8 -0.2
baz=87
KULM **Kulim** 87.26 276 P P 20 18 23.7 -4.5
16nm,1.2s
B23A **Brockton** 87.56 38 ⇑P P 20 18 29.2 +0.3
baz=88
INK **Inuvik** 87.93 14 P P 20 18 30.6 +0.5
INK **Inuvik** 87.93 14 P P 20 18 30.6 +0.5
1.4nm,0.3s,baz=233,slow=3.1,SNR=3.2
MAW **Mawson** 88.11 199 P P 20 18 30.8 -0.4
MAW **Mawson** 88.11 199 P P 20 18 30.8 -0.4
4.2nm,0.6s,baz=166,slow=8.4,SNR=11
MAW **Mawson** 88.11 199 P P 20 18 31.4 +0.2
baz=57,SNR=7.1
HHC **Hu-ho-hao-te** 88.61 313 *e*P P 20 18 32.5 -1.7
HHC sP sP 20 18 38.5 -8.8
HHC PP PP 20 22 02.5 -0.6
HHC SKS SKSac 20 28 58.8 -2.7
HHC S S 20 29 16.5 -2.4
HHC SS SS 20 35 10.3 -0.4
HHC pmax pmax
comp=Z,39nm,0.7s
HHC pmax pmax
comp=Z,470nm,8.5s
HHC LR LR
comp=N,480nm,20.2s
HHC LR LR
comp=E,400nm,19.0s
HHC LR LR
comp=Z,620nm,20.2s
C27A **Sayler Ranch,** 89.38 40 ⇑P P 20 18 37.5 -0.1
baz=90
KMI **Kunming** 90.67 296 P P 20 18 43.0 -1.4
KMI pmax pmax
comp=Z,7.0nm,2.0s
KSH **Kashi** 115.08 307 *e*PKP PKPdf 20 24 23.5 +1.0
KSH PP PP 20 25 28.5 +6.1
KSH PKS PKSdf 20 27 59.0 -0.2
KSH SKS SKSdf 20 31 34.5 +1.8
KSH SKKS SKKSac 20 32 21.5 -0.4
KSH SS SS 20 41 22.5 +5.1
AKASG **Malin Array Be** 139.90 337 PKP PKPdf 20 25 08.4 -0.6
AKASG **Malin Array Be** 139.90 337 PKP PKPdf 20 25 08.4 -0.6
comp=Z,0.3nm,0.4s,baz=35,slow=3.1,SNR=3.3
CLL **Collm** 143.40 353 *e*PKP PKPdf 20 25 16.0 +0.7
DPC **Dobruska-Polom** 143.83 349 *e*PKP PKPdf 20 25 15.6 -0.5
DPC *ep*PKP PKiKP 20 25 20.2 +0.6
TRPA **Tarpa** 144.37 341 ⇑*i*P PKPdf 20 25 16.3 -0.7
PRU **Pruhonice** 144.48 351 *e*PKP PKPdf 20 25 17.3 +0.1
PRU *ep*PKP PKiKP 20 25 21.8 +0.9
DOU **Dourbes** 144.97 2 PKP PKPdf 20 25 17.9 -0.2
TIRR **Tirgusor** 145.19 332 ⇑*i*P PKPdf 20 25 20.2 +1.6
TLB **Topalu** 145.26 332 ⇑*i*P PKPdf 20 25 20.1 +1.4
PSZ **Piszkesteto** 145.32 344 PKPdf PKPbc 20 25 17.4 -1.3
MLR **Muntele Rosu** 145.42 335 ⇓*i*P PKPab 20 25 21.1 +1.8
WLF **Walferdange** 145.43 0 PKP PKPab 20 25 20.3 +1.3
KHC **Kasperske Hory** 145.46 352 *e*PKP PKPab 20 25 20.1 +0.9
KHC *ep*PKP PKiKP 20 25 22.7 -0.3
KHC *ex* x 20 25 24.9
KHC **Kasperske Hory** 145.46 352 *e*PKPdf PKPab 20 25 20.0 +0.8
ISR **Istrita** 145.48 335 ⇓*i*P PKPab 20 25 21.3 +1.9
KMBO **Kilima Mbogo** 145.53 245 PKPbc PKPab 20 25 20.9 +0.1
KMBO **Kilima Mbogo** 145.53 245 PKPbc PKPab 20 25 20.9 +0.1
comp=Z,0.8nm,0.6s,baz=69,slow=8.6,SNR=2.2
GERES **GERESS Array B** 145.72 351 PKPbc PKPab 20 25 20.7 +0.5
GERES **GERESS Array B** 145.72 351 PKPbc PKPab 20 25 20.7 +0.5
baz=5.7,slow=4.0,SNR=10
BR131 **Keskin Array S** 145.72 321 *e*PKPdf PKPab 20 25 21.1 +0.4
BRTR **Keskin Array B** 145.72 321 PKPbc PKPab 20 25 22.1 +1.4
BRTR **Keskin Array B** 145.72 321 PKPbc PKPab 20 25 22.1 +1.4
baz=102,slow=2.6,SNR=19
VOIR 145.82 336 ⇑*i*P PKPab 20 25 22.6 +1.9
ARR **Arges** 146.04 337 ⇓*i*P PKPab 20 25 23.0 +1.5
GZR **Gura Zlata** 146.70 339 ⇑*i*P PKPab 20 25 23.6 -0.4
BFO **Black Forest** 146.73 358 *e*PKPbc PKPbc 20 25 23.2 +0.4
BZS **Buzias** 146.89 340 ⇑*i*P PKPab 20 25 24.4 -0.3
MMAI **Mount Meron Ar** 148.16 309 PKPbc PKPab 20 25 29.4 -0.9
MMAI **Mount Meron Ar** 148.16 309 PKPbc PKPab 20 25 29.4 -0.9
baz=64,slow=7.5,SNR=6.0
SSB **Saint Sauveur** 149.78 3 *e*PKPdf PKPdf 20 25 25.9 -0.4
SSB *e*PKPbc PKPbc 20 25 29.5 -1.5
EIL **Elat** 149.93 304 PKPbc PKPbc 20 25 33.2 +1.4
EIL **Elat** 149.93 304 PKPbc PKPbc 20 25 33.2 +1.4
comp=Z,2.8nm,0.5s,baz=32,slow=9.5,SNR=2.3
BNI **Bardonecchia** 150.04 360 *e*PKPbc PKPbc 20 25 31.5 -0.2
ESDC **Sonseca Array** 153.79 18 PKPab PKPab 20 25 53.2 0.0
ESDC **Sonseca Array** 153.79 18 PKPab PKPab 20 25 53.2 0.0
baz=341,slow=2.5,SNR=6.2
KEST **Kesra** 159.19 353 PKPab PKPab 20 26 17.8 +1.3
KEST **Kesra** 159.19 353 PKPab PKPab 20 26 17.8 +1.3
comp=Z,2.2nm,1.2s,baz=322,slow=8.4,SNR=2.1
TORD **Torodi Ar. Bea** 175.08 111 PKP PKPdf 20 25 50.5 -1.3
TORD PKPab PKPab 20 27 28.7 +1.4
TORD **Torodi Ar. Bea** 175.08 111 PKP PKPdf 20 25 50.5 -1.3
comp=Z,0.6nm,0.8s,baz=267,slow=0.9,SNR=2.6
TORD PKPab PKPab 20 27 28.7 +1.4
comp=Z,1.1nm,0.9s,baz=231,slow=0.8,SNR=3.0

*IDC **29** 20:07:27.6±1.2, 15°.55S×173°.33W, h0km, mb4.4/7, mb1 4.7/7, mb1mx4.3/18, mbtmp4.4/7, Error ellipse: s-maj=62.3km s-min=20.7km az=144.0*
*ISCJB **29** 20:07:31.4±1.2, 15°.7S±0°.3×173°.3W±0°.2, h42km, mb4.3/7, Error ellipse: s-maj=54.0km s-min=15.8km az=147.5*
ISC 29 20:07:33.2±1.2, 15°.6S±0°.3×173°.3W±0°.2, h42km, n19, σ0.77/17, mb4.2/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	2.24	40	Pn	Pn	20 08 11.4	+3.5
	156nm,0.3s,baz=218,slow=19,SNR=1.5						
AFI				Sn	Sn	20 08 22.1	-12
	523nm,0.3s,baz=217,slow=20,SNR=3.8						
MTSU	**Mount Surprise**	40.60	260	P	P	20 15 09.4	+0.2
	baz=32,SNR=15						
COEN	**Coen**	42.09	266	P	P	20 15 22.8	+1.3
	baz=36,SNR=8.0						
STKA	**Stephens Creek**	44.03	240	P	P	20 15 36.3	-0.7
	2.1nm,0.5s,baz=92,slow=9.3,SNR=8.9						
WRA	**Warramunga Arr**	49.91	257	P	P	20 16 22.3	-0.9
	1.5nm,0.5s,baz=90,slow=7.0,SNR=7.2						
ASAR	**Alice Springs**	50.16	252	P	P	20 16 24.6	-0.4
	14nm,0.7s,baz=85,slow=8.4,SNR=13						
PETK	**Petropavlovsk-**	72.89	342	P	P	20 18 57.9	+0.2
	6.8nm,1.0s,baz=144,slow=11,SNR=4.8						
TXAR	**Lajitas Array**	80.64	56	P	P	20 19 42.4	+0.3
	3.1nm,1.1s,baz=224,slow=5.2,SNR=7.3						
PDAR	**Pinedale Array**	82.36	42	P	P	20 19 51.0	-0.1
	2.4nm,0.9s,baz=219,slow=3.8,SNR=7.4						
ILAR	**Eielson Array**	82.65	11	P	P	20 19 51.2	-0.6
	1.0nm,0.7s,baz=229,slow=6.2,SNR=5.2						
PPI	**Padang Panjang**	86.34	271	P	P	20 20 17.0	+5.3
	baz=73,SNR=3.2						
DPC	**Dobruska-Polom**	144.51	349	*e*PKP	PKPdf	20 27 04.6	-0.5
DPC				*ex*	x	20 27 11.9	
VRAC	**Vranov**	145.46	349	PKPbc	PKPbc	20 27 06.2	-0.6
	baz=33,slow=5.2,SNR=3.3						
KMBO	**Kilima Mbogo**	145.54	244	PKPbc	PKPab	20 27 10.6	+1.9
	1.1nm,0.6s,baz=76,slow=8.3,SNR=2.8						
KHC	**Kasperske Hory**	146.12	352	*e*PKP	PKPab	20 27 09.4	-0.1
KHC				*ex*	x	20 27 17.2	
MLR	**Muntele Rosu**	146.13	335	PKPbc	PKPab	20 27 10.1	+0.3
	baz=319,slow=7.6,SNR=5.4						
GERES	**GERESS Array B**	146.39	352	PKPbc	PKPbc	20 27 09.9	+0.2
	baz=20,slow=4.3,SNR=4.0						
BRTR	**Keskin Array B**	146.41	321	PKPbc	PKPab	20 27 10.7	-0.4
	baz=83,slow=3.0,SNR=5.6						
MMAI	**Mount Meron Ar**	148.81	309	PKPbc	PKPbc	20 27 17.4	+0.5
	2.2nm,0.7s,baz=70,slow=1.7,SNR=3.4						

IDC 29 20:10:40.8±0.8, 15°.10S×173°.03W, h0km, mb4.1/8, mb1 4.2/8, mb1mx4.0/20, mbtmp4.1/8, Error ellipse: s-maj=39.8km s-min=20.2km az=121.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	1.69	46	Pn	Pn	20 11 04.8	-7.0
	98nm,0.3s,baz=236,slow=15,SNR=2.6						
AFI				Sn	Sn	20 11 20.3	-14
	baz=52,slow=23,SNR=6.3						
URZ	**Urewera**	24.66	199	P	P	20 16 03.6	+0.3
	11nm,0.8s,baz=23,slow=18,SNR=3.3						
STKA	**Stephens Creek**	44.49	240	P	P	20 18 52.8	-1.4
	2.5nm,0.9s,baz=62,slow=15,SNR=3.1						
WRA	**Warramunga Arr**	50.26	256	P	P	20 19 40.2	+0.8
	0.5nm,0.6s,baz=90,slow=6.8,SNR=4.6						
ASAR	**Alice Springs**	50.54	252	P	P	20 19 41.1	-0.4
	2.3nm,0.7s,baz=85,slow=8.8,SNR=4.8						
VNDA	**Vanda**	63.71	186	P	P	20 21 14.8	+1.1
	1.4nm,1.1s,baz=7.4,slow=8.0,SNR=4.1						
YBH	**Yreka Blue Hor**	73.14	37	P	P	20 22 13.2	-0.3
	0.8nm,0.3s,baz=200,slow=12,SNR=3.2						
ILAR	**Eielson Array**	82.08	11	P	P	20 23 01.9	-0.8
	0.4nm,0.8s,baz=224,slow=5.0,SNR=2.5						
MAW	**Mawson**	88.19	199	P	P	20 23 32.1	-1.3
	0.7nm,0.3s,baz=162,slow=9.6,SNR=3.7						
MLR	**Muntele Rosu**	145.74	336	PKPbc	PKPdf	20 30 21.4	-0.3
	baz=297,slow=2.3,SNR=4.5						
GERES	**GERESS Array B**	145.90	352	PKPbc	PKPab	20 30 22.8	-0.1
	baz=22,slow=1.4,SNR=3.7						
BRTR	**Keskin Array B**	146.15	322	PKPbc	PKPab	20 30 23.9	-0.3
	baz=128,slow=2.0,SNR=9.4						

*IDC **29** 20:11:09.0±1.5, 13°.92S×174°.45W, h0km, mb4.1/5, mb1 4.3/5, mb1mx4.1/17, mbtmp4.1/5, Error ellipse: s-maj=42.5km s-min=39.1km az=96.0*
*NEIC **29** 20:11:10.9±0.6, 13°.97S×174°.53W, h10km, mb4.6/3, Error ellipse: s-maj=28.2km s-min=18.3km az=141.0*
*ISCJB **29** 20:11:12.9±0.8, 14°.0S±0°.2×174°.5W±0°.2, h33km, mb4.3/8, Error ellipse: s-maj=25.3km s-min=18.5km az=138.9*
ISC 29 20:11:15.0±0.8, 14°.0S±0°.2×174°.6W±0°.2, h35km, n21, σ1.9/13/18, mb4.3/8, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	43.78	238	P	P	20 19 16.7	-0.8
STKA	**Stephens Creek**	43.78	238	P	P	20 19 16.7	-0.8
	4.0nm,0.9s,baz=112,slow=1.8,SNR=4.2						
WRAB	**Tennant Creek**	49.08	256	P	P	20 20 02.0	+2.7
	2.5nm,0.7s						
WRA	**Warramunga Arr**	49.09	256	P	P	20 20 00.3	+0.9
WRA	**Warramunga Arr**	49.09	256	P	P	20 20 00.3	+0.9
	1.3nm,0.8s,baz=91,slow=7.4,SNR=5.4						
ASAR	**Alice Springs**	49.49	251	P	P	20 20 03.0	+0.5
ASAR	**Alice Springs**	49.49	251	P	P	20 20 03.0	+0.5
	5.4nm,0.8s,baz=86,slow=8.2,SNR=8.5						
SBA	**Scott Base**	64.53	184	*e*P	P	20 21 48.0	+0.1
	4.2nm,0.8s						
VNDA	**Vanda**	64.63	186	P	P	20 21 48.5	-0.1
VNDA	**Vanda**	64.63	186	P	P	20 21 48.5	-0.1
	1.5nm,0.9s,baz=17,slow=5.9,SNR=4.9						
ISA	**Isabella**	72.46	45	P	P	20 22 38.9	+0.6
	8.6nm,1.1s						
KSRS	**Korea Array**	74.40	316	P	P	20 22 48.6	-0.8
	2.2nm,1.0s,baz=120,slow=7.4,SNR=5.5						
KSAR	**Wonju Array Be**	74.42	316	P	P	20 22 48.6	-0.9
ABTX	**Abilene, Hawle**	85.17	55	*e*P	P	20 23 47.8	-0.2
VRAC	**Vranov**	143.64	348	PKP	PKPbc	20 30 44.1	+0.5
VRAC	**Vranov**	143.64	348	PKP	PKPbc	20 30 44.1	+0.5
	2.5nm,0.8s,baz=10,slow=4.2,SNR=3.1						
KHC	**Kasperske Hory**	144.35	351	*e*PKP	PKPbc	20 30 46.7	+0.8
KHC				*ex*	x	20 30 55.4	
DBIC	**Dimbokro**	167.51	125	PKP	PKPdf	20 31 17.2	-1.2
DBIC	**Dimbokro**	167.51	125	PKP	PKPdf	20 31 17.2	-1.2
	7.7nm,1.1s,baz=146,slow=7.3,SNR=3.3						
TORD	**Torodi Ar. Bea**	176.25	103	PKP	PKPdf	20 31 23.7	+1.2
TORD	**Torodi Ar. Bea**	176.25	103	PKP	PKPdf	20 31 23.7	+1.2
	2.7nm,1.0s,baz=214,slow=1.6,SNR=9.6						

*IDC **29** 20:11:15.4±1.6, 14°.24S×171°.29W, h0km, mb4.0/4, mb1 4.3/4, mb1mx4.0/18, mbtmp4.0/4, Error ellipse: s-maj=84.3km s-min=29.7km az=154.0*
*ISCJB **29** 20:11:18.1±1.6, 14°.4S±0°.5×171°.2W±0°.3, h33km, mb4.1/4, Error ellipse: s-maj=76.4km s-min=27.2km az=153.8*
ISC 29 20:11:20.1±1.5, 14°.4S±0°.6×171°.2W±0°.3, h35km, n13, σ1.9/03/12, mb4.1/4, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	52.14	256	P	P	20 20 27.9	+0.3
	8.8nm,0.9s,baz=95,slow=6.8,SNR=5.2						
ASAR	**Alice Springs**	52.44	251	P	P	20 20 29.9	+0.1
	2.3nm,0.5s,baz=87,slow=8.0,SNR=4.4						
KSRS	**Korea Array**	76.91	314	P	P	20 23 09.2	+0.2
	0.8nm,0.7s,baz=132,slow=6.9,SNR=4.6						
TXAR	**Lajitas Array**	78.28	56	P	P	20 23 16.9	-0.1
	0.2nm,0.4s,baz=232,slow=6.2,SNR=4.2						
CLL	**Collm**	142.98	356	*e*PKPdf	PKPdf	20 30 49.0	-1.1
DPC	**Dobruska-Polom**	143.57	352	*e*PKP	PKPbc	20 30 49.2	+0.5
OKC	**Ostrava-Krasne**	143.79	350	*e*PKP	PKPdf	20 30 50.6	-1.0
PRU	**Pruhonice**	144.15	354	*e*PKP	PKPdf	20 30 52.3	+0.1
GERES	**GERESS Array B**	145.36	354	PKPbc	PKPdf	20 30 55.0	+0.5
	3.2nm,0.8s,baz=41,slow=2.5,SNR=17						
MLR	**Muntele Rosu**	145.73	338	PKPbc	PKPdf	20 30 54.9	-0.4
	2.5nm,1.0s,baz=64,slow=3.7,SNR=6.4						
BRTR	**Keskin Array B**	146.61	324	PKPbc	PKPbc	20 30 58.2	-0.3
	4.6nm,0.8s,baz=126,slow=1.7,SNR=7.4						
MMAI	**Mount Meron Ar**	149.49	312	PKPbc	PKPbc	20 31 04.8	-1.6
	6.1nm,0.9s,baz=1.6,slow=5.8,SNR=6.9						
ESDC	**Sonseca Array**	152.40	22	PKPbc	PKPbc	20 31 14.9	+2.0
	2.2nm,0.8s,baz=338,slow=2.8,SNR=12						

*IDC **29** 20:12:59.8±0.6, 16°.10S×172°.93W, h0km, mb4.3/12, mb1 4.5/12, mb1mx4.4/20, mbtmp4.3/12, Error ellipse:*

s-maj=26.1km s-min=17.4km az=118.0
*NEIC **29** 20:13:00.9±0.4, 16°.04S×172°.95W, h10km, mb4.9/13, Error ellipse: s-maj=19.4km s-min=10.8km az=125.0*
*ISCJB **29** 20:13:02.0±0.4, 16°.07S±0°.09×172°.9W±0°.1, h26km, mb4.6/26, Error ellipse: s-maj=17.4km s-min=9.9km az=39.3*

ISC 29 20:13:03.4±0.5, 16°.1S±0°.1×172°.9W±0°.1, h26km, n68, σ1°.06/69, mb4.7/26, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	8.81	258	eP	Pn	20 15 16.6	+7.3
	99nm,1.1s						
DZM	Mont Dzumac	20.40	250	P	Pn	20 17 41.9	+1.0
DZM	Mont Dzumac	20.40	250	P	Pn	20 17 41.9	+1.0
	20nm,0.9s,baz=100,slow=17,SNR=6.8						
URZ	Urewera	23.77	200	P	P	20 18 14.7	+0.8
URZ	Urewera	23.77	200	P	P	20 18 14.7	+0.8
	6.8nm,0.3s,baz=45,slow=11,SNR=5.4						
RPZ	Rata Peaks	30.73	203	P	P	20 19 21.4	+5.0
RPZ	Rata Peaks	30.73	203	P	P	20 19 21.4	+5.0
	12nm,0.9s,baz=134,slow=3.5,SNR=3.7						
STKA	Stephens Creek	44.11	241	eP	P	20 21 08.0	-1.8
	4.6nm,1.3s						
STKA	Stephens Creek	44.11	241	P	P	20 21 08.3	-1.5
	5.4nm,0.8s,baz=72,slow=8.9,SNR=5.9						
WRAB	Tennant Creek	50.15	257	eP	P	20 21 55.6	-1.5
	9.0nm,1.0s						
WRA	Warramunga Arr	50.16	257	P	P	20 21 56.4	-0.8
WRA	Warramunga Arr	50.16	257	P	P	20 21 56.4	-0.8
	2.2nm,0.8s,baz=81,slow=5.9,SNR=7.2						
ASAR	Alice Springs	50.36	252	P	P	20 21 57.7	-1.0
ASAR	Alice Springs	50.36	252	P	P	20 21 57.7	-1.0
	5.6nm,0.6s,baz=88,slow=8.3,SNR=8.1						
SBA	Scott Base	62.61	185	eP	P	20 23 26.7	+1.7
	40nm,1.6s						
VNDA	Vanda	62.74	186	eP	P	20 23 26.5	+0.6
	18nm,1.6s						
VNDA	Vanda	62.74	186	P	P	20 23 26.8	+0.9
	5.0nm,0.9s,baz=14,slow=7.3,SNR=13						
CASY	Casey	69.99	205	eP	P	20 24 11.7	-0.7
	18nm,1.4s						
LPIG	La Paz	72.99	58	P	P	20 24 35.1	+3.9
LPIG	La Paz	72.99	58	P	P	20 24 35.1	+3.9
	77nm,0.3s,baz=211,slow=4.0,SNR=5.9						
PETK	Petropavlovsk-	73.43	342	P	P	20 24 33.6	+0.4
PETK	Petropavlovsk-	73.43	342	P	P	20 24 33.6	+0.4
	2.5nm,0.8s,baz=136,slow=9.4,SNR=3.2						
YBH	Yreka Blue Hor	73.86	37	P	P	20 24 36.6	+0.5
YBH	Yreka Blue Hor	73.86	37	P	P	20 24 36.6	+0.5
	3.2nm,0.8s,baz=151,slow=4.0,SNR=5.0						
QSPA	South Pole Qui	73.96	180	eP	P	20 24 36.5	+0.1
	26nm,1.1s						
NV11	Mina Array Sit	74.62	42	P	P	20 24 40.6	-0.1
WVOR	Wild Horse Val	76.67	38	P	P	20 24 52.1	-0.3
	13nm,1.4s						
KSRS	Korea Array	76.98	315	P	P	20 24 55.2	+1.2
	0.2nm,0.3s,baz=134,slow=7.0,SNR=3.2						
KSAR	Wonju Array Be	77.00	315	P	P	20 24 55.2	+1.1
BMO	Blue Mountains	78.89	37	P	P	20 25 03.4	-1.2
	12nm,1.5s						
MNTX	Cornudas Mount	80.25	53	eP	P	20 25 12.1	-0.1
	6.3nm,1.3s						
TXAR	Lajitas Array	80.60	56	P	P	20 25 14.7	+0.5
TXAR	Lajitas Array	80.60	56	P	P	20 25 14.7	+0.5
	0.3nm,0.4s,baz=235,slow=4.4,SNR=5.4						
MCK	McKinley	81.71	11	eP	P	20 25 22.9	+3.7
	14nm,0.9s						
SDCO	Great Sand Dun	82.82	48	eP	P	20 25 25.8	-0.2
	9.4nm,1.3s						
ILAR	Eielson Array	83.03	11	P	P	20 25 26.8	+0.7
ILAR	Eielson Array	83.03	11	P	P	20 25 26.8	+0.7
	1.3nm,0.6s,baz=227,slow=6.2,SNR=11						
WALA	Waterton Lakes	83.20	35	P	P	20 25 26.1	-1.4
	0.3nm,0.8s						
EGAK	Eagle	84.18	13	eP	P	20 25 33.3	+1.3
	11nm,1.2s						
MAW	Mawson	87.30	198	P	P	20 25 48.0	+0.5
MAW	Mawson	87.30	198	P	P	20 25 48.0	+0.5
	3.6nm,1.0s,baz=82,slow=6.8,SNR=4.9						
INK	Inuvik	88.82	14	P	P	20 25 51.9	-2.7
	15nm,1.3s						
CMAR	Chiang Mai Arr	93.28	288	P	P	20 26 18.3	+1.8
CMAR	Chiang Mai Arr	93.28	288	P	P	20 26 18.3	+1.8
	2.3nm,1.0s,baz=91,slow=2.2,SNR=6.4						
CLL	Collm	144.55	354	ePKP	PKPdf	20 32 38.0	+0.5
UPC	Upice	144.92	350	ePKP	PKPbc	20 32 37.2	-0.2
UPC				ePKP	PKiKP	20 32 42.5	+0.5
DPC	Dobruska-Polom	145.02	350	ePKP	PKPdf	20 32 38.4	-0.1
DPC				ePKP	PKiKP	20 32 42.9	+0.6
BUR08	Bucovina Ar. S	145.16	338	eP	PKPab	20 32 38.0	-0.5
OKC	Ostrava-Krasne	145.16	347	ePKP	PKPdf	20 32 38.5	-0.1
OKC				ePKP	PKiKP	20 32 43.8	+1.3
PRU	Pruhonice	145.65	351	ePKP	PKPab	20 32 39.5	-0.6
PRU				ePKP	PKiKP	20 32 44.8	+1.3
KMBO	Kilima Mbogo	145.66	243	eP	PKPab	20 32 41.9	+0.4
KMBO				PKPbc	PKPbc	20 32 42.3	+1.1
VRAC	Vranov	145.97	349	PKPbc	PKPab	20 32 41.6	+0.2
VRAC	Vranov	145.97	349	PKPbc	PKPab	20 32 41.6	+0.2
	baz=336,slow=4.2,SNR=6.3						
GRFO	Grafenberg	146.32	355	P	PKPdf	20 32 40.4	-0.2
KHC	Kasperske Hory	146.62	352	ePKP	PKPab	20 32 43.2	-0.6
KHC				ePKP	pPKPdf	20 32 48.7	-1.2
KHC	Kasperske Hory	146.62	352	PKPdf	PKPab	20 32 42.9	-0.9
MLR	Muntele Rosu	146.69	336	PKPbc	PKPdf	20 32 41.2	-0.4
MLR	Muntele Rosu	146.69	336	PKPbc	PKPdf	20 32 41.2	-0.4
	baz=75,slow=6.6,SNR=4.1						
GERES	GERESS Array B	146.89	352	PKPbc	PKPbc	20 32 42.6	-1.0
GERES	GERESS Array B	146.89	352	PKPbc	PKPbc	20 32 42.6	-1.0
	baz=1.1,slow=6.8,SNR=4.5						
BRTR	Keskin Array B	146.99	321	PKP	PKPdf	20 32 40.0	-2.2
BRTR				PKPbc	PKPab	20 32 45.2	-0.5
BRTR	Keskin Array B	146.99	321	PKP	PKPdf	20 32 40.0	-2.2
	2.2nm,0.9s,baz=94,slow=3.1,SNR=2.5						
BRTR				PKPbc	PKPab	20 32 45.2	-0.5
	baz=90,slow=2.6,SNR=7.5						
MMAI	Mount Meron Ar	149.37	309	PKPbc	PKPbc	20 32 52.1	+1.4
MMAI	Mount Meron Ar	149.37	309	PKPbc	PKPbc	20 32 52.1	+1.4
	5.2nm,0.9s,baz=70,slow=13,SNR=2.8						
CSS	Prodhromos	149.92	314	ePKPbc	PKPbc	20 32 53.6	+1.6
SSB	Saint Sauveur	150.82	4	ePKPbc	PKPbc	20 32 54.3	+0.5
TORD	Torodi Ar. Bea	174.01	119	PKP	PKPdf	20 33 10.5	-1.2
TORD				PKPab	PKPab	20 34 42.0	-0.8
TORD	Torodi Ar. Bea	174.01	119	PKP	PKPdf	20 33 10.5	-1.2
	1.3nm,1.1s,baz=233,slow=0.8,SNR=3.5						
TORD				PKPab	PKPab	20 34 42.0	-0.8
	baz=227,slow=3.8,SNR=4.5						

IDC 29 20:13:32.3±1.0, 15°.88S×172°.69W, h0km, mb4.6/11, mb1 4.7/11, mb1mx4.5/20, mbtmp4.6/11, Error ellipse: s-maj=42.7km s-min=20.5km az=141.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	44.40	241	P	P	20 21 43.8	-1.1
	2.5nm,0.6s,baz=84,slow=12,SNR=2.5						
WRA	Warramunga Arr	50.41	257	P	P	20 22 31.2	-0.7
	5.7nm,0.9s,baz=90,slow=6.6,SNR=8.3						
ASAR	Alice Springs	50.62	252	P	P	20 22 33.3	-0.2
	24nm,1.0s,baz=84,slow=8.6,SNR=8.3						
PETK	Petropavlovsk-	73.29	342	P	P	20 25 05.8	+0.4
	5.5nm,1.0s,baz=139,slow=9.2,SNR=3.5						
YBH	Yreka Blue Hor	73.56	37	P	P	20 25 07.5	+0.1
	4.7nm,1.0s,baz=219,slow=6.5,SNR=3.8						
KDAK	Kodiak Island	75.25	11	P	P	20 25 16.0	-0.7
	14nm,1.0s,baz=231,slow=6.5,SNR=4.2						
KSRS	Korea Array	76.98	315	P	P	20 25 28.9	+2.0
	3.7nm,0.9s,baz=126,slow=6.8,SNR=9.4						
TXAR	Lajitas Array	80.31	56	P	P	20 25 45.6	-0.1
	3.4nm,1.0s,baz=231,slow=7.6,SNR=8.9						
ILAR	Eielson Array	82.78	11	P	P	20 25 57.1	-0.7
	1.7nm,0.7s,baz=226,slow=6.4,SNR=6.9						
MAW	Mawson	87.56	198	P	P	20 26 23.3	+1.4
	6.4nm,1.0s,baz=130,slow=6.7,SNR=4.7						
CMAR	Chiang Mai Arr	93.42	288	P	P	20 26 48.8	-1.4
	2.0nm,0.9s,baz=85,slow=2.9,SNR=5.4						

*NNC **29** 20:14:41.3±2.2, 41°.52N×84°.29E, h0km, mb4.6, mpv4.6, Error ellipse: s-maj=21.8km s-min=11.9km az=150.0*
*ISCJB **29** 20:14:48.0±0.2, 41°.87N±0°.02×83°.70E±0°.04, h10km, mb4.1/33, Error ellipse: s-maj=4.3km s-min=3.1km*
az=163.0
*IDC **29** 20:14:48.5±0.6, 42°.02N×83°.89E, h0km, mb4.0/15, mb1 4.1/22, mb1mx4.0/34, mbtmp4.0/22, ML3.5/1, Error ellipse: s-maj=16.4km s-min=9.1km az=46.0*
*BJI **29** 20:14:49.5, 41°.94N×83°.71E, h15km, mb4.5/11, ML4.7/10*
*NEIC **29** 20:14:52.7±1.6, 42°.08N×83°.79E, h26km±12km, mb4.6/17, Error ellipse: s-maj=7.8km s-min=5.3km az=209.0*

ISC 29 20:14:49.8±0.4, 41°.86N±0°.04×83°.65E±0°.04, h10km, n139, σ1°.57/146, mb4.3/33, 17C-10D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	Urumqi	3.56	55	Pn	Pn	20 15 46.8	+1.6
WMQ				smax	smax		
	comp=N,3μm,1.3s						
WMQ				smax	smax		
	comp=E,5μm,1.5s						
MK31	Makanchi Array	5.03	349	⇓Pn	Pn	20 16 06.8	+1.5
	comp=E,2.9nm,0.3s,baz=163,slow=13,SNR=900						
MK31				⇓Pg	Pb	20 16 19.0	+1.1
	comp=E,124nm,0.7s,baz=161,slow=18,SNR=64						
MK31				⇑Lg	Lg	20 17 28.3	
	comp=E,330nm,0.7s,baz=169,slow=28,SNR=11						
MK31	Makanchi Array	5.03	349	ePn	Pn	20 16 04.8	-0.4
MKAR	Makanchi Array	5.03	349	Pn	Pn	20 16 06.0	+0.7
MKAR				Pg	Pb	20 16 20.0	+2.2
MKAR				Sn	Sn	20 17 02.3	-1.1
MKAR				Lg	Lg	20 17 28.2	
MKAR	Makanchi Array	5.03	349	Pn	Pn	20 16 06.0	+0.7
	baz=161,slow=13,SNR=80						
MKAR				Pg	Pb	20 16 20.0	+2.2
	comp=E,21nm,0.3s,baz=155,slow=17,SNR=44						
MKAR				Sn	Sn	20 17 02.3	-1.1
	baz=168,slow=14,SNR=4.0						
MKAR				Lg	Lg	20 17 28.2	
	baz=170,slow=31,SNR=9.9						
KNDC	Almaty	5.12	288	⇓Pn	Pn	20 16 10.2	+3.6
	comp=E,27nm,0.5s						
KNDC				⇑Pg	Pb	20 16 22.8	+3.3
	comp=E,254nm,0.8s						
KNDC				⇑Sn	Sb	20 17 14.9	-6.2
	comp=E,648nm,1.0s						
KNDC				⇑Lg	Lg	20 17 44.8	
	comp=E,2μm,1.1s						
ULHL	Ulahol	5.53	276	P	Pn	20 16 15.7	+3.3
	SNR=9.9						
TKM2	Tokmak 2	6.06	283	⇓Pn	Pn	20 16 22.4	+2.8
	comp=E,23nm,0.5s						
TKM2				⇑Sn	Sn	20 17 36.2	+7.1
	comp=E,141nm,0.9s						
TKM2				⇓Lg	Lg	20 18 09.3	
	comp=E,216nm,0.8s						
TKM2	Tokmak 2	6.06	283	P	Pn	20 16 22.8	+3.2
	SNR=20						
TKM2	Tokmak 2	6.06	283	ePn	Pn	20 16 20.8	+1.2
	comp=E,48nm,0.6s						
TKM2				eSn	Sn	20 17 26.1	-3.0
KZA	Kyzart	6.27	275	P	Pn	20 16 27.1	+4.5
	SNR=13						
KSH	Kashi	6.29	251	Pn	Pb	20 16 32.5	-6.9
KSH				Sn	Sb	20 17 49.3	-5.4
KSH				smax	smax		
	comp=N,310nm,1.0s						
KSH				smax	smax		
	comp=E,530nm,1.2s						
KBK	Karagaybulak	6.51	280	P	Pn	20 16 31.6	+5.9
	SNR=26						
AAK	Ala-Archa	6.84	280	P	Pn	20 16 33.4	+3.1
	SNR=6.2						
AAK	Ala-Archa	6.84	280	Pn	Pn	20 16 34.2	+3.9
AAK				Pg	Pg	20 17 00.1	-0.6
AAK				Lg	Lg	20 18 23.8	
AAK	Ala-Archa	6.84	280	Pn	Pn	20 16 34.2	+3.9
	baz=108,slow=8.5,SNR=14						
AAK				Pg	Pg	20 17 00.1	-0.6
	baz=69,slow=8.4,SNR=14						
AAK				Lg	Lg	20 18 23.8	
	comp=E,2.7nm,0.3s,baz=270,slow=20,SNR=2.5						
USP	Ospenovka	6.90	285	P	Pn	20 16 34.0	+3.0
	SNR=10						
EKS2	Erkin-Say	7.37	280	ePn	Pn	20 16 37.4	-0.1
	comp=E,3.6nm,1.1s						
KURBB	Kurchatov Arra	9.45	340	⇑Lg	Lg	20 19 56.8	
	comp=E,924nm,1.5s						
KURBB	Kurchatov Arra	9.45	340	Pn	Pn	20 17 05.2	-0.7
	baz=164,slow=12,SNR=9.8						
KURBB				Lg	Lg	20 19 45.6	
	comp=E,2.2nm,0.3s,baz=162,slow=25,SNR=6.6						
KURK	Kurchatov	9.51	340	⇑Pn	Pn	20 17 07.4	+0.7
	comp=E,1.7nm,0.7s						
KURK				⇓Lg	Lg	20 19 56.8	
	comp=E,272nm,1.3s						
KURK	Kurchatov	9.51	340	Pn	Pn	20 17 05.2	-1.6
KURK				Lg	Lg	20 19 45.6	
KK31	Karatay Array	9.79	282	⇑Pn	Pn	20 17 11.7	+1.1
	comp=E,2.3nm,0.8s,baz=78,slow=12,SNR=7.3						
KK31				⇑Pg		20 17 54.0	
	comp=E,9.8nm,0.7s,baz=87,slow=14,SNR=7.8						
KK31				⇓Lg	Lg	20 20 02.1	
	comp=E,93nm,1.1s,baz=88,slow=25,SNR=5.1						
KKAR	Karatay Array	9.79	282	ePn	Pn	20 17 11.8	+1.2
	comp=E,12nm,0.7s						
DLH	Dalhousie	11.13	216	eP	Pn	20 17 32.0	+2.7
DLH				eS	Sn	20 19 33.0	-0.9
DHRM	DHARAMSHALA	11.24	214	eP	Pn	20 17 33.1	+2.3
DHRM				AMB	AMB	20 17 39.6	
	comp=Z,40nm,0.4s						
DHRM				eS	Sn	20 19 35.6	-1.0
DHRM				AML	AML	20 19 39.5	
	comp=E,151nm,0.6s						
DHRM				AML	AML	20 19 43.2	
	comp=N,88nm,0.8s						
THN	Thein Dam	11.34	216	eP	Pn	20 17 31.5	-0.3
THN				eS	Sn	20 19 37.3	-1.2
CHCP	Chirah Chowk	11.60	228	⇑P	Pn	20 17 36.5	+1.1
SMLA	Simla	11.91	208	eP	Pn	20 17 39.9	+0.3
SMLA				AMB	AMB	20 18 37.9	
	comp=Z,291nm,15.7s						
SMLA				eS	Sn	20 19 50.0	-2.6
SMLA				AML	AML	20 19 53.5	
	comp=N,40nm,0.5s						
SMLA				AML	AML	20 19 53.6	
	comp=E,64nm,0.4s						
ZAA0	Zalesovo Array	12.12	3	ePn	Pn	20 17 39.4	-3.0
ZALV	Zalesovo Beam	12.12	3	Pn	Pn	20 17 40.2	-2.2
ZALV				Sn	Sn	20 20 00.3	+2.8
ZALV				Lg	Lg	20 21 09.6	
ZALV	Zalesovo Beam	12.12	3	Pn	Pn	20 17 40.2	-2.2
	baz=180,slow=13,SNR=40						
ZALV				Sn	Sn	20 20 00.3	+2.8
	baz=182,slow=22,SNR=3.5						
ZALV				Lg	Lg	20 21 09.6	
	comp=E,0.4nm,0.3s,baz=198,slow=27,SNR=3.1						
CEP	Cherat	12.26	233	⇑P	Pn	20 17 44.7	+0.1
CEP				S	Sn	20 20 00.0	-1.4
DDI	Dehra Dun	12.37	203	eP	Pn	20 17 46.7	+0.7
DDI				eS	Sn	20 20 03.9	0.0
DDI				AML	AML	20 20 15.6	
	comp=N,134nm,0.7s						
DDI				AML	AML	20 20 17.9	
	comp=E,98nm,0.3s						
GTA	Gaotai	12.52	96	eP	Pn	20 17 47.3	-0.8
GTA				pP		20 17 50.8	
GTA				sP		20 17 53.5	
GTA				PP	PnPn	20 17 57.5	+1.7
GTA				S	Sn	20 20 06.5	-1.2
GTA				SS	SnSn	20 20 21.8	+2.3
GTA				pmax	pmax		
	comp=Z,11nm,0.9s						
THW	Thamme Wali	13.09	230	P	Pn	20 17 55.7	-0.2
DANN	Dangsing	13.48	180	eP	Pn	20 18 02.9	+1.5
	comp=Z,51nm,0.5s						
LSA	Lhasa	13.57	151	ePn	Pn	20 18 07.1	+4.3
	comp=Z,200nm,2.4s						
KBL	Kabul	13.61	242	ePn	Pn	20 18 02.8	-0.2
	comp=Z,7.2nm,0.6s						
VOSK	Vostochnaya	13.83	326	⇑Pn	Pn	20 18 06.7	+1.0
	comp=Z,25nm,1.1s						
VOSK				⇓Sn	S	20 20 50.5	-11
	comp=Z,17nm,0.9s						
VOSK				⇑Lg	Lg	20 22 13.7	
	comp=Z,78nm,1.3s						
GKN	Gorkha	13.85	176	eP	Pn	20 18 06.5	+0.2
	comp=Z,109nm,0.4s						
GUN	Gumba	14.04	172	eP	Pn	20 18 09.4	+0.3
	comp=Z,31nm,0.5s						
KOLN	Koldanda	14.06	180	eP	Pn	20 18 08.8	-0.4
	comp=Z,26nm,0.5s						
KKN	Kakani	14.10	174	eP	Pn	20 18 10.5	+0.7
	comp=Z,105nm,0.5s						
NDI	New Delhi	14.15	204	e4	Pn	20 18 07.0	-3.3
DMN	Daman	14.27	175	eP	Pn	20 18 13.4	+1.2
	comp=Z,68nm,0.7s						
BVA0	Borovoye Array	14.30	326	⇑Pn	Pn	20 18 13.3	+1.1
	comp=Z,18nm,1.4s,baz=127,slow=12,SNR=30						
BVAR	Borovoye Array	14.30	326	Pn	Pn	20 18 10.1	-2.1
BVAR				Sn	Sn	20 20 44.7	-6.0
BVAR				Lg	Lg	20 22 20.8	
BVAR	Borovoye Array	14.30	326	Pn	Pn	20 18 10.1	-2.1
	comp=Z,0.2nm,0.3s,baz=131,slow=12,SNR=7.4						
BVAR				Sn	Sn	20 20 44.7	-6.0
	comp=Z,0.1nm,0.3s,baz=118,slow=25,SNR=2.2						
BVAR				Lg	Lg	20 22 20.8	
	baz=271,slow=31,SNR=4.2						
JIRN	Jiri	14.32	171	eP	Pn	20 18 14.1	+1.1
	comp=Z,78nm,0.6s						
PKIN	Phulchoki	14.32	174	eP	Pn	20 18 13.4	+0.5
	comp=Z,40nm,0.6s						
PKI	Pulchoki	14.33	174	eP	Pn	20 18 13.1	0.0
	comp=Z,51nm,0.5s						
BRVK	Borovoye	14.37	326	⇓Pn	P	20 18 16.3	-3.9
	comp=Z,30nm,1.0s						
BRVK	Borovoye	14.37	326	Pn	Pn	20 18 12.0	-1.1
	comp=Z,22nm,0.8s						
TAPN	Taplejung	14.86	166	eP	Pn	20 18 19.6	-0.6
	comp=Z,43nm,0.8s						
KUDL	Kundal	14.88	205	e4	Pn	20 18 17.8	-2.5
KUDL				e4	Sn	20 20 59.2	-6.0
RAMN	Ramite	15.07	170	eP	Pn	20 18 22.6	-0.5
	comp=Z,136nm,0.4s						
ODAN	Odare	15.28	167	eP	Pn	20 18 25.0	-0.8
	comp=Z,36nm,0.5s						
LZH	Lanzhou	16.71	104	eP	Pn	20 18 42.5	-1.7
LZH				pP	P	20 18 47.5	+1.0
LZH				sP	sP	20 18 50.0	-0.6
LZH				pmax	pmax		
	comp=Z,17nm,1.0s						
SONM	Songino Array	17.17	62	Pn	Pn	20 18 48.1	-1.7
SONM				Lg	Lg	20 24 00.8	
SONM	Songino Array	17.17	62	Pn	Pn	20 18 48.1	-1.7
	baz=252,slow=14,SNR=10						
SONM				Lg	Lg	20 24 00.8	
	baz=267,slow=24,SNR=7.0						
ULN	Ulaanbaatar	17.61	62	eP	Pn	20 18 54.6	-0.7
	comp=Z,9.0nm,1.0s						
ULN	Ulaanbaatar	17.61	62	ePn	Pn	20 18 54.2	-1.1
SHL	Shillong	17.62	155	eP	Pn	20 18 55.2	-0.4
SHL				ex	x	20 22 17.0	
BOK	Bokaro	18.11	173	eP	Pn	20 19 01.5	0.0
AB31	Akbulak array	18.12	302	⇑Pn	Pn	20 19 00.9	-0.6
	comp=Z,2.0nm,0.5s,baz=101,slow=11,SNR=31						
AB31				⇑Lg	Lg	20 24 36.6	
	comp=Z,24nm,1.5s,baz=108,slow=24,SNR=3.7						
ABKAR	Akbulak array	18.12	302	ePn	Pn	20 19 01.0	-0.5
	comp=Z,3.2nm,0.5s						
BHPL	Bhopal	19.29	198	eP	P	20 19 14.7	-0.1
BHPL				ex	x	20 21 49.3	
AKTO	Aktyubinsk	19.64	305	⇑Pn	P	20 19 18.5	0.0
	comp=Z,9.1nm,1.0s						
AKTO				⇓Lg	Lg	20 25 25.6	
	comp=Z,71nm,1.9s						
AKTO	Aktyubinsk	19.64	305	P	P	20 19 18.5	0.0
AKTO				S	Sn	20 23 04.2	+3.9
AKTO				Lg	Lg	20 25 17.8	
AKTO	Aktyubinsk	19.64	305	P	P	20 19 18.5	0.0
	baz=97,slow=14,SNR=15						
AKTO				S	Sn	20 23 04.2	+3.9
	comp=Z,0.1nm,0.3s,baz=53,slow=20,SNR=2.4						
AKTO				Lg	Lg	20 25 17.8	
	comp=Z,0.1nm,0.3s,baz=220,slow=19,SNR=3.8						
ENH	Enshi	23.78	111	eP	P	20 20 04.0	+1.4
	comp=Z,11nm,1.0s						
CHTO	Chiang Mai	26.41	146	eP	P	20 20 28.9	+2.2
	comp=Z,18nm,0.8s						
CM31	Chiang Mai Arr	26.73	146	eP	P	20 20 29.2	-0.3
	comp=Z,3.8nm,0.6s						
CMAR	Chiang Mai Arr	26.73	146	P	P	20 20 31.1	+1.6
CMAR	Chiang Mai Arr	26.73	146	P	P	20 20 31.1	+1.6
	comp=Z,3.4nm,0.8s,baz=322,slow=9.0,SNR=24						
KSAR	Wonju Array Be	34.06	83	P	P	20 21 32.1	-2.0
KSRS	Korea Array	34.08	82	P	P	20 21 32.1	-2.2
	comp=Z,0.5nm,0.6s,baz=285,slow=8.3,SNR=2.8						
JOF	Joensuu	36.87	323	ep	P	20 21 58.9	+0.9
	comp=Z,0.8nm,0.4s						
BR131	Keskin Array S	37.49	284	eP	P	20 22 05.0	+1.2
	comp=Z,1.6nm,0.7s						
BRTR	Keskin Array B	37.49	284	P	P	20 22 05.3	+1.5
BRTR	Keskin Array B	37.49	284	P	P	20 22 05.3	+1.5
	comp=Z,0.9nm,0.7s,baz=98,slow=8.9,SNR=4.1						
AKASG	Malin Array Be	37.87	303	P	P	20 22 06.5	-0.1
AKASG	Malin Array Be	37.87	303	P	P	20 22 06.5	-0.1
	comp=Z,0.7nm,0.6s,baz=64,slow=9.6,SNR=3.4						
MMAI	Mount Meron Ar	38.88	273	P	P	20 22 18.2	+2.8
MMAI	Mount Meron Ar	38.88	273	P	P	20 22 18.2	+2.8
	comp=Z,0.7nm,0.5s,baz=55,slow=11,SNR=3.8						
KAF	Kangasniemi	39.08	321	ep	P	20 22 12.9	-3.7
	comp=Z,0.3nm,0.3s						
FINES	FINESS Array B	39.15	320	P	P	20 22 17.5	+0.3
FINES	FINESS Array B	39.15	320	P	P	20 22 17.5	+0.3
	comp=Z,2.3nm,0.8s,baz=70,slow=2.2,SNR=5.1						
KEV	Kevo	39.98	333	ep	P	20 22 22.8	-1.3
	comp=

comp=Z,7.0nm,1.0s
WRA Warramunga Arr 77.30 132 P P 20 26 46.1 +1.5
WRA Warramunga Arr 77.30 132 P P 20 26 46.1 +1.5
comp=Z,2.3nm,0.8s,baz=332,slow=5.8,SNR=6.9
ASAR Alice Springs 80.06 134 P P 20 27 00.7 +1.0
ASAR Alice Springs 80.06 134 P P 20 27 00.7 +1.0
comp=Z,2.1nm,0.9s,baz=322,slow=5.7,SNR=8.1
PDAR Pinedale Array 94.92 10 P P 20 28 11.5 -1.0
PDAR Pinedale Array 94.92 10 P P 20 28 11.5 -1.0
comp=Z,0.3nm,0.6s,baz=358,slow=4.8,SNR=2.5
APG El Apazote 123.16 353 PKP PKPdf 20 33 45.8 -1.6
APG El Apazote 123.16 353 PKP PKPdf 20 33 45.8 -1.6
comp=Z,2.5nm,0.5s,baz=188,slow=7.1,SNR=5.9
JTS JuntasAbangare 127.06 346 PKP PKPdf 20 33 54.6 0.0
JTS JuntasAbangare 127.06 346 PKP PKPdf 20 33 54.6 0.0
comp=Z,6.6nm,0.9s,baz=54,slow=14,SNR=2.1
CPUP Villa Florida 144.50 283 PKP PKPbc 20 34 25.3 +0.2
CPUP Villa Florida 144.50 283 PKP PKPbc 20 34 25.3 +0.2
comp=Z,0.5nm,0.3s,baz=0.0,slow=3.0,SNR=3.1
LPAZ La Paz 144.83 308 PKP PKPab 20 34 26.5 -0.5
LPAZ La Paz 144.83 308 PKP PKPab 20 34 26.5 -0.5
comp=Z,0.8nm,0.7s,baz=0.0,slow=5.1,SNR=2.7

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*IDC **29** 20:16:01.4±0.8, 15.°93S×173.°35W, h0km, mb4.3/10, mb1 4.5/10, mb1mx4.3/19, mbtmp4.3/10, Error ellipse: s-maj=38.1km s-min=20.1km az=141.0*
*NEIC **29** 20:16:02.3±0.5, 16.°06S×173.°17W, h10km, mb4.6/4, Error ellipse: s-maj=19.5km s-min=14.0km az=173.0*
*AUST **29** 20:16:03.4±11.0, 15.°94S×172.°29W, h65km, Error ellipse: s-maj=7.3km s-min=1.6km az=19.0*

ISC 29 20:16:04.9±0.5, 16.°1S±0.°1×173.°1W±0.°1, h26km, n44, σ1§25/42, mb4.4/13, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	Niue	4.28	135	P	Pn	20 17 00.4	-7.9
	baz=3.9,SNR=5.7						
RAR	Rarotonga	13.65	114	ePn	Pn	20 19 14.7	-2.2
CMSA	Cobar Meteorol	40.45	240	P	P	20 23 40.3	-1.1
	baz=41,SNR=8.5						
STKA	Stephens Creek	43.94	241	eP	P	20 24 08.8	-1.1
	1.1nm,0.8s						
STKA	Stephens Creek	43.94	241	P	P	20 24 09.1	-0.7
	9.6nm,0.8s,baz=78,slow=10.0,SNR=8.3						
STKA	Stephens Creek	43.94	241	P	P	20 24 09.3	-0.6
	baz=45,SNR=7.3						
WRAB	Tennant Creek	49.94	257	eP	P	20 24 55.6	-1.4
	3.1nm,0.4s						
WRA	Warramunga Arr	49.95	257	P	P	20 24 55.1	-2.0
WRA	Warramunga Arr	49.95	257	P	P	20 24 55.1	-2.0
	1.6nm,0.4s,baz=95,slow=7.1,SNR=14						
ASAR	Alice Springs	50.16	252	P	P	20 24 56.9	-1.7
ASAR	Alice Springs	50.16	252	P	P	20 24 56.9	-1.7
	13nm,0.8s,baz=90,slow=7.7,SNR=19						
KNRA	Kununurra	55.73	262	P	P	20 25 38.7	-1.0
	baz=56,SNR=4.4						
FITZ	Fitzroy Crossi	58.33	258	P	P	20 25 57.4	-0.8
FITZ	Fitzroy Crossi	58.33	258	P	P	20 25 57.4	-0.8
	0.9nm,0.5s,baz=102,slow=6.3,SNR=7.5						
FITZ	Fitzroy Crossi	58.33	258	P	P	20 25 57.6	-0.6
	baz=59,SNR=4.7						
SBA	Scott Base	62.62	185	P	P	20 26 28.9	+2.4
	4.5nm,1.0s						
VNDA	Vanda	62.75	186	P	P	20 26 29.6	+2.2
VNDA	Vanda	62.75	186	P	P	20 26 29.6	+2.2
	2.1nm,1.1s,baz=6.4,slow=10,SNR=3.7						
MEEK	Meekatharra	63.81	248	P	P	20 26 34.5	-0.8
	baz=64,SNR=3.9						
QSPA	South Pole Qui	73.99	180	eP	P	20 27 39.0	+1.0
	6.1nm,0.8s						
TXAR	Lajitas Array	80.76	56	P	P	20 28 17.9	+1.3
TXAR	Lajitas Array	80.76	56	P	P	20 28 17.9	+1.3
	0.2nm,0.4s,baz=211,slow=6.2,SNR=3.2						
PDAR	Pinedale Array	82.58	42	P	P	20 28 25.7	-0.3
PDAR	Pinedale Array	82.58	42	P	P	20 28 25.7	-0.3
	1.0nm,0.8s,baz=232,slow=4.9,SNR=3.5						
ILAR	Eielson Array	83.04	11	P	P	20 28 26.8	-0.8
ILAR	Eielson Array	83.04	11	P	P	20 28 26.8	-0.8
	0.9nm,0.6s,baz=227,slow=6.2,SNR=6.3						
PPI	Padang Panjang	86.49	271	P	P	20 28 42.1	-4.0
	baz=87,SNR=3.7						
MAW	Mawson	87.25	199	P	P	20 28 48.6	-0.2
MAW	Mawson	87.25	199	P	P	20 28 48.6	-0.2
	4.9nm,1.0s,baz=134,slow=4.9,SNR=5.2						
CMAR	Chiang Mai Arr	93.07	288	P	P	20 29 18.1	+1.1
CMAR	Chiang Mai Arr	93.07	288	P	P	20 29 18.1	+1.1
	1.9nm,0.9s,baz=88,slow=2.7,SNR=10						
ARCES	ARCESS Array B	125.30	352	PKP	PKPdf	20 35 04.3	+1.5
ARCES	ARCESS Array B	125.30	352	PKP	PKPdf	20 35 04.3	+1.5
	2.3nm,0.9s,baz=46,slow=2.6,SNR=4.1						
CLL	Collm	144.50	353	ePKPdf	PKPab	20 35 37.0	-0.2
KMBO	Kilima Mbogo	145.48	243	PKPbc	PKPab	20 35 43.5	+1.3
KMBO	Kilima Mbogo	145.48	243	PKPbc	PKPab	20 35 43.5	+1.3
	5.9nm,1.0s,baz=107,slow=1.0,SNR=6.9						
VRAC	Vranov	145.91	349	PKPbc	PKPbc	20 35 41.8	-0.3
VRAC	Vranov	145.91	349	PKPbc	PKPbc	20 35 41.8	-0.3
	3.2nm,1.0s,baz=354,slow=5.3,SNR=2.8						
GERES	GERESS Array B	146.83	352	PKPbc	PKPbc	20 35 45.0	+0.1
GERES	GERESS Array B	146.83	352	PKPbc	PKPbc	20 35 45.0	+0.1
	0.7nm,0.7s,baz=356,slow=5.4,SNR=3.8						
BRTR	Keskin Array B	146.83	321	PKPbc	PKPbc	20 35 45.5	+0.2
BRTR	Keskin Array B	146.83	321	PKPbc	PKPbc	20 35 45.5	+0.2
	2.8nm,0.9s,baz=109,slow=2.6,SNR=5.1						
TORD	Torodi Ar. Bea	174.21	119	PKP	PKPdf	20 36 12.4	-0.8
TORD	Torodi Ar. Bea	174.21	119	PKP	PKPdf	20 36 12.4	-0.8
	0.9nm,0.8s,baz=307,slow=1.1,SNR=3.2						

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*IDC **29** 20:19:25.1±0.6, 16.°43S×172.°98W, h0km, mb4.3/18, mb1 4.4/18, mb1mx4.4/25, mbtmp4.3/18, Error ellipse: s-maj=24.1km s-min=15.7km az=135.0*
*NEIC **29** 20:19:26.6±0.4, 16.°25S×173.°14W, h10km, mb4.9/9, Error ellipse: s-maj=16.0km s-min=9.5km az=132.0*
*ISCJB **29** 20:19:28.6±0.5, 16.°31S±0.°09×173.°2W±0.°1, h32km, mb4.5/26, Error ellipse: s-maj=16.6km s-min=10.6km az=40.2*

ISC 29 20:19:30.1±0.5, 16.°4S±0.°1×173.°1W±0.°1, h32km, n76, σ1§22/80, mb4.5/26, 6C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	20.16	250	P	P	20 24 01.9	-0.1
DZM	Mont Dzumac	20.16	250	P	P	20 24 01.9	-0.1
	2.8nm,0.6s,baz=115,slow=14,SNR=2.9						
URZ	Urewera	23.46	200	P	P	20 24 37.5	+0.6
URZ	Urewera	23.46	200	P	P	20 24 37.5	+0.6
	8.9nm,0.5s,baz=36,slow=8.5,SNR=6.4						
CTA	Charters Tower	38.75	258	P	P	20 26 50.9	-1.0
CTA	Charters Tower	38.75	258	P	P	20 26 50.9	-1.0
	1.0nm,0.3s,baz=69,slow=14,SNR=2.5						
STKA	Stephens Creek	43.84	241	P	P	20 27 32.9	-0.7
STKA	Stephens Creek	43.84	241	P	P	20 27 32.9	-0.7
	5.4nm,0.9s,baz=39,slow=5.7,SNR=4.9						
WRAB	Tennant Creek	49.94	258	P	P	20 28 18.7	-2.7
	5.9nm,1.0s						
WRA	Warramunga Arr	49.95	258	P	P	20 28 21.2	-0.2
WRA	Warramunga Arr	49.95	258	P	P	20 28 21.2	-0.2
	2.9nm,1.1s,baz=92,slow=7.0,SNR=6.8						
ASAR	Alice Springs	50.13	253	P	P	20 28 21.1	-1.7
ASAR	Alice Springs	50.13	253	P	P	20 28 21.1	-1.7
	10nm,0.7s,baz=88,slow=8.2,SNR=19						
FITZ	Fitzroy Crossi	58.33	259	P	P	20 29 21.6	-1.0
FITZ	Fitzroy Crossi	58.33	259	P	P	20 29 21.6	-1.0
	2.2nm,1.0s,baz=30,slow=8.7,SNR=2.2						
BATI	Baumata	61.69	267	P	P	20 29 47.4	+1.6
BATI	Baumata	61.69	267	P	P	20 29 47.4	+1.6
	8.5nm,0.6s,baz=252,slow=2.7,SNR=3.9						
SBA	Scott Base	62.32	185	P	P	20 29 49.3	+0.4
	3.9nm,1.0s						
VNDA	Vanda	62.45	186	P	P	20 29 49.0	-0.8
VNDA	Vanda	62.45	186	P	P	20 29 49.0	-0.8
	0.9nm,0.9s,baz=355,slow=10,SNR=3.9						
MBWA	Marble Bar	63.41	254	eP	P	20 29 57.2	+0.1
	14nm,0.9s						
CASY	Casey	69.67	205	P	P	20 30 37.0	+0.8
	15nm,1.4s						
ASAJ	Asahikawa	72.53	328	P	P	20 30 56.3	+2.4
ASAJ	Asahikawa	72.53	328	P	P	20 30 56.3	+2.4
	11nm,0.8s,baz=136,slow=24,SNR=4.2						
PETK	Petropavlovsk-	73.64	342	P	P	20 31 00.5	+0.3
PETK	Petropavlovsk-	73.64	342	P	P	20 31 00.5	+0.3
	5.7nm,0.9s,baz=138,slow=6.9,SNR=5.7						
QSPA	South Pole Qui	73.69	180	eP	P	20 31 01.6	+1.0
	8.9nm,1.1s						
KSM	Kuching	77.60	275	P	P	20 31 21.8	-2.0
	13nm,1.1s						
USRK	Ussuriysk Arra	78.34	323	P	P	20 31 27.8	+0.6
	3.0nm,0.9s,baz=100,slow=5.8,SNR=7.5						
TXAR	Lajitas Array	80.88	56	P	P	20 31 42.6	+1.0
TXAR	Lajitas Array	80.88	56	P	P	20 31 42.6	+1.0
	0.3nm,0.6s,baz=255,slow=3.5,SNR=4.0						
ANMO	Albuquerque	81.17	50	P	P	20 31 43.1	0.0
ANMO	Albuquerque	81.17	50	P	P	20 31 43.1	0.0
	1.3nm,0.8s,baz=209,slow=5.5,SNR=2.0						
MCK	McKinley	82.01	11	eP	P	20 31 45.4	-1.2
	12nm,0.9s						
PDAR	Pinedale Array	82.77	42	P	P	20 31 50.8	-0.6
PDAR	Pinedale Array	82.77	42	P	P	20 31 50.8	-0.6
	1.9nm,1.0s,baz=168,slow=1.4,SNR=5.0						
COLA	College	83.25	11	eP	P	20 31 52.1	-0.9
	64nm,1.1s						
ILAR	Eielson Array	83.33	11	P	P	20 31 52.6	-0.8
ILAR	Eielson Array	83.33	11	P	P	20 31 52.6	-0.8
	4.5nm,1.2s,baz=214,slow=5.4,SNR=8.9						
EGAK	Eagle	84.48	13	eP	P	20 31 58.4	-0.9
	5.6nm,1.0s						
MAW	Mawson	86.99	199	P	P	20 32 13.6	+1.8
MAW	Mawson	86.99	199	P	P	20 32 13.6	+1.8
	1.5nm,0.8s,baz=139,slow=11,SNR=3.2						
CMAR	Chiang Mai Arr	93.22	288	P	P	20 32 44.2	+2.1
CMAR	Chiang Mai Arr	93.22	288	P	P	20 32 44.2	+2.1
	0.8nm,0.6s,baz=102,slow=2.4,SNR=4.1						
SPITS	Spitsbergen Ar	117.99	358	PKP	PKPdf	20 38 11.1	-1.8
SPITS	Spitsbergen Ar	117.99	358	PKP	PKPdf	20 38 11.1	-1.8
	6.3nm,0.7s,baz=4.7,slow=8.8,SNR=5.3						
KWP	Kalwaria Pacla	144.44	342	⇑iP	PKPdf	20 39 02.3	-0.9
MALT	Malatya	144.77	315	⇑iP	PKPdf	20 39 05.6	+1.4
CLL	Collm	144.81	353	ePKPdf	PKPab	20 39 02.0	-0.7
	comp=Z,15nm,1.6s						
BRG	Berggiesshubel	145.12	352	eP	PKPdf	20 39 03.7	-0.6
	comp=Z,6.6nm,1.4s						
UPC	Upice	145.16	350	ePKP	PKPdf	20 39 04.5	+0.1
UPC				ex	x	20 39 20.0	
DPC	Dobruska-Polom	145.26	349	i PKP	PKPdf	20 39 05.2	+0.6
DPC				epPKP	PKiKP	20 39 10.6	+2.0
DPC				ex	x	20 39 17.0	
PVCC	Panska Ves	145.37	351	ePKP	PKPab	20 39 05.0	+0.2
BURAR	Bucovina Array	145.38	338	⇑iP	PKPab	20 39 06.1	+1.0
KMBO	Kilima Mbogo	145.40	243	PKPbc	PKPab	20 39 07.5	+1.2
KMBO	Kilima Mbogo	145.40	243	PKPbc	PKPab	20 39 07.5	+1.2
	comp=Z,7.7nm,1.0s,baz=64,slow=3.1,SNR=9.6						
OKC	Ostrava-Krasne	145.40	347	i PKP	PKPab	20 39 05.2	+0.3
OKC				ex	x	20 39 17.3	
MORC	Moravsky Berou	145.58	348	⇑iP	PKPab	20 39 05.6	-0.1
TESR	Tescani	145.76	336	⇑iP	PKPdf	20 39 05.1	-0.4
TLCR		145.89	332	⇑iP	PKPab	20 39 07.5	+0.6
PRU	Pruhonice	145.90	351	i PKP	PKPab	20 39 06.8	0.0
PRU				epPKP	PKiKP	20 39 11.8	+2.0
PRU				ex	x	20 39 18.7	
VRAC	Vranov	146.22	349	PKPbc	PKPbc	20 39 07.0	-0.3
VRAC	Vranov	146.22	349	PKPbc	PKPbc	20 39 07.0	-0.3
	comp=Z,1.8nm,0.5s,baz=284,slow=2.6,SNR=6.6						
KHC	Kasperske Hory	146.87	352	ePKP	PKPab	20 39 09.6	-1.0
KHC				ex	x	20 39 23.6	
KHC	Kasperske Hory	146.87	352	ePKPdf	PKPdf	20 39 05.5	-1.9
MLR	Muntele Rosu	146.88	335	PKPbc	PKPab	20 39 10.0	-0.8
MLR	Muntele Rosu	146.88	335	PKPbc	PKPab	20 39 10.0	-0.8
	comp=Z,0.9nm,0.8s,baz=2.9,slow=1.6,SNR=5.8						
BR131	Keskin Array S	147.10	320	ePKPdf	PKPab	20 39 11.2	-0.8
BRTR	Keskin Array B	147.10	320	PKPbc	PKPab	20 39 11.2	-0.8
BRTR	Keskin Array B	147.10	320	PKPbc	PKPab	20 39 11.2	-0.8
	comp=Z,3.3nm,0.8s,baz=128,slow=2.3,SNR=12						
GERES	GERESS Array B	147.14	352	PKPbc	PKPbc	20 39 10.0	-0.1
GERES	GERESS Array B	147.14	352	PKPbc	PKPbc	20 39 10.0	-0.1
	comp=Z,2.4nm,1.0s,baz=38,slow=2.4,SNR=11						
BFO	Black Forest	148.10	358	ePKPbc	PKPbc	20 39 13.2	+0.6
BNI	Bardonecchia	151.40	0	ePKPbc	PKPbc	20 39 20.8	-0.2
TORD	Torodi Ar. Bea	174.00	122	PKP	PKPdf	20 39 36.1	-1.3
TORD				PKPab	PKPab	20 41 05.8	-2.7
TORD	Torodi Ar. Bea	174.00	122	PKP	PKPdf	20 39 36.1	-1.3
	comp=Z,1.8nm,1.2s,baz=262,slow=3.0,SNR=4.0						
TORD				PKPab	PKPab	20 41 05.8	-2.7
	comp=Z,1.0nm,0.8s,baz=244,slow=4.5,SNR=4.0						

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*ISCJB **29** 20:20:45.8±0.7, 15.°9S±0.°2×174.°0W±0.°2, h10km, mb4.2/9, Error ellipse: s-maj=38.9km s-min=16.2km az=141.9*
*IDC **29** 20:20:45.4±1.6, 15.°89S×173.°94W, h0km, mb4.0/6, mb1 4.4/6, mb1mx4.0/17, mbtmp4.0/6, Error ellipse: s-maj=96.4km s-min=22.1km az=147.0*
*NEIC **29** 20:20:46.7±0.6, 15.°64S×174.°02W, h10km, mb4.7/3, Error ellipse: s-maj=36.3km s-min=14.5km az=145.0*

ISC 29 20:20:46.9±0.8, 15.°7S±0.°2×174.°0W±0.°2, h10km, n22, σ1§17/19, mb4.2/9, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	Stephens Creek	43.35	240	P	P	20 28 49.8	+0.2
STKA	Stephens Creek	43.35	240	P	P	20 28 49.8	+0.2
	3.7nm,0.8s,baz=96,slow=9.4,SNR=5.9						
WRA	Warramunga Arr	49.19	257	P	P	20 29 35.3	-0.3
WRA	Warramunga Arr	49.19	257	P	P	20 29 35.3	-0.3
	1.2nm,0.9s,baz=94,slow=6.0,SNR=2.6						
ASAR	Alice Springs	49.44	252	P	P	20 29 38.4	+0.8
ASAR	Alice Springs	49.44	252	P	P	20 29 38.4	+0.8
	2.5nm,0.6s,baz=89,slow=8.0,SNR=2.9						
VNDA	Vanda	62.98	186	P	P	20 31 20.7	+7.3
QSPA	South Pole Qui	74.31	180	P	P	20 32 24.3	-0.1
	8.7nm,1.1s						
NV11	Mina Array Sit	75.07	42	P	P	20 32 27.3	-2.0
HWUT	Hardware Ranch	81.04	42	eP	P	20 33 02.5	0.0
	5.3nm,1.1s						
TXAR	Lajitas Array	81.29	56	P	P	20 33 04.1	+0.2
TXAR	Lajitas Array	81.29	56	P	P	20 33 04.1	+0.2
	0.8nm,0.6s,baz=225,slow=6.2,SNR=3.9						
MCK	McKinley	81.56	11	P	P	20 33 06.9	+2.4
	12nm,1.0s						
ILAR	Eielson Array	82.89	11	P	P	20 33 13.3	+2.0
ILAR	Eielson Array	82.89	11	P	P	20 33 13.3	+2.0
	1.1nm,0.8s,baz=217,slow=6.5,SNR=3.1						
PDAR	Pinedale Array	82.91	42	P	P	20 33 12.9	+0.6
PDAR	Pinedale Array	82.91	42	P	P	20 33 12.9	+0.6
	1.0nm,0.8s,baz=222,slow=3.6,SNR=3.6						
BRTR	Keskin Array B	146.04	320	PKPbc	PKPab	20 40 26.6	-1.5
BRTR	Keskin Array B	146.04	320	PKPbc	PKPab	20 40 26.6	-1.5
	1.4nm,0.8s,baz=61,slow=1.4,SNR=1.8						
KHC	Kasperske Hory	146.12	351	ePKP	PKPab	20 40 32.8	+4.8
KHC				ex	x	20 40 35.5	
GERES	GERESS Array B	146.38	351	PKPbc	PKPbc	20 40 27.0	-1.3
GERES	GERESS Array B	146.38	351	PKPbc	PKPbc	20 40 27.0	-1.3
	1.0nm,0.9s,baz=42,slow=1.6,SNR=2.0						

IDC 29 20:21:56.8±10.0, 16.°99S×179.°83E, h0km, mb4.2/3, mb1 4.6/3, mb1mx3.9/17, mbtmp4.2/3, Error ellipse: s-maj=452.9km s-min=38.0km az=143.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	43.16	259	P	P	20 29 59.3	-0.2
	4.0nm,1.0s,baz=90,slow=7.4,SNR=5.4						
ASAR	Alice Springs	43.43	253	P	P	20 30 01.7	-0.1
	6.7nm,0.9s,baz=85,slow=8.4,SNR=4.7						
ILAR	Eielson Array	85.38	14	P	P	20 34 35.6	0.0
	0.7nm,0.6s,baz=225,slow=6.9,SNR=5.5						

IDC 29 20:22:10.5±1.4, 15.°73S×173.°41W, h0km, mb4.1/6, Error ellipse: s-maj=74.3km s-min=30.9km az=148.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	Stephens Creek	43.87	240	P	P	20 30 18.9	+0.1
	4.2nm,0.9s,baz=75,slow=10,SNR=3.5						
WRA	Warramunga Arr	49.76	257	P	P	20 31 05.3	+0.1
	0.6nm,0.4s,baz=91,slow=6.8,SNR=7.2						
ASAR	Alice Springs	50.00	252	P	P	20 31 05.6	-1.5
	4.1nm,0.6s,baz=90,slow=7.4,SNR=5.7						
FITZ	Fitzroy Crossi	58.13	258	P	P	20 32 06.7	+0.2
	1.1nm,0.7s,baz=68,slow=14,SNR=2.8						
PDAR	Pinedale Array	82.52	42	P	P	20 34 34.8	-0.7
	0.8nm,0.8s,baz=290,slow=3.7,SNR=4.0						
MAW	Mawson	87.48	199	P	P	20 35 00.1	+0.3
	2.6nm,0.9s,baz=154,slow=5.4,SNR=3.7						
BRTR	Keskin Array B	146.41	321	PKPbc	PKPab	20 41 54.5	-0.3
	1.0nm,0.9s,baz=40,slow=0.6,SNR=3.7						

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*IDC **29** 20:24:26.0±0.6, 15.°28S×173.°18W, h0km, mb4.3/18, mb1 4.4/18, mb1mx4.4/23, mbtmp4.3/18, Error ellipse: s-maj=26.5km s-min=15.0km az=142.0*
*NEIC **29** 20:24:27.8±0.3, 15.°02S×173.°37W, h10km, mb4.6/8, Error ellipse: s-maj=15.6km s-min=9.0km az=134.0*
*ISCJB **29** 20:24:29.5±0.4, 15.°04S±0.°10×173.°39W±0.°10, h30km, mb4.4/27, Error ellipse: s-maj=16.9km s-min=10.2km az=138.1*

ISC 29 20:24:31.0±0.4, 15.°1S±0.°1×173.°35W±0.°09, h30km, n75, σ1§34/75, mb4.4/27, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	Afiamalu	1.92	52	ePn	Pn	20 24 53.5	-8.3
AFI				Sn	Sn	20 25 10.0	-15
AFI	Afiamalu	1.92	52	Pn	Pn	20 24 53.7	-8.1
	45nm,0.3s,baz=238,slow=19,SNR=2.0						
AFI				Sn	Sn	20 25 10.0	-15
	baz=218,slow=23,SNR=4.7						
RAR	Rarotonga	14.26	117	Pn	P	20 27 58.1	+0.2
RAR	Rarotonga	14.26	117	Pn	P	20 27 58.1	+0.2
	31nm,0.3s,baz=270,slow=20,SNR=11						
DZM	Mont Dzumac	20.36	247	P	P	20 29 06.0	+0.6
DZM	Mont Dzumac	20.36	247	P	P	20 29 06.0	+0.6
	4.9nm,1.0s,baz=74,slow=19,SNR=2.4						
RPZ	Rata Peaks	31.48	202	P	P	20 30 47.5	-2.6
RPZ	Rata Peaks	31.48	202	P	P	20 30 47.5	-2.6
	5.3nm,0.7s,baz=58,slow=9.5,SNR=2.1						
PMG	Port Moresby	38.96	274	P	P	20 31 52.6	-2.3
PMG	Port Moresby	38.96	274	P	P	20 31 52.6	-2.3
	3.3nm,0.3s,baz=287,slow=11,SNR=2.3						
STKA	Stephens Creek	44.23	240	P	P	20 32 38.4	+0.5
	0.6nm,0.8s						
STKA	Stephens Creek	44.23	240	P	P	20 32 38.9	+1.0
	2.5nm,0.7s,baz=241,slow=14,SNR=3.5						
WRA	Warramunga Arr	49.96	257	P	P	20 33 21.5	-1.2
WRA	Warramunga Arr	49.96	257	P	P	20 33 21.5	-1.2
	1.7nm,0.8s,baz=90,slow=7.3,SNR=7.3						
ASAR	Alice Springs	50.25	252	P	P	20 33 23.2	-1.7
ASAR	Alice Springs	50.25	252	P	P	20 33 23.2	-1.7
	9.3nm,0.8s,baz=84,slow=8.7,SNR=17						
SBA	Scott Base	63.56	185	eP	P	20 35 00.3	+2.0
	5.1nm,0.9s						
VNDA	Vanda	63.69	186	eP	P	20 34 59.8	+0.6
	4.4nm,1.0s						
VNDA	Vanda	63.69	186	P	P	20 35 00.9	+1.8
	3.5nm,0.9s,baz=2.9,slow=6.4,SNR=13						
PETK	Petropavlovsk-	72.36	342	P	P	20 35 54.1	+0.3
PETK	Petropavlovsk-	72.36	342	P	P	20 35 54.1	+0.3
	4.7nm,0.8s,baz=134,slow=8.5,SNR=5.1						
LPIG	La Paz	72.83	58	P	P	20 35 57.4	0.0
LPIG	La Paz	72.83	58	P	P	20 35 57.4	0.0
	73nm,0.3s,baz=224,slow=1.7,SNR=4.8						
QSPA	South Pole Qui	74.95	180	eP	P	20 36 10.1	+0.9
	15nm,1.0s						
KSRS	Korea Array	75.98	315	P	P	20 36 17.4	+2.1
	3.2nm,1.0s,baz=126,slow=7.4,SNR=12						
KSAR	Wonju Array Be	76.00	315	P	P	20 36 17.4	+2.0
USRK	Ussuriysk Arra	77.16	323	P	P	20 36 24.8	+2.9
	0.3nm,0.4s,baz=93,slow=7.2,SNR=4.0						
KSM	Kuching	77.21	275	P	P	20 36 23.4	+0.5
HLID	Hailey	79.36	39	eP	P	20 36 34.0	-0.4
	4.6nm,1.0s						
TXAR	Lajitas Array	80.40	56	P	P	20 36 41.3	+1.1
TXAR	Lajitas Array	80.40	56	P	P	20 36 41.3	+1.1
	1.3nm,1.0s,baz=224,slow=7.0,SNR=5.0						
ANMO	Albuquerque	80.57	50	P	P	20 36 40.7	-0.4
ANMO	Albuquerque	80.57	50	P	P	20 36 41.9	+0.8
	0.7nm,0.3s,baz=270,slow=9.9,SNR=2.7						
MCK	McKinley	80.81	11	eP	P	20 36 40.2	-1.3
	7.6nm,0.8s						
RRI2	Red Ridge	81.17	41	eP	P	20 36 43.6	-0.6
	3.4nm,0.9s						
DLBC	Dease Lake	81.40	21	P	P	20 36 44.1	-0.7
DLBC	Dease Lake	81.40	21	P	P	20 36 44.1	-0.7
	0.6nm,0.3s,baz=141,slow=13,SNR=3.0						
TPAW	Teton Pass	81.47	41	P	P	20 36 45.2	-0.7
	3.2nm,0.9s						
PDAR	Pinedale Array	82.00	42	P	P	20 36 47.9	-0.7
PDAR	Pinedale Array	82.00	42	P	P	20 36 47.9	-0.7

baz=48,slow=22,SNR=8.7
AFI LR LR 20 32 45.6
comp=Z,14μm,21.7s,baz=280,slow=41
NIUE Niue 4.48 134 P Pn 20 32 10.0 -11
baz=4.0,SNR=12
NIUE S Sn 20 32 54.0 -17
baz=4.0,SNR=6.6
DZM Mont Dzumac 20.09 249 P **P 20 35 41.9 -0.7**
DZM Mont Dzumac 20.09 249 P **P 20 35 41.9 -0.7**
7.0nm,0.9s,baz=69,slow=17,SNR=3.6
URZ Urewera 23.78 199 P **P 20 36 19.0 -1.4**
URZ Urewera 23.78 199 P **P 20 36 19.0 -1.4**
19nm,0.6s,baz=4.2,slow=12,SNR=7.2
RPZ Rata Peaks 30.71 203 P **P 20 37 22.8 +0.2**
RPZ Rata Peaks 30.71 203 P **P 20 37 22.8 +0.2**
4.1nm,0.6s,baz=324,slow=8.7,SNR=2.0
EIDS Eidsvold 34.53 248 *eP* **P 20 37 53.5 -2.6**
3.9nm,0.8s
ARMA Armidale 35.14 240 P **P 20 38 00.8 -0.7**
baz=36,SNR=5.8
RMQ Roma 36.77 247 P **P 20 38 14.9 -0.4**
baz=37,SNR=3.9
CTA Charters Tower 38.61 258 P **P 20 38 30.9 -0.1**
CTA Charters Tower 38.61 258 P **P 20 38 30.9 -0.1**
2.5nm,0.7s,baz=83,slow=8.1,SNR=3.0
CMSA Cobar Meteorol 40.36 240 P **P 20 38 44.3 -1.1**
baz=41,SNR=27
MTSU Mount Surprise 40.52 261 P **P 20 38 48.4 +1.6**
baz=41,SNR=4.3
QLP Quilpie 40.80 248 P **P 20 38 47.8 -1.2**
baz=42,SNR=3.8
COEN Coen 42.04 267 P **P 20 39 00.3 +1.0**
baz=43,SNR=4.3
STKA Stephens Creek 43.85 240 *eP* **P 20 39 12.5 -1.3**
2.2nm,0.8s
STKA Stephens Creek 43.85 240 P **P 20 39 13.0 -0.8**
12nm,0.7s,baz=91,slow=10,SNR=22
STKA Stephens Creek 43.85 240 P **P 20 39 13.1 -0.6**
baz=44,SNR=13
BBOO Buckleboo 48.62 240 P **P 20 39 50.3 -0.9**
baz=49,SNR=8.1
WRAB Tennant Creek 49.80 257 *eP* **P 20 39 59.3 -1.1**
8.2nm,1.1s
WRA Warramunga Arr 49.81 257 P **P 20 39 59.9 -0.5**
WRA Warramunga Arr 49.81 257 P **P 20 39 59.9 -0.5**
2.0nm,0.4s,baz=92,slow=7.3,SNR=32
AS31 Alice Springs 50.03 252 *eP* **P 20 40 00.7 -1.4**
ASAR Alice Springs 50.03 252 P **P 20 40 01.2 -0.9**
ASAR Alice Springs 50.03 252 P **P 20 40 01.2 -0.9**
20nm,0.7s,baz=85,slow=8.5,SNR=76
KDU Kakadu 52.52 266 P **P 20 40 21.1 +0.4**
baz=53,SNR=4.4
KNRA Kununurra 55.58 262 P **P 20 40 42.8 -0.2**
baz=56,SNR=12
SWI Sorong 56.65 280 P **P 20 40 51.4 +0.7**
baz=57,SNR=4.5
FITZ Fitzroy Crossi 58.19 258 P **P 20 41 01.1 -0.4**
FITZ Fitzroy Crossi 58.19 258 P **P 20 41 01.1 -0.4**
2.1nm,0.6s,baz=90,slow=4.8,SNR=11
FITZ Fitzroy Crossi 58.19 258 P **P 20 41 01.6 +0.1**
baz=59,SNR=8.3
SOEI Soe 61.00 268 P **P 20 41 23.1 +2.1**
baz=62,SNR=6.5
SBA Scott Base 62.72 185 *eP* **P 20 41 33.0 +1.7**
5.8nm,1.0s
VNDA Vanda 62.84 186 *eP* **P 20 41 32.7 +0.6**
5.2nm,1.1s
VNDA Vanda 62.84 186 P **P 20 41 33.3 +1.1**
2.1nm,0.8s,baz=16,slow=7.1,SNR=8.7
MBWA Marble Bar 63.30 254 *eP* **P 20 41 36.0 -0.2**
7.1nm,0.6s
MEEK Meekatharra 63.69 248 P **P 20 41 38.3 -0.4**
baz=64,SNR=6.3
KLBR Kellerberrin 64.07 242 P **P 20 41 41.0 0.0**
baz=65,SNR=9.8
BLDU Ballidu 65.03 243 P **P 20 41 47.1 -0.2**
baz=66,SNR=5.7
CASY Casey 69.95 205 P **P 20 42 16.2 -1.5**
PETK Petropavlovsk- 73.18 342 P **P 20 42 36.6 -0.6**
PETK Petropavlovsk- 73.18 342 P **P 20 42 36.6 -0.6**
2.0nm,0.6s,baz=140,slow=11,SNR=3.7
QSPA South Pole Qui 74.10 180 *eP* **P 20 42 42.6 -0.1**
7.4nm,0.8s
KSM Kuching 77.33 275 P P 20 43 05.1 +3.2
TXAR Lajitas Array 80.84 56 P **P 20 43 21.1 +0.3**
TXAR Lajitas Array 80.84 56 P **P 20 43 21.1 +0.3**
0.4nm,0.6s,baz=229,slow=9.6,SNR=3.8
PDAR Pinedale Array 82.61 42 P **P 20 43 28.6 -1.4**
PDAR Pinedale Array 82.61 42 P **P 20 43 28.6 -1.4**
0.7nm,0.8s,baz=201,slow=1.9,SNR=3.6
ILAR Eielson Array 82.96 11 P **P 20 43 30.9 -0.2**
ILAR Eielson Array 82.96 11 P **P 20 43 30.9 -0.2**
1.1nm,0.6s,baz=222,slow=6.1,SNR=8.9
MAW Mawson 87.31 199 P **P 20 43 53.8 +1.0**
MAW Mawson 87.31 199 P **P 20 43 53.8 +1.0**
5.4nm,1.0s,baz=143,slow=5.3,SNR=7.3
MAW Mawson 87.31 199 P **P 20 43 54.3 +1.4**
baz=87,SNR=5.3
CMAR Chiang Mai Arr 92.87 288 P **P 20 44 22.2 +2.4**
CMAR Chiang Mai Arr 92.87 288 P **P 20 44 22.2 +2.4**
1.8nm,0.7s,baz=86,slow=2.3,SNR=16
ARCES ARCESS Array B 125.16 352 PKP **PKPdf 20 50 06.8 +0.8**
ARCES ARCESS Array B 125.16 352 PKP **PKPdf 20 50 06.8 +0.8**
2.2nm,0.8s,baz=46,slow=2.6,SNR=4.3
FINES FINESS Array B 132.49 348 PKP **PKPdf 20 50 20.2 +0.2**
FINES FINESS Array B 132.49 348 PKP **PKPdf 20 50 20.2 +0.2**
1.4nm,0.8s,baz=25,slow=3.7,SNR=4.6
AKASG Malin Array Be 140.88 337 PKP **PKPdf 20 50 36.9 +1.0**
AKASG Malin Array Be 140.88 337 PKP **PKPdf 20 50 36.9 +1.0**
0.3nm,0.4s,baz=24,slow=2.1,SNR=3.1
CLL Collm 144.37 353 *e*PKPdf **PKPdf 20 50 42.0 -0.1**
KMBO Kilima Mbogo 145.38 243 PKPbc **PKPab 20 50 47.4 +1.8**
KMBO Kilima Mbogo 145.38 243 PKPbc **PKPab 20 50 47.4 +1.8**
baz=98,slow=6.2,SNR=7.7
BR131 Keskin Array S 146.64 321 *e*PKPbc **PKPab 20 50 49.1 -0.3**
BRTR Keskin Array B 146.64 321 PKPbc **PKPab 20 50 49.5 +0.1**
BRTR Keskin Array B 146.64 321 PKPbc **PKPab 20 50 49.5 +0.1**
baz=120,slow=2.0,SNR=19
GERES GERESS Array B 146.69 352 PKPbc **PKPab 20 50 49.1 -0.2**
GERES GERESS Array B 146.69 352 PKPbc **PKPab 20 50 49.1 -0.2**
baz=20,slow=1.6,SNR=6.3
BFO Black Forest 147.68 358 *e*PKPbc **PKPab 20 50 52.5 -0.6**
MMAI Mount Meron Ar 148.98 308 PKPbc **PKPab 20 50 56.9 -2.1**
MMAI Mount Meron Ar 148.98 308 PKPbc **PKPab 20 50 56.9 -2.1**
baz=40,slow=2.7,SNR=6.8
DAVOX Davos/Dischmat 149.14 356 PKPbc **PKPab 20 50 56.4 -2.9**
DAVOX Davos/Dischmat 149.14 356 PKPbc **PKPab 20 50 56.4 -2.9**
baz=37,slow=3.3,SNR=3.6
CSS Prodhromos 149.55 313 *e*PKPbc **PKPbc 20 50 56.8 +0.9**

NEIC ***29*** *20:33:50.3±0.3, 16°.28S×172°.92W, h10km, mb4.6/14, Error ellipse: s-maj=14.5km s-min=8.3km az=151.0*
IDC ***29*** *20:33:50.2±0.5, 15°.75S×173°.20W, h0km, mb4.5/13, mb1 4.6/13, mb1mx4.4/22, mbtmp4.4/13, ML5.3/1, Error ellipse: s-maj=26.8km s-min=15.9km az=135.0*
ISCJB ***29*** *20:33:51.9±0.3, 16°.1S±0°.1×172°.92W±0°.08, h26km, mb4.6/28, MS5.0/1, Error ellipse: s-maj=16.9km s-min=7.9km az=148.6*
BJI ***29*** *20:33:51.0, 16°.12S×172°.25W, h17km, mB5.6/1, mb4.6/3, Ms5.3/1, Ms7 5.0/1*
ISC 29 20:33:54.0±0.4, 16°.05S±0°.09×172°.87W±0°.09, h26km, n85, σ1°56/79, mb4.5/28, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**8.85**	**258**	*e*Pn	Pn	20 36 08.0	+7.6
FUNA	**Funafuti**	**10.77**	**313**	Pn	Pn	20 36 34.5	+7.9
RAR	**Rarotonga**	**13.43**	**114**	Pn	**Pn**	**20 37 00.5**	**-2.5**
RAR	**Rarotonga**	**13.43**	**114**	Pn	**Pn**	**20 37 00.5**	**-2.5**
6.2nm,0.3s,baz=270,slow=8.1,SNR=3.0							
RAO	**Raoul Island**	**13.94**	**199**	Pn	**Pn**	**20 37 11.2**	**+1.3**
RAO	**Raoul Island**	**13.94**	**199**	Pn	**Pn**	**20 37 11.1**	**+1.3**
15nm,0.3s,baz=41,slow=20,SNR=2.8							
DZM	**Mont Dzumac**	**20.44**	**250**	P	Pn	20 38 30.2	-1.7
DZM	**Mont Dzumac**	**20.44**	**250**	P	Pn	20 38 30.2	-1.7
5.6nm,0.8s,baz=80,slow=18,SNR=2.8							
URZ	**Urewera**	**23.82**	**200**	*e*P	**P**	**20 39 02.4**	**-2.5**
34nm,0.8s							
URZ	**Urewera**	**23.82**	**200**	P	**P**	**20 39 07.5**	**+2.6**
4.6nm,0.3s,baz=100,slow=6.1,SNR=4.9							
RPZ	**Rata Peaks**	**30.78**	**203**	P	P	20 40 13.0	+5.6
RPZ	**Rata Peaks**	**30.78**	**203**	P	P	20 40 13.0	+5.6
6.6nm,0.7s,baz=37,slow=17,SNR=3.6							
CMSA	**Cobar Meteorol**	**40.67**	**240**	P	**P**	**20 41 31.3**	**-1.0**
baz=26,SNR=10							
STKA	**Stephens Creek**	**44.16**	**241**	P	**P**	**20 41 58.3**	**-2.5**
STKA	**Stephens Creek**	**44.16**	**241**	P	**P**	**20 41 58.3**	**-2.5**
5.5nm,0.7s,baz=97,slow=6.7,SNR=5.4							
STKA	**Stephens Creek**	**44.16**	**241**	P	**P**	**20 41 59.8**	**-1.0**
baz=29,SNR=6.4							
JAY	**Jayapura**	**47.62**	**282**	P	P	20 42 36.2	+7.9
baz=33,SNR=4.7							
WRAB	**Tennant Creek**	**50.19**	**257**	*e*P	**P**	**20 42 46.7**	**-1.3**
5.3nm,0.9s							
WRA	**Warramunga Arr**	**50.20**	**257**	P	P	20 42 44.7	-3.3
WRA	**Warramunga Arr**	**50.20**	**257**	P	P	20 42 44.7	-3.3
1.0nm,0.4s,baz=90,slow=7.4,SNR=13							
AS31	**Alice Springs**	**50.40**	**252**	*e*P	P	20 42 46.3	-3.2
ASAR	**Alice Springs**	**50.40**	**252**	P	**P**	**20 42 46.5**	**-3.1**
ASAR	**Alice Springs**	**50.40**	**252**	P	**P**	**20 42 46.5**	**-3.1**
7.7nm,0.7s,baz=90,slow=7.2,SNR=18							
KDU	**Kakadu**	**52.93**	**266**	P	**P**	**20 43 08.1**	**-0.5**
baz=36,SNR=3.9							
KNRA	**Kununurra**	**55.98**	**262**	P	**P**	**20 43 30.4**	**-0.3**
baz=40,SNR=3.1							
FITZ	**Fitzroy Crossi**	**58.58**	**258**	P	**P**	**20 43 50.8**	**+1.8**
baz=42,SNR=4.1							
SBA	**Scott Base**	**62.65**	**185**	P	P	20 44 11.1	-4.7
4.6nm,1.0s							
VNDA	**Vanda**	**62.78**	**186**	P	P	20 44 09.8	-6.9
1.6nm,1.0s							
VNDA	**Vanda**	**62.78**	**186**	P	P	20 44 19.9	+3.2
0.8nm,0.8s,baz=358,slow=8.2,SNR=3.7							
MBWA	**Marble Bar**	**63.67**	**254**	*e*P	**P**	**20 44 22.6**	**-0.9**
8.6nm,0.8s							
YBH	**Yreka Blue Hor**	**73.81**	**37**	P	**P**	**20 45 25.2**	**-1.2**
YBH	**Yreka Blue Hor**	**73.81**	**37**	P	**P**	**20 45 25.2**	**-1.2**
3.7nm,0.9s,baz=190,slow=8.7,SNR=3.1							
QSPA	**South Pole Qui**	**74.00**	**180**	*e*P	P	20 45 19.1	-8.1
4.1nm,1.1s							
NV11	**Mina Array Sit**	**74.57**	**42**	*e*P	**P**	**20 45 30.8**	**-0.2**
R11A	**Troy Canyon, C**	**76.18**	**43**	*e*P	**P**	**20 45 40.1**	**-0.1**
ELK	**Elko**	**77.73**	**41**	*e*P	**P**	**20 45 46.3**	**-2.7**
4.8nm,1.1s							
BMO	**Blue Mountains**	**78.84**	**37**	*e*P	**P**	**20 45 54.7**	**-0.2**
3.3nm,1.0s							
DUG	**Dugway**	**78.99**	**43**	*e*P	**P**	**20 45 55.9**	**0.0**
4.7nm,1.0s							
HLID	**Hailey**	**79.81**	**39**	*e*P	**P**	**20 46 00.7**	**+0.4**
8.6nm,1.1s							
MNTX	**Cornudas Mount**	**80.20**	**53**	*e*P	**P**	**20 46 02.9**	**+0.3**
8.8nm,1.4s							
TXAR	**Lajitas Array**	**80.55**	**56**	P	**P**	**20 46 05.2**	**+0.6**
TXAR	**Lajitas Array**	**80.55**	**56**	P	**P**	**20 46 05.2**	**+0.6**
4.4nm,1.1s,baz=227,slow=5.0,SNR=13							
PV01	**Paradox Valley**	**80.80**	**46**	P	**P**	**20 46 05.7**	**-0.2**
860nm,0.7s							
ANMO	**Albuquerque**	**80.83**	**50**	*e*P	**P**	**20 46 05.8**	**-0.3**
5.3nm,1.2s							
RRI2	**Red Ridge**	**81.59**	**40**	*e*P	**P**	**20 46 10.0**	**0.0**
15nm,1.7s							
BSMT	**Bassoo Peak**	**81.99**	**35**	*e*P	**P**	**20 46 11.4**	**-0.5**
10nm,1.2s							
PDAR	**Pinedale Array**	**82.41**	**42**	P	**P**	**20 46 13.1**	**-1.2**
PDAR	**Pinedale Array**	**82.41**	**42**	P	**P**	**20 46 13.0**	**-1.2**
4.0nm,1.0s,baz=235,slow=5.2,SNR=7.9							
YNR	**Norris Junctio**	**82.69**	**39**	*e*P	**P**	**20 46 16.1**	**+0.4**
COLA	**College**	**82.90**	**10**	P	P	20 46 23.5	+7.6
50nm,0.9s							
ILAR	**Eielson Array**	**82.98**	**11**	P	**P**	**20 46 15.5**	**-0.9**
ILAR	**Eielson Array**	**82.98**	**11**	P	**P**	**20 46 15.5**	**-0.9**
0.3nm,0.4s,baz=237,slow=6.3,SNR=4.2							
ABTX	**Abilene, Hawle**	**85.02**	**54**	*e*P	**P**	**20 46 27.4**	**-0.2**
MAW	**Mawson**	**87.34**	**198**	P	**P**	**20 46 39.7**	**+1.3**
MAW	**Mawson**	**87.34**	**198**	P	**P**	**20 46 39.7**	**+1.3**
2.4nm,1.0s,baz=127,slow=4.5,SNR=3.6							
HHC	**Hu-ho-hao-te**	**89.84**	**313**	*e*P	**P**	**20 46 53.5**	**+2.7**
HHC				sP	**sP**	**20 46 59.5**	**-2.8**
HHC				PP	PP	20 50 32.3	+8.6
HHC				SKS	**SKSac**	**20 57 23.0**	**+3.0**
HHC				S	**ScS**	**20 57 46.3**	**+0.5**
HHC				sS	**sS**	**20 57 53.0**	**-2.6**
HHC				SS	SS	21 03 50.8	+11
HHC				pmax	pmax		
comp=Z,330nm,8.2s							
HHC				LR	LR		
comp=N,310nm,17.8s							
HHC				LR	LR		
comp=E,500nm,16.7s							
HHC				LR	LR		
comp=Z,480nm,17.8s							
TEIG	**Tepich**	**90.53**	**69**	P	**P**	**20 46 55.5**	**+1.2**
TEIG	**Tepich**	**90.53**	**69**	P	**P**	**20 46 55.5**	**+1.2**
comp=Z,4.2nm,0.3s,baz=29,slow=2.8,SNR=2.8							
JTS	**JuntasAbangare**	**90.82**	**80**	P	**P**	**20 46 57.5**	**+1.7**
JTS	**JuntasAbangare**	**90.82**	**80**	P	**P**	**20 46 57.5**	**+1.7**
comp=Z,6.7nm,0.9s,baz=306,slow=9.7,SNR=3.7							
CMAR	**Chiang Mai Arr**	**93.30**	**288**	P	**P**	**20 47 06.7**	**-0.5**
CMAR	**Chiang Mai Arr**	**93.30**	**288**	P	**P**	**20 47 06.7**	**-0.5**
comp=Z,0.9nm,0.4s,baz=93,slow=3.8,SNR=5.9							
KSH	**Kashi**	**116.27**	**306**	*e*PKP	**PKPdf**	**20 52 37.8**	**+2.2**
KSH				PP	PP	20 53 53.8	+12
KSH				PKS	**PKSdf**	**20 56 13.0**	**+0.6**
KSH				SKS	**SKSdf**	**20 59 48.8**	**+2.6**
AKASG	**Malin Array Be**	**141.13**	**338**	PKP	**PKPdf**	**20 53 20.5**	**-1.6**
AKASG	**Malin Array Be**	**141.13**	**338**	PKP	**PKPdf**	**20 53 20.5**	**-1.6**
comp=Z,0.3nm,0.4s,baz=34,slow=4.4,SNR=2.8							
CLL	**Collm**	**144.51**	**354**	*e*(PKPdf)	**PKPdf**	**20 53 33.0**	**+5.0**
CLL				*e*		20 53 57.0	
DPC	**Dobruska-Polom**	**144.99**	**350**	*e*PKP	**PKPdf**	**20 53 29.2**	**+0.2**
DPC				*ex*	x	20 53 38.3	
DPC				*ex*	x	20 53 46.4	
OKC	**Ostrava-Krasne**	**145.13**	**348**	*e*PKP	**PKPdf**	**20 53 29.5**	**+0.3**
OKC				*ex*	x	20 53 39.3	
OKC				*ex*	x	20 53 46.8	
PRU	**Pruhonice**	**145.62**	**352**	*e*PKP	**PKPbc**	**20 53 30.3**	**+0.1**
PRU				*ex*	x	20 53 40.7	
PRU				*ex*	x	20 53 47.8	
PRU				*ex*	x	20 53 59.8	
KMBO	**Kilima Mbogo**	**145.71**	**243**	PKPbc	**PKPab**	**20 53 33.2**	**+0.9**
KMBO				*e*PKPdf	**PKiKP**	**20 53 34.7**	**-0.9**
KMBO	**Kilima Mbogo**	**145.71**	**243**	PKPbc	**PKPab**	**20 53 33.2**	**+0.9**
comp=Z,1.0nm,0.7s,baz=98,slow=2.7,SNR=3.2							
VRAC	**Vranov**	**145.94**	**349**	PKPbc	**PKPab**	**20 53 31.9**	**+0.1**
VRAC	**Vranov**	**145.94**	**349**	PKPbc	**PKPab**	**20 53 31.9**	**+0.1**
comp=Z,1.0nm,0.4s,baz=41,slow=11,SNR=2.5							
KHC	**Kasperske Hory**	**146.59**	**352**	*e*PKP	**PKPbc**	**20 53 33.6**	**+0.4**
KHC				*ex*	x	20 53 44.3	
KHC				*ex*	x	20 53 51.2	
MLR	**Muntele Rosu**	**146.67**	**336**	PKPbc	**PKPbc**	**20 53 33.1**	**-0.6**
MLR	**Muntele Rosu**	**146.67**	**336**	PKPbc	**PKPbc**	**20 53 33.1**	**-0.6**
comp=Z,0.5nm,0.6s,baz=225,slow=4.3,SNR=3.0							
BR131	**Keskin Array S**	**146.98**	**321**	*e*PKPbc	**PKPab**	**20 53 35.6**	**-0.7**
BRTR	**Keskin Array B**	**146.98**	**321**	PKPbc	**PKPbc**	**20 53 34.0**	**-0.8**
BRTR	**Keskin Array B**	**146.98**	**321**	PKPbc	**PKPbc**	**20 53 34.0**	**-0.8**
baz=112,slow=1.3,SNR=7.1							
DAVOX	**Davos/Dischmat**	**149.28**	**356**	PKPbc	**PKPbc**	**20 53 41.4**	**+0.6**
DAVOX	**Davos/Dischmat**	**149.28**	**356**	PKPbc	**PKPbc**	**20 53 41.4**	**+0.6**
comp=Z,1.4nm,0.5s,baz=280,slow=8.6,SNR=3.0							
MMAI	**Mount Meron Ar**	**149.37**	**309**	PKPbc	**PKPbc**	**20 53 41.3**	**+0.1**
MMAI	**Mount Meron Ar**	**149.37**	**309**	PKPbc	**PKPbc**	**20 53 41.3**	**+0.1**
comp=Z,0.3nm,0.3s,baz=144,slow=3.4,SNR=2.7							
TORD	**Torodi Ar. Bea**	**174.00**	**118**	PKP	**PKPdf**	**20 54 00.3**	**-2.0**
TORD				PKPab	**PKPab**	**20 55 33.6**	**+0.4**
TORD	**Torodi Ar. Bea**	**174.00**	**118**	PKP	**PKPdf**	**20 54 00.3**	**-2.0**
comp=Z,1.6nm,1.0s,baz=294,slow=1.4,SNR=6.1							
TORD				PKPab	**PKPab**	**20 55 33.6**	**+0.4**
baz=270,slow=5.9,SNR=4.1							

IDC ***29*** *20:36:58.6±0.8, 15°.16S×172°.35W, h0km, mb4.1/10, mb1 4.3/10, mb1mx4.2/19, mbtmp4.1/10, Error ellipse: s-maj=36.3km s-min=18.2km az=133.0*
NEIC ***29*** *20:37:00.0±0.5, 15°.03S×172°.48W, h10km, mb4.6/3, Error ellipse: s-maj=24.2km s-min=13.1km az=127.0*
ISCJB ***29*** *20:37:02.5±0.5, 15°.0S±0°.1×172°.5W±0°.1, h35km, mb4.2/14, Error ellipse: s-maj=24.5km s-min=13.3km az=136.8*
ISC 29 20:37:03.5±0.6, 14°.9S±0°.1×172°.4W±0°.2, h35km, n37, σ2°00/36, mb4.4/14, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.10**	**30**	*e*Pn	Pn	20 37 16.7	-5.7
AFI				Sn	**Sn**	**20 37 32.4**	**-4.2**
AFI	**Afiamalu**	**1.10**	**30**	Pn	Pn	20 37 17.3	-5.1
286nm,0.3s,baz=225,slow=17,SNR=5.4							
AFI				Sn	**Sn**	**20 37 32.4**	**-4.2**
baz=73,slow=15,SNR=6.1							
URZ	**Urewera**	**25.10**	**200**	P	**P**	**20 42 20.7**	**-4.2**
URZ	**Urewera**	**25.10**	**200**	P	**P**	**20 42 20.7**	**-4.2**
8.9nm,0.9s,baz=72,slow=9.6,SNR=2.4							
STKA	**Stephens Creek**	**45.18**	**240**	P	**P**	**20 45 14.8**	**-2.4**
STKA	**Stephens Creek**	**45.18**	**240**	P	**P**	**20 45 14.8**	**-2.4**
3.6nm,0.9s,baz=90,slow=11,SNR=3.5							
WRA	**Warramunga Arr**	**50.95**	**256**	P	**P**	**20 46 01.2**	**-0.8**
WRA	**Warramunga Arr**	**50.95**	**256**	P	**P**	**20 46 01.2**	**-0.8**
1.5nm,0.8s,baz=89,slow=7.0,SNR=5.2							
AS31	**Alice Springs**	**51.24**	**251**	*e*P	**P**	**20 46 03.1**	**-1.0**
ASAR	**Alice Springs**	**51.24**	**251**	P	**P**	**20 46 03.6**	**-0.5**
ASAR	**Alice Springs**	**51.24**	**251**	P	**P**	**20 46 03.6**	**-0.5**
4.5nm,0.8s,baz=84,slow=8.7,SNR=6.3							
FITZ	**Fitzroy Crossi**	**59.31**	**258**	P	**P**	**20 47 04.3**	**+2.0**
FITZ	**Fitzroy Crossi**	**59.31**	**258**	P	**P**	**20 47 04.3**	**+2.0**
3.2nm,1.1s,baz=167,slow=14,SNR=2.2							
SBA	**Scott Base**	**63.86**	**185**	P	**P**	**20 47 32.9**	**+0.8**
2.8nm,0.9s							
VNDA	**Vanda**	**64.01**	**186**	P	P	20 47 41.1	+8.1
0.7nm,0.5s,baz=342,slow=6.4,SNR=6.0							
PETK	**Petropavlovsk-**	**72.44**	**342**	P	**P**	**20 48 28.2**	**+2.2**
PETK	**Petropavlovsk-**	**72.44**	**342**	P	**P**	**20 48 28.2**	**+2.2**
3.3nm,0.8s,baz=159,slow=12,SNR=2.5							
QSPA	**South Pole Qui**	**75.17**	**180**	*e*P	**P**	**20 48 41.9**	**-0.3**
10nm,1.1s							
TXAR	**Lajitas Array**	**79.47**	**56**	P	**P**	**20 49 09.4**	**+2.5**
TXAR	**Lajitas Array**	**79.47**	**56**	P	**P**	**20 49 09.4**	**+2.5**
0.1nm,0.3s,baz=256,slow=3.6,SNR=2.6							
PV01	**Paradox Valley**	**79.62**	**46**	*e*P	**P**	**20 49 07.8**	**+0.1**
ANMO	**Albuquerque**	**79.69**	**50**	P	**P**	**20 49 09.2**	**+1.2**
MCK	**McKinley**	**80.42**	**10**	*e*P	**P**	**20 49 11.9**	**+0.9**
5.9nm,0.8s							
PDAR	**Pinedale Array**	**81.19**	**42**	P	**P**	**20 49 16.9**	**+0.9**
PDAR	**Pinedale Array**	**81.19**	**42**	P	**P**	**20 49 16.9**	**+0.9**
1.0nm,0.7s,baz=232,slow=3.6,SNR=5.8							
ILAR	**Eielson Array**	**81.73**	**11**	P	**P**	**20 49 19.4**	**+1.4**
ILAR	**Eielson Array**	**81.73**	**11**	P	**P**	**20 49 19.4**	**+1.4**
0.8nm,0.8s,baz=214,slow=6.3,SNR=3.5							
MAW	**Mawson**	**88.62**	**198**	P	**P**	**20 49 53.9**	**+1.3**
MAW	**Mawson**	**88.62**	**198**	P	**P**	**20 49 53.9**	**+1.3**
3.1nm,1.1s,baz=153,slow=9.0,SNR=3.4							
GERES	**GERESS Array B**	**145.75**	**353**	PKPbc	**PKPdf**	**20 56 38.1**	**-0.4**
GERES	**GERESS Array B**	**145.75**	**353**	PKPbc	**PKPdf**	**20 56 38.1**	**-0.4**
baz=15,slow=5.7,SNR=3.8							
BRTR	**Keskin Array B**	**146.37**	**322**	PKPbc	**PKPab**	**20 56 41.8**	**-0.2**
BRTR	**Keskin Array B**	**146.37**	**322**	PKPbc	**PKPab**	**20 56 41.8**	**-0.2**
1.0nm,0.8s,baz=116,slow=3.4,SNR=4.2							
DAVOX	**Davos/Dischmat**	**148.13**	**357**	PKPbc	**PKPab**	**20 56 48.1**	**-0.6**
DAVOX	**Davos/Dischmat**	**148.13**	**357**	PKPbc	**PKPab**	**20 56 48.1**	**-0.6**
1.7nm,0.7s,baz=30,slow=14,SNR=2.7							
ESDC	**Sonseca Array**	**153.27**	**20**	PKPbc	**PKPbc**	**20 56 59.8**	**+1.6**
ESDC	**Sonseca Array**	**153.27**	**20**	PKPbc	**PKPbc**	**20 56 59.8**	**+1.6**
0.3nm,0.5s,baz=343,slow=4.0,SNR=3.7							

IDC ***29*** *20:40:19.4±0.9, 15°.13S×173°.58W, h0km, mb4.4/10, mb1 4.6/10, mb1mx4.3/20, mbtmp4.4/10, Error ellipse: s-maj=45.0km s-min=18.5km az=145.0*
NEIC ***29*** *20:40:21.1±0.2, 15°.00S×173°.71W, h10km, mb4.7/14, Error ellipse: s-maj=13.6km s-min=7.2km az=135.0*
ISCJB ***29*** *20:40:23.2±0.3, 15°.0S±0°.1×173°.84W±0°.09, h33km, mb4.5/24, Error ellipse: s-maj=17.8km s-min=8.3km az=143.5*
ISC 29 20:40:24.4±0.5, 15°.0S±0°.1×173°.5W±0°.1, h30km, n209, σ1°10/202, mb4.5/24, 73C-70D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.01**	**57**	Pn	**Pn**	**20 40 53.7**	**-2.7**
AFI				Sn	Sn	20 41 10.5	-10
AFI	**Afiamalu**	**2.01**	**57**	Pn	**Pn**	**20 40 53.7**	**-2.7**
baz=192,slow=20,SNR=1.5							
AFI				Sn	Sn	20 41 10.5	-10
baz=178,slow=22,SNR=4.1							
RAR	**Rarotonga**	**14.43**	**117**	Pn	Pn	20 43 39.1	-7.6
RAR	**Rarotonga**	**14.43**	**117**	Pn	Pn	20 43 39.1	-7.6
4.2nm,0.3s,baz=270,slow=19,SNR=2.8							
DZM	**Mont Dzumac**	**20.24**	**247**	P	Pn	20 45 00.8	+1.2
DZM	**Mont Dzumac**	**20.24**	**247**	P	Pn	20 45 00.8	+1.2
11nm,1.1s,baz=79,slow=16,SNR=2.9							
WRAB	**Tennant Creek**	**49.82**	**256**	P	**P**	**20 49 12.3**	**-2.6**
7.5nm,1.1s							
WRA	**Warramunga Arr**	**49.83**	**256**	P	**P**	**20 49 12.7**	**-2.3**
WRA	**Warramunga Arr**	**49.83**	**256**	P	**P**	**20 49 12.7**	**-2.3**
2.0nm,0.9s,baz=90,slow=7.1,SNR=7.6							
AS31	**Alice Springs**	**50.12**	**252**	*e*P	P	20 49 14.2	-3.1
ASAR	**Alice Springs**	**50.12**	**252**	P	**P**	**20 49 15.2**	**-2.1**
ASAR	**Alice Springs**	**50.12**	**252**	P	**P**	**20 49 15.2

TXAR	Lajitas Array	80.49	56	P	P	20 52 34.0	0.0
TXAR	Lajitas Array	80.49	56	P	P	20 52 34.0	0.0
	3.0nm,1.1s,baz=241,slow=5.2,SNR=11						
Y23A	Lovelace Mesa,	80.51	51	⇑P	P	20 52 35.2	+1.1
	baz=81						
S20A	Disappointment	80.55	47	⇓P	P	20 52 35.6	+1.3
	baz=81						
ANMO	Albuquerque	80.64	50	eP	P	20 52 34.9	+0.1
	4.3nm,1.0s						
225A	Deer Hill, Car	80.69	53	⇓P	P	20 52 36.5	+1.3
	baz=81						
426A	McDonald Obser	80.73	55	⇑P	P	20 52 36.1	+0.7
	baz=81,SNR=7.9						
T21A	Navajo Lake	80.76	48	⇑P	P	20 52 36.5	+1.1
	baz=81						
627A	Terlingua Ranc	80.76	56	⇑P	P	20 52 36.2	+0.8
	baz=81						
MCK	McKinley	80.78	11	eP	P	20 52 34.3	-0.3
	15nm,0.9s						
527A	Woodward Ranch	80.86	55	⇑P	P	20 52 37.0	+1.0
	baz=81						
W23A	Werner Place,	80.96	50	⇓P	P	20 52 37.5	+0.9
	baz=81						
Y24A	Capitan	80.97	51	⇑P	P	20 52 37.3	+0.7
	baz=81,SNR=7.5						
125A	Gardner Draw,	81.04	53	⇑P	P	20 52 37.9	+1.0
	baz=81						
Q20A	Ridgley Place,	81.11	46	⇑P	P	20 52 38.2	+1.0
	baz=81						
628A	Black Gap, Mar	81.18	56	⇑P	P	20 52 38.6	+1.0
	baz=81						
226B	Tecolote Peak,	81.19	54	⇓P	P	20 52 38.8	+1.1
	baz=82,SNR=8.3						
RRI2	Red Ridge	81.22	41	eP	P	20 52 38.6	+0.8
	4.4nm,0.9s						
Z25A	Roswell	81.25	52	⇓P	P	20 52 39.1	+1.1
	baz=82						
427A	Hayter Ranch,	81.30	55	⇓P	P	20 52 38.9	+0.6
	baz=82,SNR=5.2						
L18A	Fontenelle, Gr	81.34	42	⇓P	P	20 52 39.5	+1.1
	baz=82						
R21A	Cimarron	81.36	47	⇑P	P	20 52 39.9	+1.2
	baz=82						
MSO	Missoula	81.45	37	⇑P	P	20 52 39.7	+1.0
	baz=82						
528A	Cox Ranch, San	81.52	56	⇓P	P	20 52 40.1	+0.7
	baz=82,SNR=6.1						
TPAW	Teton Pass	81.52	41	eP	P	20 52 40.3	+0.9
	4.5nm,0.9s						
126A	Clayton Basin,	81.53	53	⇑P	P	20 52 40.4	+0.9
	baz=82						
W24A	Lazy 6 Ranch,	81.53	50	⇑P	P	20 52 40.6	+1.1
	baz=82						
Y25A	Mesa, Roswell	81.53	52	⇓P	P	20 52 40.3	+0.8
	baz=82						
Q21A	Lamborn Mesa,	81.56	46	⇑P	P	20 52 40.8	+1.2
	baz=82						
S22A	4UR Ranch, Cre	81.59	47	⇑P	P	20 52 41.2	+1.2
	baz=82,SNR=5.0						
X25A	Clemmons Ranch	81.81	51	⇑P	P	20 52 41.7	+0.7
	baz=82						
Z26A	Caprock	81.81	52	⇑P	P	20 52 41.6	+0.6
	baz=82,SNR=5.8						
428A	Kincaid Ranch,	81.82	55	⇑P	P	20 52 42.3	+1.3
	baz=82						
V24A	Rampart Ranch,	81.85	50	⇑P	P	20 52 41.9	+0.6
	baz=82						
R22A	Saguache, Gunn	81.86	47	⇓P	P	20 52 42.8	+1.4
	baz=82,SNR=5.0						
P21A	Newcastle	81.95	46	⇑P	P	20 52 42.6	+0.9
	baz=82						
529A	Stev Forest Ra	81.96	56	⇑P	P	20 52 43.0	+1.3
	baz=82						
328A	Wristen Ranch,	81.97	55	⇓P	P	20 52 42.8	+1.0
	baz=82						
COLA	College	82.01	11	eP	P	20 52 41.1	0.0
	58nm,0.9s						
Q22A	Crested Butte,	82.03	46	⇑P	P	20 52 43.2	+0.9
	baz=82						
PDAR	Pinedale Array	82.06	42	P	P	20 52 42.4	+0.2
PDAR	Pinedale Array	82.06	42	P	P	20 52 42.4	+0.2
	2.1nm,0.7s,baz=201,slow=3.4,SNR=14						
ILAR	Eielson Array	82.10	11	P	P	20 52 41.4	-0.2
ILAR	Eielson Array	82.10	11	P	P	20 52 41.4	-0.2
	2.5nm,0.9s,baz=199,slow=6.2,SNR=12						
H17A	Grant Village	82.21	40	⇓P	P	20 52 44.5	+1.5
	baz=82						
W25A	X Bar L Ranch,	82.24	51	⇑P	P	20 52 44.1	+0.9
	baz=82						
T24B	San Luis	82.34	49	⇓P	P	20 52 45.0	+1.1
	baz=83						
V25A	Rancho No Teng	82.38	50	⇓P	P	20 52 44.7	+0.7
	baz=83,SNR=5.2						
429A	Davenport Ranc	82.41	56	⇓P	P	20 52 44.4	+0.3
	baz=83,SNR=9.7						
Z27A	Tatum	82.42	53	⇑P	P	20 52 44.9	+0.8
	baz=83						
X26A	CR and CF Fran	82.46	51	⇑P	P	20 52 45.2	+0.9
	baz=83						
L20A	Wamsutter	82.49	43	⇑P	P	20 52 45.6	+1.1
	baz=83						
J19A	Crowheart	82.62	42	⇓P	P	20 52 46.2	+1.2
	baz=83						
530A	J-C Ranch, Com	82.68	56	⇓P	P	20 52 46.4	+0.9
	baz=83						
Y27A	Causey	82.68	52	⇓P	P	20 52 46.3	+0.7
	baz=83						
S24A	Houchin Ranch,	82.70	48	⇓P	P	20 52 46.8	+1.0
	baz=83						
128A	Castleberry Fa	82.71	54	⇑P	P	20 52 46.7	+1.0
	baz=83						
U25A	Circle Dot Ran	82.77	49	⇓P	P	20 52 46.5	+0.5
	baz=83,SNR=5.6						
K20A	Yellowstone Ra	82.80	42	⇑P	P	20 52 47.0	+1.0
	baz=83						
Q23A	Hartsel	82.81	47	⇑P	P	20 52 47.4	+1.2
	baz=83						
O22A	Kremmling	82.86	45	⇓P	P	20 52 47.7	+1.2
	baz=83,SNR=6.3						
H18A	Shoshone NF, C	82.92	40	⇑P	P	20 52 47.7	+1.1
	baz=83						
M21A	Separation Pea	82.96	44	⇓P	P	20 52 47.9	+1.0
	baz=83						
V26A	Tequesquite Ra	82.98	50	⇑P	P	20 52 47.9	+0.8
	baz=83						
430A	Baggett Ranch,	83.00	56	⇓P	P	20 52 47.8	+0.6
	baz=83						
MSTX	Muleshoe	83.01	52	eP	P	20 52 47.6	+0.4
MSTX	Muleshoe	83.01	52	⇑P	P	20 52 47.9	+0.7
	baz=83						
631A	Perdido Creek	83.02	57	⇓P	P	20 52 48.0	+0.8
	baz=83						
I19A	Meeteetse	83.03	41	⇑P	P	20 52 48.0	+0.8
	baz=83						
R24A	Sanders Place,	83.03	48	⇓P	P	20 52 48.1	+0.7
	baz=83						
Z28A	Tucker Farm, M	83.04	53	⇓P	P	20 52 48.1	+0.7
	baz=83						
T25A	Trinidad	83.07	49	⇓P	P	20 52 48.2	+0.6
	baz=83						
L21A	Rawlins	83.12	43	⇑P	P	20 52 48.2	+0.5
	baz=83						
N22A	Wattenberg Ran	83.21	45	⇓P	P	20 52 49.0	+0.7
	baz=84,SNR=5.2						
W27A	Bowe Ranch, En	83.23	51	⇑P	P	20 52 49.0	+0.7
	baz=84						
U26A	Atchley Ranch,	83.26	50	⇓P	P	20 52 49.1	+0.6
	baz=84						
S25A	Robets Cordova	83.27	48	⇓P	P	20 52 49.3	+0.7
	baz=84,SNR=5.9						
EGAK	Eagle	83.28	13	eP	P	20 52 47.8	0.0
	6.7nm,1.2s						
531A	Rocksprings	83.32	56	⇑P	P	20 52 49.4	+0.6
	baz=84						
I20A	Worland	83.54	41	⇑P	P	20 52 50.6	+0.9
	baz=84,SNR=8.1						
Z29A	Hungry Hill Ra	83.56	53	⇓P	P	20 52 50.8	+0.8
	baz=84						
R25A	Fountain Ranch	83.58	48	⇓P	P	20 52 51.1	+1.0
	baz=84						
N23A	Red Feather La	83.60	45	⇑P	P	20 52 50.6	+0.4
	baz=84						
T26A	Comanche Natio	83.68	49	⇓P	P	20 52 51.0	+0.3
	baz=84						
632A	Uvalde	83.69	57	⇓P	P	20 52 51.9	+1.2
	baz=84						
L22A	Ellis Ranch, M	83.77	44	⇓P	P	20 52 52.1	+1.1
	baz=84						
532A	Rocksprings	83.82	57	⇓P	P	20 52 52.2	+0.8
	baz=84						
H20A	Greybull	83.87	41	⇓P	P	20 52 52.3	+1.0
	baz=84						
130A	Snyder	83.89	54	⇓P	P	20 52 52.7	+1.0
	baz=84						
F19A	Roth Farm, Mol	83.93	39	⇓P	P	20 52 52.3	+0.6
	baz=84,SNR=5.2						
U27A	Thompson Grove	83.94	50	⇑P	P	20 52 52.2	+0.2
	baz=84						
S26A	Kim	83.95	49	⇑P	P	20 52 52.5	+0.4
	baz=84						
K22A	Casper	83.98	43	⇑P	P	20 52 52.6	+0.5
	baz=84						
I21A	Big Trails, Te	84.01	42	⇓P	P	20 52 52.4	+0.2
	baz=84,SNR=6.0						
X29A	Tulia	84.02	52	⇓P	P	20 52 52.8	+0.5
	baz=84						
Z30A	Sanderson Ranc	84.02	53	⇓P	P	20 52 52.7	+0.4
	baz=84,SNR=6.6						
231A	Bronte	84.15	55	⇓P	P	20 52 53.4	+0.4
	baz=84						
432A	Menard	84.18	56	⇑P	P	20 52 53.7	+0.5
	baz=84						
P25A	Willow Gulch B	84.23	47	⇓P	P	20 52 54.2	+0.7
	baz=84						
R26A	Arlington	84.25	48	⇑P	P	20 52 54.3	+0.8
	baz=84						
N24A	Carr	84.29	45	⇓P	P	20 52 54.5	+0.8
	baz=85						
L23A	Garrett	84.30	44	⇓P	P	20 52 53.8	+0.1
	baz=85,SNR=7.2						
E19A	Rath Farm, Rou	84.32	39	⇓P	P	20 52 54.3	+0.7
	baz=85						
W29A	Amraillo	84.32	52	⇑P	P	20 52 54.4	+0.5
	baz=85						
J22A	Midwest	84.36	42	⇑P	P	20 52 54.6	+0.7
	baz=85						
131A	Roby	84.36	54	⇓P	P	20 52 54.4	+0.3
	baz=85						
S27A	Las Animas	84.40	49	⇑P	P	20 52 54.8	+0.5
	baz=85						
332A	Millersview	84.41	56	⇓P	P	20 52 54.9	+0.6
	baz=85						
Y30A	Stafford Cattl	84.42	53	⇑P	P	20 52 55.2	+0.8
	baz=85						
H21A	Big Horn, Sher	84.54	41	⇑P	P	20 52 55.4	+0.6
	baz=85						
I22A	9 Mile Ranch,	84.57	42	⇑P	P	20 52 55.5	+0.6
	baz=85						
D19A	Cripps Ranch,	84.60	38	⇓P	P	20 52 55.7	+0.7
	baz=85						
M24A	Cheyenne	84.61	45	⇑P	P	20 52 56.1	+0.8
	baz=85						
K23A	Bowen Ranch, D	84.62	43	⇑P	P	20 52 56.1	+0.8
	baz=85						
X30A	Coker Ranch, T	84.65	52	⇓P	P	20 52 56.0	+0.6
	baz=85						
232A	Coleman	84.66	55	⇑P	P	20 52 56.5	+0.9
	baz=85						
E20A	Meyer Farm, Mu	84.73	39	⇑P	P	20 52 56.6	+0.9
	baz=85						
Z31A	Sharp Cattle R	84.79	54	⇑P	P	20 52 56.8	+0.5
	baz=85						
ABTX	Abilene, Hawle	84.93	54	eP	P	20 52 57.1	+0.2
ABTX	Abilene, Hawle	84.93	54	⇓P	P	20 52 57.8	+0.9
	baz=85						
Y31A	Rekieta Farm,	84.94	53	⇑P	P	20 52 57.7	+0.8
	baz=85						
H22A	Clearmont	84.97	41	⇑P	P	20 52 57.6	+0.7
	baz=85						
Z32A	Haskell	85.31	54	⇑P	P	20 52 59.7	+0.9
	baz=86						
C20A	Veseth Ranch,	85.38	38	⇑P	P	20 52 59.6	+0.8
	baz=86						
Y32A	R-V Farms, Ver	85.59	53	⇑P	P	20 53 01.0	+0.8
	baz=86						
W31A	Holland Ranch,	85.64	52	⇑P	P	20 53 01.2	+0.8
	baz=86						
G23A	Biddle	85.85	41	⇓P	P	20 53 02.0	+0.7
	baz=86						
H24A	Dirks Ranch, A	86.19	42	⇓P	P	20 53 03.6	+0.6
	baz=86						
D22A	Cohagen	86.22	39	⇓P	P	20 53 03.8	+0.7
	baz=86						
I25A	Rochford	86.41	43	⇓P	P	20 53 05.1	+0.8
	baz=87						
INK	Inuvik	87.93	14	P	P	20 53 10.4	-0.3
INK	Inuvik	87.93	14	P	P	20 53 10.4	-0.3
	1.9nm,0.6s,baz=221,slow=9.3,SNR=3.1						
MAW	Mawson	88.11	199	P	P	20 53 11.9	+0.1
MAW	Mawson	88.11	199	P	P	20 53 11.9	+0.1
	2.6nm,0.9s,baz=103,slow=5.6,SNR=5.4						
AKASG	Malin Array Be	139.95	338	PKP	PKPdf	20 59 50.5	+0.8
AKASG	Malin Array Be	139.95	338	PKP	PKPdf	20 59 50.5	+0.8
	0.2nm,0.3s,baz=23,slow=1.4,SNR=3.1						
CLL	Collm	143.43	353	ePKPdf	PKPdf	20 59 55.0	-0.9
CLL				ePKiKP	PKiKP	21 00 00.0	+0.8
UPC	Upice	143.78	350	ePKP	PKPdf	21 00 01.2	+4.6
DPC	Dobruska-Polom	143.87	349	ePKP	PKPdf	21 00 00.6	+3.8
PRU	Pruhonice	144.52	351	ePKP	PKPbc	20 59 57.0	+0.6
VRAC	Vranov	144.82	349	PKP	PKPbc	20 59 57.9	+0.5
VRAC	Vranov	144.82	349	PKP	PKPbc	20 59 57.9	+0.5
	1.7nm,0.6s,baz=27,slow=2.9,SNR=5.6						
MLR	Muntele Rosu	145.48	336	PKPbc	PKPab	21 00 00.6	+0.5
MLR	Muntele Rosu	145.48	336	PKPbc	PKPab	21 00 00.6	+0.5
	baz=101,slow=5.2,SNR=5.1						
KHC	Kasperske Hory	145.49	352	ePKP	PKPdf	20 59 59.7	+0.1
KHC				epPKP	PKiKP	21 00 04.1	+0.5
GERES	GERESS Array B	145.75	352	PKPbc	PKPbc	21 00 00.8	+0.3
GERES	GERESS Array B	145.75	352	PKPbc	PKPbc	21 00 00.8	+0.3
	baz=26,slow=3.4,SNR=12						
BR131	Keskin Array S	145.80	321	ePKPdf	PKPbc	21 00 01.1	0.0
BRTR	Keskin Array B	145.80	321	PKPbc	PKPab	21 00 01.6	+0.1
BRTR	Keskin Array B	145.80	321	PKPbc	PKPab	21 00 01.6	+0.1
	baz=91,slow=2.5,SNR=10						
DAVOX	Davos/Dischmat	148.21	356	PKPbc	PKPbc	21 00 08.1	+0.3
DAVOX	Davos/Dischmat	148.21	356	PKPbc	PKPbc	21 00 08.1	+0.3
	baz=331,slow=4.1,SNR=6.9						
LEGS	Legarje	148.29	348	i PKPbc	PKPbc	21 00 08.0	+0.2
ESDC	Sonseca Array	153.79	18	PKPab	PKPab	21 00 32.8	-1.0
ESDC	Sonseca Array	153.79	18	PKPab	PKPab	21 00 32.8	-1.0
	baz=314,slow=1.8,SNR=4.8						
TORD	Torodi Ar. Bea	174.99	111	PKP	PKPdf	21 00 32.4	+0.1
TORD	Torodi Ar. Bea	174.99	111	PKP	PKPdf	21 00 32.4	+0.1
	1.9nm,1.3s,baz=251,slow=4.5,SNR=3.6						

*IDC **29** 20:44:43.9±0.7, 15°.58S×173°.11W, h0km, mb4.3/11, mb1 4.5/12, mb1mx4.3/20, mbtmp4.3/12, ML4.6/1, Error ellipse: s-maj=27.6km s-min=17.4km az=138.0*
*NEIC **29** 20:44:45.0±0.3, 15°.63S×173°.12W, h10km, mb4.6/8, Error ellipse: s-maj=13.4km s-min=9.4km az=155.0*
*ISCJB **29** 20:44:46.1±0.5, 15°.57S±0°.09×173°.18W±0°.07, h29km, mb4.4/19, Error ellipse: s-maj=13.7km s-min=8.9km az=11.7*

ISC 29 20:44:48.4±0.5, 15°.5S±0°.1×173°.13W±0°.08, h29km, n57, σ1§22/56, mb4.5/19, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.06	40	ePn	Pn	20 45 11.1	-10
AFI				Sn	Sn	20 45 32.6	-13
AFI	Afiamalu	2.06	40	Pn	Pn	20 45 12.9	-8.3
	80nm,0.3s,baz=212,slow=15,SNR=3.8						
AFI				Sn	Sn	20 45 32.6	-13
	baz=54,slow=23,SNR=11						
RAR	Rarotonga	13.89	116	Pn	Pn	20 48 00.7	-2.7
RAR				Sn	Sn	20 50 38.0	+1.3
RAR	Rarotonga	13.89	116	Pn	Pn	20 48 00.6	-2.7
	2.6nm,0.3s,baz=270,slow=13,SNR=2.7						
RAR				Sn	Sn	20 50 38.0	+1.3
	5.1nm,0.3s,baz=270,slow=12,SNR=2.4						
RPZ	Rata Peaks	31.18	202	P	P	20 51 03.6	-1.3
RPZ	Rata Peaks	31.18	202	P	P	20 51 03.6	-1.3
	10nm,1.0s,baz=31,slow=12,SNR=2.9						
EIDS	Eidsvold	34.84	248	eP	P	20 51 36.6	-0.5
	9.1nm,1.3s						
STKA	Stephens Creek	44.21	240	eP	P	20 52 54.5	-0.6
	1.6nm,1.0s						
STKA	Stephens Creek	44.21	240	P	P	20 52 54.6	-0.5
	2.4nm,0.6s,baz=88,slow=7.5,SNR=5.7						
WRAB	Tennant Creek	50.06	257	eP	P	20 53 39.7	-1.2
	4.7nm,1.0s						
WRA	Warramunga Arr	50.07	257	P	P	20 53 40.0	-1.0
WRA				PcP	PcP	20 55 00.5	-0.1
WRA	Warramunga Arr	50.07	257	P	P	20 53 40.0	-1.0
	1.9nm,0.6s,baz=90,slow=6.8,SNR=16						
WRA				PcP	PcP	20 55 00.5	-0.1
	baz=91,slow=3.7,SNR=5.8						
AS31	Alice Springs	50.32	252	eP	P	20 53 40.8	-2.1
ASAR	Alice Springs	50.32	252	P	P	20 53 42.1	-0.8
ASAR	Alice Springs	50.32	252	P	P	20 53 42.1	-0.8
	12nm,0.8s,baz=85,slow=8.7,SNR=29						
SBA	Scott Base	63.16	185	eP	P	20 55 16.8	+3.7
	4.7nm,0.9s						
VNDA	Vanda	63.30	186	eP	P	20 55 17.3	+3.3
	3.1nm,1.0s						
CASY	Casey	70.42	205	eP	P	20 55 50.7	-8.8
	16nm,1.5s						
PETK	Petropavlovsk-	72.81	342	P	P	20 56 13.9	-0.1
PETK	Petropavlovsk-	72.81	342	P	P	20 56 13.9	-0.1
	2.4nm,0.8s,baz=147,slow=8.5,SNR=4.1						
QSPA	South Pole Qui	74.54	180	eP	P	20 56 26.3	+2.1
	13nm,1.1s						
KDAK	Kodiak Island	74.98	11	P	P	20 56 26.2	-0.3
KDAK	Kodiak Island	74.98	11	P	P	20 56 26.2	-0.3
	9.9nm,1.0s,baz=194,slow=8.3,SNR=3.3						
USRK	Ussuriysk Arra	77.62	323	P	P	20 56 43.5	+1.6
	2.3nm,1.0s,baz=101,slow=9.9,SNR=5.0						
TXAR	Lajitas Array	80.46	56	P	P	20 56 59.1	+1.1
TXAR	Lajitas Array	80.46	56	P	P	20 56 59.1	+1.1
	1.2nm,1.0s,baz=225,slow=8.1,SNR=6.1						
MCK	McKinley	81.18	11	eP	P	20 56 59.7	-1.2
	11nm,0.9s						
PDAR	Pinedale Array	82.17	42	P	P	20 57 06.4	-0.5
PDAR	Pinedale Array	82.17	42	P	P	20 57 06.4	-0.5
	0.7nm,0.9s,baz=305,slow=3.2,SNR=2.2						
ILAR	Eielson Array	82.50	11	P	P	20 57 06.9	-0.9
ILAR	Eielson Array	82.50	11	P	P	20 57 06.9	-0.9
	1.5nm,0.7s,baz=222,slow=5.8,SNR=11						
MAW	Mawson	87.77	199	P	P	20 57 37.5	+3.2
MAW	Mawson	87.77	199	P	P	20 57 37.5	+3.2
	2.0nm,0.8s,baz=148,slow=7.7,SNR=4.0						
CMAR	Chiang Mai Arr	92.89	288	P	P	20 57 58.5	-0.7
CMAR	Chiang Mai Arr	92.89	288	P	P	20 57 58.5	-0.7
	0.3nm,0.5s,baz=91,slow=3.6,SNR=3.9						
AKASG	Malin Array Be	140.54	338	PKP	PKPdf	21 04 15.2	+0.3
AKASG	Malin Array Be	140.54	338	PKP	PKPdf	21 04 15.2	+0.3
	0.1nm,0.2s,baz=53,slow=3.7,SNR=3.0						
DPC	Dobruska-Polom	144.41	350	ePKP	PKPdf	21 04 21.3	-0.6
DPC				ex	x	21 04 29.2	
PRU	Pruhonice	145.05	351	ePKP	PKPdf	21 04 22.7	-0.2
VRAC	Vranov	145.37	349	PKPbc	PKPdf	21 04 24.1	+0.6
VRAC	Vranov	145.37	349	PKPbc	PKPdf	21 04 24.1	+0.6
	2.4nm,0.7s,baz=45,slow=2.9,SNR=3.3						
KMBO	Kilima Mbogo	145.72	244	PKPbc	PKPab	21 04 27.6	+1.4
KMBO	Kilima Mbogo	145.72	244	PKPbc	PKPab	21 04 27.6	+1.4
	baz=91,slow=4.8,SNR=6.0						
KHC	Kasperske Hory	146.02	352	ePKP	PKPab	21 04 25.8	-0.2
KHC				ex	x	21 04 33.3	
KHC				ex	x	21 04 40.3	
KHC	Kasperske Hory	146.02	352	ePKPdf	PKPab	21 04 25.5	-0.5
MLR	Muntele Rosu	146.07	336	PKPbc	PKPab	21 04 27.1	+0.7
MLR	Muntele Rosu	146.07	336	PKPbc	PKPab	21 04 27.1	+0.7
	baz=348,slow=2.8,SNR=4.3						
GERES	GERESS Array B	146.28	352	PKPbc	PKPab	21 04 26.7	-0.4
GERES	GERESS Array B	146.28	352	PKPbc	PKPab	21 04 26.7	-0.4
	baz=333,slow=2.1,SNR=9.4						
BR131	Keskin Array S	146.40	321	ePKPbc	PKPab	21 04 27.3	-0.6
BRTR	Keskin Array B	146.40	321	PKPbc	PKPab	21 04 27.9	0.0
BRTR	Keskin Array B	146.40	321	PKPbc	PKPab	21 04 27.9	0.0
	baz=101,slow=2.5,SNR=38						
MMAI	Mount Meron Ar	148.84	309	PKPbc	PKPbc	21 04 34.8	+1.0
MMAI	Mount Meron Ar	148.84	309	PKPbc	PKPbc	21 04 34.8	+1.0
	baz=298,slow=1.8,SNR=6.1						
CSS	Prodhromos	149.36	314	ePKPbc	PKPbc	21 04 35.4	+0.4
TORD	Torodi Ar. Bea	174.46	114	PKP	PKPdf	21 04 55.0	-1.3
TORD	Torodi Ar. Bea	174.46	114	PKP	PKPdf	21 04 55.0	-1.3
	0.5nm,0.9s,baz=325,slow=2.3,SNR=2.6						

*ISCJB **29** 20:44:51.2±0.3, 39°.17N±0°.01×0°.23W±0°.02, h7km±2km, mb2.9/1, Error ellipse: s-maj=2.8km s-min=1.7km az=41.5*
*IDC **29** 20:44:52.7±1.4, 38°.99N×0°.22W, h0km, mb3.2/1, mb1 3.5/7, mb1mx3.3/32, mbtmp3.4/7, ML3.6/2, Error ellipse: s-maj=20.2km s-min=17.5km az=9.0*
*CRAAG **29** 20:44:53.1, 39°.00N×0°.10W, Ml3.5*
*CSEM **29** 20:44:53.0±0.1, 39°.09N×0°.14W, h10km, ML3.7/41, Error ellipse: s-maj=3.3km s-min=1.9km az=135.0*
*SFS **29** 20:44:54.0, 39°.04N×0°.04W, h16km, ML3.2*
*NEIC **29** 20:44:54.4, 39°.05N×0°.05W, h16km, MN3.2(MDD), After MDD.*
NEIC Felt at Adsubia, Gandia and Oliva.
*MDD **29** 20:44:54.2±0.2, 39°.07N×0°.07W, h11km, mbLg3.4/51, Error ellipse: s-maj=3.5km s-min=1.9km az=118.0, PRXIMO*
MDD EMS:IV INTENSIDAD MAXIMA.
*INMG **29** 20:44:54.4±1.6, 39°.02N×0°.06W, h21km±3km, ML3.6, Error ellipse: s-maj=2.7km s-min=2.0km az=132.0*
*LDG **29** 20:44:55.5±0.1, 39°.07N×0°.12W, h16km, Ml3.5/19, Error ellipse: s-maj=3.3km s-min=1.7km az=133.0*
*STR **29** 20:45:18.0±0.1, 40°.72N×0°.10E, h10km, Ml3.6, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 29 20:44:52.6±0.7, 39°.10N±0°.02×0°.16W±0°.02, h14km±4km, n274, σ1§62/443, 11C-7D, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EXGA	Gandia	0.14	185	Pg	Pb	20 44 57.1	+0.1
	SNR=7.9						
EXGA				Lg	Lg	20 44 59.2	
	SNR=7.9						
EXGA	Gandia	0.14	185	Pg	Pb	20 44 57.1	+0.1
	SNR=7.9						
EXGA				Lg	Lg	20 44 59.2	
	SNR=7.9						
EBEN	Beniarda	0.40	187	⇓Pg	Pg	20 45 01.6	+0.9
	76nm,0.1s,SNR=18						
EBEN				Lg	Lg	20 45 06.5	
	4μm,0.1s,SNR=18						
EBEN

EMUR				Lg	Lg	20 45 42.3	
	529nm,0.5s,SNR=7.0						
EMUR	**La Murta**	**1.51**	**214**	Pn	**Pn**	**20 45 20.1**	**+0.7**
	7.6nm,0.2s,SNR=123						
EMUR	**La Murta**	**1.51**	**214**	Pg	**Pg**	**20 45 23.0**	**+1.2**
	66nm,0.2s,SNR=7.9						
EMUR				Sn	**Sn**	**20 45 38.7**	**-0.3**
	299nm,0.2s,SNR=10						
EMUR				Lg	Lg	20 45 42.3	
	529nm,0.5s,SNR=7.0						
CART	**Cartagena**	**1.65**	**204**	Pn	**Pn**	**20 45 20.9**	**-0.3**
CART				Sn	**Sn**	**20 45 40.1**	**-2.1**
CART	**Cartagena**	**1.65**	**204**	*i* P	**Pn**	**20 45 20.9**	**-0.3**
CART				Sn	**Sn**	**20 45 40.1**	**-2.1**
EVIA	**Vianos**	**1.88**	**257**	⇑Pn	**Pn**	**20 45 25.9**	**+1.3**
	104nm,0.1s,SNR=18						
EVIA				Sn	**Sn**	**20 45 49.3**	**+1.1**
	259nm,0.2s						
EVIA	**Vianos**	**1.88**	**257**	Pn	**Pn**	**20 45 25.9**	**+1.3**
	104nm,0.1s,SNR=18						
EVIA				Sn	**Sn**	**20 45 49.3**	**+1.1**
	259nm,0.2s						
ERTA	**Horta de San J**	**1.89**	**11**	⇓Pn	**Pn**	**20 45 25.8**	**+1.2**
	5.2nm,0.1s,SNR=18						
ERTA				Sn	**Sn**	**20 45 47.9**	**-0.5**
	67nm,0.3s,SNR=8.1						
ERTA	**Horta de San J**	**1.89**	**11**	Pn	**Pn**	**20 45 25.8**	**+1.2**
	5.2nm,0.1s,SNR=18						
ERTA				Sn	**Sn**	**20 45 47.9**	**-0.5**
	67nm,0.3s,SNR=8.1						
EHUE	**Huescar**	**2.30**	**237**	⇑Pn	**Pn**	**20 45 32.0**	**+1.7**
	59nm,0.2s,SNR=18						
EHUE				Sn	**Sn**	**20 46 00.3**	**+1.9**
	102nm,0.3s,SNR=7.9						
EHUE				Lg	Lg	20 46 05.4	
	79nm,0.2s,SNR=7.9						
EHUE	**Huescar**	**2.30**	**237**	Pn	**Pn**	**20 45 32.0**	**+1.7**
	59nm,0.2s,SNR=18						
EHUE				Sn	**Sn**	**20 46 00.3**	**+1.9**
	102nm,0.3s,SNR=7.9						
EHUE				Lg	Lg	20 46 05.4	
	79nm,0.2s,SNR=7.9						
ETOS	**Mallorca**	**2.40**	**73**	⇓Pn	**Pn**	**20 45 31.4**	**-0.2**
	22nm,0.2s,SNR=18						
ETOS				Sn	**Sn**	**20 46 00.0**	**-0.8**
	29nm,0.3s,SNR=5.0						
ETOS	**Mallorca**	**2.40**	**73**	Pn	**Pn**	**20 45 31.4**	**-0.2**
	22nm,0.2s,SNR=18						
ETOS				Sn	**Sn**	**20 46 00.0**	**-0.8**
	29nm,0.3s,SNR=5.0						
EPOB	**Poblet**	**2.44**	**23**	Pn	**Pn**	**20 45 32.8**	**+0.6**
	2.0nm,0.1s,SNR=54						
EPOB				Sn	**Sn**	**20 46 00.1**	**-1.9**
	35nm,0.3s						
EPOB	**Poblet**	**2.44**	**23**	Pn	**Pn**	**20 45 32.8**	**+0.6**
	2.0nm,0.1s,SNR=54						
EPOB				Sn	**Sn**	**20 46 00.1**	**-1.9**
	35nm,0.3s						
EQES	**Quesada**	**2.62**	**241**	⇑Pn	**Pn**	**20 45 36.4**	**+1.6**
	15nm,0.2s,SNR=18						
EQES				Pg	**Pb**	**20 45 42.2**	**+2.7**
	22nm,0.1s,SNR=36						
EQES				Sn	**Sn**	**20 46 08.2**	**+1.6**
	28nm,0.2s,SNR=6.5						
EQES				Lg	Lg	20 46 17.3	
	492nm,0.4s,SNR=76						
EQES	**Quesada**	**2.62**	**241**	Pn	**Pn**	**20 45 36.4**	**+1.6**
	15nm,0.2s,SNR=18						
ESAC	**San Caprasio**	**2.63**	**355**	Pn	**Pn**	**20 45 35.8**	**+1.0**
	0.7nm,0.2s,SNR=7.9						
ESAC				Pg	**Pb**	**20 45 40.1**	**+0.4**
	1.9nm,0.1s,SNR=48						
ESAC				Sn	**Sn**	**20 46 08.2**	**+1.6**
	62nm,0.2s,SNR=7.9						
ESAC				Lg	Lg	20 46 16.7	
	531nm,0.4s,SNR=6.2						
ESAC	**San Caprasio**	**2.63**	**355**	Pn	**Pn**	**20 45 35.8**	**+1.0**
	0.7nm,0.2s,SNR=7.9						
ESAC				Sn	**Sn**	**20 46 08.2**	**+1.6**
	62nm,0.2s,SNR=7.9						
ESAC				Lg	Lg	20 46 16.7	
	531nm,0.4s,SNR=6.2						
EBAN	**Banos Encina**	**2.99**	**253**	⇑Pn	**Pn**	**20 45 40.6**	**+0.9**
	84nm,0.2s,SNR=18						
EBAN				Pg	**Pb**	**20 45 47.1**	**+1.4**
	22nm,0.1s,SNR=26						
EBAN				Sn	**Sn**	**20 46 16.9**	**+1.6**
	23nm,0.2s,SNR=6.0						
EBAN				Lg	Lg	20 46 28.3	
	66nm,0.2s,SNR=6.9						
EBAN	**Banos Encina**	**2.99**	**253**	Pn	**Pn**	**20 45 40.6**	**+0.9**
	84nm,0.2s,SNR=18						
EBAN				Sn	**Sn**	**20 46 16.9**	**+1.6**
	23nm,0.2s,SNR=6.0						
EBAN				Lg	Lg	20 46 28.3	
	66nm,0.2s,SNR=6.9						
ESDC	**Sonseca Array**	**3.00**	**282**	⇑Pn	**Pn**	**20 45 41.4**	**+1.5**
	16nm,0.1s,baz=100,slow=14,SNR=18						
ESDC				Pg	**Pg**	**20 45 50.6**	**+0.5**
	39nm,0.2s,baz=101,slow=18,SNR=7.8						
ESDC				Sn	**Sn**	**20 46 16.6**	**+0.9**
	29nm,0.2s,baz=99,slow=26,SNR=5.9						
ESDC				Lg	Lg	20 46 27.3	
	141nm,0.5s,baz=99,slow=31,SNR=19						
ESDC	**Sonseca Array**	**3.00**	**282**	Pn	**Pn**	**20 45 40.9**	**+1.1**
	baz=96,slow=14,SNR=163						
ESDC				Pg	**Pg**	**20 45 51.0**	**+0.9**
	35nm,0.3s,baz=100,slow=18,SNR=53						
ESDC				Sn	**Sn**	**20 46 13.9**	**-1.8**
	24nm,0.3s,baz=97,slow=17,SNR=6.2						
ESDC				Lg	Lg	20 46 27.8	
	baz=105,slow=33,SNR=32						
ESDC	**Sonseca Array**	**3.00**	**282**	Pn	**Pn**	**20 45 41.4**	**+1.5**
	16nm,0.1s,SNR=18						
ESDC	**Sonseca Array**	**3.00**	**282**	Pg	**Pg**	**20 45 50.6**	**+0.5**
	39nm,0.2s,SNR=7.8						
ESDC				Sn	**Sn**	**20 46 16.6**	**+0.9**
	29nm,0.2s,SNR=5.9						
ESDC				Lg	Lg	20 46 27.3	
	141nm,0.5s,SNR=19						
ESLA	**Sonseca Array**	**3.00**	**282**	*e*Pn	**Pn**	**20 45 41.2**	**+1.3**
ESLA				*e*Pg	**Pg**	**20 45 50.9**	**+0.8**
ESLA				*e*Sn	**Sn**	**20 46 16.6**	**+0.9**
ESLA				*e*Sg	**Sg**	**20 46 27.7**	**-1.3**
ESLA	**Sonseca Array**	**3.00**	**282**	*e*Pn	**Pn**	**20 45 41.2**	**+1.3**
EBER	**Berja**	**3.08**	**225**	Pn	**Pn**	**20 45 43.0**	**+1.9**
	0.4nm,0.2s,SNR=26						
EBER				Sn	**Sn**	**20 46 18.4**	**+0.6**
	16nm,0.2s,SNR=7.9						
EBER				Lg	Lg	20 46 31.6	
	122nm,0.6s,SNR=7.9						
EBER	**Berja**	**3.08**	**225**	Pn	**Pn**	**20 45 43.0**	**+1.9**
	0.4nm,0.2s,SNR=26						
EBER				Sn	**Sn**	**20 46 18.4**	**+0.6**
	16nm,0.2s,SNR=7.9						
EBER				Lg	Lg	20 46 31.6	
	122nm,0.6s,SNR=7.9						
EMIR	**Miracle**	**3.09**	**24**	Pn	**Pn**	**20 45 43.0**	**+1.8**
	0.3nm,0.0s,SNR=27						
EMIR				Sn	**Sn**	**20 46 16.8**	**-1.2**
	9.3nm,0.2s,SNR=5.0						
EMIR	**Miracle**	**3.09**	**24**	Pn	**Pn**	**20 45 43.0**	**+1.8**
	0.3nm,0.0s,SNR=27						
EMIR				Sn	**Sn**	**20 46 16.8**	**-1.2**
	9.3nm,0.2s,SNR=5.0						
EQUE	**Quentar**	**3.20**	**235**	Pn	**Pn**	**20 45 44.1**	**+1.4**
	0.1nm,0.0s,SNR=7.5						
EQUE				Pg	**Pb**	**20 45 52.2**	**+2.8**
	1.8nm,0.1s,SNR=17						
EQUE				Sn	**Sn**	**20 46 20.8**	**+0.1**
	18nm,0.3s,SNR=5.0						
EQUE				Lg	Lg	20 46 33.8	
	134nm,0.4s,SNR=7.9						
EQUE	**Quentar**	**3.20**	**235**	Pn	**Pn**	**20 45 44.1**	**+1.4**
	0.1nm,0.0s,SNR=7.5						
EQUE				Sn	**Sn**	**20 46 20.8**	**+0.1**
	18nm,0.3s,SNR=5.0						
EQUE				Lg	Lg	20 46 33.8	
	134nm,0.4s,SNR=7.9						
PAB	**San Pablo**	**3.28**	**279**	*e*Pn	**Pn**	**20 45 45.1**	**+1.4**
PAB				*e*Sg	**Sg**	**20 46 37.5**	**-0.4**
PAB	**San Pablo**	**3.28**	**279**	*e*Pn	**Pn**	**20 45 45.1**	**+1.4**
PAB				*e*Sg	**Sg**	**20 46 37.5**	**-0.4**
EANR	**'Ain N'Sour**	**3.30**	**162**	P	**Pn**	**20 45 45.0**	**+1.0**
CFON	**Fontmartina**	**3.32**	**36**	⇑Pn	**Pn**	**20 45 44.7**	**+0.4**
	24nm,0.2s,SNR=18						
CFON				Sn	**Sn**	**20 46 20.6**	**-3.0**
	23nm,0.2s,SNR=7.9						
CFON	**Fontmartina**	**3.32**	**36**	Pn	**Pn**	**20 45 44.7**	**+0.4**
	24nm,0.2s,SNR=18						
CSOR	**Sort**	**3.42**	**16**	Pn	**Pn**	**20 45 47.5**	**+1.8**
	0.1nm,0.1s,SNR=39						
CSOR				Pg	**Pb**	**20 45 55.4**	**+2.4**
	0.2nm,0.1s,SNR=6.5						
CSOR				Sn	**Sn**	**20 46 26.1**	**0.0**
	21nm,0.3s,SNR=7.4						
CSOR				Lg	Lg	20 46 41.5	
	90nm,0.5s,SNR=6.5						
CSOR	**Sort**	**3.42**	**16**	Pn	**Pn**	**20 45 47.5**	**+1.8**
	0.1nm,0.1s,SNR=39						
CSOR				Sn	**Sn**	**20 46 26.1**	**0.0**
	21nm,0.3s,SNR=7.4						
CSOR				Lg	Lg	20 46 41.5	
	90nm,0.5s,SNR=6.5						
GUD	**Guadarrama**	**3.44**	**298**	Pn	**Pn**	**20 45 48.3**	**+2.4**
	1.0nm,0.1s,SNR=13						
GUD				Pg	**Pg**	**20 45 58.1**	**-0.3**
	1.1nm,0.1s,SNR=9.2						
GUD				Sn	**Sn**	**20 46 27.1**	**+0.5**
	4.9nm,0.2s,SNR=6.0						
GUD				Lg	Lg	20 46 42.4	
	101nm,0.7s,SNR=10						
GUD	**Guadarrama**	**3.44**	**298**	Pn	**Pn**	**20 45 48.3**	**+2.4**
	1.0nm,0.1s,SNR=13						
EGUA	**Guajares**	**3.51**	**231**	Pn	**Pn**	**20 45 49.2**	**+2.3**
	2.0nm,0.2s,SNR=7.9						
EGUA				Pg	**Pg**	**20 46 00.3**	**+0.4**
	14nm,0.2s,SNR=7.9						
EGUA				Sn	**Sn**	**20 46 31.4**	**+3.1**
	5.7nm,0.2s,SNR=7.9						
EGUA	**Guajares**	**3.51**	**231**	Pn	**Pn**	**20 45 49.2**	**+2.3**
	2.0nm,0.2s,SNR=7.9						
MAHO	**Mahon**	**3.52**	**76**	⇓Pn	**Pn**	**20 45 46.7**	**-0.2**
MAHO	**Mahon**	**3.52**	**76**	*i* P	**Pn**	**20 45 46.7**	**-0.2**
ELUQ	**Luque**	**3.57**	**246**	⇑Pn	**Pn**	**20 45 49.3**	**+1.5**
	23nm,0.2s,SNR=18						
ELUQ				Pg	Pb	20 45 58.9	+3.2
	56nm,0.2s,SNR=7.9						
ELUQ				Sn	**Sn**	**20 46 30.8**	**+0.9**
	23nm,0.2s,SNR=7.9						
ELUQ				Lg	Lg	20 46 47.3	
	40nm,0.2s,SNR=7.9						
ELUQ	**Luque**	**3.57**	**246**	Pn	**Pn**	**20 45 49.3**	**+1.5**
	23nm,0.2s,SNR=18						
ELUQ				Sn	**Sn**	**20 46 30.8**	**+0.9**
	23nm,0.2s,SNR=7.9						
ELUQ				Lg	Lg	20 46 47.3	
	40nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**3.58**	**256**	⇑Pn	**Pn**	**20 45 48.3**	**+0.5**
	17nm,0.1s,SNR=18						
EADA				Pg	**Pb**	**20 45 58.7**	**+2.9**
	6.6nm,0.1s,SNR=14						
EADA				Sn	**Sn**	**20 46 29.3**	**-0.7**
	29nm,0.2s						
EADA				Lg	Lg	20 46 47.3	
	74nm,0.2s,SNR=4.9						
EADA	**Adamuz**	**3.58**	**256**	Pn	**Pn**	**20 45 48.3**	**+0.5**
	17nm,0.1s,SNR=18						
EADA				Sn	**Sn**	**20 46 29.3**	**-0.7**
	29nm,0.2s						
EADA				Lg	Lg	20 46 47.3	
	74nm,0.2s,SNR=4.9						
EBIE	**Bielsa**	**3.59**	**4**	Pn	**Pn**	**20 45 49.7**	**+1.5**
	0.2nm,0.1s,SNR=23						
EBIE				Pg	**Pg**	**20 46 02.1**	**+0.7**
	1.8nm,0.2s,SNR=18						
EBIE				Sn	**Sn**	**20 46 29.3**	**-1.2**
	1.5nm,0.2s,SNR=4.7						
EBIE				Lg	Lg	20 46 46.1	
	34nm,0.7s,SNR=7.9						
EBIE	**Bielsa**	**3.59**	**4**	Pn	**Pn**	**20 45 49.7**	**+1.5**
	0.2nm,0.1s,SNR=23						
RESF	**Ens**	**3.72**	**6**	Pn	**Pn**	**20 45 52.0**	**+2.1**
RESF	**Ens**	**3.72**	**6**	Pn	**Pn**	**20 45 52.0**	**+2.1**
CLLI	**Llivia**	**3.75**	**25**	Pn	**Pn**	**20 45 51.9**	**+1.7**
	5.4nm,0.2s,SNR=27						
CLLI				Sn	**Sn**	**20 46 33.2**	**-1.0**
	5.7nm,0.2s,SNR=7.9						
CLLI				Lg	Lg	20 46 51.0	
	22nm,0.6s,SNR=7.9						
CLLI	**Llivia**	**3.75**	**25**	Pn	**Pn**	**20 45 51.9**	**+1.7**
	5.4nm,0.2s,SNR=27						
CLLI				Sn	**Sn**	**20 46 33.2**	**-1.0**
	5.7nm,0.2s,SNR=7.9						
CLLI				Lg	Lg	20 46 51.0	
	22nm,0.6s,SNR=7.9						
IEPA	**Eparoz**	**3.77**	**348**	Pn	**Pn**	**20 45 52.6**	**+2.2**
	1.3nm,0.1s,SNR=7.9						
IEPA				Sn	**Sn**	**20 46 35.6**	**+0.9**
	17nm,0.3s,SNR=7.9						
IEPA				Lg	Lg	20 46 52.2	
	98nm,0.5s,SNR=7.9						
IEPA	**Eparoz**	**3.77**	**348**	Pn	**Pn**	**20 45 52.6**	**+2.2**
	1.3nm,0.1s,SNR=7.9						
IEPA				Sn	**Sn**	**20 46 35.6**	**+0.9**
	17nm,0.3s,SNR=7.9						
IEPA				Lg	Lg	20 46 52.2	
	98nm,0.5s,SNR=7.9						
VIEF	**Viey**	**3.78**	**2**	Pn	**Pn**	**20 45 52.8**	**+2.1**
VIEF				Sg	Sn	20 46 28.8	-6.2
VIEF	**Viey**	**3.78**	**2**	Pn	**Pn**	**20 45 52.8**	**+2.1**
IUNC	**Unciti**	**3.79**	**345**	Pn	**Pn**	**20 45 52.9**	**+2.2**
	0.2nm,0.1s,SNR=7.9						
IUNC				Sn	**Sn**	**20 46 36.7**	**+1.5**
	4.1nm,0.2s,SNR=7.9						
IUNC				Lg	Lg	20 46 52.8	
	66nm,0.5s,SNR=7.9						
IUNC	**Unciti**	**3.79**	**345**	Pn	**Pn**	**20 45 52.9**	**+2.2**
	0.2nm,0.1s,SNR=7.9						
IUNC				Sn	**Sn**	**20 46 36.7**	**+1.5**
	4.1nm,0.2s,SNR=7.9						
IUNC				Lg	Lg	20 46 52.8	
	66nm,0.5s,SNR=7.9						
ETSF	**Etsaut**	**3.81**	**356**	*e*Pn	**Pn**	**20 45 53.3**	**+2.3**
	SNR=1.0						
ETSF				*e*Sn	**Sn**	**20 46 32.5**	**-3.1**
	20nm,0.4s,SNR=1.0						
ETSF				*e*Sg	**Sg**	**20 46 56.3**	**+1.4**
	76nm,0.6s						
ETSF	**Etsaut**	**3.81**	**356**	Pn	**Pn**	**20 45 53.3**	**+2.3**
ETSF				*e*Sn	**Sn**	**20 46 32.5**	**-3.1**
	10nm,0.4s,SNR=1.0						
ETSF				*e*Sg	**Sg**	**20 46 56.3**	**+1.4**
	38nm,0.6s						
IPRE	**Itoiz**	**3.81**	**347**	Pn	**Pn**	**20 45 53.6**	**+2.6**
	1.3nm,0.1s,SNR=7.9						
IPRE				Pg	**Pb**	**20 46 02.6**	**+2.9**
	27nm,0.4s,SNR=7.9						
IPRE				Sn	**Sn**	**20 46 34.3**	**-1.4**
	4.6nm,0.1s,SNR=7.9						
IPRE				Lg	Lg	20 46 53.9	
	38nm,0.7s,SNR=7.9						
IPRE	**Itoiz**	**3.81**	**347**	Pn	**Pn**	**20 45 53.6**	**+2.6**
	1.3nm,0.1s,SNR=7.9						
IPRE				Sn	**Sn**	**20 46 34.3**	**-1.4**
	4.6nm,0.1s,SNR=7.9						
IPRE				Lg	Lg	20 46 53.9	
	38nm,0.7s,SNR=7.9						
EARA	**Aranguren**	**3.82**	**344**	Pn	**Pn**	**20 45 52.5**	**+1.3**
	0.3nm,0.1s,SNR=7.9						
EARA				Sn	**Sn**	**20 46 36.6**	**+0.7**
	2.8nm,0.1s,SNR=7.9						
EARA				Lg	Lg	20 46 54.8	
	92nm,0.7s,SNR=7.9						
EARA	**Aranguren**	**3.82**	**344**	Pn	**Pn**	**20 45 52.5**	**+1.3**
	0.3nm,0.1s,SNR=7.9						
EARA				Sn	**Sn**	**20 46 36.6**	**+0.7**
	2.8nm,0.1s,SNR=7.9						
EARA				Lg	Lg	20 46 54.8	
	92nm,0.7s,SNR=7.9						
IELO	**Elcoad**	**3.83**	**348**	Pn	**Pn**	**20 45 53.1**	**+1.9**
	1.0nm,0.2s,SNR=7.9						
IELO				Sn	**Sn**	**20 46 36.2**	**+0.1**
	29nm,0.4s,SNR=7.9						
IELO				Lg	Lg	20 46 54.8	
	43nm,0.4s,SNR=7.9						
IELO	**Elcoad**	**3.83**	**348**	Pn	**Pn**	**20 45 53.1**	**+1.9**
	1.0nm,0.2s,SNR=7.9						
IELO				Sn	**Sn**	**20 46 36.2**	**+0.1**
	29nm,0.4s,SNR=7.9						
IELO				Lg	Lg	20 46 54.8	
	43nm,0.4s,SNR=7.9						
ETRT	**Tiaret**	**3.88**	**162**	P	**Pn**	**20 45 53.6**	**+1.5**
EPF	**Esparros**	**3.94**	**5**	*e*Pn	**Pn**	**20 45 54.8**	**+1.9**
	SNR=1.0						
EPF				*e*Sn	**Sn**	**20 46 36.5**	**-2.5**
EPF				*e*Sg	**Sg**	**20 46 58.4**	**-0.9**
	50nm,0.5s						
EPF	**Esparros**	**3.94**	**5**	Pn	**Pn**	**20 45 54.8**	**+1.9**
EPF				*e*Sn	**Sn**	**20 46 36.5**	**-2.5**
EPF				*e*Sg	**Sg**	**20 46 58.4**	**-0.9**
	25nm,0.5s						
MLS	**Moulis**	**3.97**	**13**	Pn	**Pn**	**20 45 55.7**	**+2.5**
MLS	**Moulis**	**3.97**	**13**	Pn	**Pn**	**20 45 55.7**	**+2.5**
IUSE	**Utxeti**	**3.98**	**345**	Pn	**Pn**	**20 45 56.3**	**+2.9**
	0.1nm,0.1s,SNR=7.9						
IUSE				Sn	**Sn**	**20 46 38.6**	**-1.4**
	7.2nm,0.2s,SNR=7.9						
IUSE				Lg	Lg	20 46 59.6	
	45nm,0.5s,SNR=7.9						
IUSE	**Utxeti**	**3.98**	**345**	Pn	**Pn**	**20 45 56.3**	**+2.9**
	0.1nm,0.1s,SNR=7.9						
IUSE				Sn	**Sn**	**20 46 38.6**	**-1.4**
	7.2nm,0.2s,SNR=7.9						
IUSE				Lg	Lg	20 46 59.6	
	45nm,0.5s,SNR=7.9						
LARF	**Larrau**	**3.98**	**351**	Pn	**Pn**	**20 45 56.4**	**+3.0**
LARF	**Larrau**	**3.98**	**351**	Pn	**Pn**	**20 45 56.4**	**+3.0**
CARF	**Carcanieres**	**4.00**	**25**	Pn	Pn	20 45 57.1	+3.4
CARF				Sg	**Sn**	**20 46 39.6**	**-0.8**
CARF	**Carcanieres**	**4.00**	**25**	Pn	Pn	20 45 57.1	+3.4
ATE	**Arette**	**4.00**	**354**	Pn	**Pn**	**20 45 56.2**	**+2.6**
ATE				Sg	**Sn**	**20 46 37.9**	**-2.5**
ATE	**Arette**	**4.00**	**354**	Pn	**Pn**	**20 45 56.2**	**+2.6**
EJON	**La Jonquera**	**4.07**	**34**	Pn	**Pn**	**20 45 55.5**	**+1.0**
	2.2nm,0.2s,SNR=8.1						
EJON				Sn	**Sn**	**20 46 40.4**	**-1.6**
	4.4nm,0.2s						
EJON				Lg	Lg	20 47 01.4	
	35nm,0.9s,SNR=7.9						
EJON	**La Jonquera**	**4.07**	**34**	Pn	**Pn**	**20 45 55.5**	**+1.0**
	2.2nm,0.2s,SNR=8.1						
EJON				Sn	**Sn**	**20 46 40.4**	**-1.6**
	4.4nm,0.2s						
EJON				Lg	Lg	20 47 01.4	
	35nm,0.9s,SNR=7.9						
SJPF	**Ste Jean**	**4.09**	**349**	*e*Pn	**Pn**	**20 45 57.1**	**+2.3**
	SNR=1.0						
SJPF				*e*Sn	**Sn**	**20 46 41.5**	**-1.0**
	29nm,0.4s,SNR=1.0						
SJPF				*e*Sg	**Sg**	**20 47 04.3**	**+0.4**
	50nm,0.5s						
SJPF	**Ste Jean**	**4.09**	**349**	Pn	**Pn**	**20 45 57.1**	**+2.3**
SJPF				*e*Sn	**Sn**	**20 46 41.5**	**-1.0**
	15nm,0.4s,SNR=1.0						
SJPF				*e*Sg	**Sg**	**20 47 04.3**	**+0.4**
	25nm,0.5s						
EMAL	**Malaga-Limoner**	**4.10**	**237**	⇓Pn	**Pn**	**20 45 57.1**	**+2.2**
EMAL				Pg	**Pg**	**20 46 14.0**	**+2.8**
EMAL	**Malaga-Limoner**	**4.10**	**237**	*i* P	**Pn**	**20 45 57.1**	**+2.2**
ORDF	**Ordiarp**	**4.15**	**352**	Pn	**Pn**	**20 45 58.4**	**+2.8**
ORDF				Sg	**Sn**	**20 46 43.6**	**-0.4**
ORDF	**Ordiarp**	**4.15**	**352**	Pn	**Pn**	**20 45 58.4**	**+2.8**
ELIZ	**Elizondo**	**4.19**	**346**	Pn	**Pn**	**20 45 58.9**	**+2.7**
	11nm,0.2s,SNR=34						
ELIZ				Sn	**Sn**	**20 46 43.2**	**-1.7**
	9.1nm,0.3s						
ELIZ	**Elizondo**	**4.19**	**346**	Pn	**Pn**	**20 45 58.9**	**+2.7**
	11nm,0.2s,SNR=34						
OSSF	**Osses**	**4.23**	**349**	Pn	**Pn**	**20 45 59.5**	**+2.7**
OSSF				Sg	**Sn**	**20 46 47.4**	**+1.4**
OSSF	**Osses**	**4.23**	**349**	Pn	**Pn**	**20 45 59.5**	**+2.7**
EALK	**Alkurruntz**	**4.24**	**347**	Pn	**Pn**	**20 45 59.1**	**+2.3**
	0.5nm,0.1s,SNR=33						
EALK				Sn	**Sn**	**20 46 45.4**	**-0.7**
	10nm,0.2s,SNR=7.9						
EALK				Lg	Lg	20 47 07.9	
	120nm,0.6s,SNR=7.9						
EALK	**Alkurruntz**	**4.24**	**347**	Pn	**Pn**	**20 45 59.1**	**+2.3**
	0.5nm,0.1s,SNR=33						
EALK				Sn	**Sn**	**20 46 45.4**	**-0.7**
	10nm,0.2s,SNR=7.9						
EALK				Lg	Lg	20 47 07.9	
	120nm,0.6s,SNR=7.9						
ECAB	**El Cabril**	**4.24**	**258**	Pn	**Pn**	**20 45 57.4**	**+0.4**
	1.7nm,0.1s,SNR=109						
ECAB				Pg	Pb	20 46 11.0	+3.9
	1.3nm,0.1s,SNR=21						
ECAB				Sn	**Sn**	**20 46 45.9**	**-0.4**
	15nm,0.1s,SNR=6.8						
ECAB				Lg	Lg	20 47 06.7	
	101nm,0.4s						
ECAB	**El Cabril**	**4.24**	**258**	Pn	**Pn**	**20 45 57.4**	**+0.4**
	1.7nm,0.1s,SNR=109						
ECAB				Sn	**Sn**	**20 46 45.9**	**-0.4**
	15nm,0.1s,SNR=6.8						
ECAB				Lg	Lg	20 47 06.7	
	101nm,0.4s						
MTLF	**Montolieu**	**4.60**	**22**	*e*Pn	**Pn**	**20 46 02.5**	**+0.7**
	SNR=1.0						
MTLF				*e*Sg	**Sg**	**20 47 18.3**	**-2.0**
	22nm,0.5s						
MTLF	**Montolieu**	**4.60**	**22**	Pn	**Pn**	**20 46 02.5**	**+0.7**
MTLF				*e*Sg	**Sg**	**20 47 18.3**	**-2.0**
	11nm,0.5s						
EPLA	**Plasencia**	**4.67**	**284**	Pn	**Pn**	**20 46 04.1**	**+1.3**
	0.8nm,0.1s,SNR=15						
EPLA				Pg	**Pg**	**20 46 21.2**	**-0.9**
	8.1nm,0.2s,SNR=15						
EPLA				Sn	**Sn**	**20 46 56.2**	**-0.7**
	3.0nm,0.1s						
EPLA				Lg	Lg	20 47 19.4	
	200nm,0.6s,SNR=8.5						
EPLA	**Plasencia**	**4.67**	**284**	Pn	**Pn**	**20 46 04.1**	**+1.3**
	0.8nm,

EBAD	**Badajoz**	**5.35 268**	Pn	**Pn**	**20 46 13.0**	**+0.9**
	1.0nm,0.1s,SNR=50					
EBAD			Pg	Pg	20 46 33.2	-1.9
	2.3nm,0.1s,SNR=8.7					
EBAD			Sn	**Sn**	**20 47 12.5**	**-1.1**
	30nm,0.3s,SNR=13					
EBAD			Lg	Lg	20 47 41.0	
	57nm,0.3s,SNR=6.6					
EBAD	**Badajoz**	**5.35 268**	Pn	**Pn**	**20 46 13.0**	**+0.9**
	1.0nm,0.1s,SNR=50					
EBAD			Sn	**Sn**	**20 47 12.5**	**-1.1**
	30nm,0.3s,SNR=13					
EBAD			Lg	Lg	20 47 41.0	
	57nm,0.3s,SNR=6.6					
PBAR	**Barrancos**	**5.46 262**	*e*Pn	**Pn**	**20 46 14.1**	**+0.4**
PBAR			*e*Sn	**Sn**	**20 47 15.6**	**-0.7**
PBAR			*e*Sg	**Sg**	**20 47 46.1**	**-1.8**
PBAR			A	A	20 47 55.7	
	55nm,0.7s					
PBAR	**Barrancos**	**5.46 262**	Pn	**Pn**	**20 46 14.1**	**+0.4**
PBAR			Sn	**Sn**	**20 47 15.6**	**-0.7**
PBAR			Lg	Lg	20 47 46.1	
	55nm,0.7s					
PBAR	**Barrancos**	**5.46 262**	Pn	**Pn**	**20 46 14.1**	**+0.4**
PBAR			Sn	**Sn**	**20 47 15.6**	**-0.7**
PBAR			Lg	Lg	20 47 46.1	
	55nm,0.7s					
PMRV	**Marv??o**	**5.62 276**	*e*Pn	**Pn**	**20 46 17.3**	**+1.5**
PMRV			*e*Sg	Sg	20 47 47.7	-5.3
PMRV			A	A	20 47 54.2	
	90nm,0.6s					
PMRV	**Marv??o**	**5.62 276**	Pn	**Pn**	**20 46 17.3**	**+1.5**
PMRV			Lg	Lg	20 47 47.7	
	90nm,0.6s					
PMRV	**Marv??o**	**5.62 276**	Pn	**Pn**	**20 46 17.3**	**+1.5**
PMRV			Lg	Lg	20 47 47.7	
	90nm,0.6s					
MVO	**Moncorvo**	**5.65 294**	*e*Pn	**Pn**	**20 46 17.7**	**+1.4**
MVO			*e*Sn	**Sn**	**20 47 20.9**	**-0.2**
MVO			*e*Sg	**Sg**	**20 47 52.5**	**-1.5**
MVO			A	A	20 48 03.1	
	49nm,0.7s					
MVO	**Moncorvo**	**5.65 294**	Pn	**Pn**	**20 46 17.7**	**+1.4**
	1.2nm,0.1s,SNR=9.8					
MVO			Sn	**Sn**	**20 47 20.2**	**-0.8**
	10.0nm,0.2s,SNR=7.9					
MVO			Lg	Lg	20 47 51.6	
	75nm,0.5s,SNR=8.8					
MVO	**Moncorvo**	**5.65 294**	Pn	**Pn**	**20 46 17.7**	**+1.4**
	1.2nm,0.1s,SNR=9.8					
MVO			*e*Sn	**Sn**	**20 47 20.9**	**-0.2**
MVO			Lg	Lg	20 47 51.6	
	75nm,0.5s,SNR=8.8					
EARI	**Arriondas**	**5.67 319**	Pn	**Pn**	**20 46 19.5**	**+3.0**
	0.3nm,0.2s,SNR=20					
EARI			Sn	**Sn**	**20 47 22.0**	**+0.6**
	1.5nm,0.2s,SNR=7.9					
EARI			Lg	Lg	20 47 53.4	
	25nm,0.7s					
EARI	**Arriondas**	**5.67 319**	Pn	**Pn**	**20 46 19.5**	**+3.0**
	0.3nm,0.2s,SNR=20					
EARI			Sn	**Sn**	**20 47 22.0**	**+0.6**
	1.5nm,0.2s,SNR=7.9					
EARI			Lg	Lg	20 47 53.4	
	25nm,0.7s					
PBRG	**Braganca**	**5.70 300**	*e*Pn	**Pn**	**20 46 18.6**	**+1.7**
PBRG			*e*Sg	**Sg**	**20 47 52.6**	**-2.9**
PBRG			A	A	20 48 01.9	
	31nm,0.5s					
PBRG	**Braganca**	**5.70 300**	Pn	**Pn**	**20 46 18.6**	**+1.7**
PBRG			Lg	Lg	20 47 52.6	
	15nm,0.5s					
PBRG	**Braganca**	**5.70 300**	Pn	**Pn**	**20 46 18.6**	**+1.7**
PBRG			Lg	Lg	20 47 52.6	
	15nm,0.5s					
PCBR	**Castelo Branco**	**5.71 280**	*e*Pn	**Pn**	**20 46 18.6**	**+1.6**
PCBR			*e*Sg	Sg	20 47 51.5	-4.3
PCBR			A	A	20 48 00.5	
	46nm,0.6s					
PCBR	**Castelo Branco**	**5.71 280**	Pn	**Pn**	**20 46 18.6**	**+1.6**
PCBR			Lg	Lg	20 47 51.5	
	23nm,0.6s					
PCBR	**Castelo Branco**	**5.71 280**	Pn	**Pn**	**20 46 18.6**	**+1.6**
PCBR			Lg	Lg	20 47 51.5	
	23nm,0.6s					
ECAL	**Calabor**	**5.76 302**	Pn	**Pn**	**20 46 19.5**	**+1.7**
	3.2nm,0.2s,SNR=1338					
ECAL			Sn	**Sn**	**20 47 23.5**	**-0.2**
	11nm,0.3s,SNR=7.9					
ECAL			Lg	Lg	20 47 55.2	
	67nm,0.4s					
ECAL	**Calabor**	**5.76 302**	Pn	**Pn**	**20 46 19.5**	**+1.7**
	3.0nm,0.1s,SNR=1000					
ECAL			Sn	**Sn**	**20 47 23.5**	**-0.2**
	11nm,0.3s,SNR=7.9					
ECAL			Lg	Lg	20 47 55.2	
	67nm,0.4s					
PESTR	**Estremoz**	**5.79 270**	*e*Pn	**Pn**	**20 46 19.2**	**+1.0**
PESTR			*e*Sn	**Sn**	**20 47 24.7**	**+0.2**
PESTR			*e*Sg	Sg	20 47 54.5	-4.0
PESTR			A	A	20 48 06.8	
	49nm,0.5s					
PESTR	**Estremoz**	**5.79 270**	Pn	**Pn**	**20 46 19.2**	**+1.0**
PESTR			Sn	**Sn**	**20 47 24.7**	**+0.2**
PESTR			Lg	Lg	20 47 54.5	
	24nm,0.5s					
PESTR	**Estremoz**	**5.79 270**	Pn	**Pn**	**20 46 19.2**	**+1.0**
PESTR			Sn	**Sn**	**20 47 24.7**	**+0.2**
PESTR			Lg	Lg	20 47 54.5	
	24nm,0.5s					
LASF	**Ste Croix**	**5.81 30**	*e*Pn	**Pn**	**20 46 18.9**	**+0.4**
	SNR=1.0					
LASF			*e*Sg	**Sg**	**20 47 56.2**	**-3.0**
	16nm,0.8s					
LASF	**Ste Croix**	**5.81 30**	Pn	**Pn**	**20 46 18.9**	**+0.4**
LASF			Lg	Lg	20 47 56.2	
	8.0nm,0.8s					
MTE	**Manteigas**	**5.83 285**	*e*Pn	**Pn**	**20 46 20.0**	**+1.2**
MTE			*e*Sg	**Sg**	**20 47 57.0**	**-2.9**
MTE			A	A	20 48 00.5	
	93nm,0.6s					
MTE	**Manteigas**	**5.83 285**	Pn	**Pn**	**20 46 20.0**	**+1.2**
MTE			Lg	Lg	20 47 57.0	
	46nm,0.6s					
MTE	**Manteigas**	**5.83 285**	Pn	**Pn**	**20 46 20.0**	**+1.2**
MTE			Lg	Lg	20 47 57.0	
	46nm,0.6s					
LFF	**La Frestale**	**5.87 6**	*e*Pn	**Pn**	**20 46 20.5**	**+1.2**
	SNR=1.0					
LFF			*e*Sn	**Sn**	**20 47 22.6**	**-3.8**
	13nm,0.4s,SNR=1.0					
LFF			*e*Sg	**Sg**	**20 47 59.2**	**-1.9**
	26nm,0.6s					
LFF	**La Frestale**	**5.87 6**	Pn	**Pn**	**20 46 20.5**	**+1.2**
LFF			Lg	Lg	20 47 59.2	
	13nm,0.6s					
EGRO	**El Granado**	**5.96 257**	⇑Pn	**Pn**	**20 46 20.5**	**-0.1**
	2.2nm,0.1s,SNR=18					
EGRO			Sn	**Sn**	**20 47 27.0**	**-1.7**
	16nm,0.3s,SNR=7.9					
EGRO			Lg	Lg	20 48 02.0	
	41nm,0.5s,SNR=1263					
EGRO	**El Granado**	**5.96 257**	Pn	**Pn**	**20 46 20.5**	**-0.1**
	2.2nm,0.1s,SNR=18					
EGRO			Lg	Lg	20 48 02.0	
	41nm,0.4s,SNR=1000					
CAF	**Calviac**	**6.05 15**	*e*Pn	**Pn**	**20 46 22.6**	**+0.8**
	SNR=1.0					
CAF			*e*Sn	**Sn**	**20 47 27.1**	**-3.8**
	10nm,0.4s,SNR=1.0					
CAF			*e*Sg	**Sg**	**20 48 05.2**	**-1.7**
	14nm,0.6s					
CAF	**Calviac**	**6.05 15**	Pn	**Pn**	**20 46 22.6**	**+0.8**
CAF			*e*Sg	**Sg**	**20 48 05.2**	**-1.7**
	7.2nm,0.6s					
EVO	**Evora**	**6.16 267**	*e*Pn	**Pn**	**20 46 24.8**	**+1.6**
EVO	**Evora**	**6.16 267**	*e*Pg	**Pg**	**20 46 50.3**	**-0.2**
EVO			*e*Sn	**Sn**	**20 47 37.4**	**+4.0**
EVO			*e*Sg	**Sg**	**20 48 08.9**	**-1.3**
EVO	**Evora**	**6.16 267**	*e*Pn	**Pn**	**20 46 23.8**	**+0.6**
EVO			*e*Sn	**Sn**	**20 47 32.9**	**-0.5**
EVO			*e*Sg	**Sg**	**20 48 08.6**	**-1.6**
EVO			A	A	20 48 19.2	
	39nm,0.4s					
EVO	**Evora**	**6.16 267**	Pn	**Pn**	**20 46 23.8**	**+0.6**
EVO			Sn	**Sn**	**20 47 32.9**	**-0.5**
EVO			Lg	Lg	20 48 08.6	
	39nm,0.4s					
EVO	**Evora**	**6.16 267**	Pn	**Pn**	**20 46 23.8**	**+0.6**
EVO			Sn	**Sn**	**20 47 32.9**	**-0.5**
EVO			Lg	Lg	20 48 08.6	
	39nm,0.4s					
PVIS	**Viseu**	**6.16 288**	*e*Pn	**Pn**	**20 46 24.0**	**+0.7**
PVIS			*e*Sg	Sg	20 48 05.3	-5.0
PVIS			A	A	20 48 11.1	
	36nm,0.4s					
PVIS	**Viseu**	**6.16 288**	Pn	**Pn**	**20 46 24.0**	**+0.7**
PVIS			Lg	Lg	20 48 05.3	
	18nm,0.4s					
PVIS	**Viseu**	**6.16 288**	Pn	**Pn**	**20 46 24.0**	**+0.7**
PVIS			Lg	Lg	20 48 05.3	
	18nm,0.4s					
PVRL	**Vila Real**	**6.18 293**	*e*Pn	**Pn**	**20 46 24.6**	**+1.1**
PVRL			*e*Sg	**Sg**	**20 48 07.3**	**-3.6**
PVRL			A	A	20 48 19.4	
	30nm,0.6s					
PVRL	**Vila Real**	**6.18 293**	Pn	**Pn**	**20 46 24.6**	**+1.1**
PVRL			Lg	Lg	20 48 07.3	
	15nm,0.6s					
PVRL	**Vila Real**	**6.18 293**	Pn	**Pn**	**20 46 24.6**	**+1.1**
PVRL			Lg	Lg	20 48 07.3	
	15nm,0.6s					
PVAQ	**Vaqueiros**	**6.18 256**	*e*Pn	**Pn**	**20 46 23.6**	**+0.1**
PVAQ			*e*Sg	**Sg**	**20 48 10.8**	**-0.2**
PVAQ			A	A	20 48 28.4	
	32nm,0.6s					
PVAQ	**Vaqueiros**	**6.18 256**	Pn	**Pn**	**20 46 23.6**	**+0.1**
PVAQ			Lg	Lg	20 48 10.8	
	32nm,0.6s					
PVAQ	**Vaqueiros**	**6.18 256**	Pn	**Pn**	**20 46 23.6**	**+0.1**
PVAQ			*e*Sg	**Sg**	**20 48 10.8**	**-0.2**
	32nm,0.6s					
EVOP	**Sao Brissos**	**6.24 267**	*e*Pn	**Pn**	**20 46 24.8**	**+0.4**
EVOP	**Sao Brissos**	**6.24 267**	*e*Pg	Pg	20 46 50.3	-1.8
EVOP			*e*Sn	**Sn**	**20 47 37.4**	**+1.9**
POLO	**Lamas de Olo**	**6.26 294**	*e*Pn	**Pn**	**20 46 26.1**	**+1.3**
POLO			*e*Sn	**Sn**	**20 47 35.7**	**-0.5**
POLO			*e*Sg	Sg	20 48 08.7	-5.0
POLO			A	A	20 48 22.4	
	17nm,0.6s					
POLO	**Lamas de Olo**	**6.26 294**	*e*Pn	**Pn**	**20 46 26.1**	**+1.3**
POLO			*e*Sn	**Sn**	**20 47 35.7**	**-0.5**
PMTG	**Montargil**	**6.27 272**	*e*Pn	**Pn**	**20 46 26.0**	**+1.2**
PMTG			*e*Sg	Sg	20 48 08.5	-5.4
PMTG			A	A	20 48 21.2	
	55nm,0.6s					
PMTG	**Montargil**	**6.27 272**	*e*Pn	**Pn**	**20 46 26.0**	**+1.2**
RJF	**Les Rejaudoux**	**6.32 11**	*e*Pn	**Pn**	**20 46 26.3**	**+0.8**
	SNR=1.0					
RJF			*e*Sn	**Sn**	**20 47 33.7**	**-3.8**
	9.9nm,0.4s,SNR=1.0					
RJF	**Les Rejaudoux**	**6.32 11**	Pn	**Pn**	**20 46 26.3**	**+0.8**
PCVE	**Castro Verde**	**6.36 259**	*e*Pn	**Pn**	**20 46 26.3**	**+0.3**
PCVE			*e*Sn	**Sn**	**20 47 37.1**	**-1.3**
PCVE			*e*Sg	**Sg**	**20 48 13.7**	**-3.0**
PCVE			A	A	20 48 28.3	
	22nm,0.6s					
PCVE	**Castro Verde**	**6.36 259**	Pn	**Pn**	**20 46 26.3**	**+0.3**
PCVE			Sn	**Sn**	**20 47 37.1**	**-1.3**
PCVE			Lg	Lg	20 48 13.7	
	22nm,0.6s					
PCVE	**Castro Verde**	**6.36 259**	Pn	**Pn**	**20 46 26.3**	**+0.3**
PCVE			Sn	**Sn**	**20 47 37.1**	**-1.3**
PCVE			Lg	Lg	20 48 13.7	
	22nm,0.6s					
PBDV	**Barranco-do-Ve**	**6.39 256**	*e*Pn	**Pn**	**20 46 26.7**	**+0.2**
PBDV			*e*Sn	**Sn**	**20 47 38.4**	**-0.9**
PBDV			A	A	20 48 23.1	
	27nm,0.5s					
PBDV	**Barranco-do-Ve**	**6.39 256**	Pn	**Pn**	**20 46 26.7**	**+0.2**
PBDV			Sn	**Sn**	**20 47 38.4**	**-0.9**
	27nm,0.5s					
PBDV	**Barranco-do-Ve**	**6.39 256**	Pn	**Pn**	**20 46 26.7**	**+0.2**
PBDV			*e*Sn	**Sn**	**20 47 38.4**	**-0.9**
	27nm,0.5s					
PTOM	**Tomar**	**6.41 277**	*e*Pn	**Pn**	**20 46 28.6**	**+1.9**
PTOM			*e*Sg	Sg	20 48 14.3	-4.1
PTOM			A	A	20 48 25.9	
	60nm,0.8s					
PTOM	**Tomar**	**6.41 277**	Pn	**Pn**	**20 46 28.6**	**+1.9**
PTOM			Lg	Lg	20 48 14.3	
	30nm,0.8s					
PTOM	**Tomar**	**6.41 277**	Pn	**Pn**	**20 46 28.6**	**+1.9**
PTOM			Lg	Lg	20 48 14.3	
	30nm,0.8s					
CMAH	**Djebel Manchou**	**6.49 110**	P	**Pn**	**20 46 28.0**	**+0.2**
SMRF	**Simiane la Rot**	**6.50 40**	*e*P	Pn	20 46 31.3	+3.4
PCAB	**Cabril**	**6.54 296**	*e*Pn	**Pn**	**20 46 30.1**	**+1.6**
PCAB			*e*Sg	Sg	20 48 18.4	-4.2
PCAB			A	A	20 48 25.6	
	27nm,0.5s					
PCAB	**Cabril**	**6.54 296**	Pn	**Pn**	**20 46 30.1**	**+1.6**
PCAB			Lg	Lg	20 48 18.4	
	14nm,0.5s					
PCAB	**Cabril**	**6.54 296**	Pn	**Pn**	**20 46 30.1**	**+1.6**
PCAB			Lg	Lg	20 48 18.4	
	14nm,0.5s					
LMR	**La Mourre**	**6.57 48**	*e*Pn	**Pn**	**20 46 29.2**	**+0.3**
	SNR=1.0					
LMR			*e*Sn	Sn	20 47 37.8	-5.8
	2.9nm,0.3s					
LMR	**La Mourre**	**6.57 48**	Pn	**Pn**	**20 46 29.2**	**+0.3**
ELOB	**Lobios**	**6.62 297**	Pn	**Pn**	**20 46 31.9**	**+2.2**
	0.5nm,0.1s,SNR=8.0					
ELOB			Sn	**Sn**	**20 47 43.4**	**-1.7**
	3.6nm,0.2s,SNR=7.9					
ELOB			Lg	Lg	20 48 21.2	
	34nm,0.5s,SNR=11					
ELOB	**Lobios**	**6.62 297**	Pn	**Pn**	**20 46 31.9**	**+2.2**
	0.5nm,0.1s,SNR=8.0					
ELOB			Lg	Lg	20 48 21.2	
	34nm,0.5s,SNR=11					
PNCL	**Nicolau / Gran**	**6.62 264**	*e*Pn	**Pn**	**20 46 30.3**	**+0.7**
PNCL			*e*Sg	**Sg**	**20 48 22.4**	**-2.8**
PNCL			A	A	20 48 29.8	
	20nm,0.7s					
PNCL	**Nicolau / Gran**	**6.62 264**	*e*Pn	**Pn**	**20 46 30.3**	**+0.7**
ABSA	**Djebel Ababsia**	**6.68 113**	P	**Pn**	**20 46 31.2**	**+0.7**
EPON	**Pontenova**	**6.75 311**	Pn	**Pn**	**20 46 32.8**	**+1.5**
	0.3nm,0.1s,SNR=7.9					
EPON			Sn	**Sn**	**20 47 45.5**	**-2.5**
	6.2nm,0.3s,SNR=7.9					
EPON			Lg	Lg	20 48 25.6	
	26nm,0.6s,SNR=7.9					
EPON	**Pontenova**	**6.75 311**	Pn	**Pn**	**20 46 32.8**	**+1.5**
	0.3nm,0.1s,SNR=7.9					
EPON			Lg	Lg	20 48 25.6	
	26nm,0.6s,SNR=7.9					
PACT	**Alcochete**	**6.77 270**	*e*Pn	**Pn**	**20 46 33.5**	**+1.9**
PACT			*e*Sg	**Sg**	**20 48 25.9**	**-3.9**
PACT			A	A	20 48 40.6	
	51nm,0.9s					
PACT	**Alcochete**	**6.77 270**	*e*Pn	**Pn**	**20 46 33.5**	**+1.9**
VIVF	**Saint-Julien-l**	**6.79 30**	*e*Pn	**Pn**	**20 46 32.5**	**+0.6**
VIVF			*e*Sg	**Sg**	**20 48 26.6**	**-3.7**
	8.4nm,0.7s					
VIVF	**Saint-Julien-l**	**6.79 30**	Pn	**Pn**	**20 46 32.5**	**+0.6**
VIVF			Lg	Lg	20 48 26.6	
	4.2nm,0.7s					
FRF	**La Foret Royal**	**6.79 47**	*e*Pn	**Pn**	**20 46 31.9**	**0.0**
	SNR=1.0					
FRF			*e*Sn	Sn	20 47 42.8	-6.2
	2.2nm,0.2s					
FRF	**La Foret Royal**	**6.79 47**	Pn	**Pn**	**20 46 31.9**	**0.0**
PGAV	**Gavieira, Arco**	**6.80 297**	*e*Pn	**Pn**	**20 46 34.1**	**+1.9**
PGAV			*e*Sn	**Sn**	**20 47 48.6**	**-0.9**
PGAV			*e*Sg	**Sg**	**20 48 28.2**	**-2.8**
PGAV			A	A	20 48 57.5	
	20nm,0.6s					
PGAV	**Gavieira, Arco**	**6.80 297**	*e*Pn	**Pn**	**20 46 34.1**	**+1.9**
PGAV			*e*Sn	**Sn**	**20 47 48.6**	**-0.9**
PTEO	**Sao Teotonio**	**6.91 260**	*e*Pn	**Pn**	**20 46 34.2**	**+0.7**
PTEO			*e*Sg	**Sg**	**20 48 32.2**	**-2.1**
PTEO			A	A	20 48 46.3	
	34nm,0.6s					
PTEO	**Sao Teotonio**	**6.91 260**	Pn	**Pn**	**20 46 34.2**	**+0.7**
PTEO			Lg	Lg	20 48 32.2	
	17nm,0.6s					
PTEO	**Sao Teotonio**	**6.91 260**	Pn	**Pn**	**20 46 34.2**	**+0.7**
PTEO			Lg	Lg	20 48 32.2	
	17nm,0.6s					
MORF	**Marmelete**	**6.92 258**	*e*Pn	**Pn**	**20 46 34.0**	**+0.3**
MORF			*e*Sn	**Sn**	**20 47 51.3**	**-1.0**
MORF			A	A	20 48 44.8	
	8.2nm,0.8s					
MORF	**Marmelete**	**6.92 258**	Pn	**Pn**	**20 46 34.0**	**+0.3**
MORF			Sn	**Sn**	**20 47 51.3**	**-1.0**
	8.2nm,0.8s					
MORF	**Marmelete**	**6.92 258**	Pn	**Pn**	**20 46 34.0**	**+0.3**
MORF			*e*Sn	**Sn**	**20 47 51.3**	**-1.0**
	8.2nm,0.8s					
PMAFR	**Mafra**	**7.10 272**	*e*Pn	**Pn**	**20 46 37.6**	**+1.4**
PMAFR			A	A	20 49 04.2	
	44nm,0.6s					
PMAFR	**Mafra**	**7.10 272**	Pn	Pn	20 46 33.9	-2.3
	0.1nm,0.0s,SNR=7.9					
PMAFR			Sn	**Sn**	**20 47 52.2**	**-4.5**
	3.5nm,0.2s,SNR=7.9					
PMAFR			Lg	Lg	20 48 34.7	
	95nm,0.5s,SNR=7.9					
PMAFR	**Mafra**	**7.10 272**	*e*Pn	**Pn**	**20 46 37.6**	**+1.4**
	44nm,0.6s					
PMAFR			Lg	Lg	20 48 34.7	
	95nm,0.5s,SNR=7.9					
PFVI	**Vila Bisbo**	**7.11 257**	*e*Pn	**Pn**	**20 46 36.2**	**-0.1**
PFVI			*e*Sn	**Sn**	**20 47 54.7**	**-2.1**
PFVI			A	A	20 48 53.2	
	19nm,0.7s					
PFVI	**Vila Bisbo**	**7.11 257**	Pn	**Pn**	**20 46 36.1**	**-0.1**
	0.5nm,0.1s,SNR=17					
PFVI			Sn	**Sn**	**20 47 54.8**	**-2.1**
	2.5nm,0.2s,SNR=7.9					
PFVI			Lg	Lg	20 48 35.9	
	33nm,0.7s,SNR=5.9					
PFVI	**Vila Bisbo**	**7.11 257**	*e*Pn	**Pn**	**20 46 36.2**	**-0.1**
PFVI			Lg	Lg	20 48 35.8	
	33nm,0.7s,SNR=5.9					
MDT	**Midelt**	**7.23 211**	Pn	**Pn**	**20 46 40.4**	**+2.2**
	baz=35,slow=8.3,SNR=19					
MDT			Sn	**Sn**	**20 47 58.9**	**-1.2**
	0.1nm,0.3s,baz=130,slow=11,SNR=2.1					
TCF	**Toulx Ste Croi**	**7.39 13**	*e*Pn	**Pn**	**20 46 40.6**	**+0.4**
	SNR=1.0					
TCF			*e*Sn	**Sn**	**20 47 58.8**	**-5.1**
	3.9nm,0.4s,SNR=1.0					
TCF	**Toulx Ste Croi**	**7.39 13**	Pn	**Pn**	**20 46 40.6**	**+0.4**
SBF	**Sospel**	**7.43 48**	*e*Pn	**Pn**	**20 46 39.9**	**-0.8**
	SNR=1.0					
SBF	**Sospel**	**7.43 48**	Pn	**Pn**	**20 46 39.9**	**-0.8**
MFF	**Saint Martin d**	**7.50 0**	*e*Pn	**Pn**	**20 46 42.2**	**+0.6**
MFF	**Saint Martin d**	**7.50 0**	Pn	**Pn**	**20 46 42.2**	**+0.6**
MBDF	**Montbardon**	**7.64 40**	*e*Pn	**Pn**	**20 46 42.8**	**-0.8**
MBDF	**Montbardon**	**7.64 40**	Pn	**Pn**	**20 46 42.8**	**-0.8**
EMAZ	**Mazaricos**	**7.69 303**	Pn	**Pn**	**20 46 44.6**	**+0.3**
	0.4nm,0.2s,SNR=7.9					
EMAZ			Sn	**Sn**	**20 48 07.4**	**-3.8**
	1.9nm,0.3s,SNR=7.9					
EMAZ			Lg	Lg	20 48 54.5	
	14nm,0.6s,SNR=7.9					
EMAZ	**Mazaricos**	**7.69 303**	Pn	**Pn**	**20 46 44.6**	**+0.3**
	0.4nm,0.2s,SNR=7.9					
EMAZ			Lg	Lg	20 48 54.5	
	14nm,0.6s,SNR=7.9					
PGF	**Pioggiola**	**7.75 61**	*e*Pn	**Pn**	**20 46 44.9**	**-0.3**
	SNR=1.0					
PGF	**Pioggiola**	**7.75 61**	Pn	**Pn**	**20 46 44.9**	**-0.3**
BGF	**Bois d'Agland**	**7.77 16**	*e*Pn	**Pn**	**20 46 45.5**	**+0.1**
	SNR=1.0					
BGF			*e*Sn	**Sn**	**20 48 09.3**	**-3.9**
	13nm,0.5s,SNR=1.0					
BGF	**Bois d'Agland**	**7.77 16**	Pn	**Pn**	**20 46 45.5**	**+0.1**
SMF	**Signal de Mont**	**8.09 20**	*e*Pn	**Pn**	**20 46 49.7**	**-0.1**
SMF	**Signal de Mont**	**8.09 20**	Pn	**Pn**	**20 46 49.7**	**-0.1**
AVF	**Avril sur Loir**	**8.11 17**	*e*Pn	**Pn**	**20 46 49.2**	**-0.7**
AVF	**Avril sur Loir**	**8.11 17**	*e*P	Pn	20 46 54.8	+4.9
	SNR=1.0					
AVF	**Avril sur Loir**	**8.11 17**	Pn	**Pn**	**20 46 49.2**	**-0.7**
LPG	**La Plagne**	**8.19 36**	*e*P	**Pn**	**20 46 54.2**	**+2.8**
LPG	**La Plagne**	**8.19 36**	Pn	**Pn**	**20 46 54.2**	**+2.8**
LPL	**La Plagne**	**8.20 36**	*e*P	**Pn**	**20 46 54.4**	**+3.0**
KEST	**Kesra**	**8.28 111**	*e*Pn	**Pn**	**20 46 54.1**	**+1.7**
KEST			*e*Sn	**Sn**	**20 48 23.2**	**-2.6**
KEST	**Kesra**	**8.28 111**	Pn	**Pn**	**20 46 55.4**	**+3.0**
	baz=299,slow=1.4,SNR=24					
KEST			Sn	**Sn**	**20 48 23.5**	**-2.3**
	baz=337,slow=22,SNR=3.6					
KEST	**Kesra**	**8.28 111**	*e*Pn	**Pn**	**20 46 54.1**	**+1.7**
KEST			*e*Sn	**Sn**	**20 48 23.2**	**-2.6**
HYF	**Humbligny**	**8.42 13**	*e*Pn	**Pn**	**20 46 53.5**	**-0.7**
HYF	**Humbligny**	**8.42 13**	Pn	**Pn**	**20 46 53.5**	**-0.7**
CABF	**La Chapelle**	**8.80 29**	*e*Pn	**Pn**	**20 46 58.4**	**-1.1**
CABF	**La Chapelle**	**8.80 29**	Pn	**Pn**	**20 46 58.4**	**-1.1**
QUIF	**Quistinic**	**9.08 347**	*e*Pn	**Pn**	**20 47 04.0**	**+0.8**
	SNR=1.0					
QUIF			*e*Sn	**Sn**	**20 48 40.4**	**-4.8**
	5.2nm,0.5s,SNR=1.0					
QUIF	**Quistinic**	**9.08 347**	Pn	**Pn**	**20 47 04.0**	**+0.8**
GRR	**Gorron**	**9.30 357**	*e*Pn	**Pn**	**20 47 06.3**	**0.0**
	SNR=1.0					
GRR			*e*Sn	Sn	20 48 44.4	-6.2
	3.4nm,0.4s,SNR=1.0					
GRR	**Gorron**	**9.30 357**	Pn	**Pn**	**20 47 06.3**	**0.0**
SGMF	**Saint Gilles**	**9.31 350**	*e*Pn	**Pn**	**20 47 07.5**	**+1.0**
	SNR=1.0					
SGMF	**Saint Gilles**	**9.31 350**	Pn	**Pn**	**20 47 07.5**	**+1.0**
LDF	**La Druitiere**	**9.49 0**	*e*Pn	**Pn**	**20 47 08.9**	**0.0**
LDF	**La Druitiere**	**9.49 0**	*e*Pn	**Pn**	**20 47 08.9**	**0.0**
ROSF	**Rostrenen**	**9.50 347**	*e*Pn	**Pn**	**20 47 09.7**	**+0.6**
	SNR=1.0					
ROSF	**Rostrenen**	**9.50 347**	Pn	**Pn**	**20 47 09.7**	**+0.6**
DAVOX	**Davos/Dischmat**	**10.63 41**	Pn	Pn	20 47 28.3	+3.7
	0.2nm,0.3s,baz=177,slow=18,SNR=2.4					
GERES	**GERESS Array B**	**13.93 41**	Pn	**Pn**	**20 48 11.1**	**+1.4**
	baz=230,slow=12,SNR=5.7					
EKA	**Eskdalemuir Ar**	**16.36 354**	Pn	**P**	**20 48 44.4**	**-0.3**
	baz=176,slow=14,SNR=2.8			

WRA	**Warramunga Arr**	**50.16 257**	P		**P**	**20 55 59.0**	**-1.8**
WRA	**Warramunga Arr**	**50.16 257**	P		**P**	**20 55 59.0**	**-1.8**
	2.0nm,0.6s,baz=90,slow=6.7,SNR=8.1						
AS31	**Alice Springs**	**50.42 252**	*e*P		**P**	**20 56 00.3**	**-2.4**
ASAR	**Alice Springs**	**50.42 252**	P		**P**	**20 56 00.9**	**-1.8**
ASAR	**Alice Springs**	**50.42 252**	P		**P**	**20 56 00.9**	**-1.8**
	6.3nm,0.7s,baz=86,slow=8.6,SNR=7.6						
SBA	**Scott Base**	**63.27 185**	*e*P		**P**	**20 57 34.2**	**+1.3**
	9.3nm,1.0s						
VNDA	**Vanda**	**63.40 186**	*e*P		**P**	**20 57 34.2**	**+0.4**
	5.4nm,1.0s						
VNDA	**Vanda**	**63.40 186**	P		**P**	**20 57 34.2**	**+0.4**
	4.2nm,0.9s,baz=12,slow=6.7,SNR=14						
KSRS	**Korea Array**	**76.39 315**	P		**P**	**20 58 55.6**	**+1.4**
	1.8nm,0.9s,baz=132,slow=6.1,SNR=5.7						
KSAR	**Wonju Array Be**	**76.42 315**	P		**P**	**20 58 55.6**	**+1.3**
TXAR	**Lajitas Array**	**80.35 56**	P		**P**	**20 59 17.1**	**+0.7**
TXAR	**Lajitas Array**	**80.35 56**	P		**P**	**20 59 17.2**	**+0.7**
	0.7nm,0.8s,baz=127,slow=16,SNR=4.3						
PDAR	**Pinedale Array**	**82.06 42**	P		**P**	**20 59 24.6**	**-0.8**
PDAR	**Pinedale Array**	**82.06 42**	P		**P**	**20 59 24.6**	**-0.8**
	0.6nm,1.0s,baz=202,slow=1.0,SNR=2.9						
ILAR	**Eielson Array**	**82.39 11**	P		**P**	**20 59 26.3**	**-0.1**
ILAR	**Eielson Array**	**82.39 11**	P		**P**	**20 59 26.3**	**-0.1**
	1.0nm,0.8s,baz=215,slow=4.9,SNR=4.6						
APG	**El Apazote**	**87.01 74**	P		**P**	**20 59 51.7**	**+0.7**
APG	**El Apazote**	**87.01 74**	P		**P**	**20 59 51.7**	**+0.7**
	5.0nm,1.0s,baz=243,slow=9.0,SNR=1.9						
MAW	**Mawson**	**87.89 199**	P		**P**	**20 59 53.6**	**-0.3**
MAW	**Mawson**	**87.89 199**	P		**P**	**20 59 53.6**	**-0.3**
	5.6nm,1.1s,baz=143,slow=6.6,SNR=7.5						
CMAR	**Chiang Mai Arr**	**92.93 288**	P		**P**	**21 00 20.7**	**+2.3**
CMAR	**Chiang Mai Arr**	**92.93 288**	P		**P**	**21 00 20.7**	**+2.3**
	0.4nm,0.8s,baz=92,slow=3.0,SNR=3.7						
LSZ	**Lusaka**	**142.98 216**	PKP		**PKPdf**	**21 06 37.9**	**-1.7**
LSZ	**Lusaka**	**142.98 216**	PKP		**PKPdf**	**21 06 37.9**	**-1.7**
	1.3nm,0.7s,baz=82,slow=7.1,SNR=3.8						
DPC	**Dobruska-Polom**	**144.33 350**	*e*PKP		**PKPdf**	**21 06 42.3**	**+1.5**
DPC			*ex*		x	21 06 48.7	
VRAC	**Vranov**	**145.28 349**	PKPbc		**PKPbc**	**21 06 41.1**	**-1.0**
VRAC	**Vranov**	**145.28 349**	PKPbc		**PKPbc**	**21 06 41.1**	**-1.0**
	2.8nm,0.8s,baz=0.4,slow=4.9,SNR=2.9						
KMBO	**Kilima Mbogo**	**145.82 244**	PKPbc		**PKPab**	**21 06 46.1**	**+0.5**
KMBO	**Kilima Mbogo**	**145.82 244**	PKPbc		**PKPab**	**21 06 46.1**	**+0.5**
	0.6nm,0.5s,baz=104,slow=7.4,SNR=2.7						
KHC	**Kasperske Hory**	**145.93 352**	*e*PKP		**PKPdf**	**21 06 43.1**	**-0.5**
KHC			*ex*		x	21 06 53.9	
MLR	**Muntele Rosu**	**146.01 336**	PKPbc		**PKPab**	**21 06 44.1**	**-1.1**
MLR	**Muntele Rosu**	**146.01 336**	PKPbc		**PKPab**	**21 06 44.1**	**-1.1**
	0.6nm,0.7s,baz=169,slow=16,SNR=2.8						
GERES	**GERESS Array B**	**146.20 352**	PKPbc		**PKPab**	**21 06 44.8**	**-1.0**
GERES	**GERESS Array B**	**146.20 352**	PKPbc		**PKPab**	**21 06 44.8**	**-1.0**
	1.6nm,0.8s,baz=338,slow=2.9,SNR=7.5						
BRTR	**Keskin Array B**	**146.37 321**	PKPbc		**PKPab**	**21 06 48.1**	**+1.2**
BRTR	**Keskin Array B**	**146.37 321**	PKPbc		**PKPab**	**21 06 48.1**	**+1.2**
	5.8nm,0.9s,baz=120,slow=3.1,SNR=7.1						
DAVOX	**Davos/Dischmat**	**148.63 356**	PKPbc		**PKPab**	**21 06 53.5**	**-2.1**
DAVOX	**Davos/Dischmat**	**148.63 356**	PKPbc		**PKPab**	**21 06 53.5**	**-2.1**
	3.2nm,0.8s,baz=90,slow=1.0,SNR=2.5						
MMAI	**Mount Meron Ar**	**148.83 309**	PKPbc		**PKPbc**	**21 06 53.1**	**+0.3**
MMAI	**Mount Meron Ar**	**148.83 309**	PKPbc		**PKPbc**	**21 06 53.1**	**+0.3**
	0.9nm,0.6s,baz=60,slow=8.5,SNR=3.1						
ESDC	**Sonseca Array**	**154.01 19**	PKPab		**PKPab**	**21 07 17.1**	**-0.8**
ESDC	**Sonseca Array**	**154.01 19**	PKPab		**PKPab**	**21 07 17.1**	**-0.8**
	0.7nm,0.5s,baz=342,slow=4.7,SNR=7.8						

*IDC **29** 20:47:53.6±1.3, 0°.64S×133°.03E, h0km, mb3.8/4, mb1 3.9/6, mb1mx3.7/22, mbtmp3.8/6, Error ellipse: s-maj=63.0km s-min=18.5km az=73.0*
*ISCJB **29** 20:47:55.0±1.0, 0°.59S±0°.06×133°.4E±0°.1, h32km, mb3.8/4, Error ellipse: s-maj=16.3km s-min=8.6km az=174.4*
*AUST **29** 20:47:54.6, 0°.49S×133°.50E, h60km*
ISC 29 20:47:57.9±1.3, 0°.72S±0°.08×133°.2E±0°.1, h32km, n16, σ2s71/17, mb3.9/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**1.92**	**266**	P	**Pn**	**20 48 27.0**	**-1.4**
	baz=2.3,SNR=142						
FAKI	**Fak Fak**	**2.37**	**203**	P	**Pn**	**20 48 36.0**	**+1.4**
	baz=2.7,SNR=105						
FAKI				S	**Sb**	**20 49 07.4**	**-1.4**
	baz=2.7,SNR=5.9						
TLE	**Tual**	**4.90**	**185**	P	Pn	20 49 12.3	+2.8
	baz=5.2,SNR=10						
TLE				S	**Sn**	**20 50 08.9**	**+3.8**
	baz=5.2,SNR=3.2						
BNDI	**Bandanaira**	**4.99**	**221**	P	Pn	20 49 15.4	+4.7
	baz=5.4,SNR=3.8						
AAI	**Ambon**	**5.78**	**239**	P	**Pn**	**20 49 23.6**	**+2.0**
	baz=6.2,SNR=9.8						
KDU	**Kakadu**	**11.91**	**183**	P	**Pn**	**20 50 45.4**	**-0.2**
	baz=12,SNR=20						
KDU				S	**Sn**	**20 52 53.6**	**-3.8**
	baz=12,SNR=5.4						
KNRA	**Kununurra**	**15.48**	**196**	P	**Pn**	**20 51 31.8**	**-2.3**
	baz=16,SNR=31						
WSI	**Waingapu**	**15.59**	**235**	S	**S**	**20 54 45.6**	**+3.6**
	baz=16,SNR=4.7						
FITZ	**Fitzroy Crossi**	**18.79**	**203**	P	**P**	**20 52 14.3**	**-0.5**
	baz=14,slow=22,SNR=13						
FITZ				S	Sn	20 55 28.9	-16
	0.1nm,0.3s,baz=117,slow=18,SNR=2.1						
FITZ	**Fitzroy Crossi**	**18.79**	**203**	P	**P**	**20 52 14.5**	**-0.3**
	baz=19,SNR=9.9						
WRA	**Warramunga Arr**	**19.14**	**177**	P	**Pn**	**20 52 20.2**	**+0.6**
	baz=356,slow=12,SNR=6.8						
WRA				S	**Sn**	**20 55 46.8**	**-6.5**
	0.1nm,0.3s,baz=353,slow=21,SNR=4.5						
MTSU	**Mount Surprise**	**20.48**	**148**	P	P	20 52 26.8	-6.4
	baz=21,SNR=4.9						
ASAR	**Alice Springs**	**22.82**	**178**	P	**P**	**20 52 59.5**	**+1.2**
	1.0nm,0.3s,baz=358,slow=11,SNR=22						
CTA	**Charters Tower**	**23.11**	**147**	P	**P**	**20 53 02.6**	**+1.2**
	3.7nm,0.9s,baz=337,slow=13,SNR=2.4						
MKAR	**Makanchi Array**	**64.89**	**324**	P	**P**	**20 58 34.1**	**-0.2**
	0.8nm,0.5s,baz=109,slow=8.4,SNR=18						
ZALV	**Zalesovo Beam**	**67.50**	**331**	P	**P**	**20 58 50.2**	**-0.6**
	0.4nm,0.5s,baz=132,slow=8.6,SNR=3.4						

*IDC **29** 20:49:05.5±1.2, 15°.79S×172°.90W, h0km, mb4.1/7, mb1 4.3/7, mb1mx4.1/19, mbtmp4.1/7, Error ellipse: s-maj=62.4km s-min=21.3km az=144.0*
*NEIC **29** 20:49:07.2±0.5, 15°.69S×172°.97W, h10km, mb4.5/2, Error ellipse: s-maj=26.7km s-min=15.7km az=134.0*
ISC 29 20:49:09.7±0.6, 15°.55S±0°.1×172°.9W±0°.2, h29km, n33, σ1s42/32, mb4.0/9, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.92**	**35**	Pn	Pn	20 49 30.7	-10
AFI				Sn	**Sn**	**20 50 00.9**	**-2.8**
AFI	**Afiamalu**	**1.92**	**35**	Pn	Pn	20 49 30.7	-10
	34nm,0.3s,baz=192,slow=19,SNR=2.3						
AFI				Sn	**Sn**	**20 50 00.9**	**-2.8**
	baz=91,slow=23,SNR=6.2						
RAO	**Raoul Island**	**14.46**	**198**	Pn	**P**	**20 52 37.5**	**-1.4**
RAO	**Raoul Island**	**14.46**	**198**	Pn	**P**	**20 52 37.4**	**-1.4**
	16nm,0.3s,baz=22,slow=19,SNR=3.0						
URZ	**Urewera**	**24.33**	**199**	P	**P**	**20 54 27.4**	**+2.4**
	26nm,0.9s						
STKA	**Stephens Creek**	**44.40**	**240**	P	P	20 57 13.2	-4.8
STKA	**Stephens Creek**	**44.40**	**240**	P	**P**	**20 57 16.5**	**-1.4**
	2.0nm,0.8s,baz=88,slow=13,SNR=2.3						
WRA	**Warramunga Arr**	**50.27**	**257**	P	**P**	**20 58 03.0**	**-0.9**
WRA	**Warramunga Arr**	**50.27**	**257**	P	**P**	**20 58 03.0**	**-0.9**
	0.8nm,0.8s,baz=92,slow=6.5,SNR=5.2						
ASAR	**Alice Springs**	**50.52**	**252**	P	**P**	**20 58 04.5**	**-1.3**
ASAR	**Alice Springs**	**50.52**	**252**	P	**P**	**20 58 04.5**	**-1.3**
	4.1nm,0.7s,baz=90,slow=7.2,SNR=5.3						
PETK	**Petropavlovsk-**	**72.85**	**342**	P	**P**	**21 00 37.1**	**+1.5**
PETK	**Petropavlovsk-**	**72.85**	**342**	P	**P**	**21 00 37.1**	**+1.5**
	3.3nm,0.8s,baz=156,slow=11,SNR=4.0						
QSPA	**South Pole Qui**	**74.56**	**180**	*e*P	**P**	**21 00 45.3**	**-0.4**
	2.7nm,1.0s						
TXAR	**Lajitas Array**	**80.28**	**56**	P	**P**	**21 01 18.5**	**+0.2**
TXAR	**Lajitas Array**	**80.28**	**56**	P	**P**	**21 01 18.5**	**+0.2**
	1.6nm,1.1s,baz=249,slow=5.0,SNR=4.6						
PDAR	**Pinedale Array**	**82.02**	**42**	P	**P**	**21 01 29.2**	**+1.7**
PDAR	**Pinedale Array**	**82.02**	**42**	P	**P**	**21 01 29.2**	**+1.7**
	1.3nm,1.0s,baz=235,slow=5.2,SNR=4.6						
COLA	**College**	**82.36**	**11**	*e*P	**P**	**21 01 29.5**	**+1.1**
ILAR	**Eielson Array**	**82.44**	**11**	P	**P**	**21 01 30.7**	**+1.8**
ILAR	**Eielson Array**	**82.44**	**11**	P	**P**	**21 01 30.7**	**+1.8**
	0.9nm,0.7s,baz=213,slow=6.5,SNR=4.7						
LSZ	**Lusaka**	**143.00 215**	PKP		**PKPdf**	**21 08 41.7**	**-0.1**
LSZ	**Lusaka**	**143.00 215**	PKP		**PKPdf**	**21 08 41.7**	**-0.1**
	2.8nm,1.1s,baz=61,slow=9.3,SNR=3.2						
KMBO	**Kilima Mbogo**	**145.91 244**	PKPbc		**PKPab**	**21 08 48.4**	**+0.1**
KMBO	**Kilima Mbogo**	**145.91 244**	PKPbc		**PKPab**	**21 08 48.4**	**+0.1**
	1.2nm,0.7s,baz=23,slow=7.7,SNR=2.1						
MLR	**Muntele Rosu**	**146.14 336**	PKPbc		**PKPab**	**21 08 47.5**	**-0.5**
MLR	**Muntele Rosu**	**146.14 336**	PKPbc		**PKPab**	**21 08 47.5**	**-0.5**
	0.5nm,0.7s,baz=151,slow=19,SNR=2.4						
GERES	**GERESS Array B**	**146.29 352**	PKPbc		**PKPab**	**21 08 49.1**	**+0.7**
GERES	**GERESS Array B**	**146.29 352**	PKPbc		**PKPab**	**21 08 49.1**	**+0.7**
	0.3nm,0.6s,baz=343,slow=3.1,SNR=2.7						
BRTR	**Keskin Array B**	**146.51 321**	PKPbc		**PKPab**	**21 08 50.5**	**+0.8**
BRTR	**Keskin Array B**	**146.51 321**	PKPbc		**PKPab**	**21 08 50.5**	**+0.8**
	baz=95,slow=2.4,SNR=5.7						
MMAI	**Mount Meron Ar**	**148.98 309**	PKPbc		**PKPab**	**21 08 58.0**	**-1.6**
MMAI	**Mount Meron Ar**	**148.98 309**	PKPbc		**PKPab**	**21 08 58.0**	**-1.6**
	baz=57,slow=3.5,SNR=5.3						

IDC 29 20:51:44.1±10.0, 14°.76S×173°.87W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.6/17, mbtmp3.6/2, Error ellipse: s-maj=464.9km s-min=61.6km az=139.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**49.55**	**256**	P	P	21 00 37.8	+0.5
	0.6nm,1.0s,baz=90,slow=7.8,SNR=3.5						
ASAR	**Alice Springs**	**49.88**	**251**	P	P	21 00 39.0	-0.8
	0.8nm,0.6s,baz=86,slow=8.1,SNR=4.6						
BRTR	**Keskin Array B**	**145.38**	**321**	PKPbc	PKPbc	21 11 23.6	-0.9
	0.8nm,0.9s,baz=28,slow=3.4,SNR=3.3						

IDC 29 20:53:16.4±9.7, 16°.80S×172°.37W, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.6/18, mbtmp3.6/3, Error ellipse: s-maj=425.3km s-min=40.2km az=140.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**50.50**	**258**	P	P	21 02 18.1	+1.3
	0.2nm,0.5s,baz=92,slow=6.8,SNR=6.5						
ASAR	**Alice Springs**	**50.63**	**253**	P	P	21 02 16.1	-1.7
	0.6nm,0.5s,baz=88,slow=7.6,SNR=5.5						
ILAR	**Eielson Array**	**83.63**	**11**	P	P	21 05 46.4	+0.1
	0.5nm,0.7s,baz=188,slow=6.2,SNR=4.2						

*IDC **29** 20:54:12.3±0.5, 15°.61S×173°.10W, h0km, mb4.5/18, mb1 4.6/19, mb1mx4.6/22, mbtmp4.5/19, ML4.3/1, Error ellipse: s-maj=24.9km s-min=14.2km az=154.0*
*NEIC **29** 20:54:13.8±0.3, 15°.34S×173°.23W, h10km, mb4.6/15, Error ellipse: s-maj=15.4km s-min=7.6km az=146.0*
*SZGRF **29** 20:54:14.2, 16°.69S×173°.11W, h33km, Tonga Islands*
ISC 29 20:54:16.7±0.4, 15°.6S±0°.1×173°.10W±0°.09, h29km, n326, σ0s79/326, mb4.5/33, 112C-97D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.10**	**38**	*e*Pn	Pn	20 54 42.4	-7.7
AFI				Sn	Sn	20 55 01.5	-14
AFI	**Afiamalu**	**2.10**	**38**	Pn	Pn	20 54 43.8	-6.3
	184nm,0.3s,baz=22,slow=13,SNR=4.9						
AFI				Sn	Sn	20 55 01.5	-14
	502nm,0.3s,baz=49,slow=23,SNR=7.1						
RAR	**Rarotonga**	**13.82**	**116**	*e*Pn	Pn	20 57 27.4	-3.4
	40nm,0.8s						
RAR	**Rarotonga**	**13.82**	**116**	Pn	**Pn**	**20 57 28.4**	**-2.4**
	1.6nm,0.3s,baz=270,slow=7.0,SNR=6.6						
DZM	**Mont Dzumac**	**20.40**	**248**	P	Pn	20 58 52.8	-1.1
DZM	**Mont Dzumac**	**20.40**	**248**	P	Pn	20 58 52.8	-1.1
	14nm,1.1s,baz=93,slow=18,SNR=3.1						
EIDS	**Eidsvold**	**34.84**	**248**	P	**P**	**21 01 04.1**	**-1.5**
	5.5nm,1.2s						
CTA	**Charters Tower**	**38.88**	**257**	P	**P**	**21 01 39.3**	**-0.7**
CTA	**Charters Tower**	**38.88**	**257**	P	**P**	**21 01 39.3**	**-0.7**
	5.1nm,0.9s,baz=63,slow=2.3,SNR=3.0						
CTAO	**Charters Tower**	**38.88**	**257**	P	**P**	**21 01 37.9**	**-2.2**
	20nm,1.3s						
STKA	**Stephens Creek**	**44.20**	**240**	P	**P**	**21 02 21.7**	**-1.7**
STKA	**Stephens Creek**	**44.20**	**240**	P	**P**	**21 02 21.7**	**-1.7**
	4.2nm,0.7s,baz=58,slow=3.5,SNR=5.7						
WRAB	**Tennant Creek**	**50.08**	**257**	*e*P	**P**	**21 03 07.3**	**-2.1**
	15nm,1.2s						
WRA	**Warramunga Arr**	**50.09**	**257**	P	**P**	**21 03 08.1**	**-1.5**
WRA	**Warramunga Arr**	**50.09**	**257**	P	**P**	**21 03 08.1**	**-1.5**
	3.2nm,0.6s,baz=84,slow=6.3,SNR=40						
AS31	**Alice Springs**	**50.33**	**252**	*e*P	**P**	**21 03 09.5**	**-1.9**
ASAR	**Alice Springs**	**50.33**	**252**	P	**P**	**21 03 10.4**	**-1.0**
ASAR	**Alice Springs**	**50.33**	**252**	P	**P**	**21 03 10.4**	**-1.0**
	13nm,0.8s,baz=85,slow=8.6,SNR=40						
FITZ	**Fitzroy Crossi**	**58.46**	**258**	P	**P**	**21 04 10.8**	**+0.3**
FITZ	**Fitzroy Crossi**	**58.46**	**258**	P	**P**	**21 04 10.8**	**+0.3**
	2.6nm,1.1s,baz=76,slow=8.3,SNR=2.7						
SBA	**Scott Base**	**63.09**	**185**	*e*P	P	21 04 45.0	+4.0
	8.4nm,1.1s						
VNDA	**Vanda**	**63.22**	**186**	*e*P	P	21 04 45.3	+3.4
	4.3nm,1.0s						
VNDA	**Vanda**	**63.22**	**186**	P	P	21 04 45.5	+3.6
	3.3nm,1.0s,baz=4.8,slow=6.2,SNR=10						
MONP	**Monument Peak**	**72.48**	**47**	⇑P	**P**	**21 05 42.3**	**+1.1**
	baz=73						
ISA	**Isabella**	**72.58**	**44**	⇑P	**P**	**21 05 42.6**	**+1.0**
	baz=73						
PETK	**Petropavlovsk-**	**72.90**	**342**	P	**P**	**21 05 41.4**	**-1.5**
PETK	**Petropavlovsk-**	**72.90**	**342**	P	**P**	**21 05 41.4**	**-1.5**
	5.5nm,0.9s,baz=136,slow=9.6,SNR=5.1						
MPMC	**Manual Prospec**	**73.47**	**44**	⇑P	**P**	**21 05 47.2**	**+0.3**
	baz=74						
QSPA	**South Pole Qui**	**74.45**	**180**	*e*P	**P**	**21 05 54.5**	**+2.4**
	27nm,1.1s						
KSRS	**Korea Array**	**76.50**	**315**	P	**P**	**21 06 06.0**	**+1.9**
	0.6nm,0.5s,baz=127,slow=8.0,SNR=5.7						
KSAR	**Wonju Array Be**	**76.52**	**315**	P	**P**	**21 06 06.0**	**+1.8**
X16A	**Lo Mia Camp, P**	**76.82**	**48**	⇑P	**P**	**21 06 06.9**	**+0.6**
	baz=77						
WUAZ	**Wupatki**	**77.41**	**47**	⇓P	**P**	**21 06 10.2**	**+0.7**
	baz=78						
320A	**Kipp Ranch, An**	**77.53**	**52**	⇓P	**P**	**21 06 11.3**	**+1.0**
	baz=78						
ELK	**Elko**	**77.53**	**41**	*e*P	**P**	**21 06 09.0**	**-1.3**
	2.9nm,1.1s						
USRK	**Ussuriysk Arra**	**77.70**	**323**	P	**P**	**21 06 12.2**	**+1.5**
	4.2nm,1.0s,baz=99,slow=6.0,SNR=12						
220A	**Playas Peak, P**	**77.79**	**52**	⇑P	**P**	**21 06 12.7**	**+1.0**
	baz=78						
120A	**U Bar Ranch, L**	**78.00**	**51**	⇑P	**P**	**21 06 14.0**	**+1.0**
	baz=78						
Z20A	**Nine Sixteen R**	**78.29**	**51**	⇑P	**P**	**21 06 15.5**	**+1.0**
	baz=78						
121A	**Cookes Peak, D**	**78.64**	**52**	⇑P	**P**	**21 06 16.9**	**+0.5**
	baz=79						
MFID	**Camas Ranch**	**78.65**	**39**	⇑P	**P**	**21 06 16.6**	**+0.4**
	baz=79						
DUG	**Dugway**	**78.80**	**43**	⇓P	**P**	**21 06 17.4**	**+0.2**
	baz=79						
Y20A	**Horse Springs,**	**78.82**	**50**	⇓P	**P**	**21 06 17.8**	**+0.3**
	baz=79						
X20A	**Quemado**	**79.02**	**49**	⇑P	**P**	**21 06 19.3**	**+0.7**
	baz=79						
Z21A	**St. Cloud Mine**	**79.07**	**51**	⇓P	**P**	**21 06 19.6**	**+0.8**
	baz=79						
W20A	**Ramah**	**79.29**	**49**	⇑P	**P**	**21 06 20.3**	**+0.3**
	baz=79						
MDJ	**Mudanjiang**	**79.35**	**322**	P	**P**	**21 06 19.9**	**+0.1**
X21A	**Alamocita Cree**	**79.50**	**50**	⇑P	**P**	**21 06 21.6**	**+0.4**
	baz=80						
Z22A	**Elephant Butte**	**79.58**	**51**	⇓P	**P**	**21 06 22.3**	**+0.7**
	baz=80						
HLID	**Hailey**	**79.59**	**39**	⇓P	**P**	**21 06 21.8**	**+0.4**
	baz=80						
V20A	**Brimhall**	**79.62**	**48**	⇓P	**P**	**21 06 22.0**	**+0.2**
	baz=80						
Y22A	**Socorro**	**79.88**	**51**	⇓P	**P**	**21 06 23.2**	**0.0**
	baz=80						
324A	**Moseley Ranch,**	**79.92**	**53**	⇑P	**P**	**21 06 24.0**	**+0.5**
	baz=80						
425A	**Indio Mountain**	**80.03**	**54**	⇑P	**P**	**21 06 24.6**	**+0.6**
	baz=80,SNR=7.0						
X22A	**Bernardo**	**80.10**	**50**	⇓P	**P**	**21 06 24.6**	**+0.3**
	baz=80						
MNTX	**Cornudas Mount**	**80.11**	**53**	*e*P	**P**	**21 06 24.2**	**0.0**
	5.3nm,1.3s						
MNTX				*e*		21 06 36.8	
Z23A	**Rita Site, Whi**	**80.13**	**51**	⇑P	**P**	**21 06 25.0**	**+0.5**
	baz=80						
224A	**Cornudas Mount**	**80.16**	**53**	⇓P	**P**	**21 06 25.7**	**+1.0**
	baz=80						
626A	**Big Bend Ranch**	**80.19**	**56**	⇑P	**P**	**21 06 25.9**	**+1.0**
	baz=80,SNR=5.8						
HWUT	**Hardware Ranch**	**80.34**	**42**	P	**P**	**21 06 24.6**	**-0.9**
	4.1nm,0.9s						
526A	**Mary Lane Ranc**	**80.43**	**55**	⇓P	**P**	**21 06 27.0**	**+0.7**
	baz=80,SNR=5.5						
124A	**Stringfield Ra**	**80.48**	**52**	⇓P	**P**	**21 06 26.8**	**+0.2**
	baz=81						
TXAR	**Lajitas Array**	**80.48**	**56**	P	**P**	**21 06 27.5**	**+1.1**
TXAR	**Lajitas Array**	**80.48**	**56**	P	**P**	**21 06 27.5**	**+1.1**
	2.7nm,1.0s,baz=235,slow=4.4,SNR=17						
U21A	**Nageezi**	**80.50**	**48**	⇑P	**P**	**21 06 27.3**	**+0.7**
	baz=81						
Y23A	**Lovelace Mesa,**	**80.55**	**51**	⇑P	**P**	**21 06 27.2**	**+0.4**
	baz=81						
S20A	**Disappointment**	**80.65**	**47**	⇑P	**P**	**21 06 27.6**	**+0.3**
	baz=81						
ANMO	**Albuquerque**	**80.70**	**50**	*e*P	**P**	**21 06 27.9**	**+0.3**
	4.4nm,1.1s						
NEW	**Newport**	**80.70**	**34**	⇓P	**P**	**21 06 27.1**	**-0.1**
	baz=81						
225A	**Deer Hill, Car**	**80.71**	**53**	⇑P	**P**	**21 06 28.3**	**+0.6**
	baz=81						
426A	**McDonald Obser**	**80.73**	**55**	⇓P	**P**	**21 06 28.5**	**+0.6**
	baz=81,SNR=7.3						
627A	**Terlingua Ranc**	**80.75**	**56**	⇓P	**P**	**21 06 28.7**	**+0.8**
	baz=81,SNR=8.6						
V22A	**San Miguel Ran**	**80.80**	**49**	⇓P	**P**	**21 06 28.6**	**+0.3**
	baz=81						
527A	**Woodward Ranch**	**80.85**	**55**	⇓P	**P**	**21 06 28.9**	**+0.5**
	baz=81,SNR=6.7						
Y24A	**Capitan**	**81.02**	**51**	⇑P	**P**	**21 06 29.6**	**+0.2**
	baz=81,SNR=6.5						
W23A	**Werner Place,**	**81.02**	**50**	⇑P	**P**	**21 06 29.8**	**+0.4**
	baz=81						
326A	**Caldwell Ranch**	**81.03**	**54**	⇓P	**P**	**21 06 29.9**	**+0.5**
	baz=81						
125A	**Gardner Draw,**	**81.07**	**53**	⇓P	**P**	**21 06 30.1**	**+0.5**
	baz=81						
628A	**Black Gap, Mar**	**81.16**	**56**	⇓P	**P**	**21 06 30.9**	**+0.9**
	baz=81						
226B	**Tecolote Peak,**	**81.20**	**53**	⇓P	**P**	**21 06 30.7**	**+0.4**
	baz=81,SNR=6.3						
Q20A	**Ridgley Place,**	**81.22**	**46**	⇓P	**P**	**21 06 30.8**	**+0.5**
	baz=81						
PAX	**Paxson**	**81.23**	**12**	*e*P	**P**	**21 06 27.5**	**-2.2**
	1.5nm,0.5s						
V23A	**Ortiz Mt. (NFS**	**81.25**	**49**	⇓P	**P**	**21 06 31.1**	**+0.5**
	baz=81						
MCK	**McKinley**	**81.25**	**11**	*e*P	**P**	**21 06 28.3**	**-1.4**
	22nm,0.9s						
Z25A	**Roswell**	**81.28**	**52**	⇑P	**P**	**21 06 31.0**	**+0.3**
	baz=81						
427A	**Hayter Ranch,**	**81.30**	**55**	⇓P	**P**	**21 06 31.3**	**+0.5**
	baz=81						
HYT	**Haines Junctio**	**81.31**	**17**	*e*P	**P**	**21 06 28.3**	**-1.9**
R21A	**Cimarron**	**81.46**	**46**	⇓P	**P**	**21 06 31.8**	**+0.1**
	baz=82,SNR=5.6						
U23A	**El Rito**	**81.51**	**49**	⇓P	**P**	**21 06 32.6**	**+0.7**
	baz=82						
528A	**Cox Ranch, San**	**81.51**	**56**	⇓P	**P**	**21 06 32.6**	**+0.6**
	baz=82,SNR=5.3						
126A	**Clayton Basin,**	**81.55**	**53**	⇓P	**P**	**21 06 32.5**	**+0.4**
	baz=82						
Y25A	**Mesa, Roswell**	**81.57**

R24A	Sanders Place,	83.12	47	⇑P	P	21 06 40.7	+0.4
	baz=83,SNR=5.7						
T25A	Trinidad	83.15	49	⇓P	P	21 06 40.9	+0.4
	baz=83						
I19A	Meeteetse	83.19	41	⇓P	P	21 06 40.8	+0.2
	baz=83						
L21A	Rawlins	83.25	43	⇑P	P	21 06 41.0	+0.1
	baz=83						
W27A	Bowe Ranch, En	83.27	51	⇑P	P	21 06 41.2	+0.1
	baz=83,SNR=9.3						
531A	Rocksprings	83.30	56	⇑P	P	21 06 41.9	+0.7
	baz=83,SNR=8.7						
U26A	Atchley Ranch,	83.32	49	⇓P	P	21 06 41.7	+0.3
	baz=83,SNR=8.7						
N22A	Wattenberg Ran	83.33	45	⇑P	P	21 06 41.6	+0.1
	baz=83,SNR=5.3						
S25A	Robets Cordova	83.35	48	⇓P	P	21 06 41.8	+0.3
	baz=83,SNR=9.4						
Q24A	Divide	83.41	47	⇑P	P	21 06 42.4	+0.5
	baz=84,SNR=7.3						
J20A	Shoshoni	83.44	42	⇓P	P	21 06 42.1	+0.3
	baz=84,SNR=15						
ISCO	Idaho Springs	83.45	46	⇓P	P	21 06 42.9	+0.7
	baz=84						
H19A	Powell	83.51	40	⇑P	P	21 06 42.9	+0.8
	baz=84						
M22A	Cedar Creek Ra	83.51	44	⇓P	P	21 06 42.8	+0.5
	baz=84						
Z29A	Hungry Hill Ra	83.58	53	⇑P	P	21 06 42.8	+0.2
	baz=84						
K21A	Alcova	83.64	43	⇓P	P	21 06 42.9	0.0
	baz=84						
632A	Uvalde	83.66	57	⇑P	P	21 06 44.0	+0.9
	baz=84						
R25A	Fountain Ranch	83.67	48	⇓P	P	21 06 43.3	+0.2
	baz=84,SNR=6.0						
I20A	Worland	83.70	41	⇑P	P	21 06 43.4	+0.3
	baz=84,SNR=12						
N23A	Red Feather La	83.72	45	⇓P	P	21 06 43.8	+0.4
	baz=84,SNR=5.8						
T26A	Comanche Natio	83.75	49	⇑P	P	21 06 43.5	-0.1
	baz=84						
532A	Rocksprings	83.80	57	⇓P	P	21 06 44.3	+0.5
	baz=84						
J21A	Lysite	83.85	42	⇑P	P	21 06 44.4	+0.5
	baz=84,SNR=22						
L22A	Ellis Ranch, M	83.90	43	⇓P	P	21 06 44.6	+0.3
	baz=84						
U27A	Thompson Grove	84.00	50	⇑P	P	21 06 44.8	0.0
	baz=84						
JCT	Junction City	84.01	56	⇓P	P	21 06 45.5	+0.7
	baz=84						
Q25A	Bedland, Calha	84.02	47	⇑P	P	21 06 45.0	+0.1
	baz=84						
S26A	Kim	84.03	48	⇑P	P	21 06 45.0	+0.1
	baz=84						
Z30A	Sanderson Ranc	84.03	53	⇑P	P	21 06 45.0	+0.1
	baz=84,SNR=5.2						
H20A	Greybull	84.04	41	⇑P	P	21 06 45.1	+0.3
	baz=84						
X29A	Tulia	84.05	52	⇓P	P	21 06 45.4	+0.4
	baz=84						
F19A	Roth Farm, Mol	84.11	39	⇓P	P	21 06 45.3	+0.2
	baz=84,SNR=8.6						
K22A	Casper	84.12	43	⇑P	P	21 06 45.3	0.0
	baz=84						
231A	Bronte	84.15	55	⇓P	P	21 06 46.0	+0.5
	baz=84						
432A	Menard	84.17	56	⇓P	P	21 06 46.0	+0.4
	baz=84						
I21A	Big Trails, Te	84.17	42	⇑P	P	21 06 45.5	0.0
	baz=84,SNR=12						
G20A	Bridger	84.25	40	⇓P	P	21 06 45.8	-0.1
	baz=84						
R26A	Arlington	84.33	48	⇓P	P	21 06 46.5	+0.1
	baz=84,SNR=8.0						
P25A	Willow Gulch B	84.33	47	⇓P	P	21 06 46.6	+0.1
	baz=84,SNR=8.3						
T27A	Campo	84.34	49	⇓P	P	21 06 46.9	+0.4
	baz=84						
W29A	Amraillo	84.36	51	⇓P	P	21 06 46.8	+0.2
	baz=84,SNR=5.2						
131A	Roby	84.37	54	⇑P	P	21 06 47.3	+0.7
	baz=84						
332A	Millersview	84.39	55	⇓P	P	21 06 47.1	+0.4
	baz=84,SNR=5.9						
N24A	Carr	84.41	45	⇑P	P	21 06 47.0	+0.2
	baz=84						
L23A	Garrett	84.43	44	⇑P	P	21 06 46.7	-0.2
	baz=84,SNR=10						
U28A	Mallet	84.43	50	⇑P	P	21 06 47.0	0.0
	baz=84						
Y30A	Stafford Cattl	84.44	53	⇑P	P	21 06 47.2	+0.2
	baz=84						
S27A	Las Animas	84.47	49	⇓P	P	21 06 47.6	+0.5
	baz=84						
E19A	Rath Farm, Rou	84.50	39	⇑P	P	21 06 47.4	+0.4
	baz=85						
J22A	Midwest	84.50	42	⇑P	P	21 06 47.5	+0.2
	baz=85						
F20A	Billings	84.57	40	⇑P	P	21 06 47.3	-0.2
	baz=85						
232A	Coleman	84.66	55	⇑P	P	21 06 48.4	+0.3
	baz=85						
EGMT	Eagleton	84.70	37	⇓P	P	21 06 48.0	0.0
	baz=85,SNR=6.5						
H21A	Big Horn, Sher	84.70	41	⇓P	P	21 06 48.1	-0.1
	baz=85						
I22A	9 Mile Ranch,	84.72	42	⇓P	P	21 06 48.2	-0.1
	baz=85,SNR=6.1						
M24A	Cheyenne	84.73	45	⇓P	P	21 06 48.7	+0.3
	baz=85						
K23A	Bowen Ranch, D	84.76	43	⇑P	P	21 06 48.5	0.0
	baz=85,SNR=5.1						
D19A	Cripps Ranch,	84.79	38	⇑P	P	21 06 48.9	+0.4
	baz=85,SNR=11						
Z31A	Sharp Cattle R	84.81	53	⇓P	P	21 06 48.9	+0.1
	baz=85						
G21A	Lodge Grass	84.88	40	⇓P	P	21 06 49.4	+0.4
	baz=85						
E20A	Meyer Farm, Mu	84.92	39	⇓P	P	21 06 49.5	+0.4
	baz=85						
ABTX	Abilene, Hawle	84.94	54	⇓P	P	21 06 49.8	+0.3
	baz=85,SNR=7.4						
Y31A	Rekieta Farm,	84.96	53	⇓P	P	21 06 50.0	+0.5
	baz=85						
C19A	Slack Wire Ran	84.97	38	⇑P	P	21 06 49.9	+0.5
	baz=85,SNR=8.6						
H22A	Clearmont	85.13	41	⇓P	P	21 06 50.8	+0.5
	baz=85						
D20A	Manuel Ranch,	85.20	38	⇑P	P	21 06 50.8	+0.3
	baz=85,SNR=6.2						
Z32A	Haskell	85.32	54	⇓P	P	21 06 51.6	+0.3
	baz=85,SNR=13						
V30A	Spur Ranch, Mi	85.33	51	⇑P	P	21 06 52.1	+0.7
	baz=85						
G22A	Birney	85.45	41	⇑P	P	21 06 52.0	+0.2
	baz=86						
C20A	Veseth Ranch,	85.58	38	⇑P	P	21 06 52.6	+0.3
	baz=86,SNR=10						
E21A	Keefer Ranch,	85.58	39	⇓P	P	21 06 53.3	+0.9
	baz=86						
Y32A	R-V Farms, Ver	85.61	53	⇓P	P	21 06 53.1	+0.4
	baz=86						
W31A	Holland Ranch,	85.67	52	⇓P	P	21 06 53.7	+0.7
	baz=86						
F22A	Rosebud	85.73	40	⇑P	P	21 06 53.5	+0.3
	baz=86						
A19A	Klindworth Far	85.74	37	⇓P	P	21 06 52.9	-0.2
	baz=86						
D21A	La Casta Ranch	85.88	39	⇑P	P	21 06 54.2	+0.4
	baz=86						
V31A	Spring Creek L	85.97	51	⇑P	P	21 06 54.7	+0.1
	baz=86						
G23A	Biddle	86.01	41	⇑P	P	21 06 54.8	+0.2
	baz=86						
C21A	Desert Coulee	86.17	38	⇑P	P	21 06 55.8	+0.5
	baz=86						
A20A	Cobblestone Ra	86.19	37	⇑P	P	21 06 55.5	+0.2
	baz=86,SNR=5.5						
E22A	Miles City	86.22	40	⇑P	P	21 06 55.9	+0.4
	baz=86						
F23A	Volborg	86.23	41	⇓P	P	21 06 56.0	+0.3
	baz=86						
J25A	Sunshine Ranch	86.24	43	⇓P	P	21 06 56.1	+0.3
	baz=86						
H24A	Dirks Ranch, A	86.34	42	⇑P	P	21 06 56.4	+0.2
	baz=86						
RSSD	Black Hills	86.40	42	P	P	21 06 56.5	-0.2
	39nm,1.3s						
D22A	Cohagen	86.41	39	⇑P	P	21 06 56.7	+0.2
	baz=86						
WHTX	Lake Whitney	86.43	56	*e*P	P	21 06 55.5	-1.3
WHTX	Lake Whitney	86.43	56	⇑P	P	21 06 57.5	+0.6
	baz=86						
B21A	Ellsworth Farm	86.50	38	⇑P	P	21 06 57.0	+0.2
	baz=86,SNR=5.9						
I25A	Rochford	86.56	43	⇓P	P	21 06 57.7	+0.3
	baz=87						
A21A	Bergtoll Ranch	86.82	37	⇓P	P	21 06 58.7	+0.3
	baz=87						
B22A	Reddig Ranch S	87.05	38	⇑P	P	21 06 59.9	+0.4
	baz=87						
APG	El Apazote	87.09	74	P	P	21 07 01.6	+0.9
APG	El Apazote	87.09	74	P	P	21 07 01.6	+0.9
	9.2nm,1.0s,baz=279,slow=2.7,SNR=8.5						
C23A	Lambert	87.31	39	⇓P	P	21 07 00.9	+0.1
	baz=87						
MAW	Mawson	87.71	199	P	P	21 07 02.3	-0.1
MAW	Mawson	87.71	199	P	P	21 07 02.3	-0.1
	7.7nm,1.0s,baz=113,slow=4.9,SNR=12						
B23A	Brockton	87.72	38	⇑P	P	21 07 03.0	+0.2
	baz=88						
INK	Inuvik	88.38	14	*e*P	P	21 07 04.3	-1.1
	9.7nm,1.2s						
D26A	Manning	88.66	40	⇑P	P	21 07 07.5	+0.2
	baz=89,SNR=6.0						
YKA	Yellowknife Ar	90.16	23	P	P	21 07 12.8	-1.0
YKA	Yellowknife Ar	90.16	23	P	P	21 07 12.8	-1.0
	3.5nm,1.0s,baz=234,slow=3.8,SNR=4.4						
TEIG	Tepich	90.58	69	P	P	21 07 16.4	-0.3
TEIG	Tepich	90.58	69	P	P	21 07 16.4	-0.3
	6.3nm,0.9s,baz=243,slow=6.8,SNR=3.5						
SNAA	Sanae	92.70	177	P	P	21 07 27.4	+1.6
CMAR	Chiang Mai Arr	92.95	288	P	P	21 07 29.4	+1.5
CMAR	Chiang Mai Arr	92.95	288	P	P	21 07 29.4	+1.5
	1.2nm,1.0s,baz=90,slow=3.6,SNR=4.6						
ULM	Lac du Bonnet	93.90	39	P	P	21 07 29.4	-2.1
ULM	Lac du Bonnet	93.90	39	P	P	21 07 29.4	-2.1
	1.2nm,0.3s,baz=236,slow=7.3,SNR=3.2						
SONM	Songino Array	95.18	318	P	P	21 07 37.7	+0.1
SONM	Songino Array	95.18	318	P	P	21 07 37.7	+0.1
	0.2nm,0.4s,baz=130,slow=6.6,SNR=2.9						
SADO	Sadowa	103.58	47	Pdif	Pdif	21 08 12.0	-3.2
SADO	Sadowa	103.58	47	Pdiff	Pdif	21 08 12.0	-3.2
	13nm,0.9s,baz=260,slow=7.7,SNR=3.6						
ZALV	Zalesovo Beam	109.55	322	Pdif	Pdif	21 08 42.2	+0.7
ZALV	Zalesovo Beam	109.55	322	Pdiff	Pdif	21 08 42.2	+0.7
	0.2nm,0.4s,baz=123,slow=7.1,SNR=2.4						
MKAR	Makanchi Array	111.17	315	Pdif	Pdif	21 08 48.0	-0.9
MKAR				PKiKP	PKiKP	21 12 48.2	+0.5
MKAR	Makanchi Array	111.17	315	Pdiff	Pdif	21 08 48.0	-0.9
	0.2nm,0.7s,baz=106,slow=11,SNR=2.5						
MKAR				PKiKP	PKiKP	21 12 48.2	+0.5
	0.5nm,0.9s,baz=85,slow=3.6,SNR=3.6						
KURK	Kurchatov	113.48	319	PKiKP	PKiKP	21 12 52.0	0.0
KURBB	Kurchatov Arra	113.54	319	PKiKP	PKiKP	21 12 52.0	-0.1
	0.4nm,0.9s,baz=78,slow=1.9,SNR=5.5						
BVAR	Borovoye Array	118.21	322	PKP	PKPdf	21 13 00.7	-0.3
BVAR	Borovoye Array	118.21	322	PKP	PKPdf	21 13 00.7	-0.3
	0.6nm,0.8s,baz=108,slow=3.8,SNR=4.7						
AKASG	Malin Array Be	140.63	338	PKP	PKPdf	21 13 43.5	+0.1
AKASG	Malin Array Be	140.63	338	PKP	PKPdf	21 13 43.5	+0.1
	0.2nm,0.3s,baz=48,slow=1.6,SNR=4.2						
CLL	Collm	144.04	353	*e*(PKPdf)	PKPdf	21 14 00.0	+11
	comp=Z,5.0nm,1.0s						
MALT	Malatya	144.20	315	⇑*i*P	PKPdf	21 13 51.0	+0.7
DPC	Dobruska-Polom	144.50	350	*e*PKP	PKPdf	21 13 49.9	-0.5
DPC				*e*pPKP	pPKPdf	21 13 58.9	-1.1
DPC				*ex*	x	21 14 05.0	
PVCC	Panska Ves	144.60	352	*e*PKP	PKPdf	21 13 50.2	-0.3
BUR08	Bucovina Ar. S	144.63	338	*e*PKPdf	PKPab	21 13 49.5	+0.1
OKC	Ostrava-Krasne	144.64	347	*e*PKP	PKPbc	21 13 49.7	+0.3
BURAR	Bucovina Array	144.65	338	⇑*i*P	PKPab	21 13 49.6	+0.1
TRPA	Tarpa	145.08	342	⇑*i*P	PKPdf	21 13 51.5	+0.1
GHRR		145.10	335	⇑*i*P	PKPdf	21 13 51.9	+0.4
PRU	Pruhonice	145.14	351	*e*PKP	PKPab	21 13 51.3	+0.3
PRU				*ex*	x	21 14 03.3	
TLCR		145.19	332	⇑*i*P	PKPdf	21 13 52.0	+0.3
TNS	Taunus Mts	145.44	358	*e*PKPbc	PKPbc	21 13 50.9	-1.1
VRAC	Vranov	145.45	349	PKPbc	PKPab	21 13 52.5	+0.3
VRAC	Vranov	145.45	349	PKPbc	PKPab	21 13 52.5	+0.3
	comp=Z,4.7nm,0.8s,baz=104,slow=7.2,SNR=9.1						
CFR	Carcaliu	145.50	333	⇑*i*P	PKPab	21 13 52.7	+0.2
VRI	Vrincioaia	145.54	335	⇑*i*P	PKPdf	21 13 52.4	+0.1
PLOR	Plostina	145.58	335	⇑*i*P	PKPbc	21 13 52.7	+0.1
ROTZ	Rotzenmuhle	145.64	354	*e*PKPbc	PKPdf	21 13 52.0	-0.3
TREC	Trest	145.66	350	*e*PKP	PKPbc	21 13 53.0	+0.3
TREC				*ex*	x	21 14 07.2	
KMBO	Kilima Mbogo	145.71	244	PKPbc	PKPab	21 13 54.9	+0.3
KMBO				*e*PKPdf	PKPbc	21 13 55.3	+1.1
KMBO	Kilima Mbogo	145.71	244	PKPbc	PKPab	21 13 54.9	+0.3
	comp=Z,6.7nm,1.1s,baz=57,slow=7.5,SNR=8.3						
GRF	Grafenberg Arr	145.81	355	*e*PKPbc	PKPdf	21 13 52.5	-0.1
GRFO	Grafenberg	145.81	355	*e*PKPdf	PKPdf	21 13 52.9	+0.3
GRER		145.83	334	⇓*i*P	PKPab	21 13 55.4	+1.7
TIRR	Tirgusor	145.94	332	⇑*i*P	PKPab	21 13 54.6	+0.5
TLB	Topalu	146.01	333	⇑*i*P	PKPab	21 13 54.4	0.0
WLF	Walferdange	146.01	1	*e*PKPbc	PKPbc	21 13 53.6	-0.1
PSZ	Piszkesteto	146.02	344	⇑*i*P	PKPbc	21 13 54.1	+0.2
KHC	Kasperske Hory	146.11	352	*e*PKP	PKPbc	21 13 54.0	-0.1
KHC				*ex*	x	21 14 06.3	
KHC				*ex*	x	21 14 24.5	
KHC				*ex*	x	21 14 48.0	
KHC	Kasperske Hory	146.11	352	*e*PKPdf	PKPbc	21 13 54.0	-0.1
MLR	Muntele Rosu	146.16	336	PKPbc	PKPdf	21 13 53.3	-0.2
MLR	Muntele Rosu	146.16	336	⇑*i*P	PKPab	21 13 55.2	0.0
MLR	Muntele Rosu	146.16	336	PKPbc	PKPdf	21 13 53.3	-0.2
	comp=Z,4.7nm,1.1s,baz=46,slow=4.9,SNR=15						
WET	Wettzell	146.18	353	*e*PKPbc	PKPdf	21 13 53.6	+0.3
DRGR		146.22	340	⇑*i*P	PKPdf	21 13 53.8	+0.3
ISR	Istrita	146.22	335	⇑*i*P	PKPdf	21 13 53.6	+0.1
GEC2	GERESS Array S	146.37	352	*e*PKPbc	PKPdf	21 13 54.1	+0.4
GERES	GERESS Array B	146.37	352	PKPbc	PKPdf	21 13 54.1	+0.4
GERES	GERESS Array B	146.37	352	PKPbc	PKPdf	21 13 54.1	+0.4
	comp=Z,5.7nm,1.0s,baz=48,slow=2.0,SNR=26						
BR131	Keskin Array S	146.40	321	*e*PKPbc	PKPbc	21 13 55.7	0.0
BRTR	Keskin Array B	146.49	321	PKPbc	PKPbc	21 13 56.1	+0.5
BRTR	Keskin Array B	146.49	321	PKPbc	PKPbc	21 13 56.1	+0.5
	comp=Z,26nm,1.0s,baz=118,slow=1.8,SNR=62						
VOIR		146.56	337	⇑*i*P	PKPbc	21 13 56.0	+0.4
ARR	Arges	146.77	337	⇓*i*P	PKPbc	21 13 57.0	+0.8
SIRR	Siria	147.02	341	⇓*i*P	PKPbc	21 13 56.9	+0.1
FUR	Furstenfeldbru	147.32	355	*e*PKPbc	PKPbc	21 13 57.0	-0.6
BFO	Black Forest	147.33	358	*e*PKPbc	PKPbc	21 13 57.0	-0.6
GZR	Gura Zlata	147.42	339	⇓*i*P	PKPbc	21 13 58.7	+0.7
RJOB	Jochberg	147.58	353	*e*PKPbc	PKPbc	21 13 57.3	-1.1
BZS	Buzias	147.61	341	⇑*i*P	PKPbc	21 13 57.7	-0.7
DAVOX	Davos/Dischmat	148.80	356	PKPbc	PKPbc	21 14 01.6	-0.2
DAVOX	Davos/Dischmat	148.80	356	PKPbc	PKPbc	21 14 01.6	-0.2
	baz=315,slow=2.9						
MMAI	Mount Meron Ar	148.91	309	PKPbc	PKPbc	21 14 02.0	-0.3
MMAI	Mount Meron Ar	148.91	309	PKPbc	PKPbc	21 14 02.0	-0.3
	comp=Z,4.3nm,0.8s,baz=78,slow=12,SNR=7.8						
CSS	Prodhromos	149.44	314	*e*PKP	PKPdf	21 14 01.5	+2.4
ESDC	Sonseca Array	154.19	20	PKPbc	PKPbc	21 14 16.9	+2.5
ESDC				PKPab	PKPab	21 14 27.9	-0.1
ESDC	Sonseca Array	154.19	20	PKPbc	PKPbc	21 14 16.9	+2.5
	comp=Z,0.5nm,0.8s,baz=332,slow=3.7,SNR=3.5						
ESDC				PKPab	PKPab	21 14 27.9	-0.1
	comp=Z,1.7nm,0.9s,baz=330,slow=3.1,SNR=9.4						
MDT	Midelt	159.92	29	PKP	PKPdf	21 14 15.2	+1.4
MDT				PKPab	PKPab	21 14 53.9	+1.0
MDT	Midelt	159.92	29	PKP	PKPdf	21 14 15.2	+1.4
	comp=Z,1.4nm,0.9s,baz=45,slow=1.4,SNR=3.4						
MDT				PKPab	PKPab	21 14 53.9	+1.0
	comp=Z,2.6nm,1.1s,baz=6.2,slow=9.8,SNR=3.5						
TOA0	Torodi Ar. Sit	174.40	115	*e*PKPdf	PKPdf	21 14 23.8	-0.9
TORD	Torodi Ar. Bea	174.40	115	PKP	PKPdf	21 14 24.5	-0.2
TORD				PKPab	PKPab	21 15 57.5	+0.2
TORD	Torodi Ar. Bea	174.40	115	PKP	PKPdf	21 14 24.5	-0.2
	comp=Z,1.1nm,1.1s,baz=320,slow=2.6,SNR=4.8						
TORD				PKPab	PKPab	21 15 57.6	+0.2
	comp=Z,1.6nm,1.0s,baz=282,slow=5.6,SNR=5.0						

IDC 29 20:58:10.9±0.8, 15°.77S×172°.96W, h0km, mb3.9/7, mb1 4.2/8, mb1mx4.0/19, mbtmp3.9/8, ML2.3/1, Error ellipse: s-maj=43.1km s-min=18.1km az=136.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	Afiamalu	2.17	32	Pn	Pn	20 58 48.0	-0.4
	52nm,0.3s,baz=225,slow=20,SNR=2.3						
AFI				Sn	Sn	20 59 10.6	-5.5
	177nm,0.3s,baz=233,slow=20,SNR=5.2						
STKA	Stephens Creek	44.23	240	P	P	21 06 21.6	-0.5
	2.7nm,0.8s,baz=94,slow=8.6,SNR=4.2						
WRA	Warramunga Arr	50.18	257	P	P	21 07 07.6	-1.2
	0.5nm,0.5s,baz=80,slow=6.1,SNR=9.8						
ASAR	Alice Springs	50.41	252	P	P	21 07 09.4	-1.1
	2.2nm,0.5s,baz=91,slow=7.2,SNR=11						
VNDA	Vanda	63.06	186	P	P	21 08 40.3	+0.7
	1.0nm,0.8s,baz=0.0,slow=5.1,SNR=5.1						
TXAR	Lajitas Array	80.46	56	P	P	21 10 23.4	-1.7
	0.5nm,0.6s,baz=218,slow=5.7,SNR=5.8						
PDAR	Pinedale Array	82.25	42	P	P	21 10 33.9	-0.7
	1.1nm,1.0s,baz=248,slow=2.4,SNR=5.0						
ILAR	Eielson Array	82.72	11	P	P	21 10 36.5	+0.4
	0.6nm,0.7s,baz=224,slow=5.9,SNR=3.9						
VRAC	Vranov	145.65	349	PKPbc	PKPab	21 17 52.6	+0.7
	baz=74,slow=7.4,SNR=3.0						
KMBO	Kilima Mbogo	145.76	243	PKPbc	PKPab	21 17 53.6	0.0
	baz=42,slow=7.3,SNR=4.7						
GERES	GERESS Array B	146.56	352	PKPbc	PKPbc	21 17 53.9	-0.6
	0.2nm,0.4s,baz=4.1,slow=6.9,SNR=4.1						
BRTR	Keskin Array B	146.71	321	PKPbc	PKPab	21 17 56.8	+0.3
	baz=50,slow=1.9,SNR=5.6						

IDC 29 20:58:25.2±7.2, 16°.13S×177°.98W, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.8/19, mbtmp3.8/4, Error ellipse: s-maj=313.1km s-min=36.8km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	45.38	258	P	P	21 06 45.7	-0.1
	0.4nm,0.6s,baz=93,slow=7.6,SNR=3.8						
ASAR	Alice Springs	45.69	253	P	P	21 06 48.3	0.0
	1.3nm,0.7s,baz=86,slow=8.4,SNR=5.8						
FITZ	Fitzroy Crossi	53.74	259	P	P	21 07 49.4	-0.3
	2.8nm,1.0s,baz=144,slow=8.7,SNR=2.9						
ILAR	Eielson Array	84.07	13	P	P	21 10 57.4	0.0
	0.5nm,0.7s,baz=228,slow=7.0,SNR=4.3						

IDC 29 20:59:52.7±9.8, 15°.89S×173°.21W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.6/19, mbtmp3.7/2, Error ellipse: s-maj=457.7km s-min=62.4km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	49.91	257	P	P	21 08 48.1	-0.5
	0.4nm,0.6s,baz=94,slow=9.3,SNR=3.8						
ASAR	Alice Springs	50.13	252	P	P	21 08 50.8	+0.5
	1.0nm,0.6s,baz=89,slow=7.4,SNR=2.2						
BRTR	Keskin Array B	146.65	321	PKPbc	PKPdf	21 19 36.0	+0.6
	0.9nm,0.8s,baz=104,slow=2.3,SNR=3.5						

*IDC **29** 21:01:48.5±0.8, 15°.90S×173°.09W, h0km, mb4.0/9, mb1 4.3/10, mb1mx4.1/21, mbtmp4.1/10, ML2.7/1, Error ellipse: s-maj=41.5km s-min=16.6km az=142.0*
*NEIC **29** 21:01:49.8±0.5, 15°.87S×173°.10W, h10km, mb4.5/5, Error ellipse: s-maj=19.6km s-min=9.8km az=135.0*
*ISCJB **29** 21:01:50.3±0.5, 15°.85S±0°.1×173°.1W±0°.1, h26km, mb4.2/12, Error ellipse: s-maj=21.8km s-min=7.6km az=40.8*

ISC 29 21:01:52.0±0.6, 15°.85S±0°.1×173°.1W±0°.1, h26km, n34, σ1°19/36, mb4.3/12, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	Afiamalu	2.26	35	Pn	Pn	21 02 27.6	-0.3
AFI				Sn	Sn	21 02 53.1	-1.8
AFI	Afiamalu	2.26	35	Pn	Pn	21 02 27.6	-0.3
	97nm,0.3s,baz=30,slow=20,SNR=5.4						
AFI				Sn	Sn	21 02 53.1	-1.8
	baz=182,slow=22,SNR=3.8						
DZM	Mont Dzumac	20.31	249	*e*P	P	21 06 24.4	-1.9
DZM	Mont Dzumac	20.31	249	P	P	21 06 24.3	-2.0
	5.3nm,0.8s,baz=90,slow=12,SNR=2.4						
URZ	Urewera	24.00	199	*e*P	P	21 07 04.0	-0.5
ARMA	Armidale	35.38	239	*e*P	P	21 08 45.4	-0.5
	2.1nm,0.5s						
STKA	Stephens Creek	44.09	240	*e*P	P	21 09 58.0	-0.2
STKA	Stephens Creek	44.09	240	P	P	21 09 57.0	-1.1
	5.2nm,0.8s,baz=86,slow=9.7,SNR=6.8						
WRA	Warramunga Arr	50.02	257	P	P	21 10 45.2	+0.5
WRA	Warramunga Arr	50.02	257	P	P	21 10 45.

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**43.16**	**240**	P	P	21 13 53.6	-0.2
	1.9nm,0.8s,baz=72,slow=9.6,SNR=2.9						
WRA	**Warramunga Arr**	**48.92**	**257**	P	P	21 14 39.5	+0.2
	0.7nm,0.7s,baz=92,slow=6.7,SNR=3.6						
ASAR	**Alice Springs**	**49.19**	**252**	P	P	21 14 41.0	-0.4
	3.5nm,0.7s,baz=86,slow=8.0,SNR=6.8						
ILAR	**Eielson Array**	**82.78**	**11**	P	P	21 18 16.6	0.0
	0.6nm,0.8s,baz=211,slow=6.9,SNR=2.7						
BRTR	**Keskin Array B**	**145.70**	**320**	PKPbc	PKPdf	21 25 31.5	-0.5
	baz=66,slow=3.1,SNR=3.7						

IDC 29 21:07:09.6±3.2, 15°.83S×173°.59W, h0km, mb3.9/4, mb1 4.2/4, mb1mx3.8/18, mbtmp3.9/4, Error ellipse: s-maj=153.5km s-min=32.7km az=136.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**43.66**	**240**	P	P	21 15 15.5	-0.8
	2.1nm,0.7s,baz=45,slow=5.7,SNR=2.6						
WRA	**Warramunga Arr**	**49.57**	**257**	P	P	21 16 03.2	+0.4
	0.6nm,0.7s,baz=96,slow=7.1,SNR=4.5						
ASAR	**Alice Springs**	**49.80**	**252**	P	P	21 16 04.2	-0.5
	4.9nm,0.9s,baz=85,slow=8.7,SNR=8.7						
ILAR	**Eielson Array**	**82.90**	**11**	P	P	21 19 34.9	-0.9
	0.6nm,0.8s,baz=216,slow=6.6,SNR=4.2						
KMBO	**Kilima Mbogo**	**145.18**	**244**	PKPbc	PKPbc	21 26 50.0	-0.2
	baz=36,slow=5.8,SNR=4.4						
BRTR	**Keskin Array B**	**146.37**	**320**	PKPbc	PKPbc	21 26 53.1	+0.1
	0.5nm,0.7s,baz=72,slow=2.3,SNR=2.4						

*IDC **29** 21:07:42.2±1.0, 6°.12S×123°.84E, h0km, mb3.8/5, mb1 4.1/9, mb1mx3.8/24, mbtmp3.9/9, ML3.7/3, MS4.7/1, Ms1 4.7/1, ms1mx4.5/42, Error ellipse: s-maj=42.7km s-min=19.5km az=62.0*
*AUST **29** 21:07:47.9±0.0, 6°.08S×123°.56E, h131km, Error ellipse: s-maj=1.6km s-min=1.1km az=263.0*
*DJA **29** 21:07:50.7±0.3, 6°.S±2°.×12°.3E±°, h95km±9km, M4.1/13, mb4.3/4, mB5.4/2, MLv4.0/13, Mw(mB)4.9/2*
ISC 29 21:07:43.8±2.1, 6°.15S±0°.04×123°.75E±0°.06, h11km±15km, n32, σ1°.22/34, mb4.0/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSI	**Bau Bau**	**1.34**	**299**	P	**Pb**	**21 08 09.7**	**+0.7**
BBSI				S	**Sg**	**21 08 26.3**	**-0.8**
KKSI	**Kolaka, Sulawe**	**2.87**	**313**	P	**Pn**	**21 08 29.7**	**+0.2**
MMRI	**Maumere**	**2.89**	**211**	P	**Pb**	**21 08 34.2**	**-1.2**
SOEI	**Soe**	**3.62**	**172**	P	**Pb**	**21 08 48.9**	**+1.0**
SOEI				S	**Sb**	**21 09 34.2**	**+2.2**
SOEI	**Soe**	**3.62**	**172**	P	**Pb**	**21 08 46.2**	**-1.7**
	baz=3.7,SNR=7.0						
BKSI	**Bulukumba**	**3.70**	**283**	P	**Pn**	**21 08 41.7**	**+0.7**
BKSI				S	**Sn**	**21 09 22.8**	**-1.8**
BNSI	**Bone**	**4.02**	**295**	P	**Pn**	**21 08 45.9**	**+0.5**
BATI	**Baumata**	**4.03**	**181**	P	**Pb**	**21 08 54.6**	**-0.3**
BATI				S	**Sb**	**21 09 43.0**	**-0.8**
BATI	**Baumata**	**4.03**	**181**	Pn	Pb	21 08 50.4	-4.5
	4.2nm,0.3s,baz=345,slow=5.2,SNR=7.2						
BATI				LR	LR	21 11 02.0	
	comp=Z,9μm,19.2s,baz=258,slow=49						
KAPI	**Kappang**	**4.14**	**286**	P	**Pn**	**21 08 47.0**	**+0.1**
KAPI	**Kappang**	**4.14**	**286**	Pn	**Pn**	**21 08 46.9**	**-0.1**
	6.0nm,0.3s,baz=136,slow=8.0,SNR=19						
NLAI	**Namlea**	**4.41**	**49**	P	Pb	21 08 55.4	-6.0
LBFI	**Labuhan Bajo,**	**4.48**	**239**	P	**Pn**	**21 08 52.6**	**+1.0**
LBFI				S	**Sn**	**21 09 43.5**	**-0.3**
SPSI	**Sidrap Palu**	**4.52**	**298**	P	**Pn**	**21 08 53.8**	**+1.6**
LUWI	**Luwuk**	**5.17**	**349**	P	**Pn**	**21 09 01.2**	**+0.1**
LUWI				S	**Sn**	**21 09 57.5**	**-3.2**
LUWI	**Luwuk**	**5.17**	**349**	P	**Pn**	**21 09 01.0**	**-0.1**
	baz=5.1,SNR=24						
APSI	**Ampana**	**5.61**	**338**	P	**Pn**	**21 09 08.3**	**+1.1**
	89nm,0.9s,4μm0.3nm						
LBMI	**Labuha**	**6.63**	**35**	P	Pn	21 09 25.9	+4.7
	20nm,1.9s						
GTOI	**Gorontalo**	**6.78**	**354**	P	**Pn**	**21 09 25.1**	**+1.8**
MRSI	**Marisa**	**6.82**	**345**	P	**Pn**	**21 09 24.4**	**+0.5**
	38nm,1.1s,4μm						
FAKI	**Fak Fak**	**9.06**	**70**	P	Pn	21 09 57.7	+3.1
	baz=9.2,SNR=4.4						
KNRA	**Kununurra**	**10.67**	**153**	P	**Pn**	**21 10 17.2**	**+0.5**
	baz=11,SNR=6.1						
FITZ	**Fitzroy Crossi**	**12.02**	**171**	Pn	**Pn**	**21 10 34.5**	**-0.7**
	0.3nm,0.3s,baz=2.1,slow=7.5,SNR=9.8						
FITZ	**Fitzroy Crossi**	**12.02**	**171**	P	**Pn**	**21 10 34.8**	**-0.5**
	baz=12,SNR=7.8						
WRA	**Warramunga Arr**	**17.14**	**144**	P	**Pn**	**21 11 41.2**	**-2.4**
	0.3nm,0.3s,baz=316,slow=12,SNR=13						
ASAR	**Alice Springs**	**19.97**	**152**	P	**Pn**	**21 12 17.6**	**-0.4**
	0.6nm,0.3s,baz=327,slow=11,SNR=21						
CMAR	**Chiang Mai Arr**	**34.59**	**315**	P	**P**	**21 14 34.4**	**+1.4**
	1.0nm,0.8s,baz=146,slow=7.3,SNR=7.2						
USRK	**Ussuriysk Arra**	**50.66**	**8**	P	**P**	**21 16 42.8**	**-0.3**
	0.3nm,0.4s,baz=270,slow=32,SNR=3.5						
MKAR	**Makanchi Array**	**64.23**	**330**	P	**P**	**21 18 19.6**	**+0.7**
	1.5nm,0.7s,baz=132,slow=8.0,SNR=19						
ZALV	**Zalesovo Beam**	**68.20**	**336**	P	**P**	**21 18 43.8**	**-0.3**
	0.5nm,0.4s,baz=113,slow=2.2,SNR=5.0						
KURBB	**Kurchatov Arra**	**68.65**	**331**	P	**P**	**21 18 47.3**	**+0.3**
	1.0nm,0.9s,baz=141,slow=5.5,SNR=13						
TORD	**Torodi Ar. Bea**	**122.56**	**282**	PKP	**PKPdf**	**21 26 40.6**	**+0.1**
	0.3nm,0.7s,baz=289,slow=1.9,SNR=2.5						

IDC 29 21:10:54.6±1.0, 15°.56S×172°.32W, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.9/18, mbtmp4.0/5, Error ellipse: s-maj=41.4km s-min=25.4km az=144.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**44.86**	**240**	P	P	21 19 11.7	+0.7
	4.4nm,1.0s,baz=80,slow=11,SNR=4.1						
WRA	**Warramunga Arr**	**50.82**	**257**	P	P	21 19 56.0	-1.3
	1.4nm,0.8s,baz=93,slow=7.0,SNR=9.9						
ASAR	**Alice Springs**	**51.05**	**252**	P	P	21 19 59.5	+0.4
	4.0nm,0.8s,baz=86,slow=7.9,SNR=14						
VNDA	**Vanda**	**63.33**	**186**	P	P	21 21 24.9	-0.2
	0.4nm,0.2s,baz=260,slow=21,SNR=16						
TXAR	**Lajitas Array**	**79.84**	**56**	P	P	21 23 05.4	0.0
	0.1nm,0.3s,baz=230,slow=7.0,SNR=3.3						
GERES	**GERESS Array B**	**146.44**	**353**	PKPbc	PKPdf	21 30 37.1	+0.6
	0.3nm,0.5s,baz=355,slow=2.1,SNR=1.8						
BRTR	**Keskin Array B**	**146.93**	**322**	PKPbc	PKPbc	21 30 39.0	-0.6
	1.1nm,0.9s,baz=96,slow=1.7,SNR=3.8						

IDC 29 21:12:21.8±5.2, 14°.42S×173°.13W, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.8/18, mbtmp4.0/4, Error ellipse: s-maj=247.0km s-min=29.9km az=136.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.41**	**69**	Pn	Pb	21 12 58.3	+9.2
	baz=186,slow=24,SNR=6.3						
STKA	**Stephens Creek**	**44.76**	**239**	P	P	21 20 36.4	-0.9
	1.9nm,0.8s,baz=113,slow=12,SNR=3.2						
WRA	**Warramunga Arr**	**50.33**	**256**	P	P	21 21 18.8	-2.1
	0.7nm,0.8s,baz=91,slow=8.4,SNR=4.5						
ASAR	**Alice Springs**	**50.67**	**251**	P	P	21 21 25.1	+1.7
	2.6nm,0.5s,baz=89,slow=7.8,SNR=12						
ILAR	**Eielson Array**	**81.44**	**11**	P	P	21 24 39.8	-0.5
	0.7nm,0.8s,baz=207,slow=6.4,SNR=4.2						
GERES	**GERESS Array B**	**145.21**	**352**	PKPbc	PKPbc	21 31 59.6	-1.6
	0.6nm,0.7s,baz=86,slow=1.3,SNR=4.1						
BRTR	**Keskin Array B**	**145.55**	**322**	PKPbc	PKPab	21 32 03.6	+0.7
	0.9nm,0.9s,baz=138,slow=2.0,SNR=2.8						

IDC 29 21:14:01.0±3.4, 16°.25S×173°.10W, h0km, mb3.7/4, mb1 4.1/4, mb1mx3.7/18, mbtmp3.7/4, Error ellipse: s-maj=181.6km s-min=29.0km az=146.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**49.93**	**257**	P	P	21 22 56.4	-0.7
	0.5nm,0.9s,baz=95,slow=7.3,SNR=2.6						
ASAR	**Alice Springs**	**50.12**	**253**	P	P	21 22 58.3	-0.1
	1.3nm,0.7s,baz=87,slow=8.1,SNR=3.5						
PDAR	**Pinedale Array**	**82.71**	**42**	P	P	21 26 26.7	-0.2
	0.6nm,0.7s,baz=197,slow=2.8,SNR=4.1						
ILAR	**Eielson Array**	**83.22**	**11**	P	P	21 26 28.3	-0.5
	0.4nm,0.8s,baz=193,slow=3.6,SNR=3.3						
BRTR	**Keskin Array B**	**147.00**	**320**	PKPbc	PKPbc	21 33 46.8	+0.6
	0.8nm,0.8s,baz=108,slow=3.2,SNR=3.7						

*IDC **29** 21:14:30.3±0.5, 15°.65S×172°.89W, h0km, mb4.5/17, mb1 4.7/17, mb1mx4.6/22, mbtmp4.5/17, Error ellipse: s-maj=22.3km s-min=14.6km az=120.0*
*NEIC **29** 21:14:31.6±0.4, 15°.62S×172°.94W, h10km, mb4.8/7, Error ellipse: s-maj=13.9km s-min=9.9km az=132.0*
*ISCJB **29** 21:14:34.0±0.5, 15°.67S±0°.08×173°.06W±0°.09, h33km, mb4.6/24, Error ellipse: s-maj=14.3km s-min=10.6km az=39.5*
*AUST **29** 21:15:07.6, 16°.24S×174°.96W, h200km*
ISC 29 21:14:34.4±0.4, 15°.76S±0°.09×172°.78W±0°.08, h29km, n97, σ1°.05/92, mb4.6/23, 11C-4D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.08**	**28**	Pn	Pn	21 15 00.0	-7.3
AFI	**Afiamalu**	**2.08**	**28**	Pn	Pn	21 15 00.0	-7.3
	baz=210,slow=23,SNR=23						
MSVF	**Nonsavu**	**9.00**	**256**	*e*Pn	Pn	21 16 46.7	+4.1
	71nm,1.1s						
RAR	**Rarotonga**	**13.47**	**116**	Pn	Pn	21 17 36.5	-7.2
RAR				Sn	**Sn**	**21 20 10.3**	**-2.3**
RAR	**Rarotonga**	**13.47**	**116**	Pn	Pn	21 17 36.5	-7.2
	baz=270,slow=8.4,SNR=3.5						
RAR				Sn	**Sn**	**21 20 10.3**	**-2.3**
	1.6nm,0.3s,baz=90,slow=5.1,SNR=2.8						
DZM	**Mont Dzumac**	**20.62**	**249**	*e*P	**P**	**21 19 12.3**	**+0.6**
DZM	**Mont Dzumac**	**20.62**	**249**	P	**P**	**21 19 10.7**	**-1.0**
	8.7nm,0.7s,baz=78,slow=17,SNR=4.7						
URZ	**Urewera**	**24.12**	**200**	P	**P**	**21 19 48.4**	**+0.6**
URZ	**Urewera**	**24.12**	**200**	P	**P**	**21 19 48.4**	**+0.6**
	11nm,0.5s,baz=313,slow=8.2,SNR=5.3						
RPZ	**Rata Peaks**	**31.08**	**203**	P	**P**	**21 20 50.9**	**+0.8**
RPZ	**Rata Peaks**	**31.08**	**203**	P	**P**	**21 20 50.9**	**+0.8**
	5.9nm,0.8s,baz=65,slow=14,SNR=2.8						
ARMA	**Armidale**	**35.67**	**240**	*e*P	**P**	**21 21 29.6**	**-0.8**
	8.5nm,0.7s						
ARMA	**Armidale**	**35.67**	**240**	P	**P**	**21 21 29.7**	**-0.7**
	baz=34,SNR=9.7						
CMSA	**Cobar Meteorol**	**40.89**	**240**	P	**P**	**21 22 13.1**	**-1.1**
	baz=39,SNR=13						
MTSU	**Mount Surprise**	**41.05**	**260**	P	**P**	**21 22 14.4**	**-1.2**
	baz=39,SNR=5.7						
QLP	**Quilpie**	**41.34**	**248**	P	**P**	**21 22 16.2**	**-1.7**
	baz=39,SNR=5.5						
COEN	**Coen**	**42.56**	**266**	*e*P	**P**	**21 22 26.0**	**-2.0**
	193nm,1.2s						
COEN	**Coen**	**42.56**	**266**	P	**P**	**21 22 27.8**	**-0.2**
	baz=40,SNR=6.3						
STKA	**Stephens Creek**	**44.38**	**240**	*e*P	**P**	**21 22 42.0**	**-0.6**
STKA	**Stephens Creek**	**44.38**	**240**	P	**P**	**21 22 41.8**	**-0.7**
	14nm,0.8s,baz=95,slow=9.1,SNR=20						
STKA	**Stephens Creek**	**44.38**	**240**	P	**P**	**21 22 41.9**	**-0.6**
	baz=42,SNR=15						
BBOO	**Buckleboo**	**49.15**	**240**	P	**P**	**21 23 19.4**	**-0.5**
	baz=47,SNR=10						
WRAB	**Tennant Creek**	**50.34**	**257**	*e*P	**P**	**21 23 27.5**	**-1.5**
	19nm,1.3s						
WRA	**Warramunga Arr**	**50.35**	**257**	P	**P**	**21 23 27.6**	**-1.6**
WRA	**Warramunga Arr**	**50.35**	**257**	P	**P**	**21 23 27.6**	**-1.6**
	5.3nm,0.8s,baz=94,slow=7.5,SNR=34						
AS31	**Alice Springs**	**50.57**	**252**	*e*P	**P**	**21 23 28.4**	**-2.4**
ASAR	**Alice Springs**	**50.57**	**252**	P	**P**	**21 23 29.3**	**-1.5**
ASAR	**Alice Springs**	**50.57**	**252**	P	**P**	**21 23 29.3**	**-1.5**
	17nm,0.6s,baz=86,slow=7.8,SNR=35						
FITZ	**Fitzroy Crossi**	**58.72**	**258**	*e*P	**P**	**21 24 28.8**	**-1.2**
	5.6nm,1.1s						
FITZ	**Fitzroy Crossi**	**58.72**	**258**	P	**P**	**21 24 29.4**	**-0.6**
	baz=56,SNR=4.4						
SBA	**Scott Base**	**62.95**	**185**	*e*P	**P**	**21 25 00.2**	**+2.5**
	6.1nm,0.9s						
VNDA	**Vanda**	**63.09**	**186**	P	**P**	**21 25 00.1**	**+1.5**
VNDA	**Vanda**	**63.09**	**186**	P	**P**	**21 25 00.2**	**+1.5**
	3.0nm,0.8s,baz=4.9,slow=7.2,SNR=16						
MBWA	**Marble Bar**	**63.84**	**254**	*e*P	**P**	**21 25 03.3**	**-1.3**
	14nm,1.0s						
TGY	**Tagaytay City**	**71.92**	**291**	P	**P**	**21 25 55.2**	**-0.3**
TGY	**Tagaytay City**	**71.92**	**291**	P	**P**	**21 25 55.2**	**-0.3**
	18nm,0.3s,baz=0.0,slow=20,SNR=2.7						
PETK	**Petropavlovsk-**	**73.15**	**342**	P	**P**	**21 26 01.9**	**-0.1**
PETK	**Petropavlovsk-**	**73.15**	**342**	P	**P**	**21 26 01.9**	**-0.1**
	6.1nm,0.7s,baz=140,slow=9.4,SNR=11						
QSPA	**South Pole Qui**	**74.29**	**180**	*e*P	**P**	**21 26 09.6**	**+0.7**
	5.5nm,1.0s						
KDAK	**Kodiak Island**	**75.15**	**11**	P	**P**	**21 26 13.5**	**-0.1**
KDAK	**Kodiak Island**	**75.15**	**11**	P	**P**	**21 26 13.5**	**-0.1**
	6.8nm,0.6s,baz=173,slow=9.1,SNR=5.6						
KSRS	**Korea Array**	**76.83**	**315**	P	**P**	**21 26 24.6**	**+1.0**
	1.1nm,0.7s,baz=111,slow=6.9,SNR=5.3						
KSAR	**Wonju Array Be**	**76.85**	**315**	P	**P**	**21 26 24.6**	**+0.9**
USRK	**Ussuriysk Arra**	**78.03**	**323**	P	**P**	**21 26 30.1**	**-0.1**
	2.3nm,1.0s,baz=96,slow=5.8,SNR=6.0						
TXAR	**Lajitas Array**	**80.31**	**56**	P	**P**	**21 26 43.5**	**+0.3**
TXAR	**Lajitas Array**	**80.31**	**56**	P	**P**	**21 26 43.5**	**+0.3**
	1.8nm,1.1s,baz=215,slow=7.7,SNR=6.0						
PDAR	**Pinedale Array**	**82.13**	**42**	P	**P**	**21 26 52.9**	**+0.1**
PDAR	**Pinedale Array**	**82.13**	**42**	P	**P**	**21 26 52.9**	**+0.1**
	1.1nm,0.9s,baz=227,slow=2.9,SNR=5.7						
ILAR	**Eielson Array**	**82.68**	**11**	P	**P**	**21 26 54.4**	**-0.4**
ILAR	**Eielson Array**	**82.68**	**11**	P	**P**	**21 26 54.4**	**-0.4**
	2.7nm,0.7s,baz=222,slow=6.1,SNR=24						
MAW	**Mawson**	**87.65**	**198**	P	**P**	**21 27 21.1**	**+1.4**
MAW	**Mawson**	**87.65**	**198**	P	**P**	**21 27 21.1**	**+1.4**
	4.4nm,0.8s,baz=142,slow=4.5,SNR=8.1						
MAW	**Mawson**	**87.65**	**198**	P	**P**	**21 27 21.4**	**+1.6**
	baz=86,SNR=5.8						
CMAR	**Chiang Mai Arr**	**93.30**	**288**	P	**P**	**21 27 48.7**	**+1.6**
CMAR	**Chiang Mai Arr**	**93.30**	**288**	P	**P**	**21 27 48.7**	**+1.6**
	0.8nm,0.7s,baz=103,slow=3.0,SNR=6.9						
LPAZ	**La Paz**	**99.13**	**110**	P	**Pdif**	**21 28 16.0**	**+1.5**
LPAZ	**La Paz**	**99.13**	**110**	P	**Pdif**	**21 28 16.0**	**+1.5**
	0.5nm,0.4s,baz=322,slow=5.7,SNR=3.2						
MKAR	**Makanchi Array**	**111.50**	**314**	PKiKP	**PKiKP**	**21 33 04.8**	**-1.2**
MKAR	**Makanchi Array**	**111.50**	**314**	PKiKP	**PKiKP**	**21 33 04.8**	**-1.2**
	baz=101,slow=1.2,SNR=3.7						
ARCES	**ARCESS Array B**	**125.04**	**352**	PKP	**PKPdf**	**21 33 31.0**	**-0.3**
ARCES	**ARCESS Array B**	**125.04**	**352**	PKP	**PKPdf**	**21 33 31.0**	**-0.3**
	3.5nm,0.8s,baz=354,slow=1.8,SNR=5.3						
FINES	**FINESS Array B**	**132.42**	**348**	PKP	**PKPdf**	**21 33 45.5**	**0.0**
FINES	**FINESS Array B**	**132.42**	**348**	PKP	**PKPdf**	**21 33 45.5**	**0.0**
	2.6nm,0.9s,baz=151,slow=3.2,SNR=3.3						
TSUM	**Tsumeb**	**143.80**	**197**	PKP	PKPbc	21 34 06.4	+1.0
TSUM	**Tsumeb**	**143.80**	**197**	PKP	PKPbc	21 34 06.4	+1.0
	2.7nm,0.9s,baz=216,slow=6.2,SNR=4.0						
CLL	**Collm**	**144.23**	**354**	*i* PKPdf	PKPbc	21 34 06.2	+0.6
	comp=Z,4.0nm,0.8s						
MALT	**Malatya**	**144.54**	**315** ↑	*iP*	**PKPdf**	**21 34 09.4**	**+0.8**
DPC	**Dobruska-Polom**	**144.72**	**350**	*e*PKP	PKPbc	21 34 07.7	+0.4
DPC				*ep*PKP	**PKiKP**	**21 34 11.6**	**-0.5**
DPC				*ex*	x	21 34 35.0	
OKC	**Ostrava-Krasne**	**144.87**	**348**	*e*PKP	**PKPdf**	**21 34 08.1**	**-0.5**
BURAR	**Bucovina Array**	**144.92**	**339** ↑	*iP*	**PKPdf**	**21 34 09.2**	**+0.3**
TRPA	**Tarpa**	**145.34**	**342** ↑	*iP*	**PKPdf**	**21 34 09.9**	**+0.5**
PRU	**Pruhonice**	**145.34**	**352**	*i* PKP	**PKPdf**	**21 34 09.6**	**+0.2**
PRU				*ep*PKP	**PKiKP**	**21 34 13.4**	**0.0**
PRU				*ex*	x	21 34 19.3	
GHRR		**145.38**	**335** ↑	*iP*	**PKPab**	**21 34 10.7**	**+1.0**
TLCR		**145.48**	**333** ↓	*iP*	**PKPdf**	**21 34 08.3**	**-1.5**
VRI	**Vrincioaia**	**145.82**	**335** ↓	*iP*	**PKPab**	**21 34 11.6**	**+0.3**
KMBO	**Kilima Mbogo**	**145.91**	**243**	PKPbc	**PKPab**	**21 34 13.5**	**+0.6**
KMBO	**Kilima Mbogo**	**145.91**	**243**	PKPbc	**PKPab**	**21 34 13.5**	**+0.6**
	baz=66,slow=4.0,SNR=14						
GRER		**146.11**	**335** ↑	*iP*	**PKPab**	**21 34 15.1**	**+2.7**
KHC	**Kasperske Hory**	**146.31**	**352**	*e*PKP	**PKPab**	**21 34 12.9**	**-0.2**
KHC				*ex*	x	21 34 22.5	
KHC				*ex*	x	21 34 40.1	
MLR	**Muntele Rosu**	**146.44**	**336** ↓	*iP*	**PKPab**	**21 34 14.2**	**+0.3**
DRGR		**146.47**	**341** ↑	*iP*	**PKPbc**	**21 34 13.2**	**+0.2**
GERES	**GERESS Array B**	**146.58**	**352**	PKPbc	**PKPdf**	**21 34 12.3**	**+0.6**
GERES	**GERESS Array B**	**146.58**	**352**	PKPbc	**PKPdf**	**21 34 12.3**	**+0.6**
	baz=2.5,slow=3.1,SNR=6.9						
BRTR	**Keskin Array B**	**146.81**	**321**	PKPbc	**PKPab**	**21 34 14.9**	**-0.6**
BRTR	**Keskin Array B**	**146.81**	**321**	PKPbc	**PKPab**	**21 34 14.9**	**-0.6**
	baz=114,slow=1.8,SNR=34						
VOIR		**146.83**	**337** ↑	*iP*	**PKPab**	**21 34 15.1**	**-0.2**
ARR	**Arges**	**147.04**	**337** ↑	*iP*	**PKPab**	**21 34 16.0**	**-0.1**
SIRR	**Siria**	**147.27**	**341** ↑	*iP*	**PKPbc**	**21 34 15.8**	**+0.6**
GZR	**Gura Zlata**	**147.69**	**339** ↓	*iP*	**PKPbc**	**21 34 16.7**	**+0.3**
BZS	**Buzias**	**147.87**	**341** ↑	*iP*	**PKPbc**	**21 34 17.2**	**+0.4**
VTS	**Vitosha**	**149.94**	**336** ↑	*iP*	**PKPbc**	**21 34 23.2**	**+0.8**
ESDC	**Sonseca Array**	**154.24**	**20**	PKPbc	**PKPbc**	**21 34 32.0**	**-0.1**
ESDC	**Sonseca Array**	**154.24**	**20**	PKPbc	**PKPbc**	**21 34 32.0**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=319,slow=1.2,SNR=3.0						
KEST	**Kesra**	**160.02**	**355**	PKP	**PKPdf**	**21 34 32.0**	**+0.7**
KEST	**Kesra**	**160.02**	**355**	PKP	**PKPdf**	**21 34 32.0**	**+0.7**
	comp=Z,0.6nm,0.8s,baz=12,slow=16,SNR=2.6						
TORD	**Torodi Ar. Bea**	**174.05**	**115**	PKP	**PKPdf**	**21 34 41.2**	**-1.0**
TORD	**Torodi Ar. Bea**	**174.05**	**115**	PKP	**PKPdf**	**21 34 41.2**	**-1.0**
	comp=Z,0.8nm,0.8s,baz=298,slow=1.3,SNR=5.4						

IDC 29 21:15:21.2±9.3, 15°.25S×173°.78W, h0km, mb4.2/2, mb1 4.4/2, mb1mx3.9/17, mbtmp4.2/2, Error ellipse: s-maj=409.8km s-min=60.7km az=139.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**49.52**	**257**	P	P	21 24 14.1	0.0
	0.9nm,0.7s,baz=91,slow=6.5,SNR=2.8						
ASAR	**Alice Springs**	**49.81**	**252**	P	P	21 24 16.0	-0.3
	4.0nm,0.6s,baz=87,slow=7.7,SNR=2.8						
BRTR	**Keskin Array B**	**145.81**	**321**	PKPbc	PKPdf	21 35 02.1	-0.3
	3.0nm,0.8s,baz=77,slow=2.1,SNR=2.2						

IDC 29 21:16:26.0±1.4, 16°.34S×172°.49W, h0km, mb4.1/6, mb1 4.3/6, mb1mx4.1/18, mbtmp4.0/6, Error ellipse: s-maj=85.6km s-min=24.3km az=148.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.52**	**16**	Sn	Sg	21 17 45.8	-1.3
	154nm,0.3s,baz=343,slow=20,SNR=3.0						
STKA	**Stephens Creek**	**44.33**	**241**	P	P	21 24 38.2	+0.1
	2.8nm,0.7s,baz=68,slow=10,SNR=3.3						
WRA	**Warramunga Arr**	**50.48**	**257**	P	P	21 25 25.4	-0.8
	2.2nm,0.8s,baz=94,slow=6.6,SNR=5.0						
ASAR	**Alice Springs**	**50.66**	**253**	P	P	21 25 26.9	-0.6
	3.9nm,0.8s,baz=88,slow=7.6,SNR=5.0						
TXAR	**Lajitas Array**	**80.42**	**56**	P	P	21 28 40.5	+0.5
	1.1nm,0.9s,baz=226,slow=6.0,SNR=3.0						
ILAR	**Eielson Array**	**83.20**	**11**	P	P	21 28 52.4	-1.4
	0.8nm,0.6s,baz=227,slow=6.6,SNR=4.1						
CMAR	**Chiang Mai Arr**	**93.73**	**288**	P	P	21 29 46.8	+1.4
	0.3nm,0.4s,baz=70,slow=3.9,SNR=2.9						
GERES	**GERESS Array B**	**147.19**	**352**	PKPbc	PKPbc	21 36 10.4	-0.9
	0.7nm,0.7s,baz=31,slow=14,SNR=2.6						
BRTR	**Keskin Array B**	**147.43**	**321**	PKPbc	PKPbc	21 36 12.6	+0.2
	baz=97,slow=2.5,SNR=4.1						
TORD	**Torodi Ar. Bea**	**173.54**	**119**	PKP	PKPdf	21 36 37.0	-1.4
	0.8nm,1.0s,baz=256,slow=2.3,SNR=3.0						

IDC 29 21:18:24.8±3.8, 14°.26S×173°.68W, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.8/17, mbtmp3.9/4, Error ellipse: s-maj=134.1km s-min=34.4km az=134.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**49.85**	**256**	P	P	21 27 20.3	+0.1
	0.8nm,0.7s,baz=90,slow=6.8,SNR=5.3						
ASAR	**Alice Springs**	**50.21**	**251**	P	P	21 27 22.5	-0.5
	2.7nm,0.7s,baz=86,slow=8.4,SNR=5.9						
USRK	**Ussuriysk Arra**	**76.31**	**323**	P	P	21 30 15.7	+0.1
	0.9nm,0.9s,baz=145,slow=5.3,SNR=2.4						
ILAR	**Eielson Array**	**81.38**	**11**	P	P	21 30 42.9	-0.1
	0.5nm,0.5s,baz=223,slow=6.2,SNR=4.7						
BRTR	**Keskin Array B**	**145.10**	**322**	PKPbc	PKPbc	21 38 03.6	-0.6
	0.9nm,0.7

3.0nm,0.5s,baz=86,slow=8.6,SNR=5.9
TXAR Lajitas Array 80.78 56 P P 21 36 26.3 +0.4
0.1nm,0.3s,baz=215,slow=6.2,SNR=2.4
PDAR Pinedale Array 82.42 42 P P 21 36 34.0 -0.4
0.6nm,0.8s,baz=215,slow=1.1,SNR=3.5
ILAR Eielson Array 82.55 11 P P 21 36 33.8 -0.5
0.9nm,0.9s,baz=232,slow=6.6,SNR=4.4
CMAR Chiang Mai Arr 92.50 288 P P 21 37 31.5 +7.8
0.4nm,0.8s,baz=106,slow=3.3,SNR=3.3
BRTR Keskin Array B 146.12 321 PKPbc PKPab 21 43 52.9 -0.2
baz=118,slow=1.9,SNR=5.7
GERES GERESS Array B 146.19 351 PKPbc PKPdf 21 43 51.0 -0.4
baz=352,slow=2.0,SNR=3.5

IDC 29 21:26:52.4±9.3, 15°.05S×173°.77W, h0km, mb3.6/3, mb1 4.0/3, mb1mx3.7/18, mbtmp3.6/3, Error ellipse: s-maj=416.7km s-min=34.2km az=139.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**49.58**	**256**	P	P	21 35 45.7	-0.1
	0.4nm,0.6s,baz=91,slow=6.9,SNR=7.5						
ASAR	**Alice Springs**	**49.88**	**252**	P	P	21 35 47.3	-0.7
	0.9nm,0.6s,baz=89,slow=7.3,SNR=7.3						
ILAR	**Eielson Array**	**82.18**	**11**	P	P	21 39 14.1	-0.7
	0.3nm,0.7s,baz=228,slow=6.8,SNR=4.0						
BRTR	**Keskin Array B**	**145.67**	**321**	PKPbc	PKPab	21 46 34.3	+0.4
	0.5nm,0.6s,baz=108,slow=1.8,SNR=3.7						

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*IDC **29** 21:27:45.4±0.6, 16°.62S×173°.30W, h0km, mb4.3/17, mb1 4.5/17, mb1mx4.4/23, mbtmp4.3/17, Error ellipse: s-maj=23.5km s-min=14.5km az=133.0*
*NEIC **29** 21:27:46.8±0.3, 16°.59S×173°.32W, h10km, mb4.3/7, Error ellipse: s-maj=16.0km s-min=7.9km az=135.0*
*SZGRF **29** 21:27:50.3, 17°.00S×174°.75W, h33km, Tonga Islands*
*ISCJB **29** 21:27:52.4±0.4, 16°.66S±0°.09×173°.41W±0°.10, h66km, mb4.2/25, Error ellipse: s-maj=16.7km s-min=8.9km az=135.9*
ISC 29 21:27:54.3±0.5, 16°.7S±0°.1×173°.3W±0°.1, h66km, n127, σ1§01/118, mb4.2/25, 29C-2D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.13**	**28**	*e*Pn	Pn	21 28 34.6	-6.7
AFI				Sn	Sn	21 29 04.1	-14
AFI	**Afiamalu**	**3.13**	**28**	Pn	**Pn**	**21 28 41.6**	**+0.2**
	118nm,0.3s,baz=57,slow=14,SNR=4.8						
AFI				Sn	Sn	21 29 04.1	-14
	286nm,0.3s,baz=146,slow=23,SNR=6.8						
MSVF	**Nonsavu**	**8.33**	**262**	*e*Pn	Pn	21 29 58.1	+5.5
RAR	**Rarotonga**	**13.56**	**111**	*e*Pn	Pn	21 30 50.6	-13
	64nm,0.6s						
RAR	**Rarotonga**	**13.56**	**111**	Pn	Pn	21 30 50.7	-13
	8.0nm,0.3s,baz=270,slow=7.6,SNR=12						
DZM	**Mont Dzumac**	**19.84**	**251**	P	**P**	**21 32 18.4**	**-1.7**
DZM	**Mont Dzumac**	**19.84**	**251**	P	**Pn**	**21 32 25.7**	**+3.6**
	0.3nm,0.3s,baz=72,slow=19,SNR=4.7						
URZ	**Urewera**	**23.08**	**200**	P	**P**	**21 32 54.0**	**-0.4**
URZ	**Urewera**	**23.08**	**200**	P	**P**	**21 32 54.0**	**-0.4**
	12nm,0.5s,baz=357,slow=17,SNR=8.4						
RPZ	**Rata Peaks**	**30.04**	**203**	P	P	21 34 01.3	+4.2
RPZ	**Rata Peaks**	**30.04**	**203**	P	P	21 34 01.3	+4.2
	4.6nm,0.6s,baz=342,slow=19,SNR=2.6						
CTA	**Charters Tower**	**38.47**	**259**	P	**P**	**21 35 07.6**	**-2.6**
CTA	**Charters Tower**	**38.47**	**259**	P	**P**	**21 35 07.6**	**-2.6**
	0.9nm,0.3s,baz=62,slow=17,SNR=1.8						
STKA	**Stephens Creek**	**43.49**	**241**	*e*P	**P**	**21 35 51.6**	**+0.2**
	1.3nm,0.8s						
STKA	**Stephens Creek**	**43.49**	**241**	P	**P**	**21 35 50.9**	**-0.5**
	4.8nm,0.7s,baz=86,slow=6.3,SNR=7.2						
WRAB	**Tennant Creek**	**49.65**	**258**	*e*P	**P**	**21 36 38.0**	**-1.7**
	2.1nm,0.5s						
WRA	**Warramunga Arr**	**49.65**	**258**	P	**P**	**21 36 37.7**	**-2.1**
WRA	**Warramunga Arr**	**49.65**	**258**	P	**P**	**21 36 37.7**	**-2.1**
	1.2nm,0.5s,baz=93,slow=6.9,SNR=19						
AS31	**Alice Springs**	**49.81**	**253**	*e*P	**P**	**21 36 39.0**	**-2.0**
ASAR	**Alice Springs**	**49.81**	**253**	P	**P**	**21 36 39.5**	**-1.5**
ASAR	**Alice Springs**	**49.81**	**253**	P	**P**	**21 36 39.5**	**-1.5**
	15nm,0.8s,baz=87,slow=8.5,SNR=40						
FITZ	**Fitzroy Crossi**	**58.05**	**259**	*e*P	**P**	**21 37 39.7**	**-1.3**
	3.2nm,1.0s						
VNDA	**Vanda**	**62.11**	**186**	*e*P	**P**	**21 38 08.2**	**+0.2**
	4.3nm,1.0s						
VNDA	**Vanda**	**62.11**	**186**	P	**P**	**21 38 08.3**	**+0.4**
	0.6nm,0.9s,baz=29,slow=9.1,SNR=2.7						
ASAJ	**Asahikawa**	**72.68**	**328**	P	**P**	**21 39 16.2**	**+1.2**
ASAJ	**Asahikawa**	**72.68**	**328**	P	**P**	**21 39 16.2**	**+1.2**
	7.3nm,0.8s,baz=171,slow=20,SNR=3.7						
QSPA	**South Pole Qui**	**73.36**	**180**	*e*P	**P**	**21 39 19.1**	**+0.1**
LPIG	**La Paz**	**73.63**	**58**	P	**P**	**21 39 20.4**	**-0.7**
LPIG	**La Paz**	**73.63**	**58**	P	**P**	**21 39 20.4**	**-0.7**
	35nm,0.5s,baz=84,slow=18,SNR=3.6						
PETK	**Petropavlovsk-**	**73.88**	**342**	P	**P**	**21 39 22.0**	**+0.1**
PETK	**Petropavlovsk-**	**73.88**	**342**	P	**P**	**21 39 22.0**	**+0.1**
	3.6nm,0.7s,baz=132,slow=8.8,SNR=7.3						
NVAR	**Mina Array Bea**	**75.22**	**42**	P	**P**	**21 39 30.8**	**+0.5**
NVAR	**Mina Array Bea**	**75.22**	**42**	P	**P**	**21 39 30.8**	**+0.5**
	2.0nm,0.7s,baz=209,slow=7.2,SNR=4.6						
KDAK	**Kodiak Island**	**76.16**	**11**	P	**P**	**21 39 33.5**	**-1.4**
KDAK	**Kodiak Island**	**76.16**	**11**	P	**P**	**21 39 33.5**	**-1.4**
	8.5nm,1.0s,baz=43,slow=16,SNR=4.2						
SHPR	**Sheep Range**	**76.20**	**45**	*e*P	**P**	**21 39 35.3**	**-0.6**
	1.6nm,0.7s						
KSRS	**Korea Array**	**77.14**	**316**	P	**P**	**21 39 42.6**	**+1.7**
	0.4nm,0.4s,baz=116,slow=5.5,SNR=3.3						
KSAR	**Wonju Array Be**	**77.16**	**316**	P	**P**	**21 39 42.6**	**+1.6**
USRK	**Ussuriysk Arra**	**78.47**	**323**	P	**P**	**21 39 48.1**	**0.0**
	1.1nm,0.8s,baz=157,slow=7.7,SNR=4.2						
ELK	**Elko**	**78.48**	**41**	*e*P	**P**	**21 39 48.5**	**-0.2**
	3.1nm,1.0s						
MNTX	**Cornudas Mount**	**80.92**	**53**	*e*P	**P**	**21 40 00.8**	**-0.9**
	1.9nm,1.1s						
TXAR	**Lajitas Array**	**81.25**	**56**	P	**P**	**21 40 03.5**	**-0.2**
TXAR	**Lajitas Array**	**81.25**	**56**	P	**P**	**21 40 03.5**	**-0.2**
	1.8nm,1.1s,baz=224,slow=5.2,SNR=5.9						
HYT	**Haines Junctio**	**82.41**	**17**	*e*P	**P**	**21 40 08.1**	**-1.0**
PDAR	**Pinedale Array**	**83.16**	**42**	P	**P**	**21 40 11.9**	**-1.6**
PDAR	**Pinedale Array**	**83.16**	**42**	P	**P**	**21 40 12.0**	**-1.6**
	0.8nm,0.7s,baz=231,slow=4.7,SNR=4.7						
COLA	**College**	**83.60**	**11**	*e*P	**P**	**21 40 14.0**	**-1.0**
	85nm,0.9s						
ILAR	**Eielson Array**	**83.68**	**11**	P	**P**	**21 40 13.9**	**-1.5**
ILAR	**Eielson Array**	**83.68**	**11**	P	**P**	**21 40 13.9**	**-1.5**
	4.7nm,0.6s,baz=230,slow=6.3,SNR=51						
IMA2	**Indian Mountai**	**83.82**	**8**	*e*P	**P**	**21 40 15.1**	**-1.1**
MAW	**Mawson**	**86.61**	**199**	P	**P**	**21 40 32.0**	**+1.9**
MAW	**Mawson**	**86.61**	**199**	P	**P**	**21 40 32.0**	**+1.9**
	1.4nm,0.7s,baz=16,slow=4.5,SNR=4.3						
CMAR	**Chiang Mai Arr**	**93.11**	**288**	P	**P**	**21 41 03.6**	**+1.9**
CMAR	**Chiang Mai Arr**	**93.11**	**288**	P	**P**	**21 41 03.6**	**+1.9**
	1.3nm,0.8s,baz=73,slow=2.9,SNR=8.6						
MKAR	**Makanchi Array**	**111.79**	**314**	PKiKP	**PKiKP**	**21 46 20.7**	**-1.1**
MKAR	**Makanchi Array**	**111.79**	**314**	PKiKP	**PKiKP**	**21 46 20.7**	**-1.1**
	0.4nm,0.7s,baz=158,slow=0.8,SNR=4.3						
ARCES	**ARCESS Array B**	**125.89**	**352**	PKP	**PKPdf**	**21 46 48.2**	**+0.1**
ARCES	**ARCESS Array B**	**125.89**	**352**	PKP	**PKPdf**	**21 46 48.2**	**+0.1**
	2.0nm,0.8s,baz=62,slow=2.1,SNR=4.5						
FINES	**FINESS Array B**	**133.21**	**347**	PKP	**PKPdf**	**21 47 03.4**	**+1.2**
FINES	**FINESS Array B**	**133.21**	**347**	PKP	**PKPdf**	**21 47 03.4**	**+1.2**
	0.9nm,0.7s,baz=320,slow=11,SNR=3.5						
AKASG	**Malin Array Be**	**141.56**	**337**	PKPpre	PKPpre	21 47 13.6	
AKASG	**Malin Array Be**	**141.56**	**337**	PKhKP	PKPpre	21 47 13.6	
	0.2nm,0.3s,baz=31,slow=2.9,SNR=2.9						
KWP	**Kalwaria Pacla**	**144.67**	**342**	⇑*i*P	PKPbc	21 47 22.7	+0.3
KWP	**Kalwaria Pacla**	**144.67**	**342**	*e*PKP	**PKPdf**	**21 47 23.1**	**-0.4**
CLZ	**Clausthal**	**144.81**	**356**	*e*PKPbc	**PKPab**	**21 47 22.2**	**-0.5**
MALT	**Malatya**	**144.83**	**314**	⇑*i*P	**PKPdf**	**21 47 25.2**	**+0.9**
KMBO	**Kilima Mbogo**	**145.05**	**243**	PKPbc	**PKPdf**	**21 47 26.7**	**+1.2**
KMBO	**Kilima Mbogo**	**145.05**	**243**	PKPbc	**PKPdf**	**21 47 26.7**	**+1.2**
	3.5nm,1.0s,baz=146,slow=2.3,SNR=7.5						
KSP	**Ksiaz**	**145.07**	**349**	*e*PKP	**PKPdf**	**21 47 24.3**	**+0.2**
CLL	**Collm**	**145.10**	**353**	*e*PKPbc	**PKPbc**	**21 47 22.7**	**-0.9**
CLL	**Collm**	**145.10**	**353**	*i* PKPdf	**PKPbc**	**21 47 22.8**	**-0.9**
	comp=Z,7.0nm,0.8s						
CLL				*e*		21 47 33.0	
STHS	**Stebnicka Huta**	**145.28**	**343**	*e*PKP	**PKPdf**	**21 47 25.6**	**+1.0**
LEOM	**Leova**	**145.32**	**334**	||*i*P	**PKPbc**	**21 47 24.4**	**-0.1**
BRG	**Berggiesshubel**	**145.41**	**352**	*e*PKP	**PKPbc**	**21 47 24.5**	**-0.2**
	comp=Z,4.8nm,0.8s						
KOLS	**Kolonicke sedl**	**145.42**	**342**	*e*PKP	**PKPab**	**21 47 25.1**	**0.0**
UPC	**Upice**	**145.44**	**350**	⇑*e*PKP	**PKPab**	**21 47 25.2**	**+0.1**
UPC				*ex*	x	21 47 33.5	
UPC				*ex*	x	21 47 36.6	
DPC	**Dobruska-Polom**	**145.54**	**349**	⇑*i*PKP	**PKPab**	**21 47 25.7**	**+0.2**
DPC				*ex*	x	21 47 34.5	
BURAR	**Bucovina Array**	**145.59**	**338**	⇑*i*P	**PKPab**	**21 47 26.1**	**+0.2**
PVCC	**Panska Ves**	**145.65**	**351**	⇑*e*PKP	**PKPab**	**21 47 26.1**	**+0.2**
PVCC				*ex*	x	21 47 34.5	
PVCC				*ex*	x	21 47 37.1	
OKC	**Ostrava-Krasne**	**145.66**	**347**	⇑*e*PKP	**PKPab**	**21 47 26.0**	**+0.1**
OKC				*ep*PKP	**PKiKP**	**21 47 30.4**	**+1.2**
OKC				*ex*	x	21 47 36.8	
CRVS	**Cervenica-Dubn**	**145.69**	**343**	*e*PKP	**PKPab**	**21 47 26.2**	**+0.1**
MORC	**Moravsky Berou**	**145.85**	**347**	⇑*i*P	**PKPab**	**21 47 26.4**	**-0.3**
MOX	**Moxa**	**145.90**	**354**	*e*PKPbc	**PKPbc**	**21 47 25.9**	**-0.4**
TESR	**Tescani**	**145.95**	**335**	⇑*i*P	**PKPbc**	**21 47 26.5**	**-0.1**
GHRR		**146.00**	**334**	⇑*i*P	**PKPab**	**21 47 28.1**	**+0.8**
TANN	**Tannenbergstha**	**146.04**	**353**	*e*PKPbc	**PKPbc**	**21 47 26.6**	**-0.2**
TRPA	**Tarpa**	**146.05**	**341**	⇑*i*P	**PKPab**	**21 47 27.3**	**-0.1**
TLCR		**146.07**	**332**	⇑*i*P	**PKPab**	**21 47 28.0**	**+0.4**
PRU	**Pruhonice**	**146.18**	**351**	⇑*i*PKP	**PKPab**	**21 47 27.4**	**-0.5**
PRU				*ex*	x	21 47 38.2	
NKC	**Novy Kostel**	**146.22**	**353**	⇑*e*PKP	**PKPbc**	**21 47 27.4**	**+0.1**
NKC				*ex*	x	21 47 36.1	
NKC				*ex*	x	21 47 38.7	
KECS	**Kecovo**	**146.34**	**343**	*e*PKP	**PKPab**	**21 47 28.2**	**-0.3**
CFR	**Carcaliu**	**146.38**	**332**	⇑*i*P	**PKPab**	**21 47 28.1**	**-0.7**
VRI	**Vrincioaia**	**146.44**	**334**	⇑*i*P	**PKPab**	**21 47 28.5**	**-0.6**
PLOR	**Plostina**	**146.49**	**334**	⇑*i*P	**PKPab**	**21 47 28.8**	**-0.5**
TNS	**Taunus Mts**	**146.52**	**358**	*e*PKPbc	**PKPab**	**21 47 28.8**	**-0.4**
ROTZ	**Rotzenmuhle**	**146.71**	**353**	*e*PKPbc	**PKPbc**	**21 47 28.9**	**+0.2**
GRF	**Grafenberg Arr**	**146.88**	**355**	*e*PKPbc	**PKPab**	**21 47 31.2**	**+0.6**
TLB	**Topalu**	**146.88**	**332**	⇑*i*P	**PKPab**	**21 47 30.7**	**0.0**
MLR	**Muntele Rosu**	**147.07**	**335**	⇑*i*P	**PKPab**	**21 47 31.5**	**-0.2**
KHC	**Kasperske Hory**	**147.16**	**352**	⇑*i*PKP	**PKPbc**	**21 47 30.5**	**+0.5**
KHC				*ex*	x	21 47 41.8	
DRGR		**147.18**	**340**	⇑*i*P	**PKPbc**	**21 47 30.4**	**+0.2**
BRTR	**Keskin Array B**	**147.21**	**320**	PKPbc	**PKPab**	**21 47 31.3**	**-1.1**
BRTR	**Keskin Array B**	**147.21**	**320**	PKPbc	**PKPab**	**21 47 31.3**	**-1.1**
	comp=Z,13nm,1.0s,baz=122,slow=2.0,SNR=33						
GEC2	**GERESS Array S**	**147.42**	**351**	*e*PKPbc	**PKPbc**	**21 47 30.7**	**-0.2**
GERES	**GERESS Array B**	**147.42**	**351**	PKPbc	**PKPbc**	**21 47 30.9**	**+0.1**
GERES	**GERESS Array B**	**147.42**	**351**	PKPbc	**PKPbc**	**21 47 31.0**	**+0.1**
	comp=Z,2.9nm,0.7s,baz=29,slow=3.0,SNR=23						
VOIR		**147.47**	**336**	⇑*i*P	**PKPab**	**21 47 32.7**	**-0.5**
ARR	**Arges**	**147.69**	**336**	⇑*i*P	**PKPab**	**21 47 32.9**	**-1.1**
CONA	**Conrad Observa**	**147.95**	**348**	⇑*i*sPKPdf	**PKPbc**	**21 47 32.8**	**+0.5**
	comp=Z,8.3nm,0.8s,SNR=6.0						
LOT	**Lotru**	**147.96**	**337**	||*i*P	PKPdf	21 47 19.8	-10
SIRR	**Siria**	**147.98**	**340**	⇑*i*P	**PKPbc**	**21 47 31.9**	**-0.4**
GZR	**Gura Zlata**	**148.37**	**338**	⇑*i*P	**PKPbc**	**21 47 32.8**	**-0.6**
FUR	**Furstenfeldbru**	**148.38**	**354**	*e*PKPbc	**PKPbc**	**21 47 33.9**	**+0.6**
BFO	**Black Forest**	**148.42**	**358**	*e*PKPbc	**PKPbc**	**21 47 33.3**	**-0.1**
BZS	**Buzias**	**148.57**	**340**	⇑*i*P	**PKPbc**	**21 47 33.9**	**0.0**
RJOB	**Jochberg**	**148.63**	**352**	*e*PKPbc	**PKPbc**	**21 47 34.3**	**+0.2**
WTTA	**Wattenberg**	**149.24**	**353**	⇑*i*sPKPdf	**PKPbc**	**21 47 35.7**	**0.0**
	comp=Z,8.1nm,0.8s,SNR=6.8						
SOKA	**Soboth**	**149.31**	**349**	*i* sPKPdf	**PKPbc**	**21 47 35.8**	**0.0**
	comp=Z,11nm,1.4s,SNR=10						
DAVA	**Damuels**	**149.38**	**356**	*i* PKiKP	**PKiKP**	**21 47 36.7**	**-0.5**
	comp=Z,11nm,0.9s,SNR=6.1						
FETA	**Feichten**	**149.57**	**355**	*i* PKiKP	**PKiKP**	**21 47 37.2**	**-0.4**
	comp=Z,10nm,1.3s,SNR=5.9						
ABTA	**Abfaltersbach**	**149.64**	**352**	*i* PKiKP	**PKPbc**	**21 47 36.6**	**-0.1**
	comp=Z,9.3nm,0.9s,SNR=6.8						
LJU	**Ljubljana**	**150.01**	**349**	*i* PKPbc	**PKPbc**	**21 47 37.6**	**+0.1**
CRES	**Cresnjev**	**150.04**	**348**	*i* PKPbc	**PKPbc**	**21 47 37.3**	**-0.3**
BOJS	**Bojanci**	**150.39**	**348**	*i* PKPbc	**PKPbc**	**21 47 38.6**	**+0.3**
VTS	**Vitosha**	**150.58**	**335**	⇑*i*P	**PKPbc**	**21 47 39.4**	**+0.3**
TORD	**Torodi Ar. Bea**	**174.02**	**125**	PKP	**PKPdf**	**21 47 56.9**	**-0.4**
TORD	**Torodi Ar. Bea**	**174.02**	**125**	PKP	**PKPdf**	**21 47 56.9**	**-0.4**
	comp=Z,0.5nm,0.9s,baz=327,slow=3.5,SNR=3.4						

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*BJI **29** 21:28:55.3, 17°.10S×172°.90W, h6km, mB5.4/9, mb5.2/23, Ms5.7/10, Ms7 5.4/11*
*IDC **29** 21:29:00.1±0.6, 16°.28S×172°.56W, h0km, mb4.5/15, mb1 4.7/15, mb1mx4.6/21, mbtmp4.5/15, Error ellipse: s-maj=24.4km s-min=16.9km az=134.0*
*NEIC **29** 21:29:01.3±0.4, 16°.30S×172°.63W, h10km, mb4.9/27, Error ellipse: s-maj=21.7km s-min=10.9km az=144.0*
*ISCJB **29** 21:29:02.2±0.4, 16°.3S±0°.1×172°.59W±0°.08, h24km, mb4.9/57, MS5.3/5, Error ellipse: s-maj=17.7km s-min=7.4km az=146.6*
*MOS **29** 21:29:03.3±0.6, 16°.12S×172°.87W, h33km, mb5.1/8, Error ellipse: s-maj=30.6km s-min=14.9km az=51.5*
*AUST **29** 21:29:42.0, 16°.02S×178°.10W, h35km*
ISC 29 21:29:03.3±0.5, 16°.34S±0°.09×172°.63W±0°.09, h24km, n137, σ1§58/133, mb4.9/57, MS5.4/5, 1C, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.55**	**19**	*e*Pn	**Pb**	**21 29 50.5**	**+2.0**
DZM	**Mont Dzumac**	**20.56**	**251**	*e*P	Pn	21 33 45.2	+2.4
DZM	**Mont Dzumac**	**20.56**	**251**	P	Pn	21 33 44.9	+2.1
	20nm,0.9s,baz=84,slow=15,SNR=5.3						
URZ	**Urewera**	**23.63**	**200**	P	P	21 34 19.2	+6.6
URZ	**Urewera**	**23.63**	**200**	P	P	21 34 19.2	+6.6
	27nm,0.5s,baz=27,slow=3.8,SNR=6.2						
RPZ	**Rata Peaks**	**30.61**	**204**	P	P	21 35 26.2	+11
RPZ	**Rata Peaks**	**30.61**	**204**	P	P	21 35 26.2	+11
	9.0nm,0.6s,baz=339,slow=8.0,SNR=3.7						
ARMA	**Armidale**	**35.51**	**240**	P	**P**	**21 35 59.3**	**+0.8**
	baz=31,SNR=4.6						
RABL	**Rabaul**	**36.61**	**285**	P	P	21 35 59.8	-8.2
	baz=32,SNR=4.4						
CNB	**Canberra Magne**	**38.77**	**234**	P	P	21 36 29.7	+3.6
	baz=35,SNR=6.9						
CMSA	**Cobar Meteorol**	**40.72**	**240**	P	**P**	**21 36 42.8**	**+0.5**
	baz=36,SNR=7.4						
QLP	**Quilpie**	**41.25**	**248**	P	**P**	**21 36 48.4**	**+1.7**
	baz=36,SNR=3.6						
STKA	**Stephens Creek**	**44.22**	**241**	P	**P**	**21 37 11.0**	**+0.2**
STKA	**Stephens Creek**	**44.22**	**241**	P	**P**	**21 37 11.0**	**+0.2**
	7.6nm,0.7s,baz=87,slow=10,SNR=5.6						
STKA	**Stephens Creek**	**44.22**	**241**	P	**P**	**21 37 11.7**	**+0.9**
	baz=40,SNR=4.1						
WRAB	**Tennant Creek**	**50.35**	**257**	*e*P	P	21 37 52.1	-6.6
WRAB				pmax	pmax		
	comp=Z,22nm,1.4s						
WRAB	**Tennant Creek**	**50.35**	**257**	*e*P	P	21 37 52.1	-6.6
	comp=Z,22nm,1.4s						
WRA	**Warramunga Arr**	**50.35**	**257**	P	**P**	**21 37 58.6**	**-0.2**
WRA	**Warramunga Arr**	**50.35**	**257**	P	**P**	**21 37 58.6**	**-0.2**
	comp=Z,5.4nm,1.0s,baz=90,slow=7.5,SNR=6.7						
AS31	**Alice Springs**	**50.53**	**253**	*e*P	P	21 37 54.4	-5.7
ASAR	**Alice Springs**	**50.53**	**253**	P	**P**	**21 37 59.3**	**-0.8**
ASAR	**Alice Springs**	**50.53**	**253**	P	**P**	**21 37 59.3**	**-0.8**
	comp=Z,7.3nm,0.7s,baz=86,slow=8.4,SNR=2.7						
VNDA	**Vanda**	**62.52**	**186**	P	**P**	**21 39 27.1**	**+2.6**
VNDA	**Vanda**	**62.52**	**186**	P	**P**	**21 39 27.2**	**+2.6**
	comp=Z,1.1nm,0.8s,baz=352,slow=12,SNR=2.2						
KLBR	**Kellerberrin**	**64.46**	**242**	P	P	21 39 41.7	+3.5
	baz=60,SNR=6.6						
LUWI	**Luwuk**	**65.36**	**276**	P	**P**	**21 39 46.2**	**+1.9**
	baz=60,SNR=3.6						
ERM	**Erimo**	**70.95**	**327**	*e*P	P	21 40 10.2	-8.5
ERM				pmax	pmax		
	comp=Z,7.0nm,1.0s						
HOPS	**Hopland**	**71.94**	**39**	*e*P	**P**	**21 40 25.6**	**+0.8**
	comp=Z,185nm,2.0s						
ASAJ	**Asahikawa**	**72.72**	**328**	P	**P**	**21 40 30.5**	**+1.1**
ASAJ	**Asahikawa**	**72.72**	**328**	P	**P**	**21 40 30.5**	**+1.1**
	comp=Z,8.2nm,0.9s,baz=280,slow=15,SNR=1.9						
PETK	**Petropavlovsk-**	**73.75**	**342**	P	**P**	**21 40 34.2**	**-1.0**
PETK	**Petropavlovsk-**	**73.75**	**342**	P	**P**	**21 40 34.2**	**-1.0**
PETK	**Petropavlovsk-**	**73.75**	**342**	P	**P**	**21 40 34.2**	**-1.0**
	comp=Z,4.3nm,0.8s,baz=141,slow=7.6,SNR=4.3						
WAKR	**Walker**	**73.86**	**41**	*e*P	**P**	**21 40 36.8**	**+0.3**
YBH	**Yreka Blue Hor**	**73.90**	**37**	P	**P**	**21 40 37.1**	**+0.6**
YBH	**Yreka Blue Hor**	**73.90**	**37**	P	**P**	**21 40 37.1**	**+0.6**
	comp=Z,6.7nm,0.8s,baz=129,slow=5.6,SNR=7.1						
NVAR	**Mina Array Bea**	**74.53**	**41**	P	**P**	**21 40 40.2**	**-0.2**
NVAR	**Mina Array Bea**	**74.53**	**41**	P	**P**	**21 40 40.2**	**-0.2**
	comp=Z,5.9nm,0.8s,baz=227,slow=9.6,SNR=7.5						
MOD	**Modoc**	**75.41**	**38**	*e*P	**P**	**21 40 45.1**	**-0.1**
	comp=Z,27nm,0.9s						
SHPR	**Sheep Range**	**75.50**	**45**	*e*P	**P**	**21 40 46.6**	**+0.6**
K05A	**Summer Lake**	**75.58**	**37**	*e*P	**P**	**21 40 47.5**	**+1.2**
	comp=Z,18nm,0.9s						
SSLB	**Suanglung**	**76.13**	**300**	*e*P	P	21 40 44.7	-4.9
TUC	**Tucson**	**76.42**	**50**	*e*P	P	21 40 47.2	-4.0
TUC				pmax	pmax		
	comp=Z,38nm,1.3s						
TUC	**Tucson**	**76.42**	**50**	*e*P	P	21 40 47.2	-4.0
	comp=Z,38nm,1.3s						
WVOR	**Wild Horse Val**	**76.71**	**38**	*e*P	**P**	**21 40 51.9**	**-0.8**
WVOR				pmax	pmax		
	comp=Z,9.0nm,1.1s						
WVOR	**Wild Horse Val**	**76.71**	**38**	*e*P	**P**	**21 40 51.9**	**-0.8**
	comp=Z,9.0nm,1.1s						
CCUT	**Cedar City**	**77.28**	**44**	*e*P	**P**	**21 40 56.7**	**+0.6**
	comp=Z,14nm,1.4s						
KSRS	**Korea Array**	**77.34**	**315**	P	**P**	**21 40 58.6**	**+2.5**
	comp=Z,4.5nm,1.1s,baz=125,slow=6.8,SNR=6.3						
J08A	**Circle Bar Ran**	**77.36**	**37**	*e*P	**P**	**21 40 57.3**	**+1.0**
	comp=Z,6.2nm,0.9s						
KSAR	**Wonju Array Be**	**77.36**	**315**	P	**P**	**21 40 58.6**	**+2.3**
ELK	**Elko**	**77.80**	**41**	*e*P	**P**	**21 40 59.7**	**+0.7**
	comp=Z,58nm,2.8s						
KSM	**Kuching**	**78.01**	**275**	*e*P	P	21 41 04.0	+3.6
	comp=Z,22nm,1.1s						
KSM	**Kuching**	**78.01**	**275**	P	P	21 41 04.6	+4.2
	baz=73,SNR=3.9						
G08A	**Pilot Rock**	**78.26**	**36**	*e*P	**P**	**21 41 01.4**	**+0.1**
	comp=Z,7.8nm,1.0s						
USRK	**Ussuriysk Arra**	**78.58**	**323**	P	**P**	**21 41 04.3**	**+1.5**
	comp=Z,4.3nm,1.1s,baz=82,slow=4.0,SNR=6.6						
DUG	**Dugway**	**79.05**	**42**	*e*P	**P**	**21 41 07.2**	**+1.4**
DUG				pmax	pmax		
	comp=Z,8.0nm,1.2s						
DUG	**Dugway**	**79.05**	**42**	*e*P	**P**	**21 41 07.2**	**+1.4**
	comp=Z,7.7nm,1.2s						
TMUT	**Trail Mountain**	**79.63**	**44**	*e*P	**P**	**21 41 09.7**	**+0.5**
	comp=Z,15nm,1.0s						
F10A	**Beach Ranch, E**	**79.64**	**36**	*e*P	**P**	**21 41 10.8**	**+2.0**
	comp=Z,8.8nm,1.0s						
HLID	**Hailey**	**79.89**	**39**	*e*P	**P**	**21 41 10.7**	**+0.4**
	comp=Z,11nm,1.1s						
B08A	**Colville Reser**	**79.96**	**33**	*e*P	**P**	**21 41 10.2**	**-0.2**
	comp=Z,22nm,1.5s						
DIV	**Divide**	**80.14**	**13**	*e*P	**P**	**21 41 13.3**	**+2.2**
	comp=Z,20nm,0.9s						
**

GTA sP sP 21 42 39.0 -11
GTA pmax pmax
comp=Z,2.0nm,1.0s
TZTN Tazewell 98.82 55 *e*P **P 21 42 39.4 -2.1**
comp=Z,34nm,0.7s
KSH Kashi 116.62 306 *e*PKP **PKPdf 21 47 44.3 -1.5**
KSH PP PP 21 48 59.5 +5.9
KSH PKS **PKSdf 21 51 19.8 -2.8**
KSH SKS **SKSdf 21 54 55.3 -1.4**
KSH SKKS **SKKSac 21 55 52.3 -0.9**
KSH SS SS 22 05 05.5 +6.9
KSH AMB AMB
comp=Z,260nm,6.7s
KSH LR LR
comp=N,280nm,9.3s
KSH LR LR
comp=E,250nm,7.4s
KSH LR LR
comp=Z,2μm,23.6s
BRVK Borovoye 119.13 322 *i* PKIKP **PKPdf 21 47 48.0 -2.0**
AKASG Malin Array Be 141.49 338 PKIKP PKPpre 21 48 27.6
AKASG Malin Array Be 141.49 338 PKPpre PKPpre 21 48 27.6
AKASG Malin Array Be 141.49 338 PKhKP PKPpre 21 48 27.6
comp=Z,0.3nm,0.4s,baz=32,slow=3.4,SNR=2.5
CLL Collm 144.83 354 *e*PKPdf **PKPdf 21 48 39.0 +0.9**
STHS Stebnicka Huta 145.13 344 *e*PKP **PKPdf 21 48 39.8 +1.0**
KOLS Kolonicke sedl 145.29 343 *e*PKP **PKPdf 21 48 41.0 +1.9**
DPC Dobruska-Polom 145.31 350 *e*PKP **PKPdf 21 48 39.3 +0.2**
DPC *ex* x 21 48 48.2
OKC Ostrava-Krasne 145.47 348 *e*PKP **PKPab 21 48 41.9 +2.4**
CRVS Cervenica-Dubn 145.54 344 *e*PKP **PKPab 21 48 39.9 0.0**
MORC Moravsky Berou 145.64 348 *e*PKPab **PKPab 21 48 40.5 +0.3**
KMBO Kilima Mbogo 145.77 242 PKPbc **PKPab 21 48 43.6 +1.6**
KMBO Kilima Mbogo 145.77 242 PKPbc **PKPab 21 48 43.6 +1.6**
comp=Z,4.5nm,1.1s,baz=53,slow=18,SNR=2.0
MEM Membach 145.80 2 PKP **PKPab 21 48 42.7 +2.0**
PRU Pruhonice 145.94 352 *e*PKP **PKPab 21 48 41.2 -0.1**
NKC Novy Kostel 145.94 354 *e*PKP **PKPab 21 48 41.0 -0.3**
BCLA Clavier 145.97 2 PKP **PKPab 21 48 44.1 +2.8**
DOU Dourbes 146.26 3 PKP **PKPab 21 48 44.3 +1.8**
KHC Kasperske Hory 146.91 353 *e*PKIKP **PKPdf 21 48 40.3 -1.6**
KHC Kasperske Hory 146.91 353 *e*PKP **PKPdf 21 48 40.0 -1.8**
KHC *ep*PKP **PKiKP 21 48 46.8 +0.5**
KHC Kasperske Hory 146.91 353 *e*PKPdf **PKPdf 21 48 40.3 -1.6**
GERES GERESS Array B 147.17 352 PKPbc **PKPbc 21 48 44.7 +0.1**
GERES GERESS Array B 147.17 352 PKPbc **PKPbc 21 48 44.7 +0.1**
baz=31,slow=3.1,SNR=8.5
ZST Bratislava 147.24 348 *e*PKP **PKPbc 21 48 44.7 +0.1**
BR131 Keskin Array S 147.35 321 *e*PKPab **PKPbc 21 48 45.8 +0.3**
BRTR Keskin Array B 147.35 321 PKPbc **PKPab 21 48 46.2 -1.1**
BRTR Keskin Array B 147.35 321 PKPbc **PKPab 21 48 46.2 -1.1**
baz=114,slow=2.9,SNR=6.1
BFO Black Forest 148.09 359 *e*PKIKP **PKPdf 21 48 41.8 -2.0**
BFO *e* 21 48 49.5
BFO Black Forest 148.09 359 *e*PKPdf **PKPdf 21 48 41.8 -2.0**
BFO *e*PKPab **PKPab 21 48 49.5 -0.2**
TUE Stuetta 149.91 357 *e*PKPab **PKPab 21 48 55.4 -2.0**
SENIN Lac Senin/Sane 150.07 0 *e*PKPab **PKPab 21 48 56.0 -2.1**
ESDC Sonseca Array 154.74 21 PKPab **PKPab 21 49 19.4 +1.8**
ESDC Sonseca Array 154.74 21 PKPab **PKPab 21 49 19.5 +1.8**
baz=326,slow=4.4,SNR=7.1
TORD Torodi Ar. Bea 173.66 119 PKP **PKPdf 21 49 11.8 +0.1**
TORD Torodi Ar. Bea 173.66 119 PKP **PKPdf 21 49 11.8 +0.1**
comp=Z,0.9nm,1.0s,baz=289,slow=2.6,SNR=2.8
TORD PKPab **PKPab 21 50 41.1 -0.2**
baz=250,slow=3.8,SNR=4.2

IDC 29 21:29:53.1±2.4, 15°.53S×173°.54W, h0km, mb4.5/4, mb1 4.6/4, mb1mx4.1/19, mbtmp4.5/4, Error ellipse: s-maj=69.5km s-min=56.7km az=162.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**43.86**	**240**	P	P	21 38 01.1	-0.2
3.0nm,0.7s,baz=78,slow=7.5,SNR=3.8							
WRA	**Warramunga Arr**	**49.69**	**257**	P	P	21 38 47.1	-0.1
2.6nm,0.6s,baz=90,slow=6.7,SNR=9.6							
ASAR	**Alice Springs**	**49.95**	**252**	P	P	21 38 49.1	-0.1
11nm,0.7s,baz=90,slow=7.7,SNR=8.6							
MAW	**Mawson**	**87.63**	**199**	P	P	21 42 42.9	-0.2
1.2nm,0.5s,baz=123,slow=7.5,SNR=3.4							
BRTR	**Keskin Array B**	**146.17**	**321**	PKPbc	PKPdf	21 49 35.2	+0.3
7.0nm,0.9s,baz=103,slow=1.6,SNR=3.9							

IDC 29 21:30:40.1±0.9, 15°.27S×173°.66W, h0km, mb4.2/5, mb1 4.5/5, mb1mx4.1/18, mbtmp4.2/5, Error ellipse: s-maj=44.2km s-min=25.2km az=131.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**49.63**	**257**	P	P	21 39 34.0	+0.1
2.4nm,0.7s,baz=91,slow=6.8,SNR=3.6							
ASAR	**Alice Springs**	**49.92**	**252**	P	P	21 39 35.7	-0.3
8.0nm,0.8s,baz=86,slow=8.4,SNR=3.1							
VNDA	**Vanda**	**63.48**	**186**	P	P	21 41 11.2	-0.3
2.4nm,1.0s,baz=353,slow=4.8,SNR=3.4							
PDAR	**Pinedale Array**	**82.33**	**42**	P	P	21 43 03.9	-0.2
0.5nm,0.7s,baz=235,slow=3.2,SNR=2.3							
ILAR	**Eielson Array**	**82.37**	**11**	P	P	21 43 03.4	-0.1
1.4nm,0.9s,baz=220,slow=4.1,SNR=3.6							
ARCES	**ARCESS Array B**	**124.45**	**352**	PKP	PKPdf	21 49 42.7	+2.0
2.4nm,0.9s,baz=336,slow=2.0,SNR=3.7							
FINES	**FINESS Array B**	**131.76**	**347**	PKP	PKPdf	21 49 56.5	+1.7
3.3nm,0.9s,baz=148,slow=11,SNR=3.4							
BRTR	**Keskin Array B**	**145.90**	**321**	PKPbc	PKPdf	21 50 20.2	-1.2
3.8nm,0.9s,baz=116,slow=2.7,SNR=2.9							
GERES	**GERESS Array B**	**145.98**	**351**	PKPbc	PKPdf	21 50 19.7	-1.6
0.9nm,0.8s,baz=8.1,slow=1.4,SNR=2.2							

*IDC **29** 21:31:11.8±0.7, 15°.92S×173°.21W, h0km, mb4.4/14, mb1 4.6/14, mb1mx4.5/20, mbtmp4.4/14, Error ellipse: s-maj=29.1km s-min=17.7km az=136.0*
*AUST **29** 21:31:12.2±80.0, 14°.64S×173°.47W, h6km±2km, Error ellipse: s-maj=3.6km s-min=3.2km az=318.0*
*NEIC **29** 21:31:13.0±0.3, 15°.91S×173°.24W, h10km, mb4.6/8, Error ellipse: s-maj=15.6km s-min=7.8km az=144.0*
*ISCJB **29** 21:31:14.2±0.5, 15°.9S±0°.1×173°.3W±0°.1, h26km, mb4.4/20, Error ellipse: s-maj=19.7km s-min=10.6km az=142.8*
ISC 29 21:31:15.8±0.5, 15°.9S±0°.1×173°.2W±0°.1, h26km, n68, σ0s74/65, mb4.5/20, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTAO	**Charters Tower**	**38.71**	**258**	*e*P	P	21 38 37.2	-0.7
9.8nm,1.2s							
CMSA	**Cobar Meteorol**	**40.45**	**240**	P	P	21 38 51.9	-0.4
baz=41,SNR=7.9							
QLP	**Quilpie**	**40.89**	**248**	P	P	21 38 57.2	+1.2
baz=41,SNR=6.2							
STKA	**Stephens Creek**	**43.94**	**240**	*e*P	P	21 39 19.8	-1.0
3.1nm,0.9s							
STKA	**Stephens Creek**	**43.94**	**240**	P	P	21 39 19.9	-0.9
12nm,0.8s,baz=87,slow=8.3,SNR=6.4							
STKA	**Stephens Creek**	**43.94**	**240**	P	P	21 39 20.6	-0.2
baz=44,SNR=4.4							
WRAB	**Tennant Creek**	**49.90**	**257**	*e*P	P	21 40 06.9	-0.6
3.4nm,0.7s							
WRA	**Warramunga Arr**	**49.91**	**257**	P	P	21 40 06.6	-1.0
WRA	**Warramunga Arr**	**49.91**	**257**	P	P	21 40 06.6	-1.0
2.6nm,0.7s,baz=93,slow=6.7,SNR=11							
AS31	**Alice Springs**	**50.12**	**252**	*e*P	P	21 40 08.2	-1.1
ASAR	**Alice Springs**	**50.13**	**252**	P	P	21 40 08.2	-1.0
ASAR	**Alice Springs**	**50.13**	**252**	P	P	21 40 08.2	-1.0
16nm,0.7s,baz=88,slow=7.1,SNR=11							
KDU	**Kakadu**	**52.61**	**266**	P	P	21 40 28.8	+0.9
baz=52,SNR=3.1							
FAKI	**Fak Fak**	**55.16**	**278**	P	P	21 40 41.5	-5.2
baz=55,SNR=3.7							
KNRA	**Kununurra**	**55.67**	**262**	P	P	21 40 50.7	+0.5
baz=56,SNR=3.8							
FITZ	**Fitzroy Crossi**	**58.28**	**258**	*e*P	P	21 41 08.4	-0.3
5.6nm,0.9s							
FITZ	**Fitzroy Crossi**	**58.28**	**258**	P	P	21 41 08.8	0.0
baz=58,SNR=5.1							
VNDA	**Vanda**	**62.89**	**186**	*e*P	P	21 41 39.2	0.0
5.2nm,1.3s							
VNDA	**Vanda**	**62.89**	**186**	P	P	21 41 40.5	+1.4
2.4nm,1.1s,baz=18,slow=6.6,SNR=3.9							
MBWA	**Marble Bar**	**63.39**	**254**	*e*P	P	21 41 43.2	-0.3
5.6nm,0.5s							
WSI	**Waingapu**	**64.92**	**267**	P	P	21 42 09.7	+16
baz=65,SNR=13							
PETK	**Petropavlovsk-**	**73.17**	**342**	P	P	21 42 44.4	+0.3
PETK	**Petropavlovsk-**	**73.17**	**342**	P	P	21 42 44.4	+0.3
4.8nm,1.0s,baz=120,slow=8.5,SNR=3.5							
YBH	**Yreka Blue Hor**	**73.90**	**37**	P	P	21 42 48.2	-0.5
YBH	**Yreka Blue Hor**	**73.90**	**37**	P	P	21 42 48.2	-0.5
4.3nm,0.9s,baz=199,slow=5.2,SNR=3.6							
QSPA	**South Pole Qui**	**74.14**	**180**	*e*P	P	21 42 50.4	+0.6
6.1nm,0.9s							
NVAR	**Mina Array Bea**	**74.59**	**42**	P	P	21 42 53.3	+0.4
NVAR	**Mina Array Bea**	**74.59**	**42**	P	P	21 42 53.3	+0.4
3.7nm,0.9s,baz=233,slow=10.0,SNR=3.9							
MOD	**Modoc**	**75.41**	**38**	*e*P	P	21 42 57.2	-0.4
41nm,1.3s							
KSRS	**Korea Array**	**76.65**	**316**	P	P	21 43 05.4	+1.0
0.5nm,0.3s,baz=138,slow=5.8,SNR=3.0							
KSAR	**Wonju Array Be**	**76.67**	**316**	P	P	21 43 05.4	+0.9
J08A	**Circle Bar Ran**	**77.36**	**38**	*ep*P	P	21 43 09.4	+0.9
USRK	**Ussuriysk Arra**	**77.90**	**323**	P	P	21 43 12.9	+1.6
0.5nm,0.5s,baz=108,slow=4.7,SNR=3.7							
G08A	**Pilot Rock**	**78.24**	**36**	*ep*P	P	21 43 14.1	+0.7
TXAR	**Lajitas Array**	**80.75**	**56**	P	P	21 43 27.7	+0.3
TXAR	**Lajitas Array**	**80.75**	**56**	P	P	21 43 27.7	+0.3
2.1nm,1.1s,baz=221,slow=6.8,SNR=4.0							
PDAR	**Pinedale Array**	**82.53**	**42**	P	P	21 43 36.4	-0.3
PDAR	**Pinedale Array**	**82.53**	**42**	P	P	21 43 36.4	-0.3
1.1nm,0.7s,baz=212,slow=4.4,SNR=3.8							
ILAR	**Eielson Array**	**82.91**	**11**	P	P	21 43 36.6	-1.3
ILAR	**Eielson Array**	**82.91**	**11**	P	P	21 43 36.6	-1.3
1.7nm,0.7s,baz=233,slow=6.3,SNR=7.1							
MAW	**Mawson**	**87.37**	**199**	P	P	21 44 00.4	+0.2
5.1nm,0.8s,baz=199,slow=3.8,SNR=5.9							
CMAR	**Chiang Mai Arr**	**92.95**	**288**	P	P	21 44 28.5	+1.1
CMAR	**Chiang Mai Arr**	**92.95**	**288**	P	P	21 44 28.5	+1.1
2.2nm,0.9s,baz=103,slow=3.1,SNR=5.8							
ARCES	**ARCESS Array B**	**125.14**	**352**	PKP	PKPdf	21 50 12.8	-0.5
ARCES	**ARCESS Array B**	**125.14**	**352**	PKP	PKPdf	21 50 12.8	-0.5
2.4nm,0.9s,baz=344,slow=2.9,SNR=3.9							
FINES	**FINESS Array B**	**132.48**	**348**	PKP	PKPdf	21 50 27.8	+0.4
FINES	**FINESS Array B**	**132.48**	**348**	PKP	PKPdf	21 50 27.8	+0.4
4.5nm,1.0s,baz=8.5,slow=3.9,SNR=5.7							
AKASG	**Malin Array Be**	**140.88**	**337**	PKP	PKPdf	21 50 42.5	-0.9
AKASG	**Malin Array Be**	**140.88**	**337**	PKP	PKPdf	21 50 42.5	-0.9
0.2nm,0.3s,baz=26,slow=2.4,SNR=3.9							
CLL	**Collm**	**144.34**	**353**	*e*PKPdf	PKPbc	21 50 48.0	+0.2
comp=Z,3.0nm,0.7s							
CLL				*e*PKiKP	**PKiKP**	**21 50 52.0**	**-1.1**
CLL				*e*		21 50 55.0	
STHS	**Stebnicka Huta**	**144.57**	**344**	*e*PKP	**PKPdf**	**21 50 49.9**	**-0.1**
BRG	**Berggiesshubel**	**144.65**	**352**	*e*P	**PKPdf**	**21 50 50.6**	**+0.6**
comp=Z,2.7nm,0.9s							
UPC	**Upice**	**144.70**	**350**	*e*PKP	**PKPdf**	**21 50 49.6**	**-0.6**
DPC	**Dobruska-Polom**	**144.79**	**349**	*e*PKP	PKPbc	21 50 49.8	+0.4
DPC				*ex*	x	21 50 58.4	
OKC	**Ostrava-Krasne**	**144.93**	**347**	*e*PKP	**PKPdf**	**21 50 50.5**	**-0.1**
OKC				*ex*	x	21 50 58.5	
CRVS	**Cervenica-Dubn**	**144.97**	**343**	*e*PKP	**PKPdf**	**21 50 50.6**	**-0.1**
PRU	**Pruhonice**	**145.43**	**351**	*i* PKP	**PKPab**	**21 50 52.0**	**+0.4**
NKC	**Novy Kostel**	**145.46**	**354**	*e*PKP	**PKPab**	**21 50 52.0**	**+0.3**
KMBO	**Kilima Mbogo**	**145.47**	**243**	PKPbc	**PKPab**	**21 50 53.1**	**-0.1**
KMBO	**Kilima Mbogo**	**145.47**	**243**	PKPbc	**PKPab**	**21 50 53.1**	**-0.1**
baz=94,slow=3.3,SNR=5.3							
KECS	**Kecovo**	**145.62**	**344**	*e*PKP	**PKPab**	**21 50 52.5**	**+0.1**
KHC	**Kasperske Hory**	**146.41**	**352**	*i* PKP	**PKPbc**	**21 50 54.8**	**+0.3**
KHC				*ex*	x	21 51 03.5	
BRTR	**Keskin Array B**	**146.67**	**321**	PKPbc	**PKPbc**	**21 50 55.2**	**-0.5**
BRTR	**Keskin Array B**	**146.67**	**321**	PKPbc	**PKPbc**	**21 50 55.2**	**-0.5**
baz=103,slow=2.7,SNR=3.8							
GERES	**GERESS Array B**	**146.67**	**352**	PKPbc	**PKPbc**	**21 50 55.2**	**-0.1**
GERES	**GERESS Array B**	**146.67**	**352**	PKPbc	**PKPbc**	**21 50 55.2**	**-0.1**
baz=26,slow=3.4,SNR=4.1							
TORD	**Torodi Ar. Bea**	**174.35**	**118**	PKP	**PKPdf**	**21 51 23.0**	**-1.1**
TORD	**Torodi Ar. Bea**	**174.35**	**118**	PKP	**PKPdf**	**21 51 23.0**	**-1.1**
comp=Z,1.3nm,1.1s,baz=324,slow=3.4,SNR=3.7							

IDC 29 21:34:10.2±4.2, 16°.03S×175°.16W, h0km, mb4.0/3, mb1 4.1/3, mb1mx3.7/18, mbtmp4.0/3, Error ellipse: s-maj=197.9km s-min=45.4km az=138.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**42.26**	**240**	P	P	21 42 05.4	-0.2
1.7nm,0.8s,baz=82,slow=7.1,SNR=2.1							
WRA	**Warramunga Arr**	**48.06**	**257**	P	P	21 42 52.1	+0.3
0.5nm,0.5s,baz=90,slow=6.8,SNR=5.1							
ASAR	**Alice Springs**	**48.31**	**252**	P	P	21 42 53.3	-0.6
2.2nm,0.7s,baz=88,slow=8.1,SNR=4.4							
GERES	**GERESS Array B**	**146.47**	**349**	PKPbc	PKPdf	21 53 52.8	+0.6
0.6nm,0.7s,baz=347,slow=4.0,SNR=3.1							

IDC 29 21:36:24.3±0.9, 15°.72S×172°.66W, h0km, mb3.8/5, mb1 4.1/5, mb1mx3.8/19, mbtmp3.8/5, Error ellipse: s-maj=43.9km s-min=26.0km az=135.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.99**	**25**	Pn	Pn	21 36 47.0	-12
baz=56,slow=24,SNR=3.6							
WRA	**Warramunga Arr**	**50.47**	**257**	P	P	21 45 24.4	-0.1
0.2nm,0.4s,baz=97,slow=7,SNR=10							
ASAR	**Alice Springs**	**50.69**	**252**	P	P	21 45 25.8	-0.4
1.7nm,0.5s,baz=90,slow=8.5,SNR=7.9							
QSPA	**South Pole Qui**	**74.33**	**180**	P	P	21 48 03.5	-0.2
1.1nm,1.0s,baz=345,slow=3.5							
PDAR	**Pinedale Array**	**82.03**	**42**	P	P	21 48 46.9	+0.1
0.8nm,0.8s,baz=184,slow=4.2,SNR=6.3							
ILAR	**Eielson Array**	**82.62**	**11**	P	P	21 48 48.1	-1.0
0.5nm,0.7s,baz=214,slow=6.2,SNR=3.8							
GERES	**GERESS Array B**	**146.56**	**352**	PKPbc	PKPbc	21 56 07.5	-0.4
baz=57,slow=3.6,SNR=3.8							
BRTR	**Keskin Array B**	**146.85**	**321**	PKPbc	PKPbc	21 56 08.8	-0.4
1.1nm,0.8s,baz=49,slow=0.6,SNR=5.6							
ESDC	**Sonseca Array**	**154.17**	**20**	PKPbc	PKPbc	21 56 27.6	+0.9
0.1nm,0.4s,baz=19,slow=20,SNR=2.8							

ROM 29 21:38:53.5±0.1, 42°.60N×13°.20E, h10km, Md1.6/3, Ml1.0/2, Error ellipse: s-maj=1.8km s-min=0.3km az=171.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNSS	**Leonessa**	**0.12**	**271**	Pg	Pg	21 38 56.8	+0.3
LNSS				Sg	Sg	21 38 59.3	+0.6
35nm,0.3s							
NRCA	**Norcia**	**0.24**	**345**	Pg	Pg	21 38 59.1	+0.5
NRCA				Sg	Sg	21 39 03.4	+1.3
5.0nm,0.2s							

*IDC **29** 21:40:00.4±0.8, 15°.12S×172°.15W, h0km, mb3.7/7, mb1 4.0/7, mb1mx3.8/20, mbtmp3.7/7, MS4.3/1, Ms1 4.3/1, ms1mx4.3/34, Error ellipse: s-maj=42.6km s-min=21.1km az=141.0*
*NEIC **29** 21:40:01.6±0.7, 14°.93S×172°.21W, h10km, mb4.2/1, Error ellipse: s-maj=33.0km s-min=13.0km az=134.0*
ISC 29 21:40:03.0±0.8, 15°.2S±0°.1×172°.2W±0°.2, h18km, n23, σ0s44/21, mb3.6/7, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.32**	**16**	*e*Pn	Pn	21 40 20.9	-5.7
AFI	**Afiamalu**	**1.32**	**16**	Pn	**Pg**	**21 40 29.0**	**+0.5**
baz=136,slow=9.9,SNR=4.8							
AFI				LR	LR	21 40 57.9	
comp=Z,4μm,20.3s,baz=162,slow=46							
STKA	**Stephens Creek**	**45.18**	**240**	*e*P	P	21 48 18.8	-0.3
STKA	**Stephens Creek**	**45.18**	**240**	P	P	21 48 19.0	-0.1
2.7nm,0.8s,baz=100,slow=23,SNR=3.2							
WRAB	**Tennant Creek**	**51.05**	**256**	*e*P	P	21 49 04.6	0.0
WRA	**Warramunga Arr**	**51.06**	**256**	P	P	21 49 04.2	-0.6
WRA	**Warramunga Arr**	**51.06**	**256**	P	P	21 49 04.2	-0.6
0.6nm,0.7s,baz=87,slow=7.4,SNR=4.5							
ASAR	**Alice Springs**	**51.31**	**252**	P	P	21 49 06.9	+0.2
ASAR	**Alice Springs**	**51.31**	**252**	P	P	21 49 06.9	+0.2
1.6nm,0.6s,baz=88,slow=7.9,SNR=12							
FITZ	**Fitzroy Crossi**	**59.42**	**258**	*e*P	P	21 50 04.9	-0.2
QSPA	**South Pole Qui**	**74.86**	**180**	*e*P	P	21 51 42.8	+0.3
2.0nm,0.9s							
QSPA	**South Pole Qui**	**74.86**	**180**	P	P	21 51 43.6	+1.1
1.1nm,0.8s,baz=102,slow=2.4,SNR=7.6							
TXAR	**Lajitas Array**	**79.50**	**56**	P	P	21 52 08.5	-0.6
TXAR	**Lajitas Array**	**79.50**	**56**	P	P	21 52 08.5	-0.6
0.1nm,0.4s,baz=256,slow=2.7,SNR=3.6							
PDAR	**Pinedale Array**	**81.31**	**41**	P	P	21 52 18.5	-0.2
PDAR	**Pinedale Array**	**81.31**	**41**	P	P	21 52 18.5	-0.2
0.3nm,0.6s,baz=96,slow=1.8,SNR=2.9							
ILAR	**Eielson Array**	**82.00**	**11**	P	P	21 52 21.6	+0.1
ILAR	**Eielson Array**	**82.00**	**11**	P	P	21 52 21.6	+0.1
0.3nm,0.5s,baz=227,slow=8.0,SNR=3.6							
CFAA	**Coronel Fontan**	**93.59**	**124**	LR	LR	22 26 02.9	
comp=Z,153nm,21.0s,baz=165,slow=30							
GERES	**GERESS Array B**	**146.08**	**353**	PKPbc	**PKPbc**	**21 59 41.9**	**-0.2**
GERES	**GERESS Array B**	**146.08**	**353**	PKPbc	**PKPbc**	**21 59 41.9**	**-0.2**
baz=37,slow=4.1,SNR=3.6							
BRTR	**Keskin Array B**	**146.73**	**322**	PKPbc	**PKPab**	**21 59 45.4**	**-0.1**
BRTR	**Keskin Array B**	**146.73**	**322**	PKPbc	**PKPab**	**21 59 45.4**	**-0.1**
0.4nm,0.5s,baz=49,slow=4.3,SNR=3.3							

IDC 29 21:41:28.7±9.0, 15°.57S×172°.46W, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.7/19, mbtmp3.8/3, Error ellipse: s-maj=409.9km s-min=34.3km az=139.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**50.69**	**257**	P	P	21 50 29.9	-0.5
0.6nm,0.8s,baz=96,slow=8.2,SNR=4.0							
ASAR	**Alice Springs**	**50.92**	**252**	P	P	21 50 32.0	-0.2
2.1nm,0.6s,baz=87,slow=8.1,SNR=9.3							
ILAR	**Eielson Array**	**82.44**	**11**	P	P	21 53 51.7	-0.8
0.3nm,0.6s,baz=210,slow=7.0,SNR=3.4							
BRTR	**Keskin Array B**	**146.85**	**322**	PKPbc	PKPab	22 01 14.1	-0.6
0.8nm,0.9s,baz=33,slow=5.5,SNR=3.6							

IDC 29 21:42:54.0±2.1, 15°.38S×173°.59W, h0km, mb4.1/4, mb1 4.2/4, mb1mx3.8/19, mbtmp4.1/4, Error ellipse: s-maj=55.8km s-min=47.4km az=13.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**43.89**	**240**	P	P	21 51 02.9	+0.3
2.1nm,0.8s,baz=53,slow=7.4,SNR=4.2							
WRA	**Warramunga Arr**	**49.67**	**257**	P	P	21 51 47.5	-0.6
0.8nm,0.5s,baz=91,slow=6.8,SNR=16							
ASAR	**Alice Springs**	**49.94**	**252**	P	P	21 51 50.0	-0.1
3.2nm,0.7s,baz=89,slow=7.9,SNR=10							
QSPA	**South Pole Qui**	**74.66**	**180**	P	P	21 54 35.1	-0.1
1.4nm,0.9s,baz=30,slow=4.9,SNR=4.4							
BRTR	**Keskin Array B**	**146.02**	**321**	PKPbc	PKPdf	22 02 35.7	+0.1
2.3nm,0.9s,baz=116,slow=2.3,SNR=9.3							

IDC 29 21:43:51.9±7.3, 16°.67S×173°.70W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.6/18, mbtmp3.7/2, Error ellipse: s-maj=336.0km s-min=62.6km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**49.28**	**258**	P	P	21 52 42.5	-0.5
0.4nm,0.7s,baz=95,slow=6.7,SNR=5.3							
ASAR	**Alice Springs**	**49.45**	**253**	P	P	21 52 44.5	+0.2
0.6nm,0.3s,baz=87,slow=8.6,SNR=4.1							
BRTR	**Keskin Array B**	**146.94**	**320**	PKPbc	PKPbc	22 03 36.1	-0.8
1.0nm,1.0s,baz=116,slow=3.4,SNR=2.6							

*MDD **29** 21:47:40.6±0.5, 32°.81N×7°.40W, h0km, mb4.4/15, Error ellipse: s-maj=7.2km s-min=4.4km az=108.0, PRXIMO*
*SFS **29** 21:47:40.0, 32°.83N×7°.41W, h0km, ML4.2*
*CSEM **29** 21:47:41.8±0.2, 32°.84N×7°.40W, h20km, ML3.8, Error ellipse: s-maj=5.4km s-min=3.5km az=119.0*
*NEIC **29** 21:47:43.0, 32°.70N×7°.26W, h17km, ML3.8(CNRM), After CNRM.*
NEIC Felt [II] at Casablanca.
*INMG **29** 21:47:42.8±2.1, 32°.98N×7°.48W, h0km, ML3.2, Error ellipse: s-maj=9.8km s-min=5.5km az=58.0*
*CNRM **29** 21:47:42.5, 32°.72N×7°.25W, h12km, MD4.0*
*LDG **29** 21:47:42.5±0.2, 32°.64N×7°.38W, h30km, Ml3.5/3, Error ellipse: s-maj=4.2km s-min=3.2km az=100.0*
ISC 29 21:47:38.8±1.4, 32°.82N±0°.03×7°.38W±0°.04, h9km±11km, n190, σ1s87/268, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TZC	**Tazercounte**	**1.00**	**131**	P	**Pg**	**21 47 59.0**	**+0.9**
TZC				S	**Sg**	**21 48 10.0**	**-1.1**
TZC	**Tazercounte**	**1.00**	**131**	*i* P	**Pg**	**21 47 59.0**	**+0.9**
TZC				*i* S	**Sg**	**21 48 10.0**	**-1.1**
TZC	**Tazercounte**	**1.00**	**131**	*i* P	**Pg**	**21 47 59.0**	**+0.9**
TZC				*i* S	**Sg**	**21 48 10.0**	**-1.1**
KIB	**El Ksiba**	**1.15**	**102**	P	**Pg**	**21 47 59.5**	**-1.4**
KIB				S	**Sg**	**21 48 15.0**	**-0.9**
KIB	**El Ksiba**	**1.15**	**102**	*i* P	**Pg**	**21 47 59.5**	**-1.4**
KIB				*i* S	**Sg**	**21 48 15.0**	**-0.9**
KIB	**El Ksiba

	18nm,0.4s						
PFVI	**Vila Bisbo**	**4.47**	**345**	*e*Pn	**Pn**	**21 48 48.3**	**+1.5**
PFVI				*e*Sn	**Sn**	**21 49 37.7**	**-1.1**
PFVI				A	A	21 49 43.7	
	30nm,0.5s						
PFVI	**Vila Bisbo**	**4.47**	**345**	P	**Pn**	**21 48 48.2**	**+1.5**
	12nm,0.1s,SNR=40						
PFVI				S	**Sn**	**21 49 37.7**	**-1.1**
	50nm,0.1s,SNR=6.1						
PFVI	**Vila Bisbo**	**4.47**	**345**	Pn	**Pn**	**21 48 48.2**	**+1.5**
PFVI				Sn	**Sn**	**21 49 37.7**	**-1.1**
PFVI	**Vila Bisbo**	**4.47**	**345**	*e*Pn	**Pn**	**21 48 48.3**	**+1.5**
PFVI				S	**Sn**	**21 49 37.7**	**-1.1**
	50nm,0.1s,SNR=6.1						
PVAQ	**Vaqueiros**	**4.58**	**357**	*e*Pn	**Pn**	**21 48 50.1**	**+1.8**
PVAQ				*e*Sn	**Sn**	**21 49 40.5**	**-1.2**
PVAQ				A	A	21 49 42.2	
	38nm,0.4s						
PVAQ	**Vaqueiros**	**4.58**	**357**	P	**Pn**	**21 48 50.1**	**+1.8**
PVAQ				S	**Sn**	**21 49 40.5**	**-1.2**
	38nm,0.4s						
PVAQ	**Vaqueiros**	**4.58**	**357**	P	**Pn**	**21 48 50.1**	**+1.8**
PVAQ				S	**Sn**	**21 49 40.5**	**-1.2**
	38nm,0.4s						
MORF	**Marmelete**	**4.60**	**347**	*e*Pn	**Pn**	**21 48 50.4**	**+1.8**
MORF				*e*Sn	**Sn**	**21 49 41.0**	**-1.2**
MORF				A	A	21 49 44.3	
	51nm,0.1s						
MORF	**Marmelete**	**4.60**	**347**	P	**Pn**	**21 48 50.4**	**+1.8**
MORF				S	**Sn**	**21 49 41.0**	**-1.2**
	51nm,0.1s						
MORF	**Marmelete**	**4.60**	**347**	P	**Pn**	**21 48 50.4**	**+1.8**
MORF				S	**Sn**	**21 49 41.0**	**-1.2**
	51nm,0.1s						
EGRO	**El Granado**	**4.71**	**359**	P	**Pn**	**21 48 51.9**	**+1.9**
	14nm,0.2s,SNR=57						
EGRO				S	**Sn**	**21 49 42.8**	**-1.9**
	22nm,0.1s,SNR=6.8						
EGRO	**El Granado**	**4.71**	**359**	Pn	**Pn**	**21 48 51.9**	**+1.9**
EGRO				Sn	**Sn**	**21 49 42.8**	**-1.9**
EGRO	**El Granado**	**4.71**	**359**	P	**Pn**	**21 48 51.9**	**+1.9**
	14nm,0.2s,SNR=57						
EGRO				S	**Sn**	**21 49 42.8**	**-1.9**
	22nm,0.1s,SNR=6.8						
EALB	**Alboran**	**4.75**	**48**	P	**Pn**	**21 48 51.3**	**+0.7**
	2.6nm,0.2s,SNR=7.9						
EALB				S	**Sn**	**21 49 44.6**	**-1.2**
	8.5nm,0.2s,SNR=7.9						
EALB	**Alboran**	**4.75**	**48**	Pn	**Pn**	**21 48 51.3**	**+0.7**
EALB				Sn	**Sn**	**21 49 44.6**	**-1.2**
EALB	**Alboran**	**4.75**	**48**	P	**Pn**	**21 48 51.3**	**+0.7**
	2.6nm,0.2s,SNR=7.9						
EALB				S	**Sn**	**21 49 44.6**	**-1.2**
	8.5nm,0.2s,SNR=7.9						
PCVE	**Castro Verde**	**4.83**	**354**	*e*Pn	**Pn**	**21 48 53.9**	**+2.1**
PCVE				*e*Sn	**Sn**	**21 49 46.7**	**-1.2**
PCVE				A	A	21 49 48.8	
	37nm,1.1s						
PCVE	**Castro Verde**	**4.83**	**354**	P	**Pn**	**21 48 53.9**	**+2.1**
PCVE				S	**Sn**	**21 49 46.7**	**-1.2**
	37nm,1.1s						
PCVE	**Castro Verde**	**4.83**	**354**	P	**Pn**	**21 48 53.9**	**+2.1**
PCVE				S	**Sn**	**21 49 46.7**	**-1.2**
	37nm,1.1s						
PTEO	**Sao Teotonio**	**4.85**	**347**	*e*Pn	**Pn**	**21 48 53.9**	**+2.0**
PTEO				*e*Sn	**Sn**	**21 49 46.6**	**-1.5**
PTEO				A	A	21 49 50.5	
	17nm,0.5s						
PTEO	**Sao Teotonio**	**4.85**	**347**	P	**Pn**	**21 48 53.9**	**+2.0**
PTEO				S	**Sn**	**21 49 46.6**	**-1.5**
	8.4nm,0.5s						
PTEO	**Sao Teotonio**	**4.85**	**347**	P	**Pn**	**21 48 53.9**	**+2.0**
PTEO				S	**Sn**	**21 49 46.6**	**-1.5**
	8.4nm,0.5s						
EMIN	**Mina Concepcio**	**4.97**	**6**	P	**Pn**	**21 48 54.7**	**+1.0**
	4.0nm,0.1s,SNR=48						
EMIN				S	**Sn**	**21 49 48.4**	**-2.9**
	22nm,0.2s,SNR=11						
EMIN	**Mina Concepcio**	**4.97**	**6**	P	**Pn**	**21 48 54.7**	**+1.0**
	4.0nm,0.1s,SNR=48						
EMIN				S	**Sn**	**21 49 48.4**	**-2.9**
	22nm,0.2s,SNR=11						
EGUA	**Guajares**	**5.09**	**37**	P	**Pn**	**21 48 56.8**	**+1.5**
	4.6nm,0.2s,SNR=7.9						
EGUA				S	**Sn**	**21 49 52.2**	**-1.9**
	8.9nm,0.2s,SNR=7.9						
EGUA	**Guajares**	**5.09**	**37**	P	**Pn**	**21 48 56.8**	**+1.5**
	4.6nm,0.2s,SNR=7.9						
EGUA				S	**Sn**	**21 49 52.2**	**-1.9**
	8.9nm,0.2s,SNR=7.9						
PBAR	**Barrancos**	**5.35**	**3**	*e*Pn	**Pn**	**21 49 00.6**	**+1.7**
PBAR				*e*Sn	**Sn**	**21 49 59.3**	**-1.4**
PBAR				A	A	21 50 01.8	
	23nm,0.5s						
PBAR	**Barrancos**	**5.35**	**3**	P	**Pn**	**21 49 00.6**	**+1.7**
PBAR				S	**Sn**	**21 49 59.3**	**-1.4**
	23nm,0.5s						
PBAR	**Barrancos**	**5.35**	**3**	P	**Pn**	**21 49 00.6**	**+1.7**
PBAR				S	**Sn**	**21 49 59.3**	**-1.4**
	23nm,0.5s						
PNCL	**Nicolau / Gran**	**5.37**	**350**	*e*Pn	**Pn**	**21 49 01.3**	**+2.2**
PNCL				*e*Sn	**Sn**	**21 49 59.4**	**-1.6**
PNCL				A	A	21 50 02.3	
	15nm,1.5s						
PNCL	**Nicolau / Gran**	**5.37**	**350**	*e*Pn	**Pn**	**21 49 01.3**	**+2.2**
PNCL				*e*Sn	**Sn**	**21 49 59.4**	**-1.6**
	15nm,1.5s						
ELUQ	**Luque**	**5.37**	**27**	S	**Sn**	**21 49 59.5**	**-1.8**
	5.9nm,0.2s,SNR=7.9						
ELUQ	**Luque**	**5.37**	**27**	S	**Sn**	**21 49 59.5**	**-1.8**
	5.9nm,0.2s,SNR=7.9						
ECAB	**El Cabril**	**5.49**	**16**	P	**Pn**	**21 49 02.1**	**+1.4**
	2.8nm,0.2s,SNR=53						
ECAB				S	**Sn**	**21 50 01.2**	**-2.7**
	9.8nm,0.1s,SNR=8.5						
ECAB	**El Cabril**	**5.49**	**16**	P	**Pn**	**21 49 02.1**	**+1.4**
	2.8nm,0.2s,SNR=53						
ECAB				S	**Sn**	**21 50 01.2**	**-2.7**
	9.8nm,0.1s,SNR=8.5						
EBER	**Berja**	**5.49**	**41**	P	**Pn**	**21 49 02.1**	**+1.1**
	2.0nm,0.5s,SNR=5.9						
EBER				S	**Sn**	**21 50 03.4**	**-1.0**
	8.5nm,0.4s,SNR=4.6						
EBER	**Berja**	**5.49**	**41**	P	**Pn**	**21 49 02.1**	**+1.1**
	2.0nm,0.5s,SNR=5.9						
EBER				S	**Sn**	**21 50 03.4**	**-1.0**
	8.5nm,0.4s,SNR=4.6						
EVO	**Evora**	**5.73**	**355**	*e*Pn	**Pn**	**21 49 05.7**	**+1.7**
EVO				*e*Sn	**Sn**	**21 50 07.2**	**-2.7**
	26nm,0.4s						
EVO	**Evora**	**5.73**	**355**	*e*Pn	**Pn**	**21 49 05.9**	**+1.9**
EVO				*e*Sn	**Sn**	**21 50 08.0**	**-1.9**
EVO				A	A	21 50 09.0	
	29nm,0.4s						
EVO	**Evora**	**5.73**	**355**	P	**Pn**	**21 49 05.9**	**+1.9**
EVO				S	**Sn**	**21 50 08.0**	**-1.9**
	29nm,0.4s						
EVO	**Evora**	**5.73**	**355**	P	**Pn**	**21 49 05.9**	**+1.9**
EVO				S	**Sn**	**21 50 08.0**	**-1.9**
	29nm,0.4s						
EVOP	**Sao Brissos**	**5.73**	**354**	*e*Pn	**Pn**	**21 49 05.7**	**+1.6**
EADA	**Adamuz**	**5.81**	**22**	P	**Pn**	**21 49 06.5**	**+1.4**
	1.1nm,0.1s,SNR=45						
EADA				S	Sn	21 50 09.0	-2.9
	13nm,0.1s						
EADA	**Adamuz**	**5.81**	**22**	P	**Pn**	**21 49 06.5**	**+1.4**
	1.1nm,0.1s,SNR=45						
EADA				S	Sn	21 50 09.0	-2.9
	13nm,0.1s						
EBAD	**Badajoz**	**5.93**	**3**	P	**Pn**	**21 49 08.4**	**+1.5**
	3.6nm,0.2s,SNR=31						
EBAD				S	**Sn**	**21 50 12.1**	**-2.9**
	21nm,0.2s,SNR=10.0						
EBAD	**Badajoz**	**5.93**	**3**	P	**Pn**	**21 49 08.4**	**+1.5**
	3.6nm,0.2s,SNR=31						
EBAD				S	**Sn**	**21 50 12.1**	**-2.9**
	21nm,0.2s,SNR=10.0						
PESTR	**Estremoz**	**6.04**	**358**	*e*Pn	**Pn**	**21 49 10.2**	**+1.8**
PESTR				*e*Sn	**Sn**	**21 50 15.7**	**-1.9**
PESTR				A	A	21 50 19.1	
	8.5nm,0.5s						
PESTR	**Estremoz**	**6.04**	**358**	P	**Pn**	**21 49 10.2**	**+1.8**
PESTR				S	**Sn**	**21 50 15.7**	**-1.9**
	8.5nm,0.5s						
PESTR	**Estremoz**	**6.04**	**358**	P	**Pn**	**21 49 10.2**	**+1.8**
PESTR				S	**Sn**	**21 50 15.7**	**-1.9**
	8.5nm,0.5s						
PACT	**Alcochete**	**6.06**	**349**	*e*Pn	**Pn**	**21 49 11.4**	**+2.9**
PACT				*e*Sn	**Sn**	**21 50 17.0**	**-0.9**
PACT	**Alcochete**	**6.06**	**349**	*e*Pn	**Pn**	**21 49 11.4**	**+2.9**
PACT				*e*Sn	**Sn**	**21 50 17.0**	**-0.9**
EBAN	**Banos Encina**	**6.09**	**28**	P	**Pn**	**21 49 10.9**	**+1.9**
	3.9nm,0.1s,SNR=8.1						
EBAN				S	Sn	21 50 15.8	-3.0
	5.4nm,0.1s,SNR=5.0						
EBAN	**Banos Encina**	**6.09**	**28**	P	**Pn**	**21 49 10.9**	**+1.9**
	3.9nm,0.1s,SNR=8.1						
EBAN				S	Sn	21 50 15.8	-3.0
	5.4nm,0.1s,SNR=5.0						
EQES	**Quesada**	**6.09**	**34**	P	**Pn**	**21 49 11.2**	**+2.0**
	1.1nm,0.1s,SNR=20						
EQES				S	**Sn**	**21 50 18.1**	**-1.0**
	2.1nm,0.1s,SNR=5.0						
EQES	**Quesada**	**6.09**	**34**	P	**Pn**	**21 49 11.1**	**+2.0**
	1.1nm,0.1s,SNR=20						
EQES				S	**Sn**	**21 50 18.1**	**-1.0**
	2.1nm,0.1s,SNR=5.0						
PMTG	**Montargil**	**6.28**	**354**	*e*Pn	**Pn**	**21 49 13.4**	**+1.8**
PMTG				*e*Sn	**Sn**	**21 50 22.1**	**-1.3**
PMTG				A	A	21 50 23.4	
	11nm,0.6s						
PMTG	**Montargil**	**6.28**	**354**	*e*Pn	**Pn**	**21 49 13.4**	**+1.8**
PMTG				*e*Sn	**Sn**	**21 50 22.1**	**-1.3**
	11nm,0.6s						
PMAFR	**Mafra**	**6.32**	**346**	*e*Pn	**Pn**	**21 49 14.6**	**+2.4**
PMAFR				*e*Sn	**Sn**	**21 50 21.9**	**-2.6**
PMAFR	**Mafra**	**6.32**	**346**	P	**Pn**	**21 49 15.3**	**+3.1**
	6.2nm,0.2s,SNR=12						
PMAFR				S	**Sn**	**21 50 23.6**	**-0.8**
	19nm,0.3s,SNR=5.0						
PMAFR	**Mafra**	**6.32**	**346**	*e*Pn	**Pn**	**21 49 14.6**	**+2.4**
PMAFR	**Mafra**	**6.32**	**346**	P	**Pn**	**21 49 15.3**	**+3.1**
	6.2nm,0.2s,SNR=12						
PMAFR				S	**Sn**	**21 50 23.6**	**-0.8**
	19nm,0.3s,SNR=5.0						
EHUE	**Huescar**	**6.34**	**37**	P	**Pn**	**21 49 15.3**	**+2.8**
	0.6nm,0.1s,SNR=7.9						
EHUE				S	**Sn**	**21 50 24.4**	**-0.6**
	1.2nm,0.2s,SNR=7.9						
EHUE	**Huescar**	**6.34**	**37**	P	**Pn**	**21 49 15.3**	**+2.8**
	0.6nm,0.1s,SNR=7.9						
EHUE				S	**Sn**	**21 50 24.4**	**-0.6**
	1.2nm,0.2s,SNR=7.9						
PMRV	**Marv??o**	**6.60**	**360**	*e*Pn	**Pn**	**21 49 17.8**	**+1.8**
PMRV				*e*Sn	Sn	21 50 28.3	-3.1
PMRV				A	A	21 50 39.1	
	9.2nm,0.5s						
PMRV	**Marv??o**	**6.60**	**360**	P	**Pn**	**21 49 17.8**	**+1.8**
PMRV				S	Sn	21 50 28.3	-3.1
	9.2nm,0.5s						
PMRV	**Marv??o**	**6.60**	**360**	P	**Pn**	**21 49 17.8**	**+1.8**
PMRV				S	Sn	21 50 28.3	-3.1
	9.2nm,0.5s						
PTOM	**Tomar**	**6.84**	**353**	*e*Pn	**Pn**	**21 49 21.3**	**+2.0**
PTOM				*e*Sn	**Sn**	**21 50 34.7**	**-2.6**
PTOM				A	A	21 50 40.5	
	11nm,0.8s						
PTOM	**Tomar**	**6.84**	**353**	P	**Pn**	**21 49 21.3**	**+2.0**
PTOM				S	**Sn**	**21 50 34.7**	**-2.6**
	5.7nm,0.8s						
PTOM	**Tomar**	**6.84**	**353**	P	**Pn**	**21 49 21.3**	**+2.0**
PTOM				S	**Sn**	**21 50 34.7**	**-2.6**
	5.7nm,0.8s						
PCBR	**Castelo Branco**	**7.01**	**359**	*e*Pn	**Pn**	**21 49 23.6**	**+2.0**
PCBR				*e*Sn	Sn	21 50 38.3	-3.2
PCBR				A	A	21 50 41.0	
	8.3nm,0.5s						
PCBR	**Castelo Branco**	**7.01**	**359**	P	**Pn**	**21 49 23.6**	**+2.0**
PCBR				S	Sn	21 50 38.3	-3.2
	4.2nm,0.5s						
PCBR	**Castelo Branco**	**7.01**	**359**	P	**Pn**	**21 49 23.6**	**+2.0**
PCBR				S	Sn	21 50 38.3	-3.2
	4.2nm,0.5s						
CFUE	**Fuerteventura**	**7.01**	**235**	S	**Sn**	**21 50 38.7**	**-2.8**
	22nm,0.4s,SNR=7.9						
CFUE	**Fuerteventura**	**7.01**	**235**	S	**Sn**	**21 50 38.7**	**-2.8**
	22nm,0.4s,SNR=7.9						
EVIA	**Vianos**	**7.03**	**33**	P	**Pn**	**21 49 23.5**	**+1.4**
	3.2nm,0.1s,SNR=7.9						
EVIA				S	Sn	21 50 39.0	-3.1
	13nm,0.6s,SNR=7.9						
EVIA	**Vianos**	**7.03**	**33**	P	**Pn**	**21 49 23.5**	**+1.4**
	3.2nm,0.1s,SNR=7.9						
EVIA				S	Sn	21 50 39.0	-3.1
	13nm,0.6s,SNR=7.9						
PAB	**San Pablo**	**7.15**	**19**	*e*Pn	**Pn**	**21 49 24.5**	**+0.9**
PAB				*e*Sn	Sn	21 50 39.6	-5.4
PAB	**San Pablo**	**7.15**	**19**	*e*Pn	**Pn**	**21 49 24.5**	**+0.9**
EPLA	**Plasencia**	**7.31**	**8**	P	**Pn**	**21 49 28.1**	**+2.3**
	1.4nm,0.1s,SNR=5.9						
EPLA				S	Sn	21 50 44.6	-4.3
	9.6nm,0.3s,SNR=5.6						
EPLA	**Plasencia**	**7.31**	**8**	P	**Pn**	**21 49 28.1**	**+2.3**
	1.4nm,0.1s,SNR=5.9						
EPLA				S	Sn	21 50 44.6	-4.3
	9.6nm,0.3s,SNR=5.6						
ESDC	**Sonseca Array**	**7.38**	**21**	P	**Pn**	**21 49 27.5**	**+0.8**
	0.7nm,0.1s,baz=206,slow=13,SNR=5.3						
ESDC				S	Sn	21 50 46.6	-4.0
	4.1nm,0.1s,baz=204,slow=24,SNR=8.7						
ESDC	**Sonseca Array**	**7.38**	**21**	P	**Pn**	**21 49 27.5**	**+0.8**
	0.7nm,0.1s,slow=13,SNR=5.3						
ESDC				S	Sn	21 50 46.6	-4.0
	4.1nm,0.1s,SNR=8.7						
ETOB	**Tobarra**	**7.50**	**38**	P	**Pn**	**21 49 30.1**	**+1.7**
	0.7nm,0.1s,SNR=7.2						
ETOB				S	**Sn**	**21 50 50.9**	**-2.7**
	0.8nm,0.2s,SNR=6.5						
ETOB	**Tobarra**	**7.50**	**38**	P	**Pn**	**21 49 30.1**	**+1.7**
	0.7nm,0.1s,SNR=7.2						
ETOB				S	**Sn**	**21 50 50.9**	**-2.7**
	0.8nm,0.2s,SNR=6.5						
PMPS	**Porto Santo**	**7.53**	**274**	*e*Pn	**Pn**	**21 49 29.4**	**+0.6**
PMPS	**Porto Santo**	**7.53**	**274**	P	**Pn**	**21 49 29.7**	**+0.9**
PMPS				S	Sn	21 50 50.2	-4.2
	6.5nm,0.5s						
PMPS	**Porto Santo**	**7.53**	**274**	*e*Pn	**Pn**	**21 49 29.4**	**+0.6**
PMPS	**Porto Santo**	**7.53**	**274**	P	**Pn**	**21 49 29.7**	**+0.9**
PMPS				S	Sn	21 50 50.2	-4.2
	6.5nm,0.5s						
PMPST	**Porto Santo, M**	**7.53**	**274**	*e*Pn	**Pn**	**21 49 29.7**	**+0.8**
PMPST				*e*Sn	Sn	21 50 50.2	-4.2
PMPST				A	A	21 51 07.8	
	13nm,0.5s						
PMPST	**Porto Santo, M**	**7.53**	**274**	*e*Pn	**Pn**	**21 49 29.7**	**+0.8**
MTE	**Manteigas**	**7.57**	**359**	*e*Pn	**Pn**	**21 49 31.2**	**+1.8**
MTE				*e*Sn	**Sn**	**21 50 52.8**	**-2.5**
MTE				A	A	21 51 07.7	
	15nm,0.5s						
MTE	**Manteigas**	**7.57**	**359**	P	**Pn**	**21 49 31.2**	**+1.8**
MTE				S	**Sn**	**21 50 52.8**	**-2.5**
	7.3nm,0.5s						
MTE	**Manteigas**	**7.57**	**359**	P	**Pn**	**21 49 31.2**	**+1.8**
MTE				S	**Sn**	**21 50 52.8**	**-2.5**
	7.3nm,0.5s						
PVIS	**Viseu**	**7.89**	**357**	*e*Pn	**Pn**	**21 49 35.7**	**+1.9**
PVIS				*e*Sn	**Sn**	**21 51 00.3**	**-3.0**
PVIS				A	A	21 51 03.1	
	6.0nm,0.5s						
PVIS	**Viseu**	**7.89**	**357**	P	**Pn**	**21 49 35.7**	**+1.9**
PVIS				S	**Sn**	**21 51 00.3**	**-3.0**
	3.0nm,0.5s						
PVIS	**Viseu**	**7.89**	**357**	P	**Pn**	**21 49 35.7**	**+1.9**
PVIS				S	**Sn**	**21 51 00.3**	**-3.0**
	3.0nm,0.5s						
PMAR	**Madeira**	**8.03**	**272**	*e*Pn	**Pn**	**21 49 37.4**	**+1.5**
PMAR				*e*Sn	Sn	21 51 01.6	-5.4
PMAR				A	A	21 51 21.2	
	14nm,0.5s						
PMAR	**Madeira**	**8.03**	**272**	P	**Pn**	**21 49 37.4**	**+1.5**
PMAR				S	Sn	21 51 01.6	-5.4
	7.2nm,0.5s						
PMAR	**Madeira**	**8.03**	**272**	P	**Pn**	**21 49 37.4**	**+1.5**
PMAR				S	Sn	21 51 01.6	-5.4
	7.2nm,0.5s						
GUD	**Guadarrama**	**8.23**	**17**	P	**Pn**	**21 49 40.0**	**+1.5**
	0.4nm,0.2s,SNR=7.9						
GUD				S	Sn	21 51 05.5	-6.1
	2.5nm,0.4s,SNR=7.9						
GUD	**Guadarrama**	**8.23**	**17**	P	**Pn**	**21 49 40.0**	**+1.5**
	0.4nm,0.2s,SNR=7.9						
GUD				S	Sn	21 51 05.5	-6.1
	2.5nm,0.4s,SNR=7.9						
PMOZ	**Porto Moniz, M**	**8.27**	**273**	*e*Pn	**Pn**	**21 49 40.3**	**+1.3**
PMOZ	**Porto Moniz, M**	**8.27**	**273**	*e*Pn	**Pn**	**21 49 40.3**	**+1.3**
MVO	**Moncorvo**	**8.34**	**2**	*e*Pn	**Pn**	**21 49 41.8**	**+1.9**
MVO				*e*Sn	Sn	21 51 10.0	-4.2
MVO				A	A	21 51 12.3	
	12nm,0.6s						
MVO	**Moncorvo**	**8.34**	**2**	P	**Pn**	**21 49 41.3**	**+1.4**
	1.8nm,0.1s,SNR=6.2						
MVO				S	Sn	21 51 09.2	-5.0
	37nm,0.4s,SNR=7.9						
MVO	**Moncorvo**	**8.34**	**2**	P	**Pn**	**21 49 41.3**	**+1.4**
	1.8nm,0.1s,SNR=6.2						
MVO	**Moncorvo**	**8.34**	**2**	*e*Pn	**Pn**	**21 49 41.8**	**+1.9**
MVO				S	Sn	21 51 09.2	-5.0
	37nm,0.4s,SNR=7.9						
PVRL	**Vila Real**	**8.45**	**358**	*e*Sn	Sn	21 51 12.9	-4.0
PVRL				A	A	21 51 15.4	
	8.8nm,0.3s						
PVRL	**Vila Real**	**8.45**	**358**	S	Sn	21 51 12.9	-4.0
	4.4nm,0.3s						
PVRL	**Vila Real**	**8.45**	**358**	S	Sn	21 51 12.9	-4.0
	4.4nm,0.3s						
EOSO	**Osorio**	**8.49**	**238**	S	Sn	21 51 12.2	-6.0
	5.1nm,0.4s,SNR=7.9						
EOSO	**Osorio**	**8.49**	**238**	S	Sn	21 51 12.2	-6.0
	5.1nm,0.4s,SNR=7.9						
POLO	**Lamas de Olo**	**8.55**	**358**	*e*Pn	**Pn**	**21 49 44.4**	**+1.6**
POLO				*e*Sn	Sn	21 51 15.2	-4.3
POLO				A	A	21 51 18.3	
	3.2nm,0.5s						
POLO	**Lamas de Olo**	**8.55**	**358**	*e*Pn	**Pn**	**21 49 44.4**	**+1.6**
PCAB	**Cabril**	**8.89**	**357**	*e*Pn	**Pn**	**21 49 49.4**	**+1.9**
PCAB				*e*Sn	Sn	21 51 23.0	-4.8
PCAB				A	A	21 51 31.3	
	4.1nm,0.6s						
PCAB	**Cabril**	**8.89**	**357**	P	**Pn**	**21 49 49.4**	**+1.9**
PCAB				S	Sn	21 51 23.0	-4.8
	2.0nm,0.6s						
PCAB	**Cabril**	**8.89**	**357**	P	**Pn**	**21 49 49.4**	**+1.9**
PCAB				S	Sn	21 51 23.0	-4.8
	2.0nm,0.6s						
PBRG	**Braganca**	**8.99**	**3**	*e*Pn	**Pn**	**21 49 50.4**	**+1.6**
PBRG				*e*Sn	Sn	21 51 25.2	-5.0
PBRG				A	A	21 51 28.0	
	4.0nm,0.4s						
PBRG	**Braganca**	**8.99**	**3**	P	**Pn**	**21 49 50.4**	**+1.6**
PBRG				S	Sn	21 51 25.2	-5.0
	2.0nm,0.4s						
PBRG	**Braganca**	**8.99**	**3**	P	**Pn**	**21 49 50.4**	**+1.6**
PBRG				S	Sn	21 51 25.2	-5.0
	2.0nm,0.4s						
ELOB	**Lobios**	**9.05**	**357**	P	**Pn**	**21 49 50.9**	**+1.2**
	0.4nm,0.2s,SNR=7.9						
ELOB				S	Sn	21 51 26.9	-4.9
	6.6nm,0.4s,SNR=5.9						
ELOB	**Lobios**	**9.05**	**357**	P	**Pn**	**21 49 50.9**	**+1.2**
	0.4nm,0.2s,SNR=7.9						
ELOB				S	Sn	21 51 26.9	-4.9
	6.6nm,0.4s,SNR=5.9						
ECAL	**Calabor**	**9.12**	**3**	P	**Pn**	**21 49 52.5**	**+1.8**
	1.1nm,0.2s,SNR=7.9						
ECAL				S	Sn	21 51 29.1	-4.5
	14nm,0.5s,SNR=8.4						
ECAL	**Calabor**	**9.12**	**3**	P	**Pn**	**21 49 52.5**	**+1.8**
	1.1nm,0.2s,SNR=7.9						
ECAL				S	Sn	21 51 29.1	-4.5
	14nm,0.5s,SNR=8.4						
PGAV	**Gavieira, Arco**	**9.16**	**356**	*e*Pn	**Pn**	**21 49 52.0**	**+0.8**
PGAV				*e*Sn	Sn	21 51 29.4	-5.1
PGAV	**Gavieira, Arco**	**9.16**	**356**	*e*Pn	**Pn**	**21 49 52.0**	**+0.8**
CCAN	**Las Canadas**	**9.18**	**242**	S	Sn	21 51 28.7	-6.6
	15nm,1.0s,SNR=7.9						
CCAN	**Las Canadas**	**9.18**	**242**	S	Sn	21 51 28.7	-6.6
	15nm,1.0s,SNR=7.9						
EGOM	**La Gomera**	**9.67**	**244**	P	Pn	21 49 52.6	-5.5
	1.3nm,0.2s,SNR=7.9						
EGOM				S	Sn	21 51 38.4	-8.5
	16nm,0.6s,SNR=7.9						
EGOM	**La Gomera**	**9.67**	**244**	Pn	Pn	21 49 52.6	-5.5
EGOM				Sn	Sn	21 51 38.4	-8.5
EGOM	**La Gomera**	**9.67**	**244**	P	Pn	21 49 52.6	-5.5
	1.3nm,0.2s,SNR=7.9						
EGOM				S	Sn	21 51 38.4	-8.5
	16nm,0.6s,SNR=7.9						
EMAZ	**Mazaricos**	**10.19**	**353**	S	Sn	21 51 53.9	-5.8
	0.9nm,0.2s,SNR=7.9						
EMAZ	**Mazaricos**	**10.19**	**353**	S	Sn	21 51 53.9	-5.8
	0.9nm,0.2s,SNR=7.9						
EARI	**Arriondas**	**10.61**	**9**	P	**Pn**	**21 50 13.8**	**+2.8**
	0.3nm,0.3s,SNR=7.9						
EARI				S	Sn	21 52 04.3	-5.6
	0.8nm,0.4s,SNR=7.9						
EARI	**Arriondas**	**10.61**	**9**	P	**Pn**	**21 50 13.8**	**+2.8**
	0.3nm,0.3s,SNR=7.9						
EARI				S	Sn	21 52 04.3	-5.6
	0.8nm,0.4s,SNR=7.9						
ELAN	**Lanestosa**	**10.85**	**15**	P	**Pn**	**21 50 17.4**	**+3.1**
	0.4nm,0.2s,SNR=7.9						
ELAN				S	Sn	21 52 08.7	-7.1

AFI	Afiamalu	2.19	37	Sn	Sn	21 49 02.8	-10	
	34nm,0.3s,baz=204,slow=20,SNR=4.8							
STKA	Stephens Creek	44.13	240	P	P	21 56 16.6	-0.8	
	1.9nm,0.8s,baz=45,slow=8.6,SNR=2.4							
WRA	Warramunga Arr	50.04	257	P	P	21 57 03.8	0.0	
	0.4nm,0.4s,baz=89,slow=6.6,SNR=15							
ASAR	Alice Springs	50.28	252	P	P	21 57 05.3	-0.3	
	1.0nm,0.5s,baz=89,slow=6.9,SNR=5.4							
PDAR	Pinedale Array	82.30	42	P	P	22 00 30.2	-0.6	
	0.4nm,0.7s,baz=234,slow=3.0,SNR=3.2							
ILAR	Eielson Array	82.67	11	P	P	22 00 32.0	+0.1	
	0.6nm,0.6s,baz=229,slow=6.1,SNR=7.6							
MAW	Mawson	87.61	199	P	P	22 00 57.3	+0.4	
	1.1nm,0.4s,baz=240,slow=18,SNR=4.9							
BRTR	Keskin Array B	146.54	321	PKPbc	PKPbc	22 07 51.0	+0.2	
	baz=90,slow=3.0,SNR=5.5							

IDC 29 21:49:52.0±5.3, 15°.79S×173°.11W, h0km, mb3.9/3, mb1 4.2/3, mb1mx3.8/18, mbtmp3.9/3, Error ellipse: s-maj=422.1km s-min=32.9km az=151.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	50.02	257	P		21 58 48.3	-0.5
	0.6nm,0.8s,baz=93,slow=6.8,SNR=4.6						
ASAR	Alice Springs	50.25	252	P		21 58 50.6	+0.1
	2.4nm,0.6s,baz=90,slow=6.8,SNR=8.7						
PDAR	Pinedale Array	82.37	42	P		22 02 16.3	+0.1
	1.0nm,0.8s,baz=208,slow=3.7,SNR=6.7						

*IDC **29** 21:50:58.2±0.5, 16°.15S×172°.58W, h0km, mb4.6/23, mb1 4.7/24, mb1mx4.7/25, mbtmp4.6/24, ML2.7/1, Error ellipse: s-maj=18.3km s-min=12.8km az=125.0*
*NEIC **29** 21:50:60.0±0.2, 16°.19S×172°.59W, h10km, mb4.9/35, Error ellipse: s-maj=8.9km s-min=5.1km az=142.0*
*ISCJB **29** 21:51:00.7±0.2, 16°.23S±0°.06×172°.66W±0°.04, h24km, mb4.8/68, MS5.2/4, Error ellipse: s-maj=9.6km s-min=4.5km az=153.9*
*BJI **29** 21:51:01.6, 15°.43S×172°.70W, h6km, mB5.6/11, mb5.0/27, Ms5.3/9, Ms7 5.2/9*
*MOS **29** 21:51:03.3±1.4, 16°.05S×172°.37W, h33km, mb5.0/9, Error ellipse: s-maj=16.6km s-min=10.7km az=78.7*
*SZGRF **29** 21:51:06.4, 16°.01S×174°.46W, h33km, Tonga Islands*
*AUST **29** 21:51:10.8±0.0, 17°.36S×172°.63W, h67km, Error ellipse: s-maj=1.6km s-min=1.1km az=27.0*

ISC 29 21:51:02.3±0.3, 16°.19S±0°.07×172°.54W±0°.07, h24km, n389, σ1°.02/402, mb4.8/69, MS5.2/4, 89C-82D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	Afiamalu	2.39	18	ePn	Pn	21 51 38.3	-1.7
AFI				Sn	Sn	21 51 58.5	-10
AFI	Afiamalu	2.39	18	Pn	Pn	21 51 37.8	-2.2
	101nm,0.3s,baz=186,slow=6.0,SNR=3.7						
AFI				Sn	Sn	21 51 58.5	-10
	141nm,0.3s,baz=8.9,slow=22,SNR=6.4						
NIUE	Niue	3.80	139	P	Pn	21 51 53.9	-5.5
	baz=3.1,SNR=7.2						
NIUE				S	Sn	21 52 32.0	-11
	baz=3.1,SNR=5.6						
MSVF	Nonsavu	9.13	259	eP	Pn	21 53 12.9	+0.2
MSVF	Nonsavu	9.13	259	ePn	Pn	21 53 12.9	+0.2
RAR	Rarotonga	13.09	114	ePn	Pn	21 54 01.9	-4.9
RAR	Rarotonga	13.09	114	Pn	Pn	21 54 01.8	-4.9
	4.1nm,0.3s,baz=270,slow=6.5,SNR=6.2						
DZM	Mont Dzumac	20.69	250	P	P	21 55 40.4	-0.5
DZM	Mont Dzumac	20.69	250	P	P	21 55 40.4	-0.5
	8.9nm,0.8s,baz=59,slow=19,SNR=3.1						
PPT	Papeete	22.02	97	P	P	21 55 53.8	-1.4
PPT	Papeete	22.02	97	P	P	21 55 53.8	-1.4
	97nm,1.1s,baz=90,slow=20,SNR=3.1						
URZ	Urewera	23.80	201	P	P	21 56 13.5	+0.2
URZ	Urewera	23.80	201	P	P	21 56 13.5	+0.2
	14nm,0.5s,baz=57,slow=5.4,SNR=7.2						
RPZ	Rata Peaks	30.78	204	P	P	21 57 22.9	+7.0
RPZ	Rata Peaks	30.78	204	P	P	21 57 23.0	+7.0
	5.0nm,0.6s,baz=215,slow=16,SNR=4.1						
ARMA	Armidale	35.65	240	eP	P	21 57 57.2	-1.6
	13nm,0.8s						
ARMA	Armidale	35.65	240	P	P	21 57 57.1	-1.6
	baz=35,SNR=4.8						
CNB	Canberra Magne	38.93	233	P	P	21 58 25.2	-1.3
	baz=38,SNR=4.9						
CTAO	Charters Tower	39.28	258	eP	P	21 58 27.4	-2.1
CTAO				pmax	pmax		
	comp=Z,17nm,1.4s						
CTAO	Charters Tower	39.28	258	eP	P	21 58 27.4	-2.1
	comp=Z,17nm,1.4s						
WAKE	Wake Island	40.76	329	eP	P	21 58 42.6	+0.9
	comp=Z,210nm,0.9s						
CMSA	Cobar Meteorol	40.87	240	P	P	21 58 40.4	-2.2
	baz=40,SNR=23						
MTSU	Mount Surprise	41.20	261	P	P	21 58 44.9	-0.6
	baz=41,SNR=5.0						
QLP	Quilpie	41.38	248	P	P	21 58 44.3	-2.5
	baz=41,SNR=5.8						
STKA	Stephens Creek	44.37	241	eP	P	21 59 09.7	-1.3
STKA	Stephens Creek	44.37	241	P	P	21 59 09.3	-1.7
	comp=Z,21nm,0.9s,baz=71,slow=8.7,SNR=20						
STKA	Stephens Creek	44.37	241	P	P	21 59 09.5	-1.5
	baz=44,SNR=17						
JAY	Jayapura	47.95	281	P	P	21 59 39.6	+0.1
	baz=48,SNR=5.5						
WRAB	Tennant Creek	50.46	257	eP	P	21 59 57.4	-1.2
WRA	Warramunga Arr	50.47	257	P	P	21 59 56.3	-2.4
WRA	Warramunga Arr	50.47	257	P	P	21 59 56.3	-2.4
	comp=Z,4.8nm,1.0s,baz=94,slow=7.1,SNR=13						
AS31	Alice Springs	50.65	253	eP	P	21 59 58.2	-1.9
AS31				ePcP	PcP	22 01 17.9	+0.5
ASAR	Alice Springs	50.66	252	P	P	21 59 58.0	-2.1
ASAR	Alice Springs	50.66	252	P	P	21 59 58.0	-2.1
	comp=Z,22nm,1.0s,baz=85,slow=8.5,SNR=32						
KNRA	Kununurra	56.27	262	P	P	22 00 40.2	-1.1
	baz=56,SNR=4.2						
VNDA	Vanda	62.68	186	P	P	22 01 25.7	+1.1
VNDA	Vanda	62.68	186	P	P	22 01 25.7	+1.1
	comp=Z,2.1nm,1.0s,baz=7.3,slow=5.8,SNR=5.5						
KLBR	Kellerberrin	64.60	242	P	P	22 01 37.4	-0.7
	baz=64,SNR=7.7						
MAJO	Matsushiro	70.08	320	eP	P	22 02 13.1	+0.6
MAJO				pmax	pmax		
	comp=Z,20nm,1.0s						
MAJO	Matsushiro	70.08	320	eP	P	22 02 13.1	+0.6
	comp=Z,20nm,1.0s						
MAT	Matsushiro	70.08	320	P	P	22 02 12.5	-0.1
ERM	Erimo	70.87	327	eP	P	22 02 17.8	+0.5
ERM				pmax	pmax		
	comp=Z,62nm,1.3s						
BFSC	Mount Baldy Ra	72.38	45	⇓P	P	22 02 26.7	-0.1
	baz=73						
MONP	Monument Peak	72.49	47	⇑P	P	22 02 27.3	-0.3
	baz=73						
EDW2	Edwards Air Fo	72.52	45	⇑P	P	22 02 27.7	+0.3
	baz=73						
ISA	Isabella	72.65	44	⇑P	P	22 02 29.0	+0.8
	baz=73						
BELC	Belle Mtn. Jos	73.39	46	⇑P	P	22 02 32.9	+0.1
	baz=74						
MPMC	Manual Prospec	73.53	44	⇓P	P	22 02 33.8	+0.3
	baz=74						
GSC	Goldstone	73.56	45	eP	P	22 02 34.1	+0.5
GSC				pmax	pmax		
	comp=Z,8.0nm,1.1s						
GSC	Goldstone	73.56	45	eP	P	22 02 34.1	+0.5
	comp=Z,8.1nm,1.1s						
GSC	Goldstone	73.56	45	⇓P	P	22 02 34.3	+0.6
	baz=74						
HEC	Hector,Ludlow	73.62	45	⇓P	P	22 02 33.5	-0.5
	baz=74						
PETK	Petropavlovsk-	73.63	342	P	P	22 02 32.7	-0.9
PETK	Petropavlovsk-	73.63	342	P	P	22 02 32.6	-0.9
PETK	Petropavlovsk-	73.63	342	P	P	22 02 32.7	-0.9
	comp=Z,8.6nm,0.8s,baz=135,slow=9.2,SNR=8.6						
YBH	Yreka Blue Hor	73.73	37	P	P	22 02 34.8	+0.2
YBH	Yreka Blue Hor	73.73	37	P	P	22 02 34.8	+0.2
	comp=Z,6.0nm,0.7s,baz=227,slow=3.1,SNR=11						
QSPA	South Pole Qui	73.86	180	eP	P	22 02 35.7	+0.7
QSPA	South Pole Qui	73.86	180	P	P	22 02 35.3	+0.3
	comp=Z,7.6nm,0.9s,baz=45,slow=1.9,SNR=17						
GMRC	Granite Mounta	74.05	46	⇑P	P	22 02 36.9	+0.3
	baz=74						
IRM	Iron Mountain	74.07	47	⇓P	P	22 02 37.1	+0.5
	baz=74						
113A	Mohawk Valley,	74.31	48	⇑P	P	22 02 38.5	+0.5
	baz=74						
PAHR	Pah Rah Range	74.45	40	eP	P	22 02 39.5	+0.7
	comp=Z,6.9nm,1.0s						
214A	Organ Pipe Nat	74.59	50	⇑P	P	22 02 39.9	+0.2
	baz=75						
PDMCI	Parker Dam,Lak	74.85	47	⇑P	P	22 02 41.5	+0.4
	baz=75						
MOD	Modoc	75.24	38	eP	P	22 02 46.5	+3.2
	comp=Z,35nm,1.1s						
SHPR	Sheep Range	75.34	45	eP	P	22 02 44.2	+0.1
K05A	Summer Lake	75.41	37	eP	P	22 02 45.4	+1.0
	comp=Z,260nm,3.0s						
W13A	Hualapai Mount	75.45	46	⇓P	P	22 02 45.2	+0.4
	baz=76						
Y14A	Wickenburg	75.47	48	⇑P	P	22 02 45.1	+0.4
	baz=76						
KDAK	Kodiak Island	75.53	11	P	P	22 02 44.0	-0.5
KDAK	Kodiak Island	75.53	11	P	P	22 02 44.0	-0.5
	comp=Z,17nm,0.9s,baz=244,slow=7.6,SNR=5.7						
R11A	Troy Canyon, C	76.07	43	eP	P	22 02 48.5	+0.3
	comp=Z,6.4nm,1.2s						
R11A	Troy Canyon, C	76.07	43	⇑P	P	22 02 48.8	+0.6
	baz=76						
TUC	Tucson	76.26	50	eP	P	22 02 48.9	-0.4
TUC				pmax	pmax		
	comp=Z,8.0nm,1.0s						
TUC	Tucson	76.26	50	eP	P	22 02 48.9	-0.4
	comp=Z,8.4nm,1.0s						
X16A	Lo Mia Camp, P	76.83	48	⇑P	P	22 02 53.3	+0.7
	baz=77						
CCUT	Cedar City	77.11	44	eP	P	22 02 55.4	+1.2
	comp=Z,6.3nm,1.1s						
J08A	Circle Bar Ran	77.19	37	eP	P	22 02 55.6	+1.2
	comp=Z,11nm,1.2s						
U15A	North Rim	77.25	46	⇑P	P	22 02 56.0	+0.9
	baz=78						
KSRS	Korea Array	77.30	315	P	P	22 02 56.1	+1.2
	comp=Z,13nm,1.1s,baz=133,slow=7.2,SNR=32						
KSAR	Wonju Array Be	77.32	315	P	P	22 02 56.1	+1.0
320A	Kipp Ranch, An	77.48	52	⇓P	P	22 02 57.2	+0.9
	baz=78						
ELK	Elko	77.63	41	eP	P	22 02 57.5	+0.4
	comp=Z,7.6nm,0.5s						
D05A	Enumclaw	77.66	33	eP	P	22 02 58.0	+1.2
	comp=Z,66nm,1.4s						
220A	Playas Peak, P	77.74	51	⇓P	P	22 02 58.5	+0.8
	baz=78,SNR=17						
120A	U Bar Ranch, L	77.97	51	⇓P	P	22 02 59.6	+0.6
	baz=78						
RSO	Redoubt South	78.04	10	eP	P	22 02 58.0	-0.8
G08A	Pilot Rock	78.09	35	eP	P	22 02 59.7	+0.3
	comp=Z,14nm,1.3s						
Z20A	Nine Sixteen R	78.26	50	⇑P	P	22 03 01.3	+0.7
	baz=78,SNR=8.9						
221A	Mesquite Ranch	78.36	52	⇓P	P	22 03 02.3	+1.1
	baz=78						
USRK	Ussuriysk Arra	78.51	323	P	P	22 03 02.2	+0.7
	comp=Z,2.2nm,0.8s,baz=64,slow=4.4,SNR=7.2						
121A	Cookes Peak, D	78.59	51	⇑P	P	22 03 03.0	+0.5
	baz=79,SNR=5.4						
MFID	Camas Ranch	78.79	38	⇓P	P	22 03 03.9	+0.7
	baz=79						
Y20A	Horse Springs,	78.80	50	⇓P	P	22 03 04.5	+0.8
	baz=79,SNR=5.6						
SPU	Mount Spurr	78.83	10	eP	P	22 03 02.0	-1.0
DUG	Dugway	78.88	42	eP	P	22 03 04.3	+0.4
DUG				pmax	pmax		
	comp=Z,11nm,1.4s						
DUG	Dugway	78.88	42	eP	P	22 03 04.3	+0.4
	comp=Z,11nm,1.4s						
DUG	Dugway	78.88	42	⇑P	P	22 03 04.4	+0.4
	baz=79						
X20A	Quemado	79.01	49	⇑P	P	22 03 05.5	+0.7
	baz=79						
Z21A	St. Cloud Mine	79.03	51	⇓P	P	22 03 05.9	+0.9
	baz=79,SNR=11						
122A	Conniff Cattle	79.26	51	⇑P	P	22 03 07.0	+0.9
	baz=79						
W20A	Ramah	79.28	49	⇓P	P	22 03 07.2	+0.9
	baz=80,SNR=5.9						
E09A	Wood Farm, Sta	79.29	35	eP	P	22 03 05.8	+0.1
	comp=Z,13nm,1.3s						
Y21A	Point of Rocks	79.36	50	⇓P	P	22 03 07.3	+0.6
	baz=80,SNR=6.1						
TMUT	Trail Mountain	79.47	44	eP	P	22 03 07.1	-0.2
	comp=Z,13nm,1.0s						
F10A	Beach Ranch, E	79.47	36	eP	P	22 03 06.8	-0.1
	comp=Z,10nm,1.1s						
X21A	Alamocita Cree	79.48	49	⇑P	P	22 03 07.7	+0.3
	baz=80						
Z22A	Elephant Butte	79.54	51	⇑P	P	22 03 08.1	+0.5
	baz=80,SNR=7.3						
V20A	Brimhall	79.63	48	⇓P	P	22 03 08.7	+0.5
	baz=80						
HLID	Hailey	79.72	39	eP	P	22 03 08.8	+0.3
	comp=Z,11nm,1.1s						
HLID	Hailey	79.72	39	⇑P	P	22 03 09.3	+0.9
	baz=80						
Y22A	Socorro	79.85	50	⇓P	P	22 03 09.9	+0.6
	baz=80						
324A	Moseley Ranch,	79.85	53	⇑P	P	22 03 09.5	+0.2
	baz=80						
U20A	Newcomb	79.86	47	⇓P	P	22 03 09.7	+0.4
	baz=80						
425A	Indio Mountain	79.95	54	⇑P	P	22 03 10.3	+0.4
	baz=80						
DIV	Divide	79.98	13	eP	P	22 03 09.2	-0.1
	comp=Z,40nm,0.9s						
C09A	Chrisman Ranch	80.00	34	eP	P	22 03 10.0	+0.3
	comp=Z,9.8nm,1.0s						
Z23A	Rita Site, Whi	80.09	51	⇓P	P	22 03 11.1	+0.5
	baz=80						
BMRM	Bremner River	80.09	13	eP	P	22 03 09.9	+0.1
	comp=Z,41nm,1.0s						
626A	Big Bend Ranch	80.09	55	⇑P	P	22 03 11.0	+0.4
	baz=80						
224A	Cornudas Mount	80.10	53	⇓P	P	22 03 11.4	+0.7
	baz=80						
MDJ	Mudanjiang	80.15	322	P	P	22 03 12.5	+2.0
MDJ				pmax	pmax		
	comp=Z,7.0nm,0.7s						
MDJ				pmax	pmax		
	comp=Z,330nm,5.8s						
526A	Mary Lane Ranc	80.34	55	⇓P	P	22 03 12.5	+0.5
	baz=80						
TXAR	Lajitas Array	80.37	56	P	P	22 03 12.3	+0.2
TXAR	Lajitas Array	80.37	56	P	P	22 03 12.3	+0.2
	comp=Z,0.8nm,0.9s,baz=217,slow=6.0,SNR=7.1						
124A	Stringfield Ra	80.42	52	⇓P	P	22 03 13.1	+0.6
	baz=81						
U21A	Nageezi	80.50	48	⇑P	P	22 03 13.4	+0.5
	baz=81,SNR=6.3						
Y23A	Lovelace Mesa,	80.52	51	⇓P	P	22 03 13.4	+0.4
	baz=81						
627A	Terlingua Ranc	80.64	56	⇑P	P	22 03 14.1	+0.5
	baz=81						
426A	McDonald Obser	80.64	54	⇑P	P	22 03 14.1	+0.4
	baz=81						
225A	Deer Hill, Car	80.65	53	⇓P	P	22 03 14.2	+0.5
	baz=81						
S20A	Disappointment	80.67	46	⇑P	P	22 03 14.2	+0.4
	baz=81						
ANMO	Albuquerque	80.68	50	eP	P	22 03 14.5	+0.6
	comp=Z,4.2nm,1.0s						
Z24A	Sheeppen Canyo	80.77	51	⇑P	P	22 03 14.7	+0.4
	baz=81						
V22A	San Miguel Ran	80.80	49	⇑P	P	22 03 14.9	+0.5
	baz=81						
CAST	Castle Rocks	80.94	9	eP	P	22 03 12.7	-1.6
	comp=Z,8.6nm,0.8s						
326A	Caldwell Ranch	80.96	54	⇓P	P	22 03 15.6	+0.3
	baz=81						
Y24A	Capitan	80.98	51	⇑P	P	22 03 16.0	+0.6
	baz=81,SNR=6.7						
W23A	Werner Place,	81.00	49	⇑P	P	22 03 16.4	+0.8
	baz=81						
125A	Gardner Draw,	81.01	52	⇑P	P	22 03 15.9	+0.3
	baz=81						
628A	Black Gap, Mar	81.05	56	⇓P	P	22 03 16.2	+0.4
	baz=81						
P19A	Cripple Cowboy	81.12	44	⇓P	P	22 03 17.1	+1.0
	baz=81						
226B	Tecolote Peak,	81.14	53	⇑P	P	22 03 16.8	+0.6
	baz=81						
427A	Hayter Ranch,	81.21	54	⇓P	P	22 03 17.5	+0.9
	baz=81						
Z25A	Roswell	81.23	52	⇑P	P	22 03 17.2	+0.5
	baz=81						
Q20A	Ridgley Place,	81.26	45	⇑P	P	22 03 17.6	+0.8
	baz=82						
T22A	Edith	81.31	48	⇑P	P	22 03 17.8	+0.6
	baz=82						
528A	Cox Ranch, San	81.41	55	⇑P	P	22 03 18.1	+0.4
	baz=82						
P20A	De Beque	81.46	45	⇓P	P	22 03 18.1	+0.3
	baz=82						
R21A	Cimarron	81.49	46	⇑P	P	22 03 18.7	+0.5
	baz=82						
U23A	El Rito	81.50	48	⇑P	P	22 03 18.9	+0.7
	baz=82						
Y25A	Mesa, Roswell	81.53	51	⇑P	P	22 03 18.8	+0.5
	baz=82						
W24A	Lazy 6 Ranch,	81.57	50	⇑P	P	22 03 19.0	+0.5
	baz=82						
Q21A	Lamborn Mesa,	81.70	46	⇓P	P	22 03 19.9	+0.7
	baz=82						
PAX	Paxson	81.70	12	eP	P	22 03 17.9	-0.6
PAX				pmax	pmax		
	comp=Z,12nm,1.0s						
PAX	Paxson	81.70	12	eP	P	22 03 17.9	-0.6
	comp=Z,12nm,1.0s						
S22A	4UR Ranch, Cre	81.70	47	⇓P	P	22 03 20.0	+0.7
	baz=82,SNR=7.1						
HYT	Haines Junctio	81.73	17	eP	P	22 03 19.2	+0.6
MCK	McKinley	81.75	10	eP	P	22 03 18.1	-0.5
MCK				pmax	pmax		
	comp=Z,50nm,0.9s						
MCK	McKinley	81.75	10	eP	P	22 03 18.1	-0.5
	comp=Z,50nm,0.9s						
Z26A	Caprock	81.79	52	⇑P	P	22 03 19.7	+0.1
	baz=82						
REDW	Red Top Meadow	81.80	40	eP	P	22 03 20.5	+0.9
	comp=Z,17nm,1.5s						
X25A	Clemmons Ranch	81.82	51	⇑P	P	22 03 20.3	+0.5
	baz=82						
BSMT	Bassoo Peak	81.93	35	eP	P	22 03 20.0	-0.2
R22A	Saguache, Gunn	81.98	46	⇓P	P	22 03 21.6	+0.8
	baz=82,SNR=5.4						
MENT	Mentasta	82.03	13	eP	P	22 03 19.6	-0.6
LOHW	Long Hollow	82.08	40	eP	P	22 03 21.4	+0.3
	comp=Z,10nm,1.4s						
P21A	Newcastle	82.11	45	⇓P	P	22 03 22.2	+0.8
	baz=82						
Q22A	Crested Butte,	82.17	46	⇓P	P	22 03 22.5	+0.7
	baz=82						
N20A	Spence Gulch,	82.19	44	⇑P	P	22 03 22.5	+0.8
	baz=82						
CN2	Changchun	82.22	320	⇑P	P	22 03 22.3	+0.8
CN2				esP	sP	22 03 29.3	-2.8
CN2				eS	S	22 13 36.8	+1.4
CN2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CN2				pmax	pmax		
	comp=Z,200nm,6.0s						
CHMT	Chamberlain Mo	82.26	36	eP	P	22 03 21.8	-0.2
W25A	X Bar L Ranch,	82.27	50	⇑P	P	22 03 22.8	+0.6
	baz=82						
SMCO	Snowmass	82.27	46	eP	P	22 03 23.1	+0.7
	comp=Z,34nm,1.9s						
429A	Davenport Ranc	82.30	55	⇑P	P	22 03 22.6	+0.3
	baz=82						
PDAR	Pinedale Array	82.31	41	P	P	22 03 21.1	-1.2
PDAR	Pinedale Array	82.31	41	P	P	22 03 21.1	-1.2
	comp=Z,1.8nm,0.8s,baz=223,slow=3.9,SNR=12						
T24B	San Luis	82.41	48	⇑P	P	22 03 24.0	+0.9
	baz=83						
V25A	Rancho No Teng	82.42	49	⇓P	P	22 03 24.0	+1.0
	baz=83						
H17A	Grant Village	82.50	40	⇑P	P	22 03 24.6	+1.2
	baz=83						
M20A	Sweetwater, Wa	82.56	43	⇓P	P	22 03 23.8	+0.2
	baz=83						
SDCO	Great Sand Dun	82.64	47	eP	P	22 03 24.1	-0.1
	comp=Z,5.7nm,1.4s						
N21A	Black Mountain	82.65	44	⇓P	P	22 03 24.8	+0.6
	baz=83,SNR=6.0						
128A	Castleberry Fa	82.65	53	⇓P	P	22 03 24.6	+0.5
	baz=83						
Y27A	Causey	82.66	52	⇑P	P	22 03 24.3	+0.1
	baz=83						
L20A	Wamsutter	82.71	43	⇓P	P	22 03 25.1	+0.7
	baz=83						
K19A	Absolon Red Bu	82.79	42	⇓P	P	22 03 25.1	+0.4
	baz=83						
S24A	Houchin Ranch,	82.79	48	⇑P	P	22 03 25.3	+0.3
	baz=83						
U25A	Circle Dot Ran	82.82	49	⇓P	P	22 03 25.3	+0.2
	baz=83						
631A	Perdido Creek	82.87	57	⇓P	P	22 03 25.2	-0.1
	baz=83						
J19A	Crowheart	82.88	41	⇑P	P	22 03 25.2	0.0
	baz=83,SNR=5.3						
Q23A	Hartsel	82.93	46	⇑P	P	22 03 26.0	+0.3
	baz=83						
HRY	Holter Researc	82.97	37	eP	P	22 03 25.8	+0.3
COLA	College	82.99	10	eP	P	22 03 24.1	-0.8
COLA	College	82.99	10	eP	P	22 03 24.1	-0.8
	comp=Z,208nm,0.9s						
O22A	Kremmling	83.02	45	⇓P	P	22 03 26.3	+0.1
	baz=83,SNR=7.4						
K20A	Yellowstone Ra	83.03	42	⇑P	P	22 03 26.5	+0.5
	baz=83						
ILAR	Eielson Array	83.06	11	P	P	22 03 24.6	-0.8
ILAR	Eielson Array	83.06	11	P	P	22 03 24.6	-0.8
	comp=Z,7.4nm,0.7s,baz=218,slow=5.8,SNR=61						
IM04	Indian Mountai	83.13	8	eP	P	22 03 25.8	+0.1
R24A	Sanders Place,	83.13	47	⇓P	P	22 03 27.3	+0.6
	baz=83						
T25A	Trinidad	83.14	48	⇑P	P	22 03 27.5	+0.7
	baz=83						
531A	Rocksprings	83.19	56	⇑P	P	22 03 27.3	+0.4
	baz=83						
H18A	Shoshone NF, C	83.21	40	⇓P	P	22 03 27.7	+0.8
	baz=83						
IMA2	Indian Mountai	83.23	8	eP	P	22 03 25.9	-0.5
W27A	Bowe Ranch, En	83.23	51	⇓P	P	22 03 27.7	+0.5
	baz=83						
I19A	Meeteetse	83.30	41	⇑P	P	22 03 27.5	+0.1
	baz=84,SNR=5.3						
U26A	Atchley Ranch,	83.30	49	⇓P	P	22 03 27.7	+0.1
	baz=84						
S25A	Robets Cordova	83.36	48	⇓P	P	22 03 28.1	+0.3
	baz=84

baz=84
P25A Willow Gulch B 84.36 46 ⇓P **P 22 03 33.1 +0.2**
baz=84
G20A Bridger 84.37 40 ⇑P **P 22 03 33.2 +0.5**
baz=85
L23A Garrett 84.49 43 ⇓P **P 22 03 33.3 -0.3**
baz=85,SNR=6.7
232A Coleman 84.57 55 ⇓P **P 22 03 33.9 -0.1**
baz=85
E19A Rath Farm, Rou 84.64 39 ⇑P **P 22 03 34.2 +0.2**
baz=85,SNR=6.3
M24A Cheyenne 84.78 44 ⇑P **P 22 03 35.4 +0.4**
baz=85
COLD Coldfoot 84.80 9 *e*P **P 22 03 35.1 +0.9**
comp=Z,18nm,1.0s
I22A 9 Mile Ranch, 84.81 42 ⇑P **P 22 03 35.1 0.0**
baz=85
K23A Bowen Ranch, D 84.84 43 ⇓P **P 22 03 35.2 0.0**
baz=85
D19A Cripps Ranch, 84.94 38 ⇑P **P 22 03 36.0 +0.5**
baz=85,SNR=5.9
C19A Slack Wire Ran 85.12 37 ⇑P **P 22 03 37.2 +0.8**
baz=85,SNR=7.1
D20A Manuel Ranch, 85.34 38 ⇑P **P 22 03 38.1 +0.6**
baz=86
C20A Veseth Ranch, 85.72 38 ⇑P **P 22 03 40.0 +0.6**
baz=86
EDM Edmonton 85.73 31 *e*P **P 22 03 39.0 -0.3**
EDM Edmonton 85.73 31 *e*P **P 22 03 39.0 -0.3**
BJT Baijiatuan 86.61 313 *e*P **P 22 03 43.6 -0.2**
comp=Z,5.1nm,0.4s
BJI Beijing 86.61 313 P **P 22 03 44.5 +0.7**
BJI pmax pmax
comp=Z,22nm,1.1s
MAW Mawson 87.31 198 *e*P **P 22 03 46.6 -0.2**
comp=Z,2.2nm,1.1s
MAW Mawson 87.31 198 P **P 22 03 47.0 +0.2**
comp=Z,6.7nm,1.0s,baz=100,slow=4.9,SNR=10
MAW Mawson 87.31 198 P **P 22 03 47.7 +0.9**
baz=86,SNR=8.0
ENH Enshi 88.04 302 *e*P **P 22 03 50.6 -0.4**
comp=Z,20nm,1.2s
PLCA Paso Flores 88.37 132 P **P 22 03 52.6 0.0**
PLCA Paso Flores 88.37 132 P **P 22 03 52.6 0.0**
comp=Z,1.8nm,0.9s,baz=133,slow=5.9,SNR=2.9
GYA Guiyang 89.14 298 ⇑*i*P **P 22 03 58.0 +1.6**
GYA PP **PP 22 07 31.5 +4.5**
GYA SKS **SKSac 22 14 25.5 +0.2**
GYA S **S 22 14 44.0 -0.5**
GYA pmax pmax
comp=Z,10.0nm,1.2s
GYA pmax pmax
comp=Z,110nm,6.0s
GYA LR LR
comp=N,480nm,20.2s
GYA LR LR
comp=E,440nm,23.8s
GYA LR LR
comp=Z,540nm,21.3s
HHC Hu-ho-hao-te 90.17 313 *e*P **P 22 04 00.8 -0.1**
HHC sP **sP 22 04 07.3 -4.3**
HHC PP **PP 22 07 37.0 +2.1**
HHC SKS **SKSac 22 14 30.3 -0.4**
HHC S **S 22 14 51.8 -1.6**
HHC sS **ScS 22 15 00.5 +3.2**
HHC pmax pmax
comp=Z,26nm,0.9s
HHC pmax pmax
comp=Z,140nm,6.7s
HHC LR LR
comp=N,310nm,17.2s
HHC LR LR
comp=E,330nm,16.8s
HHC LR LR
comp=Z,410nm,17.4s
YKA Yellowknife Ar 90.50 23 P **P 22 04 01.4 -0.3**
YKA Yellowknife Ar 90.50 23 P **P 22 04 01.5 -0.3**
comp=Z,2.3nm,0.8s,baz=243,slow=4.0,SNR=3.8
SNAA Sanae 92.08 177 P **P 22 04 08.3 -0.9**
SNAA Sanae 92.08 177 P **P 22 04 08.3 -0.9**
comp=Z,1.1nm,1.1s,baz=205,slow=5.9,SNR=4.8
KMI Kunming 92.11 295 P **P 22 04 12.3 +1.9**
KMI pmax pmax
comp=Z,10.0nm,1.1s
CD2 Chengdu 92.92 301 P **P 22 04 15.0 +1.2**
CD2 pmax pmax
comp=Z,9.0nm,0.5s
CMAR Chiang Mai Arr 93.64 288 P **P 22 04 17.7 +0.3**
CMAR Chiang Mai Arr 93.64 288 P **P 22 04 17.7 +0.3**
comp=Z,5.6nm,1.0s,baz=99,slow=2.7,SNR=24
CHTO Chiang Mai 93.74 288 *e*P **P 22 04 19.5 +1.7**
CHTO Chiang Mai 93.74 288 *e*P **P 22 04 19.5 +1.7**
comp=Z,378nm,2.6s
ULM Lac du Bonnet 94.03 39 P **P 22 04 16.4 -2.0**
ULM Lac du Bonnet 94.03 39 P **P 22 04 16.4 -2.0**
comp=Z,3.7nm,0.8s,baz=144,slow=14,SNR=3.8
LZH Lanzhou 94.36 306 *e*P **P 22 04 23.3 +2.8**
LZH pP **pP 22 04 25.8 -2.6**
LZH sP **sP 22 04 29.0 -2.2**
LZH PP **PP 22 08 12.0 +3.9**
LZH SKS **SKSac 22 14 57.0 +2.5**
LZH *e*S **S 22 15 30.0 -1.3**
LZH sS **sS 22 15 41.3 -3.1**
LZH pmax pmax
comp=Z,27nm,1.1s
LZH pmax pmax
comp=Z,160nm,5.8s
LZH LR LR
comp=N,890nm,15.6s
LZH LR LR
comp=E,710nm,17.0s
LZH LR LR
comp=Z,1μm,18.4s
SONM Songino Array 95.98 318 P **P 22 04 25.7 -1.9**
SONM Songino Array 95.98 318 P **P 22 04 25.7 -1.9**
comp=Z,0.6nm,0.7s,baz=108,slow=4.7,SNR=4.4
GTA Gaotai 98.31 309 *e*P Pdif 22 04 38.8 +0.4
GTA pP pP 22 04 42.8 -3.4
GTA sP sP 22 04 45.0 -4.0
GTA pmax pmax
comp=Z,2.0nm,1.0s
MKAR Makanchi Array 111.97 314 PKIKP **PKiKP 22 09 40.0 +4.4**
MKAR Makanchi Array 111.97 314 PKiKP **PKiKP 22 09 40.0 +4.4**
MKAR Makanchi Array 111.97 314 PKiKP **PKiKP 22 09 40.0 +4.4**
comp=Z,0.1nm,0.5s,baz=183,slow=1.3,SNR=3.2
KSH Kashi 116.61 306 *e*PKP **PKPdf 22 09 48.0 +3.2**
KSH PP PP 22 11 02.0 +9.5
KSH PKS **PKSdf 22 13 23.3 +1.7**
KSH SKS **SKSdf 22 16 59.0 +3.3**
KSH AMB AMB
comp=Z,150nm,5.1s
KSH LR LR
comp=N,200nm,6.2s
KSH LR LR
comp=E,230nm,6.9s
KSH LR LR
comp=Z,1μm,20.1s
BRVK Borovoye 119.07 322 *i* PKIKP **PKPdf 22 09 48.7 -0.2**
AKASG Malin Array Be 141.38 338 PKHKP PKPpre 22 10 26.4
AKASG Malin Array Be 141.38 338 PKPpre PKPpre 22 10 26.4
AKASG Malin Array Be 141.38 338 PKhKP PKPpre 22 10 26.4
comp=Z,0.4nm,0.5s,baz=38,slow=4.7,SNR=4.6
KWP Kalwaria Pacla 144.42 343 ⇑*i*P PKPbc 22 10 35.1 +0.1
KEMA Kemaliye 144.47 316 *i* P **PKPdf 22 10 36.9 -0.2**
CLL Collm 144.69 354 *e*PKIKP **PKPab 22 10 35.0 -0.6**
CLL *e* 22 10 40.0
CLL pmax pmax
comp=Z,3.0nm,0.8s
CLL Collm 144.69 354 *e*PKPdf **PKPab 22 10 35.0 -0.6**
comp=Z,3.0nm,0.8s
CLL *e*(PKiKP) 22 10 40.0
ERBA Erbaa 144.81 320 *i* P **PKPdf 22 10 37.8 +0.2**
MALT Malatya 145.00 315 ⇑*i*P **PKPdf 22 10 39.2 +1.1**
BRG Berggiesshubel 145.01 353 *e*P **PKPbc 22 10 36.3 -0.6**
comp=Z,3.8nm,1.3s
BRG Berggiesshubel 145.01 353 *e*PKIKP **PKPbc 22 10 36.3 -0.5**
BRG pmax pmax
comp=Z,3.0nm,1.3s
STHS Stebnicka Huta 145.01 344 *e*PKIKP **PKPdf 22 10 37.7 +0.1**
STHS Stebnicka Huta 145.01 344 *e*PKP **PKPdf 22 10 37.7 +0.1**
UPC Upice 145.08 350 *e*PKIKP **PKPab 22 10 37.2 +0.1**
UPC *e* 22 10 42.7
UPC Upice 145.08 350‖ *e*PKP **PKPab 22 10 37.2 +0.1**
UPC *ep*PKP **PKiKP 22 10 42.7 +1.2**
KOLS Kolonicke sedl 145.17 343 *e*PKIKP **PKPab 22 10 37.5 0.0**
KOLS Kolonicke sedl 145.17 343 *e*PKP **PKPab 22 10 37.5 0.0**
DPC Dobruska-Polom 145.18 350‖ *i*PKIKP **PKPab 22 10 37.6 +0.1**
DPC Dobruska-Polom 145.18 350‖ *i*PKP **PKPab 22 10 37.6 +0.1**
DPC Dobruska-Polom 145.18 350 *e*PKPdf **PKPab 22 10 37.7 +0.1**
PVCC Panska Ves 145.27 352 *e*PKIKP **PKPbc 22 10 37.6 -0.1**
PVCC Panska Ves 145.27 352‖ *e*PKP **PKPbc 22 10 37.6 -0.1**
OKC Ostrava-Krasne 145.34 348 *e*PKIKP **PKPbc 22 10 37.9 0.0**
OKC Ostrava-Krasne 145.34 348‖ *e*PKP **PKPbc 22 10 37.9 0.0**
AKCD Akcadag 145.35 315 *i* P **PKPdf 22 10 39.7 +1.0**
BUR08 Bucovina Ar. S 145.38 339 *e*PKP **PKPab 22 10 38.8 +0.3**
CRVS Cervenica-Dubn 145.43 344 *e*PKIKP **PKPab 22 10 38.5 0.0**
CRVS Cervenica-Dubn 145.43 344 *e*PKP **PKPab 22 10 38.5 0.0**
UZH Uzhgorod 145.44 343 *d i*PKIKP **PKPbc 22 10 38.2 -0.1**
BEBN Eben Emael 145.45 2 PKP **PKPab 22 10 38.4 0.0**
MOX Moxa 145.47 355 *e*PKPbc **PKPbc 22 10 38.0 -0.1**
MOX Moxa 145.47 355 *e*PKIKP **PKPbc 22 10 38.0 -0.3**
MORC Moravsky Berou 145.52 348 *e*PKIKP **PKPdf 22 10 38.5 0.0**
MORC Moravsky Berou 145.52 348 *e*PKPdf **PKPdf 22 10 38.5 0.0**
MORC Moravsky Berou 145.52 348‖ *i*P **PKPab 22 10 39.4 +0.6**
TANN Tannenbergstha 145.62 354 *e*PKPbc **PKPdf 22 10 38.6 -0.1**
MEM Membach 145.65 2 PKP **PKPbc 22 10 38.9 0.0**
SNF Seneffe 145.67 4 PKP **PKPbc 22 10 39.0 +0.1**
PRU Pruhonice 145.81 352‖ *i*PKP2 **PKPbc 22 10 39.2 -0.2**
PRU Pruhonice 145.81 352‖ *i*PKP **PKPbc 22 10 39.2 -0.2**
PRU *ep*PKP **PKiKP 22 10 44.0 +1.0**
TESR Tescani 145.81 336 ⇑*i*P **PKPbc 22 10 39.5 0.0**
NKC Novy Kostel 145.81 354 *e*PKP2 **PKPbc 22 10 39.2 -0.2**
NKC Novy Kostel 145.81 354‖ *e*PKP **PKPbc 22 10 39.2 -0.2**
NKC *ep*PKP **PKiKP 22 10 42.6 -0.4**
BCLA Clavier 145.81 2 PKP **PKPdf 22 10 39.1 +0.2**
TRPA Tarpa 145.82 342‖ *i*P **PKPab 22 10 40.1 +0.2**
GHRR 145.87 335 ⇑*i*P **PKPab 22 10 40.6 +0.4**
KMBO Kilima Mbogo 145.92 242 PKPbc **PKPab 22 10 42.1 +0.5**
KMBO Kilima Mbogo 145.92 242 PKPbc **PKPab 22 10 42.1 +0.5**
comp=Z,4.8nm,1.0s,baz=26,slow=3.7,SNR=8.2
TLCR 145.97 333‖ *i*P **PKPab 22 10 40.5 0.0**
TNS Taunus Mts 146.05 359 *e*PKPbc **PKPab 22 10 41.3 +0.5**
TNS Taunus Mts 146.05 359 *e*PKP2 **PKPab 22 10 41.3 +0.5**
KECS Kecovo 146.07 344 *e*PKP2 **PKPab 22 10 40.6 -0.2**
KECS Kecovo 146.07 344 *e*PKP **PKPbc 22 10 40.5 +0.2**
KECS *e* 22 12 05.5
GZT Gaziantep 146.08 314 *i* P **PKPab 22 10 41.9 +0.4**
DOU Dourbes 146.10 3 PKP **PKPbc 22 10 40.3 0.0**
PINB Pinarbasi 146.16 317 *i* P **PKPab 22 10 41.9 0.0**
CFR Carcaliu 146.28 333 ⇑*i*P **PKPab 22 10 41.2 +0.2**
ROTZ Rotzenmuhle 146.29 354 *e*PKPbc **PKPbc 22 10 41.1 +0.2**
VRI Vrincioaia 146.31 335 ⇑*i*P **PKPab 22 10 41.5 -0.4**
TREC Trest 146.34 351 *e*PKP2 **PKPbc 22 10 41.0 -0.1**
TREC Trest 146.34 351‖ *e*PKP **PKPbc 22 10 41.0 -0.1**
PLOR Plostina 146.35 336‖ *i*P **PKPab 22 10 41.8 -0.3**
GRF Grafenberg Arr 146.45 356 *e*PKPbc **PKPab 22 10 42.3 0.0**
GRF Grafenberg Arr 146.45 356 *e*PKP2 **PKPab 22 10 42.3 0.0**
WLF Walferdange 146.60 2 PKP **PKPab 22 10 42.4 -0.4**
WLF Walferdange 146.60 2 *e*PKPbc **PKPab 22 10 42.7 -0.1**
PSZ Piszkesteto 146.74 345 ⇑*i*P **PKPab 22 10 43.4 -0.1**
KHC Kasperske Hory 146.77 353‖ *i*PKP2 **PKPbc 22 10 42.2 -0.2**
KHC Kasperske Hory 146.77 353‖ *i*PKP **PKPbc 22 10 42.2 -0.2**
KHC *ex* x 22 10 50.5
KHC Kasperske Hory 146.77 353 *e*PKPdf **PKPbc 22 10 42.4 0.0**
ANDN Andirin 146.79 316 *i* P **PKPab 22 10 43.8 -0.3**
CDAG Cicekdag 146.90 320 *i* P **PKPab 22 10 44.0 -0.5**
MLR Muntele Rosu 146.93 336‖ *i*P **PKPab 22 10 43.6 +0.5**
DRGR 146.96 341 ⇑*i*P **PKPbc 22 10 43.0 0.0**
GEC2 GERESS Array S 147.04 352 *e*PKPbc **PKPbc 22 10 42.9 -0.3**
GEC2 GERESS Array S 147.04 352 *e*PKP2 **PKPbc 22 10 42.9 -0.3**
GERES GERESS Array B 147.04 352 PKPbc **PKPbc 22 10 43.1 -0.1**
GERES GERESS Array B 147.04 352 PKPbc **PKPbc 22 10 43.1 -0.1**
comp=Z,5.5nm,0.9s,baz=29,slow=3.0,SNR=24
AVNT Avonos 147.10 319 *i* P **PKPbc 22 10 44.0 +0.2**
ZST Bratislava 147.11 348 *e*PKP2 **PKPbc 22 10 43.7 +0.4**
ZST Bratislava 147.11 348 *e*PKP **PKPbc 22 10 43.7 +0.4**
BR131 Keskin Array S 147.29 321 *e*PKPbc **PKPbc 22 10 44.0 -0.3**
BRTR Keskin Array B 147.29 321 PKPbc **PKPbc 22 10 44.3 0.0**
BRTR Keskin Array B 147.29 321 PKPbc **PKPbc 22 10 44.3 0.0**
comp=Z,13nm,1.0s,baz=126,slow=1.7,SNR=27
VOIR 147.32 337 ⇑*i*P **PKPbc 22 10 44.7 +0.6**
COBT Iskenderun 147.40 314 *i* P **PKPab 22 10 46.0 -0.7**
STU Stuttgart 147.48 358 *e*PKPbc **PKPab 22 10 45.5 -0.8**
ARR Arges 147.53 337 ⇑*i*P **PKPab 22 10 45.8 -0.9**
CONA Conrad Observa 147.60 349 *i* sPKPdf **PKPbc 22 10 45.1 +0.3**
comp=Z,12nm,1.0s,SNR=7.4
SIRR Siria 147.75 341 ⇑*i*P **PKPbc 22 10 45.7 +0.5**
BFO Black Forest 147.94 359 *e*PKPbc **PKPbc 22 10 45.6 0.0**
BFO Black Forest 147.94 359 *e*PKP2 **PKPbc 22 10 45.6 0.0**
BFO Black Forest 147.94 359 *e*PKPdf **PKPbc 22 10 45.6 0.0**
FUR Furstenfeldbru 147.96 355 *e*PKPbc **PKPbc 22 10 46.0 +0.3**
FUR Furstenfeldbru 147.96 355 *e*PKP2 **PKPbc 22 10 46.0 +0.3**
GZR Gura Zlata 148.17 339 ⇑*i*P **PKPbc 22 10 46.5 +0.1**
RJOB Jochberg 148.24 353 *e*PKPbc **PKPbc 22 10 46.6 +0.1**
BZS Buzias 148.35 341 ⇑*i*P **PKPab 22 10 46.9 +0.2**
MOTA Moosalm 148.79 355 ⇑*i*sPKPdf **PKPbc 22 10 47.8 -0.2**
comp=Z,7.5nm,0.9s,SNR=7.3
SOKA Soboth 148.96 350 ⇑*i*sPKPdf **PKPbc 22 10 48.0 -0.4**
comp=Z,7.6nm,1.0s,SNR=6.1
PERS Pernice 148.98 350 *e*PKPbc **PKPbc 22 10 47.6 -0.8**
SENIN Lac Senin/Sane 149.92 0 *e*PKPdf **PKPbc 22 10 51.6 +0.7**
BOJS Bojanci 150.05 349 *e*PKPbc **PKPbc 22 10 51.0 -0.1**
CSS Prodhromos 150.24 314 *e*PKPdf **PKPdf 22 10 47.2 +0.5**
CSS *e*PKPbc **PKPbc 22 10 52.2 +0.3**
VTS Vitosha 150.43 336‖ *i*P **PKPbc 22 10 52.5 +0.3**
KHAL Karahalli 150.62 323 *i* P **PKPbc 22 10 51.8 -0.9**
BNI Bardonecchia 151.22 1 *e*PKIKP **PKPbc 22 10 55.0 +1.0**
BNI Bardonecchia 151.22 1 *e*PKPdf **PKPbc 22 10 55.0 +1.0**
ESDC Sonseca Array 154.57 21 PKPab **PKPab 22 11 15.4 -0.5**
ESDC Sonseca Array 154.57 21 PKPab **PKPab 22 11 15.4 -0.5**
comp=Z,1.7nm,0.8s,baz=315,slow=3.6,SNR=11
TORD Torodi Ar. Bea 173.66 118 PKP **PKPdf 22 11 09.7 -1.0**
TORD Torodi Ar. Bea 173.66 118 PKP **PKPdf 22 11 09.7 -1.0**
comp=Z,1.2nm,1.0s,baz=326,slow=0.5,SNR=5.0

*IDC **29** 21:52:24.5±0.5, 15°.96S×172°.81W, h0km, mb4.3/17, mb1 4.5/18, mb1mx4.4/23, mbtmp4.3/18, ML2.4/1, Error ellipse: s-maj=19.9km s-min=16.4km az=120.0*
*NEIC **29** 21:52:25.8±0.4, 15°.90S×172°.86W, h10km, mb4.6/7, Error ellipse: s-maj=16.0km s-min=9.3km az=139.0*
*MOS **29** 21:52:29.0±1.8, 15°.97S×172°.89W, h33km, mb4.7/5, Error ellipse: s-maj=16.6km s-min=13.1km az=67.5*
ISC 29 21:52:29.3±0.4, 15°.68S±0°.09×172°.8W±0°.1, h35km, n75,
σ1°62/67, mb4.4/21, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.04**	**30**	*e*Pn		**Pn**		**21 53 02.8**	**+1.7**
AFI					Sn	**Sn**		**21 53 20.9**	**-4.5**
AFI	**Afiamalu**	**2.04**	**30**	Pn		Pn		21 53 03.6	+2.4
	55nm,0.3s,baz=255,slow=19,SNR=1.4								
AFI					Sn	**Sn**		**21 53 20.9**	**-4.5**
	baz=355,slow=22,SNR=5.8								
DZM	**Mont Dzumac**	**20.60**	**249**	*e*P		**P**		**21 57 04.1**	**-1.6**
	85nm,1.4s								
DZM	**Mont Dzumac**	**20.60**	**249**	P		Pn		21 57 09.1	+1.0
	15nm,0.8s,baz=84,slow=17,SNR=6.1								
KWAJ	**Kwajalein Atol**	**31.09**	**320**	*i* P		P		21 58 48.6	+4.1
RPZ	**Rata Peaks**	**31.13**	**203**	P		P		21 58 47.6	+2.9
RPZ	**Rata Peaks**	**31.13**	**203**	P		P		21 58 47.6	+2.9
	8.3nm,0.7s,baz=360,slow=7.6,SNR=3.0								
STKA	**Stephens Creek**	**44.37**	**240**	*e*P		**P**		**22 00 35.0**	**-1.5**
	5.2nm,1.1s								
STKA	**Stephens Creek**	**44.37**	**240**	P		**P**		**22 00 34.9**	**-1.6**
	9.5nm,0.9s,baz=86,slow=10,SNR=4.7								
WRAB	**Tennant Creek**	**50.30**	**257**	*e*P		**P**		**22 01 22.1**	**-0.7**
WRAB				pmax		pmax			
	comp=Z,7.0nm,1.0s								
WRAB	**Tennant Creek**	**50.30**	**257**	*e*P		**P**		**22 01 22.1**	**-0.7**
	comp=Z,6.5nm,1.0s								
WRA	**Warramunga Arr**	**50.31**	**257**	P		**P**		**22 01 21.2**	**-1.8**
WRA	**Warramunga Arr**	**50.31**	**257**	P		**P**		**22 01 21.2**	**-1.8**
	comp=Z,3.7nm,0.9s,baz=90,slow=6.8,SNR=7.2								
ASAR	**Alice Springs**	**50.54**	**252**	P		**P**		**22 01 23.0**	**-1.7**
ASAR	**Alice Springs**	**50.54**	**252**	P		**P**		**22 01 23.0**	**-1.7**
	comp=Z,6.4nm,0.7s,baz=90,slow=7.3,SNR=4.0								
FITZ	**Fitzroy Crossi**	**58.69**	**258**	*e*P		**P**		**22 02 24.0**	**+0.2**
	comp=Z,3.6nm,0.9s								
FITZ	**Fitzroy Crossi**	**58.69**	**258**	P		**P**		**22 02 22.7**	**-1.1**
	comp=Z,2.7nm,0.8s,baz=84,slow=9.2								
VNDA	**Vanda**	**63.16**	**186**	*e*P		**P**		**22 02 52.8**	**-0.4**
	comp=Z,10nm,1.4s								
VNDA	**Vanda**	**63.16**	**186**	P		**P**		**22 02 52.9**	**-0.3**
	comp=Z,3.4nm,1.0s,baz=349,slow=6.1,SNR=6.2								
MBWA	**Marble Bar**	**63.81**	**254**	*e*P		**P**		**22 02 57.7**	**-0.7**
MAJO	**Matsushiro**	**69.50**	**320**	*i* P		P		22 03 38.0	+3.5
ERM	**Erimo**	**70.29**	**327**	*i* P		P		22 03 46.0	+6.9
ERM				pmax		pmax			
	comp=Z,41nm,1.6s								
PETK	**Petropavlovsk-**	**73.06**	**342**	P		**P**		**22 03 57.9**	**+2.3**
PETK	**Petropavlovsk-**	**73.06**	**342**	P		**P**		**22 03 57.9**	**+2.3**
PETK	**Petropavlovsk-**	**73.06**	**342**	P		**P**		**22 03 57.9**	**+2.3**
	comp=Z,2.9nm,0.7s,baz=126,slow=7.3,SNR=2.5								
QSPA	**South Pole Qui**	**74.37**	**180**	P		**P**		**22 04 02.9**	**-0.4**
	comp=Z,10nm,1.0s,baz=42,slow=4.8,SNR=6.2								
KSRS	**Korea Array**	**76.74**	**315**	P		P		22 04 20.9	+3.7
	comp=Z,0.5nm,0.4s,baz=111,slow=6.8,SNR=3.0								
KSAR	**Wonju Array Be**	**76.76**	**315**	P		P		22 04 20.9	+3.6
USRK	**Ussuriysk Arra**	**77.93**	**323**	P		P		22 04 26.9	+3.2
	comp=Z,1.1nm,0.8s,baz=93,slow=8.7,SNR=4.4								
TXAR	**Lajitas Array**	**80.32**	**56**	P		**P**		**22 04 38.1**	**+0.9**
TXAR	**Lajitas Array**	**80.32**	**56**	P		**P**		**22 04 38.1**	**+0.9**
	comp=Z,4.6nm,1.0s,baz=229,slow=5.8,SNR=9.4								
ANMO	**Albuquerque**	**80.56**	**50**	*e*P		**P**		**22 04 40.0**	**+1.4**
	comp=Z,15nm,1.5s								
KLR	**Kul'dur**	**81.05**	**327**	*e*P		**P**		**22 04 37.9**	**-2.6**
DLBC	**Dease Lake**	**81.76**	**21**	*e*P		**P**		**22 04 45.3**	**+1.1**
PDAR	**Pinedale Array**	**82.11**	**42**	P		**P**		**22 04 47.4**	**+0.8**
PDAR	**Pinedale Array**	**82.11**	**42**	P		**P**		**22 04 47.4**	**+0.8**
	comp=Z,3.0nm,1.0s,baz=224,slow=4.1,SNR=6.3								
COLA	**College**	**82.53**	**10**	*i* P		**P**		**22 04 49.2**	**+1.2**
ILAR	**Eielson Array**	**82.61**	**11**	P		**P**		**22 04 49.0**	**+0.5**
ILAR	**Eielson Array**	**82.61**	**11**	P		**P**		**22 04 49.0**	**+0.5**
	comp=Z,1.4nm,0.7s,baz=226,slow=5.9,SNR=4.8								
MAW	**Mawson**	**87.70**	**198**	*e*P		**P**		**22 05 13.5**	**-0.5**
	comp=Z,1.7nm,1.1s								
MAW	**Mawson**	**87.70**	**198**	P		**P**		**22 05 14.5**	**+0.4**
	comp=Z,4.9nm,1.0s,baz=107,slow=6.5,SNR=5.4								
PLCA	**Paso Flores**	**88.92**	**132**	P		**P**		**22 05 20.7**	**+0.2**
PLCA	**Paso Flores**	**88.92**	**132**	P		**P**		**22 05 20.7**	**+0.2**
	comp=Z,1.7nm,0.8s,baz=241,slow=5.5,SNR=2.8								
SNAA	**Sanae**	**92.60**	**177**	P		**P**		**22 05 37.1**	**+0.1**
SNAA	**Sanae**	**92.60**	**177**	P		**P**		**22 05 37.1**	**+0.1**
	comp=Z,1.0nm,1.0s,baz=211,slow=9.8,SNR=4.4								
CMAR	**Chiang Mai Arr**	**93.22**	**288**	P		**P**		**22 05 43.0**	**+2.2**
CMAR	**Chiang Mai Arr**	**93.22**	**288**	P		**P**		**22 05 43.0**	**+2.2**
	comp=Z,0.6nm,0.9s,baz=119,slow=5.2,SNR=2.3								
CFAA	**Coronel Fontan**	**93.85**	**124**	P		**P**		**22 05 43.7**	**+0.1**
CFAA	**Coronel Fontan**	**93.85**	**124**	P		**P**		**22 05 43.7**	**+0.1**
	comp=Z,0.2nm,0.6s,baz=289,slow=6.2,SNR=4.2								
ARU	**Arti**	**123.86**	**328**	*i* PKIKP		**PKPdf**		**22 11 23.7**	**+0.3**
ARU								22 13 11.0	
ARU								22 18 26.3	
ARU				SS		SS		22 29 53.3	0.0
AKASG	**Malin Array Be**	**140.80**	**338**	PKIKP		**PKPdf**		**22 11 54.7**	**-0.7**
AKASG	**Malin Array Be**	**140.80**	**338**	PKPpre		PKPpre		22 11 54.7	
AKASG	**Malin Array Be**	**140.80**	**338**	PKhKP		PKPpre		22 11 54.7	
	comp=Z,0.2nm,0.3s,baz=38,slow=2.7,SNR=3.0								
CLL	**Collm**	**144.15**	**354**	*e*PKIKP		**PKPdf**		**22 12 04.0**	**+2.7**
CLL	**Collm**	**144.15**	**354**	*e*PKPdf		**PKPdf**		**22 12 04.0**	**+2.7**
UPC	**Upice**	**144.53**	**350**	*e*PKIKP		**PKPdf**		**22 12 05.2**	**+3.2**
UPC	**Upice**	**144.53**	**350**	*e*PKP		**PKPdf**		**22 12 05.2**	**+3.2**
DPC	**Dobruska-Polom**	**144.63**	**350**	*e*PKIKP		**PKPdf**		**22 12 02.6**	**+0.3**
DPC				*e*				22 12 10.8	
DPC	**Dobruska-Polom**	**144.63**	**350**	*e*PKP		**PKPdf**		**22 12 02.6**	**+0.3**
DPC				*ex*		x		22 12 10.8	
OKC	**Ostrava-Krasne**	**144.78**	**348**	*e*PKIKP		**PKPdf**		**22 12 03.0**	**+0.6**
OKC				*e*				22 12 12.3	
OKC	**Ostrava-Krasne**	**144.78**	**348**	*e*PKP		**PKPdf**		**22 12 03.0**	**+0.6**
OKC				*ex*		x		22 12 12.3	
PRU	**Pruhonice**	**145.26**	**352**	*i* PKP2		**PKPdf**		**22 12 04.1**	**+0.8**
PRU	**Pruhonice**	**145.26**	**352**	*i* PKP		**PKPdf**		**22 12 04.1**	**+0.8**
PRU				*ex*		x		22 12 13.7	
NKC	**Novy Kostel**	**145.27**	**354**	*e*PKP2		**PKPdf**		**22 12 04.9**	**+1.6**
NKC	**Novy Kostel**	**145.27**	**354**	*e*PKP		**PKPdf**		**22 12 04.9**	**+1.6**
NKC				*ex*		x		22 12 13.6	
KMBO	**Kilima Mbogo**	**145.90**	**243**	PKPbc		**PKPab**		**22 12 08.0**	**+1.1**
KMBO	**Kilima Mbogo**	**145.90**	**243**	PKPbc		**PKPab**		**22 12 08.0**	**+1.1**
	baz=104,slow=3.0,SNR=8.9								
KHC	**Kasperske Hory**	**146.23**	**352**	*i* PKP2		**PKPab**		**22 12 06.7**	**-0.1**
KHC	**Kasperske Hory**	**146.23**	**352**	*i* PKP		**PKPab**		**22 12 06.7**	**-0.1**
KHC				*ex*		x		22 12 16.6	
GERES	**GERESS Array B**	**146.49**	**352**	PKPbc		**PKPab**		**22 12 08.4**	**+0.5**
GERES	**GERESS Array B**	**146.49**	**352**	PKPbc		**PKPab**		**22 12 08.4**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=27,slow=6.7,SNR=2.8								
BRTR	**Keskin Array B**	**146.72**	**321**	PKPbc		**PKPab**		**22 12 09.6**	**+0.4**
BRTR	**Keskin Array B**	**146.72**	**321**	PKPbc		**PKPab**		**22 12 09.6**	**+0.4**
	baz=145,slow=0.9,SNR=6.5								
TORD	**Torodi Ar. Bea**	**174.13**	**115**	PKP		**PKPdf**		**22 12 35.5**	**-0.7**
TORD				PKPab		**PKPab**		**22 14 05.3**	**-2.5**
TORD	**Torodi Ar. Bea**	**174.13**	**115**	PKP		**PKPdf**		**22 12 35.5**	**-0.7**
	comp=Z,1.2nm,0.9s,baz=276,slow=1.3,SNR=4.8								
TORD				PKPab		**PKPab**		**22 14 05.3**	**-2.5**
	baz=263,slow=2.8,SNR=5.0								

*IDC **29** 21:55:15.8±0.7, 15°.09S×173°.23W, h0km, mb3.9/11, mb1 4.1/11, mb1mx4.0/20, mbtmp3.9/11, Error ellipse: s-maj=27.9km s-min=19.0km az=114.0*
*NEIC **29** 21:55:16.9±0.5, 15°.13S×173°.22W, h10km, mb4.3/1, Error ellipse: s-maj=24.4km s-min=8.7km az=146.0*
*ISCJB **29** 21:55:18.5±0.6, 15°.1S±0°.1×173°.3W±0°.1, h29km, mb3.9/12, Error ellipse: s-maj=19.7km s-min=12.1km az=138.5*
ISC 29 21:55:19.9±0.6, 15°.1S±0°.1×173°.2W±0°.1, h29km, n36,
σ0°83/35, mb4.0/12, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.83**	**50**	*e*Pn		**Pn**		**21 55 48.4**	**-1.1**
AFI	**Afiamal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.72**	**62**	Sn	Sn	21 59 12.3	-13
82nm,0.3s,baz=50,slow=22,SNR=3.5							
STKA	**Stephens Creek**	**43.42**	**240**	P	P	22 06 12.5	+1.1
0.5nm,0.4s,baz=90,slow=9.1,SNR=3.3							
WRA	**Warramunga Arr**	**49.09**	**257**	P	P	22 06 56.9	+0.6
0.2nm,0.3s,baz=96,slow=8.5,SNR=5.1							
ASAR	**Alice Springs**	**49.39**	**252**	P	P	22 06 56.6	-1.9
1.7nm,0.7s,baz=87,slow=8.1,SNR=4.7							
PDAR	**Pinedale Array**	**82.67**	**42**	P	P	22 10 32.5	+0.1
0.6nm,1.0s,baz=214,slow=7.7,SNR=2.9							
BRTR	**Keskin Array B**	**145.50**	**320**	PKPbc	PKPdf	22 17 46.3	-1.0
0.6nm,0.7s,baz=28,slow=3.4,SNR=2.8							

IDC 29 21:58:50.7±1.1, 15.20S×173.21W, h0km, mb4.0/6, mb1 4.2/6, mb1mx4.0/18, mbtmp4.0/6, Error ellipse: s-maj=44.0km s-min=27.6km az=119.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**44.29**	**240**	P	P	22 07 02.0	-0.5
4.2nm,0.8s,baz=69,slow=9.7,SNR=4.2							
WRA	**Warramunga Arr**	**50.07**	**257**	P	P	22 07 47.4	-0.4
1.2nm,0.8s,baz=92,slow=6.6,SNR=6.2							
ASAR	**Alice Springs**	**50.34**	**252**	P	P	22 07 49.6	-0.3
2.5nm,0.6s,baz=87,slow=8.9,SNR=4.8							
VNDA	**Vanda**	**63.59**	**186**	P	P	22 09 23.5	+0.6
0.6nm,0.8s,baz=356,slow=9.1,SNR=2.2							
ILAR	**Eielson Array**	**82.22**	**11**	P	P	22 11 11.5	-1.9
0.3nm,0.7s,baz=232,slow=4.4,SNR=3.1							
MAW	**Mawson**	**88.03**	**199**	P	P	22 11 40.9	-1.7
0.7nm,0.3s,baz=105,slow=6.0,SNR=3.6							
GERES	**GERESS Array B**	**145.97**	**352**	PKPbc	PKPab	22 18 33.6	+0.6
0.5nm,0.8s,baz=22,slow=3.5,SNR=2.4							
BRTR	**Keskin Array B**	**146.12**	**321**	PKPbc	PKPab	22 18 34.5	+0.6
baz=62,slow=1.4,SNR=4.7							

WEL 29 22:02:03.7±0.4, 44.57S×175.48E, h33km, ML3.7/17, 1C, Error ellipse: s-maj=3.2km s-min=2.7km az=90.0, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MQZ	**McQueen's Vall**	**2.21**	**292**	PN	Pn	22 02 36.6	-1.4
MQZ				SN	Sn	22 03 02.0	-2.2
KHZ	**Kahutara**	**2.58**	**326**	PN	Pn	22 02 42.7	-0.4
KHZ				SN	Sn	22 03 11.5	-1.7
KHZ				AML	AML	22 03 14.8	
OXZ	**Oxford**	**2.78**	**295**	PN	Pn	22 02 44.7	-1.2
OXZ				SN	Sn	22 03 16.2	-2.2
PLWZ	**Palliser**	**3.00**	**357**	PN	Pn	22 02 48.2	-0.9
PLWZ				SN	Sn	22 03 22.0	-1.9
BSWZ	**Blackbirch Sta**	**3.09**	**337**	PN	Pn	22 02 49.9	-0.2
MSWZ	**Moikau Station**	**3.16**	**357**	PN	Pn	22 02 49.5	-1.6
TRWZ	**Traveller**	**3.17**	**3**	PN	Pn	22 02 50.0	-1.3
PAWZ	**Paruwai Farm**	**3.19**	**359**	PN	Pn	22 02 50.0	-1.5
SNZO	**South Karori**	**3.31**	**350**	PN	Pn	22 02 52.7	-0.4
THZ	**Tophouse**	**3.38**	**325**	PN	Pn	22 02 54.4	+0.2
THZ				AML	AML	22 03 36.8	
THZ				AML	AML	22 03 43.4	
MTW	**Mount Morrison**	**3.41**	**0**	PN	Pn	22 02 52.9	-1.7
TCW	**Tory Channel**	**3.47**	**345**	PN	Pn	22 02 55.0	-0.4
ODZ	**Otahua Downs**	**3.48**	**260**	PN	Pn	22 02 54.9	-0.5
TMWZ	**Te Maipa**	**3.48**	**5**	PN	Pn	22 02 54.1	-1.4
HOWZ	**Holdsworth Sta**	**3.67**	**0**	PN	Pn	22 02 56.4	-1.7
CPWZ	**Castlepoint**	**3.70**	**8**	PN	Pn	22 02 57.6	-0.9
KIW	**Kapiti Island**	**3.73**	**353**	PN	Pn	22 02 58.4	-0.6
OGWZ	**Otaki Gorge**	**3.76**	**356**	PN	Pn	22 02 57.9	-1.4
MRZ	**Mangatainoka R**	**3.91**	**1**	PN	Pn	22 02 59.9	-1.5
DUWZ	**D'Urville Isla**	**3.94**	**342**	PN	Pn	22 03 01.7	-0.1
FOZ	**Fox Glacier**	**4.29**	**282**	AML	AML	22 03 00.2	
QRZ	**Quartz Range**	**4.33**	**329**	PN	Pn	22 03 07.7	+0.5
TUZ	**Tuapeka**	**4.36**	**249**	PN	Pn	22 03 07.0	-0.5
PRHZ	**Porangahau**	**4.38**	**12**	PN	Pn	22 03 06.0	-2.0
EAZ	**Earnscleugh**	**4.43**	**259**	PN	Pn	22 03 09.0	+0.4
TSZ	**Takapari Road**	**4.52**	**5**	PN	Pn	22 03 08.5	-1.4
WKZ	**Wanaka**	**4.62**	**265**	AML	AML	22 03 21.4	
PXZ	**Pawanui**	**4.65**	**13**	⇑PN	Pn	22 03 09.5	-2.0
PNHZ	**Pukenui**	**4.68**	**7**	PN	Pn	22 03 10.7	-1.5
SYZ	**Scrubby Hill**	**4.87**	**244**	PN	Pn	22 03 13.6	-1.0
BHHZ	**Black Hill Sta**	**5.10**	**5**	PN	Pn	22 03 16.6	-1.3
MLZ	**Mavora Lakes**	**5.25**	**259**	PN	Pn	22 03 20.6	+0.8
OTVZ	**Oturere**	**5.40**	**2**	PN	Pn	22 03 21.2	-1.0

*AUST **29** 22:02:30.7±2.8, 21.22S×178.10W, h400km, Error ellipse: s-maj=2.0km s-min=1.5km az=304.0*
*ISCJB **29** 22:02:53.4±0.7, 22.1S±0.2×179.6W±0.1, h592km, mb4.0/11, Error ellipse: s-maj=21.1km s-min=12.1km az=174.8*
*IDC **29** 22:02:54.0±1.9, 22.11S×179.59W, h582km±20km, mb3.5/10, mb1 3.7/11, mb1mx3.5/19, mbtmp3.5/11, Error ellipse: s-maj=19.3km s-min=12.7km az=178.0*

ISC 29 22:02:54.4±0.6, 22.1S±0.2×179.6W±0.1, h592km, n46, σ1.9 05/48, mb3.9/11, 7C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.98**	**267**	P	P	22 05 41.6	-1.6
baz=91,slow=18,SNR=24							
EIDS	**Eidsvold**	**27.05**	**257**	P	P	22 07 51.4	+0.4
baz=28,SNR=6.9							
ARMA	**Armidale**	**27.08**	**246**	P	P	22 07 52.6	+1.2
baz=29,SNR=11							
MGCD	**Mangrove Creek**	**28.15**	**241**	P	P	22 08 01.9	+1.4
baz=30,SNR=5.4							
RMQ	**Roma**	**29.16**	**255**	P	P	22 08 10.8	+1.4
baz=31,SNR=4.0							
CNB	**Canberra Magne**	**30.14**	**237**	P	P	22 08 18.6	+0.9
baz=32,SNR=21							
CTA	**Charters Tower**	**31.92**	**267**	P	P	22 08 33.2	+0.2
7.9nm,0.3s,baz=96,slow=11,SNR=10							
CMSA	**Cobar Meteorol**	**32.29**	**246**	P	P	22 08 36.6	+0.5
baz=34,SNR=8.5							
QLP	**Quilpie**	**33.22**	**255**	P	P	22 08 44.1	+0.1
baz=35,SNR=11							
TOO	**Toolangi**	**33.79**	**235**	P	P	22 08 49.1	+0.5
baz=35,SNR=9.5							
MTSU	**Mount Surprise**	**34.10**	**270**	P	P	22 08 52.1	+0.7
baz=35,SNR=5.8							
STKA	**Stephens Creek**	**35.80**	**246**	P	P	22 09 05.6	+0.3
8.1nm,0.5s,baz=93,slow=10,SNR=30							
STKA	**Stephens Creek**	**35.80**	**246**	P	P	22 09 05.9	+0.6
baz=37,SNR=15							
BBOO	**Buckleboo**	**40.55**	**245**	P	P	22 09 43.4	-0.3
baz=42,SNR=28							
ASAR	**Alice Springs**	**42.76**	**259**	P	P	22 10 01.1	-0.1
8.1nm,0.5s,baz=97,slow=8.0,SNR=22							
ASAR				S	S	22 15 42.6	-0.9
baz=91,slow=15,SNR=6.5							
WRA	**Warramunga Arr**	**42.96**	**264**	P	P	22 10 02.4	-0.5
8.4nm,0.7s,baz=98,slow=8.4,SNR=11							
WRA				ScP	ScP	22 14 37.8	+2.8
baz=94,slow=4.2,SNR=5.0							
WRA				S	S	22 15 47.3	+0.9
baz=100,slow=14,SNR=4.6							
KDU	**Kakadu**	**46.56**	**273**	S	S	22 16 26.3	-11
baz=48,SNR=6.1							
FORT	**Forrest**	**47.34**	**248**	P	P	22 10 36.0	-0.1
baz=49,SNR=7.1							
KNRA	**Kununurra**	**49.12**	**268**	P	P	22 10 49.7	+0.3
baz=50,SNR=3.4							
FITZ	**Fitzroy Crossi**	**51.39**	**264**	P	P	22 11 06.4	+0.5
1.7nm,0.3s,baz=50,slow=7.8,SNR=20							
FITZ	**Fitzroy Crossi**	**51.39**	**264**	P	P	22 11 06.5	+0.5
baz=53,SNR=12							
MEEK	**Meekatharra**	**56.03**	**252**	P	P	22 11 38.5	-0.1
baz=58,SNR=3.9							
VNDA	**Vanda**	**56.21**	**185**	P	P	22 11 39.1	+0.3
3.2nm,0.7s,baz=354,slow=7.3,SNR=29							
WSI	**Waingapu**	**58.82**	**272**	P	P	22 12 03.4	+5.8
baz=60,SNR=4.2							
MAW	**Mawson**	**79.58**	**200**	P	P	22 14 01.3	+0.8
3.7nm,0.7s,baz=142,slow=7.1,SNR=10.0							
MAW	**Mawson**	**79.58**	**200**	P	P	22 14 01.1	+0.6
baz=81,SNR=5.1							
SYO	**Syowa Base**	**84.86**	**193**	⇑eP	P	22 14 25.4	-1.7
SNAA	**Sanae**	**86.46**	**179**	P	P	22 14 34.1	-0.7
0.6nm,0.6s,baz=199,slow=13,SNR=6.7							
TXAR	**Lajitas Array**	**89.13**	**58**	P	P	22 14 48.5	+0.4
0.5nm,0.8s,baz=224,slow=2.5,SNR=3.2							
CMAR	**Chiang Mai Arr**	**89.28**	**290**	P	P	22 14 52.3	+3.4
1.0nm,0.3s,baz=139,slow=3.9,SNR=7.6							
PDAR	**Pinedale Array**	**91.11**	**44**	P	P	22 14 56.9	-0.3
0.7nm,0.9s,baz=250,slow=3.0,SNR=4.3							
MKAR	**Makanchi Array**	**111.22**	**313**	PKiKP	PKiKP	22 20 21.4	-0.3
baz=201,slow=0.7,SNR=8.5							
ARCES	**ARCESS Array B**	**130.20**	**349**	PKP	PKPdf	22 20 57.2	-0.1
1.9nm,0.6s,baz=92,slow=4.4,SNR=10							
FINES	**FINESS Array B**	**136.86**	**342**	PKhKP	PKPpre	22 21 03.6	
baz=318,slow=2.6,SNR=4.0							
FINES				PKP	PKiKP	22 21 11.3	-0.6
2.5nm,0.8s,baz=202,slow=2.1,SNR=4.6							
AKASG	**Malin Array Be**	**143.66**	**329**	PKP	PKPdf	22 21 21.5	-1.0
1.8nm,0.3s,baz=42,slow=4.3,SNR=25							
BRTR	**Keskin Array B**	**146.78**	**310**	PKPbc	PKPab	22 21 31.9	-2.6
baz=143,slow=5.0,SNR=11							
UPC	**Upice**	**149.12**	**340**	⇑ePKP	PKPbc	22 21 38.0	+1.4
DPC	**Dobruska-Polom**	**149.16**	**340**	⇑/PKP	PKPbc	22 21 38.5	+1.7
CLL	**Collm**	**149.24**	**345**	⇑/PKPbc	PKPbc	22 21 38.1	+1.3
comp=Z,11nm,0.8s							
CLL				*i* PKPab	PKPab	22 21 45.0	+1.1
BRG	**Berggiesshubel**	**149.39**	**343**	*i* PKP	PKPbc	22 21 38.7	+1.5
comp=Z,7.7nm,0.6s							
PVCC	**Panska Ves**	**149.53**	**342**	⇑ePKP	PKPbc	22 21 39.0	+1.4
PRU	**Pruhonice**	**150.02**	**342**	⇑/PKP	PKPbc	22 21 40.0	+1.3
KHC	**Kasperske Hory**	**151.07**	**342**	⇑/PKP	PKPbc	22 21 42.4	+1.2
KHC				*ex*	x	22 21 53.8	
GERES	**GERESS Array B**	**151.29**	**342**	PKPbc	PKPbc	22 21 42.7	+0.9
baz=33,slow=1.3,SNR=10							
DBIC	**Dimbokro**	**163.84**	**161**	PKP	PKPdf	22 21 50.5	-0.9
comp=Z,2.6nm,0.8s,baz=165,slow=19,SNR=3.6							
TORD	**Torodi Ar. Bea**	**171.03**	**188**	PKP	PKPdf	22 21 56.2	-0.1
comp=Z,0.8nm,0.8s,baz=27,slow=0.4,SNR=5.7							
TORD				PKPab	PKPab	22 23 19.4	-0.1
baz=189,slow=3.2,SNR=8.8							

*AUST **29** 22:08:26.1, 15.03S×173.01W, h0km*
*IDC **29** 22:08:28.6±0.4, 15.42S×173.32W, h0km, mb4.8/25, mb1 4.9/25, mb1mx4.8/29, mbtmp4.8/25, Error ellipse: s-maj=17.9km s-min=11.5km az=130.0*
*NEIC **29** 22:08:30.1±0.2, 15.38S×173.36W, h10km, mb5.1/60, Error ellipse: s-maj=11.0km s-min=4.7km az=141.0*
*BJI **29** 22:08:31.3, 15.10S×173.86W, h6km, mB5.5/14, mb5.1/26, Ms5.6/8, Ms7 5.5/11*
*ISCJB **29** 22:08:32.2±0.2, 15.46S±0.06×173.40W±0.04, h33km, mb4.9/92, MS5.4/5, Error ellipse: s-maj=9.2km s-min=3.7km az=149.0*
*SZGRF **29** 22:08:33.3, 15.85S×172.78W, h33km, Samoa Islands region*
*MOS **29** 22:08:33.4±0.9, 15.26S×173.20W, h33km, mb5.0/14, Error ellipse: s-maj=21.0km s-min=11.9km az=75.3*

ISC 29 22:08:31.4±0.6, 15.38S±0.07×173.39W±0.07, h17km±2km, n555, σ0.9 68/562, mb5.1/92, MS5.4/5, 123C-124D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.14**	**47**	*e*Pn	Pn	22 09 00.0	-6.5
AFI				*e*Sn	Sn	22 09 19.1	-14
AFI	**Afiamalu**	**2.14**	**47**	Pn	Pn	22 08 59.9	-6.5
360nm,0.3s,baz=341,slow=1.3,SNR=21							
AFI				Sn	Sn	22 09 19.9	-13
3μm,0.3s,baz=92,slow=17,SNR=32							
NIUE	**Niue**	**4.95**	**138**	P	Pn	22 09 39.4	-5.6
baz=5.0,SNR=17							
MSVF	**Nonsavu**	**8.53**	**253**	*e*P	Pn	22 10 44.5	+10
MSVF	**Nonsavu**	**8.53**	**253**	*e*Pn	Pn	22 10 44.5	+10
MSVF	**Nonsavu**	**8.53**	**253**	Pn	Pn	22 10 45.2	+11
884nm,0.9s,SNR=7.9							
RAR	**Rarotonga**	**14.17**	**116**	*e*Pn	Pn	22 11 44.8	-6.7
RAR	**Rarotonga**	**14.17**	**116**	Pn	Pn	22 11 43.9	-7.5
6.1nm,0.3s,baz=270,slow=4.9,SNR=8.8							
DZM	**Mont Dzumac**	**20.21**	**248**	*e*P	P	22 13 06.0	+0.2
59nm,0.9s							
DZM	**Mont Dzumac**	**20.21**	**248**	P	Pn	22 13 07.2	-0.6
22nm,0.7s,baz=70,slow=19,SNR=14							
URZ	**Urewera**	**24.29**	**198**	P	P	22 13 47.6	-0.3
8.8nm,0.4s,baz=145,slow=16,SNR=2.8							
RPZ	**Rata Peaks**	**31.20**	**202**	P	P	22 14 48.5	-1.3
RPZ	**Rata Peaks**	**31.20**	**202**	P	P	22 14 48.5	-1.3
10nm,0.6s,baz=350,slow=2.3,SNR=7.1							
EIDS	**Eidsvold**	**34.66**	**248**	*e*P	P	22 15 19.4	-0.9
8.0nm,0.8s							
EIDS	**Eidsvold**	**34.66**	**248**	P	P	22 15 20.5	+0.2
baz=35,SNR=4.6							
ARMA	**Armidale**	**35.36**	**239**	*e*P	P	22 15 26.0	-0.4
10nm,0.7s							
ARMA	**Armidale**	**35.36**	**239**	P	P	22 15 26.3	-0.1
baz=36,SNR=8.6							
RMQ	**Roma**	**36.91**	**246**	P	P	22 15 39.6	0.0
baz=37,SNR=15							
CTA	**Charters Tower**	**38.66**	**257**	P	P	22 15 53.6	-0.8
CTA	**Charters Tower**	**38.66**	**257**	P	P	22 15 53.6	-0.8
4.8nm,0.7s,baz=91,slow=13,SNR=5.8							
CNB	**Canberra Magne**	**38.77**	**232**	P	P	22 15 55.3	0.0
baz=39,SNR=8.9							
MTSU	**Mount Surprise**	**40.53**	**260**	P	P	22 16 10.1	0.0
baz=41,SNR=18							
CMSA	**Cobar Meteorol**	**40.57**	**239**	P	P	22 16 09.7	-0.6
baz=41,SNR=20							
QLP	**Quilpie**	**40.93**	**247**	P	P	22 16 12.3	-1.0
baz=41,SNR=17							
COEN	**Coen**	**41.99**	**266**	*e*P	P	22 16 22.9	+0.8
330nm,0.9s							
COEN	**Coen**	**41.99**	**266**	P	P	22 16 23.5	+1.4
baz=42,SNR=16							
TOO	**Toolangi**	**42.48**	**231**	P	P	22 16 25.7	-0.2
baz=43,SNR=3.9							
STKA	**Stephens Creek**	**44.05**	**240**	*e*P	P	22 16 38.3	-0.3
7.2nm,1.0s							
STKA	**Stephens Creek**	**44.05**	**240**	P	P	22 16 38.4	-0.3
28nm,0.9s,baz=85,slow=8.3,SNR=31							
STKA	**Stephens Creek**	**44.05**	**240**	P	P	22 16 38.4	-0.3
baz=44,SNR=31							
BBOO	**Buckleboo**	**48.83**	**240**	*e*P	P	22 17 15.8	-0.4
333nm,0.8s							
BBOO	**Buckleboo**	**48.83**	**240**	P	P	22 17 15.7	-0.4
baz=49,SNR=19							
WRAB	**Tennant Creek**	**49.85**	**257**	*e*P	P	22 17 23.4	-0.7
WRAB				*e*		22 18 44.1	
WRAB				pmax	pmax		
comp=Z,28nm,1.0s							
WRAB	**Tennant Creek**	**49.85**	**257**	*e*P	P	22 17 23.4	-0.7
comp=Z,28nm,1.0s							
WRAB				*e*PcP	PcP	22 18 44.1	-0.6
WRAB	**Tennant Creek**	**49.85**	**257**	P	P	22 17 23.2	-0.9
comp=Z,160nm,0.8s,SNR=16							
WRA	**Warramunga Arr**	**49.86**	**257**	P	P	22 17 23.6	-0.6
WRA				PcP	PcP	22 18 44.8	+0.1
WRA	**Warramunga Arr**	**49.86**	**257**	P	P	22 17 23.6	-0.6
comp=Z,17nm,0.8s,baz=91,slow=6.9,SNR=123							
WRA				PcP	PcP	22 18 44.8	+0.1
comp=Z,6.4nm,0.7s,baz=91,slow=3.6,SNR=8.0							
AS31	**Alice Springs**	**50.12**	**252**	*e*P	P	22 17 25.4	-0.9
ASAR	**Alice Springs**	**50.12**	**252**	P	P	22 17 25.7	-0.5
ASAR				PcP	PcP	22 18 45.9	+0.2
ASAR	**Alice Springs**	**50.12**	**252**	P	P	22 17 25.7	-0.5
comp=Z,24nm,0.6s,baz=85,slow=8.8,SNR=88							
ASAR				PcP	PcP	22 18 45.9	+0.2
comp=Z,3.8nm,0.7s,baz=96,slow=5.3,SNR=2.8							
KDU	**Kakadu**	**52.48**	**266**	P	P	22 17 46.4	+2.5
baz=53,SNR=3.4							
FORT	**Forrest**	**55.43**	**243**	P	P	22 18 04.2	-1.1
baz=56,SNR=10.0							
KNRA	**Kununurra**	**55.58**	**261**	P	P	22 18 06.2	-0.3
baz=56,SNR=5.0							
FITZ	**Fitzroy Crossi**	**58.22**	**258**	P	P	22 18 25.8	+0.5
comp=Z,2.0nm,0.6s,baz=167,slow=11,SNR=8.3							
FITZ	**Fitzroy Crossi**	**58.22**	**258**	P	P	22 18 26.5	+1.2
baz=59,SNR=6.0							
SOEI	**Soe**	**60.94**	**267**	P	P	22 18 45.6	+1.4
baz=61,SNR=4.5							
SBA	**Scott Base**	**63.27**	**185**	*e*P	P	22 19 01.1	+2.4
SBA				pmax	pmax		
comp=Z,135nm,2.4s							
SBA	**Scott Base**	**63.27**	**185**	*e*P	P	22 19 01.1	+2.4
comp=Z,135nm,2.4s							
VNDA	**Vanda**	**63.40**	**186**	*e*P	P	22 19 01.5	+2.0
comp=Z,6.7nm,1.0s							
VNDA	**Vanda**	**63.40**	**186**	P	P	22 18 59.5	0.0
comp=Z,3.8nm,0.9s,baz=21,slow=6.2,SNR=10							
MEEK	**Meekatharra**	**63.83**	**248**	P	P	22 19 02.7	-0.7
baz=64,SNR=4.1							
KLBR	**Kellerberrin**	**64.25**	**242**	P	P	22 19 05.8	-0.2
baz=65,SNR=14							
NWAO	**Narrogin (SRO)**	**64.64**	**241**	P	P	22 19 07.9	-0.6
NWAO	**Narrogin (SRO)**	**64.64**	**241**	P	P	22 19 07.9	-0.6
comp=Z,12nm,1.0s,baz=116,slow=2.5,SNR=5.6							
BLDU	**Ballidu**	**65.21**	**243**	P	P	22 19 12.1	-0.2
baz=66,SNR=5.6							
MORW	**Morawa**	**65.90**	**245**	P	P	22 19 16.9	+0.1
baz=66,SNR=3.5							
MAJO	**Matsushiro**	**68.93**	**320**	*e*P	P	22 19 36.4	+0.7
CASY	**Casey**	**70.43**	**205**	*e*P	P	22 19 44.6	+0.2
comp=Z,13nm,1.0s							
ASAJ	**Asahikawa**	**71.53**	**328**	P	P	22 19 52.8	+1.4
ASAJ	**Asahikawa**	**71.53**	**328**	P	P	22 19 52.8	+1.4
comp=Z,23nm,0.8s,baz=229,slow=7.7,SNR=10							
JNU	**Nakatsue**	**71.79**	**313**	*e*P	P	22 19 54.2	+0.9
JNU	**Nakatsue**	**71.79**	**313**	P	P	22 19 53.6	+0.3
comp=Z,8.8nm,0.8s,baz=58,slow=6.0,SNR=5.6							
BFSC	**Mount Baldy Ra**	**72.40**	**46**	⇓P	P	22 19 57.1	0.0
baz=72							
EDW2	**Edwards Air Fo**	**72.53**	**45**	⇓P	P	22 19 58.2	+0.5
baz=73							
MONP	**Monument Peak**	**72.55**	**48**	⇑P	P	22 19 58.1	+0.1
baz=73							
PETK	**Petropavlovsk-**	**72.61**	**342**	P	P	22 19 58.7	+1.0
PETK	**Petropavlovsk-**	**72.61**	**342**	P	P	22 19 58.7	+1.0
PETK	**Petropavlovsk-**	**72.61**	**342**	P	P	22 19 58.7	+1.0
comp=Z,21nm,0.7s,baz=141,slow=9.7,SNR=29							
ISA	**Isabella**	**72.63**	**44**	⇓P	P	22 19 58.7	+0.4
baz=73							
BELC	**Belle Mtn. Jos**	**73.43**	**47**	⇑P	P	22 20 03.1	-0.1
baz=74							
YSS	**Yuzh-Sakhalins**	**73.47**	**330**	*e*P	P	22 20 04.6	+1.7
MPMC	**Manual Prospec**	**73.52**	**44**	⇑P	P	22 20 03.7	0.0
baz=74							
GSC	**Goldstone**	**73.57**	**45**	*e*P	P	22 20 04.0	+0.1
GSC				pmax	pmax		
comp=Z,11nm,1.3s							
GSC	**Goldstone**	**73.57**	**45**	*e*P	P	22 20 04.0	+0.1
comp=Z,11nm,1.3s							
GSC	**Goldstone**	**73.57**	**45**	⇓P	P	22 20 04.2	+0.3
baz=74							
YBH	**Yreka Blue Hor**	**73.58**	**37**	P	P	22 20 04.0	+0.2
YBH	**Yreka Blue Hor**	**73.58**	**37**	P	P	22 20 04.0	+0.2
comp=Z,8.9nm,0.8s,baz=258,slow=1.2,SNR=18							
HEC	**Hector,Ludlow**	**73.64**	**46**	⇑P	P	22 20 04.6	+0.3
baz=74							
GLA	**Glamis**	**73.77**	**48**	⇑P	P	22 20 05.4	+0.3
baz=74							
GMRC	**Granite Mounta**	**74.08**	**46**	⇓P	P	22 20 07.1	+0.1
baz=74							
IRM	**Iron Mountain**	**74.11**	**47**	⇓P	P	22 20 06.9	-0.2
baz=74							
TUQ	**Turquoise Moun**	**74.25**	**46**	⇑P	P	22 20 07.8	-0.1
baz=74							
SHOC	**Shoshone**	**74.25**	**45**	⇓P	P	22 20 07.9	+0.1
baz=74							
NVAR	**Mina Array Bea**	**74.31**	**42**	P	P	22 20 08.4	+0.1
NVAR	**Mina Array Bea**	**74.31**	**42**	P	P	22 20 08.5	+0.1
comp=Z,1.5nm,0.3s,baz=225,slow=8.9,SNR=6.2							
Y12C	**Blythe**	**74.35**	**48**	⇑P	P	22 20 08.4	0.0
baz=74							
113A	**Mohawk Valley,**	**74.40**	**49**	⇓P	P	22 20 08.9	+0.2
baz=74							
QSPA	**South Pole Qui**	**74.66**	**180**	*e*P	P	22 20 10.3	+0.4
comp=Z,22nm,1.0s							
214A	**Organ Pipe Nat**	**74.69**	**50**	⇑P	P	22 20 10.6	+0.1
baz=75							
KDAK	**Kodiak Island**	**74.90**	**11**	P	P	22 20 11.2	+0.2
KDAK	**Kodiak Island**	**74.90**	**11**	P	P	22 20 11.2	+0.2
comp=Z,14nm,0.8s,baz=211,slow=6.1,SNR=12							
PDMCI	**Parker Dam,Lak**	**74.90**	**47**	⇑P	P	22 20 12.1	+0.5
baz=75							
MOD	**Modoc**	**75.10**	**38**	*e*P	P	22 20 13.0	+0.2
comp=Z,48nm,0.9s							
K05A	**Summer Lake**	**75.25**	**37**	*e*P	P	22 20 14.3	+0.6
comp=Z,327nm,2.7s							
SHPR	**Sheep Range**	**75.34**	**45**	*e*P	P	22 20 14.8	+0.5
Y14A	**Wickenburg**	**75.53**	**48**	⇓P	P	22 20 15.4	+0.1
baz=76							
H04A	**Detroit Lake**	**75.73**	**35**	*e*P	P	22 20 16.4	+0.2
comp=Z,119nm,1.8s							
R11A	**Troy Canyon, C**	**76.04**	**43**	*e*P	P	22 20 17.0	-1.3
comp=Z,4.9nm,1.2s							
R11A	**Troy Canyon, C**	**76.04**	**43**	⇓P	P	22 20 18.5	+0.3
baz=76							
KSRS	**Korea Array**	**

BMRM	Bremner River	79.50	14	eP	P	22 20 36.6	-0.2
	comp=Z,31nm,1.0s						
B08A	Colville Reser	79.56	33	eP	P	22 20 36.9	-0.6
	comp=Z,38nm,1.6s						
X21A	Alamocita Cree	79.58	50	⇓P	P	22 20 38.3	+0.1
	baz=80						
HLID	Hailey	79.61	39	eP	P	22 20 38.4	+0.3
	comp=Z,21nm,1.0s						
HLID	Hailey	79.61	39	⇑P	P	22 20 38.4	+0.3
	baz=80,SNR=13						
Z22A	Elephant Butte	79.67	51	⇑P	P	22 20 38.5	0.0
	baz=80,SNR=7.4						
HVU	Hansel Valley	79.69	41	eP	P	22 20 38.5	0.0
HVU				pmax	pmax		
	comp=Z,17nm,1.1s						
HVU	Hansel Valley	79.69	41	eP	P	22 20 38.5	0.0
	comp=Z,17nm,1.1s						
V20A	Brimhall	79.70	48	⇑P	P	22 20 38.6	-0.1
	baz=80						
C09A	Chrisman Ranch	79.79	34	eP	P	22 20 39.0	+0.3
	comp=Z,53nm,1.8s						
SRU	San Rafael	79.82	45	eP	P	22 20 39.6	+0.3
SRU				pmax	pmax		
	comp=Z,14nm,1.2s						
SRU	San Rafael	79.82	45	eP	P	22 20 39.6	+0.3
	comp=Z,14nm,1.2s						
U20A	Newcomb	79.92	48	⇑P	P	22 20 40.3	+0.4
	baz=80						
Y22A	Socorro	79.96	51	⇓P	P	22 20 40.1	-0.1
	baz=80,SNR=5.6						
324A	Moseley Ranch,	80.02	54	⇑P	P	22 20 40.4	-0.1
	baz=80,SNR=8.3						
425A	Indio Mountain	80.14	54	⇑P	P	22 20 41.0	-0.1
	baz=80,SNR=12						
X22A	Bernardo	80.18	50	⇑P	P	22 20 41.5	+0.2
	baz=80						
Z23A	Rita Site, Whi	80.22	52	⇑P	P	22 20 41.9	+0.3
	baz=80						
224A	Cornudas Mount	80.26	53	⇓P	P	22 20 41.7	-0.1
	baz=80,SNR=9.6						
CAST	Castle Rocks	80.28	10	eP	P	22 20 39.2	-1.7
	comp=Z,41nm,2.2s						
BNM	Barren Site	80.31	51	eP	P	22 20 42.2	+0.1
	comp=Z,7.3nm,1.0s						
BNM				ePcP	PcP	22 20 50.2	+1.0
626A	Big Bend Ranch	80.31	56	⇓P	P	22 20 41.8	-0.3
	baz=80,SNR=9.9						
MVCO	Mesa Verde	80.32	47	⇑P	P	22 20 42.2	+0.1
	baz=80						
HWUT	Hardware Ranch	80.38	42	eP	P	22 20 41.5	-0.8
LPM	Los Pinos Moun	80.38	50	eP	P	22 20 42.7	+0.2
	comp=Z,6.6nm,1.0s						
LPM				ePcP	PcP	22 20 49.8	+0.3
526A	Mary Lane Ranc	80.55	55	⇓P	P	22 20 43.2	-0.2
	baz=81,SNR=12						
U21A	Nageezi	80.57	48	⇓P	P	22 20 44.0	+0.6
	baz=81,SNR=18						
TXAR	Lajitas Array	80.59	56	P	P	22 20 43.4	-0.2
TXAR	Lajitas Array	80.59	56	P	P	22 20 43.4	-0.2
	comp=Z,4.9nm,1.0s,baz=218,slow=5.9,SNR=29						
Y23A	Lovelace Mesa,	80.64	51	⇑P	P	22 20 43.8	-0.1
	baz=81,SNR=6.8						
NEW	Newport	80.69	34	eP	P	22 20 43.4	-0.2
	comp=Z,12nm,1.4s						
NEW	Newport	80.69	34	⇓P	P	22 20 43.4	-0.2
	baz=81						
S20A	Disappointment	80.71	47	⇑P	P	22 20 44.2	0.0
	baz=81,SNR=7.9						
ANMO	Albuquerque	80.78	50	eP	P	22 20 44.9	+0.3
	comp=Z,6.4nm,0.8s						
225A	Deer Hill, Car	80.81	53	⇑P	P	22 20 44.7	0.0
	baz=81,SNR=8.5						
X23A	Hourglass Bar	80.82	50	⇓P	P	22 20 44.9	0.0
	baz=81,SNR=5.2						
426A	McDonald Obser	80.84	55	⇓P	P	22 20 44.8	-0.3
	baz=81,SNR=17						
PV15	Paradox Valley	80.86	46	eP	P	22 20 42.7	-2.3
627A	Terlingua Ranc	80.86	56	⇓P	P	22 20 45.2	+0.2
	baz=81,SNR=16						
V22A	San Miguel Ran	80.88	49	⇓P	P	22 20 45.5	+0.4
	baz=81						
Z24A	Sheeppen Canyo	80.91	52	⇑P	P	22 20 45.0	-0.3
	baz=81,SNR=5.3						
T21A	Navajo Lake	80.91	48	⇑P	P	22 20 45.2	0.0
	baz=81						
527A	Woodward Ranch	80.96	55	⇓P	P	22 20 45.4	-0.2
	baz=81,SNR=11						
CN2	Changchun	81.08	320	eP	P	22 20 46.8	+1.1
CN2				esP	sP	22 20 53.0	-0.4
CN2				eS	S	22 30 55.0	+0.5
CN2				pmax	pmax		
	comp=Z,20nm,1.2s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,1µm,19.0s						
CN2				LR	LR		
	comp=E,1µm,19.0s						
CN2				LR	LR		
	comp=Z,2µm,21.0s						
MCK	McKinley	81.10	11	eP	P	22 20 45.5	+0.1
MCK				pmax	pmax		
	comp=Z,52nm,1.3s						
MCK	McKinley	81.10	11	eP	P	22 20 45.5	+0.1
	comp=Z,52nm,1.3s						
W23A	Werner Place,	81.10	50	⇑P	P	22 20 46.4	0.0
	baz=81						
Y24A	Capitan	81.11	51	⇓P	P	22 20 46.3	0.0
	baz=81,SNR=16						
U22A	Llaves	81.12	49	⇑P	P	22 20 46.4	-0.1
	baz=81						
P19A	Cripple Cowboy	81.12	45	⇑P	P	22 20 46.5	+0.2
	baz=81						
326A	Caldwell Ranch	81.14	54	⇑P	P	22 20 46.4	-0.1
	baz=81						
125A	Gardner Draw,	81.17	53	⇑P	P	22 20 46.1	-0.4
	baz=81,SNR=5.8						
HYT	Haines Junctio	81.19	17	eP	P	22 20 46.8	+0.7
MCMT	McKenzie Canyo	81.23	39	eP	P	22 20 46.6	-0.2
	comp=Z,11nm,1.1s						
Q20A	Ridgley Place,	81.28	46	⇓P	P	22 20 47.2	+0.1
	baz=81,SNR=5.1						
628A	Black Gap, Mar	81.28	56	⇑P	P	22 20 47.1	-0.1
	baz=81,SNR=8.4						
226B	Tecolote Peak,	81.31	53	⇓P	P	22 20 47.1	-0.2
	baz=81,SNR=12						
V23A	Ortiz Mt. (NFS	81.33	49	⇓P	P	22 20 47.7	+0.2
	baz=82,SNR=7.3						
O19A	Miners Draw (B	81.34	44	⇑P	P	22 20 47.1	-0.3
	baz=82						
T22A	Edith	81.37	48	⇓P	P	22 20 47.7	-0.1
	baz=82,SNR=5.7						
X24A	Lazy VL Ranch,	81.38	51	⇑P	P	22 20 47.4	-0.4
	baz=82,SNR=5.1						
Z25A	Roswell	81.38	52	⇑P	P	22 20 47.8	+0.1
	baz=82						
427A	Hayter Ranch,	81.41	55	⇓P	P	22 20 47.5	-0.4
	baz=82,SNR=10						
RRI2	Red Ridge	81.41	41	eP	P	22 20 48.0	+0.1
	comp=Z,19nm,1.0s						
MENT	Mentasta	81.43	13	eP	P	22 20 46.9	-0.3
P20A	De Beque	81.46	45	⇓P	P	22 20 48.1	0.0
	baz=82,SNR=8.1						
R21A	Cimarron	81.52	46	⇑P	P	22 20 48.8	+0.2
	baz=82,SNR=5.0						
U23A	El Rito	81.58	49	⇓P	P	22 20 48.9	0.0
	baz=82,SNR=14						
126A	Clayton Basin,	81.65	53	⇓P	P	22 20 49.2	+0.1
	baz=82						
MSO	Missoula	81.66	37	eP	P	22 20 48.3	-0.6
	comp=Z,28nm,1.3s						
MSO	Missoula	81.66	37	⇑P	P	22 20 48.6	-0.2
	baz=82,SNR=9.8						
Y25A	Mesa, Roswell	81.66	52	⇓P	P	22 20 49.2	-0.1
	baz=82,SNR=8.2						
W24A	Lazy 6 Ranch,	81.67	50	⇓P	P	22 20 49.2	-0.1
	baz=82,SNR=7.4						
REDW	Red Top Meadow	81.71	41	eP	P	22 20 49.4	0.0
	comp=Z,24nm,1.3s						
TPAW	Teton Pass	81.72	41	eP	P	22 20 49.8	+0.3
	comp=Z,21nm,1.1s						
Q21A	Lamborn Mesa,	81.72	46	⇓P	P	22 20 50.0	+0.6
	baz=82						
BSMT	Bassoo Peak	81.74	36	eP	P	22 20 48.5	-0.9
	comp=Z,22nm,1.0s						
S22A	4UR Ranch, Cre	81.75	47	⇑P	P	22 20 49.8	0.0
	baz=82,SNR=18						
SNOW	Snow King Moun	81.83	41	eP	P	22 20 50.6	+0.6
	comp=Z,21nm,1.0s						
M19A	Rock Springs	81.90	43	⇑P	P	22 20 50.5	+0.1
	baz=82						
428A	Kincaid Ranch,	81.93	55	⇑P	P	22 20 50.9	+0.2
	baz=82						
IMW	Indian Meadow	81.93	40	eP	P	22 20 50.9	+0.3
	comp=Z,31nm,1.4s						
Z26A	Caprock	81.94	52	⇓P	P	22 20 50.2	-0.4
	baz=82,SNR=13						
X25A	Clemmons Ranch	81.94	51	⇑P	P	22 20 50.1	-0.6
	baz=82,SNR=11						
V24A	Rampart Ranch,	81.99	50	⇑P	P	22 20 51.2	+0.1
	baz=82						
LOHW	Long Hollow	82.00	41	eP	P	22 20 50.6	-0.2
	comp=Z,11nm,1.1s						
LRM	Limekiln Ridge	82.00	38	eP	P	22 20 50.3	-0.5
	comp=Z,75nm,1.0s						
T23A	Casias Ranch,	82.00	48	⇓P	P	22 20 51.2	+0.1
	baz=82						
R22A	Saguache, Gunn	82.02	47	⇓P	P	22 20 51.2	0.0
	baz=82						
529A	Stev Forest Ra	82.06	56	⇑P	P	22 20 51.2	-0.1
	baz=82						
328A	Wristen Ranch,	82.08	55	⇓P	P	22 20 50.8	-0.6
	baz=82,SNR=5.9						
QLMT	Earthquake Lak	82.10	39	eP	P	22 20 51.2	-0.2
	comp=Z,1.4nm,0.2s						
CHMT	Chamberlain Mo	82.10	37	eP	P	22 20 50.3	-1.0
	comp=Z,12nm,1.0s						
P21A	Newcastle	82.12	45	⇓P	P	22 20 51.9	+0.3
	baz=82						
FLWY	Flagg Ranch	82.17	40	eP	P	22 20 52.3	+0.5
	comp=Z,30nm,1.1s						
127A	Arkansas Junct	82.17	53	⇑P	P	22 20 52.1	+0.2
	baz=82						
N20A	Spence Gulch,	82.17	44	⇑P	P	22 20 52.2	+0.3
	baz=82						
Q22A	Crested Butte,	82.19	46	⇓P	P	22 20 52.1	0.0
	baz=82,SNR=13						
PDAR	Pinedale Array	82.25	42	P	P	22 20 51.6	-0.6
PDAR	Pinedale Array	82.25	42	P	P	22 20 51.6	-0.6
	comp=Z,6.2nm,1.0s,baz=220,slow=3.5,SNR=32						
SMCO	Snowmass	82.29	46	eP	P	22 20 52.8	+0.1
	comp=Z,23nm,1.4s						
Y26A	Elida	82.32	52	⇑P	P	22 20 52.5	-0.2
	baz=82						
COLA	College	82.34	11	eP	P	22 20 51.0	-0.8
COLA				pmax	pmax		
	comp=Z,87nm,1.0s						
COLA	College	82.34	11	eP	P	22 20 51.0	-0.8
	comp=Z,87nm,1.0s						
W25A	X Bar L Ranch,	82.38	50	⇑P	P	22 20 52.2	-0.8
	baz=82						
H17A	Grant Village	82.41	40	⇑P	P	22 20 54.0	+0.9
	baz=83						
O21A	Pagoda	82.42	45	⇓P	P	22 20 53.2	0.0
	baz=83						
ILAR	Eielson Array	82.42	11	P	P	22 20 51.8	-0.5
ILAR	Eielson Array	82.42	11	P	P	22 20 51.8	-0.5
	comp=Z,2.7nm,0.6s,baz=232,slow=6.6,SNR=20						
IM04	Indian Mountai	82.44	8	eP	P	22 20 52.6	+0.2
T24B	San Luis	82.49	48	⇓P	P	22 20 53.9	+0.2
	baz=83						
SEY	Seymchan	82.50	345	⇑eP	P	22 20 53.2	+0.5
429A	Davenport Ranc	82.51	56	⇓P	P	22 20 53.2	-0.5
	baz=83,SNR=13						
V25A	Rancho No Teng	82.52	50	⇓P	P	22 20 53.8	0.0
	baz=83,SNR=9.0						
M20A	Sweetwater, Wa	82.53	43	⇓P	P	22 20 53.6	-0.2
	baz=83,SNR=6.0						
Z27A	Tatum	82.54	53	⇑P	P	22 20 54.0	+0.2
	baz=83						
IMA2	Indian Mountai	82.54	8	eP	P	22 20 52.6	-0.4
228A	UT Block 9, Go	82.55	54	⇑P	P	22 20 53.4	-0.5
	baz=83						
X26A	CR and CF Fran	82.59	51	⇓P	P	22 20 53.4	-0.7
	baz=83,SNR=5.8						
P22A	Eagle	82.63	46	⇓P	P	22 20 54.2	-0.1
	baz=83						
N21A	Black Mountain	82.64	44	⇑P	P	22 20 54.7	+0.4
	baz=83						
L20A	Wamsutter	82.67	43	⇓P	P	22 20 54.6	+0.1
	baz=83,SNR=9.7						
K19A	Absolon Red Bu	82.73	42	⇓P	P	22 20 54.0	-0.7
	baz=83,SNR=5.8						
530A	J-C Ranch, Com	82.78	56	⇑P	P	22 20 55.0	0.0
	baz=83						
329A	Wagon Wheel Ra	82.78	55	⇓P	P	22 20 54.6	-0.5
	baz=83,SNR=5.3						
Y27A	Causey	82.81	52	⇑P	P	22 20 54.6	-0.6
	baz=83,SNR=5.4						
J19A	Crowheart	82.81	42	⇑P	P	22 20 55.2	+0.1
	baz=83,SNR=9.7						
128A	Castleberry Fa	82.83	53	⇑P	P	22 20 55.1	-0.2
	baz=83						
HRY	Holter Researc	82.83	38	eP	P	22 20 54.7	-0.3
	comp=Z,25nm,0.8s						
W26A	Owens Ranch, T	82.84	51	⇓P	P	22 20 55.6	+0.2
	baz=83						
S24A	Houchin Ranch,	82.86	48	⇑P	P	22 20 55.6	0.0
	baz=83,SNR=10						
QIZ	Qiongzhong	82.91	292	P	P	22 20 55.3	-0.6
QIZ				S	S	22 31 10.5	-3.9
QIZ				pmax	pmax		
	comp=Z,48nm,2.0s						
U25A	Circle Dot Ran	82.91	49	⇑P	P	22 20 55.5	-0.3
	baz=83,SNR=14						
Q23A	Hartsel	82.97	47	⇓P	P	22 20 56.1	0.0
	baz=83,SNR=12						
K20A	Yellowstone Ra	82.98	42	⇓P	P	22 20 55.9	-0.1
	baz=83						
O22A	Kremmling	83.03	45	⇓P	P	22 20 56.2	-0.2
	baz=83,SNR=12						
430A	Baggett Ranch,	83.10	56	⇑P	P	22 20 56.3	-0.4
	baz=83						
H18A	Shoshone NF, C	83.11	40	⇑P	P	22 20 56.6	-0.1
	baz=83,SNR=6.1						
631A	Perdido Creek	83.11	57	⇑P	P	22 20 56.0	-0.7
	baz=83,SNR=8.7						
V26A	Tequesquite Ra	83.12	50	⇑P	P	22 20 56.3	-0.5
	baz=83,SNR=5.9						
MSTX	Muleshoe	83.14	52	eP	P	22 20 56.7	-0.2
MSTX	Muleshoe	83.14	52	⇑P	P	22 20 56.8	-0.1
	baz=83						
X27A	F and S Farms,	83.17	51	⇓P	P	22 20 57.1	+0.1
	baz=83						
Z28A	Tucker Farm, M	83.17	53	⇑P	P	22 20 57.0	-0.1
	baz=83						
P23A	Jefferson	83.17	46	⇓P	P	22 20 57.4	+0.2
	baz=83,SNR=5.6						
R24A	Sanders Place,	83.19	47	⇑P	P	22 20 57.1	0.0
	baz=83,SNR=8.0						
I19A	Meeteetse	83.22	41	⇓P	P	22 20 57.4	+0.2
	baz=83,SNR=10						
T25A	Trinidad	83.22	49	⇓P	P	22 20 57.2	-0.2
	baz=83,SNR=8.5						
L21A	Rawlins	83.29	43	⇑P	P	22 20 57.4	-0.3
	baz=83						
129A	Stewart Farms,	83.31	54	⇑P	P	22 20 57.6	-0.2
	baz=83						
W27A	Bowe Ranch, En	83.36	51	⇓P	P	22 20 58.0	-0.1
	baz=84,SNR=14						
N22A	Wattenberg Ran	83.38	45	⇑P	P	22 20 58.0	-0.1
	baz=84,SNR=10						
330A	Mertzon	83.38	55	⇓P	P	22 20 57.3	-0.9
	baz=84						
U26A	Atchley Ranch,	83.40	50	⇓P	P	22 20 58.1	-0.2
	baz=84,SNR=14						
531A	Rocksprings	83.42	56	⇑P	P	22 20 57.9	-0.4
	baz=84,SNR=12						
S25A	Robets Cordova	83.42	48	⇓P	P	22 20 58.2	-0.2
	baz=84,SNR=12						
Q24A	Divide	83.47	47	⇓P	P	22 20 58.2	-0.5
	baz=84,SNR=9.8						
J20A	Shoshoni	83.47	42	⇓P	P	22 20 58.6	+0.1
	baz=84,SNR=20						
O23A	Lake Granby, G	83.48	45	⇓P	P	22 20 58.7	-0.1
	baz=84						
ISCO	Idaho Springs	83.51	46	eP	P	22 20 58.9	0.0
ISCO				pmax	pmax		
	comp=Z,7.0nm,1.0s						
ISCO	Idaho Springs	83.51	46	eP	P	22 20 58.9	0.0
	comp=Z,6.9nm,1.0s						
ISCO	Idaho Springs	83.51	46	⇑P	P	22 20 59.0	0.0
	baz=84						
Y28A	McKinney Farm,	83.52	52	⇓P	P	22 20 58.8	-0.1
	baz=84						
H19A	Powell	83.53	40	⇓P	P	22 20 59.1	+0.4
	baz=84						
M22A	Cedar Creek Ra	83.55	44	⇑P	P	22 20 58.5	-0.6
	baz=84,SNR=6.1						
230A	Sterling City	83.61	55	⇓P	P	22 20 59.2	-0.1
	baz=84						
Z29A	Hungry Hill Ra	83.68	53	⇓P	P	22 20 59.5	-0.2
	baz=84,SNR=5.7						
K21A	Alcova	83.68	43	⇓P	P	22 20 59.2	-0.4
	baz=84,SNR=5.0						
I20A	Worland	83.73	41	⇓P	P	22 20 59.6	-0.1
	baz=84,SNR=17						
R25A	Fountain Ranch	83.74	48	⇓P	P	22 20 59.6	-0.4
	baz=84,SNR=7.3						
N23A	Red Feather La	83.77	45	⇓P	P	22 21 00.0	-0.2
	baz=84,SNR=8.7						
632A	Uvalde	83.79	57	⇓P	P	22 21 00.3	+0.1
	baz=84						
X28A	Dimmitt	83.80	52	⇓P	P	22 21 00.1	-0.2
	baz=84						
T26A	Comanche Natio	83.83	49	⇓P	P	22 21 00.4	-0.1
	baz=84						
J21A	Lysite	83.88	42	⇑P	P	22 21 00.4	-0.2
	baz=84,SNR=9.2						
532A	Rocksprings	83.92	57	⇓P	P	22 21 00.5	-0.4
	baz=84						
L22A	Ellis Ranch, M	83.94	44	⇓P	P	22 21 00.7	-0.3
	baz=84,SNR=7.2						
130A	Snyder	84.00	54	⇑P	P	22 21 01.2	-0.1
	baz=84						
H20A	Greybull	84.06	41	⇓P	P	22 21 01.6	+0.2
	baz=84						
U27A	Thompson Grove	84.08	50	⇓P	P	22 21 01.2	-0.5
	baz=84						
Q25A	Bedland, Calha	84.09	47	⇑P	P	22 21 01.5	-0.3
	baz=84						
S26A	Kim	84.10	49	⇑P	P	22 21 01.3	-0.5
	baz=84,SNR=6.7						
COLD	Coldfoot	84.12	9	eP	P	22 21 02.3	+1.3
	comp=Z,27nm,1.4s						
F19A	Roth Farm, Mol	84.13	39	⇓P	P	22 21 01.4	-0.3
	baz=84,SNR=14						
JCT	Junction City	84.13	56	⇑P	P	22 21 01.6	-0.4
	baz=84						
Z30A	Sanderson Ranc	84.14	53	⇑P	P	22 21 01.2	-0.8
	baz=84,SNR=12						
X29A	Tulia	84.14	52	⇓P	P	22 21 01.6	-0.4
	baz=84						
K22A	Casper	84.17	43	⇑P	P	22 21 02.1	0.0
	baz=84						
I21A	Big Trails, Te	84.20	42	⇑P	P	22 21 01.6	-0.5
	baz=84,SNR=22						
231A	Bronte	84.26	55	⇑P	P	22 21 01.6	-1.0
	baz=84,SNR=7.5						
G20A	Bridger	84.28	40	⇓P	P	22 21 02.0	-0.5
	baz=84						
PHWY	Pilot Hill	84.28	45	eP	P	22 21 02.2	-0.6
	comp=Z,9.8nm,1.1s						
432A	Menard	84.28	56	⇓P	P	22 21 01.5	-1.3
	baz=84						
P25A	Willow Gulch B	84.39	47	⇓P	P	22 21 03.2	-0.1
	baz=84,SNR=5.5						
R26A	Arlington	84.40	48	⇑P	P	22 21 02.8	-0.5
	baz=84,SNR=11						
T27A	Campo	84.42	49	⇓P	P	22 21 03.0	-0.4
	baz=84						
W29A	Amraillo	84.45	51	⇑P	P	22 21 03.0	-0.6
	baz=85,SNR=5.9						
N24A	Carr	84.46	45	⇓P	P	22 21 03.9	+0.3
	baz=85						
L23A	Garrett	84.47	44	⇓P	P	22 21 03.5	-0.2
	baz=85,SNR=15						
131A	Roby	84.48	54	⇑P	P	22 21 03.5	-0.2
	baz=85						
332A	Millersview	84.51	56	⇑P	P	22 21 03.5	-0.4
	baz=85						
E19A	Rath Farm, Rou	84.52	39	⇓P	P	22 21 03.8	+0.1
	baz=85,SNR=14						
Y30A	Stafford Cattl	84.54	53	⇓P	P	22 21 03.7	-0.3
	baz=85						
S27A	Las Animas	84.54	49	⇑P	P	22 21 04.3	+0.2
	baz=85						
F20A	Billings	84.59	40	⇑P	P	22 21 04.4	+0.3
	baz=85						
Q26A	Hugo	84.61	47	⇑P	P	22 21 04.4	0.0
	baz=85						
EGMT	Eagleton	84.71	37	eP	P	22 21 04.2	-0.3
	comp=Z,15nm,1.0s						
EGMT	Eagleton	84.71	37	⇓P	P	22 21 04.4	-0.2
	baz=85						
H21A	Big Horn, Sher	84.73	41	⇓P	P	22 21 05.0	+0.1
	baz=85						
I22A	9 Mile Ranch,	84.75	42	⇓P	P	22 21 04.8	-0.2
	baz=85,SNR=6.9						
232A	Coleman	84.77	55	⇓P	P	22 21 04.7	-0.5
	baz=85,SNR=7.3						
X30A	Coker Ranch, T	84.77	52	⇑P	P	22 21 04.9	-0.3
	baz=85						
M24A	Cheyenne	84.78	45	⇑P	P	22 21 05.0	-0.2
	baz=85						
D19A	Cripps Ranch,	84.80	38	⇑P	P	22 21 05.2	+0.2
	baz=85,SNR=14						
K23A	Bowen Ranch, D	84.80	43	⇑P	P	22 21 05.2	-0.1
	baz=85						
V29A	Stinnett	84.83	51	⇑P	P	22 21 05.5	0.0
	baz=85						
R27A	Eads	84.86	48	⇑P	P	22 21 05.4	-0.2
	baz=85						
T28A	Walsh	84.89	49	⇓P	P	22 21 05.2	-0.5
	baz=85						
Z31A	Sharp Cattle R	84.91	54	⇓P	P	22 21 05.3	-0.6
	baz=85,SNR=8.3						
E20A	Meyer Farm, Mu	84.94	39	⇑P	P	22 21 06.1	+0.4
	baz=85,SNR=7.2						
C19A	Slack Wire Ran	84.98	38	⇓P	P	22 21 06.5	+0.6
	baz=85,SNR=19						
ABTX	Abilene, Hawle	85.04	54	eP	P	22 21 05.6	-0.9
ABTX	Abilene, Hawle	85.04	54	⇓P	P	22 21 06.2	-0.3
	baz=85,SNR=10						
Y31A	Rekieta Farm,	85.06	53	⇑P	P	22 21 06.3	-0.3
	baz=85						
D20A	Manuel Ranch,	85.21	39	⇓P	P	22 21 07.4	+0.3
	baz=85,SNR=15						
B19A	Brinkman Farms	85.39	37	⇑P	P	22 21 08.3	+0.3
	baz=86,SNR=7.8						
Z32A	Haskell	85.42	54	⇑P	P	22 21 08.1	-0.3
	baz=86,SNR=17						
BJI	Beijing	85.46	313	P	P	22 21 09.0	+0.6
BJI				pmax	pmax		
	comp=Z,11nm,2.3s						
EDM	Edmonton	85.47	32	eP	P	22 21 07.8	-0.4
EDM	Edmonton	85.47	32	eP	P	22 21 07.8	-0.4
G22A	Birney	85.48	41	⇑P	P	22 21 08.8	+0.3
	baz=86						
C20A	Veseth Ranch,	85.59	38	⇑P	P	22 21 09.1	+0.2
	baz=86,SNR=13						
R28A	Tribune	85.59	48	⇑P	P	22 21 09.3	0.0
	baz=86						
E21A	Keefer Ranch,	85.60	39

	baz=88						
B23A	Brockton	87.73	38	⇑P	P	22 21 19.6	+0.3
	baz=88						
MAW	Mawson	87.81	199	eP	P	22 21 19.5	0.0
	comp=Z,5.7nm,1.2s						
MAW	Mawson	87.81	199	P	P	22 21 19.9	+0.4
	comp=Z,13nm,1.0s,baz=118,slow=6.7,SNR=18						
MAW	Mawson	87.81	199	P	P	22 21 20.5	+1.0
	baz=88,SNR=8.2						
GYA	Guiyang	88.04	298	⇑iP	P	22 21 22.0	+0.5
GYA				PP	PP	22 24 51.5	+3.1
GYA				SKS	SKSac	22 31 47.8	-2.0
GYA				S	S	22 32 04.0	-1.0
GYA				pmax	pmax		
	comp=Z,20nm,1.2s						
GYA				pmax	pmax		
	comp=Z,120nm,6.9s						
GYA				LR	LR		
	comp=N,540nm,20.9s						
GYA				LR	LR		
	comp=E,480nm,23.5s						
GYA				LR	LR		
	comp=Z,550nm,21.6s						
A24A	Westby	88.52	38	⇑P	P	22 21 23.1	0.0
	baz=89						
B25A	Knox Farm, Ray	88.75	39	⇓P	P	22 21 24.2	0.0
	baz=89						
HHC	Hu-ho-hao-te	89.02	313	eP	P	22 21 24.5	-1.2
HHC				sP	sP	22 21 31.5	-2.0
HHC				PP	PP	22 24 56.8	+0.9
HHC				SKS	SKSac	22 31 52.3	-2.7
HHC				S	S	22 32 11.3	-2.3
HHC				sS	ScS	22 32 18.8	+0.1
HHC				SS	SS	22 38 06.5	-0.8
HHC				pmax	pmax		
	comp=Z,42nm,1.0s						
HHC				pmax	pmax		
	comp=Z,930nm,6.4s						
HHC				LR	LR		
	comp=N,350nm,16.9s						
HHC				LR	LR		
	comp=E,760nm,17.7s						
HHC				LR	LR		
	comp=Z,1μm,18.2s						
PLCA	Paso Flores	89.52	132	P	P	22 21 29.7	+1.5
PLCA	Paso Flores	89.52	132	P	P	22 21 29.7	+1.5
	comp=Z,1.2nm,0.9s,baz=300,slow=6.6,SNR=2.0						
YKA	Yellowknife Ar	90.08	23	P	P	22 21 28.4	-1.6
YKA	Yellowknife Ar	90.08	23	P	P	22 21 28.4	-1.6
	comp=Z,2.8nm,0.9s,baz=185,slow=33,SNR=4.4						
KMI	Kunming	91.03	296	P	P	22 21 36.0	+0.4
KMI				pmax	pmax		
	comp=Z,11nm,2.0s						
CD2	Chengdu	91.81	301	P	P	22 21 39.8	+0.9
CD2				pmax	pmax		
	comp=Z,8.0nm,0.6s						
CMAR	Chiang Mai Arr	92.62	288	P	P	22 21 44.0	+1.2
CMAR	Chiang Mai Arr	92.62	288	P	P	22 21 44.1	+1.2
	comp=Z,1.2nm,0.4s,baz=93,slow=3.1,SNR=9.7						
SYO	Syowa Base	92.62	191	⇓eP	P	22 21 39.0	-2.9
SNAA	Sanae	92.93	177	eP	P	22 21 43.0	-0.4
	comp=Z,13nm,1.3s						
LZH	Lanzhou	93.22	306	eP	P	22 21 46.8	+1.3
LZH				pP	pP	22 21 50.8	-0.4
LZH				sP	sP	22 21 54.5	+1.3
LZH				SKS	SKSac	22 32 20.0	+0.7
LZH				eS	S	22 32 51.0	-1.3
LZH				sS	sS	22 33 01.0	-0.8
LZH				pmax	pmax		
	comp=Z,26nm,1.2s						
LZH				pmax	pmax		
	comp=Z,95nm,4.8s						
LZH				LR	LR		
	comp=N,1μm,17.1s						
LZH				LR	LR		
	comp=E,890nm,16.3s						
LZH				LR	LR		
	comp=Z,1μm,18.0s						
GTA	Gaotai	97.17	309	eP	Pdif	22 22 08.3	+4.8
GTA				pP	pP	22 22 12.0	+2.8
GTA				sP	sP	22 22 14.8	+3.6
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
MKAR	Makanchi Array	110.82	315	PKIKP	PKiKP	22 27 02.1	-1.6
MKAR	Makanchi Array	110.82	315	PKiKP	PKiKP	22 27 02.1	-1.6
MKAR	Makanchi Array	110.82	315	PKiKP	PKiKP	22 27 02.1	-1.6
	comp=Z,0.6nm,0.6s,baz=66,slow=1.7,SNR=8.3						
KSH	Kashi	115.47	307	ePKP	PKPdf	22 27 14.5	+1.6
KSH				PP	PP	22 28 22.5	+7.8
KSH				PKS	PKSdf	22 30 50.0	+0.3
KSH				SKS	SKSdf	22 34 25.5	+0.9
KSH				SKKS	SKKSac	22 35 15.5	0.0
KSH				AMB	AMB		
	comp=Z,210nm,6.7s						
KSH				LR	LR		
	comp=N,610nm,8.8s						
KSH				LR	LR		
	comp=E,440nm,9.3s						
KSH				LR	LR		
	comp=Z,1μm,13.0s						
ARU	Arti	123.33	328	iPKIKP	PKPdf	22 27 27.3	0.0
ARU						22 29 07.4	
ARU						22 34 25.2	
ARCES	ARCESS Array B	124.59	352	PKP	PKPdf	22 27 28.9	-0.5
ARCES	ARCESS Array B	124.59	352	PKP	PKPdf	22 27 28.9	-0.5
	comp=Z,2.9nm,0.7s,baz=163,slow=1.3,SNR=9.2						
FINES	FINESS Array B	131.93	348	PKP	PKPdf	22 27 43.2	-0.3
FINES	FINESS Array B	131.93	348	PKP	PKPdf	22 27 43.2	-0.3
	comp=Z,2.1nm,0.8s,baz=157,slow=1.5,SNR=4.8						
OBN	Obninsk	134.10	336	⇓iPKIKP	PKPdf	22 27 48.0	+0.2
OBN				pmax	pmax		
	comp=Z,7.0nm,1.0s						
ESK	Eskdalemuir	139.43	9	iPKIKP	PKPdf	22 27 56.9	-0.8
AKASG	Malin Array Be	140.32	337	PKHKP	PKPpre	22 27 52.1	
AKASG						22 27 59.4	
AKASG	Malin Array Be	140.32	337	PKPpre	PKPpre	22 27 52.1	
AKASG				PKP	PKPdf	22 27 59.4	-0.1
AKASG	Malin Array Be	140.32	337	PKhKP	PKPpre	22 27 52.1	
	comp=Z,0.7nm,0.5s,baz=36,slow=3.7,SNR=7.3						
AKASG				PKP	PKPdf	22 27 59.4	-0.1
	comp=Z,3.7nm,0.9s,baz=34,slow=1.4,SNR=13						
KIEV	Kiev	140.34	337	PKIKP	PKPdf	22 27 58.7	-0.8
OJC	Ojcow	143.64	346	ePKIKP	PKPbc	22 28 03.1	+0.3
OJC	Ojcow	143.64	346	ePKPdf	PKPbc	22 28 03.1	+0.3
CLL	Collm	143.79	353	ePKPdf	PKPbc	22 28 03.0	-0.2
	comp=Z,9.0nm,1.1s						
CLL				e(PKiKP)		22 28 08.0	
CLL				e		22 28 16.0	
STHS	Stebnicka Huta	144.01	344	ePKP	PKPbc	22 28 04.8	+0.8
BRG	Berggiesshubel	144.10	352	ePKP	PKPdf	22 28 08.3	+2.1
	comp=Z,3.4nm,1.0s						
UPC	Upice	144.15	350	ePKP	PKPbc	22 28 05.0	+0.7
KOLS	Kolonicke sedl	144.16	342	ePKP	PKPbc	22 28 05.0	+0.5
AKCD	Akcadag	144.21	316	iP	PKPdf	22 28 07.1	+0.1
DPC	Dobruska-Polom	144.24	349	ePKIKP	PKPbc	22 28 05.7	+1.0
DPC	Dobruska-Polom	144.24	349	iPKP	PKPbc	22 28 05.6	+0.9
DPC				ex	x	22 28 18.2	
DPC	Dobruska-Polom	144.24	349	ePKPdf	PKPbc	22 28 05.7	+0.9
BUR08	Bucovina Ar. S	144.33	338	ePKPdf	PKPbc	22 28 05.8	+0.7
BOYT	Boyabat	144.34	322	iP	PKPdf	22 28 08.4	+1.4
PVCC	Panska Ves	144.35	351	ePKP	PKPbc	22 28 05.7	+0.7
PVCC				ex	x	22 28 19.3	
OKC	Ostrava-Krasne	144.37	347	iPKP	PKPbc	22 28 05.7	+0.6
OKC				epPKP	pPKPdf	22 28 13.2	+0.6
OKC				ex	x	22 28 19.6	
CRVS	Cervenica-Dubn	144.42	343	ePKP	PKPbc	22 28 05.6	+0.3
MORC	Moravsky Berou	144.56	348	ePKIKP	PKPbc	22 28 06.1	+0.4
MORC	Moravsky Berou	144.56	348	ePKPdf	PKPbc	22 28 06.1	+0.4
MOX	Moxa	144.59	354	ePKPbc	PKPab	22 28 05.1	-0.5
TANN	Tannenbergstha	144.74	354	ePKPbc	PKPab	22 28 06.3	+0.1
MEM	Membach	144.86	1	PKP	PKPbc	22 28 06.9	+0.3
PRU	Pruhonice	144.88	351	iPKP	PKPbc	22 28 06.8	+0.1
PRU				ex	x	22 28 14.9	
PRU				ex	x	22 28 21.7	
CTKT	Corum	144.90	321	iP	PKPdf	22 28 08.8	+0.6
SNF	Seneffe	144.91	3	PKP	PKPbc	22 28 07.1	+0.4
NKC	Novy Kostel	144.92	353	iPKP	PKPab	22 28 06.9	+0.1
GZT	Gaziantep	144.93	314	iP	PKPdf	22 28 08.7	+0.4
BCLA	Clavier	145.03	1	PKP	PKPbc	22 28 07.1	0.0
KECS	Kecovo	145.07	344	ePKP	PKPdf	22 28 08.0	0.0
TNS	Taunus Mts	145.22	358	ePKPbc	PKPbc	22 28 07.7	-0.1
DOU	Dourbes	145.34	2	PKP	PKPbc	22 28 07.6	-0.6
ROTZ	Rotzenmuhle	145.40	354	ePKPbc	PKPab	22 28 08.8	+0.2
TREC	Trest	145.41	350	ePKP	PKPbc	22 28 08.5	+0.1
TREC				ex	x	22 28 22.8	
AYKD	Aykdinkavak	145.42	315	iP	PKPab	22 28 09.5	+0.4
KMBO	Kilima Mbogo	145.55	244	ePKPab	PKPab	22 28 10.8	+0.3
KMBO				PKPbc	PKPab	22 28 11.3	+0.8
KMBO	Kilima Mbogo	145.55	244	PKPbc	PKPab	22 28 11.3	+0.8
	comp=Z,14nm,1.0s,baz=89,slow=2.7,SNR=24						
KUZU	Kuzuini	145.56	314	iP	PKPab	22 28 10.2	+0.6
GRF	Grafenberg Arr	145.57	355	ePKPbc	PKPab	22 28 09.2	0.0
GRFO	Grafenberg	145.57	355	ePKIKP	PKPab	22 28 09.5	+0.3
GRFO	Grafenberg	145.57	355	ePKPab	PKPab	22 28 09.5	+0.3
TIRR	Tirgusor	145.62	332	ePKP2	PKPab	22 28 09.6	+0.1
TIRR	Tirgusor	145.62	332	ePKPab	PKPab	22 28 09.6	+0.1
PSZ	Piszkesteto	145.74	344	ePKP2	PKPab	22 28 10.6	+0.6
PSZ	Piszkesteto	145.74	344	ePKPab	PKPab	22 28 10.6	+0.6
PSZ	Piszkesteto	145.74	344	⇓e	PKPab	22 28 10.9	+0.9
WLF	Walferdange	145.81	1	PKP	PKPdf	22 28 07.1	-2.1
WLF	Walferdange	145.81	1	ePKPbc	PKPbc	22 28 09.9	+0.2
WLF	Walferdange	145.81	1	ePKP2	PKPdf	22 28 08.9	-0.3
WLF	Walferdange	145.81	1	ePKPdf	PKPdf	22 28 08.9	-0.3
KHC	Kasperske Hory	145.86	352	ePKP2	PKPbc	22 28 09.9	0.0
KHC	Kasperske Hory	145.86	352	iPKP	PKPab	22 28 10.3	0.0
KHC				ex	x	22 28 18.4	
KHC				ex	x	22 28 25.2	
KHC	Kasperske Hory	145.86	352	ePKPab	PKPbc	22 28 09.9	0.0
WET	Wettzell	145.94	353	ePKPbc	PKPbc	22 28 10.3	+0.2
AVNT	Avonos	145.95	319	iP	PKPbc	22 28 10.5	-0.2
GEC2	GERESS Array S	146.12	352	ePKPbc	PKPbc	22 28 10.8	0.0
GEC2	GERESS Array S	146.12	352	ePKP2	PKPbc	22 28 10.8	0.0
GEC2	GERESS Array S	146.12	352	ePKPab	PKPbc	22 28 10.8	0.0
GERES	GERESS Array B	146.12	352	PKPbc	PKPbc	22 28 10.9	0.0
GERES	GERESS Array B	146.12	352	PKPbc	PKPbc	22 28 10.9	0.0
	comp=Z,5.5nm,1.0s,baz=29,slow=3.0,SNR=37						
BR131	Keskin Array S	146.15	321	ePKPdf	PKPbc	22 28 11.0	-0.2
BRTR	Keskin Array B	146.15	321	PKPbc	PKPab	22 28 11.8	-0.1
BRTR	Keskin Array B	146.15	321	PKPbc	PKPab	22 28 11.8	-0.1
	comp=Z,23nm,1.0s,baz=125,slow=1.8,SNR=54						
ZST	Bratislava	146.15	347	ePKP	PKPab	22 28 12.1	+0.7
COBT	Iskenderun	146.25	314	iP	PKPab	22 28 12.8	+0.3
LANF	Langenberg	146.48	359	PKP	PKPbc	22 28 12.0	+0.3
ANTO	Ankara	146.56	322	ePKIKP	PKPdf	22 28 10.6	-0.3
ANTO				e		22 28 13.3	
ANTO	Ankara	146.56	322	ePKPdf	PKPdf	22 28 10.6	-0.3
ANTO				ePKPab	PKPab	22 28 13.3	-0.1
BBAL	Bala	146.57	321	iP	PKPbc	22 28 12.9	+0.4
PKSG		146.62	345	⇓e	PKPbc	22 28 12.7	+0.5
STU	Stuttgart	146.63	357	ePKPbc	PKPbc	22 28 12.6	+0.4
CONA	Conrad Observa	146.65	349	ipPKPdf	PKPab	22 28 13.1	-0.4
	comp=Z,22nm,1.3s,SNR=9.9						
PKSN	Nyarlorinc	146.69	343	⇓e	PKPdf	22 28 04.1	-6.6
PKS7	Kunszentmiklos	146.74	344	⇓e	PKPbc	22 28 13.0	+0.5
GULE	Gulek	146.85	316	iP	PKPab	22 28 14.3	-0.4
MOA	Molln	147.01	351	⇑ipPKPdf	PKPbc	22 28 13.8	+0.5
	comp=Z,16nm,1.0s,SNR=7.2						
FUR	Furstenfeldbru	147.08	354	ePKPbc	PKPbc	22 28 13.6	+0.1
BFO	Black Forest	147.11	358	ePKPbc	PKPbc	22 28 13.4	-0.2
BFO	Black Forest	147.11	358	ePKP2	PKPbc	22 28 13.6	0.0
BFO	Black Forest	147.11	358	ePKPab	PKPbc	22 28 13.6	0.0
PKS2	Kecel	147.24	344	⇓e	PKPbc	22 28 14.8	+0.9
THEF	They Montfort	147.24	1	PKP	PKPbc	22 28 14.1	+0.1
ECH	Echery	147.25	359	ePKIKP	PKPdf	22 28 11.6	-0.1
ECH	Echery	147.25	359	PKP	PKPbc	22 28 13.9	-0.1
ECH	Echery	147.25	359	ePKPdf	PKPdf	22 28 11.6	-0.1
RJOB	Jochberg	147.33	352	ePKPbc	PKPbc	22 28 14.2	-0.1
ARSA	Arzberg	147.37	349	iPKPab	PKPbc	22 28 15.0	+0.7
	comp=Z,12nm,1.1s,SNR=6.1						
PKS9	Tamasi	147.39	345	⇓e	PKPbc	22 28 14.6	+0.2
MOF	Molkenrain	147.62	359	PKP	PKPbc	22 28 15.0	-0.1
RETA	Reutte	147.80	355	⇑isPKPdf	PKPbc	22 28 15.9	+0.4
	comp=Z,28nm,1.3s,SNR=5.0						
BORA	Eskisehir	147.91	324	iP	PKPbc	22 28 16.3	+0.2
SEYT	Eskypehyr	147.93	323	iP	PKPdf	22 28 14.4	+1.2
WTTA	Wattenberg	147.94	354	isPKPdf	PKPbc	22 28 16.3	+0.2
	comp=Z,8.2nm,0.7s,SNR=6.1						
SOKA	Soboth	148.01	349	isPKPdf	PKPbc	22 28 15.9	-0.3
	comp=Z,19nm,1.2s,SNR=13						
DAVA	Damuels	148.07	356	⇑isPKPdf	PKPbc	22 28 16.6	+0.2
	comp=Z,19nm,0.9s,SNR=8.0						
LOMF	Lomont	148.12	360	PKP	PKPbc	22 28 16.5	0.0
ABTA	Abfaltersbach	148.34	352	isPKPdf	PKPbc	22 28 16.8	-0.3
	comp=Z,22nm,1.1s,SNR=10						
LJU	Ljubljana	148.72	349	ePKPdf	PKPdf	22 28 14.1	-0.1
LJU				iPKPbc	PKPbc	22 28 17.8	-0.2
TUE	Stuetta	148.92	356	ePKPab	PKPbc	22 28 19.0	+0.3
GAZI	Gazipasa	149.07	317	iP	PKPbc	22 28 18.3	-0.9
CSS	Prodhromos	149.09	314	ePKPdf	PKPdf	22 28 14.8	-0.4
CSS				ePKPbc	PKPbc	22 28 19.2	-0.1
BOJS	Bojanci	149.10	348	iPKPbc	PKPbc	22 28 19.1	+0.2
SENIN	Lac Senin/Sane	149.10	359	ePKPab	PKPbc	22 28 19.7	+0.5
DURS	Dursunbey	149.20	326	iP	PKPbc	22 28 19.6	0.0
DEMI	Demirci	149.47	325	iP	PKPbc	22 28 20.1	0.0
KHAL	Karahalli	149.49	323	iP	PKPbc	22 28 20.6	+0.3
BALY	Balya	149.56	327	iP	PKPbc	22 28 20.3	-0.1
KORT	Korkueli	149.86	320	iP	PKPbc	22 28 22.0	+0.7
MANT	Manisa	149.94	324	iP	PKPbc	22 28 21.1	-0.4
SSB	Saint Sauveur	150.14	3	ePKIKP	PKPdf	22 28 17.0	+0.4
SSB	Saint Sauveur	150.14	3	ePKPdf	PKPdf	22 28 17.0	+0.4
BNI	Bardonecchia	150.42	360	ePKIKP	PKPbc	22 28 23.8	+1.4
BNI	Bardonecchia	150.42	360	ePKPab	PKPbc	22 28 23.8	+1.4
AKAS	Kas	150.81	320	iP	PKPbc	22 28 23.4	-0.2
PCAB	Cabril	150.87	23	ePKPbc	PKPbc	22 28 23.4	0.0
AYDN	Tasoluk	150.90	324	iP	PKPbc	22 28 23.4	-0.2
POLO	Lamas de Olo	151.25	23	ePKPdf	PKPdf	22 28 18.2	-0.2
POLO	Lamas de Olo	151.25	23	ePKPbc	PKPbc	22 28 23.9	-0.5
PBRG	Braganca	151.25	21	ePKPbc	PKPbc	22 28 24.0	-0.3
TOUF	Mont Tournerai	151.46	359	PKP	PKPbc	22 28 22.8	-2.1
AUTN	L'Aution	151.47	359	PKP	PKPbc	22 28 24.1	-0.9
SAOF	Saorge	151.48	359	PKP	PKPbc	22 28 24.5	-0.2
MVO	Moncorvo	151.72	22	ePKPbc	PKPbc	22 28 25.4	0.0
REVF	Revere	151.73	359	PKP	PKPbc	22 28 25.4	+0.1
MTE	Manteigas	152.19	24	ePKPbc	PKPbc	22 28 26.2	-0.3
PTOM	Tomar	152.50	26	ePKPbc	PKPbc	22 28 27.0	-0.2
PCBR	Castelo Branco	152.69	24	ePKPbc	PKPbc	22 28 27.3	-0.3
PMTG	Montargil	153.04	26	ePKPbc	PKPbc	22 28 28.0	-0.4
PMRV	Marv??o	153.08	24	ePKPbc	PKPbc	22 28 28.2	-0.3
ESDC	Sonseca Array	154.09	19	PKPbc	PKPbc	22 28 30.3	-0.4
ESDC				PKPab	PKPab	22 28 43.2	-0.9
ESDC	Sonseca Array	154.09	19	PKPbc	PKPbc	22 28 30.3	-0.4
	comp=Z,0.7nm,0.6s,baz=332,slow=2.3,SNR=6.5						
ESDC				PKPab	PKPab	22 28 43.2	-0.9
	comp=Z,2.0nm,1.0s,baz=327,slow=4.0,SNR=8.0						
PFVI	Vila Bisbo	154.36	29	ePKPbc	PKPbc	22 28 31.3	0.0
PVAQ	Vaqueiros	154.65	27	ePKPab	PKPab	22 28 45.5	-1.0
PBDV	Barranco-do-Ve	154.69	28	ePKPbc	PKPbc	22 28 34.0	+2.0
TORD	Torodi Ar. Bea	174.75	114	PKP	PKPdf	22 28 39.2	-2.2
TORD				PKPab	PKPab	22 30 14.1	-1.3
TORD	Torodi Ar. Bea	174.75	114	PKP	PKPdf	22 28 39.2	-2.2
	comp=Z,1.5nm,1.0s,baz=290,slow=1.4,SNR=6.5						
TORD				PKPab	PKPab	22 30 14.1	-1.3
	comp=Z,1.7nm,1.1s,baz=305,slow=1.8,SNR=5.0						

*IDC **29** 22:10:03.4±0.7, 15°.13S×173°.47W, h0km, mb4.4/11, mb1 4.7/11, mb1mx4.5/18, mbtmp4.4/11, Error ellipse: s-maj=32.7km s-min=19.0km az=131.0*
*NEIC **29** 22:10:05.0±0.2, 15°.17S×173°.10W, h10km, mb4.9/23, Error ellipse: s-maj=9.3km s-min=4.9km az=144.0*
*ISCJB **29** 22:10:06.9±0.2, 15°.19S±0°.08×173°.23W±0°.06, h29km, mb4.7/32, Error ellipse: s-maj=12.5km s-min=5.8km az=149.3*
ISC 29 22:10:08.1±0.4, 15°.14S±0°.10×173°.14W±0°.09, h29km, n280, σ0°79/272, mb4.8/32, 102C-87D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	1.80	47	ePn	Pn	22 10 37.4	+0.1
MSVF	Nonsavu	8.84	252	ePn	Pn	22 12 13.6	-0.4
FUNA	Funafuti	9.97	310	ePn	Pn	22 12 29.8	+0.2
DZM	Mont Dzumac	20.52	247	eP	P	22 14 45.0	+0.6
ARMA	Armidale	35.69	239	eP	P	22 17 05.0	+0.8
CTAO	Charters Tower	38.94	257	eP	P	22 17 33.0	+1.1
COEN	Coen	42.25	266	eP	P	22 17 59.3	+0.1
	454nm,1.5s						
STKA	Stephens Creek	44.38	240	eP	P	22 18 15.7	-0.6
	1.6nm,0.8s						
STKA	Stephens Creek	44.38	240	P	P	22 18 13.4	-2.8
	9.3nm,0.8s,baz=77,slow=8.5,SNR=4.2						
WRA	Warramunga Arr	50.15	257	P	P	22 18 57.0	-4.4
WRA				PcP	PcP	22 20 20.9	+0.2
WRA	Warramunga Arr	50.15	257	P	P	22 18 57.0	-4.4
	1.1nm,0.5s,baz=89,slow=6.7,SNR=4.4						
WRA				PcP	PcP	22 20 20.9	+0.2
	1.7nm,1.0s,baz=88,slow=4.1,SNR=3.0						
AS31	Alice Springs	50.43	252	eP	P	22 19 04.0	+0.5
ASAR	Alice Springs	50.43	252	P	P	22 18 59.1	-4.4
ASAR	Alice Springs	50.43	252	P	P	22 18 59.1	-4.4
	5.4nm,0.6s,baz=89,slow=7.6,SNR=4.4						
SBA	Scott Base	63.53	185	eP	P	22 20 33.6	-1.7
	5.1nm,0.6s						
VNDA	Vanda	63.66	186	eP	P	22 20 36.1	-0.1
	5.0nm,1.1s						
VNDA	Vanda	63.66	186	P	P	22 20 35.8	-0.4
	5.2nm,0.9s,baz=359,slow=4.6,SNR=4.4						
MBWA	Marble Bar	63.67	254	eP	P	22 20 38.3	+1.0
	11nm,1.1s						
CASY	Casey	70.75	205	eP	P	22 21 21.5	+0.2
	7.9nm,0.9s						
BFSC	Mount Baldy Ra	72.06	46	⇑P	P	22 21 30.3	+0.3
	baz=72						
EDW2	Edwards Air Fo	72.19	45	⇓P	P	22 21 31.1	+0.5
	baz=72						
MONP	Monument Peak	72.21	48	⇑P	P	22 21 31.4	+0.5
	baz=72						
ISA	Isabella	72.30	44	⇑P	P	22 21 31.9	+0.7
	baz=72						
PETK	Petropavlovsk-	72.46	342	P	P	22 21 31.9	+0.1
PETK	Petropavlovsk-	72.46	342	P	P	22 21 31.9	+0.1
	8.2nm,0.8s,baz=130,slow=10,SNR=6.0						
MPMC	Manual Prospec	73.18	44	⇓P	P	22 21 38.0	+1.4
	baz=73						
GSC	Goldstone	73.23	45	⇓P	P	22 21 37.8	+1.0
	baz=73						
GLA	Glamis	73.44	48	⇓P	P	22 21 38.4	+0.3
	baz=74						
GMRC	Granite Mounta	73.74	46	⇑P	P	22 21 40.6	+0.7
	baz=74						
113A	Mohawk Valley,	74.06	49	⇑P	P	22 21 41.9	+0.3
	baz=74						
214A	Organ Pipe Nat	74.36	50	⇑P	P	22 21 42.9	-0.6
	baz=74						
PDMCI	Parker Dam,Lak	74.57	47	⇑P	P	22 21 44.5	0.0
	baz=75						
QSPA	South Pole Qui	74.90	180	eP	P	22 21 46.0	-0.1
	43nm,1.2s						
SHPR	Sheep Range	75.00	45	eP	P	22 21 47.7	+0.4
	39nm,1.8s						
Y14A	Wickenburg	75.20	48	⇓P	P	22 21 48.3	+0.1
	baz=75						
R11A	Troy Canyon, C	75.70	43	⇓P	P	22 21 51.6	+0.3
	baz=76						
TUC	Tucson	76.03	51	eP	P	22 21 53.8	+0.6
	23nm,1.6s						
KSRS	Korea Array	76.15	315	P	P	22 21 53.2	-0.4
	0.7nm,0.7s,baz=128,slow=7.9,SNR=2.6						
KSAR	Wonju Array Be	76.17	315	P	P	22 21 53.2	-0.5
X16A	Lo Mia Camp, P	76.56	48	⇑P	P	22 21 56.9	+0.7
	baz=77						
319A	Douglas	76.74	52	⇓P	P	22 21 57.1	-0.1
	baz=77						
U15A	North Rim	76.94	46	⇑P	P	22 21 59.3	+0.8
	baz=77						
WUAZ	Wupatki	77.14	47	⇑P	P	22 22 00.3	+0.9
	baz=77						
ELK	Elko	77.23	41	eP	P	22 21 59.9	0.0
	16nm,1.6s						
320A	Kipp Ranch, An	77.30	52	⇓P	P	22 22 00.6	+0.2
	baz=77						
220A	Playas Peak, P	77.55	52	⇑P	P	22 22 02.5	+0.7
	baz=78						
X18A	Snowflake	77.69	49	⇓P	P	22 22 03.5	+0.9
	baz=78						
120A	U Bar Ranch, L	77.76	51	⇑P	P	22 22 03.4	+0.5
	baz=78						
Z20A	Nine Sixteen R	78.04	51	⇑P	P	22 22 05.0	+0.5
	baz=78						
MFID	Camas Ranch	78.33	39	⇑P	P	22 22 06.6	+0.7
	baz=78						
121A	Cookes Peak, D	78.39	52	⇑P	P	22 22 06.8	+0.3
	baz=78						
DUG	Dugway	78.50	43	⇑P	P	22 22 07.7	+0.8
	baz=79						
Y20A	Horse Springs,	78.56	50	⇑P	P	22 22 08.5	+1.0
	baz=79						
222A	Williams Famil	78.72	52	⇑P	P	22 22 09.0	+0.7
	ba

V23A	Ortiz Mt. (NFS baz=81	81.00	49	⇑P		P	22 22 21.4 +0.8
O19A	Miners Draw (B baz=81	81.00	44	⇑P		P	22 22 21.3 +0.8
T22A	Edith baz=81	81.03	48	⇓P		P	22 22 21.5 +0.7
Z25A	Roswell baz=81	81.04	52	⇓P		P	22 22 21.2 +0.3
427A	Hayter Ranch, baz=81,SNR=6.6	81.08	55	⇓P		P	22 22 21.6 +0.5
RRI2	Red Ridge 38nm,1.5s	81.08	41	*e*P		P	22 22 21.6 +0.7
RRI2				*e*PcP		PcP	22 22 28.1 +0.8
P20A	De Beque baz=81	81.12	45	⇑P		P	22 22 22.3 +1.1
U23A	El Rito baz=81,SNR=5.3	81.24	49	⇑P		P	22 22 22.8 +0.8
126A	Clayton Basin, baz=81	81.31	53	⇑P		P	22 22 23.0 +0.7
MSO	Missoula baz=82	81.33	37	⇓P		P	22 22 22.5 +0.5
Y25A	Mesa, Roswell baz=81	81.33	51	⇑P		P	22 22 23.1 +0.8
W24A	Lazy 6 Ranch, baz=82	81.34	50	⇓P		P	22 22 23.0 +0.6
TPAW	Teton Pass 27nm,1.5s	81.38	41	*e*P		P	22 22 22.2 -0.3
Q21A	Lamborn Mesa, baz=82	81.38	46	⇓P		P	22 22 23.6 +1.0
BSMT	Bassoo Peak 18nm,1.2s	81.41	35	*e*P		P	22 22 22.5 -0.1
S22A	4UR Ranch, Cre baz=82,SNR=8.4	81.41	47	⇓P		P	22 22 24.0 +1.1
M19A	Rock Springs baz=82	81.56	43	⇓P		P	22 22 24.6 +1.1
428A	Kincaid Ranch, baz=82	81.59	55	⇓P		P	22 22 24.1 +0.3
Z26A	Caprock baz=82	81.60	52	⇓P		P	22 22 23.8 +0.1
X25A	Clemmons Ranch baz=82	81.60	51	⇓P		P	22 22 24.1 +0.2
V24A	Rampart Ranch, baz=82	81.66	50	⇓P		P	22 22 24.9 +0.7
LRM	Limekiln Ridge 103nm,1.2s	81.66	38	*e*P		P	22 22 24.3 +0.4
529A	Stev Forest Ra baz=82	81.73	56	⇑P		P	22 22 24.6 +0.1
328A	Wristen Ranch, baz=82	81.75	54	⇑P		P	22 22 25.1 +0.6
CHMT	Chamberlain Mo 9.1nm,1.3s	81.77	37	*e*P		P	22 22 24.6 +0.1
P21A	Newcastle baz=82	81.78	45	⇑P		P	22 22 25.9 +1.1
N20A	Spence Gulch, baz=82	81.84	44	⇑P		P	22 22 25.7 +0.7
Q22A	Crested Butte, baz=82,SNR=6.3	81.86	46	⇑P		P	22 22 26.1 +0.8
PDAR	Pinedale Array	81.91	42	P		P	22 22 25.6 +0.3
PDAR	Pinedale Array 2.2nm,0.9s,baz=238,slow=2.8,SNR=5.4	81.91	42	P		P	22 22 25.6 +0.3
SMCO	Snowmass 36nm,1.5s	81.95	46	*e*P		P	22 22 25.7 -0.2
YMR	Madison River	81.97	40	*e*P		P	22 22 25.8 +0.3
W25A	X Bar L Ranch, baz=82	82.04	50	⇑P		P	22 22 26.7 +0.6
H17A	Grant Village baz=82	82.07	40	⇑P		P	22 22 28.3 +2.1
O21A	Pagoda baz=82	82.08	45	⇑P		P	22 22 27.2 +0.9
ILAR	Eielson Array	82.14	11	P		P	22 22 25.4 -0.4
ILAR	Eielson Array 2.4nm,0.9s,baz=199,slow=5.8,SNR=5.6	82.14	11	P		P	22 22 25.4 -0.4
T24B	San Luis baz=82	82.15	48	⇓P		P	22 22 28.2 +1.4
429A	Davenport Ranc baz=82	82.18	55	⇑P		P	22 22 27.3 +0.5
V25A	Rancho No Teng baz=82,SNR=5.3	82.19	50	⇓P		P	22 22 27.8 +0.9
M20A	Sweetwater, Wa baz=82	82.19	43	⇓P		P	22 22 28.0 +1.1
Z27A	Tatum baz=82	82.20	53	⇓P		P	22 22 27.4 +0.4
228A	UT Block 9, Go baz=82	82.21	54	⇑P		P	22 22 27.4 +0.4
X26A	CR and CF Fran baz=82	82.25	51	⇑P		P	22 22 28.0 +0.7
N21A	Black Mountain baz=82	82.30	44	⇓P		P	22 22 28.5 +1.0
L20A	Wamsutter baz=82	82.34	43	⇓P		P	22 22 28.5 +0.9
K19A	Absolon Red Bu baz=83	82.39	42	⇓P		P	22 22 28.6 +0.8
329A	Wagon Wheel Ra baz=82	82.44	55	⇑P		P	22 22 28.5 +0.3
530A	J-C Ranch, Com baz=82	82.44	56	⇓P		P	22 22 28.5 +0.3
Y27A	Causey baz=83	82.47	52	⇓P		P	22 22 28.9 +0.5
J19A	Crowheart baz=83	82.47	42	⇓P		P	22 22 29.1 +0.9
128A	Castleberry Fa baz=83	82.49	53	⇑P		P	22 22 28.9 +0.5
HRY	Holter Researc 20nm,1.1s	82.49	38	*e*P		P	22 22 28.2 +0.1
W26A	Owens Ranch, T baz=83	82.51	51	⇓P		P	22 22 28.9 +0.4
S24A	Houchin Ranch, baz=83,SNR=5.6	82.52	48	⇓P		P	22 22 29.7 +1.0
U25A	Circle Dot Ran baz=83	82.58	49	⇓P		P	22 22 29.1 +0.2
Q23A	Hartsel baz=83	82.63	47	⇑P		P	22 22 29.6 +0.3
K20A	Yellowstone Ra baz=83	82.64	42	⇓P		P	22 22 30.3 +1.2
O22A	Kremmling baz=83,SNR=6.5	82.69	45	⇑P		P	22 22 30.0 +0.4
H18A	Shoshone NF, C baz=83	82.78	40	⇑P		P	22 22 31.2 +1.4
631A	Perdido Creek baz=83	82.78	57	⇑P		P	22 22 30.1 +0.1
V26A	Tequesquite Ra baz=83	82.78	50	⇑P		P	22 22 30.3 +0.3
MSTX	Muleshoe	82.80	52	*e*P		P	22 22 29.8 -0.3
MSTX	Muleshoe baz=83	82.80	52	⇑P		P	22 22 30.7 +0.6
P23A	Jefferson baz=83	82.83	46	⇑P		P	22 22 31.4 +1.0
Z28A	Tucker Farm, M baz=83	82.83	53	⇑P		P	22 22 30.3 +0.1
R24A	Sanders Place, baz=83	82.85	47	⇑P		P	22 22 31.4 +1.1
I19A	Meeteetse baz=83	82.88	41	⇑P		P	22 22 31.3 +1.0
T25A	Trinidad baz=83	82.88	49	⇑P		P	22 22 31.0 +0.5
L21A	Rawlins baz=83	82.96	43	⇑P		P	22 22 31.6 +0.8
129A	Stewart Farms, baz=83	82.98	54	⇓P		P	22 22 31.3 +0.3
W27A	Bowe Ranch, En baz=83,SNR=5.3	83.02	51	⇓P		P	22 22 31.4 +0.2
N22A	Wattenberg Ran baz=83	83.04	45	⇓P		P	22 22 32.2 +0.8
U26A	Atchley Ranch, baz=83,SNR=5.6	83.06	50	⇓P		P	22 22 31.6 +0.2
531A	Rocksprings baz=83	83.09	56	⇓P		P	22 22 31.6 +0.1
S25A	Robets Cordova baz=83,SNR=5.9	83.09	48	⇓P		P	22 22 32.3 +0.7
Q24A	Divide baz=83	83.13	47	⇑P		P	22 22 32.4 +0.5
J20A	Shoshoni baz=83,SNR=6.9	83.14	42	⇑P		P	22 22 32.4 +0.8
ISCO	Idaho Springs baz=83	83.17	46	⇑P		P	22 22 32.6 +0.5
M22A	Cedar Creek Ra baz=83	83.22	44	⇓P		P	22 22 33.0 +0.8
K21A	Alcova baz=84	83.34	43	⇑P		P	22 22 33.9 +1.1
Z29A	Hungry Hill Ra baz=84	83.34	53	⇓P		P	22 22 32.5 -0.3
I20A	Worland baz=84,SNR=6.0	83.39	41	⇓P		P	22 22 33.0 +0.2
R25A	Fountain Ranch baz=84	83.40	48	⇑P		P	22 22 33.8 +0.7
N23A	Red Feather La baz=84	83.43	45	⇓P		P	22 22 33.7 +0.4
X28A	Dimmitt	83.46	52	⇑P		P	22 22 33.8 +0.4
T26A	Comanche Natio baz=84	83.49	49	⇓P		P	22 22 33.9 +0.3
J21A	Lysite baz=84	83.55	42	⇑P		P	22 22 35.1 +1.3
532A	Rocksprings baz=84	83.59	57	⇑P		P	22 22 34.0 -0.1
L22A	Ellis Ranch, M baz=84	83.61	44	⇑P		P	22 22 35.1 +0.9
H20A	Greybull baz=84	83.73	41	⇑P		P	22 22 35.2 +0.6
Q25A	Bedland, Calha baz=84	83.75	47	⇓P		P	22 22 34.8 -0.1
S26A	Kim baz=84	83.77	49	⇓P		P	22 22 35.0 +0.1
F19A	Roth Farm, Mol baz=84	83.79	39	⇓P		P	22 22 36.2 +1.3
Z30A	Sanderson Ranc baz=84	83.80	53	⇑P		P	22 22 35.0 -0.2
K22A	Casper baz=84	83.83	43	⇑P		P	22 22 35.6 +0.4
I21A	Big Trails, Te baz=84,SNR=6.3	83.86	42	⇑P		P	22 22 35.3 0.0
231A	Bronte baz=84	83.93	55	⇓P		P	22 22 35.5 -0.3
P25A	Willow Gulch B baz=84	84.06	47	⇑P		P	22 22 37.0 +0.5
R26A	Arlington baz=84,SNR=5.2	84.06	48	⇓P		P	22 22 37.0 +0.5
W29A	Amraillo baz=84	84.11	51	⇓P		P	22 22 36.9 +0.2
L23A	Garrett baz=84	84.13	44	⇓P		P	22 22 37.3 +0.5
332A	Millersview baz=84	84.18	55	⇑P		P	22 22 36.5 -0.5
E19A	Rath Farm, Rou baz=84	84.18	39	⇑P		P	22 22 38.1 +1.3
F20A	Billings baz=84	84.25	40	⇑P		P	22 22 38.5 +1.2
Q26A	Hugo baz=84	84.27	47	⇑P		P	22 22 37.7 +0.1
EGMT	Eagleton baz=84	84.38	37	⇑P		P	22 22 39.1 +1.4
H21A	Big Horn, Sher baz=85	84.40	41	⇑P		P	22 22 39.1 +1.1
I22A	9 Mile Ranch, baz=85	84.42	42	⇑P		P	22 22 39.0 +0.8
232A	Coleman baz=84	84.44	55	⇓P		P	22 22 38.0 -0.4
M24A	Cheyenne baz=85	84.44	45	⇓P		P	22 22 39.0 +0.6
K23A	Bowen Ranch, D baz=85	84.47	43	⇓P		P	22 22 39.2 +0.7
D19A	Cripps Ranch, baz=85	84.47	38	⇑P		P	22 22 39.3 +1.1
V29A	Stinnett baz=85	84.50	51	⇑P		P	22 22 38.6 0.0
R27A	Eads baz=85	84.52	48	⇑P		P	22 22 38.9 +0.2
T28A	Walsh baz=85	84.55	49	⇓P		P	22 22 38.9 -0.1
Z31A	Sharp Cattle R baz=85	84.58	54	⇓P		P	22 22 38.9 -0.1
E20A	Meyer Farm, Mu baz=85	84.60	39	⇓P		P	22 22 39.8 +0.8
C19A	Slack Wire Ran baz=85,SNR=8.2	84.65	38	⇑P		P	22 22 40.0 +0.9
ABTX	Abilene, Hawle	84.71	54	*e*P		P	22 22 39.0 -0.8
ABTX	Abilene, Hawle baz=85	84.71	54	⇓P		P	22 22 39.5 -0.2
Y31A	Rekieta Farm, baz=85	84.72	53	⇑P		P	22 22 40.4 +0.6
D20A	Manuel Ranch, baz=85	84.88	38	⇑P		P	22 22 41.8 +1.5
B19A	Brinkman Farms baz=85	85.06	37	⇓P		P	22 22 42.2 +1.1
Z32A	Haskell baz=85	85.09	54	⇑P		P	22 22 41.7 +0.1
EDM	Edmonton	85.14	31	*e*P		P	22 22 40.2 -1.2
G22A	Birney baz=85	85.14	41	⇑P		P	22 22 42.7 +1.0
C20A	Veseth Ranch, baz=85	85.25	38	⇓P		P	22 22 43.5 +1.3
A19A	Klindworth Far baz=86	85.41	37	⇓P		P	22 22 44.6 +1.7
W31A	Holland Ranch, baz=86	85.43	52	⇓P		P	22 22 42.8 -0.5
D21A	La Casta Ranch baz=86	85.56	39	⇑P		P	22 22 46.0 +2.3
A20A	Cobblestone Ra baz=86	85.86	37	⇓P		P	22 22 47.0 +1.9
B21A	Ellsworth Farm baz=86	86.17	38	⇓P		P	22 22 48.0 +1.3
E23A	Ismay baz=86	86.33	40	⇓P		P	22 22 49.1 +1.5
MAW	Mawson 4.2nm,1.4s	88.11	199	*e*P		P	22 22 55.8 0.0
MAW	Mawson 8.7nm,1.0s,baz=134,slow=4.4,SNR=5.5	88.11	199	P		P	22 22 56.9 +1.1
YKA	Yellowknife Ar	89.76	23	P		P	22 23 04.0 +0.6
YKA	Yellowknife Ar 1.6nm,0.8s,baz=237,slow=5.1,SNR=3.4	89.76	23	P		P	22 23 04.0 +0.6
SYO	Syowa Base	92.90	191	⇓*e*X		P	22 23 13.0 -5.0
SNAA	Sanae 7.9nm,1.1s	93.15	177	*e*P		P	22 23 19.6 +0.4
ARCES	ARCESS Array B	124.39	352	PKP		PKPdf	22 29 03.1 -0.7
ARCES	ARCESS Array B 3.1nm,0.9s,baz=46,slow=2.6,SNR=3.9	124.39	352	PKP		PKPdf	22 29 03.1 -0.7
FINES	FINESS Array B	131.74	348	PKP		PKPdf	22 29 17.0 -1.0
FINES	FINESS Array B 2.3nm,0.8s,baz=29,slow=3.2,SNR=3.1	131.74	348	PKP		PKPdf	22 29 17.0 -1.0
AKASG	Malin Array Be	140.20	338	PKP		PKPdf	22 29 33.4 -0.7
AKASG	Malin Array Be 1.3nm,0.8s,baz=32,slow=1.7,SNR=5.6	140.20	338	PKP		PKPdf	22 29 33.4 -0.7
CLL	Collm comp=Z,8.0nm,1.3s	143.59	354	*e*PKPdf		PKPab	22 29 37.0 +0.4
CLL				*e*			22 29 46.0
STHS	Stebnicka Huta	143.85	344	*e*PKP		PKPbc	22 29 38.6 +0.2
BRG	Berggiesshubel comp=Z,5.9nm,1.2s	143.90	352	*e*P		PKPdf	22 29 40.3 -0.4
UPC	Upice	143.95	350	⇑*e*PKP		PKPab	22 29 38.4 +0.4
DPC	Dobruska-Polom	144.05	350	*e*PKP		PKPbc	22 29 38.9 -0.1
PVCC	Panska Ves	144.16	352	⇑*e*PKP		PKPbc	22 29 39.9 +0.7
OKC	Ostrava-Krasne	144.19	347	⇑*e*PKP		PKPab	22 29 39.1 +0.2
CRVS	Cervenica-Dubn	144.26	343	*e*PKP		PKPab	22 29 39.4 +0.1
CRVS				*e*			22 51 52.6
MORC	Moravsky Berou	144.38	348	*e*PKPdf		PKPab	22 29 39.5 -0.2
SNF	Seneffe	144.66	3	PKP		PKPdf	22 29 43.7 +1.8
PRU	Pruhonice	144.69	351	⇑*e*PKP		PKPbc	22 29 41.0 +0.1
NKC	Novy Kostel	144.71	354	⇑*e*PKP		PKPab	22 29 37.8 -3.1
BCLA	Clavier	144.79	2	PKP		PKPab	22 29 40.8 -0.3
KECS	Kecovo	144.91	344	*e*PKP		PKPbc	22 29 42.1 +0.4
KECS				*e*			22 51 52.4
DOU	Dourbes	145.09	3	PKP		PKPbc	22 29 42.0 -0.1
TREC	Trest	145.21	350	⇑*e*PKP		PKPbc	22 29 42.4 -0.3
GRFO	Grafenberg	145.36	355	*e*PKPbc		PKPbc	22 29 42.9 -0.2
TIRR	Tirgusor	145.53	332	*e*PKPdf		PKPdf	22 29 42.4 -1.3
WLF	Walferdange	145.56	1	PKP		PKPdf	22 29 43.6 0.0
WLF	Walferdange	145.56	1	*e*PKPdf		PKPdf	22 29 43.0 -0.6
PSZ	Piszkesteto	145.58	344	*e*PKP		PKPdf	22 29 43.1 -0.7
KHC	Kasperske Hory	145.66	352	⇑PKP		PKPbc	22 29 44.2 +0.1
KHC	Kasperske Hory	145.66	352	*e*PKPdf		PKPdf	22 29 43.5 -0.4
KMBO	Kilima Mbogo	145.87	244	*e*PKPdf		PKPdf	22 29 44.7 -0.8
KMBO	Kilima Mbogo baz=127,slow=5.0,SNR=3.7	145.87	244	PKPbc		PKPdf	22 29 44.8 -0.8
GERES	GERESS Array B	145.92	352	PKPbc		PKPdf	22 29 44.7 +0.3
GERES	GERESS Array B baz=41,slow=2.5,SNR=9.4	145.92	352	PKPbc		PKPdf	22 29 44.7 +0.3
ZST	Bratislava	145.97	348	*e*PKP		PKPab	22 29 46.9 +1.3
BR131	Keskin Array S	146.11	321	*e*PKPdf		PKPdf	22 29 44.9 -0.1
BRTR	Keskin Array B	146.11	321	PKPbc		PKPdf	22 29 45.4 +0.3
BRTR	Keskin Array B baz=112,slow=1.3,SNR=4.5	146.11	321	PKPbc		PKPdf	22 29 45.4 +0.3
BFO	Black Forest	146.88	358	*e*PKPbc		PKPbc	22 29 47.3 -0.5
ECH	Echery	147.02	360	*e*PKPdf		PKPdf	22 29 46.7 +0.5
TUE	Stuetta	148.69	357	*e*PKPdf		PKPdf	22 29 49.7 +0.5
SSB	Saint Sauveur	149.89	3	*e*PKPdf		PKPdf	22 29 51.1 +0.1
BNI	Bardonecchia	150.18	0	*e*PKPdf		PKPdf	22 29 51.7 +0.2
ESDC	Sonseca Array	153.78	19	PKPab		PKPab	22 30 16.5 -1.2
ESDC	Sonseca Array comp=Z,0.1nm,0.4s,baz=299,slow=2.6,SNR=3.3	153.78	19	PKPab		PKPab	22 30 16.5 -1.2

IDC 29 22:14:45.1±8.6, 18°.49S×178°.63W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.6/17, mbtmp3.6/2, Error ellipse: s-maj=365.5km s-min=64.4km az=144.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr 0.5nm,0.8s,baz=95,slow=8.4,SNR=3.5	44.33	260	P	P	P	22 22 56.8	-0.5
ASAR	Alice Springs 0.8nm,0.6s,baz=86,slow=7.5,SNR=4.1	44.44	255	P	P	P	22 22 58.4	+0.2
BRTR	Keskin Array B 0.5nm,0.8s,baz=46,slow=4.2,SNR=3.0	145.04	314	PKPbc	PKPbc	PKPbc	22 34 23.5	-0.7

IDC 29 22:16:31.0±3.2, 16°.65S×172°.34W, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.7/19, mbtmp3.7/4, Error ellipse: s-maj=176.7km s-min=28.3km az=147.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr 0.4nm,0.9s,baz=95,slow=8.2,SNR=4.3	50.56	258	P	P	P	22 25 31.9	+0.2
ASAR	Alice Springs 0.8nm,0.7s,baz=84,slow=6.5,SNR=3.6	50.70	253	P	P	P	22 25 31.8	-1.1
PDAR	Pinedale Array 0.3nm,0.5s,baz=219,slow=4.2,SNR=4.2	82.52	41	P	P	P	22 28 55.8	-0.2
ILAR	Eielson Array 0.6nm,0.7s,baz=219,slow=6.2,SNR=5.6	83.48	11	P	P	P	22 28 59.1	-1.0
BRTR	Keskin Array B 0.5nm,0.9s,baz=64,slow=3.4,SNR=3.4	147.76	321	PKPbc	PKPab		22 36 19.5	-1.1

IDC 29 22:20:08.6±2.1, 15°.48S×174°.32W, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.7/18, mbtmp3.8/4, ML2.1/1, Error ellipse: s-maj=142.0km s-min=27.1km az=149.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu 17nm,0.3s,baz=49,slow=20,SNR=1.9	2.92	58	Pn	Pn	Pn	22 20 55.1	-1.3
AFI	42nm,0.3s,baz=70,slow=19,SNR=2.1			Sn		Sn	22 21 33.8	+1.5
STKA	Stephens Creek 1.9nm,0.6s,baz=62,slow=8.4,SNR=2.7	43.23	240	P	P	P	22 28 12.6	+0.8
WRA	Warramunga Arr 0.3nm,0.8s,baz=90,slow=6.7,SNR=2.6	48.96	257	P	P	P	22 28 55.9	-1.2
ASAR	Alice Springs 0.9nm,0.6s,baz=86,slow=7.7,SNR=8.0	49.24	252	P	P	P	22 28 58.4	-0.9
BRTR	Keskin Array B 0.9nm,0.6s,baz=54,slow=2.5,SNR=5.0	145.65	320	PKPbc	PKPab		22 39 50.7	+0.6

IDC 29 22:20:33.5±1.1, 17°.13S×172°.24W, h0km, mb3.9/5, mb1 4.2/5, mb1mx3.9/18, mbtmp3.9/5, Error ellipse: s-maj=44.0km s-min=26.9km az=139.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek 2.3nm,0.7s,baz=71,slow=9.9,SNR=3.5	44.17	242	P	P	P	22 28 46.0	+1.7
WRA	Warramunga Arr 0.9nm,0.8s,baz=92,slow=6.6,SNR=8.4	50.56	258	P	P	P	22 29 32.8	-1.4
ASAR	Alice Springs 2.1nm,0.5s,baz=88,slow=8.4,SNR=9.4	50.66	253	P	P	P	22 29 34.7	-0.3
VNDA	Vanda 0.5nm,0.4s,baz=281,slow=6.3,SNR=9.5	61.78	186	P	P	P	22 30 53.3	-0.3
PDAR	Pinedale Array 0.5nm,0.8s,baz=224,slow=3.8,SNR=2.1	82.81	41	P	P	P	22 32 59.8	-0.2
GERES	GERESS Array B 0.1nm,0.3s,baz=24,slow=5.7,SNR=2.3	148.00	353	PKPbc	PKPbc	PKPbc	22 40 20.1	-0.9
BRTR	Keskin Array B 1.8nm,1.1s,baz=139,slow=2.6,SNR=5.3	148.19	320	PKPbc	PKPbc	PKPbc	22 40 22.3	+0.4

IDC 29 22:24:20.1±12.0, 15°.27S×172°.92W, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.7/18, mbtmp3.8/2, Error ellipse: s-maj=592.6km s-min=25.9km az=141.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu 66nm,0.3s,baz=317,slow=19,SNR=1.9	1.75	39	Pn	Pn	Pn	22 24 50.5	-1.3
AFI	176nm,0.3s,baz=24,slow=20,SNR=4.5			Sn		Sn	22 25 09.4	-5.5
AFI	comp=Z,2μm,20.1s,baz=220,slow=38			LR		LR	22 25 26.6	
WRA	Warramunga Arr 0.5nm,0.7s,baz=89,slow=6.9,SNR=4.9	50.33	257	P	P	P	22 33 18.5	-0.6
ASAR	Alice Springs 2.1nm,0.8s,baz=83,slow=8.7,SNR=7.0	50.59	252	P	P	P	22 33 20.2	-0.9
BRTR	Keskin Array B 1.4nm,0.9s,baz=56,slow=5.1,SNR=6.5	146.35	322	PKPbc	PKPab		22 44 04.7	+0.5

IDC 29 22:24:58.9±7.7, 15°.93S×172°.75W, h0km, mb3.9/3, mb1 4.2/3, mb1mx3.8/18, mbtmp3.9/3, Error ellipse: s-maj=348.4km s-min=36.7km az=140.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr 0.3nm,0.4s,baz=96,slow=8.7,SNR=7.3	50.34	257	P	P	P	22 33 57.0	-1.0
ASAR	Alice Springs 1.9nm,0.5s,baz=87,slow=8.2,SNR=7.3	50.54	252	P	P	P	22 34 00.0	+0.4
ILAR	Eielson Array 0.5nm,0.6s,baz=228,slow=6.7,SNR=5.0	82.84	11	P	P	P	22 37 23.9	-0.9
BRTR	Keskin Array B 1.0nm,0.9s,baz=72,slow=4.0,SNR=3.8	146.96	321	PKPbc	PKPab		22 44 44.9	-0.5

IDC 29 22:27:09.7±7.9, 13°.28S×170°.03W, h0km, mb3.9/2, mb1 4.2/2, mb1mx3.7/18, mbtmp3.9/2, Error ellipse: s-maj=360.5km s-min=60.7km az=138.0, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr 0.9nm,0.6s,baz=91,slow=6.6,SNR=9.4	53.52	255	P	P	P	22 36 32.8	+0.2
ASAR	Alice Springs 1.2nm,0.5s,baz=86,slow=7.8,SNR=6.4	53.88	250	P	P	P	22 36 34.8	-0.5
BRTR	Keskin Array B 1.9nm,0.9s,baz=100,slow=1.8,SNR=6.0	146.41	326	PKPbc	PKPdf		22 46 52.4	+0.4

IDC 29 22:30:45.9±0.8, 15°.97S×172°.96W, h0km, mb4.1/10, mb1 4.3/11, mb1mx4.2/21, mbtmp4.1/11, ML2.1/1, Error ellipse: s-maj=32.9km s-min=16.3km az=132.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu 28nm,0.3s,baz=31,slow=18,SNR=2.7	2.34	29	Pn	Pn	Pn	22 31 26.8	+1.1
AFI	85nm,0.3s,baz=32,slow=18,SNR=4.4			Sn		Sn	22 31 46.8	-8.5
URZ	Urewera 21nm,1.1s,baz=108,slow=20,SNR=3.8	23.87	200	P	P	P	22 36 01.1	+0.1
STKA	Stephens Creek 3.1nm,0.5s,baz=74,slow=8.1,SNR=8.9	44.13	241	P	P	P	22 38 56.1	-0.2
WRA	Warramunga Arr 1.2nm,0.4s,baz=96,slow=6.7,SNR=46	50.13	257	P	P	P	22 39 43.0	-0.4
ASAR	Alice Springs 4.4nm,0.6s,baz=85,slow=8.3,SNR=28	50.34	252	P	P	P	22 39 44.8	-0.2
FITZ	Fitzroy Crossi 0.9nm,0.6s,baz=126,slow=8.0,SNR=4.2	58.51	258	P	P	P	22 40 43.6	-0.8
VNDA	Vanda 1.0nm,0.9s,baz=355,slow=5.8,SNR=4.2	62.86	186	P	P	P	22 41 13.8	+0.7
PETK	Petropavlovsk- 2.6nm,0.7s,baz=149,slow=12,SNR=4.1	73.30	342	P	P	P	22 42 19.5	+0.5
TXAR	Lajitas Array 0.2nm,0.6s,baz=232,slow=5.2,SNR=3.3	80.57	56	P	P	P	22 42 59.7	-1.0
PDAR	Pinedale Array 0.8nm,0.7s,baz=224,slow=4.1,SNR=6.6	82.40	42	P	P	P	22 43 10.4	+0.2
ILAR	Eielson Array 0.8nm,0.7s,baz=221,slow=6.9,SNR=7.1	82.92	11	P	P	P	22 43 11.1	-1.1
BRTR	Keskin Array B 4.3nm,0.9s,baz=113,slow=2.5,SNR=8.3	146.87	321	PKPbc	PKPab		22 50 32.

s-maj=39.0km s-min=15.9km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.87**	**43**	Pn	Pn	22 32 33.9	-1.6
	47nm,0.3s,baz=196,slow=19,SNR=2.4						
AFI				Sn	Sn	22 32 53.6	-6.4
	196nm,0.3s,baz=133,slow=22,SNR=3.6						
DZM	**Mont Dzumac**	**20.52**	**248**	P	P	22 36 42.0	-0.4
	5.6nm,0.7s,baz=89,slow=18,SNR=2.0						
STKA	**Stephens Creek**	**44.35**	**240**	P	P	22 40 12.7	-1.8
	12nm,0.9s,baz=79,slow=7.3,SNR=9.8						
WRA	**Warramunga Arr**	**50.17**	**257**	P	P	22 40 59.6	-0.3
	6.7nm,0.9s,baz=91,slow=7.1,SNR=14						
ASAR	**Alice Springs**	**50.43**	**252**	P	P	22 41 01.0	-1.0
	11nm,0.6s,baz=86,slow=7.6,SNR=15						
FITZ	**Fitzroy Crossi**	**58.53**	**258**	P	P	22 42 01.3	+0.4
	1.6nm,0.5s,baz=137,slow=7.6,SNR=5.6						
VNDA	**Vanda**	**63.51**	**186**	P	P	22 42 33.8	0.0
	2.3nm,1.1s,baz=348,slow=6.5,SNR=4.5						
TXAR	**Lajitas Array**	**80.30**	**56**	P	P	22 44 14.7	-0.9
	2.4nm,1.0s,baz=224,slow=7.0,SNR=8.5						
PDAR	**Pinedale Array**	**81.99**	**42**	P	P	22 44 24.5	+0.1
	1.3nm,0.9s,baz=242,slow=3.2,SNR=5.8						
ILAR	**Eielson Array**	**82.29**	**11**	P	P	22 44 25.9	+0.7
	0.7nm,0.6s,baz=237,slow=6.0,SNR=7.0						
MAW	**Mawson**	**87.98**	**199**	P	P	22 44 54.6	+0.8
	0.9nm,0.6s,baz=135,slow=5.3,SNR=3.6						
KMBO	**Kilima Mbogo**	**145.85**	**244**	PKPbc	PKPab	22 51 45.7	+0.4
	3.5nm,1.0s,baz=60,slow=4.8,SNR=6.8						
GERES	**GERESS Array B**	**146.09**	**352**	PKPbc	PKPdf	22 51 42.5	-1.0
	0.6nm,0.8s,baz=59,slow=2.6,SNR=3.3						
BRTR	**Keskin Array B**	**146.27**	**321**	PKPbc	PKPab	22 51 46.7	+0.7
	5.4nm,1.0s,baz=107,slow=2.5,SNR=7.1						
TORD	**Torodi Ar. Bea**	**174.50**	**112**	PKP	PKPdf	22 52 15.3	+0.4
	0.7nm,0.9s,baz=303,slow=3.2,SNR=3.9						

IDC 29 22:35:12.8±0.9, 14°.99S×173°.62W, h0km, mb3.9/5, mb1 4.2/5, mb1mx4.0/17, mbtmp3.9/5, Error ellipse: s-maj=44.5km s-min=25.1km az=135.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.08**	**59**	Pn	Pn	22 35 42.5	-6.7
	97nm,0.3s,baz=61,slow=19,SNR=2.4						
AFI				Sn	Sn	22 35 58.8	-17
	356nm,0.3s,baz=68,slow=19,SNR=5.7						
WRA	**Warramunga Arr**	**49.73**	**256**	P	P	22 44 06.9	-0.5
	0.7nm,0.7s,baz=90,slow=7.0,SNR=4.1						
ASAR	**Alice Springs**	**50.04**	**252**	P	P	22 44 08.7	-1.0
	1.7nm,0.7s,baz=86,slow=7.6,SNR=3.0						
VNDA	**Vanda**	**63.76**	**186**	P	P	22 45 46.5	+0.4
	1.3nm,0.9s,baz=26,slow=3.9,SNR=5.3						
TXAR	**Lajitas Array**	**80.56**	**56**	P	P	22 47 26.6	-1.0
	0.9nm,1.0s,baz=219,slow=9.7,SNR=4.6						
ILAR	**Eielson Array**	**82.08**	**11**	P	P	22 47 34.2	-0.6
	1.4nm,0.8s,baz=206,slow=6.0,SNR=3.4						
GERES	**GERESS Array B**	**145.71**	**351**	PKPbc	PKPdf	22 54 53.5	-0.1
	1.1nm,0.7s,baz=27,slow=3.3,SNR=8.7						
BRTR	**Keskin Array B**	**145.71**	**321**	PKPbc	PKPab	22 54 55.2	+0.7
	3.3nm,0.9s,baz=110,slow=2.4,SNR=8.6						
ESDC	**Sonseca Array**	**153.79**	**18**	PKPab	PKPab	22 55 27.1	0.0
	0.1nm,0.3s,baz=323,slow=3.2,SNR=4.6						

*NIED **29** 22:36:00, 27°.90N×127°.80E, h5km, Mw5.4 Best double couple: M0 1.49000×10^17 NP1:φs53.00000°, δ62.00000°, λ-96.00000°. NP2:φs246.00000°, δ29.00000°, λ-79.00000°.*
*BJI **29** 22:36:14.2, 27°.61N×127°.95E, h6km, mB5.7/39, mb5.1/47, Ms5.5/55, Ms7 5.3/52*
*JMA **29** 22:36:15.2±0.1, 27°.85N×127°.83E, h10km±2km, M5.7*
JMA Felt II J1.
*ISCJB **29** 22:36:16.5±0.1, 27°.78N±0°.02×127°.81E±0°.02, h10km, mb5.1/142, MS5.3/26, Error ellipse: s-maj=2.5km s-min=2.0km az=150.1*
*NEIC **29** 22:36:17.6±0.2, 27°.78N×127°.76E, h10km, mb5.4/66, MW5.4(NIED), Error ellipse: s-maj=4.9km s-min=4.4km az=122.0*
NEIC Recorded [2 JMA] on Okino-erabu-shima and Tokuno-shima and [1 JMA] on Okinawa, Uke-jima and Yoron-jima.
*TEH **29** 22:36:18.0, 27°.84N×127°.80E, h8km, ML5.4*
*BKK **29** 22:36:18.1±0.7, 28°N±6°×12°8E±1°, h10km, M5.9/11, mB6.3/6, mb5.5/11, MLv6.1/1, Mw(mB)6.1/6*
*MOS **29** 22:36:19.1±1.2, 27°.83N×127°.80E, h33km, mb5.4/44, MS5.1/13, Error ellipse: s-maj=7.8km s-min=5.0km az=109.3*
*IDC **29** 22:36:24.9±2.1, 27°.81N×127°.73E, h75km±19km, mb4.3/31, mb1 4.4/34, mb1mx4.4/39, mbtmp4.3/34, MS5.1/12, Ms1 5.1/12, ms1mx4.8/44, Error ellipse: s-maj=12.3km s-min=8.7km az=91.0*
*DJA **29** 22:36:26.2±1.6, 28°N±8°×12°8E±°, h52km±13km, M5.7/27, mB6.1/12, mb5.1/27, MLv5.9/1, Mw(mB)5.8/12*

ISC 29 22:36:17.9±0.4, 27°.76N±0°.03×127°.94E±0°.03, h14km±2km, n474, σ1§54/539, mb5.2/142, MS5.4/27, 74C-56D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIH	**Iheya**	**0.72**	**178**	⇑P	Pg	22 36 30.7	-1.2
JIH				S	Sg	22 36 41.5	+0.1
JTK	**Tokunoshima**	**0.89**	**88**	⇑P	Pb	22 36 33.9	-1.3
JTK				S	Sb	22 36 47.5	+0.5
JOW	**Kunigami**	**0.97**	**162**	⇑P	Pb	22 36 35.5	-0.9
JOW				S	Sg	22 36 49.7	+0.4
JOW	**Kunigami**	**0.97**	**162**	*e*P	Pb	22 36 36.1	-0.4
JOW				*e*S	Sn	22 36 51.7	+1.2
JAMN	**Amaminishikomi**	**1.19**	**66**	P	Pn	22 36 38.2	-1.9
JAMN				*e*S	Sb	22 36 55.0	-0.6
JAGN	**Aguni-jima**	**1.32**	**208**	P	Pn	22 36 40.0	-1.9
JAM	**Amami Oshima**	**1.61**	**66**	P	Pn	22 36 44.9	-1.0
JAM				S	Sn	22 37 05.6	-0.8
JJT2	**Tamagusuku 2**	**1.62**	**186**	P	Pn	22 36 45.5	-0.5
JKE	**Kume jima 2**	**1.76**	**216**	P	Pn	22 36 46.5	-1.4
JZK	**Kikaishima**	**1.88**	**72**	P	Pb	22 36 52.3	+0.3
JNN	**Nakanoshima**	**2.68**	**39**	P	Pn	22 37 01.3	+0.6
JMZ	**Minamidaito 2**	**3.51**	**123**	P	Pn	22 37 11.4	-0.6
JMJ	**Miyako jima 2**	**3.77**	**220**	P	Pn	22 37 15.9	+0.2
JTJ	**Tarama**	**4.25**	**224**	P	Pn	22 37 23.1	+0.8
JIJ	**Ishigaki jima**	**4.80**	**226**	P	Pn	22 37 30.6	+0.7
YOJ	**Yonaguni jima**	**5.51**	**235**	P	Pn	22 37 43.2	+3.6
JNU	**Nakatsue**	**5.92**	**25**	*e*Pn	Pn	22 37 46.8	+1.6
JNU				S	Sn	22 38 54.0	+1.2
JNU	**Nakatsue**	**5.92**	**25**	P	Pn	22 37 49.5	+4.3
	14nm,0.3s,baz=193,slow=7.7,SNR=66						
JNU				S	Sb	22 39 03.1	-8.5
	baz=52,slow=14,SNR=1.2						
JNU				LR	LR	22 40 09.4	
	comp=Z,8μm,20.8s,baz=208,slow=38						
TATO	**Taipei**	**6.42**	**246**	*e*Pn	Pn	22 37 51.8	-0.2
TATO				*e*Sn	Sn	22 39 04.8	-0.3
YHNB	**Yeheng**	**6.65**	**244**	*e*Pn	Pn	22 37 56.5	+1.1
	440nm,1.0s						
NACB	**Ninganchiao**	**6.74**	**239**	*e*Pn	Pn	22 37 57.4	+1.0
NACB				*e*Sn	Sn	22 39 12.4	-0.5
SSE	**Sheshan**	**6.77**	**301**	Pn	Pn	22 37 58.0	+1.2
SSE				LR	LR		
	comp=N,14μm,11.1s						
SSE				LR	LR		
	comp=E,7μm,11.1s						
SSE				LR	LR		
	comp=Z,16μm,13.6s						
YULB	**Yu-li**	**7.41**	**236**	*e*Pn	Pn	22 38 04.3	-1.3
	comp=Z,78nm,1.2s						
YULB				*e*Sn	Sn	22 39 30.8	+1.3
SSLB	**Suanglung**	**7.44**	**239**	*e*Pn	Pn	22 38 06.3	+0.3
SSLB				*e*Sn	Sn	22 39 30.6	+0.4
TWG	**Pinlang**	**7.92**	**233**	*e*Pn	Pn	22 38 12.5	-0.2
TWG				*e*Sn	Sn	22 39 39.6	-2.5
TPUB	**Ta-pu**	**7.96**	**238**	*e*Pn	Pn	22 38 13.6	+0.4
TPUB				*e*Sn	Sn	22 39 40.7	-2.3
QZH	**Quanzhou**	**8.84**	**254**	P	Pn	22 38 27.3	+2.0
QZH				S	Sn	22 40 11.0	+6.2
QZH				pmax	pmax		
	comp=Z,270nm,0.9s						
QZH				pmax	pmax		
	comp=Z,4μm,5.6s						
QZH				LR	LR		
	comp=N,16μm,11.6s						
QZH				LR	LR		
	comp=E,20μm,8.9s						
QZH				LR	LR		
	comp=Z,29μm,9.1s						
NJ2	**Nanjing**	**8.97**	**301**	*e*P	Pn	22 38 26.3	-0.8
NJ2				pP	pP	22 38 29.5	
NJ2				sP	sP	22 38 34.0	
NJ2				S	Sn	22 40 09.0	+1.1
NJ2				pmax	pmax		
	comp=Z,90nm,0.6s						
NJ2				LR	LR		
	comp=N,22μm,17.2s						
NJ2				LR	LR		
	comp=E,14μm,12.2s						
NJ2				LR	LR		
	comp=Z,16μm,15.6s						
JKN2	**Miekihoku**	**9.63**	**46**	P	Pn	22 38 37.1	+1.0
KSAR	**Wonju Array Be**	**9.66**	**360**	P	Pn	22 38 38.5	+2.1
KSRS	**Korea Array**	**9.67**	**360**	P	Pn	22 38 38.5	+1.9
	comp=Z,0.1nm,0.3s,baz=190,slow=14,SNR=15						
KSRS				LR	LR	22 42 30.2	
	comp=Z,12μm,19.0s,baz=187,slow=38						
JIE	**Ise**	**10.01**	**46**	P	Pn	22 38 42.6	+1.4
WHN	**Wuhan**	**12.20**	**286**	P	Pn	22 39 16.0	+4.7
WHN				S	Sn	22 41 29.8	+2.7
WHN				LR	LR		
	comp=N,21μm,12.7s						
WHN				LR	LR		
	comp=E,21μm,14.5s						
WHN				LR	LR		
	comp=Z,23μm,13.3s						
DL2	**Dalian**	**12.30**	**336**	*e*P	Pn	22 39 14.8	+2.1
DL2				*e*S	Sn	22 41 33.8	+4.2
DL2				pmax	pmax		
	comp=Z,28nm,1.2s						
DL2				pmax	pmax		
	comp=Z,710nm,10.2s						
DL2				LR	LR		
	comp=E,7μm,12.7s						
DL2				LR	LR		
	comp=Z,8μm,13.4s						
MAJO	**Matsushiro**	**12.34**	**42**	*e*P	Pn	22 39 14.1	+0.9
MAJO	**Matsushiro**	**12.34**	**42**	*e*Pn	Pn	22 39 14.1	+0.9
MAT	**Matsushiro**	**12.34**	**42**	P	Pn	22 39 14.6	+1.5
SNY	**Shenyang**	**14.49**	**347**	⇓P	Pn	22 39 44.5	+2.0
SNY				pmax	pmax		
	comp=Z,45nm,2.4s						
SNY				pmax	pmax		
	comp=Z,3μm,7.1s						
SNY				LR	LR		
	comp=N,9μm,17.6s						
SNY				LR	LR		
	comp=E,6μm,10.8s						
SNY				LR	LR		
	comp=Z,12μm,13.2s						
BJT	**Baijiatuau**	**15.64**	**324**	*e*Pn	Pn	22 39 59.0	+1.1
	comp=Z,115nm,1.0s						
BJI	**Beijing**	**15.65**	**325**	P	Pn	22 39 59.0	+1.0
BJI				S	Sn	22 42 51.8	+0.6
BJI				pmax	pmax		
	comp=Z,57nm,1.7s						
BJI				pmax	pmax		
	comp=Z,2μm,7.0s						
BJI				LR	LR		
	comp=N,12μm,14.4s						
BJI				LR	LR		
	comp=E,7μm,13.0s						
BJI				LR	LR		
	comp=Z,5μm,19.3s						
CN2	**Changchun**	**16.14**	**353**	⇑P	P	22 40 07.0	-0.5
CN2				*e*sP	sP	22 40 14.0	+0.6
CN2				*e*S	Sn	22 43 05.5	+2.5
CN2				pmax	pmax		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,12μm,11.0s						
CN2				LR	LR		
	comp=E,10μm,11.0s						
CN2				LR	LR		
	comp=Z,13μm,13.0s						
ENH	**Enshi**	**16.34**	**283**	*e*Pn	Pn	22 40 05.0	-2.0
	comp=Z,51nm,1.1s						
USRK	**Ussuriysk Arra**	**16.73**	**10**	P	P	22 40 14.3	+0.3
	comp=Z,0.5nm,0.3s,baz=190,slow=9.7,SNR=38						
MDJ	**Mudanjiang**	**16.88**	**4**	P	P	22 40 15.0	-0.7
MDJ				S	Sn	22 43 23.5	+2.6
MDJ				PcP	PcP	22 45 01.8	+1.2
MDJ				ScP	ScP	22 48 37.0	+2.1
MDJ				ScS	ScS	22 52 15.5	+1.2
MDJ				pmax	pmax		
	comp=Z,99nm,1.5s						
MDJ				pmax	pmax		
	comp=Z,1μm,4.8s						
MDJ				LR	LR		
	comp=N,6μm,15.9s						
MDJ				LR	LR		
	comp=E,4μm,12.5s						
MDJ				LR	LR		
	comp=Z,6μm,17.2s						
MDJ	**Mudanjiang**	**16.88**	**4**	*e*Pn	Pn	22 40 13.7	0.0
	comp=Z,583nm,2.0s						
XAN	**Xi'an**	**17.48**	**296**	P	Pn	22 40 20.3	-1.0
XAN				pP	pP	22 40 31.0	+4.5
XAN				sP	sP	22 40 34.5	+6.1
XAN				LR	LR		
	comp=N,11μm,16.0s						
XAN				LR	LR		
	comp=E,1μm,15.6s						
XAN				LR	LR		
	comp=Z,3μm,14.7s						
HHC	**Hu-ho-hao-te**	**18.77**	**318**	⇑P	Pn	22 40 38.5	+1.4
HHC				PP	PnPn	22 40 54.5	+5.2
HHC				S	Sn	22 44 02.5	-4.4
HHC				SS	SnSn	22 44 27.0	+6.1
HHC				PcP	PcP	22 45 08.5	+4.6
HHC				ScP	ScP	22 48 41.5	+2.3
HHC				PcS	PcS	22 48 43.0	+2.2
HHC				pmax	pmax		
	comp=Z,90nm,0.9s						
HHC				pmax	pmax		
	comp=Z,510nm,5.5s						
HHC				LR	LR		
	comp=N,19μm,11.7s						
HHC				LR	LR		
	comp=E,13μm,11.6s						
HHC				LR	LR		
	comp=Z,12μm,10.3s						
ERM	**Erimo**	**18.88**	**37**	*c i*P	P	22 40 36.8	-1.0
ERM				pmax	pmax		
	comp=Z,70nm,1.7s						
GYA	**Guiyang**	**18.99**	**271**	*i*P	Pn	22 40 40.8	+0.9
GYA				PP	PnPn	22 40 57.5	+5.1
GYA				S	Sn	22 44 06.8	-5.7
GYA				SS	SnSn	22 44 31.3	+4.9
GYA				pmax	pmax		
	comp=Z,70nm,1.0s						
GYA				pmax	pmax		
	comp=Z,160nm,4.9s						
GYA				LR	LR		
	comp=N,7μm,13.9s						
GYA				LR	LR		
	comp=E,5μm,14.5s						
GYA				LR	LR		
	comp=Z,9μm,13.6s						
BTO	**Baotou**	**19.55**	**316**	*e*P	Pn	22 40 46.8	+0.2
CD2	**Chengdu**	**21.31**	**284**	P	P	22 41 04.0	-0.4
CD2				pP	pP	22 41 08.8	+0.3
CD2				sP	sP	22 41 11.8	+1.4
CD2				PP	PnPn	22 41 27.8	+3.7
CD2				S	S	22 44 55.3	-5.5
CD2				sS	sS	22 45 01.0	-6.3
CD2				SS	SnSn	22 45 28.0	+4.8
CD2				pmax	pmax		
	comp=Z,270nm,1.0s						
CD2				pmax	pmax		
	comp=Z,2μm,7.1s						
CD2				LR	LR		
	comp=N,15μm,16.7s						
CD2				LR	LR		
	comp=Z,7μm,8.9s						
HABR	**Khabarovsk**	**21.41**	**13**	*e*P	P	22 41 04.8	-0.4
HABR				*e*		22 41 21.5	
HABR				*e*PPP	PPP	22 41 29.2	
HABR				S	S	22 44 59.0	-3.3
HABR				pmax	pmax		
	comp=Z,30nm,1.5s						
HABR				MLR	MLR		
	comp=Z,3μm,15.0s						
KLR	**Kul'dur**	**21.64**	**7**	*e*P	P	22 41 04.8	-2.9
KLR				*e*S	S	22 45 10.5	+3.6
KLR				pmax	pmax		
	comp=N,190nm,2.6s						
KLR				pmax	pmax		
	comp=Z,450nm,2.6s						
KLR				MLR	MLR		
	comp=E,3μm,11.5s						
KLR				MLR	MLR		
	comp=Z,5μm,11.5s						
LZH	**Lanzhou**	**22.04**	**298**	P	P	22 41 11.3	-1.0
LZH				pP	pP	22 41 15.8	-0.6
LZH				sP	sP	22 41 19.0	+0.7
LZH				PP	PnPn	22 41 34.3	+0.2
LZH				S	S	22 45 07.0	-8.1
LZH				sS	sS	22 45 19.3	-2.5
LZH				pmax	pmax		
	comp=Z,65nm,1.2s						
LZH				pmax	pmax		
	comp=Z,380nm,4.9s						
LZH				LR	LR		
	comp=N,7μm,11.2s						
LZH				LR	LR		
	comp=E,10μm,14.8s						
LZH				LR	LR		
	comp=Z,13μm,15.0s						
YSS	**Yuzh-Sakhalins**	**22.42**	**27**	*e*P	P	22 41 15.8	-0.3
KMI	**Kunming**	**22.71**	**269**	P	P	22 41 19.8	+0.2
KMI				pP	pP	22 41 22.0	-1.7
KMI				sP	sP	22 41 23.0	-2.6
KMI				PP	PnPn	22 41 47.0	+3.5
KMI				S	S	22 45 22.8	-5.1
KMI				sS	sS	22 45 28.0	-7.0
KMI				SS	SnSn	22 46 03.0	+5.1
KMI				pmax	pmax		
	comp=Z,69nm,1.1s						
KMI				pmax	pmax		
	comp=Z,2μm,6.3s						
KMI				LR	LR		
	comp=N,7μm,12.4s						
KMI				LR	LR		
	comp=E,4μm,10.7s						
KMI				LR	LR		
	comp=Z,4μm,11.2s						
MYLDM	**Lahad Datu**	**24.18**	**204**	P	P	22 41 36.0	+2.0
	comp=Z,89nm,1.4s,comp=Z,3μm						
UBPT	**Khong Chiam**	**24.26**	**244**	P	P	22 41 36.2	+1.4
	comp=Z,91nm,3.4s						
KKM	**Kota Kinabalu**	**24.30**	**209**	P	P	22 41 38.3	+3.1
	comp=Z,56nm,1.5s						
ULN	**Ulaanbaatar**	**25.84**	**327**	*e*P	P	22 41 49.0	0.0
	comp=Z,203nm,1.6s						
ULN				*e*S	S	22 46 19.8	+1.6
ULN	**Ulaanbaatar**	**25.84**	**327**	P	P	22 41 48.6	-0.4
	comp=Z,69nm,1.7s						
GTA	**Gaotai**	**26.05**	**304**	⇑P	P	22 41 49.0	-2.0
GTA				pP	pP	22 41 53.0	-2.3
GTA				sP	sP	22 41 55.0	-2.2
GTA				PP	PnPn	22 42 32.5	+3.5
GTA				S	S	22 46 19.8	-1.9
GTA				sS	sS	22 46 26.5	-2.5
GTA				pmax	pmax		
	comp=Z,69nm,0.9s						
GTA				pmax	pmax		
	comp=Z,1μm,6.7s						
GTA				LR	LR		
	comp=N,9μm,18.0s						
GTA				LR	LR		
	comp=E,5μm,16.6s						
GTA				LR	LR		
	comp=Z,9μm,12.8s						
SONM	**Songino Array**	**26.14**	**326**	P	P	22 41 51.5	-0.2
SONM	**Songino Array**	**26.14**	**326**	P	P	22 41 51.5	-0.2
	comp=Z,60nm,0.9s,baz=140,slow=8.4,SNR=70						
SONM				LR	LR	22 52 53.7	
	comp=Z,4μm,21.5s,baz=202,slow=38						
CIT	**Chita**	**26.53**	**340**	*e*P	P	22 41 55.6	+0.5
CIT				*e*		22 42 04.9	
CIT				*e*		22 42 08.6	
CIT				*e*		22 42 33.7	
CIT				*e*		22 42 45.4	
CIT				pmax	pmax		
	comp=Z,227nm,2.1s						
TNTI	**Ternate**	**26.84**	**181**	P	P	22 42 02.9	+4.9
	comp=Z,85nm,1.2s,comp=Z,3μm						
MRSI	**Marisa**	**27.73**	**193**	P	P	22 42 09.9	+3.9
	comp=Z,37nm,1.4s,comp=Z,2μm						
CMMT	**Chiang Mai**	**28.03**	**258**	P	P	22 42 09.1	+0.3
	comp=Z,12nm,4.6s						
CHTO	**Chiang Mai**	**28.03**	**258**	*e*P	P	22 42 08.0	-0.8
CHTO				pmax	pmax		
	comp=Z,26nm,0.9s						
CHTO	**Chiang Mai**	**28.03**	**258**	*e*P	P	22 42 08.0	-0.8
	comp=Z,26nm,0.9s						
CHTO	**Chiang Mai**	**28.03**	**258**	P	P	22 42 10.7	+1.9
	comp=Z,55nm,2.0s						
CHTO	**Chiang Mai**	**28.03**	**258**	P	P	22 42 12.6	+3.8
	comp=Z,191nm,1.2s						
CM31	**Chiang Mai Arr**	**28.18**	**257**	*e*P	P	22 42 09.3	-0.8
CMAR	**Chiang Mai Arr**	**28.18**	**257**	P	P	22 42 10.3	+0.2
CMAR				PcP	PcP	22 45 23.9	0.0
CMAR	**Chiang Mai Arr**	**28.18**	**257**	P	P	22 42 10.3	+0.2
	comp=Z,1.3nm,0.3s,baz=57,slow=6.3,SNR=10						
CMAR				PcP	PcP	22 45 23.9	0.0
	comp=Z,1.6nm,0.4s,baz=40,slow=1.5,SNR=10						
CMAR				LR	LR	22 53 46.9	
	comp=Z,1μm,21.8s,baz=64,slow=37						
CHBT	**CHBT**	**28.20**	**243**	P	P	22 42 11.5	+1.2
	comp=Z,46nm,1.0s						
LBMI	**Labuha**	**28.23**	**181**	P	P	22 42 15.7	+5.1
	comp=Z,63nm,1.4s,comp=Z,2μm						
APSI	**Ampana**	**29.14**	**193**	P	P	22 42 20.8	+2.2
	comp=Z,26nm,1.5s						
SBUM	**Sibu**	**29.31**	**214**	*e*P	P	22 42 20.7	+0.6
	comp=Z,15nm,1.0s						
SBUM	**Sibu**	**29.31**	**214**	P	P	22 42 24.1	+3.9
	comp=Z,19nm,1.4s						
ZAK	**Zakamensk**	**29.37**	**327**	*e*P	P	22 42 19.5	-1.0
ZAK				pmax	pmax		
	comp=Z,11nm,1.5s						
TLY	**Talaya**	**30.07**	**329**	*e*P	P	22 42 26.1	-0.5
TLY				*e*S	S	22 47 29.1	+4.6
TLY				pmax	pmax		
	comp=Z,63nm,1.6s						
TLY				MLR	MLR		
	comp=Z,6μm,14.0s						
TLY	**Talaya**	**30.07**	**329**	P	P	22 42 26.9	+0.3
	comp=Z,152nm,1.3s,SNR=7.4						
IRK	**Irkutsk**	**30.18**	**331**	*e*P	P	22 42 27.9	+0.3
IRK				pmax	pmax		
	comp=Z,89nm,1.9s						
FAKI	**Fak Fak**	**30.78**	**172**	P	P	22 42 38.4	+5.3
	comp=Z,35nm,1.1s						
KSM	**Kuching**	**31.11**	**216**	*e*P	P	22 42 37.0	+0.8
	comp=Z,142nm,2.3s						
KSM	**Kuching**	**31.11**	**216**	P	P	22 42 36.9	+0.8
	comp=Z,17nm,0.9s						
AAI	**Ambon**	**31.26**	**180**	P	P	22 42 41.8	+4.4
	comp=Z,42nm,0.7s,comp=Z,4μm						
MOY	**Mondy**	**31.30**	**327**	*e*P	P	22 42 36.6	-1.0
MOY				pmax	pmax		
	comp=Z,90nm,3.2s						
MMSI	**Mamuju**	**31.50**	**197**	P	P	22 42 40.3	+0.8
	comp=Z,73nm,1.2s						
BNDI	**Bandanaira**	**32.15**	**176**	P	P	22 42 49.8	+4.7
	comp=Z,84nm,1.5s						
LSA	**Lhasa**	**32.24**	**282**	P	P	22 42 46.3	-0.2
LSA	**Lhasa**	**32.24**	**282**	*e*P	P	22 42 45.5	-1.0
LSA				pmax	pmax		
	comp=Z,15nm,0.9s						
LSA	**Lhasa**	**32.24**	**282**	*e*P	P	22 42 45.5	-1.0
	comp=Z,15nm,0.9s						
PETK	**Petropavlovsk-**	**33.55**	**33**	P	P	22 42 57.0	-0.1
PETK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
PETK	**Petropavlovsk-**	**33.55**	**33**	P	P	22 42 57.0	-0.1
PETK	**Petropavlovsk-**	**33.55**	**33**	P	P	22 42 57.0	-0.1
	comp=Z,4.7nm,0.9s,baz=179,slow=5.9,SNR=4.9						
PET	**Petropavlovsk**	**33.96**	**34**	*e*P	P	22 43 00.7	+0.1
PET				*e*S	S	22 48 20.0	-5.0
PET				MLR	MLR		
	comp=Z,2μm,20.0s						
KULM	**Kulim**	**34.24**	**234**	P	P	22 43 03

comp=Z,43nm,1.6s
IPM Ipoh 34.54 233 *e*P **P 22 43 05.7 -0.4**
comp=Z,37nm,0.8s
IPM Ipoh 34.54 233 P **P 22 43 06.3 +0.2**
comp=Z,58nm,1.5s,comp=Z,3μm
MYKOM Kota Tinggi 34.61 226 P **P 22 43 08.1 +1.4**
comp=Z,26nm,1.7s,comp=Z,2μm
HVS Khovu-Aksy 34.78 322*c i*P **P 22 43 07.3 -0.7**
HVS pmax pmax
comp=Z,404nm,1.7s
TAPN Taplejung 35.56 279 *e*P **P 22 43 14.2 -1.0**
comp=Z,116nm,1.5s
ODAN Odare 35.93 278 *e*P **P 22 43 16.9 -1.4**
comp=Z,149nm,1.1s
WMQ Urumqi 35.98 307 P **P 22 43 19.3 +1.0**
WMQ pP **pP 22 43 23.8 +1.0**
WMQ sP **sP 22 43 26.3 +1.7**
WMQ pmax pmax
comp=Z,40nm,1.2s
WMQ pmax pmax
comp=Z,260nm,4.4s
WMQ LR LR
comp=N,5μm,12.3s
WMQ LR LR
comp=E,6μm,13.6s
WMQ LR LR
comp=Z,7μm,14.0s
RAMN Ramite 36.61 279 *e*P **P 22 43 22.5 -1.6**
comp=Z,72nm,1.2s
JIRN Jiri 36.84 280 *e*P **P 22 43 25.1 -1.1**
GUN Gumba 37.06 280 *e*P **P 22 43 27.0 -1.1**
comp=Z,106nm,1.2s
PSI Prapat 37.20 233 P **P 22 43 29.5 +0.4**
PSI Prapat 37.20 233 P **P 22 43 29.5 +0.4**
comp=Z,13nm,0.7s,baz=78,slow=4.8,SNR=6.4
PKI Pulchoki 37.53 280 *e*P **P 22 43 30.5 -1.6**
comp=Z,111nm,1.2s
PKIN Phulchoki 37.54 280 *e*P **P 22 43 31.1 -1.0**
comp=Z,40nm,1.2s
KKN Kakani 37.61 280 *e*P **P 22 43 31.2 -1.4**
comp=Z,108nm,1.2s
DMN Daman 37.79 280 *e*P **P 22 43 32.9 -1.3**
comp=Z,126nm,1.2s
BATI Baumata 37.96 187 P **P 22 43 34.8 -0.6**
BATI Baumata 37.96 187 P **P 22 43 34.8 -0.6**
comp=Z,15nm,0.4s,baz=333,slow=9.0,SNR=2.2
BATI LR LR 22 58 23.2
comp=Z,2μm,20.3s,baz=0.0,slow=35
GKN Gorkha 38.13 281 *e*P **P 22 43 35.4 -1.5**
comp=Z,133nm,1.2s
SJI Sawahan 38.60 206 P **P 22 43 41.6 +0.8**
comp=Z,59nm,1.2s,comp=Z,4μm
DANN Dangsing 38.83 282 *e*P **P 22 43 42.0 -1.0**
comp=Z,97nm,1.0s
PWJI Pagerwojo 38.84 206 P **P 22 43 43.1 +0.4**
comp=Z,42nm,1.1s,comp=Z,2μm
KOLN Koldanda 39.08 281 *e*P **P 22 43 43.9 -1.0**
comp=Z,59nm,1.2s
MDSI Maura Dua 39.41 219 P **P 22 43 48.7 +1.2**
comp=Z,30nm,0.9s,comp=Z,3μm
KPJI Karang Pucung 39.43 211 P **P 22 43 48.7 +1.1**
comp=Z,53nm,1.7s
LEM Lembang 39.60 213 P **P 22 43 50.9 +1.7**
MK31 Makanchi Array 40.34 311 *i*P **P 22 43 53.4 -1.6**
MK31 pmax pmax
comp=Z,84nm,1.7s
MK31 Makanchi Array 40.34 311 *e*P **P 22 43 53.3 -1.6**
MK31 *e*PcP **PcP 22 45 58.1 -0.1**
MKAR Makanchi Array 40.34 311 P **P 22 43 53.0 -2.0**
MKAR 22 45 57.7
MKAR pmax pmax
comp=Z,5.0nm,0.9s
MKAR Makanchi Array 40.34 311 *e*P **P 22 43 53.7 -1.3**
MKAR PcP **PcP 22 45 57.7 -0.5**
MKAR Makanchi Array 40.34 311 P **P 22 43 53.0 -2.0**
comp=Z,4.5nm,0.9s,baz=95,slow=9.9,SNR=20
MKAR PcP **PcP 22 45 57.7 -0.5**
comp=Z,2.0nm,0.9s,baz=78,slow=9.0,SNR=3.8
ZAA0 Zalesovo Array 40.89 322 *e*P **P 22 43 57.1 -2.3**
ZAA0 *e*PcP **PcP 22 45 56.0 -3.7**
ZALV Zalesovo Beam 40.89 322 P **P 22 43 57.2 -2.2**
ZALV 22 45 56.8
ZALV pmax pmax
comp=Z,20nm,1.0s
ZALV pmax pmax
comp=Z,4.0nm,0.9s
ZALV MLR MLR
comp=Z,5μm,19.1s
ZALV Zalesovo Beam 40.89 322 P **P 22 43 57.1 -2.2**
ZALV PcP **PcP 22 45 56.8 -3.0**
ZALV Zalesovo Beam 40.89 322 P **P 22 43 57.1 -2.2**
comp=Z,19nm,1.0s,baz=108,slow=7.5,SNR=54
ZALV PcP **PcP 22 45 56.8 -3.0**
comp=Z,3.8nm,0.9s,baz=144,slow=5.5,SNR=3.7
ZALV LR LR 23 02 37.5
comp=Z,5μm,19.1s,baz=322,slow=39
PMG Port Moresby 41.36 151 P **P 22 44 04.6 +1.0**
PMG Port Moresby 41.36 151 P **P 22 44 04.6 +1.0**
comp=Z,7.8nm,0.6s,baz=353,slow=15,SNR=3.6
PMG LR LR 22 58 24.0
comp=Z,2μm,19.9s,baz=291,slow=32
FX1 Attu Island--F 41.69 40 P **P 22 44 06.7 +0.7**
FX1 Attu Island--F 41.69 40 P **P 22 44 06.7 +0.7**
comp=Z,21nm,1.0s,baz=243,slow=11,SNR=3.0
NVS Novosibirsk 42.08 323 *e*P **P 22 44 06.7 -2.4**
NVS pmax pmax
comp=N,37nm,2.0s
NVS pmax pmax
comp=E,80nm,2.0s
NVS pmax pmax
comp=Z,107nm,2.0s
KURK Kurchatov 43.55 316 P **P 22 44 20.6 -0.5**
comp=Z,111nm,1.3s,SNR=8.6
KURK Kurchatov 43.55 316*c i*P **P 22 44 20.0 -1.1**
KURK pmax pmax
comp=Z,47nm,1.7s
KURK Kurchatov 43.55 316 *e*P **P 22 44 19.9 -1.2**
KURK PcP **PcP 22 46 08.1 -0.6**
KURBB Kurchatov Arra 43.58 315 P **P 22 44 18.9 -2.5**
comp=Z,6.9nm,0.6s,baz=104,slow=8.1,SNR=58
KURBB PcP **PcP 22 46 08.1 -0.7**
comp=Z,2.4nm,0.9s,baz=111,slow=2.9,SNR=4.5
KSH Kashi 44.28 299 P **P 22 44 30.0 +2.7**
KSH pP **pP 22 44 34.5 +2.6**
KSH PP **PcP 22 46 15.0 +3.4**
KSH PcS **PcS 22 50 06.3 +1.4**
KSH S **S 22 51 03.5 +2.6**
KSH ScS **ScS 22 54 25.0 -0.6**
KSH pmax pmax
comp=Z,82nm,1.7s
KSH pmax pmax
comp=Z,420nm,5.1s
KSH LR LR
comp=N,4μm,13.8s
KSH LR LR
comp=E,3μm,15.5s
KSH LR LR
comp=Z,3μm,20.0s
TKM2 Tokmak 2 44.60 304 *i*P **P 22 44 29.3 -0.7**
TKM2 pmax pmax
comp=Z,51nm,1.3s
TKM2 Tokmak 2 44.60 304 P **P 22 44 30.1 +0.1**
SNR=23
TKM2 Tokmak 2 44.60 304 *e*P **P 22 44 28.9 -1.1**
comp=Z,74nm,1.5s
KZA Kyzart 44.83 303 *i*P **P 22 44 32.4 +0.4**
KZA Kyzart 44.83 303 P **P 22 44 32.4 +0.4**
SNR=22
KBK Karagaybulak 45.07 304 *i*P **P 22 44 33.7 +0.1**
KBK Karagaybulak 45.07 304 P **P 22 44 33.7 +0.1**
SNR=11
CHMS Chumysh 45.22 304 *i*P **P 22 44 34.4 -0.3**
CHMS Chumysh 45.22 304 P **P 22 44 34.4 -0.3**
SNR=14
FRU Bishkek 45.32 304 *i*P **P 22 44 36.0 +0.6**
AAK Ala-Archa 45.40 304↓ *e*P **P 22 44 35.5 -0.8**
AAK pmax pmax
comp=Z,45nm,1.6s
AAK Ala-Archa 45.40 304 P **P 22 44 37.7 +1.4**
SNR=6.2
AAK Ala-Archa 45.40 304 *e*P **P 22 44 34.9 -1.4**
comp=Z,40nm,1.8s
USP Ospenovka 45.42 305 *i*P **P 22 44 35.4 -0.8**
USP Ospenovka 45.42 305 P **P 22 44 35.4 -0.8**
SNR=16
FITZ Fitzroy Crossi 45.64 183 *e*P **P 22 44 39.2 +1.2**
FITZ Fitzroy Crossi 45.64 183 P **P 22 44 37.5 -0.6**
comp=Z,6.8nm,0.7s,baz=24,slow=7.0,SNR=14
EKS2 Erkin-Say 45.93 304 *e*P **P 22 44 40.1 -0.4**
EKS2 pmax pmax
comp=Z,41nm,1.8s
EKS2 Erkin-Say 45.93 304 P **P 22 44 37.9 -2.5**
SNR=8.2
EKS2 Erkin-Say 45.93 304 *e*P **P 22 44 40.1 -0.4**
comp=Z,41nm,1.8s
AML Almayashu 45.99 303 P **P 22 44 42.0 +0.7**
SNR=8.0
WRAB Tennant Creek 47.81 172 *e*P **P 22 44 54.7 -0.4**
WRAB pmax pmax
comp=Z,40nm,1.3s
WRAB Tennant Creek 47.81 172 *e*P **P 22 44 54.7 -0.4**
comp=Z,40nm,1.3s
WRA Warramunga Arr 47.82 172 P **P 22 44 54.7 -0.4**
WRA PcP **PcP 22 46 24.0 +0.1**
WRA Warramunga Arr 47.82 172 P **P 22 44 54.7 -0.4**
comp=Z,6.4nm,0.8s,baz=351,slow=8.4,SNR=25
WRA PcP **PcP 22 46 24.0 +0.1**
comp=Z,1.7nm,0.8s,baz=343,slow=3.6,SNR=3.8
KK31 Karatay Array 48.33 304 *i*P **P 22 44 58.8 -0.2**
KK31 pmax pmax
comp=Z,66nm,1.4s
KKAR Karatay Array 48.33 304 *e*P **P 22 44 59.5 +0.5**
KKAR Karatay Array 48.33 304 *e*P **P 22 44 59.5 +0.5**
VOSK Vostochnaya 48.58 317 *e*P **P 22 44 59.8 -1.0**
VOSK pmax pmax
comp=Z,113nm,2.1s
VOSK Vostochnaya 48.58 317 *e*P **P 22 44 59.8 -1.0**
comp=Z,113nm,2.1s
BRVK Borovoye 49.04 318*c i*P **P 22 45 04.0 -0.3**
BRVK pmax pmax
comp=Z,99nm,2.5s
BRVK Borovoye 49.04 318 *e*P **P 22 45 04.0 -0.3**
comp=Z,47nm,1.2s
BRVK Borovoye 49.04 318 P **P 22 45 04.2 -0.1**
comp=Z,196nm,0.9s,SNR=12
KBL Kabul 50.26 293 *e*P **P 22 45 13.9 -0.2**
KBL pmax pmax
comp=Z,77nm,1.4s
KBL Kabul 50.26 293 *e*P **P 22 45 13.9 -0.2**
comp=Z,77nm,1.4s
CTA Charters Tower 50.76 158 P **P 22 45 18.4 +0.7**
CTA Charters Tower 50.76 158 P **P 22 45 18.4 +0.7**
comp=Z,1.6nm,0.4s,baz=319,slow=20,SNR=3.4
CTA LR LR 23 05 20.1
comp=Z,2μm,21.5s,baz=343,slow=34
CTAO Charters Tower 50.76 158 *e*P **P 22 45 18.3 +0.7**
CTAO pmax pmax
comp=Z,35nm,1.4s
CTAO Charters Tower 50.76 158 *e*P **P 22 45 18.2 +0.7**
comp=Z,34nm,1.4s
AS31 Alice Springs 51.44 173 *e*P **P 22 45 24.2 +1.5**
ASAR Alice Springs 51.45 173 P **P 22 45 23.6 +0.9**
ASAR PcP **PcP 22 46 36.8 -0.3**
ASAR Alice Springs 51.45 173 P **P 22 45 23.6 +0.9**
comp=Z,9.5nm,0.9s,baz=359,slow=7.6,SNR=26
ASAR PcP **PcP 22 46 36.8 -0.3**
comp=Z,4.1nm,0.9s,baz=354,slow=2.7,SNR=4.8
ASAR LR LR 23 06 26.7
comp=Z,2μm,20.0s,baz=344,slow=35
SVE Sverdlovsk 54.91 322↓ *e*P **P 22 45 46.4 -1.5**
SVE pmax pmax
comp=Z,39nm,1.1s
SVE MLR MLR
comp=Z,7μm,14.0s
SVE MLR MLR
comp=E,4μm,14.0s
AB31 Akbulak array 55.42 312 *i*P **P 22 45 50.9 -0.9**
AB31 pmax pmax
comp=Z,27nm,1.1s
ABKAR Akbulak array 55.42 312 *e*P **P 22 45 50.4 -1.4**
ARU Arti 56.04 321*d i*P **P 22 45 54.2 -1.9**
ARU 22 47 54.9
ARU S **S 22 53 41.9 -2.1**
ARU pmax pmax
comp=Z,34nm,1.2s
ARU MLR MLR
comp=Z,5μm,16.0s
ARU Arti 56.04 321 P **P 22 45 54.7 -1.4**
comp=Z,134nm,1.1s,SNR=11
AKTO Aktyubinsk 56.59 314 *i*P **P 22 45 59.2 -0.9**
AKTO pmax pmax
comp=Z,12nm,1.0s
SOKR Solikamsk 57.01 325↑ *i*P **P 22 46 04.4 +1.5**
SOKR pmax pmax
comp=Z,20nm,1.2s
SOKR MLR MLR
comp=Z,4μm,19.0s
IMYA Miami 57.10 297 *e*P **P 22 46 04.7 +0.5**
ISRO Mashad 57.60 297 *e*P **P 22 46 08.5 +0.8**
IDAH Dahanechah 58.11 293 *e*P **P 22 46 11.2 -0.3**
IMON Monand 58.17 294 *e*P **P 22 46 14.4 +2.6**
IKRD Kardeh 58.25 298 *e*P P 22 46 07.5 -4.9
ISFR Sfrayin 58.59 298 *e*P **P 22 46 15.0 +0.2**
IKOO Kooshah 58.90 293 *e*P **P 22 46 16.6 -0.4**
ITEG Tejag 58.99 293 *e*P **P 22 46 17.1 -0.4**
IM04 Indian Mountai 60.24 28 *e*P **P 22 46 24.9 -0.5**
IMA2 Indian Mountai 60.27 27 *e*P **P 22 46 25.3 -0.4**
STKA Stephens Creek 60.71 167 *e*P **P 22 46 29.7 +0.9**
STKA Stephens Creek 60.71 167 P **P 22 46 28.7 -0.2**
comp=Z,4.9nm,0.7s,baz=357,slow=7.2,SNR=8.2
RSO Redoubt South 61.06 34 *e*P **P 22 46 31.5 +0.3**
PPLA Purkeypile 61.10 31 *e*P **P 22 46 31.8 +0.4**
comp=Z,39nm,1.3s
CAST Castle Rocks 61.11 30 *e*P **P 22 46 32.0 +0.6**
comp=Z,22nm,1.0s
OHAK Old Harbor 61.14 38 *e*P **P 22 46 31.8 +0.2**
SPU Mount Spurr 61.33 33 *e*P **P 22 46 33.3 +0.4**
KDAK Kodiak Island 61.45 37 P **P 22 46 32.8 -0.9**
KDAK Kodiak Island 61.45 37 P **P 22 46 32.8 -0.9**
comp=Z,29nm,1.0s,baz=296,slow=2.7,SNR=9.4
IBAF Bafgh 61.94 293 *e*P **P 22 46 37.8 +0.2**
MCK McKinley 62.48 30 *e*P **P 22 46 40.2 -0.3**
MCK McKinley 62.48 30 *e*P **P 22 46 40.2 -0.3**
COLA College 62.80 29 *e*P **P 22 46 42.9 +0.3**
SML Sawmill 63.02 32 *e*P **P 22 46 43.7 -0.5**
SML pmax pmax
comp=Z,4.0nm,1.0s
SML Sawmill 63.02 32 *e*P **P 22 46 43.7 -0.5**
comp=Z,4.2nm,1.0s
ILAR Eielson Array 63.22 29 P **P 22 46 44.1 -1.3**
ILAR Eielson Array 63.22 29 P **P 22 46 44.1 -1.3**
comp=Z,1.8nm,0.8s,baz=268,slow=4.9,SNR=14
PAX Paxson 64.14 30 *e*P **P 22 46 51.9 +0.3**
PAX pmax pmax
comp=Z,11nm,1.0s
PAX Paxson 64.14 30 *e*P **P 22 46 51.9 +0.3**
comp=Z,11nm,1.0s
IZEF Zefreh 64.17 295 *e*P **P 22 46 52.8 +0.2**
DIV Divide 64.35 32 *e*P **P 22 46 53.5 +0.5**
comp=Z,28nm,1.1s
MENT Mentasta 64.93 30 *e*P **P 22 46 57.4 +0.6**
BMRM Bremner River 64.94 33 *e*P **P 22 46 57.0 +0.2**
comp=Z,24nm,1.0s
EGAK Eagle 65.63 28 *e*P **P 22 47 01.1 0.0**
comp=Z,12nm,1.0s
APA Apatity 66.37 335↑ *i*P **P 22 47 07.0 +1.1**
APA *i* S **S 22 55 56.0 +1.0**
APA *i* 22 57 00.0
APA pmax pmax
comp=Z,134nm,1.8s
APA MLR MLR
comp=Z,3μm,15.0s
VRHR Novokhopersk 66.71 317 *e*P **P 22 47 07.5 -0.8**
VRHR pmax pmax
comp=Z,10.0nm,1.4s
VRHR pmax pmax
comp=N,5.0nm,0.5s
VRHR pmax pmax
comp=E,10.0nm,1.7s
ZEI Tsey 67.59 308 *e*P **P 22 47 12.9 -1.5**
ZEI pmax pmax
comp=Z,15nm,1.5s
INK Inuvik 67.60 23 P **P 22 47 11.4 -2.2**
INK Inuvik 67.60 23 P **P 22 47 11.4 -2.2**
comp=Z,4.6nm,0.7s,baz=282,slow=4.1,SNR=6.1
MOS Moscow 67.71 322 *e*P **P 22 47 12.7 -1.9**
MOS MLR MLR
comp=Z,5μm,16.0s
MOS MLR MLR
comp=N,2μm,14.0s
MOS MLR MLR
comp=E,3μm,16.0s
KEV Kevo 67.93 338 *e*P P 22 47 06.5 -9.2
KEV Kevo 67.93 338 *e*p P 22 47 06.5 -9.2
comp=E,0.3nm,0.4s
KBZ Khabaz 68.00 309 P **P 22 47 16.3 -0.3**
KBZ pmax pmax
comp=Z,5.0nm,0.9s
KBZ Khabaz 68.00 309 P **P 22 47 16.3 -0.3**
KBZ Khabaz 68.00 309 P **P 22 47 16.3 -0.3**
comp=Z,4.6nm,1.0s,baz=107,slow=3.7,SNR=6.0
KIV Kislovodsk 68.08 309 *e*P **P 22 47 17.6 +0.3**
KIV pmax pmax
comp=Z,18nm,1.0s
VORD Divnogorie 68.16 317 *e*P **P 22 47 17.0 -0.5**
VORD pmax pmax
comp=Z,5.0nm,0.9s
VORD pmax pmax
comp=N,9.0nm,1.1s
VORD pmax pmax
comp=E,8.0nm,0.7s
VSR Storozhevoye 68.16 317 *e*P **P 22 47 17.7 +0.2**
VSR pmax pmax
comp=Z,10.0nm,1.1s
VSR pmax pmax
comp=N,4.0nm,0.9s
VSR pmax pmax
comp=E,10.0nm,1.2s
IDHR Dehrash 68.30 299 *e*P **P 22 47 19.4 +0.4**
HYT Haines Junctio 68.32 32 *e*P **P 22 47 19.4 +0.8**
JOF Joensuu 68.59 331 *e*P P 22 47 15.7 -4.3
JOF Joensuu 68.59 331 *e*p P 22 47 15.7 -4.3
comp=E,0.4nm,0.4s
SOC Sochi 70.23 309*c i*P **P 22 47 29.5 -1.0**
SOC *e* 22 50 05.6
SOC *e*S **S 22 56 37.3 -4.6**
SOC *e*SS **SS 23 01 09.2 -2.4**
SOC pmax pmax
comp=Z,18nm,0.6s
SOC MLR MLR
comp=Z,1μm,14.0s
FINES FINESS Array B 71.42 330 P **P 22 47 34.9 -2.4**
FINES FINESS Array B 71.42 330 P **P 22 47 34.9 -2.4**
comp=Z,4.3nm,1.0s,baz=280,slow=3.3,SNR=16
FINES LR LR 23 22 50.9
comp=Z,4μm,18.3s,baz=113,slow=39
DLBC Dease Lake 72.73 33 P **P 22 47 46.3 +0.9**
DLBC Dease Lake 72.73 33 P **P 22 47 46.3 +0.9**
comp=Z,2.2nm,0.5s,baz=352,slow=5.0,SNR=6.0
RAYN Ar Rayn 73.09 288 *e*P **P 22 47 47.6 -0.5**
comp=Z,7.2nm,1.1s
AKASG Malin Array Be 74.21 319 P **P 22 47 51.9 -2.3**
AKASG pmax pmax
comp=Z,2.0nm,0.7s
AKASG Malin Array Be 74.21 319 P **P 22 47 51.9 -2.3**
AKASG Malin Array Be 74.21 319 P **P 22 47 51.9 -2.3**
comp=Z,2.4nm,0.7s,baz=54,slow=6.0,SNR=9.1
BR131 Keskin Array S 75.90 308 *e*P **P 22 48 02.6 -1.7**
comp=Z,4.9nm,1.1s
BRTR Keskin Array B 75.90 308 P **P 22 48 02.2 -2.2**
BRTR Keskin Array B 75.90 308 P **P 22 48 02.2 -2.2**
comp=Z,1.4nm,0.8s,baz=92,slow=6.2,SNR=3.8
YKA Yellowknife Ar 77.25 25 P **P 22 48 10.2 -1.2**
YKA Yellowknife Ar 77.25 25 P **P 22 48 10.2 -1.2**
comp=Z,5.4nm,0.8s,baz=304,slow=5.3,SNR=8.4
NB2 NORSAR Subarra 77.84 334 P PcP 22 48 32.1 +7.5
comp=Z,3.3nm,0.9s,baz=55,slow=5.1
NOA NORSAR Array B 77.84 334 P **P 22 48 12.9 -1.8**
NOA NORSAR Array B 77.84 334 P **P 22 48 12.9 -1.8**
comp=Z,2.3nm,0.9s,baz=54,slow=5.5,SNR=3.4
NOA LR LR 23 25 44.9
comp=Z,1μm,19.7s,baz=50,slow=38
BUR08 Bucovina Ar. S 77.93 318 *e*P **P 22 48 14.5 -1.1**
SUMG Summit 79.50 356 *e*P **P 22 48 22.9 -1.2**
SUMG Summit 79.50 356 *i*P **P 22 48 22.9 -1.2**
OKC Ostrava-Krasne 80.87 322 *e*P **P 22 48 30.0 -1.4**
OKC Ostrava-Krasne 80.87 322 *e*P **P 22 48 30.0 -1.4**
DPC Dobruska-Polom 81.58 323 *e* **P 22 48 35.5 +0.3**
DPC *e* 22 51 42.6
DPC Dobruska-Polom 81.58 323 *e*P **P 22 48 35.5 +0.3**
DPC *e*PP **PP 22 51 42.6 +1.4**
DPC *ex* x 22 51 49.4
UPC Upice 81.65 323 *e*PP PP 22 51 43.8 +2.1
PRU Pruhonice 82.72 323 *e*P P 22 48 49.7 +8.5
PRU *e* 22 51 52.2
PRU Pruhonice 82.72 323 *ex* P 22 48 49.7 +8.5
PRU *e*PP **PP 22 51 52.2 +1.7**
CLL Collm 82.76 325 *e*P **P 22 48 40.0 -1.3**
CLL *e* 22 48 50.0
CLL pmax pmax
comp=Z,16nm,1.5s
CLL MLR MLR
comp=Z,5μm,18.0s
CLL Collm 82.76 325 *e*P **P 22 48 40.0 -1.3**
comp=Z,16nm,1.5s
CLL *e* 22 48 50.0
CLL *e*PP **PP 22 51 51.0 +0.2**
comp=Z,24nm,1.8s
CLL Lm MLR 23 29 00.0
comp=N,3μm,18.5s
CLL Lm MLR 23 29 00.0
comp=E,2μm,20.7s
CLL Lm MLR 23 29 00.0
comp=Z,5μm,18.0s
B08A Colville Reser 83.29 38 *e*P **P 22 48 44.9 +0.6**
comp=Z,46nm,1.4s
EDM Edmonton 83.44 32 *e*P **P 22 48 45.3 +0.4**
EDM Edmonton 83.44 32 *e*P **P 22 48 45.3 +0.4**
KHC Kasperske Hory 83.73 323 *e*P **P 22 48 46.6 +0.1**
KHC *e* 22 51 54.6
KHC Kasperske Hory 83.73 323 *e*P **P 22 48 46.6 +0.1**
KHC *ex* x 22 51 47.8
KHC *e*PP **PP 22 51 54.6 -4.3**
GERES GERESS Array B 83.83 323 P **P 22 48 46.3 -0.8**
GERES GERESS Array B 83.83 323 P **P 22 48 46.3 -0.8**
comp=Z,1.4nm,1.0s,baz=51,slow=2.6,SNR=7.9
C09A Chrisman Ranch 84.19 38 *e*P **P 22 48 50.1 +1.3**
comp=Z,58nm,1.5s
HAWA Hanford 84.30 40 *e*P **P 22 48 50.6 +1.2**
comp=Z,34nm,1.3s
G06A Carlson Farm, 84.31 41 *e*P **P 22 48 50.8 +1.2**
comp=Z,150nm,2.0s
HUMO Hull Mountain 84.36 45 *e*P **P 22 48 49.6 -0.2**
NEW Newport 84.55 37 *e*P **P 22 48 51.4 +0.7**
NEW Newport 84.55 37 P **P 22 48 50.2 -0.5**
comp=Z,13nm,1.1s,baz=306,slow=3.9,SNR=11
NEW Newport 84.55 37 ⇑P **P 22 48 51.2 +0.6**
baz=84
YBH Yreka Blue Hor 84.98 45 P **P 22 48 53.9 +0.8**
YBH Yreka Blue Hor 84.98 45 P **P 22 48 53.9 +0.8**
comp=Z,5.8nm,1.2s,baz=123,slow=7.9,SNR=4.5
E09A Wood Farm, Sta 85.01 39 *e*P **P 22 48 54.5 +1.5**
comp=Z,52nm,1.4s
G08A Pilot Rock 85.25 41 *e*P **P 22 48 55.8 +1.4**
comp=Z,31nm,1.4s
K05A Summer Lake 85.56 44 *e*P **P 22 48 57.6 +1.6**
comp=Z,69nm,1.5s
I07A Izee 85.63 42 *e*P **P 22 48 58.0 +1.7**
F10A Beach Ranch, E 85.84 39 *e*P **P 22 48 59.0 +1.7**
comp=Z,20nm,1.3s
BSMT Bassoo Peak 86.05 37 *e*P **P 22 48 59.8 +1.4**
BLMT Blacktail Moun 86.17 37 *e*P **P 22 49 00.7 +1.7**
JTMT Jette 86.38 37 *e*P **P 22 49 02.0 +2.0**
MOD Modoc 86.39 44 *e*P **P 22 49 01.3 +1.2**
comp=Z,89nm,1.0s
J08A Circle Bar Ran 86.66 42 *e*P **P 22 49 02.5 +1.1**
comp=Z,26nm,0.9s
SWMT Swartz Lake 86.68 37 *e*P **P 22 49 02.5 +1.1**
OHCM Honcut 87.08 47 *e*P **P 22 49 04.0 +0.7**
SLMT Seeley Lake 87.11 37 *e*P **P 22 49 04.5 +0.9**
MSO Missoula 87.13 37 *e*P **P 22 49 04.5 +0.9**
comp=Z,36nm,1.4s
MSO Missoula 87.13 37 ⇑P **P 22 49 04.0 +0.4**
baz=87
FFC Flin Flon 87.34 26 *e*P **P 22 49 04.0 -0.3**
FFC pmax pmax
comp=Z,135nm,1.6s
FFC Flin Flon 87.34 26 *e*P **P 22 49 04.0 -0.3**
comp=Z,135nm,1.6s
CHMT Chamberlain Mo 87.45 37 *e*P **P 22 49 06.4 +1.1**
BEKR Beckworth 87.50 46 *e*P **P 22 49 05.9 +0.3**
comp=Z,25nm,1.5s
MFID Camas Ranch 88.17 41 ⇑P **P 22 49 09.4 +0.7**
baz=88
PAHR Pah Rah Range 88.21 45 *e*P **P 22 49 10.5 +1.6**
comp=Z,29nm,1.3s

HRY	Holter Researc	88.33	36	eP	P	22 49 10.6	+1.3
A19A	Klindworth Far	88.44	33	⇓P	P	22 49 10.5	+0.8
	baz=88,SNR=7.2						
CMB	Columbia Colle	88.52	47	eP	P	22 49 11.6	+1.3
CMB				pmax	pmax		
	comp=Z,23nm,1.1s						
CMB	Columbia Colle	88.52	47	eP	P	22 49 11.6	+1.3
	comp=Z,23nm,1.1s						
EGMT	Eagleton	88.54	35	eP	P	22 49 11.1	+0.9
	comp=Z,139nm,2.1s						
EGMT	Eagleton	88.54	35	⇓P	P	22 49 11.4	+1.1
	baz=88,SNR=5.3						
LRM	Limekiln Ridge	88.57	37	eP	P	22 49 12.0	+1.4
B19A	Brinkman Farms	88.66	34	⇓P	P	22 49 11.9	+1.2
	baz=88						
DLMT	Dillon	88.78	38	eP	P	22 49 12.8	+1.3
	comp=Z,26nm,1.0s						
WAKR	Walker	88.87	46	eP	P	22 49 14.5	+2.4
A20A	Cobblestone Ra	88.87	33	⇑P	P	22 49 12.8	+1.0
	baz=89						
HLID	Hailey	88.90	40	eP	P	22 49 13.8	+1.6
	comp=Z,21nm,1.0s						
HLID	Hailey	88.90	40	⇓P	P	22 49 13.4	+1.2
	baz=89						
MCMT	McKenzie Canyo	88.98	38	eP	P	22 49 13.4	+0.7
	comp=Z,0.8nm,0.7s						
C19A	Slack Wire Ran	89.09	34	⇑P	P	22 49 13.6	+0.8
	baz=89,SNR=9.8						
BMN	Battle Mountai	89.13	44	eP	P	22 49 14.5	+1.2
BMN				pmax	pmax		
	comp=Z,17nm,1.1s						
BMN	Battle Mountai	89.13	44	eP	P	22 49 14.5	+1.2
	comp=Z,17nm,1.1s						
A21A	Bergtoll Ranch	89.28	33	⇓P	P	22 49 14.6	+0.9
	baz=89,SNR=8.9						
D19A	Cripps Ranch,	89.56	35	⇓P	P	22 49 15.9	+0.9
	baz=89,SNR=11						
B21A	Ellsworth Farm	89.62	33	⇓P	P	22 49 16.3	+1.0
	baz=89,SNR=6.6						
C20A	Veseth Ranch,	89.62	34	⇑P	P	22 49 16.6	+1.3
	baz=89,SNR=11						
A22A	Carney Farms,	89.75	32	⇓P	P	22 49 16.4	+0.5
	baz=90,SNR=6.9						
QLMT	Earthquake Lak	89.76	38	eP	P	22 49 18.2	+2.0
D20A	Manuel Ranch,	89.98	35	⇑P	P	22 49 18.0	+1.0
	baz=90,SNR=12						
C21A	Desert Coulee	90.00	34	⇑P	P	22 49 17.8	+0.8
	baz=90						
E19A	Rath Farm, Rou	90.08	35	⇑P	P	22 49 18.6	+1.1
	baz=90,SNR=13						
ELK	Elko	90.15	43	eP	P	22 49 19.8	+1.6
	comp=Z,24nm,1.5s						
B22A	Reddig Ranch S	90.20	33	⇑P	P	22 49 19.4	+1.4
	baz=90						
A23A	Redstone	90.26	32	⇓P	P	22 49 19.4	+1.1
	baz=90						
YFT	Old Faithful	90.33	38	eP	P	22 49 19.8	+0.8
	comp=Z,14nm,0.4s						
E20A	Meyer Farm, Mu	90.38	35	⇑P	P	22 49 19.9	+1.0
	baz=90,SNR=11						
F19A	Roth Farm, Mol	90.40	36	⇑P	P	22 49 20.0	+0.9
	baz=90,SNR=5.4						
H17A	Grant Village	90.50	38	⇑P	P	22 49 22.7	+2.9
	baz=90,SNR=12						
B23A	Brockton	90.56	32	⇑P	P	22 49 20.5	+0.9
	baz=90						
D21A	La Casta Ranch	90.57	34	⇑P	P	22 49 20.5	+0.7
	baz=90,SNR=12						
IMW	Indian Meadow	90.63	38	eP	P	22 49 22.7	+2.3
	comp=Z,26nm,1.3s						
FLWY	Flagg Ranch	90.64	38	eP	P	22 49 23.0	+2.7
	comp=Z,34nm,1.1s						
RRI2	Red Ridge	90.78	39	eP	P	22 49 23.6	+2.5
	comp=Z,21nm,1.4s						
H18A	Shoshone NF, C	90.81	37	⇑P	P	22 49 22.1	+0.9
	baz=91,SNR=6.7						
E21A	Keefer Ranch,	90.89	34	⇑P	P	22 49 21.6	+0.4
	baz=91						
TPAW	Teton Pass	90.89	39	eP	P	22 49 23.7	+2.1
	comp=Z,18nm,1.2s						
D22A	Cohagen	90.91	34	⇓P	P	22 49 22.1	+0.7
	baz=91						
DGMT	Dagmar	90.93	32	⇑P	P	22 49 22.4	+1.0
	baz=91						
C23A	Lambert	90.94	33	⇑P	P	22 49 22.9	+1.5
	baz=91						
HVU	Hansel Valley	90.96	41	eP	P	22 49 23.8	+2.0
HVU				pmax	pmax		
	comp=Z,20nm,1.1s						
HVU	Hansel Valley	90.96	41	eP	P	22 49 23.8	+2.0
	comp=Z,20nm,1.1s						
LOHW	Long Hollow	91.00	38	eP	P	22 49 24.5	+2.4
	comp=Z,16nm,1.4s						
REDW	Red Top Meadow	91.03	39	eP	P	22 49 24.1	+1.9
	comp=Z,26nm,1.5s						
KMBO	Kilima Mbogo	91.13	269	P	P	22 49 21.4	-1.8
KMBO	Kilima Mbogo	91.13	269	P	P	22 49 21.4	-1.8
	comp=Z,3.1nm,1.1s,baz=87,slow=3.7,SNR=5.8						
ISA	Isabella	91.14	48	eP	P	22 49 23.7	+1.1
ISA				pmax	pmax		
	comp=Z,23nm,1.8s						
ISA	Isabella	91.14	48	eP	P	22 49 23.7	+1.1
	comp=Z,22nm,1.8s						
ISA	Isabella	91.14	48	⇓P	P	22 49 23.8	+1.1
	baz=91						
G20A	Bridger	91.21	36	⇓P	P	22 49 23.8	+0.9
	baz=91						
BGU	Big Grassy Mou	91.35	42	eP	P	22 49 25.7	+2.1
	comp=Z,79nm,2.3s						
F21A	Absaloka Mine,	91.36	35	⇓P	P	22 49 24.4	+1.0
	baz=91						
D23A	Lindsay	91.37	33	⇓P	P	22 49 24.4	+1.0
	baz=91						
R11A	Troy Canyon, C	91.40	45	eP	P	22 49 23.8	-0.2
	comp=Z,8.9nm,1.0s						
R11A	Troy Canyon, C	91.40	45	⇑P	P	22 49 25.1	+1.2
	baz=91,SNR=6.6						
E22A	Miles City	91.52	34	⇓P	P	22 49 25.0	+0.9
	baz=91,SNR=7.7						
MPMC	Manual Prospec	91.55	47	⇑P	P	22 49 25.6	+0.9
	baz=91,SNR=5.1						
I19A	Meeteetse	91.59	37	⇑P	P	22 49 26.2	+1.4
	baz=91						
FURC	Furnace Creek,	91.72	47	⇑P	P	22 49 26.4	+1.3
	baz=92						
HWUT	Hardware Ranch	91.76	40	eP	P	22 49 26.7	+1.1
	comp=Z,46nm,1.3s						
E23A	Ismay	91.80	34	⇓P	P	22 49 26.4	+1.0
	baz=92						
H20A	Greybull	91.82	36	⇓P	P	22 49 27.0	+1.3
	baz=92,SNR=6.3						
F22A	Rosebud	91.83	35	⇓P	P	22 49 26.5	+0.8
	baz=92						
B26A	Jensen Ranch,	91.90	31	⇓P	P	22 49 26.4	+0.6
	baz=92						
EDW2	Edwards Air Fo	91.92	49	⇓P	P	22 49 27.3	+1.0
	baz=92						
A27A	Ledoux Ranch,	91.92	30	⇓P	P	22 49 26.8	+0.9
	baz=92						
DUG	Dugway	91.94	42	eP	P	22 49 26.6	+0.3
DUG				pmax	pmax		
	comp=Z,22nm,1.1s						
DUG	Dugway	91.94	42	eP	P	22 49 26.6	+0.3
	comp=Z,22nm,1.1s						
DUG	Dugway	91.94	42	⇓P	P	22 49 27.7	+1.3
	baz=92,SNR=12						
J19A	Crowheart	92.08	38	⇑P	P	22 49 27.8	+0.8
	baz=92,SNR=5.4						
I20A	Worland	92.11	37	⇑P	P	22 49 27.7	+0.7
	baz=92						
PDAR	Pinedale Array	92.13	38	P	P	22 49 26.6	-0.8
PDAR	Pinedale Array	92.13	38	P	P	22 49 26.6	-0.8
	comp=Z,4.4nm,0.9s,baz=298,slow=1.2,SNR=21						
G22A	Birney	92.20	35	⇓P	P	22 49 28.2	+0.8
	baz=92						
H21A	Big Horn, Sher	92.22	36	⇑P	P	22 49 28.4	+0.9
	baz=92						
F23A	Volborg	92.29	34	⇓P	P	22 49 28.6	+0.8
	baz=92						
M17A	Scullys Gap (B	92.36	40	⇓P	P	22 49 29.3	+0.9
	baz=92						
C26A	Wahner Farm, P	92.37	31	⇑P	P	22 49 29.0	+0.9
	baz=92						
A28A	Rude Farm, Bot	92.38	29	⇑P	P	22 49 29.2	+1.2
	baz=92						
L18A	Fontenelle, Gr	92.42	39	⇓P	P	22 49 30.0	+1.3
	baz=92,SNR=7.7						
GSC	Goldstone	92.45	48	eP	P	22 49 30.0	+1.3
GSC				pmax	pmax		
	comp=Z,19nm,1.1s						
GSC	Goldstone	92.45	48	eP	P	22 49 30.0	+1.3
	comp=Z,19nm,1.1s						
GSC	Goldstone	92.45	48	⇓P	P	22 49 29.7	+1.0
	baz=92,SNR=7.5						
CIS	Catalina Islan	92.50	50	⇓P	P	22 49 30.0	+1.1
	baz=92						
BFSC	Mount Baldy Ra	92.51	49	⇓P	P	22 49 30.0	+0.9
	baz=92						
J20A	Shoshoni	92.54	37	⇓P	P	22 49 29.5	+0.4
	baz=92						
H22A	Clearmont	92.60	36	⇑P	P	22 49 30.2	+0.9
	baz=92						
I21A	Big Trails, Te	92.65	37	⇑P	P	22 49 30.1	+0.5
	baz=92,SNR=8.8						
G23A	Biddle	92.67	35	⇓P	P	22 49 30.6	+1.0
	baz=92						
B28A	Dugan Ranch, T	92.68	30	⇑P	P	22 49 30.7	+1.2
	baz=92						
MPU	Maple Canyon	92.75	42	eP	P	22 49 32.1	+2.0
	comp=Z,28nm,1.3s						
SHPR	Sheep Range	92.79	46	eP	P	22 49 31.4	+1.0
D26A	Manning	92.79	32	⇑P	P	22 49 30.9	+0.9
	baz=93						
K20A	Yellowstone Ra	92.87	38	⇑P	P	22 49 31.6	+0.9
	baz=93						
J21A	Lysite	92.89	37	⇓P	P	22 49 31.7	+0.9
	baz=93						
I22A	9 Mile Ranch,	93.02	36	⇑P	P	22 49 32.0	+0.7
	baz=93						
HEC	Hector,Ludlow	93.04	48	⇓P	P	22 49 32.9	+1.5
	baz=93						
H23A	Clabaugh Cattl	93.11	35	⇑P	P	22 49 32.4	+0.7
	baz=93						
MURC	Murrieta	93.20	49	⇓P	P	22 49 32.8	+0.7
	baz=93						
H24A	Dirks Ranch, A	93.41	34	⇓P	P	22 49 33.6	+0.6
	baz=93						
K21A	Alcova	93.48	37	⇑P	P	22 49 33.9	+0.4
	baz=93						
GMRC	Granite Mounta	93.51	48	⇓P	P	22 49 34.6	+0.9
	baz=93,SNR=7.2						
LDFC	Landfair	93.69	47	eP	P	22 49 35.9	+1.4
PFO	Pinyon Flat Ob	93.69	49	P	P	22 49 34.2	-0.3
	comp=Z,113nm,0.9s,SNR=7.1						
PFO	Pinyon Flat Ob	93.69	49	eP	P	22 49 35.4	+0.8
PFO	Pinyon Flat Ob	93.69	49	P	P	22 49 35.2	+0.8
	comp=Z,19nm,1.0s,baz=314,slow=4.1,SNR=14						
PFO	Pinyon Flat Ob	93.69	49	⇓P	P	22 49 35.3	+0.8
	baz=94,SNR=5.8						
M20A	Sweetwater, Wa	93.75	39	⇓P	P	22 49 35.3	+0.5
	baz=94						
BELC	Belle Mtn. Jos	93.76	48	⇓P	P	22 49 36.0	+1.1
	baz=94						
K22A	Casper	93.86	37	⇓P	P	22 49 35.9	+0.7
	baz=94						
L21A	Rawlins	93.87	38	⇑P	P	22 49 36.2	+0.9
	baz=94						
H25A	Fruitdale	93.97	34	⇑P	P	22 49 36.2	+0.6
	baz=94						
G26A	Maurine	93.98	33	⇑P	P	22 49 36.2	+0.6
	baz=94						
SRU	San Rafael	93.99	42	eP	P	22 49 37.3	+1.4
SRU				pmax	pmax		
	comp=Z,19nm,1.4s						
SRU	San Rafael	93.99	42	eP	P	22 49 37.3	+1.4
	comp=Z,19nm,1.4s						
O19A	Miners Draw (B	94.02	40	⇓P	P	22 49 36.8	+0.8
	baz=94						
BAR	Barrett	94.10	50	eP	P	22 49 38.0	+1.7
	comp=Z,30nm,1.4s						
RSSD	Black Hills	94.11	35	eP	P	22 49 37.0	+0.6
RSSD				pmax	pmax		
	comp=Z,103nm,1.4s						
RSSD	Black Hills	94.11	35	eP	P	22 49 37.0	+0.6
	comp=Z,103nm,1.4s						
MONP	Monument Peak	94.14	50	⇑P	P	22 49 37.4	+0.7
	baz=94						
N20A	Spence Gulch,	94.14	39	⇑P	P	22 49 37.5	+0.8
	baz=94						
RWWY	Rawlins	94.15	38	eP	P	22 49 38.3	+1.7
	comp=Z,40nm,1.0s						
IRM	Iron Mountain	94.22	48	⇓P	P	22 49 37.8	+0.9
	baz=94						
K23A	Bowen Ranch, D	94.26	36	⇑P	P	22 49 37.4	+0.4
	baz=94						
BC3	Big Chuckawall	94.33	48	⇑P	P	22 49 37.6	+0.2
	baz=94						
L22A	Ellis Ranch, M	94.33	37	⇑P	P	22 49 38.2	+0.7
	baz=94						
I25A	Rochford	94.34	35	⇑P	P	22 49 37.7	+0.3
	baz=94						
J24A	Dixon Ranch, L	94.36	36	⇓P	P	22 49 38.4	+0.9
	baz=94						
DVTC	Desert V Tower	94.50	50	⇓P	P	22 49 38.0	-0.2
	baz=94						
SWSC	Sam W. Stewart	94.53	49	⇓P	P	22 49 40.1	+1.8
	baz=94						
P19A	Cripple Cowboy	94.54	40	⇓P	P	22 49 38.3	-0.1
	baz=94						
O20A	White River Ci	94.63	40	⇓P	P	22 49 39.6	+0.8
	baz=94						
U15A	North Rim	94.64	45	⇑P	P	22 49 40.5	+1.5
	baz=94						
L23A	Garrett	94.67	37	⇓P	P	22 49 39.4	+0.4
	baz=94						
M22A	Cedar Creek Ra	94.68	38	⇑P	P	22 49 39.9	+0.8
	baz=94						
PDMCI	Parker Dam,Lak	94.80	47	⇑P	P	22 49 41.1	+1.6
	baz=95						
Y12C	Blythe	94.89	48	⇑P	P	22 49 41.5	+1.7
	baz=95						
GLA	Glamis	95.11	49	eP	P	22 49 42.5	+1.5
GLA				pmax	pmax		
	comp=Z,15nm,0.9s						
GLA	Glamis	95.11	49	eP	P	22 49 42.5	+1.5
	comp=Z,14nm,0.9s						
GLA	Glamis	95.11	49	⇓P	P	22 49 42.2	+1.2
	baz=95						
I27A	Quinn	95.14	34	⇑P	P	22 49 41.9	+1.0
	baz=95						
N22A	Wattenberg Ran	95.17	38	⇑P	P	22 49 42.3	+0.9
	baz=95						
J26A	Sides Ranch, S	95.18	35	⇑P	P	22 49 41.7	+0.6
	baz=95						
N23A	Red Feather La	95.39	38	⇑P	P	22 49 42.9	+0.5
	baz=95						
Q20A	Ridgley Place,	95.39	41	⇑P	P	22 49 43.1	+0.8
	baz=95						
O22A	Kremmling	95.56	39	⇑P	P	22 49 44.0	+0.8
	baz=95						
K26A	Motz Farm, Whi	95.57	35	⇓P	P	22 49 43.9	+0.9
	baz=95						
M24A	Cheyenne	95.59	37	⇑P	P	22 49 44.0	+0.8
	baz=95						
P22A	Eagle	95.83	39	⇑P	P	22 49 45.4	+1.0
	baz=96						
R21A	Cimarron	96.22	41	⇓P	P	22 49 46.4	+0.3
	baz=96						
Q22A	Crested Butte,	96.25	40	⇑P	P	22 49 46.3	-0.1
	baz=96						
MVCO	Mesa Verde	96.44	42	⇓P	P	22 49 47.7	+0.6
	baz=96						
P23A	Jefferson	96.50	39	⇑P	P	22 49 47.8	+0.2
	baz=96						
S22A	4UR Ranch, Cre	97.06	41	⇑P	P	22 49 49.9	-0.2
	baz=97						
ESDC	Sonseca Array	99.34	324	PP	PP	22 54 02.3	+0.1
ESDC	Sonseca Array	99.34	324	PP	PP	22 54 02.3	+0.1
	comp=Z,1.7nm,1.1s,baz=45,slow=8.1,SNR=6.7						
ESDC				LR	LR	23 40 14.8	
	comp=Z,1μm,18.1s,baz=130,slow=39						
TORD	Torodi Ar. Bea	113.94	301	PKiKP	PKiKP	22 54 56.2	-0.9
TORD	Torodi Ar. Bea	113.94	301	PKiKP	PKiKP	22 54 56.2	-0.9
	comp=Z,0.6nm,0.7s,baz=54,slow=0.5,SNR=5.3						
SDV	Santo Domingo	139.38	29	ePKPdf	PKPdf	22 55 46.3	+0.5

IDC 29 22:37:25.3±8.1, 14°.91S×173°.75W, h0km, mb4.1/3, mb1 4.4/3, mb1mx3.9/17, mbtmp4.1/3, Error ellipse: s-maj=358.2km s-min=36.0km az=139.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	49.63	256	P	P	22 46 19.0	-0.1
	1.4nm,0.4s,baz=91,slow=7.3,SNR=11						
ASAR	Alice Springs	49.94	252	P	P	22 46 20.7	-0.7
	3.7nm,0.7s,baz=89,slow=7.7,SNR=8.5						
ILAR	Eielson Array	82.03	11	P	P	22 49 46.0	-1.0
	0.4nm,0.6s,baz=223,slow=7.3,SNR=4.1						
BRTR	Keskin Array B	145.57	321	PKPbc	PKPab	22 57 07.0	+0.5
	4.1nm,0.9s,baz=106,slow=2.5,SNR=7.4						

IDC 29 22:40:34.4±10.0, 16°.15S×173°.70W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.5/18, mbtmp3.5/2, Error ellipse: s-maj=477.2km s-min=67.3km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	49.40	257	P	P	22 49 26.2	-0.2
	0.3nm,0.8s,baz=91,slow=8.3,SNR=3.4						
ASAR	Alice Springs	49.61	253	P	P	22 49 27.9	0.0
	0.5nm,0.5s,baz=89,slow=8.3,SNR=4.8						
BRTR	Keskin Array B	146.55	320	PKPbc	PKPdf	23 00 17.4	+0.6
	0.4nm,0.7s,baz=52,slow=2.0,SNR=3.7						

IDC 29 22:41:08.4±5.2, 14°.28S×174°.12W, h0km, mb4.0/2, mb1 4.2/2, mb1mx3.7/17, mbtmp4.0/2, Error ellipse: s-maj=332.6km s-min=72.2km az=150.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	49.44	256	P	P	22 50 00.7	0.0
	0.8nm,0.7s,baz=91,slow=6.7,SNR=5.6						
ASAR	Alice Springs	49.81	251	P	P	22 50 03.3	-0.3
	2.0nm,0.6s,baz=85,slow=8.2,SNR=12						
BRTR	Keskin Array B	144.85	321	PKP	PKPbc	23 00 47.5	+0.5
	1.4nm,0.8s,baz=125,slow=2.8,SNR=9.9						

*IDC **29** 22:41:40.6±1.0, 15°.72S×173°.23W, h0km, mb4.4/8, mb1 4.7/8, mb1mx4.5/18, mbtmp4.4/8, Error ellipse: s-maj=48.6km s-min=20.3km az=147.0*
*NEIC **29** 22:41:44.2±0.3, 15°.11S×173°.50W, h10km, mb4.9/24, Error ellipse: s-maj=15.7km s-min=8.7km az=136.0*
*ISCJB **29** 22:41:47.2±0.4, 15°.23S±0°.10×172°.90W±0°.09, h29km, mb4.8/39, MS5.0/3, Error ellipse: s-maj=17.0km s-min=8.0km az=140.2*
*BJI **29** 22:41:47.7, 14°.52S×172°.96W, h18km, mB5.4/5, mb5.2/15, Ms5.4/6, Ms7 5.2/6*

ISC 29 22:41:47.7±0.5, 15°.2S±0°.1×172°.9W±0°.1, h29km, n117, σ1°44/105, mb4.9/39, MS5.0/3, 18C-3D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	1.64	40	ePn	Pn	22 42 14.1	-0.6
AFI				eSn	Sn	22 42 36.4	+1.6
AFI	Afiamalu	1.64	40	Pn	Pn	22 42 13.5	-1.1
	162nm,0.3s,baz=57,slow=22,SNR=5.1						
AFI				Sn	Sn	22 42 33.2	-1.6
	417nm,0.3s,baz=85,slow=17,SNR=5.4						
MSVF	Nonsavu	9.08	252	ePn	Pn	22 43 59.9	+2.9
RAR	Rarotonga	13.82	118	Pn	Pn	22 44 52.3	-9.4
RAR	Rarotonga	13.82	118	Pn	Pn	22 44 52.3	-9.4
	3.8nm,0.3s,baz=90,slow=20,SNR=2.4						
STKA	Stephens Creek	44.59	240	eP	P	22 49 56.7	-0.8
STKA	Stephens Creek	44.59	240	P	P	22 49 50.0	-7.6
	6.8nm,0.9s,baz=77,slow=4.3,SNR=5.0						
WRA	Warramunga Arr	50.40	257	P	P	22 50 35.7	-7.1
WRA	Warramunga Arr	50.40	257	P	P	22 50 35.7	-7.1
	1.6nm,0.7s,baz=98,slow=6.0,SNR=11						
AS31	Alice Springs	50.67	252	eP	P	22 50 38.7	-6.2
ASAR	Alice Springs	50.67	252	P	P	22 50 38.6	-6.3
ASAR	Alice Springs	50.67	252	P	P	22 50 38.6	-6.3
	16nm,0.7s,baz=85,slow=8.5,SNR=26						
SBA	Scott Base	63.52	185	eP	P	22 52 15.2	+0.3
	81nm,2.3s						
VNDA	Vanda	63.66	186	eP	P	22 52 16.1	+0.3
	5.2nm,1.1s						
CASY	Casey	70.83	205	eP	P	22 52 55.8	-5.7
PETK	Petropavlovsk-	72.57	342	P	P	22 53 11.5	-0.4
PETK	Petropavlovsk-	72.57	342	P	P	22 53 11.5	-0.4
	11nm,0.8s,baz=142,slow=9.4,SNR=16						
QSPA	South Pole Qui	74.88	180	eP	P	22 53 26.1	+0.5
	14nm,1.0s						
TUC	Tucson	75.85	51	eP	P	22 53 33.7	+2.0
	11nm,1.2s						
KSRS	Korea Array	76.35	315	P	P	22 53 33.5	-0.8
	1.7nm,0.9s,baz=119,slow=6.5,SNR=4.5						
KSAR	Wonju Array Be	76.37	315	P	P	22 53 33.5	-1.0
I07A	Izee	76.41	37	eP	P	22 53 36.2	+1.6
	8.6nm,1.0s						
J08A	Circle Bar Ran	76.58	38	eP	P	22 53 37.2	+1.6
	12nm,1.1s						
G08A	Pilot Rock	77.45	36	eP	P	22 53 42.1	+1.7
	14nm,1.1s						
HAWA	Hanford	77.80	35	eP	P	22 53 44.1	+1.8
	15nm,1.1s						
DUG	Dugway	78.34	43	eP	P	22 53 47.3	+1.7
	80nm,2.8s						
E09A	Wood Farm, Sta	78.63	35	eP	P	22 53 48.1	+1.3
	25nm,1.5s						
B08A	Colville Reser	79.10	33	eP	P	22 53 50.2	+0.8
	36nm,2.1s						
HLID	Hailey	79.12	39	eP	P	22 53 51.5	+1.6
	10nm,1.0s						
SRU	San Rafael	79.32	45	eP	P	22 53 52.8	+1.7
	15nm,1.4s						
LAZ	Ladron	79.52	50	eP	P	22 53 53.7	+1.5
	10nm,1.7s						
TXAR	Lajitas Array	80.06	56	P	P	22 53 56.3	+1.1
TXAR	Lajitas Array	80.06	56	P	P	22 53 56.3	+1.1
	3.8nm,1.1s,baz=225,slow=5.1,SNR=14						
ANMO	Albuquerque	80.26	50	eP	P	22 53 57.8	+1.5
	43nm,1.0s						
MCK	McKinley	80.80	11	eP	P	22 54 02.4	+4.1
	12nm,1.0s						
RRI2	Red Ridge	80.92	41	eP	P	22 54 01.4	+1.7
	12nm,1.0s						
DLMT	Dillon	81.19	38	eP	P	22 54 02.2	+1.3
	12nm,1.1s						
MSO	Missoula	81.19	37	eP	P	22 54 01.7	+0.8
	10nm,1.1s						
REDW	Red Top Meadow	81.22	41	eP	P	22 54 02.8	+1.5
	16nm,1.3s						
TPAW	Teton Pass	81.23	41	eP	P	22 54 03.1	+1.7
	27nm,1.6s						
CN2	Changchun	81.24	320	eP	P	22 54 03.3	+2.3
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
BSMT	Bassoo Peak	81.28	35	eP	P	22 54 02.4	+0.9
IMW	Indian Meadow	81.44	40	eP	P	22 54 04.2	+1.7
	comp=Z,13nm,1.1s						
LOHW	Long Hollow	81.51	41	eP	P	22 54 04.4	+1.6
	comp=Z,9.9nm,1.2s						
QLMT	Earthquake Lak	81.62	39	eP	P	22 54 05.6	+2.3
CHMT	Chamberlain Mo	81.63	37	eP	P	22 54 04.2	+0.8
SLMT	Seeley Lake	81.67	36	eP	P	22 54 04.3	+0.8
FLWY	Flagg Ranch	81.69	40	eP	P	22 54 05.2	+1.5
	comp=Z,15nm,1.1s						
PDAR	Pinedale Array	81.

comp=E,460nm,23.2s
GYA LR LR
comp=Z,500nm,21.9s
HHC Hu-ho-hao-te 89.24 313 *e*P **P** **22 54 42.0 +0.7**
HHC sP sP 22 54 48.5 -5.5
HHC PP PP 22 58 15.8 +3.5
HHC SKS **SKSac** **23 05 09.0 -0.5**
HHC S **S** **23 05 29.0 0.0**
HHC sS sS 23 05 37.3 -7.2
HHC pmax pmax
comp=Z,45nm,1.0s
HHC pmax pmax
comp=Z,170nm,6.5s
HHC LR LR
comp=N,580nm,17.6s
HHC LR LR
comp=E,200nm,18.6s
HHC LR LR
comp=Z,1μm,17.1s
KMI Kunming 91.39 296 P P 22 54 57.0 +5.2
CD2 Chengdu 92.13 301 P **P** **22 54 56.3 +1.5**
CD2 pmax pmax
comp=Z,20nm,0.5s
SYO Syowa Base 92.93 191⇑ *e*sP sP 22 55 02.9 -7.6
LZH Lanzhou 93.50 306 *e*P P 22 55 13.3 +12
LZH pP pP 22 55 17.3 +6.7
LZH sP sP 22 55 20.5 +6.6
LZH pmax pmax
comp=Z,16nm,1.0s
MKAR Makanchi Array 111.03 315 PKiKP **PKiKP** **23 00 15.7 -2.8**
MKAR Makanchi Array 111.03 315 PKiKP **PKiKP** **23 00 15.7 -2.8**
comp=Z,0.4nm,0.6s,baz=48,slow=1.8,SNR=5.2
KSH Kashi 115.75 307 *e*PKP **PKPdf** **23 00 31.5 +3.7**
KSH PP PP 23 01 41.5 +10
KSH PKS **PKSdf** **23 04 06.8 +2.2**
KSH SKS **SKSdf** **23 07 42.5 +4.3**
KSH AMB AMB
comp=Z,480nm,9.7s
KSH LR LR
comp=N,160nm,6.1s
KSH LR LR
comp=E,130nm,7.8s
KSH LR LR
comp=Z,200nm,13.6s
ARCES ARCESS Array B 124.45 352 PKP **PKPdf** **23 00 41.4 -2.1**
ARCES ARCESS Array B 124.45 352 PKP **PKPdf** **23 00 41.4 -2.1**
comp=Z,4.5nm,0.8s,baz=37,slow=12,SNR=5.0
FINES FINESS Array B 131.82 348 PKP **PKPdf** **23 00 57.1 -0.6**
FINES FINESS Array B 131.82 348 PKP **PKPdf** **23 00 57.2 -0.6**
comp=Z,2.9nm,0.9s,baz=120,slow=11,SNR=4.2
AKASG Malin Array Be 140.32 338 PKPpre PKPpre 23 01 05.2
AKASG PKP **PKPdf** **23 01 11.6 -2.3**
AKASG Malin Array Be 140.32 338 PKhKP PKPpre 23 01 05.2
comp=Z,0.5nm,0.5s,baz=35,slow=3.8,SNR=5.5
AKASG PKP **PKPdf** **23 01 11.6 -2.3**
comp=Z,1.0nm,0.6s,baz=33,slow=2.5,SNR=8.4
CLL Collm 143.64 354 *e*PKPdf **PKPdf** **23 01 19.0 -0.8**
STHS Stebnicka Huta 143.95 344 *e*PKP PKPbc 23 01 18.0 -0.2
KOLS Kolonicke sedl 144.11 343 *e*PKP PKPab 23 01 17.6 -0.7
DPC Dobruska-Polom 144.12 350 *e*PKP PKPbc 23 01 18.2 -0.6
DPC *ep*PKP **PKiKP** **23 01 25.6 +1.3**
OKC Ostrava-Krasne 144.28 348 *e*PKP PKPbc 23 01 18.9 -0.3
OKC *ep*PKP **PKPdf** **23 01 22.0 +1.1**
CRVS Cervenica-Dubn 144.36 344 *e*PKP PKPbc 23 01 19.1 -0.4
TESR Tescani 144.75 336⇑ *i*P **PKPab** **23 01 19.9 -0.8**
PRU Pruhonice 144.75 352 *i* PKP PKPbc 23 01 20.2 -0.5
PRU *ep*PKP **PKiKP** **23 01 23.6 -1.9**
TRPA Tarpa 144.75 342⇑ *i*P PKPbc 23 01 20.3 -0.4
GHRR 144.82 335⇑ *i*P **PKPdf** **23 01 21.0 -1.0**
TLCR 144.92 333⇑ *i*P PKPbc 23 01 20.8 -0.6
KECS Kecovo 145.00 344 *e*PKP PKPbc 23 01 21.2 -0.4
DOU Dourbes 145.10 3 PKP PKPbc 23 01 21.5 -0.4
CFR Carcaliu 145.22 334⇓ *i*P **PKPab** **23 01 21.4 -1.0**
VRI Vrincioaia 145.25 336⇑ *i*P **PKPab** **23 01 21.8 -0.8**
TREC Trest 145.28 350 *e*PKP **PKPbc** **23 01 21.9 -0.6**
TREC *ep*PKP **PKiKP** **23 01 26.2 -0.5**
PLOR Plostina 145.29 336⇑ *i*P **PKPbc** **23 01 21.9 -0.7**
GRER 145.55 335⇑ *i*P **PKPdf** **23 01 24.5 +1.2**
WLF Walferdange 145.59 1 PKP **PKPab** **23 01 23.7 +0.1**
TIRR Tirgusor 145.67 333⇑ *i*P **PKPbc** **23 01 22.6 -1.2**
PSZ Piszkesteto 145.68 345 *e*PKPdf **PKPab** **23 01 24.1 -0.1**
KHC Kasperske Hory 145.72 352 *i* PKP **PKPab** **23 01 23.7 -0.5**
KHC *ep*PKP **PKiKP** **23 01 29.5 +1.9**
KHC Kasperske Hory 145.72 352 *e*PKPdf **PKPbc** **23 01 23.5 -0.4**
TLB Topalu 145.73 333⇑ *i*P **PKPab** **23 01 23.7 -0.6**
MLR Muntele Rosu 145.87 336⇓ *i*P **PKPab** **23 01 24.2 -0.8**
DRGR 145.89 341⇑ *i*P **PKPbc** **23 01 23.8 -0.8**
ISR Istrita 145.94 335⇑ *i*P **PKPbc** **23 01 24.2 -0.5**
GEC2 GERESS Array S 145.98 352 *e*PKPab **PKPbc** **23 01 24.4 -0.4**
GERES GERESS Array B 145.98 352 PKPbc **PKPbc** **23 01 24.1 -0.7**
GERES GERESS Array B 145.98 352 PKPbc **PKPbc** **23 01 24.1 -0.7**
comp=Z,3.6nm,1.1s,baz=37,slow=3.3,SNR=11
VOIR 146.25 337⇑ *i*P **PKPab** **23 01 25.8 -0.6**
BR131 Keskin Array S 146.29 322 *e*PKPdf **PKPdf** **23 01 24.2 -0.7**
BRTR Keskin Array B 146.29 322 PKPbc **PKPdf** **23 01 24.8 -0.2**
BRTR Keskin Array B 146.29 322 PKPbc **PKPdf** **23 01 24.8 -0.2**
comp=Z,5.0nm,0.7s,baz=107,slow=1.8,SNR=16
SULR 146.41 335⇑ *i*P **PKPab** **23 01 26.0 -0.9**
ARR Arges 146.47 337⇑ *i*P **PKPab** **23 01 26.7 -0.5**
SIRR Siria 146.69 342⇑ *i*P **PKPbc** **23 01 26.5 -0.4**
LOT Lotru 146.71 338⇓ *i*P **PKPbc** **23 01 25.8 -1.3**
BFO Black Forest 146.92 359 *e*PKPab **PKPbc** **23 01 27.1 -0.4**
GZR Gura Zlata 147.10 340⇑ *i*P **PKPbc** **23 01 27.3 -0.8**
BZS Buzias 147.28 341⇑ *i*P **PKPbc** **23 01 27.6 -0.9**
TUE Stuetta 148.73 357 *e*PKPab **PKPbc** **23 01 33.8 +1.1**
TORD Torodi Ar. Bea 174.36 110 PKP **PKPdf** **23 01 52.3 -3.4**
TORD Torodi Ar. Bea 174.36 110 PKP **PKPdf** **23 01 52.3 -3.4**
comp=Z,0.4nm,0.8s,baz=350,slow=2.0,SNR=3.0

IDC 29 22:42:22.7±3.9, 15°.94S×174°.97W, h0km, mb4.5/4, mb1 4.6/4, mb1mx4.1/18, mbtmp4.5/4, Error ellipse: s-maj=159.5km s-min=56.4km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**42.46**	**240**	P	P	22 50 19.1	-0.6
	5.8nm,0.9s,baz=52,slow=8.1,SNR=4.0						
WRA	**Warramunga Arr**	**48.25**	**257**	P	P	22 51 06.5	+0.7
	2.8nm,0.7s,baz=90,slow=6.9,SNR=6.7						
ASAR	**Alice Springs**	**48.51**	**252**	P	P	22 51 07.2	-0.7
	9.8nm,0.7s,baz=86,slow=8.4,SNR=5.5						
FITZ	**Fitzroy Crossi**	**56.62**	**259**	P	P	22 52 07.9	0.0
	2.5nm,0.7s,baz=98,slow=1.7,SNR=6.3						
KMBO	**Kilima Mbogo**	**143.94**	**245**	PKP	PKPdf	23 02 02.1	+0.5
	3.2nm,1.0s,baz=97,slow=4.5,SNR=4.7						
BRTR	**Keskin Array B**	**145.60**	**319**	PKPbc	PKPdf	23 02 02.4	-1.2
	3.8nm,0.8s,baz=81,slow=3.0,SNR=4.0						

*NEIC **29** 22:43:24.5±0.5, 27°.79N×127°.93E, h10km, mb5.0/15, Error ellipse: s-maj=9.6km s-min=7.6km az=96.0*
NEIC Recorded [1 JMA] on Okino-erabu-shima and Yoron-jima.
*JMA **29** 22:43:25.5±0.4, 27°.83N×127°.83E, h8km±4km, M5.0*
JMA Felt I J1.
*ISCJB **29** 22:43:27.8±0.5, 27°.75N±0°.03×127°.84E±0°.04, h46km±5km, mb4.5/24, Error ellipse: s-maj=6.3km s-min=4.8km az=140.3*
*IDC **29** 22:43:38.3±2.7, 27°.99N×128°.29E, h132km±28km, mb3.7/13, mb1 3.8/16, mb1mx3.7/31, mbtmp3.7/16, Error ellipse: s-maj=24.9km s-min=12.8km az=71.0*

ISC 29 22:43:28.5±0.9, 27°.77N±0°.05×127°.92E±0°.05, h43km±11km, n70, σ1°.40/70, mb4.5/24, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIH	**Iheya**	**0.74**	**177**	P	**Pn**	**22 43 40.8**	**-1.7**
JIH				S	**Sn**	**22 43 51.6**	**-1.0**
JTK	**Tokunoshima**	**0.91**	**89**	P	**Pn**	**22 43 44.4**	**-0.4**
JTK				S	**Sn**	**22 43 56.9**	**+0.1**
JOW	**Kunigami**	**0.99**	**162**	P	**Pn**	**22 43 45.7**	**-0.2**
JOW				*e*S	**Sn**	**22 44 00.3**	**+1.6**
JOW	**Kunigami**	**0.99**	**162**	*e*P	**Pn**	**22 43 45.2**	**-0.7**
JOW				*e*S	**Sn**	**22 44 00.2**	**+1.4**
JAMN	**Amaminishikomi**	**1.20**	**67**	P	**Pn**	**22 43 49.0**	**+0.2**
JAGN	**Aguni-jima**	**1.33**	**207**	P	**Pn**	**22 43 49.5**	**-1.1**
JAGN				*e*S	**Sn**	**22 44 07.9**	**+0.9**
JAM	**Amami Oshima**	**1.61**	**66**	P	**Pn**	**22 43 55.6**	**+1.1**
JAM				*e*S	**Sn**	**22 44 17.2**	**+3.1**
JJT2	**Tamagusuku 2**	**1.64**	**186**	P	**Pn**	**22 43 55.4**	**+0.6**
JJT2				*e*S	**Sn**	**22 44 17.3**	**+2.6**
JKE	**Kume jima 2**	**1.76**	**215**	P	**Pn**	**22 43 57.9**	**+1.3**
JZK	**Kikaishima**	**1.89**	**73**	P	Pn	22 44 01.7	+3.4
JMZ	**Minamidaito 2**	**3.53**	**123**	P	**Pn**	**22 44 21.9**	**+1.1**
JMZ				*e*S	**Sn**	**22 45 01.0**	**-0.4**
JNU	**Nakatsue**	**5.91**	**25**	*e*Pn	**Pn**	**22 44 55.3**	**+1.8**
JNU	**Nakatsue**	**5.91**	**25**	P	Pn	22 44 59.3	+5.8
	baz=203,slow=8.9,SNR=33						
YHNB	**Yeheng**	**6.64**	**244**	*e*Pn	**Pn**	**22 45 04.9**	**+1.2**
NACB	**Ninganchiao**	**6.73**	**239**	*e*Pn	**Pn**	**22 45 03.7**	**-1.1**
YULB	**Yu-li**	**7.40**	**235**	*e*Pn	**Pn**	**22 45 13.0**	**-1.0**
SSLB	**Suanglung**	**7.43**	**239**	*e*Pn	**Pn**	**22 45 14.6**	**+0.2**
	34nm,0.8s						
TPUB	**Ta-pu**	**7.95**	**238**	*e*Pn	**Pn**	**22 45 21.3**	**-0.3**
KSRS	**Korea Array**	**9.65**	**360**	P	Pn	22 45 49.8	+5.0
	0.1nm,0.3s,baz=188,slow=16,SNR=6.7						
MAJO	**Matsushiro**	**12.33**	**42**	*e*Pn	**Pn**	**22 46 21.0**	**-0.5**
	150nm,1.9s						
MAT	**Matsushiro**	**12.33**	**42**	P	**P**	**22 46 30.7**	**-2.0**
BJT	**Baijiatuan**	**15.62**	**324**	*e*Pn	**Pn**	**22 47 04.9**	**-0.7**
	64nm,1.2s						
ENH	**Enshi**	**16.32**	**283**	*e*Pn	**Pn**	**22 47 14.6**	**-0.1**
	5.7nm,0.7s						
USRK	**Ussurlysk Arra**	**16.71**	**10**	P	**P**	**22 47 22.9**	**+1.7**
	baz=211,slow=13,SNR=11						
MDJ	**Mudanjiang**	**16.86**	**4**	*e*Pn	**Pn**	**22 47 20.6**	**-0.6**
	107nm,1.6s						
ULN	**Ulaanbaatar**	**25.82**	**327**	*e*P	**P**	**22 48 55.9**	**+0.1**
	82nm,1.4s						
SONM	**Songino Array**	**26.12**	**326**	P	**P**	**22 49 00.2**	**+1.7**
	19nm,1.0s,baz=142,slow=8.8,SNR=19						
CMAR	**Chiang Mai Arr**	**28.16**	**257**	P	P	22 49 21.7	+4.7
	0.4nm,0.3s,baz=48,slow=11,SNR=2.9						
LSA	**Lhasa**	**32.22**	**282**	*e*P	**P**	**22 49 51.8**	**-1.4**
	9.7nm,1.1s						
MKAR	**Makanchi Array**	**40.31**	**311**	P	**P**	**22 51 03.1**	**+1.4**
	1.5nm,0.7s,baz=97,slow=9.9,SNR=10						
ZAA0	**Zalesovo Array**	**40.86**	**322**	*e*P	**P**	**22 51 06.0**	**0.0**
ZALV	**Zalesovo Beam**	**40.86**	**322**	P	**P**	**22 51 06.5**	**+0.5**
	4.2nm,0.9s,baz=107,slow=7.7,SNR=15						
PMG	**Port Moresby**	**41.39**	**151**	*e*P	**P**	**22 51 09.3**	**-1.4**
KURK	**Kurchatov**	**43.52**	**316**	*e*P	**P**	**22 51 27.2**	**-0.5**
	27nm,1.6s						
KURBB	**Kurchatov Arra**	**43.56**	**315**	P	**P**	**22 51 28.9**	**+0.9**
	1.8nm,0.6s,baz=104,slow=8.4,SNR=28						
COEN	**Coen**	**44.04**	**158**	*e*P	**P**	**22 51 33.3**	**+1.1**
	77nm,1.1s						
TKM2	**Tokmak 2**	**44.58**	**304**	*e*P	**P**	**22 51 36.2**	**-0.4**
	41nm,1.6s						
AAK	**Ala-Archa**	**45.38**	**304**	*e*P	**P**	**22 51 43.1**	**+0.2**
	164nm,3.0s						
AAK	**Ala-Archa**	**45.38**	**304**	P	**P**	**22 51 45.1**	**+2.2**
	0.9nm,0.4s,baz=172,slow=3.1,SNR=6.3						
FITZ	**Fitzroy Crossi**	**45.66**	**183**	*e*P	**P**	**22 51 43.7**	**-1.3**
	4.0nm,0.8s						
FITZ	**Fitzroy Crossi**	**45.66**	**183**	P	**P**	**22 51 47.2**	**+2.2**
	3.7nm,0.8s,baz=8.4,slow=3.6,SNR=6.2						
EKS2	**Erkin-Say**	**45.91**	**304**	*e*P	**P**	**22 51 45.0**	**-2.0**
	5.8nm,1.3s						
WRAB	**Tennant Creek**	**47.83**	**172**	*e*P	**P**	**22 52 01.8**	**-0.2**
WRA	**Warramunga Arr**	**47.84**	**172**	P	**P**	**22 52 04.0**	**+1.9**
	2.7nm,0.6s,baz=346,slow=8.1,SNR=6.6						
KKAR	**Karatay Array**	**48.31**	**304**	*e*P	**P**	**22 52 06.0**	**+0.3**
	54nm,1.8s						
BVAR	**Borovoye Array**	**48.95**	**317**	P	**P**	**22 52 12.7**	**+2.4**
	1.6nm,0.5s,baz=80,slow=12,SNR=9.7						
BRVK	**Borovoye**	**49.02**	**318**	*e*P	**P**	**22 52 11.9**	**+1.0**
	25nm,1.3s						
KBL	**Kabul**	**50.23**	**293**	*e*P	**P**	**22 52 21.1**	**+0.4**
	46nm,1.6s						
ASAR	**Alice Springs**	**51.47**	**173**	P	**P**	**22 52 31.8**	**+2.1**
	1.5nm,0.7s,baz=358,slow=9.5,SNR=7.1						
ABKAR	**Akbulak array**	**55.40**	**312**	*e*P	**P**	**22 52 57.9**	**-0.5**
	20nm,1.3s						
STKA	**Stephens Creek**	**60.73**	**167**	*e*P	**P**	**22 53 35.4**	**-0.3**
ILAR	**Eielson Array**	**63.21**	**29**	P	**P**	**22 53 49.5**	**-2.5**
	0.5nm,0.7s,baz=241,slow=5.5,SNR=4.1						
FINES	**FINESS Array B**	**71.39**	**330**	P	**P**	**22 54 44.0**	**+0.2**
	4.4nm,1.1s,baz=68,slow=5.1,SNR=6.1						
AKASG	**Malin Array Be**	**74.19**	**319**	P	**P**	**22 54 59.8**	**-0.8**
	0.1nm,0.2s,baz=63,slow=5.1,SNR=3.6						
CLL	**Collm**	**82.73**	**325**	*e*PP	PP	22 59 00.0	+2.6
J08A	**Circle Bar Ran**	**86.65**	**42**	*ep*P	P	22 56 11.6	+3.8
MFID	**Camas Ranch**	**88.17**	**41**	P	**P**	**22 56 16.7**	**+1.5**
	baz=88						
HLID	**Hailey**	**88.89**	**40**	P	**P**	**22 56 20.4**	**+1.7**
	baz=89						
HLID	**Hailey**	**88.89**	**40**	*ep*P	P	22 56 22.6	+4.0
D19A	**Cripps Ranch,**	**89.55**	**35**	P	**P**	**22 56 24.6**	**+3.1**
	baz=89						
C20A	**Veseth Ranch,**	**89.62**	**34**	P	**P**	**22 56 23.9**	**+2.1**
	baz=89						
A22A	**Carney Farms,**	**89.75**	**32**	P	**P**	**22 56 23.6**	**+1.2**
	baz=90						
D20A	**Manuel Ranch,**	**89.97**	**35**	P	**P**	**22 56 25.0**	**+1.5**
	baz=90						
E19A	**Rath Farm, Rou**	**90.07**	**35**	P	**P**	**22 56 25.5**	**+1.5**
	baz=90						
D21A	**La Casta Ranch**	**90.56**	**34**	P	**P**	**22 56 27.0**	**+0.8**
	baz=90						
LOHW	**Long Hollow**	**91.00**	**38**	*e*P	**P**	**22 56 28.7**	**+0.3**
	6.9nm,0.6s						
I19A	**Meeteetse**	**91.59**	**37**	P	P	22 56 28.0	-3.2
	baz=91						
H20A	**Greybull**	**91.81**	**36**	P	**P**	**22 56 30.0**	**-2.1**
	baz=92						
H21A	**Big Horn, Sher**	**92.22**	**36**	P	**P**	**22 56 33.0**	**-1.0**
	baz=92						
G26A	**Maurine**	**93.97**	**33**	P	**P**	**22 56 41.1**	**-0.9**
	baz=94						

IDC 29 22:44:48.4±5.3, 15°.75S×173°.58W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.8/18, mbtmp4.0/3, Error ellipse: s-maj=216.3km s-min=54.3km az=134.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**43.71**	**240**	P	P	22 52 55.4	-0.2
	1.8nm,0.7s,baz=94,slow=4.3,SNR=3.8						
WRA	**Warramunga Arr**	**49.59**	**257**	P	P	22 53 41.8	-0.1
	0.7nm,0.7s,baz=93,slow=6.8,SNR=5.6						
ASAR	**Alice Springs**	**49.84**	**252**	P	P	22 53 43.6	-0.1
	2.1nm,0.6s,baz=86,slow=7.8,SNR=5.6						
BRTR	**Keskin Array B**	**146.31**	**321**	PKPbc	PKPdf	23 04 30.8	+0.3
	0.7nm,0.6s,baz=94,slow=2.3,SNR=4.1						

IDC 29 22:50:39.5±0.9, 15°.66S×173°.05W, h0km, mb4.1/7, mb1 4.4/7, mb1mx4.1/18, mbtmp4.1/7, Error ellipse: s-maj=58.2km s-min=21.2km az=145.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.13**	**36**	Pn	Pn	22 51 10.8	-5.7
	95nm,0.3s,baz=59,slow=17,SNR=6.0						
AFI				Sn	Sn	22 51 35.2	-8.6
	202nm,0.3s,baz=237,slow=22,SNR=6.4						
STKA	**Stephens Creek**	**44.20**	**240**	P	P	22 58 49.8	-0.6
	3.0nm,0.8s,baz=81,slow=11,SNR=5.0						
WRA	**Warramunga Arr**	**50.11**	**257**	P	P	22 59 36.4	-0.4
	0.6nm,0.4s,baz=92,slow=7.1,SNR=14						
ASAR	**Alice Springs**	**50.35**	**252**	P	P	22 59 37.9	-0.7
	2.8nm,0.5s,baz=85,slow=8.1,SNR=29						
TXAR	**Lajitas Array**	**80.48**	**56**	P	P	23 02 52.7	-1.1
	1.3nm,0.8s,baz=256,slow=5.3,SNR=3.7						
PDAR	**Pinedale Array**	**82.24**	**42**	P	P	23 03 03.1	+0.1
	0.8nm,0.6s,baz=238,slow=2.8,SNR=4.6						
ILAR	**Eielson Array**	**82.64**	**11**	P	P	23 03 03.9	-0.4
	0.5nm,0.7s,baz=219,slow=7.4,SNR=4.1						
MAW	**Mawson**	**87.65**	**199**	P	P	23 03 30.3	+0.8
	1.1nm,0.6s,baz=150,slow=8.1,SNR=3.2						
ARCES	**ARCESS Array B**	**124.91**	**352**	PKP	PKPdf	23 09 41.2	+0.3
	1.9nm,0.8s,baz=18,slow=1.1,SNR=5.2						
GERES	**GERESS Array B**	**146.45**	**352**	PKPbc	PKPbc	23 10 22.4	-0.2
	0.4nm,0.6s,baz=15,slow=5.5,SNR=3.7						
BRTR	**Keskin Array B**	**146.57**	**321**	PKPbc	PKPab	23 10 24.1	-0.3
	2.4nm,1.0s,baz=120,slow=3.3,SNR=10						

IDC 29 22:53:32.1±2.5, 15°.81S×172°.83W, h0km, mb3.9/5, mb1 4.2/6, mb1mx3.9/19, mbtmp3.9/6, ML1.4/1, Error ellipse: s-maj=123.6km s-min=21.5km az=138.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.15**	**28**	Pn	Pn	22 54 07.2	-2.1
	6.2nm,0.3s,baz=234,slow=17,SNR=1.7						
AFI				Sn	Sn	22 54 30.4	-6.3
	53nm,0.3s,baz=37,slow=20,SNR=5.8						
STKA	**Stephens Creek**	**44.31**	**240**	P	P	23 01 43.3	-0.7
	3.1nm,0.9s,baz=69,slow=13,SNR=3.7						
WRA	**Warramunga Arr**	**50.28**	**257**	P	P	23 02 30.4	-0.4
	0.8nm,0.6s,baz=89,slow=6.8,SNR=9.5						
ASAR	**Alice Springs**	**50.51**	**252**	P	P	23 02 31.6	-0.9
	1.6nm,0.7s,baz=88,slow=8.3,SNR=6.2						
PDAR	**Pinedale Array**	**82.21**	**42**	P	P	23 05 54.9	-0.5
	0.5nm,0.7s,baz=197,slow=4.5,SNR=3.5						
ILAR	**Eielson Array**	**82.74**	**11**	P	P	23 05 58.1	+0.7
	0.6nm,0.6s,baz=236,slow=6.1,SNR=7.5						
BRTR	**Keskin Array B**	**146.82**	**321**	PKPbc	PKPab	23 13 17.9	-0.1
	2.0nm,0.9s,baz=128,slow=2.9,SNR=8.8						

*NEIC **29** 22:54:07.5±0.2, 37°.00N×104°.81W, h5km, ML3.6, MW3.5(SLM), Error ellipse: s-maj=3.5km s-min=3.4km az=140.0*
NEIC Felt [III] at Weston. Also felt at Pueblo.

ISC 29 22:54:06.9±0.9, 37°.03N±0°.02×104°.90W±0°.02, h4km±6km, n104, σ1°.69/177, 28C-29D, Colorado

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T24B	**San Luis**	**0.38**	**275**	P	**Pg**	**22 54 12.4**	**-1.9**
	baz=0.3,SNR=1000						
T24B				⇑S	**Sg**	**22 54 17.5**	**-1.9**
	baz=0.3						
T25A	**Trinidad**	**0.41**	**75**	P	**Pg**	**22 54 14.5**	**-0.3**
T25A	**Trinidad**	**0.41**	**75**	⇑P	**Pg**	**22 54 14.5**	**-0.3**
	baz=0.4,SNR=1000						
T25A				⇑S	**Sg**	**22 54 20.8**	**+0.6**
	baz=0.4						
S24A	**Houchin Ranch,**	**0.66**	**338**	P	**Pg**	**22 54 18.0**	**-1.5**
S24A				S	**Sg**	**22 54 27.6**	**-0.5**
S24A	**Houchin Ranch,**	**0.66**	**338**	⇑P	**Pg**	**22 54 18.0**	**-1.5**
	baz=0.6,SNR=168						
S24A				⇑S	**Sg**	**22 54 26.7**	**-1.3**
	baz=0.6						
U24A	**Moreno Valley**	**0.69**	**206**	P	**Pg**	**22 54 19.0**	**-1.1**
U24A	**Moreno Valley**	**0.69**	**206**	⇓P	**Pg**	**22 54 18.8**	**-1.3**
	baz=0.7						
U24A				⇑S	**Sg**	**22 54 27.8**	**-1.3**
	baz=0.7						
S25A	**Robets Cordova**	**0.73**	**31**	P	**Pg**	**22 54 19.8**	**-1.1**
S25A	**Robets Cordova**	**0.73**	**31**	P	**Pg**	**22 54 19.8**	**-1.1**
	baz=0.7,SNR=894						
S25A				⇑S	**Sg**	**22 54 29.6**	**-0.8**
	baz=0.7						
U25A	**Circle Dot Ran**	**0.75**	**148**	P	**Pg**	**22 54 20.2**	**-1.0**
U25A	**Circle Dot Ran**	**0.75**	**148**	P	**Pg**	**22 54 20.2**	**-1.0**
	baz=0.8,SNR=447						
U25A				⇓S	**Sg**	**22 54 30.6**	**-0.3**
	baz=0.8						
SDCO	**Great Sand Dun**	**0.86**	**326**	*e*P	**Pg**	**22 54 20.9**	**-2.4**
SDCO				*e*S	**Sg**	**22 54 31.7**	**-2.7**
T23A	**Casias Ranch,**	**0.91**	**271**	⇑P	**Pg**	**22 54 22.0**	**-2.3**
	baz=0.9,SNR=22						
T23A				⇑S	**Sg**	**22 54 33.7**	**-2.4**
	baz=0.9						
T26A	**Comanche Natio**	**1.06**	**82**	P	**Pg**	**22 54 26.2**	**-0.9**
	baz=1.1,SNR=532						
T26A				⇓S	**Sb**	**22 54 41.2**	**-0.9**
	baz=1.1						
S23A	**Nye Farm, Mont**	**1.10**	**308**	⇓S	**Sg**	**22 54 41.0**	**-1.4**
	baz=1.1						
U26A	**Atchley Ranch,**	**1.13**	**124**	⇑P	**Pg**	**22 54 27.5**	**-1.0**
	baz=1.2,SNR=195						
U26A				⇓S	**Sg**	**22 54 42.8**	**-0.3**
	baz=1.2						
R24A	**Sanders Place,**	**1.21**	**352**	P	**Pg**	**22 54 28.3**	**-1.7**
	baz=1.2,SNR=58						
R24A				⇑S	**Sg**	**22 54 43.9**	**-1.8**
	baz=1.2						
V25A	**Rancho No Teng**	**1.21**	**169**	⇓P	**Pg**	**22 54 28.5**	**-1.6**
	baz=1.2,SNR=201						
R25A	**Fountain Ranch**	**1.22**	**24**	⇑P	**Pg**	**22 54 28.6**	**-1.6**
	baz=1.2,SNR=146						
R25A				⇓S	**Sg**	**22 54 44.5**	**-1.5**
	baz=1.2						
U23A	**El Rito**	**1.25**	**236**	P	**Pg**	**22 54 28.6**	**-2.3**
	baz=1.2,SNR=214						
S26A	**Kim**	**1.28**	**62**	⇓P	**Pg**	**22 54 30.3**	**-1.2**
	baz=1.3						
S26A				⇓S	**Sg**	**22 54 47.8**	**-0.4**
	baz=1.3						
V24A	**Rampart Ranch,**	**1.34**	**193**	⇑P	**Pg**	**22 54 30.4**	**-2.1**
	baz=1.3,SNR=62						
R23A	**Moffat**	**1.37**	**328**	P	**Pn**	**22 54 30.8**	**-2.3**
	baz=1.3						
V26A	**Tequesquite Ra**	**1.53**	**144**	⇓P	**Pn**	**22 54 34.1**	**-1.0**
	baz=1.6,SNR=16						
V26A				⇓S	**Sg**	**22 54 54.7**	**-1.2**
	baz=1.6						
T22A	**Edith**	**1.60**	**270**	⇑Pb	**Pn**	**22 54 34.5**	**-1.7**
	baz=1.6,SNR=22						
T22A				⇓S	**Sn**	**22 54 55.3**	**-2.2**
	baz=1.6						
V23A	**Ortiz Mt. (NFS**	**1.65**	**219**	⇓Pb	**Pn**	**22 54 36.5**	**-0.3**
	baz=1.6,SNR=122						
S22A	**4UR Ranch, Cre**	**1.69**	**295**	⇑Pb	**Pn**	**22 54 36.6**	**-0.9**
	baz=1.7,SNR=143						
S22A				⇑S	**Sn**	**22 54 58.7**	**-1.1**
	baz=1.7						
U22A	**Llaves**	**1.70**	**248**	⇓Pb	**Pn**	**22 54 36.9**	**-0.7**
	baz=1.7,SNR=50						
R26A	**Arlington**	**1.71**	**42**	⇓Pb	**Pb**	**22 54 38.0**	**-1.0**
	baz=1.7,SNR=819						
R26A

baz=2.8,SNR=29
MVCO Mesa Verde 2.88 275 *e*Pn **Pn** **22 54 55.6 +1.8**
MVCO *e*S **Sb** **22 55 36.8 +2.1**
LPM Los Pinos Moun 3.06 208 *e*Pn **Pn** **22 54 56.7 +0.6**
LPM *e*Pg **Pg** **22 55 04.0 -1.5**
LPM *e*S **Sn** **22 55 36.0 +2.7**
PV01 Paradox Valley 3.11 292 *e*Pn **Pn** **22 54 59.4 +2.4**
PV01 *e*Pg **Pb** **22 55 03.5 +0.5**
PV01 *e*Sn **Sb** **22 55 42.5 +1.1**
PV15 Paradox Valley 3.12 296 *e*Pn **Pn** **22 54 58.6 +1.5**
LAZ Ladron 3.19 215 *e*Pn **Pn** **22 54 57.8 -0.2**
LAZ *e*Pg **Pg** **22 55 08.4 +0.3**
LAZ *e*S **Sg** **22 55 52.8 +3.4**
BNM Barren Site 3.20 207 *e*Pn **Pn** **22 54 58.5 +0.3**
BNM *e*Pg **Pb** **22 55 05.8 +1.3**
BNM *e*Sn **Sn** **22 55 37.1 +0.1**
BNM *e*Sg **Sg** **22 55 49.8 +0.1**
LENM Lemitar 3.32 211 *e*Pn **Pn** **22 55 01.2 +1.5**
LENM *e*Pg **Pg** **22 55 11.3 +0.8**
LENM *e*Sn **Sn** **22 55 40.0 +0.2**
PV05 Paradox Valley 3.49 289 *e*Pn **Pb** **22 55 09.6 +0.2**
PV05 *e*Sb **Sg** **22 55 58.2 -0.9**
MSTX Muleshoe 3.52 150 Pn **Pn** **22 55 02.8 +0.4**
MSTX *e*Pg **Pg** **22 55 14.6 +0.4**
MSTX *e*Sg **Sg** **22 55 58.8 -1.1**
P28A Saint Francis 3.54 43 ⇑P **Pn** **22 55 04.1 +1.3**
baz=3.6,SNR=13
Q29A Oakley 3.61 58 ⇑P **Pn** **22 55 03.9 +0.2**
baz=3.6,SNR=11
PV09 Paradox Valley 3.66 295 *e*Pn **Pb** **22 55 13.8 +1.6**
O20A White River Ci 4.05 321 *e*Pn **Pn** **22 55 10.9 +1.0**
O20A *e*Pg **Pg** **22 55 26.0 +1.4**
O20A *e*Sn **Sn** **22 55 59.8 +1.9**
PHWY Pilot Hill 4.29 354 *e*Pn **Pn** **22 55 14.0 +0.9**
PHWY *e*Pg **Pg** **22 55 26.9 -2.1**
PHWY *e*Sn **Sn** **22 56 06.1 +2.4**
W18A Petrified Fore 4.36 245 *e*Pn **Pn** **22 55 16.7 +2.7**
W18A *e*Pg **Pg** **22 55 27.3 -3.0**
W18A *e*Sn **Sn** **22 56 07.8 +2.5**
OGNE Ogallala 4.50 29 *e*Pn **Pn** **22 55 15.2 -0.7**
OGNE *e*Pg **Pb** **22 55 28.1 +1.6**
SRU San Rafael 4.90 297 *e*Pn **Pn** **22 55 23.3 +1.9**
SRU *e*Pg **Pb** **22 55 35.2 +1.9**
SRU *e*S **Sb** **22 56 36.4 +3.8**
Q16A Castle Valley 5.30 293 *e*Pn **Pn** **22 55 29.0 +2.0**
Q16A *e*Pg **Pb** **22 55 43.1 +2.9**
Q16A *e*S **Sb** **22 56 48.5 +4.3**
MNTX Cornudas Mount 5.34 184 *e*Pn Pn 22 55 31.2 +3.8
19nm,0.9s
MNTX *e*Pg Pb 22 55 44.1 +3.4
MNTX *e*Sg **Sg** **22 56 55.4 -2.8**
WUAZ Wupatki 5.44 256 *e*Pn **Pn** **22 55 29.8 +0.9**
54nm,0.6s
WUAZ *e*Pg Pb 22 55 46.3 +3.7
TMUT Trail Mountain 5.46 296 *e*Pn **Pn** **22 55 31.7 +2.4**
TMUT *e*Pg **Pb** **22 55 45.1 +2.2**
TMUT *e*S **Sb** **22 56 52.3 +3.4**
WMOK Wichita Mounta 5.47 113 *e*Pn **Pn** **22 55 30.1 +0.9**
44nm,1.0s
WMOK *e*Pg **Pb** **22 55 43.0 -0.1**
WMOK *e*Sg **Sg** **22 57 00.5 -2.1**
MVU Marysvale 5.97 286 *e*Pn **Pn** **22 55 37.9 +1.6**
MVU *e*Pg Pb 22 55 55.1 +3.4
MVU *e*Sg **Sg** **22 57 13.7 -5.0**
MPU Maple Canyon 6.06 301 *e*Pn **Pn** **22 55 38.2 +0.8**
MPU *e*Pg **Pg** **22 56 00.6 -2.3**
MPU *e*Sg **Sg** **22 57 17.5 -3.9**
ABTX Abilene, Hawle 6.17 134 *e*Pn **Pn** **22 55 38.2 -0.6**
ABTX *e*Pg Pg 22 55 59.9 -5.2
ABTX *e*Sg **Sg** **22 57 23.4 -1.5**
JLU Jordanelle 6.23 307 *e*Pn Pn 22 55 44.8 +5.0
JLU *e*Pg **Pg** **22 56 04.2 -2.1**
JLU *e*Sg **Sg** **22 57 24.4 -2.5**
CTU Camp Tracy 6.47 306 *e*Pn Pn 22 55 47.2 +4.1
BW06 Boulder Array 6.75 329 *e*Pn **Pn** **22 55 48.6 +1.7**
11nm,0.9s
BW06 *e*Pg **Pg** **22 56 13.9 -2.3**
BW06 *e*Sg **Sg** **22 57 45.7 +2.1**
TUC Tucson 6.76 228 *e*Pn **Pn** **22 55 46.9 -0.1**
TUC *e*Pg **Pg** **22 56 15.3 -1.0**
TUC *e*Sg Sg 22 57 37.6 -6.3
CCUT Cedar City 6.76 277 *e*Pn **Pn** **22 55 50.0 +2.9**
CCUT *e*Pg Pg 22 56 12.1 -4.3
CCUT Sg Sg 22 57 37.6 -6.4
BGNE Belgrade 6.82 48 *e*Pn **Pn** **22 55 47.7 0.0**
BGNE *e*Pg Pg 22 56 14.0 -3.5
BGNE *e*Sg **Sg** **22 57 46.7 +0.7**
KSU1 Kansas State U 6.86 70 *e*Pn **Pn** **22 55 48.0 -0.3**
KSU1 *e*Pg Pg 22 56 13.9 -4.4
KSU1 *e*Sg **Sg** **22 57 42.9 -4.3**
HWUT Hardware Ranch 6.89 314 *e*Pn **Pn** **22 55 50.5 +1.6**
17nm,0.7s
HWUT *e*Pg **Pg** **22 56 21.5 +2.6**
HWUT *e*Sg **Sg** **22 57 47.8 -0.4**
DUG Dugway 6.95 299 *e*Pn **Pn** **22 55 50.8 +1.2**
DUG *e*Sg **Sg** **22 57 46.6 -3.4**
RSSD Black Hills 7.11 5 *e*Pn **Pn** **22 55 52.0 +0.1**
RSSD *e*Pg Pg 22 56 18.3 -4.8
RSSD *e*Sg **Sg** **22 57 53.4 -1.8**
TUL1 Tulsa 7.43 96 Pn **Pn** **22 55 54.9 -1.2**
TUL1 *e*Pg Pg 22 56 23.2 -5.9
REDW Red Top Meadow 7.79 326 *e*Pn **Pn** **22 56 02.8 +1.6**
REDW *e*Pg **Pg** **22 56 34.7 -1.3**
REDW *e*Sg **Sg** **22 58 17.0 +0.2**
JCT Junction City 7.79 146 *e*Pn **Pn** **22 56 01.4 +0.3**
JCT *e*Pg Pg 22 56 30.5 -5.6
IMW Indian Meadow 8.25 328 *e*Pn **Pn** **22 56 08.1 +0.4**
IMW *e*Pg **Pg** **22 56 45.7 +0.8**
IMW *e*Sg **Sg** **22 58 29.6 -2.2**
FLWY Flagg Ranch 8.31 330 *e*Pn **Pn** **22 56 06.2 -2.0**
12nm,0.3s
LDFC Landfair 8.49 260 *e*Pn **Pn** **22 56 12.1 +1.4**
ECSD EROS Data Cent 9.21 41 *e*Pn **Pn** **22 56 20.2 -0.2**
ECSD *e*Sn **Sn** **22 58 02.6 -1.8**
HHC Hu-ho-hao-te 95.59 333 *e*P **P** **23 07 33.3 -0.3**
HHC PcP **PcP** **23 07 34.0 +0.1**
HHC PP **PP** **23 11 26.3 +2.6**
HHC Hu-ho-hao-te 95.59 333 SKS **SKSac** **23 18 08.5 -2.2**
HHC Hu-ho-hao-te 95.59 333 S **S** **23 18 47.5 -3.9**
HHC Hu-ho-hao-te 95.59 333 ScS **S** **23 18 48.8 -2.6**
HHC Hu-ho-hao-te 95.59 333 SS SS 23 25 19.8 +1.9
HHC pmax pmax
comp=Z,37nm,1.0s
HHC pmax pmax
comp=Z,740nm,6.3s
HHC LR LR
comp=N,140nm,17.8s
HHC LR LR
comp=E,270nm,18.0s
HHC LR LR
comp=Z,130nm,20.3s
CD2 Chengdu 107.28 334 Pdif **Pdif** **23 08 26.5 +0.6**

TAP 29 22:56:20.5,23°.34N×120°.38E,h14km,ML3.6,13C-3D,B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWK	**Hsinying**	**0.12**	**128**	*e*P	Pb	22 56 24.7	0.0
TWK	baz=116			*e*S	Sb	22 56 27.9	+0.5
CHY	**Chiayi**	**0.16**	**13**	⇓*i*P	Pb	22 56 25.1	-0.2
CHY	baz=17			S	Sb	22 56 28.7	+0.2
CHN1	**Nanshi**	**0.20**	**140**	⇑*i*P	Pb	22 56 25.7	-0.4
CHN1	baz=133			*i* S	Sb	22 56 29.9	+0.1
SCLT	**Jiali**	**0.24**	**227**	P	Pb	22 56 26.3	-0.3
SCLT	baz=225			S	Sb	22 56 31.6	+0.8
CHN3	**Shinhua**	**0.26**	**184**	P	Pb	22 56 27.5	+0.4
CHN3	baz=188			*e*S	Sb	22 56 33.2	+1.7
SGST	**Jiashian**	**0.32**	**145**	⇑P	Pb	22 56 28.0	0.0
SGST	baz=135			S	Sb	22 56 34.2	+1.2
WSF	**Szhu**	**0.33**	**333**	⇑*i*P	Pb	22 56 27.9	-0.4
WSF	baz=335			*i* S	Sb	22 56 33.9	+0.5
TAI1	**Yung-k'ang**	**0.33**	**206**	*e*P	Pb	22 56 28.3	+0.1
TAI1	baz=203			S	Sb	22 56 34.7	+1.3
CHN5	**Tsauling**	**0.37**	**47**	⇑P	Pb	22 56 28.8	-0.3
CHN5	baz=47			*e*S	Sb	22 56 35.2	+0.4
WGK	**Gukeng**	**0.38**	**25**	*e*P	Pb	22 56 29.4	+0.4
WGK	baz=27			*e*S	Sb	22 56 36.6	+1.8
TWM1	**Shoushan**	**0.52**	**176**	P	Pn	22 56 33.3	-0.3
WTCT	**Ta-ch'eng**	**0.53**	**350**	⇑P	Pb	22 56 31.3	-0.3
WTCT	baz=351			S	Sb	22 56 39.5	+0.4
ELDTW	**Lidau**	**0.60**	**104**	⇑*i*P	Pb	22 56 33.0	0.0
WNT	**Mingjian**	**0.60**	**27**	*e*P	Pb	22 56 33.1	+0.2
WNT	baz=29			*e*S	Sn	22 56 42.8	-1.5
SGLT	**Jiouru**	**0.62**	**171**	*e*P	Pn	22 56 34.9	-0.1
SGLT	baz=170			*e*S	Sn	22 56 46.2	+1.5
WDGT	**Dungji**	**0.67**	**263**	⇑*i*P	Pg	22 56 33.1	-0.4
WDGT	baz=263			S	Sg	22 56 42.5	+0.1
TYC	**Yuchr**	**0.71**	**38**	⇑*i*P	Pb	22 56 35.0	+0.4
TYC	baz=39			*e*S	Sn	22 56 45.8	-1.1
SMLT	**Sun Moon Lake**	**0.72**	**41**	⇑P	Pb	22 56 35.2	+0.2
SMLT	baz=42			S	Sn	22 56 46.4	-1.0
KAU	**Kaohsiung**	**0.77**	**185**	*e*P	Pn	22 56 37.0	0.0
KAU	baz=200			*e*S	Sn	22 56 49.9	+1.5
PNG	**Penghu**	**0.79**	**287**	⇑*i*P	Pg	22 56 35.0	-0.9
PNG	baz=287			*e*S	Sg	22 56 45.8	-0.5
TWG	**Pinlang**	**0.82**	**129**	⇑*i*P	Pn	22 56 37.2	-0.5
TWG	baz=129			S	Sn	22 56 49.2	-0.4
TWF1	**Yuli**	**0.84**	**89**	⇑*i*P	Pb	22 56 37.3	+0.4
TWF1	baz=89			*e*S	Sb	22 56 48.8	+0.7
TCU	**Taichung**	**0.85**	**18**	*e*P	Pn	22 56 37.8	-0.3
EHY	**Hungye**	**0.88**	**79**	⇑*i*P	Pn	22 56 38.1	-0.4
EHY	baz=80			*i* S	Sb	22 56 49.9	+0.7
TTN	**Taitung**	**0.91**	**130**	*e*P	Pn	22 56 39.2	+0.3
TTN	baz=129			*e*S	Sn	22 56 53.9	+2.0
CHKT	**Chengkung**	**0.93**	**105**	*e*P	Pn	22 56 39.6	+0.4
CHKT	baz=105			*e*S	Sn	22 56 54.6	+2.2
SCZT	**Fangliau**	**0.99**	**167**	*e*P	Pb	22 56 39.5	+0.1
EAST	**Anshuo**	**1.04**	**156**	⇓*i*P	Pn	22 56 41.0	+0.2
EAST	baz=155			*e*S	Sn	22 56 56.2	+1.0
TWQ1	**Liyutan**	**1.06**	**19**	*e*P	Pn	22 56 41.0	-0.1
TWQ1	baz=21			*e*S	Sn	22 56 55.9	+0.2
ESL	**Shilin**	**1.07**	**64**	*e*P	Pg	22 56 41.4	+0.2
ESL	baz=64			*e*S	Sn	22 56 55.5	-0.3
TAW	**Tawu**	**1.09**	**154**	*e*P	Pg	22 56 41.4	0.0
TAW	baz=153			*e*S	Sn	22 56 57.0	+0.8
NSY	**Sanyi**	**1.12**	**18**	*e*P	Pg	22 56 42.2	0.0
NSY	baz=19			*e*S	Sn	22 56 58.2	+1.0
WHF	**Hehuan Shan**	**1.14**	**45**	⇓P	Pb	22 56 42.5	0.0
WHF	baz=46			*e*S	Sn	22 56 58.4	0.0
TWT	**Tachien**	**1.16**	**38**	*e*P	Pg	22 56 43.3	+0.2
TWT	baz=39			*e*S	Sg	22 56 58.6	+0.2
HWA	**Hwalien**	**1.29**	**60**	*e*P	Pb	22 56 44.7	+0.2
TWD	**Chiawan**	**1.33**	**56**	*e*P	Pg	22 56 46.2	0.0
TWD	baz=57			S	Sg	22 57 02.9	-0.6
HEN	**Hengchun**	**1.37**	**166**	*e*P	Pn	22 56 45.3	+0.1
NSTT	**Nanjuang**	**1.40**	**24**	*e*P	Pb	22 56 46.2	-0.4
NSTT	baz=25			*e*S	Sb	22 57 05.0	+0.7
NNS	**Nan Shan**	**1.42**	**39**	*e*P	Pb	22 56 47.4	+0.4
NNS	baz=31			*e*S	Sg	22 57 06.9	+0.3
NSK	**Sanguang**	**1.60**	**34**	*e*P	Pn	22 56 49.0	+0.4
NSK	baz=24			*e*S	Sg	22 57 11.5	-0.7
ENA	**Nanau**	**1.65**	**49**	*e*P	Pb	22 56 50.8	+0.2
ENTT	**Nioudou**	**1.69**	**40**	*e*P	Pb	22 56 50.9	-0.5
ENTT	baz=26			*e*S	Sg	22 57 13.8	-1.1
TWE	**Neicheng**	**1.81**	**40**	*e*P	Pb	22 56 52.9	-0.5
TWE	baz=24			*e*S	Sb	22 57 17.1	+1.2
TWC	**Suao**	**1.84**	**46**	*e*P	Pg	22 56 55.0	-0.9
TWC	baz=47			*e*S	Sg	22 57 18.5	-1.2
KNM	**Kinmen**	**2.08**	**301**	*e*P	Pn	22 56 56.1	+1.1
	baz=301						

IDC 29 22:56:27.0±8.2,15°.75S×172°.41W,h0km,mb4.1/2, mb1 4.4/2,mb1mx3.7/18,mbtmp4.1/2,Error ellipse: s-maj=382.9km s-min=63.5km az=141.0,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**50.69**	**257**	P	P	23 05 29.5	+0.6
	1.3nm,0.9s,baz=93,slow=6.9,SNR=6.8						
ASAR	**Alice Springs**	**50.91**	**252**	P	P	23 05 29.7	-0.8
	3.9nm,0.8s,baz=86,slow=8.1,SNR=15						
BRTR	**Keskin Array B**	**147.02**	**322**	PKPbc	PKPbc	23 16 11.5	-0.8
	1.1nm,0.9s,baz=73,slow=2.6,SNR=4.5						

IDC 29 22:57:06.6±9.2,14°.31S×173°.64W,h0km,mb3.7/2, mb1 4.0/2,mb1mx3.6/17,mbtmp3.7/2,Error ellipse: s-maj=395.1km s-min=67.1km az=138.0,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**49.88**	**256**	P	P	23 06 02.1	-0.2
	0.3nm,0.6s,baz=91,slow=6.6,SNR=1.5						
ASAR	**Alice Springs**	**50.24**	**251**	P	P	23 06 04.8	-0.2
	1.4nm,0.6s,baz=86,slow=7.9,SNR=3.6						
BRTR	**Keskin Array B**	**145.17**	**322**	PKPbc	PKPbc	23 16 45.5	-0.8
	1.0nm,0.8s,baz=108,slow=2.7,SNR=4.7						

*IDC **29** 22:58:19.7±0.8,15°.31S×173°.36W,h0km,mb4.1/10, mb1 4.3/10,mb1mx4.2/18,mbtmp4.1/10,Error ellipse: s-maj=31.5km s-min=19.5km az=132.0*
*ISCJB **29** 22:58:24.2±0.7,15°.3S±0°.2×173°.4W±0°.2,h42km,mb4.0/10, Error ellipse: s-maj=29.0km s-min=17.7km az=42.3*

ISC 29 22:58:25.8±0.8,15°.3S±0°.2×173°.4W±0°.2,h42km,n15, σ0.87/14,mb4.1/10,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.08**	**49**	Pn	Pn	22 58 46.0	-12
	146nm,0.3s,baz=38,slow=17,SNR=4.5						
AFI				Sn	Sn	22 59 03.6	-20
	360nm,0.3s,baz=234,slow=22,SNR=8.5						
STKA	**Stephens Creek**	**44.09**	**240**	P	**P**	**23 06 29.4**	**-0.7**
	1.5nm,0.6s,baz=102,slow=14,SNR=2.8						
WRA	**Warramunga Arr**	**49.88**	**257**	P	**P**	**23 07 14.6**	**-0.8**
	1.1nm,0.4s,baz=90,slow=6.7,SNR=38						
ASAR	**Alice Springs**	**50.15**	**252**	P	**P**	**23 07 17.2**	**-0.3**
	7.7nm,0.8s,baz=91,slow=7.8,SNR=15						
VNDA	**Vanda**	**63.47**	**186**	P	**P**	**23 08 51.4**	**+0.3**
	3.2nm,1.1s,baz=2.7,slow=4.7,SNR=6.4						
PETK	**Petropavlovsk-**	**72.54**	**342**	P	**P**	**23 09 48.9**	**+0.6**
	3.4nm,0.8s,baz=177,slow=8.7,SNR=6.4						
KSRS	**Korea Array**	**76.10**	**316**	P	**P**	**23 10 10.9**	**+1.6**
	0.5nm,0.3s,baz=121,slow=6.4,SNR=3.1						
TXAR	**Lajitas Array**	**80.55**	**56**	P	**P**	**23 10 34.8**	**+0.5**
	0.7nm,1.1s,baz=245,slow=3.9,SNR=3.4						
PDAR	**Pinedale Array**	**82.19**	**42**	P	**P**	**23 10 42.0**	**-0.8**
	0.5nm,0.8s,baz=220,slow=5.4,SNR=2.5						
ILAR	**Eielson Array**	**82.35**	**11**	P	**P**	**23 10 41.3**	**-1.5**
	0.5nm,0.7s,baz=216,slow=7.5,SNR=5.0						
MAW	**Mawson**	**87.89**	**199**	P	**P**	**23 11 11.3**	**+0.6**
	2.2nm,0.7s,baz=142,slow=2.7,SNR=4.4						
DPC	**Dobruska-Polom**	**144.17**	**349**	*e*PKP	**PKPdf**	**23 17 57.2**	**+0.1**
DPC				*ex*	x	23 18 04.9	
KHC	**Kasperske Hory**	**145.78**	**352**	*i* PKP	**PKPbc**	**23 18 00.2**	**-0.2**
KHC				*ex*	x	23 18 09.1	
GERES	**GERESS Array B**	**146.05**	**352**	PKPbc	**PKPbc**	**23 18 01.5**	**+0.1**
	1.1nm,0.8s,baz=5.7,slow=1.3,SNR=7.4						
BRTR	**Keskin Array B**	**146.09**	**321**	PKPbc	**PKPbc**	**23 18 01.9**	**+0.1**
	3.4nm,0.9s,baz=91,slow=2.2,SNR=9.4						

IDC 29 23:00:17.4±1.9,15°.31S×172°.45W,h0km,mb3.9/5, mb1 4.2/5,mb1mx3.9/18,mbtmp3.9/5,Error ellipse: s-maj=85.6km s-min=18.2km az=133.0,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.54**	**25**	Pn	Pn	23 00 46.4	+0.3
	26nm,0.3s,baz=248,slow=21,SNR=3.8						
AFI				Sn	Sg	23 01 07.9	+0.9
	368nm,0.3s,baz=67,slow=22,SNR=7.9						
STKA	**Stephens Creek**	**44.88**	**240**	P	P	23 08 34.0	+0.2
	4.4nm,0.8s,baz=75,slow=11,SNR=4.8						
WRA	**Warramunga Arr**	**50.76**	**257**	P	P	23 09 19.2	-0.4
	1.5nm,1.1s,baz=90,slow=7.0,SNR=6.0						
ASAR	**Alice Springs**	**51.01**	**252**	P	P	23 09 20.6	-0.9
	1.9nm,0.6s,baz=91,slow=7.3,SNR=5.4						
PDAR	**Pinedale Array**	**81.59**	**42**	P	P	23 12 37.3	-0.2
	0.3nm,0.5s,baz=246,slow=6.8,SNR=3.3						
ILAR	**Eielson Array**	**82.18**	**11**	P	P	23 12 38.5	-1.3
	0.3nm,0.7s,baz=218,slow=5.7,SNR=2.7						
GERES	**GERESS Array B**	**146.18**	**353**	PKPbc	PKPab	23 20 04.1	+3.7
	0.6nm,0.8s,baz=308,slow=4.8,SNR=3.3						
BRTR	**Keskin Array B**	**146.66**	**322**	PKPbc	PKPab	23 20 03.0	+0.4
	4.5nm,0.9s,baz=90,slow=2.5,SNR=9.8						

IDC 29 23:06:33.7±18.0,14°.54S×172°.24W,h0km,mb3.9/1, mb1 4.1/1,mb1mx3.5/18,mbtmp3.9/1,Error ellipse: s-maj=896.4km s-min=24.1km az=138.0,Samoa Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**0.77**	**35**	Pn	Pn	23 06 51.5	-0.5
	34nm,0.3s,baz=59,slow=22,SNR=4.6						
AFI				Sn	Sb	23 07 00.5	-0.6
	59nm,0.3s,baz=94,slow=15,SNR=4.8						
ASAR	**Alice Springs**	**51.45**	**251**	P	P	23 15 40.9	-0.4
	1.7nm,1.0s,baz=90,slow=7.7,SNR=7.6						
GERES	**GERESS Array B**	**145.44**	**353**	PKPbc	PKPab	23 26 15.2	+1.1
	0.2nm,0.4s,baz=23,slow=5.3,SNR=4.3						
BRTR	**Keskin Array B**	**146.18**	**323**	PKPbc	PKPdf	23 26 14.2	-1.3
	0.5nm,0.8s,baz=45,slow=2.2,SNR=3.9						

IDC 29 23:07:59.4±8.2,15°.58S×173°.59W,h0km,mb4.2/2, mb1 4.5/2,mb1mx3.8/18,mbtmp4.2/2,Error ellipse: s-maj=367.0km s-min=59.2km az=140.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.41**	**47**	Sn	Sn	23 08 53.4	-17
	156nm,0.3s,baz=9.0,slow=19,SNR=4.4						
WRA	**Warramunga Arr**	**49.63**	**257**	P	P	23 16 52.9	-0.2
	1.3nm,0.5s,baz=93,slow=6.8,SNR=32						
ASAR	**Alice Springs**	**49.88**	**252**	P	P	23 16 55.0	-0.1
	1.9nm,0.3s,baz=88,slow=7.8,SNR=30						
BRTR	**Keskin Array B**	**146.18**	**321**	PKPbc	PKPdf	23 27 41.4	+0.2
	0.2nm,0.6s,baz=8.9,slow=10,SNR=2.2						

IDC 29 23:09:56.7±4.0,15°.56S×173°.14W,h0km,mb3.8/4, mb1 4.1/5,mb1mx3.8/19,mbtmp3.9/5,ML1.9/1,Error ellipse: s-maj=195.3km s-min=22.1km az=138.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.11**	**39**	Pn	Pn	23 10 31.2	-2.2
	21nm,0.3s,baz=60,slow=20,SNR=2.0						
AFI				Sn	Sn	23 10 51.1	-9.2
	88nm,0.3s,baz=22,slow=19,SNR=4.6						
STKA	**Stephens Creek**	**44.17**	**240**	P	P	23 18 07.2	-0.4
	1.9nm,0.9s,baz=84,slow=10,SNR=2.3						
WRA	**Warramunga Arr**	**50.05**	**257**	P	P	23 18 53.2	-0.5
	0.3nm,0.5s,baz=90,slow=6.7,SNR=5.9						
ASAR	**Alice Springs**	**50.30**	**252**	P	P	23 18 55.0	-0.5
	2.9nm,0.6s,baz=86,slow=8.2,SNR=17						
ILAR	**Eielson Array**	**82.56**	**11**	P	P	23 22 22.2	+1.1
	0.3nm,0.6s,baz=221,slow=6.8,SNR=3.1						
BRTR	**Keskin Array B**	**146.44**	**321**	PKPbc	PKPbc	23 29 40.2	-0.2
	0.5nm,0.7s,baz=4.6,slow=3.3,SNR=4.0						

IDC 29 23:10:12.6±8.7,14°.98S×171°.60W,h0km,mb3.9/2, mb1 4.2/2,mb1mx3.7/18,mbtmp3.9/2,Error ellipse: s-maj=404.0km s-min=66.1km az=141.0,Samoa Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**51.63**	**256**	P	P	23 19 21.5	0.0
	0.7nm,0.6s,baz=92,slow=6.7,SNR=6.5						
ASAR	**Alice Springs**	**51.89**	**252**	P	P	23 19 23.1	-0.4
	1.5nm,0.8s,baz=89,slow=7.7,SNR=4.1						
BRTR	**Keskin Array B**	**146.90**	**323**	PKPbc	PKPbc	23 29 56.8	-0.8
	0.7nm,0.7s,baz=87,slow=3.0,SNR=4.0						

IDC 29 23:10:39.4±4.1,15°.81S×172°.08W,h0km,mb3.8/3, mb1 4.2/3,mb1mx3.8/18,mbtmp3.8/3,Error ellipse: s-maj=263.7km s-min=30.0km az=149.0,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.91**	**9**	LR	LR	23 11 46.2	
	comp=Z,2μm,21.5s,baz=319,slow=35						
WRA	**Warramunga Arr**	**50.99**	**257**	P	P	23 19 44.2	+0.8
	0.4nm,0.7s,baz=95,slow=9.2,SNR=3.9						
ASAR	**Alice Springs**	**51.19**	**252**	P	P	23 19 44.4	-0.6
	3.0nm,0.6s,baz=91,slow=7.7,SNR=6.9						
PDAR	**Pinedale Array**	**81.73**	**41**	P	P	23 23 00.8	+0.5
	0.6nm,0.9s,baz=193,slow=1.6,SNR=2.7						
GERES	**GERESS Array B**	**146.71**	**353**	PKPbc	PKPdf	23 30 21.6	-0.2
	0.2nm,0.5s,baz=31,slow=5.9,SNR=3.3						
BRTR	**Keskin Array B**	**147.26**	**322**	PKPbc	PKPbc	23 30 24.5	-0.9
	0.5nm,0.7s,baz=82,slow=3.5,SNR=2.7						

ISCJB ***29*** *23:11:49.5±0.1, 15.′65S±0.′04×173.′31W±0.′03, h10km, mb5.3/142, MS5.1/10, Error ellipse: s-maj=6.9km s-min=3.7km az=152.0*
BJI ***29*** *23:11:49.0, 15.′70S×173.′30W, h10km, mB5.7/18, mb5.2/30, Ms5.5/16, Ms7 5.2/15*
IDC ***29*** *23:11:49.9±0.4, 15.′51S×173.′36W, h0km, mb5.0/23, mb1 5.2/23, mb1mx5.1/27, mbtmp5.0/23, MS5.0/5, Ms1 5.0/5, ms1mx4.5/36, Error ellipse: s-maj=20.5km s-min=12.2km az=128.0*
NEIC ***29*** *23:11:51.2±0.2, 15.′61S×173.′37W, h10km, mb5.5/99, Error ellipse: s-maj=11.0km s-min=4.6km az=143.0*
AUST ***29*** *23:11:53.7, 15.′53S×172.′96W, h35km*
SZGRF ***29*** *23:11:54.8, 15.′82S×172.′38W, h33km, Samoa Islands region*
MOS ***29*** *23:11:54.2±1.2, 15.′43S×173.′38W, h33km, mb5.5/37, Error ellipse: s-maj=12.8km s-min=8.3km az=63.2*
DJA ***29*** *23:12:02.1±1.7, 17.°S±14.′×17.′4W±1.′6, h71km±18km, M5.5/6, mB6.5/3, mb5.0/6, MLv5.7/1, Mw(mB)6.2/3*
ISC 29 23:11:52.5±0.5, 15.′58S±0.′07×173.′35W±0.′06, h16km±2km, h17km:pP-P, n865, σ1§10/881, mb5.4/142, MS5.2/10, 215C-174D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.25**	**43**	*e*Pn	Pn	23 12 21.5	-7.7
AFI				Sn	Sn	23 12 42.8	-14
AFI	**Afiamalu**	**2.25**	**43**	Pn	Pn	23 12 21.1	-8.0
	167nm,0.3s,baz=228,slow=15,SNR=3.3						
AFI				Sn	Sn	23 12 42.8	-14
	1μm,0.3s,baz=234,slow=22,SNR=9.7						
NIUE	**Niue**	**4.78**	**137**	P	Pn	23 13 00.4	-3.4
	baz=4.6,SNR=4.6						
MSVF	**Nonsavu**	**8.52**	**254**	*e*P	Pn	23 14 04.2	+8.9
MSVF	**Nonsavu**	**8.52**	**254**	*e*Pn	Pn	23 14 04.2	+8.9
MSVF	**Nonsavu**	**8.52**	**254**	Pn	Pn	23 14 04.0	+8.7
	893nm,1.0s,SNR=12						
KNTN	**Kanton**	**12.82**	**7**	*e*Pn	P	23 15 09.1	+4.0
RAR	**Rarotonga**	**14.05**	**116**	*e*Pn	Pn	23 15 06.0	-5.0
RAR	**Rarotonga**	**14.05**	**116**	Pn	Pn	23 15 05.4	-5.5
	2.5nm,0.3s,baz=270,slow=6.9,SNR=6.4						
DZM	**Mont Dzumac**	**20.18**	**248**	*e*P	Pn	23 16 32.3	+3.8
	319nm,1.6s						
DZM	**Mont Dzumac**	**20.18**	**248**	*e*P	**P**	**23 16 26.3**	**-0.3**
DZM	**Mont Dzumac**	**20.18**	**248**	P	**P**	**23 16 25.6**	**-1.0**
	18nm,1.1s,baz=94,slow=18,SNR=4.6						
PAE	**Paea**	**22.87**	**99**	*e*P	**P**	**23 16 54.2**	**-1.3**
	73nm,1.5s						
PPT2	**Papeete2**	**22.87**	**98**	*e*P	**P**	**23 16 55.1**	**-0.5**
	156nm,1.4s						
TIAR	**Tiarei**	**23.09**	**98**	*e*P	**P**	**23 16 56.8**	**-1.0**
	276nm,1.2s						
TVO	**Taravao**	**23.19**	**99**	*e*P	**P**	**23 16 57.9**	**-0.9**
	368nm,1.4s						
URZ	**Urewera**	**24.11**	**199**	P	**P**	**23 17 07.5**	**0.0**
URZ	**Urewera**	**24.11**	**199**	P	**P**	**23 17 07.5**	**0.0**
	14nm,0.8s,baz=79,slow=5.2,SNR=2.5						
PMOR	**Pomariorio Ree**	**24.56**	**92**	*e*P	**P**	**23 17 10.5**	**-1.3**
	437nm,1.2s						
HNR	**Honiara**	**26.76**	**280**	LR	LR	23 26 32.3	
	comp=Z,965nm,19.4s,baz=120,slow=33						
EIDS	**Eidsvold**	**34.62**	**248**	*e*P	**P**	**23 18 39.7**	**-1.4**
	21nm,1.1s						
EIDS	**Eidsvold**	**34.62**	**248**	P	**P**	**23 18 40.3**	**-0.8**
	baz=35,SNR=3.3						
ARMA	**Armidale**	**35.29**	**239**	*e*P	**P**	**23 18 46.6**	**-0.5**
	22nm,1.1s						
ARMA	**Armidale**	**35.29**	**239**	P	**P**	**23 18 46.6**	**-0.5**
	baz=36,SNR=9.7						
RMQ	**Roma**	**36.87**	**247**	P	**P**	**23 18 59.9**	**-0.6**
	baz=37,SNR=10						
CNB	**Canberra Magne**	**38.68**	**232**	P	**P**	**23 19 15.3**	**-0.4**
	baz=39,SNR=6.1						
CAN	**Canberra**	**38.96**	**233**	*e*P	**P**	**23 19 16.6**	**-1.5**
CAN				pmax	pmax		
	comp=Z,23nm,1.2s						
CAN	**Canberra**	**38.96**	**233**	*e*P	**P**	**23 19 16.6**	**-1.5**
	comp=Z,23nm,1.2s						
CMSA	**Cobar Meteorol**	**40.51**	**240**	P	**P**	**23 19 29.9**	**-1.0**
	baz=41,SNR=18						
MTSU	**Mount Surprise**	**40.53**	**260**	P	**P**	**23 19 30.6**	**-0.7**
	baz=41,SNR=33						
QLP	**Quilpie**	**40.90**	**247**	P	**P**	**23 19 33.3**	**-0.9**
	baz=41,SNR=10						
COEN	**Coen**	**42.02**	**266**	*e*P	**P**	**23 19 44.0**	**+0.4**
	comp=Z,284nm,0.8s						
COEN	**Coen**	**42.02**	**266**	P	**P**	**23 19 44.5**	**+1.0**
	baz=42,SNR=13						
TOO	**Toolangi**	**42.39**	**231**	P	**P**	**23 19 48.5**	**+2.1**
	baz=43,SNR=3.8						
STKA	**Stephens Creek**	**43.99**	**240**	P	**P**	**23 19 58.6**	**-0.8**
	comp=Z,24nm,0.7s,baz=85,slow=7.8,SNR=34						
STKA	**Stephens Creek**	**43.99**	**240**	P	**P**	**23 19 58.8**	**-0.6**
	baz=44,SNR=14						
BBOO	**Buckleboo**	**48.77**	**240**	*e*P	**P**	**23 20 35.8**	**-1.1**
	comp=Z,531nm,0.8s						
BBOO	**Buckleboo**	**48.77**	**240**	P	**P**	**23 20 36.0**	**-0.9**
	baz=49,SNR=11						
WRAB	**Tennant Creek**	**49.84**	**257**	*e*P	**P**	**23 20 43.6**	**-1.7**
WRAB				pmax	pmax		
	comp=Z,67nm,1.4s						
WRAB	**Tennant Creek**	**49.84**	**257**	*e*P	**P**	**23 20 43.6**	**-1.7**
	comp=Z,67nm,1.4s						
WRAB	**Tennant Creek**	**49.84**	**257**	P	**P**	**23 20 43.2**	**-2.1**
	comp=Z,153nm,0.9s,SNR=18						
WRA	**Warramunga Arr**	**49.85**	**257**	P	**P**	**23 20 43.4**	**-2.0**
WRA				PcP	**PcP**	**23 22 06.2**	**+0.2**
WRA	**Warramunga Arr**	**49.85**	**257**	P	**P**	**23 20 43.4**	**-2.0**
	comp=Z,13nm,0.6s,baz=90,slow=6.9,SNR=99						
WRA				PcP	**PcP**	**23 22 06.2**	**+0.2**
	comp=Z,5.9nm,0.7s,baz=89,slow=3.8,SNR=6.8						
WRA				LR	LR	23 40 32.2	
	comp=Z,2μm,20.9s,baz=105,slow=34						
AS31	**Alice Springs**	**50.10**	**252**	*e*P	**P**	**23 20 46.1**	**-1.1**
ASAR	**Alice Springs**	**50.10**	**252**	P	**P**	**23 20 46.1**	**-1.2**
ASAR				PcP	**PcP**	**23 22 08.0**	**+1.1**
ASAR	**Alice Springs**	**50.10**	**252**	P	**P**	**23 20 46.1**	**-1.2**
	comp=Z,84nm,0.7s,baz=87,slow=8.2,SNR=163						
ASAR				PcP	**PcP**	**23 22 08.0**	**+1.1**
	comp=Z,2.9nm,0.7s,baz=95,slow=4.6,SNR=2.8						
ASAR				LR	LR	23 40 07.8	
	comp=Z,1μm,20.2s,baz=138,slow=34						
KDU	**Kakadu**	**52.51**	**266**	P	**P**	**23 21 04.7**	**-0.6**
	baz=53,SNR=7.7						
FORT	**Forrest**	**55.38**	**243**	*e*P	**P**	**23 21 25.1**	**-1.1**
	comp=Z,35nm,0.8s						
FORT	**Forrest**	**55.38**	**243**	P	**P**	**23 21 25.1**	**-1.1**
	baz=56,SNR=8.4						
KNRA	**Kununurra**	**55.59**	**261**	P	**P**	**23 21 31.0**	**+3.2**
	baz=56,SNR=3.2						
FITZ	**Fitzroy Crossi**	**58.22**	**258**	*e*P	**P**	**23 21 47.7**	**+1.2**
	comp=Z,99nm,2.5s						
FITZ	**Fitzroy Crossi**	**58.22**	**258**	P	**P**	**23 21 47.4**	**+0.9**
	baz=59,SNR=4.3						
AAI	**Ambon**	**58.65**	**275**	P	P	23 21 57.3	+7.7
	baz=59,SNR=3.6						
SOEI	**Soe**	**60.97**	**267**	P	**P**	**23 22 06.2**	**+0.5**
	baz=61,SNR=4.5						
SBA	**Scott Base**	**63.08**	**185**	*e*P	**P**	**23 22 21.0**	**+2.3**
SBA				pmax	pmax		
	comp=Z,113nm,2.1s						
SBA	**Scott Base**	**63.08**	**185**	*e*P	**P**	**23 22 21.0**	**+2.3**
	comp=Z,113nm,2.1s						
VNDA	**Vanda**	**63.21**	**186**	*e*P	**P**	**23 22 20.9**	**+1.4**
VNDA	**Vanda**	**63.21**	**186**	P	**P**	**23 22 20.7**	**+1.2**
	comp=Z,7.8nm,1.0s,baz=3.3,slow=6.7,SNR=18						
MBWA	**Marble Bar**	**63.36**	**254**	*e*P	**P**	**23 22 20.7**	**-0.8**
	comp=Z,36nm,1.2s						
MEEK	**Meekatharra**	**63.79**	**248**	P	**P**	**23 22 23.3**	**-1.0**
	baz=64,SNR=15						
KLBR	**Kellerberrin**	**64.20**	**242**	P	**P**	**23 22 26.2**	**-0.6**
	baz=64,SNR=21						
BLDU	**Ballidu**	**65.15**	**243**	P	**P**	**23 22 32.4**	**-0.8**
	baz=66,SNR=6.7						
MORW	**Morawa**	**65.85**	**245**	P	**P**	**23 22 37.1**	**-0.6**
	baz=66,SNR=5.4						
MAJO	**Matsushiro**	**69.10**	**320**	*e*P	**P**	**23 22 58.6**	**+0.6**
CASY	**Casey**	**70.27**	**205**	*e*P	**P**	**23 23 04.2**	**-0.5**
	comp=Z,22nm,1.1s						
SCI	**San Clemente I**	**71.20**	**47**	⇓P	**P**	**23 23 10.6**	**-0.2**
	baz=71						
SBC	**Santa Barbara**	**71.21**	**45**	⇑P	**P**	**23 23 11.3**	**+0.3**
	baz=71						
PKM	**Peak Mountain**	**71.40**	**44**	⇑P	**P**	**23 23 11.9**	**-0.4**
	baz=72						
BLG	**Laguna Peak**	**71.47**	**45**	⇑P	**P**	**23 23 12.0**	**-0.5**
	baz=72						
SMMC	**Simmler**	**71.52**	**44**	⇓P	**P**	**23 23 12.9**	**+0.1**
	baz=72						
CIS	**Catalina Islan**	**71.53**	**46**	⇓P	**P**	**23 23 12.5**	**-0.5**
	baz=72						
ARVC	**Arvin**	**72.20**	**45**	⇑P	**P**	**23 23 16.7**	**-0.2**
	baz=72						
MWC	**Mount Wilson**	**72.22**	**46**	*e*P	**P**	**23 23 18.3**	**+1.0**
MWC				pmax	pmax		
	comp=Z,38nm,1.3s						
MWC	**Mount Wilson**	**72.22**	**46**	*e*P	**P**	**23 23 18.3**	**+1.0**
	comp=Z,38nm,1.3s						
VES	**Vestal, Richgr**	**72.44**	**44**	⇑P	**P**	**23 23 17.9**	**-0.4**
	baz=73						
PET	**Petropavlovsk**	**72.46**	**343**	*i*P	**P**	**23 23 17.4**	**-0.6**
MURC	**Murrieta**	**72.48**	**47**	⇑P	**P**	**23 23 18.1**	**-0.5**
	baz=73,SNR=5.0						
BFSC	**Mount Baldy Ra**	**72.51**	**46**	⇑P	**P**	**23 23 19.0**	**+0.1**
	baz=73,SNR=6.2						
KHMM	**Horse Mountain**	**72.57**	**37**	*e*P	**P**	**23 23 22.1**	**+3.0**
	comp=Z,81nm,1.4s						
EDW2	**Edwards Air Fo**	**72.63**	**45**	⇑P	**P**	**23 23 19.6**	**+0.1**
	baz=73,SNR=12						
MONP	**Monument Peak**	**72.65**	**48**	⇓P	**P**	**23 23 19.2**	**-0.7**
	baz=73						
CHGN	**Chignik**	**72.69**	**9**	*e*P	**P**	**23 23 20.0**	**+0.7**
ISA	**Isabella**	**72.74**	**44**	*e*P	**P**	**23 23 21.3**	**+1.1**
ISA				pmax	pmax		
	comp=Z,33nm,1.2s						
ISA	**Isabella**	**72.74**	**44**	*e*P	**P**	**23 23 21.3**	**+1.1**
	comp=Z,33nm,1.2s						
ISA	**Isabella**	**72.74**	**44**	⇓P	**P**	**23 23 20.9**	**+0.7**
	baz=73,SNR=14						
DVTC	**Desert V Tower**	**72.75**	**48**	⇑P	**P**	**23 23 20.5**	**+0.2**
	baz=73						
PETK	**Petropavlovsk-**	**72.81**	**342**	P	**P**	**23 23 19.4**	**-0.7**
PETK	**Petropavlovsk-**	**72.81**	**342**	P	**P**	**23 23 19.4**	**-0.7**
PETK	**Petropavlovsk-**	**72.81**	**342**	P	**P**	**23 23 19.4**	**-0.7**
	comp=Z,18nm,1.3s,baz=131,slow=10,SNR=14						
CMB	**Columbia Colle**	**72.86**	**41**	*e*P	**P**	**23 23 19.4**	**-1.5**
CMB				pmax	pmax		
	comp=Z,15nm,1.0s						
CMB	**Columbia Colle**	**72.86**	**41**	*e*P	**P**	**23 23 19.4**	**-1.5**
	comp=Z,15nm,1.0s						
KRMB	**Red Mountain**	**72.88**	**37**	*e*P	**P**	**23 23 21.0**	**0.0**
	comp=Z,224nm,2.3s						
OHCM	**Honcut**	**72.96**	**40**	*e*P	**P**	**23 23 22.8**	**+1.5**
PFO	**Pinyon Flat Ob**	**73.01**	**47**	P	**P**	**23 23 23.0**	**+1.1**
	comp=Z,79nm,1.2s,SNR=5.3						
PFO	**Pinyon Flat Ob**	**73.01**	**47**	*e*P	**P**	**23 23 23.2**	**+1.4**
	comp=Z,22nm,1.2s						
PFO	**Pinyon Flat Ob**	**73.01**	**47**	⇑P	**P**	**23 23 21.7**	**-0.2**
	baz=73						
SWSC	**Sam W. Stewart**	**73.12**	**48**	⇓P	**P**	**23 23 22.1**	**-0.3**
	baz=73						
LRMC	**Laurel Mountai**	**73.17**	**45**	⇑P	**P**	**23 23 22.9**	**+0.1**
	baz=73,SNR=7.6						
BELC	**Belle Mtn. Jos**	**73.54**	**47**	⇓P	**P**	**23 23 25.2**	**+0.2**
	baz=74,SNR=7.2						
MPMC	**Manual Prospec**	**73.63**	**44**	⇓P	**P**	**23 23 25.5**	**-0.1**
	baz=74,SNR=20						
MTUM	**Tungsten Hills**	**73.64**	**43**	*e*P	**P**	**23 23 27.6**	**+1.9**
YSS	**Yuzh-Sakhalins**	**73.66**	**330**	⇑*i*P	**P**	**23 23 25.2**	**0.0**
YSS				pmax	pmax		
	comp=Z,40nm,1.0s						
GSC	**Goldstone**	**73.68**	**45**	*e*P	**P**	**23 23 26.7**	**+0.9**
GSC				pmax	pmax		
	comp=Z,40nm,1.3s						
GSC	**Goldstone**	**73.68**	**45**	*e*P	**P**	**23 23 26.7**	**+0.9**
	comp=Z,40nm,1.3s						
GSC	**Goldstone**	**73.68**	**45**	⇓P	**P**	**23 23 25.9**	**+0.2**
	baz=74,SNR=9.3						
TIN	**Tinemaha**	**73.69**	**43**	⇑P	**P**	**23 23 25.7**	**-0.2**
	baz=74						
YBH	**Yreka Blue Hor**	**73.71**	**37**	P	**P**	**23 23 24.6**	**-1.2**
YBH	**Yreka Blue Hor**	**73.71**	**37**	P	**P**	**23 23 24.6**	**-1.2**
	comp=Z,19nm,1.1s,baz=312,slow=1.3,SNR=15						
BC3	**Big Chuckawall**	**73.74**	**47**	⇑P	**P**	**23 23 25.6**	**-0.6**
	baz=74						
WAKR	**Walker**	**73.74**	**41**	*e*P	**P**	**23 23 27.3**	**+1.1**
HEC	**Hector,Ludlow**	**73.75**	**46**	⇓P	**P**	**23 23 26.1**	**-0.1**
	baz=74,SNR=6.2						
GLA	**Glamis**	**73.87**	**48**	*e*P	**P**	**23 23 28.7**	**+1.8**
GLA				pmax	pmax		
	comp=Z,41nm,1.3s						
GLA	**Glamis**	**73.87**	**48**	*e*P	**P**	**23 23 28.7**	**+1.8**
	comp=Z,41nm,1.3s						
GLA	**Glamis**	**73.87**	**48**	⇑P	**P**	**23 23 27.3**	**+0.3**
	baz=74,SNR=6.8						
BEKR	**Beckworth**	**73.97**	**40**	*e*P	**P**	**23 23 26.3**	**-1.2**
	comp=Z,17nm,1.3s						
HUMO	**Hull Mountain**	**74.12**	**36**	*e*P	**P**	**23 23 30.3**	**+2.2**
	comp=Z,50nm,1.4s						
GMRC	**Granite Mounta**	**74.19**	**46**	⇓P	**P**	**23 23 28.3**	**-0.5**
	baz=74,SNR=13						
IRM	**Iron Mountain**	**74.22**	**47**	⇑P	**P**	**23 23 28.2**	**-0.7**
	baz=74,SNR=7.7						
GRAC	**Grapevine Rang**	**74.23**	**44**	⇑P	**P**	**23 23 28.7**	**-0.2**
	baz=74						
FURC	**Furnace Creek,**	**74.28**	**44**	⇑P	**P**	**23 23 28.7**	**-0.4**
	baz=74						
TUQ	**Turquoise Moun**	**74.36**	**46**	⇑P	**P**	**23 23 29.1**	**-0.7**
	baz=75						
SHOC	**Shoshone**	**74.36**	**45**	⇓P	**P**	**23 23 28.6**	**-1.1**
	baz=75						
Y12C	**Blythe**	**74.45**	**48**	⇓P	**P**	**23 23 29.6**	**-0.6**
	baz=75,SNR=7.2						
QSPA	**South Pole Qui**	**74.47**	**180**	*e*P	**P**	**23 23 30.7**	**+0.7**
	comp=Z,26nm,1.0s						
PAHR	**Pah Rah Range**	**74.48**	**40**	*e*P	**P**	**23 23 32.8**	**+2.4**
	comp=Z,42nm,1.3s						
113A	**Mohawk Valley,**	**74.49**	**49**	⇓P	**P**	**23 23 30.0**	**-0.5**
	baz=75,SNR=7.2						
NV11	**Mina Array Sit**	**74.52**	**42**	*e*P	**P**	**23 23 29.4**	**-1.3**
214A	**Organ Pipe Nat**	**74.79**	**50**	⇓P	**P**	**23 23 31.5**	**-0.7**
	baz=75,SNR=9.9						
PDMCI	**Parker Dam,Lak**	**75.01**	**47**	⇑P	**P**	**23 23 32.6**	**-0.8**
	baz=75,SNR=12						
KDAK	**Kodiak Island**	**75.08**	**11**	*e*P	**P**	**23 23 31.2**	**-2.1**
	comp=Z,688nm,2.6s						
KDAK	**Kodiak Island**	**75.08**	**11**	P	**P**	**23 23 32.3**	**-0.9**
	comp=Z,48nm,1.1s,baz=211,slow=4.5,SNR=8.5						
MOD	**Modoc**	**75.23**	**38**	*e*P	**P**	**23 23 34.5**	**-0.3**
	comp=Z,252nm,1.3s						
K05A	**Summer Lake**	**75.38**	**37**	*e*P	**P**	**23 23 35.7**	**+0.1**
	comp=Z,97nm,1.2s						
Z14A	**Wintersburg**	**75.39**	**49**	⇓P	**P**	**23 23 34.5**	**-1.1**
	baz=76,SNR=7.1						
SHPR	**Sheep Range**	**75.45**	**45**	*e*P	**P**	**23 23 35.5**	**-0.6**
W13A	**Hualapai Mount**	**75.60**	**47**	⇓P	**P**	**23 23 36.1**	**-0.9**
	baz=76						
Y14A	**Wickenburg**	**75.63**	**48**	⇓P	**P**	**23 23 36.1**	**-1.0**
	baz=76,SNR=9.7						
H04A	**Detroit Lake**	**75.87**	**35**	*e*P	**P**	**23 23 37.4**	**-0.8**
	comp=Z,71nm,1.3s						
R11A	**Troy Canyon, C**	**76.15**	**43**	*e*P	**P**	**23 23 41.6**	**+1.5**
R11A	**Troy Canyon, C**	**76.15**	**43**	⇑P	**P**	**23 23 39.4**	**-0.8**
	baz=76						
BMN	**Battle Mountai**	**76.25**	**41**	*e*P	**P**	**23 23 42.4**	**+1.8**
BMN				pmax	pmax		
	comp=Z,62nm,1.4s						
BMN	**Battle Mountai**	**76.25**	**41**	*e*P	**P**	**23 23 42.4**	**+1.8**
	comp=Z,62nm,1.4s						
KSRS	**Korea Array**	**76.32**	**316**	P	**P**	**23 23 41.4**	**+0.6**
	comp=Z,1.6nm,0.8s,baz=137,slow=5.5,SNR=6.4						
E03A	**Lebam**	**76.33**	**33**	*e*P	**P**	**23 23 43.2**	**+2.5**
	comp=Z,122nm,1.4s						
KSAR	**Wonju Array Be**	**76.34**	**316**	P	**P**	**23 23 41.4**	**+0.5**
TUC	**Tucson**	**76.46**	**51**	*e*P	**P**	**23 23 40.8**	**-1.1**
TUC				pmax	pmax		
	comp=Z,36nm,1.1s						
TUC	**Tucson**	**76.46**	**51**	*e*P	**P**	**23 23 40.8**	**-1.1**
	comp=Z,36nm,1.1s						
VFP	**Flag Point**	**76.67**	**35**	P	**P**	**23 23 44.5**	**+1.6**
X16A	**Lo Mia Camp, P**	**77.00**	**48**	⇓P	**P**	**23 23 44.4**	**-0.6**
	baz=77,SNR=31						
I07A	**Izee**	**77.01**	**37**	*e*P	**P**	**23 23 44.2**	**-0.6**
	comp=Z,63nm,1.2s						
G06A	**Carlson Farm,**	**77.08**	**35**	*e*P	**P**	**23 23 46.1**	**+1.1**
	comp=Z,63nm,1.4s						
319A	**Douglas**	**77.16**	**52**	⇓P	**P**	**23 23 45.3**	**-0.7**
	baz=77,SNR=9.9						
J08A	**Circle Bar Ran**	**77.18**	**38**	*e*P	**P**	**23 23 45.1**	**-0.7**
	comp=Z,76nm,1.3s						
CCUT	**Cedar City**	**77.22**	**45**	*e*P	**P**	**23 23 46.4**	**+0.1**
	comp=Z,45nm,1.3s						
GLK	**Glacier Lake**	**77.37**	**34**	P	**P**	**23 23 48.0**	**+1.2**
LON	**Longmire**	**77.38**	**33**	*e*P	**P**	**23 23 48.1**	**+1.4**
LON				pmax	pmax		
	comp=Z,30nm,1.2s						
LON	**Longmire**	**77.38**	**33**	*e*P	**P**	**23 23 48.1**	**+1.4**
	comp=Z,30nm,1.2s						
U15A	**North Rim**	**77.39**	**46**	⇓P	**P**	**23 23 46.9**	**-0.4**
	baz=78,SNR=17						
WPW	**White Pass**	**77.49**	**34**	P	**P**	**23 23 48.7**	**+1.3**
USRK	**Ussuriysk Arra**	**77.55**	**323**	P	**P**	**23 23 49.0**	**+1.4**
	comp=Z,6.5nm,0.9s,baz=106,slow=6.2,SNR=8.5						
USRK				LR	LR	23 51 19.9	
	comp=Z,1μm,21.6s,baz=121,slow=31						
D05A	**Enumclaw**	**77.57**	**33**	*e*P	**P**	**23 23 49.9**	**+2.3**
	comp=Z,189nm,1.4s						
FMW	**Mount Fremont**	**77.57**	**33**	P	**P**	**23 23 49.3**	**+1.4**
WUAZ	**Wupatki**	**77.58**	**48**	*e*P	**P**	**23 23 47.9**	**-0.4**
	comp=Z,67nm,1.4s						
WUAZ	**Wupatki**	**77.58**	**48**	⇓P	**P**	**23 23 47.2**	**-1.1**
	baz=78,SNR=6.2						
ELK	**Elko**	**77.68**	**41**	*e*P	**P**	**23 23 48.2**	**-0.6**
	comp=Z,35nm,1.2s						
320A	**Kipp Ranch, An**	**77.72**	**52**	⇓P	**P**	**23 23 47.9**	**-1.2**
	baz=78,SNR=8.2						
220A	**Playas Peak, P**	**77.97**	**52**	⇑P	**P**	**23 23 49.9**	**-0.6**
	baz=78,SNR=29						
BBB	**Bella Bella**	**78.02**	**27**	P	**P**	**23 23 51.1**	**+1.1**
BBB	**Bella Bella**	**78.02**	**27**	P	**P**	**23 23 51.1**	**+1.1**
	comp=Z,35nm,1.1s,baz=232,slow=8.2,SNR=3.8						
G08A	**Pilot Rock**	**78.05**	**36**	*e*P	**P**	**23 23 49.8**	**-0.8**
	comp=Z,81nm,1.1s						
X18A	**Snowflake**	**78.13**	**49**	⇓P	**P**	**23 23 50.3**	**-1.0**
	baz=78,SNR=10						
120A	**U Bar Ranch, L**	**78.18**	**51**	⇑P	**P**	**23 23 50.8**	**-0.8**
	baz=78,SNR=12						
LTY	**Liberty**	**78.31**	**34**	*e*P	**P**	**23 23 51.9**	**0.0**
	comp=Z,38nm,1.3s						
HAWA	**Hanford**	**78.39**	**35**	*e*P	**P**	**23 23 52.0**	**-0.3**
	comp=Z,74nm,1.2s						
Z20A	**Nine Sixteen R**	**78.47**	**51**	⇑P	**P**	**23 23 52.7**	**-0.6**
	baz=79,SNR=39						
MVU	**Marysvale**	**78.49**	**45**	*e*P	**P**	**23 23 53.3**	**0.0**
	comp=Z,46nm,1.1s						
W18A	**Petrified Fore**	**78.56**	**49**	⇓P	**P**	**23 23 53.3**	**-0.4**
	baz=79						
221A	**Mesquite Ranch**	**78.59**	**52**	⇑P	**P**	**23 23 53.7**	**-0.2**
	baz=79						
BMO	**Blue Mountains**	**78.74**	**37**	*e*P	**P**	**23 23 52.5**	**-1.8**
BMO				pmax	pmax		
	comp=Z,64nm,1.4s						
BMO	**Blue Mountains**	**78.74**	**37**	*e*P	**P**	**23 23 52.5**	**-1.8**
	comp=Z,64nm,1.4s						
MFID	**Camas Ranch**	**78.79**	**39**	⇑P	**P**	**23 23 54.4**	**-0.3**
	baz=79						
121A	**Cookes Peak, D**	**78.82**	**52**	⇑P	**P**	**23 23 54.3**	**-0.9**
	baz=79,SNR=13						
DUG	**Dugway**	**78.96**	**43**	*e*P	**P**	**23 23 54.8**	**-0.9**
DUG				pmax	pmax		
	comp=Z,43nm,1.2s						
DUG	**Dugway**	**78.96**	**43**	*e*P	**P**	**23 23 54.8**	**-0.9**
	comp=Z,43nm,1.2s						
DUG	**Dugway**	**78.96**	**43**	⇑P	**P**	**23 23 55.1**	**-0.6**
	baz=79						
Y20A	**Horse Springs,**	**79.00**	**50**	⇑P	**P**	**23 23 56.2**	**0.0**
	baz=79,SNR=45						
222A	**Williams Famil**	**79.15**	**52**	⇓P	**P**	**23 23 56.3**	**-0.6**
	baz=79,SNR=8.5						
MDJ	**Mudanjiang**	**79.19**	**322**	P	**P**	**23 23 58.0**	**+1.3**
MDJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
MDJ				pmax	pmax		
	comp=Z,510nm,8.7s						
MDJ	**Mudanjiang**	**79.19**	**322**	*e*P	**P**	**23 23 57.0**	**+0.3**
BGU	**Big Grassy Mou**	**79.19**	**42**	*e*P	**P**	**23 23 58.6**	**+1.6**
	comp=Z,78nm,2.0s						
X20A	**Quemado**	**79.19**	**50**	⇑P	**P**	**23 23 56.5**	**-0.7**
	baz=79,SNR=14						
E09A	**Wood Farm, Sta**	**79.23**	**35**	*e*P	**P**	**23 23 57.8**	**+0.9**
	comp=Z,63nm,1.3s						
Z21A	**St. Cloud Mine**	**79.25**	**51**	⇓P	**P**	**23 23 57.3**	**-0.3**
	baz=79,SNR=56						
PMR	**Palmer**	**79.28**	**12**	*e*P	**P**	**23 23 58.1**	**+1.3**
PMR				pmax	pmax		
	comp=Z,83nm,1.3s						
PMR	**Palmer**	**79.28**	**12**	*e*P	**P**	**23 23 58.1**	**+1.3**
	comp=Z,83nm,1.3s					

MVCO **Mesa Verde** 80.43 47 eP P 23 24 05.3 +1.3
comp=Z,23nm,1.0s
MVCO **Mesa Verde** 80.43 47 ⇑P P 23 24 03.0 -0.9
baz=81
LPM **Los Pinos Moun** 80.47 50 eP P 23 24 03.6 -0.5
PV09 **Paradox Valley** 80.59 46 eP P 23 24 07.0 +2.1
526A **Mary Lane Ranc** 80.63 55 ⇓P P 23 24 04.3 -0.7
baz=81,SNR=44
W22A **Albuquerque** 80.63 50 ⇑P P 23 24 03.8 -1.2
baz=81
124A **Stringfield Ra** 80.66 52 ⇑P P 23 24 04.5 -0.7
baz=81,SNR=17
U21A **Nageezi** 80.67 48 ⇓P P 23 24 04.7 -0.5
baz=81,SNR=86
TXAR **Lajitas Array** 80.67 56 P P 23 24 04.5 -0.7
TXAR **Lajitas Array** 80.67 56 P P 23 24 04.5 -0.7
comp=Z,34nm,1.1s,baz=224,slow=5.2,SNR=52
KLR **Kul'dur** 80.69 327 eP P 23 24 02.8 -1.9
KLR pmax pmax
comp=Z,50nm,1.6s
Y23A **Lovelace Mesa,** 80.73 51 ⇓P P 23 24 04.8 -0.8
baz=81,SNR=11
PV01 **Paradox Valley** 80.81 46 eP P 23 24 04.5 -1.4
comp=Z,7μm,1.3s
S20A **Disappointment** 80.81 47 ⇓P P 23 24 05.0 -0.9
baz=81,SNR=38
NEW **Newport** 80.83 34 eP P 23 24 05.8 +0.3
NEW **Newport** 80.83 34 P P 23 24 04.7 -0.9
comp=Z,22nm,1.2s,baz=226,slow=2.8,SNR=12
NEW **Newport** 80.83 34 ⇑P P 23 24 04.4 -1.1
baz=81,SNR=10.0
ANMO **Albuquerque** 80.88 50 eP P 23 24 05.3 -1.0
comp=Z,46nm,1.2s
SKAG **Skagway** 80.89 19 eP P 23 24 08.0 +2.5
comp=Z,34nm,1.0s
225A **Deer Hill, Car** 80.90 53 ⇑P P 23 24 05.6 -0.8
baz=81,SNR=32
X23A **Hourglass Bar** 80.92 50 ⇓P P 23 24 06.0 -0.5
baz=81,SNR=9.4
426A **McDonald Obser** 80.92 55 ⇑P P 23 24 05.7 -0.9
baz=81,SNR=88
627A **Terlingua Ranc** 80.94 56 ⇓P P 23 24 06.1 -0.6
baz=81,SNR=100
R20A **Redvale** 80.97 46 ⇓P P 23 24 06.0 -0.8
baz=81,SNR=6.0
PV15 **Paradox Valley** 80.97 46 eP P 23 24 08.1 +1.3
V22A **San Miguel Ran** 80.97 49 ⇑P P 23 24 06.0 -0.9
baz=81,SNR=14
Z24A **Sheeppen Canyo** 81.00 52 ⇓P P 23 24 05.8 -1.2
baz=81,SNR=13
M17A **Scullys Gap (B** 81.01 43 ⇓P P 23 24 05.8 -1.1
baz=81
T21A **Navajo Lake** 81.01 48 ⇓P P 23 24 06.3 -0.7
baz=81,SNR=17
527A **Woodward Ranch** 81.04 55 ⇑P P 23 24 06.2 -1.0
baz=81,SNR=52
Y24A **Capitan** 81.19 51 ⇓P P 23 24 07.2 -0.8
baz=81,SNR=63
W23A **Werner Place,** 81.20 50 ⇑P P 23 24 07.3 -0.8
baz=81,SNR=27
U22A **Llaves** 81.22 48 ⇑P P 23 24 07.3 -0.9
baz=81,SNR=14
326A **Caldwell Ranch** 81.22 54 ⇓P P 23 24 06.8 -1.3
baz=81,SNR=16
P19A **Cripple Cowboy** 81.23 45 ⇓P P 23 24 07.7 -0.5
baz=81,SNR=7.8
CN2 **Changchun** 81.25 320 ⇑P P 23 24 08.0 +0.2
CN2 esP sP 23 24 15.0 0.0
CN2 eS S 23 34 17.3 -0.4
CN2 pmax pmax
comp=Z,20nm,0.7s
CN2 pmax pmax
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,500nm,22.0s
CN2 LR LR
comp=E,900nm,22.0s
CN2 LR LR
comp=Z,1μm,24.0s
125A **Gardner Draw,** 81.25 53 ⇑P P 23 24 07.6 -0.6
baz=81,SNR=21
PAX **Paxson** 81.27 12 eP P 23 24 07.9 +0.3
PAX pmax pmax
comp=Z,45nm,1.4s
PAX **Paxson** 81.27 12 eP P 23 24 07.9 +0.3
comp=Z,45nm,1.4s
BPAW **Bear Paw Mtn.** 81.28 10 eP P 23 24 07.0 -0.5
comp=Z,28nm,1.2s
MCK **McKinley** 81.28 11 eP P 23 24 05.9 -1.7
MCK pmax pmax
comp=Z,99nm,1.0s
MCK **McKinley** 81.28 11 eP P 23 24 05.9 -1.7
comp=Z,100nm,1.0s
GDL2 **Guadalupe Moun** 81.29 53 eP P 23 24 08.0 -0.5
628A **Black Gap, Mar** 81.35 56 ⇑P P 23 24 08.0 -0.8
baz=82,SNR=30
MCMT **McKenzie Canyo** 81.36 39 P P 23 24 08.0 -0.7
HYT **Haines Junctio** 81.36 17 eP P 23 24 07.3 -0.9
AHID **Auburn Hatcher** 81.38 41 eP P 23 24 07.7 -1.1
comp=Z,66nm,1.3s
Q20A **Ridgley Place,** 81.38 46 ⇓P P 23 24 08.7 -0.2
baz=82,SNR=18
226B **Tecolote Peak,** 81.39 53 ⇓P P 23 24 08.4 -0.6
baz=82,SNR=76
V23A **Ortiz Mt. (NFS** 81.43 49 ⇑P P 23 24 08.5 -0.8
baz=82,SNR=27
SNY **Shenyang** 81.44 318 ⇑P P 23 24 06.0 -2.8
Z25A **Roswell** 81.47 52 ⇓P P 23 24 08.2 -1.2
baz=82
X24A **Lazy VL Ranch,** 81.47 51 ⇓P P 23 24 08.2 -1.3
baz=82,SNR=19
T22A **Edith** 81.47 48 ⇓P P 23 24 08.5 -1.0
baz=82,SNR=16
427A **Hayter Ranch,** 81.49 55 ⇑P P 23 24 08.7 -0.8
baz=82,SNR=49
RRI2 **Red Ridge** 81.53 41 eP P 23 24 08.9 -0.8
P20A **De Beque** 81.57 45 ⇓P P 23 24 09.3 -0.6
baz=82,SNR=9.6
R21A **Cimarron** 81.63 46 ⇑P P 23 24 09.9 -0.4
baz=82,SNR=23
L18A **Fontenelle, Gr** 81.64 42 ⇑P P 23 24 09.4 -0.9
baz=82,SNR=5.5
U23A **El Rito** 81.68 49 ⇓P P 23 24 09.7 -0.9
baz=82,SNR=9.3
528A **Cox Ranch, San** 81.70 56 ⇑P P 23 24 10.0 -0.7
baz=82,SNR=38
126A **Clayton Basin,** 81.74 53 ⇓P P 23 24 09.8 -1.0
baz=82,SNR=16
Y25A **Mesa, Roswell** 81.75 51 ⇓P P 23 24 09.7 -1.2
baz=82,SNR=27
W24A **Lazy 6 Ranch,** 81.77 50 ⇓P P 23 24 09.9 -1.1
baz=82,SNR=27
MSO **Missoula** 81.79 37 eP P 23 24 09.1 -1.7
comp=Z,93nm,1.3s
MSO **Missoula** 81.79 37 ⇓P P 23 24 10.0 -0.8
baz=82,SNR=24
DLMT **Dillon** 81.80 38 eP P 23 24 10.2 -0.6
comp=Z,83nm,1.3s
Q21A **Lamborn Mesa,** 81.83 46 ⇑P P 23 24 11.0 -0.2
baz=82,SNR=13
REDW **Red Top Meadow** 81.84 41 eP P 23 24 10.5 -0.8
TPAW **Teton Pass** 81.84 41 eP P 23 24 10.7 -0.7
DLBC **Dease Lake** 81.85 21 eP P 23 24 09.3 -1.4
DLBC **Dease Lake** 81.85 21 P P 23 24 10.4 -0.4
comp=Z,12nm,1.0s,baz=222,slow=6.4,SNR=13
S22A **4UR Ranch, Cre** 81.85 47 ⇑P P 23 24 11.1 -0.4
baz=82,SNR=87
BSMT **Bassoo Peak** 81.88 35 eP P 23 24 09.9 -1.5
SNOW **Snow King Moun** 81.95 41 eP P 23 24 11.6 -0.2
O20A **White River Ci** 81.97 45 eP P 23 24 12.3 +0.3
O20A **White River Ci** 81.97 45 ⇓P P 23 24 11.1 -0.9
baz=82
428A **Kincaid Ranch,** 82.00 55 ⇓P P 23 24 11.7 -0.6
baz=82,SNR=23
M19A **Rock Springs** 82.01 43 ⇓P P 23 24 11.3 -0.9
baz=82,SNR=7.4
Z26A **Caprock** 82.02 52 ⇑P P 23 24 11.3 -1.0
baz=82,SNR=51
X25A **Clemmons Ranch** 82.03 51 ⇓P P 23 24 11.3 -1.1
baz=82,SNR=30
227A **Bennet, Jal** 82.04 54 ⇑P P 23 24 11.5 -0.9
baz=82
IMW **Indian Meadow** 82.05 40 eP P 23 24 11.9 -0.6
comp=Z,96nm,1.3s
V24A **Rampart Ranch,** 82.09 50 ⇓P P 23 24 11.7 -1.1
baz=82,SNR=13
MOOW **Moose Ponds** 82.10 41 eP P 23 24 14.4 +1.8
JTMT **Jette** 82.10 36 eP P 23 24 12.6 +0.1
T23A **Casias Ranch,** 82.10 48 ⇓P P 23 24 11.8 -1.0
baz=82,SNR=6.9
LOHW **Long Hollow** 82.12 41 eP P 23 24 10.2 -2.5
comp=Z,71nm,1.4s
LRM **Limekiln Ridge** 82.12 38 eP P 23 24 11.7 -1.1
SWMT **Swartz Lake** 82.13 36 eP P 23 24 13.0 +0.4
529A **Stev Forest Ra** 82.14 56 ⇑P P 23 24 11.9 -1.1
baz=82,SNR=44
328A **Wristen Ranch,** 82.17 54 ⇑P P 23 24 11.8 -1.3
baz=82,SNR=17
BLMT **Blacktail Moun** 82.20 36 eP P 23 24 13.7 +0.7
QLMT **Earthquake Lak** 82.22 39 eP P 23 24 13.0 -0.3
P21A **Newcastle** 82.23 45 ⇑P P 23 24 12.6 -0.8
baz=82,SNR=17
CHMT **Chamberlain Mo** 82.24 37 eP P 23 24 10.2 -3.0
127A **Arkansas Junct** 82.26 53 ⇓P P 23 24 12.5 -1.0
baz=82,SNR=7.7
SLMT **Seeley Lake** 82.27 36 eP P 23 24 13.5 +0.1
N20A **Spence Gulch,** 82.29 44 ⇓P P 23 24 13.0 -0.7
baz=82,SNR=11
I17A **Pilgrim Ck.** 82.29 40 ⇓P P 23 24 13.3 -0.3
baz=82
Q22A **Crested Butte,** 82.30 46 ⇓P P 23 24 13.4 -0.5
baz=82,SNR=56
BW06 **Boulder Array** 82.36 42 eP P 23 24 12.4 -1.7
comp=Z,73nm,1.4s
PDAR **Pinedale Array** 82.36 42 P P 23 24 12.8 -1.2
PDAR **Pinedale Array** 82.36 42 P P 23 24 12.8 -1.2
comp=Z,33nm,1.2s,baz=208,slow=2.9,SNR=40
U24A **Moreno Valley** 82.38 49 ⇓P P 23 24 13.7 -0.6
baz=83
YFT **Old Faithful** 82.40 40 eP P 23 24 15.2 +1.0
comp=Z,64nm,1.2s
SMCO **Snowmass** 82.40 46 eP P 23 24 13.8 -0.8
Y26A **Elida** 82.41 52 ⇑P P 23 24 12.9 -1.5
baz=83
YMR **Madison River** 82.43 40 eP P 23 24 13.7 -0.6
comp=Z,170nm,1.4s
W25A **X Bar L Ranch,** 82.47 50 ⇓P P 23 24 13.6 -1.1
baz=83,SNR=20
BOZ **Bozeman (W)** 82.52 39 eP P 23 24 14.1 -0.6
BOZ pmax pmax
comp=Z,78nm,1.3s
BOZ **Bozeman (W)** 82.52 39 eP P 23 24 14.1 -0.6
comp=Z,78nm,1.3s
COLA **College** 82.53 11 eP P 23 24 15.5 +1.5
COLA **College** 82.53 11 eP P 23 24 15.5 +1.5
H17A **Grant Village** 82.53 40 eP P 23 24 15.2 +0.3
H17A **Grant Village** 82.53 40 ⇑P P 23 24 15.3 +0.4
baz=83,SNR=15
O21A **Pagoda** 82.53 45 ⇑P P 23 24 14.1 -0.9
baz=83
T24B **San Luis** 82.58 48 ⇑P P 23 24 15.3 -0.1
baz=83,SNR=25
429A **Davenport Ranc** 82.59 56 ⇓P P 23 24 13.9 -1.4
baz=83,SNR=74
ILAR **Eielson Array** 82.61 11 P P 23 24 12.8 -1.8
ILAR **Eielson Array** 82.61 11 P P 23 24 12.8 -1.8
comp=Z,24nm,1.2s,baz=208,slow=6.1,SNR=45
V25A **Rancho No Teng** 82.62 50 ⇓P P 23 24 14.2 -1.3
baz=83,SNR=100
IM04 **Indian Mountai** 82.63 8 eP P 23 24 14.8 +0.2
Z27A **Tatum** 82.63 53 ⇓P P 23 24 14.2 -1.3
baz=83,SNR=13
228A **UT Block 9, Go** 82.63 54 ⇑P P 23 24 14.6 -0.9
baz=83,SNR=11
M20A **Sweetwater, Wa** 82.65 43 ⇑P P 23 24 14.8 -0.7
baz=83,SNR=17
X26A **CR and CF Fran** 82.68 51 ⇓P P 23 24 14.0 -1.7
baz=83,SNR=16
SEY **Seychan** 82.70 345 eP P 23 24 14.2 -0.8
LKWY **Lake** 82.72 40 eP P 23 24 15.9 0.0
LKWY pmax pmax
comp=Z,124nm,1.3s
LKWY **Lake** 82.72 40 eP P 23 24 15.9 0.0
comp=Z,124nm,1.3s
IMA2 **Indian Mountai** 82.73 8 eP P 23 24 16.8 +1.5
P22A **Eagle** 82.74 46 ⇑P P 23 24 14.8 -1.3
baz=83,SNR=12
N21A **Black Mountain** 82.75 44 ⇑P P 23 24 15.2 -0.9
baz=83,SNR=11
L20A **Wamsutter** 82.79 43 ⇑P P 23 24 15.6 -0.7
baz=83,SNR=39
SDCO **Great Sand Dun** 82.80 48 eP P 23 24 14.9 -1.6
comp=Z,50nm,1.2s
K19A **Absolon Red Bu** 82.85 42 ⇓P P 23 24 15.3 -1.2
baz=83,SNR=25
530A **J-C Ranch, Com** 82.85 56 ⇑P P 23 24 15.1 -1.6
baz=83,SNR=19
329A **Wagon Wheel Ra** 82.86 55 ⇓P P 23 24 14.9 -1.8
baz=83,SNR=32
Y27A **Causey** 82.90 52 ⇓P P 23 24 15.6 -1.3
baz=83,SNR=17
128A **Castleberry Fa** 82.91 53 ⇓P P 23 24 15.7 -1.3
baz=83,SNR=12
J19A **Crowheart** 82.93 42 ⇑P P 23 24 15.8 -1.1
baz=83,SNR=19
W26A **Owens Ranch, T** 82.94 51 ⇑P P 23 24 15.9 -1.2
baz=83,SNR=12
HRY **Holter Researc** 82.96 38 eP P 23 24 16.0 -0.9
S24A **Houchin Ranch,** 82.96 48 ⇑P P 23 24 16.5 -0.8
baz=83,SNR=48
U25A **Circle Dot Ran** 83.01 49 ⇓P P 23 24 16.5 -1.0
baz=83,SNR=52
QIZ **Qiongzhong** 83.02 292 P P 23 24 18.0 +0.4
QIZ S S 23 34 36.5 -0.3
QIZ pmax pmax
comp=Z,89nm,2.4s
WALA **Waterton Lakes** 83.03 35 eP P 23 24 17.4 +0.2
comp=Z,2.4nm,1.4s
Q23A **Hartsel** 83.07 47 ⇓P P 23 24 16.9 -1.1
baz=83,SNR=39
K20A **Yellowstone Ra** 83.10 42 ⇓P P 23 24 16.4 -1.4
baz=83,SNR=32
O22A **Kremmling** 83.14 45 ⇓P P 23 24 17.2 -1.0
baz=83,SNR=57
430A **Baggett Ranch,** 83.18 56 ⇑P P 23 24 17.0 -1.3
baz=83,SNR=16
631A **Perdido Creek** 83.19 57 ⇓P P 23 24 17.2 -1.2
baz=83,SNR=14
V26A **Tequesquite Ra** 83.21 50 ⇓P P 23 24 17.0 -1.5
baz=83,SNR=25
MSTX **Muleshoe** 83.23 52 eP P 23 24 17.4 -1.2
MSTX **Muleshoe** 83.23 52 ⇓P P 23 24 17.6 -1.0
baz=83,SNR=21
H18A **Shoshone NF, C** 83.23 40 ⇓P P 23 24 17.5 -1.0
baz=83,SNR=13
Z28A **Tucker Farm, M** 83.25 53 ⇑P P 23 24 17.8 -0.9
baz=83,SNR=15
X27A **F and S Farms,** 83.25 51 ⇓P P 23 24 17.4 -1.4
baz=83,SNR=12
P23A **Jefferson** 83.27 46 ⇓P P 23 24 18.4 -0.6
baz=84,SNR=27
R24A **Sanders Place,** 83.29 47 ⇑P P 23 24 18.1 -0.8
baz=84,SNR=40
T25A **Trinidad** 83.32 49 ⇓P P 23 24 18.0 -1.1
baz=84,SNR=28
I19A **Meeteetse** 83.34 41 ⇑P P 23 24 18.3 -0.7
baz=84,SNR=47
129A **Stewart Farms,** 83.39 54 ⇑P P 23 24 17.7 -1.8
baz=84,SNR=10.0
L21A **Rawlins** 83.41 43 ⇑P P 23 24 17.9 -1.6
baz=84,SNR=16
732A **Laxson Ranch,** 83.42 58 ⇑P P 23 24 18.1 -1.4
baz=84
W27A **Bowe Ranch, En** 83.45 51 ⇓P P 23 24 18.7 -1.0
baz=84,SNR=50
330A **Mertzon** 83.46 55 ⇑P P 23 24 17.5 -2.3
baz=84,SNR=10
N22A **Wattenberg Ran** 83.49 45 ⇓P P 23 24 19.0 -0.9
baz=84,SNR=37
531A **Rocksprings** 83.49 56 ⇓P P 23 24 18.5 -1.5
baz=84,SNR=64
U26A **Atchley Ranch,** 83.49 50 ⇑P P 23 24 18.7 -1.3
baz=84,SNR=21
S25A **Robets Cordova** 83.52 48 ⇑P P 23 24 19.2 -1.0
baz=84,SNR=58
Q24A **Divide** 83.58 47 ⇓P P 23 24 19.7 -0.8
baz=84,SNR=43
O23A **Lake Granby, G** 83.59 45 ⇓P P 23 24 19.3 -1.3
baz=84,SNR=7.8
J20A **Shoshoni** 83.59 42 ⇓P P 23 24 19.4 -0.9
baz=84,SNR=81
ISCO **Idaho Springs** 83.62 46 eP P 23 24 20.0 -0.7
ISCO **Idaho Springs** 83.62 46 eP P 23 24 19.9 -0.7
ISCO **Idaho Springs** 83.62 46 ⇑P P 23 24 19.7 -1.0
baz=84,SNR=24
431A **Sonora** 83.64 56 ⇓P P 23 24 19.0 -1.7
baz=84,SNR=6.8
H19A **Powell** 83.65 40 ⇑P P 23 24 19.9 -0.6
baz=84,SNR=8.8
M22A **Cedar Creek Ra** 83.67 44 ⇓P P 23 24 19.9 -0.9
baz=84,SNR=15
230A **Sterling City** 83.69 55 ⇓P P 23 24 19.9 -1.0
baz=84,SNR=10.0
RLMT **Red Lodge** 83.70 40 eP P 23 24 19.9 -1.0
comp=Z,54nm,1.2s
Z29A **Hungry Hill Ra** 83.76 53 ⇓P P 23 24 20.4 -0.9
baz=84,SNR=19
EGAK **Eagle** 83.78 13 eP P 23 24 20.1 -0.4
comp=Z,27nm,0.1s
K21A **Alcova** 83.80 43 ⇓P P 23 24 20.4 -1.1
baz=84,SNR=22
R25A **Fountain Ranch** 83.84 48 ⇑P P 23 24 20.6 -1.0
baz=84,SNR=41
I20A **Worland** 83.85 41 ⇓P P 23 24 20.7 -0.9
baz=84,SNR=43
632A **Uvalde** 83.86 57 ⇑P P 23 24 20.6 -1.2
baz=84,SNR=16
N23A **Red Feather La** 83.88 45 ⇑P P 23 24 20.9 -1.1
baz=84,SNR=28
X28A **Dimmitt** 83.88 52 ⇓P P 23 24 20.6 -1.4
baz=84,SNR=5.1
V27A **Dan Oppiter Fa** 83.90 50 ⇑P P 23 24 20.7 -1.3
baz=84,SNR=19
T26A **Comanche Natio** 83.93 49 ⇓P P 23 24 21.2 -1.0
baz=84,SNR=16
532A **Rocksprings** 83.99 57 ⇑P P 23 24 21.7 -0.9
baz=84,SNR=19
PMSA **Palmer Station** 84.00 156 P P 23 24 22.6 +0.8
PMSA **Palmer Station** 84.00 156 P P 23 24 22.6 +0.8
comp=Z,6.9nm,0.9s,baz=173,slow=7.8,SNR=4.4
J21A **Lysite** 84.00 42 ⇓P P 23 24 21.4 -1.0
baz=84,SNR=93
331A **San Angelo** 84.02 55 ⇓P P 23 24 20.9 -1.7
baz=84,SNR=11
Y29A **Porterfield Fa** 84.03 53 ⇓P P 23 24 21.9 -0.8
baz=84,SNR=7.0
L22A **Ellis Ranch, M** 84.06 44 ⇑P P 23 24 22.2 -0.6
baz=84,SNR=29
130A **Snyder** 84.08 54 ⇓P P 23 24 22.0 -0.9
baz=84,SNR=9.9
O24A **Longmont** 84.13 46 ⇑P P 23 24 22.4 -0.7
baz=84,SNR=7.6
W28A **Vega** 84.17 51 ⇑P P 23 24 22.0 -1.4
baz=84
U27A **Thompson Grove** 84.18 50 ⇓P P 23 24 22.1 -1.3
baz=84,SNR=23
H20A **Greybull** 84.18 41 ⇓P P 23 24 21.9 -1.4
baz=84
Q25A **Bedland, Calha** 84.19 47 ⇓P P 23 24 21.9 -1.6
baz=84,SNR=13
S26A **Kim** 84.20 49 ⇓P P 23 24 21.8 -1.7
baz=84,SNR=29
JCT **Junction City** 84.21 56 eP P 23 24 23.3 -0.3
JCT **Junction City** 84.21 56 eP P 23 24 23.3 -0.3
JCT **Junction City** 84.21 56 ⇓P P 23 24 21.8 -1.8
baz=84,SNR=6.8
Z30A **Sanderson Ranc** 84.22 53 ⇑P P 23 24 22.1 -1.5
baz=84,SNR=45
X29A **Tulia** 84.23 52 ⇓P P 23 24 21.6 -2.1
baz=84
F19A **Roth Farm, Mol** 84.25 39 ⇑P P 23 24 22.5 -1.1
baz=84,SNR=56
K22A **Casper** 84.28 43 ⇑P P 23 24 22.7 -1.2
baz=84,SNR=16
M23A **Laramie** 84.28 44 ⇑P P 23 24 23.1 -0.9
baz=84,SNR=34
COLD **Coldfoot** 84.31 9 eP P 23 24 24.1 +0.9
comp=Z,55nm,1.2s
I21A **Big Trails, Te** 84.32 42 ⇑P P 23 24 22.8 -1.2
baz=84,SNR=76
231A **Bronte** 84.34 55 ⇑P P 23 24 22.5 -1.8
baz=84,SNR=6.8
V28A **Channing** 84.35 51 ⇑P P 23 24 22.6 -1.7
baz=84
432A **Menard** 84.36 56 ⇓P P 23 24 22.8 -1.6
baz=84,SNR=28
PHWY **Pilot Hill** 84.39 45 eP P 23 24 22.8 -1.8
comp=Z,38nm,1.0s
G20A **Bridger** 84.40 40 ⇑P P 23 24 23.5 -0.9
baz=85,SNR=20
P25A **Willow Gulch B** 84.50 47 ⇓P P 23 24 24.2 -0.8
baz=85,SNR=33
R26A **Arlington** 84.50 48 ⇓P P 23 24 23.6 -1.4
baz=85,SNR=44
T27A **Campo** 84.52 49 ⇑P P 23 24 23.9 -1.2
baz=85,SNR=11
W29A **Amraillo** 84.54 51 ⇑P P 23 24 24.1 -1.1
baz=85,SNR=27
131A **Roby** 84.56 54 ⇑P P 23 24 23.5 -1.9
baz=85,SNR=14
N24A **Carr** 84.57 45 ⇑P P 23 24 24.2 -1.1
baz=85,SNR=11
L23A **Garrett** 84.58 44 ⇓P P 23 24 24.3 -1.1
baz=85,SNR=51
332A **Millersview** 84.59 56 ⇑P P 23 24 24.1 -1.4
baz=85,SNR=20
U28A **Mallet** 84.61 50 ⇓P P 23 24 24.4 -1.2
baz=85
Y30A **Stafford Cattl** 84.62 53 ⇑P P 23 24 24.2 -1.5
baz=85,SNR=9.9
S27A **Las Animas** 84.64 49 ⇓P P 23 24 24.6 -1.2
baz=85,SNR=9.3
E19A **Rath Farm, Rou** 84.64 39 ⇓P P 23 24 24.8 -0.7
baz=85,SNR=56
Q26A **Hugo** 84.71 47 ⇑P P 23 24 25.0 -1.1
baz=85
F20A **Billings** 84.72 40 ⇓P P 23 24 24.9 -1.0
baz=85,SNR=8.9
O25A **Wiggins** 84.79 46 ⇑P P 23 24 24.8 -1.6
baz=85
EGMT **Eagleton** 84.84 37 eP P 23 24 25.8 -0.7
EGMT **Eagleton** 84.84 37 ⇑P P 23 24 25.5 -1.0
baz=85,SNR=18
232A **Coleman** 84.85 55 ⇑P P 23 24 25.6 -1.2
baz=85,SNR=36
H21A **Big Horn, Sher** 84.85 41 ⇑P P 23 24 25.6 -1.1
baz=85,SNR=16
X30A **Coker Ranch, T** 84.86 52 ⇑P P 23 24 25.5 -1.3
baz=85,SNR=8.0
I22A **9 Mile Ranch,** 84.87 42 ⇑P P 23 24 25.4 -1.3
baz=85,SNR=38
M24A **Cheyenne** 84.89 45 ⇓P P 23 24 25.5 -1.5
baz=85,SNR=14
K23A **Bowen Ranch, D** 84.92 43 ⇑P P 23 24 26.0 -1.0
baz=85,SNR=17
V29A **Stinnett** 84.93 51 ⇓P P 23 24 25.6 -1.6
baz=85,SNR=8.0
D19A **Cripps Ranch,** 84.93 38 ⇑P P 23 24 26.5 -0.4
baz=85,SNR=55
R27A **Eads** 84.96 48 ⇓P P 23 24 26.3 -1.0
baz=85,SNR=13
T28A **Walsh** 84.98 49 ⇓P P 23 24 26.3 -1.2
baz=85,SNR=11
Z31A **Sharp Cattle R** 84.99 54 ⇓P P 23 24 26.3 -1.2
baz=85,SNR=31
G21A **Lodge Grass** 85.03 40 ⇑P P 23 24 27.0 -0.5
baz=85,SNR=7.3
E20A **Meyer Farm, Mu** 85.06 39 ⇑P P 23 24 27.3 -0.3
baz=85,SNR=37
L24A **Wheatland** 85.06 44 ⇑P P 23 24 26.7 -1.1
baz=85,SNR=8.9
P26A **Davis Ranch, A** 85.09 47 ⇓P P 23 24 27.6 -0.4
baz=85,SNR=6.2
C19A **Slack Wire Ran** 85.11 38 ⇓P P 23 24 27.4 -0.4
baz=85,SNR=87
ABTX **Abilene, Hawle** 85.12 54 eP P 23 24 26.3 -1.9
ABTX **Abilene, Hawle** 85.12 54 ⇑P P 23 24 27.0 -1.1
baz=85,SNR=65
Y31A **Rekieta Farm,** 85.14 53 ⇑P P 23 24 27.1 -1.1
baz=85,SNR=26
J23A **Dilts Ranch, B** 85.25 43 ⇑P P 23 24 28.1 -0.6
baz=86
H22A **Clearmont** 85.28 41 ⇑P P 23 24 28.1 -0.7
baz=86,SNR=13
S28A **Manter** 85.33 49 ⇓P P 23 24 28.6 -0.6
baz=86
D20A **Manuel Ranch,** 85.34 38 ⇑P P 23 24 28.3 -0.6
baz=86,SNR=60
U29A **Oasis Ranch, S** 85.34 50 ⇓P P 23 24 28.3 -0.9
baz=86
F21A **Absaloka Mine,** 85.36 40 ⇓P P 23 24 28.6 -0.5
baz=86,SNR=19

KSCO **Kaye Shedlock'** 85.38 48 *e*P P 23 24 30.0 +0.6
KSCO **Kaye Shedlock'** 85.38 48 ⇓P P 23 24 28.2 -1.2
baz=86
M25A **Palm-Egli Farm** 85.39 45 ⇑P P 23 24 28.9 -0.6
baz=86
Z32A **Haskell** 85.51 54 ⇑P P 23 24 29.2 -0.9
baz=86,SNR=81
V30A **Spur Ranch, Mi** 85.51 51 ⇓P P 23 24 29.1 -1.0
baz=86
B19A **Brinkman Farms** 85.53 37 ⇑P P 23 24 30.0 +0.2
baz=86,SNR=20
G22A **Birney** 85.60 41 ⇓P P 23 24 29.8 -0.5
baz=86,SNR=9.6
T29A **Hugoton** 85.60 50 ⇑P P 23 24 29.9 -0.6
baz=86
EDM **Edmonton** 85.61 31 *e*P P 23 24 28.2 -1.9
EDM **Edmonton** 85.61 31 *e*P P 23 24 28.2 -1.9
BJT **Baijiatuan** 85.62 313 *e*P P 23 24 30.4 0.0
BJI **Beijing** 85.62 313 P P 23 24 32.0 +1.6
BJI pmax pmax
comp=Z,10.0nm,1.1s
R28A **Tribune** 85.69 48 ⇓P P 23 24 30.2 -0.8
baz=86,SNR=10.0
C20A **Veseth Ranch,** 85.72 38 ⇑P P 23 24 30.4 -0.4
baz=86,SNR=59
E21A **Keefer Ranch,** 85.72 39 ⇓P P 23 24 31.2 +0.3
baz=86,SNR=28
Y32A **R-V Farms, Ver** 85.79 53 ⇓P P 23 24 30.1 -1.3
baz=86,SNR=15
J24A **Dixon Ranch, L** 85.81 43 ⇑P P 23 24 30.7 -0.8
baz=86,SNR=6.0
U30A **WK&E Inc. Balk** 85.83 50 ⇑P P 23 24 31.1 -0.6
baz=86,SNR=6.8
W31A **Holland Ranch,** 85.85 52 ⇓P P 23 24 30.5 -1.2
baz=86,SNR=23
A19A **Klindworth Far** 85.87 37 ⇓P P 23 24 30.6 -1.0
baz=86,SNR=17
F22A **Rosebud** 85.88 40 ⇑P P 23 24 30.6 -1.1
baz=86,SNR=8.4
S29A **Ulysses** 85.91 49 ⇑P P 23 24 31.1 -0.9
baz=86
O27A **Beecher Island** 85.96 47 ⇑P P 23 24 31.3 -1.0
baz=86
Q28A **Sharon Springs** 85.97 48 ⇓P P 23 24 31.9 -0.4
baz=86
D21A **La Casta Ranch** 86.02 39 ⇑P P 23 24 32.1 -0.2
baz=86,SNR=20
K25A **Mack Ranch, Ha** 86.02 44 ⇑P P 23 24 31.6 -0.9
baz=86
B20A **Solberg Farm,** 86.06 37 ⇑P P 23 24 31.8 -0.6
baz=86,SNR=23
I24A **Kuemmerle Ranc** 86.06 43 ⇓P P 23 24 31.8 -0.9
baz=86
T30A **Plains** 86.12 50 ⇓P P 23 24 32.3 -0.8
baz=86
V31A **Spring Creek L** 86.15 51 ⇓P P 23 24 33.0 -0.2
baz=86,SNR=17
G23A **Biddle** 86.16 41 ⇑P P 23 24 33.2 +0.1
baz=86,SNR=15
C21A **Desert Coulee** 86.31 38 ⇓P P 23 24 33.3 -0.4
baz=86
LAO **LASA Array** 86.31 39 *e*P P 23 24 34.0 +0.2
comp=Z,143nm,1.4s
A20A **Cobblestone Ra** 86.32 37 ⇓P P 23 24 33.5 -0.2
baz=86,SNR=22
U31A **Nine Bar Ranch** 86.37 51 ⇑P P 23 24 33.1 -1.2
baz=86
F23A **Volborg** 86.38 41 ⇑P P 23 24 33.8 -0.4
baz=87,SNR=12
H24A **Dirks Ranch, A** 86.49 42 ⇓P P 23 24 34.2 -0.6
baz=87,SNR=18
D22A **Cohagen** 86.55 39 ⇓P P 23 24 34.2 -0.7
baz=87,SNR=16
WMOK **Wichita Mounta** 86.57 53 *e*P P 23 24 33.4 -1.9
WMOK pmax pmax
comp=Z,36nm,1.3s
WMOK **Wichita Mounta** 86.57 53 *e*P P 23 24 33.4 -1.9
comp=Z,36nm,1.3s
WHTX **Lake Whitney** 86.62 56 *e*P P 23 24 34.2 -1.4
WHTX **Lake Whitney** 86.62 56 ⇓P P 23 24 34.3 -1.3
baz=87
B21A **Ellsworth Farm** 86.64 38 ⇑P P 23 24 34.8 -0.5
baz=87,SNR=26
I25A **Rochford** 86.71 43 ⇑P P 23 24 35.4 -0.6
baz=87,SNR=11
T31A **Randall Ranch,** 86.77 50 ⇓P P 23 24 35.4 -0.8
baz=87,SNR=7.7
R30A **Dighton** 86.78 49 ⇑P P 23 24 34.9 -1.4
baz=87
E23A **Ismay** 86.79 40 ⇓P P 23 24 35.7 -0.5
baz=87,SNR=6.6
J26A **Sides Ranch, S** 86.85 43 ⇑P P 23 24 35.6 -0.9
baz=87
A21A **Bergtoll Ranch** 86.95 37 ⇓P P 23 24 36.1 -0.7
baz=87,SNR=12
C22A **Vida** 87.00 39 ⇑P P 23 24 36.3 -0.8
baz=87
F24A **Ekalaka** 87.04 41 ⇑P P 23 24 36.9 -0.6
baz=87
ENH **Enshi** 87.05 302 *e*P P 23 24 37.2 -0.5
H25A **Fruitdale** 87.05 42 ⇑P P 23 24 37.2 -0.3
baz=87
Q30A **Quinter** 87.09 48 ⇓P P 23 24 37.1 -0.6
baz=87
S31A **Mullinville** 87.11 50 ⇑P P 23 24 37.9 +0.1
baz=87
D23A **Lindsay** 87.15 39 ⇓P P 23 24 37.7 -0.2
baz=87,SNR=5.5
K27A **Flueckinger Fa** 87.16 44 ⇓P P 23 24 37.5 -0.6
baz=87
B22A **Reddig Ranch S** 87.18 38 ⇑P P 23 24 37.2 -0.8
baz=87,SNR=6.1
HKT **Hockley** 87.23 58 *e*P P 23 24 38.4 -0.1
HKT pmax pmax
comp=Z,55nm,1.4s
HKT **Hockley** 87.23 58 *e*P P 23 24 38.4 -0.1
comp=Z,55nm,1.4s
P30A **Selden** 87.28 48 ⇑P P 23 24 38.2 -0.5
baz=88
HIA **Hailar** 87.36 323 *e*P P 23 24 38.2 -0.6
comp=Z,31nm,1.4s
C23A **Lambert** 87.45 39 ⇓P P 23 24 38.8 -0.4
baz=88,SNR=11
A22A **Carney Farms,** 87.55 38 ⇓P P 23 24 39.6 -0.2
baz=88
H26A **Fairpoint** 87.59 42 ⇓P P 23 24 39.3 -0.7
baz=88
MAW **Mawson** 87.64 199 P P 23 24 39.9 0.0
MAW **Mawson** 87.64 199 P P 23 24 39.9 0.0
comp=Z,12nm,0.9s,baz=99,slow=6.7,SNR=18
MAW **Mawson** 87.64 199 P P 23 24 40.6 +0.8
baz=88,SNR=19
F25A **Bowman** 87.70 41 ⇑P P 23 24 40.0 -0.6
baz=88
C24A **Savage** 87.79 39 ⇓P P 23 24 40.7 -0.2
baz=88,SNR=5.4
B23A **Brockton** 87.86 38 ⇓P P 23 24 40.9 -0.3
baz=88,SNR=10
E25A **Miller Ranch,** 87.98 40 ⇓P P 23 24 41.9 +0.1
baz=88
G26A **Maurine** 87.98 42 ⇓P P 23 24 41.6 -0.3
baz=88
J28A **Allard Ranch,** 88.12 44 ⇑P P 23 24 42.3 -0.3
baz=88
A23A **Redstone** 88.14 38 ⇑P P 23 24 42.4 -0.2
baz=88
GYA **Guiyang** 88.17 298 *i*P P 23 24 44.3 +1.0
GYA PP PP 23 28 14.0 +3.4
GYA SKS SKSac 23 35 10.5 -1.4
GYA S S 23 35 26.8 -0.8
GYA pmax pmax
comp=Z,50nm,1.2s
GYA pmax pmax
comp=Z,180nm,6.8s
GYA LR LR
comp=N,730nm,20.0s
GYA LR LR
comp=E,620nm,24.6s
GYA LR LR
comp=Z,770nm,21.0s
DGMT **Dagmar** 88.33 38 ⇑P P 23 24 42.8 -0.7
baz=88,SNR=6.0
INK **Inuvik** 88.43 14 *e*P P 23 24 43.8 +0.5
comp=Z,46nm,1.4s
INK **Inuvik** 88.43 14 P P 23 24 44.0 +0.7
comp=Z,9.6nm,0.7s,baz=212,slow=5.9,SNR=10
INK LR LR 23 56 20.0
comp=Z,1μm,20.7s,baz=133,slow=30

K29A **Lazy Trails An** 88.47 45 ⇑P P 23 24 43.9 -0.5
baz=89
A24A **Westby** 88.65 38 ⇑P P 23 24 45.1 +0.2
baz=89
J29A **Okreek** 88.72 44 ⇑P P 23 24 44.8 -0.6
baz=89
K30A **Basset** 88.92 45 ⇑P P 23 24 46.2 -0.2
baz=89
HHC **Hu-ho-hao-te** 89.18 313 *e*P P 23 24 46.8 -0.9
HHC sP sP 23 24 53.3 -1.7
HHC PP PP 23 28 20.0 +1.6
HHC SKS SKSac 23 35 14.0 -3.3
HHC S S 23 35 34.5 -2.0
HHC pmax pmax
comp=Z,40nm,1.0s
HHC pmax pmax
comp=Z,950nm,6.3s
HHC LR LR
comp=N,390nm,18.3s
HHC LR LR
comp=E,630nm,18.9s
HHC LR LR
comp=Z,820nm,18.2s
J30A **Dallas** 89.25 45 ⇓P P 23 24 47.4 -0.5
baz=89
TUL1 **Tulsa** 89.27 52 ⇓P P 23 24 47.5 -0.6
baz=89
YAK **Yakutsk** 89.29 337 *e*P P 23 24 45.2 -2.4
YAK pmax pmax
comp=Z,16nm,1.2s
C26A **Wahner Farm, P** 89.34 40 ⇓P P 23 24 48.2 0.0
baz=90
D27A **Center** 89.40 40 ⇑P P 23 24 48.5 0.0
baz=90
BGNE **Belgrade** 89.46 47 ⇑P P 23 24 49.2 +0.3
baz=90
E28A **Huff** 89.71 41 ⇓P P 23 24 49.8 -0.2
baz=90
KSU1 **Kansas State U** 89.75 49 *e*P P 23 24 50.3 0.0
comp=Z,52nm,1.2s
G30A **Faulkton** 90.16 43 ⇓P P 23 24 52.5 +0.4
baz=90
YKA **Yellowknife Ar** 90.24 23 P P 23 24 51.9 -0.1
YKA **Yellowknife Ar** 90.24 23 P P 23 24 51.8 -0.1
comp=Z,9.7nm,0.9s,baz=239,slow=4.3,SNR=16
C28A **Hausauer Farms** 90.35 40 ⇓P P 23 24 53.1 +0.2
baz=90
TEIG **Tepich** 90.80 69 P P 23 24 55.7 +0.1
comp=Z,62nm,1.2s
MDND **Maddock** 90.89 40 ⇑P P 23 24 55.4 0.0
baz=91
D30A **Buchanan** 91.14 41 ⇑P P 23 24 56.7 +0.1
baz=91
KMI **Kunming** 91.14 296 P P 23 24 57.0 -0.4
KMI pmax pmax
comp=Z,9.0nm,2.0s
JTS **JuntasAbangare** 91.19 80 *e*P P 23 24 57.3 -0.3
comp=Z,517nm,1.2s
JTS **JuntasAbangare** 91.19 80 P P 23 25 00.2 +2.6
comp=Z,278nm,1.2s,SNR=7.1
ECSD **EROS Data Cent** 91.35 45 *e*P P 23 24 56.8 -0.8
comp=Z,26nm,1.3s
A29A **Manning Farm,** 91.53 39 ⇑P P 23 24 58.5 +0.1
baz=92
C30A **Mose, Pekin** 91.54 41 ⇑P P 23 24 58.5 +0.1
baz=92
UALR **University of** 91.58 54 *e*P P 23 24 58.2 -0.6
comp=Z,57nm,1.3s
CD2 **Chengdu** 91.94 301 P P 23 25 01.5 +0.7
CD2 pP pP 23 25 06.3 +0.2
CD2 sP sP 23 25 08.5 +0.5
CD2 PP PP 23 28 43.5 +3.0
CD2 SKS SKSac 23 35 32.8 -0.7
CD2 S S 23 36 00.8 -1.4
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,720nm,5.4s
CD2 LR LR
comp=N,2μm,6.5s
CD2 LR LR
comp=Z,1μm,9.5s
CIT **Chita** 92.10 324 *e*P P 23 25 00.9 -0.1
SYO **Syowa Base** 92.44 191 ⇓*e*P P 23 25 00.6 -1.6
CMAR **Chiang Mai Arr** 92.72 288 P P 23 25 04.8 +0.3
CMAR **Chiang Mai Arr** 92.72 288 P P 23 25 04.8 +0.3
comp=Z,1.7nm,0.7s,baz=90,slow=2.7,SNR=8.5
SNAA **Sanae** 92.73 177 *e*P P 23 25 04.2 +0.5
SNAA **Sanae** 92.73 177 *e*P P 23 25 03.2 -0.5
comp=Z,16nm,1.3s
HBAR **Harrisburg** 93.13 54 *e*P P 23 25 06.2 +0.2
VNA2 **Neumayer--Watz** 93.17 175 *e*P P 23 25 04.9 -0.8
LZH **Lanzhou** 93.37 306 *e*P P 23 25 08.8 +1.4
LZH pP pP 23 25 12.3 -0.4
LZH sP sP 23 25 14.3 -0.3
LZH PP PP 23 28 51.0 -0.7
LZH SKS SKSac 23 35 42.0 +0.5
LZH *e*S S 23 36 12.5 -2.4
LZH SS SS 23 42 36.8 +5.1
LZH pmax pmax
comp=Z,46nm,1.3s
LZH pmax pmax
comp=Z,310nm,5.0s
LZH LR LR
comp=N,1μm,16.3s
LZH LR LR
comp=E,960nm,15.6s
LZH LR LR
comp=Z,1μm,17.2s
VNA1 **Neumayer--Stat** 93.37 175 *e*P P 23 25 07.8 +1.3
AGMN **Agassiz Nation** 93.39 41 *e*P P 23 25 06.3 -0.7
comp=Z,50nm,1.4s
OXF **Oxford** 93.81 55 *e*P P 23 25 10.0 +0.8
OXF pmax pmax
comp=Z,72nm,1.3s
OXF **Oxford** 93.81 55 *e*P P 23 25 10.0 +0.8
comp=Z,72nm,1.3s
ULM **Lac du Bonnet** 94.04 39 P P 23 25 09.7 -0.2
comp=Z,9.4nm,1.4s
ULM **Lac du Bonnet** 94.04 39 P P 23 25 09.7 -0.2
comp=Z,22nm,1.2s,baz=237,slow=2.8,SNR=8.7
SPMN **St. Paul** 94.41 44 ⇓P P 23 25 11.9 +0.1
baz=95
ULN **Ulaanbaatar** 94.59 318 P P 23 25 15.6 +2.9
SIUC **Southern Illin** 94.84 52 P P 23 25 14.2 +0.3
comp=Z,16nm,0.8s
JFWS **Jewell Farm** 95.51 47 *e*P P 23 25 14.1 -2.7
JFWS pmax pmax
comp=Z,33nm,1.0s
JFWS **Jewell Farm** 95.51 47 *e*P P 23 25 14.1 -2.7
comp=Z,33nm,1.0s
SFIN **Scholer Farm** 97.13 50 ⇑P P 23 25 24.2 0.0
baz=97
GTA **Gaotai** 97.33 309 *e*P Pdif 23 25 28.3 +2.9
GTA pP pP 23 25 31.5 +0.8
GTA sP sP 23 25 34.5 +1.9
GTA pmax pmax
comp=Z,3.0nm,1.3s
ZAK **Zakamensk** 97.69 320 *e*P P 23 25 21.7 -4.9
ZAK pmax pmax
comp=Z,2.0nm,1.4s
ZALV **Zalesovo Beam** 109.39 322 PKiKP **PKiKP** 23 30 20.6 -1.3
ZALV **Zalesovo Beam** 109.39 322 PKiKP **PKiKP** 23 30 20.6 -1.3
comp=Z,0.3nm,0.4s,baz=122,slow=1.9,SNR=2.8
MKAR **Makanchi Array** 110.98 315 PKiKP **PKiKP** 23 30 24.2 -1.0
MKAR **Makanchi Array** 110.98 315 PKiKP **PKiKP** 23 30 24.2 -1.0
MKAR **Makanchi Array** 110.98 315 PKiKP **PKiKP** 23 30 24.2 -1.0
comp=Z,0.5nm,0.6s,baz=64,slow=1.4,SNR=7.5
KURK **Kurchatov** 113.30 319 ⇑*i*PKIKP **PKiKP** 23 30 28.2 -1.2
KSH **Kashi** 115.62 307 *e*Pdif **Pdif** 23 26 51.0 +4.3
KSH PKP **PKiKP** 23 30 37.0 +2.6
KSH PP PP 23 31 46.0 +9.0
KSH PKS **PKSdf** 23 34 12.5 +1.3
KSH SKKS 23 38 39.0
KSH SS SS 23 47 45.0 +8.4
KSH AMB AMB
comp=Z,81nm,6.0s
KSH LR LR
comp=N,540nm,13.9s
KSH LR LR
comp=E,510nm,12.1s
KSH LR LR
comp=Z,500nm,14.5s
BRVK **Borovoye** 118.11 322 ⇑*i*PKIKP **PKPdf** 23 30 37.8 -0.8
SVE **Sverdlovsk** 122.30 328 *e*PKIKP **PKPdf** 23 30 46.8 +0.3
ARU **Arti** 123.51 328 *i*PKIKP **PKPdf** 23 30 48.4 -0.5

ARU 23 32 30.8
ARU 23 37 49.7
ARU SS SS 23 49 15.3 -1.4
ARCES **ARCESS Array B** 124.79 352 PKP **PKPdf** 23 30 50.2 -0.8
ARCES **ARCESS Array B** 124.79 352 PKP **PKPdf** 23 30 50.2 -0.8
comp=Z,2.6nm,0.8s,baz=27,slow=0.3,SNR=5.5
APA **Apatity** 125.22 348 ⇑*i*PKIKP **PKPdf** 23 30 56.0 +4.2
ABKAR **Akbulak array** 125.38 320 *e*PKPdf **PKPdf** 23 30 52.6 -0.1
KLMR **Klimovskoe** 128.97 340 *e*PKIKP **PKPdf** 23 31 00.1 +0.9
KLMR pmax pmax
comp=Z,56nm,1.7s
OBN **Obninsk** 134.29 336 ⇑*i*PKIKP **PKPdf** 23 31 10.7 +1.3
OBN pmax pmax
comp=Z,24nm,1.9s
AKASG **Malin Array Be** 140.52 337 PKIKP **PKPdf** 23 31 18.6 -2.4
AKASG **Malin Array Be** 140.52 337 PKP **PKPdf** 23 31 18.6 -2.4
AKASG **Malin Array Be** 140.52 337 PKP **PKPdf** 23 31 18.6 -2.4
comp=Z,1.7nm,0.7s,baz=34,slow=2.1,SNR=9.6
LSZ **Lusaka** 142.68 216 *e*PKPdf **PKPdf** 23 31 23.2 -3.0
LVV **L'vov** 143.04 341 *e*PKHKP PKPpre 23 31 19.6
KWP **Kalwaria Pacla** 143.60 342 *e*PKIKP **PKPdf** 23 31 26.2 -0.5
KWP **Kalwaria Pacla** 143.60 342 *e*PKPdf **PKPdf** 23 31 26.2 -0.5
KIS **Kishinev** 143.65 334 *e*P PKPpre 23 31 20.0
KIS **Kishinev** 143.65 334 *e*PKHKP PKPpre 23 31 20.0
TSUM **Tsumeb** 143.81 198 *e*PKPdf PKPbc 23 31 26.3 +0.7
OJC **Ojcow** 143.84 346 *e*PKIKP PKPbc 23 31 25.7 +1.1
OJC **Ojcow** 143.84 346 *e*PKPdf PKPbc 23 31 25.7 +1.1
KSP **Ksiaz** 143.97 350 *e*PKIKP **PKPdf** 23 31 26.4 -0.8
CLL **Collm** 143.99 353 *e*PKIKP PKPbc 23 31 25.0 0.0
CLL *i* 23 31 35.6
CLL pmax pmax
comp=Z,7.0nm,1.3s
CLL **Collm** 143.99 353 *e*PKPdf PKPbc 23 31 25.0 0.0
comp=Z,7.0nm,1.3s
CLL *i* (PKPm) 23 31 28.4
comp=Z,21nm,1.5s
CLL *i* 23 31 35.6
MALT **Malatya** 144.02 315 ⇑*i*P **PKPdf** 23 31 27.5 -0.3
STHS **Stebnicka Huta** 144.21 344 *e*PKIKP PKPbc 23 31 25.7 -0.1
STHS **Stebnicka Huta** 144.21 344 *e*PKP PKPbc 23 31 25.7 -0.1
STHS *e* 23 43 30.3
HAVZ **Havza** 144.24 321 *i*P **PKPdf** 23 31 30.0 +1.9
UPC **Upice** 144.34 350 *e*PKIKP **PKPdf** 23 31 27.3 -0.6
UPC *e* 23 31 32.2
UPC **Upice** 144.34 350 *e*PKP **PKPdf** 23 31 27.3 -0.6
UPC *ep*PKP **PKiKP** 23 31 32.2 +0.7
KOLS **Kolonicke sedl** 144.35 342 *e*PKIKP **PKPdf** 23 31 27.8 -0.2
KOLS **Kolonicke sedl** 144.35 342 *e*PKP **PKPdf** 23 31 27.8 -0.2
KOLS *e* 23 43 35.0
AKCD **Akcadag** 144.37 315 *i*P **PKPdf** 23 31 28.3 -0.2
DPC **Dobruska-Polom** 144.44 349 *e*PKIKP **PKPab** 23 31 26.4 +0.1
DPC *e* 23 31 33.6
DPC **Dobruska-Polom** 144.44 349 *e*PKP **PKPab** 23 31 26.4 +0.1
DPC *ex* x 23 31 29.0
DPC *ep*PKP **pPKPdf** 23 31 33.6 0.0
NIE **Niedzica** 144.45 345 *e*PKIKP PKPbc 23 31 26.6 0.0
NIE **Niedzica** 144.45 345 *e*PKPdf PKPbc 23 31 26.6 0.0
BURAR **Bucovina Array** 144.55 338 ⇑*i*P **PKPab** 23 31 26.5 -0.4
PVCC **Panska Ves** 144.55 351 *e*PKIKP **PKPdf** 23 31 27.9 -0.3
PVCC **Panska Ves** 144.55 351 *e*PKP **PKPdf** 23 31 27.9 -0.3
OKC **Ostrava-Krasne** 144.57 347 *e*PKIKP **PKPab** 23 31 26.4 -0.3
OKC *e* 23 31 33.8
OKC **Ostrava-Krasne** 144.57 347 *e*PKP **PKPab** 23 31 26.4 -0.3
OKC *ex* x 23 31 29.3
OKC *ex* x 23 31 33.8
CRVS **Cervenica-Dubn** 144.62 343 *e*PKIKP **PKPab** 23 31 26.5 -0.5
CRVS **Cervenica-Dubn** 144.62 343 *e*PKP **PKPab** 23 31 26.5 -0.5
CRVS *e* 23 43 23.2
UZH **Uzhgorod** 144.62 342 *c i*PKIKP **PKPab** 23 31 26.0 -0.9
UBBA **Unterbreizbach** 144.74 356 *e*PKPbc **PKPdf** 23 31 28.3 -0.1
MORC **Moravsky Berou** 144.75 348 *e*PKIKP **PKPab** 23 31 27.0 -0.5
MORC **Moravsky Berou** 144.75 348 *e*PKPdf **PKPab** 23 31 27.0 -0.5
MORC **Moravsky Berou** 144.75 348 ⇑*i*P **PKPdf** 23 31 30.0 +1.3
MOX **Moxa** 144.79 355 *e*PKPbc **PKPdf** 23 31 28.8 +0.1
MOX **Moxa** 144.79 355 *e*PKIKP **PKPdf** 23 31 28.8 +0.1
HGN **Heimansgroeve** 144.90 1 *e*PKPdf **PKPab** 23 31 27.0 -0.8
comp=Z,82nm,1.8s
TESR **Tescani** 144.93 336 ⇑*i*P **PKPab** 23 31 27.8 -0.4
TANN **Tannenbergstha** 144.93 354 *e*PKPbc **PKPdf** 23 31 28.9 -0.1
GHRR 144.99 335 ⇑*i*P **PKPdf** 23 31 28.9 -0.2
TRPA **Tarpa** 144.99 341 ⇑*i*P **PKPab** 23 31 27.9 -0.4
PRA **Prague** 145.02 351 PKP **PKPbc** 23 31 28.0 -0.3
MEM **Membach** 145.05 1 PKP **PKPdf** 23 31 29.5 +0.4
TLCR 145.07 332 ⇑*i*P **PKPab** 23 31 28.9 +0.2
CTKT **Corum** 145.08 321 *i*P **PKPdf** 23 31 29.9 +0.2
PRU **Pruhonice** 145.08 351 *e*PKIKP **PKPbc** 23 31 27.5 -1.1
PRU *e* 23 31 34.7
PRU **Pruhonice** 145.08 351 *e*PKP **PKPbc** 23 31 27.5 -1.1
PRU *ep*PKP **PKPdf** 23 31 30.7 +1.5
PRU *es*PKP 23 31 34.7
BMR **Baia Mare** 145.09 340 ⇑*i*P **PKPbc** 23 31 28.2 -0.5
GZT **Gaziantep** 145.09 314 *i*P **PKPdf** 23 31 29.7 -0.1
NKC **Novy Kostel** 145.11 353 *e*PKIKP **PKPdf** 23 31 29.5 +0.2
NKC *e* 23 31 35.0
NKC **Novy Kostel** 145.11 353 *e*PKP **PKPdf** 23 31 29.5 +0.2
NKC *ep*PKP **pPKPdf** 23 31 35.0 +0.3
BCLA **Clavier** 145.23 2 PKP **PKPdf** 23 31 30.1 +0.7
KECS **Kecovo** 145.27 344 *e*PKIKP **PKPbc** 23 31 28.9 -0.3
KECS **Kecovo** 145.27 344 *e*PKP **PKPbc** 23 31 28.9 -0.3
KECS *e* 23 43 46.3
CFR **Carcaliu** 145.38 333 ⇑*i*P **PKPbc** 23 31 29.5 -0.1
TNS **Taunus Mts** 145.41 358 *e*PKPbc **PKPbc** 23 31 29.2 -0.5
TNS **Taunus Mts** 145.41 358 *e*PKIKP **PKPbc** 23 31 29.2 -0.5
VRI **Vrincioaia** 145.42 335 ⇑*i*P **PKPbc** 23 31 29.5 -0.3
PLOR **Plostina** 145.47 335 ⇑*i*P **PKPbc** 23 31 29.5 -0.5
KMBO **Kilima Mbogo** 145.50 244 PKPbc **PKPab** 23 31 31.9 +0.3
KMBO **Kilima Mbogo** 145.50 244 PKPbc **PKPab** 23 31 31.9 +0.3
comp=Z,17nm,1.0s,baz=64,slow=2.3,SNR=26
DOU **Dourbes** 145.53 2 PKP **PKPab** 23 31 30.7 +0.4
ROTZ **Rotzenmuhle** 145.60 354 *e*PKPbc **PKPdf** 23 31 29.7 -0.4
TREC **Trest** 145.60 350 *e*PKIKP **PKPab** 23 31 32.4 +1.8
TREC **Trest** 145.60 350 *e*PKP **PKPab** 23 31 32.4 +1.8
TREC *ep*PKP **pPKPdf** 23 31 36.4 +0.8
KUZU **Kuzuini** 145.72 314 *i*P **PKPbc** 23 31 31.1 0.0
GRF **Grafenberg Arr** 145.77 355 *e*PKPbc **PKPdf** 23 31 30.6 +0.2
GRF **Grafenberg Arr** 145.77 355 *e*PKP2 **PKPdf** 23 31 30.6 +0.2
GRFO **Grafenberg** 145.77 355 *e*PKP2 **PKPdf** 23 31 29.9 -0.5
GRFO **Grafenberg** 145.77 355 *e*PKPdf **PKPdf** 23 31 29.9 -0.5
ANDN **Andirin** 145.81 316 *i*P **PKPbc** 23 31 31.6 +0.1
TIRR **Tirgusor** 145.81 332 ⇑*i*P **PKPdf** 23 31 30.8 +0.2
TLB **Topalu** 145.88 332 ⇑*i*P **PKPbc** 23 31 31.0 -0.3
CDAG **Cicekdag** 145.94 320 *i*P **PKPbc** 23 31 31.7 -0.1
PSZ **Piszkesteto** 145.94 344 *e*PKP2 **PKPbc** 23 31 31.2 -0.3
PSZ **Piszkesteto** 145.94 344 *e*PKPdf **PKPbc** 23 31 31.1 -0.3
PSZ **Piszkesteto** 145.94 344 ⇑*i*P **PKPbc** 23 31 31.3 -0.3
PSZ **Piszkesteto** 145.94 344 ⇓*e*PKPdf **PKPab** 23 31 32.9 +0.9
SMOL **Smolenice** 145.98 347 *e*PKP2 **PKPab** 23 31 34.9 +2.9
SMOL **Smolenice** 145.98 347 *e*PKP **PKPab** 23 31 34.9 +2.9
SMOL *e* 23 43 49.8
WLF **Walferdange** 146.00 1 PKP **PKPab** 23 31 32.9 +0.9
WLF **Walferdange** 146.00 1 *e*PKPbc **PKPbc** 23 31 31.5 0.0
WLF **Walferdange** 146.00 1 *e*PKP2 **PKPdf** 23 31 30.4 -0.3
WLF **Walferdange** 146.00 1 *e*PKPdf **PKPdf** 23 31 30.4 -0.3
MLR **Muntele Rosu** 146.05 335 ⇓*i*P **PKPab** 23 31 32.5 0.0
KHC **Kasperske Hory** 146.06 352 *i*PKP2 **PKPdf** 23 31 31.1 +0.2
KHC **Kasperske Hory** 146.06 352 *i*PKP **PKPdf** 23 31 31.1 +0.2
KHC *ep*PKP **PKiKP** 23 31 34.3 -0.8
KHC *ex* x 23 31 38.4
KHC **Kasperske Hory** 146.06 352 *e*PKPdf **PKPdf** 23 31 30.6 -0.4
ISR **Istrita** 146.10 334 ⇓*i*P **PKPbc** 23 31 31.9 -0.1
DRGR 146.12 340 ⇑*i*P **PKPdf** 23 31 31.6 +0.4
AVNT **Avonos** 146.13 318 *i*P **PKPbc** 23 31 32.1 -0.4
WET **Wettzell** 146.14 353 *e*PKPbc **PKPab** 23 31 32.3 -0.3
WET **Wettzell** 146.14 353 *e*PKP2 **PKPab** 23 31 32.3 -0.3
GEC2 **GERESS Array S** 146.32 352 *e*PKPbc **PKPbc** 23 31 32.3 -0.3
GEC2 **GERESS Array S** 146.32 352 *e*PKP2 **PKPbc** 23 31 32.3 -0.3
GERES **GERESS Array B** 146.32 352 PKP **PKPdf** 23 31 30.4 -1.1
GERES PKPbc **PKPab** 23 31 33.5 +0.2
GERES **GERESS Array B** 146.32 352 PKP **PKPdf** 23 31 30.4 -1.1
comp=Z,8.3nm,1.2s,baz=32,slow=3.8,SNR=11
GERES PKPbc **PKPab** 23 31 33.5 +0.2
comp=Z,18nm,1.1s,baz=7.6,slow=4.0,SNR=35
BR131 **Keskin Array S** 146.32 321 *e*PKPdf **PKPdf** 23 31 31.9 +0.1
BRTR **Keskin Array B** 146.32 321 PKPbc **PKPbc** 23 31 32.5 -0.6
BRTR **Keskin Array B** 146.32 321 PKPbc **PKPbc** 23 31 32.5 -0.6
comp=Z,8.0nm,0.7s,baz=126,slow=1.4,SNR=29
ZST **Bratislava** 146.35 347 *e*PKP2 **PKPab** 23 31 35.1 +1.7
ZST **Bratislava** 146.35 347 *e*PKP **PKPab** 23 31 35.1 +1.7
COBT **Iskenderun** 146.42 314 *i*P **PKPbc** 23 31 33.0 -0.5
VOIR 146.44 336 ⇑*i*P **PKPbc** 23 31 33.2 +0.1

ARR	Arges	146.66 337	⇑ *i*P	PKPab	23 31 34.5	-0.3
LANF	Langenberg	146.67 359	PKP	PKPbc	23 31 33.3	-0.2
ANTO	Ankara	146.74 322	*e*PKP2	PKPdf	23 31 33.1	+0.7
ANTO	Ankara	146.74 322	*e*PKPdf	PKPdf	23 31 33.1	+0.7
ANTO	Ankara	146.74 322	⇑ *i*P	PKPab	23 31 37.7	+2.4
BBAL	Bala	146.75 321	*i* P	PKPbc	23 31 33.8	-0.4
YAYL	Yayladag	146.77 313	*i* P	PKPbc	23 31 34.2	-0.2
PKSG		146.81 345	⇑ *e*PKPdf	PKPbc	23 31 33.5	-0.5
STU	Stuttgart	146.83 357	*e*PKPbc	PKPbc	23 31 34.3	+0.3
DEV	Deva	146.85 339	⇑ *i*P	PKPab	23 31 35.3	-0.1
CONA	Conrad Observa	146.85 349	*i* PKPab	PKPbc	23 31 34.3	+0.1
	comp=Z,68nm,1.4s,SNR=20					
LOT	Lotru	146.92 338	⇑ *i*P	PKPbc	23 31 34.6	+0.1
SIRR	Siria	146.92 341	⇑ *i*P	PKPab	23 31 35.1	-0.6
PKS7	Kunszentmiklos	146.94 344	‖ *e*	PKPab	23 31 38.3	+2.6
SOP	Sopron	146.95 348	‖ *e*PKPdf	PKPbc	23 31 34.0	-0.3
GULE	Gulek	147.02 316	*i* P	PKPbc	23 31 35.4	+0.3
PKST	T"s	147.02 346	⇑ *e*PKPdf	PKPab	23 31 36.4	+0.3
MOA	Molln	147.21 351	*i* PKPbc	PKPbc	23 31 34.3	-0.8
	comp=Z,61nm,1.2s,SNR=24					
FUR	Furstenfeldbru	147.28 354	*e*PKPbc	PKPab	23 31 36.6	-0.4
FUR	Furstenfeldbru	147.28 354	*e*PKP2	PKPab	23 31 36.6	-0.4
BFO	Black Forest	147.31 358	*e*PKPbc	PKPbc	23 31 36.0	+0.6
BFO	Black Forest	147.31 358	*e*PKP2	PKPdf	23 31 33.5	+0.4
BFO	Black Forest	147.31 358	*e*PKPdf	PKPdf	23 31 33.5	+0.4
GZR	Gura Zlata	147.32 339	⇑ *i*P	PKPbc	23 31 35.0	-0.6
THEF	They Montfort	147.44 1	PKP	PKPab	23 31 38.2	+0.6
PKS2	Kecel	147.44 344	‖ *e*PKPdf	PKPbc	23 31 35.4	-0.3
ECH	Echery	147.45 359	*e*PKIKP	PKPdf	23 31 33.5	+0.2
ECH		*e*			23 31 37.5	
ECH	Echery	147.45 359	PKP	PKPab	23 31 38.0	+0.3
ECH	Echery	147.45 359	*e*PKPdf	PKPdf	23 31 33.5	+0.2
ECH			*e*PKPab	PKPab	23 31 37.5	-0.2
BZS	Buzias	147.51 340	‖ *i*P	PKPbc	23 31 34.9	-1.1
RJOB	Jochberg	147.53 352	*e*PKPbc	PKPbc	23 31 36.9	+0.8
ARSA	Arzberg	147.57 349	⇑ *i*pPKPdf	PKPbc	23 31 36.0	-0.2
	comp=Z,45nm,1.5s,SNR=17					
MOF	Molkenrain	147.81 359	PKP	PKPab	23 31 39.1	-0.1
RETA	Reutte	148.00 355	⇑ *i*PKiKP	PKiKP	23 31 38.4	-0.8
	comp=Z,42nm,1.4s,SNR=19					
BEHE	Becsehely	148.06 347	‖ *ef*	PKiKP	23 31 39.2	-0.1
MOTA	Moosalm	148.11 354	⇑ *i*PKiKP	PKiKP	23 31 38.7	-0.9
	comp=Z,53nm,1.2s,SNR=26					
WTTA	Wattenberg	148.13 354	*i* pPKPbc	PKPab	23 31 40.0	-0.7
	comp=Z,48nm,1.4s,SNR=13					
PVL	Pavlikeni	148.16 334	*e*P	PKPbc	23 31 38.3	+0.5
JMB	Yambol	148.20 331	*e*P	PKPbc	23 31 39.0	+1.1
SOKA	Soboth	148.21 349	⇑ *i*PKPab	PKPab	23 31 39.5	-1.4
	comp=Z,48nm,1.3s,SNR=31					
PERS	Pernice	148.24 349	*e*PKPbc	PKPbc	23 31 38.1	+0.1
DAVA	Damuels	148.27 356	⇑ *i*PKPab	PKPbc	23 31 39.6	+1.4
	comp=Z,41nm,1.4s,SNR=14					
LOMF	Lomont	148.32 360	PKP	PKPbc	23 31 38.9	+0.7
OBKA	Obir	148.46 350	⇑ *i*PKiKP	PKPbc	23 31 39.3	+0.7
	comp=Z,23nm,1.6s,SNR=11					
FETA	Feichten	148.46 355	⇑ *i*PKPbc	PKPbc	23 31 37.5	-1.2
	comp=Z,29nm,1.3s,SNR=9.0					
MYKA	Terra Mystica	148.49 351	*i* PKiKP	PKiKP	23 31 40.0	-0.2
	comp=Z,38nm,1.6s,SNR=9.5					
ABTA	Abfaltersbach	148.54 352	⇑ *i*pPKPdf	PKPdf	23 31 36.9	+1.7
	comp=Z,36nm,1.3s,SNR=9.9					
MPEP	Malo Peshtene	148.70 336	*e*P	PKPbc	23 31 39.5	+0.3
LJU	Ljubljana	148.91 349	*e*PKPbc	PKPdf	23 31 36.3	+0.6
TUE	Stuetta	149.11 356	*e*PKPdf	PKPdf	23 31 35.9	-0.4
PGB	Panagyurishte	149.19 334	*e*P	PKPbc	23 31 40.7	+0.1
GAZI	Gazipasa	149.24 317	*i* P	PKPbc	23 31 39.8	-1.1
CSS	Prodhromos	149.26 314	*e*PKPdf	PKPdf	23 31 37.6	+0.9
SART	Tekirdag	149.27 329	*i* P	PKPbc	23 31 41.3	+0.4
TRI	Trieste	149.37 350	*e*PKPdf	PKPdf	23 31 36.5	+0.1
KDZ	Kurdzhali	149.38 332	*e*P	PKPbc	23 31 39.3	-1.7
ISP	Isparta	149.41 321	*e*PKPdf	PKPdf	23 31 36.4	-0.5
ISP			*e*PKPab	PKPab	23 31 45.3	-0.8
AGO	Saint Agoulin	149.47 5	PKP	PKPbc	23 31 42.8	+1.7
VTS	Vitosha	149.55 335	⇑ *i*P	PKPbc	23 31 42.7	+1.1
VTS	Vitosha	149.55 335	*e*P	PKPbc	23 31 40.9	-0.7
DEMI	Demirci	149.65 325	*i* P	PKPbc	23 31 41.4	-0.4
BALY	Balya	149.75 327	*i* P	PKPbc	23 31 41.5	-0.6
PYM	Petit Puy Mans	149.76 5	PKP	PKPbc	23 31 44.2	+2.3
MMB	Musomiste	150.17 334	*e*P	PKPbc	23 31 41.3	-1.7
KKB	Krupnik	150.21 335	*e*P	PKPbd	23 31 38.9	+1.0
BN	Bardonecchia	150.62 360	*e*PKIKP	PKPdf	23 31 39.5	+0.8
BNI	Bardonecchia	150.62 360	*e*PKPdf	PKPdf	23 31 39.5	+0.8
SKO	Skopje	150.77 337	*e*PKP	PKPbc	23 31 44.9	+0.5
VAY	Valandovo	150.88 335	*e*PKP	PKPbc	23 31 42.0	-2.6
AKAS	Kas	150.99 319	*i* P	PKPbc	23 31 44.5	-0.7
PCAB	Cabril	151.03 23	*e*PKPbc	PKPbc	23 31 45.8	+0.8
AYDN	Tasoluk	151.08 324	*i* P	PKPbc	23 31 45.0	-0.3
TURN	Turunc	151.19 322	*i* P	PKPbc	23 31 44.6	-0.9
POLO	Lamas de Olo	151.41 23	*e*PKPbc	PKPbc	23 31 46.8	+0.8
POLO	Lamas de Olo	151.41 23	*e*PKPab	PKPab	23 31 53.6	-0.5
GCAM	G?zelcaml?	151.42 324	*i* P	PKPbc	23 31 45.2	-0.7
PVRL	Vila Real	151.53 23	*e*PKPbc	PKPbc	23 31 46.8	+0.6
BIA	Bitola	151.63 336	*e*PKP	PKPbc	23 31 46.3	-0.2
AUTN	L'Aution	151.66 359	PKP	PKPbc	23 31 48.2	+1.5
SAOF	Saorge	151.67 359	PKP	PKPbc	23 31 48.6	+2.2
MVIF	Mont Vial	151.77 359	PKP	PKPbc	23 31 44.3	-2.5
LUCF	Luceram	151.77 359	PKP	PKPbc	23 31 48.8	+2.1
MVO	Moncorvo	151.88 22	*e*PKPbc	PKPbc	23 31 46.1	-0.9
CALN	Calern	151.91 360	PKP	PKPbc	23 31 48.6	+1.5
PVIS	Viseu	151.94 24	*e*PKPab	PKPab	23 31 58.1	+1.8
MTE	Manteigas	152.35 24	*e*PKPbc	PKPbc	23 31 49.4	+1.3
MTE	Manteigas	152.35 24	*e*PKPab	PKPab	23 31 56.0	-2.0
PTOM	Tomar	152.66 26	*e*PKPbc	PKPbc	23 31 48.3	-0.4
PCBR	Castelo Branco	152.85 24	*e*PKPbc	PKPbc	23 31 48.2	-1.0
PMTG	Montargil	153.20 26	*e*PKPbc	PKPbc	23 31 50.6	+0.7
PMTG	Montargil	153.20 26	*e*PKPab	PKPab	23 32 03.5	+1.9
PMRV	Marv??o	153.24 25	*e*PKPbc	PKPbc	23 31 50.4	+0.3
PMRV	Marv??o	153.24 25	*e*PKPab	PKPab	23 32 02.9	+1.1
PESTR	Estremoz	153.64 26	*e*PKPab	PKPab	23 32 04.8	+1.4
EVO	Evora	153.74 27	*e*PKPbc	PKPbc	23 31 49.0	-2.1
EVO	Evora	153.74 27	*e*PKPab	PKPab	23 32 05.2	+1.3
PNCL	Nicolau / Gran	153.86 28	*e*PKPbc	PKPbc	23 31 52.0	+0.6
PTEO	Sao Teotonio	154.23 29	*e*PKPab	PKPab	23 32 08.1	+2.2
ESDC	Sonseca Array	154.26 19	PKP	PKPdf	23 31 45.3	+1.2
ESDC			PKPbc	PKiKP	23 31 52.8	+0.5
ESDC			PKPab	PKPab	23 32 05.2	-0.8
ESDC	Sonseca Array	154.26 19	PKP	PKPdf	23 31 45.3	+1.2
	comp=Z,0.3nm,0.7s,baz=336,slow=4.6,SNR=3.4					
ESDC			PKPbc	PKiKP	23 31 52.8	+0.5
	comp=Z,1.1nm,0.8s,baz=344,slow=3.0,SNR=9.1					
ESDC			PKPab	PKPab	23 32 05.2	-0.8
	comp=Z,12nm,1.2s,baz=336,slow=4.2,SNR=16					
PBAR	Barrancos	154.45 26	*e*PKPbc	PKPbc	23 31 53.5	+0.8
PBAR	Barrancos	154.45 26	*e*PKPab	PKPab	23 32 08.6	+1.7
MORF	Marmelete	154.46 29	*e*PKPab	PKPab	23 32 08.5	+1.5
PFVI	Vila Bisbo	154.51 30	*e*PKPbc	PKPbc	23 31 54.6	+1.8
PVAQ	Vaqueiros	154.80 28	*e*PKPab	PKPab	23 32 10.3	+1.9
KEST	Kesra	159.78 354	PKPab	PKPab	23 32 31.7	+1.8
KEST	Kesra	159.78 354	PKPab	PKPab	23 32 31.7	+1.8
	comp=Z,3.6nm,1.1s,baz=262,slow=3.6,SNR=4.1					
TORD	Torodi Ar. Bea	174.63 116	PKP	PKPdf	23 32 00.6	-2.0
TORD			PKPab	PKPab	23 33 36.7	+0.6
TORD	Torodi Ar. Bea	174.63 116	PKP	PKPdf	23 32 00.6	-2.0
	comp=Z,3.5nm,1.2s,baz=174,slow=4.5,SNR=9.7					
TORD			PKPab	PKPab	23 33 36.7	+0.6
	comp=Z,5.0nm,1.2s,baz=252,slow=4.0,SNR=9.3					

IDC 29 23:13:59.9±1.5, 16°.27S×172°.84W, h0km, mb4.2/7, mb1 4.5/7, mb1mx4.2/18, mbtmp4.2/7, MS4.5/1, Ms1 4.5/1, ms1mx4.0/39, Error ellipse: s-maj=95.3km s-min=21.4km az=149.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	Rarotonga	13.31	114	LR	LR	23 20 46.9	
	comp=Z,2μm,19.7s,baz=80,slow=31						
DZM	Mont Dzumac	20.39	250	P	Pn	23 18 43.1	+2.4
	6.0nm,0.7s,baz=107,slow=19,SNR=3.5						
STKA	Stephens Creek	44.08	241	P	P	23 22 10.3	+0.3
	3.2nm,0.5s,baz=84,slow=10,SNR=5.2						
WRA	Warramunga Arr	50.18	257	P	P	23 22 56.8	-1.0
	1.6nm,0.3s,baz=96,slow=6.7,SNR=13						
ASAR	Alice Springs	50.36	253	P	P	23 22 58.5	-0.7
	5.9nm,0.6s,baz=90,slow=7.4,SNR=7.6						
TXAR	Lajitas Array	80.65	56	P	P	23 26 15.0	-0.2
	0.4nm,0.7s,baz=207,slow=7.1,SNR=2.3						
PDAR	Pinedale Array	82.56	42	P	P	23 26 25.0	-0.1
	2.4nm,0.9s,baz=224,slow=5.0,SNR=5.7						
ILAR	Eielson Array	83.19	11	P	P	23 26 26.4	-1.2
	1.1nm,0.7s,baz=224,slow=6.5,SNR=4.5						
CMAR	Chiang Mai Arr	93.40	288	P	P	23 27 19.1	+1.3
	1.4nm,0.7s,baz=96,slow=3.4,SNR=4.7						
MKAR	Makanchi Array	111.82	314	PKiKP	PKiKP	23 32 36.4	-0.5
	0.2nm,0.5s,baz=90,slow=2.9,SNR=2.5						
ARCES	ARCESS Array B	125.54	352	PKP	PKPdf	23 33 03.2	+0.6
	3.3nm,1.0s,baz=339,slow=3.1,SNR=4.2						
AKASG	Malin Array Be	141.35	338	PKP	PKPdf	23 33 31.3	-1.4
	0.5nm,0.6s,baz=34,slow=2.9,SNR=2.7						
GERES	GERESS Array B	147.08	352	PKPbc	PKPbc	23 33 44.6	-0.4
	0.6nm,0.7s,baz=21,slow=5.7,SNR=3.6						
BRTR	Keskin Array B	147.17	321	PKPbc	PKPbc	23 33 46.0	+0.5
	6.2nm,0.9s,baz=139,slow=2.6,SNR=4.6						

IDC 29 23:18:07.0±8.3, 15°.97S×173°.12W, h0km, mb3.9/2, mb1 4.2/2, mb1mx3.7/18, mbtmp3.9/2, Error ellipse: s-maj=385.0km s-min=60.7km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	49.98	257	P	P	23 27 03.5	+0.1
	0.4nm,0.5s,baz=93,slow=6.8,SNR=4.8						
ASAR	Alice Springs	50.19	252	P	P	23 27 04.7	-0.3
	2.2nm,0.6s,baz=87,slow=8.2,SNR=10.0						
BRTR	Keskin Array B	146.77	321	PKPbc	PKPbc	23 37 50.8	-0.8
	0.2nm,0.4s,baz=32,slow=5.6,SNR=2.5						

IDC 29 23:20:16.2±2.8, 15°.74S×173°.36W, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.7/18, mbtmp3.8/4, Error ellipse: s-maj=172.7km s-min=32.0km az=146.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.38	40	Sn	Sn	23 21 22.2	-4.3
	40nm,0.3s,baz=47,slow=19,SNR=2.9						
STKA	Stephens Creek	43.90	240	P	P	23 28 26.1	+1.3
	1.6nm,0.7s,baz=95,slow=12,SNR=2.9						
WRA	Warramunga Arr	49.80	257	P	P	23 29 10.3	-0.9
	0.4nm,0.7s,baz=93,slow=6.8,SNR=5.0						
ASAR	Alice Springs	50.04	252	P	P	23 29 11.9	-1.1
	1.4nm,0.6s,baz=90,slow=8.0,SNR=7.9						
PDAR	Pinedale Array	82.49	42	P	P	23 32 40.4	-0.7
	0.5nm,0.8s,baz=273,slow=3.5,SNR=3.5						
BRTR	Keskin Array B	146.44	321	PKPbc	PKPab	23 40 00.2	-0.4
	0.3nm,0.5s,baz=94,slow=4.3,SNR=3.1						

IDC 29 23:22:25.1±8.9, 14°.14S×172°.20W, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.7/18, mbtmp3.8/2, Error ellipse: s-maj=393.5km s-min=59.9km az=138.0, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	51.27	256	P	P	23 31 31.7	+0.4
	0.7nm,0.6s,baz=90,slow=6.9,SNR=7.5						
ASAR	Alice Springs	51.61	251	P	P	23 31 33.2	-0.6
	1.3nm,0.7s,baz=87,slow=8.7,SNR=4.7						
BRTR	Keskin Array B	145.89	323	PKPbc	PKPdf	23 42 06.1	-0.3
	0.4nm,0.6s,baz=82,slow=3.1,SNR=2.7						

IDC 29 23:23:12.8±3.2, 15°.70S×173°.74W, h0km, mb4.1/4, mb1 4.4/4, mb1mx3.9/17, mbtmp4.1/4, MS4.2/1, Ms1 4.2/1, ms1mx3.9/33, Error ellipse: s-maj=154.5km s-min=30.7km az=137.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.60	47	LR	LR	23 24 29.5	
	comp=Z,4μm,18.6s,baz=14,slow=30						
STKA	Stephens Creek	43.61	240	P	P	23 31 19.2	+0.1
	2.8nm,0.6s,baz=113,slow=5.2,SNR=6.0						
WRA	Warramunga Arr	49.46	257	P	P	23 32 05.1	-0.2
	1.1nm,0.6s,baz=90,slow=6.9,SNR=15						
ASAR	Alice Springs	49.71	252	P	P	23 32 07.1	-0.1
	6.5nm,0.6s,baz=86,slow=8.4,SNR=22						
ILAR	Eielson Array	82.80	11	P	P	23 35 38.8	+0.3
	0.7nm,0.8s,baz=214,slow=6.2,SNR=3.8						
KMBO	Kilima Mbogo	145.11	244	PKPbc	PKPbc	23 42 52.1	-1.1
	0.8nm,0.9s,baz=29,slow=6.9,SNR=3.5						
BRTR	Keskin Array B	146.18	320	PKPbc	PKPdf	23 42 54.3	-0.4
	1.5nm,0.9s,baz=100,slow=2.1,SNR=3.6						

*IDC **29** 23:23:42.8±0.8, 16°.29S×173°.10W, h0km, mb4.0/10, mb1 4.3/10, mb1mx4.1/20, mbtmp4.1/10, Error ellipse: s-maj=33.5km s-min=18.2km az=135.0*
*ISCJB **29** 23:23:46.2±0.7, 16°.4S±0°.2×173°.2W±0°.2, h32km, mb4.0/9, Error ellipse: s-maj=28.2km s-min=15.7km az=138.6*
ISC 29 23:23:48.6±0.8, 16°.5S±0°.2×173°.1W±0°.2, h32km, n18, σ2.9 16/16, mb4.1/9, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	20.05	251	P	Pn	23 28 20.7	-0.5
	2.9nm,0.6s,baz=49,slow=20,SNR=3.1						
URZ	Urewera	23.34	200	P	P	23 28 53.6	-0.4
	4.1nm,0.4s,baz=113,slow=7.7,SNR=2.6						
STKA	Stephens Creek	43.73	241	P	P	23 31 50.4	-0.7
	1.3nm,0.4s,baz=90,slow=12,SNR=2.7						
WRA	Warramunga Arr	49.85	258	P	P	23 32 37.6	-1.6
	1.0nm,0.5s,baz=87,slow=3.8,SNR=8.4						
ASAR	Alice Springs	50.02	253	P	P	23 32 39.7	-0.7
	4.3nm,0.6s,baz=88,slow=8.2,SNR=9.6						
VNDA	Vanda	62.34	186	P	P	23 34 08.5	+1.0
	1.4nm,1.1s,baz=3.2,slow=7.0,SNR=3.5						
TXAR	Lajitas Array	81.00	56	P	P	23 35 59.6	-1.0
	0.2nm,0.3s,baz=237,slow=7.4,SNR=3.4						
PDAR	Pinedale Array	82.89	42	P	P	23 36 08.7	-1.8
	0.6nm,0.8s,baz=215,slow=1.1,SNR=4.2						
ILAR	Eielson Array	83.44	11	P	P	23 36 10.2	-2.2
	0.6nm,0.7s,baz=221,slow=6.5,SNR=4.7						
CMAR	Chiang Mai Arr	93.18	288	P	P	23 37 01.2	+0.9
	0.5nm,0.3s,baz=86,slow=4.6,SNR=3.9						
CLL	Collm	144.90	353	*e*(PKP)	PKPdf	23 43 28.0	+5.7
CLL				*e*		23 43 42.0	
KMBO	Kilima Mbogo	145.28	243	PKPbc	PKPdf	23 43 30.6	+6.2
	1.6nm,0.9s,baz=99,slow=5.9,SNR=3.8						
DPC	Dobruska-Polom	145.35	349	*e*PKP	PKPdf	23 43 27.0	+3.8
OKC	Ostrava-Krasne	145.48	347	*e*PKP	PKPab	23 43 27.3	+3.7
OKC				*ex*	x	23 43 41.6	
PRU	Pruhonice	145.99	351	*e*PKP	PKPab	23 43 28.2	+2.7
KHC	Kasperske Hory	146.97	352	*e*PKP	PKPab	23 43 32.6	+3.2
KHC				*ex*	x	23 43 38.0	
KHC				*ex*	x	23 43 47.4	
BRTR	Keskin Array B	147.14	320	PKPbc	PKPdf	23 43 27.5	+0.8
	2.8nm,0.8s,baz=104,slow=2.4,SNR=9.5						
GERES	GERESS Array B	147.23	352	PKPbc	PKPdf	23 43 26.4	-0.1
	0.4nm,0.7s,baz=12,slow=5.0,SNR=3.0						

*IDC **29** 23:24:07.5±0.7, 15°.13S×172°.22W, h0km, mb4.2/6, mb1 4.4/6, mb1mx4.2/18, mbtmp4.2/6, Error ellipse: s-maj=36.0km s-min=24.7km az=121.0*
*ISCJB **29** 23:24:09.4±0.8, 14°.76S±0°.07×172°.1W±0°.2, h18km, mb4.1/6, Error ellipse: s-maj=22.3km s-min=9.5km az=7.7*
ISC 29 23:24:10.6±0.6, 14°.76S±0°.08×172°.1W±0°.1, h18km, n21, σ1.9 35/22, mb4.3/6, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	0.91	23	Pn	Pb	23 24 26.0	-1.9
	286nm,0.3s,baz=162,slow=0.7,SNR=19						
AFI				Sn	Sb	23 24 38.5	-1.2
	228nm,0.3s,baz=261,slow=20,SNR=8.2						
RAR	Rarotonga	13.40	120	Pn	Pn	23 27 21.0	+1.0
	3.6nm,0.3s,baz=270,slow=19,SNR=3.4						
STKA	Stephens Creek	45.41	240	P	P	23 32 24.2	-4.2
	3.9nm,0.9s,baz=84,slow=9.2,SNR=2.9						
WRA	Warramunga Arr	51.17	256	PcP	PcP	23 34 27.7	-0.9
	3.9nm,1.1s,baz=88,slow=4.0,SNR=4.9						
VNDA	Vanda	64.14	186	P	P	23 34 41.3	-2.2
	2.3nm,0.8s,baz=1.2,slow=7.6,SNR=5.7						
YBH	Yreka Blue Hor	72.36	37	P	P	23 35 38.0	+2.4
	2.1nm,0.6s,baz=358,slow=4.6,SNR=6.7						
KSRS	Korea Array	76.56	315	P	P	23 36 02.4	+2.4
	1.7nm,0.8s,baz=130,slow=7.5,SNR=5.8						
PDAR	Pinedale Array	80.98	41	P	P	23 36 25.5	+1.0
	2.0nm,0.7s,baz=198,slow=2.7,SNR=10						
ILAR	Eielson Array	81.59	11	P	P	23 36 28.4	+1.4
	1.3nm,0.7s,baz=219,slow=6.8,SNR=5.6						
SNAA	Sanae	93.48	177	*e*P	P	23 37 23.3	-1.6
VNA2	Neumayer--Watz	93.89	175	*e*P	P	23 37 25.9	-0.8
VNA1	Neumayer--Stat	94.08	175	*e*P	P	23 37 26.8	-0.7
BVAR	Borovoye Array	118.11	323	PKP	PKPdf	23 42 56.0	-0.4
	0.6nm,0.6s,baz=80,slow=3.4,SNR=5.1						
AKASG	Malin Array Be	140.20	339	PKP	PKPdf	23 43 37.6	-0.6
	0.2nm,0.3s,baz=18,slow=1.5,SNR=4.1						
VRAC	Vranov	144.81	350	PKPbc	PKPab	23 43 44.9	-0.5
	6.1nm,1.0s,baz=332,slow=5.8,SNR=4.9						
GERES	GERESS Array B	145.67	353	PKPbc	PKPab	23 43 49.3	+0.6
	4.1nm,0.9s,baz=29,slow=3.0,SNR=12						
MLR	Muntele Rosu	145.77	337	PKPbc	PKPab	23 43 48.7	-0.5
	2.2nm,0.9s,baz=18,slow=3.2,SNR=6.5						
BRTR	Keskin Array B	146.40	323	PKPbc	PKPab	23 43 51.6	-0.2
	6.2nm,0.9s,baz=114,slow=3.1,SNR=7.5						
KMBO	Kilima Mbogo	146.91	244	PKPbc	PKPbc	23 43 53.0	-0.3
	4.8nm,0.9s,baz=81,slow=4.1,SNR=7.5						
ESDC	Sonseca Array	153.09	20	PKPbc	PKPbc	23 44 08.5	+0.9
	1.9nm,0.8s,baz=326,slow=2.7,SNR=12						
TORD	Torodi Ar. Bea	173.81	104	PKP	PKPdf	23 44 18.6	-1.4
	1.8nm,1.1s,baz=238,slow=3.1,SNR=5.8						
TORD				PKPab	PKPab	23 45 50.1	-0.2
	0.7nm,0.8s,baz=269,slow=4.5,SNR=3.6						

MEX 29 23:26:38.2±0.3, 17°.30N×91°.29W, h24km±11km, MD4.2, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	Comitan	1.30	219	*i* P	Pn	23 26 58.1	-3.0
CCIG				*i* S	Sn	23 27 14.1	-3.8
TGIG		1.83	254	*i* P	Pn	23 27 05.8	-2.5
TGIG				*i* S	Sn	23 27 27.2	-3.6
PCIG		2.44	230	*i* P	Pn	23 27 14.5	-2.1
PCIG				*i* S	Sn	23 27 42.4	-3.3
HUIG	Huatulco	4.87	252	*i* P	Pn	23 27 49.1	-0.9
HUIG				*i* S	Sn	23 28 42.9	-2.8

*IDC **29** 23:31:22.5±0.7, 14°.95S×172°.59W, h0km, mb4.2/9, mb1 4.4/9, mb1mx4.2/20, mbtmp4.2/9, Error ellipse: s-maj=40.6km s-min=17.2km az=135.0*
*NEIC **29** 23:31:23.6±0.5, 15°.02S×172°.51W, h10km, mb4.8/3, Error ellipse: s-maj=29.2km s-min=14.0km az=139.0*
*ISCJB **29** 23:31:25.7±0.5, 14°.9S±0°.2×172°.7W±0°.2, h35km, mb4.2/12, Error ellipse: s-maj=29.5km s-min=12.7km az=40.9*
ISC 29 23:31:27.7±0.5, 14°.9S±0°.2×172°.6W±0°.2, h35km, n51, σ0.9 84/50, mb4.4/12, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	1.32	39	*e*Pn	Pn	23 31 41.0	-8.8
AFI				Sn	Sn	23 31 54.3	-12
AFI	Afiamalu	1.32	39	Pn	Pn	23 31 41.1	-8.7
	339nm,0.3s,baz=185,slow=1.5,SNR=8.1						
AFI				Sn	Sn	23 31 54.3	-12
	662nm,0.3s,baz=33,slow=23,SNR=9.8						
URZ	Urewera	24.93	199	P	P	23 36 47.8	+0.1
	4.3nm,0.4s,baz=0.0,slow=4.0,SNR=3.3						
STKA	Stephens Creek	44.90	240	P	P	23 39 38.8	-0.4
	2.7nm,0.9s,baz=45,slow=5.9,SNR=3.0						
WRA	Warramunga Arr	50.67	256	P	P	23 40 23.6	-0.4
WRA	Warramunga Arr	50.67	256	P	P	23 40 23.6	-0.4
	1.0nm,0.9s,baz=90,slow=6.7,SNR=12						
ASAR	Alice Springs	50.95	252	P	P	23 40 25.6	-0.7
ASAR	Alice Springs	50.95	252	P	P	23 40 25.6	-0.7
	4.4nm,0.8s,baz=86,slow=8.5,SNR=28						
VNDA	Vanda

MSVF	**Nonsavu**	8.63	254	Pn	Pn	23 35 10.9 +8.5
	764nm,1.3s,SNR=19					
RAR	**Rarotonga**	13.97	116	*e*Pn	**Pn**	23 36 15.3 -0.1
RAR	**Rarotonga**	13.97	116	Pn	Pn	23 36 10.3 -5.0
	1.7nm,0.3s,baz=270,slow=6.1,SNR=3.5					
RAO	**Raoul Island**	14.33	197	LR	LR	23 41 11.7
	comp=Z,9µm,19.8s,baz=14,slow=35					
DZM	**Mont Dzumac**	20.30	248	*e*P	**P**	23 37 31.7 -1.6
	198nm,1.4s					
DZM				*e*S	**S**	23 41 21.1 +0.7
DZM	**Mont Dzumac**	20.30	248	P	**P**	23 37 33.9 +0.6
	79nm,1.3s,baz=78,slow=15,SNR=9.8					
TARA	**Tarawa**	21.64	320	*e*P	**P**	23 37 49.3 +1.6
	503nm,1.4s					
URZ	**Urewera**	24.20	199	P	**P**	23 38 17.3 +3.6
URZ	**Urewera**	24.20	199	P	**P**	23 38 17.3 +3.6
	18nm,0.7s,baz=314,slow=7.0,SNR=7.1					
EIDS	**Eidsvold**	34.74	248	*e*P	**P**	23 39 46.0 -1.6
	27nm,1.4s					
ARMA	**Armidale**	35.41	239	*e*P	**P**	23 39 52.3 -1.1
	52nm,1.5s					
ARMA	**Armidale**	35.41	239	P	**P**	23 39 52.4 -1.1
	baz=36,SNR=6.3					
RMQ	**Roma**	36.99	247	P	**P**	23 40 06.2 -0.6
	baz=37,SNR=10.0					
CTA	**Charters Tower**	38.77	257	P	**P**	23 40 20.9 -1.1
CTA				PcP	**PcP**	23 42 33.6 +0.1
CTA	**Charters Tower**	38.77	257	P	**P**	23 40 20.9 -1.1
	8.0nm,0.9s,baz=82,slow=11,SNR=5.2					
CTA				PcP	**PcP**	23 42 33.6 +0.1
	10nm,0.9s,baz=75,slow=3.1,SNR=5.6					
CTAO	**Charters Tower**	38.77	257	*e*P	**P**	23 40 22.4 +0.4
CTAO				pmax	pmax	
	comp=Z,71nm,1.8s					
CTAO	**Charters Tower**	38.77	257	*e*P	**P**	23 40 22.4 +0.4
	comp=Z,71nm,1.8s					
CNB	**Canberra Magne**	38.80	232	P	**P**	23 40 21.5 -0.6
	baz=39,SNR=8.2					
PMG	**Port Moresby**	39.10	274	P	**P**	23 40 24.9 +0.1
PMG	**Port Moresby**	39.10	274	P	**P**	23 40 23.3 -1.5
	comp=Z,30nm,1.1s,comp=Z,16µm					
PMG	**Port Moresby**	39.10	274	P	**P**	23 40 24.9 +0.1
	comp=Z,18nm,0.9s,baz=95,slow=1.5,SNR=4.3					
KIP	**Kipapa**	39.64	23	*c*e	**P**	23 40 26.9 -2.2
KIP				pmax	pmax	
	comp=Z,204nm,1.7s					
WAKE	**Wake Island**	39.85	330	*e*P	**P**	23 40 31.5 +0.6
	comp=Z,566nm,1.5s					
CMSA	**Cobar Meteorol**	40.62	239	P	**P**	23 40 35.9 -1.4
	baz=41,SNR=16					
MTSU	**Mount Surprise**	40.65	260	P	**P**	23 40 36.9 -0.8
	baz=41,SNR=14					
QLP	**Quilpie**	41.01	247	P	**P**	23 40 39.2 -1.4
	baz=41,SNR=12					
COEN	**Coen**	42.13	266	*e*P	**P**	23 40 49.7 -0.1
	comp=Z,651nm,1.2s					
COEN	**Coen**	42.13	266	P	**P**	23 40 49.7 -0.1
	baz=42,SNR=7.9					
TOO	**Toolangi**	42.51	231	P	**P**	23 40 51.6 -1.1
	baz=43,SNR=6.2					
STKA	**Stephens Creek**	44.11	240	*e*P	**P**	23 41 04.8 -1.0
	comp=Z,15nm,1.1s					
STKA				PcP	**PcP**	23 42 51.6 +0.9
STKA	**Stephens Creek**	44.11	240	P	**P**	23 41 04.8 -1.0
	comp=Z,46nm,1.1s,baz=78,slow=6.9,SNR=24					
STKA				PcP	**PcP**	23 42 51.6 +0.9
	comp=Z,9.1nm,0.8s,baz=37,slow=4.3,SNR=4.3					
STKA	**Stephens Creek**	44.11	240	P	**P**	23 41 04.7 -1.0
	baz=44,SNR=7.7					
BBOO	**Buckleboo**	48.88	240	*e*P	**P**	23 41 41.8 -1.4
	comp=Z,903nm,1.3s					
BBOO	**Buckleboo**	48.88	240	P	**P**	23 41 41.7 -1.4
	baz=49,SNR=10					
WRAB	**Tennant Creek**	49.96	257	*e*P	**P**	23 41 49.4 -2.1
WRAB				*e*		23 43 11.7
WRAB				pmax	pmax	
	comp=Z,39nm,0.6s					
WRAB	**Tennant Creek**	49.96	257	*e*P	**P**	23 41 49.4 -2.1
	comp=Z,39nm,0.6s					
WRAB				*e*PcP	**PcP**	23 43 11.7 -0.1
WRAB	**Tennant Creek**	49.96	257	P	**P**	23 41 49.0 -2.6
	comp=Z,342nm,1.0s,SNR=26					
WRA	**Warramunga Arr**	49.97	257	P	**P**	23 41 49.3 -2.4
WRA				PcP	**PcP**	23 43 11.8 0.0
WRA	**Warramunga Arr**	49.97	257	P	**P**	23 41 49.3 -2.4
	comp=Z,44nm,1.1s,baz=89,slow=7.0,SNR=113					
WRA				PcP	**PcP**	23 43 11.8 0.0
	comp=Z,12nm,0.8s,baz=88,slow=3.8,SNR=8.4					
AS31	**Alice Springs**	50.22	252	*e*P	**P**	23 41 51.9 -1.7
ASAR	**Alice Springs**	50.22	252	P	**P**	23 41 52.0 -1.5
ASAR				PcP	**PcP**	23 43 12.1 -0.6
ASAR	**Alice Springs**	50.22	252	P	**P**	23 41 52.0 -1.5
	comp=Z,65nm,0.9s,baz=86,slow=8.3,SNR=80					
ASAR				PcP	**PcP**	23 43 12.1 -0.6
	comp=Z,3.3nm,0.8s,baz=97,slow=3.8,SNR=4.2					
FORT	**Forrest**	55.50	243	*e*P	**P**	23 42 30.2 -2.2
	comp=Z,283nm,1.7s					
FORT	**Forrest**	55.50	243	P	**P**	23 42 31.7 -0.7
	baz=56,SNR=6.4					
FITZ	**Fitzroy Crossi**	58.34	258	P	**P**	23 42 51.8 -0.9
FITZ	**Fitzroy Crossi**	58.34	258	P	**P**	23 42 51.8 -0.9
	comp=Z,5.2nm,0.8s,baz=117,slow=4.5,SNR=4.2					
SBA	**Scott Base**	63.14	185	*e*P	**P**	23 43 27.0 +2.5
SBA				pmax	pmax	
	comp=Z,45nm,1.4s					
SBA	**Scott Base**	63.14	185	*e*P	**P**	23 43 27.0 +2.5
	comp=Z,45nm,1.4s					
VNDA	**Vanda**	63.27	186	*e*P	**P**	23 43 27.1 +1.8
VNDA	**Vanda**	63.27	186	P	**P**	23 43 25.7 +0.4
	comp=Z,21nm,1.2s,baz=5.4,slow=7.2,SNR=20					
MEEK	**Meekatharra**	63.91	248	P	**P**	23 43 29.0 -1.5
	baz=64,SNR=3.9					
LUWI	**Luwuk**	64.69	276	P	P	23 43 30.2 -5.6
	baz=65,SNR=5.6					
NWAO	**Narrogin (SRO)**	64.69	241	*e*P	**P**	23 43 34.8 -0.7
NWAO	**Narrogin (SRO)**	64.69	241	*e*P	**P**	23 43 34.7 -0.7
	comp=Z,117nm,1.7s					
NWAO	**Narrogin (SRO)**	64.69	241	P	**P**	23 43 34.6 -0.9
	comp=Z,29nm,1.1s,baz=92,slow=6.6,SNR=4.4					
FX1	**Attu Island--F**	69.13	351	*e*P	**P**	23 44 06.2 +3.1
MAJO	**Matsushiro**	69.14	320	*e*P	**P**	23 44 03.9 +0.3
MAJO				pmax	pmax	
	comp=Z,158nm,2.3s					
MAJO	**Matsushiro**	69.14	320	*e*P	**P**	23 44 03.9 +0.3
	comp=Z,158nm,2.3s					
MAT	**Matsushiro**	69.14	320	P	**P**	23 44 03.1 -0.5
CASY	**Casey**	70.36	205	*e*P	**P**	23 44 10.6 0.0
	comp=Z,44nm,1.2s					
MYLDM	**Lahad Datu**	70.62	281	P	**P**	23 44 12.1 -1.1
	comp=Z,29nm,2.1s					
ASAJ	**Asahikawa**	71.73	328	*e*P	**P**	23 44 20.9 +1.7
ASAJ	**Asahikawa**	71.73	328	P	**P**	23 44 20.5 +1.3
	comp=Z,50nm,0.9s,baz=183,slow=5.1,SNR=13					
JNU	**Nakatsue**	72.00	313	P	**P**	23 44 21.5 +0.4
JNU	**Nakatsue**	72.00	313	P	**P**	23 44 21.5 +0.4
	comp=Z,9.6nm,0.8s,baz=73,slow=8.2,SNR=5.3					
ARVC	**Arvin**	72.09	44	⇑P	**P**	23 44 23.5 +1.9
	baz=72					
MWC	**Mount Wilson**	72.11	46	*e*P	**P**	23 44 24.0 +2.0
MWC				pmax	pmax	
	comp=Z,40nm,1.4s					
MWC	**Mount Wilson**	72.11	46	*e*P	**P**	23 44 24.0 +2.0
	comp=Z,40nm,1.4s					
BAR	**Barrett**	72.24	48	*e*P	P	23 44 27.7 +5.1
	comp=Z,13nm,1.1s					
VES	**Vestal, Richgr**	72.33	44	⇓P	**P**	23 44 24.6 +1.6
	baz=73					
MURC	**Murrieta**	72.36	47	⇑P	**P**	23 44 24.5 +1.2
	baz=73					
BFSC	**Mount Baldy Ra**	72.39	46	⇑P	**P**	23 44 24.5 +0.8
	baz=73					
PET	**Petropavlovsk**	72.44	343	*e*P	**P**	23 44 23.3 +0.1
PET				pmax	pmax	
	comp=Z,37nm,1.2s					
EDW2	**Edwards Air Fo**	72.52	45	⇓P	**P**	23 44 24.1 -0.2
	baz=73,SNR=11					
MONP	**Monument Peak**	72.53	48	⇑P	**P**	23 44 24.9 +0.3
	baz=73					
CHGN	**Chignik**	72.62	9	*e*P	**P**	23 44 24.7 +0.4
ISA	**Isabella**	72.63	44	*e*P	**P**	23 44 26.0 +1.1
ISA				pmax	pmax	
	comp=Z,33nm,1.3s					
ISA	**Isabella**	72.63	44	*e*P	**P**	23 44 26.0 +1.1
	comp=Z,33nm,1.3s					
ISA	**Isabella**	72.63	44	⇓P	**P**	23 44 25.0 +0.1
	baz=73,SNR=9.6					
CMB	**Columbia Colle**	72.75	41	*e*P	**P**	23 44 26.7 +1.1
CMB				pmax	pmax	
	comp=Z,15nm,1.1s					
CMB	**Columbia Colle**	72.75	41	*e*P	**P**	23 44 26.7 +1.1
	comp=Z,16nm,1.1s					
PEA0B	**Petropavlovsk-**	72.80	342	*e*P	**P**	23 44 25.5 +0.1
PEA0B				*e*PcP	**PcP**	23 44 42.0 -0.5
PETK	**Petropavlovsk-**	72.80	342	P	**P**	23 44 25.6 +0.2
PETK	**Petropavlovsk-**	72.80	342	P	**P**	23 44 25.6 +0.2
PETK	**Petropavlovsk-**	72.80	342	P	**P**	23 44 25.6 +0.2
	comp=Z,27nm,0.8s,baz=138,slow=8.4,SNR=24					
OHCM	**Honcut**	72.85	40	*e*P	**P**	23 44 27.1 +1.1
PFO	**Pinyon Flat Ob**	72.89	47	*e*P	**P**	23 44 27.2 +0.7
	comp=Z,17nm,1.3s					
SWSC	**Sam W. Stewart**	73.01	48	⇑P	**P**	23 44 27.8 +0.7
	baz=73					
LRMC	**Laurel Mountai**	73.06	45	⇓P	**P**	23 44 28.1 +0.6
	baz=73					
CWC	**Cottonwood Cre**	73.33	44	⇓P	**P**	23 44 29.7 +0.5
	baz=74					
BELC	**Belle Mtn. Jos**	73.42	47	⇓P	**P**	23 44 30.0 +0.3
	baz=74					
MPMC	**Manual Prospec**	73.52	44	⇓P	**P**	23 44 30.6 +0.3
	baz=74,SNR=15					
GSC	**Goldstone**	73.56	45	*e*P	**P**	23 44 31.1 +0.6
GSC				pmax	pmax	
	comp=Z,37nm,1.3s					
GSC	**Goldstone**	73.56	45	*e*P	**P**	23 44 31.1 +0.6
	comp=Z,37nm,1.3s					
GSC	**Goldstone**	73.56	45	⇑P	**P**	23 44 30.4 -0.1
	baz=74,SNR=14					
YBH	**Yreka Blue Hor**	73.60	37	*e*P	**P**	23 44 30.3 -0.2
	comp=Z,19nm,1.1s					
YBH	**Yreka Blue Hor**	73.60	37	P	**P**	23 44 31.1 +0.5
	comp=Z,11nm,0.9s,baz=143,slow=1.7,SNR=15					
BC3	**Big Chuckawall**	73.62	47	⇓P	**P**	23 44 31.3 +0.4
	baz=74					
WAKR	**Walker**	73.63	41	*e*P	**P**	23 44 31.8 +0.8
HEC	**Hector,Ludlow**	73.64	46	⇓P	**P**	23 44 31.2 +0.3
	baz=74,SNR=9.1					
YSS	**Yuzh-Sakhalins**	73.67	330	⇓*e*P	**P**	23 44 30.0 -0.7
YSS				pmax	pmax	
	comp=Z,130nm,1.2s					
GLA	**Glamis**	73.76	48	*e*P	**P**	23 44 34.0 +2.4
GLA				pmax	pmax	
	comp=Z,20nm,1.0s					
GLA	**Glamis**	73.76	48	*e*P	**P**	23 44 34.0 +2.4
	comp=Z,20nm,1.0s					
GLA	**Glamis**	73.76	48	⇑P	**P**	23 44 31.8 +0.2
	baz=74					
BEKR	**Beckworth**	73.86	40	*e*P	**P**	23 44 32.6 +0.4
	comp=Z,9.5nm,1.2s					
HUMO	**Hull Mountain**	74.02	36	*e*P	**P**	23 44 34.2 +1.3
	comp=Z,31nm,1.3s					
GMRC	**Granite Mounta**	74.07	46	⇓P	**P**	23 44 33.6 +0.1
	baz=74,SNR=13					
IRM	**Iron Mountain**	74.11	47	⇑P	**P**	23 44 34.4 +0.8
	baz=74					
GRAC	**Grapevine Rang**	74.12	44	⇓P	**P**	23 44 34.4 +0.8
	baz=74					
FURC	**Furnace Creek,**	74.17	44	⇑P	**P**	23 44 34.4 +0.6
	baz=74					
TUQ	**Turquoise Moun**	74.24	46	⇑P	**P**	23 44 35.1 +0.6
	baz=74					
Y12C	**Blythe**	74.34	48	⇓P	**P**	23 44 35.6 +0.7
	baz=75					
PAHR	**Pah Rah Range**	74.37	40	*e*P	**P**	23 44 36.3 +1.1
	comp=Z,28nm,1.2s					
113A	**Mohawk Valley,**	74.38	49	⇓P	**P**	23 44 35.7 +0.5
	baz=75					
NV11	**Mina Array Sit**	74.41	42	*e*P	**P**	23 44 35.4 0.0
QSPA	**South Pole Qui**	74.52	180	*e*P	**P**	23 44 36.8 +1.1
	comp=Z,66nm,1.3s					
214A	**Organ Pipe Nat**	74.67	50	⇑P	**P**	23 44 37.4 +0.4
	baz=75					
PDMCI	**Parker Dam,Lak**	74.89	47	⇓P	**P**	23 44 38.2 +0.1
	baz=75,SNR=9.8					
KDAK	**Kodiak Island**	75.01	11	P	**P**	23 44 38.2 0.0
KDAK	**Kodiak Island**	75.01	11	P	**P**	23 44 38.2 0.0
	comp=Z,24nm,0.9s,baz=147,slow=5.0,SNR=9.0					
MOD	**Modoc**	75.12	38	*e*P	**P**	23 44 40.4 +0.9
	comp=Z,120nm,1.1s					
Z14A	**Wintersburg**	75.27	49	⇓P	**P**	23 44 40.5 +0.1
	baz=76					
K05A	**Summer Lake**	75.28	37	*e*P	**P**	23 44 41.7 +1.3
	comp=Z,74nm,1.4s					
W13A	**Hualapai Mount**	75.48	47	⇓P	**P**	23 44 42.0 +0.2
	baz=76					
Y14A	**Wickenburg**	75.52	48	⇓P	**P**	23 44 41.4 -0.4
	baz=76,SNR=16					
H04A	**Detroit Lake**	75.77	35	*e*P	**P**	23 44 43.4 +0.4
	comp=Z,27nm,1.0s					
R11A	**Troy Canyon, C**	76.04	43	*e*P	**P**	23 44 45.8 +0.9
R11A	**Troy Canyon, C**	76.04	43	⇓P	**P**	23 44 45.0 +0.1
	baz=76					
BMN	**Battle Mountai**	76.14	41	*e*P	**P**	23 44 44.7 -0.7
BMN				pmax	pmax	
	comp=Z,27nm,0.5s					
BMN	**Battle Mountai**	76.14	41	*e*P	**P**	23 44 44.7 -0.7
	comp=Z,27nm,0.5s					
TUC	**Tucson**	76.35	51	*e*P	**P**	23 44 46.6 -0.1
TUC				pmax	pmax	
	comp=Z,22nm,1.0s					
TUC	**Tucson**	76.35	51	*e*P	**P**	23 44 46.5 -0.1
	comp=Z,22nm,1.0s					
KSRS	**Korea Array**	76.36	316	P	**P**	23 44 47.3 +0.9
	comp=Z,4.3nm,0.9s,baz=129,slow=6.4,SNR=14					
KSAR	**Wonju Array Be**	76.38	315	P	**P**	23 44 47.3 +0.8
WVOR	**Wild Horse Val**	76.43	38	*e*P	**P**	23 44 46.5 -0.5
WVOR				pmax	pmax	
	comp=Z,27nm,1.1s					
WVOR	**Wild Horse Val**	76.43	38	*e*P	**P**	23 44 46.5 -0.5
	comp=Z,27nm,1.1s					
VFP	**Flag Point**	76.56	35	P	**P**	23 44 47.7 +0.1
FL2	**Flat Top 2**	76.64	34	P	**P**	23 44 48.9 +0.8
TDL	**Tradedollar La**	76.81	34	P	**P**	23 44 49.2 +0.2
X16A	**Lo Mia Camp, P**	76.88	48	⇑P	**P**	23 44 49.9 +0.1
	baz=77,SNR=24					
I07A	**Izee**	76.91	37	*e*P	**P**	23 44 49.8 +0.2
	comp=Z,33nm,1.2s					
G06A	**Carlson Farm,**	76.97	35	*e*P	**P**	23 44 50.4 +0.6
	comp=Z,30nm,1.2s					
319A	**Douglas**	77.05	52	⇑P	**P**	23 44 50.7 +0.1
	baz=77,SNR=14					
J08A	**Circle Bar Ran**	77.07	38	*e*P	**P**	23 44 50.9 +0.4
	comp=Z,34nm,1.1s					
CCUT	**Cedar City**	77.11	45	*e*P	**P**	23 44 52.4 +1.4
	comp=Z,217nm,2.8s					
ARUT	**Antelope Range**	77.18	45	*e*P	**P**	23 44 52.0 +0.7
ARUT	**Antelope Range**	77.18	45	*e*P	**P**	23 44 52.0 +0.7
	comp=Z,452nm,1.1s					
U15A	**North Rim**	77.27	46	⇑P	**P**	23 44 52.0 0.0
	baz=78					
LON	**Longmire**	77.28	33	*e*P	**P**	23 44 53.3 +1.7
LON				pmax	pmax	
	comp=Z,26nm,1.4s					
LON	**Longmire**	77.28	33	*e*P	**P**	23 44 53.2 +1.7
	comp=Z,26nm,1.4s					
KSM	**Kuching**	77.35	275	*e*P	**P**	23 44 52.2 -0.4
	comp=Z,31nm,1.1s					
KSM	**Kuching**	77.35	275	P	P	23 44 48.5 -4.1
	comp=Z,30nm,1.2s,comp=Z,768nm					
MIR	**Mirnyy**	77.38	204	⇑*i*P	**P**	23 44 54.0 +2.3
MIR				*i*		23 45 05.0
MIR				pmax	pmax	
	comp=Z,81nm,1.5s					
WPW	**White Pass**	77.39	34	P	**P**	23 44 52.3 +0.1
D05A	**Enumclaw**	77.47	33	*e*P	**P**	23 44 53.9 +1.4
	comp=Z,111nm,1.3s					
WUAZ	**Wupatki**	77.47	47	*e*P	**P**	23 44 53.2 +0.2
	comp=Z,43nm,1.3s					
WUAZ	**Wupatki**	77.47	47	⇑P	**P**	23 44 53.4 +0.4
	baz=78					
ELK	**Elko**	77.57	41	*e*P	**P**	23 44 53.8 +0.3
	comp=Z,23nm,1.2s					
USRK	**Ussuriysk Arra**	77.58	323	P	**P**	23 44 53.9 +0.8
	comp=Z,16nm,1.1s,baz=108,slow=4.4,SNR=23					
320A	**Kipp Ranch, An**	77.60	52	⇑P	**P**	23 44 53.9 +0.2
	baz=78					
SVW2	**Sparrevohn**	77.66	9	*e*P	**P**	23 44 53.9 +0.7
	comp=Z,192nm,2.6s					
SEW	**Seward**	77.78	12	*e*P	**P**	23 44 53.9 +0.1
	comp=Z,30nm,1.1s					
220A	**Playas Peak, P**	77.86	52	⇑P	**P**	23 44 55.4 +0.2
	baz=78,SNR=25					
G08A	**Pilot Rock**	77.94	36	*e*P	**P**	23 44 55.5 +0.1
	comp=Z,55nm,1.1s					
X18A	**Snowflake**	78.01	49	⇓P	**P**	23 44 56.2 +0.1
	baz=78,SNR=11					
120A	**U Bar Ranch, L**	78.07	51	⇓P	**P**	23 44 56.6 +0.2
	baz=78,SNR=12					
LTY	**Liberty**	78.21	34	*e*P	**P**	23 44 58.7 +2.0
	comp=Z,13nm,1.0s					
HAWA	**Hanford**	78.29	35	*e*P	**P**	23 44 57.5 +0.4
	comp=Z,52nm,1.4s					
Z20A	**Nine Sixteen R**	78.36	51	⇑P	**P**	23 44 58.2 +0.2
	baz=79,SNR=21					
MVU	**Marysvale**	78.38	44	*e*P	**P**	23 44 59.7 +1.6
	comp=Z,22nm,1.0s					
W18A	**Petrified Fore**	78.45	48	⇑P	**P**	23 44 59.0 +0.5
	baz=79					
221A	**Mesquite Ranch**	78.47	52	⇓P	**P**	23 44 58.9 +0.3
	baz=79					
BMO	**Blue Mountains**	78.63	37	*e*P	**P**	23 44 58.7 -0.4
	comp=Z,22nm,1.1s					
MFID	**Camas Ranch**	78.69	39	⇑P	**P**	23 44 59.6 +0.1
	baz=79					
121A	**Cookes Peak, D**	78.70	52	⇓P	**P**	23 45 00.2 +0.2
	baz=79,SNR=16					
DUG	**Dugway**	78.85	43	*e*P	**P**	23 45 00.7 +0.2
DUG				pmax	pmax	
	comp=Z,28nm,1.3s					
DUG	**Dugway**	78.85	43	*e*P	**P**	23 45 00.7 +0.2
	comp=Z,28nm,1.3s					
DUG	**Dugway**	78.85	43	⇓P	**P**	23 45 00.3 -0.1
	baz=79					
Y20A	**Horse Springs,**	78.88	50	⇓P	**P**	23 45 01.2 +0.2
	baz=79,SNR=34					
222A	**Williams Famil**	79.03	52	⇓P	**P**	23 45 02.2 +0.5
	baz=79,SNR=6.2					
X20A	**Quemado**	79.08	49	⇑P	**P**	23 45 02.5 +0.5
	baz=79,SNR=22					
BGU	**Big Grassy Mou**	79.08	42	*e*P	**P**	23 45 04.2 +2.4
	comp=Z,37nm,1.4s					
Z21A	**St. Cloud Mine**	79.13	51	⇓P	**P**	23 45 02.7 +0.3
	baz=79,SNR=37					
NLU	**North Lily Min**	79.21	43	*e*P	P	23 45 06.5 +4.0
	comp=Z,28nm,1.5s					
PMR	**Palmer**	79.21	11	*e*P	**P**	23 45 01.3 -0.4
PMR				pmax	pmax	
	comp=Z,49nm,1.3s					
PMR	**Palmer**	79.21	11	*e*P	**P**	23 45 01.3 -0.4
	comp=Z,48nm,1.3s					
MDJ	**Mudanjiang**	79.22	322	P	**P**	23 45 03.0 +0.8
MDJ				pP	**pP**	23 45 06.5 -1.3
MDJ				sP	**sP**	23 45 07.8 -2.0
MDJ				PcP	**PcP**	23 45 11.0 +0.5
MDJ				PP	**PP**	23 48 02.5 +0.3
MDJ				S	**S**	23 55 01.0 -0.5
MDJ				SS	**SS**	00 00 06.3 -2.3
MDJ				pmax	pmax	
	comp=Z,13nm,1.4s					
MDJ				pmax	pmax	
	comp=Z,160nm,4.1s					
MDJ				LR	LR	
	comp=N,700nm,32.2s					
MDJ				LR	LR	
	comp=E,380nm,17.8s					
MDJ				LR	LR	
	comp=Z,480nm,26.7s					
MDJ	**Mudanjiang**	79.22	322	*e*P	**P**	23 45 02.0 -0.2
	comp=Z,13nm,0.8s					
Q16A	**Castle Valley**	79.29	45	⇑P	**P**	23 45 03.5 +0.5
	baz=80					
F10A	**Beach Ranch, E**	79.33	36	*e*P	**P**	23 45 04.8 +1.8
	comp=Z,34nm,1.0s					
OD2	**Odessa Site #2**	79.34	34	P	**P**	23 45 02.8 -0.1
W20A	**Ramah**	79.35	49	⇑P	**P**	23 45 04.0 +0.5
	baz=80,SNR=41					
122A	**Conniff Cattle**	79.37	52	⇑P	**P**	23 45 03.8 +0.3
	baz=80					
Y21A	**Point of Rocks**	79.44	50	⇑P	**P**	23 45 04.4 +0.3
	baz=80,SNR=8.5					
TMUT	**Trail Mountain**	79.45	44	*e*P	P	23 44 56.5 -7.5
	comp=Z,49nm,1.1s					
DIV	**Divide**	79.48	13	*e*P	**P**	23 45 03.5 +0.1
	comp=Z,43nm,1.0s					
MPU	**Maple Canyon**	79.53	43	*e*P	**P**	23 45 06.0 +1.7
	comp=Z,19nm,1.1s					
X21A	**Alamocita Cree**	79.56	50	⇑P	**P**	23 45 05.1 +0.5
	baz=80,SNR=15					
B08A	**Colville Reser**	79.60	33	*e*P	**P**	23 45 03.7 -0.5
	comp=Z,36nm,1.3s					
BMRM	**Bremner River**	79.60	14	*e*P	**P**	23 45 04.2 +0.2
	comp=Z,87nm,1.2s					
HLID	**Hailey**	79.62	39	*e*P	**P**	23 45 04.9 +0.1
	comp=Z,44nm,1.3s					
HLID	**Hailey**	79.62	39	⇑P	**P**	23 45 04.7 0.0
	baz=80,SNR=43					
Z22A	**Elephant Butte**	79.64	51	⇓P	**P**	23 45 05.2 +0.1
	baz=80,SNR=14					
V20A	**Brimhall**	79.68	48	⇓P	**P**	23 45 04.9 -0.3
	baz=80,SNR=5.9					
HVU	**Hansel Valley**	79.69	41	*e*P	**P**	23 45 05.9 +0.8
HVU				pmax	pmax	
	comp=Z,28nm,1.2s					
HVU	**Hansel Valley**	79.69	41	*e*P	**P**	23 45 05.9 +0.8
	comp=Z,28nm,1.2s					
CTU	**Camp Tracy**	79.80	43	*e*P	**P**	23 45 08.0 +2.3
	comp=Z,30nm,1.3s					
SRU	**San Rafael**	79.82	45	*e*P	**P**	23 45 07.0 +1.1
SRU				pmax	pmax	
	comp=Z,38nm,1.2s					
SRU	**San Rafael**	79.82	45	*e*P	**P**	23 45 07.0 +1.1
	comp=Z,38nm,1.2s					
C09A	**Chrisman Ranch**	79.83	34	*e*P	**P**	23 45 05.5 0.0
	comp=Z,40nm,1.3s					
PPLA	**Purkeypile**	79.89	10	*e*P	**P**	23 45 08.5 +2.9
	comp=Z

S20A	Disappointment	80.70	47	⇓P	P	23 45 11.0	+0.3
	baz=81,SNR=22						
KLR	Kul'dur	80.71	327	eP	P	23 45 06.2	-4.0
KLR				pmax	pmax		
	comp=Z,72nm,1.4s						
TRF	Thorofare Moun	80.72	10	eP	P	23 45 08.2	-2.0
NEW	Newport	80.72	34	eP	P	23 45 09.9	-0.4
	comp=Z,17nm,1.3s						
NEW	Newport	80.72	34	P	P	23 45 09.9	-0.4
	comp=Z,11nm,1.1s,baz=280,slow=4.7,SNR=5.6						
NEW	Newport	80.72	34	⇓P	P	23 45 10.6	+0.2
	baz=81						
ANMO	Albuquerque	80.76	50	eP	P	23 45 11.6	+0.5
	comp=Z,53nm,1.3s						
225A	Deer Hill, Car	80.78	53	⇑P	P	23 45 11.5	+0.3
	baz=81,SNR=22						
X23A	Hourglass Bar	80.80	50	⇑P	P	23 45 11.5	+0.2
	baz=81,SNR=8.6						
426A	McDonald Obser	80.80	55	⇑P	P	23 45 11.8	+0.4
	baz=81,SNR=49						
SKAG	Skagway	80.81	19	eP	P	23 45 10.7	+0.2
	comp=Z,22nm,1.0s						
627A	Terlingua Ranc	80.82	56	⇓P	P	23 45 11.8	+0.4
	baz=81,SNR=36						
R20A	Redvale	80.85	46	⇑P	P	23 45 11.7	+0.2
	baz=81,SNR=12						
PV15	Paradox Valley	80.86	46	eP	P	23 45 11.9	+0.3
V22A	San Miguel Ran	80.86	49	⇑P	P	23 45 11.4	-0.3
	baz=81						
Z24A	Sheeppen Canyo	80.88	52	⇑P	P	23 45 11.9	+0.2
	baz=81,SNR=11						
T21A	Navajo Lake	80.90	48	⇓P	P	23 45 12.3	+0.5
	baz=81,SNR=12						
M17A	Scullys Gap (B	80.90	42	⇑P	P	23 45 11.9	+0.2
	baz=81						
527A	Woodward Ranch	80.92	55	⇑P	P	23 45 12.0	0.0
	baz=81,SNR=17						
Y24A	Capitan	81.08	51	⇑P	P	23 45 13.1	+0.3
	baz=81,SNR=32						
W23A	Werner Place,	81.08	50	⇑P	P	23 45 13.1	+0.3
	baz=81,SNR=14						
326A	Caldwell Ranch	81.11	54	⇑P	P	23 45 12.8	0.0
	baz=81,SNR=8.3						
U22A	Llaves	81.11	48	⇑P	P	23 45 13.0	+0.1
	baz=81						
P19A	Cripple Cowboy	81.12	45	⇑P	P	23 45 13.4	+0.5
	baz=81,SNR=7.0						
125A	Gardner Draw,	81.14	53	⇓P	P	23 45 13.3	+0.2
	baz=81,SNR=17						
GDL2	Guadalupe Moun	81.17	53	eP	P	23 45 14.0	+0.7
PAX	Paxson	81.19	12	eP	P	23 45 11.8	-0.8
PAX				pmax	pmax		
	comp=Z,119nm,2.2s						
PAX	Paxson	81.19	12	eP	P	23 45 11.8	-0.8
	comp=Z,119nm,2.2s						
BPAW	Bear Paw Mtn.	81.21	10	eP	P	23 45 11.6	-0.9
	comp=Z,113nm,2.4s						
MCK	McKinley	81.22	11	eP	P	23 45 12.0	-0.6
MCK				pmax	pmax		
	comp=Z,83nm,1.0s						
MCK	McKinley	81.22	11	eP	P	23 45 12.0	-0.6
	comp=Z,83nm,1.0s						
628A	Black Gap, Mar	81.23	56	⇓P	P	23 45 13.9	+0.3
	baz=81,SNR=26						
MCMT	McKenzie Canyo	81.25	39	P	P	23 45 13.8	+0.3
Q20A	Ridgley Place,	81.27	46	⇑P	P	23 45 14.1	+0.4
	baz=82,SNR=14						
226B	Tecolote Peak,	81.27	53	⇑P	P	23 45 14.0	+0.2
	baz=82,SNR=38						
HYT	Haines Junctio	81.28	17	eP	P	23 45 13.3	+0.2
V23A	Ortiz Mt. (NFS	81.31	49	⇓P	P	23 45 14.9	+0.8
	baz=82,SNR=18						
O19A	Miners Draw (B	81.34	44	⇑P	P	23 45 14.1	+0.1
	baz=82						
Z25A	Roswell	81.35	52	⇓P	P	23 45 14.4	+0.2
	baz=82,SNR=16						
X24A	Lazy VL Ranch,	81.35	51	⇑P	P	23 45 14.6	+0.3
	baz=82						
T22A	Edith	81.36	48	⇑P	P	23 45 14.5	+0.2
	baz=82,SNR=17						
427A	Hayter Ranch,	81.37	55	⇓P	P	23 45 14.5	+0.2
	baz=82,SNR=31						
RRI2	Red Ridge	81.42	41	eP	P	23 45 14.9	+0.3
	comp=Z,32nm,1.1s						
P20A	De Beque	81.46	45	⇑P	P	23 45 15.3	+0.7
	baz=82						
R21A	Cimarron	81.52	46	⇑P	P	23 45 15.5	+0.4
	baz=82,SNR=30						
L18A	Fontenelle, Gr	81.53	42	⇓P	P	23 45 15.0	0.0
	baz=82						
U23A	El Rito	81.56	49	⇑P	P	23 45 15.7	+0.3
	baz=82,SNR=19						
CLNB	Carlsbad	81.57	53	eP	P	23 45 15.6	+0.3
	comp=Z,2.8nm,0.7s						
528A	Cox Ranch, San	81.58	56	⇑P	P	23 45 15.6	+0.1
	baz=82,SNR=23						
126A	Clayton Basin,	81.62	53	⇓P	P	23 45 15.7	+0.1
	baz=82,SNR=14						
Y25A	Mesa, Roswell	81.64	51	⇑P	P	23 45 15.8	+0.1
	baz=82,SNR=19						
W24A	Lazy 6 Ranch,	81.65	50	⇓P	P	23 45 15.8	0.0
	baz=82,SNR=19						
MSO	Missoula	81.69	37	eP	P	23 45 15.1	-0.5
	comp=Z,55nm,1.3s						
MSO	Missoula	81.69	37	⇑P	P	23 45 15.5	-0.1
	baz=82,SNR=20						
DLMT	Dillon	81.69	38	eP	P	23 45 16.2	+0.5
	comp=Z,26nm,0.9s						
Q21A	Lamborn Mesa,	81.71	46	⇑P	P	23 45 16.6	+0.6
	baz=82,SNR=7.4						
REDW	Red Top Meadow	81.73	41	eP	P	23 45 16.3	+0.3
	comp=Z,56nm,1.3s						
TPAW	Teton Pass	81.73	41	eP	P	23 45 16.2	+0.1
	comp=Z,42nm,1.2s						
S22A	4UR Ranch, Cre	81.74	47	⇓P	P	23 45 17.0	+0.7
	baz=82,SNR=45						
DLBC	Dease Lake	81.76	21	eP	P	23 45 15.9	+0.3
BSMT	Bassoo Peak	81.77	35	eP	P	23 45 15.8	-0.3
SNOW	Snow King Moun	81.84	41	eP	P	23 45 17.2	+0.5
	comp=Z,34nm,1.0s						
O20A	White River Ci	81.86	45	eP	P	23 45 16.7	-0.1
O20A	White River Ci	81.86	45	⇑P	P	23 45 16.8	0.0
	baz=82						
428A	Kincaid Ranch,	81.89	55	⇓P	P	23 45 17.3	+0.3
	baz=82,SNR=20						
M19A	Rock Springs	81.90	43	⇓P	P	23 45 16.9	-0.1
	baz=82						
Z26A	Caprock	81.91	52	⇑P	P	23 45 16.7	-0.4
	baz=82,SNR=30						
X25A	Clemmons Ranch	81.92	51	⇓P	P	23 45 16.9	-0.3
	baz=82,SNR=17						
IMW	Indian Meadow	81.94	40	eP	P	23 45 17.8	+0.5
	comp=Z,56nm,1.3s						
V24A	Rampart Ranch,	81.97	50	⇓P	P	23 45 17.6	0.0
	baz=82,SNR=14						
T23A	Casias Ranch,	81.99	48	⇓P	P	23 45 17.4	-0.2
	baz=82,SNR=8.8						
MOOW	Moose Ponds	81.99	40	eP	P	23 45 17.5	+0.1
	comp=Z,23nm,1.3s						
LOHW	Long Hollow	82.01	41	eP	P	23 45 17.8	+0.3
	comp=Z,57nm,1.6s						
LRM	Limekiln Ridge	82.02	38	eP	P	23 45 17.6	0.0
529A	Stev Forest Ra	82.02	56	⇓P	P	23 45 17.7	0.0
	baz=82,SNR=23						
SWMT	Swartz Lake	82.03	36	eP	P	23 45 17.1	-0.2
328A	Wristen Ranch,	82.05	54	⇑P	P	23 45 17.7	-0.2
	baz=82,SNR=12						
P21A	Newcastle	82.12	45	⇑P	P	23 45 18.3	+0.1
	baz=82						
QLMT	Earthquake Lak	82.12	39	eP	P	23 45 19.0	+1.0
CHMT	Chamberlain Mo	82.13	37	eP	P	23 45 17.6	-0.4
127A	Arkansas Junct	82.14	53	⇓P	P	23 45 18.3	0.0
	baz=82						
SLMT	Seeley Lake	82.17	36	eP	P	23 45 17.4	-0.8
N20A	Spence Gulch,	82.17	44	⇑P	P	23 45 18.7	+0.2
	baz=82,SNR=15						
I17A	Pilgrim Ck.	82.18	40	⇑P	P	23 45 18.8	+0.4
	baz=82						
FLWY	Flagg Ranch	82.19	40	eP	P	23 45 19.1	+0.7
	comp=Z,105nm,1.4s						
Q22A	Crested Butte,	82.19	46	⇑P	P	23 45 19.1	+0.4
	baz=82,SNR=35						
BW06	Boulder Array	82.25	42	eP	P	23 45 18.5	-0.4
	comp=Z,26nm,1.3s						
PDAR	Pinedale Array	82.25	42	P	P	23 45 18.2	-0.6
PDAR	Pinedale Array	82.25	42	P	P	23 45 18.2	-0.6
	comp=Z,19nm,1.2s,baz=209,slow=2.7,SNR=28						
U24A	Moreno Valley	82.26	49	⇓P	P	23 45 18.9	-0.3
	baz=82						
SMCO	Snowmass	82.28	46	eP	P	23 45 19.7	+0.4
	comp=Z,59nm,1.2s						
Y26A	Elida	82.29	52	⇑P	P	23 45 18.7	-0.4
	baz=82						
YMR	Madison River	82.32	40	eP	P	23 45 20.0	+0.9
	comp=Z,82nm,1.1s						
W25A	X Bar L Ranch,	82.36	50	⇓P	P	23 45 19.1	-0.4
	baz=83,SNR=13						
BOZ	Bozeman (W)	82.42	39	eP	P	23 45 18.7	-0.8
BOZ				pmax	pmax		
	comp=Z,56nm,1.5s						
BOZ	Bozeman (W)	82.42	39	eP	P	23 45 18.7	-0.8
	comp=Z,56nm,1.5s						
H17A	Grant Village	82.42	40	eP	P	23 45 20.2	+0.5
H17A	Grant Village	82.42	40	⇑P	P	23 45 20.3	+0.6
	baz=83,SNR=11						
O21A	Pagoda	82.42	45	⇓P	P	23 45 19.7	-0.1
	baz=83						
COLA	College	82.45	11	eP	P	23 45 18.3	-0.7
COLA	College	82.45	11	eP	P	23 45 18.3	-0.7
	comp=Z,365nm,1.1s						
T24B	San Luis	82.47	48	⇑P	P	23 45 20.7	+0.5
	baz=83,SNR=13						
429A	Davenport Ranc	82.47	55	⇑P	P	23 45 20.0	-0.1
	baz=83,SNR=40						
V25A	Rancho No Teng	82.50	50	⇓P	P	23 45 20.2	-0.1
	baz=83,SNR=40						
228A	UT Block 9, Go	82.51	54	⇑P	P	23 45 20.7	+0.4
	baz=83						
Z27A	Tatum	82.51	53	⇑P	P	23 45 19.6	-0.7
	baz=83,SNR=14						
YNR	Norris Junctio	82.52	40	eP	P	23 45 20.7	+0.5
	comp=Z,50nm,1.4s						
M20A	Sweetwater, Wa	82.53	43	⇑P	P	23 45 20.3	0.0
	baz=83,SNR=13						
ILAR	Eielson Array	82.54	11	P	P	23 45 18.7	-0.8
ILAR	Eielson Array	82.54	11	P	P	23 45 18.7	-0.8
	comp=Z,7.1nm,0.9s,baz=212,slow=5.8,SNR=27						
IM04	Indian Mountai	82.56	8	eP	P	23 45 19.8	+0.2
X26A	CR and CF Fran	82.56	51	⇓P	P	23 45 20.1	-0.4
	baz=83,SNR=10						
LKWY	Lake	82.61	40	eP	P	23 45 20.4	-0.3
LKWY				pmax	pmax		
	comp=Z,51nm,1.2s						
LKWY	Lake	82.61	40	eP	P	23 45 20.4	-0.3
	comp=Z,51nm,1.2s						
P22A	Eagle	82.62	46	⇑P	P	23 45 20.9	0.0
	baz=83						
N21A	Black Mountain	82.64	44	⇑P	P	23 45 21.0	+0.1
	baz=83,SNR=12						
IMA2	Indian Mountai	82.66	8	eP	P	23 45 19.6	-0.7
L20A	Wamsutter	82.68	43	⇑P	P	23 45 21.3	+0.3
	baz=83,SNR=25						
SEY	Seymchan	82.68	345	ceP	P	23 45 20.2	-0.1
SDCO	Great Sand Dun	82.68	48	eP	P	23 45 18.3	-3.0
	comp=Z,23nm,1.2s						
530A	J-C Ranch, Com	82.73	56	⇓P	P	23 45 21.3	-0.1
	baz=83,SNR=18						
K19A	Absolon Red Bu	82.74	42	⇓P	P	23 45 20.8	-0.5
	baz=83,SNR=19						
329A	Wagon Wheel Ra	82.74	55	⇑P	P	23 45 21.2	-0.2
	baz=83,SNR=17						
Y27A	Causey	82.78	52	⇑P	P	23 45 21.4	-0.3
	baz=83,SNR=12						
128A	Castleberry Fa	82.79	53	⇓P	P	23 45 21.7	0.0
	baz=83,SNR=15						
J19A	Crowheart	82.82	42	⇓P	P	23 45 21.3	-0.4
	baz=83,SNR=11						
W26A	Owens Ranch, T	82.82	51	⇓P	P	23 45 22.1	+0.2
	baz=83						
S24A	Houchin Ranch,	82.84	48	⇑P	P	23 45 22.2	+0.1
	baz=83,SNR=21						
HRY	Holter Researc	82.85	38	eP	P	23 45 18.9	-2.8
U25A	Circle Dot Ran	82.89	49	⇓P	P	23 45 22.4	+0.1
	baz=83,SNR=37						
WALA	Waterton Lakes	82.93	35	eP	P	23 45 21.5	-0.6
	comp=Z,0.9nm,1.3s						
Q23A	Hartsel	82.96	47	⇓P	P	23 45 23.0	+0.3
	baz=83,SNR=24						
K20A	Yellowstone Ra	82.99	42	⇑P	P	23 45 22.2	-0.4
	baz=83,SNR=18						
O22A	Kremmling	83.03	45	⇓P	P	23 45 23.3	+0.3
	baz=83,SNR=30						
430A	Baggett Ranch,	83.06	56	⇓P	P	23 45 22.9	-0.2
	baz=83,SNR=6.5						
229A	Bryant Ranch,	83.06	54	⇑P	P	23 45 22.7	-0.4
	baz=83						
631A	Perdido Creek	83.07	57	⇑P	P	23 45 22.8	-0.3
	baz=83						
QIZ	Qiongzhong	83.10	292	P	P	23 45 22.3	-1.1
QIZ				S	S	23 55 42.8	-0.1
QIZ				pmax	pmax		
	comp=Z,66nm,2.1s						
V26A	Tequesquite Ra	83.10	50	⇑P	P	23 45 23.2	-0.1
	baz=83,SNR=13						
MSTX	Muleshoe	83.11	52	eP	P	23 45 23.5	+0.1
MSTX	Muleshoe	83.11	52	⇓P	P	23 45 23.4	+0.1
	baz=83,SNR=14						
H18A	Shoshone NF, C	83.12	40	⇓P	P	23 45 23.7	+0.3
	baz=83,SNR=12						
Z28A	Tucker Farm, M	83.13	53	⇓P	P	23 45 23.4	0.0
	baz=83,SNR=14						
X27A	F and S Farms,	83.14	51	⇑P	P	23 45 23.6	+0.1
	baz=83,SNR=8.8						
P23A	Jefferson	83.16	46	⇓P	P	23 45 24.0	+0.2
	baz=83,SNR=17						
R24A	Sanders Place,	83.17	47	⇓P	P	23 45 24.0	+0.2
	baz=83,SNR=21						
T25A	Trinidad	83.20	49	⇑P	P	23 45 24.0	+0.1
	baz=83,SNR=15						
I19A	Meeteetse	83.23	41	⇓P	P	23 45 24.1	+0.2
	baz=84,SNR=24						
RWWY	Rawlins	83.28	44	eP	P	23 45 30.1	+5.9
	comp=Z,78nm,1.3s						
129A	Stewart Farms,	83.28	54	⇑P	P	23 45 24.2	0.0
	baz=84,SNR=11						
L21A	Rawlins	83.30	43	⇑P	P	23 45 24.0	-0.3
	baz=84,SNR=5.9						
732A	Laxson Ranch,	83.31	58	⇓P	P	23 45 24.6	+0.3
	baz=84						
W27A	Bowe Ranch, En	83.33	51	⇓P	P	23 45 24.4	-0.1
	baz=84,SNR=31						
330A	Mertzon	83.34	55	⇓P	P	23 45 23.9	-0.7
	baz=84						
531A	Rocksprings	83.37	56	⇑P	P	23 45 24.7	0.0
	baz=84,SNR=32						
N22A	Wattenberg Ran	83.38	45	⇓P	P	23 45 25.2	+0.4
	baz=84,SNR=22						
U26A	Atchley Ranch,	83.38	50	⇑P	P	23 45 24.8	+0.1
	baz=84,SNR=25						
S25A	Robets Cordova	83.41	48	⇑P	P	23 45 25.0	+0.1
	baz=84,SNR=39						
Q24A	Divide	83.46	47	⇑P	P	23 45 25.3	0.0
	baz=84,SNR=18						
O23A	Lake Granby, G	83.48	45	⇑P	P	23 45 25.5	+0.2
	baz=84						
J20A	Shoshoni	83.48	42	⇓P	P	23 45 25.2	+0.1
	baz=84,SNR=43						
Y28A	McKinney Farm,	83.49	52	⇑P	P	23 45 25.1	-0.2
	baz=84						
ISCO	Idaho Springs	83.50	46	eP	P	23 45 25.9	+0.4
ISCO				pmax	pmax		
	comp=Z,53nm,1.7s						
ISCO	Idaho Springs	83.50	46	eP	P	23 45 25.9	+0.4
	comp=Z,53nm,1.7s						
ISCO	Idaho Springs	83.50	46	⇓P	P	23 45 25.7	+0.2
	baz=84,SNR=15						
431A	Sonora	83.52	56	⇑P	P	23 45 24.9	-0.6
	baz=84						
H19A	Powell	83.54	40	⇑P	P	23 45 25.6	+0.2
	baz=84,SNR=17						
M22A	Cedar Creek Ra	83.55	44	⇓P	P	23 45 25.4	-0.2
	baz=84,SNR=14						
230A	Sterling City	83.58	55	⇑P	P	23 45 24.6	-1.2
	baz=84						
RLMT	Red Lodge	83.59	40	eP	P	23 45 24.5	-1.2
	comp=Z,43nm,1.4s						
Z29A	Hungry Hill Ra	83.65	53	⇓P	P	23 45 25.4	-0.7
	baz=84,SNR=12						
K21A	Alcova	83.69	43	⇑P	P	23 45 25.9	-0.4
	baz=84,SNR=15						
EGAK	Eagle	83.70	13	eP	P	23 45 25.2	-0.3
	comp=Z,246nm,2.8s						
R25A	Fountain Ranch	83.72	48	⇓P	P	23 45 26.4	-0.1
	baz=84,SNR=18						
I20A	Worland	83.74	41	⇓P	P	23 45 26.4	0.0
	baz=84,SNR=52						
632A	Uvalde	83.74	57	⇓P	P	23 45 26.5	-0.1
	baz=84,SNR=14						
N23A	Red Feather La	83.76	45	⇓P	P	23 45 26.9	+0.1
	baz=84,SNR=20						
X28A	Dimmitt	83.77	52	⇓P	P	23 45 26.1	-0.7
	baz=84						
V27A	Dan Oppiter Fa	83.79	50	⇑P	P	23 45 26.4	-0.4
	baz=84,SNR=7.0						
T26A	Comanche Natio	83.81	49	⇓P	P	23 45 26.3	-0.7
	baz=84,SNR=12						
P24A	Kohler Place,	83.87	46	⇑P	P	23 45 27.0	-0.2
	baz=84						
532A	Rocksprings	83.88	57	⇓P	P	23 45 27.0	-0.3
	baz=84,SNR=24						
J21A	Lysite	83.89	42	⇓P	P	23 45 27.4	+0.2
	baz=84,SNR=36						
331A	San Angelo	83.90	55	⇑P	P	23 45 27.1	-0.3
	baz=84						
Y29A	Porterfield Fa	83.91	53	⇑P	P	23 45 27.4	0.0
	baz=84						
L22A	Ellis Ranch, M	83.95	44	⇓P	P	23 45 27.8	+0.2
	baz=84,SNR=11						
130A	Snyder	83.96	54	⇑P	P	23 45 27.5	-0.2
	baz=84,SNR=9.8						
O24A	Longmont	84.02	46	⇑P	P	23 45 27.7	-0.3
	baz=84						
W28A	Vega	84.06	51	⇑P	P	23 45 27.8	-0.4
	baz=84						
U27A	Thompson Grove	84.06	50	⇑P	P	23 45 27.7	-0.5
	baz=84,SNR=14						
H20A	Greybull	84.07	41	⇑P	P	23 45 27.6	-0.4
	baz=84						
Q25A	Bedland, Calha	84.08	47	⇑P	P	23 45 27.7	-0.6
	baz=84						
S26A	Kim	84.09	49	⇓P	P	23 45 27.7	-0.6
	baz=84,SNR=21						
JCT	Junction City	84.09	56	eP	P	23 45 28.0	-0.4
JCT				pmax	pmax		
	comp=Z,21nm,1.3s						
JCT	Junction City	84.09	56	eP	P	23 45 27.9	-0.4
	comp=Z,20nm,1.3s						
JCT	Junction City	84.09	56	⇑P	P	23 45 27.7	-0.6
	baz=84						
Z30A	Sanderson Ranc	84.10	53	⇓P	P	23 45 27.9	-0.5
	baz=84,SNR=26						
X29A	Tulia	84.11	52	⇓P	P	23 45 28.6	+0.1
	baz=84,SNR=6.2						
F19A	Roth Farm, Mol	84.15	39	⇓P	P	23 45 28.5	+0.1
	baz=84,SNR=29						
K22A	Casper	84.17	43	⇑P	P	23 45 28.5	-0.2
	baz=84,SNR=12						
M23A	Laramie	84.17	44	⇑P	P	23 45 28.8	0.0
	baz=84,SNR=25						
I21A	Big Trails, Te	84.21	42	⇑P	P	23 45 28.3	-0.5
	baz=84,SNR=46						
231A	Bronte	84.22	55	⇓P	P	23 45 28.1	-0.9
	baz=84,SNR=10						
432A	Menard	84.24	56	⇓P	P	23 45 28.4	-0.7
	baz=84,SNR=8.6						
COLD	Coldfoot	84.24	9	eP	P	23 45 29.1	+0.8
	comp=Z,25nm,1.2s						
PHWY	Pilot Hill	84.27	45	eP	P	23 45 29.2	-0.1
	comp=Z,18nm,0.9s						
G20A	Bridger	84.29	40	⇓P	P	23 45 29.1	-0.1
	baz=84						
P25A	Willow Gulch B	84.39	47	⇓P	P	23 45 30.0	+0.1
	baz=85,SNR=15						
R26A	Arlington	84.39	48	⇓P	P	23 45 29.4	-0.4
	baz=85,SNR=19						
T27A	Campo	84.40	49	⇓P	P	23 45 29.2	-0.8
	baz=85,SNR=9.5						
W29A	Amrarillo	84.42	51	⇑P	P	23 45 29.9	-0.2
	baz=85,SNR=5.9						
131A	Roby	84.44	54	⇑P	P	23 45 29.8	-0.3
	baz=85,SNR=12						
N24A	Carr	84.46	45	⇓P	P	23 45 30.4	+0.2
	baz=85,SNR=8.9						
332A	Millersview	84.47	55	⇑P	P	23 45 30.3	0.0
	baz=85,SNR=21						
L23A	Garrett	84.47	44	⇑P	P	23 45 30.0	-0.3
	baz=85,SNR=27						
U28A	Mallet	84.49	50	⇑P	P	23 45 30.4	0.0
	baz=85						
Y30A	Stafford Cattl	84.51	53	⇑P	P	23 45 30.3	-0.2
	baz=85						
S27A	Las Animas	84.53	49	⇑P	P	23 45 30.3	-0.2
	baz=85						
E19A	Rath Farm, Rou	84.54	39	⇑P	P	23 45 30.5	+0.1
	baz=85,SNR=29						
Q26A	Hugo	84.59	47	⇑P	P	23 45 30.8	-0.1
	baz=85						
F20A	Billings	84.61	40	⇑P	P	23 45 30.6	-0.2
	baz=85						
232A	Coleman	84.73	55	⇑P	P	23 45 31.1	-0.5
	baz=85,SNR=20						
EGMT	Eagleton	84.73	37	eP	P	23 45 31.4	+0.1
	comp=Z,47nm,1.3s						
EGMT	Eagleton	84.73	37	⇑P	P	23 45 31.0	-0.3
	baz=85,SNR=5.8						
H21A	Big Horn, Sher	84.74	41	⇓P	P	23 45 31.2	-0.2
	baz=85,SNR=16						
X30A	Coker Ranch, T	84.75	52	⇓P	P	23 45 31.1	-0.5
	baz=85						
I22A	9 Mile Ranch,	84.76	42	⇓P	P	23 45 31.4	-0.1
	baz=85,SNR=18						
M24A	Cheyenne	84.78	45	⇑P	P	23 45 31.5	-0.3
	baz=85						
K23A	Bowen Ranch, D	84.81	43	⇓P	P	23 45 31.7	-0.2
	baz=85,SNR=14						
V29A	Stinnett	84.81	51	⇑P	P	23 45 31.5	-0.5
	baz=85						
D19A	Cripps Ranch,	84.83	38	⇓P	P	23 45 32.0	+0.3
	baz=85,SNR=30						
R27A	Eads	84.84	48	⇑P	P	23 45 31.8	-0.3
	baz=85,SNR=7.1						
T28A	Walsh	84.87	49	⇑P	P	23 45 31.4	-0.9
	baz=85						
Z31A	Sharp Cattle R	84.88	54	⇓P	P	23 45 32.1	-0.2
	baz=85,SNR=14						
G21A	Lodge Grass	84.92	40	⇓P	P	23 45 32.2	-0.1
	baz=85,SNR=5.0						
L24A	Wheatland	84.95	44	⇓P	P	23 45 32.9	+0.3
	baz=85						
E20A	Meyer Farm, Mu	84.95	39	⇓P	P	23 45 32.8	+0.4
	baz=85,SNR=17						
P26A	Davis Ranch, A	84.98	47	⇓P	P	23 45 32.6	-0.2
	baz=85						
C19A	Slack Wire Ran	85.00	38	⇑P	P	23 45 32.9	+0.3
	baz=85,SNR=38

baz=86,SNR=19
J24A Dixon Ranch, L 85.70 43 ⇑P **P 23 45 36.4 +0.2**
baz=86
U30A WK&E Inc. Balk 85.72 50 ⇓P **P 23 45 36.0 -0.5**
baz=86
W31A Holland Ranch, 85.73 52 ⇓P **P 23 45 36.2 -0.4**
baz=86,SNR=15
A19A Klindworth Far 85.77 37 ⇑P **P 23 45 36.5 +0.1**
baz=86,SNR=7.9
F22A Rosebud 85.77 40 ⇑P **P 23 45 36.6 +0.1**
baz=86
D21A La Casta Ranch 85.91 39 ⇓P **P 23 45 37.4 +0.2**
baz=86,SNR=12
B20A Solberg Farm, 85.95 37 ⇑P **P 23 45 37.5 +0.2**
baz=86,SNR=11
T30A Plains 86.01 50 ⇑P **P 23 45 37.9 0.0**
baz=86
V31A Spring Creek L 86.03 51 ⇓P **P 23 45 38.5 +0.5**
baz=86,SNR=11
G23A Biddle 86.05 41 ⇓P **P 23 45 38.5 +0.5**
baz=86
C21A Desert Coulee 86.20 38 ⇓P **P 23 45 39.0 +0.4**
baz=86
A20A Cobblestone Ra 86.22 37 ⇓P **P 23 45 38.5 -0.1**
baz=86,SNR=17
U31A Nine Bar Ranch 86.25 51 ⇑P **P 23 45 39.0 -0.1**
baz=86
E22A Miles City 86.26 40 ⇓P **P 23 45 39.1 +0.2**
baz=86
F23A Volborg 86.27 41 ⇓P **P 23 45 39.0 +0.1**
baz=86
H24A Dirks Ranch, A 86.38 42 ⇓P **P 23 45 39.0 -0.6**
baz=87,SNR=13
D22A Cohagen 86.44 39 ⇑P **P 23 45 39.5 -0.2**
baz=87,SNR=8.9
RSSD Black Hills 86.45 42 *e*P **P 23 45 39.4 -0.7**
RSSD pmax pmax
comp=Z,130nm,1.4s
RSSD Black Hills 86.45 42 *e*P **P 23 45 39.4 -0.7**
comp=Z,130nm,1.4s
WMOK Wichita Mounta 86.45 53 *e*P **P 23 45 38.1 -2.0**
WMOK pmax pmax
comp=Z,26nm,1.4s
WMOK Wichita Mounta 86.45 53 *e*P **P 23 45 38.1 -2.0**
comp=Z,26nm,1.4s
WHTX Lake Whitney 86.51 56 *e*P **P 23 45 39.9 -0.5**
WHTX Lake Whitney 86.51 56 ⇓P **P 23 45 40.0 -0.3**
baz=87,SNR=11
B21A Ellsworth Farm 86.53 38 ⇑P **P 23 45 40.1 -0.1**
baz=87,SNR=12
I25A Rochford 86.60 43 ⇑P **P 23 45 41.0 +0.2**
baz=87
T31A Randall Ranch, 86.65 50 ⇓P **P 23 45 41.3 +0.3**
baz=87
E23A Ismay 86.68 40 ⇑P **P 23 45 41.3 +0.3**
baz=87
A21A Bergtoll Ranch 86.85 37 ⇓P **P 23 45 41.8 0.0**
baz=87,SNR=7.5
B22A Reddig Ranch S 87.08 38 ⇓P **P 23 45 43.3 +0.5**
baz=87
HKT Hockley 87.12 58 *e*P **P 23 45 43.9 +0.6**
HKT pmax pmax
comp=Z,59nm,1.6s
HKT Hockley 87.12 58 *e*P **P 23 45 43.9 +0.6**
comp=Z,59nm,1.6s
C23A Lambert 87.34 39 ⇑P **P 23 45 44.8 +0.7**
baz=88
MAW Mawson 87.72 199 P **P 23 45 46.5 +0.8**
MAW Mawson 87.72 199 P **P 23 45 46.5 +0.8**
comp=Z,85nm,1.3s,baz=116,slow=5.7,SNR=36
MAW Mawson 87.72 199 P **P 23 45 46.4 +0.8**
baz=88,SNR=30
B23A Brockton 87.75 38 ⇓P **P 23 45 46.7 +0.6**
baz=88
DGMT Dagmar 88.23 38 *e*P **P 23 45 49.1 +0.8**
comp=Z,94nm,1.4s
DGMT Dagmar 88.23 38 ⇑P **P 23 45 48.4 +0.1**
baz=88
GYA Guiyang 88.24 298 ⇑*i*P **P 23 45 49.0 0.0**
GYA PP **PP 23 49 19.3 +2.8**
GYA SKS **SKSac 23 56 15.3 -2.3**
GYA S **S 23 56 32.0 -1.5**
GYA SS **SS 00 02 24.5 +1.4**
GYA pmax pmax
comp=Z,50nm,1.2s
GYA pmax pmax
comp=Z,180nm,6.6s
GYA LR LR
comp=N,750nm,20.2s
GYA LR LR
comp=E,610nm,24.5s
GYA LR LR
comp=Z,760nm,21.9s
INK Inuvik 88.35 14 *e*P **P 23 45 48.0 -0.4**
INK Inuvik 88.35 14 P **P 23 45 47.5 -0.9**
comp=Z,6.4nm,1.0s,baz=268,slow=5.9,SNR=5.4
CLNS Chul'man 88.42 331 *e*P **P 23 45 48.8 -0.2**
CLNS *e**PP **pP 23 45 59.0 +4.3**
CLNS *e* 23 49 13.3
CLNS *e*S **SKSac 23 56 14.1 -3.0**
CLNS *e* 23 56 38.9
CLNS pmax pmax
comp=Z,28nm,1.0s
CLNS pmax pmax
comp=N,10.0nm,1.1s
CLNS pmax pmax
comp=E,11nm,1.1s
CLNS pmax pmax
comp=Z,3.0nm,0.9s
CLNS pmax pmax
comp=N,6.0nm,0.9s
CLNS pmax pmax
comp=E,4.0nm,1.0s
CLNS smax smax
comp=E,545nm,13.5s
CLNS smax smax
comp=N,376nm,14.0s
CLNS MLR MLR
comp=E,508nm,16.0s
CLNS MLR MLR
comp=N,817nm,17.0s
CLNS MLR MLR
comp=Z,615nm,15.0s
A24A Westby 88.54 38 ⇓P **P 23 45 49.9 +0.1**
baz=89
J29A Okreek 88.61 44 ⇓P **P 23 45 50.3 0.0**
baz=89
PSI Prapat 88.66 273 P **P 23 45 50.2 -1.0**
PSI Prapat 88.66 273 P **P 23 45 50.2 -1.0**
comp=Z,5.8nm,0.4s,baz=346,slow=20,SNR=6.0
PSI Prapat 88.66 273 P **P 23 45 52.6 +1.3**
baz=89,SNR=3.5
D26A Manning 88.69 40 ⇑P **P 23 45 50.3 -0.2**
baz=89
K30A Basset 88.81 45 ⇓P **P 23 45 51.0 -0.3**
baz=89
I29A Vivian Onida 88.86 44 ⇓P **P 23 45 51.5 +0.1**
baz=89
TUL1 Tulsa 89.15 52 *e*P **P 23 45 55.7 +2.8**
TUL1 Tulsa 89.15 52 ⇓P **P 23 45 52.9 -0.1**
baz=89
HHC Hu-ho-hao-te 89.22 313 *e*P **P 23 45 53.5 +0.2**
HHC sP **sP 23 46 01.0 0.0**
HHC SKS **SKSac 23 56 20.8 -2.0**
HHC S **S 23 56 41.3 -0.9**
HHC sS **ScS 23 56 49.0 +1.9**
HHC SS **SS 00 02 38.0 +1.1**
HHC pmax pmax
comp=Z,54nm,1.0s
HHC pmax pmax
comp=Z,750nm,6.2s
HHC LR LR
comp=N,750nm,18.1s
HHC LR LR
comp=E,820nm,17.6s
HHC LR LR
comp=Z,2μm,17.2s
YAK Yakutsk 89.29 337 *e*P **P 23 45 51.3 -1.6**
YAK pmax pmax
comp=Z,28nm,0.9s
YAK pmax pmax
comp=E,14nm,1.1s
YKA Yellowknife Ar 90.15 23 P **P 23 45 56.2 -0.7**
YKA Yellowknife Ar 90.15 23 P **P 23 45 56.2 -0.7**
comp=E,5.6nm,0.9s,baz=237,slow=4.4,SNR=8.4
TEIG Tepich 90.68 69 *e*P **P 23 46 00.8 +0.4**
comp=E,35nm,1.2s

JTS JuntasAbangare 91.08 80 *e*P **P 23 46 03.7 +1.3**
comp=E,319nm,1.3s
KMI Kunming 91.22 296 P **P 23 46 02.8 -0.3**
KMI pmax pmax
comp=Z,11nm,2.0s
ECSD EROS Data Cent 91.24 45 *e*P **P 23 46 01.9 -0.6**
comp=Z,13nm,1.2s
UALR University of 91.46 54 *e*P **P 23 46 04.6 +0.9**
CD2 Chengdu 92.01 301 P **P 23 46 07.5 +1.1**
CD2 pP **pP 23 46 12.3 +0.2**
CD2 sP **sP 23 46 14.5 +0.4**
CD2 PP **PP 23 49 49.8 +3.4**
CD2 SKS **SKSac 23 56 38.8 -0.4**
CD2 S **S 23 57 07.0 -1.0**
CD2 sS **sS 23 57 14.5 -2.9**
CD2 SS **SS 00 03 19.3 +1.9**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,2μm,4.7s
CD2 LR LR
comp=N,1μm,13.1s
CD2 LR LR
comp=Z,2μm,16.1s
CIT Chita 92.12 324 *e*P **P 23 46 07.1 +0.6**
LAMP Lampang 92.19 288 P P 23 46 12.1 +4.6
comp=Z,3.2nm,0.8s
SYO Syowa Base 92.51 191⇑*e*P **P 23 46 06.2 -1.7**
SYO Syowa Base 92.51 191⇑*e*X pP 23 46 15.6 +2.0
SNAA Sanae 92.78 177 *e*P **P 23 46 09.8 +0.5**
SNAA Sanae 92.78 177 *e*PP PP 23 49 48.3 -2.4
SNAA Sanae 92.78 177 *e*P **P 23 46 09.6 +0.3**
comp=Z,22nm,1.2s
CMAR Chiang Mai Arr 92.80 288 P **P 23 46 10.6 +0.2**
CMAR Chiang Mai Arr 92.80 288 P **P 23 46 10.6 +0.2**
comp=Z,4.0nm,1.0s,baz=92,slow=2.1,SNR=9.4
VNA2 Neumayer--Watz 93.22 175 *e*P **P 23 46 11.0 -0.2**
VNA2 Neumayer--Watz 93.22 175 *e*PP PP 23 49 50.3 -3.8
VNA1 Neumayer--Stat 93.42 175 *e*P **P 23 46 13.8 +1.7**
LZH Lanzhou 93.42 306 *e*P P 23 46 18.0 +5.0
LZH pP pP 23 46 23.5 +4.8
LZH sP sP 23 46 26.0 +5.3
LZH PP **PP 23 50 01.0 +3.5**
LZH *e*S **ScS 23 57 25.0 +2.7**
LZH sS sS 23 57 33.0 +2.9
LZH pmax pmax
comp=Z,49nm,1.3s
LZH pmax pmax
comp=Z,300nm,4.5s
LZH LR LR
comp=N,850nm,15.6s
LZH LR LR
comp=E,910nm,14.9s
LZH LR LR
comp=Z,1μm,17.0s
ULM Lac du Bonnet 93.93 39 *e*P **P 23 46 14.8 0.0**
ULM Lac du Bonnet 93.93 39 P **P 23 46 13.6 -1.2**
comp=Z,4.4nm,1.0s,baz=156,slow=6.9,SNR=3.8
SPMN St. Paul 94.30 44 *e*P **P 23 46 17.1 +0.5**
comp=Z,41nm,1.4s
SPMN St. Paul 94.30 44 ⇓P **P 23 46 16.7 +0.1**
baz=94
ULN Ulaanbaatar 94.63 318 *e*P **P 23 46 19.9 +1.6**
comp=Z,9.4nm,1.4s
ULN Ulaanbaatar 94.63 318 P **P 23 46 20.1 +1.9**
TIXI Tiksi 95.16 344⇓*e*P **P 23 46 20.4 +0.5**
TIXI pmax pmax
comp=Z,27nm,1.4s
JFWS Jewell Farm 95.39 47 *e*P **P 23 46 23.0 +1.3**
JFWS pmax pmax
comp=Z,24nm,1.0s
JFWS Jewell Farm 95.39 47 *e*P **P 23 46 22.9 +1.3**
comp=Z,24nm,1.0s
GTA Gaotai 97.38 309 *e*P Pdif 23 46 32.5 +1.5
GTA pP pP 23 46 36.8 +0.2
GTA sP sP 23 46 39.5 +0.9
GTA pmax pmax
comp=Z,6.0nm,1.0s
ZAK Zakamensk 97.72 320 *e*P **P 23 46 31.6 -0.6**
ZAK pmax pmax
comp=Z,2.0nm,1.7s
ZAK pmax pmax
comp=Z,2.0nm,1.1s
TLY Talaya 97.83 321 *e*P **P 23 46 29.4 -3.1**
TLY pmax pmax
comp=Z,6.0nm,0.8s
ZALV Zalesovo Beam 109.42 322 PKiKP **PKiKP 23 51 26.2 -1.1**
ZALV Zalesovo Beam 109.42 322 PKiKP **PKiKP 23 51 26.2 -1.1**
comp=Z,0.8nm,0.6s,baz=123,slow=1.9,SNR=3.9
MKAR Makanchi Array 111.02 315 PKiKP **PKiKP 23 51 30.1 -0.5**
MKAR Makanchi Array 111.02 315 PKiKP **PKiKP 23 51 30.1 -0.5**
MKAR Makanchi Array 111.02 315 PKiKP **PKiKP 23 51 30.1 -0.5**
comp=Z,1.6nm,0.8s,baz=51,slow=1.1,SNR=9.3
KURK Kurchatov 113.33 319*c i*PKIKP **PKiKP 23 51 35.0 +0.2**
KURK pmax pmax
comp=Z,5.0nm,1.7s
KURK Kurchatov 113.33 319 PKiKP **PKiKP 23 51 34.0 -0.9**
KURBB Kurchatov Arra 113.40 319 PKiKP **PKiKP 23 51 34.0 -1.0**
comp=Z,0.6nm,0.3s,baz=87,slow=1.9,SNR=7.6
KSH Kashi 115.67 307 *e*Pdif **Pdif 23 47 56.0 +3.6**
KSH *e*PKP **PKiKP 23 51 42.0 +2.1**
KSH PP PP 23 52 51.0 +8.2
KSH PKS **PKSdf 23 55 17.5 +0.8**
KSH SKS **SKSdf 23 58 53.0 +1.4**
KSH SKKS **SKKSac 23 59 44.0 +0.5**
KSH AMB AMB
comp=Z,87nm,5.5s
KSH LR LR
comp=N,220nm,9.4s
KSH LR LR
comp=E,220nm,9.0s
KSH LR LR
comp=Z,680nm,17.6s
TKM2 Tokmak 2 115.86 310 *e*PKIKP **PKPdf 23 51 39.9 -0.4**
TKM2 Tokmak 2 115.86 310 *e*PKPdf **PKPdf 23 51 39.9 -0.4**
BVAR Borovoye Array 118.08 322 PKIKP **PKPdf 23 51 43.6 -0.3**
BVAR Borovoye Array 118.08 322 PKP **PKPdf 23 51 43.6 -0.3**
BVAR Borovoye Array 118.08 322 PKP **PKPdf 23 51 43.6 -0.3**
comp=Z,2.6nm,0.7s,baz=90,slow=5.9,SNR=10
BRVK Borovoye 118.13 322*c i*PKIKP **PKPdf 23 51 43.4 -0.6**
BRVK pmax pmax
comp=Z,12nm,1.7s
KBL Kabul 121.35 301 *e*PKIKP **PKPdf 23 51 50.7 -0.4**
KBL Kabul 121.35 301 *e*PKPdf **PKPdf 23 51 50.6 -0.4**
SVE Sverdlovsk 122.32 328 *e*PKIKP **PKPdf 23 51 51.4 -0.5**
SVE pmax pmax
comp=Z,20nm,1.5s
SOKR Solikamsk 122.95 332⇑*i*PKIKP **PKPdf 23 51 52.6 -0.4**
SOKR pmax pmax
comp=Z,40nm,1.7s
ARU Arti 123.53 328 *i*PKIKP **PKPdf 23 51 54.1 -0.2**
ARU 23 53 34.7
ARU 23 58 54.9
ARCES ARCESS Array B 124.75 352 PKP **PKPdf 23 51 56.0 -0.3**
ARCES ARCESS Array B 124.75 352 PKP **PKPdf 23 51 56.0 -0.3**
comp=Z,4.6nm,0.9s,baz=356,slow=1.6,SNR=4.2
AKTO Aktyubinsk 126.18 322 PKIKP **PKPdf 23 51 57.2 -2.4**
AKTO Aktyubinsk 126.18 322 PKP **PKPdf 23 51 57.2 -2.4**
AKTO Aktyubinsk 126.18 322 PKP **PKPdf 23 51 57.2 -2.4**
comp=Z,3.4nm,0.9s,baz=92,slow=2.7,SNR=7.6
KLMR Klimovskoe 128.96 340 *e*PKIKP **PKPdf 23 52 02.2 -2.3**
KLMR *e* 23 54 08.5
KLMR pmax pmax
comp=Z,76nm,1.7s
FINES FINESS Array B 132.10 348 PKP **PKPdf 23 52 10.8 +0.4**
FINES FINESS Array B 132.10 348 PKP **PKPdf 23 52 10.8 +0.4**
comp=Z,2.8nm,0.8s,baz=64,slow=4.4,SNR=5.4
BOSA Boshof 132.61 202 PKP **PKPdf 23 52 12.7 0.0**
BOSA Boshof 132.61 202 PKP **PKPdf 23 52 12.7 0.0**
comp=Z,4.2nm,0.9s,baz=90,slow=8.1,SNR=2.7
OBN Obninsk 134.29 336⇑*i*PKIKP **PKPdf 23 52 14.8 +0.1**
OBN pmax pmax
comp=Z,20nm,1.3s
VRHR Novokhopersk 134.84 329 *e*PKIKP **PKPdf 23 52 17.2 +1.3**
VRHR pmax pmax
comp=Z,10.0nm,0.9s
VRHR pmax pmax
comp=N,7.0nm,0.8s
VRHR pmax pmax
comp=E,20nm,1.8s
VSR Storozhevoye 135.94 331 *e*PKIKP **PKPdf 23 52 19.8 +1.8**
VSR pmax pmax
comp=Z,10.0nm,1.3s
VSR pmax pmax
comp=N,10.0nm,0.9s

VSR pmax pmax
comp=E,10.0nm,1.1s
AKASG Malin Array Be 140.51 338 PKHKP PKPpre 23 52 18.8
AKASG 23 52 25.9
AKASG Malin Array Be 140.51 338 PKPpre PKPpre 23 52 18.8
AKASG PKP **PKPdf 23 52 25.9 -0.5**
AKASG Malin Array Be 140.51 338 PKhKP PKPpre 23 52 18.8
comp=E,0.2nm,0.3s,baz=37,slow=3.5,SNR=5.6
AKASG PKP **PKPdf 23 52 25.9 -0.5**
comp=E,2.9nm,0.8s,baz=34,slow=2.2,SNR=21
LSZ Lusaka 142.79 216 *e*PKPdf **PKPdf 23 52 28.3 -3.4**
LVV L'vov 143.02 341 *e*PKHKP PKPpre 23 52 26.2
KEMA Kemaliye 143.53 317 *i* P PKPbc 23 52 30.4 +0.8
KWP Kalwaria Pacla 143.59 342 *e*PKIKP PKPab 23 52 28.7 +0.3
KWP Kalwaria Pacla 143.59 342 *e*PKPdf PKPab 23 52 28.7 +0.2
KWP Kalwaria Pacla 143.59 342⇓*i*P PKPbc 23 52 29.7 +0.4
KWP Kalwaria Pacla 143.59 342 *e*PKP PKPab 23 52 28.7 +0.3
OJC Ojcow 143.81 346 *e*PKIKP PKPbc 23 52 30.8 +0.9
OJC Ojcow 143.81 346 *e*PKPdf PKPbc 23 52 30.8 +0.9
TSUM Tsumeb 143.89 198 *e*PKPdf PKPbc 23 52 32.1 +0.9
KSP Ksiaz 143.94 350 *e*PKIKP PKPbc 23 52 30.5 +0.2
KSP Ksiaz 143.94 350 *e*PKP PKPbc 23 52 30.7 +0.4
CLL Collm 143.95 353 *e*PKIKP PKPbc 23 52 31.0 +0.7
CLL pmax pmax
comp=Z,8.0nm,0.9s
CLL Collm 143.95 353 *e*PKPdf PKPbc 23 52 31.0 +0.7
comp=Z,8.0nm,0.9s
CLL *e*(PKPm) 23 52 34.0
CLL *i* (PKiKP) 23 54 37.9
comp=Z,30nm,1.8s
CLL *e* 23 55 02.0
CLL *e*PP **PP 23 55 46.0 +0.7**
MALT Malatya 144.06 315⇓*i*P **PKPdf 23 52 32.9 -0.4**
BUG Bochum--Univer 144.17 359 *e*PKPbc **PKPab 23 52 30.4 -0.1**
STHS Stebnicka Huta 144.19 344 *e*PKIKP PKPbc 23 52 31.2 +0.1
STHS Stebnicka Huta 144.19 344 *e*PKP PKPbc 23 52 31.2 +0.1
STHS *e* 00 11 17.1
BRG Berggiesshubel 144.27 352 *e*PKP PKPbc 23 52 31.3 0.0
comp=Z,19nm,1.6s
BRG Berggiesshubel 144.27 352 *e*PKPbc PKPbc 23 52 31.4 +0.1
BRG Berggiesshubel 144.27 352 *e*PKIKP PKPbc 23 52 31.3 0.0
BRG pmax pmax
comp=Z,25nm,1.7s
UPC Upice 144.31 350 *e*PKIKP PKPbc 23 52 31.6 +0.1
UPC *e* 23 52 37.2
UPC Upice 144.31 350 *e*PKP PKPbc 23 52 31.6 +0.1
UPC *e*pPKP **PKiKP 23 52 37.2 +0.4**
KOLS Kolonicke sedl 144.34 342 *e*PKIKP PKPbc 23 52 31.6 0.0
KOLS Kolonicke sedl 144.34 342 *e*PKP PKPbc 23 52 31.6 0.0
KOLS *e* 00 11 17.4
DPC Dobruska-Polom 144.41 349 *i* PKIKP PKPbc 23 52 32.1 +0.3
DPC *e* 23 52 38.9
DPC Dobruska-Polom 144.41 349 *i* PKP PKPbc 23 52 32.1 +0.3
DPC *e*pPKP pPKPdf 23 52 38.9 -0.3
NIE Niedzica 144.43 345 *e*PKIKP PKPbc 23 52 31.9 0.0
NIE Niedzica 144.43 345 *e*PKPdf PKPbc 23 52 31.9 0.0
PVCC Panska Ves 144.52 351 *e*PKIKP **PKPdf 23 52 33.0 -0.5**
PVCC Panska Ves 144.52 351 *e*PKP **PKPdf 23 52 33.0 -0.5**
BUR08 Bucovina Ar. S 144.52 338 *e*PKPdf **PKPab 23 52 32.2 +0.1**
BURAR Bucovina Array 144.54 338⇓*i*P **PKPab 23 52 32.2 0.0**
BOYT Boyabat 144.54 322 *i* P **PKPdf 23 52 34.0 +0.1**
OKC Ostrava-Krasne 144.54 347 *i* PKIKP PKPbc 23 52 32.3 +0.1
OKC Ostrava-Krasne 144.54 347 *i* PKP PKPbc 23 52 32.3 +0.1
CRVS Cervenica-Dubn 144.60 343 *e*PKIKP PKPbc 23 52 32.7 +0.3
CRVS Cervenica-Dubn 144.60 343 *e*PKP PKPbc 23 52 32.7 +0.3
CRVS *e* 00 11 18.4
CRVS *e* 00 11 25.1
UZH Uzhgorod 144.60 342 *i* PKIKP **PKPab 23 52 32.2 0.0**
UBBA Unterbreizbach 144.70 356 *e*PKPbc **PKPab 23 52 31.9 -0.5**
MORC Moravsky Berou 144.73 348 *e*PKIKP **PKPab 23 52 32.6 -0.2**
MORC Moravsky Berou 144.73 348 *e*PKPdf **PKPab 23 52 32.6 -0.2**
MORC Moravsky Berou 144.73 348⇓*i*P **PKPdf 23 52 33.5 -0.5**
MOX Moxa 144.75 355 *e*PKPbc **PKPab 23 52 32.4 -0.4**
MOX Moxa 144.75 355 *e*PKIKP **PKPab 23 52 32.4 -0.4**
TANN Tannenbergstha 144.89 354 *e*PKPbc PKPbc 23 52 33.5 +0.1
TESR Tescani 144.93 336⇑*i*P **PKPab 23 52 33.5 0.0**
TRPA Tarpa 144.98 341⇑*i*P PKPbc 23 52 33.8 +0.2
PRA Prague 144.99 351 PKP **PKPdf 23 52 34.0 -0.4**
GHRR 144.99 335⇑*i*P **PKPdf 23 52 34.7 +0.2**
MEM Membach 145.00 1 PKP **PKPab 23 52 33.5 -0.2**
SNF Seneffe 145.05 3 PKP **PKPdf 23 52 34.3 -0.1**
PRU Pruhonice 145.05 351 *i* PKIKP **PKPbc 23 52 33.6 -0.2**
PRU *e* 23 52 40.9
PRU Pruhonice 145.05 351 *i* PKP **PKPbc 23 52 33.6 -0.2**
PRU *e*pPKP **pPKPdf 23 52 40.9 +0.6**
TLCR 145.07 332⇑*i*P **PKPdf 23 52 34.8 +0.2**
NKC Novy Kostel 145.07 354 *e*PKIKP **PKPbc 23 52 33.9 0.0**
NKC *e* 23 52 40.8
NKC Novy Kostel 145.07 354 *e*PKP **PKPbc 23 52 33.9 0.0**
NKC *e*pPKP **pPKPdf 23 52 40.8 +0.4**
BMR Baia Mare 145.08 340⇓*i*P **PKPbc 23 52 33.8 -0.2**
GZT Gaziantep 145.13 314 *i* P **PKPdf 23 52 35.4 +0.1**
BCLA Clavier 145.17 2 PKP **PKPbc 23 52 32.2 -2.0**
KECS Kecovo 145.25 344 *e*PKIKP **PKPdf 23 52 34.9 0.0**
KECS Kecovo 145.25 344 *e*PKP **PKPdf 23 52 34.9 0.0**
KECS *e* 00 11 20.6
KECS *e* 00 11 26.9
KECS *e* 00 11 33.6
JHLN Al Jahlan 145.32 311 *e*P **PKPbc 23 52 34.8 -0.4**
PETR Petresti 145.33 334⇓*i*P **PKPdf 23 52 35.9 +0.8**
VRAC Vranov 145.36 349 PKPbc **PKPbc 23 52 34.9 0.0**
VRAC Vranov 145.36 349 PKPbc **PKPbc 23 52 34.9 0.0**
comp=Z,81nm,1.3s,baz=7.1,slow=4.3,SNR=46
TNS Taunus Mts 145.36 358 *e*PKPbc **PKPbc 23 52 33.9 -1.0**
TNS Taunus Mts 145.36 358 *e*PKP2 **PKPbc 23 52 33.9 -1.0**
CFR Carcaliu 145.38 333⇑*i*P **PKPab 23 52 35.3 +0.1**
VRI Vrincioaia 145.42 335⇑*i*P **PKPab 23 52 35.4 0.0**
PLOR Plostina 145.47 335⇑*i*P **PKPab 23 52 35.5 -0.1**
ILGA Ilgaz 145.47 323 *i* P **PKPab 23 52 37.0 +1.0**
DOU Dourbes 145.47 2 PKP **PKPbc 23 52 34.8 -0.4**
ROTZ Rotzenmuhle 145.56 354 *e*PKPbc **PKPdf 23 52 35.0 -0.4**
TREC Trest 145.57 350 *e*PKIKP **PKPdf 23 52 34.9 -0.5**
TREC *e* 23 52 42.6
TREC Trest 145.57 350 *e*PKP **PKPdf 23 52 34.9 -0.5**
TREC *e*pPKP **pPKPdf 23 52 42.6 +1.4**
KMBO Kilima Mbogo 145.62 244 *e*PKP **PKPab 23 52 37.4 0.0**
KMBO PKPbc **PKPab 23 52 37.8 +0.4**
KMBO Kilima Mbogo 145.62 244 PKPbc **PKPab 23 52 37.8 +0.4**
comp=Z,68nm,1.2s,baz=78,slow=3.8,SNR=42
GRER 145.72 334⇑*i*P **PKPab 23 52 38.2 +1.7**
GRF Grafenberg Arr 145.73 355 *e*PKPbc **PKPbc 23 52 35.9 -0.1**
GRF Grafenberg Arr 145.73 355 *e*PKP2 **PKPbc 23 52 35.9 -0.1**
GRFO Grafenberg 145.73 355 *e*PKP2 **PKPdf 23 52 35.6 -0.1**
GRFO Grafenberg 145.73 355 *e*PKP **PKPdf 23 52 35.5 -0.1**
KUZU Kuzuini 145.76 314 *i* P **PKPab 23 52 37.2 +0.2**
TIRR Tirgusor 145.82 332 *e*PKP2 **PKPbc 23 52 36.2 -0.3**
TIRR Tirgusor 145.82 332 *e*PKPdf **PKPbc 23 52 36.1 -0.3**
TIRR Tirgusor 145.82 332⇑*i*P **PKPab 23 52 36.9 +0.1**
ANDN Andirin 145.85 316 *i* P **PKPbc 23 52 37.0 0.0**
TLB Topalu 145.88 332⇑*i*P **PKPab 23 52 37.3 +0.2**
PSZ Piszkesteto 145.92 344 *e*PKP2 **PKPdf 23 52 35.9 -0.2**
PSZ Piszkesteto 145.92 344 *e*PKPdf **PKPdf 23 52 35.9 -0.2**
PSZ Piszkesteto 145.92 344⇑*i*P **PKPab 23 52 37.2 -0.1**
PSZ Piszkesteto 145.92 344⇓*e*PKPdf **PKPdf 23 52 36.3 +0.1**
WLF Walferdange 145.95 1 PKP **PKPab 23 52 37.5 +0.3**
WLF Walferdange 145.95 1 *e*PKPbc **PKPbc 23 52 36.9 +0.2**
WLF Walferdange 145.95 1 *e*PKP2 **PKPdf 23 52 36.1 +0.1**
WLF Walferdange 145.95 1 *e*PKP **PKPdf 23 52 36.1 +0.1**
SMOL Smolenice 145.95 347 *e*PKP2 **PKPab 23 52 38.7 +1.5**
SMOL Smolenice 145.95 347 *e*PKP **PKPab 23 52 38.7 +1.5**
CDAG Cicekdag 145.96 320 *i* P **PKPab 23 52 37.6 -0.1**
KHC Kasperske Hory 146.02 352 *e*PKP2 **PKPdf 23 52 36.4 +0.2**
KHC Kasperske Hory 146.02 352 *i* PKP **PKPdf 23 52 36.4 +0.2**
KHC *ex* x 23 52 44.6
KHC Kasperske Hory 146.02 352 *e*PKP **PKPdf 23 52 36.4 +0.2**
MLR Muntele Rosu 146.04 336 PKPbc **PKPbc 23 52 37.0 -0.3**
MLR Muntele Rosu 146.04 336⇓*i*P **PKPab 23 52 37.8 -0.1**
MLR Muntele Rosu 146.04 336 PKPbc **PKPbc 23 52 37.0 -0.3**
comp=Z,23nm,1.1s,baz=38,slow=1.9,SNR=55
PGOR Pogoanele 146.09 334⇑*i*P **PKPab 23 52 38.2 +0.3**
WET Wettzell 146.10 353 *e*PKPbc **PKPbc 23 52 37.2 0.0**
WET Wettzell 146.10 353 *e*PKP2 **PKPbc 23 52 37.2 0.0**
ISR Istrita 146.10 335⇓*i*P **PKPab 23 52 38.1 +0.1**
DRGR 146.11 340⇑*i*P **PKPbc 23 52 37.4 0.0**
AVNT Avonos 146.16 319 *i* P **PKPab 23 52 38.5 -0.1**
AMRR Amara 146.18 333⇓*i*P **PKPbc 23 52 37.8 +0.3**
GEC2 GERESS Array S 146.29 352 *e*PKPbc **PKPdf 23 52 37.3 +0.5**
GEC2 GERESS Array S 146.29 352 *e*PKP2 **PKPdf 23 52 37.3 +0.5**
GERES GERESS Array B 146.29 352 PKPbc **PKPdf 23 52 37.4 +0.5**
GERES GERESS Array B 146.29 352 PKPbc **PKPdf 23 52 37.4 +0.5**

comp=Z,34nm,1.2s,baz=29,slow=3.0,SNR=57
ZST Bratislava 146.32 347 *e*PKP2 **PKPab 23 52 38.5 -0.1**
ZST Bratislava 146.32 347 *e*PKP **PKPab 23 52 38.5 -0.1**
BR131 Keskin Array S 146.35 321 *e*PKPdf **PKPdf 23 52 36.9 -0.3**
BRTR Keskin Array B 146.35 321 PKPbc **PKPbc 23 52 38.5 +0.1**
BRTR Keskin Array B 146.35 321 PKPbc **PKPbc 23 52 38.5 +0.1**
comp=Z,34nm,1.1s,baz=127,slow=1.6,SNR=43
VOIR 146.44 336⇑ *i*P **PKPab 23 52 39.3 0.0**
PSN Preselentsi 146.52 331 *e*P **PKPbc 23 52 38.5 -0.1**
SULR 146.58 334⇑ *i*P **PKPbc 23 52 39.1 +0.4**
ARR Arges 146.66 337⇓ *i*P **PKPab 23 52 40.0 -0.1**
ANTO Ankara 146.77 322 *e*PKIKP **PKPdf 23 52 37.8 -0.1**
ANTO Ankara 146.77 322 *e*PKPdf **PKPdf 23 52 37.8 -0.1**
ANTO Ankara 146.77 322⇓ *i*P **PKPbc 23 52 40.0 +0.4**
BBAL Bala 146.78 321 *i*P **PKPdf 23 52 38.3 +0.3**
STU Stuttgart 146.78 357 *e*PKPbc **PKPbc 23 52 38.8 -0.4**
PKSG 146.79 346⇑ *e*PKPdf **PKPbc 23 52 39.3 0.0**
YAYL Yayladag 146.81 313 *i*P **PKPdf 23 52 38.2 +0.1**
DEV Deva 146.84 339⇑ *i*P **PKPbc 23 52 39.8 +0.3**
LOT Lotru 146.91 338⇓ *i*P **PKPbc 23 52 40.2 +0.4**
SIRR Siria 146.91 341⇑ *i*P **PKPbc 23 52 40.1 +0.4**
PKS7 Kunszentmiklos 146.92 344⇑ *e* **PKPbc 23 52 39.7 +0.1**
PKST T`'s 147.00 346 *e*PKPdf **PKPbc 23 52 39.8 -0.1**
GULE Gulek 147.06 316 *i*P **PKPbc 23 52 39.8 -0.8**
MOA Molln 147.17 351 *i*pPKPdf **PKPbc 23 52 40.4 0.0**
SNR=38
FUR Furstenfeldbru 147.24 354 *e*PKPbc **PKPbc 23 52 40.4 -0.2**
FUR Furstenfeldbru 147.24 354 *e*PKP2 **PKPbc 23 52 40.4 -0.2**
PRD Provadia 147.26 332 *e*P **PKPbc 23 52 40.2 -0.5**
BFO Black Forest 147.26 358 *e*PKPbc **PKPbc 23 52 40.3 -0.3**
BFO Black Forest 147.26 358 *e*PKIKP **PKPdf 23 52 38.6 +0.2**
BFO Black Forest 147.26 358 *e*PKPdf **PKPdf 23 52 38.6 +0.2**
GZR Gura Zlata 147.31 339⇑ *i*P **PKPbc 23 52 40.7 -0.2**
ZALF Zalf 147.34 308 *e*P **PKPbc 23 52 41.2 -0.2**
ECH Echery 147.40 360 *e*PKIKP **PKPdf 23 52 39.2 +0.6**
ECH Echery 147.40 360 *e*PKPdf **PKPdf 23 52 39.1 +0.6**
PKS2 Kecel 147.42 344⇑ *e*PKPdf **PKPbc 23 52 41.4 +0.4**
RJOB Jochberg 147.49 352 *e*PKPbc **PKPbc 23 52 41.2 -0.1**
BZS Buzias 147.50 340⇓ *i*P **PKPbc 23 52 41.1 -0.2**
MARH Ras Al Marh 147.50 310 *e*P **PKPbc 23 52 42.7 +0.6**
ARSA Arzberg 147.54 349 *i*pPKPdf **PKPbc 23 52 41.7 +0.3**
SNR=26
PKS9 Tamasi 147.57 345 *e*PKPdf **PKPbc 23 52 41.3 -0.2**
SZH Strazhica 147.86 333 *e*P **PKPbc 23 52 41.5 -0.9**
SALA Sala 147.89 308 *e*P **PKPdf 23 52 41.2 +1.1**
RETA Reutte 147.96 355 *i*sPKPdf **PKPbc 23 52 42.8 +0.2**
SNR=24
WATA Walderalm 148.03 354 *i*sPKPdf **PKPbc 23 52 43.3 +0.4**
SNR=9.9
BEHE Becsehely 148.03 347⇑ *e*PKPdf **PKPbc 23 52 42.3 -0.4**
MOTA Moosalm 148.07 354 *i*sPKPdf **PKPbc 23 52 43.4 +0.4**
SNR=15
BORA Eskisehir 148.12 324 *i*P **PKPbc 23 52 43.3 0.0**
SEYT Eskypehyr 148.13 323 *i*P **PKPdf 23 52 41.0 +0.8**
PVL Pavlikeni 148.16 334 *e*P **PKPbc 23 52 41.9 -1.2**
BRBR Barbar 148.18 309 *e*P **PKPdf 23 52 40.5 -0.1**
JMB Yambol 148.20 332 *e*P **PKPab 23 52 45.8 -0.4**
FETA Feichten 148.42 355 *i*sPKPdf **PKPbc 23 52 44.3 +0.4**
SNR=14
OBKA Obir 148.43 350 *i*sPKPdf **PKPbc 23 52 44.3 +0.4**
SNR=14
MYKA Terra Mystica 148.46 351 *i*PKPbc **PKPbc 23 52 43.1 -0.9**
SNR=16
MPEP Malo Peshtene 148.70 336 *e*P **PKPbc 23 52 43.6 -1.0**
DAVOX Davos/Dischmat 148.73 356 PKPbc **PKPdf 23 52 42.0 +1.0**
DAVOX Davos/Dischmat 148.73 356 PKPbc **PKPdf 23 52 42.0 +1.0**
comp=Z,5.3nm,1.0s,baz=302,slow=5.6,SNR=4.4
PDKS Podkum 148.78 349 *e*PKPbc **PKPbc 23 52 43.9 -0.9**
LJU Ljubljana 148.88 350 *e*PKPdf **PKPdf 23 52 40.3 -0.7**
LJU *e*PKPbc **PKPbc 23 52 44.8 -0.2**
TUE Stuetta 149.07 357 *e*PKPdf **PKPdf 23 52 40.9 -0.7**
PGB Panagyurishte 149.19 334 *e*P **PKPbc 23 52 45.8 -0.2**
GDZ Gediz 149.21 324 *i*P **PKPbc 23 52 45.6 -0.6**
BOJS Bojanci 149.27 348 *e*PKPbc **PKPbc 23 52 46.0 +0.1**
GAZI Gazipasa 149.28 317 *i*P **PKPbc 23 52 45.5 -0.8**
CSS Prodhromos 149.30 314 *e*PKPbc **PKPbc 23 52 46.2 -0.2**
PLD Plovdiv 149.33 333 *e*P **PKPbc 23 52 45.8 -0.4**
TRI Trieste 149.34 350 *e*PKPdf **PKPdf 23 52 41.6 -0.1**
DURS Dursunbey 149.41 326 *i*P **PKPbc 23 52 46.5 -0.1**
ISP Isparta 149.44 321 *e*PKP2 **PKPbc 23 52 46.0 -0.8**
ISP Isparta 149.44 321 *e*PKPbc **PKPbc 23 52 46.0 -0.8**
VTS Vitosha 149.55 336 P **PKPbc 23 52 46.6 -0.4**
VTS Vitosha 149.55 336 PKP2 **PKPbc 23 52 46.6 -0.4**
VTS Vitosha 149.55 336 P **PKPbc 23 52 46.6 -0.4**
VTS Vitosha 149.55 336⇓ *i*P **PKPbc 23 52 47.2 +0.2**
VTS Vitosha 149.55 336 *e*P **PKPbc 23 52 46.6 -0.4**
DEMI Demirci 149.67 325 *i*P **PKPbc 23 52 47.2 -0.1**
ALN Alexandroupoli 149.68 330 P **PKPdf 23 52 43.6 +1.1**
ALN Alexandroupoli 149.68 330 P **PKPdf 23 52 43.6 +1.1**
KHAL Karahalli 149.69 323 *i*P **PKPbc 23 52 47.1 -0.3**
RDO Rodhopi 149.72 331 P **PKPdf 23 52 40.0 -2.5**
RDO Rodhopi 149.72 331 P **PKPdf 23 52 40.0 -2.5**
BALY Balya 149.76 327 *i*P **PKPbc 23 52 46.8 -0.6**
KULA Kula-Manisa 150.07 324 P **PKPbc 23 52 48.1 -0.2**
KULA Kula-Manisa 150.07 324 P **PKPbc 23 52 48.1 -0.2**
MANT Manisa 150.14 324 *i*P **PKPbc 23 52 48.4 -0.2**
MMB Musomiste 150.17 334 *e*P **PKPbc 23 52 48.3 -0.1**
KKB Krupnik 150.21 335 *e*P **PKPbc 23 52 48.3 -0.1**
SMTH Samothraki Isl 150.26 330 P **PKPdf 23 52 44.9 +1.5**
SMTH Samothraki Isl 150.26 330 P **PKPdf 23 52 44.9 +1.5**
SSB Saint Sauveur 150.28 3 *e*PKIKP **PKPdf 23 52 43.1 -0.3**
SSB *e* 23 52 49.4
SSB Saint Sauveur 150.28 3 *e*PKPdf **PKPdf 23 52 43.1 -0.3**
SSB *e*PKPbc **PKiKP 23 52 49.4 +0.1**
KAVA Kavala 150.31 332 P **PKPbc 23 52 48.0 -0.6**
KAVA Kavala 150.31 332 P **PKPbc 23 52 48.0 -0.6**
NVR Nevrokopi 150.31 333 P **PKPbc 23 52 47.6 -1.1**
NVR Nevrokopi 150.31 333 P **PKPbc 23 52 47.6 -1.1**
GOLH Golhisar 150.40 321 *i*P **PKPbc 23 52 49.2 +0.1**
EIL Elat 150.51 303 PKP **PKPdf 23 52 44.9 +0.8**
EIL Elat 150.51 303 PKP **PKPdf 23 52 44.9 +0.8**
comp=Z,18nm,1.1s,baz=27,slow=6.8
BNI Bardonecchia 150.56 0 *e*PKIKP **PKPdf 23 52 44.5 +0.6**
BNI *e* 23 52 49.9
BNI Bardonecchia 150.56 0 *e*PKPdf **PKPdf 23 52 44.5 +0.6**
BNI *e*PKPbc **PKiKP 23 52 49.9 -0.2**
SRS Serrai 150.62 334 P **PKPbc 23 52 48.0 -1.4**
SRS Serrai 150.62 334 PKIKP **PKPbc 23 52 48.0 -1.4**
SRS Serrai 150.62 334 P **PKPbc 23 52 48.0 -1.4**
SKO Skopje 150.76 337 *e*PKP **PKPbc 23 52 51.1 +1.4**
PRK Paraskevi 150.83 328 P **PKPbc 23 52 49.2 -0.7**
PRK Paraskevi 150.83 328 PKIKP **PKPbc 23 52 49.2 -0.7**
PRK Paraskevi 150.83 328 P **PKPbc 23 52 49.2 -0.7**
LIA Limnos Island 150.87 330 P **PKPbc 23 52 49.0 -1.0**
LIA Limnos Island 150.87 330 P **PKPbc 23 52 49.0 -1.0**
KNT Kendrikon 150.88 334 P **PKPbc 23 52 48.8 -1.2**
KNT Kendrikon 150.88 334 PKIKP **PKPbc 23 52 48.8 -1.2**
KNT Kendrikon 150.88 334 P **PKPbc 23 52 48.8 -1.2**
VAY Valandovo 150.88 335 *e*PKP **PKPbc 23 52 47.4 -2.6**
PCAB Cabril 150.95 23 *e*PKPbc **PKPbc 23 52 50.4 +0.2**
PCAB Cabril 150.95 23 *e*PKPab **PKPab 23 52 57.5 0.0**
AKAS Kas 151.02 320 *i*P **PKPbc 23 52 50.2 -0.5**
OUR Ouranopolis 151.08 332 P **PKPbc 23 52 49.3 -1.2**
OUR Ouranopolis 151.08 332 PKIKP **PKPbc 23 52 49.3 -1.2**
OUR Ouranopolis 151.08 332 P **PKPbc 23 52 49.3 -1.2**
AYDN Tasoluk 151.10 324 *i*P **PKPbc 23 52 49.9 -0.9**
TURN Turunc 151.22 322 *i*P **PKPbc 23 52 51.2 +0.3**
POLO Lamas de Olo 151.32 23 *e*PKPbc **PKPbc 23 52 51.1 -0.1**
POLO Lamas de Olo 151.32 23 *e*PKPab **PKPab 23 52 58.5 -0.6**
PBRG Braganca 151.33 21 *e*PKPbc **PKPbc 23 52 50.8 -0.3**
PBRG Braganca 151.33 21 *e*PKPab **PKPab 23 52 58.0 -1.1**
PHP Peshkopia 151.38 338 P **PKPbc 23 52 50.6 -0.6**
GCAM G?zelcaml? 151.44 325 *i*P **PKPbc 23 52 51.4 0.0**
CHOS Chios island 151.58 327 P **PKPbc 23 52 51.1 -0.7**
BIA Bitola 151.63 336 *e*PKP **PKPbc 23 52 50.1 -1.8**
BDRM Kayabasi 151.76 323 *i*P **PKPdf 23 52 48.3 +2.4**
MVO Moncorvo 151.79 22 *e*PKPbc **PKPbc 23 52 52.3 +0.1**
MVO Moncorvo 151.79 22 *e*PKPab **PKPab 23 52 59.8 -1.3**
FNA Florina 151.81 336 P **PKPbc 23 52 51.4 -0.8**
PVIS Viseu 151.85 24 *e*PKPdf **PKPdf 23 52 44.2 -1.7**
PVIS Viseu 151.85 24 *e*PKPbc **PKPbc 23 52 53.4 +1.1**
PVIS Viseu 151.85 24 *e*PKPab **PKPab 23 53 03.0 +1.7**
TIR Tirane 151.88 339 *e*PKIKP **PKPbc 23 52 52.3 0.0**
TIR Tirane 151.88 339 *e*PKPbc **PKPbc 23 52 52.3 0.0**
LIT Litokhoron 151.93 334 P **PKPbc 23 52 51.3 -1.2**
XOR Xorichti 152.22 332 P **PKPbc 23 52 51.5 -1.7**
NEST Nestorio 152.25 336 P **PKPbc 23 52 52.7 -0.6**
MTE Manteigas 152.26 24 *e*PKPbc **PKPbc 23 52 53.2 -0.1**
PTOM Tomar 152.57 26 *e*PKPbc **PKPbc 23 52 53.7 -0.2**
PTOM Tomar 152.57 26 *e*PKPab **PKPab 23 53 05.4 +1.1**

THL Klokotos Trika 152.58 334 P **PKPbc 23 52 52.4 -1.5**
AGG Agios Georgios 152.89 333 P **PKPbc 23 52 52.9 -1.8**
LKR Lokris 152.89 331 P **PKPbc 23 52 53.1 -1.5**
PTL Penteli 152.95 329 P **PKPbc 23 52 53.0 -1.9**
MAKR Makrakomi, Fth 152.99 333 P **PKPbc 23 52 53.5 -1.4**
PMTG Montargil 153.11 26 *e*PKPab **PKPab 23 53 06.4 -0.1**
PMRV Marv??o 153.15 25 *e*PKPab **PKPab 23 53 07.1 +0.4**
PESTR Estremoz 153.54 26 *e*PKPab **PKPab 23 53 09.1 +0.7**
GUR Goura 153.77 331 P **PKPbc 23 52 53.9 -2.8**
ESDC Sonseca Array 154.17 19 PKP **PKPdf 23 52 50.4 +1.1**
ESDC PKPbc **PKPbc 23 52 57.1 -0.4**
ESDC PKPab **PKPab 23 53 10.1 -1.0**
ESDC Sonseca Array 154.17 19 PKP **PKPdf 23 52 50.4 +1.1**
comp=Z,0.4nm,0.7s,baz=308,slow=2,SNR=4.4
ESDC PKPbc **PKPbc 23 52 57.1 -0.4**
comp=Z,0.2nm,0.4s,baz=335,slow=2.7,SNR=4.4
ESDC PKPab **PKPab 23 53 10.1 -1.0**
comp=Z,6.2nm,1.2s,baz=340,slow=3.5,SNR=9.3
PBAR Barrancos 154.36 26 *e*PKPab **PKPab 23 53 12.4 +0.5**
CUC Castrocucco 154.37 344 *e*PKPdf **PKPdf 23 52 50.4 +0.8**
PCVE Castro Verde 154.38 28 *e*PKPab **PKPab 23 53 11.8 -0.2**
PFVI Vila Bisbo 154.41 30 *e*PKPab **PKPab 23 53 10.9 -1.2**
KEST Kesra 159.74 354 PKPab **PKPab 23 53 35.4 +0.2**
KEST Kesra 159.74 354 PKPab **PKPab 23 53 35.4 +0.2**
comp=Z,2.2nm,0.9s,baz=288,slow=3.2,SNR=4.2
TORD Torodi Ar. Bea 174.55 115 PKP **PKPdf 23 53 06.8 -1.1**
TORD PKPab **PKPab 23 54 39.9 -1.3**
TORD Torodi Ar. Bea 174.55 115 PKP **PKPdf 23 53 06.8 -1.1**
comp=Z,6.0nm,1.3s,baz=248,slow=2.8,SNR=12
TORD PKPab **PKPab 23 54 39.9 -1.3**
comp=Z,1.8nm,1.0s,baz=271,slow=4.1,SNR=5.3

IDC 29 23:35:50.0±1.4, 15°.84S×174°.26W, h0km, mb4.5/3, mb1 4.6/3, mb1mx4.1/17, mbtmp4.5/3, Error ellipse: s-maj=61.3km s-min=36.0km az=92.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**49.19**	**252**	P	P	23 44 40.1	-0.2
	9.2nm,0.8s,baz=86,slow=8.6,SNR=5.8						
VNDA	**Vanda**	**62.86**	**186**	P	P	23 46 17.5	+0.2
	2.5nm,1.0s,baz=8.9,slow=8.1,SNR=4.5						
MAW	**Mawson**	**87.12**	**199**	P	P	23 48 37.0	-0.5
	3.0nm,0.7s,baz=123,slow=10,SNR=4.8						
MLR	**Muntele Rosu**	**145.91**	**334**	PKPbc	PKPdf	23 55 28.7	-2.5
	1.3nm,0.8s,baz=140,slow=8.2,SNR=3.2						
BRTR	**Keskin Array B**	**145.96**	**320**	PKPbc	PKPab	23 55 33.3	+0.7
	3.7nm,0.9s,baz=90,slow=1.4,SNR=5.3						
GERES	**GERESS Array B**	**146.44**	**350**	PKPbc	PKPdf	23 55 32.2	+0.3
	1.0nm,0.8s,baz=35,slow=3.6,SNR=4.1						

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*IDC **29** 23:36:32.5±0.6, 15°.03S×172°.24W, h0km, mb4.5/9, mb1 4.7/9, mb1mx4.4/20, mbtmp4.5/9, Error ellipse: s-maj=38.0km s-min=18.8km az=123.0*
*ISCJB **29** 23:36:33.3±0.5, 15°.05S±0°.1×172°.3W±0°.2, h18km, mb4.6/15, Error ellipse: s-maj=24.9km s-min=9.6km az=34.3*
*NEIC **29** 23:36:33.5±0.3, 15°.11S×172°.11W, h10km, mb4.8/7, Error ellipse: s-maj=13.7km s-min=10.2km az=134.0*
ISC 29 23:36:34.9±0.5, 15°.09S±0°.10×172°.1W±0°.1, h18km, n52, σ1§06/52, mb4.6/15, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.21**	**14**	P	**Pn**	**23 36 55.1**	**-1.9**
AFI				Sn	Sn	23 37 03.0	-10
AFI	**Afiamalu**	**1.21**	**14**	Pn	Pn	23 36 50.5	-6.5
	499nm,0.3s,baz=19,slow=17,SNR=6.8						
AFI				Sn	Sn	23 37 03.0	-10
	1μm,0.3s,baz=308,slow=22,SNR=8.9						
RAR	**Rarotonga**	**13.17**	**119**	Pn	**Pn**	**23 39 39.6**	**-1.5**
RAR	**Rarotonga**	**13.17**	**119**	Pn	**Pn**	**23 39 39.6**	**-1.5**
	2.9nm,0.3s,baz=272,slow=0.7,SNR=3.8						
URZ	**Urewera**	**24.98**	**200**	P	**P**	**23 41 57.0**	**-0.5**
	6.3nm,0.5s,baz=341,slow=9.2,SNR=2.2						
STKA	**Stephens Creek**	**45.30**	**240**	*e*P	**P**	**23 44 50.9**	**-1.0**
WRAB	**Tennant Creek**	**51.15**	**256**	*e*P	**P**	**23 45 36.2**	**-1.1**
	11nm,0.8s						
ASAR	**Alice Springs**	**51.43**	**252**	P	**P**	**23 45 37.5**	**-1.8**
ASAR	**Alice Springs**	**51.43**	**252**	P	**P**	**23 45 37.5**	**-1.8**
	7.5nm,0.9s,baz=87,slow=8.4,SNR=3.6						
VNDA	**Vanda**	**63.81**	**186**	*e*P	**P**	**23 47 06.0**	**+0.4**
	1.5nm,0.7s						
VNDA	**Vanda**	**63.81**	**186**	P	**P**	**23 47 06.9**	**+1.3**
	1.5nm,0.7s,baz=3.8,slow=7.9,SNR=3.5						
CMB	**Columbia Colle**	**71.69**	**41**	*e*P	**P**	**23 47 56.1**	**+0.2**
	11nm,1.3s						
YBH	**Yreka Blue Hor**	**72.58**	**37**	P	**P**	**23 48 01.6**	**+0.4**
YBH	**Yreka Blue Hor**	**72.58**	**37**	P	**P**	**23 48 01.6**	**+0.4**
	4.9nm,0.8s,baz=264,slow=1.8,SNR=8.2						
BEKR	**Beckworth**	**72.82**	**39**	*e*P	**P**	**23 48 03.1**	**+0.4**
	4.2nm,1.2s						
NV11	**Mina Array Sit**	**73.34**	**41**	*e*P	**P**	**23 48 06.2**	**+0.3**
MOD	**Modoc**	**74.09**	**38**	*e*P	**P**	**23 48 11.0**	**+0.8**
	48nm,1.2s						
QSPA	**South Pole Qui**	**74.95**	**180**	*e*P	**P**	**23 48 14.8**	**0.0**
	23nm,1.3s						
TUC	**Tucson**	**75.21**	**50**	*e*P	**P**	**23 48 16.7**	**-0.1**
	11nm,1.4s						
TXAR	**Lajitas Array**	**79.38**	**56**	P	**P**	**23 48 42.9**	**+2.6**
TXAR	**Lajitas Array**	**79.38**	**56**	P	**P**	**23 48 42.9**	**+2.6**
	3.4nm,1.1s,baz=228,slow=1.5,SNR=4.9						
PDAR	**Pinedale Array**	**81.19**	**41**	P	**P**	**23 48 50.9**	**+1.0**
PDAR	**Pinedale Array**	**81.19**	**41**	P	**P**	**23 48 50.9**	**+1.0**
	3.4nm,0.8s,baz=222,slow=3.5,SNR=12						
ILAR	**Eielson Array**	**81.90**	**11**	P	**P**	**23 48 52.2**	**-0.7**
ILAR	**Eielson Array**	**81.90**	**11**	P	**P**	**23 48 52.2**	**-0.7**
	1.8nm,0.9s,baz=212,slow=6.7,SNR=5.0						
MAW	**Mawson**	**88.49**	**198**	P	**P**	**23 49 27.2**	**+1.3**
	3.8nm,0.9s,baz=99,slow=4.6,SNR=3.6						
CMAR	**Chiang Mai Arr**	**93.74**	**288**	P	**P**	**23 49 52.7**	**+1.4**
CMAR	**Chiang Mai Arr**	**93.74**	**288**	P	**P**	**23 49 52.7**	**+1.4**
	2.3nm,0.3s,baz=115,slow=3.5,SNR=4.4						
BVAR	**Borovoye Array**	**118.43**	**322**	PKP	**PKPdf**	**23 55 21.1**	**-0.2**
BVAR	**Borovoye Array**	**118.43**	**322**	PKP	**PKPdf**	**23 55 21.1**	**-0.2**
	1.1nm,0.8s,baz=56,slow=5.4,SNR=3.7						
AKASG	**Malin Array Be**	**140.54**	**339**	PKP	**PKPdf**	**23 56 03.1**	**0.0**
AKASG	**Malin Array Be**	**140.54**	**339**	PKP	**PKPdf**	**23 56 03.1**	**0.0**
	0.2nm,0.2s,baz=11,slow=1.8,SNR=2.8						
TSUM	**Tsumeb**	**144.62**	**196**	PKP	**PKPdf**	**23 56 10.9**	**-0.6**
TSUM	**Tsumeb**	**144.62**	**196**	PKP	**PKPdf**	**23 56 10.9**	**-0.6**
	6.7nm,0.9s,baz=140,slow=4.7,SNR=5.7						
PRU	**Pruhonice**	**144.78**	**353**	*e*PKP	PKPbc	23 56 09.9	+0.3
PRU				*ep*PKP	**PKiKP**	**23 56 15.3**	**+0.9**
VRAC	**Vranov**	**145.15**	**350**	PKPbc	**PKPdf**	**23 56 12.0**	**+0.7**
VRAC	**Vranov**	**145.15**	**350**	PKPbc	**PKPdf**	**23 56 12.0**	**+0.7**
	4.3nm,1.0s,baz=48,slow=4.0,SNR=3.6						
KHC	**Kasperske Hory**	**145.74**	**353**	*e*PKP	**PKPbc**	**23 56 12.9**	**+0.1**
KHC				*ep*PKP	**pPKPdf**	**23 56 19.9**	**+1.3**
ATD	**Arta Tunnel**	**145.86**	**268**	PKPbc	**PKPab**	**23 56 15.8**	**+1.1**
ATD	**Arta Tunnel**	**145.86**	**268**	PKPbc	**PKPab**	**23 56 15.8**	**+1.1**
	17nm,0.9s,baz=352,slow=1.1,SNR=11						
GERES	**GERESS Array B**	**146.01**	**353**	PKPbc	**PKPbc**	**23 56 13.6**	**-0.1**
GERES	**GERESS Array B**	**146.01**	**353**	PKPbc	**PKPbc**	**23 56 13.6**	**-0.1**
	2.4nm,0.8s,baz=29,slow=3.0,SNR=7.9						
MLR	**Muntele Rosu**	**146.11**	**337**	PKPbc	**PKPbc**	**23 56 14.1**	**-0.1**
MLR	**Muntele Rosu**	**146.11**	**337**	PKPbc	**PKPbc**	**23 56 14.1**	**-0.1**
	1.8nm,0.9s,baz=228,slow=1.5,SNR=3.9						
BRTR	**Keskin Array B**	**146.71**	**322**	PKPbc	**PKPbc**	**23 56 16.1**	**-0.1**
BRTR	**Keskin Array B**	**146.71**	**322**	PKPbc	**PKPbc**	**23 56 16.1**	**-0.1**
	6.1nm,0.9s,baz=121,slow=1.8,SNR=6.7						
KMBO	**Kilima Mbogo**	**146.82**	**243**	PKPbc	**PKPbc**	**23 56 16.6**	**-0.7**
KMBO	**Kilima Mbogo**	**146.82**	**243**	PKPbc	**PKPbc**	**23 56 16.6**	**-0.7**
	3.4nm,0.9s,baz=77,slow=7.8,SNR=4.6						
DAVOX	**Davos/Dischmat**	**148.37**	**357**	PKPbc	**PKPbc**	**23 56 18.9**	**-1.6**
DAVOX	**Davos/Dischmat**	**148.37**	**357**	PKPbc	**PKPbc**	**23 56 18.9**	**-1.6**
	baz=346,slow=10.0						
ESDC	**Sonseca Array**	**153.38**	**21**	PKPbc	**PKPbc**	**23 56 32.5**	**0.0**
ESDC	**Sonseca Array**	**153.38**	**21**	PKPbc	**PKPbc**	**23 56 32.5**	**0.0**
	1.4nm,0.7s,baz=329,slow=3.4,SNR=9.0						

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*AUST **29** 23:37:21.7, 16°.12S×169°.77W, h0km*
*IDC **29** 23:37:39.5±0.6, 16°.25S×172°.45W, h0km, mb4.3/14, mb1 4.6/15, mb1mx4.4/23, mbtmp4.4/15, ML4.9/1, Error ellipse: s-maj=25.4km s-min=15.9km az=140.0*
*NEIC **29** 23:37:40.5±0.6, 16°.19S×172°.51W, h10km, mb4.5/3, Error ellipse: s-maj=18.3km s-min=10.9km az=169.0*
ISC 29 23:37:42.8±0.5, 16°.05S±0°.08×172°.45W±0°.08, h24km, n64, σ1§68/61, mb4.5/15, Samoa Islands region

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

AFI Afiamalu 2.23 17 Sn **Sn 23 38 40.7 -4.5**
AFI Afiamalu 2.23 17 Sn **Sn 23 38 40.7 -4.5**
336nm,0.3s,baz=60,slow=20,SNR=2.7
MSVF Nonsavu 9.24 258 *e*Pn **Pn 23 39 56.8 +1.9**
RAR Rarotonga 13.06 115 Pn **Pn 23 40 45.6 -1.4**
RAR Rarotonga 13.06 115 Pn **Pn 23 40 45.6 -1.4**
6.8nm,0.3s,baz=270,slow=20,SNR=6.8
DZM Mont Dzumac 20.82 250 P **P 23 42 23.8 +1.0**
DZM Mont Dzumac 20.82 250 P **P 23 42 23.8 +1.0**
3.6nm,0.5s,baz=66,slow=20,SNR=4.4
URZ Urewera 23.96 201 P **P 23 42 53.6 -1.7**
URZ Urewera 23.96 201 P **P 23 42 53.6 -1.7**
10nm,0.3s,baz=74,slow=6.7,SNR=7.0
ARMA Armidale 35.80 240 *e*P **P 23 44 37.8 -2.8**
11nm,0.7s
ARMA Armidale 35.80 240 P **P 23 44 38.6 -2.0**
baz=38,SNR=7.5
ARMA S S 23 50 36.1 +19
baz=38,SNR=5.6
ARMA Armidale 35.80 240 P **P 23 44 38.6 -2.0**
baz=34,SNR=7.5
MGCD Mangrove Creek 37.03 236 S **S 23 50 32.2 -3.2**
baz=39,SNR=6.3
YNG Young 39.52 235 S S 23 51 29.6 +16
baz=42,SNR=5.9
CMSA Cobar Meteorol 41.02 240 P **P 23 45 22.9 -1.4**
baz=43,SNR=7.2
QLP Quilpie 41.51 248 P **P 23 45 26.6 -1.9**
baz=44,SNR=4.1
MANU Manus Island 41.94 285 S **S 23 51 45.6 -3.9**
baz=44,SNR=5.8
STKA Stephens Creek 44.51 241 *e*P **P 23 45 51.4 -1.3**
3.2nm,0.9s
STKA Stephens Creek 44.51 241 P **P 23 45 51.8 -0.9**
13nm,0.8s,baz=88,slow=9.4,SNR=7.3
STKA Stephens Creek 44.51 241 P **P 23 45 51.8 -0.9**
baz=47,SNR=6.4
BBOO Buckleboo 49.28 240 S S 23 54 03.6 +29
baz=52,SNR=5.1
WRAB Tennant Creek 50.58 257 *e*P **P 23 46 38.8 -1.3**
5.5nm,0.9s
WRA Warramunga Arr 50.59 257 P **P 23 46 38.5 -1.6**
WRA Warramunga Arr 50.59 257 P **P 23 46 38.5 -1.6**
2.3nm,0.5s,baz=94,slow=7.0,SNR=6.8
AS31 Alice Springs 50.78 252 *e*P **P 23 46 39.9 -1.7**
ASAR Alice Springs 50.78 252 P **P 23 46 40.1 -1.5**
ASAR Alice Springs 50.78 252 P **P 23 46 40.1 -1.5**
28nm,0.7s,baz=88,slow=8.3,SNR=28
FITZ Fitzroy Crossi 58.97 258 *e*P P 23 47 33.6 -7.3
FITZ Fitzroy Crossi 58.97 258 P **P 23 47 41.7 +0.8**
1.9nm,0.8s,baz=135,slow=11,SNR=2.4
SOEI Soe 61.81 267 P **P 23 48 02.5 +2.0**
baz=64,SNR=4.1
VNDA Vanda 62.82 186 P **P 23 48 05.8 -0.3**
VNDA Vanda 62.82 186 P **P 23 48 05.8 -0.3**
0.8nm,0.8s,baz=22,slow=8.1,SNR=1.9
MBWA Marble Bar 64.06 254 *e*P **P 23 48 14.4 -0.8**
MEEK Meekatharra 64.41 248 P **P 23 48 16.9 -0.6**
baz=67,SNR=4.6
KLBR Kellerberrin 64.74 242 P **P 23 48 19.4 -0.2**
baz=67,SNR=7.6
BLDU Ballidu 65.71 243 P **P 23 48 25.7 -0.2**
baz=68,SNR=9.0
YBH Yreka Blue Hor 73.57 37 P **P 23 49 15.7 +1.6**
YBH Yreka Blue Hor 73.57 37 P **P 23 49 15.7 +1.6**
3.1nm,0.9s,baz=346,slow=8.3,SNR=4.4
KSRS Korea Array 77.26 315 P **P 23 49 37.8 +2.6**
2.8nm,0.9s,baz=126,slow=6.6,SNR=5.6
KSAR Wonju Array Be 77.28 315 P **P 23 49 37.8 +2.4**
TXAR Lajitas Array 80.22 56 P **P 23 49 53.4 +1.5**
TXAR Lajitas Array 80.22 56 P **P 23 49 53.4 +1.5**
0.5nm,0.5s,baz=234,slow=6.2,SNR=2.5
PDAR Pinedale Array 82.14 41 P **P 23 50 02.7 +0.7**
PDAR Pinedale Array 82.14 41 P **P 23 50 02.7 +0.7**
0.8nm,0.9s,baz=228,slow=2.3,SNR=2.8
ILAR Eielson Array 82.91 11 P **P 23 50 05.5 +0.3**
ILAR Eielson Array 82.91 11 P **P 23 50 05.5 +0.3**
1.1nm,0.8s,baz=221,slow=6.2,SNR=6.1
MAW Mawson 87.47 198 P **P 23 50 27.8 -0.3**
MAW Mawson 87.47 198 P **P 23 50 27.8 -0.3**
2.7nm,0.8s,baz=57,slow=6.1,SNR=4.3
CMAR Chiang Mai Arr 93.69 288 P **P 23 51 00.2 +2.1**
CMAR Chiang Mai Arr 93.69 288 P **P 23 51 00.2 +2.1**
1.1nm,0.3s,baz=60,slow=3.6,SNR=3.6
DPC Dobruska-Polom 145.06 350 *e*PKP **PKPdf 23 57 18.4 +0.2**
DPC *ex* x 23 57 31.9
PVCC Panska Ves 145.15 352 *e*PKP **PKPdf 23 57 19.7 +1.4**
PVCC *ex* x 23 57 32.2
OKC Ostrava-Krasne 145.22 348 *e*PKP **PKPdf 23 57 18.9

432nm,0.8s,3μm1.3nm
KAPI **Kappang** **6.15 288** P **P** **23 40 17.7 +0.4**
31nm,0.3s,baz=135,slow=5.8,SNR=133
LUWI **Luwuk** **6.50 334** P **P** **23 40 22.0 +1.3**
192nm,1.0s,2μm0.7nm
LUWI **Luwuk** **6.50 334** P **P** **23 40 21.7 +1.0**
baz=6.6,SNR=19
LBMI **Labuha** **6.51 17** P **P** **23 40 21.6 +0.8**
79nm,1.0s,1μm0.5nm
LBMI S **S** **23 41 44.3 -0.3**
79nm,1.0s,1μm0.5nm
SPSI **Sidrap Palu** **6.54 296** P **P** **23 40 21.2 +0.2**
178nm,0.8s,0.7nm
APSI **Ampana** **7.17 326** P **P** **23 40 28.0 +0.8**
228nm,0.9s,3μm0.9nm
TLE **Tual** **7.17 80** P **P** **23 40 27.5 +0.3**
602nm,0.8s,17μm3.0nm
TLE S **S** **23 41 53.9 -2.5**
602nm,0.8s,17μm3.0nm
TLE **Tual** **7.17 80** P **P** **23 40 27.6 +0.3**
baz=7.2,SNR=47
TLE S S 23 41 47.2 -9.1
baz=7.2,SNR=7.6
MJSI **Majene** **7.42 296** P **P** **23 40 32.1 +2.4**
283nm,0.8s,3μm0.9nm
KMSI **Cibinong** **7.62 347** P **P** **23 40 34.6 +2.9**
643nm,0.8s,2.5nm
KMSI S **S** **23 42 05.0 +0.4**
643nm,0.8s,2.5nm
FAKI **Fak Fak** **7.69 59** P **P** **23 40 33.9 +1.5**
573nm,0.7s,10μm2.4nm
FAKI S **S** **23 42 01.7 -4.2**
573nm,0.7s,10μm2.4nm
FAKI **Fak Fak** **7.69 59** P **P** **23 40 31.5 -0.9**
baz=7.7,SNR=294
FAKI S **S** **23 42 01.1 -4.8**
baz=7.7,SNR=36
TNTI **Ternate** **7.83 13** P **P** **23 40 34.5 +0.7**
218nm,0.7s,4μm1.2nm
MMSI **Mamuju** **7.91 302** P **P** **23 40 35.7 +1.1**
191nm,0.9s,2μm0.6nm
MRSI **Marisa** **8.22 333** P **P** **23 40 37.9 +0.2**
63nm,1.0s,0.2nm
SWI **Sorong** **8.22 43** P **P** **23 40 38.3 +0.6**
177nm,0.7s,3μm0.8nm
SWI **Sorong** **8.22 43** P **P** **23 40 38.0 +0.3**
baz=8.3,SNR=15
SWI S **S** **23 42 19.8 +4.1**
baz=8.3,SNR=5.1
KMPI **Kaimana, Papua** **8.66 68** P **P** **23 40 44.1 +1.9**
454nm,0.6s,6μm2.0nm
KDU **Kakadu** **8.84 131** P **P** **23 40 44.2 +0.2**
baz=8.8,SNR=38
KDU S **S** **23 42 26.8 -0.4**
baz=8.8,SNR=5.1
KNRA **Kununurra** **9.23 161** P **P** **23 40 48.6 +0.7**
baz=9.2,SNR=42
KNRA S **S** **23 42 33.0 -1.4**
baz=9.2,SNR=11
MTNI **Mataram** **9.53 259** P P 23 40 55.4 +4.2
42nm,0.8s,1μm
SGSI **Sangihe** **10.53 359** P **P** **23 41 02.6 +1.0**
280nm,0.8s
FITZ **Fitzroy Crossi** **11.12 180** *eP* **P** **23 41 07.7 +0.1**
26nm,0.8s
FITZ *eS* **S** **23 43 08.2 -2.2**
FITZ S S 23 43 08.3 -2.1
FITZ **Fitzroy Crossi** **11.12 180** P **P** **23 41 07.6 +0.1**
4.4nm,0.3s,baz=15,slow=8.9,SNR=156
FITZ S **S** **23 43 08.3 -2.1**
1.3nm,0.3s,baz=110,slow=23,SNR=13
FITZ **Fitzroy Crossi** **11.12 180** P **P** **23 41 07.6 +0.1**
baz=11,SNR=91
FITZ S **S** **23 43 09.5 -0.9**
baz=11,SNR=13
BYJI **Banyuwangi** **11.26 263** P **P** **23 41 12.0 +2.9**
MBWA **Marble Bar** **15.27 201** *eP* **P** **23 41 50.0 -0.9**
WRAB **Tennant Creek** **15.46 148** *eP* **P** **23 41 53.5 +0.6**
39nm,0.6s
WRA **Warramunga Arr** **15.46 148** P **P** **23 41 51.4 -1.5**
WRA S **S** **23 44 30.4 -2.7**
WRA ScP **ScP** **23 49 03.2 -0.6**
WRA **Warramunga Arr** **15.46 148** P **P** **23 41 51.4 -1.5**
12nm,0.3s,baz=335,slow=9.3,SNR=145
WRA S **S** **23 44 30.4 -2.7**
baz=339,slow=15,SNR=6.9
WRA ScP **ScP** **23 49 03.2 -0.6**
0.1nm,0.3s,baz=329,slow=1.9,SNR=3.7
KPJI **Karang Pucung** **16.58 268** P **P** **23 42 03.3 -0.9**
CMJI **Cimerak** **17.07 266** P **P** **23 42 07.7 -1.1**
KSM **Kuching** **17.42 298** *eP* **P** **23 42 11.5 -0.6**
26nm,0.9s
KSM **Kuching** **17.42 298** P **P** **23 42 12.5 +0.4**
KSM **Kuching** **17.42 298** P **P** **23 42 11.7 -0.4**
baz=18,SNR=5.0
CISI **Cisompet, Garu** **17.69 267** P **P** **23 42 13.6 -1.0**
ASAR **Alice Springs** **18.45 155** P **P** **23 42 21.6 +0.2**
ASAR S **S** **23 45 25.1 +2.1**
ASAR **Alice Springs** **18.45 155** P **P** **23 42 21.6 +0.2**
9.0nm,0.3s,baz=331,slow=9.1,SNR=66
ASAR S **S** **23 45 25.1 +2.1**
0.2nm,0.3s,baz=343,slow=24,SNR=9.0
COEN **Coen** **18.60 114** *eP* **P** **23 42 23.6 +0.8**
240nm,0.6s
COEN **Coen** **18.60 114** P **P** **23 42 23.4 +0.6**
baz=19,SNR=44
GIRL **Giralia** **19.11 214** P **P** **23 42 28.4 +1.1**
baz=19,SNR=4.9
MEEK **Meekatharra** **20.72 198** P **P** **23 42 41.7 -0.3**
baz=21,SNR=16
MTSU **Mount Surprise** **21.35 123** P **P** **23 42 48.8 +1.0**
baz=21,SNR=6.5
CTA **Charters Tower** **23.90 125** P **P** **23 43 11.6 +1.0**
CTA **Charters Tower** **23.90 125** P **P** **23 43 11.6 +1.0**
7.7nm,0.5s,baz=300,slow=12,SNR=8.2
KLBR **Kellerberrin** **25.63 196** P P 23 43 32.0 +6.3
baz=26,SNR=5.9
QLP **Quilpie** **26.38 140** P **P** **23 43 33.8 +1.4**
baz=26,SNR=16
BBOO **Buckleboo** **27.53 161** P **P** **23 43 42.9 +0.5**
baz=28,SNR=10
PSI **Prapat** **28.36 289** P **P** **23 43 48.8 -1.3**
PSI **Prapat** **28.36 289** P **P** **23 43 48.8 -1.3**
11nm,0.8s,baz=142,slow=8.6,SNR=8.3
PSI **Prapat** **28.36 289** P **P** **23 43 47.9 -2.2**
baz=28,SNR=4.1
STKA **Stephens Creek** **28.96 151** *eP* **P** **23 43 55.9 +1.0**
5.5nm,0.9s
STKA **Stephens Creek** **28.96 151** P **P** **23 43 56.0 +1.0**
15nm,0.4s,baz=324,slow=9.4,SNR=39
STKA **Stephens Creek** **28.96 151** P **P** **23 43 56.0 +1.1**
baz=29,SNR=37
CMSA **Cobar Meteorol** **30.84 145** P **P** **23 44 12.7 +1.6**
baz=31,SNR=13
ARPS **Mount Arapiles** **33.19 156** P **P** **23 44 32.7 +1.6**
baz=33,SNR=15
YNG **Young** **34.41 145** P **P** **23 44 43.4 +1.9**
baz=34,SNR=12
TOO **Toolangi** **35.45 152** P **P** **23 44 52.6 +2.5**
baz=36,SNR=6.7
CAN **Canberra** **35.49 146** *eP* **P** **23 44 51.6 +1.1**
CNB **Canberra Magne** **35.69 146** P **P** **23 44 54.3 +2.1**
baz=41,SNR=5.9
CNB **Canberra Magne** **35.69 146** P **P** **23 44 54.3 +2.1**
baz=36,SNR=5.9
CMAR **Chiang Mai Arr** **36.46 314** P **P** **23 44 59.1 +0.4**
CMAR **Chiang Mai Arr** **36.46 314** P **P** **23 44 59.1 +0.4**
2.1nm,0.5s,baz=142,slow=6.9,SNR=12
CHTO **Chiang Mai** **36.69 315** *eP* **P** **23 45 00.3 -0.3**
10nm,0.6s
CBIJ **Chichi jima** **37.42 25** P **P** **23 45 04.7 -1.7**
CBIJ **Chichi jima** **37.42 25** P **P** **23 45 04.7 -1.7**
51nm,0.7s,baz=273,slow=17,SNR=6.5
ENH **Enshi** **40.09 338** *eP* **P** **23 45 27.6 -0.5**
4.1nm,0.4s
JNU **Nakatsue** **40.13 7** P **P** **23 45 28.2 -0.1**
JNU **Nakatsue** **40.13 7** P **P** **23 45 28.2 -0.1**
8.9nm,0.8s,baz=128,slow=1.7,SNR=4.3
KSAR **Wonju Array Be** **44.18 3** P **P** **23 46 00.7 +0.6**
KSRS **Korea Array** **44.19 3** P **P** **23 46 00.7 +0.5**
4.2nm,0.8s,baz=180,slow=9.6,SNR=14
MAT **Matsushiro** **44.81 14** P **P** **23 46 04.4 -0.6**
LSA **Lhasa** **49.23 319** P **P** **23 46 39.8 +0.8**
LSA **Lhasa** **49.23 319** *eP* **P** **23 46 38.8 -0.2**
12nm,0.8s
ODAN **Odare** **50.00 314** *eP* **P** **23 46 44.4 -0.1**
14nm,0.6s
TAPN **Taplejung** **50.07 315** *eP* **P** **23 46 45.1 +0.1**
13nm,0.4s
RAMN **Ramite** **50.62 313** *eP* **P** **23 46 49.3 +0.3**
40nm,0.7s
USRK **Ussuriysk Arra** **51.20 6** P **P** **23 46 52.9 +0.3**
7.7nm,0.7s,baz=186,slow=6.4,SNR=17
JIRN **Jiri** **51.33 314** *eP* **P** **23 46 54.2 -0.1**
9.3nm,0.4s
GUN **Gumba** **51.70 314** *eP* **P** **23 46 57.0 0.0**
17nm,0.4s
PKI **Pulchoki** **51.84 313** *eP* **P** **23 46 57.8 -0.2**
13nm,0.4s
PKIN **Phulchoki** **51.86 313** *eP* **P** **23 46 57.8 -0.2**
KKN **Kakani** **52.06 313** *eP* **P** **23 46 59.4 0.0**
DMN **Daman** **52.09 313** *eP* **P** **23 46 59.5 -0.1**
GKN **Gorkha** **52.65 313** *eP* **P** **23 47 03.5 -0.1**
18nm,0.3s
KOLN **Koldanda** **53.28 312** *eP* **P** **23 47 08.2 +0.1**
24nm,0.7s
DANN **Dangsing** **53.48 313** *eP* **P** **23 47 09.5 -0.2**
22nm,0.8s
RPZ **Rata Peaks** **54.01 140** P **P** **23 47 13.8 +1.0**
RPZ **Rata Peaks** **54.01 140** P **P** **23 47 13.8 +1.0**
21nm,0.5s,baz=103,slow=1.7,SNR=4.6
ULN **Ulaanbaatar** **56.96 345** *eP* **P** **23 47 33.2 -0.2**
7.3nm,0.8s
ULN **Ulaanbaatar** **56.96 345** P **P** **23 47 34.0 +0.6**
SONM **Songino Array** **57.10 345** P **P** **23 47 34.5 +0.2**
SONM **Songino Array** **57.10 345** P **P** **23 47 34.5 +0.2**
4.8nm,0.7s,baz=159,slow=8.2,SNR=13
PETK **Petropavlovsk-** **65.68 21** P **P** **23 48 31.2 +1.0**
PETK **Petropavlovsk-** **65.68 21** P **P** **23 48 31.2 +1.0**
7.6nm,0.7s,baz=189,slow=6.8,SNR=5.1
MK31 **Makanchi Array** **65.85 329** *eP* **P** **23 48 31.3 -0.2**
MKAR **Makanchi Array** **65.85 329** P **P** **23 48 31.5 +0.1**
MKAR **Makanchi Array** **65.85 329** P **P** **23 48 31.5 +0.1**
3.8nm,0.5s,baz=127,slow=7.3,SNR=61
KBL **Kabul** **67.44 312** *eP* **P** **23 48 41.3 -0.5**
2.4nm,0.7s
AAK **Ala-Archa** **67.73 322** *eP* **P** **23 48 43.8 +0.5**
2.8nm,0.4s
AAK **Ala-Archa** **67.73 322** P **P** **23 48 43.9 +0.5**
2.8nm,0.5s,baz=133,slow=5.3,SNR=11
ZAA0 **Zalesovo Array** **69.66 336** *eP* **P** **23 48 53.4 -1.0**
ZALV **Zalesovo Beam** **69.66 336** P **P** **23 48 53.8 -0.7**
ZALV **Zalesovo Beam** **69.66 336** P **P** **23 48 53.8 -0.7**
13nm,0.5s,baz=132,slow=4.7,SNR=64
KURBB **Kurchatov Arra** **70.23 330** P **P** **23 48 58.1 +0.2**
7.4nm,0.7s,baz=136,slow=5.1,SNR=38
KURK **Kurchatov** **70.25 330** *eP* **P** **23 48 57.7 -0.3**
6.8nm,0.8s
VNDA **Vanda** **73.08 172** P **P** **23 49 14.6 +0.4**
VNDA **Vanda** **73.08 172** P **P** **23 49 14.6 +0.4**
0.7nm,0.6s,baz=327,slow=6.9,SNR=5.9
BVAR **Borovoye Array** **75.73 329** P **P** **23 49 29.5 0.0**
BVAR **Borovoye Array** **75.73 329** P **P** **23 49 29.5 0.0**
3.9nm,0.6s,baz=120,slow=7.8,SNR=20
ABKAR **Akbulak array** **79.78 323** *eP* **P** **23 49 50.7 -0.7**
2.0nm,0.5s
AKTO **Aktyubinsk** **81.39 323** P **P** **23 49 59.7 0.0**
AKTO **Aktyubinsk** **81.39 323** P **P** **23 49 59.7 0.0**
6.1nm,0.7s,baz=113,slow=7.2,SNR=20
PPT **Papeete** **83.00 107** P P 23 50 12.8 +4.2
PPT **Papeete** **83.00 107** P P 23 50 12.8 +4.2
177nm,0.9s,baz=313,slow=7.5,SNR=7.2
BR131 **Keskin Array S** **95.90 309** *eP* **P** **23 51 05.8 -3.0**
5.3nm,0.9s
CLL **Collm** **109.45 322** *e*PKPdf **PKiKP** **23 56 08.0 -0.5**
comp=Z,7.0nm,1.0s
TORD **Torodi Ar. Bea** **124.55 281** PKP **PKPdf** **23 56 38.4 -0.1**
TORD **Torodi Ar. Bea** **124.55 281** PKP **PKPdf** **23 56 38.4 -0.1**
comp=Z,0.7nm,0.6s,baz=34,slow=1.5,SNR=9.6
LPAZ **La Paz** **153.22 150** PKPab **PKPab** **23 57 53.7 +1.4**
LPAZ **La Paz** **153.22 150** PKPab **PKPab** **23 57 53.7 +1.4**
comp=Z,1.4nm,0.5s,baz=148,slow=3.4,SNR=9.0

IDC 29 23:40:09.4±3.1, 15°.46S×173°.05W, h0km, mb3.8/3, mb1 4.2/3, mb1mx3.8/18, mbtmp3.8/3, Error ellipse: s-maj=172.3km s-min=35.0km az=146.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**50.41**	**252**	P	P	23 49 09.1	0.0
	1.2nm,0.4s,baz=86,slow=7.9,SNR=5.8						
PDAR	**Pinedale Array**	**82.09**	**42**	P	P	23 52 32.6	+0.4
	0.5nm,0.8s,baz=197,slow=2.8,SNR=3.2						
ILAR	**Eielson Array**	**82.44**	**11**	P	P	23 52 33.4	+0.2
	0.4nm,0.6s,baz=232,slow=5.5,SNR=4.2						
BRTR	**Keskin Array B**	**146.41**	**321**	PKPbc	PKPbc	23 59 52.7	-0.3
	0.9nm,0.9s,baz=63,slow=2.9,SNR=3.7						
DAVOX	**Davos/Dischmat**	**148.68**	**356**	PKPbc	PKPdf	23 59 56.8	+1.5
	2.3nm,0.9s,baz=257,slow=5.3,SNR=3.2						

IDC 29 23:42:24.1±0.9, 14°.79S×172°.69W, h0km, mb4.1/6, mb1 4.3/6, mb1mx4.1/18, mbtmp4.1/6, Error ellipse: s-maj=36.6km s-min=27.2km az=119.0, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.25**	**45**	Pn	Pg	23 42 41.8	-6.4
	86nm,0.3s,baz=239,slow=5.9,SNR=4.1						
AFI				Sn	Sg	23 42 53.8	-11
	392nm,0.3s,baz=49,slow=19,SNR=9.7						
WRA	**Warramunga Arr**	**50.65**	**256**	P	P	23 51 24.0	-1.6
	1.6nm,1.0s,baz=91,slow=6.6,SNR=4.5						
ASAR	**Alice Springs**	**50.95**	**251**	P	P	23 51 27.0	-0.9
	8.3nm,1.1s,baz=85,slow=8.5,SNR=11						
VNDA	**Vanda**	**64.05**	**186**	P	P	23 52 58.8	-0.5
	1.1nm,1.0s,baz=15,slow=6.8,SNR=3.4						
KSRS	**Korea Array**	**76.21**	**315**	P	P	23 54 15.5	+1.0
	0.8nm,0.5s,baz=117,slow=7.7,SNR=5.3						
PDAR	**Pinedale Array**	**81.36**	**42**	P	P	23 54 42.0	-1.1
	0.4nm,0.3s,baz=217,slow=6.8,SNR=3.5						
MAW	**Mawson**	**88.58**	**198**	P	P	23 55 20.2	+1.6
	1.4nm,0.7s,baz=79,slow=6.2,SNR=4.0						
TSUM	**Tsumeb**	**144.74**	**197**	PKP	PKPab	00 02 02.3	-0.5
	3.4nm,1.0s,baz=131,slow=11,SNR=3.0						
GERES	**GERESS Array B**	**145.64**	**353**	PKPbc	PKPdf	00 02 04.0	-0.7
	1.0nm,0.8s,baz=351,slow=3.4,SNR=8.7						
BRTR	**Keskin Array B**	**146.11**	**322**	PKPbc	PKPbc	00 02 06.8	+0.1
	2.1nm,1.0s,baz=64,slow=2.9,SNR=7.6						
KMBO	**Kilima Mbogo**	**146.41**	**244**	PKPbc	PKPab	00 02 09.4	0.0
	1.8nm,1.0s,baz=48,slow=4.1,SNR=4.5						

IDC 29 23:43:33.0±2.4, 15°.41S×173°.30W, h0km, mb4.1/4, mb1 4.3/4, mb1mx3.9/18, mbtmp4.1/4, MS5.2/1, Ms1 5.2/1, ms1mx4.8/30, Error ellipse: s-maj=158.1km s-min=28.3km az=147.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.10**	**45**	Sn	Sn	23 44 23.9	-13
	156nm,0.3s,baz=68,slow=19,SNR=4.3						
STKA	**Stephens Creek**	**44.11**	**240**	P	P	23 51 43.2	-0.1
	2.9nm,0.9s,baz=82,slow=11,SNR=3.5						
WRA	**Warramunga Arr**	**49.93**	**257**	P	P	23 52 28.8	-0.2
	1.5nm,0.5s,baz=91,slow=6.8,SNR=14						
ASAR	**Alice Springs**	**50.20**	**252**	P	P	23 52 30.6	-0.4
	3.3nm,0.6s,baz=88,slow=7.7,SNR=9.7						
MJAR	**Matsushiro Arr**	**69.00**	**320**	LR	LR	00 20 33.6	
	comp=Z,2μm,20.8s,baz=155,slow=32						
PDAR	**Pinedale Array**	**82.21**	**42**	P	P	23 55 56.1	-0.3
	0.7nm,0.9s,baz=201,slow=3.9,SNR=3.0						
BRTR	**Keskin Array B**	**146.22**	**321**	PKPbc	PKPbc	00 03 15.8	-0.1
	0.9nm,0.7s,baz=93,slow=2.3,SNR=3.5						

BJI ***29*** *23:45:00.5, 15°.80S×172°.50W, h10km, mB6.2/38, mb5.5/41, Ms5.8/40, Ms7 5.5/41*
AUST ***29*** *23:45:01.6±3.7, 15°.99S×172°.28W, h2km, Error ellipse: s-maj=1.4km s-min=1.1km az=14.0*
ISCJB ***29*** *23:45:01.6±0.1, 15°.87S±0°.03×172°.55W±0°.02, h10km, mb5.8/281, MS5.8/198, Error ellipse: s-maj=4.9km s-min=2.3km az=154.3*
DJA ***29*** *23:45:02.7±0.3, 16°S±5°×17°3W±°, h10km, M6.2/80, mb5.9/80, mB6.4/69, MLv6.3/1, Mw(mB)6.2/69*
IDC ***29*** *23:45:02.0±0.3, 15°.84S×172°.65W, h0km, mb5.3/40, mb1 5.4/40, mb1mx5.4/40, mbtmp5.3/40, MS5.8/24, Ms1 5.8/24, ms1mx5.6/34, Error ellipse: s-maj=13.4km s-min=8.5km az=148.0*
NEIC ***29*** *23:45:03.5±0.1, 15°.83S×172°.55W, h10km, mb6.0/171, MS5.8/159, Error ellipse: s-maj=5.5km s-min=3.1km az=142.0*
BKK ***29*** *23:45:05.9±0.3, 16°S±6°×17°3W±°, h10km, M6.2/31, mb5.9/31, mB6.5/26, Mw(mB)6.2/26, Mwp6.0/1*
IGIL ***29*** *23:45:05.7, 15°.84S×172°.53W, h10km*
SZGRF ***29*** *23:45:07.5, 15°.80S×172°.15W, h33km, Samoa Islands region*
MOS ***29*** *23:45:08.1±0.9, 15°.28S×172°.41W, h33km, mb6.2/39, MS5.7/33, Error ellipse: s-maj=12.8km s-min=8.2km az=56.6*

ISC 29 23:45:04.3±0.4, 15°.87S±0°.04×172°.54W±0°.04, h14km±1km, n1506, σ1°25/1491, mb6.0/280, MS5.8/200, 269C-238D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.09**	**21**	↓↓*i*Pn	**Pb**	**23 45 41.7**	**-0.3**
AFI				Sn	Sn	23 45 52.5	-12
AFI				*e*Sn	**Sb**	**23 46 03.9**	**-3.9**
AFI	**Afiamalu**	**2.09**	**21**	Pn	Pn	23 45 31.6	-7.4
	618nm,0.3s,baz=9.0,slow=3.9,SNR=15						
AFI				Sn	Sn	23 45 52.5	-12
	3μm,0.3s,baz=49,slow=22,SNR=15						
NIUE	**Niue**	**4.04**	**142**	P	Pn	23 46 00.3	-5.5
	baz=3.8,SNR=19						
NIUE				S	Sn	23 46 40.5	-12
	baz=3.8,SNR=5.4						
MSVF	**Nonsavu**	**9.20**	**257**	↑↑*i*P	Pn	23 47 23.1	+6.3
MSVF	**Nonsavu**	**9.20**	**257**	↑↑*i*Pn	Pn	23 47 23.1	+6.3
MSVF				*e*Sn	**Sn**	**23 48 58.6**	**-1.6**
MSVF	**Nonsavu**	**9.20**	**257**	Pn	Pn	23 47 23.6	+6.8
	6μm,1.1s,SNR=88						
KNTN	**Kanton**	**13.04**	**4**	*e*Pn	**Pn**	**23 48 08.0**	**-1.3**
RAR	**Rarotonga**	**13.22**	**116**	*e*Pn	Pn	23 48 02.9	-8.8
RAR				*e*Sn	Sn	23 50 08.7	-30
RAR	**Rarotonga**	**13.22**	**116**	Pn	Pn	23 48 02.8	-8.8
	33nm,0.3s,baz=270,slow=8.3,SNR=44						
RAO	**Raoul Island**	**14.21**	**200**	Sn	Sn	23 50 52.3	-10
RAO	**Raoul Island**	**14.21**	**200**	Sn	Sn	23 50 52.3	-10
	53nm,0.3s,baz=285,slow=20,SNR=2.6						
DZM	**Mont Dzumac**	**20.80**	**250**	*e*P	**P**	**23 49 45.3**	**-0.1**
	1μm,1.5s						
DZM	**Mont Dzumac**	**20.80**	**250**	P	**P**	**23 49 44.3**	**-1.2**
DZM				*e*Pn	Pn	23 49 44.6	-3.3
DZM				*e*S	**S**	**23 53 36.5**	**-0.8**
DZM	**Mont Dzumac**	**20.80**	**250**	P	**P**	**23 49 44.3**	**-1.2**
	188nm,1.1s,baz=74,slow=18,SNR=16						
DZM				S	**S**	**23 53 36.5**	**-0.8**
	9.8nm,1.0s,baz=94,slow=19,SNR=2.2						
DZM				LR	LR	23 56 14.5	
	comp=Z,23μm,20.6s,baz=82,slow=32						
PAE	**Paea**	**22.05**	**98**	*e*P	**P**	**23 49 58.6**	**-0.2**
	52nm,1.2s						
PPT	**Papeete**	**22.05**	**98**	P	**P**	**23 49 58.0**	**-0.9**
PPT	**Papeete**	**22.05**	**98**	P	**P**	**23 49 58.0**	**-0.9**
	175nm,1.1s,baz=276,slow=10,SNR=4.2						
PPT				LR	LR	23 55 51.2	
	comp=Z,23μm,20.6s,baz=296,slow=29						
PPT2	**Papeete2**	**22.05**	**98**	*e*P	**P**	**23 49 59.0**	**+0.1**
	237nm,1.1s						
PPT2				*e*S	**S**	**23 53 55.4**	**-6.6**
	12μm,24.2s						
PPT2				*e*LR	LR	23 54 59.7	
	73μm,25.2s,baz=263						
TIAR	**Tiarei**	**22.27**	**98**	*e*P	**P**	**23 50 00.9**	**-0.3**
	474nm,1.4s						
TARA	**Tarawa**	**22.35**	**319**	*e*P	**P**	**23 50 03.0**	**+1.0**
	2μm,1.4s						
TARA				LR	LR		
	comp=Z,13μm,19.0s						
TVO	**Taravao**	**22.37**	**98**	*e*P	**P**	**23 50 01.9**	**-0.4**
	comp=Z,259nm,1.2s						
OUZ	**Omahuta**	**22.92**	**210**	*e*P	**P**	**23 50 08.4**	**+0.5**
	comp=Z,1μm,1.7s						
TBI	**Tubuai**	**22.95**	**113**	*e*P	**P**	**23 50 07.0**	**-1.4**
	comp=Z,728nm,1.2s						
TBI				*e*S	**S**	**23 54 13.0**	**-5.3**
	comp=Z,65μm,29.0s						
TBI				*e*LR	LR	23 55 17.4	
	comp=Z,77μm,27.8s,baz=288						
XMAS	**Kiritimati**	**23.23**	**41**	*e*P	**P**	**23 50 10.6**	**-0.6**
	comp=Z,2μm,1.7s						
XMAS				LR	LR		
	comp=Z,12μm,19.0s						
PMOR	**Pomariorio Ree**	**23.77**	**91**	*e*P	**P**	**23 50 16.3**	**-0.3**
	comp=Z,623nm,1.4s						
URZ	**Urewera**	**24.09**	**200**	P	**P**	**23 50 17.9**	**-1.5**
URZ				S	**S**	**23 54 31.0**	**-5.5**
URZ	**Urewera**	**24.09**	**200**	P	**P**	**23 50 17.9**	**-1.5**
	comp=Z,156nm,0.5s,baz=22,slow=4.1,SNR=30						
URZ				S	**S**	**23 54 31.0**	**-5.5**
	comp=Z,16nm,0.8s,baz=223,slow=19,SNR=2.8						
URZ				LR	LR	23 58 33.4	
	comp=Z,32μm,21.7s,baz=27,slow=34						
BKZ	**Black Stump Fm**	**25.12**	**200**	*e*P	**P**	**23 50 28.8**	**-0.1**
	comp=Z,80nm,0.6s						
BFZ	**Birch Farm**	**26.57**	**199**	*e*P	**P**	**23 50 42.0**	**+0.1**
	comp=Z,114nm,0.8s						
HNR	**Honiara**	**27.58**	**280**	P	**P**	**23 50 50.6**	**-0.7**
HNR				LR	LR		
	comp=Z,173nm,19.0s						
HNR	**Honiara**	**27.58**	**280**	P	**P**	**23 50 50.6**	**-0.7**
	comp=Z,48nm,0.8s,baz=151,slow=13,SNR=2.7						
SNZO	**South Karori**	**27.64**	**201**	PFAKE		23 51 00.0	+8.5
SNZO				LR	LR		
	comp=Z,23μm,22.0s						
KHZ	**Kahutara**	**29.03**	**202**	*e*P	**P**	**23 51 03.6**	**-0.3**
	comp=Z,102nm,1.0s						
KHZ				*e*S	**S**	**23 55 56.1**	**+1.4**
RPZ	**Rata Peaks**	**31.07**	**203**	*e*P	**P**	**23 51 21.4**	**-0.6**
	comp=Z,129nm,1.0s						
RPZ	**Rata Peaks**	**31.07**	**203**	P	**P**	**23 51 21.8**	**-0.1**
	comp=Z,23nm,0.6s,baz=195,slow=1.6,SNR=8.5						
ODZ	**Otahua Downs**	**32.35**	**203**	*e*P	**P**	**23 51 32.7**	**-0.5**
	comp=Z,35nm,0.8s						
EIDS	**Eidsvold**	**35.24**	**248**	*e*P	**P**	**23 51 56.2**	**-2.4**
	comp=Z,212nm,1.5s						
EIDS	**Eidsvold**	**35.24**	**248**	P	**P**	**23 51 56.1**	**-2.4**
	baz=35,SNR=8.7						
ARMA	**Armidale**	**35.82**	**240**	*e*P	**P**	**23 52 02.7**	**-0.9**
	comp=Z,83nm,1.1s						
ARMA	**Armidale**	**35.82**	**240**	P	**P**	**23 52 03.2**	**-0.4**
	baz=36,SNR=5.4						
RKT	**Rikitea**	**36.06**	**108**	*e*LR	LR	00 00 14.4	
	comp=Z,7μm,30.0s						
RKT				*e*LR	LR	00 01 30.9	
	comp=Z,38μm,26.2s,baz=278						
MGCD	**Mangrove Creek**	**37.06**	**236**	P	**P**	**23 52 15.3**	**+1.2**
	baz=37,SNR=6.2						
RMQ	**Roma**	**37.47**	**247**	P	**P**	**23 52 16.4**	**-1.3**
	baz=38,SNR=6.6						
CNB	**Canberra Magne**	**39.12**	**233**	P	**P**	**23 52 31.2**	**-0.3**
	baz=39,SNR=9.3						
CTA	**Charters Tower**	**39.35**	**258**	P	**P**	**23 52 31.7**	**-1.9**
CTA	**Charters Tower**	**39.35**	**258**	P	**P**	**23 52 31.7**	**-1.9**
	comp=Z,10nm,0.8s,baz=88,slow=10,SNR=10						
CTA				LR	LR	00 06 43.6	
	comp=Z,9μm,19.7s,baz=82,slow=33						
CTAO	**Charters Tower**	**39.35**	**258**	*e*P	**P**	**23 52 31.3**	**-2.2**
CTAO				pmax	pmax		
	comp=Z,56nm,1.2s						
CTAO				MLR	MLR		
	comp=Z,12μm,20.0s						
CTAO	**Charters Tower**	**39.35**	**258**	*e*P	**P**	**23 52 31.3**	**-2.2**
	comp=Z,56nm,1.2s						
CTAO				LR	LR		
	comp=Z,12μm,20.0s						
CAN	**Canberra**	**39.41**	**233**	*e*P	**P**	**23 52 33.8**	**-0.1**
CAN				pmax	pmax		
	comp=Z,168nm,1.4s						
CAN				MLR	MLR		
	comp=Z,8μm,20.0s						
CAN	**Canberra**	**39.41**	**233**	*e*P	**P**	**23 52 33.8**	**-0.1**
	comp=Z,168nm,1.4s						
CAN				LR	LR		
	comp=Z,8μm,20.0s						
KIP	**Kipapa**	**39.71**	**

PMG LR LR 00 07 18.0
comp=Z,11µm,18.0s,baz=100,slow=34
WAKE Wake Island 40.49 329 eP P 23 52 43.4 +0.5
comp=Z,555nm,1.2s
WAKE LR LR
comp=Z,7µm,19.0s
CMSA Cobar Meteorol 41.03 240 P P 23 52 46.2 -1.2
baz=41,SNR=10
MTSU Mount Surprise 41.25 260 P P 23 52 47.9 -1.5
baz=42,SNR=20
QLP Quilpie 41.50 248 P P 23 52 49.5 -1.8
baz=42,SNR=17
COEN Coen 42.78 266 eP P 23 53 01.6 -0.2
comp=Z,8µm,2.4s
COEN Coen 42.78 266 P P 23 53 01.6 -0.2
baz=43,SNR=27
TOO Toolangi 42.81 231 P P 23 53 01.3 -0.6
baz=43,SNR=11
TAU Tasmania Unive 43.54 223 PFAKE 23 53 20.0 +12
TAU LR LR
comp=Z,11µm,20.0s
MIDW Midway 44.08 354 PFAKE 23 53 20.0 +8.0
MIDW LR LR
comp=Z,12µm,21.0s
STKA Stephens Creek 44.52 241 eP P 23 53 15.2 -0.5
STKA Stephens Creek 44.52 241 P P 23 53 14.8 -0.9
comp=Z,76nm,0.9s,baz=80,slow=8.2,SNR=83
STKA Stephens Creek 44.52 241 P P 23 53 15.1 -0.7
baz=45,SNR=37
ARPS Mount Arapiles 45.38 234 P P 23 53 22.2 -0.2
baz=46,SNR=12
BBOO Buckleboo 49.30 240 eP P 23 53 51.8 -1.2
comp=Z,6µm,1.3s
BBOO Buckleboo 49.30 240 P P 23 53 52.1 -1.0
baz=49,SNR=19
WRAB Tennant Creek 50.54 257 eP P 23 54 00.6 -2.1
WRAB MLR MLR
comp=Z,14µm,19.0s
WRAB Tennant Creek 50.54 257 eP P 23 54 00.6 -2.1
comp=Z,1.6nm,2.1s
WRAB LR LR
comp=Z,14µm,19.0s
WRAB Tennant Creek 50.54 257 P P 23 54 00.5 -2.1
comp=Z,493nm,1.1s,SNR=23
WRA Warramunga Arr 50.55 257 P P 23 54 00.4 -2.4
WRA Warramunga Arr 50.55 257 P P 23 54 00.4 -2.4
comp=Z,59nm,1.0s,baz=90,slow=6.7,SNR=66
WRA LR LR 00 13 08.1
comp=Z,12µm,22.0s,baz=90,slow=33
AS31 Alice Springs 50.76 252 eP P 23 54 02.7 -1.6
ASAR Alice Springs 50.76 252 P P 23 54 02.8 -1.5
ASAR Alice Springs 50.76 252 P P 23 54 02.8 -1.5
comp=Z,140nm,0.9s,baz=84,slow=8.7,SNR=103
ASAR LR LR 00 14 11.1
comp=Z,12µm,20.4s,baz=94,slow=34
GUMO Guam 51.29 303 PFAKE 23 54 20.0 +12
GUMO LR LR
comp=Z,4µm,21.0s
KDU Kakadu 53.26 266 P P 23 54 22.7 -0.3
baz=54,SNR=6.0
FORT Forrest 55.95 243 eP P 23 54 41.2 -1.2
comp=Z,357nm,1.1s
FORT Forrest 55.95 243 P P 23 54 41.1 -1.2
baz=56,SNR=11
KNRA Kununurra 56.32 262 P P 23 54 44.1 -1.1
baz=56,SNR=6.5
SWI Sorong 57.36 279 P P 23 54 52.4 -0.2
comp=Z,197nm,1.4s,comp=Z,2µm
SWI Sorong 57.36 279 P P 23 54 44.5 -8.1
baz=58,SNR=3.5
BNDI Bandanaira 57.59 275 P P 23 55 00.9 +6.6
baz=58,SNR=5.9
FITZ Fitzroy Crossi 58.93 258 eP P 23 55 02.8 -0.8
FITZ Fitzroy Crossi 58.93 258 P P 23 55 02.7 -0.8
comp=Z,18nm,0.9s,baz=91,slow=9.9,SNR=16
FITZ LR LR 00 18 41.2
comp=Z,12µm,19.8s,baz=102,slow=34
FITZ Fitzroy Crossi 58.93 258 P P 23 55 02.7 -0.8
baz=59,SNR=19
AAI Ambon 59.46 275 P P 23 55 05.6 -1.7
comp=Z,79nm,1.6s,comp=Z,3µm
NLAI Namlea 60.63 275 P P 23 55 15.0 -0.3
comp=Z,84nm,1.9s,comp=Z,2µm
LBMI Labuha 61.01 278 P P 23 55 16.5 -1.4
comp=Z,218nm,1.3s,comp=Z,3µm
CBIJ Chichi jima 61.28 314 LR LR 00 18 27.6
comp=Z,3µm,19.7s,baz=310,slow=33
TNTI Ternate 61.57 280 eP P 23 55 21.0 -0.7
comp=Z,404nm,1.4s
TNTI Ternate 61.57 280 P P 23 55 20.4 -1.3
comp=Z,231nm,2.1s,comp=Z,6µm
SOEI Soe 61.73 267 P P 23 55 22.8 -0.2
comp=Z,391nm,1.3s,comp=Z,5µm
SOEI Soe 61.73 267 P P 23 55 23.8 +0.8
baz=62,SNR=16
BATI Baumata 62.22 267 P P 23 55 26.8 +0.6
BATI Baumata 62.22 267 P P 23 55 26.3 +0.2
comp=Z,58nm,2.9s,comp=Z,3µm
BATI Baumata 62.22 267 P P 23 55 26.8 +0.6
comp=Z,10nm,0.3s,baz=175,slow=3.1,SNR=8.3
BATI LR LR 00 20 36.6
comp=Z,11µm,19.6s,baz=136,slow=34
SBA Scott Base 62.85 185 eP P 23 55 30.6 +1.4
SBA pmax pmax
comp=Z,68nm,0.5s
SBA MLR MLR
comp=Z,8µm,19.0s
SBA Scott Base 62.85 185 eP P 23 55 30.6 +1.4
comp=Z,68nm,0.5s
SBA LR LR
comp=Z,8µm,19.0s
VNDA Vanda 62.99 186 eP P 23 55 31.0 +0.8
comp=Z,274nm,2.3s
VNDA ePcP PcP 23 56 08.2 +0.2
VNDA ⇑e 00 24 41.1
VNDA Vanda 62.99 186 P P 23 55 31.3 +1.1
comp=Z,19nm,0.9s,baz=8.3,slow=6.5,SNR=66
VNDA LR LR 00 18 28.8
comp=Z,4µm,18.6s,baz=335,slow=32
VNDA PKP2bc 00 24 41.1
comp=Z,1.1nm,1.1s,baz=233,slow=2.8,SNR=3.2
MMRI Maumere 63.94 268 P P 23 55 36.0 -1.5
comp=Z,176nm,1.9s,comp=Z,4µm
MBWA Marble Bar 64.03 254 P P 23 55 37.7 -0.3
SNR=11
MBWA Marble Bar 64.03 254 eP P 23 55 37.5 -0.5
comp=Z,267nm,1.1s
MBWA LR LR
comp=Z,10µm,20.0s
MEEK Meekatharra 64.40 248 P P 23 55 39.5 -1.0
baz=64,SNR=12
KLBR Kellerberrin 64.75 242 P P 23 55 42.1 -0.5
baz=65,SNR=5.9
NWAO Narrogin (SRO) 65.11 241 P P 23 55 56.0 +11
SNR=5.5
NWAO Narrogin (SRO) 65.11 241 eP P 23 55 45.2 +0.3
NWAO LR LR
comp=Z,4µm,19.0s
NWAO Narrogin (SRO) 65.11 241 P P 23 55 44.3 -0.6
comp=Z,25nm,0.9s,baz=104,slow=9.8,SNR=10
RKGY Rocky Gully 65.24 239 P P 23 55 47.2 +1.5
baz=65,SNR=4.9
DAV Davao City (W) 65.36 286 PFAKE 23 56 00.0 +13
DAV LR LR
comp=Z,4µm,20.0s
LUWI Luwuk 65.40 276 P P 23 55 47.5 +0.4
comp=Z,220nm,1.6s,comp=Z,3µm
WSI Waingapu 65.57 266 P P 23 55 45.1 -3.0
baz=66,SNR=3.4
BLDU Ballidu 65.72 243 P P 23 55 48.5 -0.4
baz=66,SNR=17
LBFI Labuhan Bajo, 66.23 268 P P 23 55 51.2 -1.2
comp=Z,173nm,1.7s,comp=Z,4µm
MORW Morawa 66.44 245 P P 23 55 53.0 -0.5
baz=67,SNR=7.0
APSI Ampana 66.51 276 P P 23 55 53.7 -0.5
comp=Z,314nm,1.5s,comp=Z,5µm
MRSI Marisa 66.64 278 P P 23 55 53.8 -1.2
comp=Z,55nm,1.3s,comp=Z,2µm
BNSI Bone 67.04 272 P P 23 55 56.8 -0.8
comp=Z,86nm,1.4s,comp=Z,2µm
KAPI Kappang 67.22 271 eP P 23 55 57.4 -1.4
KAPI LR LR
comp=Z,3µm,21.0s
KAPI Kappang 67.22 271 P P 23 55 56.6 -2.1
comp=Z,46nm,1.9s,comp=Z,2µm
KAPI Kappang 67.22 271 P P 23 55 57.2 -1.5
comp=Z,12nm,0.9s,baz=130,slow=7.4,SNR=5.0

SPSI Sidrap Palu 67.47 272 P P 23 55 59.0 -1.4
comp=Z,44nm,2.1s,comp=Z,1µm
ADK Adak 67.57 357 eP P 23 55 59.7 -0.3
ADK pmax pmax
comp=Z,256nm,1.3s
ADK MLR MLR
comp=Z,6µm,22.0s
ADK Adak 67.57 357 eP P 23 55 59.7 -0.3
comp=Z,256nm,1.3s
ADK LR LR
comp=Z,6µm,22.0s
MJSI Majene 68.34 272 P P 23 56 05.8 0.0
comp=Z,222nm,1.2s,comp=Z,4µm
GIRL Giralia 68.86 252 P P 23 56 10.1 +1.1
baz=69,SNR=4.2
FX1 Attu Island--F 69.58 351 P P 23 56 11.0 -1.6
FX1 Attu Island--F 69.58 351 P P 23 56 11.0 -1.6
comp=Z,38nm,1.0s,baz=300,slow=22,SNR=4.2
FX1 LR LR 00 19 51.2
comp=Z,12µm,21.8s,baz=175,slow=30
UNV Unalaska Valle 69.63 4 eP P 23 56 12.9 0.0
comp=Z,140nm,1.1s
MTNI Mataram 69.77 266 P P 23 56 13.1 -1.6
comp=Z,78nm,1.9s,comp=Z,2µm
MAJO Matsushiro 69.84 319 eP P 23 56 14.6 0.0
MAJO pmax pmax
comp=Z,211nm,1.4s
MAJO MLR MLR
comp=Z,2µm,20.0s
MAJO Matsushiro 69.84 319 eP P 23 56 14.6 0.0
comp=Z,211nm,1.4s
MAJO LR LR
comp=Z,2µm,20.0s
MAT Matsushiro 69.84 319 P P 23 56 14.8 +0.2
MAT S S 00 05 17.0 -6.9
CASY Casey 70.33 205 eP P 23 56 17.4 +0.2
comp=Z,275nm,1.9s
CASY LR LR
comp=Z,4µm,22.0s
SGKI Sangatta, Kali 70.50 275 P P 23 56 18.0 -1.2
comp=Z,256nm,1.2s,comp=Z,5µm
ERM Erimo 70.61 327 PFAKE 23 56 30.0 +11
ERM LR LR
comp=Z,4µm,22.0s
SRBI Singaraja 70.82 267 P P 23 56 20.9 -0.2
comp=Z,240nm,1.5s,comp=Z,4µm
SCI San Clemente I 70.83 46 ⇑P P 23 56 20.2 -0.6
baz=71
SBC Santa Barbara 70.88 44 ⇑P P 23 56 20.3 -0.7
baz=71
PKM Peak Mountain 71.07 44 ⇓P P 23 56 22.3 -0.2
baz=71,SNR=6.9
BLG Laguna Peak 71.12 45 ⇑P P 23 56 21.7 -0.9
baz=71
SAO San Andreas Ge 71.13 41 eP P 23 56 23.1 +0.6
SAO pmax pmax
comp=Z,174nm,1.3s
SAO San Andreas Ge 71.13 41 eP P 23 56 23.1 +0.6
comp=Z,174nm,1.3s
CIS Catalina Islan 71.18 46 ⇓P P 23 56 22.9 0.0
baz=71,SNR=5.9
SMMC Simmler 71.20 43 ⇓P P 23 56 22.7 -0.3
baz=71
PTRM Twissleman Ran 71.26 43 eP P 23 56 26.2 +2.8
MYLDM Lahad Datu 71.36 281 P P 23 56 23.0 -1.3
MYLDM Lahad Datu 71.36 281 P P 23 56 24.3 -0.1
MYLDM Lahad Datu 71.36 281 P P 23 56 24.8 +0.5
comp=Z,205nm,1.3s,comp=Z,3µm
FMP Fort Macarthur 71.42 46 ⇓P P 23 56 23.5 -0.8
baz=72
JOW Kunigami 71.43 306 eP P 23 56 27.9 +3.4
comp=Z,52nm,1.3s
HOPS Hopland 71.52 39 eP P 23 56 24.2 -0.5
comp=Z,296nm,1.4s
BYJI Banyuwangi 71.61 266 P P 23 56 26.9 +1.0
comp=Z,351nm,1.2s
OSI Osito Adit 71.64 45 eP P 23 56 25.3 -0.4
OSI Osito Adit 71.64 45 ⇑P P 23 56 24.6 -1.2
baz=72
KCPM Cahto Peak 71.66 38 eP P 23 56 25.2 -0.5
comp=Z,192nm,1.7s
SDPT Sand Point 71.68 7 eP P 23 56 23.8 -1.6
comp=Z,219nm,1.0s
DECC Green Verdugo 71.70 45 ⇑P P 23 56 24.8 -1.3
baz=72
109C Camp Elliot, M 71.79 47 ⇑P P 23 56 25.6 -0.9
baz=72
KIPM Iron Peak 71.79 38 eP P 23 56 26.1 -0.5
comp=Z,424nm,1.9s
ABJI Asem Bagus 71.83 267 P P 23 56 26.7 -0.5
comp=Z,179nm,1.2s,comp=Z,4µm
ARVC Arvin 71.87 44 ⇓P P 23 56 26.4 -0.6
baz=72,SNR=5.8
MWC Mount Wilson 71.87 45 eP P 23 56 26.7 -0.6
MWC pmax pmax
comp=Z,178nm,1.4s
MWC Mount Wilson 71.87 45 eP P 23 56 26.7 -0.6
comp=Z,178nm,1.4s
BAR Barrett 71.98 47 eP P 23 56 27.1 -0.6
comp=Z,168nm,1.8s
VES Vestal, Richgr 72.11 43 ⇑P P 23 56 27.8 -0.6
baz=72,SNR=7.0
MURC Murrieta 72.12 46 ⇓P P 23 56 27.6 -0.9
baz=72,SNR=7.7
BFSC Mount Baldy Ra 72.16 45 ⇓P P 23 56 28.1 -0.8
baz=72,SNR=7.9
MONP Monument Peak 72.27 47 ⇑P P 23 56 28.7 -1.1
baz=72,SNR=7.4
RCTC Rector, Farmer 72.28 43 ⇑P P 23 56 28.5 -0.9
baz=72
EDW2 Edwards Air Fo 72.29 45 ⇑P P 23 56 28.8 -0.8
baz=72,SNR=43
EDW2 ⇓S S 00 05 55.6 +3.1
baz=72
KHMM Horse Mountain 72.34 37 eP P 23 56 30.3 +0.4
comp=Z,147nm,1.4s
DVTC Desert V Tower 72.37 48 ⇑P P 23 56 29.5 -0.7
baz=72
ASAJ Asahikawa 72.38 328 eP P 23 56 31.6 +1.8
ASAJ Asahikawa 72.38 328 P P 23 56 28.9 -0.9
comp=Z,19nm,0.8s,baz=243,slow=2.3
ISA Isabella 72.41 44 eP P 23 56 29.3 -1.0
ISA pmax pmax
comp=Z,387nm,1.7s
ISA Isabella 72.41 44 eP P 23 56 29.3 -1.0
comp=Z,387nm,1.7s
ISA Isabella 72.41 44 ⇑P P 23 56 29.8 -0.5
baz=73,SNR=55
BLJI Banyuglugur 72.46 267 P P 23 56 30.7 -0.3
comp=Z,234nm,1.1s,comp=Z,4µm
GMJI Gumukmas 72.48 266 P P 23 56 29.6 -1.5
comp=Z,110nm,1.0s,comp=Z,3µm
CMB Columbia Colle 72.57 41 eP P 23 56 30.4 -0.8
CMB pmax pmax
comp=Z,143nm,1.3s
CMB Columbia Colle 72.57 41 eP P 23 56 30.4 -0.8
comp=Z,143nm,1.3s
LPIG La Paz 72.58 58 P P 23 56 33.3 +1.9
LPIG La Paz 72.58 58 P P 23 56 33.3 +1.9
comp=Z,26nm,0.3s,baz=106,slow=23,SNR=8.6
LPIG LR LR 00 19 35.8
comp=Z,5µm,21.5s,baz=64,slow=28
PFO Pinyon Flat Ob 72.64 47 eP P 23 56 30.6 -1.2
comp=Z,163nm,1.7s
PFO LR LR
comp=Z,4µm,20.0s
PFO Pinyon Flat Ob 72.64 47 ⇓P P 23 56 31.0 -0.8
baz=73,SNR=6.9
KRMB Red Mountain 72.66 36 eP P 23 56 32.2 +0.5
comp=Z,521nm,1.8s
BBRC Big Bear Solar 72.68 46 ⇓P P 23 56 30.7 -1.4
baz=73
OHCM Honcut 72.69 39 eP P 23 56 31.4 -0.4
JNU Nakatsue 72.73 313 eP P 23 56 32.8 +0.6
JNU Nakatsue 72.73 313 P P 23 56 32.4 +0.2
comp=Z,36nm,0.9s,baz=112,slow=6.0,SNR=13
SDKM Sandakan 72.73 281 P P 23 56 33.0 +0.3
SDKM Sandakan 72.73 281 P P 23 56 33.1 +0.4
SWSC Sam W. Stewart 72.74 47 ⇓P P 23 56 31.1 -1.2
baz=73
LRMC Laurel Mountai 72.83 44 ⇓P P 23 56 32.0 -1.0
baz=73,SNR=8.2
WDC Whiskeytown Da 72.84 38 eP P 23 56 32.3 -0.3
comp=Z,250nm,1.6s
WDC ePcP PcP 23 56 49.3 -0.5
CHGN Chignik 72.87 8 eP P 23 56 31.3 -1.1
RRX Edison Barstow 72.97 45 ⇑P P 23 56 32.3 -1.3
baz=73
PET Petropavlovsk 72.98 342 eP P 23 56 34.9 +1.7
PET eS S 00 05 56.4 -3.0
PET eSS SS 00 10 39.9 -0.7
PET pmax pmax
comp=Z,1µm,6.8s
PET pmax pmax
comp=Z,14nm,1.0s
PET MLR MLR
comp=Z,4µm,19.0s
PET MLR MLR
comp=Z,4µm,19.0s
MTKI Muara Teweh, K 72.98 274 P P 23 56 33.2 -0.9
comp=Z,100nm,1.1s
CWC Cottonwood Cre 73.12 43 ⇓P P 23 56 33.6 -1.0
baz=73
BELC Belle Mtn. Jos 73.17 46 ⇓P P 23 56 34.1 -0.9
baz=73,SNR=21
MPMC Manual Prospec 73.30 44 ⇑P P 23 56 35.2 -0.6
baz=74,SNR=72
MLAC Mammoth Lakes 73.32 42 ⇓P P 23 56 35.0 -0.9
baz=74
GSC Goldstone 73.33 45 eP P 23 56 34.8 -1.1
comp=Z,262nm,1.8s
GSC Goldstone 73.33 45 ⇑P P 23 56 34.7 -1.1
baz=74,SNR=25
MTUM Tungsten Hills 73.33 42 eP P 23 56 35.7 -0.2
PEA0B Petropavlovsk- 73.33 342 eP P 23 56 34.6 -0.7
PEA0B ePcP PcP 23 56 50.0 -1.5
PETK Petropavlovsk- 73.33 342 P P 23 56 34.9 -0.4
PETK Petropavlovsk- 73.33 342 P P 23 56 34.9 -0.4
PETK Petropavlovsk- 73.33 342 P P 23 56 34.9 -0.4
comp=Z,62nm,1.0s,baz=126,slow=7.5,SNR=22
BC3 Big Chuckawall 73.37 47 ⇑P P 23 56 34.9 -1.2
baz=74,SNR=8.4
TIN Tinemaha 73.38 43 ⇑P P 23 56 34.9 -1.2
baz=74
HEC Hector,Ludlow 73.40 46 ⇑P P 23 56 35.1 -1.1
baz=74,SNR=5.6
WAKR Walker 73.45 41 eP P 23 56 36.0 -0.6
YBH Yreka Blue Hor 73.48 37 eP P 23 56 36.1 -0.5
comp=Z,164nm,1.4s
YBH Yreka Blue Hor 73.48 37 P P 23 56 36.2 -0.4
comp=Z,57nm,1.1s,baz=202,slow=1.8,SNR=27
YBH LR LR 00 20 44.5
comp=Z,7µm,21.5s,baz=235,slow=29
GLA Glamis 73.49 48 eP P 23 56 36.3 -0.5
GLA pmax pmax
comp=Z,144nm,1.5s
GLA Glamis 73.49 48 eP P 23 56 36.3 -0.5
comp=Z,144nm,1.5s
GLA Glamis 73.49 48 ⇑P P 23 56 35.8 -0.9
baz=74,SNR=10
BEKR Beckworth 73.70 39 eP P 23 56 37.3 -0.7
comp=Z,100nm,1.4s
KKM Kota Kinabalu 73.78 281 eP P 23 56 39.4 +0.4
comp=Z,189nm,1.3s
KKM LR LR
comp=Z,2µm,20.0s
KKM Kota Kinabalu 73.78 281 P P 23 56 40.0 +1.1
KKM Kota Kinabalu 73.78 281 P P 23 56 38.4 -0.6
comp=Z,130nm,1.4s,comp=Z,2µm
KKM Kota Kinabalu 73.78 281 P P 23 56 39.4 +0.4
baz=74,SNR=5.1
GMRC Granite Mounta 73.83 46 ⇓P P 23 56 38.0 -0.8
baz=74,SNR=40
IRM Iron Mountain 73.85 47 ⇓P P 23 56 38.0 -0.8
baz=74,SNR=8.3
HUMO Hull Mountain 73.90 36 eP P 23 56 39.3 +0.4
comp=Z,246nm,1.6s
GRAC Grapevine Rang 73.91 43 ⇓P P 23 56 38.5 -0.6
baz=74,SNR=17
FURC Furnace Creek, 73.95 44 ⇑P P 23 56 38.6 -0.7
baz=74,SNR=15
TUQ Turquoise Moun 74.01 45 ⇓P P 23 56 38.8 -1.1
baz=74
SHOC Shoshone 74.02 45 ⇓P P 23 56 38.7 -1.1
baz=74
Y12C Blythe 74.07 47 ⇓P P 23 56 39.0 -1.1
baz=74,SNR=9.0
113A Mohawk Valley, 74.10 49 ⇑P P 23 56 39.5 -0.7
baz=74,SNR=12
PWJI Pagerwojo 74.11 266 P P 23 56 40.5 -0.3
comp=Z,110nm,1.1s,comp=Z,2µm
QSPA South Pole Qui 74.17 180 eP P 23 56 40.8 +0.4
comp=Z,172nm,1.3s
QSPA LR LR
comp=Z,5µm,19.0s
PAHR Pah Rah Range 74.20 40 eP P 23 56 40.8 -0.1
comp=Z,214nm,1.3s
SJI Sawahan 74.22 266 P P 23 56 41.6 +0.1
comp=Z,155nm,1.8s,comp=Z,4µm
NV11 Mina Array Sit 74.22 42 eP P 23 56 40.2 -0.9
YSS Yuzh-Sakhalins 74.31 330 ⇑P P 23 56 41.3 +0.2
YSS i 23 56 53.4
YSS eS S 00 06 12.0 -2.7
YSS ePPS PPS 00 06 49.0
YSS pmax pmax
comp=E,120nm,1.2s
YSS pmax pmax
comp=Z,180nm,1.2s
YSS pmax pmax
comp=Z,1µm,7.0s
YSS smax smax
comp=E,2µm,12.0s
YSS MLR MLR
comp=E,2µm,18.0s
YSS MLR MLR
comp=Z,2µm,18.0s
LDFC Landfair 74.37 46 eP P 23 56 44.9 +2.9
comp=Z,288nm,1.3s
214A Organ Pipe Nat 74.38 50 ⇑P P 23 56 41.1 -0.8
baz=74,SNR=36
OHAK Old Harbor 74.57 11 eP P 23 56 42.0 -0.4
comp=Z,136nm,1.1s
NGJI Ngawi 74.60 267 P P 23 56 42.9 -0.7
comp=Z,239nm,1.7s,comp=Z,7µm
TPH Tonopah 74.62 42 PFAKE 23 56 50.0 +6.5
TPH LR LR
comp=Z,4µm,19.0s
PDMCI Parker Dam,Lak 74.63 47 ⇓P P 23 56 42.4 -0.9
baz=75,SNR=19
PCJI Pacitan 74.67 266 P P 23 56 43.5 -0.5
comp=Z,428nm,1.5s,comp=Z,6µm
MOD Modoc 74.98 38 eP P 23 56 44.9 -0.5
comp=Z,728nm,1.3s
Z14A Wintersburg 75.00 48 ⇓P P 23 56 44.9 -0.6
baz=75,SNR=9.7
WOJI Wonogiri, Jawa 75.00 266 P P 23 56 45.3 -0.6
comp=Z,249nm,1.5s,comp=Z,4µm
K05A Summer Lake 75.15 37 eP P 23 56 46.3 -0.1
comp=Z,410nm,1.4s
KDAK Kodiak Island 75.22 11 eP P 23 56 45.6 -0.6
KDAK Kodiak Island 75.22 11 P P 23 56 45.0 -1.2
comp=Z,783nm,1.6s,SNR=9.1
KDAK Kodiak Island 75.22 11 P P 23 56 45.5 -0.7
comp=Z,70nm,0.9s,baz=222,slow=1.7,SNR=13
KDAK LR LR 00 22 42.5
comp=Z,11µm,21.7s,baz=126,slow=30
W13A Hualapai Mount 75.23 46 ⇑P P 23 56 46.2 -0.8
baz=75
Y14A Wickenburg 75.25 48 ⇓P P 23 56 46.3 -0.7
baz=75,SNR=27
BROR Big Rock Looko 75.25 35 P P 23 56 46.5 -0.2
UGM Wanagama 75.37 266 eP P 23 56 48.1 0.0
comp=Z,282nm,1.2s
UGM Wanagama 75.37 266 P P 23 56 48.1 0.0
baz=76,SNR=6.9
TWG Pinlang 75.48 299 eP P 23 56 48.1 -0.4
YULB Yu-li 75.52 300 eP P 23 56 46.9 -1.8
comp=Z,106nm,1.4s
YULB ePcP PcP 23 57 00.9 -0.8
PBKI Pangkalan Bun 75.60 271 P P 23 56 50.5 +1.1
comp=Z,582nm,1.2s,comp=Z,5µm
NACB Ninganchiao 75.60 301 eP P 23 56 49.2 +0.1
comp=Z,394nm,1.4s
H04A Detroit Lake 75.67 35 eP P 23 56 48.3 -0.8
comp=Z,298nm,1.4s
R11A Troy Canyon, C 75.84 43 eP P 23 56 49.5 -1.0
R11A Troy Canyon, C 75.84 43 ⇑P P 23 56 49.4 -1.0
baz=76
BMN Battle Mountai 75.97 40 eP P 23 56 51.0 -0.1
BMN pmax pmax
comp=Z,150nm,1.2s
BMN MLR MLR
comp=Z,5µm,21.0s
BMN Battle Mountai 75.97 40 eP P 23 56 51.0 -0.1

comp=Z,150nm,1.2s
BMN LR LR
comp=Z,5µm,21.0s
SSLB Suanglung 75.97 300 *e*P **P 23 56 50.6 -0.7**
comp=Z,74nm,1.1s
SSLB *e*PcP **PcP 23 57 03.0 -0.7**
YHNB Yeheng 75.99 301 *e*P **P 23 56 50.8 -0.7**
comp=Z,363nm,1.4s
YHNB LR LR
comp=Z,4µm,20.0s
TATO Taipei 76.03 301 PFAKE 23 57 00.0 +8.5
TATO LR LR
comp=Z,4µm,19.0s
TPUB Ta-pu 76.04 299 *e*P **P 23 56 51.0 -0.8**
comp=Z,194nm,1.1s
TUC Tucson 76.05 50 *e*P **P 23 56 51.4 -0.3**
TUC pmax pmax
comp=Z,336nm,1.7s
TUC MLR MLR
comp=Z,3µm,20.0s
TUC Tucson 76.05 50 *e*P **P 23 56 51.4 -0.3**
comp=Z,336nm,1.7s
TUC LR LR
comp=Z,3µm,20.0s
E03A Lebam 76.16 32 *e*P **P 23 56 52.0 +0.2**
comp=Z,563nm,1.8s
WVOR Wild Horse Val 76.29 38 *e*P **P 23 56 52.5 -0.4**
WVOR pmax pmax
comp=Z,359nm,1.8s
WVOR MLR MLR
comp=Z,6µm,19.0s
WVOR Wild Horse Val 76.29 38 *e*P **P 23 56 52.5 -0.4**
comp=Z,359nm,1.8s
WVOR LR LR
comp=Z,6µm,19.0s
BJII Banjamegara 76.29 266 P **P 23 56 52.1 -1.3**
comp=Z,107nm,1.9s,comp=Z,4µm
VLL Laurance Lake 76.44 34 P **P 23 56 53.4 -0.2**
VFP Flag Point 76.47 34 P **P 23 56 53.0 -0.9**
SBUM Sibu 76.50 276 *e*P **P 23 56 54.6 0.0**
comp=Z,91nm,1.1s
SBUM Sibu 76.50 276 P **P 23 56 56.0 +1.4**
SBUM Sibu 76.50 276 P **P 23 56 53.2 -1.3**
comp=Z,84nm,1.3s,comp=Z,2µm
STKI Sintang 76.54 274 P **P 23 56 55.0 +0.2**
comp=Z,147nm,1.5s,comp=Z,9µm
NLWA Neilton Lookou 76.56 32 *e*P **P 23 56 54.5 +0.3**
comp=Z,231nm,1.4s
NLWA LR LR
comp=Z,6µm,21.0s
X16A Lo Mia Camp, P 76.61 48 ⇑P **P 23 56 54.4 -0.5**
baz=77,SNR=51
319A Douglas 76.73 52 ⇑P **P 23 56 55.2 -0.4**
baz=77,SNR=44
I07A Izee 76.78 36 *e*P **P 23 56 55.2 -0.4**
comp=Z,150nm,1.3s
CLJI Cilicap 76.86 266 P **P 23 56 55.8 -0.8**
comp=Z,133nm,1.3s,comp=Z,2µm
G06A Carlson Farm, 76.87 35 *e*P **P 23 56 55.6 -0.3**
comp=Z,437nm,1.8s
CCUT Cedar City 76.88 44 *e*P **P 23 56 56.4 0.0**
comp=Z,216nm,1.5s
TJN Taejon 76.90 314 *i* P **P 23 56 56.4 +0.2**
OSD Olympics--Snow 76.93 31 P **P 23 56 56.2 -0.2**
J08A Circle Bar Ran 76.94 37 *e*P **P 23 56 56.1 -0.4**
comp=Z,208nm,1.3s
ARUT Antelope Range 76.95 44 *e*P **P 23 56 56.1 -0.7**
comp=Z,5µm,1.7s
TGJI Tegal 76.97 266 P **P 23 56 56.0 -1.2**
comp=Z,154nm,1.5s,comp=Z,4µm
U15A North Rim 77.03 46 ⇓P **P 23 56 56.6 -0.8**
baz=77,SNR=37
KPJI Karang Pucung 77.04 266 P **P 23 56 57.1 -0.5**
comp=Z,134nm,1.3s,comp=Z,3µm
KSRS Korea Array 77.08 315 P **P 23 56 57.5 +0.3**
comp=Z,61nm,1.1s,baz=125,slow=5.6,SNR=62
KSAR Wonju Array Be 77.10 315 P **P 23 56 57.5 +0.2**
GLK Glacier Lake 77.19 33 P **P 23 56 57.3 -0.5**
LON Longmire 77.20 33 *e*P **P 23 56 57.3 -0.5**
LON pmax pmax
comp=Z,138nm,1.4s
LON Longmire 77.20 33 *e*P **P 23 56 57.3 -0.5**
comp=Z,138nm,1.4s
WUAZ Wupatki 77.21 47 *e*P **P 23 56 58.1 -0.1**
comp=Z,729nm,2.2s
WUAZ LR LR
comp=Z,3µm,19.0s
WUAZ Wupatki 77.21 47 ⇓P **P 23 56 57.8 -0.4**
baz=77,SNR=9.8
320A Kipp Ranch, An 77.28 52 ⇑P **P 23 56 58.4 -0.4**
baz=77,SNR=32
WPW White Pass 77.31 33 P **P 23 56 57.9 -0.6**
ELK Elko 77.39 41 *e*P **P 23 56 58.6 -0.7**
comp=Z,126nm,1.4s
D05A Enumclaw 77.39 33 *e*P **P 23 56 59.2 +0.5**
comp=Z,781nm,1.5s
220A Playas Peak, P 77.54 52 ⇓P **P 23 56 59.6 -0.6**
baz=78,SNR=114
PGC Sidney 77.61 31 *e*P **P 23 56 59.7 -0.3**
X18A Snowflake 77.74 49 ⇑P **P 23 57 00.9 -0.4**
baz=78,SNR=28
120A U Bar Ranch, L 77.76 51 ⇑P **P 23 57 01.0 -0.5**
baz=78,SNR=66
G08A Pilot Rock 77.83 36 *e*P **P 23 57 01.2 -0.2**
comp=Z,257nm,1.4s
C05A Tolt Reservoir 77.88 32 P **P 23 57 00.9 -0.6**
SVW2 Sparrevohn 77.90 8 *e*P **P 23 56 59.6 -1.7**
comp=Z,67nm,1.2s
BBB Bella Bella 77.94 26 P **P 23 57 03.5 +1.9**
BBB Bella Bella 77.94 26 P **P 23 57 03.5 +1.9**
comp=Z,50nm,1.2s,baz=253,slow=7.1,SNR=4.0
INCN Inchon 77.97 315 *e*P **P 23 57 02.1 -0.1**
comp=Z,456nm,1.3s
INCN LR LR
comp=Z,2µm,21.0s
SEW Seward 77.98 12 *e*P **P 23 57 01.0 -0.7**
comp=Z,161nm,1.2s
CISI Cisompet, Garu 78.06 265 P **P 23 57 02.5 -0.8**
comp=Z,264nm,1.6s,comp=Z,6µm
KSM Kuching 78.06 275 *e*P **P 23 57 03.8 +0.5**
comp=Z,384nm,1.1s
KSM LR LR
comp=Z,2µm,21.0s
KSM Kuching 78.06 275 P **P 23 57 04.9 +1.7**
KSM Kuching 78.06 275 P **P 23 57 03.3 0.0**
comp=Z,384nm,1.3s,comp=Z,4µm
KSM Kuching 78.06 275 P **P 23 57 03.9 +0.7**
baz=78,SNR=15
Z20A Nine Sixteen R 78.06 50 ⇑P **P 23 57 02.8 -0.2**
baz=78,SNR=84
JCW Jim Creek 78.08 32 P **P 23 57 02.4 -0.2**
LTY Liberty 78.13 33 *e*P **P 23 57 02.1 -0.9**
comp=Z,207nm,1.6s
MVU Marysvale 78.15 44 *e*P **P 23 57 02.6 -1.0**
comp=Z,172nm,1.3s
MVU LR LR
comp=Z,3µm,20.0s
221A Mesquite Ranch 78.16 52 ⇓P **P 23 57 03.1 -0.5**
baz=78,SNR=6.3
W18A Petrified Fore 78.17 48 *e*P **P 23 57 03.8 +0.1**
W18A Petrified Fore 78.17 48 ⇓P **P 23 57 03.2 -0.5**
baz=78,SNR=7.8
HAWA Hanford 78.19 34 *e*P **P 23 57 02.7 -0.6**
comp=Z,229nm,1.4s
HAWA LR LR
comp=Z,9µm,21.0s
H2OWA Water 78.25 34 P **P 23 57 03.4 -0.2**
USRK Ussuriysk Arra 78.26 323 P **P 23 57 04.6 +0.9**
comp=Z,9.5nm,0.8s,baz=106,slow=4.8,SNR=35
121A Cookes Peak, D 78.39 51 ⇓P **P 23 57 04.7 -0.2**
baz=78,SNR=76
QZH Quanzhou 78.41 300 P **P 23 57 03.0 -1.9**
QZH S S 00 06 52.3 -8.3
QZH LR LR
comp=Z,5µm,21.0s
LEM Lembang 78.43 266 P **P 23 57 05.7 +0.2**
comp=Z,383nm,1.4s,comp=Z,6µm
LEM Lembang 78.43 266 P **P 23 57 06.3 +0.8**
baz=79,SNR=3.5
BMO Blue Mountains 78.50 37 *e*P **P 23 57 03.9 -1.3**
BMO pmax pmax
comp=Z,290nm,1.8s
BMO MLR MLR
comp=Z,6µm,21.0s
BMO Blue Mountains 78.50 37 *e*P **P 23 57 03.9 -1.3**
comp=Z,290nm,1.8s
BMO LR LR
comp=Z,6µm,21.0s
ETW Entiat 78.52 33 P **P 23 57 04.5 -0.8**
MFID Camas Ranch 78.54 38 ⇓P **P 23 57 04.7 -0.7**
baz=79,SNR=22
Y20A Horse Springs, 78.59 50 ⇓P **P 23 57 05.7 -0.4**
baz=79,SNR=125
DUG Dugway 78.64 42 *e*P **P 23 57 05.3 -0.8**
DUG pmax pmax
comp=Z,153nm,1.4s
DUG MLR MLR
comp=Z,4µm,20.0s
DUG Dugway 78.64 42 *e*P **P 23 57 05.3 -0.8**
comp=Z,153nm,1.4s
DUG LR LR
comp=Z,4µm,20.0s
DUG Dugway 78.64 42 ⇑P **P 23 57 05.2 -0.8**
baz=79,SNR=34
222A Williams Famil 78.71 52 ⇑P **P 23 57 06.2 -0.5**
baz=79,SNR=29
X20A Quemado 78.80 49 ⇑P **P 23 57 06.9 -0.2**
baz=79,SNR=55
Z21A St. Cloud Mine 78.83 51 ⇓P **P 23 57 07.4 0.0**
baz=79,SNR=161
BGU Big Grassy Mou 78.89 42 *e*P **P 23 57 08.9 +1.4**
comp=Z,420nm,2.1s
NLU North Lily Min 79.00 43 *e*P **P 23 57 08.0 -0.2**
comp=Z,473nm,2.3s
122A Conniff Cattle 79.06 51 ⇓P **P 23 57 08.6 0.0**
baz=79,SNR=9.2
Q16A Castle Valley 79.06 44 *e*P **P 23 57 08.1 -0.5**
Q16A Castle Valley 79.06 44 ⇓P **P 23 57 08.3 -0.3**
baz=79,SNR=16
W20A Ramah 79.07 49 ⇑P **P 23 57 08.4 -0.2**
baz=79,SNR=79
Y21A Point of Rocks 79.15 50 ⇑P **P 23 57 09.0 -0.2**
baz=79,SNR=55
223A Chaparral, Ant 79.18 52 ⇑P **P 23 57 09.0 -0.2**
baz=79,SNR=5.1
F10A Beach Ranch, E 79.21 36 *e*P **P 23 57 07.6 -1.5**
comp=Z,176nm,1.3s
TMUT Trail Mountain 79.23 44 *e*P **P 23 57 10.1 +0.5**
comp=Z,248nm,1.1s
RAGM Ragged Mountai 79.25 14 *e*P **P 23 57 08.4 -0.4**
comp=Z,271nm,1.4s
CBJI Citeko 79.27 266 P **P 23 57 08.9 -1.0**
comp=Z,635nm,1.3s,comp=Z,15µm
X21A Alamocita Cree 79.27 50 ⇓P **P 23 57 09.4 -0.4**
baz=79,SNR=98
MPU Maple Canyon 79.32 43 *e*P **P 23 57 09.9 0.0**
comp=Z,134nm,1.2s
DBJI Dramaga 79.33 266 P **P 23 57 10.2 -0.1**
comp=Z,343nm,1.5s,comp=Z,8µm
Z22A Elephant Butte 79.33 51 ⇓P **P 23 57 09.7 -0.3**
baz=80,SNR=69
SKJI Sukabumi 79.40 266 P **P 23 57 10.4 -0.3**
comp=Z,438nm,1.1s,comp=Z,5µm
V20A Brimhall 79.41 48 ⇓P **P 23 57 09.7 -0.8**
baz=80,SNR=9.7
PMR Palmer 79.42 11 *e*P **P 23 57 08.6 -1.0**
PMR Palmer 79.42 11 *e*P **P 23 57 08.6 -1.0**
TPI Tanjungpandan 79.45 270 P **P 23 57 10.1 -0.8**
comp=Z,90nm,1.4s,comp=Z,1µm
HLID Hailey 79.47 39 *e*P **P 23 57 10.1 -0.5**
comp=Z,162nm,1.3s
HLID LR LR
comp=Z,3µm,21.0s
HLID Hailey 79.47 39 ⇑P **P 23 57 10.3 -0.3**
baz=80,SNR=96
SPUT South Promonto 79.47 42 *e*P **P 23 57 10.5 -0.1**
comp=Z,381nm,1.7s
WRAK Wrangell Islan 79.48 21 *e*P **P 23 57 09.4 -0.6**
comp=Z,204nm,1.4s
WRAK LR LR
comp=Z,5µm,21.0s
HVU Hansel Valley 79.51 41 *e*P **P 23 57 10.3 -0.5**
comp=Z,283nm,1.6s
B08A Colville Reser 79.52 33 *e*P **P 23 57 09.2 -1.4**
comp=Z,202nm,1.4s
123A Bell Site, Whi 79.58 52 ⇓P **P 23 57 10.9 -0.5**
baz=80,SNR=9.6
CTU Camp Tracy 79.60 42 *e*P **P 23 57 11.5 +0.2**
comp=Z,149nm,1.4s
SRU San Rafael 79.60 44 *e*P **P 23 57 11.1 -0.3**
SRU pmax pmax
comp=Z,239nm,1.4s
SRU San Rafael 79.60 44 *e*P **P 23 57 11.1 -0.3**
comp=Z,239nm,1.4s
Y22A Socorro 79.64 50 ⇑P **P 23 57 11.2 -0.6**
baz=80,SNR=38
U20A Newcomb 79.64 48 ⇑P **P 23 57 11.2 -0.5**
baz=80,SNR=45
324A Moseley Ranch, 79.66 53 ⇓P **P 23 57 11.3 -0.6**
baz=80,SNR=79
DIV Divide 79.67 13 *e*P **P 23 57 10.1 -1.0**
comp=Z,227nm,1.1s
W21A San Fidel 79.68 49 ⇑P **P 23 57 11.9 -0.1**
baz=80
C09A Chrisman Ranch 79.74 34 *e*P **P 23 57 10.9 -0.8**
comp=Z,216nm,1.4s
Y22D IRIS PASSCAL I 79.74 50 ⇑P **P 23 57 11.7 -0.6**
baz=80
LENM Lemitar 79.74 50 *e*P **P 23 57 12.1 -0.1**
JLU Jordanelle 79.75 43 *e*P **P 23 57 12.0 -0.3**
comp=Z,158nm,1.3s
425A Indio Mountain 79.76 54 ⇓P **P 23 57 12.0 -0.4**
baz=80,SNR=158
DAU Daniels Canyon 79.77 43 *e*P **P 23 57 12.4 -0.1**
DAU Daniels Canyon 79.77 43 *e*P **P 23 57 12.4 -0.1**
BMRM Bremner River 79.78 13 *e*P **P 23 57 10.9 -0.8**
comp=Z,424nm,1.2s
MNTX Cornudas Mount 79.84 53 *e*P **P 23 57 12.2 -0.5**
comp=Z,230nm,1.8s
MNTX LR LR
comp=Z,3µm,20.0s
X22A Bernardo 79.87 50 ⇓P **P 23 57 12.3 -0.7**
baz=80,SNR=10
Z23A Rita Site, Whi 79.89 51 ⇑P **P 23 57 12.7 -0.3**
baz=80,SNR=49
224A Cornudas Mount 79.90 53 ⇑P **P 23 57 12.8 -0.4**
baz=80,SNR=135
MDJ Mudanjiang 79.91 322 P **P 23 57 13.0 +0.3**
MDJ pP **pP 23 57 16.3 -1.2**
MDJ sP **sP 23 57 17.5 -1.7**
MDJ PP **PP 00 00 14.3 -0.3**
MDJ S **S 00 07 17.0 +1.2**
MDJ SS **SS 00 12 28.5 +2.6**
MDJ pmax pmax
comp=Z,840nm,5.8s
MDJ LR LR
comp=N,5µm,30.3s
MDJ LR LR
comp=E,5µm,29.3s
MDJ LR LR
comp=Z,880nm,14.2s
MDJ Mudanjiang 79.91 322 *e*P **P 23 57 14.1 +1.4**
comp=Z,63nm,1.3s
MDJ LR LR
comp=Z,2µm,20.0s
626A Big Bend Ranch 79.91 55 ⇓P **P 23 57 13.1 -0.1**
baz=80,SNR=136
BNM Barren Site 79.99 50 *e*P **P 23 57 13.3 -0.4**
comp=Z,260nm,1.7s
LPM Los Pinos Moun 80.06 50 *e*P **P 23 57 13.8 -0.2**
MVCO Mesa Verde 80.06 47 *e*P **P 23 57 13.8 -0.2**
comp=Z,78nm,1.3s
MVCO LR LR
comp=Z,3µm,20.0s
MVCO Mesa Verde 80.06 47 ⇓P **P 23 57 13.2 -0.8**
baz=80,SNR=7.0
PV05 Paradox Valley 80.06 46 *e*P **P 23 57 14.5 +0.5**
PPLA Purkeypile 80.12 9 *e*P **P 23 57 12.0 -1.6**
comp=Z,92nm,1.3s
526A Mary Lane Ranc 80.15 55 ⇓P **P 23 57 14.1 -0.5**
baz=80,SNR=169
TXAR Lajitas Array 80.19 56 P **P 23 57 14.4 -0.3**
TXAR Lajitas Array 80.19 56 P **P 23 57 14.4 -0.3**
comp=Z,96nm,1.1s,baz=218,slow=5.9,SNR=68
TXAR LR LR 00 26 16.1
comp=Z,3µm,19.2s,baz=285,slow=31
HWUT Hardware Ranch 80.19 42 *e*P **P 23 57 13.6 -1.0**
comp=Z,148nm,1.5s
HWUT LR LR
comp=Z,5µm,19.0s
124A Stringfield Ra 80.22 52 ⇓P **P 23 57 14.6 -0.4**
baz=80,SNR=50
W22A Albuquerque 80.23 49 ⇓P **P 23 57 15.0 0.0**
baz=80,SNR=17
PV09 Paradox Valley 80.24 45 *e*P **P 23 57 15.2 +0.2**
U21A Nageezi 80.28 48 ⇑P **P 23 57 15.0 -0.2**
baz=80,SNR=96
Y23A Lovelace Mesa, 80.31 51 ⇓P **P 23 57 14.7 -0.8**
baz=80,SNR=51
225A Deer Hill, Car 80.45 53 ⇓P **P 23 57 15.7 -0.5**
baz=81,SNR=90
S20A Disappointment 80.45 46 ⇑P **P 23 57 15.7 -0.4**
baz=81,SNR=70
PV01 Paradox Valley 80.45 46 *e*P **P 23 57 15.1 -1.0**
comp=Z,402nm,1.2s
426A McDonald Obser 80.45 54 ⇑P **P 23 57 15.8 -0.4**
baz=81,SNR=207
627A Terlingua Ranc 80.46 56 ⇓P **P 23 57 15.8 -0.4**
baz=81,SNR=295
ANMO Albuquerque 80.47 50 *e*P **P 23 57 15.8 -0.4**
comp=Z,334nm,1.8s
ANMO LR LR
comp=Z,4µm,21.0s
X23A Hourglass Bar 80.51 50 ⇑P **P 23 57 15.9 -0.5**
baz=81,SNR=57
527A Woodward Ranch 80.57 55 ⇓P **P 23 57 16.0 -0.8**
baz=81,SNR=119
Z24A Sheeppen Canyo 80.57 51 ⇓P **P 23 57 16.4 -0.4**
baz=81,SNR=53
V22A San Miguel Ran 80.58 49 ⇑P **P 23 57 16.2 -0.6**
baz=81,SNR=23
R20A Redvale 80.61 46 ⇓P **P 23 57 16.6 -0.4**
baz=81,SNR=36
CAST Castle Rocks 80.63 9 *e*P **P 23 57 13.7 -2.5**
comp=Z,60nm,1.1s
NEW Newport 80.63 34 *e*P **P 23 57 15.2 -1.4**
comp=Z,309nm,2.1s
NEW LR LR
comp=Z,7µm,20.0s
NEW Newport 80.63 34 P **P 23 57 15.6 -1.0**
comp=Z,8.5nm,0.7s,baz=244,slow=4.8,SNR=26
NEW Newport 80.63 34 ⇑P **P 23 57 15.8 -0.8**
baz=81,SNR=21
T21A Navajo Lake 80.63 47 ⇑P **P 23 57 16.4 -0.7**
baz=81,SNR=35
M17A Scullys Gap (B 80.70 42 ⇑P **P 23 57 16.2 -1.1**
baz=81,SNR=7.7
326A Caldwell Ranch 80.77 54 ⇑P **P 23 57 16.6 -1.1**
baz=81,SNR=62
S21A Coal Bank Pass 80.77 47 P **P 23 57 17.7 -0.2**
baz=81
Y24A Capitan 80.77 51 ⇓P **P 23 57 17.1 -0.8**
baz=81,SNR=99
W23A Werner Place, 80.79 50 ⇓P **P 23 57 17.4 -0.6**
baz=81,SNR=46
125A Gardner Draw, 80.81 52 ⇓P **P 23 57 17.2 -0.9**
baz=81,SNR=83
U22A Llaves 80.83 48 ⇓P **P 23 57 17.7 -0.5**
baz=81,SNR=20
GDL2 Guadalupe Moun 80.84 53 *e*P **P 23 57 18.0 -0.2**
628A Black Gap, Mar 80.87 56 ⇑P **P 23 57 17.5 -0.8**
baz=81,SNR=126
P19A Cripple Cowboy 80.89 44 ⇓P **P 23 57 18.1 -0.3**
baz=81,SNR=9.1
SKAG Skagway 80.93 18 *e*P **P 23 57 17.9 +0.1**
comp=Z,139nm,1.3s
226B Tecolote Peak, 80.94 53 ⇓P **P 23 57 18.0 -0.7**
baz=81,SNR=184
TRF Thorofare Moun 80.94 10 *e*P **P 23 57 16.7 -1.4**
comp=Z,206nm,1.2s
427A Hayter Ranch, 81.02 54 ⇓P **P 23 57 18.7 -0.4**
baz=81,SNR=135
Q20A Ridgley Place, 81.03 45 ⇑P **P 23 57 18.6 -0.6**
baz=81,SNR=35
V23A Ortiz Mt. (NFS 81.03 49 ⇑P **P 23 57 19.0 -0.3**
baz=81,SNR=48
Z25A Roswell 81.03 52 ⇑P **P 23 57 18.6 -0.6**
baz=81,SNR=82
X24A Lazy VL Ranch, 81.06 50 ⇓P **P 23 57 18.4 -1.0**
baz=81
PPBI Pangkal Pinang 81.07 270 P **P 23 57 21.4 +1.7**
comp=Z,121nm,1.2s,comp=Z,4µm
AHID Auburn Hatcher 81.09 41 PFAKE 23 57 30.0 +11
AHID LR LR
comp=Z,4µm,20.0s
T22A Edith 81.09 48 ⇑P **P 23 57 19.1 -0.5**
baz=81,SNR=42
MCMT McKenzie Canyo 81.10 38 *e*P **P 23 57 18.8 -0.7**
comp=Z,298nm,1.4s
NJ2 Nanjing 81.11 307 *e*P **P 23 57 19.5 +0.1**
NJ2 pP **pP 23 57 22.8 -1.5**
NJ2 sP **sP 23 57 27.8 +1.8**
NJ2 S **S 00 07 27.0 -2.0**
NJ2 sS **sS 00 07 35.0 -1.9**
NJ2 pmax pmax
comp=Z,110nm,1.5s
NJ2 pmax pmax
comp=Z,1µm,5.7s
NJ2 LR LR
comp=N,2µm,24.8s
NJ2 LR LR
comp=E,1µm,24.8s
NJ2 LR LR
comp=Z,2µm,18.4s
O19A Miners Draw (B 81.12 44 ⇓P **P 23 57 18.8 -0.7**
baz=81,SNR=25
327A Balmorhea Ranc 81.17 54 ⇑P **P 23 57 19.0 -0.9**
baz=81
528A Cox Ranch, San 81.22 55 ⇓P **P 23 57 19.7 -0.6**
baz=81,SNR=9.6
P20A De Beque 81.23 45 ⇓P **P 23 57 19.6 -0.6**
baz=81,SNR=35
RRI2 Red Ridge 81.25 40 *e*P **P 23 57 19.7 -0.6**
comp=Z,190nm,1.4s
R21A Cimarron 81.27 46 ⇓P **P 23 57 20.2 -0.3**
baz=81,SNR=82
U23A El Rito 81.29 48 ⇓P **P 23 57 20.1 -0.5**
baz=81,SNR=59
126A Clayton Basin, 81.29 53 ⇑P **P 23 57 19.8 -0.7**
baz=81,SNR=68
Y25A Mesa, Roswell 81.33 51 ⇑P **P 23 57 20.0 -0.7**
baz=82,SNR=96
L18A Fontenelle, Gr 81.33 42 ⇑P **P 23 57 19.6 -1.1**
baz=82,SNR=8.7
W24A Lazy 6 Ranch, 81.36 50 ⇑P **P 23 57 20.4 -0.6**
baz=82,SNR=39
PAX Paxson 81.39 12 *e*P P 23 57 14.7 -5.7
PAX pmax pmax
comp=Z,168nm,1.4s
PAX Paxson 81.39 12 *e*P P 23 57 14.7 -5.7
comp=Z,168nm,1.4s
HYT Haines Junctio 81.42 17 *e*P **P 23 57 20.2 -0.4**
MCK McKinley 81.43 10 *e*P **P 23 57 19.5 -1.0**
MCK pmax pmax
comp=Z,265nm,1.2s
MCK McKinley 81.43 10 *e*P **P 23 57 19.4 -1.0**
comp=Z,265nm,1.2s
BPAW Bear Paw Mtn. 81.44 9 *e*P **P 23 57 18.2 -2.3**
comp=Z,91nm,1.3s
Q21A Lamborn Mesa, 81.47 46 ⇓P **P 23 57 21.0 -0.5**
baz=82,SNR=24
S22A 4UR Ranch, Cre 81.48 47 ⇓P **P 23 57 21.3 -0.4**
baz=82,SNR=98
428A Kincaid Ranch, 81.53 55 ⇑P **P 23 57 21.4 -0.4**
baz=82,SNR=110
DLMT Dillon 81.54 38 *e*P **P 23 57 21.6 -0.1**
comp=Z,297nm,1.7s
REDW Red Top Meadow 81.55 40 *e*P **P 23 57 21.2 -0.7**
comp=Z,337nm,1.6s
TPAW Teton Pass 81.56 40 *e*P **P 23 57 21.4 -0.5**
comp=Z,139nm,1.3s
MSO Missoula 81.57 36 *e*P **P 23 57 20.7 -1.0**
comp=Z,267nm,1.5s
MSO Missoula 81.57 36 ⇑P **P 23 57 20.4 -1.3**
baz=82,SNR=42
227A Bennet, Jal 81.59 53 ⇑P **P 23 57 20.9 -1.2**
baz=82,SNR=5.2
Z26A Caprock 81.59 52 ⇑P **P 23 57 21.1 -1.0**
baz=82,SNR=99
X25A Clemmons Ranch 81.61 51 ⇑P **P 23 57 20.9 -1.4**
baz=82,SNR=32
O20A White River Ci 81.64 44 ⇓P **P 23 57 21.6 -0.7**
baz=82,SNR=10
529A Stev Forest Ra 81.66 56 ⇑P **P 23 57 21.6 -0.9**
baz=82,SNR=133
SNOW Snow King Moun 81.66 40 *e*P **P 23 57 22.4 -0.1**
comp=Z,175nm,1.3s
BSMT Bassoo Peak 81.67 35 *e*P **P 23 57 21.2 -1.1**
V24A Rampart Ranch, 81.69 49 ⇑P **P 23 57 22.3 -0.4**
baz=82,SNR=50
M19A Rock Springs 81.70 43 ⇑P **P 23 57 21.5 -1.2**
baz=82,SNR=35

328A	Wristen Ranch,	81.70	54	⇑P	P	23 57 21.8	-0.9
	baz=82,SNR=72						
T23A	Casias Ranch,	81.72	48	⇑P	P	23 57 22.4	-0.5
	baz=82,SNR=28						
R22A	Saguache, Gunn	81.76	47	P	P	23 57 23.0	-0.2
	baz=82						
KASI	Kota Agung	81.76	267	P	P	23 57 22.5	-0.8
	comp=Z,450nm,1.2s,comp=Z,4µm						
IMW	Indian Meadow	81.77	40	eP	P	23 57 22.7	-0.4
	comp=Z,276nm,1.6s						
127A	Arkansas Junct	81.81	53	⇓P	P	23 57 22.3	-1.0
	baz=82,SNR=51						
MOOW	Moose Ponds	81.82	40	eP	P	23 57 22.8	-0.4
LOHW	Long Hollow	81.83	40	eP	P	23 57 22.5	-0.8
	comp=Z,254nm,1.6s						
DLBC	Dease Lake	81.84	21	P	P	23 57 22.2	-0.6
DLBC	Dease Lake	81.84	21	P	P	23 57 22.2	-0.6
	comp=Z,12nm,0.9s,baz=229,slow=7.4,SNR=13						
L19A	Farson	81.86	42	P	P	23 57 23.6	+0.1
	baz=82						
LRM	Limekiln Ridge	81.88	38	eP	P	23 57 22.7	-0.8
P21A	Newcastle	81.88	45	⇓P	P	23 57 23.0	-0.6
	baz=82,SNR=21						
JTMT	Jette	81.89	35	eP	P	23 57 22.2	-1.2
SWMT	Swartz Lake	81.91	36	eP	P	23 57 23.0	-0.5
Q22A	Crested Butte,	81.94	46	⇓P	P	23 57 23.4	-0.8
	baz=82,SNR=96						
N20A	Spence Gulch,	81.96	44	⇓P	P	23 57 23.3	-0.7
	baz=82,SNR=43						
QLMT	Earthquake Lak	81.96	39	eP	P	23 57 24.0	0.0
Y26A	Elida	81.98	51	⇑P	P	23 57 23.2	-1.0
	baz=82,SNR=16						
CN2	Changchun	81.98	320	⇑P	P	23 57 24.5	+0.7
CN2				pmax	pmax		
	comp=Z,20nm,1.1s						
U24A	Moreno Valley	81.98	49	⇓P	P	23 57 23.5	-0.9
	baz=82,SNR=11						
BLMT	Blacktail Moun	81.99	35	eP	P	23 57 23.7	-0.3
CHMT	Chamberlain Mo	82.01	37	eP	P	23 57 22.8	-1.4
I17A	Pilgrim Ck.	82.01	40	⇓P	P	23 57 23.9	-0.3
	baz=82,SNR=6.1						
SMCO	Snowmass	82.04	46	eP	P	23 57 24.7	0.0
	comp=Z,319nm,1.4s						
S23A	Nye Farm, Mont	82.05	47	⇑P	P	23 57 23.4	-1.3
	baz=82						
SLMT	Seeley Lake	82.05	36	eP	P	23 57 22.8	-1.5
W25A	X Bar L Ranch,	82.06	50	⇓P	P	23 57 23.7	-1.0
	baz=82,SNR=39						
BW06	Boulder Array	82.06	41	eP	P	23 57 23.4	-1.1
	comp=Z,260nm,1.7s						
BW06				LR	LR		
	comp=Z,4µm,20.0s						
PDAR	Pinedale Array	82.06	41	P	P	23 57 23.4	-1.1
PDAR	Pinedale Array	82.06	41	P	P	23 57 23.4	-1.1
	comp=Z,26nm,1.1s,baz=240,slow=2.9,SNR=35						
PDAR				LR	LR	00 29 39.1	
	comp=Z,3µm,18.2s,baz=250,slow=33						
429A	Davenport Ranc	82.12	55	⇑P	P	23 57 23.9	-1.1
	baz=82,SNR=202						
YFT	Old Faithful	82.12	40	eP	P	23 57 25.9	+1.1
	comp=Z,155nm,1.4s						
YMR	Madison River	82.16	39	eP	P	23 57 25.1	+0.1
	comp=Z,672nm,1.8s						
228A	UT Block 9, Go	82.17	54	⇑P	P	23 57 24.3	-0.9
	baz=82,SNR=40						
PMBI	Palembang	82.18	269	P	P	23 57 25.9	+0.4
	comp=Z,605nm,1.2s,comp=Z,7µm						
SNY	Shenyang	82.18	317	⇑P	P	23 57 25.5	+0.6
SNY				S	S	00 07 36.3	-3.3
SNY				pmax	pmax		
	comp=Z,62nm,2.5s						
SNY				pmax	pmax		
	comp=Z,2µm,6.0s						
SNY				LR	LR		
	comp=N,2µm,43.5s						
SNY				LR	LR		
	comp=E,1µm,26.3s						
SNY				LR	LR		
	comp=Z,1µm,82.1s						
Z27A	Tatum	82.19	52	⇑P	P	23 57 23.8	-1.5
	baz=82,SNR=58						
O21A	Pagoda	82.19	44	⇑P	P	23 57 24.6	-0.8
	baz=82						
T24B	San Luis	82.20	48	⇓P	P	23 57 24.9	-0.6
	baz=82,SNR=32						
V25A	Rancho No Teng	82.22	49	⇑P	P	23 57 24.3	-1.1
	baz=82,SNR=103						
H17A	Grant Village	82.25	40	⇑P	P	23 57 25.4	-0.1
	baz=82,SNR=31						
X26A	CR and CF Fran	82.26	51	⇑P	P	23 57 24.4	-1.2
	baz=82,SNR=28						
BOZ	Bozeman (W)	82.27	38	eP	P	23 57 24.9	-0.6
BOZ				pmax	pmax		
	comp=Z,253nm,1.6s						
BOZ				MLR	MLR		
	comp=Z,3µm,21.0s						
BOZ	Bozeman (W)	82.27	38	eP	P	23 57 24.9	-0.6
	comp=Z,253nm,1.6s						
BOZ				LR	LR		
	comp=Z,3µm,21.0s						
LWLI	Liwa	82.31	267	P	P	23 57 25.9	-0.5
	comp=Z,436nm,1.2s						
M20A	Sweetwater, Wa	82.33	43	⇑P	P	23 57 25.3	-0.7
	baz=82,SNR=49						
MDSI	Maura Dua	82.34	268	P	P	23 57 25.0	-1.4
	comp=Z,111nm,1.2s,comp=Z,2µm						
YNR	Norris Junctio	82.36	39	eP	P	23 57 25.8	-0.3
	comp=Z,387nm,1.8s						
PAYG	Puerto Ayora	82.36	89	PFAKE		23 57 40.0	+13
PAYG				LR	LR		
	comp=Z,4µm,19.0s						
530A	J-C Ranch, Com	82.37	56	⇑P	P	23 57 25.3	-0.9
	baz=82,SNR=100						
P22A	Eagle	82.39	45	⇑P	P	23 57 25.7	-0.7
	baz=82,SNR=31						
R23A	Moffat	82.39	47	P	P	23 57 26.4	-0.1
	baz=82						
329A	Wagon Wheel Ra	82.39	54	⇑P	P	23 57 25.2	-1.2
	baz=82,SNR=103						
N21A	Black Mountain	82.42	44	⇑P	P	23 57 25.9	-0.6
	baz=83,SNR=33						
SDCO	Great Sand Dun	82.42	47	eP	P	23 57 25.7	-0.9
	comp=Z,265nm,1.8s						
SDCO				LR	LR		
	comp=Z,3µm,20.0s						
LKWY	Lake	82.45	40	eP	P	23 57 26.5	-0.1
LKWY				pmax	pmax		
	comp=Z,317nm,1.6s						
LKWY				MLR	MLR		
	comp=Z,4µm,19.0s						
LKWY	Lake	82.45	40	eP	P	23 57 26.5	-0.1
	comp=Z,317nm,1.6s						
LKWY				LR	LR		
	comp=Z,4µm,19.0s						
128A	Castleberry Fa	82.46	53	⇓P	P	23 57 25.7	-1.0
	baz=83,SNR=88						
Y27A	Causey	82.46	52	⇑P	P	23 57 25.4	-1.4
	baz=83,SNR=59						
L20A	Wamsutter	82.48	43	⇑P	P	23 57 26.2	-0.5
	baz=83,SNR=70						
W26A	Owens Ranch, T	82.52	50	⇓P	P	23 57 25.8	-1.2
	baz=83,SNR=10						
K19A	Absolon Red Bu	82.55	42	⇓P	P	23 57 25.5	-1.6
	baz=83,SNR=53						
S24A	Houchin Ranch,	82.58	48	⇑P	P	23 57 26.9	-0.6
	baz=83,SNR=74						
U25A	Circle Dot Ran	82.61	49	⇓P	P	23 57 26.5	-1.0
	baz=83,SNR=64						
J19A	Crowheart	82.63	41	⇓P	P	23 57 26.4	-1.1
	baz=83,SNR=44						
COLA	College	82.67	10	eP	P	23 57 25.9	-1.0
COLA				pmax	pmax		
	comp=Z,251nm,0.9s						
COLA				MLR	MLR		
	comp=Z,11µm,22.0s						
COLA	College	82.67	10	eP	P	23 57 25.9	-1.0
	comp=Z,251nm,0.9s						
COLA				LR	LR		
	comp=Z,11µm,22.0s						
631A	Perdido Creek	82.69	57	⇓P	P	23 57 26.7	-1.2
	baz=83,SNR=66						
430A	Baggett Ranch,	82.70	55	⇓P	P	23 57 26.7	-1.3
	baz=83,SNR=59						
Q23A	Hartsel	82.71	46	⇓P	P	23 57 27.5	-0.7
	baz=83,SNR=63						
HRY	Holter Researc	82.72	37	eP	P	23 57 27.4	-0.4
ILAR	Eielson Array	82.75	11	P	P	23 57 26.1	-1.3
	comp=Z,28nm,0.8s,baz=215,slow=6.0,SNR=36						
ILAR				LR	LR	00 29 45.3	
	comp=Z,4µm,19.3s,baz=216,slow=32						
K20A	Yellowstone Ra	82.79	42	⇑P	P	23 57 27.1	-1.2
	baz=83,SNR=43						
O22A	Kremmling	82.79	45	⇑P	P	23 57 27.8	-0.8
	baz=83,SNR=147						
MSTX	Muleshoe	82.79	52	eP	P	23 57 27.7	-0.7
MSTX	Muleshoe	82.79	52	⇑P	P	23 57 27.2	-1.2
	baz=83,SNR=52						
V26A	Tequesquite Ra	82.81	50	⇓P	P	23 57 27.2	-1.3
	baz=83,SNR=36						
Z28A	Tucker Farm, M	82.81	53	⇓P	P	23 57 27.5	-1.0
	baz=83,SNR=37						
X27A	F and S Farms,	82.83	51	⇑P	P	23 57 27.9	-0.7
	baz=83,SNR=11						
R24A	Sanders Place,	82.91	47	⇓P	P	23 57 28.4	-0.7
	baz=83,SNR=44						
IMA2	Indian Mountai	82.92	8	eP	P	23 57 27.8	-0.5
P23A	Jefferson	82.92	46	⇓P	P	23 57 28.0	-1.2
	baz=83,SNR=64						
732A	Laxson Ranch,	82.92	58	⇓P	P	23 57 28.0	-1.1
	baz=83,SNR=32						
M21A	Separation Pea	82.92	43	P	P	23 57 28.3	-0.8
	baz=83						
T25A	Trinidad	82.93	48	⇑P	P	23 57 28.2	-1.0
	baz=83,SNR=35						
129A	Stewart Farms,	82.94	53	⇓P	P	23 57 28.3	-0.9
	baz=83,SNR=27						
H18A	Shoshone NF, C	82.96	40	⇓P	P	23 57 28.7	-0.5
	baz=83,SNR=37						
330A	Mertzon	82.99	55	⇓P	P	23 57 28.3	-1.2
	baz=83,SNR=43						
531A	Rocksprings	83.01	56	⇓P	P	23 57 28.7	-0.8
	baz=83,SNR=157						
W27A	Bowie Ranch, En	83.03	51	⇑P	P	23 57 28.7	-1.0
	baz=83,SNR=68						
I19A	Meeteetse	83.05	41	⇓P	P	23 57 29.3	-0.3
	baz=83,SNR=52						
RWWY	Rawlins	83.06	43	eP	P	23 57 35.3	+5.4
	comp=Z,555nm,1.4s						
L21A	Rawlins	83.09	43	⇓P	P	23 57 28.6	-1.3
	baz=83,SNR=46						
U26A	Atchley Ranch,	83.09	49	⇓P	P	23 57 28.9	-1.1
	baz=83,SNR=61						
S25A	Robets Cordova	83.14	48	⇓P	P	23 57 29.3	-1.0
	baz=83,SNR=80						
N22A	Wattenberg Ran	83.15	44	⇑P	P	23 57 29.8	-0.6
	baz=83,SNR=51						
431A	Sonora	83.16	56	⇑P	P	23 57 28.9	-1.4
	baz=83,SNR=30						
Y28A	McKinney Farm,	83.17	52	⇓P	P	23 57 29.2	-1.1
	baz=83,SNR=19						
SEY	Seymchan	83.19	345	⇑P	P	23 57 29.3	-0.3
Q24A	Divide	83.21	46	⇑P	P	23 57 29.9	-0.8
	baz=83,SNR=60						
230A	Sterling City	83.23	54	⇑P	P	23 57 29.2	-1.5
	baz=83,SNR=33						
O23A	Lake Granby, G	83.24	45	⇑P	P	23 57 30.1	-0.7
	baz=83,SNR=31						
ISCO	Idaho Springs	83.27	46	eP	P	23 57 30.5	-0.5
ISCO				pmax	pmax		
	comp=Z,237nm,1.6s						
ISCO				MLR	MLR		
	comp=Z,3µm,19.0s						
ISCO	Idaho Springs	83.27	46	eP	P	23 57 30.4	-0.5
	comp=Z,237nm,1.6s						
ISCO				LR	LR		
	comp=Z,3µm,19.0s						
ISCO	Idaho Springs	83.27	46	⇓P	P	23 57 30.0	-1.0
	baz=83,SNR=63						
J20A	Shoshoni	83.29	42	⇑P	P	23 57 30.3	-0.6
	baz=83,SNR=100						
Z29A	Hungry Hill Ra	83.32	53	⇓P	P	23 57 29.9	-1.3
	baz=83,SNR=45						
M22A	Cedar Creek Ra	83.34	44	⇓P	P	23 57 30.2	-1.0
	baz=84,SNR=26						
632A	Uvalde	83.36	57	⇓P	P	23 57 30.3	-1.1
	baz=84,SNR=74						
H19A	Powell	83.38	40	⇓P	P	23 57 30.7	-0.5
	baz=84,SNR=40						
PMSA	Palmer Station	83.41	156	eP	P	23 57 30.6	-0.4
	comp=Z,16nm,0.6s						
PMSA				LR	LR		
	comp=Z,4µm,19.0s						
RLMT	Red Lodge	83.43	40	eP	P	23 57 31.7	+0.1
	comp=Z,115nm,1.4s						
RLMT				LR	LR		
	comp=Z,2µm,20.0s						
X28A	Dimmitt	83.45	52	⇓P	P	23 57 30.8	-1.0
	baz=84,SNR=6.4						
R25A	Fountain Ranch	83.46	47	⇓P	P	23 57 30.9	-0.9
	baz=84,SNR=33						
K21A	Alcova	83.48	42	⇑P	P	23 57 30.9	-1.0
	baz=84,SNR=63						
V27A	Dan Oppiter Fa	83.49	50	⇑P	P	23 57 31.0	-1.0
	baz=84,SNR=11						
532A	Rocksprings	83.50	56	⇑P	P	23 57 31.0	-1.1
	baz=84,SNR=70						
T26A	Comanche Natio	83.53	49	⇑P	P	23 57 30.8	-1.5
	baz=84,SNR=40						
N23A	Red Feather La	83.54	44	⇑P	P	23 57 31.5	-0.8
	baz=84,SNR=59						
331A	San Angelo	83.54	55	⇓P	P	23 57 30.9	-1.4
	baz=84,SNR=29						
I20A	Worland	83.56	41	⇑P	P	23 57 31.3	-0.9
	baz=84,SNR=63						
Y29A	Porterfield Fa	83.58	52	⇓P	P	23 57 31.6	-0.9
	baz=84,SNR=7.0						
P24A	Kohler Place,	83.62	46	⇑P	P	23 57 32.3	-0.4
	baz=84						
130A	Snyder	83.62	54	⇑P	P	23 57 31.4	-1.2
	baz=84,SNR=39						
J21A	Lysite	83.70	42	⇑P	P	23 57 32.4	-0.6
	baz=84,SNR=45						
JCT	Junction City	83.72	56	eP	P	23 57 32.1	-1.1
JCT				pmax	pmax		
	comp=Z,107nm,1.3s						
JCT				MLR	MLR		
	comp=Z,4µm,20.0s						
JCT	Junction City	83.72	56	eP	P	23 57 32.1	-1.1
	comp=Z,107nm,1.3s						
JCT				LR	LR		
	comp=Z,4µm,20.0s						
JCT	Junction City	83.72	56	⇑P	P	23 57 32.1	-1.1
	baz=84,SNR=21						
L22A	Ellis Ranch, M	83.74	43	⇑P	P	23 57 32.7	-0.6
	baz=84,SNR=35						
W28A	Vega	83.75	51	⇑P	P	23 57 32.0	-1.4
	baz=84						
Z30A	Sanderson Ranc	83.77	53	⇓P	P	23 57 32.3	-1.1
	baz=84,SNR=91						
U27A	Thompson Grove	83.78	50	⇓P	P	23 57 32.5	-1.0
	baz=84,SNR=29						
O24A	Longmont	83.78	45	⇓P	P	23 57 33.0	-0.5
	baz=84,SNR=8.6						
X29A	Tulia	83.80	52	⇓P	P	23 57 32.6	-1.0
	baz=84,SNR=7.4						
S26A	Kim	83.81	48	⇓P	P	23 57 32.6	-1.0
	baz=84						
Q25A	Bedland, Calha	83.82	47	⇓P	P	23 57 32.2	-1.6
	baz=84,SNR=23						
QIZ	Qiongzhong	83.85	292	P	P	23 57 31.5	-2.6
QIZ				S	S	00 07 57.5	0.0
QIZ				pmax	pmax		
	comp=Z,87nm,1.9s						
QIZ	Qiongzhong	83.85	292	PFAKE		23 57 40.0	+5.9
QIZ				LR	LR		
	comp=Z,3µm,19.0s						
231A	Bronte	83.87	55	⇑P	P	23 57 32.4	-1.5
	baz=84,SNR=44						
432A	Menard	83.88	56	⇓P	P	23 57 32.7	-1.3
	baz=84,SNR=37						
EGAK	Eagle	83.89	13	eP	P	23 57 32.7	-0.5
EGAK				LR	LR		
	comp=Z,186nm,1.4s						
	comp=Z,8µm,20.0s						
H20A	Greybull	83.90	41	⇓P	P	23 57 32.6	-1.2
	baz=84,SNR=32						
EGSI	Enggano, Bengk	83.94	266	P	P	23 57 33.6	-1.0
	comp=Z,202nm,1.0s						
V28A	Channing	83.94	50	⇓P	P	23 57 33.2	-1.1
	baz=84,SNR=5.4						
M23A	Laramie	83.95	44	⇑P	P	23 57 33.5	-0.9
	baz=84,SNR=75						
K22A	Casper	83.97	43	⇑P	P	23 57 33.1	-1.3
	baz=84,SNR=40						
F19A	Roth Farm, Mol	83.99	39	⇑P	P	23 57 33.8	-0.6
	baz=84,SNR=90						
I21A	Big Trails, Te	84.02	41	⇑P	P	23 57 33.5	-1.1
	baz=84,SNR=84						
WHN	Wuhan	84.05	304	P	P	23 57 36.3	+1.5
WHN				S	S	00 08 01.0	+2.0
WHN				LR	LR		
	comp=Z,5µm,19.0s						
PHWY	Pilot Hill	84.05	44	eP	P	23 57 33.8	-1.1
	comp=Z,397nm,1.8s						
KSI	Kapahiang	84.08	268	P	P	23 57 35.0	-0.5
	comp=Z,334nm,0.8s,comp=Z,8µm						
131A	Roby	84.10	54	⇑P	P	23 57 34.0	-1.1
	baz=84,SNR=35						
332A	Millersview	84.11	55	⇓P	P	23 57 34.1	-1.0
	baz=84,SNR=54						
W29A	Amraillo	84.11	51	⇓P	P	23 57 34.1	-1.1
	baz=84,SNR=38						
T27A	Campo	84.12	49	⇓P	P	23 57 34.1	-1.1
	baz=84,SNR=7.9						
R26A	Arlington	84.12	48	⇑P	P	23 57 34.3	-0.9
	baz=84,SNR=36						
G20A	Bridger	84.12	40	⇑P	P	23 57 33.9	-1.1
	baz=84,SNR=24						
P25A	Willow Gulch B	84.14	46	⇓P	P	23 57 34.4	-0.9
	baz=84,SNR=38						
TIA	Tai'an	84.15	310	⇑P	P	23 57 36.5	+1.3
TIA				pmax	pmax		
	comp=Z,70nm,1.5s						
TIA				pmax	pmax		
	comp=Z,2µm,6.5s						
TIA				LR	LR		
	comp=N,1µm,13.7s						
TIA				LR	LR		
	comp=E,1µm,15.6s						
TIA				LR	LR		
	comp=Z,2µm,19.2s						
Y30A	Stafford Cattl	84.18	53	⇑P	P	23 57 34.4	-1.1
	baz=84,SNR=18						
U28A	Mallet	84.20	50	⇑P	P	23 57 34.4	-1.2
	baz=84,SNR=6.8						
N24A	Carr	84.23	45	⇓P	P	23 57 35.1	-0.6
	baz=84,SNR=8.6						
S27A	Las Animas	84.25	48	⇑P	P	23 57 34.7	-1.2
	baz=84,SNR=19						
L23A	Garrett	84.26	43	⇓P	P	23 57 34.8	-1.1
	baz=84,SNR=84						
Q26A	Hugo	84.33	47	⇓P	P	23 57 35.4	-0.9
	baz=84,SNR=5.9						
MYKOM	Kota Tinggi	84.34	273	P	P	23 57 38.7	+2.0
MYKOM	Kota Tinggi	84.34	273	P	P	23 57 37.3	+0.6
	comp=Z,129nm,1.4s,comp=Z,3µm						
J22A	Midwest	84.35	42	P	P	23 57 34.9	-1.4
	baz=84						
232A	Coleman	84.38	55	⇑P	P	23 57 35.3	-1.3
	baz=84,SNR=115						
E19A	Rath Farm, Rou	84.39	39	⇓P	P	23 57 35.6	-0.7
	baz=84,SNR=87						
X30A	Coker Ranch, T	84.42	52	⇑P	P	23 57 35.3	-1.5
	baz=84,SNR=27						
O25A	Wiggins	84.43	46	⇑P	P	23 57 35.8	-1.0
	baz=85						
F20A	Billings	84.45	39	⇑P	P	23 57 35.8	-0.8
	baz=85,SNR=9.3						
COLD	Coldfoot	84.48	9	eP	P	23 57 36.7	+0.5
	comp=Z,229nm,1.4s						
V29A	Stinnett	84.51	50	⇓P	P	23 57 36.1	-1.1
	baz=85,SNR=7.7						
Z31A	Sharp Cattle R	84.54	53	⇑P	P	23 57 36.3	-1.0
	baz=85,SNR=68						
M24A	Cheyenne	84.55	44	⇑P	P	23 57 36.4	-1.0
	baz=85,SNR=31						
H21A	Big Horn, Sher	84.57	41	⇓P	P	23 57 36.3	-1.0
	baz=85,SNR=23						
I22A	9 Mile Ranch,	84.57	42	⇑P	P	23 57 36.0	-1.3
	baz=85,SNR=64						
R27A	Eads	84.58	48	⇑P	P	23 57 36.0	-1.5
	baz=85,SNR=29						
T28A	Walsh	84.58	49	⇓P	P	23 57 36.2	-1.3
	baz=85,SNR=20						
K23A	Bowen Ranch, D	84.60	43	⇑P	P	23 57 36.3	-1.3
	baz=85,SNR=24						
EGMT	Eagleton	84.61	37	eP	P	23 57 36.8	-0.6
	comp=Z,298nm,1.4s						
EGMT				LR	LR		
	comp=Z,7µm,21.0s						
EGMT	Eagleton	84.61	37	⇓P	P	23 57 36.4	-1.0
	baz=85,SNR=33						
ABTX	Abilene, Hawle	84.66	54	⇑P	P	23 57 36.9	-1.0
	baz=85,SNR=99						
D19A	Cripps Ranch,	84.68	38	⇑P	P	23 57 37.0	-0.8
	baz=85,SNR=62						
Y31A	Rekieta Farm,	84.70	53	⇑P	P	23 57 37.0	-1.1
	baz=85,SNR=41						
P26A	Davis Ranch, A	84.73	47	⇓P	P	23 57 37.0	-1.3
	baz=85,SNR=8.7						
L24A	Wheatland	84.74	44	⇓P	P	23 57 37.5	-0.8
	baz=85,SNR=12						
G21A	Lodge Grass	84.75	40	⇑P	P	23 57 36.9	-1.2
	baz=85,SNR=7.6						
N25A	Grover	84.76	45	⇓P	P	23 57 36.9	-1.5
	baz=85						
E20A	Meyer Farm, Mu	84.80	39	⇑P	P	23 57 37.8	-0.5
	baz=85,SNR=44						
C19A	Slack Wire Ran	84.87	37	⇓P	P	23 57 38.1	-0.6
	baz=85,SNR=89						
KGM	Kluang	84.91	274	P	P	23 57 41.1	+1.5
U29A	Oasis Ranch, S	84.93	50	⇓P	P	23 57 38.2	-1.1
	baz=85						
S28A	Manter	84.93	49	⇓P	P	23 57 37.9	-1.4
	baz=85						
W30A	Crocket Farms	84.94	51	⇓P	P	23 57 38.1	-1.2
	baz=85						
J23A	Dilts Ranch, B	84.95	42	⇓P	P	23 57 38.3	-1.0
	baz=85						
H22A	Clearmont	84.98	41	⇓P	P	23 57 39.0	-0.4
	baz=85,SNR=8.2						
KSCO	Kaye Shedlock'	85.00	47	eP	P	23 57 39.2	-0.4
KSCO	Kaye Shedlock'	85.00	47	⇓P	P	23 57 39.0	-0.7
	baz=85,SNR=13						
O26A	Horse Wrangler	85.05	46	⇓P	P	23 57 38.8	-1.0
	baz=85,SNR=6.5						
Z32A	Haskell	85.05	54	⇑P	P	23 57 39.1	-0.7
	baz=85,SNR=150						
M25A	Palm-Egli Farm	85.06	45	⇓P	P	23 57 38.9	-1.0
	baz=85						
USHA	Ushuaia	85.06	146	P	P	23 57 39.7	+0.2
USHA	Ushuaia	85.06	146	P	P	23 57 39.7	+0.2
	comp=Z,24nm,1.1s,baz=226,slow=2.8,SNR=3.4						
USHA				LR	LR	00 29 17.7	
	comp=Z,6µm,18.4s,baz=288,slow=31						
F21A	Absaloka Mine,	85.09	40	⇑P	P	23 57 39.2	-0.6
	baz=85,SNR=39						
V30A	Spur Ranch, Mi	85.09	51	⇑P	P	23 57 39.3	-0.7
	baz=85						
D20A	Manuel Ranch,	85.09	38	⇓P	P	23 57 39.0	-0.8
	baz=85,SNR=51						
K24A	Anderson Ranch	85.12	43	⇓P	P	23 57 39.1	-1.0
	baz=85						
X31A	McDonald Ranch	85.18	52	P	P	23 57 40.1	-0.4
	baz=85						
T29A	Hugoton	85.20	49	⇓P	P	23 57 39.2	-1.4
	baz=85						
I23A	Meade Ranch, G	85.26	42	⇓P	P	23 57 39.5	-1.4
	baz=85						
P27A	Ficken Ranch,	85.27	47	⇓P	P	23 57 39.8	-1.1
	baz=85,SNR=6.2						
B19A	Brinkman Farms	85.29	37	⇓P	P	23 57 40.1	-0.7
	baz=85,S

baz=86,SNR=10
J24A Dixon Ranch, L 85.49 43 ⇓P P 23 57 41.0 -1.0
baz=86,SNR=8.7
S29A Ulysses 85.51 49 ⇓P P 23 57 41.1 -1.0
baz=86
H23A Clabaugh Cattl 85.57 41 ⇓P P 23 57 41.1 -1.2
baz=86
Q28A Sharon Springs 85.59 47 ⇑P P 23 57 41.5 -1.0
baz=86
F22A Rosebud 85.60 40 ⇑P P 23 57 41.5 -0.8
baz=86,SNR=11
O27A Beecher Island 85.60 46 ⇓P P 23 57 41.8 -0.7
baz=86,SNR=11
A19A Klindworth Far 85.64 36 ⇑P P 23 57 41.4 -1.1
baz=86,SNR=36
M26A McRoberts Ranc 85.69 45 ⇓P P 23 57 42.2 -0.8
baz=86
K25A Mack Ranch, Ha 85.69 44 ⇑P P 23 57 42.1 -0.9
baz=86,SNR=11
T30A Plains 85.72 50 ⇓P P 23 57 42.2 -0.9
baz=86
V31A Spring Creek L 85.72 51 ⇓P P 23 57 42.6 -0.6
baz=86,SNR=29
I24A Kuemmerle Ranc 85.75 42 ⇓P P 23 57 41.6 -1.6
baz=86,SNR=6.9
D21A La Casta Ranch 85.76 39 ⇑P P 23 57 42.2 -0.9
baz=86,SNR=20
B20A Solberg Farm, 85.82 37 ⇑P P 23 57 42.7 -0.7
baz=86,SNR=29
N27A Anderson Farm, 85.82 46 ⇑P P 23 57 42.6 -1.1
baz=86
R29A Marienthal 85.82 48 ⇓P P 23 57 43.0 -0.6
baz=86,SNR=5.8
P28A Saint Francis 85.85 47 ⇓P P 23 57 42.5 -1.4
baz=86
G23A Biddle 85.87 41 ⇑P P 23 57 42.6 -1.1
baz=86,SNR=9.8
U31A Nine Bar Ranch 85.95 51 ⇑P P 23 57 43.1 -1.2
baz=86,SNR=5.4
S30A Montezuma 86.00 49 ⇓P P 23 57 43.3 -1.3
baz=86
KTGM Kuala Trenggan 86.01 277 P P 23 57 46.4 +1.3
LAO LASA Array 86.05 39 *e*P P 23 57 44.2 -0.4
comp=Z,565nm,1.9s
LAO LR LR
comp=Z,3μm,20.0s
C21A Desert Coulee 86.06 38 ⇑P P 23 57 43.7 -0.9
baz=86,SNR=15
O28A Krutsinger Ran 86.07 47 P P 23 57 44.8 0.0
baz=86
J25A Sunshine Ranch 86.08 43 ⇓P P 23 57 43.8 -1.1
baz=86,SNR=5.7
A20A Cobblestone Ra 86.09 37 ⇓P P 23 57 43.7 -1.0
baz=86,SNR=35
E22A Miles City 86.10 40 ⇑P P 23 57 43.9 -0.9
baz=86,SNR=14
F23A Volborg 86.10 40 ⇑P P 23 57 43.6 -1.2
baz=86,SNR=8.6
Q29A Oakley 86.12 48 ⇑P P 23 57 43.9 -1.2
baz=86,SNR=5.2
WMOK Wichita Mounta 86.13 52 *e*P P 23 57 43.9 -1.3
WMOK pmax pmax
comp=Z,24nm,0.7s
WMOK MLR MLR
comp=Z,3μm,19.0s
WMOK Wichita Mounta 86.13 52 *e*P P 23 57 43.9 -1.3
comp=Z,24nm,0.7s
WMOK LR LR
comp=Z,3μm,19.0s
WHTX Lake Whitney 86.15 55 ⇑P P 23 57 44.2 -1.2
baz=86,SNR=67
K26A Motz Farm, Whi 86.19 44 ⇑P P 23 57 44.2 -1.3
baz=86
H24A Dirks Ranch, A 86.20 41 ⇓P P 23 57 43.8 -1.6
baz=86,SNR=20
OGNE Ogallala 86.22 46 PFAKE 23 58 00.0 +14
OGNE LR LR
comp=Z,2μm,21.0s
OGNE Ogallala 86.22 46 ⇓P P 23 57 43.8 -1.8
baz=86
M27A Reverse DX Ran 86.23 45 ⇓P P 23 57 44.4 -1.2
baz=86
RSSD Black Hills 86.25 42 *e*P P 23 57 44.1 -1.7
RSSD pmax pmax
comp=Z,1μm,2.1s
RSSD Black Hills 86.25 42 *e*P P 23 57 44.1 -1.7
comp=Z,1μm,2.1s
D22A Cohagen 86.29 39 ⇑P P 23 57 44.8 -0.9
baz=86,SNR=14
T31A Randall Ranch, 86.36 50 ⇑P P 23 57 44.5 -1.8
baz=86,SNR=12
R30A Dighton 86.39 49 ⇓P P 23 57 44.9 -1.5
baz=86,SNR=5.6
BJT Baijiatuau 86.39 313 *e*P P 23 57 46.2 -0.1
comp=Z,459nm,1.5s
BJT LR LR
comp=Z,2μm,20.0s
B21A Ellsworth Farm 86.40 37 ⇓P P 23 57 45.4 -0.8
baz=86,SNR=36
BJI Beijing 86.40 313 P P 23 57 47.5 +1.2
BJI S S 00 08 23.3 +1.4
BJI pmax pmax
comp=Z,66nm,2.2s
BJI pmax pmax
comp=Z,2μm,6.2s
BJI LR LR
comp=N,3μm,26.3s
BJI LR LR
comp=E,1μm,27.2s
BJI LR LR
comp=Z,2μm,54.7s
I25A Rochford 86.40 42 ⇑P P 23 57 44.7 -1.8
baz=86,SNR=22
P29A Atwood 86.44 47 ⇑P P 23 57 45.9 -0.9
baz=87
N28A Pribbeno Ranch 86.46 46 ⇓P P 23 57 45.8 -1.0
baz=87
L27A T5 Ranch, Ells 86.51 45 ⇓P P 23 57 46.6 -0.4
baz=87
E23A Ismay 86.52 40 ⇓P P 23 57 45.9 -0.9
baz=87,SNR=9.9
J26A Sides Ranch, S 86.52 43 ⇑P P 23 57 46.2 -0.9
baz=87
G24A Alzada 86.54 41 ⇓P P 23 57 46.0 -1.1
baz=87
Q30A Quinter 86.70 48 ⇑P P 23 57 46.8 -1.1
baz=87
S31A Mullinville 86.70 50 ⇓P P 23 57 47.0 -1.0
baz=87
A21A Bergtoll Ranch 86.72 37 ⇑P P 23 57 46.6 -1.2
baz=87,SNR=33
HKT Hockley 86.73 58 *e*P P 23 57 48.1 0.0
HKT pmax pmax
comp=Z,344nm,1.8s
HKT Hockley 86.73 58 *e*P P 23 57 48.1 0.0
comp=Z,344nm,1.8s
C22A Vida 86.74 38 P P 23 57 48.5 +0.5
baz=87
O29A 4D Ranch, Culb 86.75 47 ⇓P P 23 57 47.5 -0.7
baz=87
H25A Fruitdale 86.75 42 ⇑P P 23 57 47.5 -0.6
baz=87
F24A Ekalaka 86.76 41 ⇓P P 23 57 47.3 -0.8
baz=87,SNR=7.3
K27A Flueckinger Fa 86.82 44 ⇓P P 23 57 48.1 -0.4
baz=87
M28A Bar X Bar Ranc 86.87 45 ⇓P P 23 57 48.3 -0.5
baz=87
PDSI Padang 86.87 270 P P 23 57 48.4 -0.9
comp=Z,210nm,1.2s
FRIM Kepong 86.88 274 P P 23 57 50.8 +1.5
D23A Lindsay 86.89 39 ⇑P P 23 57 48.2 -0.5
baz=87,SNR=7.1
P30A Selden 86.91 48 ⇓P P 23 57 48.2 -0.7
baz=87
R31A Burdett 86.93 49 ⇑P P 23 57 47.8 -1.3
baz=87
B22A Reddig Ranch S 86.94 38 ⇑P P 23 57 48.0 -0.9
baz=87,SNR=13
I26A New Underwood 86.97 43 ⇑P P 23 57 48.1 -1.1
baz=87
L28A Connealy Angus 87.02 45 ⇓P P 23 57 49.0 -0.5
baz=87
PPI Padang Panjang 87.05 270 P P 23 57 49.1 -1.1
comp=Z,133nm,1.0s
G25A Newell 87.12 41 ⇑P P 23 57 49.3 -0.5
baz=87
N29A Votaw Ranch, W 87.15 46 ⇓P P 23 57 49.3 -0.8
baz=87
E24A Baker 87.16 40 ⇑P P 23 57 49.2 -0.9
baz=87
C23A Lambert 87.19 39 ⇓P P 23 57 49.4 -0.7
baz=87,SNR=12
J27A Elkhorn Farm, 87.20 44 ⇑P P 23 57 49.5 -0.9
baz=87
H26A Fairpoint 87.28 42 ⇓P P 23 57 50.0 -0.7
baz=87
O30A MW Ranch, Wils 87.29 47 ⇑P P 23 57 50.5 -0.3
baz=87
Q31A Ellis 87.30 48 ⇑P P 23 57 50.0 -0.9
baz=87
A22A Carney Farms, 87.31 37 ⇓P P 23 57 49.3 -1.4
baz=88,SNR=6.8
COCO West Island 87.32 258 PFAKE 23 58 00.0 +8.6
COCO LR LR
comp=Z,4μm,22.0s
M29A Burnside Ranch 87.36 46 ⇓P P 23 57 50.7 -0.5
baz=88
F25A Bowman 87.41 41 ⇓P P 23 57 50.7 -0.5
baz=88
K28A Ten Mile Ranch 87.41 44 P P 23 57 51.9 +0.5
baz=88
N30A Hueftle Ranch, 87.50 46 P P 23 57 51.7 -0.1
baz=88
G27A Dupree 87.51 41 ⇓P P 23 57 53.3 +1.6
baz=88
P31A Stockton 87.52 48 ⇓P P 23 57 51.1 -0.7
baz=88
I27A Quinn 87.52 43 ⇓P P 23 57 51.2 -0.6
baz=88
C24A Savage 87.52 39 ⇑P P 23 57 50.8 -0.9
baz=88
B23A Brockton 87.61 38 ⇑P P 23 57 51.6 -0.5
baz=88,SNR=10
MAW Mawson 87.61 198 P P 23 57 52.5 +0.7
MAW Mawson 87.61 198 P P 23 57 52.5 +0.7
comp=Z,51nm,1.0s,baz=127,slow=6.4,SNR=80
MAW LR LR 00 34 45.9
comp=Z,7μm,19.9s,baz=114,slow=34
MAW Mawson 87.61 198 P P 23 57 52.5 +0.7
baz=87,SNR=52
G26A Maurine 87.68 42 ⇓P P 23 57 51.5 -1.1
baz=88
E25A Miller Ranch, 87.70 40 ⇑P P 23 57 52.1 -0.5
baz=88
H27A Howes 87.74 42 ⇓P P 23 57 52.5 -0.3
baz=88
L29A Maesberg Ranch 87.75 45 ⇑P P 23 57 52.2 -0.8
baz=88
J28A Allard Ranch, 87.79 44 ⇑P P 23 57 52.1 -1.0
baz=88
IPM Ipoh 87.79 275 *e*P P 23 57 55.0 +1.2
comp=Z,218nm,1.3s
IPM Ipoh 87.79 275 P P 23 57 55.8 +2.1
IPM Ipoh 87.79 275 P P 23 57 53.1 -0.7
comp=Z,138nm,1.4s,comp=Z,2μm
ENH Enshi 87.87 302 *e*P P 23 57 53.2 -0.6
comp=Z,152nm,1.3s
F26A Lodgepole 87.87 41 ⇓P P 23 57 52.7 -0.8
baz=88
A23A Redstone 87.90 38 ⇑P P 23 57 53.2 -0.3
baz=88
M30A Dale-Ortello V 87.95 46 ⇑P P 23 57 53.4 -0.6
baz=88
D25A Fairfield 88.03 40 ⇓P P 23 57 53.7 -0.5
baz=88
HIA Hailar 88.07 323 PFAKE 23 58 10.0 +16
HIA LR LR
comp=Z,2μm,21.0s
DGMT Dagmar 88.08 38 *e*P P 23 57 53.9 -0.5
comp=Z,161nm,1.3s
DGMT LR LR
comp=Z,7μm,22.0s
DGMT Dagmar 88.08 38 ⇑P P 23 57 53.6 -0.8
baz=88,SNR=6.5
K29A Lazy Trails An 88.14 45 ⇑P P 23 57 54.2 -0.6
baz=88
E26A Carlson Angus 88.27 41 P P 23 57 56.5 +1.1
baz=88
F27A Lemmon 88.29 41 ⇓P P 23 57 54.3 -1.2
baz=88
NATX Nacogdoches 88.29 56 *e*P P 23 57 54.6 -1.1
comp=Z,341nm,1.5s
NATX LR LR
comp=Z,5μm,19.0s
KULM Kulim 88.37 276 *e*P P 23 57 57.5 +1.0
comp=Z,104nm,1.2s
KULM LR LR
comp=Z,2μm,21.0s
KULM Kulim 88.37 276 P P 23 57 59.1 +2.6
KULM Kulim 88.37 276 P P 23 57 56.1 -0.4
J29A Okreek 88.39 44 ⇓P P 23 57 55.3 -0.6
baz=88
A24A Westby 88.40 38 ⇑P P 23 57 55.7 -0.2
baz=88
H28A Mission Ridge 88.44 43 ⇓P P 23 57 56.0 -0.2
baz=89
M31A Lambtecht Ranc 88.50 46 P P 23 57 56.6 0.0
baz=89
D26A Manning 88.52 40 ⇑P P 23 57 55.9 -0.6
baz=89
INK Inuvik 88.53 14 P P 23 57 55.0 -0.9
INK Inuvik 88.53 14 P P 23 57 55.0 -0.9
comp=Z,48nm,1.1s,baz=211,slow=6.5,SNR=18
K30A Basset 88.58 45 ⇓P P 23 57 56.1 -0.8
baz=89,SNR=6.0
PLCA Paso Flores 88.58 132 *e*P P 23 57 57.3 +0.2
comp=Z,114nm,1.4s
PLCA Paso Flores 88.58 132 P P 23 57 57.3 +0.2
comp=Z,6.5nm,1.0s,baz=240,slow=5.9,SNR=8.3
PLCA LR LR 00 28 47.2
comp=Z,4μm,20.2s,baz=312,slow=30
B25A Knox Farm, Ray 88.61 39 ⇓P P 23 57 56.3 -0.6
baz=89
I29A Vivian Onida 88.65 43 ⇓P P 23 57 56.5 -0.6
baz=89
G28A Parade 88.67 42 ⇓P P 23 57 57.4 +0.2
baz=89
P33A Williams Farm, 88.69 48 P P 23 57 57.5 +0.1
baz=89
E27A Carson 88.81 41 ⇓P P 23 57 57.3 -0.6
baz=89
TUL1 Tulsa 88.83 52 *e*P P 23 57 59.3 +1.2
comp=Z,80nm,1.4s
TUL1 Tulsa 88.83 52 ⇑P P 23 57 57.7 -0.5
baz=89,SNR=5.5
J30A Dallas 88.91 44 ⇑P P 23 57 57.9 -0.5
baz=89
L31A Butterfield Fa 88.91 46 ⇑P P 23 57 57.8 -0.7
baz=89
A25A Svangstu Ranch 88.93 38 ⇓P P 23 57 58.2 -0.2
baz=89
GYA Guiyang 89.00 298 ⇑*i*P P 23 57 59.5 +0.2
GYA PP PP 00 01 31.5 +2.2
GYA SKS SKSac 00 08 27.0 -2.1
GYA S S 00 08 46.0 -1.7
GYA pmax pmax
comp=Z,60nm,1.2s
GYA pmax pmax
comp=Z,210nm,6.9s
GYA LR LR
comp=N,3μm,20.9s
GYA LR LR
comp=E,2μm,24.6s
GYA LR LR
comp=Z,4μm,21.5s
F28A McLaughlin 89.06 42 ⇓P P 23 57 58.2 -0.8
baz=89
C26A Wahner Farm, P 89.07 39 ⇑P P 23 57 58.3 -0.7
baz=89
BGNE Belgrade 89.10 46 ⇑P P 23 57 58.1 -1.2
baz=89
D27A Center 89.12 40 ⇓P P 23 57 58.4 -0.9
baz=89
I30A Oacoma 89.19 44 ⇓P P 23 57 58.8 -0.9
baz=89
B26A Jensen Ranch, 89.22 39 ⇓P P 23 57 59.3 -0.5
baz=89
TGUH Tegucigalpa,Un 89.34 75 *e*P P 23 58 04.8 +3.8
comp=Z,394nm,2.1s
TGUH LR LR
comp=Z,4μm,20.0s
PSI Prapat 89.35 273 P P 23 58 01.1 -0.1
PSI Prapat 89.35 273 P P 23 58 01.1 -0.1
comp=Z,168nm,1.3s,baz=183,slow=3.7,SNR=31
PSI Prapat 89.35 273 P P 23 58 02.0 +0.7
baz=90,SNR=19
KSU1 Kansas State U 89.35 49 *e*P P 23 58 02.5 +2.0
comp=Z,27nm,1.1s
KSU1 LR LR
comp=Z,4μm,21.0s
G29A Hoven 89.36 42 ⇑P P 23 57 59.5 -1.0
baz=90
C27A Sayler Ranch, 89.39 40 ⇓P P 23 57 59.5 -1.0
baz=90
E28A Huff 89.42 41 ⇑P P 23 57 59.7 -1.0
baz=90
A26A Wade Farm, Ken 89.56 38 ⇓P P 23 57 60.0 -1.3
baz=90
XAN Xi'an 89.58 306 P P 23 58 02.5 +0.7
XAN pP pP 23 58 10.5 +3.9
XAN sP sP 23 58 14.0 +5.6
XAN S SKKSac 00 08 45.0 +0.4
XAN pmax pmax
comp=Z,220nm,9.8s
XAN LR LR
comp=N,3μm,47.5s
XAN LR LR
comp=E,490nm,49.6s
XAN LR LR
comp=Z,650nm,29.6s
NONG Nongkai 89.61 289 P P 23 58 04.4 +2.2
comp=Z,114nm,2.0s
F29A Eureka 89.68 42 ⇑P P 23 58 01.0 -0.9
baz=90
D28A Regan 89.75 40 ⇑P P 23 58 01.8 -0.4
baz=90
B27A Peters Farms, 89.82 39 ⇑P P 23 58 01.4 -1.1
baz=90
G30A Faulkton 89.84 43 ⇓P P 23 58 02.1 -0.6
baz=90
HHC Hu-ho-hao-te 89.96 313 ⇑P P 23 58 04.5 +1.0
HHC sP sP 23 58 11.3 +1.3
HHC PP PP 00 01 41.3 +4.6
HHC SKS SKSac 00 08 32.8 -1.3
HHC S S 00 08 55.3 -0.7
HHC sS sS 00 09 03.0 -1.0
HHC SS SS 00 14 57.8 +3.3
HHC pmax pmax
comp=Z,40nm,1.2s
HHC pmax pmax
comp=Z,1μm,6.0s
HHC LR LR
comp=N,2μm,18.0s
HHC LR LR
comp=E,2μm,18.3s
HHC LR LR
comp=Z,3μm,18.2s
A27A Ledoux Ranch, 90.06 39 ⇓P P 23 58 03.2 -0.5
baz=90
C28A Hausauer Farms 90.07 40 ⇓P P 23 58 02.6 -1.1
baz=90
E29A Napoleon 90.09 41 ⇑P P 23 58 03.0 -0.8
baz=90
TEIG Tepich 90.17 69 *e*P P 23 58 04.7 -0.1
comp=Z,147nm,1.3s
TEIG LR LR
comp=Z,4μm,22.0s
YKA Yellowknife Ar 90.20 23 P P 23 58 03.3 -0.6
YKA Yellowknife Ar 90.20 23 P P 23 58 03.3 -0.6
comp=Z,34nm,1.1s,baz=235,slow=4.1,SNR=20
D29A Pettibone, Tap 90.31 41 ⇓P P 23 58 04.2 -0.7
baz=90
B28A Dugan Ranch, T 90.38 39 ⇑P P 23 58 04.3 -0.9
baz=90
JTS JuntasAbangare 90.48 80 *e*P P 23 58 07.1 +0.7
comp=Z,2μm,1.3s
JTS LR LR
comp=Z,7μm,21.0s
JTS JuntasAbangare 90.48 80 P P 23 58 07.1 +0.7
comp=Z,528nm,1.4s,SNR=7.6
E30A Jud 90.53 42 ⇓P P 23 58 05.1 -0.8
baz=91
MDND Maddock 90.61 40 ⇑P P 23 58 05.5 -0.8
baz=91
A28A Rude Farm, Bot 90.63 39 ⇓P P 23 58 05.2 -1.1
baz=91
D30A Buchanan 90.86 41 ⇓P P 23 58 06.5 -0.9
baz=91
BTO Baotou 90.97 312 *e*P P 23 58 10.3 +2.1
B29A Wagenman Farm, 91.01 40 ⇓P P 23 58 07.7 -0.4
baz=91
ECSD EROS Data Cent 91.01 45 *e*P P 23 58 05.9 -2.3
comp=Z,93nm,1.8s
ECSD LR LR
comp=Z,3μm,21.0s
UALR University of 91.11 54 *e*P P 23 58 09.1 +0.3
comp=Z,55nm,1.1s
C30A Mose, Pekin 91.26 41 ⇑P P 23 58 08.6 -0.7
baz=91
A29A Manning Farm, 91.26 39 ⇑P P 23 58 08.7 -0.5
baz=91
B30A Myrvik Farm, E 91.63 40 ⇓P P 23 58 10.2 -0.8
baz=92
VBMS Vicksburg 91.78 57 PFAKE 23 58 20.0 +8.0
VBMS LR LR
comp=Z,2μm,20.0s
A30A Hoffart Farm, 91.83 39 ⇓P P 23 58 11.2 -0.6
baz=92
KMI Kunming 91.98 295 ⇑P P 23 58 15.3 +1.9
KMI pP pP 23 58 17.5 -0.7
KMI sP sP 23 58 19.5 -0.5
KMI PP PP 00 01 55.5 +2.3
KMI S S 00 09 13.3 -2.1
KMI sS ScS 00 09 18.3 +0.4
KMI SS SS 00 15 25.0 +0.5
KMI pmax pmax
comp=Z,30nm,1.5s
KMI pmax pmax
comp=Z,550nm,4.9s
KMI LR LR
comp=N,1μm,16.6s
KMI LR LR
comp=E,2μm,17.2s
KMI LR LR
comp=Z,2μm,19.2s
EFI East Falkland 92.04 145 PFAKE 23 58 20.0 +7.1
EFI LR LR
comp=Z,3μm,20.0s
FFC Flin Flon 92.04 33 *e*P P 23 58 14.3 +1.7
comp=Z,380nm,1.6s
FFC LR LR
comp=Z,3μm,20.0s
FFC Flin Flon 92.04 33 P P 23 58 14.0 +1.3
comp=Z,252nm,1.7s,SNR=5.3
NNA Nana 92.14 103 PFAKE 23 58 30.0 +16
NNA LR LR
comp=Z,3μm,19.0s
SYO Syowa Base 92.30 191 ⇑*e*P P 23 58 11.5 -2.2
SYO Syowa Base 92.30 191 ⇓*es*P sP 23 58 19.4 -0.9
SNAA Sanae 92.39 177 *e*P P 23 58 14.0 -0.2
SNAA Sanae 92.39 177 *e*P P 23 58 12.7 -1.5
comp=Z,417nm,2.6s
LCO Las Campanas 92.39 121 *e*P P 23 58 15.8 +0.4
comp=Z,392nm,2.3s
LCO LR LR
comp=Z,6μm,22.0s
SUKH Sukhothai 92.66 287 P P 23 58 18.5 +2.1
comp=Z,36nm,1.1s,comp=Z,345nm
CRAI Chiangrai 92.72 290 P P 23 58 17.2 +0.5
comp=Z,36nm,1.5s
SCIA State Center 92.74 47 *e*P P 23 58 18.4 +2.2
comp=Z,285nm,1.8s
SCIA LR LR
comp=Z,3μm,20.0s
CD2 Chengdu 92.77 301 P P 23 58 17.3 +0.6
CD2 pP pP 23 58 22.0 +0.5
CD2 sP sP 23 58 24.3 +1.1
CD2 PP PP 00 02 02.3 +3.2
CD2 SKS SKSac 00 08 49.5 -0.9
CD2 S S 00 09 20.0 -1.8
CD2 sS sS 00 09 27.5 -2.4
CD2 SS SS 00 15 37.3 +2.0
CD2 pmax pmax
comp=Z,20nm,1.0s
CD2 pmax pmax
comp=Z,1μm,6.3s
CD2 LR LR
comp=N,1μm,13.1s
CD2 LR LR
comp=Z,2μm,23.8s
LAMP Lampang 92.94 288 P P 23 58 19.8 +2.1
comp=Z,44nm,1.1s,comp=Z,366nm

AGMN	**Agassiz Nation**	**93.11**	**41**	*e*P	**P**	**23 58 17.4**	**-0.4**
	comp=Z,102nm,1.6s						
AGMN				LR	LR		
	comp=Z,4μm,20.0s						
OXF	**Oxford**	**93.34**	**55**	*e*P	**P**	**23 58 18.5**	**-0.6**
OXF				pmax	pmax		
	comp=Z,80nm,1.2s						
OXF				MLR	MLR		
	comp=Z,4μm,20.0s						
OXF	**Oxford**	**93.34**	**55**	*e*P	**P**	**23 58 18.5**	**-0.6**
	comp=Z,80nm,1.2s						
OXF				LR	LR		
	comp=Z,4μm,20.0s						
MAIT	**Maitri**	**93.52**	**181**	*e*P	P	23 58 14.2	-5.2
CMAR	**Chiang Mai Arr**	**93.55**	**288**	P	**P**	**23 58 21.4**	**+0.9**
CMAR	**Chiang Mai Arr**	**93.55**	**288**	P	**P**	**23 58 21.4**	**+0.9**
	comp=Z,15nm,1.0s,baz=99,slow=2.4,SNR=36						
CMAR				LR	LR	00 33 24.7	
	comp=Z,1μm,21.4s,baz=113,slow=31						
CHTO	**Chiang Mai**	**93.64**	**288**	*e*P	**P**	**23 58 22.1**	**+1.2**
CHTO				pmax	pmax		
	comp=Z,434nm,1.2s						
CHTO				MLR	MLR		
	comp=Z,2μm,21.0s						
CHTO	**Chiang Mai**	**93.64**	**288**	P	**P**	**23 58 23.3**	**+2.4**
	SNR=14						
CHTO	**Chiang Mai**	**93.64**	**288**	*e*P	**P**	**23 58 22.1**	**+1.2**
	comp=Z,434nm,1.2s						
CHTO				LR	LR		
	comp=Z,2μm,21.0s						
CHTO	**Chiang Mai**	**93.64**	**288**	P	**P**	**23 58 22.5**	**+1.6**
	comp=Z,479nm,1.2s						
ULM	**Lac du Bonnet**	**93.78**	**39**	*e*P	**P**	**23 58 19.1**	**-1.7**
	comp=Z,73nm,1.4s						
ULM	**Lac du Bonnet**	**93.78**	**39**	P	**P**	**23 58 22.4**	**+1.6**
	comp=Z,17nm,1.0s,baz=246,slow=5.1,SNR=15						
ULM				LR	LR	00 34 26.6	
	comp=Z,7μm,20.0s,baz=258,slow=32						
OTAV	**Otavalo**	**94.00**	**91**	*e*P	**P**	**23 58 23.4**	**+0.1**
OTAV				LR	LR		
	comp=Z,2μm,20.0s						
SPMN	**St. Paul**	**94.08**	**44**	*e*P	**P**	**23 58 21.2**	**-1.1**
SPMN	**St. Paul**	**94.08**	**44**	⇑P	**P**	**23 58 21.5**	**-0.8**
	baz=94						
LZH	**Lanzhou**	**94.17**	**306**	⇑P	**P**	**23 58 25.0**	**+1.8**
LZH				pP	**pP**	**23 58 31.5**	**+3.5**
LZH				sP	sP	23 58 36.3	+6.5
LZH				PP	**PP**	**00 02 15.0**	**+4.9**
LZH				SKS	**SKSac**	**00 08 58.0**	**-0.2**
LZH				*e*S	**S**	**00 09 31.5**	**-2.7**
LZH				sS	**sS**	**00 09 40.8**	**-1.5**
LZH				pmax	pmax		
	comp=Z,110nm,1.4s						
LZH				pmax	pmax		
	comp=Z,690nm,5.3s						
LZH				LR	LR		
	comp=N,2μm,16.8s						
LZH				LR	LR		
	comp=E,1μm,16.0s						
LZH				LR	LR		
	comp=Z,2μm,17.6s						
BRAL	**Brewton**	**94.26**	**59**	PFAKE		23 58 30.0	+6.5
BRAL				LR	LR		
	comp=Z,2μm,20.0s						
SIUC	**Southern Illin**	**94.41**	**52**	*e*P	**P**	**23 58 26.7**	**+2.8**
	comp=Z,79nm,1.3s						
PAF	**Port-aux-Franc**	**94.73**	**216**	PFAKE		23 58 40.0	+15
PAF				LR	LR		
	comp=Z,6μm,22.0s						
LRAL	**Lakeview Retre**	**94.85**	**57**	PFAKE		23 58 40.0	+14
LRAL				LR	LR		
	comp=Z,2μm,20.0s						
WVT	**Waverly**	**95.03**	**54**	*e*P	**P**	**23 58 27.0**	**+0.1**
WVT				pmax	pmax		
	comp=Z,58nm,1.8s						
WVT	**Waverly**	**95.03**	**54**	*e*P	**P**	**23 58 27.0**	**+0.1**
	comp=Z,58nm,1.8s						
BCIP	**Isla Barro Col**	**95.04**	**82**	PFAKE		23 58 40.0	+13
BCIP				LR	LR		
	comp=Z,2μm,21.0s						
JFWS	**Jewell Farm**	**95.14**	**47**	*e*P	**P**	**23 58 25.6**	**-1.6**
JFWS				pmax	pmax		
	comp=Z,71nm,1.0s						
JFWS				MLR	MLR		
	comp=Z,3μm,20.0s						
JFWS	**Jewell Farm**	**95.14**	**47**	*e*P	**P**	**23 58 25.6**	**-1.6**
	comp=Z,71nm,1.0s						
JFWS				LR	LR		
	comp=Z,3μm,20.0s						
HDIL	**Hopedale**	**95.15**	**49**	*e*P	**P**	**23 58 29.4**	**+2.0**
	comp=Z,131nm,1.5s						
HDIL				LR	LR		
	comp=Z,3μm,19.0s						
ULN	**Ulaanbaatar**	**95.34**	**318**	P	**P**	**23 58 30.8**	**+2.6**
	SNR=11						
ULN	**Ulaanbaatar**	**95.34**	**318**	*e*P	**P**	**23 58 29.1**	**+0.8**
	comp=Z,24nm,1.3s						
ULN				LR	LR		
	comp=Z,1μm,19.0s						
TRQA	**Tornquist**	**95.73**	**132**	PFAKE		23 58 40.0	+10
TRQA				LR	LR		
	comp=Z,3μm,22.0s						
SONM	**Songino Array**	**95.75**	**318**	P	**P**	**23 58 31.0**	**+0.9**
SONM				PP	**PP**	**00 02 26.9**	**+4.9**
SONM	**Songino Array**	**95.75**	**318**	P	**P**	**23 58 31.0**	**+0.9**
	comp=Z,0.9nm,0.6s,baz=116,slow=6.8,SNR=7.9						
SONM				PP	**PP**	**00 02 26.9**	**+4.9**
	comp=Z,4.3nm,1.1s,baz=107,slow=5.7,SNR=5.6						
EYMN	**Ely**	**95.77**	**42**	*e*P	**P**	**23 58 30.8**	**+0.8**
	comp=Z,77nm,1.5s						
EYMN				LR	LR		
	comp=Z,3μm,21.0s						
LVC	**Limon Verde**	**96.06**	**115**	PFAKE		23 58 40.0	+7.7
LVC				LR	LR		
	comp=Z,3μm,19.0s						
SWET	**Sewanee**	**96.28**	**55**	*e*P	**P**	**23 58 33.2**	**+0.5**
	comp=Z,20nm,1.0s						
SFIN	**Scholer Farm**	**96.72**	**50**	⇓P	**P**	**23 58 33.1**	**-1.3**
	baz=97						
TIGA	**Tifton**	**97.24**	**59**	⇑P	**P**	**23 58 35.2**	**-1.8**
	baz=97						
CPCT	**Cooper Cave**	**97.45**	**55**	*e*P	Pdif	23 58 41.3	+3.3
DGPR	**DIGLIPUR**	**97.80**	**281**	*e*P	P	23 58 35.3	-4.6
GTA	**Gaotai**	**98.12**	**309**	*e*P	Pdif	23 58 42.0	+0.9
GTA				pP	pP	23 58 50.3	+4.4
GTA				sP	sP	23 58 54.0	+6.4
GTA				PP	**PP**	**00 02 41.5**	**+0.9**
GTA				SKS	**SKSac**	**00 09 18.0**	**-0.7**
GTA				S	**S**	**00 10 05.3**	**-2.8**
GTA				sS	sS	00 10 13.3	-2.9
GTA				SS	**SS**	**00 16 52.3**	**+1.1**
GTA				pmax	pmax		
	comp=Z,12nm,1.0s						
GTA				pmax	pmax		
	comp=Z,350nm,4.7s						
GTA				LR	LR		
	comp=N,880nm,17.1s						
GTA				LR	LR		
	comp=E,990nm,20.9s						
GTA				LR	LR		
	comp=Z,2μm,20.9s						
TLY	**Talaya**	**98.52**	**321**	*e*P	Pdif	23 58 43.7	+1.3
LPAZ	**La Paz**	**98.87**	**110**	P	Pdif	23 58 47.4	+1.8
LPAZ	**La Paz**	**98.87**	**110**	P	Pdif	23 58 47.4	+1.8
	comp=Z,3.1nm,1.1s,baz=275,slow=5.4,SNR=5.2						
LPAZ				LR	LR	00 33 28.5	
	comp=Z,3μm,21.2s,baz=295,slow=29						
ACSO	**Alum Creek Sta**	**99.74**	**51**	PFAKE		23 59 00.0	+12
ACSO				LR	LR		
	comp=Z,4μm,19.0s						
KMSC	**Kings Mountain**	**99.92**	**56**	⇑Pdiff	**Pdif**	**23 58 47.3**	**-1.7**
	baz=100						
BLA	**Blacksburg**	**101.07**	**54**	PFAKE		23 59 10.0	+16
BLA				LR	LR		
	comp=Z,4μm,19.0s						
MCWV	**Mont Chateau**	**101.99**	**52**	PFAKE		23 59 10.0	+12
MCWV				LR	LR		
	comp=Z,3μm,19.0s						
GTBY	**Guantanamo Bay**	**102.07**	**73**	PFAKE		23 59 10.0	+11
GTBY				LR	LR		
	comp=Z,2μm,22.0s						
ERPA	**Erie**	**102.33**	**50**	PFAKE		23 59 10.0	+10
ERPA				LR	LR		
	comp=Z,4μm,20.0s						
LSA	**Lhasa**	**103.06**	**297**	PFAKE		23 59 10.0	+6.3
LSA				LR	LR		
	comp=Z,972nm,19.0s						
CBN	**Corbin**	**103.63**	**54**	PFAKE		23 59 20.0	+15
CBN				LR	LR		
	comp=Z,3μm,19.0s						
SDV	**Santo Domingo**	**103.76**	**85**	PFAKE		23 59 20.0	+13
SDV				LR	LR		
	comp=Z,870nm,21.0s						
BINY	**Binghamton**	**105.28**	**50**	PFAKE		00 03 40.0	
BINY				LR	LR		
	comp=Z,5μm,19.0s						
SDDR	**Presa de Saban**	**105.40**	**74**	PFAKE		00 03 40.0	
SDDR				LR	LR		
	comp=Z,5μm,21.0s						
SAML	**Samuel**	**105.85**	**104**	PFAKE		00 03 40.0	
SAML				LR	LR		
	comp=Z,3μm,19.0s						
GRTK	**Grand Turk**	**106.04**	**72**	PFAKE		00 03 40.0	
GRTK				LR	LR		
	comp=Z,2μm,20.0s						
LONY	**Lake Ozonia**	**106.58**	**48**	PFAKE		00 03 40.0	
LONY				LR	LR		
	comp=Z,3μm,21.0s						
NCB	**Newcomb**	**106.77**	**48**	PFAKE		00 03 40.0	
NCB				LR	LR		
	comp=Z,3μm,21.0s						
LBNH	**Lisbon**	**108.44**	**48**	PFAKE		00 03 40.0	
LBNH				LR	LR		
	comp=Z,5μm,21.0s						
SJG	**San Juan**	**110.01**	**76**	PFAKE		00 03 50.0	
SJG				LR	LR		
	comp=Z,3μm,21.0s						
ZALV	**Zalesovo Beam**	**110.11**	**322**	PKiKP	**PKiKP**	**00 03 37.8**	**+2.4**
ZALV				PP	**PP**	**00 04 04.6**	**-4.5**
ZALV				PKKP	**PKKPdf**	**00 14 59.8**	**+3.9**
ZALV	**Zalesovo Beam**	**110.11**	**322**	PKiKP	**PKiKP**	**00 03 37.8**	**+2.4**
	comp=Z,0.3nm,0.3s,baz=126,slow=2.5,SNR=2.9						
ZALV				PP	**PP**	**00 04 04.6**	**-4.5**
	comp=Z,0.6nm,0.3s,baz=90,slow=5.9,SNR=5.7						
ZALV				PKKP	**PKKPdf**	**00 14 59.8**	**+3.9**
	comp=Z,1.3nm,0.8s,baz=282,slow=2.9,SNR=5.3						
PKME	**Peaks-Kenny Pk**	**110.38**	**47**	PFAKE		00 03 50.0	
PKME				LR	LR		
	comp=Z,3μm,20.0s						
DGAR	**Diego Garcia**	**111.63**	**255**	PFAKE		00 03 50.0	
DGAR				LR	LR		
	comp=Z,3μm,19.0s						
MKAR	**Makanchi Array**	**111.75**	**314**	P	**Pdif**	**23 59 42.2**	**+0.8**
MKAR				PKiKP	**PKiKP**	00 03 38.0	
MKAR	**Makanchi Array**	**111.75**	**314**	Pdif	**Pdif**	**23 59 42.2**	**+0.8**
MKAR				PKiKP	**PKiKP**	**00 03 38.0**	**-0.8**
MKAR				PKKPbc	**PKKPbc**	**00 14 31.8**	**-1.5**
MKAR				PKKPab	**PKKPab**	**00 14 43.8**	**+3.4**
MKAR	**Makanchi Array**	**111.75**	**314**	Pdiff	**Pdif**	**23 59 42.2**	**+0.8**
	comp=Z,0.4nm,0.8s,baz=92,slow=4.3,SNR=3.4						
MKAR				PKiKP	**PKiKP**	**00 03 38.0**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=56,slow=2.6,SNR=4.4						
MKAR				PKKPbc	**PKKPbc**	**00 14 31.8**	**-1.5**
	comp=Z,0.3nm,0.6s,baz=219,slow=0.8,SNR=4.0						
MKAR				PKKPab	**PKKPab**	**00 14 43.8**	**+3.4**
	comp=Z,2.3nm,1.1s,baz=251,slow=3.7,SNR=6.8						
GRGR	**Grenville**	**113.09**	**83**	PFAKE		00 03 50.0	
GRGR				LR	LR		
	comp=Z,1μm,19.0s						
BBSR	**BB Station**	**113.22**	**61**	PFAKE		00 03 50.0	
BBSR				LR	LR		
	comp=Z,2μm,20.0s						
SPB	**Sao Paulo**	**113.55**	**125**	PFAKE		00 03 50.0	
SPB				LR	LR		
	comp=Z,5μm,20.0s						
ANWB	**Willy Bob**	**114.02**	**77**	PFAKE		00 04 00.0	+16
ANWB				LR	LR		
	comp=Z,2μm,19.0s						
KURK	**Kurchatov**	**114.04**	**319***c*	*i*PKIKP	PKPdf	00 03 43.5	+0.6
KURK	**Kurchatov**	**114.04**	**319**	PKP	PKPdf	00 03 41.6	-1.3
KURK				PP	**PP**	**00 04 33.1**	**-4.3**
KURK				PKKPbc	**PKKPbc**	**00 14 23.8**	**-1.9**
KURK				LR	LR		
	comp=Z,1μm,20.0s						
KURBB	**Kurchatov Arra**	**114.11**	**319**	PKP	PKPdf	00 03 41.6	-1.5
	comp=Z,0.6nm,0.2s,baz=82,slow=1.7,SNR=6.9						
KURBB				PP	**PP**	**00 04 33.1**	**-4.7**
	comp=Z,3.7nm,0.9s,baz=88,slow=7.9,SNR=8.7						
KURBB				PKKPbc	**PKKPbc**	**00 14 23.8**	**-1.7**
	comp=Z,0.9nm,0.5s,baz=263,slow=4.0,SNR=3.8						
BBGH	**Gun Hill**	**115.30**	**83**	PFAKE		00 04 00.0	+14
BBGH				LR	LR		
	comp=Z,5μm,22.0s						
KSH	**Kashi**	**116.42**	**307**	*e*Pdif	**Pdif**	**00 00 05.5**	**+3.1**
KSH				PKP	**PKiKP**	**00 03 49.5**	**+1.4**
KSH				PP	PP	00 05 02.5	+7.8
KSH				PKS	**PKSdf**	**00 07 25.0**	**+0.1**
KSH				AMB	AMB		
	comp=Z,520nm,6.1s						
KSH				LR	LR		
	comp=N,670nm,16.0s						
KSH				LR	LR		
	comp=E,800nm,17.1s						
KSH				LR	LR		
	comp=Z,710nm,20.8s						
TKM2	**Tokmak 2**	**116.60**	**310**	PFAKE		00 04 00.0	+12
TKM2				LR	LR		
	comp=Z,1μm,22.0s						
SFJD	**Kangerlussuaq**	**116.74**	**22**	PFAKE		00 04 00.0	+12
SFJD				LR	LR		
	comp=Z,4μm,21.0s						
KBS	**Kingsbay**	**116.88**	**359**	PFAKE		00 04 00.0	+12
KBS				LR	LR		
	comp=Z,2μm,20.0s						
AAK	**Ala-Archa**	**117.42**	**310**	PFAKE		00 04 00.0	+10
AAK				LR	LR		
	comp=Z,1μm,19.0s						
EKS2	**Erkin-Say**	**117.95**	**310**	PFAKE		00 04 00.0	+9.1
EKS2				LR	LR		
	comp=Z,1μm,20.0s						
BVAR	**Borovoye Array**	**118.76**	**322**	PKIKP	**PKPdf**	**00 03 52.1**	**+0.1**
BVAR	**Borovoye Array**	**118.76**	**322**	PKP	**PKPdf**	**00 03 52.1**	**+0.1**
BVAR	**Borovoye Array**	**118.76**	**322**	PKP	**PKPdf**	**00 03 52.1**	**+0.1**
	comp=Z,1.7nm,0.6s,baz=68,slow=4.0,SNR=5.9						
BRVK	**Borovoye**	**118.82**	**322**	*i*PKIKP	**PKPdf**	**00 03 51.7**	**-0.4**
BRVK	**Borovoye**	**118.82**	**322**	PFAKE		00 04 00.0	+7.9
BRVK				LR	LR		
	comp=Z,3μm,20.0s						
KKAR	**Karatay Array**	**120.30**	**311**	*e*PKPdf	**PKPdf**	**00 03 55.1**	**-0.2**
KBL	**Kabul**	**122.11**	**301**	*e*PKIKP	**PKPdf**	**00 03 59.8**	**+0.5**
KBL				*e*		00 05 33.2	
KBL	**Kabul**	**122.11**	**301**	*e*PKPdf	**PKPdf**	**00 03 59.8**	**+0.5**
KBL				*e*PP	**PP**	**00 05 33.2**	**-1.0**
TRIS	**Tristan da Cun**	**124.14**	**161**	PFAKE		00 04 10.0	+7.1
TRIS				LR	LR		
	comp=Z,2μm,21.0s						
ARU	**Arti**	**124.18**	**328**	*i*PKIKP	**PKPdf**	**00 04 01.7**	**-0.6**
ARU						00 05 46.4	
ARU						00 11 03.6	
ARU				SP	SP	00 15 47.6	+4.8
ARU				SS	SS	00 22 28.3	-9.0
KEV	**Kevo**	**124.78**	**352**	PFAKE		00 04 10.0	+7.0
KEV				LR	LR		
	comp=Z,4μm,20.0s						
ARCES	**ARCESS Array B**	**125.19**	**352**	PKP	**PKPdf**	**00 04 03.1**	**-0.8**
ARCES	**ARCESS Array B**	**125.19**	**352**	PKP	**PKPdf**	**00 04 03.1**	**-0.8**
	comp=Z,8.6nm,0.8s,baz=343,slow=2.9,SNR=9.4						
ABKAR	**Akbulak array**	**126.11**	**320**	*e*PKPdf	**PKPdf**	**00 04 05.3**	**-0.9**
AKTO	**Aktyubinsk**	**126.87**	**322**	PKIKP	**PKPdf**	**00 04 07.3**	**-0.3**
AKTO	**Aktyubinsk**	**126.87**	**322**	PKP	**PKPdf**	**00 04 07.3**	**-0.3**
AKTO	**Aktyubinsk**	**126.87**	**322**	PKP	**PKPdf**	**00 04 07.3**	**-0.3**
	comp=Z,2.5nm,1.0s,baz=82,slow=3.7,SNR=8.8						
BORG	**Borgarnes**	**127.40**	**15**	PFAKE		00 04 20.0	+12
BORG				LR	LR		
	comp=Z,5μm,22.0s						
ABPO	**Ambohimpanom**	**127.72**	**230**	PFAKE		00 04 20.0	+10
ABPO				LR	LR		
	comp=Z,4μm,21.0s						
MSEY	**Mahe Island**	**128.29**	**251**	PFAKE		00 04 20.0	+8.5
MSEY				LR	LR		
	comp=Z,3μm,20.0s						
SUR	**Sutherland**	**130.35**	**195**	PFAKE		00 04 30.0	+15
SUR				LR	LR		
	comp=Z,5μm,19.0s						
RCBR	**Riachuelo**	**131.96**	**113**	PFAKE		00 04 30.0	+12
RCBR				LR	LR		
	comp=Z,4μm,22.0s						
BOSA	**Boshof**	**132.54**	**201**	PKP	**PKPdf**	**00 04 19.8**	**+0.5**
BOSA	**Boshof**	**132.54**	**201**	PKP	**PKPdf**	**00 04 19.8**	**+0.5**
	comp=Z,3.0nm,0.8s,baz=198,slow=3.2,SNR=3.3						
FINES	**FINESS Array B**	**132.58**	**348**	PKP	**PKPdf**	**00 04 17.9**	**-0.3**
FINES	**FINESS Array B**	**132.58**	**348**	PKP	**PKPdf**	**00 04 17.9**	**-0.3**
	comp=Z,6.0nm,0.8s,baz=350,slow=4.3,SNR=7.9						
NB2	**NORSAR Subarra**	**134.81**	**357**	PKPdf	**PKPdf**	**00 04 22.7**	**+0.3**
	comp=Z,20nm,1.4s,baz=6.6,slow=1.8						
NB2	**NORSAR Subarra**	**134.81**	**357**	PKPdf	**PKPdf**	**00 04 22.7**	**+0.3**
	baz=6.6,slow=1.8						
NOA	**NORSAR Array B**	**134.81**	**357**	PKP	**PKPdf**	**00 04 22.4**	**0.0**
NOA	**NORSAR Array B**	**134.81**	**357**	PKP	**PKPdf**	**00 04 22.4**	**0.0**
	comp=Z,3.0nm,0.9s,baz=14,slow=4.1,SNR=4.6						
OBN	**Obninsk**	**134.88**	**337**	⇑*i*PKIKP	**PKPdf**	**00 04 24.0**	**+1.4**
OBN				*e*		00 04 31.1	
OBN						00 07 01.0	
OBN				*e*		00 29 47.0	
OBN				pmax	pmax		
	comp=Z,30nm,1.5s						
OBN				MLR	MLR		
	comp=Z,2μm,19.0s						
LBTB	**Lobatse**	**135.68**	**204**	PKP	**PKPdf**	**00 04 27.6**	**+2.3**
LBTB	**Lobatse**	**135.68**	**204**	PKP	**PKPdf**	**00 04 27.6**	**+2.3**
	comp=Z,4.6nm,1.0s,baz=207,slow=9.0,SNR=3.2						
KONO	**Kongsberg**	**136.26**	**358**	PFAKE		00 04 40.0	+15
KONO				LR	LR		
	comp=Z,2μm,21.0s						
DGRG	**David-gareji**	**138.59**	**316**	P	PKPdf	00 04 35.6	+5.5
KBZ	**Khabaz**	**139.08**	**320**	PKIKP	**PKPdf**	**00 04 31.0**	**+0.3**
KBZ						00 07 21.1	
KBZ	**Khabaz**	**139.08**	**320**	PKP	**PKPdf**	**00 04 31.0**	**+0.3**
KBZ				PP	**PP**	**00 07 21.1**	**-2.1**
KBZ				PKKPab		00 12 42.4	
KBZ	**Khabaz**	**139.08**	**320**	PKP	**PKPdf**	**00 04 31.0**	**+0.3**
	comp=Z,2.1nm,0.8s,baz=82,slow=2.4,SNR=4.2						
KBZ				PP	**PP**	**00 07 21.1**	**-2.1**
	comp=Z,3.5nm,1.1s,baz=98,slow=3.9,SNR=4.5						
KBZ				PKKPab		00 12 42.4	
	comp=Z,3.9nm,0.9s,baz=198,slow=2.1,SNR=4.8						
ONI	**Oni**	**139.31**	**318**	P	**PKPdf**	**00 04 30.9**	**-0.5**
GNI	**Garni**	**139.60**	**314**	PFAKE		00 04 40.0	+7.9
GNI				LR	LR		
	comp=Z,1μm,21.0s						
EKA	**Eskdalemuir Ar**	**139.78**	**9**	PKPpre	PKPpre	00 04 28.8	
EKA	**Eskdalemuir Ar**	**139.78**	**9**	PKhKP	PKPpre	00 04 28.8	
	comp=Z,1.5nm,0.8s,baz=300,slow=1.8,SNR=3.7						
ESK	**Eskdalemuir**	**139.78**	**9**	PFAKE		00 04 40.0	+8.3
ESK				LR	LR		
	comp=Z,3μm,20.0s						
AKASG	**Malin Array Be**	**141.09**	**338**	PKHKP	PKPpre	00 04 28.0	
AKASG	**Malin Array Be**	**141.09**	**338**	PKPpre	PKPpre	00 04 27.9	
AKASG	**Malin Array Be**	**141.09**	**338**	PKhKP	PKPpre	00 04 27.9	
	comp=Z,1.8nm,0.6s,baz=38,slow=3.9,SNR=5.3						
KIEV	**Kiev**	**141.10**	**338**	PFAKE		00 04 50.0	+16
KIEV				LR	LR		
	comp=Z,3μm,21.0s						
LSZ	**Lusaka**	**142.89**	**214**	PFAKE		00 04 50.0	+11
LSZ				LR	LR		
	comp=Z,4μm,21.0s						
KELT	**Kelkit**	**143.28**	**318**	*i* P	**PKPdf**	**00 04 40.2**	**+1.5**
CMLA	**Cha da Macela**	**143.66**	**47**	PFAKE		00 04 50.0	+11
CMLA				LR	LR		
	comp=Z,5μm,20.0s						
TSUM	**Tsumeb**	**143.75**	**196**	PKP	PKPbc	00 04 38.4	+0.9
TSUM				LR	LR		
	comp=Z,6μm,22.0s						
TSUM	**Tsumeb**	**143.75**	**196**	PKP	PKPbc	00 04 38.4	+0.9
	comp=Z,12nm,1.0s,baz=185,slow=5.2,SNR=13						
SUSE	**Susehri**	**143.92**	**318**	*i* P	**PKPdf**	**00 04 43.6**	**+3.8**
WTSB	**Winterswijk**	**143.99**	**1**	*e*PKPdf	PKPab	00 04 36.1	-0.5
	comp=Z,110nm,1.7s						
CLZ	**Clausthal**	**144.04**	**357**	*e*PKPbc	**PKPab**	**00 04 35.9**	**-1.0**
KWP	**Kalwaria Pacla**	**144.12**	**343**	PFAKE		00 04 50.0	+10
KWP				LR	LR		
	comp=Z,2μm,21.0s						
KWP	**Kalwaria Pacla**	**144.12**	**343**	⇓*i*P	**PKPab**	**00 04 36.1**	**-1.1**
KWP	**Kalwaria Pacla**	**144.12**	**343**	*e*PKP	**PKPab**	**00 04 37.3**	**+0.1**
KEMA	**Kemaliye**	**144.24**	**317**	*i* P	**PKPdf**	**00 04 39.7**	**-0.6**
ELZG	**Elazig**	**144.31**	**315**	*i* P	**PKPdf**	**00 04 41.8**	**+1.3**
OJC	**Ojcow**	**144.32**	**346**	*e*PKPdf	**PKPab**	**00 04 37.4**	**-0.5**
CLL	**Collm**	**144.37**	**354**	*e*PKPbc	**PKPab**	**00 04 36.4**	**-1.7**
CLL	**Collm**	**144.37**	**354**	⇑*i*PKPdf	**PKPab**	**00 04 37.1**	**-1.0**
	comp=Z,21nm,0.9s						
CLL				*e*		00 04 50.0	
CLL				*e*PP	**PP**	**00 07 55.0**	**+0.5**
KSP	**Ksiaz**	**144.40**	**350**	*e*PKP	**PKPab**	**00 04 38.3**	**+0.1**
BUG	**Bochum--Univer**	**144.52**	**0**	*e*PKPbc	**PKPab**	**00 04 37.1**	**-1.5**
IAS	**Iasi**	**144.60**	**336**	⇓*i*P	**PKPdf**	**00 04 40.0**	**-0.5**
BRG	**Berggiesshubel**	**144.70**	**353**	*e*PKP	**PKPdf**	**00 04 40.8**	**+0.2**
	comp=Z,29nm,1.5s						
BRG				*i*		00 04 43.4	
	comp=Z,106nm,2.0s						
BRG							
	comp=N,2μm,21.2s						
BRG							
	comp=E,1μm,30.1s						
BRG							
	comp=Z,2μm,24.2s						
BRG	**Berggiesshubel**	**144.70**	**353**	*e*PKPbc	**PKPab**	**00 04 38.1**	**-1.2**
STHS	**Stebnicka Huta**	**144.71**	**344**	*e*PKP	PKPbc	00 04 39.5	0.0
UPC	**Upice**	**144.77**	**351**	*e*PKP	**PKPab**	**00 04 39.4**	**-0.2**
MALT	**Malatya**	**144.78**	**315**	⇓*i*P	**PKPdf**	**00 04 41.3**	**0.0**
SCER	**sogukcermik**	**144.80**	**319**	*i* P	**PKPdf**	**00 04 42.6**	**+1.3**
DPC	**Dobruska-Polom**	**144.87**	**350**	*e*PKP	**PKPab**	**00 04 39.7**	**-0.3**
DPC				*ex*	x	00 04 50.7	
KOLS	**Kolonicke sedl**	**144.87**	**343**	*e*PKP	**PKPab**	**00 04 39.8**	**-0.2**
LEOM	**Leova**	**144.91**	**335**	⇓*i*P	**PKPdf**	**00 04 42.0**	**+0.9**
NIE	**Niedzica**	**144.94**	**345**	*e*PKPdf	PKPbc	00 04 40.4	+0.1
PVCC	**Panska Ves**	**144.96**	**352**	*e*PKP	**PKPab**	**00 04 39.4**	**-0.8**
PVCC				*ex*	x	00 04 50.6	
HAVZ	**Havza**	**144.96**	**321**	*i* P	**PKPdf**	**00 04 41.7**	**+0.3**
OKC	**Ostrava-Krasne**	**145.03**	**348**	*e*PKP	**PKPbc**	**00 04 39.8**	**-0.7**
UCC	**Uccle**	**145.07**	**3**	APKP	**PKPdf**	**00 04 43.2**	**+2.0**

SNR=51
KMBO Kilima Mbogo 146.07 243 PKPbc PKPab 00 04 46.3 +0.5
KMBO LR LR
comp=Z,2µm,21.0s
KMBO Kilima Mbogo 146.07 243 PKPbc PKPab 00 04 46.3 +0.5
comp=Z,34nm,1.1s,baz=70,slow=5.2,SNR=39
GRF Grafenberg Arr 146.13 356 *e*PKPbc **PKPdf 00 04 43.4 +0.3**
ILGA Ilgaz 146.16 323 *i* P **PKPab 00 04 45.7 +0.4**
WLF Walferdange 146.28 2 PKP **PKPbc 00 04 44.1 -0.3**
WLF APKP PKiKP 00 04 47.4 -0.2
WLF Walferdange 146.28 2 *e*PKPbc **PKPbc 00 04 43.9 -0.5**
WLF Walferdange 146.28 2 PFAKE 00 04 50.0 +4.8
WLF LR LR
comp=Z,3µm,21.0s
BST Brest 146.30 14 PKP **PKPbc 00 04 44.7 +0.2**
GRER 146.32 335 ⇓*iP* **PKPab 00 04 47.9 +2.4**
AYKD Aykdinkavak 146.34 315 *i* P **PKPab 00 04 50.0 +4.1**
SMOL Smolenice 146.44 348 *e*PKP **PKPab 00 04 47.5 +1.7**
PSZ Piszkesteto 146.44 345 PFAKE 00 05 00.0 +14
PSZ LR LR
comp=Z,3µm,22.0s
PSZ Piszkesteto 146.44 345⇑ *iP* **PKPbc 00 04 45.0 -0.1**
PSZ Piszkesteto 146.44 345⇑ *e* **PKPbc 00 04 45.3 +0.2**
TIRR Tirgusor 146.44 332 ⇓*iP* **PKPab 00 04 46.7 +0.8**
DOPR Dopca 146.45 337⇑ *iP* **PKPbc 00 04 45.0 -0.1**
KHC Kasperske Hory 146.46 353 *e*PKP **PKPbc 00 04 44.7 -0.4**
KHC *ex* x 00 05 00.0
KHC AMS AMS 01 03 20.0
comp=Z,2µm,23.7s
KUZU Kuzuini 146.49 314 *i* P **PKPab 00 04 46.4 -0.1**
TLB Topalu 146.50 333⇑ *iP* **PKPbc 00 04 45.3 +0.1**
WET Wettzell 146.53 354 *e*PKPbc **PKPbc 00 04 44.7 -0.5**
ANDN Andirin 146.57 316 *i* P **PKPbc 00 04 46.0 +0.2**
MLR Muntele Rosu 146.64 336 PKPbc **PKPbc 00 04 45.7 -0.1**
MLR Muntele Rosu 146.64 336⇑ *iP* **PKPbc 00 04 45.7 -0.1**
MLR Muntele Rosu 146.64 336 PKPbc **PKPbc 00 04 45.7 -0.1**
comp=Z,16nm,1.2s,baz=38,slow=3.7,SNR=26
DRGR 146.66 341⇑ *iP* **PKPdf 00 04 44.8 +0.6**
CDAG Cicekdag 146.66 321 *i* P **PKPab 00 04 47.4 +0.3**
ELDT Eldivan 146.69 323 *i* P **PKPbc 00 04 46.6 +0.4**
ISR Istrita 146.71 335⇑ *iP* **PKPab 00 04 48.8 +1.7**
GEC2 GERESS Array S 146.72 352 *e*PKPbc **PKPbc 00 04 45.1 -0.8**
GERES GERESS Array B 146.72 352 PKPbc **PKPdf 00 04 44.9 +0.7**
GERES GERESS Array B 146.72 352 PKPbc **PKPdf 00 04 44.9 +0.7**
comp=Z,5.8nm,0.7s,baz=15,slow=4.1,SNR=22
AMRR Amara 146.79 334⇑ *iP* **PKPbc 00 04 46.6 +0.5**
AVNT Avonos 146.87 319 *i* P **PKPbc 00 04 46.9 +0.2**
LANF Langenberg 146.98 360 PKP **PKPbc 00 04 46.4 -0.1**
VOIR 147.03 337⇑ *iP* **PKPbc 00 04 46.8 -0.1**
BR131 Keskin Array S 147.04 321 *e*PKP **PKPbc 00 04 46.4 -0.7**
BRTR Keskin Array B 147.04 321 PKPbc **PKPbc 00 04 46.5 -0.7**
BRTR Keskin Array B 147.04 321 PKPbc **PKPbc 00 04 46.5 -0.7**
comp=Z,14nm,0.9s,baz=118,slow=1.8,SNR=24
BUD Budapest 147.06 346⇑ *e* **PKPbc 00 04 46.5 -0.3**
PSN Preselentsi 147.15 332 *e*P **PKPab 00 04 50.5 +1.8**
STU Stuttgart 147.16 358 *e*PKPbc **PKPab 00 04 46.3 -0.7**
COBT Iskenderun 147.19 314 *i* P **PKPbc 00 04 47.4 -0.3**
SULR 147.19 335 ⇓*iP* **PKPab 00 04 49.6 +0.8**
MTUR Matau 147.20 337⇑ *iP* **PKPdf 00 04 41.3 -3.9**
ARR Arges 147.24 337⇑ *iP* **PKPab 00 04 48.3 -0.9**
CONA Conrad Observa 147.29 350 *i* PKPab **PKPbc 00 04 47.7 +0.2**
comp=Z,200nm,1.6s,SNR=53
PKSG 147.29 346⇑ *e* **PKPbc 00 04 47.0 -0.4**
PKSN Nyarlorinc 147.39 344⇑ *e* **PKPab 00 04 50.3 +0.7**
SOP Sopron 147.40 349⇑ *e* **PKPbc 00 04 48.1 +0.4**
DEV Deva 147.40 340 ⇓*iP* **PKPbc 00 04 47.9 +0.1**
PKS7 Kunszentmiklos 147.43 345⇑ *e* **PKPbc 00 04 47.4 -0.4**
SIRR Siria 147.46 342⇑ *iP* **PKPbc 00 04 48.0 0.0**
ANTO Ankara 147.46 322 P **PKPab 00 04 49.6 -0.6**
SNR=64
ANTO Ankara 147.46 322 PFAKE 00 05 00.0 +10
ANTO LR LR
comp=Z,1µm,21.0s
ANTO Ankara 147.46 322⇑ *iP* **PKPbc 00 04 48.2 0.0**
BBAL Bala 147.47 321 *i* P **PKPbc 00 04 47.7 -0.7**
PKST T''s 147.50 347⇑ *e* **PKPbc 00 04 47.5 -0.5**
YAYL Yayladag 147.54 314 *i* P **PKPbc 00 04 48.6 0.0**
MOA Molln 147.62 351 *i* pPKPdf **PKPbc 00 04 48.0 -0.4**
comp=Z,86nm,1.4s,SNR=31
BFO Black Forest 147.63 359 *e*PKPbc **PKPbc 00 04 47.3 -1.1**
BFO Black Forest 147.63 359 PFAKE 00 05 00.0 +9.5
BFO LR LR
comp=Z,2µm,21.0s
FUR Furstenfeldbru 147.65 355 *e*PKPbc **PKPbc 00 04 47.3 -1.1**
THEF They Montfort 147.71 2 PKP **PKPbc 00 04 48.4 -0.2**
ECH Echery 147.75 0 PKP **PKPbc 00 04 48.6 -0.1**
ECH Echery 147.75 0 PFAKE 00 05 00.0 +9.0
ECH LR LR
comp=Z,2µm,21.0s
GULE Gulek 147.77 317 *i* P **PKPbc 00 04 49.6 +0.3**
GZR Gura Zlata 147.88 340⇑ *iP* **PKPbc 00 04 48.6 -0.6**
PRD Provadia 147.88 332 *e*P **PKPab 00 04 51.1 -0.5**
RJOB Jochberg 147.92 353 *e*PKPbc **PKPbc 00 04 48.0 -1.2**
PKS2 Kecel 147.94 345⇑ *e* **PKPbc 00 04 48.4 -0.8**
ASCN Ascension 147.96 136 *e*PKPab **PKPab 00 04 52.2 -0.6**
ASCN LR LR
comp=Z,1µm,21.0s
ARSA Arzberg 148.01 350 *i* pPKPdf **PKPbc 00 04 48.7 -0.7**
comp=Z,56nm,1.3s,SNR=29
BZS Buzias 148.05 341 ⇓*iP* **PKPbc 00 04 48.5 -1.1**
PKS9 Tamasi 148.08 346⇓ *e* **PKPbc 00 04 50.6 +1.0**
RETA Reutte 148.36 356 *i* pPKPdf **PKPbc 00 04 49.6 -0.8**
comp=Z,89nm,1.4s,SNR=43
ZIMR 148.39 335 ⇓*iP* **PKPab 00 04 52.5 -1.1**
WATA Walderalm 148.44 355⇑ *iPKPbc* **PKPdf 00 04 48.5 +1.3**
comp=Z,38nm,1.2s,SNR=9.8
SZH Strazhica 148.47 334 *e*P **PKPab 00 04 53.1 -0.9**
MOTA Moosalm 148.47 355⇑ *iPKPdf* **PKPdf 00 04 48.6 +1.3**
comp=Z,77nm,1.1s,SNR=19
WTTA Wattenberg 148.51 355 ⇓*iPKPdf* **PKPdf 00 04 48.4 +1.1**
comp=Z,104nm,1.6s,SNR=32
BEHE Becsehely 148.52 348⇑ *e* **PKPbc 00 04 49.3 -1.5**
HWQ Hawqa 148.52 311 *e*P **PKPab 00 04 55.1 +0.4**
LOMF Lomont 148.61 1 PKP **PKPbc 00 04 50.3 -0.8**
DAVA Damuels 148.61 357 *i* sPKPdf **PKPbc 00 04 50.3 -0.9**
comp=Z,95nm,1.6s,SNR=28
SOKA Soboth 148.65 350 *i* pPKPdf **PKPbc 00 04 49.6 -1.6**
comp=Z,64nm,1.2s,SNR=50
ISK Istanbul-Kandi 148.70 328 P **PKPbc 00 04 50.0 -1.4**
ISK Istanbul-Kandi 148.70 328 PKIKP **PKPbc 00 04 50.0 -1.4**
ISK Istanbul-Kandi 148.70 328 P **PKPbc 00 04 50.0 -1.4**
ASF Jabal al Asfar 148.74 307 PKPbc **PKPbc 00 04 51.9 0.0**
ASF Jabal al Asfar 148.74 307 PKPbc **PKPbc 00 04 51.9 0.0**
comp=Z,12nm,0.9s,baz=155,slow=0.8,SNR=11
PVL Pavlikeni 148.77 334 *e*P **PKPbc 00 04 53.1 +1.6**
BORA Eskisehir 148.79 325 *i* P **PKPbc 00 04 52.2 +0.4**
SEYT Eskypehyr 148.81 324 *i* P **PKPbc 00 04 51.5 -0.4**
FETA Feichten 148.82 356⇑ *iPKPdf* **PKPdf 00 04 48.4 +0.5**
comp=Z,60nm,1.3s,SNR=20
BUY Buyukada 148.83 327 *i* P **PKPbc 00 04 51.0 -0.7**
JMB Yambol 148.83 332 P **PKPbc 00 04 53.5 +1.8**
JMB Yambol 148.83 332 PKP2 **PKPbc 00 04 53.5 +1.8**
JMB Yambol 148.83 332 P **PKPbc 00 04 53.5 +1.8**
OBKA Obir 148.89 351 *i* sPKPdf **PKPbc 00 04 50.9 -1.0**
comp=Z,34nm,1.1s,SNR=16
MYKA Terra Mystica 148.91 352⇑ *iPKPbc* **PKPbc 00 04 50.4 -1.5**
comp=Z,83nm,1.6s,SNR=17
BHL Bhannes 148.91 310 *e*P **PKPab 00 04 55.8 -0.5**
ABTA Abfaltersbach 148.93 353 *i* PKPdf **PKPdf 00 04 47.5 -0.4**
comp=Z,67nm,1.1s,SNR=39
DAVOX Davos/Dischmat 149.12 357 PKPbc **PKPbc 00 04 50.5 -2.0**
DAVOX Davos/Dischmat 149.12 357 PKPbc **PKPbc 00 04 50.5 -2.0**
comp=Z,9.9nm,0.7s,baz=25,slow=3.6,SNR=14
EDRB Edirne 149.24 331 P **PKPbc 00 04 54.1 +1.4**
EDRB Edirne 149.24 331 P **PKPbc 00 04 54.1 +1.4**
MPEP Malo Peshtene 149.29 336 *e*P **PKPbc 00 04 51.3 -1.5**
BOLV Bolvadin 149.29 322 *i* P **PKPbc 00 04 53.5 +0.3**
ULDT Uludag 149.33 326 *i* P **PKPbc 00 04 52.6 -0.7**
TUE Stuetta 149.45 357 PFAKE 00 05 00.0 +1.9
TUE LR LR
comp=Z,2µm,21.0s
MMAI Mount Meron Ar 149.51 309 PKPbc **PKPbc 00 04 52.2 -1.6**
MMAI Mount Meron Ar 149.51 309 PKPbc **PKPbc 00 04 52.2 -1.6**
comp=Z,6.1nm,0.6s,baz=66,slow=6.5,SNR=12
PHNC Paralimni 149.52 314 P **PKPdf 00 04 51.2 +2.1**
comp=Z,2.5nm,1.0s
SISC Sisak 149.56 348 P **PKPdf 00 04 50.3 +1.4**
AGO Saint Agoulin 149.69 6 PKP **PKPdf 00 04 50.2 +1.1**
PGB Panagyurishte 149.80 335 *e*P **PKPbc 00 04 56.2 +2.0**
DIVS Divibare 149.92 342 P **PKPdf 00 04 51.7 +2.1**
SART Tekirdag 149.93 329 *i* P **PKPbc 00 04 54.2 -0.4**
PLD Plovdiv 149.94 334 P **PKPdf 00 04 50.7 +1.1**
PLD Plovdiv 149.94 334 P **PKPdf 00 04 50.7 +1.1**
PLD Plovdiv 149.94 334 *eP* **PKPbc 00 04 54.6 +0.1**
PYM Petit Puy Mans 149.98 6 PKP **PKPdf 00 04 50.2 +0.5**
GAZI Gazipasa 149.99 317 *i* P **PKPbc 00 04 53.4 -1.4**
MAMC Mammari 149.99 315 P **PKPdf 00 04 52.1 +2.2**
KDZ Kurdzhali 150.00 332 *eP* **PKPbc 00 04 52.2 -2.5**
CSS Prodhromos 150.03 314 P **PKPdf 00 04 52.0 +2.0**
comp=Z,1.5nm,1.2s
CSS Prodhromos 150.03 314 P **PKPbc 00 04 57.2 +2.3**
CSS Prodhromos 150.03 314 P **PKPbc 00 04 57.2 +2.3**
CSS LR LR
comp=Z,2µm,20.0s
DURS Dursunbey 150.07 326 *i* P **PKPbc 00 04 53.7 -1.2**
ISP Isparta 150.13 321 P **PKPdf 00 04 51.1 +0.9**
ISP Isparta 150.13 321 P **PKPdf 00 04 51.1 +0.9**
ISP LR LR
comp=Z,2µm,19.0s
ISP Isparta 150.13 321⇑ *iP* **PKPbc 00 04 56.9 +1.7**
VTS Vitosha 150.14 336 P **PKPbc 00 04 55.1 -0.1**
VTS Vitosha 150.14 336 PKP2 **PKPbc 00 04 55.1 -0.1**
VTS Vitosha 150.14 336 P **PKPbc 00 04 55.1 -0.1**
VTS Vitosha 150.14 336 ⇓*iP* **PKPbc 00 04 55.0 -0.1**
VTS Vitosha 150.14 336 *eP* **PKPbc 00 04 57.1 +2.0**
RZN Rozhen 150.28 333 *eP* **PKPbc 00 04 57.5 +2.0**
ALN Alexandroupoli 150.31 331 P **PKPdf 00 04 50.8 +0.6**
ALN Alexandroupoli 150.31 331 P **PKPdf 00 04 50.8 +0.6**
RDO Rodhopi 150.35 332 P **PKPdf 00 04 51.6 +1.4**
RDO Rodhopi 150.35 332 P **PKPdf 00 04 51.6 +1.4**
KHAL Karahalli 150.37 323 *i* P **PKPbc 00 04 55.5 -0.3**
BALY Balya 150.42 327 *i* P **PKPbc 00 04 54.7 -1.0**
ALFC Alevga 150.42 315 P **PKPdf 00 04 52.9 +2.3**
comp=Z,1.2nm,0.9s
SZAC Souni-Zanaja 150.45 314 P **PKPdf 00 04 52.4 +1.7**
SSB Saint Sauveur 150.58 4 PFAKE 00 05 00.0 -2.6
SSB LR LR
comp=Z,4µm,21.0s
UDBI Udbina 150.58 348 P **PKPdf 00 04 52.5 +1.9**
AKMC Akamas 150.68 315 P **PKPbc 00 04 54.1 -2.4**
PGAV Gavieira, Arco 150.68 24 *e*PKPbc **PKPbc 00 04 58.4 +2.0**
NVLJ Novalja 150.72 349 P **PKPdf 00 04 52.5 +1.8**
KULA Kula-Manisa 150.74 325 P **PKPbc 00 04 56.2 -0.4**
KULA Kula-Manisa 150.74 325 P **PKPbc 00 04 56.2 -0.4**
PPCY Paphos 150.75 315 P **PKPdf 00 04 53.4 +2.3**
KORT Korkueli 150.77 320 *i* P **PKPbc 00 04 57.6 +0.8**
MMB Musomiste 150.78 335 *eP* **PKPbc 00 04 57.7 +1.2**
PLE Pljevlja 150.80 342⇑ *iPKP* **PKPbc 00 04 56.2 -0.4**
KKB Krupnik 150.81 336 *eP* **PKPbc 00 04 56.8 +0.2**
MANT Manisa 150.82 325 *i* P **PKPbc 00 04 56.9 0.0**
SMTH Samothraki Isl 150.89 331 P **PKPbc 00 04 56.1 -0.7**
SMTH Samothraki Isl 150.89 331 P **PKPbc 00 04 56.1 -0.7**
BNI Bardonecchia 150.91 1 *e*PKIKP **PKPdf 00 04 51.5 +0.3**
BNI *e* 00 04 57.9
BNI MLR MLR
comp=Z,3µm,21.0s
BNI Bardonecchia 150.91 1 *e*PKPdf **PKPdf 00 04 51.5 +0.3**
BNI *e*PKPbc **PKiKP 00 04 57.9 +0.4**
BNI LR LR
comp=Z,3µm,21.0s
NVR Nevrokopi 150.92 334 P **PKPbc 00 04 56.4 -0.5**
NVR Nevrokopi 150.92 334 P **PKPbc 00 04 56.4 -0.5**
KAVA Kavala 150.93 333 P **PKPbc 00 04 56.4 -0.4**
KAVA Kavala 150.93 333 P **PKPbc 00 04 56.4 -0.4**
AKHS Akhisar 150.95 326 *i* P **PKPbc 00 04 56.5 -0.5**
PCAB Cabril 150.99 24 *e*PKPbc **PKPbc 00 04 56.8 -0.2**
PCAB Cabril 150.99 24 *e*PKPab PKPab 00 05 09.9 +5.5
UPM Unac-Piva 151.06 343⇑ *iPKP* **PKPbc 00 04 56.2 -1.1**
IVA Berane 151.06 341⇑ *iPKP* **PKPbc 00 04 56.4 -0.8**
SRS Serrai 151.23 334 P **PKPbc 00 04 54.8 -2.8**
SRS Serrai 151.23 334 PKIKP **PKPbc 00 04 54.8 -2.8**
SRS Serrai 151.23 334 P **PKPbc 00 04 54.8 -2.8**
EIL Elat 151.26 303 PKP **PKPdf 00 04 52.2 +0.2**
EIL PKPbc **PKiKP 00 05 01.1 +2.6**
EIL Elat 151.26 303 PKP **PKPdf 00 04 52.2 +0.2**
comp=Z,5.7nm,1.0s,baz=186,slow=5.7,SNR=6.6
EIL PKPbc **PKiKP 00 05 01.1 +2.6**
comp=Z,9.3nm,0.9s,baz=359,slow=2.8,SNR=11
PVY Plav 151.29 341⇑ *iPKP* **PKPbc 00 04 56.5 -1.3**
SKO Skopje 151.34 338 P **PKPbc 00 04 57.8 0.0**
SKO Skopje 151.34 338 PKIKP **PKPbc 00 04 57.8 0.0**
SKO Skopje 151.34 338 P **PKPbc 00 04 57.8 0.0**
SKO Skopje 151.34 338 *e*PKP **PKPbc 00 04 56.2 -1.6**
POLO Lamas de Olo 151.37 24 *e*PKPdf **PKPdf 00 04 52.4 +0.4**
POLO Lamas de Olo 151.37 24 *e*PKPbc **PKPbc 00 04 57.6 -0.4**
POLO Lamas de Olo 151.37 24 *e*PKPab **PKPab 00 05 09.7 +3.6**
NKY Niksic 151.39 342⇑ *iPKP* **PKPbc 00 04 57.4 -0.6**
PBRG Braganca 151.40 23 *e*PKPbc **PKPbc 00 04 57.3 -0.7**
PBRG Braganca 151.40 23 *e*PKPab **PKPab 00 05 09.7 +3.6**
BRY Bratogost 151.44 343 *e*PKP **PKPbc 00 04 57.0 -1.2**
NKME Niksic 151.44 342⇑ *iPKP* **PKPbc 00 04 56.7 -1.4**
VAY Valandovo 151.47 336 P **PKPbc 00 04 55.6 -2.5**
VAY Valandovo 151.47 336 PKIKP **PKPbc 00 04 55.6 -2.5**
VAY Valandovo 151.47 336 P **PKPbc 00 04 55.6 -2.5**
VAY Valandovo 151.47 336 *e*PKP **PKPbc 00 04 55.7 -2.4**
KNT Kendrikon 151.48 335 P **PKPbc 00 04 57.1 -1.0**
KNT Kendrikon 151.48 335 PKIKP **PKPbc 00 04 57.1 -1.0**
KNT Kendrikon 151.48 335 P **PKPbc 00 04 57.1 -1.0**
PRK Paraskevi 151.48 328 P **PKPdf 00 04 53.1 +1.1**
PRK Paraskevi 151.48 328 PKIKP **PKPdf 00 04 53.1 +1.1**
PRK Paraskevi 151.48 328 P **PKPdf 00 04 53.1 +1.1**
PVRL Vila Real 151.49 24 *e*PKPbc **PKPbc 00 04 57.9 -0.3**
PVRL Vila Real 151.49 24 *e*PKPab **PKPab 00 05 10.3 +3.8**
LIA Limnos Island 151.51 331 P **PKPdf 00 04 52.9 +0.8**
LIA Limnos Island 151.51 331 P **PKPdf 00 04 52.9 +0.8**
SOH Sokhos 151.57 334 P **PKPbc 00 04 59.1 +0.7**
SOH Sokhos 151.57 334 PKIKP **PKPbc 00 04 59.1 +0.7**
SOH Sokhos 151.57 334 P **PKPbc 00 04 59.1 +0.7**
PDG Podgorica 151.66 341 P **PKPbc 00 04 57.8 -0.7**
TTG Podgorica 151.66 341⇑ *iPKP* **PKPbc 00 04 57.1 -1.4**
TTG Podgorica 151.66 341 PKIKP **PKPbc 00 04 57.8 -0.7**
TTG Podgorica 151.66 341 P **PKPbc 00 04 57.8 -0.7**
VLC Villacollemand 151.70 356 PFAKE 00 05 00.0 +1.4
VLC LR LR
comp=Z,2µm,21.0s
STON Ston 151.70 344 P **PKPbc 00 04 58.7 +0.2**
OUR Ouranopolis 151.71 333 P **PKPbc 00 04 57.3 -1.3**
OUR Ouranopolis 151.71 333 PKIKP **PKPbc 00 04 57.3 -1.3**
OUR Ouranopolis 151.71 333 P **PKPbc 00 04 57.3 -1.3**
AKAS Kas 151.72 320 *i* P **PKPbc 00 04 58.7 -0.3**
AYDN Tasoluk 151.78 324 *i* P **PKPbc 00 04 57.2 -1.8**
MBAR Mbarara 151.78 237 PFAKE 00 05 00.0 +0.1
MBAR LR LR
comp=Z,212nm,19.0s
MVO Moncorvo 151.85 24 *e*PKPbc **PKPbc 00 04 59.0 -0.1**
MVO Moncorvo 151.85 24 *e*PKPab **PKPab 00 05 12.1 +4.1**
HORT Hortiatis 151.87 334 P **PKPbc 00 05 00.0 +0.8**
HORT Hortiatis 151.87 334 P **PKPbc 00 05 00.0 +0.8**
HCY Herceg Novi 151.87 343⇑ *iPKP* **PKPbc 00 04 57.9 -1.1**
PVIS Viseu 151.88 25 *e*PKPdf **PKPdf 00 04 52.9 +0.2**
PVIS Viseu 151.88 25 *e*PKPbc **PKPbc 00 04 58.2 -1.0**
BUM Brajici-Budva 151.89 342 *e*PKP **PKPbc 00 04 57.6 -1.5**
THE Thessaloniki 151.90 334 P **PKPdf 00 04 52.7 +0.1**
THE Thessaloniki 151.90 334 PKIKP **PKPdf 00 04 52.7 +0.1**
THE Thessaloniki 151.90 334 P **PKPdf 00 04 52.7 +0.1**
DRME Dracevica, Mon 151.91 341⇑ *iPKP* **PKPbc 00 04 57.5 -1.6**
PLG Polygyros 151.91 333 P **PKPbc 00 04 56.2 -3.0**
PLG Polygyros 151.91 333 PKIKP **PKPbc 00 04 56.2 -3.0**
PLG Polygyros 151.91 333 P **PKPbc 00 04 56.2 -3.0**
PHP Peshkopia 151.95 339 P **PKPdf 00 04 55.1 +2.3**
PHP Peshkopia 151.95 339 PKIKP **PKPdf 00 04 55.1 +2.3**
PHP Peshkopia 151.95 339 P **PKPdf 00 04 55.1 +2.3**
LARF Larrau 151.98 13 PKP **PKPdf 00 04 53.2 +0.4**
ULC Ulcinj 152.09 341⇑ *iPKP* **PKPbc 00 04 58.1 -1.4**
PAIG Paliouri 152.17 333 P **PKPbc 00 04 58.1 -1.6**
PAIG Paliouri 152.17 333 PKIKP **PKPbc 00 04 58.1 -1.6**
PAIG Paliouri 152.17 333 P **PKPbc 00 04 58.1 -1.6**
BIA Bitola 152.21 337 P **PKPbc 00 05 00.7 +0.8**
BIA Bitola 152.21 337 P **PKPbc 00 05 00.7 +0.8**
BIA Bitola 152.21 337 *e*PKP **PKPdf 00 04 55.5 +2.3**
CHOS Chios island 152.24 327 P **PKPbc 00 04 59.6 -0.5**
CHOS Chios island 152.24 327 P **PKPbc 00 04 59.6 -0.5**
PMAR Madeira 152.27 48 *e*PKPdf **PKPbc 00 04 57.1 -3.3**
MTE Manteigas 152.29 25 *e*PKPab **PKPab 00 05 12.6 +2.7**
MTE Manteigas 152.29 25 *e*PKPdf **PKPdf 00 04 53.0 -0.4**
MTE *e*PKPbc **PKPbc 00 04 59.5 -0.6**
MTE LR LR
comp=Z,4µm,22.0s
SMG Samos 152.32 325 P **PKPdf 00 04 55.1 +1.7**
SMG Samos 152.32 325 P **PKPdf 00 04 55.1 +1.7**
FNA Florina 152.40 337 P **PKPbc 00 04 59.5 -0.8**
FNA Florina 152.40 337 PKIKP **PKPbc 00 04 59.5 -0.8**
FNA Florina 152.40 337 P **PKPbc 00 04 59.5 -0.8**
TIR Tirane 152.44 340 P **PKPbc 00 05 01.5 +1.2**
TIR Tirane 152.44 340 PKIKP **PKPbc 00 05 01.5 +1.2**
TIR MLR MLR
comp=Z,3µm,22.0s
TIR Tirane 152.44 340 P **PKPbc 00 05 01.5 +1.2**
TIR LR LR
comp=Z,3µm,22.0s
PMPST Porto Santo, M 152.49 47 *e*PKPbc **PKPbc 00 05 02.7 +2.0**
PMPS Porto Santo 152.50 47 *e*PKPbc **PKPbc 00 05 02.6 +1.9**
PMPS Porto Santo 152.50 47 *e*PKPab **PKPab 00 05 12.5 +1.5**
LIT Litokhoron 152.54 334 P **PKPdf 00 04 54.4 +0.7**
LIT Litokhoron 152.54 334 PKIKP **PKPdf 00 04 54.4 +0.7**
LIT Litokhoron 152.54 334 P **PKPdf 00 04 54.4 +0.7**
PTOM Tomar 152.58 27 *e*PKPbc **PKPbc 00 05 00.3 -0.4**
PTOM Tomar 152.58 27 *e*PKPab **PKPab 00 05 15.3 +4.3**
ARG Arkhangelos 152.63 322 P **PKPdf 00 04 55.0 +1.1**
ARG Arkhangelos 152.63 322 PKIKP **PKPdf 00 04 55.0 +1.1**
ARG Arkhangelos 152.63 322 P **PKPdf 00 04 55.0 +1.1**
KZN Kozani 152.66 336 P **PKPdf 00 04 54.8 +0.9**
KZN Kozani 152.66 336 PKIKP **PKPdf 00 04 54.8 +0.9**
KZN Kozani 152.66 336 P **PKPdf 00 04 54.8 +0.9**
AOS Alonnisos 152.69 331 P **PKPdf 00 04 54.4 +0.5**
AOS Alonnisos 152.69 331 P **PKPdf 00 04 54.4 +0.5**
PMAFR Mafra 152.71 29 *e*PKPbc **PKPbc 00 05 03.0 +2.0**
PMAFR Mafra 152.71 29 *e*PKPab **PKPab 00 05 13.3 +1.6**
KBN Korca 152.76 337 P **PKPbc 00 05 01.7 +0.6**
KBN Korca 152.76 337 PKIKP **PKPbc 00 05 01.7 +0.6**
KBN Korca 152.76 337 P **PKPbc 00 05 01.7 +0.6**
PCBR Castelo Branco 152.79 26 *e*PKPbc **PKPbc 00 05 00.7 -0.4**
NEST Nestorio 152.84 337 P **PKPdf 00 04 56.2 +2.0**
XOR Xorichti 152.85 333 P **PKPdf 00 04 54.8 +0.7**
XOR Xorichti 152.85 333 P **PKPdf 00 04 54.8 +0.7**
CARF Carcanieres 152.86 9 PKP **PKPdf 00 04 51.7 -2.5**
ALMR Almeirim 152.88 28 *eP* **PKPdf 00 04 55.6 +1.5**
ALMR Almeirim 152.88 28 *eP* **PKPdf 00 04 55.6 +1.5**
NEO Neokhori 152.88 332 P **PKPdf 00 04 55.1 +0.9**
NEO Neokhori 152.88 332 P **PKPdf 00 04 55.1 +0.9**
SKIA Skiathos 152.89 332 P **PKPbc 00 05 02.5 +1.1**
PMST Lisbon--Monsan 152.93 29 *e*PKPbc **PKPbc 00 05 04.4 +2.9**
PMST Lisbon--Monsan 152.93 29 *e*PKPab **PKPab 00 05 14.1 +1.5**
PMTG Montargil 153.11 28 *e*PKPdf **PKPdf 00 04 53.9 -0.6**
PMTG Montargil 153.11 28 *e*PKPbc **PKPbc 00 05 01.4 -0.5**
PMTG Montargil 153.11 28 *e*PKPab **PKPab 00 05 14.2 +0.9**
PMRV Marv??o 153.17 26 *e*PKPdf **PKPdf 00 04 54.3 -0.3**
PMRV Marv??o 153.17 26 *e*PKPbc **PKPbc 00 05 01.5 -0.5**
PMRV Marv??o 153.17 26 *e*PKPab **PKPab 00 05 14.5 +0.9**
THL Klokotos Trika 153.19 334 P **PKPbc 00 05 02.9 +0.9**
MRKA Markates 153.20 331 P **PKPdf 00 04 55.5 +0.8**
SMIA Simia 153.24 332 P **PKPdf 00 04 56.1 +1.4**
ERET Eretria 153.31 331 P **PKPbc 00 05 03.3 +0.9**
APE Apeiranthos 153.50 326 P **PKPbc 00 05 00.8 -2.0**
APE Apeiranthos 153.50 326 PKIKP **PKPbc 00 05 00.8 -2.0**
APE Apeiranthos 153.50 326 P **PKPbc 00 05 00.8 -2.0**
AGG Agios Georgios 153.51 333 P PKPdf 00 04 49.9 -5.2
AGG Agios Georgios 153.51 333 PKIKP PKPdf 00 04 49.9 -5.2
AGG Agios Georgios 153.51 333 P PKPdf 00 04 49.9 -5.2
LKR Lokris 153.52 332 P **PKPdf 00 04 55.8 +0.7**
LKR Lokris 153.52 332 P **PKPdf 00 04 55.8 +0.7**
PESTR Estremoz 153.56 27 *e*PKPbc **PKPbc 00 05 04.4 +1.5**
JAN Janina 153.57 336 P **PKPbc 00 05 04.9 +2.0**
JAN Janina 153.57 336 PKIKP **PKPbc 00 05 04.9 +2.0**
JAN Janina 153.57 336 P **PKPbc 00 05 04.9 +2.0**
AXAR Agios Charalam 153.57 333 P **PKPdf 00 04 56.2 +1.0**
AXAR Agios Charalam 153.57 333 P **PKPdf 00 04 56.2 +1.0**
PTL Penteli 153.59 330 P **PKPdf 00 04 56.2 +0.9**
PTL Penteli 153.59 330 P **PKPdf 00 04 56.2 +0.9**
MAKR Makrakomi, Fth 153.60 334 P **PKPbc 00 05 02.5 -0.5**
MAKR Makrakomi, Fth 153.60 334 P **PKPbc 00 05 02.5 -0.5**
EVO Evora 153.64 28 *e*PKPdf **PKPdf 00 04 56.4 +1.1**
EVO Evora 153.64 28 *e*PKPab **PKPab 00 05 15.5 -0.1**
ATHU Athens Univers 153.70 330 P **PKPbc 00 05 03.2 0.0**
ATHU Athens Univers 153.70 330 P **PKPbc 00 05 03.2 0.0**
ATH Athens Observa 153.73 330 P **PKPbc 00 05 04.4 +1.2**
ATH Athens Observa 153.73 330 PKIKP **PKPbc 00 05 04.4 +1.2**
ATH Athens Observa 153.73 330 P **PKPbc 00 05 04.4 +1.2**
PNCL Nicolau / Gran 153.74 29 *e*PKPbc **PKPbc 00 05 03.2 -0.1**
EVR Evrytania 153.82 334 P **PKPbc 00 05 03.0 -0.5**
EVR Evrytania 153.82 334 P **PKPbc 00 05 03.0 -0.5**
IGT Igoumenitsa 153.88 337 P **PKPdf 00 04 57.4 +1.8**
IGT Igoumenitsa 153.88 337 PKIKP **PKPdf 00 04 57.4 +1.8**
IGT Igoumenitsa 153.88 337 P **PKPdf 00 04 57.4 +1.8**
KEK Kerkira 153.92 338 P **PKPbc 00 05 04.5 +0.9**
KEK Kerkira 153.92 338 P **PKPbc 00 05 04.5 +0.9**
THR2 Thira island, 154.01 325 P **PKPbc 00 05 03.8 -0.1**
THR2 Thira island, 154.01 325 P **PKPbc 00 05 03.8 -0.1**
LTK Loutraki 154.04 331 P **PKPbc 00 05 02.3 -1.7**
LTK Loutraki 154.04 331 P **PKPbc 00 05 02.3 -1.7**
PTEO Sao Teotonio 154.10 30 *e*PKPbc **PKPbc 00 05 06.3 +2.3**
PTEO Sao Teotonio 154.10 30 *e*PKPab **PKPab 00 05 19.7 +2.2**
PAB San Pablo 154.25 21 PFAKE 00 05 10.0 +5.6
PAB LR LR
comp=Z,3µm,20.0s
ESDC Sonseca Array 154.27 21 PKP **PKPdf 00 04 56.0 -0.2**
ESDC PKPbc **PKiKP 00 05 06.5 +2.0**
ESDC PKPab **PKPab 00 05 18.8 +0.5**
ESDC Sonseca Array 154.27 21 PKP **PKPdf 00 04 56.0 -0.2**
comp=Z,0.2nm,0.3s,baz=314,slow=3.2,SNR=4.1
ESDC PKPbc **PKiKP 00 05 06.5 +2.0**
comp=Z,3.2nm,0.7s,baz=299,slow=2.4,SNR=20
ESDC PKPab **PKPab 00 05 18.8 +0.5**
comp=Z,4.1nm,0.8s,baz=332,slow=3.4,SNR=7.8
ESLA Sonseca Array 154.27 21 *e*PKPdf **PKPdf 00 04 55.7 -0.5**
ESLA *e*PKPbc **PKPbc 00 05 04.4 0.0**
LAKA Lakka 154.31 333 P **PKPbc 00 05 06.7

TIC	**Toumodi**	**164.71**	**125**	*e*P	**PKPdf**	**00 05 09.1**	**+0.2**
	comp=Z,52nm,1.1s						
KIC	**Kosan Boka**	**164.75**	**127**	*e*P	**PKPdf**	**00 05 10.7**	**+1.8**
	comp=Z,85nm,1.5s						
DBIC	**Dimbokro**	**164.86**	**126**	PKP	**PKPdf**	**00 05 09.8**	**+0.9**
DBIC				PKPab	**PKPab**	**00 06 06.0**	**+1.1**
DBIC	**Dimbokro**	**164.86**	**126**	PKP	**PKPdf**	**00 05 09.8**	**+0.9**
	comp=Z,6.6nm,1.0s,baz=191,slow=3.5,SNR=6.4						
DBIC				PKPab	**PKPab**	**00 06 06.0**	**+1.1**
	comp=Z,4.9nm,0.8s,baz=187,slow=4.5,SNR=3.4						
TORD	**Torodi Ar. Bea**	**173.79**	**115**	PKP	**PKPdf**	**00 05 12.7**	**-1.7**
TORD				PKPab	**PKPab**	**00 06 45.4**	**+0.9**
TORD				PP	**PP**	**00 10 35.5**	**-0.9**
TORD	**Torodi Ar. Bea**	**173.79**	**115**	PKP	**PKPdf**	**00 05 12.7**	**-1.7**
	comp=Z,8.0nm,1.1s,baz=301,slow=1.3,SNR=19						
TORD				PKPab	**PKPab**	**00 06 45.4**	**+0.9**
	comp=Z,5.0nm,1.1s,baz=270,slow=4.6,SNR=4.8						
TORD				PP	**PP**	**00 10 35.5**	**-0.9**
	comp=Z,4.0nm,1.3s,baz=273,slow=1.0,SNR=6.2						

*IDC **29** 23:51:40.8±0.4, 15°.34S×171°.98W, h0km, mb4.6/22, mb1 4.7/22, mb1mx4.6/28, mbtmp4.6/22, Error ellipse: s-maj=18.8km s-min=12.5km az=130.0*
*ISCJB **29** 23:51:41.4±3.1, 15°.13S±0°.05×171°.99W±0°.08, h8km±18km, mb4.8/53, MS5.2/2, Error ellipse: s-maj=13.2km s-min=6.4km az=22.9*
*NEIC **29** 23:51:42.3±0.2, 15°.33S×172°.03W, h10km, mb4.9/24, Error ellipse: s-maj=11.4km s-min=5.9km az=137.0*
*BJI **29** 23:51:43.4, 14°.72S×172°.24W, h6km, mB5.5/6, mb5.3/10, Ms5.5/4, Ms7 5.4/4*
*SZGRF **29** 23:51:45.3, 15°.94S×172°.60W, h33km, Samoa Islands region*

ISC 29 23:51:43.5±0.6, 15°.17S±0°.06×171°.92W±0°.08, h15km±3km, h17km:pP-P, n166, σ1§29/181, mb4.8/53, MS5.3/3, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.26**	**6**	*e*P	**Pn**	**23 52 04.7**	**-2.0**
AFI				*e*S	**Sb**	**23 52 18.7**	**-4.5**
AFI	**Afiamalu**	**1.26**	**6**	Pn	**Pn**	**23 52 04.7**	**-2.0**
	621nm,0.3s,baz=8.6,slow=3.2,SNR=18						
AFI				Sn	**Sb**	**23 52 21.3**	**-1.9**
	2μm,0.3s,baz=143,slow=20,SNR=18						
MSVF	**Nonsavu**	**9.95**	**254**	*e*Pn	**Pn**	**23 54 08.4**	**+2.3**
DZM	**Mont Dzumac**	**21.60**	**248**	P	**P**	**23 56 30.2**	**-2.9**
DZM	**Mont Dzumac**	**21.60**	**248**	P	**P**	**23 56 30.2**	**-2.9**
	14nm,0.9s,baz=73,slow=18,SNR=4.0						
URZ	**Urewera**	**24.95**	**201**	P	**P**	**23 57 06.0**	**-0.3**
URZ	**Urewera**	**24.95**	**201**	P	**P**	**23 57 06.0**	**-0.3**
	47nm,0.5s,baz=31,slow=2.1,SNR=31						
BKZ	**Black Stump Fm**	**25.98**	**201**	*e*P	**P**	**23 57 18.7**	**+3.0**
	21nm,0.6s						
RPZ	**Rata Peaks**	**31.94**	**204**	P	P	23 58 12.1	+3.4
RPZ	**Rata Peaks**	**31.94**	**204**	P	P	23 58 12.1	+3.4
	8.7nm,0.4s,baz=254,slow=20,SNR=2.2						
CMSA	**Cobar Meteorol**	**41.90**	**240**	S	P	23 59 30.3	-3.3
	baz=41,SNR=7.9						
QLP	**Quilpie**	**42.32**	**247**	S	**P**	**23 59 33.9**	**-3.1**
	baz=42,SNR=3.6						
TOO	**Toolangi**	**43.71**	**231**	S	**P**	**23 59 46.1**	**-2.1**
	baz=43,SNR=3.8						
STKA	**Stephens Creek**	**45.38**	**240**	P	**P**	**23 59 59.1**	**-2.5**
STKA	**Stephens Creek**	**45.38**	**240**	P	**P**	**23 59 59.1**	**-2.5**
	13nm,0.9s,baz=83,slow=9.0,SNR=11						
STKA	**Stephens Creek**	**45.38**	**240**	S	**P**	**23 59 59.2**	**-2.5**
	baz=45,SNR=8.9						
WRA	**Warramunga Arr**	**51.28**	**256**	P	**P**	**00 00 44.9**	**-2.5**
WRA	**Warramunga Arr**	**51.28**	**256**	P	**P**	**00 00 44.9**	**-2.5**
	4.2nm,1.0s,baz=95,slow=6.6,SNR=13						
ASAR	**Alice Springs**	**51.53**	**252**	P	**P**	**00 00 46.8**	**-2.5**
ASAR	**Alice Springs**	**51.53**	**252**	P	**P**	**00 00 46.8**	**-2.5**
	17nm,0.5s,baz=88,slow=7.8,SNR=61						
FITZ	**Fitzroy Crossi**	**59.65**	**258**	P	**P**	**00 01 46.6**	**-1.0**
FITZ	**Fitzroy Crossi**	**59.65**	**258**	P	**P**	**00 01 46.6**	**-1.0**
	3.3nm,1.0s,baz=102,slow=8.0,SNR=4.5						
BATI	**Baumata**	**62.85**	**266**	P	**P**	**00 02 09.6**	**+0.2**
BATI	**Baumata**	**62.85**	**266**	P	**P**	**00 02 09.6**	**+0.2**
	9.0nm,0.4s,baz=56,slow=6.9,SNR=2.8						
VNDA	**Vanda**	**63.75**	**186**	P	**P**	**00 02 13.7**	**-0.6**
VNDA	**Vanda**	**63.75**	**186**	P	**P**	**00 02 13.7**	**-0.6**
	2.0nm,0.8s,baz=0.5,slow=5.8,SNR=6.4						
MJAR	**Matsushiro Arr**	**69.69**	**319**	P	**P**	**00 02 52.7**	**-0.1**
MJAR	**Matsushiro Arr**	**69.69**	**319**	P	**P**	**00 02 52.7**	**-0.1**
	3.7nm,0.8s,baz=161,slow=5.4,SNR=6.2						
KHMM	**Horse Mountain**	**71.42**	**37**	*e*P	**P**	**00 03 04.6**	**+1.2**
CMB	**Columbia Colle**	**71.66**	**41**	*e*P	**P**	**00 03 05.7**	**+0.9**
	9.5nm,1.0s						
MTUM	**Tungsten Hills**	**72.42**	**42**	*e*P	**P**	**00 03 11.8**	**+2.2**
YBH	**Yreka Blue Hor**	**72.56**	**36**	P	**P**	**00 03 11.7**	**+1.5**
YBH	**Yreka Blue Hor**	**72.56**	**36**	P	**P**	**00 03 11.7**	**+1.5**
	7.9nm,0.7s,baz=224,slow=0.5,SNR=19						
BEKR	**Beckworth**	**72.79**	**39**	*e*P	**P**	**00 03 12.0**	**+0.3**
	3.5nm,0.9s						
PETK	**Petropavlovsk-**	**72.86**	**341**	P	**P**	**00 03 12.2**	**+0.6**
PETK	**Petropavlovsk-**	**72.86**	**341**	P	**P**	**00 03 12.2**	**+0.6**
	9.4nm,1.0s,baz=137,slow=9.3,SNR=4.5						
MOD	**Modoc**	**74.07**	**37**	*e*P	**P**	**00 03 20.2**	**+1.1**
K05A	**Summer Lake**	**74.24**	**37**	*e*P	**P**	**00 03 21.3**	**+1.1**
	16nm,0.9s						
KDAK	**Kodiak Island**	**74.43**	**11**	P	**P**	**00 03 21.4**	**+0.7**
KDAK	**Kodiak Island**	**74.43**	**11**	P	**P**	**00 03 21.4**	**+0.7**
	4.0nm,0.5s,baz=110,slow=22,SNR=5.0						
QSPA	**South Pole Qui**	**74.87**	**180**	*e*P	**P**	**00 03 22.1**	**-1.4**
QSPA	**South Pole Qui**	**74.87**	**180**	P	**P**	**00 03 21.9**	**-1.6**
	6.8nm,1.1s,baz=333,slow=3.6,SNR=6.3						
I07A	**Izee**	**75.87**	**36**	*e*P	**P**	**00 03 30.6**	**+1.1**
	8.4nm,0.9s						
J08A	**Circle Bar Ran**	**76.03**	**37**	*e*P	**P**	**00 03 31.4**	**+1.0**
	9.2nm,0.9s						
G08A	**Pilot Rock**	**76.92**	**35**	*e*P	**P**	**00 03 36.2**	**+0.8**
	9.0nm,1.1s						
KSRS	**Korea Array**	**77.00**	**315**	P	**P**	**00 03 37.0**	**+1.1**
	3.7nm,1.0s,baz=134,slow=5.9,SNR=9.4						
KSAR	**Wonju Array Be**	**77.02**	**315**	P	**P**	**00 03 37.0**	**+1.0**
DUG	**Dugway**	**77.73**	**42**	*e*P	**P**	**00 03 40.7**	**+0.6**
	5.9nm,0.9s						
USRK	**Ussuriysk Arra**	**78.07**	**322**	P	**P**	**00 03 43.0**	**+1.3**
	2.0nm,0.9s,baz=116,slow=3.4,SNR=3.8						
F10A	**Beach Ranch, E**	**78.30**	**36**	*e*P	**P**	**00 03 43.4**	**+0.3**
	9.6nm,1.0s						
TMUT	**Trail Mountain**	**78.32**	**44**	*e*P	**P**	**00 03 45.5**	**+1.9**
	16nm,0.8s						
HLID	**Hailey**	**78.56**	**39**	*e*P	**P**	**00 03 45.4**	**+0.7**
	9.2nm,0.9s						
C09A	**Chrisman Ranch**	**78.83**	**34**	*e*P	**P**	**00 03 46.5**	**+0.7**
	9.9nm,0.8s						
DIV	**Divide**	**78.86**	**13**	*e*P	**P**	**00 03 46.1**	**+0.4**
	14nm,0.8s						
BMRM	**Bremner River**	**78.97**	**13**	*e*P	**P**	**00 03 46.9**	**+0.5**
	24nm,1.2s						
TXAR	**Lajitas Array**	**79.31**	**56**	P	**P**	**00 03 49.7**	**+0.7**
TXAR	**Lajitas Array**	**79.31**	**56**	P	**P**	**00 03 49.7**	**+0.7**
	1.1nm,0.9s,baz=224,slow=8.8,SNR=4.8						
NEW	**Newport**	**79.72**	**34**	P	**P**	**00 03 50.5**	**-0.3**
NEW	**Newport**	**79.72**	**34**	P	**P**	**00 03 50.5**	**-0.3**
	0.7nm,0.4s,baz=232,slow=12,SNR=3.8						
RRI2	**Red Ridge**	**80.34**	**40**	*e*P	**P**	**00 03 55.8**	**+1.3**
	5.7nm,0.8s						
TPAW	**Teton Pass**	**80.64**	**40**	*e*P	**P**	**00 03 55.8**	**-0.4**
	7.4nm,0.7s						
MCK	**McKinley**	**80.64**	**10**	*e*P	**P**	**00 03 55.6**	**+0.3**
	18nm,0.9s						
IMW	**Indian Meadow**	**80.86**	**40**	*e*P	**P**	**00 03 57.8**	**+0.5**
	5.1nm,0.8s						
LOHW	**Long Hollow**	**80.92**	**40**	*e*P	**P**	**00 03 58.2**	**+0.7**
	3.5nm,0.8s						
DLBC	**Dease Lake**	**80.98**	**21**	P	**P**	**00 03 58.3**	**+1.0**
DLBC	**Dease Lake**	**80.98**	**21**	P	**P**	**00 03 58.3**	**+1.0**
	1.8nm,0.8s,baz=216,slow=8.7,SNR=3.1						
CHMT	**Chamberlain Mo**	**81.09**	**36**	*e*P	**P**	**00 03 58.5**	**+0.2**
SMCO	**Snowmass**	**81.13**	**45**	*e*P	**P**	**00 03 58.6**	**-0.4**
	16nm,1.0s						
PDAR	**Pinedale Array**	**81.15**	**41**	P	**P**	**00 03 58.6**	**-0.2**
PDAR	**Pinedale Array**	**81.15**	**41**	P	**P**	**00 03 58.6**	**-0.2**
	2.6nm,0.8s,baz=211,slow=3.0,SNR=11						
COLA	**College**	**81.88**	**10**	*e*P	**P**	**00 04 01.9**	**+0.1**
	25nm,1.0s						
ILAR	**Eielson Array**	**81.95**	**11**	P	**P**	**00 04 01.9**	**-0.3**
ILAR	**Eielson Array**	**81.95**	**11**	P	**P**	**00 04 01.9**	**-0.3**
	2.5nm,0.7s,baz=224,slow=6.3,SNR=18						
IMA2	**Indian Mountai**	**82.15**	**7**	*e*P	**P**	**00 04 04.2**	**+0.9**
PHWY	**Pilot Hill**	**83.14**	**44**	*e*P	**P**	**00 04 09.2**	**-0.2**
	6.6nm,0.9s						
COLD	**Coldfoot**	**83.71**	**8**	*e*P	**P**	**00 04 13.2**	**+1.9**
	16nm,1.5s						
ABTX	**Abilene, Hawle**	**83.77**	**54**	*e*P	**P**	**00 04 12.3**	**-0.2**
EDM	**Edmonton**	**84.55**	**31**	*e*P	**P**	**00 04 16.1**	**+0.2**
RSSD	**Black Hills**	**85.33**	**42**	*e*P	**P**	**00 04 20.8**	**+0.4**
	25nm,1.0s						
MAW	**Mawson**	**88.46**	**198**	P	**P**	**00 04 33.7**	**-1.2**
MAW	**Mawson**	**88.46**	**198**	P	**P**	**00 04 33.7**	**-1.2**
	5.5nm,0.9s,baz=108,slow=6.5,SNR=6.9						
PLCA	**Paso Flores**	**88.60**	**132**	P	**P**	**00 04 36.3**	**0.0**
PLCA	**Paso Flores**	**88.60**	**132**	P	**P**	**00 04 36.3**	**0.0**
	4.0nm,1.0s,baz=279,slow=6.5,SNR=5.7						
GYA	**Guiyang**	**89.20**	**298**	P	**P**	**00 04 40.5**	**+1.2**
GYA				PP	**PP**	**00 08 13.5**	**+3.5**
GYA				SKS	**SKSac**	**00 15 07.5**	**-1.8**
GYA				S	**S**	**00 15 27.0**	**-1.6**
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,120nm,6.3s						
GYA				LR	LR		
	comp=N,490nm,20.6s						
GYA				LR	LR		
	comp=E,460nm,23.1s						
GYA				LR	LR		
	comp=Z,480nm,21.8s						
JTS	**JuntasAbangare**	**89.77**	**79**	*e*P	**P**	**00 04 43.2**	**+1.1**
	comp=Z,105nm,1.0s						
HHC	**Hu-ho-hao-te**	**89.92**	**312**	*e*P	**P**	**00 04 44.0**	**+1.6**
HHC				sP	**sP**	**00 04 50.5**	**+1.2**
HHC				PP	**PP**	**00 08 19.5**	**+4.1**
HHC				SKS	**SKSac**	**00 15 12.8**	**-0.1**
HHC				S	**S**	**00 15 34.5**	**-0.2**
HHC				sS	**sS**	**00 15 42.5**	**-0.6**
HHC				pmax	pmax		
	comp=Z,35nm,1.0s						
HHC				LR	LR		
	comp=N,580nm,17.1s						
HHC				LR	LR		
	comp=E,570nm,18.0s						
HHC				LR	LR		
	comp=Z,1μm,17.4s						
KMI	**Kunming**	**92.22**	**295**	P	**P**	**00 04 55.0**	**+1.5**
KMI				pmax	pmax		
	comp=Z,14nm,0.5s						
CD2	**Chengdu**	**92.91**	**301**	P	**P**	**00 04 57.8**	**+1.4**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
LZH	**Lanzhou**	**94.24**	**306**	*e*P	**P**	**00 05 03.3**	**+0.7**
LZH				pP	**pP**	**00 05 07.0**	**-0.7**
LZH				sP	**sP**	**00 05 09.3**	**-0.2**
LZH				pmax	pmax		
	comp=Z,16nm,1.0s						
MKAR	**Makanchi Array**	**111.68**	**315**	PKiKP	**PKiKP**	**00 10 16.1**	**-1.7**
MKAR	**Makanchi Array**	**111.68**	**315**	PKiKP	**PKiKP**	**00 10 16.1**	**-1.7**
	comp=Z,0.5nm,0.8s,baz=64,slow=3.4,SNR=3.7						
KSH	**Kashi**	**116.48**	**307**	*e*PKP	**PKPdf**	**00 10 29.5**	**+2.2**
KSH				PP	PP	00 11 42.5	+8.3
KSH				PKS	**PKSdf**	**00 14 05.0**	**+1.0**
KSH				SKS	**SKSdf**	**00 17 40.5**	**+1.4**
KSH				SKKS	**SKKSac**	**00 18 35.5**	**+0.6**
KSH				AMB	AMB		
	comp=Z,250nm,5.9s						
KSH				LR	LR		
	comp=N,170nm,6.5s						
KSH				LR	LR		
	comp=E,320nm,11.1s						
KSH				LR	LR		
	comp=Z,690nm,17.1s						
ARCES	**ARCESS Array B**	**124.58**	**353**	PKP	**PKPdf**	**00 10 40.8**	**-0.9**
ARCES	**ARCESS Array B**	**124.58**	**353**	PKP	**PKPdf**	**00 10 40.8**	**-0.9**
	comp=Z,4.7nm,0.7s,baz=29,slow=2.8,SNR=8.6						
FINES	**FINESS Array B**	**132.02**	**348**	PKP	**PKPdf**	**00 10 55.9**	**-0.2**
FINES	**FINESS Array B**	**132.02**	**348**	PKP	**PKPdf**	**00 10 55.9**	**-0.2**
	comp=Z,4.9nm,1.1s,baz=62,slow=3.3,SNR=3.8						
KWP	**Kalwaria Pacla**	**143.62**	**344**	*e*PKPdf	PKPab	00 11 12.9	-1.4
CLL	**Collm**	**143.74**	**355**	*i* PKPdf	PKPbc	00 11 15.3	-0.1
	comp=Z,5.0nm,0.8s						
CLL				*i*		00 11 22.9	
CLL				*i*		00 11 28.7	
OJC	**Ojcow**	**143.77**	**347**	*e*PKPdf	PKPab	00 11 15.3	+0.4
UPC	**Upice**	**144.18**	**351**	*e*PKP	**PKPab**	**00 11 15.7**	**-0.7**
DPC	**Dobruska-Polom**	**144.28**	**351**	*e*PKP	PKPbc	00 11 17.5	+0.3
DPC				*ep*PKP	pPKPdf	00 11 24.3	+0.1
DPC				*ex*	x	00 11 30.5	
DPC	**Dobruska-Polom**	**144.28**	**351**	*e*PKPdf	PKPdf	00 11 24.8	+5.7
OKC	**Ostrava-Krasne**	**144.47**	**349**	*e*PKP	**PKPab**	**00 11 17.7**	**+0.2**
OKC				*ep*PKP	**PKiKP**	**00 11 23.5**	**+0.6**
MOX	**Moxa**	**144.50**	**356**	*e*PKPbc	**PKPab**	**00 11 17.5**	**-0.2**
TSUM	**Tsumeb**	**144.58**	**196**	PKP	**PKPab**	**00 11 17.7**	**-1.3**
TSUM	**Tsumeb**	**144.58**	**196**	PKP	**PKPab**	**00 11 17.7**	**-1.3**
	comp=Z,2.9nm,0.9s,baz=168,slow=8.6,SNR=3.5						
MEM	**Membach**	**144.62**	**2**	PKP	**PKPab**	**00 11 17.8**	**-0.3**
MORC	**Moravsky Berou**	**144.64**	**349**	*e*PKPdf	**PKPab**	**00 11 17.9**	**-0.4**
BUR08	**Bucovina Ar. S**	**144.65**	**340**	*e*PKPdf	**PKPab**	**00 11 18.1**	**-0.4**
TANN	**Tannenbergstha**	**144.67**	**355**	*e*PKPbc	**PKPab**	**00 11 18.3**	**0.0**
BCLA	**Clavier**	**144.77**	**3**	PKP	**PKPab**	**00 11 17.3**	**-1.3**
NKC	**Novy Kostel**	**144.85**	**355**	*e*PKP	**PKPab**	**00 11 19.0**	**0.0**
PRU	**Pruhonice**	**144.88**	**353**	*e*PKP	**PKPab**	**00 11 19.0**	**0.0**
PRU				*ep*PKP	**pPKPdf**	**00 11 25.4**	**+0.2**
PRU				*ex*	x	00 11 31.9	
DAMY	**Dhamar**	**144.92**	**274**	*e*PKPdf	**PKPdf**	**00 11 21.7**	**+0.3**
TNS	**Taunus Mts**	**145.04**	**360**	*e*PKPbc	**PKPbc**	**00 11 19.7**	**0.0**
DOU	**Dourbes**	**145.05**	**4**	PKP	**PKPbc**	**00 11 19.3**	**-0.3**
VRAC	**Vranov**	**145.25**	**350**	PKPbc	**PKPdf**	**00 11 20.7**	**+0.1**
VRAC	**Vranov**	**145.25**	**350**	PKPbc	**PKPdf**	**00 11 20.7**	**+0.1**
	comp=Z,15nm,1.0s,baz=3.9,slow=3.1,SNR=12						
ROTZ	**Rotzenmuhle**	**145.34**	**355**	*e*PKPbc	**PKPdf**	**00 11 20.9**	**+0.1**
GRF	**Grafenberg Arr**	**145.48**	**356**	*e*PKPbc	**PKPab**	**00 11 21.4**	**+0.1**
WLF	**Walferdange**	**145.56**	**2**	PKP	**PKPab**	**00 11 22.0**	**+0.4**
WLF	**Walferdange**	**145.56**	**2**	*e*PKPbc	**PKPab**	**00 11 22.1**	**+0.6**
KHC	**Kasperske Hory**	**145.84**	**354**	*e*PKP	**PKPbc**	**00 11 22.4**	**+0.2**
KHC				*ep*PKP	**pPKPdf**	**00 11 28.2**	**+1.2**
KHC				*ex*	x	00 11 34.9	
KHC	**Kasperske Hory**	**145.84**	**354**	*e*PKPdf	**PKPdf**	**00 11 21.6**	**-0.1**
WET	**Wettzell**	**145.89**	**354**	*e*PKPbc	**PKPbc**	**00 11 22.6**	**+0.2**
PSZ	**Piszkesteto**	**145.91**	**346**	*e*PKPdf	**PKPdf**	**00 11 21.4**	**-0.6**
ATD	**Arta Tunnel**	**146.00**	**268**	PKPbc	**PKPab**	**00 11 25.0**	**+0.7**
ATD	**Arta Tunnel**	**146.00**	**268**	PKPbc	**PKPab**	**00 11 25.0**	**+0.7**
	comp=Z,10.0nm,1.1s,baz=265,slow=2.4,SNR=4.5						
GEC2	**GERESS Array S**	**146.10**	**353**	*e*PKPbc	**PKPdf**	**00 11 22.7**	**+0.4**
GEC2	**GERESS Array S**	**146.10**	**353**	*e*PKPdf	**PKPdf**	**00 11 22.5**	**+0.2**
GEC2				*e*PKPdf	**PKPbc**	**00 11 23.1**	**0.0**
GERES	**GERESS Array B**	**146.10**	**353**	PKPbc	**PKPbc**	**00 11 23.0**	**-0.1**
GERES	**GERESS Array B**	**146.10**	**353**	PKPbc	**PKPbc**	**00 11 23.0**	**-0.1**
	comp=Z,3.3nm,0.8s,baz=31,slow=2.4,SNR=16						
MLR	**Muntele Rosu**	**146.23**	**337**	PKPbc	**PKPbc**	**00 11 23.8**	**+0.2**
MLR	**Muntele Rosu**	**146.23**	**337**	PKPbc	**PKPbc**	**00 11 23.8**	**+0.2**
	comp=Z,2.0nm,1.0s,baz=106,slow=5.5,SNR=5.1						
LANF	**Langenberg**	**146.28**	**0**	PKP	**PKPbc**	**00 11 23.9**	**+0.3**
CONA	**Conrad Observa**	**146.71**	**350**	*i* PKPab	**PKPbc**	**00 11 25.1**	**+0.2**
	comp=Z,14nm,1.2s,SNR=5.9						
BR131	**Keskin Array S**	**146.86**	**323**	*e*PKPdf	**PKPbc**	**00 11 25.0**	**-0.7**
BRTR	**Keskin Array B**	**146.86**	**323**	PKPbc	**PKPbc**	**00 11 25.2**	**-0.5**
BRTR	**Keskin Array B**	**146.86**	**323**	PKPbc	**PKPbc**	**00 11 25.2**	**-0.5**
	comp=Z,2.3nm,0.6s,baz=102,slow=1.3,SNR=11						
KMBO	**Kilima Mbogo**	**146.91**	**243**	PKPbc	**PKPbc**	**00 11 27.1**	**+0.4**
KMBO	**Kilima Mbogo**	**146.91**	**243**	PKPbc	**PKPbc**	**00 11 27.1**	**+0.4**
	comp=Z,3.8nm,1.0s,baz=56,slow=5.4,SNR=5.0						
BFO	**Black Forest**	**146.94**	**360**	*e*PKPbc	**PKPbc**	**00 11 25.4**	**-0.1**
BFO	**Black Forest**	**146.94**	**360**	*e*PKPdf	**PKPbc**	**00 11 25.0**	**-0.5**
FUR	**Furstenfeldbru**	**147.00**	**356**	*e*PKPbc	**PKPbc**	**00 11 25.6**	**-0.1**
THEF	**They Montfort**	**147.00**	**3**	PKP	**PKPbc**	**00 11 25.8**	**+0.1**
ECH	**Echery**	**147.04**	**1**	PKP	**PKPbc**	**00 11 25.2**	**-0.6**
RJOB	**Jochberg**	**147.29**	**354**	*e*PKPbc	**PKPbc**	**00 11 26.3**	**-0.3**
LOMF	**Lomont**	**147.90**	**2**	PKP	**PKPbc**	**00 11 25.0**	**-3.3**
SOKA	**Soboth**	**148.06**	**351**	P	**PKPbc**	**00 11 28.1**	**-0.6**
	comp=Z,9.5nm,1.0s						
DAVOX	**Davos/Dischmat**	**148.45**	**358**	PKPbc	**PKPbc**	**00 11 30.1**	**+0.2**
DAVOX	**Davos/Dischmat**	**148.45**	**358**	PKPbc	**PKPbc**	**00 11 30.1**	**+0.2**
	comp=Z,6.7nm,0.6s,baz=28,slow=2.1,SNR=11						
TUE	**Stuetta**	**148.78**	**358**	*e*PKPdf	**PKPbc**	**00 11 30.9**	**+0.1**
ASF	**Jabal al Asfar**	**148.79**	**308**	PKPbc	**PKPbc**	**00 11 31.3**	**+0.2**
ASF	**Jabal al Asfar**	**148.79**	**308**	PKPbc	**PKPbc**	**00 11 31.3**	**+0.2**
	comp=Z,3.1nm,0.9s,baz=163,slow=2.0,SNR=4.6						
SENIN	**Lac Senin/Sane**	**148.90**	**1**	*e*PKPdf	**PKPbc**	**00 11 31.6**	**+0.5**
AGO	**Saint Agoulin**	**148.94**	**7**	PKP	**PKPdf**	**00 11 29.8**	**+2.8**
PYM	**Petit Puy Mans**	**149.22**	**7**	PKP	**PKPdf**	**00 11 28.6**	**+1.1**
BNI	**Bardonecchia**	**150.19**	**2**	*e*PKPbc	**PKPbc**	**00 11 34.5**	**+0.3**
EIL	**Elat**	**151.37**	**305**	PKPbc	**PKPbc**	**00 11 36.9**	**-0.4**
EIL				PKPab	**PKPab**	**00 11 48.5**	**+3.1**
EIL	**Elat**	**151.37**	**305**	PKPbc	**PKPbc**	**00 11 36.9**	**-0.4**
	comp=Z,7.6nm,1.1s,baz=151,slow=3.5,SNR=3.8						
EIL				PKPab	**PKPab**	**00 11 48.5**	**+3.1**
	comp=Z,6.3nm,0.8s,baz=339,slow=3.0,SNR=6.9						
ESDC	**Sonseca Array**	**153.41**	**21**	PKPbc	**PKPbc**	**00 11 41.4**	**-0.2**
ESDC				PKPab	**PKPab**	**00 11 54.0**	**+0.3**
ESDC	**Sonseca Array**	**153.41**	**21**	PKPbc	**PKPbc**	**00 11 41.4**	**-0.2**
	comp=Z,2.1nm,0.7s,baz=331,slow=2.6,SNR=14						
ESDC				PKPab	**PKPab**	**00 11 54.0**	**+0.3**
	comp=Z,1.6nm,0.8s,baz=318,slow=3.7,SNR=6.8						
MDT	**Midelt**	**158.99**	**31**	PKPab	**PKPab**	**00 12 18.7**	**+0.8**
MDT	**Midelt**	**158.99**	**31**	PKPab	**PKPab**	**00 12 18.7**	**+0.8**
	comp=Z,1.3nm,0.9s,baz=308,slow=2.6,SNR=3.8						
TORD	**Torodi Ar. Bea**	**173.49**	**107**	PKPab	**PKPab**	**00 13 20.4**	**-1.9**
TORD	**Torodi Ar. Bea**	**173.49**	**107**	PKPab	**PKPab**	**00 13 20.4**	**-1.9**
	comp=Z,1.5nm,1.0s,baz=247,slow=6.0,SNR=3.7						

IDC 29 23:52:47.1±2.0, 15°.91S×173°.47W, h0km, mb4.2/5, mb1 4.5/5, mb1mx4.2/18, mbtmp4.2/5, Error ellipse: s-maj=119.6km s-min=25.1km az=151.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**49.66**	**257**	P	P	00 01 41.0	-0.1
	0.9nm,0.5s,baz=85,slow=6.0,SNR=7.8						
ASAR	**Alice Springs**	**49.89**	**252**	P	P	00 01 43.0	+0.2
	4.1nm,0.6s,baz=90,slow=7.6,SNR=7.4						
TXAR	**Lajitas Array**	**80.95**	**56**	P	P	00 05 04.1	+0.1
	2.1nm,1.0s,baz=229,slow=5.8,SNR=5.7						
PDAR	**Pinedale Array**	**82.69**	**42**	P	P	00 05 13.0	0.0
	0.7nm,0.6s,baz=206,slow=3.9,SNR=3.1						
ILAR	**Eielson Array**	**82.95**	**11**	P	P	00 05 14.1	+0.5
	1.2nm,0.7s,baz=220,slow=5.4,SNR=3.6						
BRTR	**Keskin Array B**	**146.50**	**320**	PKPbc	PKPdf	00 12 28.9	-0.6
	5.2nm,1.0s,baz=74,slow=2.0,SNR=4.3						

IDC 29 23:53:29.7±4.3, 15°.08S×174°.86W, h0km, mb4.2/3, mb1 4.6/3, mb1mx4.0/18, mbtmp4.2/3, Error ellipse: s-maj=207.4km s-min=33.7km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**48.55**	**257**	P	P	00 02 15.4	+0.3
	2.0nm,0.7s,baz=91,slow=7.5,SNR=3.7						
ASAR	**Alice Springs**	**48.87**	**252**	P	P	00 02 16.5	-1.1
	7.2nm,0.9

KORR	**Kora**	**2.23 269**	*e*Pn	**Pn**	**23 54 31.3**	**+0.3**
KORR			*i* Sn	**Sb**	**23 55 00.7**	**-1.3**
STDR	**Stavd-Durt**	**2.23 277**	*e*PN	**Pb**	**23 54 34.5**	**+0.2**
STDR			*e*S	**Sg**	**23 55 05.3**	**-0.1**
STDR	**Stavd-Durt**	**2.23 277**	*e*Pn	**Pb**	**23 54 34.5**	**+0.2**
STDR			*e*Sb	**Sg**	**23 55 05.3**	**-0.1**
TBLG	**Delisi**	**2.26 232**	*e*PN	**Pb**	**23 54 34.4**	**-0.3**
TBLG			*e*S	**Sg**	**23 55 05.6**	**-0.6**
TBLG	**Delisi**	**2.26 232**	P	**Pb**	**23 54 34.4**	**-0.3**
TBLG			S	**Sg**	**23 55 05.6**	**-0.6**
TBLG	**Delisi**	**2.26 232**	*e*Pn	**Pb**	**23 54 34.4**	**-0.3**
TBLG			*e*Sb	**Sg**	**23 55 05.6**	**-0.6**
ZEI	**Tsey**	**2.39 262**	*e*PN	**Pn**	**23 54 32.7**	**-0.6**
ZEI			*e*S	**Sn**	**23 55 02.6**	**-0.3**
ZEI	**Tsey**	**2.39 262**	*e*Pn	**Pn**	**23 54 32.7**	**-0.6**
ZEI			*e*Sn	**Sn**	**23 55 02.6**	**-0.3**
LSNR	**Lesken**	**2.41 274**	⇓*i*PN	**Pn**	**23 54 34.0**	**+0.5**
LSNR			*i* S	**Sb**	**23 55 06.6**	**-0.6**
LSNR	**Lesken**	**2.41 274**	*i* Pn	**Pn**	**23 54 34.0**	**+0.5**
LSNR			*i* Sn	**Sb**	**23 55 06.6**	**-0.6**
ONI	**Oni**	**2.75 259**	P	**Pn**	**23 54 39.3**	**+1.2**
ONI			S	**Sb**	**23 55 16.6**	**-0.3**
GNI	**Garni**	**3.49 211**	*e*Pn	**Pn**	**23 54 51.3**	**+2.9**
GOF	**Gofitskoye**	**3.50 304**	*e*PG	Pg	23 55 15.3	+15
GOF			*i* S	**Sg**	**23 55 47.3**	**+1.4**
GOF			pmax	pmax		
	comp=Z,10.0nm,0.7s					
GOF			smax	smax		
	comp=N,70nm,1.3s					
GOF			smax	smax		
	comp=E,150nm,1.3s					
GOF	**Gofitskoye**	**3.50 304**	*e*Pg	Pg	23 55 15.3	+15
	comp=E,10.0nm,0.7s					
GOF			*i* Sg	**Sg**	**23 55 47.3**	**+1.4**
AB31	**Akbulak array**	**10.78 51**	*e*P	**Pn**	**23 56 28.8**	**+0.6**
AB31	**Akbulak array**	**10.78 51**	*e*P	**Pn**	**23 56 28.8**	**+0.6**

IDC 29 23:57:24.5±0.8, 15°.37S×173°.56W, h0km, mb4.2/7, mb1 4.4/7, mb1mx4.2/20, mbtmp4.2/7, Error ellipse: s-maj=32.0km s-min=25.3km az=145.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.26**	**50**	Pn	Pn	23 57 57.5	-5.7
	44nm,0.3s,baz=45,slow=7.1,SNR=1.9						
AFI				Sn	Sn	23 58 16.1	-16
	91nm,0.3s,baz=75,slow=20,SNR=4.0						
STKA	**Stephens Creek**	**43.91**	**240**	P	P	00 05 32.9	-0.4
	4.6nm,0.8s,baz=104,slow=7.3,SNR=5.2						
WRA	**Warramunga Arr**	**49.70**	**257**	P	P	00 06 17.9	-0.8
	2.2nm,0.7s,baz=91,slow=7.3,SNR=17						
WRA				PcP	PcP	00 07 40.0	-0.1
	1.1nm,0.6s,baz=89,slow=3.7,SNR=6.7						
ASAR	**Alice Springs**	**49.97**	**252**	P	P	00 06 20.4	-0.5
	10nm,0.7s,baz=86,slow=8.7,SNR=32						
VNDA	**Vanda**	**63.39**	**186**	P	P	00 07 55.6	+0.2
	0.9nm,0.8s,baz=338,slow=5.1,SNR=4.8						
QSPA	**South Pole Qui**	**74.67**	**180**	P	P	00 09 05.7	-0.2
	2.7nm,1.0s,baz=21,slow=2.0,SNR=4.5						
PDAR	**Pinedale Array**	**82.35**	**42**	P	P	00 09 47.5	-1.2
	0.5nm,0.6s,baz=205,slow=3.1,SNR=3.5						
MAW	**Mawson**	**87.77**	**199**	P	P	00 10 15.4	+0.3
	0.7nm,0.4s,baz=99,slow=1.5,SNR=5.0						
KMBO	**Kilima Mbogo**	**145.41**	**244**	PKPbc	PKPab	00 17 06.3	+0.3
	1.3nm,0.7s,baz=97,slow=5.0,SNR=5.6						
MLR	**Muntele Rosu**	**145.78**	**335**	PKPbc	PKPab	00 17 06.7	+0.5
	0.8nm,0.7s,baz=155,slow=6.8,SNR=7.5						
BRTR	**Keskin Array B**	**146.04**	**321**	PKPbc	PKPbc	00 17 06.6	-0.3
	1.6nm,0.8s,baz=85,slow=1.7,SNR=6.8						
GERES	**GERESS Array B**	**146.09**	**351**	PKPbc	PKPdf	00 17 04.9	-1.0
	1.9nm,1.1s,baz=35,slow=4.9,SNR=5.3						
TORD	**Torodi Ar. Bea**	**174.90**	**115**	PKPab	PKPab	00 19 11.4	-0.6
	0.3nm,1.0s,baz=235,slow=0.9,SNR=2.7						

IDC 30 00:00:08.0±1.6, 16°.33S×172°.69W, h0km, mb3.8/6, mb1 4.2/6, mb1mx3.9/19, mbtmp3.8/6, MS4.6/1, Ms1 4.6/1, ms1mx4.1/37, Error ellipse: s-maj=104.9km s-min=22.6km az=147.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.56**	**20**	LR	LR	00 01 32.8	
	comp=Z,12μm,18.4s,baz=3.1,slow=33						
STKA	**Stephens Creek**	**44.17**	**241**	P	P	00 08 18.2	-0.6
	1.4nm,0.7s,baz=66,slow=10.0,SNR=2.4						
WRA	**Warramunga Arr**	**50.30**	**257**	P	P	00 09 07.6	+0.8
	0.2nm,0.3s,baz=96,slow=6.8,SNR=4.5						
ASAR	**Alice Springs**	**50.48**	**253**	P	P	00 09 08.1	-0.1
	1.8nm,0.6s,baz=88,slow=8.2,SNR=8.6						
TXAR	**Lajitas Array**	**80.56**	**56**	P	P	00 12 22.6	-0.2
	1.3nm,1.0s,baz=220,slow=5.7,SNR=5.6						
PDAR	**Pinedale Array**	**82.50**	**41**	P	P	00 12 33.9	+1.0
	0.6nm,0.8s,baz=212,slow=5.3,SNR=4.1						
ILAR	**Eielson Array**	**83.22**	**11**	P	P	00 12 35.5	-0.4
	0.5nm,0.8s,baz=212,slow=5.0,SNR=4.1						
GERES	**GERESS Array B**	**147.15**	**352**	PKPbc	PKPbc	00 19 52.4	-0.9
	1.0nm,1.0s,baz=29,slow=3.0,SNR=5.5						
BRTR	**Keskin Array B**	**147.30**	**321**	PKPbc	PKPdf	00 19 52.7	+1.0
	1.8nm,0.9s,baz=121,slow=2.3,SNR=12						

IDC 30 00:02:00.0±3.2, 15°.82S×171°.53W, h0km, mb3.9/4, mb1 4.2/4, mb1mx3.9/19, mbtmp3.9/4, Error ellipse: s-maj=176.3km s-min=27.2km az=146.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**51.50**	**257**	P	P	00 11 07.5	-0.4
	1.0nm,0.9s,baz=91,slow=7.3,SNR=5.5						
ASAR	**Alice Springs**	**51.69**	**252**	P	P	00 11 08.9	-0.4
	5.3nm,0.8s,baz=84,slow=8.8,SNR=13						
PDAR	**Pinedale Array**	**81.39**	**41**	P	P	00 14 18.9	-0.3
	0.4nm,0.6s,baz=239,slow=4.9,SNR=3.1						
ILAR	**Eielson Array**	**82.52**	**10**	P	P	00 14 23.6	-0.6
	0.4nm,0.7s,baz=225,slow=6.1,SNR=4.4						
GERES	**GERESS Array B**	**146.79**	**354**	PKPbc	PKPbc	00 21 44.1	-0.2
	0.9nm,0.8s,baz=29,slow=3.0,SNR=7.2						
BRTR	**Keskin Array B**	**147.60**	**322**	PKPbc	PKPbc	00 21 47.3	+0.4
	1.8nm,0.7s,baz=120,slow=2.1,SNR=8.0						

IDC 30 00:02:48.5±8.2, 14°.73S×173°.14W, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.7/19, mbtmp3.8/3, Error ellipse: s-maj=363.9km s-min=37.3km az=138.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**50.24**	**256**	P	P	00 11 47.2	+0.3
	0.5nm,0.6s,baz=92,slow=7.3,SNR=1.8						
ASAR	**Alice Springs**	**50.56**	**251**	P	P	00 11 48.2	-1.0
	2.6nm,0.7s,baz=86,slow=8.2,SNR=3.0						
ILAR	**Eielson Array**	**81.74**	**11**	P	P	00 15 08.1	-0.5
	0.3nm,0.7s,baz=218,slow=6.7,SNR=2.9						
BRTR	**Keskin Array B**	**145.79**	**322**	PKPbc	PKPab	00 22 30.6	+0.2
	0.5nm,0.7s,baz=79,slow=3.7,SNR=1.4						

*CSEM **30** 00:03:16.4, 42°.50N×13°.34E, h11km, MD1.6/6, After ROM*
ROM 30 00:03:16.4±0.0, 42°.50N×13°.34E, h11km, Md1.6/6, Ml1.1/3, Error ellipse: s-maj=0.9km s-min=0.4km az=72.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAMP	**Campotosto**	**0.07**	**55**	Pg	Pg	00 03 19.2	+0.3
CAMP				Sg	Sg	00 03 20.9	+0.2
CAMP	**Campotosto**	**0.07**	**55**	Pg	Pg	00 03 19.2	+0.3
CAMP				Sg	Sg	00 03 20.9	+0.2
LNSS	**Leonessa**	**0.24**	**296**	Pg	Pg	00 03 22.1	+0.5
LNSS				Sg	Sg	00 03 26.3	+1.2
	32nm,0.2s						
LNSS	**Leonessa**	**0.24**	**296**	Pg	Pg	00 03 22.1	+0.5
LNSS				Sg	Sg	00 03 26.3	+1.2
	32nm,0.2s						
FAGN	**Fagnano**	**0.29**	**142**	Pg	Pg	00 03 22.8	+0.3
FAGN				Sg	Sb	00 03 27.9	-0.9
	21nm,0.3s						
FAGN	**Fagnano**	**0.29**	**142**	Pg	Pg	00 03 22.8	+0.3
FAGN				Sg	Sb	00 03 27.9	-0.9
	21nm,0.3s						
NRCA	**Norcia**	**0.37**	**334**	Pg	Pg	00 03 24.2	+0.2
NRCA				Sg	Sg	00 03 29.9	+0.8
	5.0nm,0.2s						
NRCA	**Norcia**	**0.37**	**334**	Pg	Pg	00 03 24.2	+0.2
NRCA				Sg	Sg	00 03 29.9	+0.8
	5.0nm,0.2s						

*IDC **30** 00:07:55.1±1.9, 15°.54S×172°.88W, h0km, mb3.8/5, mb1 4.2/5, mb1mx3.9/19, mbtmp3.8/5, Error ellipse: s-maj=120.7km s-min=25.8km az=152.0*
*ISCJB **30** 00:07:58.2±1.7, 15°.3S±0°.7×173°.1W±0°.4, h29km, mb3.7/5, Error ellipse: s-maj=110.8km s-min=21.8km az=150.7*
ISC 30 00:07:59.7±1.9, 15°.4S±0°.6×173°.0W±0°.4, h29km, n11, σ1§02/7, mb3.8/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**50.21**	**257**	P	**P**	**00 16 53.7**	**+0.3**
	0.5nm,0.7s,baz=92,slow=7.7,SNR=4.4						
ASAR	**Alice Springs**	**50.47**	**252**	P	**P**	**00 16 55.1**	**-0.3**
	1.3nm,0.7s,baz=85,slow=8.4,SNR=6.4						
TXAR	**Lajitas Array**	**80.28**	**56**	P	**P**	**00 20 08.1**	**-0.3**
	0.5nm,0.9s,baz=210,slow=6.9,SNR=3.4						
PDAR	**Pinedale Array**	**81.99**	**42**	P	**P**	**00 20 17.7**	**+0.4**
	1.1nm,0.8s,baz=204,slow=3.3,SNR=6.6						
ILAR	**Eielson Array**	**82.33**	**11**	P	**P**	**00 20 17.6**	**-0.6**
	0.7nm,0.8s,baz=218,slow=5.7,SNR=3.5						
CLL	**Collm**	**143.81**	**354**	*e*(PKP)	PKPdf	00 27 45.0	+13
UPC	**Upice**	**144.19**	**350**	*e*PKP	PKPdf	00 27 38.9	+6.1
PRU	**Pruhonice**	**144.92**	**352**	*e*PKP	PKPdf	00 27 40.0	+6.0
PRU				*ex*	x	00 27 48.4	
KHC	**Kasperske Hory**	**145.89**	**352**	*e*PKP	PKPab	00 27 43.8	+7.0
KHC				*ex*	x	00 27 50.5	
GERES	**GERESS Array B**	**146.15**	**352**	PKPbc	**PKPab**	**00 27 39.6**	**+1.6**
	0.1nm,0.3s,baz=47,slow=3.3,SNR=2.4						
BRTR	**Keskin Array B**	**146.35**	**321**	PKPbc	**PKPab**	**00 27 38.2**	**-0.8**
	0.5nm,0.6s,baz=29,slow=1.6,SNR=2.7						

*PDG **30** 00:09:09.8±0.5, 37°.61N×23°.90E, h192km±6km, ML4.0/9, Error ellipse: s-maj=3.1km s-min=2.4km az=90.0*
*ISCJB **30** 00:09:09.7±0.2, 37°.58N±0°.02×24°.24E±0°.03, h191km±2km, mb3.7/10, Error ellipse: s-maj=5.0km s-min=2.6km az=140.5*
*ATH **30** 00:09:09.6, 37°.56N×24°.26E, h191km±2km, ML3.4*
*IDC **30** 00:09:10.9±1.5, 37°.68N×24°.33E, h179km±19km, mb3.4/9, mb1 3.4/15, mb1mx3.3/33, mbtmp3.4/15, MS3.6/1, Ms1 3.6/1, ms1mx3.5/16, Error ellipse: s-maj=17.0km s-min=14.8km az=8.0*
*CSEM **30** 00:09:10.2±0.1, 37°.58N×24°.23E, h192km±1km, ML3.9/11, Error ellipse: s-maj=3.9km s-min=2.0km az=54.0*
*THE **30** 00:09:11.3, 37°.58N×24°.23E, h187km±2km, ML3.9/11, Error ellipse: s-maj=2.7km s-min=0.9km az=245.0*
ISC 30 00:09:10.1±0.6, 37°.61N±0°.03×24°.26E±0°.04, h189km±5km, n246, σ1§31/306, mb3.8/10, 18C-8D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATHU	**Athens Univers**	**0.52**	**314**	P	**Pn**	**00 09 36.8**	**+0.8**
ATHU	**Athens Univers**	**0.52**	**314**	P	**Pn**	**00 09 36.8**	**+0.8**
PTL	**Penteli**	**0.54**	**325**	P	**Pn**	**00 09 37.0**	**+0.9**
PTL				S	**Sn**	**00 09 55.0**	**-1.2**
PTL	**Penteli**	**0.54**	**325**	*e*P	**Pn**	**00 09 37.0**	**+0.9**
PTL				*e*S	**Sn**	**00 09 55.1**	**-1.2**
PTL	**Penteli**	**0.54**	**325**	P	**Pn**	**00 09 37.0**	**+0.9**
PTL				*e*S	**Sn**	**00 09 55.1**	**-1.2**
ATH	**Athens Observa**	**0.56**	**310**	P	**Pn**	**00 09 37.0**	**+0.9**
ATH	**Athens Observa**	**0.56**	**310**	*e*P	**Pn**	**00 09 37.1**	**+0.9**
ATH				*e*S	**Sn**	**00 09 55.4**	**-0.9**
ATH	**Athens Observa**	**0.56**	**310**	P	**Pn**	**00 09 37.0**	**+0.9**
ATH				*e*S	**Sn**	**00 09 55.4**	**-0.9**
NAIG	**Nisos Aigina**	**0.63**	**284**	*e*P	**Pn**	**00 09 37.0**	**+0.5**
NAIG	**Nisos Aigina**	**0.63**	**284**	*e*P	**Pn**	**00 09 37.0**	**+0.5**
DID	**Didima**	**0.82**	**263**	P	**Pn**	**00 09 38.0**	**+0.5**
DID	**Didima**	**0.82**	**263**	*e*P	**Pn**	**00 09 38.0**	**+0.5**
DID				*e*S	**Sn**	**00 09 58.7**	**0.0**
DID	**Didima**	**0.82**	**263**	P	**Pn**	**00 09 38.0**	**+0.5**
DID				*e*S	**Sn**	**00 09 58.7**	**0.0**
DIDY	**Didyma**	**0.84**	**261**	P	**Pn**	**00 09 38.1**	**+0.3**
DIDY				S	**Sn**	**00 09 58.1**	**-1.0**
DIDY	**Didyma**	**0.84**	**261**	P	**Pn**	**00 09 38.1**	**+0.3**
DIDY				S	**Sn**	**00 09 58.1**	**-1.0**
LTK	**Loutraki**	**1.10**	**292**	P	**Pn**	**00 09 40.2**	**+0.7**
LTK				S	**Sn**	**00 10 01.1**	**-1.1**
LTK	**Loutraki**	**1.10**	**292**	*e*P	**Pn**	**00 09 40.2**	**+0.7**
LTK				*e*S	**Sn**	**00 10 01.7**	**-0.5**
LTK	**Loutraki**	**1.10**	**292**	P	**Pn**	**00 09 40.2**	**+0.7**
LTK				*e*S	**Sn**	**00 10 01.7**	**-0.5**
ACOR	**Acrocorinthos**	**1.13**	**285**	P	**Pn**	**00 09 38.1**	**-1.6**
ACOR				S	**Sn**	**00 10 01.1**	**-1.6**
ACOR	**Acrocorinthos**	**1.13**	**285**	P	**Pn**	**00 09 38.1**	**-1.6**
ACOR				S	**Sn**	**00 10 01.1**	**-1.6**
APE	**Apeiranthos**	**1.15**	**118**	P	**Pn**	**00 09 40.8**	**+0.9**
APE	**Apeiranthos**	**1.15**	**118**	P	**Pn**	**00 09 40.8**	**+0.9**
MRKA	**Markates**	**1.21**	**334**	P	**Pn**	**00 09 41.1**	**+0.8**
MRKA	**Markates**	**1.21**	**334**	P	**Pn**	**00 09 41.1**	**+0.8**
VLI	**Veliai**	**1.38**	**230**	P	**Pn**	**00 09 42.1**	**+0.3**
VLI				S	**Sn**	**00 10 04.2**	**-2.0**
VLI	**Veliai**	**1.38**	**230**	*e*P	**Pn**	**00 09 42.1**	**+0.3**
VLI				*e*S	**Sn**	**00 10 05.0**	**-1.2**
VLI	**Veliai**	**1.38**	**230**	P	**Pn**	**00 09 42.1**	**+0.3**
VLI				*e*S	**Sn**	**00 10 05.0**	**-1.2**
LKR	**Lokris**	**1.44**	**317**	P	**Pn**	**00 09 42.9**	**+0.7**
LKR	**Lokris**	**1.44**	**317**	*e*P	**Pn**	**00 09 42.8**	**+0.6**
LKR	**Lokris**	**1.44**	**317**	P	**Pn**	**00 09 42.9**	**+0.7**
THR2	**Thira island,**	**1.50**	**141**	P	**Pn**	**00 09 43.5**	**+0.7**
THR2	**Thira island,**	**1.50**	**141**	P	**Pn**	**00 09 43.5**	**+0.7**
THR3	**Thira Island,**	**1.51**	**142**	P	**Pn**	**00 09 44.1**	**+1.2**
THR3	**Thira Island,**	**1.51**	**142**	P	**Pn**	**00 09 44.1**	**+1.2**
SMIA	**Simia**	**1.51**	**327**	P	**Pn**	**00 09 44.0**	**+1.1**
SMIA				S	**Sn**	**00 10 08.1**	**-0.4**
SMIA	**Simia**	**1.51**	**327**	P	**Pn**	**00 09 44.0**	**+1.1**
SMIA				S	**Sn**	**00 10 08.1**	**-0.4**
THR6	**Thira Island,**	**1.55**	**144**	P	**Pn**	**00 09 44.1**	**+0.8**
THR6	**Thira Island,**	**1.55**	**144**	P	**Pn**	**00 09 44.1**	**+0.8**
GUR	**Goura**	**1.55**	**283**	P	**Pn**	**00 09 44.2**	**+0.8**
GUR				S	**Sn**	**00 10 08.4**	**-0.8**
GUR	**Goura**	**1.55**	**283**	*e*P	**Pn**	**00 09 44.2**	**+0.8**
GUR	**Goura**	**1.55**	**283**	P	**Pn**	**00 09 44.2**	**+0.8**
GUR				S	**Sn**	**00 10 08.4**	**-0.8**
AOS	**Alonnisos**	**1.59**	**349**	P	**Pn**	**00 09 44.1**	**+0.5**
AOS	**Alonnisos**	**1.59**	**349**	*e*P	**Pn**	**00 09 44.2**	**+0.6**
AOS	**Alonnisos**	**1.59**	**349**	*e*P	**Pn**	**00 09 44.2**	**+0.6**
CHOS	**Chios island**	**1.62**	**61**	P	**Pn**	**00 09 45.4**	**+1.4**
CHOS	**Chios island**	**1.62**	**61**	*e*P	**Pn**	**00 09 45.4**	**+1.4**
CHOS	**Chios island**	**1.62**	**61**	P	**Pn**	**00 09 45.4**	**+1.4**
KYTH	**Kithira**	**1.65**	**217**	P	**Pn**	**00 09 44.9**	**+0.7**
KYTH	**Kithira**	**1.65**	**217**	*e*P	**Pn**	**00 09 45.0**	**+0.7**
KYTH	**Kithira**	**1.65**	**217**	P	**Pn**	**00 09 44.9**	**+0.7**
AXAR	**Agios Charalam**	**1.71**	**313**	P	**Pn**	**00 09 46.0**	**+1.2**
AXAR	**Agios Charalam**	**1.71**	**313**	P	**Pn**	**00 09 46.0**	**+1.2**
KLV	**Kalavryta, Ach**	**1.72**	**285**	P	**Pn**	**00 09 45.6**	**+0.6**
KLV				S	**Sn**	**00 10 11.3**	**-0.8**
KLV	**Kalavryta, Ach**	**1.72**	**285**	*e*P	**Pn**	**00 09 45.7**	**+0.7**
KLV	**Kalavryta, Ach**	**1.72**	**285**	*e*P	**Pn**	**00 09 45.7**	**+0.7**
KLV				S	**Sn**	**00 10 11.3**	**-0.8**
NEO	**Neokhori**	**1.88**	**335**	P	**Pn**	**00 09 47.4**	**+0.9**
NEO	**Neokhori**	**1.88**	**335**	*e*P	**Pn**	**00 09 47.3**	**+0.8**
NEO	**Neokhori**	**1.88**	**335**	P	**Pn**	**00 09 47.4**	**+0.9**
ANKY	**Antikythira Is**	**1.90**	**204**	P	**Pn**	**00 09 47.2**	**+0.4**
ANKY				S	**Sn**	**00 10 13.7**	**-1.5**
ANKY	**Antikythira Is**	**1.90**	**204**	*e*P	**Pn**	**00 09 47.3**	**+0.4**
ANKY				*e*S	**Sn**	**00 10 13.2**	**-2.0**
ANKY	**Antikythira Is**	**1.90**	**204**	P	**Pn**	**00 09 47.2**	**+0.4**
ANKY				S	**Sn**	**00 10 13.7**	**-1.5**
ITM	**Ithomi**	**1.90**	**258**	P	**Pn**	**00 09 48.3**	**+1.5**
ITM				S	**Sn**	**00 10 14.8**	**-0.5**
ITM	**Ithomi**	**1.90**	**258**	*e*P	**Pn**	**00 09 48.3**	**+1.5**
ITM				*e*S	**Sn**	**00 10 15.1**	**-0.2**
ITM	**Ithomi**	**1.90**	**258**	P	**Pn**	**00 09 48.3**	**+1.5**
ITM				*e*S	**Sn**	**00 10 15.1**	**-0.2**
LAKA	**Lakka**	**1.91**	**290**	P	**Pn**	**00 09 48.4**	**+1.6**
LAKA				S	**Sn**	**00 10 14.9**	**-0.5**
LAKA	**Lakka**	**1.91**	**290**	*e*P	**Pn**	**00 09 48.0**	**+1.2**
LAKA	**Lakka**	**1.91**	**290**	*e*P	**Pn**	**00 09 48.0**	**+1.2**
LAKA				S	**Sn**	**00 10 14.9**	**-0.5**
XOR	**Xorichti**	**1.94**	**335**	P	**Pn**	**00 09 48.0**	**+0.8**
XOR	**Xorichti**	**1.94**	**335**	P	**Pn**	**00 09 48.0**	**+0.8**
PSA1	**Psathopyrgos**	**2.01**	**292**	*e*P	**Pn**	**00 09 49.3**	**+1.5**
DRO	**Drossia**	**2.04**	**280**	P	**Pn**	**00 09 50.1**	**+1.8**
DRO				S	**Sn**	**00 10 18.4**	**+0.4**
DRO	**Drossia**	**2.04**	**280**	P	**Pn**	**00 09 50.1**	**+1.8**
DRO				S	**Sn**	**00 10 18.4**	**+0.4**
SMG	**Samos**	**2.05**	**86**	*e*P	**Pn**	**00 09 49.9**	**+1.6**
SMG	**Samos**	**2.05**	**86**	*e*P	**Pn**	**00 09 49.9**	**+1.6**
AGG	**Agios Georgios**	**2.07**	**314**	P	**Pn**	**00 09 49.6**	**+1.1**
AGG				S	**Sn**	**00 10 18.8**	**+0.3**
AGG	**Agios Georgios**	**2.07**	**314**	*e*P	**Pn**	**00 09 49.6**	**+1.1**
AGG	**Agios Georgios**	**2.07**	**314**	P	**Pn**	**00 09 49.6**	**+1.1**
AGG				S	**Sn**	**00 10 18.8**	**+0.3**
PYL	**PYLOS**	**2.13**	**251**	P	**Pn**	**00 09 49.8**	**+0.6**
PYL				S	**Sn**	**00 10 18.4**	**-1.1**
PYL	**PYLOS**	**2.13**	**251**	*e*P	**Pn**	**00 09 49.8**	**+0.6**
PYL	**PYLOS**	**2.13**	**251**	P	**Pn**	**00 09 49.8**	**+0.6**
PYL				S	**Sn**	**00 10 18.4**	**-1.1**
MAKR	**Makrakomi, Fth**	**2.18**	**311**	P	**Pn**	**00 09 50.9**	**+1.2**
MAKR				S	**Sn**	**00 10 21.3**	**+0.6**
MAKR	**Makrakomi, Fth**	**2.18**	**311**	P	**Pn**	**00 09 50.9**	**+1.2**
MAKR				S	**Sn**	**00 10 21.3**	**+0.6**
VAM	**Vamos**	**2.20**	**181**	P	**Pn**	**00 09 49.9**	**0.0**
VAM	**Vamos**	**2.20**	**181**	*e*P	**Pn**	**00 09 50.0**	**0.0**
VAM	**Vamos**	**2.20**	**181**	*e*P	**Pn**	**00 09 50.0**	**0.0**
RLS	**Riolos of Patr**	**2.25**	**282**	P	**Pn**	**00 09 52.9**	**+2.4**
RLS				S	**Sn**	**00 10 23.1**	**+1.2**
RLS	**Riolos of Patr**	**2.25**	**282**	*e*P	**Pn**	**00 09 52.6**	**+2.1**
RLS	**Riolos of Patr**	**2.25**	**282**	*e*P	**Pn**	**00 09 52.6**	**+2.1**
RLS				S	**Sn**	**00 10 23.1**	**+1.2**
PRK	**Paraskevi**	**2.27**	**43**	P	**Pn**	**00 09 51.8**	**+1.1**
PRK	**Paraskevi**	**2.27**	**43**	*e*P	**Pn**	**00 09 51.8**	**+1.1**
PRK	**Paraskevi**	**2.27**	**43**	P	**Pn**	**00 09 51.8**	**+1.1**
EVR	**Evrytania**	**2.33**	**305**	P	**Pn**	**00 09 53.0**	**+1.6**
EVR				S	**Sn**	**00 10 23.1**	**-0.5**
EVR	**Evrytania**	**2.33**	**305**	*e*P	**Pn**	**00 09 52.5**	**+1.1**
EVR				*e*S	**Sn**	**00 10 23.2**	**-0.4**
EVR	**Evrytania**	**2.33**	**305**	*e*P	**Pn**	**00 09 52.5**	**+1.1**
EVR				*e*S	**Sn**	**00 10 23.2**	**-0.4**
PAIG	**Paliouri**	**2.36**	**349**	P	**Pn**	**00 09 52.3**	**+0.7**
PAIG	**Paliouri**	**2.36**	**349**	*e*P	**Pn**	**00 09 52.3**	**+0.7**
PAIG	**Paliouri**	**2.36**	**349**	P	**Pn**	**00 09 52.3**	**+0.7**
IDI	**Anoyia**	**2.37**	**167**	P	**Pn**	**00 09 51.8**	**-0.2**
IDI	**Anoyia**	**2.37**	**167**	*e*P	**Pn**	**00 09 51.7**	**-0.2**
IDI				*e*S	**Sn**	**00 10 22.7**	**-1.8**
IDI	**Anoyia**	**2.37**	**167**	P	**Pn**	**00 09 51.9**	**-0.2**
	12nm,0.3s,baz=349,slow=7.6,SNR=537						
IDI				S	**Sn**	**00 10 21.7**	**-2.8**
	279nm,0.3s,baz=305,slow=16,SNR=69						
IDI	**Anoyia**	**2.37**	**167**	P	**Pn**	**00 09 51.8**	**-0.2**
IDI				*e*S	**Sn**	**00 10 22.7**	**-1.8**
PVO	**Paravola**	**2.38**	**296**	P	Pn	00 09 54.5	+2.6
PVO				S	**Sn**	**00 10 25.0**	**+0.6**
PVO	**Paravola**	**2.38**	**296**	P	Pn	00 09 54.5	+2.6
PVO				S	**Sn**	**00 10 25.0**	**+0.6**
LIA	**Limnos Island**	**2.40**	**17**	P	**Pn**	**00 09 52.8**	**+0.7**
LIA	**Limnos Island**	**2.40**	**17**	*e*P	**Pn**	**00 09 52.8**	**+0.7**
LIA	**Limnos Island**	**2.40**	**17**	P	**Pn**	**00 09 52.8**	**+0.7**
NPS	**Neapolis**	**2.58**	**155**	P	**Pn**	**00 09 54.2**	**-0.1**
NPS	**Neapolis**	**2.58**	**155**	*e*P	**Pn**	**00 09 53.9**	**-0.4**
NPS	**Neapolis**	**2.58**	**155**	P	**Pn**	**00 09 54.2**	**-0.1**
SIVA	**Sivas**	**2.62**	**170**	P	**Pn**	**00 09 55.6**	**+0.8**
SIVA				S	**Sn**	**00 10 29.0**	**-0.6**
SIVA	**Sivas**	**2.62**	**170**	P	**Pn**	**00 09 55.6**	**+0.8**
SIVA				S	**Sn**	**00 10 29.0**	**-0.6**

NKY eSn Sn 00 11 55.2 -4.3
NKY Niksic 6.57 324 ⇑i Pn Pn 00 10 44.1 -0.6
BAI Bari 6.70 304 ePn Pn 00 10 45.7 -0.5
IVAS Ivanjica 6.73 334 ⇑i Pn Pn 00 10 47.3 +0.6
GRUS Gruza 6.82 338 ⇑i Pn Pn 00 10 48.7 +0.9
BRY Bratogost 6.86 322 ⇑i Pn Pn 00 10 47.7 -0.7
BRY eSn Sn 00 12 00.6 -5.7
BRY Bratogost 6.86 322 ⇑i Pn Pn 00 10 47.7 -0.7
UPM Unac-Piva 6.92 326 ⇓i Pn Pn 00 10 49.5 +0.2
UPM eSn Sn 00 12 03.8 -4.0
UPM Unac-Piva 6.92 326 ⇓i Pn Pn 00 10 49.5 +0.2
DIVS Divibare 7.24 335 ⇓i Pn Pn 00 10 53.8 +0.4
BBLS Lazići 7.25 331 ⇓i Pn Pn 00 10 53.4 -0.1
STON Ston 7.26 318 ePn Pn 00 10 51.6 -2.0
STON Sn Sn 00 12 08.7 -6.9
LJBD Adjabya 7.48 208 i P Pn 00 10 57.1 +0.6
SNR=22
BRTR Keskin Array B 7.64 71 P Pn 00 11 00.4 +1.7
0.1nm,0.3s,baz=257,slow=13,SNR=6.6
TEKS Tekeris 7.80 334 ⇓i Pn Pn 00 11 01.8 +1.2
UDBI Udbina 9.42 320 ePn Pn 00 11 21.5 -0.4
UDBI Sn Sn 00 13 02.7 -4.4
NVLJ Novalja 9.92 317 ePn Pn 00 11 27.1 -1.2
NVLJ Sn Sn 00 13 12.1 -6.6
MMAI Mount Meron Ar 10.20 113 P Pn 00 11 31.9 -0.2
9.6nm,0.3s,baz=310,slow=12,SNR=30
MMAI S Sn 00 13 22.0 -3.8
3.7nm,0.3s,baz=295,slow=18,SNR=6.3
KSDI Kefar Szold 10.30 112 Pn Pn 00 11 32.8 -0.5
SLTI Sal'it 10.34 118 Pn Pn 00 11 33.2 -0.8
MMLI Mount Malkishu 10.51 116 Pn Pn 00 11 36.0 -0.1
HMDT Nahal Hemdat 10.68 117 Pn Pn 00 11 38.3 0.0
KZIT Kziot 10.72 126 Pn Pn 00 11 38.3 -0.6
RTMI Retamim 10.82 124 Pn Pn 00 11 39.7 -0.4
DSI Dead Sea 10.97 120 Pn Pn 00 11 42.1 +0.1
MZDA Masada 11.11 121 Pn Pn 00 11 44.0 +0.2
RMNI Mount Ramon 11.16 126 Pn Pn 00 11 44.6 -0.1
ZFRI Zfri 11.46 125 Pn Pn 00 11 48.5 +0.1
KRMI Paran Flat 11.46 128 Pn Pn 00 11 47.1 -1.4
PRNI Paran 11.48 126 Pn Pn 00 11 48.6 -0.1
ASF Jabal al Asfar 11.71 114 P Pn 00 11 53.9 +2.3
0.8nm,0.3s,baz=253,slow=5.7,SNR=18
ASF S Sn 00 13 55.9 -6.0
0.1nm,0.3s,baz=96,slow=19,SNR=2.1
HRFI Mount Harif 11.72 127 Pn Pn 00 11 51.5 -0.2
MBRI Mt Berech 11.80 128 Pn Pn 00 11 52.8 -0.1
EIL Elat 11.91 129 P Pn 00 11 54.9 +0.7
1.1nm,0.3s,baz=48,slow=13,SNR=14
EIL S Sn 00 14 01.0 -5.8
3.3nm,0.3s,baz=288,slow=23,SNR=10
EIL Elat 11.91 129 Pn Pn 00 11 54.8 +0.6
AKASG Malin Array Be 13.56 14 P P 00 12 19.1 +1.6
1.6nm,0.3s,baz=204,slow=10,SNR=7.0
AKASG LR LR 00 18 10.4
comp=Z,297nm,21.2s,baz=45,slow=40
GERES GERESS Array B 13.60 329 P P 00 12 17.7 -0.3
0.3nm,0.3s,baz=139,slow=18,SNR=3.0
DAVOX Davos/Dischmat 14.04 315 P P 00 12 24.9 +1.8
0.5nm,0.3s,baz=105,slow=12,SNR=4.0
HFS Hagfors 23.53 347 P P 00 14 03.5 +0.7
1.1nm,0.5s,baz=162,slow=10,SNR=6.1
FINES FINESS Array B 23.89 2 P P 00 14 06.8 +0.8
1.3nm,0.4s,baz=160,slow=12,SNR=12
NOA NORSAR Array B 24.85 345 P P 00 14 15.8 +0.9
0.3nm,0.4s,baz=149,slow=9.4,SNR=4.6
EKA Eskdalemuir Ar 25.64 323 P P 00 14 24.0 +2.0
0.8nm,0.4s,baz=121,slow=9.5,SNR=12
JOF Joensuu 25.70 7 ep P 00 14 23.6 +1.1
1.2nm,0.3s
TORD Torodi Ar. Bea 31.60 226 P P 00 15 18.1 +2.9
0.3nm,0.5s,baz=35,slow=9.5,SNR=7.9
ARCES ARCESS Array B 31.99 1 P P 00 15 18.9 +0.9
2.0nm,0.8s,baz=179,slow=9.7,SNR=6.3
KURBB Kurchatov Arra 40.20 53 P P 00 16 28.6 +0.9
0.6nm,0.2s,baz=278,slow=8.5,SNR=6.3
MKAR Makanchi Array 43.08 59 P P 00 16 52.6 +1.3
2.7nm,0.5s,baz=270,slow=7.9,SNR=23
ZALV Zalesovo Beam 43.87 48 P P 00 16 58.2 +0.7
1.4nm,0.4s,baz=270,slow=10,SNR=9.6

IDC 30 00:10:26.4±1.1, 15°.27S×173°.34W, h0km, mb4.1/7, mb1 4.4/7, mb1mx4.1/18, mbtmp4.1/7, Error ellipse: s-maj=61.3km s-min=21.1km az=144.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.03**	**48**	Pn	Pn	00 10 54.5	-7.5
	210nm,0.3s,baz=56,slow=22,SNR=5.2						
AFI				Sn	Sn	00 11 15.1	-13
	268nm,0.3s,baz=344,slow=21,SNR=4.1						
STKA	**Stephens Creek**	**44.15**	**240**	P	P	00 18 37.2	+0.1
	1.0nm,0.3s,baz=112,slow=15,SNR=2.9						
WRA	**Warramunga Arr**	**49.93**	**257**	P	P	00 19 21.6	-0.8
	1.0nm,0.6s,baz=90,slow=7.2,SNR=15						
ASAR	**Alice Springs**	**50.21**	**252**	P	P	00 19 23.5	-1.1
	5.3nm,0.6s,baz=86,slow=8.1,SNR=19						
VNDA	**Vanda**	**63.51**	**186**	P	P	00 21 00.7	+2.7
	1.0nm,0.7s,baz=353,slow=6.3,SNR=6.0						
TXAR	**Lajitas Array**	**80.49**	**56**	P	P	00 22 39.1	-1.7
	0.6nm,0.9s,baz=212,slow=4.4,SNR=4.5						
PDAR	**Pinedale Array**	**82.13**	**42**	P	P	00 22 49.4	0.0
	1.0nm,0.8s,baz=216,slow=2.4,SNR=6.2						
ILAR	**Eielson Array**	**82.31**	**11**	P	P	00 22 48.9	-0.7
	0.8nm,0.8s,baz=222,slow=6.3,SNR=5.3						
MAW	**Mawson**	**87.94**	**199**	P	P	00 23 18.9	+1.0
	1.6nm,0.6s,baz=202,slow=10.0,SNR=4.3						
GERES	**GERESS Array B**	**146.02**	**352**	PKPbc	PKPab	00 30 08.7	-0.2
	1.0nm,0.8s,baz=45,slow=2.1,SNR=7.3						
BRTR	**Keskin Array B**	**146.09**	**321**	PKPbc	PKPab	00 30 09.7	+0.1
	7.3nm,0.8s,baz=100,slow=2.6,SNR=36						
ESDC	**Sonseca Array**	**153.97**	**19**	PKPab	PKPab	00 30 42.0	+0.5
	0.3nm,0.6s,baz=327,slow=4.0,SNR=4.5						

*IDC **30** 00:11:34.1±0.6, 15°.83S×172°.52W, h0km, mb4.5/17, mb1 4.6/17, mb1mx4.5/25, mbtmp4.5/17, Error ellipse: s-maj=26.2km s-min=14.8km az=134.0*
*NEIC **30** 00:11:36.8±0.3, 15°.85S×172°.67W, h10km, mb4.9/25, Error ellipse: s-maj=14.4km s-min=7.4km az=127.0*
*ISCJB **30** 00:11:37.8±0.2, 16°.04S±0°.06×172°.51W±0°.06, h24km, mb4.8/51, MS5.1/4, Error ellipse: s-maj=10.8km s-min=5.4km az=142.2*
*BJI **30** 00:11:38.5, 15°.24S×172°.38W, h7km, mB5.7/12, mb5.1/24, Ms5.4/8, Ms7 5.3/9*
ISC 30 00:11:39.2±0.4, 16°.02S±0°.07×172°.46W±0°.08, h24km, n266, σ1§41/282, mb4.9/51, MS5.1/4, 73C-83D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.20**	**18**	ePn	Pn	00 12 04.1	-10
AFI				Sn	Sn	00 12 23.7	-17
AFI	**Afiamalu**	**2.20**	**18**	Pn	Pn	00 12 03.5	-11
	152nm,0.3s,baz=270,slow=2.0,SNR=2.1						
AFI				Sn	Sn	00 12 23.7	-17
	417nm,0.3s,baz=43,slow=23,SNR=4.1						
MSVF	**Nonsavu**	**9.24**	**258**	ePn	Pn	00 13 56.5	+5.4
RAO	**Raoul Island**	**14.10**	**200**	Pn	Pn	00 14 58.0	+0.5
DZM	**Mont Dzumac**	**20.82**	**250**	eP	Pn	00 16 21.6	-0.2
DZM	**Mont Dzumac**	**20.82**	**250**	P	P	00 16 18.3	-0.9
	9.9nm,1.0s,baz=78,slow=20,SNR=3.0						
URZ	**Urewera**	**23.98**	**201**	P	P	00 16 51.3	-0.6
URZ	**Urewera**	**23.98**	**201**	P	P	00 16 51.3	-0.6
	27nm,0.5s,baz=116,slow=3.5,SNR=3.3						
SNZO	**South Karori**	**27.54**	**201**	P	P	00 17 26.8	+2.8
ARMA	**Armidale**	**35.81**	**240**	eP	P	00 18 34.8	-2.2
	5.6nm,0.8s						
COEN	**Coen**	**42.85**	**267**	eP	P	00 19 34.2	-1.6
STKA	**Stephens Creek**	**44.52**	**241**	eP	P	00 19 47.8	-1.3
STKA	**Stephens Creek**	**44.52**	**241**	P	P	00 19 47.4	-1.8
	10nm,0.9s,baz=71,slow=6.6,SNR=14						
WRAB	**Tennant Creek**	**50.58**	**257**	eP	P	00 20 34.0	-2.4
	6.6nm,0.8s						
WRA	**Warramunga Arr**	**50.59**	**257**	P	P	00 20 33.7	-2.8
WRA	**Warramunga Arr**	**50.59**	**257**	P	P	00 20 33.7	-2.8
	6.9nm,0.9s,baz=91,slow=7.1,SNR=18						
AS31	**Alice Springs**	**50.78**	**252**	eP	P	00 20 35.4	-2.6
ASAR	**Alice Springs**	**50.78**	**252**	P	P	00 20 35.6	-2.3
ASAR	**Alice Springs**	**50.78**	**252**	P	P	00 20 35.6	-2.3
	25nm,0.8s,baz=84,slow=8.7,SNR=30						
FITZ	**Fitzroy Crossi**	**58.97**	**258**	eP	P	00 21 36.0	-1.2
FITZ	**Fitzroy Crossi**	**58.97**	**258**	P	P	00 21 36.0	-1.2
	4.5nm,1.1s,baz=139,slow=10,SNR=6.4						
SBA	**Scott Base**	**62.71**	**185**	eP	P	00 22 03.9	+2.2
	107nm,2.7s						
VNDA	**Vanda**	**62.86**	**186**	eP	P	00 22 04.2	+1.5
VNDA	**Vanda**	**62.86**	**186**	P	P	00 22 03.0	+0.3
	2.0nm,0.8s,baz=351,slow=4.6,SNR=6.3						
CASY	**Casey**	**70.23**	**205**	eP	P	00 22 50.7	+0.8
ISA	**Isabella**	**72.47**	**44**	eP	P	00 23 05.5	+1.4
	8.2nm,1.3s						
ISA	**Isabella**	**72.47**	**44**	⇑P	P	00 23 04.7	+0.7
	baz=73						
JNU	**Nakatsue**	**72.88**	**313**	P	P	00 23 05.6	-0.9
JNU	**Nakatsue**	**72.88**	**313**	P	P	00 23 05.6	-0.9
	10.0nm,0.9s,baz=135,slow=7.1,SNR=4.6						
MPMC	**Manual Prospec**	**73.35**	**44**	⇓P	P	00 23 10.3	+0.9
	baz=74						
GSC	**Goldstone**	**73.38**	**45**	⇓P	P	00 23 10.6	+1.1
	baz=74						
HEC	**Hector,Ludlow**	**73.44**	**45**	⇑P	P	00 23 11.3	+1.4
	baz=74						
PETK	**Petropavlovsk-**	**73.50**	**342**	P	P	00 23 06.9	-2.8
PETK	**Petropavlovsk-**	**73.50**	**342**	P	P	00 23 06.9	-2.8
	1.4nm,0.6s,baz=120,slow=5.2,SNR=3.3						
YBH	**Yreka Blue Hor**	**73.55**	**37**	P	P	00 23 08.7	-1.7
YBH	**Yreka Blue Hor**	**73.55**	**37**	P	P	00 23 08.7	-1.7
	2.2nm,0.8s,baz=200,slow=6.6,SNR=3.6						
GMRC	**Granite Mounta**	**73.88**	**46**	⇑P	P	00 23 13.6	+1.1
	baz=74						
QSPA	**South Pole Qui**	**74.03**	**180**	eP	P	00 23 13.1	+0.2
	12nm,1.0s						
113A	**Mohawk Valley,**	**74.14**	**48**	⇑P	P	00 23 15.4	+1.5
	baz=74						
MOD	**Modoc**	**75.05**	**38**	eP	P	00 23 19.0	-0.2
	26nm,0.8s						
W13A	**Hualapai Mount**	**75.28**	**46**	⇓P	P	00 23 21.4	+0.7
	baz=76						
KDAK	**Kodiak Island**	**75.35**	**11**	P	P	00 23 18.2	-2.1
KDAK	**Kodiak Island**	**75.35**	**11**	P	P	00 23 18.2	-2.1
	4.9nm,0.8s,baz=83,slow=15,SNR=4.3						
R11A	**Troy Canyon, C**	**75.89**	**43**	⇓P	P	00 23 25.3	+1.2
	baz=76						
X16A	**Lo Mia Camp, P**	**76.65**	**48**	⇓P	P	00 23 29.6	+1.1
	baz=77						
319A	**Douglas**	**76.76**	**52**	⇓P	P	00 23 29.8	+0.7
	baz=77						
U15A	**North Rim**	**77.08**	**46**	⇓P	P	00 23 32.1	+1.1
	baz=77						
KSRS	**Korea Array**	**77.23**	**315**	P	P	00 23 29.9	-1.5
	2.9nm,0.9s,baz=131,slow=6.3,SNR=8.5						
WUAZ	**Wupatki**	**77.25**	**47**	⇓P	P	00 23 32.8	+0.9
	baz=77						
KSAR	**Wonju Array Be**	**77.25**	**315**	P	P	00 23 29.9	-1.6
320A	**Kipp Ranch, An**	**77.31**	**52**	⇑P	P	00 23 32.8	+0.5
	baz=78						
220A	**Playas Peak, P**	**77.58**	**51**	⇑P	P	00 23 34.4	+0.7
	baz=78						
120A	**U Bar Ranch, L**	**77.80**	**51**	⇑P	P	00 23 35.4	+0.5
	baz=78						
G08A	**Pilot Rock**	**77.91**	**35**	eP	P	00 23 36.5	+1.2
	39nm,1.9s						
Z20A	**Nine Sixteen R**	**78.09**	**50**	⇓P	P	00 23 36.7	+0.1
	baz=78						
KSM	**Kuching**	**78.14**	**275**	eP	P	00 23 38.0	+0.9
	30nm,1.1s						
121A	**Cookes Peak, D**	**78.42**	**51**	⇑P	P	00 23 39.1	+0.7
	baz=79						
BMO	**Blue Mountains**	**78.58**	**37**	eP	P	00 23 38.5	-0.4
	4.5nm,1.4s						
BMO				ePcP	PcP	00 23 48.1	+0.2
Y20A	**Horse Springs,**	**78.62**	**50**	⇓P	P	00 23 39.8	+0.2
	baz=79						
DUG	**Dugway**	**78.70**	**42**	⇓P	P	00 23 40.7	+0.9
	baz=79						
Z21A	**St. Cloud Mine**	**78.87**	**51**	⇑P	P	00 23 41.6	+0.7
	baz=79						
W20A	**Ramah**	**79.11**	**49**	⇑P	P	00 23 42.4	+0.1
	baz=79						
Q16A	**Castle Valley**	**79.12**	**44**	⇓P	P	00 23 43.1	+0.9
	baz=79						
TMUT	**Trail Mountain**	**79.29**	**44**	eP	P	00 23 44.6	+1.4
	15nm,0.9s						
F10A	**Beach Ranch, E**	**79.29**	**36**	eP	P	00 23 43.4	+0.6
	60nm,2.3s						
X21A	**Alamocita Cree**	**79.31**	**49**	⇑P	P	00 23 43.8	+0.4
	baz=80						
Z22A	**Elephant Butte**	**79.37**	**51**	⇑P	P	00 23 43.8	+0.2
	baz=80						
V20A	**Brimhall**	**79.45**	**48**	⇑P	P	00 23 44.5	+0.4
	baz=80						
HLID	**Hailey**	**79.54**	**39**	eP	P	00 23 44.5	+0.2
HLID	**Hailey**	**79.54**	**39**	⇓P	P	00 23 44.9	+0.6
	baz=80,SNR=5.5						
Y22A	**Socorro**	**79.68**	**50**	⇑P	P	00 23 45.7	+0.4
	baz=80						
324A	**Moseley Ranch,**	**79.68**	**53**	⇓P	P	00 23 45.2	-0.1
	baz=80,SNR=9.2						
425A	**Indio Mountain**	**79.78**	**54**	⇑P	P	00 23 45.5	-0.4
	baz=80,SNR=8.2						
DIV	**Divide**	**79.79**	**13**	eP	P	00 23 46.0	+0.8
	19nm,1.0s						
JLU	**Jordanelle**	**79.80**	**43**	eP	P	00 23 45.3	-0.6
	5.9nm,0.8s						
224A	**Cornudas Mount**	**79.93**	**52**	⇓P	P	00 23 46.3	-0.4
	baz=80,SNR=9.0						
626A	**Big Bend Ranch**	**79.93**	**55**	⇓P	P	00 23 46.0	-0.7
	baz=80,SNR=8.9						
MDJ	**Mudanjiang**	**80.07**	**322**	P	P	00 23 49.5	+2.6
MDJ				pmax	pmax		
	comp=Z,6.0nm,0.4s						
MDJ				pmax	pmax		
	comp=Z,1μm,10.3s						
526A	**Mary Lane Ranc**	**80.18**	**55**	⇓P	P	00 23 47.3	-0.7
	baz=80,SNR=7.6						
TXAR	**Lajitas Array**	**80.21**	**56**	P	P	00 23 47.3	-0.9
TXAR	**Lajitas Array**	**80.21**	**56**	P	P	00 23 47.3	-0.9
	comp=Z,4.3nm,1.0s,baz=216,slow=6.2,SNR=19						
124A	**Stringfield Ra**	**80.25**	**52**	⇓P	P	00 23 48.6	+0.1
	baz=80						
U21A	**Nageezi**	**80.33**	**48**	⇓P	P	00 23 48.7	-0.1
	baz=80,SNR=5.7						
Y23A	**Lovelace Mesa,**	**80.35**	**51**	⇑P	P	00 23 49.0	+0.1
	baz=80						
627A	**Terlingua Ranc**	**80.48**	**56**	⇓P	P	00 23 48.8	-0.8
	baz=81,SNR=11						
225A	**Deer Hill, Car**	**80.48**	**53**	⇓P	P	00 23 49.5	-0.2
	baz=81						
426A	**McDonald Obser**	**80.48**	**54**	⇓P	P	00 23 48.7	-1.0
	baz=81,SNR=14						
S20A	**Disappointment**	**80.50**	**46**	⇓P	P	00 23 50.3	+0.6
	baz=81						
ANMO	**Albuquerque**	**80.51**	**50**	eP	P	00 23 48.8	-1.0
	comp=Z,24nm,2.0s						
527A	**Woodward Ranch**	**80.59**	**55**	⇓P	P	00 23 49.6	-0.7
	baz=81,SNR=8.7						
Z24A	**Sheeppen Canyo**	**80.60**	**51**	⇓P	P	00 23 51.1	+0.8
	baz=81						
R20A	**Redvale**	**80.66**	**46**	⇑P	P	00 23 51.1	+0.5
	baz=81						
T21A	**Navajo Lake**	**80.68**	**47**	⇑P	P	00 23 51.0	+0.3
	baz=81						
Y24A	**Capitan**	**80.81**	**51**	⇑P	P	00 23 51.0	-0.5
	baz=81,SNR=5.9						
S21A	**Coal Bank Pass**	**80.81**	**47**	⇓P	P	00 23 51.4	-0.1
	baz=81						
125A	**Gardner Draw,**	**80.84**	**52**	⇓P	P	00 23 51.6	+0.1
	baz=81						
GDL2	**Guadalupe Moun**	**80.87**	**53**	eP	P	00 23 51.7	0.0
	comp=Z,5.4nm,1.0s						
628A	**Black Gap, Mar**	**80.89**	**56**	⇓P	P	00 23 51.1	-0.6
	baz=81,SNR=6.7						
226B	**Tecolote Peak,**	**80.97**	**53**	⇓P	P	00 23 51.4	-0.8
	baz=81,SNR=10						
427A	**Hayter Ranch,**	**81.05**	**54**	⇓P	P	00 23 51.5	-1.1
	baz=81,SNR=6.8						
Z25A	**Roswell**	**81.06**	**52**	⇑P	P	00 23 52.8	+0.1
	baz=81						
V23A	**Ortiz Mt. (NFS**	**81.07**	**49**	⇑P	P	00 23 52.9	+0.1
	baz=81						
TRF	**Thorofare Moun**	**81.07**	**10**	eP	P	00 23 53.5	+1.4
	comp=Z,14nm,0.8s						
Q20A	**Ridgley Place,**	**81.08**	**45**	⇑P	P	00 23 52.8	+0.1
	baz=81						
X24A	**Lazy VL Ranch,**	**81.09**	**50**	⇓P	P	00 23 53.0	+0.1
	baz=81						
T22A	**Edith**	**81.14**	**48**	⇑P	P	00 23 53.4	+0.3
	baz=81						
528A	**Cox Ranch, San**	**81.25**	**55**	⇑P	P	00 23 52.8	-0.9
	baz=81,SNR=8.1						
NJ2	**Nanjing**	**81.26**	**307**	eP	P	00 23 57.0	+3.4
NJ2				pmax	pmax		
	comp=Z,20nm,0.6s						
R21A	**Cimarron**	**81.31**	**46**	⇓P	P	00 23 54.1	0.0
	baz=82						
126A	**Clayton Basin,**	**81.32**	**53**	⇓P	P	00 23 53.8	-0.3
	baz=82						
Y25A	**Mesa, Roswell**	**81.36**	**51**	⇑P	P	00 23 53.5	-0.8
	baz=82,SNR=6.5						
W24A	**Lazy 6 Ranch,**	**81.40**	**50**	⇓P	P	00 23 54.0	-0.5
	baz=82						
S22A	**4UR Ranch, Cre**	**81.53**	**47**	⇑P	P	00 23 54.9	-0.4
	baz=82						
HYT	**Haines Junctio**	**81.54**	**16**	eP	P	00 23 55.5	+0.9
428A	**Kincaid Ranch,**	**81.56**	**55**	⇓P	P	00 23 54.6	-0.8
	baz=82,SNR=5.5						
MCK	**McKinley**	**81.56**	**10**	eP	P	00 23 52.1	-2.5
	comp=Z,22nm,0.8s						
TPAW	**Teton Pass**	**81.62**	**40**	eP	P	00 23 54.0	-1.6
	comp=Z,7.0nm,1.1s						
Z26A	**Caprock**	**81.62**	**52**	⇓P	P	00 23 54.5	-1.1
	baz=82,SNR=8.3						
MSO	**Missoula**	**81.64**	**36**	⇓P	P	00 23 55.8	+0.4
	baz=82						
X25A	**Clemmons Ranch**	**81.65**	**51**	⇑P	P	00 23 55.8	0.0
	baz=82						
529A	**Stev Forest Ra**	**81.68**	**55**	⇓P	P	00 23 56.1	+0.1
	baz=82						
V24A	**Rampart Ranch,**	**81.72**	**49**	⇓P	P	00 23 56.3	-0.1
	baz=82						
328A	**Wristen Ranch,**	**81.73**	**54**	⇓P	P	00 23 55.6	-0.6
	baz=82						
IMW	**Indian Meadow**	**81.84**	**40**	eP	P	00 23 55.2	-1.6
	comp=Z,4.0nm,1.0s						
127A	**Arkansas Junct**	**81.84**	**53**	⇑P	P	00 23 57.3	+0.4
	baz=82						
MENT	**Mentasta**	**81.85**	**13**	eP	P	00 23 54.5	-1.6
P21A	**Newcastle**	**81.93**	**45**	⇓P	P	00 23 57.7	+0.4
	baz=82						
Q22A	**Crested Butte,**	**81.99**	**46**	⇑P	P	00 23 56.9	-0.8
	baz=82,SNR=5.9						
N20A	**Spence Gulch,**	**82.01**	**44**	⇓P	P	00 23 57.8	+0.1
	baz=82						
Y26A	**Elida**	**82.01**	**51**	⇑P	P	00 23 58.0	+0.2
	baz=82						
SMCO	**Snowmass**	**82.09**	**46**	eP	P	00 23 59.0	+0.6
	comp=Z,7.7nm,1.1s						
W25A	**X Bar L Ranch,**	**82.10**	**50**	⇑P	P	00 23 58.1	-0.1
	baz=82						
PDAR	**Pinedale Array**	**82.12**	**41**	P	P	00 23 56.0	-2.3
PDAR	**Pinedale Array**	**82.12**	**41**	P	P	00 23 56.0	-2.3
	comp=Z,1.5nm,0.8s,baz=204,slow=3.5,SNR=5.5						
429A	**Davenport Ranc**	**82.14**	**55**	⇓P	P	00 23 57.8	-0.6
	baz=82,SNR=14						
CN2	**Changchun**	**82.14**	**320**	eP	P	00 24 01.0	+3.0
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
228A	**UT Block 9, Go**	**82.20**	**54**	⇑P	P	00 23 58.7	+0.1
	baz=82						
Z27A	**Tatum**	**82.22**	**52**	⇑P	P	00 23 59.3	+0.5
	baz=82						
T24B	**San Luis**	**82.24**	**48**	⇑P	P	00 23 59.4	+0.3
	baz=82						
V25A	**Rancho No Teng**	**82.25**	**49**	⇑P	P	00 23 59.0	0.0
	baz=82						
X26A	**CR and CF Fran**	**82.29**	**51**	⇑P	P	00 23 59.3	+0.1
	baz=82						
530A	**J-C Ranch, Com**	**82.39**	**56**	⇓P	P	00 23 59.8	+0.1
	baz=83						
329A	**Wagon Wheel Ra**	**82.42**	**54**	⇑P	P	00 23 59.0	-0.8
	baz=83,SNR=5.0						
N21A	**Black Mountain**	**82.47**	**44**	⇓P	P	00 23 59.7	-0.4
	baz=83,SNR=5.4						
128A	**Castleberry Fa**	**82.49**	**53**	⇓P	P	00 23 59.3	-0.9
	baz=83,SNR=5.1						
Y27A	**Causey**	**82.50**	**52**	⇑P	P	00 24 00.2	0.0
	baz=83						
L20A	**Wamsutter**	**82.53**	**43**	⇓P	P	00 24 01.0	+0.7
	baz=83						
K19A	**Absolon Red Bu**	**82.61**	**42**	⇓P	P	00 24 01.1	+0.4
	baz=83						
S24A	**Houchin Ranch,**	**82.62**	**48**	⇑P	P	00 24 01.5	+0.4
	baz=83						
U25A	**Circle Dot Ran**	**82.65**	**49**	⇓P	P	00 24 01.0	-0.1
	baz=83						
631A	**Perdido Creek**	**82.71**	**57**	⇓P	P	00 24 01.6	+0.3
	baz=83						
430A	**Baggett Ranch,**	**82.72**	**55**	⇑P	P	00 24 01.8	+0.4
	baz=83						
Q23A	**Hartsel**	**82.75**	**46**	⇑P	P	00 24 02.1	+0.4
	baz=83						
HRY	**Holter Researc**	**82.79**	**37**	eP	P	00 24 01.2	-0.2
	comp=Z,4.3nm,0.4s						
COLA	**College**	**82.80**	**10**	eP	P	00 24 01.2	+0.3
	comp=Z,82nm,0.8s						
MSTX	**Muleshoe**	**82.83**	**52**	⇑P	P	00 24 01.8	-0.1
	baz=83						
V26A	**Tequesquite Ra**	**82.84**	**50**	⇑P	P	00 24 01.8	-0.2
	baz=83						
O22A	**Kremmling**	**82.84**	**45**	⇓P	P	00 24 01.5	-0.7
	baz=83,SNR=6.6						
ILAR	**Eielson Array**	**82.88**	**11**	P	P	00 23 58.2	-3.1
ILAR	**Eielson Array**	**82.88**	**11**	P	P	00 23 58.2	-3.1
	comp=Z,1.8nm,0.7s,baz=221,slow=5.9,SNR=9.2						
R24A	**Sanders Place,**	**82.96**	**47**	⇑P	P	00 24 02.4	-0.3
	baz=83						
T25A	**Trinidad**	**82.97**	**48**	⇑P	P	00 24 02.3	-0.5
	baz=83						
M21A	**Separation Pea**	**82.98**	**43**	⇓P	P	00 24 03.1	+0.3
	baz=83						
330A	**Mertzon**	**83.02**	**55**	⇑P	P	00 24 03.0	0.0
	baz=83						
531A	**Rocksprings**	**83.03**	**56**	⇓P	P	00 24 03.1	+0.1
	baz=83						
IMA2	**Indian Mountai**	**83.05**	**8**	eP	P	00

K22A	Casper	84.02	43	⇑P	P	00 24 08.6	+0.6
	baz=84						
F19A	Roth Farm, Mol	84.06	39	⇑P	P	00 24 08.7	+0.7
	baz=84						
I21A	Big Trails, Te	84.08	41	⇓P	P	00 24 08.9	+0.7
	baz=84						
131A	Roby	84.13	54	⇓P	P	00 24 09.2	+0.6
	baz=84						
W29A	Amraillo	84.14	51	⇓P	P	00 24 08.6	-0.1
	baz=84						
R26A	Arlington	84.16	48	⇓P	P	00 24 08.4	-0.3
	baz=84,SNR=5.3						
P25A	Willow Gulch B	84.18	46	⇑P	P	00 24 09.3	+0.4
	baz=84						
L23A	Garrett	84.31	43	⇑P	P	00 24 09.5	0.0
	baz=84						
232A	Coleman	84.40	55	⇓P	P	00 24 10.1	0.0
	baz=85						
J22A	Midwest	84.41	42	⇓P	P	00 24 10.3	+0.4
	baz=85						
E19A	Rath Farm, Rou	84.45	38	⇓P	P	00 24 10.6	+0.6
	baz=85						
F20A	Billings	84.51	39	⇑P	P	00 24 11.0	+0.7
	baz=85						
Z31A	Sharp Cattle R	84.57	53	⇑P	P	00 24 11.1	+0.3
	baz=85						
COLD	Coldfoot	84.62	9	eP	P	00 24 10.5	+0.3
	comp=Z,6.6nm,1.0s						
R27A	Eads	84.62	48	⇑P	P	00 24 10.9	-0.1
	baz=85						
H21A	Big Horn, Sher	84.63	41	⇑P	P	00 24 11.7	+0.7
	baz=85						
I22A	9 Mile Ranch,	84.63	42	⇑P	P	00 24 11.4	+0.4
	baz=85						
K23A	Bowen Ranch, D	84.66	43	⇓P	P	00 24 11.7	+0.5
	baz=85						
EGMT	Eagleton	84.68	37	⇓P	P	00 24 12.3	+1.2
	baz=85						
ABTX	Abilene, Hawle	84.69	54	⇓P	P	00 24 11.8	+0.3
	baz=85						
Y31A	Rekieta Farm,	84.73	53	⇑P	P	00 24 12.1	+0.5
	baz=85						
D19A	Cripps Ranch,	84.75	38	⇑P	P	00 24 12.8	+1.3
	baz=85						
E20A	Meyer Farm, Mu	84.87	39	⇓P	P	00 24 13.0	+0.9
	baz=85						
C19A	Slack Wire Ran	84.94	37	⇓P	P	00 24 13.5	+1.1
	baz=85						
Z32A	Haskell	85.08	53	⇑P	P	00 24 13.9	+0.5
	baz=85						
D20A	Manuel Ranch,	85.16	38	⇓P	P	00 24 14.6	+1.2
	baz=85						
B19A	Brinkman Farms	85.36	37	⇓P	P	00 24 15.3	+0.9
	baz=85						
Y32A	R-V Farms, Ver	85.37	53	⇑P	P	00 24 15.3	+0.5
	baz=86						
W31A	Holland Ranch,	85.45	52	⇓P	P	00 24 15.4	+0.2
	baz=86						
B20A	Solberg Farm,	85.89	37	⇓P	P	00 24 18.4	+1.4
	baz=86						
A20A	Cobblestone Ra	86.16	37	⇑P	P	00 24 19.8	+1.4
	baz=86						
WHTX	Lake Whitney	86.17	55	⇑P	P	00 24 20.0	+1.2
	baz=86						
H24A	Dirks Ranch, A	86.26	41	⇓P	P	00 24 20.2	+1.2
	baz=86						
BJI	Beijing	86.55	313	P	P	00 24 22.5	+2.1
BJI				pmax	pmax		
	comp=Z,9.0nm,0.4s						
MAW	Mawson	87.49	198	eP	P	00 24 25.3	+0.7
MAW	Mawson	87.49	198	P	P	00 24 25.0	+0.5
	comp=Z,3.8nm,0.9s,baz=112,slow=4.8,SNR=5.2						
GYA	Guiyang	89.13	298	P	P	00 24 35.8	+2.5
GYA				PP	PP	00 28 08.8	+4.9
GYA				SKS	SKSac	00 35 04.3	+2.1
GYA				S	S	00 35 23.8	+2.5
GYA				pmax	pmax		
	comp=Z,20nm,1.2s						
GYA				pmax	pmax		
	comp=Z,120nm,6.4s						
GYA				LR	LR		
	comp=N,520nm,20.8s						
GYA				LR	LR		
	comp=E,480nm,23.4s						
GYA				LR	LR		
	comp=Z,580nm,21.5s						
HHC	Hu-ho-hao-te	90.11	313	eP	P	00 24 38.0	+0.5
HHC				pP	pP	00 24 43.0	-2.4
HHC				sP	sP	00 24 45.0	-3.2
HHC				PP	PP	00 28 15.0	+3.7
HHC				SKS	SKSac	00 35 07.0	-0.3
HHC				S	S	00 35 30.0	+0.2
HHC				sS	sS	00 35 38.0	-4.8
HHC				pmax	pmax		
	comp=Z,41nm,1.2s						
HHC				LR	LR		
	comp=N,430nm,17.5s						
HHC				LR	LR		
	comp=E,430nm,18.0s						
HHC				LR	LR		
	comp=Z,1μm,19.8s						
JTS	JuntasAbangare	90.43	79	eP	P	00 24 39.6	+0.1
	comp=Z,89nm,1.0s						
KMI	Kunming	92.11	295	P	P	00 24 49.3	+2.0
KMI				pmax	pmax		
	comp=Z,14nm,0.5s						
SNAA	Sanae	92.24	177	eP	P	00 24 46.7	-0.1
	comp=Z,5.0nm,1.3s						
CD2	Chengdu	92.90	301	P	P	00 24 53.8	+3.2
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CMAR	Chiang Mai Arr	93.67	288	P	P	00 24 54.1	-0.2
CMAR	Chiang Mai Arr	93.67	288	P	P	00 24 54.1	-0.2
	comp=Z,0.8nm,0.4s,baz=197,slow=30,SNR=4.6						
LZH	Lanzhou	94.32	306	eP	P	00 24 59.5	+2.3
LZH				pP	pP	00 25 02.5	-2.6
LZH				sP	sP	00 25 04.3	-3.6
LZH				PP	PP	00 28 48.0	+3.3
LZH				SKS	SKSac	00 35 36.5	+5.3
LZH				eS	S	00 36 05.0	-2.8
LZH				sS	ScS	00 36 14.3	+5.2
LZH				SS	SS	00 42 32.0	+1.9
LZH				pmax	pmax		
	comp=Z,27nm,1.1s						
LZH				pmax	pmax		
	comp=Z,170nm,5.7s						
LZH				LR	LR		
	comp=N,810nm,16.4s						
LZH				LR	LR		
	comp=E,750nm,16.2s						
LZH				LR	LR		
	comp=Z,1μm,17.5s						
KSH	Kashi	116.57	306	ePKP	PKPdf	00 30 24.0	+2.4
KSH				PP	PP	00 31 36.3	+7.1
KSH				PKS	PKSdf	00 33 59.5	+1.1
KSH				SKS	SKSdf	00 37 35.0	+2.5
KSH				SKKS	SKKSac	00 38 29.3	+0.5
KSH				SS	SS	00 47 38.8	+5.0
KSH				AMB	AMB		
	comp=Z,230nm,5.2s						
KSH				LR	LR		
	comp=N,170nm,9.3s						
KSH				LR	LR		
	comp=E,150nm,6.8s						
KSH				LR	LR		
	comp=Z,250nm,12.8s						
ARCES	ARCESS Array B	125.34	352	PKP	PKPdf	00 30 35.7	-1.8
ARCES	ARCESS Array B	125.34	352	PKP	PKPdf	00 30 35.7	-1.8
	comp=Z,1.2nm,0.8s,baz=335,slow=8.4,SNR=3.9						
CLL	Collm	144.53	354	ePKPdf	PKPab	00 31 11.0	-0.9
CLL				e		00 31 26.0	
	comp=Z,6.0nm,1.0s						
CLL				e		00 31 29.0	
BRG	Berggiesshubel	144.85	353	eP	PKPdf	00 31 32.1	+18
	comp=Z,5.5nm,1.3s						
DPC	Dobruska-Polom	145.03	350	ePKP	PKPab	00 31 12.4	-1.5
DPC				ex	x	00 31 23.5	
OKC	Ostrava-Krasne	145.19	348	ePKP	PKPbc	00 31 12.0	-2.3
OKC				ex	x	00 31 21.9	
BUR08	Bucovina Ar. S	145.25	339	ePKP	PKPdf	00 31 16.3	+1.2
MEM	Membach	145.48	2	PKP	PKPbc	00 31 13.0	-2.2
PRU	Pruhonice	145.65	352	ePKP	PKPdf	00 31 14.2	-1.3
KMBO	Kilima Mbogo	146.07	243	PKPbc	PKPdf	00 31 17.3	-0.4
KMBO				ePKPdf	PKPbc	00 31 18.6	+0.1
KMBO	Kilima Mbogo	146.07	243	PKPbc	PKPdf	00 31 17.3	-0.4
	comp=Z,2.8nm,1.0s,baz=104,slow=3.5,SNR=5.1						
KHC	Kasperske Hory	146.61	353	ePKP	PKPdf	00 31 17.3	0.0
GERES	GERESS Array B	146.88	353	PKPbc	PKPdf	00 31 17.9	+0.1
GERES	GERESS Array B	146.88	353	PKPbc	PKPdf	00 31 17.9	+0.1
	comp=Z,0.4nm,0.5s,baz=20,slow=3.1,SNR=3.4						
BR131	Keskin Array S	147.21	321	ePKPdf	PKPdf	00 31 19.1	+0.4
BRTR	Keskin Array B	147.21	321	PKPbc	PKPbc	00 31 19.8	-1.1
BRTR	Keskin Array B	147.21	321	PKPbc	PKPbc	00 31 19.8	-1.1
	comp=Z,4.4nm,0.9s,baz=141,slow=0.8,SNR=6.8						
BFO	Black Forest	147.77	359	ePKPdf	PKPdf	00 31 19.9	+0.6
SSB	Saint Sauveur	150.72	4	ePKPdf	PKPdf	00 31 25.2	+1.1
POLO	Lamas de Olo	151.47	25	ePKPab	PKPab	00 31 43.5	+3.7
MVO	Moncorvo	151.95	24	ePKPbc	PKPbc	00 31 31.3	-1.3
MVO	Moncorvo	151.95	24	ePKPab	PKPab	00 31 43.8	+2.0
PTOM	Tomar	152.67	28	ePKPab	PKPab	00 31 45.6	+0.8
PMTG	Montargil	153.20	28	ePKPab	PKPab	00 31 47.1	+0.1
PMRV	Marv??o	153.27	26	ePKPab	PKPab	00 31 47.5	+0.2
ESDC	Sonseca Array	154.38	21	PKPbc	PKPbc	00 31 36.3	-1.7
ESDC				PKPab	PKPab	00 31 48.3	-3.8
ESDC	Sonseca Array	154.38	21	PKPbc	PKPbc	00 31 36.3	-1.7
	comp=Z,0.7nm,0.8s,baz=342,slow=2.3,SNR=4.0						
ESDC				PKPab	PKPab	00 31 48.3	-3.8
	comp=Z,0.4nm,0.7s,baz=5.1,slow=2.6,SNR=3.2						

BJI ***30*** *00:22:36.3, 15˚.40S×173˚.37W, h7km, mB5.5/11, mb5.1/18, Ms5.3/6, Ms7 5.2/6*
IDC ***30*** *00:22:36.5±0.7, 15˚.38S×173˚.40W, h0km, mb4.6/12, mb1 4.7/12, mb1mx4.5/22, mbtmp4.6/12, MS3.9/1, Ms1 3.9/1, ms1mx3.8/32, Error ellipse: s-maj=33.1km s-min=15.4km az=138.0*
NEIC ***30*** *00:22:38.0±0.2, 15˚.41S×173˚.44W, h10km, mb4.9/37, Error ellipse: s-maj=12.9km s-min=5.0km az=145.0*
SZGRF ***30*** *00:22:39.1, 16˚.58S×173˚.14W, h33km, Tonga Islands*
ISCJB ***30*** *00:22:40.9±0.3, 15˚.6S±0˚.1×173˚.38W±0˚.07, h42km, mb4.8/55, MS5.2/3, Error ellipse: s-maj=16.1km s-min=7.1km az=156.9*
ISC 30 00:22:42.9±0.5, 15˚.5S±0˚.1×173˚.34W±0˚.09, h42km, n355, g0 75/367, mb4.8/56, MS5.2/3, 120C-118D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.19	44	ePn	Pn	00 23 09.9	-6.9
AFI				Sn	Sn	00 23 27.5	-15
AFI	Afiamalu	2.19	44	Pn	Pn	00 23 09.2	-7.7
	96nm,0.3s,baz=153,slow=4.9,SNR=7.7						
AFI				Sn	Sn	00 23 27.5	-15
	100nm,0.3s,baz=49,slow=15,SNR=5.0						
MSVF	Nonsavu	8.55	254	ePn	Pn	00 24 32.1	-12
RAO	Raoul Island	14.32	196	LR	LR	00 30 30.1	
	comp=Z,547nm,21.2s,baz=351,slow=33						
CTA	Charters Tower	38.68	257	P	P	00 30 02.0	-1.0
CTA	Charters Tower	38.68	257	P	P	00 30 02.0	-1.0
	1.3nm,0.3s,baz=117,slow=4.5,SNR=3.6						
STKA	Stephens Creek	44.04	240	eP	P	00 30 45.9	-0.9
STKA	Stephens Creek	44.04	240	P	P	00 30 45.6	-1.1
	15nm,0.9s,baz=62,slow=9.3,SNR=18						
WRAB	Tennant Creek	49.87	257	eP	P	00 31 30.7	-1.8
	15nm,1.1s						
WRA	Warramunga Arr	49.88	257	P	P	00 31 31.2	-1.4
WRA				PcP	PcP	00 32 52.6	-0.1
WRA	Warramunga Arr	49.88	257	P	P	00 31 31.2	-1.4
	6.2nm,0.8s,baz=91,slow=6.7,SNR=46						
WRA				PcP	PcP	00 32 52.6	-0.1
	2.5nm,0.9s,baz=88,slow=3.9,SNR=6.0						
AS31	Alice Springs	50.14	252	eP	P	00 31 32.9	-1.6
ASAR	Alice Springs	50.14	252	P	P	00 31 33.5	-1.0
ASAR	Alice Springs	50.14	252	P	P	00 31 33.5	-1.0
	26nm,0.8s,baz=85,slow=8.7,SNR=85						
VNDA	Vanda	63.28	186	P	P	00 33 08.2	+1.4
VNDA	Vanda	63.28	186	P	P	00 33 08.2	+1.4
	2.8nm,1.2s,baz=359,slow=5.4,SNR=4.3						
EDW2	Edwards Air Fo	72.57	45	⇑P	P	00 34 06.3	+0.3
	baz=73						
ISA	Isabella	72.68	44	⇓P	P	00 34 07.1	+0.5
	baz=73						
PETK	Petropavlovsk-	72.75	342	P	P	00 34 06.5	0.0
PETK	Petropavlovsk-	72.75	342	P	P	00 34 06.5	0.0
	8.6nm,1.0s,baz=128,slow=8.1,SNR=5.7						
MPMC	Manual Prospec	73.57	44	⇓P	P	00 34 12.3	+0.3
	baz=74						
GSC	Goldstone	73.61	45	⇓P	P	00 34 12.6	+0.4
	baz=74						
YBH	Yreka Blue Hor	73.64	37	P	P	00 34 12.4	+0.2
YBH	Yreka Blue Hor	73.64	37	P	P	00 34 12.5	+0.2
	1.2nm,0.5s,baz=246,slow=7.2,SNR=5.3						
HEC	Hector,Ludlow	73.69	46	⇑P	P	00 34 12.8	+0.1
	baz=74						
GMRC	Granite Mounta	74.13	46	⇑P	P	00 34 15.0	-0.3
	baz=74						
113A	Mohawk Valley,	74.44	49	⇓P	P	00 34 17.0	+0.1
	baz=75						
214A	Organ Pipe Nat	74.73	50	⇓P	P	00 34 18.5	-0.2
	baz=75						
PDMCI	Parker Dam,Lak	74.95	47	⇓P	P	00 34 19.9	0.0
	baz=75						
KDAK	Kodiak Island	75.01	11	P	P	00 34 19.4	-0.3
KDAK	Kodiak Island	75.01	11	P	P	00 34 19.4	-0.3
	7.9nm,0.8s,baz=231,slow=13,SNR=3.9						
MOD	Modoc	75.16	38	eP	P	00 34 21.4	+0.3
	34nm,1.2s						
K05A	Summer Lake	75.32	37	eP	P	00 34 22.7	+0.6
	114nm,2.3s						
W13A	Hualapai Mount	75.54	47	⇑P	P	00 34 23.5	0.0
	baz=76						
Y14A	Wickenburg	75.57	48	⇓P	P	00 34 23.8	+0.3
	baz=76						
R11A	Troy Canyon, C	76.09	43	⇑P	P	00 34 26.7	+0.1
	baz=76						
TUC	Tucson	76.41	51	eP	P	00 34 28.1	-0.3
	8.0nm,1.3s						
X16A	Lo Mia Camp, P	76.94	48	⇑P	P	00 34 31.3	-0.2
	baz=77						
I07A	Izee	76.94	37	eP	P	00 34 31.4	+0.2
	20nm,1.4s						
319A	Douglas	77.11	52	⇓P	P	00 34 32.2	-0.1
	baz=77						
J08A	Circle Bar Ran	77.11	38	eP	P	00 34 31.8	-0.3
	11nm,1.2s						
U15A	North Rim	77.33	46	⇓P	P	00 34 33.6	-0.1
	baz=78						
WUAZ	Wupatki	77.52	48	⇓P	P	00 34 34.8	+0.1
	baz=78						
ELK	Elko	77.62	41	eP	P	00 34 34.7	-0.5
	4.0nm,1.0s						
320A	Kipp Ranch, An	77.66	52	⇓P	P	00 34 35.5	-0.1
	baz=78						
220A	Playas Peak, P	77.92	52	⇓P	P	00 34 37.1	+0.2
	baz=78						
G08A	Pilot Rock	77.98	36	eP	P	00 34 36.6	-0.3
	157nm,3.0s						
X18A	Snowflake	78.07	49	⇓P	P	00 34 37.7	-0.1
	baz=78						
120A	U Bar Ranch, L	78.13	51	⇑P	P	00 34 38.0	-0.1
	baz=78						
HAWA	Hanford	78.33	35	eP	P	00 34 38.9	+0.2
	14nm,1.3s						
Z20A	Nine Sixteen R	78.42	51	⇑P	P	00 34 39.8	+0.1
	baz=79						
MFID	Camas Ranch	78.73	39	⇑P	P	00 34 41.0	-0.1
	baz=79						
121A	Cookes Peak, D	78.76	52	⇓P	P	00 34 41.3	-0.4
	baz=79						
DUG	Dugway	78.89	43	eP	P	00 34 41.8	-0.4
	6.0nm,1.1s						
DUG	Dugway	78.89	43	⇑P	P	00 34 41.8	-0.4
	baz=79						
Y20A	Horse Springs,	78.94	50	⇓P	P	00 34 42.4	-0.3
	baz=79						
X20A	Quemado	79.14	50	⇓P	P	00 34 43.5	-0.3
	baz=79						
E09A	Wood Farm, Sta	79.17	35	eP	P	00 34 42.6	-0.6
	29nm,1.6s						
Z21A	St. Cloud Mine	79.19	51	⇑P	P	00 34 43.9	-0.1
	baz=79						
Q16A	Castle Valley	79.34	45	⇓P	P	00 34 44.4	-0.2
	baz=80						
F10A	Beach Ranch, E	79.36	36	eP	P	00 34 43.6	-0.9
	7.8nm,0.9s						
W20A	Ramah	79.40	49	⇓P	P	00 34 44.9	-0.2
	baz=80						
X21A	Alamocita Cree	79.62	50	⇓P	P	00 34 46.2	-0.2
	baz=80						
HLID	Hailey	79.67	39	eP	P	00 34 46.3	0.0
	11nm,1.1s						
HLID	Hailey	79.67	39	⇑P	P	00 34 46.3	0.0
	baz=80,SNR=13						
V20A	Brimhall	79.74	48	⇑P	P	00 34 47.0	0.0
	baz=80						
C09A	Chrisman Ranch	79.86	34	eP	P	00 34 46.6	-0.5
	16nm,1.4s						
SRU	San Rafael	79.87	45	eP	P	00 34 47.9	+0.3
	6.7nm,1.0s						
U20A	Newcomb	79.97	48	⇑P	P	00 34 48.1	0.0
	baz=80						
Y22A	Socorro	80.00	51	⇓P	P	00 34 48.2	-0.1
	baz=80						
324A	Moseley Ranch,	80.05	53	⇑P	P	00 34 48.0	-0.6
	baz=80,SNR=6.4						
425A	Indio Mountain	80.16	54	⇓P	P	00 34 48.8	-0.5
	baz=80,SNR=7.4						
Z23A	Rita Site, Whi	80.25	52	⇑P	P	00 34 49.5	-0.2
	baz=80						
224A	Cornudas Mount	80.29	53	⇓P	P	00 34 49.7	-0.2
	baz=80,SNR=6.3						
626A	Big Bend Ranch	80.33	56	⇓P	P	00 34 49.8	-0.4
	baz=80,SNR=10						
BNM	Barren Site	80.34	51	eP	P	00 34 50.3	0.0
	4.3nm,1.1s						
MVCO	Mesa Verde	80.37	47	⇑P	P	00 34 50.1	-0.2
	baz=80						
CAST	Castle Rocks	80.39	10	eP	P	00 34 48.3	-1.3
	48nm,2.2s						
LPM	Los Pinos Moun	80.41	50	eP	P	00 34 51.1	+0.5
124A	Stringfield Ra	80.60	52	⇓P	P	00 34 51.7	0.0
	baz=81						
U21A	Nageezi	80.61	48	⇑P	P	00 34 51.6	0.0
	baz=81						
TXAR	Lajitas Array	80.62	56	P	P	00 34 51.0	-0.7
TXAR	Lajitas Array	80.62	56	P	P	00 34 51.0	-0.7
	5.8nm,1.1s,baz=224,slow=5.2,SNR=24						
Y23A	Lovelace Mesa,	80.68	51	⇓P	P	00 34 52.0	0.0
	baz=81						
TRF	Thorofare Moun	80.72	10	eP	P	00 34 50.8	-0.7
	18nm,1.3s						
S20A	Disappointment	80.75	47	⇓P	P	00 34 52.3	-0.1
	baz=81						
225A	Deer Hill, Car	80.84	53	⇑P	P	00 34 52.7	-0.2
	baz=81,SNR=5.8						
426A	McDonald Obser	80.87	55	⇓P	P	00 34 52.8	-0.4
	baz=81,SNR=19						
627A	Terlingua Ranc	80.89	56	⇓P	P	00 34 53.1	0.0
	baz=81,SNR=12						
V22A	San Miguel Ran	80.92	49	⇑P	P	00 34 53.2	-0.2
	baz=81						
Z24A	Sheeppen Canyo	80.94	52	⇑P	P	00 34 53.4	0.0
	baz=81						
M17A	Scullys Gap (B	80.94	43	⇑P	P	00 34 52.4	-0.9
	baz=81						
T21A	Navajo Lake	80.95	48	⇑P	P	00 34 53.1	-0.3
	baz=81						
527A	Woodward Ranch	80.99	55	⇓P	P	00 34 53.5	-0.2
	baz=81,SNR=5.4						
S21A	Coal Bank Pass	81.08	47	⇓P	P	00 34 53.9	-0.3
	baz=81						
Y24A	Capitan	81.14	51	⇓P	P	00 34 54.3	-0.2
	baz=81,SNR=13						
W23A	Werner Place,	81.14	50	⇑P	P	00 34 54.3	-0.2
	baz=81						
U22A	Llaves	81.16	48	⇑P	P	00 34 54.5	-0.1
	baz=81						
326A	Caldwell Ranch	81.17	54	⇑P	P	00 34 54.2	-0.3
	baz=81						
125A	Gardner Draw,	81.20	53	⇑P	P	00 34 54.4	-0.3
	baz=81						
CN2	Changchun	81.20	320	eP	P	00 34 54.8	+0.5
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
MCK	McKinley	81.21	11	eP	P	00 34 53.6	-0.3
	comp=Z,13nm,0.9s						
GDL2	Guadalupe Moun	81.23	53	eP	P	00 34 55.0	0.0
HYT	Haines Junctio	81.29	17	eP	P	00 34 54.6	+0.1
628A	Black Gap, Mar	81.30	56	⇓P	P	00 34 54.8	-0.4
	baz=82,SNR=5.9						
Q20A	Ridgley Place,	81.32	46	⇓P	P	00 34 55.1	-0.3
	baz=82,SNR=5.9						
226B	Tecolote Peak,	81.33	53	⇓P	P	00 34 55.0	-0.4
	baz=82,SNR=15						
V23A	Ortiz Mt. (NFS	81.37	49	⇓P	P	00 34 55.8	+0.1
	baz=82,SNR=6.5						
O19A	Miners Draw (B	81.39	44	⇑P	P	00 34 55.1	-0.6
	baz=82						
Z25A	Roswell	81.41	52	⇓P	P	00 34 55.3	-0.6
	baz=82						
T22A	Edith	81.41	48	⇓P	P	00 34 55.8	-0.1
	baz=82						
X24A	Lazy VL Ranch,	81.41	51	⇓P	P	00 34 55.8	-0.2
	baz=82						
427A	Hayter Ranch,	81.43	55	⇓P	P	00 34 55.9	-0.1
	baz=82,SNR=7.4						
RRI2	Red Ridge	81.47	41	eP	P	00 34 55.9	-0.2
	comp=Z,10nm,1.0s						
P20A	De Beque	81.51	45	⇓P	P	00 34 56.2	-0.1
	baz=82						
R21A	Cimarron	81.57	46	⇓P	P	00 34 56.7	0.0
	baz=82,SNR=6.2						
U23A	El Rito	81.62	49	⇑P	P	00 34 57.0	0.0
	baz=82,SNR=6.8						
528A	Cox Ranch, San	81.65	56	⇑P	P	00 34 56.8	-0.4
	baz=82,SNR=8.8						
126A	Clayton Basin,	81.68	53	⇓P	P	00 34 56.8	-0.4
	baz=82						
Y25A	Mesa, Roswell	81.70	52	⇑P	P	00 34 56.8	-0.6
	baz=82,SNR=5.5						
W24A	Lazy 6 Ranch,	81.71	50	⇓P	P	00 34 57.0	-0.5
	baz=82						
MSO	Missoula	81.73	37	eP	P	00 34 56.1	-1.1
	comp=Z,11nm,1.1s						
MSO	Missoula	81.73	37	⇑P	P	00 34 56.4	-0.7
	baz=82,SNR=7.8						
DLMT	Dillon	81.73	38	eP	P	00 34 57.6	+0.3
	comp=Z,95nm,2.7s						
Q21A	Lamborn Mesa,	81.77	46	⇑P	P	00 34 57.6	-0.1
	baz=82						
REDW	Red Top Meadow	81.77	41	eP	P	00 34 57.2	-0.4
	comp=Z,12nm,1.3s						
S22A	4UR Ranch, Cre	81.79	47	⇑P	P	00 34 57.8	-0.2
	baz=82,SNR=6.4						
BSMT	Bassoo Peak	81.81	35	eP	P	00 34 56.9	-0.8
SNOW	Snow King Moun	81.88	41	eP	P	00 34 58.2	0.0
	comp=Z,10nm,1.0s						
M19A	Rock Springs	81.95	43	⇑P	P	00 34 58.4	-0.3
	baz=82						
428A	Kincaid Ranch,	81.95	55	⇑P	P	00 34 58.6	-0.1
	baz=82,SNR=6.5						
Z26A	Caprock	81.97	52	⇓P	P	00 34 58.3	-0.5
	baz=82,SNR=8.9						
X25A	Clemmons Ranch	81.97	51	⇓P	P	00 34 58.5	-0.4
	baz=82						
IMW	Indian Meadow	81.99	40	eP	P	00 34 58.7	-0.1
	comp=Z,13nm,1.3s						
V24A	Rampart Ranch,	82.03	50	⇓P	P	00 34 58.9	-0.3
	baz=82						
MOOW	Moose Ponds	82.03	41	eP	P

baz=83
COLA College 82.45 11 *e*P P 00 34 59.2 -1.2
comp=Z,60nm,0.9s
H17A Grant Village 82.46 40 ⇑P P 00 35 01.4 +0.1
baz=83
T24B San Luis 82.53 48 ⇑P P 00 35 01.7 -0.1
baz=83,SNR=5.1
ILAR Eielson Array 82.53 11 P P 00 34 59.8 -1.1
ILAR Eielson Array 82.53 11 P P 00 34 59.8 -1.1
comp=Z,1.6nm,0.8s,baz=204,slow=6.5,SNR=12
429A Davenport Ranc 82.54 56 ⇓P P 00 35 01.0 -0.7
baz=83,SNR=14
V25A Rancho No Teng 82.56 50 ⇓P P 00 35 01.7 -0.3
baz=83,SNR=16
Z27A Tatum 82.57 53 ⇑P P 00 35 01.5 -0.5
baz=83
228A UT Block 9, Go 82.57 54 ⇑P P 00 35 01.6 -0.3
baz=83
M20A Sweetwater, Wa 82.58 43 ⇑P P 00 35 02.0 +0.1
baz=83
X26A CR and CF Fran 82.62 51 ⇑P P 00 35 01.7 -0.5
baz=83
P22A Eagle 82.67 46 ⇓P P 00 35 02.4 -0.1
baz=83
N21A Black Mountain 82.69 44 ⇓P P 00 35 02.3 -0.2
baz=83
R23A Moffat 82.70 47 ⇑P P 00 35 02.5 -0.2
baz=83
L20A Wamsutter 82.73 43 ⇓P P 00 35 02.5 -0.1
baz=83,SNR=7.6
SDCO Great Sand Dun 82.74 48 *e*P P 00 35 01.4 -1.5
comp=Z,4.5nm,0.9s
K19A Absolon Red Bu 82.79 42 ⇑P P 00 35 02.3 -0.6
baz=83,SNR=7.6
530A J-C Ranch, Com 82.80 56 ⇓P P 00 35 02.4 -0.7
baz=83
329A Wagon Wheel Ra 82.80 55 ⇓P P 00 35 02.4 -0.7
baz=83,SNR=7.5
Y27A Causey 82.84 52 ⇓P P 00 35 02.4 -1.0
baz=83
128A Castleberry Fa 82.86 53 ⇓P P 00 35 02.7 -0.7
baz=83,SNR=7.5
J19A Crowheart 82.86 42 ⇑P P 00 35 02.6 -0.7
baz=83
W26A Owens Ranch, T 82.88 51 ⇑P P 00 35 03.2 -0.3
baz=83
HRY Holter Researc 82.89 38 *e*P P 00 35 03.0 -0.3
S24A Houchin Ranch, 82.90 48 ⇓P P 00 35 03.4 -0.4
baz=83,SNR=6.9
U25A Circle Dot Ran 82.95 49 ⇑P P 00 35 03.7 -0.3
baz=83,SNR=14
Q23A Hartsel 83.01 47 ⇓P P 00 35 04.0 -0.4
baz=83,SNR=7.1
K20A Yellowstone Ra 83.03 42 ⇑P P 00 35 03.4 -0.8
baz=83,SNR=6.4
O22A Kremmling 83.08 45 ⇓P P 00 35 04.0 -0.7
baz=83,SNR=15
430A Baggett Ranch, 83.12 56 ⇑P P 00 35 04.1 -0.7
baz=83
631A Perdido Creek 83.14 57 ⇓P P 00 35 04.0 -0.8
baz=83,SNR=9.5
V26A Tequesquite Ra 83.16 50 ⇓P P 00 35 04.1 -0.8
baz=83
H18A Shoshone NF, C 83.17 40 ⇓P P 00 35 04.3 -0.6
baz=83
MSTX Muleshoe 83.17 52 *e*P P 00 35 04.4 -0.6
comp=Z,26nm,1.4s
MSTX Muleshoe 83.17 52 ⇓P P 00 35 04.4 -0.6
baz=83,SNR=6.2
M21A Separation Pea 83.18 44 ⇑P P 00 35 04.4 -0.7
baz=83
Z28A Tucker Farm, M 83.19 53 ⇑P P 00 35 04.8 -0.3
baz=83
X27A F and S Farms, 83.20 51 ⇑P P 00 35 04.7 -0.5
baz=83
P23A Jefferson 83.21 46 ⇓P P 00 35 04.9 -0.5
baz=83,SNR=5.2
R24A Sanders Place, 83.23 47 ⇓P P 00 35 04.9 -0.5
baz=83,SNR=7.7
T25A Trinidad 83.26 49 ⇑P P 00 35 05.0 -0.5
baz=83
I19A Meeteetse 83.28 41 ⇑P P 00 35 05.0 -0.5
baz=83,SNR=11
RWWY Rawlins 83.32 44 *e*P P 00 35 11.6 +5.8
comp=Z,24nm,1.2s
129A Stewart Farms, 83.34 54 ⇓P P 00 35 05.5 -0.3
baz=84
L21A Rawlins 83.34 43 ⇑P P 00 35 05.5 -0.4
baz=84
W27A Bowe Ranch, En 83.39 51 ⇑P P 00 35 05.5 -0.7
baz=84,SNR=11
330A Mertzon 83.41 55 ⇓P P 00 35 05.3 -1.0
baz=84
N22A Wattenberg Ran 83.43 45 ⇓P P 00 35 06.0 -0.4
baz=84,SNR=9.4
U26A Atchley Ranch, 83.44 50 ⇑P P 00 35 05.9 -0.5
baz=84,SNR=9.6
531A Rocksprings 83.44 56 ⇑P P 00 35 05.7 -0.7
baz=84,SNR=16
S25A Robets Cordova 83.46 48 ⇑P P 00 35 06.1 -0.5
baz=84,SNR=12
J20A Shoshoni 83.53 42 ⇑P P 00 35 06.5 -0.2
baz=84,SNR=18
O23A Lake Granby, G 83.53 45 ⇓P P 00 35 06.6 -0.3
baz=84
Y28A McKinney Farm, 83.55 52 ⇓P P 00 35 06.4 -0.6
baz=84
ISCO Idaho Springs 83.56 46 *e*P P 00 35 06.8 -0.3
comp=Z,4.0nm,0.9s
ISCO Idaho Springs 83.56 46 ⇑P P 00 35 06.8 -0.3
baz=84
431A Sonora 83.58 56 ⇑P P 00 35 06.9 -0.2
baz=84
H19A Powell 83.59 40 ⇑P P 00 35 06.8 -0.1
baz=84,SNR=7.8
M22A Cedar Creek Ra 83.60 44 ⇓P P 00 35 07.1 -0.1
baz=84
Z29A Hungry Hill Ra 83.71 53 ⇑P P 00 35 07.1 -0.7
baz=84
K21A Alcova 83.73 43 ⇓P P 00 35 06.9 -0.9
baz=84,SNR=7.8
R25A Fountain Ranch 83.78 48 ⇑P P 00 35 07.4 -0.7
baz=84,SNR=9.2
I20A Worland 83.78 41 ⇓P P 00 35 07.3 -0.6
baz=84,SNR=18
632A Uvalde 83.81 57 ⇑P P 00 35 07.6 -0.7
baz=84
N23A Red Feather La 83.81 45 ⇑P P 00 35 07.7 -0.7
baz=84,SNR=7.7
T26A Comanche Natio 83.87 49 ⇑P P 00 35 07.6 -1.0
baz=84
J21A Lysite 83.94 42 ⇑P P 00 35 08.5 -0.4
baz=84,SNR=20
532A Rocksprings 83.94 57 ⇑P P 00 35 08.1 -0.9
baz=84,SNR=5.8
331A San Angelo 83.96 55 ⇓P P 00 35 08.1 -1.0
baz=84
Y29A Porterfield Fa 83.97 53 ⇑P P 00 35 08.4 -0.7
baz=84
L22A Ellis Ranch, M 84.00 44 ⇓P P 00 35 08.9 -0.3
baz=84,SNR=6.0
130A Snyder 84.03 54 ⇓P P 00 35 08.8 -0.6
baz=84
O24A Longmont 84.07 46 ⇑P P 00 35 09.4 -0.2
baz=84
H20A Greybull 84.12 41 ⇑P P 00 35 09.5 -0.1
baz=84
U27A Thompson Grove 84.12 50 ⇓P P 00 35 08.7 -1.2
baz=84
Q25A Bedland, Calha 84.13 47 ⇑P P 00 35 09.1 -0.9
baz=84
S26A Kim 84.14 49 ⇓P P 00 35 08.9 -1.1
baz=84,SNR=7.2
JCT Junction City 84.15 56 ⇓P P 00 35 09.1 -1.0
baz=84
Z30A Sanderson Ranc 84.17 53 ⇑P P 00 35 08.9 -1.2
baz=84,SNR=7.6
X29A Tulia 84.17 52 ⇓P P 00 35 09.2 -1.0
baz=84
F19A Roth Farm, Mol 84.19 39 ⇓P P 00 35 09.6 -0.3
baz=84,SNR=13
K22A Casper 84.22 43 ⇑P P 00 35 09.6 -0.6
baz=84
M23A Laramie 84.22 44 ⇑P P 00 35 09.7 -0.7
baz=84,SNR=7.3
COLD Coldfoot 84.23 9 *e*P P 00 35 11.0 +1.5
comp=Z,37nm,2.2s
I21A Big Trails, Te 84.25 42 ⇑P P 00 35 09.6 -0.8
baz=84,SNR=14
231A Bronte 84.28 55 ⇑P P 00 35 09.6 -1.1
baz=84
432A Menard 84.31 56 ⇓P P 00 35 10.0 -0.9
baz=84
PHWY Pilot Hill 84.33 45 *e*P P 00 35 10.3 -0.7
comp=Z,8.3nm,1.0s
G20A Bridger 84.33 40 ⇓P P 00 35 10.2 -0.5
baz=84
P25A Willow Gulch B 84.44 47 ⇑P P 00 35 11.1 -0.3
baz=85
R26A Arlington 84.44 48 ⇓P P 00 35 10.8 -0.7
baz=85,SNR=6.5
T27A Campo 84.46 49 ⇑P P 00 35 11.0 -0.6
baz=85
W29A Amraillo 84.48 51 ⇓P P 00 35 11.0 -0.7
baz=85,SNR=6.0
131A Roby 84.51 54 ⇑P P 00 35 11.1 -0.7
baz=85
N24A Carr 84.51 45 ⇑P P 00 35 11.5 -0.3
baz=85
L23A Garrett 84.52 44 ⇓P P 00 35 11.0 -0.8
baz=85,SNR=10
332A Millersview 84.53 56 ⇑P P 00 35 11.0 -1.0
baz=85,SNR=8.1
U28A Mallet 84.55 50 ⇑P P 00 35 11.3 -0.7
baz=85
Y30A Stafford Cattl 84.57 53 ⇓P P 00 35 11.7 -0.5
baz=85
E19A Rath Farm, Rou 84.58 39 ⇓P P 00 35 11.8 -0.1
baz=85,SNR=8.8
J22A Midwest 84.59 42 ⇓P P 00 35 11.8 -0.3
baz=85
F20A Billings 84.65 40 ⇑P P 00 35 11.8 -0.5
baz=85
EGMT Eagleton 84.77 37 ⇑P P 00 35 12.7 -0.2
baz=85
H21A Big Horn, Sher 84.79 41 ⇑P P 00 35 12.8 -0.3
baz=85
232A Coleman 84.80 55 ⇓P P 00 35 12.2 -1.1
baz=85,SNR=5.7
X30A Coker Ranch, T 84.81 52 ⇓P P 00 35 12.7 -0.5
baz=85
I22A 9 Mile Ranch, 84.81 42 ⇑P P 00 35 12.7 -0.4
baz=85,SNR=6.0
M24A Cheyenne 84.83 45 ⇓P P 00 35 13.1 -0.3
baz=85
D19A Cripps Ranch, 84.87 38 ⇓P P 00 35 13.4 +0.1
baz=85,SNR=9.4
T28A Walsh 84.93 49 ⇓P P 00 35 13.1 -0.8
baz=85
Z31A Sharp Cattle R 84.94 54 ⇑P P 00 35 13.0 -0.9
baz=85,SNR=7.6
E20A Meyer Farm, Mu 85.00 39 ⇑P P 00 35 14.0 +0.1
baz=85,SNR=7.0
L24A Wheatland 85.00 44 ⇓P P 00 35 14.1 -0.1
baz=85
C19A Slack Wire Ran 85.04 38 ⇑P P 00 35 14.3 +0.1
baz=85,SNR=9.8
ABTX Abilene, Hawle 85.07 54 *e*P P 00 35 13.7 -0.9
ABTX Abilene, Hawle 85.07 54 ⇑P P 00 35 14.2 -0.4
baz=85,SNR=13
Y31A Rekieta Farm, 85.09 53 ⇓P P 00 35 14.0 -0.7
baz=85
D20A Manuel Ranch, 85.28 38 ⇓P P 00 35 15.4 +0.1
baz=85,SNR=10
F21A Absaloka Mine, 85.29 40 ⇓P P 00 35 15.8 +0.3
baz=86
Z32A Haskell 85.45 54 ⇑P P 00 35 16.1 -0.4
baz=86,SNR=24
B19A Brinkman Farms 85.46 37 ⇓P P 00 35 16.1 -0.1
baz=86,SNR=6.6
G22A Bay 85.53 41 ⇓P P 00 35 16.7 0.0
baz=86
EDM Edmonton 85.54 31 *e*P P 00 35 15.5 -1.0
X31A McDonald Ranch 85.56 52 ⇓P P 00 35 16.5 -0.5
baz=86
BJI Beiging 85.58 313 P P 00 35 16.0 -0.9
BJI pmax pmax
comp=Z,8.0nm,1.1s
R28A Tribune 85.63 48 ⇑P P 00 35 16.6 -0.8
baz=86
C20A Vesper Ranch, 85.65 38 ⇑P P 00 35 17.2 0.0
baz=86,SNR=9.1
Y32A R-V Farms, Ver 85.74 53 ⇓P P 00 35 17.2 -0.7
baz=86,SNR=6.5
W31A Holland Ranch, 85.79 52 ⇑P P 00 35 17.8 -0.4
baz=86
A19A Klindworth Far 85.81 37 ⇓P P 00 35 17.4 -0.5
baz=86
D21A La Casta Ranch 85.95 39 ⇑P P 00 35 18.8 +0.1
baz=86
B20A Solberg Farm, 85.99 37 ⇑P P 00 35 18.4 -0.4
baz=86,SNR=5.9
V31A Spring Creek L 86.09 51 ⇑P P 00 35 19.6 -0.1
baz=86
G23A Biddle 86.10 41 ⇑P P 00 35 19.5 0.0
baz=86
C21A Desert Coulee 86.25 38 ⇓P P 00 35 20.2 +0.1
baz=86
A20A Cobblestone Ra 86.25 37 ⇑P P 00 35 20.0 -0.2
baz=86,SNR=5.6
F23A Volborg 86.32 41 ⇓P P 00 35 20.7 +0.1
baz=86
H24A Dirks Ranch, A 86.43 42 ⇓P P 00 35 20.5 -0.7
baz=87
D22A Cohagen 86.48 39 ⇓P P 00 35 21.1 -0.2
baz=87
WHTX Lake Whitney 86.57 56 ⇓P P 00 35 21.3 -0.7
baz=87
B21A Ellsworth Farm 86.57 38 ⇓P P 00 35 21.4 -0.3
baz=87
I25A Rochford 86.65 43 ⇓P P 00 35 21.7 -0.7
baz=87
T31A Randall Ranch, 86.71 50 ⇑P P 00 35 22.4 -0.3
baz=87
C23A Lambert 87.38 39 ⇑P P 00 35 25.5 -0.2
baz=88
MAW Mawson 87.72 199 P P 00 35 27.4 +0.5
MAW Mawson 87.72 199 P P 00 35 27.4 +0.5
comp=Z,5.9nm,1.1s,baz=107,slow=3.7,SNR=8.3
B23A Brockton 87.79 38 ⇓P P 00 35 27.5 -0.1
baz=88
GYA Guiyang 88.15 298 P P 00 35 29.5 -0.4
GYA PP PP 00 38 58.5 +1.0
GYA SKS SKSac 00 45 55.0 -0.7
GYA S S 00 46 11.8 +0.3
GYA SS SS 00 52 03.0 +1.7
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,110nm,6.2s
GYA LR LR
comp=N,490nm,20.9s
GYA LR LR
comp=E,460nm,23.0s
GYA LR LR
comp=Z,480nm,21.6s
HHC Hu-ho-hao-te 89.14 313 *e*P P 00 35 32.0 -2.3
HHC pP PcP 00 35 37.0 +1.3
HHC sP sP 00 35 39.0 -13
HHC PP PP 00 39 04.5 -0.6
HHC SKS SKSac 00 45 59.3 -1.7
HHC S S 00 46 18.3 -2.0
HHC SS SS 00 52 15.0 -0.1
HHC pmax pmax
comp=Z,42nm,1.1s
HHC pmax pmax
comp=Z,2μm,5.4s
HHC LR LR
comp=N,360nm,17.8s
HHC LR LR
comp=E,520nm,17.3s
HHC LR LR
comp=Z,840nm,17.7s
TEIG Tepich 90.76 69 *e*P P 00 35 42.3 +0.2
comp=Z,20nm,1.3s
KMI Kunming 91.13 296 P P 00 35 45.8 +1.8
KMI pmax pmax
comp=Z,11nm,0.7s
CD2 Chengdu 91.92 301 P P 00 35 47.5 +0.2
CD2 pmax pmax
comp=Z,8.0nm,0.5s
LZH Lanzhou 93.33 306 *e*P P 00 35 54.3 +0.4
LZH pP PcP 00 35 59.0 +4.5
LZH sP sP 00 36 01.0 -10
LZH PP PP 00 39 41.3 +2.8
LZH *e*S S 00 46 55.5 -3.2
LZH SS SS 00 53 18.5 +2.6
LZH pmax pmax
comp=Z,25nm,1.1s
LZH pmax pmax
comp=Z,140nm,5.2s
LZH LR LR
comp=N,660nm,14.2s
LZH LR LR
comp=E,760nm,15.6s
LZH LR LR
comp=Z,980nm,17.0s
KSH Kashi 115.58 307 *e*PKP PKPdf 00 41 21.5 +0.6
KSH PP PP 00 42 26.5 +2.8
KSH PKS PKSdf 00 44 56.8 -0.9
KSH SKS SKSdf 00 48 32.5 +2.6
KSH SKKS SKKSac 00 49 19.5 -2.1
KSH SS SS 00 58 20.5 -0.2
KSH AMB AMB
comp=Z,36nm,4.8s
KSH LR LR
comp=N,110nm,7.0s
KSH LR LR
comp=E,100nm,7.3s
KSH LR LR
comp=Z,310nm,8.7s
CLL Collm 143.92 353 *e*PKPdf PKPbc 00 42 12.0 +0.5
STHS Stebnicka Huta 144.14 344 *e*PKP PKPbc 00 42 12.6 +0.3
STHS *e* 00 42 21.0
KOLS Kolonicke sedl 144.29 342 *e*PKP PKPab 00 42 11.4 -1.0
DPC Dobruska-Polom 144.37 349 *e*PKP PKPbc 00 42 13.3 +0.3
DPC *ep*PKP PKiKP 00 42 18.0 -0.2
BUR08 Bucovina Ar. S 144.47 338 *e*PKPdf PKPbc 00 42 13.7 +0.2
BURAR Bucovina Array 144.49 338 ⇓*i*P PKPbc 00 42 14.1 +0.6
OKC Ostrava-Krasne 144.50 347 *e*PKP PKPbc 00 42 13.2 -0.1
OKC *ep*PKP PKiKP 00 42 19.4 +1.0
CRVS Cervenica-Dubn 144.55 343 *e*PKP PKPbc 00 42 13.6 0.0
BEBN Eben Emael 144.79 1 PKP PKPbc 00 42 14.4 +0.2
TRPA Tarpa 144.93 341 ⇑*i*P PKPdf 00 42 15.1 -0.4
MEM Membach 144.98 1 PKP PKPdf 00 42 16.5 +1.0
PRU Pruhonice 145.01 351 *e*PKP PKPbc 00 42 14.9 -0.1
PRU *ex* x 00 42 23.2
BCLA Clavier 145.16 2 PKP PKPbc 00 42 15.1 -0.3
KECS Kecovo 145.20 344 *e*PKP PKPdf 00 42 16.0 0.0
KECS *e* 00 42 24.3
CFR Carcaliu 145.32 333 ⇑*i*P PKPdf 00 42 16.2 0.0
VRI Vrincioaia 145.36 335 ⇑*i*P PKPab 00 42 17.5 +1.1
PLOR Plostina 145.41 335 ⇓*i*P PKPab 00 42 17.0 +0.4
DOU Dourbes 145.46 2 PKP PKPbc 00 42 16.2 -0.2
ROTZ Rotzenmuhle 145.53 354 *e*PKPbc PKPbc 00 42 16.7 +0.1
KMBO Kilima Mbogo 145.55 244 *e*PKP PKPbc 00 42 18.2 +0.1
KMBO PKPbc PKPab 00 42 18.5 +0.1
KMBO Kilima Mbogo 145.55 244 PKPbc PKPab 00 42 18.5 +0.1
comp=Z,7.4nm,1.1s,baz=216,slow=1.3,SNR=11
GRF Grafenberg Arr 145.70 355 *e*PKPbc PKPbc 00 42 17.3 +0.1
TIRR Tirgusor 145.76 332 ⇓*i*P PKPab 00 42 18.4 +0.5
TLB Topalu 145.82 332 ⇑*i*P PKPab 00 42 18.4 +0.3
WLF Walferdange 145.93 1 PKP PKPab 00 42 18.1 -0.2
WLF Walferdange 145.93 1 *e*PKPbc PKPbc 00 42 18.0 +0.1
MLR Muntele Rosu 145.99 335 ⇑*i*P PKPab 00 42 19.6 +0.7
KHC Kasperske Hory 145.99 352 *e*PKP PKPbc 00 42 18.0 -0.1
KHC *ep*PKP PKiKP 00 42 23.4 +1.9
KHC Kasperske Hory 145.99 352 *e*PKPdf PKPdf 00 42 17.4 0.0
DRGR 146.06 340 ⇑*i*P PKPbc 00 42 18.5 0.0
WET Wettzell 146.07 353 *e*PKPbc PKPab 00 42 18.6 -0.4
GEC2 GERESS Array S 146.25 352 *e*PKPbc PKPbc 00 42 18.8 -0.2
GERES GERESS Array B 146.25 352 PKPbc PKPdf 00 42 18.3 +0.4
GERES GERESS Array B 146.25 352 PKPbc PKPdf 00 42 18.3 +0.4
comp=Z,2.3nm,1.0s,baz=44,slow=4.1,SNR=15
BR131 Keskin Array S 146.28 321 *e*PKPdf PKPdf 00 42 17.9 -0.4
BRTR Keskin Array B 146.28 321 PKPbc PKPbc 00 42 19.2 -0.2
BRTR Keskin Array B 146.28 321 PKPbc PKPbc 00 42 19.2 -0.2
comp=Z,6.4nm,1.0s,baz=112,slow=2.0,SNR=25
VOIR 146.38 336 ⇓*i*P PKPab 00 42 20.7 +0.3
ARR Arges 146.60 337 ⇑*i*P PKPab 00 42 21.2 0.0
SIRR Siria 146.86 341 ⇑*i*P PKPab 00 42 23.2 +1.1
FUR Furstenfeldbru 147.21 354 *e*PKPbc PKPbc 00 42 21.6 -0.1
BFO Black Forest 147.24 358 *e*PKPbc PKPbc 00 42 21.5 -0.3
GZR Gura Zlata 147.26 339 ⇑*i*P PKPbc 00 42 22.2 +0.2
BZS Buzias 147.45 340 ⇑*i*P PKPbc 00 42 22.4 0.0
RJOB Jochberg 147.46 352 *e*PKPbc PKPbc 00 42 22.3 -0.2
VTS Vitosha 149.49 336 ⇓*i*P PKPbc 00 42 28.0 0.0
ESDC Sonseca Array 154.19 19 PKPbc PKPbc 00 42 37.8 -0.9
ESDC PKPab PKPab 00 42 51.3 -1.1
ESDC Sonseca Array 154.19 19 PKPbc PKPbc 00 42 37.8 -0.9
comp=Z,0.1nm,0.5s,baz=352,slow=3.8,SNR=3.4
ESDC PKPab PKPab 00 42 51.3 -1.1
comp=Z,1.5nm,1.1s,baz=337,slow=3.0,SNR=5.8

IDC ***30*** *00:27:48.6±0.7, 14°.85S×173°.83W, h0km, mb4.2/8, mb1 4.5/8, mb1mx4.2/19, mbtmp4.2/8, Error ellipse: s-maj=33.1km s-min=21.2km az=136.0*
NEIC ***30*** *00:27:50.9±0.3, 14°.84S×173°.98W, h10km, mb4.8/12, Error ellipse: s-maj=18.1km s-min=9.2km az=137.0*
BJI ***30*** *00:27:52.4, 14°.91S×173°.04W, h11km, mB5.4/6, mb5.2/9, Ms5.1/4, Ms7 4.8/4*
ISCJB ***30*** *00:27:57.4±0.4, 14°.9S±0°.1×174°.1W±0°.1, h73km, mb4.5/25, Error ellipse: s-maj=20.4km s-min=10.3km az=137.3*
ISC 30 00:27:58.9±0.6, 14°.9S±0°.1×174°.0W±0°.1, h73km, n54, σ1§54/53, mb4.7/25, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
AFI	**Afiamalu**	**2.35**	**66**	*e*Pn	Pn	00 28 21.8	-14
DZM	**Mont Dzumac**	**19.87**	**246**	P	**P**	**00 32 22.4**	**-2.0**
WRAB	**Tennant Creek**	**49.40**	**256**	*e*P	**P**	**00 36 42.0**	**+0.4**
WRA	**Warramunga Arr**	**49.41**	**256**	P	**P**	**00 36 41.8**	**0.0**
WRA	**Warramunga Arr**	**49.41**	**256**	P	**P**	**00 36 41.8**	**0.0**
	1.2nm,0.7s,baz=89,slow=6.9,SNR=14						
AS31	**Alice Springs**	**49.73**	**251**	*e*P	**P**	**00 36 43.7**	**-0.5**
ASAR	**Alice Springs**	**49.73**	**251**	P	**P**	**00 36 43.4**	**-0.8**
ASAR	**Alice Springs**	**49.73**	**251**	P	**P**	**00 36 43.4**	**-0.8**
	6.9nm,0.6s,baz=86,slow=8.0,SNR=36						
FITZ	**Fitzroy Crossi**	**57.76**	**258**	P	P	00 37 50.1	+7.3
SBA	**Scott Base**	**63.71**	**184**	*e*P	**P**	**00 38 23.3**	**+1.0**
VNDA	**Vanda**	**63.83**	**186**	*e*P	**P**	**00 38 24.1**	**+1.1**
	2.6nm,0.8s						
MJAR	**Matsushiro Arr**	**68.18**	**320**	P	**P**	**00 38 52.9**	**+1.3**
MJAR	**Matsushiro Arr**	**68.18**	**320**	P	**P**	**00 38 52.9**	**+1.3**
	0.8nm,0.4s,baz=158,slow=6.6,SNR=5.0						
QSPA	**South Pole Qui**	**75.15**	**180**	P	**P**	**00 39 34.2**	**+1.0**
QSPA	**South Pole Qui**	**75.15**	**180**	P	**P**	**00 39 34.2**	**+1.0**
	2.4nm,1.1s,baz=46,slow=3.4,SNR=7.3						
G08A	**Pilot Rock**	**77.86**	**36**	*e*P	**P**	**00 39 49.5**	**+0.8**
	9.3nm,1.3s						
HLID	**Hailey**	**79.59**	**40**	*e*P	**P**	**00 39 59.3**	**+0.9**
	9.4nm,1.4s						
CN2	**Changchun**	**80.33**	**320**	*e*P	P	00 40 09.8	+7.7
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
MCK	**McKinley**	**80.73**	**11**	*e*P	**P**	**00 40 04.5**	**+0.7**
	comp=Z,11nm,0.8s						
TXAR	**Lajitas Array**	**80.80**	**56**	P	**P**	**00 40 03.8**	**-1.3**
TXAR	**Lajitas Array**	**80.80**	**56**	P	**P**	**00 40 03.8**	**-1.3**
	comp=Z,1.5nm,1.0s,baz=247,slow=2.6,SNR=7.5						
REDW	**Red Top Meadow**	**81.72**	**41**	*e*P	**P**	**00 40 10.0**	**+0.1**
	comp=Z,13nm,1.5s						
TPAW	**Teton Pass**	**81.72**	**41**	*e*P	**P**	**00 40 10.7**	**+0.8**
	comp=Z,15nm,1.5s						
IMW	**Indian Meadow**	**81.93**	**41**	*e*P	**P**	**00 40 11.2**	**+0.2**
	comp=Z,9.1nm,1.4s						
COLA	**College**	**81.97**	**11**	*e*P	**P**	**00 40 10.2**	**-0.1**
	comp=Z,74nm,1.1s						
LOHW	**Long Hollow**	**82.00**	**41**	*e*P	**P**	**00 40 11.5**	**+0.2**
	comp=Z,6.3nm,1.3s						
ILAR	**Eielson Array**	**82.06**	**11**	P	**P**	**00 40 08.6**	**-2.1**
ILAR	**Eielson Array**	**82.06**	**11**	P	**P**	**00 40 08.6**	**-2.1**
	comp=Z,2.5nm,1.0s,baz=210,slow=6.5,SNR=13						
PDAR	**Pinedale Array**	**82.27**	**42**	P	**P**	**00 40 12.0**	**-0.7**
PDAR	**Pinedale Array**	**82.27**	**42**	P	**P**	**00 40 12.0**	**-0.7**
	comp=Z,1.3nm,0.7s,baz=208,slow=2.9,SNR=8.6						
SMCO	**Snowmass**	**82.37**	**46**	*e*P	**P**	**00 40 13.0**	**-0.5**
	comp=Z,24nm,1.9s						
ISCO	**Idaho Springs**	**83.58**	**46**	*e*P	**P**	**00 40 19.9**	**+0.3**
	comp=Z,16nm,1.8s						
COLD	**Coldfoot**	**83.73**	**9**	*e*P	**P**	**00 40 20.7**	**+1.3**
	comp=Z,13nm,1.3s						
GYA	**Guiyang**	**87.30**	**298**	*e*P	P	00 40 45.3	+7.1
GYA				PP	PP	00 44 14.3	+11
GYA				SKS	**S**	**00 51 10.8**	**-2.2**
GYA				S	ScS	00 51 27.5	+7.5

GYA				SS	SS	00 57 19.5	+20
GYA				pmax	pmax		
	comp=Z,10.0nm,1.2s						
GYA				pmax	pmax		
	comp=Z,90nm,6.0s						
GYA				LR	LR		
	comp=N,320nm,20.4s						
GYA				LR	LR		
	comp=E,280nm,23.8s						
GYA				LR	LR		
	comp=Z,350nm,21.6s						
MAW	**Mawson**	**88.09**	**199**	P	**P**	**00 40 39.9**	**-1.1**
MAW	**Mawson**	**88.09**	**199**	P	**P**	**00 40 39.9**	**-1.1**
	comp=Z,1.7nm,0.7s,baz=126,slow=8.1,SNR=4.4						
HHC	**Hu-ho-hao-te**	**88.26**	**313**	*e*P	P	00 40 47.0	+4.5
HHC				pP	PcP	00 40 52.0	+7.9
HHC				sP	sP	00 40 54.0	-16
HHC				PP	PP	00 44 19.5	+8.6
HHC				SKS	**SKKSac**	**00 51 14.3**	**-1.4**
HHC				S	**ScS**	**00 51 33.3**	**+5.9**
HHC				SS	SS	00 57 30.0	+17
HHC				pmax	pmax		
	comp=Z,43nm,1.2s						
HHC				pmax	pmax		
	comp=Z,700nm,5.1s						
HHC				LR	LR		
	comp=N,290nm,17.5s						
HHC				LR	LR		
	comp=E,250nm,17.6s						
HHC				LR	LR		
	comp=Z,300nm,17.3s						
KMI	**Kunming**	**90.29**	**296**	P	P	00 41 02.5	+10
KMI				pmax	pmax		
	comp=Z,9.0nm,0.8s						
CD2	**Chengdu**	**91.06**	**302**	P	P	00 41 03.0	+7.3
CD2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
KSH	**Kashi**	**114.71**	**307**	*e*PKP	PKPdf	00 46 36.5	+5.1
KSH				PP	PP	00 47 41.5	+11
KSH				PKS	**PKSdf**	**00 50 11.8**	**+3.6**
KSH				SKS	SKSdf	00 53 47.5	+10
KSH				SKKS	SKKSac	00 54 34.5	+9.4
KSH				SS	SS	01 03 35.5	+16
KSH				AMB	AMB		
	comp=Z,77nm,4.8s						
KSH				LR	LR		
	comp=N,170nm,9.7s						
KSH				LR	LR		
	comp=E,130nm,11.1s						
KSH				LR	LR		
	comp=Z,400nm,15.2s						
CLL	**Collm**	**143.24**	**353**	*e*PKPdf	**PKPdf**	**00 47 25.0**	**+0.4**
UPC	**Upice**	**143.56**	**349**	*e*PKP	**PKPdf**	**00 47 25.6**	**+0.4**
DPC	**Dobruska-Polom**	**143.65**	**349**	*e*PKP	**PKPdf**	**00 47 24.2**	**-1.2**
BEBN	**Eben Emael**	**144.18**	**0**	PKP	**PKPdf**	**00 47 28.8**	**+2.5**
KHC	**Kasperske Hory**	**145.29**	**351**	*e*PKP	**PKPdf**	**00 47 29.0**	**+0.7**
WLF	**Walferdange**	**145.32**	**360**	PKP	**PKPdf**	**00 47 29.4**	**+1.1**
BRTR	**Keskin Array B**	**145.40**	**321**	PKPbc	**PKPdf**	**00 47 29.0**	**0.0**
BRTR	**Keskin Array B**	**145.40**	**321**	PKPbc	**PKPdf**	**00 47 29.0**	**0.0**
	comp=Z,2.6nm,0.7s,baz=126,slow=1.8,SNR=16						
GEC2	**GERESS Array S**	**145.55**	**351**	*e*PKPdf	**PKPab**	**00 47 30.8**	**+1.4**
GEC2				*e*PKPdf	**PKiKP**	**00 47 31.3**	**-1.6**
GERES	**GERESS Array B**	**145.55**	**351**	PKPbc	**PKPbc**	**00 47 27.7**	**-1.4**
GERES	**GERESS Array B**	**145.55**	**351**	PKPbc	**PKPbc**	**00 47 27.7**	**-1.4**
	comp=Z,1.2nm,0.8s,baz=19,slow=8.7,SNR=9.4						
BNI	**Bardonecchia**	**149.93**	**359**	*e*PKPdf	**PKPab**	**00 47 43.6**	**-3.3**
ESDC	**Sonseca Array**	**153.80**	**18**	PKPbc	**PKPbc**	**00 47 50.3**	**+0.3**
ESDC				PKPab	**PKPab**	**00 48 02.5**	**-0.6**
ESDC	**Sonseca Array**	**153.80**	**18**	PKPbc	**PKPbc**	**00 47 50.3**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=316,slow=3.5,SNR=3.3						
ESDC				PKPab	**PKPab**	**00 48 02.5**	**-0.6**
	comp=Z,1.7nm,1.0s,baz=334,slow=3.4,SNR=8.1						

IDC 30 00:28:17.3±8.1, 15°.05S×173°.16W, h0km, mb4.2/2, mb1 4.4/2, mb1mx3.8/19, mbtmp4.2/2, Error ellipse: s-maj=356.6km s-min=61.2km az=139.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**50.15**	**256**	P	P	00 37 14.9	-0.1
	0.7nm,0.5s,baz=92,slow=6.6,SNR=6.1						
ASAR	**Alice Springs**	**50.44**	**252**	P	P	00 37 16.9	-0.3
	4.5nm,0.6s,baz=87,slow=8.3,SNR=5.7						
BRTR	**Keskin Array B**	**146.03**	**322**	PKPbc	PKPdf	00 47 58.9	0.0
	1.4nm,0.9s,baz=80,slow=1.6,SNR=2.6						

*IDC **30** 00:28:33.1±0.6, 15°.96S×172°.81W, h0km, mb4.4/17, mb1 4.6/17, mb1mx4.5/23, mbtmp4.4/17, Error ellipse: s-maj=21.1km s-min=15.4km az=124.0*
*NEIC **30** 00:28:34.5±0.5, 16°.00S×172°.90W, h10km, mb4.6/8, Error ellipse: s-maj=19.5km s-min=10.4km az=141.0*
*ISCJB **30** 00:28:35.5±0.6, 16°.07S±0°.10×173°.0W±0°.1, h26km, mb4.4/21, Error ellipse: s-maj=18.0km s-min=11.7km az=37.4*

ISC 30 00:28:36.9±0.5, 16°.0S±0°.1×172°.9W±0°.1, h26km, n53, σ1°.05/56, mb4.5/21, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**20.46**	**250**	P	**P**	**00 33 12.2**	**-0.5**
DZM	**Mont Dzumac**	**20.46**	**250**	P	Pn	00 33 14.3	-0.7
	8.0nm,0.8s,baz=75,slow=17,SNR=4.3						
URZ	**Urewera**	**23.84**	**200**	P	**P**	**00 33 46.0**	**-2.1**
	6.7nm,0.4s,baz=345,slow=12,SNR=3.0						
ARMA	**Armidale**	**35.47**	**240**	*e*P	**P**	**00 35 30.6**	**-1.0**
	7.2nm,0.7s						
CTA	**Charters Tower**	**39.02**	**258**	P	**P**	**00 36 01.7**	**0.0**
CTA	**Charters Tower**	**39.02**	**258**	P	**P**	**00 36 01.7**	**0.0**
	2.8nm,0.5s,baz=92,slow=8.8,SNR=6.8						
CTAO	**Charters Tower**	**39.02**	**258**	*e*P	**P**	**00 36 00.4**	**-1.2**
	3.8nm,0.6s						
STKA	**Stephens Creek**	**44.18**	**241**	*e*P	**P**	**00 36 43.5**	**-0.3**
	2.3nm,0.9s						
STKA	**Stephens Creek**	**44.18**	**241**	P	**P**	**00 36 43.3**	**-0.5**
	12nm,0.8s,baz=88,slow=10,SNR=16						
WRAB	**Tennant Creek**	**50.20**	**257**	*e*P	**P**	**00 37 30.3**	**-0.7**
	3.9nm,0.4s						
WRA	**Warramunga Arr**	**50.21**	**257**	P	**P**	**00 37 30.1**	**-1.0**
WRA				PcP	**PcP**	**00 38 51.8**	**+1.7**
WRA	**Warramunga Arr**	**50.21**	**257**	P	**P**	**00 37 30.1**	**-1.0**
	3.1nm,0.4s,baz=93,slow=6.6,SNR=35						
WRA				PcP	**PcP**	**00 38 51.8**	**+1.7**
	2.1nm,0.7s,baz=88,slow=3.6,SNR=5.2						
AS31	**Alice Springs**	**50.41**	**252**	*e*P	**P**	**00 37 30.9**	**-1.7**
ASAR	**Alice Springs**	**50.41**	**252**	P	**P**	**00 37 32.0**	**-0.6**
ASAR	**Alice Springs**	**50.41**	**252**	P	**P**	**00 37 32.0**	**-0.6**
	14nm,0.6s,baz=88,slow=8.0,SNR=21						
FITZ	**Fitzroy Crossi**	**58.59**	**258**	*e*P	**P**	**00 38 31.9**	**-0.1**
	2.4nm,0.6s						
VNDA	**Vanda**	**62.81**	**186**	*e*P	**P**	**00 39 00.9**	**+1.1**
	2.9nm,0.8s						
VNDA	**Vanda**	**62.81**	**186**	P	**P**	**00 39 01.9**	**+2.1**
	2.9nm,0.9s,baz=2.2,slow=7.4,SNR=12						
MBWA	**Marble Bar**	**63.69**	**254**	*e*P	**P**	**00 39 06.5**	**-0.1**
	6.5nm,0.7s						
MJAR	**Matsushiro Arr**	**69.75**	**320**	P	**P**	**00 39 45.7**	**+0.8**
MJAR	**Matsushiro Arr**	**69.75**	**320**	P	**P**	**00 39 45.7**	**+0.8**
	2.0nm,0.9s,baz=170,slow=6.9,SNR=5.5						
PETK	**Petropavlovsk-**	**73.38**	**342**	P	**P**	**00 40 06.6**	**+0.2**
PETK	**Petropavlovsk-**	**73.38**	**342**	P	**P**	**00 40 06.6**	**+0.2**
	4.3nm,0.8s,baz=171,slow=10,SNR=5.0						
QSPA	**South Pole Qui**	**74.02**	**180**	*e*P	**P**	**00 40 11.4**	**+1.1**
	15nm,1.3s						
QSPA	**South Pole Qui**	**74.02**	**180**	P	**P**	**00 40 11.4**	**+1.1**
	4.2nm,0.8s,baz=36,slow=1.4,SNR=19						
KDAK	**Kodiak Island**	**75.43**	**11**	P	**P**	**00 40 18.1**	**-0.1**
KDAK	**Kodiak Island**	**75.43**	**11**	P	**P**	**00 40 18.1**	**-0.1**
	5.3nm,0.8s,baz=186,slow=9.0,SNR=4.2						
KSRS	**Korea Array**	**76.97**	**315**	P	**P**	**00 40 29.4**	**+2.0**
	0.8nm,0.6s,baz=126,slow=5.6,SNR=5.4						
KSAR	**Wonju Array Be**	**76.99**	**315**	P	**P**	**00 40 29.4**	**+1.9**
USRK	**Ussuriysk Arra**	**78.19**	**323**	P	**P**	**00 40 34.1**	**+0.1**
	2.4nm,0.9s,baz=92,slow=5.7,SNR=4.4						
TXAR	**Lajitas Array**	**80.53**	**56**	P	**P**	**00 40 47.9**	**+0.6**
TXAR	**Lajitas Array**	**80.53**	**56**	P	**P**	**00 40 47.9**	**+0.6**
	0.4nm,0.8s,baz=224,slow=8.8,SNR=2.7						
PDAR	**Pinedale Array**	**82.39**	**42**	P	**P**	**00 40 56.4**	**-0.7**
PDAR	**Pinedale Array**	**82.39**	**42**	P	**P**	**00 40 56.4**	**-0.7**
	2.3nm,0.8s,baz=206,slow=3.1,SNR=12						
ILAR	**Eielson Array**	**82.96**	**11**	P	**P**	**00 40 58.5**	**-0.7**
ILAR	**Eielson Array**	**82.96**	**11**	P	**P**	**00 40 58.5**	**-0.7**
	3.1nm,0.7s,baz=228,slow=6.3,SNR=29						
MAW	**Mawson**	**87.37**	**198**	P	**P**	**00 41 21.2**	**-0.2**
	1.9nm,0.4s,baz=25,slow=9.4,SNR=7.9						
CMAR	**Chiang Mai Arr**	**93.31**	**288**	P	**P**	**00 41 51.7**	**+1.6**
CMAR	**Chiang Mai Arr**	**93.31**	**288**	P	**P**	**00 41 51.7**	**+1.6**
	0.6nm,0.3s,baz=96,slow=2.4,SNR=4.5						
CLL	**Collm**	**144.49**	**354**	*e*PKPdf	**PKPab**	**00 48 09.0**	**-0.2**
CLL				*e*		00 48 20.0	
CLL				*e*		00 48 36.0	
DPC	**Dobruska-Polom**	**144.97**	**350**	*e*PKP	**PKPdf**	**00 48 11.6**	**-0.2**
PRU	**Pruhonice**	**145.60**	**352**	*e*PKP	**PKPbc**	**00 48 13.0**	**0.0**
KMBO	**Kilima Mbogo**	**145.72**	**243**	PKPbc	**PKPab**	**00 48 16.6**	**+1.4**
KMBO	**Kilima Mbogo**	**145.72**	**243**	PKPbc	**PKPab**	**00 48 16.6**	**+1.4**
	2.3nm,0.8s,baz=70,slow=4.5,SNR=4.9						
KHC	**Kasperske Hory**	**146.57**	**352**	*e*PKP	**PKPab**	**00 48 17.7**	**+0.6**
GERES	**GERESS Array B**	**146.83**	**352**	PKPbc	**PKPdf**	**00 48 15.3**	**+0.2**
GERES	**GERESS Array B**	**146.83**	**352**	PKPbc	**PKPdf**	**00 48 15.3**	**+0.2**
	0.9nm,0.7s,baz=40,slow=2.3,SNR=5.3						
BRTR	**Keskin Array B**	**146.97**	**321**	PKPbc	**PKPab**	**00 48 18.6**	**-0.6**
BRTR	**Keskin Array B**	**146.97**	**321**	PKPbc	**PKPab**	**00 48 18.6**	**-0.6**
	5.7nm,0.8s,baz=123,slow=2.6,SNR=14						
ESDC	**Sonseca Array**	**154.52**	**20**	PKPab	**PKPab**	**00 48 49.0**	**-1.0**
ESDC	**Sonseca Array**	**154.52**	**20**	PKPab	**PKPab**	**00 48 49.0**	**-1.0**
	0.6nm,0.8s,baz=332,slow=3.7,SNR=5.5						
TORD	**Torodi Ar. Bea**	**174.00**	**118**	PKP	**PKPdf**	**00 48 44.1**	**-1.0**
TORD				PKPab	**PKPab**	**00 50 14.6**	**-1.6**
TORD	**Torodi Ar. Bea**	**174.00**	**118**	PKP	**PKPdf**	**00 48 44.1**	**-1.0**
	0.9nm,1.0s,baz=313,slow=1.2,SNR=3.7						
TORD				PKPab	**PKPab**	**00 50 14.6**	**-1.6**
	0.9nm,0.8s,baz=253,slow=4.8,SNR=4.4						

*IDC **30** 00:35:42.8±0.5, 15°.30S×173°.14W, h0km, mb4.4/14, mb1 4.6/14, mb1mx4.5/22, mbtmp4.4/14, Error ellipse: s-maj=22.2km s-min=15.6km az=114.0*
*NEIC **30** 00:35:43.9±0.5, 15°.33S×173°.14W, h10km, mb4.8/5, Error ellipse: s-maj=23.8km s-min=9.4km az=141.0*
*ISCJB **30** 00:35:45.2±0.5, 15°.3S±0°.1×173°.2W±0°.1, h29km, mb4.4/15, Error ellipse: s-maj=18.5km s-min=9.8km az=43.7*

ISC 30 00:35:46.9±0.5, 15°.3S±0°.1×173°.1W±0°.1, h29km, n67, σ1°.18/68, mb4.5/15, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.88**	**43**	*e*Pn	**Pn**	**00 36 15.6**	**-1.5**
MSVF	**Nonsavu**	**8.83**	**253**	*e*P	Pn	00 37 58.2	+5.5
	133nm,1.1s						
DZM	**Mont Dzumac**	**20.51**	**248**	*e*P	**P**	**00 40 22.3**	**-0.7**
	63nm,1.0s						
DZM	**Mont Dzumac**	**20.51**	**248**	P	**P**	**00 40 23.0**	**0.0**
	54nm,1.0s,baz=59,slow=20,SNR=5.9						
URZ	**Urewera**	**24.45**	**199**	P	**P**	**00 41 01.7**	**-1.5**
	22nm,0.9s,baz=333,slow=4.0,SNR=4.6						
STKA	**Stephens Creek**	**44.34**	**240**	*e*P	**P**	**00 43 53.0**	**-1.7**
	1.9nm,0.8s						
STKA	**Stephens Creek**	**44.34**	**240**	P	**P**	**00 43 53.3**	**-1.4**
	10nm,0.7s,baz=88,slow=7.6,SNR=17						
WRAB	**Tennant Creek**	**50.15**	**257**	*e*P	**P**	**00 44 38.3**	**-1.8**
	5.2nm,0.8s						
WRA	**Warramunga Arr**	**50.16**	**257**	P	**P**	**00 44 38.4**	**-1.8**
WRA	**Warramunga Arr**	**50.16**	**257**	P	**P**	**00 44 38.4**	**-1.8**
	4.9nm,0.7s,baz=91,slow=6.8,SNR=71						
AS31	**Alice Springs**	**50.42**	**252**	*e*P	**P**	**00 44 40.5**	**-1.7**
ASAR	**Alice Springs**	**50.42**	**252**	P	**P**	**00 44 40.6**	**-1.6**
ASAR	**Alice Springs**	**50.42**	**252**	P	**P**	**00 44 40.6**	**-1.6**
	15nm,0.7s,baz=88,slow=7.7,SNR=66						
VNDA	**Vanda**	**63.51**	**186**	P	**P**	**00 46 15.8**	**+1.8**
	3.7nm,0.9s,baz=5.8,slow=5.7,SNR=20						
MBWA	**Marble Bar**	**63.67**	**254**	*e*P	**P**	**00 46 15.5**	**-0.5**
MJAR	**Matsushiro Arr**	**69.06**	**320**	P	**P**	**00 46 49.7**	**-0.5**
MJAR	**Matsushiro Arr**	**69.06**	**320**	P	**P**	**00 46 49.7**	**-0.5**
	1.5nm,0.7s,baz=173,slow=5.5,SNR=5.9						
PETK	**Petropavlovsk-**	**72.63**	**342**	P	**P**	**00 47 13.8**	**+2.4**
PETK	**Petropavlovsk-**	**72.63**	**342**	P	**P**	**00 47 13.8**	**+2.4**
	3.5nm,0.8s,baz=138,slow=9.0,SNR=4.6						
QSPA	**South Pole Qui**	**74.74**	**180**	*e*P	**P**	**00 47 25.2**	**+1.3**
	17nm,1.0s						
QSPA	**South Pole Qui**	**74.74**	**180**	P	**P**	**00 47 25.5**	**+1.5**
	14nm,0.9s,baz=24,slow=1.9,SNR=29						
KSRS	**Korea Array**	**76.30**	**315**	P	**P**	**00 47 34.5**	**+1.4**
	2.9nm,0.9s,baz=119,slow=7.0,SNR=9.9						
KSAR	**Wonju Array Be**	**76.32**	**315**	P	**P**	**00 47 34.5**	**+1.3**
TXAR	**Lajitas Array**	**80.31**	**56**	P	**P**	**00 47 55.8**	**+0.1**
TXAR	**Lajitas Array**	**80.31**	**56**	P	**P**	**00 47 55.8**	**+0.1**
	0.8nm,0.9s,baz=226,slow=6.5,SNR=4.5						
TRF	**Thorofare Moun**	**80.47**	**10**	*e*P	**P**	**00 47 55.4**	**-0.5**
PDAR	**Pinedale Array**	**81.99**	**42**	P	**P**	**00 48 03.5**	**-1.1**
PDAR	**Pinedale Array**	**81.99**	**42**	P	**P**	**00 48 03.4**	**-1.1**
	0.9nm,1.0s,baz=126,slow=2.6,SNR=4.7						
COLA	**College**	**82.21**	**11**	*e*P	**P**	**00 48 05.1**	**+0.3**
	37nm,0.8s						
ILAR	**Eielson Array**	**82.29**	**11**	P	**P**	**00 48 04.0**	**-1.2**
ILAR	**Eielson Array**	**82.29**	**11**	P	**P**	**00 48 04.0**	**-1.2**
	2.5nm,1.0s,baz=219,slow=6.2,SNR=9.7						
MAW	**Mawson**	**87.98**	**199**	P	**P**	**00 48 34.8**	**+1.0**
	4.1nm,0.9s,baz=104,slow=4.0,SNR=7.7						
CLL	**Collm**	**143.75**	**354**	*e*PKPdf	**PKPdf**	**00 55 18.0**	**-1.1**
CLL				*e*		00 55 27.0	
DPC	**Dobruska-Polom**	**144.22**	**350**	*e*PKP	**PKPdf**	**00 55 22.8**	**+2.8**
AKCD	**Akcadag**	**144.35**	**316**	*i* P	**PKPdf**	**00 55 20.9**	**+0.1**
OKC	**Ostrava-Krasne**	**144.36**	**347**	*e*PKP	PKPbc	00 55 19.1	+0.5
PRU	**Pruhonice**	**144.85**	**351**	*e*PKP	PKPbc	00 55 20.3	+0.1
PRU				*ep*PKP	**PKiKP**	**00 55 23.9**	**-1.0**
CTKT	**Corum**	**145.02**	**322**	*i* P	**PKPdf**	**00 55 23.8**	**+1.8**
GZT	**Gaziantep**	**145.08**	**315**	*i* P	**PKPdf**	**00 55 22.4**	**+0.4**
AYKD	**Aykdinkavak**	**145.56**	**315**	*i* P	**PKPab**	**00 55 24.4**	**+1.2**
PSZ	**Pászkesteto**	**145.75**	**344**	*e*PKPdf	**PKPab**	**00 55 23.8**	**+0.2**
ANDN	**Andirin**	**145.79**	**316**	*i* P	**PKPab**	**00 55 25.0**	**+0.8**
KHC	**Kasperske Hory**	**145.82**	**352**	*e*PKP	**PKPab**	**00 55 23.8**	**+0.1**
KHC				*ep*PKP	**PKiKP**	**00 55 28.2**	**+1.2**
KHC	**Kasperske Hory**	**145.82**	**352**	*e*PKP	**PKPab**	**00 55 23.9**	**+0.1**
KMBO	**Kilima Mbogo**	**145.85**	**244**	PKPbc	**PKPab**	**00 55 25.1**	**-0.1**
KMBO	**Kilima Mbogo**	**145.85**	**244**	PKPbc	**PKPab**	**00 55 25.1**	**-0.1**
	6.3nm,1.0s,baz=72,slow=2.4,SNR=14						
MLR	**Muntele Rosu**	**145.90**	**336**	PKPbc	**PKPab**	**00 55 24.5**	**+0.2**
MLR	**Muntele Rosu**	**145.90**	**336**	PKPbc	**PKPab**	**00 55 24.5**	**+0.2**
	0.7nm,0.7s,baz=118,slow=22,SNR=4.2						
AVNT	**Avonos**	**146.09**	**319**	*i* P	**PKPab**	**00 55 26.2**	**+0.9**
GERES	**GERESS Array B**	**146.09**	**352**	PKPbc	**PKPbc**	**00 55 24.4**	**+0.2**
GERES	**GERESS Array B**	**146.09**	**352**	PKPbc	**PKPbc**	**00 55 24.4**	**+0.2**
	2.5nm,0.9s,baz=37,slow=3.3,SNR=10						
BR131	**Keskin Array S**	**146.27**	**321**	*e*PKPdf	**PKPdf**	**00 55 23.9**	**-0.1**
BRTR	**Keskin Array B**	**146.27**	**321**	PKPbc	**PKPab**	**00 55 25.8**	**-0.2**
BRTR	**Keskin Array B**	**146.27**	**321**	PKPbc	**PKPab**	**00 55 25.8**	**-0.2**
	18nm,0.9s,baz=114,slow=1.7,SNR=58						
GULE	**Gulek**	**146.99**	**317**	*i* P	**PKPab**	**00 55 28.5**	**-0.4**
ASF	**Jabal al Asfar**	**147.97**	**307**	PKPbc	**PKPbc**	**00 55 30.7**	**+0.6**
ASF	**Jabal al Asfar**	**147.97**	**307**	PKPbc	**PKPbc**	**00 55 30.7**	**+0.6**
	3.4nm,1.1s,baz=4.7,slow=2.1,SNR=4.4						
DAVOX	**Davos/Dischmat**	**148.52**	**356**	PKPbc	**PKPbc**	**00 55 32.7**	**+1.4**
DAVOX	**Davos/Dischmat**	**148.52**	**356**	PKPbc	**PKPbc**	**00 55 32.7**	**+1.4**
	4.6nm,0.9s,baz=357,slow=11,SNR=5.1						
MMAI	**Mount Meron Ar**	**148.74**	**309**	PKPbc	**PKPbc**	**00 55 32.9**	**+0.8**
MMAI	**Mount Meron Ar**	**148.74**	**309**	PKPbc	**PKPbc**	**00 55 32.9**	**+0.8**
	13nm,1.0s,baz=64,slow=7.8,SNR=12						
EIL	**Elat**	**150.51**	**304**	PKPbc	**PKPbc**	**00 55 37.3**	**+0.9**
EIL	**Elat**	**150.51**	**304**	PKPbc	**PKPbc**	**00 55 37.3**	**+0.9**
	5.1nm,0.7s,baz=280,slow=3.5,SNR=7.1						
ESDC	**Sonseca Array**	**153.92**	**19**	PKPab	**PKPab**	**00 55 56.3**	**-0.7**
ESDC	**Sonseca Array**	**153.92**	**19**	PKPab	**PKPab**	**00 55 56.3**	**-0.7**
	0.7nm,0.8s,baz=322,slow=2.4,SNR=6.4						
TORD	**Torodi Ar. Bea**	**174.51**	**112**	PKP	**PKPdf**	**00 55 54.7**	**-0.1**
TORD				PKPab	**PKPab**	**00 57 26.2**	**-1.8**
TORD	**Torodi Ar. Bea**	**174.51**	**112**	PKP	**PKPdf**	**00 55 54.7**	**-0.1**
	0.2nm,0.8s,baz=308,slow=1.8,SNR=2.4						
TORD				PKPab	**PKPab**	**00 57 26.2**	**-1.8**
	1.0nm,1.0s,baz=286,slow=4.8,SNR=2.4						

IDC 30 00:38:16.5±0.9, 15°.79S×172°.93W, h0km, mb4.1/8, mb1 4.3/8, mb1mx4.1/21, mbtmp4.1/8, Error ellipse: s-maj=34.1km s-min=23.0km az=144.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**44.24**	**240**	P	P	00 46 26.9	-0.9
	5.1nm,0.7s,baz=98,slow=9.5,SNR=7.1						
WRA	**Warramunga Arr**	**50.20**	**257**	P	P	00 47 14.1	-0.4
	1.5nm,0.6s,baz=91,slow=6.8,SNR=12						
ASAR	**Alice Springs**	**50.43**	**252**	P	P	00 47 15.5	-0.7
	3.4nm,0.6s,baz=90,slow=7.4,SNR=10.0						
FITZ	**Fitzroy Crossi**	**58.58**	**258**	P	P	00 48 16.0	+0.5
	1.3nm,0.6s,baz=142,slow=6.2						
VNDA	**Vanda**	**63.04**	**186**	P	P	00 48 45.5	+0.6
	2.0nm,1.1s,baz=344,slow=6.8,SNR=4.6						
QSPA	**South Pole Qui**	**74.26**	**180**	P	P	00 49 55.4	0.0
	2.4nm,1.0s,baz=42,slow=3.1,SNR=4.6						
TXAR	**Lajitas Array**	**80.45**	**56**	P	P	00 50 29.7	-0.9
	1.1nm,1.1s,baz=234,slow=6.1,SNR=3.6						
ILAR	**Eielson Array**	**82.74**	**11**	P	P	00 50 42.0	+0.2
	0.5nm,0.7s,baz=225,slow=6.4,SNR=4.5						
BRTR	**Keskin Array B**	**146.74**	**321**	PKPbc	PKPab	00 58 01.6	-0.4
	1.3nm,0.6s,baz=106,slow=3.1,SNR=5.8						

IDC 30 00:40:13.9±2.0, 17°.25S×172°.54W, h0km, mb3.8/5, mb1 4.2/5, mb1mx3.9/19, mbtmp3.8/5, Error ellipse: s-maj=126.1km s-min=25.8km az=152.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**50.25**	**258**	P	P	00 49 11.5	-0.8
	0.8nm,0.9s,baz=96,slow=8.0,SNR=3.9						
ASAR	**Alice Springs**	**50.35**	**253**	P	P	00 49 12.8	-0.3
	2.0nm,0.7s,baz=90,slow=8.1,SNR=4.9						
TXAR	**Lajitas Array**	**80.96**	**56**	P	P	00 52 30.2	-0.6
	0.6nm,1.1s,baz=245,slow=3.9,SNR=2.7						
PDAR	**Pinedale Array**	**83.09**	**41**	P	P	00 52 42.3	+0.4
	0.9nm,0.8s,baz=207,slow=1.7,SNR=5.4						
ILAR	**Eielson Array**	**84.10**	**11**	P	P	00 52 44.9	-1.3
	0.7nm,0.7s,baz=229,slow=6.3,SNR=5.6						
KMBO	**Kilima Mbogo**	**145.42**	**241**	PKPbc	PKPab	00 59 58.9	+3.6
	2.2nm,1.0s,baz=16,slow=7.9,SNR=4.2						
GERES	**GERESS Array B**	**148.08**	**352**	PKPbc	PKPbc	01 00 02.1	+0.5
	0.5nm,0.7s,baz=20,slow=4.3,SNR=5.0						
BRTR	**Keskin Array B**	**148.10**	**320**	PKPbc	PKPbc	01 00 03.1	+1.0
	1.6nm,0.9s,baz=106,slow=2.2,SNR=4.4						

*IDC **30** 00:40:49.6±0.5, 15°.66S×172°.81W, h0km, mb4.5/15, mb1 4.8/15, mb1mx4.7/21, mbtmp4.5/15, MS4.8/1, Ms1 4.8/1, ms1mx4.0/30, Error ellipse: s-maj=21.2km s-min=16.2km az=121.0*
*BJI **30** 00:40:50.0, 15°.50S×172°.80W, h10km, mB5.6/17, mb5.1/24, Ms5.4/13, Ms7 5.1/13*
*ISCJB **30** 00:40:50.6±0.3, 15°.61S±0°.08×172°.81W±0°.06, h10km, mb4.9/66, MS5.1/5, Error ellipse: s-maj=12.0km s-min=6.8km az=157.2*
*NEIC **30** 00:40:52.1±0.2, 15°.47S×172°.93W, h10km, mb5.0/44, Error ellipse: s-maj=12.9km s-min=6.7km az=137.0*
*MOS **30** 00:40:54.4±1.2, 15°.40S×172°.99W, h33km, mb5.0/12, Error ellipse: s-maj=22.9km s-min=12.2km az=53.9*
*SZGRF **30** 00:40:55.2, 15°.78S×172°.26W, h33km, Samoa Islands region*

ISC 30 00:40:53.4±0.7, 15°.59S±0°.10×172°.84W±0°.09, h20km±5km, n410, σ0°.84/423, mb4.9/66, MS5.0/5, 111C-102D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.96**	**32**	*e*Pn	Pn	00 41 20.5	-5.0
AFI				Sn	Sn	00 41 37.2	-12
AFI	**Afiamalu**	**1.96**	**32**	Pn	Pn	00 41 19.7	-5.8
	96nm,0.3s,baz=78,slow=14,SNR=3.8						
AFI				Sn	Sn	00 41 37.2	-12
	521nm,0.

WVOR	Wild Horse Val	76.24	38	eP	P	00 52 40.2 -0.5
	comp=Z,7.8nm,1.2s					
X16A	Lo Mia Camp, P	76.63	48	⇓P	P	00 52 43.9 +0.7
	baz=77					
KSRS	Korea Array	76.67	315	P	P	00 52 44.6 +1.6
	comp=Z,6.2nm,1.0s,baz=124,slow=6.7,SNR=18					
KSAR	Wonju Array Be	76.69	315	P	P	00 52 44.6 +1.5
319A	Douglas	76.78	52	⇑P	P	00 52 44.7 +0.7
	baz=77					
J08A	Circle Bar Ran	76.89	37	eP	P	00 52 45.8 +1.5
	comp=Z,22nm,1.3s					
J08A				epP	PcP	00 52 56.1 +0.8
U15A	North Rim	77.04	46	⇑P	P	00 52 46.4 +0.9
	baz=77					
WUAZ	Wupatki	77.22	47	⇓P	P	00 52 47.3 +0.9
	baz=77					
ELK	Elko	77.36	41	eP	P	00 52 47.8 +0.6
	comp=Z,10nm,1.4s					
220A	Playas Peak, P	77.59	52	⇑P	P	00 52 49.1 +0.6
	baz=78					
X18A	Snowflake	77.76	49	⇑P	P	00 52 50.1 +0.6
	baz=78					
G08A	Pilot Rock	77.77	36	eP	P	00 52 49.9 +0.7
	comp=Z,135nm,2.8s					
120A	U Bar Ranch, L	77.80	51	⇓P	P	00 52 50.4 +0.7
	baz=78					
USRK	Ussuriysk Arra	77.86	323	P	P	00 52 50.6 +1.0
	comp=Z,2.4nm,0.8s,baz=116,slow=4.4,SNR=6.4					
Z20A	Nine Sixteen R	78.09	51	⇓P	P	00 52 52.3 +0.9
	baz=78					
121A	Cookes Peak, D	78.44	51	⇓P	P	00 52 53.8 +0.5
	baz=79					
MFID	Camas Ranch	78.49	39	⇑P	P	00 52 53.7 +0.4
	baz=79					
Y20A	Horse Springs,	78.62	50	⇓P	P	00 52 54.8 +0.5
	baz=79					
DUG	Dugway	78.63	43	eP	P	00 52 54.7 +0.6
DUG				pmax	pmax	
	comp=Z,8.0nm,1.1s					
DUG	Dugway	78.63	43	eP	P	00 52 54.6 +0.6
	comp=Z,7.8nm,1.1s					
DUG	Dugway	78.63	43	⇓P	P	00 52 54.9 +0.8
	baz=79					
X20A	Quemado	78.83	49	⇓P	P	00 52 56.1 +0.6
	baz=79					
Z21A	St. Cloud Mine	78.87	51	⇓P	P	00 52 56.2 +0.5
	baz=79					
E09A	Wood Farm, Sta	78.95	35	eP	P	00 52 55.9 +0.3
	comp=Z,22nm,1.4s					
RAGM	Ragged Mountai	79.03	14	eP	P	00 52 56.9 +1.2
	comp=Z,54nm,0.8s					
Q16A	Castle Valley	79.06	44	eP	P	00 52 56.5 -0.1
Q16A	Castle Valley	79.06	44	⇓P	P	00 52 57.1 +0.5
	baz=79					
W20A	Ramah	79.09	49	⇓P	P	00 52 57.7 +0.8
	baz=79					
F10A	Beach Ranch, E	79.15	36	eP	P	00 52 57.0 +0.2
	comp=Z,28nm,1.5s					
TMUT	Trail Mountain	79.23	44	eP	P	00 52 59.0 +1.4
	comp=Z,15nm,1.0s					
X21A	Alamocita Cree	79.30	50	⇑P	P	00 52 59.2 +1.1
	baz=79					
HLID	Hailey	79.43	39	eP	P	00 52 58.9 +0.5
	comp=Z,8.0nm,1.1s					
HLID	Hailey	79.43	39	⇓P	P	00 52 59.5 +1.1
	baz=80					
B08A	Colville Reser	79.44	33	eP	P	00 52 58.3 +0.1
	comp=Z,20nm,1.5s					
DIV	Divide	79.45	13	eP	P	00 52 57.9 -0.1
	comp=Z,17nm,0.9s					
MDJ	Mudanjiang	79.50	322	P	P	00 53 00.8 +2.2
MDJ				pmax	pmax	
	comp=Z,3.0nm,0.5s					
MDJ				pmax	pmax	
	comp=Z,650nm,10.0s					
BMRM	Bremner River	79.57	14	eP	P	00 52 59.1 +0.4
	comp=Z,51nm,1.3s					
SRU	San Rafael	79.59	44	eP	P	00 52 59.9 +0.4
SRU				pmax	pmax	
	comp=Z,15nm,1.3s					
SRU	San Rafael	79.59	44	eP	P	00 52 59.9 +0.4
	comp=Z,15nm,1.3s					
U20A	Newcomb	79.66	48	⇓P	P	00 53 00.4 +0.5
	baz=80					
Y22A	Socorro	79.68	50	⇓P	P	00 53 00.3 +0.3
	baz=80					
W21A	San Fidel	79.71	49	⇑P	P	00 53 00.6 +0.4
	baz=80					
324A	Moseley Ranch,	79.71	53	⇑P	P	00 53 00.1 -0.1
	baz=80,SNR=5.7					
LAZ	Ladron	79.76	50	eP	P	00 53 01.4 +0.9
	comp=Z,17nm,2.0s					
425A	Indio Mountain	79.82	54	⇑P	P	00 53 00.7 -0.1
	baz=80,SNR=7.1					
MNTX	Cornudas Mount	79.90	53	eP	P	00 53 00.7 -0.4
	comp=Z,12nm,1.4s					
Z23A	Rita Site, Whi	79.93	51	⇑P	P	00 53 01.7 +0.3
	baz=80					
224A	Cornudas Mount	79.95	53	⇓P	P	00 53 01.8 +0.3
	baz=80,SNR=5.4					
626A	Big Bend Ranch	79.98	56	⇑P	P	00 53 02.1 +0.4
	baz=80,SNR=7.8					
PV05	Paradox Valley	80.06	46	eP	P	00 53 03.1 +1.0
526A	Mary Lane Ranc	80.22	55	⇑P	P	00 53 03.4 +0.3
	baz=80,SNR=11					
TXAR	Lajitas Array	80.26	56	P	P	00 53 02.6 -0.6
TXAR	Lajitas Array	80.26	56	P	P	00 53 02.6 -0.6
	comp=Z,8.2nm,1.0s,baz=224,slow=6.8,SNR=28					
124A	Stringfield Ra	80.27	52	⇓P	P	00 53 03.8 +0.4
	baz=80					
U21A	Nageezi	80.30	48	⇓P	P	00 53 04.0 +0.5
	baz=80					
Y23A	Lovelace Mesa,	80.36	51	⇓P	P	00 53 04.2 +0.5
	baz=80					
S20A	Disappointment	80.46	46	⇓P	P	00 53 04.4 +0.1
	baz=81					
ANMO	Albuquerque	80.50	50	P	P	00 53 04.8 +0.3
	comp=Z,15nm,1.4s					
ANMO	Albuquerque	80.50	50	P	P	00 53 04.8 +0.3
	comp=Z,2.1nm,0.9s,baz=210,slow=4.5,SNR=8.4					
225A	Deer Hill, Car	80.51	53	⇑P	P	00 53 04.9 +0.3
	baz=81					
426A	McDonald Obser	80.52	55	⇑P	P	00 53 05.0 +0.2
	baz=81,SNR=13					
627A	Terlingua Ranc	80.53	56	⇓P	P	00 53 04.8 +0.1
	baz=81,SNR=13					
NEW	Newport	80.56	34	⇑P	P	00 53 04.9 +0.6
	baz=81					
V22A	San Miguel Ran	80.61	49	⇓P	P	00 53 05.1 0.0
	baz=81					
R20A	Redvale	80.62	46	⇑P	P	00 53 05.5 +0.5
	baz=81					
527A	Woodward Ranch	80.64	55	⇑P	P	00 53 05.2 -0.1
	baz=81,SNR=9.3					
T21A	Navajo Lake	80.65	47	⇓P	P	00 53 05.6 +0.3
	baz=81					
TRF	Thorofare Moun	80.71	10	eP	P	00 53 04.0 -0.9
	comp=Z,42nm,1.5s					
TRF				epP	PcP	00 53 14.2 +2.6
S21A	Coal Bank Pass	80.78	47	⇑P	P	00 53 06.5 +0.4
	baz=81					
Y24A	Capitan	80.81	51	⇑P	P	00 53 06.3 +0.1
	baz=81					
W23A	Werner Place,	80.83	50	⇑P	P	00 53 06.6 +0.4
	baz=81					
326A	Caldwell Ranch	80.83	54	⇓P	P	00 53 06.6 +0.4
	baz=81					
U22A	Llaves	80.86	48	⇑P	P	00 53 06.8 +0.4
	baz=81					
125A	Gardner Draw,	80.86	52	⇑P	P	00 53 06.7 +0.3
	baz=81					
P19A	Cripple Cowboy	80.89	45	⇑P	P	00 53 07.0 +0.5
	baz=81					
GDL2	Guadalupe Moun	80.90	53	eP	P	00 53 07.2 +0.7
628A	Black Gap, Mar	80.95	56	⇓P	P	00 53 07.0 +0.2
	baz=81,SNR=9.6					
226B	Tecolote Peak,	81.00	53	⇓P	P	00 53 07.0 -0.1
	baz=81,SNR=7.2					
Q20A	Ridgley Place,	81.03	45	⇑P	P	00 53 07.9 +0.6
	baz=81					
MCMT	McKenzie Canyo	81.06	39	eP	P	00 53 07.1 -0.3
	comp=Z,5.8nm,1.1s					
V23A	Ortiz Mt. (NFS	81.06	49	⇑P	P	00 53 08.2 +0.7
	baz=81					
Z25A	Roswell	81.08	52	⇑P	P	00 53 07.8 +0.3
	baz=81					
427A	Hayter Ranch,	81.09	55	⇑P	P	00 53 07.7 +0.1
	baz=81,SNR=6.9					
X24A	Lazy VL Ranch,	81.09	50	⇑P	P	00 53 07.9 +0.2
	baz=81					
T22A	Edith	81.11	48	⇓P	P	00 53 07.8 0.0
	baz=81					
O19A	Miners Draw (B	81.12	44	⇓P	P	00 53 07.9 +0.3
	baz=81					
RRI2	Red Ridge	81.22	40	eP	P	00 53 08.6 +0.3
	comp=Z,14nm,1.3s					
P20A	De Beque	81.23	45	⇓P	P	00 53 08.9 +0.6
	baz=81					
HYT	Haines Junctio	81.23	17	eP	P	00 53 08.2 +0.5
R21A	Cimarron	81.28	46	⇑P	P	00 53 08.9 +0.3
	baz=81					
528A	Cox Ranch, San	81.30	55	⇑P	P	00 53 09.0 +0.2
	baz=81,SNR=9.6					
U23A	El Rito	81.31	49	⇓P	P	00 53 09.1 +0.2
	baz=82					
126A	Clayton Basin,	81.35	53	⇑P	P	00 53 08.7 -0.2
	baz=82					
Y25A	Mesa, Roswell	81.37	51	⇓P	P	00 53 08.9 -0.2
	baz=82					
W24A	Lazy 6 Ranch,	81.39	50	⇑P	P	00 53 09.1 -0.1
	baz=82,SNR=5.6					
Q21A	Lamborn Mesa,	81.48	46	⇑P	P	00 53 10.1 +0.5
	baz=82					
DLMT	Dillon	81.50	38	eP	P	00 53 10.0 +0.5
	comp=Z,10.0nm,1.3s					
S22A	4UR Ranch, Cre	81.50	47	⇑P	P	00 53 09.9 +0.1
	baz=82,SNR=5.1					
MSO	Missoula	81.50	36	eP	P	00 53 09.4 0.0
	comp=Z,144nm,2.9s					
MSO	Missoula	81.50	36	⇑P	P	00 53 10.0 +0.5
	baz=82					
REDW	Red Top Meadow	81.52	41	eP	P	00 53 10.4 +0.7
	comp=Z,18nm,1.4s					
TPAW	Teton Pass	81.52	40	eP	P	00 53 10.2 +0.4
	comp=Z,118nm,2.7s					
CN2	Changchun	81.58	320	eP	P	00 53 10.8 +1.0
CN2				pmax	pmax	
	comp=Z,10.0nm,0.7s					
BSMT	Bassoo Peak	81.60	35	eP	P	00 53 09.3 -0.7
428A	Kincaid Ranch,	81.60	55	⇑P	P	00 53 10.8 +0.5
	baz=82,SNR=7.0					
Z26A	Caprock	81.64	52	⇑P	P	00 53 10.4 -0.1
	baz=82,SNR=6.1					
V24A	Rampart Ranch,	81.72	49	⇓P	P	00 53 11.0 -0.1
	baz=82					
529A	Stev Forest Ra	81.73	56	⇑P	P	00 53 10.8 -0.2
	baz=82,SNR=8.0					
IMW	Indian Meadow	81.74	40	eP	P	00 53 11.5 +0.5
	comp=Z,21nm,1.8s					
328A	Wristen Ranch,	81.77	54	⇑P	P	00 53 11.2 +0.1
	baz=82					
LOHW	Long Hollow	81.80	40	eP	P	00 53 12.0 +0.8
	comp=Z,44nm,2.3s					
LRM	Limekiln Ridge	81.83	38	eP	P	00 53 11.7 +0.3
CHMT	Chamberlain Mo	81.95	37	eP	P	00 53 11.5 -0.4
N20A	Spence Gulch,	81.95	44	⇑P	P	00 53 12.3 +0.2
	baz=82					
Q22A	Crested Butte,	81.95	46	⇑P	P	00 53 12.8 +0.6
	baz=82					
PDAR	Pinedale Array	82.04	42	P	P	00 53 12.0 -0.6
PDAR	Pinedale Array	82.04	42	P	P	00 53 12.0 -0.6
	comp=Z,2.2nm,1.0s,baz=204,slow=3.3,SNR=6.3					
W25A	X Bar L Ranch,	82.10	50	⇓P	P	00 53 12.7 -0.2
	baz=82					
429A	Davenport Ranc	82.19	55	⇓P	P	00 53 13.0 -0.4
	baz=82,SNR=14					
H17A	Grant Village	82.22	40	⇑P	P	00 53 14.4 +0.9
	baz=82					
T24B	San Luis	82.22	48	⇑P	P	00 53 14.1 +0.4
	baz=82					
228A	UT Block 9, Go	82.23	54	⇑P	P	00 53 13.9 +0.3
	baz=82					
Z27A	Tatum	82.24	52	⇓P	P	00 53 13.8 +0.2
	baz=82					
V25A	Rancho No Teng	82.25	50	⇑P	P	00 53 14.2 +0.5
	baz=82					
X26A	CR and CF Fran	82.30	51	⇓P	P	00 53 14.4 +0.4
	baz=82					
M20A	Sweetwater, Wa	82.31	43	⇓P	P	00 53 14.6 +0.6
	baz=82					
R23A	Moffat	82.40	47	⇑P	P	00 53 14.9 +0.3
	baz=82					
N21A	Black Mountain	82.41	44	⇓P	P	00 53 15.0 +0.4
	baz=82					
COLA	College	82.44	10	eP	P	00 53 13.7 -0.1
COLA	College	82.44	10	eP	P	00 53 13.7 -0.1
	comp=Z,114nm,1.2s					
530A	J-C Ranch, Com	82.45	56	⇑P	P	00 53 14.2 -0.5
	baz=83,SNR=6.3					
329A	Wagon Wheel Ra	82.46	54	⇓P	P	00 53 14.4 -0.3
	baz=83,SNR=8.5					
L20A	Wamsutter	82.46	43	⇓P	P	00 53 15.1 +0.4
	baz=83					
Y27A	Causey	82.51	52	⇑P	P	00 53 14.7 -0.3
	baz=83					
128A	Castleberry Fa	82.52	53	⇑P	P	00 53 14.5 -0.6
	baz=83,SNR=6.4					
ILAR	Eielson Array	82.52	11	P	P	00 53 13.3 -1.0
ILAR	Eielson Array	82.52	11	P	P	00 53 13.3 -1.0
	comp=Z,3.0nm,0.9s,baz=208,slow=6.3,SNR=9.7					
K19A	Absolon Red Bu	82.53	42	⇓P	P	00 53 15.1 +0.1
	baz=83					
S24A	Houchin Ranch,	82.60	48	⇓P	P	00 53 16.1 +0.4
	baz=83					
J19A	Crowheart	82.61	41	⇓P	P	00 53 15.6 +0.2
	baz=83					
U25A	Circle Dot Ran	82.64	49	⇑P	P	00 53 16.4 +0.6
	baz=83					
IMA2	Indian Mountai	82.67	8	eP	P	00 53 15.6 +0.4
Q23A	Hartsel	82.72	46	⇓P	P	00 53 16.8 +0.5
	baz=83					
K20A	Yellowstone Ra	82.77	42	⇑P	P	00 53 16.5 +0.2
	baz=83					
430A	Baggett Ranch,	82.77	55	⇑P	P	00 53 16.3 -0.1
	baz=83					
631A	Perdido Creek	82.78	57	⇑P	P	00 53 16.5 0.0
	baz=83					
O22A	Kremmling	82.79	45	⇓P	P	00 53 16.7 +0.1
	baz=83,SNR=8.5					
V26A	Tequesquite Ra	82.84	50	⇓P	P	00 53 16.9 +0.2
	baz=83					
MSTX	Muleshoe	82.84	52	eP	P	00 53 18.3 +1.5
	comp=Z,63nm,1.9s					
Z28A	Tucker Farm, M	82.86	53	⇑P	P	00 53 16.9 0.0
	baz=83					
M21A	Separation Pea	82.91	43	⇓P	P	00 53 17.6 +0.4
	baz=83					
R24A	Sanders Place,	82.93	47	⇓P	P	00 53 17.7 +0.4
	baz=83					
732A	Laxson Ranch,	83.01	58	⇓P	P	00 53 17.7 0.0
	baz=83					
I19A	Meeteetse	83.02	41	⇑P	P	00 53 17.7 +0.1
	baz=83					
330A	Mertzon	83.06	55	⇓P	P	00 53 17.4 -0.5
	baz=83					
W27A	Bowe Ranch, En	83.07	51	⇓P	P	00 53 17.5 -0.5
	baz=83					
L21A	Rawlins	83.08	43	⇓P	P	00 53 17.9 0.0
	baz=83					
531A	Rocksprings	83.08	56	⇑P	P	00 53 18.2 +0.1
	baz=83					
U26A	Atchley Ranch,	83.12	49	⇑P	P	00 53 18.4 +0.1
	baz=83					
N22A	Wattenberg Ran	83.15	44	⇑P	P	00 53 18.5 +0.1
	baz=83					
S25A	Robets Cordova	83.16	48	⇓P	P	00 53 18.3 -0.1
	baz=83,SNR=5.4					
Y28A	McKinney Farm,	83.22	52	⇓P	P	00 53 19.1 +0.4
	baz=83					
Q24A	Divide	83.22	47	⇑P	P	00 53 19.2 +0.3
	baz=83					
O23A	Lake Granby, G	83.24	45	⇓P	P	00 53 19.2 +0.2
	baz=83					
ISCO	Idaho Springs	83.27	46	eP	P	00 53 20.1 +1.0
ISCO				pmax	pmax	
	comp=Z,65nm,2.6s					
ISCO	Idaho Springs	83.27	46	eP	P	00 53 20.1 +1.0
	comp=Z,65nm,2.6s					
ISCO	Idaho Springs	83.27	46	⇑P	P	00 53 19.4 +0.3
	baz=83					
J20A	Shoshoni	83.27	42	⇓P	P	00 53 18.9 +0.1
	baz=83,SNR=5.6					
230A	Sterling City	83.30	54	⇑P	P	00 53 19.0 -0.1
	baz=83					
M22A	Cedar Creek Ra	83.33	44	⇑P	P	00 53 19.7 +0.4
	baz=84					
H19A	Powell	83.34	40	⇓P	P	00 53 19.7 +0.5
	baz=84					
Z29A	Hungry Hill Ra	83.37	53	⇓P	P	00 53 19.7 +0.2
	baz=84					
632A	Uvalde	83.45	57	⇓P	P	00 53 19.9 0.0
	baz=84					
DAWY	Dawson	83.47	14	eP	P	00 53 18.9 -0.4
K21A	Alcova	83.47	43	⇑P	P	00 53 20.1 +0.1
	baz=84					
GCMT	Greycliff	83.48	39	eP	P	00 53 20.4 +0.6
	comp=Z,14nm,1.6s					
R25A	Fountain Ranch	83.48	48	⇓P	P	00 53 20.1 +0.1
	baz=84					
I20A	Worland	83.53	41	⇑P	P	00 53 20.1 0.0
	baz=84,SNR=5.4					
N23A	Red Feather La	83.53	45	⇑P	P	00 53 20.3 -0.1
	baz=84					
T26A	Comanche Natio	83.56	49	⇑P	P	00 53 20.4 -0.1
	baz=84					
532A	Rocksprings	83.58	56	⇑P	P	00 53 20.5 -0.1
	baz=84					
331A	San Angelo	83.61	55	⇓P	P	00 53 20.5 -0.2
	baz=84					
Y29A	Porterfield Fa	83.64	52	⇓P	P	00 53 21.4 +0.5
	baz=84					
EGAK	Eagle	83.67	13	eP	P	00 53 20.6 +0.4
	comp=Z,97nm,2.6s					
EGAK				epP	pP	00 53 30.3 +3.3
J21A	Lysite	83.68	42	⇑P	P	00 53 21.0 0.0
	baz=84,SNR=8.5					
L22A	Ellis Ranch, M	83.72	43	⇑P	P	00 53 21.5 +0.2
	baz=84,SNR=5.9					
O24A	Longmont	83.78	46	⇓P	P	00 53 22.0 +0.5
	baz=84					
JCT	Junction City	83.80	56	eP	P	00 53 21.6 -0.1
JCT				pmax	pmax	
	comp=Z,7.0nm,0.9s					
JCT	Junction City	83.80	56	eP	P	00 53 21.6 -0.1
	comp=Z,7.0nm,0.9s					
JCT	Junction City	83.80	56	⇑P	P	00 53 21.7 -0.1
	baz=84					
U27A	Thompson Grove	83.81	50	⇑P	P	00 53 21.2 -0.6
	baz=84					
Z30A	Sanderson Ranc	83.83	53	⇑P	P	00 53 21.2 -0.6
	baz=84					
Q25A	Bedland, Calha	83.83	47	⇓P	P	00 53 21.5 -0.4
	baz=84					
S26A	Kim	83.84	48	⇑P	P	00 53 21.6 -0.3
	baz=84					
231A	Bronte	83.94	55	⇓P	P	00 53 22.2 -0.2
	baz=84					
M23A	Laramie	83.94	44	⇓P	P	00 53 22.2 -0.2
	baz=84					
F19A	Roth Farm, Mol	83.95	39	⇓P	P	00 53 22.4 +0.2
	baz=84					
K22A	Casper	83.95	43	⇑P	P	00 53 22.4 0.0
	baz=84					
432A	Menard	83.95	56	⇑P	P	00 53 22.0 -0.5
	baz=84					
I21A	Big Trails, Te	83.99	42	⇓P	P	00 53 22.1 -0.4
	baz=84,SNR=8.7					
PHWY	Pilot Hill	84.05	44	eP	P	00 53 23.4 +0.4
	comp=Z,17nm,1.4s					
G20A	Bridger	84.09	40	⇓P	P	00 53 22.7 -0.2
	baz=84					
R26A	Arlington	84.14	48	⇓P	P	00 53 23.0 -0.4
	baz=84,SNR=5.9					
P25A	Willow Gulch B	84.15	46	⇓P	P	00 53 23.4 -0.1
	baz=84,SNR=5.3					
W29A	Amraillo	84.16	51	⇓P	P	00 53 23.7 +0.2
	baz=84					
131A	Roby	84.17	54	⇓P	P	00 53 23.3 -0.2
	baz=84					
332A	Millersview	84.18	55	⇓P	P	00 53 23.8 +0.2
	baz=84					
N24A	Carr	84.22	45	⇓P	P	00 53 24.2 +0.3
	baz=84					
COLD	Coldfoot	84.24	9	eP	P	00 53 24.2 +1.2
	comp=Z,24nm,1.3s					
L23A	Garrett	84.25	44	⇑P	P	00 53 23.6 -0.3
	baz=84,SNR=7.2					
J22A	Midwest	84.33	42	⇑P	P	00 53 24.1 -0.2
	baz=84					
E19A	Rath Farm, Rou	84.34	39	⇓P	P	00 53 24.1 0.0
	baz=84,SNR=5.1					
232A	Coleman	84.45	55	⇓P	P	00 53 24.6 -0.4
	baz=85					
H21A	Big Horn, Sher	84.54	41	⇑P	P	00 53 25.2 0.0
	baz=85					
I22A	9 Mile Ranch,	84.55	42	⇑P	P	00 53 25.2 -0.2
	baz=85,SNR=6.8					
EGMT	Eagleton	84.55	37	⇓P	P	00 53 25.5 +0.4
	baz=85					
K23A	Bowen Ranch, D	84.59	43	⇑P	P	00 53 25.1 -0.5
	baz=85,SNR=5.8					
R27A	Eads	84.60	48	⇓P	P	00 53 25.1 -0.5
	baz=85					
Z31A	Sharp Cattle R	84.60	53	⇓P	P	00 53 25.2 -0.6
	baz=85					
D19A	Cripps Ranch,	84.63	38	⇓P	P	00 53 26.0 +0.4
	baz=85					
ABTX	Abilene, Hawle	84.73	54	eP	P	00 53 26.0 -0.4
ABTX	Abilene, Hawle	84.73	54	⇑P	P	00 53 26.5 +0.2
	baz=85					
L24A	Wheatland	84.73	44	⇓P	P	00 53 26.8 +0.5
	baz=85					
Y31A	Rekieta Farm,	84.76	53	⇓P	P	00 53 26.7 +0.2
	baz=85					
E20A	Meyer Farm, Mu	84.76	39	⇓P	P	00 53 26.6 +0.3
	baz=85					
C19A	Slack Wire Ran	84.82	37	⇑P	P	00 53 26.8 +0.3
	baz=85,SNR=8.0					
H22A	Clearmont	84.96	41	⇓P	P	00 53 27.5 +0.1
	baz=85					
D20A	Manuel Ranch,	85.04	38	⇓P	P	00 53 27.5 -0.1
	baz=85,SNR=5.7					
Z32A	Haskell	85.11	54	⇑P	P	00 53 28.2 -0.1
	baz=85					
B19A	Brinkman Farms	85.23	37	⇑P	P	00 53 29.3 +0.8
	baz=85					
R28A	Tribune	85.33	48	⇑P	P	00 53 30.0 +0.7
	baz=86					
EDM	Edmonton	85.36	31	eP	P	00 53 28.8 -0.2
EDM	Edmonton	85.36	31	eP	P	00 53 28.8 -0.2
Y32A	R-V Farms, Ver	85.40	53	⇑P	P	00 53 30.0 +0.3
	baz=86					
E21A	Keefer Ranch,	85.42	39	⇑P	P	00 53 30.1 +0.6
	baz=86					
C20A	Veseth Ranch,	85.42	38	⇑P	P	00 53 30.1 +0.6
	baz=86,SNR=5.2					
W31A	Holland Ranch,	85.47	52	⇓P	P	00 53 30.1 +0.1
	baz=86					
D21A	La Casta Ranch	85.71	39	⇑P	P	00 53 31.8 +0.8
	baz=86					
B20A	Solberg Farm,	85.76	37	⇑P	P	00 53 31.5 +0.3
	baz=86					
BJI	Beijing	85.99	313	P	P	00 53 34.3 +1.9
BJI				pmax	pmax	
	comp=Z,23nm,1.3s					
C21A	Desert Coulee	86.01	38	⇑P	P	00 53 32.8 +0.4
	baz=86					
A20A	Cobblestone Ra	86.03	37	⇑P	P	00 53 32.7 +0.1
	baz=86					
H24A	Dirks Ranch, A	86.17	42	⇓P	P	00 53 33.2 -0.2
	baz=86					
WMOK	Wichita Mounta	86.18	53	eP	P	00 53 34.3 +0.8
WMOK				pmax	pmax	
	comp=Z,13nm,1.5s					
WMOK	Wichita Mounta	86.18	53	eP	P	00 53 34.3 +0.8
	comp=Z,13nm,1.5s					
RSSD	Black Hills	86.23	42	eP	P	00 53 32.7 -1.1
RSSD				pmax	pmax	
	comp=Z,45nm,1.4s					
RSSD	Black Hills	86.23	42	eP	P	00 53 32.7 -1.1
	comp=Z,45nm,1.4s					
B21A	Ellsworth Farm	86.34	38	⇑P	P	00 53 34.6 +0.5
	baz=86					
I25A	Rochford	86.38	42	⇓P	P	00 53 34.5

comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,6.4s
GYA LR LR
comp=N,540nm,21.9s
GYA LR LR
comp=E,460nm,22.0s
GYA LR LR
comp=Z,550nm,21.6s
HHC Hu-ho-hao-te 89.55 313 *eP* **P 00 53 50.0 +0.3**
HHC pP **pP 00 53 54.8 -1.6**
HHC PP **PP 00 57 23.8 +2.2**
HHC SKS **SKSac 01 04 17.8 -1.3**
HHC S **S 01 04 38.0 -1.7**
HHC sS **ScS 01 04 46.0 +1.8**
HHC SS **SS 01 10 37.0 +0.9**
HHC pmax pmax
comp=Z,31nm,1.1s
HHC pmax pmax
comp=Z,340nm,5.1s
HHC LR LR
comp=N,850nm,17.3s
HHC LR LR
comp=E,720nm,17.9s
HHC LR LR
comp=Z,800nm,17.1s
YKA Yellowknife Ar 90.05 23 P **P 00 53 50.8 -0.5**
YKA Yellowknife Ar 90.05 23 P **P 00 53 50.8 -0.5**
comp=Z,3.4nm,0.9s,baz=238,slow=4.7,SNR=5.2
KMI Kunming 91.60 296 P **P 00 54 01.5 +1.8**
KMI pmax pmax
comp=Z,6.0nm,0.5s
CD2 Chengdu 92.37 301 P **P 00 54 03.8 +0.9**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
LZH Lanzhou 93.77 306 *eP* **P 00 54 09.3 -0.1**
LZH pP **pP 00 54 14.3 -1.9**
LZH sP **sP 00 54 17.0 -1.6**
LZH PP **PP 00 57 57.3 +2.2**
LZH SKS **SKSac 01 04 43.5 +0.1**
LZH *eS* **S 01 05 14.3 -3.9**
LZH sS **ScS 01 05 23.0 +3.4**
LZH SS **SS 01 11 35.5 -1.8**
LZH pmax pmax
comp=Z,25nm,1.1s
LZH pmax pmax
comp=Z,150nm,4.8s
LZH LR LR
comp=N,720nm,16.3s
LZH LR LR
comp=E,960nm,17.0s
LZH LR LR
comp=Z,1μm,17.6s
GTA Gaotai 97.72 309 *eP* Pdif 00 54 29.0 +1.6
GTA pP pP 00 54 32.5 -1.6
GTA sP sP 00 54 35.5 -1.0
GTA pmax pmax
comp=Z,6.0nm,0.8s
KSH Kashi 116.02 307 PKP **PKPdf 00 59 35.0 -0.4**
KSH PP **PP 01 00 39.3 -0.7**
KSH PKS **PKSdf 01 03 10.5 -1.6**
KSH SKS **SKSdf 01 06 46.0 -0.6**
KSH SKKS SKKSac 01 07 32.0 -8.3
KSH AMB AMB
comp=Z,160nm,8.9s
KSH LR LR
comp=N,130nm,7.7s
KSH LR LR
comp=E,120nm,6.0s
KSH LR LR
comp=Z,230nm,14.5s
AKASG Malin Array Be 140.72 338 PKIKP **PKPdf 01 00 20.6 -0.9**
AKASG Malin Array Be 140.72 338 PKP **PKPdf 01 00 20.6 -0.9**
AKASG Malin Array Be 140.72 338 PKP **PKPdf 01 00 20.6 -0.9**
comp=Z,0.5nm,0.5s,baz=30,slow=2.5,SNR=5.1
CLL Collm 144.06 354 *e*PKPdf **PKPab 01 00 25.0 +0.1**
comp=Z,6.0nm,1.0s
CLL *e* 01 00 51.0
MALT Malatya 144.38 316 ||*i*P **PKPdf 01 00 28.9 +0.3**
DPC Dobruska-Polom 144.54 350 *e*PKP PKPbc 01 00 27.6 +0.5
DPC *ex* x 01 00 51.0
PVCC Panska Ves 144.63 352 *e*PKP PKPbc 01 00 27.6 +0.3
OKC Ostrava-Krasne 144.69 348 *e*PKP PKPbc 01 00 27.7 +0.2
CRVS Cervenica-Dubn 144.77 344 *e*PKP **PKPdf 01 00 28.5 -0.4**
UBBA Unterbreizbach 144.78 357 *e*PKPbc **PKPab 01 00 27.2 -0.3**
MOX Moxa 144.84 355 *e*PKPbc **PKPab 01 00 27.7 -0.2**
MORC Moravsky Berou 144.87 348 ||*i*P PKPbc 01 00 28.2 +0.1
TANN Tannenbergstha 145.00 354 *e*PKPbc **PKPab 01 00 28.3 -0.2**
MEM Membach 145.05 1 PKP **PKPdf 01 00 29.2 -0.1**
TRPA Tarpa 145.16 342 ||*i*P **PKPdf 01 00 29.5 0.0**
PRU Pruhonice 145.17 352 *e*PKP **PKPab 01 00 29.3 +0.2**
PRU *ex* x 01 00 47.6
NKC Novy Kostel 145.18 354 *e*PKP **PKPdf 01 00 29.4 -0.1**
BCLA Clavier 145.22 2 PKP **PKPbc 01 00 28.1 -1.1**
TLCR 145.31 333 ||*i*P **PKPdf 01 00 30.9 +1.1**
KECS Kecovo 145.41 344 *e*PKP **PKPab 01 00 30.3 +0.3**
TNS Taunus Mts 145.44 359 *e*PKPbc **PKPbc 01 00 29.9 -0.1**
VRAC Vranov 145.50 349 PKPbc **PKPab 01 00 30.5 +0.1**
VRAC Vranov 145.50 349 PKPbc **PKPab 01 00 30.5 +0.1**
comp=Z,9.9nm,1.0s,baz=44,slow=3.6,SNR=11
DOU Dourbes 145.52 3 PKP **PKPdf 01 00 30.1 0.0**
VRI Vrincioaia 145.64 336 ||*i*P **PKPab 01 00 31.0 0.0**
ROTZ Rotzenmuhle 145.66 354 *e*PKPbc **PKPab 01 00 30.9 0.0**
PLOR Plostina 145.68 336 ||*i*P **PKPab 01 00 31.2 0.0**
GRF Grafenberg Arr 145.82 355 *e*PKPbc **PKPab 01 00 31.6 0.0**
KMBO Kilima Mbogo 145.94 244 PKPbc **PKPab 01 00 33.8 +0.4**
KMBO Kilima Mbogo 145.94 244 PKPbc **PKPab 01 00 33.8 +0.4**
comp=Z,4.2nm,0.9s,baz=57,slow=4.0,SNR=10
WLF Walferdange 146.00 1 PKP **PKPab 01 00 32.3 +0.1**
WLF Walferdange 146.00 1 *e*PKPbc **PKPab 01 00 32.0 -0.2**
TIRR Tirgusor 146.05 332 ||*i*P **PKPab 01 00 32.5 0.0**
TLB Topalu 146.12 333 ||*i*P **PKPab 01 00 32.9 +0.1**
KHC Kasperske Hory 146.14 352 *e*PKP **PKPab 01 00 33.0 +0.2**
KHC *ex* x 01 00 50.2
WET Wettzell 146.21 353 *e*PKPbc **PKPbc 01 00 32.6 +0.2**
MLR Muntele Rosu 146.26 336 ||*i*P **PKPbc 01 00 33.1 +0.3**
DRGR 146.30 341 ||*i*P **PKPbc 01 00 32.5 -0.3**
GEC2 GERESS Array S 146.40 352 *e*PKPbc **PKPbc 01 00 33.1 +0.1**
GERES GERESS Array B 146.40 352 PKPbc **PKPbc 01 00 32.7 -0.3**
GERES GERESS Array B 146.40 352 PKPbc **PKPbc 01 00 32.7 -0.3**
comp=Z,3.9nm,1.0s,baz=9.5,slow=1.6,SNR=12
ZST Bratislava 146.46 348 *e*PKP **PKPab 01 00 36.6 +2.6**
BRTR Keskin Array B 146.64 321 PKPbc **PKPbc 01 00 33.6 -0.5**
BRTR Keskin Array B 146.64 321 PKPbc **PKPbc 01 00 33.6 -0.5**
comp=Z,8.4nm,1.0s,baz=146,slow=2.4,SNR=16
VOIR 146.65 337 ||*i*P **PKPab 01 00 34.7 -0.2**
ARR Arges 146.87 337 ||*i*P **PKPab 01 00 35.8 0.0**
SIRR Siria 147.09 341 ||*i*P **PKPbc 01 00 35.6 +0.6**
BFO Black Forest 147.33 359 *e*PKPbc **PKPbc 01 00 35.7 +0.1**
FUR Furstenfeldbru 147.34 355 *e*PKPbc **PKPbc 01 00 35.8 +0.2**
GZR Gura Zlata 147.51 339 ||*i*P **PKPbc 01 00 36.7 +0.5**
RJOB Jochberg 147.60 353 *e*PKPbc **PKPbc 01 00 36.8 +0.4**
BZS Buzias 147.69 341 ||*i*P **PKPbc 01 00 36.1 -0.5**
ASF Jabal al Asfar 148.34 307 PKPbc **PKPbc 01 00 39.3 +0.4**
ASF Jabal al Asfar 148.34 307 PKPbc **PKPbc 01 00 39.3 +0.4**
comp=Z,5.9nm,1.0s,baz=250,slow=2.3,SNR=6.0
PERS Pernice 148.34 350 *i* PKPdf **PKPbc 01 00 38.1 -0.3**
DAVOX Davos/Dischmat 148.81 356 PKPbc **PKPbc 01 00 38.8 -1.0**
DAVOX Davos/Dischmat 148.81 356 PKPbc **PKPbc 01 00 38.8 -1.0**
comp=Z,4.2nm,0.8s,baz=240,slow=1.5,SNR=6.1
MMAI Mount Meron Ar 149.10 309 PKPbc **PKPbc 01 00 41.2 +0.3**
MMAI Mount Meron Ar 149.10 309 PKPbc **PKPbc 01 00 41.2 +0.3**
comp=Z,14nm,1.0s,baz=45,slow=5.0,SNR=10
VISS Visnje 149.19 349 *i* PKPdf **PKPbc 01 00 39.8 -0.7**
JAVS Javornik 149.23 351 *i* PKPdf **PKPbc 01 00 39.3 -1.5**
BOJS Bojanci 149.41 349 *i* PKPdf **PKPbc 01 00 41.4 +0.3**
VTS Vitosha 149.76 336 ||*i*P **PKPbc 01 00 42.6 +0.3**
PGAV Gavieira, Arco 150.53 24 *e*PKPbc **PKPbc 01 00 44.8 +0.7**
PCAB Cabril 150.85 24 *e*PKPbc **PKPbc 01 00 45.0 +0.2**
EIL Elat 150.87 304 PKPbc **PKPbc 01 00 42.8 -2.4**
EIL Elat 150.87 304 PKPbc **PKPbc 01 00 42.8 -2.4**
comp=Z,10nm,1.0s,baz=346,slow=5.4,SNR=6.2
POLO Lamas de Olo 151.22 24 *e*PKPbc **PKPbc 01 00 46.5 +0.8**
PBRG Braganca 151.25 22 *e*PKPbc **PKPbc 01 00 46.0 +0.3**
PVRL Vila Real 151.34 24 *e*PKPbc **PKPbc 01 00 46.3 +0.4**
MVO Moncorvo 151.70 23 *e*PKPbc **PKPbc 01 00 47.2 +0.4**
MVO Moncorvo 151.70 23 *e*PKPab **PKPab 01 00 56.7 +1.2**
PVIS Viseu 151.75 25 *e*PKPbc **PKPbc 01 00 47.5 +0.6**
PVIS Viseu 151.75 25 *e*PKPab **PKPab 01 00 56.3 +0.6**
MTE Manteigas 152.16 25 *e*PKPdf **PKPdf 01 00 42.8 +1.6**
MTE Manteigas 152.16 25 *e*PKPbc **PKPbc 01 00 48.2 +0.3**
MTE Manteigas 152.16 25 *e*PKPab **PKPab 01 00 57.6 +0.2**
PTOM Tomar 152.45 27 *e*PKPbc **PKPbc 01 00 48.7 +0.3**
PTOM Tomar 152.45 27 *e*PKPab **PKPab 01 00 58.8 +0.2**
PMTG Montargil 152.99 27 *e*PKPbc **PKPbc 01 00 50.0 +0.4**
PMTG Montargil 152.99 27 *e*PKPab **PKPab 01 00 59.9 -0.9**
PMRV Marv??o 153.04 25 *e*PKPbc **PKPbc 01 00 50.4 +0.6**
EVO Evora 153.52 27 *e*PKPbc **PKPbc 01 00 51.5 +0.7**
PNCL Nicolau / Gran 153.63 29 *e*PKPbc **PKPbc 01 00 51.6 +0.5**
PNCL Nicolau / Gran 153.63 29 *e*PKPab **PKPab 01 01 01.8 -1.8**
PTEO Sao Teotonio 153.99 30 *e*PKPbc **PKPbc 01 00 53.2 +1.3**
ESDC Sonseca Array 154.10 20 PKPbc **PKPbc 01 00 50.5 -1.7**
ESDC PKPab **PKPab 01 01 04.8 -0.8**
ESDC Sonseca Array 154.10 20 PKPbc **PKPbc 01 00 50.5 -1.7**
comp=Z,1.6nm,0.9s,baz=334,slow=2.3,SNR=7.7
ESDC PKPab **PKPab 01 01 04.8 -0.8**
comp=Z,1.0nm,0.8s,baz=323,slow=3.6,SNR=4.5
MORF Marmelete 154.22 30 *e*PKPbc **PKPbc 01 00 53.3 +0.8**
PFVI Vila Bisbo 154.27 30 *e*PKPbc **PKPbc 01 00 53.4 +0.9**
TORD Torodi Ar. Bea 174.17 114 PKP **PKPdf 01 01 00.7 -1.9**
TORD PKPab **PKPab 01 02 32.5 -1.8**
TORD Torodi Ar. Bea 174.17 114 PKP **PKPdf 01 01 00.7 -1.9**
comp=Z,1.4nm,1.0s,baz=301,slow=1.2,SNR=6.3
TORD PKPab **PKPab 01 02 32.5 -1.8**
comp=Z,0.7nm,0.9s,baz=248,slow=3.3,SNR=4.5

*IDC **30** 00:47:49.8±0.7, 15°.63S×173°.03W, h0km, mb4.3/8, mb1 4.6/8, mb1mx4.3/21, mbtmp4.3/8, Error ellipse: s-maj=39.2km s-min=18.2km az=143.0*
*NEIC **30** 00:47:50.8±0.6, 15°.39S×173°.03W, h10km, mb4.4/7, Error ellipse: s-maj=27.7km s-min=13.8km az=143.0*
*ISCJB **30** 00:47:52.4±0.6, 15°.5S±0°.1×173°.2W±0°.1, h29km, mb4.3/13, Error ellipse: s-maj=21.7km s-min=13.2km az=144.5*
ISC 30 00:47:54.3±0.6, 15°.6S±0°.2×173°.1W±0°.1, h29km, n34, σ0°91/32, mb4.4/13, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.07**	**38**	*e*Pn		Pn	Pn	00 48 19.6	-7.7
AFI	**Afiamalu**	**2.07**	**38**	Pn		Pn	Pn	00 48 19.9	-7.4
159nm,0.3s,baz=8.8,slow=3.8,SNR=7.3									
AFI				Sn		Sn	Sn	00 48 39.4	-13
401nm,0.3s,baz=72,slow=23,SNR=8.8									
DZM	**Mont Dzumac**	**20.41**	**248**	*e*P		**P**	**P**	**00 52 29.9**	**+0.5**
29nm,0.9s									
URZ	**Urewera**	**24.22**	**199**	P		**P**	**P**	**00 53 08.2**	**-0.4**
7.3nm,0.3s,baz=314,slow=6.0,SNR=7.4									
STKA	**Stephens Creek**	**44.21**	**240**	*e*P		**P**	**P**	**00 56 00.2**	**-0.9**
2.0nm,0.9s									
STKA	**Stephens Creek**	**44.21**	**240**	P		**P**	**P**	**00 56 00.4**	**-0.7**
11nm,1.0s,baz=83,slow=8.1,SNR=19									
WRAB	**Tennant Creek**	**50.08**	**257**	*e*P		**P**	**P**	**00 56 46.7**	**-0.4**
4.5nm,0.8s									
WRA	**Warramunga Arr**	**50.09**	**257**	P		**P**	**P**	**00 56 46.0**	**-1.2**
WRA	**Warramunga Arr**	**50.09**	**257**	P		**P**	**P**	**00 56 46.0**	**-1.2**
2.4nm,0.5s,baz=91,slow=6.6,SNR=12									
AS31	**Alice Springs**	**50.34**	**252**	*e*P		**P**	**P**	**00 56 48.5**	**-0.5**
ASAR	**Alice Springs**	**50.34**	**252**	P		**P**	**P**	**00 56 48.8**	**-0.3**
ASAR	**Alice Springs**	**50.34**	**252**	P		**P**	**P**	**00 56 48.8**	**-0.3**
8.6nm,0.5s,baz=85,slow=8.3,SNR=36									
FITZ	**Fitzroy Crossi**	**58.46**	**258**	*e*P		**P**	**P**	**00 57 46.6**	**-1.6**
SBA	**Scott Base**	**63.13**	**185**	*e*P		**P**	**P**	**00 58 18.6**	**-0.3**
2.4nm,0.8s									
VNDA	**Vanda**	**63.26**	**186**	P		**P**	**P**	**00 58 19.2**	**-0.5**
0.8nm,0.6s									
MBWA	**Marble Bar**	**63.60**	**254**	*e*P		**P**	**P**	**00 58 23.3**	**+0.4**
13nm,1.0s									
QSPA	**South Pole Qui**	**74.50**	**180**	*e*P		**P**	**P**	**00 59 31.6**	**+1.5**
3.7nm,0.9s									
TXAR	**Lajitas Array**	**80.45**	**56**	P		**P**	**P**	**01 00 04.3**	**+0.4**
TXAR	**Lajitas Array**	**80.45**	**56**	P		**P**	**P**	**01 00 04.3**	**+0.4**
1.3nm,0.9s,baz=219,slow=7.7,SNR=8.2									
ANMO	**Albuquerque**	**80.68**	**50**	P		**P**	**P**	**01 00 04.1**	**-1.0**
1.3nm,0.8s,baz=219,slow=8.7,SNR=3.2									
PDAR	**Pinedale Array**	**82.18**	**42**	P		**P**	**P**	**01 00 12.4**	**-0.6**
PDAR	**Pinedale Array**	**82.18**	**42**	P		**P**	**P**	**01 00 12.4**	**-0.6**
0.6nm,0.8s,baz=209,slow=2.7,SNR=4.6									
ILAR	**Eielson Array**	**82.53**	**11**	P		**P**	**P**	**01 00 13.7**	**-0.3**
ILAR	**Eielson Array**	**82.53**	**11**	P		**P**	**P**	**01 00 13.7**	**-0.3**
0.8nm,0.8s,baz=230,slow=6.3,SNR=6.9									
KMBO	**Kilima Mbogo**	**145.73**	**244**	PKPbc		**PKPab**	**PKPab**	**01 07 33.7**	**+1.5**
KMBO	**Kilima Mbogo**	**145.73**	**244**	PKPbc		**PKPab**	**PKPab**	**01 07 33.7**	**+1.5**
1.7nm,0.9s,baz=56,slow=18,SNR=3.3									
GERES	**GERESS Array B**	**146.33**	**352**	PKPbc		**PKPab**	**PKPab**	**01 07 33.0**	**-0.3**
GERES	**GERESS Array B**	**146.33**	**352**	PKPbc		**PKPab**	**PKPab**	**01 07 33.0**	**-0.3**
0.7nm,0.7s,baz=5.7,slow=1.3,SNR=7.9									
BRTR	**Keskin Array B**	**146.45**	**321**	PKPbc		**PKPab**	**PKPab**	**01 07 34.5**	**+0.4**
BRTR	**Keskin Array B**	**146.45**	**321**	PKPbc		**PKPab**	**PKPab**	**01 07 34.5**	**+0.4**
3.3nm,0.8s,baz=122,slow=1.4,SNR=19									
MMAI	**Mount Meron Ar**	**148.88**	**309**	PKPbc		**PKPbc**	**PKPbc**	**01 07 41.1**	**+1.2**
MMAI	**Mount Meron Ar**	**148.88**	**309**	PKPbc		**PKPbc**	**PKPbc**	**01 07 41.1**	**+1.2**
2.1nm,0.8s,baz=331,slow=12,SNR=3.9									
TORD	**Torodi Ar. Bea**	**174.42**	**115**	PKPab		**PKPab**	**PKPab**	**01 09 33.7**	**-1.3**
TORD	**Torodi Ar. Bea**	**174.42**	**115**	PKPab		**PKPab**	**PKPab**	**01 09 33.7**	**-1.3**
0.7nm,1.0s,baz=263,slow=3.4,SNR=5.1									

IDC 30 00:48:53.6±2.6, 5°.61S×130°.43E, h0km, mb3.5/1, mb1 3.7/4, mb1mx3.5/19, mbtmp3.5/4, ML3.6/3, Error ellipse: s-maj=119.6km s-min=29.3km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**13.27**	**200**	Pn		Pn	Pn	00 52 02.7	-0.8
0.2nm,0.3s,baz=26,slow=18,SNR=3.1									
FITZ				Sn		Sn	Sn	00 54 13.4	-18
0.4nm,0.3s,baz=150,slow=23,SNR=9.5									
WRA	**Warramunga Arr**	**14.75**	**165**	Pn		Pn	Pn	00 52 24.1	+0.4
0.4nm,0.3s,baz=348,slow=15,SNR=11									
WRA				Sn		Sn	Sn	00 54 53.5	-14
0.4nm,0.3s,baz=325,slow=25,SNR=4.9									
ASAR	**Alice Springs**	**18.27**	**170**	P		Pn	Pn	00 53 08.6	-0.1
0.1nm,0.3s,baz=348,slow=10.0,SNR=5.8									
MKAR	**Makanchi Array**	**67.31**	**326**	P		P	P	00 59 50.5	+0.1
0.3nm,0.5s,baz=111,slow=7.5,SNR=4.8									

*ISCJB **30** 00:48:58.9±0.4, 12°.83N±0°.07×88°.27W±0°.05, h78km±5km, mb3.9/6, Error ellipse: s-maj=13.5km s-min=3.9km az=33.0*
*IDC **30** 00:48:59.0±2.0, 12°.46N×88°.33W, h97km±13km, mb3.6/6, mb1 3.9/7, mb1mx3.7/23, mbtmp4.0/7, Error ellipse: s-maj=59.9km s-min=9.7km az=42.0*
*CASC **30** 00:48:59.8±2.2, 12°.75N×88°.34W, h35km±999km, MD4.0, ML4.1*
ISC 30 00:48:59.1±1.0, 12°.82N±0°.08×88°.26W±0°.06, h70km±9km, n34, σ1°22/43, mb3.9/6, 5C-4D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VSM	**San Miguel**	**0.61**	**359**	||*i*P		**Pn**	**00 49 13.3**	**-0.1**
CNCH	**Conchagua**	**0.62**	**42**	||*i*P		**Pn**	**00 49 13.1**	**-0.2**
CNCH				*e*S			**Sn**	**00 49 24.7**	**+1.0**
BLLM	**Bellamira**	**0.62**	**2**	||*i*P		**Pn**	**00 49 13.3**	**0.0**
CAHU	**Cacacuatique**	**0.95**	**3**	||*i*P		**Pn**	**00 49 18.0**	**+0.7**
SNVI	**San Vicente**	**0.97**	**325**	||*i*P		**Pn**	**00 49 17.2**	**-0.3**
SNVI				*e*S			**Sn**	**00 49 30.6**	**-0.4**
LFRS	**El Faro**	**1.12**	**316**	||*i*P		**Pn**	**00 49 18.8**	**-0.5**
LBRS	**Las Brisas**	**1.19**	**320**	*i* P			**Pn**	**00 49 20.3**	**+0.1**
LBRS				*e*S			**Sn**	**00 49 35.8**	**-0.2**
LFU	**La Fuente**	**1.25**	**318**	||*i*P		**Pn**	**00 49 21.1**	**+0.3**
LFU				*e*S			**Sn**	**00 49 38.0**	**+0.9**
SNET	**Serv Nac Est T**	**1.28**	**312**	*i* P			**Pn**	**00 49 21.0**	**-0.3**
SNET				*e*S			**Sn**	**00 49 37.2**	**-0.8**
SNET				AML		AML	AML	00 49 42.2	
comp=Z,3μm,0.3s									
BOQS	**Boqueron**	**1.35**	**313**	*i* P			**Pn**	**00 49 22.3**	**0.0**
BOQS				*e*S			**Sn**	**00 49 40.6**	**+0.8**
SBLS	**San Blas**	**1.67**	**308**	||*i*P		**Pn**	**00 49 26.7**	**+0.1**
SBLS				*e*S			**Sn**	**00 49 48.2**	**+0.8**
SNJE	**San Jose**	**1.68**	**309**	||*i*P		**Pn**	**00 49 26.9**	**+0.2**
RTR	**El Retiro**	**1.72**	**309**	*i* P			**Pn**	**00 49 28.3**	**+1.0**
RTR				*e*S			**Sn**	**00 49 49.5**	**+0.9**
COPN	**Copaltepe**	**1.75**	**111**	*i* P			**Pn**	**00 49 26.9**	**-0.5**
RBDL	**Robledal**	**1.89**	**313**	*i* P			**Pn**	**00 49 30.0**	**+0.5**
HUEN		**2.09**	**103**	*i* P			**Pn**	**00 49 32.1**	**+0.1**
IXG	**Ixpaco**	**2.53**	**303**	*e*P			**Pn**	**00 49 38.6**	**+0.5**
IXG				*e*S			**Sn**	**00 50 07.0**	**-1.0**
MRL	**Marmol**	**2.63**	**328**	*e*P			**Pn**	**00 49 41.5**	**+2.0**
NBG	**Las Nubes**	**2.69**	**311**	*e*P			**Pn**	**00 49 41.2**	**+0.8**
FUG	**Fuego 3**	**2.99**	**303**	*e*S			**Sn**	**00 50 19.4**	**+0.2**
APG	**El Apazote**	**3.05**	**316**	P			**Pn**	**00 49 46.9**	**+1.6**
comp=Z,1.5nm,0.3s,baz=112,slow=11,SNR=8.6									
APG				S			Sn	00 50 27.4	+6.6
comp=Z,5.3nm,0.3s,baz=75,slow=17,SNR=3.7									
JAT	**Jato**	**3.61**	**295**	*e*P			**Pn**	**00 49 52.8**	**+0.2**
JTS	**JuntasAbangare**	**4.10**	**127**	P			**Pn**	**00 49 59.2**	**-0.2**
comp=Z,0.5nm,0.3s,baz=307,slow=18,SNR=4.6									
JTS				S			**Sn**	**00 50 43.2**	**-3.0**
comp=Z,1.9nm,0.3s,baz=66,slow=20,SNR=2.7									
JCR	**Jicaral**	**4.27**	**133**	*e*P			**Pn**	**00 50 03.9**	**+2.2**
CGA2	**Cerro Gallo 2**	**4.65**	**126**	*e*P			Pn	00 50 11.0	+4.0
URSC	**Urasca**	**5.30**	**124**	*e*P			Pn	00 50 20.1	+4.2
URSC				*e*S			**Sn**	**00 51 17.4**	**+1.6**
BUS	**Buena Vista**	**5.48**	**126**	*e*P			**Pn**	**00 50 21.4**	**+2.8**
BUS				*e*S			**Sn**	**00 51 21.8**	**+1.2**
TEIG	**Tepich**	**7.37**	**360**	P			Pn	00 50 47.6	+3.6
comp=Z,3.1nm,0.3s,baz=91,slow=20,SNR=23									
TXAR	**Lajitas Array**	**21.79**	**321**	P			**P**	**00 53 47.5**	**+2.0**
comp=Z,3.0nm,0.6s,baz=146,slow=9.8,SNR=20									
PDAR	**Pinedale Array**	**35.08**	**332**	P			**P**	**00 55 46.6**	**+0.9**
comp=Z,0.7nm,0.6s,baz=125,slow=12,SNR=4.2									
ULM	**Lac du Bonnet**	**37.84**	**352**	P			**P**	**00 56 08.2**	**-0.7**
comp=Z,2.4nm,0.5s,baz=169,slow=5.2,SNR=3.4									
YKA	**Yellowknife Ar**	**53.05**	**345**	P			**P**	**00 58 08.9**	**+0.1**
comp=Z,1.0nm,0.7s,baz=158,slow=6.7,SNR=3.6									
ILAR	**Eielson Array**	**65.37**	**336**	P			**P**	**00 59 32.1**	**-1.7**
comp=Z,0.3nm,0.6s,baz=133,slow=5.3,SNR=5.0									
KDAK	**Kodiak Island**	**65.64**	**328**	P			**P**	**00 59 32.8**	**-2.8**
comp=Z,3.5nm,0.6s,baz=334,slow=15,SNR=5.4									

IDC 30 00:51:08.8±3.6, 15°.36S×173°.33W, h0km, mb3.7/4, mb1 4.1/4, mb1mx3.8/19, mbtmp3.7/4, Error ellipse: s-maj=191.4km s-min=29.5km az=145.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.08**	**47**	Pn		Pn	Pn	00 51 38.6	-6.5
72nm,0.3s,baz=28,slow=22,SNR=2.0									
AFI				Sn		Sn	Sn	00 51 58.2	-14
268nm,0.3s,baz=312,slow=23,SNR=4.3									
WRA	**Warramunga Arr**	**49.92**	**257**	P		P	P	01 00 04.3	-0.4
0.3nm,0.7s,baz=91,slow=6.8,SNR=3.3									
ASAR	**Alice Springs**	**50.19**	**252**	P		P	P	01 00 06.3	-0.4
1.7nm,0.7s,baz=87,slow=8.2,SNR=4.9									
PDAR	**Pinedale Array**	**82.19**	**42**	P		P	P	01 03 32.0	-0.1
0.3nm,0.6s,baz=222,slow=6.6,SNR=3.4									
ILAR	**Eielson Array**	**82.39**	**11**	P		P	P	01 03 31.6	-0.8
0.6nm,0.6s,baz=237,slow=6.4,SNR=5.9									
GERES	**GERESS Array B**	**146.11**	**352**	PKPbc		PKPdf	PKPdf	01 10 50.2	+0.1
0.1nm,0.3s,baz=14,slow=8.2,SNR=3.5									
BRTR	**Keskin Array B**	**146.16**	**321**	PKPbc		PKPab	PKPab	01 10 52.3	+0.1
1.7nm,0.8s,baz=91,slow=2.8,SNR=8.6									

IDC 30 00:58:10.8±17.0, 15°.75S×173°.57W, h0km, mb3.5/1, mb1 3.7/1, mb1mx3.4/19, mbtmp3.5/1, Error ellipse: s-maj=896.6km s-min=55.8km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**49.85**	**252**	P		P	P	01 07 06.0	-0.1
0.4nm,0.5s,baz=89,slow=7.7,SNR=4.5									
BRTR	**Keskin Array B**	**146.32**	**321**	PKPbc		PKPdf	PKPdf	01 17 53.1	+0.3
1.5nm,1.0s,baz=60,slow=3.5,SNR=6.3									
GERES	**GERESS Array B**	**146.46**	**351**	PKPbc		PKPdf	PKPdf	01 17 53.2	+0.5
0.8nm,0.7s,baz=24,slow=3.4,SNR=7.9									

IDC 30 01:02:55.6±2.2, 6°.68S×128°.87E, h0km, mb3.4/1, mb1 3.4/4, mb1mx3.3/20, mbtmp3.3/4, ML3.0/3, Error ellipse: s-maj=91.0km s-min=28.7km az=75.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.78**	**195**	Pn		Pn	Pn	01 05 44.0	-1.0
0.1nm,0.3s,baz=14,slow=13,SNR=5.1									
FITZ				Sn		Sn	Sn	01 07 37.6	-20
0.4nm,0.3s,baz=139,slow=21,SNR=5.7									
WRA	**Warramunga Arr**	**14.21**	**159**	Pn		Pn	Pn	01 06 19.6	+1.3
0.1nm,0.3s,baz=339,slow=11,SNR=2.7									
WRA				Sn		Sn	Sn	01 08 41.5	-15
0.2nm,0.3s,baz=341,slow=18,SNR=5.0									
ASAR	**Alice Springs**	**17.57**	**165**	P		Pn	Pn	01 07 01.9	-0.1
0.1nm,0.3s,baz=340,slow=10,SNR=4.7									
MKAR	**Makanchi Array**	**67.35**	**327**	P		P	P	01 13 52.6	0.0
0.1nm,0.4s,baz=115,slow=8.2,SNR=4.6									

*IDC **30** 01:05:31.7±0.4, 15°.06S×173°.42W, h0km, mb4.7/18, mb1 4.9/18, mb1mx4.8/23, mbtmp4.7/18, MS5.1/1, Ms1 5.1/1, ms1mx4.3/20, Error ellipse: s-maj=19.4km s-min=13.5km az=120.0*
*NEIC **30** 01:05:33.7±0.2, 15°.03S×173°.38W, h10km, mb5.1/92, Error ellipse: s-maj=9.0km s-min=4.3km az=143.0*
*BJI **30** 01:05:35.2, 14°.31S×173°.11W, h10km, mB5.7/19, mb5.2/28, Ms5.5/18,

COEN	Coen	42.15	266	eP		P	01 13 23.9 -2.4
	comp=Z,221nm,1.3s						
STKA	Stephens Creek	44.27	240	eP		P	01 13 43.8 +0.6
	comp=Z,4.9nm,1.0s						
STKA	Stephens Creek	44.27	240	P		P	01 13 42.8 -0.5
	comp=Z,6.6nm,0.7s,baz=87,slow=7.7,SNR=11						
WRAB	Tennant Creek	50.03	257	eP		P	01 14 26.4 -1.9
WRAB					pmax	pmax	
	comp=Z,27nm,1.0s						
WRAB	Tennant Creek	50.03	257	eP		P	01 14 26.4 -1.9
	comp=Z,27nm,1.0s						
WRAB	Tennant Creek	50.03	257	P		P	01 14 26.0 -2.3
	comp=Z,140nm,0.9s,SNR=7.9						
WRA	Warramunga Arr	50.04	257	P		P	01 14 26.1 -2.3
WRA	Warramunga Arr	50.04	257	P		P	01 14 26.1 -2.3
	comp=Z,13nm,1.0s,baz=90,slow=7.1,SNR=30						
AS31	Alice Springs	50.31	252	eP		P	01 14 28.0 -2.5
ASAR	Alice Springs	50.32	252	P		P	01 14 27.7 -2.8
ASAR	Alice Springs	50.32	252	P		P	01 14 27.7 -2.8
	comp=Z,27nm,0.8s,baz=85,slow=8.7,SNR=100						
FORT	Forrest	55.64	243	eP		P	01 15 10.9 +1.2
	comp=Z,41nm,0.8s						
VNDA	Vanda	63.59	186	eP		P	01 16 06.8 +3.1
	comp=Z,8.5nm,0.8s						
VNDA	Vanda	63.59	186	P		P	01 16 05.0 +1.3
	comp=Z,7.7nm,0.8s,baz=7.0,slow=6.7,SNR=43						
KAPI	Kappang	66.52	271	eP		P	01 16 22.4 -1.4
	comp=Z,38nm,1.5s						
MJAR	Matsushiro Arr	68.88	320	P		P	01 16 37.2 -0.9
MJAR	Matsushiro Arr	68.88	320	P		P	01 16 37.2 -0.9
	comp=Z,5.0nm,0.8s,baz=166,slow=5.9,SNR=15						
MAJO	Matsushiro	68.88	320	eP		P	01 16 38.5 +0.3
MAJO					pmax	pmax	
	comp=Z,17nm,1.0s						
MAJO	Matsushiro	68.88	320	eP		P	01 16 38.5 +0.3
	comp=Z,17nm,1.0s						
MAT	Matsushiro	68.88	320	P		P	01 16 37.4 -0.8
MAT				S		S	01 25 49.8 +9.2
MWC	Mount Wilson	71.89	46	eP		P	01 16 57.4 +0.6
MWC					pmax	pmax	
	comp=Z,20nm,1.2s						
MWC	Mount Wilson	71.89	46	eP		P	01 16 57.4 +0.6
	comp=Z,20nm,1.2s						
PET	Petropavlovsk	72.13	343	eP		P	01 16 59.8 +2.3
PET				eS		S	01 26 20.1 +2.4
ISA	Isabella	72.40	44	eP		P	01 17 00.1 +0.4
ISA					pmax	pmax	
	comp=Z,14nm,1.0s						
ISA	Isabella	72.40	44	eP		P	01 17 00.1 +0.4
	comp=Z,14nm,1.0s						
PETK	Petropavlovsk-	72.48	342	P		P	01 16 58.1 -1.6
PETK	Petropavlovsk-	72.48	342	P		P	01 16 58.1 -1.6
PETK	Petropavlovsk-	72.48	342	P		P	01 16 58.1 -1.6
	comp=Z,3.3nm,0.4s,baz=139,slow=9.5,SNR=6.3						
CMB	Columbia Colle	72.51	41	eP		P	01 16 59.9 -0.4
CMB					pmax	pmax	
	comp=Z,16nm,1.0s						
CMB	Columbia Colle	72.51	41	eP		P	01 16 59.9 -0.4
	comp=Z,16nm,1.0s						
MTUM	Tungsten Hills	73.30	43	eP		P	01 17 06.1 +0.9
YBH	Yreka Blue Hor	73.35	37	eP		P	01 17 05.0 -0.2
	comp=Z,16nm,1.0s						
YBH	Yreka Blue Hor	73.35	37	P		P	01 17 04.9 -0.2
	comp=Z,4.7nm,0.6s,baz=272,slow=1.5,SNR=10.0						
YSS	Yuzh-Sakhalins	73.38	330	i P		P	01 17 05.5 +0.4
WAKR	Walker	73.39	41	eP		P	01 17 05.9 +0.2
BEKR	Beckworth	73.62	40	eP		P	01 17 06.6 -0.3
	comp=Z,8.5nm,1.0s						
HUMO	Hull Mountain	73.76	36	eP		P	01 17 09.5 +2.0
	comp=Z,35nm,1.4s						
Y12C	Blythe	74.12	48	⇓P		P	01 17 11.2 +1.4
	baz=74						
PAHR	Pah Rah Range	74.13	40	eP		P	01 17 10.0 +0.1
	comp=Z,29nm,1.2s						
113A	Mohawk Valley,	74.17	49	⇑P		P	01 17 10.7 +0.6
	baz=74						
214A	Organ Pipe Nat	74.47	50	⇓P		P	01 17 12.7 +0.7
	baz=75						
PDMCI	Parker Dam,Lak	74.67	47	⇓P		P	01 17 13.9 +0.9
	baz=75						
QSPA	South Pole Qui	74.85	180	eP		P	01 17 16.0 +2.3
	comp=Z,23nm,0.7s						
MOD	Modoc	74.87	38	eP		P	01 17 14.9 +0.7
	comp=Z,83nm,1.0s						
K05A	Summer Lake	75.02	37	eP		P	01 17 16.1 +1.0
	comp=Z,36nm,1.0s						
Z14A	Wintersburg	75.06	49	⇑P		P	01 17 16.1 +0.8
	baz=75						
SHPR	Sheep Range	75.11	45	eP		P	01 17 16.0 +0.2
W13A	Hualapai Mount	75.26	47	⇑P		P	01 17 17.7 +1.0
	baz=75						
Y14A	Wickenburg	75.31	48	⇓P		P	01 17 17.7 +0.9
	baz=75						
H04A	Detroit Lake	75.50	35	eP		P	01 17 18.5 +0.9
	comp=Z,29nm,1.1s						
R11A	Troy Canyon, C	75.81	43	eP		P	01 17 21.6 +1.9
	comp=Z,13nm,1.3s						
R11A	Troy Canyon, C	75.81	43	⇓P		P	01 17 20.6 +0.9
	baz=76						
BMN	Battle Mountai	75.90	41	eP		P	01 17 20.6 +0.4
BMN					pmax	pmax	
	comp=Z,30nm,1.4s						
BMN	Battle Mountai	75.90	41	eP		P	01 17 20.6 +0.4
	comp=Z,30nm,1.4s						
KSRS	Korea Array	76.12	315	P		P	01 17 22.4 +1.2
	comp=Z,5.6nm,1.0s,baz=134,slow=6.9,SNR=10						
KSAR	Wonju Array Be	76.14	315	P		P	01 17 22.4 +1.1
TUC	Tucson	76.15	51	eP		P	01 17 20.8 -0.8
TUC					pmax	pmax	
	comp=Z,50nm,1.9s						
TUC	Tucson	76.15	51	eP		P	01 17 20.8 -0.8
	comp=Z,50nm,1.9s						
WVOR	Wild Horse Val	76.18	38	eP		P	01 17 21.7 0.0
WVOR					pmax	pmax	
	comp=Z,32nm,1.3s						
WVOR	Wild Horse Val	76.18	38	eP		P	01 17 21.7 0.0
	comp=Z,32nm,1.3s						
I07A	Izee	76.65	37	eP		P	01 17 25.1 +0.8
	comp=Z,20nm,1.1s						
X16A	Lo Mia Camp, P	76.67	48	⇑P		P	01 17 25.2 +0.5
	baz=77						
J08A	Circle Bar Ran	76.82	38	eP		P	01 17 26.0 +0.8
	comp=Z,26nm,1.3s						
319A	Douglas	76.85	52	⇓P		P	01 17 26.0 +0.3
	baz=77						
CCUT	Cedar City	76.88	45	eP		P	01 17 27.2 +1.3
	comp=Z,106nm,2.6s						
ARUT	Antelope Range	76.95	45	eP		P	01 17 26.7 +0.5
ARUT	Antelope Range	76.95	45	eP		P	01 17 26.7 +0.5
	comp=Z,246nm,1.0s						
U15A	North Rim	77.05	46	⇓P		P	01 17 27.3 +0.3
	baz=77						
WUAZ	Wupatki	77.25	48	eP		P	01 17 28.9 +1.0
	comp=Z,18nm,1.3s						
WUAZ	Wupatki	77.25	48	⇑P		P	01 17 28.5 +0.6
	baz=77						
USRK	Ussuriysk Arra	77.31	323	P		P	01 17 26.8 -1.0
	comp=Z,5.5nm,1.0s,baz=97,slow=4.6,SNR=13						
ELK	Elko	77.33	41	eP		P	01 17 28.8 +0.4
	comp=Z,13nm,1.3s						
320A	Kipp Ranch, An	77.41	52	⇓P		P	01 17 29.3 +0.4
	baz=78						
220A	Playas Peak, P	77.66	52	⇑P		P	01 17 30.8 +0.6
	baz=78,SNR=13						
G08A	Pilot Rock	77.68	36	eP		P	01 17 30.6 +0.5
	comp=Z,15nm,1.0s						
X18A	Snowflake	77.80	49	⇑P		P	01 17 31.2 +0.1
	baz=78						
120A	U Bar Ranch, L	77.87	51	⇑P		P	01 17 31.6 +0.2
	baz=78,SNR=6.1						
HAWA	Hanford	78.02	35	eP		P	01 17 33.0 +1.2
	comp=Z,11nm,0.8s						
MVU	Marysvale	78.15	45	eP		P	01 17 34.5 +1.5
	comp=Z,19nm,1.0s						
Z20A	Nine Sixteen R	78.16	51	⇑P		P	01 17 33.5 +0.5
	baz=78,SNR=12						
W18A	Petrified Fore	78.24	49	⇑P		P	01 17 33.8 +0.4
	baz=78						
221A	Mesquite Ranch	78.28	52	⇓P		P	01 17 33.8 +0.1
	baz=78						
BMO	Blue Mountains	78.37	37	eP		P	01 17 33.5 -0.4
BMO					pmax	pmax	
	comp=Z,15nm,1.2s						
BMO	Blue Mountains	78.37	37	eP		P	01 17 33.5 -0.4
	comp=Z,15nm,1.2s						
MFID	Camas Ranch	78.43	39	⇑P		P	01 17 34.1 -0.2
	baz=79,SNR=11						
121A	Cookes Peak, D	78.50	52	⇓P		P	01 17 35.6 +0.7
	baz=79,SNR=9.1						
DUG	Dugway	78.61	43	eP		P	01 17 34.5 -0.9
DUG					pmax	pmax	
	comp=Z,11nm,1.0s						
DUG	Dugway	78.61	43	eP		P	01 17 34.5 -0.9
	comp=Z,11nm,1.0s						
DUG	Dugway	78.61	43	⇑P		P	01 17 35.7 +0.4
	baz=79						
Y20A	Horse Springs,	78.67	50	⇓P		P	01 17 36.0 0.0
	baz=79,SNR=12						
E09A	Wood Farm, Sta	78.86	35	eP		P	01 17 37.0 +0.6
	comp=Z,8.9nm,0.8s						
X20A	Quemado	78.87	50	⇑P		P	01 17 37.7 +0.7
	baz=79,SNR=6.4						
Z21A	St. Cloud Mine	78.93	51	⇑P		P	01 17 38.4 +1.0
	baz=79,SNR=17						
MDJ	Mudanjiang	78.95	322	P		P	01 17 38.8 +1.9
MDJ				pP		PcP	01 17 41.8 -3.7
MDJ				sP		sP	01 17 43.3 -6.2
MDJ				S		S	01 27 37.0 +3.3
MDJ					pmax	pmax	
	comp=Z,4.0nm,0.3s						
MDJ					pmax	pmax	
	comp=Z,190nm,4.5s						
MDJ				LR		LR	
	comp=N,620nm,39.9s						
MDJ				LR		LR	
	comp=E,720nm,33.6s						
MDJ				LR		LR	
	comp=Z,1μm,29.4s						
Q16A	Castle Valley	79.06	45	eP		P	01 17 39.4 +1.5
F10A	Beach Ranch, E	79.07	36	eP		P	01 17 38.2 +0.5
	comp=Z,24nm,1.0s						
W20A	Ramah	79.14	49	⇓P		P	01 17 39.5 +1.1
	baz=79,SNR=13						
DIV	Divide	79.17	13	eP		P	01 17 36.9 -0.9
	comp=Z,28nm,0.8s						
122A	Conniff Cattle	79.17	52	⇓P		P	01 17 39.8 +1.2
	baz=79						
TMUT	Trail Mountain	79.22	44	eP		P	01 17 39.8 +0.8
	comp=Z,36nm,1.1s						
Y21A	Point of Rocks	79.24	50	⇑P		P	01 17 40.3 +1.3
	baz=79						
BMRM	Bremner River	79.28	14	eP		P	01 17 37.6 -0.9
	comp=Z,37nm,1.0s						
MPU	Maple Canyon	79.30	43	eP		P	01 17 40.9 +1.7
	comp=Z,13nm,1.1s						
B08A	Colville Reser	79.33	33	eP		P	01 17 39.2 +0.3
	comp=Z,15nm,1.0s						
X21A	Alamocita Cree	79.35	50	⇑P		P	01 17 40.0 +0.3
	baz=80						
HLID	Hailey	79.38	39	eP		P	01 17 40.3 +0.8
	comp=Z,21nm,1.0s						
HLID	Hailey	79.38	39	⇑P		P	01 17 40.0 +0.5
	baz=80,SNR=27						
Z22A	Elephant Butte	79.44	51	⇓P		P	01 17 41.2 +1.1
	baz=80,SNR=7.4						
HVU	Hansel Valley	79.45	41	eP		P	01 17 40.3 +0.3
HVU					pmax	pmax	
	comp=Z,10.0nm,0.8s						
HVU	Hansel Valley	79.45	41	eP		P	01 17 40.3 +0.3
	comp=Z,9.5nm,0.8s						
V20A	Brimhall	79.47	48	⇑P		P	01 17 40.9 +0.6
	baz=80						
SRU	San Rafael	79.59	45	eP		P	01 17 41.4 +0.6
SRU					pmax	pmax	
	comp=Z,21nm,1.2s						
SRU	San Rafael	79.59	45	eP		P	01 17 41.4 +0.6
	comp=Z,21nm,1.2s						
U20A	Newcomb	79.69	48	⇑P		P	01 17 42.1 +0.7
	baz=80,SNR=6.2						
JLU	Jordanelle	79.71	43	eP		P	01 17 41.1 -0.4
	comp=Z,9.1nm,0.9s						
Y22A	Socorro	79.74	51	⇓P		P	01 17 42.2 +0.5
	baz=80						
W21A	San Fidel	79.76	49	⇓P		P	01 17 42.0 +0.2
	baz=80						
324A	Moseley Ranch,	79.80	53	⇑P		P	01 17 42.3 +0.3
	baz=80,SNR=10						
LAZ	Ladron	79.81	50	eP		P	01 17 43.1 +1.0
	comp=Z,7.7nm,1.4s						
LENM	Lemitar	79.83	50	eP		P	01 17 41.3 -0.9
	comp=Z,8.0nm,1.1s						
425A	Indio Mountain	79.92	54	⇓P		P	01 17 43.3 +0.6
	baz=80,SNR=18						
MNTX	Cornudas Mount	79.98	53	eP		P	01 17 43.5 +0.7
	comp=Z,11nm,1.2s						
Z23A	Rita Site, Whi	80.00	52	⇑P		P	01 17 43.4 +0.4
	baz=80						
224A	Cornudas Mount	80.03	53	⇑P		P	01 17 43.9 +0.5
	baz=80,SNR=7.5						
CAST	Castle Rocks	80.07	9	eP		P	01 17 41.7 -0.9
	comp=Z,12nm,1.0s						
PV05	Paradox Valley	80.08	46	eP		P	01 17 45.1 +1.6
BNM	Barren Site	80.08	51	eP		P	01 17 44.5 +0.9
	comp=Z,10nm,1.2s						
626A	Big Bend Ranch	80.09	56	⇑P		P	01 17 43.9 +0.3
	baz=80,SNR=7.8						
MVCO	Mesa Verde	80.10	47	⇓P		P	01 17 43.8 +0.1
	baz=80						
HWUT	Hardware Ranch	80.14	42	eP		P	01 17 43.8 0.0
	comp=Z,8.6nm,1.1s						
NJ2	Nanjing	80.16	307	eP		P	01 17 45.8 +2.0
NJ2					pmax	pmax	
	comp=Z,10.0nm,0.5s						
PV09	Paradox Valley	80.25	46	eP		P	01 17 46.4 +1.9
W22A	Albuquerque	80.31	50	⇓P		P	01 17 45.1 +0.3
	baz=80						
526A	Mary Lane Ranc	80.33	55	⇓P		P	01 17 45.3 +0.4
	baz=80,SNR=7.1						
U21A	Nageezi	80.34	48	⇑P		P	01 17 45.6 +0.6
	baz=80,SNR=16						
124A	Stringfield Ra	80.35	52	⇑P		P	01 17 45.7 +0.6
	baz=80,SNR=6.2						
TXAR	Lajitas Array	80.37	56	P		P	01 17 46.0 +0.9
TXAR	Lajitas Array	80.37	56	P		P	01 17 46.0 +0.9
	comp=Z,3.2nm,0.9s,baz=217,slow=6.1,SNR=23						
TRF	Thorofare Moun	80.40	10	eP		P	01 17 43.6 -0.9
	comp=Z,26nm,0.9s						
Y23A	Lovelace Mesa,	80.42	51	⇑P		P	01 17 45.8 +0.4
	baz=81						
NEW	Newport	80.45	34	eP		P	01 17 45.3 +0.2
	comp=Z,6.3nm,1.0s						
NEW	Newport	80.45	34	⇓P		P	01 17 45.8 +0.7
	baz=81						
PV01	Paradox Valley	80.47	46	eP		P	01 17 46.1 +0.4
	comp=Z,720nm,0.7s						
S20A	Disappointment	80.48	47	⇑P		P	01 17 46.1 +0.4
	baz=81,SNR=9.1						
ANMO	Albuquerque	80.56	50	eP		P	01 17 47.2 +1.1
	comp=Z,15nm,1.1s						
ANMO	Albuquerque	80.56	50	P		P	01 17 46.2 +0.1
	comp=Z,3.7nm,0.8s,baz=231,slow=6.9,SNR=12						
225A	Deer Hill, Car	80.59	53	⇓P		P	01 17 46.5 +0.1
	baz=81,SNR=9.2						
X23A	Hourglass Bar	80.60	50	⇓P		P	01 17 46.4 +0.1
	baz=81						
426A	McDonald Obser	80.62	55	⇓P		P	01 17 47.1 +0.5
	baz=81,SNR=24						
PV15	Paradox Valley	80.63	46	eP		P	01 17 47.5 +1.0
R20A	Redvale	80.63	46	⇑P		P	01 17 47.0 +0.6
	baz=81						
627A	Terlingua Ranc	80.64	56	⇑P		P	01 17 47.4 +0.7
	baz=81,SNR=14						
V22A	San Miguel Ran	80.65	49	⇑P		P	01 17 47.0 +0.3
	baz=81						
M17A	Scullys Gap (B	80.66	43	⇓P		P	01 17 47.2 +0.7
	baz=81						
T21A	Navajo Lake	80.68	48	⇓P		P	01 17 47.3 +0.5
	baz=81						
Z24A	Sheeppen Canyo	80.68	52	⇓P		P	01 17 46.7 -0.1
	baz=81						
527A	Woodward Ranch	80.74	55	⇓P		P	01 17 47.8 +0.6
	baz=81,SNR=9.3						
S21A	Coal Bank Pass	80.80	47	⇓P		P	01 17 48.1 +0.5
	baz=81						
W23A	Werner Place,	80.88	50	⇓P		P	01 17 48.4 +0.6
	baz=81						
Y24A	Capitan	80.88	51	⇑P		P	01 17 48.5 +0.7
	baz=81,SNR=18						
BPAW	Bear Paw Mtn.	80.89	10	eP		P	01 17 45.7 -1.3
	comp=Z,13nm,1.1s						
P19A	Cripple Cowboy	80.89	45	⇓P		P	01 17 48.2 +0.3
	baz=81						
MCK	McKinley	80.89	11	eP		P	01 17 46.9 -0.1
MCK					pmax	pmax	
	comp=Z,39nm,0.8s						
MCK	McKinley	80.89	11	eP		P	01 17 46.9 -0.1
	comp=Z,40nm,0.8s						
U22A	Llaves	80.89	48	⇑P		P	01 17 48.2 +0.2
	baz=81						
326A	Caldwell Ranch	80.92	54	⇑P		P	01 17 48.6 +0.6
	baz=81						
125A	Gardner Draw,	80.94	53	⇑P		P	01 17 48.7 +0.6
	baz=81,SNR=8.2						
HYT	Haines Junctio	80.97	17	eP		P	01 17 47.5 -0.2
GDL2	Guadalupe Moun	80.98	53	eP		P	01 17 49.9 +1.6
MCMT	McKenzie Canyo	81.00	39	eP		P	01 17 49.2 +0.9
	comp=Z,9.6nm,1.1s						
CN2	Changchun	81.03	320	eP		P	01 17 48.8 +0.6
CN2				eSP		sP	01 17 55.8 -5.0
CN2				eS		S	01 27 56.0 +0.4
CN2					pmax	pmax	
	comp=Z,10.0nm,0.7s						
CN2					pmax	pmax	
	comp=Z,200nm,5.0s						
CN2				LR		LR	
	comp=N,500nm,21.0s						
CN2				LR		LR	
	comp=E,700nm,21.0s						
CN2				LR		LR	
	comp=Z,500nm,20.0s						
Q20A	Ridgley Place,	81.05	46	⇓P		P	01 17 49.0 +0.4
	baz=81,SNR=7.0						
628A	Black Gap, Mar	81.06	56	⇓P		P	01 17 49.7 +1.0
	baz=81,SNR=8.2						
226B	Tecolote Peak,	81.08	53	⇑P		P	01 17 49.4 +0.5
	baz=81,SNR=22						
V23A	Ortiz Mt. (NFS	81.11	49	⇓P		P	01 17 49.8 +0.7
	baz=81,SNR=9.4						
O19A	Miners Draw (B	81.11	44	⇑P		P	01 17 49.3 +0.3
	baz=81,SNR=5.9						
Z25A	Roswell	81.15	52	⇑P		P	01 17 50.0 +0.7
	baz=81,SNR=9.5						
RRI2	Red Ridge	81.18	41	eP		P	01 17 49.1 -0.3
	comp=Z,22nm,1.0s						
427A	Hayter Ranch,	81.19	55	⇓P		P	01 17 50.1 +0.7
	baz=81,SNR=22						
MENT	Mentasta	81.22	13	eP		P	01 17 48.6 -0.2
SNY	Shenyang	81.23	318	⇑P		P	01 17 54.0 +4.8
SNY				S		S	01 28 04.0 +6.3
SNY					pmax	pmax	
	comp=Z,10.0nm,0.7s						
SNY				LR		LR	
	comp=N,350nm,18.6s						
SNY				LR		LR	
	comp=E,450nm,15.0s						
SNY				LR		LR	
	comp=Z,640nm,27.6s						
P20A	De Beque	81.23	45	⇓P		P	01 17 50.6 +1.0
	baz=81						
L18A	Fontenelle, Gr	81.29	42	⇓P		P	01 17 50.6 +0.7
	baz=81						
R21A	Cimarron	81.29	46	⇑P		P	01 17 50.7 +0.6
	baz=81,SNR=5.9						
U23A	El Rito	81.35	49	⇑P		P	01 17 51.1 +0.7
	baz=82,SNR=12						
528A	Cox Ranch, San	81.40	56	⇓P		P	01 17 51.4 +0.8
	baz=82,SNR=14						
126A	Clayton Basin,	81.43	53	⇓P		P	01 17 51.1 +0.4
	baz=82,SNR=6.9						
MSO	Missoula	81.43	37	eP		P	01 17 50.8 +0.4
	comp=Z,15nm,1.1s						
MSO	Missoula	81.43	37	⇑P		P	01 17 50.3 -0.1
	baz=82,SNR=9.8						
Y25A	Mesa, Roswell	81.44	52	⇓P		P	01 17 51.1 +0.4
	baz=82,SNR=9.2						
W24A	Lazy 6 Ranch,	81.45	50	⇑P		P	01 17 51.2 +0.3
	baz=82,SNR=7.8						
REDW	Red Top Meadow	81.48	41	eP		P	01 17 51.1 +0.2
	comp=Z,24nm,1.2s						
TPAW	Teton Pass	81.48	41	eP		P	01 17 51.7 +0.7
	comp=Z,25nm,1.1s						
Q21A	Lamborn Mesa,	81.49	46	⇑P		P	01 17 51.4 +0.3
	baz=82						
BSMT	Bassoo Peak	81.51	35	eP		P	01 17 49.9 -1.0
S22A	4UR Ranch, Cre	81.52	47	⇑P		P	01 17 52.1 +0.8
	baz=82,SNR=17						
SNOW	Snow King Moun	81.59	41	eP		P	01 17 51.5 -0.1
	comp=Z,36nm,1.3s						
O20A	White River Ci	81.63	45	⇑P		P	01 17 51.9 +0.1
	baz=82						
M19A	Rock Springs	81.67	43	⇑P		P	01 17 52.1 +0.2
	baz=82						
IMW	Indian Meadow	81.70	40	eP		P	01 17 52.9 +0.7
	comp=Z,31nm,1.4s						
428A	Kincaid Ranch,	81.70	55	⇓P		P	01 17 52.8 +0.6
	baz=82,SNR=9.7						
Z26A	Caprock	81.71	52	⇑P		P	01 17 52.2 0.0
	baz=82,SNR=18						
X25A	Clemmons Ranch	81.71	51	⇓P		P	01 17 52.6 +0.4
	baz=82						
227A	Bennet, Jal	81.73	54	⇑P		P	01 17 52.8 +0.5
	baz=82						
MOOW	Moose Ponds	81.74	41	eP		P	01 17 52.4 +0.2
	comp=Z,11nm,1.2s						
LRM	Limekiln Ridge	81.76	38	eP		P	01 17 52.8 +0.4
LOHW	Long Hollow	81.77	41	eP		P	01 17 53.0 +0.6
	comp=Z,16nm,1.2s						
V24A	Rampart Ranch,	81.77	50	⇑P		P	01 17 52.9 +0.3
	baz=82						
T23A	Casias Ranch,	81.77	48	⇓P		P	01 17 53.0 +0.3
	baz=82						
529A	Stev Forest Ra	81.84	56	⇓P		P	01 17 53.0 +0.1
	baz=82,SNR=12						
328A	Wristen Ranch,	81.86	54	⇑P		P	01 17 53.3 +0.4
	baz=82,SNR=8.4						
QLMT	Earthquake Lak	81.87	39	eP		P	01 17 54.2 +1.3
CHMT	Chamberlain Mo	81.87	37	eP		P	01 17 52.7 -0.1
P21A	Newcastle	81.89	45	⇓P		P	01 17 53.7 +0.6
	baz=82,SNR=5.1						
SLMT	Seeley Lake	81.91	36	eP		P	01 17 51.7 -1.3
I17A	Pilgrim Ck.	81.94	40	⇑P		P	01 17 54.1 +0.9
	baz=82						
FLWY	Flagg Ranch	81.94	40	eP		P	01 17 54.6 +1.3
	comp=Z,29nm,1.1s						
N20A	Spence Gulch,	81.94	44	⇓P		P	01 17 53.6 +0.2
	baz=82,SNR=5.2						
127A	Arkansas Junct	81.95	53	⇓P		P	01 17 53.8 +0.3
	baz=82						
Q22A	Crested Butte,	81.97	46	⇑P		P	01 17 54.4 +0.7
	baz=82,SNR=14						
BW06	Boulder Array	82.01	42	eP		P	01 17 53.6 -0.2
	comp=Z,25nm,1.4s						
PDAR	Pinedale Array	82.01	42	P		P	01 17 53.3 -0.4
PDAR	Pinedale Array	82.01	42	P		P	01 17 53.3 -0.4
	comp=Z,1.3nm,0.9s,baz=30,slow=12,SNR=4.9						
U24A	Moreno Valley	82.05	49	⇑P		P	01 17 54.4 +0.2
	baz=82						
SMCO	Snowmass	82.06

SEY	Seymchan	82.36	345	⇑eP	P	01 17 54.0	-0.7
X26A	CR and CF Fran	82.36	51	⇑P	P	01 17 56.1	+0.5
	baz=82						
LKWY	Lake	82.37	40	eP	P	01 17 56.4	+0.8
LKWY				pmax	pmax		
	comp=Z,20nm,0.9s						
LKWY	Lake	82.37	40	eP	P	01 17 56.4	+0.8
	comp=Z,20nm,0.9s						
P22A	Eagle	82.40	46	⇓P	P	01 17 56.5	+0.7
	baz=82,SNR=6.6						
N21A	Black Mountain	82.41	44	⇑P	P	01 17 56.3	+0.5
	baz=82,SNR=15						
R23A	Moffat	82.43	47	⇓P	P	01 17 56.3	+0.2
	baz=83						
L20A	Wamsutter	82.44	43	⇓P	P	01 17 56.3	+0.3
	baz=83,SNR=18						
K19A	Absolon Red Bu	82.50	42	⇓P	P	01 17 55.7	-0.5
	baz=83,SNR=7.6						
329A	Wagon Wheel Ra	82.56	55	⇑P	P	01 17 57.0	+0.4
	baz=83,SNR=8.5						
530A	J-C Ranch, Com	82.56	56	⇓P	P	01 17 57.1	+0.5
	baz=83,SNR=8.4						
J19A	Crowheart	82.58	42	⇑P	P	01 17 56.2	-0.4
	baz=83,SNR=8.7						
Y27A	Causey	82.58	52	⇓P	P	01 17 56.5	-0.2
	baz=83,SNR=6.3						
HRY	Holter Researc	82.59	38	eP	P	01 17 57.6	+1.1
128A	Castleberry Fa	82.60	53	⇑P	P	01 17 57.1	+0.2
	baz=83,SNR=8.6						
W26A	Owens Ranch, T	82.62	51	⇑P	P	01 17 57.2	+0.3
	baz=83						
S24A	Houchin Ranch,	82.63	48	⇑P	P	01 17 57.7	+0.5
	baz=83,SNR=11						
U25A	Circle Dot Ran	82.69	49	⇓P	P	01 17 57.7	+0.4
	baz=83,SNR=15						
Q23A	Hartsel	82.74	47	⇑P	P	01 17 57.8	+0.1
	baz=83,SNR=8.0						
K20A	Yellowstone Ra	82.75	42	⇓P	P	01 17 57.0	-0.5
	baz=83,SNR=10						
O22A	Kremmling	82.80	45	⇑P	P	01 17 58.2	+0.2
	baz=83,SNR=21						
430A	Baggett Ranch,	82.88	56	⇓P	P	01 17 58.1	-0.2
	baz=83						
H18A	Shoshone NF, C	82.88	40	⇑P	P	01 17 58.6	+0.4
	baz=83						
V26A	Tequesquite Ra	82.89	50	⇓P	P	01 17 58.9	+0.5
	baz=83						
631A	Perdido Creek	82.90	57	⇑P	P	01 17 58.7	+0.4
	baz=83,SNR=28						
M21A	Separation Pea	82.90	44	⇓P	P	01 17 58.5	+0.1
	baz=83						
MSTX	Muleshoe	82.92	52	⇓P	P	01 17 58.9	+0.4
	baz=83,SNR=12						
P23A	Jefferson	82.94	46	⇓P	P	01 17 59.7	+0.9
	baz=83,SNR=7.5						
X27A	F and S Farms,	82.94	51	⇑P	P	01 17 59.0	+0.4
	baz=83						
Z28A	Tucker Farm, M	82.94	53	⇑P	P	01 17 58.9	+0.3
	baz=83,SNR=8.2						
R24A	Sanders Place,	82.96	47	⇑P	P	01 17 59.1	+0.4
	baz=83,SNR=14						
I19A	Meeteetse	82.99	41	⇓P	P	01 17 58.6	-0.1
	baz=83,SNR=12						
T25A	Trinidad	82.99	49	⇓P	P	01 17 58.8	-0.1
	baz=83						
L21A	Rawlins	83.06	43	⇓P	P	01 17 59.0	-0.2
	baz=83,SNR=11						
129A	Stewart Farms,	83.09	54	⇓P	P	01 17 59.6	+0.3
	baz=83						
W27A	Bowe Ranch, En	83.13	51	⇓P	P	01 17 59.5	-0.1
	baz=83,SNR=16						
732A	Laxson Ranch,	83.14	58	⇑P	P	01 18 00.1	+0.5
	baz=83						
N22A	Wattenberg Ran	83.15	45	⇓P	P	01 18 00.0	+0.3
	baz=83,SNR=16						
330A	Mertzon	83.16	55	⇑P	P	01 17 59.9	+0.1
	baz=83						
U26A	Atchley Ranch,	83.17	50	⇓P	P	01 17 59.7	-0.1
	baz=83,SNR=11						
S25A	Robets Cordova	83.19	48	⇓P	P	01 17 60.0	0.0
	baz=83,SNR=14						
531A	Rocksprings	83.20	56	⇑P	P	01 18 00.2	+0.2
	baz=83,SNR=21						
Q24A	Divide	83.24	47	⇑P	P	01 18 00.6	+0.3
	baz=83,SNR=17						
J20A	Shoshoni	83.24	42	⇑P	P	01 18 00.4	+0.4
	baz=83,SNR=21						
O23A	Lake Granby, G	83.25	45	⇑P	P	01 18 00.7	+0.4
	baz=83,SNR=11						
ISCO	Idaho Springs	83.28	46	eP	P	01 18 01.5	+1.0
ISCO	Idaho Springs	83.28	46	eP	P	01 18 01.5	+1.0
ISCO	Idaho Springs	83.28	46	⇑P	P	01 18 00.8	+0.3
	baz=83,SNR=11						
Y28A	McKinney Farm,	83.29	52	⇓P	P	01 18 00.8	+0.4
	baz=83,SNR=5.4						
H19A	Powell	83.30	40	⇓P	P	01 18 00.9	+0.6
	baz=83,SNR=13						
M22A	Cedar Creek Ra	83.32	44	⇑P	P	01 18 00.7	+0.1
	baz=84,SNR=9.6						
431A	Sonora	83.34	56	⇓P	P	01 18 00.9	+0.2
	baz=84						
EGAK	Eagle	83.39	13	eP	P	01 18 00.0	0.0
	comp=Z,16nm,1.0s						
230A	Sterling City	83.39	55	⇑P	P	01 18 01.1	+0.1
	baz=84						
GCMT	Greycliff	83.42	39	eP	P	01 18 01.5	+0.7
	comp=Z,11nm,1.0s						
K21A	Alcova	83.45	43	⇓P	P	01 18 01.2	+0.1
	baz=84,SNR=24						
Z29A	Hungry Hill Ra	83.45	53	⇑P	P	01 18 01.1	-0.1
	baz=84,SNR=5.4						
I20A	Worland	83.50	41	⇑P	P	01 18 01.6	+0.3
	baz=84,SNR=27						
R25A	Fountain Ranch	83.51	48	⇓P	P	01 18 01.8	+0.4
	baz=84,SNR=5.6						
N23A	Red Feather La	83.54	45	⇓P	P	01 18 02.0	+0.3
	baz=84,SNR=14						
X28A	Dimmitt	83.57	52	⇓P	P	01 18 02.5	+0.6
	baz=84						
632A	Uvalde	83.57	57	⇑P	P	01 18 02.3	+0.5
	baz=84,SNR=16						
V27A	Dan Oppiter Fa	83.58	50	⇓P	P	01 18 02.6	+0.7
	baz=84						
T26A	Comanche Natio	83.60	49	⇑P	P	01 18 02.2	+0.1
	baz=84						
P24A	Kohler Place,	83.65	46	⇓P	P	01 18 02.7	+0.5
	baz=84						
J21A	Lysite	83.65	42	⇓P	P	01 18 02.4	+0.2
	baz=84,SNR=56						
532A	Rocksprings	83.70	57	⇓P	P	01 18 02.7	+0.2
	baz=84,SNR=13						
L22A	Ellis Ranch, M	83.71	44	⇑P	P	01 18 02.9	+0.4
	baz=84,SNR=19						
Y29A	Porterfield Fa	83.71	53	⇑P	P	01 18 02.7	+0.2
	baz=84,SNR=5.5						
331A	San Angelo	83.72	55	⇓P	P	01 18 02.3	-0.2
	baz=84,SNR=5.9						
130A	Snyder	83.78	54	⇓P	P	01 18 03.3	+0.4
	baz=84						
O24A	Longmont	83.80	46	⇑P	P	01 18 03.3	+0.4
	baz=84						
H20A	Greybull	83.83	41	⇓P	P	01 18 03.6	+0.6
	baz=84,SNR=5.6						
Q25A	Bedland, Calha	83.86	47	⇓P	P	01 18 03.1	-0.2
	baz=84						
U27A	Thompson Grove	83.86	50	⇑P	P	01 18 02.9	-0.4
	baz=84,SNR=6.6						
S26A	Kim	83.87	49	⇑P	P	01 18 03.0	-0.4
	baz=84,SNR=9.8						
F19A	Roth Farm, Mol	83.90	39	⇑P	P	01 18 02.9	-0.3
	baz=84,SNR=15						
JCT	Junction City	83.91	56	eP	P	01 18 04.5	+0.9
JCT				pmax	pmax		
	comp=Z,12nm,1.0s						
JCT	Junction City	83.91	56	eP	P	01 18 04.5	+0.9
	comp=Z,12nm,1.0s						
JCT	Junction City	83.91	56	⇓P	P	01 18 03.7	+0.1
	baz=84						
Z30A	Sanderson Ranc	83.91	53	⇓P	P	01 18 03.0	-0.6
	baz=84,SNR=14						
COLD	Coldfoot	83.92	9	eP	P	01 18 03.2	+0.5
	comp=Z,26nm,1.3s						
X29A	Tulia	83.92	52	⇓P	P	01 18 03.7	0.0
	baz=84						
K22A	Casper	83.93	43	⇓P	P	01 18 03.2	-0.4
	baz=84,SNR=9.4						
M23A	Laramie	83.94	44	⇓P	P	01 18 03.7	0.0
	baz=84,SNR=20						
I21A	Big Trails, Te	83.97	42	⇓P	P	01 18 03.3	-0.5
	baz=84,SNR=32						
231A	Bronte	84.04	55	⇓P	P	01 18 04.0	-0.2
	baz=84,SNR=9.9						
G20A	Bridger	84.04	40	⇑P	P	01 18 04.0	0.0
	baz=84,SNR=5.8						
PHWY	Pilot Hill	84.05	45	eP	P	01 18 04.9	+0.6
	comp=Z,24nm,1.4s						
432A	Menard	84.06	56	⇓P	P	01 18 04.4	0.0
	baz=84						
P25A	Willow Gulch B	84.17	47	⇓P	P	01 18 04.8	0.0
	baz=84,SNR=18						
R26A	Arlington	84.17	48	⇓P	P	01 18 04.6	-0.2
	baz=84,SNR=15						
W29A	Amraillo	84.22	51	⇑P	P	01 18 05.1	-0.1
	baz=84,SNR=10						
N24A	Carr	84.23	45	⇓P	P	01 18 05.6	+0.4
	baz=84,SNR=14						
L23A	Garrett	84.24	44	⇓P	P	01 18 05.2	0.0
	baz=84,SNR=28						
131A	Roby	84.26	54	⇑P	P	01 18 05.1	-0.2
	baz=84,SNR=8.9						
E19A	Rath Farm, Rou	84.29	39	⇓P	P	01 18 04.9	-0.3
	baz=84,SNR=17						
332A	Millersview	84.29	56	⇓P	P	01 18 04.9	-0.6
	baz=84,SNR=9.9						
J22A	Midwest	84.31	42	⇑P	P	01 18 05.9	+0.4
	baz=84						
Y30A	Stafford Cattl	84.31	53	⇓P	P	01 18 05.5	-0.1
	baz=84,SNR=5.2						
F20A	Billings	84.36	40	⇑P	P	01 18 06.4	+0.8
	baz=84						
Q26A	Hugo	84.38	47	⇓P	P	01 18 06.2	+0.2
	baz=84						
O25A	Wiggins	84.45	46	⇓P	P	01 18 06.7	+0.4
	baz=85						
EGMT	Eagleton	84.48	37	eP	P	01 18 06.2	+0.1
	comp=Z,18nm,1.0s						
EGMT	Eagleton	84.48	37	⇑P	P	01 18 07.0	+0.9
	baz=85						
H21A	Big Horn, Sher	84.50	41	⇑P	P	01 18 06.4	0.0
	baz=85,SNR=10						
I22A	9 Mile Ranch,	84.52	42	⇓P	P	01 18 06.3	-0.2
	baz=85,SNR=10						
M24A	Cheyenne	84.55	45	⇑P	P	01 18 07.0	+0.3
	baz=85						
X30A	Coker Ranch, T	84.55	52	⇓P	P	01 18 06.9	+0.1
	baz=85						
232A	Coleman	84.55	55	⇑P	P	01 18 06.6	-0.2
	baz=85,SNR=18						
D19A	Cripps Ranch,	84.57	38	⇓P	P	01 18 07.0	+0.4
	baz=85,SNR=11						
K23A	Bowen Ranch, D	84.57	43	⇓P	P	01 18 06.6	-0.3
	baz=85,SNR=13						
R27A	Eads	84.63	48	⇑P	P	01 18 07.6	+0.4
	baz=85						
T28A	Walsh	84.66	49	⇓P	P	01 18 07.7	+0.4
	baz=85						
G21A	Lodge Grass	84.67	40	⇓P	P	01 18 07.9	+0.6
	baz=85						
Z31A	Sharp Cattle R	84.69	54	⇓P	P	01 18 07.3	-0.2
	baz=85,SNR=12						
E20A	Meyer Farm, Mu	84.70	39	⇑P	P	01 18 07.5	+0.2
	baz=85,SNR=8.4						
L24A	Wheatland	84.72	44	⇓P	P	01 18 08.3	+0.7
	baz=85,SNR=6.0						
C19A	Slack Wire Ran	84.75	38	⇑P	P	01 18 07.6	+0.2
	baz=85,SNR=19						
P26A	Davis Ranch, A	84.76	47	⇑P	P	01 18 08.6	+0.7
	baz=85						
ABTX	Abilene, Hawle	84.82	54	eP	P	01 18 08.3	+0.1
ABTX	Abilene, Hawle	84.82	54	⇑P	P	01 18 08.2	+0.1
	baz=85,SNR=30						
Y31A	Rekieta Farm,	84.84	53	⇓P	P	01 18 08.3	+0.1
	baz=85,SNR=12						
J23A	Dilts Ranch, B	84.91	43	⇓P	P	01 18 09.1	+0.6
	baz=85						
H22A	Clearmont	84.92	41	⇑P	P	01 18 09.2	+0.7
	baz=85						
D20A	Manuel Ranch,	84.98	38	⇓P	P	01 18 08.5	-0.1
	baz=85,SNR=17						
F21A	Absaloka Mine,	85.00	40	⇓P	P	01 18 10.0	+1.2
	baz=85						
S28A	Manter	85.00	49	⇑P	P	01 18 09.5	+0.5
	baz=85						
KSCO	Kaye Shedlock'	85.05	48	⇓P	P	01 18 09.8	+0.5
	baz=85						
O26A	Horse Wrangler	85.07	46	⇓P	P	01 18 10.0	+0.7
	baz=85						
K24A	Anderson Ranch	85.10	43	⇑P	P	01 18 10.4	+1.0
	baz=85						
B19A	Brinman Farms	85.16	37	⇑P	P	01 18 09.7	+0.2
	baz=85,SNR=9.1						
V30A	Spur Ranch, Mi	85.19	51	⇑P	P	01 18 10.8	+0.8
	baz=85						
Z32A	Haskell	85.20	54	⇑P	P	01 18 10.2	+0.2
	baz=85,SNR=46						
I23A	Meade Ranch, G	85.21	42	⇓P	P	01 18 10.7	+0.7
	baz=85						
EDM	Edmonton	85.23	31	eP	P	01 18 10.1	+0.3
EDM	Edmonton	85.23	31	eP	P	01 18 10.1	+0.3
G22A	Birney	85.25	41	⇑P	P	01 18 10.7	+0.6
	baz=85						
T29A	Hugoton	85.28	50	⇓P	P	01 18 10.8	+0.4
	baz=85						
X31A	McDonald Ranch	85.30	52	⇑P	P	01 18 10.9	+0.4
	baz=85						
C20A	Veseth Ranch,	85.36	38	⇓P	P	01 18 10.5	0.0
	baz=86,SNR=16						
E21A	Keefer Ranch,	85.36	39	⇑P	P	01 18 11.6	+1.0
	baz=86						
R28A	Tribune	85.36	48	⇑P	P	01 18 11.4	+0.5
	baz=86						
L25A	Engebretsen Ra	85.42	44	⇓P	P	01 18 11.8	+0.7
	baz=86						
BJI	Beijing	85.44	313	P	P	01 18 12.5	+1.5
BJI				pmax	pmax		
	comp=Z,7.0nm,1.2s						
BJI				LR	LR		
	comp=Z,800nm,25.0s						
J24A	Dixon Ranch, L	85.46	43	⇓P	P	01 18 11.9	+0.7
	baz=86						
Y32A	R-V Farms, Ver	85.48	53	⇓P	P	01 18 11.3	-0.1
	baz=86,SNR=8.2						
A19A	Klindworth Far	85.51	37	⇑P	P	01 18 11.1	-0.2
	baz=86,SNR=5.5						
W31A	Holland Ranch,	85.54	52	⇓P	P	01 18 11.4	-0.3
	baz=86,SNR=5.5						
O27A	Beecher Island	85.63	47	⇓P	P	01 18 12.9	+0.8
	baz=86						
D21A	La Casta Ranch	85.66	39	⇓P	P	01 18 12.4	+0.4
	baz=86,SNR=8.6						
B20A	Solberg Farm,	85.69	37	⇑P	P	01 18 12.5	+0.3
	baz=86,SNR=6.9						
G23A	Biddle	85.81	41	⇓P	P	01 18 12.9	0.0
	baz=86,SNR=6.2						
V31A	Spring Creek L	85.83	51	⇓P	P	01 18 13.8	+0.6
	baz=86,SNR=6.8						
C21A	Desert Coulee	85.95	38	⇓P	P	01 18 14.0	+0.5
	baz=86						
LAO	LASA Array	85.95	39	eP	P	01 18 14.6	+1.0
	comp=Z,31nm,1.1s						
A20A	Cobblestone Ra	85.96	37	⇑P	P	01 18 13.5	+0.1
	baz=86,SNR=10						
F23A	Volborg	86.03	41	⇑P	P	01 18 14.0	+0.1
	baz=86,SNR=5.5						
J25A	Sunshine Ranch	86.05	43	⇓P	P	01 18 13.9	-0.2
	baz=86						
H24A	Dirks Ranch, A	86.14	42	⇓P	P	01 18 14.0	-0.5
	baz=86,SNR=19						
K26A	Motz Farm, Whi	86.18	44	⇑P	P	01 18 15.2	+0.4
	baz=86						
D22A	Cohagen	86.19	39	⇓P	P	01 18 15.3	+0.6
	baz=86						
RSSD	Black Hills	86.21	42	eP	P	01 18 13.9	-1.2
RSSD				pmax	pmax		
	comp=Z,105nm,1.4s						
RSSD	Black Hills	86.21	42	eP	P	01 18 13.8	-1.2
	comp=Z,105nm,1.4s						
B21A	Ellsworth Farm	86.28	38	⇓P	P	01 18 16.0	+0.9
	baz=86						
WHTX	Lake Whitney	86.33	56	eP	P	01 18 15.8	+0.2
WHTX	Lake Whitney	86.33	56	⇓P	P	01 18 15.6	-0.1
	baz=86,SNR=7.9						
I25A	Rochford	86.36	43	⇓P	P	01 18 15.5	-0.3
	baz=86,SNR=9.2						
E23A	Ismay	86.44	40	⇓P	P	01 18 16.7	+0.9
	baz=87						
T31A	Randall Ranch,	86.45	50	⇑P	P	01 18 16.9	+0.8
	baz=87						
J26A	Sides Ranch, S	86.50	43	⇓P	P	01 18 17.5	+1.2
	baz=87						
A21A	Bergtoll Ranch	86.59	37	⇓P	P	01 18 16.8	+0.2
	baz=87,SNR=5.1						
F24A	Ekalaka	86.69	41	⇓P	P	01 18 18.3	+1.1
	baz=87						
H25A	Fruitdale	86.71	42	⇓P	P	01 18 18.5	+1.2
	baz=87						
D23A	Lindsay	86.80	39	⇑P	P	01 18 18.6	+1.0
	baz=87						
B22A	Reddig Ranch S	86.82	38	⇑P	P	01 18 18.0	+0.3
	baz=87,SNR=6.4						
HKT	Hockley	86.95	58	eP	P	01 18 19.5	+0.9
HKT				pmax	pmax		
	comp=Z,33nm,1.4s						
HKT	Hockley	86.95	58	eP	P	01 18 19.5	+0.9
	comp=Z,33nm,1.4s						
IPM	Ipoh	87.05	275	eP	P	01 18 20.1	+0.6
C23A	Lambert	87.09	39	⇓P	P	01 18 19.4	+0.4
	baz=87,SNR=5.7						
J27A	Elkhorn Farm,	87.19	44	⇑P	P	01 18 21.0	+1.3
	baz=87						
C24A	Savage	87.43	39	⇑P	P	01 18 21.6	+0.9
	baz=88						
B23A	Brockton	87.50	38	⇑P	P	01 18 21.5	+0.5
	baz=88,SNR=6.9						
DGMT	Dagmar	87.97	38	⇑P	P	01 18 24.5	+1.3
	baz=88						
MAW	Mawson	88.03	199	P	P	01 18 23.3	+0.1
MAW	Mawson	88.03	199	P	P	01 18 23.3	+0.1
	comp=Z,7.2nm,0.8s,baz=123,slow=6.8,SNR=15						
INK	Inuvik	88.04	14	eP	P	01 18 22.4	-0.6
	comp=Z,12nm,1.1s						
GYA	Guiyang	88.08	298	P	P	01 18 26.5	+2.1
GYA				PP	PP	01 21 55.3	+3.8
GYA				SKS	SKSac	01 28 51.8	+0.4
GYA				S	S	01 29 08.8	+1.9
GYA				SS	SS	01 34 59.8	+3.8
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,130nm,6.5s						
GYA				LR	LR		
	comp=N,580nm,21.5s						
GYA				LR	LR		
	comp=E,510nm,22.2s						
GYA				LR	LR		
	comp=Z,600nm,21.8s						
K29A	Lazy Trails An	88.14	45	⇑P	P	01 18 25.2	+1.0
	baz=88						
E26A	Carlson Angus	88.20	41	⇓P	P	01 18 25.5	+1.1
	baz=88						
J29A	Okreek	88.38	44	⇓P	P	01 18 26.3	+1.0
	baz=88						
K30A	Basset	88.58	45	⇑P	P	01 18 27.7	+1.4
	baz=89						
A25A	Svangstu Ranch	88.82	38	⇑P	P	01 18 28.4	+1.2
	baz=89						
J30A	Dallas	88.91	44	⇓P	P	01 18 28.9	+1.1
	baz=89						
H29A	Onida	88.92	43	⇑P	P	01 18 29.1	+1.3
	baz=89						
TUL1	Tulsa	88.96	52	⇑P	P	01 18 29.3	+1.1
	baz=89						
HHC	Hu-ho-hao-te	89.00	313	eP	P	01 18 28.0	-0.4
HHC				pP	pP	01 18 33.0	-4.7
HHC				sP	sP	01 18 35.0	-6.1
HHC				PP	PP	01 22 00.0	+1.4
HHC				SKS	SKSac	01 28 56.5	+0.2
HHC				S	S	01 29 13.5	-1.5
HHC				sS	sS	01 29 25.5	-5.0
HHC				pmax	pmax		
	comp=Z,37nm,1.1s						
HHC				pmax	pmax		
	comp=Z,570nm,5.3s						
HHC				LR	LR		
	comp=N,780nm,16.9s						
HHC				LR	LR		
	comp=E,880nm,16.9s						
HHC				LR	LR		
	comp=Z,830nm,17.5s						
BGNE	Belgrade	89.13	47	⇑P	P	01 18 29.9	+1.0
	baz=89						
PLCA	Paso Flores	89.54	132	eP	P	01 18 32.6	+1.6
	comp=Z,7.9nm,1.3s						
PLCA	Paso Flores	89.54	132	P	P	01 18 32.8	+1.8
	comp=Z,1.8nm,0.9s,baz=344,slow=5.0,SNR=3.1						
YKA	Yellowknife Ar	89.85	23	P	P	01 18 31.1	-0.6
YKA	Yellowknife Ar	89.85	23	P	P	01 18 31.0	-0.6
	comp=Z,5.7nm,0.9s,baz=242,slow=4.5,SNR=7.7						
TEIG	Tepich	90.57	69	eP	P	01 18 37.3	+1.2
	comp=Z,21nm,1.1s						
ECSD	EROS Data Cent	91.01	45	eP	P	01 18 38.0	+0.4
	comp=Z,13nm,1.3s						
JTS	JuntasAbangare	91.03	80	eP	P	01 18 40.1	+1.8
	comp=Z,186nm,1.0s						
JTS	JuntasAbangare	91.03	80	P	P	01 18 40.8	+2.5
	comp=Z,106nm,1.0s,SNR=5.4						
KMI	Kunming	91.07	296	P	P	01 18 42.8	+4.2
KMI				pmax	pmax		
	comp=Z,12nm,1.3s						
CD2	Chengdu	91.83	301	P	P	01 18 43.3	+1.6
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
SYO	Syowa Base	92.83	191	⇓eP	P	01 18 46.0	+0.5
SYO	Syowa Base	92.83	191	⇓ePcP	PcP	01 18 48.1	+1.9
SNAA	Sanae	93.10	177	eP	P	01 18 50.3	+3.4
SNAA	Sanae	93.10	177	epP	pP	01 18 52.9	-3.4
SNAA	Sanae	93.10	177	esP	sP	01 18 55.7	-3.9
SNAA	Sanae	93.10	177	eP	P	01 18 49.6	+2.7
	comp=Z,8.8nm,1.0s						
LZH	Lanzhou	93.22	306	eP	P	01 18 50.0	+1.8
LZH				pP	pP	01 18 55.3	-2.3
LZH				sP	sP	01 18 57.8	-3.1
LZH				PP	PP	01 22 36.0	+3.8
LZH				SKS	SKSac	01 29 21.0	+0.2
LZH				eS	ScS	01 29 55.0	-0.5
LZH				sS	sS	01 30 03.3	-6.1
LZH				pmax	pmax		
	comp=Z,27nm,1.1s						
LZH				pmax	pmax		
	comp=Z,150nm,5.8s						
LZH				LR	LR		
	comp=N,710nm,16.9s						
LZH				LR	LR		
	comp=E,830nm,16.1s						
LZH				LR	LR		
	comp=Z,1μm,17.3s						
LCO	Las Campanas	93.33	121	eP	P	01 18 50.4	+1.3
	comp=Z,17nm,0.9s						
OXF	Oxford	93.51	55	eP	P	01 18 49.2	-0.2
OXF				pmax	pmax		
	comp=Z,46nm,1.2s						
OXF	Oxford	93.51	55	eP	P	01 18 49.2	-0.2
	comp=Z,46nm,1.2s						
VNA2	Neumayer--Watz	93.54	175	eP	P	01 18 53.0	+4.1
VNA2	Neumayer--Watz	93.54	175	epP	pP	01 18 55.2	-3.0
VNA2	Neumayer--Watz	93.54	175	esP	sP	01 18 56.7	-4.9
VNA1	Neumayer--Stat	93.74	175	eP	P	01 18 53.7	+4.0
SPMN	St. Paul	94.07	44	⇓P	P	01 18 52.5	+0.8
	baz=94						
ULN	Ulaanbaatar	94.38	318	eP	P	01 18 55.2	+2.0
	comp=Z,4.1nm,0.2s						
SWET	Sewanee	96.46	55	eP	P	01 19 03.8	+0.9
	com

KSH AMB AMB
comp=Z,59nm,4.3s
KSH LR LR
comp=N,300nm,15.0s
KSH LR LR
comp=E,810nm,17.6s
KSH LR LR
comp=Z,1μm,18.8s
TKM2 Tokmak 2 115.64 311 *e*PKIKP **PKPdf** 01 24 14.9 -1.0
TKM2 Tokmak 2 115.64 311 *e*PKPdf **PKPdf** 01 24 14.8 -1.0
EKS2 Erkin-Say 116.99 310 *e*PKIKP **PKPdf** 01 24 18.8 +0.4
EKS2 Erkin-Say 116.99 310 *e*PKPdf **PKPdf** 01 24 18.8 +0.4
VOSK Vostochnaya 117.52 322 *e*PKIKP **PKPdf** 01 24 18.7 -0.2
VOSK Vostochnaya 117.52 322 *e*PKPdf **PKPdf** 01 24 18.7 -0.2
BRVK Borovoye 117.87 322 *e*PKIKP **PKPdf** 01 24 20.0 +0.4
BRVK Borovoye 117.87 322 *e*PKPdf **PKPdf** 01 24 19.9 +0.4
KBL Kabul 121.17 301 *e*PKIKP **PKPdf** 01 24 28.0 +1.2
KBL Kabul 121.17 301 *e*PKPdf **PKPdf** 01 24 28.0 +1.2
ARU Arti 123.25 329 *i* PKIKP **PKPdf** 01 24 30.7 +0.9
ARU 01 26 12.9
ARU 01 31 31.9
ARU SS SS 01 42 47.2 -6.4
ARCES ARCESS Array B 124.43 352 PKP **PKPdf** 01 24 32.5 +0.7
ARCES ARCESS Array B 124.43 352 PKP **PKPdf** 01 24 32.5 +0.7
comp=Z,5.0nm,0.7s,baz=354,slow=3.7,SNR=8.4
ABKAR Akbulak array 125.16 320 *e*PKPdf **PKPdf** 01 24 35.1 +1.4
SUR Sutherland 130.82 196 *e*PKPdf **PKPdf** 01 24 46.2 +0.8
FINES FINESS Array B 131.78 348 PKP **PKPdf** 01 24 47.0 +1.1
FINES FINESS Array B 131.78 348 PKP **PKPdf** 01 24 47.0 +1.1
comp=Z,2.4nm,0.8s,baz=212,slow=6.8,SNR=4.1
OBN Obninsk 133.99 337 *i* PKIKP PKPdf 01 24 55.0 +4.8
OBN pmax pmax
comp=Z,22nm,1.6s
AKASG Malin Array Be 140.21 338 PKIKP **PKPdf** 01 25 00.1 -1.8
AKASG Malin Array Be 140.21 338 PKP **PKPdf** 01 25 00.1 -1.8
AKASG Malin Array Be 140.21 338 PKP **PKPdf** 01 25 00.1 -1.8
comp=Z,1.9nm,0.7s,baz=32,slow=2.8,SNR=7.1
KIEV Kiev 140.22 338 *e*PKIKP **PKPdf** 01 25 02.2 +0.3
KIEV Kiev 140.22 338 *e*PKPdf **PKPdf** 01 25 02.2 +0.3
LSZ Lusaka 143.05 216 *e*PKPdf **PKPdf** 01 25 08.9 +0.6
KWP Kalwaria Pacla 143.27 343 *e*PKIKP **PKPdf** 01 25 07.1 -0.4
KWP Kalwaria Pacla 143.27 343 *e*PKPdf **PKPdf** 01 25 07.1 -0.4
KWP Kalwaria Pacla 143.27 343 ⇑*i*P **PKPdf** 01 25 06.3 -1.2
KWP Kalwaria Pacla 143.27 343 *e*PKP **PKPdf** 01 25 06.6 -0.9
OJC Ojcow 143.50 346 *e*PKIKP **PKPdf** 01 25 10.9 +3.0
OJC Ojcow 143.50 346 *e*PKPdf **PKPdf** 01 25 10.9 +3.0
KSP Ksiaz 143.62 350 *e*PKP PKPdf 01 25 13.0 +5.0
CLL Collm 143.63 353 *e*PKPdf **PKPdf** 01 25 08.0 0.0
comp=Z,5.0nm,0.7s
CLL *e*(PKiKP) 01 25 13.0
CLL *e* 01 25 17.0
MALT Malatya 143.82 316 ⇑*i*P **PKPdf** 01 25 09.6 +0.7
STHS Stebnicka Huta 143.88 344 *e*PKP **PKPdf** 01 25 10.0 +1.4
BRG Berggiesshubel 143.94 352 *e*PKP PKPdf 01 25 14.6 +6.0
comp=Z,5.6nm,0.9s
UPC Upice 143.99 350 *e*PKP **PKPdf** 01 25 10.1 +1.4
KOLS Kolonicke sedl 144.03 343 *e*PKP **PKPdf** 01 25 10.7 +1.9
DPC Dobruska-Polom 144.09 350 *e*PKIKP **PKPdf** 01 25 10.5 +1.6
DPC Dobruska-Polom 144.09 350 *e*PKP **PKPdf** 01 25 10.5 +1.6
DPC Dobruska-Polom 144.09 350 *e*PKPdf **PKPdf** 01 25 10.5 +1.6
TSUM Tsumeb 144.20 198 *e*PKPdf **PKPdf** 01 25 10.0 -0.2
BUR08 Bucovina Ar. S 144.22 339 *e*PKPdf **PKPdf** 01 25 08.2 -1.2
OKC Ostrava-Krasne 144.22 347 *e*PKP **PKPdf** 01 25 09.8 +0.7
OKC *ex* x 01 25 22.5
BURAR Bucovina Array 144.23 338 ⇓*i*P PKPdf 01 25 13.8 +4.4
CRVS Cervenica-Dubn 144.28 343 *e*PKP **PKPdf** 01 25 11.3 +2.0
MORC Moravsky Berou 144.41 348 *e*PKIKP **PKPdf** 01 25 09.1 -0.4
MORC Moravsky Berou 144.41 348 *e*PKPdf **PKPdf** 01 25 09.1 -0.4
MORC Moravsky Berou 144.41 348 ⇓*i*P **PKPdf** 01 25 10.0 +0.5
TANN Tannenbergstha 144.57 354 *e*PKPbc **PKPdf** 01 25 08.4 -1.4
TRPA Tarpa 144.66 342 ⇑*i*P **PKPdf** 01 25 10.9 +1.0
TRPA Tarpa 144.66 342 *e*PKPdf **PKPdf** 01 25 10.2 +0.3
MEM Membach 144.67 1 PKP **PKPdf** 01 25 09.2 -0.7
MEM Membach 144.67 1 APKP pPKPdf 01 25 13.1 -6.4
SNF Seneffe 144.72 3 PKP **PKPdf** 01 25 10.5 +0.6
SNF APKP **PKiKP** 01 25 13.8 +0.1
PRU Pruhonice 144.72 351 *e*PKP **PKPdf** 01 25 09.9 -0.1
PRU *ex* x 01 25 21.6
NKC Novy Kostel 144.75 354 *e*PKP **PKPdf** 01 25 11.4 +1.3
NKC *ex* x 01 25 21.8
TLCR 144.78 333 ⇓*i*P **PKPdf** 01 25 11.9 +1.7
BCLA Clavier 144.85 2 PKP **PKPdf** 01 25 13.0 +2.9
KECS Kecovo 144.93 344 *e*PKP **PKPdf** 01 25 09.8 -0.6
TNS Taunus Mts 145.04 358 *e*PKPbc **PKPdf** 01 25 09.8 -0.8
CFR Carcaliu 145.09 333 ⇑*i*P **PKPdf** 01 25 12.5 +1.8
VRI Vrincioaia 145.12 335 ⇑*i*P **PKPdf** 01 25 11.3 +0.5
DOU Dourbes 145.15 2 PKP **PKPdf** 01 25 13.5 +2.8
PLOR Plostina 145.17 335 ⇑*i*P **PKPdf** 01 25 14.2 +3.3
ROTZ Rotzenmuhle 145.24 354 *e*PKPbc **PKPdf** 01 25 11.1 +0.2
GRF Grafenberg Arr 145.40 355 *e*PKPbc **PKPab** 01 25 11.5 +0.2
GRFO Grafenberg 145.40 355 *e*PKIKP **PKPab** 01 25 11.5 +0.2
GRFO Grafenberg 145.40 355 *e*PKPbc **PKPab** 01 25 11.5 +0.2
TIRR Tirgusor 145.53 332 *e*PKIKP **PKPab** 01 25 12.5 +0.7
TIRR Tirgusor 145.53 332 *e*PKPbc **PKPab** 01 25 12.5 +0.7
TIRR Tirgusor 145.53 332 ⇑*i*P **PKPab** 01 25 11.0 -0.9
DOPR Dopca 145.56 337 ⇓*i*P **PKPab** 01 25 14.2 +2.2
TLB Topalu 145.59 333 ⇑*i*P **PKPab** 01 25 12.5 +0.4
PSZ Piszkesteto 145.61 344 *e*PKP2 **PKPab** 01 25 11.6 -0.6
PSZ Piszkesteto 145.61 344 *e*PKPbc **PKPab** 01 25 11.6 -0.6
PSZ Piszkesteto 145.61 344 ⇓*i*P **PKPab** 01 25 12.9 +0.7
PSZ Piszkesteto 145.61 344 ⇓*e*PKPbc **PKPab** 01 25 12.3 +0.1
WLF Walferdange 145.62 1 PKP **PKPab** 01 25 12.2 +0.2
WLF Walferdange 145.62 1 *e*PKPbc **PKPab** 01 25 12.3 +0.2
WLF Walferdange 145.62 1 *e*PKIKP **PKPab** 01 25 12.5 +0.5
WLF Walferdange 145.62 1 *e*PKPbc **PKPab** 01 25 12.5 +0.5
SMOL Smolenice 145.63 347 *e*PKP **PKPab** 01 25 13.5 +1.4
KHC Kasperske Hory 145.70 352 *e*PKIKP **PKPab** 01 25 12.3 -0.1
KHC Kasperske Hory 145.70 352 *e*PKP **PKPbc** 01 25 10.5 -1.6
KHC *ep*PKP **PKiKP** 01 25 16.0 +0.2
KHC *ex* x 01 25 24.8
KHC *ex* x 01 25 37.0
KHC Kasperske Hory 145.70 352 *e*PKPdf **PKPab** 01 25 12.3 -0.1
MLR Muntele Rosu 145.74 336 ⇑*i*P **PKPab** 01 25 13.8 +1.0
KMBO Kilima Mbogo 145.76 244 *e*PKPbc **PKPab** 01 25 14.8 +0.8
KMBO Kilima Mbogo 145.76 244 PKPbc **PKPab** 01 25 14.2 +0.2
comp=Z,2.5nm,0.8s,baz=69,slow=9.0,SNR=7.7
WET Wettzell 145.77 353 *e*PKPbc **PKPab** 01 25 12.5 -0.2
DRGR 145.80 340 ⇑*i*P **PKPab** 01 25 12.6 -0.3
ISR Istrita 145.81 335 ⇑*i*P **PKPab** 01 25 14.0 +1.0
GEC2 GERESS Array S 145.96 352 *e*PKPbc **PKPab** 01 25 12.9 -0.6
GERES GERESS Array B 145.96 352 PKPbc **PKPab** 01 25 12.9 -0.6
GERES GERESS Array B 145.96 352 PKPbc **PKPab** 01 25 12.9 -0.6
comp=Z,4.4nm,0.7s,baz=29,slow=3.0,SNR=23
ZST Bratislava 146.00 348 *e*PKP **PKPab** 01 25 14.6 +1.1
BR131 Keskin Array S 146.09 321 *e*PKPbc **PKPab** 01 25 14.4 +0.1
BRTR Keskin Array B 146.09 321 PKPbc **PKPab** 01 25 14.4 +0.1
BRTR Keskin Array B 146.09 321 PKPbc **PKPab** 01 25 14.4 +0.1
comp=Z,10nm,0.8s,baz=104,slow=2.0,SNR=56
VOIR 146.14 337 ⇓*i*P **PKPab** 01 25 14.5 +0.2
BUD Budapest 146.23 345 ⇓*e*PKPdf **PKPbc** 01 25 12.2 -1.5
LANF Langenberg 146.30 359 PKP **PKPab** 01 25 14.3 -0.4
ARR Arges 146.33 337 ⇑*i*P **PKPab** 01 25 15.1 0.0
STU Stuttgart 146.46 357 *e*PKPbc **PKPab** 01 25 14.5 -0.8
STU Stuttgart 146.46 357 *e*PKP2 **PKPab** 01 25 14.4 -0.8
STU Stuttgart 146.46 357 *e*PKPbc **PKPab** 01 25 14.4 -0.8
ANTO Ankara 146.51 322 *e*PKP2 **PKPab** 01 25 16.4 +0.5
ANTO Ankara 146.51 322 *e*PKPbc **PKPab** 01 25 16.4 +0.5
ANTO Ankara 146.51 322 ⇑*i*P **PKPab** 01 25 16.8 +0.9
SIRR Siria 146.60 341 ⇑*i*P **PKPab** 01 25 17.2 +1.3
SOP Sopron 146.60 348 ⇓*e*PKPdf **PKPab** 01 25 17.9 +2.1
MOA Molln 146.85 351 *i* pPKPdf **PKPab** 01 25 16.3 -0.6
comp=Z,17nm,1.0s,SNR=6.4
FUR Furstenfeldbru 146.91 354 *e*PKPbc **PKPab** 01 25 15.8 -1.3
BFO Black Forest 146.93 358 *e*PKPbc **PKPab** 01 25 15.8 -1.4
BFO Black Forest 146.93 358 *e*PKP2 **PKPab** 01 25 16.2 -1.0
BFO Black Forest 146.93 358 *e*PKPbc **PKPab** 01 25 16.2 -1.0
GZR Gura Zlata 147.00 339 ⇑*i*P **PKPab** 01 25 17.1 -0.5
THEF They Montfort 147.06 1 PKP **PKPab** 01 25 16.7 -0.9
ECH Echery 147.07 360 *e*PKP2 **PKPab** 01 25 16.1 -1.6
ECH Echery 147.07 360 PKP **PKPab** 01 25 16.7 -1.0
ECH Echery 147.07 360 *e*PKPbc **PKPab** 01 25 16.1 -1.6
RJOB Jochberg 147.17 352 *e*PKPbc **PKPab** 01 25 16.4 -1.7
BZS Buzias 147.19 341 ⇑*i*P **PKPab** 01 25 16.1 -2.1
ARSA Arzberg 147.22 349 ⇓*i*pPKPdf **PKPab** 01 25 17.5 -0.8
comp=Z,29nm,1.2s,SNR=10.0
MOF Molkenrain 147.44 360 PKP **PKPab** 01 25 19.1 -0.1
ZIMR 147.49 334 ⇑*i*P **PKPbc** 01 25 16.5 -0.9
RETA Reutte 147.63 355 *i* pPKPdf **PKPab** 01 25 18.2 -1.8
comp=Z,29nm,1.1s,SNR=16
BEHE Becsehely 147.71 347 ⇓*e*PKPdf **PKPab** 01 25 19.7 -0.5
MOTA Moosalm 147.74 354 *i* PKPab **PKPab** 01 25 19.2 -1.3
comp=Z,21nm,0.9s,SNR=14
WTTA Wattenberg 147.77 354 ⇓*i*PKPab **PKPab** 01 25 19.3 -1.4
comp=Z,33nm,1.1s,SNR=9.2
SOKA Soboth 147.86 349 *i* pPKPdf **PKPab** 01 25 18.9 -2.0
comp=Z,22nm,1.1s,SNR=17
PERS Pernice 147.88 349 *i* PKPdf **PKPab** 01 25 18.4 -2.6
LOMF Lomont 147.94 360 PKP **PKPab** 01 25 19.1 -2.1
OBKA Obir 148.11 350 *i* PKPab **PKPab** 01 25 20.7 -1.3
comp=Z,18nm,1.1s,SNR=11
VOY Vojsko 148.68 350 *e*PKPdf **PKPab** 01 25 21.2 -3.0
VOY *e* 01 25 25.3
VISS Visnje 148.74 349 *i* PKPdf **PKPbc** 01 25 20.2 -0.5
TUE Stuetta 148.74 357 *e*PKPbc **PKPab** 01 25 21.6 -3.0
JAVS Javornik 148.79 350 *i* PKPdf **PKPbc** 01 25 18.9 -2.0
BOJS Bojanci 148.95 348 *i* PKPdf **PKPbc** 01 25 19.8 -1.4
TRI Trieste 149.01 350 *e*PKP2 **PKPab** 01 25 21.9 -3.6
TRI Trieste 149.01 350 *e*PKPbc **PKPab** 01 25 21.9 -3.6
PLD Plovdiv 149.04 334 P **PKPab** 01 25 27.4 +1.7
PLD Plovdiv 149.04 334 PKP2 **PKPab** 01 25 27.4 +1.7
PLD Plovdiv 149.04 334 P **PKPab** 01 25 27.4 +1.7
DIVS Divibare 149.07 341 P **PKPbc** 01 25 21.9 +0.2
CSS Prodhromos 149.07 314 P **PKPab** 01 25 25.4 -0.7
CSS Prodhromos 149.07 314 *e*PKPbc **PKPab** 01 25 22.5 -3.6
AGO Saint Agoulin 149.09 5 PKP **PKPab** 01 25 22.0 -3.8
VTS Vitosha 149.25 336 P **PKPab** 01 25 23.7 -3.1
VTS Vitosha 149.25 336 PKP2 **PKPab** 01 25 23.7 -3.1
VTS Vitosha 149.25 336 P **PKPab** 01 25 23.7 -3.1
VTS Vitosha 149.25 336 ⇑*i*P **PKPab** 01 25 23.9 -2.9
PYM Petit Puy Mans 149.38 5 PKP **PKPbc** 01 25 21.4 -1.0
ALN Alexandroupoli 149.39 331 P **PKPbc** 01 25 25.8 -1.4
ALN Alexandroupoli 149.39 331 PKP2 **PKPab** 01 25 25.8 -1.4
ALN Alexandroupoli 149.39 331 P **PKPab** 01 25 25.8 -1.4
RDO Rodhopi 149.44 331 P **PKPab** 01 25 23.4 -3.9
RDO Rodhopi 149.44 331 P **PKPab** 01 25 23.4 -3.9
RSL Roselend 149.60 0 PKP **PKPab** 01 25 24.1 -4.0
KULA Kula-Manisa 149.80 324 P **PKPab** 01 25 24.9 -4.1
KULA Kula-Manisa 149.80 324 P **PKPab** 01 25 24.9 -4.1
SSB Saint Sauveur 149.95 3 *e*PKP2 **PKPab** 01 25 25.4 -4.0
SSB Saint Sauveur 149.95 3 PKP **PKPbc** 01 25 24.8 +1.0
SSB Saint Sauveur 149.95 3 *e*PKPbc **PKPab** 01 25 25.4 -4.0
SMTH Samothraki Isl 149.97 331 P **PKPbc** 01 25 22.2 -1.7
SMTH Samothraki Isl 149.97 331 P **PKPbc** 01 25 22.2 -1.7
NVR Nevrokopi 150.02 334 P **PKPab** 01 25 23.8 -0.3
NVR Nevrokopi 150.02 334 P **PKPab** 01 25 23.8 -0.3
KAVA Kavala 150.02 332 P **PKPbc** 01 25 24.1 +0.1
KAVA Kavala 150.02 332 P **PKPbc** 01 25 24.1 +0.1
BNI Bardonecchia 150.24 0 *e*PKP2 **PKPbc** 01 25 25.4 +0.8
BNI Bardonecchia 150.24 0 *e*PKPbc **PKPbc** 01 25 25.4 +0.8
SRS Serrai 150.32 334 P **PKPbc** 01 25 24.7 -0.1
SRS Serrai 150.32 334 P **PKPbc** 01 25 24.7 -0.1
SKO Skopje 150.46 337 *e*PKP **PKPbc** 01 25 25.2 +0.1
PRK Paraskevi 150.55 328 P **PKPbc** 01 25 25.5 +0.2
PRK Paraskevi 150.55 328 PKIKP **PKPbc** 01 25 25.5 +0.2
PRK Paraskevi 150.55 328 P **PKPbc** 01 25 25.5 +0.2
KNT Kendrikon 150.58 335 P **PKPbc** 01 25 25.8 +0.4
KNT Kendrikon 150.58 335 PKIKP **PKPbc** 01 25 25.8 +0.4
KNT Kendrikon 150.58 335 P **PKPbc** 01 25 25.8 +0.4
VAY Valandovo 150.58 335 *e*PKP **PKPbc** 01 25 23.6 -1.8
LIA Limnos Island 150.58 330 P **PKPbc** 01 25 25.3 -0.1
LIA Limnos Island 150.58 330 P **PKPbc** 01 25 25.3 -0.1
PCAB Cabril 150.65 23 *e*PKPbc **PKPab** 01 25 27.2 +1.6
PCAB Cabril 150.65 23 *e*PKPab **PKPab** 01 25 31.5 -0.9
OG26 St.-Nazaire-De 150.69 2 PKP **PKPab** 01 25 28.7 -3.7
OUR Ouranopolis 150.79 332 P **PKPbc** 01 25 25.6 -0.3
OUR Ouranopolis 150.79 332 PKIKP **PKPbc** 01 25 25.6 -0.3
OUR Ouranopolis 150.79 332 P **PKPbc** 01 25 25.6 -0.3
PDG Podgorica 150.80 341 P **PKPab** 01 25 29.6 -3.3
TTG Podgorica 150.80 341 PKIKP **PKPab** 01 25 29.6 -3.3
TTG Podgorica 150.80 341 P **PKPab** 01 25 29.6 -3.3
VLC Villacollemand 150.97 355 *e*PKPbc **PKPab** 01 25 28.6 -5.0
PLG Polygyros 151.00 333 P **PKPbc** 01 25 25.6 -0.8
PLG Polygyros 151.00 333 PKIKP **PKPbc** 01 25 25.6 -0.8
PLG Polygyros 151.00 333 P **PKPbc** 01 25 25.6 -0.8
POLO Lamas de Olo 151.03 23 *e*PKPab **PKPab** 01 25 32.7 -1.3
PHP Peshkopia 151.07 339 P **PKPbc** 01 25 26.4 -0.2
PHP Peshkopia 151.07 339 PKIKP **PKPbc** 01 25 26.4 -0.2
PHP Peshkopia 151.07 339 P **PKPbc** 01 25 26.4 -0.2
PAIG Paliouri 151.26 332 P **PKPbc** 01 25 26.4 -0.6
PAIG Paliouri 151.26 332 PKIKP **PKPbc** 01 25 26.4 -0.6
PAIG Paliouri 151.26 332 P **PKPbc** 01 25 26.4 -0.6
TOUF Mont Tournerai 151.27 359 PKP **PKPbc** 01 25 28.6 +1.4
SAOF Saorge 151.30 359 PKP **PKPbc** 01 25 26.7 -0.3
CHOS Chios island 151.30 327 P **PKPbc** 01 25 27.2 0.0
CHOS Chios island 151.30 327 P **PKPbc** 01 25 27.2 0.0
BIA Bitola 151.32 337 *e*PKP **PKPbc** 01 25 27.1 -0.1
MVIF Mont Vial 151.39 359 PKP PKPab 01 25 30.1 -5.4
LUCF Luceram 151.39 359 PKP **PKPbc** 01 25 29.1 +1.8
MVO Moncorvo 151.49 22 *e*PKPbc **PKPbc** 01 25 28.7 +1.1
MVO Moncorvo 151.49 22 *e*PKPab **PKPab** 01 25 33.6 -2.3
FNA Florina 151.51 336 P **PKPbc** 01 25 27.4 -0.2
FNA Florina 151.51 336 PKIKP **PKPbc** 01 25 27.4 -0.2
FNA Florina 151.51 336 P **PKPbc** 01 25 27.4 -0.2
CALN Calern 151.54 360 PKP **PKPbc** 01 25 28.6 +0.9
PVIS Viseu 151.56 24 *e*PKPbc **PKPbc** 01 25 29.3 +1.6
PVIS Viseu 151.56 24 *e*PKPab **PKPab** 01 25 35.1 -1.1
LIT Litokhoron 151.63 334 P **PKPab** 01 25 26.8 -1.1
LIT Litokhoron 151.63 334 PKIKP **PKPbc** 01 25 26.8 -1.1
LIT Litokhoron 151.63 334 P **PKPbc** 01 25 26.8 -1.1
ARG Arkhangelos 151.68 322 P **PKPbc** 01 25 28.9 +0.8
ARG Arkhangelos 151.68 322 PKIKP **PKPbc** 01 25 28.9 +0.8
ARG Arkhangelos 151.68 322 P **PKPbc** 01 25 28.9 +0.8
AOS Alonnisos 151.77 331 P **PKPbc** 01 25 28.2 0.0
AOS Alonnisos 151.77 331 P **PKPbc** 01 25 28.2 0.0
XOR Xorichti 151.93 332 P **PKPbc** 01 25 26.7 -1.9
XOR Xorichti 151.93 332 P **PKPbc** 01 25 26.7 -1.9
RESF Ens 151.94 10 PKP **PKPbc** 01 25 28.6 0.0
NEST Nestorio 151.95 336 P **PKPbc** 01 25 28.6 -0.1
MTE Manteigas 151.96 24 *e*PKPab **PKPab** 01 25 34.3 -3.6
MTE Manteigas 151.96 24 *e*PKPbc **PKPab** 01 25 32.8 -5.1
NEO Neokhori 151.97 332 P **PKPbc** 01 25 27.9 -0.8
NEO Neokhori 151.97 332 P **PKPbc** 01 25 27.9 -0.8
LRDF Laroque-de-Fa 152.12 7 PKP **PKPbc** 01 25 29.8 +0.9
PTOM Tomar 152.28 26 *e*PKPab **PKPab** 01 25 39.4 +0.3
MRKA Markates 152.28 331 P **PKPbc** 01 25 31.8 +2.4
SMIA Simia 152.32 332 P **PKPbc** 01 25 29.2 -0.3
PCBR Castelo Branco 152.47 24 *e*PKPdf **PKPdf** 01 25 23.4 +0.6
PCBR Castelo Branco 152.47 24 *e*PKPab **PKPab** 01 25 39.1 -0.8
AGG Agios Georgios 152.60 333 P **PKPbc** 01 25 29.9 -0.2
AGG Agios Georgios 152.60 333 PKIKP **PKPbc** 01 25 29.9 -0.2
AGG Agios Georgios 152.60 333 P **PKPbc** 01 25 29.9 -0.2
LKR Lokris 152.60 332 P **PKPbc** 01 25 29.7 -0.4
LKR Lokris 152.60 332 P **PKPbc** 01 25 29.7 -0.4
AXAR Agios Charalam 152.66 332 P **PKPbc** 01 25 29.9 -0.3
AXAR Agios Charalam 152.66 332 P **PKPbc** 01 25 29.9 -0.3
PTL Penteli 152.67 330 P **PKPbc** 01 25 29.7 -0.6
PTL Penteli 152.67 330 P **PKPbc** 01 25 29.7 -0.6
MAKR Makrakomi, Fth 152.69 333 P **PKPbc** 01 25 30.4 +0.1
MAKR Makrakomi, Fth 152.69 333 P **PKPbc** 01 25 30.4 +0.1
PMRV Marv??o 152.86 25 *e*PKPab **PKPab** 01 25 41.6 0.0
EVR Evrytania 152.91 334 P **PKPbc** 01 25 32.2 +1.3
EVR Evrytania 152.91 334 P **PKPbc** 01 25 32.2 +1.3
LTK Loutraki 153.12 331 P **PKPbc** 01 25 30.1 -1.2
LTK Loutraki 153.12 331 P **PKPbc** 01 25 30.1 -1.2
EVO Evora 153.35 26 *e*PKPab **PKPab** 01 25 44.5 +0.8
DID Didima 153.40 330 P **PKPbc** 01 25 31.0 -0.9
DID Didima 153.40 330 P **PKPbc** 01 25 31.0 -0.9
DIDY Didyma 153.44 330 P **PKPbc** 01 25 31.5 -0.6
PNCL Nicolau / Gran 153.48 28 *e*PKPbc PKPbc 01 25 36.1 +4.1
GUR Goura 153.48 332 P **PKPbc** 01 25 31.9 -0.3
GUR Goura 153.48 332 P **PKPbc** 01 25 31.9 -0.3
DRO Drossia 153.75 333 P **PKPbc** 01 25 33.1 +0.4
ESDC Sonseca Array 153.87 19 PKP **PKPdf** 01 25 25.0 +0.1
ESDC PKPbc **PKiKP** 01 25 34.9 +1.9
ESDC PKPab **PKPab** 01 25 45.2 -0.7
ESDC Sonseca Array 153.87 19 PKP **PKPdf** 01 25 25.0 +0.1
comp=Z,0.3nm,0.7s,baz=327,slow=2.3,SNR=3.1
ESDC PKPbc **PKiKP** 01 25 34.9 +1.9
comp=Z,1.0nm,0.7s,baz=327,slow=1.9,SNR=9.0
ESDC PKPab **PKPab** 01 25 45.2 -0.7
comp=Z,2.4nm,0.7s,baz=333,slow=3.4,SNR=13
PBAR Barrancos 154.07 25 *e*PKPab **PKPab** 01 25 47.0 +0.3
MORF Marmelete 154.08 29 *e*PKPbc **PKPbc** 01 25 33.4 0.0
MORF Marmelete 154.08 29 *e*PKPab **PKPab** 01 25 49.8 +2.9
PCVE Castro Verde 154.09 28 *e*PKPab **PKPab** 01 25 46.2 -0.7
PVAQ Vaqueiros 154.42 27 *e*PKPbc **PKPbc** 01 25 36.2 +2.1
PVAQ Vaqueiros 154.42 27 *e*PKPab **PKPab** 01 25 48.9 +0.6
TORD Torodi Ar. Bea 174.69 112 PKP **PKPdf** 01 25 43.5 -0.5
TORD PKPab **PKPab** 01 27 18.4 +0.5
TORD Torodi Ar. Bea 174.69 112 PKP **PKPdf** 01 25 43.5 -0.5
comp=Z,2.1nm,1.0s,baz=335,slow=1.3,SNR=7.0
TORD PKPab **PKPab** 01 27 18.4 +0.5
comp=Z,1.4nm,1.0s,baz=243,slow=4.0,SNR=3.3

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*IDC **30** 01:05:53.4±1.0, 16°.19S×172°.78W, h0km, mb4.9/8, mb1 5.2/8, mb1mx4.7/20, mbtmp4.9/8, MS5.0/1, Ms1 5.0/1, ms1mx4.3/20, Error ellipse: s-maj=46.6km s-min=22.5km az=154.0*
*NEIC **30** 01:05:54.6±0.3, 16°.29S×172°.75W, h10km, mb4.9/12, Error ellipse: s-maj=18.0km s-min=7.6km az=142.0*
*ISCJB **30** 01:05:55.0±0.5, 16°.4S±0°.1×172°.8W±0°.1, h24km, mb4.8/19, Error ellipse: s-maj=24.2km s-min=9.9km az=142.5*
ISC 30 01:05:56.7±0.6, 16°.3S±0°.1×172°.8W±0°.1, h24km, n35, σ0.80/36, mb4.8/19, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
AFI	Afiamalu	2.56	22	LR	LR	LR	01 07 24.4	
comp=Z,27μm,18.9s,baz=58,slow=37								
RPZ	Rata Peaks	30.59	203	*e*P		P	01 12 08.9	+0.2
21nm,0.8s								
CAN	Canberra	38.99	234	*e*P		P	01 13 21.3	-0.1
23nm,1.2s								
CTAO	Charters Tower	39.06	258	*e*P		P	01 13 21.8	-0.4
6.5nm,0.8s								
COEN	Coen	42.56	267	*e*P		P	01 13 51.1	0.0
STKA	Stephens Creek	44.14	241	*e*P		P	01 14 03.8	+0.2
4.6nm,0.9s								
WRAB	Tennant Creek	50.25	257	*e*P		P	01 14 51.2	-0.2
7.7nm,0.6s								
WRA	Warramunga Arr	50.26	257	P		P	01 14 51.1	-0.4
WRA	Warramunga Arr	50.26	257	P		P	01 14 51.1	-0.4
11nm,0.9s,baz=92,slow=6.8,SNR=7.4								
AS31	Alice Springs	50.43	253	*e*P		P	01 14 53.0	+0.2
ASAR	Alice Springs	50.43	253	P		P	01 14 53.6	+0.8
ASAR	Alice Springs	50.43	253	P		P	01 14 53.6	+0.8
26nm,0.7s,baz=87,slow=8.0,SNR=6.0								
VNDA	Vanda	62.54	186	*e*P		P	01 16 17.2	-0.9
13nm,1.2s								
ISA	Isabella	72.87	44	*e*P		P	01 17 24.8	+0.8
24nm,1.2s								
PETK	Petropavlovsk-	73.69	342	P		P	01 17 27.7	-0.6
PETK	Petropavlovsk-	73.69	342	P		P	01 17 27.7	-0.6
19nm,0.9s,baz=130,slow=8.0,SNR=5.1								
YBH	Yreka Blue Hor	73.94	37	*e*P		P	01 17 31.1	+0.9
19nm,1.1s								
YBH	Yreka Blue Hor	73.94	37	P		P	01 17 31.6	+1.4
12nm,0.9s,baz=301,slow=3.7,SNR=6.5								
BEKR	Beckworth	74.17	39	*e*P		P	01 17 31.9	+0.2
8.2nm,1.0s								
TMUT	Trail Mountain	79.69	44	*e*P		P	01 18 04.0	+1.1
39nm,1.0s								
DIV	Divide	80.14	13	*e*P		P	01 18 03.5	-1.0
47nm,1.0s								
BNM	Barren Site	80.42	50	*e*P		P	01 18 07.2	+0.3
TXAR	Lajitas Array	80.60	56	P		P	01 18 08.6	+0.7
TXAR	Lajitas Array	80.60	56	P		P	01 18 08.6	+0.7
4.4nm,0.8s,baz=216,slow=6.2,SNR=7.5								
SLMT	Seeley Lake	82.52	36	*e*P		P	01 18 16.3	-1.3
8.4nm,1.1s								
PDAR	Pinedale Array	82.52	42	P		P	01 18 17.7	-0.2
PDAR	Pinedale Array	82.52	42	P		P	01 18 17.7	-0.2
8.3nm,0.9s,baz=224,slow=2.5,SNR=8.0								
ILAR	Eielson Array	83.22	11	P		P	01 18 19.2	-1.4
ILAR	Eielson Array	83.22	11	P		P	01 18 19.2	-1.4
3.7nm,0.7s,baz=214,slow=6.1,SNR=6.5								
CMAR	Chiang Mai Arr	93.50	288	P		P	01 19 12.7	+1.6
CMAR	Chiang Mai Arr	93.50	288	P		P	01 19 12.7	+1.6
2.9nm,0.7s,baz=89,slow=2.4,SNR=8.8								
BRTR	Keskin Array B	147.26	321	PKPbc		PKPbc	01 25 38.2	-0.4
BRTR	Keskin Array B	147.26	321	PKPbc		PKPbc	01 25 38.2	-0.4
15nm,0.8s,baz=129,slow=3.3,SNR=7.2								
TORD	Torodi Ar. Bea	173.77	120	PKP		PKPdf	01 26 05.2	0.0
TORD				PKPab		PKPab	01 27 35.2	0.0
TORD	Torodi Ar. Bea	173.77	120	PKP		PKPdf	01 26 05.2	0.0
2.5nm,0.9s,baz=320,slow=1.9,SNR=6.6								
TORD				PKPab		PKPab	01 27 35.2	0.0
1.3nm,0.9s,baz=252,slow=2.9,SNR=4.5								

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*BJI **30** 01:09:26.8, 15°.14S×173°.26W, h10km, mB5.6/18, mb5.2/22, Ms5.5/11, Ms7 5.1/14*
*IDC **30** 01:09:27.0±0.5, 15°.19S×173°.43W, h0km, mb4.7/18, mb1 4.8/18, mb1mx4.8/22, mbtmp4.7/18, Error ellipse: s-maj=20.4km s-min=15.6km az=137.0*
*NEIC **30** 01:09:29.2±0.2, 15°.03S×173°.63W, h10km, mb5.0/71, Error ellipse: s-maj=8.9km s-min=4.4km az=143.0*
*ISCJB **30** 01:09:30.6±0.2, 15°.09S±0°.06×173°.59W±0°.04, h30km, mb4.9/95, MS5.1/7, Error ellipse: s-maj=9.1km s-min=5.0km az=152.8*
*SZGRF **30** 01:09:30.9, 15°.82S×172°.44W, h33km, Samoa Islands region*
*MOS **30** 01:09:31.6±1.1, 14°.97S×173°.65

MJAR Matsushiro Arr 68.60 320 P P 01 20 32.2 -0.2
MJAR Matsushiro Arr 68.60 320 P P 01 20 32.2 -0.2
comp=Z,5.7nm,1.0s,baz=160,slow=5.8,SNR=8.0
MAJO Matsushiro 68.61 320 eP P 01 20 30.8 -1.6
MAJO pmax pmax
comp=Z,13nm,1.0s
MAJO Matsushiro 68.61 320 eP P 01 20 30.8 -1.6
comp=Z,13nm,1.0s
MAT Matsushiro 68.61 320 P P 01 20 33.1 +0.6
JNU Nakatsue 71.48 313 P P 01 20 51.8 +1.6
JNU Nakatsue 71.48 313 P P 01 20 51.8 +1.6
comp=Z,6.8nm,0.9s,baz=100,slow=8.2,SNR=3.5
MWC Mount Wilson 71.99 46 eP P 01 20 53.6 +0.1
MWC pmax pmax
comp=Z,6.0nm,0.6s
MWC Mount Wilson 71.99 46 eP P 01 20 53.6 +0.1
comp=Z,5.8nm,0.6s
CHGN Chignik 72.22 9 eP P 01 20 53.7 -0.3
PETK Petropavlovsk- 72.28 342 P P 01 20 54.4 -0.1
PETK Petropavlovsk- 72.28 342 P P 01 20 54.4 -0.1
PETK Petropavlovsk- 72.28 342 P P 01 20 54.4 -0.1
comp=Z,7.9nm,0.7s,baz=140,slow=9.4,SNR=6.1
ISA Isabella 72.50 44 eP P 01 20 56.7 +0.4
ISA pmax pmax
comp=Z,9.0nm,1.1s
ISA Isabella 72.50 44 eP P 01 20 56.7 +0.4
comp=Z,8.6nm,1.1s
CMB Columbia Colle 72.60 41 eP P 01 20 57.1 +0.3
CMB pmax pmax
comp=Z,7.0nm,1.0s
CMB Columbia Colle 72.60 41 eP P 01 20 57.1 +0.3
comp=Z,6.8nm,1.0s
YSS Yuzh-Sakhalins 73.13 330 eP P 01 20 59.1 -0.6
MPMC Manual Prospec 73.39 45 ⇓P P 01 21 02.0 +0.3
baz=74
YBH Yreka Blue Hor 73.41 37 eP P 01 21 02.0 +0.4
comp=Z,24nm,1.3s
YBH Yreka Blue Hor 73.41 37 P P 01 21 01.7 +0.1
comp=Z,4.6nm,0.7s,baz=258,slow=0.7,SNR=8.9
GSC Goldstone 73.44 46 eP P 01 21 03.0 +1.1
GSC pmax pmax
comp=Z,13nm,1.4s
GSC Goldstone 73.44 46 eP P 01 21 03.0 +1.1
comp=Z,14nm,1.4s
GSC Goldstone 73.44 46 ⇓P P 01 21 02.7 +0.8
baz=74
WAKR Walker 73.48 42 eP P 01 21 02.8 +0.6
comp=Z,12nm,1.2s
BEKR Beckworth 73.69 40 eP P 01 21 02.8 -0.6
comp=Z,3.0nm,0.8s
HUMO Hull Mountain 73.81 36 eP P 01 21 04.4 +0.6
comp=Z,26nm,1.4s
GMRC Granite Mounta 73.96 46 ⇓P P 01 21 05.6 +0.6
baz=74
NV11 Mina Array Sit 74.26 42 eP P 01 21 06.6 -0.2
113A Mohawk Valley, 74.29 49 ⇓P P 01 21 07.4 +0.6
baz=74
214A Organ Pipe Nat 74.60 50 ⇑P P 01 21 09.1 +0.5
baz=75
PDMCI Parker Dam,Lak 74.79 48 ⇑P P 01 21 10.5 +0.9
baz=75
MOD Modoc 74.94 38 eP P 01 21 10.7 +0.1
comp=Z,38nm,0.8s
QSPA South Pole Qui 74.98 180 eP P 01 21 11.1 +0.6
comp=Z,19nm,1.0s
K05A Summer Lake 75.08 37 eP P 01 21 12.1 +0.6
comp=Z,85nm,1.6s
Z14A Wintersburg 75.18 49 ⇓P P 01 21 12.7 +0.7
baz=75
SHPR Sheep Range 75.21 45 eP P 01 21 12.7 +0.4
W13A Hualapai Mount 75.38 47 ⇑P P 01 21 13.7 +0.3
baz=76
Y14A Wickenburg 75.42 48 ⇑P P 01 21 14.1 +0.6
baz=76
H04A Detroit Lake 75.55 35 eP P 01 21 16.5 +2.6
KSRS Korea Array 75.83 316 P P 01 21 17.6 +2.0
comp=Z,1.8nm,0.8s,baz=126,slow=6.6,SNR=6.3
KSAR Wonju Array Be 75.85 316 P P 01 21 17.6 +1.9
R11A Troy Canyon, C 75.90 43 ⇑P P 01 21 16.8 +0.6
baz=76
BMN Battle Mountai 75.98 41 eP P 01 21 16.8 +0.2
BMN pmax pmax
comp=Z,8.0nm,0.9s
BMN Battle Mountai 75.98 41 eP P 01 21 16.8 +0.2
comp=Z,8.3nm,0.9s
WVOR Wild Horse Val 76.25 39 eP P 01 21 18.1 0.0
WVOR Wild Horse Val 76.25 39 eP P 01 21 18.1 0.0
TUC Tucson 76.28 51 eP P 01 21 19.3 +0.9
TUC pmax pmax
comp=Z,7.0nm,1.0s
TUC Tucson 76.28 51 eP P 01 21 19.3 +0.9
comp=Z,7.1nm,1.0s
I07A Izee 76.71 37 eP P 01 21 22.0 +1.4
comp=Z,12nm,1.0s
G06A Carlson Farm, 76.76 35 eP P 01 21 22.6 +1.9
comp=Z,160nm,2.5s
X16A Lo Mia Camp, P 76.79 49 ⇑P P 01 21 21.9 +0.6
baz=77
J08A Circle Bar Ran 76.89 38 eP P 01 21 24.0 +2.4
comp=Z,18nm,1.1s
319A Douglas 76.99 52 ⇓P P 01 21 23.1 +0.7
baz=77
USRK Ussuriysk Arra 77.04 323 P P 01 21 24.2 +1.9
comp=Z,4.8nm,1.0s,baz=112,slow=3.7,SNR=9.0
U15A North Rim 77.16 46 ⇑P P 01 21 24.0 +0.5
baz=77
WUAZ Wupatki 77.37 48 ⇑P P 01 21 25.2 +0.6
baz=78
ELK Elko 77.42 41 eP P 01 21 25.5 +0.7
comp=Z,8.0nm,1.0s
320A Kipp Ranch, An 77.55 53 ⇓P P 01 21 26.4 +0.7
baz=78
G08A Pilot Rock 77.74 36 eP P 01 21 28.6 +2.2
comp=Z,17nm,1.2s
220A Playas Peak, P 77.80 52 ⇓P P 01 21 27.8 +0.8
baz=78
X18A Snowflake 77.93 49 ⇓P P 01 21 28.2 +0.4
baz=78
120A U Bar Ranch, L 78.00 51 ⇓P P 01 21 29.1 +0.9
baz=78
Z20A Nine Sixteen R 78.29 51 ⇓P P 01 21 30.6 +0.9
baz=78
221A Mesquite Ranch 78.42 52 ⇓P P 01 21 31.1 +0.6
baz=79
BMO Blue Mountains 78.44 37 eP P 01 21 29.7 -0.5
BMO Blue Mountains 78.44 37 eP P 01 21 29.7 -0.5
MFID Camas Ranch 78.51 39 ⇑P P 01 21 31.4 +0.8
baz=79
121A Cookes Peak, D 78.64 52 ⇓P P 01 21 32.4 +0.7
baz=79
MDJ Mudanjiang 78.69 322 P P 01 21 33.3 +1.9
MDJ pmax pmax
comp=Z,6.0nm,0.5s
MDJ pmax pmax
comp=Z,230nm,8.1s
DUG Dugway 78.70 43 eP P 01 21 31.7 -0.2
DUG pmax pmax
comp=Z,11nm,1.0s
DUG Dugway 78.70 43 eP P 01 21 31.7 -0.2
comp=Z,11nm,1.0s
DUG Dugway 78.70 43 ⇓P P 01 21 32.6 +0.7
baz=79
Y20A Horse Springs, 78.80 50 ⇑P P 01 21 33.7 +1.0
baz=79
X20A Quemado 79.00 50 ⇓P P 01 21 34.8 +1.1
baz=79
Z21A St. Cloud Mine 79.06 51 ⇓P P 01 21 35.3 +1.2
baz=79
DIV Divide 79.10 13 eP P 01 21 33.3 -0.2
comp=Z,24nm,0.9s
F10A Beach Ranch, E 79.12 36 eP P 01 21 34.3 +0.3
comp=Z,143nm,2.6s
BMRM Bremner River 79.22 14 eP P 01 21 33.7 -0.4
comp=Z,84nm,1.8s
W20A Ramah 79.26 49 ⇓P P 01 21 36.5 +1.3
baz=80
TMUT Trail Mountain 79.32 44 eP P 01 21 37.4 +1.9
comp=Z,20nm,0.9s
HLID Hailey 79.45 39 eP P 01 21 36.4 +0.5
comp=Z,12nm,0.9s
HLID Hailey 79.45 39 ⇑P P 01 21 36.6 +0.7
baz=80
X21A Alamocita Cree 79.48 50 ⇑P P 01 21 37.3 +0.9
baz=80
HVU Hansel Valley 79.54 42 eP P 01 21 36.3 -0.1
HVU pmax pmax
comp=Z,9.0nm,0.9s
HVU Hansel Valley 79.54 42 eP P 01 21 36.3 -0.1
comp=Z,9.3nm,0.9s
Z22A Elephant Butte 79.58 51 ⇓P P 01 21 37.5 +0.7
baz=80
V20A Brimhall 79.59 49 ⇓P P 01 21 37.5 +0.6
baz=80
SRU San Rafael 79.70 45 eP P 01 21 37.9 +0.5
SRU pmax pmax
comp=Z,20nm,1.5s
SRU San Rafael 79.70 45 eP P 01 21 37.9 +0.5
comp=Z,20nm,1.5s
U20A Newcomb 79.81 48 ⇓P P 01 21 38.7 +0.7
baz=80
Y22A Socorro 79.87 51 ⇓P P 01 21 38.6 +0.2
baz=80
W21A San Fidel 79.88 49 ⇑P P 01 21 38.7 +0.2
baz=80
LAZ Ladron 79.94 50 eP P 01 21 39.5 +0.7
comp=Z,8.7nm,1.8s
324A Moseley Ranch, 79.94 54 ⇓P P 01 21 39.0 +0.2
baz=80,SNR=9.4
LENM Lemitar 79.96 51 eP P 01 21 40.2 +1.3
comp=Z,9.7nm,1.1s
CAST Castle Rocks 79.99 10 eP P 01 21 37.8 -0.3
comp=Z,5.9nm,0.8s
425A Indio Mountain 80.06 54 ⇓P P 01 21 39.9 +0.4
baz=80,SNR=17
MNTX Cornudas Mount 80.13 53 eP P 01 21 39.4 -0.3
Z23A Rita Site, Whi 80.13 52 ⇓P P 01 21 39.9 +0.1
baz=80
224A Cornudas Mount 80.17 53 ⇓P P 01 21 40.4 +0.3
baz=80,SNR=12
PV05 Paradox Valley 80.19 46 eP P 01 21 42.6 +2.5
BNM Barren Site 80.21 51 eP P 01 21 40.9 +0.5
HWUT Hardware Ranch 80.23 42 eP P 01 21 39.7 -0.5
comp=Z,56nm,1.0s
626A Big Bend Ranch 80.24 56 ⇓P P 01 21 40.9 +0.4
baz=80,SNR=7.7
TRF Thorofare Moun 80.32 10 eP P 01 21 39.6 -0.5
comp=Z,19nm,0.9s
PV09 Paradox Valley 80.36 46 eP P 01 21 43.3 +2.2
U21A Nageezi 80.46 48 ⇓P P 01 21 41.8 +0.2
baz=81,SNR=8.7
526A Mary Lane Ranc 80.48 55 ⇑P P 01 21 42.0 +0.3
baz=81,SNR=9.5
124A Stringfield Ra 80.49 52 ⇓P P 01 21 42.1 +0.2
baz=81
NEW Newport 80.50 34 eP P 01 21 41.9 +0.6
comp=Z,3.4nm,0.9s
TXAR Lajitas Array 80.53 56 P P 01 21 42.6 +0.7
TXAR Lajitas Array 80.53 56 P P 01 21 42.6 +0.7
comp=Z,6.3nm,1.1s,baz=216,slow=8.7,SNR=11
Y23A Lovelace Mesa, 80.55 51 ⇑P P 01 21 42.7 +0.6
baz=81
PV01 Paradox Valley 80.58 46 eP P 01 21 42.4 +0.2
comp=Z,544nm,0.8s
S20A Disappointment 80.59 47 ⇑P P 01 21 42.8 +0.5
baz=81
ANMO Albuquerque 80.68 50 eP P 01 21 42.8 0.0
comp=Z,12nm,1.3s
X23A Hourglass Bar 80.73 50 ⇓P P 01 21 43.5 +0.4
baz=81
225A Deer Hill, Car 80.73 53 ⇓P P 01 21 43.6 +0.5
baz=81,SNR=6.9
R20A Redvale 80.74 46 ⇓P P 01 21 43.7 +0.7
baz=81
CN2 Changchun 80.75 320 eP P 01 21 43.8 +1.1
CN2 esP sP 01 21 50.8 -4.9
CN2 eS S 01 31 50.0 +1.4
CN2 pmax pmax
comp=Z,20nm,0.9s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,600nm,20.0s
CN2 LR LR
comp=E,500nm,20.0s
CN2 LR LR
comp=Z,400nm,19.0s
426A McDonald Obser 80.77 55 ⇓P P 01 21 43.4 +0.1
baz=81,SNR=16
V22A San Miguel Ran 80.77 49 ⇓P P 01 21 43.9 +0.6
baz=81
T21A Navajo Lake 80.80 48 ⇑P P 01 21 43.9 +0.5
baz=81
627A Terlingua Ranc 80.80 56 ⇑P P 01 21 43.7 +0.3
baz=81,SNR=7.2
BPAW Bear Paw Mtn. 80.81 10 eP P 01 21 42.0 -0.5
PAX Paxson 80.81 13 eP P 01 21 43.7 +1.0
PAX pmax pmax
comp=Z,39nm,1.9s
PAX Paxson 80.81 13 eP P 01 21 43.7 +1.0
comp=Z,39nm,1.9s
MCK McKinley 80.82 11 eP P 01 21 42.4 -0.2
MCK pmax pmax
comp=Z,31nm,0.9s
MCK McKinley 80.82 11 eP P 01 21 42.4 -0.2
comp=Z,31nm,0.9s
527A Woodward Ranch 80.89 55 ⇑P P 01 21 44.6 +0.6
baz=81,SNR=7.6
S21A Coal Bank Pass 80.92 47 ⇓P P 01 21 44.4 +0.3
baz=81
HYT Haines Junctio 80.93 17 eP P 01 21 43.9 +0.5
SNY Shenyang 80.95 318 ⇓P P 01 21 44.5 +0.8
SNY S S 01 31 46.5 -4.2
SNY pmax pmax
comp=Z,8.0nm,0.5s
SNY LR LR
comp=N,320nm,19.8s
SNY LR LR
comp=E,290nm,17.4s
SNY LR LR
comp=Z,630nm,26.4s
P19A Cripple Cowboy 81.00 45 ⇑P P 01 21 44.8 +0.4
baz=81
W23A Werner Place, 81.00 50 ⇓P P 01 21 44.8 +0.3
baz=81
Y24A Capitan 81.01 51 ⇑P P 01 21 44.9 +0.3
baz=81,SNR=7.8
U22A Llaves 81.02 49 ⇓P P 01 21 44.5 -0.1
baz=81
MCMT McKenzie Canyo 81.07 39 eP P 01 21 45.0 +0.3
comp=Z,6.3nm,1.0s
125A Gardner Draw, 81.08 53 ⇑P P 01 21 45.2 +0.4
baz=81
GDL2 Guadalupe Moun 81.12 53 eP P 01 21 47.4 +2.3
Q20A Ridgley Place, 81.15 46 ⇑P P 01 21 45.5 +0.3
baz=81
MENT Mentasta 81.16 13 eP P 01 21 44.6 +0.1
O19A Miners Draw (B 81.21 44 ⇑P P 01 21 45.4 -0.1
baz=81
628A Black Gap, Mar 81.22 56 ⇓P P 01 21 45.7 +0.1
baz=81,SNR=6.5
226B Tecolote Peak, 81.23 54 ⇓P P 01 21 45.7 +0.1
baz=81,SNR=8.4
V23A Ortiz Mt. (NFS 81.23 49 ⇓P P 01 21 46.2 +0.4
baz=81
T22A Edith 81.26 48 ⇓P P 01 21 46.1 +0.2
baz=82
RRI2 Red Ridge 81.26 41 eP P 01 21 45.7 -0.1
comp=Z,12nm,0.8s
Z25A Roswell 81.29 52 ⇑P P 01 21 46.0 0.0
baz=82
427A Hayter Ranch, 81.34 55 ⇑P P 01 21 46.6 +0.3
baz=82,SNR=12
P20A De Beque 81.34 45 ⇓P P 01 21 46.5 +0.4
baz=82
L18A Fontenelle, Gr 81.38 42 ⇓P P 01 21 46.9 +0.5
baz=82
R21A Cimarron 81.41 47 ⇓P P 01 21 46.9 +0.2
baz=82,SNR=5.6
U23A El Rito 81.48 49 ⇓P P 01 21 47.0 -0.1
baz=82
MSO Missoula 81.49 37 eP P 01 21 47.7 +1.0
comp=Z,14nm,1.3s
MSO Missoula 81.49 37 ⇑P P 01 21 47.0 +0.3
baz=82
528A Cox Ranch, San 81.56 56 ⇑P P 01 21 47.7 +0.3
baz=82,SNR=7.6
BSMT Bassoo Peak 81.56 36 eP P 01 21 46.8 -0.4
REDW Red Top Meadow 81.56 41 eP P 01 21 46.9 -0.5
comp=Z,13nm,1.1s
TPAW Teton Pass 81.57 41 eP P 01 21 47.8 +0.4
comp=Z,14nm,0.8s
126A Clayton Basin, 81.57 53 ⇑P P 01 21 47.9 +0.5
baz=82,SNR=6.9
Y25A Mesa, Roswell 81.57 52 ⇓P P 01 21 47.5 0.0
baz=82
W24A Lazy 6 Ranch, 81.58 50 ⇓P P 01 21 47.6 +0.1
baz=82
S22A 4UR Ranch, Cre 81.64 47 ⇑P P 01 21 48.3 +0.4
baz=82,SNR=9.9
SNOW Snow King Moun 81.68 41 eP P 01 21 47.9 -0.1
comp=Z,19nm,1.0s
O20A White River Ci 81.73 45 ⇓P P 01 21 48.7 +0.5
baz=82
IMW Indian Meadow 81.78 40 eP P 01 21 48.9 +0.4
comp=Z,11nm,0.8s
LRM Limekiln Ridge 81.83 38 eP P 01 21 48.8 0.0
LOHW Long Hollow 81.85 41 eP P 01 21 48.5 -0.4
comp=Z,6.0nm,0.9s
X25A Clemmons Ranch 81.85 51 ⇓P P 01 21 49.2 +0.2
baz=82
Z26A Caprock 81.85 52 ⇑P P 01 21 49.0 +0.1
baz=82,SNR=10
428A Kincaid Ranch, 81.86 55 ⇑P P 01 21 48.9 -0.1
baz=82
V24A Rampart Ranch, 81.89 50 ⇑P P 01 21 48.8 -0.5
baz=82
CHMT Chamberlain Mo 81.94 37 eP P 01 21 48.7 -0.5
QLMT Earthquake Lak 81.94 39 eP P 01 21 50.2 +0.9
SLMT Seeley Lake 81.97 37 eP P 01 21 50.1 +0.8
529A Stev Forest Ra 82.00 56 ⇓P P 01 21 49.3 -0.4
baz=82,SNR=6.0
328A Wristen Ranch, 82.01 55 ⇓P P 01 21 49.4 -0.4
baz=82,SNR=7.4
I17A Pilgrim Ck. 82.02 41 ⇑P P 01 21 49.9 +0.2
baz=82
FLWY Flagg Ranch 82.02 40 eP P 01 21 50.4 +0.7
comp=Z,14nm,0.8s
N20A Spence Gulch, 82.04 44 ⇑P P 01 21 50.1 +0.2
baz=82
COLA College 82.06 11 eP P 01 21 48.1 -1.0
COLA pmax pmax
comp=Z,38nm,0.7s
COLA College 82.06 11 eP P 01 21 48.1 -1.0
comp=Z,38nm,0.7s
Q22A Crested Butte, 82.07 46 ⇓P P 01 21 50.6 +0.4
baz=82,SNR=9.7
127A Arkansas Junct 82.09 53 ⇑P P 01 21 50.5 +0.3
baz=82,SNR=5.5
BW06 Boulder Array 82.10 42 eP P 01 21 50.4 +0.2
PDAR Pinedale Array 82.10 42 P P 01 21 49.8 -0.4
PDAR Pinedale Array 82.10 42 P P 01 21 49.8 -0.4
comp=Z,5.9nm,0.8s,baz=214,slow=2.8,SNR=19
ILAR Eielson Array 82.14 11 P P 01 21 49.0 -0.5
ILAR Eielson Array 82.14 11 P P 01 21 49.0 -0.5
comp=Z,4.4nm,0.8s,baz=203,slow=4.9,SNR=15
YMR Madison River 82.15 40 eP P 01 21 51.1 +0.8
comp=Z,9.2nm,0.8s
IM04 Indian Mountai 82.15 8 eP P 01 21 50.1 +0.5
SEY Seymchan 82.17 345⇓eP P 01 21 49.4 -0.3
SMCO Snowmass 82.17 46 eP P 01 21 51.3 +0.5
comp=Z,130nm,2.5s
IMA2 Indian Mountai 82.25 8 eP P 01 21 50.4 +0.1
H17A Grant Village 82.25 40 eP P 01 21 52.1 +1.2
H17A Grant Village 82.25 40 ⇑P P 01 21 51.3 +0.4
baz=82
W25A X Bar L Ranch, 82.28 51 ⇓P P 01 21 51.4 +0.2
baz=82
T24B San Luis 82.38 49 ⇓P P 01 21 52.2 +0.3
baz=83
M20A Sweetwater, Wa 82.40 44 ⇓P P 01 21 52.2 +0.4
baz=83,SNR=6.3
V25A Rancho No Teng 82.42 50 ⇑P P 01 21 52.2 +0.2
baz=83
LKWY Lake 82.44 40 eP P 01 21 53.2 +1.2
LKWY pmax pmax
comp=Z,13nm,1.0s
LKWY Lake 82.44 40 eP P 01 21 53.2 +1.2
comp=Z,13nm,1.0s
429A Davenport Ranc 82.45 56 ⇓P P 01 21 52.1 +0.1
baz=83,SNR=19
Z27A Tatum 82.46 53 ⇓P P 01 21 52.3 +0.2
baz=83
228A UT Block 9, Go 82.47 54 ⇑P P 01 21 52.3 +0.1
baz=83
X26A CR and CF Fran 82.50 51 ⇓P P 01 21 52.2 -0.2
baz=83
P22A Eagle 82.50 46 ⇑P P 01 21 52.5 +0.1
baz=83,SNR=5.6
N21A Black Mountain 82.51 44 ⇑P P 01 21 52.6 +0.3
baz=83,SNR=7.4
L20A Wamsutter 82.54 43 ⇓P P 01 21 52.8 +0.3
baz=83,SNR=14
R23A Moffat 82.54 47 ⇑P P 01 21 52.7 0.0
baz=83
K19A Absolon Red Bu 82.59 42 ⇑P P 01 21 52.4 -0.2
baz=83
HRY Holter Researc 82.66 38 eP P 01 21 53.5 +0.6
J19A Crowheart 82.67 42 ⇓P P 01 21 53.0 -0.1
baz=83,SNR=7.1
329A Wagon Wheel Ra 82.71 55 ⇑P P 01 21 53.6 +0.2
baz=83,SNR=7.7
530A J-C Ranch, Com 82.71 56 ⇑P P 01 21 53.4 0.0
baz=83
Y27A Causey 82.72 52 ⇑P P 01 21 53.6 +0.1
baz=83
S24A Houchin Ranch, 82.75 48 ⇑P P 01 21 53.4 -0.4
baz=83
128A Castleberry Fa 82.75 54 ⇑P P 01 21 54.0 +0.3
baz=83,SNR=8.2
W26A Owens Ranch, T 82.75 51 ⇑P P 01 21 53.4 -0.3
baz=83
U25A Circle Dot Ran 82.81 49 ⇓P P 01 21 53.8 -0.2
baz=83,SNR=6.2
K20A Yellowstone Ra 82.84 42 ⇑P P 01 21 53.5 -0.5
baz=83
Q23A Hartsel 82.85 47 ⇓P P 01 21 54.3 0.0
baz=83,SNR=5.2
O22A Kremmling 82.90 45 ⇑P P 01 21 54.6 0.0
baz=83,SNR=8.9
H18A Shoshone NF, C 82.96 40 ⇑P P 01 21 54.0 -0.6
baz=83
M21A Separation Pea 83.00 44 ⇓P P 01 21 54.7 -0.2
baz=83
430A Baggett Ranch, 83.03 56 ⇓P P 01 21 55.0 -0.1
baz=83
P23A Jefferson 83.05 46 ⇓P P 01 21 55.3 0.0
baz=83
MSTX Muleshoe 83.05 52 ⇓P P 01 21 54.7 -0.5
baz=83,SNR=6.8
631A Perdido Creek 83.06 57 ⇓P P 01 21 55.3 +0.1
baz=83
I19A Meeteetse 83.07 41 ⇓P P 01 21 55.7 +0.5
baz=83
R24A Sanders Place, 83.07 48 ⇓P P 01 21 55.4 +0.1
baz=83
X27A F and S Farms, 83.07 51 ⇓P P 01 21 55.3 0.0
baz=83
Z28A Tucker Farm, M 83.08 53 ⇑P P 01 21 55.3 0.0
baz=83
T25A Trinidad 83.11 49 ⇓P P 01 21 55.1 -0.4
baz=83
L21A Rawlins 83.16 43 ⇑P P 01 21 55.8 +0.1
baz=83
129A Stewart Farms, 83.23 54 ⇓P P 01 21 56.1 0.0
baz=83
N22A Wattenberg Ran 83.25 45 ⇑P P 01 21 56.0 -0.3
baz=83,SNR=13
W27A Bowe Ranch, En 83.27 51 ⇑P P 01 21 56.0 -0.3
baz=84,SNR=8.1
U26A Atchley Ranch, 83.30 50 ⇑P P 01 21 56.3 -0.2
baz=84
732A Laxson Ranch, 83.30 58 ⇓P P 01 21 56.3 -0.2
baz=84
S25A Robets Cordova 83.31 48 ⇑P P 01 21 56.4 -0.2
baz=84,SNR=7.6
EGAK Eagle 83.33 13 eP P 01 21 56.0 +0.3
comp=Z,15nm,1.3s
J20A Shoshoni 83.33 42 ⇓P P 01 21 56.3 -0.2
baz=84,SNR=11
Q24A Divide 83.35 47 ⇓P P 01 21 56.6 -0.3
baz=84
531A Rocksprings 83.36 56 ⇑P P 01 21 56.7 -0.1
baz=84,SNR=7.8
O23A Lake Granby, G 83.36 45 ⇓P P 01 21 56.8 -0.1
baz=84
H19A Powell 83.38 40 ⇓P P 01 21 56.9 +0.2
baz=84
ISCO Idaho Springs 83.39 46 eP P 01 21 57.5 +0.4
ISCO pmax pmax
comp=Z,6.0nm,0.9s
ISCO Idaho Springs 83.39 46 eP P 01 21 57.5 +0.4
comp=Z,6.5nm,0.9s

ISCO	Idaho Springs	83.39	46	⇑P		P	01 21 57.3	+0.3
	baz=84							
M22A	Cedar Creek Ra	83.42	44	⇓P		P	01 21 56.9	-0.3
	baz=84							
Y28A	McKinney Farm,	83.43	52	⇑P		P	01 21 56.9	-0.3
	baz=84							
GCMT	Greycliff	83.50	39	eP		P	01 21 57.3	0.0
K21A	Alcova	83.54	43	⇑P		P	01 21 57.5	-0.2
	baz=84,SNR=11							
I20A	Worland	83.58	41	⇓P		P	01 21 57.8	+0.1
	baz=84,SNR=13							
Z29A	Hungry Hill Ra	83.60	53	⇑P		P	01 21 57.7	-0.3
	baz=84							
R25A	Fountain Ranch	83.63	48	⇑P		P	01 21 58.0	-0.1
	baz=84							
N23A	Red Feather La	83.64	45	⇑P		P	01 21 58.2	0.0
	baz=84,SNR=10.0							
T26A	Comanche Natio	83.72	49	⇑P		P	01 21 58.2	-0.4
	baz=84							
632A	Uvalde	83.73	57	⇓P		P	01 21 58.6	-0.1
	baz=84							
J21A	Lysite	83.74	42	⇑P		P	01 21 58.7	+0.1
	baz=84,SNR=18							
L22A	Ellis Ranch, M	83.81	44	⇑P		P	01 21 59.2	+0.2
	baz=84,SNR=9.4							
COLD	Coldfoot	83.83	9	eP		P	01 21 59.9	+1.6
	comp=Z,14nm,1.1s							
Y29A	Porterfield Fa	83.85	53	⇑P		P	01 21 59.1	-0.2
	baz=84							
532A	Rocksprings	83.86	57	⇓P		P	01 21 59.1	-0.2
	baz=84							
331A	San Angelo	83.87	55	⇑P		P	01 21 59.2	-0.2
	baz=84							
O24A	Longmont	83.90	46	⇑P		P	01 21 59.5	+0.1
	baz=84							
H20A	Greybull	83.91	41	⇓P		P	01 21 59.2	-0.1
	baz=84							
F19A	Roth Farm, Mol	83.97	39	⇓P		P	01 21 59.5	-0.1
	baz=84,SNR=12							
U27A	Thompson Grove	83.98	50	⇓P		P	01 21 59.3	-0.6
	baz=84							
S26A	Kim	84.00	49	⇑P		P	01 21 59.4	-0.6
	baz=84							
K22A	Casper	84.03	43	⇓P		P	01 21 59.8	-0.3
	baz=84							
M23A	Laramie	84.04	44	⇑P		P	01 21 60.0	-0.2
	baz=84,SNR=7.6							
I21A	Big Trails, Te	84.05	42	⇑P		P	01 21 59.9	-0.2
	baz=84,SNR=14							
Z30A	Sanderson Ranc	84.06	53	⇑P		P	01 21 59.8	-0.5
	baz=84,SNR=9.2							
G20A	Bridger	84.12	40	⇑P		P	01 21 59.9	-0.5
	baz=84							
PHWY	Pilot Hill	84.15	45	eP		P	01 22 00.8	-0.1
	comp=Z,14nm,1.2s							
231A	Bronte	84.19	55	⇑P		P	01 22 00.6	-0.4
	baz=84							
432A	Menard	84.22	56	⇑P		P	01 22 00.8	-0.3
	baz=84							
P25A	Willow Gulch B	84.28	47	⇓P		P	01 22 00.9	-0.5
	baz=84,SNR=8.5							
R26A	Arlington	84.29	48	⇑P		P	01 22 01.0	-0.5
	baz=84							
N24A	Carr	84.33	45	⇑P		P	01 22 01.4	-0.3
	baz=84,SNR=5.9							
L23A	Garrett	84.34	44	⇑P		P	01 22 01.5	-0.2
	baz=84,SNR=12							
W29A	Amraillo	84.36	52	⇓P		P	01 22 01.6	-0.3
	baz=84,SNR=5.6							
E19A	Rath Farm, Rou	84.36	39	⇑P		P	01 22 01.5	-0.1
	baz=85,SNR=11							
J22A	Midwest	84.40	42	⇑P		P	01 22 01.4	-0.5
	baz=85							
131A	Roby	84.40	54	⇓P		P	01 22 01.4	-0.6
	baz=85							
F20A	Billings	84.44	40	⇑P		P	01 22 01.9	-0.1
	baz=85							
332A	Millersview	84.44	56	⇑P		P	01 22 01.9	-0.4
	baz=85							
Y30A	Stafford Cattl	84.46	53	⇑P		P	01 22 02.2	-0.1
	baz=85							
EGMT	Eagleton	84.54	37	eP		P	01 22 01.5	-1.0
H21A	Big Horn, Sher	84.58	41	⇑P		P	01 22 02.5	-0.3
	baz=85,SNR=5.7							
I22A	9 Mile Ranch,	84.61	42	⇑P		P	01 22 02.6	-0.3
	baz=85,SNR=8.8							
D19A	Cripps Ranch,	84.64	38	⇑P		P	01 22 02.8	-0.2
	baz=85,SNR=8.5							
M24A	Cheyenne	84.65	45	⇓P		P	01 22 02.9	-0.3
	baz=85							
K23A	Bowen Ranch, D	84.67	43	⇓P		P	01 22 02.8	-0.5
	baz=85,SNR=7.3							
X30A	Coker Ranch, T	84.69	52	⇓P		P	01 22 02.7	-0.7
	baz=85							
232A	Coleman	84.70	55	⇑P		P	01 22 02.8	-0.8
	baz=85							
R27A	Eads	84.75	48	⇓P		P	01 22 03.2	-0.6
	baz=85							
G21A	Lodge Grass	84.75	41	⇑P		P	01 22 03.2	-0.4
	baz=85							
E20A	Meyer Farm, Mu	84.78	39	⇑P		P	01 22 03.6	0.0
	baz=85,SNR=7.7							
T28A	Walsh	84.79	50	⇑P		P	01 22 03.4	-0.6
	baz=85							
C19A	Slack Wire Ran	84.81	38	⇓P		P	01 22 03.9	+0.1
	baz=85,SNR=5.3							
L24A	Wheatland	84.82	44	⇑P		P	01 22 04.3	+0.2
	baz=85							
Z31A	Sharp Cattle R	84.83	54	⇑P		P	01 22 03.7	-0.5
	baz=85							
ABTX	Abilene, Hawle	84.97	54	eP		P	01 22 04.5	-0.4
ABTX	Abilene, Hawle	84.97	54	⇓P		P	01 22 04.5	-0.4
	baz=85							
Y31A	Rekieta Farm,	84.98	53	⇑P		P	01 22 04.7	-0.2
	baz=85,SNR=6.4							
D20A	Manuel Ranch,	85.05	39	⇑P		P	01 22 05.1	+0.1
	baz=85							
BJI	Beijing	85.15	314	P		P	01 22 05.0	-0.5
BJI				pmax		pmax		
	comp=Z,13nm,0.8s							
BJI				LR		LR		
	comp=Z,1μm,29.9s							
Z32A	Haskell	85.35	54	⇓P		P	01 22 06.3	-0.5
	baz=86							
C20A	Veseth Ranch,	85.42	38	⇑P		P	01 22 06.7	-0.1
	baz=86,SNR=5.7							
X31A	McDonald Ranch	85.44	53	⇓P		P	01 22 06.2	-1.0
	baz=86							
R28A	Tribune	85.48	49	⇓P		P	01 22 06.5	-1.0
	baz=86							
A19A	Klindworth Far	85.57	37	⇑P		P	01 22 07.2	-0.4
	baz=86							
Y32A	R-V Farms, Ver	85.63	53	⇑P		P	01 22 07.9	-0.2
	baz=86							
W31A	Holland Ranch,	85.67	52	⇓P		P	01 22 08.3	-0.1
	baz=86							
D21A	La Casta Ranch	85.73	39	⇑P		P	01 22 08.5	+0.1
	baz=86							
B20A	Solberg Farm,	85.76	37	⇓P		P	01 22 08.8	+0.4
	baz=86							
G23A	Biddle	85.89	41	⇓P		P	01 22 09.1	-0.1
	baz=86							
A20A	Cobblestone Ra	86.02	37	⇑P		P	01 22 09.6	-0.1
	baz=86,SNR=7.0							
LAO	LASA Array	86.03	40	eP		P	01 22 10.2	+0.3
	comp=Z,35nm,1.4s							
F23A	Volborg	86.11	41	⇓P		P	01 22 10.2	-0.1
	baz=86							
H24A	Dirks Ranch, A	86.23	42	⇑P		P	01 22 11.0	+0.1
	baz=86,SNR=7.9							
D22A	Cohagen	86.26	39	⇑P		P	01 22 11.1	+0.1
	baz=86							
Q29A	Oakley	86.30	48	⇑P		P	01 22 11.2	-0.2
	baz=86							
RSSD	Black Hills	86.30	43	eP		P	01 22 10.4	-1.1
RSSD				pmax		pmax		
	comp=Z,37nm,1.1s							
RSSD	Black Hills	86.30	43	eP		P	01 22 10.3	-1.1
	comp=Z,37nm,1.1s							
I25A	Rochford	86.46	43	⇓P		P	01 22 12.0	-0.2
	baz=87,SNR=6.0							
B22A	Reddig Ranch S	86.89	38	⇑P		P	01 22 14.4	+0.3
	baz=87							
HKT	Hockley	87.11	58	eP		P	01 22 15.7	+0.3
HKT				pmax		pmax		
	comp=Z,17nm,1.3s							
HKT	Hockley	87.11	58	eP		P	01 22 15.7	+0.3
	comp=Z,17nm,1.3s							
C23A	Lambert	87.16	39	⇓P		P	01 22 15.3	-0.1
	baz=87							
J27A	Elkhorn Farm,	87.29	44	⇑P		P	01 22 16.5	+0.4
	baz=88							
B23A	Brockton	87.56	38	⇓P		P	01 22 17.4	+0.1
	baz=88							
GYA	Guiyang	87.78	298	P		P	01 22 20.0	+1.1
GYA				PP		PP	01 25 47.5	+2.4
GYA				SKS		SKSac	01 32 45.8	+0.3
GYA				S		S	01 33 01.0	+1.1
GYA				SS		SS	01 38 50.5	+3.0
GYA				pmax		pmax		
	comp=Z,20nm,1.0s							
GYA				pmax		pmax		
	comp=Z,130nm,6.6s							
GYA				LR		LR		
	comp=N,540nm,21.8s							
GYA				LR		LR		
	comp=E,530nm,22.4s							
GYA				LR		LR		
	comp=Z,610nm,21.7s							
INK	Inuvik	87.98	14	eP		P	01 22 18.5	-0.2
	comp=Z,14nm,1.4s							
MAW	Mawson	88.07	199	P		P	01 22 19.3	-0.1
MAW	Mawson	88.07	199	P		P	01 22 19.3	-0.1
	comp=Z,8.7nm,0.8s,baz=140,slow=9.4,SNR=17							
HHC	Hu-ho-hao-te	88.71	313	eP		P	01 22 22.3	-0.7
HHC				pP		PcP	01 22 27.0	+2.4
HHC				sP		sP	01 22 29.3	-6.8
HHC				PP		PP	01 25 53.5	+1.2
HHC				SKS		SKSac	01 32 48.8	-1.6
HHC				S		S	01 33 06.5	-1.7
HHC				SS		SS	01 39 01.3	+0.8
HHC				pmax		pmax		
	comp=Z,26nm,1.2s							
HHC				pmax		pmax		
	comp=Z,660nm,5.4s							
HHC				LR		LR		
	comp=N,310nm,15.8s							
HHC				LR		LR		
	comp=E,1μm,17.0s							
HHC				LR		LR		
	comp=Z,440nm,16.4s							
PLCA	Paso Flores	89.83	132	eP		P	01 22 28.4	0.0
	comp=Z,5.7nm,1.2s							
PLCA	Paso Flores	89.83	132	P		P	01 22 26.1	-2.3
	comp=Z,2.1nm,1.0s,baz=254,slow=7.4,SNR=2.6							
YKA	Yellowknife Ar	89.84	23	P		P	01 22 26.1	-1.5
YKA	Yellowknife Ar	89.84	23	P		P	01 22 26.1	-1.5
	comp=Z,3.1nm,0.8s,baz=237,slow=4.4,SNR=5.4							
KMI	Kunming	90.77	296	P		P	01 22 36.3	+3.1
KMI				pmax		pmax		
	comp=Z,9.0nm,1.7s							
TEIG	Tepich	90.78	69	eP		P	01 22 33.3	+0.3
	comp=Z,11nm,0.9s							
JTS	JuntasAbangare	91.27	80	eP		P	01 22 36.2	+0.8
	comp=Z,99nm,1.0s							
CD2	Chengdu	91.53	301	P		P	01 22 37.0	+0.7
CD2				pmax		pmax		
	comp=Z,9.0nm,0.6s							
SYO	Syowa Base	92.90	191	eP		P	01 22 40.0	-1.9
LZH	Lanzhou	92.93	306	eP		P	01 22 43.5	+0.7
LZH				pP		PcP	01 22 47.5	+4.0
LZH				sP		sP	01 22 49.5	-6.5
LZH				PP		PP	01 26 31.0	+5.1
LZH				SKS		SKSac	01 33 11.5	-3.5
LZH				eS		S	01 33 42.0	-5.1
LZH				SS		SS	01 40 04.5	+2.8
LZH				pmax		pmax		
	comp=Z,26nm,1.1s							
LZH				pmax		pmax		
	comp=Z,110nm,4.6s							
LZH				LR		LR		
	comp=N,770nm,16.3s							
LZH				LR		LR		
	comp=E,830nm,17.4s							
LZH				LR		LR		
	comp=Z,1μm,18.8s							
SNAA	Sanae	93.24	177	ePP		P	01 22 44.0	+0.5
SNAA	Sanae	93.24	177	eP		P	01 22 44.4	+0.8
	comp=Z,6.6nm,1.3s							
LCO	Las Campanas	93.63	121	eP		P	01 22 47.8	+1.3
	comp=Z,10nm,0.6s							
OXF	Oxford	93.67	55	eP		P	01 22 45.6	-0.5
OXF				pmax		pmax		
	comp=Z,26nm,1.2s							
OXF	Oxford	93.67	55	eP		P	01 22 45.5	-0.5
	comp=Z,26nm,1.2s							
SONM	Songino Array	94.51	318	P		P	01 22 50.7	+0.9
SONM	Songino Array	94.51	318	P		P	01 22 50.7	+0.9
	comp=Z,2.1nm,0.9s,baz=133,slow=6.3,SNR=4.1							
WMQ	Urumqi	106.55	312	eP		Pdif	01 23 43.8	0.0
ZALV	Zalesovo Beam	108.89	322	PKiKP		PKiKP	01 27 57.7	-0.7
ZALV	Zalesovo Beam	108.89	322	PKiKP		PKiKP	01 27 57.7	-0.7
	comp=Z,0.8nm,0.7s,baz=90,slow=1.5,SNR=3.7							
MK31	Makanchi Array	110.50	315	ePKiKP		PKiKP	01 27 59.0	-2.7
MK31	Makanchi Array	110.50	315	ePKP		PKiKP	01 27 59.0	-2.7
MKAR	Makanchi Array	110.50	315	PKiKP		PKiKP	01 28 00.7	-1.1
MKAR	Makanchi Array	110.50	315	PKiKP		PKiKP	01 28 00.7	-1.1
MKAR	Makanchi Array	110.50	315	PKiKP		PKiKP	01 28 00.7	-1.1
	comp=Z,0.7nm,0.7s,baz=239,slow=0.2,SNR=3.7							
KURK	Kurchatov	112.81	319	⇑iPKIKP		PKiKP	01 28 05.5	-0.4
KURK				pmax		pmax		
	comp=Z,6.0nm,2.5s							
KURK	Kurchatov	112.81	319	ePKP		PKiKP	01 28 05.2	-0.7
KSH	Kashi	115.17	307	ePKP		PKdf	01 28 11.5	+0.5
KSH				PKS		PKSdf	01 31 46.8	-1.0
KSH				SKS		SKSdf	01 35 22.5	+1.2
KSH				AMB		AMB		
	comp=Z,110nm,5.7s							
KSH				LR		LR		
	comp=N,350nm,11.1s							
KSH				LR		LR		
	comp=E,700nm,14.7s							
KSH				LR		LR		
	comp=Z,1μm,18.0s							
TKM2	Tokmak 2	115.35	311	ePKIKP		PKPdf	01 28 12.2	+0.9
TKM2	Tokmak 2	115.35	311	ePKPdf		PKPdf	01 28 12.2	+0.9
BRVK	Borovoye	117.60	322	⇑iPKIKP		PKPdf	01 28 15.0	0.0
BRVK				pmax		pmax		
	comp=Z,4.0nm,0.8s							
BRVK	Borovoye	117.60	322	ePKPdf		PKPdf	01 28 14.8	-0.2
KBL	Kabul	120.87	301	ePKIKP		PKPdf	01 28 23.1	+0.9
KBL	Kabul	120.87	301	ePKPdf		PKPdf	01 28 23.1	+0.9
ARU	Arti	122.99	328	i PKIKP		PKPdf	01 28 25.5	+0.2
ARU							01 30 06.6	
ARU							01 35 26.4	
ARU				SS		SS	01 46 49.1	+2.8
ARCES	ARCESS Array B	124.26	352	PKP		PKPdf	01 28 26.6	-0.8
ARCES	ARCESS Array B	124.26	352	PKP		PKPdf	01 28 26.6	-0.8
	comp=Z,8.1nm,0.8s,baz=350,slow=3.7,SNR=9.5							
ABKAR	Akbulak array	124.88	320	ePKPdf		PKPdf	01 28 29.4	+0.3
FINES	FINESS Array B	131.59	348	PKP		PKPdf	01 28 40.2	-1.4
FINES	FINESS Array B	131.59	348	PKP		PKPdf	01 28 40.2	-1.4
	comp=Z,5.3nm,0.9s,baz=106,slow=4.2,SNR=6.0							
OBN	Obninsk	133.76	336	⇑iPKIKP		PKPdf	01 28 46.0	+0.2
OBN				e			01 28 52.2	
OBN							01 31 12.0	
OBN				pmax		pmax		
	comp=Z,12nm,1.2s							
NOA	NORSAR Array B	133.97	357	PKP		PKPdf	01 28 46.1	0.0
NOA	NORSAR Array B	133.97	357	PKP		PKPdf	01 28 46.1	0.0
	comp=Z,1.1nm,0.8s,baz=351,slow=3.7,SNR=4.0							
AKASG	Malin Array Be	139.99	338	PKIKP		PKPpre	01 28 51.8	
AKASG							01 28 56.5	
AKASG	Malin Array Be	139.99	338	PKPpre		PKPpre	01 28 51.8	
AKASG				PKP		PKPdf	01 28 56.5	-1.0
AKASG	Malin Array Be	139.99	338	PKhKP		PKPpre	01 28 51.8	
	comp=Z,1.3nm,0.6s,baz=40,slow=3.9,SNR=5.1							
AKASG				PKP		PKPdf	01 28 56.5	-1.0
	comp=Z,6.3nm,0.9s,baz=30,slow=2.6,SNR=9.0							
KIEV	Kiev	140.00	338	ePKIKP		PKPdf	01 28 57.5	0.0
KIEV	Kiev	140.00	338	ePKPdf		PKPdf	01 28 57.5	0.0
LSZ	Lusaka	142.99	216	ePKPdf		PKPdf	01 29 03.0	-1.1
KWP	Kalwaria Pacla	143.07	342	ePKPdf		PKPbc	01 29 01.1	+1.2
KWP	Kalwaria Pacla	143.07	342	⇑iP		PKPbc	01 29 01.4	+1.5
KWP	Kalwaria Pacla	143.07	342	ePKP		PKPbc	01 29 01.3	+1.4
CLL	Collm	143.47	353	ePKPdf		PKPbc	01 29 01.0	0.0
CLL				e			01 29 07.0	
CLL				e			01 29 09.0	
MALT	Malatya	143.54	316	⇓iP		PKPdf	01 29 04.0	-0.4
STHS	Stebnicka Huta	143.68	344	ePKP		PKPab	01 29 00.2	-0.7
BRG	Berggiesshubel	143.78	352	ePKP		PKPdf	01 29 06.4	+2.1
	comp=Z,3.8nm,0.9s							
UPC	Upice	143.81	350	ePKP		PKPdf	01 29 07.0	+2.6
UPC				epPKP		PKiKP	01 29 10.8	+3.0
KOLS	Kolonicke sedl	143.82	342	ePKP		PKPdf	01 29 04.0	-0.5
DPC	Dobruska-Polom	143.91	349	ePKP		PKPdf	01 29 04.3	-0.3
DPC				epPKP		PKiKP	01 29 10.9	+2.8
BUR08	Bucovina Ar. S	143.99	338	ePKPdf		PKPdf	01 29 03.9	-1.0
BURAR	Bucovina Array	144.01	338	⇓iP		PKPbc	01 29 03.4	+0.5
OKC	Ostrava-Krasne	144.04	347	ePKP		PKPdf	01 29 04.0	-0.8
OKC				epPKP		PKiKP	01 29 11.3	+3.0
CRVS	Cervenica-Dubn	144.08	343	ePKP		PKPdf	01 29 04.1	-0.8
MORC	Moravsky Berou	144.22	348	ePKIKP		PKPdf	01 29 04.2	-1.0
MORC	Moravsky Berou	144.22	348	ePKPdf		PKPdf	01 29 04.2	-1.0
TSUM	Tsumeb	144.23	198	ePKPdf		PKPdf	01 29 05.6	-0.6
TANN	Tannenbergstha	144.41	353	ePKPbc		PKPbc	01 29 04.4	+0.5
TRPA	Tarpa	144.46	341	⇑iP		PKPdf	01 29 05.5	0.0
TRPA	Tarpa	144.46	341	e		PKPdf	01 29 05.1	-0.4
MEM	Membach	144.55	1	PKP		PKPdf	01 29 05.6	0.0
BMR	Baia Mare	144.55	340	⇓iP		PKPdf	01 29 06.1	+0.3
PRU	Pruhonice	144.56	351	ePKP		PKPdf	01 29 05.8	+0.1
PRU				epPKP		PKiKP	01 29 11.3	+1.9
NKC	Novy Kostel	144.59	353	ePKP		PKPdf	01 29 05.6	-0.2
SNF	Seneffe	144.60	2	PKP		PKPbc	01 29 05.0	+0.6
BCLA	Clavier	144.73	1	PKP		PKPbc	01 29 04.8	-0.1
KECS	Kecovo	144.73	344	ePKP		PKPdf	01 29 05.9	-0.1
CFR	Carcaliu	144.85	333	⇑iP		PKPdf	01 29 07.4	+1.1
VRI	Vrincioaia	144.89	335	⇑iP		PKPdf	01 29 06.4	0.0
PLOR	Plostina	144.94	335	⇑iP		PKPbc	01 29 05.9	+0.1
DOU	Dourbes	145.03	2	PKP		PKPdf	01 29 06.5	0.0
ROTZ	Rotzenmuhle	145.08	354	ePKPbc		PKPbc	01 29 05.7	-0.3
GRER		145.18	334	⇓iP		PKPdf	01 29 09.7	+2.8
GRF	Grafenberg Arr	145.25	355	ePKPbc		PKPab	01 29 06.7	0.0
GRFO	Grafenberg	145.25	355	ePKIKP		PKPdf	01 29 07.0	+0.1
GRFO	Grafenberg	145.25	355	ePKPbc		PKPdf	01 29 07.0	+0.1
TIRR	Tirgusor	145.28	332	ePKIKP		PKPab	01 29 06.9	0.0
TIRR	Tirgusor	145.28	332	ePKPbc		PKPab	01 29 06.9	0.0
TIRR	Tirgusor	145.28	332	⇑iP		PKPab	01 29 07.0	0.0
DOPR	Dopca	145.34	337	⇑iP		PKPdf	01 29 09.6	+2.4
TLB	Topalu	145.35	332	⇑iP		PKPdf	01 29 08.5	+1.3
PSZ	Piszkesteto	145.41	344	ePKIKP		PKPab	01 29 07.6	+0.2
PSZ	Piszkesteto	145.41	344	ePKPbc		PKPab	01 29 07.6	+0.2
PSZ	Piszkesteto	145.41	344	⇑iP		PKPab	01 29 08.2	+0.8
PSZ	Piszkesteto	145.41	344	⇑e		PKPab	01 29 08.3	+0.8
EFOR	EFORIE	145.47	331	⇑iP		PKPab	01 29 09.2	+1.5
WLF	Walferdange	145.49	0	PKP		PKPab	01 29 07.9	+0.4
WLF	Walferdange	145.49	0	ePKPbc		PKPbc	01 29 07.3	0.0
WLF	Walferdange	145.49	0	ePKIKP		PKPab	01 29 08.0	+0.4
WLF	Walferdange	145.49	0	ePKPbc		PKPab	01 29 08.0	+0.4
MLR	Muntele Rosu	145.51	336	⇑iP		PKPab	01 29 09.5	+1.5
KHC	Kasperske Hory	145.53	352	ePKP		PKPdf	01 29 06.5	-1.0
KHC				epPKP		PKPab	01 29 08.1	+0.3
KHC				esPKP			01 29 10.0	
KHC				ex		x	01 29 13.9	
KHC	Kasperske Hory	145.53	352	ePKPbc		PKPab	01 29 07.9	+0.1
PGOR	Pogoanele	145.56	334	⇑iP		PKPab	01 29 09.8	+1.8
KMBO	Kilima Mbogo	145.56	245	ePKPbc		PKPab	01 29 09.5	+0.2
KMBO	Kilima Mbogo	145.56	245	PKPbc		PKPab	01 29 09.1	-0.2
	comp=Z,3.3nm,0.8s,baz=45,slow=4.5,SNR=7.2							
ISR	Istrita	145.57	335	⇑iP		PKPab	01 29 09.2	+1.1
DRGR		145.59	340	⇑iP		PKPab	01 29 08.2	+0.1
WET	Wettzell	145.61	353	ePKPbc		PKPdf	01 29 07.6	0.0
AMRR	Amara	145.64	333	⇑iP		PKPab	01 29 09.7	+1.4
GEC2	GERESS Array S	145.79	351	ePKPbc		PKPdf	01 29 08.1	+0.1
GERES	GERESS Array B	145.79	351	PKPbc		PKPbc	01 29 08.5	0.0
GERES	GERESS Array B	145.79	351	PKPbc		PKPbc	01 29 08.5	0.0
	comp=Z,4.9nm,0.7s,baz=45,slow=2.1,SNR=10.0							
BR131	Keskin Array S	145.82	321	ePKPbc		PKPab	01 29 09.4	+0.1
BRTR	Keskin Array B	145.82	321	PKPbc		PKPab	01 29 09.5	+0.1
BRTR	Keskin Array B	145.82	321	PKPbc		PKPab	01 29 09.5	+0.1
	comp=Z,21nm,0.8s,baz=103,slow=2.3,SNR=28							
VOIR		145.91	336	⇑iP		PKPab	01 29 10.0	+0.6
BUD	Budapest	146.04	345	⇑e		PKPab	01 29 10.1	+0.4
SULR		146.05	334	⇓iP		PKPab	01 29 11.1	+1.3
ARR	Arges	146.13	337	⇑iP		PKPab	01 29 09.8	-0.4
LANF	Langenberg	146.16	358	PKP		PKPab	01 29 10.5	+0.4
ANTO	Ankara	146.24	322	ePKP2		PKPbc	01 29 09.9	-0.2
ANTO	Ankara	146.24	322	ePKPbc		PKPbc	01 29 09.8	-0.2
ANTO	Ankara	146.24	322	⇑iP		PKPab	01 29 11.4	+0.6
STU	Stuttgart	146.31	357	ePKIKP		PKPdf	01 29 07.9	-0.9
STU	Stuttgart	146.31	357	ePKPbc		PKPdf	01 29 07.9	-0.9
CONA	Conrad Observa	146.32	349	i pPKPdf		PKPab	01 29 11.4	+0.6
	comp=Z,17nm,1.2s,SNR=7.0							
LOT	Lotru	146.38	338	⇑iP		PKPbc	01 29 09.7	-0.7
SIRR	Siria	146.39	341	⇓iP		PKPbc	01 29 10.4	+0.2
SOP	Sopron	146.42	348	⇓e		PKPbc	01 29 10.1	-0.1
MOA	Molln	146.68	350	i pPKPdf		PKPab	01 29 12.1	-0.1
	comp=Z,12nm,0.9s,SNR=7.0							
FUR	Furstenfeldbru	146.76	354	ePKPbc		PKPbc	01 29

TTG	Podgorica	150.59	341	PKIKP	PKPbc	01	29	20.5	-0.8
TTG	Podgorica	150.59	341	P	PKPbc	01	29	20.5	-0.8
PCAB	Cabril	150.63	22	ePKPbc	PKPbc	01	29	22.1	+0.6
PCAB	Cabril	150.63	22	ePKPab	PKPab	01	29	27.1	-1.2
PLG	Polygyros	150.76	333	P	PKPbc	01	29	21.0	-0.9
PLG	Polygyros	150.76	333	PKIKP	PKPbc	01	29	21.0	-0.9
PLG	Polygyros	150.76	333	eP	PKPbc	01	29	21.4	-0.5
PLG	Polygyros	150.76	333	P	PKPbc	01	29	21.0	-0.9
VLC	Villacollemand	150.81	354	ePKPbc	PKPbc	01	29	21.3	-0.5
PHP	Peshkopia	150.85	338	P	PKPbc	01	29	21.8	-0.2
PHP	Peshkopia	150.85	338	PKIKP	PKPbc	01	29	21.8	-0.2
PHP	Peshkopia	150.85	338	P	PKPbc	01	29	21.8	-0.2
PBRG	Braganca	151.01	21	ePKPbc	PKPbc	01	29	23.3	+0.9
PBRG	Braganca	151.01	21	ePKPab	PKPab	01	29	30.0	+0.2
POLO	Lamas de Olo	151.01	22	ePKPbc	PKPbc	01	29	22.6	+0.1
POLO	Lamas de Olo	151.01	22	ePKPab	PKPab	01	29	30.6	+0.7
PAIG	Paliouri	151.02	332	P	PKPbc	01	29	21.1	-1.3
PAIG	Paliouri	151.02	332	PKIKP	PKPbc	01	29	21.1	-1.3
PAIG	Paliouri	151.02	332	eP	PKPbc	01	29	20.7	-1.7
PAIG	Paliouri	151.02	332	P	PKPbc	01	29	21.1	-1.3
CHOS	Chios island	151.05	327	P	PKPbc	01	29	22.8	+0.2
CHOS	Chios island	151.05	327	eP	PKPbc	01	29	22.6	0.0
CHOS	Chios island	151.05	327	P	PKPbc	01	29	22.8	+0.2
PVRL	Vila Real	151.13	22	ePKPbc	PKPbc	01	29	23.4	+0.7
PVRL	Vila Real	151.13	22	ePKPab	PKPab	01	29	30.2	-0.2
TOUF	Mont Tournerai	151.14	359	PKP	PKPbc	01	29	22.6	-0.2
AUTN	L'Aution	151.16	359	PKP	PKPbc	01	29	21.9	-1.0
SAOF	Saorge	151.16	358	PKP	PKPbc	01	29	21.9	-0.8
LUCF	Luceram	151.26	359	PKP	PKPdf	01	29	19.5	+2.5
FNA	Florina	151.28	336	P	PKPbc	01	29	22.7	-0.4
FNA	Florina	151.28	336	PKIKP	PKPbc	01	29	22.7	-0.4
FNA	Florina	151.28	336	eP	PKPbc	01	29	23.1	0.0
FNA	Florina	151.28	336	P	PKPbc	01	29	22.7	-0.4
LIT	Litokhoron	151.40	334	P	PKPbc	01	29	22.5	-0.8
LIT	Litokhoron	151.40	334	PKIKP	PKPbc	01	29	22.5	-0.8
LIT	Litokhoron	151.40	334	eP	PKPbc	01	29	23.1	-0.2
LIT	Litokhoron	151.40	334	P	PKPbc	01	29	22.5	-0.8
MVO	Moncorvo	151.47	22	ePKPbc	PKPbc	01	29	24.3	+0.8
AOS	Alonnisos	151.53	331	eP	PKPbc	01	29	22.6	-1.0
PVIS	Viseu	151.55	23	ePKPbc	PKPbc	01	29	24.3	+0.6
PVIS	Viseu	151.55	23	ePKPab	PKPab	01	29	32.3	+0.2
KBN	Korca	151.65	337	P	PKPdf	01	29	20.1	+2.4
KBN	Korca	151.65	337	PKIKP	PKPdf	01	29	20.1	+2.4
KBN	Korca	151.65	337	P	PKPdf	01	29	20.1	+2.4
XOR	Xorichti	151.69	332	P	PKPbc	01	29	23.0	-1.0
XOR	Xorichti	151.69	332	P	PKPbc	01	29	23.0	-1.0
NEST	Nestorio	151.72	336	P	PKPbc	01	29	24.2	0.0
NEO	Neokhori	151.72	332	P	PKPbc	01	29	23.0	-1.1
NEO	Neokhori	151.72	332	P	PKPbc	01	29	23.0	-1.1
MTE	Manteigas	151.95	23	ePKPbc	PKPbc	01	29	25.3	+0.6
MTE	Manteigas	151.95	23	ePKPab	PKPab	01	29	33.5	-0.3
MTE	Manteigas	151.95	23	ePKPbc	PKPbc	01	29	23.9	-0.7
THL	Klokotos Trika	152.05	334	eP	PKPbc	01	29	24.2	-0.6
SMIA	Simia	152.07	331	P	PKPbc	01	29	24.5	-0.4
PTOM	Tomar	152.28	25	ePKPbc	PKPbc	01	29	25.9	+0.6
PTOM	Tomar	152.28	25	ePKPab	PKPab	01	29	34.7	-0.4
APE	Apeiranthos	152.30	326	eP	PKPbc	01	29	24.6	-0.9
LKR	Lokris	152.36	331	P	PKPbc	01	29	24.3	-1.2
LKR	Lokris	152.36	331	P	PKPbc	01	29	24.3	-1.2
AGG	Agios Georgios	152.36	333	P	PKPbc	01	29	24.8	-0.8
AGG	Agios Georgios	152.36	333	PKIKP	PKPbc	01	29	24.8	-0.8
AGG	Agios Georgios	152.36	333	eP	PKPbc	01	29	25.3	-0.3
AGG	Agios Georgios	152.36	333	P	PKPbc	01	29	24.8	-0.8
AXAR	Agios Charalam	152.42	332	P	PKPbc	01	29	25.2	-0.5
AXAR	Agios Charalam	152.42	332	P	PKPbc	01	29	25.2	-0.5
PTL	Penteli	152.42	329	P	PKPbc	01	29	24.3	-1.4
PTL	Penteli	152.42	329	P	PKPbc	01	29	24.3	-1.4
JAN	Janina	152.45	336	P	PKPbc	01	29	25.9	+0.1
JAN	Janina	152.45	336	PKIKP	PKPbc	01	29	25.9	+0.1
JAN	Janina	152.45	336	P	PKPbc	01	29	25.9	+0.1
MAKR	Makrakomi, Fth	152.45	333	P	PKPbc	01	29	25.4	-0.4
MAKR	Makrakomi, Fth	152.45	333	P	PKPbc	01	29	25.4	-0.4
PCBR	Castelo Branco	152.46	24	ePKPbc	PKPbc	01	29	26.1	+0.4
PCBR	Castelo Branco	152.46	24	ePKPab	PKPab	01	29	34.9	-1.0
EVR	Evrytania	152.67	333	P	PKPbc	01	29	25.9	-0.5
EVR	Evrytania	152.67	333	eP	PKPbc	01	29	26.9	+0.5
EVR	Evrytania	152.67	333	P	PKPbc	01	29	25.9	-0.5
PMTG	Montargil	152.82	26	ePKPdf	PKPdf	01	29	18.9	-0.5
PMTG	Montargil	152.82	26	ePKPbc	PKPbc	01	29	27.1	+0.6
NAIG	Nisos Aigina	152.83	329	eP	PKPbc	01	29	25.1	-1.5
PMRV	Marv??o	152.85	24	ePKPbc	PKPbc	01	29	27.0	+0.4
PMRV	Marv??o	152.85	24	ePKPab	PKPab	01	29	37.0	-0.6
LTK	Loutraki	152.87	331	P	PKPbc	01	29	25.2	-1.5
LTK	Loutraki	152.87	331	eP	PKPbc	01	29	25.3	-1.5
LTK	Loutraki	152.87	331	P	PKPbc	01	29	25.2	-1.5
ACOR	Acrocorinthos	153.03	330	P	PKPdf	01	29	23.3	+3.5
DID	Didima	153.15	329	P	PKPbc	01	29	25.6	-1.8
DID	Didima	153.15	329	eP	PKPbc	01	29	26.6	-0.8
DID	Didima	153.15	329	P	PKPbc	01	29	25.6	-1.8
LAKA	Lakka	153.16	332	P	PKPbc	01	29	27.9	+0.5
LAKA	Lakka	153.16	332	eP	PKPbc	01	29	27.8	+0.4
LAKA	Lakka	153.16	332	P	PKPbc	01	29	27.9	+0.5
DIDY	Didyma	153.19	329	P	PKPbc	01	29	26.4	-1.1
GUR	Goura	153.24	331	P	PKPbc	01	29	27.1	-0.5
GUR	Goura	153.24	331	eP	PKPbc	01	29	27.8	+0.2
GUR	Goura	153.24	331	P	PKPbc	01	29	27.1	-0.5
KLV	Kalavryta, Ach	153.24	332	P	PKPbc	01	29	27.7	+0.1
KLV	Kalavryta, Ach	153.24	332	P	PKPbc	01	29	27.7	+0.1
ZKR	Zakros	153.29	322	eP	PKPbc	01	29	27.6	-0.1
EVO	Evora	153.36	26	ePKPbc	PKPbc	01	29	28.5	+0.8
EVO	Evora	153.36	26	ePKPab	PKPab	01	29	39.4	-0.3
PNCL	Nicolau / Gran	153.49	27	ePKPbc	PKPbc	01	29	27.4	-0.6
PNCL	Nicolau / Gran	153.49	27	ePKPab	PKPab	01	29	40.4	+0.1
LAST	Lasithi	153.70	323	eP	PKPab	01	29	33.3	+0.3
ESDC	Sonseca Array	153.83	18	PKPbc	PKPbc	01	29	28.6	-0.3
ESDC				PKPab	PKPab	01	29	41.7	0.0
ESDC	Sonseca Array	153.83	18	PKPbc	PKPbc	01	29	28.6	-0.3
	comp=Z,1.2nm,0.8s,baz=324,slow=2.9,SNR=5.5								
ESDC				PKPab	PKPab	01	29	41.7	0.0
	comp=Z,2.3nm,0.7s,baz=329,slow=3.2,SNR=11								
ITM	Ithomi	154.04	331	eP	PKPdf	01	29	19.8	-1.4
MORF	Marmelete	154.09	28	ePKPbc	PKPbc	01	29	29.4	0.0
PFVI	Vila Bisbo	154.15	29	ePKPbc	PKPbc	01	29	30.7	+1.2
KYTH	Kithira	154.21	328	eP	PKPdf	01	29	15.6	-5.9
PBDV	Barranco-do-Ve	154.47	27	ePKPbc	PKPbc	01	29	31.8	+1.6
TORD	Torodi Ar. Bea	174.99	112	PKP	PKPdf	01	29	38.5	-1.6
TORD				PKPab	PKPab	01	31	13.9	-1.4
TORD	Torodi Ar. Bea	174.99	112	PKP	PKPdf	01	29	38.5	-1.6
	comp=Z,1.9nm,0.9s,baz=323,slow=2.6,SNR=5.8								
TORD				PKPab	PKPab	01	31	13.9	-1.4
	comp=Z,1.6nm,0.9s,baz=259,slow=5.1,SNR=4.2								

*IDC **30** 01:16:14.1±0.5, 15°57'S×172°31'W, h0km, mb4.5/16, mb1 4.7/16, mb1mx4.5/24, mbtmp4.5/16, Error ellipse: s-maj=21.6km s-min=14.2km az=123.0*

*NEIC **30** 01:16:16.7±0.2, 15°45'S×172°48'W, h10km, mb4.9/53, Error ellipse: s-maj=12.5km s-min=5.7km az=132.0*

*ISCJB **30** 01:16:18.0±0.2, 15°57'S±0°07'×172°21'W±0°06, h23km, mb4.8/72, MS5.1/5, Error ellipse: s-maj=11.7km s-min=6.1km az=144.3*

*BJI **30** 01:16:18.8, 14°74'S×172°21'W, h8km, mB5.4/11, mb5.1/12, Ms5.4/7, Ms7 5.0/7*

*SZGRF **30** 01:16:19.7, 15°77'S×171°68'W, h33km, Samoa Islands region*

ISC 30 01:16:18.6±0.4, 15°70'S±0°09'×172°11'W±0°08, h23km, n436, σ1§20/448, mb4.8/72, MS5.0/5, 113C-105D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.81**	**10**	ePn	Pn	01 16 39.5	-9.0
AFI				Sn	Sn	01 16 58.4	-12
AFI	**Afiamalu**	**1.81**	**10**	Pn	Pn	01 16 39.6	-8.8
	80nm,0.3s,baz=0.1,slow=2.8,SNR=16						
AFI				Sn	Sn	01 16 58.4	-12
	321nm,0.3s,baz=36,slow=19,SNR=18						
MSVF	**Nonsavu**	**9.64**	**257**	ePn	**Pn**	**01 18 38.6**	**+2.5**
RAR	**Rarotonga**	**12.92**	**117**	ePn	Pn	01 19 16.8	-4.1
RAR	**Rarotonga**	**12.92**	**117**	Pn	Pn	01 19 16.2	-4.7
	2.1nm,0.3s,baz=91,slow=0.3,SNR=4.9						
DZM	**Mont Dzumac**	**21.24**	**249**	eP	**P**	**01 21 05.3**	**+2.0**
	182nm,1.1s						
DZM	**Mont Dzumac**	**21.24**	**249**	P	**P**	**01 21 01.1**	**-2.2**
	17nm,0.9s,baz=73,slow=19,SNR=3.7						
OUZ	**Omahuta**	**23.28**	**211**	eP	**P**	**01 21 26.9**	**+2.3**
	110nm,1.1s						
URZ	**Urewera**	**24.40**	**201**	P	**P**	**01 21 35.5**	**+0.2**
URZ	**Urewera**	**24.40**	**201**	P	**P**	**01 21 35.5**	**+0.2**
	52nm,0.9s,baz=61,slow=6.7,SNR=6.9						
BKZ	**Black Stump Fm**	**25.42**	**201**	eP	**P**	**01 21 47.5**	**+2.9**
	134nm,1.7s						
RPZ	**Rata Peaks**	**31.39**	**204**	eP	P	01 22 41.2	+3.5
	96nm,1.5s						
RPZ	**Rata Peaks**	**31.39**	**204**	P	**P**	**01 22 35.9**	**-1.8**
	16nm,1.1s,baz=0.0,slow=3.0,SNR=3.3						
STKA	**Stephens Creek**	**44.96**	**240**	eP	**P**	**01 24 29.9**	**-2.3**
	2.7nm,1.1s						
STKA	**Stephens Creek**	**44.96**	**240**	P	**P**	**01 24 29.8**	**-2.3**
	12nm,1.1s,baz=72,slow=8.0,SNR=7.8						
WRAB	**Tennant Creek**	**50.97**	**257**	eP	**P**	**01 25 21.0**	**+2.2**
	7.3nm,1.2s						
WRA	**Warramunga Arr**	**50.98**	**257**	P	P	01 25 14.8	-4.1
WRA	**Warramunga Arr**	**50.98**	**257**	P	P	01 25 14.8	-4.1
	1.9nm,0.7s,baz=92,slow=7.4,SNR=12						
AS31	**Alice Springs**	**51.20**	**252**	eP	**P**	**01 25 18.1**	**-2.4**
ASAR	**Alice Springs**	**51.20**	**252**	P	**P**	**01 25 17.6**	**-3.0**
ASAR	**Alice Springs**	**51.20**	**252**	P	**P**	**01 25 17.6**	**-3.0**
	6.9nm,0.8s,baz=85,slow=8.2,SNR=29						
FORT	**Forrest**	**56.39**	**243**	eP	**P**	**01 25 55.6**	**-2.8**
	26nm,0.9s						
VNDA	**Vanda**	**63.21**	**186**	eP	**P**	**01 26 46.3**	**+1.8**
	6.9nm,1.1s						
VNDA	**Vanda**	**63.21**	**186**	P	**P**	**01 26 45.8**	**+1.2**
	2.7nm,0.9s,baz=23,slow=5.4,SNR=9.7						
KAPI	**Kappang**	**67.62**	**271**	eP	**P**	**01 27 13.9**	**-0.2**
	17nm,1.2s						
MWC	**Mount Wilson**	**71.46**	**45**	eP	**P**	**01 27 37.2**	**-0.5**
	14nm,1.2s						
MONP	**Monument Peak**	**71.86**	**47**	⇑P	**P**	**01 27 41.2**	**+1.1**
	baz=72						
EDW2	**Edwards Air Fo**	**71.88**	**44**	⇓P	**P**	**01 27 40.5**	**+0.5**
	baz=72						
ISA	**Isabella**	**72.01**	**44**	eP	**P**	**01 27 41.6**	**+0.8**
	12nm,1.3s						
ISA	**Isabella**	**72.01**	**44**	⇑P	**P**	**01 27 41.8**	**+1.0**
	baz=72						
CMB	**Columbia Colle**	**72.18**	**41**	eP	**P**	**01 27 41.1**	**-0.6**
	5.3nm,1.0s						
SWSC	**Sam W. Stewart**	**72.33**	**47**	⇑P	**P**	**01 27 44.3**	**+1.6**
	baz=73						
BELC	**Belle Mtn. Jos**	**72.76**	**46**	⇓P	**P**	**01 27 46.0**	**+0.6**
	baz=73						
MPMC	**Manual Prospec**	**72.89**	**44**	⇓P	**P**	**01 27 46.7**	**+0.5**
	baz=73						
GSC	**Goldstone**	**72.92**	**45**	⇑P	**P**	**01 27 47.0**	**+0.7**
	baz=73						
HEC	**Hector,Ludlow**	**72.98**	**45**	⇓P	**P**	**01 27 47.6**	**+0.9**
	baz=73						
WAKR	**Walker**	**73.06**	**41**	eP	**P**	**01 27 48.3**	**+1.1**
	14nm,1.5s						
YBH	**Yreka Blue Hor**	**73.10**	**36**	P	**P**	**01 27 46.4**	**-0.8**
YBH	**Yreka Blue Hor**	**73.10**	**36**	P	**P**	**01 27 46.4**	**-0.8**
	4.0nm,0.8s,baz=252,slow=1.5,SNR=6.2						
PETK	**Petropavlovsk-**	**73.30**	**342**	P	**P**	**01 27 46.3**	**-1.7**
PETK	**Petropavlovsk-**	**73.30**	**342**	P	**P**	**01 27 46.3**	**-1.7**
	11nm,1.1s,baz=145,slow=10,SNR=4.6						
BEKR	**Beckworth**	**73.31**	**39**	eP	**P**	**01 27 48.7**	**+0.1**
	3.8nm,1.1s						
GMRC	**Granite Mounta**	**73.42**	**46**	⇑P	**P**	**01 27 49.9**	**+0.6**
	baz=74						
GRAC	**Grapevine Rang**	**73.50**	**43**	⇓P	**P**	**01 27 50.8**	**+1.2**
	baz=74						
113A	**Mohawk Valley,**	**73.68**	**48**	⇑P	**P**	**01 27 52.3**	**+1.6**
	baz=74						
PAHR	**Pah Rah Range**	**73.81**	**40**	eP	**P**	**01 27 52.1**	**+0.6**
	40nm,1.8s						
214A	**Organ Pipe Nat**	**73.96**	**50**	⇑P	**P**	**01 27 53.5**	**+1.1**
	baz=74						
PDMCI	**Parker Dam,Lak**	**74.22**	**47**	⇓P	**P**	**01 27 54.9**	**+1.1**
	baz=74						
QSPA	**South Pole Qui**	**74.34**	**180**	eP	**P**	**01 27 55.0**	**+0.8**
	24nm,1.1s						
QSPA	**South Pole Qui**	**74.34**	**180**	P	**P**	**01 27 54.8**	**+0.6**
	20nm,1.0s,baz=51,slow=1.8,SNR=34						
Z14A	**Wintersburg**	**74.58**	**48**	⇓P	**P**	**01 27 57.3**	**+1.3**
	baz=75						
MOD	**Modoc**	**74.60**	**37**	eP	**P**	**01 27 56.0**	**0.0**
	100nm,1.4s						
SHPR	**Sheep Range**	**74.70**	**44**	eP	**P**	**01 27 57.8**	**+1.0**
K05A	**Summer Lake**	**74.77**	**37**	eP	**P**	**01 27 58.8**	**+1.7**
	40nm,1.4s						
W13A	**Hualapai Mount**	**74.82**	**46**	⇓P	**P**	**01 27 58.4**	**+0.9**
	baz=75						
Y14A	**Wickenburg**	**74.83**	**48**	⇑P	**P**	**01 27 58.2**	**+0.8**
	baz=75						
R11A	**Troy Canyon, C**	**75.43**	**43**	eP	**P**	**01 28 01.0**	**0.0**
	10nm,1.4s						
R11A	**Troy Canyon, C**	**75.43**	**43**	⇑P	**P**	**01 28 01.9**	**+0.9**
	baz=76						
BMN	**Battle Mountai**	**75.58**	**40**	eP	**P**	**01 28 02.3**	**+0.5**
	13nm,1.3s						
TUC	**Tucson**	**75.63**	**50**	eP	**P**	**01 28 03.2**	**+1.1**
WVOR	**Wild Horse Val**	**75.90**	**38**	eP	**P**	**01 28 03.8**	**+0.2**
	12nm,1.1s						
X16A	**Lo Mia Camp, P**	**76.19**	**48**	⇑P	**P**	**01 28 06.3**	**+0.9**
	baz=76,SNR=9.7						
319A	**Douglas**	**76.30**	**52**	⇑P	**P**	**01 28 07.2**	**+1.2**
	baz=77						
I07A	**Izee**	**76.41**	**36**	eP	**P**	**01 28 07.2**	**+0.8**
	135nm,2.8s						
CCUT	**Cedar City**	**76.47**	**44**	eP	**P**	**01 28 08.4**	**+1.4**
	15nm,1.6s						
J08A	**Circle Bar Ran**	**76.56**	**37**	eP	**P**	**01 28 08.1**	**+0.9**
	20nm,1.3s						
U15A	**North Rim**	**76.62**	**46**	⇑P	**P**	**01 28 09.2**	**+1.3**
	baz=77						
WUAZ	**Wupatki**	**76.79**	**47**	eP	**P**	**01 28 08.9**	**+0.1**
	11nm,1.3s						
WUAZ	**Wupatki**	**76.79**	**47**	⇑P	**P**	**01 28 10.2**	**+1.4**
	baz=77						
320A	**Kipp Ranch, An**	**76.85**	**52**	⇑P	**P**	**01 28 10.3**	**+1.2**
	baz=77						
220A	**Playas Peak, P**	**77.12**	**51**	⇓P	**P**	**01 28 11.5**	**+0.8**
	baz=77,SNR=5.9						
KSRS	**Korea Array**	**77.25**	**315**	P	**P**	**01 28 10.8**	**-0.2**
	4.3nm,1.0s,baz=126,slow=7.0,SNR=12						
KSAR	**Wonju Array Be**	**77.27**	**315**	P	**P**	**01 28 10.8**	**-0.3**
X18A	**Snowflake**	**77.32**	**48**	⇓P	**P**	**01 28 12.9**	**+1.1**
	baz=78						
120A	**U Bar Ranch, L**	**77.34**	**51**	⇓P	**P**	**01 28 13.1**	**+1.2**
	baz=78						
G08A	**Pilot Rock**	**77.45**	**35**	eP	**P**	**01 28 12.8**	**+0.6**
	14nm,1.3s						
Z20A	**Nine Sixteen R**	**77.63**	**50**	⇓P	**P**	**01 28 15.0**	**+1.4**
	baz=78						
121A	**Cookes Peak, D**	**77.96**	**51**	⇓P	**P**	**01 28 16.6**	**+1.1**
	baz=78						
MFID	**Camas Ranch**	**78.15**	**38**	⇑P	**P**	**01 28 16.6**	**+0.5**
	baz=78						
Y20A	**Horse Springs,**	**78.16**	**50**	⇑P	**P**	**01 28 17.7**	**+1.1**
	baz=78,SNR=5.6						
DUG	**Dugway**	**78.24**	**42**	eP	**P**	**01 28 16.0**	**-0.8**
	6.6nm,1.0s						
DUG	**Dugway**	**78.24**	**42**	⇑P	**P**	**01 28 17.4**	**+0.6**
	baz=78						
USRK	**Ussuriysk Arra**	**78.37**	**323**	P	**P**	**01 28 16.3**	**-0.8**
	1.3nm,0.9s,baz=97,slow=4.4,SNR=5.4						
X20A	**Quemado**	**78.37**	**49**	⇑P	**P**	**01 28 19.1**	**+1.4**
	baz=79						
Z21A	**St. Cloud Mine**	**78.41**	**50**	⇓P	**P**	**01 28 19.1**	**+1.2**
	baz=79,SNR=6.1						
W20A	**Ramah**	**78.65**	**48**	⇓P	**P**	**01 28 20.3**	**+1.0**
	baz=79,SNR=5.2						
Q16A	**Castle Valley**	**78.66**	**44**	eP	**P**	**01 28 20.3**	**+1.1**
Q16A	**Castle Valley**	**78.66**	**44**	⇑P	**P**	**01 28 20.0**	**+0.8**
	baz=79						
TMUT	**Trail Mountain**	**78.83**	**44**	eP	**P**	**01 28 21.8**	**+1.5**
	17nm,1.0s						
Z22A	**Elephant Butte**	**78.91**	**51**	⇑P	**P**	**01 28 21.9**	**+1.3**
	baz=79,SNR=5.1						
HLID	**Hailey**	**79.08**	**39**	eP	**P**	**01 28 21.5**	**+0.2**
	11nm,1.3s						
HLID	**Hailey**	**79.08**	**39**	⇓P	**P**	**01 28 22.0**	**+0.7**
	baz=79						
HVU	**Hansel Valley**	**79.11**	**41**	eP	**P**	**01 28 22.2**	**+0.7**
	10.0nm,1.1s						
SRU	**San Rafael**	**79.19**	**44**	eP	**P**	**01 28 22.0**	**0.0**
	19nm,1.5s						
Y22A	**Socorro**	**79.22**	**50**	⇑P	**P**	**01 28 23.5**	**+1.2**
	baz=80						
324A	**Moseley Ranch,**	**79.23**	**53**	⇓P	**P**	**01 28 23.2**	**+0.9**
	baz=80,SNR=6.0						
U20A	**Newcomb**	**79.23**	**47**	⇑P	**P**	**01 28 23.6**	**+1.3**
	baz=80						
LAZ	**Ladron**	**79.30**	**50**	eP	**P**	**01 28 24.6**	**+1.9**
	4.2nm,1.6s						
LENM	**Lemitar**	**79.31**	**50**	eP	**P**	**01 28 22.9**	**+0.1**
425A	**Indio Mountain**	**79.33**	**54**	⇑P	**P**	**01 28 23.8**	**+0.9**
	baz=80,SNR=8.1						
DIV	**Divide**	**79.41**	**13**	eP	**P**	**01 28 21.1**	**-1.5**
	13nm,1.0s						
MNTX	**Cornudas Mount**	**79.42**	**53**	eP	**P**	**01 28 24.1**	**+0.9**
	6.0nm,1.3s						
Z23A	**Rita Site, Whi**	**79.46**	**51**	⇓P	**P**	**01 28 25.0**	**+1.5**
	baz=80						
224A	**Cornudas Mount**	**79.47**	**52**	⇑P	**P**	**01 28 24.6**	**+0.9**
	baz=80,SNR=5.4						
626A	**Big Bend Ranch**	**79.47**	**55**	⇑P	**P**	**01 28 24.3**	**+0.6**
	baz=80						
MVCO	**Mesa Verde**	**79.64**	**47**	⇑P	**P**	**01 28 25.5**	**+0.8**
	baz=80						
PV05	**Paradox Valley**	**79.65**	**46**	eP	P	01 28 19.2	-5.4
526A	**Mary Lane Ranc**	**79.72**	**55**	⇑P	**P**	**01 28 25.8**	**+0.7**
	baz=80,SNR=6.2						
TXAR	**Lajitas Array**	**79.75**	**56**	P	**P**	**01 28 25.4**	**+0.2**
TXAR	**Lajitas Array**	**79.75**	**56**	P	**P**	**01 28 25.4**	**+0.2**
	5.5nm,1.1s,baz=223,slow=5.1,SNR=21						
124A	**Stringfield Ra**	**79.80**	**52**	⇑P	**P**	**01 28 26.5**	**+0.9**
	baz=80						
U21A	**Nageezi**	**79.87**	**48**	⇑P	**P**	**01 28 27.2**	**+1.3**
	baz=80						
225A	**Deer Hill, Car**	**80.02**	**53**	⇑P	**P**	**01 28 27.8**	**+1.1**
	baz=80						
426A	**McDonald Obser**	**80.02**	**54**	⇓P	**P**	**01 28 27.6**	**+0.7**
	baz=80,SNR=13						
627A	**Terlingua Ranc**	**80.02**	**56**	⇓P	**P**	**01 28 27.7**	**+1.0**
	baz=80,SNR=14						
S20A	**Disappointment**	**80.04**	**46**	⇑P	**P**	**01 28 27.8**	**+1.1**
	baz=80						
ANMO	**Albuquerque**	**80.05**	**49**	eP	**P**	**01 28 28.4**	**+1.6**
	14nm,1.6s						
X23A	**Hourglass Bar**	**80.08**	**50**	⇓P	**P**	**01 28 28.0**	**+1.0**
	baz=80						
527A	**Woodward Ranch**	**80.13**	**55**	⇓P	**P**	**01 28 28.3**	**+0.9**
	baz=80,SNR=9.2						
R20A	**Redvale**	**80.20**	**46**	⇓P	**P**	**01 28 28.6**	**+1.0**
	baz=80						
NEW	**Newport**	**80.26**	**34**	eP	**P**	**01 28 27.6**	**+0.1**
	4.5nm,1.1s						
NEW	**Newport**	**80.26**	**34**	⇑P	**P**	**01 28 28.5**	**+1.0**
	baz=80						
Y24A	**Capitan**	**80.35**	**51**	⇑P	**P**	**01 28 29.5**	**+1.0**
	baz=81,SNR=5.8						
S21A	**Coal Bank Pass**	**80.35**	**47**	⇓P	**P**	**01 28 29.5**	**+1.0**
	baz=81						
W23A	**Werner Place,**	**80.37**	**49**	⇓P	**P**	**01 28 29.6**	**+1.0**
	baz=81						
125A	**Gardner Draw,**	**80.38**	**52**	⇓P	**P**	**01 28 29.5**	**+0.9**
	baz=81						
628A

comp=Z,200nm,5.0s
CN2 LR LR
comp=N,900nm,23.0s
CN2 LR LR
comp=E,700nm,23.0s
CN2 LR LR
comp=Z,500nm,20.0s
S24A Houchin Ranch, 82.16 47 ⇓P P 01 28 39.3 +1.2
baz=82
U25A Circle Dot Ran 82.19 49 ⇑P P 01 28 38.9 +0.7
baz=82
J19A Crowheart 82.24 41 ⇑P P 01 28 38.7 +0.4
baz=82
631A Perdido Creek 82.26 57 ⇑P P 01 28 38.6 +0.2
baz=82,SNR=12
430A Baggett Ranch, 82.27 55 ⇓P P 01 28 39.5 +0.9
baz=82
MSTX Muleshoe 82.37 52 ⇑P P 01 28 39.8 +0.7
baz=83
Z28A Tucker Farm, M 82.38 52 ⇓P P 01 28 40.1 +0.9
baz=83
V26A Tequesquite Ra 82.38 50 ⇑P P 01 28 40.2 +1.1
baz=83
O22A Kremmling 82.38 45 ⇓P P 01 28 40.2 +0.9
baz=83
COLA College 82.43 10 *eP* **P 01 28 38.1 -0.4**
comp=Z,76nm,0.8s
732A Laxson Ranch, 82.48 57 ⇓P P 01 28 40.7 +1.0
baz=83
R24A Sanders Place, 82.50 47 ⇓P P 01 28 40.7 +1.0
baz=83
P23A Jefferson 82.50 46 ⇓P P 01 28 41.3 +1.3
baz=83
ILAR Eielson Array 82.51 11 P P 01 28 36.4 -2.5
ILAR Eielson Array 82.51 11 P P 01 28 36.4 -2.5
comp=Z,1.3nm,0.8s,baz=208,slow=5.2,SNR=8.3
129A Stewart Farms, 82.51 53 ⇓P P 01 28 41.1 +1.3
baz=83
T25A Trinidad 82.51 48 ⇑P P 01 28 41.3 +1.4
baz=83
M21A Separation Pea 82.52 43 ⇑P P 01 28 40.5 +0.7
baz=83
330A Mertzon 82.56 55 ⇓P P 01 28 40.4 +0.3
baz=83
531A Rocksprings 82.57 56 ⇑P P 01 28 40.0 -0.1
baz=83,SNR=9.6
IM04 Indian Mountai 82.59 7 *eP* **P 01 28 39.3 -0.1**
W27A Bowe Ranch, En 82.61 51 ⇓P P 01 28 40.9 +0.6
baz=83
I19A Meeteetse 82.66 40 ⇓P P 01 28 41.5 +1.0
baz=83
U26A Atchley Ranch, 82.67 49 ⇑P P 01 28 41.6 +0.9
baz=83
L21A Rawlins 82.69 43 ⇓P P 01 28 41.5 +0.8
baz=83
IMA2 Indian Mountai 82.69 7 *eP* **P 01 28 38.5 -1.5**
S25A Robets Cordova 82.72 48 ⇑P P 01 28 41.9 +1.0
baz=83
431A Sonora 82.72 55 ⇑P P 01 28 41.7 +0.8
baz=83
Y28A McKinney Farm, 82.74 52 ⇓P P 01 28 41.6 +0.6
baz=83
N22A Wattenberg Ran 82.75 44 ⇓P P 01 28 41.7 +0.6
baz=83
Q24A Divide 82.80 46 ⇑P P 01 28 42.8 +1.3
baz=83
230A Sterling City 82.80 54 ⇓P P 01 28 42.2 +0.9
baz=83
O23A Lake Granby, G 82.83 45 ⇑P P 01 28 42.8 +1.2
baz=83
ISCO Idaho Springs 82.85 45 *eP* **P 01 28 43.2 +1.5**
comp=Z,34nm,2.1s
ISCO Idaho Springs 82.85 45 ⇓P P 01 28 42.2 +0.5
baz=83
Z29A Hungry Hill Ra 82.89 53 ⇑P P 01 28 42.3 +0.6
baz=83
J20A Shoshoni 82.89 41 ⇓P P 01 28 42.6 +1.0
baz=83
632A Uvalde 82.93 57 ⇓P P 01 28 42.1 +0.2
baz=83,SNR=7.4
H19A Powell 82.98 40 ⇑P P 01 28 43.2 +1.1
baz=83
532A Rocksprings 83.07 56 ⇑P P 01 28 42.7 0.0
baz=83,SNR=9.4
K21A Alcova 83.08 42 ⇑P P 01 28 42.8 +0.1
baz=83
331A San Angelo 83.11 55 ⇓P P 01 28 43.3 +0.4
baz=83
N23A Red Feather La 83.13 44 ⇓P P 01 28 43.7 +0.6
baz=83
Y29A Porterfield Fa 83.16 52 ⇓P P 01 28 43.7 +0.6
baz=83
I20A Worland 83.16 41 ⇓P P 01 28 43.7 +0.8
baz=83
130A Snyder 83.19 54 ⇑P P 01 28 43.8 +0.5
baz=84
J21A Lysite 83.30 42 ⇓P P 01 28 44.6 +0.8
baz=84
L22A Ellis Ranch, M 83.33 43 ⇓P P 01 28 45.1 +1.1
baz=84
Z30A Sanderson Ranc 83.34 53 ⇑P P 01 28 44.3 +0.2
baz=84
S26A Kim 83.39 48 ⇑P P 01 28 45.1 +0.8
baz=84
Q25A Bedland, Calha 83.41 47 ⇓P P 01 28 44.9 +0.5
baz=84
DAWY Dawson 83.41 14 *eP* **P 01 28 43.0 -0.7**
231A Bronte 83.44 54 ⇑P P 01 28 44.8 +0.2
baz=84
432A Menard 83.44 56 ⇑P P 01 28 44.9 +0.3
baz=84
H20A Greybull 83.50 40 ⇓P P 01 28 45.2 +0.5
baz=84
M23A Laramie 83.54 44 ⇓P P 01 28 45.5 +0.4
baz=84
K22A Casper 83.56 43 ⇑P P 01 28 45.7 +0.5
baz=84
F19A Roth Farm, Mol 83.60 39 ⇑P P 01 28 45.8 +0.6
baz=84
I21A Big Trails, Te 83.62 41 ⇑P P 01 28 46.0 +0.6
baz=84
PHWY Pilot Hill 83.64 44 *eP* **P 01 28 46.4 +0.6**
131A Roby 83.67 54 ⇑P P 01 28 46.0 +0.2
baz=84
332A Millersview 83.68 55 ⇓P P 01 28 45.6 -0.2
baz=84,SNR=7.7
W29A Amraillo 83.69 51 ⇑P P 01 28 46.5 +0.6
baz=84
R26A Arlington 83.70 48 ⇓P P 01 28 47.1 +1.2
baz=84
P25A Willow Gulch B 83.72 46 ⇑P P 01 28 47.3 +1.3
baz=84
N24A Carr 83.82 45 ⇑P P 01 28 47.8 +1.3
baz=84
L23A Garrett 83.85 43 ⇓P P 01 28 46.9 +0.2
baz=84
232A Coleman 83.95 55 ⇓P P 01 28 47.4 +0.2
baz=84
J22A Midwest 83.95 42 ⇓P P 01 28 47.8 +0.7
baz=84
E19A Rath Farm, Rou 84.00 38 ⇓P P 01 28 47.5 +0.4
baz=84
Z31A Sharp Cattle R 84.11 53 ⇑P P 01 28 48.5 +0.5
baz=84
M24A Cheyenne 84.14 44 ⇑P P 01 28 49.2 +1.1
baz=84
R27A Eads 84.16 48 ⇑P P 01 28 48.6 +0.4
baz=84
T28A Walsh 84.16 49 ⇑P P 01 28 48.5 +0.3
baz=84
H21A Big Horn, Sher 84.17 41 ⇓P P 01 28 48.6 +0.5
baz=84
I22A 9 Mile Ranch, 84.17 41 ⇓P P 01 28 48.9 +0.7
baz=84
K23A Bowen Ranch, D 84.20 43 ⇓P P 01 28 48.9 +0.5
baz=84
EGMT Eagleton 84.22 37 *eP* **P 01 28 49.0 +0.7**
EGMT Eagleton 84.22 37 ⇓P P 01 28 49.1 +0.7
baz=84
ABTX Abilene, Hawle 84.23 54 *eP* **P 01 28 48.3 -0.3**
ABTX Abilene, Hawle 84.23 54 ⇓P P 01 28 49.0 +0.3
baz=84
COLD Coldfoot 84.25 8 *eP* **P 01 28 49.2 +1.3**
comp=Z,4.4nm,1.1s
Y31A Rekieta Farm, 84.27 53 ⇓P P 01 28 49.6 +0.8
baz=84
D19A Cripps Ranch, 84.30 38 ⇓P P 01 28 49.9 +1.3
baz=84
C19A Slack Wire Ran 84.49 37 ⇑P P 01 28 50.4 +0.8
baz=85
Z32A Haskell 84.62 53 ⇓P P 01 28 51.1 +0.5
baz=85
D20A Manuel Ranch, 84.70 38 ⇓P P 01 28 51.5 +0.8
baz=85
R28A Tribune 84.89 48 ⇓P P 01 28 52.7 +0.8
baz=85
B19A Brinkman Farms 84.91 37 ⇓P P 01 28 52.4 +0.7
baz=85
Y32A R-V Farms, Ver 84.92 53 ⇓P P 01 28 52.4 +0.4
baz=85
G22A Birney 84.92 40 ⇑P P 01 28 52.3 +0.4
baz=85
W31A Holland Ranch, 84.99 52 ⇓P P 01 28 52.7 +0.3
baz=85
C20A Veseth Ranch, 85.09 38 ⇑P P 01 28 53.4 +0.8
baz=85
B20A Solberg Farm, 85.44 37 ⇓P P 01 28 55.9 +1.6
baz=86
G23A Biddle 85.47 41 ⇑P P 01 28 56.0 +1.4
baz=86
F23A Volborg 85.71 40 ⇓P P 01 28 56.6 +0.8
baz=86
A20A Cobblestone Ra 85.71 37 ⇓P P 01 28 56.9 +1.2
baz=86
H24A Dirks Ranch, A 85.80 41 ⇓P P 01 28 57.3 +1.0
baz=86
RSSD Black Hills 85.85 42 *eP* **P 01 28 57.1 +0.4**
comp=Z,25nm,1.1s
D22A Cohagen 85.90 39 ⇑P P 01 28 58.0 +1.4
baz=86
T31A Randall Ranch, 85.94 50 ⇑P P 01 28 58.1 +1.1
baz=86
I25A Rochford 86.00 42 ⇓P P 01 28 58.9 +1.5
baz=86
B22A Reddig Ranch S 86.55 38 ⇑P P 01 29 01.9 +2.0
baz=87
C23A Lambert 86.80 38 ⇓P P 01 29 02.8 +1.8
baz=87
B23A Brockton 87.22 38 ⇑P P 01 29 04.9 +1.8
baz=87
C26A Wahner Farm, P 88.68 39 ⇓P P 01 29 11.5 +1.5
baz=89
GYA Guiyang 89.28 298 *eP* **P 01 29 16.3 +2.8**
GYA PP **PP** 01 32 48.8 +4.3
GYA SKS **SKSac** 01 39 44.3 +1.6
GYA pmax pmax
comp=Z,10.0nm,1.0s
GYA pmax pmax
comp=Z,90nm,5.8s
GYA LR LR
comp=N,380nm,20.1s
GYA LR LR
comp=E,310nm,23.7s
GYA LR LR
comp=Z,420nm,21.9s
JTS JuntasAbangare 90.05 79 *eP* **P 01 29 19.8 +2.6**
comp=Z,132nm,1.3s
HHC Hu-ho-hao-te 90.14 313 *eP* **P 01 29 17.3 +0.1**
HHC pP **pP** 01 29 22.0 -2.8
HHC sP **sP** 01 29 24.3 -3.2
HHC PP **PP** 01 32 53.3 +2.2
HHC SKS **SKSac** 01 39 45.8 -1.3
HHC S **S** 01 40 08.3 -1.4
HHC sS **ScS** 01 40 16.3 +2.7
HHC pmax pmax
comp=Z,31nm,1.2s
HHC pmax pmax
comp=Z,310nm,5.4s
HHC LR LR
comp=N,720nm,16.9s
HHC LR LR
comp=E,800nm,17.6s
HHC LR LR
comp=Z,790nm,16.3s
KMI Kunming 92.28 295 P P 01 29 32.8 +5.2
KMI pmax pmax
comp=Z,9.0nm,0.6s
SNAA Sanae 92.54 177 *eP* **P 01 29 27.4 -0.3**
comp=Z,15nm,1.5s
OXF Oxford 92.91 55 *eP* **P 01 29 30.4 +0.5**
comp=Z,20nm,1.1s
CD2 Chengdu 93.03 301 P **P 01 29 33.5 +2.8**
CD2 pmax pmax
comp=Z,10.0nm,0.6s
CMAR Chiang Mai Arr 93.89 288 P **P 01 29 34.4 -0.5**
CMAR Chiang Mai Arr 93.89 288 P **P 01 29 34.4 -0.5**
comp=Z,0.7nm,0.4s,baz=96,slow=2.7,SNR=4.6
LZH Lanzhou 94.40 306 *eP* **P 01 29 38.5 +1.4**
LZH pP **pP** 01 29 44.8 +0.1
LZH sP **sP** 01 29 46.8 -0.6
LZH PP **PP** 01 33 27.0 +2.2
LZH SKS **SKSac** 01 40 13.0 +1.7
LZH *e*S **S** 01 40 47.5 -0.7
LZH sS **sS** 01 40 56.3 -4.5
LZH SS **SS** 01 47 11.5 +0.7
LZH pmax pmax
comp=Z,22nm,1.3s
LZH pmax pmax
comp=Z,98nm,5.6s
LZH LR LR
comp=N,700nm,15.1s
LZH LR LR
comp=E,660nm,15.3s
LZH LR LR
comp=Z,860nm,16.9s
GTA Gaotai 98.34 309 *eP* Pdif 01 30 05.0 +10
GTA pP pP 01 30 08.8 +6.4
GTA sP sP 01 30 12.3 +7.2
GTA pmax pmax
comp=Z,5.0nm,0.9s
MKAR Makanchi Array 111.92 314 PKiKP **PKiKP 01 34 49.9 -2.0**
MKAR Makanchi Array 111.92 314 PKiKP **PKiKP 01 34 49.9 -2.0**
comp=Z,0.4nm,0.5s,baz=317,slow=0.3,SNR=4.4
KURK Kurchatov 114.18 319 *e*PKP **PKiKP 01 34 54.4 -1.6**
KURBB Kurchatov Arra 114.25 319 PKiKP PKPdf 01 34 54.5 -1.7
comp=Z,0.6nm,0.8s,baz=90,slow=1.9,SNR=9.0
KSH Kashi 116.65 307 *e*PKP **PKPdf 01 35 04.0 +2.7**
KSH PP PP 01 36 16.3 +7.1
KSH PKS **PKSdf 01 38 39.5 +1.4**
KSH SKS **SKSdf 01 42 15.0 +2.7**
KSH SKKS **SKKSac 01 43 09.0 0.0**
KSH SS **SS 01 52 18.8 +4.4**
KSH AMB AMB
comp=Z,160nm,4.5s
KSH LR LR
comp=N,120nm,5.2s
KSH LR LR
comp=E,100nm,7.7s
KSH LR LR
comp=Z,300nm,14.6s
BRVK Borovoye 118.94 322 *e*PKPdf **PKPdf 01 35 04.5 -0.7**
KBL Kabul 122.37 301 *e*PKPdf **PKPdf 01 35 11.8 -0.8**
ABKAR Akbulak array 126.24 320 *e*PKPdf **PKPdf 01 35 18.7 -0.5**
AKASG Malin Array Be 141.08 338 PKP **PKPdf 01 35 45.7 -1.3**
AKASG Malin Array Be 141.08 338 PKP **PKPdf 01 35 45.7 -1.3**
comp=Z,0.8nm,0.6s,baz=26,slow=2.2,SNR=7.2
TSUM Tsumeb 144.03 196 *e*PKPdf PKPbc 01 35 51.6 +0.4
TSUM Tsumeb 144.03 196 PKP PKPbc 01 35 51.9 +0.7
comp=Z,7.1nm,0.9s,baz=145,slow=4.5,SNR=8.6
KWP Kalwaria Pacla 144.07 344 *e*PKPdf **PKPab 01 35 49.5 -0.4**
KWP Kalwaria Pacla 144.07 344 ⇑*i*P **PKPab 01 35 48.9 -1.0**
CLL Collm 144.25 355 *e*PKPdf **PKPdf 01 35 52.0 -0.6**
comp=Z,7.0nm,1.1s
CLL *e*(PKiKP) 01 35 57.0
CLL *e* 01 36 02.0
BRG Berggiesshubel 144.58 353 *e*PKP **PKPdf 01 35 53.3 +0.1**
comp=Z,3.7nm,0.9s
STHS Stebnicka Huta 144.65 345 *e*PKP **PKPab 01 35 51.8 -0.2**
STHS *e* 01 36 02.2
UPC Upice 144.67 351 *e*PKP **PKPdf 01 35 53.1 -0.3**
DPC Dobruska-Polom 144.77 351 *e*PKP **PKPab 01 35 52.1 -0.4**
KOLS Kolonicke sedl 144.83 343 *e*PKP **PKPab 01 35 52.2 -0.5**
NIE Niedzica 144.88 346 *e*PKP **PKPab 01 35 52.7 -0.2**
LEOM Leova 144.93 335 ⇑*i*P **PKPab 01 35 51.2 -1.9**
MALT Malatya 144.95 316 ⇓*i*P **PKPdf 01 35 54.1 -0.3**
OKC Ostrava-Krasne 144.95 348 *e*PKP **PKPab 01 35 52.3 -0.7**
OKC *ex* x 01 36 02.4
BEBN Eben Emael 144.95 2 PKP **PKPab 01 35 52.2 -0.8**
MOX Moxa 145.02 356 *e*PKPbc **PKPab 01 35 51.4 -1.9**
CRVS Cervenica-Dubn 145.07 344 *e*PKP **PKPbc 01 35 53.0 -0.5**
BUR08 Bucovina Ar. S 145.08 339 *e*PKPdf **PKPbc 01 35 52.7 -1.0**
BURAR Bucovina Array 145.10 339 ⇑*i*P **PKPbc 01 35 52.4 -1.4**
MORC Moravsky Berou 145.12 349 *e*PKPdf **PKPbc 01 35 52.5 -1.2**
MORC Moravsky Berou 145.12 349 ⇑*i*P **PKPbc 01 35 53.2 -0.5**
MEM Membach 145.15 2 PKP **PKPbc 01 35 53.1 -0.6**
TANN Tannenbergstha 145.18 355 *e*PKPbc **PKPbc 01 35 52.4 -1.5**
BCLA Clavier 145.31 3 PKP **PKPbc 01 35 52.5 -1.8**
NKC Novy Kostel 145.36 355 *e*PKP **PKPbc 01 35 53.7 -0.7**
NKC *ex* x 01 36 03.8
PRU Pruhonice 145.38 352 *e*PKP **PKPbc 01 35 53.8 -0.7**
PRU *ex* x 01 36 03.4
TRPA Tarpa 145.48 343 ⇑*i*P **PKPbc 01 35 54.3 -0.5**
TESR Tescani 145.52 337 ⇓*i*P **PKPbc 01 35 51.6 -3.4**
TNS Taunus Mts 145.57 359 *e*PKPbc **PKPdf 01 35 53.9 -1.1**
DOU Dourbes 145.59 4 PKP **PKPdf 01 35 54.2 -0.8**
GHRR 145.60 336 ⇑*i*P **PKPab 01 35 55.6 0.0**
KECS Kecovo 145.71 345 *e*PKP **PKPbc 01 35 55.6 0.0**
KECS *e* 01 36 05.5
TLCR 145.73 333 ⇓*i*P **PKPdf 01 35 55.4 +0.1**
ROTZ Rotzenmuhle 145.84 355 *e*PKPbc **PKPdf 01 35 55.0 -0.4**
TREC Trest 145.93 351 *e*PKP **PKPab 01 35 57.2 +0.5**
GRF Grafenberg Arr 145.99 356 *e*PKPbc **PKPdf 01 35 55.6 -0.1**
GRFO Grafenberg 145.99 356 *e*PKPbc **PKPbc 01 35 56.2 -0.2**
CFR Carcaliu 146.02 334 ⇑*i*P **PKPdf 01 35 55.3 -0.5**
VRI Vrincioaia 146.03 336 ⇑*i*P **PKPdf 01 35 56.0 +0.1**
PLOR Plostina 146.07 336 ⇑*i*P PKPdf 01 35 50.0 -6.0
WLF Walferdange 146.10 2 PKP **PKPbc 01 35 56.4 -0.3**
WLF Walferdange 146.10 2 *e*PKPbc **PKPdf 01 35 56.0 +0.2**
WLF Walferdange 146.10 2 *e*PKPbc **PKPbc 01 35 56.4 -0.3**
KHC Kasperske Hory 146.34 353 *e*PKP **PKPbc 01 35 57.1 -0.5**
KHC *ex* x 01 36 06.5
KHC Kasperske Hory 146.34 353 *e*PKPbc **PKPbc 01 35 57.0 -0.5**
PSZ Piszkesteto 146.38 345 *e*PKPbc **PKPbc 01 35 57.2 -0.6**
WET Wettzell 146.40 354 *e*PKPbc **PKPdf 01 35 57.0 +0.6**
DOPR Dopca 146.45 338 ⇑*i*P **PKPab 01 35 58.7 -0.1**
KMBO Kilima Mbogo 146.51 243 *e*PKPbc **PKPbc 01 35 58.8 -0.6**
TLB Topalu 146.54 333 ⇑*i*P **PKPdf 01 35 55.7 -1.0**
GEC2 GERESS Array S 146.61 353 *e*PKPbc **PKPdf 01 35 57.5 +0.6**
GERES GERESS Array B 146.61 353 PKPbc **PKPdf 01 35 57.0 +0.2**
GERES GERESS Array B 146.61 353 PKPbc **PKPdf 01 35 57.0 +0.2**
comp=Z,2.5nm,1.1s,baz=3.8,slow=4.0,SNR=12
DRGR 146.63 341 ⇑*i*P **PKPdf 01 35 57.7 +0.8**
MLR Muntele Rosu 146.65 337 ⇑*i*P **PKPbc 01 35 58.3 -0.4**
EFOR EFORIE 146.68 332 ⇑*i*P **PKPdf 01 35 54.5 -2.5**
LANF Langenberg 146.81 0 PKP **PKPab 01 35 59.7 -0.4**
STU Stuttgart 147.00 358 *e*PKPbc **PKPbc 01 35 58.7 -0.7**
STU Stuttgart 147.00 358 *e*PKPbc **PKPab 01 36 00.4 -0.4**
VOIR 147.03 338 ⇑*i*P **PKPbc 01 35 59.7 0.0**
BR131 Keskin Array S 147.17 322 *e*PKPbc **PKPbc 01 35 59.5 -0.8**
BRTR Keskin Array B 147.17 322 PKPbc **PKPbc 01 35 59.5 -0.8**
BRTR Keskin Array B 147.17 322 PKPbc **PKPbc 01 35 59.5 -0.8**
comp=Z,7.3nm,0.8s,baz=116,slow=2.1,SNR=38
ARR Arges 147.24 338 ⇑*i*P **PKPbc 01 36 00.7 +0.4**
SIRR Siria 147.42 342 ⇑*i*P **PKPdf 01 35 59.1 +0.9**
BFO Black Forest 147.46 359 *e*PKPbc **PKPbc 01 35 59.7 -1.0**
BFO Black Forest 147.46 359 *e*PKPbc **PKPbc 01 35 59.8 -1.0**
FUR Furstenfeldbru 147.51 356 *e*PKPbc **PKPbc 01 36 00.7 -0.2**
THEF They Montfort 147.53 2 PKP **PKPbc 01 35 59.7 -1.2**
ANTO Ankara 147.57 323 *e*PKPbc **PKPbc 01 36 01.1 -0.2**
ANTO Ankara 147.57 323 ⇑*i*P **PKPdf 01 35 59.4 +0.7**
ECH Echery 147.57 1 PKP **PKPbc 01 36 00.5 -0.5**
ECH Echery 147.57 1 *e*PKPbc **PKPbc 01 36 01.8 +0.8**
RJOB Jochberg 147.80 354 *e*PKPbc **PKPbc 01 36 00.9 -0.8**
GZR Gura Zlata 147.86 340 ⇑*i*P **PKPbc 01 36 01.2 -0.8**
BZS Buzias 148.02 342 ⇓*i*P **PKPdf 01 35 59.8 +0.6**
LOMF Lomont 148.43 1 PKP **PKPdf 01 36 00.1 +0.2**
SOKA Soboth 148.55 351 ⇑*i*pPKPdf **PKPbc 01 36 02.6 -1.1**
comp=Z,4.3nm,1.1s
PERS Pernice 148.57 350 *i* PKPdf **PKPbc 01 36 02.8 -1.0**
TUE Stuetta 149.30 358 *e*PKPbc **PKPbc 01 36 05.3 -0.5**
VISS Visnje 149.43 350 *i* PKPdf **PKPbc 01 36 05.0 -0.9**
JAVS Javornik 149.46 351 *i* PKPdf **PKPbc 01 36 04.9 -1.2**
AGO Saint Agoulin 149.48 7 PKP **PKPbc 01 36 05.9 -0.2**
BOJS Bojanci 149.65 350 *i* PKPdf **PKPbc 01 36 06.2 -0.2**
PYM Petit Puy Mans 149.76 7 PKP **PKPbc 01 36 05.5 -1.3**
VTS Vitosha 150.15 337 ⇓*i*P **PKPbc 01 36 07.5 -0.5**
CSS Prodhromos 150.20 315 *e*PKPbc **PKPbc 01 36 07.3 -0.9**
SSB Saint Sauveur 150.38 5 *e*PKPbc **PKPbc 01 36 08.3 0.0**
PCAB Cabril 150.67 25 *e*PKPbc **PKPbc 01 36 09.4 +0.3**
BNI Bardonecchia 150.72 2 *e*PKPab **PKPbc 01 36 09.6 +0.3**
POLO Lamas de Olo 151.04 25 *e*PKPbc **PKPbc 01 36 10.1 0.0**
POLO Lamas de Olo 151.04 25 *e*PKPab **PKPab 01 36 19.9 +2.3**
PBRG Braganca 151.09 23 *e*PKPbc **PKPbc 01 36 10.1 0.0**
PBRG Braganca 151.09 23 *e*PKPab **PKPab 01 36 19.7 +2.0**
PVRL Vila Real 151.16 25 *e*PKPbc **PKPbc 01 36 10.5 +0.2**
PVRL Vila Real 151.16 25 *e*PKPab **PKPab 01 36 20.3 +2.3**
MVO Moncorvo 151.53 24 *e*PKPbc **PKPbc 01 36 11.2 0.0**
MVO Moncorvo 151.53 24 *e*PKPab **PKPab 01 36 20.9 +1.4**
PVIS Viseu 151.56 26 *e*PKPbc **PKPbc 01 36 10.9 -0.3**
TOUF Mont Tournerai 151.78 1 PKP **PKPdf 01 36 08.3 +2.9**
SAOF Saorge 151.81 1 PKP **PKPdf 01 36 08.5 +3.2**
MTE Manteigas 151.97 26 *e*PKPbc **PKPbc 01 36 12.2 0.0**
MTE Manteigas 151.97 26 *e*PKPbc **PKPbc 01 36 11.7 -0.4**
MTE *e*PKPab **PKPab 01 36 21.7 +0.3**
PTOM Tomar 152.24 28 *e*PKPbc **PKPbc 01 36 12.6 -0.1**
PTOM Tomar 152.24 28 *e*PKPab **PKPab 01 36 22.8 +0.4**
PCBR Castelo Branco 152.46 26 *e*PKPbc **PKPbc 01 36 13.0 -0.2**
PCBR Castelo Branco 152.46 26 *e*PKPab **PKPab 01 36 22.7 -0.7**
PMST Lisbon--Monsan 152.58 30 *e*PKPbc **PKPbc 01 36 14.7 +1.2**
PMTG Montargil 152.77 28 *e*PKPbc **PKPbc 01 36 13.8 -0.1**
PMTG Montargil 152.77 28 *e*PKPab **PKPab 01 36 24.1 -0.6**
PMRV Marv??o 152.84 27 *e*PKPbc **PKPbc 01 36 14.2 +0.1**
PMRV Marv??o 152.84 27 *e*PKPab **PKPab 01 36 23.8 -1.2**
PESTR Estremoz 153.22 28 *e*PKPab **PKPab 01 36 27.4 +0.8**
EVO Evora 153.30 29 *e*PKPbc **PKPbc 01 36 15.2 +0.1**
EVO Evora 153.30 29 *e*PKPab **PKPab 01 36 25.7 -1.2**
PNCL Nicolau / Gran 153.39 30 *e*PKPbc **PKPbc 01 36 16.6 +1.3**
PNCL Nicolau / Gran 153.39 30 *e*PKPab **PKPab 01 36 25.6 -1.7**
ESDC Sonseca Array 153.97 21 PKPbc **PKPbc 01 36 16.1 -0.5**
ESDC PKPab **PKPab 01 36 26.0 -3.8**
ESDC Sonseca Array 153.97 21 PKPbc **PKPbc 01 36 16.1 -0.5**
comp=Z,1.0nm,0.8s,baz=334,slow=2.5,SNR=7.8
ESDC PKPab **PKPab 01 36 26.0 -3.8**
comp=Z,1.2nm,0.8s,baz=330,slow=3.1,SNR=6.1
PCVE Castro Verde 154.01 30 *e*PKPbc **PKPbc 01 36 16.9 +0.2**
PCVE Castro Verde 154.01 30 *e*PKPab **PKPab 01 36 30.5 +0.5**
PFVI Vila Bisbo 154.01 32 *e*PKPbc **PKPbc 01 36 16.8 +0.1**
PBAR Barrancos 154.03 28 *e*PKPbc **PKPbc 01 36 16.9 +0.2**
TORD Torodi Ar. Bea 173.49 112 PKP **PKPdf 01 36 24.6 -2.5**
TORD PKPab **PKPab 01 37 55.0 -1.0**
TORD Torodi Ar. Bea 173.49 112 PKP **PKPdf 01 36 24.6 -2.5**
comp=Z,1.9nm,1.0s,baz=304,slow=2.0,SNR=6.2
TORD PKPab **PKPab 01 37 55.0 -1.0**
comp=Z,0.7nm,0.8s,baz=260,slow=4.7,SNR=3.6

*IDC **30** 01:24:43.9±3.6, 16°.43S×172°.51W, h0km, mb4.1/4, mb1 4.3/4, mb1mx3.9/19, mbtmp4.1/4, Error ellipse: s-maj=184.5km s-min=30.0km az=139.0*
*NEIC **30** 01:24:44.8±0.4, 16°.39S×172°.54W, h10km, mb4.5/7, Error ellipse: s-maj=23.4km s-min=11.3km az=139.0*
*ISCJB **30** 01:24:45.4±0.7, 16°.4S±0°.2×172°.6W±0°.2, h24km, mb4.3/11, Error ellipse: s-maj=29.1km s-min=14.2km az=143.3*
ISC 30 01:24:47.2±0.6, 16°.4S±0°.2×172°.6W±0°.2, h24km, n31,
σ1§03/33, mb4.4/11, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAN	**Canberra**	**39.07**	**234**	*eP*	**P**	**01 32 13.6**	**+1.0**
	19nm,1.4s						
STKA	**Stephens Creek**	**44.24**	**241**	P	**P**	**01 32 55.1**	**+0.3**
STKA	**Stephens Creek**	**44.24**	**241**	P	**P**	**01 32 55.1**	**+0.3**
	1.0nm,0.4s,baz=77,slow=9.4,SNR=6.8						
WRAB	**Tennant Creek**	**50.38**	**257**	*eP*	**P**	**01 33 40.9**	**-2.0**
	3.4nm,0.8s						
WRA	**Warramunga Arr**	**50.39**	**257**	P	**P**	**01 33 43.8**	**+0.9**
WRA	**Warramunga Arr**	**50.39**	**257**	P	**P**	**01 33 43.8**	**+0.9**
	0.6nm,0.4s,baz=96,slow=6.9,SNR=8.3						
AS31	**Alice Springs**	**50.56**	**253**	*eP*	**P**	**01 33 44.7**	**+0.5**
ASAR	**Alice Springs**	**50.56**	**253**	P	**P**	**01 33 45.1**	**+0.9**
ASAR	**Alice Springs**	**50.56**	**253**	P	**P**	**01 33 45.1**	**+0.9**
	4.9nm,0.5s,baz=88,slow=8.2,SNR=67						
VNDA	**Vanda**	**62.50**	**186**	*eP*	**P**	**01 35 07.0**	**-1.3**
	6.4nm,1.6s						
KAPI	**Kappang**	**67.18**	**271**	*eP*	**P**	**01 35 39.3**	**-0.5**
	10nm,0.9s						
QSPA	**South Pole Qui**	**73.68**	**180**	*eP*	**P**	**01 36 19.2**	**+0.4**
	6.2nm,1.3s						
BEKR	**Beckworth**	**74.12**	**39**	*eP*	**P**	**01 36 21.6**	**-0.2**
	2.2nm,1.1s						
TUC	**Tucson**	**76.41**	**50**	*eP*	**P**	**01 36 36.2**	**+1.2**
	2.8nm,1.0s						
BSMT	**Bassoo Peak**	**82.10**	**35**	*eP*	**P**	**01 37 04.6**	**-1.3**
ILAR	**Eielson Array**	**83.24**	**11**	P	**P**	**01 37 11.6**	**+0.4**

ILAR	Eielson Array	83.24	11	P	P	01 37 11.6	+0.4
	0.5nm,0.6s,baz=224,slow=6.3,SNR=5.9						
ARCES	ARCESS Array B	125.67	352	PKP	PKPdf	01 43 46.9	+0.9
ARCES	ARCESS Array B	125.67	352	PKP	PKPdf	01 43 46.9	+0.9
	2.0nm,0.8s,baz=314,slow=3.1,SNR=5.1						
KIEV	Kiev	141.54	338	*e*PKPdf	PKPdf	01 44 16.9	+0.7
LSZ	Lusaka	142.46	214	*e*PKPdf	PKPdf	01 44 17.8	-1.3
BUR08	Bucovina Ar. S	145.53	339	*e*PKPbc	PKPab	01 44 23.6	-0.3
MORC	Moravsky Berou	145.68	348	*e*PKPbc	PKPab	01 44 24.3	0.0
GRFO	Grafenberg	146.62	355	*e*PKPbc	PKPdf	01 44 25.3	+0.1
WLF	Walferdange	146.78	1	*e*PKPbc	PKPdf	01 44 25.5	+0.1
BRTR	Keskin Array B	147.40	321	PKPbc	PKPab	01 44 30.3	-1.1
BRTR	Keskin Array B	147.40	321	PKPbc	PKPab	01 44 30.3	-1.1
	0.2nm,0.4s,baz=94,slow=4.1,SNR=3.5						
BFO	Black Forest	148.12	359	*e*PKPbc	PKPbc	01 44 31.2	+0.2
ECH	Echery	148.24	0	*e*PKPbc	PKPab	01 44 32.1	-2.1
ECH				*e*PKPab	PKiKP	01 44 35.5	+2.5
TUE	Stuetta	149.94	357	*e*PKPdf	PKPdf	01 44 31.1	+0.1
TUE				*e*PKPbc	PKiKP	01 44 35.9	-0.9
CSS	Prodhromos	150.33	314	*e*PKPbc	PKPbc	01 44 37.4	+0.5

IDC ***30*** *01:25:54.1±0.5, 15°.31S×172°.11W, h0km, mb4.5/17, mb1 4.7/17, mb1mx4.5/28, mbtmp4.5/17, Error ellipse: s-maj=23.3km s-min=12.4km az=128.0*
ISCJB ***30*** *01:25:55.2±0.3, 15°.28S±0°.07×172°.18W±0°.08, h18km, mb4.6/38, Error ellipse: s-maj=13.3km s-min=5.8km az=39.4*
NEIC ***30*** *01:25:55.3±0.2, 15°.43S×172°.01W, h10km, mb4.7/26, Error ellipse: s-maj=11.2km s-min=5.9km az=145.0*
ISC 30 01:25:56.9±0.5, 15°.23S±0°.09×172°.1W±0°.1, h18km, n96, σ1$00/95, mb4.6/38, 1D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	1.36	15	*e*Pn	Pn	01 26 19.6	-1.4
AFI				Sn	Sn	01 26 36.5	-2.1
AFI	Afiamalu	1.36	15	Pn	Pn	01 26 20.2	-0.8
	946nm,0.3s,baz=40,slow=2.0,SNR=54						
AFI				Sn	Sn	01 26 36.5	-2.1
	4μm,0.3s,baz=60,slow=20,SNR=28						
MSVF	Nonsavu	9.73	254	*e*P	Pn	01 28 22.8	+6.7
	47nm,1.0s						
RAR	Rarotonga	13.17	119	*e*Pn	Pn	01 28 57.2	-5.9
DZM	Mont Dzumac	21.39	248	*e*P	P	01 30 43.6	-0.2
	15nm,0.8s						
DZM	Mont Dzumac	21.39	248	P	P	01 30 42.4	-1.3
	15nm,0.9s,baz=68,slow=18,SNR=6.3						
URZ	Urewera	24.83	200	P	P	01 31 18.6	+0.5
URZ	Urewera	24.83	200	P	P	01 31 18.6	+0.5
	42nm,0.4s,baz=86,slow=1.1,SNR=33						
RPZ	Rata Peaks	31.81	203	P	P	01 32 18.7	-1.8
	1.5nm,0.4s,baz=61,slow=19,SNR=2.1						
CTA	Charters Tower	39.86	257	P	P	01 33 29.3	-0.5
CTA	Charters Tower	39.86	257	P	P	01 33 29.3	-0.5
	4.7nm,0.8s,baz=83,slow=9.5,SNR=6.6						
CTAO	Charters Tower	39.86	257	*e*P	P	01 33 30.6	+0.8
	6.0nm,0.8s						
CAN	Canberra	40.10	233	*e*P	P	01 33 30.6	-1.0
	18nm,1.1s						
PMG	Port Moresby	40.13	273	*e*P	P	01 33 32.2	+0.1
	18nm,0.9s						
COEN	Coen	43.20	266	*e*P	P	01 33 58.5	+1.2
	82nm,0.9s						
STKA	Stephens Creek	45.17	240	*e*P	P	01 34 12.5	-0.4
	3.9nm,1.0s						
STKA	Stephens Creek	45.17	240	P	P	01 34 12.0	-0.9
	14nm,0.8s,baz=80,slow=8.6,SNR=17						
BBOO	Buckleboo	49.95	240	*e*P	P	01 34 49.5	-0.4
	491nm,0.8s						
WRAB	Tennant Creek	51.05	257	*e*P	P	01 34 58.2	-0.3
	13nm,1.0s						
WRA	Warramunga Arr	51.06	257	P	P	01 34 58.6	0.0
WRA	Warramunga Arr	51.06	257	P	P	01 34 58.6	0.0
	6.6nm,0.8s,baz=92,slow=7.0,SNR=24						
AS31	Alice Springs	51.32	252	*e*P	P	01 34 59.9	-0.5
ASAR	Alice Springs	51.32	252	P	P	01 35 00.5	0.0
ASAR	Alice Springs	51.32	252	P	P	01 35 00.5	0.0
	35nm,0.6s,baz=87,slow=8.1,SNR=100						
FORT	Forrest	56.58	243	*e*P	P	01 35 38.5	-0.3
	20nm,0.6s						
FITZ	Fitzroy Crossi	59.43	258	P	P	01 36 00.1	+1.1
FITZ	Fitzroy Crossi	59.43	258	P	P	01 36 00.1	+1.1
	3.6nm,0.7s,baz=126,slow=6.9,SNR=7.9						
SBA	Scott Base	63.52	185	*e*P	P	01 36 26.4	+0.8
	14nm,0.9s						
VNDA	Vanda	63.67	186	*e*P	P	01 36 26.4	-0.3
	7.6nm,1.0s						
VNDA	Vanda	63.67	186	P	P	01 36 26.7	+0.1
	6.1nm,0.9s,baz=9.0,slow=6.4,SNR=27						
NWAO	Narrogin (SRO)	65.76	240	P	P	01 36 40.7	-0.3
NWAO	Narrogin (SRO)	65.76	240	P	P	01 36 40.7	-0.3
	3.5nm,0.5s,baz=80,slow=4.5,SNR=3.7						
MWC	Mount Wilson	71.15	45	*e*P	P	01 37 14.1	-0.8
	19nm,1.3s						
ISA	Isabella	71.69	44	*e*P	P	01 37 18.1	+0.2
	7.4nm,1.2s						
CMB	Columbia Colle	71.84	41	*e*P	P	01 37 19.5	+0.7
	7.6nm,1.1s						
WAKR	Walker	72.72	41	*e*P	P	01 37 24.9	+0.7
YBH	Yreka Blue Hor	72.73	37	*e*P	P	01 37 25.2	+1.2
	4.2nm,0.7s						
YBH	Yreka Blue Hor	72.73	37	P	P	01 37 25.3	+1.2
	3.3nm,0.7s,baz=10,slow=2.4,SNR=8.3						
BEKR	Beckworth	72.96	39	*e*P	P	01 37 25.1	-0.5
	2.9nm,1.0s						
NV11	Mina Array Sit	73.49	41	*e*P	P	01 37 29.5	+0.8
SHPR	Sheep Range	74.38	45	*e*P	P	01 37 34.6	+0.6
	10nm,1.5s						
QSPA	South Pole Qui	74.82	180	*e*P	P	01 37 34.9	-1.2
	33nm,1.4s						
QSPA	South Pole Qui	74.82	180	P	P	01 37 35.4	-0.6
	11nm,1.0s,baz=28,slow=2.7,SNR=15						
TUC	Tucson	75.35	50	*e*P	P	01 37 40.4	+0.8
	4.5nm,1.1s						
DUG	Dugway	77.91	42	*e*P	P	01 37 54.2	+0.2
	4.4nm,1.0s						
TMUT	Trail Mountain	78.51	44	*e*P	P	01 37 57.3	-0.3
	6.9nm,1.0s						
DIV	Divide	78.96	13	*e*P	P	01 38 00.7	+1.5
	11nm,0.7s						
BMRM	Bremner River	79.07	13	*e*P	P	01 37 59.9	+0.1
	11nm,0.8s						
BNM	Barren Site	79.28	50	*e*P	P	01 38 02.6	+0.7
TXAR	Lajitas Array	79.51	56	P	P	01 38 03.3	+0.3
TXAR	Lajitas Array	79.51	56	P	P	01 38 03.3	+0.3
	0.5nm,0.7s,baz=211,slow=7.0,SNR=4.9						
ANMO	Albuquerque	79.77	50	P	P	01 38 04.1	-0.3
ANMO	Albuquerque	79.77	50	P	P	01 38 04.1	-0.3
	0.8nm,0.7s,baz=258,slow=7.7,SNR=4.2						
TRF	Thorofare Moun	80.25	10	*e*P	P	01 38 08.0	+1.7
	5.3nm,0.8s						
TPAW	Teton Pass	80.82	40	*e*P	P	01 38 10.6	+0.7
	4.5nm,0.8s						
IMW	Indian Meadow	81.04	40	*e*P	P	01 38 12.1	+0.9
	4.6nm,1.1s						
FLWY	Flagg Ranch	81.28	40	*e*P	P	01 38 13.1	+0.8
	5.1nm,0.8s						
PDAR	Pinedale Array	81.33	41	P	P	01 38 12.2	-0.5
PDAR	Pinedale Array	81.33	41	P	P	01 38 12.1	-0.5
	0.8nm,0.8s,baz=204,slow=3.3,SNR=5.4						
ILAR	Eielson Array	82.05	11	P	P	01 38 17.8	+2.2
ILAR	Eielson Array	82.05	11	P	P	01 38 17.8	+2.2
	0.3nm,0.6s,baz=215,slow=6.6,SNR=4.5						
ABTX	Abilene, Hawle	83.98	54	*e*P	P	01 38 26.0	-0.4
MAW	Mawson	88.34	198	P	P	01 38 47.1	-0.1
MAW	Mawson	88.34	198	P	P	01 38 47.1	-0.1
	8.9nm,0.7s,baz=125,slow=6.6,SNR=22						
SYO	Syowa Base	93.00	191	‖*e*P	P	01 39 06.4	-2.5
KURK	Kurchatov	113.81	319	*e*PKP	PKiKP	01 44 33.7	-0.7
KIEV	Kiev	140.65	339	*e*PKPdf	PKPdf	01 45 26.5	+1.2
LSZ	Lusaka	143.64	214	*e*PKPdf	PKPbc	01 45 29.9	+0.7
DPC	Dobruska-Polom	144.30	351	*e*PKP	PKPdf	01 45 31.8	-0.1
DPC				*ex*	x	01 45 39.9	
PVCC	Panska Ves	144.37	353	*e*PKP	PKPdf	01 45 34.3	+2.3
TSUM	Tsumeb	144.47	196	*e*PKPdf	PKPdf	01 45 33.6	+0.3
BUR08	Bucovina Ar. S	144.62	340	*e*PKPdf	PKPbc	01 45 32.4	+1.0
MORC	Moravsky Berou	144.65	349	*e*PKPdf	PKPbc	01 45 32.2	+0.9
PRU	Pruhonice	144.91	352	*e*PKP	PKPbc	01 45 33.0	+1.0
PRU				*ex*	x	01 45 41.6	
PRU				*ex*	x	01 45 47.4	
GRFO	Grafenberg	145.52	356	*e*PKPbc	PKPab	01 45 34.7	+0.5
WLF	Walferdange	145.63	2	*e*PKPbc	PKPab	01 45 36.6	+2.0
KHC	Kasperske Hory	145.87	353	*e*PKP	PKPab	01 45 36.4	+0.8
KHC				*e*pPKP	pPKPdf	01 45 41.0	+0.2
KHC				*ex*	x	01 45 45.0	
KHC				*ex*	x	01 45 50.7	
PSZ	Piszkesteto	145.91	346	*e*PKPbc	PKPab	01 45 36.3	+0.5
GERES	GERESS Array B	146.13	353	PKPbc	PKPdf	01 45 36.1	+1.0
GERES	GERESS Array B	146.13	353	PKPbc	PKPdf	01 45 36.1	+1.0
	0.8nm,0.7s,baz=0.0,slow=2.8,SNR=8.4						
KMBO	Kilima Mbogo	146.70	243	*e*PKPbc	PKPbc	01 45 39.6	+0.6
KMBO	Kilima Mbogo	146.70	243	PKPbc	PKPbc	01 45 39.2	+0.2
	4.0nm,0.7s,baz=94,slow=5.1,SNR=5.8						
BR131	Keskin Array S	146.78	322	*e*PKPbc	PKPbc	01 45 39.0	+0.6
BRTR	Keskin Array B	146.78	322	*e*PKPbc	PKPbc	01 45 39.1	+0.8
BRTR	Keskin Array B	146.78	322	PKPbc	PKPbc	01 45 39.1	+0.8
	1.4nm,0.7s,baz=138,slow=2.5,SNR=7.4						
BFO	Black Forest	146.99	359	*e*PKPbc	PKPbc	01 45 39.2	+0.7
ECH	Echery	147.10	1	*e*PKPbc	PKPdf	01 45 37.1	+0.4
TUE	Stuetta	148.82	358	*e*PKPdf	PKPdf	01 45 39.8	-0.1
TUE				*e*PKPbc	PKPbc	01 45 44.6	+0.9
CSS	Prodhromos	149.85	315	*e*PKPbc	PKPbc	01 45 45.3	-1.1
SSB	Saint Sauveur	149.91	5	*e*PKPbc	PKPdf	01 45 43.8	+2.3
BNI	Bardonecchia	150.25	2	*e*PKPbc	PKPbc	01 45 48.3	+1.0
BNI				*e*PKPab	PKPab	01 45 54.8	+1.5
MTE	Manteigas	151.55	25	*e*PKPdf	PKPdf	01 45 44.0	-0.2
ESDC	Sonseca Array	153.53	21	PKPbc	PKPbc	01 45 54.5	-0.3
ESDC	Sonseca Array	153.53	21	PKPbc	PKPbc	01 45 54.5	-0.3
	0.6nm,0.8s,baz=354,slow=2.1,SNR=4.1						
TORD	Torodi Ar. Bea	173.68	108	PKP	PKPdf	01 46 04.5	-1.8
TORD	Torodi Ar. Bea	173.68	108	PKP	PKPdf	01 46 04.5	-1.8
	0.9nm,1.0s,baz=354,slow=1.7,SNR=3.6						

IDC ***30*** *01:30:37.5±0.5, 15°.54S×172°.41W, h0km, mb4.4/13, mb1 4.6/13, mb1mx4.4/22, mbtmp4.4/13, MS5.3/1, Ms1 5.3/1, ms1mx4.0/37, Error ellipse: s-maj=23.9km s-min=16.5km az=130.0*
BJI ***30*** *01:30:39.2, 15°.40S×172°.50W, h10km, mB5.5/6, mb5.1/8, Ms5.4/7, Ms7 5.1/6*
NEIC ***30*** *01:30:40.0±0.2, 15°.44S×172°.52W, h10km, mb4.7/44, Error ellipse: s-maj=14.5km s-min=6.5km az=137.0*
ISCJB ***30*** *01:30:42.2±0.3, 15°.47S±0°.07×172°.50W±0°.07, h33km, mb4.6/60, MS5.2/5, Error ellipse: s-maj=12.8km s-min=6.5km az=139.3*
SZGRF ***30*** *01:30:43.1, 15°.78S×172°.11W, h33km, Samoa Islands region*
ISC 30 01:30:42.1±1.0, 15°.49S±0°.09×172°.39W±0°.09, h24km±6km, n166, σ1$32/178, mb4.6/61, MS5.3/5, 9C-3D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	1.68	21	*e*Pn	Pn	01 31 01.6	-8.6
MSVF	Nonsavu	9.43	255	*e*Pn	Pn	01 33 02.5	+5.9
	112nm,1.1s						
RAR	Rarotonga	13.26	117	*e*Pn	Pn	01 33 43.9	-5.1
DZM	Mont Dzumac	21.07	249	*e*P	P	01 35 28.3	+3.4
	42nm,1.2s						
OUZ	Omahuta	23.32	210	*e*P	P	01 35 50.6	+2.1
	70nm,1.0s						
RPZ	Rata Peaks	31.47	203	*e*P	P	01 37 04.5	+2.6
ARMA	Armidale	36.13	239	*e*P	P	01 37 41.5	-1.2
	8.8nm,0.9s						
CAN	Canberra	39.75	233	*e*P	P	01 38 12.3	-0.8
	23nm,1.3s						
COEN	Coen	42.95	266	*e*P	P	01 38 39.5	-0.1
STKA	Stephens Creek	44.83	240	*e*P	P	01 38 53.6	-0.9
	3.5nm,1.1s						
STKA	Stephens Creek	44.83	240	P	P	01 38 52.0	-2.6
	12nm,1.1s,baz=92,slow=6.3,SNR=7.1						
WRAB	Tennant Creek	50.76	257	*e*P	P	01 39 42.3	+1.6
	2.7nm,0.8s						
WRA	Warramunga Arr	50.77	257	P	P	01 39 38.8	-2.0
WRA	Warramunga Arr	50.77	257	P	P	01 39 38.8	-2.0
	5.0nm,1.2s,baz=91,slow=7.5,SNR=7.2						
AS31	Alice Springs	51.01	252	*e*P	P	01 39 42.0	-0.6
ASAR	Alice Springs	51.01	252	P	P	01 39 41.1	-1.4
ASAR	Alice Springs	51.01	252	P	P	01 39 41.1	-1.4
	11nm,1.0s,baz=85,slow=8.5,SNR=19						
ASAR				LR	LR	02 00 18.9	
	comp=Z,3μm,19.9s,baz=240,slow=35						
VNDA	Vanda	63.38	186	*e*P	P	01 41 09.2	+0.1
	69nm,2.8s						
VNDA	Vanda	63.38	186	P	P	01 41 09.0	-0.1
	2.8nm,0.9s,baz=4.5,slow=6.5,SNR=10						
MJAR	Matsushiro Arr	69.64	319	P	P	01 41 49.3	-0.4
MJAR	Matsushiro Arr	69.64	319	P	P	01 41 49.3	-0.4
	0.7nm,0.3s,baz=140,slow=6.5,SNR=4.1						
ISA	Isabella	72.04	44	*e*P	P	01 42 04.0	-0.5
	5.5nm,1.1s						
CMB	Columbia Colle	72.19	41	*e*P	P	01 42 05.6	+0.4
	4.8nm,1.0s						
SDKM	Sandakan	72.80	281	P	P	01 42 02.7	-6.7
GSC	Goldstone	72.96	45	*e*P	P	01 42 11.3	+1.3
	5.2nm,1.1s						
WAKR	Walker	73.07	41	*e*P	P	01 42 11.6	+0.9
YBH	Yreka Blue Hor	73.09	37	*e*P	P	01 42 11.0	+0.5
	5.8nm,1.0s						
YBH	Yreka Blue Hor	73.09	37	P	P	01 42 10.0	-0.5
	3.2nm,0.9s,baz=308,slow=5.4,SNR=4.7						
BEKR	Beckworth	73.32	39	*e*P	P	01 42 12.1	0.0
	1.8nm,0.9s						
HUMO	Hull Mountain	73.51	36	*e*P	P	01 42 14.3	+1.4
	4.4nm,0.9s						
KDM	Kudat	73.54	282	P	P	01 42 08.3	-5.4
KKM	Kota Kinabalu	73.85	281	P	P	01 42 13.5	-2.1
QSPA	South Pole Qui	74.55	180	*e*P	P	01 42 18.3	-0.5
	22nm,1.0s						
QSPA	South Pole Qui	74.55	180	P	P	01 42 18.4	-0.5
	19nm,1.0s,baz=36,slow=1.8,SNR=36						
MOD	Modoc	74.60	38	*e*P	P	01 42 20.3	+0.9
	19nm,0.8s						
SHPR	Sheep Range	74.74	45	*e*P	P	01 42 20.6	+0.2
	6.3nm,1.1s						
K05A	Summer Lake	74.76	37	*e*P	P	01 42 22.5	+2.1
R11A	Troy Canyon, C	75.46	43	*e*P	P	01 42 25.7	+1.1
	9.2nm,1.5s						
TUC	Tucson	75.70	50	*e*P	P	01 42 25.6	-0.4
	2.0nm,0.9s						
I07A	Izee	76.40	36	*e*P	P	01 42 31.1	+1.4
	12nm,1.2s						
CCUT	Cedar City	76.51	44	*e*P	P	01 42 33.6	+2.9
	50nm,2.9s						
J08A	Circle Bar Ran	76.55	37	*e*P	P	01 42 31.9	+1.3
	8.8nm,1.2s						
KSRS	Korea Array	76.91	315	P	P	01 42 33.1	+0.6
	1.9nm,0.8s,baz=128,slow=6.1,SNR=7.3						
KSAR	Wonju Array Be	76.93	315	P	P	01 42 33.1	+0.5
G08A	Pilot Rock	77.44	36	*e*P	P	01 42 37.2	+1.6
	13nm,1.4s						
KSM	Kuching	78.17	275	*e*P	P	01 42 41.5	+1.3
	31nm,1.1s						
DUG	Dugway	78.27	42	*e*P	P	01 42 40.9	+0.5
	5.1nm,1.1s						
RAGM	Ragged Mountai	78.84	14	*e*P	P	01 42 42.1	-0.8
	146nm,1.1s						
HLID	Hailey	79.09	39	*e*P	P	01 42 44.9	+0.1
	4.7nm,1.1s						
HVU	Hansel Valley	79.13	41	*e*P	P	01 42 43.2	-1.9
SRU	San Rafael	79.23	44	*e*P	P	01 42 46.5	+0.8
DIV	Divide	79.27	13	*e*P	P	01 42 45.6	+0.3
BMRM	Bremner River	79.38	13	*e*P	P	01 42 45.5	-0.3
	18nm,1.3s						
MNTX	Cornudas Mount	79.50	53	*e*P	P	01 42 48.1	+1.0
	13nm,1.9s						
TXAR	Lajitas Array	79.86	56	P	P	01 42 49.1	-0.1
TXAR	Lajitas Array	79.86	56	P	P	01 42 49.2	-0.1
	2.6nm,1.1s,baz=216,slow=4.0,SNR=11						
ANMO	Albuquerque	80.12	50	*e*P	P	01 42 52.7	+2.1
ANMO	Albuquerque	80.12	50	P	P	01 42 49.6	-1.0
	2.0nm,1.2s,baz=221,slow=7.4,SNR=4.5						
NEW	Newport	80.24	34	*e*P	P	01 42 51.2	+0.4
	2.5nm,0.8s						
TRF	Thorofare Moun	80.55	10	*e*P	P	01 42 51.9	-0.3
MCMT	McKenzie Canyo	80.72	38	*e*P	P	01 42 49.7	-4.0
	2.7nm,1.1s						
RRI2	Red Ridge	80.87	40	*e*P	P	01 42 54.6	0.0
	5.4nm,1.1s						
MCK	McKinley	81.04	10	*e*P	P	01 42 54.7	0.0
	15nm,1.1s						
REDW	Red Top Meadow	81.17	40	*e*P	P	01 42 57.2	+1.1
	8.6nm,1.3s						
TPAW	Teton Pass	81.17	40	*e*P	P	01 42 56.5	+0.3
	59nm,2.5s						
BSMT	Bassoo Peak	81.28	35	*e*P	P	01 42 55.2	-1.3
	4.7nm,0.9s						
SNOW	Snow King Moun	81.28	40	*e*P	P	01 42 56.5	-0.3
	4.5nm,0.8s						
MENT	Mentasta	81.33	13	*e*P	P	01 42 57.0	+0.7
IMW	Indian Meadow	81.39	40	*e*P	P	01 42 57.7	+0.3
	8.5nm,1.4s						
LOHW	Long Hollow	81.45	40	*e*P	P	01 42 57.6	0.0
	2.4nm,0.9s						
LRM	Limekiln Ridge	81.49	38	*e*P	P	01 42 58.3	+0.5
QLMT	Earthquake Lak	81.58	39	*e*P	P	01 42 58.9	+0.6
	0.1nm,0.2s						
CHMT	Chamberlain Mo	81.62	36	*e*P	P	01 42 57.9	-0.5
SMCO	Snowmass	81.68	46	*e*P	P	01 42 59.3	+0.2
	3.8nm,1.0s						
PDAR	Pinedale Array	81.69	41	P	P	01 42 58.1	-0.7
PDAR	Pinedale Array	81.69	41	P	P	01 42 58.1	-0.7
	1.6nm,0.9s,baz=230,slow=3.7,SNR=6.4						
CN2	Changchun	81.78	320	*e*P	P	01 42 59.8	+0.8
CN2				*es*P	sP	01 43 06.8	-2.9
CN2				*e*S	S	01 53 11.0	+0.2
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CN2				pmax	pmax		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,700nm,19.0s						
CN2				LR	LR		
	comp=E,600nm,19.0s						
CN2				LR	LR		
	comp=Z,600nm,19.0s						
COLA	College	82.28	10	*e*P	P	01 43 01.1	0.0
	comp=Z,53nm,0.9s						
ILAR	Eielson Array	82.35	11	P	P	01 43 00.1	-1.5
ILAR	Eielson Array	82.35	11	P	P	01 43 00.1	-1.5
	comp=Z,1.1nm,0.9s,baz=212,slow=5.0,SNR=6.9						
IM04	Indian Mountai	82.42	8	*e*P	P	01 43 02.3	+0.4
IMA2	Indian Mountai	82.52	8	*e*P	P	01 43 03.2	+0.7
ISCO	Idaho Springs	82.90	46	*e*P	P	01 43 06.6	+1.2
COLD	Coldfoot	84.09	8	*e*P	P	01 43 11.0	+0.5
	comp=Z,4.4nm,0.9s						
EGMT	Eagleton	84.22	37	*e*P	P	01 43 11.8	+0.1
WHTX	Lake Whitney	85.81	55	*e*P	P	01 43 20.0	+0.1
RSSD	Black Hills	85.87	42	*e*P	P	01 43 21.9	+1.7
	comp=Z,14nm,0.9s						
MAW	Mawson	88.01	198	P	P	01 43 29.1	-0.8
MAW	Mawson	88.01	198	P	P	01 43 29.1	-0.8
	comp=Z,3.3nm,0.9s,baz=102,slow=4.4,SNR=6.2						
INK	Inuvik	88.13	14	*e*P	P	01 43 31.1	+0.8
	comp=Z,4.0nm,1.0s						
HHC	Hu-ho-hao-te	89.81	313	*e*P	P	01 43 37.5	-1.5
HHC				pP	PcP	01 43 42.3	+2.0
HHC				sP	sP	01 43 44.5	-5.3
HHC				PP	PP	01 47 12.3	+0.5
HHC				SKS	SKSac	01 54 05.5	-2.9
HHC				S	S	01 54 26.8	-3.1
HHC				SS	SS	02 00 27.5	-0.2
HHC				pmax	pmax		
	comp=Z,25nm,1.1s						
HHC				pmax	pmax		
	comp=Z,240nm,5.3s						
HHC				LR	LR		
	comp=N,450nm,16.7s						
HHC				LR	LR		
	comp=E,390nm,17.5s						
HHC				LR	LR		
	comp=Z,2μm,17.1s						
TEIG	Tepich	89.91	69	*e*P	P	01 43 40.5	+0.7
	comp=Z,14nm,1.3s						
JTS	JuntasAbangare	90.27	79	*e*P	P	01 43 44.2	+2.5
	comp=Z,930nm,2.6s						
KMI	Kunming	91.94	295	P	P	01 43 50.0	+0.5
KMI				pmax	pmax		
	comp=Z,13nm,0.6s						
CD2	Chengdu	92.69	301	P	P	01 43 53.3	+0.7
CD2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
SNAA	Sanae	92.76	177	*e*P	P	01 43 51.4	-0.8
SNAA	Sanae	92.76	177	*e*P	P	01 43 51.4	-0.8
	comp=Z,17nm,1.4s						
VNA2	Neumayer--Watz	93.18	175	*e*P	P	01 43 54.3	+0.2
VNA1	Neumayer--Stat	93.37	175	*e*P	P	01 43 55.2	+0.3
LZH	Lanzhou	94.06	306	*e*P	P	01 44 00.5	+1.5
LZH				pP	pP	01 44 05.0	-1.9
LZH				sP	sP	01 44 07.3	-2.4
LZH				PP	PP	01 47 50.3	+4.7
LZH				SKS	SKSac	01 54 34.0	+1.2
LZH				*e*S	S	01 55 07.3	-1.2
LZH				sS	ScS	01 55 14.3	+4.4
LZH				pmax	pmax		
	comp=Z,21nm,1.2s						
LZH				pmax	pmax		
	comp=Z,86nm,5.0s						
LZH				LR	LR		
	comp=N,810nm,15.0s						
LZH				LR	LR		
	comp=E,680nm,14.3s						
LZH				LR	LR		
	comp=Z,970nm,17.2s						
MK31	Makanchi Array	111.59	315	*e*PKP

GEC2	GERESS Array S	146.37	353	*e*PKPbc	PKPbc	01 50 21.1	0.0
GERES	GERESS Array B	146.37	353	PKPbc	PKPdf	01 50 20.3	+0.4
GERES	GERESS Array B	146.37	353	PKPbc	PKPdf	01 50 20.3	+0.4
	comp=Z,0.6nm,0.7s,baz=28,slow=3.2,SNR=6.2						
VOIR		146.73	337 ⇑	*i*P	PKPab	01 50 23.1	-0.3
BR131	Keskin Array S	146.84	322	*e*PKPbc	PKPbc	01 50 22.9	0.0
BRTR	Keskin Array B	146.84	322	PKPbc	PKPbc	01 50 22.9	0.0
BRTR	Keskin Array B	146.84	322	PKPbc	PKPbc	01 50 22.9	0.0
	comp=Z,5.9nm,0.8s,baz=110,slow=2.0,SNR=29						
ARR	Arges	146.95	338 ⇑	*i*P	PKPab	01 50 23.9	-0.3
BFO	Black Forest	147.25	359	*e*PKPbc	PKPbc	01 50 23.4	-0.2
BFO	Black Forest	147.25	359	*e*PKPbc	PKPbc	01 50 22.9	-0.6
BFO			*e*			01 50 32.7	
ECH	Echery	147.37	1	*e*PKPbc	PKPbc	01 50 23.8	-0.1
BZS	Buzias	147.74	341 ⇑	*i*P	PKPbc	01 50 25.1	+0.1
TUE	Stuetta	149.08	358	*e*PKPdf	PKPdf	01 50 24.7	+0.1
TUE				*e*PKPbc	PKiKP	01 50 30.3	+0.3
CSS	Prodhromos	149.86	315	*e*PKPbc	PKPbc	01 50 30.1	-0.7
SSB	Saint Sauveur	150.19	4	*e*PKPbc	PKPbc	01 50 30.3	-1.0
BNI	Bardonecchia	150.53	1	*e*PKPbc	PKPbc	01 50 33.1	+1.0
MTE	Manteigas	151.89	25	*e*PKPbc	PKPbc	01 50 34.4	-1.0
ESDC	Sonseca Array	153.87	21	PKPbc	PKPbc	01 50 39.0	-0.8
ESDC				PKPab	PKPab	01 50 52.5	-0.3
ESDC	Sonseca Array	153.87	21	PKPbc	PKPbc	01 50 39.0	-0.8
	comp=Z,0.9nm,0.8s,baz=307,slow=1.7,SNR=7.5						
ESDC				PKPab	PKPab	01 50 52.5	-0.3
	comp=Z,0.1nm,0.3s,baz=340,slow=3.8,SNR=4.3						
TORD	Torodi Ar. Bea	173.81	111	PKP	PKPdf	01 50 48.4	-2.2
TORD				PKPab	PKPab	01 52 18.5	-2.4
TORD	Torodi Ar. Bea	173.81	111	PKP	PKPdf	01 50 48.4	-2.2
	comp=Z,2.2nm,1.0s,baz=273,slow=1.4,SNR=7.8						
TORD				PKPab	PKPab	01 52 18.5	-2.4
	comp=Z,0.9nm,0.8s,baz=260,slow=4.9,SNR=4.5						

IDC 30 01:35:42.3±9.3, 15°.23S×173°.86W, h0km, mb4.0/2, mb1 4.3/2, mb1mx3.8/18, mbtmp4.0/2, MS5.2/1, Ms1 5.2/1, ms1mx4.0/32, Error ellipse: s-maj=410.7km s-min=60.0km az=139.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	38.48	274	LR	LR	01 57 08.1	
	comp=Z,4μm,19.9s,baz=143,slow=33						
WRA	Warramunga Arr	49.45	257	P	P	01 44 34.6	-0.1
	0.6nm,0.8s,baz=92,slow=8.1,SNR=6.9						
ASAR	Alice Springs	49.74	252	P	P	01 44 36.8	-0.1
	3.2nm,0.6s,baz=86,slow=8.4,SNR=20						
BRTR	Keskin Array B	145.75	321	PKPbc	PKPdf	01 55 22.9	-0.5
	0.8nm,0.8s,baz=58,slow=2.8,SNR=2.9						

*MOS **30** 01:39:36.8±1.0, 4°.96N×126°.63E, h33km, mb5.8/41, MS4.9/5, Error ellipse: s-maj=10.3km s-min=5.4km az=112.0*
*IDC **30** 01:39:37.1±1.5, 4°.93N×126°.64E, h23km±8km, mb5.0/39, mb1 5.0/41, mb1mx5.0/42, mbtmp5.0/41, ML4.7/2, MS5.0/24, Ms1 5.0/24, ms1mx4.8/45, Error ellipse: s-maj=14.4km s-min=8.6km az=77.0*
*ISCJB **30** 01:39:40.1±0.4, 4°.95N±0°.02×126°.80E±0°.03, h64km±4km, mb5.5/164, Error ellipse: s-maj=4.5km s-min=3.2km az=172.7*
*BKK **30** 01:39:41.6±0.6, 5°N±4°×12°7E±°, h53km±5km, M5.7/33, mB6.0/17, mb5.5/33, MLv6.2/5, Mw(mB)5.6/17*
*NEIC **30** 01:39:41.1±0.6, 4°.92N×126°.71E, h57km±5km, mb5.5/82, Error ellipse: s-maj=5.3km s-min=3.3km az=76.0*
NEIC Felt [II PIVS] at General Santos, Philippines.
*BJI **30** 01:39:42.0, 4°.90N×126°.70E, h65km, mB5.7/45, mb5.4/61, Ms5.3/65, MS7 5.1/59*
*TEH **30** 01:39:43.0, 4°.91N×126°.73E, h72km, ML5.6*
*DJA **30** 01:39:44.5±0.5, 5°N±4°×12°7E±°, h42km±5km, M5.6/55, mb5.5/55, mB6.0/50, MLv6.3/6, Mw(mB)5.6/50*
*MAN **30** 01:39:52, 5°.57N×125°.99E, h15km, mb5.4, ML4.3, MS4.6*
MAN INTENSITY II - GENERAL SANTOS CITY.

ISC 30 01:39:42.9±0.3, 4°.95N±0°.03×126°.77E±0°.04, h68km±2km, h68km:pP-P, n708, σ1$65/774, mb5.4/162, 34C-19D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	1.77	225	P	Pn	01 40 06.1	-5.3
GSPH	General Santos	2.14	302 ⇑	*e*P	Pn	01 40 10.2	-6.4
DAV	Davao City (W)	2.42	331	Pn	Pn	01 40 18.6	-1.6
	SNR=180						
DAV	Davao City (W)	2.42	331 ⇑	*e*P	Pn	01 40 18.3	-1.9
DAV	Davao City (W)	2.42	331	*e*Pn	Pn	01 40 19.2	-1.0
DAV	Davao City (W)	2.42	331	P	Pn	01 40 21.1	+0.9
KCP	Kidapawan	2.64	321 ⇑	*e*P	Pn	01 40 20.3	-3.1
KCP				*i*S	Sn	01 41 06.7	+12
CTBH	Cotabato--PC H	3.38	312 ⇓	*e*P	Pn	01 40 29.8	-3.5
CGP	Cagayan de Oro	4.05	329	*e*P	Pn	01 40 42.0	-0.5
CGP				*i*S	Sn	01 41 38.8	+10
TNTI	Ternate	4.19	172	*e*Pn	Pn	01 40 41.6	-2.8
TNTI	Ternate	4.19	172	P	Pn	01 40 41.5	-3.0
DCPH	Dipolog City	4.96	317	*e*P	Pn	01 40 58.9	+4.0
SCPH	Surigao	4.97	345 ⇓	*e*P	Pn	01 40 56.2	+1.2
KMSI	Cibinong	5.17	213	P	Pn	01 40 55.3	-2.4
	5μm,1.0s,91μm50nm						
TBP	Tagbilaran	5.52	329	*e*P	Pn	01 41 04.1	+1.5
LBMI	Labuha	5.60	173	P	Pn	01 41 00.2	-3.5
GTOI	Gorontalo	5.70	221	P	Pn	01 41 00.5	-4.6
LLP	Lapu-Lapu	6.01	333 ⇑	*e*P	Pn	01 41 11.2	+1.8
LLP				*e*S	Sn	01 42 29.7	+13
PLP	Palo	6.42	344 ⇓	*e*P	Pn	01 41 15.9	+0.9
MRSI	Marisa	6.56	228	P	Pn	01 41 13.7	-3.1
MRSI				S	Sn	01 42 24.3	-6.0
TOLI	Toli-Toli	7.08	238	P	Pn	01 41 26.1	+2.2
	1μm,0.8s,8.4nm						
LUWI	Luwuk	7.17	214	P	Pn	01 41 24.4	-0.8
	5μm,1.3s,47μm14nm						
SWI	Sorong	7.31	142	P	Pn	01 41 24.4	-2.7
SWI				S	Sn	01 42 42.6	-6.1
RCP	Roxas	7.68	329 ⇑	*e*P	Pn	01 41 33.3	+1.1
APSI	Ampana	7.75	221	P	Pn	01 41 31.7	-1.5
	2μm,1.3s,15μm8.5nm						
NLAI	Namlea	8.14	178	P	Pn	01 41 33.4	-5.1
MYLDM	Lahad Datu	8.24	272	P	Pn	01 41 45.0	+5.1
MYLDM	Lahad Datu	8.24	272	P	Pn	01 41 41.0	+1.1
	426nm,1.3s,16μm5.0nm						
MSAI	Masohi	8.52	165	P	Pn	01 41 43.0	-0.6
	148nm,1.1s,2μm						
AAI	Ambon	8.70	171	P	Pn	01 41 42.9	-3.2
TSM	Tawau	8.90	266	P	Pn	01 41 51.4	+2.6
PVCP	Virac	8.97	343 ⇓	*e*P	Pn	01 41 52.7	+2.9
PCI	Palu	9.05	230	P	Pn	01 41 43.3	-7.6
FAKI	Fak Fak	9.54	145	P	Pn	01 41 55.3	-2.3
KKSI	Kolaka, Sulawe	10.41	210	P	Pn	01 42 13.6	+4.1
LQP	Lukban	10.46	331	*e*P	Pn	01 42 18.1	+7.7
KKM	Kota Kinabalu	10.57	276	*e*Pn	Pn	01 42 11.2	-0.5
KKM	Kota Kinabalu	10.57	276	P	Pn	01 42 11.1	-0.6
	278nm,1.4s,5μm						
SGKI	Sangatta, Kali	10.66	240	P	Pn	01 42 12.5	-0.4
	397nm,1.7s,9μm						
MMSI	Mamuju	10.92	226	P	Pn	01 42 13.5	-3.0
	289nm,0.8s,6μm						
BAKI	Biak	11.14	123	P	Pn	01 42 23.8	+4.3
	769nm,1.4s,13μm						
BBSI	Bau Bau	11.19	202	P	Pn	01 42 21.7	+1.6
	200nm,1.0s,3μm						
SPSI	Sidrap Palu	11.29	218	P	Pn	01 42 19.3	-2.2
	188nm,1.4s,3μm						
BNSI	Bone	11.43	216	P	Pn	01 42 23.2	-0.2
	194nm,1.2s,4μm						
MJSI	Majene	11.49	223	P	Pn	01 42 27.8	+3.6
SRPI	Serui, Papua	11.63	125	P	Pn	01 42 32.8	+6.6
BKB	Balikpapan	11.64	238	P	Pn	01 42 23.6	-2.7
	548nm,1.8s,7μm						
TLE	Tual	12.09	150	P	Pn	01 42 31.5	-0.9
	590nm,1.2s,11μm						
KAPI	Kappang	12.13	215	Pn	Pn	01 42 33.9	+0.9
	SNR=22						
KAPI	Kappang	12.13	215	*e*Pn	Pn	01 42 29.3	-3.7
KAPI	Kappang	12.13	215	Pn	Pn	01 42 30.4	-2.6
	453nm,0.8s,SNR=7.1						
KAPI	Kappang	12.13	215	P	Pn	01 42 32.6	-0.4
	150nm,1.3s,2μm						
KAPI	Kappang	12.13	215	Pn	Pn	01 42 29.1	-3.9
	4.1nm,0.3s,baz=38,slow=2.0,SNR=11						
KAPI				LR	LR	01 47 36.1	
	comp=Z,12μm,19.5s,baz=50,slow=40						
BKSI	Bulukumba	12.18	213	P	Pn	01 42 35.1	+1.5
	73nm,1.0s,2μm						
MTKI	Muara Teweh, K	13.23	244	P	Pn	01 42 49.7	+1.7
	518nm,1.5s,18μm						
SAUI	Saumlaki	13.62	161	P	P	01 42 58.6	-1.1
BTM	Bintulu	13.77	263	P	Pn	01 42 57.8	+2.7
MMRI	Maumere	14.23	199	*e*Pn	Pn	01 43 01.8	+0.5
MMRI	Maumere	14.23	199	P	P	01 43 06.7	+0.1
SBUM	Sibu	14.73	261	*e*Pn	Pn	01 43 08.9	+1.1
SBUM	Sibu	14.73	261	P	Pn	01 43 09.5	+1.8
SBUM	Sibu	14.73	261	P	Pn	01 43 08.8	+1.1
	149nm,1.2s,4μm						
SOEI	Soe	14.82	190	P	Pn	01 43 10.2	+1.2
	655nm,0.9s,7μm						
LBFI	Labuhan Bajo,	15.01	207	P	Pn	01 43 11.8	+0.6
	479nm,0.9s,5μm						
BATI	Baumata	15.37	192	Pn	Pn	01 43 12.1	-3.9
BATI				Sn	S	01 46 20.2	+2.2
BATI	Baumata	15.37	192	P	Pn	01 43 17.8	+1.8
	198nm,0.8s,2μm						
BATI	Baumata	15.37	192	Pn	Pn	01 43 12.1	-3.9
	4.0nm,0.3s,baz=135,slow=2.9,SNR=3.7						
BATI				Sn	S	01 46 20.2	+2.2
	2.8nm,0.3s,baz=307,slow=20,SNR=2.9						
JAY	Jayapura	15.77	118	P	P	01 43 27.5	+3.8
STKI	Sintang	16.03	253	P	P	01 43 27.0	+0.4
	146nm,1.2s,19μm						
WBSI	Waikabubak, Su	16.26	207	P	P	01 43 30.6	+1.5
	457nm,0.7s,5μm						
KSM	Kuching	16.80	259	*e*Pn	Pn	01 43 34.4	+0.5
	288nm,1.3s						
KSM	Kuching	16.80	259	P	Pn	01 43 35.5	+0.5
KSM	Kuching	16.80	259	P	P	01 43 35.3	+0.2
	180nm,1.7s,3μm						
PBKI	Pangkalan Bun	16.90	244	P	P	01 43 37.3	+1.1
	844nm,1.0s,9μm						
MTNI	Mataram	17.14	218	P	Pn	01 43 38.2	0.0
	352nm,0.8s,4μm						
SRBI	Singaraja	17.34	222	P	Pn	01 43 40.3	-0.3
	158nm,1.1s,3μm						
KMMI	Kalianget	17.48	227	P	P	01 43 50.8	+8.2
DNP	Denpasar	17.78	220	P	Pn	01 43 53.5	+7.5
ABJI	Asem Bagus	17.80	225	P	Pn	01 43 56.3	+10
NBBI	Negara	17.95	223	P	Pn	01 43 49.5	+1.5
	251nm,1.3s,6μm						
BYJI	Banyuwangi	18.01	224	P	Pn	01 43 53.1	+4.3
BLJI	Banyuglugur	18.22	226	P	Pn	01 43 55.7	+4.4
GRJI	Gresik	18.51	231	P	Pn	01 44 03.0	+8.2
TWG	Pinlang	18.60	343	*e*P	P	01 43 53.9	-1.0
	886nm,1.5s						
GMJI	Gumukmas	18.69	225	P	Pn	01 43 57.4	+0.4
	192nm,1.0s,2μm						
YULB	Yu-li	19.08	344	*e*P	P	01 43 58.7	-1.5
	231nm,1.5s						
TPUB	Ta-pu	19.18	343	*e*P	P	01 44 01.0	-0.3
	178nm,0.8s						
KRKI	Karangkates	19.33	228	P	Pn	01 44 06.5	+1.9
	410nm,0.8s,26μm						
SSLB	Suanglung	19.55	344	*e*P	P	01 44 04.4	-0.9
	132nm,0.9s						
SJI	Sawahan	19.57	230	P	P	01 44 04.2	-1.4
NGJI	Ngawi	19.58	231	P	Pn	01 44 07.7	+0.2
	239nm,0.9s						
PWJI	Pagerwojo	19.73	229	P	P	01 44 06.8	-0.4
	99nm,1.1s,2μm						
NACB	Ninganchiao	19.75	346	*e*P	P	01 44 07.3	-0.1
	68nm,1.1s						
YHNB	Yeheng	20.28	346	*e*P	P	01 44 12.9	-0.4
	430nm,1.6s						
WOJI	Wonogiri, Jawa	20.28	231	P	Pn	01 44 21.7	+5.9
PCJI	Pacitan	20.31	230	P	Pn	01 44 19.1	+3.0
	145nm,1.0s,2μm						
TPI	Tanjungpandan	20.58	249	P	Pn	01 44 18.3	-1.0
	115nm,1.4s,1μm						
BJII	Banjamegara	20.95	234	P	P	01 44 21.1	+0.6
	476nm,1.2s,6μm						
TGJI	Tegal	21.17	236	P	P	01 44 25.0	+2.1
	240nm,1.3s,4μm						
QZH	Quanzhou	21.38	339 ⇓	*i*P	P	01 44 22.8	-2.1
QZH				S	S	01 48 11.8	-6.8
QZH				pmax	pmax		
	comp=Z,820nm,1.5s						
QZH				pmax	pmax		
	comp=Z,4μm,3.5s						
QZH				LR	LR		
	comp=N,8μm,18.8s						
QZH				LR	LR		
	comp=E,6μm,17.5s						
QZH				LR	LR		
	comp=Z,14μm,21.8s						
KPJI	Karang Pucung	21.59	236	P	P	01 44 28.6	+1.3
	comp=Z,232nm,1.4s,comp=Z,4μm						
QIZ	Qiongzhong	21.65	312	P	P	01 44 27.5	-0.4
QIZ				S	S	01 48 24.8	+0.7
QIZ				pmax	pmax		
	comp=Z,65nm,2.1s						
QIZ				LR	LR		
	comp=N,2μm,21.9s						
QIZ				LR	LR		
	comp=E,2μm,22.4s						
QIZ				LR	LR		
	comp=Z,6μm,24.2s						
CLJI	Cilicap	21.73	235	P	P	01 44 40.1	+11
PPBI	Pangkal Pinang	21.80	252	P	P	01 44 31.9	+2.4
	comp=Z,128nm,1.6s,comp=Z,16μm						
JOW	Kunigami	21.81	4	*e*P	P	01 44 30.5	+0.9
	comp=Z,38nm,0.9s						
LEM	Lembang	22.42	239	P	P	01 44 38.4	+2.0
	comp=Z,189nm,1.2s,comp=Z,6μm						
CISI	Cisompet, Garu	22.63	237	P	P	01 44 50.7	+12
CBJI	Citeko	22.87	241	P	P	01 44 44.0	+3.0
	comp=Z,710nm,1.1s,comp=Z,12μm						
FITZ	Fitzroy Crossi	22.93	183	*e*P	P	01 44 38.4	-3.2
	comp=Z,189nm,1.0s						
FITZ				S	S	01 48 48.3	+1.8
FITZ	Fitzroy Crossi	22.93	183	P	P	01 44 39.7	-1.9
	comp=Z,102nm,0.8s,baz=18,slow=9.3,SNR=52						
FITZ				S	S	01 48 48.3	+1.8
	comp=Z,15nm,1.0s,baz=169,slow=16,SNR=5.2						
DBJI	Dramaga	23.02	240	P	P	01 44 42.2	-0.4
	comp=Z,222nm,1.8s,comp=Z,7μm						
MYKOM	Kota Tinggi	23.10	263	P	P	01 44 42.6	-0.7
MYKOM	Kota Tinggi	23.10	263	P	P	01 44 42.4	-0.9
	comp=Z,160nm,1.3s,comp=Z,3μm						
PMBI	Palembang	23.33	251	P	P	01 44 49.1	+3.6
	comp=Z,708nm,1.2s,comp=Z,8μm						
KTGM	Kuala Trenggan	23.55	272	P	P	01 44 47.5	0.0
KGM	Kluang	23.59	264	P	P	01 44 48.3	+0.5
KLI	Kotabumi	23.96	246	P	P	01 44 59.8	+8.6
MDSI	Maura Dua	24.44	248	P	P	01 44 56.3	+0.8
	comp=Z,120nm,1.5s,comp=Z,2μm						
KASI	Kota Agung	24.56	245	P	P	01 44 59.2	+2.6
	comp=Z,173nm,1.3s,comp=Z,2μm						
LWLI	Liwa	24.75	247	P	P	01 45 00.6	+2.0
	comp=Z,407nm,0.8s,comp=Z,13μm						
PMG	Port Moresby	24.82	125	*e*P	P	01 44 58.0	-1.0
	comp=Z,61nm,1.2s						
PMG				*e*pP	pP	01 45 14.2	-1.0
PMG	Port Moresby	24.82	125	P	pP	01 45 16.1	+0.9
COEN	Coen	24.86	139	*e*P	P	01 44 57.7	-1.6
	comp=Z,328nm,0.8s						
FRIM	Kepong	25.14	267	P	P	01 45 02.8	+0.8
MNAI	Manna	25.53	249	*e*P	P	01 45 05.6	+0.2
	comp=Z,775nm,1.3s						
KSI	Kapahiang	25.62	251	P	P	01 45 13.7	+7.3
IPM	Ipoh	25.66	270	*e*P	P	01 45 04.7	-2.0
	comp=Z,166nm,1.3s						
IPM	Ipoh	25.66	270	P	P	01 45 07.8	+1.0
IPM	Ipoh	25.66	270	P	P	01 45 07.7	+0.9
	comp=Z,90nm,1.5s,comp=Z,2μm						
MASI	Maura Aman, Be	25.80	252	P	P	01 45 12.4	+4.4
	comp=Z,693nm,1.1s,comp=Z,7μm						
WRAB	Tennant Creek	25.83	163	*e*P	P	01 45 05.7	-2.4
WRAB				pmax	pmax		
	comp=Z,207nm,0.8s						
WRAB	Tennant Creek	25.83	163	*e*P	P	01 45 05.7	-2.4
	comp=Z,207nm,0.8s						
WRAB	Tennant Creek	25.83	163	P	P	01 45 06.9	-1.2
	comp=Z,1μm,1.0s,SNR=31						
WRA	Warramunga Arr	25.83	163	P	P	01 45 06.3	-1.8
WRA				S	S	01 49 37.9	+4.8
WRA	Warramunga Arr	25.83	163	P	P	01 45 06.3	-1.8
	comp=Z,121nm,1.0s,baz=342,slow=9.9,SNR=114						
WRA				S	S	01 49 37.9	+4.8
	comp=Z,8.0nm,1.0s,baz=337,slow=16,SNR=3.0						
KULM	Kulim	26.02	272	*e*P	P	01 45 09.0	-1.0
	comp=Z,188nm,1.3s						
KULM	Kulim	26.02	272	P	P	01 45 11.0	+1.1
KULM	Kulim	26.02	272	P	P	01 45 12.0	+2.0
	comp=Z,56nm,1.3s						
BKNI	Bangkinang	26.11	261	P	P	01 45 12.8	+2.1
	comp=Z,337nm,1.4s,comp=Z,5μm						
CBIJ	Chichi jima	26.48	32	P	P	01 45 10.8	-3.1
CBIJ	Chichi jima	26.48	32	P	P	01 45 10.8	-3.1
	comp=Z,145nm,0.7s,baz=183,slow=7.1,SNR=9.9						
CBIJ				LR	LR	01 53 42.9	
	comp=Z,3μm,21.2s,baz=227,slow=32						
NONG	Nongkai	26.52	301	P	P	01 45 23.1	+8.7
SSE	Sheshan	26.53	349 ⇓	P	P	01 45 15.5	+1.2
SSE				pP	pP	01 45 30.5	0.0
SSE				sP	sP	01 45 40.5	+2.0
SSE				S	S	01 49 43.3	-0.5
SSE				sS	sS	01 50 12.0	+0.2
SSE				pmax	pmax		
	comp=Z,91nm,1.5s						
SSE				pmax	pmax		
	comp=Z,1μm,7.9s						
SSE				LR	LR		
	comp=N,3μm,23.7s						
SSE				LR	LR		
	comp=E,1μm,23.5s						
SSE				LR	LR		
	comp=Z,4μm,23.3s						
MBWA	Marble Bar	26.85	195	*e*P	P	01 45 14.9	-2.4
	comp=Z,115nm,0.9s						
PPI	Padang Panjang	26.89	259	P	P	01 45 19.7	+1.9
	comp=Z,172nm,1.5s,comp=Z,3μm						
PDSI	Padang	26.92	258	P	P	01 45 23.3	+5.2
	comp=Z,322nm,1.2s,comp=Z,10μm						
PBKT	Sadao Pong	27.81	297	P	P	01 45 27.0	+1.0
	comp=Z,70nm,1.3s						
PSI	Prapat	27.87	267	P	P	01 45 24.6	-2.0
PSI				ScP	ScP	01 52 18.3	+1.9
PSI	Prapat	27.87	267	P	P	01 45 24.6	-2.0
	comp=Z,10nm,0.7s,baz=83,slow=7.6,SNR=6.7						
PSI				ScP	ScP	01 52 18.3	+1.9
	comp=Z,19nm,0.9s,baz=237,slow=3.8,SNR=8.1						
NJ2	Nanjing	27.96	346	*e*P	P	01 45 27.3	+0.2
NJ2				pP	pP	01 45 46.8	+3.4
NJ2				sP	sP	01 45 55.5	+4.1
NJ2				S	S	01 50 07.0	+0.6
NJ2				sS	sS	01 50 34.5	+0.2
NJ2				pmax	pmax		
	comp=Z,280nm,1.5s						
NJ2				pmax	pmax		
	comp=Z,1μm,6.0s						
NJ2				LR	LR		
	comp=N,4μm,29.4s						
NJ2				LR	LR		
	comp=E,5μm,26.8s						
NJ2				LR	LR		
	comp=Z,2μm,16.7s						
WHN	Wuhan	28.02	337	P	P	01 45 29.0	+1.3
WHN				S	S	01 50 17.0	+10
WHN				pmax	pmax		
	comp=Z,290nm,1.3s						
WHN				LR	LR		
	comp=N,13μm,22.8s						
WHN				LR	LR		
	comp=E,26μm,28.2s						
WHN				LR	LR		
	comp=Z,16μm,26.2s						
JNU	Nakatsue	28.29	7	*e*P	P	01 45 28.9	-1.2
	comp=Z,29nm,1.2s						
JNU	Nakatsue	28.29	7	P	P	01 45 30.0	-0.1
	comp=Z,27nm,0.8s,baz=187,slow=5.6,SNR=12						
GYA	Guiyang	28.75	320 ⇑	*i*P	P	01 45 35.8	+1.4
GYA				pP	pP	01 45 51.0	+0.3
GYA				sP	sP	01 45 58.8	+0.1
GYA				PP	PnPn	01 46 32.5	+4.0
GYA				PcP	PcP	01 48 44.8	+1.5
GYA				S	S	01 50 21.3	+2.0
GYA				SS	SnSn	01 51 53.0	+6.3
GYA				ScP	ScP	01 52 19.8	+0.9
GYA				ScS	ScS	01 56 11.5	-1.3
GYA				pmax	pmax		
	comp=Z,50nm,1.2s						
GYA				pmax	pmax		
	comp=Z,190nm,5.6s						
GYA				LR	LR		
	comp=N,8μm,17.2s						
GYA				LR	LR		
	comp=E,7μm,18.5s						
GYA				LR	LR		
	comp=Z,10μm,17.9s						
KCSI	Kotacane, Aceh	28.96	268	P	P	01 45 36.7	+0.4
	comp=Z,75nm,0.8s						
AS31	Alice Springs	29.28	167	*e*P	P	01 45 37.0	-2.0
ASAR	Alice Springs	29.28	167	P	P	01 45 37.6	-1.4
ASAR				S	S	01 50 34.4	+7.0
ASAR				ScP	ScP	01 52 24.7	+4.2
ASAR	Alice Springs	29.28	167	P	P	01 45 37.6	-1.4
	comp=Z,5.2nm,0.4s,baz=347,slow=6.6,SNR=40						
ASAR				S	S	01 50 34.4	+7.0
	comp=Z,4.9nm,0.9s,baz=345,slow=17,SNR=4.8						
ASAR				ScP	ScP	01 52 24.7	+4.2
	comp=Z,7.2nm,0.9s,baz=345,slow=2.4,SNR=5.8						
SUKH	Sukhothai	29.34	297	P	P	01 45 45.2	+5.7
GSI	Gunungsitoli	29.37	264	P	P	01 45 42.6	+2.7
LAMP	Lampang	29.74	299	P	P	01 45 45.3	+2.2
	comp=Z,9.0nm,0.9s						
CRAI	Chiangrai	29.83	303	P	P	01 45 42.4	-1.5
	comp=Z,54nm,1.0s						
ENH	Enshi	30.00	329	*e*P	P	01 45 43.8	-1.6
	comp=Z,55nm,1.0s						
CM31	Chiang Mai Arr	30.31	299	*e*P	P	01 45 48.3	+0.1
	comp=Z,12nm,0.7s						
CMAR	Chiang Mai Arr	30.31	299	P	P	01 45 46.8	-1.4
CMAR				PcP	PcP	01 48 47.5	+0.2
CMAR				ScP	ScP	01 52 27.9	+3.9
CMAR	Chiang Mai Arr	30.31	299	P	P	01 45 46.8	-1.4
	comp=Z,3.0nm,0.6s,baz=119,slow=7.1,SNR=11						
CMAR				PcP	Pc

KSRS LR LR 01 58 53.0
comp=Z,2μm,21.7s,baz=197,slow=36
MAJO Matsushiro 33.15 17 *e*P **P 01 46 11.7 -1.2**
MAJO pmax pmax
comp=Z,262nm,2.3s
MAJO Matsushiro 33.15 17 *e*P **P 01 46 11.7 -1.2**
comp=Z,262nm,2.3s
MAT Matsushiro 33.15 17 P **P 01 46 10.3 -2.6**
MAT S S 01 51 38.0 +10
MJAR Matsushiro Arr 33.15 17 P **P 01 46 10.8 -2.0**
MJAR ScP **ScP 01 52 37.6 +4.4**
MJAR Matsushiro Arr 33.15 17 P **P 01 46 10.8 -2.0**
comp=Z,5.0nm,0.8s,baz=198,slow=9.6,SNR=18
MJAR ScP **ScP 01 52 37.6 +4.4**
comp=Z,8.4nm,1.1s,baz=210,slow=5.0,SNR=5.0
MJAR LR LR 01 59 49.5
comp=Z,3μm,19.4s,baz=190,slow=36
XAN Xi'an 33.36 332 P **P 01 46 12.3 -2.5**
XAN pmax pmax
comp=Z,13nm,1.3s
XAN LR LR
comp=N,3μm,28.8s
XAN LR LR
comp=E,710nm,25.4s
XAN LR LR
comp=Z,1μm,29.5s
CD2 Chengdu 33.70 323⇑*i*P **P 01 46 16.0 -1.8**
CD2 pP **pP 01 46 36.5 +2.2**
CD2 sP **sP 01 46 45.3 +3.1**
CD2 PP **PP 01 47 34.3 -0.9**
CD2 S **S 01 51 36.8 +0.5**
CD2 sS **sS 01 52 06.5 +2.1**
CD2 SS **SnSn 01 53 46.8 +0.3**
CD2 pmax pmax
comp=Z,130nm,1.2s
CD2 pmax pmax
comp=Z,650nm,5.7s
CD2 LR LR
comp=N,7μm,19.6s
CD2 LR LR
comp=Z,6μm,17.3s
DL2 Dalian 34.12 353 P **P 01 46 22.3 +1.1**
DL2 S **S 01 51 42.5 +0.1**
DL2 pmax pmax
comp=Z,210nm,1.3s
DL2 pmax pmax
comp=Z,1μm,5.7s
DL2 LR LR
comp=N,750nm,19.6s
DL2 LR LR
comp=E,1μm,22.6s
DL2 LR LR
comp=Z,1μm,26.7s
FORT Forrest 35.55 178 *e*P **P 01 46 31.9 -1.8**
comp=Z,126nm,0.7s
HNR Honiara 36.02 113 LR LR 02 00 24.3
comp=Z,2μm,20.9s,baz=286,slow=34
BJT Baijiatuau 36.20 346 *e*P **P 01 46 39.4 +0.3**
comp=Z,414nm,1.2s
BJI Beijing 36.22 346 P **P 01 46 39.5 +0.2**
BJI sP **sP 01 47 02.3 -1.5**
BJI S **S 01 52 18.0 +3.4**
BJI sS **sS 01 52 42.0 -0.9**
BJI pmax pmax
comp=Z,250nm,1.6s
BJI pmax pmax
comp=Z,2μm,3.7s
BJI LR LR
comp=N,820nm,20.8s
BJI LR LR
comp=E,3μm,26.4s
BJI LR LR
comp=Z,2μm,26.1s
SNY Shenyang 36.83 356⇑P **P 01 46 44.5 +0.1**
SNY S **S 01 52 21.3 -2.6**
SNY pmax pmax
comp=Z,120nm,1.8s
SNY LR LR
comp=N,990nm,17.4s
SNY LR LR
comp=E,1μm,19.5s
SNY LR LR
comp=Z,1μm,23.1s
LZH Lanzhou 37.48 329⇑P **P 01 46 49.8 -0.5**
LZH pP **pP 01 47 03.3 -3.7**
LZH sP **sP 01 47 13.5 -1.4**
LZH PP **PnPn 01 48 25.3 +6.8**
LZH S **S 01 52 31.0 -3.4**
LZH sS **sS 01 53 02.5 -0.3**
LZH pmax pmax
comp=Z,230nm,1.2s
LZH pmax pmax
comp=Z,670nm,4.5s
LZH LR LR
comp=N,2μm,15.2s
LZH LR LR
comp=E,1μm,13.9s
LZH LR LR
comp=Z,3μm,16.4s
HHC Hu-ho-hao-te 38.26 341 *e*P **P 01 46 58.8 +2.1**
HHC pP **pP 01 47 17.0 +3.6**
HHC sP **sP 01 47 26.0 +4.7**
HHC PP **PnPn 01 48 32.0 +4.3**
HHC S **S 01 52 48.5 +2.6**
HHC PcS **PcS 01 52 59.3 +0.4**
HHC sS **sS 01 53 19.0 +4.6**
HHC SS **SnSn 01 55 31.0 -5.7**
HHC ScS **ScS 01 57 00.0 -1.8**
HHC pmax pmax
comp=Z,180nm,1.2s
HHC pmax pmax
comp=Z,600nm,5.3s
HHC LR LR
comp=N,4μm,18.0s
HHC LR LR
comp=E,4μm,21.6s
HHC LR LR
comp=Z,4μm,22.0s
VLA Vladivostok 38.28 6⇓*i*P **P 01 46 54.7 -2.0**
VLA *e* 01 48 23.1
VLA S **S 01 52 45.1 -0.7**
VLA pmax pmax
comp=Z,136nm,1.5s
EIDS Eidsvold 38.29 143 *e*P **P 01 46 55.8 -1.2**
comp=Z,127nm,1.0s
BTO Baotou 38.56 339 *e*P **P 01 47 00.3 +1.1**
BBOO Buckleboo 38.58 167 *e*P **P 01 46 57.8 -1.5**
comp=Z,1μm,0.9s
CN2 Changchun 38.71 358 *e*P **P 01 47 00.3 0.0**
CN2 *es*P **sP 01 47 27.5 +2.6**
CN2 *e*S **ScP 01 52 53.3 0.0**
CN2 pmax pmax
comp=Z,30nm,1.2s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,1μm,21.0s
CN2 LR LR
comp=E,1μm,21.0s
CN2 LR LR
comp=Z,900nm,19.0s
NWAO Narrogin (SRO) 38.74 193 *e*P **P 01 46 59.2 -1.5**
comp=Z,72nm,1.0s
NWAO Narrogin (SRO) 38.74 193 LR LR 02 03 35.8
comp=Z,796nm,18.1s,baz=16,slow=37
SHL Shillong 39.20 305 *e*P **P 01 47 03.5 -1.4**
SHL *e*S **S 01 53 00.0 -0.7**
STKA Stephens Creek 39.25 160 *e*P **P 01 47 04.0 -1.0**
comp=Z,34nm,1.2s
STKA Stephens Creek 39.25 160 P **P 01 47 03.8 -1.1**
comp=Z,57nm,0.7s,baz=338,slow=9.3,SNR=47
USRK Ussuriysk Arra 39.36 6 P **P 01 47 05.3 -0.4**
comp=Z,15nm,0.5s,baz=190,slow=7.7,SNR=56
MDJ Mudanjiang 39.58 3 P **P 01 47 08.3 +0.7**
MDJ pP **pP 01 47 24.3 0.0**
MDJ sP **sP 01 47 32.8 +0.6**
MDJ PP **PnPn 01 48 42.0 -1.3**
MDJ S S 01 53 11.5 +6.0
MDJ pmax pmax
comp=Z,100nm,1.3s
MDJ pmax pmax
comp=Z,700nm,10.5s
MDJ LR LR
comp=N,830nm,25.0s
MDJ LR LR
comp=E,2μm,29.1s
MDJ LR LR
comp=Z,1μm,25.0s
MDJ Mudanjiang 39.58 3 *e*P **P 01 47 08.0 +0.4**
comp=Z,88nm,1.0s
ASAJ Asahikawa 41.42 17 *e*P **P 01 47 23.9 +1.2**
comp=Z,68nm,1.5s
ASAJ Asahikawa 41.42 17 P **P 01 47 23.9 +1.2**
comp=Z,32nm,0.7s,baz=239,slow=15,SNR=9.4
ASAJ LR LR 02 05 12.7
comp=Z,4μm,20.5s,baz=332,slow=37
LSA Lhasa 41.68 310 P **P 01 47 24.5 -1.2**
LSA Lhasa 41.68 310 *e*P **P 01 47 25.2 -0.4**
LSA pmax pmax
comp=Z,36nm,0.8s
LSA Lhasa 41.68 310 *e*P **P 01 47 25.2 -0.4**
comp=Z,36nm,0.8s
GTA Gaotai 42.08 328 P **P 01 47 27.3 -1.1**
GTA pP **pP 01 47 46.0 +0.7**
GTA sP **sP 01 47 54.5 +1.3**
GTA PP **PP 01 49 09.3 +2.3**
GTA PcP **PcP 01 49 23.0 +0.9**
GTA PcS **PcS 01 53 14.0 0.0**
GTA ScS **ScS 01 57 25.0 +0.4**
GTA pmax pmax
comp=Z,40nm,1.2s
GTA pmax pmax
comp=Z,500nm,5.7s
GTA LR LR
comp=N,2μm,23.7s
GTA LR LR
comp=E,3μm,21.4s
GTA LR LR
comp=Z,4μm,23.3s
ARMA Armidale 42.46 147 *e*P **P 01 47 31.3 -0.2**
comp=Z,95nm,0.9s
TAPN Taplejung 43.34 305 *e*P **P 01 47 37.8 -1.2**
comp=Z,90nm,0.8s
TAPN Taplejung 43.34 305 *e*P **ScP 01 53 13.5 +1.1**
comp=Z,100nm,1.2s
ODAN Odare 43.41 304 *e*P **P 01 47 38.2 -1.3**
comp=Z,123nm,0.7s
ODAN Odare 43.41 304 *e*P **ScP 01 53 15.1 +2.5**
comp=Z,52nm,0.9s
YSS Yuzh-Sakhalins 44.06 16⇑*i*P **P 01 47 42.6 -1.5**
YSS pmax pmax
comp=N,30nm,1.0s
YSS pmax pmax
comp=Z,60nm,1.0s
YSS MLR MLR
comp=N,1μm,20.0s
YSS MLR MLR
comp=E,1μm,20.0s
YSS MLR MLR
comp=Z,1μm,20.0s
RAMN Ramite 44.09 304 *e*P **P 01 47 44.3 -0.7**
comp=Z,100nm,0.7s
RAMN Ramite 44.09 304 *e*P **ScP 01 53 18.0 +2.6**
HIA Hailar 44.56 353 *e*P **P 01 47 48.9 +0.8**
comp=Z,55nm,1.0s
JIRN Jiri 44.70 305 *e*P **P 01 47 48.7 -1.3**
comp=Z,122nm,0.7s
JIRN Jiri 44.70 305 *e*P **ScP 01 53 20.3 +2.2**
comp=Z,101nm,1.4s
GUN Gumba 45.05 305 *e*P **P 01 47 51.3 -1.5**
comp=Z,101nm,0.6s
GUN Gumba 45.05 305 *e*P **ScP 01 53 21.6 +2.1**
CAN Canberra 45.18 154 *e*P **P 01 47 53.3 +0.1**
CAN pmax pmax
comp=Z,95nm,1.1s
CAN Canberra 45.18 154 *e*P **P 01 47 53.3 +0.1**
comp=Z,95nm,1.1s
PKI Pulchoki 45.31 304 *e*P **P 01 47 53.1 -1.7**
comp=Z,41nm,0.7s
PKI Pulchoki 45.31 304 *e*P **ScP 01 53 22.7 +2.2**
comp=Z,37nm,0.8s
PKIN Phulchoki 45.32 304 *e*P **P 01 47 53.8 -1.0**
PKIN Phulchoki 45.32 304 *e*P **ScP 01 53 22.6 +2.1**
KKN Kakani 45.50 305 *e*P **P 01 47 54.7 -1.4**
comp=Z,77nm,0.8s
KKN Kakani 45.50 305 *e*P **ScP 01 53 23.6 +2.4**
comp=Z,24nm,0.7s
DMN Daman 45.58 304 *e*P **P 01 47 55.1 -1.7**
comp=Z,91nm,0.9s
DMN Daman 45.58 304 *e*P **ScP 01 53 23.9 +2.4**
comp=Z,62nm,1.1s
PALK Pallekele 45.85 275 *e*P **P 01 47 56.7 -2.2**
comp=Z,95nm,1.4s
ULN Ulaanbaatar 45.98 342 P **P 01 47 59.4 -0.1**
SNR=28
ULN Ulaanbaatar 45.98 342 *e*P **P 01 47 59.0 -0.5**
comp=Z,44nm,0.8s
GKN Gorkha 46.11 305 *e*P **P 01 47 59.3 -1.5**
comp=Z,41nm,0.6s
GKN Gorkha 46.11 305 *e*P **ScP 01 53 25.4 +1.8**
SONM Songino Array 46.16 341 P **P 01 48 00.1 -0.8**
SONM PcP **PcP 01 49 37.5 +1.6**
SONM Songino Array 46.16 341 P **P 01 48 00.1 -0.8**
comp=Z,14nm,0.5s,baz=157,slow=9.9,SNR=32
SONM PcP **PcP 01 49 37.5 +1.6**
comp=Z,8.4nm,0.6s,baz=152,slow=3.0,SNR=3.9
SONM LR LR 02 08 31.4
comp=Z,2μm,20.7s,baz=156,slow=38
KOLN Koldanda 46.88 304 *e*P **P 01 48 05.0 -1.9**
comp=Z,124nm,0.7s
DANN Dangsing 46.95 305 *e*P **P 01 48 05.7 -1.9**
comp=Z,178nm,0.6s
DZM Mont Dzumac 47.21 126 *e*P **P 01 48 09.2 -0.2**
comp=Z,65nm,1.1s
DZM Mont Dzumac 47.21 126 *e*LR LR 02 01 15.3
comp=Z,3μm,27.8s
DZM Mont Dzumac 47.21 126 *e*P **P 01 48 08.9 -0.5**
DZM Mont Dzumac 47.21 126 P **P 01 48 08.4 -1.0**
comp=Z,9.9nm,0.7s,baz=1.5,slow=16,SNR=5.2
DZM LR LR 02 07 25.6
comp=Z,946nm,19.9s,baz=50,slow=35
HYB Hyderabad 48.76 289 *i* P **P 01 48 19.0 -2.4**
TLY Talaya 50.39 341*c i*P **P 01 48 33.0 -0.3**
TLY *e* 01 50 29.0
TLY *e*PPP PPP 01 51 20.0
TLY *e*S S 01 56 03.1 +22
TLY pmax pmax
comp=Z,54nm,1.0s
TLY MLR MLR
comp=Z,800nm,21.0s
TLY Talaya 50.39 341 P **P 01 48 34.0 +0.7**
comp=Z,272nm,1.0s,SNR=8.8
WMQ Urumqi 51.76 324 P **P 01 48 42.5 -1.2**
WMQ pP **pP 01 49 01.5 +0.4**
WMQ sP **sP 01 49 10.5 +1.6**
WMQ PcP **PcP 01 49 54.5 -1.7**
WMQ pmax pmax
comp=Z,40nm,1.0s
WMQ pmax pmax
comp=Z,170nm,4.6s
WMQ LR LR
comp=N,4μm,21.6s
WMQ LR LR
comp=E,3μm,20.9s
WMQ LR LR
comp=Z,3μm,22.3s
CLNS Chul'man 51.76 359 *e*P **P 01 48 43.2 -0.3**
CLNS *e* 01 50 40.0
CLNS *e*S **S 01 56 04.0 +3.7**
CLNS *e*SS **SS 01 59 35.0 -2.7**
CLNS pmax pmax
comp=Z,41nm,1.2s
CLNS smax smax
comp=E,400nm,13.8s
CLNS MLR MLR
comp=Z,600nm,16.3s
SONA Sohna 52.48 302 *e*P **P 01 48 47.1 -2.2**
SONA AMB AMB 01 48 49.1
comp=Z,17nm,0.4s
NDI New Delhi 52.50 303 *e*P **P 01 48 47.5 -1.9**
AYAN Aya Nagar 52.51 302 *e*P P 01 48 46.1 -3.4
BHGR Bahadurgarh 52.73 302 *e*P **P 01 48 49.1 -1.9**
KUDL Kundal 52.96 302 *e*P **P 01 48 50.2 -2.5**
KKR Kurukshetra 53.21 304 *e*P **P 01 48 52.3 -2.3**
KKR AMB AMB 01 49 15.9
comp=Z,132nm,0.6s
SMLA Simla 53.29 305 *i* P **P 01 48 53.1 -2.1**
HVS Khovu-Aksy 53.66 335*d i*P **P 01 48 57.2 -0.4**
HVS pmax pmax
comp=Z,908nm,1.8s
PEA0B Petropavlovsk- 54.29 22 *e*P **P 01 49 02.3 +0.2**
PETK Petropavlovsk- 54.29 22 P **P 01 49 02.0 -0.1**
PETK Petropavlovsk- 54.29 22 P **P 01 49 01.9 -0.1**
comp=Z,67nm,1.0s,baz=194,slow=5.4,SNR=31
PETK LR LR 02 13 23.6
comp=Z,824nm,18.8s,baz=227,slow=37
PET Petropavlovsk 54.59 23⇓*i*P **P 01 49 04.8 +0.6**
PET *e**PP **pP 01 49 20.3 -1.5**
PET *e*S **S 01 56 40.0 +1.3**
PET pmax pmax
comp=Z,58nm,0.6s
PET MLR MLR
comp=Z,2μm,22.0s
DLH Dalhousie 54.71 307 *e*P **P 01 49 03.0 -2.8**
DLH *ex* x 01 50 06.0
THN Thein Dam 54.88 306 *e*P **P 01 49 05.8 -0.9**
THN *ex* x 01 50 08.7
MSVF Nonsavu 55.38 115 *e*P **P 01 49 12.5 +1.8**
MSVF pmax pmax
comp=Z,67nm,1.0s
MSVF Nonsavu 55.38 115 *e*P **P 01 49 12.5 +1.8**
comp=Z,67nm,1.0s
MK31 Makanchi Array 56.59 325*ce*P **P 01 49 17.5 -1.3**
MK31 pmax pmax
comp=Z,8.0nm,0.6s
MKAR Makanchi Array 56.59 325 *e*P **P 01 49 17.5 -1.3**
MKAR 01 50 12.5
MKAR Makanchi Array 56.59 325 *e*P **P 01 49 17.4 -1.3**
MKAR PcP **PcP 01 50 12.5 -2.0**
MKAR ScP **ScP 01 54 11.6 +3.4**
MKAR ⇑*e* 02 19 20.8
MKAR Makanchi Array 56.59 325 P **P 01 49 17.5 -1.3**
comp=Z,18nm,0.5s,baz=120,slow=7.3,SNR=154
MKAR PcP **PcP 01 50 12.5 -2.0**
comp=Z,30nm,1.0s,baz=121,slow=4.5,SNR=4.5
MKAR ScP **ScP 01 54 11.6 +3.4**
comp=Z,7.4nm,0.9s,baz=114,slow=5.4,SNR=6.0
MKAR LR LR 02 14 58.6
comp=Z,3μm,21.6s,baz=115,slow=38
MKAR PKP2bc 02 19 20.8
comp=Z,2.0nm,1.1s,baz=242,slow=2.6,SNR=5.1
YAK Yakutsk 56.99 2*c i*P **P 01 49 21.2 -0.1**
YAK *e* 01 50 13.0
YAK *e* 01 51 28.8
YAK *e*PPP PPP 01 52 47.5
YAK *e*S **S 01 57 09.1 -1.2**
YAK *e* 01 59 05.6
YAK *e*SS **SS 02 01 06.0 +6.2**
YAK pmax pmax
comp=Z,158nm,1.0s
YAK pmax pmax
comp=N,95nm,1.1s
YAK pmax pmax
comp=E,22nm,1.4s
YAK pmax pmax
comp=Z,104nm,2.1s
YAK pmax pmax
comp=N,62nm,1.8s
YAK pmax pmax
comp=E,51nm,2.1s
YAK smax smax
comp=N,205nm,2.3s
YAK smax smax
comp=E,392nm,2.9s
KSH Kashi 57.22 315 P **P 01 49 23.3 -0.2**
KSH pP **pP 01 49 42.3 +1.1**
KSH PP **PP 01 51 32.3 +1.1**
KSH PcS **PcS 01 54 17.0 -1.5**
KSH S **S 01 57 10.0 -4.4**
KSH ScS **ScS 01 59 01.8 -5.3**
KSH pmax pmax
comp=Z,50nm,1.2s
KSH LR LR
comp=N,1μm,17.6s
KSH LR LR
comp=E,3μm,20.0s
KSH LR LR
comp=Z,3μm,21.5s
TKM2 Tokmak 2 58.87 318 *e*P **P 01 49 34.1 -1.0**
TKM2 pmax pmax
comp=Z,21nm,0.8s
TKM2 Tokmak 2 58.87 318 *e*P **P 01 49 34.1 -1.0**
comp=Z,21nm,0.8s
AAK Ala-Archa 59.49 317 P **P 01 49 38.3 -1.0**
comp=Z,99nm,1.3s,SNR=6.0
AAK Ala-Archa 59.49 317 *e*P **P 01 49 37.4 -1.9**
AAK 01 50 25.4
AAK pmax pmax
comp=Z,16nm,0.9s
AAK Ala-Archa 59.49 317 P **P 01 49 38.9 -0.5**
SNR=20
AAK Ala-Archa 59.49 317 *e*P **P 01 49 37.4 -1.9**
comp=Z,16nm,0.9s
AAK PcP **PcP 01 50 25.4 -0.9**
AAK Ala-Archa 59.49 317 P **P 01 49 38.3 -1.0**
comp=Z,6.0nm,0.7s,baz=135,slow=4.3,SNR=21
AAK PcP **PcP 01 50 25.4 -0.9**
comp=Z,22nm,0.8s,baz=150,slow=4.6,SNR=5.8
AAK LR LR 02 16 37.4
comp=Z,2μm,21.7s,baz=87,slow=37
ZAA0 Zalesovo Array 59.53 333 *e*P **P 01 49 37.2 -2.0**
ZALV Zalesovo Beam 59.53 333 P **P 01 49 37.5 -1.7**
ZALV Zalesovo Beam 59.53 333 P **P 01 49 37.5 -1.7**
ZALV ⇑*e* 02 19 18.2
ZALV Zalesovo Beam 59.53 333 P **P 01 49 37.5 -1.7**
comp=Z,6.3nm,0.5s,baz=128,slow=6.8,SNR=26
ZALV LR LR 02 17 42.5
comp=Z,1μm,20.0s,baz=87,slow=38
ZALV PKP2bc 02 19 18.2
comp=Z,2.1nm,0.9s,baz=308,slow=4.9,SNR=6.1
EKS2 Erkin-Say 59.99 317 *e*P **P 01 49 41.8 -0.9**
EKS2 pmax pmax
comp=Z,21nm,1.0s
EKS2 Erkin-Say 59.99 317 *e*P **P 01 49 41.8 -0.9**
comp=Z,22nm,1.0s
KURBB Kurchatov Arra 60.74 327 P **P 01 49 46.1 -1.4**
comp=Z,27nm,0.8s,baz=280,slow=32,SNR=81
KURK Kurchatov 60.74 327 P **P 01 49 46.0 -1.5**
comp=Z,278nm,0.6s,SNR=40
KURK Kurchatov 60.74 327 *e*P **P 01 49 45.7 -1.8**
KURK pmax pmax
comp=Z,47nm,0.7s
KURK Kurchatov 60.74 327 P **P 01 49 46.0 -1.5**
SNR=69
KURK Kurchatov 60.74 327 *e*P **P 01 49 45.7 -1.8**
comp=Z,47nm,0.7s
KBL Kabul 60.82 307 *e*P **P 01 49 46.4 -2.2**
KBL Kabul 60.82 307 *e*P **P 01 49 46.4 -2.2**
SEY Seymchan 60.84 13*ce*P **P 01 49 48.4 +0.5**
FX1 Attu Island--F 61.01 30 *e*P **P 01 49 50.0 +0.7**
KK31 Karatay Array 62.38 317*ce*P **P 01 49 57.2 -1.5**
KK31 pmax pmax
comp=Z,8.0nm,0.6s
KKAR Karatay Array 62.38 317 *e*P **P 01 49 56.3 -2.4**
KKAR pmax pmax
comp=Z,12nm,0.6s
KKAR Karatay Array 62.38 317 *e*P **P 01 49 56.3 -2.4**
comp=Z,12nm,0.6s
RPZ Rata Peaks 62.73 145 *e*P **P 01 50 01.7 +0.7**
comp=Z,65nm,1.0s
RPZ Rata Peaks 62.73 145 P **P 01 50 00.9 -0.1**
comp=Z,14nm,0.8s,baz=280,slow=4.2,SNR=5.0
RPZ LR LR 02 17 07.0
comp=Z,2μm,18.9s,baz=310,slow=36
URZ Urewera 63.40 137 LR LR 02 17 17.7
comp=Z,2μm,19.5s,baz=311,slow=36
BKZ Black Stump Fm 63.46 138 *e*P **P 01 50 05.8 -0.2**
comp=Z,41nm,0.9s
VOSK Vostochnaya 65.88 327 P **P 01 50 19.3 -2.1**
VOSK pmax pmax
comp=Z,73nm,1.2s
VOSK Vostochnaya 65.88 327 *e*P **P 01 50 19.9 -1.6**
comp=Z,139nm,1.4s
BVAR Borovoye Array 66.33 327 P **P 01 50 23.6 -0.7**
BVAR Borovoye Array 66.33 327 P **P 01 50 23.6 -0.7**
BVAR Borovoye Array 66.33 327 P **P 01 50 23.6 -0.7**
comp=Z,20nm,0.8s,baz=132,slow=8.8,SNR=69
BRVK Borovoye 66.40 327 *e*P **P 01 50 23.1 -1.6**
BRVK pmax pmax
comp=Z,219nm,1.3s
BRVK Borovoye 66.40 327 P **P 01 50 22.9 -1.8**
SNR=56
BRVK Borovoye 66.40 327 *e*P **P 01 50 23.1 -1.6**
comp=Z,219nm,1.3s
BRVK Borovoye 66.40 327 P **P 01 50 23.3 -1.5**
comp=Z,306nm,1.1s,SNR=27
TIXI Tiksi 66.63 1*c i*P **P 01 50 24.5 -1.3**

TIXI pmax pmax
comp=Z,197nm,1.7s
IDAH Dahanechah 67.94 303 *e*P **P 01 50 32.8 -2.5**
IMON Monand 68.18 304 *e*P **P 01 50 34.3 -2.4**
IMYA Miami 68.34 307 *e*P **P 01 50 35.7 -1.9**
IKOO Kooshah 68.62 303 *e*P **P 01 50 38.2 -1.3**
ISRO Mashad 68.83 307 *e*P **P 01 50 38.0 -2.6**
ITEG Tejag 68.90 303 *e*P **P 01 50 39.4 -1.8**
IMOG Moghan 68.91 307 *e*P **P 01 50 38.9 -2.4**
IAKL Akhelmad 69.45 307 *e*P **P 01 50 41.7 -2.9**
IKRD Kardeh 69.67 307 *e*P P 01 50 40.1 -5.8
ISFR Sfrayin 70.12 308 *e*P **P 01 50 46.9 -1.8**
AB31 Akbulak array 71.24 320 *c e*P **P 01 50 53.0 -1.9**
ABKAR Akbulak array 71.24 320 *e*P **P 01 50 53.4 -1.5**
CASY Casey 72.03 187 *e*P **P 01 50 58.8 -0.4**
comp=Z,30nm,1.0s
UNV Unalaska Valle 72.40 35 *e*P **P 01 51 01.3 -0.4**
comp=Z,108nm,1.0s
AKTO Aktyubinsk 72.74 321 *i*P **P 01 51 02.0 -1.9**
AKTO pmax pmax
comp=Z,163nm,1.5s
AKTO Aktyubinsk 72.74 321 P **P 01 51 02.7 -1.2**
AKTO Aktyubinsk 72.74 321 P **P 01 51 02.7 -1.2**
comp=Z,16nm,0.6s,baz=100,slow=8.7,SNR=44
AKUT Akutan 72.90 35 *e*P **P 01 51 04.4 -0.3**
comp=Z,183nm,0.9s
ISRV Sarvestan 73.35 299 *e*P P 01 51 04.6 -3.7
IGLO Ghaloghah 73.37 306 *e*P **P 01 51 09.3 +1.1**
IPAR Pars 73.44 300 *e*P **P 01 51 06.6 -2.2**
ARU Arti 73.94 328 *c i*P **P 01 51 08.7 -2.1**
ARU 01 53 52.0
ARU S **S 02 00 36.7 -0.8**
ARU pmax pmax
comp=Z,71nm,1.2s
ARU Arti 73.94 328 P **P 01 51 09.6 -1.2**
comp=Z,316nm,0.6s,SNR=14
ILAS Lasjerd 73.96 305 *e*P **P 01 51 08.6 -3.1**
IALA Alasht 74.14 306 *e*P **P 01 51 11.5 -1.3**
IFIR Firoozkooh 74.15 306 *e*P **P 01 51 12.3 -0.5**
IZEF Zefreh 74.27 303 *e*P **P 01 51 10.4 -3.2**
FALS False Pass 74.41 34 *e*P **P 01 51 13.5 0.0**
comp=Z,104nm,0.8s
IKAZ Kazeroun 74.48 299 *e*P **P 01 51 12.5 -2.5**
IPRN Peran 74.54 306 *e*P **P 01 51 12.5 -2.4**
IKLH Kolahrood 74.93 303 *e*P **P 01 51 14.5 -2.9**
IVRN Varamin 74.93 305 *e*P **P 01 51 15.2 -1.9**
IR3 Iran Long-Peri 75.54 305 *e*P P 01 51 17.3 -3.3
SDPT Sand Point 76.17 34 *e*P **P 01 51 22.8 -0.8**
comp=Z,119nm,1.0s
IRAZ Razeghan 76.43 305 *e*P **P 01 51 23.6 -2.2**
CHGN Chignik 77.49 33 *e*P **P 01 51 30.1 -0.8**
RDF Al-Radifah 78.20 298 *e*P **P 01 51 33.8 -1.7**
RDF AMb AMB 01 51 39.6
comp=Z,89nm,1.5s
IKOM Komasi 78.36 304 *e*P **P 01 51 34.0 -2.6**
ISRB Sarab 78.38 307 *e*P **P 01 51 35.2 -1.5**
NAY Al-Naaiem 78.47 299 *e*P **P 01 51 34.7 -2.4**
NAY AMb AMB 01 51 38.0
comp=Z,46nm,0.9s
RST Umm Al-Ruwaisa 78.69 299 *e*P **P 01 51 35.8 -2.5**
RST AMb AMB 01 51 39.4
comp=Z,513nm,0.9s
IHRS Heris 78.89 308 *e*P **P 01 51 37.1 -2.4**
IVIS Veis 78.91 304 *e*P P 01 51 31.0 -8.6
IGHG Ghaleghazi 79.14 304 *e*P P 01 51 33.5 -7.5
IDHR Dehrash 79.30 304 *e*P **P 01 51 39.1 -2.7**
ITBZ Tabriz 79.59 308 *e*P **P 01 51 41.8 -1.5**
RAYN Ar Rayn 80.05 293 *e*P **P 01 51 43.6 -2.3**
comp=Z,32nm,1.0s
RAYN Ar Rayn 80.05 293 P **P 01 51 43.0 -2.9**
comp=Z,174nm,0.7s,SNR=21
DGRG David-gareji 80.30 311 P **P 01 51 46.7 -0.2**
OHAK Old Harbor 80.41 33 *e*P **P 01 51 47.5 +0.5**
GNI Garni 80.74 310 *e*P **P 01 51 49.5 +0.2**
comp=Z,42nm,1.5s
GNI Garni 80.74 310 LR LR 02 32 28.6
comp=Z,954nm,21.6s,baz=87,slow=39
TBLG Delisi 80.78 311 P **P 01 51 47.7 -1.7**
KDAK Kodiak Island 80.84 32 *e*P **P 01 51 49.2 0.0**
comp=Z,47nm,0.7s
KDAK Kodiak Island 80.84 32 P **P 01 51 50.2 +0.9**
comp=Z,460nm,1.0s,SNR=6.1
KDAK Kodiak Island 80.84 32 P **P 01 51 49.8 +0.5**
comp=Z,53nm,0.7s,baz=257,slow=3.4,SNR=20
IM04 Indian Mountai 81.20 24 *e*P **P 01 51 51.1 0.0**
IMA2 Indian Mountai 81.25 24 *e*P **P 01 51 51.9 +0.4**
DAMY Dhamar 81.41 284 *e*P **P 01 51 54.6 +1.0**
PPLA Purkeypile 81.53 27 *e*P **P 01 51 53.3 +0.2**
comp=Z,248nm,1.6s
CAST Castle Rocks 81.63 27 *e*P **P 01 51 53.5 +0.1**
comp=Z,134nm,1.3s
AKH Akhalkalaki 81.71 311 P P 01 52 00.6 +6.1
OPO Ambohidratompo 81.74 251 P **P 01 51 55.2 +0.1**
OPO Ambohidratompo 81.74 251 P **P 01 51 55.2 +0.1**
baz=87,slow=8.6
ONI Oni 81.76 312 P **P 01 51 53.4 -1.2**
BPAW Bear Paw Mtn. 82.18 26 *e*P **P 01 51 56.4 +0.1**
comp=Z,299nm,1.5s
KBZ Khabaz 82.18 313 P **P 01 51 57.7 +1.0**
KBZ Khabaz 82.18 313 P **P 01 51 57.7 +1.0**
KBZ Khabaz 82.18 313 P **P 01 51 57.7 +1.0**
comp=Z,4.8nm,0.8s,baz=121,slow=7.3,SNR=4.8
KBZ LR LR 02 32 48.9
comp=Z,1μm,21.2s,baz=65,slow=39
KIV Kislovodsk 82.33 314 *e*P **P 01 51 57.2 -0.4**
KIV pmax pmax
comp=Z,28nm,1.0s
KIV MLR MLR
comp=Z,1μm,19.0s
TRF Thorofare Moun 82.44 27 *e*P **P 01 51 57.7 -0.2**
comp=Z,255nm,1.5s
SEW Seward 82.63 30 *e*P **P 01 51 58.5 -0.2**
comp=Z,98nm,1.1s
COLD Coldfoot 82.76 23 *e*P **P 01 51 59.9 +0.7**
comp=Z,125nm,1.3s
CHVG Ch'k'valeri 82.77 312 P P 01 52 05.6 +5.8
PMR Palmer 82.86 29 *e*P **P 01 51 59.6 -0.2**
PMR pmax pmax
comp=Z,152nm,1.3s
PMR Palmer 82.86 29 *e*P **P 01 51 59.6 -0.2**
comp=Z,152nm,1.3s
MCK McKinley 83.06 26 *e*P **P 01 52 00.2 -0.7**
MCK pmax pmax
comp=Z,526nm,1.6s
MCK McKinley 83.06 26 *e*P **P 01 52 00.2 -0.7**
comp=Z,526nm,1.6s
COLA College 83.58 25 *e*P **P 01 52 02.0 -1.5**
COLA pmax pmax
comp=Z,118nm,0.8s
COLA College 83.58 25 *e*P **P 01 52 02.0 -1.5**
comp=Z,118nm,0.8s
ILAR Eielson Array 83.99 25 P **P 01 52 04.5 -1.1**
ILAR Eielson Array 83.99 25 P **P 01 52 04.5 -1.1**
comp=Z,12nm,0.8s,baz=263,slow=4.3,SNR=60
DIV Divide 84.47 29 *e*P **P 01 52 08.3 +0.2**
comp=Z,564nm,1.5s
PAX Paxson 84.60 27 *e*P **P 01 52 09.0 +0.1**
PAX pmax pmax
comp=Z,226nm,1.7s
PAX Paxson 84.60 27 *e*P **P 01 52 09.0 +0.1**
comp=Z,226nm,1.7s
VNDA Vanda 84.62 173 *e*P **P 01 52 08.2 -0.3**
comp=Z,19nm,0.9s
VNDA Vanda 84.62 173 P **P 01 52 07.8 -0.7**
comp=Z,12nm,1.1s,baz=325,slow=6.5,SNR=8.1
VNDA LR LR 02 26 13.4
comp=Z,833nm,21.9s,baz=294,slow=33
MAW Mawson 84.91 200 P **P 01 52 10.0 -0.1**
MAW Mawson 84.91 200 P **P 01 52 10.0 -0.1**
comp=Z,7.2nm,0.9s,baz=42,slow=3.4,SNR=8.2
MAW LR LR 02 30 34.9
comp=Z,673nm,19.2s,baz=34,slow=36
BMRM Bremner River 85.04 29 *e*P **P 01 52 11.4 +0.4**
comp=Z,113nm,1.0s
PPT2 Papeete2 85.45 108 *e*LR LR 02 19 03.1
comp=Z,3μm,32.0s
SBA Scott Base 85.53 172 *e*P **P 01 52 14.4 +1.4**
SBA pmax pmax
comp=Z,34nm,1.3s
SBA Scott Base 85.53 172 *e*P **P 01 52 14.4 +1.4**
comp=Z,34nm,1.3s
MALT Malatya 85.67 308 ⇑ *i*P **P 01 52 14.2 -0.5**
OBN Obninsk 86.09 325 P **P 01 52 15.3 -1.0**
comp=Z,769nm,1.6s,SNR=13
TBI Tubuai 86.23 114 *e*LR LR 02 19 22.7
comp=Z,1μm,26.0s
LVZ Lovozero 86.25 338 *d i*P **P 01 52 16.8 -0.1**
LVZ pmax pmax
comp=Z,77nm,1.2s
EGAK Eagle 86.44 25 *e*P **P 01 52 17.0 -0.9**
comp=Z,17nm,0.9s
DAWY Dawson 87.27 26 *e*P P 01 52 18.4 -3.6
JOF Joensuu 88.12 333 *e*p **P 01 52 25.5 -0.4**
comp=Z,17nm,0.5s
KEV Kevo 88.77 340 *e*p **P 01 52 28.6 -0.2**
comp=Z,4.8nm,0.6s
PUL Pulkovo 89.01 330 ⇓ *e*P **P 01 52 30.2 0.0**
PUL pmax pmax
comp=Z,242nm,1.2s
INK Inuvik 89.02 22 *e*P **P 01 52 29.5 -0.5**
comp=Z,34nm,1.2s
INK PKKPbc **PKKPdf 02 10 07.1 +1.9**
INK Inuvik 89.02 22 P **P 01 52 29.1 -0.9**
comp=Z,19nm,1.1s,baz=281,slow=6.1,SNR=15
INK PKKPbc **PKKPdf 02 10 07.1 +1.9**
comp=Z,3.1nm,1.0s,baz=120,slow=8.6,SNR=4.3
BR131 Keskin Array S 89.28 310 *e*P **P 01 52 30.0 -2.2**
comp=Z,7.6nm,0.8s
BRTR Keskin Array B 89.28 310 P **P 01 52 30.1 -2.0**
BRTR Keskin Array B 89.28 310 P **P 01 52 30.1 -2.0**
comp=Z,2.7nm,0.5s,baz=139,slow=4.1,SNR=19
BRTR LR LR 02 35 16.4
comp=Z,352nm,21.6s,baz=200,slow=37
SPA0 Spitsbergen Ar 89.30 349 *e*P **P 01 52 31.0 -0.2**
SPITS Spitsbergen Ar 89.30 349 P **P 01 52 30.9 -0.4**
SPITS Spitsbergen Ar 89.30 349 P **P 01 52 30.9 -0.4**
comp=Z,21nm,0.8s,baz=97,slow=7.1,SNR=9.2
ARCES ARCESS Array B 89.33 340 P **P 01 52 30.2 -1.4**
ARCES ARCESS Array B 89.33 340 P **P 01 52 30.2 -1.4**
comp=Z,13nm,0.6s,baz=79,slow=6.9,SNR=53
ARCES LR LR 02 37 34.1
comp=Z,1μm,20.7s,baz=82,slow=39
ARE0 ARCESS Array S 89.33 340 *e*P **P 01 52 30.4 -1.1**
ARE0 ARCESS Array S 89.33 340 *e*P **P 01 52 30.4 -1.1**
KMBO Kilima Mbogo 89.62 269 *e*P **P 01 52 35.2 +0.8**
KMBO Kilima Mbogo 89.62 269 P **P 01 52 33.5 -0.9**
comp=Z,7.8nm,0.7s,baz=48,slow=6.9,SNR=11
CSS Prodhromos 90.01 305 *e*P **P 01 52 35.8 +0.3**
comp=Z,15nm,0.9s
KAF Kangasniemi 90.54 332 *e*p **P 01 52 36.2 -1.1**
comp=Z,22nm,0.5s
FIA1 FINESS Array S 90.78 332 *e*P **P 01 52 37.2 -1.2**
FINES FINESS Array B 90.78 332 P **P 01 52 37.3 -1.1**
FINES FINESS Array B 90.78 332 P **P 01 52 37.3 -1.1**
comp=Z,19nm,0.5s,baz=64,slow=4.9,SNR=175
FINES LR LR 02 37 26.5
comp=Z,1μm,20.4s,baz=86,slow=38
AKASG Malin Array Be 90.98 321 P **P 01 52 37.9 -1.7**
AKASG Malin Array Be 90.98 321 P **P 01 52 37.9 -1.7**
AKASG Malin Array Be 90.98 321 P **P 01 52 37.9 -1.7**
comp=Z,5.6nm,0.6s,baz=69,slow=4.3,SNR=25
AKASG LR LR 02 36 39.8
comp=Z,716nm,19.8s,baz=65,slow=38
KIEV Kiev 90.99 321 *e*P **P 01 52 37.9 -1.7**
KIEV pmax pmax
comp=Z,48nm,1.6s
KIEV Kiev 90.99 321 *e*P **P 01 52 37.9 -1.7**
comp=Z,48nm,1.6s
VSU Vasula 91.05 329 *d i*P **P 01 52 38.5 -1.2**
VSU pmax pmax
comp=Z,246nm,1.7s
TRO Tromso 91.52 341 *e* P 01 52 45.4 +3.7
NACGM Naroch 91.71 325 *e* P 01 52 38.0 -4.9
TLCR 92.12 316 ⇑ *i*P **P 01 52 44.8 -0.2**
CFR Carcaliu 92.59 316 ⇑ *i*P **P 01 52 46.4 -0.8**
DLBC Dease Lake 92.68 31 *e*P **P 01 52 47.8 +0.4**
DLBC Dease Lake 92.68 31 P **P 01 52 48.1 +0.7**
comp=Z,8.1nm,0.9s,baz=259,slow=8.7,SNR=7.0
TLB Topalu 92.76 315 ⇑ *i*P **P 01 52 47.3 -0.6**
TESR Tescani 93.38 317 ⇑ *i*P **P 01 52 49.9 -0.9**
VRI Vrincioaia 93.45 316 ⇑ *i*P **P 01 52 49.5 -1.7**
PLOR Plostina 93.50 316 ⇑ *i*P **P 01 52 49.7 -1.8**
SYO Syowa Base 93.57 201 ⇓ *i*P **P 01 52 50.0 -1.1**
SUW Suwalki 93.96 325 *e*P **P 01 52 51.8 -1.4**
comp=Z,131nm,1.0s
SUW Suwalki 93.96 325 *e*P **P 01 52 51.7 -1.6**
MLR Muntele Rosu 94.06 316 ⇑ *i*P **P 01 52 53.6 -0.5**
BURAR Bucovina Array 94.12 318 ⇑ *i*P **P 01 52 53.8 -0.6**
BUR08 Bucovina Ar. S 94.13 318 *e*P **P 01 52 53.2 -1.2**
QSPA South Pole Qui 94.85 180 P **P 01 52 58.1 +0.9**
QSPA South Pole Qui 94.85 180 P **P 01 52 58.1 +0.9**
comp=Z,10nm,1.0s,baz=39,slow=2.5,SNR=5.7
ARR Arges 94.98 316 ⇑ *i*P **P 01 52 57.7 -0.6**
KWP Kalwaria Pacla 95.30 321 *e*P **P 01 52 58.9 -0.7**
KWP pmax pmax
comp=Z,35nm,1.2s
KWP Kalwaria Pacla 95.30 321 *e*P **P 01 52 58.9 -0.7**
comp=Z,35nm,1.2s
KWP Kalwaria Pacla 95.30 321 ⇑ *i*P **P 01 52 59.3 -0.3**
KWP Kalwaria Pacla 95.30 321 *e*P **P 01 52 59.2 -0.3**
LOT Lotru 95.56 316 ⇓ *i*P **P 01 53 00.5 -0.5**
KOLS Kolonicke sedl 95.74 320 *e*P **P 01 53 01.4 -0.2**
TRPA Tarpa 95.77 319 ⇓ *i*P **P 01 53 01.1 -0.6**
BEL Belsk 95.91 323 *e*P **P 01 53 02.2 -0.1**
NSS Namsos 95.94 337 *e* **P 01 53 01.7 -0.3**
DRGR 95.97 318 ⇓ *i*P **P 01 53 01.8 -1.0**
GZR Gura Zlata 96.26 317 ⇑ *i*P **P 01 53 03.6 -0.5**
CRVS Cervenica-Dubn 96.27 320 *e*P **P 01 53 03.5 -0.5**
STHS Stebnicka Huta 96.27 321 *e*P **P 01 53 03.8 -0.2**
VTS Vitosha 96.59 314 ⇑ *i*P P 01 53 11.5 +5.7
SIRR Siria 96.80 318 ⇓ *i*P **P 01 53 06.2 -0.3**
KECS Kecovo 97.00 320 *e*P **P 01 53 05.4 -1.9**
TBLU Trondheim 97.17 336 *e* P 01 52 57.7 -10
PSZ Piszkesteto 97.54 320 *e*P **P 01 53 08.7 -1.1**
PSZ pmax pmax
comp=Z,9.0nm,1.0s
PSZ Piszkesteto 97.54 320 *e*P **P 01 53 08.7 -1.1**
comp=Z,9.2nm,1.0s
NC602 NORSAR Array S 97.70 333 *e*P **P 01 53 08.6 -1.6**
NB2 NORSAR Subarra 97.72 334 P **P 01 53 08.4 -1.9**
comp=Z,7.0nm,0.8s,baz=66,slow=4.6
NB2 NORSAR Subarra 97.72 334 P **P 01 53 08.4 -1.9**
baz=66,slow=4.6
NOA NORSAR Array B 97.72 334 P **P 01 53 08.7 -1.7**
NOA NORSAR Array B 97.72 334 P **P 01 53 08.7 -1.7**
comp=Z,4.4nm,0.6s,baz=66,slow=4.6,SNR=20
NOA LR LR 02 39 45.6
comp=Z,1μm,21.4s,baz=70,slow=37
NAO01 NORSAR Array S 97.95 334 *e*P **P 01 53 10.1 -1.2**
comp=Z,11nm,0.9s
OKC Ostrava-Krasne 98.09 322 *e*PDIFF **P 01 53 11.4 -0.8**
OKC *e*pP **pP 01 53 27.2 -3.9**
YKW3 Yellowknife Ar 98.34 24 *e*P **P 01 53 12.7 -0.3**
comp=Z,0.2nm,1.0s
YKA Yellowknife Ar 98.38 24 P **P 01 53 13.0 -0.1**
YKA Yellowknife Ar 98.38 24 P **P 01 53 13.0 -0.1**
comp=Z,4.6nm,0.8s,baz=301,slow=4.1,SNR=7.7
MORC Moravsky Berou 98.48 322 *e*P **P 01 53 13.3 -0.7**
MORC pmax pmax
comp=Z,24nm,1.4s
MORC Moravsky Berou 98.48 322 *e*P **P 01 53 13.3 -0.7**
comp=Z,24nm,1.4s
MORC Moravsky Berou 98.48 322 ⇑ *i*P Pdif 01 53 14.1 +0.1
KSP Ksiaz 98.90 323 *e*P Pdif 01 53 15.8 0.0
DPC Dobruska-Polom 99.04 323 *e*P **Pdif 01 53 16.2 -0.3**
DPC pmax pmax
comp=Z,97nm,1.3s
DPC Dobruska-Polom 99.04 323 *e*PDIFF **Pdif 01 53 16.1 -0.4**
DPC Dobruska-Polom 99.04 323 *e*P **Pdif 01 53 16.2 -0.4**
comp=Z,96nm,1.3s
UPC Upice 99.18 323 *e*PDIFF **Pdif 01 53 16.6 -0.5**
LSZ Lusaka 99.56 255 *e*Pdif **Pdif 01 53 19.0 -0.6**
comp=Z,5.9nm,0.8s
LSZ Lusaka 99.56 255 P **Pdif 01 53 18.1 -1.5**
comp=Z,5.6nm,0.7s,baz=43,slow=8.0,SNR=15
RUE Ruedersdorf 99.80 325 *e*Pdif **Pdif 01 53 19.5 -0.2**
comp=Z,45nm,1.0s
TREC Trest 99.90 322 *e*PDIFF **Pdif 01 53 19.8 -0.5**
TREC AMS AMS 02 44 00.0
comp=Z,1μm,18.7s
PVCC Panska Ves 100.04 323 *e*PDIFF **Pdif 01 53 20.7 -0.2**
PVCC AMS AMS 02 40 30.0
comp=Z,1μm,21.8s
PRU Pruhonice 100.24 323 *e*PDIFF **Pdif 01 53 21.3 -0.5**
PRU *e*pP pP 01 53 40.1 -0.7
PRU AMS AMS 02 40 50.0
comp=Z,2μm,24.3s
PRA Prague 100.28 323 PDIFF **Pdif 01 53 22.0 +0.1**
BRG Berggiesshubel 100.29 324 *e*PDIF **Pdif 01 53 21.9 -0.1**
comp=Z,21nm,0.9s
BRG *e* 01 56 51.1
comp=Z,3.3nm,0.9s
BRG
comp=N,1μm,27.2s
BRG
comp=E,931nm,20.1s
BRG
comp=Z,661nm,16.4s
BRG Berggiesshubel 100.29 324 *e*Pdiff **Pdif 01 53 21.1 -0.9**
CLL Collm 100.68 324 *e*Pdiff **Pdif 01 53 22.5 -1.2**
CLL Collm 100.68 324 ⇓ *i*Pdif **Pdif 01 53 23.0 -0.7**
comp=Z,27nm,1.3s
CLL *e* 01 57 18.0
CLL *e*pPP 01 57 42.0
KHC Kasperske Hory 101.14 322 *e*P **Pdif 01 53 24.7 -1.1**
KHC Kasperske Hory 101.14 322 *e*PDIFF **Pdif 01 53 25.3 -0.5**
KHC *ex* x 01 53 34.7
KHC AMS AMS 02 41 20.0
comp=Z,1μm,18.7s
KHC Kasperske Hory 101.14 322 *e*Pdif **Pdif 01 53 24.7 -1.1**
BSEG Bad Segeberg 101.15 327 *e*Pdiff **Pdif 01 53 24.9 -0.8**
GEC2 GERESS Array S 101.16 322 *e*Pdiff **Pdif 01 53 25.0 -1.0**
GERES GERESS Array B 101.16 322 P **Pdif 01 53 25.2 -0.9**
GERES GERESS Array B 101.16 322 P **Pdif 01 53 25.2 -0.9**
comp=Z,3.2nm,1.0s,baz=83,slow=5.5,SNR=18
TANN Tannenbergstha 101.33 324 *e*Pdiff **Pdif 01 53 25.7 -1.0**
WET Wettzell 101.56 322 *e*Pdiff **Pdif 01 53 27.0 -0.7**
ROTZ Rotzenmuhle 101.73 323 *e*Pdiff **Pdif 01 53 28.1 -0.3**
MOX Moxa 101.75 324 *e*Pdiff **Pdif 01 53 27.6 -0.9**
NRDL Niedersach Rie 101.86 326 *e*Pdiff **Pdif 01 53 28.6 -0.2**
CLZ Clausthal 101.98 325 *e*Pdiff **Pdif 01 53 29.2 -0.3**
RJOB Jochberg 102.12 321 *e*Pdiff **Pdif 01 53 29.2 -1.1**
GRF Grafenberg Arr 102.35 323 *e*Pdiff **Pdif 01 53 30.9 -0.3**
IBBN Ibbenburen 103.24 327 *e*Pdiff **Pdif 01 53 34.4 -0.6**
NEW Newport 103.25 38 *e*Pdif **Pdif 01 53 35.4 +0.1**
comp=Z,4.0nm,0.9s
TNS Taunus Mts 103.77 324 *e*Pdiff **Pdif 01 53 37.2 -0.3**
BUG Bochum--Univer 103.90 326 *e*Pdiff **Pdif 01 53 37.4 -0.6**
BEKR Beckworth 104.08 47 *e*Pdif **Pdif 01 53 41.3 +1.9**
comp=Z,1.7nm,0.8s
MEM Membach 104.99 325 P **Pdif 01 53 43.2 +0.3**
WLF Walferdange 105.34 325 *e*Pdiff **Pdif 01 53 44.4 -0.1**
DOU Dourbes 106.03 325 P **Pdif 01 53 47.7 +0.2**
R11A Troy Canyon, C 108.09 47 P **PKiKP 01 58 05.0 +1.2**
baz=108
KEST Kesra 108.88 310 *e*PKP **PKiKP 01 58 05.2 0.0**
REDW Red Top Meadow 109.29 41 *e*PKP **PKiKP 01 58 06.0 0.0**
PDAR Pinedale Array 110.41 41 PKKPab PKKPab 02 09 20.1 -0.3
PDAR Pinedale Array 110.41 41 PKKPab PKKPab 02 09 20.1 -0.3
comp=Z,2.4nm,0.9s,baz=122,slow=6.4,SNR=10
J20A Shoshoni 111.08 40 P **PKiKP 01 58 08.4 -0.9**
baz=111
K21A Alcova 111.97 40 P **PKiKP 01 58 10.7 -0.4**
baz=112
J22A Midwest 112.07 39 P **PKiKP 01 58 09.9 -1.2**
baz=112
L21A Rawlins 112.22 41 P **PKiKP 01 58 11.3 -0.2**
baz=112
M21A Separation Pea 112.40 41 P **PKiKP 01 58 11.7 -0.2**
baz=112
O20A White River Ci 112.51 43 P **PKiKP 01 58 11.6 -0.6**
baz=112
H24A Dirks Ranch, A 112.55 37 P **PKiKP 01 58 11.5 -0.4**
baz=112
N21A Black Mountain 112.70 42 P **PKiKP 01 58 12.5 -0.1**
baz=113
N22A Wattenberg Ran 113.39 41 P **PKiKP 01 58 13.8 0.0**
baz=113
I25A Rochford 113.44 37 P **PKiKP 01 58 12.9 -0.9**
baz=113
MVCO Mesa Verde 113.67 46 P **PKiKP 01 58 13.2 -1.2**
baz=114
J25A Sunshine Ranch 113.74 38 P **PKiKP 01 58 13.7 -0.5**
baz=114
S21A Coal Bank Pass 113.97 45 P **PKiKP 01 58 14.9 -0.2**
baz=114
O23A Lake Granby, G 114.04 42 P PKPdf 01 58 14.8 -0.3
baz=114
N24A Carr 114.41 41 P PKPdf 01 58 15.2 -0.5
baz=114
I27A Quinn 114.42 37 P PKPdf 01 58 15.4 -0.1
baz=114
ISCO Idaho Springs 114.44 42 P PKPdf 01 58 16.1 +0.1
baz=114
D30A Buchanan 114.46 32 P PKPdf 01 58 15.6 +0.2
baz=114
P23A Jefferson 114.50 43 P PKPdf 01 58 16.2 +0.1
baz=114
W20A Ramah 114.59 48 P PKPdf 01 58 16.6 +0.3
baz=114
U21A Nageezi 114.63 46 P PKPdf 01 58 16.8 +0.5
baz=115
Q23A Hartsel 114.74 43 P PKPdf 01 58 16.8 +0.2
baz=115
Y20A Horse Springs, 115.21 49 P **PKPdf 01 58 17.7 +0.1**
baz=115
J28A Allard Ranch, 115.27 37 P **PKPdf 01 58 17.0 -0.1**
baz=115
Z20A Nine Sixteen R 115.38 50 P **PKPdf 01 58 17.2 -0.5**
baz=115
V22A San Miguel Ran 115.40 46 P **PKPdf 01 58 17.9 +0.1**
baz=115
X21A Alamocita Cree 115.42 48 P **PKPdf 01 58 18.1 +0.2**
baz=115
G30A Faulkton 115.47 34 P **PKPdf 01 58 17.2 -0.2**
baz=115
120A U Bar Ranch, L 115.58 50 P **PKPdf 01 58 17.6 -0.5**
baz=116
P26A Davis Ranch, A 116.07 41 P **PKPdf 01 58 19.1 +0.2**
baz=116
R25A Fountain Ranch 116.17 43 P **PKPdf 01 58 18.3 -0.8**
baz=116
ANMO Albuquerque 116.17 47 PKP **PKPdf 01 58 20.8 +1.5**
ANMO Albuquerque 116.17 47 PKP **PKPdf 01 58 20.8 +1.5**
comp=Z,2.3nm,0.9s,baz=202,slow=1.5,SNR=5.9
M28A Bar X Bar Ranc 116.34 39 P **PKPdf 01 58 18.9 -0.4**
baz=116
Z22A Elephant Butte 116.55 49 P **PKPdf 01 58 19.9 -0.1**
baz=116
ESDC Sonseca Array 116.57 319 PKP **PKPdf 01 58 19.8 +0.1**
ESDC PKKPbc **PKKPbc 02 08 48.8 +0.2**
ESDC Sonseca Array 116.57 319 PKP **PKPdf 01 58 19.8 +0.1**
comp=Z,0.2nm,0.4s,baz=13,slow=2.0,SNR=4.8
ESDC PKKPbc **PKKPbc 02 08 48.8 +0.2**
comp=Z,0.5nm,0.7s,baz=263,slow=2.9,SNR=7.0
V24A Rampart Ranch, 116.66 46 P **PKPdf 01 58 20.5 +0.2**
baz=117
W24A Lazy 6 Ranch, 116.81 46 P **PKPdf 01 58 21.0 +0.5**
baz=117
Y23A Lovelace Mesa, 116.93 48 P **PKPdf 01 58 20.9 +0.1**
baz=117
U25A Circle Dot Ran 116.95 45 P **PKPdf 01 58 20.7 0.0**
baz=117
V25A Rancho No Teng 117.08 45 P **PKPdf 01 58 21.1 +0.1**
baz=117
R27A Eads 117.10 42 P **PKPdf 01 58 20.6 -0.2**
baz=117
PBRG Braganca 117.13 322 *e*PKPdf **PKPdf 01 58 23.3 +2.6**
T26A Comanche Natio 117.13 44 P **PKPdf 01 58 21.3 +0.2**
baz=117
Y24A Capitan 117.39 48 P **PKPdf 01 58 21.8 +0.2**
baz=117
W25A X Bar L Ranch, 117.49 46 P **PKPdf 01 58 21.5 -0.3**
baz=117
MVO Moncorvo 117.67 322 *e*PKPdf **PKPdf 01 58 24.6 +2.8**
R28A Tribune 117.73 42 P **PKPdf 01 58 21.9 -0.2**
baz=118
124A Stringfield Ra 117.93 49 P **PKPdf 01 58 22.3 -0.5**
baz=118
Y25A Mesa, Roswell 117.94 47 P **PKPdf 01 58 22.6 -0.1**
baz=118
PGAV Gavieira, Arco 117.95 323 *e*PKPdf **PKPdf 01 58 22.8 +0.4**
Q29A Oakley 117.98 41 P **PKPdf 01 58 22.3 -0.2**
baz=118
POLO Lamas de Olo 118.02 323 *e*PKPdf **PKPdf 01 58 22.9 +0.4**
PVRL Vila Real 118.03 322 *e*PKPdf **PKPdf 01 58 23.6 +1.1**
U27A Thompson Grove 118.05 44 P **PKPdf 01 58 22.8 +0.1**
baz=118
W26A Owens Ranch, T 118.05 46 P **PKPdf 01 58 22.6 -0.2**
baz=118
224A Cornudas Mount 118.16 50 P **PKPdf 01 58 22.5 -0.7**
baz=118
T28A Walsh 118.17 43 P **PKPdf 01 58 22.4 -0.6**
baz=118
Z25A Roswell 118.22 48 P **PKPdf 01 58 22.7 -0.4**
baz=118

X26A	CR and CF Fran	118.28	46	P	PKPdf	01 58 22.9	-0.4
	baz=118						
BGNE	Belgrade	118.30	37	P	PKPdf	01 58 22.4	-0.6
	baz=118						
MNTX	Cornudas Mount	118.44	50	*e*PKPdf	PKPdf	01 58 24.5	+1.0
MTE	Manteigas	118.44	322	*e*PKPdf	PKPdf	01 58 23.6	+0.3
PVIS	Viseu	118.47	322	*e*PKPdf	PKPdf	01 58 26.3	+3.0
324A	Moseley Ranch,	118.47	50	P	PKPdf	01 58 23.5	-0.3
	baz=118						
125A	Gardner Draw,	118.55	49	P	PKPdf	01 58 23.5	-0.3
	baz=118						
P31A	Stockton	118.65	39	P	PKPdf	01 58 22.9	-0.8
	baz=119						
PCBR	Castelo Branco	118.72	321	*e*PKPdf	PKPdf	01 58 24.1	+0.3
Z26A	Caprock	118.77	48	P	PKPdf	01 58 23.6	-0.6
	baz=119						
PMRV	Marv??o	118.91	321	*e*PKPdf	PKPdf	01 58 24.7	+0.5
O32A	Brockman Farm,	118.91	38	P	PKPdf	01 58 23.8	-0.4
	baz=119						
Y27A	Causey	119.07	47	P	PKPdf	01 58 24.3	-0.5
	baz=119						
425A	Indio Mountain	119.15	51	P	PKPdf	01 58 24.8	-0.3
	baz=119						
226B	Tecolote Peak,	119.19	49	P	PKPdf	01 58 24.9	-0.1
	baz=119						
R31A	Burdett	119.26	41	P	PKPdf	01 58 25.2	+0.3
	baz=119						
Z27A	Tatum	119.31	47	P	PKPdf	01 58 24.9	-0.4
	baz=119						
MSTX	Muleshoe	119.31	46	P	PKPdf	01 58 25.0	-0.2
	baz=119						
SCHQ	Schefferville	119.36	9	PKP	PKPdf	01 58 24.4	-0.1
SCHQ	Schefferville	119.36	9	PKP	PKPdf	01 58 24.4	-0.1
	comp=Z,13nm,0.8s,baz=57,slow=5.0,SNR=9.9						
PBAR	Barrancos	119.40	319	*e*PKPdf	PKPdf	01 58 25.6	+0.5
PTOM	Tomar	119.44	321	*e*PKPdf	PKPdf	01 58 26.4	+1.2
U30A	WK&E Inc. Balk	119.48	43	P	PKPdf	01 58 25.8	+0.4
	baz=119						
PMTG	Montargil	119.64	321	*e*PKPdf	PKPdf	01 58 25.9	+0.3
Y28A	McKinney Farm,	119.72	46	P	PKPdf	01 58 25.7	-0.4
	baz=120						
EVO	Evora	119.82	320	*e*PKPdf	PKPdf	01 58 26.5	+0.6
128A	Castleberry Fa	120.18	48	P	PKPdf	01 58 27.1	+0.2
	baz=120						
427A	Hayter Ranch,	120.33	50	P	PKPdf	01 58 27.2	-0.1
	baz=120						
626A	Big Bend Ranch	120.35	52	P	PKPdf	01 58 27.0	-0.4
	baz=120						
PCVE	Castro Verde	120.36	319	*e*PKPdf	PKPdf	01 58 27.5	+0.5
PNCL	Nicolau / Gran	120.39	320	*e*PKPdf	PKPdf	01 58 27.5	+0.5
Z29A	Hungry Hill Ra	120.44	47	P	PKPdf	01 58 26.7	-0.7
	baz=120						
V31A	Spring Creek L	120.44	43	P	PKPdf	01 58 27.5	+0.2
	baz=120						
527A	Woodward Ranch	120.49	51	P	PKPdf	01 58 26.6	-1.1
	baz=120						
328A	Wristen Ranch,	120.53	49	P	PKPdf	01 58 26.8	-0.8
	baz=120						
129A	Stewart Farms,	120.63	47	P	PKPdf	01 58 27.3	-0.5
	baz=121						
KSU1	Kansas State U	120.64	38	*e*PKPdf	PKPdf	01 58 27.9	+0.4
W31A	Holland Ranch,	120.69	44	P	PKPdf	01 58 27.1	-0.7
	baz=121						
TXAR	Lajitas Array	120.81	52	PKP	PKPdf	01 58 28.5	+0.2
TXAR				PKKPbc	PKKPbc	02 08 33.3	+0.4
TXAR	Lajitas Array	120.81	52	PKP	PKPdf	01 58 28.5	+0.2
	comp=Z,1.5nm,0.8s,baz=245,slow=0.5,SNR=11						
TXAR				PKKPbc	PKKPbc	02 08 33.3	+0.4
	comp=Z,0.6nm,0.8s,baz=124,slow=5.8,SNR=5.6						
Z30A	Sanderson Ranc	120.84	46	P	PKPdf	01 58 27.2	-0.9
	baz=121						
PTEO	Sao Teotonio	120.85	320	*e*PKPdf	PKPdf	01 58 29.4	+1.5
428A	Kincaid Ranch,	120.94	50	P	PKPdf	01 58 28.1	-0.3
	baz=121						
MORF	Marmelete	120.94	319	*e*PKPdf	PKPdf	01 58 28.7	+0.5
X31A	McDonald Ranch	120.96	44	P	PKPdf	01 58 27.8	-0.5
	baz=121						
627A	Terlingua Ranc	120.98	51	P	PKPdf	01 58 28.1	-0.5
	baz=121						
329A	Wagon Wheel Ra	121.11	49	P	PKPdf	01 58 28.4	-0.3
	baz=121						
Y31A	Rekieta Farm,	121.11	45	P	PKPdf	01 58 27.9	-0.7
	baz=121						
528A	Cox Ranch, San	121.12	50	P	PKPdf	01 58 29.2	+0.4
	baz=121						
PFVI	Vila Bisbo	121.16	319	*e*PKPdf	PKPdf	01 58 27.9	-0.6
628A	Black Gap, Mar	121.35	51	P	PKPdf	01 58 28.7	-0.5
	baz=121						
529A	Stev Forest Ra	121.57	50	P	PKPdf	01 58 29.2	-0.4
	baz=122						
429A	Davenport Ranc	121.58	49	P	PKPdf	01 58 29.2	-0.4
	baz=122						
330A	Mertzon	121.75	48	P	PKPdf	01 58 29.4	-0.5
	baz=122						
430A	Baggett Ranch,	122.00	49	P	PKPdf	01 58 30.3	-0.1
	baz=122						
Z32A	Haskell	122.01	46	P	PKPdf	01 58 29.9	-0.5
	baz=122						
231A	Bronte	122.11	47	P	PKPdf	01 58 30.3	-0.3
	baz=122						
530A	J-C Ranch, Com	122.23	50	P	PKPdf	01 58 30.9	0.0
	baz=122						
331A	San Angelo	122.35	48	P	PKPdf	01 58 30.9	-0.1
	baz=122						
431A	Sonora	122.52	49	P	PKPdf	01 58 31.0	-0.4
	baz=122						
TORD	Torodi Ar. Bea	122.58	289	PKP	PKPdf	01 58 30.9	-0.9
TORD				PKKPbc	PKKPab	02 08 26.9	+0.3
TORD	Torodi Ar. Bea	122.58	289	PKP	PKPdf	01 58 30.9	-0.9
	comp=Z,7.3nm,0.8s,baz=8.2,slow=2.6,SNR=33						
TORD				PKKPbc	PKKPab	02 08 26.9	+0.3
	comp=Z,2.3nm,0.9s,baz=265,slow=5.0,SNR=7.8						
232A	Coleman	122.63	47	P	PKPdf	01 58 31.3	-0.3
	baz=123						
332A	Millersview	122.82	48	P	PKPdf	01 58 32.1	+0.2
	baz=123						
531A	Rocksprings	122.83	49	P	PKPdf	01 58 32.2	+0.2
	baz=123						
631A	Perdido Creek	123.17	50	P	PKPdf	01 58 32.4	-0.2
	baz=123						
JCT	Junction City	123.23	49	*e*PKIKP	PKPdf	01 58 32.9	+0.1
JCT	Junction City	123.23	49	*e*PKPdf	PKPdf	01 58 32.9	+0.1
JCT	Junction City	123.23	49	P	PKPdf	01 58 32.8	0.0
	baz=123						
532A	Rocksprings	123.33	49	P	PKPdf	01 58 32.6	-0.4
	baz=123						
632A	Uvalde	123.72	50	P	PKPdf	01 58 34.1	+0.4
	baz=124						
732A	Laxson Ranch,	123.96	50	P	PKPdf	01 58 33.9	-0.2
	baz=124						
OLIL	Olney	125.86	33	*e*PKPdf	PKPdf	01 58 38.1	+0.6
ACSO	Alum Creek Sta	127.38	29	*e*PKPdf	PKPdf	01 58 39.6	-0.8
NCB	Newcomb	127.75	19	*e*PKPdf	PKPdf	01 58 41.5	+0.5
WVT	Waverly	127.85	36	*e*PKIKP	PKPdf	01 58 40.7	-0.7
WVT	Waverly	127.85	36	*e*PKPdf	PKPdf	01 58 40.7	-0.7
MDV	Middlebury	128.06	18	*e*PKPdf	PKPdf	01 58 41.7	+0.1
PMPS	Porto Santo	128.51	320	*e*PKPdf	PKPdf	01 58 47.5	+4.8
KIC	Kosan Boka	130.31	283	*e*PKIKP	PKPdf	01 58 47.4	+0.7
	comp=Z,134nm,1.8s						
KIC	Kosan Boka	130.31	283	*e*PKP1	SKPbc	02 02 06.1	+1.9
	comp=Z,216nm,1.4s						
DBIC	Dimbokro	130.36	283	*e*PKPdf	PKPdf	01 58 46.3	-0.5
DBIC				SKPbc	SKPbc	02 02 06.7	+2.4
DBIC	Dimbokro	130.36	283	PKP	PKPdf	01 58 46.2	-0.5
	comp=Z,6.2nm,0.9s,baz=77,slow=8.4,SNR=5.6						
DBIC				SKPbc	SKPbc	02 02 06.7	+2.4
	comp=Z,41nm,1.1s,baz=66,slow=5.1,SNR=13						
LRAL	Lakeview Retre	130.48	38	*e*PKPdf	PKPdf	01 58 46.5	0.0
TIC	Toumodi	130.52	283	*e*PKIKP	PKPdf	01 58 47.7	+0.6
	comp=Z,41nm,1.2s						
TIC	Toumodi	130.52	283	*e*PKP1	SKPbc	02 02 06.8	+1.8
	comp=Z,235nm,1.5s						
LIC	Lamto	130.62	282	*e*PKIKP	PKPdf	01 58 47.9	+0.7
	comp=Z,33nm,0.9s						
LIC	Lamto	130.62	282	*e*PKP1	SKPbc	02 02 06.9	+1.6
	comp=Z,74nm,1.2s						
PLCA	Paso Flores	141.12	159	*e*PKPpre	PKPpre	01 58 59.5	
PLCA				*e*PKPdf	PKPdf	01 59 04.2	-1.9
PLCA				PKP	PKPdf	01 59 05.1	-1.0
PLCA				SKPbc	SKiKP	02 02 42.0	+2.7
PLCA	Paso Flores	141.12	159	PKhKP	PKPpre	01 58 59.5	
	comp=Z,7.1nm,1.0s,baz=226,slow=2.6,SNR=5.0						
PLCA				PKP	PKPdf	01 59 05.1	-1.0
	comp=Z,7.1nm,1.0s,baz=233,slow=3.0,SNR=8.3						
PLCA				SKPbc	SKiKP	02 02 42.0	+2.7
	comp=Z,18nm,1.2s,baz=238,slow=4.8,SNR=7.4						
ASCN	Ascension	141.28	264	*e*PKPdf	PKPdf	01 59 07.1	0.0
JTS	JuntasAbangare	144.96	64	*e*PKPdf	PKPab	01 59 12.7	-0.2
TRQA	Tornquist	146.09	168	*e*PKPbc	PKPbc	01 59 15.8	0.0
GTBY	Guantanamo Bay	147.22	40	*e*PKPbc	PKPbc	01 59 19.3	-0.2
GRTK	Grand Turk	148.38	33	*e*PKPbc	PKPbc	01 59 21.6	-1.0
GRTK				*e*PKPab	PKPab	01 59 26.0	+0.2
BCIP	Isla Barro Col	150.00	62	*e*PKPbc	PKPbc	01 59 26.5	-0.3
SDDR	Presa de Saban	150.30	36	*e*PKPbc	PKPbc	01 59 27.7	+0.2
SDDR				*e*PKPab	PKPab	01 59 33.5	-0.3
LCO	Las Campanas	150.90	147	*e*PKPdf	PKPdf	01 59 23.0	-0.2
LCO				*e*PKPbc	PKPbc	01 59 29.2	+0.3
CELP	Cerrillos	153.60	30	*e*PKPdf	PKPdf	01 59 27.1	-0.1
CELP				*e*PKPab	PKPab	01 59 47.1	-0.4
OBIP	Obispado Ponce	153.61	30	*e*PKPdf	PKPdf	01 59 27.5	+0.4
OBIP				*e*PKPbc	PKiKP	01 59 35.9	+0.8
OBIP				*e*PKPab	PKPab	01 59 45.9	-1.6
CBYP	Canovanas	153.78	28	*e*PKPbc	PKPbc	01 59 35.0	-0.4
OTAV	Otavalo	154.28	79	*e*PKPdf	PKPdf	01 59 28.6	-0.3
OTAV				*e*PKPbc	PKPbc	01 59 36.4	-0.8
OTAV				*e*PKPab	PKPab	01 59 51.0	-0.3
NNA	Nana	155.63	108	*e*PKPdf	PKPdf	01 59 30.1	-0.1
LVC	Limon Verde	156.80	141	*e*PKPdf	PKPdf	01 59 30.6	-1.2
SDV	Santo Domingo	157.86	52	*e*PKPdf	PKPdf	01 59 33.1	-0.1
SDV				*e*PKPab	PKPab	02 00 06.0	-0.2
CPUP	Villa Florida	158.38	170	PKP	PKPdf	01 59 32.6	-0.7
CPUP				*e*PKPdf	PKPdf	01 59 33.0	-0.3
CPUP				*e*PKPab	PKPab	02 00 07.0	-0.7
CPUP	Villa Florida	158.38	170	PKP	PKPdf	01 59 32.6	-0.7
	comp=Z,6.2nm,0.9s,baz=353,slow=7.5,SNR=3.7						
LPAZ	La Paz	161.54	129	*e*PKPdf	PKPdf	01 59 38.4	+0.5
LPAZ				*e*PKPab	PKPab	02 00 21.7	-1.0
BDFB	Brasilia	168.21	205	PKP	PKPdf	01 59 44.7	+1.7
BDFB	Brasilia	168.21	205	PKP	PKPdf	01 59 44.7	+1.7
	comp=Z,8.4nm,1.1s,baz=298,slow=0.3,SNR=5.0						
SAML	Samuel	169.35	112	*e*PKPdf	PKPdf	01 59 43.2	-0.4
SAML				*e*PKPab	PKPab	02 00 55.7	-0.8

IDC ***30*** *01:39:48.9±0.5, 15°.65S×173°.01W, h0km, mb4.7/19, mb1 4.9/19, mb1mx4.8/28, mbtmp4.7/19, MS4.8/5, Ms1 4.8/5, ms1mx4.4/38, Error ellipse: s-maj=20.1km s-min=13.9km az=120.0*

BJI ***30*** *01:39:50.3, 15°.50S×173°.20W, h10km, mB5.5/16, mb5.3/24, Ms5.3/12, Ms7 5.1/13*

NEIC ***30*** *01:39:50.4±0.2, 15°.56S×173°.19W, h10km, mb5.0/69, Error ellipse: s-maj=8.9km s-min=4.4km az=139.0*

ISCJB ***30*** *01:39:51.8±0.2, 15°.63S±0°.05×173°.17W±0°.04, h29km, mb5.0/91, MS5.0/10, Error ellipse: s-maj=8.2km s-min=4.8km az=151.1*

SZGRF ***30*** *01:39:53.9, 15°.89S×172°.78W, h33km, Samoa Islands region*

MOS ***30*** *01:39:54.0±1.4, 15°.42S×172°.88W, h33km, mb5.2/20, Error ellipse: s-maj=15.4km s-min=10.1km az=57.2*

ISC 30 01:39:53.3±0.3, 15°.65S±0°.07×173°.09W±0°.07, h29km, n557, σ0°85/553, mb4.9/92, MS5.0/10, 138C-133D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.14**	**36**	*e*Pn	Pn	01 40 18.9	-8.3
AFI				Sn	Sn	01 40 39.8	-13
AFI	**Afiamalu**	**2.14**	**36**	Pn	Pn	01 40 19.4	-7.8
	306nm,0.3s,baz=93,slow=1.3,SNR=29						
AFI				Sn	Sn	01 40 39.8	-13
	3μm,0.3s,baz=248,slow=23,SNR=20						
MSVF	**Nonsavu**	**8.74**	**255**	*e*P	Pn	01 42 06.9	+9.0
MSVF	**Nonsavu**	**8.74**	**255**	*e*Pn	Pn	01 42 06.9	+9.0
RAR	**Rarotonga**	**13.79**	**116**	*e*Pn	Pn	01 42 58.0	-9.0
RAR	**Rarotonga**	**13.79**	**116**	Pn	Pn	01 42 58.1	-8.8
	7.0nm,0.3s,baz=270,slow=9.1,SNR=4.0						
RAR				LR	LR	01 46 35.9	
	comp=Z,3μm,19.4s,baz=272,slow=30						
DZM	**Mont Dzumac**	**20.39**	**249**	*e*P	**P**	**01 44 28.5**	**+0.4**
	268nm,1.1s						
DZM				*e*LR	LR	01 49 19.2	
	5μm,25.2s						
DZM	**Mont Dzumac**	**20.39**	**249**	*e*P	**P**	**01 44 28.2**	**+0.2**
	211nm,1.4s						
DZM	**Mont Dzumac**	**20.39**	**249**	P	**P**	**01 44 28.3**	**+0.2**
	72nm,0.9s,baz=73,slow=19,SNR=14						
DZM				LR	LR	01 50 53.5	
	comp=Z,3μm,21.9s,baz=59,slow=32						
PPT	**Papeete**	**22.61**	**98**	LR	LR	01 51 18.7	
	comp=Z,2μm,19.2s,baz=209,slow=31						
PPT2	**Papeete2**	**22.61**	**98**	*e*S	**S**	**01 48 51.8**	**-6.4**
	4μm,28.2s						
PPT2				*e*LR	LR	01 49 54.4	
	4μm,26.5s						
TBI	**Tubuai**	**23.53**	**113**	*e*S	**S**	**01 49 10.0**	**-3.5**
	3μm,30.8s						
TBI				*e*LR	LR	01 50 40.7	
	4μm,24.5s						
URZ	**Urewera**	**24.13**	**199**	P	**P**	**01 45 07.2**	**+0.5**
URZ	**Urewera**	**24.13**	**199**	P	**P**	**01 45 07.2**	**+0.5**
	16nm,0.6s,baz=134,slow=19,SNR=7.2						
KHZ	**Kahutara**	**29.05**	**201**	*e*P	**P**	**01 45 53.1**	**+2.1**
	23nm,0.7s						
RPZ	**Rata Peaks**	**31.07**	**203**	*e*P	**P**	**01 46 09.4**	**+0.5**
	17nm,0.9s						
EIDS	**Eidsvold**	**34.83**	**248**	*e*P	**P**	**01 46 39.9**	**-2.1**
	5.0nm,0.7s						
ARMA	**Armidale**	**35.47**	**239**	*e*P	**P**	**01 46 46.1**	**-1.5**
	7.4nm,0.6s						
RKT	**Rikitea**	**36.63**	**108**	*e*LR	LR	01 56 26.3	
	2μm,28.8s						
CAN	**Canberra**	**39.12**	**233**	*e*P	**P**	**01 47 17.3**	**-1.1**
CAN				pmax	pmax		
	comp=Z,73nm,1.8s						
CAN	**Canberra**	**39.12**	**233**	*e*P	**P**	**01 47 17.3**	**-1.1**
	comp=Z,73nm,1.8s						
PMG	**Port Moresby**	**39.25**	**274**	*e*P	**P**	**01 47 19.1**	**-0.6**
	comp=Z,42nm,1.1s						
COEN	**Coen**	**42.27**	**266**	*e*P	**P**	**01 47 44.4**	**-0.2**
	comp=Z,257nm,1.0s						
WRA	**Warramunga Arr**	**50.08**	**257**	P	**P**	**01 48 44.6**	**-1.5**
WRA	**Warramunga Arr**	**50.08**	**257**	P	**P**	**01 48 44.6**	**-1.5**
	comp=Z,12nm,0.9s,baz=92,slow=6.6,SNR=5.3						
WRA				LR	LR	02 09 40.1	
	comp=Z,1μm,18.8s,baz=305,slow=36						
AS31	**Alice Springs**	**50.32**	**252**	*e*P	**P**	**01 48 46.5**	**-1.4**
ASAR	**Alice Springs**	**50.32**	**252**	P	**P**	**01 48 47.2**	**-0.6**
ASAR	**Alice Springs**	**50.32**	**252**	P	**P**	**01 48 47.2**	**-0.6**
	comp=Z,29nm,0.6s,baz=85,slow=7.9,SNR=27						
FORT	**Forrest**	**55.57**	**243**	*e*P	**P**	**01 49 24.2**	**-2.3**
	comp=Z,54nm,0.9s						
FITZ	**Fitzroy Crossi**	**58.45**	**258**	LR	LR	02 13 49.5	
	comp=Z,1μm,19.1s,baz=28,slow=35						
SBA	**Scott Base**	**63.03**	**185**	*e*P	**P**	**01 50 19.8**	**+2.6**
SBA				pmax	pmax		
	comp=Z,171nm,2.6s						
SBA	**Scott Base**	**63.03**	**185**	*e*P	**P**	**01 50 19.8**	**+2.6**
	comp=Z,171nm,2.6s						
VNDA	**Vanda**	**63.16**	**186**	*e*P	**P**	**01 50 19.4**	**+1.3**
	comp=Z,6.2nm,0.9s						
VNDA	**Vanda**	**63.16**	**186**	P	**P**	**01 50 19.0**	**+0.9**
	comp=Z,3.0nm,0.9s,baz=12,slow=6.0,SNR=15						
KAPI	**Kappang**	**66.69**	**271**	*e*P	P	01 50 38.5	-3.6
	comp=Z,28nm,1.1s						
MJAR	**Matsushiro Arr**	**69.32**	**320**	P	**P**	**01 50 58.0**	**-0.2**
MJAR	**Matsushiro Arr**	**69.32**	**320**	P	**P**	**01 50 58.0**	**-0.2**
	comp=Z,3.1nm,0.8s,baz=170,slow=6.5,SNR=5.9						
MAJO	**Matsushiro**	**69.32**	**320**	*e*P	**P**	**01 50 57.2**	**-1.0**
MAJO				pmax	pmax		
	comp=Z,5.0nm,0.5s						
MAJO	**Matsushiro**	**69.32**	**320**	*e*P	**P**	**01 50 57.1**	**-1.0**
	comp=Z,5.1nm,0.5s						
MAT	**Matsushiro**	**69.32**	**320**	P	**P**	**01 50 57.8**	**-0.4**
ASAJ	**Asahikawa**	**71.91**	**328**	*e*P	**P**	**01 51 15.2**	**+1.4**
	comp=Z,13nm,0.9s						
ASAJ	**Asahikawa**	**71.91**	**328**	P	**P**	**01 51 14.7**	**+0.9**
	comp=Z,25nm,0.8s,baz=197,slow=5.9,SNR=6.0						
MWC	**Mount Wilson**	**72.09**	**46**	*e*P	**P**	**01 51 15.0**	**-0.4**
MWC				pmax	pmax		
	comp=Z,60nm,1.7s						
MWC	**Mount Wilson**	**72.09**	**46**	*e*P	**P**	**01 51 15.0**	**-0.4**
	comp=Z,60nm,1.7s						
EDW2	**Edwards Air Fo**	**72.50**	**45**	⇑P	**P**	**01 51 17.5**	**-0.1**
	baz=73						
MONP	**Monument Peak**	**72.51**	**47**	⇑P	**P**	**01 51 18.0**	**+0.1**
	baz=73						
PET	**Petropavlovsk**	**72.60**	**343**	*e*P	**P**	**01 51 18.6**	**+0.9**
DVTC	**Desert V Tower**	**72.61**	**48**	⇓P	**P**	**01 51 18.2**	**-0.1**
	baz=73						
ISA	**Isabella**	**72.62**	**44**	*e*P	**P**	**01 51 17.9**	**-0.4**
ISA				pmax	pmax		
	comp=Z,12nm,1.3s						
ISA	**Isabella**	**72.62**	**44**	*e*P	**P**	**01 51 17.9**	**-0.4**
	comp=Z,12nm,1.3s						
ISA	**Isabella**	**72.62**	**44**	⇑P	**P**	**01 51 18.6**	**+0.2**
	baz=73						
CMB	**Columbia Colle**	**72.75**	**41**	*e*P	**P**	**01 51 18.8**	**-0.2**
CMB				pmax	pmax		
	comp=Z,5.0nm,1.0s						
CMB	**Columbia Colle**	**72.75**	**41**	*e*P	**P**	**01 51 18.8**	**-0.2**
	comp=Z,5.2nm,1.0s						
PFO	**Pinyon Flat Ob**	**72.87**	**47**	⇓P	**P**	**01 51 19.6**	**-0.3**
	baz=73						
PETK	**Petropavlovsk-**	**72.96**	**342**	P	**P**	**01 51 20.2**	**+0.3**
PETK	**Petropavlovsk-**	**72.96**	**342**	P	**P**	**01 51 20.2**	**+0.3**
PETK	**Petropavlovsk-**	**72.96**	**342**	P	**P**	**01 51 20.2**	**+0.3**
	comp=Z,20nm,0.9s,baz=136,slow=9.6,SNR=4.7						
BELC	**Belle Mtn. Jos**	**73.40**	**47**	⇑P	**P**	**01 51 23.1**	**0.0**
	baz=74						
MPMC	**Manual Prospec**	**73.50**	**44**	⇑P	**P**	**01 51 23.8**	**+0.1**
	baz=74						
GSC	**Goldstone**	**73.55**	**45**	⇑P	**P**	**01 51 23.8**	**0.0**
	baz=74						
TIN	**Tinemaha**	**73.57**	**43**	⇑P	**P**	**01 51 24.3**	**+0.3**
	baz=74						
BC3	**Big Chuckawall**	**73.60**	**47**	⇓P	**P**	**01 51 24.3**	**+0.1**
	baz=74						
YBH	**Yreka Blue Hor**	**73.61**	**37**	*e*P	**P**	**01 51 24.5**	**+0.4**
	comp=Z,16nm,1.4s						
YBH	**Yreka Blue Hor**	**73.61**	**37**	P	**P**	**01 51 24.5**	**+0.4**
	comp=Z,3.2nm,0.9s,baz=204,slow=10.0,SNR=3.1						
HEC	**Hector,Ludlow**	**73.62**	**46**	⇑P	**P**	**01 51 24.5**	**+0.2**
	baz=74						
YSS	**Yuzh-Sakhalins**	**73.85**	**330**	⇑*e*P	**P**	**01 51 24.4**	**-0.8**
YSS				pmax	pmax		
	comp=Z,90nm,1.2s						
BEKR	**Beckworth**	**73.86**	**40**	*e*P	**P**	**01 51 27.0**	**+1.2**
	comp=Z,4.6nm,1.3s						
HUMO	**Hull Mountain**	**74.03**	**36**	*e*P	**P**	**01 51 26.8**	**+0.3**
	comp=Z,16nm,1.3s						
GMRC	**Granite Mounta**	**74.05**	**46**	⇑P	**P**	**01 51 26.8**	**-0.1**
	baz=74						
IRM	**Iron Mountain**	**74.08**	**47**	⇑P	**P**	**01 51 26.7**	**-0.2**
	baz=74						
FURC	**Furnace Creek,**	**74.15**	**44**	⇓P	**P**	**01 51 27.4**	**+0.2**
	baz=74						
Y12C	**Blythe**	**74.31**	**48**	⇑P	**P**	**01 51 28.1**	**-0.2**
	baz=74						
QSPA	**South Pole Qui**	**74.40**	**180**	*e*P	**P**	**01 51 29.0**	**+0.6**
	comp=Z,29nm,1.1s						
QSPA	**South Pole Qui**	**74.40**	**180**	P	**P**	**01 51 28.8**	**+0.4**
	comp=Z,17nm,0.9s,baz=38,slow=2.6,SNR=39						
214A	**Organ Pipe Nat**	**74.64**	**50**	⇓P	**P**	**01 51 30.5**	**+0.3**
	baz=75						
PDMCI	**Parker Dam,Lak**	**74.87**	**47**	⇑P	**P**	**01 51 31.8**	**+0.3**
	baz=75						
KDAK	**Kodiak Island**	**75.10**	**11**	P	**P**	**01 51 32.7**	**+0.5**
KDAK	**Kodiak Island**	**75.10**	**11**	P	**P**	**01 51 32.7**	**+0.5**
	comp=Z,11nm,0.8s,baz=193,slow=5.8,SNR=7.9						
MOD	**Modoc**	**75.13**	**38**	*e*P	**P**	**01 51 32.7**	**-0.3**
	comp=Z,123nm,1.6s						
Z14A	**Wintersburg**	**75.24**	**49**	⇑P	**P**	**01 51 34.0**	**+0.3**
	baz=75						
K05A	**Summer Lake**	**75.29**	**37**	*e*P	**P**	**01 51 34.7**	**+0.8**
	comp=Z,43nm,1.4s						
SHPR	**Sheep Range**	**75.32**	**45**	*e*P	**P**	**01 51 34.2**	**0.0**
W13A	**Hualapai Mount**	**75.46**	**47**	⇑P	**P**	**01 51 35.4**	**+0.3**
	baz=76						
Y14A	**Wickenburg**	**75.49**	**48**	⇓P	**P**	**01 51 35.1**	**0.0**
	baz=76						
R11A	**Troy Canyon, C**	**76.03**	**43**	*e*P	**P**	**01 51 38.5**	**+0.2**
	comp=Z,6.2nm,1.2s						
R11A	**Troy Canyon, C**	**76.03**	**43**	⇑P	**P**	**01 51 38.4**	**+0.1**
	baz=76						
BMN	**Battle Mountai**	**76.14**	**41**	*e*P	**P**	**01 51 38.5**	**-0.4**
BMN				pmax	pmax		
	comp=Z,11nm,1.0s						
BMN	**Battle Mountai**	**76.14**	**41**	*e*P	**P**	**01 51 38.5**	**-0.4**
	comp=Z,11nm,1.0s						
TUC	**Tucson**	**76.31**	**51**	*e*P	**P**	**01 51 40.0**	**+0.1**
TUC				pmax	pmax		
	comp=Z,16nm,1.4s						
TUC	**Tucson**	**76.31**	**51**	*e*P

B08A	Colville Reser	79.62	33	eP	P	01 51 58.0	+0.1
	comp=Z,18nm,1.3s						
HLID	Hailey	79.63	39	eP	P	01 51 58.7	+0.5
	comp=Z,12nm,1.1s						
HLID	Hailey	79.63	39	⇑P	P	01 51 58.5	+0.3
	baz=80,SNR=15						
V20A	Brimhall	79.65	48	⇓P	P	01 51 59.1	+0.6
	baz=80						
BMRM	Bremner River	79.68	14	eP	P	01 51 57.9	-0.1
	comp=Z,58nm,1.4s						
HVU	Hansel Valley	79.69	41	eP	P	01 51 58.3	-0.2
HVU				pmax	pmax		
	comp=Z,12nm,1.0s						
HVU	Hansel Valley	79.69	41	eP	P	01 51 58.3	-0.2
	comp=Z,12nm,1.0s						
SRU	San Rafael	79.81	45	eP	P	01 51 58.7	-0.6
SRU				pmax	pmax		
	comp=Z,18nm,1.3s						
SRU	San Rafael	79.81	45	eP	P	01 51 58.7	-0.6
	comp=Z,18nm,1.3s						
U20A	Newcomb	79.88	48	⇓P	P	01 52 00.1	+0.4
	baz=80,SNR=6.3						
Y22A	Socorro	79.91	51	⇓P	P	01 52 00.0	+0.1
	baz=80						
W21A	San Fidel	79.93	49	⇓P	P	01 52 00.2	+0.1
	baz=80						
JLU	Jordanelle	79.94	43	eP	P	01 51 59.7	-0.3
	comp=Z,9.5nm,1.0s						
324A	Moseley Ranch,	79.94	53	⇓P	P	01 51 59.9	-0.2
	baz=80						
LAZ	Ladron	79.98	50	eP	P	01 52 00.9	+0.5
	comp=Z,17nm,2.0s						
425A	Indio Mountain	80.05	54	⇓P	P	01 52 00.5	-0.2
	baz=80,SNR=9.8						
X22A	Bernardo	80.13	50	⇑P	P	01 52 01.1	0.0
	baz=80						
MNTX	Cornudas Mount	80.13	53	eP	P	01 52 00.5	-0.5
	comp=Z,23nm,1.7s						
Z23A	Rita Site, Whi	80.16	51	⇓P	P	01 52 01.3	+0.1
	baz=80						
224A	Cornudas Mount	80.18	53	⇓P	P	01 52 01.4	0.0
	baz=80						
626A	Big Bend Ranch	80.22	56	⇑P	P	01 52 01.7	+0.1
	baz=80,SNR=8.3						
BNM	Barren Site	80.25	50	eP	P	01 52 01.6	-0.3
	comp=Z,3.6nm,1.1s						
PV05	Paradox Valley	80.28	46	eP	P	01 52 02.4	+0.5
MVCO	Mesa Verde	80.29	47	⇑P	P	01 52 01.8	-0.2
	baz=80						
TXAR	Lajitas Array	80.50	56	P	P	01 52 02.6	-0.5
TXAR	Lajitas Array	80.50	56	P	P	01 52 02.6	-0.5
	comp=Z,5.5nm,1.0s,baz=224,slow=5.2,SNR=23						
124A	Stringfield Ra	80.50	52	⇓P	P	01 52 03.4	+0.2
	baz=81						
U21A	Nageezi	80.53	48	⇑P	P	01 52 03.0	-0.3
	baz=81,SNR=19						
NJ2	Nanjing	80.55	307	eP	P	01 52 02.5	-0.7
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
Y23A	Lovelace Mesa,	80.58	51	⇓P	P	01 52 03.5	0.0
	baz=81						
PV01	Paradox Valley	80.67	46	eP	P	01 52 03.5	-0.6
	comp=Z,719nm,0.9s						
S20A	Disappointment	80.68	47	⇑P	P	01 52 04.0	-0.1
	baz=81						
ANMO	Albuquerque	80.73	50	eP	P	01 52 04.1	-0.3
	comp=Z,10nm,1.2s						
ANMO	Albuquerque	80.73	50	P	P	01 52 03.8	-0.6
	comp=Z,5.2nm,1.0s,baz=204,slow=5.2,SNR=12						
225A	Deer Hill, Car	80.74	53	⇑P	P	01 52 04.8	+0.3
	baz=81						
NEW	Newport	80.74	34	eP	P	01 52 03.7	-0.2
	comp=Z,3.8nm,0.9s						
NEW	Newport	80.74	34	P	P	01 52 03.5	-0.4
	comp=Z,3.7nm,0.9s,baz=258,slow=6.8,SNR=3.9						
426A	McDonald Obser	80.75	55	⇓P	P	01 52 04.5	-0.1
	baz=81,SNR=17						
X23A	Hourglass Bar	80.77	50	⇑P	P	01 52 04.6	+0.1
	baz=81						
627A	Terlingua Ranc	80.77	56	⇑P	P	01 52 04.6	0.0
	baz=81,SNR=11						
V22A	San Miguel Ran	80.83	49	⇑P	P	01 52 05.2	+0.3
	baz=81						
R20A	Redvale	80.83	46	⇓P	P	01 52 05.1	+0.2
	baz=81						
Z24A	Sheeppen Canyo	80.84	52	⇓P	P	01 52 05.4	+0.4
	baz=81						
527A	Woodward Ranch	80.87	55	⇑P	P	01 52 04.7	-0.5
	baz=81,SNR=13						
T21A	Navajo Lake	80.87	48	⇓P	P	01 52 05.4	+0.3
	baz=81						
M17A	Scullys Gap (B	80.89	42	⇑P	P	01 52 05.2	+0.1
	baz=81						
S21A	Coal Bank Pass	81.00	47	⇑P	P	01 52 05.7	-0.2
	baz=81						
Y24A	Capitan	81.04	51	⇓P	P	01 52 05.8	-0.3
	baz=81,SNR=9.5						
W23A	Werner Place,	81.05	50	⇑P	P	01 52 06.0	-0.1
	baz=81						
326A	Caldwell Ranch	81.06	54	⇓P	P	01 52 06.1	+0.1
	baz=81						
125A	Gardner Draw,	81.09	53	⇑P	P	01 52 06.5	+0.3
	baz=81						
P19A	Cripple Cowboy	81.11	45	⇓P	P	01 52 06.5	+0.2
	baz=81						
GDL2	Guadalupe Moun	81.13	53	eP	P	01 52 07.1	+0.7
628A	Black Gap, Mar	81.18	56	⇑P	P	01 52 07.1	+0.4
	baz=81						
226B	Tecolote Peak,	81.23	53	⇓P	P	01 52 06.6	-0.3
	baz=81,SNR=12						
Q20A	Ridgley Place,	81.25	46	⇓P	P	01 52 07.1	+0.1
	baz=81,SNR=6.5						
MCMT	McKenzie Canyo	81.26	39	eP	P	01 52 07.0	0.0
	comp=Z,5.7nm,1.1s						
PAX	Paxson	81.28	12	eP	P	01 52 05.8	-0.7
PAX				pmax	pmax		
	comp=Z,17nm,1.4s						
PAX	Paxson	81.28	12	eP	P	01 52 05.8	-0.7
	comp=Z,17nm,1.4s						
V23A	Ortiz Mt. (NFS	81.28	49	⇑P	P	01 52 07.0	-0.3
	baz=81						
Z25A	Roswell	81.31	52	⇑P	P	01 52 07.3	-0.1
	baz=82						
427A	Hayter Ranch,	81.32	55	⇑P	P	01 52 07.0	-0.4
	baz=82						
O19A	Miners Draw (B	81.33	44	⇑P	P	01 52 07.1	-0.2
	baz=82						
T22A	Edith	81.33	48	⇑P	P	01 52 07.2	-0.4
	baz=82						
HYT	Haines Junctio	81.36	17	eP	P	01 52 07.3	+0.3
RRI2	Red Ridge	81.42	41	eP	P	01 52 08.0	+0.1
	comp=Z,16nm,1.3s						
P20A	De Beque	81.44	45	⇓P	P	01 52 07.4	-0.6
	baz=82						
CN2	Changchun	81.47	320	eP	P	01 52 07.8	0.0
CN2				esP	sP	01 52 14.8	-5.6
CN2				eS	S	02 02 17.0	-0.5
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,500nm,21.0s						
CN2				LR	LR		
	comp=E,500nm,21.0s						
CN2				LR	LR		
	comp=Z,400nm,19.0s						
R21A	Cimarron	81.49	46	⇑P	P	01 52 08.3	-0.1
	baz=82,SNR=9.7						
L18A	Fontenelle, Gr	81.52	42	⇓P	P	01 52 08.3	-0.2
	baz=82						
528A	Cox Ranch, San	81.53	56	⇓P	P	01 52 08.4	-0.2
	baz=82,SNR=9.2						
U23A	El Rito	81.54	49	⇓P	P	01 52 08.6	-0.1
	baz=82,SNR=6.9						
126A	Clayton Basin,	81.58	53	⇑P	P	01 52 08.7	-0.1
	baz=82						
Y25A	Mesa, Roswell	81.60	51	⇓P	P	01 52 08.6	-0.4
	baz=82						
W24A	Lazy 6 Ranch,	81.62	50	⇓P	P	01 52 08.9	-0.2
	baz=82						
SNY	Shenyang	81.66	318	⇑P	P	01 52 10.0	+1.2
SNY				pmax	pmax		
	comp=Z,27nm,1.4s						
SNY				LR	LR		
	comp=N,2μm,21.0s						
SNY				LR	LR		
	comp=E,2μm,24.9s						
SNY				LR	LR		
	comp=Z,2μm,20.7s						
Q21A	Lamborn Mesa,	81.69	46	⇓P	P	01 52 09.0	-0.4
	baz=82						
MSO	Missoula	81.70	37	eP	P	01 52 08.7	-0.4
	comp=Z,16nm,1.1s						
MSO	Missoula	81.70	37	⇑P	P	01 52 09.1	0.0
	baz=82,SNR=9.9						
S22A	4UR Ranch, Cre	81.72	47	⇓P	P	01 52 09.4	-0.3
	baz=82,SNR=15						
REDW	Red Top Meadow	81.72	41	eP	P	01 52 09.8	+0.3
	comp=Z,18nm,1.4s						
TPAW	Teton Pass	81.73	41	eP	P	01 52 10.1	+0.5
	comp=Z,13nm,1.1s						
BSMT	Bassoo Peak	81.79	35	eP	P	01 52 09.9	+0.2
428A	Kincaid Ranch,	81.84	55	⇓P	P	01 52 10.2	0.0
	baz=82						
O20A	White River Ci	81.84	45	⇓P	P	01 52 10.2	+0.1
	baz=82						
Z26A	Caprock	81.87	52	⇑P	P	01 52 10.0	-0.3
	baz=82,SNR=11						
X25A	Clemmons Ranch	81.88	51	⇓P	P	01 52 10.4	0.0
	baz=82						
M19A	Rock Springs	81.89	43	⇑P	P	01 52 10.2	-0.2
	baz=82						
IMW	Indian Meadow	81.94	40	eP	P	01 52 11.2	+0.5
	comp=Z,21nm,1.5s						
V24A	Ramart Ranch,	81.94	50	⇓P	P	01 52 10.8	0.0
	baz=82						
T23A	Casias Ranch,	81.96	48	⇓P	P	01 52 10.8	-0.2
	baz=82						
529A	Stev Forest Ra	81.97	56	⇑P	P	01 52 10.4	-0.4
	baz=82						
MOOW	Moose Ponds	81.99	40	eP	P	01 52 11.2	+0.4
	comp=Z,10nm,1.4s						
328A	Wristen Ranch,	82.00	54	⇓P	P	01 52 10.7	-0.3
	baz=82						
LOHW	Long Hollow	82.01	41	eP	P	01 52 11.3	+0.3
	comp=Z,64nm,2.5s						
LRM	Limekiln Ridge	82.02	38	eP	P	01 52 10.4	-0.6
127A	Arkansas Junct	82.10	53	⇑P	P	01 52 11.3	-0.2
	baz=82						
P21A	Newcastle	82.10	45	⇓P	P	01 52 11.3	-0.2
	baz=82,SNR=5.2						
BLMT	Blacktail Moun	82.11	35	eP	P	01 52 17.8	+6.4
QLMT	Earthquake Lak	82.12	39	eP	P	01 52 12.5	+1.0
CHMT	Chamberlain Mo	82.14	37	eP	P	01 52 11.3	-0.3
N20A	Spence Gulch,	82.16	44	⇑P	P	01 52 11.6	-0.2
	baz=82						
Q22A	Crested Butte,	82.17	46	⇓P	P	01 52 11.7	-0.3
	baz=82,SNR=14						
SLMT	Seeley Lake	82.18	36	eP	P	01 52 11.1	-0.6
BW06	Boulder Array	82.25	42	eP	P	01 52 11.4	-0.9
	comp=Z,12nm,1.3s						
PDAR	Pinedale Array	82.25	42	P	P	01 52 11.8	-0.5
PDAR	Pinedale Array	82.25	42	P	P	01 52 11.8	-0.5
	comp=Z,2.7nm,0.8s,baz=204,slow=3.3,SNR=17						
YMR	Madison River	82.32	40	eP	P	01 52 12.6	0.0
	comp=Z,55nm,1.7s						
W25A	X Bar L Ranch,	82.32	50	⇑P	P	01 52 12.6	-0.1
	baz=82						
H17A	Grant Village	82.42	40	eP	P	01 52 13.1	0.0
H17A	Grant Village	82.42	40	⇓P	P	01 52 12.9	-0.3
	baz=83						
429A	Davenport Ranc	82.42	55	⇓P	P	01 52 12.8	-0.4
	baz=83,SNR=17						
T24B	San Luis	82.44	48	⇓P	P	01 52 13.5	0.0
	baz=83						
228A	UT Block 9, Go	82.47	54	⇓P	P	01 52 13.6	+0.2
	baz=83						
Z27A	Tatum	82.47	52	⇑P	P	01 52 13.6	+0.1
	baz=83						
V25A	Rancho No Teng	82.47	50	⇓P	P	01 52 13.7	+0.2
	baz=83,SNR=11						
M20A	Sweetwater, Wa	82.52	43	⇑P	P	01 52 13.9	+0.2
	baz=83						
X26A	CR and CF Fran	82.53	51	⇑P	P	01 52 14.0	+0.2
	baz=83						
P22A	Eagle	82.60	46	⇓P	P	01 52 14.5	+0.3
	baz=83,SNR=8.1						
LKWY	Lake	82.61	40	eP	P	01 52 15.1	+0.9
LKWY				pmax	pmax		
	comp=Z,8.0nm,0.8s						
LKWY	Lake	82.61	40	eP	P	01 52 15.1	+0.9
	comp=Z,8.3nm,0.8s						
N21A	Black Mountain	82.62	44	⇑P	P	01 52 14.4	+0.1
	baz=83,SNR=10						
L20A	Wamsutter	82.67	43	⇑P	P	01 52 14.7	+0.3
	baz=83,SNR=8.2						
530A	J-C Ranch, Com	82.68	56	⇑P	P	01 52 14.5	0.0
	baz=83						
329A	Wagon Wheel Ra	82.69	55	⇑P	P	01 52 14.6	-0.1
	baz=83,SNR=7.2						
K19A	Absolon Red Bu	82.73	42	⇑P	P	01 52 14.6	-0.2
	baz=83,SNR=6.2						
Y27A	Causey	82.74	52	⇑P	P	01 52 14.5	-0.4
	baz=83						
128A	Castleberry Fa	82.75	53	⇓P	P	01 52 14.7	-0.2
	baz=83						
J19A	Crowheart	82.81	41	⇑P	P	01 52 15.3	+0.2
	baz=83,SNR=8.6						
S24A	Houchin Ranch,	82.82	48	⇑P	P	01 52 15.3	-0.1
	baz=83,SNR=6.9						
SEY	Seymchan	82.83	345	⇓eP	P	01 52 14.6	+0.1
HRY	Holter Researc	82.86	37	eP	P	01 52 15.6	+0.4
U25A	Circle Dot Ran	82.86	49	⇓P	P	01 52 15.5	-0.1
	baz=83,SNR=11						
Q23A	Hartsel	82.93	46	⇓P	P	01 52 15.8	-0.2
	baz=83,SNR=7.4						
K20A	Yellowstone Ra	82.98	42	⇓P	P	01 52 15.6	-0.4
	baz=83,SNR=5.3						
430A	Baggett Ranch,	83.01	55	⇓P	P	01 52 16.2	-0.1
	baz=83						
O22A	Kremmling	83.01	45	⇓P	P	01 52 16.4	0.0
	baz=83,SNR=16						
631A	Perdido Creek	83.01	57	⇓P	P	01 52 16.1	-0.1
	baz=83						
V26A	Tequesquite Ra	83.06	50	⇑P	P	01 52 16.8	+0.2
	baz=83						
MSTX	Muleshoe	83.07	52	eP	P	01 52 16.6	0.0
MSTX	Muleshoe	83.07	52	⇑P	P	01 52 16.9	+0.3
	baz=83						
Z28A	Tucker Farm, M	83.09	53	⇑P	P	01 52 17.0	+0.3
	baz=83						
X27A	F and S Farms,	83.10	51	⇓P	P	01 52 17.1	+0.4
	baz=83						
M21A	Separation Pea	83.12	44	⇓P	P	01 52 17.1	+0.2
	baz=83						
H18A	Shoshone NF, C	83.12	40	⇓P	P	01 52 17.0	+0.3
	baz=83						
P23A	Jefferson	83.14	46	⇓P	P	01 52 17.2	+0.1
	baz=83						
R24A	Sanders Place,	83.15	47	⇑P	P	01 52 17.3	+0.3
	baz=83,SNR=7.2						
T25A	Trinidad	83.18	49	⇑P	P	01 52 17.5	+0.3
	baz=83						
I19A	Meeteetse	83.23	41	⇓P	P	01 52 17.3	0.0
	baz=83,SNR=8.1						
129A	Stewart Farms,	83.23	54	⇑P	P	01 52 17.3	-0.1
	baz=83						
RWWY	Rawlins	83.26	43	eP	P	01 52 24.0	+6.4
	comp=Z,24nm,1.1s						
L21A	Rawlins	83.29	43	⇑P	P	01 52 17.6	-0.1
	baz=84,SNR=5.7						
330A	Mertzon	83.29	55	⇑P	P	01 52 17.7	-0.1
	baz=83						
W27A	Bowe Ranch, En	83.30	51	⇑P	P	01 52 17.9	+0.1
	baz=84,SNR=7.2						
531A	Rocksprings	83.32	56	⇑P	P	01 52 17.8	-0.1
	baz=84						
U26A	Atchley Ranch,	83.35	49	⇑P	P	01 52 18.1	0.0
	baz=84						
N22A	Wattenberg Ran	83.36	45	⇓P	P	01 52 18.1	-0.1
	baz=84,SNR=9.6						
S25A	Robets Cordova	83.38	48	⇓P	P	01 52 18.3	0.0
	baz=84,SNR=10.0						
Q24A	Divide	83.44	47	⇑P	P	01 52 19.1	+0.5
	baz=84,SNR=7.3						
Y28A	McKinney Farm,	83.45	52	⇑P	P	01 52 18.3	-0.2
	baz=84						
O23A	Lake Granby, G	83.46	45	⇓P	P	01 52 18.7	0.0
	baz=84						
J20A	Shoshoni	83.48	42	⇓P	P	01 52 18.9	+0.4
	baz=84,SNR=11						
WHN	Wuhan	83.48	304	P	P	01 52 23.8	+5.2
ISCO	Idaho Springs	83.48	46	eP	P	01 52 19.8	+0.9
ISCO				pmax	pmax		
	comp=Z,115nm,3.0s						
ISCO	Idaho Springs	83.48	46	eP	P	01 52 19.8	+0.9
	comp=Z,115nm,3.0s						
ISCO	Idaho Springs	83.48	46	⇓P	P	01 52 18.9	0.0
	baz=84						
M22A	Cedar Creek Ra	83.54	44	⇑P	P	01 52 19.6	+0.6
	baz=84,SNR=5.6						
H19A	Powell	83.54	40	⇑P	P	01 52 19.3	+0.5
	baz=84,SNR=9.4						
Z29A	Hungry Hill Ra	83.60	53	⇑P	P	01 52 19.3	0.0
	baz=84						
K21A	Alcova	83.68	43	⇑P	P	01 52 19.7	0.0
	baz=84,SNR=10.0						
GCMT	Greycliff	83.68	39	eP	P	01 52 19.8	+0.3
	comp=Z,7.6nm,1.1s						
632A	Uvalde	83.69	57	⇓P	P	01 52 19.7	0.0
	baz=84						
R25A	Fountain Ranch	83.70	48	⇑P	P	01 52 19.7	0.0
	baz=84						
I20A	Worland	83.73	41	⇓P	P	01 52 20.0	+0.3
	baz=84,SNR=16						
N23A	Red Feather La	83.75	45	⇑P	P	01 52 20.6	+0.4
	baz=84,SNR=9.3						
T26A	Comanche Natio	83.78	49	⇑P	P	01 52 20.1	-0.2
	baz=84						
532A	Rocksprings	83.82	57	⇓P	P	01 52 20.5	0.0
	baz=84						
331A	San Angelo	83.85	55	⇓P	P	01 52 20.6	+0.1
	baz=84						
Y29A	Porterfield Fa	83.87	52	⇓P	P	01 52 21.4	+0.8
	baz=84						
J21A	Lysite	83.88	42	⇓P	P	01 52 21.1	+0.4
	baz=84,SNR=18						
L22A	Ellis Ranch, M	83.94	43	⇑P	P	01 52 21.5	+0.5
	baz=84,SNR=7.7						
O24A	Longmont	84.00	46	⇑P	P	01 52 21.9	+0.6
	baz=84						
U27A	Thompson Grove	84.03	50	⇑P	P	01 52 21.5	0.0
	baz=84						
Q25A	Bedland, Calha	84.05	47	⇑P	P	01 52 21.8	+0.1
	baz=84						
S26A	Kim	84.06	48	⇓P	P	01 52 21.9	+0.3
	baz=84,SNR=6.9						
Z30A	Sanderson Ranc	84.06	53	⇓P	P	01 52 20.9	-0.7
	baz=84						
H20A	Greybull	84.07	41	⇑P	P	01 52 21.5	0.0
	baz=84						
X29A	Tulia	84.08	52	⇑P	P	01 52 22.0	+0.2
	baz=84						
F19A	Roth Farm, Mol	84.15	39	⇓P	P	01 52 22.0	+0.1
	baz=84,SNR=12						
M23A	Laramie	84.16	44	⇑P	P	01 52 22.5	+0.3
	baz=84						
K22A	Casper	84.16	43	⇑P	P	01 52 22.6	+0.6
	baz=84						
231A	Bronte	84.17	55	⇑P	P	01 52 21.8	-0.4
	baz=84						
432A	Menard	84.19	56	⇑P	P	01 52 22.5	+0.2
	baz=84						
I21A	Big Trails, Te	84.20	42	⇓P	P	01 52 22.2	-0.1
	baz=84,SNR=13						
PHWY	Pilot Hill	84.26	44	eP	P	01 52 23.1	+0.3
	comp=Z,9.3nm,1.0s						
G20A	Bridger	84.29	40	⇑P	P	01 52 22.7	+0.1
	baz=84						
R26A	Arlington	84.36	48	⇑P	P	01 52 23.3	+0.2
	baz=84						
P25A	Willow Gulch B	84.36	46	⇓P	P	01 52 23.3	+0.2
	baz=84,SNR=6.0						
W29A	Amraillo	84.38	51	⇑P	P	01 52 23.3	0.0
	baz=84						
131A	Roby	84.40	54	⇑P	P	01 52 23.4	0.0
	baz=84						
332A	Millersview	84.42	55	⇓P	P	01 52 23.6	+0.2
	baz=85						
N24A	Carr	84.44	45	⇓P	P	01 52 23.8	+0.3
	baz=85,SNR=6.9						
L23A	Garrett	84.46	44	⇓P	P	01 52 23.8	+0.1
	baz=85,SNR=13						
J22A	Midwest	84.54	42	⇓P	P	01 52 24.4	+0.4
	baz=85						
E19A	Rath Farm, Rou	84.54	39	⇓P	P	01 52 24.2	+0.4
	baz=85,SNR=7.0						
Q26A	Hugo	84.57	47	⇓P	P	01 52 24.4	+0.2
	baz=85						
F20A	Billings	84.61	40	⇓P	P	01 52 24.6	+0.4
	baz=85						
232A	Coleman	84.68	55	⇓P	P	01 52 25.0	+0.2
	baz=85						
H21A	Big Horn, Sher	84.74	41	⇑P	P	01 52 25.1	+0.2
	baz=85						
EGMT	Eagleton	84.74	37	eP	P	01 52 24.9	+0.1
	comp=Z,18nm,1.1s						
EGMT	Eagleton	84.74	37	⇑P	P	01 52 25.2	+0.4
	baz=85						
I22A	9 Mile Ranch,	84.76	42	⇓P	P	01 52 25.3	+0.3
	baz=85,SNR=6.9						
M24A	Cheyenne	84.76	45	⇓P	P	01 52 25.0	-0.1
	baz=85						
K23A	Bowen Ranch, D	84.80	43	⇓P	P	01 52 25.2	-0.1
	baz=85						
D19A	Cripps Ranch,	84.83	38	⇓P	P	01 52 25.8	+0.5
	baz=85,SNR=7.3						
Z31A	Sharp Cattle R	84.83	53	⇑P	P	01 52 25.4	-0.1
	baz=85						
T28A	Walsh	84.84	49	⇑P	P	01 52 25.5	0.0
	baz=85						
L24A	Wheatland	84.94	44	⇓P	P	01 52 26.8	+0.8
	baz=85,SNR=5.4						
E20A	Meyer Farm, Mu	84.96	39	⇓P	P	01 52 26.3	+0.4
	baz=85,SNR=6.5						
P26A	Davis Ranch, A	84.96	47	⇑P	P	01 52 26.8	+0.7
	baz=85						
ABTX	Abilene, Hawle	84.96	54	eP	P	01 52 25.4	-0.7
ABTX	Abilene, Hawle	84.96	54	⇓P	P	01 52 26.2	+0.1
	baz=85						
Y31A	Rekieta Farm,	84.99	53	⇓P	P	01 52 25.8	-0.4
	baz=85						
C19A	Slack Wire Ran	85.01	38	⇓P	P	01 52 26.5	+0.4
	baz=85,SNR=9.3						
D20A	Manuel Ranch,	85.24	38	⇓P	P	01 52 27.7	+0.4
	baz=85,SNR=13						
Z32A	Haskell	85.34	54	⇓P	P	01 52 28.4	+0.3
	baz=86						
V30A	Spur Ranch, Mi	85.35	51	⇑P	P	01 52 28.5	+0.4
	baz=86						
B19A	Brinkman Farms	85.43	37	⇑P	P	01 52 28.6	+0.4
	baz=86,SNR=8.0						
X31A	McDonald Ranch	85.46	52	⇑P	P	01 52 29.1	+0.5
	baz=86						
G22A	Birney	85.49	41	⇑P	P	01 52 28.6	0.0
	baz=86						
EDM	Edmonton	85.54	31	eP	P	01 52 28.2	-0.3
EDM	Edmonton	85.54	31	eP	P	01 52 28.2	-0.3
R28A	Tribune	85.55	48	⇓P	P	01 52 29.3	+0.2
	baz=86,SNR=6.6						
C20A	Veseth Ranch,	85.62	38	⇓P	P	01 52 29.3	+0.2
	baz=86,SNR=8.3						
E21A	Keefer Ranch,	85.62	39	⇑P	P	01 52 29.4	+0.3
	baz=86						
Y32A	R-V Farms, Ver	85.63	53	⇓P	P	01 52 29.3	-0.2
	baz=86						
W31A	Holland Ranch,	85.69	52	⇑P	P	01 52 29.7	-0.1
	baz=86						
A19A

baz=87
I25A Rochford 86.59 43 ⇓P P 01 52 34.3 +0.1
baz=87
A21A Bergtoll Ranch 86.86 37 ⇑P P 01 52 35.9 +0.7
baz=87
HKT Hockley 87.06 58 eP P 01 52 38.5 +2.1
B22A Reddig Ranch S 87.08 38 ⇑P P 01 52 37.5 +1.1
baz=87
IPM Ipoh 87.24 275 eP P 01 52 36.6 -1.3
comp=Z,90nm,1.4s
B23A Brockton 87.75 38 ⇑P P 01 52 40.5 +1.0
baz=88
GYA Guiyang 88.42 298 P P 01 52 42.0 -1.3
GYA SKS **SKSac 02 03 08.5 -2.3**
GYA S **S 02 03 29.8 +2.3**
GYA SS **SS 02 09 17.5 -0.8**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,6.5s
GYA LR LR
comp=N,540nm,21.8s
GYA LR LR
comp=E,530nm,22.4s
GYA LR LR
comp=Z,610nm,21.7s
K30A Basset 88.79 45 ⇓P P 01 52 45.8 +1.2
baz=89
E27A Carson 88.99 41 ⇓P P 01 52 45.8 +0.3
baz=89
PLCA Paso Flores 89.12 132 eP P 01 52 47.2 +0.8
comp=Z,18nm,1.7s
HHC Hu-ho-hao-te 89.42 313 eP P 01 52 46.5 -1.1
HHC pP **PcP 01 52 51.3 +2.3**
HHC sP sP 01 52 53.5 -6.8
HHC PP **PP 01 56 19.3 +0.1**
HHC SKS **SKSac 02 03 13.8 -2.2**
HHC S **S 02 03 33.0 -3.2**
HHC SS **SS 02 09 30.3 -1.8**
HHC pmax pmax
comp=Z,28nm,1.1s
HHC pmax pmax
comp=Z,300nm,5.5s
HHC LR LR
comp=N,630nm,17.1s
HHC LR LR
comp=E,570nm,16.7s
HHC LR LR
comp=Z,720nm,18.0s
YKA Yellowknife Ar 90.20 23 P P 01 52 50.7 +0.1
YKA Yellowknife Ar 90.20 23 P P 01 52 50.7 +0.1
comp=Z,2.5nm,0.8s,baz=241,slow=4.8,SNR=4.3
TEIG Tepich 90.59 69 eP P 01 52 54.1 +0.7
comp=Z,22nm,1.3s
JTS JuntasAbangare 90.96 80 eP P 01 52 55.8 +0.4
comp=Z,850nm,2.4s
KMI Kunming 91.40 296 P P 01 52 59.0 +1.6
KMI pmax pmax
comp=Z,6.0nm,0.6s
CD2 Chengdu 92.20 301 P P 01 53 00.3 -0.4
CD2 pmax pmax
comp=Z,8.0nm,0.5s
SYO Syowa Base 92.42 191 ⇓iP P 01 53 00.0 -1.0
SNAA Sanae 92.64 177 eP P 01 53 01.9 -0.2
SNAA Sanae 92.64 177 eP P 01 53 01.8 -0.2
comp=Z,10.0nm,1.1s
SNAA Sanae 92.64 177 P P 01 53 02.0 -0.2
comp=Z,2.3nm,1.0s,baz=191,slow=4.7,SNR=16
VNA1 Neumayer--Stat 93.28 175 eP P 01 53 05.9 +1.0
LZH Lanzhou 93.61 306 eP P 01 53 11.3 +4.0
LZH pP pP 01 53 15.5 -1.2
LZH sP sP 01 53 18.5 -1.5
LZH SKS **SKSac 02 03 44.3 +4.1**
LZH eS **ScS 02 04 19.0 +2.9**
LZH sS sS 02 04 27.5 -2.6
LZH pmax pmax
comp=Z,26nm,1.3s
LZH pmax pmax
comp=Z,100nm,5.1s
LZH LR LR
comp=N,810nm,17.6s
LZH LR LR
comp=E,920nm,14.4s
LZH LR LR
comp=Z,1μm,17.8s
KSH Kashi 115.86 307 ePKP PKPdf 01 58 34.0 +0.4
KSH PP **PP 01 59 39.8 +2.2**
KSH PKS **PKSdf 02 02 09.3 -1.1**
KSH SKS **SKSdf 02 05 44.0 +1.0**
KSH SKKS **SKKSac 02 06 32.8 -4.1**
KSH AMB AMB
comp=Z,52nm,4.1s
KSH LR LR
comp=N,53nm,5.9s
KSH LR LR
comp=E,130nm,7.5s
KSH LR LR
comp=Z,170nm,12.4s
EKS2 Erkin-Say 117.40 310 ePKIKP PKPdf 01 58 36.3 -0.2
EKS2 Erkin-Say 117.40 310 ePKPdf PKPdf 01 58 36.3 -0.2
KBL Kabul 121.54 301 ePKIKP PKPdf 01 58 45.3 +0.5
KBL Kabul 121.54 301 ePKPdf PKPdf 01 58 45.3 +0.5
ARCES ARCESS Array B 124.89 352 PKP PKPdf 01 58 52.3 +2.4
ARCES ARCESS Array B 124.89 352 PKP PKPdf 01 58 52.3 +2.4
comp=Z,2.6nm,0.8s,baz=75,slow=1.0,SNR=3.9
SUR Sutherland 130.43 195 ePKPdf PKPdf 01 59 02.8 +0.8
FINES FINESS Array B 132.25 348 PKP PKPdf 01 59 05.7 +1.6
FINES FINESS Array B 132.25 348 PKP PKPdf 01 59 05.7 +1.6
comp=Z,2.9nm,0.9s,baz=25,slow=3.7,SNR=3.1
AKASG Malin Array Be 140.68 338 PKIKP PKPdf 01 59 19.7 -0.4
AKASG Malin Array Be 140.68 338 PKP PKPdf 01 59 19.7 -0.4
AKASG Malin Array Be 140.68 338 PKP PKPdf 01 59 19.7 -0.4
comp=Z,1.7nm,0.7s,baz=32,slow=2.0,SNR=6.5
KIEV Kiev 140.69 338 ePKIKP PKPdf 01 59 20.3 +0.2
KIEV Kiev 140.69 338 ePKPdf PKPdf 01 59 20.3 +0.2
LSZ Lusaka 142.77 215 ePKPdf PKPdf 01 59 22.2 -2.8
LSZ PKP **PKPdf 01 59 23.0 -2.1**
LSZ Lusaka 142.77 215 PKP PKPdf 01 59 23.0 -2.1
comp=Z,3.7nm,0.8s,baz=106,slow=3.1,SNR=7.9
KWP Kalwaria Pacla 143.75 343 ⇑iP PKPbc 01 59 23.5 +0.3
TSUM Tsumeb 143.81 197 PKP PKPbc 01 59 24.7 +0.3
TSUM ePKPdf PKPab 01 59 24.9 +1.2
TSUM Tsumeb 143.81 197 PKP PKPbc 01 59 24.7 +0.3
comp=Z,6.0nm,0.9s,baz=149,slow=1.7,SNR=6.2
OJC Ojcow 143.97 346 ePKIKP PKPbc 01 59 23.7 -0.1
OJC Ojcow 143.97 346 ePKPdf PKPbc 01 59 23.7 -0.1
OJC Ojcow 143.97 346 ePKP PKPdf 01 59 24.8 -1.2
CLL Collm 144.09 353 ePKPdf PKPdf 01 59 25.0 -1.1
comp=Z,4.0nm,0.9s
CLL ePKiKP **PKiKP 01 59 29.0 -0.7**
CLL e 01 59 37.0
STHS Stebnicka Huta 144.35 344 ePKP PKPdf 01 59 25.6 -1.1
BRG Berggiesshubel 144.41 352 ePKP PKPdf 01 59 27.8 +1.1
comp=Z,7.2nm,1.2s
UPC Upice 144.46 350 ePKP PKPdf 01 59 26.0 -0.8
KOLS Kolonicke sedl 144.50 342 ePKP PKPdf 01 59 26.0 -1.0
DPC Dobruska-Polom 144.56 350 ePKIKP PKPbc 01 59 25.8 +0.1
DPC Dobruska-Polom 144.56 350 ePKP PKPbc 01 59 25.8 +0.1
DPC epPKP pPKPdf 01 59 34.5 -2.2
DPC Dobruska-Polom 144.56 350 ePKPdf PKPbc 01 59 25.8 +0.1
NIE Niedzica 144.59 345 ePKP PKPdf 01 59 26.7 -0.4
PVCC Panska Ves 144.66 352 ePKP PKPbc 01 59 26.2 +0.2
PVCC ex x 01 59 37.6
BUR08 Bucovina Ar. S 144.69 338 ePKPdf PKPdf 01 59 26.6 -0.9
OKC Ostrava-Krasne 144.70 347 ePKP PKPbc 01 59 26.2 +0.1
OKC epPKP pPKPdf 01 59 34.0 -2.9
BURAR Bucovina Array 144.71 338 ⇑iP PKPdf 01 59 27.1 -0.4
CRVS Cervenica-Dubn 144.76 343 ePKP PKPbc 01 59 26.4 0.0
MORC Moravsky Berou 144.88 348 ePKIKP PKPab 01 59 25.7 -1.0
MORC Moravsky Berou 144.88 348 ePKPdf PKPab 01 59 25.6 -1.0
MORC Moravsky Berou 144.88 348 ⇑iP PKPdf 01 59 27.5 -0.1
MOX Moxa 144.88 355 ePKPbc PKPab 01 59 26.0 -0.7
TANN Tannenbergstha 145.03 354 ePKPbc PKPbc 01 59 26.6 -0.6
TESR Tescani 145.10 336 ⇑iP PKPbc 01 59 26.5 -1.0
MEM Membach 145.12 1 PKP PKPab 01 59 27.3 -0.2
MEM APKP **PKiKP 01 59 31.2 -0.6**
TRPA Tarpa 145.14 342 ⇑iP PKPdf 01 59 28.3 +0.3
TRPA Tarpa 145.14 342 ⇓e PKPdf 01 59 28.0 0.0
GHRR 145.16 335 ⇑iP PKPdf 01 59 29.4 +1.2
SNF Seneffe 145.16 3 PKP PKPdf 01 59 27.6 -0.4
PRU Pruhonice 145.19 351 ePKP PKPdf 01 59 27.9 -0.2
PRU ex x 01 59 35.5
NKC Novy Kostel 145.21 354 ePKP PKPab 01 59 27.6 -0.3
BMR Baia Mare 145.24 340 ⇑iP PKPdf 01 59 28.9 +0.6
TLCR 145.25 332 ⇑iP PKPdf 01 59 28.5 +0.2
BCLA Clavier 145.29 2 PKP PKPab 01 59 27.8 -0.3
KECS Kecovo 145.41 344 ePKP PKPab 01 59 28.7 +0.1
TNS Taunus Mts 145.49 358 ePKPbc PKPdf 01 59 28.3 -0.4
CFR Carcaliu 145.56 333 ⇓iP PKPab 01 59 29.2 0.0
DOU Dourbes 145.59 3 PKP PKPab 01 59 28.9 -0.3
VRI Vrincioaia 145.59 335 ⇑iP PKPab 01 59 29.4 0.0
PLOR Plostina 145.64 335 ⇑iP PKPab 01 59 29.8 +0.2
KMBO Kilima Mbogo 145.70 244 ePKPbc PKPab 01 59 31.5 +0.4
KMBO Kilima Mbogo 145.70 244 PKPbc PKPab 01 59 31.4 +0.4
comp=Z,14nm,1.0s,baz=67,slow=4.0,SNR=20
ROTZ Rotzenmuhle 145.70 354 ePKPbc PKPab 01 59 29.2 -0.5
GRF Grafenberg Arr 145.86 355 ePKPbc PKPab 01 59 29.9 -0.4
GRFO Grafenberg 145.87 355 ePKP2 PKPab 01 59 30.5 +0.2
GRFO Grafenberg 145.87 355 ePKPbc PKPab 01 59 30.5 +0.2
TIRR Tirgusor 146.00 332 ePKP2 PKPab 01 59 30.9 0.0
TIRR Tirgusor 146.00 332 ePKPbc PKPab 01 59 30.9 0.0
TIRR Tirgusor 146.00 332 ⇑iP PKPab 01 59 31.2 +0.3
TLB Topalu 146.06 333 ⇓iP PKPab 01 59 31.1 -0.1
WLF Walferdange 146.07 1 PKP PKPab 01 59 31.2 +0.2
WLF Walferdange 146.07 1 ePKPbc PKPab 01 59 30.5 -0.5
WLF Walferdange 146.07 1 ePKP2 PKPab 01 59 31.0 0.0
WLF Walferdange 146.07 1 ePKPbc PKPab 01 59 31.0 0.0
PSZ Piszkesteto 146.08 344 ePKIKP PKPdf 01 59 29.8 0.0
PSZ Piszkesteto 146.08 344 ePKPbc PKPdf 01 59 29.8 0.0
PSZ Piszkesteto 146.08 344 ⇑iP PKPdf 01 59 29.8 0.0
PSZ Piszkesteto 146.08 344 ⇓ef 01 59 30.3
KHC Kasperske Hory 146.16 352 ePKIKP PKPbc 01 59 30.1 -0.8
KHC Kasperske Hory 146.16 352 ePKP PKPbc 01 59 30.6 -0.2
KHC ex x 01 59 39.7
KHC Kasperske Hory 146.16 352 ePKPbc PKPbc 01 59 30.1 -0.8
MLR Muntele Rosu 146.22 336 ⇑iP PKPab 01 59 32.2 +0.3
WET Wettzell 146.24 353 ePKPbc PKPbc 01 59 30.9 -0.1
DRGR 146.27 340 ⇑iP PKPab 01 59 31.9 -0.1
ISR Istrita 146.28 335 ⇑iP PKPab 01 59 32.5 +0.4
GEC2 GERESS Array S 146.43 352 ePKPbc PKPbc 01 59 31.2 -0.5
GEC2 GERESS Array S 146.43 352 ePKP2 PKPab 01 59 31.9 -0.7
GEC2 GERESS Array S 146.43 352 ePKPab PKPab 01 59 31.9 -0.7
GERES GERESS Array B 146.43 352 PKPbc PKPbc 01 59 31.3 -0.4
GERES GERESS Array B 146.43 352 PKPbc PKPbc 01 59 31.3 -0.4
comp=Z,6.1nm,1.1s,baz=50,slow=2.1,SNR=14
ZST Bratislava 146.47 348 ePKP PKPab 01 59 32.0 -0.6
BR131 Keskin Array S 146.54 321 ePKPbc PKPab 01 59 32.6 -0.8
BRTR Keskin Array B 146.54 321 PKPbc PKPbc 01 59 32.5 +0.1
BRTR Keskin Array B 146.54 321 PKPbc PKPbc 01 59 32.5 +0.1
comp=Z,36nm,0.9s,baz=120,slow=2.0,SNR=50
VOIR 146.61 337 ⇓iP PKPab 01 59 33.2 -0.2
BUD Budapest 146.71 345 ⇓e PKPab 01 59 32.9 -0.6
ARR Arges 146.83 337 ⇑iP PKPbc 01 59 32.3 -0.6
ANTO Ankara 146.96 322 ePKP2 PKPab 01 59 34.1 -0.8
ANTO Ankara 146.96 322 ePKPbc PKPab 01 59 34.1 -0.8
ANTO Ankara 146.96 322 ⇓iP PKPab 01 59 34.2 -0.8
CONA Conrad Observa 146.97 349 *i* pPKPdf **PKPbc 01 59 33.5 +0.3**
comp=Z,30nm,1.4s,SNR=10
SIRR Siria 147.07 341 ⇓iP PKPbc 01 59 33.9 +0.4
SOP Sopron 147.07 348 ⇓e PKPab 01 59 34.1 -0.9
LOT Lotru 147.08 338 ⇓iP PKPbc 01 59 33.7 0.0
MOA Molln 147.32 351 *i* pPKPdf **PKPbc 01 59 34.2 +0.1**
comp=Z,22nm,1.3s,SNR=8.6
FUR Furstenfeldbru 147.37 355 ePKPbc PKPbc 01 59 33.7 -0.6
BFO Black Forest 147.39 358 ePKPbc PKPbc 01 59 33.9 -0.5
BFO Black Forest 147.39 358 ePKP2 PKPbc 01 59 33.6 -0.7
BFO Black Forest 147.39 358 ePKPbc PKPbc 01 59 33.6 -0.7
GZR Gura Zlata 147.48 339 ⇑iP PKPbc 01 59 35.3 +0.6
THEF They Montfort 147.50 1 PKP PKPbc 01 59 34.3 -0.4
ECH Echery 147.52 360 ePKP2 PKPbc 01 59 34.4 -0.3
ECH Echery 147.52 360 PKP PKPbc 01 59 34.3 -0.4
ECH Echery 147.52 360 ePKPbc PKPbc 01 59 34.4 -0.3
RJOB Jochberg 147.63 353 ePKPbc PKPbc 01 59 34.7 -0.4
BZS Buzias 147.67 341 ⇑iP PKPbc 01 59 35.1 -0.1
ARSA Arzberg 147.69 349 *i* pPKPdf **PKPbc 01 59 35.4 +0.2**
comp=Z,9.7nm,1.1s,SNR=5.1
RETA Reutte 148.09 355 ⇑*i*pPKPdf **PKPbc 01 59 36.3 0.0**
comp=Z,14nm,1.1s,SNR=6.2
BEHE Becsehely 148.18 347 ⇓e PKPdf 01 59 28.9 -4.3
SOKA Soboth 148.33 349 *i* PKPdf **PKPdf 01 59 33.9 +0.3**
comp=Z,14nm,1.3s,SNR=6.1
PERS Pernice 148.35 349 *i* PKPdf **PKPbc 01 59 36.4 -0.7**
LOMF Lomont 148.39 0 PKP PKPbc 01 59 35.8 -1.3
ABTA Abfaltersbach 148.64 353 *i* PKPbc **PKPbc 01 59 37.4 -0.4**
comp=Z,17nm,1.2s,SNR=7.5
TUE Stuetta 149.20 357 ePKPbc PKPbc 01 59 39.5 +0.1
VISS Visnje 149.21 349 *i* PKPdf **PKPbc 01 59 39.0 -0.2**
JAVS Javornik 149.25 350 *i* PKPdf **PKPbc 01 59 38.6 -0.8**
SENIN Lac Senin/Sane 149.37 359 ePKPab PKPab 01 59 42.0 -2.5
BOJS Bojanci 149.42 348 *i* PKPdf **PKPbc 01 59 40.4 +0.7**
TRI Trieste 149.48 351 ePKP2 PKPbc 01 59 39.5 -0.3
TRI Trieste 149.48 351 ePKPbc PKPbc 01 59 39.5 -0.3
CSS Prodhromos 149.49 314 ePKPab PKPbc 01 59 41.0 +0.7
VTS Vitosha 149.72 336 ⇑iP PKPbc 01 59 41.1 +0.3
SSB Saint Sauveur 150.39 3 ePKIKP PKPbc 01 59 42.7 +0.5
SSB *e* 01 59 48.4
SSB Saint Sauveur 150.39 3 ePKPbc PKPbc 01 59 42.7 +0.5
SSB ePKPab **PKPab 01 59 48.4 -0.1**
BNI Bardonecchia 150.69 0 ePKIKP PKPbc 01 59 43.5 +0.5
BNI Bardonecchia 150.69 0 ePKPbc PKPbc 01 59 43.5 +0.5
PCAB Cabril 151.00 23 ePKPbc PKPbc 01 59 44.0 +0.3
POLO Lamas de Olo 151.38 24 ePKPbc PKPbc 01 59 44.9 +0.2
POLO Lamas de Olo 151.38 24 ePKPab PKPab 01 59 54.1 +1.3
PBRG Braganca 151.39 22 ePP PKPdf 01 59 42.7 +4.1
PBRG Braganca 151.39 22 ePKPbc PKPbc 01 59 43.6 -1.0
PVRL Vila Real 151.49 24 ePKPbc PKPbc 01 59 45.0 +0.1
MVO Moncorvo 151.85 23 ePKPbc PKPbc 01 59 46.0 +0.3
MTE Manteigas 152.31 24 ePKPbc PKPbc 01 59 46.6 -0.2
MTE Manteigas 152.31 24 ePKPbc PKPbc 01 59 46.6 -0.6
MTE ePKPab **PKPab 01 59 55.2 -1.4**
PTOM Tomar 152.61 26 ePKPbc PKPbc 01 59 47.5 +0.1
PTOM Tomar 152.61 26 ePKPab PKPab 01 59 56.7 -1.2
PCBR Castelo Branco 152.81 25 ePKPab PKPab 01 59 57.1 -1.6
PMTG Montargil 153.15 27 ePKPbc PKPbc 01 59 47.5 -1.1
PMTG Montargil 153.15 27 ePKPab PKPab 01 59 57.9 -2.2
PMRV Marv??o 153.20 25 ePKPbc PKPbc 01 59 47.9 -0.8
PMRV Marv??o 153.20 25 ePKPab PKPab 02 00 00.2 -0.2
ESDC Sonseca Array 154.24 20 PKPbc PKPbc 01 59 49.8 -1.2
ESDC PKPab **PKPab 02 00 04.1 -0.7**
ESDC Sonseca Array 154.24 20 PKPbc PKPbc 01 59 49.8 -1.2
comp=Z,1.0nm,0.8s,baz=7.7,slow=3.7,SNR=5.4
ESDC PKPab **PKPab 02 00 04.1 -0.7**
comp=Z,3.2nm,1.0s,baz=324,slow=4.4,SNR=7.9

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*BJI **30** 01:46:44.4, 3°.41N×127°.33E, h55km, mB5.3/15, mb5.0/23, Ms5.1/13, Ms7 4.9/13*
*MOS **30** 01:46:49.3±2.6, 4°.41N×127°.53E, h33km, mb5.1/18, Error ellipse: s-maj=19.6km s-min=7.7km az=120.7*
*NEIC **30** 01:46:50.6±0.3, 3°.90N×126°.64E, h35km, mb4.9/35, Error ellipse: s-maj=8.7km s-min=6.8km az=68.0*
*TEH **30** 01:46:52.0, 4°.53N×127°.53E, h52km, ML4.9*
*IDC **30** 01:46:55.5±2.5, 4°.88N×126°.56E, h32km±17km, mb4.5/27, mb1 4.6/27, mb1mx4.5/33, mbtmp4.5/27, Error ellipse: s-maj=22.4km s-min=10.7km az=77.0*
*DJA **30** 01:46:59.7±0.7, 5°N±6°×12°7E±°, h74km±22km, M5.0/6, mb4.9/6, MLv5.1/5*
*ISCJB **30** 01:46:59.7±0.7, 4°.85N±0°.03×126°.58E±0°.06, h85km±6km, mb4.8/71, Error ellipse: s-maj=9.8km s-min=5.6km az=173.1*
ISC 30 01:46:57.0±0.5, **4°.68N**±0°.04×**126°.84E**±0°.08, **h53**km±3km, **h52**km:**pP-P**, n**173**, σ1s**73**/186, **mb4.8**/71, **MS4.9**/7, **6C-4D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.64**	**233**	P	**Pn**	**01 47 21.7**	**-1.8**
SGSI				S	**Sn**	**01 47 47.6**	**+4.1**
GSPH	**General Santos**	**2.34**	**307**	*e*P	**Pn**	**01 47 30.1**	**-3.0**
DAV	**Davao City (W)**	**2.68**	**332**	*e*Pn	**Pn**	**01 47 39.0**	**+1.3**
DAV				*e*Sn	**Sn**	**01 48 11.6**	**+2.5**
DAV	**Davao City (W)**	**2.68**	**332**	P	**Pn**	**01 47 38.4**	**+0.7**
KCP	**Kidapawan**	**2.89**	**323**	*e*P	**Pn**	**01 47 39.9**	**-0.7**
KCP				*i* S	Sn	01 48 24.8	+10
CTBH	**Cotabato--PC H**	**3.61**	**314**	⇑*i*P	**Pn**	**01 47 49.8**	**-0.6**
TNTI	**Ternate**	**3.92**	**172**	P	Pn	01 48 00.4	+5.7
CGP	**Cagayan de Oro**	**4.31**	**330**	*i* S	**Sn**	**01 48 53.8**	**+4.7**
KMSI	**Cibinong**	**4.98**	**215**	P	Pn	01 48 14.6	+5.3
LBMI	**Labuha**	**5.33**	**173**	P	Pn	01 48 20.9	+6.9
GTOI	**Gorontalo**	**5.55**	**224**	P	**Pn**	**01 48 17.8**	**+0.8**
MRSI	**Marisa**	**6.43**	**230**	P	**Pn**	**01 48 30.3**	**+1.1**
LUWI	**Luwuk**	**6.99**	**216**	P	Pn	01 48 41.2	+4.4
SWI	**Sorong**	**7.06**	**141**	P	Pn	01 48 41.5	+3.7
	63nm,0.6s,0.3nm						
APSI	**Ampana**	**7.60**	**223**	P	Pn	01 48 50.5	+5.3
	437nm,0.8s,1.2nm						
NLAI	**Namlea**	**7.87**	**178**	P	**Pn**	**01 48 50.2**	**+1.3**
RCP	**Roxas**	**7.94**	**330**	⇓*e*P	**Pn**	**01 48 51.8**	**+1.9**
MYLDM	**Lahad Datu**	**8.32**	**274**	P	Pn	01 48 50.5	-4.6
KKM	**Kota Kinabalu**	**10.67**	**278**	*e*Pn	Pn	01 49 20.2	-7.1
SPSI	**Sidrap Palu**	**11.12**	**220**	P	Pn	01 49 37.5	+4.1
	37nm,0.9s						
BNSI	**Bone**	**11.26**	**217**	P	Pn	01 49 40.1	+4.9
	45nm,1.3s						
KAPI	**Kappang**	**11.96**	**216**	Pn	Pn	01 49 48.7	+3.9
	0.6nm,0.3s,baz=257,slow=11,SNR=4.0						
SBUM	**Sibu**	**14.76**	**262**	P	**P**	**01 50 29.0**	**+1.4**
BATI	**Baumata**	**15.13**	**192**	Pn	**P**	**01 50 35.9**	**+4.2**
	5.7nm,0.3s,baz=347,slow=3.8,SNR=6.9						
KSM	**Kuching**	**16.81**	**260**	*e*Pn	Pn	01 50 38.3	-11
	33nm,0.9s						
KSM	**Kuching**	**16.81**	**260**	P	**P**	**01 50 50.8**	**+0.4**
TWG	**Pinlang**	**18.87**	**343**	*e*Pn	**Pn**	**01 51 16.4**	**+2.3**
	91nm,0.8s						
FITZ	**Fitzroy Crossi**	**22.67**	**183**	P	**P**	**01 51 55.9**	**+1.8**
	14nm,0.9s,baz=26,slow=8.5,SNR=18						
PMG	**Port Moresby**	**24.62**	**125**	*e*P	P	01 52 04.2	-8.4
	44nm,1.3s						
WRAB	**Tennant Creek**	**25.55**	**163**	*e*P	P	01 52 09.8	-11
WRAB				pmax	pmax		
	comp=Z,31nm,1.1s						
WRAB	**Tennant Creek**	**25.55**	**163**	*e*P	P	01 52 09.8	-11
	comp=Z,31nm,1.1s						
WRA	**Warramunga Arr**	**25.56**	**163**	P	**P**	**01 52 23.6**	**+2.4**
	comp=Z,20nm,0.9s,baz=344,slow=9.9,SNR=12						
WRA				ScP	**ScP**	**01 59 30.6**	**+3.9**
	comp=Z,0.9nm,0.9s,baz=337,slow=3.8,SNR=3.0						
IPM	**Ipoh**	**25.73**	**271**	*e*P	P	01 52 11.9	-11
	comp=Z,37nm,1.0s						
MBWA	**Marble Bar**	**26.61**	**195**	*e*P	P	01 52 18.4	-12
	comp=Z,40nm,1.0s						
CBIJ	**Chichi jima**	**26.67**	**32**	P	**P**	**01 52 32.1**	**+1.0**
CBIJ	**Chichi jima**	**26.67**	**32**	P	**P**	**01 52 32.1**	**+1.0**
	comp=Z,41nm,0.6s,baz=274,slow=19,SNR=3.4						
WHN	**Wuhan**	**28.29**	**337**	P	**P**	**01 52 48.0**	**+2.4**
GYA	**Guiyang**	**29.00**	**320**	⇑*i*P	**P**	**01 52 52.5**	**+0.4**
GYA				pP	**pP**	**01 53 07.5**	**+2.0**
GYA				sP	**sP**	**01 53 13.0**	**+1.2**
GYA				PP	**PnPn**	**01 53 50.3**	**+4.1**
GYA				S	**S**	**01 57 45.0**	**+5.2**
GYA				sS	**sS**	**01 58 07.3**	**+4.8**
GYA				ScS	**ScS**	**02 03 27.0**	**-4.3**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,110nm,5.0s						
GYA				LR	LR		
	comp=N,2μm,15.2s						
GYA				LR	LR		
	comp=E,1μm,16.5s						
GYA				LR	LR		
	comp=Z,2μm,16.0s						
AS31	**Alice Springs**	**29.01**	**167**	*e*P	P	01 52 40.8	-11
ASAR	**Alice Springs**	**29.01**	**167**	P	P	01 52 56.5	+4.4
	comp=Z,4.6nm,0.9s,baz=347,slow=7.3,SNR=6.6						
ASAR				PcP	**PcP**	**01 56 00.4**	**+0.7**
	comp=Z,1.2nm,0.8s,baz=339,slow=2.6,SNR=4.1						
ASAR				ScP	**ScP**	**01 59 41.0**	**+3.9**
	comp=Z,1.3nm,1.0s,baz=335,slow=2.8,SNR=4.3						
ENH	**Enshi**	**30.27**	**329**	*e*P	**P**	**01 53 02.1**	**-1.1**
	comp=Z,13nm,0.8s						
CMAR	**Chiang Mai Arr**	**30.50**	**299**	P	**P**	**01 53 04.2**	**-1.1**
CMAR	**Chiang Mai Arr**	**30.50**	**299**	P	**P**	**01 53 04.2**	**-1.1**
	comp=Z,1.8nm,0.3s,baz=120,slow=8.7,SNR=4.7						
CHTO	**Chiang Mai**	**30.64**	**300**	*e*P	**P**	**01 53 05.1**	**-1.5**
CHTO				pmax	pmax		
	comp=Z,76nm,1.1s						
CHTO	**Chiang Mai**	**30.64**	**300**	*e*P	**P**	**01 53 05.1**	**-1.5**
	comp=Z,76nm,1.1s						
KMI	**Kunming**	**30.80**	**314**	P	P	01 53 12.5	+4.3
KMI				pmax	pmax		
	comp=Z,13nm,0.8s						
KSAR	**Wonju Array Be**	**32.62**	**2**	P	**P**	**01 53 23.7**	**0.0**
KSRS	**Korea Array**	**32.63**	**2**	P	**P**	**01 53 23.7**	**-0.1**
	comp=Z,2.9nm,0.7s,baz=176,slow=10.0,SNR=6.9						
CD2	**Chengdu**	**33.95**	**323**	P	**P**	**01 53 34.5**	**-1.0**
CD2				pP	**pP**	**01 53 48.0**	**-1.0**
CD2				sP	**sP**	**01 53 54.3**	**-0.9**
CD2				PP	**PP**	**01 54 52.0**	**-1.2**
CD2				S	**S**	**01 58 59.3**	**+2.4**
CD2				pmax	pmax		
	comp=Z,60nm,0.6s						
CD2				pmax	pmax		
	comp=Z,740nm,5.9s						
CD2				LR	LR		
	comp=N,2μm,14.9s						
CD2				LR	LR		
	comp=Z,2μm,16.1s						
BJT	**Baijiatuau**	**36.47**	**346**	*e*P	**P**	**01 53 56.8**	**-0.2**
	comp=Z,41nm,0.6s						
BJI	**Beijing**	**36.49**	**346**	P	**P**	**01 53 57.0**	**-0.1**
BJI				pmax	pmax		
	comp=Z,55nm,0.7s						
LZH	**Lanzhou**	**37.75**	**329**	P	**P**	**01 54 08.0**	**-0.1**
LZH				PP	**PnPn**	**01 55 38.3**	**+1.7**
LZH				S	**S**	**01 59 57.5**	**+2.4**
LZH				pmax	pmax		
	comp=Z,47nm,1.0s						
LZH				pmax	pmax		
	comp=Z,420nm,6.3s						
LZH				LR	LR		
	comp=N,2μm,15.4s						
LZH				LR	LR		
	comp=E,2μm,14.4s						
LZH				LR	LR		
	comp=Z,3μm,17.2s						
EIDS	**Eidsvold**	**38.03**	**143**	*e*P	P	01 54 00.0	-10
	comp=Z,23nm,1.1s						
NWAO	**Narrogin (SRO)**	**38.50**	**193**	P	**P**	**01 54 15.2**	**+1.0**
	comp=Z,9.9nm,0.9s,baz=39,slow=9.1,SNR=3.8						
HHC	**Hu-ho-hao-te**	**38.53**	**341**	*e*P	**P**	**01 54 15.8**	**+1.2**
HHC				pP	**pP**	**01 54 28.0**	**-0.3**
HHC				sP	**sP**	**01 54 33.3**	**-1.2**
HHC				PP	**PnPn**	**01 55 50.0**	**+4.0**
HHC				S	**ScP**	**02 00 11.3**	**+1.0**
HHC				ScS	**ScS**	**02 04 19.0**	**-1.7**
HHC				pmax	pmax		
	comp=Z,45nm,1.1s						
HHC				pmax	pmax		
	comp=Z,660nm,5.3s						
HHC				LR	LR		
	comp=N,1μm,18.0s						
HHC				LR	LR		
	comp=E,1μm,17.1s						
HHC				LR	LR		
	comp=Z,2μm,16.1s						
CN2	**Changchun**	**38.98**	**358**	*e*P	**P**	**01 54 17.5**	**-0.6**
CN2				*es*P	**sP**	**01 54 40.0**	**+2.0**
CN2				*e*S	**S**	**02 00 14.5**	**+1.4**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CN2				pmax	pmax		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,600nm,17.0s						
CN2				LR	LR		
	comp=E,900nm,17.0s						
CN2				LR	LR		
	comp=Z,900nm,18.0s						
STKA	**Stephens Creek**	**38.98**	**160**	P	P	01 54 22.2	+4.0
	comp=Z,11nm,0.8s,baz=331,slow=9.9,SNR=11						
USRK	**Ussuriysk Arra**	**39.62**	**6**	P	**P**	**01 54 22

GTA LR LR
comp=E,890nm,20.9s
GTA LR LR
comp=Z,1μm,19.9s
TAPN Taplejung 43.55 305 *e*P **P** 01 54 56.0 -0.3
comp=Z,29nm,0.8s
ODAN Odare 43.62 305 *e*P **P** 01 54 56.4 -0.3
comp=Z,49nm,0.8s
RAMN Ramite 44.30 304 *e*P **P** 01 55 01.2 -1.0
comp=Z,37nm,0.7s
JIRN Jiri 44.91 305 *e*P **P** 01 55 06.2 -1.0
comp=Z,48nm,0.7s
GUN Gumba 45.26 305 *e*P **P** 01 55 08.7 -1.3
comp=Z,61nm,0.7s
KKN Kakani 45.71 305 *e*P **P** 01 55 12.2 -1.2
ULN Ulaanbaatar 46.25 342 *e*P **P** 01 55 17.7 +0.4
SONM Songino Array 46.44 341 P **P** 01 55 18.6 -0.1
SONM PcP **PcP** 01 56 53.3 +0.6
SONM Songino Array 46.44 341 P **P** 01 55 18.6 -0.1
comp=Z,5.5nm,0.8s,baz=157,slow=8.0,SNR=7.9
SONM PcP **PcP** 01 56 53.3 +0.6
comp=Z,2.1nm,0.6s,baz=178,slow=3.2,SNR=3.9
KOLN Koldanda 47.08 304 *e*P **P** 01 55 22.2 -1.9
comp=Z,40nm,0.6s
DANN Dangsing 47.16 305 *e*P **P** 01 55 22.8 -2.1
comp=Z,54nm,0.7s
TLY Talaya 50.66 342 *e*P **P** 01 55 49.6 -1.4
WMQ Urumqi 52.01 325 *e*P **P** 01 56 00.0 -1.3
HVS Khovu-Aksy 53.93 335 *e*P **P** 01 56 14.3 -1.0
PETK Petropavlovsk- 54.51 22 P **P** 01 56 20.0 +0.6
PETK Petropavlovsk- 54.51 22 P **P** 01 56 20.0 +0.6
comp=Z,11nm,0.8s,baz=194,slow=5.6,SNR=8.3
MK31 Makanchi Array 56.84 325 *e*P **P** 01 56 34.6 -1.7
MK31 Makanchi Array 56.84 325 *e*P **P** 01 56 34.5 -1.7
MKAR Makanchi Array 56.84 325 *e*P **P** 01 56 34.7 -1.6
MKAR Makanchi Array 56.84 325 *e*P **P** 01 56 34.7 -1.6
MKAR ScP **ScP** 02 01 29.4 +2.7
MKAR Makanchi Array 56.84 325 P **P** 01 56 34.6 -1.6
comp=Z,13nm,0.7s,baz=127,slow=7.7,SNR=26
MKAR ScP **ScP** 02 01 29.4 +2.7
comp=Z,1.3nm,0.9s,baz=127,slow=5.3,SNR=3.7
KSH Kashi 57.45 315 *e*P **P** 01 56 39.5 -1.3
KSH pP **pP** 01 56 52.0 -3.2
KSH PcP **PcP** 01 57 32.5 -1.6
KSH PP **PP** 01 58 49.0 +0.2
KSH S **S** 02 04 32.5 -1.9
KSH ScS **ScS** 02 06 21.5 -4.6
KSH pmax pmax
comp=Z,4.0nm,1.0s
KSH pmax pmax
comp=Z,200nm,7.3s
KSH LR LR
comp=N,800nm,13.7s
KSH LR LR
comp=E,860nm,14.6s
KSH LR LR
comp=Z,580nm,19.9s
TKM2 Tokmak 2 59.11 318 *e*P **P** 01 56 51.6 -0.8
TKM2 pmax pmax
comp=Z,7.0nm,0.9s
TKM2 Tokmak 2 59.11 318 *e*P **P** 01 56 51.6 -0.8
comp=Z,7.4nm,0.9s
AAK Ala-Archa 59.73 317⇑ *e*P **P** 01 56 56.2 -0.5
AAK pmax pmax
comp=Z,16nm,1.7s
AAK Ala-Archa 59.73 317 *e*P **P** 01 56 55.8 -0.9
comp=Z,5.8nm,1.0s
AAK PcP **PcP** 01 57 42.8 -0.3
AAK Ala-Archa 59.73 317 P **P** 01 56 56.4 -0.3
comp=Z,1.5nm,0.4s,baz=149,slow=9.4,SNR=4.0
AAK PcP **PcP** 01 57 42.8 -0.3
comp=Z,6.1nm,0.6s,baz=141,slow=5.3,SNR=7.5
ZAA0 Zalesovo Array 59.80 333 *e*P **P** 01 56 54.8 -1.9
ZALV Zalesovo Beam 59.80 333 P **P** 01 56 54.5 -2.2
ZALV Zalesovo Beam 59.80 333 P **P** 01 56 54.5 -2.2
ZALV Zalesovo Beam 59.80 333 P **P** 01 56 54.5 -2.2
comp=Z,3.4nm,0.7s,baz=129,slow=6.9,SNR=8.8
EKS2 Erkin-Say 60.23 317 *e*P **P** 01 56 59.6 -0.4
EKS2 pmax pmax
comp=Z,6.0nm,0.9s
EKS2 Erkin-Say 60.23 317 *e*P **P** 01 56 59.6 -0.4
comp=Z,6.4nm,0.9s
KURBB Kurchatov Arra 61.00 327 P **P** 01 57 03.5 -1.5
comp=Z,14nm,0.8s,baz=124,slow=6.3,SNR=39
KURK Kurchatov 61.00 327 *d i*P **P** 01 57 03.8 -1.2
KURK pmax pmax
comp=Z,12nm,0.8s
KURK Kurchatov 61.00 327 *e*P **P** 01 57 03.1 -1.8
comp=Z,12nm,0.8s
KBL Kabul 61.04 307 *e*P **P** 01 57 04.8 -1.0
KBL pmax pmax
comp=Z,7.0nm,0.8s
KBL Kabul 61.04 307 *e*P **P** 01 57 04.8 -1.0
comp=Z,7.4nm,0.8s
KKAR Karatay Array 62.62 317 *e*P **P** 01 57 14.5 -1.5
comp=Z,6.9nm,0.9s
VOSK Vostochnaya 66.13 327 *e*P **P** 01 57 36.8 -2.0
VOSK pmax pmax
comp=Z,9.0nm,0.7s
VOSK Vostochnaya 66.13 327 *e*P **P** 01 57 36.8 -2.0
comp=Z,9.4nm,0.7s
BVAR Borovoye Array 66.59 327 P **P** 01 57 40.3 -1.4
BVAR Borovoye Array 66.59 327 P **P** 01 57 40.3 -1.4
BVAR Borovoye Array 66.59 327 P **P** 01 57 40.3 -1.4
comp=Z,9.8nm,0.9s,baz=120,slow=8.8,SNR=17
BRVK Borovoye 66.66 327⇑ *i*P **P** 01 57 41.0 -1.1
BRVK *i* *PP **pP** 01 57 54.9 -1.9
BRVK pmax pmax
comp=Z,15nm,0.8s
BRVK Borovoye 66.66 327 *e*P **P** 01 57 40.7 -1.4
comp=Z,21nm,1.1s
IDAH Dahanechah 68.15 303 *e*P **P** 01 57 51.7 -0.6
IMON Monand 68.38 304 *e*P **P** 01 57 52.2 -1.5
ITEG Tejag 69.10 303 *e*P **P** 01 57 57.2 -1.0
ABKAR Akbulak array 71.49 321 *e*P **P** 01 58 10.3 -1.8
AKTO Aktyubinsk 72.99 321 *i* P **P** 01 58 19.6 -1.5
AKTO pmax pmax
comp=Z,9.0nm,0.6s
AKTO Aktyubinsk 72.99 321 P **P** 01 58 19.4 -1.7
AKTO Aktyubinsk 72.99 321 P **P** 01 58 19.4 -1.7
comp=Z,11nm,0.8s,baz=99,slow=7.8,SNR=19
ARU Arti 74.19 328 *d i*P **P** 01 58 26.8 -1.2
ARU 02 01 16.4
ARU S **S** 02 08 00.5 +3.0
ARU pmax pmax
comp=Z,16nm,1.0s
RAYN Ar Rayn 80.21 293 *e*P **P** 01 59 01.1 -1.5
comp=Z,6.4nm,0.8s
GNI Garni 80.96 310 *e*P P 01 59 02.9 -3.5
comp=Z,8.7nm,1.0s
KDAK Kodiak Island 81.03 32 P **P** 01 59 07.0 +0.9
KDAK Kodiak Island 81.03 32 P **P** 01 59 07.0 +0.9
comp=Z,10.0nm,0.8s,baz=302,slow=5.2,SNR=6.9
IMA2 Indian Mountai 81.47 24 *e*P **P** 01 59 09.1 +0.6
CAST Castle Rocks 81.84 27 *e*P **P** 01 59 11.9 +1.5
comp=Z,7.0nm,0.8s
BPAW Bear Paw Mtn. 82.39 26 *e*P **P** 01 59 14.4 +1.2
comp=Z,14nm,1.1s
KBZ Khabaz 82.41 313 P **P** 01 59 14.5 +0.8
KBZ Khabaz 82.41 313 P **P** 01 59 14.5 +0.8
KBZ Khabaz 82.41 313 P **P** 01 59 14.5 +0.8
comp=Z,2.9nm,0.8s,baz=180,slow=17,SNR=3.6
TRF Thorofare Moun 82.64 27 *e*P **P** 01 59 14.5 -0.2
comp=Z,96nm,2.4s
COLD Coldfoot 82.98 23 *e*P **P** 01 59 17.1 +0.9
comp=Z,6.0nm,0.8s
MCK McKinley 83.27 26 *e*P **P** 01 59 18.3 +0.5
MCK pmax pmax
comp=Z,18nm,0.9s
MCK McKinley 83.27 26 *e*P **P** 01 59 18.3 +0.5
comp=Z,18nm,0.9s
COLA College 83.79 25 *e*P **P** 01 59 19.3 -1.0
COLA pmax pmax
comp=Z,31nm,1.1s
COLA College 83.79 25 *e*P **P** 01 59 19.3 -1.0
comp=Z,30nm,1.1s
ILAR Eielson Array 84.20 25 P **P** 01 59 22.9 +0.4
ILAR Eielson Array 84.20 25 P **P** 01 59 22.9 +0.4
comp=Z,3.4nm,0.9s,baz=235,slow=6.0,SNR=16
VNDA Vanda 84.35 173 *e*P P 01 59 15.2 -7.8
VNDA Vanda 84.35 173 P **P** 01 59 24.7 +1.8
comp=Z,1.7nm,0.9s,baz=289,slow=7.8,SNR=5.5
DIV Divide 84.67 29 *e*P **P** 01 59 25.4 +0.4
comp=Z,29nm,1.2s
PAX Paxson 84.81 27 *e*P **P** 01 59 26.0 +0.3
PAX pmax pmax
comp=Z,6.0nm,1.0s
PAX Paxson 84.81 27 *e*P **P** 01 59 26.0 +0.3
comp=Z,6.3nm,1.0s
BMRM Bremner River 85.24 29 *e*P **P** 01 59 29.9 +2.1
comp=Z,19nm,1.1s
MALT Malatya 85.88 308⇑ *i*P P 01 59 26.9 -4.7
JHLN Al Jahlan 86.00 305 *e*P **P** 01 59 29.9 -2.3
OBN Obninsk 86.35 325⇓ *e*P **P** 01 59 32.3 -1.1
OBN *PP **pP** 01 59 46.0 -2.6
OBN pmax pmax
comp=Z,70nm,2.5s
ZALF Zalf 87.07 303 *e*P P 01 59 43.9 +6.4
SALA Sala 87.59 302 *e*P **P** 01 59 37.7 -2.5
BRBR Barbar 88.19 303 *e*P P 01 59 38.4 -4.7
JOF Joensuu 88.39 333 *e*p **P** 01 59 42.4 -0.6
comp=Z,3.8nm,0.4s
INK Inuvik 89.24 22 *e*P **P** 01 59 46.5 -0.4
comp=Z,3.0nm,0.9s
INK Inuvik 89.24 22 P **P** 01 59 46.6 -0.3
comp=Z,2.4nm,0.8s,baz=224,slow=5.6,SNR=4.3
SPITS Spitsbergen Ar 89.57 349 P **P** 01 59 47.8 -0.6
SPITS Spitsbergen Ar 89.57 349 P **P** 01 59 47.8 -0.6
comp=Z,7.6nm,0.9s,baz=93,slow=10,SNR=5.4
ARCES ARCESS Array B 89.60 340 P **P** 01 59 47.4 -1.2
ARCES ARCESS Array B 89.60 340 P **P** 01 59 47.4 -1.2
comp=Z,5.7nm,0.7s,baz=83,slow=3.3,SNR=11
KAF Kangasniemi 90.81 332 *e*p **P** 01 59 53.5 -0.9
comp=Z,9.0nm,0.5s
FINES FINESS Array B 91.05 332 P **P** 01 59 55.4 -0.2
FINES FINESS Array B 91.05 332 P **P** 01 59 55.4 -0.2
comp=Z,6.3nm,0.5s,baz=54,slow=5.2,SNR=24
AKASG Malin Array Be 91.23 321 P **P** 01 59 55.8 -0.8
AKASG Malin Array Be 91.23 321 P **P** 01 59 55.8 -0.8
AKASG Malin Array Be 91.23 321 P **P** 01 59 55.8 -0.8
comp=Z,0.9nm,0.5s,baz=67,slow=4.9,SNR=4.2
SUW Suwalki 94.21 325 *e*P **P** 02 00 09.3 -1.0
SUW pmax pmax
comp=Z,41nm,1.0s
SUW Suwalki 94.21 325 *e*P **P** 02 00 09.3 -1.0
comp=Z,41nm,1.0s
SUW Suwalki 94.21 325 *e*P **P** 02 00 09.3 -1.0
NB2 NORSAR Subarra 97.99 334 P **P** 02 00 25.9 -1.5
comp=Z,3.1nm,0.7s,baz=66,slow=4.6
NOA NORSAR Array B 97.99 334 P **P** 02 00 25.6 -1.8
NOA NORSAR Array B 97.99 334 P **P** 02 00 25.6 -1.8
comp=Z,3.0nm,0.7s,baz=66,slow=4.6,SNR=12
NAO01 NORSAR Array S 98.22 334 *e*P **P** 02 00 26.8 -1.5
comp=Z,4.5nm,0.7s
MORC Moravsky Berou 98.73 322 *e*P **P** 02 00 29.8 -1.2
MORC pmax pmax
comp=Z,6.0nm,1.1s
MORC Moravsky Berou 98.73 322 *e*P **P** 02 00 29.8 -1.2
comp=Z,5.9nm,1.1s
BRG Berggiesshubel 100.54 324 *e*PDIF **Pdif** 02 00 38.8 -0.1
comp=Z,5.6nm,0.8s
CLL Collm 100.94 324 *e*Pdif **Pdif** 02 00 37.0 -3.7
comp=Z,6.0nm,1.2s
DOU Dourbes 106.29 325 PKP **PKiKP** 02 05 15.3 -0.4
TORD Torodi Ar. Bea 122.72 289 PKP **PKPdf** 02 05 47.6 -0.5
TORD Torodi Ar. Bea 122.72 289 PKP **PKPdf** 02 05 47.6 -0.5
comp=Z,1.6nm,0.7s,baz=45,slow=1.2,SNR=12

MAN 30 01:47:16, 9°.65N×126°.08E, h15km, mb4.9, ML3.9, MS4.0, 3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.60**	**282**⇓	*e*P		Pb	01 47 28.4	+0.2
SCPH				*e*S		Sn	01 47 39.1	-0.3
CGP	**Cagayan de Oro**	**1.82**	**229**	*e*P		Pn	01 47 46.0	-0.8
PLP	**Palo**	**1.85**	**324**⇓	*e*P		Pn	01 47 47.4	+0.2
PLP				*e*S		Sn	01 48 10.7	+0.2
TBP	**Tagbilaran**	**2.19**	**271**⇓	*i*P		Pn	01 47 52.7	+0.8
TBP				*i* S		Sn	01 48 20.4	+1.7

CSEM ***30*** *01:47:52.6, 39°.93N×23°.71E, h6km, ML1.5/4, After THE*
THE 30 01:47:52.6, 39°.93N×23°.71E, h6km±1km, ML1.5/4, Error ellipse: s-maj=1.8km s-min=0.6km az=288.0, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PAIG	**Paliouri**	**0.03**	**273**	P		Pg	01 47 53.5	-0.3
PAIG				S		Sg	01 47 54.9	+0.3
PAIG	**Paliouri**	**0.03**	**273**	P		Pg	01 47 53.5	-0.3
PAIG				S		Sg	01 47 54.9	+0.3
OUR	**Ouranopolis**	**0.46**	**27**	P		Pg	01 48 01.5	+0.1
OUR				S		Sg	01 48 08.2	+0.8
OUR	**Ouranopolis**	**0.46**	**27**	P		Pg	01 48 01.5	+0.1
OUR				S		Sg	01 48 08.2	+0.8
PLG	**Polygyros**	**0.49**	**335**	P		Pg	01 48 01.6	-0.6
PLG				S		Sg	01 48 08.6	-0.1
PLG	**Polygyros**	**0.49**	**335**	P		Pg	01 48 01.6	-0.6
PLG				S		Sg	01 48 08.6	-0.1
XOR	**Xorichti**	**0.69**	**216**	P		Pg	01 48 06.2	+0.3
XOR				S		Sg	01 48 15.2	+0.3
XOR	**Xorichti**	**0.69**	**216**	P		Pg	01 48 06.2	+0.3
XOR				S		Sg	01 48 15.2	+0.3
NEO	**Neokhori**	**0.72**	**212**	P		Pg	01 48 06.5	-0.1
NEO				S		Sb	01 48 17.1	-0.8
NEO	**Neokhori**	**0.72**	**212**	P		Pg	01 48 06.5	-0.1
NEO				S		Sb	01 48 17.1	-0.8
AOS	**Alonnisos**	**0.77**	**170**	P		Pg	01 48 06.5	-0.8
AOS				S		Sg	01 48 18.1	+0.8
AOS	**Alonnisos**	**0.77**	**170**	P		Pg	01 48 06.5	-0.8
AOS				S		Sg	01 48 18.1	+0.8
LIT	**Litokhoron**	**0.95**	**281**	P		Pg	01 48 10.9	-0.1
LIT	**Litokhoron**	**0.95**	**281**	P		Pg	01 48 10.9	-0.1

IDC 30 01:48:27.7±8.2, 17°.05S×172°.23W, h0km, mb3.9/2, mb1 4.2/2, mb1mx3.8/19, mbtmp3.9/2, Error ellipse: s-maj=399.8km s-min=64.5km az=144.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**50.59**	**258**	P		P	01 57 28.4	-0.3
1.2nm,0.8s,baz=95,slow=8.3,SNR=2.8								
ASAR	**Alice Springs**	**50.69**	**253**	P		P	01 57 29.6	+0.1
1.7nm,0.6s,baz=89,slow=7.4,SNR=6.9								
BRTR	**Keskin Array B**	**148.14**	**320**	PKPbc		PKPbc	02 08 15.2	-0.8
0.4nm,0.8s,baz=0.0,slow=2.9,SNR=4.5								

IDC 30 01:54:10.0±8.8, 15°.01S×172°.68W, h0km, mb4.0/2, mb1 4.2/2, mb1mx3.7/19, mbtmp4.0/2, Error ellipse: s-maj=397.1km s-min=65.5km az=140.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**50.61**	**256**	P		P	02 03 11.2	0.0
0.9nm,0.5s,baz=93,slow=7.9,SNR=10								
ASAR	**Alice Springs**	**50.89**	**252**	P		P	02 03 13.2	-0.2
1.3nm,0.5s,baz=88,slow=8.2,SNR=4.3								
BRTR	**Keskin Array B**	**146.28**	**322**	PKPbc		PKPdf	02 13 52.1	+0.1
0.5nm,0.7s,baz=35,slow=3.0,SNR=4.1								

IDC 30 01:55:38.1±1.6, 5°.13N×126°.90E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.6/24, mbtmp3.8/5, Error ellipse: s-maj=117.8km s-min=22.4km az=72.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**23.12**	**183**	P		P	02 00 45.8	-0.2
2.0nm,1.1s,baz=11,slow=11,SNR=6.7								
WRA	**Warramunga Arr**	**25.96**	**164**	P		P	02 01 11.6	-1.0
0.7nm,0.7s,baz=343,slow=10.0,SNR=4.8								
ASAR	**Alice Springs**	**29.42**	**167**	P		P	02 01 45.5	+1.8
0.3nm,0.6s,baz=349,slow=8.5,SNR=2.8								
MKAR	**Makanchi Array**	**56.52**	**325**	P		P	02 05 22.7	+0.4
0.4nm,0.5s,baz=127,slow=7.7,SNR=4.9								
FINES	**FINESS Array B**	**90.69**	**332**	P		P	02 08 42.4	-0.3
3.2nm,1.0s,baz=56,slow=5.5,SNR=5.1								
TORD	**Torodi Ar. Bea**	**122.64**	**289**	PKP		PKPdf	02 14 36.2	-0.8
0.5nm,1.0s,baz=36,slow=1.5,SNR=2.8								

IDC ***30*** *01:56:45.1±0.9, 15°.31S×172°.14W, h0km, mb4.0/7, mb1 4.2/7, mb1mx4.0/20, mbtmp4.0/7, Error ellipse: s-maj=39.2km s-min=15.5km az=117.0*
NEIC ***30*** *01:56:46.9±0.4, 15°.20S×172°.17W, h10km, mb4.5/17, Error ellipse: s-maj=19.7km s-min=9.6km az=140.0*
ISCJB ***30*** *01:56:47.2±0.5, 15°.30S±0°.09×172°.2W±0°.1, h23km, mb4.3/22, Error ellipse: s-maj=17.8km s-min=8.7km az=40.5*
ISC 30 01:56:49.0±0.6, 15°.33S±0°.08×172°.1W±0°.1, h23km, n42, σ1§15/44, mb4.4/22, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.45**	**13**	*e*Pn		**Pn**	**01 57 13.2**	**-0.7**
AFI					Sn	**Sb**	**01 57 34.9**	**+1.6**
AFI	**Afiamalu**	**1.45**	**13**	Pn		**Pn**	**01 57 13.6**	**-0.3**
529nm,0.3s,baz=328,slow=2.2,SNR=18								
AFI					Sn	**Sb**	**01 57 34.9**	**+1.6**
832nm,0.3s,baz=131,slow=23,SNR=6.7								
DZM	**Mont Dzumac**	**21.38**	**249**	*e*P		**P**	**02 01 38.4**	**+3.2**
8.1nm,0.7s								
URZ	**Urewera**	**24.75**	**201**	P		**P**	**02 02 09.8**	**+1.0**
URZ	**Urewera**	**24.75**	**201**	P		**P**	**02 02 09.8**	**+1.0**
18nm,0.7s,baz=17,slow=11,SNR=9.4								
RPZ	**Rata Peaks**	**31.73**	**204**	*e*P		**P**	**02 03 11.3**	**+0.2**
10nm,0.7s								
CTAO	**Charters Tower**	**39.88**	**257**	*e*P		**P**	**02 04 19.7**	**-1.6**
13nm,1.3s								
PMG	**Port Moresby**	**40.18**	**274**	*e*P		**P**	**02 04 22.3**	**-1.5**
12nm,1.0s								
COEN	**Coen**	**43.23**	**266**	*e*P		**P**	**02 04 49.1**	**+0.2**
59nm,0.9s								
STKA	**Stephens Creek**	**45.15**	**240**	*e*P		**P**	**02 05 04.2**	**+0.1**
1.4nm,0.9s								
STKA	**Stephens Creek**	**45.15**	**240**	P		**P**	**02 05 04.8**	**+0.7**
4.2nm,0.8s,baz=55,slow=5.8,SNR=5.6								
WRAB	**Tennant Creek**	**51.07**	**257**	*e*P		**P**	**02 05 47.4**	**-2.6**
4.9nm,0.9s								
WRA	**Warramunga Arr**	**51.08**	**257**	P		**P**	**02 05 48.5**	**-1.6**
WRA	**Warramunga Arr**	**51.08**	**257**	P		**P**	**02 05 48.5**	**-1.6**
0.9nm,0.6s,baz=90,slow=7.0,SNR=6.8								
AS31	**Alice Springs**	**51.32**	**252**	*e*P		**P**	**02 05 53.8**	**+1.9**
ASAR	**Alice Springs**	**51.32**	**252**	P		**P**	**02 05 50.6**	**-1.2**
ASAR	**Alice Springs**	**51.32**	**252**	P		**P**	**02 05 50.6**	**-1.2**
1.9nm,0.8s,baz=84,slow=8.6,SNR=11								
VNDA	**Vanda**	**63.57**	**186**	*e*P		**P**	**02 07 18.2**	**+0.8**
3.0nm,1.2s								
VNDA	**Vanda**	**63.57**	**186**	P		**P**	**02 07 17.1**	**-0.3**
0.8nm,0.9s,baz=33,slow=6.5,SNR=4.3								
KAPI	**Kappang**	**67.63**	**271**	*e*P		**P**	**02 07 45.0**	**+0.4**
16nm,1.2s								
CMB	**Columbia Colle**	**71.89**	**41**	*e*P		**P**	**02 08 10.1**	**-0.3**
8.3nm,1.5s								
YBH	**Yreka Blue Hor**	**72.80**	**37**	*e*P		**P**	**02 08 15.1**	**-0.7**
2.9nm,0.9s								
BEKR	**Beckworth**	**73.02**	**39**	*e*P		**P**	**02 08 17.1**	**-0.2**
2.1nm,1.2s								
QSPA	**South Pole Qui**	**74.71**	**180**	*e*P		**P**	**02 08 27.1**	**+0.3**
5.0nm,0.9s								
DUG	**Dugway**	**77.97**	**42**	*e*P		**P**	**02 08 45.7**	**0.0**
2.3nm,1.0s								
TMUT	**Trail Mountain**	**78.56**	**44**	*e*P		**P**	**02 08 49.0**	**-0.1**
7.0nm,1.0s								
BMRM	**Bremner River**	**79.16**	**13**	*e*P		**P**	**02 08 51.2**	**-0.4**
11nm,1.1s								
BNM	**Barren Site**	**79.32**	**50**	*e*P		**P**	**02 08 55.6**	**+2.3**
3.7nm,1.1s								
PDAR	**Pinedale Array**	**81.39**	**41**	P		**P**	**02 09 03.4**	**-0.9**
PDAR	**Pinedale Array**	**81.39**	**41**	P		**P**	**02 09 03.4**	**-0.9**
0.3nm,0.6s,baz=191,slow=1.8,SNR=2.8								
ILAR	**Eielson Array**	**82.14**	**11**	P		**P**	**02 09 06.7**	**-0.8**
ILAR	**Eielson Array**	**82.14**	**11**	P		**P**	**02 09 06.7**	**-0.8**
0.6nm,0.6s,baz=220,slow=6.2,SNR=6.3								
BUR08	**Bucovina Ar. S**	**144.73**	**340**	*e*PKPdf		PKPbc	02 16 23.5	+0.5
PSZ	**Piszkesteto**	**146.02**	**346**	*e*PKPbc		**PKPab**	**02 16 28.1**	**+0.4**
GERES	**GERESS Array B**	**146.24**	**353**	PKPbc		**PKPdf**	**02 16 26.2**	**-0.4**
GERES	**GERESS Array B**	**146.24**	**353**	PKPbc		**PKPdf**	**02 16 26.2**	**-0.4**
0.8nm,0.8s,baz=336,slow=2.9,SNR=7.3								
BR131	**Keskin Array S**	**146.88**	**322**	*e*PKPbc		**PKPbc**	**02 16 29.5**	**-0.5**
BRTR	**Keskin Array B**	**146.88**	**322**	PKPbc		**PKPbc**	**02 16 29.8**	**-0.2**
BRTR	**Keskin Array B**	**146.88**	**322**	PKPbc		**PKPbc**	**02 16 29.8**	**-0.2**
1.3nm,0.7s,baz=127,slow=1.9,SNR=8.9								
TUE	**Stuetta**	**148.93**	**358**	*e*PKPbc		**PKPbc**	**02 16 34.5**	**-0.8**
SSB	**Saint Sauveur**	**150.01**	**5**	*e*PKPdf		**PKPdf**	**02 16 32.2**	**-0.7**
SSB				*e*PKPbc		**PKPbc**	**02 16 37.2**	**-0.7**
BNI	**Bardonecchia**	**150.36**	**2**	*e*PKPdf		**PKPdf**	**02 16 33.4**	**-0.2**

IDC 30 02:00:34.9±2.5, 15°.86S×173°.32W, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.9/20, mbtmp3.9/6, Error ellipse: s-maj=138.0km s-min=23.2km az=144.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.45**	**38**	Pn		Pn	02 01 12.2	-4.1
28nm,0.3s,baz=90,slow=20,SNR=2.3								
AFI					Sn	Sn	02 01 33.7	-13
413nm,0.3s,baz=128,slow=20,SNR=12								
STKA	**Stephens Creek**	**43.88**	**240**	P		P	02 08 42.5	-0.8
3.7nm,0.9s,baz=137,slow=11,SNR=3.3								
WRA	**Warramunga Arr**	**49.82**	**257**	P		P	02 09 29.6	-0.5
0.6nm,0.6s,baz=90,slow=7.4,SNR=5.5								
ASAR	**Alice Springs**	**50.04**	**252**	P		P	02 09 31.4	-0.4
2.7nm,0.6s,baz=87,slow=7.8,SNR=13								
FITZ	**Fitzroy Crossi**	**58.19**	**258**	P		P	02 10 31.8	+0.5
0.8nm,0.7s,baz=126,slow=17,SNR=3.3								
PDAR	**Pinedale Array**	**82.56**	**42**	P		P	02 13 00.1	0.0
0.5nm,0.7s,baz=188,slow=3.3,SNR=3.4								
ILAR	**Eielson Array**	**82.88**	**11**	P		P	02 12 59.8	-1.2
0.2nm,0.5s,baz=196,slow=6.2,SNR=3.0								
BRTR	**Keskin Array B**	**146.56**	**321**	PKPbc		PKPbc	02 20 19.1	+0.2
1.3nm,0.9s,baz=79,slow=3.1,SNR=5.7								
GERES	**GERESS Array B**	**146.61**	**352**	PKPbc		PKPab	02 20 19.1	-0.5
0.2nm,0.6s,baz=359,slow=6.0,SNR=3.5								

IDC ***30*** *02:03:18.9±0.7, 15°.39S×173°.43W, h0km, mb4.1/10, mb1 4.3/10, mb1mx4.2/21, mbtmp4.1/10, MS4.3/2, Ms1 4.3/2, ms1mx3.7/36, Error ellipse: s-maj=32.2km s-min=20.4km az=143.0*
NEIC ***30*** *02:03:20.6±0.3, 15°.37S×173°.51W, h10km, mb4.6/18, Error ellipse: s-maj=15.9km s-min=7.0km az=146.0*
ISCJB ***30*** *02:03:23.4±0.4, 15°.4S±0°.1×173°.58W±0°.09, h42km, mb4.3/26, MS4.7/1, Error ellipse: s-maj=19.5km s-min=8.9km az=147.3*
ISC 30 02:03:25.5±0.5, 15°.4S±0°.1×173°.5W±0°.1, h42km, n80, σ1§18/80, mb4.5/26, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.26**	**49**	*e*Pn		Pn	02 03 49.6	-11
AFI					Sn	Sn	02 04 08.9	-18
AFI	**Afiamalu**	**2.26**	**49**	Pn		Pn	02 03 49.0	-11
88nm,0.3s,baz=279,slow=23,SNR=4.1								
AFI					Sn	Sn	02 04 08.9	-18
213nm,0.3s,baz=239,slow=23,SNR=6.2								
AFI					LR	LR	02 04 38.1	
comp=Z,3μm,19.6s,baz=257,slow=36								
MSVF	**Nonsavu**	**8.39**	**253**	*e*Pn		Pn	02 05 32.2	+7.5
145nm,0.8s								
DZM	**Mont Dzumac**	**20.07**	**248**	*e*P		**P**	**02 07 55.3**	**-0.3**
22nm,1.3s								
PMG	**Port Moresby**	**38.80**	**274**	*e*P		**P**	**02 10 47.0**	**+0.4**
14nm,0.9s								
WRAB	**Tennant Creek**	**49.70**	**257**	*e*P		**P**	**02 12 13.3**	**-0.5**
1.4nm,0.4s								
WRA	**Warramunga Arr**	**49.71**	**257**	P		**P**	**02 12 13.6**	**-0.3**
WRA	**Warramunga Arr**	**49.71**	**257**	P		**P**	**02 12 13.6**	**-0.3**
0.9nm,0.4s,baz=90,slow=7.0,SNR=18								
AS31	**Alice Springs**	**49.98**	**

4.7nm,1.1s
QSPA South Pole Qui 74.65 180 P P 02 14 59.5 -0.9
1.4nm,0.9s,baz=16,slow=7.4,SNR=4.6
KSRS Korea Array 76.06 316 P P 02 15 08.9 +0.1
0.3nm,0.3s,baz=127,slow=8.1,SNR=3.8
KSAR Wonju Array Be 76.08 316 P P 02 15 08.8 0.0
TUC Tucson 76.49 51 eP P 02 15 10.8 -0.6
5.7nm,1.3s
WVOR Wild Horse Val 76.52 39 eP P 02 15 11.5 +0.1
3.8nm,0.8s
USRK Ussuriysk Arra 77.30 323 P P 02 15 15.1 -0.5
1.3nm,0.6s,baz=134,slow=5.9,SNR=3.2
DUG Dugway 78.95 43 eP P 02 15 25.9 +0.8
7.9nm,1.3s
DIV Divide 79.43 13 eP P 02 15 26.4 -0.6
8.8nm,1.0s
BMRM Bremner River 79.55 14 eP P 02 15 27.2 -0.5
8.3nm,0.9s
MNTX Cornudas Mount 80.33 53 eP P 02 15 33.9 +1.3
8.9nm,1.7s
BNM Barren Site 80.43 51 eP P 02 15 33.7 +0.3
TXAR Lajitas Array 80.72 56 P P 02 15 34.6 -0.2
TXAR Lajitas Array 80.72 56 P P 02 15 34.6 -0.2
1.6nm,1.0s,baz=224,slow=5.2,SNR=7.6
ANMO Albuquerque 80.90 50 P P 02 15 33.5 -2.3
ANMO Albuquerque 80.90 50 P P 02 15 33.5 -2.3
1.4nm,0.9s,baz=16,slow=2.9,SNR=6.3
DLBC Dease Lake 81.75 21 LR LR 02 44 00.4
comp=Z,291nm,19.5s,baz=266,slow=30
TPAW Teton Pass 81.82 41 eP P 02 15 39.5 -1.1
6.5nm,1.1s
IMW Indian Meadow 82.03 40 eP P 02 15 40.5 -1.3
5.2nm,1.1s
PDAR Pinedale Array 82.35 42 P P 02 15 41.6 -1.7
PDAR Pinedale Array 82.35 42 P P 02 15 41.6 -1.7
1.0nm,0.8s,baz=207,slow=5.0,SNR=6.1
ILAR Eielson Array 82.47 11 P P 02 15 40.8 -2.3
ILAR Eielson Array 82.47 11 P P 02 15 40.8 -2.3
0.3nm,0.3s,baz=198,slow=5.7,SNR=8.6
ABTX Abilene, Hawle 85.17 54 eP P 02 15 56.9 -0.8
MAW Mawson 87.75 199 P P 02 16 10.0 +0.3
MAW Mawson 87.75 199 P P 02 16 10.0 +0.3
1.0nm,0.5s,baz=44,slow=6.8,SNR=2.7
MK31 Makanchi Array 110.73 315 ePKP PKiKP 02 21 52.4 -1.5
MKAR Makanchi Array 110.73 315 PKiKP PKiKP 02 21 55.1 +1.2
MKAR Makanchi Array 110.73 315 PKiKP PKiKP 02 21 55.1 +1.2
0.7nm,1.0s,baz=85,slow=1.6,SNR=2.5
BRVK Borovoye 117.85 322 ePKPdf PKPdf 02 22 07.6 +0.4
AKASG Malin Array Be 140.28 337 PKP PKPdf 02 22 50.4 +0.6
AKASG Malin Array Be 140.28 337 PKP PKPdf 02 22 50.4 +0.6
0.3nm,0.4s,baz=23,slow=3.0,SNR=5.5
KIEV Kiev 140.30 337 ePKPdf PKPdf 02 22 48.1 -1.7
CLL Collm 143.79 353 e(PKiKP) PKiKP 02 23 03.0 +3.5
DPC Dobruska-Polom 144.23 349 ePKP PKPdf 02 23 02.5 +5.6
BUR08 Bucovina Ar. S 144.30 338 ePKPdf PKPdf 02 22 56.5 -0.7
MORC Moravsky Berou 144.54 348 ePKPdf PKPbc 02 22 56.5 +0.4
PRU Pruhonice 144.88 351 ePKP PKPdf 02 23 02.5 +4.5
VRAC Vranov 145.18 348 PKPbc PKPbc 02 22 57.4 -0.8
VRAC Vranov 145.18 348 PKPbc PKPbc 02 22 57.4 -0.8
2.1nm,0.8s,baz=108,slow=9.6,SNR=3.6
GRFO Grafenberg 145.58 355 ePKPbc PKPbc 02 22 59.1 -0.3
PSZ Piszkesteto 145.72 344 ePKPbc PKPab 02 22 60.0 -0.4
MLR Muntele Rosu 145.81 335 PKPbc PKPbc 02 23 00.2 -0.2
MLR Muntele Rosu 145.81 335 PKPbc PKPbc 02 23 00.2 -0.2
0.4nm,0.5s,baz=244,slow=0.9,SNR=6.5
WLF Walferdange 145.82 0 ePKPbc PKPbc 02 22 59.9 -0.3
KHC Kasperske Hory 145.86 352 ePKP PKPab 02 23 00.5 -0.3
KHC epPKP PKiKP 02 23 06.3 +2.4
KHC Kasperske Hory 145.86 352 ePKPbc PKPab 02 23 00.7 -0.1
BR131 Keskin Array S 146.07 321 ePKPbc PKPab 02 23 01.6 -0.4
BRTR Keskin Array B 146.07 321 PKPbc PKPab 02 23 01.6 -0.4
BRTR Keskin Array B 146.07 321 PKPbc PKPab 02 23 01.6 -0.4
3.4nm,0.9s,baz=90,slow=1.2,SNR=14
GERES GERESS Array B 146.12 351 PKPbc PKPbc 02 23 00.8 -0.5
GERES GERESS Array B 146.12 351 PKPbc PKPbc 02 23 00.8 -0.5
1.5nm,0.7s,baz=50,slow=7.1,SNR=12
ANTO Ankara 146.49 322 ePKPbc PKPab 02 23 03.3 -0.3
STU Stuttgart 146.64 357 ePKPbc PKPab 02 23 03.0 -0.8
BFO Black Forest 147.12 358 ePKPbc PKPbc 02 23 03.5 -0.5
ECH Echery 147.27 359 ePKPbc PKPbc 02 23 03.8 -0.7
DAVOX Davos/Dischmat 148.58 355 PKPbc PKPbc 02 23 08.9 +0.7
DAVOX Davos/Dischmat 148.58 355 PKPbc PKPbc 02 23 08.9 +0.7
1.8nm,0.6s,baz=67,slow=12,SNR=3.5
TUE Stuetta 148.93 356 ePKPdf PKPdf 02 23 05.2 +0.1
TUE ePKPbc PKPbc 02 23 09.6 +0.5
SSB Saint Sauveur 150.17 3 ePKPdf PKPdf 02 23 06.6 -0.4
SSB ePKPbc PKPbc 02 23 12.1 0.0
BNI Bardonecchia 150.44 360 ePKPbc PKPbc 02 23 13.2 +0.4
BNI ePKPab PKPab 02 23 19.0 -0.3
ESDC Sonseca Array 154.15 19 PKPbc PKPbc 02 23 23.1 +1.9
ESDC PKPab PKPab 02 23 36.0 +1.2
ESDC Sonseca Array 154.15 19 PKPbc PKPbc 02 23 23.1 +1.9
0.3nm,0.6s,baz=328,slow=2.1,SNR=4.5
ESDC PKPab PKPab 02 23 36.0 +1.2
0.1nm,0.3s,baz=15,slow=6.6,SNR=3.5

*ISCJB **30** 02:11:29.2±0.3, 16°.01S±0°.10×173°.2W±0°.1, h10km, mb4.5/31, MS4.4/2, Error ellipse: s-maj=18.1km s-min=7.4km az=44.3*
*IDC **30** 02:11:29.5±0.7, 16°.09S×173°.04W, h0km, mb4.3/13, mb1 4.5/13, mb1mx4.3/22, mbtmp4.3/13, MS4.4/2, Ms1 4.4/2, ms1mx3.6/39, Error ellipse: s-maj=28.1km s-min=16.4km az=131.0*
*NEIC **30** 02:11:30.9±0.2, 16°.09S×173°.06W, h10km, mb4.7/22, Error ellipse: s-maj=12.5km s-min=5.5km az=134.0*
*SZGRF **30** 02:11:31.2, 16°.22S×172°.17W, h10km, Samoa Islands region*
ISC 30 02:11:32.8±0.4, 16°.24S±0°.10×172°.80W±0°.09, h26km, n126, σ1§16/127, mb4.6/31, 19C, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	Afiamalu	2.52	23	ePn	Pn	02 12 07.5	-4.7
MSVF	Nonsavu	8.88	259	ePn	Pn	02 13 46.4	+6.9
142nm,1.2s							
RAR	Rarotonga	13.29	114	ePn	Pn	02 14 37.3	-2.7
57nm,1.1s							
RAR	Rarotonga	13.29	114	Pn	Pn	02 14 37.2	-2.7
4.6nm,0.3s,baz=90,slow=10,SNR=5.2							
DZM	Mont Dzumac	20.43	250	eP	P	02 16 06.2	-2.2
15nm,0.8s							
DZM	Mont Dzumac	20.43	250	P	P	02 16 06.5	-1.9
5.9nm,0.9s,baz=101,slow=19,SNR=2.7							
URZ	Urewera	23.66	200	P	P	02 16 44.2	+2.1
URZ	Urewera	23.66	200	P	P	02 16 44.2	+2.1
7.3nm,0.3s,baz=323,slow=1.8,SNR=9.4							
HNR	Honiara	27.40	281	LR	LR	02 26 30.8	
comp=Z,487nm,19.4s,baz=69,slow=33							
RPZ	Rata Peaks	30.63	203	eP	P	02 17 46.1	+1.2
CAN	Canberra	38.98	233	eP	P	02 18 56.2	-1.0
30nm,1.5s							
STKA	Stephens Creek	44.12	241	eP	P	02 19 38.2	-1.0
1.5nm,0.9s							
STKA	Stephens Creek	44.12	241	P	P	02 19 37.8	-1.5
4.5nm,0.8s,baz=79,slow=9.8,SNR=7.2							
WRAB	Tennant Creek	50.21	257	eP	P	02 20 26.2	-0.7
6.6nm,1.1s							
WRA	Warramunga Arr	50.22	257	P	P	02 20 25.3	-1.7
WRA	Warramunga Arr	50.22	257	P	P	02 20 25.3	-1.7
1.8nm,0.6s,baz=91,slow=6.7,SNR=11							
AS31	Alice Springs	50.40	253	eP	P	02 20 26.5	-1.9
ASAR	Alice Springs	50.40	253	P	P	02 20 26.8	-1.6
ASAR	Alice Springs	50.40	253	P	P	02 20 26.8	-1.6
7.9nm,0.6s,baz=86,slow=8.2,SNR=32							
FORT	Forrest	55.55	244	eP	P	02 21 04.6	-1.6
19nm,0.9s							
FITZ	Fitzroy Crossi	58.60	258	P	P	02 21 26.7	-1.3
FITZ	Fitzroy Crossi	58.60	258	P	P	02 21 26.7	-1.3
2.2nm,0.9s,baz=137,slow=7.6,SNR=3.6							
VNDA	Vanda	62.60	186	eP	P	02 21 56.7	+2.4
5.9nm,1.3s							
VNDA	Vanda	62.60	186	P	P	02 21 56.5	+2.2
3.6nm,1.0s,baz=9.4,slow=6.1,SNR=15							
MWC	Mount Wilson	72.31	45	eP	P	02 22 53.7	-2.9
20nm,1.4s							
ISA	Isabella	72.86	44	eP	P	02 23 01.5	+1.9
3.4nm,0.9s							
CMB	Columbia Colle	73.02	41	eP	P	02 23 02.6	+2.1
5.7nm,1.1s							
PETK	Petropavlovsk-	73.61	342	P	P	02 23 03.9	+0.3
PETK	Petropavlovsk-	73.61	342	P	P	02 23 03.9	+0.3
3.2nm,0.7s,baz=145,slow=10,SNR=4.1							
QSPA	South Pole Qui	73.81	180	eP	P	02 23 06.5	+1.7
8.5nm,0.9s							
YBH	Yreka Blue Hor	73.92	37	eP	P	02 23 06.6	+0.8
4.5nm,0.9s							
BEKR	Beckworth	74.15	39	eP	P	02 23 06.9	-0.4
1.4nm,0.9s							
HUMO	Hull Mountain	74.35	36	eP	P	02 23 09.4	+1.2
7.6nm,1.0s							
TUC	Tucson	76.48	50	eP	P	02 23 21.4	+0.6
4.2nm,1.3s							
DUG	Dugway	79.09	42	eP	P	02 23 35.3	+0.1
9.0nm,1.3s							
TMUT	Trail Mountain	79.68	44	eP	P	02 23 39.8	+1.2
7.3nm,1.0s							
DIV	Divide	80.08	13	eP	P	02 23 40.5	+0.5
15nm,1.0s							
BMRM	Bremner River	80.20	14	eP	P	02 23 40.9	+0.3
28nm,1.3s							
BNM	Barren Site	80.42	50	eP	P	02 23 43.1	+0.5
TXAR	Lajitas Array	80.61	56	P	P	02 23 44.0	+0.4
TXAR	Lajitas Array	80.61	56	P	P	02 23 44.0	+0.4
1.3nm,1.1s,baz=219,slow=7.7,SNR=6.0							
MCK	McKinley	81.84	10	eP	P	02 23 48.6	-0.6
18nm,1.0s							
HYT	Haines Junctio	81.85	17	eP	P	02 23 48.1	-1.4
FLWY	Flagg Ranch	82.46	40	eP	P	02 23 54.2	+1.0
29nm,1.7s							
PDAR	Pinedale Array	82.51	42	P	P	02 23 53.4	-0.2
PDAR	Pinedale Array	82.51	42	P	P	02 23 53.4	-0.2
2.1nm,0.9s,baz=222,slow=2.0,SNR=10							
BOZ	Bozeman (W)	82.72	38	eP	P	02 23 54.8	+0.3
5.3nm,1.3s							
COLA	College	83.08	10	eP	P	02 23 55.3	-0.3
49nm,1.0s							
ILAR	Eielson Array	83.16	11	P	P	02 23 55.7	-0.4
ILAR	Eielson Array	83.16	11	P	P	02 23 55.7	-0.4
0.9nm,0.6s,baz=229,slow=6.2,SNR=10							
DAWY	Dawson	84.09	14	eP	P	02 24 01.1	+0.1
APG	El Apazote	87.01	74	LR	LR	02 55 38.3	
comp=Z,287nm,21.2s,baz=105,slow=30							
MAW	Mawson	87.18	198	P	P	02 24 16.9	+0.5
MAW	Mawson	87.18	198	P	P	02 24 16.9	+0.5
1.5nm,0.9s,baz=104,slow=10.0,SNR=3.6							
CMAR	Chiang Mai Arr	93.42	288	P	P	02 24 47.6	+1.1
CMAR	Chiang Mai Arr	93.42	288	P	P	02 24 47.6	+1.1
1.0nm,0.3s,baz=90,slow=2.4,SNR=5.2							
KURK	Kurchatov	114.15	319	ePKP		02 30 09.5	
KWP	Kalwaria Pacla	144.40	343	ePKPdf	PKPdf	02 31 06.0	-0.7
KWP	Kalwaria Pacla	144.40	343	⇑P	PKPbc	02 31 04.8	-0.3
CLL	Collm	144.71	354	ePKPdf	PKPbc	02 31 06.0	0.0
CLL				ePKiKP	PKiKP	02 31 10.0	-0.9
MALT	Malatya	144.86	315	⇑P	PKPdf	02 31 09.1	+1.1
STHS	Stebnicka Huta	144.99	344	ePKP	PKPdf	02 31 07.7	0.0
STHS				e		02 31 19.4	
BRG	Berggiesshubel	145.03	353	eP	PKPdf	02 31 22.4	+15
5.9nm,1.2s							
UPC	Upice	145.09	350	ePKP	PKPdf	02 31 12.3	+4.4
DPC	Dobruska-Polom	145.19	350	ePKP	PKPab	02 31 07.3	-0.5
DPC				epPKP	PKiKP	02 31 13.6	+1.6
OKC	Ostrava-Krasne	145.34	348	ePKP	PKPdf	02 31 08.3	0.0
OKC				ex	x	02 31 18.7	
BUR08	Bucovina Ar. S	145.34	338	ePKPbc	PKPdf	02 31 08.9	+0.4
BURAR	Bucovina Array	145.36	338	⇑P	PKPdf	02 31 09.7	+1.2
CRVS	Cervenica-Dubn	145.40	343	ePKP	PKPdf	02 31 08.8	+0.3
CRVS				e		02 31 18.1	
MOX	Moxa	145.50	355	ePKPbc	PKPbc	02 31 07.9	-0.7
MORC	Moravsky Berou	145.51	348	ePKPbc	PKPab	02 31 08.5	-0.5
MORC	Moravsky Berou	145.51	348	⇑P	PKPab	02 31 09.2	+0.2
TANN	Tannenbergstha	145.65	354	ePKPbc	PKPbc	02 31 08.7	-0.5
KMBO	Kilima Mbogo	145.67	243	ePKPbc	PKPab	02 31 11.9	+1.0
KMBO	Kilima Mbogo	145.67	243	PKPbc	PKPab	02 31 11.4	+0.5
5.9nm,1.1s,baz=32,slow=1.7,SNR=4.4							
TESR	Tescani	145.75	336	⇑P	PKPab	02 31 09.7	-0.2
TRPA	Tarpa	145.79	342	⇑P	PKPab	02 31 09.4	-0.5
PRU	Pruhonice	145.82	352	ePKP	PKPab	02 31 09.4	-0.6
PRU				epPKP	PKiKP	02 31 14.4	+1.2
NKC	Novy Kostel	145.83	354	ePKP	PKPab	02 31 10.0	-0.1
TLCR		145.90	332	⇑P	PKPab	02 31 11.1	+0.6
KECS	Kecovo	146.05	344	ePKP	PKPab	02 31 10.9	0.0
KECS				e		02 31 21.3	
TNS	Taunus Mts	146.09	359	ePKPbc	PKPbc	02 31 10.1	-0.4
CFR	Carcaliu	146.21	333	⇑P	PKPdf	02 31 09.6	-0.3
VRI	Vrincioaia	146.25	335	⇑P	PKPab	02 31 11.7	-0.1
ROTZ	Rotzenmuhle	146.32	354	ePKPbc	PKPab	02 31 11.1	-0.8
TREC	Trest	146.35	350	ePKP	PKPab	02 31 11.7	-0.4
GRF	Grafenberg Arr	146.48	355	ePKPbc	PKPab	02 31 11.8	-0.8
GRFO	Grafenberg	146.48	355	ePKPbc	PKPab	02 31 12.5	-0.1
WLF	Walferdange	146.66	1	ePKPbc	PKPab	02 31 12.3	-0.9
WLF	Walferdange	146.66	1	ePKPbc	PKPab	02 31 12.8	-0.4
PSZ	Piszkesteto	146.72	344	ePKPbc	PKPab	02 31 13.1	-0.6
PSZ	Piszkesteto	146.72	344	⇑P	PKPab	02 31 14.1	+0.4
KHC	Kasperske Hory	146.79	352	ePKP	PKPab	02 31 13.1	-0.7
KHC	Kasperske Hory	146.79	352	ePKPbc	PKPab	02 31 13.2	-0.7
WET	Wettzell	146.86	353	ePKPbc	PKPab	02 31 12.9	-1.2
MLR	Muntele Rosu	146.87	336	PKPbc	PKPab	02 31 14.1	-0.3
MLR	Muntele Rosu	146.87	336	⇑P	PKPab	02 31 14.5	+0.1
MLR	Muntele Rosu	146.87	336	PKPbc	PKPab	02 31 14.1	-0.3
0.9nm,0.9s,baz=169,slow=19,SNR=5.0							
DRGR		146.92	340	⇑P	PKPab	02 31 13.5	-1.0
GEC2	GERESS Array S	147.05	352	ePKPbc	PKPbc	02 31 13.2	-0.2
GERES	GERESS Array B	147.05	352	PKPbc	PKPab	02 31 13.7	-1.2
GERES	GERESS Array B	147.05	352	PKPbc	PKPab	02 31 13.7	-1.2
1.2nm,0.8s,baz=352,slow=2.7,SNR=8.9							
BR131	Keskin Array S	147.17	321	ePKPbc	PKPbc	02 31 14.1	0.0
BRTR	Keskin Array B	147.17	321	PKPbc	PKPab	02 31 14.8	-1.0
BRTR	Keskin Array B	147.17	321	PKPbc	PKPab	02 31 14.8	-1.0
5.4nm,0.9s,baz=105,slow=2.0,SNR=28							
VOIR		147.26	336	⇑P	PKPab	02 31 14.9	-1.0
ARR	Arges	147.48	337	⇑P	PKPab	02 31 16.3	-0.4
ANTO	Ankara	147.59	322	ePKPbc	PKPbc	02 31 15.4	+0.2
ANTO	Ankara	147.59	322	⇑P	PKPab	02 31 15.8	-1.5
SIRR	Siria	147.72	341	⇑P	PKPab	02 31 16.0	-1.6
BFO	Black Forest	147.99	359	ePKPbc	PKPbc	02 31 15.7	-0.2
BFO	Black Forest	147.99	359	ePKPbc	PKPbc	02 31 16.0	0.0
FUR	Furstenfeldbru	147.99	355	ePKPbc	PKPbc	02 31 15.9	0.0
GZR	Gura Zlata	148.13	339	⇑P	PKPab	02 31 17.6	-1.7
RJOB	Jochberg	148.26	353	ePKPbc	PKPbc	02 31 16.4	-0.3
BZS	Buzias	148.32	341	⇑P	PKPbc	02 31 17.2	+0.4
DAVOX	Davos/Dischmat	149.47	356	PKPbc	PKPbc	02 31 21.8	+1.8
DAVOX	Davos/Dischmat	149.47	356	PKPbc	PKPbc	02 31 21.8	+1.8
2.8nm,0.7s,baz=341,slow=17,SNR=5.7							
TUE	Stuetta	149.81	357	ePKPbc	PKPbc	02 31 21.4	+0.6
TUE				ePKPab	PKPab	02 31 26.4	+0.2
CSS	Prodhromos	150.10	313	ePKPbc	PKPbc	02 31 21.9	+0.2
CSS				ePKPab	PKPab	02 31 27.7	+0.2
VTS	Vitosha	150.38	336	⇑P	PKPbc	02 31 23.0	+0.7
SSB	Saint Sauveur	150.97	4	ePKPbc	PKPbc	02 31 24.2	+0.7
SSB				ePKPab	PKPab	02 31 31.7	+0.9
BNI	Bardonecchia	151.28	1	ePKPbc	PKPbc	02 31 25.4	+1.2
BNI				ePKPab	PKPab	02 31 32.4	+0.2
VLC	Villacollemand	152.04	355	ePKPbc	PKPbc	02 31 26.4	+0.5
TORD	Torodi Ar. Bea	173.85	119	PKP	PKPdf	02 31 40.2	-0.8
TORD				PKPab	PKPab	02 33 10.0	-1.4
TORD	Torodi Ar. Bea	173.85	119	PKP	PKPdf	02 31 40.2	-0.8
0.7nm,0.9s,baz=330,slow=5.1,SNR=4.1							
TORD				PKPab	PKPab	02 33 10.0	-1.4
1.7nm,1.1s,baz=237,slow=1.5,SNR=5.0							

*IDC **30** 02:15:16.6±0.8, 16°.88S×173°.06W, h0km, mb4.1/9, mb1 4.3/9, mb1mx4. 1/20, mbtmp4. 1/9, MS3.4/1, Ms1 3.4/1, ms1mx3.2/34, Error ellipse: s-maj=33.8km s-min=18.8km az=129.0*
*NEIC **30** 02:15:17.8±0.4, 16°.97S×173°.04W, h10km, mb4.3/10, Error ellipse: s-maj=18.2km s-min=9.1km az=142.0*
*ISCJB **30** 02:15:20.5±0.5, 16°.9S±0°.1×173°.1W±0°.1, h41km, mb4.2/17, Error ellipse: s-maj=20.3km s-min=10.1km az=143.9*
ISC 30 02:15:22.1±0.6, 17°.0S±0°.1×173°.1W±0°.1, h41km, n53, σ1§68/50, mb4.2/17, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	Afiamalu	3.27	22	ePn	Pn	02 16 02.8	-8.2
AFI	Afiamalu	3.27	22	LR	LR	02 17 09.3	
comp=Z,578nm,20.9s,baz=230,slow=35							
DZM	Mont Dzumac	19.98	252	eP	P	02 19 49.6	-1.5
7.1nm,0.8s							
URZ	Urewera	22.91	200	P	P	02 20 23.2	+0.8
URZ	Urewera	22.91	200	P	P	02 20 23.2	+0.8
7.4nm,0.4s,baz=100,slow=4.3,SNR=5.2							
CTAO	Charters Tower	38.64	259	eP	P	02 22 41.9	0.0
3.7nm,0.7s							
PMG	Port Moresby	39.40	276	eP	P	02 22 48.3	+0.1
16nm,1.0s							
STKA	Stephens Creek	43.57	241	P	P	02 23 21.6	-0.6
STKA	Stephens Creek	43.57	241	P	P	02 23 21.6	-0.6
1.4nm,0.7s,baz=45,slow=16,SNR=2.6							
WRAB	Tennant Creek	49.82	258	eP	P	02 24 10.8	-0.5
6.4nm,1.1s							
WRA	Warramunga Arr	49.83	258	P	P	02 24 11.0	-0.4
WRA	Warramunga Arr	49.83	258	P	P	02 24 11.0	-0.4
1.0nm,0.4s,baz=94,slow=6.9,SNR=9.2							
AS31	Alice Springs	49.96	253	eP	P	02 24 12.1	-0.4
ASAR	Alice Springs	49.96	253	P	P	02 24 12.5	+0.1
ASAR	Alice Springs	49.96	253	P	P	02 24 12.5	+0.1
3.6nm,0.5s,baz=90,slow=8.7,SNR=20							
VNDA	Vanda	61.87	186	eP	P	02 25 37.5	+0.8
4.2nm,1.2s							
VNDA	Vanda	61.87	186	P	P	02 25 38.9	+2.2
0.6nm,0.4s,baz=327,slow=8.9,SNR=8.9							
QSPA	South Pole Qui	73.09	180	eP	P	02 26 47.5	-0.5
6.4nm,1.1s							
PETK	Petropavlovsk-	74.21	342	P	P	02 26 56.3	+1.9
PETK	Petropavlovsk-	74.21	342	P	P	02 26 56.3	+1.9
2.6nm,0.7s,baz=148,slow=8.5,SNR=3.5							
WAKR	Walker	74.59	41	eP	P	02 26 57.3	+0.1
YBH	Yreka Blue Hor	74.64	37	eP	P	02 26 57.6	+0.3
2.8nm,0.8s							
BEKR	Beckworth	74.85	39	eP	P	02 26 58.0	-0.6
2.4nm,1.1s							
TUC	Tucson	77.12	50	eP	P	02 27 11.9	+0.3
1.3nm,0.7s							
DUG	Dugway	79.78	43	eP	P	02 27 26.3	0.0
2.8nm,1.0s							
TXAR	Lajitas Array	81.20	56	P	P	02 27 32.9	-1.2
TXAR	Lajitas Array	81.20	56	P	P	02 27 32.9	-1.2
0.6nm,0.9s,baz=224,slow=3.8,SNR=4.9							
PDAR	Pinedale Array	83.20	42	P	P	02 27 44.5	+0.1
PDAR	Pinedale Array	83.20	42	P	P	02 27 44.5	+0.1
0.8nm,0.8s,baz=222,slow=2.0,SNR=5.7							
ILAR	Eielson Array	83.91	11	P	P	02 27 47.3	+0.1
ILAR	Eielson Array	83.91	11	P	P	02 27 47.3	+0.1
0.5nm,0.6s,baz=227,slow=6.0,SNR=7.1							
KURK	Kurchatov	114.53	318	ePKP	PKPdf	02 33 58.5	+0.9
KWP	Kalwaria Pacla	145.00	342	ePKPdf	PKPdf	02 34 55.6	+0.7
KMBO	Kilima Mbogo	145.13	242	ePKPbc	PKPdf	02 34 56.6	+0.1
KMBO	Kilima Mbogo	145.13	242	PKPbc	PKPbc	02 34 55.9	-0.1
1.3nm,0.6s,baz=59,slow=8.8,SNR=3.9							
CLL	Collm	145.40	353	ePKiKP	PKiKP	02 35 01.0	+1.6
comp=Z,9.0nm,1.3s							
CLL				e		02 35 07.0	
CLL				e		02 35 16.0	
UPC	Upice	145.75	350	ePKP	PKPab	02 35 01.1	+4.1
DPC	Dobruska-Polom	145.85	349	ePKP	PKPab	02 35 01.8	+4.4
PVCC	Panska Ves	145.96	351	ePKP	PKPab	02 35 04.9	+7.2
OKC	Ostrava-Krasne	145.98	347	ePKP	PKPab	02 35 02.7	+4.9
MORC	Moravsky Berou	146.16	348	ePKPbc	PKPab	02 34 59.7	+1.1
PRU	Pruhonice	146.49	351	ePKP	PKPab	02 35 07.3	+7.5
KHC	Kasperske Hory	147.46	352	ePKP	PKPab	02 35 06.3	+2.6
KHC				ex	x	02 35 16.2	
KHC	Kasperske Hory	147.46	352	ePKPdf	PKPdf	02 34 59.0	-0.1
BR131	Keskin Array S	147.56	320	ePKPbc	PKPab	02 35 04.5	0.0
BRTR	Keskin Array B	147.56	320	PKPbc	PKPbc	02 35 03.4	+1.0
BRTR	Keskin Array B	147.56	320	PKPbc	PKPbc	02 35 03.4	+1.0
comp=Z,2.0nm,0.8s,baz=159,slow=4.1,SNR=3.7							
GERES	GERESS Array B	147.73	352	PKPbc	PKPab	02 35 04.0	-0.8
GERES	GERESS Array B	147.73	352	PKPbc	PKPab	02 35 04.0	-0.8
comp=Z,1.1nm,0.8s,baz=339,slow=2.4,SNR=4.8							
BFO	Black Forest	148.69	358	ePKPbc	PKPab	02 35 07.0	-1.6
ECH	Echery	148.83	360	ePKPbc	PKPbc	02 35 04.2	-1.1
SSB	Saint Sauveur	151.70	4	ePKPdf	PKPdf	02 35 03.5	-2.5
SSB				ePKPbc	PKPbc	02 35 08.9	-3.4
SSB				ePKPab	PKPab	02 35 19.4	-1.6
BNI	Bardonecchia	151.99	0	ePKPdf	PKPdf	02 35 02.9	-3.6

*MOS **30** 02:21:25.7±3.6, 4°.85N×126°.68E, h33km, mb5.1/24, Error ellipse: s-maj=15.1km s-min=6.7km az=111.4*
*IDC **30** 02:21:25.7±0.4, 4°.85N×126°.68E, h0km, mb4.6/26, mb1 4.7/27, mb1mx4.7/29, mbtmp4.6/27, ML3.8/1, MS3.8/3, Ms1 3.9/3, ms1mx3.6/37, Error ellipse: s-maj=20.7km s-min=10.1km az=79.0*
*DJA **30** 02:21:26.6±2.5, 6°N±21°×12°7E±°, h42km±11km, M5.2/18, mB5.6/10, mb5.1/18, MLv5.4/8, Mw(mB)5.0/10*
*BJI **30** 02:21:30.6, 4°.90N×126°.80E, h45km, mB5.1/24, mb4.9/42, Ms4.8/19, Ms7 4.6/20*
*TEH **30** 02:21:31.0, 4°.99N×127°.06E, h35km, ML4.9*
*ISCJB **30** 02:21:32.3±0.6, 4°.86N±0°.03×126°.77E±0°.04, h60

WRA	**Warramunga Arr**	**25.74 163**	P	**P**	**02 26 58.0**	**-1.5**
WRA			S	**S**	**02 31 23.8**	**-0.3**
WRA	**Warramunga Arr**	**25.74 163**	P	**P**	**02 26 58.0**	**-1.5**
	comp=Z,30nm,1.1s,baz=343,slow=10.0,SNR=31					
WRA			S	**S**	**02 31 23.8**	**-0.3**
	comp=Z,1.0nm,0.9s,baz=318,slow=20,SNR=2.4					
KULM	**Kulim**	**26.05 272**	*e*P	**P**	**02 27 03.9**	**+1.5**
	comp=Z,40nm,1.3s					
CBIJ	**Chichi jima**	**26.53 32**	P	**P**	**02 27 05.4**	**-1.2**
CBIJ	**Chichi jima**	**26.53 32**	P	**P**	**02 27 05.4**	**-1.2**
	comp=Z,41nm,0.5s,baz=261,slow=19,SNR=4.0					
MBWA	**Marble Bar**	**26.78 195**	*e*P	**P**	**02 27 09.2**	**+0.4**
	comp=Z,16nm,0.8s					
NJ2	**Nanjing**	**28.05 346**	*e*P	**P**	**02 27 20.0**	**-0.1**
NJ2			pmax	pmax		
	comp=Z,10.0nm,0.6s					
WHN	**Wuhan**	**28.11 337**	P	P	02 27 24.0	+3.4
WHN			pmax	pmax		
	comp=Z,58nm,1.0s					
WHN			LR	LR		
	comp=Z,2μm,29.7s					
JNU	**Nakatsue**	**28.37 7**	*e*P	**P**	**02 27 21.2**	**-1.7**
	comp=Z,13nm,1.2s					
GYA	**Guiyang**	**28.84 320**⇑	*i*P	**P**	**02 27 27.8**	**+0.5**
GYA			pP	pP	02 27 38.5	-4.4
GYA			PP	**PnPn**	**02 28 23.0**	**+1.5**
GYA			PcP	**PcP**	**02 30 37.5**	**+1.8**
GYA			S	**S**	**02 32 15.0**	**+2.0**
GYA			sS	sS	02 32 31.3	-8.4
GYA			ScP	**SS**	**02 34 15.0**	**-2.4**
GYA			ScS	**ScS**	**02 38 06.8**	**+1.0**
GYA			pmax	pmax		
	comp=Z,20nm,0.8s					
GYA			pmax	pmax		
	comp=Z,110nm,5.5s					
GYA			LR	LR		
	comp=N,1μm,15.6s					
GYA			LR	LR		
	comp=E,710nm,16.0s					
GYA			LR	LR		
	comp=Z,860nm,16.4s					
AS31	**Alice Springs**	**29.19 167**	*e*P	**P**	**02 27 30.5**	**+0.2**
ASAR	**Alice Springs**	**29.19 167**	P	**P**	**02 27 29.0**	**-1.3**
ASAR			PcP	**PcP**	**02 30 37.0**	**+0.4**
ASAR	**Alice Springs**	**29.19 167**	P	**P**	**02 27 29.0**	**-1.3**
	comp=Z,3.8nm,0.8s,baz=354,slow=7.4,SNR=12					
ASAR			PcP	**PcP**	**02 30 37.0**	**+0.4**
	comp=Z,3.1nm,0.7s,baz=347,slow=2.3,SNR=7.3					
ENH	**Enshi**	**30.09 329**	*e*P	**P**	**02 27 36.9**	**-1.4**
	comp=Z,14nm,0.8s					
CMAR	**Chiang Mai Arr**	**30.38 299**	P	**P**	**02 27 39.4**	**-1.5**
CMAR			PcP	**PcP**	**02 30 40.8**	**+1.1**
CMAR			ScP	ScP	02 34 25.3	+8.5
CMAR	**Chiang Mai Arr**	**30.38 299**	P	**P**	**02 27 39.4**	**-1.5**
	comp=Z,1.3nm,0.3s,baz=117,slow=7.2,SNR=3.7					
CMAR			PcP	**PcP**	**02 30 40.8**	**+1.1**
	comp=Z,1.5nm,0.4s,baz=168,slow=0.8,SNR=4.4					
CMAR			ScP	ScP	02 34 25.3	+8.5
	comp=Z,0.9nm,0.3s,baz=126,slow=1.9,SNR=4.0					
CMAR			LR	LR	02 40 18.2	
	comp=Z,335nm,19.8s,baz=166,slow=37					
CHTO	**Chiang Mai**	**30.52 299**	*e*P	**P**	**02 27 43.1**	**+0.9**
CHTO			pmax	pmax		
	comp=Z,89nm,1.4s					
CHTO	**Chiang Mai**	**30.52 299**	*e*P	**P**	**02 27 43.0**	**+0.9**
	comp=Z,89nm,1.4s					
KMI	**Kunming**	**30.64 314**	P	**P**	**02 27 44.3**	**+0.9**
KMI			pmax	pmax		
	comp=Z,16nm,1.3s					
CTA	**Charters Tower**	**31.32 143**	P	**P**	**02 27 49.0**	**-0.2**
CTA	**Charters Tower**	**31.32 143**	P	**P**	**02 27 49.0**	**-0.2**
	comp=Z,2.2nm,0.5s,baz=326,slow=13,SNR=4.4					
CTAO	**Charters Tower**	**31.32 143**	*e*P	**P**	**02 27 49.3**	**+0.1**
CTAO			pmax	pmax		
	comp=Z,9.0nm,0.9s					
CTAO	**Charters Tower**	**31.32 143**	*e*P	**P**	**02 27 49.3**	**+0.1**
	comp=Z,8.6nm,0.9s					
KSAR	**Wonju Array Be**	**32.44 2**	P	**P**	**02 27 59.5**	**+0.7**
KSAR			PcP	**PcP**	**02 30 45.4**	**+0.5**
KSAR			ScP	ScP	02 34 32.8	+9.5
KSRS	**Korea Array**	**32.45 2**	P	**P**	**02 27 59.5**	**+0.6**
	comp=Z,3.5nm,0.8s,baz=179,slow=10,SNR=15					
KSRS			PcP	**PcP**	**02 30 45.4**	**+0.5**
	comp=Z,1.7nm,0.7s,baz=190,slow=1.8,SNR=6.0					
KSRS			ScP	ScP	02 34 32.8	+9.5
	comp=Z,0.5nm,0.5s,baz=174,slow=3.5,SNR=4.9					
MJAR	**Matsushiro Arr**	**33.22 17**	P	**P**	**02 28 04.3**	**-1.4**
MJAR	**Matsushiro Arr**	**33.22 17**	P	**P**	**02 28 04.3**	**-1.4**
	comp=Z,1.7nm,0.6s,baz=197,slow=10,SNR=5.0					
XAN	**Xi'an**	**33.44 332**	P	**P**	**02 28 05.3**	**-2.4**
XAN			pP	pP	02 28 15.0	-8.4
XAN			pmax	pmax		
	comp=Z,5.0nm,1.7s					
XAN			pmax	pmax		
	comp=Z,55nm,12.0s					
CD2	**Chengdu**	**33.78 323**	P	P	02 28 13.0	+2.3
CD2			pP	pP	02 28 23.0	-3.4
CD2			sP	sP	02 28 27.0	-6.9
CD2			PP	**PP**	**02 29 27.0**	**-1.2**
CD2			S	S	02 33 34.3	+4.3
CD2			sS	sS	02 33 51.0	-5.8
CD2			pmax	pmax		
	comp=Z,50nm,0.8s					
CD2			pmax	pmax		
	comp=Z,880nm,5.4s					
CD2			LR	LR		
	comp=N,960nm,7.7s					
CD2			LR	LR		
	comp=Z,790nm,11.9s					
FORT	**Forrest**	**35.47 178**	*e*P	**P**	**02 28 25.4**	**+0.4**
	comp=Z,42nm,0.9s					
BJT	**Baijiatuan**	**36.29 346**	*e*P	**P**	**02 28 32.1**	**+0.1**
	comp=Z,42nm,0.7s					
BJI	**Beijing**	**36.31 346**	P	**P**	**02 28 32.5**	**+0.3**
BJI			pmax	pmax		
	comp=Z,47nm,0.7s					
BJI			pmax	pmax		
	comp=Z,240nm,3.9s					
SNY	**Shenyang**	**36.91 356**⇑	P	**P**	**02 28 38.3**	**+1.0**
SNY			pmax	pmax		
	comp=Z,13nm,0.7s					
LZH	**Lanzhou**	**37.57 329**	P	**P**	**02 28 43.3**	**+0.1**
LZH			pP	pP	02 28 54.0	-5.1
LZH			sP	sP	02 28 57.8	-8.8
LZH			PP	**PnPn**	**02 30 11.3**	**-0.3**
LZH			S	**S**	**02 34 28.5**	**+0.3**
LZH			SS	SnSn	02 37 01.0	-11
LZH			pmax	pmax		
	comp=Z,49nm,1.2s					
LZH			pmax	pmax		
	comp=Z,390nm,5.8s					
LZH			LR	LR		
	comp=N,1μm,15.0s					
LZH			LR	LR		
	comp=E,1μm,16.4s					
LZH			LR	LR		
	comp=Z,3μm,17.5s					
EIDS	**Eidsvold**	**38.20 143**	*e*P	**P**	**02 28 48.7**	**+0.2**
	comp=Z,22nm,1.0s					
HHC	**Hu-ho-hao-te**	**38.35 341**	*e*P	**P**	**02 28 51.0**	**+1.4**
HHC			pP	pP	02 29 00.8	-4.8
HHC			sP	sP	02 29 04.5	-8.6
HHC			PP	**PnPn**	**02 30 22.8**	**+2.0**
HHC			S	**ScP**	**02 34 43.3**	**-1.5**
HHC			PcS	**PcS**	**02 34 52.5**	**+1.0**
HHC			sS	sS	02 34 59.5	-7.4
HHC			SS	**SS**	**02 37 23.8**	**-7.1**
HHC			ScS	**ScS**	**02 38 57.3**	**+2.4**
HHC			pmax	pmax		
	comp=Z,47nm,1.2s					
HHC			pmax	pmax		
	comp=Z,320nm,5.2s					
HHC			LR	LR		
	comp=N,1μm,17.8s					
HHC			LR	LR		
	comp=E,1μm,16.7s					
HHC			LR	LR		
	comp=Z,1μm,16.3s					
NWAO	**Narrogin (SRO)**	**38.67 193**	P	**P**	**02 28 50.3**	**-1.9**
NWAO	**Narrogin (SRO)**	**38.67 193**	P	**P**	**02 28 50.3**	**-1.9**
	comp=Z,16nm,0.9s,baz=16,slow=8.8,SNR=4.0					
CN2	**Changchun**	**38.79 358**	*e*P	**P**	**02 28 54.3**	**+1.2**
CN2			pmax	pmax		
	comp=Z,10.0nm,0.7s					
STKA	**Stephens Creek**	**39.16 160**	*e*P	**P**	**02 28 55.3**	**-1.1**
	comp=Z,33nm,1.2s					
STKA			PcP	**PcP**	**02 31 05.3**	**+0.5**
STKA	**Stephens Creek**	**39.16 160**	P	**P**	**02 28 55.7**	**-0.7**
	comp=Z,58nm,0.4s,baz=223,slow=16,SNR=118					
STKA			PcP	**PcP**	**02 31 05.3**	**+0.5**
	comp=Z,6.9nm,0.6s,baz=317,slow=8.2,SNR=4.8					
USRK	**Ussuriysk Arra**	**39.44 6**	P	**P**	**02 28 58.9**	**+0.4**
	comp=Z,3.0nm,0.6s,baz=188,slow=7.9,SNR=12					
LSA	**Lhasa**	**41.75 310**	P	**P**	**02 29 18.5**	**+0.1**
LSA	**Lhasa**	**41.75 310**	*e*P	**P**	**02 29 18.3**	**-0.1**
LSA			pmax	pmax		
	comp=Z,11nm,0.9s					
LSA	**Lhasa**	**41.75 310**	*e*P	**P**	**02 29 18.3**	**-0.1**
	comp=Z,11nm,0.9s					
GTA	**Gaotai**	**42.17 328**	*e*P	**P**	**02 29 21.0**	**-0.3**
GTA			pP	pP	02 29 32.8	-4.6
GTA			sP	sP	02 29 37.5	-7.3
GTA			PcP	**PcP**	**02 31 16.0**	**+1.4**
GTA			ScP	**ScP**	**02 35 03.5**	**+3.7**
GTA			S	**S**	**02 35 39.8**	**+3.0**
GTA			pmax	pmax		
	comp=Z,13nm,0.9s					
GTA			pmax	pmax		
	comp=Z,120nm,4.3s					
GTA			LR	LR		
	comp=N,270nm,20.4s					
GTA			LR	LR		
	comp=E,340nm,19.5s					
GTA			LR	LR		
	comp=Z,850nm,20.4s					
ARMA	**Armidale**	**42.38 147**	*e*P	**P**	**02 29 24.0**	**+1.0**
	comp=Z,25nm,0.9s					
TAPN	**Taplejung**	**43.41 305**	*e*P	**P**	**02 29 30.2**	**-1.6**
ODAN	**Odare**	**43.48 304**	*e*P	**P**	**02 29 30.7**	**-1.5**
	comp=Z,35nm,0.8s					
YSS	**Yuzh-Sakhalins**	**44.13 16**	*e*P	**P**	**02 29 35.7**	**-1.1**
RAMN	**Ramite**	**44.16 304**	*e*P	**P**	**02 29 37.7**	**0.0**
	comp=Z,42nm,0.9s					
JIRN	**Jiri**	**44.77 305**	*e*P	**P**	**02 29 41.7**	**-1.0**
	comp=Z,32nm,0.7s					
CAN	**Canberra**	**45.09 154**	*e*P	**P**	**02 29 45.7**	**+1.0**
CAN			pmax	pmax		
	comp=Z,21nm,1.1s					
CAN	**Canberra**	**45.09 154**	*e*P	**P**	**02 29 45.6**	**+1.0**
	comp=Z,21nm,1.1s					
GUN	**Gumba**	**45.13 305**	*e*P	**P**	**02 29 44.0**	**-1.5**
	comp=Z,54nm,0.9s					
PKIN	**Phulchoki**	**45.39 304**	*e*P	**P**	**02 29 47.0**	**-0.5**
KKN	**Kakani**	**45.57 305**	*e*P	**P**	**02 29 47.7**	**-1.2**
	comp=Z,23nm,0.9s					
DMN	**Daman**	**45.64 304**	*e*P	**P**	**02 29 47.9**	**-1.6**
	comp=Z,23nm,0.8s					
ULN	**Ulaanbaatar**	**46.07 342**	*e*P	**P**	**02 29 52.7**	**+0.3**
	comp=Z,13nm,0.9s					
GKN	**Gorkha**	**46.18 305**	*e*P	**P**	**02 29 52.7**	**-0.9**
SONM	**Songino Array**	**46.25 341**	P	**P**	**02 29 53.6**	**-0.2**
SONM			PcP	**PcP**	**02 31 28.6**	**+0.2**
SONM	**Songino Array**	**46.25 341**	P	**P**	**02 29 53.6**	**-0.2**
	comp=Z,2.8nm,0.7s,baz=157,slow=7.9,SNR=14					
SONM			PcP	**PcP**	**02 31 28.6**	**+0.2**
	comp=Z,2.6nm,0.8s,baz=357,slow=1.2,SNR=3.5					
KOLN	**Koldanda**	**46.95 304**	*e*P	**P**	**02 29 58.4**	**-1.2**
	comp=Z,24nm,0.5s					
DANN	**Dangsing**	**47.02 305**	*e*P	**P**	**02 29 58.6**	**-1.8**
	comp=Z,36nm,0.6s					
TLY	**Talaya**	**50.48 341**	*e*P	**P**	**02 30 23.6**	**-2.5**
TLY			pmax	pmax		
	comp=Z,14nm,1.2s					
WMQ	**Urumqi**	**51.84 325**	*e*P	P	02 30 38.5	+2.0
WMQ			pP	pP	02 30 48.5	-4.7
WMQ			sP	sP	02 30 52.5	-8.0
WMQ			pmax	pmax		
	comp=Z,12nm,0.8s					
WMQ			pmax	pmax		
	comp=Z,190nm,8.0s					
WMQ			LR	LR		
	comp=N,450nm,34.0s					
WMQ			LR	LR		
	comp=E,400nm,30.0s					
WMQ			LR	LR		
	comp=Z,400nm,25.5s					
HVS	**Khovu-Aksy**	**53.75 335***d i*P		**P**	**02 30 50.7**	**+0.2**
HVS			pmax	pmax		
	comp=Z,76nm,1.2s					
PEA0B	**Petropavlovsk-**	**54.36 22**	*e*P	**P**	**02 30 55.4**	**+0.6**
PETK	**Petropavlovsk-**	**54.36 22**	P	**P**	**02 30 55.1**	**+0.3**
PETK	**Petropavlovsk-**	**54.36 22**	P	**P**	**02 30 55.1**	**+0.3**
PETK	**Petropavlovsk-**	**54.36 22**	P	**P**	**02 30 55.1**	**+0.3**
	comp=Z,16nm,0.8s,baz=199,slow=6.0,SNR=15					
PET	**Petropavlovsk**	**54.66 23**	*e*P	**P**	**02 30 58.6**	**+1.7**
PET			pmax	pmax		
	comp=Z,17nm,0.5s					
MK31	**Makanchi Array**	**56.67 325***ce*P		**P**	**02 31 10.3**	**-1.2**
MK31			pmax	pmax		
	comp=Z,11nm,0.7s					
MK31	**Makanchi Array**	**56.67 325**	*e*P	**P**	**02 31 10.6**	**-0.9**
MKAR	**Makanchi Array**	**56.67 325**	P	**P**	**02 31 10.6**	**-1.0**
MKAR					02 32 07.2	
MKAR	**Makanchi Array**	**56.67 325**	P	**P**	**02 31 10.6**	**-1.0**
MKAR			PcP	**PcP**	**02 32 07.2**	**+0.1**
MKAR	**Makanchi Array**	**56.67 325**	P	**P**	**02 31 10.6**	**-1.0**
	comp=Z,7.8nm,0.6s,baz=126,slow=7.9,SNR=81					
MKAR			PcP	**PcP**	**02 32 07.2**	**+0.1**
	comp=Z,3.7nm,0.5s,baz=121,slow=3.7,SNR=5.0					
MKAR			LR	LR	02 57 51.4	
	comp=Z,206nm,19.9s,baz=351,slow=39					
KSH	**Kashi**	**57.30 315**	P	**P**	**02 31 16.8**	**+0.6**
KSH			pP	pP	02 31 27.0	-6.1
KSH			PP	**PP**	**02 33 25.5**	**+1.4**
KSH			S	**S**	**02 39 08.5**	**+0.5**
KSH			ScS	**ScS**	**02 41 00.3**	**+0.1**
KSH			pmax	pmax		
	comp=Z,5.0nm,0.7s					
KSH			pmax	pmax		
	comp=Z,200nm,7.1s					
KSH			LR	LR		
	comp=N,170nm,6.4s					
KSH			LR	LR		
	comp=E,87nm,7.0s					
KSH			LR	LR		
	comp=Z,280nm,14.2s					
AAK	**Ala-Archa**	**59.57 317**⇑	*e*P	**P**	**02 31 31.1**	**-1.0**
AAK			pmax	pmax		
	comp=Z,23nm,1.7s					
AAK	**Ala-Archa**	**59.57 317**	*e*P	**P**	**02 31 31.6**	**-0.5**
	comp=Z,4.8nm,0.8s					
ZAA0	**Zalesovo Array**	**59.62 333**	*e*P	**P**	**02 31 30.6**	**-1.3**
ZALV	**Zalesovo Beam**	**59.62 333**	P	**P**	**02 31 30.2**	**-1.7**
ZALV	**Zalesovo Beam**	**59.62 333**	P	**P**	**02 31 30.2**	**-1.7**
ZALV	**Zalesovo Beam**	**59.62 333**	P	**P**	**02 31 30.2**	**-1.7**
	comp=Z,3.4nm,0.8s,baz=136,slow=5.9,SNR=9.5					
EKS2	**Erkin-Say**	**60.07 317**	*e*P	**P**	**02 31 34.8**	**-0.6**
EKS2			pmax	pmax		
	comp=Z,7.0nm,0.9s					
EKS2	**Erkin-Say**	**60.07 317**	*e*P	**P**	**02 31 34.8**	**-0.6**
	comp=Z,7.4nm,0.9s					
KURK	**Kurchatov**	**60.83 327***c i*P		**P**	**02 31 39.1**	**-1.2**
KURK			pmax	pmax		
	comp=Z,14nm,1.0s					
KURK	**Kurchatov**	**60.83 327**	*e*P	**P**	**02 31 39.0**	**-1.3**
	comp=Z,13nm,0.9s					
SEY	**Seymchan**	**60.92 13**⇑	*e*P	**P**	**02 31 39.9**	**-0.7**
BVAR	**Borovoye Array**	**66.41 327**	P	**P**	**02 32 16.2**	**-0.9**
BVAR	**Borovoye Array**	**66.41 327**	P	**P**	**02 32 16.2**	**-0.9**
BVAR	**Borovoye Array**	**66.41 327**	P	**P**	**02 32 16.2**	**-0.9**
	comp=Z,5.8nm,0.7s,baz=124,slow=8.0,SNR=23					
BRVK	**Borovoye**	**66.48 327**	*e*P	**P**	**02 32 16.4**	**-1.1**
BRVK			pmax	pmax		
	comp=Z,27nm,1.1s					
BRVK	**Borovoye**	**66.48 327**	*e*P	**P**	**02 32 16.4**	**-1.1**
	comp=Z,27nm,1.1s					
TIXI	**Tiksi**	**66.71 1***c i*P		**P**	**02 32 19.3**	**+0.7**
TIXI			pmax	pmax		
	comp=Z,18nm,1.7s					
IDAH	**Dahanechah**	**68.01 303**	*e*P	**P**	**02 32 27.3**	**-0.6**
IMON	**Monand**	**68.25 304**	*e*P	**P**	**02 32 28.3**	**-1.1**
IKOO	**Kooshah**	**68.69 303**	*e*P	**P**	**02 32 31.1**	**-1.1**
ITEG	**Tejag**	**68.97 303**	*e*P	**P**	**02 32 33.1**	**-0.7**
ABKAR	**Akbulak array**	**71.32 321**	*e*P	**P**	**02 32 45.9**	**-1.7**
	comp=Z,3.2nm,0.4s					
AKTO	**Aktyubinsk**	**72.82 321**	*i* P	**P**	**02 32 55.3**	**-1.3**
AKTO			pmax	pmax		
	comp=Z,10.0nm,0.7s					
AKTO	**Aktyubinsk**	**72.82 321**	P	**P**	**02 32 55.5**	**-1.1**
AKTO	**Aktyubinsk**	**72.82 321**	P	**P**	**02 32 55.5**	**-1.1**
	comp=Z,8.0nm,0.7s,baz=103,slow=7.9,SNR=24					
ARU	**Arti**	**74.02 328***c i*P		**P**	**02 33 01.9**	**-1.6**
ARU					02 35 43.0	
ARU			S	**S**	**02 42 33.7**	**+2.7**
ARU			SS	**SS**	**02 47 12.3**	**-4.4**
ARU			pmax	pmax		
	comp=Z,18nm,1.0s					
IHRS	**Heris**	**78.97 308**	*e*P	**P**	**02 33 32.5**	**+0.3**
GNI	**Garni**	**80.81 310**	*e*P	**P**	**02 33 42.9**	**+0.9**
	comp=Z,20nm,1.3s					
IM04	**Indian Mountai**	**81.27 24**	*e*P	**P**	**02 33 44.6**	**+0.9**
IMA2	**Indian Mountai**	**81.32 24**	*e*P	**P**	**02 33 45.0**	**+1.0**
PPLA	**Purkeypile**	**81.59 27**	*e*P	**P**	**02 33 46.0**	**+0.4**
	comp=Z,26nm,1.3s					
KBZ	**Khabaz**	**82.25 313**	P	**P**	**02 33 48.5**	**-0.8**
KBZ	**Khabaz**	**82.25 313**	P	**P**	**02 33 48.5**	**-0.8**
	comp=Z,2.1nm,0.8s,baz=114,slow=10.0,SNR=2.3					
COLD	**Coldfoot**	**82.82 23**	*e*P	**P**	**02 33 52.8**	**+1.0**
	comp=Z,13nm,0.9s					
MCK	**McKinley**	**83.12 26**	*e*P	**P**	**02 33 53.5**	**+0.1**
MCK			pmax	pmax		
	comp=Z,16nm,0.8s					
MCK	**McKinley**	**83.12 26**	*e*P	**P**	**02 33 53.5**	**+0.1**
	comp=Z,16nm,0.8s					
COLA	**College**	**83.64 25**	*e*P	**P**	**02 33 55.3**	**-0.7**
COLA			pmax	pmax		
	comp=Z,30nm,0.8s					
COLA	**College**	**83.64 25**	*e*P	**P**	**02 33 55.3**	**-0.7**
	comp=Z,30nm,0.8s					
ILAR	**Eielson Array**	**84.05 25**	P	**P**	**02 33 57.5**	**-0.7**
ILAR	**Eielson Array**	**84.05 25**	P	**P**	**02 33 57.4**	**-0.7**
	comp=Z,2.9nm,0.8s,baz=236,slow=6.1,SNR=24					
VNDA	**Vanda**	**84.54 173**	*e*P	**P**	**02 34 00.1**	**-0.3**
	comp=Z,6.6nm,1.2s					
VNDA	**Vanda**	**84.54 173**	P	**P**	**02 33 59.4**	**-1.0**
	comp=Z,2.5nm,1.0s,baz=322,slow=5.3,SNR=7.1					
MAW	**Mawson**	**84.84 200**	P	**P**	**02 34 02.6**	**+0.6**
MAW	**Mawson**	**84.84 200**	P	**P**	**02 34 02.6**	**+0.6**
	comp=Z,3.1nm,1.0s,baz=128,slow=5.4,SNR=4.5					
OBN	**Obninsk**	**86.18 325***k i*P		**P**	**02 34 08.5**	**-0.4**
OBN		*i* *PP		PcP	02 34 18.0	+6.6
OBN		*SP		sP	02 34 23.0	-11
OBN		pmax		pmax		
	comp=Z,65nm,1.2s					
JOF	**Joensuu**	**88.21 333**	*e*p	**P**	**02 34 18.6**	**0.0**
	comp=Z,4.8nm,0.5s					
INK	**Inuvik**	**89.09 22**	*e*P	**P**	**02 34 22.3**	**-0.3**
	comp=Z,4.8nm,0.9s					
BR131	**Keskin Array S**	**89.36 310**	*e*P	**P**	**02 34 23.8**	**-0.9**
	comp=Z,2.5nm,0.8s					
BRTR	**Keskin Array B**	**89.36 310**	P	**P**	**02 34 22.9**	**-1.8**
BRTR	**Keskin Array B**	**89.36 310**	P	**P**	**02 34 22.9**	**-1.8**
	comp=Z,2.0nm,0.8s,baz=120,slow=4.8,SNR=8.1					
ARCES	**ARCESS Array B**	**89.41 340**	P	**P**	**02 34 23.4**	**-0.8**
ARCES	**ARCESS Array B**	**89.41 340**	P	**P**	**02 34 23.4**	**-0.8**
	comp=Z,5.4nm,0.7s,baz=78,slow=6.1,SNR=13					
KMBO	**Kilima Mbogo**	**89.64 269**	*e*P	**P**	**02 34 27.3**	**+0.6**
	comp=Z,2.9nm,1.0s					
KMBO	**Kilima Mbogo**	**89.64 269**	P	**P**	**02 34 26.6**	**-0.1**
	comp=Z,3.9nm,1.1s,baz=58,slow=8.3,SNR=4.9					
KAF	**Kangasniemi**	**90.63 332**	*e*p	**P**	**02 34 29.0**	**-0.9**
	comp=Z,8.2nm,0.5s					
FINES	**FINESS Array B**	**90.87 332**	P	**P**	**02 34 30.2**	**-0.9**
FINES	**FINESS Array B**	**90.87 332**	P	**P**	**02 34 30.2**	**-0.9**
	comp=Z,6.4nm,0.5s,baz=54,slow=5.5,SNR=42					
AKASG	**Malin Array Be**	**91.06 321**	P	**P**	**02 34 30.8**	**-1.4**
AKASG	**Malin Array Be**	**91.06 321**	P	**P**	**02 34 30.8**	**-1.4**
AKASG	**Malin Array Be**	**91.06 321**	P	**P**	**02 34 30.8**	**-1.4**
	comp=Z,3.0nm,0.9s,baz=68,slow=4.4,SNR=8.6					
KIEV	**Kiev**	**91.07 321**	*e*P	**P**	**02 34 31.7**	**-0.5**
KIEV			pmax	pmax		
	comp=Z,3.0nm,0.6s					
KIEV	**Kiev**	**91.07 321**	*e*P	**P**	**02 34 31.7**	**-0.5**
	comp=Z,3.1nm,0.6s					
SUW	**Suwalki**	**94.04 325**	*e*P	**P**	**02 34 44.3**	**-1.6**
SUW			pmax	pmax		
	comp=Z,45nm,1.0s					
SUW	**Suwalki**	**94.04 325**	*e*P	**P**	**02 34 44.3**	**-1.6**
	comp=Z,45nm,1.0s					
SUW	**Suwalki**	**94.04 325**	*e*P	**P**	**02 34 44.9**	**-1.0**
BUR08	**Bucovina Ar. S**	**94.21 318**	*e*P	**P**	**02 34 45.8**	**-1.2**
KOLS	**Kolonicke sedl**	**95.83 320**	*e*P	**P**	**02 34 55.6**	**+1.4**
CRVS	**Cervenica-Dubn**	**96.35 320**	*e*P	**P**	**02 34 56.1**	**-0.5**
PSZ	**Piszkesteto**	**97.62 320**	*e*P	Pdif	02 35 04.0	+1.5
PSZ			pmax	pmax		
	comp=Z,4.0nm,0.8s					
PSZ	**Piszkesteto**	**97.62 320**	*e*P	Pdif	02 35 04.0	+1.5
	comp=Z,4.4nm,0.8s					
NB2	**NORSAR Subarra**	**97.81 334**	P	**P**	**02 35 01.3**	**-1.6**
	comp=Z,1.8nm,0.6s,baz=65,slow=4.6					
NB2	**NORSAR Subarra**	**97.81 334**	P	**P**	**02 35 01.3**	**-1.6**
	baz=65,slow=4.6					
NOA	**NORSAR Array B**	**97.81 334**	P	Pdif	02 35 01.7	-1.3
NOA	**NORSAR Array B**	**97.81 334**	P	Pdif	02 35 01.7	-1.3
	comp=Z,2.0nm,0.7s,baz=66,slow=4.6,SNR=11					
NAO01	**NORSAR Array S**	**98.03 334**	*e*P	Pdif	02 35 02.8	-1.1
	comp=Z,14nm,1.1s					
BRG	**Berggiesshubel**	**100.37 324**	*e*P	**Pdif**	**02 35 14.3**	**-0.3**
	comp=Z,11nm,1.2s					
SCHQ	**Schefferville**	**119.44 9**	PKP	**PKPdf**	**02 40 16.5**	**-0.5**
SCHQ	**Schefferville**	**119.44 9**	PKP	**PKPdf**	**02 40 16.5**	**-0.5**
	comp=Z,3.3nm,0.6s,baz=17,slow=6.9,SNR=3.8					
TXAR	**Lajitas Array**	**120.85 52**	PKP	**PKPdf**	**02 40 19.0**	**-1.5**
TXAR	**Lajitas Array**	**120.85 52**	PKP	**PKPdf**	**02 40 19.0**	**-1.5**
	comp=Z,0.4nm,0.8s,baz=321,slow=1.8,SNR=3.7					
TORD	**Torodi Ar. Bea**	**122.63 289**	PKP	**PKPdf**	**02 40 24.0**	**-0.2**
TORD	**Torodi Ar. Bea**	**122.63 289**	PKP	**PKPdf**	**02 40 24.0**	**-0.2**
	comp=Z,1.7nm,0.7s,baz=30,slow=1.4,SNR=13					
DBIC	**Dimbokro**	**130.40 283**	PKP	**PKPdf**	**02 40 39.4**	**+0.3**
DBIC	**Dimbokro**	**130.40 283**	PKP	**PKPdf**	**02 40 39.4**	**+0.3**
	comp=Z,7.4nm,1.2s,baz=0.0,slow=11,SNR=3.5					
PLCA	**Paso Flores**	**141.04 159**	*e*PKPdf	**PKPdf**	**02 40 59.8**	**+1.5**
JTS	**JuntasAbangare**	**144.97 64**	*e*PKPdf	**PKPdf**	**02 41 06.8**	**+0.9**
**TRQ

ASAR	Alice Springs	50.98	251	P	P	02 36 53.4	+0.1
	2.9nm,0.8s,baz=87,slow=8.5,SNR=5.2						
TXAR	Lajitas Array	79.64	56	P	P	02 40 00.1	+1.0
	0.7nm,1.1s,baz=224,slow=7.0,SNR=4.1						
PDAR	Pinedale Array	81.26	42	P	P	02 40 06.4	-1.3
	0.7nm,0.8s,baz=180,slow=0.7,SNR=4.5						
ILAR	Eielson Array	81.58	11	P	P	02 40 08.6	0.0
	0.6nm,1.0s,baz=214,slow=6.4,SNR=5.4						
MAW	Mawson	88.72	198	P	P	02 40 44.3	-0.1
	3.6nm,1.0s,baz=213,slow=1.1,SNR=5.4						
GERES	GERESS Array B	145.48	353	PKPbc	PKPbc	02 47 28.7	-0.9
	0.4nm,0.4s,baz=18,slow=5.6,SNR=5.0						
BRTR	Keskin Array B	145.97	322	PKPbc	PKPbc	02 47 31.8	+0.2
	1.9nm,1.0s,baz=100,slow=1.6,SNR=5.2						

ISCJB ***30*** *02:29:32.3±0.2, 16°.51S±0°.06×173°.35W±0°.06, h10km, mb4.8/82, MS5.0/18, Error ellipse: s-maj=10.8km s-min=5.3km az=140.0*

IDC ***30*** *02:29:32.2±0.5, 16°.47S×173°.32W, h0km, mb4.6/21, mb1 4.7/22, mb1mx4.6/30, mbtmp4.6/22, ML3.9/1, MS4.9/15, Ms1 4.9/15, ms1mx4.7/27, Error ellipse: s-maj=20.2km s-min=13.7km az=135.0*

NEIC ***30*** *02:29:33.8±0.2, 16°.46S×173°.35W, h10km, mb4.9/64, Error ellipse: s-maj=9.0km s-min=4.1km az=138.0*

BJI ***30*** *02:29:34.0, 16°.35S×173°.33W, h8km, mB5.5/10, mb5.1/18, Ms5.4/9, Ms7 5.1/11*

SZGRF ***30*** *02:29:38.8, 15°.95S×172°.72W, h33km, Samoa Islands region*

ISC 30 02:29:33.8±0.4, 16°.53S±0°.08×173°.31W±0°.08, h10km, n230, σ1°.26/238, mb4.9/84, MS5.0/18, 15C-6D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.99	30	ePn	Pn	02 30 08.1	-13
MSVF	Nonsavu	8.35	260	ePn	Pn	02 31 45.6	+10
RAR	Rarotonga	13.63	112	ePn	Pn	02 32 41.1	-6.1
RAR	Rarotonga	13.63	112	Pn	Pn	02 32 41.0	-6.3
	2.9nm,0.3s,baz=270,slow=5.9,SNR=9.8						
RAR				LR	LR	02 36 40.9	
	comp=Z,5μm,20.7s,baz=268,slow=31						
DZM	Mont Dzumac	19.88	251	eP	Pn	02 34 12.4	+5.2
	65nm,1.1s						
DZM				eLR	LR	02 38 40.8	
	9μm,24.8s						
DZM	Mont Dzumac	19.88	251	eP	Pn	02 34 06.8	-0.4
	280nm,1.6s						
DZM	Mont Dzumac	19.88	251	P	P	02 34 04.8	-0.7
	0.4nm,0.3s,baz=96,slow=19,SNR=2.7						
PPT2	Papeete2	22.71	96	eS	S	02 38 37.5	-7.3
	4μm,29.0s						
PPT2				eLR	LR	02 39 57.3	
	7μm,25.2s,baz=261						
PPT	Papeete	22.71	96	LR	LR	02 41 09.4	
	comp=Z,2μm,18.8s,baz=262,slow=31						
URZ	Urewera	23.23	199	P	P	02 34 41.3	+0.1
URZ	Urewera	23.23	199	P	P	02 34 41.3	+0.1
	35nm,0.7s,baz=29,slow=6.7,SNR=17						
URZ				LR	LR	02 43 03.5	
	comp=Z,1μm,19.5s,baz=24,slow=35						
TBI	Tubuai	23.40	111	eLR	LR	02 40 10.8	
	8μm,27.0s,baz=285						
BKZ	Black Stump Fm	24.26	200	eP	P	02 34 51.8	+0.6
	532nm,2.6s						
HNR	Honiara	26.98	282	LR	LR	02 44 28.4	
	comp=Z,10μm,20.4s,baz=73,slow=33						
KHZ	Kahutara	28.16	201	eP	P	02 35 25.4	-0.9
	653nm,2.9s						
RPZ	Rata Peaks	30.18	203	eP	P	02 35 45.7	+1.4
	27nm,0.7s						
RPZ	Rata Peaks	30.18	203	P	P	02 35 44.9	+0.6
	8.5nm,0.6s,baz=329,slow=5.9,SNR=3.5						
ARMA	Armidale	34.85	240	eP	P	02 36 25.3	-0.2
	18nm,1.1s						
RKT	Rikitea	36.58	107	eLR	LR	02 46 12.8	
	5μm,27.8s,baz=276						
CAN	Canberra	38.43	234	eP	P	02 36 55.0	-0.8
	27nm,1.4s						
CTA	Charters Tower	38.49	258	P	P	02 36 56.4	-0.1
CTA	Charters Tower	38.49	258	P	P	02 36 56.4	-0.1
	3.0nm,0.5s,baz=97,slow=16,SNR=3.2						
CTA				LR	LR	02 50 25.9	
	comp=Z,1μm,19.3s,baz=16,slow=33						
CTAO	Charters Tower	38.49	258	eP	P	02 36 57.0	+0.5
	5.3nm,0.8s						
PMG	Port Moresby	39.12	275	eP	P	02 37 02.4	+0.6
	39nm,1.3s						
PMG	Port Moresby	39.12	275	P	P	02 37 01.9	+0.2
	14nm,0.8s,baz=50,slow=9.1,SNR=5.4						
COEN	Coen	42.01	267	eP	P	02 37 25.3	-0.5
	52nm,0.8s						
STKA	Stephens Creek	43.56	241	eP	P	02 37 37.8	-0.3
	10nm,1.3s						
STKA	Stephens Creek	43.56	241	P	P	02 37 37.4	-0.7
	28nm,1.1s,baz=88,slow=7.6,SNR=15						
WRAB	Tennant Creek	49.67	258	eP	P	02 38 25.3	-1.0
	9.2nm,0.9s						
WRA	Warramunga Arr	49.68	258	P	P	02 38 24.5	-1.9
WRA	Warramunga Arr	49.68	258	P	P	02 38 24.5	-1.9
	2.1nm,0.5s,baz=95,slow=6.3,SNR=26						
WRA				LR	LR	02 58 22.3	
	comp=Z,1μm,19.6s,baz=100,slow=35						
AS31	Alice Springs	49.85	253	eP	P	02 38 26.4	-1.3
ASAR	Alice Springs	49.85	253	P	P	02 38 26.4	-1.3
ASAR	Alice Springs	49.85	253	P	P	02 38 26.4	-1.3
	32nm,0.5s,baz=89,slow=8.2,SNR=165						
FORT	Forrest	54.99	244	eP	P	02 39 05.5	-0.2
	16nm,0.6s						
FITZ	Fitzroy Crossi	58.07	259	P	P	02 39 27.7	-0.1
FITZ	Fitzroy Crossi	58.07	259	P	P	02 39 27.7	-0.1
	1.3nm,0.5s,baz=96,slow=10,SNR=7.6						
FITZ				LR	LR	03 03 30.6	
	comp=Z,2μm,19.2s,baz=100,slow=35						
CBIJ	Chichi jima	61.20	315	LR	LR	03 01 25.5	
	comp=Z,975nm,19.5s,baz=143,slow=31						
BATI	Baumata	61.44	267	P	P	02 39 51.6	+0.5
BATI	Baumata	61.44	267	P	P	02 39 51.6	+0.5
	21nm,0.6s,baz=88,slow=20,SNR=3.8						
SBA	Scott Base	62.14	185	eP	P	02 39 56.8	+2.1
	39nm,1.7s						
VNDA	Vanda	62.27	186	eP	P	02 39 58.2	+2.6
	15nm,1.3s						
VNDA	Vanda	62.27	186	P	P	02 39 57.4	+1.8
	1.2nm,0.7s,baz=6.3,slow=7.0,SNR=5.3						
KAPI	Kappang	66.50	272	eP	P	02 40 23.9	-0.4
	16nm,1.2s						
CASY	Casey	69.43	205	eP	P	02 40 39.3	-2.5
	34nm,1.5s						
MJAR	Matsushiro Arr	69.85	320	P	P	02 40 44.0	-0.9
MJAR	Matsushiro Arr	69.85	320	P	P	02 40 44.0	-0.9
	0.5nm,0.3s,baz=157,slow=4.1,SNR=4.4						
ASAJ	Asahikawa	72.54	328	LR	LR	03 07 21.5	
	comp=Z,346nm,21.5s,baz=221,slow=31						
MWC	Mount Wilson	72.86	45	eP	P	02 41 02.6	-0.8
	8.0nm,0.9s						
ISA	Isabella	73.39	44	eP	P	02 41 06.8	+0.4
	23nm,1.5s						
QSPA	South Pole Qui	73.52	180	eP	P	02 41 07.6	+0.8
	25nm,1.3s						
CMB	Columbia Colle	73.55	41	eP	P	02 41 07.2	0.0
	27nm,1.6s						
PEA0B	Petropavlovsk-	73.72	342	eP	P	02 41 05.7	-2.2
PETK	Petropavlovsk-	73.72	342	P	P	02 41 08.3	+0.5
PETK	Petropavlovsk-	73.72	342	P	P	02 41 08.3	+0.5
	12nm,0.9s,baz=141,slow=9.6,SNR=11						
GSC	Goldstone	74.31	45	eP	P	02 41 11.3	-0.5
	9.4nm,1.1s						
WAKR	Walker	74.43	41	eP	P	02 41 12.6	+0.1
YBH	Yreka Blue Hor	74.44	37	eP	P	02 41 12.8	+0.4
	12nm,1.1s						
BEKR	Beckworth	74.67	40	eP	P	02 41 13.4	-0.5
	5.8nm,1.2s						
HUMO	Hull Mountain	74.86	36	eP	P	02 41 15.0	+0.3
	28nm,1.5s						
NVAR	Mina Array Bea	75.10	42	P	P	02 41 16.6	+0.1
NVAR	Mina Array Bea	75.10	42	P	P	02 41 16.6	+0.1
	3.3nm,0.8s,baz=222,slow=8.0,SNR=6.4						
NV11	Mina Array Sit	75.20	42	eP	P	02 41 16.6	-0.4
MOD	Modoc	75.95	38	eP	P	02 41 21.2	+0.1
	48nm,1.1s						
SHPR	Sheep Range	76.09	45	eP	P	02 41 22.0	-0.1
	13nm,1.3s						
K05A	Summer Lake	76.11	37	eP	P	02 41 23.1	+0.9
	313nm,2.8s						
TUC	Tucson	77.03	50	eP	P	02 41 27.2	-0.2
	6.1nm,1.0s						
KSM	Kuching	77.38	275	eP	P	02 41 31.1	+1.4
	47nm,1.2s						
I07A	Izee	77.75	37	eP	P	02 41 32.0	+0.8
	9.6nm,1.0s						
CCUT	Cedar City	77.86	45	eP	P	02 41 32.7	+0.5
	12nm,1.4s						
J08A	Circle Bar Ran	77.91	38	eP	P	02 41 32.2	+0.2
	13nm,1.1s						
ELK	Elko	78.37	41	eP	P	02 41 35.2	+0.3
	8.4nm,1.3s						
G08A	Pilot Rock	78.79	36	eP	P	02 41 36.8	-0.1
	37nm,1.9s						
HAWA	Hanford	79.15	35	eP	P	02 41 38.9	+0.2
	7.1nm,1.0s						
BMO	Blue Mountains	79.47	37	eP	P	02 41 40.1	-0.6
	9.2nm,1.3s						
DUG	Dugway	79.62	43	eP	P	02 41 40.7	-1.0
	8.5nm,1.2s						
F10A	Beach Ranch, E	80.17	36	eP	P	02 41 43.9	-0.6
	210nm,3.0s						
TMUT	Trail Mountain	80.22	44	eP	P	02 41 45.7	+0.6
	10.0nm,1.0s						
HLID	Hailey	80.44	39	eP	P	02 41 46.0	0.0
	11nm,1.2s						
DIV	Divide	80.47	13	eP	P	02 41 45.1	-0.5
	10nm,0.8s						
CTU	Camp Tracy	80.58	43	eP	P	02 41 44.9	-2.0
	11nm,0.7s						
SRU	San Rafael	80.58	45	eP	P	02 41 47.0	+0.1
	7.4nm,1.1s						
BMRM	Bremner River	80.58	14	eP	P	02 41 46.3	0.0
	40nm,1.3s						
BNM	Barren Site	80.97	50	eP	P	02 41 49.1	-0.1
	2.9nm,1.0s						
TXAR	Lajitas Array	81.17	56	P	P	02 41 49.9	-0.3
TXAR	Lajitas Array	81.17	56	P	P	02 41 49.9	-0.3
	1.4nm,1.1s,baz=197,slow=3.9,SNR=5.3						
ANMO	Albuquerque	81.46	50	eP	P	02 41 51.4	-0.3
	7.6nm,1.2s						
PV15	Paradox Valley	81.59	46	eP	P	02 41 52.4	-0.1
TRF	Thorofare Moun	81.71	10	eP	P	02 41 50.8	-1.6
	18nm,1.2s						
CN2	Changchun	82.00	320	eP	P	02 41 57.0	+2.9
CN2				esP	sP	02 42 04.0	+5.4
CN2				eS	SKSac	02 52 11.3	-3.3
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,900nm,25.0s						
CN2				LR	LR		
	comp=E,900nm,25.0s						
CN2				LR	LR		
	comp=Z,400nm,25.0s						
MCMT	McKenzie Canyo	82.07	39	eP	P	02 41 54.3	-0.5
	comp=Z,4.1nm,1.1s						
MCK	McKinley	82.21	11	eP	P	02 41 53.6	-1.2
	comp=Z,17nm,1.0s						
RRI2	Red Ridge	82.23	41	eP	P	02 41 55.6	-0.1
	comp=Z,10nm,1.2s						
HYT	Haines Junctio	82.26	17	eP	P	02 41 55.9	+0.7
DLMT	Dillon	82.51	38	eP	P	02 41 56.4	-0.6
	comp=Z,7.0nm,1.0s						
REDW	Red Top Meadow	82.53	41	eP	P	02 41 56.9	-0.2
	comp=Z,12nm,1.2s						
MSO	Missoula	82.53	37	eP	P	02 41 56.0	-0.9
	comp=Z,12nm,1.4s						
TPAW	Teton Pass	82.53	41	eP	P	02 41 57.2	-0.1
	comp=Z,100nm,3.0s						
BSMT	Bassoo Peak	82.62	35	eP	P	02 41 56.8	-0.7
MOOW	Moose Ponds	82.79	40	eP	P	02 41 58.9	+0.3
	comp=Z,17nm,1.6s						
LOHW	Long Hollow	82.81	41	eP	P	02 41 58.4	-0.3
	comp=Z,35nm,2.0s						
QLMT	Earthquake Lak	82.93	39	eP	P	02 42 00.2	+1.0
CHMT	Chamberlain Mo	82.97	37	eP	P	02 42 00.4	+1.0
	comp=Z,5.1nm,1.1s						
FLWY	Flagg Ranch	82.99	40	eP	P	02 42 00.1	+0.5
	comp=Z,15nm,1.3s						
SMCO	Snowmass	83.03	46	eP	P	02 42 00.1	-0.1
	comp=Z,7.7nm,1.0s						
PDAR	Pinedale Array	83.04	42	P	P	02 41 59.0	-0.9
PDAR	Pinedale Array	83.04	42	P	P	02 41 59.0	-0.9
	comp=Z,2.5nm,0.7s,baz=201,slow=2.4,SNR=19						
H17A	Grant Village	83.23	40	eP	P	02 42 01.6	+0.8
COLA	College	83.45	11	eP	P	02 42 00.5	-0.6
	comp=Z,18nm,0.8s						
ILAR	Eielson Array	83.53	11	P	P	02 42 00.3	-1.3
ILAR	Eielson Array	83.53	11	P	P	02 42 00.3	-1.3
	comp=Z,0.8nm,0.4s,baz=200,slow=5.6,SNR=13						
ILAR				LR	LR	03 17 25.6	
	comp=Z,243nm,19.0s,baz=38,slow=34						
IMA2	Indian Mountai	83.66	8	eP	P	02 42 04.3	+2.0
HRY	Holter Researc	83.68	37	eP	P	02 42 02.6	-0.4
DAWY	Dawson	84.49	14	eP	P	02 42 05.9	-0.7
GCMT	Greycliff	84.49	39	eP	P	02 42 06.5	-0.6
	comp=Z,5.7nm,1.1s						
EGAK	Eagle	84.69	13	eP	P	02 42 07.4	-0.1
	comp=Z,83nm,2.3s						
USHA	Ushuaia	84.94	146	LR	LR	03 10 24.0	
	comp=Z,1μm,19.4s,baz=229,slow=29						
COLD	Coldfoot	85.24	9	eP	P	02 42 10.9	+0.7
	comp=Z,61nm,2.3s						
ABTX	Abilene, Hawle	85.64	54	eP	P	02 42 12.2	-0.8
MAW	Mawson	86.76	199	P	P	02 42 17.7	-0.2
MAW	Mawson	86.76	199	P	P	02 42 17.7	-0.2
	comp=Z,2.4nm,0.6s,baz=147,slow=5.9,SNR=7.2						
MAW				LR	LR	03 18 12.1	
	comp=Z,681nm,19.5s,baz=161,slow=34						
PSI	Prapat	88.65	273	P	P	02 42 28.2	0.0
PSI	Prapat	88.65	273	P	P	02 42 28.2	0.0
	comp=Z,7.8nm,0.7s,baz=165,slow=4.8,SNR=5.7						
PLCA	Paso Flores	88.69	132	LR	LR	03 13 10.6	
	comp=Z,940nm,21.2s,baz=315,slow=30						
INK	Inuvik	89.34	14	P	P	02 42 28.9	-1.0
INK	Inuvik	89.34	14	P	P	02 42 28.9	-1.0
	comp=Z,1.4nm,0.8s,baz=193,slow=7.3,SNR=3.3						
HHC	Hu-ho-hao-te	89.85	313	eP	P	02 42 33.3	+0.1
HHC				pP	pP	02 42 38.0	+1.5
HHC				sP	sP	02 42 40.3	+2.6
HHC				PP	PP	02 46 09.5	+3.5
HHC				SKS	SKSac	02 53 01.8	-2.4
HHC				S	S	02 53 24.5	-1.2
HHC				sS	sS	02 53 32.3	+1.0
HHC				SS	SS	02 59 27.0	+3.4
HHC				pmax	pmax		
	comp=Z,25nm,1.1s						
HHC				pmax	pmax		
	comp=Z,420nm,5.2s						
HHC				LR	LR		
	comp=N,340nm,17.5s						
HHC				LR	LR		
	comp=E,570nm,17.7s						
HHC				LR	LR		
	comp=Z,610nm,16.9s						
JTS	JuntasAbangare	91.32	80	LR	LR	03 12 44.1	
	comp=Z,540nm,21.9s,baz=343,slow=28						
KMI	Kunming	91.59	296	P	P	02 42 44.0	+2.2
KMI				S	S	02 53 42.0	-0.6
KMI				pmax	pmax		
	comp=Z,11nm,1.1s						
KMI				LR	LR		
	comp=Z,410nm,25.7s						
SNAA	Sanae	91.78	177	eP	P	02 42 41.5	-0.1
	comp=Z,24nm,1.9s						
SNAA	Sanae	91.78	177	P	P	02 42 41.5	-0.1
	comp=Z,0.8nm,0.9s,baz=322,slow=5.3,SNR=5.8						
CD2	Chengdu	92.47	301	P	P	02 42 48.3	+2.8
CD2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
ATAH	Atahualpa	92.67	98	LR	LR	03 14 40.3	
	comp=Z,1μm,21.4s,baz=244,slow=29						
CMAR	Chiang Mai Arr	93.05	288	P	P	02 42 49.5	+1.2
CMAR	Chiang Mai Arr	93.05	288	P	P	02 42 49.5	+1.2
	comp=Z,1.2nm,0.3s,baz=94,slow=3.3,SNR=6.2						
LZH	Lanzhou	93.96	306	eP	P	02 42 54.3	+1.9
LZH				pP	pP	02 42 58.3	+2.5
LZH				sP	sP	02 43 00.5	+3.5
LZH				PP	PP	02 46 36.5	-2.1
LZH				SKS	SKSac	02 53 25.0	-2.7
LZH				eS	S	02 54 00.5	-2.6
LZH				sS	sS	02 54 09.5	+0.8
LZH				pmax	pmax		
	comp=Z,24nm,1.2s						
LZH				pmax	pmax		
	comp=Z,110nm,5.8s						
LZH				LR	LR		
	comp=N,790nm,15.6s						
LZH				LR	LR		
	comp=E,660nm,14.2s						
LZH				LR	LR		
	comp=Z,1μm,16.8s						
GTA	Gaotai	97.95	309	eP	Pdif	02 43 12.8	+2.3
GTA				pP	pP	02 43 17.0	+3.2
GTA				sP	sP	02 43 19.5	+4.5
GTA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MKAR	Makanchi Array	111.67	314	PKiKP	PKiKP	02 48 09.3	+0.4
MKAR	Makanchi Array	111.67	314	PKiKP	PKiKP	02 48 09.3	+0.4
	comp=Z,0.5nm,0.6s,baz=126,slow=2.0,SNR=4.1						
KURK	Kurchatov	114.04	319	PKP	PKiKP	02 48 12.5	-0.7
KURBB	Kurchatov Arra	114.10	318	PKP	PKiKP	02 48 12.5	-0.8
	comp=Z,0.2nm,0.3s,baz=92,slow=2.1,SNR=2.4						
KSH	Kashi	116.21	306	PKP	PKPdf	02 48 19.3	+1.4
KSH				PP	PP	02 49 28.0	+4.5
KSH				PKS	PKSdf	02 51 54.5	-0.2
KSH				SKS	SKSdf	02 55 30.0	-0.4
KSH				SKKS	SKKSac	02 56 21.0	-3.9
KSH				SS	SS	03 05 27.0	-0.3
KSH				LR	LR		
	comp=N,110nm,7.3s						
KSH				LR	LR		
	comp=E,86nm,4.5s						
KSH				LR	LR		
	comp=Z,180nm,8.2s						
ARCES	ARCESS Array B	125.73	352	PKP	PKPdf	02 48 35.8	+0.7
ARCES	ARCESS Array B	125.73	352	PKP	PKPdf	02 48 35.8	+0.7
	comp=Z,4.3nm,0.9s,baz=59,slow=2.3,SNR=3.7						
BOSA	Boshof	131.66	202	PKP	PKPdf	02 48 49.0	+1.1
BOSA	Boshof	131.66	202	PKP	PKPdf	02 48 49.0	+1.1
	comp=Z,4.7nm,0.9s,baz=297,slow=18,SNR=4.6						
FINES	FINESS Array B	133.06	347	PKP	PKPdf	02 48 49.8	+0.5
FINES	FINESS Array B	133.06	347	PKP	PKPdf	02 48 49.8	+0.5
	comp=Z,5.1nm,1.0s,baz=74,slow=3.0,SNR=2.3						
LSZ	Lusaka	141.94	215	ePKPdf	PKPdf	02 49 06.7	-0.5
KWP	Kalwaria Pacla	144.52	342	ePKPdf	PKPbc	02 49 08.6	-0.5
KWP	Kalwaria Pacla	144.52	342	⇑P	PKPdf	02 49 09.3	-1.3
MALT	Malatya	144.72	314	⇑P	PKPdf	02 49 12.1	+0.7
OJC	Ojcow	144.77	345	ePKPdf	PKPdf	02 49 14.2	+3.3
OJC	Ojcow	144.77	345	ePKPdf	PKPdf	02 49 14.1	+3.1
CLL	Collm	144.94	353	ePKPdf	PKPdf	02 49 10.0	-1.2
	comp=Z,3.0nm,1.1s						
CLL				*i*		02 49 17.0	
	comp=Z,9.0nm,1.0s						
CLL				*e*		02 49 21.0	
KMBO	Kilima Mbogo	145.11	243	ePKPbc	PKPdf	02 49 13.3	+0.3
KMBO	Kilima Mbogo	145.11	243	PKPbc	PKPdf	02 49 13.5	+0.5
	comp=Z,7.5nm,0.9s,baz=80,slow=2.5,SNR=17						
STHS	Stebnicka Huta	145.13	343	ePKP	PKPdf	02 49 11.8	+0.2
BRG	Berggiesshubel	145.25	352	ePKP	PKPdf	02 49 18.6	+6.9
	comp=Z,5.9nm,0.8s						
KOLS	Kolonicke sedl	145.27	342	ePKP	PKPdf	02 49 14.7	+2.8
UPC	Upice	145.28	350	ePKP	PKPbc	02 49 09.9	-1.6
UPC				epPKP	PKiKP	02 49 16.2	+0.4
NIE	Niedzica	145.38	344	ePKPdf	PKPdf	02 49 17.1	+5.0
DPC	Dobruska-Polom	145.38	349	ePKP	PKPdf	02 49 11.4	-0.7
DPC				epPKP	PKiKP	02 49 16.5	+0.5
DPC	Dobruska-Polom	145.38	349	ePKPdf	PKPbc	02 49 10.9	-1.0
BUR08	Bucovina Ar. S	145.42	338	ePKPbc	PKPdf	02 49 11.7	-0.7
BURAR	Bucovina Array	145.44	338	⇑P	PKPdf	02 49 12.7	+0.4
PVCC	Panska Ves	145.50	351	ePKP	PKPbc	02 49 10.0	-2.2
OKC	Ostrava-Krasne	145.50	347	ePKP	PKPab	02 49 12.2	-0.3
OKC				epPKP	PKiKP	02 49 16.7	+0.5
CRVS	Cervenica-Dubn	145.53	343	ePKP	PKPab	02 49 12.0	-0.7
MORC	Moravsky Berou	145.69	347	ePKPbc	PKPbc	02 49 11.9	-1.0
MORC	Moravsky Berou	145.69	347	⇑P	PKPab	02 49 13.4	+0.2
MOX	Moxa	145.74	354	ePKPbc	PKPdf	02 49 11.6	-1.0
TESR	Tescani	145.81	335	⇓P	PKPab	02 49 15.2	+1.5
TANN	Tannenbergstha	145.88	353	ePKPbc	PKPbc	02 49 12.6	-0.9
TRPA	Tarpa	145.90	341	⇑P	PKPab	02 49 18.7	+4.7
TLCR		145.92	332	⇓P	PKPab	02 49 14.0	-0.2
PRU	Pruhonice	146.03	351	ePKP	PKPab	02 49 13.5	-0.9
PRU				epPKP	PKiKP	02 49 18.7	+1.4
NKC	Novy Kostel	146.06	353	ePKP	PKPab	02 49 13.9	-0.7
NKC				epPKP	PKiKP	02 49 18.2	+0.8
BCLA	Clavier	146.17	2	APKP	pPKPdf	02 49 18.5	+1.7
KECS	Kecovo	146.19	343	ePKP	PKPab	02 49 16.1	+1.0
CFR	Carcaliu	146.24	332	⇑P	PKPab	02 49 17.6	+2.3
VRI	Vrincioaia	146.30	334	⇑P	PKPab	02 49 18.8	+3.2
PLOR	Plostina	146.34	335	⇓P	PKPab	02 49 19.4	+3.6
TNS	Taunus Mts	146.36	358	ePKPbc	PKPbc	02 49 14.2	-0.8
DOU	Dourbes	146.47	2	APKP	pPKPdf	02 49 16.9	-0.4
ROTZ	Rotzenmuhle	146.54	354	ePKPbc	PKPab	02 49 15.0	-1.4
GRF	Grafenberg Arr	146.72	355	ePKPbc	PKPbc	02 49 15.0	-1.0
GRFO	Grafenberg	146.72	355	ePKPbc	PKPab	02 49 15.5	-1.6
TLB	Topalu	146.74	332	⇑P	PKPab	02 49 18.6	+1.3
PSZ	Piszkesteto	146.86	344	ePKPbc	PKPbc	02 49 16.0	-0.5
PSZ	Piszkesteto	146.86	344	⇑P	PKPab	02 49 19.8	+2.0
MLR	Muntele Rosu	146.92	335	⇑P	PKPab	02 49 21.5	+3.3
WLF	Walferdange	146.94	1	PKP	PKPab	02 49 16.7	-1.2
WLF	Walferdange	146.94	1	ePKPbc	PKPab	02 49 16.4	-1.6
WLF	Walferdange	146.94	1	ePKPbc	PKPab	02 49 16.9	-1.0
KHC	Kasperske Hory	147.00	352	ePKPbc	PKPbc	02 49 16.2	-0.6
KHC				epPKP	PKiKP	02 49 21.5	+2.1
KHC	Kasperske Hory	147.00	352	ePKPbc	PKPab	02 49 16.6	-1.7
DRGR		147.02	340	⇑P	PKPab	02 49 17.2	-1.3
BR131	Keskin Array S	147.08	320	ePKPbc	PKPbc	02 49 17.1	-0

ASAR	**Alice Springs**	**50.27**	**252**	P	P	02 43 31.6	+0.2
	2.5nm,0.6s,baz=89,slow=7.5,SNR=8.2						
BRTR	**Keskin Array B**	**146.82**	**321**	PKPbc	PKPbc	02 54 16.8	-0.7
	1.3nm,0.7s,baz=83,slow=2.3,SNR=6.9						

IDC 30 02:37:08.9±3.1, 15°.40S×173°.47W, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.9/21, mbtmp4.0/5, Error ellipse: s-maj=145.9km s-min=30.8km az=137.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**43.98**	**240**	P	P	02 45 17.0	-1.2
	2.4nm,0.7s,baz=68,slow=8.0,SNR=5.5						
WRA	**Warramunga Arr**	**49.77**	**257**	P	P	02 46 03.6	-0.2
	0.8nm,0.5s,baz=90,slow=6.8,SNR=14						
ASAR	**Alice Springs**	**50.04**	**252**	P	P	02 46 05.7	-0.2
	2.4nm,0.6s,baz=90,slow=8.4,SNR=19						
FITZ	**Fitzroy Crossi**	**58.14**	**258**	P	P	02 47 05.7	+0.7
	0.9nm,0.5s,baz=119,slow=5.7,SNR=6.3						
ILAR	**Eielson Array**	**82.46**	**11**	P	P	02 49 32.6	-0.2
	0.5nm,0.6s,baz=224,slow=6.3,SNR=5.3						
KMBO	**Kilima Mbogo**	**145.47**	**244**	PKPbc	PKPab	02 56 50.7	0.0
	0.9nm,0.6s,baz=51,slow=23,SNR=3.6						
BRTR	**Keskin Array B**	**146.11**	**321**	PKPbc	PKPdf	02 56 50.5	-0.2
	0.7nm,0.8s,baz=25,slow=3.8,SNR=2.6						

JMA 30 02:37:58.6±0.1, 36°.96N×138°.15E, h15km±1km, M1.0, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJN	**Nakama**	**0.14**	**4**	P	Pg	02 38 02.3	-0.1
JJN				S	Sb	02 38 05.5	-0.5
MAT	**Matsushiro**	**0.42**	**174**	P	Pg	02 38 06.7	-0.4
MAT				S	Sg	02 38 12.5	-0.3
MAT	**Matsushiro**	**0.42**	**174**	P	Pg	02 38 06.7	-0.4
MAT				S	Sg	02 38 12.5	-0.3
JNG	**Nsakai**	**0.55**	**184**	P	Pg	02 38 09.3	-0.4
JNG				S	Sg	02 38 16.8	-0.4
JHK	**Hiroka**	**0.75**	**67**	P	Pg	02 38 12.6	-0.7
JHK				S	Sg	02 38 22.9	-0.3

*IDC **30** 02:39:01.1±0.6, 16°.33S×173°.27W, h0km, mb4.1/12, mb1 4.3/12, mb1mx4.2/22, mbtmp4.1/12, MS4.5/1, Ms1 4.5/1, ms1mx3.8/29, Error ellipse: s-maj=28.9km s-min=16.5km az=126.0*
*NEIC **30** 02:39:05.7±0.3, 16°.55S×173°.54W, h10km, mb4.6/26, Error ellipse: s-maj=20.7km s-min=9.6km az=132.0*
*BJI **30** 02:39:09.1, 15°.64S×172°.86W, h7km, mB5.6/9, mb5.0/13, Ms5.2/5, Ms7 4.8/5*
*ISCJB **30** 02:39:10.7±0.3, 16°.50S±0°.10×173°.7W±0°.1, h66km, mb4.4/40, Error ellipse: s-maj=18.6km s-min=8.2km az=42.9*

ISC 30 02:39:12.4±0.5, 16°.6S±0°.1×173°.7W±0°.1, h66km, n97, σ2°.07/86, mb4.5/40, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.21**	**36**	*e*Pn	Pn	02 39 44.3	-16
AFI				Sn	Sn	02 40 12.3	-25
AFI	**Afiamalu**	**3.21**	**36**	Pn	Pn	02 39 40.7	-20
	baz=153,slow=6.8,SNR=1.5						
AFI				Sn	Sn	02 40 12.3	-25
	97nm,0.3s,baz=54,slow=21,SNR=3.6						
MSVF	**Nonsavu**	**7.98**	**260**	*e*Pn	Pn	02 41 15.8	+10
DZM	**Mont Dzumac**	**19.53**	**251**	*e*P	**P**	**02 43 34.8**	**+0.1**
	13nm,0.8s						
URZ	**Urewera**	**23.09**	**199**	P	**P**	**02 44 12.1**	**-0.5**
URZ	**Urewera**	**23.09**	**199**	P	**P**	**02 44 12.1**	**-0.5**
	7.1nm,0.4s,baz=358,slow=19,SNR=6.4						
HNR	**Honiara**	**26.62**	**282**	LR	LR	02 54 11.0	
	comp=Z,1μm,19.0s,baz=223,slow=34						
RPZ	**Rata Peaks**	**30.02**	**202**	*e*P	**P**	**02 45 17.3**	**+2.4**
	22nm,0.8s						
STKA	**Stephens Creek**	**43.23**	**241**	*e*P	P	02 47 14.5	+7.2
	25nm,2.4s						
STKA	**Stephens Creek**	**43.23**	**241**	P	**P**	**02 47 07.0**	**-0.2**
	2.2nm,0.7s,baz=76,slow=17,SNR=3.8						
WRAB	**Tennant Creek**	**49.30**	**258**	*e*P	**P**	**02 47 55.3**	**+0.2**
WRA	**Warramunga Arr**	**49.31**	**258**	P	**P**	**02 47 55.1**	**-0.1**
WRA	**Warramunga Arr**	**49.31**	**258**	P	**P**	**02 47 55.1**	**-0.1**
	1.0nm,0.6s,baz=96,slow=7.5,SNR=7.0						
AS31	**Alice Springs**	**49.49**	**253**	*e*P	**P**	**02 47 56.1**	**-0.5**
ASAR	**Alice Springs**	**49.49**	**253**	P	**P**	**02 47 56.5**	**-0.2**
ASAR	**Alice Springs**	**49.49**	**253**	P	**P**	**02 47 56.5**	**-0.2**
	8.1nm,0.6s,baz=88,slow=8.3,SNR=54						
SBA	**Scott Base**	**62.09**	**185**	*e*P	P	02 49 32.5	+6.7
	127nm,2.9s						
VNDA	**Vanda**	**62.21**	**186**	*e*P	**P**	**02 49 27.3**	**+0.7**
	3.3nm,1.1s						
VNDA	**Vanda**	**62.21**	**186**	P	**P**	**02 49 26.0**	**-0.6**
	0.4nm,0.7s,baz=337,slow=7.7,SNR=3.7						
QSPA	**South Pole Qui**	**73.50**	**180**	*e*P	**P**	**02 50 37.9**	**0.0**
	10nm,1.1s						
PETK	**Petropavlovsk-**	**73.63**	**342**	P	**P**	**02 50 37.1**	**-1.4**
PETK	**Petropavlovsk-**	**73.63**	**342**	P	**P**	**02 50 37.1**	**-1.4**
	5.0nm,0.8s,baz=148,slow=8.4,SNR=2.3						
ISA	**Isabella**	**73.67**	**44**	*e*P	**P**	**02 50 38.0**	**-1.2**
	7.4nm,1.2s						
CMB	**Columbia Colle**	**73.81**	**41**	*e*P	**P**	**02 50 38.4**	**-1.6**
	2.8nm,0.9s						
YBH	**Yreka Blue Hor**	**74.68**	**37**	*e*P	**P**	**02 50 44.7**	**-0.3**
	3.7nm,0.8s						
YBH	**Yreka Blue Hor**	**74.68**	**37**	P	P	02 50 40.5	-4.5
	3.6nm,0.8s,baz=270,slow=5.1,SNR=2.1						
BEKR	**Beckworth**	**74.93**	**40**	*e*P	**P**	**02 50 45.7**	**-0.9**
	2.0nm,1.0s						
CCUT	**Cedar City**	**78.14**	**45**	*e*P	**P**	**02 51 05.4**	**+0.5**
	45nm,2.6s						
G08A	**Pilot Rock**	**79.02**	**36**	*e*P	**P**	**02 51 09.7**	**+0.2**
	6.9nm,1.1s						
DUG	**Dugway**	**79.89**	**43**	*e*P	**P**	**02 51 13.3**	**-1.0**
	5.9nm,1.2s						
F10A	**Beach Ranch, E**	**80.41**	**36**	*e*P	**P**	**02 51 16.2**	**-0.6**
	5.5nm,0.8s						
TMUT	**Trail Mountain**	**80.49**	**44**	*e*P	**P**	**02 51 16.9**	**-0.9**
	7.6nm,1.0s						
DIV	**Divide**	**80.57**	**13**	*e*P	**P**	**02 51 17.6**	**+0.3**
	26nm,1.3s						
B08A	**Colville Reser**	**80.69**	**33**	*e*P	**P**	**02 51 18.1**	**-0.2**
	24nm,1.8s						
HLID	**Hailey**	**80.69**	**39**	*e*P	**P**	**02 51 17.8**	**-0.8**
	4.1nm,0.8s						
BMRM	**Bremner River**	**80.69**	**14**	*e*P	**P**	**02 51 18.5**	**+0.5**
	21nm,1.2s						
BNM	**Barren Site**	**81.27**	**51**	*e*P	**P**	**02 51 21.0**	**-0.9**
TXAR	**Lajitas Array**	**81.48**	**56**	P	P	02 51 17.1	-5.9
TXAR	**Lajitas Array**	**81.48**	**56**	P	P	02 51 17.1	-5.9
	0.3nm,0.8s,baz=230,slow=7.0,SNR=2.9						
ANMO	**Albuquerque**	**81.75**	**50**	*e*P	**P**	**02 51 24.0**	**-0.5**
	3.4nm,1.1s						
CN2	**Changchun**	**81.78**	**320**	*e*P	P	02 51 31.0	+6.9
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
MCK	**McKinley**	**82.30**	**11**	*e*P	**P**	**02 51 27.2**	**+0.8**
	comp=Z,17nm,1.1s						
REDW	**Red Top Meadow**	**82.78**	**41**	*e*P	**P**	**02 51 29.9**	**+0.3**
	comp=Z,9.7nm,1.4s						
QLMT	**Earthquake Lak**	**83.18**	**39**	*e*P	**P**	**02 51 30.4**	**-1.3**
	comp=Z,0.2nm,0.3s						
PDAR	**Pinedale Array**	**83.30**	**42**	P	P	02 51 27.0	-5.4
PDAR	**Pinedale Array**	**83.30**	**42**	P	P	02 51 27.0	-5.4
	comp=Z,2.0nm,0.8s,baz=224,slow=4.1,SNR=5.5						
SMCO	**Snowmass**	**83.31**	**46**	*e*P	**P**	**02 51 32.5**	**-0.2**
	comp=Z,4.1nm,0.8s						
COLA	**College**	**83.53**	**11**	*e*P	**P**	**02 51 33.1**	**+0.5**
	comp=Z,49nm,0.9s						
ILAR	**Eielson Array**	**83.62**	**11**	P	P	02 51 28.6	-4.6
ILAR	**Eielson Array**	**83.62**	**11**	P	P	02 51 28.6	-4.6
	comp=Z,0.5nm,0.8s,baz=222,slow=5.4,SNR=4.8						
HRY	**Holter Researc**	**83.92**	**38**	*e*P	**P**	**02 51 35.2**	**-0.1**
DAWY	**Dawson**	**84.60**	**14**	*e*P	**P**	**02 51 39.2**	**+1.0**
EGAK	**Eagle**	**84.80**	**13**	*e*P	**P**	**02 51 40.1**	**+1.0**
	comp=Z,6.4nm,1.0s						
COLD	**Coldfoot**	**85.31**	**9**	*e*P	**P**	**02 51 44.5**	**+2.8**
	comp=Z,5.5nm,1.0s						
MAW	**Mawson**	**86.62**	**199**	P	**P**	**02 51 47.5**	**-0.7**
MAW	**Mawson**	**86.62**	**199**	P	**P**	**02 51 47.5**	**-0.7**
	comp=Z,0.8nm,0.7s,baz=25,slow=7.9,SNR=3.0						
GYA	**Guiyang**	**88.33**	**298**	P	P	02 52 05.3	+7.9
GYA				SKS	**S**	**03 02 31.8**	**-5.9**
GYA				S	ScS	03 02 51.5	+8.0
GYA				SS	SS	03 08 47.5	+18
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GYA				pmax	pmax		
	comp=Z,90nm,6.8s						
GYA				LR	LR		
	comp=N,480nm,21.2s						
GYA				LR	LR		
	comp=E,360nm,22.0s						
GYA				LR	LR		
	comp=Z,440nm,21.8s						
INK	**Inuvik**	**89.44**	**14**	P	**P**	**02 51 59.0**	**-2.5**
INK	**Inuvik**	**89.44**	**14**	P	**P**	**02 51 59.0**	**-2.5**
	comp=Z,2.9nm,1.0s,baz=326,slow=3.6,SNR=3.4						
HHC	**Hu-ho-hao-te**	**89.59**	**313**	*e*P	P	02 52 07.8	+4.8
HHC				pP	PcP	02 52 12.5	+8.2
HHC				sP	sP	02 52 14.8	-14
HHC				PP	PP	02 55 43.5	+7.8
HHC				SKS	**SKKSac**	**03 02 36.3**	**-4.3**
HHC				S	**ScS**	**03 02 58.5**	**+5.2**
HHC				sS	sS	03 03 06.5	-14
HHC				SS	SS	03 09 00.8	+14
HHC				pmax	pmax		
	comp=Z,24nm,1.2s						
HHC				pmax	pmax		
	comp=Z,480nm,5.1s						
HHC				LR	LR		
	comp=N,350nm,17.5s						
HHC				LR	LR		
	comp=E,350nm,16.9s						
HHC				LR	LR		
	comp=Z,330nm,16.5s						
KMI	**Kunming**	**91.26**	**296**	P	P	02 52 20.0	+8.7
KMI				pmax	pmax		
	comp=Z,7.0nm,0.9s						
CD2	**Chengdu**	**92.16**	**301**	P	P	02 52 21.8	+6.7
LZH	**Lanzhou**	**93.67**	**306**	*e*P	P	02 52 27.5	+5.4
LZH				pP	pP	02 52 33.5	-7.0
LZH				sP	sP	02 52 35.3	-12
LZH				pmax	pmax		
	comp=Z,19nm,1.1s						
KSH	**Kashi**	**115.92**	**306**	*e*PKP	PKPdf	02 57 54.3	+6.2
KSH				PP	PP	02 59 04.3	+11
KSH				PKS	**PKSdf**	**03 01 29.8**	**+5.0**
KSH				SKS	SKSdf	03 05 05.3	+11
KSH				SKKS	SKKSac	03 05 57.5	+9.3
KSH				SS	SS	03 15 04.5	+14
KSH				LR	LR		
	comp=N,130nm,5.3s						
KSH				LR	LR		
	comp=E,86nm,6.1s						
KSH				LR	LR		
	comp=Z,180nm,6.4s						
KWP	**Kalwaria Pacla**	**144.42**	**342**	*e*PKPdf	**PKPdf**	**02 58 42.8**	**+1.7**
KMBO	**Kilima Mbogo**	**144.77**	**243**	*e*PKPdf	**PKPdf**	**02 58 43.6**	**+0.5**
KMBO	**Kilima Mbogo**	**144.77**	**243**	PKPbc	**PKPdf**	**02 58 42.6**	**-0.5**
	comp=Z,2.5nm,0.8s,baz=170,slow=7.2,SNR=4.4						
CLL	**Collm**	**144.91**	**353**	*e*PKPdf	**PKPdf**	**02 58 43.0**	**+1.1**
STHS	**Stebnicka Huta**	**145.04**	**343**	*e*PKP	PKPdf	02 58 53.2	+11
KOLS	**Kolonicke sedl**	**145.17**	**341**	*e*PKP	**PKPdf**	**02 58 45.7**	**+3.3**
KOLS				*e*		02 58 53.9	
BUR08	**Bucovina Ar. S**	**145.30**	**337**	*e*PKPbc	**PKPdf**	**02 58 46.1**	**+3.3**
DPC	**Dobruska-Polom**	**145.32**	**349**	*e*PKP	**PKPab**	**02 58 46.2**	**+3.5**
DPC				*ex*	x	02 58 53.2	
DPC	**Dobruska-Polom**	**145.32**	**349**	*e*PKPdf	**PKPab**	**02 58 46.3**	**+3.5**
OKC	**Ostrava-Krasne**	**145.43**	**346**	*e*PKP	**PKPab**	**02 58 45.5**	**+2.4**
OKC				*ex*	x	02 58 53.5	
CRVS	**Cervenica-Dubn**	**145.44**	**342**	*e*PKP	**PKPab**	**02 58 46.7**	**+3.5**
CRVS				*e*		02 58 54.7	
MORC	**Moravsky Berou**	**145.62**	**347**	*e*PKPdf	**PKPab**	**02 58 46.6**	**+2.7**
PRU	**Pruhonice**	**145.98**	**350**	*e*PKP	**PKPab**	**02 58 47.9**	**+2.7**
PRU				*ex*	x	02 58 55.2	
KECS	**Kecovo**	**146.10**	**343**	*e*PKP	**PKPab**	**02 58 49.8**	**+4.2**
KECS				*e*		02 58 56.4	
GRFO	**Grafenberg**	**146.70**	**354**	*e*PKPbc	**PKPab**	**02 58 49.9**	**+2.0**
PSZ	**Piszkesteto**	**146.77**	**343**	*e*PKPbc	**PKPab**	**02 58 49.5**	**+1.1**
BR131	**Keskin Array S**	**146.85**	**320**	*e*PKPdf	**PKPab**	**02 58 48.8**	**-0.3**
BR131				*e*PKPbc	**PKiKP**	**02 58 52.2**	**+2.0**
BRTR	**Keskin Array B**	**146.85**	**320**	PKPbc	**PKPbc**	**02 58 46.9**	**-0.8**
BRTR	**Keskin Array B**	**146.85**	**320**	PKPbc	**PKPbc**	**02 58 46.9**	**-0.8**
	comp=Z,0.7nm,0.7s,baz=87,slow=3.9,SNR=5.4						
KHC	**Kasperske Hory**	**146.96**	**351**	*e*PKP	**PKPab**	**02 58 51.0**	**+2.0**
KHC	**Kasperske Hory**	**146.96**	**351**	*e*PKPdf	**PKPab**	**02 58 51.1**	**+2.0**
WLF	**Walferdange**	**146.97**	**0**	*e*PKPbc	**PKPab**	**02 58 49.9**	**+0.9**
GEC2	**GERESS Array S**	**147.22**	**351**	*e*PKPdf	**PKPab**	**02 58 51.8**	**+1.6**
GERES	**GERESS Array B**	**147.22**	**351**	PKPbc	**PKPdf**	**02 58 43.8**	**-2.2**
GERES	**GERESS Array B**	**147.22**	**351**	PKPbc	**PKPdf**	**02 58 43.8**	**-2.2**
	comp=Z,0.3nm,0.5s,baz=27,slow=9.0,SNR=4.9						
ANTO	**Ankara**	**147.28**	**321**	*e*PKPbc	**PKPab**	**02 58 50.5**	**-0.1**
BFO	**Black Forest**	**148.26**	**357**	*e*PKPbc	**PKPab**	**02 58 53.9**	**-0.3**
ECH	**Echery**	**148.41**	**359**	*e*PKPbc	**PKPab**	**02 58 53.2**	**-1.6**
TUE	**Stuetta**	**150.05**	**356**	*e*PKPdf	**PKPbc**	**02 58 53.8**	**-2.1**
TUE				*e*PKPbc	**PKiKP**	**02 58 58.7**	**+2.0**
TUE				*e*PKPab	**PKPab**	**02 59 04.9**	**+3.1**
SSB	**Saint Sauveur**	**151.32**	**3**	*e*PKPbc	**PKPbc**	**02 59 01.5**	**+2.8**
SSB				*e*PKPab	**PKPab**	**02 59 08.6**	**+1.8**
BNI	**Bardonecchia**	**151.58**	**359**	*e*PKPbc	**PKPbc**	**02 59 01.7**	**+2.3**
TORD	**Torodi Ar. Bea**	**174.41**	**127**	PKP	**PKPdf**	**02 59 11.7**	**-3.8**
TORD				PKPab	**PKPab**	**03 00 47.0**	**-1.3**
TORD	**Torodi Ar. Bea**	**174.41**	**127**	PKP	**PKPdf**	**02 59 11.7**	**-3.8**
	comp=Z,0.6nm,1.0s,baz=303,slow=2.0,SNR=3.4						
TORD				PKPab	**PKPab**	**03 00 47.0**	**-1.3**
	comp=Z,0.8nm,0.8s,baz=259,slow=4.6,SNR=3.8						

IDC 30 02:44:53.9±9.2, 15°.60S×173°.81W, h0km, mb3.9/2, mb1 4.2/2, mb1mx3.6/18, mbtmp3.9/2, Error ellipse: s-maj=454.7km s-min=46.4km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**49.41**	**257**	P	P	02 53 46.0	-0.1
	1.0nm,1.0s,baz=89,slow=7.9,SNR=3.7						
ASAR	**Alice Springs**	**49.67**	**252**	P	P	02 53 47.6	-0.4
	3.6nm,1.0s,baz=84,slow=8.3,SNR=14						
BRTR	**Keskin Array B**	**146.06**	**320**	PKPbc	PKPab	03 04 36.9	-0.1
	1.2nm,1.1s,baz=82,slow=2.8,SNR=4.1						
GERES	**GERESS Array B**	**146.28**	**351**	PKPbc	PKPdf	03 04 34.6	-0.9
	0.5nm,0.8s,baz=342,slow=3.4,SNR=3.5						

IDC 30 02:45:47.7±4.0, 16°.59S×172°.90W, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.7/19, mbtmp3.8/3, MS3.6/1, Ms1 3.6/1, ms1mx3.4/25, Error ellipse: s-maj=250.3km s-min=32.1km az=150.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.88**	**22**	LR	LR	02 47 11.4	
	comp=Z,1μm,18.7s,baz=106,slow=29						
WRA	**Warramunga Arr**	**50.05**	**258**	P	P	02 54 44.5	-0.2
	0.6nm,0.7s,baz=91,slow=6.9,SNR=5.4						
ASAR	**Alice Springs**	**50.21**	**253**	P	P	02 54 45.2	-0.6
	1.0nm,0.5s,baz=88,slow=8.1,SNR=7.2						
PDAR	**Pinedale Array**	**82.83**	**42**	P	P	02 58 13.7	-0.7
	0.6nm,0.7s,baz=192,slow=3.3,SNR=5.1						
BRTR	**Keskin Array B**	**147.38**	**320**	PKPbc	PKPbc	03 05 34.5	+0.5
	0.5nm,0.7s,baz=130,slow=2.3,SNR=4.5						
GERES	**GERESS Array B**	**147.38**	**352**	PKPbc	PKPbc	03 05 33.1	-0.5
	0.2nm,0.6s,baz=320,slow=2.9,SNR=3.8						

*BJI **30** 02:47:24.7, 15°.80S×173°.10W, h10km, mB5.4/10, mb5.1/14, Ms5.3/9, Ms7 4.9/9*
*IDC **30** 02:47:25.0±0.5, 15°.85S×173°.08W, h0km, mb4.6/20, mb1 4.8/20, mb1mx4.6/28, mbtmp4.6/20, MS4.3/2, Ms1 4.3/2, ms1mx3.8/25, Error ellipse: s-maj=23.1km s-min=12.5km az=129.0*
*NEIC **30** 02:47:26.6±0.1, 15°.84S×173°.11W, h10km, mb5.0/74, Error ellipse: s-maj=8.8km s-min=3.7km az=141.0*
*ISCJB **30** 02:47:27.6±0.2, 15°.88S±0°.07×173°.12W±0°.05, h26km, mb4.9/97, MS4.9/6, Error ellipse: s-maj=11.1km s-min=5.0km az=146.6*
*MOS **30** 02:47:29.8±1.1, 15°.89S×172°.60W, h33km, mb5.1/21, Error ellipse: s-maj=15.3km s-min=10.4km az=51.2*

ISC 30 02:47:29.0±0.3, 15°.86S±0°.08×173°.09W±0°.07, h26km, n619, σ0°.77/633, mb4.9/97, MS4.8/6, 152C-126D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.31**	**33**	*e*Pn	Pn	02 47 58.4	-7.2
AFI				*e*Sn	Sn	02 48 21.2	-12
AFI	**Afiamalu**	**2.31**	**33**	Pn	Pn	02 47 59.5	-6.0
	56nm,0.3s,baz=50,slow=4.6,SNR=5.2						
AFI				Sn	Sn	02 48 22.2	-11
	256nm,0.3s,baz=70,slow=18,SNR=4.6						
MSVF	**Nonsavu**	**8.69**	**256**	*e*P	Pn	02 49 42.5	+9.3
MSVF	**Nonsavu**	**8.69**	**256**	*e*Pn	Pn	02 49 42.5	+9.3
RAR	**Rarotonga**	**13.70**	**115**	*e*Pn	Pn	02 50 36.5	-5.2
RAR	**Rarotonga**	**13.70**	**115**	LR	LR	02 54 18.1	
	comp=Z,1μm,21.4s,baz=270,slow=30						
DZM	**Mont Dzumac**	**20.31**	**249**	*e*P	Pn	02 52 04.2	-1.2
	32nm,1.0s						
DZM	**Mont Dzumac**	**20.31**	**249**	P	**P**	**02 52 01.1**	**-2.2**
	7.3nm,0.8s,baz=104,slow=19,SNR=2.8						
URZ	**Urewera**	**23.93**	**199**	P	**P**	**02 52 40.3**	**-0.6**
URZ	**Urewera**	**23.93**	**199**	P	**P**	**02 52 40.3**	**-0.6**
	9.3nm,0.4s,baz=326,slow=3.9,SNR=9.4						
HNR	**Honiara**	**27.06**	**280**	LR	LR	03 02 53.3	
	comp=Z,557nm,18.2s,baz=48,slow=34						
RPZ	**Rata Peaks**	**30.88**	**203**	P	**P**	**02 53 44.1**	**+0.9**
RPZ	**Rata Peaks**	**30.88**	**203**	P	**P**	**02 53 44.1**	**+0.9**
	3.3nm,0.4s,baz=50,slow=16,SNR=1.7						
ARMA	**Armidale**	**35.37**	**240**	*e*P	**P**	**02 54 22.8**	**+0.1**
	26nm,1.6s						
CTAO	**Charters Tower**	**38.84**	**258**	*e*P	**P**	**02 54 50.0**	**-2.2**
CTAO				pmax	pmax		
	comp=Z,6.0nm,1.0s						
CTAO	**Charters Tower**	**38.84**	**258**	*e*P	**P**	**02 54 50.0**	**-2.2**
	comp=Z,6.3nm,1.0s						
PMG	**Port Moresby**	**39.27**	**275**	*e*P	**P**	**02 54 55.7**	**-0.2**
	comp=Z,28nm,1.3s						
COEN	**Coen**	**42.25**	**267**	*e*P	**P**	**02 55 21.0**	**+0.5**
STKA	**Stephens Creek**	**44.07**	**240**	*e*P	**P**	**02 55 35.2**	**+0.2**
	comp=Z,2.9nm,1.0s						
STKA	**Stephens Creek**	**44.07**	**240**	P	**P**	**02 55 34.0**	**-1.1**
	comp=Z,11nm,0.8s,baz=92,slow=9.0,SNR=14						
WRAB	**Tennant Creek**	**50.02**	**257**	*e*P	**P**	**02 56 20.6**	**-1.1**
WRAB				pmax	pmax		
	comp=Z,10.0nm,1.2s						
WRAB	**Tennant Creek**	**50.02**	**257**	*e*P	**P**	**02 56 20.6**	**-1.1**
	comp=Z,9.9nm,1.2s						
WRA	**Warramunga Arr**	**50.03**	**257**	P	**P**	**02 56 20.9**	**-0.9**
WRA	**Warramunga Arr**	**50.03**	**257**	P	**P**	**02 56 20.9**	**-0.9**
	comp=Z,4.4nm,0.8s,baz=90,slow=7.0,SNR=26						
AS31	**Alice Springs**	**50.25**	**252**	*e*P	**P**	**02 56 22.6**	**-0.9**
ASAR	**Alice Springs**	**50.26**	**252**	P	**P**	**02 56 22.8**	**-0.7**
ASAR	**Alice Springs**	**50.26**	**252**	P	**P**	**02 56 22.8**	**-0.7**
	comp=Z,21nm,0.8s,baz=84,slow=8.7,SNR=64						
FORT	**Forrest**	**55.48**	**243**	*e*P	**P**	**02 57 01.9**	**0.0**
	comp=Z,24nm,0.8s						
FITZ	**Fitzroy Crossi**	**58.41**	**258**	P	**P**	**02 57 22.8**	**0.0**
FITZ	**Fitzroy Crossi**	**58.41**	**258**	P	**P**	**02 57 22.8**	**0.0**
	comp=Z,2.3nm,0.7s,baz=144,slow=6.7,SNR=8.3						
SBA	**Scott Base**	**62.82**	**185**	*e*P	**P**	**02 57 54.6**	**+2.6**
SBA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
SBA	**Scott Base**	**62.82**	**185**	*e*P	**P**	**02 57 54.6**	**+2.6**
	comp=Z,10nm,0.9s						
VNDA	**Vanda**	**62.95**	**186**	*e*P	**P**	**02 57 54.1**	**+1.3**
	comp=Z,3.0nm,0.9s						
VNDA	**Vanda**	**62.95**	**186**	P	**P**	**02 57 54.2**	**+1.3**
	comp=Z,3.1nm,0.8s,baz=8,2,slow=6.5,SNR=23						
MBWA	**Marble Bar**	**63.52**	**254**	*e*P	**P**	**02 57 57.5**	**-0.1**
	comp=Z,22nm,1.1s						
MWC	**Mount Wilson**	**72.24**	**45**	*e*P	**P**	**02 58 51.7**	**-0.7**
	comp=Z,9.6nm,0.9s						
VES	**Vestal, Richgr**	**72.47**	**44**	⇓P	**P**	**02 58 54.1**	**+0.7**
	baz=73						
EDW2	**Edwards Air Fo**	**72.65**	**45**	⇑P	**P**	**02 58 55.1**	**+0.4**
	baz=73						
DVTC	**Desert V Tower**	**72.75**	**48**	⇑P	**P**	**02 58 55.7**	**+0.3**
	baz=73						
ISA	**Isabella**	**72.77**	**44**	*e*P	**P**	**02 58 55.5**	**+0.1**
	comp=Z,4.8nm,1.1s						
ISA	**Isabella**	**72.77**	**44**	⇓P	**P**	**02 58 55.9**	**+0.6**
	baz=73						
CMB	**Columbia Colle**	**72.91**	**41**	*e*P	**P**	**02 58 55.9**	**-0.2**
CMB				pmax	pmax		
	comp=Z,9.0nm,1.0s						
CMB	**Columbia Colle**	**72.91**	**41**	*e*P	**P**	**02 58 55.9**	**-0.2**
	comp=Z,9.1nm,1.0s						
PETK	**Petropavlovsk-**	**73.16**	**342**	P	**P**	**02 58 58.3**	**+1.1**
PETK	**Petropavlovsk-**	**73.16**	**342**	P	**P**	**02 58 58.2**	**+1.1**
PETK	**Petropavlovsk-**	**73.16**	**342**	P	**P**	**02 58 58.2**	**+1.1**
	comp=Z,7.1nm,0.8s,baz=146,slow=11,SNR=6.8						

WPW	White Pass	77.59	33	P		P	02 59 23.1	+0.2
WUAZ	Wupatki	77.59	47	⇑P		P	02 59 23.7	+0.5
	baz=78							
D05A	Enumclaw	77.67	33	eP		P	02 59 24.9	+1.7
	comp=Z,67nm,1.4s							
320A	Kipp Ranch, An	77.69	52	⇑P		P	02 59 24.7	+0.8
	baz=78,SNR=6.0							
ELK	Elko	77.73	41	eP		P	02 59 24.4	+0.3
	comp=Z,6.9nm,1.1s							
RMW	Rattlesnake Mo	77.94	33	P		P	02 59 25.4	+0.6
RMW	Rattlesnake Mo	77.94	33	P		P	02 59 25.4	+0.6
220A	Playas Peak, P	77.95	52	⇓P		P	02 59 26.0	+0.7
	baz=78,SNR=15							
X18A	Snowflake	78.12	49	⇓P		P	02 59 26.7	+0.4
	baz=78,SNR=5.6							
G08A	Pilot Rock	78.13	36	eP		P	02 59 26.5	+0.5
	comp=Z,20nm,1.0s							
120A	U Bar Ranch, L	78.16	51	⇑P		P	02 59 27.0	+0.5
	baz=78							
LTY	Liberty	78.41	33	eP		P	02 59 27.6	+0.2
	comp=Z,16nm,1.2s							
Z20A	Nine Sixteen R	78.46	51	⇑P		P	02 59 28.5	+0.3
	baz=79,SNR=9.2							
HAWA	Hanford	78.48	35	eP		P	02 59 28.0	+0.2
	comp=Z,19nm,1.0s							
H2OWA	Water	78.54	35	P		P	02 59 28.6	+0.5
221A	Mesquite Ranch	78.56	52	⇓P		P	02 59 29.0	+0.3
	baz=79							
121A	Cookees Peak, D	78.80	51	⇑P		P	02 59 30.2	+0.2
	baz=79							
ETW	Entiat	78.80	33	P		P	02 59 29.9	+0.2
BMO	Blue Mountains	78.81	37	eP		P	02 59 29.1	-0.6
BMO					pmax	pmax		
	comp=Z,12nm,1.1s							
BMO	Blue Mountains	78.81	37	eP		P	02 59 29.1	-0.6
	comp=Z,12nm,1.1s							
MFID	Camas Ranch	78.85	39	⇓P		P	02 59 30.1	0.0
	baz=79,SNR=7.2							
Y20A	Horse Springs,	78.98	50	⇑P		P	02 59 31.6	+0.5
	baz=79,SNR=9.8							
DUG	Dugway	78.99	43	eP		P	02 59 31.2	+0.3
DUG					pmax	pmax		
	comp=Z,15nm,1.3s							
DUG	Dugway	78.99	43	eP		P	02 59 31.2	+0.3
	comp=Z,15nm,1.3s							
DUG	Dugway	78.99	43	⇑P		P	02 59 31.4	+0.5
	baz=79,SNR=6.3							
222A	Williams Famil	79.12	52	⇓P		P	02 59 31.8	+0.1
	baz=79							
X20A	Quemado	79.19	49	⇓P		P	02 59 32.5	+0.3
	baz=79,SNR=7.5							
Z21A	St. Cloud Mine	79.23	51	⇑P		P	02 59 33.5	+1.0
	baz=79,SNR=16							
E09A	Wood Farm, Sta	79.32	35	eP		P	02 59 32.3	0.0
	comp=Z,15nm,1.0s							
RAGM	Ragged Mountai	79.36	14	eP		P	02 59 28.2	-4.1
	comp=Z,50nm,0.9s							
Q16A	Castle Valley	79.42	44	eP		P	02 59 33.6	+0.3
Q16A	Castle Valley	79.42	44	⇑P		P	02 59 33.8	+0.5
	baz=80							
W20A	Ramah	79.46	49	⇑P		P	02 59 34.2	+0.6
	baz=80,SNR=8.8							
122A	Conniff Cattle	79.46	52	⇓P		P	02 59 34.3	+0.7
	baz=80							
F10A	Beach Ranch, E	79.51	36	eP		P	02 59 33.5	-0.1
	comp=Z,16nm,0.8s							
OD2	Odessa Site #2	79.54	34	P		P	02 59 33.8	+0.2
Y21A	Point of Rocks	79.55	50	⇑P		P	02 59 34.6	+0.4
	baz=80							
TMUT	Trail Mountain	79.59	44	eP		P	02 59 35.5	+1.1
	comp=Z,32nm,1.1s							
X21A	Alamocita Cree	79.66	50	⇑P		P	02 59 34.7	-0.1
	baz=80							
MPU	Maple Canyon	79.67	43	eP		P	02 59 34.6	0.0
	comp=Z,9.5nm,1.0s							
Z22A	Elephant Butte	79.74	51	⇓P		P	02 59 35.4	+0.3
	baz=80,SNR=9.5							
DIV	Divide	79.77	13	eP		P	02 59 34.2	-0.3
	comp=Z,18nm,1.0s							
HLID	Hailey	79.79	39	eP		P	02 59 35.6	+0.4
	comp=Z,13nm,1.0s							
HLID	Hailey	79.79	39	⇑P		P	02 59 35.9	+0.7
	baz=80,SNR=19							
B08A	Colville Reser	79.80	33	eP		P	02 59 34.4	-0.5
	comp=Z,18nm,1.0s							
V20A	Brimhall	79.80	48	⇓P		P	02 59 35.8	+0.4
	baz=80							
BMRM	Bremner River	79.89	14	eP		P	02 59 35.6	+0.4
	comp=Z,32nm,1.2s							
CTU	Camp Tracy	79.94	43	eP		P	02 59 36.0	-0.1
	comp=Z,16nm,1.0s							
SRU	San Rafael	79.96	45	eP		P	02 59 36.7	+0.4
SRU					pmax	pmax		
	comp=Z,19nm,1.2s							
SRU	San Rafael	79.96	45	eP		P	02 59 36.6	+0.4
	comp=Z,19nm,1.2s							
C09A	Chrisman Ranch	80.02	34	eP		P	02 59 35.9	-0.3
	comp=Z,16nm,0.9s							
U20A	Newcomb	80.03	48	⇓P		P	02 59 37.2	+0.5
	baz=80,SNR=6.6							
Y22A	Socorro	80.04	51	⇓P		P	02 59 37.1	+0.3
	baz=80,SNR=5.2							
324A	Moseley Ranch,	80.07	53	⇑P		P	02 59 37.0	0.0
	baz=80,SNR=14							
LAZ	Ladron	80.12	50	eP		P	02 59 37.2	0.0
	comp=Z,6.1nm,1.6s							
425A	Indio Mountain	80.18	54	⇓P		P	02 59 37.8	+0.2
	baz=80,SNR=19							
MNTX	Cornudas Mount	80.26	53	eP		P	02 59 37.5	-0.3
	comp=Z,12nm,1.3s							
Z23A	Rita Site, Whi	80.29	51	⇑P		P	02 59 38.4	+0.3
	baz=80							
224A	Cornudas Mount	80.31	53	⇓P		P	02 59 38.7	+0.4
	baz=80,SNR=10							
626A	Big Bend Ranch	80.34	56	⇓P		P	02 59 38.6	+0.3
	baz=80,SNR=8.2							
BNM	Barren Site	80.39	50	eP		P	02 59 38.4	-0.3
	comp=Z,5.6nm,1.1s							
PV05	Paradox Valley	80.43	46	eP		P	02 59 39.8	+1.0
HWUT	Hardware Ranch	80.53	42	eP		P	02 59 39.0	-0.3
	comp=Z,2.5nm,0.8s							
526A	Mary Lane Ranc	80.58	55	⇑P		P	02 59 40.1	+0.3
	baz=81							
TXAR	Lajitas Array	80.62	56	P		P	02 59 39.7	-0.2
TXAR	Lajitas Array	80.62	56	P		P	02 59 39.7	-0.2
	comp=Z,5.9nm,1.0s,baz=224,slow=6.6,SNR=30							
W22A	Albuquerque	80.62	50	⇓P		P	02 59 40.7	+0.8
	baz=81							
124A	Stringfield Ra	80.63	52	⇓P		P	02 59 40.0	-0.1
	baz=81,SNR=6.3							
U21A	Nageezi	80.67	48	⇑P		P	02 59 40.5	+0.3
	baz=81,SNR=16							
Y23A	Lovelace Mesa,	80.72	51	⇓P		P	02 59 40.5	0.0
	baz=81,SNR=5.1							
PV01	Paradox Valley	80.82	46	eP		P	02 59 40.3	-0.6
	comp=Z,520nm,1.1s							
S20A	Disappointment	80.82	46	⇑P		P	02 59 41.1	+0.1
	baz=81							
225A	Deer Hill, Car	80.86	53	⇓P		P	02 59 41.4	+0.1
	baz=81,SNR=9.9							
ANMO	Albuquerque	80.87	50	eP		P	02 59 41.4	+0.1
	comp=Z,9.8nm,1.1s							
426A	McDonald Obser	80.88	55	⇓P		P	02 59 41.3	-0.1
	baz=81,SNR=10							
627A	Terlingua Ranc	80.89	56	⇑P		P	02 59 41.8	+0.5
	baz=81,SNR=15							
NEW	Newport	80.92	34	eP		P	02 59 39.9	-1.1
	comp=Z,94nm,2.7s							
NEW	Newport	80.92	34	⇑P		P	02 59 41.1	+0.1
	baz=81							
Z24A	Sheeppen Canyo	80.97	52	⇓P		P	02 59 41.7	-0.1
	baz=81,SNR=5.1							
R20A	Redvale	80.98	46	⇑P		P	02 59 42.0	+0.3
	baz=81							
PV15	Paradox Valley	80.98	46	eP		P	02 59 42.0	+0.2
527A	Woodward Ranch	80.99	55	⇑P		P	02 59 41.9	-0.1
	baz=81,SNR=7.5							
T21A	Navajo Lake	81.01	48	⇑P		P	02 59 42.1	+0.1
	baz=81							
TRF	Thorofare Moun	81.02	10	eP		P	02 59 41.1	-0.2
	comp=Z,38nm,1.7s							
M17A	Scullys Gap (B	81.05	42	⇑P		P	02 59 42.6	+0.5
	baz=81							
S21A	Coal Bank Pass	81.14	47	⇓P		P	02 59 43.5	+0.7
	baz=81							
Y24A	Capitan	81.17	51	⇑P		P	02 59 43.0	+0.1
	baz=81,SNR=16							
326A	Caldwell Ranch	81.19	54	⇑P		P	02 59 42.8	-0.1
	baz=81							
W23A	Werner Place,	81.19	50	⇓P		P	02 59 43.2	+0.3
	baz=81,SNR=6.0							
U22A	Llaves	81.22	48	⇓P		P	02 59 43.4	+0.3
	baz=81							
125A	Gardner Draw,	81.22	53	⇑P		P	02 59 43.1	+0.1
	baz=81,SNR=6.4							
GDL2	Guadalupe Moun	81.25	53	eP		P	02 59 43.8	+0.5
P19A	Cripple Cowboy	81.26	45	⇑P		P	02 59 43.4	+0.2
	baz=81							
628A	Black Gap, Mar	81.30	56	⇓P		P	02 59 43.4	-0.1
	baz=81,SNR=6.0							
226B	Tecolote Peak,	81.36	53	⇑P		P	02 59 44.0	+0.2
	baz=82,SNR=18							
Q20A	Ridgley Place,	81.40	46	⇓P		P	02 59 44.5	+0.6
	baz=82,SNR=13							
V23A	Ortiz Mt. (NFS	81.42	49	⇑P		P	02 59 44.7	+0.5
	baz=82,SNR=7.0							
MCMT	McKenzie Canyo	81.42	39	P		P	02 59 44.4	+0.3
Z25A	Roswell	81.44	52	⇑P		P	02 59 44.8	+0.6
	baz=82,SNR=5.8							
427A	Hayter Ranch,	81.44	55	⇓P		P	02 59 44.7	+0.4
	baz=82,SNR=11							
X24A	Lazy VL Ranch,	81.45	51	⇑P		P	02 59 44.6	+0.3
	baz=82							
T22A	Edith	81.47	48	⇑P		P	02 59 44.9	+0.4
	baz=82,SNR=5.6							
O19A	Mirrs Draw (B	81.48	44	⇑P		P	02 59 44.6	+0.3
	baz=82							
MCK	McKinley	81.52	11	eP		P	02 59 43.9	+0.1
MCK					pmax	pmax		
	comp=Z,17nm,1.0s							
MCK	McKinley	81.52	11	eP		P	02 59 43.9	+0.1
	comp=Z,17nm,1.0s							
HYT	Haines Junctio	81.56	17	eP		P	02 59 45.1	+0.9
RRI2	Red Ridge	81.58	41	eP		P	02 59 45.3	+0.4
	comp=Z,13nm,1.0s							
P20A	De Beque	81.59	45	⇓P		P	02 59 45.3	+0.3
	baz=82,SNR=6.8							
CN2	Changchun	81.63	320	eP		P	02 59 45.8	+1.0
CN2				esP		sP	02 59 52.8	-3.4
CN2				eS		S	03 09 56.0	+0.5
CN2					pmax	pmax		
	comp=Z,10.0nm,0.9s							
CN2					pmax	pmax		
	comp=Z,200nm,3.0s							
CN2					LR	LR		
	comp=N,700nm,19.0s							
CN2					LR	LR		
	comp=E,400nm,19.0s							
CN2					LR	LR		
	comp=Z,200nm,13.0s							
R21A	Cimarron	81.64	46	⇑P		P	02 59 45.9	+0.6
	baz=82,SNR=9.7							
528A	Cox Ranch, San	81.65	55	⇑P		P	02 59 45.7	+0.3
	baz=82,SNR=11							
U23A	El Rito	81.67	49	⇑P		P	02 59 45.8	+0.3
	baz=82,SNR=7.5							
L18A	Fontenelle, Gr	81.68	42	⇑P		P	02 59 45.7	+0.3
	baz=82							
126A	Clayton Basin,	81.70	53	⇑P		P	02 59 45.8	+0.2
	baz=82,SNR=5.9							
Y25A	Mesa, Roswell	81.73	51	⇑P		P	02 59 46.0	+0.2
	baz=82,SNR=8.3							
W24A	Lazy 6 Ranch,	81.75	50	⇑P		P	02 59 46.1	+0.1
	baz=82,SNR=6.6							
Q21A	Lamborn Mesa,	81.84	46	⇑P		P	02 59 46.8	+0.5
	baz=82							
DLMT	Dillon	81.86	38	eP		P	02 59 46.7	+0.5
	comp=Z,21nm,1.4s							
S22A	4UR Ranch, Cre	81.86	47	⇑P		P	02 59 46.8	+0.2
	baz=82,SNR=13							
MSO	Missoula	81.87	37	eP		P	02 59 45.2	-0.9
	comp=Z,22nm,1.3s							
MSO	Missoula	81.87	37	⇑P		P	02 59 46.0	-0.2
	baz=82,SNR=10							
REDW	Red Top Meadow	81.88	41	eP		P	02 59 46.8	+0.3
	comp=Z,18nm,1.4s							
TPAW	Teton Pass	81.89	41	eP		P	02 59 46.7	+0.2
	comp=Z,12nm,1.0s							
428A	Kincaid Ranch,	81.96	55	⇓P		P	02 59 47.2	+0.3
	baz=82,SNR=5.2							
BSMT	Bassoo Peak	81.96	35	eP		P	02 59 46.3	-0.4
O20A	White River Ci	82.00	44	⇓P		P	02 59 47.3	+0.2
	baz=82							
SNOW	Snow King Moun	82.00	41	eP		P	02 59 47.5	+0.5
	comp=Z,12nm,1.0s							
Z26A	Caprock	82.00	52	⇓P		P	02 59 47.3	+0.2
	baz=82,SNR=20							
X25A	Clemmons Ranch	82.01	51	⇑P		P	02 59 47.1	-0.2
	baz=82							
DLBC	Dease Lake	82.02	21	P		P	02 59 46.8	+0.2
DLBC	Dease Lake	82.02	21	P		P	02 59 46.8	+0.2
	comp=Z,3.7nm,0.8s,baz=238,slow=4.7,SNR=7.1							
M19A	Rock Springs	82.05	43	⇓P		P	02 59 47.8	+0.5
	baz=82							
V24A	Rampart Ranch,	82.08	50	⇓P		P	02 59 47.9	+0.2
	baz=82,SNR=5.4							
529A	Stev Forest Ra	82.09	56	⇑P		P	02 59 47.8	+0.1
	baz=82,SNR=8.0							
T23A	Casias Ranch,	82.10	48	⇑P		P	02 59 48.1	+0.2
	baz=82,SNR=6.1							
IMW	Indian Meadow	82.10	40	eP		P	02 59 48.2	+0.6
	comp=Z,44nm,1.8s							
328A	Wristen Ranch,	82.12	54	⇑P		P	02 59 47.6	-0.2
	baz=82,SNR=6.2							
MOOW	Moose Ponds	82.15	40	eP		P	02 59 48.0	+0.2
	comp=Z,8.5nm,1.3s							
LOHW	Long Hollow	82.17	41	eP		P	02 59 48.2	+0.2
	comp=Z,12nm,1.4s							
LRM	Limekiln Ridge	82.19	38	eP		P	02 59 48.2	+0.2
127A	Arkansas Junct	82.23	53	⇓P		P	02 59 48.3	-0.1
	baz=82,SNR=6.7							
P21A	Newcastle	82.25	45	⇓P		P	02 59 49.0	+0.5
	baz=82,SNR=7.6							
QLMT	Earthquake Lak	82.28	39	eP		P	02 59 49.5	+1.0
CHMT	Chamberlain Mo	82.31	37	eP		P	02 59 48.4	-0.3
Q22A	Crested Butte,	82.31	46	⇑P		P	02 59 49.3	+0.4
	baz=82,SNR=16							
N20A	Spence Gulch,	82.31	44	⇑P		P	02 59 49.2	+0.4
	baz=82							
I17A	Pilgrim Ck.	82.34	40	⇑P		P	02 59 49.6	+0.8
	baz=82							
FLWY	Flagg Ranch	82.35	40	eP		P	02 59 49.7	+0.8
	comp=Z,22nm,1.1s							
PDAR	Pinedale Array	82.41	42	P		P	02 59 48.5	-0.7
PDAR	Pinedale Array	82.41	42	P		P	02 59 48.5	-0.7
	comp=Z,7.2nm,0.8s,baz=212,slow=3.2,SNR=54							
SMCO	Snowmass	82.41	46	eP		P	02 59 50.0	+0.5
	comp=Z,21nm,1.2s							
W25A	X Bar L Ranch,	82.46	50	⇓P		P	02 59 49.8	+0.2
	baz=83							
YMR	Madison River	82.48	40	eP		P	02 59 50.4	+0.8
429A	Davenport Ranc	82.54	55	⇑P		P	02 59 49.9	-0.1
	baz=83,SNR=14							
O21A	Pagoda	82.55	45	⇓P		P	02 59 50.2	+0.1
	baz=83							
H17A	Grant Village	82.58	40	eP		P	02 59 51.4	+1.3
H17A	Grant Village	82.58	40	⇑P		P	02 59 51.1	+1.0
	baz=83,SNR=5.5							
T24B	San Luis	82.58	48	⇓P		P	02 59 50.8	+0.4
	baz=83,SNR=8.5							
BOZ	Bozeman (W)	82.59	38	eP		P	02 59 50.0	0.0
BOZ					pmax	pmax		
	comp=Z,16nm,1.3s							
BOZ	Bozeman (W)	82.59	38	eP		P	02 59 50.0	0.0
	comp=Z,16nm,1.3s							
228A	UT Block 9, Go	82.59	54	⇑P		P	02 59 50.3	0.0
	baz=83							
Z27A	Tatum	82.60	52	⇓P		P	02 59 49.9	-0.4
	baz=83							
V25A	Rancho No Teng	82.61	50	⇓P		P	02 59 50.4	0.0
	baz=83,SNR=16							
X26A	CR and CF Fran	82.66	51	⇓P		P	02 59 50.6	-0.1
	baz=83							
M20A	Sweetwater, Wa	82.68	43	⇓P		P	02 59 51.0	+0.3
	baz=83,SNR=7.9							
P22A	Eagle	82.75	46	⇑P		P	02 59 51.2	+0.1
	baz=83,SNR=8.4							
COLA	College	82.75	11	eP		P	02 59 50.0	-0.2
COLA					pmax	pmax		
	comp=Z,21nm,0.8s							
COLA	College	82.75	11	eP		P	02 59 50.0	-0.2
	comp=Z,21nm,0.8s							
R23A	Moffat	82.77	47	⇓P		P	02 59 51.5	+0.2
	baz=83							
N21A	Black Mountain	82.78	44	⇓P		P	02 59 51.7	+0.5
	baz=83,SNR=14							
530A	J-C Ranch, Com	82.80	56	⇓P		P	02 59 51.2	-0.1
	baz=83							
SDCO	Great Sand Dun	82.80	48	eP		P	02 59 51.1	-0.4
	comp=Z,7.3nm,1.0s							
329A	Wagon Wheel Ra	82.81	55	⇑P		P	02 59 51.2	-0.2
	baz=83,SNR=9.2							
L20A	Wamsutter	82.82	43	⇑P		P	02 59 52.0	+0.6
	baz=83,SNR=14							
ILAR	Eielson Array	82.83	11	P		P	02 59 50.0	-0.6
ILAR	Eielson Array	82.83	11	P		P	02 59 50.0	-0.6
	comp=Z,2.6nm,0.8s,baz=226,slow=5.7,SNR=23							
Y27A	Causey	82.87	52	⇑P		P	02 59 51.6	-0.1
	baz=83,SNR=7.6							
128A	Castleberry Fa	82.88	53	⇓P		P	02 59 51.9	+0.2
	baz=83,SNR=9.5							
K19A	Absolon Red Bu	82.89	42	⇑P		P	02 59 51.6	-0.1
	baz=83,SNR=5.5							
W26A	Owens Ranch, T	82.92	51	⇓P		P	02 59 51.5	-0.4
	baz=83							
S24A	Houchin Ranch,	82.96	48	⇑P		P	02 59 52.8	+0.4
	baz=83,SNR=9.0							
J19A	Crowheart	82.97	41	⇑P		P	02 59 52.2	+0.1
	baz=83,SNR=11							
U25A	Circle Dot Ran	83.00	49	⇑P		P	02 59 52.6	+0.2
	baz=83,SNR=13							
HRY	Holter Researc	83.03	37	eP		P	02 59 51.5	-0.7
Q23A	Hartsel	83.08	46	⇓P		P	02 59 53.0	+0.1
	baz=83,SNR=7.5							
430A	Baggett Ranch,	83.13	55	⇓P		P	02 59 52.6	-0.5
	baz=83							
631A	Perdido Creek	83.13	57	⇑P		P	02 59 52.7	-0.3
	baz=83,SNR=9.5							
K20A	Yellowstone Ra	83.14	42	⇓P		P	02 59 52.9	-0.1
	baz=83,SNR=12							
O22A	Kremmling	83.16	45	⇑P		P	02 59 53.4	+0.1
	baz=83,SNR=16							
V26A	Tequesquite Ra	83.20	50	⇓P		P	02 59 53.0	-0.4
	baz=83							
MSTX	Muleshoe	83.20	52	eP		P	02 59 53.3	-0.1
MSTX	Muleshoe	83.20	52	⇓P		P	02 59 53.2	-0.1
	baz=83,SNR=7.9							
Z28A	Tucker Farm, M	83.22	53	⇓P		P	02 59 53.3	-0.2
	baz=83,SNR=5.4							
X27A	F and S Farms,	83.23	51	⇓P		P	02 59 53.4	-0.2
	baz=83,SNR=5.9							
M21A	Separation Pea	83.28	44	⇑P		P	02 59 53.8	0.0
	baz=83							
H18A	Shoshone NF, C	83.29	40	⇑P		P	02 59 54.4	+0.6
	baz=84,SNR=7.4							
P23A	Jefferson	83.29	46	⇑P		P	02 59 54.5	+0.4
	baz=83,SNR=5.5							
R24A	Sanders Place,	83.29	47	⇓P		P	02 59 54.1	+0.2
	baz=83,SNR=8.7							
T25A	Trinidad	83.32	49	⇑P		P	02 59 54.2	+0.2
	baz=84,SNR=5.4							
129A	Stewart Farms,	83.36	54	⇑P		P	02 59 53.5	-0.7
	baz=84							
I19A	Meeteetse	83.39	41	⇓P		P	02 59 54.4	+0.2
	baz=84,SNR=13							
330A	Mertzon	83.42	55	⇑P		P	02 59 53.5	-1.0
	baz=84							
W27A	Bowe Ranch, En	83.43	51	⇓P		P	02 59 54.3	-0.3
	baz=84,SNR=7.8							
531A	Rocksprings	83.44	56	⇓P		P	02 59 54.4	-0.2
	baz=84,SNR=12							
L21A	Rawlins	83.44	43	⇓P		P	02 59 54.3	-0.3
	baz=84,SNR=6.4							
U26A	Atchley Ranch,	83.48	49	⇓P		P	02 59 54.9	0.0
	baz=84,SNR=14							
N22A	Wattenberg Ran	83.51	45	⇓P		P	02 59 55.3	+0.2
	baz=84,SNR=13							
S25A	Robets Cordova	83.52	48	⇑P		P	02 59 55.0	-0.1
	baz=84,SNR=12							
Y28A	McKinney Farm,	83.58	52	⇑P		P	02 59 55.0	-0.3
	baz=84							
Q24A	Divide	83.58	47	⇑P		P	02 59 55.9	+0.3
	baz=84							
431A	Sonora	83.59	56	⇑P		P	02 59 55.2	-0.2
	baz=84							
O23A	Lake Granby, G	83.61	45	⇑P		P	02 59 55.9	+0.3
	baz=84							
ISCO	Idaho Springs	83.63	46	eP		P	02 59 56.0	+0.2
ISCO					pmax	pmax		
	comp=Z,7.0nm,1.1s							
ISCO	Idaho Springs	83.63	46	eP		P	02 59 56.0	+0.2
	comp=Z,7.3nm,1.1s							
ISCO	Idaho Springs	83.63	46	⇓P		P	02 59 55.7	0.0
	baz=84							
J20A	Shoshoni	83.63	42	⇑P		P	02 59 55.9	+0.5
	baz=84,SNR=8.6							
230A	Sterling City	83.65	54	⇑P		P	02 59 55.8	0.0
	baz=84							
M22A	Cedar Creek Ra	83.69	44	⇓P		P	02 59 56.2	+0.2
	baz=84,SNR=6.0							
H19A	Powell	83.70	40	⇑P		P	02 59 56.4	+0.6
	baz=84,SNR=12							
Z29A	Hungry Hill Ra	83.73	53	⇓P		P	02 59 55.7	-0.4
	baz=84							
DAWY	Dawson	83.79	14	eP		P	02 59 55.5	-0.1
632A	Uvalde	83.80	57	⇑P		P	02 59 56.4	-0.1
	baz=84							
K21A	Alcova	83.83	43	⇑P		P	02 59 56.4	-0.2
	baz=84,SNR=10							
R25A	Fountain Ranch	83.84	48	⇑P		P	02 59 56.8	+0.1
	baz=84							
GCMT	Greycliff	83.84	39	eP		P	02 59 56.6	+0.1
	comp=Z,2.8nm,0.8s							
X28A	Dimmitt	83.86	52	⇓P		P	02 59 56.6	-0.2
	baz=84,SNR=7.9							
V27A	Dan Oppiter Fa	83.89	50	⇑P		P	02 59 57.1	+0.2
	baz=84							
I20A	Worland	83.89	41	⇓P		P	02 59 57.0	+0.2
	baz=84,SNR=22							
N23A	Red Feather La	83.90	45

R26A	Arlington	84.50	48	⇑P	P	02 59 59.5	-0.5
	baz=85,SNR=10						
T27A	Campo	84.51	49	⇓P	P	02 59 59.6	-0.4
	baz=85						
P25A	Willow Gulch B	84.51	46	⇓P	P	02 59 59.9	-0.1
	baz=85						
W29A	Amraillo	84.52	51	⇓P	P	02 59 59.8	-0.3
	baz=85,SNR=8.6						
131A	Roby	84.52	54	⇓P	P	02 59 59.7	-0.4
	baz=85						
332A	Millersview	84.54	55	⇓P	P	02 59 59.6	-0.6
	baz=85,SNR=8.1						
COLD	Coldfoot	84.55	9	eP	P	03 00 01.2	+1.8
N24A	Carr	84.59	45	⇑P	P	03 00 00.3	-0.1
	baz=85,SNR=6.4						
U28A	Mallet	84.59	50	⇓P	P	02 59 59.8	-0.6
	baz=85						
Y30A	Stafford Cattl	84.59	53	⇓P	P	03 00 00.3	-0.2
	baz=85						
L23A	Garrett	84.61	44	⇓P	P	03 00 00.2	-0.4
	baz=85,SNR=14						
J22A	Midwest	84.69	42	⇑P	P	03 00 00.7	-0.2
	baz=85						
E19A	Rath Farm, Rou	84.71	39	⇓P	P	03 00 00.9	+0.1
	baz=85,SNR=11						
Q26A	Hugo	84.71	47	⇑P	P	03 00 01.1	0.0
	baz=85						
F20A	Billings	84.77	40	⇓P	P	03 00 01.4	+0.3
	baz=85						
232A	Coleman	84.80	55	⇑P	P	03 00 01.5	-0.1
	baz=85						
X30A	Coker Ranch, T	84.83	52	⇑P	P	03 00 01.4	-0.3
	baz=85						
H21A	Big Horn, Sher	84.90	41	⇑P	P	03 00 01.6	-0.3
	baz=85,SNR=5.9						
V29A	Stinnett	84.91	51	⇓P	P	03 00 01.5	-0.5
	baz=85						
M24A	Cheyenne	84.91	44	⇑P	P	03 00 02.0	-0.1
	baz=85						
EGMT	Eagleton	84.91	37	⇑P	P	03 00 01.5	-0.2
	baz=85						
I22A	9 Mile Ranch,	84.91	42	⇑P	P	03 00 01.6	-0.3
	baz=85,SNR=6.5						
K23A	Bowen Ranch, D	84.95	43	⇓P	P	03 00 01.9	-0.3
	baz=85,SNR=7.2						
Z31A	Sharp Cattle R	84.96	53	⇑P	P	03 00 01.6	-0.7
	baz=85,SNR=10.0						
R27A	Eads	84.96	48	⇓P	P	03 00 02.2	-0.1
	baz=85						
T28A	Walsh	84.97	49	⇑P	P	03 00 02.0	-0.4
	baz=85						
D19A	Cripps Ranch,	85.00	38	⇓P	P	03 00 02.6	+0.4
	baz=85,SNR=9.3						
G21A	Lodge Grass	85.08	40	⇓P	P	03 00 02.7	0.0
	baz=85						
ABTX	Abilene, Hawle	85.08	54	eP	P	03 00 02.0	-0.9
ABTX	Abilene, Hawle	85.08	54	⇑P	P	03 00 02.5	-0.4
	baz=85,SNR=9.7						
Y31A	Rekieta Farm,	85.11	53	⇑P	P	03 00 02.7	-0.4
	baz=85,SNR=8.2						
E20A	Meyer Farm, Mu	85.12	39	⇓P	P	03 00 03.3	+0.5
	baz=85,SNR=5.3						
C19A	Slack Wire Ran	85.18	38	⇓P	P	03 00 03.5	+0.4
	baz=85,SNR=7.5						
D20A	Manuel Ranch,	85.40	38	⇓P	P	03 00 04.6	+0.4
	baz=86,SNR=9.6						
Z32A	Haskell	85.47	54	⇑P	P	03 00 04.8	0.0
	baz=86,SNR=32						
V30A	Spur Ranch, Mi	85.49	51	⇑P	P	03 00 04.9	0.0
	baz=86						
X31A	McDonald Ranch	85.59	52	⇑P	P	03 00 05.3	-0.1
	baz=86						
B19A	Brinkman Farms	85.60	37	⇓P	P	03 00 05.8	+0.7
	baz=86						
R28A	Tribune	85.69	48	⇑P	P	03 00 05.6	-0.3
	baz=86,SNR=10						
EDM	Edmonton	85.72	31	eP	P	03 00 05.3	-0.3
EDM	Edmonton	85.72	31	eP	P	03 00 05.3	-0.3
Y32A	R-V Farms, Ver	85.76	53	⇓P	P	03 00 06.0	-0.3
	baz=86,SNR=9.0						
C20A	Veseth Ranch,	85.78	38	⇑P	P	03 00 06.3	+0.3
	baz=86,SNR=7.8						
W31A	Holland Ranch,	85.83	52	⇓P	P	03 00 06.1	-0.5
	baz=86,SNR=5.2						
J24A	Dixon Ranch, L	85.84	43	⇓P	P	03 00 07.2	+0.7
	baz=86						
A19A	Klindworth Far	85.95	37	⇓P	P	03 00 06.9	0.0
	baz=86						
D21A	La Casta Ranch	86.08	39	⇑P	P	03 00 08.0	+0.5
	baz=86						
B20A	Solberg Farm,	86.13	37	⇓P	P	03 00 08.2	+0.4
	baz=86						
V31A	Spring Creek L	86.13	51	⇑P	P	03 00 08.7	+0.6
	baz=86,SNR=5.9						
G23A	Biddle	86.21	41	⇑P	P	03 00 08.0	-0.2
	baz=86						
A20A	Cobblestone Ra	86.39	37	⇑P	P	03 00 09.1	0.0
	baz=87,SNR=6.4						
F23A	Volborg	86.43	40	⇓P	P	03 00 09.5	+0.2
	baz=87						
H24A	Dirks Ranch, A	86.54	42	⇓P	P	03 00 09.3	-0.7
	baz=87,SNR=5.9						
WHTX	Lake Whitney	86.58	56	⇑P	P	03 00 10.2	-0.1
	baz=87						
RSSD	Black Hills	86.59	42	eP	P	03 00 09.4	-1.0
RSSD				pmax	pmax		
	comp=Z,19nm,0.9s						
RSSD	Black Hills	86.59	42	eP	P	03 00 09.3	-1.0
	comp=Z,19nm,0.9s						
B21A	Ellsworth Farm	86.71	38	⇓P	P	03 00 11.0	+0.4
	baz=87						
I25A	Rochford	86.75	43	⇑P	P	03 00 10.9	-0.2
	baz=87						
R30A	Dighton	86.78	49	⇓P	P	03 00 11.4	+0.2
	baz=87						
J26A	Sides Ranch, S	86.88	43	⇓P	P	03 00 11.7	+0.1
	baz=87						
A21A	Bergtoll Ranch	87.03	37	⇑P	P	03 00 12.2	0.0
	baz=87						
Q30A	Quinter	87.08	48	⇓P	P	03 00 12.4	-0.3
	baz=87						
MAW	Mawson	87.46	199	P	P	03 00 15.2	+1.3
MAW	Mawson	87.46	199	P	P	03 00 15.2	+1.3
	comp=Z,6.2nm,1.0s,baz=137,slow=7.7,SNR=8.5						
J27A	Elkhorn Farm,	87.56	44	⇑P	P	03 00 14.8	-0.1
	baz=88						
B23A	Brockton	87.92	38	⇑P	P	03 00 16.7	+0.2
	baz=88						
L29A	Maesberg Ranch	88.11	45	⇓P	P	03 00 17.9	+0.3
	baz=88						
J28A	Allard Ranch,	88.14	44	⇑P	P	03 00 18.2	+0.5
	baz=88						
O31A	Woolen Ranch,	88.17	47	⇑P	P	03 00 18.7	+0.8
	baz=88						
GYA	Guiyang	88.52	298	P	P	03 00 21.3	+1.4
GYA				PP	PP	03 03 51.0	+2.5
GYA				SKS	SKSac	03 10 47.5	-0.3
GYA				S	S	03 11 04.3	-0.5
GYA				SS	SS	03 16 58.8	+2.7
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,120nm,6.5s						
GYA				LR	LR		
	comp=N,580nm,21.4s						
GYA				LR	LR		
	comp=E,490nm,22.0s						
GYA				LR	LR		
	comp=Z,550nm,21.5s						
INK	Inuvik	88.64	14	P	P	03 00 18.4	-1.0
INK	Inuvik	88.64	14	P	P	03 00 18.4	-1.0
	comp=Z,3.4nm,0.9s,baz=211,slow=6.0,SNR=5.6						
HHC	Hu-ho-hao-te	89.56	313	eP	P	03 00 23.5	-0.9
HHC				pP	PcP	03 00 28.3	+2.5
HHC				sP	sP	03 00 30.5	-5.4
HHC				PP	PP	03 03 57.5	+1.1
HHC				SKS	SKSac	03 10 51.3	-2.0
HHC				S	S	03 11 11.8	-2.1
HHC				SS	SS	03 17 11.5	+1.0
HHC				pmax	pmax		
	comp=Z,40nm,1.2s						
HHC				pmax	pmax		
	comp=Z,400nm,5.4s						
HHC				LR	LR		
	comp=N,360nm,16.7s						
HHC				LR	LR		
	comp=E,240nm,16.3s						
HHC				LR	LR		
	comp=Z,320nm,17.7s						
YKA	Yellowknife Ar	90.40	23	P	P	03 00 27.3	-0.3
YKA	Yellowknife Ar	90.40	23	P	P	03 00 27.3	-0.3
	comp=Z,2.0nm,0.7s,baz=255,slow=4.0,SNR=3.7						
TEIG	Tepich	90.67	69	P	P	03 00 29.3	-0.6
TEIG	Tepich	90.67	69	P	P	03 00 29.3	-0.6
	comp=Z,10.0nm,1.0s,baz=288,slow=8.4,SNR=4.1						
JTS	JuntasAbangare	91.00	80	eP	P	03 00 32.0	+0.4
	comp=Z,139nm,1.0s						
ECSD	EROS Data Cent	91.37	45	eP	P	03 00 31.8	-0.9
	comp=Z,7.7nm,1.3s						
KMI	Kunming	91.49	296	P	P	03 00 36.8	+2.8
KMI				pmax	pmax		
	comp=Z,8.0nm,0.8s						
CD2	Chengdu	92.30	301	P	P	03 00 38.8	+1.4
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
SNAA	Sanae	92.44	177	eP	P	03 00 37.6	+0.4
	comp=Z,9.5nm,1.3s						
CMAR	Chiang Mai Arr	93.04	288	P	P	03 00 43.0	+2.1
CMAR	Chiang Mai Arr	93.04	288	P	P	03 00 43.0	+2.1
	comp=Z,0.7nm,0.3s,baz=111,slow=2.5,SNR=5.1						
LZH	Lanzhou	93.74	306	eP	P	03 00 46.0	+2.0
LZH				pP	pP	03 00 49.3	-3.2
LZH				sP	sP	03 00 51.5	-4.0
LZH				PP	PP	03 04 30.5	+0.8
LZH				eS	S	03 11 52.5	+0.4
LZH				sS	sS	03 12 00.0	-6.2
LZH				pmax	pmax		
	comp=Z,23nm,1.2s						
LZH				pmax	pmax		
	comp=Z,110nm,4.6s						
LZH				LR	LR		
	comp=N,660nm,14.2s						
LZH				LR	LR		
	comp=E,590nm,15.3s						
LZH				LR	LR		
	comp=Z,860nm,16.0s						
SPMN	St. Paul	94.44	44	eP	P	03 00 46.7	-0.1
SPMN	St. Paul	94.44	44	⇓P	P	03 00 46.8	-0.1
	baz=95						
MK31	Makanchi Array	111.36	314	ePKIKP	PKiKP	03 06 00.7	-0.1
MK31	Makanchi Array	111.36	314	ePKP	PKiKP	03 06 00.7	-0.1
MKAR	Makanchi Array	111.36	314	PKIKP	PKiKP	03 06 00.7	-0.2
MKAR	Makanchi Array	111.36	314	PKiKP	PKiKP	03 06 00.7	-0.2
MKAR	Makanchi Array	111.36	314	PKiKP	PKiKP	03 06 00.7	-0.2
	comp=Z,0.8nm,0.7s,baz=81,slow=1.6,SNR=7.0						
KURK	Kurchatov	113.68	319	ePKIKP	PKiKP	03 06 04.1	-0.9
KURK	Kurchatov	113.68	319	ePKP	PKiKP	03 06 04.1	-0.9
KSH	Kashi	115.99	307	ePKP	PKPdf	03 06 07.5	-2.5
KSH				PKS	PKSdf	03 09 43.0	-3.8
KSH				SKS	SKSdf	03 13 18.5	-2.2
KSH				AMB	AMB		
	comp=Z,65nm,4.4s						
KSH				LR	LR		
	comp=N,78nm,6.0s						
KSH				LR	LR		
	comp=E,85nm,4.6s						
KSH				LR	LR		
	comp=Z,120nm,13.3s						
BRVK	Borovoye	118.48	322	ePKIKP	PKPdf	03 06 13.9	-0.3
BRVK	Borovoye	118.48	322	ePKPdf	PKPdf	03 06 13.9	-0.3
ARCES	ARCESS Array B	125.10	352	PKP	PKPdf	03 06 26.2	-0.3
ARCES	ARCESS Array B	125.10	352	PKP	PKPdf	03 06 26.2	-0.3
	comp=Z,4.1nm,0.9s,baz=349,slow=3.7,SNR=6.0						
FINES	FINESS Array B	132.45	348	PKP	PKPdf	03 06 41.3	+0.6
FINES	FINESS Array B	132.45	348	PKP	PKPdf	03 06 41.3	+0.6
	comp=Z,3.0nm,0.9s,baz=204,slow=3.0,SNR=4.2						
AKASG	Malin Array Be	140.88	338	PKIKP	PKPdf	03 06 55.2	-1.4
AKASG	Malin Array Be	140.88	338	PKP	PKPdf	03 06 55.2	-1.4
AKASG	Malin Array Be	140.88	338	PKP	PKPdf	03 06 55.2	-1.4
	comp=Z,1.3nm,0.6s,baz=43,slow=2.4,SNR=8.4						
LSZ	Lusaka	142.60	215	ePKPdf	PKPdf	03 07 01.0	+0.1
TSUM	Tsumeb	143.61	197	ePKPdf	PKPbc	03 07 00.9	+1.0
KWP	Kalwaria Pacla	143.95	342	ePKIKP	PKPbc	03 07 00.4	+0.5
KWP	Kalwaria Pacla	143.95	342	ePKPdf	PKPbc	03 07 00.4	+0.4
KWP	Kalwaria Pacla	143.95	342	⇑P	PKPbc	03 07 00.6	+0.7
KWP	Kalwaria Pacla	143.95	342	ePKP	PKPbc	03 07 00.4	+0.5
OJC	Ojcow	144.17	346	ePKPdf	PKPbc	03 07 01.2	+0.6
CLL	Collm	144.30	353	i PKPdf	PKPbc	03 07 01.4	+0.5
	comp=Z,8.0nm,0.9s						
CLL				i PKiKP	PKiKP	03 07 04.8	-1.5
CLL				i		03 07 06.4	
MALT	Malatya	144.40	315	⇑P	PKPdf	03 07 04.3	+0.9
STHS	Stebnicka Huta	144.55	344	ePKP	PKPdf	03 07 02.8	-0.4
BRG	Berggiesshubel	144.62	352	eP	PKPdf	03 07 08.3	+5.0
	comp=Z,7.7nm,1.3s						
UPC	Upice	144.66	350	ePKP	PKPdf	03 07 02.7	-0.6
DPC	Dobruska-Polom	144.76	350	ePKP	PKPdf	03 07 03.5	-0.1
NIE	Niedzica	144.79	345	ePKPdf	PKPdf	03 07 03.6	0.0
PVCC	Panska Ves	144.87	352	ePKP	PKPdf	03 07 04.1	+0.4
BUR08	Bucovina Ar. S	144.88	338	ePKPdf	PKPdf	03 07 04.2	+0.2
OKC	Ostrava-Krasne	144.90	347	ePKP	PKPdf	03 07 03.6	-0.2
BURAR	Bucovina Array	144.90	338	⇑P	PKPdf	03 07 04.1	+0.1
CRVS	Cervenica-Dubn	144.96	343	ePKP	PKPdf	03 07 03.7	-0.2
MORC	Moravsky Berou	145.08	348	ePKP2	PKPdf	03 07 03.9	-0.3
MORC	Moravsky Berou	145.08	348	ePKPdf	PKPdf	03 07 03.9	-0.3
MORC	Moravsky Berou	145.08	348	⇑P	PKPdf	03 07 04.6	+0.5
TESR	Tescani	145.29	336	⇑P	PKPdf	03 07 04.8	+0.3
MEM	Membach	145.33	1	PKP	PKPbc	03 07 04.0	-0.3
TRPA	Tarpa	145.34	341	⇑P	PKPdf	03 07 05.4	+0.9
TRPA	Tarpa	145.34	341	⇓ePKPbc	PKPdf	03 07 04.9	+0.4
GHRR		145.35	335	⇑P	PKPdf	03 07 06.4	+1.8
SNF	Seneffe	145.37	3	PKP	PKPdf	03 07 04.9	+0.4
PRU	Pruhonice	145.40	351	ePKP	PKPab	03 07 05.0	+0.3
PRU				ex	x	03 07 14.7	
NKC	Novy Kostel	145.42	354	ePKP	PKPab	03 07 05.1	+0.3
TLCR		145.44	332	⇑P	PKPab	03 07 04.9	-0.1
BCLA	Clavier	145.50	2	PKP	PKPdf	03 07 04.6	-0.2
KMBO	Kilima Mbogo	145.60	243	ePKPbc	PKPab	03 07 08.2	+1.3
KMBO	Kilima Mbogo	145.60	243	PKPbc	PKPab	03 07 07.0	+0.1
	comp=Z,8.9nm,1.1s,baz=61,slow=2.3,SNR=11						
KECS	Kecovo	145.61	344	ePKP	PKPab	03 07 06.3	+0.8
CFR	Carcaliu	145.74	333	⇑P	PKPab	03 07 06.8	+0.7
VRI	Vrincioaia	145.78	335	⇑P	PKPab	03 07 07.1	+0.8
DOU	Dourbes	145.80	3	PKP	PKPab	03 07 06.2	0.0
GRFO	Grafenberg	146.07	355	ePKP2	PKPab	03 07 07.6	+0.4
GRFO	Grafenberg	146.07	355	ePKPbc	PKPab	03 07 07.6	+0.4
TLB	Topalu	146.25	332	⇑P	PKPab	03 07 08.6	+0.6
WLF	Walferdange	146.28	1	PKP	PKPab	03 07 08.4	+0.4
WLF	Walferdange	146.28	1	ePKP2	PKPab	03 07 08.0	0.0
WLF	Walferdange	146.28	1	ePKPbc	PKPab	03 07 08.0	0.0
PSZ	Piszkesteto	146.28	344	ePKP2	PKPab	03 07 07.8	-0.4
PSZ	Piszkesteto	146.28	344	ePKPbc	PKPab	03 07 07.8	-0.4
PSZ	Piszkesteto	146.28	344	⇓ePKPdf	PKPab	03 07 07.7	-0.4
KHC	Kasperske Hory	146.37	352	ePKP2	PKPab	03 07 08.1	-0.4
KHC	Kasperske Hory	146.37	352	ePKP	PKPdf	03 07 06.8	+0.4
KHC				epPKP	PKPab	03 07 09.0	+0.6
KHC				ex	x	03 07 17.9	
KHC	Kasperske Hory	146.37	352	ePKPbc	PKPab	03 07 08.1	-0.4
MLR	Muntele Rosu	146.41	336	⇑P	PKPab	03 07 09.1	+0.3
ISR	Istrita	146.47	334	⇑P	PKPab	03 07 08.4	-0.6
DRGR		146.47	340	⇑P	PKPbc	03 07 07.3	-0.7
GERES	GERESS Array B	146.63	352	PKPbc	PKPbc	03 07 07.6	-0.8
GERES	GERESS Array B	146.63	352	PKPbc	PKPbc	03 07 07.6	-0.8
	comp=Z,2.4nm,0.7s,baz=26,slow=3.4,SNR=22						
ZST	Bratislava	146.68	348	ePKP	PKPbc	03 07 08.7	+0.2
BR131	Keskin Array S	146.70	321	ePKPbc	PKPab	03 07 09.9	-0.3
BRTR	Keskin Array B	146.70	321	PKPbc	PKPbc	03 07 09.4	+0.4
BRTR	Keskin Array B	146.70	321	PKPbc	PKPbc	03 07 09.4	+0.4
	comp=Z,16nm,1.0s,baz=126,slow=1.7,SNR=55						
VOIR		146.80	336	⇑P	PKPab	03 07 10.6	+0.3
LANF	Langenberg	146.96	359	PKP	PKPab	03 07 10.0	-0.7
ARR	Arges	147.02	337	⇑P	PKPab	03 07 11.7	+0.6
ANTO	Ankara	147.12	322	ePKP2	PKPab	03 07 11.6	-0.1
ANTO	Ankara	147.12	322	ePKPbc	PKPab	03 07 11.6	-0.1
ANTO	Ankara	147.12	322	⇓P	PKPab	03 07 11.4	-0.3
STU	Stuttgart	147.12	357	ePKP2	PKPbc	03 07 09.5	-0.2
STU	Stuttgart	147.12	357	ePKPbc	PKPbc	03 07 09.5	-0.2
CONA	Conrad Observa	147.18	349	i PKPab	PKPab	03 07 10.9	-0.7
	comp=Z,31nm,1.7s,SNR=9.6						
SIRR	Siria	147.27	341	⇑P	PKPab	03 07 11.4	-0.6
MOA	Molln	147.53	351	i PKPab	PKPbc	03 07 11.5	+0.6
	comp=Z,11nm,0.9s,SNR=5.7						
BFO	Black Forest	147.60	358	ePKP2	PKPbc	03 07 11.2	+0.1
BFO	Black Forest	147.60	358	ePKPbc	PKPbc	03 07 11.2	+0.1
GZR	Gura Zlata	147.67	339	⇑P	PKPbc	03 07 12.3	+0.9
THEF	They Montfort	147.71	1	PKP	PKPbc	03 07 12.0	+0.6
ECH	Echery	147.73	360	ePKP2	PKPbc	03 07 11.7	+0.2
ECH	Echery	147.73	360	PKP	PKPbc	03 07 12.0	+0.5
ECH	Echery	147.73	360	ePKPbc	PKPbc	03 07 11.7	+0.2
BZS	Buzias	147.86	340	⇑P	PKPbc	03 07 11.1	-0.8
SZH	Strazhica	148.22	333	i P	PKPbc	03 07 12.9	0.0
RETA	Reutte	148.30	355	i pPKPdf	PKPbc	03 07 13.3	+0.3
	comp=Z,13nm,1.2s,SNR=6.2						
MOTA	Moosalm	148.41	355	i PKiKP	PKPbc	03 07 13.9	+0.4
	comp=Z,15nm,1.0s,SNR=8.4						
WTTA	Wattenberg	148.44	354	i PKiKP	PKPbc	03 07 14.1	+0.5
	comp=Z,14nm,0.8s,SNR=6.6						
SOKA	Soboth	148.53	349	i PKPbc	PKPbc	03 07 13.5	-0.2
	comp=Z,16nm,1.1s,SNR=12						
DAVA	Damuels	148.57	356	i PKiKP	PKiKP	03 07 14.7	-0.7
	comp=Z,17nm,1.0s,SNR=7.0						
LOMF	Lomont	148.60	0	PKP	PKPbc	03 07 14.6	+0.8
ABTA	Abfaltersbach	148.85	353	i PKPbc	PKPbc	03 07 14.5	0.0
	comp=Z,17nm,0.9s,SNR=8.0						
MPEP	Malo Peshtene	149.06	336	i P	PKPbc	03 07 15.5	+0.5
DAVOX	Davos/Dischmat	149.07	356	PKPbc	PKPbc	03 07 16.5	+1.3
DAVOX	Davos/Dischmat	149.07	356	PKPbc	PKPbc	03 07 16.5	+1.3
	baz=18,slow=17						
TUE	Stuetta	149.41	357	ePKPbc	PKPbc	03 07 16.4	+0.3
CSS	Prodhromos	149.63	314	ePKPbc	PKPbc	03 07 17.2	+0.5
TRI	Trieste	149.69	350	ePKPbc	PKPbc	03 07 16.4	-0.1
PLD	Plovdiv	149.69	333	P	PKPbc	03 07 16.6	0.0
PLD	Plovdiv	149.69	333	P	PKPbc	03 07 16.6	0.0
AGO	Saint Agoulin	149.73	5	PKP	PKPbc	03 07 18.3	+1.6
DIVS	Divibare	149.74	341	P	PKPdf	03 07 10.8	-1.3
KDZ	Kurdzhali	149.74	332	i P	PKPbc	03 07 17.4	+0.6
VTS	Vitosha	149.91	336	⇑P	PKPbc	03 07 18.5	+1.1
VTS	Vitosha	149.91	336	i P	PKPbc	03 07 18.1	+0.7
PYM	Petit Puy Mans	150.02	5	PKP	PKPbc	03 07 19.3	+1.9
RZN	Rozhen	150.03	333	i P	PKPbc	03 07 18.1	+0.4
RDO	Rodhopi	150.09	331	P	PKPbc	03 07 18.1	+0.5
RDO	Rodhopi	150.09	331	P	PKPbc	03 07 18.1	+0.5
KULA	Kula-Manisa	150.42	324	P	PKPbc	03 07 19.1	+0.5
KULA	Kula-Manisa	150.42	324	P	PKPab	03 07 19.1	+0.5
MMB	Musomiste	150.53	334	i P	PKPbc	03 07 19.2	+0.4
KKB	Krupnik	150.57	335	i P	PKPbc	03 07 19.6	+0.8
SSB	Saint Sauveur	150.60	3	ePKIKP	PKPdf	03 07 13.8	+0.4
SSB				e		03 07 19.4	
SSB				e		03 07 26.1	
SSB	Saint Sauveur	150.60	3	PKP	PKPbc	03 07 19.9	+1.1
SSB	Saint Sauveur	150.60	3	ePKPdf	PKPdf	03 07 13.8	+0.4
SSB				ePKPbc	PKiKP	03 07 19.4	-0.1
SSB				ePKPab	PKPab	03 07 26.1	+0.6
SMTH	Samothraki Isl	150.62	330	P	PKPdf	03 07 15.2	+1.7
SMTH	Samothraki Isl	150.62	330	P	PKPdf	03 07 15.2	+1.7
KAVA	Kavala	150.67	332	P	PKPbc	03 07 19.2	+0.2
KAVA	Kavala	150.67	332	P	PKPbc	03 07 19.2	+0.2
NVR	Nevrokopi	150.67	333	P	PKPbc	03 07 19.0	-0.1
NVR	Nevrokopi	150.67	333	P	PKPbc	03 07 19.0	-0.1
BNI	Bardonecchia	150.90	0	ePKPbc	PKPbc	03 07 20.6	+1.0
PRK	Paraskevi	151.19	328	P	PKPbc	03 07 20.6	+0.3
PRK	Paraskevi	151.19	328	PKIKP	PKPbc	03 07 20.6	+0.3
PRK	Paraskevi	151.19	328	P	PKPbc	03 07 20.6	+0.3
PCAB	Cabril	151.19	24	ePKPdf	PKPdf	03 07 13.3	-1.1
PCAB	Cabril	151.19	24	ePKPbc	PKPbc	03 07 20.8	+0.5
LIA	Limnos Island	151.23	330	P	PKPbc	03 07 20.3	-0.1
LIA	Limnos Island	151.23	330	P	PKPbc	03 07 20.3	-0.1
OUR	Ouranopolis	151.44	332	P	PKPbc	03 07 20.2	-0.6
OUR	Ouranopolis	151.44	332	P	PKPbc	03 07 20.2	-0.6
OG25	Le Caire	151.57	1	PKP	PKPbc	03 07 22.1	+0.9
POLO	Lamas de Olo	151.57	24	ePKPbc	PKPbc	03 07 22.0	+0.7
POLO	Lamas de Olo	151.57	24	ePKPab	PKPab	03 07 30.5	+0.8
PBRG	Braganca	151.59	22	ePKPab	PKPab	03 07 29.6	-0.1
VLC	Villacollemand	151.64	355	ePKPbc	PKPbc	03 07 20.1	-1.2
VLC				ePKPab	PKPab	03 07 27.6	-2.2
PHP	Peshkopia	151.74	338	P	PKPbc	03 07 21.6	0.0
PHP	Peshkopia	151.74	338	PKIKP	PKPbc	03 07 21.6	0.0
PHP	Peshkopia	151.74	338	P	PKPbc	03 07 21.6	0.0
PAIG	Paliouri	151.91	332	P	PKPbc	03 07 20.9	-1.0
PAIG	Paliouri	151.91	332	PKIKP	PKPbc	03 07 20.9	-1.0
PAIG	Paliouri	151.91	332	P	PKPbc	03 07 20.9	-1.0
TOUF	Mont Tournerai	151.93	359	PKP	PKPbc	03 07 22.8	+0.7
AUTN	L'Aution	151.95	359	PKP	PKPbc	03 07 23.0	+0.8
SAOF	Saorge	151.96	359	PKP	PKPbc	03 07 22.4	+0.4
MVO	Moncorvo	152.04	23	ePKPbc	PKPbc	03 07 22.7	+0.4
MVO	Monc

WRAB Tennant Creek 50.23 257 *eP* **P 03 03 06.9 -0.4**
8.4nm,1.2s
WRA Warramunga Arr 50.24 257 P **P 03 03 06.1 -1.3**
WRA Warramunga Arr 50.24 257 P **P 03 03 06.1 -1.3**
0.8nm,0.5s,baz=95,slow=6.5,SNR=17
AS31 Alice Springs 50.44 252 *eP* **P 03 03 08.2 -0.7**
ASAR Alice Springs 50.44 252 P **P 03 03 08.3 -0.5**
ASAR Alice Springs 50.44 252 P **P 03 03 08.3 -0.5**
5.7nm,0.5s,baz=89,slow=8.3,SNR=66
FORT Forrest 55.60 244 *eP* **P 03 03 46.9 +0.1**
14nm,0.7s
VNDA Vanda 62.71 186 *eP* **P 03 04 36.0 +0.8**
2.1nm,1.2s
VNDA Vanda 62.71 186 P **P 03 04 36.1 +0.9**
0.9nm,0.9s,baz=36,slow=6.7,SNR=4.0
ISA Isabella 72.78 44 *eP* **P 03 05 39.1 -0.3**
10nm,1.5s
CMB Columbia Colle 72.94 41 *eP* **P 03 05 40.3 +0.1**
2.2nm,0.9s
WAKR Walker 73.81 41 *eP* **P 03 05 46.8 +1.2**
QSPA South Pole Qui 73.92 180 *eP* **P 03 05 45.7 0.0**
9.4nm,1.2s
BEKR Beckworth 74.06 39 *eP* **P 03 05 48.7 +1.7**
3.4nm,1.3s
TUC Tucson 76.41 50 *eP* **P 03 06 01.0 +0.5**
3.3nm,0.9s
DUG Dugway 79.01 43 *eP* **P 03 06 16.2 +1.2**
3.9nm,1.2s
TMUT Trail Mountain 79.60 44 *eP* **P 03 06 19.0 +0.6**
3.8nm,0.8s
DIV Divide 79.98 13 *eP* **P 03 06 20.3 +0.6**
20nm,1.1s
BMRM Bremner River 80.09 14 *eP* **P 03 06 20.8 +0.6**
15nm,1.0s
TXAR Lajitas Array 80.54 56 P **P 03 06 22.2 -1.2**
TXAR Lajitas Array 80.54 56 P **P 03 06 22.3 -1.2**
0.3nm,0.8s,baz=219,slow=6.7,SNR=3.0
MCK McKinley 81.73 10 *eP* **P 03 06 28.9 -0.1**
7.9nm,0.8s
PDAR Pinedale Array 82.43 42 P **P 03 06 32.8 -0.6**
PDAR Pinedale Array 82.43 42 P **P 03 06 32.8 -0.6**
0.5nm,0.7s,baz=219,slow=3.8,SNR=5.0
ILAR Eielson Array 83.05 11 P **P 03 06 35.9 +0.1**
ILAR Eielson Array 83.05 11 P **P 03 06 35.9 +0.1**
1.0nm,0.6s,baz=229,slow=6.4,SNR=17
MORC Moravsky Berou 145.41 348 *e*PKPbc **PKPbc 03 13 47.0 -1.6**
WLF Walferdange 146.54 1 *e*PKPbc **PKPbc 03 13 51.4 -0.6**
GERES GERESS Array B 146.94 352 PKPbc **PKPbc 03 13 53.2 -0.1**
GERES GERESS Array B 146.94 352 PKPbc **PKPbc 03 13 53.2 -0.1**
0.3nm,0.5s,baz=286,slow=4.0,SNR=3.4
BR131 Keskin Array S 147.09 321 *e*PKPbc **PKPab 03 13 55.0 -0.6**
BRTR Keskin Array B 147.09 321 PKPbc **PKPab 03 13 55.5 -0.2**
BRTR Keskin Array B 147.09 321 PKPbc **PKPab 03 13 55.5 -0.2**
3.2nm,0.9s,baz=128,slow=2.6,SNR=15
ANTO Ankara 147.50 322 *e*PKPbc **PKPab 03 13 56.5 -0.7**
BFO Black Forest 147.88 359 *e*PKPbc **PKPbc 03 13 56.1 +0.3**
MMAI Mount Meron Ar 149.47 309 PKPbc **PKPbc 03 14 01.0 +0.5**
MMAI Mount Meron Ar 149.47 309 PKPbc **PKPbc 03 14 01.0 +0.5**
1.3nm,0.6s,baz=337,slow=4.1,SNR=3.7
CSS Prodhromos 150.02 314 *e*PKPdf **PKPdf 03 13 56.2 -0.6**
CSS *e*PKPbc **PKPbc 03 14 02.0 +0.3**
CSS *e*PKPab **PKPab 03 14 07.5 0.0**

IDC 30 03:02:35.9±1.4, 24°.00S×66°.73W, h183km±13km, mb3.6/6, mb1 3.7/11, mb1mx3.6/19, mbtmp4.1/11, Error ellipse: s-maj=17.2km s-min=11.7km az=94.0, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**7.70**	**190**	P	Pn	03 04 25.8	+0.6
0.1nm,0.3s,baz=37,slow=14,SNR=4.5							
CFAA				S	Sn	03 05 48.0	-3.8
0.4nm,0.3s,baz=224,slow=12,SNR=11							
LPAZ	**La Paz**	**7.78**	**350**	P	Pn	03 04 27.6	+0.4
0.8nm,0.3s,baz=172,slow=6.5,SNR=63							
LPAZ				S	Sn	03 05 54.1	-1.2
0.9nm,0.3s,baz=7.5,slow=9.9,SNR=6.2							
CPUP	**Villa Florida**	**8.83**	**107**	P	Pn	03 04 41.3	+1.2
1.3nm,0.3s,baz=269,slow=11,SNR=16							
SIV	**San Ignacio**	**9.58**	**35**	P	Pn	03 04 49.8	-0.2
1.6nm,0.3s,baz=222,slow=13,SNR=22							
SIV				S	Sn	03 06 40.4	+3.5
0.2nm,0.3s,baz=117,slow=16,SNR=2.3							
PLCA	**Paso Flores**	**16.99**	**190**	P	Pn	03 06 23.5	+0.5
0.2nm,0.3s,baz=7.1,slow=12,SNR=7.4							
BDFB	**Brasilia**	**19.46**	**68**	P	P	03 06 49.1	+0.1
1.2nm,0.3s,baz=240,slow=12,SNR=20							
TXAR	**Lajitas Array**	**63.82**	**324**	P	P	03 12 49.0	+0.2
0.5nm,0.8s,baz=159,slow=5.3,SNR=4.3							
DBIC	**Dimbokro**	**67.57**	**71**	P	P	03 13 12.2	-0.9
1.6nm,0.5s,baz=173,slow=5.7,SNR=6.4							
TORD	**Torodi Ar. Bea**	**76.34**	**69**	P	P	03 14 04.6	-0.6
1.4nm,0.5s,baz=264,slow=6.6,SNR=43							
PDAR	**Pinedale Array**	**77.27**	**329**	P	P	03 14 10.8	+0.6
0.2nm,0.4s,baz=139,slow=8.4,SNR=3.2							
ULM	**Lac du Bonnet**	**78.30**	**341**	P	P	03 14 15.0	-0.3
3.1nm,0.8s,baz=141,slow=4.8,SNR=2.5							
MAW	**Mawson**	**81.37**	**163**	P	P	03 14 33.0	+1.3
1.6nm,0.6s,baz=253,slow=11,SNR=3.2							
ASAR	**Alice Springs**	**128.56**	**204**	PKP	PKPdf	03 21 21.7	-0.1
0.6nm,0.6s,baz=108,slow=4.1,SNR=6.0							
WRA	**Warramunga Arr**	**131.74**	**207**	PKP	PKPdf	03 21 27.8	-0.1
0.4nm,0.3s,baz=168,slow=1.7,SNR=9.1							
MKAR	**Makanchi Array**	**146.37**	**40**	PKPbc	PKPdf	03 21 54.0	+0.4
1.0nm,0.6s,baz=292,slow=3.6,SNR=5.1							

IDC 30 03:05:27.3±4.7, 15°.10S×173°.95W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/19, mbtmp3.9/3, Error ellipse: s-maj=216.2km s-min=40.6km az=137.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**43.73**	**240**	P	P	03 13 34.3	-0.3
1.8nm,0.5s,baz=93,slow=12,SNR=4.4							
WRA	**Warramunga Arr**	**49.40**	**257**	P	P	03 14 19.8	+0.5
0.7nm,1.0s,baz=91,slow=9.7,SNR=3.0							
ASAR	**Alice Springs**	**49.70**	**252**	P	P	03 14 21.4	-0.2
1.5nm,0.6s,baz=92,slow=7.5,SNR=15							
BRTR	**Keskin Array B**	**145.60**	**321**	PKPbc	PKPdf	03 25 06.0	-2.1
0.6nm,0.8s,baz=112,slow=1.6,SNR=3.3							
GERES	**GERESS Array B**	**145.77**	**351**	PKPbc	PKPab	03 25 08.8	0.0
0.1nm,0.2s,baz=46,slow=5.8,SNR=4.0							

IDC 30 03:06:27.9±13.0, 15°.01S×173°.78W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.5/19, mbtmp3.6/2, Error ellipse: s-maj=618.0km s-min=65.8km az=139.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**49.57**	**256**	P	P	03 15 20.8	-0.4
0.3nm,0.5s,baz=90,slow=6.5,SNR=3.8							
ASAR	**Alice Springs**	**49.88**	**252**	P	P	03 15 23.7	+0.2
1.1nm,0.6s,baz=87,slow=8.4,SNR=4.7							
BRTR	**Keskin Array B**	**145.62**	**321**	PKPbc	PKPdf	03 26 08.1	-0.7
2.0nm,1.1s,baz=64,slow=2.9,SNR=4.4							

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*IDC **30** 03:18:04.8±0.9, 16°.82S×172°.37W, h0km, mb4.3/10, mb1 4.5/10, mb1mx4.2/21, mbtmp4.3/10, Error ellipse: s-maj=45.4km s-min=18.0km az=150.0*
*BJI **30** 03:18:07.7, 16°.30S×172°.84W, h10km, mB5.6/8, mb5.0/10, Ms5.1/4, Ms7.4/4*
*NEIC **30** 03:18:07.3±0.4, 16°.61S×172°.58W, h10km, mb4.7/15, Error ellipse: s-maj=23.0km s-min=10.3km az=142.0*
*ISCJB **30** 03:18:10.8±0.4, 16°.03S±0°.08×172°.52W±0°.10, h24km, mb4.5/30, MS4.6/1, Error ellipse: s-maj=15.8km s-min=8.8km az=38.4*
ISC 30 03:18:10.8±0.5, 16°.10S±0°.09×172°.7W±0°.1, h24km, n68, σ1.9 83/73, mb4.7/30, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.36**	**23**	*e*Pn	Pn	03 18 42.9	-5.2
AFI				*e*S	**Sn**	**03 19 13.9**	**-2.4**
AFI	**Afiamalu**	**2.36**	**23**	Pn	Pn	03 18 43.7	-4.3
58nm,0.3s,baz=207,slow=23,SNR=4.6							
AFI				Sn	**Sn**	**03 19 13.7**	**-2.6**
72nm,0.3s,baz=42,slow=22,SNR=4.2							
MSVF	**Nonsavu**	**8.99**	**258**	*e*Pn	Pn	03 20 24.9	+5.7
URZ	**Urewera**	**23.83**	**200**	P	**P**	**03 23 17.9**	**-4.1**
URZ	**Urewera**	**23.83**	**200**	P	**P**	**03 23 17.9**	**-4.1**
10nm,0.8s,baz=345,slow=6.5,SNR=4.8							
STKA	**Stephens Creek**	**44.27**	**241**	P	P	03 26 15.6	-3.0

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**44.27**	**241**	P	P	03 26 15.6	-3.0
2.4nm,0.8s,baz=2.0,slow=4.4,SNR=4.3							
WRA	**Warramunga Arr**	**50.33**	**257**	P	**P**	**03 27 03.8**	**-2.3**
WRA	**Warramunga Arr**	**50.33**	**257**	P	**P**	**03 27 03.8**	**-2.3**
1.0nm,0.9s,baz=96,slow=7.1,SNR=8.4							
AS31	**Alice Springs**	**50.52**	**252**	*e*P	**P**	**03 27 05.1**	**-2.5**
ASAR	**Alice Springs**	**50.52**	**252**	P	**P**	**03 27 05.0**	**-2.5**
ASAR	**Alice Springs**	**50.52**	**252**	P	**P**	**03 27 05.0**	**-2.5**
5.6nm,0.6s,baz=88,slow=8.5,SNR=41							
VNDA	**Vanda**	**62.75**	**186**	P	**P**	**03 28 36.1**	**+2.5**
4.3nm,1.5s							
YBH	**Yreka Blue Hor**	**73.76**	**37**	P	**P**	**03 29 43.8**	**+0.7**
YBH	**Yreka Blue Hor**	**73.76**	**37**	P	**P**	**03 29 43.8**	**+0.7**
3.1nm,1.0s,baz=162,slow=4.1,SNR=4.3							
QSPA	**South Pole Qui**	**73.95**	**180**	*e*P	**P**	**03 29 45.7**	**+1.7**
118nm,2.9s							
NVAR	**Mina Array Bea**	**74.41**	**42**	P	**P**	**03 29 47.0**	**-0.1**
NVAR	**Mina Array Bea**	**74.41**	**42**	P	**P**	**03 29 47.0**	**-0.1**
baz=228,slow=11							
KDAK	**Kodiak Island**	**75.47**	**11**	P	**P**	**03 29 54.1**	**+1.6**
KDAK	**Kodiak Island**	**75.47**	**11**	P	**P**	**03 29 54.1**	**+1.6**
6.4nm,0.8s,baz=62,slow=8.8,SNR=4.4							
TUC	**Tucson**	**76.32**	**50**	*e*P	**P**	**03 29 59.0**	**+0.9**
4.5nm,1.1s							
KSRS	**Korea Array**	**77.12**	**315**	P	P	03 30 05.9	+3.5
0.6nm,0.6s,baz=127,slow=7.9,SNR=3.7							
KSAR	**Wonju Array Be**	**77.14**	**315**	P	P	03 30 05.8	+3.4
CCUT	**Cedar City**	**77.16**	**45**	*e*P	**P**	**03 30 03.5**	**+0.6**
34nm,2.4s							
G08A	**Pilot Rock**	**78.11**	**36**	*e*P	**P**	**03 30 09.3**	**+1.4**
62nm,2.6s							
F10A	**Beach Ranch, E**	**79.49**	**36**	*e*P	**P**	**03 30 15.8**	**+0.3**
5.3nm,0.8s							
TMUT	**Trail Mountain**	**79.51**	**44**	*e*P	**P**	**03 30 18.3**	**+2.3**
7.7nm,0.8s							
HLID	**Hailey**	**79.75**	**39**	*e*P	**P**	**03 30 17.7**	**+0.7**
4.3nm,1.0s							
TXAR	**Lajitas Array**	**80.45**	**56**	P	P	03 30 18.0	-3.0
TXAR	**Lajitas Array**	**80.45**	**56**	P	P	03 30 18.0	-3.0
0.7nm,1.0s,baz=217,slow=6.1,SNR=6.3							
HWUT	**Hardware Ranch**	**80.47**	**42**	*e*P	**P**	**03 30 21.0**	**0.0**
1.8nm,0.5s							
ANMO	**Albuquerque**	**80.75**	**50**	*e*P	**P**	**03 30 23.0**	**+0.4**
2.2nm,0.9s							
MCK	**McKinley**	**81.68**	**10**	*e*P	**P**	**03 30 27.0**	**+0.3**
10nm,1.0s							
CN2	**Changchun**	**82.04**	**320**	*e*P	**P**	**03 30 31.0**	**+2.0**
CN2				pmax	pmax		
comp=Z,10.0nm,0.7s							
IMW	**Indian Meadow**	**82.05**	**40**	*e*P	**P**	**03 30 31.4**	**+1.9**
comp=Z,14nm,1.8s							
SMCO	**Snowmass**	**82.32**	**46**	*e*P	**P**	**03 30 31.6**	**+0.5**
comp=Z,11nm,1.5s							
PDAR	**Pinedale Array**	**82.35**	**42**	P	**P**	**03 30 30.1**	**-0.9**
PDAR	**Pinedale Array**	**82.35**	**42**	P	**P**	**03 30 30.1**	**-0.9**
comp=Z,2.4nm,0.8s,baz=216,slow=3.1,SNR=18							
H17A	**Grant Village**	**82.53**	**40**	*e*P	**P**	**03 30 33.8**	**+1.8**
BOZ	**Bozeman (W)**	**82.55**	**38**	*e*P	**P**	**03 30 32.1**	**+0.2**
comp=Z,1.8nm,0.9s							
COLA	**College**	**82.92**	**10**	*e*P	**P**	**03 30 33.8**	**+0.6**
comp=Z,39nm,1.0s							
HRY	**Holter Researc**	**83.00**	**37**	*e*P	**P**	**03 30 34.5**	**+0.4**
ILAR	**Eielson Array**	**83.00**	**11**	P	**P**	**03 30 34.0**	**+0.4**
ILAR	**Eielson Array**	**83.00**	**11**	P	**P**	**03 30 34.0**	**+0.4**
comp=Z,1.4nm,0.7s,baz=222,slow=5.7,SNR=16							
DAWY	**Dawson**	**83.93**	**14**	*e*P	**P**	**03 30 39.6**	**+1.2**
GYA	**Guiyang**	**88.95**	**298**	*e*P	**P**	**03 31 05.5**	**+1.5**
GYA				pmax	pmax		
comp=Z,10.0nm,0.8s							
HHC	**Hu-ho-hao-te**	**89.98**	**313**	*e*P	**P**	**03 31 08.0**	**-0.5**
HHC				pP	**PcP**	**03 31 12.8**	**+3.1**
HHC				sP	**sP**	**03 31 15.0**	**-4.2**
HHC				PP	**PP**	**03 34 43.0**	**+1.1**
HHC				SKS	**SKSac**	**03 41 36.3**	**-1.8**
HHC				S	**S**	**03 41 57.8**	**-2.3**
HHC				SS	**SS**	**03 47 59.0**	**+0.1**
HHC				pmax	pmax		
comp=Z,40nm,1.2s							
HHC				pmax	pmax		
comp=Z,320nm,5.2s							
HHC				LR	LR		
comp=N,140nm,16.3s							
HHC				LR	LR		
comp=E,200nm,16.9s							
HHC				LR	LR		
comp=Z,170nm,17.1s							
KMI	**Kunming**	**91.92**	**295**	P	**P**	**03 31 20.3**	**+2.3**
KMI				pmax	pmax		
comp=Z,10.0nm,0.8s							
CMAR	**Chiang Mai Arr**	**93.46**	**288**	P	**P**	**03 31 27.2**	**+2.2**
CMAR	**Chiang Mai Arr**	**93.46**	**288**	P	**P**	**03 31 27.2**	**+2.2**
comp=Z,2.2nm,0.3s,baz=98,slow=2.8,SNR=5.1							
KSH	**Kashi**	**116.42**	**306**	*e*PKP	**PKPdf**	**03 36 54.3**	**+1.4**
KSH				PP	**PP**	**03 38 02.3**	**+2.6**
KSH				PKS	**PKSdf**	**03 40 30.0**	**+0.3**
KSH				SKS	**SKSdf**	**03 44 05.5**	**+1.7**
KSH				SKKS	**SKKSac**	**03 44 55.5**	**-3.9**
KSH				AMB	AMB		
comp=Z,66nm,4.1s							
KSH				LR	LR		
comp=N,47nm,5.1s							
KSH				LR	LR		
comp=E,59nm,5.3s							
KSH				LR	LR		
comp=Z,150nm,5.6s							
KEV	**Kevo**	**124.98**	**352**	*e*PKPdf	**PKPdf**	**03 37 04.8**	**-3.5**
CLL	**Collm**	**144.58**	**354**	*e*PKPdf	**PKPdf**	**03 37 45.0**	**-0.2**
BRG	**Berggiesshubel**	**144.90**	**353**	*e*PKP	**PKPab**	**03 37 44.6**	**-0.3**
comp=Z,6.5nm,1.3s							
UPC	**Upice**	**144.96**	**350**	*e*PKP	**PKPdf**	**03 37 47.2**	**+1.3**
DPC	**Dobruska-Polom**	**145.06**	**350**	*e*PKP	**PKPdf**	**03 37 46.3**	**+0.1**
DPC				*ep*PKP	**PKiKP**	**03 37 50.5**	**+0.5**
PRU	**Pruhonice**	**145.69**	**352**	*e*PKP	**PKPab**	**03 37 48.4**	**+0.6**
KHC	**Kasperske Hory**	**146.66**	**352**	*e*PKP	**PKPbc**	**03 37 50.7**	**+0.2**
KHC				*ep*PKP	**PKiKP**	**03 37 53.7**	**+0.4**
KHC	**Kasperske Hory**	**146.66**	**352**	*e*PKPbc	**PKPbc**	**03 37 51.0**	**+0.5**
GERES	**GERESS Array B**	**146.92**	**352**	PKPbc	**PKPdf**	**03 37 49.9**	**+0.4**
GERES	**GERESS Array B**	**146.92**	**352**	PKPbc	**PKPdf**	**03 37 49.9**	**+0.4**
comp=Z,0.8nm,0.7s,baz=4.4,slow=1.7,SNR=7.7							
BR131	**Keskin Array S**	**147.11**	**321**	*e*PKPbc	**PKPab**	**03 37 53.4**	**-0.4**
BRTR	**Keskin Array B**	**147.11**	**321**	PKPbc	**PKPbc**	**03 37 53.1**	**+0.9**
BRTR	**Keskin Array B**	**147.11**	**321**	PKPbc	**PKPbc**	**03 37 53.1**	**+0.9**
comp=Z,3.7nm,0.9s,baz=121,slow=2.1,SNR=16							
ESDC	**Sonseca Array**	**154.54**	**20**	PKPab	**PKPab**	**03 38 24.2**	**-0.1**
ESDC	**Sonseca Array**	**154.54**	**20**	PKPab	**PKPab**	**03 38 24.2**	**-0.1**
comp=Z,0.8nm,0.8s,baz=321,slow=3.6,SNR=4.5							
TORD	**Torodi Ar. Bea**	**173.85**	**118**	PKPab	**PKPab**	**03 39 46.2**	**-3.4**
TORD	**Torodi Ar. Bea**	**173.85**	**118**	PKPab	**PKPab**	**03 39 46.2**	**-3.4**
comp=Z,1.0nm,0.9s,baz=231,slow=4.8,SNR=4.5							

IDC 30 03:21:01.4±8.2, 17°.96S×172°.85W, h0km, mb3.8/2, mb1 4.0/2, mb1mx3.6/19, mbtmp3.8/2, Error ellipse: s-maj=413.0km s-min=62.2km az=145.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**49.82**	**259**	P	P	03 29 56.2	-0.4
0.5nm,0.9s,baz=96,slow=6.2,SNR=4.7							
ASAR	**Alice Springs**	**49.86**	**254**	P	P	03 29 56.9	0.0
1.4nm,0.6s,baz=89,slow=8.1,SNR=4.9							
BRTR	**Keskin Array B**	**148.44**	**319**	PKPbc	PKPbc	03 40 50.0	-0.5
1.1nm,0.9s,baz=86,slow=4.0,SNR=3.4							

IDC 30 03:26:52.0±10.0, 15°.34S×174°.56W, h0km, mb3.4/2, mb1 3.6/2, mb1mx3.4/18, mbtmp3.4/2, Error ellipse: s-maj=456.6km s-min=61.1km az=139.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**48.77**	**257**	P	P	03 35 38.3	-0.8
0.5nm,1.0s,baz=93,slow=6.3,SNR=3.5							
ASAR	**Alice Springs**	**49.07**	**252**	P	P	03 35 41.9	+0.5
0.4nm,0.6s,baz=88,slow=8.3,SNR=2.9							
BRTR	**Keskin Array B**	**145.40**	**320**	PKPbc	PKPbc	03 46 31.6	-0.8
0.3nm,0.4s,baz=48,slow=2.1,SNR=3.1							

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*IDC **30** 03:31:13.6±0.8, 16°.29S×173°.37W, h0km, mb4.2/8, mb1 4.4/9, mb1mx4.1/21, mbtmp4.2/9, ML2.4/1, Error ellipse: s-maj=42.6km s-min=16.3km az=135.0*
*NEIC **30** 03:31:14.5±0.5, 16°.40S×173°.15W, h10km, mb4.5/1, Error ellipse: s-maj=18.7km s-min=12.5km az=139.0*
*ISCJB **30** 03:31:21.1±0.6, 16°.3S±0°.2×173°.6W±0°.2, h66km, mb4.0/9, Error ellipse: s-maj=28.2km s-min=14.5km az=136.8*
ISC 30 03:31:22.5±0.7, 16°.3S±0°.2×173°.5W±0°.2, h66km, n34, σ0.6 73/26, mb4.2/9, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.91**	**35**	*e*Pn	Pn	03 31 58.3	-8.3
AFI				*e*S	Sn	03 32 27.8	-13
AFI	**Afiamalu**	**2.91**	**35**	Pn	Pn	03 31 59.0	-7.5
37nm,0.3s,baz=36,slow=14,SNR=2.9							
AFI				Sn	Sn	03 32 27.2	-13
183nm,0.3s,baz=49,slow=20,SNR=8.0							
RAR	**Rarotonga**	**13.86**	**113**	Pn	Pn	03 34 24.4	-11
RAR	**Rarotonga**	**13.86**	**113**	Pn	Pn	03 34 24.3	-11
4.5nm,0.3s,baz=270,slow=11,SNR=6.2							
DZM	**Mont Dzumac**	**19.80**	**250**	*e*P	Pn	03 35 55.9	+6.1
56nm,1.4s							
DZM				*e*LR	LR	03 40 36.3	
1um,26.1s							
PPT2	**Papeete2**	**22.89**	**97**	*e*LR	LR	03 41 37.7	
727nm,26.8s							
URZ	**Urewera**	**23.37**	**199**	P	**P**	**03 36 23.8**	**-1.4**
URZ	**Urewera**	**23.37**	**199**	P	**P**	**03 36 23.8**	**-1.4**
10nm,0.5s,baz=270,slow=20,SNR=7.7							
TBI	**Tubuai**	**23.63**	**111**	*e*LR	LR	03 41 51.5	
765nm,28.0s							
RKT	**Rikitea**	**36.79**	**107**	*e*LR	LR	03 47 56.0	
479nm,43.0s							
STKA	**Stephens Creek**	**43.52**	**241**	P	**P**	**03 39 19.6**	**-0.1**
STKA	**Stephens Creek**	**43.52**	**241**	P	**P**	**03 39 19.6**	**-0.1**
3.7nm,0.8s,baz=84,slow=11,SNR=5.7							
WRA	**Warramunga Arr**	**49.56**	**258**	P	**P**	**03 40 07.5**	**+0.2**
WRA	**Warramunga Arr**	**49.56**	**258**	P	**P**	**03 40 07.5**	**+0.2**
0.7nm,0.4s,baz=93,slow=7.3,SNR=8.3							
AS31	**Alice Springs**	**49.76**	**253**	*e*P	**P**	**03 40 08.8**	**+0.1**
ASAR	**Alice Springs**	**49.76**	**253**	P	**P**	**03 40 08.7**	**0.0**
ASAR	**Alice Springs**	**49.76**	**253**	P	**P**	**03 40 08.7**	**0.0**
7.7nm,0.7s,baz=89,slow=8.1,SNR=58							
QSPA	**South Pole Qui**	**73.72**	**180**	*e*P	**P**	**03 42 50.2**	**+1.0**
7.4nm,1.4s							
NVAR	**Mina Array Bea**	**75.06**	**42**	P	**P**	**03 42 57.9**	**+0.3**
NVAR	**Mina Array Bea**	**75.06**	**42**	P	**P**	**03 42 57.9**	**+0.3**
baz=227,slow=6.1							
TXAR	**Lajitas Array**	**81.19**	**56**	P	**P**	**03 43 31.3**	**-0.2**
TXAR	**Lajitas Array**	**81.19**	**56**	P	**P**	**03 43 31.3**	**-0.2**
0.4nm,0.9s,baz=209,slow=10.0,SNR=4.5							
PDAR	**Pinedale Array**	**83.00**	**42**	P	**P**	**03 43 39.9**	**-1.0**
PDAR	**Pinedale Array**	**83.00**	**42**	P	**P**	**03 43 39.9**	**-1.0**
1.6nm,0.8s,baz=221,slow=3.2,SNR=14							
ILAR	**Eielson Array**	**83.36**	**11**	P	**P**	**03 43 42.2**	**+0.3**
ILAR	**Eielson Array**	**83.36**	**11**	P	**P**	**03 43 42.2**	**+0.3**
0.7nm,0.7s,baz=218,slow=5.4,SNR=14							
MAW	**Mawson**	**86.89**	**199**	P	**P**	**03 44 00.4**	**+0.7**
MAW	**Mawson**	**86.89**	**199**	P	**P**	**03 44 00.4**	**+0.7**
1.5nm,0.8s,baz=116,slow=8.4,SNR=4.3							
KMBO	**Kilima Mbogo**	**145.06**	**243**	PKPbc	**PKPdf**	**03 50 54.8**	**+1.1**
KMBO	**Kilima Mbogo**	**145.06**	**243**	PKPbc	**PKPdf**	**03 50 54.8**	**+1.1**
2.3nm,0.8s,baz=67,slow=4.3,SNR=5.2							
BRTR	**Keskin Array B**	**146.82**	**320**	PKPbc	**PKPbc**	**03 50 57.0**	**-0.7**
BRTR	**Keskin Array B**	**146.82**	**320**	PKPbc	**PKPbc**	**03 50 57.0**	**-0.7**
1.0nm,0.8s,baz=188,slow=1.9,SNR=5.6							
GERES	**GERESS Array B**	**147.04**	**351**	PKPbc	**PKPbc**	**03 50 57.6**	**-0.3**
GERES	**GERESS Array B**	**147.04**	**351**	PKPbc	**PKPbc**	**03 50 57.6**	**-0.3**
0.3nm,0.5s,baz=216,slow=4.3,SNR=3.9							

IDC 30 03:31:46.9±0.8, 15°.70S×173°.23W, h0km, mb4.2/9, mb1 4.4/9, mb1mx4.2/20, mbtmp4.2/9, MS4.2/1, Ms1 4.2/1, ms1mx3.5/25, Error ellipse: s-maj=39.3km s-min=20.5km az=143.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**20.24**	**249**	LR	LR	03 42 16.5	
comp=Z,686nm,20.1s,baz=207,slow=31							
STKA	**Stephens Creek**	**44.03**	**240**	P	P	03 39 56.4	-0.2
4.5nm,0.8s,baz=34,slow=12,SNR=3.9							
WRA	**Warramunga Arr**	**49.93**	**257**	P	P	03 40 41.9	-1.1
2.2nm,0.9s,baz=92,slow=7.4,SNR=7.3							
ASAR	**Alice Springs**	**50.17**	**252**	P	P	03 40 45.0	+0.2
12nm,0.9s,baz=85,slow=8.6,SNR=11							
FITZ	**Fitzroy Crossi**	**58.31**	**258**	P	P	03 41 44.1	0.0
1.3nm,0.6s,baz=84,slow=2.9,SNR=3.8							
VNDA	**Vanda**	**63.10**	**186**	P	P	03 42 15.5	-0.3
1.3nm,0.9s,baz=29,slow=5.8,SNR=4.7							
TXAR	**Lajitas Array**	**80.64**	**56**	P	P	03 44 02.2	0.0
1.2nm,1.1s,baz=212,slow=4.9,SNR=4.8							
PDAR	**Pinedale Array**	**82.

DZM	Mont Dzumac	20.39	247	eLR	LR	03 46 43.6		
	797nm,27.2s							
DZM	Mont Dzumac	20.39	247	P	P	03 41 46.4	-2.4	
DZM	Mont Dzumac	20.39	247	P	P	03 41 46.4	-2.4	
	5.1nm,0.7s,baz=131,slow=20,SNR=4.5							
TBI	Tubuai	23.89	114	eLR	LR	03 47 44.8		
	666nm,28.5s							
URZ	Urewera	24.52	198	P	P	03 42 28.2	-2.6	
URZ	Urewera	24.52	198	P	P	03 42 28.2	-2.6	
	5.3nm,0.4s,baz=315,slow=5.7,SNR=3.3							
RKT	Rikitea	36.95	108	eLR	LR	03 53 59.7		
	554nm,40.2s							
STKA	Stephens Creek	44.25	240	eP	P	03 45 19.1	-1.8	
	2.1nm,1.0s							
STKA	Stephens Creek	44.25	240	P	P	03 45 19.8	-1.2	
	4.6nm,0.9s,baz=80,slow=10,SNR=6.9							
WRAB	Tennant Creek	50.00	257	eP	P	03 46 05.7	-0.3	
	4.7nm,1.0s							
WRA	Warramunga Arr	50.01	257	P	P	03 46 05.7	-0.4	
WRA	Warramunga Arr	50.01	257	P	P	03 46 05.7	-0.4	
	2.0nm,0.9s,baz=93,slow=7.2,SNR=11							
AS31	Alice Springs	50.29	252	eP	P	03 46 07.1	-1.1	
ASAR	Alice Springs	50.29	252	P	P	03 46 07.4	-0.8	
ASAR	Alice Springs	50.29	252	P	P	03 46 07.4	-0.8	
	6.9nm,0.6s,baz=86,slow=8.1,SNR=25							
MBWA	Marble Bar	63.54	254	eP	P	03 47 42.8	+0.7	
	15nm,1.1s							
VNDA	Vanda	63.61	186	P	P	03 47 43.7	+2.0	
VNDA	Vanda	63.61	186	P	P	03 47 43.7	+2.0	
	1.3nm,1.0s,baz=0.7,slow=5.6,SNR=6.2							
QSPA	South Pole Qui	74.87	180	eP	P	03 48 50.8	-0.9	
	4.1nm,1.1s							
TXAR	Lajitas Array	80.39	56	P	P	03 49 25.0	+1.9	
TXAR	Lajitas Array	80.39	56	P	P	03 49 25.0	+1.9	
	0.7nm,1.0s,baz=234,slow=7.6,SNR=3.5							
PDAR	Pinedale Array	82.02	42	P	P	03 49 33.7	+2.1	
PDAR	Pinedale Array	82.02	42	P	P	03 49 33.7	+2.1	
	0.8nm,1.0s,baz=230,slow=4.2,SNR=3.4							
COLA	College	82.12	11	eP	P	03 49 32.8	+1.5	
	9.4nm,0.8s							
ILAR	Eielson Array	82.20	11	P	P	03 49 33.9	+2.1	
ILAR	Eielson Array	82.20	11	P	P	03 49 33.9	+2.1	
	0.7nm,0.7s,baz=230,slow=5.7,SNR=7.0							
MAW	Mawson	88.05	199	P	P	03 50 02.0	+0.9	
MAW	Mawson	88.05	199	P	P	03 50 02.0	+0.9	
	1.1nm,0.8s,baz=326,slow=9.8,SNR=2.6							
VRAC	Vranov	145.01	349	PKP	PKPbc	03 56 47.4	-0.4	
VRAC	Vranov	145.01	349	PKP	PKPbc	03 56 47.4	-0.4	
	1.7nm,0.3s,baz=351,slow=5.4,SNR=2.9							
MLR	Muntele Rosu	145.71	336	PKPbc	PKPab	03 56 52.2	+1.7	
MLR	Muntele Rosu	145.71	336	PKPbc	PKPab	03 56 52.2	+1.7	
	0.5nm,0.6s,baz=162,slow=14,SNR=2.7							
KMBO	Kilima Mbogo	145.74	244	PKPbc	PKPab	03 56 51.8	0.0	
KMBO	Kilima Mbogo	145.74	244	PKPbc	PKPab	03 56 51.8	0.0	
	0.6nm,0.4s,baz=59,slow=23,SNR=3.6							
BRTR	Keskin Array B	146.05	321	PKPbc	PKPab	03 56 52.4	+0.3	
BRTR	Keskin Array B	146.05	321	PKPbc	PKPab	03 56 52.4	+0.3	
	4.3nm,0.9s,baz=104,slow=2.3,SNR=15							
ESDC	Sonseca Array	153.85	19	PKPab	PKPab	03 57 22.2	-1.6	
ESDC	Sonseca Array	153.85	19	PKPab	PKPab	03 57 22.2	-1.6	
	0.1nm,0.3s,baz=252,slow=1.2,SNR=4.0							
TORD	Torodi Ar. Bea	174.72	112	PKP	PKPdf	03 57 22.3	+0.4	
TORD	Torodi Ar. Bea	174.72	112	PKP	PKPdf	03 57 22.3	+0.4	
	0.3nm,0.8s,baz=103,slow=1.3,SNR=2.8							

IDC 30 03:44:13.8±8.1, 16°.69S×172°.65W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.5/19, mbtmp3.5/2, Error ellipse: s-maj=389.0km s-min=61.3km az=143.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	50.27	258	P	P	03 53 11.8	-0.5
	0.3nm,0.5s,baz=95,slow=8.1,SNR=6.5						
ASAR	Alice Springs	50.41	253	P	P	03 53 13.8	+0.4
	0.3nm,0.3s,baz=88,slow=8.5,SNR=5.1						
BRTR	Keskin Array B	147.61	320	PKPbc	PKPbc	04 03 59.8	-0.8
	0.5nm,0.7s,baz=45,slow=2.2,SNR=2.9						

IDC 30 03:49:25.1±11.0, 15°.25S×174°.72W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.5/18, mbtmp3.6/2, Error ellipse: s-maj=508.3km s-min=65.0km az=139.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	48.64	257	P	P	03 58 11.3	0.0
	0.5nm,0.9s,baz=94,slow=7.9,SNR=3.0						
ASAR	Alice Springs	48.95	252	P	P	03 58 13.4	-0.2
	0.8nm,0.6s,baz=86,slow=8.3,SNR=4.0						
BRTR	Keskin Array B	145.24	320	PKPbc	PKPbc	04 09 04.0	-1.0
	1.0nm,0.9s,baz=131,slow=4.0,SNR=4.5						

MEX 30 03:51:05.3±0.8, 17°.88N×101°.71W, h35km±13km, MD4.1, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	Zihuatanejo	0.35	139	i P	Pn	03 51 12.2	-1.6
ZIIG				i S	Sn	03 51 18.3	-1.8
ARIG	Puente Sto Nin	1.35	73	i P	Pn	03 51 25.6	-2.2
ARIG				i S	Sn	03 51 41.8	-2.8
CAIG	El Cayaco	1.60	121	i P	Pn	03 51 29.0	-2.1
CAIG				i S	Sn	03 51 48.6	-2.0
MMIG	Aquila	1.61	285	i P	Pn	03 51 29.9	-1.3
MMIG				i S	Sn	03 51 48.4	-2.4
MEIG	Mezcala	1.99	88	i P	Pn	03 51 35.3	-1.2
MEIG				i S	Sn	03 51 58.3	-2.0
PLIG	Platanillo	2.16	76	i P	Pn	03 51 38.3	-0.6
PLIG				i S	Sn	03 52 02.9	-1.6
YAIG	Yautepec	2.69	68	i P	Pn	03 51 44.9	-1.4
YAIG				i S	Sn	03 52 15.9	-1.9

*IDC **30** 04:03:09.3±0.5, 15°.72S×173°.20W, h0km, mb4.5/15, mb1 4.7/15, mb1mx4.5/24, mbtmp4.5/15, MS4.5/20, Ms1 4.5/20, ms1mx4.3/41, Error ellipse: s-maj=24.2km s-min=14.8km az=131.0*

*NEIC **30** 04:03:11.1±0.2, 15°.70S×173°.32W, h10km, mb4.9/36, Error ellipse: s-maj=10.9km s-min=4.8km az=136.0*

*ISCJB **30** 04:03:12.0±0.2, 15°.79S±0°.08×173°.27W±0°.06, h26km, mb4.7/54, MS4.6/23, Error ellipse: s-maj=12.8km s-min=6.1km az=145.5*

*BJI **30** 04:03:13.1, 15°.83S×174°.19W, h10km, mB5.4/13, mb5.0/17, Ms5.2/9, Ms7 4.8/11*

ISC 30 04:03:13.9±0.4, 15°.76S±0°.09×173°.23W±0°.09, h26km, n321, σ0983/307, mb4.8/54, MS4.7/23, 98C-96D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.31	37	ePn	Pn	04 03 44.6	-5.9
AFI				eS	Sn	04 04 09.6	-8.5
AFI	Afiamalu	2.31	37	Pn	Pn	04 03 44.5	-5.9
	107nm,0.3s,baz=106,slow=2.1,SNR=13						
AFI				Sn	Sn	04 04 07.2	-11
	516nm,0.3s,baz=230,slow=23,SNR=20						
MSVF	Nonsavu	8.58	256	ePn	Pn	04 05 25.5	+8.9
RAR	Rarotonga	13.86	115	Pn	Pn	04 06 23.3	-5.5
RAR	Rarotonga	13.86	115	Pn	Pn	04 06 22.9	-5.9
	7.1nm,0.3s,baz=270,slow=6.3,SNR=4.8						
RAR				LR	LR	04 10 17.2	
	comp=Z,2μm,20.6s,baz=270,slow=31						
RAO	Raoul Island	14.11	197	LR	LR	04 11 11.0	
	comp=Z,2μm,20.9s,baz=37,slow=34						
DZM	Mont Dzumac	20.22	249	eP	Pn	04 07 54.4	+5.1
	62nm,1.1s						
DZM				eS	Sn	04 11 37.6	+1.2
	1μm,28.2s						
DZM				eLR	LR	04 12 49.1	
	3μm,23.9s						
DZM	Mont Dzumac	20.22	249	eP	P	04 07 47.0	-0.2
	23nm,0.9s						
DZM	Mont Dzumac	20.22	249	P	P	04 07 47.9	+0.7
	4.6nm,0.7s,baz=114,slow=20,SNR=2.1						
DZM				LR	LR	04 13 05.9	
	comp=Z,490nm,21.5s,baz=40,slow=30						
PPT	Papeete	22.73	98	LR	LR	04 14 32.0	
	comp=Z,1μm,20.5s,baz=47,slow=30						
PPT2	Papeete2	22.73	98	eLQ	LQ	04 12 28.9	
	4μm,28.2s						
PPT2				eLR	LR	04 13 27.1	
	2μm,23.5s,baz=262						
TBI	Tubuai	23.61	112	eLQ	LQ	04 12 55.6	
	2μm,27.5s						
TBI				eLR	LR	04 13 59.4	
	2μm,25.0s,baz=290						
URZ	Urewera	23.98	199	P	P	04 08 27.1	+0.8
URZ	Urewera	23.98	199	P	P	04 08 27.1	+0.8
	22nm,0.9s,baz=67,slow=13,SNR=3.1						
RKT	Rikitea	36.73	108	eLR	LR	04 20 00.8	
	1μm,26.0s						
STKA	Stephens Creek	44.00	240	eP	P	04 11 18.3	-1.1
	3.9nm,1.3s						
STKA	Stephens Creek	44.00	240	P	P	04 11 18.5	-0.9
	11nm,1.1s,baz=71,slow=12,SNR=12						
STKA				LR	LR	04 27 24.4	
	comp=Z,586nm,21.0s,baz=25,slow=33						
WRAB	Tennant Creek	49.91	257	eP	P	04 12 04.2	-1.6
	13nm,1.1s						
WRA	Warramunga Arr	49.92	257	P	P	04 12 04.3	-1.6
WRA	Warramunga Arr	49.92	257	P	P	04 12 04.3	-1.6
	5.8nm,0.9s,baz=92,slow=6.8,SNR=46						
WRA				LR	LR	04 32 45.8	
	comp=Z,660nm,18.1s,baz=115,slow=36						
AS31	Alice Springs	50.16	252	eP	P	04 12 06.2	-1.4
ASAR	Alice Springs	50.16	252	P	P	04 12 06.1	-1.6
ASAR	Alice Springs	50.16	252	P	P	04 12 06.1	-1.6
	13nm,0.8s,baz=87,slow=7.9,SNR=72						
ASAR				LR	LR	04 32 25.0	
	comp=Z,837nm,18.8s,baz=97,slow=35						
SBA	Scott Base	62.91	185	eP	P	04 13 38.4	+1.0
	60nm,1.9s						
VNDA	Vanda	63.03	186	eP	P	04 13 38.6	+0.3
	5.6nm,1.1s						
VNDA	Vanda	63.03	186	P	P	04 13 38.9	+0.6
	2.7nm,0.9s,baz=9.1,slow=6.9,SNR=15						
MBWA	Marble Bar	63.42	254	eP	P	04 13 41.0	-0.8
	5.8nm,0.4s						
MJAR	Matsushiro Arr	69.32	320	LR	LR	04 38 48.3	
	comp=Z,370nm,21.3s,baz=130,slow=31						
VES	Vestal, Richgr	72.49	44	⇑P	P	04 14 38.8	+0.3
	baz=73						
ISA	Isabella	72.79	44	⇓P	P	04 14 40.7	+0.3
	baz=73						
PETK	Petropavlovsk-	73.03	342	P	P	04 14 40.9	-0.4
PETK	Petropavlovsk-	73.03	342	P	P	04 14 40.9	-0.4
	3.0nm,0.8s,baz=117,slow=15,SNR=3.0						
PETK				LR	LR	04 43 34.4	
	comp=Z,127nm,20.1s,baz=151,slow=33						
MPMC	Manual Prospec	73.68	44	⇑P	P	04 14 45.4	-0.4
	baz=74						
GSC	Goldstone	73.72	45	⇑P	P	04 14 45.5	-0.4
	baz=74						
YBH	Yreka Blue Hor	73.79	37	P	P	04 14 45.7	-0.5
YBH	Yreka Blue Hor	73.79	37	P	P	04 14 45.7	-0.5
	5.1nm,1.1s,baz=166,slow=6.1,SNR=4.4						
HEC	Hector,Ludlow	73.79	46	⇑P	P	04 14 45.9	-0.4
	baz=74						
GLA	Glamis	73.91	48	⇑P	P	04 14 47.2	+0.2
	baz=74						
GMRC	Granite Mounta	74.23	46	⇓P	P	04 14 49.2	+0.3
	baz=74						
IRM	Iron Mountain	74.26	47	⇓P	P	04 14 49.5	+0.5
	baz=74						
GRAC	Grapevine Rang	74.28	43	⇓P	P	04 14 49.8	+0.7
	baz=74						
QSPA	South Pole Qui	74.28	180	eP	P	04 14 48.5	-0.3
	16nm,1.0s						
QSPA	South Pole Qui	74.28	180	P	P	04 14 48.5	-0.3
	15nm,1.0s,baz=32,slow=2.9,SNR=26						
113A	Mohawk Valley,	74.53	49	⇓P	P	04 14 50.4	-0.1
	baz=75						
214A	Organ Pipe Nat	74.82	50	⇑P	P	04 14 52.2	-0.1
	baz=75						
MOD	Modoc	75.30	38	eP	P	04 14 54.9	-0.2
	59nm,1.4s						
K05A	Summer Lake	75.46	37	eP	P	04 14 56.7	+0.7
	38nm,1.4s						
W13A	Hualapai Mount	75.64	47	⇑P	P	04 14 56.8	-0.3
	baz=76						
Y14A	Wickenburg	75.67	48	⇓P	P	04 14 56.8	-0.4
	baz=76						
R11A	Troy Canyon, C	76.21	43	eP	P	04 15 00.2	-0.1
	5.8nm,1.3s						
R11A	Troy Canyon, C	76.21	43	⇑P	P	04 14 59.9	-0.5
	baz=76						
TUC	Tucson	76.49	51	eP	P	04 15 01.5	-0.4
	4.5nm,1.3s						
KSRS	Korea Array	76.53	316	LR	LR	04 41 59.2	
	comp=Z,191nm,21.5s,baz=26,slow=30						
X16A	Lo Mia Camp, P	77.03	48	⇑P	P	04 15 04.8	-0.2
	baz=77						
I07A	Izee	77.09	37	eP	P	04 15 05.1	0.0
	41nm,1.8s						
319A	Douglas	77.18	52	⇑P	P	04 15 05.8	-0.1
	baz=77						
J08A	Circle Bar Ran	77.25	38	eP	P	04 15 06.2	+0.2
	20nm,1.4s						
U15A	North Rim	77.43	46	⇓P	P	04 15 07.3	-0.1
	baz=78						
WUAZ	Wupatki	77.62	47	⇓P	P	04 15 08.5	+0.2
	baz=78						
320A	Kipp Ranch, An	77.74	52	⇓P	P	04 15 09.3	+0.2
	baz=78						
USRK	Ussuriysk Arra	77.77	323	LR	LR	04 43 01.6	
	comp=Z,452nm,21.6s,baz=73,slow=31						
220A	Playas Peak, P	78.00	52	⇓P	P	04 15 10.8	+0.4
	baz=78						
G08A	Pilot Rock	78.13	36	eP	P	04 15 11.1	+0.2
	17nm,1.3s						
X18A	Snowflake	78.16	49	⇓P	P	04 15 11.6	+0.2
	baz=78						
120A	U Bar Ranch, L	78.21	51	⇓P	P	04 15 11.9	+0.2
	baz=78						
HAWA	Hanford	78.48	35	eP	P	04 15 13.0	+0.4
	40nm,1.8s						
Z20A	Nine Sixteen R	78.50	51	⇑P	P	04 15 13.4	+0.1
	baz=79						
BMO	Blue Mountains	78.81	37	eP	P	04 15 13.8	-0.8
	6.5nm,1.1s						
MFID	Camas Ranch	78.86	39	⇑P	P	04 15 14.9	-0.1
	baz=79						
DUG	Dugway	79.01	43	eP	P	04 15 15.3	-0.6
	7.6nm,1.2s						
Y20A	Horse Springs,	79.02	50	⇑P	P	04 15 16.0	-0.2
	baz=79						
X20A	Quemado	79.22	49	⇑P	P	04 15 17.5	+0.2
	baz=79						
Z21A	St. Cloud Mine	79.27	51	⇓P	P	04 15 17.6	0.0
	baz=79						
MDJ	Mudanjiang	79.41	322	P	P	04 15 10.0	-7.8
MDJ				pmax	pmax		
	comp=Z,4.0nm,0.5s						
MDJ				pmax	pmax		
	comp=Z,110nm,4.8s						
Q16A	Castle Valley	79.45	45	⇑P	P	04 15 18.6	+0.2
	baz=80						
W20A	Ramah	79.49	49	⇓P	P	04 15 18.8	0.0
	baz=80						
F10A	Beach Ranch, E	79.51	36	eP	P	04 15 17.6	-0.8
	comp=Z,50nm,2.1s						
Y21A	Point of Rocks	79.59	50	⇓P	P	04 15 19.1	-0.3
	baz=80						
TMUT	Trail Mountain	79.61	44	eP	P	04 15 19.4	0.0
	comp=Z,15nm,1.1s						
X21A	Alamocita Cree	79.70	50	⇑P	P	04 15 19.8	-0.1
	baz=80						
Z22A	Elephant Butte	79.78	51	⇑P	P	04 15 20.3	+0.1
	baz=80						
HLID	Hailey	79.80	39	eP	P	04 15 20.2	0.0
	comp=Z,6.7nm,1.1s						
HLID	Hailey	79.80	39	⇓P	P	04 15 20.0	-0.2
	baz=80,SNR=10						
V20A	Brimhall	79.83	48	⇑P	P	04 15 20.4	-0.2
	baz=80						
SRU	San Rafael	79.98	45	eP	P	04 15 22.1	+0.8
	comp=Z,12nm,1.3s						
U20A	Newcomb	80.06	48	⇓P	P	04 15 21.9	+0.1
	baz=80						
Y22A	Socorro	80.08	51	⇓P	P	04 15 22.0	+0.1
	baz=80						
324A	Moseley Ranch,	80.12	53	⇑P	P	04 15 22.1	-0.1
	baz=80						
425A	Indio Mountain	80.23	54	⇓P	P	04 15 22.9	+0.1
	baz=80						
224A	Cornudas Mount	80.36	53	⇓P	P	04 15 23.6	+0.2
	baz=80						
626A	Big Bend Ranch	80.39	56	⇓P	P	04 15 23.5	-0.1
	baz=81						
NJ2	Nanjing	80.52	307	eP	P	04 15 24.0	0.0
NJ2				pmax	pmax		
	comp=Z,30nm,1.2s						
526A	Mary Lane Ranc	80.63	55	⇓P	P	04 15 24.2	-0.8
	baz=81,SNR=5.6						
TXAR	Lajitas Array	80.67	56	P	P	04 15 24.5	-0.6
TXAR	Lajitas Array	80.67	56	P	P	04 15 24.5	-0.6
	comp=Z,2.8nm,1.0s,baz=218,slow=5.9,SNR=15						
TXAR				LR	LR	04 44 24.3	
	comp=Z,404nm,18.7s,baz=60,slow=31						
124A	Stringfield Ra	80.68	52	⇑P	P	04 15 25.0	-0.2
	baz=81						
U21A	Nageezi	80.70	48	⇓P	P	04 15 25.0	-0.2
	baz=81,SNR=5.8						
S20A	Disappointment	80.85	47	⇑P	P	04 15 25.7	-0.3
	baz=81						
ANMO	Albuquerque	80.91	50	eP	P	04 15 25.8	-0.6
	comp=Z,58nm,2.7s						
ANMO	Albuquerque	80.91	50	P	P	04 15 25.6	-0.8
	comp=Z,2.9nm,1.0s,baz=214,slow=5.8,SNR=6.9						
225A	Deer Hill, Car	80.91	53	⇓P	P	04 15 26.2	-0.3
	baz=81						
NEW	Newport	80.91	34	⇑P	P	04 15 25.7	-0.2
	baz=81						
426A	McDonald Obser	80.93	55	⇓P	P	04 15 25.8	-0.8
	baz=81,SNR=8.0						
627A	Terlingua Ranc	80.94	56	⇓P	P	04 15 25.8	-0.8
	baz=81,SNR=7.7						
X23A	Hourglass Bar	80.94	50	⇑P	P	04 15 26.2	-0.4
	baz=81						
527A	Woodward Ranch	81.05	55	⇓P	P	04 15 26.2	-0.9
	baz=81,SNR=5.9						
T21A	Navajo Lake	81.05	48	⇓P	P	04 15 26.9	-0.2
	baz=81						
M17A	Scullys Gap (B	81.06	42	⇑P	P	04 15 26.7	-0.3
	baz=81						
S21A	Coal Bank Pass	81.17	47	⇑P	P	04 15 27.6	-0.3
	baz=81						
Y24A	Capitan	81.22	51	⇑P	P	04 15 27.5	-0.5
	baz=81,SNR=5.8						
W23A	Werner Place,	81.23	50	⇑P	P	04 15 28.0	-0.1
	baz=81						
326A	Caldwell Ranch	81.24	54	⇓P	P	04 15 27.7	-0.3
	baz=81						
125A	Gardner Draw,	81.27	53	⇓P	P	04 15 28.1	-0.2
	baz=81						
P19A	Cripple Cowboy	81.28	45	⇓P	P	04 15 28.1	-0.1
	baz=82						
628A	Black Gap, Mar	81.36	56	⇓P	P	04 15 28.3	-0.4
	baz=82						
226B	Tecolote Peak,	81.41	53	⇓P	P	04 15 28.3	-0.7
	baz=82,SNR=7.8						
Q20A	Ridgley Place,	81.43	46	⇓P	P	04 15 28.9	-0.1
	baz=82						
MCMT	McKenzie Canyo	81.43	39	eP	P	04 15 28.9	0.0
	comp=Z,1.6nm,1.0s						
MCK	McKinley	81.45	11	eP	P	04 15 27.6	-0.7
	comp=Z,12nm,1.0s						
V23A	Ortiz Mt. (NFS	81.46	49	⇑P	P	04 15 28.9	-0.4
	baz=82						
CN2	Changchun	81.47	320	eP	P	04 15 29.8	+0.9
CN2				eS	S	04 25 39.0	+0.2
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CN2				pmax	pmax		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,400nm,19.0s						
CN2				LR	LR		
	comp=E,400nm,19.0s						
CN2				LR	LR		
	comp=Z,200nm,19.0s						
Z25A	Roswell	81.49	52	⇑P	P	04 15 28.9	-0.4
	baz=82						
427A	Hayter Ranch,	81.50	55	⇓P	P	04 15 29.1	-0.3
	baz=82						
T22A	Edith	81.51	48	⇑P	P	04 15 29.2	-0.4
	baz=82						
RRI2	Red Ridge	81.60	41	eP	P	04 15 29.7	-0.3
	comp=Z,13nm,1.4s						
R21A	Cimarron	81.67	46	⇑P	P	04 15 30.4	0.0
	baz=82,SNR=6.8						
528A	Cox Ranch, San	81.71	56	⇑P	P	04 15 30.6	0.0
	baz=82						
U23A	El Rito	81.71	49	⇑P	P	04 15 30.3	-0.4
	baz=82						
126A	Clayton Basin,	81.75	53	⇓P	P	04 15 30.6	-0.2
	baz=82						
Y25A	Mesa, Roswell	81.78	51	⇑P	P	04 15 30.2	-0.7
	baz=82						
W24A	Lazy 6 Ranch,	81.80	50	⇓P	P	04 15 30.2	-0.9
	baz=82						
DLMT	Dillon	81.87	38	eP	P	04 15 31.2	0.0
	comp=Z,7.1nm,1.3s						
MSO	Missoula	81.87	37	eP	P	04 15 29.7	-1.4
	comp=Z,14nm,1.4s						
MSO	Missoula	81.87	37	⇑P	P	04 15 30.7	-0.3
	baz=82						
S22A	4UR Ranch, Cre	81.89	47	⇑P	P	04 15 31.6	-0.1
	baz=82,SNR=7.3						
TPAW	Teton Pass	81.90	41	eP	P	04 15 31.4	-0.2
	comp=Z,7.4nm,1.0s						
BSMT	Bassoo Peak	81.96	35	eP	P	04 15 31.4	-0.3
428A	Kincaid Ranch,	82.01	55	⇑P	P	04 15 31.9	-0.2
	baz=82						
O20A	White River Ci	82.02	45	⇓P	P	04 15 31.9	-0.2
	baz=82						
Z26A	Caprock	82.04	52	⇑P	P	04 15 32.1	-0.2
	baz=82						
IMW	Indian Meadow	82.12	40	eP	P	04 15 32.5	-0.2
	comp=Z,15nm,1.5s						
T23A	Casias Ranch,	82.14	48	⇓P	P	04 15 32.9	0.0
	baz=82						
529A	Stev Forest Ra	82.14	56	⇑P	P	04 15 32.0	-0.8
	baz=82						
MOOW	Moose Ponds	82.16	40	eP	P	04 15 33.5	+0.7
	comp=Z,17nm,1.9s						
328A	Wristen Ranch,	82.18	54	⇑P	P	04 15 32.6	-0.4
	baz=82						
127A	Arkansas Junct	82.27	53	⇓P	P	04 15 33.0	-0.6
	baz=82						
P21A	Newcastle	82.27	45	⇓P	P	04 15 33.6	+0.1
	baz=82						
QLMT	Earthquake Lak	82.29	39	eP	P	04 15 33.8	+0.4
	comp=Z,0.2nm,0.5s						
CHMT	Chamberlain Mo	82.31	37	eP	P	04 15 32.5	-1.0
	comp=Z,2.5nm,1.3s						
N20A	Spence Gulch,	82.34	44	⇑P	P	04 15 33.4	-0.4
	baz=82						
Q22A	Crested Butte,	82.34	46	⇑P	P	04 15 33.4	-0.6
	baz=82,SNR=7.1						
FLWY	Flagg Ranch	82.36	40	eP	P	04 15 33.7	-0.1
	comp=Z,104nm,2.6s						
PDAR	Pinedale Array	82.42	42	P	P	04 15 33.6	-0.6

	baz=83						
SDCO	Great Sand Dun	82.83	48	eP	P	04 15 35.9	-0.7
	comp=Z,4.3nm,1.1s						
L20A	Wamsutter	82.84	43	⇑P	P	04 15 36.3	-0.1
	baz=83						
530A	J-C Ranch, Com	82.86	56	⇓P	P	04 15 36.1	-0.4
	baz=83						
329A	Wagon Wheel Ra	82.87	55	⇑P	P	04 15 36.1	-0.4
	baz=83						
K19A	Absolon Red Bu	82.91	42	⇑P	P	04 15 36.4	-0.3
	baz=83						
Y27A	Causey	82.92	52	⇑P	P	04 15 36.0	-0.8
	baz=83						
128A	Castleberry Fa	82.92	53	⇑P	P	04 15 36.1	-0.8
	baz=83						
J19A	Crowheart	82.99	41	⇓P	P	04 15 36.8	-0.3
	baz=83						
S24A	Houchin Ranch,	82.99	48	⇓P	P	04 15 36.9	-0.5
	baz=83						
HRY	Holter Researc	83.03	37	eP	P	04 15 36.6	-0.6
U25A	Circle Dot Ran	83.04	49	⇑P	P	04 15 37.2	-0.4
	baz=83						
Q23A	Hartsel	83.11	47	⇑P	P	04 15 37.4	-0.6
	baz=83						
K20A	Yellowstone Ra	83.15	42	⇑P	P	04 15 37.1	-0.8
	baz=83						
430A	Baggett Ranch,	83.18	56	⇑P	P	04 15 37.9	-0.3
	baz=83						
O22A	Kremmling	83.18	45	⇑P	P	04 15 37.7	-0.7
	baz=83,SNR=6.1						
631A	Perdido Creek	83.19	57	⇑P	P	04 15 37.7	-0.6
	baz=83						
V26A	Tequesquite Ra	83.24	50	⇑P	P	04 15 38.0	-0.6
	baz=83						
MSTX	Muleshoe	83.25	52	⇓P	P	04 15 38.5	-0.1
	baz=83						
Z28A	Tucker Farm, M	83.27	53	⇑P	P	04 15 38.5	-0.2
	baz=83						
H18A	Shoshone NF, C	83.30	40	⇓P	P	04 15 38.5	-0.2
	baz=84						
M21A	Separation Pea	83.30	44	⇑P	P	04 15 37.9	-0.9
	baz=84,SNR=5.8						
P23A	Jefferson	83.32	46	⇓P	P	04 15 38.6	-0.5
	baz=84						
R24A	Sanders Place,	83.33	47	⇓P	P	04 15 38.4	-0.6
	baz=84						
T25A	Trinidad	83.35	49	⇑P	P	04 15 38.5	-0.6
	baz=84						
I19A	Meeteetse	83.40	41	⇓P	P	04 15 38.5	-0.7
	baz=84						
129A	Stewart Farms,	83.41	54	⇓P	P	04 15 38.6	-0.8
	baz=84						
L21A	Rawlins	83.46	43	⇓P	P	04 15 38.6	-1.0
	baz=84						
330A	Mertzon	83.47	55	⇓P	P	04 15 39.4	-0.3
	baz=84						
W27A	Bowe Ranch, En	83.47	51	⇓P	P	04 15 39.1	-0.6
	baz=84						
531A	Rocksprings	83.50	56	⇓P	P	04 15 39.2	-0.6
	baz=84						
U26A	Atchley Ranch,	83.52	50	⇓P	P	04 15 39.9	-0.1
	baz=84						
N22A	Wattenberg Ran	83.54	45	⇓P	P	04 15 39.6	-0.5
	baz=84						
S25A	Robets Cordova	83.56	48	⇓P	P	04 15 39.3	-0.8
	baz=84,SNR=5.3						
Q24A	Divide	83.62	47	⇓P	P	04 15 40.6	0.0
	baz=84						
O23A	Lake Granby, G	83.64	45	⇓P	P	04 15 40.8	+0.2
	baz=84						
J20A	Shoshoni	83.65	42	⇓P	P	04 15 40.3	-0.2
	baz=84						
ISCO	Idaho Springs	83.66	46	⇓P	P	04 15 40.4	-0.5
	baz=84						
M22A	Cedar Creek Ra	83.72	44	⇑P	P	04 15 40.9	-0.1
	baz=84						
H19A	Powell	83.72	40	⇑P	P	04 15 41.1	+0.4
	baz=84						
DAWY	Dawson	83.73	14	eP	P	04 15 40.1	-0.2
Z29A	Hungry Hill Ra	83.78	53	⇓P	P	04 15 40.7	-0.6
	baz=84						
K21A	Alcova	83.85	43	⇓P	P	04 15 41.4	-0.1
	baz=84						
632A	Uvalde	83.86	57	⇑P	P	04 15 41.4	-0.3
	baz=84						
R25A	Fountain Ranch	83.88	48	⇑P	P	04 15 41.6	-0.2
	baz=84						
X28A	Dimmitt	83.91	52	⇓P	P	04 15 41.7	-0.2
	baz=84						
I20A	Worland	83.91	41	⇓P	P	04 15 41.9	+0.1
	baz=84						
N23A	Red Feather La	83.92	45	⇑P	P	04 15 41.7	-0.4
	baz=84						
V27A	Dan Oppiter Fa	83.93	50	⇓P	P	04 15 41.6	-0.4
	baz=84						
EGAK	Eagle	83.93	13	eP	P	04 15 40.9	-0.3
	comp=Z,96nm,2.8s						
T26A	Comanche Natio	83.96	49	⇑P	P	04 15 41.7	-0.5
	baz=84						
532A	Rocksprings	84.00	57	⇓P	P	04 15 42.0	-0.4
	baz=84						
Y29A	Porterfield Fa	84.04	53	⇑P	P	04 15 41.9	-0.7
	baz=84						
J21A	Lysite	84.06	42	⇑P	P	04 15 41.9	-0.7
	baz=84,SNR=6.9						
L22A	Ellis Ranch, M	84.11	44	⇑P	P	04 15 42.9	0.0
	baz=84						
U27A	Thompson Grove	84.21	50	⇑P	P	04 15 42.5	-0.9
	baz=84						
JCT	Junction City	84.21	56	⇑P	P	04 15 43.2	-0.2
	baz=84						
S26A	Kim	84.23	48	⇓P	P	04 15 42.6	-0.9
	baz=84						
Z30A	Sanderson Ranc	84.23	53	⇓P	P	04 15 42.5	-1.0
	baz=84						
H20A	Greybull	84.25	41	⇓P	P	04 15 43.1	-0.4
	baz=84						
X29A	Tulia	84.25	52	⇓P	P	04 15 43.1	-0.6
	baz=84						
F19A	Roth Farm, Mol	84.32	39	⇑P	P	04 15 43.5	-0.3
	baz=84						
K22A	Casper	84.33	43	⇓P	P	04 15 43.4	-0.6
	baz=84						
231A	Bronte	84.35	55	⇓P	P	04 15 43.2	-0.9
	baz=84						
432A	Menard	84.36	56	⇑P	P	04 15 43.5	-0.7
	baz=84						
I21A	Big Trails, Te	84.38	42	⇑P	P	04 15 43.3	-0.8
	baz=85						
R26A	Arlington	84.54	48	⇑P	P	04 15 44.7	-0.4
	baz=85						
W29A	Amraillo	84.56	51	⇓P	P	04 15 45.1	-0.1
	baz=85						
332A	Millersview	84.59	55	⇓P	P	04 15 45.1	-0.3
	baz=85						
L23A	Garrett	84.64	44	⇓P	P	04 15 45.0	-0.6
	baz=85						
J22A	Midwest	84.71	42	⇓P	P	04 15 45.5	-0.3
	baz=85						
E19A	Rath Farm, Rou	84.72	39	⇑P	P	04 15 45.4	-0.3
	baz=85						
232A	Coleman	84.86	55	⇓P	P	04 15 45.8	-1.0
	baz=85						
H21A	Big Horn, Sher	84.92	41	⇑P	P	04 15 46.6	-0.3
	baz=85						
D19A	Cripps Ranch,	85.00	38	⇑P	P	04 15 46.7	-0.4
	baz=85						
Z31A	Sharp Cattle R	85.01	54	⇓P	P	04 15 46.8	-0.7
	baz=85						
T28A	Walsh	85.01	49	⇑P	P	04 15 46.5	-0.9
	baz=85						
L24A	Wheatland	85.12	44	⇑P	P	04 15 47.9	0.0
	baz=85						
E20A	Meyer Farm, Mu	85.13	39	⇑P	P	04 15 47.8	0.0
	baz=85						
ABTX	Abilene, Hawle	85.14	54	eP	P	04 15 47.0	-1.1
ABTX	Abilene, Hawle	85.14	54	⇓P	P	04 15 47.8	-0.3
	baz=85						
Y31A	Rekieta Farm,	85.16	53	⇑P	P	04 15 47.8	-0.4
	baz=85						
C19A	Slack Wire Ran	85.19	38	⇓P	P	04 15 47.8	-0.3
	baz=85						
Z32A	Haskell	85.52	54	⇓P	P	04 15 49.8	-0.2
	baz=86						
V30A	Spur Ranch, Mi	85.53	51	⇓P	P	04 15 50.0	-0.1
	baz=86						
B19A	Brinkman Farms	85.60	37	⇓P	P	04 15 50.2	+0.1
	baz=86						
R28A	Tribune	85.73	48	⇓P	P	04 15 50.3	-0.7
	baz=86						
C20A	Veseth Ranch,	85.79	38	⇑P	P	04 15 51.1	+0.1
	baz=86						
Y32A	R-V Farms, Ver	85.81	53	⇓P	P	04 15 50.9	-0.5
	baz=86						
A19A	Klindworth Far	85.95	37	⇓P	P	04 15 51.8	0.0
	baz=86						
MAW	Mawson	87.50	199	P	P	04 15 59.2	+0.1
MAW	Mawson	87.50	199	P	P	04 15 59.2	+0.1
	comp=Z,7.7nm,0.7s,baz=123,slow=5.1,SNR=17						
MAW				LR	LR	04 55 21.7	
	comp=Z,505nm,19.3s,baz=79,slow=36						
GYA	Guiyang	88.36	298	P	P	04 16 05.5	+1.4
GYA				PP	PP	04 19 34.3	+2.2
GYA				SKS	SKSac	04 26 31.3	-0.5
GYA				S	S	04 26 48.8	+0.6
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,120nm,6.2s						
GYA				LR	LR		
	comp=N,570nm,21.2s						
GYA				LR	LR		
	comp=E,460nm,22.5s						
GYA				LR	LR		
	comp=Z,530nm,21.6s						
HHC	Hu-ho-hao-te	89.39	313	eP	P	04 16 07.0	-1.6
HHC				PP	PP	04 19 40.3	+0.2
HHC				SKS	SKSac	04 26 34.5	-2.8
HHC				S	S	04 26 53.8	-3.5
HHC				SS	SS	04 32 51.8	-1.3
HHC				pmax	pmax		
	comp=Z,25nm,1.2s						
HHC				pmax	pmax		
	comp=Z,160nm,5.3s						
HHC				LR	LR		
	comp=N,250nm,17.5s						
HHC				LR	LR		
	comp=E,250nm,16.9s						
HHC				LR	LR		
	comp=Z,160nm,17.7s						
KMI	Kunming	91.33	296	P	P	04 16 18.8	+0.7
KMI				S	S	04 27 14.3	-1.8
KMI				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KMI				LR	LR		
	comp=Z,250nm,41.8s						
CD2	Chengdu	92.14	301	P	P	04 16 21.5	0.0
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
SYO	Syowa Base	92.28	191	⇑eP	P	04 16 19.0	-2.4
SNAA	Sanae	92.54	177	eP	P	04 16 21.8	-0.9
	comp=Z,8.3nm,1.2s						
SNAA	Sanae	92.54	177	LR	LR	04 56 47.3	
	comp=Z,86nm,18.5s,baz=205,slow=35						
CMAR	Chiang Mai Arr	92.89	288	P	P	04 16 26.4	+1.2
CMAR	Chiang Mai Arr	92.89	288	P	P	04 16 26.4	+1.2
	comp=Z,0.8nm,0.4s,baz=93,slow=2.6,SNR=6.0						
LZH	Lanzhou	93.57	306	eP	P	04 16 27.5	-0.7
LZH				pP	PcP	04 16 32.3	+3.6
LZH				PP	PP	04 20 14.3	+1.0
LZH				SKS	SKSac	04 27 02.5	+1.1
LZH				eS	S	04 27 32.0	-3.5
LZH				pmax	pmax		
	comp=Z,20nm,1.2s						
LZH				pmax	pmax		
	comp=Z,86nm,4.5s						
LZH				LR	LR		
	comp=N,610nm,15.2s						
LZH				LR	LR		
	comp=E,540nm,15.6s						
LZH				LR	LR		
	comp=Z,870nm,17.1s						
ULM	Lac du Bonnet	94.11	39	LR	LR	04 53 07.7	
	comp=Z,594nm,20.3s,baz=264,slow=32						
CFAA	Coronel Fontan	94.11	124	LR	LR	04 48 48.7	
	comp=Z,41nm,18.3s,baz=169,slow=29						
SONM	Songino Array	95.22	318	LR	LR	04 53 42.8	
	comp=Z,240nm,21.6s,baz=268,slow=32						
LPAZ	La Paz	99.53	110	LR	LR	04 52 38.7	
	comp=Z,180nm,21.5s,baz=133,slow=30						
KSH	Kashi	115.82	307	ePKP	PKPdf	04 21 57.0	+2.4
KSH				PP	PP	04 23 06.0	+7.6
KSH				PKS	PKSdf	04 25 32.3	+0.9
KSH				LR	LR		
	comp=N,90nm,4.9s						
KSH				LR	LR		
	comp=E,110nm,6.2s						
KSH				LR	LR		
	comp=Z,210nm,5.6s						
ARCES	ARCESS Array B	124.99	352	PKP	PKPdf	04 22 10.6	-0.6
ARCES	ARCESS Array B	124.99	352	PKP	PKPdf	04 22 10.6	-0.6
	comp=Z,5.7nm,1.0s,baz=356,slow=3.8,SNR=3.7						
KWP	Kalwaria Pacla	143.82	342	ePKPdf	PKPab	04 22 44.7	+0.9
KWP	Kalwaria Pacla	143.82	342	ePKP	PKPab	04 22 44.8	+1.0
CLL	Collm	144.19	353	ePKPdf	PKPab	04 22 46.0	+0.9
MALT	Malatya	144.24	315	⇑iP	PKPbc	04 22 48.2	+2.0
STHS	Stebnicka Huta	144.42	344	ePKP	PKPab	04 22 47.1	+1.0
UPC	Upice	144.55	350	ePKP	PKPab	04 22 47.2	+0.7
DPC	Dobruska-Polom	144.65	349	ePKP	PKPab	04 22 47.6	+0.7
DPC				ex	x	04 22 57.7	
BUR08	Bucovina Ar. S	144.75	338	ePKPdf	PKPab	04 22 47.8	+0.4
BURAR	Bucovina Array	144.76	338	⇓iP	PKPab	04 22 47.2	-0.3
OKC	Ostrava-Krasne	144.78	347	ePKP	PKPab	04 22 46.7	-0.6
CRVS	Cervenica-Dubn	144.83	343	ePKP	PKPab	04 22 47.7	+0.1
MORC	Moravsky Berou	144.96	348	ePKPdf	PKPab	04 22 47.7	-0.4
MORC	Moravsky Berou	144.96	348	⇑iP	PKPab	04 22 48.9	+0.8
TRPA	Tarpa	145.21	341	⇑iP	PKPbc	04 22 49.5	+0.7
PRU	Pruhonice	145.29	351	ePKP	PKPbc	04 22 49.1	+0.1
NKC	Novy Kostel	145.31	354	ePKP	PKPbc	04 22 49.2	0.0
BCLA	Clavier	145.41	2	PKP	PKPbc	04 22 49.9	+0.5
KECS	Kecovo	145.48	344	ePKP	PKPdf	04 22 49.8	+0.1
KECS				e		04 22 59.3	
KMBO	Kilima Mbogo	145.53	244	ePKPdf	PKPdf	04 22 51.1	-0.1
CFR	Carcaliu	145.60	333	⇑iP	PKPdf	04 22 51.0	+1.0
VRI	Vrincioaia	145.64	335	⇓iP	PKPdf	04 22 50.8	+0.7
TIRR	Tirgusor	146.03	332	⇑iP	PKPab	04 22 54.6	+2.5
TLB	Topalu	146.10	332	⇑iP	PKPdf	04 22 52.0	+1.1
WLF	Walferdange	146.18	1	PKP	PKPdf	04 22 52.7	+1.8
KHC	Kasperske Hory	146.26	352	ePKP	PKPdf	04 22 52.5	+1.4
KHC				ex	x	04 23 03.0	
KHC	Kasperske Hory	146.26	352	ePKPbc	PKPdf	04 22 52.2	+1.1
MLR	Muntele Rosu	146.27	335	⇑iP	PKPdf	04 22 53.1	+1.8
DRGR		146.34	340	⇑iP	PKPdf	04 22 52.4	+1.1
GEC2	GERESS Array S	146.52	352	ePKPab	PKPdf	04 22 52.6	+1.0
GERES	GERESS Array B	146.52	352	PKPbc	PKPdf	04 22 52.7	+1.1
GERES	GERESS Array B	146.52	352	PKPbc	PKPdf	04 22 52.7	+1.1
	comp=Z,0.6nm,0.6s,baz=11,slow=2.7,SNR=9.6						
BR131	Keskin Array S	146.54	321	ePKPbc	PKPdf	04 22 53.2	+1.2
BRTR	Keskin Array B	146.54	321	PKPbc	PKPdf	04 22 53.5	+1.6
BRTR	Keskin Array B	146.54	321	PKPbc	PKPdf	04 22 53.5	+1.6
	comp=Z,5.3nm,0.9s,baz=132,slow=1.8,SNR=20						
VOIR		146.66	336	⇓iP	PKPdf	04 22 54.3	+2.4
ARR	Arges	146.88	337	⇑iP	PKPbc	04 22 55.9	+1.8
CONA	Conrad Observa	147.06	349	iPKPdf	PKPdf	04 22 55.0	+2.4
	comp=Z,16nm,1.2s,SNR=8.1						
SIRR	Siria	147.14	341	⇑iP	PKPbc	04 22 55.6	+0.8
BZS	Buzias	147.73	340	⇓iP	PKPdf	04 22 56.5	+2.9
SSB	Saint Sauveur	150.51	3	ePKPdf	PKPdf	04 22 57.5	-0.6
SSB				ePKPbc	PKPbc	04 23 03.7	+0.2
BNI	Bardonecchia	150.80	0	ePKPab	PKPbc	04 23 05.0	+0.7
TORD	Torodi Ar. Bea	174.44	117	PKP	PKPdf	04 23 20.4	-1.9
TORD				PKPab	PKPab	04 24 52.9	-2.2
TORD	Torodi Ar. Bea	174.44	117	PKP	PKPdf	04 23 20.4	-1.9
	comp=Z,2.2nm,1.1s,baz=327,slow=1.9,SNR=7.4						
TORD				PKPab	PKPab	04 24 52.9	-2.2
	comp=Z,1.6nm,1.0s,baz=264,slow=4.0,SNR=5.7						

IDC 30 04:08:47.8±8.6, 15°.48S×172°.87W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.6/19, mbtmp3.7/2, Error ellipse: s-maj=387.0km s-min=68.8km az=140.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	50.32	257	P	P	04 17 46.6	-0.2
	0.7nm,0.8s,baz=94,slow=7.3,SNR=5.0						
ASAR	Alice Springs	50.57	252	P	P	04 17 48.7	0.0
	0.8nm,0.5s,baz=88,slow=7.8,SNR=5.8						
BRTR	Keskin Array B	146.54	321	PKPbc	PKPdf	04 28 30.7	+0.5
	1.0nm,0.9s,baz=46,slow=4.2,SNR=3.0						

NNC 30 04:10:26.9±2.7, 54°.30N×86°.70E, h12km±16km, mb4.1, mpv3.8, 5C-6D, Error ellipse: s-maj=18.9km s-min=15.8km az=53.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	Kurchatov	6.10	237	⇓Pn	Pn	04 11 56.7	-0.1
	4.3nm,0.7s						
KURK				⇓Sn	Sn	04 13 08.0	+1.6
	3.0nm,0.7s						
KURK				⇓Lg	Lg	04 13 39.0	
	13nm,0.9s						
KURBB	Kurchatov Arra	6.20	237	⇑Pn	Pn	04 11 58.3	+0.1
	13nm,0.6s						
KURBB				⇓Sn	Sn	04 13 09.6	+0.6
	14nm,0.7s						
KURBB				⇓Lg	Lg	04 13 44.7	
	47nm,0.8s						
MK31	Makanchi Array	8.02	202	⇑Pn	Pn	04 12 23.3	+0.2
	1.7nm,0.7s,baz=28,slow=14,SNR=17						
MK31				⇓Sn	Sn	04 13 54.7	+0.9
	4.0nm,0.9s,baz=27,slow=27,SNR=4.3						
MK31				⇑Lg	Lg	04 14 42.4	
	14nm,0.9s,baz=28,slow=29,SNR=4.7						
VOSK	Vostochnaya	9.50	267	⇑Pn	Pn	04 12 43.6	+0.1
	2.7nm,0.5s						
VOSK				⇑Sn	Sn	04 14 30.6	+0.4
	9.3nm,0.8s						

IDC 30 04:10:30.3±5.4, 15°.67S×174°.26W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.8/18, mbtmp3.9/3, Error ellipse: s-maj=206.8km s-min=57.0km az=133.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	43.19	240	P	P	04 18 33.7	+0.5
	1.1nm,0.6s,baz=95,slow=11,SNR=2.3						
WRA	Warramunga Arr	48.98	257	P	P	04 19 18.8	-0.2
	0.9nm,0.8s,baz=96,slow=7.1,SNR=5.5						
ASAR	Alice Springs	49.24	252	P	P	04 19 20.6	-0.5
	2.5nm,0.7s,baz=88,slow=9.1,SNR=9.5						
BRTR	Keskin Array B	145.84	320	PKPbc	PKPdf	04 30 11.1	-0.5
	1.2nm,0.8s,baz=354,slow=1.4,SNR=5.1						

IDC 30 04:11:23.5±6.0, 15°.74S×173°.56W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/19, mbtmp3.9/3, Error ellipse: s-maj=241.1km s-min=63.8km az=134.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	43.74	240	P	P	04 19 30.9	0.0
	2.4nm,0.9s,baz=63,slow=9.0,SNR=2.3						
WRA	Warramunga Arr	49.62	257	P	P	04 20 17.6	+0.3
	0.4nm,0.5s,baz=93,slow=7.2,SNR=2.2						
ASAR	Alice Springs	49.87	252	P	P	04 20 18.3	-0.7
	2.3nm,0.7s,baz=87,slow=8.1,SNR=3.1						
BRTR	Keskin Array B	146.32	321	PKPbc	PKPdf	04 31 05.9	+0.3
	0.4nm,0.5s,baz=95,slow=4.5,SNR=2.0						

IDC 30 04:13:28.7±7.9, 16°.88S×172°.60W, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.6/20, mbtmp3.6/3, Error ellipse: s-maj=360.2km s-min=37.4km az=141.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	50.27	258	P	P	04 22 26.5	-0.8
	0.3nm,0.6s,baz=98,slow=6.8,SNR=3.6						
ASAR	Alice Springs	50.40	253	P	P	04 22 28.4	+0.1
	1.3nm,0.6s,baz=89,slow=8.0,SNR=5.7						
ILAR	Eielson Array	83.74	11	P	P	04 25 58.3	-0.9
	0.2nm,0.6s,baz=222,slow=6.2,SNR=4.6						
BRTR	Keskin Array B	147.78	320	PKPbc	PKPbc	04 33 16.5	+0.6
	0.6nm,0.8s,baz=41,slow=4.6,SNR=2.8						

IDC 30 04:16:01.2±0.7, 15°.81S×173°.60W, h0km, mb4.1/11, mb1 4.4/12, mb1mx4.2/22, mbtmp4.2/12, ML2.3/1, Error ellipse: s-maj=35.7km s-min=16.1km az=138.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.58	43	Pn	Pn	04 16 43.8	-0.6
	36nm,0.3s,baz=87,slow=19,SNR=3.7						
AFI				Sn	Sn	04 17 05.3	-11
	70nm,0.3s,baz=49,slow=19,SNR=7.6						
STKA	Stephens Creek	43.67	240	P	P	04 24 07.4	-0.6
	4.3nm,0.8s,baz=84,slow=5.1,SNR=7.2						
WRA	Warramunga Arr	49.57	257	P	P	04 24 54.0	-0.5
	2.3nm,0.9s,baz=90,slow=7.1,SNR=13						
ASAR	Alice Springs	49.81	252	P	P	04 24 55.9	-0.4
	5.7nm,0.8s,baz=83,slow=8.4,SNR=19						
VNDA	Vanda	62.95	186	P	P	04 26 29.6	+0.6
	1.1nm,1.0s,baz=37,slow=8.0,SNR=3.6						
PETK	Petropavlovsk-	72.96	342	P	P	04 27 33.3	+1.0
	2.2nm,0.4s,baz=104,slow=10,SNR=3.2						
YBH	Yreka Blue Hor	74.04	37	P	P	04 27 40.1	+1.0
	1.8nm,1.0s,baz=228,slow=1.4,SNR=4.2						
NVAR	Mina Array Bea	74.76	42	P	P	04 27 43.5	0.0
	2.3nm,0.8s,baz=232,slow=10,SNR=5.0						
TXAR	Lajitas Array	81.00	56	P	P	04 28 18.2	-0.1
	0.7nm,1.0s,baz=224,slow=5.0,SNR=5.1						
PDAR	Pinedale Array	82.69	42	P	P	04 28 26.1	-1.1
	0.7nm,0.8s,baz=220,slow=3.7,SNR=4.8						
ILAR	Eielson Array	82.88	11	P	P	04 28 26.4	-0.8
	0.8nm,0.7s,baz=235,slow=5.8,SNR=13						
MAW	Mawson	87.35	199	P	P	04 28 49.9	+0.1
	2.2nm,0.9s,baz=230,slow=4.5,SNR=4.7						
BRTR	Keskin Array B	146.35	320	PKPbc	PKPbc	04 35 44.5	0.0
	2.7nm,0.8s,baz=133,slow=1.2,SNR=14						
GERES	GERESS Array B	146.51	351	PKPbc	PKPdf	04 35 43.5	+0.3
	0.5nm,0.6s,baz=327,slow=2.2,SNR=5.5						

IDC 30 04:16:51.1±8.7, 16°.35S×173°.27W, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.6/20, mbtmp3.8/2, Error ellipse: s-maj=410.5km s-min=61.5km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	49.76	258	P	P	04 25 45.7	-0.1
	0.3nm,0.4s,baz=92,slow=6.7,SNR=4.8						
ASAR	Alice Springs	49.95	253	P	P	04 25 47.0	-0.2
	1.5nm,0.5s,baz=89,slow=8.1,SNR=6.9						
BRTR	Keskin Array B	146.97	320	PKPbc	PKPbc	04 36 35.5	-0.7
	1.2nm,0.9s,baz=74,slow=1.7,SNR=2.8						

IDC 30 04:23:06.2±11.0, 15°.43S×173°.01W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.5/19, mbtmp3.6/2, Error ellipse: s-maj=542.7km s-min=28.7km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	1.93	38	Pn	Pn	04 23 39.0	-1.3
	39nm,0.3s,baz=276,slow=22,SNR=2.3						
AFI				S

BRTR	Keskin Array B	146.48	321	PKPbc	PKPab	04 45 51.5 +0.4
	0.5nm,0.6s,baz=41,slow=4.6,SNR=3.1					

IDC 30 04:27:05.0±9.9, 16°.19S×174°.10W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.5/18, mbtmp3.6/2, Error ellipse: s-maj=454.1km s-min=61.6km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	49.01	257	P	P	04 35 52.9	-1.1
	0.4nm,0.5s,baz=95,slow=8.6,SNR=7.9						
ASAR	Alice Springs	49.23	253	P	P	04 35 56.6	+1.0
	0.5nm,0.3s,baz=90,slow=7.4,SNR=5.4						
BRTR	Keskin Array B	146.33	320	PKPbc	PKPdf	04 46 47.4	+0.3
	0.7nm,0.7s,baz=28,slow=6.5,SNR=3.0						

IDC 30 04:29:45.6±2.1, 15°.71S×173°.07W, h0km, mb3.6/4, mb1 3.9/5, mb1mx3.7/20, mbtmp3.6/5, ML1.8/1, Error ellipse: s-maj=108.7km s-min=24.2km az=145.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.18	35	Pn	Pn	04 30 21.1	-2.2
	15nm,0.3s,baz=229,slow=20,SNR=0.9						
AFI				Sn	Sn	04 30 43.1	-8.0
	62nm,0.3s,baz=268,slow=23,SNR=3.1						
WRA	Warramunga Arr	50.09	257	P	P	04 38 42.0	-0.8
	0.3nm,0.6s,baz=94,slow=6.9,SNR=5.7						
ASAR	Alice Springs	50.32	252	P	P	04 38 43.9	-0.7
	1.4nm,0.7s,baz=87,slow=8.4,SNR=7.1						
TXAR	Lajitas Array	80.52	56	P	P	04 42 00.0	-0.1
	0.3nm,0.8s,baz=224,slow=3.5,SNR=3.4						
ILAR	Eielson Array	82.69	11	P	P	04 42 11.3	+0.6
	0.2nm,0.6s,baz=210,slow=2.5,SNR=5.0						
BRTR	Keskin Array B	146.60	321	PKPbc	PKPab	04 49 31.0	+0.3
	0.7nm,0.7s,baz=75,slow=1.4,SNR=3.7						

IDC 30 04:33:53.6±9.2, 14°.86S×174°.33W, h0km, mb3.6/3, mb1 4.0/3, mb1mx3.7/18, mbtmp3.6/3, MS3.9/2, Ms1 3.9/2, ms1mx3.3/37, Error ellipse: s-maj=409.1km s-min=37.1km az=139.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	Rarotonga	15.21	117	LR	LR	04 41 05.4	
	comp=Z,330nm,20.8s,baz=269,slow=28						
WRA	Warramunga Arr	49.10	256	P	P	04 42 43.2	-0.1
	0.5nm,0.6s,baz=90,slow=6.7,SNR=6.2						
ASAR	Alice Springs	49.43	251	P	P	04 42 45.1	-0.7
	0.7nm,0.5s,baz=88,slow=7.5,SNR=5.4						
ASAR				LR	LR	05 03 36.5	
	comp=Z,189nm,18.3s,baz=148,slow=36						
ILAR	Eielson Array	82.09	12	P	P	04 46 14.8	-0.8
	0.4nm,0.8s,baz=219,slow=7.0,SNR=4.5						
BRTR	Keskin Array B	145.18	321	PKPbc	PKPdf	04 53 34.2	+0.5
	0.2nm,0.4s,baz=81,slow=7.6,SNR=3.9						

IDC 30 04:34:36.1±0.9, 16°.39S×173°.34W, h0km, mb4.2/6, mb1 4.5/6, mb1mx4.1/20, mbtmp4.2/6, MS3.9/2, Ms1 3.9/2, ms1mx3.3/33, Error ellipse: s-maj=51.8km s-min=21.2km az=135.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.89	32	LR	LR	04 36 01.0	
	comp=Z,937nm,19.4s,baz=268,slow=29						
URZ	Urewera	23.35	199	P	P	04 39 46.2	+0.1
	6.0nm,0.4s,baz=56,slow=3.6,SNR=5.2						
HNR	Honiara	26.92	282	LR	LR	04 49 22.3	
	comp=Z,551nm,21.9s,baz=124,slow=33						
STKA	Stephens Creek	43.60	241	P	P	04 42 42.2	-0.1
	5.2nm,0.8s,baz=83,slow=9.5,SNR=6.3						
ASAR	Alice Springs	49.87	253	P	P	04 43 30.8	-0.8
	5.4nm,0.5s,baz=89,slow=8.2,SNR=12						
TXAR	Lajitas Array	81.11	56	P	P	04 46 54.0	+0.2
	0.5nm,1.0s,baz=224,slow=5.0,SNR=3.0						
PDAR	Pinedale Array	82.96	42	P	P	04 47 02.8	-0.6
	1.7nm,0.9s,baz=228,slow=4.3,SNR=11						
ILAR	Eielson Array	83.40	11	P	P	04 47 04.5	-0.4
	0.9nm,0.8s,baz=223,slow=5.4,SNR=6.0						
BRTR	Keskin Array B	146.96	320	PKPbc	PKPbc	04 54 21.6	+0.4
	2.3nm,1.0s,baz=120,slow=2.0,SNR=5.2						
GERES	GERESS Array B	147.13	351	PKPbc	PKPbc	04 54 21.2	0.0
	0.4nm,0.6s,baz=79,slow=2.9,SNR=3.9						

IDC 30 04:37:24.2±6.0, 5°.84S×147°.67E, h180km±59km, mb3.4/2, mb1 3.5/4, mb1mx3.2/18, mbtmp3.3/4, Error ellipse: s-maj=102.6km s-min=49.3km az=126.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.58	188	P	Pn	04 38 21.0	+0.9
	2.8nm,0.3s,baz=0.0,slow=6.1,SNR=2.8						
PMG				S	Sn	04 39 04.0	+0.1
	6.9nm,0.3s,baz=190,slow=20,SNR=9.5						
WRA	Warramunga Arr	19.09	222	P	P	04 41 32.4	-1.1
	0.4nm,0.3s,baz=39,slow=11,SNR=22						
ASAR	Alice Springs	22.13	215	P	P	04 42 06.1	+0.5
	1.6nm,0.5s,baz=49,slow=8.4,SNR=23						
FITZ	Fitzroy Crossi	24.72	239	P	P	04 42 29.7	+0.5
	1.3nm,0.5s,baz=76,slow=9.2,SNR=6.8						
TORD	Torodi Ar. Bea	145.69	285	PKPbc	PKPdf	04 56 41.5	-0.8
	0.2nm,0.6s,baz=53,slow=3.5,SNR=1.8						

*ISCJB **30** 04:40:05.1±0.5, 6°.38S±0°.05×130°.27E±0°.05, h146km, mb3.9/3, Error ellipse: s-maj=8.1km s-min=5.9km az=37.4*
*IDC **30** 04:40:09.7±9.2, 6°.45S×130°.15E, h176km±95km, mb3.7/3, mb1 3.9/7, mb1mx3.5/21, mbtmp3.8/7, Error ellipse: s-maj=81.3km s-min=24.3km az=42.0*
*DJA **30** 04:40:19.2±0.6, 5°.5S±3°×13°.1E±°, h76km±23km, M4.1/6, MLv4.1/6*

ISC 30 04:40:06.1±0.8, 6°.25S±0°.06×130°.27E±0°.08, h146km, n16, σ2§04/17, mb4.0/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	Bandanaira	1.76	348	P	Pn	04 40 41.1	+2.9
SAUI	Saumlaki	2.00	149	P	Pn	04 41 02.4	+21
TLE	Tual	2.53	76	P	Pn	04 40 51.8	+4.4
TLE				S	Sn	04 41 19.6	+0.4
MSAI	Masohi	3.18	335	P	Pn	04 40 57.8	+2.1
MSAI				S	Sn	04 41 30.9	-3.1
FAKI	Fak Fak	3.86	31	P	Pn	04 41 05.2	+0.8
FAKI				S	Sn	04 41 46.6	-3.1
KMPI	Kaimana, Papua	4.28	53	P	Pn	04 41 15.2	+5.2
SWI	Sorong	5.45	11	P	Pn	04 41 25.4	0.0
SWI				S	Sn	04 42 20.0	-7.3
SOEI	Soe	6.88	239	P	Pn	04 42 17.4	+33
SOEI				S	Sn	04 42 59.2	-2.8
BATI	Baumata	7.62	239	P	Pn	04 42 19.5	+25
BATI				S	Sn	04 43 17.1	-2.6
BATI	Baumata	7.62	239	P	Pn	04 41 56.4	+1.8
	7.6nm,0.3s,baz=138,slow=3.4,SNR=5.6						
BATI				S	Sn	04 43 19.0	-0.7
	7.5nm,0.3s,baz=127,slow=21,SNR=4.2						
FITZ	Fitzroy Crossi	12.61	201	P	Pn	04 42 59.2	-1.3
	1.6nm,0.3s,baz=43,slow=12,SNR=28						
FITZ				S	Sn	04 45 10.2	-10
	1.4nm,0.3s,baz=96,slow=23,SNR=7.2						
WRA	Warramunga Arr	14.17	164	P	Pn	04 43 19.3	-1.1
	1.2nm,0.3s,baz=344,slow=13,SNR=21						
WRA				S	Sn	04 45 47.6	-10
	3.6nm,0.3s,baz=0.3,slow=22,SNR=11						
ASAR	Alice Springs	17.66	169	P	Pn	04 44 03.7	+0.5
	1.4nm,0.3s,baz=347,slow=11,SNR=29						
ASAR				S	S	04 47 09.2	-9.1
	0.4nm,0.3s,baz=354,slow=27,SNR=5.3						
CMAR	Chiang Mai Arr	39.46	309	P	P	04 47 23.9	+1.5
	1.0nm,0.3s,baz=147,slow=6.8,SNR=4.4						
MKAR	Makanchi Array	67.75	327	P	P	04 50 49.1	+1.1
	1.7nm,0.4s,baz=114,slow=7.9,SNR=22						
ZALV	Zalesovo Beam	71.04	334	P	P	04 51 08.5	+0.5
	0.7nm,0.5s,baz=116,slow=3.4,SNR=2.4						

IDC 30 04:43:38.5±8.1, 16°.06S×172°.65W, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.5/19, mbtmp3.4/3, Error ellipse: s-maj=368.4km s-min=35.3km az=140.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	50.40	257	P	P	04 52 37.7	-0.3
	0.3nm,0.8s,baz=96,slow=7.9,SNR=2.8						
ASAR	Alice Springs	50.59	252	P	P	04 52 40.1	+0.6
	0.5nm,0.6s,baz=84,slow=8.4,SNR=5.6						
ILAR	Eielson Array	82.96	11	P	P	04 56 05.5	+0.5
	0.5nm,1.0s,baz=212,slow=6.2,SNR=3.9						
BRTR	Keskin Array B	147.12	321	PKPbc	PKPdf	05 03 22.1	+0.2
	0.1nm,0.3s,baz=31,slow=3.4,SNR=2.7						

*IDC **30** 04:46:19.9±0.5, 16°.52S×172°.08W, h0km, mb4.4/15, mb1 4.6/15, mb1mx4.4/23, mbtmp4.4/15, Error ellipse: s-maj=22.9km s-min=15.2km az=132.0*
*ISCJB **30** 04:46:20.3±0.3, 16°.57S±0°.09×172°.16W±0°.07, h10km, mb4.7/38, MS4.9/2, Error ellipse: s-maj=14.6km s-min=7.3km az=146.0*
*NEIC **30** 04:46:21.8±0.3, 16°.37S×172°.21W, h10km, mb4.8/21, Error ellipse: s-maj=15.6km s-min=7.5km az=138.0*
*BJI **30** 04:46:21.0, 16°.57S×172°.42W, h7km, mB5.3/8, mb5.0/14, Ms5.2/5, Ms7 4.9/5*

ISC 30 04:46:24.0±0.4, 16°.30S±0°.06×172°.08W±0°.08, h26km, n117, σ1§68/138, mb4.8/39, 7C-5D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.39	7	*e*Pn	Pn	04 46 59.5	-2.1
AFI				*e*S	Sn	04 47 25.7	-4.4
AFI	Afiamalu	2.39	7	Pn	Pn	04 46 59.2	-2.5
	39nm,0.3s,baz=8.5,slow=19,SNR=2.6						
AFI				Sn	Sn	04 47 25.8	-4.4
	150nm,0.3s,baz=114,slow=21,SNR=4.5						
MSVF	Nonsavu	9.55	260	*e*Pn	Pn	04 48 40.5	+0.4
DZM	Mont Dzumac	21.07	251	P	P	04 51 04.5	-2.0
DZM	Mont Dzumac	21.07	251	P	P	04 51 04.5	-2.0
	8.9nm,0.8s,baz=64,slow=12,SNR=4.7						
URZ	Urewera	23.86	201	P	P	04 51 36.0	+0.7
	32nm,0.6s						
URZ	Urewera	23.86	201	P	P	04 51 36.0	+0.7
	28nm,0.5s,baz=56,slow=4.5,SNR=19						
ARMA	Armidale	35.99	240	*e*P	P	04 53 21.1	-2.1
	10nm,0.7s						
CAN	Canberra	39.51	234	*e*P	P	04 53 50.0	-2.8
	34nm,1.4s						
STKA	Stephens Creek	44.70	241	*e*P	P	04 54 33.4	-1.8
	3.9nm,1.1s						
STKA	Stephens Creek	44.70	241	P	P	04 54 32.7	-2.4
	17nm,1.0s,baz=92,slow=8.6,SNR=11						
WRAB	Tennant Creek	50.87	257	*e*P	P	04 55 21.9	-1.3
WRA	Warramunga Arr	50.88	257	P	P	04 55 22.0	-1.3
WRA	Warramunga Arr	50.88	257	P	P	04 55 22.0	-1.3
	2.7nm,0.7s,baz=94,slow=7.4,SNR=16						
AS31	Alice Springs	51.05	253	*e*P	P	04 55 22.7	-1.8
ASAR	Alice Springs	51.05	253	P	P	04 55 22.9	-1.6
ASAR	Alice Springs	51.05	253	P	P	04 55 22.9	-1.6
	8.4nm,0.7s,baz=89,slow=7.8,SNR=4.4						
SBA	Scott Base	62.47	185	*e*P	P	04 56 45.3	+0.7
	7.6nm,0.8s						
VNDA	Vanda	62.62	186	*e*P	P	04 56 45.6	-0.1
	6.9nm,1.1s						
VNDA	Vanda	62.62	186	P	P	04 56 45.6	-0.1
	3.5nm,0.9s,baz=5.1,slow=6.4,SNR=17						
MBWA	Marble Bar	64.33	254	*e*P	P	04 56 57.7	-0.2
	57nm,1.3s						
YBH	Yreka Blue Hor	73.55	36	P	P	04 57 56.4	+1.5
YBH	Yreka Blue Hor	73.55	36	P	P	04 57 56.4	+1.5
	2.6nm,0.9s,baz=241,slow=6.3,SNR=4.4						
QSPA	South Pole Qui	73.75	180	*e*P	P	04 57 54.8	-1.0
	16nm,1.3s						
QSPA	South Pole Qui	73.75	180	P	P	04 57 54.9	-0.9
	8.6nm,1.0s,baz=43,slow=2.7,SNR=18						
SHPR	Sheep Range	75.10	44	*e*P	P	04 58 06.1	+2.0
TUC	Tucson	75.98	50	*e*P	P	04 58 10.0	+0.9
	12nm,1.3s						
J08A	Circle Bar Ran	77.01	37	*e*P	P	04 58 15.9	+1.2
	86nm,2.7s						
KSRS	Korea Array	77.69	315	P	P	04 58 21.1	+2.6
	2.3nm,0.9s,baz=126,slow=5.4,SNR=8.8						
KSAR	Wonju Array Be	77.70	315	P	P	04 58 21.1	+2.5
G08A	Pilot Rock	77.92	35	*e*P	P	04 58 21.0	+1.1
	19nm,1.5s						
KSM	Kuching	78.53	275	*e*P	P	04 58 24.4	+0.7
	18nm,0.9s						
HLID	Hailey	79.52	39	*e*P	P	04 58 30.1	+1.3
	6.0nm,1.0s						
LAZ	Ladron	79.66	50	*e*P	P	04 58 32.6	+2.8
	7.1nm,1.6s						
LPM	Los Pinos Moun	79.99	50	*e*P	P	04 58 31.3	-0.2
TXAR	Lajitas Array	80.06	56	P	P	04 58 33.2	+1.3
TXAR	Lajitas Array	80.06	56	P	P	04 58 33.2	+1.3
	2.2nm,1.1s,baz=210,slow=7.2,SNR=12						
ANMO	Albuquerque	80.41	49	*e*P	P	04 58 34.9	+1.1
	3.6nm,1.1s						
ANMO	Albuquerque	80.41	49	P	P	04 58 34.5	+0.7
	1.6nm,0.8s,baz=230,slow=8.6,SNR=6.4						
PV15	Paradox Valley	80.59	46	*e*P	P	04 58 34.4	-0.3
MCMT	McKenzie Canyo	81.16	38	*e*P	P	04 58 38.5	+0.9
	1.9nm,1.1s						
TPAW	Teton Pass	81.59	40	*e*P	P	04 58 43.2	+3.2
	14nm,1.6s						
MCK	McKinley	81.77	10	*e*P	P	04 58 40.6	+0.4
	8.5nm,1.0s						
LOHW	Long Hollow	81.87	40	*e*P	P	04 58 43.9	+2.4
	4.1nm,1.1s						
PDAR	Pinedale Array	82.09	41	P	P	04 58 42.1	-0.5
PDAR	Pinedale Array	82.09	41	P	P	04 58 42.1	-0.5
	1.4nm,1.0s,baz=222,slow=2.0,SNR=8.4						
SDCO	Great Sand Dun	82.38	47	*e*P	P	04 58 46.2	+1.9
	6.1nm,1.4s						
CN2	Changchun	82.59	320	*e*P	P	04 58 47.0	+2.2
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
MSTX	Muleshoe	82.71	52	*e*P	P	04 58 48.8	+2.9
COLA	College	83.01	10	*e*P	P	04 58 46.4	-0.2
	comp=Z,21nm,0.9s						
ILAR	Eielson Array	83.08	11	P	P	04 58 48.0	+1.1
ILAR	Eielson Array	83.08	11	P	P	04 58 48.0	+1.1
	comp=Z,1.3nm,1.1s,baz=153,slow=1.0,SNR=8.1						
DAWY	Dawson	83.98	14	*e*P	P	04 58 52.6	+0.9
EDM	Edmonton	85.59	31	*e*P	P	04 59 03.1	+3.1
BJI	Beijing	87.00	313	P	P	04 59 09.3	+2.1
BJI				pmax	pmax		
	comp=Z,10.0nm,1.0s						
MAW	Mawson	87.35	198	P	P	04 59 07.1	-1.3
MAW	Mawson	87.35	198	P	P	04 59 07.1	-1.3
	comp=Z,3.4nm,0.9s,baz=108,slow=3.5,SNR=6.4						
GYA	Guiyang	89.58	298	P	P	04 59 21.8	+1.9
GYA				PP	PP	05 02 54.5	+2.5
GYA				SKS	SKSac	05 09 50.8	+1.7
GYA				S	S	05 10 09.5	-0.3
GYA				SS	SS	05 16 09.5	+2.9
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GYA				pmax	pmax		
	comp=Z,90nm,6.8s						
GYA				LR	LR		
	comp=N,440nm,21.8s						
GYA				LR	LR		
	comp=E,360nm,22.4s						
GYA				LR	LR		
	comp=Z,460nm,21.5s						
YKA	Yellowknife Ar	90.42	23	P	P	04 59 24.1	+1.3
YKA	Yellowknife Ar	90.42	23	P	P	04 59 24.0	+1.3
	comp=Z,2.1nm,0.8s,baz=246,slow=4.6,SNR=4.5						
HHC	Hu-ho-hao-te	90.56	313	*e*P	P	04 59 24.0	-0.2
HHC				pP	pP	04 59 29.0	-3.7
HHC				sP	sP	04 59 31.0	-4.7
HHC				PP	PP	05 03 01.5	+2.0
HHC				SKS	SKSac	05 09 53.3	-0.9
HHC				S	S	05 10 17.0	-1.3
HHC				sS	ScS	05 10 25.0	+3.2
HHC				SS	SS	05 16 21.8	+1.6
HHC				pmax	pmax		
	comp=Z,32nm,1.1s						
HHC				pmax	pmax		
	comp=Z,220nm,5.5s						
HHC				LR	LR		
	comp=N,260nm,17.3s						
HHC				LR	LR		
	comp=E,290nm,17.1s						
HHC				LR	LR		
	comp=Z,440nm,16.1s						
SNAA	Sanae	91.94	177	P	P	04 59 28.5	-1.6
SNAA	Sanae	91.94	177	P	P	04 59 28.5	-1.6
	baz=168,slow=9.3						
KMI	Kunming	92.56	295	P	P	04 59 34.5	+0.6
KMI				pmax	pmax		
	comp=Z,6.0nm,1.0s						
CD2	Chengdu	93.36	301	P	P	04 59 38.5	+1.2
CD2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
CMAR	Chiang Mai Arr	94.10	288	P	P	04 59 42.9	+2.0
CMAR	Chiang Mai Arr	94.10	288	P	P	04 59 42.9	+2.0
	comp=Z,1.0nm,0.3s,baz=108,slow=3.2,SNR=4.1						
LZH	Lanzhou	94.78	306	*e*P	P	04 59 44.3	+0.5
LZH				pP	PcP	04 59 47.5	+3.3
LZH				sP	sP	04 59 49.8	-5.5
LZH				pmax	pmax		
	comp=Z,18nm,1.0s						
KSH	Kashi	117.03	306	*e*PKP	PKPdf	05 05 08.0	+0.9
KSH				PP	PP	05 06 17.0	+0.1
KSH				PKS	PKSdf	05 08 43.3	-0.5
KSH				SKS	SKSdf	05 12 19.0	+1.3
KSH				SKKS	SKKSac	05 13 10.0	-6.2
KSH				AMB	AMB		
	comp=Z,43nm,3.3s						
KSH				LR	LR		
	comp=N,66nm,5.7s						
KSH				LR	LR		
	comp=E,91nm,5.5s						
KSH				LR	LR		
	comp=Z,150nm,6.8s						
ARCES	ARCESS Array B	125.66	352	PKP	PKPdf	05 05 22.7	+0.1
ARCES	ARCESS Array B	125.66	352	PKP	PKPdf	05 05 22.7	+0.1
	comp=Z,3.1nm,0.9s,baz=336,slow=2.7,SNR=3.6						
FINES	FINESS Array B	133.08	348	PKP	PKPdf	05 05 38.0	+1.1
FINES	FINESS Array B	133.08	348	PKP	PKPdf	05 05 38.0	+1.1
	comp=Z,5.0nm,1.1s,baz=286,slow=10.0,SNR=1.6						
AKASG	Malin Array Be	141.65	338	PKP	PKPdf	05 05 52.1	-0.9
AKASG	Malin Array Be	141.65	338	PKP	PKPdf	05 05 52.1	-0.9
	comp=Z,0.6nm,0.5s,baz=43,slow=2.8,SNR=4.6						
CLL	Collm	144.84	354	*e*PKPdf	PKPbc	05 05 58.0	+0.3
CLL				*e*(PKiKP)		05 06 03.0	
STHS	Stebnicka Huta	145.23	345	*e*PKP	PKPdf	05 06 00.1	+0.7
STHS				*e*		05 45 22.7	
UPC	Upice	145.26	351	*e*PKP	PKPab	05 05 59.2	0.0
DPC	Dobruska-Polom	145.36	351	*e*PKP	PKPdf	05 06 00.0	+0.4
MALT	Malatya	145.39	315 ‖	*i*P	PKPab	05 06 01.8	+1.6
PVCC	Panska Ves	145.44	353	*e*PKP	PKPab	05 06 00.3	+0.5
OKC	Ostrava-Krasne	145.53	348	*e*PKP	PKPab	05 06 00.7	+0.5
CRVS	Cervenica-Dubn	145.65	344	*e*PKP	PKPab	05 06 01.1	+0.4
BURAR	Bucovina Array	145.66	339 ‖	*i*P	PKPab	05 06 01.6	+0.7
MORC	Moravsky Berou	145.71	349 ‖	*i*P	PKPab	05 06 00.7	-0.2
SNF	Seneffe	145.75	4	PKP	PKPdf	05 06 00.3	+0.1
PRU	Pruhonice	145.97	352	*e*PKP	PKPab	05 06 01.9	+0.1
TRPA	Tarpa	146.05	342 ‖	*i*P	PKPab	05 06 03.0	+0.8
DOU	Dourbes	146.18	4	PKP	PKPbc	05 06 02.1	+0.1
KMBO	Kilima Mbogo	146.26	242	PKPbc	PKPab	05 06 04.5	+0.1
KMBO	Kilima Mbogo	146.26	242	PKPbc	PKPab	05 06 04.5	+0.1
	comp=Z,4.7nm,0.9s,baz=54,slow=2.8,SNR=11						
KECS	Kecovo	146.29	345	*e*PKP	PKPab	05 06 02.7	-0.4
VRAC	Vranov	146.32	350	PKPbc	PKPdf	05 06 01.8	+0.5
VRAC	Vranov	146.32	350	PKPbc	PKPdf	05 06 01.8	+0.5
	comp=Z,2.8nm,0.5s,baz=212,slow=9.0,SNR=5.0						
CFR	Carcaliu	146.57	334 ‖	*i*P	PKPab	05 06 04.2	0.0
WLF	Walferdange	146.69	2	PKP	PKPdf	05 06 01.9	+0.1
KHC	Kasperske Hory	146.93	353	*e*PKP	PKPdf	05 06 02.8	+0.5
KHC	Kasperske Hory	146.93	353	*e*PKPdf	PKPdf	05 06 02.5	+0.2
DOPR	Dopca	147.01	337 ‖	*i*P	PKPab	05 06 05.9	-0.1
GERES	GERESS Array B	147.20	353	PKPbc	PKPbc	05 06 04.8	-0.3
GERES	GERESS Array B	147.20	353	PKPbc	PKPbc	05 06 04.8	-0.3
	comp=Z,1.5nm,0.9s,baz=38,slow=2.4,SNR=11						
MLR	Muntele Rosu	147.20	336 ‖	*i*P	PKPab	05 06 06.6	-0.3
DRGR		147.20	341 ‖	*i*P	PKPbc	05 06 05.3	+0.2
ZST	Bratislava	147.31	349	*e*PKP	PKPab	05 06 09.9	+2.9
ZST				*e*		05 45 29.1	
VOIR		147.59	337 ‖	*i*P	PKPab	05 06 07.6	-0.8
BR131	Keskin Array S	147.65	321	*e*PKPbc	PKPbc	05 06 07.1	+0.4
BRTR	Keskin Array B	147.65	321	PKPbc	PKPbc	05 06 06.0	-0.7
BRTR	Keskin Array B	147.65	321	PKPbc	PKPbc	05 06 06.0	-0.7
	comp=Z,7.8nm,0.9s,baz=128,slow=2.0,SNR=19						
ARR	Arges	147.80	338 ‖	*i*P	PKPab	05 06 08.8	-0.4
SIRR	Siria	147.99	342 ‖	*i*P	PKPbc	05 06 08.2	+1.0
BZS	Buzias	148.59	341 ‖	*i*P	PKPbc	05 06 09.2	+0.4
DAVOX	Davos/Dischmat	149.56	357	PKPbc	PKPbc	05 06 12.0	+0.5
DAVOX	Davos/Dischmat	149.56	357	PKPbc	PKPbc	05 06 12.0	+0.5
	comp=Z,3.3nm,0.6s,baz=38,slow=5.2,SNR=4.8						
TUE	Stuetta	149.89	358	*e*PKPdf	PKPdf	05 06 08.4	+0.9
TUE				*e*PKPbc	PKPbc	05 06 12.4	+0.1
SSB	Saint Sauveur	150.97	5	*e*PKPdf	PKPdf	05 06 10.6	+1.6
SSB				*e*PKPbc	PKiKP	05 06 15.8	+0.5
TORD	Torodi Ar. Bea	173.21	117	PKP	PKPdf	05 06 29.9	-2.1
TORD				PKPab	PKPab	05 07 57.6	-2.2
TORD	Torodi Ar. Bea	173.21	117	PKP	PKPdf	05 06 29.9	-2.1
	comp=Z,1.6nm,1.0s,baz=339,slow=3.5,SNR=6.2						
TORD				PKPab	PKPab	05 07 57.6	-2.2
	comp=Z,1.8nm,0.9s,baz=269,slow=6.1,SNR=6.9						

IDC 30 04:47:41.1±1.7, 15°.30S×173°.57W, h0km, mb3.9/6, mb1 4.2/6, mb1mx4.0/19, mbtmp3.9/6, Error ellipse: s-maj=107.3km s-min=23.8km az=146.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	43.95	240	P	P	04 55 50.5	+0.4
	5.4nm,1.1s,baz=90,slow=7.1,SNR=2.1						
WRA	Warramunga Arr	49.71	257	P	P	04 56 34.9	-0.5

PDAR	Pinedale Array	82.13	41	P	P	05 03 53.3	+1.0
PDAR	Pinedale Array	82.13	41	P	P	05 03 53.3	+1.0
	0.3nm,0.6s,baz=243,slow=8.0,SNR=2.8						
ILAR	Eielson Array	82.93	11	P	P	05 03 57.3	+1.6
ILAR	Eielson Array	82.93	11	P	P	05 03 57.3	+1.6
	0.4nm,0.7s,baz=206,slow=6.0,SNR=4.5						
GERES	GERESS Array B	146.95	353	PKPbc	PKPbc	05 11 14.0	+0.1
GERES	GERESS Array B	146.95	353	PKPbc	PKPbc	05 11 14.0	+0.1
	0.2nm,0.3s,baz=318,slow=1.8,SNR=3.8						
BRTR	Keskin Array B	147.30	321	PKPbc	PKPab	05 11 17.7	+0.7
BRTR	Keskin Array B	147.30	321	PKPbc	PKPab	05 11 17.7	+0.7
	0.8nm,0.7s,baz=222,slow=1.7,SNR=4.6						

IDC 30 04:52:55.5±1.0, 14°.87S×172°.43W, h0km, mb4.0/7, mb1 4.3/7, mb1mx4.0/20, mbtmp4.0/7, Error ellipse: s-maj=61.9km s-min=22.4km az=147.0, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	1.15	33	Sn	Sg	04 53 25.4	-7.1
	339nm,0.3s,baz=48,slow=23,SNR=5.6						
WRA	Warramunga Arr	50.88	256	P	P	05 01 59.0	+0.3
	1.0nm,1.0s,baz=95,slow=9.2,SNR=3.4						
ASAR	Alice Springs	51.17	251	P	P	05 02 00.1	-0.7
	2.1nm,0.9s,baz=88,slow=8.0,SNR=3.2						
TXAR	Lajitas Array	79.54	56	P	P	05 05 05.0	+0.2
	1.0nm,1.0s,baz=224,slow=3.5,SNR=5.3						
ANMO	Albuquerque	79.75	50	P	P	05 05 05.9	0.0
	0.8nm,0.6s,baz=260,slow=6.0,SNR=4.8						
PDAR	Pinedale Array	81.25	42	P	P	05 05 13.7	-0.2
	1.1nm,0.9s,baz=230,slow=3.7,SNR=6.9						
ILAR	Eielson Array	81.75	11	P	P	05 05 15.2	-0.5
	0.7nm,0.6s,baz=226,slow=5.9,SNR=6.6						
MAW	Mawson	88.59	198	P	P	05 05 49.9	-0.1
	1.9nm,0.9s,baz=108,slow=6.6,SNR=4.3						
GERES	GERESS Array B	145.75	353	PKPbc	PKPbc	05 12 36.6	0.0
	0.8nm,0.7s,baz=41,slow=4.3,SNR=5.0						
BRTR	Keskin Array B	146.33	322	PKPbc	PKPbc	05 12 38.2	-0.5
	1.2nm,0.7s,baz=114,slow=1.8,SNR=4.4						

IDC 30 04:57:35.6±0.7, 15°.06S×172°.40W, h0km, mb4.1/10, mb1 4.4/10, mb1mx4.1/21, mbtmp4.1/10, MS3.4/1, Ms1 3.4/1, ms1mx3.0/37, Error ellipse: s-maj=38.7km s-min=19.1km az=140.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	1.29	28	Pn	Pg	04 57 54.3	-6.2
	237nm,0.3s,baz=228,slow=2.7,SNR=9.1						
AFI				Sn	Sg	04 58 08.5	-9.0
	271nm,0.3s,baz=36,slow=23,SNR=5.7						
RAO	Raoul Island	15.01	199	LR	LR	05 06 06.8	
	comp=Z,161nm,21.5s,baz=304,slow=34						
WRA	Warramunga Arr	50.86	256	P	P	05 06 38.3	-0.4
	1.8nm,1.0s,baz=89,slow=6.8,SNR=6.5						
WRA				PcP	PcP	05 07 55.3	-0.2
	1.7nm,1.0s,baz=87,slow=4.0,SNR=6.5						
ASAR	Alice Springs	51.13	252	P	P	05 06 39.5	-1.2
	3.9nm,0.8s,baz=86,slow=8.6,SNR=21						
VNDA	Vanda	63.81	186	P	P	05 08 09.2	0.0
	1.0nm,0.9s,baz=24,slow=4.7,SNR=4.6						
YBH	Yreka Blue Hor	72.75	37	P	P	05 09 06.1	+0.2
	2.1nm,0.8s,baz=303,slow=7.7,SNR=4.9						
TXAR	Lajitas Array	79.62	56	P	P	05 09 45.6	+0.3
	1.0nm,1.0s,baz=211,slow=2.2,SNR=6.5						
ANMO	Albuquerque	79.84	50	P	P	05 09 46.3	-0.3
	0.5nm,0.6s,baz=244,slow=6.1,SNR=4.5						
PDAR	Pinedale Array	81.37	42	P	P	05 09 54.1	-0.5
	1.4nm,0.8s,baz=191,slow=2.5,SNR=11						
ILAR	Eielson Array	81.93	11	P	P	05 09 55.8	-0.9
	0.4nm,0.6s,baz=228,slow=6.2,SNR=7.3						
MAW	Mawson	88.42	198	P	P	05 10 30.2	+0.9
	2.6nm,0.9s,baz=52,slow=6.7,SNR=3.6						
CMAR	Chiang Mai Arr	93.43	288	P	P	05 10 54.8	+1.2
	1.0nm,0.3s,baz=124,slow=4.7,SNR=3.0						
GERES	GERESS Array B	145.94	353	PKPbc	PKPab	05 17 17.6	-0.1
	1.8nm,0.8s,baz=46,slow=3.9,SNR=12						
BRTR	Keskin Array B	146.50	322	PKPbc	PKPbc	05 17 19.4	0.0
	2.9nm,0.8s,baz=84,slow=1.6,SNR=11						
TORD	Torodi Ar. Bea	173.96	108	PKP	PKPdf	05 17 46.5	-1.7
	0.9nm,1.1s,baz=284,slow=3.2,SNR=3.0						

IDC 30 05:01:14.7±1.9, 15°.03S×173°.76W, h0km, mb3.9/5, mb1 4.3/5, mb1mx3.9/18, mbtmp3.9/5, Error ellipse: s-maj=115.7km s-min=24.5km az=150.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.22	60	Pn	Pg	05 02 06.1	+8.6
	25nm,0.3s,baz=114,slow=21,SNR=2.0						
AFI				Sn	Sg	05 02 42.3	+16
	26nm,0.3s,baz=49,slow=22,SNR=2.9						
WRA	Warramunga Arr	49.59	256	P	P	05 10 07.9	-0.2
	1.6nm,1.1s,baz=90,slow=7.1,SNR=7.2						
ASAR	Alice Springs	49.89	252	P	P	05 10 10.2	-0.3
	4.3nm,0.8s,baz=84,slow=8.6,SNR=26						
TXAR	Lajitas Array	80.70	56	P	P	05 13 30.8	+0.5
	0.5nm,0.8s,baz=218,slow=7.3,SNR=5.4						
ILAR	Eielson Array	82.15	11	P	P	05 13 36.9	-0.1
	0.5nm,0.8s,baz=217,slow=4.3,SNR=4.2						
PDAR	Pinedale Array	82.23	42	P	P	05 13 37.2	-1.0
	0.8nm,0.9s,baz=209,slow=2.7,SNR=5.0						
GERES	GERESS Array B	145.72	351	PKPbc	PKPbc	05 20 55.8	+0.1
	0.2nm,0.3s,baz=30,slow=4.5,SNR=3.2						

IDC 30 05:04:05.1±1.8, 15°.61S×173°.25W, h0km, mb4.1/5, mb1 4.4/5, mb1mx4.1/19, mbtmp4.1/5, MS3.9/2, Ms1 3.9/2, ms1mx3.3/30, Error ellipse: s-maj=104.0km s-min=24.1km az=146.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.21	40	Pn	Pn	05 04 36.7	-6.4
	134nm,0.3s,baz=75,slow=1.0,SNR=7.8						
AFI				Sn	Sn	05 04 55.5	-16
	246nm,0.3s,baz=88,slow=23,SNR=12						
DZM	Mont Dzumac	20.25	248	LR	LR	05 13 40.6	
	comp=Z,152nm,19.0s,baz=235,slow=28						
PMG	Port Moresby	39.09	274	LR	LR	05 25 57.6	
	comp=Z,266nm,18.2s,baz=30,slow=34						
STKA	Stephens Creek	44.06	240	P	P	05 12 14.7	-0.3
	3.5nm,0.7s,baz=73,slow=6.4,SNR=5.7						
WRA	Warramunga Arr	49.94	257	P	P	05 13 00.8	-0.3
	1.6nm,0.5s,baz=93,slow=6.7,SNR=46						
ASAR	Alice Springs	50.19	252	P	P	05 13 02.6	-0.4
	4.7nm,0.6s,baz=87,slow=7.8,SNR=41						
TXAR	Lajitas Array	80.61	56	P	P	05 16 19.9	-0.2
	0.7nm,1.0s,baz=233,slow=6.1,SNR=4.6						
ILAR	Eielson Array	82.62	11	P	P	05 16 28.5	-1.3
	0.3nm,0.6s,baz=227,slow=6.0,SNR=6.7						
GERES	GERESS Array B	146.37	352	PKPbc	PKPab	05 23 49.4	+0.6
	1.0nm,1.0s,baz=60,slow=7.9,SNR=3.5						
BRTR	Keskin Array B	146.41	321	PKPbc	PKPbc	05 23 48.8	+0.2
	2.3nm,1.0s,baz=116,slow=2.9,SNR=4.7						

IDC 30 05:07:18.9±5.1, 15°.47S×173°.22W, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.9/19, mbtmp4.0/4, Error ellipse: s-maj=246.6km s-min=30.5km az=138.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	44.15	240	P	P	05 15 29.4	-0.2
	1.9nm,0.8s,baz=64,slow=7.7,SNR=2.8						
WRA	Warramunga Arr	50.00	257	P	P	05 16 15.2	-0.3
	1.0nm,0.4s,baz=93,slow=6.6,SNR=4.3						
ASAR	Alice Springs	50.25	252	P	P	05 16 16.9	-0.4
	2.2nm,0.6s,baz=86,slow=8.1,SNR=5.7						
ILAR	Eielson Array	82.48	11	P	P	05 19 42.2	-0.7
	0.4nm,0.7s,baz=230,slow=6.3,SNR=5.0						
GERES	GERESS Array B	146.24	352	PKPbc	PKPdf	05 27 00.3	-0.2
	0.3nm,0.2s,baz=0.0,slow=0.4,SNR=2.9						
BRTR	Keskin Array B	146.32	321	PKPbc	PKPab	05 27 02.9	0.0
	2.9nm,1.0s,baz=96,slow=2.5,SNR=8.6						

*BJI **30** 05:08:25.6, 4°.11N×126°.91E, h54km, mB5.1/22, mb4.8/36, Ms4.7/22, Ms7 4.3/21*
*MOS **30** 05:08:29.2±0.9, 4°.84N×126°.33E, h33km, mb5.2/20, Error ellipse: s-maj=31.6km s-min=9.2km az=114.3*
*ISCJB **30** 05:08:33.5±0.6, 4°.89N±0°.03×126°.66E±0°.05, h71km±5km, mb4.7/67, Error ellipse: s-maj=8.9km s-min=4.8km*
az=159.6
*BKK **30** 05:08:33.1±0.6, 5°N±6°×12°7E±°, h10km, M5.1/11, mB5.3/3, mb4.9/11, MLv5.2/4, Mw(mB)4.7/3*
*TEH **30** 05:08:34.0, 4°.97N×126°.89E, h55km, ML4.8*
*NEIC **30** 05:08:34.5±1.1, 4°.96N×126°.87E, h62km±10km, mb4.8/17, Error ellipse: s-maj=10.7km s-min=6.0km az=71.0*
*IDC **30** 05:08:37.0±3.6, 4°.89N×126°.75E, h85km±33km, mb4.2/21, mb1 4.3/22, mb1mx4.2/30, mbtmp4.5/22, MS3.9/8, Ms1 3.9/8, ms1mx3.6/35, Error ellipse: s-maj=20.5km s-min=10.7km az=72.0*
*DJA **30** 05:08:40.2±1.6, 4°N±10°×12°7E±°, h20km±15km, M4.8/12, mB5.3/7, mb5.1/12, MLv4.8/4, Mw(mB)4.7/7*
ISC 30 05:08:34.3±0.4, 4°.90N±0°.05×126°.70E±0°.07, h62km±2km, h62km:pP-P, n162, σ1°42/189, mb4.8/66, 8C-6D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	1.68	224	P	Pn	05 09 01.0	-0.5
GSPH	General Santos	2.10	304	eP	Pn	05 09 04.8	-2.6
DAV	Davao City (W)	2.43	333	ePn	Pn	05 09 12.1	+0.4
KCP	Kidapawan	2.64	323	‖eP	Pn	05 09 15.0	+0.4
KCP				i S	Sn	05 10 03.0	+17
CTBH	Cotabato--PC H	3.36	314	⇑iP	Pn	05 09 24.8	+0.4
CGP	Cagayan de Oro	4.06	331	eP	Pn	05 09 37.5	+3.5
TNTI	Ternate	4.15	171	ePn	Pn	05 09 33.2	-2.1
TNTI	Ternate	4.15	171	P	Pn	05 09 35.9	+0.6
SCPH	Surigao	5.00	346	‖eP	Pn	05 09 51.0	+4.2
KMSI	Cibinong	5.08	212	P	Pn	05 09 47.3	-0.7
LBMI	Labuha	5.56	172	P	Pn	05 09 55.3	+0.8
	249nm,1.1s,2μm						
GTOI	Gorontalo	5.61	221	P	Pn	05 09 52.7	-2.6
	174nm,1.0s,3μm						
MRSI	Marisa	6.47	227	P	Pn	05 10 05.9	-1.2
	215nm,0.7s,2μm						
LUWI	Luwuk	7.09	214	P	Pn	05 10 17.0	+1.5
	579nm,1.1s,4μm						
SWI	Sorong	7.32	141	P	Pn	05 10 24.2	+5.6
	45nm,1.0s,0.2nm						
APSI	Ampana	7.67	221	P	Pn	05 10 26.4	+3.0
	249nm,0.8s,2μm						
NLAI	Namlea	8.09	177	P	Pn	05 10 30.4	+1.1
	78nm,0.5s,2μm0.4nm						
MYLDM	Lahad Datu	8.17	272	P	Pn	05 10 36.8	+6.4
	141nm,1.4s						
MSAI	Masohi	8.49	165	P	Pn	05 10 35.3	+0.6
	18nm,0.7s,1μm						
FAKI	Fak Fak	9.54	144	P	Pn	05 10 47.4	-1.7
	47nm,1.0s						
MMSI	Mamuju	10.84	226	P	Pn	05 11 07.0	+0.2
	61nm,0.9s						
SPSI	Sidrap Palu	11.20	218	P	Pn	05 11 15.5	+3.7
KAPI	Kappang	12.05	215	P	Pn	05 11 27.4	+4.1
KAPI	Kappang	12.05	215	P	Pn	05 11 27.4	+4.1
	0.4nm,0.3s,baz=235,slow=18,SNR=4.1						
KAPI				LR	LR	05 16 21.3	
	comp=Z,850nm,20.5s,baz=263,slow=38						
TLE	Tual	12.08	150	P	Pn	05 11 26.1	+2.3
SBUM	Sibu	14.65	261	ePn	P	05 12 01.9	-1.3
KSM	Kuching	16.71	259	ePn	P	05 12 27.5	+1.5
	27nm,1.0s						
TPUB	Ta-pu	19.21	343	eP	P	05 12 53.1	-0.3
SSLB	Suanglung	19.58	344	eP	P	05 12 57.1	-0.4
	29nm,0.9s						
FITZ	Fitzroy Crossi	22.88	183	eP	P	05 13 31.9	-1.0
	24nm,0.9s						
FITZ	Fitzroy Crossi	22.88	183	P	P	05 13 32.2	-0.7
	7.3nm,0.7s,baz=16,slow=8.0,SNR=17						
CHBT	CHBT	25.30	290	P	P	05 13 58.4	+3.1
	43nm,0.8s						
WRAB	Tennant Creek	25.80	163	eP	P	05 13 59.6	-0.2
WRAB	Tennant Creek	25.80	163	eP	P	05 13 59.5	-0.4
	32nm,0.9s						
WRA	Warramunga Arr	25.80	163	P	P	05 13 59.3	-0.6
WRA	Warramunga Arr	25.80	163	P	P	05 13 59.3	-0.6
	11nm,0.5s,baz=344,slow=9.9,SNR=23						
KULM	Kulim	25.95	272	eP	P	05 14 04.9	+3.6
CBIJ	Chichi jima	26.56	32	P	P	05 14 06.6	0.0
CBIJ	Chichi jima	26.56	32	P	P	05 14 06.6	0.0
	52nm,0.7s,baz=273,slow=20,SNR=5.6						
LOEI	Loei	27.87	299	P	P	05 14 23.8	+5.3
WHN	Wuhan	28.04	337	P	P	05 14 24.0	+4.2
GYA	Guiyang	28.75	320	⇑iP	P	05 14 27.8	+1.4
GYA				pP	pP	05 14 42.5	+1.0
GYA				sP	sP	05 14 49.5	+0.7
GYA				PP	PnPn	05 15 23.5	+3.5
GYA				S	S	05 19 15.0	+3.3
GYA				sS	sS	05 19 39.5	+2.0
GYA				ScS	ScS	05 25 05.0	-0.5
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,110nm,5.0s						
GYA				LR	LR		
	comp=N,1μm,15.4s						
GYA				LR	LR		
	comp=E,810nm,16.7s						
GYA				LR	LR		
	comp=Z,1μm,16.1s						
AS31	Alice Springs	29.25	166	eP	P	05 14 32.1	+1.3
ASAR	Alice Springs	29.25	166	P	P	05 14 30.8	0.0
ASAR				PcP	PcP	05 17 36.9	+0.3
ASAR	Alice Springs	29.25	166	P	P	05 14 30.8	0.0
	comp=Z,3.5nm,0.8s,baz=356,slow=5.6,SNR=22						
ASAR				PcP	PcP	05 17 36.9	+0.3
	comp=Z,1.4nm,0.7s,baz=354,slow=2.8,SNR=4.2						
ENH	Enshi	30.01	329	eP	P	05 14 38.4	+1.0
	comp=Z,13nm,0.8s						
CMAR	Chiang Mai Arr	30.27	299	P	P	05 14 42.5	+2.7
CMAR	Chiang Mai Arr	30.27	299	P	P	05 14 42.5	+2.7
	comp=Z,2.6nm,0.6s,baz=116,slow=7.1,SNR=11						
CMAR				LR	LR	05 26 18.4	
	comp=Z,151nm,18.3s,baz=177,slow=35						
KMI	Kunming	30.55	314	P	P	05 14 43.5	+1.0
KMI				pmax	pmax		
	comp=Z,13nm,1.1s						
CTA	Charters Tower	31.40	143	P	P	05 14 49.9	+0.1
CTA	Charters Tower	31.40	143	P	P	05 14 49.9	+0.1
	comp=Z,5.8nm,0.8s,baz=325,slow=15,SNR=5.2						
KSRS	Korea Array	32.42	2	LR	LR	05 30 09.4	
	comp=Z,144nm,18.2s,baz=300,slow=40						
CD2	Chengdu	33.69	323	P	P	05 15 09.8	0.0
CD2				pP	pP	05 15 23.5	-1.5
CD2				sP	sP	05 15 30.3	-2.0
CD2				PP	PnPn	05 16 24.3	+0.6
CD2				S	S	05 20 29.0	+0.3
CD2				sS	sS	05 20 52.8	-1.9
CD2				pmax	pmax		
	comp=Z,40nm,0.5s						
CD2				pmax	pmax		
	comp=Z,290nm,4.3s						
CD2				LR	LR		
	comp=N,760nm,5.1s						
CD2				LR	LR		
	comp=Z,560nm,6.5s						
FORT	Forrest	35.50	178	eP	P	05 15 27.9	+2.7
	comp=Z,34nm,0.8s						
BJT	Baijiatuau	36.23	346	eP	P	05 15 32.1	+0.7
	comp=Z,36nm,0.6s						
BJI	Beijing	36.25	346	P	P	05 15 32.0	+0.4
BJI				S	S	05 21 10.8	+3.2
BJI				pmax	pmax		
	comp=Z,28nm,0.7s						
BJI				pmax	pmax		
	comp=Z,140nm,3.4s						
BJI				LR	LR		
	comp=N,100nm,14.5s						
BJI				LR	LR		
	comp=E,200nm,14.2s						
BJI				LR	LR		
	comp=Z,130nm,27.4s						
LZH	Lanzhou	37.49	329	P	P	05 15 42.5	+0.1
LZH				pP	pP	05 15 54.0	-3.8
LZH				sP	sP	05 16 02.5	-2.5
LZH				PP	PnPn	05 17 14.0	+3.6
LZH				S	S	05 21 25.3	-1.7
LZH				sS	sS	05 21 51.3	-1.9
LZH				pmax	pmax		
	comp=Z,42nm,1.1s						
LZH				pmax	pmax		
	comp=Z,260nm,5.0s						
LZH				LR	LR		
	comp=N,1μm,14.2s						
LZH				LR	LR		
	comp=E,1μm,15.6s						
LZH				LR	LR		
	comp=Z,2μm,15.9s						
HHC	Hu-ho-hao-te	38.29	341	eP	P	05 15 49.3	+0.3
HHC				pP	pP	05 16 04.5	0.0
HHC				sP	sP	05 16 11.8	+0.1
HHC				PP	PnPn	05 17 22.0	+2.2
HHC				S	S	05 21 39.5	+0.7
HHC				PcS	PcS	05 21 50.0	-1.2
HHC				sS	sS	05 22 05.5	+0.4
HHC				ScS	ScS	05 25 52.3	-2.4
HHC				pmax	pmax		
	comp=Z,37nm,1.2s						
HHC				pmax	pmax		
	comp=Z,230nm,5.1s						
HHC				LR	LR		
	comp=N,280nm,16.3s						
HHC				LR	LR		
	comp=E,300nm,16.5s						
HHC				LR	LR		
	comp=Z,250nm,17.1s						
NWAO	Narrogin (SRO)	38.68	193	LR	LR	05 34 31.8	
	comp=Z,90nm,20.5s,baz=286,slow=40						
CN2	Changchun	38.76	359	eP	P	05 15 54.5	+1.8
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
STKA	Stephens Creek	39.23	160	eP	P	05 15 56.9	+0.1
	comp=Z,3.3nm,0.8s						
STKA	Stephens Creek	39.23	160	P	P	05 15 57.8	+1.0
	comp=Z,14nm,0.7s,baz=341,slow=7.8,SNR=11						
STKA				LR	LR	05 33 40.6	
	comp=Z,207nm,21.1s,baz=135,slow=38						
USRK	Ussuriysk Arra	39.42	6	P	P	05 15 59.0	+0.8
	comp=Z,1.2nm,0.5s,baz=151,slow=4.4,SNR=4.5						
MDJ	Mudanjiang	39.64	3	P	P	05 16 01.3	+1.2
MDJ				pmax	pmax		
	comp=Z,13nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,85nm,4.7s						
WAKE	Wake Island	41.47	66	eP	P	05 16 13.4	-2.1
LSA	Lhasa	41.66	310	P	P	05 16 17.8	+0.3
GTA	Gaotai	42.09	328	eP	P	05 16 20.5	0.0
GTA				pP	pP	05 16 33.0	-3.2
GTA				sP	sP	05 16 37.0	-6.3
GTA				S	S	05 22 36.3	+0.6
GTA				SS	SS	05 25 48.3	+3.1
GTA				pmax	pmax		
	comp=Z,9.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,87nm,5.2s						
GTA				LR	LR		
	comp=N,180nm,21.4s						
GTA				LR	LR		
	comp=E,230nm,25.2s						
GTA				LR	LR		
	comp=Z,320nm,21.9s						
ARMA	Armidale	42.46	147	eP	P	05 16 24.7	+1.2
TAPN	Taplejung	43.31	305	eP	P	05 16 29.8	-1.0
	comp=Z,13nm,0.5s						
ODAN	Odare	43.38	305	eP	P	05 16 29.1	-2.2
	comp=Z,24nm,0.7s						
KLR	Kul'dur	44.38	5	eP	P	05 16 33.9	-4.8
JIRN	Jiri	44.67	305	eP	P	05 16 41.1	-0.7
	comp=Z,15nm,0.4s						
GUN	Gumba	45.02	305	eP	P	05 16 43.6	-1.0
	comp=Z,31nm,0.7s						
DMN	Daman	45.54	304	eP	P	05 16 47.6	-1.0
ULN	Ulaanbaatar	46.01	342	eP	P	05 16 52.4	+0.6
	comp=Z,13nm,0.8s						
GKN	Gorkha	46.08	305	eP	P	05 16 52.2	-0.5
SONM	Songino Array	46.19	341	P	P	05 16 53.8	+0.6
SONM				PcP	PcP	05 18 28.7	+0.6
SONM	Songino Array	46.19	341	P	P	05 16 53.8	+0.6
	comp=Z,1.5nm,0.6s,baz=152,slow=9.0,SNR=10.0						
SONM				PcP	PcP	05 18 28.7	+0.6
	comp=Z,1.6nm,0.7s,baz=134,slow=6.2,SNR=2.6						
KOLN	Koldanda	46.84	304	eP	P	05 16 57.8	-0.9
	comp=Z,22nm,0.5s						
DANN	Dangsing	46.92	305	eP	P	05 16 58.6	-0.8
	comp=Z,33nm,0.7s						
ZAK	Zakamensk	49.42	340	eP	P	05 17 16.7	-1.4
ZAK				e		05 18 39.4	
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.1s						
TLY	Talaya	50.42	342	eP	P	05 17 23.8	-1.7
MOY	Mondy	51.28	340	eP	P	05 17 34.0	+1.9
WMQ	Urumqi	51.76	325	eP	P	05 17 37.0	+1.2
WMQ				pP	pP	05 17 52.8	+0.9
WMQ				sP	sP	05 18 00.0	+1.1
WMQ				pmax	pmax		
	comp=Z,9.0nm,0.8s						
WMQ				pmax	pmax		
	comp=Z,84nm,4.0s						
WMQ				LR	LR		
	comp=N,400nm,26.8s						
WMQ				LR	LR		
	comp=E,240nm,28.9s						
WMQ				LR	LR		
	comp=Z,190nm,21.8s						
HVS	Khovu-Aksy	53.67	335	⇑iP	P	05 17 49.7	-0.1
HVS				pmax	pmax		
	comp=Z,33nm,0.9s						
PETK	Petropavlovsk-	54.37	22	P	P	05 17 54.4	-0.3
PETK	Petropavlovsk-	54.37	22	P	P	05 17 54.4	-0.3
	comp=Z,6.0nm,0.8s,baz=190,slow=7.5,SNR=4.1						
MK31	Makanchi Array	56.59	325	eP	P	05 18 10.2	-0.6
MK31				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MK31	Makanchi Array	56.59	325	eP	P	05 18 10.3	-0.5
MKAR	Makanchi Array	56.59	325	P	P	05 18 10.3	-0.5
MKAR				PcP	PcP	05 19 06.0	-0.8
MKAR	Makanchi Array	56.59	325	P	P	05 18 10.3	-0.5
	comp=Z,5.9nm,0.7s,baz=129,slow=7.9,SNR=57						
MKAR				PcP	PcP	05 19 06.0	-0.8
	comp=Z,4.4nm,0.9s,baz=132,slow=5.4,SNR=3.9						
MKAR				LR	LR	05 45 12.4	
	comp=Z,142nm,21.8s,baz=179,slow=39						
YAK	Yakutsk	57.05	2	eP	P	05 18 14.0	+0.3
YAK				pmax	pmax		
	comp=Z,25nm,0.8s						
YAK				pmax	pmax		
	comp=N,10.0nm,1.0s						
KSH	Kashi	57.20	315	P	P	05 18 16.3	+0.8
KSH				sP	sP	05 18 39.0	+0.2
KSH				PP	PP	05 20 24.8	+1.7
KSH				PcS	PcS	05 23 10.0	-0.6
KSH				S	S	05 26 04.0	-2.8
KSH				ScS	ScS	05 27 56.0	-3.7
KSH				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KSH				pmax	pmax		
	comp=Z,110nm,5.9s						
KSH				LR	LR		
	comp=N,110nm,6.0s						
KSH				LR	LR		
	comp=E,140nm,5.9s						
KSH				LR	LR		
	comp=Z,120nm,9.9s						
TKM2	Tokmak 2	58

BVA0 pmax pmax
comp=Z,13nm,1.0s
BRVK Borovoye 66.40 327 *ce*P **P 05 19 15.1 -1.8**
BRVK pmax pmax
comp=Z,15nm,1.0s
BRVK Borovoye 66.40 327 *e*P **P 05 19 16.3 -0.6**
comp=Z,12nm,0.7s
TIXI Tiksi 66.68 1 *ce*P **P 05 19 18.6 +0.3**
TIXI pmax pmax
comp=Z,21nm,1.7s
IMON Monand 68.15 304 *e*P P 05 19 24.3 -4.3
IKOO Kooshah 68.59 303 *e*P **P 05 19 30.2 -1.2**
AB31 Akbulak array 71.23 321 *ce*P **P 05 19 45.4 -1.6**
AB31 pmax pmax
comp=Z,5.0nm,0.6s
ABKAR Akbulak array 71.23 321 *e*P **P 05 19 46.1 -0.9**
comp=Z,2.8nm,0.6s
AKTO Aktyubinsk 72.73 321 *i*P **P 05 19 54.0 -1.9**
AKTO pmax pmax
comp=Z,16nm,1.5s
SVE Sverdlovsk 72.96 328⇑ *e*P **P 05 19 56.8 -0.3**
SVE pmax pmax
comp=Z,20nm,0.9s
IPAR Pars 73.40 300 *e*P **P 05 19 58.7 -2.0**
ARU Arti 73.94 328 *d i*P **P 05 20 01.9 -1.0**
ARU 05 22 44.3
ARU S **S 05 29 33.3 +3.1**
ARU SS **SS 05 34 10.7 -4.8**
ARU pmax pmax
comp=Z,18nm,1.2s
KDAK Kodiak Island 80.92 32 P **P 05 20 42.4 +0.5**
KDAK Kodiak Island 80.92 32 P **P 05 20 42.4 +0.5**
comp=Z,9.7nm,0.7s,baz=252,slow=8.7,SNR=11
IMA2 Indian Mountai 81.33 24 *e*P **P 05 20 44.6 +0.6**
ZEI Tsey 81.41 312 *e*P **P 05 20 43.4 -1.7**
ZEI pmax pmax
comp=Z,10.0nm,1.3s
BPAW Bear Paw Mtn. 82.26 26 *e*P P 05 20 44.9 -4.0
comp=Z,28nm,1.3s
KIV Kislovodsk 82.31 314 *e*P P 05 20 44.4 -5.3
KIV pmax pmax
comp=Z,6.0nm,0.9s
KIV MLR MLR
comp=Z,95nm,18.0s
COLD Coldfoot 82.83 23 *e*P **P 05 20 52.8 +1.0**
comp=Z,10nm,1.1s
MCK McKinley 83.14 26 *e*P **P 05 20 53.3 -0.2**
comp=Z,24nm,1.1s
COLA College 83.66 25 *e*P **P 05 20 56.5 +0.5**
ILAR Eielson Array 84.07 25 P **P 05 20 58.2 +0.1**
ILAR Eielson Array 84.07 25 P **P 05 20 58.2 +0.1**
comp=Z,2.2nm,0.9s,baz=236,slow=5.4,SNR=15
KLMR Klimovskoe 84.38 331 *e*P **P 05 20 57.5 -2.3**
KLMR pmax pmax
comp=Z,58nm,1.1s
DIV Divide 84.55 29 *e*P **P 05 21 01.3 +0.5**
comp=Z,26nm,1.0s
VNDA Vanda 84.58 173 P **P 05 21 00.7 +0.3**
VNDA Vanda 84.58 173 P **P 05 21 00.7 +0.3**
comp=Z,1.9nm,0.9s,baz=326,slow=6.9,SNR=8.3
VORD Divnogorie 84.59 321 *e*P **P 05 20 59.4 -1.7**
VORD pmax pmax
comp=Z,7.0nm,0.6s
VORD pmax pmax
comp=N,8.0nm,0.7s
VORD pmax pmax
comp=E,10.0nm,1.1s
VSR Storozhevoye 84.67 321 *e*P **P 05 21 00.3 -1.1**
VSR pmax pmax
comp=Z,10.0nm,0.5s
VSR pmax pmax
comp=N,20nm,1.1s
VSR pmax pmax
comp=E,20nm,1.3s
TMCR Tamitsa 85.04 334 *e*P **P 05 21 03.2 +0.2**
TMCR *e* 05 24 19.8
MOS Moscow 85.47 325 *e*P **P 05 21 02.5 -2.8**
OBN Obninsk 86.09 325⇓ *e*P **P 05 21 08.0 -0.4**
OBN *PP **pP 05 21 26.0 +0.3**
OBN 05 31 25.0
OBN pmax pmax
comp=Z,23nm,1.0s
JOF Joensuu 88.13 333 *e*p pP 05 21 31.1 -4.4
comp=Z,8.1nm,0.6s
INK Inuvik 89.09 21 P **P 05 21 22.1 -0.4**
INK Inuvik 89.09 21 P **P 05 21 22.1 -0.4**
comp=Z,1.9nm,0.8s,baz=323,slow=3.9,SNR=3.6
BRTR Keskin Array B 89.26 310 P **P 05 21 23.8 -0.4**
BRTR Keskin Array B 89.26 310 P **P 05 21 23.8 -0.4**
comp=Z,1.4nm,0.8s,baz=103,slow=3.9,SNR=6.0
ARCES ARCESS Array B 89.35 340 P **P 05 21 23.2 -0.6**
ARCES ARCESS Array B 89.35 340 P **P 05 21 23.2 -0.6**
comp=Z,7.1nm,0.9s,baz=81,slow=7.5,SNR=7.6
KAF Kangasniemi 90.55 332 *e*P **P 05 21 28.8 -0.7**
KAF pmax pmax
comp=Z,5.0nm,0.5s
KAF Kangasniemi 90.55 332 *e*p **P 05 21 28.8 -0.7**
comp=Z,5.4nm,0.5s
FINES FINESS Array B 90.79 332 P **P 05 21 30.7 +0.1**
FINES FINESS Array B 90.79 332 P **P 05 21 30.7 +0.1**
comp=Z,3.1nm,0.5s,baz=49,slow=5.2,SNR=18
AKASG Malin Array Be 90.97 321 P **P 05 21 31.9 +0.2**
AKASG Malin Array Be 90.97 321 P **P 05 21 31.9 +0.2**
comp=Z,1.6nm,0.7s,baz=68,slow=5.6,SNR=4.4
NB2 NORSAR Subarra 97.73 334 P **P 05 22 01.5 -1.0**
comp=Z,1.1nm,0.6s,baz=65,slow=4.6
NOA NORSAR Array B 97.73 334 P **P 05 22 01.6 -0.9**
NOA NORSAR Array B 97.73 334 P **P 05 22 01.6 -0.9**
comp=Z,1.3nm,0.7s,baz=66,slow=4.5,SNR=5.6
NOA LR LR 06 12 53.9
comp=Z,63nm,18.9s,baz=0.0,slow=40
BRG Berggiesshubel 100.29 324 *e*P **Pdif 05 22 14.4 +0.3**
comp=Z,4.6nm,0.9s
BRG Berggiesshubel 100.29 324 *e*P **Pdif 05 22 14.4 +0.3**
BRG pmax pmax
comp=Z,7.0nm,0.9s
GERES GERESS Array B 101.16 322 P **Pdif 05 22 18.8 +0.7**
GERES GERESS Array B 101.16 322 P **Pdif 05 22 18.8 +0.7**
comp=Z,0.4nm,0.2s,baz=114,slow=6.0,SNR=13
TORD Torodi Ar. Bea 122.52 289 PKP **PKPdf 05 27 22.9 -1.1**
TORD Torodi Ar. Bea 122.52 289 PKP **PKPdf 05 27 22.9 -1.1**
comp=Z,1.3nm,0.6s,baz=34,slow=1.8,SNR=9.2
JTS JuntasAbangare 145.05 64 *e*PKPdf **PKPdf 05 28 05.9 0.0**
CFAA Coronel Fontan 149.96 154 PKPbc **PKPbc 05 28 18.7 +0.2**
CFAA Coronel Fontan 149.96 154 PKPbc **PKPbc 05 28 18.7 +0.2**
comp=Z,0.4nm,0.4s,baz=222,slow=3.6,SNR=6.7

IDC 30 05:11:15.2±1.6, 16°.33S×172°.92W, h0km, mb4.0/6, mb1 4.3/6, mb1mx4.0/19, mbtmp4.0/6, Error ellipse: s-maj=99.6km s-min=21.5km az=147.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**43.98**	**241**	P	P	05 19 25.1	+0.6
3.3nm,0.6s,baz=76,slow=12,SNR=4.4							
WRA	**Warramunga Arr**	**50.09**	**257**	P	P	05 20 11.5	-0.9
0.7nm,0.6s,baz=96,slow=6.6,SNR=8.6							
ASAR	**Alice Springs**	**50.27**	**253**	P	P	05 20 13.3	-0.5
2.6nm,0.5s,baz=89,slow=8.3,SNR=14							
TXAR	**Lajitas Array**	**80.74**	**56**	P	P	05 23 30.9	0.0
0.4nm,0.9s,baz=218,slow=8.4,SNR=4.9							
PDAR	**Pinedale Array**	**82.64**	**42**	P	P	05 23 40.3	-0.6
0.9nm,0.8s,baz=249,slow=4.1,SNR=6.4							
ILAR	**Eielson Array**	**83.26**	**11**	P	P	05 23 43.5	+0.2
0.9nm,0.6s,baz=232,slow=6.2,SNR=13							
GERES	**GERESS Array B**	**147.12**	**352**	PKPbc	PKPbc	05 30 59.5	-0.8
0.2nm,0.3s,baz=0.0,slow=6.7,SNR=3.5							
BRTR	**Keskin Array B**	**147.16**	**321**	PKPbc	PKPbc	05 31 00.9	+0.1
1.2nm,0.7s,baz=169,slow=2.5,SNR=7.6							

IDC 30 05:12:07.3±2.5, 16°.32S×173°.13W, h0km, mb3.7/3, mb1 4.1/3, mb1mx3.8/19, mbtmp3.7/3, Error ellipse: s-maj=182.0km s-min=31.7km az=154.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**49.89**	**257**	P	P	05 21 03.6	+0.5
0.8nm,0.9s,baz=93,slow=7.1,SNR=3.8							
ASAR	**Alice Springs**	**50.08**	**253**	P	P	05 21 03.8	-0.6
1.5nm,0.6s,baz=89,slow=7.7,SNR=3.0							
TXAR	**Lajitas Array**	**80.91**	**56**	P	P	05 24 23.9	-0.1
0.3nm,0.8s,baz=256,slow=2.7,SNR=3.5							
BRTR	**Keskin Array B**	**147.03**	**320**	PKPbc	PKPdf	05 31 50.4	-0.2
2.2nm,0.9s,baz=105,slow=2.4,SNR=4.1							
GERES	**GERESS Array B**	**147.09**	**352**	PKPbc	PKPbc	05 31 52.9	+0.5
0.3nm,0.3s,baz=353,slow=2.4,SNR=3.5							

IDC 30 05:13:58.8±8.3, 14°.66S×173°.77W, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.7/18, mbtmp3.8/3, Error ellipse: s-maj=370.3km s-min=37.1km az=139.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.08**	**69**	Pn	Pn	05 14 21.3	-14
baz=38,slow=21,SNR=1.2							
AFI				Sn	Sn	05 14 47.0	-15
183nm,0.3s,baz=66,slow=23,SNR=4.9							
WRA	**Warramunga Arr**	**49.66**	**256**	P	P	05 22 53.8	+1.0
0.3nm,0.3s,baz=90,slow=7.5,SNR=6.9							
ASAR	**Alice Springs**	**50.00**	**251**	P	P	05 22 54.0	-1.4
2.5nm,0.7s,baz=87,slow=8.3,SNR=5.4							
ILAR	**Eielson Array**	**81.80**	**11**	P	P	05 26 19.1	-0.1
0.3nm,0.6s,baz=216,slow=4.5,SNR=4.2							
BRTR	**Keskin Array B**	**145.36**	**321**	PKPbc	PKPbc	05 33 38.4	-0.6
1.5nm,0.9s,baz=63,slow=3.9,SNR=4.4							

IDC 30 05:15:56.3±4.5, 15°.69S×171°.62W, h0km, mb3.9/4, mb1 4.3/4, mb1mx3.9/20, mbtmp3.9/4, Error ellipse: s-maj=301.8km s-min=25.8km az=150.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.78**	**355**	Pn	Pn	05 16 23.7	-4.7
36nm,0.3s,baz=357,slow=7.9,SNR=2.1							
AFI				Sn	Sn	05 16 44.2	-7.6
77nm,0.3s,baz=251,slow=23,SNR=5.0							
WRA	**Warramunga Arr**	**51.45**	**257**	P	P	05 25 04.5	+0.8
0.8nm,0.8s,baz=91,slow=7.9,SNR=4.7							
ASAR	**Alice Springs**	**51.65**	**252**	P	P	05 25 04.7	-0.6
3.5nm,0.9s,baz=83,slow=8.7,SNR=13							
NVAR	**Mina Array Bea**	**73.41**	**41**	P	P	05 27 31.1	+0.4
0.4nm,0.3s,baz=260,slow=5.4							
PDAR	**Pinedale Array**	**81.35**	**41**	P	P	05 28 14.9	-0.2
0.7nm,0.9s,baz=195,slow=5.5,SNR=3.6							
GERES	**GERESS Array B**	**146.65**	**354**	PKPbc	PKPdf	05 35 38.6	0.0
0.4nm,0.2s,baz=23,slow=7.2,SNR=4.4							
BRTR	**Keskin Array B**	**147.45**	**322**	PKPbc	PKPbc	05 35 41.9	-0.8
1.1nm,0.7s,baz=77,slow=2.9,SNR=5.2							

IDC 30 05:18:58.2±1.7, 15°.60S×173°.17W, h0km, mb4.0/6, mb1 4.3/6, mb1mx4.0/20, mbtmp4.0/6, Error ellipse: s-maj=103.7km s-min=22.8km az=152.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.16**	**39**	Pn	Pn	05 19 29.4	-6.1
112nm,0.3s,baz=155,slow=6.8,SNR=4.2							
AFI				Sn	Sn	05 19 49.6	-13
300nm,0.3s,baz=86,slow=19,SNR=8.1							
WRA	**Warramunga Arr**	**50.01**	**257**	P	P	05 27 54.3	-0.6
0.5nm,0.5s,baz=90,slow=7.0,SNR=6.4							
ASAR	**Alice Springs**	**50.26**	**252**	P	P	05 27 56.5	-0.2
3.8nm,0.7s,baz=86,slow=8.3,SNR=15							
TXAR	**Lajitas Array**	**80.54**	**56**	P	P	05 31 12.0	-0.9
0.8nm,0.9s,baz=277,slow=7.9,SNR=3.8							
ANMO	**Albuquerque**	**80.76**	**50**	P	P	05 31 14.7	+0.6
1.0nm,0.6s,baz=237,slow=1.4,SNR=5.5							
PDAR	**Pinedale Array**	**82.27**	**42**	P	P	05 31 22.6	+0.7
1.0nm,0.6s,baz=213,slow=3.2,SNR=7.5							
ILAR	**Eielson Array**	**82.60**	**11**	P	P	05 31 21.8	-1.1
1.3nm,0.9s,baz=232,slow=6.4,SNR=10							
GERES	**GERESS Array B**	**146.37**	**352**	PKPbc	PKPbc	05 38 41.5	+0.2
0.4nm,0.3s,baz=3.8,slow=4.0,SNR=5.2							
BRTR	**Keskin Array B**	**146.45**	**321**	PKPbc	PKPbc	05 38 42.0	+0.2
1.6nm,0.7s,baz=92,slow=3.0,SNR=6.6							

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*BJI **30** 05:24:47.6, 15°.75S×172°.88W, h10km, mB5.5/18, mb5.3/21, Ms5.5/14, Ms7 5.1/16*
*IDC **30** 05:24:49.5±0.5, 15°.43S×173°.23W, h0km, mb4.6/20, mb1 4.7/20, mb1mx4.6/27, mbtmp4.6/20, MS4.6/2, Ms1 4.6/2, ms1mx4.1/11, Error ellipse: s-maj=23.3km s-min=13.6km az=138.0*
*NEIC **30** 05:24:51.5±0.2, 15°.34S×173°.29W, h10km, mb5.3/64, Error ellipse: s-maj=8.1km s-min=4.6km az=147.0*
*MOS **30** 05:24:53.6±1.1, 15°.41S×173°.34W, h33km, mb5.5/17, Error ellipse: s-maj=13.2km s-min=9.6km az=139.2*
*ISCJB **30** 05:24:54.2±0.2, 15°.47S±0°.06×173°.29W±0°.04, h42km, mb5.1/96, MS4.9/8, Error ellipse: s-maj=8.4km s-min=5.2km az=162.7*

ISC 30 05:24:56.0±0.3, 15°.46S±0°.08×173°.26W±0°.06, h42km, n544, σ0°86/560, mb5.2/96, MS5.0/8, 138C-165D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.10**	**43**	*e*Pn	Pn	05 25 21.6	-7.3
AFI				Sn	Sn	05 25 40.3	-14
AFI	**Afiamalu**	**2.10**	**43**	Pn	Pn	05 25 21.5	-7.3
181nm,0.3s,baz=15,slow=14,SNR=12							
AFI				Sn	Sn	05 25 40.3	-14
607nm,0.3s,baz=43,slow=23,SNR=17							
MSVF	**Nonsavu**	**8.63**	**254**	P	**Pn**	**05 26 59.1**	**+0.6**
MSVF				pmax	pmax		
comp=Z,116nm,1.1s							
MSVF	**Nonsavu**	**8.63**	**254**	Pn	**Pn**	**05 26 59.1**	**+0.6**
comp=Z,116nm,1.1s							
MSVF	**Nonsavu**	**8.63**	**254**	Pn	Pn	05 27 06.1	+7.6
comp=Z,240nm,0.9s,SNR=6.6							
RAR	**Rarotonga**	**14.02**	**116**	Pn	**Pn**	**05 28 11.8**	**-0.3**
comp=Z,66nm,0.8s							
RAR	**Rarotonga**	**14.02**	**116**	Pn	Pn	05 28 02.5	-10
comp=Z,2.4nm,0.3s,baz=270,slow=8.7,SNR=5.1							
RAR				LR	LR	05 32 11.1	
comp=Z,2μm,19.7s,baz=270,slow=32							
DZM	**Mont Dzumac**	**20.30**	**248**	*e*P	P	05 29 23.0	-5.6
comp=Z,129nm,1.1s							
DZM				*e*LR	LR	05 34 02.4	
comp=Z,3μm,24.6s							
DZM	**Mont Dzumac**	**20.30**	**248**	*e*P	**P**	**05 29 28.0**	**-0.6**
comp=Z,66nm,1.1s							
TARA	**Tarawa**	**21.58**	**320**	*e*P	**P**	**05 29 40.2**	**-2.1**
comp=Z,640nm,1.8s							
PPT	**Papeete**	**22.80**	**99**	LR	LR	05 35 48.6	
comp=Z,1μm,20.2s,baz=98,slow=29							
PPT2	**Papeete2**	**22.80**	**99**	*e*P	**P**	**05 29 55.3**	**-0.1**
comp=Z,143nm,1.6s							
PPT2				*e*S	**S**	**05 34 03.4**	**+1.5**
comp=Z,1μm,26.2s							
PPT2				*e*LR	LR	05 35 21.2	
comp=Z,3μm,25.8s							
TVO	**Taravao**	**23.12**	**99**	*e*P	**P**	**05 29 58.2**	**-0.4**
comp=Z,178nm,1.2s							
TBI	**Tubuai**	**23.76**	**113**	*e*P	**P**	**05 30 02.8**	**-1.9**
comp=Z,645nm,1.4s							
TBI				*e*S	**S**	**05 34 22.5**	**+5.2**
comp=Z,1μm,33.2s							
TBI				*e*LR	LR	05 35 53.9	
comp=Z,3μm,25.8s							
PMOR	**Pomariorio Ree**	**24.48**	**92**	*e*P	**P**	**05 30 12.8**	**+1.4**
comp=Z,204nm,1.2s							
RKT	**Rikitea**	**36.85**	**108**	*e*LR	LR	05 41 55.9	
comp=Z,1μm,26.2s							
COEN	**Coen**	**42.11**	**266**	*e*P	**P**	**05 32 44.5**	**0.0**
comp=Z,351nm,1.1s							
STKA	**Stephens Creek**	**44.12**	**240**	*e*P	**P**	**05 32 58.8**	**-1.8**
comp=Z,6.6nm,1.0s							
STKA	**Stephens Creek**	**44.12**	**240**	P	**P**	**05 32 59.1**	**-1.4**
comp=Z,7.1nm,0.7s,baz=95,slow=11,SNR=18							
WRAB	**Tennant Creek**	**49.95**	**257**	*e*P	**P**	**05 33 44.1**	**-2.1**
WRAB				pmax	pmax		
comp=Z,41nm,1.4s							
WRAB	**Tennant Creek**	**49.95**	**257**	*e*P	**P**	**05 33 44.1**	**-2.1**
comp=Z,41nm,1.4s							
WRAB	**Tennant Creek**	**49.95**	**257**	P	**P**	**05 33 44.4**	**-1.8**
comp=Z,86nm,0.6s,SNR=9.2							
WRA	**Warramunga Arr**	**49.96**	**257**	P	**P**	**05 33 44.5**	**-1.9**
WRA				PcP	**PcP**	**05 35 05.8**	**-0.3**
WRA	**Warramunga Arr**	**49.96**	**257**	P	**P**	**05 33 44.5**	**-1.9**
comp=Z,7.9nm,0.6s,baz=91,slow=6.9,SNR=111							
WRA				PcP	**PcP**	**05 35 05.8**	**-0.3**
comp=Z,3.3nm,0.7s,baz=92,slow=3.5,SNR=5.5							
AS31	**Alice Springs**	**50.22**	**252**	*e*P	**P**	**05 33 46.6**	**-1.6**
ASAR	**Alice Springs**	**50.22**	**252**	P	**P**	**05 33 46.8**	**-1.5**
comp=Z,29nm,0.7s,baz=86,slow=8.4,SNR=145							
FITZ	**Fitzroy Crossi**	**58.33**	**258**	P	**P**	**05 34 47.5**	**+0.2**
FITZ	**Fitzroy Crossi**	**58.33**	**258**	P	**P**	**05 34 47.5**	**+0.2**
comp=Z,2.5nm,0.8s,baz=174,slow=6.4,SNR=9.0							
SBA	**Scott Base**	**63.20**	**185**	*e*P	**P**	**05 35 21.9**	**+2.4**
SBA				pmax	pmax		
comp=Z,206nm,2.5s							
SBA	**Scott Base**	**63.20**	**185**	*e*P	**P**	**05 35 21.9**	**+2.4**
comp=Z,206nm,2.5s							
VNDA	**Vanda**	**63.33**	**186**	*e*P	**P**	**05 35 21.3**	**+1.0**
comp=Z,50nm,1.8s							
VNDA	**Vanda**	**63.33**	**186**	P	**P**	**05 35 21.3**	**+1.0**
comp=Z,3.0nm,0.9s,baz=13,slow=5.8,SNR=16							
MJAR	**Matsushiro Arr**	**69.07**	**320**	P	**P**	**05 35 57.6**	**-0.1**
MJAR	**Matsushiro Arr**	**69.07**	**320**	P	**P**	**05 35 57.6**	**-0.1**
comp=Z,2.8nm,0.9s,baz=168,slow=5.2,SNR=5.4							
CASY	**Casey**	**70.41**	**205**	*e*P	**P**	**05 36 06.4**	**+0.9**
comp=Z,37nm,1.3s							
PTRM	**Twissleman Ran**	**71.44**	**43**	*e*P	**P**	**05 36 13.2**	**+1.0**
MWC	**Mount Wilson**	**72.08**	**46**	*e*P	**P**	**05 36 16.9**	**+0.6**
MWC				pmax	pmax		
comp=Z,28nm,1.1s							
MWC	**Mount Wilson**	**72.08**	**46**	*e*P	**P**	**05 36 16.9**	**+0.6**
comp=Z,28nm,1.1s							
VES	**Vestal, Richgr**	**72.29**	**44**	⇑P	**P**	**05 36 17.2**	**-0.1**
baz=72							
MURC	**Murrieta**	**72.33**	**47**	⇑P	**P**	**05 36 18.4**	**+0.7**
baz=72							
EDW2	**Edwards Air Fo**	**72.49**	**45**	⇓P	**P**	**05 36 19.2**	**+0.5**
baz=73							
MONP	**Monument Peak**	**72.50**	**48**	⇑P	**P**	**05 36 18.9**	**-0.1**
baz=73							
ISA	**Isabella**	**72.60**	**44**	*e*P	**P**	**05 36 19.7**	**+0.4**
ISA				pmax	pmax		
comp=Z,29nm,1.3s							
ISA	**Isabella**	**72.60**	**44**	*e*P	**P**	**05 36 19.7**	**+0.4**
comp=Z,29nm,1.3s							
ISA	**Isabella**	**72.60**	**44**	⇓P	**P**	**05 36 19.7**	**+0.4**
baz=73							
DVTC	**Desert V Tower**	**72.61**	**48**	⇓P	**P**	**05 36 19.7**	**+0.3**
baz=73							
PETK	**Petropavlovsk-**	**72.73**	**342**	P	**P**	**05 36 19.5**	**0.0**
PETK	**Petropavlovsk-**	**72.73**	**342**	P	**P**	**05 36 19.4**	**0.0**
PETK	**Petropavlovsk-**	**72.73**	**342**	P	**P**	**05 36 19.4**	**0.0**
comp=Z,8.0nm,0.8s,baz=140,slow=9.4,SNR=6.2							
BELC	**Belle Mtn. Jos**	**73.39**	**47**	⇓P	**P**	**05 36 24.4**	**+0.3**
baz=74							
MPMC	**Manual Prospec**	**73.48**	**44**	⇑P	**P**	**05 36 24.9**	**+0.3**
baz=74							
YBH	**Yreka Blue Hor**	**73.56**	**37**	P	**P**	**05 36 24.1**	**-0.8**
YBH	**Yreka Blue Hor**	**73.56**	**37**	P	**P**	**05 36 24.1**	**-0.8**
comp=Z,5.4nm,0.9s,baz=114,slow=2.0,SNR=6.8							
BC3	**Big Chuckawall**	**73.59**	**47**	⇑P	**P**	**05 36 25.6**	**+0.3**
baz=74							
WAKR	**Walker**	**73.60**	**41**	*e*P	**P**	**05 36 25.6**	**+0.3**
YSS	**Yuzh-Sakhalins**	**73.60**	**330**	*e*P	**P**	**05 36 25.0**	**+0.2**
YSS				MLR	MLR		
comp=Z,400nm,19.0s							
HEC	**Hector,Ludlow**	**73.60**	**46**	⇑P	**P**	**05 36 25.5**	**+0.2**
baz=74							
GLA	**Glamis**	**73.73**	**48**	*e*P	**P**	**05 36 27.0**	**+1.0**
GLA				pmax	pmax		
comp=Z,51nm,1.5s							
GLA	**Glamis**	**73.73**	**48**	*e*P	**P**	**05 36 26.9**	**+1.0**
comp=Z,51nm,1.5s							
GLA	**Glamis**	**73.73**	**48**	⇑P	**P**	**05 36 25.8**	**-0.1**
baz=74							
BEKR	**Beckworth**	**73.83**	**40**	*e*P	**P**	**05 36 26.4**	**-0.2**
comp=Z,14nm,1.7s							
GMRC	**Granite Mounta**	**74.04**	**46**	⇑P	**P**	**05 36 27.7**	**-0.2**
baz=74							
IRM	**Iron Mountain**	**74.07**	**47**	⇓P	**P**	**05 36 28.1**	**+0.2**
baz=74							
GRAC	**Grapevine Rang**	**74.08**	**44**	⇓P	**P**	**05 36 28.1**	**+0.1**
baz=74							
FURC	**Furnace Creek,**	**74.13**	**44**	⇑P	**P**	**05 36 28.3**	**+0.2**
baz=74							
SHOC	**Shoshone**	**74.22**	**45**	⇓P	**P**	**05 36 28.5**	**-0.2**
baz=74							
Y12C	**Blythe**	**74.31**	**48**	⇓P	**P**	**05 36 28.7**	**-0.5**
baz=74							
113A	**Mohawk Valley,**	**74.35**	**49**	⇓P	**P**	**05 36 28.8**	**-0.7**
baz=74							
NV11	**Mina Array Sit**	**74.38**	**42**	*e*P	**P**	**05 36 29.6**	**-0.2**
QSPA	**South Pole Qui**	**74.59**	**180**	*e*P	**P**	**05 36 31.0**	**+0.5**
comp=Z,51nm,1.1s							
214A	**Organ Pipe Nat**	**74.65**	**50**	⇑P	**P**	**05 36 31.0**	**-0.3**
baz=75							
PDMCI	**Parker Dam,Lak**	**74.86**	**47**	⇓P	**P**	**05 36 31.9**	**-0.5**
baz=75							
KDAK	**Kodiak Island**	**74.95**	**11**	P	**P**	**05 36 32.1**	**-0.3**
KDAK	**Kodiak Island**	**74.95**	**11**	P	**P**	**05 36 32.1**	**-0.3**
comp=Z,12nm,0.7s,baz=234,slow=0.8,SNR=12							
MOD	**Modoc**	**75.08**	**38**	*e*P	**P**	**05 36 33.9**	**+0.1**
comp=Z,226nm,1.3s							
K05A	**Summer Lake**	**75.24**	**37**	*e*P	**P**	**05 36 34.9**	**+0.2**
comp=Z,104nm,1.3s							
Z14A	**Wintersburg**	**75.24**	**49**	⇑P	**P**	**05 36 34.4**	**-0.3**
baz=75							
SHPR	**Sheep Range**	**75.30**	**45**	*e*P	**P**	**05 36 35.4**	**+0.2**
W13A	**Hualapai Mount**	**75.45**	**47**	⇓P	**P**	**05 36 35.7**	**-0.4**
baz=76							
Y14A	**Wickenburg**	**75.49**	**48**	⇑P	**P**	**05 36 35.8**	**-0.4**
baz=76							
H04A	**Detroit Lake**	**75.72**	**35**	*e*P	**P**	**05 36 36.6**	**-0.6**
comp=Z,101nm,1.4s							
R11A	**Troy Canyon, C**	**76.01**	**43**	⇑P	**P**	**05 36 39.1**	**-0.1**
baz=76							
KSRS	**Korea Array**	**76.29**	**316**	P	**P**	**05 36 41.5**	**+0.9**
comp=Z,0.7nm,0.5s,baz=140,slow=4.6,SNR=2.4							
KSAR	**Wonju Array Be**	**76.31**	**315**	P	**P**	**05 36 41.5**	**+0.8**
TUC	**Tucson**	**76.32**	**51**	*e*P	**P**	**05 36 40.5**	**-0.5**
comp=Z,28nm,1.3s							
X16A	**Lo Mia Camp, P**	**76.85**	**48**	⇓P	**P**	**05 36 44.0**	**-0.1**
baz=77							
G06A	**Carlson Farm,**	**76.93**	**35**	*e*P	**P**	**05 36 44.8**	**+0.7**
comp=Z,108nm,1.7s							
319A	**Douglas**	**77.02**	**52**	⇓P	**P**	**05 36 44.3**	**-0.7**
baz=77							
CCUT	**Cedar City**	**77.08**	**45**	*e*P	**P**	**05 36 45.0**	**-0.3**
comp=Z,19nm,1.2s							
U15A	**North Rim**	**77.24**	**46**	⇓P	**P**	**05 36 46.1**	**-0.3**
baz=77							
D05A	**Enumclaw**	**77.42**	**33**	*e*P	**P**	**05 36 48.8**	**+2.0**
comp=Z,157nm,1.4s							
WUAZ	**Wupatki**	**77.44**	**47**	*e*P	**P**	**05 36 46.7**	**-0.6**
comp=Z,8.2nm,1.0s							
WUAZ	**Wupatki**	**77.44**	**47**	⇑P	**P**	**05 36 47.2**	**-0.1**
baz=78							
USRK	**Ussuriysk Arra**	**77.51**	**323**	P	**P**	**05 36 48.0**	**+0.8**
comp=Z,5.5nm,1.1s,baz=144,slow=3.5,

baz=79
Z21A St. Cloud Mine 79.11 51 ⇑P P 05 36 56.9 +0.2
baz=79,SNR=19
PMR Palmer 79.15 11 eP P 05 36 56.2 +0.3
MDJ Mudanjiang 79.15 322 P P 05 36 57.8 +1.5
MDJ pmax pmax
comp=Z,9.0nm,1.1s
MDJ pmax pmax
comp=Z,88nm,5.9s
Q16A Castle Valley 79.25 45 ⇓P P 05 36 57.4 +0.1
baz=79
F10A Beach Ranch, E 79.28 36 eP P 05 36 56.7 -0.5
comp=Z,47nm,1.1s
W20A Ramah 79.32 49 ⇑P P 05 36 57.6 -0.2
baz=79
122A Conniff Cattle 79.34 52 ⇓P P 05 36 58.3 +0.4
baz=79
Y21A Point of Rocks 79.42 50 ⇓P P 05 36 58.8 +0.4
baz=80,SNR=11
TMUT Trail Mountain 79.42 44 eP P 05 36 59.0 +0.7
comp=Z,61nm,1.1s
223A Chaparral, Ant 79.48 53 ⇓P P 05 36 58.6 0.0
baz=80
X21A Alamocita Cree 79.53 50 ⇑P P 05 36 58.6 -0.4
baz=80,SNR=6.3
BMRM Bremner River 79.54 14 eP P 05 36 57.7 -0.4
comp=Z,88nm,1.4s
B08A Colville Reser 79.55 33 eP P 05 36 57.3 -1.2
comp=Z,42nm,1.3s
HLID Hailey 79.59 39 eP P 05 36 59.0 0.0
comp=Z,48nm,1.1s
HLID Hailey 79.59 39 ⇑P P 05 36 59.0 0.0
baz=80
Z22A Elephant Butte 79.61 51 ⇓P P 05 36 59.0 -0.3
baz=80,SNR=13
V20A Brimhall 79.65 48 ⇓P P 05 36 59.1 -0.5
baz=80
C09A Chrisman Ranch 79.78 34 eP P 05 36 59.2 -0.5
comp=Z,56nm,1.4s
SRU San Rafael 79.79 45 eP P 05 37 00.2 0.0
SRU pmax pmax
comp=Z,45nm,1.2s
SRU San Rafael 79.79 45 eP P 05 37 00.2 0.0
comp=Z,45nm,1.2s
U20A Newcomb 79.88 48 ⇑P P 05 37 00.4 -0.3
baz=80
Y22A Socorro 79.91 51 ⇑P P 05 37 01.0 0.0
baz=80,SNR=8.9
W21A San Fidel 79.94 49 ⇓P P 05 37 01.1 0.0
baz=80
324A Moseley Ranch, 79.97 53 ⇑P P 05 37 00.9 -0.4
baz=80,SNR=12
LAZ Ladron 79.99 50 eP P 05 37 01.6 +0.2
comp=Z,11nm,1.7s
Y22D IRIS PASSCAL I 80.01 51 ⇓P P 05 37 01.5 0.0
baz=80
LENM Lemitar 80.01 50 eP P 05 37 01.8 +0.3
comp=Z,2.5nm,0.8s
425A Indio Mountain 80.08 54 ⇓P P 05 37 01.5 -0.4
baz=80,SNR=14
X22A Bernardo 80.13 50 ⇑P P 05 37 01.0 -1.1
baz=80
MNTX Cornudas Mount 80.15 53 eP P 05 37 01.8 -0.4
comp=Z,23nm,1.6s
Z23A Rita Site, Whi 80.17 52 ⇓P P 05 37 02.1 -0.2
baz=80,SNR=5.7
224A Cornudas Mount 80.20 53 ⇓P P 05 37 02.2 -0.4
baz=80,SNR=11
626A Big Bend Ranch 80.25 56 ⇑P P 05 37 02.3 -0.5
baz=80,SNR=7.3
BNM Barren Site 80.26 51 eP P 05 37 02.7 -0.2
comp=Z,8.0nm,1.1s
PV05 Paradox Valley 80.27 46 eP P 05 37 03.7 +0.8
MVCO Mesa Verde 80.28 47 ⇓P P 05 37 02.4 -0.6
baz=80
NJ2 Nanjing 80.31 307 eP P 05 37 05.0 +2.1
NJ2 pmax pmax
comp=Z,20nm,1.1s
LPM Los Pinos Moun 80.33 50 eP P 05 37 04.0 +0.8
CAST Castle Rocks 80.33 9 eP P 05 37 01.4 -0.9
comp=Z,81nm,2.2s
PV09 Paradox Valley 80.44 46 eP P 05 37 01.4 -2.5
526A Mary Lane Ranc 80.49 55 ⇓P P 05 37 03.7 -0.5
baz=81
W22A Albuquerque 80.49 50 ⇓P P 05 37 04.2 +0.1
baz=81
124A Stringfield Ra 80.52 52 ⇓P P 05 37 04.0 -0.4
baz=81,SNR=6.8
U21A Nageezi 80.52 48 ⇑P P 05 37 03.9 -0.4
baz=81,SNR=24
TXAR Lajitas Array 80.53 56 P P 05 37 03.9 -0.4
TXAR Lajitas Array 80.53 56 P P 05 37 03.9 -0.4
comp=Z,6.1nm,1.1s,baz=212,slow=4.4,SNR=30
Y23A Lovelace Mesa, 80.59 51 ⇓P P 05 37 04.0 -0.7
baz=81,SNR=6.5
TRF Thorofare Moun 80.66 10 eP P 05 37 03.3 -1.0
comp=Z,164nm,2.2s
S20A Disappointment 80.67 47 ⇑P P 05 37 05.1 0.0
baz=81,SNR=7.7
NEW Newport 80.68 34 eP P 05 37 03.9 -0.7
NEW Newport 80.68 34 P P 05 37 03.6 -0.9
comp=Z,4.2nm,0.8s,baz=194,slow=3.2,SNR=8.4
NEW Newport 80.68 34 ⇑P P 05 37 04.9 +0.3
baz=81
ANMO Albuquerque 80.73 50 eP P 05 37 05.2 -0.3
ANMO Albuquerque 80.73 50 P P 05 37 05.0 -0.4
comp=Z,4.1nm,0.9s,baz=232,slow=6.3,SNR=14
225A Deer Hill, Car 80.75 53 ⇓P P 05 37 05.2 -0.3
baz=81,SNR=8.0
X23A Hourglass Bar 80.77 50 ⇓P P 05 37 05.4 -0.3
baz=81,SNR=6.0
426A McDonald Obser 80.78 55 ⇑P P 05 37 05.2 -0.5
baz=81,SNR=17
627A Terlingua Ranc 80.80 56 ⇓P P 05 37 05.3 -0.4
baz=81,SNR=15
R20A Redvale 80.82 46 ⇓P P 05 37 05.9 +0.1
baz=81,SNR=6.5
PV15 Paradox Valley 80.82 46 eP P 05 37 05.4 -0.5
V22A San Miguel Ran 80.83 49 ⇑P P 05 37 05.7 -0.3
baz=81
M17A Scullys Gap (B 80.86 43 ⇓P P 05 37 05.1 -0.9
baz=81
T21A Navajo Lake 80.87 48 ⇑P P 05 37 05.9 -0.2
baz=81,SNR=5.9
527A Woodward Ranch 80.90 55 ⇑P P 05 37 05.9 -0.5
baz=81,SNR=12
S21A Coal Bank Pass 80.99 47 ⇓P P 05 37 06.4 -0.5
baz=81
Y24A Capitan 81.05 51 ⇓P P 05 37 06.8 -0.3
baz=81,SNR=12
W23A Werner Place, 81.06 50 ⇓P P 05 37 07.0 -0.2
baz=81,SNR=10
U22A Llaves 81.08 48 ⇓P P 05 37 07.1 -0.2
baz=81,SNR=5.3
326A Caldwell Ranch 81.08 54 ⇑P P 05 37 06.7 -0.5
baz=81
P19A Cripple Cowboy 81.09 45 ⇓P P 05 37 06.9 -0.3
baz=81
125A Gardner Draw, 81.11 53 ⇓P P 05 37 07.1 -0.2
baz=81,SNR=7.4
PAX Paxson 81.13 12 eP P 05 37 06.8 +0.1
PAX pmax pmax
comp=Z,89nm,2.1s
PAX Paxson 81.13 12 eP P 05 37 06.8 +0.1
comp=Z,89nm,2.1s
BPAW Bear Paw Mtn. 81.14 10 eP P 05 37 06.1 -0.6
comp=Z,39nm,1.8s
GDL2 Guadalupe Moun 81.15 53 eP P 05 37 08.1 +0.5
MCK McKinley 81.15 11 eP P 05 37 06.2 -0.6
MCK pmax pmax
comp=Z,26nm,1.0s
MCK McKinley 81.15 11 eP P 05 37 06.2 -0.6
comp=Z,26nm,1.0s
MCMT McKenzie Canyo 81.21 39 eP P 05 37 07.4 -0.4
comp=Z,9.1nm,1.2s
628A Black Gap, Mar 81.22 56 ⇓P P 05 37 07.5 -0.4
baz=81,SNR=10
CN2 Changchun 81.22 320 eP P 05 37 07.8 +0.3
CN2 esP sP 05 37 14.8 -10
CN2 eS S 05 47 16.0 +1.3
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,900nm,24.0s
CN2 LR LR
comp=E,900nm,24.0s
CN2 LR LR
comp=Z,400nm,21.0s
HYT Haines Junctio 81.23 17 eP P 05 37 06.9 -0.4
Q20A Ridgley Place, 81.24 46 ⇑P P 05 37 07.7 -0.3
baz=81,SNR=11
226B Tecolote Peak, 81.25 53 ⇓P P 05 37 08.0 -0.1
baz=81,SNR=16
V23A Ortiz Mt. (NFS 81.29 49 ⇓P P 05 37 08.7 +0.3
baz=81,SNR=14
O19A Miners Draw (B 81.31 44 ⇓P P 05 37 07.9 -0.4
baz=81
Z25A Roswell 81.32 52 ⇑P P 05 37 08.8 +0.3
baz=81,SNR=8.0
X24A Lazy VL Ranch, 81.33 51 ⇓P P 05 37 07.9 -0.7
baz=81
T22A Edith 81.33 48 ⇓P P 05 37 07.3 -1.3
baz=81,SNR=5.8
427A Hayter Ranch, 81.35 55 ⇓P P 05 37 08.4 -0.3
baz=81,SNR=9.2
RRI2 Red Ridge 81.39 41 eP P 05 37 08.5 -0.3
P20A De Beque 81.43 45 ⇓P P 05 37 08.8 -0.1
baz=82
MENT Mentasta 81.48 13 eP P 05 37 07.9 -0.6
R21A Cimarron 81.48 46 ⇑P P 05 37 09.1 -0.3
baz=82,SNR=14
L18A Fontenelle, Gr 81.50 42 ⇑P P 05 37 08.9 -0.4
baz=82
U23A El Rito 81.54 49 ⇑P P 05 37 09.5 -0.2
baz=82,SNR=9.9
528A Cox Ranch, San 81.56 56 ⇑P P 05 37 09.5 -0.3
baz=82,SNR=7.3
126A Clayton Basin, 81.59 53 ⇑P P 05 37 09.4 -0.5
baz=82
Y25A Mesa, Roswell 81.61 51 ⇓P P 05 37 09.5 -0.5
baz=82,SNR=8.2
W24A Lazy 6 Ranch, 81.62 50 ⇓P P 05 37 09.4 -0.8
baz=82,SNR=7.9
MSO Missoula 81.65 37 eP P 05 37 08.8 -1.1
comp=Z,61nm,1.3s
MSO Missoula 81.65 37 ⇑P P 05 37 10.1 +0.3
baz=82,SNR=11
DLMT Dillon 81.65 38 eP P 05 37 10.0 +0.1
comp=Z,61nm,1.4s
Q21A Lamborn Mesa, 81.68 46 ⇓P P 05 37 10.3 -0.1
baz=82,SNR=6.0
DLBC Dease Lake 81.70 21 P P 05 37 09.8 0.0
DLBC Dease Lake 81.70 21 P P 05 37 09.8 0.0
comp=Z,4.2nm,1.1s,baz=246,slow=6.0,SNR=5.0
S22A 4UR Ranch, Cre 81.71 47 ⇑P P 05 37 10.4 -0.2
baz=82,SNR=20
BSMT Bassoo Peak 81.73 35 eP P 05 37 09.5 -0.9
SNOW Snow King Moun 81.80 41 eP P 05 37 10.8 -0.1
O20A White River Ci 81.83 45 eP P 05 37 09.8 -1.3
O20A White River Ci 81.83 45 ⇑P P 05 37 10.5 -0.5
baz=82
428A Kincaid Ranch, 81.86 55 ⇑P P 05 37 11.3 0.0
baz=82,SNR=7.6
M19A Rock Springs 81.87 43 ⇓P P 05 37 10.6 -0.7
baz=82
Z26A Caprock 81.88 52 ⇑P P 05 37 10.7 -0.7
baz=82,SNR=14
X25A Clemmons Ranch 81.89 51 ⇓P P 05 37 10.9 -0.6
baz=82,SNR=8.0
IMW Indian Meadow 81.91 40 eP P 05 37 11.3 -0.2
comp=Z,67nm,1.4s
V24A Rampart Ranch, 81.95 50 ⇓P P 05 37 11.5 -0.3
baz=82,SNR=8.2
MOOW Moose Ponds 81.95 40 eP P 05 37 11.7 0.0
comp=Z,42nm,1.4s
T23A Casias Ranch, 81.96 48 ⇑P P 05 37 12.0 0.0
baz=82,SNR=6.9
LRM Limekiln Ridge 81.98 38 eP P 05 37 11.5 -0.3
SWMT Swartz Lake 81.98 36 eP P 05 37 11.4 -0.2
529A Stev Forest Ra 82.00 56 ⇑P P 05 37 11.2 -0.9
baz=82,SNR=6.1
328A Wristen Ranch, 82.03 54 ⇓P P 05 37 11.2 -1.0
baz=82
QLMT Earthquake Lak 82.08 39 eP P 05 37 13.0 +0.7
P21A Newcastle 82.08 45 ⇑P P 05 37 12.3 -0.2
baz=82
CHMT Chamberlain Mo 82.09 37 eP P 05 37 11.3 -1.0
127A Arkansas Junct 82.12 53 ⇓P P 05 37 12.7 0.0
baz=82
SLMT Seeley Lake 82.13 36 eP P 05 37 11.2 -1.3
N20A Spence Gulch, 82.14 44 ⇑P P 05 37 12.3 -0.4
baz=82,SNR=9.8
I17A Pilgrim Ck. 82.14 40 ⇑P P 05 37 13.2 +0.5
baz=82
FLWY Flagg Ranch 82.15 40 eP P 05 37 12.5 -0.2
Q22A Crested Butte, 82.16 46 ⇓P P 05 37 12.5 -0.5
baz=82,SNR=23
BW06 Boulder Array 82.22 42 eP P 05 37 12.8 -0.4
comp=Z,20nm,1.4s
PDAR Pinedale Array 82.22 42 P P 05 37 12.0 -1.1
PDAR Pinedale Array 82.22 42 P P 05 37 12.0 -1.1
comp=Z,6.4nm,1.1s,baz=230,slow=3.3,SNR=24
U24A Moreno Valley 82.23 49 ⇑P P 05 37 13.2 -0.3
baz=82
YFT Old Faithful 82.25 40 eP P 05 37 14.0 +0.7
comp=Z,4.8nm,0.7s
Y26A Elida 82.27 52 ⇓P P 05 37 13.3 -0.1
baz=82
S23A Nye Farm, Mont 82.28 48 ⇓P P 05 37 13.6 +0.1
baz=82
YMR Madison River 82.28 40 eP P 05 37 13.4 0.0
comp=Z,50nm,1.3s
W25A X Bar L Ranh, 82.33 50 ⇓P P 05 37 13.2 -0.6
baz=82,SNR=7.3
BOZ Bozeman (W) 82.38 39 eP P 05 37 13.4 -0.4
BOZ pmax pmax
comp=Z,28nm,1.4s
BOZ Bozeman (W) 82.38 39 eP P 05 37 13.4 -0.4
comp=Z,28nm,1.4s
H17A Grant Village 82.38 40 eP P 05 37 14.7 +0.7
H17A Grant Village 82.38 40 ⇑P P 05 37 14.2 +0.2
baz=82,SNR=8.0
O21A Pagoda 82.39 45 ⇓P P 05 37 13.7 -0.4
baz=82
COLA College 82.39 11 eP P 05 37 13.3 +0.1
COLA pmax pmax
comp=Z,29nm,0.8s
COLA College 82.39 11 eP P 05 37 13.3 +0.1
comp=Z,29nm,0.8s
T24B San Luis 82.44 48 ⇑P P 05 37 14.5 0.0
baz=82,SNR=11
429A Davenport Ranc 82.45 55 ⇓P P 05 37 13.8 -0.6
baz=82,SNR=15
ILAR Eielson Array 82.47 11 P P 05 37 12.4 -1.3
ILAR Eielson Array 82.47 11 P P 05 37 12.4 -1.3
comp=Z,6.9nm,1.2s,baz=207,slow=5.3,SNR=19
V25A Rancho No Teng 82.48 50 ⇓P P 05 37 14.1 -0.5
baz=83,SNR=19
YNR Norris Junctio 82.48 40 eP P 05 37 15.4 +1.0
comp=Z,33nm,1.4s
Z27A Tatum 82.48 53 ⇓P P 05 37 14.2 -0.4
baz=83
228A UT Block 9, Go 82.49 54 ⇑P P 05 37 14.2 -0.4
baz=83
IM04 Indian Mountai 82.50 8 eP P 05 37 13.0 -0.8
M20A Sweetwater, Wa 82.50 43 ⇑P P 05 37 14.2 -0.4
baz=83,SNR=8.0
X26A CR and CF Fran 82.54 51 ⇓P P 05 37 14.1 -0.8
baz=83
LKWY Lake 82.58 40 eP P 05 37 15.7 +0.7
LKWY pmax pmax
comp=Z,30nm,1.2s
LKWY Lake 82.58 40 eP P 05 37 15.7 +0.7
comp=Z,30nm,1.2s
P22A Eagle 82.59 46 ⇓P P 05 37 14.8 -0.4
baz=83,SNR=7.4
IMA2 Indian Mountai 82.60 8 eP P 05 37 13.8 -0.7
N21A Black Mountain 82.61 44 ⇑P P 05 37 14.9 -0.3
baz=83,SNR=12
SEY Seymchan 82.61 345 i P P 05 37 14.3 -0.1
R23A Moffat 82.62 47 ⇑P P 05 37 15.2 -0.2
baz=83,SNR=12
L20A Wamsutter 82.64 43 ⇓P P 05 37 15.1 -0.3
baz=83,SNR=11
SDCO Great Sand Dun 82.65 48 eP P 05 37 14.8 -0.8
comp=Z,19nm,1.4s
K19A Absolon Red Bu 82.70 42 ⇓P P 05 37 14.6 -1.0
baz=83,SNR=7.9
530A J-C Ranch, Com 82.71 56 ⇑P P 05 37 15.1 -0.6
baz=83,SNR=5.4
329A Wagon Wheel Ra 82.72 55 ⇑P P 05 37 15.4 -0.4
baz=83,SNR=8.0
Y27A Causey 82.75 52 ⇓P P 05 37 15.2 -0.7
baz=83,SNR=6.6
128A Castleberry Fa 82.77 53 ⇑P P 05 37 15.7 -0.4
baz=83,SNR=10.0
J19A Crowheart 82.78 42 ⇑P P 05 37 15.5 -0.4
baz=83,SNR=8.7
W26A Owens Ranch, T 82.79 51 ⇓P P 05 37 15.7 -0.5
baz=83
HRY Holter Researc 82.81 38 eP P 05 37 15.6 -0.4
S24A Houchin Ranch, 82.81 48 ⇓P P 05 37 16.2 -0.3
baz=83,SNR=10
U25A Circle Dot Ran 82.86 49 ⇑P P 05 37 16.3 -0.3
baz=83,SNR=16
WALA Waterton Lakes 82.88 35 eP P 05 37 15.5 -0.8
comp=Z,0.7nm,1.4s
Q23A Hartsel 82.92 47 ⇑P P 05 37 16.4 -0.6
baz=83,SNR=10.0
K20A Yellowstone Ra 82.95 42 ⇓P P 05 37 15.9 -1.0
baz=83,SNR=7.2
O22A Kremmling 82.99 45 ⇓P P 05 37 16.6 -0.7
baz=83,SNR=18
430A Baggett Ranch, 83.04 56 ⇑P P 05 37 16.7 -0.8
baz=83
631A Perdido Creek 83.05 57 ⇑P P 05 37 16.9 -0.6
baz=83,SNR=11
QIZ Qiongzhong 83.05 292 P P 05 37 17.8 +0.1
QIZ S S 05 47 35.5 +1.0
V26A Tequesquite Ra 83.07 50 ⇑P P 05 37 16.8 -0.8
baz=83,SNR=6.0
MSTX Muleshoe 83.09 52 eP P 05 37 17.0 -0.7
MSTX Muleshoe 83.09 52 ⇓P P 05 37 17.0 -0.7
baz=83,SNR=10
H18A Shoshone NF, C 83.09 40 ⇑P P 05 37 17.2 -0.4
baz=83,SNR=5.6
M21A Separation Pea 83.10 44 ⇑P P 05 37 17.1 -0.7
baz=83,SNR=11
Z28A Tucker Farm, M 83.11 53 ⇓P P 05 37 16.7 -1.1
baz=83,SNR=6.9
X27A F and S Farms, 83.11 51 ⇓P P 05 37 17.7 -0.1
baz=83
P23A Jefferson 83.13 46 ⇓P P 05 37 17.6 -0.5
baz=83,SNR=9.1
R24A Sanders Place, 83.14 47 ⇑P P 05 37 17.8 -0.3
baz=83,SNR=16
T25A Trinidad 83.18 49 ⇑P P 05 37 17.8 -0.4
baz=83,SNR=6.2
I19A Meeteetse 83.19 41 ⇑P P 05 37 17.7 -0.5
baz=83,SNR=12
RWWY Rawlins 83.24 44 eP P 05 37 18.3 -0.2
comp=Z,33nm,1.1s
129A Stewart Farms, 83.25 54 ⇓P P 05 37 17.8 -0.7
baz=83,SNR=5.8
L21A Rawlins 83.26 43 ⇓P P 05 37 17.8 -0.8
baz=83,SNR=7.6
W27A Bowe Ranch, En 83.31 51 ⇓P P 05 37 17.9 -1.0
baz=83,SNR=13
330A Mertzon 83.32 55 ⇓P P 05 37 17.8 -1.1
baz=83
N22A Wattenberg Ran 83.34 45 ⇑P P 05 37 18.5 -0.5
baz=83,SNR=14
U26A Atchley Ranch, 83.35 50 ⇓P P 05 37 18.1 -1.0
baz=83,SNR=13
531A Rocksprings 83.35 56 ⇓P P 05 37 18.1 -1.0
baz=83,SNR=12
S25A Robets Cordova 83.38 48 ⇓P P 05 37 18.8 -0.4
baz=84,SNR=15
Q24A Divide 83.43 47 ⇓P P 05 37 19.4 -0.3
baz=84,SNR=9.5
DAWY Dawson 83.44 14 eP P 05 37 17.9 -0.8
O23A Lake Granby, G 83.44 45 ⇓P P 05 37 19.2 -0.4
baz=84,SNR=11
J20A Shoshoni 83.45 42 ⇓P P 05 37 18.8 -0.5
baz=84,SNR=13
ISCO Idaho Springs 83.47 46 eP P 05 37 19.8 0.0
ISCO pmax pmax
comp=Z,58nm,1.8s
ISCO Idaho Springs 83.47 46 eP P 05 37 19.8 0.0
comp=Z,58nm,1.8s
ISCO Idaho Springs 83.47 46 ⇓P P 05 37 19.5 -0.3
baz=84,SNR=9.3
431A Sonora 83.50 56 ⇓P P 05 37 19.7 -0.2
baz=84
H19A Powell 83.51 40 ⇓P P 05 37 18.8 -0.9
baz=84,SNR=18
M22A Cedar Creek Ra 83.52 44 ⇓P P 05 37 19.2 -0.8
baz=84
230A Sterling City 83.56 55 ⇑P P 05 37 19.7 -0.4
baz=84
Z29A Hungry Hill Ra 83.62 53 ⇑P P 05 37 19.9 -0.5
baz=84
GCMT Greycliff 83.64 39 eP P 05 37 20.0 -0.3
comp=Z,24nm,1.4s
EGAK Eagle 83.64 13 eP P 05 37 19.9 +0.3
comp=Z,20nm,1.5s
K21A Alcova 83.65 43 ⇑P P 05 37 19.4 -1.1
baz=84,SNR=12
I20A Worland 83.70 41 ⇓P P 05 37 20.1 -0.5
baz=84,SNR=16
632A Uvalde 83.72 57 ⇓P P 05 37 20.2 -0.8
baz=84,SNR=5.1
N23A Red Feather La 83.73 45 ⇑P P 05 37 20.3 -0.8
baz=84,SNR=10
X28A Dimmitt 83.74 52 ⇓P P 05 37 20.2 -0.9
baz=84,SNR=8.7
T26A Comanche Natio 83.78 49 ⇓P P 05 37 20.5 -0.8
baz=84
J21A Lysite 83.85 42 ⇑P P 05 37 21.0 -0.5
baz=84,SNR=24
532A Rocksprings 83.86 57 ⇓P P 05 37 21.0 -0.7
baz=84,SNR=6.2
331A San Angelo 83.88 55 ⇑P P 05 37 20.7 -1.0
baz=84
Y29A Porterfield Fa 83.88 53 ⇑P P 05 37 20.9 -0.9
baz=84,SNR=9.0
L22A Ellis Ranch, M 83.91 44 ⇓P P 05 37 22.1 +0.2
baz=84,SNR=5.2
130A Snyder 83.94 54 ⇑P P 05 37 21.8 -0.2
baz=84
O24A Longmont 83.99 46 ⇑P P 05 37 22.3 +0.1
baz=84,SNR=5.6
H20A Greybull 84.04 41 ⇓P P 05 37 21.8 -0.5
baz=84
U27A Thompson Grove 84.04 50 ⇓P P 05 37 21.3 -1.2
baz=84,SNR=7.2
S26A Kim 84.06 49 ⇑P P 05 37 21.9 -0.7
baz=84,SNR=8.3
JCT Junction City 84.07 56 eP P 05 37 22.8 +0.1
JCT pmax pmax
comp=Z,8.0nm,0.9s
JCT Junction City 84.07 56 eP P 05 37 22.8 +0.1
comp=Z,7.7nm,0.9s
JCT Junction City 84.07 56 ⇑P P 05 37 22.4 -0.3
baz=84
Z30A Sanderson Ranc 84.08 53 ⇓P P 05 37 21.3 -1.5
baz=84,SNR=8.6
X29A Tulia 84.09 52 ⇓P P 05 37 21.7 -1.1
baz=84,SNR=9.0
F19A Roth Farm, Mol 84.11 39 ⇓P P 05 37 21.9 -0.7
baz=84,SNR=19
K22A Casper 84.13 43 ⇓P P 05 37 21.9 -1.0
baz=84,SNR=5.9
M23A Laramie 84.14 44 ⇑P P 05 37 22.4 -0.6
baz=84
I21A Big Trails, Te 84.17 42 ⇓P P 05 37 21.8 -1.3
baz=84,SNR=18
COLD Coldfoot 84.18 9 eP P 05 37 24.0 +1.7
comp=Z,25nm,1.3s
231A Bronte 84.20 55 ⇓P P 05 37 21.8 -1.6
baz=84,SNR=7.0
V28A Channing 84.21 51 ⇑P P 05 37 22.4 -1.0
baz=84
432A Menard 84.22 56 ⇓P P 05 37 22.8 -0.7
baz=84
PHWY Pilot Hill 84.24 45 eP P 05 37 23.2 -0.5
comp=Z,141nm,2.5s
G20A Bridger 84.25 40 ⇓P P 05 37 23.0 -0.4
baz=84
P25A Willow Gulch B 84.36 47 ⇓P P 05 37 23.8 -0.3
baz=84,SNR=13
R26A Arlington 84.36 48 ⇓P P 05 37 23.3 -0.8
baz=84,SNR=12
W29A Amraillo 84.39 51 ⇑P P 05 37 23.6 -0.7
baz=84,SNR=5.4
131A Roby 84.42 54 ⇓P P 05 37 23.5 -1.0
baz=84
N24A Carr 84.42 45 ⇓P P 05 37 23.8 -0.7
baz=84,SNR=8.0
L23A Garrett 84.44 44 ⇓P P 05 37 23.6 -1.0
baz=84,SNR=15

332A	Millersview	84.45	55	⇓P	P	05 37 23.6	-1.0
	baz=84,SNR=7.9						
U28A	Mallet	84.46	50	⇑P	P	05 37 24.1	-0.6
	baz=85						
Y30A	Stafford Cattl	84.48	53	⇓P	P	05 37 23.9	-0.9
	baz=85						
E19A	Rath Farm, Rou	84.50	39	⇓P	P	05 37 23.8	-0.8
	baz=85,SNR=18						
J22A	Midwest	84.51	42	⇓P	P	05 37 24.1	-0.7
	baz=85						
Q26A	Hugo	84.56	47	⇓P	P	05 37 23.9	-1.3
	baz=85,SNR=5.6						
F20A	Billings	84.57	40	⇓P	P	05 37 24.0	-1.0
	baz=85,SNR=5.8						
O25A	Wiggins	84.64	46	⇑P	P	05 37 24.9	-0.7
	baz=85						
EGMT	Eagleton	84.69	37	eP	P	05 37 25.2	-0.3
	comp=Z,87nm,1.5s						
EGMT	Eagleton	84.69	37	⇑P	P	05 37 24.8	-0.8
	baz=85,SNR=6.3						
H21A	Big Horn, Sher	84.71	41	⇑P	P	05 37 25.3	-0.4
	baz=85,SNR=5.6						
232A	Coleman	84.71	55	⇑P	P	05 37 24.8	-1.1
	baz=85,SNR=11						
X30A	Coker Ranch, T	84.72	52	⇓P	P	05 37 25.5	-0.5
	baz=85						
I22A	9 Mile Ranch,	84.73	42	⇓P	P	05 37 25.0	-0.8
	baz=85,SNR=10						
M24A	Cheyenne	84.74	45	⇑P	P	05 37 25.9	-0.2
	baz=85						
K23A	Bowen Ranch, D	84.77	43	⇓P	P	05 37 26.0	-0.1
	baz=85						
D19A	Cripps Ranch,	84.78	38	⇑P	P	05 37 25.7	-0.3
	baz=85,SNR=13						
V29A	Stinnett	84.78	51	⇓P	P	05 37 25.8	-0.5
	baz=85						
R27A	Eads	84.81	48	⇓P	P	05 37 25.5	-0.9
	baz=85						
T28A	Walsh	84.84	49	⇑P	P	05 37 25.8	-0.7
	baz=85						
Z31A	Sharp Cattle R	84.85	54	⇑P	P	05 37 25.7	-0.9
	baz=85,SNR=13						
G21A	Lodge Grass	84.88	40	⇓P	P	05 37 25.9	-0.6
	baz=85						
E20A	Meyer Farm, Mu	84.92	39	⇑P	P	05 37 26.4	-0.3
	baz=85,SNR=14						
L24A	Wheatland	84.92	44	⇓P	P	05 37 26.5	-0.4
	baz=85						
P26A	Davis Ranch, A	84.95	47	⇓P	P	05 37 26.6	-0.5
	baz=85						
C19A	Slack Wire Ran	84.96	38	⇑P	P	05 37 26.6	-0.3
	baz=85,SNR=12						
ABTX	Abilene, Hawle	84.98	54	eP	P	05 37 26.7	-0.7
ABTX	Abilene, Hawle	84.98	54	⇑P	P	05 37 26.6	-0.7
	baz=85,SNR=9.7						
Y31A	Rekieta Farm,	85.00	53	⇓P	P	05 37 26.7	-0.7
	baz=85,SNR=8.6						
S28A	Manter	85.19	49	⇓P	P	05 37 27.6	-0.7
	baz=85						
D20A	Manuel Ranch,	85.19	38	⇓P	P	05 37 27.8	-0.3
	baz=85,SNR=14						
KSCO	Kaye Shedlock'	85.23	48	eP	P	05 37 27.9	-0.7
KSCO	Kaye Shedlock'	85.23	48	⇓P	P	05 37 27.8	-0.7
	baz=85						
Z32A	Haskell	85.37	54	⇓P	P	05 37 28.5	-0.7
	baz=85,SNR=29						
B19A	Brinkman Farms	85.38	37	⇓P	P	05 37 28.4	-0.5
	baz=86,SNR=9.1						
EDM	Edmonton	85.46	31	eP	P	05 37 28.5	-0.7
EDM	Edmonton	85.46	31	eP	P	05 37 28.5	-0.7
X31A	McDonald Ranch	85.47	52	⇑P	P	05 37 28.9	-0.8
	baz=86						
R28A	Tribune	85.55	48	⇓P	P	05 37 29.5	-0.6
	baz=86,SNR=8.3						
C20A	Veseth Ranch,	85.57	38	⇓P	P	05 37 29.5	-0.4
	baz=86,SNR=16						
E21A	Keefer Ranch,	85.58	39	⇑P	P	05 37 29.9	-0.1
	baz=86						
Y32A	R-V Farms, Ver	85.65	53	⇑P	P	05 37 29.9	-0.7
	baz=86,SNR=10						
J24A	Dixon Ranch, L	85.66	43	⇑P	P	05 37 30.2	-0.3
	baz=86						
U30A	WK&E Inc. Balk	85.69	50	⇑P	P	05 37 30.4	-0.3
	baz=86						
W31A	Holland Ranch,	85.71	52	⇑P	P	05 37 30.0	-0.8
	baz=86,SNR=7.5						
A19A	Klindworth Far	85.73	37	⇑P	P	05 37 30.0	-0.6
	baz=86,SNR=8.3						
F22A	Rosebud	85.73	40	⇑P	P	05 37 30.8	0.0
	baz=86						
S29A	Ulysses	85.77	49	⇑P	P	05 37 30.9	-0.2
	baz=86						
D21A	La Casta Ranch	85.87	39	⇓P	P	05 37 31.4	-0.1
	baz=86,SNR=7.7						
B20A	Solberg Farm,	85.91	37	⇓P	P	05 37 30.9	-0.6
	baz=86,SNR=8.8						
C21A	Desert Coulee	86.16	38	⇑P	P	05 37 32.3	-0.5
	baz=86,SNR=5.5						
LAO	LASA Array	86.17	39	eP	P	05 37 33.2	+0.3
	comp=Z,53nm,1.6s						
A20A	Cobblestone Ra	86.17	37	⇑P	P	05 37 32.5	-0.4
	baz=86,SNR=11						
E22A	Miles City	86.22	40	⇑P	P	05 37 33.2	0.0
	baz=86						
F23A	Volborg	86.24	41	⇑P	P	05 37 33.1	-0.1
	baz=86						
O28A	Krutsinger Ran	86.29	47	⇑P	P	05 37 33.6	0.0
	baz=86						
H24A	Dirks Ranch, A	86.35	42	⇑P	P	05 37 32.7	-1.2
	baz=86,SNR=7.4						
K26A	Motz Farm, Whi	86.38	44	⇑P	P	05 37 33.3	-0.7
	baz=86						
RSSD	Black Hills	86.41	42	eP	P	05 37 33.1	-1.3
RSSD				pmax	pmax		
	comp=Z,315nm,2.2s						
RSSD	Black Hills	86.41	42	eP	P	05 37 33.0	-1.3
	comp=Z,315nm,2.2s						
WHTX	Lake Whitney	86.48	56	eP	P	05 37 34.7	0.0
WHTX	Lake Whitney	86.48	56	⇓P	P	05 37 34.0	-0.7
	baz=87						
B21A	Ellsworth Farm	86.49	38	⇑P	P	05 37 34.0	-0.4
	baz=87,SNR=10						
I25A	Rochford	86.56	43	⇑P	P	05 37 34.7	-0.3
	baz=87						
T31A	Randall Ranch,	86.63	50	⇑P	P	05 37 35.2	-0.2
	baz=87						
R30A	Dighton	86.64	49	⇓P	P	05 37 35.3	0.0
	baz=87						
E23A	Ismay	86.64	40	⇑P	P	05 37 35.5	+0.3
	baz=87						
A21A	Bergtoll Ranch	86.81	37	⇓P	P	05 37 35.7	-0.3
	baz=87,SNR=5.8						
C22A	Vida	86.85	39	⇓P	P	05 37 36.5	+0.3
	baz=87						
D23A	Lindsay	87.00	39	⇓P	P	05 37 37.7	+0.8
	baz=87						
B22A	Reddig Ranch S	87.04	38	⇓P	P	05 37 37.0	0.0
	baz=87,SNR=5.6						
HKT	Hockley	87.10	58	eP	P	05 37 37.7	+0.1
HKT				pmax	pmax		
	comp=Z,16nm,1.6s						
HKT	Hockley	87.10	58	eP	P	05 37 37.7	+0.1
	comp=Z,16nm,1.6s						
APG	El Apazote	87.21	74	P	P	05 37 38.4	-0.4
APG	El Apazote	87.21	74	P	P	05 37 38.4	-0.4
	comp=Z,5.0nm,0.9s,baz=303,slow=13,SNR=6.3						
C23A	Lambert	87.30	39	⇑P	P	05 37 38.3	-0.1
	baz=87						
HIA	Hailar	87.32	323	P	P	05 37 38.5	+0.1
MAW	Mawson	87.78	199	P	P	05 37 40.6	+0.2
MAW	Mawson	87.78	199	P	P	05 37 40.6	+0.2
	comp=Z,4.0nm,0.7s,baz=122,slow=4.4,SNR=9.1						
DGMT	Dagmar	88.19	38	⇑P	P	05 37 43.1	+0.5
	baz=88						
GYA	Guiyang	88.19	298	P	P	05 37 43.0	-0.2
GYA				PP	PP	05 41 12.0	+1.1
GYA				SKS	SKSac	05 48 09.5	+0.4
GYA				S	S	05 48 25.3	+0.3
GYA				SS	SS	05 54 17.5	+2.5
GYA				pmax	pmax		
	comp=Z,30nm,1.0s						
GYA				pmax	pmax		
	comp=Z,150nm,6.2s						
GYA				LR	LR		
	comp=N,580nm,21.5s						
GYA				LR	LR		
	comp=E,540nm,22.3s						
GYA				LR	LR		
	comp=Z,660nm,21.8s						
INK	Inuvik	88.29	14	P	P	05 37 42.0	-0.5
INK	Inuvik	88.29	14	P	P	05 37 42.0	-0.5
	comp=Z,1.9nm,0.8s,baz=186,slow=10,SNR=4.3						
K30A	Basset	88.78	45	⇑P	P	05 37 45.0	-0.5
	baz=89						
TUL1	Tulsa	89.13	52	eP	P	05 37 47.9	+0.7
	comp=Z,7.2nm,0.9s						
TUL1	Tulsa	89.13	52	⇑P	P	05 37 46.8	-0.5
	baz=89						
HHC	Hu-ho-hao-te	89.17	313	eP	P	05 37 45.0	-2.5
HHC				pP	PcP	05 37 50.0	+1.1
HHC				sP	sP	05 37 52.0	-13
HHC				PP	PP	05 41 17.5	-0.9
HHC				SKS	SKSac	05 48 12.3	-1.9
HHC				S	S	05 48 31.3	-2.3
HHC				pmax	pmax		
	comp=Z,30nm,1.1s						
HHC				pmax	pmax		
	comp=Z,290nm,5.1s						
HHC				LR	LR		
	comp=N,440nm,16.9s						
HHC				LR	LR		
	comp=E,470nm,16.5s						
HHC				LR	LR		
	comp=Z,540nm,16.3s						
KMI	Kunming	91.17	296	P	P	05 37 57.3	0.0
KMI				S	S	05 48 52.3	-0.8
KMI				pmax	pmax		
	comp=Z,9.0nm,1.1s						
KMI				LR	LR		
	comp=Z,340nm,51.0s						
A29A	Manning Farm,	91.38	39	⇑P	P	05 37 57.2	-0.3
	baz=92						
CD2	Chengdu	91.96	301	P	P	05 38 01.0	+0.4
CD2				pP	PcP	05 38 05.8	+4.4
CD2				sP	sP	05 38 08.0	-10
CD2				PP	PP	05 41 42.8	+2.1
CD2				S	S	05 48 59.8	+0.3
CD2				SS	SS	05 55 11.3	+2.1
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				pmax	pmax		
	comp=Z,160nm,3.9s						
CD2				LR	LR		
	comp=N,1μm,7.7s						
CD2				LR	LR		
	comp=Z,420nm,13.1s						
SYO	Syowa Base	92.57	191	⇑eP	P	05 38 00.8	-1.8
SNAA	Sanae	92.84	177	eP	P	05 38 03.6	-0.4
LZH	Lanzhou	93.37	306	eP	P	05 38 08.0	+0.8
LZH				pP	PcP	05 38 12.5	+4.8
LZH				sP	sP	05 38 15.0	-10
LZH				PP	PP	05 41 54.5	+2.7
LZH				SKS	SKSac	05 48 42.3	+3.8
LZH				eS	S	05 49 12.0	-0.1
LZH				sS	sS	05 49 26.3	-7.3
LZH				pmax	pmax		
	comp=Z,27nm,1.1s						
LZH				pmax	pmax		
	comp=Z,150nm,5.1s						
LZH				LR	LR		
	comp=N,760nm,16.8s						
LZH				LR	LR		
	comp=E,860nm,16.0s						
LZH				LR	LR		
	comp=Z,1μm,17.9s						
GTA	Gaotai	97.32	309	eP	P	05 38 25.0	-0.1
GTA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KSH	Kashi	115.62	307	ePKP	PKPdf	05 43 33.5	-0.6
KSH				PKS	PKSdf	05 47 08.5	-2.4
KSH				SKS	SKSdf	05 50 44.3	+1.2
KSH				AMB	AMB		
	comp=Z,72nm,3.8s						
KSH				LR	LR		
	comp=N,180nm,6.8s						
KSH				LR	LR		
	comp=E,130nm,5.2s						
KSH				LR	LR		
	comp=Z,150nm,6.6s						
ARCES	ARCESS Array B	124.68	352	PKP	PKPdf	05 43 49.7	-0.8
ARCES	ARCESS Array B	124.68	352	PKP	PKPdf	05 43 49.7	-0.8
	comp=Z,4.9nm,0.8s,baz=339,slow=3.0,SNR=6.0						
FINES	FINESS Array B	132.03	348	PKP	PKPdf	05 44 04.5	-0.2
FINES	FINESS Array B	132.03	348	PKP	PKPdf	05 44 04.5	-0.2
	comp=Z,1.6nm,0.7s,baz=37,slow=9.5,SNR=1.3						
AKASG	Malin Array Be	140.44	338	PKIKP	PKPdf	05 44 18.4	-2.2
AKASG	Malin Array Be	140.44	338	PKP	PKPdf	05 44 18.4	-2.2
AKASG	Malin Array Be	140.44	338	PKP	PKPdf	05 44 18.4	-2.2
	comp=Z,1.1nm,0.6s,baz=19,slow=1.5,SNR=6.8						
CLL	Collm	143.89	353	ePKPdf	PKPbc	05 44 24.0	-0.5
MALT	Malatya	144.00	315	⇑iP	PKPdf	05 44 26.3	-1.2
UPC	Upice	144.24	350	ePKP	PKPdf	05 44 26.4	-1.0
KOLS	Kolonicke sedl	144.27	342	ePKP	PKPab	05 44 24.9	-0.5
KOLS				e		05 45 23.0	
DPC	Dobruska-Polom	144.34	349	ePKP	PKPbc	05 44 26.2	+0.2
DPC				epPKP	PKiKP	05 44 31.3	+0.1
BUR08	Bucovina Ar. S	144.45	338	PKPdf	PKPbc	05 44 26.9	+0.4
BURAR	Bucovina Array	144.47	338	⇓iP	PKPdf	05 44 27.4	-0.6
OKC	Ostravce-Krasne	144.48	347	ePKP	PKPdf	05 44 27.0	-0.8
MORC	Moravsky Brou	144.66	348	ePKIKP	PKPbc	05 44 27.3	+0.3
MORC	Moravsky Berou	144.66	348	ePKPdf	PKPbc	05 44 27.2	+0.2
TRPA	Tarpa	144.91	342	⇓ePKPbc	PKPdf	05 44 28.0	-0.6
PRA	Prague	144.92	351	PKP	PKPdf	05 44 28.0	-0.5
MEM	Membach	144.93	1	PKP	PKPab	05 44 27.4	-0.4
PRU	Pruhonice	144.98	351	ePKP	PKPab	05 44 27.9	-0.1
SNF	Seneffe	144.98	3	PKP	PKPdf	05 44 28.6	0.0
BCLA	Clavier	145.11	2	PKP	PKPdf	05 44 28.6	-0.2
KECS	Kecovo	145.18	344	ePKP	PKPab	05 44 28.6	-0.1
CFR	Carcaliu	145.31	333	⇑iP	PKPab	05 44 29.8	+0.5
VRI	Vrincioaia	145.35	335	⇑iP	PKPab	05 44 30.5	+1.0
DOU	Dourbes	145.41	2	PKP	PKPbc	05 44 28.6	-0.7
KMBO	Kilima Mbogo	145.63	244	ePKPdf	PKPbc	05 44 31.3	-0.2
KMBO				PKPbc	PKPab	05 44 32.0	+0.2
KMBO	Kilima Mbogo	145.63	244	PKPbc	PKPab	05 44 32.0	+0.2
	comp=Z,5.5nm,1.0s,baz=66,slow=5.0,SNR=9.7						
TIRR	Tirgusor	145.75	332	⇓iP	PKPab	05 44 31.2	+0.2
DOPR	Dopca	145.80	337	⇓iP	PKPab	05 44 32.3	+1.1
TLB	Topalu	145.82	332	⇓iP	PKPab	05 44 31.3	+0.1
PSZ	Piszkesteto	145.85	344	ePKP2	PKPbc	05 44 30.7	-0.2
PSZ	Piszkesteto	145.85	344	ePKPdf	PKPbc	05 44 30.7	-0.2
PSZ	Piszkesteto	145.85	344	⇓ePKPdf	PKPab	05 44 31.4	0.0
KHC	Kasperske Hory	145.95	352	ePKP2	PKPbc	05 44 31.0	-0.1
KHC	Kasperske Hory	145.95	352	ePKP	PKPbc	05 44 31.0	-0.1
KHC				epPKP	PKiKP	05 44 36.2	+1.6
KHC				ex	x	05 44 52.0	
KHC	Kasperske Hory	145.95	352	ePKPdf	PKPbc	05 44 31.0	-0.1
MLR	Muntele Rosu	145.98	336	⇓iP	PKPab	05 44 32.0	0.0
DRGR		146.04	340	⇑iP	PKPbc	05 44 31.2	-0.3
GERES	GERESS Array B	146.22	352	PKPbc	PKPbc	05 44 31.5	-0.5
GERES	GERESS Array B	146.22	352	PKPbc	PKPbc	05 44 31.5	-0.5
	comp=Z,2.7nm,0.9s,baz=26,slow=3.4,SNR=18						
BR131	Keskin Array S	146.29	321	ePKPdf	PKPbc	05 44 32.8	+0.2
BRTR	Keskin Array B	146.29	321	PKPbc	PKPbc	05 44 32.7	+0.1
BRTR	Keskin Array B	146.29	321	PKPbc	PKPbc	05 44 32.7	+0.1
	comp=Z,8.0nm,0.8s,baz=109,slow=1.6,SNR=22						
VOIR		146.37	336	⇑iP	PKPab	05 44 33.5	+0.1
ARR	Arges	146.59	337	⇑iP	PKPab	05 44 35.5	+1.3
ANTO	Ankara	146.70	322	ePKP2	PKPbc	05 44 33.8	+0.1
ANTO	Ankara	146.70	322	ePKPdf	PKPbc	05 44 33.8	+0.1
CONA	Conrad Observa	146.75	349	⇓ipPKPdf	PKPbc	05 44 33.9	+0.3
	comp=Z,8.6nm,0.9s,SNR=11						
SOP	Sopron	146.85	348	⇓e	PKPab	05 44 34.4	-0.7
MOA	Molln	147.11	351	⇓iPKPab	PKPbc	05 44 34.5	-0.1
	comp=Z,20nm,1.2s,SNR=13						
BFO	Black Forest	147.19	358	ePKP2	PKPbc	05 44 33.9	-0.9
BFO	Black Forest	147.19	358	ePKPdf	PKPbc	05 44 33.9	-0.9
ECH	Echery	147.33	359	ePKP2	PKPbc	05 44 35.1	0.0
ECH	Echery	147.33	359	ePKPbc	PKPbc	05 44 35.1	0.0
ARSA	Arzberg	147.47	349	⇑ipPKPdf	PKPbc	05 44 35.2	-0.3
	comp=Z,7.3nm,1.1s,SNR=7.7						
RETA	Reutte	147.89	355	⇑ipPKPdf	PKPbc	05 44 36.8	+0.1
	comp=Z,7.9nm,1.1s,SNR=8.0						
MOTA	Moosalm	148.00	354	⇓iPKPab	PKPbc	05 44 38.0	+0.9
	comp=Z,7.6nm,1.0s,SNR=5.4						
WTTA	Wattenberg	148.03	354	⇑ipPKPdf	PKPbc	05 44 36.8	-0.5
	comp=Z,8.6nm,0.9s,SNR=5.5						
SOKA	Soboth	148.11	349	⇑ipPKPdf	PKPbc	05 44 36.5	-0.9
	comp=Z,5.8nm,1.3s,SNR=7.5						
DAVA	Damuels	148.16	356	⇑iPKiKP	PKiKP	05 44 38.7	-0.6
	comp=Z,16nm,1.2s,SNR=5.7						
FETA	Feichten	148.35	355	⇑iPKiKP	PKiKP	05 44 39.3	-0.5
	comp=Z,5.9nm,0.9s,SNR=5.8						
MYKA	Terra Mystica	148.39	351	⇑iPKiKP	PKPbc	05 44 38.2	+0.1
	comp=Z,6.6nm,1.0s,SNR=5.9						
ABTA	Abfaltersbach	148.43	352	⇑ipPKPdf	PKPbc	05 44 37.4	-0.8
	comp=Z,8.4nm,0.8s,SNR=8.8						
TUE	Stuetta	149.00	357	ePKPbc	PKPbc	05 44 39.6	-0.3
BNI	Bardonecchia	150.50	0	ePKIKP	PKPbc	05 44 43.4	-0.1
BNI	Bardonecchia	150.50	0	ePKPbc	PKPbc	05 44 43.4	-0.1
PCAB	Cabril	150.89	23	ePKPbc	PKPbc	05 44 44.5	+0.1
POLO	Lamas de Olo	151.27	23	ePKPbc	PKPbc	05 44 45.1	-0.2
PVRL	Vila Real	151.39	23	ePKPbc	PKPbc	05 44 45.4	-0.1
MVO	Moncorvo	151.74	22	ePKPbc	PKPbc	05 44 46.3	-0.1
MVO	Moncorvo	151.74	22	ePKPab	PKPab	05 44 57.4	+2.2
PVIS	Viseu	151.80	24	ePKPbc	PKPbc	05 44 45.8	-0.7
MTE	Manteigas	152.21	24	ePKPbc	PKPbc	05 44 47.0	-0.5
PTOM	Tomar	152.52	26	ePKPbc	PKPbc	05 44 48.0	-0.1
PCBR	Castelo Branco	152.71	24	ePKPbc	PKPbc	05 44 48.2	-0.3
PMRV	Marv??o	153.10	25	ePKPdf	PKPdf	05 44 43.0	+1.0
PMRV	Marv??o	153.10	25	ePKPbc	PKPbc	05 44 49.6	+0.2
PMRV	Marv??o	153.10	25	ePKPab	PKPab	05 44 59.9	-1.0
TORD	Torodi Ar. Bea	174.60	115	PKP	PKPdf	05 44 59.5	-2.7
TORD	Torodi Ar. Bea	174.60	115	PKP	PKPdf	05 44 59.5	-2.7
	comp=Z,1.0nm,1.0s,baz=325,slow=3.4,SNR=5.2						

*IDC **30** 05:25:45.9±0.4, 15°.61S×173°.36W, h0km, mb4.8/28, mb1 5.0/28, mb1mx4.9/33, mbtmp4.8/28, MS4.8/6, Ms1 4.8/6, ms1mx4.5/15, Error ellipse: s-maj=18.2km s-min=12.4km az=150.0*

*NEIC **30** 05:25:47.4±0.2, 15°.54S×173°.37W, h10km, mb5.3/27, Error ellipse: s-maj=13.7km s-min=6.2km az=148.0*

*ISCJB **30** 05:25:50.2±0.3, 15°.66S±0°.07×173°.40W±0°.05, h42km, mb5.0/62, MS4.8/6, Error ellipse: s-maj=10.5km s-min=6.2km az=161.3*

*MOS **30** 05:25:50.0±1.2, 15°.54S×173°.43W, h33km, mb5.5/11, Error ellipse: s-maj=14.4km s-min=9.7km az=47.1*

*SZGRF **30** 05:25:51.7, 15°.87S×173°.07W, h33km, Tonga Islands*

ISC 30 05:25:51.9±0.3, 15°.66S±0°.10×173°.36W±0°.08, h42km, n714, o0%65/703, mb5.1/62, MS4.8/7, 178C-211D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.32	42	LR	LR	05 27 06.2	
	comp=Z,10μm,20.2s,baz=217,slow=35						
MSVF	Nonsavu	8.49	255	eSn	Pn	05 27 59.4	+7.0
RAR	Rarotonga	14.02	115	Pn	Pn	05 29 01.4	-6.6
RAR	Rarotonga	14.02	115	Pn	Pn	05 29 01.4	-6.6
	8.2nm,0.3s,baz=270,slow=6.3,SNR=3.9						
RAO	Raoul Island	14.16	196	LR	LR	05 33 47.4	
	comp=Z,4μm,21.5s,baz=44,slow=34						
DZM	Mont Dzumac	20.14	248	eP	Pn	05 30 28.7	+3.9
	265nm,1.6s						
DZM	Mont Dzumac	20.14	248	eP	P	05 30 22.2	-0.5
	238nm,1.6s						
DZM	Mont Dzumac	20.14	248	LR	LR	05 36 09.1	
	comp=Z,2μm,19.3s,baz=58,slow=31						
PPT2	Papeete2	22.87	98	eP	P	05 30 50.6	-1.4
	115nm,1.2s						
TVO	Taravao	23.18	99	eP	P	05 30 53.5	-1.6
	229nm,1.4s						
URZ	Urewera	24.03	199	LR	LR	05 39 38.0	
	comp=Z,3μm,19.6s,baz=33,slow=35						
PMOR	Pomariorio Ree	24.56	92	eP	P	05 31 07.4	-0.6
	388nm,1.3s						
VAH	Vaihoa	24.80	93	eP	P	05 31 10.2	0.0
	160nm,1.1s						
HNR	Honiara	26.77	280	LR	LR	05 40 06.3	
	comp=Z,2μm,19.4s,baz=120,slow=32						
RPZ	Rata Peaks	30.96	202	LR	LR	05 44 17.9	
	comp=Z,3μm,18.6s,baz=40,slow=36						
CTA	Charters Tower	38.62	257	P	P	05 33 10.8	-0.6
CTA	Charters Tower	38.62	257	P	P	05 33 10.8	-0.6
	1.7nm,0.2s,baz=99,slow=11,SNR=3.2						
PMG	Port Moresby	38.99	274	P	P	05 33 14.2	-0.4
PMG	Port Moresby	38.99	274	P	P	05 33 14.2	-0.4
	14nm,0.8s,baz=103,slow=15,SNR=3.2						
STKA	Stephens Creek	43.94	240	P	P	05 33 54.2	-0.8
STKA	Stephens Creek	43.94	240	P	P	05 33 54.2	-0.8
	21nm,0.9s,baz=80,slow=8.4,SNR=11						
WRAB	Tennant Creek	49.81	257	eP	P	05 34 39.4	-1.6
WRA	Warramunga Arr	49.82	257	P	P	05 34 40.2	-0.9
WRA	Warramunga Arr	49.82	257	P	P	05 34 40.2	-0.9
	16nm,1.1s,baz=91,slow=7.4,SNR=12						
ASAR	Alice Springs	50.07	252	P	P	05 34 42.4	-0.6
ASAR	Alice Springs	50.07	252	P	P	05 34 42.4	-0.6
	51nm,0.8s,baz=84,slow=8.7,SNR=17						
FITZ	Fitzroy Crossi	58.20	258	P	P	05 35 41.7	-0.5
FITZ	Fitzroy Crossi	58.20	258	P	P	05 35 41.7	-0.5
	3.5nm,1.1s,baz=269,slow=0.8,SNR=5.1						
VNDA	Vanda	63.12	186	P	P	05 36 16.6	+1.8
VNDA	Vanda	63.12	186	P	P	05 36 16.6	+1.8
	7.5nm,1.0s,baz=6.6,slow=7.1,SNR=10						
FX1	Attu Island--F	69.25	351	eP	P	05 36 53.3	-1.0
FX1	Attu Island--F	69.25	351	P	P	05 36 53.3	-1.0
	33nm,0.9s,baz=131,slow=23,SNR=5.6						
SBC	Santa Barbara	71.28	45	⇓P	P	05 37 06.7	-0.4
	baz=71						
PKM	Peak Mountain	71.47	44	⇑P	P	05 37 08.2	-0.3
	baz=72						
SMMC	Simmler	71.59	44	⇓P	P	05 37 08.9	-0.1
	baz=72						
CIS	Catalina Islan	71.60	46	⇑P	P	05 37 08.1	-1.0
	baz=72						
OSI	Osito Adit	72.05	45	⇑P	P	05 37 11.4	-0.4
	ba

baz=74,SNR=7.1
TIN Tinemaha 73.76 43 ⇓P P 05 37 22.1 +0.1
baz=74
YBH Yreka Blue Hor 73.78 37 P P 05 37 22.7 +0.7
YBH Yreka Blue Hor 73.78 37 P P 05 37 22.7 +0.7
comp=Z,8.6nm,0.9s,baz=197,slow=3.9,SNR=6.6
BC3 Big Chuckawall 73.80 47 ⇑P P 05 37 22.1 -0.2
baz=74
HEC Hector,Ludlow 73.81 46 ⇑P P 05 37 21.5 -0.8
baz=74,SNR=9.9
GLA Glamis 73.93 48 ⇑P P 05 37 23.3 +0.3
baz=74,SNR=5.4
BEKR Beckworth 74.04 40 eP P 05 37 23.3 -0.4
comp=Z,39nm,1.9s
HUMO Hull Mountain 74.19 36 epP P 05 37 25.4 +1.1
GMRC Granite Mounta 74.25 46 ⇓P P 05 37 24.1 -0.9
baz=74,SNR=7.3
IRM Iron Mountain 74.28 47 ⇓P P 05 37 25.1 +0.1
baz=74,SNR=5.2
GRAC Grapevine Rang 74.30 44 ⇑P P 05 37 25.2 +0.2
baz=74,SNR=5.8
FURC Furnace Creek, 74.34 44 ⇓P P 05 37 25.5 +0.2
baz=74
TUQ Turquoise Moun 74.42 46 ⇓P P 05 37 25.6 -0.4
baz=74
SHOC Shoshone 74.43 45 ⇓P P 05 37 25.2 -0.6
baz=74
Y12C Blythe 74.51 48 ⇓P P 05 37 26.5 +0.2
baz=75,SNR=5.4
113A Mohawk Valley, 74.56 49 ⇓P P 05 37 26.5 -0.1
baz=75,SNR=8.6
NV11 Mina Array Sit 74.59 42 eP P 05 37 27.0 +0.1
214A Organ Pipe Nat 74.85 50 ⇓P P 05 37 28.3 -0.1
baz=75,SNR=5.8
PDMCI Parker Dam,Lak 75.07 47 ⇑P P 05 37 29.7 +0.2
baz=75,SNR=6.8
Z14A Wintersburg 75.45 49 ⇓P P 05 37 32.0 +0.3
baz=76,SNR=6.0
K05A Summer Lake 75.45 37 epP P 05 37 33.0 +1.1
W13A Hualapai Mount 75.66 47 ⇓P P 05 37 33.2 0.0
baz=76,SNR=7.4
Y14A Wickenburg 75.69 48 ⇓P P 05 37 33.4 +0.2
baz=76,SNR=7.8
H04A Detroit Lake 75.94 35 epP P 05 37 34.4 0.0
BKCOR Black Crater 75.97 35 P P 05 37 35.3 +0.7
PINOR Pine Mountain 76.14 36 epP P 05 37 37.4 +2.0
R11A Troy Canyon, C 76.22 43 eP P 05 37 35.2 -1.1
R11A Troy Canyon, C 76.22 43 ⇓P P 05 37 36.4 +0.1
baz=76
BMN Battle Mountai 76.32 41 eP P 05 37 36.4 -0.4
BMN Battle Mountai 76.32 41 eP P 05 37 36.4 -0.3
KSRS Korea Array 76.37 316 P P 05 37 39.0 +2.2
comp=Z,2.9nm,0.8s,baz=128,slow=6.3,SNR=7.9
KSAR Wonju Array Be 76.39 316 P P 05 37 39.0 +2.1
TUC Tucson 76.52 51 eP P 05 37 38.1 +0.1
TUC pmax pmax
comp=Z,82nm,1.8s
TUC Tucson 76.52 51 eP P 05 37 38.1 +0.1
comp=Z,82nm,1.8s
VIPM Ingram Point 76.71 36 P P 05 37 39.4 +0.5
VIPM Ingram Point 76.71 36 P P 05 37 39.4 +0.5
VFP Flag Point 76.74 35 P P 05 37 39.5 +0.4
TDL Tradedollar La 76.99 34 P P 05 37 41.3 +0.9
X16A Lo Mia Camp, P 77.06 48 ⇓P P 05 37 41.5 +0.4
baz=77,SNR=14
I07A Izee 77.08 37 epP P 05 37 41.7 +0.8
319A Douglas 77.22 52 ⇓P P 05 37 42.3 +0.3
baz=77,SNR=6.7
GLK Glacier Lake 77.45 34 P P 05 37 43.5 +0.5
U15A North Rim 77.45 46 ⇓P P 05 37 43.7 +0.3
baz=78,SNR=8.2
LON Longmire 77.46 33 eP P 05 37 43.0 +0.1
LON Longmire 77.46 33 epP P 05 37 43.0 +0.1
WPW White Pass 77.56 34 P P 05 37 44.0 +0.5
USRK Ussuriysk Arra 77.61 323 P P 05 37 44.4 +0.7
comp=Z,3.6nm,0.9s,baz=105,slow=4.3,SNR=5.5
D05A Enumclaw 77.64 33 epP P 05 37 45.5 +1.7
WUAZ Wupatki 77.64 47 eP P 05 37 44.6 +0.3
comp=Z,28nm,1.3s
WUAZ Wupatki 77.64 47 ⇑P P 05 37 45.1 +0.7
baz=78,SNR=8.0
320A Kipp Ranch, An 77.78 52 ⇓P P 05 37 45.8 +0.7
baz=78,SNR=9.1
SEW Seward 77.94 12 eP P 05 37 44.8 -0.3
220A Playas Peak, P 78.03 52 ⇑P P 05 37 47.2 +0.7
baz=78,SNR=12
G08A Pilot Rock 78.12 36 epP P 05 37 47.1 +0.4
X18A Snowflake 78.19 49 ⇓P P 05 37 47.7 +0.3
baz=78,SNR=10
120A U Bar Ranch, L 78.24 51 ⇓P P 05 37 48.0 +0.3
baz=78,SNR=7.8
Z20A Nine Sixteen R 78.53 51 ⇑P P 05 37 49.7 +0.4
baz=79,SNR=11
MVU Marysvale 78.56 45 eP P 05 37 50.1 +0.7
comp=Z,12nm,0.7s
W18A Petrified Fore 78.62 49 ⇑P P 05 37 50.1 +0.3
baz=79
221A Mesquite Ranch 78.65 52 ⇓P P 05 37 50.0 +0.1
baz=79,SNR=5.6
BMO Blue Mountains 78.81 37 eP P 05 37 50.0 -0.5
BMO pmax pmax
comp=Z,35nm,1.3s
BMO Blue Mountains 78.81 37 eP P 05 37 50.0 -0.4
comp=Z,35nm,1.3s
MFID Camas Ranch 78.86 39 ⇓P P 05 37 50.5 -0.3
baz=79,SNR=10.0
121A Cookes Peak, D 78.88 52 ⇓P P 05 37 51.5 +0.3
baz=79,SNR=8.4
DUG Dugway 79.02 43 eP P 05 37 50.8 -1.0
DUG pmax pmax
comp=Z,24nm,1.1s
DUG Dugway 79.02 43 eP P 05 37 50.8 -1.0
comp=Z,24nm,1.1s
DUG Dugway 79.02 43 ⇑P P 05 37 51.9 +0.1
baz=79
Y20A Horse Springs, 79.06 50 ⇓P P 05 37 52.6 +0.3
baz=79,SNR=11
222A Williams Famil 79.20 52 ⇑P P 05 37 53.1 +0.1
baz=79
X20A Quemado 79.26 50 ⇑P P 05 37 53.5 +0.1
baz=79,SNR=12
Z21A St. Cloud Mine 79.31 51 ⇓P P 05 37 54.4 +0.7
baz=79,SNR=11
Q16A Castle Valley 79.47 45 eP P 05 37 54.9 +0.5
Q16A Castle Valley 79.47 45 ⇓P P 05 37 55.0 +0.6
baz=80
F10A Beach Ranch, E 79.50 36 epP P 05 37 54.4 +0.1
OD2 Odessa Site #2 79.52 34 P P 05 37 54.5 +0.3
W20A Ramah 79.52 49 ⇑P P 05 37 55.3 +0.5
baz=80,SNR=14
122A Conniff Cattle 79.54 52 ⇓P P 05 37 55.6 +0.8
baz=80
WRAK Wrangell Islan 79.58 22 eP P 05 37 54.3 +0.1
Y21A Point of Rocks 79.62 50 ⇑P P 05 37 55.9 +0.6
baz=80,SNR=9.1
223A Chaparral, Ant 79.68 53 ⇑P P 05 37 56.1 +0.6
baz=80
X21A Alamocita Cree 79.73 50 ⇓P P 05 37 56.4 +0.5
baz=80,SNR=7.5
HLID Hailey 79.80 39 ⇓P P 05 37 56.5 +0.5
baz=80,SNR=15
Z22A Elephant Butte 79.81 51 ⇑P P 05 37 56.7 +0.4
baz=80,SNR=11
V20A Brimhall 79.86 48 ⇑P P 05 37 56.8 +0.3
baz=80,SNR=7.0
C09A Chrisman Ranch 80.00 34 epP P 05 37 57.1 +0.4
123A Bell Site, Whi 80.08 52 ⇑P P 05 37 58.2 +0.5
baz=80
U20A Newcomb 80.09 48 ⇑P P 05 37 58.0 +0.2
baz=80,SNR=15
Y22A Socorro 80.12 51 ⇑P P 05 37 58.4 +0.4
baz=80,SNR=9.0
W21A San Fidel 80.14 49 ⇓P P 05 37 58.6 +0.5
baz=80
324A Moseley Ranch, 80.16 53 ⇑P P 05 37 58.1 -0.1
baz=80,SNR=15
LAZ Ladron 80.19 50 eP P 05 37 58.7 +0.3
comp=Z,38nm,1.8s
Y22D IRIS PASSCAL I 80.21 51 ⇓P P 05 37 59.1 +0.7
baz=80
425A Indio Mountain 80.27 54 ⇑P P 05 37 59.2 +0.4
baz=80,SNR=12
X22A Bernardo 80.33 50 ⇑P P 05 37 59.3 +0.2
baz=80
MNTX Cornudas Mount 80.35 53 eP P 05 37 59.2 +0.2
comp=Z,66nm,1.7s
Z23A Rita Site, Whi 80.37 52 ⇓P P 05 37 59.6 +0.3
baz=80,SNR=5.8
224A Cornudas Mount 80.40 53 ⇓P P 05 37 59.7 +0.2
baz=80,SNR=13
626A Big Bend Ranch 80.44 56 ⇓P P 05 38 00.1 +0.5
baz=80,SNR=11
BNM Barren Site 80.46 51 eP P 05 38 00.0 +0.2
comp=Z,16nm,1.1s
MVCO Mesa Verde 80.49 47 eP P 05 37 59.4 -0.6
MVCO Mesa Verde 80.49 47 ⇑P P 05 37 59.7 -0.2
baz=81
HWUT Hardware Ranch 80.56 42 eP P 05 37 59.7 -0.4
comp=Z,30nm,1.4s
526A Mary Lane Ranc 80.68 55 ⇑P P 05 38 01.0 0.0
baz=81
W22A Albuquerque 80.69 50 ⇓P P 05 38 01.2 +0.2
baz=81
124A Stringfield Ra 80.72 52 ⇑P P 05 38 01.6 +0.3
baz=81,SNR=7.0
TXAR Lajitas Array 80.72 56 P P 05 38 01.3 +0.1
TXAR Lajitas Array 80.72 56 P P 05 38 01.3 +0.1
comp=Z,13nm,1.1s,baz=224,slow=5.2,SNR=22
U21A Nageezi 80.73 48 ⇓P P 05 38 01.5 +0.3
baz=81,SNR=19
Y23A Lovelace Mesa, 80.79 51 ⇓P P 05 38 01.5 -0.1
baz=81,SNR=7.6
PV01 Paradox Valley 80.87 46 eP P 05 38 02.2 +0.2
comp=Z,3μm,1.2s
TRF Thorofare Moun 80.87 10 eP P 05 38 00.5 -0.8
comp=Z,16nm,1.0s
S20A Disappointment 80.88 47 ⇑P P 05 38 02.4 +0.4
baz=81,SNR=9.0
NEW Newport 80.90 34 P P 05 38 00.8 -0.8
NEW Newport 80.90 34 P P 05 38 00.8 -0.8
comp=Z,6.2nm,1.0s,baz=241,slow=5.3,SNR=6.1
NEW Newport 80.90 34 ⇑P P 05 38 01.4 -0.2
baz=81,SNR=6.0
ANMO Albuquerque 80.94 50 P P 05 38 02.6 +0.3
ANMO Albuquerque 80.94 50 P P 05 38 02.6 +0.3
comp=Z,16nm,1.0s,baz=223,slow=6.2,SNR=16
225A Deer Hill, Car 80.95 53 ⇑P P 05 38 02.7 +0.3
baz=81,SNR=11
426A McDonald Obser 80.98 55 ⇓P P 05 38 03.0 +0.3
baz=81,SNR=14
X23A Hourglass Bar 80.98 50 ⇑P P 05 38 02.7 +0.1
baz=81,SNR=8.1
627A Terlingua Ranc 80.99 56 ⇓P P 05 38 03.0 +0.3
baz=81,SNR=13
R20A Redvale 81.03 46 ⇓P P 05 38 02.9 +0.1
baz=81,SNR=6.3
V22A San Miguel Ran 81.04 49 ⇓P P 05 38 03.3 +0.4
baz=81,SNR=6.8
Z24A Sheeppen Canyo 81.05 52 ⇑P P 05 38 03.0 0.0
baz=81,SNR=5.6
T21A Navajo Lake 81.07 48 ⇑P P 05 38 03.4 +0.3
baz=81,SNR=9.8
M17A Scullys Gap (B 81.08 43 ⇓P P 05 38 02.4 -0.6
baz=81
527A Woodward Ranch 81.09 55 ⇓P P 05 38 03.0 -0.2
baz=81,SNR=9.1
S21A Coal Bank Pass 81.20 47 ⇓P P 05 38 03.8 -0.1
baz=81
Y24A Capitan 81.25 51 ⇑P P 05 38 04.3 +0.3
baz=81,SNR=16
W23A Werner Place, 81.26 50 ⇑P P 05 38 04.2 +0.1
baz=81,SNR=15
326A Caldwell Ranch 81.28 54 ⇓P P 05 38 04.2 +0.1
baz=81,SNR=6.7
U22A Llaves 81.28 48 ⇓P P 05 38 04.6 +0.4
baz=81,SNR=7.5
P19A Cripple Cowboy 81.30 45 ⇑P P 05 38 04.4 +0.2
baz=81,SNR=5.4
125A Gardner Draw, 81.31 53 ⇑P P 05 38 04.4 +0.1
baz=81,SNR=8.7
628A Black Gap, Mar 81.41 56 ⇓P P 05 38 04.9 +0.1
baz=82,SNR=9.2
MCMT McKenzie Canyo 81.43 39 P P 05 38 05.5 +0.7
AHID Auburn Hatcher 81.45 41 eP P 05 38 04.7 -0.1
comp=Z,32nm,1.3s
226B Tecolote Peak, 81.45 53 ⇓P P 05 38 05.2 +0.2
baz=82,SNR=12
HYT Haines Junctio 81.45 17 eP P 05 38 04.2 -0.2
Q20A Ridgley Place, 81.45 46 ⇓P P 05 38 04.7 -0.2
baz=82,SNR=12
V23A Ortiz Mt. (NFS 81.49 49 ⇓P P 05 38 06.1 +0.8
baz=82,SNR=9.3
O19A Miners Draw (B 81.52 44 ⇓P P 05 38 05.1 -0.2
baz=82
Z25A Roswell 81.52 52 ⇓P P 05 38 05.6 +0.2
baz=82,SNR=9.0
X24A Lazy VL Ranch, 81.53 51 ⇑P P 05 38 05.5 0.0
baz=82
T22A Edith 81.53 48 ⇓P P 05 38 05.7 +0.1
baz=82,SNR=6.4
427A Hayter Ranch, 81.54 55 ⇑P P 05 38 05.8 +0.2
baz=82,SNR=12
RRI2 Red Ridge 81.60 41 eP P 05 38 05.6 -0.2
comp=Z,27nm,1.3s
P20A De Beque 81.64 45 ⇓P P 05 38 06.2 +0.3
baz=82,SNR=8.4
327A Balmorhea Ranc 81.68 54 ⇑P P 05 38 06.5 +0.3
baz=82
R21A Cimarron 81.69 46 ⇓P P 05 38 06.8 +0.4
baz=82,SNR=12
MENT Mentasta 81.70 13 eP P 05 38 05.4 -0.1
L18A Fontenelle, Gr 81.71 42 ⇑P P 05 38 06.1 -0.2
baz=82
U23A El Rito 81.74 49 ⇓P P 05 38 07.0 +0.4
baz=82,SNR=16
528A Cox Ranch, San 81.75 56 ⇓P P 05 38 06.9 +0.2
baz=82,SNR=9.6
126A Clayton Basin, 81.79 53 ⇑P P 05 38 06.4 -0.4
baz=82,SNR=8.4
Y25A Mesa, Roswell 81.81 51 ⇑P P 05 38 06.8 -0.2
baz=82,SNR=8.5
W24A Lazy 6 Ranch, 81.83 50 ⇓P P 05 38 06.7 -0.3
baz=82,SNR=9.6
MSO Missoula 81.86 37 ⇑P P 05 38 06.0 -0.9
baz=82,SNR=11
Q21A Lamborn Mesa, 81.89 46 ⇓P P 05 38 07.9 +0.6
baz=82,SNR=8.9
TPAW Teton Pass 81.91 41 eP P 05 38 06.8 -0.6
S22A 4JR Ranch, Cre 81.92 47 ⇓P P 05 38 07.8 +0.2
baz=82,SNR=15
DLBC Dease Lake 81.93 21 P P 05 38 06.8 -0.1
DLBC Dease Lake 81.93 21 P P 05 38 06.8 -0.1
comp=Z,5.8nm,1.0s,baz=232,slow=7.3,SNR=4.9
BSMT Bassoo Peak 81.95 35 P P 05 38 07.0 -0.4
O20A White River Ci 82.04 45 eP P 05 38 07.9 -0.2
O20A White River Ci 82.04 45 ⇓P P 05 38 08.1 0.0
baz=82
428A Kincaid Ranch, 82.06 55 ⇑P P 05 38 08.8 +0.6
baz=82,SNR=7.2
M19A Rock Springs 82.08 43 ⇑P P 05 38 08.3 0.0
baz=82
Z26A Caprock 82.08 52 ⇑P P 05 38 08.3 0.0
baz=82,SNR=12
X25A Clemmons Ranch 82.09 51 ⇓P P 05 38 08.4 0.0
baz=82,SNR=14
227A Bennet, Jal 82.10 54 ⇑P P 05 38 08.0 -0.4
baz=82
V24A Rampart Ranch, 82.15 50 ⇑P P 05 38 08.7 -0.1
baz=82,SNR=8.0
T23A Casias Ranch, 82.16 48 ⇓P P 05 38 09.0 +0.1
baz=82,SNR=9.1
JTMT Jette 82.17 36 eP P 05 38 07.2 -1.3
529A Stev Forest Ra 82.19 56 ⇑P P 05 38 08.8 -0.1
baz=82,SNR=6.7
328A Wristen Ranch, 82.22 54 ⇑P P 05 38 08.8 -0.2
baz=82,SNR=8.1
P21A Newcastle 82.29 45 ⇑P P 05 38 09.4 0.0
baz=82,SNR=6.3
127A Arkansas Junct 82.31 53 ⇓P P 05 38 09.4 -0.1
baz=82,SNR=7.4
N20A Spence Gulch, 82.35 44 ⇑P P 05 38 10.0 +0.2
baz=82,SNR=8.3
I17A Pilgrim Ck. 82.36 40 ⇓P P 05 38 10.1 +0.4
baz=82
Q22A Crested Butte, 82.36 46 ⇓P P 05 38 10.4 +0.5
baz=82,SNR=14
BW06 Boulder Array 82.43 42 eP P 05 38 09.2 -0.9
comp=Z,54nm,1.5s
PDAR Pinedale Array 82.43 42 P P 05 38 10.1 -0.1
PDAR Pinedale Array 82.43 42 P P 05 38 10.1 -0.1
comp=Z,12nm,1.0s,baz=223,slow=3.7,SNR=20
U24A Moreno Valley 82.44 49 ⇑P P 05 38 11.3 +0.9
baz=82,SNR=6.1
YFT Old Faithful 82.47 40 eP P 05 38 11.1 +0.8
comp=Z,38nm,1.2s
Y26A Elida 82.47 52 ⇑P P 05 38 10.0 -0.4
baz=82
S23A Nye Farm, Mont 82.48 48 ⇑P P 05 38 10.7 +0.1
baz=83
YMR Madison River 82.50 40 eP P 05 38 11.4 +1.0
comp=Z,138nm,1.5s
W25A X Bar L Ranch, 82.53 50 ⇑P P 05 38 09.9 -0.8
baz=83,SNR=12
BOZ Bozeman (W) 82.59 39 eP P 05 38 10.6 -0.2
BOZ pmax pmax
comp=Z,57nm,1.5s
BOZ Bozeman (W) 82.59 39 eP P 05 38 10.6 -0.2
comp=Z,57nm,1.5s
O21A Pagoda 82.60 45 ⇓P P 05 38 11.1 0.0
baz=83
H17A Grant Village 82.60 40 eP P 05 38 12.3 +1.3
H17A Grant Village 82.60 40 ⇑P P 05 38 11.7 +0.7
baz=83,SNR=7.6
COLA College 82.61 11 iP P 05 38 09.9 -0.3
429A Davenport Ranc 82.64 55 ⇓P P 05 38 11.0 -0.2
baz=83,SNR=12
T24B San Luis 82.65 48 ⇑P P 05 38 11.9 +0.4
baz=83,SNR=12
V25A Rancho No Teng 82.68 50 ⇑P P 05 38 11.7 +0.2
baz=83,SNR=22
228A UT Block 9, Go 82.68 54 ⇓P P 05 38 11.2 -0.2
baz=83,SNR=6.8
Z27A Tatum 82.68 53 ⇓P P 05 38 11.2 -0.3
baz=83,SNR=7.4
ILAR Eielson Array 82.69 11 P P 05 38 10.3 -0.3
ILAR Eielson Array 82.69 11 P P 05 38 10.3 -0.3
comp=Z,3.2nm,0.8s,baz=224,slow=5.8,SNR=7.6
YNR Norris Junctio 82.70 40 eP P 05 38 12.9 +1.5
comp=Z,58nm,1.6s
IM04 Indian Mountai 82.71 8 eP P 05 38 10.4 -0.4
M20A Sweetwater, Wa 82.71 43 ⇑P P 05 38 11.6 0.0
baz=83,SNR=9.1
X26A CR and CF Fran 82.74 51 ⇓P P 05 38 11.4 -0.4
baz=83,SNR=5.5
SEY Seymchan 82.78 345 ceP P 05 38 10.3 -0.8
LKWY Lake 82.79 40 eP P 05 38 13.3 +1.3
LKWY pmax pmax
comp=Z,57nm,1.3s
LKWY Lake 82.79 40 eP P 05 38 13.3 +1.4
comp=Z,57nm,1.3s
P22A Eagle 82.80 46 ⇑P P 05 38 11.9 -0.2
baz=83,SNR=11
N21A Black Mountain 82.82 44 ⇑P P 05 38 12.4 +0.2
baz=83,SNR=9.2
R23A Moffat 82.82 47 ⇓P P 05 38 12.8 +0.5
baz=83,SNR=9.6
L20A Wamsutter 82.86 43 ⇑P P 05 38 12.7 +0.4
baz=83,SNR=12
SDCO Great Sand Dun 82.86 48 eP P 05 38 12.2 -0.3
comp=Z,71nm,1.8s
530A J-C Ranch, Com 82.91 56 ⇓P P 05 38 12.5 -0.1
baz=83,SNR=6.6
329A Wagon Wheel Ra 82.91 55 ⇓P P 05 38 12.5 -0.1
baz=83,SNR=9.4
K19A Absolon Red Bu 82.92 42 ⇓P P 05 38 11.9 -0.7
baz=83,SNR=7.3
Y27A Causey 82.95 52 ⇓P P 05 38 12.5 -0.4
baz=83,SNR=11
128A Castleberry Fa 82.97 53 ⇓P P 05 38 12.7 -0.2
baz=83,SNR=6.8
W26A Owens Ranch, T 83.00 51 ⇓P P 05 38 12.7 -0.4
baz=83,SNR=7.0
J19A Crowheart 83.00 42 ⇑P P 05 38 12.5 -0.4
baz=83,SNR=9.9
S24A Houchin Ranch, 83.02 48 ⇑P P 05 38 13.7 +0.3
baz=83,SNR=11
U25A Circle Dot Ran 83.07 49 ⇑P P 05 38 13.4 -0.1
baz=83,SNR=17
WALA Waterton Lakes 83.10 35 eP P 05 38 12.4 -0.9
comp=Z,1.0nm,1.4s
Q23A Hartsel 83.13 47 ⇑P P 05 38 14.1 +0.2
baz=83,SNR=12
K20A Yellowstone Ra 83.16 42 ⇑P P 05 38 13.4 -0.4
baz=83,SNR=9.5
O22A Kremmling 83.20 45 ⇑P P 05 38 14.4 +0.1
baz=83,SNR=11
430A Baggett Ranch, 83.23 56 ⇑P P 05 38 14.2 -0.1
baz=83
631A Perdido Creek 83.24 57 ⇓P P 05 38 13.7 -0.6
baz=83,SNR=10
V26A Tequesquite Ra 83.27 50 ⇓P P 05 38 14.0 -0.5
baz=83,SNR=7.6
MSTX Muleshoe 83.29 52 ⇓P P 05 38 14.5 -0.1
baz=83,SNR=13
H18A Shoshone NF, C 83.30 40 ⇓P P 05 38 14.5 -0.1
baz=83
Z28A Tucker Farm, M 83.31 53 ⇓P P 05 38 14.3 -0.4
baz=83,SNR=11
M21A Separation Pea 83.31 44 ⇑P P 05 38 14.4 -0.3
baz=83,SNR=10
X27A F and S Farms, 83.31 51 ⇓P P 05 38 14.6 -0.1
baz=83,SNR=9.7
P23A Jefferson 83.34 46 ⇑P P 05 38 15.6 +0.5
baz=83,SNR=7.5
R24A Sanders Place, 83.35 47 ⇓P P 05 38 15.0 +0.1
baz=83,SNR=11
T25A Trinidad 83.38 49 ⇑P P 05 38 14.9 -0.2
baz=84,SNR=6.4
I19A Meeteetse 83.41 41 ⇑P P 05 38 15.0 -0.1
baz=84,SNR=7.1
129A Stewart Farms, 83.45 54 ⇓P P 05 38 15.2 -0.2
baz=84,SNR=8.0
L21A Rawlins 83.47 43 ⇓P P 05 38 15.0 -0.5
baz=84,SNR=7.6
732A Laxson Ranch, 83.48 58 ⇓P P 05 38 15.2 -0.3
baz=84
W27A Bowe Ranch, En 83.51 51 ⇓P P 05 38 15.2 -0.5
baz=84,SNR=15
330A Mertzon 83.52 55 ⇓P P 05 38 15.0 -0.7
baz=84
531A Rocksprings 83.55 56 ⇓P P 05 38 15.7 -0.2
baz=84,SNR=9.5
U26A Atchley Ranch, 83.55 50 ⇓P P 05 38 15.7 -0.3
baz=84,SNR=13
N22A Wattenberg Ran 83.56 45 ⇑P P 05 38 16.4 +0.4
baz=84,SNR=7.7
S25A Robets Cordova 83.58 48 ⇑P P 05 38 16.0 -0.2
baz=84,SNR=16
Q24A Divide 83.64 47 ⇑P P 05 38 16.5 -0.1
baz=84,SNR=13
O23A Lake Granby, G 83.66 45 ⇑P P 05 38 16.8 +0.2
baz=84,SNR=7.3
J20A Shoshoni 83.66 42 ⇑P P 05 38 16.3 0.0
baz=84,SNR=11
Y28A McKinney Farm, 83.66 52 ⇓P P 05 38 15.9 -0.6
baz=84
DAWY Dawson 83.66 14 eP P 05 38 14.4 -1.3
ISCO Idaho Springs 83.68 46 ⇑P P 05 38 16.9 +0.2
baz=84,SNR=7.0
431A Sonora 83.69 56 ⇑P P 05 38 17.8 +1.1
baz=84
H19A Powell 83.72 40 ⇓P P 05 38 16.6 0.0
baz=84,SNR=11
M22A Cedar Creek Ra 83.73 44 ⇑P P 05 38 16.4 -0.4
baz=84,SNR=5.5
230A Sterling City 83.75 55 ⇓P P 05 38 16.2 -0.7
baz=84
RLMT Red Lodge 83.77 40 eP P 05 38 17.0 0.0
comp=Z,36nm,1.4s
Z29A Hungry Hill Ra 83.82 53 ⇓P P 05 38 16.7 -0.6
baz=84,SNR=8.3
GCMT Greycliff 83.85 39 eP P 05 38 17.4 +0.1
comp=Z,48nm,1.5s
EGAK Eagle 83.86 13 eP P 05 38 14.9 -1.8
comp=Z,12nm,1.1s
K21A Alcova 83.86 43 ⇓P P 05 38 17.2 -0.2
baz=84,SNR=13
R25A Fountain Ranch 83.90 48 ⇑P P 05 38 17.5 -0.2
baz=84,SNR=5.4
632A Uvalde 83.91 57 ⇓P P 05 38 18.2 +0.4
baz=84,SNR=5.7
I20A Worland 83.92 41 ⇓P P 05 38 17.6 0.0
baz=84,SNR=10.0
N23A Red Feather La 83.94 45 ⇑P P 05 38 17.6 -0.3
baz=84,SNR=5.6
X28A Dimmitt 83.94 52 ⇓P P 05 38 17.4 -0.5
baz=84,SNR=11
V27A Dan Oppiter Fa 83.96 50 ⇓P P 05 38 17.5 -0.5
baz=84,SNR=8.4
T26A Comanche Natio 83.99 49 ⇓P P 05 38 17.0 -1.2
baz=84,SNR=6.5
532A Rocksprings 84.05 57 ⇓P P 05 38 18.2 -0.3
baz=84,SNR=7.7

P24A **Kohler Place,** 84.05 46 ⇓P P 05 38 18.3 -0.2
baz=84
J21A **Lysite** 84.07 42 ⇑P P 05 38 18.5 0.0
baz=84,SNR=16
331A **San Angelo** 84.07 55 ⇑P P 05 38 17.9 -0.7
baz=84
Y29A **Porterfield Fa** 84.08 53 ⇓P P 05 38 18.2 -0.5
baz=84,SNR=9.6
L22A **Ellis Ranch, M** 84.12 44 ⇓P P 05 38 19.1 +0.2
baz=84,SNR=6.4
130A **Snyder** 84.14 54 ⇑P P 05 38 18.2 -0.7
baz=84,SNR=6.7
O24A **Longmont** 84.20 46 ⇓P P 05 38 19.6 +0.4
baz=84,SNR=6.2
W28A **Vega** 84.23 51 ⇓P P 05 38 18.5 -0.9
baz=84
U27A **Thompson Grove** 84.24 50 ⇑P P 05 38 18.7 -0.7
baz=84,SNR=7.0
Q25A **Bedland, Calha** 84.25 47 ⇑P P 05 38 18.9 -0.7
baz=84
H20A **Greybull** 84.25 41 ⇑P P 05 38 18.7 -0.6
baz=84,SNR=6.2
JCT **Junction City** 84.26 56 ⇓P P 05 38 18.8 -0.7
baz=84
S26A **Kim** 84.26 49 ⇑P P 05 38 18.9 -0.6
baz=84,SNR=11
Z30A **Sanderson Ranc** 84.28 53 ⇓P P 05 38 19.0 -0.6
baz=84,SNR=11
X29A **Tulia** 84.29 52 ⇑P P 05 38 19.2 -0.5
baz=84,SNR=8.3
F19A **Roth Farm, Mol** 84.32 39 ⇑P P 05 38 19.7 +0.1
baz=84,SNR=11
K22A **Casper** 84.35 43 ⇓P P 05 38 19.3 -0.6
baz=84,SNR=5.0
M23A **Laramie** 84.35 44 ⇑P P 05 38 19.0 -1.0
baz=84
I21A **Big Trails, Te** 84.38 42 ⇓P P 05 38 19.3 -0.8
baz=84,SNR=10
231A **Bronte** 84.39 55 ⇓P P 05 38 19.3 -0.9
baz=84,SNR=7.6
432A **Menard** 84.41 56 ⇑P P 05 38 19.4 -1.0
baz=84,SNR=5.5
V28A **Channing** 84.41 51 ⇑P P 05 38 19.9 -0.4
baz=84,SNR=6.0
G20A **Bridger** 84.47 40 ⇓P P 05 38 19.9 -0.5
baz=85
P25A **Willow Gulch B** 84.56 47 ⇓P P 05 38 20.9 -0.1
baz=85,SNR=8.2
R26A **Arlington** 84.56 48 ⇑P P 05 38 20.1 -1.0
baz=85,SNR=8.2
T27A **Campo** 84.58 49 ⇓P P 05 38 20.5 -0.6
baz=85,SNR=5.5
W29A **Amraillo** 84.60 51 ⇑P P 05 38 21.0 -0.2
baz=85,SNR=9.3
131A **Roby** 84.62 54 ⇑P P 05 38 20.5 -0.8
baz=85,SNR=7.6
N24A **Carr** 84.64 45 ⇑P P 05 38 21.7 +0.3
baz=85,SNR=6.9
332A **Millersview** 84.64 56 ⇓P P 05 38 21.0 -0.5
baz=85,SNR=8.4
L23A **Garrett** 84.65 44 ⇑P P 05 38 21.0 -0.5
baz=85,SNR=10
U28A **Mallet** 84.67 50 ⇑P P 05 38 20.7 -0.8
baz=85,SNR=5.7
Y30A **Stafford Cattl** 84.68 53 ⇓P P 05 38 20.9 -0.7
baz=85,SNR=6.0
S27A **Las Animas** 84.70 49 ⇑P P 05 38 21.0 -0.7
baz=85
E19A **Rath Farm, Rou** 84.72 39 ⇑P P 05 38 21.3 -0.3
baz=85,SNR=10.0
J22A **Midwest** 84.72 42 ⇓P P 05 38 21.2 -0.5
baz=85
Q26A **Hugo** 84.77 47 ⇑P P 05 38 21.4 -0.7
baz=85,SNR=6.7
F20A **Billings** 84.79 40 ⇓P P 05 38 21.4 -0.5
baz=85,SNR=5.2
O25A **Wiggins** 84.85 46 ⇑P P 05 38 22.3 -0.2
baz=85
232A **Coleman** 84.90 55 ⇑P P 05 38 22.4 -0.3
baz=85,SNR=10
EGMT **Eagleton** 84.91 37 ⇑P P 05 38 22.3 -0.2
baz=85,SNR=6.5
X30A **Coker Ranch, T** 84.92 52 ⇓P P 05 38 22.5 -0.3
baz=85,SNR=5.1
H21A **Big Horn, Sher** 84.92 41 ⇓P P 05 38 22.3 -0.4
baz=85
I22A **9 Mile Ranch,** 84.94 42 ⇑P P 05 38 22.9 +0.1
baz=85,SNR=7.2
M24A **Cheyenne** 84.95 45 ⇑P P 05 38 23.0 0.0
baz=85
K23A **Bowen Ranch, D** 84.98 43 ⇑P P 05 38 22.7 -0.4
baz=85
V29A **Stinnett** 84.99 51 ⇓P P 05 38 22.7 -0.5
baz=85
D19A **Cripps Ranch,** 85.00 38 ⇓P P 05 38 22.8 -0.1
baz=85,SNR=7.5
R27A **Eads** 85.02 48 ⇓P P 05 38 22.6 -0.7
baz=85,SNR=6.3
T28A **Walsh** 85.05 49 ⇓P P 05 38 22.2 -1.2
baz=85,SNR=7.3
Z31A **Sharp Cattle R** 85.05 54 ⇑P P 05 38 22.9 -0.6
baz=85,SNR=12
G21A **Lodge Grass** 85.10 40 ⇑P P 05 38 23.1 -0.4
baz=85
L24A **Wheatland** 85.13 44 ⇓P P 05 38 23.4 -0.4
baz=85
E20A **Meyer Farm, Mu** 85.13 39 ⇑P P 05 38 23.7 +0.1
baz=85,SNR=6.5
P26A **Davis Ranch, A** 85.16 47 ⇓P P 05 38 23.3 -0.7
baz=85
N25A **Grover** 85.17 45 ⇓P P 05 38 23.9 -0.2
baz=85
ABTX **Abilene, Hawle** 85.18 54 *e*P P 05 38 23.8 -0.4
ABTX **Abilene, Hawle** 85.18 54 ⇑P P 05 38 23.7 -0.4
baz=85,SNR=14
C19A **Slack Wire Ran** 85.18 38 ⇑P P 05 38 24.1 +0.3
baz=85,SNR=10
Y31A **Rekieta Farm,** 85.20 53 ⇑P P 05 38 23.7 -0.5
baz=85,SNR=8.6
J23A **Dilts Ranch, B** 85.32 43 ⇓P P 05 38 23.5 -1.3
baz=85
H22A **Clearmont** 85.34 41 ⇑P P 05 38 24.4 -0.3
baz=85
S28A **Manter** 85.39 49 ⇓P P 05 38 24.1 -1.1
baz=86,SNR=7.6
U29A **Oasis Ranch, S** 85.40 50 ⇑P P 05 38 24.1 -1.1
baz=86
D20A **Manuel Ranch,** 85.41 38 ⇑P P 05 38 25.0 0.0
baz=86,SNR=7.8
W30A **Crocket Farms** 85.43 52 ⇑P P 05 38 24.7 -0.7
baz=86
F21A **Absaloka Mine,** 85.43 40 ⇓P P 05 38 25.6 +0.5
baz=86
KSCO **Kaye Shedlock'** 85.44 48 *e*P P 05 38 24.8 -0.7
KSCO **Kaye Shedlock'** 85.44 48 ⇓P P 05 38 25.1 -0.3
baz=86
M25A **Palm-Egli Farm** 85.46 45 ⇑P P 05 38 25.3 -0.2
baz=86
O26A **Horse Wrangler** 85.47 46 ⇑P P 05 38 25.4 -0.1
baz=86
K24A **Anderson Ranch** 85.51 43 ⇑P P 05 38 25.5 -0.2
baz=86
Z32A **Haskell** 85.56 54 ⇓P P 05 38 25.8 -0.2
baz=86,SNR=16
V30A **Spur Ranch, Mi** 85.57 51 ⇓P P 05 38 26.2 +0.2
baz=86
B19A **Brinkman Farms** 85.60 37 ⇓P P 05 38 25.8 -0.1
baz=86,SNR=8.7
I23A **Meade Ranch, G** 85.63 42 ⇑P P 05 38 25.7 -0.5
baz=86
T29A **Hugoton** 85.66 50 ⇓P P 05 38 25.4 -1.1
baz=86
G22A **Birney** 85.67 41 ⇑P P 05 38 26.0 -0.3
baz=86
X31A **McDonald Ranch** 85.67 52 ⇓P P 05 38 25.3 -1.3
baz=86,SNR=6.0
P27A **Ficken Ranch,** 85.70 47 ⇓P P 05 38 25.7 -0.9
baz=86
R28A **Tribune** 85.75 48 ⇑P P 05 38 26.5 -0.4
baz=86,SNR=7.5
N26A **Koester Ranch,** 85.78 46 ⇓P P 05 38 26.8 -0.2
baz=86
C20A **Veseth Ranch,** 85.79 38 ⇓P P 05 38 27.0 +0.2
baz=86,SNR=7.0
E21A **Keefer Ranch,** 85.79 39 ⇓P P 05 38 27.0 +0.1
baz=86,SNR=5.0
L25A **Engebretsen Ra** 85.83 44 ⇓P P 05 38 27.2 0.0
baz=86

Y32A **R-V Farms, Ver** 85.85 53 ⇓P P 05 38 27.3 -0.2
baz=86,SNR=9.9
J24A **Dixon Ranch, L** 85.87 43 ⇑P P 05 38 26.7 -0.8
baz=86
U30A **WK&E Inc. Balk** 85.89 50 ⇑P P 05 38 26.8 -0.8
baz=86
W31A **Holland Ranch,** 85.91 52 ⇑P P 05 38 27.3 -0.4
baz=86,SNR=5.8
H23A **Clabaugh Cattl** 85.94 42 ⇓P P 05 38 27.0 -0.7
baz=86
A19A **Klindworth Far** 85.94 37 ⇓P P 05 38 27.5 -0.1
baz=86,SNR=5.4
F22A **Rosebud** 85.95 40 ⇓P P 05 38 26.9 -0.8
baz=86
S29A **Ulysses** 85.97 49 ⇑P P 05 38 27.5 -0.5
baz=86
O27A **Beecher Island** 86.03 47 ⇓P P 05 38 28.0 -0.3
baz=86
Q28A **Sharon Springs** 86.03 48 ⇓P P 05 38 28.0 -0.3
baz=86
D21A **La Casta Ranch** 86.09 39 ⇓P P 05 38 28.0 -0.4
baz=86
K25A **Mack Ranch, Ha** 86.09 44 ⇑P P 05 38 28.6 +0.1
baz=86
M26A **McRoberts Ranc** 86.09 45 ⇑P P 05 38 28.7 +0.1
baz=86
B20A **Solberg Farm,** 86.13 37 ⇑P P 05 38 28.8 +0.3
baz=86
T30A **Plains** 86.18 50 ⇓P P 05 38 28.0 -1.0
baz=86
V31A **Spring Creek L** 86.21 51 ⇓P P 05 38 28.1 -1.0
baz=86
G23A **Biddle** 86.23 41 ⇑P P 05 38 28.7 -0.4
baz=86
N27A **Anderson Farm,** 86.24 46 ⇓P P 05 38 28.4 -0.9
baz=86
R29A **Marienthal** 86.27 49 ⇓P P 05 38 28.9 -0.5
baz=86
P28A **Saint Francis** 86.29 47 ⇑P P 05 38 29.5 0.0
baz=86
L26A **Underwood Farm** 86.38 45 ⇑P P 05 38 29.7 -0.3
baz=86
C21A **Desert Coulee** 86.38 38 ⇑P P 05 38 29.9 +0.2
baz=86
LAO **LASA Array** 86.38 39 *e*P P 05 38 30.3 +0.5
comp=Z,72nm,1.6s
A20A **Cobblestone Ra** 86.39 37 ⇑P P 05 38 29.5 -0.3
baz=86,SNR=6.3
U31A **Nine Bar Ranch** 86.42 51 ⇓P P 05 38 30.3 +0.1
baz=86
E22A **Miles City** 86.44 40 ⇓P P 05 38 29.9 -0.1
baz=86
S30A **Montezuma** 86.46 49 ⇑P P 05 38 29.7 -0.7
baz=86
J25A **Sunshine Ranch** 86.46 43 ⇓P P 05 38 29.7 -0.6
baz=86
O28A **Krutsinger Ran** 86.50 47 ⇓P P 05 38 30.5 0.0
baz=87
H24A **Dirks Ranch, A** 86.56 42 ⇓P P 05 38 30.2 -0.6
baz=87
Q29A **Oakley** 86.57 48 ⇑P P 05 38 30.9 0.0
baz=87
K26A **Motz Farm, Whi** 86.59 44 ⇑P P 05 38 31.0 0.0
baz=87
D22A **Cohagen** 86.62 39 ⇓P P 05 38 31.1 +0.1
baz=87
WMOK **Wichita Mounta** 86.63 53 *e*P P 05 38 29.8 -1.4
WMOK pmax pmax
comp=Z,13nm,1.3s
WMOK **Wichita Mounta** 86.63 53 *e*P P 05 38 29.8 -1.5
comp=Z,13nm,1.3s
M27A **Reverse DX Ran** 86.64 45 ⇓P P 05 38 31.0 -0.3
baz=87
OGNE **Ogallala** 86.64 46 ⇓P P 05 38 31.0 -0.3
baz=87
WHTX **Lake Whitney** 86.68 56 *e*P P 05 38 31.1 -0.4
WHTX **Lake Whitney** 86.68 56 ⇑P P 05 38 31.5 0.0
baz=87
B21A **Ellsworth Farm** 86.71 38 ⇓P P 05 38 31.5 +0.2
baz=87
I25A **Rochford** 86.78 43 ⇑P P 05 38 31.3 -0.7
baz=87
T31A **Randall Ranch,** 86.83 50 ⇑P P 05 38 31.8 -0.4
baz=87
R30A **Dighton** 86.84 49 ⇑P P 05 38 32.0 -0.3
baz=87
E23A **Ismay** 86.86 40 ⇑P P 05 38 31.8 -0.4
baz=87
P29A **Atwood** 86.88 48 ⇓P P 05 38 31.5 -0.9
baz=87
G24A **Alzada** 86.90 41 ⇓P P 05 38 31.9 -0.6
baz=87
J26A **Sides Ranch, S** 86.91 43 ⇓P P 05 38 31.7 -0.8
baz=87
L27A **T5 Ranch, Ells** 86.91 45 ⇓P P 05 38 31.7 -0.9
baz=87
A21A **Bergtoll Ranch** 87.03 37 ⇓P P 05 38 32.8 -0.1
baz=87
F24A **Ekalaka** 87.11 41 ⇑P P 05 38 33.1 -0.3
baz=87
H25A **Fruitdale** 87.12 42 ⇓P P 05 38 33.1 -0.4
baz=87
S31A **Mullinville** 87.17 50 ⇑P P 05 38 32.7 -1.1
baz=87
K27A **Flueckinger Fa** 87.22 44 ⇓P P 05 38 33.4 -0.6
baz=87
D23A **Lindsay** 87.22 39 ⇓P P 05 38 33.5 -0.4
baz=87
B22A **Reddig Ranch S** 87.25 38 ⇓P P 05 38 33.9 -0.1
baz=87
HKT **Hockley** 87.29 58 *i* P P 05 38 34.4 0.0
APG **El Apazote** 87.36 74 P P 05 38 35.6 +0.2
APG **El Apazote** 87.36 74 P P 05 38 35.6 +0.2
comp=Z,17nm,1.0s,baz=269,slow=2.2,SNR=10.0
R31A **Burdett** 87.39 49 ⇑P P 05 38 34.5 -0.4
baz=88
G25A **Newell** 87.48 42 ⇓P P 05 38 34.3 -0.9
baz=88
C23A **Lambert** 87.52 39 ⇓P P 05 38 35.4 +0.2
baz=88
MAW **Mawson** 87.56 199 P P 05 38 36.1 +1.0
MAW **Mawson** 87.56 199 P P 05 38 36.1 +1.0
comp=Z,11nm,0.9s,baz=111,slow=5.4,SNR=9.2
J27A **Elkhorn Farm,** 87.60 44 ⇑P P 05 38 35.4 -0.5
baz=88
A22A **Carney Farms,** 87.62 38 ⇑P P 05 38 35.5 -0.2
baz=88
H26A **Fairpoint** 87.65 42 ⇓P P 05 38 35.7 -0.3
baz=88
I27A **Quinn** 87.90 43 ⇑P P 05 38 36.7 -0.6
baz=88
B23A **Brockton** 87.93 38 ⇑P P 05 38 37.5 +0.3
baz=88
INK **Inuvik** 88.51 14 P P 05 38 39.6 +0.2
INK **Inuvik** 88.51 14 P P 05 38 39.6 +0.2
comp=Z,7.0nm,1.0s,baz=244,slow=3.1,SNR=6.8
PSI **Prapat** 88.55 273 P P 05 38 40.7 -0.3
PSI **Prapat** 88.55 273 P P 05 38 40.7 -0.3
comp=Z,6.7nm,0.9s,baz=345,slow=4.4,SNR=3.7
B25A **Knox Farm, Ray** 88.94 39 ⇑P P 05 38 41.9 -0.1
baz=89
PLCA **Paso Flores** 89.31 132 P P 05 38 44.7 +0.6
PLCA **Paso Flores** 89.31 132 P P 05 38 44.7 +0.6
comp=Z,3.8nm,1.1s,baz=292,slow=7.0,SNR=3.4
YKA **Yellowknife Ar** 90.32 23 P P 05 38 47.5 -0.5
YKA **Yellowknife Ar** 90.32 23 P P 05 38 47.5 -0.5
comp=Z,4.0nm,0.9s,baz=236,slow=4.4,SNR=3.7
TEIG **Tepich** 90.84 69 P P 05 38 52.2 +0.8
TEIG **Tepich** 90.84 69 P P 05 38 52.2 +0.8
comp=Z,12nm,1.0s,baz=242,slow=9.3,SNR=3.7
JTS **JuntasAbangare** 91.22 80 *e*P P 05 38 53.5 +0.1
JTS **JuntasAbangare** 91.22 80 P P 05 38 54.4 +1.0
comp=Z,7.5nm,0.9s,baz=242,slow=12,SNR=5.0
SYO **Syowa Base** 92.35 191⇑ *e*P P 05 38 56.2 -1.3
CMAR **Chiang Mai Arr** 92.73 288 P P 05 39 01.4 +1.1
CMAR **Chiang Mai Arr** 92.73 288 P P 05 39 01.4 +1.1
comp=Z,0.9nm,0.3s,baz=105,slow=2.8,SNR=5.8
CFAA **Coronel Fontan** 94.27 124 P P 05 39 07.7 +0.4
CFAA **Coronel Fontan** 94.27 124 P P 05 39 07.7 +0.4
comp=Z,0.6nm,1.0s,baz=241,slow=4.8,SNR=6.8
TIXI **Tiksi** 95.26 344⇑ *i*P P 05 39 09.1 -1.6
TIXI pmax pmax
comp=Z,10.0nm,1.1s
KURK **Kurchatov** 113.36 319*c* *i*PKIKP **PKiKP** 05 44 24.7 -0.4
KURK pmax pmax
comp=Z,6.0nm,2.5s
BRVK **Borovoye** 118.17 322*c* *i*PKIKP **PKPdf** 05 44 34.3 +0.1

BRVK pmax pmax
comp=Z,5.0nm,1.0s
ARU **Arti** 123.58 328 *i* PKIKP **PKPdf** 05 44 44.5 0.0
ARU 05 46 23.9
ARU 05 51 45.0
ARU SS SS 06 03 06.5 -4.5
ARCES **ARCESS Array B** 124.87 352 PKP **PKPdf** 05 44 46.9 +0.2
ARCES **ARCESS Array B** 124.87 352 PKP **PKPdf** 05 44 46.9 +0.2
comp=Z,13nm,0.9s,baz=5.2,slow=2.7,SNR=11
ABKAR **Akbulak array** 125.44 320 *e*PKPdf **PKPdf** 05 44 48.1 -0.2
FINES **FINESS Array B** 132.20 348 PKP **PKPdf** 05 45 00.5 -0.3
FINES **FINESS Array B** 132.20 348 PKP **PKPdf** 05 45 00.5 -0.3
comp=Z,3.3nm,0.8s,baz=20,slow=6.1,SNR=4.8
OBN **Obninsk** 134.37 336 ⇓ *i*PKIKP **PKiKP** 05 45 07.0 +0.6
OBN SS SS 06 05 50.0 +26
OBN pmax pmax
comp=Z,7.0nm,0.4s
OBN MLR MLR
comp=Z,200nm,19.0s
NOA **NORSAR Array B** 134.56 357 PKP **PKPdf** 05 45 05.6 +0.3
NOA **NORSAR Array B** 134.56 357 PKP **PKPdf** 05 45 05.6 +0.3
comp=Z,3.0nm,1.0s,baz=14,slow=4.1,SNR=3.5
AKASG **Malin Array Be** 140.59 337 PKIKP **PKPdf** 05 45 17.1 +0.4
AKASG **Malin Array Be** 140.59 337 PKP **PKPdf** 05 45 17.1 +0.4
AKASG **Malin Array Be** 140.59 337 PKP **PKPdf** 05 45 17.1 +0.4
comp=Z,7.7nm,0.9s,baz=33,slow=2.0,SNR=16
KIEV **Kiev** 140.60 337 *e*PKIKP **PKPdf** 05 45 16.7 0.0
KIEV **Kiev** 140.60 337 *e*PKPdf **PKPdf** 05 45 16.7 0.0
KWP **Kalwaria Pacla** 143.68 342 *e*PKIKP PKPbc 05 45 19.9 +0.1
KWP **Kalwaria Pacla** 143.68 342 *e*PKPdf PKPbc 05 45 19.9 0.0
KWP **Kalwaria Pacla** 143.68 342 *e*PKP PKPab 05 45 17.3 -1.7
KWP *e* 05 45 20.3
OJC **Ojcow** 143.92 346 *e*PKPdf PKPbc 05 45 20.3 -0.2
KSP **Ksiaz** 144.05 350 *e*PKP PKPbc 05 45 21.8 +0.9
MALT **Malatya** 144.07 315⇑ *i*P **PKPdf** 05 45 23.5 0.0
CLL **Collm** 144.08 353 ⇓ *i*PKPdf PKPbc 05 45 21.8 +0.9
comp=Z,15nm,1.0s
CLL *i* PKIKP **PKiKP** 05 45 25.9 -0.5
CLL *e* 05 46 09.0
CLL LmV 06 52 00.0
comp=Z,200nm,21.0s
CLL **Collm** 144.08 353 Lm MLR 06 52 00.0
comp=Z,200nm,21.0s
BUG **Bochum--Univer** 144.30 359 *e*PKPbc PKPbc 05 45 21.8 +0.2
BRG **Berggiesshubel** 144.39 352 *e*PKP **PKPdf** 05 45 24.1 +0.6
comp=Z,16nm,1.4s
UPC **Upice** 144.43 350 *e*PKP **PKPdf** 05 45 23.0 -0.6
UPC *ep*PKP **PKiKP** 05 45 27.1 -0.1
DPC **Dobruska-Polom** 144.52 349 *e*PKP **PKPdf** 05 45 23.4 -0.4
NIE **Niedzica** 144.53 345 *e*PKPdf PKPbc 05 45 23.1 +0.6
BUR08 **Bucovina Ar. S** 144.60 338 *e*PKPdf **PKPdf** 05 45 23.9 -0.2
BURAR **Bucovina Array** 144.62 338 ⇓ *i*P PKPbc 05 45 23.5 +0.6
PVCC **Panska Ves** 144.64 351 *e*PKP **PKPdf** 05 45 23.5 -0.4
OKC **Ostrava-Krasne** 144.65 347 *e*PKP **PKPdf** 05 45 23.6 -0.3
UBBA **Unterbreizbach** 144.83 356 *e*PKPbc **PKPab** 05 45 23.0 -0.1
MORC **Moravsky Berou** 144.84 348 *e*PKIKP PKPbc 05 45 23.6 +0.2
MORC **Moravsky Berou** 144.84 348 *e*PKPdf PKPbc 05 45 23.6 +0.1
MORC **Moravsky Berou** 144.84 348 ⇓ *i*P PKPbc 05 45 23.8 +0.4
MOX **Moxa** 144.87 354 *e*PKPbc PKPbc 05 45 23.5 0.0
BEBN **Eben Emael** 144.94 1 APKP **PKPdf** 05 45 24.5 +0.1
TANN **Tannenbergstha** 145.02 354 *e*PKPbc **PKPab** 05 45 24.1 +0.1
TRPA **Tarpa** 145.07 341⇑ *i*P **PKPdf** 05 45 24.9 +0.3
TRPA **Tarpa** 145.07 341 *e* **PKPdf** 05 45 25.0 +0.3
PRA **Prague** 145.10 351 PKP **PKPdf** 05 45 25.0 +0.3
MEM **Membach** 145.14 1 APKP **PKPbc** 05 45 24.8 +0.5
PRU **Pruhonice** 145.17 351 *e*PKP **PKPdf** 05 45 25.1 +0.3
PRU AMS AMS 06 53 10.0
comp=Z,400nm,18.1s
SNF **Seneffe** 145.19 3 APKP **PKPbc** 05 45 25.1 +0.7
NKC **Novy Kostel** 145.20 353 *e*PKP **PKPdf** 05 45 25.4 +0.5
BCLA **Clavier** 145.31 2 APKP **PKPbc** 05 45 25.3 +0.5
KECS **Kecovo** 145.35 344 *e* **PKPbc** 05 45 26.0 +0.9
CFR **Carcaliu** 145.45 333 ⇓ *i*P **PKPab** 05 45 25.9 +0.2
KMBO **Kilima Mbogo** 145.46 244 *e*PKPbc **PKPab** 05 45 27.8 +0.8
KMBO **Kilima Mbogo** 145.46 244 PKPbc **PKPab** 05 45 27.8 +0.8
comp=Z,17nm,1.1s,baz=75,slow=4.3,SNR=18
TNS **Taunus Mts** 145.50 358 *e*PKPbc **PKPab** 05 45 25.7 -0.1
VRI **Vrincioaia** 145.50 335 ⇓ *i*P **PKPab** 05 45 26.9 +1.0
PLOR **Plostina** 145.54 335 ⇓ *i*P **PKPab** 05 45 27.1 +1.0
DOU **Dourbes** 145.61 2 APKP **PKPbc** 05 45 26.2 +0.4
ROTZ **Rotzenmuhle** 145.68 354 *e*PKPbc **PKPab** 05 45 26.8 +0.4
TREC **Trest** 145.69 350 *e*PKP **PKPab** 05 45 27.0 +0.5
TREC *ep*PKP **PKiKP** 05 45 30.8 +0.9
GRF **Grafenberg Arr** 145.85 355 *e*PKPbc **PKPab** 05 45 27.5 +0.4
GRFO **Grafenberg** 145.86 355 *e*PKP2 **PKPab** 05 45 27.4 +0.3
GRFO **Grafenberg** 145.86 355 *e*PKPdf **PKPab** 05 45 27.4 +0.3
TIRR **Tirgusor** 145.88 332 ⇓ *i*P **PKPab** 05 45 28.3 +1.0
DOPR **Dopca** 145.94 336⇑ *i*P **PKPab** 05 45 29.3 +1.7
TLB **Topalu** 145.95 332 ⇓ *i*P **PKPab** 05 45 28.6 +1.0
PSZ **Piszkesteto** 146.02 344 *e*PKP2 **PKPbc** 05 45 27.4 +0.1
PSZ **Piszkesteto** 146.02 344 *e*PKPdf **PKPbc** 05 45 27.4 +0.1
PSZ **Piszkesteto** 146.02 344 *e*PKPdf **PKPbc** 05 45 28.4 +1.1
SMOL **Smolenice** 146.06 347 *e*PKP **PKPab** 05 45 28.8 +0.9
WLF **Walferdange** 146.08 1 APKP **PKPab** 05 45 28.1 +0.2
WLF **Walferdange** 146.08 1 *e*PKPbc **PKPab** 05 45 28.3 +0.4
WLF **Walferdange** 146.08 1 *e*PKP2 **PKPab** 05 45 27.9 0.0
WLF **Walferdange** 146.08 1 *e*PKPdf **PKPab** 05 45 27.9 -0.1
MLR **Muntele Rosu** 146.12 335 ⇓ *i*P **PKPbc** 05 45 28.0 +0.2
KHC **Kasperske Hory** 146.14 352 *e*PKP **PKPab** 05 45 28.1 -0.1
KHC *ep*PKP **PKiKP** 05 45 32.9 +2.1
KHC *ex* x 05 45 40.5
ISR **Istrita** 146.18 334⇑ *i*P **PKPab** 05 45 29.3 +0.8
DRGR 146.20 340⇑ *i*P **PKPbc** 05 45 28.1 +0.2
WET **Wettzell** 146.22 353 *e*PKPbc **PKPab** 05 45 28.5 0.0
BR131 **Keskin Array S** 146.38 321 *e*PKPdf **PKPbc** 05 45 28.5 -0.3
BRTR **Keskin Array B** 146.38 321 PKPbc **PKPbc** 05 45 29.1 +0.3
BRTR **Keskin Array B** 146.38 321 PKPbc **PKPbc** 05 45 29.1 +0.3
comp=Z,18nm,1.0s,baz=117,slow=1.9,SNR=8.9
GEC2 **GERESS Array S** 146.40 352 *e*PKPbc **PKPbc** 05 45 28.8 +0.4
GERES **GERESS Array B** 146.40 352 PKPbc **PKPbc** 05 45 28.0 -0.4
GERES **GERESS Array B** 146.40 352 PKPbc **PKPbc** 05 45 28.0 -0.4
comp=Z,18nm,1.0s,baz=29,slow=3.0,SNR=18
VOIR 146.52 336 ⇓ *i*P **PKPab** 05 45 30.5 +0.6
BUD **Budapest** 146.65 345 *e* **PKPab** 05 45 30.6 +0.4
ARR **Arges** 146.74 337⇑ *i*P **PKPab** 05 45 31.0 +0.3
ANTO **Ankara** 146.80 322 *e*PKP2 **PKPbc** 05 45 29.8 -0.1
ANTO **Ankara** 146.80 322 *e*PKPdf **PKPbc** 05 45 29.8 -0.1
STU **Stuttgart** 146.91 357 *e*PKPbc **PKPab** 05 45 30.8 -0.4
SIRR **Siria** 147.00 341 ⇓ *i*P **PKPbc** 05 45 30.7 +0.6
SOP **Sopron** 147.03 348 *e* **PKPbc** 05 45 31.9 +1.8
PRD **Provadia** 147.32 331 *i* P **PKPbc** 05 45 31.6 +0.5
FUR **Furstenfeldbru** 147.36 354 *e*PKPbc **PKPbc** 05 45 31.7 +0.6
BFO **Black Forest** 147.39 358 *e*PKPbc **PKPbc** 05 45 31.7 +0.5
BFO **Black Forest** 147.39 358 *e*PKP2 **PKPbc** 05 45 31.3 +0.1
BFO **Black Forest** 147.39 358 *e*PKPdf **PKPbc** 05 45 31.3 +0.1
ECH **Echery** 147.53 359 *e*PKP2 **PKPbc** 05 45 31.9 +0.3
ECH **Echery** 147.53 359 *e*PKPbc **PKPbc** 05 45 31.9 +0.3
BZS **Buzias** 147.59 340 ⇓ *i*P **PKPbc** 05 45 32.2 +0.4
RJOB **Jochberg** 147.61 352 *e*PKPbc **PKPbc** 05 45 32.1 +0.3
JMB **Yambol** 148.27 331 P **PKPab** 05 45 35.5 -1.2
JMB **Yambol** 148.27 331 PKP2 **PKPab** 05 45 35.5 -1.2
JMB **Yambol** 148.27 331 P **PKPab** 05 45 35.5 -1.2
MPEP **Malo Peshtene** 148.77 336 *i* P **PKPbc** 05 45 35.6 +0.6
PGB **Panagyurishte** 149.27 334 *i* P **PKPbc** 05 45 37.1 +0.8
CSS **Prodhromos** 149.31 314 P **PKPbc** 05 45 35.0 -1.6
CSS **Prodhromos** 149.31 314 P **PKPbc** 05 45 35.0 -1.6
KDZ **Kurdzhali** 149.45 332 *i* P **PKPbc** 05 45 37.3 +0.6
TRI **Trieste** 149.45 350 *e*PKP2 **PKPbc** 05 45 36.3 -0.3
TRI **Trieste** 149.45 350 *e*PKPbc **PKPbc** 05 45 36.3 -0.2
DIVS **Divibare** 149.47 341 P **PKPdf** 05 45 31.8 -0.5
VTS **Vitosha** 149.63 335 P **PKPbc** 05 45 37.9 +0.6
VTS **Vitosha** 149.63 335 PKP2 **PKPbc** 05 45 37.9 +0.6
VTS **Vitosha** 149.63 335 P **PKPbc** 05 45 37.9 +0.6
VTS **Vitosha** 149.63 335 ⇓ *i*P **PKPbc** 05 45 38.7 +1.4
VTS **Vitosha** 149.63 335 *i* P **PKPbc** 05 45 38.0 +0.6
RDO **Rodhopi** 149.79 331 P **PKPbc** 05 45 37.9 +0.4
RDO **Rodhopi** 149.79 331 P **PKPbc** 05 45 37.9 +0.4
KULA **Kula-Manisa** 150.11 324 P **PKPbc** 05 45 38.4 -0.1
KULA **Kula-Manisa** 150.11 324 P **PKPbc** 05 45 38.4 -0.1
MMB **Musomiste** 150.24 334 *i* P **PKPbc** 05 45 38.7 0.0
KKB **Krupnik** 150.28 335 *i* P **PKPbc** 05 45 39.3 +0.5
SMTH **Samothraki Isl** 150.32 330 P **PKPbc** 05 45 38.4 -0.5
SMTH **Samothraki Isl** 150.32 330 P **PKPbc** 05 45 38.4 -0.5
PLE **Pljevlja** 150.35 341 ⇓ *i*PKP **PKPbc** 05 45 39.4 +0.4
KAVA **Kavala** 150.38 332 P **PKPbc** 05 45 38.8 -0.2
KAVA **Kavala** 150.38 332 P **PKPbc** 05 45 38.8 -0.2
NVR **Nevrokopi** 150.38 333 P **PKPdf** 05 45 35.6 +1.8
NVR **Nevrokopi** 150.38 333 P **PKPdf** 05 45 35.6 +1.8
SSB **Saint Sauveur** 150.42 3 *e*PKIKP **PKPdf** 05 45 34.5 +0.8
SSB *e* 05 45 39.1
SSB *e* 05 45 43.2

SSB	Saint Sauveur	150.42	3	*e*PKPdf	PKPdf	05 45 34.5	+0.8
SSB				*e*PKPbc	PKPbc	05 45 39.1	+0.1
SSB				*e*PKPab	PKPab	05 45 43.1	-2.3
IVA	Berane	150.60	340	⇓*i*PKP	PKPbc	05 45 39.4	-0.2
UPM	Unac-Piva	150.62	342	⇓*i*PKP	PKPbc	05 45 39.3	-0.4
PVY	Plav	150.82	340	⇓*i*PKP	PKPbc	05 45 40.3	+0.1
SKO	Skopje	150.84	337	P	PKPbc	05 45 41.4	+1.3
SKO	Skopje	150.84	337	PKIKP	PKPbc	05 45 41.4	+1.3
SKO	Skopje	150.84	337	P	PKPbc	05 45 41.4	+1.3
SKO	Skopje	150.84	337	*e*PKP	PKPbc	05 45 41.4	+1.3
PRK	Paraskevi	150.88	328	P	PKPbc	05 45 40.1	-0.1
PRK	Paraskevi	150.88	328	PKIKP	PKPbc	05 45 40.1	-0.1
PRK	Paraskevi	150.88	328	P	PKPbc	05 45 40.1	-0.1
LIA	Limnos Island	150.93	330	P	PKPbc	05 45 40.3	0.0
LIA	Limnos Island	150.93	330	P	PKPbc	05 45 40.3	0.0
NKY	Niksic	150.94	341	⇓*i*PKP	PKPbc	05 45 40.6	+0.2
KNT	Kendrikon	150.95	334	P	PKPbc	05 45 39.4	-0.9
KNT	Kendrikon	150.95	334	PKIKP	PKPbc	05 45 39.4	-0.9
KNT	Kendrikon	150.95	334	P	PKPbc	05 45 39.4	-0.9
VAY	Valandovo	150.95	335	*e*PKP	PKPbc	05 45 38.2	-2.1
NKME	Niksic	151.00	341	*e*PKP	PKPbc	05 45 40.6	+0.1
BRY	Bratogost	151.00	342	⇓*i*PKP	PKPbc	05 45 40.4	-0.2
PDG	Podgorica	151.20	340	P	PKPbc	05 45 40.4	-0.5
TTG	Podgorica	151.20	340	⇓*i*PKP	PKPbc	05 45 40.9	+0.1
TTG	Podgorica	151.20	340	PKIKP	PKPbc	05 45 40.4	-0.5
TTG	Podgorica	151.20	340	P	PKPbc	05 45 40.4	-0.5
PLG	Polygyros	151.36	333	P	PKPbc	05 45 39.8	-1.6
PLG	Polygyros	151.36	333	PKIKP	PKPbc	05 45 39.8	-1.6
PLG	Polygyros	151.36	333	P	PKPbc	05 45 39.8	-1.6
VLC	Villacollemand	151.42	354	*e*PKPbc	PKPbc	05 45 40.9	-0.5
HCY	Herceg Novi	151.43	341	⇓*i*PKP	PKPbc	05 45 41.0	-0.4
BUM	Brajici-Budva	151.44	341	⇓*i*PKP	PKPbc	05 45 41.4	-0.1
DRME	Dracevica, Mon	151.44	340	⇓*i*PKP	PKPbc	05 45 41.6	+0.1
PHP	Peshkopia	151.46	338	P	PKPbc	05 45 41.2	-0.4
PHP	Peshkopia	151.46	338	PKIKP	PKPbc	05 45 41.2	-0.4
PHP	Peshkopia	151.46	338	P	PKPbc	05 45 41.2	-0.4
PAIG	Paliouri	151.62	332	P	PKPbc	05 45 40.4	-1.5
PAIG	Paliouri	151.62	332	PKIKP	PKPbc	05 45 40.4	-1.5
PAIG	Paliouri	151.62	332	P	PKPbc	05 45 40.4	-1.5
ULC	Ulcinj	151.62	340	⇓*i*PKP	PKPbc	05 45 41.8	-0.1
CHOS	Chios island	151.63	327	P	PKPbc	05 45 41.3	-0.8
CHOS	Chios island	151.63	327	P	PKPbc	05 45 41.3	-0.8
SMG	Samos	151.70	325	P	PKPbc	05 45 42.0	-0.2
SMG	Samos	151.70	325	P	PKPbc	05 45 42.0	-0.2
FNA	Florina	151.89	336	P	PKPbc	05 45 42.0	-0.6
FNA	Florina	151.89	336	PKIKP	PKPbc	05 45 42.0	-0.6
FNA	Florina	151.89	336	P	PKPbc	05 45 42.0	-0.6
LIT	Litokhoron	152.00	334	P	PKPbc	05 45 42.4	-0.4
KZN	Kozani	152.13	335	P	PKPbc	05 45 42.1	-1.1
XOR	Xorichti	152.29	332	P	PKPbc	05 45 42.7	-0.8
NEO	Neokhori	152.32	332	P	PKPbc	05 45 43.2	-0.4
LKR	Lokris	152.95	331	P	PKPbc	05 45 44.0	-0.9
LKR	Lokris	152.95	331	P	PKPbc	05 45 44.0	-0.9
MAKR	Makrakomi, Fth	153.05	333	P	PKPbc	05 45 45.8	+0.6
EVR	Evrytania	153.28	333	P	PKPbc	05 45 46.0	+0.2
LTK	Loutraki	153.47	330	P	PKPbc	05 45 45.2	-0.9
LTK	Loutraki	153.47	330	P	PKPbc	05 45 45.2	-0.9
DID	Didima	153.75	329	P	PKPbc	05 45 45.1	-1.7
DID	Didima	153.75	329	P	PKPbc	05 45 45.1	-1.7
LAKA	Lakka	153.76	332	P	PKPdf	05 45 40.1	+1.2
LAKA	Lakka	153.76	332	P	PKPdf	05 45 40.1	+1.2
DIDY	Didyma	153.78	329	P	PKPbc	05 45 46.0	-0.9
GUR	Goura	153.83	331	P	PKPbc	05 45 46.8	-0.2
GUR	Goura	153.83	331	P	PKPbc	05 45 46.8	-0.2
ESDC	Sonseca Array	154.34	19	PKP	PKPdf	05 45 40.8	+1.1
ESDC				PKPab	PKPab	05 46 01.8	-0.2
ESDC	Sonseca Array	154.34	19	PKP	PKPdf	05 45 40.8	+1.1
	comp=Z,0.1nm,0.3s,baz=315,slow=2.5,SNR=4.4						
ESDC				PKPab	PKPab	05 46 01.8	-0.2
	comp=Z,0.6nm,0.4s,baz=324,slow=4.0,SNR=6.8						
KEST	Kesra	159.87	354	PKP	PKPdf	05 45 44.9	-2.0
KEST	Kesra	159.87	354	PKP	PKPdf	05 45 44.9	-2.0
	comp=Z,2.2nm,1.0s,baz=333,slow=8.6,SNR=6.5						
DBIC	Dimbokro	165.62	127	PKP	PKPdf	05 45 52.4	-0.6
DBIC				PKPab	PKPab	05 46 51.8	+0.1
DBIC	Dimbokro	165.62	127	PKP	PKPdf	05 45 52.4	-0.6
	comp=Z,13nm,1.2s,baz=232,slow=11,SNR=4.0						
DBIC				PKPab	PKPab	05 46 51.8	+0.1
	comp=Z,5.8nm,1.0s,baz=183,slow=5.0,SNR=3.2						
TAM	Tamanrasset	172.83	8	*e*PKIKP	PKPdf	05 45 58.1	+0.7
TAM	Tamanrasset	172.83	8	*e*PKPdf	PKPdf	05 45 58.1	+0.7
TORD	Torodi Ar. Bea	174.59	117	PKP	PKPdf	05 45 57.7	-0.4
TORD				PKPab	PKPab	05 47 30.9	-0.7
TORD	Torodi Ar. Bea	174.59	117	PKP	PKPdf	05 45 57.7	-0.4
	comp=Z,5.7nm,1.1s,baz=314,slow=2.6,SNR=16						
TORD				PKPab	PKPab	05 47 30.9	-0.7
	comp=Z,3.8nm,1.1s,baz=265,slow=5.2,SNR=7.7						

IDC 30 05:31:14.8±0.7, 15°.73S×172°.42W, h0km, mb4.0/10, mb1 4.2/10, mb1mx4.1/22, mbtmp4.0/10, Error ellipse: s-maj=37.0km s-min=18.6km az=133.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.91**	**19**	Pn	Pn	05 31 44.4	-4.3
	51nm,0.3s,baz=43,slow=3.2,SNR=8.7						
AFI				Sn	Sn	05 32 05.7	-7.8
	177nm,0.3s,baz=188,slow=22,SNR=9.6						
WRA	**Warramunga Arr**	**50.69**	**257**	P	P	05 40 16.1	-0.5
	0.8nm,0.7s,baz=92,slow=7.3,SNR=6.4						
ASAR	**Alice Springs**	**50.91**	**252**	P	P	05 40 18.0	-0.2
	2.4nm,0.6s,baz=87,slow=8.2,SNR=24						
VNDA	**Vanda**	**63.15**	**186**	P	P	05 41 44.2	+0.2
	0.8nm,0.6s,baz=16,slow=6.2,SNR=7.9						
YBH	**Yreka Blue Hor**	**73.29**	**37**	P	P	05 42 48.8	+0.6
	0.8nm,0.5s,baz=30,slow=2.0,SNR=4.4						
KDAK	**Kodiak Island**	**75.06**	**11**	P	P	05 42 57.8	-0.2
	4.3nm,0.8s,baz=99,slow=13,SNR=4.9						
TXAR	**Lajitas Array**	**80.01**	**56**	P	P	05 43 26.2	-0.4
	0.8nm,0.8s,baz=215,slow=8.4,SNR=9.1						
ANMO	**Albuquerque**	**80.29**	**50**	P	P	05 43 28.0	-0.1
	0.7nm,0.7s,baz=232,slow=10.0,SNR=3.8						
PDAR	**Pinedale Array**	**81.88**	**41**	P	P	05 43 36.0	-0.4
	0.4nm,0.6s,baz=205,slow=1.9,SNR=3.4						
ILAR	**Eielson Array**	**82.58**	**11**	P	P	05 43 39.3	0.0
	1.3nm,0.6s,baz=224,slow=6.1,SNR=19						
MAW	**Mawson**	**87.78**	**198**	P	P	05 44 05.4	-0.1
	1.3nm,0.6s,baz=246,slow=10.0,SNR=3.5						
GERES	**GERESS Array B**	**146.59**	**353**	PKPbc	PKPbc	05 50 58.4	-0.1
	0.3nm,0.4s,baz=84,slow=4.0,SNR=3.1						
BRTR	**Keskin Array B**	**147.00**	**322**	PKPbc	PKPbc	05 50 59.5	-0.5
	1.0nm,0.7s,baz=128,slow=2.0,SNR=5.1						

IDC 30 05:38:25.1±1.9, 16°.35S×172°.42W, h0km, mb3.9/6, mb1 4.2/6, mb1mx3.9/19, mbtmp3.9/6, MS3.9/3, Ms1 3.9/3, ms1mx3.7/29, Error ellipse: s-maj=113.3km s-min=23.2km az=147.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.50**	**14**	Pn	Pn	05 39 00.2	-7.0
	178nm,0.3s,baz=220,slow=20,SNR=4.1						
AFI				Sn	Sn	05 39 19.8	-19
	278nm,0.3s,baz=59,slow=20,SNR=6.8						
AFI				LR	LR	05 40 02.8	
	comp=Z,875nm,20.5s,baz=203,slow=39						
PPT2	**Papeete2**	**21.88**	**97**	*e*LR	LR	05 49 15.1	
	569nm,25.0s						
PPT	**Papeete**	**21.88**	**96**	LR	LR	05 49 41.0	
	comp=Z,382nm,20.5s,baz=54,slow=31						
TBI	**Tubuai**	**22.67**	**112**	*e*LR	LR	05 49 47.2	
	475nm,24.8s						
STKA	**Stephens Creek**	**44.40**	**241**	P	P	05 46 38.2	+0.4
	1.2nm,0.5s,baz=76,slow=12,SNR=2.6						
WRA	**Warramunga Arr**	**50.55**	**257**	P	P	05 47 24.8	-1.1
	0.9nm,0.3s,baz=92,slow=6.6,SNR=22						
ASAR	**Alice Springs**	**50.72**	**253**	P	P	05 47 26.9	-0.3
	1.3nm,0.3s,baz=88,slow=7.8,SNR=16						
TXAR	**Lajitas Array**	**80.36**	**56**	P	P	05 50 39.3	+0.5
	0.5nm,1.1s,baz=104,slow=0.4,SNR=2.1						
PDAR	**Pinedale Array**	**82.34**	**41**	P	P	05 50 47.4	-1.8
	0.4nm,0.9s,baz=238,slow=5.2,SNR=2.0						
ILAR	**Eielson Array**	**83.19**	**11**	P	P	05 50 52.4	-0.4
	1.6nm,1.1s,baz=225,slow=5.9,SNR=4.9						
PLCA	**Paso Flores**	**88.18**	**132**	LR	LR	06 20 06.2	
	comp=Z,169nm,20.0s,baz=316,slow=28						
GERES	**GERESS Array B**	**147.20**	**353**	PKPbc	PKPbc	05 58 10.8	+0.3
	0.2nm,0.3s,baz=29,slow=3.0,SNR=4.4						
BRTR	**Keskin Array B**	**147.48**	**321**	PKPbc	PKPbc	05 58 12.6	+0.9
	1.9nm,1.0s,baz=116,slow=2.9,SNR=7.6						

WEL 30 05:43:20.4±0.3, 37°.81S×176°.77E, h136km±3km, ML3.6/13, 3C, Error ellipse: s-maj=1.6km s-min=1.4km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.52**	**149**	⇑PN	Pn	05 43 40.1	-0.1
URZ				SN	Sn	05 43 55.5	+0.1
PRRZ	**Plateau Road**	**0.75**	**203**	PN	Pn	05 43 42.2	+0.4
MWZ	**Matawai**	**0.79**	**131**	PN	Pn	05 43 41.8	-0.3
MWZ				SN	Sn	05 43 58.7	0.0
TLZ	**Tolley Road**	**1.10**	**242**	PN	Pn	05 43 45.5	+0.7
PUZ	**Puketiti**	**1.20**	**103**	PN	Pn	05 43 45.3	-0.5
PUZ				SN	Sn	05 44 04.6	-0.6
MXZ	**Matakaoa Point**	**1.24**	**79**	PN	Pn	05 43 46.2	0.0
MXZ				SN	Sn	05 44 05.9	+0.1
MXZ				AML	AML	05 44 22.2	
NMHZ	**Naumai**	**1.28**	**179**	PN	Pn	05 43 47.1	+0.4
CNGZ	**Carnagh Statio**	**1.31**	**121**	PN	Pn	05 43 47.3	+0.4
KUZ	**Kuaotunu**	**1.35**	**321**	PN	Pn	05 43 47.1	-0.2
BKZ	**Black Stump Fm**	**1.37**	**189**	PN	Pn	05 43 47.2	-0.4
BKZ				SN	Sn	05 44 08.1	-0.3
KNZ	**Kokohu**	**1.40**	**150**	⇑PN	Pn	05 43 47.7	-0.1
KNZ				SN	Sn	05 44 08.0	-0.7
PRGZ	**Paritu Road**	**1.41**	**142**	PN	Pn	05 43 48.0	0.0
OTVZ	**Oturere**	**1.61**	**212**	PN	Pn	05 43 50.3	0.0
MHGZ	**Mahia Peninsul**	**1.61**	**147**	PN	Pn	05 43 50.3	+0.2
MCHZ	**McNeill Hill**	**1.63**	**182**	PN	Pn	05 43 50.5	+0.1
TUVZ	**Tukino**	**1.70**	**211**	PN	Pn	05 43 51.2	-0.1
WHVZ	**Whangaehu Hut**	**1.74**	**212**	⇑PN	Pn	05 43 51.7	-0.2
BHHZ	**Black Hill Sta**	**1.76**	**198**	PN	Pn	05 43 51.3	-0.7
BHHZ				SN	Sn	05 44 15.7	-0.6
TRVZ	**Turoa**	**1.77**	**212**	PN	Pn	05 43 52.0	-0.3
WNVZ	**Wahianoa**	**1.77**	**211**	PN	Pn	05 43 51.9	-0.3
MOVZ	**Moawhango**	**1.78**	**206**	PN	Pn	05 43 51.4	-0.8
CKHZ	**Cape Kidnapper**	**1.86**	**173**	PN	Pn	05 43 52.7	-0.3
KAHZ	**Kahuranaki**	**1.98**	**178**	PN	Pn	05 43 54.0	-0.5
PNHZ	**Pukenui**	**2.15**	**192**	PN	Pn	05 43 55.2	-1.3
PXZ	**Pawanui**	**2.22**	**178**	PN	Pn	05 43 56.3	-1.0
PXZ				AML	AML	05 44 27.0	
PXZ				AML	AML	05 44 27.0	
WPHZ	**Waipukurau**	**2.27**	**186**	PN	Pn	05 43 56.8	-1.1
DVHZ	**Dannevirke**	**2.53**	**191**	PN	Pn	05 43 59.2	-2.0
ANWZ	**Angora Road**	**2.66**	**185**	PN	Pn	05 44 01.2	-1.6
PRWZ	**Pori Road**	**2.81**	**193**	PN	Pn	05 44 03.2	-1.5
MRZ	**Mangatainoka R**	**2.99**	**198**	PN	Pn	05 44 04.5	-2.6
MRZ				AML	AML	05 44 41.3	
HOWZ	**Holdsworth Sta**	**3.23**	**197**	PN	Pn	05 44 07.4	-2.9
OGWZ	**Otaki Gorge**	**3.25**	**202**	PN	Pn	05 44 07.9	-2.5
TMWZ	**Te Maipa**	**3.36**	**191**	PN	Pn	05 44 09.2	-2.7
KIW	**Kapiti Island**	**3.37**	**205**	PN	Pn	05 44 09.1	-2.9
MTW	**Mount Morrison**	**3.48**	**196**	PN	Pn	05 44 10.2	-3.2
CAW	**Cannon Point**	**3.55**	**201**	PN	Pn	05 44 11.0	-3.3
TCW	**Tory Channel**	**3.91**	**209**	PN	Pn	05 44 15.5	-3.5
PLWZ	**Palliser**	**3.93**	**197**	PN	Pn	05 44 15.6	-3.8
TUWZ	**Tuamarina**	**4.22**	**210**	PN	Pn	05 44 19.4	-3.7
NNZ	**Nelson**	**4.30**	**217**	PN	Pn	05 44 20.5	-3.7
KHZ	**Kahutara**	**5.22**	**207**	PN	Pn	05 44 32.0	-4.5

IDC 30 05:51:42.6±1.0, 15°.72S×172°.45W, h0km, mb3.9/5, mb1 4.2/5, mb1mx4.0/19, mbtmp3.9/5, Error ellipse: s-maj=43.8km s-min=25.5km az=140.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.92**	**20**	Pn	Pn	05 52 12.5	-4.1
	18nm,0.3s,baz=32,slow=20,SNR=1.4						
AFI				Sn	Sn	05 52 33.1	-8.5
	33nm,0.3s,baz=196,slow=22,SNR=2.8						
WRA	**Warramunga Arr**	**50.67**	**257**	P	P	06 00 43.7	-0.6
	0.5nm,0.7s,baz=92,slow=6.5,SNR=8.2						
ASAR	**Alice Springs**	**50.89**	**252**	P	P	06 00 45.8	-0.1
	2.1nm,0.8s,baz=88,slow=8.1,SNR=22						
VNDA	**Vanda**	**63.15**	**186**	P	P	06 02 12.0	+0.1
	1.3nm,0.9s,baz=50,slow=7.3,SNR=6.3						
TXAR	**Lajitas Array**	**80.03**	**56**	P	P	06 03 54.3	-0.3
	1.4nm,1.0s,baz=230,slow=7.5,SNR=8.1						
ILAR	**Eielson Array**	**82.59**	**11**	P	P	06 04 07.0	-0.1
	0.6nm,0.7s,baz=222,slow=6.2,SNR=7.2						
BRTR	**Keskin Array B**	**146.98**	**322**	PKPbc	PKPbc	06 11 27.9	+0.1
	1.4nm,0.7s,baz=131,slow=3.4,SNR=7.9						

*ISCJB **30** 05:52:30.7±0.2, 19°.06S±0°.04×69°.34W±0°.05, h103km, mb4.2/11, Error ellipse: s-maj=7.0km s-min=5.0km az=169.5*
*GUC **30** 05:52:33.4±0.5, 19°.23S×69°.58W, h112km±4km, ML4.9*
*NEIC **30** 05:52:33.9±0.7, 19°.28S×69°.31W, h123km±7km, mb4.4/4, Error ellipse: s-maj=10.2km s-min=6.8km az=70.0*
*IDC **30** 05:52:33.6±0.8, 19°.24S×69°.33W, h118km±5km, mb4.0/10, mb1 4.1/13, mb1mx4.0/21, mbtmp4.0/13, Error ellipse: s-maj=19.8km s-min=14.2km az=35.0*

ISC 30 05:52:32.5±0.4, 19°.23S±0°.06×69°.31W±0°.07, h103km, n225, σ1°12/231, mb4.3/11, 97C-81D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNMC	**Minimini**	**0.29**	**291**	⇓*i*P	**Pn**	**05 52 49.4**	**+1.6**
MNMC				*i* S	**Sn**	**05 53 01.7**	**+2.6**
MNMC				AML	AML	05 53 02.9	
	comp=E,82μm,0.6s						
PSGC	**Pisagua**	**0.85**	**245**	⇑*i*P	**Pn**	**05 52 51.9**	**+0.3**
PSGC				*i* S	**Sn**	**05 53 05.6**	**-0.5**
PSGC				AML	AML	05 53 06.6	
	comp=N,37μm,0.5s						
HMBC	**Humberstone**	**1.17**	**208**	⇑*i*P	**Pn**	**05 52 56.3**	**+1.1**
HMBC				*i* S	**Sn**	**05 53 13.6**	**+1.2**
HMBC				AML	AML	05 53 15.5	
	comp=E,25μm,0.5s						
MACH	**Maria Elena**	**2.98**	**188**	*e*P	**Pn**	**05 53 20.2**	**+1.9**
LPAZ	**La Paz**	**3.14**	**21**	P	Pn	05 53 24.2	+3.5
LPAZ	**La Paz**	**3.14**	**21**	P	Pn	05 53 24.2	+3.5
	comp=E,8.8nm,0.3s,baz=214,slow=6.5,SNR=461						
LVC	**Limon Verde**	**3.38**	**174**	*e*Pn	Pn	05 53 27.1	+3.4
LVC				*e*Sn	Sn	05 53 56.3	-6.9
SIV	**San Ignacio**	**8.49**	**69**	P	**Pn**	**05 54 33.4**	**+0.7**
SIV	**San Ignacio**	**8.49**	**69**	P	**Pn**	**05 54 33.4**	**+0.7**
	comp=E,5.9nm,0.3s,baz=271,slow=10,SNR=108						
NNA	**Nana**	**10.22**	**314**	*e*Pn	**Pn**	**05 54 57.5**	**+1.1**
SAML	**Samuel**	**11.82**	**31**	*e*Pn	**Pn**	**05 55 15.4**	**-2.4**
	comp=E,11nm,0.9s						
CFAA	**Coronel Fontan**	**12.36**	**176**	P	**Pn**	**05 55 22.8**	**-2.1**
CFAA				S	Sn	05 57 33.0	-7.7
CFAA	**Coronel Fontan**	**12.36**	**176**	P	**Pn**	**05 55 22.8**	**-2.1**
	comp=E,0.1nm,0.3s,baz=356,slow=15,SNR=6.8						
CFAA				S	Sn	05 57 33.0	-7.7
	comp=E,0.1nm,0.3s,baz=177,slow=12,SNR=2.1						
CPUP	**Villa Florida**	**13.11**	**125**	*e*Pn	**Pn**	**05 55 34.5**	**-0.1**
CPUP	**Villa Florida**	**13.11**	**125**	P	**Pn**	**05 55 34.3**	**-0.4**
	comp=E,1.0nm,0.3s,baz=291,slow=12,SNR=11						
BB16B	**Bebedouro**	**19.54**	**99**	⇓*i*P	**P**	**05 56 51.9**	**-0.2**
BB16B				*i*		05 56 52.1	
BB16B				*i*		05 56 52.7	
BB16B				*i*		05 56 54.2	
BB16B				*i*		05 56 54.8	
BB16B				*i*		05 56 57.3	
BB16B				*i*		05 57 01.7	
BB16B				*i*		05 57 25.1	
TRQA	**Tornquist**	**19.81**	**163**	*e*Pn	**Pn**	**05 56 56.1**	**-1.3**
	comp=E,13nm,0.7s						
BDFB	**Brasilia**	**20.62**	**83**	P	**P**	**05 57 03.8**	**-0.1**
BDFB	**Brasilia**	**20.62**	**83**	P	**P**	**05 57 03.8**	**-0.1**
	comp=E,8.1nm,0.4s,baz=250,slow=13,SNR=18						
OTAV	**Otavalo**	**21.33**	**334**	*e*P	**P**	**05 57 12.0**	**+0.1**
	comp=E,3.5nm,0.8s						
PLCA	**Paso Flores**	**21.45**	**183**	P	**P**	**05 57 12.9**	**+0.3**
PLCA	**Paso Flores**	**21.45**	**183**	P	**P**	**05 57 12.9**	**+0.3**
	comp=E,7.5nm,0.9s,baz=355,slow=10,SNR=13						
APG	**El Apazote**	**39.89**	**327**	P	**P**	**05 59 56.5**	**-0.2**
APG	**El Apazote**	**39.89**	**327**	P	**P**	**05 59 56.5**	**-0.2**
	comp=E,3.8nm,0.6s,baz=67,slow=18,SNR=6.5						
TEIG	**Tepich**	**43.40**	**334**	P	**P**	**06 00 24.6**	**-0.4**
TEIG	**Tepich**	**43.40**	**334**	P	**P**	**06 00 24.6**	**-0.4**
	comp=E,5.4nm,0.8s,baz=169,slow=8.9,SNR=6.8						
732A	**Laxson Ranch,**	**56.14**	**327**	⇑P	**P**	**06 02 00.1**	**-1.3**
	baz=56						
632A	**Uvalde**	**56.68**	**328**	⇓P	**P**	**06 02 04.1**	**-1.2**
	baz=57						
631A	**Perdido Creek**	**57.00**	**327**	⇓P	**P**	**06 02 05.8**	**-1.8**
	baz=57,SNR=5.1						
532A	**Rocksprings**	**57.24**	**328**	⇓P	**P**	**06 02 08.3**	**-1.0**
	baz=58						
JCT	**Junction City**	**57.48**	**329**	⇑P	**P**	**06 02 09.4**	**-1.6**
	baz=58						
531A	**Rocksprings**	**57.59**	**328**	⇑P	**P**	**06 02 10.9**	**-0.9**
	baz=58						
WHTX	**Lake Whitney**	**57.64**	**332**	⇑P	**P**	**06 02 11.0**	**-1.0**
	baz=58						
432A	**Menard**	**57.80**	**329**	⇑P	**P**	**06 02 11.5**	**-1.7**
	baz=58						
530A	**J-C Ranch, Com**	**57.98**	**327**	⇑P	**P**	**06 02 13.0**	**-1.5**
	baz=58						
431A	**Sonora**	**58.04**	**328**	⇓P	**P**	**06 02 13.7**	**-1.3**
	baz=58						
332A	**Millersview**	**58.19**	**329**	⇑P	**P**	**06 02 14.7**	**-1.2**
	baz=58						
628A	**Black Gap, Mar**	**58.27**	**325**	⇓P	**P**	**06 02 15.5**	**-1.0**
	baz=58,SNR=6.1						
430A	**Baggett Ranch,**	**58.44**	**328**	⇑P	**P**	**06 02 16.4**	**-1.3**
	baz=59,SNR=6.5						
331A	**San Angelo**	**58.46**	**329**	⇓P	**P**	**06 02 16.6**	**-1.2**
	baz=59						
627A	**Terlingua Ranc**	**58.51**	**325**	⇓P	**P**	**06 02 17.3**	**-1.0**
	baz=59						
232A	**Coleman**	**58.56**	**330**	⇑P	**P**	**06 02 17.2**	**-1.3**
	baz=59						
TXAR	**Lajitas Array**	**58.57**	**325**	P	**P**	**06 02 17.1**	**-1.5**
TXAR				pP	**pP**	**06 02 45.2**	**+1.3**
TXAR	**Lajitas Array**	**58.57**	**325**	P	**P**	**06 02 17.1**	**-1.5**
	comp=E,0.7nm,0.7s,baz=149,slow=8.9,SNR=11						
TXAR				pP	**pP**	**06 02 45.2**	**+1.3**
	comp=E,0.3nm,0.6s,baz=134,slow=7.2,SNR=3.7						
429A	**Davenport Ranc**	**58.65**	**327**	⇓P	**P**	**06 02 18.1**	**-1.1**
	baz=59,SNR=5.6						
528A	**Cox Ranch, San**	**58.74**	**326**	⇓P	**P**	**06 02 18.4**	**-1.5**
	baz=59						
330A	**Mertzon**	**58.91**	**328**	⇓P	**P**	**06 02 19.1**	**-1.9**
	baz=59						
231A	**Bronte**	**58.92**	**329**	⇑P	**P**	**06 02 20.1**	**-0.9**
	baz=59						
626A	**Big Bend Ranch**	**58.99**	**325**	⇑P	**P**	**06 02 20.3**	**-1.3**
	baz=59,SNR=5.3						
428A	**Kincaid Ranch,**	**59.14**	**327**	⇓P	**P**	**06 02 21.1**	**-1.4**
	baz=59						
527A	**Woodward Ranch**	**59.17**	**325**	⇑P	**P**	**06 02 21.1**	**-1.8**
	baz=59,SNR=5.0						
ABTX	**Abilene, Hawle**	**59.17**	**330**	⇓P	**P**	**06 02 21.7**	**-1.0**
	baz=60						
526A	**Mary Lane Ranc**	**59.36**	**325**	⇑P	**P**	**06 02 22.9**	**-1.3**
	baz=60,SNR=5.6						
329A	**Wagon Wheel Ra**	**59.38**	**328**	⇓P	**P**	**06 02 22.8**	**-1.4**
	baz=60						
427A	**Hayter Ranch,**	**59.61**	**326**	⇑P	**P**	**06 02 24.8**	**-1.1**
	baz=60						
328A	**Wristen Ranch,**	**59.72**	**327**	⇓P	**P**	**06 02 25.3**	**-1.3**
	baz=60						
130A	**Snyder**	**59.78**	**329**	⇓P	**P**	**06 02 25.6**	**-1.3**
	baz=60						
426A	**McDonald Obser**	**59.80**	**325**	⇑P	**P**	**06 02 26.1**	**-1.2**
	baz=60						
Z31A	**Sharp Cattle R**	**59.98**	**330**	⇓P	**P**	**06 02 27.1**	**-1.1**
	baz=60						
129A	**Stewart Farms,**	**60.25**	**328**	⇓P	**P**	**06 02 28.9**	**-1.2**
	baz=60						
326A

	baz=65					
T26A	Comanche Natio	64.75 330	⇓P	P	06 02 59.3	-0.9
	baz=65					
P31A	Stockton	64.85 335	⇑P	P	06 02 59.7	-0.9
	baz=65					
V23A	Ortiz Mt. (NFS	64.89 327	⇑P	P	06 03 00.3	-0.8
	baz=65					
S26A	Kim	65.06 331	⇓P	P	06 03 01.5	-0.6
	baz=65					
T25A	Trinidad	65.11 330	⇓P	P	06 03 02.0	-0.6
	baz=65					
X20A	Quemado	65.18 325	⇓P	P	06 03 02.7	-0.4
	baz=66					
U23A	El Rito	65.34 328	⇓P	P	06 03 03.9	-0.1
	baz=66					
V22A	San Miguel Ran	65.39 327	⇑P	P	06 03 04.1	-0.3
	baz=66					
S25A	Roberts Cordova	65.54 330	⇓P	P	06 03 04.2	-1.0
	baz=66					
R26A	Arlington	65.59 331	⇑P	P	06 03 04.9	-0.6
	baz=66					
W20A	Ramah	65.62 325	⇓P	P	06 03 05.0	-0.9
	baz=66					
O30A	MW Ranch, Wils	65.69 335	⇓P	P	06 03 04.8	-1.2
	baz=66					
214A	Organ Pipe Nat	65.79 320	⇑P	P	06 03 07.1	+0.3
	baz=66					
BGNE	Belgrade	66.00 337	⇓P	P	06 03 06.9	-1.0
	baz=66					
SDCO	Great Sand Dun	66.12 329	*e*P	P	06 03 08.2	-0.8
	comp=E,4.8nm,1.1s					
Q26A	Hugo	66.13 331	⇓P	P	06 03 08.5	-0.5
	baz=66					
U21A	Nageezi	66.17 327	⇑P	P	06 03 09.1	-0.3
	baz=66					
R24A	Sanders Place,	66.31 330	⇑P	P	06 03 09.6	-0.6
	baz=67					
T21A	Navajo Lake	66.54 327	⇑P	P	06 03 10.9	-0.8
	baz=67					
U20A	Newcomb	66.58 326	⇓P	P	06 03 11.1	-0.8
	baz=67					
R23A	Moffat	66.63 329	⇓P	P	06 03 11.3	-1.0
	baz=67					
O27A	Beecher Island	66.71 333	⇓P	P	06 03 12.0	-0.6
	baz=67					
X16A	Lo Mia Camp, P	66.73 323	⇑P	P	06 03 12.0	-0.9
	baz=67					
P25A	Willow Gulch B	66.91 331	⇓P	P	06 03 13.4	-0.5
	baz=67					
L31A	Butterfield Fa	66.92 337	⇑P	P	06 03 13.1	-0.7
	baz=67					
Q24A	Divide	66.92 330	⇑P	P	06 03 13.6	-0.6
	baz=67					
113A	Mohawk Valley,	66.93 320	⇑P	P	06 03 13.2	-0.8
	baz=67					
S21A	Coal Bank Pass	67.19 328	⇑P	P	06 03 14.9	-1.0
	baz=68					
Y14A	Wickenburg	67.30 321	⇑P	P	06 03 15.8	-0.6
	baz=68					
S20A	Disappointment	67.60 327	⇑P	P	06 03 18.0	-0.5
	baz=68					
ISCO	Idaho Springs	67.80 330	⇓P	P	06 03 19.0	-0.8
	baz=68					
J30A	Dallas	68.15 337	⇓P	P	06 03 20.9	-0.6
	baz=68					
O23A	Lake Granby, G	68.27 331	⇑P	P	06 03 22.3	-0.4
	baz=69					
P21A	Newcastle	68.46 329	⇑P	P	06 03 23.3	-0.5
	baz=69					
DBIC	Dimbokro	68.47 74	P	P	06 03 24.3	+0.2
DBIC	Dimbokro	68.47 74	P	P	06 03 24.3	+0.2
	comp=E,4.5nm,0.5s,baz=227,slow=6.3,SNR=13					
O22A	Kremmling	68.52 330	⇑P	P	06 03 23.9	-0.4
	baz=69					
BC3	Big Chuckawall	68.57 320	⇑P	P	06 03 24.3	-0.2
	baz=69					
U15A	North Rim	68.66 324	⇑P	P	06 03 24.8	-0.3
	baz=69					
IRM	Iron Mountain	68.73 320	⇑P	P	06 03 25.4	+0.1
	baz=69					
M24A	Cheyenne	68.78 332	⇓P	P	06 03 25.8	+0.1
	baz=69					
N22A	Wattenberg Ran	68.99 331	⇓P	P	06 03 26.1	-0.9
	baz=69					
O21A	Pagoda	69.00 330	⇑P	P	06 03 25.0	-2.2
	baz=69					
I29A	Vivian Onida	69.05 337	⇑P	P	06 03 26.6	-0.5
	baz=69					
GMRC	Granite Mounta	69.46 321	⇑P	P	06 03 29.8	-0.2
	baz=70					
MURC	Murrieta	69.61 319	⇑P	P	06 03 30.4	-0.4
	baz=70					
N20A	Spence Gulch,	69.86 329	⇓P	P	06 03 32.4	0.0
	baz=70					
O19A	Miners Draw (B	69.87 329	⇑P	P	06 03 32.0	-0.4
	baz=70					
J24A	Dixon Ranch, L	70.22 333	⇓P	P	06 03 33.7	-0.6
	baz=70					
L21A	Rawlins	70.33 331	⇓P	P	06 03 34.4	-0.8
	baz=71					
M20A	Sweetwater, Wa	70.34 330	⇑P	P	06 03 34.5	-0.8
	baz=71					
I25A	Rochford	70.40 334	⇓P	P	06 03 34.9	-0.7
	baz=71					
K21A	Alcova	70.80 331	⇓P	P	06 03 37.3	-0.7
	baz=71					
L20A	Wamsutter	70.81 330	⇑P	P	06 03 37.1	-1.0
	baz=71					
H25A	Fruitdale	70.84 335	⇑P	P	06 03 37.4	-0.7
	baz=71					
G26A	Maurine	71.00 336	⇑P	P	06 03 38.1	-1.0
	baz=71					
DAU	Daniels Canyon	71.03 327	*e*P	P	06 03 38.4	-1.2
J22A	Midwest	71.07 332	⇑P	P	06 03 38.8	-0.8
	baz=71					
G27A	Dupree	71.20 336	⇑P	P	06 03 37.3	-2.9
	baz=71					
G25A	Newell	71.24 335	⇓P	P	06 03 39.5	-1.0
	baz=72					
H24A	Dirks Ranch, A	71.33 334	⇑P	P	06 03 40.4	-0.6
	baz=72					
I22A	9 Mile Ranch,	71.45 333	⇓P	P	06 03 41.1	-0.8
	baz=72					
L18A	Fontenelle, Gr	71.56 329	⇑P	P	06 03 41.6	-1.0
	baz=72					
I21A	Big Trails, Te	71.75 332	⇑P	P	06 03 42.9	-0.8
	baz=72					
F25A	Bowman	71.86 336	⇑P	P	06 03 43.6	-0.6
	baz=72					
MDND	Maddock	72.09 339	⇑P	P	06 03 45.1	-0.3
	baz=72					
J19A	Crowheart	72.12 331	⇓P	P	06 03 45.3	-0.6
	baz=72					
F24A	Ekalaka	72.19 335	⇓P	P	06 03 45.6	-0.5
	baz=72					
F23A	Volborg	72.47 334	⇑P	P	06 03 47.1	-0.8
	baz=73					
D25A	Fairfield	72.83 336	⇓P	P	06 03 49.5	-0.4
	baz=73					
F22A	Rosebud	72.87 334	⇓P	P	06 03 49.4	-0.8
	baz=73					
A29A	Manning Farm,	72.90 340	⇑P	P	06 03 49.4	-0.8
	baz=73					
TPAW	Teton Pass	73.18 330	*e*P	P	06 03 51.5	-0.8
G20A	Bridger	73.26 332	⇑P	P	06 03 51.7	-0.9
	baz=74					
H18A	Shoshone NF, C	73.49 331	⇑P	P	06 03 53.7	-0.3
	baz=74					
C24A	Savage	73.56 336	⇓P	P	06 03 53.9	-0.3
	baz=74					
D23A	Lindsay	73.57 335	⇓P	P	06 03 53.9	-0.4
	baz=74					
E21A	Keefer Ranch,	73.82 334	⇑P	P	06 03 55.4	-0.3
	baz=74					
D22A	Cohagen	73.94 335	⇑P	P	06 03 56.7	+0.3
	baz=74					
F19A	Roth Farm, Mol	74.08 332	⇓P	P	06 03 57.2	-0.1
	baz=74					
C23A	Lambert	74.08 336	⇑P	P	06 03 57.1	-0.2
	baz=74					
D21A	La Casta Ranch	74.21 334	⇓P	P	06 03 57.8	-0.2
	baz=74					
E20A	Meyer Farm, Mu	74.23 333	⇓P	P	06 03 57.9	-0.2
	baz=74					
E19A	Rath Farm, Rou	74.48 333	⇑P	P	06 03 59.0	-0.6
	baz=75					
B23A	Brockton	74.55 336	⇑P	P	06 03 59.7	-0.2
	baz=75					
D20A	Manuel Ranch,	74.70 334	⇑P	P	06 04 00.2	-0.7
	baz=75					
C21A	Desert Coulee	74.86 335	⇓P	P	06 04 00.8	-0.9
	baz=75					
A23A	Redstone	74.91 337	⇓P	P	06 04 02.1	+0.1
	baz=75					
HLID	Hailey	74.94 328	⇓P	P	06 04 02.6	+0.2
	baz=75					
D19A	Cripps Ranch,	75.07 333	⇓P	P	06 04 02.6	-0.4
	baz=75					
A22A	Carney Farms,	75.33 336	⇑P	P	06 04 04.2	-0.2
	baz=76					
B20A	Solberg Farm,	75.72 335	⇓P	P	06 04 06.1	-0.5
	baz=76					
A20A	Cobblestone Ra	76.03 335	⇑P	P	06 04 07.9	-0.5
	baz=76					
B19A	Brinkman Farms	76.11 334	⇓P	P	06 04 08.2	-0.6
	baz=76					
A19A	Klindworth Far	76.40 334	⇑P	P	06 04 09.9	-0.6
	baz=77					
TORD	Torodi Ar. Bea	76.96 71	P	P	06 04 13.2	-1.2
TORD			pP	pP	06 04 44.1	+3.4
TORD	Torodi Ar. Bea	76.96 71	P	P	06 04 13.2	-1.2
	comp=E,3.0nm,0.5s,baz=259,slow=5.7,SNR=27					
TORD			pP	pP	06 04 44.1	+3.4
	comp=E,2.5nm,0.7s,baz=265,slow=6.2,SNR=2.8					
ESDC	Sonseca Array	84.49 45	P	P	06 04 54.5	+0.5
ESDC	Sonseca Array	84.49 45	P	P	06 04 54.5	+0.5
	comp=E,0.7nm,0.6s,baz=247,slow=5.0,SNR=1.9					
BOSA	Boshof	84.84 118	P	P	06 04 55.4	-0.8
BOSA	Boshof	84.84 118	P	P	06 04 55.4	-0.8
	comp=E,3.6nm,0.9s,baz=192,slow=6.7,SNR=3.5					
YKA	Yellowknife Ar	88.94 341	P	P	06 05 14.3	-0.7
YKA			pP	pP	06 05 44.6	+2.7
YKA	Yellowknife Ar	88.94 341	P	P	06 05 14.3	-0.7
	comp=E,5.9nm,0.7s,baz=134,slow=4.8,SNR=12					
YKA			pP	pP	06 05 44.6	+2.7
	comp=E,1.8nm,0.6s,baz=131,slow=4.7,SNR=3.2					
ASAR	Alice Springs	131.72 209	PKP	PKPdf	06 11 33.8	-0.4
ASAR	Alice Springs	131.72 209	PKP	PKPdf	06 11 33.8	-0.4
	comp=E,0.7nm,0.5s,baz=127,slow=1.7,SNR=9.3					
WRA	Warramunga Arr	134.69 212	PKP	PKPdf	06 11 39.5	-0.4
WRA	Warramunga Arr	134.69 212	PKP	PKPdf	06 11 39.5	-0.4
	comp=E,1.2nm,0.6s,baz=145,slow=1.6,SNR=16					
MKAR	Makanchi Array	144.00 34	PKP	PKPbc	06 11 54.0	-0.1
MKAR	Makanchi Array	144.00 34	PKP	PKPbc	06 11 54.0	-0.1
	comp=E,0.3nm,0.7s,baz=303,slow=3.6,SNR=2.9					
MJAR	Matsushiro Arr	150.34 311	PKPbc	PKPbc	06 12 11.9	-0.3
MJAR	Matsushiro Arr	150.34 311	PKPbc	PKPbc	06 12 11.9	-0.3
	comp=E,1.6nm,0.7s,baz=181,slow=11,SNR=5.2					
SONM	Songino Array	151.26 6	PKPbc	PKPbc	06 12 13.7	-0.3
SONM			pPKPbc	pPKPbc	06 12 45.3	+3.1
SONM	Songino Array	151.26 6	PKPbc	PKPbc	06 12 13.7	-0.3
	comp=E,1.8nm,0.6s,baz=315,slow=1.3,SNR=11					
SONM			pPKPbc	pPKPbc	06 12 45.3	+3.1
	comp=E,2.6nm,0.8s,baz=319,slow=1.4,SNR=6.4					

IDC 30 05:53:25.8±0.9, 15°.79S×173°.11W, h0km, mb4.2/6, mb1 4.4/7, mb1mx4.1/20, mbtmp4.2/7, ML2.1/1, Error ellipse: s-maj=47.6km s-min=21.2km az=135.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.27	35	Pn	Pn	05 54 03.5	-1.1
	29nm,0.3s,baz=67,slow=22,SNR=2.9						
AFI				Sn	Sn	05 54 24.3	-9.1
	65nm,0.3s,baz=68,slow=22,SNR=2.5						
STKA	Stephens Creek	44.09 241		P	P	06 01 34.9	-1.0
	5.2nm,0.9s,baz=81,slow=8.1,SNR=4.9						
ASAR	Alice Springs	50.26 252		P	P	06 02 23.9	-0.4
	9.8nm,0.9s,baz=84,slow=8.7,SNR=23						
VNDA	Vanda	63.02 186		P	P	06 03 54.0	-0.1
	1.0nm,1.0s,baz=341,slow=5.6,SNR=4.4						
TXAR	Lajitas Array	80.59 56		P	P	06 05 40.9	+0.1
	0.5nm,0.9s,baz=238,slow=7.0,SNR=3.7						
PDAR	Pinedale Array	82.37 42		P	P	06 05 49.8	-0.2
	1.3nm,1.0s,baz=222,slow=1.8,SNR=5.0						
MAW	Mawson	87.51 199		P	P	06 06 15.0	-0.2
	2.6nm,0.9s,baz=86,slow=3.1,SNR=4.3						
KMBO	Kilima Mbogo	145.62 243		PKPbc	PKPab	06 13 08.6	+0.6
	0.7nm,0.3s,baz=156,slow=4.0,SNR=3.9						
BRTR	Keskin Array B	146.63 321		PKPbc	PKPbc	06 13 09.7	-0.3
	2.7nm,0.9s,baz=87,slow=2.7,SNR=9.4						

NIED ***30*** *05:53:00, 23°.20N×124°.40E, h5km, Mw4.5 Best double couple: M0 6.47000×10^15 NP1:φs=239.00000°, δ58.00000°, λ-120.00000°. NP2:φs=106.00000°, δ43.00000°, λ-52.00000°.*

NEIC ***30*** *05:53:56.9±0.2, 23°.13N×124°.32E, h10km, mb5.0/24, MW4.5(NIED), Error ellipse: s-maj=5.5km s-min=3.8km az=166.0*

ISCJB ***30*** *05:53:56.4±0.8, 23°.18N±0°.03×124°.40E±0°.03, h18km±5km, mb4.7/77, MS4.3/7, Error ellipse: s-maj=5.4km s-min=4.2km az=151.2*

MOS ***30*** *05:53:58.5±1.0, 23°.19N×124°.37E, h33km, mb5.1/31, Error ellipse: s-maj=9.6km s-min=6.0km az=110.0*

JMA ***30*** *05:53:58.6±0.4, 23°.23N×124°.40E, h37km, M4.6*

BJI ***30*** *05:53:58.7, 23°.57N×124°.26E, h10km, mB4.8/27, mb4.5/37, Ms4.4/27, Ms7 4.2/29*

IDC ***30*** *05:54:00.8±0.5, 23°.19N×124°.40E, h39km±3km, mb4.2/23, mb1 4.3/26, mb1mx4.3/32, mbtmp4.2/26, ML4.0/3, Error ellipse: s-maj=14.8km s-min=10.1km az=73.0*

SZGRF ***30*** *05:54:05.4, 23°.58N×123°.45E, h42km, mb5.1, Southwestern Ryukyu Islands, Japan*

BKK ***30*** *05:54:42.5±2.2, 23°N±8°×12°5E±1°1, h481km±28km, M4.4/12, mB5.0/1, mb4.4/12, Mw(mB)4.4/1*

ISC 30 05:54:01.2±0.5, 23°.37N±0°.06×124°.42E±0°.03, h31km±1km, h31km:pP-P, n195, σ1$63/244, mb4.8/77, MS4.2/8, 6C-2D, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	Hateruma jima	0.89	321	P	Pb	05 54 16.1	-2.0
HATJ				S	Sn	05 54 28.6	-0.7
JKRS	Kuro-shima	0.94	337	P	Pn	05 54 17.9	-0.4
JKRS				S	Sn	05 54 31.9	+1.2
JIJ	Ishigaki jima	1.02	346	P	Pn	05 54 18.7	-0.7
JIJ				S	Sn	05 54 32.7	+0.1
IRIF	Iriomote-Funau	1.15	327	P	Pn	05 54 20.7	-0.4
IRIF				S	Sb	05 54 36.1	-1.0
JTJ	Tarama	1.29	11	P	Pn	05 54 22.7	-0.4
JTJ				S	Sb	05 54 41.2	0.0
JMJ	Miyako jima 2	1.65	29	*e*S	Sb	05 54 49.3	-2.0
JOGS	Gusukube	1.65	33	P	Pn	05 54 27.7	-0.3
JOGS				S	Sn	05 54 49.5	+1.3
YOJ	Yonaguni jima	1.69	310	P	Pn	05 54 27.7	-0.8
YOJ				S	Sn	05 54 48.2	-0.9
NACB	Ninganchiao	2.71	288	*e*Pn	Pn	05 54 39.7	-2.8
YULB	Yu-li	2.87	271	*e*Pn	Pn	05 54 40.8	-4.0
YHNB	Yeheng	3.07	296	*e*Pn	Pn	05 54 46.4	-1.2
TATO	Taipei	3.12	301	*e*Pn	Pn	05 54 47.5	-0.7
TWG	Pinlang	3.13	261	*e*Pn	Pn	05 54 44.0	-4.3
SSLB	Suanglung	3.21	278	*e*Pn	Pn	05 54 46.6	-2.8
TPUB	Ta-pu	3.48	270	*e*Pn	Pn	05 54 51.0	-2.2
JKE	Kume jima 2	3.65	36	P	Pn	05 54 54.1	-1.3
JKE				*e*S	Sn	05 55 35.6	-1.8
JAGN	Aguni-jima	4.10	38	P	Pn	05 55 02.4	+0.7
JAGN				*e*S	Sn	05 55 47.0	-1.7
JIH	Iheya	4.86	41	P	Pn	05 55 10.4	-1.8
JOW	Kunigami	4.91	45	P	Pn	05 55 11.0	-1.8
JOW				*e*S	Sn	05 56 05.1	-3.5
JOW	Kunigami	4.91	45	*e*Pn	Pn	05 55 11.2	-1.6
JTK	Tokunoshima	6.01	42	P	Pn	05 55 25.2	-2.7
JTK				*e*S	Sn	05 56 31.3	-4.3
CVP	Callao Caves	6.14	204	*e*P	Pn	05 55 24.2	-5.5
JAMN	Amaminishikomi	6.47	40	P	Pn	05 55 31.1	-3.2
JAMN				*e*S	Sn	05 56 40.2	-6.9
JMZ	Minamidaito 2	6.65	67	P	Pn	05 55 32.9	-3.9
JAM	Amami Oshima	6.86	42	P	Pn	05 55 36.3	-3.2
NJ2	Nanjing	9.96	332	*e*P	Pn	05 56 19.0	-3.0
NJ2				pmax	pmax		
	comp=Z,20nm,0.9s						
NJ2				LR	LR		
	comp=N,1μm,12.0s						
NJ2				LR	LR		
	comp=E,380nm,16.3s						
NJ2				LR	LR		
	comp=Z,490nm,7.2s						
JNU	Nakatsue	11.26	29	Pn	Pn	05 56 40.8	+0.9
JNU	Nakatsue	11.26	29	Pn	Pn	05 56 40.8	+0.9
	comp=Z,0.9nm,0.3s,baz=204,slow=3.2,SNR=5.6						
QIZ	Qiongzhong	14.26	255	P	Pn	05 57 22.5	+1.4
QIZ				S	Sn	06 00 01.0	+2.7
QIZ				pmax	pmax		
	comp=Z,45nm,2.0s						
KSAR	Wonju Array Be	14.34	11	Pn	Pn	05 57 22.8	+0.8
KSRS	Korea Array	14.36	11	Pn	Pn	05 57 22.8	+0.5
	comp=Z,0.4nm,0.3s,baz=185,slow=13,SNR=15						
ENH	Enshi	14.99	300	*e*P	P	05 57 36.9	+0.9
	comp=Z,24nm,0.8s						
GYA	Guiyang	16.40	284	P	Pn	05 57 46.5	-2.7
GYA				PP	pP	05 58 00.3	+0.2
GYA				S	Sn	06 00 46.5	-3.9
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,4.6s						
GYA				LR	LR		
	comp=N,3μm,14.4s						
GYA				LR	LR		
	comp=E,1μm,15.7s						
GYA				LR	LR		
	comp=Z,2μm,13.1s						
MAT	Matsushiro	17.72	39	P	P	05 58 08.4	+2.2
MAJO	Matsushiro	17.72	39	*e*P	P	05 58 07.9	+1.6
MAJO				pmax	pmax		
	comp=Z,43nm,0.7s						
MAJO	Matsushiro	17.72	39	*e*Pn	P	05 58 07.9	+1.6
	comp=Z,43nm,0.7s						
MJAR	Matsushiro Arr	17.72	39	P	P	05 58 07.1	+0.9
MJAR	Matsushiro Arr	17.72	39	P	P	05 58 07.1	+0.9
	comp=Z,1.1nm,0.3s,baz=229,slow=11,SNR=39						
BJI	Beijing	18.03	339	P	Pn	05 58 05.5	-3.7
BJI				S	Sn	06 01 21.8	-7.6
BJI				pmax	pmax		
	comp=Z,16nm,0.5s						
BJI				LR	LR		
	comp=N,540nm,17.5s						
BJI				LR	LR		
	comp=E,560nm,16.6s						
BJI				LR	LR		
	comp=Z,370nm,25.8s						
SNY	Shenyang	18.42	358	⇓P	Pn	05 58 14.3	+0.3
SNY				pmax	pmax		
	comp=Z,14nm,0.7s						
SNY				LR	LR		
	comp=N,660nm,12.6s						
SNY				LR	LR		
	comp=E,430nm,12.6s						
SNY				LR	LR		
	comp=Z,750nm,12.6s						
CD2	Chengdu	19.84	297	P	Pn	05 58 31.5	+0.2
CD2				pP	pP	05 58 35.3	-2.7
CD2				sP	sP	05 58 38.5	-3.5
CD2				PP	PnPn	05 58 49.3	+3.7
CD2				pmax	pmax		
	comp=Z,30nm,0.7s						
CD2				pmax	pmax		
	comp=Z,410nm,4.5s						
CD2				LR	LR		
	comp=N,5μm,8.0s						
CD2				LR	LR		
	comp=Z,2μm,6.5s						
KMI	Kunming	19.85	279	P	Pn	05 58 31.8	+0.2
KMI				S	S	06 02 06.5	-5.4
KMI				LR	LR		
	comp=Z,340nm,51.0s						
CN2	Changchun	20.40	2	*e*P	P	05 58 35.3	-0.1
CN2				*es*P	sP	05 58 44.0	-3.8
CN2				*e*S	S	06 02 14.3	-7.9
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,700nm,19.0s						
CN2				LR	LR		
	comp=E,500nm,19.0s						
CN2				LR	LR		
	comp=Z,800nm,15.0s						
HHC	Hu-ho-hao-te	20.51	331	*e*P	P	05 58 34.0	-2.8
HHC				S	S	06 02 13.3	-12
HHC				PcS	PcS	06 06 25.8	+0.4
HHC				pmax	pmax		
	comp=Z,30nm,1.1s						
HHC				pmax	pmax		
	comp=Z,180nm,5.5s						
HHC				LR	LR		
	comp=N,2μm,14.3s						
HHC				LR	LR		
	comp=E,2μm,12.4s						
HHC				LR	LR		
	comp=Z,1μm,13.3s						
NONG	Nongkai	20.58	259	P	Pn	05 58 53.1	+13
	comp=Z,63nm,1.1s						
USRK	Ussuriysk Arra	21.69	15	P	P	05 58 50.4	+1.1
	comp=Z,8.1nm,0.8s,baz=197,slow=8.8,SNR=19						
LZH	Lanzhou	21.85	310	*e*P	P	05 58 54.0	+2.6
LZH				pP	pP	05 58 59.0	-0.8
LZH				sP	sP	05 59 03.5	-0.3
LZH				PP	PnPn	05 59 18.3	+5.1
LZH				S	S	06 02 46.3	-5.1
LZH				pmax	pmax		
	comp=Z,33nm,1.1s						
LZH				pmax	pmax		
	comp=Z,150nm,4.0s						
LZH				LR	LR		
	comp=N,810nm,9.8s						
LZH				LR	LR		
	comp=E,990nm,10.3s						
LZH				LR	LR		
	comp=Z,1μm,10.8s						
SUKH	Sukhothai	23.94	260	P	P	05 59 25.3	+13
	comp=Z,5.4nm,0.9s						
CHTO	Chiang Mai	24.18	264	*e*P	P	05 59 13.7	-1.3
CHTO				*e*PP	pP	05 59 25.6	+1.6
CHTO				pmax	pmax		
	comp=Z,43nm,1.0s						
CHTO	Chiang Mai	24.18	264	*e*P	P	05 59 13.7	-1.3
	comp=Z,43nm,1.0s						
CHTO				*e*pP	pP	05 59 25.6	+1.6
CHTO	Chiang Mai	24.18	264	P	P	05 59 26.6	+12
	comp=Z,59nm,1.9s						
CMAR	Chiang Mai Arr	24.28	263	P	P	05 59 14.5	-1.3
CMAR				pP	pP	05 59 26.8	+1.8
CMAR	Chiang Mai Arr	24.28	263	P	P	05 59 14.5	-1.3
	comp=Z,3.1nm,0.8s,baz=69,slow=7.9,SNR=13						
CMAR				pP	pP	05 59 26.8	+1.8
	comp=Z,9.1nm,0.9s,baz=67,slow=7.6,SNR=13						
ERM	Erimo	24.29	36	*e*P	P	05 59 17.1	+1.4
ERM				*e*PP	pP	05 59 24.4	-0.3
ERM				pmax	pmax		
	comp=Z,52nm,0.9s						
ERM	Erimo	24.29	36	*e*P	P	05 59 17.1	+1.4
	comp=Z,52nm,0.9s						
ERM				*e*pP	pP	05 59 24.4	-0.3
ASAJ	Asahikawa	25.52	31	P	P	05 59 27.0	+0.2
ASAJ	Asahikawa	25.52	31	P	P	05 59 27.0	+0.2
	comp=Z,4.4nm,0.3s,baz=234,slow=27,SNR=3.8						
GTA	Gaotai	26.28	313	*e*P	P	05 59 34.0	+0.1
GTA				pP	pP	05 59 38.5	-4.5
GTA				sP	sP	05 59 41.0	-5.8
GTA				S	S	06 04 04.8	+0.1
GTA				sS	sS	06 04 10.8	-8.9
GTA				SS	SnSn	06 05 11.3	+5.6
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,110nm,3.8s						
GTA				LR	LR		
	comp=N,300nm,14.3s						
GTA				LR	LR		
	comp=E,200nm,16.1s						
GTA				LR	LR		
	comp=Z,340nm,13.3s						
HABR	Khabarovsk	26.44	16	*e*P	P	05 59 34.1	-1.0
HABR				*e*PP	pP	05 59 43.5	-0.6
HABR				*e*SP	sP	05 59 47.8	-0.1
HABR				*e*		06 02 56.6	
HABR				*e*S	S	06 04 08.0	+1.4
HABR				*e*SS	sS	06 04 24.2	+2.6
HABR				*e*		06 10 24.0	
HABR				pmax	pmax		

comp=Z,24nm,1.7s
KLR Kul'dur 26.45 11 *e*P **P 05 59 33.1 -2.1**
KLR MLR MLR
comp=Z,500nm,12.0s
YSS Yuzh-Sakhalins 27.76 28 *e*P **P 05 59 45.8 -1.2**
SONM Songino Array 28.34 334 P **P 05 59 52.3 0.0**
SONM Songino Array 28.34 334 P **P 05 59 52.3 0.0**
comp=Z,3.0nm,0.8s,baz=151,slow=10,SNR=14
WMQ Urumqi 36.37 313 *e*P **P 06 01 02.5 0.0**
WMQ pP **pP** 06 01 07.5 -4.2
WMQ sP sP 06 01 09.5 -6.0
WMQ pmax pmax
comp=Z,11nm,1.0s
WMQ pmax pmax
comp=Z,100nm,4.2s
WMQ LR LR
comp=N,140nm,27.0s
WMQ LR LR
comp=E,280nm,18.0s
WMQ LR LR
comp=Z,190nm,20.3s
HVS Khovu-Aksy 36.49 327 *i* P **P 06 01 03.9 +0.4**
HVS pmax pmax
comp=Z,16nm,1.1s
PETK Petropavlovsk- 38.94 32 P **P 06 01 25.0 +0.9**
PETK Petropavlovsk- 38.94 32 P **P 06 01 25.0 +0.9**
PETK Petropavlovsk- 38.94 32 P **P 06 01 25.0 +0.9**
comp=Z,4.6nm,0.8s,baz=218,slow=6.8,SNR=4.8
PET Petropavlovsk 39.35 32 *e*P **P 06 01 27.7 +0.2**
PET *e*S **S 06 07 26.7 +0.1**
PET pmax pmax
comp=Z,22nm,0.7s
MK31 Makanchi Array 40.99 315 *ce*P **P 06 01 40.9 -0.3**
MK31 pmax pmax
comp=Z,4.0nm,0.4s
MK31 Makanchi Array 40.99 315 *e*P **P 06 01 41.3 0.0**
MKAR Makanchi Array 40.99 315 *e*P **P 06 01 41.4 +0.2**
MKAR *PP **pP** 06 01 52.4 +1.9
MKAR Makanchi Array 40.99 315 *e*P **P 06 01 41.4 +0.2**
MKAR pP **pP** 06 01 52.4 +1.9
MKAR Makanchi Array 40.99 315 P **P 06 01 41.2 0.0**
comp=Z,6.8nm,0.6s,baz=99,slow=9.3,SNR=57
MKAR pP **pP** 06 01 52.4 +1.9
comp=Z,8.4nm,0.6s,baz=109,slow=9.4,SNR=13
FITZ Fitzroy Crossi 41.23 178 P P 06 01 39.4 -3.9
FITZ Fitzroy Crossi 41.23 178 P P 06 01 39.4 -3.9
comp=Z,1.9nm,0.7s,baz=328,slow=3.8,SNR=6.3
ZAA0 Zalesovo Array 42.55 326 *e*P **P 06 01 53.5 -0.4**
ZALV Zalesovo Beam 42.55 326 P **P 06 01 52.8 -1.0**
ZALV *PP **pP** 06 02 03.8 +0.7
ZALV Zalesovo Beam 42.55 326 P **P 06 01 52.8 -1.0**
ZALV pP **pP** 06 02 03.8 +0.7
ZALV Zalesovo Beam 42.55 326 P **P 06 01 52.8 -1.0**
comp=Z,2.9nm,0.5s,baz=111,slow=8.1,SNR=16
ZALV pP **pP** 06 02 03.8 +0.7
comp=Z,6.2nm,0.5s,baz=127,slow=8.4,SNR=9.9
NVS Novosibirsk 43.80 327 *e*P **P 06 02 02.4 -1.5**
KSH Kashi 43.83 303 *e*P P 06 02 08.3 +3.8
KSH pP pP 06 02 12.8 -1.1
KSH PP **PcP** 06 03 52.0 +1.3
KSH PcS **PcS** 06 07 46.5 +2.8
KSH S **S** 06 08 38.0 +4.4
KSH ScS **ScS** 06 12 04.8 +3.2
KSH pmax pmax
comp=Z,7.0nm,1.1s
KSH pmax pmax
comp=Z,85nm,6.8s
KSH LR LR
comp=N,130nm,5.7s
KSH LR LR
comp=E,150nm,6.3s
KSH LR LR
comp=Z,190nm,9.8s
WRAB Tennant Creek 44.12 167 *e*P P 06 02 03.9 -2.9
WRAB pmax pmax
comp=Z,18nm,0.8s
WRAB Tennant Creek 44.12 167 *e*P P 06 02 03.9 -2.9
comp=Z,18nm,0.8s
WRA Warramunga Arr 44.12 167 P P 06 02 04.0 -2.8
WRA pP pP 06 02 15.3 -0.9
WRA Warramunga Arr 44.12 167 P P 06 02 04.0 -2.8
comp=Z,9.8nm,0.8s,baz=347,slow=8.9,SNR=49
WRA pP pP 06 02 15.3 -0.9
comp=Z,19nm,0.6s,baz=346,slow=8.8,SNR=19
TKM2 Tokmak 2 44.60 308 *e*P **P 06 02 11.5 +0.7**
TKM2 pmax pmax
comp=Z,34nm,0.7s
TKM2 Tokmak 2 44.60 308 *e*P **P 06 02 11.5 +0.7**
comp=Z,34nm,0.7s
KURK Kurchatov 44.62 320 *e*P **P 06 02 10.0 -0.6**
KURK *PP **pP** 06 02 21.6 +1.7
KURK pmax pmax
comp=Z,24nm,1.4s
KURK Kurchatov 44.62 320 *e*P **P 06 02 10.0 -0.6**
comp=Z,24nm,1.4s
KURK pP **pP** 06 02 21.6 +1.7
KURBB Kurchatov Arra 44.65 319 P **P 06 02 10.7 -0.1**
comp=Z,7.1nm,0.7s,baz=110,slow=8.1,SNR=46
KURBB pP **pP** 06 02 21.6 +1.5
comp=Z,6.7nm,0.7s,baz=112,slow=8.3,SNR=12
AAK Ala-Archa 45.35 307⇑ *e*P **P 06 02 16.8 0.0**
AAK pmax pmax
comp=Z,8.0nm,0.9s
AAK Ala-Archa 45.35 307 *e*P **P 06 02 17.1 +0.3**
AAK Ala-Archa 45.35 307 P **P 06 02 16.7 0.0**
comp=Z,4.8nm,0.7s,baz=91,slow=5.1,SNR=7.2
EKS2 Erkin-Say 45.88 307 *e*P **P 06 02 20.9 +0.1**
EKS2 pmax pmax
comp=Z,7.0nm,0.8s
EKS2 Erkin-Say 45.88 307 *e*P **P 06 02 20.9 +0.1**
comp=Z,7.3nm,0.8s
AS31 Alice Springs 47.65 168 *e*P P 06 02 32.1 -2.6
ASAR Alice Springs 47.65 168 P P 06 02 31.9 -2.8
ASAR pP pP 06 02 43.6 -0.5
ASAR Alice Springs 47.65 168 P P 06 02 31.9 -2.8
comp=Z,2.0nm,0.7s,baz=350,slow=7.2,SNR=4.8
ASAR pP pP 06 02 43.6 -0.5
comp=Z,9.3nm,0.6s,baz=350,slow=9.9,SNR=15
KK31 Karatay Array 48.32 308 *ce*P **P 06 02 39.8 +0.1**
KK31 pmax pmax
comp=Z,3.0nm,0.4s
KKAR Karatay Array 48.32 308 *e*P **P 06 02 40.0 +0.3**
KKAR Karatay Array 48.32 308 *e*P **P 06 02 40.0 +0.3**
TIXI Tiksi 48.37 2 *i* P **P 06 02 38.7 -0.9**
TIXI pmax pmax
comp=Z,13nm,1.1s
KBL Kabul 49.19 296 *e*P **P 06 02 46.4 -0.4**
KBL pmax pmax
comp=Z,12nm,1.0s
KBL Kabul 49.19 296 *e*P **P 06 02 46.4 -0.4**
comp=Z,12nm,1.0s
VOSK Vostochnaya 49.76 320 *e*P **P 06 02 50.4 -0.2**
VOSK pmax pmax
comp=Z,6.0nm,0.6s
VOSK Vostochnaya 49.76 320 *e*P **P 06 02 50.4 -0.2**
comp=Z,5.6nm,0.6s
BVA0 Borovoye Array 50.18 320 P **P 06 02 53.5 -0.3**
BVA0 pmax pmax
comp=Z,14nm,1.4s
BVAR Borovoye Array 50.18 320 P **P 06 02 53.4 -0.4**
BVAR *PP **pP** 06 03 04.7 +1.4
BVAR 06 04 11.5
BVAR Borovoye Array 50.18 320 P **P 06 02 53.4 -0.4**
BVAR pP **pP** 06 03 04.7 +1.4
BVAR PcP **PcP** 06 04 11.5 -1.2
BVAR Borovoye Array 50.18 320 P **P 06 02 53.4 -0.4**
comp=Z,2.7nm,0.5s,baz=112,slow=7.7,SNR=8.8
BVAR pP **pP** 06 03 04.7 +1.4
comp=Z,3.5nm,0.5s,baz=109,slow=7.4,SNR=9.7
BVAR PcP **PcP** 06 04 11.5 -1.2
comp=Z,1.8nm,0.6s,baz=98,slow=3.0,SNR=4.2
BRVK Borovoye 50.25 320 *ce*P **P 06 02 53.8 -0.5**
BRVK pmax pmax
comp=Z,22nm,2.5s
BRVK Borovoye 50.25 320 *e*P **P 06 02 54.4 +0.1**
comp=Z,15nm,1.1s
AB31 Akbulak array 56.13 315 *ce*P **P 06 03 37.0 -0.6**
AB31 pmax pmax
comp=Z,6.0nm,0.4s
ABKAR Akbulak array 56.13 315 *e*P **P 06 03 37.4 -0.2**
SVE Sverdlovsk 56.45 324 *e*P **P 06 03 39.9 +0.1**
SVE pmax pmax
comp=Z,19nm,0.9s
STKA Stephens Creek 57.34 163 P P 06 03 44.1 -2.2
STKA Stephens Creek 57.34 163 P P 06 03 44.1 -2.2
comp=Z,2.5nm,0.8s,baz=305,slow=15,SNR=3.3
AKTO Aktyubinsk 57.42 316 P **P 06 03 46.3 -0.5**
AKTO Aktyubinsk 57.42 316 P **P 06 03 46.2 -0.5**
AKTO Aktyubinsk 57.42 316 P **P 06 03 46.2 -0.5**
comp=Z,3.1nm,0.6s,baz=96,slow=10,SNR=5.7
ARU Arti 57.54 323 *d i*P **P 06 03 47.4 -0.1**
ARU 06 05 54.5
ARU S **S 06 11 47.2 +4.2**
ARU SS **SS 06 15 35.7 +2.9**
ARU pmax pmax
comp=Z,13nm,1.7s
IM04 Indian Mountai 65.57 26 *e*P **P 06 04 41.8 +0.2**
IMA2 Indian Mountai 65.61 26 *e*P **P 06 04 43.1 +1.1**
CAST Castle Rocks 66.48 29 *e*P **P 06 04 48.8 +1.3**
comp=Z,21nm,0.8s
PPLA Purkeypile 66.48 30 *e*P **P 06 04 48.6 +1.0**
comp=Z,66nm,1.8s
SPU Mount Spurr 66.72 32 *e*P **P 06 04 50.0 +1.0**
BPAW Bear Paw Mtn. 66.90 28 *e*P **P 06 04 51.4 +1.3**
comp=Z,25nm,1.2s
COLD Coldfoot 66.91 25 *e*P **P 06 04 51.8 +1.6**
comp=Z,22nm,1.6s
TRF Thorofare Moun 67.28 29 *e*P **P 06 04 53.4 +0.6**
comp=Z,11nm,1.0s
KLMR Klimovskoe 67.43 328 *e*P **P 06 04 51.6 -1.8**
KLMR pmax pmax
comp=Z,33nm,1.5s
VRHR Novokhopersk 67.74 317 *e*P **P 06 04 53.5 -2.1**
VRHR pmax pmax
comp=Z,20nm,0.4s
VRHR pmax pmax
comp=N,50nm,0.7s
VRHR pmax pmax
comp=E,20nm,0.4s
ZEI Tsey 67.77 308 *e*P **P 06 04 54.9 -1.3**
ZEI pmax pmax
comp=Z,21nm,1.0s
MCK McKinley 67.84 29 *e*P **P 06 04 56.9 +0.8**
MCK pmax pmax
comp=Z,31nm,1.0s
MCK McKinley 67.84 29 *e*P **P 06 04 56.9 +0.8**
comp=Z,30nm,1.0s
PMR Palmer 68.06 31 *e*P **P 06 04 57.6 +0.2**
PMR pmax pmax
comp=Z,17nm,1.2s
PMR Palmer 68.06 31 *e*P **P 06 04 57.6 +0.2**
comp=Z,17nm,1.2s
COLA College 68.15 27 *e*P **P 06 04 59.8 +1.9**
COLA pmax pmax
comp=Z,10.0nm,0.8s
COLA College 68.15 27 *e*P **P 06 04 59.8 +1.9**
comp=Z,10.0nm,0.8s
KBZ Khabaz 68.29 309 P **P 06 04 57.8 -1.4**
KBZ Khabaz 68.29 309 P **P 06 04 57.8 -1.4**
KBZ Khabaz 68.29 309 P **P 06 04 57.8 -1.4**
comp=Z,7.1nm,0.9s,baz=155,slow=4.5,SNR=7.0
KIV Kislovodsk 68.39 310 *e*P **P 06 05 00.0 0.0**
KIV pmax pmax
comp=Z,12nm,1.1s
ILAR Eielson Array 68.57 27 P **P 06 05 00.4 -0.2**
ILAR pP **pP** 06 05 12.2 +1.8
ILAR Eielson Array 68.57 27 P **P 06 05 00.4 -0.2**
comp=Z,2.4nm,0.7s,baz=282,slow=5.7,SNR=22
ILAR pP **pP** 06 05 12.2 +1.8
comp=Z,2.3nm,0.7s,baz=286,slow=6.2,SNR=6.3
APA Apatity 69.03 336⇑ *i*P **P 06 05 04.8 +1.4**
VORD Divnogorie 69.21 318 *e*P **P 06 05 03.1 -1.7**
VORD pmax pmax
comp=Z,9.0nm,1.0s
VORD pmax pmax
comp=N,9.0nm,0.7s
VORD pmax pmax
comp=E,20nm,0.6s
VSR Storozhevoye 69.24 318 *e*P **P 06 05 04.0 -1.0**
VSR pmax pmax
comp=Z,20nm,1.2s
VSR pmax pmax
comp=N,20nm,1.3s
VSR pmax pmax
comp=E,20nm,1.2s
PAX Paxson 69.51 29 *e*P **P 06 05 07.2 +0.6**
PAX pmax pmax
comp=Z,10.0nm,1.0s
PAX Paxson 69.51 29 *e*P **P 06 05 07.2 +0.6**
comp=Z,9.7nm,1.0s
OBN Obninsk 69.97 322 P **P 06 05 09.0 -0.4**
OBN *e* 06 05 20.4
OBN 06 05 33.0
OBN pmax pmax
comp=Z,11nm,1.3s
OBN MLR MLR
comp=Z,100nm,15.0s
MENT Mentasta 70.30 29 *e*P **P 06 05 12.2 +0.9**
EGAK Eagle 70.97 27 *e*P **P 06 05 16.2 +0.8**
comp=Z,11nm,0.8s
RAYN Ar Rayn 71.42 288 *e*P **P 06 05 18.0 -0.9**
comp=Z,5.0nm,0.9s
DAWY Dawson 71.90 27 *e*P **P 06 05 21.8 +0.7**
INK Inuvik 72.86 22 *e*P **P 06 05 26.9 +0.3**
comp=Z,14nm,1.4s
FINES FINESS Array B 73.63 330 P **P 06 05 30.9 -0.4**
FINES FINESS Array B 73.63 330 P **P 06 05 30.9 -0.4**
comp=Z,4.1nm,0.7s,baz=64,slow=4.4,SNR=10
HYT Haines Junctio 73.71 30 *e*P **P 06 05 33.3 +1.4**
AKASG Malin Array Be 75.44 319 P **P 06 05 40.6 -1.4**
AKASG *PP **pP** 06 05 52.5 +0.6
AKASG Malin Array Be 75.44 319 P **P 06 05 40.6 -1.4**
AKASG pP **pP** 06 05 52.5 +0.6
AKASG Malin Array Be 75.44 319 P **P 06 05 40.6 -1.4**
comp=Z,0.7nm,0.4s,baz=58,slow=6.0,SNR=16
AKASG pP **pP** 06 05 52.5 +0.6
comp=Z,6.0nm,0.7s,baz=59,slow=6.3,SNR=11
KIEV Kiev 75.45 319 *i* P **P 06 05 40.5 -1.5**
BRTR Keskin Array B 76.03 307 P **P 06 05 45.2 -0.6**
BRTR pP **PcP** 06 05 57.0 -1.0
BRTR Keskin Array B 76.03 307 P **P 06 05 45.2 -0.6**
comp=Z,2.1nm,0.8s,baz=93,slow=4.9,SNR=11
BRTR pP **PcP** 06 05 57.0 -1.0
comp=Z,2.5nm,0.8s,baz=126,slow=6.4,SNR=6.7
SUW Suwalki 77.72 324 *e*P **P 06 05 54.4 -0.4**
KWP Kalwaria Pacla 79.73 320 *e*P **P 06 06 06.1 +0.1**
NB2 NORSAR Subarra 80.31 333 P **P 06 06 07.9 -1.1**
comp=Z,2.0nm,0.6s,baz=56,slow=5.6
NOA NORSAR Array B 80.31 333 P **P 06 06 08.0 -0.9**
NOA pP **pP** 06 06 19.9 +1.0
NOA NORSAR Array B 80.31 333 P **P 06 06 08.0 -0.9**
comp=Z,4.0nm,0.8s,baz=56,slow=5.4,SNR=9.4
NOA pP **pP** 06 06 19.9 +1.0
comp=Z,4.7nm,0.7s,baz=56,slow=5.4,SNR=7.5
STHS Stebnicka Huta 80.68 320 *e*P **P 06 06 11.9 +0.7**
STHS pmax pmax
comp=Z,6.0nm,1.4s
STHS Stebnicka Huta 80.68 320 *e*P **P 06 06 11.9 +0.7**
CRVS Cervenica-Dubn 80.77 319 *e*P **P 06 06 12.9 +1.2**
CRVS *e* 06 06 24.6
CRVS Cervenica-Dubn 80.77 319 *e*P **P 06 06 12.9 +1.2**
CRVS *e* 06 06 24.6
YKA Yellowknife Ar 82.55 24 P **P 06 06 20.5 -0.2**
YKA Yellowknife Ar 82.55 24 P **P 06 06 20.5 -0.2**
comp=Z,7.3nm,1.1s,baz=310,slow=4.9,SNR=6.2
BRG Berggiesshubel 84.18 323 *e*P pP 06 06 42.7 +3.4
comp=Z,6.0nm,1.1s
BRG Berggiesshubel 84.18 323 *e*P **pP 06 06 42.7 +3.4**
BRG pmax pmax
comp=Z,16nm,1.1s
CLL Collm 84.47 324 *e*P **P 06 06 29.9 -0.8**
comp=Z,10.0nm,1.2s
CLL Collm 84.47 324 *i* P **P 06 06 30.0 -0.8**
CLL *e* 06 06 42.0
CLL pmax pmax
comp=Z,10.0nm,1.3s
CLL MLR MLR
comp=Z,200nm,21.0s
CLL Collm 84.47 324 *i* P **P 06 06 30.0 -0.8**
comp=Z,10.0nm,1.3s
CLL *e* 06 06 42.0
CLL *e*PP **PP 06 09 47.0 +1.3**
BSEG Bad Segeberg 84.48 327 *e*P **P 06 06 30.7 -0.1**
comp=Z,25nm,1.4s
TANN Tannenbergstha 85.22 323 *e*P **P 06 06 33.9 -0.8**
comp=Z,14nm,1.6s
GEC2 GERESS Array S 85.33 322 *e*pP pP 06 06 46.9 +1.6
GEC2 GERESS Array S 85.33 322 *e*P pP 06 06 47.3 +1.9
GEC2 GERESS Array S 85.33 322 *e*pP pP 06 06 47.3 +1.9
GERES GERESS Array B 85.33 322 P **P 06 06 34.6 -0.7**
GERES pP **pP 06 06 47.0 +1.6**
GERES GERESS Array B 85.33 322 P **P 06 06 34.6 -0.7**
comp=Z,1.6nm,0.9s,baz=57,slow=4.9,SNR=7.1
GERES pP **pP 06 06 47.0 +1.6**
comp=Z,4.0nm,0.8s,baz=57,slow=4.9,SNR=8.6
NRDL Niedersach Rie 85.37 326 *e*P **P 06 06 34.9 -0.3**
comp=Z,27nm,1.8s
MOX Moxa 85.56 324 *e*P **P 06 06 35.6 -0.7**
comp=Z,10.0nm,1.4s
CLZ Clausthal 85.58 325 *e*P **P 06 06 36.3 -0.2**
comp=Z,27nm,1.3s
CLZ *e*pP **pP 06 06 48.7 +2.2**
ROTZ Rotzenmuhle 85.70 323 *e*P **P 06 06 36.9 -0.1**
comp=Z,11nm,1.4s
ROTZ *e*pP **pP 06 06 49.0 +2.0**
GRF Grafenberg Arr 86.28 323 *e*P **P 06 06 39.5 -0.4**
comp=Z,11nm,1.5s
GRF *e*pP **pP 06 06 51.4 +1.5**
B08A Colville Reser 88.69 37 *e*P **P 06 06 51.9 +0.3**
comp=Z,6.3nm,1.1s
F10A Beach Ranch, E 91.24 38 *e*P **P 06 07 01.5 -2.1**

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*BJI **30** 05:59:11.7, 25.°98N×100.°21E, h5km, ML4.0/4*
*ISCJB **30** 05:59:12.3±0.5, 26.°09N±0.°07×100.°40E±0.°07, h10km, mb3.9/12, Error ellipse: s-maj=12.1km s-min=6.5km az=42.6*
*IDC **30** 05:59:12.7±0.7, 26.°03N×100.°22E, h0km, mb4.0/12, mb1 4.1/13, mb1mx3.9/31, mbtmp4.0/13, ML4.0/1, Error ellipse: s-maj=30.1km s-min=13.1km az=73.0*
ISC 30 05:59:13.6±0.7, 25.°94N±0.°07×100.°24E±0.°07, h10km, n15, σ1.9 57/16, mb4.1/12, Yunnan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KMI	**Kunming**	**2.40**	**109**	Pg	**Pg**	**Pg**	**05 59 58.5**	**-1.2**
KMI				Sg	**Sg**	**Sg**	**06 00 29.5**	**-1.3**
KMI				smax	smax	smax		
	comp=N,2μm,0.8s							
KMI				smax	smax	smax		
	comp=E,2μm,0.7s							
KMI				LR	LR	LR		
	comp=N,6μm,4.1s							
KMI				LR	LR	LR		
	comp=E,3μm,3.8s							
CMAR	**Chiang Mai Arr**	**7.55**	**189**	Pn	Pn	Pn	06 01 07.0	+3.2
	comp=E,0.6nm,0.3s,baz=5.3,slow=13,SNR=5.0							
CMAR				Pg	**Pg**	**Pg**	**06 01 35.8**	**-2.4**
	comp=E,1.7nm,0.3s,baz=3.0,slow=17,SNR=40							
CMAR				Lg	Lg	Lg	06 03 12.5	
	comp=E,1.6nm,0.3s,baz=0.5,slow=31,SNR=12							
GTA	**Gaotai**	**13.43**	**359**	*e*P	**Pn**	**Pn**	**06 02 23.8**	**-0.6**
GTA				pP	P	P	06 02 26.5	-7.4
GTA				sP			06 02 28.0	
SONM	**Songino Array**	**22.38**	**11**	P	**P**	**P**	**06 04 13.7**	**+1.5**
	comp=E,0.6nm,0.6s,baz=186,slow=12,SNR=3.1							
PSI	**Prapat**	**23.05**	**183**	P	**P**	**P**	**06 04 22.4**	**+3.0**
	comp=E,5.6nm,0.8s,baz=32,slow=14,SNR=3.8							
MKAR	**Makanchi Array**	**25.22**	**330**	P	**P**	**P**	**06 04 40.0**	**+0.4**
	comp=E,4.7nm,0.8s,baz=130,slow=11,SNR=7.7							
KURBB	**Kurchatov Arra**	**29.74**	**332**	P	**P**	**P**	**06 05 19.9**	**-0.1**
	comp=E,0.6nm,0.5s,baz=146,slow=8.8,SNR=4.2							
ZALV	**Zalesovo Beam**	**30.23**	**342**	P	**P**	**P**	**06 05 24.4**	**+0.1**
	comp=E,1.4nm,0.6s,baz=153,slow=10.0,SNR=4.8							
USRK	**Ussuriysk Arra**	**31.46**	**46**	P	**P**	**P**	**06 05 34.1**	**-1.1**
	comp=E,2.2nm,0.7s,baz=242,slow=11,SNR=3.4							
BVAR	**Borovoye Array**	**35.07**	**328**	P	**P**	**P**	**06 06 06.7**	**0.0**
	comp=E,1.0nm,0.5s,baz=115,slow=10.0,SNR=3.8							
FITZ	**Fitzroy Crossi**	**50.27**	**148**	P	**P**	**P**	**06 08 10.4**	**+0.1**
	comp=E,2.3nm,0.7s,baz=27,slow=7.3,SNR=5.6							
WRA	**Warramunga Arr**	**56.37**	**141**	P	**P**	**P**	**06 08 56.5**	**+1.3**
	comp=E,2.0nm,0.9s,baz=329,slow=7.6,SNR=9.8							
AKASG	**Malin Array Be**	**58.53**	**315**	P	**P**	**P**	**06 09 08.3**	**-1.8**
	comp=E,0.5nm,0.5s,baz=74,slow=7.0,SNR=2.5							
ASAR	**Alice Springs**	**59.11**	**144**	P	**P**	**P**	**06 09 15.8**	**+1.4**
	comp=E,1.1nm,0.8s,baz=334,slow=6.3,SNR=8.5							
STKA	**Stephens Creek**	**69.74**	**143**	P	**P**	**P**	**06 10 25.7**	**+1.8**
	comp=E,2.9nm,0.9s,baz=297,slow=2.3,SNR=3.8							

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*IDC **30** 06:06:02.2±0.8, 15.°21S×173.°48W, h0km, mb4.2/10, mb1 4.4/10, mb1mx4.2/20, mbtmp4.2/10, MS4.1/5, Ms1 4.1/5, ms1mx3.7/23, Error ellipse: s-maj=32.2km s-min=19.1km az=123.0*
*NEIC **30** 06:06:03.3±0.5, 15.°27S×173.°26W, h10km, mb4.6/2, Error ellipse: s-maj=15.4km s-min=10.4km az=158.0*
*ISCJB **30** 06:06:05.9±0.5, 15.°3S±0.°1×173.°28W±0.°08, h42km, mb4.2/11, MS4.2/5, Error ellipse: s-maj=16.0km s-min=10.9km az=159.4*
ISC 30 06:06:07.8±0.6, 15.°3S±0.°1×173.°25W±0.°10, h42km, n36, σ1.9 07/31, mb4.4/11, MS4.2/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.01**	**46**	Pn	Pn	Pn	06 06 29.3	-10
AFI				Sn	Sn	Sn	06 06 44.5	-19
AFI	**Afiamalu**	**2.01**	**46**	Pn	Pn	Pn	06 06 29.3	-10
	99nm,0.3s,baz=154,slow=3.7,SNR=10							
AFI				Sn	Sn	Sn	06 06 44.5	-19
	287nm,0.3s,baz=239,slow=24,SNR=8.3							
MSVF	**Nonsavu**	**8.68**	**253**	*e*Pn	**Pn**	**Pn**	**06 08 12.3**	**+1.4**
	94nm,1.5s							
RAR	**Rarotonga**	**14.07**	**117**	Pn	**Pn**	**Pn**	**06 09 23.1**	**-1.6**
DZM	**Mont Dzumac**	**20.36**	**248**	*e*Pn	Pn	Pn	06 10 43.1	-0.3
	24nm,1.0s							
URZ	**Urewera**	**24.38**	**199**	P	**P**	**P**	**06 11 21.6**	**-0.4**
URZ	**Urewera**	**24.38**	**199**	P	**P**	**P**	**06 11 21.6**	**-0.4**
	12nm,0.7s,baz=7.1,slow=8.1,SNR=2.0							
EIDS	**Eidsvold**	**34.80**	**248**	P	**P**	**P**	**06 12 53.4**	**-1.4**
ARMA	**Armidale**	**35.50**	**239**	P	**P**	**P**	**06 13 00.6**	**-0.3**
STKA	**Stephens Creek**	**44.20**	**240**	P	**P**	**P**	**06 14 11.9**	**-1.1**
STKA	**Stephens Creek**	**44.20**	**240**	P	**P**	**P**	**06 14 11.9**	**-1.1**
	3.0nm,0.6s,baz=111,slow=4.6,SNR=5.7							
WRA	**Warramunga Arr**	**50.00**	**257**	P	**P**	**P**	**06 14 57.2**	**-1.2**
WRA	**Warramunga Arr**	**50.00**	**257**	P	**P**	**P**	**06 14 57.2**	**-1.2**
	2.6nm,0.7s,baz=91,slow=6.8,SNR=52							
AS31	**Alice Springs**	**50.27**	**252**	*e*P	**P**	**P**	**06 14 59.2**	**-1.2**
ASAR	**Alice Springs**	**50.27**	**252**	P	**P**	**P**	**06 14 59.1**	**-1.3**
ASAR	**Alice Springs**	**50.27**	**252**	P	**P**	**P**	**06 14 59.1**	**-1.3**
	11nm,0.9s,baz=86,slow=8.6,SNR=53							
ASAR				LR	LR	LR	06 35 43.0	
	comp=Z,107nm,19.6s,baz=13,slow=36							
VNDA	**Vanda**	**63.46**	**186**	P	**P**	**P**	**06 16 34.7**	**+1.7**
VNDA	**Vanda**	**63.46**	**186**	P	**P**	**P**	**06 16 34.7**	**+1.7**
	3.2nm,0.9s,baz=7.5,slow=6.4,SNR=13							
PETK	**Petropavlovsk-**	**72.61**	**342**	P	**P**	**P**	**06 17 30.4**	**-0.2**
PETK	**Petropavlovsk-**	**72.61**	**342**	P	**P**	**P**	**06 17 30.4**	**-0.2**
	6.0nm,0.9s,baz=141,slow=9.6,SNR=4.6							
YBH	**Yreka Blue Hor**	**73.45**	**37**	LR	LR	LR	06 45 25.9	
	comp=Z,171nm,18.4s,baz=0.7,slow=32							
QSPA	**South Pole Qui**	**74.72**	**180**	*e*P	**P**	**P**	**06 17 43.5**	**+0.4**
	7.7nm,0.8s							
TXAR	**Lajitas Array**	**80.45**	**56**	P	**P**	**P**	**06 18 16.9**	**+1.2**
TXAR	**Lajitas Array**	**80.45**	**56**	P	**P**	**P**	**06 18 16.9**	**+1.2**
	0.8nm,1.0s,baz=230,slow=9.7,SNR=4.6							
TXAR				LR	LR	LR	06 48 57.1	
	comp=Z,103nm,18.1s,baz=50,slow=32							
PDAR	**Pinedale Array**	**82.12**	**42**	P	**P**	**P**	**06 18 25.6**	**+1.2**
PDAR	**Pinedale Array**	**82.12**	**42**	P	**P**	**P**	**06 18 25.6**	**+1.2**
	0.2nm,0.5s,baz=253,slow=9.1,SNR=1.7							
COLA	**College**	**82.27**	**11**	P	**P**	**P**	**06 18 23.8**	**-0.6**
ILAR	**Eielson Array**	**82.35**	**11**	P	**P**	**P**	**06 18 23.8**	**-1.1**
ILAR	**Eielson Array**	**82.35**	**11**	P	**P**	**P**	**06 18 23.8**	**-1.1**
	1.0nm,0.9s,baz=231,slow=6.5,SNR=6.4							
ILAR				LR	LR	LR	06 52 22.4	
	comp=Z,85nm,19.1s,baz=305,slow=34							
MAW	**Mawson**	**87.91**	**199**	P	**P**	**P**	**06 18 53.5**	**+0.7**
MAW	**Mawson**	**87.91**	**199**	P	**P**	**P**	**06 18 53.5**	**+0.7**
	3.6nm,0.9s,baz=129,slow=7.3,SNR=5.9							
ULM	**Lac du Bonnet**	**93.79**	**39**	LR	LR	LR	06 57 55.5	
	comp=Z,147nm,18.5s,baz=37,slow=33							
GERES	**GERESS Array B**	**146.09**	**352**	PKPbc	**PKPab**	**PKPab**	**06 25 44.0**	**-0.1**
GERES	**GERESS Array B**	**146.09**	**352**	PKPbc	**PKPab**	**PKPab**	**06 25 44.0**	**-0.1**
	1.3nm,0.7s,baz=60,slow=3.5,SNR=8.8							
BRTR	**Keskin Array B**	**146.19**	**321**	PKPbc	**PKPab**	**PKPab**	**06 25 44.5**	**-0.4**
BRTR	**Keskin Array B**	**146.19**	**321**	PKPbc	**PKPab**	**PKPab**	**06 25 44.5**	**-0.4**
	4.7nm,0.8s,baz=106,slow=1.8,SNR=18							

IDC 30 06:14:05.6±1.9, 15.°55S×173.°41W, h0km, mb3.8/5, mb1 4.1/5, mb1mx3.9/19, mbtmp3.8/5, Error ellipse: s-maj=106.9km s-min=24.6km az=145.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.27**	**44**	Pn	Pn	06 14 37.2	-7.3
	78nm,0.3s,baz=348,slow=0.6,SNR=7.3						
AFI				Sn	Sn	06 14 56.7	-17
	219nm,0.3s,baz=219,slow=23,SNR=9.6						
STKA	**Stephens Creek**	**43.95**	**240**	P	P	06 22 13.0	-1.6
	1.9nm,0.9s,baz=114,slow=12,SNR=2.7						
WRA	**Warramunga Arr**	**49.80**	**257**	P	P	06 23 00.9	+0.3
	0.9nm,0.8s,baz=92,slow=7.0,SNR=12						
ASAR	**Alice Springs**	**50.05**	**252**	P	P	06 23 03.0	+0.4
	2.3nm,0.6s,baz=86,slow=8.3,SNR=24						
TXAR	**Lajitas Array**	**80.70**	**56**	P	P	06 26 21.8	+0.6
	0.4nm,0.9s,baz=215,slow=6.1,SNR=3.7						
ILAR	**Eielson Array**	**82.59**	**11**	P	P	06 26 28.2	-2.0
	0.1nm,0.5s,baz=206,slow=8.5,SNR=4.0						
BRTR	**Keskin Array B**	**146.27**	**321**	PKPbc	PKPab	06 33 49.5	+0.1
	0.9nm,0.8s,baz=54,slow=6.3,SNR=4.2						
GERES	**GERESS Array B**	**146.29**	**352**	PKPbc	PKPbc	06 33 47.8	-0.5
	0.3nm,0.2s,baz=64,slow=5.6,SNR=3.3						

IDC 30 06:16:04.5±10.0, 15°.54S×172°.93W, h0km, mb3.9/3, mb1 4.2/3, mb1mx3.8/19, mbtmp3.9/3, Error ellipse: s-maj=461.1km s-min=35.2km az=139.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**50.26**	**257**	P	P	06 25 02.5	-0.5
	1.3nm,0.9s,baz=95,slow=8.5,SNR=6.6						
ASAR	**Alice Springs**	**50.50**	**252**	P	P	06 25 04.9	-0.1
	2.4nm,0.8s,baz=86,slow=8.4,SNR=7.8						
ILAR	**Eielson Array**	**82.49**	**11**	P	P	06 28 28.0	-0.6
	0.5nm,0.8s,baz=198,slow=4.7,SNR=6.6						
BRTR	**Keskin Array B**	**146.55**	**321**	PKPbc	PKPbc	06 35 48.7	+0.3
	0.5nm,0.6s,baz=24,slow=1.7,SNR=2.7						

IDC 30 06:22:13.1±8.7, 15°.37S×172°.89W, h0km, mb3.9/2, mb1 4.1/2, mb1mx3.6/19, mbtmp3.9/2, Error ellipse: s-maj=401.9km s-min=26.8km az=140.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.81**	**37**	Pn	Pn	06 22 44.3	-1.3
	56nm,0.3s,baz=24,slow=4.7,SNR=8.2						
AFI				Sn	Sn	06 23 02.0	-7.3
	77nm,0.3s,baz=178,slow=23,SNR=5.7						
WRA	**Warramunga Arr**	**50.33**	**257**	P	P	06 31 11.7	-0.4
	0.8nm,0.9s,baz=96,slow=7.4,SNR=5.4						
ASAR	**Alice Springs**	**50.59**	**252**	P	P	06 31 13.1	-1.0
	1.9nm,0.7s,baz=84,slow=8.5,SNR=4.7						
BRTR	**Keskin Array B**	**146.44**	**321**	PKPbc	PKPab	06 41 58.0	+0.5
	0.9nm,0.8s,baz=90,slow=4.3,SNR=4.0						

IDC 30 06:29:08.1±11.0, 15°.01S×172°.57W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.6/19, mbtmp3.6/2, Error ellipse: s-maj=527.3km s-min=24.2km az=139.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.33**	**35**	Pn	Pg	06 29 33.9	0.0
	54nm,0.3s,baz=57,slow=20,SNR=5.7						
AFI				Sn	Sg	06 29 47.2	-4.0
	70nm,0.3s,baz=55,slow=20,SNR=8.2						
WRA	**Warramunga Arr**	**50.71**	**256**	P	P	06 38 09.9	-0.1
	0.1nm,0.4s,baz=89,slow=7.9,SNR=4.4						
ASAR	**Alice Springs**	**50.99**	**252**	P	P	06 38 11.8	-0.3
	1.3nm,0.5s,baz=87,slow=7.7,SNR=12						
BRTR	**Keskin Array B**	**146.35**	**322**	PKPbc	PKPbc	06 48 51.0	-0.4
	0.3nm,0.4s,baz=348,slow=5.0,SNR=2.6						

IDC 30 06:37:19.4±2.5, 5°.10N×126°.95E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/23, mbtmp3.3/3, Error ellipse: s-maj=201.0km s-min=27.1km az=66.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.92**	**164**	P	P	06 42 53.6	+0.1
	0.7nm,0.8s,baz=344,slow=10.0,SNR=8.2						
ASAR	**Alice Springs**	**29.39**	**167**	P	P	06 43 24.5	0.0
	0.1nm,0.5s,baz=355,slow=8.9,SNR=2.7						
MKAR	**Makanchi Array**	**56.57**	**325**	P	P	06 47 03.8	-0.1
	0.2nm,0.4s,baz=112,slow=7.0,SNR=4.8						

IDC 30 06:45:40.8±3.0, 13°.92S×173°.54W, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/18, mbtmp3.6/3, Error ellipse: s-maj=192.0km s-min=26.0km az=172.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.71**	**90**	Pn	Pn	06 46 12.0	0.0
	67nm,0.3s,baz=202,slow=4.0,SNR=4.1						
AFI				Sn	Sn	06 46 26.1	-8.5
	161nm,0.3s,baz=32,slow=22,SNR=7.2						
STKA	**Stephens Creek**	**44.67**	**239**	P	P	06 53 55.7	+0.1
	0.8nm,0.5s,baz=74,slow=7.4,SNR=2.7						
WRA	**Warramunga Arr**	**50.06**	**256**	P	P	06 54 38.2	+0.4
	0.3nm,0.7s,baz=92,slow=6.7,SNR=2.1						
ASAR	**Alice Springs**	**50.45**	**251**	P	P	06 54 40.0	-0.8
	0.6nm,0.6s,baz=87,slow=8.0,SNR=6.9						

*IDC **30** 06:49:27.6±0.6, 15°.44S×173°.50W, h0km, mb4.5/10, mb1 4.7/10, mb1mx4.4/20, mbtmp4.5/10, Error ellipse: s-maj=30.2km s-min=17.1km az=127.0*
*NEIC **30** 06:49:29.1±0.2, 15°.44S×173°.53W, h10km, mb4.5/12, Error ellipse: s-maj=12.9km s-min=6.3km az=138.0*
*ISCJB **30** 06:49:32.0±0.3, 15°.5S±0°.1×173°.60W±0°.09, h42km, mb4.5/23, Error ellipse: s-maj=18.6km s-min=8.3km az=145.7*
*SZGRF **30** 06:49:31.8, 16°.17S×173°.10W, h33km, Tonga Islands*
ISC 30 06:49:33.8±0.5, 15°.5S±0°.1×173°.6W±0°.2, h42km, n279, σ0°.45/278, mb4.4/23, 100C-103D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.30**	**48**	Pn	Pn	06 49 59.9	-9.4
AFI				Sn	Sn	06 50 21.4	-15
AFI	**Afiamalu**	**2.30**	**48**	Pn	Pn	06 49 59.9	-9.4
	34nm,0.3s,baz=40,slow=21,SNR=5.5						
AFI				Sn	Sn	06 50 21.4	-15
	89nm,0.3s,baz=39,slow=23,SNR=4.5						
STKA	**Stephens Creek**	**43.89**	**240**	P	**P**	**06 57 36.0**	**-0.5**
STKA	**Stephens Creek**	**43.89**	**240**	P	**P**	**06 57 36.0**	**-0.5**
	4.6nm,0.9s,baz=82,slow=11,SNR=6.6						
WRAB	**Tennant Creek**	**49.69**	**257**	*eP*	**P**	**06 58 21.1**	**-0.9**
WRA	**Warramunga Arr**	**49.70**	**257**	P	**P**	**06 58 21.6**	**-0.5**
WRA				PcP	**PcP**	**06 59 43.0**	**+0.1**
WRA	**Warramunga Arr**	**49.70**	**257**	P	**P**	**06 58 21.6**	**-0.5**
	2.4nm,0.8s,baz=91,slow=6.5,SNR=40						
WRA				PcP	**PcP**	**06 59 43.0**	**+0.1**
	1.5nm,0.8s,baz=92,slow=3.6,SNR=5.7						
AS31	**Alice Springs**	**49.96**	**252**	*eP*	**P**	**06 58 23.6**	**-0.5**
ASAR	**Alice Springs**	**49.96**	**252**	P	**P**	**06 58 23.9**	**-0.2**
ASAR	**Alice Springs**	**49.96**	**252**	P	**P**	**06 58 23.9**	**-0.2**
	17nm,0.8s,baz=85,slow=8.5,SNR=73						
VNDA	**Vanda**	**63.31**	**186**	P	**P**	**06 59 58.5**	**+0.6**
VNDA	**Vanda**	**63.31**	**186**	P	**P**	**06 59 58.5**	**+0.6**
	1.5nm,0.7s,baz=16,slow=7.3,SNR=9.8						
NWAO	**Narrogin (SRO)**	**64.47**	**241**	*eP*	P	07 00 12.6	+6.2
	100nm,0.6s						
FX1	**Attu Island--F**	**69.01**	**351**	P	**P**	**07 00 34.0**	**-0.7**
FX1	**Attu Island--F**	**69.01**	**351**	P	**P**	**07 00 34.0**	**-0.7**
	19nm,1.0s,baz=234,slow=8.7						
BFSC	**Mount Baldy Ra**	**72.56**	**46**	⇑P	**P**	**07 00 57.3**	**+0.4**
	baz=73						
PETK	**Petropavlovsk-**	**72.63**	**342**	P	**P**	**07 00 57.5**	**+0.8**
PETK	**Petropavlovsk-**	**72.63**	**342**	P	**P**	**07 00 57.5**	**+0.8**
	8.4nm,0.8s,baz=134,slow=8.5,SNR=10.0						
EDW2	**Edwards Air Fo**	**72.68**	**45**	⇓P	**P**	**07 00 57.9**	**+0.4**
	baz=73						
ISA	**Isabella**	**72.79**	**44**	⇑P	**P**	**07 00 58.8**	**+0.6**
	baz=73						
MPMC	**Manual Prospec**	**73.67**	**44**	⇓P	**P**	**07 01 03.9**	**+0.4**
	baz=74						
GSC	**Goldstone**	**73.72**	**45**	⇓P	**P**	**07 01 04.3**	**+0.6**
	baz=74						
GMRC	**Granite Mounta**	**74.24**	**46**	⇓P	**P**	**07 01 06.5**	**-0.3**
	baz=74						
IRM	**Iron Mountain**	**74.27**	**47**	⇑P	**P**	**07 01 06.9**	**0.0**
	baz=74						
Y12C	**Blythe**	**74.51**	**48**	⇓P	**P**	**07 01 08.4**	**+0.2**
	baz=75						
113A	**Mohawk Valley,**	**74.55**	**49**	⇓P	**P**	**07 01 08.4**	**-0.1**
	baz=75						
QSPA	**South Pole Qui**	**74.59**	**180**	*eP*	**P**	**07 01 08.3**	**-0.1**
	9.9nm,1.1s						
214A	**Organ Pipe Nat**	**74.85**	**50**	⇓P	**P**	**07 01 10.1**	**-0.3**
	baz=75						
PDMCI	**Parker Dam,Lak**	**75.06**	**48**	⇓P	**P**	**07 01 11.3**	**-0.1**
	baz=75						
Z14A	**Wintersburg**	**75.45**	**49**	⇑P	**P**	**07 01 13.9**	**+0.3**
	baz=76						
W13A	**Hualapai Mount**	**75.65**	**47**	⇑P	**P**	**07 01 15.1**	**0.0**
	baz=76						
Y14A	**Wickenburg**	**75.69**	**48**	⇓P	**P**	**07 01 15.3**	**+0.2**
	baz=76						
R11A	**Troy Canyon, C**	**76.19**	**43**	⇓P	**P**	**07 01 18.0**	**0.0**
	baz=76						
TUC	**Tucson**	**76.53**	**51**	*eP*	**P**	**07 01 19.9**	**-0.1**
	3.5nm,1.0s						
X16A	**Lo Mia Camp, P**	**77.06**	**49**	⇓P	**P**	**07 01 23.2**	**+0.2**
	baz=77						
319A	**Douglas**	**77.23**	**52**	⇓P	**P**	**07 01 24.2**	**+0.2**
	baz=77						
U15A	**North Rim**	**77.44**	**46**	⇑P	**P**	**07 01 25.3**	**+0.1**
	baz=78						
WUAZ	**Wupatki**	**77.64**	**48**	⇑P	**P**	**07 01 26.4**	**+0.2**
	baz=78						
320A	**Kipp Ranch, An**	**77.79**	**53**	⇑P	**P**	**07 01 27.4**	**+0.2**
	baz=78						
220A	**Playas Peak, P**	**78.05**	**52**	⇓P	**P**	**07 01 28.5**	**0.0**
	baz=78,SNR=6.0						
X18A	**Snowflake**	**78.19**	**49**	⇑P	**P**	**07 01 29.5**	**+0.2**
	baz=78						
120A	**U Bar Ranch, L**	**78.25**	**51**	⇓P	**P**	**07 01 29.9**	**+0.2**
	baz=78						
Z20A	**Nine Sixteen R**	**78.54**	**51**	⇑P	**P**	**07 01 31.6**	**+0.3**
	baz=79,SNR=6.2						
MFID	**Camas Ranch**	**78.81**	**39**	⇓P	**P**	**07 01 32.6**	**+0.1**
	baz=79,SNR=5.3						
121A	**Cookes Peak, D**	**78.89**	**52**	⇑P	**P**	**07 01 33.0**	**-0.2**
	baz=79,SNR=5.5						
DUG	**Dugway**	**78.99**	**43**	⇓P	**P**	**07 01 33.5**	**-0.1**
	baz=79						
Y20A	**Horse Springs,**	**79.06**	**50**	⇑P	**P**	**07 01 34.3**	**+0.1**
	baz=79,SNR=10						
X20A	**Quemado**	**79.26**	**50**	⇓P	**P**	**07 01 35.4**	**+0.1**
	baz=79,SNR=6.1						
Z21A	**St. Cloud Mine**	**79.32**	**51**	⇑P	**P**	**07 01 36.1**	**+0.5**
	baz=79,SNR=8.1						
Q16A	**Castle Valley**	**79.44**	**45**	⇑P	**P**	**07 01 36.5**	**+0.3**
	baz=80						
W20A	**Ramah**	**79.52**	**49**	⇑P	**P**	**07 01 36.8**	**+0.1**
	baz=80,SNR=14						
Y21A	**Point of Rocks**	**79.63**	**50**	⇓P	**P**	**07 01 37.9**	**+0.6**
	baz=80						
X21A	**Alamocita Cree**	**79.74**	**50**	⇓P	**P**	**07 01 38.1**	**+0.2**
	baz=80						
HLID	**Hailey**	**79.75**	**39**	⇑P	**P**	**07 01 37.9**	**+0.2**
	baz=80,SNR=8.9						
Z22A	**Elephant Butte**	**79.83**	**51**	⇓P	**P**	**07 01 37.9**	**-0.4**
	baz=80,SNR=5.4						
V20A	**Brimhall**	**79.86**	**48**	⇓P	**P**	**07 01 38.3**	**-0.1**
	baz=80						
U20A	**Newcomb**	**80.08**	**48**	⇑P	**P**	**07 01 39.7**	**0.0**
	baz=80						
Y22A	**Socorro**	**80.12**	**51**	⇓P	**P**	**07 01 39.8**	**-0.2**
	baz=80						
324A	**Moseley Ranch,**	**80.18**	**54**	⇓P	**P**	**07 01 40.0**	**-0.3**
	baz=80,SNR=5.6						
LAZ	**Ladron**	**80.20**	**50**	*eP*	**P**	**07 01 40.3**	**-0.1**
	3.5nm,1.5s						
425A	**Indio Mountain**	**80.30**	**54**	⇑P	**P**	**07 01 40.3**	**-0.6**
	baz=80,SNR=5.8						
Z23A	**Rita Site, Whi**	**80.38**	**52**	⇑P	**P**	**07 01 41.4**	**+0.1**
	baz=80						
224A	**Cornudas Mount**	**80.42**	**53**	⇑P	**P**	**07 01 41.4**	**-0.1**
	baz=80						
BNM	**Barren Site**	**80.47**	**51**	*eP*	**P**	**07 01 41.6**	**-0.3**
	4.2nm,1.1s						
626A	**Big Bend Ranch**	**80.47**	**56**	⇓P	**P**	**07 01 41.2**	**-0.5**
	baz=81,SNR=5.7						
526A	**Mary Lane Ranc**	**80.71**	**55**	⇓P	**P**	**07 01 42.7**	**-0.4**
	baz=81,SNR=6.4						
U21A	**Nageezi**	**80.72**	**48**	⇓P	**P**	**07 01 43.0**	**-0.1**
	baz=81,SNR=15						
124A	**Stringfield Ra**	**80.73**	**52**	⇑P	**P**	**07 01 43.2**	**-0.1**
	baz=81						
TXAR	**Lajitas Array**	**80.76**	**56**	P	**P**	**07 01 43.1**	**-0.2**
TXAR	**Lajitas Array**	**80.76**	**56**	P	**P**	**07 01 43.1**	**-0.2**
	3.1nm,1.0s,baz=235,slow=4.4,SNR=19						
Y23A	**Lovelace Mesa,**	**80.80**	**51**	⇑P	**P**	**07 01 43.6**	**0.0**
	baz=81						
S20A	**Disappointment**	**80.86**	**47**	⇓P	**P**	**07 01 43.8**	**-0.1**
	baz=81						
ANMO	**Albuquerque**	**80.94**	**50**	*eP*	**P**	**07 01 43.8**	**-0.5**
	3.9nm,1.1s						
225A	**Deer Hill, Car**	**80.97**	**53**	⇑P	**P**	**07 01 44.3**	**-0.2**
	baz=81						
426A	**McDonald Obser**	**81.00**	**55**	⇓P	**P**	**07 01 44.3**	**-0.5**
	baz=81,SNR=10						
627A	**Terlingua Ranc**	**81.03**	**56**	⇑P	**P**	**07 01 44.8**	**0.0**
	baz=81						
V22A	**San Miguel Ran**	**81.03**	**49**	⇑P	**P**	**07 01 45.2**	**+0.3**
	baz=81						
T21A	**Navajo Lake**	**81.07**	**48**	⇓P	**P**	**07 01 45.2**	**+0.3**
	baz=81						
Z24A	**Sheeppen Canyo**	**81.07**	**52**	⇓P	**P**	**07 01 45.2**	**+0.2**
	baz=81						
527A	**Woodward Ranch**	**81.12**	**55**	⇓P	**P**	**07 01 45.0**	**-0.3**
	baz=81,SNR=5.5						
S21A	**Coal Bank Pass**	**81.19**	**47**	⇓P	**P**	**07 01 45.7**	**0.0**
	baz=81						
MCK	**McKinley**	**81.20**	**11**	*eP*	**P**	**07 01 44.0**	**-0.8**
	6.1nm,0.9s						
W23A	**Werner Place,**	**81.26**	**50**	⇓P	**P**	**07 01 45.8**	**-0.2**
	baz=81,SNR=7.2						
Y24A	**Capitan**	**81.27**	**51**	⇑P	**P**	**07 01 46.0**	**-0.1**
	baz=81,SNR=9.4						
P19A	**Cripple Cowboy**	**81.28**	**45**	⇓P	**P**	**07 01 45.8**	**-0.2**
	baz=81						
U22A	**Llaves**	**81.28**	**49**	⇓P	**P**	**07 01 46.1**	**-0.1**
	baz=81						
125A	**Gardner Draw,**	**81.33**	**53**	⇓P	**P**	**07 01 46.1**	**-0.2**
	baz=81						
MCMT	**McKenzie Canyo**	**81.38**	**39**	*eP*	**P**	**07 01 46.0**	**-0.4**
	4.4nm,1.1s						
Q20A	**Ridgley Place,**	**81.43**	**46**	⇑P	**P**	**07 01 46.9**	**+0.1**
	baz=82,SNR=5.6						
628A	**Black Gap, Mar**	**81.44**	**56**	⇑P	**P**	**07 01 46.6**	**-0.3**
	baz=82						
226B	**Tecolote Peak,**	**81.47**	**53**	⇑P	**P**	**07 01 46.7**	**-0.4**
	baz=82,SNR=7.6						
V23A	**Ortiz Mt. (NFS**	**81.49**	**49**	⇓P	**P**	**07 01 47.5**	**+0.3**
	baz=82,SNR=6.3						
O19A	**Miners Draw (B**	**81.50**	**44**	⇑P	**P**	**07 01 46.9**	**-0.2**
	baz=82						
T22A	**Edith**	**81.53**	**48**	⇓P	**P**	**07 01 47.4**	**-0.1**
	baz=82						
Z25A	**Roswell**	**81.54**	**52**	⇓P	**P**	**07 01 47.5**	**+0.1**
	baz=82						
427A	**Hayter Ranch,**	**81.57**	**55**	⇑P	**P**	**07 01 47.3**	**-0.3**
	baz=82,SNR=6.4						
P20A	**De Beque**	**81.62**	**45**	⇑P	**P**	**07 01 47.7**	**0.0**
	baz=82						
R21A	**Cimarron**	**81.68**	**47**	⇑P	**P**	**07 01 48.6**	**+0.4**
	baz=82,SNR=6.3						
U23A	**El Rito**	**81.74**	**49**	⇓P	**P**	**07 01 48.8**	**+0.3**
	baz=82,SNR=11						
528A	**Cox Ranch, San**	**81.78**	**56**	⇓P	**P**	**07 01 48.3**	**-0.4**
	baz=82,SNR=5.6						
MSO	**Missoula**	**81.81**	**37**	⇑P	**P**	**07 01 48.4**	**-0.1**
	baz=82						
126A	**Clayton Basin,**	**81.81**	**53**	⇑P	**P**	**07 01 48.4**	**-0.4**
	baz=82						
Y25A	**Mesa, Roswell**	**81.82**	**52**	⇑P	**P**	**07 01 48.4**	**-0.6**
	baz=82						
W24A	**Lazy 6 Ranch,**	**81.83**	**50**	⇑P	**P**	**07 01 48.5**	**-0.5**
	baz=82						
TPAW	**Teton Pass**	**81.87**	**41**	*eP*	**P**	**07 01 48.6**	**-0.5**
	10nm,1.2s						
Q21A	**Lamborn Mesa,**	**81.88**	**46**	⇑P	**P**	**07 01 49.4**	**+0.3**
	baz=82						
BSMT	**Bassoo Peak**	**81.88**	**36**	*eP*	**P**	**07 01 48.0**	**-1.0**
	9.5nm,1.5s						
S22A	**4UR Ranch, Cre**	**81.91**	**47**	⇓P	**P**	**07 01 50.1**	**+0.6**
	baz=82,SNR=9.3						
O20A	**White River Ci**	**82.02**	**45**	⇓P	**P**	**07 01 49.7**	**-0.2**
	baz=82						
IMW	**Indian Meadow**	**82.08**	**40**	*eP*	**P**	**07 01 50.1**	**-0.2**
	11nm,1.4s						
428A	**Kincaid Ranch,**	**82.09**	**55**	⇑P	**P**	**07 01 50.3**	**-0.1**
	baz=82						
Z26A	**Caprock**	**82.10**	**52**	⇓P	**P**	**07 01 50.0**	**-0.3**
	baz=82,SNR=5.0						
X25A	**Clemmons Ranch**	**82.10**	**51**	⇑P	**P**	**07 01 50.3**	**-0.1**
	baz=82						
V24A	**Rampart Ranch,**	**82.15**	**50**	⇓P	**P**	**07 01 50.8**	**+0.1**
	baz=82						
T23A	**Casias Ranch,**	**82.16**	**48**	⇓P	**P**	**07 01 50.9**	**+0.1**
	baz=82						
529A	**Stev Forest Ra**	**82.22**	**56**	⇓P	**P**	**07 01 50.5**	**-0.5**
	baz=82						
328A	**Wristen Ranch,**	**82.25**	**55**	⇓P	**P**	**07 01 50.1**	**-1.0**
	baz=82						
QLMT	**Earthquake Lak**	**82.25**	**39**	*eP*	**P**	**07 01 51.1**	**+0.1**
	0.8nm,0.9s						
N20A	**Spence Gulch,**	**82.33**	**44**	⇓P	**P**	**07 01 51.0**	**-0.5**
	baz=82						
127A	**Arkansas Junct**	**82.33**	**53**	⇑P	**P**	**07 01 51.4**	**-0.2**
	baz=82						
Q22A	**Crested Butte,**	**82.35**	**46**	⇑P	**P**	**07 01 52.2**	**+0.4**
	baz=82,SNR=8.0						
PDAR	**Pinedale Array**	**82.40**	**42**	P	**P**	**07 01 51.2**	**-0.6**
PDAR	**Pinedale Array**	**82.40**	**42**	P	**P**	**07 01 51.2**	**-0.6**
	2.7nm,1.0s,baz=241,slow=3.1,SNR=14						
COLA	**College**	**82.44**	**11**	*eP*	**P**	**07 01 51.1**	**-0.1**
	30nm,1.0s						
ILAR	**Eielson Array**	**82.52**	**11**	P	**P**	**07 01 51.5**	**-0.2**
ILAR	**Eielson Array**	**82.52**	**11**	P	**P**	**07 01 51.5**	**-0.2**
	1.2nm,0.6s,baz=228,slow=6.5,SNR=18						
W25A	**X Bar L Ranch,**	**82.54**	**50**	⇓P	**P**	**07 01 52.4**	**-0.2**
	baz=83						
O21A	**Pagoda**	**82.58**	**45**	⇑P	**P**	**07 01 53.6**	**+0.8**
	baz=83						
T24B	**San Luis**	**82.64**	**48**	⇑P	**P**	**07 01 53.6**	**+0.2**
	baz=83						
429A	**Davenport Ranc**	**82.68**	**56**	⇑P	**P**	**07 01 52.8**	**-0.6**
	baz=83,SNR=5.9						
V25A	**Rancho No Teng**	**82.68**	**50**	⇓P	**P**	**07 01 53.3**	**-0.2**
	baz=83,SNR=7.5						
M20A	**Sweetwater, Wa**	**82.69**	**44**	⇑P	**P**	**07 01 53.0**	**-0.4**
	baz=83						
Z27A	**Tatum**	**82.70**	**53**	⇓P	**P**	**07 01 53.0**	**-0.5**
	baz=83						
N21A	**Black Mountain**	**82.79**	**44**	⇑P	**P**	**07 01 54.0**	**0.0**
	baz=83						
R23A	**Moffat**	**82.81**	**47**	⇓P	**P**	**07 01 54.0**	**-0.2**
	baz=83						
L20A	**Wamsutter**	**82.83**	**43**	⇑P	**P**	**07 01 54.2**	**+0.1**
	baz=83,SNR=6.6						
K19A	**Absolon Red Bu**	**82.88**	**42**	⇓P	**P**	**07 01 53.5**	**-0.8**
	baz=83						
530A	**J-C Ranch, Com**	**82.94**	**56**	⇑P	**P**	**07 01 54.1**	**-0.6**
	baz=83						
329A	**Wagon Wheel Ra**	**82.94**	**55**	⇑P	**P**	**07 01 54.0**	**-0.8**
	baz=83						
J19A	**Crowheart**	**82.96**	**42**	⇓P	**P**	**07 01 54.3**	**-0.4**
	baz=83						
Y27A	**Causey**	**82.97**	**52**	⇓P	**P**	**07 01 54.2**	**-0.7**
	baz=83						
128A	**Castleberry Fa**	**82.99**	**54**	⇓P	**P**	**07 01 54.6**	**-0.4**
	baz=83						
W26A	**Owens Ranch, T**	**83.00**	**51**	⇓P	**P**	**07 01 55.0**	**0.0**
	baz=83						
S24A	**Houchin Ranch,**	**83.01**	**48**	⇓P	**P**	**07 01 55.3**	**+0.1**
	baz=83						
U25A	**Circle Dot Ran**	**83.07**	**49**	⇓P	**P**	**07 01 55.1**	**-0.3**
	baz=83,SNR=7.4						
Q23A	**Hartsel**	**83.12**	**47**	⇓P	**P**	**07 01 55.5**	**-0.3**
	baz=83						
K20A	**Yellowstone Ra**	**83.13**	**42**	⇑P	**P**	**07 01 55.4**	**-0.2**
	baz=83						
O22A	**Kremmling**	**83.18**	**45**	⇑P	**P**	**07 01 55.6**	**-0.5**
	baz=83,SNR=5.4						
H18A	**Shoshone NF, C**	**83.26**	**40**	⇑P	**P**	**07 01 56.2**	**-0.1**
	baz=83						
430A	**Baggett Ranch,**	**83.26**	**56**	⇑P	**P**	**07 01 56.0**	**-0.4**
	baz=83						
631A	**Perdido Creek**	**83.28**	**57**	⇓P	**P**	**07 01 56.0**	**-0.5**
	baz=83						
V26A	**Tequesquite Ra**	**83.28**	**50**	⇑P	**P**	**07 01 56.0**	**-0.4**
	baz=83						
M21A	**Separation Pea**	**83.29**	**44**	⇓P	**P**	**07 01 56.3**	**-0.2**
	baz=83,SNR=5.6						
MSTX	**Muleshoe**	**83.30**	**52**	⇑P	**P**	**07 01 56.2**	**-0.4**
	baz=83						
P23A	**Jefferson**	**83.32**	**46**	⇑P	**P**	**07 01 56.7**	**-0.2**
	baz=84						
X27A	**F and S Farms,**	**83.33**	**51**	⇑P	**P**	**07 01 56.5**	**-0.2**
	baz=83						
Z28A	**Tucker Farm, M**	**83.33**	**53**	⇑P	**P**	**07 01 56.5**	**-0.2**
	baz=83						
R24A	**Sanders Place,**	**83.34**	**48**	⇑P	**P**	**07 01 56.9**	**0.0**
	baz=84						
I19A	**Meeteetse**	**83.37**	**41**	⇓P	**P**	**07 01 57.1**	**+0.3**
	baz=84						
T25A	**Trinidad**	**83.38**	**49**	⇑P	**P**	**07 01 56.7**	**-0.4**
	baz=84						
L21A	**Rawlins**	**83.45**	**43**	⇑P	**P**	**07

231A	Bronte	84.42	55	⇑P	P	07 02 01.2	-1.1
	baz=84						
432A	Menard	84.44	56	⇓P	P	07 02 01.4	-1.0
	baz=84						
P25A	Willow Gulch B	84.55	47	⇓P	P	07 02 02.8	-0.1
	baz=85						
R26A	Arlington	84.56	48	⇓P	P	07 02 02.4	-0.5
	baz=85						
N24A	Carr	84.62	45	⇓P	P	07 02 03.1	-0.1
	baz=85						
L23A	Garrett	84.62	44	⇑P	P	07 02 02.7	-0.6
	baz=85						
131A	Roby	84.64	54	⇓P	P	07 02 02.7	-0.6
	baz=85						
E19A	Rath Farm, Rou	84.67	39	⇑P	P	07 02 03.4	+0.2
	baz=85						
332A	Millersview	84.67	56	⇑P	P	07 02 03.2	-0.4
	baz=85						
J22A	Midwest	84.69	42	⇑P	P	07 02 03.3	-0.2
	baz=85						
Y30A	Stafford Cattl	84.70	53	⇓P	P	07 02 03.0	-0.6
	baz=85						
F20A	Billings	84.74	40	⇑P	P	07 02 03.5	-0.2
	baz=85						
I22A	9 Mile Ranch,	84.91	42	⇑P	P	07 02 04.2	-0.3
	baz=85						
232A	Coleman	84.93	55	⇓P	P	07 02 04.2	-0.7
	baz=85						
X30A	Coker Ranch, T	84.93	52	⇓P	P	07 02 04.3	-0.5
	baz=85						
D19A	Cripps Ranch,	84.95	38	⇑P	P	07 02 04.9	+0.3
	baz=85						
K23A	Bowen Ranch, D	84.96	43	⇓P	P	07 02 04.8	0.0
	baz=85						
Z31A	Sharp Cattle R	85.07	54	⇑P	P	07 02 05.0	-0.5
	baz=85						
E20A	Meyer Farm, Mu	85.08	39	⇓P	P	07 02 05.2	-0.1
	baz=85						
C19A	Slack Wire Ran	85.13	38	⇓P	P	07 02 05.8	+0.3
	baz=85,SNR=6.5						
ABTX	Abilene, Hawle	85.21	54	⇓P	P	07 02 05.5	-0.7
	baz=85						
Y31A	Rekieta Farm,	85.22	53	⇑P	P	07 02 05.7	-0.5
	baz=85						
D20A	Manuel Ranch,	85.36	39	⇓P	P	07 02 06.3	-0.4
	baz=86,SNR=5.9						
B19A	Brinkman Farms	85.54	37	⇓P	P	07 02 07.7	+0.2
	baz=86						
V30A	Spur Ranch, Mi	85.58	51	⇑P	P	07 02 07.8	-0.2
	baz=86						
Z32A	Haskell	85.58	54	⇑P	P	07 02 07.7	-0.3
	baz=86						
X31A	McDonald Ranch	85.69	52	⇑P	P	07 02 07.9	-0.7
	baz=86						
R28A	Tribune	85.75	48	⇓P	P	07 02 08.5	-0.3
	baz=86						
Y32A	R-V Farms, Ver	85.87	53	⇓P	P	07 02 09.0	-0.4
	baz=86						
W31A	Holland Ranch,	85.92	52	⇑P	P	07 02 09.6	-0.1
	baz=86						
V31A	Spring Creek L	86.22	51	⇑P	P	07 02 11.0	-0.1
	baz=86						
A20A	Cobblestone Ra	86.33	37	⇓P	P	07 02 11.3	-0.1
	baz=86						
MAW	Mawson	87.70	199	P	P	07 02 17.6	-0.1
MAW	Mawson	87.70	199	P	P	07 02 17.6	-0.1
	2.0nm,0.6s,baz=102,slow=7.5,SNR=11						
ARCES	ARCESS Array B	124.64	352	PKP	PKPdf	07 08 27.8	-0.4
ARCES	ARCESS Array B	124.64	352	PKP	PKPdf	07 08 27.8	-0.4
	7.1nm,0.9s,baz=17,slow=1.3,SNR=8.2						
FINES	FINESS Array B	131.96	347	PKP	PKPdf	07 08 41.9	-0.4
FINES	FINESS Array B	131.96	347	PKP	PKPdf	07 08 41.9	-0.4
	2.7nm,0.8s,baz=94,slow=7.1,SNR=2.3						
AKASG	Malin Array Be	140.33	337	PKP	PKPdf	07 08 58.6	+0.4
AKASG	Malin Array Be	140.33	337	PKP	PKPdf	07 08 58.6	+0.4
	0.8nm,0.4s,baz=25,slow=2.2,SNR=5.5						
CLL	Collm	143.85	353	*i* PKPdf	PKPdf	07 09 04.0	-0.4
	comp=Z,4.0nm,0.8s						
CLL				*i*		07 09 10.3	
DPC	Dobruska-Polom	144.28	349	*e*PKP	PKPdf	07 09 04.8	-0.5
BUR08	Bucovina Ar. S	144.34	338	*e*PKPdf	PKPdf	07 09 05.1	-0.5
BURAR	Bucovina Array	144.36	338	⇓*i*P	PKPdf	07 09 05.4	-0.2
PVCC	Panska Ves	144.40	351	*e*PKP	PKPdf	07 09 05.0	-0.4
OKC	Ostrava-Krasne	144.41	347	*e*PKP	PKPdf	07 09 05.3	-0.1
MORC	Moravsky Berou	144.59	348	⇑*i*P	PKPdf	07 09 05.6	-0.3
MOX	Moxa	144.65	354	*e*PKPbc	PKPbc	07 09 04.8	+0.1
TANN	Tannenbergstha	144.79	353	*e*PKPbc	PKPbc	07 09 05.6	+0.4
PRU	Pruhonice	144.93	351	*e*PKP	PKPdf	07 09 06.3	-0.1
CFR	Carcaliu	145.18	333	⇓*i*P	PKPdf	07 09 08.3	+1.4
VRI	Vrincioaia	145.23	335	⇑*i*P	PKPdf	07 09 07.8	+0.8
TNS	Taunus Mts	145.28	358	*e*PKPbc	PKPdf	07 09 07.3	+0.3
KMBO	Kilima Mbogo	145.39	244	PKPbc	PKPab	07 09 09.5	+0.8
KMBO	Kilima Mbogo	145.39	244	PKPbc	PKPab	07 09 09.5	+0.8
	comp=Z,1.8nm,0.6s,baz=186,slow=24,SNR=4.7						
ROTZ	Rotzenmuhle	145.46	353	*e*PKPbc	PKPab	07 09 08.1	+0.6
TIRR	Tirgusor	145.61	332	⇓*i*P	PKPab	07 09 09.4	+1.2
GRF	Grafenberg Arr	145.63	355	*e*PKPbc	PKPab	07 09 08.6	+0.4
DOPR	Dopca	145.68	336	⇑*i*P	PKPab	07 09 10.2	+1.7
TLB	Topalu	145.68	332	⇑*i*P	PKPab	07 09 09.6	+1.1
MLR	Muntele Rosu	145.85	335	⇓*i*P	PKPab	07 09 09.9	+0.6
WLF	Walferdange	145.88	0	*e*PKPbc	PKPab	07 09 09.5	+0.4
KHC	Kasperske Hory	145.91	352	*e*PKP	PKPab	07 09 09.2	-0.1
KHC				*e*pPKP	PKiKP	07 09 13.2	+0.9
KHC	Kasperske Hory	145.91	352	*e*PKPdf	PKPbc	07 09 08.6	-0.1
ISR	Istrita	145.91	334	⇑*i*P	PKPab	07 09 10.4	+1.0
DRGR		145.94	340	⇑*i*P	PKPab	07 09 09.8	+0.3
WET	Wettzell	145.99	352	*e*PKPbc	PKPab	07 09 09.9	+0.3
BR131	Keskin Array S	146.11	321	*e*PKPdf	PKPab	07 09 10.2	-0.3
BRTR	Keskin Array B	146.11	321	PKPbc	PKPab	07 09 10.2	-0.3
BRTR	Keskin Array B	146.11	321	PKPbc	PKPab	07 09 10.2	-0.3
	comp=Z,4.9nm,0.9s,baz=106,slow=1.8,SNR=16						
GEC2	GERESS Array S	146.17	351	*e*PKPbc	PKPab	07 09 10.0	-0.3
GERES	GERESS Array B	146.17	351	PKPbc	PKPab	07 09 10.4	+0.1
GERES	GERESS Array B	146.17	351	PKPbc	PKPab	07 09 10.4	+0.1
	comp=Z,2.9nm,0.8s,baz=30,slow=3.7,SNR=18						
VOIR		146.25	336	⇑*i*P	PKPab	07 09 11.5	+0.7
CONA	Conrad Observa	146.69	348	*i* pPKPbc	PKPab	07 09 12.7	+0.4
	comp=Z,14nm,0.9s,SNR=6.5						
SIRR	Siria	146.74	341	⇓*i*P	PKPab	07 09 12.9	+0.4
BFO	Black Forest	147.18	358	*e*PKPbc	PKPbc	07 09 12.9	+0.4
BZS	Buzias	147.33	340	⇓*i*P	PKPab	07 09 14.1	-0.7
RJOB	Jochberg	147.38	352	*e*PKPbc	PKPbc	07 09 13.4	+0.3
SOKA	Soboth	148.05	349	⇑*i*pPKPdf	PKPbc	07 09 15.3	+0.3
	comp=Z,12nm,1.2s,SNR=5.9						
ABTA	Abfaltersbach	148.39	352	*i* PKiKP	PKPbc	07 09 16.2	+0.3
	comp=Z,15nm,1.0s,SNR=6.4						
TUE	Stuetta	148.98	356	*e*PKPdf	PKPdf	07 09 14.2	+0.6
TUE				*e*PKPbc	PKPbc	07 09 18.2	+0.6
BNI	Bardonecchia	150.49	360	*e*PKPbc	PKPbc	07 09 22.3	+1.1
ESDC	Sonseca Array	154.20	19	PKPab	PKPab	07 09 43.6	+0.3
ESDC	Sonseca Array	154.20	19	PKPab	PKPab	07 09 43.6	+0.3
	comp=Z,0.1nm,0.2s,baz=321,slow=3.8,SNR=4.6						
TORD	Torodi Ar. Bea	174.85	116	PKP	PKPdf	07 09 38.9	-1.2
TORD	Torodi Ar. Bea	174.85	116	PKP	PKPdf	07 09 38.9	-1.2
	comp=Z,1.0nm,1.0s,baz=315,slow=0.5,SNR=5.7						

IDC 30 06:58:43.4±0.9, 4°.90N×126°.46E, $h0^{km}$, mb4.0/9, mb1 4.2/9, mb1mx3.9/25, mbtmp4.1/9, Error ellipse: s-maj=96.8km s-min=14.8km az=70.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	22.87	182	P	P	07 03 49.1	+0.4
	2.2nm,0.8s,baz=8.4,slow=11,SNR=2.8						
WRA	Warramunga Arr	25.88	163	P	P	07 04 15.7	-1.4
	2.4nm,0.7s,baz=343,slow=9.9,SNR=14						
ASAR	Alice Springs	29.31	166	P	P	07 04 49.5	+1.6
	0.4nm,0.5s,baz=345,slow=7.2,SNR=7.1						
ASAR				PcP	PcP	07 07 53.7	-1.1
	0.4nm,0.5s,baz=359,slow=2.4,SNR=4.6						
STKA	Stephens Creek	39.31	159	P	P	07 06 15.6	+1.2
	2.4nm,0.7s,baz=321,slow=10,SNR=4.8						
STKA				PcP	PcP	07 08 22.0	-1.2
	2.0nm,0.7s,baz=0.0,slow=4.0,SNR=3.8						
SONM	Songino Array	46.11	341	P	P	07 07 11.4	+1.8
	0.3nm,0.4s,baz=158,slow=9.9,SNR=3.3						
MKAR	Makanchi Array	56.45	325	P	P	07 08 27.3	+0.2
	1.2nm,0.5s,baz=121,slow=7.5,SNR=21						
KURBB	Kurchatov Arra	60.62	327	P	P	07 08 55.7	-0.3
	1.4nm,0.6s,baz=125,slow=6.2,SNR=16						
ARCES	ARCESS Array B	89.26	340	P	P	07 11 40.0	-1.1
	2.3nm,0.8s,baz=77,slow=4.0,SNR=3.2						
FINES	FINESS Array B	90.68	332	P	P	07 11 47.6	-0.3
	1.5nm,0.5s,baz=60,slow=5.0,SNR=12						
TORD	Torodi Ar. Bea	122.29	289	PKP	PKPdf	07 17 40.7	-0.9
	0.3nm,0.6s,baz=43,slow=1.5,SNR=2.5						

IDC 30 07:01:14.6±1.5, 15°.65S×173°.82W, $h0^{km}$, mb3.9/6, mb1 4.2/7, mb1mx4.0/19, mbtmp3.9/7, ML2.1/1, MS3.9/1, Ms1 3.9/1, ms1mx3.1/35, Error ellipse: s-maj=100.2km s-min=19.9km az=147.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.62	49	Pn	Pn	07 01 56.9	-1.4
	19nm,0.3s,baz=131,slow=22,SNR=1.4						
AFI				Sn	Sn	07 02 25.0	-5.9
	81nm,0.3s,baz=245,slow=23,SNR=3.6						
DZM	Mont Dzumac	19.73	248	*e*LR	LR	07 11 02.0	
	608nm,25.1s						
DZM	Mont Dzumac	19.73	248	LR	LR	07 12 00.1	
	comp=Z,347nm,20.3s,baz=206,slow=33						
PPT2	Papeete2	23.31	98	*e*LQ	LQ	07 10 32.7	
	275nm,23.8s						
PPT2				*e*LR	LR	07 11 28.6	
	239nm,26.8s						
TBI	Tubuai	24.18	112	*e*LQ	LQ	07 10 55.4	
	324nm,29.5s						
TBI				*e*LR	LR	07 11 56.4	
	226nm,25.5s						
STKA	Stephens Creek	43.56	240	P	P	07 09 19.6	-0.8
	3.8nm,0.8s,baz=76,slow=9.5,SNR=4.7						
WRA	Warramunga Arr	49.40	257	P	P	07 10 06.2	-0.3
	0.8nm,0.6s,baz=95,slow=7.5,SNR=9.4						
ASAR	Alice Springs	49.65	252	P	P	07 10 08.2	-0.3
	6.0nm,0.7s,baz=86,slow=8.5,SNR=32						
TXAR	Lajitas Array	81.08	56	P	P	07 13 33.5	+1.4
	0.4nm,0.9s,baz=218,slow=5.7,SNR=1.7						
PDAR	Pinedale Array	82.72	42	P	P	07 13 39.2	-1.4
	0.7nm,1.0s,baz=197,slow=4.6,SNR=3.9						
ILAR	Eielson Array	82.76	11	P	P	07 13 39.1	-1.0
	0.4nm,0.8s,baz=206,slow=5.9,SNR=3.4						
KMBO	Kilima Mbogo	145.06	244	PKPbc	PKPbc	07 20 53.9	-0.8
	1.8nm,0.7s,baz=53,slow=22,SNR=5.9						
BRTR	Keskin Array B	146.09	320	PKPbc	PKPbc	07 20 57.1	0.0
	1.9nm,1.0s,baz=87,slow=2.7,SNR=5.0						
GERES	GERESS Array B	146.32	351	PKPbc	PKPab	07 20 58.9	+0.7
	0.2nm,0.3s,baz=66,slow=7.7,SNR=1.9						

IDC 30 07:05:51.8±54.0, 19°.10S×176°.08W, $h0^{km}$, mb4.1/3, mb1 4.3/3, mb1mx3.8/18, mbtmp4.1/3, Error ellipse: s-maj=1013.0km s-min=165.8km az=82.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	40.03	243	P	P	07 13 28.9	+0.1
	0.9nm,0.4s,baz=79,slow=10.0,SNR=4.9						
WRA	Warramunga Arr	46.60	260	P	P	07 14 21.7	-0.4
	0.5nm,0.3s,baz=97,slow=7.4,SNR=31						
ASAR	Alice Springs	46.61	255	P	P	07 14 22.1	-0.1
	2.8nm,0.5s,baz=97,slow=7.5,SNR=20						

IDC 30 07:07:41.5±0.7, 15°.32S×173°.38W, $h0^{km}$, mb4.1/10, mb1 4.4/10, mb1mx4.2/21, mbtmp4.1/10, Error ellipse: s-maj=34.8km s-min=18.2km az=136.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.09	48	Pn	Pn	07 08 12.8	-5.2
	218nm,0.3s,baz=240,slow=22,SNR=7.7						
AFI				Sn	Sn	07 08 32.7	-12
	340nm,0.3s,baz=91,slow=21,SNR=17						
STKA	Stephens Creek	44.09	240	P	P	07 15 51.0	-0.7
	2.6nm,0.6s,baz=62,slow=9.1,SNR=4.5						
WRA	Warramunga Arr	49.88	257	P	P	07 16 36.3	-0.9
	2.4nm,0.6s,baz=91,slow=6.7,SNR=25						
WRA				PcP	PcP	07 17 57.9	+0.1
	1.7nm,0.8s,baz=87,slow=3.4,SNR=5.8						
ASAR	Alice Springs	50.16	252	P	P	07 16 38.6	-0.6
	4.7nm,0.4s,baz=86,slow=8.0,SNR=33						
VNDA	Vanda	63.45	186	P	P	07 18 12.8	+0.1
	1.4nm,0.9s,baz=11,slow=7.4,SNR=7.9						
PETK	Petropavlovsk-	72.56	342	P	P	07 19 10.7	+0.4
	4.3nm,0.7s,baz=152,slow=9.4,SNR=3.8						
NVAR	Mina Array Bea	74.26	42	P	P	07 19 20.7	-0.3
	0.5nm,0.3s,baz=217,slow=7.3,SNR=1.9						
TXAR	Lajitas Array	80.55	56	P	P	07 19 55.8	-0.5
	1.0nm,1.0s,baz=216,slow=6.2,SNR=6.4						
PDAR	Pinedale Array	82.19	42	P	P	07 20 04.5	-0.4
	1.0nm,0.9s,baz=216,slow=4.8,SNR=5.2						
ILAR	Eielson Array	82.36	11	P	P	07 20 04.3	-0.6
	0.5nm,0.9s,baz=231,slow=6.7,SNR=4.9						
MAW	Mawson	87.87	199	P	P	07 20 32.9	+0.2
	1.5nm,0.7s,baz=190,slow=1.5,SNR=4.1						
KMBO	Kilima Mbogo	145.59	244	PKPbc	PKPab	07 27 24.0	+0.3
	2.1nm,0.8s,baz=77,slow=22,SNR=3.9						
GERES	GERESS Array B	146.07	352	PKPbc	PKPbc	07 27 23.4	-0.2
	0.7nm,0.7s,baz=343,slow=1.4,SNR=6.2						
BRTR	Keskin Array B	146.11	321	PKPbc	PKPab	07 27 24.6	-0.1
	4.3nm,0.9s,baz=132,slow=1.8,SNR=8.5						

IDC 30 07:08:53.4±0.8, 4°.94N×126°.73E, $h0^{km}$, mb4.0/12, mb1 4.2/12, mb1mx4.0/28, mbtmp4.0/12, Error ellipse: s-maj=39.9km s-min=16.5km az=70.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	22.92	183	P	P	07 13 59.5	+0.3
	3.3nm,0.9s,baz=24,slow=13,SNR=4.8						
WRA	Warramunga Arr	25.84	163	P	P	07 14 26.6	-0.1
	5.0nm,0.9s,baz=344,slow=9.6,SNR=17						
ASAR	Alice Springs	29.28	166	P	P	07 14 57.7	0.0
	0.4nm,0.6s,baz=348,slow=7.0,SNR=1.9						
CMAR	Chiang Mai Arr	30.28	299	P	P	07 15 08.0	+1.5
	1.0nm,0.3s,baz=101,slow=8.3,SNR=5.1						
SONM	Songino Array	46.16	341	P	P	07 17 21.6	+1.7
	0.3nm,0.4s,baz=158,slow=9.3,SNR=2.7						
MKAR	Makanchi Array	56.57	325	P	P	07 18 37.6	-0.3
	1.0nm,0.7s,baz=124,slow=8.5,SNR=13						
KURBB	Kurchatov Arra	60.73	327	P	P	07 19 06.4	-0.4
	1.6nm,0.8s,baz=125,slow=6.3,SNR=21						
BVAR	Borovoye Array	66.31	327	P	P	07 19 43.2	-0.5
	1.1nm,0.7s,baz=90,slow=4.7,SNR=4.3						
AKTO	Aktyubinsk	72.72	321	P	P	07 20 22.2	-1.1
	0.8nm,0.3s,baz=107,slow=5.7,SNR=4.6						
KDAK	Kodiak Island	80.87	32	P	P	07 21 09.5	+0.3
	5.5nm,0.8s,baz=74,slow=12,SNR=4.0						
ILAR	Eielson Array	84.02	25	P	P	07 21 26.0	+0.4
	0.3nm,0.7s,baz=260,slow=8.1,SNR=4.1						
FINES	FINESS Array B	90.77	332	P	P	07 21 57.4	-0.9
	4.6nm,1.0s,baz=82,slow=2.7,SNR=4.4						

IDC 30 07:10:10.7±1.0, 15°.26S×173°.37W, $h0^{km}$, mb3.8/5, mb1 4.1/5, mb1mx3.8/20, mbtmp3.8/5, Error ellipse: s-maj=50.5km s-min=26.6km az=147.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.05	49	Pn	Pn	07 10 41.4	-5.2
	86nm,0.3s,baz=2.9,slow=18,SNR=1.9						
AFI				Sn	Sn	07 11 01.8	-11
	234nm,0.3s,baz=75,slow=18,SNR=4.4						
WRA	Warramunga Arr	49.90	257	P	P	07 19 06.1	-0.4
	0.8nm,0.5s,baz=91,slow=6.7,SNR=12						
ASAR	Alice Springs	50.18	252	P	P	07 19 08.0	-0.6
	2.3nm,0.4s,baz=86,slow=8.1,SNR=14						
VNDA	Vanda	63.52	186	P	P	07 20 42.8	+0.4
	0.6nm,0.8s,baz=1.9,slow=3.1,SNR=3.6						
TXAR	Lajitas Array	80.51	56	P	P	07 22 24.9	-0.3
	0.4nm,0.9s,baz=205,slow=4.0,SNR=3.1						
PDAR	Pinedale Array	82.14	42	P	P	07 22 32.7	-1.1
	0.4nm,0.9s,baz=230,slow=6.9,SNR=2.3						
GERES	GERESS Array B	146.01	352	PKPbc	PKPab	07 29 53.2	+0.1
	0.3nm,0.2s,baz=339,slow=5.2,SNR=1.9						
BRTR	Keskin Array B	146.06	321	PKPbc	PKPbc	07 29 53.4	+0.2
	1.3nm,0.8s,baz=182,slow=3.7,SNR=4.6						

*IDC **30** 07:13:44.8±0.6, 16°.77S×172°.77W, $h0^{km}$, mb4.3/16, mb1 4.5/16, mb1mx4.5/22, mbtmp4.3/16, MS4.1/6, Ms1 4.1/6, ms1mx3.5/37, Error ellipse: s-maj=22.2km s-min=16.2km az=129.0*
*BJI **30** 07:13:46.0, 16°.64S×172°.92W, $h9^{km}$, mB5.5/12, mb5.0/15, Ms5.2/5, Ms7 4.9/5*
*NEIC **30** 07:13:46.5±0.3, 16°.68S×172°.84W, $h10^{km}$, mb4.8/11, Error ellipse: s-maj=13.7km s-min=7.7km az=126.0*
*ISCJB **30** 07:13:47.4±0.3, 16°.76S±0°.08×172°.67W±0°.08, $h24^{km}$, mb4.5/34, MS4.3/7, Error ellipse: s-maj=13.5km s-min=9.3km az=135.0*

ISC 30 07:13:48.8±0.4, 16°.57S±0°.07×172°.71W±0°.09, $h24^{km}$, n96, σ1$51/99, mb4.6/34, MS4.2/7, 6C-3D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.79	19	*e*Pn	Pn	07 14 31.0	-1.1
AFI				Sn	Sn	07 15 01.6	-3.5
AFI	Afiamalu	2.79	19	Pn	Pn	07 14 29.1	-3.0
	45nm,0.3s,baz=142,slow=2.7,SNR=8.1						
AFI				Sn	Sn	07 15 01.6	-3.5
	76nm,0.3s,baz=207,slow=22,SNR=8.9						
AFI				LR	LR	07 15 08.4	
	comp=Z,2μm,21.3s,baz=293,slow=28						
MSVF	Nonsavu	8.91	261	*e*Pn	Pn	07 16 00.7	+4.6
RAR	Rarotonga	13.08	113	Pn	Pn	07 16 45.5	-7.7
RAR	Rarotonga	13.08	113	Pn	Pn	07 16 45.5	-7.7
	9.1nm,0.3s,baz=270,slow=9.2,SNR=5.9						
DZM	Mont Dzumac	20.41	251	*e*P	Pn	07 18 40.8	+14
	59nm,1.2s						
DZM				*e*LR	LR	07 23 45.1	
	1μm,27.4s						
DZM	Mont Dzumac	20.41	251	LR	LR	07 24 53.4	
	comp=Z,644nm,19.3s,baz=202,slow=33						
PPT2	Papeete2	22.14	96	*e*LQ	LQ	07 22 41.9	
	1μm,27.0s						
PPT2				*e*LR	LR	07 23 31.3	
	399nm,28.5s						
TBI	Tubuai	22.85	111	*e*LQ	LQ	07 23 10.8	
	930nm,26.8s						
TBI				*e*LR	LR	07 23 54.8	
	355nm,31.8s						
URZ	Urewera	23.39	201	*e*P	P	07 18 53.9	-1.8
URZ	Urewera	23.39	201	P	P	07 18 53.7	-2.1
	16nm,0.6s,baz=274,slow=8.4,SNR=7.4						
HNR	Honiara	27.55	282	LR	LR	07 28 43.8	
	comp=Z,325nm,19.4s,baz=123,slow=33						
STKA	Stephens Creek	44.04	241	*e*P	P	07 21 53.6	-1.2
STKA	Stephens Creek	44.04	241	P	P	07 21 52.0	-2.8
	8.2nm,0.9s,baz=86,slow=8.9,SNR=12						
WRA	Warramunga Arr	50.23	258	P	P	07 22 40.5	-2.9
WRA	Warramunga Arr	50.23	258	P	P	07 22 40.5	-2.9
	1.1nm,0.7s,baz=96,slow=7.3,SNR=13						
WRA				LR	LR	07 43 37.6	
	comp=Z,211nm,18.4s,baz=75,slow=36						
AS31	Alice Springs	50.39	253	*e*P	P	07 22 42.3	-2.2
ASAR	Alice Springs	50.39	253	P	P	07 22 41.8	-2.7
ASAR	Alice Springs	50.39	253	P	P	07 22 41.8	-2.7
	5.4nm,0.7s,baz=87,slow=9.1,SNR=22						
FITZ	Fitzroy Crossi	58.62	259	LR	LR	07 47 30.1	
	comp=Z,118nm,21.1s,baz=113,slow=35						
SBA	Scott Base	62.15	185	*e*P	P	07 24 07.9	+0.4
	8.6nm,1.0s						
VNDA	Vanda	62.29	186	P	P	07 24 07.9	-0.5
VNDA	Vanda	62.29	186	P	P	07 24 07.9	-0.5
	3.1nm,0.9s,baz=11,slow=7.4,SNR=13						
MJAR	Matsushiro Arr	70.25	320	P	P	07 24 59.0	-1.1
MJAR	Matsushiro Arr	70.25	320	P	P	07 24 59.0	-1.1
	0.4nm,0.3s,baz=154,slow=9.5,SNR=1.9						
ISA	Isabella	73.03	44	*e*P	P	07 25 18.3	+1.3
CMB	Columbia Colle	73.21	41	*e*P	P	07 25 19.3	+1.4
	4.2nm,0.8s						
PFO	Pinyon Flat Ob	73.24	46	LR	LR	07 48 48.1	
	comp=Z,144nm,21.6s,baz=176,slow=29						
QSPA	South Pole Qui	73.48	180	*e*P	P	07 25 18.2	-1.0
	17nm,1.2s						
PETK	Petropavlovsk-	73.94	342	P	P	07 25 23.4	+1.6
PETK	Petropavlovsk-	73.94	342	P	P	07 25 23.4	+1.6
	5.3nm,1.0s,baz=139,slow=7.0,SNR=3.6						
WAKR	Walker	74.08	41	*e*P	P	07 25 25.0	+1.7
YBH	Yreka Blue Hor	74.13	37	P	P	07 25 24.8	+1.5
YBH	Yreka Blue Hor	74.13	37	P	P	07 25 24.8	+1.5
	4.3nm,0.8s,baz=188,slow=2.2,SNR=8.2						
MOD	Modoc	75.63	38	*e*P	P	07 25 33.6	+1.6
KDAK	Kodiak Island	75.94	11	P	P	07 25 33.9	+0.8
KSRS	Korea Array	77.45	315	P	P	07 25 44.2	+2.0
	1.6nm,0.9s,baz=116,slow=5.7,SNR=2.6						
KSAR	Wonju Array Be	77.47	315	P	P	07 25 44.2	+1.8
J08A	Circle Bar Ran	77.59	37	*e*P	P	07 25 44.6	+1.5
	10nm,1.3s						
G08A	Pilot Rock

LZH sP **sP** **07 27 15.5 -2.5**
LZH pmax pmax
comp=Z,19nm,1.1s
SONM Songino Array 96.15 318 P **P** **07 27 14.8 0.0**
SONM Songino Array 96.15 318 P **P** **07 27 14.8 0.0**
comp=Z,0.2nm,0.3s,baz=145,slow=5.4,SNR=4.1
KSH Kashi 116.70 306 *e*PKP **PKPdf** **07 32 32.3 +0.8**
KSH PP **PP** **07 33 41.0 +1.3**
KSH PKS **PKSdf** **07 36 07.5 -0.7**
KSH SKS **SKSdf** **07 39 43.5 +1.2**
KSH SKKS **SKKSac** **07 40 34.0 -5.2**
KSH AMB AMB
comp=Z,61nm,3.8s
KSH LR LR
comp=N,54nm,5.4s
KSH LR LR
comp=E,77nm,4.9s
KSH LR LR
comp=Z,150nm,5.2s
ARCES ARCESS Array B 125.85 352 PKP **PKPdf** **07 32 48.1 +0.1**
ARCES ARCESS Array B 125.85 352 PKP **PKPdf** **07 32 48.1 +0.1**
comp=Z,7.6nm,1.1s,baz=324,slow=7.5,SNR=4.3
AKASG Malin Array Be 141.67 337 PKP **PKPdf** **07 33 17.6 -0.4**
AKASG Malin Array Be 141.67 337 PKP **PKPdf** **07 33 17.6 -0.4**
comp=Z,0.2nm,0.3s,baz=40,slow=2.1,SNR=4.3
CLL Collm 145.04 354 *e*PKPdf **PKPdf** **07 33 25.0 +1.0**
CLL *i* (PKiKP) 07 33 28.1
comp=Z,5.0nm,0.8s
MALT Malatya 145.16 315 ⇓ *i*P **PKPdf** **07 33 26.5 +1.7**
KMBO Kilima Mbogo 145.60 242 *e*PKPbc **PKPdf** **07 33 27.2 +0.8**
KMBO Kilima Mbogo 145.60 242 PKPbc **PKPab** **07 33 27.8 +0.8**
comp=Z,8.6nm,1.0s,baz=66,slow=2.3,SNR=12
BURAR Bucovina Array 145.69 338 ⇓ *i*P **PKPab** **07 33 28.1 +2.0**
MORC Moravsky Berou 145.85 348 ⇑ *i*P **PKPab** **07 33 28.5 +2.0**
TLB Topalu 147.04 332 ⇑ *i*P **PKPbc** **07 33 31.2 +1.5**
MLR Muntele Rosu 147.20 335 ⇑ *i*P **PKPab** **07 33 32.4 +0.4**
DRGR 147.26 340 ⇑ *i*P **PKPbc** **07 33 31.1 +0.8**
GERES GERESS Array B 147.39 352 PKPbc **PKPbc** **07 33 31.6 +1.0**
GERES GERESS Array B 147.39 352 PKPbc **PKPbc** **07 33 31.6 +1.0**
comp=Z,0.9nm,0.6s,baz=27,slow=1.5,SNR=12
BR131 Keskin Array S 147.48 320 *e*PKPdf **PKPdf** **07 33 27.8 -1.0**
BR131 *e*PKPbc **PKPbc** **07 33 32.0 +0.8**
BRTR Keskin Array B 147.48 320 PKPbc **PKPbc** **07 33 32.2 +0.9**
BRTR Keskin Array B 147.48 320 PKPbc **PKPbc** **07 33 32.2 +0.9**
comp=Z,4.9nm,0.9s,baz=130,slow=1.9,SNR=17
VOIR 147.60 336 ⇓ *i*P **PKPab** **07 33 33.5 0.0**
BZS Buzias 148.65 340 ⇓ *i*P **PKPbc** **07 33 35.6 +1.6**
TUE Stuetta 150.14 357 *e*PKPdf **PKPdf** **07 33 34.5 +1.7**
TUE *e*PKPbc **PKPbc** **07 33 39.1 +1.1**
VTS Vitosha 150.71 336 ⇑ *i*P **PKPbc** **07 33 40.4 +1.1**
TORD Torodi Ar. Bea 173.61 121 PKPab **PKPab** **07 35 25.2 -1.4**
TORD Torodi Ar. Bea 173.61 121 PKPab **PKPab** **07 35 25.2 -1.4**
comp=Z,2.5nm,0.9s,baz=253,slow=5.0,SNR=12

GUC 30 07:24:18.2±0.5,31°.39S×68°.90W,h150km,MD3.5,ML3.0,
2C-1D,San Juan Province

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**1.81**	**276**	⇓ *i*P	Pn		07 24 51.5	+0.2
CMCH				*i* S	Sn		07 25 17.7	+1.0
JACH	**Jahuel**	**1.93**	**228**	⇑ *i*P	Pn		07 24 53.5	+0.8
JACH				*i* S	Sn		07 25 19.6	+0.4
TLL	**Tololo Astrono**	**2.04**	**306**	⇑ *i*P	Pn		07 24 54.8	+0.6
TLL				*i* S	Sn		07 25 22.8	+1.0
TLL				AML	AML		07 25 26.2	
comp=N,116nm,0.4s								
CHNG	**Los Chungos**	**2.27**	**257**	*e*P	Pn		07 24 56.8	+0.2
CHNG				*i* S	Sn		07 25 26.1	0.0
CHNG				AML	AML		07 25 33.9	
comp=N,64nm,0.4s								
CLCH	**Cerro Calan**	**2.44**	**214**	*e*P	Pn		07 24 59.1	+0.5
CLCH				*e*S	Sn		07 25 30.6	+0.7
CLCH				AML	AML		07 25 46.0	
comp=E,42nm,0.6s								
ANTU	**Antumapu**	**2.62**	**214**	*e*S	Sn		07 25 34.3	+0.4

IDC 30 07:25:51.2±0.7,15°.19S×173°.46W,h0km,mb4.2/10,
mb1 4.5/10,mb1mx4.3/21,mbtmp4.2/10,Error ellipse:
s-maj=37.7km s-min=17.6km az=140.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.07**	**52**		Pn	Pn	07 26 21.2	-6.2
110nm,0.3s,baz=47,slow=20,SNR=14								
AFI					Sn	Sn	07 26 39.8	-14
585nm,0.3s,baz=53,slow=21,SNR=11								
RAR	**Rarotonga**	**14.32**	**117**		Pn	Pn	07 29 08.1	-7.2
2.5nm,0.3s,baz=270,slow=4.6,SNR=3.6								
DZM	**Mont Dzumac**	**20.22**	**247**		P	P	07 30 29.0	+0.8
12nm,1.0s,baz=60,slow=16,SNR=4.0								
STKA	**Stephens Creek**	**44.09**	**240**		P	P	07 34 00.7	-0.8
2.8nm,0.6s,baz=84,slow=10.0,SNR=4.9								
WRA	**Warramunga Arr**	**49.83**	**257**		P	P	07 34 45.9	-0.6
3.1nm,0.7s,baz=90,slow=7.1,SNR=10								
ASAR	**Alice Springs**	**50.12**	**252**		P	P	07 34 48.2	-0.5
8.9nm,0.6s,baz=88,slow=7.9,SNR=39								
VNDA	**Vanda**	**63.58**	**186**		P	P	07 36 23.9	+0.5
2.2nm,1.1s,baz=10.0,slow=7.1,SNR=6.6								
NVAR	**Mina Array Bea**	**74.21**	**42**		P	P	07 37 31.1	+0.7
1.4nm,0.8s,baz=231,slow=11,SNR=2.9								
TXAR	**Lajitas Array**	**80.54**	**56**		P	P	07 38 05.6	-0.3
2.0nm,1.0s,baz=240,slow=4.6,SNR=12								
PDAR	**Pinedale Array**	**82.15**	**42**		P	P	07 38 13.9	-0.4
1.3nm,0.9s,baz=228,slow=1.8,SNR=6.4								
ILAR	**Eielson Array**	**82.25**	**11**		P	P	07 38 12.8	-1.2
0.6nm,0.5s,baz=239,slow=5.7,SNR=15								
MAW	**Mawson**	**87.98**	**199**		P	P	07 38 42.2	-0.6
1.0nm,0.6s,baz=104,slow=8.0,SNR=7.4								
GERES	**GERESS Array B**	**145.92**	**352**		PKPbc	PKPab	07 45 33.5	+0.2
1.1nm,0.7s,baz=20,slow=4.3,SNR=5.9								
BRTR	**Keskin Array B**	**145.95**	**321**		PKPbc	PKPab	07 45 34.3	+0.5
4.3nm,1.0s,baz=126,slow=2.1,SNR=11								

*ISCJB **30** 07:27:38.2±0.3,2°.57N±0°.03×123°.01E±0°.04,h500km,*
mb3.9/16,Error ellipse: s-maj=5.5km s-min=4.0km
az=146.2
*IDC **30** 07:27:38.9±1.2,2°.47N×122°.95E,h496km±14km,mb3.5/16,*
mb1 3.6/18,mb1mx3.5/29,mbtmp3.5/18,Error ellipse:
s-maj=17.2km s-min=7.2km az=72.0
*BKK **30** 07:27:39.0±0.4,2°N±7°×12°3E±°,h471km±7km,M4.6/10,*
mB5.0/4,mb4.4/10,MLv4.8/5,Mw(mB)4.3/4
*DJA **30** 07:27:39.0±0.3,3°N±4°×12°3E±°,h472km±4km,M4.5/30,*
mB5.1/17,mb4.8/30,MLv4.7/15,Mw(mB)4.4/17
ISC 30 07:27:39.1±0.5,2°.49N±0°.06×122°.93E±0°.07,h500km,n85,
σ1§34/87,mb3.8/16,1C-1D,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**1.84**	**178**		P	**P**	**07 28 40.4**	**-3.1**
KMSI	**Cibinong**	**2.17**	**151**		P	**P**	**07 28 43.3**	**-1.9**
MRSI	**Marisa**	**2.23**	**206**		P	**P**	**07 28 43.2**	**-2.3**
SGSI	**Sangihe**	**2.85**	**65**		P	**P**	**07 28 46.5**	**-2.7**
LUWI	**Luwuk**	**3.51**	**183**		P	**P**	**07 28 51.1**	**-2.7**
LUWI					S	**S**	**07 29 49.3**	**-5.2**
APSI	**Ampana**	**3.61**	**201**		P	**P**	**07 28 53.0**	**-1.6**
TNTI	**Ternate**	**4.75**	**111**		P	**P**	**07 29 02.0**	**-1.9**
MYLDM	**Lahad Datu**	**5.17**	**301**		P	**P**	**07 29 07.7**	**0.0**
MYLDM	**Lahad Datu**	**5.17**	**301**		P	**P**	**07 29 07.4**	**-0.3**
174nm,1.0s,1μm								
TSM	**Tawau**	**5.36**	**290**		P	**P**	**07 29 08.0**	**-1.5**
SDKM	**Sandakan**	**6.52**	**299**		P	**P**	**07 29 19.2**	**-1.5**
MMSI	**Mamuju**	**6.53**	**218**		P	P	07 29 23.7	+3.0
64nm,0.6s,0.2nm								
NLAI	**Namlea**	**7.05**	**144**		P	**P**	**07 29 26.8**	**+0.9**
92nm,1.1s,0.5nm								
SPSI	**Sidrap Palu**	**7.15**	**206**		P	**P**	**07 29 26.4**	**-0.5**
159nm,0.7s,2μm								
TBP	**Tagbilaran**	**7.22**	**7**	⇑ *e*P		**P**	**07 29 27.0**	**-0.6**
BNSI	**Bone**	**7.40**	**202**		P	**P**	**07 29 31.1**	**+1.6**
71nm,0.8s,0.2nm								
KDM	**Kudat**	**7.50**	**306**		P	**P**	**07 29 30.9**	**+0.4**
KKM	**Kota Kinabalu**	**7.57**	**298**		P	**P**	**07 29 30.2**	**-1.1**
KKM	**Kota Kinabalu**	**7.57**	**298**		P	**P**	**07 29 29.6**	**-1.7**
290nm,1.1s,5μm								
SCPH	**Surigao**	**7.68**	**19**	⇓ *e*P		P	07 29 33.7	+1.4
AAI	**Ambon**	**8.08**	**139**		P	**P**	**07 29 37.3**	**+0.8**
197nm,0.7s,6μm0.8nm								
KAPI	**Kappang**	**8.10**	**203**		P	**P**	**07 29 37.3**	**+0.6**
29nm,1.0s,0.1nm								
KAPI	**Kappang**	**8.10**	**203**		P	**P**	**07 29 36.0**	**-0.7**
1.4nm,0.3s,baz=23,slow=11,SNR=9.9								
KAPI					S	**S**	**07 31 12.4**	**-0.6**
0.8nm,0.3s,baz=14,slow=24,SNR=11								
BKSI	**Bulukumba**	**8.25**	**200**		P	P	07 29 41.7	+3.5
18nm,0.8s,483nm0.1nm								
MSAI	**Masohi**	**8.34**	**134**		P	**P**	**07 29 40.4**	**+1.3**
141nm,0.6s,2μm0.5nm								
SWI	**Sorong**	**8.97**	**112**		P	**P**	**07 29 45.9**	**+0.2**
187nm,0.6s,2μm0.7nm								
BNDI	**Bandanaira**	**9.85**	**135**		P	**P**	**07 29 55.4**	**+0.4**
638nm,0.6s,6μm								
BTM	**Bintulu**	**9.86**	**274**		P	**P**	**07 29 55.8**	**+0.6**
SBUM	**Sibu**	**10.70**	**270**		P	**P**	**07 30 05.0**	**+0.9**
SBUM	**Sibu**	**10.70**	**270**		P	**P**	**07 30 04.4**	**+0.4**
50nm,1.1s,643nm								
FAKI	**Fak Fak**	**10.75**	**120**		P	**P**	**07 30 04.7**	**+0.1**
249nm,0.8s,3μm								
LBFI	**Labuhan Bajo,**	**11.31**	**196**		P	**P**	**07 30 10.7**	**+0.2**
97nm,0.7s								
BATI	**Baumata**	**12.63**	**177**		P	**P**	**07 30 24.4**	**-0.1**
11nm,0.3s,baz=308,slow=4.4,SNR=5.7								
BATI					S	**S**	**07 32 41.4**	**+0.6**
5.2nm,0.3s,baz=198,slow=23,SNR=12								
KSM	**Kuching**	**12.66**	**266**		P	**P**	**07 30 25.1**	**+0.3**
KSM	**Kuching**	**12.66**	**266**		P	**P**	**07 30 24.9**	**+0.1**
37nm,1.0s								
TLE	**Tual**	**12.69**	**130**		P	P	07 30 26.7	+1.6
612nm,0.8s,5μm								
MTNI	**Mataram**	**12.94**	**211**		P	**P**	**07 30 27.2**	**-0.6**
228nm,0.8s,2μm								
KMMI	**Kalianget**	**13.03**	**223**		P	**P**	**07 30 30.9**	**+2.2**
471nm,0.8s,4μm								
BAKI	**Biak**	**13.67**	**105**		P	P	07 30 37.1	+1.6
225nm,0.8s								
BLJI	**Banyuglugur**	**13.79**	**222**		P	**P**	**07 30 38.3**	**+1.6**
143nm,0.8s,3μm								
GMJI	**Gumukmas**	**14.28**	**221**		P	P	07 30 47.8	+6.0
52nm,1.0s								
TPI	**Tanjungpandan**	**16.14**	**251**		P	**P**	**07 31 03.2**	**+1.8**
48nm,0.6s,634nm								
BJII	**Banjamegara**	**16.41**	**233**		P	**P**	**07 31 05.7**	**+1.4**
39nm,1.2s								
KPJI	**Karang Pucung**	**17.04**	**235**		P	**P**	**07 31 11.3**	**+0.7**
56nm,0.9s								
PPBI	**Pangkal Pinang**	**17.41**	**255**		P	**P**	**07 31 15.0**	**+0.7**
36nm,0.8s,13μm								
CBJI	**Citeko**	**18.33**	**241**		P	**P**	**07 31 25.0**	**+2.3**
286nm,1.1s								
JAY	**Jayapura**	**18.45**	**105**		P	**P**	**07 31 25.6**	**+1.8**
47nm,0.3s,11μm								
DBJI	**Dramaga**	**18.48**	**241**		P	**P**	**07 31 25.4**	**+1.3**
86nm,1.6s								
MYKOM	**Kota Tinggi**	**19.08**	**268**		P	**P**	**07 31 31.2**	**+1.7**
KGM	**Kluang**	**19.60**	**269**		P	**P**	**07 31 35.1**	**+0.7**
KTGM	**Kuala Trenggan**	**19.95**	**279**		P	**P**	**07 31 38.4**	**+0.9**
MDSI	**Maura Dua**	**19.98**	**250**		P	**P**	**07 31 38.1**	**+0.3**
FITZ	**Fitzroy Crossi**	**20.63**	**173**		P	**P**	**07 31 43.4**	**-0.2**
6.2nm,0.7s,baz=360,slow=7.8,SNR=19								
FITZ					S	**S**	**07 35 00.9**	**-1.1**
2.6nm,0.9s,baz=253,slow=20,SNR=2.6								
FRIM	**Kepong**	**21.29**	**273**		P	**P**	**07 31 50.8**	**+1.1**
IPM	**Ipoh**	**21.95**	**276**		P	**P**	**07 31 53.3**	**-2.4**
KULM	**Kulim**	**22.40**	**278**		P	**P**	**07 31 55.6**	**-4.1**
CHBT	**CHBT**	**22.80**	**298**		P	P	07 32 09.3	+6.1
76nm,0.7s								
PSI	**Prapat**	**23.98**	**271**		P	**P**	**07 32 14.1**	**+0.1**
12nm,0.6s,baz=91,slow=5.5,SNR=6.9								
WRA	**Warramunga Arr**	**24.95**	**154**		P	**P**	**07 32 22.0**	**-0.3**
4.6nm,0.6s,baz=336,slow=9.4,SNR=80								
WRA					S	**S**	**07 36 10.6**	**+0.4**
1.3nm,0.6s,baz=343,slow=13,SNR=3.3								
WRA					ScP	**ScP**	**07 38 33.7**	**+0.9**
1.0nm,0.6s,baz=343,slow=3.0,SNR=5.0								
PMG	**Port Moresby**	**26.88**	**116**		P	**P**	**07 32 39.7**	**+0.3**
19nm,0.7s,baz=352,slow=6.6,SNR=4.1								
SUKH	**Sukhothai**	**27.30**	**305**		P	**P**	**07 32 45.0**	**+1.9**
ASAR	**Alice Springs**	**28.11**	**158**		P	**P**	**07 32 50.6**	**+0.5**
0.8nm,0.4s,baz=343,slow=6.7,SNR=24								
ASAR					S	**S**	**07 36 59.6**	**0.0**
3.6nm,0.9s,baz=351,slow=18,SNR=15								
ASAR					ScP	**ScP**	**07 38 43.7**	**+1.5**
3.6nm,0.6s,baz=342,slow=3.0,SNR=21								
KSRS	**Korea Array**	**35.10**	**7**		P	**P**	**07 33 50.2**	**+0.4**
0.7nm,0.3s,baz=183,slow=9.7,SNR=2.9								
TAPN	**Taplejung**	**41.78**	**310**	*e*P		**P**	**07 34 45.4**	**+0.6**
14nm,0.5s								
ODAN	**Odare**	**41.79**	**309**	*e*P		**P**	**07 34 45.0**	**+0.2**
21nm,0.7s								
USRK	**Ussuriysk Arra**	**42.30**	**10**		P	**P**	**07 34 48.3**	**+0.1**
2.3nm,0.7s,baz=194,slow=9.6,SNR=4.8								
RAMN	**Ramite**	**42.45**	**308**	*e*P		**P**	**07 34 50.6**	**+0.6**
31nm,0.7s								
JIRN	**Jiri**	**43.11**	**309**	*e*P		**P**	**07 34 55.7**	**+0.4**
23nm,0.5s								
GUN	**Gumba**	**43.47**	**309**	*e*P		**P**	**07 34 58.4**	**+0.3**
41nm,0.5s								
PKI	**Pulchoki**	**43.68**	**308**	*e*P		**P**	**07 34 59.5**	**-0.2**
KKN	**Kakani**	**43.88**	**309**	*e*P		**P**	**07 35 01.3**	**+0.2**
22nm,0.6s								
DMN	**Daman**	**43.93**	**308**	*e*P		**P**	**07 35 01.9**	**+0.3**
GKN	**Gorkha**	**44.48**	**309**	*e*P		**P**	**07 35 05.7**	**0.0**
21nm,0.6s								
KOLN	**Koldanda**	**45.19**	**308**	*e*P		**P**	**07 35 11.7**	**+0.4**
54nm,0.6s								
DANN	**Dangsing**	**45.33**	**308**	*e*P		**P**	**07 35 12.6**	**+0.2**
60nm,0.6s								
SONM	**Songino Array**	**47.38**	**345**		P	**P**	**07 35 27.5**	**0.0**
1.1nm,0.5s,baz=165,slow=7.9,SNR=5.8								
MKAR	**Makanchi Array**	**56.48**	**328**		P	**P**	**07 36 33.2**	**+0.1**
2.1nm,0.4s,baz=125,slow=8.2,SNR=37								
MKAR					PcP	**PcP**	**07 37 22.4**	**-0.4**
1.0nm,0.5s,baz=153,slow=3.6,SNR=6.7								
PETK	**Petropavlovsk-**	**58.05**	**24**		P	**P**	**07 36 42.9**	**-0.7**
2.0nm,0.7s,baz=167,slow=4.0,SNR=4.2								
AAK	**Ala-Archa**	**58.79**	**320**		P	**P**	**07 36 50.2**	**+1.2**
1.3nm,0.4s,baz=190,slow=7.5,SNR=5.3								
ZALV	**Zalesovo Beam**	**60.04**	**335**		P	**P**	**07 36 56.2**	**-0.8**
0.9nm,0.3s,baz=147,slow=3.4,SNR=2.1								
MAW	**Mawson**	**81.30**	**200**		P	**P**	**07 39 03.4**	**+1.1**
1.9nm,0.7s,baz=86,slow=5.3,SNR=4.7								
VNDA	**Vanda**	**82.70**	**172**		P	**P**	**07 39 09.5**	**+0.1**
1.1nm,0.6s,baz=318,slow=7.3,SNR=16								
KMBO	**Kilima Mbogo**	**85.73**	**269**		P	**P**	**07 39 26.2**	**+0.3**
2.7nm,0.8s,baz=54,slow=12,SNR=6.1								
FINES	**FINESS Array B**	**91.12**	**332**		P	**P**	**07 39 48.5**	**-1.2**
5.0nm,1.1s,baz=156,slow=10,SNR=3.5								
TORD	**Torodi Ar. Bea**	**119.67**	**287**		PKP	**PKPdf**	**07 45 32.5**	**-0.5**
1.0nm,0.7s,baz=62,slow=1.6,SNR=10								

*BJI **30** 07:32:12.9,15°.30S×172°.70W,h10km,mB5.3/10,*
mb5.2/13,Ms5.2/6,Ms7 4.9/5
*IDC **30** 07:32:12.7±0.7,15°.11S×173°.49W,h0km,mb4.3/9,*
mb1 4.6/9,mb1mx4.4/20,mbtmp4.3/9,MS3.8/4,Ms1 3.8/4,
ms1mx3.5/32,Error ellipse: s-maj=35.4km s-min=17.5km
az=136.0
*NEIC **30** 07:32:14.0±0.4,15°.16S×173°.28W,h10km,mb4.9/20,*
Error ellipse: s-maj=16.0km s-min=9.2km az=138.0
*ISCJB **30** 07:32:16.0±0.3,15°.35S±0°.07×173°.13W±0°.07,h29km,*
mb4.7/32,MS4.4/5,Error ellipse: s-maj=12.0km
s-min=7.2km az=142.4
*SZGRF **30** 07:32:17.3,15°.58S×172°.30W,h33km,Samoa Islands*
region
ISC 30 07:32:18.4±0.4,15°.40S±0°.10×173°.03W±0°.08,h29km,
n263,σ1§26/257,mb4.9/32,MS4.4/5,88C-93D,Tonga
Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.91**	**39**	*e*Pn		Pn	07 32 41.3	-7.7
AFI					Sn	Sn	07 33 00.7	-12
AFI				*e*Sn		Sb	07 33 01.8	-15
AFI	**Afiamalu**	**1.91**	**39**	Pn		Pn	07 32 41.4	-7.7
141nm,0.3s,baz=38,slow=2.7,SNR=11								
AFI					Sn	Sn	07 33 00.7	-12
216nm,0.3s,baz=29,slow=22,SNR=4.4								
AFI					LR	LR	07 33 16.5	
comp=Z,1μm,21.1s,baz=24,slow=31								
MSVF	**Nonsavu**	**8.87**	**254**	*e*Pn		**Pn**	**07 34 25.4**	**+0.7**
RAR	**Rarotonga**	**13.84**	**117**	Pn		**Pn**	**07 35 34.9**	**+2.1**
DZM	**Mont Dzumac**	**20.53**	**248**	*e*P		**P**	**07 36 54.0**	**-0.7**
118nm,1.4s								
DZM				*e*LR		LR	07 41 42.4	
1μm,23.8s								
DZM	**Mont Dzumac**	**20.53**	**248**	*e*P		**P**	**07 36 51.6**	**-3.1**
66nm,1.3s								
PPT2	**Papeete2**	**22.59**	**99**	*e*S		**S**	**07 41 29.8**	**+7.0**
782nm,25.2s								
PPT2				*e*LR		LR	07 42 17.1	
221nm,24.2s								
TBI	**Tubuai**	**23.57**	**113**	*e*LQ		LQ	07 42 07.9	
650nm,26.5s								
TBI				*e*LR		LR	07 43 27.4	
315nm,23.5s								
URZ	**Urewera**	**24.38**	**199**	*e*P		**P**	**07 37 33.0**	**-1.1**
STKA	**Stephens Creek**	**44.35**	**240**	P		P	07 40 22.8	-3.5
1.5nm,0.8s								
STKA	**Stephens Creek**	**44.35**	**240**	P		P	07 40 22.8	-3.5
5.1nm,0.7s,baz=77,slow=7.0,SNR=7.4								
WRAB	**Tennant Creek**	**50.19**	**257**	*e*P		P	07 41 08.2	-3.6
WRA	**Warramunga Arr**	**50.20**	**257**	P		P	07 41 07.4	-4.6
WRA	**Warramunga Arr**	**50.20**	**257**	P		P	07 41 07.4	-4.6
1.4nm,0.5s,baz=98,slow=6.0,SNR=39								
AS31	**Alice Springs**	**50.45**	**252**	*e*P		P	07 41 09.8	-4.1
ASAR	**Alice Springs**	**50.45**	**252**	P		P	07 41 09.8	-4.1
ASAR	**Alice Springs**	**50.45**	**252**	P		P	07 41 09.8	-4.1
6.4nm,0.5s,baz=87,slow=7.9,SNR=46								
SBA	**Scott Base**	**63.28**	**185**	*e*P		**P**	**07 42 45.1**	**+1.2**
17nm,1.2s								
VNDA	**Vanda**	**63.41**	**186**	*e*P		**P**	**07 42 46.0**	**+1.3**
8.1nm,1.1s								
VNDA	**Vanda**	**63.41**	**186**	P		**P**	**07 42 46.1**	**+1.3**
4.8nm,1.0s,baz=7.0,slow=6.3,SNR=15								
CASY	**Casey**	**70.56**	**205**	*e*P		P	07 43 26.9	-3.5
19nm,1.0s								
NVAR	**Mina Array Bea**	**74.09**	**42**	P		**P**	**07 43 51.8**	**-0.4**
NVAR	**Mina Array Bea**	**74.09**	**42**	P		**P**	**07 43 51.8**	**-0.4**
0.9nm,0.7s,baz=225,slow=8.9,SNR=3.2								
QSPA	**South Pole Qui**	**74.64**	**180**	*e*P		**P**	**07 43 55.4**	**+0.5**
15nm,1.0s								
QSPA	**South Pole Qui**	**74.64**	**180**	LR		LR	08 10 53.5	
comp=Z,88nm,20.1s,baz=49,slow=31								
R11A	**Troy Canyon, C**	**75.81**	**43**	⇓ P		**P**	**07 44 01.7**	**-0.4**
baz=76								
KSRS	**Korea Array**	**76.41**	**315**	LR		LR	08 14 28.6	
comp=Z,37nm,18.8s,baz=90,slow=33								
X16A	**Lo Mia Camp, P**	**76.65**	**48**	⇑ P		**P**	**07 44 05.7**	**-1.3**
baz=77								
BBB	**Bella Bella**	**77.73**	**26**	LR		LR	08 12 15.1	
comp=Z,162nm,19.0s,baz=208,slow=31								
Z20A	**Nine Sixteen R**	**78.12**	**51**	⇑ P		**P**	**07 44 14.4**	**-0.8**
baz=78								
MFID	**Camas Ranch**	**78.46**	**39**	⇑ P		**P**	**07 44 16.5**	**-0.3**
baz=79								
Y20A	**Horse Springs,**	**78.64**	**50**	⇓ P		**P**	**07 44 17.5**	**-0.7**
baz=79								
X20A	**Quemado**	**78.84**	**49**	⇑ P		**P**	**07 44 18.8**	**-0.5**
baz=79								
Z21A	**St. Cloud Mine**	**78.90**	**51**	⇓ P		**P**	**07 44 19.5**	**0.0**
baz=79								
F10A	**Beach Ranch, E**	**79.11**	**36**	*e*P		**P**	**07 44 19.4**	**-0.8**
92nm,2.5s								
W20A	**Ramah**	**79.11**	**49**	⇓ P		**P**	**07 44 20.2**	**-0.5**
baz=79								
TMUT	**Trail Mountain**	**79.22**	**44**	*e*P		**P**	**07 44 22.0**	**+0.7**
8.9nm,0.8s								
X21A	**Alamocita Cree**	**79.33**	**50**	⇓ P		**P**	**07 44 21.8**	**-0.1**
baz=80								
B08A	**Colville Reser**	**79.38**	**33**	*e*P		**P**	**07 44 19.6**	**-2.0**
4.2nm,0.9s								
HLID	**Hailey**	**79.40**	**39**	*e*P		**P**	**07 44 21.0**	**-1.0**
7.5nm,0.9s								
HLID	**Hailey**	**79.40**	**39**	⇓ P		**P**	**07 44 21.4**	**-0.6**
baz=80								
Z22A	**Elephant Butte**	**79.41**	**51**	⇓ P		**P**	**07 44 20.9**	**-1.3**
baz=80								
U20A	**Newcomb**	**79.68**	**48**	⇓ P		**P**	**07 44 23.1**	**-0.6**
baz=80								
324A	**Moseley Ranch,**	**79.75**	**53**	⇓ P		**P**	**07 44 24.0**	**-0.2**
baz=80								
425A	**Indio Mountain**	**79.86**	**54**	⇓ P		**P**	**07 44 23.6**	**-1.2**
baz=80								
224A	**Cornudas Mount**	**79.99**	**53**	⇓ P		**P**	**07 44 25.3**	**-0.2**
baz=80								
626A	**Big Bend Ranch**	**80.03**	**56**	⇓ P		**P**	**07 44 25.2**	**-0.5**
baz=80								
PV05	**Paradox Valley**	**80.07**	**46**	*e*P		P	07 44 21.8	-4.1
MVCO	**Mesa Verde**	**80.08**	**47**	⇓ P		**P**	**07 44 25.2**	**-0.7**
baz=80								
526A	**Mary Lane Ranc**	**80.27**	**55**	⇑ P		**P**	**07

Q22A	Crested Butte,	81.95	46	⇑P	P	07 44 35.5	-0.5
	baz=82,SNR=7.0						
PDAR	Pinedale Array	82.03	42	P	P	07 44 35.0	-1.2
PDAR	Pinedale Array	82.03	42	P	P	07 44 35.0	-1.2
	comp=Z,1.6nm,1.0s,baz=224,slow=4.1,SNR=9.3						
YMR	Madison River	82.09	40	eP	P	07 44 36.1	-0.4
	comp=Z,22nm,1.7s						
W25A	X Bar L Ranch,	82.12	50	⇓P	P	07 44 34.8	-1.9
	baz=82						
429A	Davenport Ranc	82.24	55	⇓P	P	07 44 36.4	-0.9
	baz=82						
T24B	San Luis	82.24	48	⇓P	P	07 44 36.4	-1.1
	baz=82						
V25A	Rancho No Teng	82.27	50	⇑P	P	07 44 37.0	-0.5
	baz=82						
Z27A	Tatum	82.27	52	⇑P	P	07 44 37.1	-0.4
	baz=82						
COLA	College	82.30	11	eP	P	07 44 34.5	-2.2
	comp=Z,17nm,0.8s						
M20A	Sweetwater, Wa	82.31	43	⇑P	P	07 44 37.1	-0.5
	baz=82						
X26A	CR and CF Fran	82.33	51	⇓P	P	07 44 37.4	-0.4
	baz=82						
ILAR	Eielson Array	82.38	11	P	P	07 44 34.7	-2.5
ILAR	Eielson Array	82.38	11	P	P	07 44 34.7	-2.5
	comp=Z,1.8nm,0.8s,baz=206,slow=5.0,SNR=16						
N21A	Black Mountain	82.41	44	⇓P	P	07 44 37.5	-0.7
	baz=83						
R23A	Moffat	82.41	47	⇑P	P	07 44 37.6	-0.8
	baz=83						
SDCO	Great Sand Dun	82.45	48	eP	P	07 44 37.4	-1.2
	comp=Z,11nm,1.6s						
L20A	Wamsutter	82.45	43	⇑P	P	07 44 37.6	-0.7
	baz=83,SNR=5.6						
530A	J-C Ranch, Com	82.50	56	⇑P	P	07 44 37.7	-1.0
	baz=83						
329A	Wagon Wheel Ra	82.50	55	⇑P	P	07 44 37.1	-1.6
	baz=83						
K19A	Absolon Red Bu	82.51	42	⇑P	P	07 44 37.7	-0.9
	baz=83						
IMA2	Indian Mountai	82.52	8	eP	P	07 44 36.6	-1.4
128A	Castleberry Fa	82.56	53	⇑P	P	07 44 37.3	-1.7
	baz=83						
W26A	Owens Ranch, T	82.58	51	⇑P	P	07 44 38.5	-0.6
	baz=83						
S24A	Houchin Ranch,	82.61	48	⇓P	P	07 44 39.2	-0.2
	baz=83						
U25A	Circle Dot Ran	82.66	49	⇓P	P	07 44 38.9	-0.6
	baz=83						
Q23A	Hartsel	82.72	46	⇓P	P	07 44 39.1	-0.9
	baz=83						
K20A	Yellowstone Ra	82.76	42	⇓P	P	07 44 39.1	-0.8
	baz=83						
O22A	Kremmling	82.79	45	⇓P	P	07 44 39.5	-0.8
	baz=83,SNR=7.1						
430A	Baggett Ranch,	82.82	55	⇓P	P	07 44 39.1	-1.2
	baz=83						
V26A	Tequesquite Ra	82.86	50	⇑P	P	07 44 39.8	-0.7
	baz=83						
MSTX	Muleshoe	82.88	52	eP	P	07 44 40.4	-0.2
MSTX	Muleshoe	82.88	52	⇑P	P	07 44 39.9	-0.8
	baz=83						
Z28A	Tucker Farm, M	82.90	53	⇓P	P	07 44 40.3	-0.4
	baz=83						
H18A	Shoshone NF, C	82.90	40	⇑P	P	07 44 40.3	-0.4
	baz=83						
X27A	F and S Farms,	82.90	51	⇑P	P	07 44 40.3	-0.5
	baz=83						
M21A	Separation Pea	82.91	44	⇑P	P	07 44 39.5	-1.3
	baz=83						
P23A	Jefferson	82.93	46	⇓P	P	07 44 40.0	-1.1
	baz=83						
R24A	Sanders Place,	82.94	47	⇑P	P	07 44 40.4	-0.6
	baz=83						
T25A	Trinidad	82.97	49	⇑P	P	07 44 40.4	-0.8
	baz=83						
I19A	Meeteetse	83.00	41	⇓P	P	07 44 40.5	-0.7
	baz=83						
129A	Stewart Farms,	83.04	54	⇑P	P	07 44 40.4	-1.1
	baz=83						
L21A	Rawlins	83.07	43	⇓P	P	07 44 41.0	-0.6
	baz=83						
W27A	Bowe Ranch, En	83.10	51	⇑P	P	07 44 40.9	-0.9
	baz=83						
330A	Mertzon	83.11	55	⇑P	P	07 44 40.7	-1.1
	baz=83						
531A	Rocksprings	83.14	56	⇓P	P	07 44 41.1	-0.9
	baz=83						
U26A	Atchley Ranch,	83.14	49	⇑P	P	07 44 41.2	-0.9
	baz=83						
N22A	Wattenberg Ran	83.15	45	⇓P	P	07 44 41.3	-0.8
	baz=83,SNR=5.7						
S25A	Robets Cordova	83.17	48	⇑P	P	07 44 41.6	-0.6
	baz=83						
Q24A	Divide	83.23	47	⇓P	P	07 44 42.5	-0.2
	baz=83						
O23A	Lake Granby, G	83.25	45	⇑P	P	07 44 42.1	-0.6
	baz=83						
Y28A	McKinney Farm,	83.25	52	⇓P	P	07 44 42.2	-0.4
	baz=83						
J20A	Shoshoni	83.25	42	⇑P	P	07 44 41.6	-0.8
	baz=83,SNR=5.2						
ISCO	Idaho Springs	83.27	46	eP	P	07 44 42.3	-0.5
	comp=Z,32nm,2.3s						
ISCO	Idaho Springs	83.27	46	⇓P	P	07 44 42.3	-0.5
	baz=83						
431A	Sonora	83.28	56	⇓P	P	07 44 41.7	-1.0
	baz=84						
H19A	Powell	83.32	40	⇑P	P	07 44 42.2	-0.5
	baz=84,SNR=6.3						
M22A	Cedar Creek Ra	83.32	44	⇓P	P	07 44 42.0	-1.0
	baz=84						
K21A	Alcova	83.46	43	⇑P	P	07 44 42.6	-1.0
	baz=84						
R25A	Fountain Ranch	83.49	48	⇓P	P	07 44 43.1	-0.6
	baz=84						
632A	Uvalde	83.50	57	⇑P	P	07 44 42.7	-1.1
	baz=84						
I20A	Worland	83.51	41	⇑P	P	07 44 43.2	-0.5
	baz=84,SNR=9.2						
X28A	Dimmitt	83.53	52	⇑P	P	07 44 43.4	-0.6
	baz=84						
N23A	Red Feather La	83.53	45	⇑P	P	07 44 43.6	-0.5
	baz=84						
EGAK	Eagle	83.54	13	eP	P	07 44 41.8	-1.4
	comp=Z,21nm,1.8s						
T26A	Comanche Natio	83.58	49	⇓P	P	07 44 43.4	-0.9
	baz=84						
532A	Rocksprings	83.64	57	⇓P	P	07 44 43.9	-0.7
	baz=84						
331A	San Angelo	83.66	55	⇓P	P	07 44 43.6	-1.1
	baz=84						
J21A	Lysite	83.66	42	⇑P	P	07 44 44.1	-0.5
	baz=84,SNR=14						
Y29A	Porterfield Fa	83.67	52	⇓P	P	07 44 43.7	-1.0
	baz=84						
L22A	Ellis Ranch, M	83.72	43	⇑P	P	07 44 44.7	-0.3
	baz=84						
130A	Snyder	83.73	54	⇑P	P	07 44 44.5	-0.5
	baz=84						
U27A	Thompson Grove	83.83	50	⇓P	P	07 44 44.7	-0.8
	baz=84						
Q25A	Bedland, Calha	83.84	47	⇓P	P	07 44 44.5	-1.2
	baz=84						
H20A	Greybull	83.85	41	⇑P	P	07 44 44.0	-1.4
	baz=84						
JCT	Junction City	83.85	56	⇓P	P	07 44 44.8	-0.9
	baz=84						
S26A	Kim	83.85	48	⇑P	P	07 44 44.4	-1.3
	baz=84						
Z30A	Sanderson Ranc	83.87	53	⇑P	P	07 44 44.4	-1.3
	baz=84						
X29A	Tulia	83.88	52	⇓P	P	07 44 44.9	-0.9
	baz=84						
F19A	Roth Farm, Mol	83.92	39	⇑P	P	07 44 45.1	-0.7
	baz=84,SNR=7.8						
K22A	Casper	83.94	43	⇓P	P	07 44 45.3	-0.7
	baz=84						
I21A	Big Trails, Te	83.98	42	⇓P	P	07 44 45.3	-0.8
	baz=84,SNR=9.1						
231A	Bronte	83.98	55	⇑P	P	07 44 44.9	-1.4
	baz=84						
432A	Menard	84.00	56	⇑P	P	07 44 45.2	-1.2
	baz=84						
V28A	Channing	84.00	51	⇓P	P	07 44 44.7	-1.7
	baz=84						
G20A	Bridger	84.06	40	⇓P	P	07 44 45.5	-1.0
	baz=84						
COLD	Coldfoot	84.09	9	eP	P	07 44 45.4	-0.5
R26A	Arlington	84.15	48	⇑P	P	07 44 46.3	-0.8
	baz=84						
P25A	Willow Gulch B	84.15	46	⇓P	P	07 44 46.1	-1.1
	baz=84						
W29A	Amraillo	84.19	51	⇓P	P	07 44 46.5	-0.9
	baz=84						
N24A	Carr	84.23	45	⇓P	P	07 44 46.5	-1.0
	baz=84						
332A	Millersview	84.23	55	⇓P	P	07 44 46.4	-1.2
	baz=84						
L23A	Garrett	84.24	44	⇑P	P	07 44 46.7	-0.9
	baz=84,SNR=6.8						
Y30A	Stafford Cattl	84.27	53	⇓P	P	07 44 46.9	-0.9
	baz=84						
E19A	Rath Farm, Rou	84.31	39	⇓P	P	07 44 47.0	-0.7
	baz=84,SNR=6.1						
J22A	Midwest	84.32	42	⇓P	P	07 44 46.6	-1.2
	baz=84						
Q26A	Hugo	84.36	47	⇑P	P	07 44 47.1	-1.1
	baz=84						
F20A	Billings	84.38	40	⇓P	P	07 44 47.3	-0.8
	baz=84						
232A	Coleman	84.49	55	⇓P	P	07 44 48.0	-0.9
	baz=85						
X30A	Coker Ranch, T	84.51	52	⇑P	P	07 44 47.6	-1.3
	baz=85						
H21A	Big Horn, Sher	84.52	41	⇑P	P	07 44 48.1	-0.8
	baz=85						
I22A	9 Mile Ranch,	84.53	42	⇑P	P	07 44 47.9	-1.1
	baz=85,SNR=5.3						
M24A	Cheyenne	84.55	45	⇑P	P	07 44 48.1	-1.0
	baz=85						
K23A	Bowen Ranch, D	84.58	43	⇑P	P	07 44 48.4	-0.8
	baz=85						
D19A	Cripps Ranch,	84.60	38	⇓P	P	07 44 48.6	-0.6
	baz=85,SNR=5.7						
R27A	Eads	84.61	48	⇓P	P	07 44 48.2	-1.2
	baz=85						
T28A	Walsh	84.63	49	⇑P	P	07 44 48.2	-1.4
	baz=85						
Z31A	Sharp Cattle R	84.64	53	⇓P	P	07 44 48.2	-1.4
	baz=85						
L24A	Wheatland	84.72	44	⇑P	P	07 44 49.4	-0.6
	baz=85						
E20A	Meyer Farm, Mu	84.73	39	⇓P	P	07 44 49.2	-0.6
	baz=85,SNR=6.5						
ABTX	Abilene, Hawle	84.77	54	eP	P	07 44 49.3	-0.9
ABTX	Abilene, Hawle	84.77	54	⇓P	P	07 44 49.5	-0.8
	baz=85						
C19A	Slack Wire Ran	84.78	38	⇓P	P	07 44 49.4	-0.7
	baz=85,SNR=8.0						
Y31A	Rekieta Farm,	84.79	53	⇑P	P	07 44 49.5	-0.8
	baz=85						
D20A	Manuel Ranch,	85.01	38	⇓P	P	07 44 50.9	-0.3
	baz=85						
KSCO	Kaye Shedlock'	85.03	47	⇓P	P	07 44 50.5	-1.1
	baz=85						
Z32A	Haskell	85.15	54	⇑P	P	07 44 51.4	-0.7
	baz=85						
B19A	Brinkman Farms	85.20	37	⇑P	P	07 44 51.1	-1.0
	baz=85						
G22A	Birney	85.26	41	⇑P	P	07 44 51.4	-1.1
	baz=85						
R28A	Tribune	85.34	48	⇑P	P	07 44 51.9	-1.2
	baz=86						
C20A	Veseth Ranch,	85.39	38	⇑P	P	07 44 52.5	-0.5
	baz=86						
E21A	Keefer Ranch,	85.39	39	⇓P	P	07 44 52.7	-0.3
	baz=86						
Y32A	R-V Farms, Ver	85.44	53	⇓P	P	07 44 52.8	-0.8
	baz=86						
W31A	Holland Ranch,	85.50	52	⇓P	P	07 44 52.8	-1.0
	baz=86						
F22A	Rosebud	85.54	40	⇑P	P	07 44 53.0	-0.9
	baz=86						
A19A	Klindworth Far	85.55	37	⇑P	P	07 44 53.1	-0.7
	baz=86						
D21A	La Casta Ranch	85.69	39	⇓P	P	07 44 54.1	-0.5
	baz=86						
B20A	Solberg Farm,	85.73	37	⇓P	P	07 44 54.0	-0.7
	baz=86						
C21A	Desert Coulee	85.98	38	⇑P	P	07 44 55.2	-0.8
	baz=86						
A20A	Cobblestone Ra	86.00	37	⇓P	P	07 44 54.9	-1.1
	baz=86						
E22A	Miles City	86.03	40	⇓P	P	07 44 55.2	-1.1
	baz=86						
F23A	Volborg	86.05	40	⇓P	P	07 44 55.6	-0.8
	baz=86						
H24A	Dirks Ranch, A	86.16	42	⇑P	P	07 44 55.8	-1.1
	baz=86						
D22A	Cohagen	86.22	39	⇓P	P	07 44 56.5	-0.7
	baz=86						
WHTX	Lake Whitney	86.27	56	⇑P	P	07 44 56.6	-1.1
	baz=86						
B21A	Ellsworth Farm	86.31	38	⇑P	P	07 44 56.8	-0.7
	baz=86						
I25A	Rochford	86.37	43	⇑P	P	07 44 57.4	-0.8
	baz=86						
D23A	Lindsay	86.82	39	⇓P	P	07 44 59.4	-0.7
	baz=87						
B22A	Reddig Ranch S	86.86	38	⇑P	P	07 44 59.6	-0.7
	baz=87						
C23A	Lambert	87.12	39	⇓P	P	07 45 01.0	-0.6
	baz=87						
A22A	Carney Farms,	87.22	37	⇑P	P	07 45 01.1	-0.9
	baz=87						
C24A	Savage	87.45	39	⇓P	P	07 45 02.9	-0.3
	baz=88						
B23A	Brockton	87.53	38	⇓P	P	07 45 03.0	-0.5
	baz=88						
MAW	Mawson	87.91	199	P	P	07 45 04.0	-1.0
MAW	Mawson	87.91	199	P	P	07 45 04.0	-1.0
	comp=Z,5.0nm,0.7s,baz=153,slow=8.6,SNR=13						
GYA	Guiyang	88.36	298	P	P	07 45 09.5	+1.4
GYA				PP	PP	07 48 39.5	+3.3
GYA				SKS	SKSac	07 55 36.0	+0.5
GYA				S	S	07 55 53.5	+1.5
GYA				SS	SS	08 01 49.3	+6.8
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,120nm,6.5s						
GYA				LR	LR		
	comp=N,520nm,21.0s						
GYA				LR	LR		
	comp=E,440nm,22.9s						
GYA				LR	LR		
	comp=Z,510nm,21.4s						
HHC	Hu-ho-hao-te	89.29	313	eP	P	07 45 11.5	-0.6
HHC				pP	PcP	07 45 16.3	+2.8
HHC				sP	sP	07 45 18.5	-6.3
HHC				PP	PP	07 48 45.5	+2.2
HHC				SKS	SKSac	07 55 39.3	-1.1
HHC				S	S	07 55 59.8	-0.3
HHC				SS	SS	08 01 59.5	+4.1
HHC				pmax	pmax		
	comp=Z,35nm,1.2s						
HHC				pmax	pmax		
	comp=Z,230nm,5.3s						
HHC				LR	LR		
	comp=N,260nm,16.5s						
HHC				LR	LR		
	comp=E,220nm,16.5s						
HHC				LR	LR		
	comp=Z,370nm,17.5s						
KMI	Kunming	91.35	296	P	P	07 45 24.8	+2.6
KMI				pmax	pmax		
	comp=Z,9.0nm,0.6s						
CD2	Chengdu	92.12	301	P	P	07 45 27.3	+1.9
CD2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
SYO	Syowa Base	92.67	191	⇓eX	P	07 45 24.4	-2.8
SYO	Syowa Base	92.67	191	⇑eP	Px	07 45 44.0	
LZH	Lanzhou	93.52	306	eP	P	07 45 32.5	+0.6
LZH				pP	pP	07 45 37.8	-3.5
LZH				sP	sP	07 45 40.5	-4.1
LZH				pmax	pmax		
	comp=Z,16nm,1.0s						
AGP	Aguadilla	109.48	76	ePdif	Pdif	07 46 40.8	-2.8
KSH	Kashi	115.76	307	ePKP	PKPdf	07 50 59.5	+1.0
KSH				PP	PP	07 52 07.5	+5.5
KSH				PKS	PKSdf	07 54 35.0	-0.3
KSH				SKS	SKSdf	07 58 10.8	+1.9
KSH				SKKS	SKKSac	07 59 00.5	-0.8
KSH				SS	SS	08 08 05.3	+4.0
KSH				AMB	AMB		
	comp=Z,43nm,6.3s						
KSH				LR	LR		
	comp=N,96nm,4.9s						
KSH				LR	LR		
	comp=E,110nm,6.3s						
KSH				LR	LR		
	comp=Z,190nm,5.0s						
KECS	Kecovo	145.19	344	ePKP	PKPbc	07 51 51.8	-1.0
TNS	Taunus Mts	145.25	358	ePKPbc	PKPbc	07 51 51.0	-2.0
ROTZ	Rotzenmuhle	145.46	354	ePKPbc	PKPbc	07 51 51.9	-1.7
GRF	Grafenberg Arr	145.63	355	ePKPbc	PKPdf	07 51 52.8	-1.1
WLF	Walferdange	145.82	1	ePKPbc	PKPdf	07 51 53.4	-0.8
WET	Wettzell	146.00	353	ePKPbc	PKPdf	07 51 53.9	-0.7
GEC2	GERESS Array S	146.19	352	ePKPbc	PKPdf	07 51 54.3	-0.8
GERES	GERESS Array B	146.19	352	PKPbc	PKPdf	07 51 54.2	-0.8
GERES	GERESS Array B	146.19	352	PKPbc	PKPdf	07 51 54.2	-0.8
	comp=Z,0.6nm,0.3s,baz=41,slow=4.3,SNR=8.9						
BR131	Keskin Array S	146.38	321	ePKPdf	PKPdf	07 51 55.5	-0.3
BRTR	Keskin Array B	146.39	321	PKPbc	PKPdf	07 51 55.8	0.0
BRTR	Keskin Array B	146.39	321	PKPbc	PKPdf	07 51 55.8	0.0
	comp=Z,8.2nm,0.8s,baz=108,slow=2.7,SNR=33						
BFO	Black Forest	147.15	358	ePKPbc	PKPdf	07 51 56.7	+0.1
RJOB	Jochberg	147.40	353	ePKPbc	PKPdf	07 51 58.2	+1.1
TORD	Torodi Ar. Bea	174.41	113	PKP	PKPdf	07 52 24.0	-2.3
TORD	Torodi Ar. Bea	174.41	113	PKP	PKPdf	07 52 24.0	-2.3
	comp=Z,1.0nm,1.0s,baz=293,slow=4.3,SNR=4.4						

*IDC **30** 07:33:09.7±1.4, 15°.23S×173°.43W, h0km, mb4.4/6, mb1 4.7/6, mb1mx4.3/20, mbtmp4.4/6, MS4.2/6, Ms1 4.2/6, ms1mx3.7/32, Error ellipse: s-maj=87.1km s-min=20.9km az=147.0*

*NEIC **30** 07:33:11.0±0.3, 15°.20S×173°.42W, h10km, mb4.6/8, Error ellipse: s-maj=11.7km s-min=7.3km az=146.0*

*ISCJB **30** 07:33:12.3±0.3, 15°.38S±0°.09×173°.41W±0°.08, h30km, mb4.5/14, MS4.1/6, Error ellipse: s-maj=15.5km s-min=7.7km az=145.8*

ISC 30 07:33:14.2±0.6, 15°.3S±0°.1×173°.4W±0°.1, h30km, n243, σ0.58/233, mb4.5/14, MS4.0/6, 104C-100D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.06	49	Pn	Pn	07 33 40.3	-6.7
AFI				Sn	Sn	07 33 58.6	-13
AFI	Afiamalu	2.06	49	Pn	Pn	07 33 40.3	-6.7
	154nm,0.3s,baz=246,slow=22,SNR=1.3						
AFI				Sn	Sn	07 33 58.6	-13
	983nm,0.3s,baz=75,slow=19,SNR=3.8						
RAR	Rarotonga	14.19	117	Pn	Pn	07 36 32.7	-0.6
DZM	Mont Dzumac	20.27	248	LR	LR	07 43 58.8	
	comp=Z,614nm,21.8s,baz=27,slow=32						
URZ	Urewera	24.38	198	eP	P	07 38 30.9	+1.1
URZ	Urewera	24.38	198	LR	LR	07 46 34.2	
	comp=Z,594nm,20.7s,baz=25,slow=33						
HNR	Honiara	26.69	279	LR	LR	07 47 58.6	
	comp=Z,327nm,18.2s,baz=302,slow=33						
RPZ	Rata Peaks	31.30	202	P	P	07 39 32.0	+0.3
RPZ	Rata Peaks	31.30	202	LR	LR	07 50 52.9	
	comp=Z,818nm,21.2s,baz=24,slow=34						
ARMA	Armidale	35.42	239	eP	P	07 40 07.6	-0.3
	3.8nm,0.7s						
PMG	Port Moresby	38.96	274	LR	LR	07 53 33.2	
	comp=Z,116nm,18.7s,baz=91,slow=32						
STKA	Stephens Creek	44.12	240	P	P	07 41 19.4	-0.8
STKA	Stephens Creek	44.12	240	P	P	07 41 19.4	-0.8
	2.9nm,0.5s,baz=85,slow=11,SNR=4.0						
WRAB	Tennant Creek	49.89	257	eP	P	07 42 04.3	-1.1
	2.6nm,0.5s						
WRA	Warramunga Arr	49.90	257	P	P	07 42 04.3	-1.1
WRA	Warramunga Arr	49.90	257	P	P	07 42 04.3	-1.1
	2.9nm,0.6s,baz=90,slow=6.9,SNR=11						
AS31	Alice Springs	50.17	252	eP	P	07 42 06.7	-0.8
ASAR	Alice Springs	50.17	252	P	P	07 42 06.8	-0.8
ASAR	Alice Springs	50.17	252	P	P	07 42 06.8	-0.8
	10nm,0.7s,baz=88,slow=7.8,SNR=11						
NVAR	Mina Array Bea	74.23	42	LR	LR	08 11 39.4	
	comp=Z,317nm,18.1s,baz=93,slow=31						
W13A	Hualapai Mount	75.41	47	⇓P	P	07 44 55.6	-0.1
	baz=76						
Y14A	Wickenburg	75.46	48	⇑P	P	07 44 55.9	+0.2
	baz=76						
R11A	Troy Canyon, C	75.96	43	⇓P	P	07 44 59.0	+0.3
	baz=76						
X16A	Lo Mia Camp, P	76.82	49	⇑P	P	07 45 04.3	+0.6
	baz=77						
319A	Douglas	77.00	52	⇑P	P	07 45 05.2	+0.6
	baz=77						
WUAZ	Wupatki	77.40	48	⇓P	P	07 45 07.4	+0.5
	baz=78						
320A	Kipp Ranch, An	77.56	52	⇓P	P	07 45 08.2	+0.4
	baz=78						
220A	Playas Peak, P	77.81	52	⇓P	P	07 45 09.9	+0.7
	baz=78						
X18A	Snowflake	77.95	49	⇑P	P	07 45 10.8	+0.8
	baz=78						
120A	U Bar Ranch, L	78.02	51	⇑P	P	07 45 11.6	+1.2
	baz=78						
Z20A	Nine Sixteen R	78.31	51	⇑P	P	07 45 13.0	+1.0
	baz=78						
MFID	Camas Ranch	78.58	39	⇓P	P	07 45 13.8	+0.6
	baz=79						
121A	Cookes Peak, D	78.65	52	⇓P	P	07 45 14.4	+0.5
	baz=79						
DUG	Dugway	78.76	43	⇓P	P	07 45 15.2	+1.0
	baz=79						
Y20A	Horse Springs,	78.83	50	⇓P	P	07 45 15.4	+0.5
	baz=79						
222A	Williams Famil	78.99	52	⇑P	P	07 45 16.0	+0.4
	baz=79						
X20A	Quemado	79.02	50	⇓P	P	07 45 16.8	+0.8
	baz=79						
Z21A	St. Cloud Mine	79.08	51	⇓P	P	07 45 17.3	+1.0
	baz=79						
W20A	Ramah	79.29	49	⇓P	P	07 45 17.8	+0.4
	baz=79						
122A	Conniff Cattle	79.32	52	⇑P	P	07 45 18.3	+0.8
	baz=79						
TMUT	Trail Mountain	79.37	44	eP	P	07 45 18.0	+0.2
	5.3nm,0.8s						
Y21A	Point of Rocks	79.39	50	⇓P	P	07 45 18.8	+0.7
	baz=80						
HLID	Hailey	79.52	39	⇓P	P	07 45 19.0	+0.6
	baz=80						
Z22A	Elephant Butte	79.59	51	⇓P	P	07 45 19.8	+0.8
	baz=80						
U20A	Newcomb	79.85	48	⇑P	P	07 45 21.0	+0.7
	baz=80						
Y22A	Socorro	79.89	51	⇓P	P	07 45 20.9	+0.3
	baz=80						
324A	Moseley Ranch,	79.95	54	⇑P	P	07 45 20.4	-0.6
	baz=80						
425A	Indio Mountain	80.07	54	⇑P	P	07 45 21.8	+0.2
	baz=80						
Z23A	Rita Site, Whi	80.15	52	⇓P	P	07 45 22.3	+0.3
	baz=80						
224A	Cornudas Mount	80.19	53	⇑P	P	07 45 22.7	+0.4
	baz=80						
626A	Big Bend Ranch	80.24	56	⇑P	P	07 45 22.7	+0.2
	baz=80						
526A	Mary Lane Ranc	80.48	55	⇓P	P	07 45 24.0	+0.2
	baz=81						
U21A	Nageezi	80.49	48	⇓P	P	07 45 24.5	+0.6
	baz=81						
124A	Stringfield Ra	80.50	52	⇑P	P	07 45 23.9	-0.1
	baz=81						
TXAR	Lajitas Array	80.53	56	P	P	07 45 24.5	+0.5
TXAR	Lajitas Array	80.53	56

	baz=81							
MCK	McKinley 8.0nm,0.7s	81.01	11	eP	P	07 45 25.0	-0.7
W23A	Werner Place, baz=81	81.03	50	⇑P	P	07 45 27.1	+0.4
Y24A	Capitan baz=81,SNR=5.5	81.03	51	⇑P	P	07 45 26.7	-0.1
U22A	Llaves baz=81	81.05	49	⇓P	P	07 45 26.9	+0.1
125A	Gardner Draw, baz=81	81.09	53	⇑P	P	07 45 26.9	-0.1
Q20A	Ridgley Place, baz=81	81.20	46	⇓P	P	07 45 26.9	-0.6
628A	Black Gap, Mar baz=81	81.21	56	⇑P	P	07 45 27.5	-0.1
226B	Tecolote Peak, baz=81,SNR=5.5	81.23	53	⇑P	P	07 45 27.4	-0.4
V23A	Ortiz Mt. (NFS baz=81	81.26	49	⇓P	P	07 45 27.5	-0.5
427A	Hayter Ranch, baz=81	81.34	55	⇓P	P	07 45 28.3	-0.1
U23A	El Rito baz=82	81.50	49	⇑P	P	07 45 29.1	-0.2
MSO	Missoula baz=82	81.58	37	⇑P	P	07 45 29.1	-0.2
126A	Clayton Basin, baz=82	81.58	53	⇑P	P	07 45 29.3	-0.3
Y25A	Mesa, Roswell baz=82	81.59	52	⇑P	P	07 45 29.7	0.0
W24A	Lazy 6 Ranch, baz=82	81.60	50	⇑P	P	07 45 29.8	0.0
Q21A	Lamborn Mesa, baz=82	81.64	46	⇑P	P	07 45 30.0	+0.1
S22A	4UR Ranch, Cre baz=82	81.67	47	⇑P	P	07 45 30.2	0.0
M19A	Rock Springs baz=82	81.82	43	⇓P	P	07 45 30.6	-0.2
IMW	Indian Meadow 5.9nm,1.0s	81.84	40	eP	P	07 45 31.1	+0.1
Z26A	Caprock baz=82,SNR=9.4	81.86	52	⇑P	P	07 45 30.9	-0.2
V24A	Rampart Ranch, baz=82	81.92	50	⇑P	P	07 45 31.1	-0.4
529A	Stev Forest Ra baz=82	81.99	56	⇑P	P	07 45 31.4	-0.4
328A	Wristen Ranch, baz=82	82.01	55	⇓P	P	07 45 31.7	-0.1
CHMT	Chamberlain Mo 5.6nm,1.0s	82.02	37	eP	P	07 45 30.8	-0.9
P21A	Newcastle baz=82	82.04	45	⇓P	P	07 45 32.2	+0.2
127A	Arkansas Junct baz=82	82.10	53	⇓P	P	07 45 32.3	-0.1
Q22A	Crested Butte, baz=82,SNR=5.6	82.12	46	⇑P	P	07 45 32.6	0.0
PDAR	Pinedale Array	82.16	42	P	P	07 45 31.8	-0.8
PDAR	Pinedale Array 2.4nm,0.9s,baz=213,slow=4.0,SNR=9.1	82.16	42	P	P	07 45 31.8	-0.8
COLA	College 27nm,0.7s	82.25	11	eP	P	07 45 31.3	-0.9
Y26A	Elida baz=82	82.25	52	⇑P	P	07 45 32.5	-0.6
H17A	Grant Village baz=82	82.32	40	⇓P	P	07 45 34.0	+0.6
ILAR	Eielson Array	82.33	11	P	P	07 45 32.0	-0.7
ILAR	Eielson Array 1.8nm,0.7s,baz=229,slow=6.3,SNR=8.9	82.33	11	P	P	07 45 32.0	-0.7
T24B	San Luis baz=82	82.41	48	⇓P	P	07 45 34.4	+0.3
429A	Davenport Ranc baz=83,SNR=8.1	82.44	56	⇑P	P	07 45 33.5	-0.7
V25A	Rancho No Teng baz=83,SNR=8.2	82.45	50	⇓P	P	07 45 34.3	0.0
M20A	Sweetwater, Wa baz=83	82.45	43	⇑P	P	07 45 34.4	+0.2
Z27A	Tatum baz=83	82.47	53	⇓P	P	07 45 33.6	-0.7
228A	UT Block 9, Go baz=83	82.47	54	⇑P	P	07 45 33.8	-0.5
X26A	CR and CF Fran baz=83	82.52	51	⇑P	P	07 45 34.3	-0.2
P22A	Eagle baz=83	82.55	46	⇓P	P	07 45 34.5	-0.2
N21A	Black Mountain baz=83	82.56	44	⇓P	P	07 45 35.3	+0.5
R23A	Moffat baz=83	82.58	47	⇑P	P	07 45 35.3	+0.4
L20A	Wamsutter baz=83,SNR=7.0	82.59	43	⇑P	P	07 45 35.2	+0.3
SDCO	Great Sand Dun 1.6nm,0.8s	82.62	48	eP	P	07 45 34.4	-0.7
K19A	Absolon Red Bu baz=83	82.65	42	⇓P	P	07 45 35.0	-0.1
329A	Wagon Wheel Ra baz=83,SNR=5.5	82.71	55	⇓P	P	07 45 35.1	-0.4
530A	J-C Ranch, Com baz=83	82.71	56	⇓P	P	07 45 34.7	-0.8
Y27A	Causey baz=83	82.73	52	⇑P	P	07 45 35.4	-0.3
128A	Castleberry Fa baz=83,SNR=6.2	82.75	53	⇓P	P	07 45 35.7	-0.1
S24A	Houchin Ranch, baz=83	82.78	48	⇑P	P	07 45 35.4	-0.7
U25A	Circle Dot Ran baz=83,SNR=9.5	82.84	49	⇑P	P	07 45 35.9	-0.3
Q23A	Hartsel baz=83,SNR=5.5	82.89	47	⇑P	P	07 45 36.6	0.0
O22A	Kremmling baz=83,SNR=5.2	82.95	45	⇑P	P	07 45 36.5	-0.4
H18A	Shoshone NF, C baz=83	83.03	40	⇑P	P	07 45 36.8	-0.2
631A	Perdido Creek baz=83	83.05	57	⇓P	P	07 45 36.5	-0.7
M21A	Separation Pea baz=83	83.05	44	⇓P	P	07 45 36.8	-0.5
MSTX	Muleshoe baz=83	83.07	52	⇓P	P	07 45 36.9	-0.5
X27A	F and S Farms, baz=83	83.09	51	⇑P	P	07 45 37.3	-0.2
Z28A	Tucker Farm, M baz=83	83.09	53	⇓P	P	07 45 36.8	-0.7
R24A	Sanders Place, baz=83,SNR=5.5	83.11	47	⇓P	P	07 45 37.3	-0.3
I19A	Meeteetse baz=83	83.14	41	⇑P	P	07 45 38.0	+0.4
T25A	Trinidad baz=83	83.14	49	⇑P	P	07 45 37.2	-0.6
L21A	Rawlins baz=83	83.21	43	⇑P	P	07 45 37.6	-0.5
129A	Stewart Farms, baz=83	83.24	54	⇓P	P	07 45 37.4	-0.8
W27A	Bowe Ranch, En baz=83	83.28	51	⇓P	P	07 45 37.6	-0.9
732A	Laxson Ranch, baz=83	83.29	58	⇑P	P	07 45 37.7	-0.7
N22A	Wattenberg Ran baz=83,SNR=5.2	83.30	45	⇑P	P	07 45 38.5	-0.1
330A	Mertzon baz=83	83.31	55	⇑P	P	07 45 37.6	-1.0
U26A	Atchley Ranch, baz=83,SNR=7.8	83.32	50	⇑P	P	07 45 38.2	-0.5
S25A	Robets Cordova baz=84,SNR=8.9	83.35	48	⇓P	P	07 45 38.5	-0.3
531A	Rocksprings baz=84,SNR=6.6	83.35	56	⇑P	P	07 45 38.1	-0.7
J20A	Shoshoni baz=84,SNR=6.3	83.39	42	⇓P	P	07 45 38.9	0.0
Q24A	Divide baz=84	83.39	47	⇓P	P	07 45 39.5	+0.3
O23A	Lake Granby, G baz=84	83.40	45	⇓P	P	07 45 39.2	0.0
ISCO	Idaho Springs baz=84	83.43	46	⇑P	P	07 45 39.5	+0.1
Y28A	McKinney Farm, baz=84	83.44	52	⇑P	P	07 45 38.9	-0.4
H19A	Powell baz=84,SNR=7.8	83.45	40	⇓P	P	07 45 39.2	+0.1
M22A	Cedar Creek Ra baz=84	83.47	44	⇑P	P	07 45 39.0	-0.4
K21A	Alcova baz=84	83.60	43	⇓P	P	07 45 39.6	-0.4
I20A	Worland baz=84,SNR=8.3	83.64	41	⇓P	P	07 45 39.9	-0.2
R25A	Fountain Ranch baz=84	83.66	48	⇑P	P	07 45 39.9	-0.5
N23A	Red Feather La baz=84	83.69	45	⇓P	P	07 45 40.3	-0.3
632A	Uvalde	83.72	57	⇑P	P	07 45 40.0	-0.7
	baz=84						
X28A	Dimmitt baz=84,SNR=6.5	83.72	52	⇑P	P	07 45 39.6	-1.1
T26A	Comanche Natio baz=84	83.75	49	⇑P	P	07 45 40.1	-0.8
J21A	Lysite baz=84,SNR=11	83.80	42	⇑P	P	07 45 41.0	-0.1
532A	Rocksprings baz=84	83.85	57	⇑P	P	07 45 40.1	-1.3
L22A	Ellis Ranch, M baz=84	83.86	44	⇓P	P	07 45 41.3	-0.1
Y29A	Porterfield Fa baz=84	83.87	53	⇓P	P	07 45 40.1	-1.3
O24A	Longmont baz=84	83.95	46	⇑P	P	07 45 41.6	-0.2
H20A	Greybull baz=84,SNR=5.1	83.98	41	⇓P	P	07 45 41.7	-0.1
Q25A	Bedland, Calha baz=84	84.01	47	⇓P	P	07 45 41.4	-0.9
U27A	Thompson Grove baz=84,SNR=6.1	84.01	50	⇑P	P	07 45 41.5	-0.7
S26A	Kim baz=84	84.03	49	⇑P	P	07 45 41.3	-1.0
F19A	Roth Farm, Mol baz=84,SNR=10.0	84.05	39	⇑P	P	07 45 42.0	-0.1
JCT	Junction City baz=84	84.06	56	⇓P	P	07 45 41.5	-0.9
Z30A	Sanderson Ranc baz=84	84.06	53	⇑P	P	07 45 41.2	-1.2
X29A	Tulia baz=84,SNR=5.4	84.07	52	⇑P	P	07 45 41.7	-0.8
K22A	Casper baz=84	84.08	43	⇑P	P	07 45 42.2	-0.2
M23A	Laramie baz=84	84.09	44	⇓P	P	07 45 42.3	-0.3
I21A	Big Trails, Te baz=84,SNR=7.8	84.11	42	⇑P	P	07 45 42.1	-0.5
231A	Bronte baz=84	84.19	55	⇓P	P	07 45 41.6	-1.4
G20A	Bridger baz=84	84.19	40	⇑P	P	07 45 42.8	-0.1
432A	Menard baz=84,SNR=5.3	84.21	56	⇑P	P	07 45 42.0	-1.3
P25A	Willow Gulch B baz=84,SNR=5.9	84.32	47	⇓P	P	07 45 43.5	-0.3
R26A	Arlington baz=84,SNR=6.1	84.32	48	⇑P	P	07 45 43.2	-0.6
W29A	Amraillo baz=84,SNR=5.9	84.37	51	⇑P	P	07 45 43.5	-0.5
N24A	Carr baz=84	84.38	45	⇓P	P	07 45 43.9	-0.2
L23A	Garrett baz=84,SNR=9.3	84.39	44	⇓P	P	07 45 43.7	-0.4
E19A	Bath Farm, Rou baz=85,SNR=8.6	84.43	39	⇓P	P	07 45 44.1	+0.1
332A	Millersview baz=84,SNR=5.8	84.44	56	⇓P	P	07 45 43.6	-0.7
J22A	Midwest baz=85	84.46	42	⇓P	P	07 45 44.0	-0.3
F20A	Billings baz=85	84.51	40	⇓P	P	07 45 44.7	+0.2
Q26A	Hugo baz=85	84.53	47	⇓P	P	07 45 44.2	-0.5
O25A	Wiggins baz=85	84.60	46	⇓P	P	07 45 44.9	-0.2
H21A	Big Horn, Sher baz=85	84.65	41	⇑P	P	07 45 45.7	+0.5
I22A	9 Mile Ranch, baz=85	84.67	42	⇑P	P	07 45 45.6	+0.3
M24A	Cheyenne baz=85	84.70	45	⇑P	P	07 45 45.6	0.0
232A	Coleman baz=85	84.70	55	⇑P	P	07 45 45.0	-0.7
X30A	Coker Ranch, T baz=85	84.70	52	⇓P	P	07 45 45.1	-0.5
D19A	Cripps Ranch, baz=85,SNR=6.3	84.72	38	⇓P	P	07 45 45.7	+0.3
K23A	Bowen Ranch, D baz=85	84.72	43	⇓P	P	07 45 45.6	-0.1
V29A	Stinnett baz=85	84.76	51	⇑P	P	07 45 45.7	-0.2
R27A	Eads baz=85	84.78	48	⇓P	P	07 45 45.6	-0.4
T28A	Walsh baz=85	84.81	49	⇓P	P	07 45 45.6	-0.6
G21A	Lodge Grass baz=85	84.82	40	⇑P	P	07 45 45.6	-0.5
Z31A	Sharp Cattle R baz=85,SNR=6.1	84.84	54	⇓P	P	07 45 45.5	-0.8
E20A	Meyer Farm, Mu baz=85,SNR=7.7	84.85	39	⇑P	P	07 45 46.0	-0.2
L24A	Wheatland baz=85	84.87	44	⇓P	P	07 45 46.3	-0.1
C19A	Slack Wire Ran baz=85,SNR=8.1	84.89	38	⇓P	P	07 45 46.5	+0.2
ABTX	Abilene, Hawle	84.97	54	eP	P	07 45 46.1	-0.9
ABTX	Abilene, Hawle baz=85,SNR=7.7	84.97	54	⇑P	P	07 45 46.4	-0.6
Y31A	Rekieta Farm, baz=85,SNR=5.5	84.99	53	⇑P	P	07 45 46.4	-0.6
D20A	Manuel Ranch, baz=85,SNR=7.1	85.13	39	⇓P	P	07 45 47.6	+0.1
B19A	Brinkman Farms baz=85	85.31	37	⇑P	P	07 45 48.6	+0.3
V30A	Spur Ranch, Mi baz=86	85.34	51	⇑P	P	07 45 48.8	-0.1
Z32A	Haskell baz=86,SNR=13	85.35	54	⇑P	P	07 45 48.6	-0.3
X31A	McDonald Ranch baz=86	85.45	52	⇓P	P	07 45 48.5	-0.8
C20A	Veseth Ranch, baz=86	85.50	38	⇓P	P	07 45 49.5	+0.2
E21A	Keefer Ranch, baz=86	85.51	39	⇑P	P	07 45 50.0	+0.6
R28A	Tribune baz=86,SNR=5.8	85.52	48	⇑P	P	07 45 49.3	-0.4
J24A	Dixon Ranch, L baz=86	85.61	43	⇑P	P	07 45 49.3	-0.8
Y32A	R-V Farms, Ver baz=86,SNR=6.4	85.64	53	⇑P	P	07 45 49.6	-0.6
A19A	Klindworth Far baz=86,SNR=5.2	85.66	37	⇓P	P	07 45 49.9	-0.2
F22A	Rosebud baz=86	85.67	40	⇓P	P	07 45 49.6	-0.6
W31A	Holland Ranch, baz=86,SNR=5.3	85.69	52	⇓P	P	07 45 49.7	-0.8
S29A	Ulysses baz=86	85.74	49	⇓P	P	07 45 49.7	-1.1
D21A	La Casta Ranch baz=86	85.81	39	⇓P	P	07 45 50.7	-0.1
B20A	Solberg Farm, baz=86	85.84	37	⇓P	P	07 45 51.2	+0.2
A20A	Cobblestone Ra baz=86	86.10	37	⇓P	P	07 45 52.2	-0.1
E22A	Miles City baz=86	86.16	40	⇓P	P	07 45 51.9	-0.7
H24A	Dirks Ranch, A baz=86	86.29	42	⇑P	P	07 45 52.7	-0.6
B21A	Ellsworth Farm baz=86	86.42	38	⇓P	P	07 45 53.8	0.0
I25A	Rochford baz=87	86.51	43	⇓P	P	07 45 53.8	-0.8
T31A	Randall Ranch, baz=87	86.60	50	⇓P	P	07 45 53.7	-1.3
B22A	Reddig Ranch S baz=87	86.97	38	⇑P	P	07 45 56.7	+0.2
P30A	Selden baz=87	87.11	48	⇓P	P	07 45 56.9	-0.5
R31A	Burdett baz=87	87.15	49	⇑P	P	07 45 57.4	-0.2
C23A	Lambert baz=87	87.23	39	⇓P	P	07 45 58.2	+0.4
A22A	Carney Farms, baz=87	87.33	38	⇑P	P	07 45 58.9	+0.6
J27A	Elkhorn Farm, baz=88	87.34	44	⇑P	P	07 45 58.4	-0.2
H26A	Fairpoint baz=88	87.39	42	⇑P	P	07 45 59.3	+0.6
B23A	Brockton baz=88	87.64	38	⇑P	P	07 46 00.1	+0.3
E25A	Miller Ranch, baz=88	87.77	41	⇓P	P	07 46 01.0	+0.5
CFR	Carcaliu	145.12	333	⇓/P	PKPdf	07 52 49.9	+1.0
TIRR	Tirgusor	145.55	332	⇑/P	PKPab	07 52 51.1	+1.1
KMBO	Kilima Mbogo	145.61	244	PKPbc	PKPdf	07 52 52.4	+1.4
KMBO	Kilima Mbogo 1.2nm,0.6s,baz=35,slow=23,SNR=4.1	145.61	244	PKPbc	PKPdf	07 52 52.4	+1.4
TLB	Topalu	145.62	332	⇑/P	PKPab	07 52 51.1	+0.8
MLR	Muntele Rosu	145.78	336	⇓/P	PKPab	07 52 51.9	+0.8
ISR	Istrita	145.84	335	⇓/P	PKPab	07 52 51.8	+0.6
DRGR		145.85	340	⇓/P	PKPbc	07 52 51.2	+0.4
GERES	GERESS Array B	146.04	352	PKPbc	PKPab	07 52 51.8	-0.1
GERES	GERESS Array B 2.2nm,0.8s,baz=35,slow=3.3,SNR=6.0	146.04	352	PKPbc	PKPab	07 52 51.8	-0.1
BRTR	Keskin Array B	146.09	321	PKPbc	PKPab	07 52 52.9	+0.4
BRTR	Keskin Array B 12nm,0.9s,baz=106,slow=2.1,SNR=14	146.09	321	PKPbc	PKPab	07 52 52.9	+0.4

IDC 30 07:40:08.4±2.1, 16°.77S×173°.08W, h0km, mb3.8/6, mb1 4.1/6, mb1mx3.9/22, mbtmp3.8/6, Error ellipse: s-maj=122.2km s-min=23.6km az=151.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr 0.5nm,1.0s,baz=90,slow=6.8,SNR=5.0	49.84	258	P	P	07 49 03.7	-0.1
ASAR	Alice Springs 0.6nm,0.7s,baz=88,slow=7.9,SNR=5.9	49.99	253	P	P	07 49 04.5	-0.5
YBH	Yreka Blue Hor 2.2nm,0.9s,baz=269,slow=13,SNR=4.5	74.50	37	P	P	07 51 49.9	+0.9
NVAR	Mina Array Bea 0.8nm,0.6s,baz=242,slow=9.1,SNR=4.4	75.14	42	P	P	07 51 54.0	+1.0
TXAR	Lajitas Array 0.6nm,1.0s,baz=208,slow=4.3,SNR=4.7	81.12	56	P	P	07 52 24.7	-1.5
ILAR	Eielson Array 0.4nm,0.6s,baz=228,slow=6.6,SNR=11	83.72	11	P	P	07 52 37.2	-1.6
BRTR	Keskin Array B 0.5nm,0.6s,baz=81,slow=8.9,SNR=3.0	147.41	320	PKPbc	PKPbc	07 59 55.1	+0.3
GERES	GERESS Array B 0.3nm,0.3s,baz=50,slow=2.1,SNR=5.8	147.54	352	PKPbc	PKPbc	07 59 54.6	-0.1

IDC 30 07:42:50.6±14.0, 16°.00S×173°.33W, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.6/21, mbtmp3.5/3, Error ellipse: s-maj=636.1km s-min=41.3km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr 0.2nm,0.6s,baz=89,slow=6.6,SNR=1.6	49.78	257	P	P	07 51 45.0	-0.5
ASAR	Alice Springs 0.6nm,0.5s,baz=90,slow=8.0,SNR=2.8	49.99	252	P	P	07 51 47.4	+0.3
ILAR	Eielson Array 0.2nm,0.6s,baz=237,slow=6.1,SNR=4.4	83.02	11	P	P	07 55 17.4	0.0

IDC 30 07:44:19.2±10.0, 14°.85S×174°.49W, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.6/19, mbtmp3.5/3, Error ellipse: s-maj=448.3km s-min=34.7km az=139.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr 0.2nm,0.4s,baz=91,slow=7.8,SNR=8.2	48.95	256	P	P	07 53 07.7	0.0
ASAR	Alice Springs 0.7nm,0.6s,baz=90,slow=7.2,SNR=4.9	49.28	251	P	P	07 53 09.9	-0.3
ILAR	Eielson Array 0.2nm,0.6s,baz=215,slow=7.1,SNR=3.1	82.11	12	P	P	07 56 41.1	-0.1
BRTR	Keskin Array B 0.6nm,0.5s,baz=80,slow=1.8,SNR=3.1	145.06	321	PKPbc	PKPbc	08 03 57.9	-0.6

IDC 30 07:51:21.6±10.0, 15°.63S×173°.35W, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.6/21, mbtmp3.7/3, Error ellipse: s-maj=445.0km s-min=37.1km az=139.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr 0.4nm,0.9s,baz=92,slow=7.5,SNR=4.2	49.84	257	P	P	08 00 17.4	+0.4
ASAR	Alice Springs 1.6nm,0.8s,baz=88,slow=8.5,SNR=12	50.09	252	P	P	08 00 18.2	-0.6
ILAR	Eielson Array 0.4nm,0.7s,baz=226,slow=5.7,SNR=5.4	82.66	11	P	P	08 03 46.5	0.0

IDC 30 07:55:38.6±8.6, 15°.98S×173°.05W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.5/21, mbtmp3.6/2, MS3.2/1, Ms1 3.2/1, ms1mx2.9/27, Error ellipse: s-maj=391.5km s-min=67.7km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu comp=Z,530nm,21.9s,baz=121,slow=32	2.40	31	LR	LR	07 56 54.1	
WRA	Warramunga Arr 0.3nm,0.7s,baz=95,slow=7.2,SNR=6.8	50.04	257	P	P	08 04 35.3	-0.2
ASAR	Alice Springs 1.1nm,0.6s,baz=87,slow=8.0,SNR=12	50.25	252	P	P	08 04 37.0	0.0
BRTR	Keskin Array B 0.4nm,0.4s,baz=350,slow=7.6,SNR=2.4	146.82	321	PKPbc	PKPdf	08 15 22.4	+0.9

IDC 30 08:08:36.3±1.2, 15°.72S×172°.99W, h0km, mb3.8/6, mb1 4.1/6, mb1mx3.8/22, mbtmp3.8/6, MS3.5/1, Ms1 3.5/1, ms1mx3.1/28, Error ellipse: s-maj=50.8km s-min=24.2km az=135.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu 13nm,0.3s,baz=203,slow=13,SNR=2.4	2.14	33	Pn	Pn	08 09 07.8	-5.6
AFI	40nm,0.3s,baz=45,slow=20,SNR=3.9			Sn	Sn	08 09 30.2	-11
AFI	comp=Z,1μm,20.1s,baz=207,slow=32			LR	LR	08 09 43.8	
URZ	Urewera 12nm,0.9s,baz=301,slow=19,SNR=2.7	24.09	199	P	P	08 13 53.9	+0.3
STKA	Stephens Creek 0.8nm,0.5s,baz=279,slow=17,SNR=3.4	44.23	240	P	P	08 16 47.4	-0.2
WRA	Warramunga Arr 0.5nm,0.7s,baz=92,slow=7.6,SNR=8.2	50.16	257	P	P	08 17 33.5	-0.5
ASAR	Alice Springs 0.9nm,0.5s,baz=88,slow=7.8,SNR=10	50.39	252	P	P	08 17 35.2	-0.6
TXAR	Lajitas Array 1.0nm,1.2s,baz=242,slow=5.7,SNR=3.4	80.46	56	P	P	08 20 49.8	-0.7
ILAR	Eielson Array 0.3nm,0.7s,baz=226,slow=6.2,SNR=7.0	82.68	11	P	P	08 21 01.0	-0.3
BRTR	Keskin Array B 0.5nm,0.4s,baz=27,slow=3.0,SNR=4.0	146.65	321	PKPbc	PKPab	08 28 21.9	+0.3

IDC 30 08:11:21.3±1.9, 15°.33S×173°.65W, h0km, mb3.7/6, mb1 4.1/6, mb1mx3.8/19, mbtmp3.7/6, Error ellipse: s-maj=119.2km s-min=22.8km az=151.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu 29nm,0.3s,baz=51,slow=20,SNR=4.1	2.30	52	Sn	Sn	08 12 17.1	-13
WRA	Warramunga Arr 0.3nm,0.6s,baz=91,slow=6.7,SNR=4.9	49.63	257	P	P	08 20 14.6	-0.5
ASAR	Alice Springs 3.5nm,0.7s,baz=85,slow=8.2,SNR=30	49.91	252	P	P	08 20 16.9	-0.2
NVAR	Mina Array Bea 0.6nm,0.6s,baz=230,slow=7.0,SNR=2.7	74.44	42	P	P	08 23 01.6	-0.1
TXAR	Lajitas Array 0.3nm,0.7s,baz=232,slow=5.9,SNR=5.4	80.77	56	P	P	08 23 37.2	0.0
PDAR	Pinedale Array 0.5nm,0.8s,baz=268,slow=2.4,SNR=3.4	82.37	42	P	P	08 23 45.7	+0.1
ILAR	Eielson Array 0.3nm,0.8s,baz=248,slow=5.6,SNR=5.3	82.42	11	P	P	08 23 44.5	-0.5
BRTR	Keskin Array B 0.6nm,0.6s,baz=60,slow=3.5,SNR=3.2	145.96	321	PKPbc	PKPbc	08 31 03.6	+0.1

IDC 30 08:16:05.5±4.9, 15°.26S×172°.61W, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.6/21, mbtmp3.5/3, Error ellipse: s-maj=201.9km s-min=23.7km az=137.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu 6.9nm,0.3s,baz=209,slow=15,SNR=2.0	1.57	31	Pn	Pn	08 16 33.6	-1.2
AFI	39nm,0.3s,baz=50,slow=23,SNR=5.8			Sn	Sn	08 16 51.0	-4.9
WRA	Warramunga Arr 0.7nm,1.1s,baz=95,slow=7.7,SNR=4.1	50.62	257	P	P	08 25 06.9	+0.1
ASAR	Alice Springs 1.0nm,0.8s,baz=88,slow=8.2,SNR=5.1	50.88	252	P	P	08 25 07.9	-0.9
ILAR	Eielson Array 0.4nm,1.0s,baz=201,slow=7.4,SNR=2.9	82.17	11	P	P	08 28 28.9	+0.9

IDC 30 08:19:29.7±9.6, 16°70S×171°86W, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.5/21, mbtmp3.4/3, Error ellipse: s-maj=422.4km s-min=36.5km az=140.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.78**	**2**	Sn	Sn	08 20 36.4	-13
	24nm,0.3s,baz=270,slow=20,SNR=3.3						
WRA	**Warramunga Arr**	**51.00**	**258**	P	P	08 28 33.3	-0.5
	0.3nm,0.8s,baz=96,slow=7.4,SNR=3.5						
ASAR	**Alice Springs**	**51.13**	**253**	P	P	08 28 35.0	+0.3
	0.4nm,0.6s,baz=91,slow=8.0,SNR=7.7						
ILAR	**Eielson Array**	**83.44**	**10**	P	P	08 31 58.6	0.0
	0.2nm,0.7s,baz=210,slow=5.7,SNR=3.3						

IDC 30 08:23:10.1±0.6, 16°44S×173°30W, h0km, mb4.5/17, mb1 4.6/18, mb1mx4.5/27, mbtmp4.5/18, ML3.8/1, Error ellipse: s-maj=22.8km s-min=13.7km az=136.0
NEIC 30 08:23:11.2±0.3, 16°50S×173°13W, h10km, mb4.6/12, Error ellipse: s-maj=12.9km s-min=7.9km az=143.0
ISCJB 30 08:23:13.3±0.4, 16°45S±0°09×173°32W±0°09, h33km, mb4.5/28, Error ellipse: s-maj=16.1km s-min=8.4km az=139.8

ISC 30 08:23:14.7±0.4, 16°59S±0°10×173°12W±0°08, h32km, n74, σ1§25/73, mb4.6/28, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.97**	**26**	Pn	Pn	08 23 54.5	-5.1
AFI				Sn	Sn	08 24 21.8	-12
AFI	**Afiamalu**	**2.97**	**26**	Pn	Pn	08 23 54.5	-5.1
	20nm,0.3s,baz=230,slow=17,SNR=2.4						
AFI				Sn	Sn	08 24 21.8	-12
	188nm,0.3s,baz=53,slow=20,SNR=4.7						
MSVF	**Nonsavu**	**8.52**	**261**	*e*Pn	**Pn**	**08 25 17.7**	**+1.8**
	109nm,1.3s						
RAR	**Rarotonga**	**13.44**	**112**	*e*Pn	**Pn**	**08 26 20.6**	**-2.6**
RAR	**Rarotonga**	**13.44**	**112**	Pn	**Pn**	**08 26 20.5**	**-2.7**
	5.1nm,0.3s,baz=270,slow=8.9,SNR=9.0						
DZM	**Mont Dzumac**	**20.03**	**251**	*e*P	**P**	**08 27 45.1**	**-0.1**
	22nm,0.8s						
DZM	**Mont Dzumac**	**20.03**	**251**	Pn	**P**	**08 27 45.8**	**+0.5**
	0.3nm,0.3s,baz=99,slow=19,SNR=4.1						
URZ	**Urewera**	**23.23**	**200**	P	**P**	**08 28 20.1**	**+0.9**
URZ	**Urewera**	**23.23**	**200**	P	**P**	**08 28 20.1**	**+0.9**
	8.8nm,0.3s,baz=62,slow=2.8,SNR=14						
RPZ	**Rata Peaks**	**30.19**	**203**	*e*P	**P**	**08 29 21.9**	**-0.2**
RPZ	**Rata Peaks**	**30.19**	**203**	P	**P**	**08 29 22.6**	**+0.5**
	9.7nm,0.8s,baz=17,slow=17,SNR=3.2						
ARMA	**Armidale**	**34.98**	**240**	*e*P	**P**	**08 30 03.4**	**-0.9**
	7.8nm,0.8s						
CTA	**Charters Tower**	**38.66**	**258**	P	**P**	**08 30 34.0**	**-1.6**
CTA	**Charters Tower**	**38.66**	**258**	P	**P**	**08 30 34.0**	**-1.6**
	2.6nm,0.6s,baz=108,slow=6.4,SNR=2.7						
PMG	**Port Moresby**	**39.30**	**275**	P	**P**	**08 30 38.0**	**-3.0**
PMG	**Port Moresby**	**39.30**	**275**	P	**P**	**08 30 38.0**	**-3.0**
	31nm,1.1s,baz=90,slow=17,SNR=2.4						
STKA	**Stephens Creek**	**43.69**	**241**	*e*P	**P**	**08 31 16.2**	**-0.7**
STKA	**Stephens Creek**	**43.69**	**241**	P	**P**	**08 31 16.1**	**-0.7**
	14nm,0.9s,baz=55,slow=7.6,SNR=17						
WRAB	**Tennant Creek**	**49.84**	**258**	*e*P	**P**	**08 32 03.5**	**-1.6**
	12nm,1.4s						
WRA	**Warramunga Arr**	**49.85**	**258**	P	**P**	**08 32 03.2**	**-2.1**
WRA	**Warramunga Arr**	**49.85**	**258**	P	**P**	**08 32 03.2**	**-2.1**
	2.4nm,0.6s,baz=93,slow=6.7,SNR=28						
AS31	**Alice Springs**	**50.01**	**253**	*e*P	**P**	**08 32 04.9**	**-1.5**
ASAR	**Alice Springs**	**50.01**	**253**	P	**P**	**08 32 05.0**	**-1.5**
ASAR	**Alice Springs**	**50.01**	**253**	P	**P**	**08 32 05.0**	**-1.5**
	18nm,0.6s,baz=90,slow=8.0,SNR=75						
VNDA	**Vanda**	**62.22**	**186**	P	**P**	**08 33 32.9**	**+0.1**
	2.9nm,1.0s						
VNDA	**Vanda**	**62.22**	**186**	P	P	08 33 38.2	+5.5
	0.8nm,0.8s,baz=69,slow=6.2,SNR=4.8						
ASAJ	**Asahikawa**	**72.69**	**328**	P	**P**	**08 34 39.3**	**-0.1**
ASAJ	**Asahikawa**	**72.69**	**328**	P	**P**	**08 34 39.3**	**-0.1**
	7.3nm,0.9s,baz=168,slow=19,SNR=3.2						
QSPA	**South Pole Qui**	**73.46**	**180**	*e*P	**P**	**08 34 45.7**	**+1.8**
	41nm,1.9s						
PETK	**Petropavlovsk-**	**73.84**	**342**	P	**P**	**08 34 45.4**	**-0.6**
PETK	**Petropavlovsk-**	**73.84**	**342**	P	**P**	**08 34 45.4**	**-0.6**
	4.8nm,0.9s,baz=141,slow=9.3,SNR=3.4						
YBH	**Yreka Blue Hor**	**74.38**	**37**	P	**P**	**08 34 50.2**	**+0.7**
YBH	**Yreka Blue Hor**	**74.38**	**37**	P	**P**	**08 34 50.2**	**+0.7**
	2.1nm,0.6s,baz=127,slow=3.1,SNR=12						
NVAR	**Mina Array Bea**	**75.03**	**42**	P	**P**	**08 34 53.1**	**-0.4**
NVAR	**Mina Array Bea**	**75.03**	**42**	P	**P**	**08 34 53.1**	**-0.4**
	1.6nm,0.7s,baz=226,slow=9.9,SNR=6.1						
TUC	**Tucson**	**76.94**	**50**	*e*P	**P**	**08 35 04.5**	**+0.1**
	2.7nm,1.0s						
KSM	**Kuching**	**77.57**	**275**	*e*P	**P**	**08 35 07.7**	**-0.5**
	17nm,1.0s						
USRK	**Ussuriysk Arra**	**78.50**	**323**	P	**P**	**08 35 12.0**	**-0.6**
	1.3nm,0.7s,baz=137,slow=3.0,SNR=5.2						
TXAR	**Lajitas Array**	**81.05**	**56**	P	**P**	**08 35 27.4**	**+0.4**
TXAR	**Lajitas Array**	**81.05**	**56**	P	**P**	**08 35 27.4**	**+0.4**
	0.3nm,0.6s,baz=216,slow=8.0,SNR=5.8						
MCMT	**McKenzie Canyo**	**82.01**	**39**	*e*P	**P**	**08 35 31.6**	**-0.3**
	2.0nm,1.1s						
MCK	**McKinley**	**82.24**	**11**	*e*P	**P**	**08 35 31.9**	**-0.5**
	11nm,1.1s						
LOHW	**Long Hollow**	**82.74**	**41**	*e*P	**P**	**08 35 34.3**	**-1.4**
	4.1nm,1.3s						
QLMT	**Earthquake Lak**	**82.87**	**39**	*e*P	**P**	**08 35 36.3**	**-0.1**
	1.2nm,1.1s						
PDAR	**Pinedale Array**	**82.97**	**42**	P	**P**	**08 35 36.6**	**-0.3**
PDAR	**Pinedale Array**	**82.97**	**42**	P	**P**	**08 35 36.6**	**-0.3**
	1.6nm,0.7s,baz=214,slow=3.4,SNR=14						
COLA	**College**	**83.48**	**11**	*e*P	**P**	**08 35 37.9**	**-0.8**
	39nm,1.0s						
ILAR	**Eielson Array**	**83.56**	**11**	P	**P**	**08 35 38.2**	**-1.0**
ILAR	**Eielson Array**	**83.56**	**11**	P	**P**	**08 35 38.2**	**-1.0**
	0.6nm,0.5s,baz=238,slow=6.4,SNR=14						
DAWY	**Dawson**	**84.50**	**14**	*e*P	**P**	**08 35 44.1**	**+0.1**
MAW	**Mawson**	**86.75**	**199**	P	**P**	**08 35 56.7**	**+1.4**
MAW	**Mawson**	**86.75**	**199**	P	**P**	**08 35 56.7**	**+1.4**
	3.3nm,0.7s,baz=150,slow=4.8,SNR=8.4						
CMAR	**Chiang Mai Arr**	**93.24**	**288**	P	**P**	**08 36 27.6**	**+0.9**
CMAR	**Chiang Mai Arr**	**93.24**	**288**	P	**P**	**08 36 27.6**	**+0.9**
	1.1nm,0.3s,baz=97,slow=2.6,SNR=10.0						
MKAR	**Makanchi Array**	**111.85**	**314**	PKiKP	**PKiKP**	**08 41 48.9**	**+2.4**
MKAR	**Makanchi Array**	**111.85**	**314**	PKiKP	**PKiKP**	**08 41 48.9**	**+2.4**
	0.2nm,0.6s,baz=76,slow=0.6,SNR=3.5						
KMBO	**Kilima Mbogo**	**145.24**	**242**	*e*PKPbc	**PKPdf**	**08 42 51.6**	**+1.1**
KMBO	**Kilima Mbogo**	**145.24**	**242**	PKPbc	**PKPdf**	**08 42 52.0**	**+1.5**
	6.1nm,0.8s,baz=63,slow=3.3,SNR=10						
STHS	**Stebnicka Huta**	**145.24**	**343**	*e*PKP	**PKPdf**	**08 42 50.1**	**+1.0**
STHS				*e*		08 43 02.0	
DPC	**Dobruska-Polom**	**145.48**	**349**	*e*PKP	**PKPab**	**08 42 51.4**	**+1.6**
DPC				*ex*	x	08 43 02.7	
BUR08	**Bucovina Ar. S**	**145.55**	**338**	*e*PKPbc	**PKPab**	**08 42 50.6**	**+0.3**
OKC	**Ostrava-Krasne**	**145.61**	**347**	*e*PKP	**PKPab**	**08 42 50.1**	**-0.1**
OKC				*ex*	x	08 43 03.3	
CRVS	**Cervenica-Dubn**	**145.65**	**343**	*e*PKP	**PKPab**	**08 42 52.8**	**+2.4**
CRVS				*e*		08 43 03.2	
MORC	**Moravsky Berou**	**145.79**	**348**	*e*PKPdf	**PKPab**	**08 42 50.9**	**-0.1**
PRU	**Pruhonice**	**146.12**	**351**	*e*PKP	**PKPbc**	**08 42 51.1**	**-0.4**
PRU				*ex*	x	08 43 04.6	
KECS	**Kecovo**	**146.30**	**344**	*e*PKP	**PKPab**	**08 42 52.9**	**0.0**
KECS				*e*		08 43 04.2	
BR131	**Keskin Array S**	**147.25**	**320**	*e*PKPbc	**PKPbc**	**08 42 55.4**	**+0.1**
BRTR	**Keskin Array B**	**147.25**	**320**	PKPbc	**PKPab**	**08 42 55.6**	**-1.4**
BRTR	**Keskin Array B**	**147.25**	**320**	PKPbc	**PKPab**	**08 42 55.6**	**-1.4**
	3.7nm,1.0s,baz=132,slow=2.7,SNR=12						
GERES	**GERESS Array B**	**147.36**	**352**	PKPbc	**PKPbc**	**08 42 55.5**	**+0.2**
GERES	**GERESS Array B**	**147.36**	**352**	PKPbc	**PKPbc**	**08 42 55.5**	**+0.2**
	1.0nm,0.6s,baz=18,slow=1.7,SNR=5.9						
SSB	**Saint Sauveur**	**151.34**	**3**	*e*PKPbc	**PKPbc**	**08 43 06.1**	**+0.8**
TORD	**Torodi Ar. Bea**	**173.93**	**124**	PKP	**PKPdf**	**08 43 22.4**	**+0.4**
TORD				PKPab	**PKPab**	**08 44 52.8**	**+0.2**
TORD	**Torodi Ar. Bea**	**173.93**	**124**	PKP	**PKPdf**	**08 43 22.4**	**+0.4**
	0.6nm,1.0s,baz=207,slow=2.9,SNR=2.6						
TORD				PKPab	**PKPab**	**08 44 52.8**	**+0.2**
	0.9nm,0.9s,baz=265,slow=3.8,SNR=4.9						

IDC 30 08:24:10.8±0.6, 16°60S×172°51W, h0km, mb4.4/13, mb1 4.6/13, mb1mx4.4/25, mbtmp4.4/13, Error ellipse: s-maj=30.4km s-min=17.1km az=127.0
NEIC 30 08:24:11.9±0.4, 16°62S×172°66W, h10km, mb4.6/5, Error ellipse: s-maj=18.5km s-min=9.7km az=131.0
ISCJB 30 08:24:12.6±0.5, 16°6S±0°1×172°7W±0°1, h24km, mb4.4/18, Error ellipse: s-maj=21.5km s-min=10.8km az=43.7

ISC 30 08:24:14.3±0.5, 16°7S±0°1×172°6W±0°1, h24km, n47, σ1§21/50, mb4.5/18, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**20.46**	**251**	P	**P**	**08 28 49.1**	**-1.3**
URZ	**Urewera**	**23.34**	**201**	*e*Pn	**P**	**08 29 20.8**	**0.0**
URZ	**Urewera**	**23.34**	**201**	P	**P**	**08 29 23.3**	**+2.4**
	36nm,1.0s,baz=21,slow=5.7,SNR=2.9						
ARMA	**Armidale**	**35.36**	**241**	P	**P**	**08 31 07.3**	**-1.0**
STKA	**Stephens Creek**	**44.07**	**241**	P	**P**	**08 32 19.9**	**-0.7**
STKA	**Stephens Creek**	**44.07**	**241**	P	**P**	**08 32 19.9**	**-0.7**
	7.5nm,1.1s,baz=85,slow=11,SNR=2.9						
ASAR	**Alice Springs**	**50.44**	**253**	P	**P**	**08 33 10.7**	**+0.2**
ASAR	**Alice Springs**	**50.44**	**253**	P	**P**	**08 33 10.7**	**+0.2**
	8.8nm,0.8s,baz=84,slow=8.8,SNR=5.0						
VNDA	**Vanda**	**62.21**	**186**	P	**P**	**08 34 34.0**	**+0.5**
VNDA	**Vanda**	**62.21**	**186**	P	**P**	**08 34 34.0**	**+0.5**
	2.4nm,0.9s,baz=3.6,slow=6.5,SNR=4.4						
QSPA	**South Pole Qui**	**73.40**	**180**	*e*P	**P**	**08 35 43.9**	**-0.4**
	7.0nm,1.0s						
YBH	**Yreka Blue Hor**	**74.15**	**37**	P	**P**	**08 35 48.8**	**-0.1**
YBH	**Yreka Blue Hor**	**74.15**	**37**	P	**P**	**08 35 48.8**	**-0.1**
	4.8nm,1.1s,baz=147,slow=4.9,SNR=3.2						
NVAR	**Mina Array Bea**	**74.77**	**41**	P	**P**	**08 35 53.2**	**+0.4**
NVAR	**Mina Array Bea**	**74.77**	**41**	P	**P**	**08 35 53.2**	**+0.4**
	1.9nm,0.7s,baz=228,slow=8.4,SNR=4.0						
KDAK	**Kodiak Island**	**76.00**	**11**	P	**P**	**08 35 58.6**	**-0.5**
KDAK	**Kodiak Island**	**76.00**	**11**	P	**P**	**08 35 58.6**	**-0.5**
	6.5nm,0.9s,baz=143,slow=15,SNR=4.4						
TPUB	**Ta-pu**	**76.35**	**300**	P	**P**	**08 35 59.2**	**-2.7**
KSRS	**Korea Array**	**77.57**	**315**	P	**P**	**08 36 11.1**	**+2.7**
	1.4nm,0.7s,baz=129,slow=6.6,SNR=7.0						
KSAR	**Wonju Array Be**	**77.59**	**315**	P	**P**	**08 36 11.1**	**+2.5**
TXAR	**Lajitas Array**	**80.70**	**56**	P	**P**	**08 36 27.2**	**+1.3**
TXAR	**Lajitas Array**	**80.70**	**56**	P	**P**	**08 36 27.2**	**+1.3**
	0.5nm,0.7s,baz=224,slow=6.9,SNR=3.4						
TRF	**Thorofare Moun**	**81.72**	**10**	*e*P	**P**	**08 36 29.1**	**-1.6**
	17nm,1.3s						
PDAR	**Pinedale Array**	**82.70**	**41**	P	**P**	**08 36 35.9**	**-0.5**
PDAR	**Pinedale Array**	**82.70**	**41**	P	**P**	**08 36 35.9**	**-0.5**
	1.4nm,0.7s,baz=215,slow=4.4,SNR=2.8						
BOZ	**Bozeman (W)**	**82.93**	**38**	*e*P	**P**	**08 36 36.1**	**-1.3**
	3.6nm,1.2s						
ILAR	**Eielson Array**	**83.53**	**11**	P	**P**	**08 36 38.5**	**-1.4**
ILAR	**Eielson Array**	**83.53**	**11**	P	**P**	**08 36 38.5**	**-1.4**
	2.0nm,0.8s,baz=225,slow=5.9,SNR=7.8						
GCMT	**Greycliff**	**84.18**	**39**	*e*P	**P**	**08 36 44.0**	**+0.2**
	1.9nm,0.8s						
DAWY	**Dawson**	**84.45**	**14**	*e*P	**P**	**08 36 43.6**	**-1.0**
COLD	**Coldfoot**	**85.26**	**9**	*e*P	**P**	**08 36 49.1**	**+0.5**
	4.0nm,1.0s						
ENH	**Enshi**	**88.22**	**302**	P	**P**	**08 37 04.5**	**+0.6**
INK	**Inuvik**	**89.31**	**14**	P	**P**	**08 37 07.2**	**-0.8**
INK	**Inuvik**	**89.31**	**14**	P	**P**	**08 37 07.2**	**-0.8**
	2.4nm,0.8s,baz=156,slow=3.6,SNR=5.0						
CMAR	**Chiang Mai Arr**	**93.71**	**288**	P	**P**	**08 37 30.5**	**+0.8**
CMAR	**Chiang Mai Arr**	**93.71**	**288**	P	**P**	**08 37 30.5**	**+0.8**
	1.6nm,0.4s,baz=62,slow=2.1,SNR=4.3						
CLL	**Collm**	**145.14**	**354**	*e*PKPdf	**PKPab**	**08 43 49.0**	**-0.3**
BRG	**Berggiesshubel**	**145.46**	**353**	*e*PKP	**PKPab**	**08 43 53.4**	**+2.9**
	5.2nm,0.7s						
KMBO	**Kilima Mbogo**	**145.63**	**242**	*e*PKPdf	**PKPab**	**08 43 52.5**	**-0.1**
KMBO				PKPbc	**PKPab**	**08 43 54.2**	**+1.7**
KMBO	**Kilima Mbogo**	**145.63**	**242**	PKPbc	**PKPab**	**08 43 54.2**	**+1.7**
	9.4nm,1.1s,baz=348,slow=1.3,SNR=6.8						
GERES	**GERESS Array B**	**147.48**	**352**	PKPbc	**PKPbc**	**08 43 56.1**	**-0.3**
GERES	**GERESS Array B**	**147.48**	**352**	PKPbc	**PKPbc**	**08 43 56.1**	**-0.3**
	0.7nm,0.5s,baz=44,slow=3.0,SNR=2.2						
BR131	**Keskin Array S**	**147.59**	**320**	*e*PKPbc	**PKPbc**	**08 43 57.0**	**-0.1**
BRTR	**Keskin Array B**	**147.59**	**320**	PKPbc	**PKPbc**	**08 43 57.0**	**-0.1**
BRTR	**Keskin Array B**	**147.59**	**320**	PKPbc	**PKPbc**	**08 43 57.0**	**-0.1**
	6.0nm,1.0s,baz=112,slow=1.3,SNR=5.6						
TORD	**Torodi Ar. Bea**	**173.50**	**122**	PKP	**PKPdf**	**08 44 21.6**	**-1.1**
TORD				PKPab	**PKPab**	**08 45 50.1**	**-1.5**
TORD	**Torodi Ar. Bea**	**173.50**	**122**	PKP	**PKPdf**	**08 44 21.6**	**-1.1**
	1.0nm,1.0s,baz=222,slow=1.9,SNR=3.9						
TORD				PKPab	**PKPab**	**08 45 50.1**	**-1.5**
	1.8nm,0.9s,baz=256,slow=5.7,SNR=4.7						

IDC 30 08:24:56.7±0.5, 16°67S×172°59W, h0km, mb4.6/26, mb1 4.8/26, mb1mx4.7/30, mbtmp4.6/26, MS4.8/2, Ms1 4.8/2, ms1mx4.3/11, Error ellipse: s-maj=18.2km s-min=13.0km az=131.0
NEIC 30 08:24:58.4±0.2, 16°62S×172°62W, h10km, mb5.1/50, Error ellipse: s-maj=8.8km s-min=4.7km az=137.0
BJI 30 08:24:58.2, 16°38S×172°59W, h11km, mB5.6/25, mb5.1/31, Ms5.2/17, Ms7 4.9/20
ISCJB 30 08:24:59.3±0.2, 16°62S±0°06×172°68W±0°04, h24km, mb5.0/88, MS4.8/12, Error ellipse: s-maj=8.5km s-min=5.0km az=155.6
MOS 30 08:25:00.8±1.0, 16°56S×172°72W, h33km, mb5.4/18, Error ellipse: s-maj=14.7km s-min=9.5km az=62.9
SZGRF 30 08:25:00.7, 17°24S×172°65W, h33km, mb5.0, Tonga Islands region
GCMT 30 08:25:06.0±0.4, 16°54S×172°15W, h14km±1km, MW5.3, Moment Tensor Solution. s21,c25; s54,c85; Moment tensor: Scale 10^{17}Nm; M_{rr}-0.97±.09; $M_{\theta\theta}$-0.04±.06; $M_{\phi\phi}$1.01±.06; $M_{r\theta}$-0.03±.15; $M_{\theta\phi}$0.11±.04; $M_{\phi r}$-0.31±.10; Best double couple: $M_0$1.00000×10^{17} NP1:ϕ_s6.00000°, δ54.00000°, λ-90.00000°. NP2:ϕ_s186.00000°, δ36.00000°, λ-90.00000°. Principal axes: T 1.0700, Plg9.0000°, Azm96.0000°; N -0.0500, Plg0.0000°, Azm186.0000°; P -1.0200, Plg81.0000°, Azm276.0000°; Data Used: II IU IC G CN.

ISC 30 08:25:00.7±0.3, 16°65S±0°07×172°54W±0°06, h24km, n472, σ1§02/496, mb5.0/88, MS4.7/13, 112C-119D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.83**	**15**	*e*Pn	**Pn**	**08 25 42.8**	**-1.6**
AFI				Sn	Sn	08 26 08.8	-9.0
AFI				*e*Sn	Sb	08 26 12.9	-12
AFI	**Afiamalu**	**2.83**	**15**	Pn	Pn	08 25 39.3	-5.2
	123nm,0.3s,baz=292,slow=19,SNR=2.2						
AFI				Sn	Sn	08 26 08.8	-9.0
	380nm,0.3s,baz=68,slow=19,SNR=4.3						
RAR	**Rarotonga**	**12.90**	**113**	*e*Pn	Pn	08 27 56.5	-6.2
RAR	**Rarotonga**	**12.90**	**113**	Pn	Pn	08 27 56.5	-6.2
	2.1nm,0.3s,baz=270,slow=6.7,SNR=7.3						
DZM	**Mont Dzumac**	**20.54**	**251**	*e*P	Pn	08 29 40.8	+0.8
	197nm,1.4s						
DZM				*e*LR	LR	08 34 31.2	
	4μm,29.0s						
DZM	**Mont Dzumac**	**20.54**	**251**	P	**P**	**08 29 37.6**	**-0.1**
DZM	**Mont Dzumac**	**20.54**	**251**	P	**P**	**08 29 37.6**	**-0.1**
	13nm,0.9s,baz=44,slow=14,SNR=3.3						
PPT2	**Papeete2**	**21.97**	**96**	*e*S	**S**	**08 33 54.9**	**+0.2**
	2μm,24.8s						
PPT2				*e*LR	LR	08 34 38.6	
	5μm,27.5s,baz=258						
TBI	**Tubuai**	**22.67**	**111**	*e*S	**S**	**08 34 07.3**	**-0.2**
	2μm,28.8s						
TBI				*e*LR	LR	08 35 05.7	
	5μm,29.0s,baz=285						
URZ	**Urewera**	**23.37**	**201**	*e*P	**P**	**08 30 07.0**	**-0.5**
	63nm,0.8s						
URZ	**Urewera**	**23.37**	**201**	P	**P**	**08 30 07.3**	**-0.2**
	70nm,0.9s,baz=24,slow=9.4,SNR=6.4						
HNR	**Honiara**	**27.72**	**282**	LR	LR	08 40 03.7	
	comp=Z,4μm,21.2s,baz=133,slow=33						
RPZ	**Rata Peaks**	**30.36**	**204**	*e*P	**P**	**08 31 13.3**	**+2.7**
	54nm,1.2s						
RPZ	**Rata Peaks**	**30.36**	**204**	P	P	08 31 17.0	+6.4
	34nm,1.0s,baz=45,slow=1.4,SNR=3.4						
EIDS	**Eidsvold**	**34.96**	**249**	*e*P	**P**	**08 31 49.8**	**-1.3**
	13nm,1.0s						
ARMA	**Armidale**	**35.43**	**241**	*e*P	**P**	**08 31 54.0**	**-1.3**
	19nm,1.2s						
RKT	**Rikitea**	**35.84**	**107**	*e*LR	LR	08 41 09.5	
	3μm,28.2s,baz=276						
CTA	**Charters Tower**	**39.19**	**259**	P	**P**	**08 32 26.7**	**-0.5**
CTA	**Charters Tower**	**39.19**	**259**	P	**P**	**08 32 26.7**	**-0.5**
	4.4nm,0.9s,baz=87,slow=15,SNR=2.6						
CTAO	**Charters Tower**	**39.19**	**259**	*e*P	**P**	**08 32 25.8**	**-1.4**
CTAO	**Charters Tower**	**39.19**	**259**	*e*P	**P**	**08 32 25.8**	**-1.4**
STKA	**Stephens Creek**	**44.14**	**241**	*e*P	**P**	**08 33 06.5**	**-1.1**
STKA	**Stephens Creek**	**44.14**	**241**	P	**P**	**08 33 05.9**	**-1.7**
	15nm,1.0s,baz=76,slow=7.2,SNR=11						
BBOO	**Buckleboo**	**48.91**	**241**	*e*P	**P**	**08 33 43.8**	**-1.2**
	1μm,1.2s						
WRAB	**Tennant Creek**	**50.36**	**258**	*e*P	P	08 33 52.9	-3.4
WRAB				pmax	pmax		
	comp=Z,17nm,1.4s						
WRAB	**Tennant Creek**	**50.36**	**258**	*e*P	P	08 33 52.9	-3.4
	comp=Z,17nm,1.4s						
WRA	**Warramunga Arr**	**50.37**	**258**	P	**P**	**08 33 53.7**	**-2.7**
WRA	**Warramunga Arr**	**50.37**	**258**	P	**P**	**08 33 53.7**	**-2.7**
	comp=Z,4.8nm,0.9s,baz=92,slow=7.7,SNR=6.1						
ASAR	**Alice Springs**	**50.52**	**253**	P	**P**	**08 33 55.4**	**-2.1**
ASAR	**Alice Springs**	**50.52**	**253**	P	**P**	**08 33 55.4**	**-2.1**
	comp=Z,27nm,0.8s,baz=89,slow=8.2,SNR=13						
SBA	**Scott Base**	**62.08**	**185**	*e*P	**P**	**08 35 20.8**	**+1.8**
SBA				pmax	pmax		
	comp=Z,22nm,1.0s						
SBA	**Scott Base**	**62.08**	**185**	*e*P	**P**	**08 35 20.8**	**+1.8**
	comp=Z,22nm,1.0s						
VNDA	**Vanda**	**62.22**	**186**	*e*P	**P**	**08 35 21.1**	**+1.2**
VNDA	**Vanda**	**62.22**	**186**	P	**P**	**08 35 19.6**	**-0.3**
	comp=Z,12nm,1.1s,baz=19,slow=6.4,SNR=11						
MJAR	**Matsushiro Arr**	**70.42**	**320**	P	**P**	**08 36 12.4**	**-0.7**
MJAR	**Matsushiro Arr**	**70.42**	**320**	P	**P**	**08 36 12.4**	**-0.7**
	comp=Z,3.2nm,1.0s,baz=161,slow=6.9,SNR=7.4						
MAJO	**Matsushiro**	**70.42**	**320**	*i*P	**P**	**08 36 13.0**	**-0.1**
MAT	**Matsushiro**	**70.42**	**320**	P	**P**	**08 36 12.9**	**-0.2**
MAT				S	**S**	**08 45 27.8**	**+3.1**
SMMC	**Simmler**	**71.76**	**43**	⇓P	**P**	**08 36 22.9**	**+1.6**
	baz=72						
MURC	**Murrieta**	**72.66**	**46**	⇓P	**P**	**08 36 27.5**	**+0.8**
	baz=73						
VES	**Vestal, Richgr**	**72.68**	**43**	⇑P	**P**	**08 36 27.4**	**+0.7**
	baz=73						
MONP	**Monument Peak**	**72.80**	**47**	⇓P	**P**	**08 36 28.4**	**+0.6**
	baz=73						
EDW2	**Edwards Air Fo**	**72.85**	**45**	⇓P	**P**	**08 36 28.7**	**+0.9**
	baz=73						
ISA	**Isabella**	**72.98**	**44**	*e*P	**P**	**08 36 28.3**	**-0.2**
ISA				pmax	pmax		
	comp=Z,31nm,1.8s						
ISA	**Isabella**	**72.98**	**44**	*e*P	**P**	**08 36 28.3**	**-0.2**
	comp=Z,31nm,1.8s						
ISA	**Isabella**	**72.98**	**44**	⇑P	**P**	**08 36 29.5**	**+0.9**
	baz=73						
ASAJ	**Asahikawa**	**73.03**	**328**	P	**P**	**08 36 29.4**	**+0.8**
ASAJ	**Asahikawa**	**73.03**	**328**	P	**P**	**08 36 29.4**	**+0.8**
	comp=Z,14nm,1.0s,baz=348,slow=10,SNR=3.7						
JNU	**Nakatsue**	**73.25**	**313**	P	**P**	**08 36 29.6**	**-0.6**
JNU	**Nakatsue**	**73.25**	**313**	P	**P**	**08 36 29.6**	**-0.6**
	comp=Z,10.0nm,0.9s,baz=120,slow=4.5,SNR=3.8						
QSPA	**South Pole Qui**	**73.40**	**180**	*e*P	**P**	**08 36 30.7**	**0.0**
	comp=Z,29nm,1.0s						
BELC	**Belle Mtn. Jos**	**73.71**	**46**	⇑P	**P**	**08 36 33.6**	**+0.6**
	baz=74						
MPMC	**Manual Prospec**	**73.86**	**44**	⇑P	**P**	**08 36 34.7**	**+0.7**
	baz=74						
GSC	**Goldstone**	**73.88**	**45**	⇓P	**P**	**08 36 34.9**	**+1.0**
	baz=74						
BC3	**Big Chuckawall**	**73.90**	**47**	⇓P	**P**	**08 36 35.0**	**+0.9**
	baz=74						
WAKR	**

W20A	Ramah	79.58	49	⇓P	P	08 37 07.6	+1.3
	baz=80						
Q16A	Castle Valley	79.62	44	⇑P	P	08 37 07.5	+1.0
	baz=80						
Y21A	Point of Rocks	79.65	50	⇑P	P	08 37 07.6	+0.8
	baz=80						
X21A	Alamocita Cree	79.78	49	⇑P	P	08 37 08.4	+1.0
	baz=80						
TMUT	Trail Mountain	79.80	44	eP	P	08 37 08.2	+0.7
	comp=Z,12nm,0.9s						
Z22A	Elephant Butte	79.83	51	⇓P	P	08 37 08.5	+0.9
	baz=80						
HLID	Hailey	80.08	39	⇓P	P	08 37 09.2	+0.4
	baz=80						
324A	Moseley Ranch,	80.12	53	⇓P	P	08 37 09.6	+0.4
	baz=80						
U20A	Newcomb	80.17	47	⇑P	P	08 37 09.9	+0.5
	baz=80						
PMR	Palmer	80.18	11	eP	P	08 37 08.3	-0.3
PMR				pmax	pmax		
	comp=Z,34nm,1.3s						
PMR	Palmer	80.18	11	eP	P	08 37 08.3	-0.3
	comp=Z,34nm,1.3s						
W21A	San Fidel	80.19	49	⇑P	P	08 37 10.3	+0.6
	baz=80						
425A	Indio Mountain	80.22	54	⇑P	P	08 37 10.0	+0.2
	baz=80						
626A	Big Bend Ranch	80.35	55	⇑P	P	08 37 10.9	+0.5
	baz=80						
Z23A	Rita Site, Whi	80.37	51	⇓P	P	08 37 11.0	+0.4
	baz=81						
224A	Cornudas Mount	80.38	52	⇓P	P	08 37 11.0	+0.4
	baz=81						
DIV	Divide	80.42	13	eP	P	08 37 10.4	+0.3
	comp=Z,35nm,0.9s						
MDJ	Mudanjiang	80.52	322	P	P	08 37 12.3	+1.5
MDJ				pP	PcP	08 37 15.5	-2.2
MDJ				sP	sP	08 37 16.5	-5.0
MDJ				PP	PP	08 40 16.3	+1.7
MDJ				pmax	pmax		
	comp=Z,12nm,1.5s						
MDJ				pmax	pmax		
	comp=Z,180nm,6.0s						
MDJ				LR	LR		
	comp=N,180nm,22.4s						
MDJ				LR	LR		
	comp=E,180nm,29.9s						
MDJ				LR	LR		
	comp=Z,350nm,29.9s						
BMRM	Bremner River	80.53	13	eP	P	08 37 11.0	+0.4
	comp=Z,215nm,2.1s						
MVCO	Mesa Verde	80.59	47	⇑P	P	08 37 12.0	+0.3
	baz=81						
526A	Mary Lane Ranc	80.60	55	⇓P	P	08 37 12.5	+0.7
	baz=81						
TXAR	Lajitas Array	80.63	56	P	P	08 37 12.3	+0.4
TXAR	Lajitas Array	80.63	56	P	P	08 37 12.3	+0.4
	comp=Z,1.2nm,0.8s,baz=210,slow=7.2,SNR=6.0						
124A	Stringfield Ra	80.70	52	⇓P	P	08 37 13.1	+0.7
	baz=81						
U21A	Nageezi	80.81	48	⇑P	P	08 37 13.4	+0.5
	baz=81						
Y23A	Lovelace Mesa,	80.81	51	⇑P	P	08 37 13.2	+0.2
	baz=81						
627A	Terlingua Ranc	80.90	56	⇑P	P	08 37 14.0	+0.6
	baz=81						
426A	McDonald Obser	80.91	54	⇓P	P	08 37 13.9	+0.4
	baz=81						
225A	Deer Hill, Car	80.92	53	⇑P	P	08 37 14.2	+0.7
	baz=81						
ANMO	Albuquerque	80.98	49	eP	P	08 37 14.2	+0.4
	comp=Z,26nm,1.7s						
S20A	Disappointment	80.99	46	⇓P	P	08 37 14.4	+0.5
	baz=81						
X23A	Hourglass Bar	81.01	50	⇑P	P	08 37 14.3	+0.3
	baz=81						
527A	Woodward Ranch	81.01	55	⇑P	P	08 37 14.7	+0.7
	baz=81						
T21A	Navajo Lake	81.16	47	⇑P	P	08 37 15.5	+0.8
	baz=81						
Y24A	Capitan	81.27	51	⇑P	P	08 37 16.1	+0.7
	baz=82						
125A	Gardner Draw,	81.29	52	⇓P	P	08 37 15.6	+0.2
	baz=82						
W23A	Werner Place,	81.30	49	⇓P	P	08 37 15.1	-0.4
	baz=82						
S21A	Coal Bank Pass	81.30	47	⇑P	P	08 37 15.9	+0.3
	baz=82						
628A	Black Gap, Mar	81.31	56	⇓P	P	08 37 15.5	0.0
	baz=82						
U22A	Llaves	81.35	48	⇑P	P	08 37 15.9	+0.1
	baz=82						
CAST	Castle Rocks	81.39	9	eP	P	08 37 13.6	-1.5
	comp=Z,11nm,1.0s						
226B	Tecolote Peak,	81.41	53	⇑P	P	08 37 16.2	+0.2
	baz=82						
427A	Hayter Ranch,	81.47	54	⇑P	P	08 37 16.5	+0.1
	baz=82						
Z25A	Roswell	81.52	52	⇑P	P	08 37 17.0	+0.4
	baz=82						
V23A	Ortiz Mt. (NFS	81.54	49	⇓P	P	08 37 17.3	+0.5
	baz=82						
NJ2	Nanjing	81.57	307	eP	P	08 37 17.8	+1.1
NJ2				pmax	pmax		
	comp=Z,20nm,0.9s						
Q20A	Ridgley Place,	81.58	45	⇓P	P	08 37 17.0	+0.1
	baz=82						
528A	Cox Ranch, San	81.67	55	⇑P	P	08 37 17.5	+0.1
	baz=82						
O19A	Miners Draw (B	81.69	44	⇑P	P	08 37 17.6	+0.2
	baz=82						
TRF	Thorofare Moun	81.71	10	eP	P	08 37 16.4	-0.5
	comp=Z,259nm,2.4s						
MCMT	McKenzie Canyo	81.71	38	eP	P	08 37 17.7	+0.2
	comp=Z,7.9nm,1.3s						
126A	Clayton Basin,	81.77	52	⇓P	P	08 37 18.2	+0.3
	baz=82						
P20A	De Beque	81.78	45	⇓P	P	08 37 18.3	+0.4
	baz=82,SNR=5.0						
U23A	El Rito	81.81	48	⇑P	P	08 37 18.3	+0.1
	baz=82,SNR=5.9						
R21A	Cimarron	81.81	46	⇑P	P	08 37 18.6	+0.4
	baz=82,SNR=6.0						
Y25A	Mesa, Roswell	81.82	51	⇓P	P	08 37 18.1	-0.1
	baz=82						
RRI2	Red Ridge	81.84	40	eP	P	08 37 18.2	-0.1
	comp=Z,71nm,1.9s						
W24A	Lazy 6 Ranch,	81.86	50	⇑P	P	08 37 18.5	0.0
	baz=82						
L18A	Fontenelle, Gr	81.91	42	⇓P	P	08 37 18.9	+0.3
	baz=82						
428A	Kincaid Ranch,	81.98	55	⇑P	P	08 37 19.1	0.0
	baz=82						
S22A	4UR Ranch, Cre	82.01	47	⇑P	P	08 37 19.4	0.0
	baz=82						
Q21A	Lamborn Mesa,	82.02	46	⇑P	P	08 37 19.8	+0.6
	baz=82						
Z26A	Caprock	82.07	52	⇓P	P	08 37 19.4	-0.1
	baz=82						
529A	Stev Forest Ra	82.10	55	⇑P	P	08 37 19.4	-0.2
	baz=82						
REDW	Red Top Meadow	82.14	40	eP	P	08 37 19.5	-0.3
	comp=Z,44nm,1.8s						
PAX	Paxson	82.15	12	eP	P	08 37 19.1	-0.1
PAX				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PAX	Paxson	82.15	12	eP	P	08 37 19.1	-0.1
	comp=Z,10nm,1.0s						
328A	Wristen Ranch,	82.16	54	⇑P	P	08 37 19.8	-0.2
	baz=82						
HYT	Haines Junctio	82.17	16	eP	P	08 37 19.8	+0.4
MSO	Missoula	82.19	36	⇑P	P	08 37 19.4	-0.5
	baz=82,SNR=5.7						
O20A	White River Ci	82.19	44	⇑P	P	08 37 20.2	+0.1
	baz=82						
V24A	Rampart Ranch,	82.19	49	⇑P	P	08 37 20.1	-0.2
	baz=82						
MCK	McKinley	82.20	10	eP	P	08 37 19.2	-0.2
MCK				pmax	pmax		
	comp=Z,40nm,1.0s						
MCK	McKinley	82.20	10	eP	P	08 37 19.2	-0.2
	comp=Z,40nm,1.0s						
BPAW	Bear Paw Mtn.	82.20	9	eP	P	08 37 18.7	-0.7
	comp=Z,23nm,1.3s						
T23A	Casias Ranch,	82.24	48	⇑P	P	08 37 20.5	-0.1
	baz=82						
127A	Arkansas Junct	82.28	53	⇓P	P	08 37 20.7	0.0
	baz=82						
BSMT	Bassoo Peak	82.30	35	eP	P	08 37 19.8	-0.7
	comp=Z,7.5nm,0.9s						
IMW	Indian Meadow	82.37	40	eP	P	08 37 21.1	0.0
	comp=Z,23nm,1.4s						
MOOW	Moose Ponds	82.41	40	eP	P	08 37 21.2	0.0
	comp=Z,28nm,1.8s						
LOHW	Long Hollow	82.43	40	eP	P	08 37 21.0	-0.3
	comp=Z,37nm,1.8s						
P21A	Newcastle	82.43	45	⇑P	P	08 37 22.3	+0.9
	baz=83						
MENT	Mentasta	82.48	13	eP	P	08 37 20.3	-0.6
Q22A	Crested Butte,	82.48	46	⇓P	P	08 37 22.0	+0.2
	baz=83,SNR=7.7						
LRM	Limekiln Ridge	82.49	38	eP	P	08 37 21.2	-0.4
	comp=Z,241nm,1.9s						
N20A	Spence Gulch,	82.52	44	⇑P	P	08 37 22.7	+0.8
	baz=83						
W25A	X Bar L Ranch,	82.56	50	⇓P	P	08 37 22.5	+0.4
	baz=83,SNR=5.7						
429A	Davenport Ranc	82.56	55	⇓P	P	08 37 22.3	+0.2
	baz=83						
DLBC	Dease Lake	82.56	21	P	P	08 37 20.7	-0.7
DLBC	Dease Lake	82.56	21	P	P	08 37 20.7	-0.7
	comp=Z,3.4nm,0.8s,baz=216,slow=5.9,SNR=6.8						
QLMT	Earthquake Lak	82.56	39	eP	P	08 37 22.6	+0.7
	comp=Z,1.0nm,0.8s						
CN2	Changchun	82.57	320	eP	P	08 37 23.0	+1.3
CN2				esP	sP	08 37 30.0	-2.4
CN2				eS	S	08 47 38.5	+1.1
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,400nm,20.0s						
CN2				LR	LR		
	comp=E,300nm,20.0s						
CN2				LR	LR		
	comp=Z,200nm,19.0s						
S23A	Nye Farm, Mont	82.58	47	⇑P	P	08 37 22.9	+0.7
	baz=83						
I17A	Pilgrim Ck.	82.61	40	⇓P	P	08 37 23.1	+0.9
	baz=83						
FLWY	Flagg Ranch	82.61	40	eP	P	08 37 22.4	+0.1
	comp=Z,46nm,1.5s						
CHMT	Chamberlain Mo	82.63	36	eP	P	08 37 21.5	-0.8
	comp=Z,4.3nm,0.9s						
228A	UT Block 9, Go	82.64	53	⇑P	P	08 37 22.6	+0.1
	baz=83						
BW06	Boulder Array	82.65	41	eP	P	08 37 22.0	-0.5
	comp=Z,47nm,1.9s						
PDAR	Pinedale Array	82.65	41	P	P	08 37 22.0	-0.5
PDAR	Pinedale Array	82.65	41	P	P	08 37 22.0	-0.5
	comp=Z,3.5nm,0.9s,baz=204,slow=3.3,SNR=8.4						
Z27A	Tatum	82.67	52	⇑P	P	08 37 23.0	+0.4
	baz=83						
T24B	San Luis	82.72	48	⇓P	P	08 37 23.4	+0.4
	baz=83						
V25A	Rancho No Teng	82.72	49	⇑P	P	08 37 22.9	0.0
	baz=83,SNR=6.4						
X26A	CR and CF Fran	82.75	51	⇓P	P	08 37 23.2	+0.1
	baz=83						
SNY	Shenyang	82.75	317	⇓P	P	08 37 22.0	-0.7
SNY				S	S	08 47 43.8	+4.5
SNY				pmax	pmax		
	comp=Z,190nm,5.4s						
SNY				LR	LR		
	comp=N,140nm,16.8s						
SNY				LR	LR		
	comp=E,280nm,21.6s						
SNY				LR	LR		
	comp=Z,230nm,15.9s						
YMR	Madison River	82.76	39	eP	P	08 37 23.1	+0.1
	comp=Z,113nm,1.9s						
H17A	Grant Village	82.85	40	⇑P	P	08 37 24.4	+0.9
	baz=83						
BOZ	Bozeman (W)	82.88	38	eP	P	08 37 23.0	-0.5
BOZ				pmax	pmax		
	comp=Z,11nm,1.3s						
BOZ	Bozeman (W)	82.88	38	eP	P	08 37 23.0	-0.5
	comp=Z,11nm,1.3s						
M20A	Sweetwater, Wa	82.89	43	⇑P	P	08 37 24.0	+0.2
	baz=83						
R23A	Moffat	82.92	47	⇓P	P	08 37 24.5	+0.4
	baz=83						
128A	Castleberry Fa	82.93	53	⇑P	P	08 37 24.5	+0.5
	baz=83						
P22A	Eagle	82.93	45	⇑P	P	08 37 24.4	+0.4
	baz=83						
SDCO	Great Sand Dun	82.95	47	eP	P	08 37 24.0	-0.2
	comp=Z,3.5nm,1.1s						
Y27A	Causey	82.95	52	⇓P	P	08 37 24.5	+0.4
	baz=83						
YNR	Norris Junctio	82.96	39	eP	P	08 37 25.1	+1.1
	comp=Z,33nm,1.4s						
N21A	Black Mountain	82.98	44	⇓P	P	08 37 24.7	+0.4
	baz=83						
L20A	Wamsutter	83.05	43	⇑P	P	08 37 24.5	0.0
	baz=83,SNR=7.2						
S24A	Houchin Ranch,	83.10	48	⇓P	P	08 37 24.9	-0.1
	baz=83						
631A	Perdido Creek	83.12	57	⇓P	P	08 37 25.0	0.0
	baz=83						
U25A	Circle Dot Ran	83.12	49	⇑P	P	08 37 25.0	0.0
	baz=83						
K19A	Absolon Red Bu	83.13	42	⇑P	P	08 37 24.8	-0.1
	baz=83						
J19A	Crowheart	83.22	41	⇓P	P	08 37 25.8	+0.4
	baz=83						
Q23A	Hartsel	83.25	46	⇑P	P	08 37 26.2	+0.4
	baz=83						
MSTX	Muleshoe	83.28	52	eP	P	08 37 26.8	+1.0
MSTX	Muleshoe	83.28	52	⇓P	P	08 37 25.9	+0.1
	baz=84						
Z28A	Tucker Farm, M	83.28	52	⇑P	P	08 37 26.2	+0.4
	baz=84						
V26A	Tequesquite Ra	83.31	50	⇑P	P	08 37 26.6	+0.7
	baz=84						
X27A	F and S Farms,	83.32	51	⇑P	P	08 37 26.4	+0.4
	baz=84						
732A	Laxson Ranch,	83.34	58	⇑P	P	08 37 26.8	+0.8
	baz=84						
O22A	Kremmling	83.34	45	⇓P	P	08 37 26.2	-0.1
	baz=84,SNR=6.6						
K20A	Yellowstone Ra	83.37	42	⇓P	P	08 37 26.2	0.0
	baz=84						
COLA	College	83.44	10	eP	P	08 37 25.5	-0.2
COLA				pmax	pmax		
	comp=Z,51nm,0.9s						
COLA	College	83.44	10	eP	P	08 37 25.5	-0.2
	comp=Z,51nm,0.9s						
531A	Rocksprings	83.44	56	⇑P	P	08 37 27.1	+0.5
	baz=84						
330A	Mertzon	83.44	55	⇑P	P	08 37 27.2	+0.6
	baz=84						
R24A	Sanders Place,	83.44	47	⇑P	P	08 37 27.2	+0.5
	baz=84						
T25A	Trinidad	83.45	48	⇓P	P	08 37 27.3	+0.6
	baz=84						
P23A	Jefferson	83.46	46	⇓P	P	08 37 27.6	+0.7
	baz=84						
M21A	Separation Pea	83.49	43	⇑P	P	08 37 27.0	+0.2
	baz=84						
ILAR	Eielson Array	83.51	11	P	P	08 37 25.5	-0.6
ILAR	Eielson Array	83.51	11	P	P	08 37 25.5	-0.6
	comp=Z,3.3nm,0.7s,baz=218,slow=4.0,SNR=16						
W27A	Bowe Ranch, En	83.53	51	⇑P	P	08 37 27.2	+0.1
	baz=84						
H18A	Shoshone NF, C	83.56	40	⇑P	P	08 37 27.6	+0.5
	baz=84						
IM04	Indian Mountai	83.58	8	eP	P	08 37 26.1	-0.4
U26A	Atchley Ranch,	83.60	49	⇓P	P	08 37 27.2	-0.3
	baz=84,SNR=5.0						
RWWY	Rawlins	83.63	43	eP	P	08 37 30.4	+2.8
	comp=Z,14nm,0.9s						
I19A	Meeteetse	83.64	41	⇓P	P	08 37 27.3	-0.2
	baz=84,SNR=6.6						
L21A	Rawlins	83.66	43	⇑P	P	08 37 27.5	-0.2
	baz=84						
S25A	Robets Cordova	83.66	48	⇓P	P	08 37 27.5	-0.3
	baz=84,SNR=5.9						
IMA2	Indian Mountai	83.68	8	eP	P	08 37 26.6	-0.5
N22A	Wattenberg Ran	83.71	44	⇓P	P	08 37 28.3	+0.2
	baz=84						
Q24A	Divide	83.75	46	⇑P	P	08 37 28.5	+0.1
	baz=84						
632A	Uvalde	83.79	57	⇓P	P	08 37 28.8	+0.4
	baz=84						
O23A	Lake Granby, G	83.79	45	⇑P	P	08 37 28.7	+0.2
	baz=84						
ISCO	Idaho Springs	83.81	45	eP	P	08 37 28.1	-0.6
	comp=Z,3.7nm,1.0s						
ISCO	Idaho Springs	83.81	45	⇓P	P	08 37 28.4	-0.2
	baz=84						
J20A	Shoshoni	83.88	41	⇓P	P	08 37 29.0	+0.3
	baz=84						
M22A	Cedar Creek Ra	83.90	44	⇓P	P	08 37 29.0	0.0
	baz=84						
532A	Rocksprings	83.94	56	⇑P	P	08 37 29.4	+0.2
	baz=84						
SEY	Seymchan	83.94	345	eP	P	08 37 27.4	-0.9
X28A	Dimmitt	83.94	51	⇑P	P	08 37 29.3	+0.1
	baz=84						
H19A	Powell	83.97	40	⇓P	P	08 37 29.5	+0.4
	baz=84,SNR=5.3						
331A	San Angelo	83.99	55	⇑P	P	08 37 29.5	+0.1
	baz=84						
T26A	Comanche Natio	84.05	49	⇓P	P	08 37 29.6	-0.2
	baz=84						
K21A	Alcova	84.06	42	⇓P	P	08 37 29.3	-0.4
	baz=84,SNR=5.5						
Y29A	Porterfield Fa	84.06	52	⇓P	P	08 37 29.9	+0.1
	baz=84						
N23A	Red Feather La	84.09	44	⇓P	P	08 37 30.2	+0.2
	baz=84						
GCMT	Greycliff	84.13	39	eP	P	08 37 29.8	-0.1
	comp=Z,6.1nm,1.1s						
QIZ	Qiongzhong	84.14	292	P	P	08 37 29.0	-1.3
QIZ				S	S	08 47 54.8	+0.6
QIZ				pmax	pmax		
	comp=Z,48nm,2.7s						
QIZ				LR	LR		
	comp=Z,510nm,27.8s						
I20A	Worland	84.14	41	⇓P	P	08 37 29.5	-0.5
	baz=84,SNR=8.5						
Z30A	Sanderson Ranc	84.24	53	⇓P	P	08 37 30.8	+0.1
	baz=84						
J21A	Lysite	84.28	42	⇓P	P	08 37 30.7	-0.1
	baz=84,SNR=9.8						
U27A	Thompson Grove	84.28	49	⇓P	P	08 37 31.3	+0.4
	baz=84						
X29A	Tulia	84.28	52	⇓P	P	08 37 31.2	+0.3
	baz=84						
L22A	Ellis Ranch, M	84.30	43	⇓P	P	08 37 31.2	+0.2
	baz=84						
231A	Bronte	84.33	54	⇑P	P	08 37 31.2	+0.1
	baz=84						
S26A	Kim	84.33	48	⇑P	P	08 37 31.3	+0.2
	baz=84						
Q25A	Bedland, Calha	84.35	47	⇓P	P	08 37 31.4	+0.1
	baz=84						
V28A	Channing	84.44	50	⇓P	P	08 37 31.9	+0.3
	baz=85						
H20A	Greybull	84.49	40	⇓P	P	08 37 31.5	-0.2
	baz=85						
M23A	Laramie	84.51	44	⇑P	P	08 37 32.1	0.0
	baz=85						
K22A	Casper	84.54	43	⇓P	P	08 37 32.3	+0.2
	baz=85						
332A	Millersview	84.56	55	⇑P	P	08 37 32.3	0.0
	baz=85						
131A	Roby	84.56	54	⇓P	P	08 37 32.7	+0.4
	baz=85						
F19A	Roth Farm, Mol	84.59	39	⇓P	P	08 37 31.9	-0.3
	baz=85,SNR=6.0						
W29A	Amraillo	84.60	51	⇓P	P	08 37 32.6	+0.1
	baz=85						
I21A	Big Trails, Te	84.60	41	⇓P	P	08 37 31.9	-0.5
	baz=85,SNR=6.8						
R26A	Arlington	84.64	48	⇓P	P	08 37 32.7	+0.1
	baz=85						
EGAK	Eagle	84.65	13	eP	P	08 37 31.6	-0.2
	comp=Z,39nm,1.5s						
P25A	Willow Gulch B	84.67	46	⇓P	P	08 37 32.9	0.0
	baz=85						
N24A	Carr	84.78	45	⇑P	P	08 37 33.0	-0.3
	baz=85						
L23A	Garrett	84.82	43	⇑P	P	08 37 33.0	-0.6
	baz=85,SNR=6.3						
232A	Coleman	84.83	55	⇓P	P	08 37 33.3	-0.4
	baz=85						
Q26A	Hugo	84.87	47	⇓P	P	08 37 33.2	-0.6
	baz=85						
J22A	Midwest	84.93	42	⇑P	P	08 37 33.4	-0.6
	baz=85						
E19A	Rath Farm, Rou	85.00	38	⇓P	P	08 37 34.0	-0.2
	baz=85,SNR=5.2						
Z31A	Sharp Cattle R	85.01	53	⇓P	P	08 37 34.8	+0.3
	baz=85						
F20A	Billings	85.05	39	⇑P	P	08 37 34.9	+0.4
	baz=85						
T28A	Walsh	85.09	49	⇑P	P	08 37 35.0	0.0
	baz=85						
R27A	Eads	85.10	48	⇓P	P	08 37 35.1	+0.2
	baz=85						
M24A	Cheyenne	85.11	44	⇑P	P	08 37 35.3	+0.3
	baz=85						
ABTX	Abilene, Hawle	85.12	54	eP	P	08 37 34.8	-0.3
ABTX	Abilene, Hawle	85.12	54	⇓P	P	08 37 35.3	+0.3
	baz=85						
I22A	9 Mile Ranch,	85.15	42	⇑P	P	08 37 35.3	+0.2
	baz=85						
H21A	Big Horn, Sher	85.16	41	⇓P	P	08 37 35.3	+0.2
	baz=85						
Y31A	Rekieta Farm,	85.17	53	⇑P	P	08 37 35.6	+0.3
	baz=85						
COLD	Coldfoot	85.25	9	eP	P	08 37 35.7	+0.9
	comp=Z,121nm,2.3s						
D19A	Cripps Ranch,	85.30	38	⇑P	P	08 37 35.6	-0.1
	baz=86						
L24A	Wheatland	85.30	44	⇓P	P	08 37 35.8	-0.1
	baz=86						
E20A	Meyer Farm, Mu	85.41	39	⇑P	P	08 37 36.6	+0.3
	baz=86						
C19A	Slack Wire Ran	85.49	37	⇓P	P	08 37 36.5	-0.2
	baz=86,SNR=5.7						
Z32A	Haskell	85.52	53	⇑P	P	08 37 37.3	+0.3
	baz=86						
KSCO	Kaye Shedlock'	85.53	47	⇓P	P	08 37 37.9	+0.8
	baz=86						
D20A	Manuel Ranch,	85.70	38	⇓P	P	08 37 38.2	+0.6
	baz=86						
R28A	Tribune	85.83	48	⇓P	P	08 37 39.0	+0.4
	baz=86						
W31A	Holland Ranch,	85.90	52	⇑P	P	08 37 39.2	+0.3
	baz=86						
B19A	Brinkman Farms	85.92	37	⇓P	P	08 37 39.1	+0.4
	baz=86						
E21A	Keefer Ranch,	86.06	39	⇓P	P	08 37 40.2	+0.7
	baz=86						
C20A	Veseth Ranch,	86.09	38	⇓P	P	08 37 40.3	+0.7
	baz=86						
EDM	Edmonton	86.12	31	eP	P	08 37 38.7	-0.9
EDM	Edmonton	86.12	31	eP	P	08 37 38.7	-0.9
V31A	Spring Creek L	86.21	51	⇓P	P	08 37 41.0	+0.5
	baz=86						
A19A	Klindworth Far	86.27	36	⇓P	P	08 37 40.6	+0.1
	baz=86						
D21A	La Casta Ranch	86.37	39	⇑P	P	08 37 40.7	-0.3
	baz=87						
B20A	Solberg Farm,	86.44	37	⇓P	P	08 37 41.5	+0.2
	baz=87						
C21A	Desert Coulee	86.67	38	⇑P	P	08 37 43.4	+0.9
	baz=87						
E22A	Miles City	86.70	39	⇑P	P	08 37 42.5	-0.1
	baz=87						
A20A	Cobblestone Ra	86.71	37	⇓P	P	08 37 42.5	-0.2
	baz=87						
H24A	Dirks Ranch, A	86.78	41	⇓P	P	08 37 42.8	-0.3
	baz=87						
RSSD	Black Hills	86.83	42	eP	P	08 37 42.2	-1.3
RSSD				pmax	pmax		
	comp=Z,34nm,1.3s						
RSSD	Black Hills	86.83	42	eP	P	08 37 42.2	-1.3
	comp=Z,34nm,1.3s						
MAW	Mawson	86.87	198	eP	P	08 37 42.9	-0.2
	comp

comp=N,150nm,23.4s
BJI LR LR
comp=E,230nm,20.8s
BJI LR LR
comp=Z,110nm,23.2s
B21A Ellsworth Farm 87.02 37 ⇓P **P 08 37 44.2 +0.1**
baz=87
HKT Hockley 87.14 58 *i* P **P 08 37 46.9 +1.9**
A21A Bergtoll Ranch 87.34 37 ⇑P **P 08 37 46.1 +0.5**
baz=88
E24A Baker 87.76 40 ⇑P **P 08 37 48.6 +0.8**
baz=88
J27A Elkhorn Farm, 87.77 44 ⇓P **P 08 37 48.1 +0.2**
baz=88
C23A Lambert 87.80 39 ⇑P **P 08 37 48.2 +0.3**
baz=88
PLCA Paso Flores 88.06 132 P **P 08 37 50.4 +0.8**
PLCA Paso Flores 88.06 132 P **P 08 37 50.4 +0.8**
comp=Z,2.9nm,1.0s,baz=186,slow=6.1,SNR=2.9
B23A Brockton 88.22 38 ⇓P **P 08 37 49.9 0.0**
baz=88
I28A Midland 88.64 43 ⇑P **P 08 37 52.0 0.0**
baz=89
INK Inuvik 89.28 14 P **P 08 37 53.6 -0.7**
INK Inuvik 89.28 14 P **P 08 37 53.6 -0.7**
comp=Z,5.2nm,1.0s,baz=209,slow=7.5,SNR=8.0
GYA Guiyang 89.36 298 P **P 08 37 56.5 +0.7**
GYA PP **PP 08 41 29.5 +2.4**
GYA SKS **SKSac 08 48 23.8 -1.2**
GYA S **S 08 48 44.0 -0.9**
GYA SS **SS 08 54 42.0 +1.6**
GYA pmax pmax
comp=Z,30nm,1.0s
GYA pmax pmax
comp=Z,150nm,6.5s
GYA LR LR
comp=N,680nm,21.2s
GYA LR LR
comp=E,550nm,22.6s
GYA LR LR
comp=Z,620nm,21.4s
HHC Hu-ho-hao-te 90.48 313 *e*P **P 08 37 59.5 -1.2**
HHC pP **PcP 08 38 04.5 +2.6**
HHC sP **sP 08 38 06.5 -4.9**
HHC PP **PP 08 41 36.8 +1.0**
HHC SKS **SKSac 08 48 28.5 -2.4**
HHC S **S 08 48 52.0 -2.6**
HHC sS **ScS 08 49 00.0 +1.7**
HHC pmax pmax
comp=Z,23nm,1.2s
HHC pmax pmax
comp=Z,340nm,5.4s
HHC LR LR
comp=N,350nm,16.3s
HHC LR LR
comp=E,310nm,17.1s
HHC LR LR
comp=Z,410nm,16.5s
JTS JuntasAbangare 90.62 80 *e*P **P 08 38 02.1 +0.2**
comp=Z,231nm,1.4s
YKA Yellowknife Ar 90.92 23 P **P 08 38 02.4 +0.3**
YKA Yellowknife Ar 90.92 23 P **P 08 38 02.4 +0.3**
comp=Z,2.2nm,0.7s,baz=227,slow=4.2,SNR=5.5
SYO Syowa Base 91.54 191⇓*e*P **P 08 38 03.0 -2.0**
SNAA Sanae 91.62 177 *e*P **P 08 38 05.7 +0.2**
comp=Z,8.5nm,1.1s
KMI Kunming 92.31 295 P **P 08 38 10.8 +1.1**
KMI pP **PcP 08 38 13.8 +3.3**
KMI S **S 08 49 11.0 -1.2**
KMI pmax pmax
comp=Z,22nm,2.0s
KMI LR LR
comp=Z,270nm,27.3s
CD2 Chengdu 93.16 301 P **P 08 38 13.5 +0.2**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CMAR Chiang Mai Arr 93.79 288 P **P 08 38 18.7 +2.3**
CMAR Chiang Mai Arr 93.79 288 P **P 08 38 18.7 +2.3**
comp=Z,1.1nm,0.3s,baz=108,slow=2.9,SNR=8.0
LZH Lanzhou 94.63 306 *e*P **P 08 38 19.8 -0.3**
LZH pP **PcP 08 38 23.5 +3.0**
LZH sP sP 08 38 25.5 -5.3
LZH PP **PP 08 42 07.0 -1.6**
LZH SKS **SKSac 08 48 50.3 -4.1**
LZH *e*S **S 08 49 27.0 -5.0**
LZH sS **ScS 08 49 38.0 +4.9**
LZH SS **SS 08 55 53.8 -2.2**
LZH pmax pmax
comp=Z,29nm,1.2s
LZH pmax pmax
comp=Z,140nm,5.0s
LZH LR LR
comp=N,850nm,14.0s
LZH LR LR
comp=E,980nm,15.5s
LZH LR LR
comp=Z,1μm,16.8s
SONM Songino Array 96.32 318 P **P 08 38 28.8 +1.3**
SONM Songino Array 96.32 318 P **P 08 38 28.8 +1.3**
comp=Z,0.3nm,0.4s,baz=134,slow=6.2,SNR=3.0
GTA Gaotai 98.60 308 *e*P Pdif 08 38 40.0 +2.0
GTA pP pP 08 38 43.8 -2.1
GTA sP sP 08 38 46.8 -1.9
GTA PP **PP 08 42 43.5 +4.3**
GTA SKS **SKSac 08 49 16.0 +1.2**
GTA S **S 08 50 03.5 -2.5**
GTA pmax pmax
comp=Z,4.0nm,0.4s
GTA pmax pmax
comp=Z,90nm,6.6s
GTA LR LR
comp=N,110nm,16.6s
GTA LR LR
comp=E,240nm,21.4s
GTA LR LR
comp=Z,340nm,23.8s
MKAR Makanchi Array 112.29 314 PKiKP **PKiKP 08 43 33.9 -0.7**
MKAR Makanchi Array 112.29 314 PKiKP **PKiKP 08 43 33.9 -0.7**
comp=Z,1.1nm,0.7s,baz=150,slow=1.3,SNR=5.5
KSH Kashi 116.88 306 *e*PKP **PKPdf 08 43 44.8 +1.1**
KSH PP **PP 08 44 55.8 +3.0**
KSH PKS **PKSdf 08 47 20.3 -0.2**
KSH SKS **SKSdf 08 50 55.8 +1.2**
KSH SKKS **SKKSac 08 51 48.8 -3.6**
KSH SS **SS 09 00 57.3 -2.0**
KSH AMB AMB
comp=Z,42nm,3.5s
KSH LR LR
comp=N,140nm,5.5s
KSH LR LR
comp=E,120nm,5.0s
KSH LR LR
comp=Z,210nm,9.0s
KBS Kingsbay 117.66 359*c* *i*PKIKP **PKPdf 08 43 42.5 -1.5**
KBS pmax pmax
comp=Z,19nm,1.2s
BRVK Borovoye 119.43 322*c* *i*PKIKP **PKPdf 08 43 48.1 +0.1**
BRVK pmax pmax
comp=Z,9.0nm,2.5s
KBL Kabul 122.50 301 *e*PKIKP **PKPdf 08 43 54.9 +0.1**
KBL Kabul 122.50 301 *e*PKPdf **PKPdf 08 43 54.9 +0.1**
ARCES ARCESS Array B 125.96 352 PKP **PKPdf 08 44 00.2 +0.1**
ARCES ARCESS Array B 125.96 352 PKP **PKPdf 08 44 00.2 +0.1**
comp=Z,5.3nm,1.0s,baz=29,slow=2.1,SNR=6.2
AKASG Malin Array Be 141.81 338 PKHKP PKPpre 08 44 24.0
AKASG 08 44 30.6
AKASG Malin Array Be 141.81 338 PKPpre PKPpre 08 44 24.0
AKASG PKP **PKPdf 08 44 30.6 +0.3**
AKASG Malin Array Be 141.81 338 PKhKP PKPpre 08 44 24.0
comp=Z,0.4nm,0.5s,baz=42,slow=3.7,SNR=3.7
AKASG PKP **PKPdf 08 44 30.6 +0.3**
comp=Z,0.7nm,0.5s,baz=36,slow=2.7,SNR=4.7
IBBN Ibbenburen 144.43 360 *e*PKPbc **PKPab 08 44 32.5 -0.5**
KEMA Kemaliye 144.80 316 *i* P **PKPdf 08 44 35.6 -0.4**
CLZ Clausthal 144.82 357 *e*PKPbc **PKPab 08 44 34.4 -0.1**
ELZG Elazig 144.86 315 *i* P **PKPdf 08 44 36.4 +0.1**
KWP Kalwaria Pacla 144.86 343 *e*PKIKP PKPbc 08 44 35.0 +0.2
KWP Kalwaria Pacla 144.86 343 *e*PKPdf PKPbc 08 44 35.0 +0.2
KWP Kalwaria Pacla 144.86 343 *e*PKP PKPbc 08 44 35.1 +0.3
CLL Collm 145.15 354 *e*PKPbc **PKPbc 08 44 34.7 -0.9**
CLL Collm 145.15 354 *i* PKPdf **PKPbc 08 44 35.3 -0.3**
comp=Z,8.0nm,0.8s
CLL *e*(PKiKP) 08 44 38.0
CLL *e* 08 44 46.0
ERBA Erbaa 145.16 319 *i* P **PKPdf 08 44 37.0 +0.5**
KSP Ksiaz 145.16 350 *e*PKP **PKPab 08 44 35.8 0.0**
MALT Malatya 145.33 315⇓*i*P **PKPdf 08 44 38.0 +1.0**
BRG Berggiesshubel 145.47 353 *e*PKP **PKPbc 08 44 36.5 -0.2**
comp=Z,11nm,1.3s
BRG
comp=N,144nm,14.8s
BRG
comp=E,144nm,15.8s
BRG
comp=Z,209nm,16.6s
BRG Berggiesshubel 145.47 353 *e*PKPbc **PKPbc 08 44 36.0 -0.7**
UPC Upice 145.53 350 *e*PKP **PKPdf 08 44 36.7 -0.1**
UPC *ex* x 08 44 47.5
HAVZ Havza 145.56 321 *i* P **PKPab 08 44 38.0 +0.4**
KOLS Kolonicke sedl 145.61 343 *e*PKP **PKPbc 08 44 37.3 +0.1**
DPC Dobruska-Polom 145.63 350 *e*PKP **PKPab 08 44 38.0 +0.4**
DPC *ex* x 08 44 47.1
KMBO Kilima Mbogo 145.71 242 PKPbc **PKPab 08 44 40.1 +0.8**
KMBO *e*PKPdf **PKPbc 08 44 40.2 +1.3**
KMBO Kilima Mbogo 145.71 242 PKPbc **PKPab 08 44 40.1 +0.8**
comp=Z,13nm,1.0s,baz=99,slow=1.3,SNR=12
OKC Ostrava-Krasne 145.79 348 *e*PKP **PKPdf 08 44 37.4 +0.1**
OKC *ex* x 08 44 47.4
BUR08 Bucovina Ar. S 145.81 338 *e*PKPdf **PKPab 08 44 38.9 +0.5**
BURAR Bucovina Array 145.83 338⇑*i*P **PKPab 08 44 39.5 +1.0**
UBBA Unterbreizbach 145.86 357 *e*PKPbc **PKPdf 08 44 37.1 -0.1**
BEBN Eben Emael 145.91 2 PKP **PKPbc 08 44 38.1 +0.1**
MOX Moxa 145.93 355 *e*PKPbc **PKPdf 08 44 37.4 -0.1**
MOX *eL* L 09 52 57.6
comp=Z,256nm,19.4s
MORC Moravsky Berou 145.97 348 *e*PKP2 **PKPbc 08 44 38.3 -0.1**
MORC Moravsky Berou 145.97 348 *e*PKPdf **PKPbc 08 44 38.3 -0.1**
TANN Tannenbergstha 146.08 354 *e*PKPbc **PKPdf 08 44 38.2 +0.4**
MEM Membach 146.11 2 PKP **PKPbc 08 44 38.8 +0.1**
SNF Seneffe 146.13 4 PKP **PKPab 08 44 39.2 -0.2**
PRU Pruhonice 146.26 352 *e*PKP **PKPbc 08 44 39.3 +0.1**
PRU *ex* x 08 44 48.3
BCLA Clavier 146.27 2 PKP **PKPab 08 44 40.0 +0.1**
PINB Pinarbasi 146.50 317 *i* P **PKPdf 08 44 38.5 -0.7**
TNS Taunus Mts 146.50 359 *e*PKPbc **PKPbc 08 44 39.8 -0.2**
DOU Dourbes 146.56 3 PKP **PKPbc 08 44 40.3 +0.3**
ROTZ Rotzenmuhle 146.75 354 *e*PKPbc **PKPbc 08 44 40.8 +0.2**
GRF Grafenberg Arr 146.91 356 *e*PKPbc **PKPbc 08 44 41.4 +0.3**
GRF *eL* L 09 50 24.2
comp=Z,284nm,20.6s
KUZU Kuzuini 147.02 313 *i* P **PKPbc 08 44 42.0 +0.1**
WLF Walferdange 147.06 2 PKP **PKPab 08 44 42.3 -0.7**
WLF Walferdange 147.06 2 *e*PKPbc **PKPab 08 44 42.3 -0.7**
ANDN Andirin 147.12 315 *i* P **PKPbc 08 44 42.3 +0.1**
TIRR Tirgusor 147.12 332⇑*i*P **PKPbc 08 44 42.0 +0.2**
PSZ Piszkesteto 147.19 344 *e*PKP2 **PKPbc 08 44 41.9 -0.1**
PSZ Piszkesteto 147.19 344 *e*PKPbc **PKPbc 08 44 41.9 -0.1**
KHC Kasperske Hory 147.23 353 *e*PKP2 **PKPbc 08 44 42.0 0.0**
KHC Kasperske Hory 147.23 353 *e*PKP **PKPbc 08 44 42.0 0.0**
KHC Kasperske Hory 147.23 353 *e*PKPbc **PKPbc 08 44 42.0 0.0**
WET Wettzell 147.29 353 *e*PKPbc **PKPbc 08 44 42.5 +0.3**
MLR Mluntele Rosu 147.34 336⇑*i*P **PKPab 08 44 43.7 -0.8**
GEC2 GERESS Array S 147.49 352 *e*PKPbc **PKPbc 08 44 43.0 +0.1**
GERES GERESS Array B 147.49 352 PKPbc **PKPbc 08 44 43.2 +0.3**
GERES GERESS Array B 147.49 352 PKPbc **PKPbc 08 44 43.2 +0.3**
comp=Z,3.7nm,0.8s,baz=29,slow=3.0,SNR=7.9
ZST Bratislava 147.56 348 *e*PKP **PKPbc 08 44 43.1 +0.2**
BR131 Keskin Array S 147.64 321 *e*PKPbc **PKPbc 08 44 43.9 +0.2**
BRTR Keskin Array B 147.64 321 PKPbc **PKPbc 08 44 43.7 0.0**
BRTR Keskin Array B 147.64 321 PKPbc **PKPbc 08 44 43.7 0.0**
comp=Z,12nm,0.9s,baz=125,slow=2.2,SNR=9.7
STU Stuttgart 147.94 358 *e*PKPbc **PKPbc 08 44 44.6 +0.7**
CONA Conrad Observa 148.05 349⇑*i*PKiKP **PKPbc 08 44 44.9 +0.5**
comp=Z,37nm,1.9s
ANTO Ankara 148.06 321 *e*PKP2 **PKPbc 08 44 44.8 +0.1**
ANTO Ankara 148.06 321 *e*PKPbc **PKPbc 08 44 44.8 +0.1**
YAYL Yayladag 148.07 313 *i* P **PKPbc 08 44 45.1 +0.2**
SOP Sopron 148.16 348⇓*e* **PKPbc 08 44 44.4 -0.2**
BFO Black Forest 148.40 359 *e*PKPbc **PKPbc 08 44 45.0 -0.2**
BFO Black Forest 148.40 359 *e*PKP2 **PKPbc 08 44 45.2 0.0**
BFO Black Forest 148.40 359 *e*PKPbc **PKPbc 08 44 45.2 0.0**
FUR Furstenfeldbru 148.42 355 *e*PKPbc **PKPbc 08 44 45.9 +0.6**
THEF They Montfort 148.49 2 PKP **PKPbc 08 44 44.5 -0.9**
RJOB Jochberg 148.69 353 *e*PKPbc **PKPbc 08 44 46.7 +0.7**
BZS Buzias 148.78 341⇓*i*P **PKPbc 08 44 47.0 +0.7**
MOF Molkenrain 148.89 0 PKP **PKPdf 08 44 43.4 +0.8**
SOKA Soboth 149.41 350⇓*i*PKPbc **PKPbc 08 44 47.6 -0.4**
comp=Z,12nm,1.1s
FETA Feichten 149.60 356⇑*i*PKiKP **PKiKP 08 44 49.2 -0.4**
comp=Z,22nm,1.3s
ABTA Abfaltersbach 149.70 353⇑*i*PKiKP **PKPbc 08 44 48.5 -0.2**
comp=Z,17nm,1.0s
TUE Stuetta 150.23 357 *e*PKPbc **PKPbc 08 44 49.5 -0.6**
KHAL Karahalli 150.99 323 *i* P **PKPbc 08 44 49.8 -2.2**
BALY Balya 151.07 327 *i* P **PKPbc 08 44 50.6 -1.5**
SSB Saint Sauveur 151.36 4 *e*PKIKP **PKPbc 08 44 52.6 0.0**
SSB Saint Sauveur 151.36 4 *e*PKPbc **PKPbc 08 44 52.5 0.0**
POLO Lamas de Olo 152.08 25 *e*PKPbc **PKPbc 08 44 54.7 +0.3**
MVO Moncorvo 152.56 24 *e*PKPbc **PKPbc 08 44 55.1 -0.4**
MTE Manteigas 153.00 26 *e*PKPbc **PKPbc 08 44 57.2 +0.7**
PMTG Montargil 153.79 28 *e*PKPbc **PKPbc 08 44 58.6 +0.5**
ESDC Sonseca Array 155.00 21 PKPab **PKPab 08 45 15.8 -0.3**
ESDC Sonseca Array 155.00 21 PKPab **PKPab 08 45 15.8 -0.3**
comp=Z,2.7nm,0.8s,baz=317,slow=4.4,SNR=7.0
DBIC Dimbokro 164.39 128 PKPab **PKPab 08 45 56.9 -0.8**
DBIC Dimbokro 164.39 128 PKPab **PKPab 08 45 56.9 -0.8**
comp=Z,5.2nm,0.9s,baz=229,slow=2.9,SNR=3.3
TORD Torodi Ar. Bea 173.43 121 PKP **PKPdf 08 45 07.2 -1.9**
TORD PKPab **PKPab 08 46 36.9 -0.8**
TORD Torodi Ar. Bea 173.43 121 PKP **PKPdf 08 45 07.2 -1.9**
comp=Z,2.2nm,1.1s,baz=284,slow=2.3,SNR=6.3
TORD PKPab **PKPab 08 46 36.9 -0.8**
comp=Z,3.8nm,0.9s,baz=259,slow=4.5,SNR=9.3

IDC 30 08:26:53.2±1.5, 16°.19S×172°.94W, h0km, mb3.9/6, mb1 4.2/6, mb1mx3.9/21, mbtmp3.9/6, MS4.5/2, Ms1 4.5/2, ms1mx4.1/26, Error ellipse: s-maj=99.8km s-min=21.5km az=148.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.53**	**27**	Sn	Sn	08 27 57.1	-10
115nm,0.3s,baz=331,slow=19,SNR=4.2								
DZM	**Mont Dzumac**	**20.33**	**250**	LR	LR	08 37 42.7	
comp=Z,3μm,18.6s,baz=77,slow=32								
STKA	**Stephens Creek**	**44.03**	**241**	P	P	08 35 03.5	+0.5
3.3nm,0.8s,baz=92,slow=15,SNR=2.9								
WRA	**Warramunga Arr**	**50.10**	**257**	P	P	08 35 49.9	-0.7
0.8nm,0.4s,baz=96,slow=8.3,SNR=3.5								
ASAR	**Alice Springs**	**50.29**	**253**	P	P	08 35 51.2	-0.8
2.1nm,0.5s,baz=88,slow=8.0,SNR=4.9								
TXAR	**Lajitas Array**	**80.69**	**56**	P	P	08 39 08.5	-0.2
0.4nm,0.9s,baz=255,slow=6.4,SNR=2.4								
PDAR	**Pinedale Array**	**82.56**	**42**	P	P	08 39 18.4	-0.1
0.7nm,0.8s,baz=223,slow=6.1,SNR=2.4								
ILAR	**Eielson Array**	**83.13**	**11**	P	P	08 39 20.4	-0.2
0.4nm,0.7s,baz=235,slow=5.6,SNR=2.1								
SONM	**Songino Array**	**95.72**	**318**	LR	LR	09 23 22.0	
comp=Z,106nm,18.1s,baz=104,slow=35								
BRTR	**Keskin Array B**	**147.04**	**321**	PKPbc	PKPbc	08 46 39.1	+0.5
1.2nm,0.8s,baz=132,slow=2.1,SNR=2.4								

IDC 30 08:28:50.4±1.6, 15°.91S×173°.10W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.6/21, mbtmp3.7/2, Error ellipse: s-maj=92.0km s-min=37.4km az=175.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**50.01**	**257**	P	P	08 37 46.5	-0.5
0.4nm,0.7s,baz=95,slow=7.5,SNR=2.9								
ASAR	**Alice Springs**	**50.23**	**252**	P	P	08 37 49.0	+0.3
1.2nm,0.6s,baz=92,slow=7.2,SNR=6.9								
BRTR	**Keskin Array B**	**146.74**	**321**	PKPbc	PKPdf	08 48 33.9	+0.7
0.9nm,0.7s,baz=29,slow=3.3,SNR=3.3								
TORD	**Torodi Ar. Bea**	**174.26**	**118**	PKPab	PKPab	08 50 34.6	-0.4
0.6nm,1.0s,baz=240,slow=1.9,SNR=2.4								

IDC 30 08:31:12.9±0.9, 15°.96S×173°.10W, h0km, mb3.9/8, mb1 4.1/8, mb1mx3.9/22, mbtmp3.9/8, Error ellipse: s-maj=40.3km s-min=20.1km az=135.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.40**	**32**	Pn	Pn	08 31 46.5	-7.1
26nm,0.3s,baz=216,slow=17,SNR=2.6								
AFI				Sn	Sn	08 32 16.7	-7.2
62nm,0.3s,baz=53,slow=20,SNR=4.1								
URZ	**Urewera**	**23.83**	**199**	P	P	08 36 27.1	-0.7
4.7nm,0.5s,baz=326,slow=3.6,SNR=3.8								
STKA	**Stephens Creek**	**44.01**	**241**	P	P	08 39 22.9	+0.4
2.5nm,0.8s,baz=57,slow=6.3,SNR=3.7								
WRA	**Warramunga Arr**	**50.00**	**257**	P	P	08 40 09.1	-0.3
0.8nm,0.7s,baz=92,slow=6.6,SNR=6.7								
ASAR	**Alice Springs**	**50.21**	**252**	P	P	08 40 10.7	-0.4
3.2nm,0.7s,baz=88,slow=7.8,SNR=13								
VNDA	**Vanda**	**62.86**	**186**	P	P	08 41 41.0	+0.8
1.2nm,1.0s,baz=356,slow=6.4,SNR=3.7								
TXAR	**Lajitas Array**	**80.68**	**56**	P	P	08 43 28.1	-0.3
0.3nm,0.9s,baz=236,slow=9.4,SNR=2.5								
PDAR	**Pinedale Array**	**82.49**	**42**	P	P	08 43 37.6	-0.2
0.5nm,1.0s,baz=242,slow=3.9,SNR=2.6								
ILAR	**Eielson Array**	**82.93**	**11**	P	P	08 43 39.8	+0.5
0.5nm,0.7s,baz=219,slow=6.8,SNR=6.7								

IDC 30 08:32:21.5±2.1, 15°.36S×173°.51W, h0km, mb3.7/3, mb1 4.1/3, mb1mx3.7/20, mbtmp3.7/3, MS3.6/1, Ms1 3.6/1, ms1mx3.5/28, Error ellipse: s-maj=174.7km s-min=29.7km az=156.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.21**	**50**	LR	LR	08 33 44.9	
comp=Z,1μm,18.3s,baz=360,slow=38								
WRA	**Warramunga Arr**	**49.75**	**257**	P	P	08 41 16.5	+0.3
0.4nm,0.5s,baz=92,slow=7.0,SNR=3.3								
ASAR	**Alice Springs**	**50.02**	**252**	P	P	08 41 17.7	-0.5
1.3nm,0.5s,baz=89,slow=7.7,SNR=2.7								
TXAR	**Lajitas Array**	**80.68**	**56**	P	P	08 44 37.0	0.0
0.5nm,0.9s,baz=224,slow=5.0,SNR=3.5								
BRTR	**Keskin Array B**	**146.06**	**321**	PKPbc	PKPdf	08 52 03.2	0.0
2.2nm,1.0s,baz=77,slow=3.6,SNR=2.2								

IDC 30 08:35:48.6±0.7, 15°.99S×173°.04W, h0km, mb3.9/11, mb1 4.1/11, mb1mx4.0/24, mbtmp3.9/11, Error ellipse: s-maj=33.4km s-min=16.7km az=129.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.40**	**31**	Pn	Pn	08 36 22.5	-6.8
16nm,0.3s,baz=225,slow=19,SNR=2.5								
AFI				Sn	Sn	08 36 53.6	-5.9
26nm,0.3s,baz=156,slow=20,SNR=3.5								
URZ	**Urewera**	**23.82**	**199**	P	P	08 41 04.1	+0.7
6.1nm,0.7s,baz=113,slow=13,SNR=2.8								
STKA	**Stephens Creek**	**44.05**	**241**	P	P	08 43 58.1	-0.3
2.6nm,0.8s,baz=68,slow=3.9,SNR=3.7								
WRA	**Warramunga Arr**	**50.05**	**257**	P	P	08 44 44.9	-0.7
1.0nm,0.9s,baz=90,slow=6.1,SNR=5.9								
ASAR	**Alice Springs**	**50.26**	**252**	P	P	08 44 46.4	-0.8
1.4nm,0.8s,baz=82,slow=8.6,SNR=8.3								
VNDA	**Vanda**	**62.83**	**186**	P	P	08 46 16.2	+0.5
1.2nm,0.9s,baz=346,slow=7.4,SNR=4.5								
YBH	**Yreka Blue Hor**	**73.86**	**37**	P	P	08 47 26.1	+0.6
1.4nm,0.8s,baz=162,slow=6.4,SNR=2.6								
QSPA	**South Pole Qui**	**74.06**	**180**	P	P	08 47 26.0	-0.3
2.7nm,0.9s,baz=74,slow=2.1								
NVAR	**Mina Array Bea**	**74.53**	**42**	P	P	08 47 30.2	+0.6
0.8nm,0.4s,baz=226,slow=6.2,SNR=3.2								
TXAR	**Lajitas Array**	**80.65**	**56**	P	P	08 48 02.7	-1.2
0.3nm,0.9s,baz=225,slow=6.2,SNR=3.5								
PDAR	**Pinedale Array**	**82.47**	**42**	P	P	08 48 12.2	-1.2
0.4nm,0.7s,baz=215,slow=1.8,SNR=4.3								
ILAR	**Eielson Array**	**82.95**	**11**	P	P	08 48 14.9	-0.1
0.5nm,0.8s,baz=227,slow=5.8,SNR=5.0								
GERES	**GERESS Array B**	**146.77**	**352**	PKPbc	PKPbc	08 55 33.2	+0.5
0.4nm,0.4s,baz=325,slow=6.5,SNR=4.0								
BRTR	**Keskin Array B**	**146.83**	**321**	PKPbc	PKPbc	08 55 34.0	+0.6
1.5nm,0.9s,baz=96,slow=3.8,SNR=4.3								

IDC 30 08:37:01.1±1.2, 15°.44S×173°.48W, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.8/21, mbtmp3.9/5, Error ellipse: s-maj=47.7km s-min=29.2km az=156.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.24**	**48**	Pn	Pn	08 37 32.5	-7.1
82nm,0.3s,baz=207,slow=2.3,SNR=4.5								
AFI				Sn	Sn	08 37 52.3	-16
370nm,0.3s,baz=104,slow=20,SNR=12								
STKA	**Stephens Creek**	**43.95**	**240**	P	P	08 45 10.2	0.0
1.8nm,1.0s,baz=62,slow=8.1,SNR=2.2								
WRA	**Warramunga Arr**	**49.76**	**257**	P	P	08 45 55.1	-0.7
0.5nm,0.5s,baz=93,slow=6.7,SNR=14								
ASAR	**Alice Springs**	**50.03**	**252**	P	P	08 45 57.4	-0.5
1.2nm,0.5s,baz=88,slow=7.8,SNR=11								
QSPA	**South Pole Qui**	**74.61**	**180**	P	P	08 48 42.4	+0.3
1.5nm,0.9s,baz=54,slow=3.2,SNR=2.5								
TXAR	**Lajitas Array**	**80.69**	**56**	P	P	08 49 15.7	-0.9
0.6nm,1.0s,baz=221,slow=5.0,SNR=3.6								
BRTR	**Keskin Array B**	**146.14**	**321**	PKPbc	PKPab	08 56 44.4	+0.1
0.6nm,0.6s,baz=40,slow=2.9,SNR=2.7								

NNC 30 08:39:47.8±2.0, 54°.29N×86°.26E, h0km, mb3.6, mpv3.2, 5C-3D, Error ellipse: s-maj=17.0km s-min=15.4km az=160.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**5.88**	**236**	⇑Pn	Pn	08 41 15.7	-0.3
3.1nm,1.8s								
KURK				⇑Lg	Lg	08 42 55.5	
6.0nm,0.9s								
KURBB	**Kurchatov Arra**	**5.98**	**235**	⇓Pn	Pn	08 41 17.1	-0.4
4.7nm,1.1s								
KURBB				⇑Sn	Sn	08 42 27.7	+1.1
6.0nm,0.8s								
KURBB				⇑Lg	Lg	08 42 59.0	
15nm,0.9s								
MK31	**Makanchi Array**	**7.91**	**200**	⇑Pn	Pn	08 41 45.1	+1.1
1.5nm,1.2s,baz=267,slow=35,SNR=3.6								
MK31				⇓Sn	Sn	08 43 14.7	+0.4
2.2nm,1.1s,baz=184,slow=24,SNR=2.9								
MK31				⇓Lg	Lg	08 43 60.0	
2.9nm,0.8s,baz=18,slow=28,SNR=4.1								

IDC 30 08:42:37.0±4.4, 15°.48S×172°.88W, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.7/21, mbtmp3.7/4, Error ellipse: s-maj=206.8km s-min=22.5km az=136.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.89**	**35**	Pn	Pn	08 43 08.5	-2.1
27nm,0.3s,baz=236,slow=7.3,SNR=3.6								
AFI				Sn	Sn	08 43 25.1	-10
221nm,0.3s,baz=51,slow=22,SNR=10								
STKA	**Stephens Creek**	**44.43**	**240**	P	P	08 50 50.0	0.0
2.8nm,1.1s,baz=75,slow=12,SNR=2.8								
WRA	**Warramunga Arr**	**50.32**	**257**	P	P	08 51 35.4	-0.6
0.3nm,0.6s,baz=96,slow=8.6,SNR=3.9								
ASAR	**Alice Springs**	**50.56**	**252**	P	P	08 51 36.8	-1.1
0.9nm,0.6s,baz=88,slow=8.1,SNR=6.6								
ILAR	**Eielson Array**	**82.42**	**11**	P	P	08 55 01.2	+0.5
0.5nm,0.9s,baz=198,slow=5.7,SNR=4.2								
BRTR	**Keskin Array B**	**146.53**	**321**	PKPbc	PKPab	09 02 22.3	+0.5
1.8nm,1.0s,baz=108,slow=1.7,SNR=5.2								

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*IDC **30** 08:49:08.9±0.6, 16°.30S×172°.79W, h0km, mb4.2/12, mb1 4.4/12, mb1mx4.2/23, mbtmp4.2/12, MS3.7/2, Ms1 3.7/2, ms1mx3.4/32, Error ellipse: s-maj=25.5km s-min=15.7km az=127.0*

*NEIC **30** 08:49:10.1±0.5, 16°.24S×172°.75W, h10km, mb4.6/2, Error ellipse: s-maj=20.4km s-min=10.0km az=137.0*

ISC 30 08:49:12.1±0.5, 16°.0S±0°.1×172°.9W±0°.1, h26km, n46, σ1§44/46, mb4.3/14, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.33**	**27**	Pn	**Pn**	**08 49 48.5**	**-0.4**
AFI				Sn	**Sn**	**08 50 14.2**	**-2.5**
AFI	**Afiamalu**	**2.33**	**27**	Pn	**Pn

76nm,1.2s
DZM Mont Dzumac 20.46 250 *e*P **P 08 53 47.1 -0.8**
URZ Urewera 23.86 200 P **P 08 54 21.9 -1.5**
URZ Urewera 23.86 200 P **P 08 54 21.9 -1.5**
13nm,0.6s,baz=144,slow=20,SNR=8.2
HNR Honiara 27.30 281 LR LR 09 02 34.6
comp=Z,284nm,19.6s,baz=94,slow=29
EIDS Eidsvold 34.90 249 *e*P **P 08 56 01.9 +0.2**
ARMA Armidale 35.48 240 *e*P **P 08 56 06.1 -0.7**
STKA Stephens Creek 44.19 241 P **P 08 57 18.6 -0.5**
STKA Stephens Creek 44.19 241 P **P 08 57 18.6 -0.5**
9.9nm,1.0s,baz=79,slow=7.3,SNR=10
WRAB Tennant Creek 50.20 257 *e*P **P 08 58 05.6 -0.6**
7.4nm,1.0s
WRA Warramunga Arr 50.22 257 P **P 08 58 05.5 -0.7**
WRA Warramunga Arr 50.22 257 P **P 08 58 05.5 -0.7**
2.4nm,0.6s,baz=92,slow=6.3,SNR=25
AS31 Alice Springs 50.42 252 *e*P **P 08 58 07.4 -0.4**
ASAR Alice Springs 50.42 252 P **P 08 58 07.8 0.0**
ASAR Alice Springs 50.42 252 P **P 08 58 07.8 0.0**
34nm,0.7s,baz=86,slow=8.5,SNR=165
VNDA Vanda 62.83 186 P **P 08 59 35.0 0.0**
VNDA Vanda 62.83 186 P **P 08 59 35.0 0.0**
1.9nm,0.8s,baz=4.7,slow=7.6,SNR=10
YBH Yreka Blue Hor 73.77 37 P **P 09 00 47.1 +2.9**
YBH Yreka Blue Hor 73.77 37 P **P 09 00 47.1 +2.9**
3.3nm,0.9s,baz=264,slow=6.9,SNR=4.6
QSPA South Pole Qui 74.04 180 *e*P **P 09 00 44.4 -1.1**
8.8nm,1.2s
QSPA South Pole Qui 74.04 180 P **P 09 00 44.9 -0.6**
1.4nm,0.7s,baz=9.7,slow=2.7,SNR=7.4
NVAR Mina Array Bea 74.43 42 P **P 09 00 50.2 +1.9**
NVAR Mina Array Bea 74.43 42 P **P 09 00 50.2 +1.9**
2.3nm,0.9s,baz=227,slow=7.9,SNR=7.1
KSRS Korea Array 76.96 315 P P 09 01 06.5 +4.0
0.3nm,0.3s,baz=107,slow=4.2,SNR=3.9
KSAR Wonju Array Be 76.97 315 P P 09 01 06.5 +3.9
PPLA Purkeypile 80.30 9 *e*P **P 09 01 22.9 +2.4**
TXAR Lajitas Array 80.52 56 P **P 09 01 24.1 +1.6**
TXAR Lajitas Array 80.52 56 P **P 09 01 24.1 +1.6**
0.8nm,1.0s,baz=230,slow=7.7,SNR=5.0
PDAR Pinedale Array 82.37 42 P **P 09 01 33.5 +1.5**
PDAR Pinedale Array 82.37 42 P **P 09 01 33.5 +1.5**
0.8nm,0.9s,baz=197,slow=1.5,SNR=4.8
ILAR Eielson Array 82.94 11 P **P 09 01 35.6 +1.4**
ILAR Eielson Array 82.94 11 P **P 09 01 35.6 +1.4**
0.9nm,0.6s,baz=229,slow=6.4,SNR=13
MAW Mawson 87.38 198 P **P 09 01 56.3 -0.3**
MAW Mawson 87.38 198 P **P 09 01 56.3 -0.3**
1.2nm,0.8s,baz=66,slow=3.4,SNR=2.6
BUR08 Bucovina Ar. S 145.10 339 *e*PKPbc **PKPdf 09 08 47.6 +0.2**
KMBO Kilima Mbogo 145.73 243 PKPbc **PKPab 09 08 51.8 +1.4**
KMBO Kilima Mbogo 145.73 243 PKPbc **PKPab 09 08 51.8 +1.4**
0.5nm,0.4s,baz=90,slow=9.1,SNR=2.7
GERES GERESS Array B 146.81 352 PKPbc **PKPab 09 08 52.9 -0.4**
GERES GERESS Array B 146.81 352 PKPbc **PKPab 09 08 52.9 -0.4**
0.2nm,0.3s,baz=7.1,slow=2.4,SNR=3.3
BR131 Keskin Array S 146.96 321 *e*PKPbc **PKPab 09 08 54.8 +0.6**
BRTR Keskin Array B 146.96 321 PKPbc **PKPab 09 08 54.8 +0.6**
BRTR Keskin Array B 146.96 321 PKPbc **PKPab 09 08 54.8 +0.6**
2.0nm,0.7s,baz=83,slow=2.5,SNR=7.6
TORD Torodi Ar. Bea 174.01 118 PKP **PKPdf 09 09 20.9 +0.6**
TORD PKPab **PKPab 09 10 49.1 -2.2**
TORD Torodi Ar. Bea 174.01 118 PKP **PKPdf 09 09 20.9 +0.6**
0.8nm,1.0s,baz=205,slow=2.1,SNR=3.2
TORD PKPab **PKPab 09 10 49.1 -2.2**
0.8nm,0.8s,baz=268,slow=4.6,SNR=3.7

IDC 30 08:53:25.7±1.3, 15°.33S×173°.25W, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.8/21, mbtmp3.9/4, Error ellipse: s-maj=44.8km s-min=30.9km az=130.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.00**	**45**	Pn	Pn	08 53 54.2	-6.7
	26nm,0.3s,baz=229,slow=20,SNR=3.6						
AFI				Sn	Sn	08 54 12.2	-15
	142nm,0.3s,baz=47,slow=21,SNR=8.1						
STKA	**Stephens Creek**	**44.20**	**240**	P	P	09 01 36.4	-0.4
	2.2nm,0.8s,baz=87,slow=7.8,SNR=3.5						
WRA	**Warramunga Arr**	**50.01**	**257**	P	P	09 02 22.2	0.0
	0.8nm,0.9s,baz=91,slow=6.7,SNR=7.9						
ASAR	**Alice Springs**	**50.27**	**252**	P	P	09 02 23.9	-0.4
	3.0nm,0.6s,baz=86,slow=8.0,SNR=16						
QSPA	**South Pole Qui**	**74.71**	**180**	P	P	09 05 07.2	0.0
	baz=14,slow=4.2						
ILAR	**Eielson Array**	**82.35**	**11**	P	P	09 05 48.5	-0.5
	0.5nm,0.8s,baz=212,slow=9.4,SNR=3.4						
BRTR	**Keskin Array B**	**146.20**	**321**	PKPbc	PKPab	09 13 09.2	0.0
	1.1nm,0.7s,baz=96,slow=4.3,SNR=4.2						

*ISCJB **30** 09:01:19.5±0.4, 36°.75N±0°.03×5°.47W±0°.02, h7km±3km, Error ellipse: s-maj=4.8km s-min=2.7km az=13.0*
*CSEM **30** 09:01:20.1±0.1, 36°.68N×5°.47W, h8km, ML3.0/13, Error ellipse: s-maj=3.3km s-min=1.9km az=7.0*
*MDD **30** 09:01:20.9±0.2, 36°.67N×5°.49W, h4km±3km, mbLg2.5/16, Error ellipse: s-maj=2.4km s-min=1.7km az=73.0, PRXIMO MDD EMS: IV INTENSIDAD MAXIMA.*
*INMG **30** 09:01:21.1±1.2, 36°.67N×5°.48W, h5km±2km, ML2.7, Error ellipse: s-maj=1.9km s-min=1.7km az=70.0*
*SFS **30** 09:01:21.0, 36°.60N×9°.53W, h12km, ML2.5*
*LDG **30** 09:01:22.0±0.2, 36°.64N×5°.50W, h10km, Ml3.0/3, Error ellipse: s-maj=5.1km s-min=3.3km az=8.0*
ISC 30 09:01:20.6±0.9, 36°.69N±0°.02×5°.46W±0°.02, h12km±7km, n93, σ1s19/141, 3C-2D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIJA	**Lijar**	**0.22**	**12**	⇓Pg	**Pg**	**09 01 24.5**	**-0.8**
LIJA				Lg	Lg	09 01 29.1	
LIJA	**Lijar**	**0.22**	**12**	Pg	**Pg**	**09 01 24.5**	**-0.8**
LIJA				*e*S	**Sg**	**09 01 29.1**	**+0.6**
EJIF	**Jimena Fronter**	**0.24**	**182**	⇑Pg	**Pg**	**09 01 24.8**	**-0.9**
	61nm,0.4s,SNR=18						
EJIF				Lg	Lg	09 01 28.8	
	522nm,0.2s,SNR=7.9						
EJIF	**Jimena Fronter**	**0.24**	**182**	Pg	**Pg**	**09 01 24.8**	**-0.9**
	61nm,0.4s,SNR=18						
EJIF				Lg	Lg	09 01 28.8	
	522nm,0.2s,SNR=7.9						
REAL	**Reales**	**0.29**	**136**	⇑Pg	**Pg**	**09 01 25.5**	**-1.1**
REAL				Lg	Lg	09 01 30.6	
REAL	**Reales**	**0.29**	**136**	*i* P	**Pg**	**09 01 25.5**	**-1.1**
REAL				*e*S	**Sg**	**09 01 30.6**	**-0.1**
ESPR	**Espera**	**0.36**	**299**	Pg	**Pg**	**09 01 27.4**	**-0.5**
	130nm,0.5s,SNR=30						
ESPR				Lg	Lg	09 01 32.1	
	319nm,0.3s,SNR=20						
ESPR	**Espera**	**0.36**	**299**	Pg	**Pg**	**09 01 27.4**	**-0.5**
	130nm,0.5s,SNR=30						
ESPR				Lg	Lg	09 01 32.1	
	319nm,0.3s,SNR=20						
CNIL	**Conil**	**0.58**	**236**	Pg	**Pn**	**09 01 34.7**	**0.0**
CNIL				Lg	Lg	09 01 48.8	
CNIL	**Conil**	**0.58**	**236**	*e*P	**Pn**	**09 01 34.7**	**0.0**
CNIL				Lg	Lg	09 01 48.8	
SFS	**San Fernando**	**0.64**	**249**	Pg	**Pn**	**09 01 36.7**	**+1.2**
SFS				Lg	Lg	09 01 50.1	
SFS	**San Fernando**	**0.64**	**249**	*e*P	**Pn**	**09 01 36.7**	**+1.2**
SFS				Lg	Lg	09 01 50.1	
EMAL	**Malaga-Limoner**	**0.83**	**85**	Pg	**Pg**	**09 01 36.9**	**+0.2**
EMAL				Lg	Lg	09 01 50.9	
EMAL	**Malaga-Limoner**	**0.83**	**85**	*e*P	**Pg**	**09 01 36.9**	**+0.2**
EMAL				*e*S	**Sn**	**09 01 50.9**	**+0.5**
ELUQ	**Luque**	**1.29**	**47**	Pg	**Pb**	**09 01 45.3**	**+0.4**
	6.4nm,0.2s,SNR=7.9						
ELUQ				Lg	Lg	09 02 04.0	
	69nm,0.2s,SNR=7.9						
ELUQ	**Luque**	**1.29**	**47**	Pg	**Pb**	**09 01 45.3**	**+0.4**
	6.4nm,0.2s,SNR=7.9						
ELUQ				Lg	Lg	09 02 04.0	
	69nm,0.2s,SNR=7.9						
ECAB	**El Cabril**	**1.38**	**1**	⇑Pn	**Pn**	**09 01 45.5**	**-0.3**
	1.8nm,0.2s,SNR=18						
ECAB				Pg	**Pb**	**09 01 46.4**	**0.0**
	21nm,0.3s,SNR=102						
ECAB				Lg	Lg	09 02 05.6	
	95nm,0.4s,SNR=18						
ECAB	**El Cabril**	**1.38**	**1**	Pn	**Pn**	**09 01 45.5**	**-0.3**
	1.8nm,0.2s,SNR=18						
EMIN	**Mina Concepcio**	**1.44**	**318**	⇓Pn	**Pn**	**09 01 46.2**	**-0.4**
	1.6nm,0.1s,SNR=18						
EMIN				Pg	**Pg**	**09 01 48.2**	**-0.2**
	4.4nm,0.1s,SNR=8.7						
EMIN				Sn	**Sn**	**09 02 05.3**	**-0.2**
	6.2nm,0.1s,SNR=7.9						
EMIN				Lg	Lg	09 02 07.9	
	53nm,0.3s,SNR=5.0						
EMIN	**Mina Concepcio**	**1.44**	**318**	Pn	**Pn**	**09 01 46.2**	**-0.4**
	1.6nm,0.1s,SNR=18						
EGUA	**Guajares**	**1.53**	**84**	Pn	**Pn**	**09 01 47.4**	**-0.4**
	5.9nm,0.2s,SNR=7.9						
EGUA	**Guajares**	**1.53**	**84**	Pn	**Pn**	**09 01 47.4**	**-0.4**
	5.9nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**1.63**	**25**	Pn	**Pn**	**09 01 49.4**	**+0.2**
	5.0nm,0.3s,SNR=49						
EADA				Pg	**Pg**	**09 01 51.9**	**0.0**
	13nm,0.2s,SNR=5.3						
EADA				Sn	**Sn**	**09 02 09.4**	**-0.8**
	53nm,0.7s,SNR=4.9						
EADA				Lg	Lg	09 02 13.8	
	25nm,0.4s,SNR=4.7						
EADA	**Adamuz**	**1.63**	**25**	Pn	**Pn**	**09 01 49.4**	**+0.2**
	5.0nm,0.3s,SNR=49						
EQUE	**Quentar**	**1.70**	**72**	Pn	**Pn**	**09 01 50.4**	**+0.2**
	17nm,0.4s,SNR=23						
EQUE				Pg	**Pg**	**09 01 53.5**	**+0.3**
	21nm,0.4s,SNR=11						
EQUE				Lg	Lg	09 02 15.4	
	22nm,0.5s,SNR=5.1						
EQUE	**Quentar**	**1.70**	**72**	Pn	**Pn**	**09 01 50.4**	**+0.2**
	17nm,0.4s,SNR=23						
EGRO	**El Granado**	**1.82**	**298**	Pn	**Pn**	**09 01 51.5**	**-0.3**
	8.3nm,0.4s,SNR=17						
EGRO				Pg	**Pb**	**09 01 54.5**	**+0.6**
	14nm,0.3s,SNR=8.7						
EGRO				Lg	Lg	09 02 18.8	
	15nm,0.3s,SNR=6.6						
EGRO	**El Granado**	**1.82**	**298**	Pn	**Pn**	**09 01 51.5**	**-0.3**
	8.3nm,0.4s,SNR=17						
EBAN	**Banos Encina**	**1.98**	**42**	Pn	**Pn**	**09 01 54.8**	**+0.7**
	10nm,0.3s,SNR=12						
EBAN				Pg	**Pb**	**09 01 57.5**	**+0.8**
	12nm,0.3s,SNR=6.6						
EBAN				Sn	**Sn**	**09 02 19.3**	**+0.4**
	6.3nm,0.2s,SNR=7.9						
EBAN				Lg	Lg	09 02 24.7	
	36nm,0.4s,SNR=5.0						
EBAN	**Banos Encina**	**1.98**	**42**	Pn	**Pn**	**09 01 54.8**	**+0.7**
	10nm,0.3s,SNR=12						
PBDV	**Barranco-do-Ve**	**2.05**	**286**	*e*Pn	**Pn**	**09 01 55.3**	**+0.3**
PBDV				A	A	09 02 40.6	
	35nm,0.6s						
PBDV	**Barranco-do-Ve**	**2.05**	**286**	Pn	**Pn**	**09 01 55.3**	**+0.3**
PBDV	**Barranco-do-Ve**	**2.05**	**286**	*e*Pn	**Pn**	**09 01 55.3**	**+0.3**
	35nm,0.6s						
EBER	**Berja**	**2.07**	**84**	Pg	**Pb**	**09 01 59.5**	**+1.2**
	15nm,0.4s,SNR=21						
EBER				Lg	Lg	09 02 28.4	
	18nm,0.5s,SNR=4.5						
EBER	**Berja**	**2.07**	**84**	Pg	**Pb**	**09 01 59.5**	**+1.2**
	15nm,0.4s,SNR=21						
EBER				Lg	Lg	09 02 28.4	
	18nm,0.5s,SNR=4.5						
EQES	**Quesada**	**2.21**	**59**	Pn	**Pn**	**09 01 56.9**	**-0.3**
	15nm,0.4s,SNR=20						
EQES				Pg	**Pb**	**09 02 01.8**	**+1.3**
	22nm,0.7s,SNR=5.7						
EQES				Lg	Lg	09 02 31.9	
	32nm,0.4s,SNR=5.8						
EQES	**Quesada**	**2.21**	**59**	Pn	**Pn**	**09 01 56.9**	**-0.3**
	15nm,0.4s,SNR=20						
EQES	**Quesada**	**2.21**	**59**	Pg	**Pb**	**09 02 01.8**	**+1.3**
	22nm,0.7s,SNR=5.7						
EQES				Lg	Lg	09 02 32.0	
	32nm,0.4s,SNR=5.8						
PCVE	**Castro Verde**	**2.26**	**295**	*e*Pn	**Pn**	**09 01 57.6**	**-0.3**
PCVE				*e*Sg	**Sg**	**09 02 33.0**	**-0.3**
PCVE				A	A	09 02 38.3	
	26nm,0.8s						
PCVE	**Castro Verde**	**2.26**	**295**	Pn	**Pn**	**09 01 57.6**	**-0.3**
PCVE				Lg	Lg	09 02 33.0	
	26nm,0.8s						
PCVE	**Castro Verde**	**2.26**	**295**	Pn	**Pn**	**09 01 57.6**	**-0.3**
PCVE				*e*Sg	**Sg**	**09 02 33.0**	**-0.3**
	26nm,0.8s						
EBAD	**Badajoz**	**2.40**	**330**	Pn	**Pn**	**09 01 59.5**	**-0.3**
	3.4nm,0.3s,SNR=6.2						
EBAD				Pg	**Pb**	**09 02 05.3**	**+1.6**
	4.0nm,0.3s,SNR=9.7						
EBAD				Sn	**Sn**	**09 02 29.6**	**+0.6**
	5.1nm,0.3s,SNR=4.6						
EBAD				Lg	Lg	09 02 38.7	
	14nm,0.3s,SNR=8.0						
EBAD	**Badajoz**	**2.40**	**330**	Pn	**Pn**	**09 01 59.5**	**-0.3**
	3.4nm,0.3s,SNR=6.2						
MORF	**Marmelete**	**2.63**	**284**	Pn	**Pn**	**09 02 01.9**	**-1.0**
MORF				Sn	**Sn**	**09 02 32.2**	**-2.6**
MORF	**Marmelete**	**2.63**	**284**	Pn	**Pn**	**09 02 01.9**	**-1.0**
PFVI	**Vila Bisbo**	**2.73**	**280**	*e*Pn	**Pn**	**09 02 05.8**	**+1.5**
PFVI				A	A	09 02 52.6	
	15nm,0.6s						
PFVI	**Vila Bisbo**	**2.73**	**280**	Pn	**Pn**	**09 02 04.8**	**+0.5**
	3.1nm,0.2s,SNR=7.9						
PFVI				Sn	**Sn**	**09 02 35.1**	**-2.2**
	6.5nm,0.2s,SNR=7.9						
PFVI				Lg	Lg	09 02 48.2	
	8.5nm,0.2s,SNR=7.9						
PFVI	**Vila Bisbo**	**2.73**	**280**	Pn	**Pn**	**09 02 04.8**	**+0.5**
	3.1nm,0.2s,SNR=7.9						
PFVI				Sn	**Sn**	**09 02 35.1**	**-2.2**
	6.5nm,0.2s,SNR=7.9						
PFVI				Lg	Lg	09 02 48.2	
	8.5nm,0.2s,SNR=7.9						
EVO	**Evora**	**2.73**	**313**	*e*Pn	**Pn**	**09 02 05.1**	**+0.7**
EVO	**Evora**	**2.73**	**313**	*e*Pg	**Pg**	**09 02 13.0**	**0.0**
EVO				*e*Sn	**Sn**	**09 02 37.2**	**-0.2**
EVO				*e*Sg	**Sg**	**09 02 51.2**	**+2.7**
	27nm,0.3s						
EVO	**Evora**	**2.73**	**313**	*e*Pn	**Pn**	**09 02 04.5**	**+0.1**
EVO	**Evora**	**2.73**	**313**	Pn	**Pn**	**09 02 04.5**	**+0.1**
EVO	**Evora**	**2.73**	**313**	Pn	**Pn**	**09 02 04.5**	**+0.1**
EVOP	**Sao Brissos**	**2.80**	**312**	*e*Pn	**Pn**	**09 02 05.1**	**-0.1**
EVOP	**Sao Brissos**	**2.80**	**312**	*e*Pg	**Pg**	**09 02 13.0**	**-1.2**
EVOP				*e*Sn	**Sn**	**09 02 37.2**	**-1.7**
EVOP				*e*Sg	**Sg**	**09 02 51.2**	**+0.7**
	13nm,0.3s						
PNCL	**Nicolau / Gran**	**2.82**	**301**	*e*Pn	**Pn**	**09 02 05.5**	**-0.1**
PNCL				*e*Sn	**Sn**	**09 02 40.7**	**+1.1**
PNCL				*e*Sg	**Sg**	**09 02 51.1**	**-0.2**
PNCL				A	A	09 02 59.4	
	19nm,0.6s						
PNCL	**Nicolau / Gran**	**2.82**	**301**	*e*Pn	**Pn**	**09 02 05.5**	**-0.1**
PNCL				*e*Sn	**Sn**	**09 02 40.7**	**+1.1**
PNCL				*e*Sg	**Sg**	**09 02 51.1**	**-0.2**
	19nm,0.6s						
ESDC	**Sonseca Array**	**3.20**	**21**	Pn	**Pn**	**09 02 12.5**	**+1.7**
	0.7nm,0.1s,baz=201,slow=12,SNR=7.9						
ESDC				Pg	**Pg**	**09 02 20.4**	**-1.6**
	0.9nm,0.3s,baz=196,slow=12,SNR=5.0						
ESDC				Sn	**Sn**	**09 02 49.3**	**+0.3**
	3.2nm,0.3s,baz=203,slow=23,SNR=6.9						
ESDC				Lg	Lg	09 03 01.8	
	2.8nm,0.3s,baz=205,slow=29,SNR=10						
ESDC	**Sonseca Array**	**3.20**	**21**	Pn	**Pn**	**09 02 12.5**	**+1.7**
	0.7nm,0.1s,baz=201,slow=12,SNR=7.9						
ESDC	**Sonseca Array**	**3.20**	**21**	Pg	**Pg**	**09 02 20.4**	**-1.6**
	0.9nm,0.3s,SNR=5.0						
ESDC				Sn	**Sn**	**09 02 49.3**	**+0.3**
	3.2nm,0.3s,baz=203,slow=23,SNR=6.9						
ESDC				Lg	Lg	09 03 01.8	
	2.8nm,0.3s,SNR=10						
PMTG	**Montargil**	**3.23**	**318**	*e*Pn	**Pn**	**09 02 11.2**	**+0.1**
PMTG				*e*Sn	**Sn**	**09 02 49.7**	**+0.2**
PMTG				*e*Sg	**Sg**	**09 03 05.2**	**+1.0**
PMTG				A	A	09 03 09.9	
	15nm,0.8s						
PMTG	**Montargil**	**3.23**	**318**	*e*Pn	**Pn**	**09 02 11.2**	**+0.1**
PMTG				*e*Sn	**Sn**	**09 02 49.7**	**+0.2**
PMTG				*e*Sg	**Sg**	**09 03 05.2**	**+1.0**
	15nm,0.8s						
EPLA	**Plasencia**	**3.40**	**352**	Pn	**Pn**	**09 02 14.8**	**+1.2**
	3.1nm,0.3s,SNR=10.0						
EPLA				Sn	**Sn**	**09 02 52.4**	**-1.5**
	5.8nm,0.3s,SNR=5.9						
EPLA				Lg	Lg	09 03 07.8	
	10nm,0.3s,SNR=8.6						
EPLA	**Plasencia**	**3.40**	**352**	Pn	**Pn**	**09 02 14.8**	**+1.2**
	3.1nm,0.3s,SNR=10.0						
EPLA				Sn	**Sn**	**09 02 52.4**	**-1.5**
	5.8nm,0.3s,SNR=5.9						
EPLA				Lg	Lg	09 03 07.8	
	10nm,0.3s,SNR=8.6						
ETOB	**Tobarra**	**3.67**	**57**	Pn	**Pn**	**09 02 18.7**	**+1.5**
	0.1nm,0.2s,SNR=7.9						
ETOB				Pg	**Pg**	**09 02 29.8**	**-1.0**
	5.4nm,0.5s,SNR=7.9						
ETOB				Sn	**Sn**	**09 03 00.1**	**-0.3**
	1.1nm,0.3s,SNR=7.9						
ETOB				Lg	Lg	09 03 17.9	
	5.7nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**3.67**	**57**	Pn	**Pn**	**09 02 18.7**	**+1.5**
	0.1nm,0.2s,SNR=7.9						
PMAFR	**Mafra**	**3.78**	**308**	*e*Sn	**Sn**	**09 03 04.3**	**+1.2**
PMAFR	**Mafra**	**3.78**	**308**	Pn	**Pn**	**09 02 19.6**	**+0.9**
	6.0nm,0.2s,SNR=7.9						
PMAFR				Sn	**Sn**	**09 03 01.5**	**-1.5**
	6.7nm,0.3s,SNR=7.9						
PMAFR	**Mafra**	**3.78**	**308**	Pn	**Pn**	**09 02 19.6**	**+0.9**
	6.0nm,0.2s,SNR=7.9						
PMAFR				*e*Sn	**Sn**	**09 03 04.3**	**+1.2**
MTE	**Manteigas**	**4.04**	**337**	*e*Sn	**Sn**	**09 03 09.2**	**-0.6**
MTE	**Manteigas**	**4.04**	**337**	Sn	**Sn**	**09 03 09.2**	**-0.6**
MTE	**Manteigas**	**4.04**	**337**	Sn	**Sn**	**09 03 09.2**	**-0.6**
GUD	**Guadarrama**	**4.07**	**14**	Pn	**Pn**	**09 02 24.1**	**+1.2**
	2.0nm,0.2s,SNR=6.1						
GUD				Sn	**Sn**	**09 03 07.8**	**-2.8**
	3.5nm,0.6s,SNR=7.9						
GUD				Lg	Lg	09 03 31.5	
	16nm,0.6s,SNR=5.0						
GUD	**Guadarrama**	**4.07**	**14**	Pn	**Pn**	**09 02 24.1**	**+1.2**
	2.0nm,0.2s,SNR=6.1						
GUD				Lg	Lg	09 03 31.5	
	16nm,0.6s,SNR=5.0						
MVO	**Moncorvo**	**4.63**	**345**	*e*Pn	**Pn**	**09 02 31.2**	**+0.7**
MVO				*e*Sn	**Sn**	**09 03 22.7**	**-1.5**
MVO				A	A	09 03 55.2	
	11nm,0.5s						
MVO	**Moncorvo**	**4.63**	**345**	Pn	**Pn**	**09 02 30.6**	**+0.1**
	1.7nm,0.1s,SNR=7.9						
MVO				Sn	**Sn**	**09 03 21.9**	**-2.3**
	1.8nm,0.1s,SNR=7.9						
MVO				Lg	Lg	09 03 47.1	
	20nm,0.4s,SNR=7.9						
MVO	**Moncorvo**	**4.63**	**345**	Pn	**Pn**	**09 02 30.5**	**+0.1**
	1.7nm,0.1s,SNR=7.9						
MVO				*e*Sn	**Sn**	**09 03 22.7**	**-1.5**
	11nm,0.5s						
MVO				Lg	Lg	09 03 47.1	
	20nm,0.4s,SNR=7.9						
ECAL	**Calabor**	**5.33**	**350**	Pn	**Pn**	**09 02 40.9**	**+0.7**
	0.1nm,0.3s,SNR=7.9						
ECAL				Sn	**Sn**	**09 03 36.0**	**-5.6**
	0.8nm,0.2s,SNR=7.9						
ECAL				Lg	Lg	09 04 09.4	
	49nm,1.1s,SNR=7.9						
ECAL	**Calabor**	**5.33**	**350**	Pn	**Pn**	**09 02 40.9**	**+0.7**
	0.1nm,0.3s,SNR=7.9						
ECAL				Lg	Lg	09 04 09.4	
	49nm,1.1s,SNR=7.9						
EARI	**Arriondas**	**6.60**	**2**	Pn	**Pn**	**09 02 59.2**	**+1.7**
	0.7nm,0.3s,SNR=7.9						
EARI	**Arriondas**	**6.60**	**2**	Pn	**Pn**	**09 02 59.2**	**+1.7**
	0.7nm,0.3s,SNR=7.9						
IEPA	**Eparoz**	**6.88**	**27**	Pn	**Pn**	**09 03 02.6**	**+1.2**
	0.4nm,0.1s,SNR=7.9						
IEPA	**Eparoz**	**6.88**	**27**	Pn	**Pn**	**09 03 02.6**	**+1.2**
	0.4nm,0.1s,SNR=7.9						
IELO	**Elcoad**	**6.95**	**27**	Pn	**Pn**	**09 03 03.5**	**+1.2**
	0.4nm,0.1s,SNR=7.9						
IELO	**Elcoad**	**6.95**	**27**	Pn	**Pn**	**09 03 03.5**	**+1.2**
	0.4nm,0.1s,SNR=7.9						
SJPF	**Ste Jean**	**7.19**	**26**	*e*Pn	**Pn**	**09 03 05.6**	**0.0**
SJPF				*e*Sn	**Sn**	**09 04 23.0**	**-4.2**
	1.1nm,0.3s						
SJPF	**Ste Jean**	**7.19**	**26**	Pn	**Pn**	**09 03 05.6**	**0.0**
ETSF	**Etsaut**	**7.25**	**30**	*e*Pn	**Pn**	**09 03 06.5**	**0.0**
ETSF				*e*Sn	**Sn**	**09 04 24.9**	**-4.0**
	1.1nm,0.4s						
ETSF	**Etsaut**	**7.25**	**30**	Pn	**Pn**	**09 03 06.5**	**0.0**
EBIE	**Bielsa**	**7.38**	**34**	Pn	**Pn**	**09 03 07.8**	**-0.6**
	0.2nm,0.3s,SNR=5.7						
EBIE	**Bielsa**	**7.38**	**34**	Pn	**Pn**	**09 03 07.8**	**-0.6**
	0.2nm,0.3s,SNR=5.7						
EPF	**Esparros**	**7.74**	**33**	*e*Pn	**Pn**	**09 03 13.7**	**+0.5**
EPF	**Esparros**	**7.74**	**33**	Pn	**Pn**	**09 03 13.7**	**+0.5**

*IDC **30** 09:05:10.8±0.5, 16°.19S×172°.87W, h0km, mb4.5/21, mb1 4.7/21, mb1mx4.7/25, mbtmp4.5/21, MS4.5/13, Ms1 4.5/13, ms1mx4.2/38, Error ellipse: s-maj=19.6km s-min=13.8km az=132.0*
*ISCJB **30** 09:05:11.2±0.2, 16°.22S±0°.06×172°.90W±0°.05, h10km, mb4.8/77, MS4.6/17, Error ellipse: s-maj=10.2km s-min=5.2km az=153.2*
*BJI **30** 09:05:12.3, 16°.35S×173°.12W, h10km, mB5.4/14, mb5.1/22, Ms5.2/12, Ms7 4.9/12*
*NEIC **30** 09:05:12.7±0.2, 16°.15S×172°.94W, h10km, mb5.0/46, Error ellipse: s-maj=9.3km s-min=4.4km az=145.0*
*SZGRF **30** 09:05:14.4, 16°.83S×172°.15W, h33km, Samoa Islands region*
*MOS **30** 09:05:15.4±0.8, 16°.07S×172°.83W, h33km, mb5.1/15, Error ellipse: s-maj=18.8km s-min=11.5km az=62.8*
**ISC 30 09:05:14.4±0.6, 16°.21S±0°.08×172°.84W±0°.07, h21km±5km, n546, σ0s75/545, mb4.9/77, MS4.6

WRAB **Tennant Creek** 50.18 257 *eP* P 09 14 07.3 -1.6
WRAB pmax pmax
comp=Z,6.0nm,0.8s
WRAB **Tennant Creek** 50.18 257 *eP* P 09 14 07.3 -1.6
comp=Z,6.3nm,0.8s
WRA **Warramunga Arr** 50.19 257 P P 09 14 06.5 -2.4
WRA **Warramunga Arr** 50.19 257 P P 09 14 06.5 -2.4
comp=Z,3.4nm,0.7s,baz=93,slow=7.5,SNR=38
WRA LR LR 09 33 58.1
comp=Z,774nm,19.2s,baz=80,slow=34
AS31 **Alice Springs** 50.38 253 *eP* P 09 14 08.3 -2.1
ASAR **Alice Springs** 50.38 253 P P 09 14 08.2 -2.2
ASAR **Alice Springs** 50.38 253 P P 09 14 08.2 -2.2
comp=Z,18nm,0.7s,baz=86,slow=8.6,SNR=60
ASAR LR LR 09 34 40.2
comp=Z,728nm,18.1s,baz=87,slow=35
FITZ **Fitzroy Crossi** 58.57 258 P P 09 15 09.1 -0.9
FITZ **Fitzroy Crossi** 58.57 258 P P 09 15 09.1 -0.9
comp=Z,2.2nm,0.6s,baz=103,slow=9.4,SNR=3.7
FITZ LR LR 09 39 09.3
comp=Z,507nm,18.6s,baz=30,slow=35
SBA **Scott Base** 62.50 185 *eP* P 09 15 37.9 +2.1
SBA pmax pmax
comp=Z,22nm,1.0s
SBA **Scott Base** 62.50 185 *eP* P 09 15 37.9 +2.1
comp=Z,22nm,1.0s
VNDA **Vanda** 62.64 186 P P 09 15 38.0 +1.3
VNDA **Vanda** 62.64 186 P P 09 15 38.0 +1.3
comp=Z,7.6nm,1.0s,baz=5.8,slow=6.3,SNR=30
NWAO **Narrogin (SRO)** 64.70 241 LR LR 09 44 00.6
comp=Z,269nm,19.8s,baz=274,slow=36
MJAR **Matsushiro Arr** 69.90 320 P P 09 16 24.2 +0.3
MJAR **Matsushiro Arr** 69.90 320 P P 09 16 24.2 +0.3
comp=Z,1.2nm,0.8s,baz=148,slow=5.4,SNR=2.7
VES **Vestal, Richgr** 72.55 43 ⇑P P 09 16 40.5 +0.6
baz=73
EDW2 **Edwards Air Fo** 72.73 45 ⇓P P 09 16 42.1 +0.9
baz=73
JNU **Nakatsue** 72.74 313 P P 09 16 41.9 +0.7
JNU **Nakatsue** 72.74 313 P P 09 16 41.9 +0.7
comp=Z,4.7nm,0.9s,baz=86,slow=8.9,SNR=1.8
ISA **Isabella** 72.85 44 *eP* P 09 16 42.3 +0.4
ISA pmax pmax
comp=Z,17nm,1.3s
ISA **Isabella** 72.85 44 *eP* P 09 16 42.3 +0.4
comp=Z,17nm,1.3s
ISA **Isabella** 72.85 44 ⇓P P 09 16 42.6 +0.7
baz=73
PFO **Pinyon Flat Ob** 73.08 47 LR LR 09 45 46.5
comp=Z,245nm,18.0s,baz=169,slow=33
PETK **Petropavlovsk-** 73.56 342 P P 09 16 45.3 -0.2
PETK **Petropavlovsk-** 73.56 342 P P 09 16 45.3 -0.2
PETK **Petropavlovsk-** 73.56 342 P P 09 16 45.3 -0.2
comp=Z,8.8nm,0.8s,baz=141,slow=9.6,SNR=9.6
PETK LR LR 09 40 51.5
comp=Z,86nm,21.6s,baz=331,slow=29
BELC **Belle Mtn. Jos** 73.61 46 ⇑P P 09 16 46.6 +0.1
baz=74
MPMC **Manual Prospec** 73.74 44 ⇓P P 09 16 47.9 +0.6
baz=74
GSC **Goldstone** 73.77 45 *eP* P 09 16 47.6 +0.3
GSC pmax pmax
comp=Z,21nm,1.5s
GSC **Goldstone** 73.77 45 *eP* P 09 16 47.6 +0.3
comp=Z,21nm,1.5s
GSC **Goldstone** 73.77 45 ⇓P P 09 16 47.8 +0.5
baz=74
BC3 **Big Chuckawall** 73.81 47 ⇑P P 09 16 48.1 +0.5
baz=74
HEC **Hector,Ludlow** 73.83 46 ⇑P P 09 16 47.7 0.0
baz=74
QSPA **South Pole Qui** 73.84 180 *eP* P 09 16 47.9 +0.6
comp=Z,36nm,1.0s
WAKR **Walker** 73.89 41 *eP* P 09 16 48.4 +0.3
YBH **Yreka Blue Hor** 73.92 37 LR LR 09 43 25.1
comp=Z,173nm,18.7s,baz=261,slow=31
GLA **Glamis** 73.93 48 ⇓P P 09 16 48.8 +0.6
baz=74
GMRC **Granite Mounta** 74.27 46 ⇓P P 09 16 50.6 +0.3
baz=74
IRM **Iron Mountain** 74.29 47 ⇑P P 09 16 50.8 +0.5
baz=74
GRAC **Grapevine Rang** 74.35 43 ⇑P P 09 16 50.7 +0.1
baz=74
FURC **Furnace Creek,** 74.39 44 ⇓P P 09 16 50.9 +0.2
baz=75
SHOC **Shoshone** 74.46 45 ⇑P P 09 16 52.0 +0.7
baz=75
Y12C **Blythe** 74.51 47 ⇓P P 09 16 52.1 +0.6
baz=75
113A **Mohawk Valley,** 74.54 49 ⇑P P 09 16 52.1 +0.4
baz=75
NVAR **Mina Array Bea** 74.57 42 P P 09 16 52.2 +0.1
NVAR **Mina Array Bea** 74.57 42 P P 09 16 52.2 +0.1
comp=Z,4.3nm,0.8s,baz=228,slow=9.1,SNR=17
214A **Organ Pipe Nat** 74.82 50 ⇑P P 09 16 53.5 +0.1
baz=75
PDMCI **Parker Dam,Lak** 75.07 47 ⇑P P 09 16 55.2 +0.5
baz=75
MOD **Modoc** 75.42 38 *eP* P 09 16 56.8 -0.1
comp=Z,46nm,1.0s
Z14A **Wintersburg** 75.43 48 ⇑P P 09 16 57.6 +0.6
baz=76
SHPR **Sheep Range** 75.55 45 *eP* P 09 16 57.7 0.0
K05A **Summer Lake** 75.59 37 *eP* P 09 16 58.8 +0.9
W13A **Hualapai Mount** 75.67 46 ⇑P P 09 16 58.7 +0.2
baz=76
Y14A **Wickenburg** 75.69 48 ⇓P P 09 16 58.8 +0.3
baz=76
R11A **Troy Canyon, C** 76.28 43 *eP* P 09 16 55.1 -6.8
comp=Z,6.9nm,1.2s
R11A **Troy Canyon, C** 76.28 43 ⇑P P 09 17 02.1 +0.3
baz=76
TUC **Tucson** 76.48 50 *eP* P 09 17 03.4 +0.4
TUC *e* 09 17 14.4
TUC pmax pmax
comp=Z,13nm,1.1s
TUC **Tucson** 76.48 50 *eP* P 09 17 03.4 +0.4
comp=Z,13nm,1.1s
TUC *e*PcP PcP 09 17 14.4 -0.3
WVOR **Wild Horse Val** 76.73 38 *eP* P 09 17 04.4 +0.2
WVOR pmax pmax
comp=Z,33nm,1.6s
WVOR **Wild Horse Val** 76.73 38 *eP* P 09 17 04.4 +0.2
comp=Z,33nm,1.6s
X16A **Lo Mia Camp, P** 77.05 48 ⇓P P 09 17 06.7 +0.4
baz=77
KSRS **Korea Array** 77.11 315 P P 09 17 07.8 +1.5
comp=Z,1.2nm,0.8s,baz=122,slow=5.9,SNR=3.4
KSAR **Wonju Array Be** 77.12 315 P P 09 17 07.8 +1.3
319A **Douglas** 77.16 52 ⇑P P 09 17 07.6 +0.6
baz=77
J08A **Circle Bar Ran** 77.38 37 *eP* P 09 17 08.2 +0.4
comp=Z,12nm,1.0s
U15A **North Rim** 77.47 46 ⇑P P 09 17 09.4 +0.7
baz=78
WUAZ **Wupatki** 77.64 47 ⇓P P 09 17 10.0 +0.4
baz=78
320A **Kipp Ranch, An** 77.71 52 ⇓P P 09 17 10.8 +0.7
baz=78
D05A **Enumclaw** 77.83 33 *eP* P 09 17 11.6 +1.5
comp=Z,69nm,1.3s
ELK **Elko** 77.83 41 *eP* P 09 17 10.8 +0.2
220A **Playas Peak, P** 77.98 52 ⇓P P 09 17 12.4 +0.8
baz=78
X18A **Snowflake** 78.17 49 ⇑P P 09 17 13.1 +0.5
baz=78
120A **U Bar Ranch, L** 78.20 51 ⇑P P 09 17 13.6 +0.8
baz=78
G08A **Pilot Rock** 78.27 36 *eP* P 09 17 13.1 +0.3
comp=Z,19nm,1.1s
USRK **Ussuriysk Arra** 78.35 323 P P 09 17 13.8 +0.7
comp=Z,0.9nm,0.6s,baz=95,slow=3.5,SNR=5.4
USRK LR LR 09 48 12.0
comp=Z,249nm,18.9s,baz=102,slow=33
Z20A **Nine Sixteen R** 78.49 50 ⇓P P 09 17 15.1 +0.7
baz=79
221A **Mesquite Ranch** 78.59 52 ⇓P P 09 17 15.5 +0.6
baz=79
MVU **Marysvale** 78.59 44 *eP* P 09 17 15.6 +0.7
comp=Z,18nm,1.1s
HAWA **Hanford** 78.63 34 *eP* P 09 17 15.1 +0.5
comp=Z,79nm,1.9s
121A **Cookes Peak, D** 78.82 51 ⇓P P 09 17 17.1 +0.9
baz=79
MFID **Camas Ranch** 78.98 39 ⇓P P 09 17 17.3 +0.6
baz=79

Y20A **Horse Springs,** 79.02 50 ⇓P P 09 17 18.4 +1.0
baz=79
DUG **Dugway** 79.08 43 *eP* P 09 17 17.7 +0.2
DUG pmax pmax
comp=Z,13nm,1.1s
DUG **Dugway** 79.08 43 *eP* P 09 17 17.7 +0.2
comp=Z,13nm,1.1s
DUG **Dugway** 79.08 43 ⇑P P 09 17 17.6 +0.2
baz=79
X20A **Quemado** 79.23 49 ⇑P P 09 17 19.4 +0.9
baz=79
Z21A **St. Cloud Mine** 79.27 51 ⇑P P 09 17 19.8 +1.1
baz=79
E09A **Wood Farm, Sta** 79.46 35 *eP* P 09 17 10.9 -8.2
comp=Z,16nm,1.1s
122A **Conniff Cattle** 79.49 51 ⇑P P 09 17 20.6 +0.8
baz=80
Q16A **Castle Valley** 79.50 44 *eP* P 09 17 20.1 +0.3
Q16A **Castle Valley** 79.50 44 ⇓P P 09 17 20.9 +1.1
baz=80
W20A **Ramah** 79.50 49 ⇑P P 09 17 20.6 +0.7
baz=80
Y21A **Point of Rocks** 79.59 50 ⇑P P 09 17 21.7 +1.2
baz=80
223A **Chaparral, Ant** 79.61 52 ⇓P P 09 17 21.1 +0.6
baz=80
F10A **Beach Ranch, E** 79.65 36 *eP* P 09 17 19.8 -0.5
comp=Z,13nm,0.9s
TMUT **Trail Mountain** 79.67 44 *eP* P 09 17 21.3 +0.4
comp=Z,22nm,0.9s
X21A **Alamocita Cree** 79.71 50 ⇑P P 09 17 21.2 +0.1
baz=80
Z22A **Elephant Butte** 79.77 51 ⇓P P 09 17 22.0 +0.7
baz=80
V20A **Brimhall** 79.85 48 ⇑P P 09 17 22.4 +0.6
baz=80
HLID **Hailey** 79.91 39 *eP* P 09 17 22.5 +0.6
comp=Z,13nm,1.0s
HLID **Hailey** 79.91 39 ⇑P P 09 17 22.6 +0.7
baz=80
B08A **Colville Reser** 79.95 33 *eP* P 09 17 21.5 -0.4
comp=Z,14nm,1.0s
MDJ **Mudanjiang** 79.99 322 P P 09 17 28.3 +6.3
MDJ pmax pmax
comp=Z,5.0nm,1.1s
MDJ pmax pmax
comp=Z,190nm,10.3s
CTU **Camp Tracy** 80.04 43 *eP* P 09 17 23.4 +0.7
comp=Z,19nm,1.5s
SRU **San Rafael** 80.04 44 *eP* P 09 17 23.7 +1.0
SRU pmax pmax
comp=Z,16nm,1.1s
SRU **San Rafael** 80.04 44 *eP* P 09 17 23.7 +1.0
comp=Z,16nm,1.1s
Y22A **Socorro** 80.08 50 ⇓P P 09 17 23.6 +0.6
baz=80
U20A **Newcomb** 80.08 48 ⇓P P 09 17 23.6 +0.6
baz=80
324A **Moseley Ranch,** 80.09 53 ⇑P P 09 17 23.4 +0.3
baz=80,SNR=11
Y22D **IRIS PASSCAL I** 80.17 50 ⇑P P 09 17 24.6 +1.1
baz=80
C09A **Chrisman Ranch** 80.17 34 *eP* P 09 17 23.1 +0.1
comp=Z,12nm,0.9s
425A **Indio Mountain** 80.19 54 ⇑P P 09 17 24.0 +0.4
baz=80,SNR=10.0
MNTX **Cornudas Mount** 80.28 53 *eP* P 09 17 24.2 +0.3
comp=Z,14nm,1.4s
Z23A **Rita Site, Whi** 80.32 51 ⇑P P 09 17 24.6 +0.3
baz=80
224A **Cornudas Mount** 80.33 53 ⇓P P 09 17 24.8 +0.4
baz=80,SNR=9.9
626A **Big Bend Ranch** 80.34 55 ⇓P P 09 17 24.7 +0.3
baz=80,SNR=7.0
BNM **Baren Site** 80.42 50 *eP* P 09 17 25.4 +0.5
comp=Z,8.4nm,1.0s
LPM **Los Pinos Moun** 80.49 50 *eP* P 09 17 25.9 +0.7
MVCO **Mesa Verde** 80.50 47 ⇑P P 09 17 25.8 +0.6
baz=81
526A **Mary Lane Ranc** 80.58 55 ⇑P P 09 17 26.1 +0.3
baz=81,SNR=7.1
TXAR **Lajitas Array** 80.61 56 P P 09 17 26.1 +0.2
TXAR **Lajitas Array** 80.61 56 P P 09 17 26.1 +0.2
comp=Z,3.9nm,1.0s,baz=224,slow=7.0,SNR=24
124A **Stringfield Ra** 80.66 52 ⇑P P 09 17 26.7 +0.4
baz=81,SNR=7.4
W22A **Albuquerque** 80.67 49 ⇓P P 09 17 27.0 +0.8
baz=81
PV09 **Paradox Valley** 80.68 45 *eP* P 09 17 27.1 +0.8
U21A **Nageezi** 80.72 48 ⇑P P 09 17 27.0 +0.5
baz=81
Y23A **Lovelace Mesa,** 80.75 51 ⇑P P 09 17 26.8 +0.1
baz=81,SNR=6.4
225A **Deer Hill, Car** 80.88 53 ⇑P P 09 17 27.6 +0.2
baz=81,SNR=9.7
426A **McDonald Obser** 80.88 54 ⇓P P 09 17 27.9 +0.4
baz=81,SNR=15
627A **Terlingua Ranc** 80.89 56 ⇓P P 09 17 27.6 +0.2
baz=81,SNR=11
S20A **Disappointment** 80.89 46 ⇑P P 09 17 27.9 +0.5
baz=81
ANMO **Albuquerque** 80.91 50 *eP* P 09 17 27.7 +0.2
527A **Woodward Ranch** 80.99 55 ⇓P P 09 17 28.0 0.0
baz=81,SNR=7.8
Z24A **Sheeppen Canyo** 81.00 52 ⇑P P 09 17 28.1 +0.1
baz=81,SNR=6.7
V22A **San Miguel Ran** 81.02 49 ⇑P P 09 17 28.6 +0.5
baz=81
NEW **Newport** 81.07 34 ⇓P P 09 17 27.4 -0.4
baz=81
T21A **Navajo Lake** 81.07 47 ⇓P P 09 17 28.8 +0.4
baz=81
NJ2 **Nanjing** 81.08 307 *eP* P 09 17 29.8 +1.6
NJ2 pmax pmax
comp=Z,70nm,1.4s
M17A **Scullys Gap (B** 81.14 42 ⇑P P 09 17 28.4 -0.2
baz=81
S21A **Coal Bank Pass** 81.21 47 ⇑P P 09 17 29.4 +0.2
baz=81
Y24A **Capitan** 81.21 51 ⇓P P 09 17 29.5 +0.4
baz=81,SNR=15
W23A **Werner Place,** 81.23 50 ⇑P P 09 17 29.5 +0.2
baz=81,SNR=9.0
125A **Gardner Draw,** 81.24 52 ⇑P P 09 17 29.7 +0.4
baz=81,SNR=6.5
U22A **Llaves** 81.27 48 ⇓P P 09 17 29.6 +0.1
baz=82
GDL2 **Guadalupe Moun** 81.27 53 *eP* P 09 17 30.1 +0.8
628A **Black Gap, Mar** 81.30 56 ⇓P P 09 17 29.9 +0.4
baz=82,SNR=6.7
TRF **Thorofare Moun** 81.32 10 *eP* P 09 17 28.2 -0.7
P19A **Cripple Cowboy** 81.33 45 ⇑P P 09 17 30.1 +0.4
baz=82
226B **Tecolote Peak,** 81.37 53 ⇑P P 09 17 30.3 +0.4
baz=82,SNR=18
427A **Hayter Ranch,** 81.45 55 ⇓P P 09 17 30.6 +0.3
baz=82,SNR=9.5
Z25A **Roswell** 81.47 52 ⇑P P 09 17 30.8 +0.4
baz=82,SNR=8.8
V23A **Ortiz Mt. (NFS** 81.47 49 ⇓P P 09 17 31.7 +1.3
baz=82,SNR=8.5
Q20A **Ridgley Place,** 81.47 45 ⇓P P 09 17 30.9 +0.5
baz=82
KLR **Kul'dur** 81.48 327 *eP* P 09 17 27.4 -2.5
T22A **Edith** 81.53 48 ⇓P P 09 17 31.1 +0.3
baz=82
MCMT **McKenzie Canyo** 81.54 39 *eP* P 09 17 31.1 +0.4
comp=Z,7.3nm,1.2s
O19A **Miners Draw (B** 81.56 44 ⇓P P 09 17 31.0 +0.2
baz=82
528A **Cox Ranch, San** 81.65 55 ⇑P P 09 17 31.8 +0.4
baz=82,SNR=9.4
P20A **De Beque** 81.67 45 ⇑P P 09 17 31.7 +0.3
baz=82,SNR=10
RRI2 **Red Ridge** 81.69 40 *eP* P 09 17 32.0 +0.5
R21A **Cimarron** 81.71 46 ⇓P P 09 17 32.4 +0.7
baz=82,SNR=9.1
126A **Clayton Basin,** 81.72 53 ⇑P P 09 17 31.7 -0.1
baz=82,SNR=7.8
U23A **El Rito** 81.72 49 ⇑P P 09 17 32.2 +0.4
baz=82,SNR=12
Y25A **Mesa, Roswell** 81.76 51 ⇑P P 09 17 32.0 +0.1
baz=82,SNR=7.2
L18A **Fontenelle, Gr** 81.78 42 ⇑P P 09 17 32.1 +0.2
baz=82
W24A **Lazy 6 Ranch,** 81.80 50 ⇑P P 09 17 32.1 -0.1
baz=82,SNR=6.2
MCK **McKinley** 81.81 10 *eP* P 09 17 31.0 -0.4

MCK pmax pmax
comp=Z,21nm,1.0s
MCK **McKinley** 81.81 10 *eP* P 09 17 30.9 -0.4
comp=Z,21nm,1.0s
Q21A **Lamborn Mesa,** 81.91 46 ⇓P P 09 17 33.2 +0.5
baz=82
S22A **4UR Ranch, Cre** 81.92 47 ⇓P P 09 17 33.5 +0.6
baz=82,SNR=20
428A **Kincaid Ranch,** 81.96 55 ⇑P P 09 17 33.3 +0.3
baz=82
TPAW **Teton Pass** 82.00 40 *eP* P 09 17 33.5 +0.4
comp=Z,13nm,1.0s
MSO **Missoula** 82.00 36 *eP* P 09 17 32.4 -0.5
comp=Z,20nm,1.4s
MSO **Missoula** 82.00 36 ⇓P P 09 17 32.2 -0.7
baz=82,SNR=8.2
Z26A **Caprock** 82.02 52 ⇓P P 09 17 33.1 -0.2
baz=82,SNR=21
CN2 **Changchun** 82.05 320 *eP* P 09 17 35.0 +2.0
CN2 *es*P sP 09 17 42.0 -0.7
CN2 *eS* S 09 27 48.5 +2.2
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,200nm,17.0s
CN2 LR LR
comp=E,200nm,17.0s
CN2 LR LR
comp=Z,200nm,15.0s
X25A **Clemmons Ranch** 82.05 51 ⇓P P 09 17 33.8 +0.3
baz=82
O20A **White River Ci** 82.08 44 ⇑P P 09 17 33.3 -0.2
baz=82
529A **Stev Forest Ra** 82.08 56 ⇓P P 09 17 33.8 +0.2
baz=82
BSMT **Bassoo Peak** 82.10 35 *eP* P 09 17 33.2 -0.3
SNOW **Snow King Moun** 82.10 41 *eP* P 09 17 34.1 +0.4
comp=Z,20nm,1.1s
MENT **Mentasta** 82.11 13 *eP* P 09 17 32.6 -0.4
V24A **Rampart Ranch,** 82.12 49 ⇓P P 09 17 34.0 +0.1
baz=82
M19A **Rock Springs** 82.14 43 ⇓P P 09 17 34.4 +0.5
baz=82
T23A **Casias Ranch,** 82.16 48 ⇓P P 09 17 34.3 +0.2
baz=82,SNR=6.5
127A **Arkansas Junct** 82.24 53 ⇑P P 09 17 34.3 -0.2
baz=82,SNR=5.6
MOOW **Moose Ponds** 82.26 40 *eP* P 09 17 34.8 +0.4
comp=Z,11nm,1.3s
LOHW **Long Hollow** 82.28 40 *eP* P 09 17 34.8 +0.2
comp=Z,12nm,1.2s
LRM **Limekiln Ridge** 82.32 38 *eP* P 09 17 35.0 +0.2
P21A **Newcastle** 82.32 45 ⇑P P 09 17 35.2 +0.3
baz=82,SNR=8.8
Q22A **Crested Butte,** 82.38 46 ⇑P P 09 17 35.8 +0.4
baz=83,SNR=18
N20A **Spence Gulch,** 82.40 44 ⇑P P 09 17 35.4 +0.1
baz=83,SNR=7.5
QLMT **Earthquake Lak** 82.40 39 *eP* P 09 17 36.2 +1.1
Y26A **Elida** 82.41 52 ⇓P P 09 17 35.6 +0.2
baz=83
U24A **Moreno Valley** 82.42 49 ⇑P P 09 17 36.3 +0.8
baz=83
CHMT **Chamberlain Mo** 82.44 37 *eP* P 09 17 34.9 -0.4
I17A **Pilgrim Ck.** 82.45 40 ⇓P P 09 17 35.8 +0.3
baz=83
FLWY **Flagg Ranch** 82.46 40 *eP* P 09 17 35.7 +0.2
comp=Z,24nm,1.1s
S23A **Nye Farm, Mont** 82.48 47 ⇓P P 09 17 36.3 +0.5
baz=83
W25A **X Bar L Ranch,** 82.50 50 ⇓P P 09 17 35.5 -0.3
baz=83,SNR=5.7
BW06 **Boulder Array** 82.50 42 *eP* P 09 17 35.6 -0.2
comp=Z,11nm,0.9s
PDAR **Pinedale Array** 82.50 42 P P 09 17 35.5 -0.3
PDAR **Pinedale Array** 82.50 42 P P 09 17 35.5 -0.3
comp=Z,8.2nm,0.9s,baz=213,slow=3.4,SNR=52
429A **Davenport Ranc** 82.54 55 ⇓P P 09 17 36.1 0.0
baz=83
YMR **Madison River** 82.60 39 *eP* P 09 17 37.1 +0.9
comp=Z,38nm,1.4s
228A **UT Block 9, Go** 82.60 54 ⇓P P 09 17 36.4 0.0
baz=83
Z27A **Tatum** 82.62 52 ⇑P P 09 17 36.4 -0.1
baz=83
O21A **Pagoda** 82.63 45 ⇓P P 09 17 36.7 +0.2
baz=83
T24B **San Luis** 82.64 48 ⇑P P 09 17 37.1 +0.4
baz=83,SNR=9.9
V25A **Rancho No Teng** 82.65 50 ⇓P P 09 17 36.8 +0.1
baz=83,SNR=16
X26A **CR and CF Fran** 82.69 51 ⇓P P 09 17 37.5 +0.7
baz=83
H17A **Grant Village** 82.69 40 ⇓P P 09 17 37.8 +1.0
baz=83
M20A **Sweetwater, Wa** 82.77 43 ⇑P P 09 17 37.4 +0.2
baz=83,SNR=7.3
530A **J-C Ranch, Com** 82.80 56 ⇑P P 09 17 37.6 +0.3
baz=83
329A **Wagon Wheel Ra** 82.82 54 ⇑P P 09 17 37.5 0.0
baz=83,SNR=6.9
R23A **Moffat** 82.83 47 ⇓P P 09 17 38.0 +0.3
baz=83,SNR=12
N21A **Black Mountain** 82.86 44 ⇑P P 09 17 38.2 +0.6
baz=83,SNR=6.7
128A **Castleberry Fa** 82.89 53 ⇑P P 09 17 37.9 0.0
baz=83,SNR=6.6
Y27A **Causey** 82.90 52 ⇓P P 09 17 37.7 -0.2
baz=83,SNR=6.2
L20A **Wamsutter** 82.92 43 ⇑P P 09 17 38.2 +0.3
baz=83,SNR=13
W26A **Owens Ranch, T** 82.95 51 ⇓P P 09 17 38.7 +0.6
baz=83
K19A **Absolon Red Bu** 82.99 42 ⇓P P 09 17 37.6 -0.7
baz=83,SNR=6.2
S24A **Houchin Ranch,** 83.01 48 ⇓P P 09 17 39.2 +0.5
baz=83,SNR=9.0
U25A **Circle Dot Ran** 83.05 49 ⇓P P 09 17 38.7 0.0
baz=83,SNR=14
COLA **College** 83.05 10 *eP* P 09 17 37.4 -0.4
COLA pmax pmax
comp=Z,19nm,0.8s
COLA **College** 83.05 10 *eP* P 09 17 37.4 -0.4
comp=Z,19nm,0.8s
J19A **Crowheart** 83.07 41 ⇑P P 09 17 38.6 0.0
baz=83,SNR=6.0
631A **Perdido Creek** 83.12 57 ⇓P P 09 17 38.9 -0.1
baz=83
430A **Baggett Ranch,** 83.13 55 ⇑P P 09 17 39.0 -0.1
baz=83
ILAR **Eielson Array** 83.13 11 P P 09 17 37.2 -1.0
ILAR **Eielson Array** 83.13 11 P P 09 17 37.2 -1.0
comp=Z,3.4nm,1.0s,baz=210,slow=5.7,SNR=19
IM04 **Indian Mountai** 83.18 8 *eP* P 09 17 38.6 +0.1
MSTX **Muleshoe** 83.23 52 *eP* P 09 17 39.2 -0.3
MSTX **Muleshoe** 83.23 52 ⇓P P 09 17 39.5 -0.1
baz=83,SNR=6.7
K20A **Yellowstone Ra** 83.23 42 ⇓P P 09 17 39.3 -0.2
baz=83
O22A **Kremmling** 83.23 45 ⇑P P 09 17 39.9 +0.2
baz=83,SNR=14
Z28A **Tucker Farm, M** 83.24 53 ⇑P P 09 17 39.3 -0.3
baz=83,SNR=5.6
V26A **Tequesquite Ra** 83.24 50 ⇑P P 09 17 39.6 -0.1
baz=83
X27A **F and S Farms,** 83.27 51 ⇑P P 09 17 39.8 0.0
baz=83,SNR=5.8
IMA2 **Indian Mountai** 83.28 8 *eP* P 09 17 39.1 -0.1
732A **Laxson Ranch,** 83.34 58 ⇓P P 09 17 40.2 +0.1
baz=84
R24A **Sanders Place,** 83.35 47 ⇑P P 09 17 40.5 +0.3
baz=84,SNR=6.0
P23A **Jefferson** 83.36 46 ⇑P P 09 17 40.8 +0.4
baz=84,SNR=6.9
M21A **Separation Pea** 83.36 43 ⇓P P 09 17 40.5 +0.2
baz=84
T25A **Trinidad** 83.37 48 ⇓P P 09 17 40.5 +0.1
baz=84,SNR=6.5
129A **Stewart Farms,** 83.37 53 ⇑P P 09 17 40.6 +0.3
baz=84
H18A **Shoshone NF, C** 83.40 40 ⇓P P 09 17 40.8 +0.4
baz=84,SNR=6.3
330A **Mertzon** 83.42 55 ⇑P P 09 17 39.6 -1.0
baz=84
531A **Rocksprings** 83.43 56 ⇓P P 09 17 40.5 -0.1
baz=84

W27A	Bowe Ranch, En	83.47	51	⇑P		P	09 17 40.7	-0.1
	baz=84,SNR=11							
I19A	Meeteetse	83.49	41	⇑P		P	09 17 41.1	+0.3
	baz=84,SNR=8.7							
U26A	Atchley Ranch,	83.53	49	⇑P		P	09 17 41.1	-0.1
	baz=84,SNR=13							
L21A	Rawlins	83.53	43	⇑P		P	09 17 40.8	-0.3
	baz=84,SNR=6.0							
S25A	Robets Cordova	83.58	48	⇑P		P	09 17 41.4	0.0
	baz=84,SNR=12							
431A	Sonora	83.58	56	⇑P		P	09 17 41.3	-0.1
	baz=84							
N22A	Wattenberg Ran	83.59	44	⇓P		P	09 17 41.9	+0.4
	baz=84,SNR=10							
Y28A	McKinney Farm,	83.60	52	⇑P		P	09 17 41.5	0.0
	baz=84							
Q24A	Divide	83.65	47	⇓P		P	09 17 42.2	+0.3
	baz=84,SNR=6.9							
O23A	Lake Granby, G	83.68	45	⇑P		P	09 17 42.2	+0.2
	baz=84,SNR=6.7							
QIZ	Qiongzhong	83.70	292	P		P	09 17 40.3	-1.9
QIZ				S		S	09 28 05.5	+1.3
QIZ				LR		LR		
	comp=N,1μm,61.8s							
QIZ				LR		LR		
	comp=E,380nm,46.3s							
ISCO	Idaho Springs	83.70	46	*e*P		P	09 17 42.3	+0.1
ISCO				pmax		pmax		
	comp=Z,8.0nm,1.1s							
ISCO	Idaho Springs	83.70	46	*e*P		P	09 17 42.3	+0.1
	comp=Z,7.8nm,1.1s							
ISCO	Idaho Springs	83.70	46	⇓P		P	09 17 42.2	+0.1
	baz=84,SNR=5.8							
J20A	Shoshoni	83.73	42	⇑P		P	09 17 42.2	+0.2
	baz=84,SNR=11							
Z29A	Hungry Hill Ra	83.75	53	⇑P		P	09 17 42.0	-0.2
	baz=84							
M22A	Cedar Creek Ra	83.78	44	⇑P		P	09 17 42.2	-0.2
	baz=84,SNR=6.3							
632A	Uvalde	83.79	57	⇓P		P	09 17 42.6	+0.1
	baz=84							
H19A	Powell	83.81	40	⇑P		P	09 17 43.3	+0.9
	baz=84,SNR=13							
X28A	Dimmitt	83.89	52	⇓P		P	09 17 43.1	+0.2
	baz=84							
R25A	Fountain Ranch	83.90	48	⇓P		P	09 17 43.2	+0.2
	baz=84							
K21A	Alcova	83.92	43	⇓P		P	09 17 42.7	-0.4
	baz=84,SNR=7.8							
V27A	Dan Oppiter Fa	83.92	50	⇓P		P	09 17 43.1	-0.1
	baz=84,SNR=5.9							
532A	Rocksprings	83.93	56	⇑P		P	09 17 43.0	-0.3
	baz=84							
GCMT	Greycliff	83.96	39	*e*P		P	09 17 43.4	+0.3
	comp=Z,13nm,1.1s							
331A	San Angelo	83.97	55	⇓P		P	09 17 43.2	-0.2
	baz=84							
T26A	Comanche Natio	83.97	49	⇓P		P	09 17 43.3	-0.1
	baz=84							
N23A	Red Feather La	83.98	45	⇓P		P	09 17 43.6	+0.1
	baz=84,SNR=6.2							
I20A	Worland	84.00	41	⇑P		P	09 17 43.4	+0.1
	baz=84,SNR=21							
Y29A	Porterfield Fa	84.02	52	⇑P		P	09 17 43.4	-0.2
	baz=84,SNR=7.9							
130A	Snyder	84.06	54	⇑P		P	09 17 43.7	-0.1
	baz=84							
DAWY	Dawson	84.06	14	*e*P		P	09 17 42.6	-0.5
J21A	Lysite	84.14	42	⇑P		P	09 17 44.3	+0.1
	baz=84,SNR=29							
JCT	Junction City	84.15	56	*e*P		P	09 17 44.6	+0.3
JCT				pmax		pmax		
	comp=Z,16nm,1.7s							
JCT	Junction City	84.15	56	*e*P		P	09 17 44.6	+0.3
	comp=Z,16nm,1.7s							
JCT	Junction City	84.15	56	⇑P		P	09 17 44.2	-0.1
	baz=84							
L22A	Ellis Ranch, M	84.18	43	⇓P		P	09 17 45.0	+0.6
	baz=84							
Z30A	Sanderson Ranc	84.20	53	⇓P		P	09 17 44.0	-0.6
	baz=84							
U27A	Thompson Grove	84.21	50	⇑P		P	09 17 44.1	-0.5
	baz=84,SNR=7.7							
O24A	Longmont	84.22	46	⇓P		P	09 17 44.9	+0.4
	baz=84,SNR=5.5							
X29A	Tulia	84.23	52	⇑P		P	09 17 44.5	-0.2
	baz=84,SNR=6.5							
S26A	Kim	84.25	48	⇑P		P	09 17 44.5	-0.3
	baz=84,SNR=6.3							
Q25A	Bedland, Calha	84.26	47	⇑P		P	09 17 44.5	-0.4
	baz=84							
EGAK	Eagle	84.28	13	*e*P		P	09 17 44.2	+0.1
	comp=Z,15nm,1.2s							
231A	Bronte	84.30	55	⇑P		P	09 17 44.3	-0.7
	baz=84							
432A	Menard	84.31	56	⇑P		P	09 17 44.7	-0.4
	baz=84							
H20A	Greybull	84.34	41	⇓P		P	09 17 44.6	-0.5
	baz=84,SNR=9.0							
V28A	Channing	84.37	50	⇑P		P	09 17 45.2	-0.2
	baz=84							
M23A	Laramie	84.39	44	⇓P		P	09 17 45.3	-0.2
	baz=85,SNR=10							
K22A	Casper	84.41	43	⇑P		P	09 17 45.3	-0.2
	baz=85,SNR=5.1							
F19A	Roth Farm, Mol	84.43	39	⇓P		P	09 17 45.5	+0.1
	baz=85,SNR=14							
I21A	Big Trails, Te	84.46	41	⇓P		P	09 17 45.2	-0.6
	baz=85,SNR=16							
PHWY	Pilot Hill	84.49	44	*e*P		P	09 17 45.8	-0.3
332A	Millersview	84.54	55	⇑P		P	09 17 46.2	-0.1
	baz=85							
W29A	Amraillo	84.55	51	⇓P		P	09 17 46.1	-0.2
	baz=85,SNR=9.2							
T27A	Campo	84.55	49	⇓P		P	09 17 45.9	-0.5
	baz=85							
R26A	Arlington	84.56	48	⇓P		P	09 17 45.8	-0.5
	baz=85,SNR=12							
G20A	Bridger	84.56	40	⇑P		P	09 17 46.3	+0.1
	baz=85							
P25A	Willow Gulch B	84.58	46	⇑P		P	09 17 46.4	-0.1
	baz=85,SNR=8.6							
Y30A	Stafford Cattl	84.61	53	⇑P		P	09 17 46.4	-0.2
	baz=85							
U28A	Mallet	84.63	50	⇑P		P	09 17 46.6	-0.1
	baz=85							
L23A	Garrett	84.70	44	⇓P		P	09 17 46.9	-0.2
	baz=85,SNR=13							
Q26A	Hugo	84.77	47	⇑P		P	09 17 47.5	+0.1
	baz=85,SNR=5.5							
J22A	Midwest	84.79	42	⇓P		P	09 17 47.1	-0.3
	baz=85							
232A	Coleman	84.81	55	⇓P		P	09 17 47.1	-0.5
	baz=85							
E19A	Rath Farm, Rou	84.83	39	⇓P		P	09 17 47.4	0.0
	baz=85,SNR=12							
COLD	Coldfoot	84.85	9	*e*P		P	09 17 47.6	+0.6
	comp=Z,13nm,1.2s							
X30A	Coker Ranch, T	84.86	52	⇑P		P	09 17 47.3	-0.5
	baz=85							
O25A	Wiggins	84.87	46	⇑P		P	09 17 47.6	-0.3
	baz=85							
F20A	Billings	84.89	39	⇓P		P	09 17 47.7	-0.1
	baz=85							
V29A	Stinnett	84.94	51	⇓P		P	09 17 48.0	-0.3
	baz=85							
Z31A	Sharp Cattle R	84.97	53	⇓P		P	09 17 48.0	-0.4
	baz=85							
M24A	Cheyenne	84.99	44	⇑P		P	09 17 48.2	-0.3
	baz=85							
H21A	Big Horn, Sher	85.01	41	⇓P		P	09 17 48.1	-0.3
	baz=85							
I22A	9 Mile Ranch,	85.01	42	⇑P		P	09 17 48.4	0.0
	baz=85,SNR=7.9							
R27A	Eads	85.01	48	⇑P		P	09 17 48.3	-0.3
	baz=85							
T28A	Walsh	85.02	49	⇓P		P	09 17 48.5	-0.2
	baz=85							
ABTX	Abilene, Hawle	85.09	54	*e*P		P	09 17 48.7	-0.3
ABTX	Abilene, Hawle	85.09	54	⇓P		P	09 17 49.1	+0.1
	baz=85							
D19A	Cripps Ranch,	85.12	38	⇑P		P	09 17 49.1	+0.2
	baz=85							
Y31A	Rekieta Farm,	85.13	53	⇑P		P	09 17 49.1	0.0
	baz=85							
P26A	Davis Ranch, A	85.17	47	⇓P		P	09 17 49.9	+0.6
	baz=85							
G21A	Lodge Grass	85.19	40	⇓P		P	09 17 49.7	+0.4
	baz=85							
E20A	Meyer Farm, Mu	85.24	39	⇑P		P	09 17 49.6	+0.1
	baz=85,SNR=8.4							
C19A	Slack Wire Ran	85.31	37	⇑P		P	09 17 50.5	+0.7
	baz=86							
U29A	Oasis Ranch, S	85.36	50	⇓P		P	09 17 50.8	+0.4
	baz=86							
S28A	Manter	85.37	49	⇑P		P	09 17 50.8	+0.5
	baz=86							
KSCO	Kaye Shedlock'	85.44	47	⇓P		P	09 17 51.3	+0.6
	baz=86							
Z32A	Haskell	85.48	54	⇓P		P	09 17 51.2	+0.3
	baz=86							
V30A	Spur Ranch, Mi	85.52	51	⇓P		P	09 17 51.3	+0.2
	baz=86							
D20A	Manuel Ranch,	85.53	38	⇑P		P	09 17 51.0	+0.1
	baz=86							
X31A	McDonald Ranch	85.61	52	⇓P		P	09 17 51.0	-0.5
	baz=86							
B19A	Brinkman Farms	85.73	37	⇑P		P	09 17 52.5	+0.6
	baz=86							
R28A	Tribune	85.74	48	⇑P		P	09 17 51.9	-0.3
	baz=86,SNR=9.9							
G22A	Birney	85.75	41	⇓P		P	09 17 52.4	+0.3
	baz=86							
Y32A	R-V Farms, Ver	85.78	53	⇑P		P	09 17 52.5	+0.1
	baz=86							
W31A	Holland Ranch,	85.85	52	⇓P		P	09 17 52.8	+0.1
	baz=86							
EDM	Edmonton	85.89	31	*e*P		P	09 17 51.9	-0.6
EDM	Edmonton	85.89	31	*e*P		P	09 17 51.9	-0.6
E21A	Keefer Ranch,	85.90	39	⇑P		P	09 17 53.6	+0.8
	baz=86							
C20A	Veseth Ranch,	85.91	38	⇓P		P	09 17 53.7	+1.0
	baz=86							
J24A	Dixon Ranch, L	85.93	43	⇓P		P	09 17 53.7	+0.7
	baz=86							
S29A	Ulysses	85.95	49	⇓P		P	09 17 53.7	+0.5
	baz=86							
F22A	Rosebud	86.04	40	⇑P		P	09 17 53.6	+0.2
	baz=86							
A19A	Klindworth Far	86.08	36	⇑P		P	09 17 54.0	+0.4
	baz=86							
V31A	Spring Creek L	86.16	51	⇓P		P	09 17 54.8	+0.6
	baz=86							
D21A	La Casta Ranch	86.20	39	⇑P		P	09 17 54.5	+0.3
	baz=86							
B20A	Solberg Farm,	86.26	37	⇓P		P	09 17 54.9	+0.5
	baz=86							
BJI	Beijing	86.41	313	P		P	09 17 56.8	+1.5
BJI				pmax		pmax		
	comp=Z,14nm,0.9s							
BJI				LR		LR		
	comp=N,190nm,16.4s							
BJI				LR		LR		
	comp=E,150nm,21.2s							
BJI				LR		LR		
	comp=Z,110nm,22.0s							
O28A	Krutsinger Ran	86.50	47	⇓P		P	09 17 55.3	-0.6
	baz=87							
A20A	Cobblestone Ra	86.53	37	⇑P		P	09 17 55.8	0.0
	baz=87							
F23A	Volborg	86.54	40	⇓P		P	09 17 55.5	-0.5
	baz=87							
Q29A	Oakley	86.56	48	⇓P		P	09 17 55.4	-0.8
	baz=87							
WHTX	Lake Whitney	86.57	55	⇑P		P	09 17 55.6	-0.7
	baz=87							
H24A	Dirks Ranch, A	86.64	42	⇑P		P	09 17 56.2	-0.3
	baz=87							
D22A	Cohagen	86.73	39	⇑P		P	09 17 56.7	0.0
	baz=87							
T31A	Randall Ranch,	86.80	50	⇓P		P	09 17 57.3	0.0
	baz=87							
R30A	Dighton	86.82	49	⇓P		P	09 17 57.6	+0.1
	baz=87							
B21A	Ellsworth Farm	86.84	37	⇓P		P	09 17 57.5	+0.3
	baz=87							
I25A	Rochford	86.84	42	⇓P		P	09 17 57.3	-0.3
	baz=87							
E23A	Ismay	86.96	40	⇑P		P	09 17 57.9	-0.1
	baz=87							
J26A	Sides Ranch, S	86.96	43	⇑P		P	09 17 58.0	-0.1
	baz=87							
A21A	Bergtoll Ranch	87.16	37	⇑P		P	09 17 58.8	0.0
	baz=87							
F24A	Ekalaka	87.20	41	⇑P		P	09 17 58.8	-0.4
	baz=87							
MAW	Mawson	87.20	198	*e*P		P	09 17 59.4	+0.7
	comp=Z,4.2nm,1.3s							
MAW	Mawson	87.20	198	P		P	09 17 59.4	+0.7
	comp=Z,7.8nm,0.9s,baz=116,slow=5.0,SNR=15							
K27A	Flueckinger Fa	87.26	44	⇓P		P	09 17 59.5	-0.1
	baz=87							
D23A	Lindsay	87.33	39	⇓P		P	09 18 00.0	+0.3
	baz=88							
C23A	Lambert	87.63	39	⇑P		P	09 18 01.2	+0.1
	baz=88							
A22A	Carney Farms,	87.75	37	⇑P		P	09 18 02.0	+0.3
	baz=88							
C24A	Savage	87.96	39	⇑P		P	09 18 03.1	+0.4
	baz=88							
B23A	Brockton	88.05	38	⇑P		P	09 18 03.3	+0.2
	baz=88							
G26A	Maurine	88.12	42	⇓P		P	09 18 03.8	+0.2
	baz=88							
I28A	Midland	88.51	43	⇑P		P	09 18 05.3	-0.1
	baz=89							
DGMT	Dagmar	88.52	38	⇓P		P	09 18 05.3	-0.1
	baz=89							
K29A	Lazy Trails An	88.58	45	⇓P		P	09 18 05.9	+0.1
	baz=89							
J29A	Okreek	88.83	44	⇑P		P	09 18 06.6	-0.3
	baz=89							
A24A	Westby	88.84	38	⇓P		P	09 18 07.1	+0.3
	baz=89							
GYA	Guiyang	88.89	298	P		P	09 18 08.8	+1.1
GYA				SKS		SKSac	09 28 35.5	-1.1
GYA				S		S	09 28 54.8	0.0
GYA				SS		SS	09 34 51.0	+3.1
GYA				pmax		pmax		
	comp=Z,20nm,1.0s							
GYA				pmax		pmax		
	comp=Z,120nm,6.1s							
GYA				LR		LR		
	comp=N,540nm,21.1s							
GYA				LR		LR		
	comp=E,460nm,22.3s							
GYA				LR		LR		
	comp=Z,520nm,21.6s							
F28A	McLaughlin	89.50	42	⇑P		P	09 18 09.4	-0.6
	baz=90							
HHC	Hu-ho-hao-te	89.96	313	*e*P		P	09 18 11.3	-1.1
HHC				pP		PcP	09 18 16.0	+2.4
HHC				sP		sP	09 18 18.3	-3.8
HHC				PP		PP	09 21 46.8	+1.1
HHC				SKS		SKSac	09 28 39.8	-2.4
HHC				S		S	09 29 01.5	-2.7
HHC				SS		SS	09 35 03.5	+0.6
HHC				pmax		pmax		
	comp=Z,14nm,1.2s							
HHC				pmax		pmax		
	comp=Z,290nm,5.2s							
HHC				LR		LR		
	comp=N,260nm,17.3s							
HHC				LR		LR		
	comp=E,260nm,17.3s							
HHC				LR		LR		
	comp=Z,550nm,16.5s							
YKA	Yellowknife Ar	90.62	23	P		P	09 18 14.4	-0.3
YKA	Yellowknife Ar	90.62	23	P		P	09 18 14.4	-0.3
	comp=Z,2.1nm,0.9s,baz=239,slow=4.3,SNR=3.6							
JTS	JuntasAbangare	90.83	80	*e*P		P	09 18 18.4	+1.5
	comp=Z,168nm,1.0s							
UALR	University of	91.54	54	*e*P		P	09 18 20.7	+0.9
KMI	Kunming	91.86	295	P		P	09 18 23.3	+1.6
KMI				pmax		pmax		
	comp=Z,8.0nm,1.6s							
SYO	Syowa Base	91.92	191	⇑*e*P		P	09 18 19.0	-1.9
SNAA	Sanae	92.08	177	*e*P		P	09 18 21.9	+0.2
SNAA	Sanae	92.08	177	*e*P		P	09 18 22.0	+0.4
	comp=Z,6.4nm,1.0s							
CD2	Chengdu	92.69	301	P		P	09 18 26.8	+1.6
CD2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
VNA1	Neumayer--Stat	92.71	175	*e*P		P	09 18 22.8	-1.7
CMAR	Chiang Mai Arr	93.38	288	P		P	09 18 28.9	+0.4
CMAR	Chiang Mai Arr	93.38	288	P		P	09 18 28.9	+0.4
	comp=Z,1.5nm,0.3s,baz=96,slow=2.6,SNR=7.3							
LZH	Lanzhou	94.13	306	*e*P		P	09 18 34.8	+2.9
LZH				pP		pP	09 18 39.5	+0.5
LZH				sP		sP	09 18 41.8	+0.2
LZH				*e*S		ScS	09 29 42.3	-1.0
LZH				sS		sS	09 29 52.0	-1.9
LZH				pmax		pmax		
	comp=Z,20nm,1.2s							
LZH				pmax		pmax		
	comp=Z,86nm,5.2s							
LZH				LR		LR		
	comp=N,750nm,15.6s							
LZH				LR		LR		
	comp=E,690nm,14.8s							
LZH				LR		LR		
	comp=Z,910nm,17.5s							
ULM	Lac du Bonnet	94.22	39	P		P	09 18 30.2	-1.5
ULM	Lac du Bonnet	94.22	39	P		P	09 18 30.2	-1.5
	comp=Z,4.4nm,0.8s,baz=271,slow=6.0,SNR=3.8							
SPMN	St. Paul	94.52	44	*e*P		P	09 18 33.0	-0.2
SPMN	St. Paul	94.52	44	⇓P		P	09 18 32.9	-0.2
	baz=95							
SONM	Songino Array	95.80	318	P		P	09 18 38.1	-1.1
SONM	Songino Array	95.80	318	P		P	09 18 38.1	-1.1
	comp=Z,0.1nm,0.3s,baz=120,slow=5.7,SNR=2.2							
TIXI	Tiksi	95.92	344	*i* P		P	09 18 37.8	-1.2
TIXI				pmax		pmax		
	comp=Z,7.0nm,1.3s							
GTA	Gaotai	98.10	309	*e*P		Pdif	09 18 50.8	+0.9
GTA				pP		pP	09 18 55.0	-2.0
GTA				sP		sP	09 18 57.5	-2.0
GTA				pmax		pmax		
	comp=Z,4.0nm,0.8s							
MKAR	Makanchi Array	111.77	314	PKIKP		PKiKP	09 23 50.4	+2.7
MKAR	Makanchi Array	111.77	314	PKiKP		PKiKP	09 23 50.4	+2.7
MKAR	Makanchi Array	111.77	314	PKiKP		PKiKP	09 23 50.4	+2.7
	comp=Z,0.4nm,0.8s,baz=56,slow=2.6,SNR=3.1							
KURK	Kurchatov	114.10	319	*i* PKIKP		PKiKP	09 23 51.4	-0.5
KSH	Kashi	116.38	306	*e*PKP		PKPdf	09 23 58.0	+1.1
KSH				PP		PP	09 25 07.0	+3.6
KSH				PKS		PKSdf	09 27 33.3	-0.3
KSH				SKS		SKSdf	09 31 09.0	+1.0
KSH				SKKS		SKKSac	09 32 00.0	-3.4
KSH				SS		SS	09 41 06.0	-1.1
KSH				AMB		AMB		
	comp=Z,98nm,4.3s							
KSH				LR		LR		
	comp=N,140nm,6.2s							
KSH				LR		LR		
	comp=E,120nm,7.8s							
KSH				LR		LR		
	comp=Z,180nm,6.5s							
ARCES	ARCESS Array B	125.47	352	PKP		PKPdf	09 24 11.5	-1.8
ARCES	ARCESS Array B	125.47	352	PKP		PKPdf	09 24 11.5	-1.8
	comp=Z,3.7nm,0.8s,baz=55,slow=3.6,SNR=4.2							
AKASG	Malin Array Be	141.28	338	PKHKP		PKPpre	09 24 33.6	
AKASG	Malin Array Be	141.28	338	PKPpre		PKPpre	09 24 33.6	
AKASG	Malin Array Be	141.28	338	PKhKP		PKPpre	09 24 33.6	
	comp=Z,0.8nm,0.5s,baz=40,slow=4.4,SNR=5.5							
KWP	Kalwaria Pacla	144.35	343	*e*PKIKP		PKPbc	09 24 47.1	-0.1
KWP	Kalwaria Pacla	144.35	343	*e*PKPdf		PKPbc	09 24 47.0	-0.2
KWP	Kalwaria Pacla	144.35	343	⇑*i*P		PKPbc	09 24 47.3	+0.1
KWP	Kalwaria Pacla	144.35	343	*e*PKP		PKPbc	09 24 47.2	0.0
CLZ	Clausthal	144.35	357	*e*PKPbc		PKPab	09 24 46.6	-0.3
OJC	Ojcow	144.56	346	*e*PKIKP		PKPab	09 24 47.2	-0.5
OJC	Ojcow	144.56	346	*e*PKP		PKPab	09 24 47.2	-0.5
CLL	Collm	144.67	354	*e*PKIKP		PKPbc	09 24 48.0	-0.2
CLL	Collm	144.67	354	*e*PKPdf		PKPbc	09 24 48.0	-0.2
CLL				*e*(PKiKP)			09 24 51.0	
MALT	Malatya	144.81	315	⇓*i*P		PKPdf	09 24 50.1	-0.1
BUG	Bochum--Univer	144.85	360	*e*PKPbc		PKPab	09 24 47.9	-0.7
STHS	Stebnicka Huta	144.95	344	*e*PKIKP		PKPdf	09 24 49.9	-0.1
STHS	Stebnicka Huta	144.95	344	*e*PKP		PKPdf	09 24 49.9	-0.1
BRG	Berggiesshubel	144.99	353	*e*PKP		PKPab	09 24 48.9	-0.3
	comp=Z,2.6nm,0.8s							
BRG	Berggiesshubel	144.99	353	*e*PKIKP		PKPab	09 24 48.9	-0.3
UPC	Upice	145.04	350	*e*PKIKP		PKPdf	09 24 49.7	-0.4
UPC	Upice	145.04	350	*e*PKP		PKPdf	09 24 49.7	-0.4
KOLS	Kolonicke sedl	145.10	343	*e*PKIKP		PKPdf	09 24 49.9	-0.3
KOLS	Kolonicke sedl	145.10	343	*e*PKP		PKPdf	09 24 49.9	-0.3
DPC	Dobruska-Polom	145.15	350	*e*PKIKP		PKPbc	09 24 49.6	-0.2
DPC	Dobruska-Polom	145.15	350	*e*PKP		PKPbc	09 24 49.6	-0.2
OKC	Ostrava-Krasne	145.29	347	*e*PKIKP		PKPdf	09 24 50.3	-0.2
OKC				*e*			09 24 55.9	
OKC	Ostrava-Krasne	145.29	347	*e*PKP		PKPdf	09 24 50.3	-0.2
OKC				*ep*PKP		PKiKP	09 24 55.9	+1.5
BUR08	Bucovina Ar. S	145.29	338	*e*PKPbc		PKPdf	09 24 51.0	+0.3
BURAR	Bucovina Array	145.31	338	⇑*i*P		PKPbc	09 24 50.4	-0.1
CRVS	Cervenica-Dubn	145.36	343	*e*PKIKP		PKPdf	09 24 50.7	0.0
CRVS	Cervenica-Dubn	145.36	343	*e*PKP		PKPdf	09 24 50.7	0.0
UZH	Uzhgorod	145.37	342	*d i*PKIKP		PKPdf	09 24 50.6	0.0
UZH				*e*			09 25 04.8	
UBBA	Unterbreizbach	145.40	357	*e*PKPbc		PKPbc	09 24 49.8	-0.6
MOX	Moxa	145.46	355	*e*PKPbc		PKPbc	09 24 50.2	-0.6
MORC	Moravsky Berou	145.47	348	*e*PKIKP		PKPbc	09 24 50.5	-0.4
MORC	Moravsky Berou	145.47	348	*e*PKPbc		PKPbc	09 24 50.5	-0.4
MORC	Moravsky Berou	145.47	348	⇑*i*P		PKPab	09 24 51.0	-0.1
TANN	Tannenbergstha	145.61	354	*e*PKPbc		PKPdf	09 24 50.9	-0.2
KMBO	Kilima Mbogo	145.66	243	PKPbc		PKPab	09 24 53.0	-0.1
KMBO	Kilima Mbogo	145.66	243	PKPbc		PKPab	09 24 53.0	-0.1
	comp=Z,7.2nm,1.0s,baz=44,slow=3.5,SNR=12							
MEM	Membach	145.67	1	PKP		PKPbc	09 24 51.3	-0.1
SNF	Seneffe	145.70	3	PKP		PKPbc	09 24 51.5	0.0
PRU	Pruhonice	145.78	352	*e*PKP2		PKPbc	09 24 51.5	-0.3
PRU	Pruhonice	145.78	352	*e*PKP		PKPbc	09 24 51.5	-0.3
BCLA	Clavier	145.84	2	PKP		PKPbc	09 24 51.8	-0.1
KECS	Kecovo	146.00	344	*e*PKP2		PKPab	09 24 52.9	-0.2
KECS	Kecovo	146.00	344	*e*PKP		PKPab	09 24 52.9	-0.2
TNS	Taunus Mts	146.05	359	*e*PKPbc		PKPbc	09 24 52.5	-0.2
DOU	Dourbes	146.13	3	PKP		PKPbc	09 24 52.3	-0.5
CFR	Carcaliu	146.16	333	⇑*i*P		PKPab	09 24 53.

SOKA Soboth 148.92 349 *i* PKPbc **PKPbc 09 25 00.5 -0.2**
comp=Z,17nm,1.1s,SNR=8.6
DAVA Damuels 148.93 356 ⇑*i*PKiKP **PKPbc 09 25 01.1 +0.3**
comp=Z,20nm,1.1s,SNR=5.6
FETA Feichten 149.13 355 ⇑*i*PKiKP **PKPbc 09 25 01.5 +0.1**
comp=Z,16nm,1.1s,SNR=7.7
ABTA Abfaltersbach 149.22 353 *i* PKPbc **PKPbc 09 25 00.8 -0.7**
comp=Z,24nm,1.3s,SNR=8.2
TUE Stuetta 149.77 357 *e*PKPbc **PKPbc 09 25 03.2 +0.2**
TRI Trieste 150.07 351 *e*PKP2 **PKPbc 09 25 03.4 -0.1**
TRI Trieste 150.07 351 *e*PKPbc **PKPbc 09 25 03.4 -0.1**
TRI *e*PKPab **PKPab 09 25 09.3 +0.1**
VTS Vitosha 150.32 336 ⇑*i*P **PKPbc 09 25 04.1 -0.3**
SSB Saint Sauveur 150.93 4 *e*PKIKP **PKPbc 09 25 06.1 +0.5**
SSB Saint Sauveur 150.93 4 *e*PKPbc **PKPbc 09 25 06.1 +0.5**
BNI Bardonecchia 151.24 1 *e*PKIKP **PKPbc 09 25 07.4 +0.9**
BNI *e* 09 25 15.1
BNI Bardonecchia 151.24 1 *e*PKPbc **PKPbc 09 25 07.4 +0.9**
BNI *e*PKPab **PKPab 09 25 15.1 +0.8**
TORD Torodi Ar. Bea 173.90 119 PKP **PKPdf 09 25 22.0 -1.3**
TORD PKPab **PKPab 09 26 52.9 -1.0**
TORD Torodi Ar. Bea 173.90 119 PKP **PKPdf 09 25 22.0 -1.3**
comp=Z,3.0nm,1.0s,baz=300,slow=0.9,SNR=13
TORD PKPab **PKPab 09 26 52.9 -1.0**
comp=Z,2.8nm,0.9s,baz=267,slow=4.7,SNR=11

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*CSEM **30** 09:08:08.4, 45°.88N×15°.05E, h0km, ML0.4, Suspected Mining explosion. After LJU*

LJU 30 09:08:08.4, 45°.88N×15°.05E, h0km, ML0.4 Artificial, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VISS	**Visnje**	**0.17**	**244**	*i* Pg	Pg	09 08 11.4	-0.2
VISS				*i* Sg	Sg	09 08 14.3	+0.5
VISS	comp=Z,9.0nm,0.1s						
VISS	**Visnje**	**0.17**	**244**	*i* Pg	Pg	09 08 11.4	-0.2
VISS				*i* Sg	Sg	09 08 14.3	+0.5
	comp=Z,9.0nm,0.1s						
PDKS	**Podkum**	**0.19**	**348**	*i* Pg	Pg	09 08 11.8	-0.3
PDKS				*i* Sg	Sg	09 08 15.1	+0.4
PDKS	comp=Z,7.0nm,0.1s						
PDKS	**Podkum**	**0.19**	**348**	*i* Pg	Pg	09 08 11.8	-0.4
PDKS				*i* Sg	Sg	09 08 15.1	+0.4
	comp=Z,7.0nm,0.1s						
LEGS	**Legarje**	**0.20**	**68**	*i* Pg	Pg	09 08 12.2	-0.1
LEGS				*i* Sg	Sg	09 08 15.2	+0.3
LEGS	**Legarje**	**0.20**	**68**	*i* Pg	Pg	09 08 12.2	-0.1
LEGS				*i* Sg	Sg	09 08 15.2	+0.3
CRES	**Cresnjev**	**0.29**	**100**	*i* Pg	Pg	09 08 14.3	+0.4
CRES				*i* Sg	Sg	09 08 18.1	+0.4
CRES	comp=Z,2.0nm,0.1s						
CRES	**Cresnjev**	**0.29**	**100**	*i* Pg	Pg	09 08 14.4	+0.4
CRES				*i* Sg	Sg	09 08 18.1	+0.4
	comp=Z,2.0nm,0.1s						

DJA 30 09:09:43.5±1.7, 0°N±16°×11°9E±1°0, h10km, M3.8/4, MLv3.8/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**2.52**	**90**	P	Pn	09 10 23.8	-0.7
MRSI				S	Sb	09 10 58.4	-1.6
APSI	**Ampana**	**2.62**	**122**	P	Pn	09 10 27.0	+1.1
MMSI	**Mamuju**	**3.19**	**189**	P	Pn	09 10 34.8	+1.0
GTOI	**Gorontalo**	**3.59**	**88**	P	Pn	09 10 39.9	+0.6

IDC 30 09:12:25.3±1.8, 14°.55S×173°.44W, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.6/18, mbtmp3.6/3, Error ellipse: s-maj=102.8km s-min=23.5km az=156.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.73**	**69**	Pn	Pn	09 12 56.8	0.0
	17nm,0.3s,baz=194,slow=17,SNR=3.8						
AFI				Sn	Sn	09 13 14.3	-5.3
	53nm,0.3s,baz=66,slow=20,SNR=6.4						
WRA	**Warramunga Arr**	**50.01**	**256**	P	P	09 21 21.6	-0.3
	0.4nm,0.9s,baz=92,slow=6.5,SNR=3.0						
ASAR	**Alice Springs**	**50.34**	**251**	P	P	09 21 24.4	0.0
	0.5nm,0.7s,baz=87,slow=8.0,SNR=6.9						
ILAR	**Eielson Array**	**81.62**	**11**	P	P	09 24 44.8	0.0
	0.6nm,1.0s,baz=201,slow=6.8,SNR=4.2						

IDC 30 09:14:57.0±1.9, 14°.90S×175°.53W, h301km, 20km, mb3.5/10, mb1 3.7/11, mb1mx3.5/21, mbtmp3.5/11, Error ellipse: s-maj=22.7km s-min=13.1km az=134.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.77**	**75**	P	Pn	09 16 00.8	-0.1
	26nm,0.3s,baz=275,slow=11,SNR=3.6						
AFI				S	S	09 16 53.6	+1.6
	17nm,0.3s,baz=41,slow=19,SNR=2.0						
URZ	**Urewera**	**24.16**	**194**	P	P	09 19 42.4	-4.2
	12nm,0.9s,baz=355,slow=11,SNR=2.5						
RPZ	**Rata Peaks**	**30.93**	**199**	P	P	09 20 46.4	-0.1
	6.5nm,0.7s,baz=350,slow=12,SNR=3.5						
CTA	**Charters Tower**	**36.75**	**256**	P	P	09 21 37.1	+0.5
	2.9nm,0.6s,baz=330,slow=21,SNR=3.8						
STKA	**Stephens Creek**	**42.52**	**239**	P	P	09 22 23.6	-0.1
	2.4nm,0.6s,baz=94,slow=7.4,SNR=12						
WRA	**Warramunga Arr**	**47.96**	**256**	P	P	09 23 06.0	-0.5
	1.2nm,0.7s,baz=82,slow=6.6,SNR=39						
WRA				PcP	PcP	09 24 29.6	0.0
	0.3nm,0.5s,baz=89,slow=3.7,SNR=2.8						
ASAR	**Alice Springs**	**48.31**	**251**	P	P	09 23 08.8	-0.3
	7.4nm,0.3s,baz=88,slow=7.5,SNR=78						
VNDA	**Vanda**	**63.67**	**185**	P	P	09 24 56.5	+0.2
	2.2nm,0.9s,baz=9.3,slow=3.8,SNR=10						
PETK	**Petropavlovsk-**	**71.54**	**343**	P	P	09 25 46.0	+0.5
	1.9nm,0.8s,baz=133,slow=10,SNR=3.1						
TXAR	**Lajitas Array**	**82.05**	**57**	P	P	09 26 45.0	+0.4
	0.2nm,0.7s,baz=210,slow=7.2,SNR=3.9						
ILAR	**Eielson Array**	**82.37**	**12**	P	P	09 26 45.1	-0.1
	0.7nm,0.6s,baz=219,slow=5.3,SNR=12						
PDAR	**Pinedale Array**	**83.28**	**43**	P	P	09 26 50.0	-0.7
	0.5nm,0.7s,baz=151,slow=3.4,SNR=4.2						
CMAR	**Chiang Mai Arr**	**90.50**	**289**	P	P	09 27 27.9	+2.2
	0.8nm,0.3s,baz=126,slow=2.3,SNR=3.2						
MKAR	**Makanchi Array**	**109.01**	**315**	PKiKP	PKiKP	09 32 50.0	-1.1
	0.2nm,0.6s,baz=50,slow=4.5,SNR=2.7						
KMBO	**Kilima Mbogo**	**143.87**	**247**	PKP	PKPbc	09 33 56.7	+0.1
	1.1nm,0.4s,baz=49,slow=21,SNR=4.7						
BRTR	**Keskin Array B**	**144.46**	**320**	PKP	PKPbc	09 33 57.8	+0.3
	3.7nm,0.8s,baz=95,slow=3.8,SNR=14						

IDC 30 09:21:10.3±8.5, 15°.58S×172°.15W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/21, mbtmp3.7/3, Error ellipse: s-maj=259.7km s-min=26.9km az=121.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.70**	**12**	Pn	Pn	09 21 41.2	-0.1
	12nm,0.3s,baz=266,slow=19,SNR=2.7						
AFI				Sn	Sg	09 22 07.8	+2.8
	40nm,0.3s,baz=212,slow=19,SNR=5.5						
STKA	**Stephens Creek**	**45.00**	**240**	P	P	09 29 27.5	-0.2
	1.5nm,0.9s,baz=112,slow=11,SNR=3.2						
WRA	**Warramunga Arr**	**50.98**	**257**	P	P	09 30 13.9	-0.3
	0.3nm,0.5s,baz=93,slow=7.2,SNR=11						
ASAR	**Alice Springs**	**51.20**	**252**	P	P	09 30 16.1	+0.1
	0.7nm,0.6s,baz=91,slow=8.3,SNR=9.0						

IDC 30 09:24:37.7±1.9, 15°.23S×172°.38W, h0km, mb3.7/7, mb1 4.1/7, mb1mx3.8/22, mbtmp3.7/7, Error ellipse: s-maj=121.3km s-min=22.7km az=151.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.44**	**24**	Pn	Pn	09 24 57.3	-7.9
	80nm,0.3s,baz=8.5,slow=2.7,SNR=7.3						
WRA	**Warramunga Arr**	**50.84**	**257**	P	P	09 33 39.9	-0.7
	0.5nm,0.9s,baz=90,slow=6.9,SNR=2.2						
ASAR	**Alice Springs**	**51.09**	**252**	P	P	09 33 42.2	-0.4
	1.2nm,0.8s,baz=86,slow=8.7,SNR=6.6						
YBH	**Yreka Blue Hor**	**72.88**	**37**	P	P	09 36 08.6	-0.1
	1.8nm,0.8s,baz=261,slow=7.9,SNR=3.9						
NVAR	**Mina Array Bea**	**73.55**	**42**	P	P	09 36 13.2	+0.2
	0.8nm,0.8s,baz=207,slow=6.2,SNR=3.7						
TXAR	**Lajitas Array**	**79.71**	**56**	P	P	09 36 48.1	+0.2
	0.7nm,1.0s,baz=208,slow=4.3,SNR=5.5						
PDAR	**Pinedale Array**	**81.49**	**41**	P	P	09 36 56.6	-0.7
	0.5nm,0.9s,baz=225,slow=3.6,SNR=4.0						
ILAR	**Eielson Array**	**82.10**	**11**	P	P	09 36 58.8	-0.9
	0.3nm,0.5s,baz=237,slow=6.3,SNR=4.5						
BRTR	**Keskin Array B**	**146.64**	**322**	PKPbc	PKPab	09 44 23.4	+0.4
	0.7nm,0.8s,baz=30,slow=4.0,SNR=3.5						

IDC 30 09:24:52.4±1.2, 15°.70S×172°.29W, h0km, mb4.2/7, mb1 4.3/7, mb1mx4.0/23, mbtmp4.2/7, Error ellipse: s-maj=38.6km s-min=26.5km az=127.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**44.81**	**240**	P	P	09 33 08.1	-0.3
	4.3nm,0.7s,baz=67,slow=9.6,SNR=8.7						
WRA	**Warramunga Arr**	**50.81**	**257**	P	P	09 33 54.5	-0.7
	2.2nm,0.7s,baz=93,slow=7.3,SNR=18						
ASAR	**Alice Springs**	**51.03**	**252**	P	P	09 33 55.9	-0.9
	6.5nm,0.6s,baz=87,slow=8.0,SNR=57						
FITZ	**Fitzroy Crossi**	**59.19**	**258**	P	P	09 34 56.3	+0.5
	0.9nm,0.6s,baz=84,slow=9.2,SNR=3.0						
QSPA	**South Pole Qui**	**74.34**	**180**	P	P	09 36 32.3	+0.4
	3.1nm,0.7s,baz=53,slow=1.4,SNR=9.3						
KSRS	**Korea Array**	**77.12**	**315**	P	P	09 36 49.5	+1.6
	1.3nm,0.8s,baz=119,slow=7.3,SNR=5.2						
ILAR	**Eielson Array**	**82.54**	**11**	P	P	09 37 15.3	-1.4
	0.5nm,0.7s,baz=220,slow=5.8,SNR=5.8						
GERES	**GERESS Array B**	**146.59**	**353**	PKPbc	PKPdf	09 44 35.2	+0.7
	0.3nm,0.2s,baz=20,slow=4.3,SNR=4.8						
BRTR	**Keskin Array B**	**147.06**	**322**	PKPbc	PKPbc	09 44 37.5	-0.2
	2.0nm,0.7s,baz=148,slow=2.0,SNR=9.9						

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*IDC **30** 09:29:21.2±0.4, 33°.10S×179°.07W, h0km, mb4.6/21, mb1 4.7/23, mb1mx4.7/26, mbtmp4.6/23, ML4.9/2, MS4.2/6, Ms1 4.2/6, ms1mx3.8/28, Error ellipse: s-maj=15.0km s-min=14.4km az=47.0*

*BJI **30** 09:29:22.8, 33°.94S×178°.55W, h35km, mB5.3/3, mb5.1/5, Ms5.3/4, Ms7 4.9/4*

*ISCJB **30** 09:29:27.0±0.3, 33°.26S±0°.05×179°.27W±0°.07, h45km, mb4.7/31, MS4.2/6, Error ellipse: s-maj=9.0km s-min=6.6km az=23.4*

*NEIC **30** 09:29:26.7±0.3, 33°.19S×179°.14W, h35km, mb4.9/11, Error ellipse: s-maj=9.2km s-min=6.9km az=114.0*

ISC 30 09:29:27.6±0.4, 33°.19S±0°.05×179°.04W±0°.07, h45km, n121, σ1°.45/125, mb4.8/29, MS4.1/6, 1C-1D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.04**	**14**	*e*Pn	**Pn**	**09 30 25.3**	**-1.6**
RAO				Sn	**Sn**	**09 31 11.8**	**-1.1**
RAO				*e*Sn	Sn	09 31 12.8	-0.2
RAO	**Raoul Island**	**4.04**	**14**	Pn	**Pn**	**09 30 24.4**	**-2.5**
	126nm,0.3s,baz=43,slow=19,SNR=9.4						
RAO				Sn	**Sn**	**09 31 11.8**	**-1.1**
	366nm,0.3s,baz=270,slow=22,SNR=5.3						
URZ	**Urewera**	**5.95**	**211**	*e*Pn	**Pn**	**09 30 51.0**	**-2.1**
URZ				Sn	**Sn**	**09 31 58.9**	**-1.0**
URZ	**Urewera**	**5.95**	**211**	Pn	**Pn**	**09 30 50.8**	**-2.3**
	21nm,0.3s,baz=255,slow=2.2,SNR=117						
URZ				Sn	**Sn**	**09 31 58.9**	**-1.0**
	72nm,0.3s,baz=145,slow=22,SNR=10.0						
OUZ	**Omahuta**	**6.43**	**250**	*e*Pn	**Pn**	**09 31 02.3**	**+2.7**
BKZ	**Black Stump Fm**	**6.97**	**210**	*e*Pn	**Pn**	**09 31 05.2**	**-2.0**
BFZ	**Birch Farm**	**8.37**	**205**	*e*Pn	Pn	09 31 22.6	-3.7
RPZ	**Rata Peaks**	**13.05**	**214**	*e*Pn	Pn	09 32 23.4	-6.9
RPZ				*e*Sn	Sn	09 34 37.4	-17
RPZ				Sn	Sn	09 34 40.0	-14
RPZ	**Rata Peaks**	**13.05**	**214**	Pn	Pn	09 32 23.2	-7.1
	1.5nm,0.3s,baz=327,slow=15,SNR=15						
RPZ				Sn	Sn	09 34 40.0	-14
	5.2nm,0.3s,baz=339,slow=21,SNR=10						
MSVF	**Nonsavu**	**15.61**	**350**	*e*Pn	**Pn**	**09 33 03.6**	**-1.0**
	22nm,0.9s						
DZM	**Mont Dzumac**	**16.95**	**307**	*e*P	**P**	**09 33 24.3**	**+1.2**
	110nm,1.2s						
DZM				*e*LR	LR	09 37 24.9	
	2μm,24.9s						
DZM	**Mont Dzumac**	**16.95**	**307**	*e*P	**P**	**09 33 24.7**	**+1.7**
DZM	**Mont Dzumac**	**16.95**	**307**	Pn	**P**	**09 33 24.2**	**+1.2**
	0.4nm,0.3s,baz=111,slow=14,SNR=7.5						
DZM				LR	LR	09 38 28.5	
	comp=Z,1μm,20.3s,baz=307,slow=32						
RAR	**Rarotonga**	**20.84**	**60**	LR	LR	09 39 39.5	
	comp=Z,719nm,19.2s,baz=91,slow=30						
EIDS	**Eidsvold**	**27.13**	**279**	P	**P**	**09 35 05.9**	**-0.6**
	10nm,0.8s						
TBI	**Tubuai**	**27.76**	**77**	*e*LR	LR	09 42 15.3	
	771nm,27.8s,baz=248						
HNR	**Honiara**	**30.56**	**316**	P	**P**	**09 35 37.6**	**+0.5**
HNR	**Honiara**	**30.56**	**316**	P	**P**	**09 35 37.6**	**+0.5**
	63nm,0.7s,baz=108,slow=6.4,SNR=2.4						
HNR				LR	LR	09 45 41.3	
	comp=Z,295nm,20.4s,baz=141,slow=32						
PPT2	**Papeete2**	**30.68**	**67**	*e*LR	LR	09 43 30.8	
	630nm,27.2s,baz=235						
PPT	**Papeete**	**30.70**	**67**	LR	LR	09 44 12.5	
	comp=Z,485nm,19.5s,baz=173,slow=29						
STKA	**Stephens Creek**	**33.08**	**261**	P	**P**	**09 35 59.9**	**+0.8**
STKA	**Stephens Creek**	**33.08**	**261**	P	**P**	**09 35 59.9**	**+0.8**
	1.6nm,0.6s,baz=144,slow=22,SNR=4.4						
CTA	**Charters Tower**	**33.49**	**284**	P	**P**	**09 36 03.9**	**+1.1**
CTA	**Charters Tower**	**33.49**	**284**	P	**P**	**09 36 03.9**	**+1.1**
	8.5nm,0.6s,baz=114,slow=11,SNR=18						
CTAO	**Charters Tower**	**33.49**	**284**	*e*P	**P**	**09 36 03.6**	**+0.8**
	11nm,0.5s						
PMG	**Port Moresby**	**39.10**	**300**	P	**P**	**09 36 49.9**	**-0.8**
PMG	**Port Moresby**	**39.10**	**300**	P	**P**	**09 36 49.9**	**-0.8**
	12nm,0.6s,baz=158,slow=12,SNR=4.5						
PMG				LR	LR	09 50 27.3	
	comp=Z,385nm,18.4s,baz=157,slow=32						
RKT	**Rikitea**	**39.88**	**87**	*e*LR	LR	09 47 54.9	
	717nm,27.2s						
AS31	**Alice Springs**	**42.16**	**270**	*e*P	**P**	**09 37 15.8**	**-0.1**
ASAR	**Alice Springs**	**42.16**	**270**	P	**P**	**09 37 15.7**	**-0.2**
ASAR				S	**S**	**09 43 29.0**	**-3.9**
ASAR	**Alice Springs**	**42.16**	**270**	P	**P**	**09 37 15.7**	**-0.2**
	8.2nm,0.8s,baz=110,slow=7.8,SNR=50						
ASAR				S	**S**	**09 43 29.0**	**-3.9**
	1.9nm,0.8s,baz=117,slow=16,SNR=8.1						
WRAB	**Tennant Creek**	**43.40**	**276**	*e*P	**P**	**09 37 24.9**	**-1.0**
	14nm,0.8s						
WRA	**Warramunga Arr**	**43.40**	**276**	P	**P**	**09 37 25.1**	**-0.9**
WRA				S	**S**	**09 43 48.9**	**-2.2**
WRA	**Warramunga Arr**	**43.40**	**276**	P	**P**	**09 37 25.1**	**-0.9**
	8.5nm,0.4s,baz=114,slow=8.1,SNR=271						
WRA				S	**S**	**09 43 48.9**	**-2.2**
	1.6nm,1.1s,baz=107,slow=15,SNR=5.2						
SBA	**Scott Base**	**45.20**	**184**	*e*P	**P**	**09 37 42.3**	**+2.8**
	86nm,2.5s						
VNDA	**Vanda**	**45.24**	**186**	P	**P**	**09 37 41.7**	**+1.8**
VNDA	**Vanda**	**45.24**	**186**	P	**P**	**09 37 41.7**	**+1.8**
	2.2nm,1.2s,baz=333,slow=8.2,SNR=4.4						
VNDA				LR	LR	09 52 13.0	
	comp=Z,123nm,18.5s,baz=10,slow=30						
FITZ	**Fitzroy Crossi**	**51.53**	**273**	*e*P	**P**	**09 38 28.5**	**-0.7**
FITZ	**Fitzroy Crossi**	**51.53**	**273**	P	**P**	**09 38 28.3**	**-0.9**
	6.5nm,0.7s,baz=142,slow=5.5,SNR=35						
CASY	**Casey**	**52.27**	**209**	*e*P	**P**	**09 38 33.2**	**-0.8**
QSPA	**South Pole Qui**	**56.93**	**180**	*e*P	**P**	**09 39 09.9**	**+2.0**
	28nm,0.9s						
QSPA	**South Pole Qui**	**56.93**	**180**	P	**P**	**09 39 10.0**	**+2.0**
	23nm,0.7s,baz=34,slow=2.0,SNR=106						
BATI	**Baumata**	**57.18**	**280**	P	**P**	**09 39 11.8**	**+1.5**
BATI	**Baumata**	**57.18**	**280**	P	**P**	**09 39 11.8**	**+1.5**
	13nm,0.4s,baz=146,slow=3.2,SNR=3.5						
MAW	**Mawson**	**69.39**	**201**	*e*P	**P**	**09 40 30.2**	**-0.1**
MAW	**Mawson**	**69.39**	**201**	P	**P**	**09 40 29.9**	**-0.4**
	1.9nm,0.4s,baz=158,slow=4.6,SNR=9.4						
SYO	**Syowa Base**	**74.20**	**194**	‖*e*P	**P**	**09 40 57.4**	**-1.7**
SYO	**Syowa Base**	**74.20**	**194**	‖*e*pP	pP	09 41 07.6	-4.7
SYO	**Syowa Base**	**74.20**	**194**	*e*SH	**S**	**09 50 28.0**	**-0.9**
SNAA	**Sanae**	**75.40**	**179**	*e*P	**P**	**09 41 06.5**	**+0.4**
	14nm,0.9s						
MJAR	**Matsushiro Arr**	**80.04**	**326**	P	**P**	**09 41 31.4**	**-0.8**
MJAR	**Matsushiro Arr**	**80.04**	**326**	P	**P**	**09 41 31.4**	**-0.8**
	1.8nm,1.0s,baz=165,slow=5.7,SNR=4.1						
PLCA	**Paso Flores**	**81.26**	**133**	P	**P**	**09 41 40.6**	**+1.5**
PLCA	**Paso Flores**	**81.26**	**133**	P	**P**	**09 41 40.6**	**+1.5**
	9.7nm,0.9s,baz=226,slow=5.2,SNR=15						
KSRS	**Korea Array**	**85.91**	**320**	P	**P**	**09 42 02.5**	**0.0**
	1.8nm,0.7s,baz=141,slow=5.1,SNR=6.9						
KSAR	**Wonju Array Be**	**85.92**	**320**	P	**P**	**09 42 02.5**	**-0.1**
PETK	**Petropavlovsk-**	**88.29**	**346**	P	**P**	**09 42 14.6**	**+0.8**
PETK	**Petropavlovsk-**	**88.29**	**346**	P	**P**	**09 42 14.6**	**+0.8**
	2.5nm,0.7s,baz=134,slow=8.3,SNR=4.5						
PFO	**Pinyon Flat Ob**	**88.74**	**48**	P	**P**	**09 42 17.8**	**+1.3**
PFO	**Pinyon Flat Ob**	**88.74**	**48**	P	**P**	**09 42 17.8**	**+1.3**
	3.2nm,0.8s,baz=281,slow=5.2,SNR=3.6						
ISA	**Isabella**	**88.89**	**45**	*e*P	**P**	**09 42 18.5**	**+1.4**
	4.7nm,1.1s						
USRK	**Ussuriysk Arra**	**89.00**	**327**	P	**P**	**09 42 18.3**	**+1.1**
	1.3nm,0.6s,baz=158,slow=3.6,SNR=4.8						
GSC	**Goldstone**	**89.65**	**46**	*e*P	**P**	**09 42 22.1**	**+1.4**
	9.0nm,1.3s						
YBH	**Yreka Blue Hor**	**90.77**	**39**	P	**P**	**09 42 25.9**	**+0.2**
YBH	**Yreka Blue Hor**	**90.77**	**39**	P	**P**	**09 42 25.9**	**+0.2**
	6.5nm,1.2s,baz=174,slow=9.2,SNR=3.2						
NVAR	**Mina Array Bea**	**90.88**	**43**	P	**P**	**09 42 27.0**	**+0.5**
NVAR	**Mina Array Bea**	**90.88**	**43**	P	**P**	**09 42 27.0**	**+0.5**
	2.4nm,0.9s,baz=209,slow=7.2,SNR=9.2						
TUC	**Tucson**	**91.53**	**52**	*e*P	**P**	**09 42 31.2**	**+1.7**
	9.0nm,1.7s						
CN2	**Changchun**	**91.83**	**323**	*e*P	P	09 42 33.8	+3.3
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
GYA	**Guiyang**	**92.17**	**300**	*e*P	**P**	**09 42 34.3**	**+1.6**
GYA				pP	**pP**	**09 42 45.3**	**-0.8**
GYA				PP	**PP**	**09 46 17.5**	**+3.9**
GYA				SKS	**SKSac**	**09 53 02.5**	**+0.1**
GYA				S	**S**	**09 53 31.8**	**-0.3**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KMI	**Kunming**	**94.29**	**297**	P	**P**	**09 42 44.5**	**+1.9**
TXAR	**Lajitas Array**	**94.63**	**58**	P	**P**	**09 42 44.8**	**+0.9**
TXAR	**Lajitas Array**	**94.63**	**58**	P	**P**	**09 42 44.8**	**+0.9**
	comp=Z,0.3nm,0.8s,baz=202,slow=5.3,SNR=3.5						
CD2	**Chengdu**	**96.82**	**302**	P	**P**	**09 42 55.0**	**+1.2**
HHC	**Hu-ho-hao-te**	**97.53**	**314**	*e*P	Pdif	09 42 57.8	+0.9
HHC				pP	pP	09 43 08.3	-2.0
HHC				sP	sP	09 43 12.3	-3.0
HHC				PP	**PP**	**09 46 58.8**	**+3.7**
HHC				SKS	**SKSac**	**09 53 31.5**	**+1.1**
HHC				S	**S**	**09 54 17.3**	**-0.9**
HHC				sS	sS	09 54 35.0	-6.0
HHC				LR	LR		
	comp=N,260nm,15.1s						
HHC				LR	LR		
	comp=E,290nm,15.3s						
HHC				LR	LR		
	comp=Z,230nm,16.9s						
LPAZ	**La Paz**	**97.79**	**115**	P	Pdif	09 43 00.6	+1.2
LPAZ	**La Paz**	**97.79**	**115**	P	Pdif	09 43 00.6	+1.2
	comp=Z,0.7nm,0.8s,baz=232,slow=14,SNR=2.9						
PDAR	**Pinedale Array**	**98.75**	**44**	P	Pdif	09 43 03.6	+1.2
PDAR	**Pinedale Array**	**98.75**	**44**	P	Pdif	09 43 03.6	+1.2
	comp=Z,0.4nm,0.7s,baz=161,slow=5.7,SNR=3.0						
LZH	**Lanzhou**	**99.67**	**307**	*e*P	**Pdif**	**09 43 08.3**	**+1.7**
LZH				pP	**pP**	**09 43 18.8**	**-1.3**
LZH				sP	**sP**	**09 43 23.5**	**-1.6**
ILAR	**Eielson Array**	**100.84**	**13**	P	**Pdif**	**09 43 11.8**	**+1.0**
ILAR	**Eielson Array**	**100.84**	**13**	P	**Pdif**	**09 43 11.8**	**+1.0**
	comp=Z,0.4nm,0.9s,baz=222,slow=6.4,SNR=6.1						
WMOK	**Wichita Mounta**	**101.08**	**56**	Pn	**Pdif**	**09 43 15.1**	**+2.3**
	comp=Z,7.6nm,1.0s						
WMQ	**Urumqi**	**114.23**	**308**	*e*PKP	PKPdf	09 48 01.8	-0.1
BOSA	**Boshof**	**114.36**	**203**	PKP	PKPdf	09 48 02.3	-0.6
BOSA	**Boshof**	**114.36**	**203**	PKP	PKPdf	09 48 02.3	-0.6
	comp=Z,3.7nm,0.9s,baz=103,slow=1.2,SNR=3.1						
MKAR	**Makanchi Array**	**118.86**	**309**	PKP	**PKPdf**	**09 48 09.0**	**-1.7**
MKAR				PKKPbc	**PKKPab**	**09 58 26.9**	**+0.4**
MKAR	**Makanchi Array**	**118.86**	**309**	PKP	**PKPdf**	**09 48 09.0**	**-1.7**
	comp=Z,1.0nm,0.8s,baz=60,slow=4.9,SNR=5.3						
MKAR				PKKPbc	**PKKPab**	**09 58 26.9**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=308,slow=2.6,SNR=5.2						
ZALV	**Zalesovo Beam**	**119.50**	**318**	PKP	**PKPdf**	**09 48 10.1**	**-1.5**
ZALV	**Zalesovo Beam**	**119.50**	**318**	PKP	**PKPdf**	**09 48 10.1**	**-1.5**
	comp=Z,1.2nm,0.3s,baz=125,slow=4.2,SNR=2.8						
KSH	**Kashi**	**120.86**	**299**	*e*PKP

3.5nm,0.7s,baz=90,slow=8.1,SNR=7.5
QSPA South Pole Qui 73.96 180 P P 09 43 28.0 +0.1
3.2nm,0.8s,baz=346,slow=3.3,SNR=4.4
PDAR Pinedale Array 82.85 42 P P 09 44 17.0 -0.5
0.6nm,0.8s,baz=207,slow=1.7,SNR=3.6
ILAR Eielson Array 83.14 11 P P 09 44 17.7 -0.5
0.4nm,0.6s,baz=229,slow=6.2,SNR=6.0
BRTR Keskin Array B 146.62 320 PKPbc PKPbc 09 51 35.0 +0.1
2.5nm,0.9s,baz=101,slow=1.3,SNR=6.7
GERES GERESS Array B 146.80 351 PKPbc PKPbc 09 51 34.9 -0.1
0.5nm,0.4s,baz=5.7,slow=4.0,SNR=4.6

IDC 30 09:37:16.8±1.5, 15°.88S×172°.62W, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.7/22, mbtmp3.7/4, Error ellipse: s-maj=45.9km s-min=38.2km az=132.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**50.47**	**257**	P	P	09 46 17.2	+0.3
	0.2nm,0.5s,baz=95,slow=8.4,SNR=5.3						
ASAR	**Alice Springs**	**50.68**	**252**	P	P	09 46 18.1	-0.4
	0.8nm,0.5s,baz=89,slow=8.0,SNR=14						
QSPA	**South Pole Qui**	**74.17**	**180**	P	P	09 48 55.4	+0.2
	1.0nm,0.8s,baz=64,slow=2.2,SNR=4.1						
ILAR	**Eielson Array**	**82.77**	**11**	P	P	09 49 42.2	-0.1
	0.3nm,0.5s,baz=213,slow=5.2,SNR=4.6						

IDC 30 09:39:54.7±4.2, 15°.33S×172°.00W, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.4/21, mbtmp3.3/2, Error ellipse: s-maj=124.3km s-min=21.7km az=117.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.43**	**9**	Pn	Pg	09 40 22.2	-0.1
	21nm,0.3s,baz=199,slow=18,SNR=3.5						
AFI				Sn	Sn	09 40 42.0	+0.3
	106nm,0.3s,baz=349,slow=21,SNR=12						
WRA	**Warramunga Arr**	**51.18**	**257**	P	P	09 48 59.3	-0.9
	0.3nm,0.8s,baz=98,slow=6.0,SNR=2.9						
ASAR	**Alice Springs**	**51.42**	**252**	P	P	09 49 02.5	+0.5
	0.3nm,0.5s,baz=85,slow=8.3,SNR=6.6						
BRTR	**Keskin Array B**	**146.94**	**322**	PKPbc	PKPbc	09 59 39.1	-0.6
	0.3nm,0.4s,baz=351,slow=1.9,SNR=2.5						

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*ISCJB **30** 09:43:07.6±0.9, 34°.42N±0°.02×36°.69E±0°.06, h3km±6km, Error ellipse: s-maj=7.8km s-min=4.1km az=3.0*
*NSSC **30** 09:43:07.1±3.2, 34°.40N×36°.63E, h0km±10km, MD1.7, ML1.8*
*CSEM **30** 09:43:08.3±0.2, 34°.41N×36°.64E, h5km, ML1.8, Error ellipse: s-maj=6.9km s-min=4.4km az=97.0*
*GRAL **30** 09:43:08.5±0.5, 34°.37N×36°.78E, h2km±13km, MD2.9*
ISC 30 09:43:08.2±1.3, 34°.42N±0°.03×36°.66E±0°.04, h6km±10km, n21, σ1°.02/36, 9C-7D, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FKH	**Fakeheh**	**0.27**	**230**	*e*P	**Pg**	**09 43 14.2**	**+0.6**
FKH				*e*S	**Sg**	**09 43 18.9**	**+1.7**
FKH	**Fakeheh**	**0.27**	**230**	*e*P	**Pg**	**09 43 14.2**	**+0.6**
FKH				*e*S	**Sg**	**09 43 18.9**	**+1.7**
MARH	**Ras Al Marh**	**0.42**	**201⇑**	*e*P	**Pg**	**09 43 13.8**	**-2.6**
MARH				*e*S	**Sg**	**09 43 21.1**	**-0.9**
MARH				AML	AML	09 43 23.4	
	comp=N,96nm,0.2s						
MARH				AML	AML	09 43 32.3	
	comp=E,150nm,0.4s						
ROOS	**tl_alroos**	**0.57**	**116⇓**	*e*P	**Pg**	**09 43 17.8**	**-1.5**
ROOS			⇓	*e*P	**Pg**	**09 43 20.0**	**+0.8**
ROOS	**tl_alroos**	**0.57**	**116⇓**	*e*P	**Pg**	**09 43 20.0**	**+0.8**
	SNR=75						
HWQ	**Hawqa**	**0.61**	**257**	*e*P	**Pb**	**09 43 20.9**	**-0.4**
HWQ	**Hawqa**	**0.61**	**257**	*e*P	**Pb**	**09 43 20.9**	**-0.4**
TOTH	**TOTAH**	**1.07**	**191**	*e*P	Pg	09 43 25.5	-3.3
TOTH				*e*S	**Sg**	**09 43 42.4**	**-0.3**
TOTH				AML	AML	09 43 49.3	
	comp=N,20nm,0.4s						
TOTH				AML	AML	09 43 50.7	
	comp=E,21nm,0.5s						
RCY	**Rachaya**	**1.15**	**217**	*e*P	**Pg**	**09 43 29.7**	**-0.5**
RCY				*e*S	**Sg**	**09 43 44.9**	**-0.2**
BRBR	**Barbar**	**1.17**	**211⇓**	*e*P	**Pg**	**09 43 29.2**	**-1.4**
BRBR				*e*S	**Sg**	**09 43 44.9**	**-0.8**
BRBR				AML	AML	09 43 52.7	
	comp=N,32nm,0.5s						
BRBR				AML	AML	09 43 55.1	
	comp=E,25nm,0.3s						
BRBR	**Barbar**	**1.17**	**211⇓**	*e*P	**Pg**	**09 43 29.2**	**-1.4**
	SNR=57						
BRBR				*e*S	**Sg**	**09 43 44.9**	**-0.8**
	comp=E,25nm,0.3s,SNR=49						
ARNB	**Al Arnab**	**1.54**	**339⇑**	*e*P	**Pn**	**09 43 37.5**	**+1.1**
ARNB				*e*S	**Sn**	**09 43 57.5**	**+0.7**
ARNB				AML	AML	09 44 03.9	
	comp=E,77nm,0.3s						
ARNB				AML	AML	09 44 04.8	
	comp=N,40nm,0.3s						
ARNB	**Al Arnab**	**1.54**	**339⇑**	*e*P	**Pn**	**09 43 37.5**	**+1.1**
	SNR=57						
ARNB				*e*S	**Sn**	**09 43 57.5**	**+0.7**
	comp=N,40nm,0.3s,SNR=49						
ZALF	**Zalf**	**1.59**	**159⇓**	*e*P	**Pn**	**09 43 37.7**	**+0.7**
ZALF				*e*S	**Sn**	**09 43 58.2**	**+0.3**
ZALF				AML	AML	09 44 04.2	
	comp=E,19nm,0.3s						
ZALF				AML	AML	09 44 04.3	
	comp=N,21nm,0.4s						
ZALF	**Zalf**	**1.59**	**159⇓**	*e*P	**Pn**	**09 43 37.7**	**+0.7**
	SNR=57						
ZALF				*e*S	**Sn**	**09 43 58.2**	**+0.3**
	comp=N,21nm,0.4s,SNR=49						
BTCH	**Batrach**	**1.62**	**354⇑**	*e*P	**Pn**	**09 43 36.4**	**-1.0**
BTCH				*e*S	**Sn**	**09 43 58.3**	**-0.4**
BTCH	**Batrach**	**1.62**	**354⇑**	*e*P	**Pn**	**09 43 36.4**	**-1.0**
	SNR=57						
BTCH				*e*S	**Sn**	**09 43 58.3**	**-0.4**
	SNR=49						
SALA	**Sala**	**1.71**	**178⇑**	*e*P	**Pn**	**09 43 39.5**	**+0.9**
SALA				*e*S	**Sb**	**09 44 02.4**	**+0.6**
SALA				AML	AML	09 44 04.6	
	comp=E,4.4nm,0.4s						
SALA				AML	AML	09 44 09.8	
	comp=N,29nm,0.3s						
SALA	**Sala**	**1.71**	**178⇑**	*e*P	**Pn**	**09 43 39.5**	**+0.9**
	SNR=57						
SALA				*e*S	**Sb**	**09 44 02.4**	**+0.6**
	comp=N,29nm,0.3s,SNR=40						
DRWC	**Darouich**	**2.20**	**0⇑**	*e*P	**Pn**	**09 43 45.1**	**-0.2**
DRWC	**Darouich**	**2.20**	**0⇑**	*e*P	**Pn**	**09 43 45.1**	**-0.2**
	SNR=45						

IDC 30 09:46:24.6±2.9, 14°.91S×174°.28W, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.7/19, mbtmp3.7/4, Error ellipse: s-maj=162.1km s-min=26.2km az=147.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.62**	**68**	Sn	Sn	09 47 27.8	-13
	28nm,0.3s,baz=73,slow=19,SNR=2.4						
WRA	**Warramunga Arr**	**49.13**	**256**	P	P	09 55 14.1	-0.5
	0.3nm,0.5s,baz=90,slow=7.1,SNR=8.1						
ASAR	**Alice Springs**	**49.46**	**252**	P	P	09 55 16.7	-0.3
	1.1nm,0.6s,baz=89,slow=7.7,SNR=13						
NVAR	**Mina Array Bea**	**74.53**	**42**	P	P	09 58 05.6	0.0
	0.6nm,0.6s,baz=228,slow=10,SNR=3.4						
ILAR	**Eielson Array**	**82.13**	**11**	P	P	09 58 45.9	-0.9
	0.3nm,0.5s,baz=206,slow=5.8,SNR=5.1						
BRTR	**Keskin Array B**	**145.24**	**321**	PKPbc	PKPdf	10 06 05.6	+0.7
	1.7nm,0.9s,baz=29,slow=1.3,SNR=4.9						

IDC 30 09:48:11.0±0.9, 15°.16S×173°.19W, h0km, mb3.7/6, mb1 4.1/6, mb1mx3.8/21, mbtmp3.7/6, Error ellipse: s-maj=46.2km s-min=24.2km az=139.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.84**	**48**	Pn	Pn	09 48 40.2	-3.8
	32nm,0.3s,baz=190,slow=11,SNR=3.0						
AFI				Sn	Sn	09 48 56.2	-12
	144nm,0.3s,baz=228,slow=18,SNR=7.3						
WRA	**Warramunga Arr**	**50.10**	**257**	P	P	09 57 07.8	-0.5
	0.2nm,0.3s,baz=92,slow=6.9,SNR=4.7						
ASAR	**Alice Springs**	**50.38**	**252**	P	P	09 57 10.4	0.0
	1.3nm,0.8s,baz=87,slow=7.7,SNR=8.1						
VNDA	**Vanda**	**63.64**	**186**	P	P	09 58 43.0	-0.5
	0.3nm,0.4s,baz=15,slow=7.1,SNR=4.9						
TXAR	**Lajitas Array**	**80.31**	**56**	P	P	10 00 25.2	+0.8
	1.1nm,1.1s,baz=224,slow=6.3,SNR=4.7						
PDAR	**Pinedale Array**	**81.95**	**42**	P	P	10 00 33.2	+0.1
	0.2nm,0.5s,baz=267,slow=7.9,SNR=2.5						
ILAR	**Eielson Array**	**82.17**	**11**	P	P	10 00 31.7	-1.7
	0.5nm,0.9s,baz=209,slow=5.0,SNR=3.6						

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*IDC **30** 09:53:36.7±0.6, 15°.50S×172°.07W, h0km, mb4.3/12, mb1 4.5/12, mb1mx4.3/21, mbtmp4.3/12, MS3.7/1, Ms1 3.7/1, ms1mx3.2/39, Error ellipse: s-maj=24.6km s-min=15.8km az=128.0*
*NEIC **30** 09:53:38.3±0.3, 15°.49S×172°.03W, h10km, mb4.6/4, Error ellipse: s-maj=15.1km s-min=8.6km az=136.0*
*ISCJB **30** 09:53:39.3±0.2, 15°.39S±0°.07×172°.19W±0°.07, h23km, mb4.3/18, Error ellipse: s-maj=11.8km s-min=6.5km az=136.1*
*SZGRF **30** 09:53:41.3, 16°.07S×171°.55W, h33km, Samoa Islands region*
ISC 30 09:53:40.6±0.4, 15°.37S±0°.07×172°.0W±0°.1, h23km, n210, σ0°.96/210, mb4.4/18, 80C-63D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.48**	**10**	*e*Pn	**Pn**	**09 54 05.6**	**-0.3**
AFI				*e*Sn	**Sn**	**09 54 22.0**	**-2.5**
AFI				Sn	**Sn**	**09 54 23.6**	**-0.8**
AFI	**Afiamalu**	**1.48**	**10**	Pn	**Pn**	**09 54 05.5**	**-0.3**
	297nm,0.3s,baz=67,slow=1.1,SNR=41						
AFI				Sn	**Sn**	**09 54 23.6**	**-0.8**
	1μm,0.3s,baz=48,slow=19,SNR=77						
AFI				LR	LR	09 54 50.5	
	comp=Z,1μm,20.6s,baz=273,slow=46						
MSVF	**Nonsavu**	**9.79**	**255**	*e*Pn	**Pn**	**09 56 01.1**	**+0.9**
	22nm,0.9s						
RAR	**Rarotonga**	**13.01**	**118**	*e*Pn	Pn	09 56 38.7	-5.4
	55nm,0.6s						
RAR	**Rarotonga**	**13.01**	**118**	Pn	Pn	09 56 38.0	-6.1
	6.4nm,0.3s,baz=270,slow=11,SNR=7.2						
RAR				LR	LR	10 00 31.4	
	comp=Z,330nm,21.6s,baz=91,slow=32						
DZM	**Mont Dzumac**	**21.43**	**249**	*e*P	P	09 58 31.8	+4.5
	51nm,1.4s						
DZM				*e*LR	LR	10 03 47.5	
	316nm,26.5s						
PPT2	**Papeete2**	**21.65**	**99**	*e*LR	LR	09 58 24.7	
	192nm,25.2s						
PPT2	**Papeete2**	**21.65**	**99**	*e*LR	LR	10 03 30.8	
	246nm,25.0s						
TBI	**Tubuai**	**22.71**	**114**	*e*LR	LR	09 58 38.2	
	154nm,25.8s						
TBI	**Tubuai**	**22.71**	**114**	*e*LR	LR	10 03 51.3	
	266nm,25.2s						
URZ	**Urewera**	**24.73**	**201**	P	**P**	**09 59 03.0**	**+2.7**
URZ	**Urewera**	**24.73**	**201**	P	**P**	**09 59 03.0**	**+2.7**
	5.6nm,0.4s,baz=344,slow=7.4,SNR=4.0						
STKA	**Stephens Creek**	**45.19**	**240**	P	**P**	**10 01 55.0**	**-1.0**
STKA	**Stephens Creek**	**45.19**	**240**	P	**P**	**10 01 55.0**	**-1.0**
	3.2nm,0.8s,baz=36,slow=9.2,SNR=3.9						
WRAB	**Tennant Creek**	**51.12**	**257**	*e*P	**P**	**10 02 41.4**	**-0.6**
	0.5nm,0.3s						
WRA	**Warramunga Arr**	**51.13**	**257**	P	**P**	**10 02 40.5**	**-1.6**
WRA	**Warramunga Arr**	**51.13**	**257**	P	**P**	**10 02 40.5**	**-1.6**
	0.8nm,0.5s,baz=92,slow=7.0,SNR=21						
AS31	**Alice Springs**	**51.37**	**252**	*e*P	**P**	**10 02 42.5**	**-1.4**
ASAR	**Alice Springs**	**51.37**	**252**	P	**P**	**10 02 42.6**	**-1.3**
ASAR	**Alice Springs**	**51.37**	**252**	P	**P**	**10 02 42.6**	**-1.3**
	6.4nm,0.6s,baz=87,slow=8.0,SNR=118						
VNDA	**Vanda**	**63.54**	**186**	P	**P**	**10 04 08.1**	**-0.7**
VNDA	**Vanda**	**63.54**	**186**	P	**P**	**10 04 08.1**	**-0.7**
	1.4nm,0.8s,baz=14,slow=7.1,SNR=7.0						
MURC	**Murrieta**	**71.42**	**46**	⇑P	**P**	**10 05 00.4**	**+1.1**
	baz=72						
EDW2	**Edwards Air Fo**	**71.60**	**45**	⇓P	**P**	**10 05 01.2**	**+0.8**
	baz=72						
MPMC	**Manual Prospec**	**72.60**	**44**	⇑P	**P**	**10 05 07.8**	**+1.2**
	baz=73						
PETK	**Petropavlovsk-**	**73.01**	**341**	P	**P**	**10 05 09.8**	**+1.5**
PETK	**Petropavlovsk-**	**73.01**	**341**	P	**P**	**10 05 09.8**	**+1.5**
	6.0nm,0.7s,baz=134,slow=11,SNR=3.8						
GRAC	**Grapevine Rang**	**73.21**	**43**	⇑P	**P**	**10 05 11.5**	**+1.6**
	baz=74						
113A	**Mohawk Valley,**	**73.41**	**48**	⇑P	**P**	**10 05 12.4**	**+1.3**
	baz=74						
NVAR	**Mina Array Bea**	**73.43**	**41**	P	**P**	**10 05 12.4**	**+1.0**
NVAR	**Mina Array Bea**	**73.43**	**41**	P	**P**	**10 05 12.4**	**+1.0**
	2.9nm,0.8s,baz=229,slow=10,SNR=9.4						
Y14A	**Wickenburg**	**74.56**	**48**	⇑P	**P**	**10 05 19.1**	**+1.3**
	baz=75						
QSPA	**South Pole Qui**	**74.67**	**180**	*e*P	**P**	**10 05 17.1**	**-1.1**
	18nm,1.3s						
R11A	**Troy Canyon, C**	**75.14**	**43**	⇑P	**P**	**10 05 22.5**	**+1.1**
	baz=75						
WUAZ	**Wupatki**	**76.51**	**47**	⇑P	**P**	**10 05 29.7**	**+0.5**
	baz=77						
220A	**Playas Peak, P**	**76.85**	**51**	⇑P	**P**	**10 05 32.9**	**+1.7**
	baz=77						
KSRS	**Korea Array**	**77.06**	**315**	P	**P**	**10 05 33.2**	**+1.2**
	1.5nm,0.8s,baz=118,slow=6.2,SNR=5.5						
120A	**U Bar Ranch, L**	**77.07**	**51**	⇑P	**P**	**10 05 33.9**	**+1.5**
	baz=77						
KSAR	**Wonju Array Be**	**77.09**	**315**	P	**P**	**10 05 33.2**	**+1.1**
Z20A	**Nine Sixteen R**	**77.36**	**50**	⇓P	**P**	**10 05 35.4**	**+1.3**
	baz=78						
121A	**Cookes Peak, D**	**77.70**	**51**	⇓P	**P**	**10 05 37.3**	**+1.3**
	baz=78						
MFID	**Camas Ranch**	**77.84**	**38**	⇓P	**P**	**10 05 37.1**	**+0.6**
	baz=78						
Y20A	**Horse Springs,**	**77.89**	**50**	⇑P	**P**	**10 05 38.7**	**+1.6**
	baz=78						
DUG	**Dugway**	**77.95**	**42**	⇑P	**P**	**10 05 38.0**	**+0.8**
	baz=78						
X20A	**Quemado**	**78.10**	**49**	⇓P	**P**	**10 05 39.3**	**+1.0**
	baz=78						
Z21A	**St. Cloud Mine**	**78.14**	**50**	⇓P	**P**	**10 05 39.7**	**+1.3**
	baz=78						
W20A	**Ramah**	**78.37**	**49**	⇓P	**P**	**10 05 40.8**	**+1.1**
	baz=79						
Y21A	**Point of Rocks**	**78.46**	**50**	⇑P	**P**	**10 05 41.3**	**+1.0**
	baz=79						
X21A	**Alamocita Cree**	**78.58**	**49**	⇑P	**P**	**10 05 42.1**	**+1.2**
	baz=79						
HLID	**Hailey**	**78.78**	**39**	⇓P	**P**	**10 05 42.4**	**+0.7**
	baz=79						
U20A	**Newcomb**	**78.95**	**47**	⇓P	**P**	**10 05 44.0**	**+1.2**
	baz=79						
324A	**Moseley Ranch,**	**78.97**	**53**	⇓P	**P**	**10 05 44.0**	**+1.0**
	baz=79						
425A	**Indio Mountain**	**79.07**	**54**	⇓P	**P**	**10 05 44.5**	**+1.0**
	baz=79						
Z23A	**Rita Site, Whi**	**79.19**	**51**	⇓P	**P**	**10 05 45.1**	**+0.9**
	baz=79						
224A	**Cornudas Mount**	**79.21**	**52**	⇓P	**P**	**10 05 45.5**	**+1.2**
	baz=79						
626A	**Big Bend Ranch**	**79.23**	**55**	⇓P	**P**	**10 05 45.9**	**+1.5**
	baz=79						
526A	**Mary Lane Ranc**	**79.47**	**55**	⇓P	**P**	**10 05 47.0**	**+1.2**
	baz=80						
TXAR	**Lajitas Array**	**79.51**	**56**	P	**P**	**10 05 46.9**	**+1.0**
TXAR	**Lajitas Array**	**79.51**	**56**	P	**P**	**10 05 46.9**	**+1.0**
	1.8nm,1.0s,baz=215,slow=5.7,SNR=13						
124A	**Stringfield Ra**	**79.53**	**52**	⇑P	**P**	**10 05 47.2**	**+1.0**
	baz=80						
U21A	**Nageezi**	**79.59**	**48**	⇑P	**P**	**10 05 48.0**	**+1.6**
	baz=80						
S20A	**Disappointment**	**79.75**	**46**	⇓P	**P**	**10 05 48.4**	**+1.1**
	baz=80						
225A	**Deer Hill, Car**	**79.76**	**53**	⇓P	**P**	**10 05 48.5**	**+1.1**
	baz=80						
426A	**McDonald Obser**	**79.77**	**54**	⇑P	**P**	**10 05 48.6**	**+1.2**
	baz=80						
627A	**Terlingua Ranc**	**79.78**	**56**	⇑P	**P**	**10 05 48.6**	**+1.2**
	baz=80,SNR=7.1						
Z24A	**Sheeppen Canyo**	**79.88**	**51**	⇓P	**P**	**10 05 49.0**	**+1.0**
	baz=80						
527A	**Woodward Ranch**	**79.88**	**55**	⇓P	**P**	**10 05 48.8**	**+0.8**
	baz=80						
NEW	**Newport**	**79.95**	**34**	⇑P	**P**	**10 05 48.4**	**+0.6**
	baz=80						
M17A	**Scullys Gap (B**	**80.00**	**42**	⇑P	**P**	**10 05 49.1**	**+0.6**
	baz=80						
S21A	**Coal Bank Pass**	**80.07**	**47**	⇑P	**P**	**10 05 50.4**	**+1.3**
	baz=80						
Y24A	**Capitan**	**80.08**	**51**	⇓P	**P**	**10 05 50.1**	**+1.1**
	baz=80						
125A	**Gardner Draw,**	**80.12**	**52**	⇑P	**P**	**10 05 50.1**	**+0.9**
	baz=80						
628A	**Black Gap, Mar**	**80.19**	**56**	⇓P	**P**	**10 05 50.9**	**+1.3**
	baz=80						
226B	**Tecolote Peak,**	**80.25**	**53**	⇑P	**P**	**10 05 51.0**	**+1.1**
	baz=80						
427A	**Hayter Ranch,**	**80.34**	**54**	⇓P	**P**	**10 05 51.0**	**+0.6**
	baz=80,SNR=6.7						
Q20A	**Ridgley Place,**	**80.34**	**45**	⇓P	**P**	**10 05 51.0**	**+0.7**
	baz=81						
Z25A	**Roswell**	**80.34**	**52**	⇑P	**P**	**10 05 51.8**	**+1.4**
	baz=81						
O19A	**Miners Draw (B**	**80.43**	**44**	⇑P	**P**	**10 05 51.6**	**+0.8**
	baz=81						
P20A	**De Beque**	**80.53**	**45**	⇓P	**P**	**10 05 52.3**	**+0.9**
	baz=81						
528A	**Cox Ranch, San**	**80.54**	**55**	⇓P	**P**	**10 05 52.4**	**+0.9**
	baz=81,SNR=6.7						
R21A	**Cimarron**	**80.57**	**46**	⇓P	**P**	**10 05 52.2**	**+0.5**
	baz=81						
Y25A	**Mesa, Roswell**	**80.64**	**51**	⇑P	**P**	**10 05 52.9**	**+1.0**
	baz=81						
S22A	**4UR Ranch, Cre**	**80.79**	**47**	⇓P	**P**	**10 05 53.6**	**+0.7**
	baz=81						
428A	**Kincaid Ranch,**	**80.85**	**55**	⇓P	**P**	**10 05 54.2**	**+1.1**
	baz=81						
MCK	**McKinley**	**80.86**	**10**	*e*P	**P**	**10 05 53.2**	**+0.8**
	9.7nm,1.0s						
TPAW	**Teton Pass**	**80.86**	**40**	*e*P	**P**	**10 05 54.4**	**+1.2**
	3.6nm,0.8s						
MSO	**Missoula**	**80.88**	**36**	⇑P	**P**	**10 05 53.5**	**+0.6**
	baz=81						
Z26A	**Caprock**	**80.90**	**52**	⇓P	**P**	**10 05 54.5**	**+1.1**
	baz=81						
529A	**Stev Forest Ra**	**80.97**	**55**	⇓P	**P**	**10 05 54.5**	**+0.7**
	baz=81,SNR=6.5						
BSMT	**Bassoo Peak**	**80.98**	**35**	*e*P	**P**	**10 05 53.9**	**+0.3**
V24A	**Rampart Ranch,**	**80.99**	**49**	⇓P	**P**	**10 05 54.6**	**+0.7**
	baz=81						
328A	**Wristen Ranch,**	**81.02**	**54**	⇓P	**P**	**10 05 54.7**	**+0.7**
	baz=81						
127A	**Arkansas Junct**	**81.12**	**53**	⇑P	**P**	**10 05 55.5**	**+0.9**
	baz=81						
N20A	**Spence Gulch,**	**81.26**	**44**	⇑P	**P**	**10 05 55.8**	**+0.5**
	baz=82						
PDAR	**Pinedale Array**	**81.37**	**41**	P	**P**	**10 05 56.0**	**+0.2**
PDAR	**Pinedale Array**	**81.37**	**41**	P	**P**	**10 05 56.0**	**+0.2**
	1.0nm,0.9s,baz=232,slow=3.6,SNR=6.4						
429A	**Davenport Ranc**	**81.43**	**55**	⇑P	**P**	**10 05 56.7**	**+0.5**
	baz=82,SNR=12						
228A	**UT Block 9, Go**	**81.48**	**53**	⇓P	**P**	**10 05 57.4**	**+0.9**
	baz=82						
Z27A	**Tatum**	**81.50**	**52**	⇑P	**P**	**10 05 57.4**	**+0.8**
	baz=82						
T24B	**San Luis**	**81.50**	**48**	⇓P	**P**	**10 05 57.5**	**+0.7**
	baz=82						
V25A	**Rancho No Teng**	**81.52**	**49**	⇓P	**P**	**10 05 57.4**	**+0.7**
	baz=82						
H17A	**Grant Village**	**81.56**	**40**	⇑P	**P**	**10 05 56.8**	**0.0**
	baz=82						
530A	**J-C Ranch, Com**	**81.69**	**56**	⇑P	**P**	**10 05 58.4**	**+0.9**
	baz=82						
R23A	**Moffat**	**81.69**	**47**	⇓P	**P**	**10 05 58.5**	**+0.8**
	baz=82						
329A	**Wagon Wheel Ra**	**81.71**	**54**	⇓P	**P**	**10 05 59.0**	**+1.4**
	baz=82						
128A	**Castleberry Fa**	**81.77**	**53**	⇑P	**P**	**10 05 58.9**	**+0.9**
	baz=82						
Y27A	**Causey**	**81.77**	**52**	⇑P	**P**	**10 05 58.5**	**+0.5**
	baz=82						
L20A	**Wamsutter**	**81.78**	**42**	⇑P	**P**	**10 05 58.6**	**+0.7**
	baz=82						
S24A	**Houchin Ranch,**	**81.88**	**47**	⇓P	**P**	**10 05 59.6**	**+0.9**
	baz=82						
631A	**Perdido Creek**	**82.01**	**57**	⇑P	**P**	**10 05 59.9**	**+0.6**
	baz=82,SNR=7.9						
430A	**Baggett Ranch,**	**82.02**	**55**	⇑P	**P**	**10 05 59.8**	**+0.5**
	baz=82						
O22A	**Kremmling**	**82.10**	**45**	⇑P	**P**	**10 06 00.5**	**+0.7**
	baz=82						
MSTX	**Muleshoe**	**82.10**	**52**	⇓P	**P**	**10 06 00.8**	**+1.1**
	baz=82						
Z28A	**Tucker Farm, M**	**82.12**	**52**	⇑P	**P**	**10 06 00.5**	**+0.7**
	baz=82						
ILAR	**Eielson Array**	**82.17**	**11**	P	**P**	**10 05 59.2**	**0.0**
ILAR	**Eielson Array**	**82.17**	**11**	P	**P**	**10 05 59.2**	**0.0**
	1.8nm,0.7s,baz=221,slow=6.0,SNR=23						
R24A	**Sanders Place,**	**82.22**	**47**	⇓P	**P**	**10 06 01.1**	**+0.7**
	baz=82						
P23A	**Jefferson**	**82.22**	**46**	⇑P	**P**	**10 06 00.9**	**+0.3**
	baz=82						
M21A	**Separation Pea**	**82.23**	**43**	⇑P	**P**	**10 06 00.7**	**+0.3**
	baz=82						
T25A	**Trinidad**	**82.23**	**48**	⇑P	**P**	**10 06 01.2**	**+0.7**
	baz=82						
129A	**Stewart Farms,**	**82.25**	**53**	⇑P	**P**	**10 06 00.8**	**+0.3**
	baz=82						
531A	**Rocksprings**	**82.33**	**56**	⇓P	**P**	**10 06 01.7**	**+0.9**
	baz=82,SNR=10						
U26A	**Atchley Ranch,**	**82.40**	**49**	⇓P	**P**	**10 06 02.0**	**+0.7**
	baz=83						
S25A	**Robets Cordova**	**82.44**	**48**	⇑P	**P**	**10 06 02.3**	**+0.7**
	baz=83						
Y28A	**McKinney Farm,**	**82.48**	**52**	⇓P	**P**	**10 06 02.4**	**+0.7**
	baz=83						
O23A	**Lake Granby, G**	**82.55**	**45**	⇓P	**P**

P25A	Willow Gulch B	83.44	46	⇓P		P	10 06 07.4 +0.8
	baz=84						
N24A	Carr	83.53	45	⇑P		P	10 06 07.8 +0.7
	baz=84						
L23A	Garrett	83.56	43	⇑P		P	10 06 07.9 +0.6
	baz=84						
J22A	Midwest	83.66	42	⇑P		P	10 06 08.0 +0.4
	baz=84						
232A	Coleman	83.69	55	⇑P		P	10 06 08.1 +0.2
	baz=84,SNR=6.7						
X30A	Coker Ranch, T	83.73	52	⇑P		P	10 06 08.6 +0.5
	baz=84						
Z31A	Sharp Cattle R	83.86	53	⇑P		P	10 06 09.3 +0.6
	baz=84						
H21A	Big Horn, Sher	83.87	41	⇑P		P	10 06 09.0 +0.3
	baz=84						
I22A	9 Mile Ranch,	83.88	41	⇑P		P	10 06 09.0 +0.2
	baz=84						
R27A	Eads	83.88	48	⇑P		P	10 06 09.1 +0.3
	baz=84						
T28A	Walsh	83.89	49	⇑P		P	10 06 09.3 +0.4
	baz=84						
ABTX	Abilene, Hawle	83.98	54	eP		P	10 06 10.0 +0.7
ABTX	Abilene, Hawle	83.98	54	⇑P		P	10 06 10.2 +0.9
	baz=84						
Z32A	Haskell	84.36	53	⇓P		P	10 06 12.0 +0.7
	baz=85,SNR=12						
V30A	Spur Ranch, Mi	84.39	51	⇑P		P	10 06 12.1 +0.7
	baz=85						
D20A	Manuel Ranch,	84.39	38	⇑P		P	10 06 12.1 +0.9
	baz=85						
X31A	McDonald Ranch	84.49	52	⇓P		P	10 06 12.3 +0.4
	baz=85						
R28A	Tribune	84.61	48	⇓P		P	10 06 13.1 +0.6
	baz=85						
Y32A	R-V Farms, Ver	84.66	53	⇑P		P	10 06 13.4 +0.6
	baz=85						
W31A	Holland Ranch,	84.73	52	⇑P		P	10 06 14.0 +0.9
	baz=85						
EDM	Edmonton	84.78	31	eP		P	10 06 13.0 +0.1
C20A	Veseth Ranch,	84.78	38	⇑P		P	10 06 13.7 +0.6
	baz=85						
J24A	Dixon Ranch, L	84.80	43	⇑P		P	10 06 13.3 0.0
	baz=85						
A19A	Klindworth Far	84.96	36	⇓P		P	10 06 14.5 +0.6
	baz=85						
V31A	Spring Creek L	85.03	51	⇓P		P	10 06 15.4 +0.8
	baz=85						
D21A	La Casta Ranch	85.07	38	⇑P		P	10 06 15.2 +0.6
	baz=85						
WHTX	Lake Whitney	85.46	55	⇓P		P	10 06 17.4 +0.6
	baz=86						
H24A	Dirks Ranch, A	85.50	41	⇑P		P	10 06 16.6 -0.3
	baz=86						
D22A	Cohagen	85.59	39	⇑P		P	10 06 17.0 -0.2
	baz=86						
R30A	Dighton	85.69	49	⇑P		P	10 06 18.5 +0.6
	baz=86						
MAW	Mawson	88.24	198	P		P	10 06 29.1 -0.5
MAW	Mawson	88.24	198	P		P	10 06 29.1 -0.5
	3.8nm,0.6s,baz=135,slow=8.6,SNR=8.6						
PLCA	Paso Flores	88.55	132	P		P	10 06 32.1 +0.3
PLCA	Paso Flores	88.55	132	P		P	10 06 32.1 +0.3
	3.2nm,1.0s,baz=201,slow=7.4,SNR=3.5						
ARCES	ARCESS Array B	124.76	353	PKP		PKPdf	10 12 35.7 -2.2
ARCES	ARCESS Array B	124.76	353	PKP		PKPdf	10 12 35.7 -2.2
	3.7nm,0.8s,baz=27,slow=2.2,SNR=4.1						
CLL	Collm	143.93	355	ePKPdf		PKPbc	10 13 13.0 +1.2
MOX	Moxa	144.69	356	ePKPbc		PKPab	10 13 14.2 +0.1
TANN	Tannenbergstha	144.86	355	ePKPbc		PKPab	10 13 14.8 0.0
TNS	Taunus Mts	145.24	359	ePKPbc		PKPab	10 13 16.5 +0.3
ROTZ	Rotzenmuhle	145.52	355	ePKPbc		PKPab	10 13 17.4 +0.2
GRF	Grafenberg Arr	145.67	356	ePKPbc		PKPab	10 13 18.0 +0.2
WLF	Walferdange	145.77	2	ePKPbc		PKPab	10 13 18.2 +0.1
GEC2	GERESS Array S	146.29	353	ePKPbc		PKPbc	10 13 19.9 +0.4
GERES	GERESS Array B	146.29	353	PKPbc		PKPbc	10 13 19.4 -0.1
GERES	GERESS Array B	146.29	353	PKPbc		PKPbc	10 13 19.4 -0.1
	2.1nm,0.7s,baz=29,slow=3.0,SNR=15						
KMBO	Kilima Mbogo	146.73	243	PKPbc		PKPbc	10 13 21.9 -0.1
KMBO	Kilima Mbogo	146.73	243	PKPbc		PKPbc	10 13 21.9 -0.1
	1.4nm,0.6s,baz=184,slow=4.6,SNR=3.1						
BRTR	Keskin Array B	146.95	322	PKPbc		PKPbc	10 13 22.2 +0.4
BRTR	Keskin Array B	146.95	322	PKPbc		PKPbc	10 13 22.2 +0.4
	4.2nm,0.9s,baz=113,slow=2.8,SNR=11						
BFO	Black Forest	147.13	360	ePKPbc		PKPbc	10 13 21.7 -0.2
RJOB	Jochberg	147.48	354	ePKPbc		PKPbc	10 13 22.9 0.0
BNI	Bardonecchia	150.39	2	ePKPbc		PKPbc	10 13 31.9 +1.4
BNI				ePKPab		PKPab	10 13 38.7 +1.9
ESDC	Sonseca Array	153.63	21	PKPbc		PKPbc	10 13 38.1 +0.2
ESDC				PKPab		PKPab	10 13 51.2 +0.7
ESDC	Sonseca Array	153.63	21	PKPbc		PKPbc	10 13 38.1 +0.2
	1.4nm,0.8s,baz=329,slow=3.5,SNR=6.3						
ESDC				PKPab		PKPab	10 13 51.2 +0.7
	0.3nm,0.3s,baz=307,slow=3.1,SNR=6.1						
TORD	Torodi Ar. Bea	173.53	109	PKP		PKPdf	10 13 46.7 -2.4
TORD				PKPab		PKPab	10 15 16.4 -1.8
TORD	Torodi Ar. Bea	173.53	109	PKP		PKPdf	10 13 46.7 -2.4
	1.2nm,1.1s,baz=238,slow=5.1,SNR=4.2						
TORD				PKPab		PKPab	10 15 16.4 -1.8
	1.1nm,1.0s,baz=261,slow=5.2,SNR=4.5						

IDC 30 09:53:49.2±5.0, 23°.16N×94°.49E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/26, mbtmp3.6/3, Ferry ellipse: s-maj=421.9km s-min=28.8km az=60.0, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	25.55	340	P	P	09 59 19.6	0.0
	0.4nm,0.5s,baz=143,slow=11,SNR=4.6						
WRA	Warramunga Arr	57.85	135	P	P	10 03 42.7	-0.3
	0.5nm,0.5s,baz=322,slow=7.6,SNR=7.7						
ASAR	Alice Springs	60.27	138	P	P	10 04 00.1	+0.2
	0.4nm,0.5s,baz=316,slow=6.6,SNR=4.6						

IDC 30 09:57:31.3±2.8, 15°.68S×172°.53W, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.7/22, mbtmp3.9/4, Error ellipse: s-maj=67.7km s-min=45.3km az=99.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	1.90	23	Sn	Sn	09 58 17.6	-12
	22nm,0.3s,baz=90,slow=19,SNR=2.8						
URZ	Urewera	24.28	200	P	P	10 02 50.6	+0.3
	7.1nm,0.9s,baz=60,slow=16,SNR=2.8						
STKA	Stephens Creek	44.63	240	P	P	10 05 45.6	-0.2
	2.0nm,0.8s,baz=96,slow=10,SNR=3.0						
WRA	Warramunga Arr	50.60	257	P	P	10 06 32.5	+0.2
	0.6nm,0.7s,baz=96,slow=8.8,SNR=10						
ASAR	Alice Springs	50.82	252	P	P	10 06 33.7	-0.4
	0.9nm,0.6s,baz=88,slow=8.1,SNR=8.2						
BRTR	Keskin Array B	146.90	321	PKPbc	PKPdf	10 17 15.1	+0.8
	0.2nm,0.3s,baz=106,slow=3.7,SNR=2.8						

IDC 30 10:00:57.2±4.0, 16°.64S×172°.80W, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.7/21, mbtmp3.8/3, Error ellipse: s-maj=266.8km s-min=32.8km az=151.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	50.13	258	P	P	10 09 54.0	-0.7
	0.3nm,0.6s,baz=93,slow=6.3,SNR=6.9						
ASAR	Alice Springs	50.29	253	P	P	10 09 55.9	0.0
	1.4nm,0.6s,baz=87,slow=8.1,SNR=11						
PDAR	Pinedale Array	82.81	42	P	P	10 13 23.3	-0.3
	0.8nm,0.9s,baz=197,slow=4.5,SNR=5.3						
BRTR	Keskin Array B	147.48	320	PKPbc	PKPbc	10 20 44.1	+0.4
	0.7nm,0.8s,baz=60,slow=3.8,SNR=3.2						

NIED ***30*** *10:02:00, 28°.50N×130°.20E, h41km, Mw4.0 Best double couple: M0 9.47000×10^14 NP1:φ0=56.00000°, δ79.00000°, λ20.00000°. NP2:φ0=323.00000°, δ70.00000°, λ169.00000°.*
ISCJB ***30*** *10:02:07.0±0.4, 28°.44N±0°.03×130°.20E±0°.05, h54km±5km, mb3.5/5, Error ellipse: s-maj=7.8km s-min=4.1km az=27.7*
JMA ***30*** *10:02:07.8±0.1, 28°.50N×130°.17E, h51km±1km, M3.9*
JMA Felt I J1.
IDC ***30*** *10:02:12.3±4.3, 28°.71N×130°.39E, h83km±49km, mb3.3/5, mb1 3.5/9, mb1mx3.4/30, mbtmp3.5/9, ML4.0/4, Error ellipse: s-maj=57.8km s-min=16.1km az=63.0*

ISC 30 10:02:08.6±0.8, 28°.45N±0°.04×130°.20E±0°.05, h47km±8km, n22, σ1=35/35, mb3.5/5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JZK	Kikaishima	0.24	235	P	Pn	10 02 16.6	-0.3
JZK				S	Sn	10 02 23.1	+0.3
JAM	Amami Oshima	0.52	266	P	Pn	10 02 19.0	-0.9
JAM				S	Sn	10 02 27.4	-0.6
JAMN	Amaminishikomi	0.92	257	P	Pn	10 02 24.7	-0.5
JAMN				S	Sn	10 02 37.1	-0.2
JTK	Tokunoshima	1.28	239	P	Pn	10 02 29.9	-0.2
JTK				S	Sn	10 02 46.2	0.0
JNN	Nakanoshima	1.41	349	P	Pn	10 02 30.9	-1.0
JNN				S	Sn	10 02 49.0	-0.3
JKC	Kuchinoerabu	2.00	0	P	Pn	10 02 39.2	-0.7
JKC				S	Sn	10 03 02.1	-1.7
JTN	Tanegashima 3	2.30	17	P	Pn	10 02 43.5	-0.5
JTN				S	Sn	10 03 10.3	-0.8
JOW	Kunigami	2.35	227	P	Pn	10 02 44.5	-0.2
JOW				S	Sn	10 03 11.4	-0.9
JIH	Iheya	2.43	235	S	Sn	10 03 12.2	-2.0
JMZ	Minamidaito 2	2.78	161	P	Pn	10 02 49.8	-0.8
JMZ				S	Sn	10 03 20.3	-2.6
JJT2	Tamagusuku 2	3.17	224	P	Pn	10 02 56.6	+0.6
JJT2				S	Sn	10 03 30.8	-1.7
JAGN	Aguni-jima	3.21	235	P	Pn	10 02 56.6	+0.1
JAGN				S	Sn	10 03 32.6	-1.0
JKE	Kume jima 2	3.70	236	P	Pn	10 03 02.6	-0.6
JKE				S	Sn	10 03 43.0	-2.5
JNU	Nakatsue	4.69	7	P	Pn	10 03 17.4	+0.5
	15nm,0.3s,baz=208,slow=6.3,SNR=264						
JNU				S	Sn	10 04 06.8	-3.2
	1.4nm,0.3s,baz=208,slow=2.7,SNR=1.3						
KSRS	Korea Array	9.18	349	P	Pn	10 04 20.8	+2.5
	0.2nm,0.3s,baz=160,slow=14,SNR=7.8						
MJAR	Matsushiro Arr	10.52	38	P	Pn	10 04 36.3	-0.5
	0.4nm,0.3s,baz=248,slow=14,SNR=4.7						
CBIJ	Chichi jima	10.71	94	P	Pn	10 04 40.5	+1.2
	9.3nm,0.3s,baz=282,slow=19,SNR=4.2						
MKAR	Makanchi Array	41.41	310	P	P	10 09 49.6	-0.8
	0.1nm,0.4s,baz=92,slow=9.1,SNR=3.6						
KURBB	Kurchatov Arra	44.50	315	P	P	10 10 14.0	-1.3
	0.2nm,0.3s,baz=101,slow=8.9,SNR=3.4						
WRA	Warramunga Arr	48.28	175	P	P	10 10 46.3	+1.2
	1.0nm,0.8s,baz=354,slow=8.5,SNR=5.1						
ASAR	Alice Springs	51.94	176	P	P	10 11 14.9	+2.0
	0.3nm,0.6s,baz=9.3,slow=14,SNR=5.4						
AKASG	Malin Array Be	74.98	320	P	P	10 13 45.1	+0.3
	1.2nm,0.5s,baz=60,slow=5.9,SNR=3.2						

IDC ***30*** *10:02:44.5±0.7, 16°.04S×173°.11W, h0km, mb4.1/10, mb1 4.4/10, mb1mx4.1/22, mbtmp4.1/10, MS3.9/1, Ms1 3.9/1, ms1mx3.4/42, Error ellipse: s-maj=34.2km s-min=18.3km az=139.0*
ISCJB ***30*** *10:02:46.2±0.7, 15°.9S±0°.2×173°.2W±0°.2, h26km, mb4.1/10, Error ellipse: s-maj=31.5km s-min=13.8km az=41.9*

ISC 30 10:02:48.4±0.7, 16°.0S±0°.2×173°.1W±0°.2, h26km, n19, σ0=98/15, mb4.1/10, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.48	32	Pn	Pn	10 03 20.9	-6.4
	51nm,0.3s,baz=356,slow=2.8,SNR=4.4						
AFI				Sn	Sn	10 03 46.1	-11
	167nm,0.3s,baz=42,slow=23,SNR=10						
RAR	Rarotonga	13.65	114	LR	LR	10 09 13.7	
	comp=Z,476nm,18.6s,baz=270,slow=28						
DZM	Mont Dzumac	20.22	250	eLR	LR	10 12 34.5	
	433nm,24.1s						
PPT2	Papeete2	22.59	97	eLQ	LQ	10 11 47.8	
	720nm,26.0s						
PPT2				eLR	LR	10 12 35.8	
	298nm,27.0s						
TBI	Tubuai	23.41	112	eLR	LR	10 13 04.6	
	390nm,26.8s						
URZ	Urewera	23.75	199	P	P	10 07 58.7	0.0
	18nm,0.8s,baz=257,slow=4.1,SNR=3.6						
STKA	Stephens Creek	43.95	241	P	P	10 10 52.9	-0.7
	4.7nm,0.8s,baz=90,slow=6.0,SNR=6.5						
WRA	Warramunga Arr	49.96	257	P	P	10 11 40.1	-0.6
	2.8nm,0.8s,baz=91,slow=6.9,SNR=18						
ASAR	Alice Springs	50.17	252	P	P	10 11 41.1	-1.2
	3.5nm,0.5s,baz=88,slow=8.3,SNR=27						
VNDA	Vanda	62.77	186	P	P	10 13 11.0	0.0
	0.5nm,0.7s,baz=357,slow=7.0,SNR=2.7						
NVAR	Mina Array Bea	74.62	42	P	P	10 14 24.1	-1.7
	0.6nm,0.5s,baz=232,slow=10.0,SNR=3.6						
TXAR	Lajitas Array	80.74	56	P	P	10 15 00.2	+0.2
	0.3nm,0.8s,baz=219,slow=6.9,SNR=3.7						
PDAR	Pinedale Array	82.56	42	P	P	10 15 09.6	+0.1
	0.8nm,0.8s,baz=188,slow=3.0,SNR=6.5						
ILAR	Eielson Array	83.02	11	P	P	10 15 10.8	-0.2
	0.6nm,0.6s,baz=220,slow=6.1,SNR=12						
CMAR	Chiang Mai Arr	93.07	288	P	P	10 16 02.4	+1.8
	0.5nm,0.3s,baz=64,slow=2.1,SNR=2.5						
KMBO	Kilima Mbogo	145.50	243	PKPbc	PKPab	10 22 26.7	+0.8
	0.7nm,0.5s,baz=50,slow=22,SNR=1.3						
GERES	GERESS Array B	146.81	352	PKPbc	PKPab	10 22 29.0	-0.6
	0.3nm,0.4s,baz=349,slow=2.0,SNR=4.8						
BRTR	Keskin Array B	146.82	321	PKPbc	PKPab	10 22 30.1	+0.1
	2.4nm,1.0s,baz=126,slow=1.7,SNR=6.7						
TORD	Torodi Ar. Bea	174.21	119	PKP	PKPdf	10 22 58.1	+1.3
	0.4nm,0.8s,baz=351,slow=1.6,SNR=2.7						
TORD				PKPab	PKPab	10 24 28.6	0.0
	0.1nm,0.3s,baz=230,slow=11,SNR=3.2						

IDC 30 10:09:28.9±1.7, 15°.76S×172°.63W, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.7/23, mbtmp3.8/5, ML1.8/1, Error ellipse: s-maj=61.3km s-min=24.3km az=123.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.02	24	Pn	Pn	10 10 02.6	-1.7
	21nm,0.3s,baz=41,slow=20,SNR=3.5						
AFI				Sn	Sn	10 10 27.7	-2.5
	68nm,0.3s,baz=12,slow=18,SNR=8.0						
URZ	Urewera	24.17	200	P	P	10 14 46.6	-0.3
	5.5nm,0.5s,baz=57,slow=5.4,SNR=7.5						
WRA	Warramunga Arr	50.49	257	P	P	10 18 29.4	+0.3
	0.2nm,0.4s,baz=93,slow=7.2,SNR=7.7						
ASAR	Alice Springs	50.71	252	P	P	10 18 30.1	-0.7
	1.0nm,0.5s,baz=88,slow=8.2,SNR=13						
ILAR	Eielson Array	82.66	11	P	P	10 21 55.1	+1.3
	0.3nm,0.7s,baz=230,slow=5.9,SNR=2.1						

IDC 30 10:11:39.2±0.9, 15°.94S×173°.17W, h0km, mb3.9/8, mb1 4.1/8, mb1mx3.9/23, mbtmp3.9/8, Error ellipse: s-maj=38.9km s-min=20.9km az=134.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.43	34	Pn	Pb	10 12 22.2	-1.6
	10nm,0.3s,baz=208,slow=19,SNR=0.7						
AFI				Sn	Sn	10 12 43.1	-7.6
	55nm,0.3s,baz=47,slow=20,SNR=2.0						
URZ	Urewera	23.83	199	P	P	10 16 55.0	+1.0
	18nm,1.0s,baz=102,slow=9.0,SNR=2.5						
STKA	Stephens Creek	43.96	240	P	P	10 19 47.9	-0.4
	1.4nm,0.7s,baz=105,slow=11,SNR=2.9						
WRA	Warramunga Arr	49.94	257	P	P	10 20 35.1	-0.2
	0.7nm,0.6s,baz=91,slow=6.4,SNR=7.7						
ASAR	Alice Springs	50.15	252	P	P	10 20 36.6	-0.2
	1.5nm,0.6s,baz=86,slow=8.4,SNR=5.7						
QSPA	South Pole Qui	74.11	180	P	P	10 23 16.6	-0.6
	2.1nm,0.9s,baz=45,slow=3.6,SNR=6.6						
TXAR	Lajitas Array	80.73	56	P	P	10 23 54.8	-0.1
	0.2nm,0.7s,baz=204,slow=5.9,SNR=2.2						
PDAR	Pinedale Array	82.52	42	P	P	10 24 04.4	+0.2
	0.6nm,0.8s,baz=188,slow=3.0,SNR=4.3						
ILAR	Eielson Array	82.93	11	P	P	10 24 05.8	+0.2
	0.4nm,0.7s,baz=232,slow=5.8,SNR=5.5						

BJI ***30*** *10:16:05.4, 0°.98S×99°.92E, h81km, mB7.7/55, mb7.0/56, Ms7.6/81, Ms7 7.4/74*
ISCJB ***30*** *10:16:08.7±0.3, 0°.71S±0°.02×99°.89E±0°.01, h85km±2km, mb6.9/358, Error ellipse: s-maj=2.9km s-min=2.1km az=31.0*
MOS ***30*** *10:16:09.5±1.1, 0°.65S×99°.90E, h92km, mb6.9/62, MS7.1/35, Error ellipse: s-maj=7.3km s-min=4.3km az=120.2 Broadband fault plane solution: P waves. M0 2.70000×10^20 NP1:φ0=193.00000°, δ57.00000°, λ41.00000°. NP2:φ0=77.00000°, δ57.00000°, λ139.00000°. Principal axes: T Plg51.0000°, Azm45.0000°; N Plg39.0000°, Azm225.0000°; P Plg0.0000°, Azm315.0000°;*
NEIC ***30*** *10:16:09.2±0.1, 0°.72S×99°.87E, h81km, mb7.1/112, ME7.6, MW7.5, MW7.5, MW7.6(USGS) Error ellipse: s-maj=3.8km s-min=2.8km az=38.0, Moment Tensor Solution. s76 Moment tensor: Scale 10^20Nm; Mrr 1.75; Mθθ-0.26; Mφφ-1.49; Mrθ 0.76; Mθφ-1.29; Mφr-0.51; Best double couple: M0 2.30000×10^20 NP1:φ0=58.00000°, δ51.00000°, λ128.00000°. NP2:φ0=187.00000°, δ52.00000°, λ53.00000°. Principal axes: T 2.2500, Plg61.0000°, Azm32.0000°; N 0.0600, Plg28.0000°, Azm211.0000°; P -2.3000, Plg0.0000°, Azm302.0000°; Broadband fault plane solution: P waves. NP1:φ0=216.00000°, δ42.00000°, λ59.00000°. NP2:φ0=75.00000°, δ55.00000°, λ115.00000°. Principal axes: T Plg69.0000°, Azm40.0000°; N Plg0.0000°, Azm0.0000°; P Plg7.0000°, Azm147.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC At least 1,117 people killed, 1,214 injured, 181,665 buildings destroyed or damaged and about 451,000 people displaced in the Padang-Pariaman area. Landslides disrupted power and communications in the area. Damage estimated at 2.3 billion U.S. dollars. Felt [VII] at Padang; [VI] at Bukittinggi; [IV] at Bengkulu, Duri, Mukomuko and Sibolga; [III] at Pekanbaru. Also felt [IV] at Gunungsitoli, Nias and [II] at Jakarta, Java. Felt throughout Sumatra and in much of Java. Felt [III] in Singapore and at George Town, Johor Bahru, Kuala Lumpur, Petaling Jaya, Shah Alam and Sungai Chua, Malaysia. Felt in much of Peninsular Malaysia and as far away as Chiang Mai, Thailand. A 27-cm [center-to-peak] local tsunami was recorded at Padang, Sumatra.
BKK ***30*** *10:16:10.2±0.3, 1°.S±2°×10°.0E±°, h76km±3km, M8.2/61, mb7.0/61, mB7.7/61, MLv7.3/11, Mw(mB)7.8/61, Mwp8.1/56*
SZGRF ***30*** *10:16:10.6, 0°.57S×100°.02E, h88km, mb7.4, Southern Sumatera, Indonesia*
DJA ***30*** *10:16:11.0±0.2, 1°.S±2°×10°.0E±°, h81km±2km, M7.8/140, mb7.1/140, mB7.8/138, MLv7.4/27, Mw(mB)7.9/138, Mwp7.4/130*
IDC ***30*** *10:16:12.3±0.3, 0°.74S×100°.03E, h102km±2km, mb6.3/49, mb1 6.3/49, mb1mx6.3/49, mbtmp6.6/49, MS7.1/52, Ms1 7.1/52, ms1mx7.1/56, Error ellipse: s-maj=5.2km s-min=4.4km az=36.0*
BGS ***30*** *10:16:14.0±1.6, 0°.56N×99°.87E, h80km, MS7.2*
GCMT ***30*** *10:16:17.4±0.1, 0°.79S×99°.67E, h78km, MW7.6, Moment Tensor Solution. s137, c364; s99, c324; Moment tensor: Scale 10^20Nm; Mrr 1.76±.02; Mθθ-0.77±.01; Mφφ-0.99±.01; Mrθ 0.66±.02; Mθφ-1.94±.01; Mφr-0.99±.02; Best double couple: M0 2.70000×10^20 NP1:φ0=193.00000°, δ58.00000°, λ46.00000°. NP2:φ0=74.00000°, δ52.00000°, λ139.00000°. Principal axes: T 2.6300, Plg53.0000°, Azm47.0000°; N 0.2100, Plg36.0000°, Azm220.0000°; P -2.8400, Plg4.0000°, Azm312.0000°; Data Used: II IU CN IC G. LP body wave period 50 sec. Mantle wave period 150 sec. Mantle waves from 130 sta. Surface waves: sta=123, comp=306, per= 50.*
NEIC ***30*** *10:16:27.3±0.0, 1°.08S×99°.71E, h79km, Moment Tensor Solution. s160 Moment tensor: Scale 10^20Nm; Mrr 1.83; Mθθ-0.71; Mφφ-1.13; Mrθ 0.68; Mθφ-1.75; Mφr-0.77; Best double couple: M0 2.60000×10^20 NP1:φ0=194.00000°, δ55.00000°, λ49.00000°. NP2:φ0=70.00000°, δ52.00000°, λ132.00000°. Principal axes: T 2.4700, Plg57.0000°, Azm43.0000°; N 0.2100, Plg32.0000°, Azm220.0000°; P -2.6800, Plg1.0000°, Azm311.0000°;*

ISC 30 10:16:10.5±0.2, 0.71S±0°.02×99.97E±0°.02, h90km±1km, h90km:pP-P, n2554, σ1=60/3184, mb7.1/344, 468C-239D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	Padang Panjang	0.50	60	P	Pn	10 16 26.5	+1.3
PDSI	Padang	0.53	112	P	Pn	10 16 25.8	+0.2
SDSI	Sungai Dareh	1.48	99	P	Pn	10 16 41.2	+5.2
BKNI	Bangkinang	1.48	46	P	Pn	10 16 38.9	+2.8
MNSI	Mandailing Nat	1.54	345	P	Pn	10 16 36.8	0.0
KRJI	Kerinci	2.03	133	P	Pn	10 16 45.4	+2.2
KRJI				S	Sn	10 17 19.2	+11
RGRI	Rengat	2.39	81	P	Pn	10 16 51.2	+3.3
GSI	Gunungsitoli	3.12	310	P	Pn	10 16 55.0	-2.7
MASI	Maura Aman, Be	3.32	137	P	Pn	10 17 00.8	+0.4
PSI	Prapat	3.64	343	P	Pn	10 17 03.0	-1.9
PSI				ScS	ScS	10 31 26.6	-0.5
PSI				e		10 55 32.7	
PSI				PKKKP		10 56 07.8	
PSI	Prapat	3.64	343	P	Pn	10 17 03.0	-1.9
	2μm,0.3s,baz=171,slow=8.3,SNR=505						
PSI				ScS	ScS	10 31 26.6	-0.5
	0.6nm,0.3s,baz=359,slow=23,SNR=11						
PSI				P3KPbc		10 55 32.7	
	0.3nm,0.3s,baz=221,slow=5.1,SNR=11						
PSI				P3KP		10 56 07.8	
	0.4nm,0.3s,baz=256,slow=6.2,SNR=4.2						
KSI	Kapahiang	3.93	138	P	ScS	10 31 38.5	+11
	3μm,1.4s						
KSI	Kapahiang	3.93	138	P	Pn	10 17 08.5	-0.2
KGM	Kluang	4.31	51	P	Pn	10 17 17.0	+3.3
MYKOM	Kota Tinggi	4.61	57	P	Pn	10 17 21.4	+3.5
MYKOM	Kota Tinggi	4.61	57	P	Pn	10 17 21.3	+3.5
MNAI	Manna	4.70	141	ePn	Pn	10 17 18.6	-0.5
MNAI	Manna	4.70	141	P	Pn	10 17 18.8	-0.3
MNAI				S	Sn	10 18 13.0	+0.6
KCSI	Kotacane, Aceh	4.74	332	P	Pn	10 17 17.5	-2.2
SNSI	Sinabang, Aceh	4.78	310	P	Pn	10 17 17.5	-2.7
EGSI	Enggano, Bengk	5.16	154	P	Pn	10 17 22.6	-2.7
	178μm,0.9s						
IPM	Ipoh	5.26	12	ePn	Pn	10 17 29.6	+2.8
IPM	Ipoh	5.26	12	P	Pn	10 17 29.9	+3.2
IPM	Ipoh	5.26	12	S	Sn	10 18 31.1	+5.0
IPM	Ipoh	5.26	12	P	Pn	10 17 29.3	+2.5
	23μm,0.8s,144nm						
PMBI

SKJI	**Sukabumi**	**9.07 134**	P		**Pn**	**10 18 16.1 -2.6**
	36μm,1.0s,675μm					
CMBY	**CAMPBELL BAY**	**9.75 322**	*e*P		Pn	10 18 24.6 -3.3
CMBY			AMB		AMB	10 18 34.5
	comp=Z,6μm,0.6s					
LEM	**Lembang**	**9.76 129**	P		**Pn**	**10 18 27.7 -0.5**
	comp=Z,29μm,1.2s					
CISI	**Cisompet, Garu**	**10.37 131**	P		**Pn**	**10 18 34.1 -2.3**
KSM	**Kuching**	**10.56 78**	*e*Pn		Pn	10 18 42.5 +3.4
KSM			*e*Sn		Sn	10 20 47.2 +12
KSM	**Kuching**	**10.56 78**	P		Pn	10 18 44.3 +5.2
KSM	**Kuching**	**10.56 78**	P		Pn	10 18 43.3 +4.2
	comp=Z,7μm,0.9s,comp=Z,286μm					
TGJI	**Tegal**	**10.99 124**	P		**Pn**	**10 18 46.4 +1.5**
	comp=Z,13μm,1.0s,comp=Z,866μm					
KPJI	**Karang Pucung**	**11.10 127**	P		ScS	10 31 55.8 +19
	comp=Z,3μm,2.1s					
KPJI	**Karang Pucung**	**11.10 127**	P		**Pn**	**10 18 45.0 -1.3**
	comp=Z,17μm,0.7s					
XMIS	**Christmas Isla**	**11.23 150**	*e*Pn		Pn	10 18 40.2 -7.9
XMIS			*e*Sn		Sn	10 20 38.0 -14
CLJI	**Cilicap**	**11.39 128**	P		**Pn**	**10 18 50.2 -0.1**
	comp=Z,8μm,1.6s,comp=Z,584μm					
STKI	**Sintang**	**11.54 86**	P		Pn	10 18 57.3 +5.1
	comp=Z,9μm,1.3s,comp=Z,370μm					
COCO	**West Island**	**11.82 195**	*e*P		Pn	10 18 51.2 -4.9
COCO	**West Island**	**11.82 195**	Pn		**Pn**	**10 18 53.6 -2.5**
	SNR=103					
COCO	**West Island**	**11.82 195**	*e*Pn		Pn	10 18 51.2 -4.9
COCO			*e*Sn		Sn	10 20 55.2 -11
COCO	**West Island**	**11.82 195**	Pn		**Pn**	**10 18 53.2 -2.8**
	comp=Z,61μm,0.9s,SNR=71					
COCO	**West Island**	**11.82 195**	P		**Pn**	**10 18 53.3 -2.8**
	comp=Z,12μm,1.4s,comp=Z,203μm					
PBKI	**Pangkalan Bun**	**11.86 100**	P		Pn	10 19 01.2 +4.5
	comp=Z,27μm,1.1s,comp=Z,585μm					
YOGI	**Yogyakarta**	**12.48 125**	P		ScS	10 32 02.8 +23
	comp=Z,3μm,1.9s					
YOGI	**Yogyakarta**	**12.48 125**	P		**Pn**	**10 19 04.2 -0.8**
	comp=Z,42μm,1.1s					
SBUM	**Sibu**	**12.64 76**	*e*Pn		**P**	**10 19 11.8 -3.1**
SBUM	**Sibu**	**12.64 76**	P		**P**	**10 19 12.2 -2.7**
SBUM	**Sibu**	**12.64 76**	P		P	10 19 11.6 -3.3
	comp=Z,30μm,1.8s,comp=Z,478μm					
UGM	**Wanagama**	**12.72 125**	*e*Pn		**Pn**	**10 19 05.8 -2.5**
UGM	**Wanagama**	**12.72 125**	P		**Pn**	**10 19 06.2 -2.0**
	comp=Z,29μm,1.6s					
WOJI	**Wonogiri, Jawa**	**13.02 123**	P		ScS	10 32 03.0 +22
	comp=Z,7μm,2.2s					
WOJI	**Wonogiri, Jawa**	**13.02 123**	P		**Pn**	**10 19 10.2 -1.8**
	comp=Z,14μm,1.3s,comp=Z,691μm					
NGJI	**Ngawi**	**13.23 120**	P		**Pn**	**10 19 16.1 +1.2**
	comp=Z,28μm,1.1s,comp=Z,964μm					
PCJI	**Pacitan**	**13.42 124**	P		**Pn**	**10 19 14.7 -2.7**
	comp=Z,11μm,1.1s,comp=Z,749μm					
CHBT	**CHBT**	**13.58 10**	P		**Pn**	**10 19 21.5 +2.1**
	comp=Z,3μm,1.5s,comp=Z,270μm					
CHBT	**CHBT**	**13.58 10**	P		**Pn**	**10 19 21.5 +2.1**
	comp=Z,3μm,1.5s,comp=Z,270μm					
BTM	**Bintulu**	**13.67 73**	P		**P**	**10 19 25.7 -0.7**
SJI	**Sawahan**	**13.68 121**	P		**Pn**	**10 19 19.7 -1.1**
	comp=Z,12μm,0.7s,comp=Z,531μm					
PWJI	**Pagerwojo**	**13.85 122**	P		**Pn**	**10 19 20.1 -2.9**
	comp=Z,12μm,2.0s,comp=Z,534μm					
GRJI	**Gresik**	**13.92 117**	P		**Pn**	**10 19 26.1 +2.2**
	comp=Z,14μm,0.9s,comp=Z,107μmcomp=Z,86μm					
PBA	**Port Blair**	**14.23 330**	*e*P		Pn	10 19 23.3 -4.5
KRKI	**Karangkates**	**14.47 121**	P		**Pn**	**10 19 29.9 -1.2**
	comp=Z,19μm,0.4s					
MTKI	**Muara Teweh, K**	**14.93 91**	P		**P**	**10 19 40.7 +0.4**
	comp=Z,18μm,2.8s,comp=Z,668μm					
BLJI	**Banyuglugur**	**15.28 118**	P		**Pn**	**10 19 42.1 +0.8**
	comp=Z,12μm,1.2s,comp=Z,709μm					
KMMI	**Kalianget**	**15.32 115**	P		**Pn**	**10 19 42.9 +1.1**
	comp=Z,27μm,1.6s					
GMJI	**Gumukmas**	**15.39 120**	P		**Pn**	**10 19 42.4 -0.3**
	comp=Z,12μm,3.6s,comp=Z,740μm					
DGPR	**DIGLIPUR**	**15.46 333**	*e*P		**Pn**	**10 19 40.1 -3.6**
DGPR			AMB		AMB	10 19 54.0
	comp=Z,3μm,0.9s					
ABJI	**Asem Bagus**	**15.87 117**	P		**P**	**10 19 50.2 -0.5**
	comp=Z,18μm,1.4s,comp=Z,801μm					
BYJI	**Banyuwangi**	**16.16 118**	P		**P**	**10 19 55.2 +1.3**
	comp=Z,27μm,2.6s					
UBPT	**Khong Chiam**	**16.79 19**	P		**P**	**10 20 01.4 +0.5**
	comp=Z,15μm,1.0s,comp=Z,386μm					
UBPT	**Khong Chiam**	**16.79 19**	P		**P**	**10 20 01.4 +0.5**
	comp=Z,15μm,1.0s,comp=Z,386μm					
SRBI	**Singaraja**	**16.87 116**	P		**P**	**10 20 02.6 +0.8**
	comp=Z,12μm,0.8s,comp=Z,572μm					
BKB	**Balikpapan**	**16.93 92**	P		**P**	**10 20 07.3 +4.8**
	comp=Z,26μm,1.6s					
DNP	**Denpasar**	**17.12 118**	P		**P**	**10 20 05.0 +0.4**
	comp=Z,23μm,0.8s,comp=Z,981μm					
PBKT	**Sadao Pong**	**17.20 3**	P		**Pn**	**10 20 04.2 -0.9**
	comp=Z,2μm,0.8s,comp=Z,228μm					
PBKT	**Sadao Pong**	**17.20 3**	P		**Pn**	**10 20 04.2 -0.9**
	comp=Z,2μm,0.8s,comp=Z,228μm					
SMKI	**Samarinda**	**17.24 89**	P		P	10 20 12.9 +6.9
KKM	**Kota Kinabalu**	**17.55 67**	*e*P		**Pn**	**10 20 12.0 +2.4**
	comp=Z,40μm,1.2s					
KKM			*e*S		**S**	**10 23 31.1 +4.0**
KKM	**Kota Kinabalu**	**17.55 67**	P		**Pn**	**10 20 12.8 +3.1**
KKM	**Kota Kinabalu**	**17.55 67**	P		**Pn**	**10 20 12.7 +3.1**
	comp=Z,32μm,1.2s,comp=Z,891μm					
SGKI	**Sangatta, Kali**	**17.64 90**	P		Pn	10 20 18.0 +7.4
MTNI	**Mataram**	**17.96 116**	P		**P**	**10 20 11.1 -2.7**
	comp=Z,5μm,3.0s,comp=Z,422μm					
SKNT	**Sakolnakorn**	**18.01 13**	P		**Pn**	**10 20 15.2 +0.2**
	comp=Z,6μm,2.4s,comp=Z,284μm					
SUKH	**Sukhothai**	**18.08 359**	P		**P**	**10 20 14.1 -1.0**
	comp=Z,930nm,0.9s,comp=Z,11μm					
LOEI	**Loei**	**18.15 4**	P		**P**	**10 20 15.6 -0.3**
	comp=Z,2μm,0.7s,comp=Z,140μm					
SDKM	**Sandakan**	**18.32 70**	P		**Pn**	**10 20 21.3 +2.4**
KDM	**Kudat**	**18.45 66**	P		**Pn**	**10 20 23.0 +2.6**
TSM	**Tawau**	**18.57 74**	P		**Pn**	**10 20 23.5 +1.7**
NONG	**Nongkai**	**18.91 9**	P		**P**	**10 20 23.8 -0.4**
	comp=Z,3μm,0.9s,comp=Z,142μm					
MMSI	**Mamuju**	**19.04 96**	P		**P**	**10 20 24.1 -1.6**
	comp=Z,33μm,1.7s,comp=Z,725μm					
CM31	**Chiang Mai Arr**	**19.07 357**	P		**P**	**10 20 25.7 -0.3**
	comp=Z,2.3nm,0.6s					
CM31			*e*S		**S**	**10 23 53.9 -3.9**
CMAR	**Chiang Mai Arr**	**19.07 357**	P		**P**	**10 20 23.4 -2.6**
CMAR			S		**S**	**10 23 57.6 -0.1**
CMAR			PcP		**PcP**	**10 24 52.1 +4.7**
CMAR			ScP		**ScP**	**10 28 17.4 +2.2**
CMAR			ScS		**ScS**	**10 31 58.0 +0.8**
CMAR			*e*			10 54 44.6
CMAR			PKKKP			10 55 31.3
CMAR			P'P'ab		P'P'ab	10 59 00.7 +10
CMAR			P4KP			11 04 11.7
CMAR	**Chiang Mai Arr**	**19.07 357**	P		**P**	**10 20 23.4 -2.6**
	comp=Z,7.2nm,0.3s,baz=186,slow=9.6,SNR=174					
CMAR			S		**S**	**10 23 57.6 -0.1**
	baz=206,slow=4.8,SNR=1.1					
CMAR			PcP		**PcP**	**10 24 52.1 +4.7**
	comp=Z,2.5nm,0.3s,baz=202,slow=2.9,SNR=4.1					
CMAR			LR		LR	10 27 53.0
	comp=Z,1274μm,20.1s,baz=309,slow=37					
CMAR			ScP		**ScP**	**10 28 17.4 +2.2**
	comp=Z,1.8nm,0.3s,baz=217,slow=3.2,SNR=5.7					
CMAR			ScS		**ScS**	**10 31 58.0 +0.8**
	baz=146,slow=44,SNR=1.0					
CMAR			P3KPbc			10 54 44.6
	comp=Z,0.1nm,0.3s,baz=273,slow=1.5,SNR=4.2					
CMAR			P3KP			10 55 31.3
	comp=Z,0.3nm,0.3s,baz=329,slow=4.2,SNR=4.7					
CMAR			PKP2ab			10 59 00.7
	comp=Z,0.3nm,0.3s,baz=353,slow=5.6,SNR=4.3					
CMAR			P4KP			11 04 11.7
	comp=Z,0.3nm,0.3s,baz=215,slow=4.6,SNR=5.2					
CMAR			tx		tx	11 05 35.2
	comp=Z,2.4nm,1.0s,baz=291,slow=2.6,SNR=4.6					
CMAR			tx		tx	11 07 56.3
	comp=Z,2.0nm,0.8s,baz=221,slow=5.7,SNR=4.7					
LAMP	**Lampang**	**19.11 359**	P		**P**	**10 20 26.2 -0.2**
	comp=Z,2μm,0.9s,comp=Z,15μm					
MJSI	**Majene**	**19.21 99**	P		**Pn**	**10 20 30.1 +0.7**
	comp=Z,45μm,1.3s,comp=Z,951μm					
MYLDM	**Lahad Datu**	**19.41 72**	P		**Pn**	**10 20 34.1 +2.3**
MYLDM	**Lahad Datu**	**19.41 72**	P		**Pn**	**10 20 33.7 +1.9**
	comp=Z,17μm,2.0s,comp=Z,644μm					
CHTO	**Chiang Mai**	**19.43 357**	*e*P		**P**	**10 20 29.0 -0.8**
CHTO			*e*S		**S**	**10 24 02.0 -2.8**
CHTO			pmax		pmax	
	comp=Z,10μm,0.9s					
CHTO	**Chiang Mai**	**19.43 357**	P		**Pn**	**10 20 32.9 +1.0**
	SNR=513					
CHTO	**Chiang Mai**	**19.43 357**	*e*P		**P**	**10 20 29.0 -0.8**
	comp=Z,10μm,0.9s					
CHTO			*e*S		**S**	**10 24 02.0 -2.8**
CHTO	**Chiang Mai**	**19.43 357**	P		**P**	**10 20 29.3 -0.5**
	comp=Z,14μm,1.0s,comp=Z,667μm					
CHTO	**Chiang Mai**	**19.43 357**	P		**P**	**10 20 29.3 -0.5**
	comp=Z,14μm,1.0s,comp=Z,667μm					
PCI	**Palu**	**19.87 91**	P		ScS	10 32 08.4 +8.4
SPSI	**Sidrap Palu**	**20.05 100**	P		Pn	10 20 38.1 -1.1
	comp=Z,8μm,1.2s,comp=Z,553μm					
KAPI	**Kappang**	**20.21 103**	P		Pn	10 20 40.0 -1.1
	SNR=1385					
KAPI	**Kappang**	**20.21 103**	*e*P		**P**	**10 20 39.3 +0.8**
	comp=Z,19μm,1.0s					
KAPI			*e*S		**S**	**10 24 21.9 +1.4**
KAPI			PKKKP			10 55 30.5
KAPI	**Kappang**	**20.21 103**	P		Pn	10 20 41.2 +0.1
	comp=Z,105μm,1.0s					
KAPI	**Kappang**	**20.21 103**	P		**P**	**10 20 39.4 +1.0**
	comp=Z,15μm,1.1s,comp=Z,516μm					
KAPI	**Kappang**	**20.21 103**	P		**P**	**10 20 38.1 -0.3**
	comp=Z,1μm,1.0s,baz=297,slow=6.0,SNR=228					
KAPI			LR		LR	10 30 09.8
	comp=Z,452μm,21.3s,baz=298,slow=42					
KAPI			P3KP			10 55 30.5
	comp=Z,17nm,1.0s,baz=313,slow=5.4,SNR=7.4					
KAPI			tx		tx	11 04 16.6
	comp=Z,10nm,0.8s,baz=194,slow=2.1,SNR=6.1					
BNSI	**Bone**	**20.45 101**	P		Pn	10 20 43.7 -0.2
	comp=Z,31μm,1.2s,comp=Z,695μm					
CMAI	**Chiengmai2**	**20.53 358**	P		**P**	**10 20 41.2 -0.8**
	comp=Z,4μm,1.3s,comp=Z,150μm					
BKSI	**Bulukumba**	**20.64 103**	P		Pn	10 20 44.8 -1.3
	comp=Z,16μm,1.0s,comp=Z,384μm					
PALK	**Pallekele**	**20.79 293**	P		Pn	10 20 46.4 -1.6
	SNR=228					
PALK	**Pallekele**	**20.79 293**	*e*P		**P**	**10 20 44.1 -0.6**
PALK			*e*S		**S**	**10 24 34.5 +2.6**
PALK	**Pallekele**	**20.79 293**	P		**P**	**10 20 46.3 +1.6**
	comp=Z,10μm,0.7s,SNR=93					
PALK	**Pallekele**	**20.79 293**	P		**P**	**10 20 45.9 +1.2**
	comp=Z,2μm,2.1s,comp=Z,232μm					
CRAI	**Chiangrai**	**20.81 1**	P		**P**	**10 20 42.3 -2.5**
	comp=Z,4μm,1.1s,comp=Z,140μm					
TOLI	**Toli-Toli**	**20.91 85**	P		Pn	10 20 48.6 -0.7
	comp=Z,18μm,0.9s,comp=Z,354μm					
WBSI	**Waikabubak, Su**	**21.27 115**	P		**P**	**10 20 47.2 -2.6**
	comp=Z,5μm,0.8s,comp=Z,348μm					
LBFI	**Labuhan Bajo,**	**21.29 112**	P		**P**	**10 20 48.5 -1.5**
	comp=Z,3μm,1.0s,comp=Z,367μm					
PPR	**Puerto Princes**	**21.39 60**‖	*e*P		**P**	**10 20 55.7 +4.7**
APSI	**Ampana**	**21.68 91**	P		**P**	**10 20 56.2 +2.0**
	comp=Z,28μm,1.5s,comp=Z,388μm					
QIZ	**Qiongzhong**	**21.88 26**	P		**P**	**10 20 57.5 +1.3**
QIZ			pP		**pP**	**10 21 12.3 -1.8**
QIZ			sP		**sP**	**10 21 23.0 -2.4**
QIZ			S		**S**	**10 24 57.0 +4.1**
QIZ			LR		LR	
	comp=N,766μm,20.7s					
QIZ			LR		LR	
	comp=Z,1377μm,38.2s					
QIZ	**Qiongzhong**	**21.88 26**	*e*P		**P**	**10 20 56.5 +0.3**
	comp=Z,5μm,1.1s					
QIZ			*e*			10 24 56.1
KKSI	**Kolaka, Sulawe**	**21.93 99**	P		**P**	**10 21 00.0 +3.1**
	comp=Z,6μm,1.3s,comp=Z,291μm					
MRSI	**Marisa**	**22.00 87**	P		**P**	**10 20 58.7 +1.1**
	comp=Z,38μm,0.8s,comp=Z,520μm					
WSI	**Waingapu**	**22.10 114**	P		**P**	**10 20 58.3 -0.3**
	comp=Z,8μm,0.7s,comp=Z,506μm					
LUWI	**Luwuk**	**22.80 91**	P		**P**	**10 21 07.6 +1.6**
	comp=Z,35μm,1.3s,comp=Z,551μm					
BBSI	**Bau Bau**	**23.06 102**	P		**P**	**10 21 10.8 +2.3**
	comp=Z,12μm,1.0s,comp=Z,327μm					
GTOI	**Gorontalo**	**23.08 87**	P		**P**	**10 21 08.3 -0.5**
	comp=Z,32μm,0.9s,comp=Z,617μm					
MMRI	**Maumere**	**23.54 110**	*e*P		**P**	**10 21 09.6 -3.3**
MMRI	**Maumere**	**23.54 110**	P		**P**	**10 21 10.2 -2.8**
	comp=Z,3μm,1.4s,comp=Z,215μm					
MDRS	**Chennai**	**23.87 306**	*e*P		**P**	**10 21 16.1 +0.2**
KMSI	**Cibinong**	**24.05 87**	P		**P**	**10 21 20.2 +2.7**
	comp=Z,45μm,1.0s,comp=Z,612μm					
IPIL	**Ipil**	**24.07 69**	*e*P		**P**	**10 21 21.0 +3.3**
VIS	**Vishakhapatnam**	**24.57 319**	*e*P		**P**	**10 21 23.6 +1.4**
TRD	**Trivandrum**	**24.69 292**	*e*P		**P**	**10 21 25.1 +1.7**
TRD			⇑/*x*		**pP**	**10 21 43.4 -0.2**
TRD			*i x*		x	10 25 48.4
DCPH	**Dipolog City**	**25.06 68**⇑	*e*P		**P**	**10 21 30.3 +3.5**
SNPH	**Sibulan**	**25.23 66**‖	*e*P		P	10 21 35.9 +7.5
BATI	**Baumata**	**25.38 113**	P		**P**	**10 21 26.9 -2.7**
BATI			S		**S**	**10 25 42.8 -7.1**
BATI			ScS		**ScS**	**10 32 23.7 +2.9**
BATI			PKKKP			10 55 23.0
BATI			P4KP			11 04 40.7
BATI	**Baumata**	**25.38 113**	P		PKiKP	10 32 32.9 -8.1
	comp=Z,46nmcomp=Z,12μm,1.2s					
BATI	**Baumata**	**25.38 113**	P		**P**	**10 21 28.1 -1.6**
	comp=Z,1μm,0.8s,comp=Z,187μmcomp=Z,140μm					
BATI	**Baumata**	**25.38 113**	P		**P**	**10 21 26.9 -2.7**
	comp=Z,472nm,0.5s,baz=258,slow=1.4,SNR=37					
BATI			S		**S**	**10 25 42.8 -7.1**
	comp=Z,1μm,0.7s,baz=170,slow=14,SNR=3.5					
BATI			ScS		**ScS**	**10 32 23.7 +2.9**
	comp=Z,385nm,1.2s,baz=220,slow=22,SNR=3.4					
BATI			P3KP			10 55 23.0
	comp=Z,12nm,0.4s,baz=347,slow=5.1,SNR=3.5					
BATI			P4KP			11 04 40.7
	comp=Z,74nm,1.1s,baz=284,slow=2.8,SNR=7.9					
KALP	**Kalibo**	**25.40 60**⇑	*e*P		**P**	**10 21 34.2 +4.4**
TGY	**Tagaytay City**	**25.45 54**⇑	*e*P		**P**	**10 21 33.5 +3.2**
TGY	**Tagaytay City**	**25.45 54**	S		**S**	**10 25 52.6 +1.6**
	comp=Z,17nm,0.3s,baz=0.0,slow=23,SNR=1.8					
CTBH	**Cotabato--PC H**	**25.47 72**⇑	*e*P		**P**	**10 21 32.7 +2.3**
RCP	**Roxas**	**25.70 61**⇑	*e*P		P	10 21 24.6 -8.0
SOEI	**Soe**	**25.79 111**	P		PKiKP	10 32 32.8 -8.6
	comp=Z,146nmcomp=Z,34μm,1.4s					
SOEI	**Soe**	**25.79 111**	P		**P**	**10 21 30.9 -2.6**
	comp=Z,3μm,1.1s,comp=Z,392μm					
KMI	**Kunming**	**25.82 6**	⇑P		**P**	**10 21 34.5 +0.8**
KMI			pP		**pP**	**10 21 52.0 -2.1**
KMI			sP		**sP**	**10 22 03.5 -1.1**
KMI			PP		**PnPn**	**10 22 21.8 +5.6**
KMI			S		**S**	**10 25 59.8 +2.9**
KMI			sS		**sS**	**10 26 31.0 -1.4**
KMI			SS		SnSn	10 27 13.3 +10
KMI			pmax		pmax	
	comp=Z,1μm,0.9s					
KMI			pmax		pmax	
	comp=Z,115μm,9.3s					
KMI			LR		LR	
	comp=N,563μm,17.1s					
KMI			LR		LR	
	comp=E,906μm,18.7s					
KMI			LR		LR	
	comp=Z,1090μm,27.7s					
GSPH	**General Santos**	**25.84 75**	*e*P		**P**	**10 21 37.6 +3.6**
GSPH	**General Santos**	**25.84 75**	*e*P		S	10 26 08.8 +11
SGSI	**Sangihe**	**25.92 80**	P		**P**	**10 21 38.0 +3.5**
	comp=Z,14μm,1.4s,comp=Z,216μm					
TBP	**Tagbilaran**	**25.93 66**	*e*P		**P**	**10 21 36.6 +2.0**
LQP	**Lukban**	**25.95 55**⇑	*e*P		**P**	**10 21 36.9 +1.9**
KCP	**Kidapawan**	**26.21 73**‖	*e*P		P	10 21 48.9 +12
LLP	**Lapu-Lapu**	**26.27 65**⇑	*e*P		**P**	**10 21 39.5 +1.8**
LLP			*e*S		**S**	**10 26 04.4 +0.5**
CGP	**Cagayan de Oro**	**26.27 69**	*e*P		**P**	**10 21 39.0 +1.3**
PCPH	**Palayan**	**26.40 51**‖	*e*P		**P**	**10 21 38.7 -0.1**
BCPH	**Baguio City Da**	**26.50 49**⇑	/P		**P**	**10 21 41.5 +1.6**
GQP	**Guinayangan**	**26.58 56**‖	*e*P		**P**	**10 21 42.6 +2.1**
DAV	**Davao City (W)**	**26.69 73**	P		**P**	**10 21 44.3 +2.8**
	SNR=241					
DAV	**Davao City (W)**	**26.69 73**	*e*P		**P**	**10 21 44.2 +2.6**
	comp=Z,7μm,0.9s					
DAV			*e*S		**S**	**10 26 13.6 +3.0**
DAV	**Davao City (W)**	**26.69 73**	P		**P**	**10 21 45.6 +4.1**
	comp=Z,13μm,0.9s,comp=Z,324μm					
HKC	**Hong Kong Obse**	**26.74 30**⇑	/P		**P**	**10 21 42.0 +0.2**
GZH	**Guangzhou**	**27.00 28**	P		P	10 21 50.8 +6.7
GZH			PP		**PP**	**10 22 48.8 +2.0**
GZH			S		S	10 26 27.5 +12
GZH			SS		**SnSn**	**10 27 26.3 -4.7**
GZH			LR		LR	
	comp=N,697μm,29.9s					
GZH			LR		LR	
	comp=E,1140μm,28.0s					
GZH			LR		LR	
	comp=Z,2338μm,31.5s					
KAAM	**Kaadhehdhoo**	**27.00 272**	P		**P**	**10 21 48.5 +4.2**
	comp=Z,2μm,1.0s,comp=Z,130μm					
NLAI	**Namlea**	**27.23 96**	P		**PKiKP**	**10 32 38.5 -3.6**
NLAI	**Namlea**	**27.23 96**	P		**P**	**10 21 48.8 +2.5**
	comp=Z,4μm,0.7s,comp=Z,115μm					
SHL	**Shillong**	**27.26 344**	*i* P		**P**	**10 21 46.5 -0.2**
SHL			AMB		AMB	10 21 54.2
	comp=Z,5μm,1.9s					
SHL			*i x*		**S**	**10 26 18.5 -1.2**
SIPP	**Brgy, Tapao**	**27.37 46**⇑	*e*P		**P**	**10 21 49.0 +1.4**
TNTI	**Ternate**	**27.44 87**	P		**P**	**10 21 48.7 +0.5**
	comp=Z,8μm,0.9s,comp=Z,104μm					
SCPH	**Surigao**	**27.46 67**⇑	*e*P		**P**	**10 21 49.4 +1.0**
PLP	**Palo**	**27.52 64**⇑	*e*P		**P**	**10 21 50.3 +1.4**
LBMI	**Labuha**	**27.53 90**	P		PKiKP	10 32 47.6 +5.3
	comp=Z,15nmcomp=Z,3μm,2.1s					
LBMI	**Labuha**	**27.53 90**	P		**P**	**10 21 51.4 +2.3**
	comp=Z,13μm,1.7s,comp=Z,244μm					
HYB	**Hyderabad**	**27.74 311**	*i* P		**P**	**10 21 50.0 -0.8**
HYB			*e*pP		**pP**	**10 22 07.0 -4.3**
HYB			*e*S		**S**	**10 26 23.0 -4.0**
HYB	**Hyderabad**	**27.74 311**	*e*P		**P**	**10 21 51.9 +1.1**
PIP	**Pasuquin**	**27.75 46**⇑	*e*P		**P**	**10 21 52.1 +1.2**
GYA	**Guiyang**	**27.77 13**‖	/P		**P**	**10 21 50.0 -1.1**
GYA			pP		**pP**	**10 22 13.3 +1.7**
GYA			sP		**sP**	**10 22 23.5 +1.4**
GYA			PP		**PnPn**	**10 22 47.5 +5.1**
GYA			PcP		**PcP**	**10 25 07.8 +2.1**
GYA			S		**S**	**10 26 24.8 -2.7**
GYA			sS		**sS**	**10 27 04.8 +1.8**
GYA			SS		**SnSn**	**10 27 59.0 +9.1**
GYA			ScP		**ScP**	**10 28 40.3 +1.8**
GYA			ScS		**ScS**	**10 32 31.0 +0.1**
GYA			pmax		pmax	
	comp=Z,9μm,1.4s					
GYA			pmax		pmax	
	comp=Z,65μm,8.4s					
GYA			LR		LR	
	comp=N,828μm,18.9s					
GYA			LR		LR	
	comp=E,691μm,18.4s					
GYA			LR		LR	
	comp=Z,722μm,19.0s					
PVCP	**Virac**	**27.86 58**⇑	/P		**P**	**10 21 52.5 +0.6**
BOK	**Bokaro**	**27.93 332**	*e*P		**P**	**10 21 52.2 -0.3**
BOK			AMB		AMB	10 21 59.1
	comp=Z,4μm,1.1s					
MBWA	**Marble Bar**	**28.02 138**	P		**P**	**10 21 54.3 +1.0**
	SNR=268					
MBWA	**Marble Bar**	**28.02 138**	*e*P		**P**	**10 21 54.6 +1.2**
	comp=Z,9μm,1.6s					
MBWA			*e*S		**S**	**10 26 29.3 -2.1**
DGAR	**Diego Garcia**	**28.23 256**	*c i* P		**P**	**10 21 54.3 -0.9**
DGAR	**Diego Garcia**	**28.23 256**	*e*P		**P**	**10 21 55.6 +0.4**
	comp=Z,4μm,1.4s					
DGAR			*e*S		**S**	**10 26 30.7 -4.1**
DGAR			*e*ScP		**ScP**	**10 28 42.8 +2.8**
DGAR	**Diego Garcia**	**28.23 256**	P		**P**	**10 21 55.9 +0.7**
	comp=Z,4μm,1.7s,SNR=6.1					
CVP	**Callao Caves**	**28.24 49**⇑	*e*P		**P**	**10 21 55.8 +0.6**
PALP	**Palanan**	**28.32 50**⇑	*e*P		**P**	**10 21 57.5 +1.6**
AAI	**Ambon**	**28.36 96**	P		**PKiKP**	**10 32 45.4 +2.6**
	comp=Z,10μm,1.6s,comp=Z,52nm					
AAI	**Ambon**	**28.36 96**	P		**P**	**10 21 56.5 +0.1**
	comp=Z,3μm,1.2s,comp=Z,100μm					
MSAI	**Masohi**	**29.06 96**	P		**P**	**10 22 03.2 +0.6**
	comp=Z,934nm,0.6s,comp=Z,29μmcomp=Z,440μm					
SLGI	**Shiliguri**	**29.43 339**	*e*P		**P**	**10 22 08.3 +2.6**
NGP	**Nagpur**	**29.83 318**	*e*P		**P**	**10 22 09.1 -0.4**
NGP			*e x*		x	10 23 38.2
	comp=Z,5μm,1.8s					
NGP			*e x*		x	10 26 56.0
LATR	**Latur**	**29.85 311**⇑	*e x*		P	10 22 01.6 -7.9
LATR			*e x*		x	10 26 30.3
ODAN	**Odare**	**29.97 337**	*e*P		**P**	**10 22 11.8 +1.0**
	comp=Z,5μm,0.7s					
BNDI	**Bandanaira**	**30.14 98**	P		PKiKP	10 33 01.0 +17
TAPN	**Taplejung**	**30.29 338**	*e*P		**P**	**10 22 15.0 +1.4**
	comp=Z,15μm,0.9s					
RAMN	**Ramite**	**30.36 336**	*e*P		**P**	**10 22 15.5 +1.2**
	comp=Z,3μm,0.7s					
GOA	**Goa**	**30.44 303**	*e*P		**P**	**10 22 15.9 +1.1**
GOA			AMB		AMB	10 22

comp=Z,1080μm,33.3s
KKN Kakani 31.65 335 *e*P **P 10 22 26.1 +0.5**
comp=Z,4μm,0.6s
YULB Yu-li 31.69 40 *e*P **P 10 22 26.8 +1.0**
comp=Z,3μm,0.8s
YULB *e*PP **PnPn 10 23 36.0 +2.7**
SSLB Suanglung 31.76 39 *e*P **P 10 22 27.9 +1.5**
POO Poona 32.01 308 *e*P **P 10 22 29.1 +0.5**
POO *i* x x 10 23 19.0
SAUI Saumlaki 32.05 104 P **P 10 22 29.8 +0.8**
comp=Z,2μm,1.7s,comp=Z,82μm
ENH Enshi 32.12 16 *e*P **P 10 22 27.9 -1.4**
comp=Z,464nm,0.6s
ENH *e*S **S 10 27 36.1 +0.7**
GKN Gorkha 32.12 334 *e*P **P 10 22 30.2 +0.6**
comp=Z,7μm,0.9s
FAKI Fak Fak 32.34 94 P **P 10 22 31.9 +0.3**
comp=Z,6μm,1.1s,comp=Z,100μm
BHPL Bhopal 32.37 319 *e*P **P 10 22 31.0 -0.7**
KOLN Koldanda 32.39 332 *e*P **P 10 22 32.1 +0.1**
NACB Ninganchiao 32.44 39 *e*P **P 10 22 33.6 +1.3**
comp=Z,3μm,0.8s
NACB *e*PP **PP 10 23 50.4 +3.2**
YHNB Yeheng 32.66 38 *e*P **P 10 22 36.1 +1.7**
comp=Z,9μm,1.4s
YHNB *e*PP **PP 10 23 48.5 -1.3**
YHNB *e*S **S 10 27 45.0 +0.9**
DANN Dangsing 32.81 333 *e*P **P 10 22 36.4 +0.6**
comp=Z,4μm,0.5s
TATO Taipei 32.96 38 P **P 10 22 39.6 +2.9**
SNR=38
TATO Taipei 32.96 38 *e*P **P 10 22 38.5 +1.7**
comp=Z,17μm,0.8s
TATO *e*PP **PP 10 23 57.1 +4.1**
TATO *e*PcP **PcP 10 25 19.7 +0.6**
TATO *e*ScP **ScP 10 28 54.3 -1.0**
TLE Tual 33.07 99 P **P 10 22 38.0 0.0**
comp=Z,4μm,1.6s,comp=Z,96μm
KMPI Kaimana, Papua 33.84 95 P **P 10 22 45.9 +1.3**
comp=Z,8μm,1.3s,comp=Z,104μm
WHN Wuhan 33.96 23 ⇑P **P 10 22 45.8 +0.4**
WHN S **S 10 28 03.5 -0.4**
WHN pmax pmax
comp=Z,147μm,8.6s
WHN LR LR
comp=N,744μm,15.7s
WHN LR LR
comp=E,947μm,19.0s
WHN LR LR
comp=Z,1533μm,23.2s
LGTI Lohaghat 35.41 329 *e*P P 10 23 02.0 +4.0
LGTI *e*x x 10 28 44.1
PTH Pithoragarh 35.51 330 *e*P P 10 22 50.9 -8.1
PTH *e*S S 10 28 21.2 -7.0
XAN Xi'an 35.57 13 P **P 10 22 57.8 -1.5**
XAN S **S 10 28 23.3 -5.4**
XAN LR LR
comp=N,450μm,29.2s
XAN LR LR
comp=E,208μm,24.1s
XAN LR LR
comp=Z,199μm,29.1s
NWAO Narrogin (SRO) 35.93 155 P **P 10 23 05.1 +2.8**
SNR=186
NWAO Narrogin (SRO) 35.93 155 P **P 10 23 03.0 +0.6**
comp=Z,3μm,1.1s
NWAO PcP **PcP 10 25 31.2 +3.6**
NWAO *e*S **S 10 28 32.0 -2.2**
NWAO S **S 10 28 35.1 +0.9**
NWAO SS **SS 10 31 13.7 -1.0**
NWAO P'P' 10 55 43.4
NWAO Narrogin (SRO) 35.93 155 P **P 10 23 04.5 +2.1**
comp=Z,2μm,1.2s,baz=322,slow=10,SNR=98
NWAO PcP **PcP 10 25 31.2 +3.6**
comp=Z,432nm,0.9s,baz=72,slow=2.9,SNR=3.1
NWAO S **S 10 28 35.1 +0.9**
comp=Z,148nm,0.9s,baz=263,slow=22,SNR=1.6
NWAO SS **SS 10 31 13.7 -1.0**
comp=Z,92nm,0.8s,baz=48,slow=13,SNR=1.7
NWAO LR LR 10 36 01.9
comp=Z,597μm,21.8s,baz=329,slow=33
NWAO PKPPKP P'P'df 10 55 43.4 -20
comp=Z,5.8nm,0.8s,baz=165,slow=12,SNR=2.6
BAKI Biak 36.14 91 P **P 10 23 05.6 +1.2**
comp=Z,5μm,0.8s,comp=Z,125μm
SRPI Serui, Papua 36.28 92 P **P 10 23 06.7 +1.1**
comp=Z,5μm,0.9s,comp=Z,81μm
NDI New Delhi 36.45 325 *e*x **P 10 23 04.0 -2.9**
NDI *e*S **S 10 28 40.0 -2.2**
LZH Lanzhou 36.78 5 ⇑P **P 10 23 10.0 +0.2**
LZH pP **pP 10 23 27.8 -2.9**
LZH PP **PnPn 10 24 40.0 +3.6**
LZH S **S 10 28 45.0 -2.4**
LZH SS **SnSn 10 31 23.3 -4.7**
LZH pmax pmax
comp=Z,10μm,1.0s
LZH pmax pmax
comp=Z,72μm,7.6s
LZH LR LR
comp=N,630μm,19.6s
LZH LR LR
comp=E,822μm,19.4s
LZH LR LR
comp=Z,1037μm,20.2s
NJ2 Nanjing 37.16 27 *e*P **P 10 23 13.0 +0.2**
NJ2 PcP **PcP 10 25 33.5 +2.2**
NJ2 S **S 10 28 54.0 +1.1**
NJ2 ScS **ScS 10 33 19.0 +0.7**
NJ2 pmax pmax
comp=Z,1μm,0.8s
NJ2 pmax pmax
comp=Z,85μm,7.8s
NJ2 LR LR
comp=N,957μm,30.5s
NJ2 LR LR
comp=E,955μm,23.8s
NJ2 LR LR
comp=Z,872μm,29.7s
DDI Dehra Dun 37.25 328 *e*P **P 10 23 13.0 -0.7**
DDI AMB AMB 10 23 21.1
comp=Z,13μm,1.1s
DDI *e*x x 10 28 52.0
SSE Sheshan 37.50 31 ⇑P **P 10 23 17.5 +1.8**
SSE pP **pP 10 23 37.5 +0.8**
SSE PcP **PcP 10 25 34.5 +2.2**
SSE S **S 10 29 01.0 +2.9**
SSE sS **sS 10 29 33.3 -1.0**
SSE pmax pmax
comp=Z,890nm,0.8s
SSE pmax pmax
comp=Z,120μm,12.0s
SSE LR LR
comp=N,163μm,19.3s
SSE LR LR
comp=E,356μm,19.3s
SSE LR LR
comp=Z,267μm,21.7s
BHJ Bhuj 37.90 311 *e*P **P 10 23 18.1 -1.1**
SMLA Simla 38.36 328 *i* P **P 10 23 23.7 +0.8**
SMLA AMB AMB 10 23 36.0
comp=Z,8μm,0.5s
SMLA *i* x x 10 29 08.4
JOW Kunigami 38.63 43 *e*P **P 10 23 26.9 +1.6**
comp=Z,663nm,0.7s
JOW *e*PP **PP 10 24 55.2 -0.3**
JOW *e* 10 29 18.0
WRA Warramunga Arr 38.68 122 P **P 10 23 24.3 -1.6**
WRA PcP **PcP 10 25 37.4 +1.1**
WRA S S 10 29 08.5 -7.8
WRA *e* 10 53 31.8
WRA P'P' 10 55 27.1
WRA *e* 11 01 44.5
WRA Warramunga Arr 38.68 122 P **P 10 23 24.3 -1.6**
comp=Z,957nm,0.7s,baz=300,slow=8.9,SNR=1231
WRA PcP **PcP 10 25 37.4 +1.1**
comp=Z,303nm,0.7s,baz=312,slow=2.6,SNR=4.9
WRA S S 10 29 08.5 -7.8
comp=Z,679nm,1.0s,baz=293,slow=16,SNR=12
WRA LR LR 10 40 36.9
comp=Z,409μm,20.4s,baz=300,slow=38
WRA P3KPbc 10 53 31.8
comp=Z,16nm,0.9s,baz=117,slow=4.2,SNR=19
WRA PKPPKP P'P'df 10 55 27.1 -36
comp=Z,24nm,1.2s,baz=180,slow=1.4,SNR=5.1
WRA P4KPbc 11 01 44.5
comp=Z,1.5nm,0.9s,baz=307,slow=3.8,SNR=4.7
WRAB Tennant Creek 38.69 122 *e*P **P 10 23 24.7 -1.2**
WRAB pmax pmax
comp=Z,7μm,2.3s
WRAB Tennant Creek 38.69 122 *e*P **P 10 23 24.7 -1.2**
comp=Z,7μm,2.3s
WRAB Tennant Creek 38.69 122 P **P 10 23 24.0 -1.9**
comp=Z,15μm,0.5s
SDNR Sundarnagar 38.75 328 *e*x **P 10 23 27.0 +0.7**
SDNR *e*x x 10 29 23.0
BHK Bhakra 38.98 327 *e*P **P 10 23 28.3 +0.1**
BHK *e*x x 10 29 17.1
DHRM DHARAMSHALA 39.69 328 *e*P **P 10 23 34.9 +0.6**
DHRM AMB AMB 10 23 41.8
comp=Z,6μm,1.5s
GTA Gaotai 39.92 360 ⇑P **P 10 23 36.0 0.0**
GTA pP pP 10 23 51.5 -5.7
GTA PP **PnPn 10 25 13.5 -0.2**
GTA PcP **PcP 10 25 41.8 +1.8**
GTA ScP **ScP 10 29 24.3 +3.3**
GTA PcS **PcS 10 29 30.8 +0.5**
GTA S **S 10 29 33.5 -1.1**
GTA pmax pmax
comp=Z,2μm,1.2s
GTA pmax pmax
comp=Z,108μm,7.6s
GTA LR LR
comp=N,418μm,29.0s
GTA LR LR
comp=E,509μm,23.3s
GTA LR LR
comp=Z,784μm,32.3s
TIY Taiyuan 39.93 15 *e*P **P 10 23 36.0 0.0**
TIY S S 10 29 41.0 +6.4
TIY pmax pmax
comp=Z,860nm,0.9s
TIY LR LR
comp=N,284μm,18.1s
TIY LR LR
comp=E,192μm,13.1s
TIY LR LR
comp=Z,666μm,23.4s
ASAR Alice Springs 40.05 127 P **P 10 23 36.5 -0.7**
ASAR PcP **PcP 10 25 42.7 +2.1**
ASAR S **S 10 29 31.2 -5.5**
ASAR ScS **ScS 10 33 34.4 -1.1**
ASAR *e* 10 53 25.9
ASAR PKKKP 10 55 07.2
ASAR P'P' 10 55 56.5
ASAR P'P'ab **P'P'ab 10 57 22.6 +2.1**
ASAR *e* 11 01 49.8
ASAR P4KP 11 04 36.6
ASAR Alice Springs 40.05 127 P **P 10 23 36.5 -0.7**
comp=Z,907nm,0.6s,baz=299,slow=7.1,SNR=1144
ASAR PcP **PcP 10 25 42.7 +2.1**
comp=Z,969nm,0.9s,baz=306,slow=2.8,SNR=8.1
ASAR S **S 10 29 31.2 -5.5**
comp=Z,686nm,1.0s,baz=297,slow=15,SNR=23
ASAR ScS **ScS 10 33 34.4 -1.1**
comp=Z,25nm,0.9s,baz=47,slow=36,SNR=4.1
ASAR LR LR 10 40 47.3
comp=Z,368μm,21.5s,baz=305,slow=37
ASAR P3KPbc 10 53 25.9
comp=Z,2.4nm,0.7s,baz=116,slow=3.7,SNR=5.0
ASAR P3KP 10 55 07.2
comp=Z,6.4nm,1.0s,baz=49,slow=3.0,SNR=4.8
ASAR PKPPKP **P'P'df 10 55 56.5 -4.6**
comp=Z,17nm,0.8s,baz=112,slow=2.1,SNR=5.7
ASAR PKP2ab 10 57 22.6
comp=Z,2.5nm,0.6s,baz=86,slow=8.2,SNR=6.3
ASAR P4KPbc 11 01 49.8
comp=Z,1.6nm,1.0s,baz=306,slow=4.4,SNR=7.4
ASAR P4KP 11 04 36.6
comp=Z,2.0nm,1.0s,baz=45,slow=2.5,SNR=4.1
AS31 Alice Springs 40.05 127 *e*P **P 10 23 37.2 0.0**
TIA Tai'an 40.05 22 ⇑P **P 10 23 36.8 -0.2**
TIA pP **pP 10 23 54.0 -4.2**
TIA PP **PnPn 10 25 19.3 +4.2**
TIA S **S 10 29 35.0 -1.4**
TIA pmax pmax
comp=Z,1μm,1.0s
TIA LR LR
comp=N,459μm,28.6s
TIA LR LR
comp=E,768μm,28.5s
TIA LR LR
comp=Z,562μm,30.6s
FORT Forrest 40.05 141 *e*P **P 10 23 38.2 +1.2**
comp=Z,6μm,0.7s
FORT *e*PP **PP 10 25 08.2 -2.7**
FORT *e*S **S 10 29 37.6 +1.1**
DLH Dalhousie 40.09 328 *e*x P 10 23 28.0 -10
DLH *e*x x 10 29 48.0
THN Thein Dam 40.15 327 *e*x P 10 23 34.5 -3.3
THN *e*x x 10 29 20.2
THN *e*x x 10 29 20.2
JAY Jayapura 40.76 93 P **P 10 23 43.0 -0.2**
comp=Z,3μm,0.9s,comp=Z,52μm
JMU Jammu 40.80 327 *e*P **P 10 23 45.0 +1.8**
JMU *e*x x 10 24 24.0
MMPI Merauke 40.98 102 P **P 10 23 44.4 -0.6**
comp=Z,8μm,1.7s,comp=Z,124μm
BTO Baotou 42.13 11 *e*P **P 10 23 54.5 +0.5**
HHC Hu-ho-hao-te 42.69 13 *e*P **P 10 24 00.0 +1.4**
HHC pP **pP 10 24 18.3 -1.7**
HHC sP **sP 10 24 27.5 -2.8**
HHC PP **PP 10 25 43.0 +3.6**
HHC PcS **PcS 10 29 41.3 +0.1**
HHC S **S 10 30 18.8 +3.4**
HHC sS **sS 10 30 50.5 -1.7**
HHC SS **SS 10 33 25.5 -3.8**
HHC ScS **ScS 10 33 50.8 -0.2**
HHC pmax pmax
comp=Z,2μm,1.3s
HHC pmax pmax
comp=Z,216μm,5.1s
HHC LR LR
comp=N,686μm,20.2s
HHC LR LR
comp=E,612μm,22.2s
HHC LR LR
comp=Z,543μm,17.5s
BJT Baijiatuau 43.15 18 *e*P **P 10 24 02.6 +0.4**
comp=Z,7μm,1.1s
BJT *e*S **S 10 30 24.7 +2.7**
BJI Beijing 43.17 18 P **P 10 24 03.5 +1.1**
BJI sP **sP 10 24 36.0 +1.9**
BJI PP **PcP 10 25 48.3 -2.1**
BJI S **S 10 30 23.5 +1.2**
BJI sS **sS 10 30 56.8 -2.3**
BJI ScS **ScS 10 33 54.5 +0.8**
BJI pmax pmax
comp=Z,6μm,1.1s
BJI pmax pmax
comp=Z,107μm,14.5s
BJI LR LR
comp=N,321μm,19.9s
BJI LR LR
comp=E,391μm,21.1s
BJI LR LR
comp=Z,515μm,39.6s
DL2 Dalian 44.16 24 P **P 10 24 10.5 +0.2**
DL2 sP **sP 10 24 41.5 -0.6**
DL2 PP **PP 10 25 59.3 +4.3**
DL2 S **S 10 30 36.5 -0.2**
DL2 pmax pmax
comp=Z,5μm,1.6s
DL2 pmax pmax
comp=Z,128μm,6.6s
DL2 LR LR
comp=N,139μm,27.7s
DL2 LR LR
comp=E,238μm,23.1s
DL2 LR LR
comp=Z,262μm,23.8s
JNU Nakatsue 44.50 38 P **P 10 24 13.9 +0.7**
JNU ScP **ScP 10 29 41.0 +1.7**
JNU *e*S **S 10 30 42.7 +0.7**
JNU S S 10 30 43.6 +1.7
JNU ScS **ScS 10 34 02.9 +0.4**
JNU P'P' 10 55 21.1
JNU *e* 11 02 07.7
JNU Nakatsue 44.50 38 P **P 10 24 13.9 +0.7**
comp=Z,8μm,0.9s,baz=236,slow=2.0,SNR=240
JNU ScP **ScP 10 29 41.0 +1.7**
comp=Z,90nm,1.0s,baz=189,slow=5.2,SNR=4.3
JNU S **S 10 30 43.6 +1.7**
comp=Z,213nm,1.2s,baz=36,slow=21,SNR=7.3
JNU ScS **ScS 10 34 02.9 +0.4**
comp=Z,24nm,0.9s,baz=87,slow=22,SNR=2.1
JNU LR LR 10 42 30.9
comp=Z,289μm,20.9s,baz=218,slow=36
JNU PKPPKP P'P'df 10 55 21.1 -34
comp=Z,8.8nm,1.1s,baz=126,slow=8.7,SNR=2.4
JNU P4KPbc 11 02 07.6
comp=Z,5.3nm,0.8s,baz=263,slow=5.3,SNR=3.7
MSEY Mahe Island 44.60 264 P **P 10 24 17.1 +2.8**
SNR=38
MSEY Mahe Island 44.60 264 *e*P **P 10 24 15.4 +1.1**
comp=Z,1μm,1.3s
MSEY *e*S **S 10 30 44.1 0.0**
MSEY Mahe Island 44.60 264 P **P 10 24 16.4 +2.0**
comp=Z,5μm,1.2s,SNR=29
COEN Coen 44.72 109 *e*P **P 10 24 13.6 -1.6**
comp=Z,55nm,0.8s
COEN *e* 10 25 59.1
COEN *e*ScP **ScP 10 29 43.9 +3.3**
COEN *e*S **S 10 30 44.6 -1.1**
TJN Taejon 44.83 32 *i* P **P 10 24 16.4 +0.7**
INCN Inchon 45.30 30 P **P 10 24 19.4 -0.1**
SNR=138
INCN Inchon 45.30 30 *e*P **P 10 24 19.2 -0.2**
comp=Z,2μm,0.8s
INCN *e* 10 26 01.0
INCN *e*S **S 10 30 54.5 +1.2**
KBL Kabul 45.48 323 *e*P **P 10 24 20.7 -0.5**
KBL *e*S S 10 30 47.7 -8.8
KBL pmax pmax
comp=Z,482nm,0.5s
KBL Kabul 45.48 323 *e*P **P 10 24 20.7 -0.5**
comp=Z,482nm,0.5s
KBL *e*S S 10 30 47.7 -8.8
KSH Kashi 45.66 334 ⇑*i* P **P 10 24 21.5 -0.9**
KSH sP sP 10 24 49.0 -5.3
KSH PcP **PcP 10 26 01.0 +1.8**
KSH PP **PP 10 26 08.8 -2.3**
KSH PcS **PcS 10 29 53.5 0.0**
KSH S **S 10 30 54.8 -4.0**
KSH pmax pmax
comp=Z,710nm,1.0s
KSH pmax pmax
comp=Z,74μm,9.5s
KSH LR LR
comp=N,432μm,15.9s
KSH LR LR
comp=E,238μm,12.1s
KSH LR LR
comp=Z,327μm,21.3s
WMQ Urumqi 45.67 348 P **P 10 24 23.8 +1.5**
WMQ pP **pP 10 24 44.5 +0.5**
WMQ sP **sP 10 24 54.8 +0.6**
WMQ PcP **PcP 10 26 00.3 +1.3**
WMQ PP **PP 10 26 12.8 +1.7**
WMQ PcS **PcS 10 29 53.3 +0.1**
WMQ S **S 10 31 00.5 +1.9**
WMQ ScS **ScS 10 34 07.3 -2.4**
WMQ pmax pmax
comp=Z,12μm,0.8s
WMQ pmax pmax
comp=Z,203μm,6.9s
WMQ LR LR
comp=N,471μm,36.0s
WMQ LR LR
comp=E,712μm,40.1s
WMQ LR LR
comp=Z,479μm,36.0s
MRIV Mauritius Mete 45.85 242 *e*P **P 10 24 24.8 +0.7**
MRIV *e*S **S 10 31 03.9 +2.1**
KSAR Wonju Array Be 45.91 31 P **P 10 24 24.5 +0.3**
KSAR PcP **PcP 10 26 02.3 +2.4**
KSAR ScP **ScP 10 29 46.6 +1.6**
KSAR S **S 10 31 02.5 +0.4**
KSAR ScS **ScS 10 34 11.9 +0.6**
KSAR *e* 10 52 59.8
KSAR PKKKP 10 54 43.1
KSAR P'P' 10 55 48.2
KSAR *e* 11 02 12.5
KSRS Korea Array 45.94 31 P **P 10 24 24.5 +0.1**
comp=Z,2μm,0.8s,baz=224,slow=7.9,SNR=335
KSRS PcP **PcP 10 26 02.3 +2.3**
comp=Z,486nm,1.0s,baz=239,slow=2.9,SNR=5.9
KSRS ScP **ScP 10 29 46.6 +1.5**
comp=Z,57nm,1.2s,baz=213,slow=3.4,SNR=2.7
KSRS S **S 10 31 02.5 0.0**
comp=Z,7.4nm,1.1s,baz=152,slow=37,SNR=1.5
KSRS ScS **ScS 10 34 11.9 +0.5**
comp=Z,2.1nm,0.8s,baz=348,slow=36,SNR=2.8
KSRS LR LR 10 44 22.2
comp=Z,163μm,19.3s,baz=222,slow=37
KSRS P3KPbc 10 52 59.8
comp=Z,2.3nm,0.9s,baz=44,slow=4.4,SNR=5.6
KSRS P3KP 10 54 43.1
comp=Z,1.4nm,0.9s,baz=105,slow=1.2,SNR=4.4
KSRS PKPPKP **P'P'df 10 55 48.2 -4.2**
comp=Z,16nm,1.1s,baz=19,slow=1.9,SNR=8.3
KSRS P4KPbc 11 02 12.5
comp=Z,4.1nm,0.9s,baz=234,slow=4.4,SNR=11
KSRS tx tx 11 29 25.3
comp=Z,4.6nm,1.1s,baz=36,slow=3.7,SNR=7.9
WBK Wadi Bani Khal 46.16 303 P **P 10 24 27.4 +1.0**
SNR=484
BBOO Buckleboo 46.60 137 *e*P **P 10 24 29.8 +0.1**
comp=Z,15μm,1.0s
BBOO *e*PP **PP 10 26 24.4 +3.8**
BBOO *e*S S 10 31 03.4 -8.8
GUMO Guam 46.70 71 *e*P **P 10 24 29.3 -1.4**
comp=Z,6μm,1.1s
GUMO *e*S **S 10 31 10.4 -3.6**
SMDO Samad 47.12 303 P **P 10 24 34.4 +0.4**
SNR=559
SNY Shenyang 47.42 24 ⇑P **P 10 24 35.0 -0.9**
SNY PP **PP 10 26 30.3 +2.2**
SNY S **S 10 31 22.3 -1.2**
SNY SS **SS 10 34 53.5 +1.0**
SNY LR LR
comp=N,288μm,24.0s
SNY LR LR
comp=E,276μm,23.4s
SNY LR LR
comp=Z,576μm,25.8s
RER Riviere de l'E 47.68 242 *e*P **P 10 24 39.8 +1.4**
comp=Z,2μm,1.1s
RER *e*S **S 10 31 34.0 +6.0**
BSY Bisya 47.71 302 P **P 10 24 39.3 +0.8**
SNR=537
PMG Port Moresby 47.74 102 *e*P **P 10 24 39.0 0.0**
comp=Z,2μm,0.8s
PMG PcP **PcP 10 26 11.0 +4.1**
PMG ScP **ScP 10 29 55.4 +2.1**
PMG S **S 10 31 26.5 -2.4**
PMG *e*S S 10 31 44.3 +15
PMG ScS **ScS 10 34 26.4 +2.1**
PMG P'P' 10 55 46.1
PMG Port Moresby 47.74 102 P **P 10 24 39.2 +0.3**
comp=Z,2μm,0.8s,comp=Z,68μmcomp=Z,795μm
PMG Port Moresby 47.74 102 P **P 10 24 38.9 0.0**
comp=Z,1μm,0.6s,baz=332,slow=2.7,SNR=120
PMG PcP **PcP 10 26 11.0 +4.1**
comp=Z,688nm,0.9s,baz=269,slow=4.3,SNR=3.8
PMG ScP **ScP 10 29 55.4 +2.1**
comp=Z,501nm,1.2s,baz=271,slow=5.1,SNR=3.8
PMG S **S 10 31 26.5 -2.4**
comp=Z,140nm,1.1s,baz=153,slow=22,SNR=6.8
PMG ScS **ScS 10 34 26.4 +2.1**
comp=Z,28nm,0.9s,baz=327,slow=23,SNR=1.3
PMG PKPPKP P'P'df 10 55 46.1 -6.7
comp=Z,31nm,1.0s,baz=52,slow=2.3,SNR=7.7
ULHL Ulahol 47.82 336 *i* P **P 10 24 40.2 +0.9**
ULHL Ulahol 47.82 336 P **P 10 24 40.2 +0.9**
SNR=22
HOQ Hoqain 47.95 303 P **P 10 24 41.3 +0.9**
SNR=240
KZA Kyzart 48.09 335 *i* P **P 10 24 42.4 +0.8**
KZA Kyzart 48.09 335 P **P 10 24 42.4 +0.8**
SNR=198
AAA Alma-Ata 48.41 338 *e*P **P 10 24 45.6 +2.0**
AAA *e*S **S 10 31 36.5 -1.1**
AAA pmax pmax
comp=Z,151μm,7.3s
AAA smax smax

	comp=E,558μm,10.5s						
AAA				MLR	MLR		
	comp=Z,258μm,28.0s						
ARQ	**Araqi**	**48.51 302**		P	**P**	**10 24 45.5**	**+0.8**
	SNR=313						
UCH	**Uchtor**	**48.52 335**	*i*	P	**P**	**10 24 46.6**	**+1.6**
UCH	**Uchtor**	**48.52 335**		P	**P**	**10 24 46.6**	**+1.6**
	SNR=48						
RBK	**Rabkut**	**48.55 294**		P	**P**	**10 24 45.7**	**+0.6**
	SNR=202						
TKM2	**Tokmak 2**	**48.64 336**	*i*	P	**P**	**10 24 46.1**	**+0.5**
TKM2	**Tokmak 2**	**48.64 336**		P	**P**	**10 24 46.1**	**+0.5**
	SNR=1624						
TKM2	**Tokmak 2**	**48.64 336**	*e*	P	**P**	**10 24 46.3**	**+0.6**
	comp=Z,74nm,0.4s						
TKM2			*e*	S	**S**	**10 31 40.1**	**-1.1**
SONM	**Songino Array**	**48.67 6**		P	**P**	**10 24 45.7**	**+0.1**
SONM				sP	**sP**	**10 25 16.8**	**-0.9**
SONM				PcP	**PcP**	**10 26 13.2**	**+3.5**
SONM				ScP	**ScP**	**10 29 59.5**	**+2.9**
SONM				S	**S**	**10 31 43.0**	**+1.8**
SONM				ScS	**ScS**	**10 34 27.6**	**-1.9**
SONM				PKKKP		10 54 52.4	
SONM				P'P'		10 55 36.5	
SONM			*e*			11 02 22.1	
SONM	**Songino Array**	**48.67 6**		P	**P**	**10 24 45.7**	**+0.1**
	comp=Z,3μm,1.0s,baz=188,slow=8.5,SNR=690						
SONM				sP	**sP**	**10 25 16.8**	**-0.9**
	comp=Z,981nm,0.7s,baz=188,slow=8.8,SNR=3.2						
SONM				PcP	**PcP**	**10 26 13.2**	**+3.5**
	comp=Z,1μm,1.0s,baz=188,slow=3.8,SNR=5.9						
SONM				ScP	**ScP**	**10 29 59.5**	**+2.9**
	comp=Z,163nm,1.0s,baz=176,slow=5.2,SNR=5.9						
SONM				S	**S**	**10 31 43.1**	**+1.8**
	comp=Z,14nm,0.8s,baz=176,slow=3.2,SNR=1.1						
SONM				ScS	**ScS**	**10 34 27.6**	**-1.9**
	comp=Z,16nm,0.9s,baz=204,slow=3.4,SNR=2.3						
SONM				LR	LR	10 47 37.6	
	comp=Z,281μm,21.2s,baz=280,slow=39						
SONM				P3KP		10 54 52.4	
	comp=Z,6.9nm,1.2s,baz=202,slow=0.3,SNR=3.9						
SONM				PKPPKP	P'P'df	10 55 36.5	-12
	comp=Z,29nm,1.1s,baz=272,slow=1.9,SNR=11						
SONM				P4KPbc		11 02 22.1	
	comp=Z,2.2nm,0.7s,baz=172,slow=3.5,SNR=6.2						
SONM				tx	tx	11 05 55.6	
	comp=Z,3.3nm,0.9s,baz=188,slow=2.6,SNR=4.4						
SONM				tx	tx	11 14 02.7	
	comp=Z,0.2nm,0.4s,baz=176,slow=4.5,SNR=3.6						
SONM				tx	tx	11 29 11.4	
	comp=Z,0.2nm,0.3s,baz=8.5,slow=3.0,SNR=3.7						
KBK	**Karagaybulak**	**48.69 335**	*i*	P	**P**	**10 24 47.1**	**+1.1**
KBK	**Karagaybulak**	**48.69 335**		P	**P**	**10 24 47.1**	**+1.1**
	SNR=436						
ULN	**Ulaanbaatar**	**48.77 6**		P	**P**	**10 24 46.5**	**0.0**
	SNR=1757						
ULN	**Ulaanbaatar**	**48.77 6**	*e*	P	**P**	**10 24 46.7**	**+0.2**
	comp=Z,3μm,1.0s						
ULN			*e*	PcP	**PcP**	**10 26 11.2**	**+1.1**
ULN			*e*	ScP	**ScP**	**10 29 59.3**	**+2.2**
ULN			*e*	S	**S**	**10 31 41.4**	**-1.3**
ULN	**Ulaanbaatar**	**48.77 6**		P	**P**	**10 24 46.3**	**-0.1**
	comp=Z,4μm,0.8s,comp=Z,84μmcomp=Z,907μm						
AML	**Almayashu**	**48.80 334**	*i*	P	**P**	**10 24 47.6**	**+0.6**
AML	**Almayashu**	**48.80 334**		P	**P**	**10 24 47.6**	**+0.6**
	SNR=395						
AAK	**Ala-Archa**	**48.86 335**		P	**P**	**10 24 48.3**	**+1.0**
	comp=Z,11μm,1.3s						
AAK	**Ala-Archa**	**48.86 335**	*i*	P	**P**	**10 24 47.9**	**+0.7**
AAK				MLR	MLR		
	comp=Z,521μm,22.0s						
AAK	**Ala-Archa**	**48.86 335**		P	**P**	**10 24 47.5**	**+0.3**
	SNR=2019						
AAK	**Ala-Archa**	**48.86 335**		P	**P**	**10 24 48.0**	**+0.7**
	SNR=302						
AAK	**Ala-Archa**	**48.86 335**	*e*	P	**P**	**10 24 48.2**	**+0.9**
	comp=Z,21μm,2.0s						
AAK				sP	**sP**	**10 25 20.4**	**+1.2**
AAK				S	**S**	**10 31 47.5**	**+3.3**
AAK			*e*	S	S	10 31 48.3	+4.1
AAK				P'P'		10 55 22.4	
AAK			*e*			11 02 24.1	
AAK				P4KP		11 04 35.0	
AAK	**Ala-Archa**	**48.86 335**		P	**P**	**10 24 48.6**	**+1.3**
	comp=Z,251nm,0.8s,baz=147,slow=5.8,SNR=230						
AAK				sP	**sP**	**10 25 20.4**	**+1.2**
	comp=Z,668nm,0.9s,baz=148,slow=15,SNR=2.5						
AAK				S	**S**	**10 31 47.5**	**+3.3**
	comp=Z,84nm,0.9s,baz=100,slow=6.2,SNR=2.1						
AAK				LR	LR	10 47 50.1	
	comp=Z,218μm,21.8s,baz=132,slow=39						
AAK				PKPPKP	P'P'df	10 55 22.4	-26
	comp=Z,15nm,1.1s,baz=240,slow=8.2,SNR=4.0						
AAK				P4KPbc		11 02 24.1	
	comp=Z,3.3nm,0.6s,baz=152,slow=3.2,SNR=5.0						
AAK				P4KP		11 04 35.0	
	comp=Z,2.0nm,0.3s,baz=225,slow=1.4,SNR=4.0						
CHMS	**Chumysh**	**49.05 336**	*i*	P	**P**	**10 24 48.8**	**+0.2**
CHMS	**Chumysh**	**49.05 336**		P	**P**	**10 24 48.8**	**+0.2**
	SNR=303						
CBIJ	**Chichi jima**	**49.11 52**		P	**P**	**10 24 47.6**	**-1.5**
CBIJ				S	**S**	**10 31 44.6**	**-3.2**
CBIJ				P'P'		10 55 50.1	
CBIJ	**Chichi jima**	**49.11 52**		P	**P**	**10 24 47.6**	**-1.5**
	comp=Z,1μm,0.3s,baz=271,slow=10,SNR=88						
CBIJ				S	**S**	**10 31 44.6**	**-3.2**
	comp=Z,248nm,0.9s,baz=117,slow=24,SNR=3.5						
CBIJ				LR	LR	10 42 11.7	
	comp=Z,125μm,20.3s,baz=238,slow=32						
CBIJ				PKPPKP	**P'P'df**	**10 55 50.1**	**+0.4**
	comp=Z,66nm,0.9s,baz=306,slow=22,SNR=1.4						
CTA	**Charters Tower**	**49.18 116**		P	**P**	**10 24 49.5**	**-0.4**
CTA				ScP	**ScP**	**10 30 00.8**	**+1.5**
CTA				S	**S**	**10 31 45.3**	**-3.8**
CTA				P'P'		10 55 28.6	
CTA			*e*			11 02 30.6	
CTA	**Charters Tower**	**49.18 116**		P	**P**	**10 24 49.5**	**-0.4**
	comp=Z,905nm,0.9s,baz=291,slow=9.8,SNR=118						
CTA				ScP	**ScP**	**10 30 00.8**	**+1.5**
	comp=Z,99nm,0.8s,baz=343,slow=7.3,SNR=3.3						
CTA				S	**S**	**10 31 45.3**	**-3.8**
	comp=Z,151nm,1.1s,baz=58,slow=20,SNR=15						
CTA				LR	LR	10 47 36.4	
	comp=Z,480μm,20.9s,baz=282,slow=38						
CTA				PKPPKP	P'P'df	10 55 28.6	-22
	comp=Z,30nm,1.1s,baz=156,slow=0.1,SNR=7.7						
CTA				P4KPbc		11 02 30.6	
	comp=Z,6.7nm,0.8s,baz=310,slow=7.1,SNR=5.4						
CTAO	**Charters Tower**	**49.18 116**	*e*	P	**P**	**10 24 49.5**	**-0.4**
CTAO			*e*	S	**S**	**10 31 45.2**	**-3.8**
CTAO				pmax	pmax		
	comp=Z,1μm,1.0s						
CTAO	**Charters Tower**	**49.18 116**	*e*	P	**P**	**10 24 49.5**	**-0.4**
	comp=Z,1μm,1.0s						
CTAO			*e*	ScP	**ScP**	**10 30 01.1**	**+1.8**
CTAO			*e*	S	**S**	**10 31 45.2**	**-3.8**
EKS2	**Erkin-Say**	**49.19 335**	*e*	P	**P**	**10 24 50.6**	**+0.9**
EKS2			*e*	S	**S**	**10 31 52.5**	**+3.8**
EKS2				pmax	pmax		
	comp=Z,74nm,0.4s						
EKS2	**Erkin-Say**	**49.19 335**		P	**P**	**10 24 50.6**	**+0.9**
	SNR=1045						
EKS2	**Erkin-Say**	**49.19 335**	*e*	P	**P**	**10 24 50.6**	**+0.9**
	comp=Z,74nm,0.4s						
EKS2			*e*	S	**S**	**10 31 52.5**	**+3.8**
ABTO	**Aybut**	**49.33 294**		P	**P**	**10 24 51.8**	**+0.7**
	SNR=200						
USP	**Ospenovka**	**49.38 336**	*i*	P	**P**	**10 24 51.2**	**+0.1**
USP	**Ospenovka**	**49.38 336**		P	**P**	**10 24 51.2**	**+0.1**
	SNR=1018						
UOSS	**Wadi Hilu**	**49.43 304**		P	**P**	**10 24 51.0**	**-0.7**
	comp=Z,3μm,0.9s						
ASHO	**Ashiyiah**	**49.44 304**		P	**P**	**10 24 52.4**	**+0.6**
	SNR=279						
BANOM	**Banah**	**49.76 305**		P	**P**	**10 24 55.8**	**+1.6**
	SNR=59						
MK31	**Makanchi Array**	**49.78 344**	*e*	P	**P**	**10 24 54.3**	**+0.3**
MK31			*e*	S	S	10 31 50.6	-6.1
MK31	**Makanchi Array**	**49.78 344**	*e*	P	**P**	**10 24 54.3**	**+0.3**
MK31			*e*	S	S	10 31 50.6	-6.1
MKAR	**Makanchi Array**	**49.78 344**		P	**P**	**10 24 54.0**	**-0.1**
MKAR				*PP	**pP**	**10 25 20.1**	**+4.2**
MKAR				S	**S**	**10 31 58.0**	**+1.3**
MKAR				pmax	pmax		
	comp=Z,761nm,0.5s						
MKAR				smax	smax		
	comp=N,67nm,0.9s						
MKAR				MLR	MLR		
	comp=Z,188μm,21.2s						
MKAR	**Makanchi Array**	**49.78 344**		P	**P**	**10 24 54.0**	**-0.1**
MKAR				pP	**pP**	**10 25 20.1**	**+4.2**
MKAR				S	**S**	**10 31 58.0**	**+1.3**
MKAR				P'P'		10 55 34.0	
MKAR			*e*			11 02 28.6	
MKAR	**Makanchi Array**	**49.78 344**		P	**P**	**10 24 54.0**	**-0.1**
	comp=Z,756nm,0.5s,baz=148,slow=7.1,SNR=752						
MKAR				pP	**pP**	**10 25 20.1**	**+4.2**
	comp=Z,797nm,0.6s,baz=142,slow=8.4,SNR=2.0						
MKAR				S	**S**	**10 31 58.0**	**+1.3**
	comp=Z,67nm,0.9s,baz=101,slow=5.1,SNR=4.7						
MKAR				LR	LR	10 49 36.7	
	comp=Z,188μm,21.2s,baz=155,slow=40						
MKAR				PKPPKP	P'P'df	10 55 34.0	-13
	comp=Z,6.6nm,0.9s,baz=253,slow=1.3,SNR=4.7						
MKAR				P4KPbc		11 02 28.6	
	comp=Z,3.2nm,0.9s,baz=124,slow=6.5,SNR=5.3						
MKAR				tx	tx	11 05 29.0	
	comp=Z,1.9nm,1.1s,baz=197,slow=4.5,SNR=2.8						
MKAR				tx	tx	11 13 59.5	
	comp=Z,5.8nm,1.3s,baz=95,slow=7.3,SNR=4.3						
MKAR				tx	tx	11 29 10.9	
	comp=Z,1.0nm,1.1s,baz=277,slow=6.0,SNR=3.6						
CN2	**Changchun**	**49.83 24**	⇑	P	**P**	**10 24 53.8**	**-0.5**
CN2				*e*sP	**sP**	**10 25 28.5**	**+2.1**
CN2				PP	**PP**	**10 26 51.5**	**+1.6**
CN2				pmax	pmax		
	comp=Z,92μm,14.0s						
STKA	**Stephens Creek**	**50.03 132**	*e*	P	**P**	**10 24 56.2**	**+0.1**
	comp=Z,1μm,1.1s						
STKA			*e*	S	**S**	**10 31 57.0**	**-3.6**
STKA				S	S	10 31 58.2	-2.4
STKA				P'P'		10 55 15.6	
STKA			*e*			11 02 30.5	
STKA	**Stephens Creek**	**50.03 132**		P	**P**	**10 24 56.3**	**+0.1**
	comp=Z,2μm,0.7s,baz=308,slow=6.9,SNR=527						
STKA				S	**S**	**10 31 58.2**	**-2.4**
	comp=Z,642nm,1.1s,baz=27,slow=21,SNR=7.2						
STKA				LR	LR	10 46 14.1	
	comp=Z,592μm,22.0s,baz=289,slow=36						
STKA				PKPPKP	P'P'df	10 55 15.6	-33
	comp=Z,11nm,1.0s,baz=32,slow=5.4,SNR=4.9						
STKA				P4KPbc		11 02 30.5	
	comp=Z,5.5nm,0.8s,baz=326,slow=4.8,SNR=5.4						
IBND	**Bandar-abas**	**50.23 307**	*e*	P	**P**	**10 24 58.7**	**+1.0**
IBND			*e*	P	**P**	**10 24 59.9**	**+2.2**
IDAH	**Dahanechah**	**50.35 315**	*e*	P	**P**	**10 24 58.7**	**-0.2**
IMON	**Monand**	**50.74 316**	*e*	P	**P**	**10 25 02.3**	**+0.5**
IKOO	**Kooshah**	**50.80 314**	*e*	P	**P**	**10 25 01.0**	**-1.2**
KKAR	**Karatay Array**	**51.00 332**	*e*	P	**P**	**10 25 02.5**	**-0.8**
KKAR			*e*	S	S	10 32 07.2	-6.4
KKAR	**Karatay Array**	**51.00 332**	*e*	P	**P**	**10 25 02.5**	**-0.8**
	comp=Z,0.4nm,0.9s						
KKAR			*e*	S	S	10 32 07.2	-6.4
ITEG	**Tejag**	**51.23 315**	*e*	P	**P**	**10 25 05.3**	**-0.1**
MAJO	**Matsushiro**	**51.30 40**	*e*	P	**P**	**10 25 05.5**	**-0.1**
MAJO			*e*	S	**S**	**10 32 17.6**	**-0.4**
MAJO				pmax	pmax		
	comp=Z,2μm,1.0s						
MAJO	**Matsushiro**	**51.30 40**	*e*	P	**P**	**10 25 05.5**	**-0.1**
	comp=Z,2μm,1.0s						
MAJO			*e*	S	**S**	**10 32 17.6**	**-0.4**
MAT	**Matsushiro**	**51.30 40**		P	**P**	**10 25 05.0**	**-0.6**
MAT				S	**S**	**10 32 15.2**	**-2.8**
MJAR	**Matsushiro Arr**	**51.30 40**		P	**P**	**10 25 05.4**	**-0.3**
MJAR				ScP	**ScP**	**10 30 11.4**	**+3.4**
MJAR	**Matsushiro Arr**	**51.30 40**		P	**P**	**10 25 05.4**	**-0.3**
	comp=Z,876nm,1.1s,baz=220,slow=6.5,SNR=233						
MJAR				ScP	**ScP**	**10 30 11.4**	**+3.4**
	comp=Z,18nm,0.6s,baz=184,slow=8.9,SNR=4.1						
HVS	**Khovu-Aksy**	**51.92 355**	*c i*	P	**P**	**10 25 10.0**	**-0.1**
HVS				pmax	pmax		
	comp=Z,6μm,1.4s						
HVS				MLR	MLR		
	comp=Z,480μm,17.0s						
IMYA	**Miami**	**52.23 319**	*e*	P	**P**	**10 25 11.8**	**-1.0**
MDJ	**Mudanjiang**	**52.25 27**		P	**P**	**10 25 14.5**	**+2.0**
MDJ				pP	**pP**	**10 25 33.8**	**-0.8**
MDJ				sP	**sP**	**10 25 43.5**	**-1.2**
MDJ				S	**S**	**10 32 34.0**	**+3.3**
MDJ				pmax	pmax		
	comp=Z,2μm,1.3s						
MDJ				pmax	pmax		
	comp=Z,121μm,10.8s						
MDJ				LR	LR		
	comp=N,597μm,34.0s						
MDJ				LR	LR		
	comp=E,488μm,32.8s						
MDJ				LR	LR		
	comp=Z,402μm,29.0s						
MDJ	**Mudanjiang**	**52.25 27**	*e*	P	**P**	**10 25 13.2**	**+0.7**
	comp=Z,2μm,1.0s						
MDJ			*e*	S	**S**	**10 32 35.5**	**+4.7**
TLY	**Talaya**	**52.29 3**	*c i*	P	**P**	**10 25 13.1**	**+0.4**
TLY			*e*			10 27 17.2	
TLY			*e*	S	**S**	**10 32 32.7**	**+1.6**
TLY			*e*	PS	**PKiKP**	**10 33 01.7**	**-0.8**
TLY				pmax	pmax		
	comp=Z,2μm,0.9s						
TLY				MLR	MLR		
	comp=Z,304μm,20.0s						
TLY	**Talaya**	**52.29 3**		P	**P**	**10 25 14.0**	**+1.3**
	comp=Z,9μm,0.9s						
MUKL	**Al Mukalla**	**52.60 289**	⇑	*e* P	**P**	**10 25 16.6**	**+1.0**
IMOG	**Moghan**	**52.60 318**		*e* P	**P**	**10 25 15.4**	**-0.3**
HIA	**Hailar**	**52.62 16**		*e* P	**P**	**10 25 14.6**	**-0.6**
	comp=Z,4μm,1.5s						
HIA			*e*	PcP	**PcP**	**10 26 24.6**	**+0.5**
HIA			*e*	ScP	**ScP**	**10 30 13.2**	**-0.3**
HIA			*e*	S	**S**	**10 32 36.4**	**+0.7**
ISRO	**Mashad**	**52.63 319**	*e*	P	**P**	**10 25 14.4**	**-1.2**
IBAF	**Bafgh**	**52.90 312**	*e*	P	**P**	**10 25 16.6**	**-1.1**
USRK	**Ussuriysk Arra**	**53.04 29**		P	**P**	**10 25 18.6**	**+0.3**
	comp=Z,4μm,0.8s,baz=227,slow=6.1,SNR=460						
USRK				ScP	**ScP**	**10 30 16.9**	**+1.5**
	comp=Z,42nm,0.8s,baz=213,slow=4.7,SNR=2.9						
USRK				S	**S**	**10 32 40.6**	**-0.8**
	comp=Z,1.9nm,0.6s,baz=101,slow=34,SNR=0.8						
USRK				LR	LR	10 48 52.0	
	comp=Z,232μm,19.9s,baz=216,slow=37						
USRK				PKPPKP	P'P'df	10 55 28.1	-15
	comp=Z,14nm,1.0s,baz=48,slow=2.8,SNR=6.7						
USRK				P4KPbc		11 02 43.1	
	comp=Z,5.2nm,0.8s,baz=12,slow=2.1,SNR=6.9						
USRK				tx	tx	11 28 54.4	
	comp=Z,0.8nm,0.6s,baz=46,slow=11,SNR=4.8						
IAKL	**Akhelmad**	**53.27 319**	*e*	P	**P**	**10 25 20.3**	**-0.2**
IMEH	**Mehriz**	**53.52 311**	*e*	P	**P**	**10 25 20.6**	**-1.8**
IKRD	**Kardeh**	**53.53 319**	*e*	P	P	10 25 17.5	-4.9
ISRV	**Sarvestan**	**53.78 308**	*e*	P	**P**	**10 25 24.4**	**-0.1**
IEMG	**Emamgholi**	**53.80 319**	*e*	P	**P**	**10 25 23.9**	**-0.5**
ISFR	**Sfrayin**	**54.03 319**	*e*	P	**P**	**10 25 25.3**	**-0.8**
IPAR	**Pars**	**54.03 308**	*e*	P	**P**	**10 25 25.8**	**-0.5**
ICHK	**Chekchek**	**54.07 312**	*e*	P	**P**	**10 25 24.9**	**-1.5**
KURBB	**Kurchatov Arra**	**54.31 343**		P	**P**	**10 25 27.4**	**0.0**
	comp=Z,708nm,0.8s,baz=164,slow=7.3,SNR=694						
KURBB				pP	**pP**	**10 25 53.3**	**+3.6**
	comp=Z,970nm,0.8s,baz=162,slow=7.0,SNR=3.0						
KURBB				ScP	**ScP**	**10 30 24.2**	**+3.5**
	comp=Z,96nm,1.1s,baz=139,slow=4.4,SNR=2.9						
KURBB				S	**S**	**10 32 54.8**	**-3.6**
	comp=Z,146nm,0.9s,baz=143,slow=15,SNR=6.7						
KURBB				PKPPKP	P'P'df	10 55 17.9	-22
	comp=Z,12nm,1.1s,baz=286,slow=2.9,SNR=4.9						
KURBB				PKP2bc		10 55 52.8	
	comp=Z,38nm,1.1s,baz=326,slow=2.5,SNR=4.9						
KURBB				P4KPbc		11 02 47.7	
	comp=Z,8.0nm,0.9s,baz=149,slow=3.7,SNR=17						
KURBB				tx	tx	11 28 45.2	
	comp=Z,1.0nm,0.9s,baz=331,slow=5.0,SNR=7.5						
KURK	**Kurchatov**	**54.37 343**		P	**P**	**10 25 28.6**	**+0.7**
	comp=Z,21μm,0.9s						
KURK	**Kurchatov**	**54.37 343**	*c i*	P	**P**	**10 25 27.7**	**-0.2**
KURK				pmax	pmax		
	comp=Z,4μm,1.7s						
KURK				MLR	MLR		
	comp=Z,124μm,17.0s						
KURK	**Kurchatov**	**54.37 343**		P	**P**	**10 25 28.2**	**+0.3**
	SNR=3722						
KURK	**Kurchatov**	**54.37 343**		P	**P**	**10 25 27.4**	**-0.5**
KURK				pP	**pP**	**10 25 53.3**	**+3.2**
KURK				ScP	**ScP**	**10 30 24.2**	**+3.3**
KURK			*e*S	S		10 32 51.3	-7.9
KURK			S	S		10 32 54.8	-4.3
KURK			P'P'			10 55 17.9	
KURK			⇑*e*			10 55 52.8	
KURK			*e*			11 02 47.7	
ISAD	**Sadrabad**	**54.46 311**	*e*	P	**P**	**10 25 28.7**	**-0.6**
ISHV	**Shirvan**	**54.49 319**	*e*	P	**P**	**10 25 28.9**	**-0.4**
OPO	**Ambohidratompo**	**54.72 248**		P	**P**	**10 25 31.6**	**+0.4**
OPO				pP	**pP**	**10 25 57.6**	**+4.1**
OPO				S	**S**	**10 33 05.3**	**+0.1**
OPO				P'P'		10 55 30.7	
OPO			⇑*e*			10 55 47.3	
OPO	**Ambohidratompo**	**54.72 248**		P	**P**	**10 25 31.6**	**+0.4**
	comp=Z,418nm,1.0s,baz=69,slow=6.4,SNR=124						
OPO				pP	**pP**	**10 25 57.6**	**+4.1**
	comp=Z,245nm,0.8s,baz=76,slow=8.8,SNR=2.9						
OPO				S	**S**	**10 33 05.3**	**+0.1**
	comp=Z,9.5nm,1.0s,baz=7.0,slow=4.1,SNR=1.8						
OPO				LR	LR	10 45 20.3	
	comp=Z,266μm,18.1s,baz=71,slow=32						
OPO				PKPPKP	P'P'df	10 55 30.7	-12
	comp=Z,6.8nm,0.8s,baz=280,slow=3.4,SNR=4.0						
OPO				PKP2bc		10 55 47.3	
	comp=Z,21nm,1.1s,baz=120,slow=0.2,SNR=5.6						
PAF	**Port-aux-Franc**	**54.76 203**	*e*	P	**P**	**10 25 31.2**	**+0.4**
PAF			*e*	S	**S**	**10 33 06.6**	**+2.1**
PAF				pmax	pmax		
	comp=Z,3μm,1.2s						
PAF	**Port-aux-Franc**	**54.76 203**	*e*	P	**P**	**10 25 31.2**	**+0.4**
	comp=Z,3μm,1.2s						
PAF			*e*ScP		**ScP**	**10 30 22.6**	**-0.1**
PAF			*e*	S	**S**	**10 33 06.6**	**+2.1**
ABPO	**Ambohimpanom**	**54.78 247**	*e*	P	**P**	**10 25 32.3**	**+0.6**
ABPO			*e*	S	**S**	**10 33 03.8**	**-2.3**
ABPO				pmax	pmax		
	comp=Z,428nm,0.9s						
ABPO	**Ambohimpanom**	**54.78 247**	*e*	P	**P**	**10 25 32.3**	**+0.6**
	comp=Z,428nm,0.9s						
ABPO			*e*	S	**S**	**10 33 03.8**	**-2.3**
ABPO	**Ambohimpanom**	**54.78 247**		P	**P**	**10 25 33.0**	**+1.3**
	comp=Z,466nm,0.9s,SNR=5.2						
IKAZ	**Kazeroun**	**54.96 308**	*e*	P	**P**	**10 25 32.5**	**-0.5**
EIDS	**Eidsvold**	**55.03 121**	*e*	P	**P**	**10 25 33.0**	**-0.2**
	comp=Z,50nm,1.2s						
EIDS			*e*	S	**S**	**10 33 03.3**	**-5.7**
BDHA	**Al Bayda'**	**55.80 287**	⇑*e*	P	**P**	**10 25 40.1**	**+1.0**
BDHA				AMb	AMB	10 25 43.0	
	comp=Z,5μm,1.4s						
IMND	**Minoodasht**	**55.87 317**	*e*	P	**P**	**10 25 40.1**	**+1.1**
ZAA0	**Zalesovo Array**	**55.90 349**	*e*	P	**P**	**10 25 38.9**	**0.0**
ZAA0			*e*	S	**S**	**10 33 17.6**	**-1.9**
ZALV	**Zalesovo Beam**	**55.90 349**		P	**P**	**10 25 38.6**	**-0.3**
ZALV				*PP	**pP**	**10 26 05.5**	**+4.3**
ZALV				S	**S**	**10 33 20.0**	**+0.5**
ZALV				smax	smax		
	comp=N,266nm,0.9s						
ZALV				MLR	MLR		
	comp=Z,106μm,19.5s						
ZALV	**Zalesovo Beam**	**55.90 349**		P	**P**	**10 25 38.6**	**-0.3**
ZALV				pP	**pP**	**10 26 05.5**	**+4.3**
ZALV				S	**S**	**10 33 20.0**	**+0.5**
ZALV				P'P'		10 55 10.1	
ZALV			⇑*e*			10 55 41.5	
ZALV			*e*			11 02 54.2	
ZALV	**Zalesovo Beam**	**55.90 349**		P	**P**	**10 25 38.6**	**-0.3**
	comp=Z,7μm,0.8s,baz=176,slow=5.8,SNR=321						
ZALV				pP	**pP**	**10 26 05.5**	**+4.3**
	comp=Z,3μm,0.7s,baz=172,slow=5.8,SNR=2.8						
ZALV				S	**S**	**10 33 20.0**	**+0.5**
	comp=Z,266nm,0.9s,baz=190,slow=5.9,SNR=10						
ZALV				LR	LR	10 54 07.9	
	comp=Z,106μm,19.5s,baz=161,slow=41						
ZALV				PKPPKP	P'P'df	10 55 10.1	-28
	comp=Z,2.6nm,0.3s,baz=277,slow=2.5,SNR=4.3						
ZALV				PKP2bc		10 55 41.5	
	comp=Z,62nm,1.0s,baz=300,slow=3.3,SNR=8.5						
ZALV				P4KPbc		11 02 54.2	
	comp=Z,2.5nm,0.3s,baz=118,slow=2.5,SNR=6.4						
IGAR	**Gharneh**	**55.93 311**	*e*	P	**P**	**10 25 38.8**	**-1.0**
IZEF	**Zefreh**	**55.93 311**	*e*	P	**P**	**10 25 39.4**	**-0.4**
IANJ	**Anjilo**	**55.99 315**	*e*	P	**P**	**10 25 38.2**	**-2.0**
LBOS		**56.08 287**	⇑*e*	P	**P**	**10 25 42.2**	**+1.0**
LBOS				AMb	AMB	10 25 45.2	
	comp=Z,14μm,1.5s						
IKIA	**Kiasar**	**56.52 316**	*e*	P	**P**	**10 25 43.1**	**-0.8**
IGLO	**Ghaloghah**	**56.56 316**	*e*	P	**P**	**10 25 43.2**	**-1.0**
ISHM	**Shahmirzad**	**56.60 315**	*e*	P	**P**	**10 25 44.2**	**-0.4**
ILAS	**Lasjerd**	**56.63 314**	*e*	P	**P**	**10 25 44.3**	**-0.4**
ISFB	**Sefidab**	**56.66 313**	*e*	P	**P**	**10 25 43.0**	**-1.8**
IKLH	**Kolahrood**	**56.68 311**	*e*	P	**P**	**10 25 43.9**	**-1.3**
IFIR	**Firoozkooh**	**56.90 314**	*e*	P	**P**	**10 25 46.6**	**-0.1**
IPIR	**Pirpir**	**56.92 310**	*e*	P	**P**	**10 25 46.1**	**-0.8**
DHBB	**Dhamar BB**	**57.03 288**	⇑*e*	P	**P**	**10 25 49.0**	**+1.0**
TRBA	**At Turbah**	**57.06 286**	⇑*e*	P	**P**	**10 25 49.0**	**+1.0**
IALA	**Alasht**	**57.07 315**	*e*	P	**P**	**10 25 47.4**	**-0.

ASAJ S **S** **10 33 58.2 +3.2**
comp=Z,74nm,1.0s,baz=85,slow=27,SNR=8.0
ASAJ LR LR 10 52 17.7
comp=Z,141μm,21.9s,baz=230,slow=37
ASAJ PKPPKP **P'P'df** **10 55 34.1 -0.7**
comp=Z,58nm,1.3s,baz=245,slow=9.2,SNR=7.0
ASAJ PKP2bc 10 55 49.4
comp=Z,138nm,1.3s,baz=258,slow=9.8,SNR=5.5
RST Umm Al-Ruwaisa 58.74 305 *e*P **P** **10 25 58.4 -0.9**
RST AMb AMB 10 26 04.8
comp=Z,21μm,1.0s
IRAZ Razeghan 58.83 313 *e*P **P** **10 26 00.4 +0.3**
BVAR Borovoye Array 58.97 340 P **P** **10 25 58.9 -1.6**
BVAR S **S** **10 33 59.1 -0.7**
BVAR pmax pmax
comp=Z,540nm,0.6s
BVAR smax smax
comp=N,80nm,1.0s
BVAR MLR MLR
comp=Z,178μm,20.6s
BVAR Borovoye Array 58.97 340 P **P** **10 25 58.9 -1.6**
BVAR S **S** **10 33 59.1 -0.7**
BVAR P'P' 10 55 28.6
BVAR ⇑*e* 10 55 41.7
BVAR P'P'ab P'P'ab 10 56 11.2 +13
BVAR *e* 11 03 08.5
BVAR Borovoye Array 58.97 340 P **P** **10 25 58.9 -1.6**
comp=Z,477nm,0.7s,baz=125,slow=13,SNR=370
BVAR S **S** **10 33 59.1 -0.7**
comp=Z,80nm,1.0s,baz=98,slow=6.3,SNR=4.8
BVAR LR LR 10 52 52.9
comp=Z,178μm,20.6s,baz=352,slow=37
BVAR PKPPKP **P'P'df** **10 55 28.6 -4.9**
comp=Z,9.6nm,0.9s,baz=346,slow=0.6,SNR=5.6
BVAR PKP2bc 10 55 41.7
comp=Z,68nm,1.1s,baz=259,slow=0.8,SNR=11
BVAR PKP2ab 10 56 11.2
comp=Z,28nm,1.0s,baz=338,slow=0.8,SNR=2.5
BVAR P4KPbc 11 03 08.5
comp=Z,9.1nm,0.8s,baz=141,slow=7.3,SNR=14
BVAR tx tx 11 28 25.9
comp=Z,0.6nm,0.5s,baz=339,slow=3.2,SNR=4.6
BRVK Borovoye 59.03 340*c i*P **P** **10 25 59.8 -1.1**
BRVK pmax pmax
comp=Z,3μm,2.5s
BRVK MLR MLR
comp=Z,164μm,20.0s
BRVK Borovoye 59.03 340 P **P** **10 25 59.9 -1.1**
SNR=1403
BRVK Borovoye 59.03 340 *e*P **P** **10 26 00.5 -0.3**
comp=Z,16μm,2.3s
BRVK *e*S **S** **10 34 02.0 +1.4**
BRVK Borovoye 59.03 340 P **P** **10 26 00.6 -0.3**
comp=Z,13μm,0.5s
TAU Tasmania Unive 59.60 141 P **P** **10 26 07.0 +2.0**
comp=Z,7μm,1.3s,SNR=38
TAU Tasmania Unive 59.60 141 *e*P **P** **10 26 06.2 +1.2**
TAU *e* 10 28 19.2
TAU *e*S **S** **10 34 08.3 0.0**
TAU pmax pmax
comp=Z,2μm,1.4s
TAU Tasmania Unive 59.60 141 *e*P **P** **10 26 06.2 +1.2**
comp=Z,2μm,1.4s
TAU *e*PP **PP** **10 28 19.1 +1.6**
TAU *e*S **S** **10 34 08.3 0.0**
IKOM Komasi 60.11 311 *e*P **P** **10 26 09.2 +0.3**
HNR Honiara 60.29 100 P **P** **10 26 09.9 -0.4**
HNR S **S** **10 34 14.9 -3.2**
HNR ⇑*e* 10 55 35.8
HNR Honiara 60.29 100 P **P** **10 26 09.9 -0.4**
comp=Z,8μm,0.9s,baz=204,slow=3.1,SNR=69
HNR S **S** **10 34 14.9 -3.2**
comp=Z,752nm,1.2s,baz=353,slow=22,SNR=20
HNR LR LR 10 52 08.5
comp=Z,130μm,21.1s,baz=273,slow=36
HNR PKP2bc 10 55 35.7
comp=Z,32nm,0.4s,baz=263,slow=8.1,SNR=2.5
YSS Yuzh-Sakhalins 60.41 32α *i*P **P** **10 26 10.0 -0.5**
YSS *e* 10 26 48.0
YSS *i* 10 28 26.0
YSS *i*S **S** **10 34 18.0 -0.5**
YSS *i* *SS **sS** **10 34 52.0 -5.2**
YSS *e* 10 35 50.5
YSS *e*SS **SS** **10 38 22.0 +4.1**
YSS pmax pmax
comp=N,36μm,16.0s
YSS pmax pmax
comp=E,31μm,16.0s
YSS pmax pmax
comp=Z,80μm,16.0s
YSS pmax pmax
comp=N,33μm,10.0s
YSS pmax pmax
comp=E,35μm,10.0s
YSS pmax pmax
comp=Z,82μm,10.0s
YSS smax smax
comp=E,51μm,16.0s
YSS MLR MLR
comp=E,120μm,20.0s
YSS MLR MLR
comp=Z,96μm,20.0s
ABKAR Akbulak array 60.50 331 *e*P **P** **10 26 10.4 -0.6**
comp=Z,1.9nm,0.8s
ABKAR *e*S **S** **10 34 17.4 -2.2**
IVIS Veis 60.75 311 *e*P **P** **10 26 12.3 -0.9**
ILIN Lien 60.83 311 *e*P **P** **10 26 12.8 -1.1**
IGHG Ghaleghazi 60.89 310 *e*P **P** **10 26 13.4 -0.9**
IDHR Dehrash 61.17 311 *e*P **P** **10 26 14.4 -1.8**
ISRB Sarab 61.53 315 *e*P **P** **10 26 18.8 +0.3**
FURI Furi 61.79 280 P **P** **10 26 23.0 +2.2**
FURI S **S** **10 34 43.7 +5.9**
IHRS Heris 62.19 315 *e*P **P** **10 26 21.9 -1.1**
AKTO Aktyubinsk 62.22 331 P **P** **10 26 21.8 -0.8**
AKTO S **S** **10 34 38.7 -2.7**
AKTO pmax pmax
comp=Z,399nm,0.9s
AKTO smax smax
comp=N,36nm,0.6s
AKTO MLR MLR
comp=Z,96μm,20.6s
AKTO Aktyubinsk 62.22 331 P **P** **10 26 21.8 -0.8**
AKTO S **S** **10 34 38.7 -2.7**
AKTO P'P' 10 55 27.2
AKTO ⇑*e* 10 55 35.7
AKTO *e* 11 03 22.8
AKTO Aktyubinsk 62.22 331 P **P** **10 26 21.8 -0.8**
comp=Z,399nm,0.9s,baz=129,slow=6.9,SNR=290
AKTO S **S** **10 34 38.7 -2.7**
comp=Z,36nm,0.6s,baz=299,slow=23,SNR=22
AKTO LR LR 10 54 25.4
comp=Z,96μm,20.6s,baz=252,slow=37
AKTO PKPPKP **P'P'df** **10 55 27.2 -1.6**
comp=Z,18nm,1.1s,baz=5.9,slow=3.7,SNR=5.9
AKTO PKP2bc 10 55 35.7
comp=Z,47nm,1.2s,baz=348,slow=2.7,SNR=9.9
AKTO P4KPbc 11 03 22.8
comp=Z,6.8nm,0.8s,baz=118,slow=4.7,SNR=8.3
IFTB Fath-abad 62.52 314 *e*P **P** **10 26 25.0 -0.2**
IAZR Azarshahr 62.68 314 *e*P **P** **10 26 25.9 -0.4**
KMBO Kilima Mbogo 62.71 269 *e*P **P** **10 26 27.5 +0.6**
KMBO Kilima Mbogo 62.71 269 P **P** **10 26 27.5 +0.6**
SNR=241
KMBO Kilima Mbogo 62.71 269 *e*P **P** **10 26 27.4 +0.6**
comp=Z,571nm,1.0s
KMBO pP **pP** **10 26 53.0 +3.3**
KMBO sP **sP** **10 27 01.4 +1.8**
KMBO *e*S **S** **10 34 46.4 -2.9**
KMBO S S 10 34 51.2 +1.9
KMBO P'P' 10 55 30.2
KMBO ⇑*e* 10 55 41.8
KMBO P'P'ab **P'P'ab** **10 55 50.8 +4.7**
KMBO *e* 11 03 21.1
KMBO Kilima Mbogo 62.71 269 P **P** **10 26 27.3 +0.4**
comp=Z,129nm,0.8s,baz=69,slow=7.3,SNR=164
KMBO pP **pP** **10 26 53.0 +3.3**
comp=Z,201nm,0.8s,baz=60,slow=8.1,SNR=5.8
KMBO sP **sP** **10 27 01.4 +1.8**
comp=Z,295nm,0.8s,baz=58,slow=8.8,SNR=5.6
KMBO S **S** **10 34 51.2 +2.0**
comp=Z,6.2nm,1.1s,baz=219,slow=21,SNR=0.7
KMBO LR LR 10 48 42.9
comp=Z,330μm,21.3s,baz=90,slow=31
KMBO PKPPKP **P'P'df** **10 55 30.2 -1.0**
comp=Z,19nm,1.2s,baz=278,slow=2.5,SNR=6.9

KMBO PKP2bc 10 55 41.8
comp=Z,26nm,1.2s,baz=258,slow=3.6,SNR=11
KMBO PKP2ab 10 55 50.8
comp=Z,68nm,1.2s,baz=297,slow=2.6,SNR=12
KMBO P4KPbc 11 03 21.1
comp=Z,0.9nm,0.3s,baz=191,slow=10,SNR=2.7
KMBO tx tx 11 14 46.3
comp=Z,0.6nm,0.4s,baz=45,slow=21,SNR=3.9
ITBZ Tabriz 62.79 314 *e*P **P** **10 26 26.5 -0.4**
IMRD Marand 63.30 315 *e*P **P** **10 26 30.8 +0.5**
MAK Makhachkala 63.97 320*c i*P **P** **10 26 35.0 +0.7**
MAK *e**PP **pP** **10 26 55.5 -1.6**
MAK *e**SP **sP** **10 27 04.8 -2.3**
MAK *e* 10 27 09.4
MAK *e* 10 28 54.0
MAK *e*PPP PPP 10 30 36.6
MAK *e*S **S** **10 35 02.4 -1.0**
MAK *e* 10 35 29.2
MAK *e**SS **sS** **10 35 40.0 -2.4**
MAK *e* 10 36 22.5
MAK *e*SS **SS** **10 39 17.6 +3.9**
MAK pmax pmax
comp=Z,3μm,1.7s
MAK pmax pmax
comp=Z,93μm,9.6s
MAK pmax pmax
comp=N,2μm,1.8s
MAK pmax pmax
comp=E,3μm,1.5s
MAK smax smax
comp=N,172μm,9.1s
MAK smax smax
comp=E,145μm,8.8s
MAK MLR MLR
comp=E,133μm,17.0s
MAK MLR MLR
comp=Z,98μm,15.0s
MAK MLR MLR
comp=N,92μm,14.0s
CUKT Cukurca 64.24 312 *e*P **P** **10 26 35.8 -0.7**
HAKT HAKKARI 64.28 313 *i*P **P** **10 26 36.4 -0.4**
GNI Garni 64.58 316 P **P** **10 26 39.4 +0.7**
SNR=154
GNI Garni 64.58 316 *e*P **P** **10 26 38.4 -0.3**
GNI Garni 64.58 316 *e*P **P** **10 26 38.7 +0.1**
comp=N,10μm,1.8s
GNI *e*S S 10 35 02.4 -9.1
GNI P'P' 10 55 24.4
GNI ⇑*e* 10 55 34.5
GNI Garni 64.58 316 PKPPKP **P'P'df** **10 55 24.4 -1.7**
comp=N,28nm,0.9s,baz=68,slow=2.2,SNR=5.3
GNI PKP2bc 10 55 34.5
comp=N,9.2nm,0.6s,baz=191,slow=9.5,SNR=10
GNI LR LR 10 56 02.6
comp=N,111μm,21.6s,baz=107,slow=37
DGRG David-gareji 64.70 317 P **P** **10 26 40.7 +1.5**
DGRG S **S** **10 35 16.8 +4.1**
CLDR Caldiran 64.75 315 *e*P **P** **10 26 40.3 +0.4**
GEVA Gevas 65.05 313 *i*P **P** **10 26 41.2 -0.5**
DYDN Diyadin 65.07 315 *i*P **P** **10 26 42.3 +0.4**
SIRT Sirnak 65.20 312 *e*P **P** **10 26 42.3 -0.3**
SIRN S¨–rnak 65.21 312 *i*P **P** **10 26 42.0 -0.7**
TBLG Delisi 65.25 317 P **P** **10 26 43.2 +0.5**
TBLG S **S** **10 35 19.1 -0.2**
KZR Kazreti 65.32 317 P **P** **10 26 43.8 +0.5**
TUTA Tutak 65.64 314 *i*P **P** **10 26 45.7 +0.1**
DIGO Kars 65.64 316 *i*P **P** **10 26 45.5 -0.1**
TATV Tatvan 65.69 313 *i*P **P** **10 26 46.1 +0.2**
CASY Casey 65.87 175 *e*P **P** **10 26 47.1 +1.0**
comp=N,37nm,1.3s
KARS Kars 65.93 316 *e*P **P** **10 26 48.2 +0.8**
MZRK Al-Mazaregh 65.95 310 *e*P **P** **10 26 44.5 -2.8**
ARU Arti 66.02 336*c i*P **P** **10 26 46.3 -1.0**
ARU *PP **pP** **10 27 07.9 -2.4**
ARU 10 27 16.5
ARU *SP **sP** **10 27 21.7 +1.5**
ARU 10 29 11.0
ARU PPP PPP 10 30 54.6
ARU S **S** **10 35 28.1 0.0**
ARU 10 36 29.7
ARU SSS SSS 10 42 39.6
ARU pmax pmax
comp=Z,3μm,1.7s
ARU pmax pmax
comp=Z,24μm,6.2s
ARU Arti 66.02 336 P **P** **10 26 46.8 -0.5**
comp=Z,14μm,1.4s
BEST Besiri 66.20 312 *i*P **P** **10 26 49.8 +0.7**
MARD Mardin 66.36 312 *i*P **P** **10 26 50.1 0.0**
KBSD Kabsdagh 66.43 311 *e*P P 10 26 43.0 -7.5
KBSD Kabsdagh 66.43 311 *e*P **P'P'bc** **10 55 27.5 +0.7**
ONI Oni 66.48 318 S S 10 35 27.3 -7.0
VRTB Varto-Mus 66.53 314 *e*P **P** **10 26 52.2 +1.0**
HOMI Horasan 66.53 315 *i*P **P** **10 26 51.9 +0.6**
SFNV Sufian 66.56 311 *e*P **P** **10 26 49.4 -1.9**
MAZI Mazidag 66.66 312 *e*P **P** **10 26 52.1 +0.1**
BNGL BINGOL 66.67 313 *i*P **P** **10 26 52.7 +0.5**
ERZM Erzurum 66.87 314 *i*P **P** **10 26 54.0 +0.5**
EZM Erzurum 66.87 314 *e*P **P** **10 26 54.6 +1.1**
DAGI Agillar 66.92 316 *i*P **P** **10 26 53.3 -0.3**
ARTV Artvin 66.95 316 *i*P **P** **10 26 53.7 -0.2**
DIY Diyarbakir 66.98 312 *e*P **P** **10 26 53.9 -0.1**
BNGB Bing¨¶l 67.03 313 *e*P **P** **10 26 54.7 +0.4**
DBAD Bademkaya 67.05 316 *i*P **P** **10 26 54.7 +0.3**
DIYA Diyarbakir 67.06 312 *i*P **P** **10 26 55.0 +0.5**
DBOC Borcka 67.20 316 *i*P **P** **10 26 55.0 -0.2**
BCA Borcka 67.27 316 *e*P **P** **10 26 55.4 -0.3**
KBZ Khabaz 67.32 319 P **P** **10 26 56.0 +0.1**
KBZ S **S** **10 35 40.2 -4.0**
KBZ P'P' 10 55 20.1
KBZ ⇑*e* 10 55 25.7
KBZ *e* 11 03 53.8
KBZ Khabaz 67.32 319 P **P** **10 26 56.0 +0.1**
comp=Z,488nm,0.8s,baz=118,slow=5.0,SNR=234
KBZ S **S** **10 35 40.2 -4.0**
comp=Z,18nm,0.9s,baz=202,slow=10,SNR=1.5
KBZ PKPPKP **P'P'df** **10 55 20.1 -0.9**
comp=Z,23nm,0.8s,baz=233,slow=2.5,SNR=7.2
KBZ PKP2bc 10 55 25.7
comp=Z,99nm,1.1s,baz=274,slow=1.9,SNR=18
KBZ LR LR 11 00 45.8
comp=Z,68μm,18.9s,baz=120,slow=40
KBZ P4KPbc 11 03 53.8
comp=Z,2.6nm,0.8s,baz=117,slow=4.3,SNR=4.1
KBZ tx tx 11 14 46.1
comp=Z,2.2nm,0.8s,baz=76,slow=6.3,SNR=3.7
KBZ tx tx 11 27 53.3
comp=Z,5.8nm,1.1s,baz=244,slow=5.4,SNR=5.2
KOPT Kop Dagi 67.53 314 *i*P **P** **10 26 58.0 +0.3**
KIV Kislovodsk 67.55 319*c i*P **P** **10 26 57.5 0.0**
KIV *e**PP **pP** **10 27 20.0 -0.5**
KIV *e**SP **sP** **10 27 31.1 +0.7**
KIV *e* 10 29 28.3
KIV *e*PPP PPP 10 31 09.5
KIV *e*S **S** **10 35 46.4 -0.9**
KIV pmax pmax
comp=Z,23μm,5.2s
KIV pmax pmax
comp=Z,2μm,1.1s
KIV MLR MLR
comp=Z,81μm,18.0s
KIV Kislovodsk 67.55 319 P **P** **10 26 57.0 -0.5**
comp=Z,11μm,1.2s
JHLN Al Jahlan 67.60 309 *e*P **P** **10 26 56.6 -1.3**
ZALF Zalf 67.67 306 *e*P **P** **10 26 56.8 -1.6**
ZALF Zalf 67.67 306 *e*P **P'P'df** **10 55 17.8 -3.5**
ASF Jabal al Asfar 67.82 305 PKPPKP **P'P'df** **10 55 20.1 -1.1**
comp=Z,36nm,1.3s,baz=221,slow=1.3,SNR=10
ASF LR LR 10 56 14.9
comp=Z,141μm,20.7s,baz=237,slow=35
ASF tx tx 11 14 48.9
comp=Z,0.9nm,0.3s,baz=76,slow=4.2,SNR=3.0
ERZN Erzincan 67.93 314 *e*P **P** **10 27 00.7 +0.7**
PTK Pertek 67.93 313 *e*P **P** **10 26 59.9 -0.2**
DZM Mont Dzumac 67.99 113 *e*P **P** **10 27 01.4 +0.7**
comp=Z,5μm,1.4s
DZM *e*S **S** **10 35 49.0 -4.2**
comp=Z,322μm,25.9s
DZM Mont Dzumac 67.99 113 *e*LR LR 10 47 30.4
comp=Z,1042μm,28.4s
DZM Mont Dzumac 67.99 113 *e*P **P** **10 27 01.1 +0.5**
comp=Z,30nm,0.9s
DZM S **S** **10 35 53.8 +0.5**
DZM ⇑*e* 10 55 15.5

DZM Mont Dzumac 67.99 113 P **P** **10 27 01.2 +0.5**
comp=Z,324nm,0.5s,baz=250,slow=9.2,SNR=65
DZM S **S** **10 35 53.8 +0.5**
comp=Z,73nm,1.1s,baz=58,slow=22,SNR=21
DZM PKP2bc 10 55 15.5
comp=Z,13nm,1.1s,baz=67,slow=6.9,SNR=4.6
DZM LR LR 10 56 51.6
comp=Z,237μm,21.9s,baz=284,slow=36
KWAJ Kwajalein Atol 68.04 80 *e*P **P** **10 27 01.6 +0.6**
KWAJ pmax pmax
comp=Z,2μm,0.9s
KWAJ Kwajalein Atol 68.04 80 *e*P **P** **10 27 01.6 +0.6**
comp=Z,2μm,0.9s
ROOS tl_alroos 68.06 307 *e*P **P** **10 27 03.6 +2.7**
ROOS tl_alroos 68.06 307 *e*P **P'P'df** **10 55 19.4 -1.2**
SALA Sala 68.10 306 *e*P **P** **10 27 03.0 +1.7**
ELZG Elazig 68.10 312 *i*P **P** **10 27 01.1 0.0**
SLMH Al Salmeh 68.17 310 *e*P P 10 26 57.4 -4.1
SLMH Al Salmeh 68.17 310 *e*P **P'P'df** **10 55 23.7 +3.5**
EZC Erzincan 68.26 314 *e*P **P** **10 27 03.8 +1.7**
ATAB Bozova 68.28 311 *i*P **P** **10 27 02.7 +0.6**
WAKE Wake Island 68.30 69 *e*P **P** **10 27 02.3 -0.1**
comp=Z,2μm,0.9s
WAKE *e*S **S** **10 35 55.1 -1.7**
GUMT Gumushane 68.41 314 *e*P **P** **10 27 03.8 +0.8**
MALT Malatya 68.45 312 *e*P **P** **10 27 03.4 +0.1**
KELT Kelkit 68.47 314 *i*P **P** **10 27 04.0 +0.5**
TOTH TOTAH 68.52 306 *e*P **P** **10 27 06.6 +2.8**
MARH Ras Al Marh 68.66 307 *e*P **P** **10 27 06.0 +1.1**
MARH Ras Al Marh 68.66 307 *e*P **P'P'df** **10 55 20.8 +0.9**
QASN Qassioun 68.69 307 *e*P P 10 26 57.1 -7.7
TCHB Talchebab 68.71 306 *e*P P 10 26 59.5 -5.4
KEMA Kemaliye 68.72 313 *i*P **P** **10 27 05.3 +0.4**
ILIC ilic-Erzincan 68.72 313 *e*P **P** **10 27 06.7 +1.7**
FKH Fakeheh 68.78 307 *e*P **P** **10 27 06.3 +0.9**
GZT Gaziantep 68.80 311 *i*P **P** **10 27 05.9 +0.4**
EIL Elat 68.81 302 P **P** **10 27 05.7 +0.2**
EIL pP **PcP** **10 27 32.0 +2.4**
EIL S **S** **10 36 03.0 +0.5**
EIL P'P' 10 55 15.2
EIL Elat 68.81 302 P **P** **10 27 05.7 +0.2**
comp=Z,992nm,0.8s,baz=107,slow=2.5,SNR=177
EIL pP **PcP** **10 27 32.0 +2.4**
comp=Z,797nm,0.9s,baz=357,slow=2.4,SNR=4.3
EIL S **S** **10 36 03.0 +0.5**
comp=Z,21nm,1.1s,baz=41,slow=12,SNR=1.4
EIL PKPPKP **P'P'df** **10 55 15.2 -4.4**
comp=Z,14nm,1.0s,baz=354,slow=2.2,SNR=7.4
EIL LR LR 10 58 06.9
comp=Z,324μm,18.2s,baz=112,slow=36
AKCD Akcadag 68.82 312 *i*P **P** **10 27 05.7 +0.1**
BRBR Barbar 68.92 306 *e*P **P** **10 27 05.7 -0.7**
BRBR *e*P **P** **10 27 08.2 +1.8**
BRBR Barbar 68.92 306 *e*P **P'P'df** **10 55 17.4 -2.0**
KUZU Kuzuini 68.99 310 *i*P **P** **10 27 06.7 +0.1**
RCY Rachaya 69.03 306 *e*P **P** **10 27 07.8 +0.7**
MMLI Mount Malkishu 69.09 305 *e*P **P** **10 27 07.9 +0.6**
ESPY Espiye-Giresun 69.11 315 *e*P **P** **10 27 07.4 +0.3**
HWQ Hawqa 69.16 307 *e*P **P** **10 27 08.3 +0.5**
MBAR Mbarara 69.22 270 P **P** **10 27 09.3 +0.7**
comp=Z,1μm,0.8s,SNR=52
DARE Darende-Malaty 69.24 312 *e*P **P** **10 27 09.6 +1.5**
SUSE Susehri 69.24 314 *i*P **P** **10 27 09.2 +1.0**
BTCH Batrach 69.25 309 *e*P **P** **10 27 09.4 +1.2**
MMAI Mount Meron Ar 69.26 306 PKPPKP **P'P'bc** **10 55 15.2 -3.5**
comp=Z,5.8nm,0.8s,baz=222,slow=11,SNR=4.0
MMAI PKP2bc 10 55 21.9
comp=Z,107nm,1.2s,baz=251,slow=2.6,SNR=18
MMAI LR LR 10 57 22.4
comp=Z,132μm,20.8s,baz=130,slow=36
MMAI tx tx 11 27 45.5
comp=Z,1.0nm,0.3s,baz=342,slow=3.8,SNR=4.5
DRWC Darouich 69.26 310 *e*P **P** **10 27 08.0 -0.3**
BHL Bhannes 69.29 307 *e*P **P** **10 27 09.1 +0.5**
KMRS Kahramanmaras 69.34 311 *e*P **P** **10 27 08.9 +0.2**
SOC Sochi 69.38 318*c i*P **P** **10 27 07.9 -0.9**
SOC *e**PP **PcP** **10 27 30.1 -1.6**
SOC *e**SP **sP** **10 27 40.5 -1.3**
SOC *i*S **S** **10 36 07.3 -1.5**
SOC *e**SS **sS** **10 36 45.8 -2.5**
SOC pmax pmax
comp=Z,2μm,0.6s
SOC pmax pmax
comp=Z,30μm,5.7s
AYKD Aykdinkavak 69.39 311 *i*P **P** **10 27 08.8 -0.2**
GRSN GIRESUNGRSN 69.44 315 *i*P **P** **10 27 08.8 -0.4**
YAYL Yayladag 69.52 309 *i*P **P** **10 27 09.8 -0.1**
HTY Hatay 69.52 309 *e*P **P** **10 27 11.5 +1.7**
COBT Iskenderun 69.55 310 *i*P **P** **10 27 10.2 0.0**
ARNB Al Arnab 69.58 309 *e*P **P** **10 27 12.1 +1.8**
ARNB Al Arnab 69.58 309 *e*P P'P'df 10 55 23.7 +5.7
ANDN Andirin 69.79 311 *i*P **P** **10 27 11.7 +0.1**
SCER sogukcermik 69.91 313 *i*P **P** **10 27 12.5 +0.2**
RSDY Resadiye-TOKAT 69.94 314 *e*P **P** **10 27 12.9 +0.6**
PINB Pinarbasi 70.07 312 *i*P **P** **10 27 13.2 -0.3**
KOZT Kozan 70.15 310 *e*P **P** **10 27 15.0 +1.3**
ERBA Erbaa 70.44 314 *i*P **P** **10 27 15.1 -0.4**
POGA Pongola 70.51 241 *e*P **P** **10 27 16.0 0.0**
POGA AMB AMB 10 27 21.0
comp=Z,948nm,7.7s
BNN Bunyan 70.54 312 *e*P **P** **10 27 16.2 +0.1**
KARA Karaisali 70.68 310 *e*P **P** **10 27 17.0 +0.1**
PHNC Paralimni 70.87 307 P **P** **10 27 17.2 -0.9**
comp=Z,14nm,1.6s
EREN Erenkoy 70.90 308 *e*P **P** **10 27 18.4 +0.2**
GULE Gulek 70.90 310 *i*P **P** **10 27 18.1 -0.3**
KVT Kavak 71.08 314 *e*P **P** **10 27 19.4 +0.1**
YOZ Yozgat 71.17 312 *e*P **P** **10 27 20.7 +0.7**
KIZK Mersin 71.17 309 *i*P **P** **10 27 19.1 -0.7**
MSNA Messina 71.21 247 *e*P **P** **10 27 21.8 +1.3**
MSNA AMB AMB 10 27 22.5
comp=Z,638nm,1.8s
NIG Nigde 71.26 311 *e*P **P** **10 27 22.0 +1.3**
AVNT Avonos 71.26 312 *i*P **P** **10 27 20.0 -0.6**
HAVZ Havza 71.31 314 *i*P **P** **10 27 20.6 0.0**
LFK Lefkose 71.34 308 *e*P **P** **10 27 21.3 +0.3**
CSS Prodhromos 71.42 307 P **P** **10 27 21.1 -0.3**
comp=Z,13nm,0.8s
CSS Prodhromos 71.42 307 P **P** **10 27 21.2 -0.2**
CSS Prodhromos 71.42 307 *e*P **P** **10 27 20.6 -0.8**
CSS Prodhromos 71.42 307 *e*P **P** **10 27 20.9 -0.5**
comp=Z,3μm,1.3s
CSS *e*S **S** **10 36 31.5 -1.4**
IKL Isikli 71.46 309 *e*P **P** **10 27 21.0 -0.6**
MAW Mawson 71.52 194 P **P** **10 27 22.6 +1.3**
MAW pP **pP** **10 27 46.2 +1.6**
MAW S **S** **10 36 34.5 +1.8**
MAW P'P' 10 55 08.4
MAW Mawson 71.52 194 P **P** **10 27 22.6 +1.3**
comp=Z,429nm,1.1s,baz=38,slow=6.8,SNR=174
MAW pP **pP** **10 27 46.2 +1.6**
comp=Z,489nm,1.1s,baz=43,slow=9.8,SNR=4.0
MAW S **S** **10 36 34.5 +1.8**
comp=Z,3.6nm,0.7s,baz=219,slow=22,SNR=0.9
MAW LR LR 10 53 33.9
comp=Z,332μm,19.5s,baz=302,slow=31
MAW PKPPKP **P'P'df** **10 55 08.4 -4.1**
comp=Z,36nm,1.0s,baz=271,slow=5.4,SNR=7.6
MAW tx tx 10 58 41.0
comp=Z,48nm,1.2s,baz=177,slow=3.7,SNR=5.1
MAMC Mammari 71.56 307 P **P** **10 27 22.9 +0.7**
DRV Dumont d'Urvil 71.57 164 PP PP 10 29 50.0 -11
DRV S **S** **10 36 39.0 +5.7**
DRV SS SS 10 40 37.0 -33
DRV L L 10 44 00.0
DRV R 10 49 00.0
SZAC Souni-Zanaja 71.72 307 P **P** **10 27 23.3 0.0**
comp=Z,27nm,1.0s
LEF Lefka 71.81 307 *e*P **P** **10 27 23.7 0.0**
PEA0B Petropavlovsk- 71.82 32 *e*P **P** **10 27 23.6 +0.2**
PEA0B *e*PP **PP** **10 30 06.2 +2.2**
PETK Petropavlovsk- 71.82 32 P **P** **10 27 23.1 -0.3**
PETK S **S** **10 36 39.4 +2.7**
PETK pmax pmax
comp=Z,577nm,1.0s
PETK smax smax
comp=N,12nm,0.9s
PETK MLR MLR
comp=Z,63μm,21.3s
PETK Petropavlovsk- 71.82 32 P **P** **10 27 23.1 -0.3**
PETK S **S** **10 36 39.4 +2.7**
PETK PKKPab 10 48 40.1
PETK P'P' 10 55 07.8

PETK ⇑e 10 55 16.9
PETK Petropavlovsk- 71.82 32 P P 10 27 23.1 -0.3
comp=Z,577nm,1.0s,baz=202,slow=4.0,SNR=91
PETK S S 10 36 39.4 +2.7
comp=Z,12nm,0.9s,baz=134,slow=4.3,SNR=2.0
PETK PKKPab 10 48 40.1
comp=Z,12nm,1.1s,baz=56,slow=5.6,SNR=3.7
PETK PKPPKP P'P'df 10 55 07.8 -5.0
comp=Z,15nm,1.1s,baz=85,slow=9.1,SNR=6.9
PETK PKP2bc 10 55 16.9
comp=Z,24nm,1.0s,baz=132,slow=6.2,SNR=7.2
PETK LR LR 10 59 54.8
comp=Z,63μm,21.3s,baz=255,slow=36
DIKM Dikmen 71.82 315 eP P 10 27 23.7 +0.1
CORM Corum 71.83 313 eP P 10 27 23.7 -0.2
CTKT Corum 71.85 313 i P P 10 27 23.0 -1.0
MCQ Macquarie Isla 71.91 148 eP P 10 27 24.1 +0.2
MCQ Macquarie Isla 71.91 148 eP P 10 27 24.1 +0.2
BOYT Boyabat 72.00 314 i P P 10 27 24.5 -0.3
ALFC Alevga 72.05 307 P **P 10 27 24.7 -0.5**
comp=Z,17nm,0.8s
SULT Sultanhani-AKS 72.11 311 eP P 10 27 26.2 +0.6
BYBT Boyabat 72.11 314 eP P 10 27 26.6 +1.2
ERMK Ermenek 72.17 309 i P P 10 27 26.0 -0.1
PPCY Paphos 72.18 307 P **P 10 27 26.1 +0.2**
AKMC Akamas 72.23 307 P **P 10 27 26.0 -0.3**
LSZ Lusaka 72.25 254 eP P 10 27 26.9 +0.1
LSZ Lusaka 72.25 254 P **P 10 27 27.2 +0.4**
SNR=89
LSZ Lusaka 72.25 254 eP P 10 27 26.7 -0.2
comp=Z,1μm,1.5s
PET Petropavlovsk 72.29 33α i P **P 10 27 26.2 0.0**
PET e 10 30 09.4
PET eS **S 10 36 42.5 +0.4**
PET pmax pmax
comp=Z,121μm,7.3s
PET pmax pmax
comp=Z,128μm,17.5s
PET pmax pmax
comp=Z,3μm,0.7s
PET pmax pmax
comp=Z,60μm,18.3s
PET pmax pmax
comp=Z,52μm,19.1s
PET smax smax
comp=E,61μm,7.9s
BR131 Keskin Array S 72.43 312 eP P 10 27 26.3 -1.2
comp=E,54nm,1.4s
BR131 eS **S 10 36 41.9 -2.7**
BRTR Keskin Array B 72.43 312 P **P 10 27 26.6 -1.0**
BRTR S **S 10 36 40.8 -3.9**
BRTR PKKP **PKKPdf 10 46 59.4 +2.1**
BRTR P'P' 10 54 57.1
BRTR e 11 04 11.8
BRTR Keskin Array B 72.43 312 P **P 10 27 26.6 -1.0**
comp=E,222nm,0.7s,baz=126,slow=6.3,SNR=233
BRTR S **S 10 36 40.8 -3.9**
comp=E,4.8nm,0.8s,baz=121,slow=2.7,SNR=1.1
BRTR tx tx 10 41 34.9
comp=E,16nm,0.9s,baz=119,slow=1.2,SNR=12
BRTR tx tx 10 45 36.8
comp=E,5.7nm,0.9s,baz=0.4,slow=3.4,SNR=6.3
BRTR PKKP **PKKPdf 10 46 59.4 +2.1**
comp=E,2.8nm,0.8s,baz=151,slow=6.3,SNR=2.4
BRTR PKPPKP P'P'df 10 54 57.1 -16
comp=E,5.3nm,0.9s,baz=279,slow=2.4,SNR=5.1
BRTR P4KPbc 11 04 11.8
comp=E,0.8nm,0.9s,baz=135,slow=0.2,SNR=3.6
BRTR tx tx 11 14 47.4
comp=E,0.3nm,0.4s,baz=336,slow=8.7,SNR=3.8
BRTR tx tx 11 27 30.0
comp=E,1.0nm,0.6s,baz=236,slow=1.7,SNR=4.3
TOS Tosya 72.52 314 eP P 10 27 28.0 0.0
GAZI Gazipasa 72.53 308 i P P 10 27 27.0 -1.1
HDMB Hadim 72.58 309 eP P 10 27 27.8 -0.7
CANT Cankiri 72.69 313 eP P 10 27 28.9 -0.1
BBAL Bala 72.77 312 i P P 10 27 28.6 -0.9
AFSR Af´ar-Bala (A 72.78 312 eP P 10 27 29.0 -0.6
ELDT Eldivan 72.80 313 i P P 10 27 28.9 -0.8
BZK Bozkurt 72.81 315 eP P 10 27 29.8 +0.3
KONT Konya--Tatoy 72.92 310 eP P 10 27 30.2 -0.2
KSD Kokstad 72.94 238 eP P 10 27 31.5 +0.8
KSD AMB AMB 10 27 33.1
comp=Z,1μm,1.5s
TARA Tarawa 72.98 88 eP P 10 27 32.1 +1.0
comp=Z,4μm,0.9s
ANTO Ankara 73.10 312 eP P 10 27 30.3 -1.1
ANTO eS S 10 36 42.4 -10
ANTO pmax pmax
comp=Z,940nm,0.9s
ANTO Ankara 73.10 312 P **P 10 27 30.8 -0.6**
SNR=358
ANTO Ankara 73.10 312 eP P 10 27 30.4 -1.0
ANTO Ankara 73.10 312 eP P 10 27 30.3 -1.1
comp=Z,940nm,0.9s
ANTO eS S 10 36 42.4 -10
ANTO Ankara 73.10 312⇑ i P **P 10 27 31.0 -0.4**
KIZT Kizilcal 73.53 311 eP P 10 27 33.8 -0.1
SAFT Safranbolu 73.55 314 eP P 10 27 33.9 -0.1
SIM Simferopol' 73.63 318 c eP **P 10 27 36.1 +1.8**
SIM e 10 30 23.0
SIM eS **S 10 36 58.0 +0.4**
SIM pmax pmax
comp=Z,1μm,1.0s
SIM pmax pmax
comp=Z,21μm,10.0s
SVRH Sivrihisar-ESK 73.94 311 eP P 10 27 35.7 -0.6
SEK Senekal 74.15 241 eP P 10 27 39.0 +1.1
SEK AMB AMB 10 27 41.4
comp=Z,809nm,3.3s
BCK Bucak 74.17 309 eP P 10 27 35.4 -2.3
BOLV Bolvadin 74.19 311 i P **P 10 27 37.0 -0.9**
PRYS Parys 74.19 242 eP P 10 27 38.4 +0.2
PRYS AMB AMB 10 27 43.0
comp=Z,584nm,0.9s
KORT Korkueli 74.25 309 i P **P 10 27 37.3 -1.0**
ISP Isparta 74.30 310 P **P 10 27 36.2 -2.3**
ISP Isparta 74.30 310 eP P 10 27 37.1 -1.4
ISP eS **SKiKP 10 36 56.0 -1.2**
ISP pmax pmax
comp=Z,1μm,1.2s
ISP Isparta 74.30 310 eP P 10 27 36.9 -1.6
ISP Isparta 74.30 310 eP P 10 27 37.1 -1.4
comp=Z,1μm,1.2s
ISP eS **SKiKP 10 36 56.0 -1.2**
ISP Isparta 74.30 310⇑ i P **P 10 27 37.2 -1.3**
MDUB Mudurnu 74.44 312 eP P 10 27 38.7 -0.6
SEY Seymchan 74.45 22 c i P **P 10 27 38.6 -0.1**
SEYT Eskypehyr 74.46 311 i P **P 10 27 38.3 -1.1**
KDZE Karadeniz Ereo 74.47 313 eP P 10 27 38.7 -0.6
ELL Elmali 74.54 308 eP P 10 27 39.6 -0.4
TIXI Tiksi 74.59 9 c i P **P 10 27 38.6 -0.7**
TIXI pmax pmax
comp=Z,4μm,1.5s
TIXI MLR MLR
comp=Z,391μm,21.0s
AKAS Kas 74.66 308 i P P 10 27 36.9 -3.7
KSL Kastellorizon 74.66 308 eP P 10 27 41.5 +1.0
ALT Altintas 74.91 311 i P P 10 27 49.6 +7.6
GOLH Golhisar 74.92 309 i P **P 10 27 40.8 -1.3**
GULT Gulveren 74.93 312 eP P 10 27 41.3 -0.8
SPNC Sapanca-Adapaz 75.15 312 eP P 10 27 42.8 -0.4
FETY Fethiye 75.16 308 eP P 10 27 42.8 -0.6
KHL Karahalli 75.19 310 eP P 10 27 44.0 +0.4
KHAL Karahalli 75.22 310 i P **P 10 27 42.7 -1.2**
CAVI Cavuskoy 75.38 312 eP P 10 27 44.1 -0.5
MOS Moscow 75.38 329α i P **P 10 27 43.3 -0.9**
MOS e 10 27 55.9
MOS e 10 30 34.7
MOS ePPP PPP 10 32 22.9
MOS i S **S 10 37 10.9 -5.8**
MOS i 10 37 43.5
MOS pmax pmax
comp=Z,8μm,1.6s
MOS pmax pmax
comp=E,2μm,1.3s
MOS pmax pmax
comp=N,755nm,1.0s
MOS pmax pmax
comp=Z,23μm,2.0s
MOS smax smax
comp=N,143μm,9.0s
MOS smax smax
comp=E,114μm,8.0s

MOS MLR MLR
comp=E,233μm,25.0s
MOS MLR MLR
comp=N,89μm,23.0s
GDZ Gediz 75.39 311 i P **P 10 27 43.7 -1.1**
DNZL Cakiroluk 75.42 309 i P **P 10 27 43.7 -1.3**
DENT Denizli 75.44 309 eP P 10 27 44.4 -0.6
ADVT Abdulvahap 75.51 312 eP P 10 27 44.6 -0.6
DALY Dalyan (Mu¨la 75.54 308 eP P 10 27 44.6 -0.9
LBTB Lobatse 75.55 244 eP P 10 27 46.5 +0.5
LBTB AMB AMB 10 27 49.5
comp=Z,654nm,3.4s
LBTB Lobatse 75.55 244 P **P 10 27 45.2 -0.8**
LBTB pP **pP 10 28 13.1 +3.7**
LBTB S **S 10 37 19.9 -0.1**
LBTB Lobatse 75.55 244 P **P 10 27 45.2 -0.8**
comp=Z,163nm,0.5s,baz=113,slow=5.8,SNR=16
LBTB pP **pP 10 28 13.1 +3.7**
comp=Z,674nm,1.1s,baz=116,slow=8.1,SNR=6.2
LBTB S **S 10 37 19.9 -0.1**
comp=Z,10nm,0.9s,baz=56,slow=9.5,SNR=1.5
LBTB tx tx 11 14 57.5
comp=Z,6.3nm,1.1s,baz=202,slow=0.5,SNR=6.3
TURN Turunc 75.59 308 i P **P 10 27 46.2 +0.5**
HRT Hereke 75.65 312 eP P 10 27 45.5 -0.6
OBN Obninsk 75.69 328 α i P **P 10 27 45.2 -0.7**
OBN e 10 27 58.2
OBN e*PP **pP 10 28 05.9 -3.5**
OBN i *SP **sP 10 28 18.9 -0.3**
OBN PPP PPP 10 32 19.0
OBN i S **S 10 37 15.3 -4.8**
OBN i 10 37 48.1
OBN pmax pmax
comp=Z,27μm,2.2s
OBN pmax pmax
comp=Z,8μm,1.7s
OBN MLR MLR
comp=Z,165μm,22.0s
OBN Obninsk 75.69 328 P **P 10 27 46.4 +0.5**
comp=Z,15μm,1.3s
SILT Sile 75.75 313 eP P 10 27 45.9 -0.7
GRM Grahamstown 75.81 236 eP P 10 27 48.4 +1.1
GRM AMB AMB 10 27 50.3
comp=Z,769nm,5.7s
ARG Arkhangelos 75.83 308 P **P 10 27 46.7 -0.5**
ARG Arkhangelos 75.83 308 P **P 10 27 46.7 -0.5**
ARG Arkhangelos 75.83 308 eP P 10 27 50.0 +2.8
ARG Arkhangelos 75.83 308 P **P 10 27 46.7 -0.5**
KULA Kula-Manisa 75.89 310 P **P 10 27 46.9 -0.7**
KULA Kula-Manisa 75.89 310 eP P 10 27 47.1 -0.5
KULA Kula-Manisa 75.89 310 P **P 10 27 46.9 -0.7**
YER Yerkesik 75.89 309 eP P 10 27 47.1 -0.6
RPZ Rata Peaks 75.91 135 P **P 10 27 47.8 +0.2**
RPZ PP **PP 10 30 37.2 -1.8**
RPZ S **S 10 37 22.1 -1.0**
RPZ P'P' 10 54 52.0
RPZ Rata Peaks 75.91 135 P **P 10 27 47.8 +0.2**
comp=Z,850nm,0.6s,baz=232,slow=1.2,SNR=98
RPZ PP **PP 10 30 37.2 -1.8**
comp=Z,155nm,1.1s,baz=277,slow=13,SNR=2.4
RPZ S **S 10 37 22.1 -1.0**
comp=Z,207nm,1.3s,baz=7.6,slow=23,SNR=21
RPZ PKPPKP P'P'df 10 54 52.0 -14
comp=Z,16nm,1.1s,baz=284,slow=8.3,SNR=2.9
RPZ LR LR 11 00 08.1
comp=Z,205μm,21.6s,baz=287,slow=35
GEMT Gemlik 75.92 312 eP P 10 27 47.1 -0.5
ODZ Otahua Downs 75.92 136 eP P 10 27 48.0 +0.4
comp=Z,2μm,1.7s
DEMI Demirci 75.96 311 i P **P 10 27 47.2 -0.8**
MANT Manisa 75.96 310 i P **P 10 27 47.5 -0.7**
SWZ Schweizer 76.02 242⇑ i P **P 10 27 49.0 +0.3**
SWZ AMB AMB 10 27 53.8
comp=Z,1μm,1.0s
BUY Buyukada 76.06 312 i P **P 10 27 47.6 -0.8**
MDNY Mudanya-Bursa 76.13 312 eP P 10 27 48.5 -0.3
DST Dursunbey 76.16 311 eP P 10 27 49.4 +0.4
ISK Istanbul-Kandi 76.16 313 P **P 10 27 47.5 -1.4**
ISK Istanbul-Kandi 76.16 313 P **P 10 27 47.5 -1.4**
ISK Istanbul-Kandi 76.16 313 eP P 10 27 48.5 -0.5
ISK Istanbul-Kandi 76.16 313 P **P 10 27 47.5 -1.4**
ARMT Armutlu 76.19 312 eP P 10 27 48.3 -0.9
KLYT Kilyos 76.21 313 eP P 10 27 48.8 -0.4
OUZ Omahuta 76.24 126 eP P 10 27 50.7 +1.2
comp=Z,2μm,1.5s
BOSA Boshof 76.25 241 eP P 10 27 50.1 +0.2
BOSA AMB AMB 10 27 53.4
comp=Z,754nm,3.1s
BOSA Boshof 76.25 241 eP P 10 27 49.6 -0.3
comp=Z,9.6nm,0.6s
BOSA pP **pP 10 28 15.9 +2.5**
BOSA S **S 10 37 26.1 -1.6**
BOSA PKKP **PKKPdf 10 46 46.7 -4.2**
BOSA PKKPbc **PKKPbc 10 47 08.2 +4.2**
BOSA P'P' 10 54 37.9
BOSA Boshof 76.25 241 P **P 10 27 49.7 -0.2**
comp=Z,545nm,0.7s,baz=88,slow=5.2,SNR=172
BOSA pP **pP 10 28 15.9 +2.5**
comp=Z,324nm,0.7s,baz=84,slow=7.4,SNR=4.5
BOSA S **S 10 37 26.1 -1.6**
comp=Z,9.5nm,0.9s,baz=354,slow=14,SNR=1.2
BOSA PKKP **PKKPdf 10 46 46.7 -4.2**
comp=Z,12nm,1.0s,baz=252,slow=7.0,SNR=3.0
BOSA PKKPbc **PKKPbc 10 47 08.2 +4.2**
comp=Z,17nm,0.5s,baz=221,slow=2.6,SNR=15
BOSA PKPPKP P'P'df 10 54 37.9 -29
comp=Z,8.8nm,1.1s,baz=304,slow=6.0,SNR=3.5
BOSA LR LR 10 55 00.9
comp=Z,172μm,21.8s,baz=88,slow=30
BOSA Boshof 76.25 241 eP P 10 27 49.6 -0.3
DURS Dursunbey 76.27 311 i P **P 10 27 48.7 -1.0**
AYDN Tasoluk 76.31 309 i P **P 10 27 50.0 0.0**
DAT Datca 76.36 308 eP P 10 27 49.6 -0.8
BGKT Bogazkoy 76.39 313 eP P 10 27 49.9 -0.4
KARP Karpathos 76.47 307 P **P 10 27 50.2 -0.7**
KARP Karpathos 76.47 307 eP P 10 27 51.0 +0.1
KARP Karpathos 76.47 307 P **P 10 27 50.2 -0.7**
KCTX Karacabey (Bur 76.50 312 eP P 10 27 50.5 -0.5
SOE Somerset East 76.51 237 eP P 10 27 52.2 +1.0
SOE AMB AMB 10 27 57.2
comp=Z,838nm,1.0s
BDRM Kayabasi 76.54 308 i P **P 10 27 50.0 -1.2**
CTKS Kestanelik-??a 76.60 313 eP P 10 27 51.8 +0.4
AKHS Akhisar 76.61 310 i P **P 10 27 51.3 -0.4**
AKS Akhisar 76.61 310 eP P 10 27 52.4 +0.8
ELBA Catalca 76.64 313 i P **P 10 27 50.5 -1.2**
BODT Bodrum 76.64 308 eP P 10 27 51.0 -0.8
NIS1 Nisyros Isl. 76.66 308 P P 10 27 42.6 -9.3
NIS1 Nisyros Isl. 76.66 308 eP P 10 27 42.8 -9.1
NIS1 Nisyros Isl. 76.66 308 P P 10 27 42.6 -9.3
NIS3 Nisyros Isl. 76.67 308 P P 10 27 42.4 -10
BALB Balikesir 76.72 311 eP P 10 27 51.9 -0.3
CTYL Yal??k??y-??at 76.81 313 eP P 10 27 52.1 -0.5
SLVT Silivri 76.82 313 eP P 10 27 52.5 -0.1
GCAM G?zelcaml? 76.82 309 i P **P 10 27 52.3 -0.5**
BNT Bandirma 76.84 311 eP P 10 27 55.1 +2.2
BALY Balya 76.94 311 i P **P 10 27 52.6 -0.9**
IZM Izmir 76.94 310 eP P 10 27 53.8 +0.3
GONE Gonen-Balikesi 76.95 311 eP P 10 27 52.5 -0.9
SMG Samos 77.13 309 P **P 10 27 53.8 -0.8**
SMG Samos 77.13 309 eP P 10 27 55.0 +0.4
SMG Samos 77.13 309 P **P 10 27 53.8 -0.8**
ZKR Zakros 77.15 306 eP P 10 27 57.0 +2.3
TKR Tekirdag 77.26 312 eP P 10 27 55.3 +0.1
KRBG Karabiga-Canak 77.32 312 eP P 10 27 54.7 -0.7
PSN Preselentsi 77.39 315 i P **P 10 27 56.0 +0.2**
TIRR Tirgusor 77.41 316 eP P 10 27 55.4 -0.5
TIRR pmax pmax
comp=Z,1μm,0.8s
TIRR Tirgusor 77.41 316 eP P 10 27 55.4 -0.5
comp=Z,1μm,0.8s
TIRR Tirgusor 77.41 316⇑ i P **P 10 27 56.4 +0.5**
PHSR Pinarhisar 77.41 313 eP P 10 27 56.0 0.0
KHZ Kahutara 77.43 133 eP P 10 27 56.5 +0.5
comp=Z,4μm,1.5s
SART Tekirdag 77.47 312 i P **P 10 27 55.7 -0.7**
RKY Sarkoy-Tekirda 77.47 312 eP P 10 27 55.6 -0.8
NPS Neapolis 77.67 306 P **P 10 27 57.0 -0.6**
NPS Neapolis 77.67 306 P **P 10 27 57.0 -0.6**
NPS Neapolis 77.67 306 eP P 10 27 58.0 +0.4
NPS Neapolis 77.67 306 P **P 10 27 57.0 -0.6**
TLB Topalu 77.70 316⇑ i P **P 10 27 57.6 +0.1**
LPK Lapseki 77.71 312 eP P 10 27 57.2 -0.5

MSAB Monastry St. A 77.73 315⇑ i P **P 10 27 57.6 -0.1**
KIS Kishinev 77.75 318⇑ i P **P 10 27 57.0 -0.7**
comp=Z,5μm,1.0s
KIS i pP **pP 10 28 17.0 -4.3**
KIS Kishinev 77.75 318 i PcP PcP 10 28 25.0 +18
KIS Kishinev 77.75 318 i PP PP 10 31 22.0 +28
comp=Z,7μm,10.0s
KIS Kishinev 77.75 318 i PPP PPP 10 33 19.0
KIS Kishinev 77.75 318 i PsP 10 35 02.0
KIS i S **S 10 37 38.0 -4.9**
comp=Z,98μm,12.0s
KIS i ScS **ScS 10 38 12.0 +3.2**
KIS Kishinev 77.75 318 i PS 10 38 40.0
KIS i SS SS 10 42 26.0 -19
KIS i SSS SSS 10 46 48.0
KIS LRM MLR 10 58 38.0
comp=Z,126μm,25.0s
KIS Kishinev 77.75 318 eP PKKSdf 10 50 18.0 -7.1
KIS Kishinev 77.75 318⇑ i P **P 10 27 57.4 -0.3**
LAST Lasithi 77.76 306 eP P 10 27 59.0 +0.8
CFR Carcaliu 77.77 317⇑ i P **P 10 27 58.6 +0.7**
HARR Harsova 77.80 316⇓ i P **P 10 27 58.7 +0.6**
PRD Provadia 77.84 314 i P **P 10 27 58.3 0.0**
PRK Paraskevi 77.86 310 P **P 10 27 57.6 -0.9**
PRK Paraskevi 77.86 310 P **P 10 27 57.6 -0.9**
PRK Paraskevi 77.86 310 eP P 10 27 59.0 +0.5
PRK Paraskevi 77.86 310 P **P 10 27 57.6 -0.9**
CHOS Chios island 77.87 309 P **P 10 27 58.2 -0.5**
CHOS Chios island 77.87 309 eP P 10 27 59.0 +0.2
CHOS Chios island 77.87 309 P **P 10 27 58.2 -0.5**
GELI Tayfur-Gelibol 77.93 312 eP P 10 27 58.5 -0.4
SANT Santorini 77.98 307 P **P 10 27 57.7 -1.6**
SANT Santorini 77.98 307 eP P 10 27 57.9 -1.5
SANT Santorini 77.98 307 eP P 10 28 03.5 +4.2
SANT Santorini 77.98 307 eP P 10 27 58.0 -1.3
comp=Z,1μm,1.0s
LEOM Leova 78.00 318⇓ i P **P 10 27 59.3 +0.2**
THR2 Thira island, 78.01 307 P **P 10 27 58.6 -0.8**
THR2 Thira island, 78.01 307 P **P 10 27 58.6 -0.8**
EDRB Edirne 78.03 313 P **P 10 27 58.6 -0.8**
EDRB Edirne 78.03 313 eP P 10 27 58.9 -0.5
EDRB Edirne 78.03 313 P **P 10 27 58.6 -0.8**
THR3 Thira Island, 78.03 307 P **P 10 27 59.3 -0.2**
THR3 Thira Island, 78.03 307 P **P 10 27 59.3 -0.2**
APE Apeiranthos 78.04 308 P **P 10 27 58.0 -1.7**
APE Apeiranthos 78.04 308⇑ P **P 10 27 58.3 -1.4**
APE Apeiranthos 78.04 308 eP P 10 27 58.1 -1.5
APE Apeiranthos 78.04 308 eP P 10 27 59.0 -0.7
APE Apeiranthos 78.04 308 P **P 10 27 58.0 -1.7**
APE Apeiranthos 78.04 308⇑ i P **P 10 27 58.3 -1.4**
SNZO South Karori 78.09 132 eP P 10 27 59.4 -0.3
comp=Z,3μm,1.1s
SNZO ePP **PP 10 30 55.8 -1.5**
BOZC Bozcaada 78.14 311 i P **P 10 28 00.5 +0.4**
AMRR Amara 78.19 316⇑ i P **P 10 28 01.4 +1.2**
IDI Anoyia 78.25 306 P **P 10 27 59.9 -1.0**
IDI Anoyia 78.25 306 eP P 10 27 59.9 -1.0
IDI Anoyia 78.25 306 eP P 10 28 01.5 +0.6
IDI Anoyia 78.25 306 eP P 10 28 00.3 -0.5
comp=Z,5.7nm,1.9s
IDI P'P' 10 54 35.4
IDI Anoyia 78.25 306 PKPPKP P'P'df 10 54 35.4 -27
comp=Z,7.8nm,1.0s,baz=279,slow=0.8,SNR=5.2
IDI tx tx 10 58 22.2
comp=Z,6.8nm,0.8s,baz=312,slow=5.1,SNR=4.8
IDI LR LR 11 05 41.2
comp=Z,61μm,21.7s,baz=67,slow=38
JMB Yambol 78.27 314 P **P 10 28 00.9 +0.2**
JMB Yambol 78.27 314 P **P 10 28 00.9 +0.2**
JMB Yambol 78.27 314 eP P 10 28 01.4 +0.6
JMB Yambol 78.27 314 P **P 10 28 00.9 +0.2**
JMB Yambol 78.27 314 i P **P 10 28 02.0 +1.3**
SIVA Sivas 78.27 306 eP P 10 28 02.0 +1.1
ALN Alexandroupoli 78.35 312 P **P 10 28 00.5 -0.7**
ALN Alexandroupoli 78.35 312 P **P 10 28 00.5 -0.7**
ALN Alexandroupoli 78.35 312 eP P 10 28 00.3 -0.9
ALN Alexandroupoli 78.35 312 eP P 10 28 01.0 -0.2
ALN Alexandroupoli 78.35 312 P **P 10 28 00.5 -0.7**
MSVF Nonsavu 78.43 108 eP P 10 28 02.9 +0.7
MSVF Nonsavu 78.43 108 eP P 10 28 02.9 +0.7
MSVF Nonsavu 78.43 108 P **P 10 28 03.1 +0.9**
comp=Z,8μm,1.5s
AKASG Malin Array Be 78.45 322 P **P 10 28 00.7 -0.9**
AKASG S **S 10 37 45.1 -5.2**
AKASG pmax pmax
comp=Z,82nm,0.5s
AKASG smax smax
comp=N,2.0nm,0.5s
AKASG Malin Array Be 78.45 322 P **P 10 28 00.7 -0.9**
AKASG PP PP 10 30 53.6 -6.5
AKASG S **S 10 37 45.1 -5.2**
AKASG PKKPbc **PKKPbc 10 47 01.1 +0.9**
AKASG PKKPab 10 48 02.8
AKASG P'P' 10 55 03.2
AKASG Malin Array Be 78.45 322 P **P 10 28 00.7 -0.9**
comp=N,82nm,0.5s,baz=87,slow=4.8,SNR=339
AKASG PP PP 10 30 53.6 -6.5
comp=N,39nm,0.8s,baz=112,slow=7.1,SNR=3.7
AKASG S **S 10 37 45.1 -5.2**
comp=N,2.1nm,0.5s,baz=339,slow=24,SNR=4.0
AKASG PKKPbc **PKKPbc 10 47 01.1 +0.9**
comp=N,1.4nm,0.5s,baz=276,slow=3.2,SNR=3.1
AKASG PKKPab 10 48 02.8
comp=N,2.9nm,0.7s,baz=299,slow=4.5,SNR=4.2
AKASG PKPPKP **P'P'df 10 55 03.2 +1.9**
comp=N,11nm,0.9s,baz=272,slow=2.9,SNR=7.8
AKASG tx tx 10 58 16.6
comp=N,0.2nm,0.3s,baz=295,slow=3.5,SNR=4.1
AKASG LR LR 11 08 01.7
comp=N,81μm,21.5s,baz=110,slow=40
AKASG tx tx 11 14 55.7
comp=N,1.0nm,0.3s,baz=36,slow=28,SNR=8.1
KIEV Kiev 78.46 322 eP P 10 28 00.7 -0.9
KIEV eS **S 10 37 45.9 -4.5**
KIEV pmax pmax
comp=Z,625nm,1.0s
KIEV Kiev 78.46 322 eP P 10 28 00.7 -0.9
comp=Z,625nm,1.0s
KIEV eS **S 10 37 45.9 -4.5**
GHRR 78.47 317⇓ i P **P 10 28 03.2 +1.4**
PGOR Pogoanele 78.50 316⇑ i P **P 10 28 03.1 +1.2**
PETR Petresti 78.51 317⇓ i P **P 10 28 03.2 +1.2**
PKA Prieska 78.54 240 eP P 10 28 03.1 +0.5
PKA AMB AMB 10 28 05.5
comp=Z,342nm,5.0s
SMTH Samothraki Isl 78.65 311 P **P 10 28 01.8 -1.1**
SMTH Samothraki Isl 78.65 311 eP P 10 28 03.0 +0.1
SMTH Samothraki Isl 78.65 311 P **P 10 28 01.8 -1.1**
RDO Rodhopi 78.78 312 P **P 10 28 02.6 -0.9**
RDO Rodhopi 78.78 312 eP P 10 28 03.0 -0.5
RDO Rodhopi 78.78 312 P **P 10 28 02.6 -0.9**
LIA Limnos Island 78.81 311 P **P 10 28 02.5 -1.2**
LIA Limnos Island 78.81 311 eP P 10 28 04.0 +0.3
LIA Limnos Island 78.81 311 P **P 10 28 02.5 -1.2**
VAM Vamos 78.83 306 P **P 10 28 04.4 +0.4**
VAM Vamos 78.83 306 P **P 10 28 04.4 +0.4**
VAM Vamos 78.83 306 eP P 10 28 05.0 +1.0
VAM Vamos 78.83 306 P **P 10 28 04.4 +0.4**
GVD Gavdhos 78.83 306 eP P 10 28 03.1 -0.9
GVD Gavdhos 78.83 306 eP P 10 28 06.5 +2.5
GVD Gavdhos 78.83 306 eP P 10 28 03.5 -0.5
comp=Z,4μm,1.0s
GVD eS S 10 37 43.9 -11
ISR Istrita 78.85 316⇑ i P **P 10 28 05.1 +1.1**
VRI Vrincioaia 78.89 317⇑ i P **P 10 28 03.8 -0.3**
SZH Strazhica 78.90 314 i P **P 10 28 03.9 -0.3**
PLOR Plostina 78.94 317⇑ i P **P 10 28 05.0 +0.6**
KDZ Kurdzhali 78.96 313 i P **P 10 28 03.9 -0.7**
SULR 78.96 316⇑ i P **P 10 28 04.9 +0.4**
BTMR Bucharest-Geot 79.02 315⇑ i P **P 10 28 06.1 +1.3**
SYO Syowa Base 79.07 199⇓ i P **P 10 28 03.8 -0.8**
TESR Tescani 79.08 318⇑ i P **P 10 28 05.6 +0.5**
FUNA Funafuti 79.24 98 eP P 10 28 08.2 +1.5
comp=Z,3μm,1.1s
FUNA eS **S 10 38 01.2 +1.1**
PVL Pavlikeni 79.32 314 i P **P 10 28 06.7 +0.2**
MLR Muntele Rosu 79.34 317⇑ i P **P 10 28 06.4 -0.3**
URZ Urewera 79.47 129 eP P 10 28 06.7 -0.6
comp=Z,3μm,1.3s
URZ PP **PP 10 31 10.4 +1.5**
URZ S **S 10 37 56.8 -4.9**
URZ P'P' 10 55 01.4

URZ Urewera 79.47 129 P **P** **10 28 06.8 -0.6**
comp=Z,144nm,0.4s,baz=316,slow=2.7,SNR=36
URZ PP **PP** **10 31 10.4 +1.5**
comp=Z,154nm,0.9s,baz=274,slow=6.9,SNR=3.9
URZ S **S** **10 37 56.8 -4.9**
comp=Z,169nm,1.3s,baz=28,slow=20,SNR=16
URZ PKPPKP **P'P'df** **10 55 01.5 +1.0**
comp=Z,33nm,1.1s,baz=60,slow=11,SNR=2.6
URZ LR LR 11 01 54.8
comp=Z,296μm,21.5s,baz=272,slow=34
RZN Rozhen 79.48 313 *i* P **P** **10 28 07.5 -0.1**
KAVA Kavala 79.51 312 P **P** **10 28 06.6 -0.9**
KAVA Kavala 79.51 312 P **P** **10 28 06.6 -0.9**
PTL Penteli 79.51 309 P **P** **10 28 06.5 -1.2**
PTL Penteli 79.51 309 *eP* **P** **10 28 07.0 -0.7**
PTL Penteli 79.51 309 P **P** **10 28 06.5 -1.2**
PRAR RASCA 79.55 318⇑ *iP* **P** **10 28 08.6 +0.9**
ATHU Athens Univers 79.56 309 P **P** **10 28 06.3 -1.6**
ATHU Athens Univers 79.56 309 P **P** **10 28 06.3 -1.6**
PLD Plovdiv 79.57 313 P **P** **10 28 07.3 -0.5**
PLD Plovdiv 79.57 313 P **P** **10 28 07.3 -0.5**
PLD Plovdiv 79.57 313 *eP* **P** **10 28 07.3 -0.5**
PLD Plovdiv 79.57 313 P **P** **10 28 07.3 -0.5**
ATH Athens Observa 79.61 309 P **P** **10 28 06.9 -1.3**
ATH Athens Observa 79.61 309 P **P** **10 28 06.9 -1.3**
ATH Athens Observa 79.61 309 *eP* **P** **10 28 08.5 +0.3**
ATH Athens Observa 79.61 309 P **P** **10 28 06.9 -1.3**
ERET Eretria 79.62 309 P **P** **10 28 06.9 -1.4**
ANKY Antikythira Is 79.62 307 P **P** **10 28 08.0 -0.3**
ANKY Antikythira Is 79.62 307 *eP* **P** **10 28 09.0 +0.7**
ANKY Antikythira Is 79.62 307 P **P** **10 28 08.0 -0.3**
AOS Alonnisos 79.68 310 P **P** **10 28 07.1 -1.4**
AOS Alonnisos 79.68 310 *eP* **P** **10 28 07.5 -1.0**
AOS Alonnisos 79.68 310 *eP* **P** **10 28 09.0 +0.5**
AOS Alonnisos 79.68 310 P **P** **10 28 07.1 -1.4**
UPI Upington 79.73 241 *eP* **P** **10 28 09.9 +0.7**
UPI AMB AMB 10 28 11.6
comp=Z,781nm,2.0s
NAIG Nisos Aigina 79.76 308 *eP* **P** **10 28 08.0 -1.0**
OUR Ouranopolis 79.79 311 P **P** **10 28 08.4 -0.7**
OUR Ouranopolis 79.79 311 P **P** **10 28 08.4 -0.7**
OUR Ouranopolis 79.79 311 *eP* **P** **10 28 09.3 +0.3**
OUR Ouranopolis 79.79 311 P **P** **10 28 08.4 -0.7**
HUMR Humele 79.82 315⇑ *iP* **P** **10 28 08.9 -0.3**
DOPR Dopca 79.82 317⇑ *iP* **P** **10 28 09.8 +0.6**
MRKA Markates 79.83 309 P **P** **10 28 07.6 -1.8**
KYTH Kithira 79.89 307 P **P** **10 28 09.3 -0.5**
KYTH Kithira 79.89 307 *eP* **P** **10 28 10.5 +0.7**
KYTH Kithira 79.89 307 P **P** **10 28 09.3 -0.5**
GOLR 79.89 316⇑ *iP* **P** **10 28 09.7 +0.1**
DID Didima 79.92 308 P **P** **10 28 08.0 -1.9**
DID Didima 79.92 308 *eP* **P** **10 28 08.5 -1.4**
DID Didima 79.92 308 P **P** **10 28 08.0 -1.9**
DIDY Didyma 79.93 308 P **P** **10 28 08.0 -2.1**
VOIR 79.95 316⇑ *iP* **P** **10 28 09.3 -0.7**
PAIG Paliouri 79.95 311 P **P** **10 28 08.8 -1.2**
PAIG Paliouri 79.95 311 P **P** **10 28 08.8 -1.2**
PAIG Paliouri 79.95 311 *eP* **P** **10 28 10.0 0.0**
PAIG Paliouri 79.95 311 P **P** **10 28 08.8 -1.2**
SKIA Skiathos 80.00 310 P **P** **10 28 09.0 -1.2**
VLI Veliai 80.04 307 P **P** **10 28 08.8 -1.7**
VLI Veliai 80.04 307 *eP* **P** **10 28 11.0 +0.5**
VLI Veliai 80.04 307 P **P** **10 28 08.8 -1.7**
PGB Panagyurishte 80.04 313 *i* P **P** **10 28 10.1 -0.4**
NVR Nevrokopi 80.06 312 P **P** **10 28 09.7 -0.9**
NVR Nevrokopi 80.06 312 *eP* **P** **10 28 10.5 -0.1**
NVR Nevrokopi 80.06 312 P **P** **10 28 09.7 -0.9**
SMIA Simia 80.15 310 P **P** **10 28 09.4 -1.7**
MMB Musomiste 80.19 312 *i* P **P** **10 28 10.8 -0.5**
NEO Neokhori 80.20 310 P **P** **10 28 09.7 -1.7**
NEO Neokhori 80.20 310 *eP* **P** **10 28 13.0 +1.6**
NEO Neokhori 80.20 310 P **P** **10 28 09.7 -1.7**
PLG Polygyros 80.20 311 P **P** **10 28 10.3 -1.1**
PLG Polygyros 80.20 311 P **P** **10 28 10.3 -1.1**
PLG Polygyros 80.20 311 *eP* **P** **10 28 11.0 -0.4**
PLG Polygyros 80.20 311 P **P** **10 28 10.3 -1.1**
LTK Loutraki 80.20 309 P **P** **10 28 09.3 -2.1**
LTK Loutraki 80.20 309 *eP* **P** **10 28 10.0 -1.4**
LTK Loutraki 80.20 309 P **P** **10 28 09.3 -2.1**
SRS Serrai 80.22 312 P **P** **10 28 10.2 -1.2**
SRS Serrai 80.22 312 P **P** **10 28 10.2 -1.2**
SRS Serrai 80.22 312 P **P** **10 28 10.2 -1.2**
ARR Arges 80.23 316⇑ *iP* **P** **10 28 11.3 -0.1**
XOR Xorichti 80.24 310 P **P** **10 28 09.8 -1.8**
XOR Xorichti 80.24 310 P **P** **10 28 09.8 -1.8**
MICGM Minsk 80.25 326⇑ *iP* **P** **10 28 09.0 -2.2**
ACOR Acrocorinthos 80.26 309 P P 10 28 07.5 -4.2
LKR Lokris 80.28 309 P **P** **10 28 09.8 -1.9**
LKR Lokris 80.28 309 *eP* **P** **10 28 12.0 +0.3**
LKR Lokris 80.28 309 P **P** **10 28 09.8 -1.9**
BURAR Bucovina Array 80.28 319⇑ *iP* **P** **10 28 12.6 +0.9**
BUR08 Bucovina Ar. S 80.29 319 *eP* **P** **10 28 12.1 +0.3**
SOH Sokhos 80.35 312 P **P** **10 28 10.8 -1.4**
SOH Sokhos 80.35 312 P **P** **10 28 10.8 -1.4**
SOH Sokhos 80.35 312 *eP* **P** **10 28 12.0 -0.1**
SOH Sokhos 80.35 312 P **P** **10 28 10.8 -1.4**
SUR Sutherland 80.46 237 P **P** **10 28 14.9 +1.8**
SNR=45
SUR Sutherland 80.46 237 *eP* **P** **10 28 14.4 +1.3**
comp=Z,755nm,0.9s
SUR pP **pP** **10 28 38.9 +2.1**
SUR S **S** **10 38 14.9 +2.1**
SUR PKKP PKKPdf 10 46 33.9 -10
SUR PKKPbc **PKKPbc** **10 46 57.4 +2.4**
SUR P'P' 10 55 01.5
SUR Sutherland 80.46 237 P **P** **10 28 14.6 +1.4**
comp=Z,5μm,1.0s,SNR=76
SUR Sutherland 80.46 237 P **P** **10 28 14.5 +1.3**
comp=Z,449nm,0.8s,baz=92,slow=5.4,SNR=64
SUR pP **pP** **10 28 38.9 +2.1**
comp=Z,677nm,0.9s,baz=97,slow=5.6,SNR=5.2
SUR S **S** **10 38 14.9 +2.1**
comp=Z,8.6nm,0.9s,baz=282,slow=20,SNR=1.1
SUR PKKP PKKPdf 10 46 33.9 -10
comp=Z,34nm,1.0s,baz=269,slow=3.2,SNR=6.2
SUR PKKPbc **PKKPbc** **10 46 57.4 +2.4**
comp=Z,46nm,0.8s,baz=223,slow=3.5,SNR=10
SUR PKPPKP **P'P'df** **10 55 01.5 +2.2**
baz=98,slow=1.4
SUR LR LR 10 57 33.5
comp=Z,223μm,21.9s,baz=92,slow=31
FX1 Attu Island--F 80.48 36 *eP* **P** **10 28 12.2 -0.2**
FX1 *e*PP **PP** **10 31 19.7 +2.9**
FX1 S **S** **10 38 10.1 -1.6**
FX1 P'P' 10 54 54.1
FX1 Attu Island--F 80.48 36 P **P** **10 28 12.3 -0.2**
comp=Z,542nm,0.6s,baz=203,slow=1.4,SNR=144
FX1 S **S** **10 38 10.1 -1.6**
comp=Z,18nm,0.9s,baz=128,slow=20,SNR=2.0
FX1 PKPPKP **P'P'df** **10 54 54.1 -3.4**
comp=Z,6.5nm,0.8s,baz=211,slow=5.9,SNR=3.1
FX1 LR LR 11 02 49.5
comp=Z,49μm,19.6s,baz=283,slow=35
PUL Pulkovo 80.48 331 *c iP* **P** **10 28 12.9 +0.6**
PUL pmax pmax
comp=Z,7μm,1.6s
PUL MLR MLR
comp=Z,126μm,20.0s
MPEP Malo Peshtene 80.49 314 *i* P **P** **10 28 12.9 +0.1**
HORT Hortiatis 80.50 311 P **P** **10 28 11.8 -1.2**
HORT Hortiatis 80.50 311 P **P** **10 28 11.8 -1.2**
RUDU RUNDU 80.50 252 *eP* **P** **10 28 15.5 +2.0**
RUDU AMB AMB 10 28 21.6
comp=Z,992nm,2.9s
MDB Medias 80.55 317⇑ *iP* **P** **10 28 14.6 +1.5**
AXAR Agios Charalam 80.56 309 P **P** **10 28 11.6 -1.7**
AXAR Agios Charalam 80.56 309 P **P** **10 28 11.6 -1.7**
VLX Vlachokerasia 80.57 308 P **P** **10 28 12.4 -1.1**
VLX Vlachokerasia 80.57 308 P **P** **10 28 12.4 -1.1**
DSF Desfina 80.61 309 P **P** **10 28 11.2 -2.4**
DSF Desfina 80.61 309 P **P** **10 28 11.2 -2.4**
THE Thessaloniki 80.61 311 P **P** **10 28 12.1 -1.4**
THE Thessaloniki 80.61 311 P **P** **10 28 12.1 -1.4**
THE Thessaloniki 80.61 311 P **P** **10 28 12.1 -1.4**
GUR Goura 80.68 308 P **P** **10 28 12.2 -1.9**
GUR Goura 80.68 308 P **P** **10 28 12.2 -1.9**
KKB Krupnik 80.72 313 *i* P **P** **10 28 13.4 -0.7**
KNT Kendrikon 80.74 312 P **P** **10 28 13.2 -1.0**
KNT Kendrikon 80.74 312 P **P** **10 28 13.2 -1.0**
KNT Kendrikon 80.74 312 P **P** **10 28 13.2 -1.0**
VTS Vitosha 80.74 313 P **P** **10 28 13.8 -0.6**
VTS Vitosha 80.74 313 P **P** **10 28 13.8 -0.6**
VTS Vitosha 80.74 313 P **P** **10 28 13.8 -0.6**
VTS Vitosha 80.74 313⇑ *iP* **P** **10 28 14.0 -0.4**
VTS Vitosha 80.74 313 *i* P **P** **10 28 13.6 -0.8**
ARCR ARCALIA 80.75 318⇓ *iP* **P** **10 28 15.7 +1.6**
LOT Lotru 80.84 316⇑ *iP* **P** **10 28 14.4 -0.4**
KLV Kalavryta, Ach 80.85 309 P **P** **10 28 13.3 -1.6**
KLV Kalavryta, Ach 80.85 309 *eP* **P** **10 28 14.0 -0.9**
KLV Kalavryta, Ach 80.85 309 P **P** **10 28 13.3 -1.6**
AGG Agios Georgios 80.85 310 P **P** **10 28 12.9 -1.9**
AGG Agios Georgios 80.85 310 P **P** **10 28 12.9 -1.9**
AGG Agios Georgios 80.85 310 *eP* **P** **10 28 14.0 -0.8**
AGG Agios Georgios 80.85 310 P **P** **10 28 12.9 -1.9**
LIT Litokhoron 80.88 311 P **P** **10 28 13.6 -1.4**
LIT Litokhoron 80.88 311 P **P** **10 28 13.6 -1.4**
LIT Litokhoron 80.88 311 *eP* **P** **10 28 14.5 -0.5**
LIT Litokhoron 80.88 311 P **P** **10 28 13.6 -1.4**
ITM Ithomi 80.90 308 P **P** **10 28 14.2 -1.0**
ITM Ithomi 80.90 308 *eP* **P** **10 28 15.0 -0.2**
ITM Ithomi 80.90 308 P **P** **10 28 14.2 -1.0**
NACGM Naroch 80.97 326 *eP* **P** **10 28 12.0 -3.0**
SMY Shemya 80.99 36 *eP* **P** **10 28 15.5 +0.3**
SMY *e* 10 31 22.5
SMY pmax pmax
comp=Z,2μm,0.8s
SMY Shemya 80.99 36 *eP* **P** **10 28 15.5 +0.3**
comp=Z,2μm,0.8s
SMY *e*PP **PP** **10 31 22.5 +1.4**
MAKR Makrakomi, Fth 81.00 310 P **P** **10 28 14.1 -1.6**
MAKR Makrakomi, Fth 81.00 310 P **P** **10 28 14.1 -1.6**
LAKA Lakka 81.01 309 P **P** **10 28 14.6 -1.1**
LAKA Lakka 81.01 309 *eP* **P** **10 28 16.0 +0.3**
LAKA Lakka 81.01 309 P **P** **10 28 14.6 -1.1**
VAY Valandovo 81.01 312 P **P** **10 28 13.3 -2.3**
VAY Valandovo 81.01 312 P **P** **10 28 13.3 -2.3**
VAY Valandovo 81.01 312 P **P** **10 28 13.3 -2.3**
VAY Valandovo 81.01 312 *i* P **P** **10 28 13.7 -1.9**
PYL PYLOS 81.01 307 P **P** **10 28 14.6 -1.1**
PYL PYLOS 81.01 307 P **P** **10 28 14.6 -1.1**
JOF Joensuu 81.04 334 *ep* **P** **10 28 16.9 +1.6**
comp=Z,700nm,0.7s
JOF Joensuu 81.04 334 *ep* **PKKPbc** **10 46 53.5 -1.4**
comp=Z,17nm,0.6s
EFP Efpalio 81.09 309 P **P** **10 28 15.2 -0.9**
PSA1 Peshopyrgos 81.09 309 *eP* **P** **10 28 17.0 +0.9**
THL Klokotos Trika 81.17 310 P **P** **10 28 14.8 -1.7**
THL Klokotos Trika 81.17 310 *eP* **P** **10 28 15.5 -1.0**
DRO Drossia 81.18 308 P **P** **10 28 16.2 -0.4**
EVR Evrytania 81.23 309 P **P** **10 28 16.0 -1.0**
EVR Evrytania 81.23 309 *eP* **P** **10 28 17.5 +0.5**
EVR Evrytania 81.23 309 P **P** **10 28 16.0 -1.0**
CVNA Calvinia 81.28 238 *eP* **P** **10 28 18.8 +1.4**
CVNA AMB AMB 10 28 46.9
comp=Z,1μm,1.7s
RLS Riolos of Patr 81.38 309 P **P** **10 28 17.2 -0.4**
RLS Riolos of Patr 81.38 309 *eP* **P** **10 28 19.5 +1.9**
RLS Riolos of Patr 81.38 309 P **P** **10 28 17.2 -0.4**
IIGN Ignalina 81.39 326 *eP* **P** **10 28 17.3 0.0**
IIGN AMB AMB 10 28 24.5
comp=Z,1μm,2.1s
IIGN *e*S **S** **10 38 18.2 -2.8**
IIGN Ignalina 81.39 326 *eP* **P'P'df** **10 54 52.9 -2.9**
IIGN AMB AMB 10 55 01.1
comp=Z,57nm,1.7s
PVO Paravola 81.41 309 P **P** **10 28 17.6 -0.2**
BMR Baia Mare 81.43 318⇑ *iP* **P** **10 28 18.6 +0.9**
KZN Kozani 81.46 311 P **P** **10 28 16.4 -1.7**
KZN Kozani 81.46 311 P **P** **10 28 16.4 -1.7**
KZN Kozani 81.46 311 *eP* **P** **10 28 18.0 -0.1**
KZN Kozani 81.46 311 P **P** **10 28 16.4 -1.7**
ISAL Salakas 81.49 327 *eP* **P** **10 28 18.0 +0.2**
ISAL AMB AMB 10 28 25.6
comp=Z,806nm,2.1s
ISAL *e*S **S** **10 38 19.5 -2.5**
ISAL Salakas 81.49 327 *eP* **P'P'df** **10 54 51.5 -4.0**
ISAL AMB AMB 10 55 01.4
comp=Z,37nm,1.6s
DEV Deva 81.51 317⇑ *iP* **P** **10 28 18.9 +0.7**
GZR Gura Zlata 81.52 316⇓ *iP* **P** **10 28 18.2 -0.1**
ELIM Elim 81.55 235 *eP* **P** **10 28 20.4 +1.7**
ELIM AMB AMB 10 28 21.4
comp=Z,954nm,1.9s
LVZ Lovozero 81.57 340 *c iP* **P** **10 28 18.3 +0.3**
LVZ pmax pmax
comp=Z,3μm,1.7s
LVZ MLR MLR
comp=Z,95μm,16.0s
LVZ Lovozero 81.57 340 P **P** **10 28 18.1 +0.1**
comp=Z,8μm,0.8s,SNR=55
VTN Vitineika 81.58 308 P **P** **10 28 19.4 +0.7**
SFD Strofades 81.63 308 P **P** **10 28 18.1 -0.9**
DRGR 81.80 317⇑ *iP* **P** **10 28 20.3 +0.5**
FNA Florina 81.82 311 P **P** **10 28 18.4 -1.6**
FNA Florina 81.82 311 P **P** **10 28 18.4 -1.6**
FNA Florina 81.82 311 *eP* **P** **10 28 19.5 -0.5**
FNA Florina 81.82 311 P **P** **10 28 18.4 -1.6**
VSU Vasula 81.88 329 *c iP* **P** **10 28 19.7 -0.1**
VSU MLR MLR
comp=Z,196μm,21.0s
BIA Bitola 81.90 311 *i* P **P** **10 28 19.6 -0.8**
SKO Skopje 81.94 312 P **P** **10 28 19.7 -0.8**
SKO Skopje 81.94 312 P **P** **10 28 19.7 -0.8**
SKO Skopje 81.94 312 P **P** **10 28 19.7 -0.8**
SKO Skopje 81.94 312 *i* P **P** **10 28 20.5 0.0**
NEST Nestorio 82.02 311 P **P** **10 28 19.4 -1.7**
JAN Janina 82.07 310 P **P** **10 28 21.0 -0.3**
JAN Janina 82.07 310 P **P** **10 28 21.0 -0.3**
JAN Janina 82.07 310 *eP* **P** **10 28 23.0 +1.7**
JAN Janina 82.07 310 P **P** **10 28 21.0 -0.3**
VLS Valsamata 82.08 309 P **P** **10 28 20.5 -0.9**
VLS Valsamata 82.08 309 P **P** **10 28 20.5 -0.9**
VLS Valsamata 82.08 309 *eP* **P** **10 28 21.0 -0.4**
VLS Valsamata 82.08 309 P **P** **10 28 20.5 -0.9**
KBN Korca 82.25 311 P **P** **10 28 20.9 -1.3**
KBN Korca 82.25 311 P **P** **10 28 20.9 -1.3**
KBN Korca 82.25 311 P **P** **10 28 20.9 -1.3**
KWP Kalwaria Pacla 82.30 320 *eP* **P** **10 28 22.6 +0.3**
KWP Kalwaria Pacla 82.30 320 *eP* **P** **10 28 22.6 +0.3**
comp=Z,24μm,2.5s
KWP Kalwaria Pacla 82.30 320⇑ *iP* **P** **10 28 22.7 +0.5**
KWP Kalwaria Pacla 82.30 320 *eP* **P** **10 28 22.5 +0.3**
KWP *e*pP **pP** **10 28 45.2 -0.8**
KWP *e*S **S** **10 38 28.7 -1.9**
KWP *e*SS **SS** **10 43 54.0 +1.2**
KWP LMZ LR 11 00 16.9
BZS Buzias 82.36 316⇓ *iP* **P** **10 28 22.7 +0.1**
SIRR Siria 82.43 317⇑ *iP* **P** **10 28 23.5 +0.5**
IGT Igoumenitsa 82.45 310 P **P** **10 28 22.7 -0.6**
IGT Igoumenitsa 82.45 310 P **P** **10 28 22.7 -0.6**
IGT Igoumenitsa 82.45 310 P **P** **10 28 22.7 -0.6**
KOLS Kolonicke sedl 82.45 319 *eP* **P** **10 28 24.2 +1.1**
KOLS *e*PP **PP** **10 31 33.9 +0.6**
KOLS *e*S **S** **10 38 28.6 -3.7**
KOLS *e*SS **SS** **10 43 50.4 -4.8**
TSUM Tsumeb 82.57 251 *eP* **P** **10 28 25.4 +0.9**
TSUM Tsumeb 82.57 251 P **P** **10 28 25.0 +0.6**
TSUM pP **pP** **10 28 50.7 +2.5**
TSUM *e*S **S** **10 38 30.4 -4.5**
TSUM PKKPbc **PKKPbc** **10 46 49.5 -0.1**
TSUM P'P'ab 10 54 13.1
TSUM P'P' 10 54 49.2
TSUM Tsumeb 82.57 251 P **P** **10 28 25.0 +0.6**
comp=Z,222nm,0.7s,baz=85,slow=5.0,SNR=139
TSUM pP **pP** **10 28 50.7 +2.5**
comp=Z,492nm,1.0s,baz=111,slow=3.4,SNR=6.3
TSUM PKKPbc **PKKPbc** **10 46 49.5 -0.1**
comp=Z,29nm,0.9s,baz=248,slow=2.6,SNR=12
TSUM PKP2ab 10 54 13.1
comp=Z,12nm,1.2s,baz=252,slow=6.1,SNR=7.2
TSUM PKPPKP P'P'df 10 54 49.2 -6.8
comp=Z,26nm,1.2s,baz=247,slow=4.1,SNR=3.1
TSUM tx tx 10 58 12.2
comp=Z,5.9nm,0.9s,baz=254,slow=3.6,SNR=8.7
PHP Peshkopia 82.64 312 P **P** **10 28 22.4 -1.9**
PHP Peshkopia 82.64 312 P **P** **10 28 22.4 -1.9**
PHP Peshkopia 82.64 312 P **P** **10 28 22.4 -1.9**
TIM Timisoara 82.65 316⇑ *iP* **P** **10 28 25.8 +1.7**
SRN Sarande 82.75 310 P **P** **10 28 23.7 -1.0**
SRN Sarande 82.75 310 P **P** **10 28 23.7 -1.0**
RAO Raoul Island 82.77 119 *eP* **P** **10 28 24.7 -0.4**
comp=Z,4μm,1.4s
RAO S **S** **10 38 33.2 -3.1**
RAO Raoul Island 82.77 119 P **P** **10 28 24.5 -0.6**
comp=Z,870nm,0.8s,baz=241,slow=20,SNR=6.9
RAO S **S** **10 38 33.2 -3.1**
comp=Z,190nm,0.4s,baz=262,slow=22,SNR=1.8
RAO LR LR 11 03 08.7
comp=Z,172μm,20.9s,baz=93,slow=34
SUW Suwalki 82.82 325 *eP* **P** **10 28 24.2 -0.6**
SUW pmax pmax
comp=Z,5μm,0.9s
SUW Suwalki 82.82 325 *eP* **P** **10 28 24.2 -0.6**
comp=Z,5μm,0.9s
SUW Suwalki 82.82 325 *eP* **P** **10 28 24.2 -0.6**
SUW *e*pP **pP** **10 28 46.9 -1.7**
SUW *e*S **S** **10 38 32.9 -2.8**
SUW *e*SS **SS** **10 43 53.8 -6.5**
SUW LMZ LR 11 04 34.2
KEK Kerkira 82.88 310 P **P** **10 28 25.0 -0.5**
KEK Kerkira 82.88 310 *eP* **P** **10 28 25.0 -0.5**
KEK Kerkira 82.88 310 P **P** **10 28 25.0 -0.5**
FIA1 FINESS Array S 82.96 332 *eP* **P** **10 28 25.1 -0.2**
FINES FINESS Array B 82.96 332 P **P** **10 28 25.4 0.0**
FINES PP **PP** **10 31 34.7 -2.4**
FINES S **S** **10 38 36.6 -0.2**
FINES PKKPbc **PKKPbc** **10 46 48.6 -1.8**
FINES FINESS Array B 82.96 332 P **P** **10 28 25.4 0.0**
comp=Z,1μm,1.0s,baz=103,slow=6.1,SNR=257
FINES PP **PP** **10 31 34.7 -2.4**
comp=Z,125nm,1.0s,baz=101,slow=13,SNR=2.5
FINES S **S** **10 38 36.6 -0.2**
comp=Z,13nm,0.9s,baz=179,slow=15,SNR=1.9
FINES PKKPbc **PKKPbc** **10 46 48.6 -1.8**
comp=Z,12nm,0.4s,baz=234,slow=1.2,SNR=22
FINES tx tx 10 58 10.2
comp=Z,5.0nm,1.0s,baz=195,slow=14,SNR=2.8
FINES LR LR 11 08 37.5
comp=Z,84μm,18.7s,baz=96,slow=38
KAF Kangasniemi 83.03 333 *ep* **P** **10 28 27.4 +1.7**
comp=Z,1μm,0.6s
KAF Kangasniemi 83.03 333 *ep* **PKKPbc** **10 46 48.8 -1.5**
comp=Z,20nm,0.4s
TIR Tirane 83.03 312 P **P** **10 28 25.5 -0.7**
TIR Tirane 83.03 312 *eP* **P** **10 28 25.2 -1.0**
TIR pmax pmax
comp=Z,991nm,0.9s
TIR Tirane 83.03 312 *eP* **P** **10 28 25.2 -1.0**
comp=Z,991nm,0.9s
PVY Plav 83.12 313⇑ *iP* **P** **10 28 26.1 -0.7**
KOMG Komaggas 83.12 240 *eP* **P** **10 28 28.5 +1.5**
KOMG AMB AMB 10 28 29.8
comp=Z,996nm,1.7s
WIN Windhoek 83.14 247 *eP* **P** **10 28 28.5 +1.1**
WIN AMB AMB 10 28 30.1
comp=Z,208nm,1.6s
STHS Stebnicka Huta 83.20 320 *eP* **P** **10 28 27.9 +1.0**
IVA Berane 83.20 313⇑ *iP* **P** **10 28 26.7 -0.5**
DIVS Divibare 83.29 314 P **P** **10 28 27.4 -0.2**
VNDA Vanda 83.43 169 *eP* **P** **10 28 27.7 +0.2**
comp=Z,64nm,0.5s
VNDA S **S** **10 38 41.0 -0.2**
VNDA PKKP **PKKPdf** **10 46 37.2 -2.9**
VNDA PKKPbc **PKKPbc** **10 46 48.1 -1.6**
VNDA P'P'ab 10 54 28.9
VNDA P'P' 10 54 50.3
VNDA Vanda 83.43 169 P **P** **10 28 28.2 +0.7**
comp=Z,326nm,1.0s,baz=302,slow=5.6,SNR=202
VNDA S **S** **10 38 41.0 -0.2**
comp=Z,18nm,1.2s,baz=141,slow=19,SNR=12
VNDA PKKP **PKKPdf** **10 46 37.2 -2.9**
comp=Z,6.3nm,0.8s,baz=98,slow=2.3,SNR=4.4
VNDA PKKPbc **PKKPbc** **10 46 48.1 -1.6**
comp=Z,36nm,1.1s,baz=48,slow=0.6,SNR=7.6
VNDA PKP2ab 10 54 28.9
comp=Z,9.0nm,1.3s,baz=144,slow=0.4,SNR=3.9
VNDA PKPPKP **P'P'df** **10 54 50.3 -0.7**
comp=Z,35nm,1.2s,baz=222,slow=1.4,SNR=8.2
VNDA tx tx 10 58 09.4
comp=Z,14nm,1.2s,baz=112,slow=3.4,SNR=5.2
VNDA LR LR 11 03 47.4
comp=Z,133μm,18.2s,baz=314,slow=34
KECS Kecovo 83.55 319 *eP* **P** **10 28 29.0 +0.3**
ULC Ulcinj 83.57 312⇑ *iP* **P** **10 28 27.8 -1.2**
PDG Podgorica 83.61 313 P **P** **10 28 28.1 -1.0**
TTG Podgorica 83.61 313⇑ *iP* **P** **10 28 27.8 -1.3**
TTG Podgorica 83.61 313 P **P** **10 28 28.1 -1.0**
TTG Podgorica 83.61 313 P **P** **10 28 28.1 -1.0**
PLE Pljevlja 83.62 314⇑ *iP* **P** **10 28 28.6 -0.8**
DRME Dracevica, Mon 83.64 312⇑ *iP* **P** **10 28 28.3 -1.0**
PKSN Nyarlorinc 83.74 317⇑ *eP* **P** **10 28 31.4 +1.7**
NIE Niedzica 83.80 320 *i P* **P** **10 28 29.7 -0.3**
NIE *i* PcP **PcP** **10 28 34.0 +0.1**
NIE *i* pP **pP** **10 28 53.5 -0.3**
NIE *i* sP **sP** **10 29 04.3 +0.7**
NIE *e*SKSac **SKSac** **10 38 42.5 -2.4**
NIE *e*SS **SS** **10 44 14.3 -0.9**
NIE L L 11 04 57.0
comp=Z,81μm,22.2s
NKY Niksic 83.85 313⇑ *iP* **P** **10 28 30.1 -0.4**
MIDW Midway 83.86 62 *eP* **P** **10 28 31.4 +0.8**
comp=Z,1μm,0.9s
MIDW *e*PP **PP** **10 31 45.7 +0.4**
BEL Belsk 83.86 322 *eP* **P** **10 28 31.0 +0.8**
BEL *e*pP **pP** **10 28 53.2 -0.8**
BEL *e*S **S** **10 38 44.7 -1.7**
BEL LMZ LR 11 03 31.0
BUM Brajici-Budva 83.86 313⇑ *iP* **P** **10 28 29.8 -0.7**
PSZ Piszkesteto 83.86 318 *eP* **P** **10 28 30.4 0.0**
PSZ Piszkesteto 83.86 318 *eP* **P** **10 28 30.4 0.0**
comp=Z,45μm,2.3s
PSZ Piszkesteto 83.86 318⇑ *iP* **P** **10 28 30.1 -0.3**
PSZ Piszkesteto 83.86 318⇑ *eP* **P** **10 28 30.7 +0.3**
NKME Niksic 83.87 313⇑ *iP* **P** **10 28 30.1 -0.5**
AMKA Amchitka 83.89 38 *eP* **P** **10 28 30.3 0.0**
comp=Z,2μm,1.0s
UPM Unac-Piva 83.96 313⇑ *iP* **P** **10 28 30.1 -1.1**
HCY Herceg Novi 84.17 313⇑ *iP* **P** **10 28 31.3 -0.7**
BRY Bratogost 84.19 313 *eP* **P** **10 28 31.3 -1.0**
OJC Ojcow 84.25 320 *i P* **P** **10 28 31.3 -0.9**
OJC *i* PcP **PcP** **10 28 35.7 -0.1**
OJC *i* pP **pP** **10 28 55.1 -1.0**
OJC *i* sP **sP** **10 29 05.5 -0.3**
OJC *e*PP **PP** **10 31 48.5 +0.6**
OJC *e*SKSac **SKSac** **10 38 44.5 -3.2**
OJC *e*SS **SS** **10 44 20.4 -1.2**
OJC L L 11 13 55.0
comp=Z,87μm,21.6s
SBA Scott Base 84.52 169 *eP* **P** **10 28 33.3 +0.2**
SBA pmax pmax
comp=Z,469nm,0.6s
SBA Scott Base 84.52 169 *eP* **P** **10 28 33.3 +0.2**
comp=Z,469nm,0.6s
PKS9 Tamasi 84.79 317⇑ *eP* **P** **10 28 34.6 -0.4**
STON Ston 84.80 313 P **P** **10 28 34.3 -0.9**
PKSG 84.81 318⇑ *eP* **P** **10 28 36.2 +1.1**
KEV Kevo 84.81 340 *eP* **P** **10 28 34.4 -0.2**
KEV *e*S **S** **10 38 51.0 -4.1**
KEV pmax pmax
comp=Z,2μm,1.1s
KEV Kevo 84.81 340 *ep* **P** **10 28 35.2 +0.6**
comp=Z,639nm,0.9s
KEV Kevo 84.81 340 *ep* **PKKPbc** **10 46 45.3 -1.0**
comp=Z,6.9nm,0.7s
KEV Kevo 84.81 340 *eP* **P** **10 28 34.4 -0.2**
comp=Z,2μm,1.1s
KEV *e*S **S** **10 38 51.0 -4.1**
PKST T''s 85.03 317⇑ *eP* **P** **10 28 36.7 +0.4**
OKC Ostrava-Krasne 85.25 320⇑ *eP* **P** **10 28 38.1 +0.8**
OKC *e*SKS **S** **10 38 55.2 -5.1**
OKC AMS AMS 11 02 00.0
comp=Z,123μm,36.6s
ARCES ARCESS Array B 85.25 340 P **P** **10 28 37.2 +0.3**
ARCES pP **pP** **10 29 01.2 +0.5**
ARCES S **S** **10 38 54.5 -5.0**
ARCES PKKPbc **PKKPbc** **10 46 42.3 -3.0**
ARCES P'P' 10 54 42.4
ARCES ARCESS Array B 85.25 340 P **P** **10 28 37.2 +0.3**
comp=Z,928nm,0.8s,baz=103,slow=3.1,SNR=253
ARCES pP **pP** **10 29 01.2 +0.5**
comp=Z,302nm,0.5s,baz=99,slow=5.0,SNR=3.1
ARCES S **S** **10 38 54.5 -5.0**
comp=Z,20nm,0.9s,baz=186,slow=4.3,SNR=3.7
ARCES PKKPbc **PKKPbc** **10 46 42.3 -3.0**
comp=Z,31nm,1.0s,baz=236,slow=1.9,SNR=8.7
ARCES PKPPKP P'P'df 10 54 42.4 -5.5
comp=Z,3.4nm,0.8s,baz=100,slow=9.2,SNR=3.4
ARCES LR LR 11 10 19.3

comp=Z,134µm,20.9s,baz=208,slow=38
ARE0 ARCESS Array S 85.25 340⇑ *i*P **P 10 28 37.2 +0.3**
ARE0 *e*SKS **SKSac 10 38 50.9 -2.5**
ARE0 ARCESS Array S 85.25 340 *e*P **P 10 28 37.4 +0.5**
SMOL Smolenice 85.57 319 *e*P **P 10 28 39.9 +1.0**
MORC Moravsky Berou 85.64 320 *e*P **P 10 28 38.9 -0.3**
MORC pmax pmax
comp=Z,3µm,1.4s
MORC Moravsky Berou 85.64 320 *e*P **P 10 28 38.9 -0.3**
comp=Z,3µm,1.4s
MORC Moravsky Berou 85.64 320⇑ *i*P **P 10 28 39.2 0.0**
ZST Bratislava 85.76 318 *e*P **P 10 28 40.1 +0.3**
ZST *e*PP PP 10 31 53.7 -6.5
ZST *e*S S 10 38 55.8 -9.5
ZST *e*SS SS 10 44 53.1 +9.2
CEL Celeste 85.77 308 *e*P **P 10 28 41.0 +0.8**
comp=Z,6µm,1.6s
BEHE Becsehely 85.81 317⇑ *e*P **P 10 28 41.5 +1.4**
KTK1 Kautokeino 85.91 339 *e*P **P 10 28 40.9 +0.8**
KTK1 *e*SKS **SKSac 10 38 57.9 +0.4**
CUC Castrocucco 85.96 310 *e*P **P 10 28 40.1 -1.0**
comp=Z,556nm,0.9s
CUC *e*PP **PP 10 31 59.5 -2.6**
SISC Sisak 86.00 315 P **P 10 28 40.7 -0.3**
SOP Sopron 86.07 318⇑ *e*P **P 10 28 42.0 +0.6**
KRLC Kraliky 86.16 320⇑ *e*P **P 10 28 43.0 +1.2**
VRAC Vranov 86.20 319⇑ *i*P **P 10 28 42.3 +0.3**
GKP Gorka Klasztor 86.20 323 *e*P **P 10 28 42.5 +0.6**
GKP *e*pP **pP 10 29 04.7 -1.1**
GKP *e*SKSac **SKSac 10 38 57.0 -2.9**
GKP *e*S **SKKSac 10 39 08.3 +0.6**
GKP LMZ LR 11 03 51.4
UDBI Udbina 86.35 315 P **P 10 28 42.7 -0.2**
ADK Adak 86.44 38 *e*P **P 10 28 42.8 -0.2**
ADK *e* 10 32 06.0
ADK *e*S S 10 39 02.9 -8.8
ADK pmax pmax
comp=Z,7µm,1.0s
ADK Adak 86.44 38 *e*P **P 10 28 42.8 -0.2**
comp=Z,7µm,1.0s
ADK *e*PP **PP 10 32 06.0 +0.5**
ADK *e*S S 10 39 02.9 -8.8
DPC Dobruska-Polom 86.47 320⇑ *e*P **P 10 28 43.8 +0.4**
DPC *e*SKS **SKSac 10 39 02.2 +0.4**
DPC *e*PKPPKP P'P'df 10 54 39.8 -7.0
DPC AMS AMS 11 02 40.0
KSP Ksiaz 86.54 321 *e*P **P 10 28 43.9 +0.3**
KSP *e*pP **pP 10 29 07.3 -0.3**
KSP *e*S **S 10 39 11.9 -0.9**
KSP *e*SS **SS 10 44 57.1 +1.8**
KSP LMZ LR 11 00 59.9
CONA Conrad Observa 86.56 318 *i* P **P 10 28 44.0 +0.1**
comp=Z,43µm,7.2s,SNR=339
UPC Upice 86.69 321⇑ *e*P **P 10 28 45.3 +0.9**
UPC *e*PKPPKP P'P'df 10 54 40.5 -5.9
ARSA Arzberg 86.73 317 *i* PcP **P 10 28 45.4 +0.7**
comp=Z,25µm,5.8s,SNR=246
BOJS Bojanci 86.79 315 *i* P **P 10 28 45.4 +0.4**
BOJS *e*PP PP 10 32 32.6 +24
BOJS *e*S S 10 39 00.9 -15
TREC Trest 86.92 319⇑ *e*P **P 10 28 46.2 +0.7**
TREC *e*pP **pP 10 29 08.5 -1.0**
TREC *e*SKS S 10 39 05.5 -11
TREC *e*PKPPKP **P'P'df 10 54 48.0 +1.9**
TREC AMS AMS 11 02 50.0
comp=Z,210µm,29.8s
PERS Pernice 86.97 317 *i* P **P 10 28 45.9 +0.1**
PERS *e*S **SKSac 10 39 02.2 -2.9**
NVLJ Novalja 86.99 315 P **P 10 28 46.1 +0.2**
SOKA Soboth 87.03 317 *i* P **P 10 28 46.1 -0.1**
comp=Z,15µm,3.8s,SNR=496
LJU Ljubljana 87.33 316 *i* P **P 10 28 47.7 +0.1**
LJU *i* PcP **PcP 10 28 53.6 +4.0**
LJU *e*PP PP 10 32 42.1 +29
LJU *e*S **SKSac 10 39 05.1 -2.1**
LJU *e*SS SS 10 44 34.8 -32
LJU *e* 10 52 08.6
OBKA Obir 87.35 316 *i* P **P 10 28 47.6 -0.1**
comp=Z,73µm,8.8s,SNR=256
TRO Tromso 87.53 340⇑ *i*P **P 10 28 47.3 -0.7**
TRO AMB AMB 10 28 54.6
comp=Z,4µm,1.1s
PRU Pruhonice 87.59 320⇑ *e*P **P 10 28 49.3 +0.6**
PRU *e*pP **pP 10 29 11.9 -0.8**
PRU *e*SKS S 10 39 08.6 -14
PRU *e*PKPPKP **P'P'df 10 54 40.0 -4.7**
PRU AMS AMS 11 02 40.0
comp=Z,277µm,34.3s
PVCC Panska Ves 87.61 320⇑ *e*P **P 10 28 49.9 +1.1**
PVCC *e*SKS **SKSac 10 39 09.6 +1.0**
PVCC *e*PKPPKP P'P'df 10 54 51.3 +6.6
PVCC AMS AMS 11 02 50.0
comp=Z,250µm,39.7s
MOA Molln 87.63 318 *i* P **P 10 28 49.0 0.0**
comp=Z,54µm,8.8s,SNR=205
JAVS Javornik 87.64 316 *i* P **P 10 28 48.5 -0.7**
JAVS *e*S **SKSac 10 39 07.5 -1.8**
PRA Prague 87.66 320 ⇑P **P 10 28 50.0 +1.0**
PRA pP **pP 10 29 13.0 0.0**
PRA SKS **SKSac 10 39 10.0 +1.0**
BSD Bornholm Skovb 87.74 325⇑ *i*P **P 10 28 49.7 +0.5**
BSD
comp=Z,124µm,25.0s
VOY Vojsko 87.77 316⇑ *i*P **P 10 28 49.7 -0.1**
TRI Trieste 87.84 316 *e*P **P 10 28 49.4 -0.6**
TRI *e* 10 32 17.5
TRI pmax pmax
comp=Z,2µm,1.4s
TRI Trieste 87.84 316 *e*P **P 10 28 49.4 -0.6**
comp=Z,2µm,1.4s
TRI *e*PP **PP 10 32 17.5 +0.4**
MYKA Terra Mystica 87.98 317 *i* PcP **P 10 28 50.9 +0.2**
comp=Z,8µm,2.7s,SNR=377
BRG Berggiesshubel 88.03 321⇑ *i*P **P 10 28 51.5 +0.7**
comp=Z,5µm,1.6s
BRG pP **pP 10 29 10.0 -4.8**
BRG *i* sP **sP 10 29 22.5 -1.9**
comp=Z,5µm,2.0s
BRG PP **PP 10 32 20.0 +1.6**
BRG SKS **SKSac 10 39 12.0 +0.9**
BRG S **S 10 39 30.0 +2.9**
BRG SS SS 10 45 08.0 -8.9
BRG *e*PKPPKP P'P'df 10 54 36.8 -7.1
comp=Z,428nm,2.5s
BRG
comp=N,156µm,32.9s
BRG
comp=E,250µm,45.0s
BRG
comp=Z,253µm,40.7s
BRG Berggiesshubel 88.03 321 *e*P **P 10 28 50.8 0.0**
comp=Z,5µm,1.6s
BRG *e*S **S 10 39 27.0 -0.1**
GERES GERESS Array B 88.06 319 P **P 10 28 51.6 +0.5**
GERES S **SKSac 10 39 11.8 +0.1**
GERES PKKP **PKKPdf 10 46 28.5 -3.4**
GERES PKKPbc **PKKPbc 10 46 38.6 +0.8**
GERES P'P' 10 54 39.8
GERES GERESS Array B 88.06 319 P **P 10 28 51.6 +0.5**
comp=Z,273nm,1.0s,baz=84,slow=4.0,SNR=326
GERES S **SKSac 10 39 11.8 +0.1**
comp=Z,3.9nm,0.9s,baz=97,slow=7.0,SNR=1.8
GERES PKKP **PKKPdf 10 46 28.5 -3.4**
comp=Z,4.1nm,0.7s,baz=228,slow=1.6,SNR=4.4
GERES PKKPbc **PKKPbc 10 46 38.6 +0.8**
comp=Z,7.2nm,0.9s,baz=236,slow=1.4,SNR=4.6
GERES PKPPKP **P'P'df 10 54 39.7 -4.3**
comp=Z,3.6nm,1.0s,baz=259,slow=1.4,SNR=4.5
GERES LR LR 11 09 34.6
comp=Z,56µm,20.7s,baz=302,slow=36
GERES tx tx 11 15 10.4
comp=Z,0.4nm,0.2s,baz=174,slow=1.3,SNR=5.8
AFI Afiamalu 88.14 104 P **P 10 28 54.0 +1.9**
AFI S **SKSac 10 39 16.1 +2.7**
AFI Afiamalu 88.14 104 P **P 10 28 54.0 +1.9**
comp=Z,1µm,0.9s,baz=20,slow=1.0,SNR=19
AFI S **SKSac 10 39 16.1 +2.7**
comp=Z,177nm,0.4s,baz=108,slow=21,SNR=1.6
AFI LR LR 11 08 15.4
comp=Z,50µm,21.9s,baz=268,slow=36
KHC Kasperske Hory 88.16 319⇑ *e*P **P 10 28 51.8 +0.3**
KHC *e* 10 29 16.2
KHC *e* 10 39 12.3

KHC Kasperske Hory 88.16 319⇑ *e*P **P 10 28 51.8 +0.3**
KHC *e*pP **pP 10 29 11.0 -4.5**
KHC *e*x x 10 29 16.2
KHC *e*x x 10 32 51.7
KHC *e*SKS **SKSac 10 39 12.3 +0.2**
KHC *e*PKKP **PKKPbc 10 46 39.9 +2.4**
KHC *e*PKPPKP **P'P'df 10 54 44.8 +1.0**
KHC AMS AMS 11 04 30.0
comp=Z,200µm,32.7s
KHC Kasperske Hory 88.16 319 *e*P **P 10 28 51.5 0.0**
comp=Z,374nm,0.9s
KHC *e*S **SKSac 10 39 13.1 +1.0**
KBA Koelnbreinsper 88.21 317 *i* P **P 10 28 51.6 -0.3**
comp=Z,31µm,7.0s,SNR=164
RUE Ruedersdorf 88.23 322 *e*S **S 10 39 26.5 -2.3**
RUE Ruedersdorf 88.23 322 *e*P **P 10 28 52.2 +0.6**
comp=Z,4µm,1.0s
FBE Freiberg 88.40 321 *e*pP **pP 10 29 15.8 -0.8**
FBE *e*sP sP 10 29 24.3 -1.9
RJOB Jochberg 88.61 318 *e*P **P 10 28 52.7 -1.0**
comp=Z,2µm,1.5s
RJOB *e*S **S 10 39 30.3 -2.6**
RGN Rugen 88.62 324 *e*S **S 10 39 31.5 -0.9**
RGN Rugen 88.62 324 *e*P **P 10 28 54.3 +0.9**
comp=Z,7µm,1.6s
RGN *e*PP **PP 10 32 22.8 -0.2**
RGN *e*S **S 10 39 29.8 -2.6**
WET Wettzell 88.62 319 *e*P **P 10 28 53.5 -0.1**
comp=Z,4µm,1.5s
WET *e*S **S 10 39 33.4 +0.6**
CLL Collm 88.64 321 *e*P **P 10 28 53.3 -0.3**
comp=Z,3µm,1.5s
CLL *e*S **S 10 39 31.5 -1.4**
CLL Collm 88.64 321 *i* P **P 10 28 54.0 +0.4**
comp=Z,3µm,1.5s
CLL *e*Pmax 10 28 55.0
CLL *i* 10 29 06.6
CLL *e*pP **pP 10 29 16.0 -1.7**
CLL *i* sP **sP 10 29 24.6 -2.7**
CLL *e*sPP 10 32 51.0
CLL *e*sPPP 10 34 49.0
CLL *e*sPPPP 10 36 36.0
CLL *e*SKSac **SKSac 10 39 08.0 -6.8**
CLL *e*S **SKKSac 10 39 27.0 +0.9**
comp=N,140µm,28.9s
CLL *e*S **SKKSac 10 39 27.0 +0.9**
comp=E,150µm,30.4s
CLL *e*SP **SP 10 40 36.0 -0.5**
CLL *e*PPS PPS 10 41 18.0
CLL *e* 10 45 12.0
CLL *e*SS SS 10 45 38.0 +12
CLL *e*SSS SSS 10 49 06.0
CLL *e* 10 50 00.0
CLL *e*SSSS 10 52 12.0
CLL *e*PKPPKPdP'P'df 10 54 37.0 -5.7
comp=Z,759nm,3.0s
STEI Steigen 88.66 338 *e*P **P 10 28 53.6 +0.2**
STEI AMB AMB 10 29 00.5
comp=Z,5µm,1.4s
STEI *e*SS SS 10 45 27.6 +2.4
MAIT Maitri 88.75 199 *e*P **P 10 28 54.7 +1.0**
ABTA Abfaltersbach 88.76 317 *i* P **P 10 28 54.1 -0.3**
comp=Z,6µm,3.3s,SNR=313
MOR8 Moi Rana 88.83 336 *e*P **P 10 28 53.8 -0.5**
MOR8 AMB AMB 10 29 01.0
comp=Z,3µm,1.5s
TANN Tannenbergstha 88.94 320 *e*P **P 10 28 55.1 -0.1**
comp=Z,3µm,1.6s
TANN *e*pP **pP 10 29 18.5 -0.7**
TANN *e*S S 10 39 36.7 +0.8
GUNZ Gunzen 89.03 320 *e*sP sP 10 29 27.2 -2.0
ROTZ Rotzenmuhle 89.08 320 *e*P **P 10 28 56.2 +0.4**
comp=Z,3µm,1.5s
ROTZ *e*pP **pP 10 29 19.6 -0.2**
ROTZ *e*S **S 10 39 38.8 +1.7**
MANZ Manzenberg 89.16 320 *e*sP **sP 10 29 28.1 -1.8**
MANZ *e*S **S 10 39 39.3 +1.5**
COP Copenhagen 89.18 326⇑ *i*P **P 10 28 57.3 +1.3**
QSPA South Pole Qui 89.25 180 P **P 10 28 57.2 +0.9**
QSPA S **SKSac 10 39 14.7 -3.3**
QSPA PKKPbc **PKKPbc 10 46 33.8 -2.4**
QSPA P'P' 10 54 30.0
QSPA South Pole Qui 89.25 180 P **P 10 28 57.2 +0.9**
comp=Z,403nm,1.0s,baz=302,slow=1.7,SNR=297
QSPA S **SKSac 10 39 14.7 -3.3**
comp=Z,8.6nm,0.9s,baz=152,slow=22,SNR=5.9
QSPA PKKPbc **PKKPbc 10 46 33.8 -2.4**
comp=Z,63nm,1.0s,baz=167,slow=1.9,SNR=10.0
QSPA PKPPKP P'P'df 10 54 30.0 -11
comp=Z,15nm,1.2s,baz=131,slow=2.2,SNR=3.8
QSPA LR LR 11 07 35.3
comp=Z,164µm,18.9s,baz=134,slow=35
FLOS Flostrand 89.27 336 *e*P **P 10 28 56.5 +0.3**
FLOS AMB AMB 10 29 03.1
comp=Z,5µm,2.5s
LLD Lille Linde 89.29 325 *i* P **P 10 28 58.2 +1.6**
LOF Lofoten 89.31 338 *e*P **P 10 28 56.3 -0.1**
LOF AMB AMB 10 29 02.9
comp=Z,3µm,1.9s
LOF *e*SKS **SKSac 10 39 18.7 +0.7**
SPA0 Spitsbergen Ar 89.37 348⇑ *i*P **P 10 28 55.6 -1.0**
SPA0 *e*SKS **SKSac 10 39 17.8 -0.4**
SPITS Spitsbergen Ar 89.37 348 P **P 10 28 55.4 -1.2**
SPITS S **SKSac 10 39 16.9 -1.3**
SPITS Spitsbergen Ar 89.37 348 P **P 10 28 55.4 -1.2**
comp=Z,231nm,0.5s,baz=118,slow=8.6,SNR=190
SPITS S **SKSac 10 39 16.9 -1.3**
comp=Z,84nm,1.2s,baz=75,slow=3.5,SNR=2.2
KONS Konsvik 89.38 336 *e*P **P 10 28 57.1 +0.4**
KONS AMB AMB 10 29 04.3
comp=Z,4µm,1.7s
NEUB Neuenburg 89.41 321 *e*S **S 10 39 38.7 -1.3**
STOK Stokkvaagen 89.41 336 *e*P **P 10 28 57.6 +0.8**
STOK *e*SKS **SKSac 10 39 18.5 -0.2**
STOK *e* 10 39 39.4
WATA Walderalm 89.42 317 *i* PcP **P 10 28 57.5 -0.1**
comp=Z,5µm,2.0s,SNR=119
HSP Hornsund 89.42 347 *e*P **P 10 28 56.7 -0.1**
MOX Moxa 89.49 320 *e*P **P 10 28 57.6 -0.1**
comp=Z,4µm,1.6s
MOX *e*S **S 10 39 41.0 +0.1**
FUR Furstenfeldbru 89.65 318 *e*P **P 10 28 57.7 -0.8**
comp=Z,4µm,1.6s
FUR *e*pP **pP 10 29 21.3 -1.2**
FUR *e*S **S 10 39 40.9 -1.6**
GRF Grafenberg Arr 89.72 320 *e*P **P 10 28 59.0 +0.2**
comp=Z,4µm,1.5s
GRF *e*S **S 10 39 44.1 +1.0**
GRFO Grafenberg 89.72 320 *e*P **P 10 28 59.5 +0.7**
GRFO pmax pmax
comp=Z,6µm,1.6s
GRFO Grafenberg 89.72 320 *e*P **P 10 28 59.5 +0.7**
comp=Z,6µm,1.6s
MOTA Moosalm 89.74 317⇑ *i*P **P 10 28 58.2 -1.0**
comp=Z,2µm,1.6s,SNR=358
NSS Namsos 89.77 334⇑ *i*P **P 10 28 58.7 +0.1**
NSS AMB AMB 10 29 07.5
comp=Z,3µm,1.7s
NSS *e*PP **PP 10 32 33.0 +1.1**
NSS *e*SKS **SKSac 10 39 21.0 +0.2**
NSS *e* 10 39 43.7
NSS *e*SS **SS 10 45 40.6 -0.9**
NSS AMS AMS 11 09 23.8
comp=Z,167µm,24.4s
NC602 NORSAR Array S 89.84 331⇑ *i*P **P 10 28 59.0 -0.1**
NC602 *e*SKS **SKSac 10 39 19.4 -2.0**
NC602 *e*SS **SS 10 45 42.9 +0.2**
RETA Reutte 89.98 317 *i* P **P 10 28 59.6 -0.5**
comp=Z,8µm,2.9s,SNR=439
FETA Feichten 89.99 317 *i* PcP **P 10 29 00.7 +0.4**
comp=Z,47µm,8.6s,SNR=321
NB2 NORSAR Subarra 90.01 331 P **P 10 29 00.2 +0.3**
comp=Z,4µm,2.0s,baz=96,slow=4.8
NB2 NORSAR Subarra 90.01 331 P **P 10 29 00.2 +0.3**
baz=96,slow=4.8
NOA NORSAR Array B 90.01 331 P **P 10 28 59.9 0.0**
NOA PP PP 10 32 15.9 -18
NOA S **SKSac 10 39 22.6 +0.1**
NOA PKKPbc **PKKPbc 10 46 32.5 -0.9**
NOA P'P' 10 54 35.4
NOA NORSAR Array B 90.01 331 P **P 10 28 59.9 0.0**
comp=Z,197nm,1.0s,baz=93,slow=4.6,SNR=134
NOA tx tx 10 30 03.4
comp=Z,36nm,0.9s,baz=72,slow=4.6,SNR=4.1

NOA PP PP 10 32 15.9 -18
comp=Z,40nm,0.8s,baz=83,slow=8.7,SNR=3.3
NOA S **SKSac 10 39 22.6 +0.1**
comp=Z,5.3nm,0.9s,baz=176,slow=5.8,SNR=1.1
NOA PKKPbc **PKKPbc 10 46 32.5 -0.9**
comp=Z,14nm,1.1s,baz=282,slow=2.2,SNR=4.8
NOA PKPPKP **P'P'df 10 54 35.3 -4.3**
comp=Z,1.3nm,0.8s,baz=238,slow=2.1,SNR=2.4
NOA LR LR 11 17 59.2
comp=Z,60µm,19.6s,baz=95,slow=41
NAO01 NORSAR Array S 90.16 331 *e*P **P 10 29 00.6 0.0**
comp=Z,2µm,1.5s
VLC Villacollemand 90.19 314 *e*P **P 10 29 00.6 -0.5**
CLZ Clausthal 90.30 322 *e*P **P 10 29 01.5 0.0**
comp=Z,6µm,1.8s
CLZ *e*S **S 10 39 46.7 -1.7**
KBS Kingsbay 90.31 349⇑ *i*P **P 10 28 59.4 -1.5**
KBS AMB AMB 10 29 11.3
comp=Z,1µm,2.0s
KBS *e*PP **PP 10 32 36.3 +0.4**
KBS *e*SKS **SKSac 10 39 21.4 -2.1**
KBS *e*SS **SS 10 45 47.5 -1.3**
KBS AMS AMS 11 13 43.1
comp=Z,153µm,22.9s
KBS Kingsbay 90.31 349 *c i*P **P 10 29 00.7 -0.2**
KBS pmax pmax
comp=Z,850nm,1.7s
KBS Kingsbay 90.31 349 *e*P **P 10 28 60.0 -0.9**
comp=Z,578nm,1.1s
KBS *e*PP **PP 10 32 36.3 +0.4**
KBS *e*S **SKSac 10 39 20.6 -3.0**
BSEG Bad Segeberg 90.36 324 *e*P **P 10 29 01.8 +0.2**
comp=Z,5µm,1.8s
BSEG *e*S **S 10 39 48.2 -0.5**
BERNI Berninapass 90.47 316⇑ *i*P **P 10 29 02.8 +0.1**
comp=Z,11µm,1.8s
TBLU Trondheim 90.49 333⇑ *i*P **P 10 29 02.1 +0.1**
TBLU AMB AMB 10 29 11.0
comp=Z,2µm,1.8s
TBLU *e*PP **PP 10 32 37.5 -0.2**
TBLU *e*SKS **SKSac 10 39 20.7 -4.4**
TBLU *e* 10 39 48.0
TBLU *e*SS **SS 10 45 52.4 +0.4**
TBLU AMS AMS 11 07 33.1
comp=Z,208µm,25.8s
DAVOX Davos/Dischmat 90.57 317⇑ *i*P **P 10 29 03.2 +0.2**
comp=Z,11µm,2.4s
DAVOX Davos/Dischmat 90.57 317 tx tx 11 14 52.8
comp=Z,2.2nm,0.4s,baz=2.7,slow=20,SNR=3.5
DAVOX LR LR 11 16 24.6
comp=Z,28µm,20.9s,baz=68,slow=40
DAVA Damuels 90.57 317 *i* PcP **PcP 10 29 03.7 -0.3**
comp=Z,11µm,2.9s,SNR=496
KONO Kongsberg 90.79 329⇑ *i*P **P 10 29 03.6 +0.1**
KONO AMB AMB 10 29 10.8
comp=Z,2µm,2.0s
KONO *e* 10 39 51.2
KONO AMS AMS 11 07 49.6
comp=Z,124µm,30.9s
KONO Kongsberg 90.79 329 *e*P **P 10 29 03.9 +0.4**
KONO pmax pmax
comp=Z,1µm,1.5s
KONO Kongsberg 90.79 329 *e*P **P 10 29 03.9 +0.4**
comp=Z,1µm,1.5s
LIENZ Kamor/St.Gall 90.84 317⇑ *i*P **P 10 29 04.2 0.0**
comp=Z,11µm,1.8s
VDL Val di Lei 90.87 316⇑ *i*P **P 10 29 04.2 -0.2**
comp=Z,4µm,2.4s
VSL Villasalto 90.90 309 *e*P **P 10 29 04.5 0.0**
comp=Z,2µm,1.1s
KEST Kesra 90.91 306 *e*P **P 10 29 05.7 +0.9**
KEST S **SKSac 10 39 30.2 +1.3**
KEST PKKPbc **PKKPbc 10 46 31.4 +1.3**
KEST Kesra 90.91 306 P **P 10 29 05.6 +0.9**
comp=Z,318nm,0.9s,baz=345,slow=0.8,SNR=231
KEST S **SKSac 10 39 30.2 +1.3**
comp=Z,3.2nm,0.8s,baz=204,slow=17,SNR=1.6
KEST PKKPbc **PKKPbc 10 46 31.4 +1.3**
comp=Z,12nm,0.9s,baz=5.1,slow=0.7,SNR=8.8
KEST LR LR 11 09 48.7
comp=Z,43µm,21.5s,baz=45,slow=35
KEST tx tx 11 15 41.9
comp=Z,0.9nm,0.8s,baz=284,slow=20,SNR=4.0
PLONS Plons/SG 90.91 317⇑ *i*P **P 10 29 04.4 -0.1**
comp=Z,11µm,1.8s
TUE Stuetta 90.94 316 *e*P **P 10 29 04.5 -0.2**
comp=Z,4µm,1.0s
TUE *e*PP **PP 10 32 37.1 -4.9**
MUD Monsted U'grnd 91.03 326⇑ *i*P **P 10 29 05.8 +1.2**
MUD
comp=Z,113µm,27.0s
STU Stuttgart 91.04 319 *e*P **P 10 29 04.5 -0.4**
comp=Z,4µm,1.6s
STU *e*S **S 10 39 55.0 -0.2**
STU Stuttgart 91.04 319 *e*P **P 10 29 04.9 0.0**
STU pmax pmax
comp=Z,3µm,1.5s
STU Stuttgart 91.04 319 *e*P **P 10 29 04.9 0.0**
comp=Z,3µm,1.5s
DOMB Dombas 91.05 332 *e*P **P 10 29 04.7 0.0**
DOMB AMB AMB 10 29 14.3
comp=Z,657nm,1.9s
MUGIO Muggio 91.15 316⇑ *i*P **P 10 29 04.4 -1.2**
comp=Z,4µm,2.6s
LLS Linth-Limmern 91.17 317⇑ *i*P **P 10 29 05.4 -0.4**
comp=Z,7µm,2.5s
WEIN Weingarten 91.18 317⇑ *i*P **P 10 29 05.7 +0.1**
comp=Z,6µm,1.7s
PGF Pioggiola 91.19 312⇑ *i*P **P 10 29 05.9 0.0**
comp=Z,6µm,1.8s
WILA Wila 91.24 317⇑ *i*P **P 10 29 05.9 -0.1**
comp=Z,9µm,1.9s
HOMB Homborsund 91.37 328⇑ *i*P **P 10 29 06.4 +0.2**
HOMB AMB AMB 10 29 13.5
comp=Z,2µm,2.0s
HOMB *e*SKS **SKSac 10 39 32.8 +2.5**
HOMB AMS AMS 11 08 48.8
comp=Z,110µm,33.1s
TRULL Truellikon 91.39 317⇑ *i*P **P 10 29 06.2 -0.4**
comp=Z,4µm,1.7s
FUSIO Fusio 91.41 316⇑ *i*P **P 10 29 06.4 -0.5**
comp=Z,4µm,2.0s
MUO Muotathal 91.42 317⇑ *i*P **P 10 29 06.8 -0.2**
comp=Z,14µm,2.3s
ZUR Degenried 91.46 317⇑ *i*P **P 10 29 06.8 -0.1**
comp=Z,10µm,2.5s
SLE Schleitheim 91.51 318⇑ *i*P **P 10 29 07.0 -0.2**
comp=Z,7µm,2.4s
TNS Taunus Mts 91.52 320 *e*P **P 10 29 07.1 -0.1**
comp=Z,3µm,1.5s
TNS *e*S **S 10 39 59.8 +0.2**
BNALP Bannalp 91.57 317⇑ *i*P **P 10 29 07.5 -0.1**
comp=Z,6µm,2.1s
BFO Black Forest 91.62 318 *e*P **P 10 29 06.9 -0.7**
comp=Z,1µm,1.4s
BFO *e*S **S 10 39 59.9 -0.6**
BFO Black Forest 91.62 318 *e*P **P 10 29 07.4 -0.2**
BFO *e* 10 32 41.9
BFO pmax pmax
comp=Z,469nm,1.0s
BFO Black Forest 91.62 318 *e*P **P 10 29 07.4 -0.2**
comp=Z,469nm,1.0s
BFO *e*PP **PP 10 32 41.9 -5.1**
BFO Black Forest 91.62 318 P **P 10 29 08.4 +0.8**
comp=Z,4µm,1.0s
MOL Molde 91.74 332⇑ *i*P **P 10 29 08.0 +0.2**
MOL AMB AMB 10 29 17.7
comp=Z,2µm,1.8s
MOL *e*SKS **SKSac 10 39 33.8 +1.5**
MOL *e* 10 39 59.2
HASLI Hasliberg/Brie 91.76 317⇑ *i*P **P 10 29 08.0 -0.5**
comp=Z,7µm,1.8s
SULZ Cheisacher 91.77 317⇑ *i*P **P 10 29 08.2 -0.2**
comp=Z,6µm,1.9s
HLG Helgoland 91.79 324 *e*pP **pP 10 29 32.4 +0.1**
HLG *e*S **S 10 40 00.9 -0.8**
MMK Mattmark 91.90 316⇑ *i*P **P 10 29 09.1 -0.2**
comp=Z,5µm,1.8s
IBBN Ibbenburen 91.91 322 *e*P **P 10 29 08.9 +0.1**
comp=Z,3µm,1.6s
IBBN *e*S **S 10 40 01.7 -1.1**
LANF Langenberg 91.95 319 *e*P **P 10 29 09.7 +0.5**
STR Strasbourg 91.99 318 *e*P **P 10 29 10.3 +1.0**
SNART Snartemo 92.05 328 *e*P **P 10 29 10.3 +0.9**
SNART AMB AMB 10 29 15.0
comp=Z,686nm,1.7s

BALST Balsthal 92.06 317⇑ *i*P P 10 29 09.4 -0.4
comp=Z,7µm,1.8s
WIMIS Wimmis 92.12 316⇑ *i*P P 10 29 09.9 -0.2
comp=Z,8µm,2.3s
LKBD Leukerbad 92.13 316⇑ *i*P P 10 29 10.2 0.0
comp=Z,4µm,2.1s
SAOF Saorge 92.23 314 *e*P P 10 29 10.6 0.0
BUG Bochum--Univer 92.24 321 *e*P P 10 29 10.3 -0.1
comp=Z,5µm,2.1s
BUG *e*S **S** **10 40 05.6 -0.2**
DIX Grande Dixence 92.29 316⇑ *i*P P 10 29 10.7 -0.4
comp=Z,10µm,1.8s
ODD1 Odda 92.29 330⇑ *i*P P 10 29 11.1 +0.6
ODD1 AMB AMB 10 29 20.4
comp=Z,2µm,0.6s
ODD1 *e*PP **PP** **10 32 53.0 +1.0**
ODD1 *e*SKS **SKSac** **10 39 32.9 -2.7**
ODD1 *e*SS **SS** **10 46 19.1 +1.0**
CDF Champ du Feu 92.32 318⇑ *i*P P 10 29 10.8 -0.2
comp=Z,4µm,1.6s
SBF Sospel 92.32 314⇑ *i*P P 10 29 10.9 -0.1
comp=Z,3µm,1.1s
AUTN L'Aution 92.32 314 *e*P P 10 29 11.4 +0.2
SENIN Lac Senin/Sane 92.35 316⇑ *i*P P 10 29 11.3 0.0
comp=Z,7µm,2.2s
REVF Revere 92.37 314 *e*P P 10 29 11.6 +0.3
BOURR Bourrignon 92.38 317⇑ *i*P P 10 29 11.4 +0.2
comp=Z,8µm,2.3s
LUCF Luceram 92.38 314 *e*P P 10 29 11.8 +0.4
BLS5 Blasjo 92.40 329 *e*P P 10 29 11.8 +0.8
BLS5 AMB AMB 10 29 18.6
comp=Z,1µm,1.9s
ECH Echery 92.40 318 *e*P P 10 29 11.0 -0.3
ECH *e*S **S** **10 40 05.0 -2.5**
ECH pmax pmax
comp=Z,482nm,1.0s
ECH Echery 92.40 318 *e*P P 10 29 11.3 0.0
ECH Echery 92.40 318 *e*P P 10 29 10.9 -0.3
comp=Z,482nm,1.0s
ECH *e*S **S** **10 40 05.0 -2.5**
ABSA Djebel Ababsia 92.43 306 P P 10 29 13.9 +2.1
MOF Molkenrain 92.43 318 *e*P P 10 29 11.2 -0.3
HYA Hoyanger 92.45 331 *e*P P 10 29 11.2 +0.1
HYA AMB AMB 10 29 15.1
comp=Z,1µm,1.5s
HYA *e*SKS **SKSac** **10 39 35.9 -0.3**
HYA *e* 10 40 06.3
TOUF Mont Tournerai 92.45 314 *e*P P 10 29 12.3 +0.5
CMAH Djebel Manchou 92.47 306 P P 10 29 13.6 +1.7
GRYON Gryon 92.49 316⇑ *i*P P 10 29 11.8 0.0
comp=Z,4µm,1.9s
WTSB Winterswijk 92.51 322 *i* P P 10 29 12.2 +0.6
comp=Z,2µm,1.9s
MVIF Mont Vial 92.52 314 *e*P P 10 29 12.3 +0.2
SALAN Lac Salanfe 92.59 316⇑ *i*P P 10 29 12.1 -0.3
comp=Z,3µm,1.6s
AIGLE Aigle 92.59 316⇑ *i*P P 10 29 12.3 +0.1
comp=Z,5µm,2.2s
HINF Hinteralfeld 92.62 318⇑ *i*P P 10 29 11.9 -0.4
comp=Z,1µm,1.4s
EMV Vieux Emosson 92.64 316⇑ *i*P P 10 29 12.6 -0.1
comp=Z,7µm,1.9s
LOMF Lomont 92.65 317 *e*P P 10 29 12.4 -0.1
UNV Unalaska Valle 92.66 36 *e*P P 10 29 10.9 -1.3
comp=Z,641nm,0.7s
UNV *e*PP **PP** **10 32 56.4 +1.5**
CALN Calern 92.72 314 *e*P P 10 29 13.7 +0.7
SURF Saint Ours 92.75 314 *e*P P 10 29 13.7 +0.5
LPG La Plagne 92.76 315⇑ *i*P P 10 29 13.4 +0.1
comp=Z,1µm,1.2s
MBDF Montbardon 92.77 315⇑ *i*P P 10 29 12.4 -0.8
comp=Z,3µm,1.7s
LPL La Plagne 92.77 315⇑ *i*P P 10 29 13.4 +0.1
comp=Z,2µm,1.1s
BNI Bardonecchia 92.83 315 *e*P P 10 29 13.3 -0.1
BNI Bardonecchia 92.83 315 *e*P P 10 29 13.3 -0.1
comp=Z,25µm,2.5s
RSL Roselend 92.84 316 *e*P P 10 29 13.6 +0.1
RUND Rundenannen 92.89 330 *e*P P 10 29 12.8 -0.4
RUND AMB AMB 10 29 18.1
comp=Z,2µm,1.8s
FRF La Foret Royal 92.90 313⇑ *i*P P 10 29 13.7 +0.1
comp=Z,5µm,1.7s
BRANT Les Verrieres 92.91 317⇑ *i*P P 10 29 13.6 -0.1
comp=Z,6µm,2.4s
BER Bergen 92.91 330⇑ *i*P P 10 29 13.0 -0.3
BER AMB AMB 10 29 20.7
comp=Z,1µm,1.6s
BER *e*PP **PP** **10 32 55.9 -0.8**
BER *e*SKS **SKSac** **10 39 37.3 -1.5**
BER *e*SS **SS** **10 46 29.4 +2.6**
BER AMS AMS 11 09 53.9
comp=Z,118µm,27.5s
CAEH 'Ain El Ouahch 92.92 307 P P 10 29 15.3 +1.4
HAU Haudompre 92.95 318⇑ *i*P P 10 29 13.6 -0.2
comp=Z,2µm,1.1s
HAU *e*R
comp=Z,33µm,22.0s
EGD Espegrend 92.97 330 *e*P P 10 29 13.7 +0.2
EGD AMB AMB 10 29 20.5
comp=Z,2µm,1.8s
ASK Askoy 92.97 330 *e*P P 10 29 13.9 +0.4
ASK AMB AMB 10 29 20.4
comp=Z,2µm,1.9s
LMR La Mourre 93.00 313⇑ *i*P P 10 29 14.2 +0.1
comp=Z,3µm,1.7s
WLF Walferdange 93.01 320 P P 10 29 14.8 +0.8
comp=Z,880nm,1.9s
WLF Walferdange 93.01 320 *e*P P 10 29 14.1 +0.1
comp=Z,2µm,1.6s
WLF *e*S **S** **10 40 13.0 +0.2**
WLF Walferdange 93.01 320 *e*P P 10 29 14.5 +0.5
WLF pmax pmax
comp=Z,1µm,1.5s
WLF Walferdange 93.01 320 *e*P P 10 29 14.5 +0.5
comp=Z,1µm,1.5s
KMY Karmoy 93.03 329 *e*P P 10 29 14.1 +0.3
KMY AMB AMB 10 29 21.2
comp=Z,2µm,1.3s
KMY *e*SKS **SKSac** **10 39 39.2 -0.3**
KMY *e* 10 40 11.1
CKFL Kef-Lekhel 93.03 306 P P 10 29 16.1 +1.5
GIMEL St. Georges / 93.06 316⇑ *i*P P 10 29 14.5 0.0
comp=Z,6µm,2.1s
MEM Membach 93.06 320 P P 10 29 14.6 +0.4
comp=Z,339nm,1.8s
AKUT Akutan 93.07 36 *e*P P 10 29 14.2 0.0
comp=Z,2µm,0.8s
AKUT *e*PP **PP** **10 32 58.1 -0.1**
HGN Heimansgroeve 93.11 321 *i* P P 10 29 14.4 0.0
comp=Z,1µm,2.0s
HGN Heimansgroeve 93.11 321 *e*SKS **SKSac** **10 39 38.6 -1.8**
HGN *e*S **ScS** **10 40 14.6 -0.6**
SUE Sulen 93.14 331⇑ *i*P P 10 29 14.6 +0.3
SUE AMB AMB 10 29 21.9
comp=Z,1µm,1.1s
SUE *e*PP **PP** **10 32 57.5 -1.1**
SUE *e*SKS **SKSac** **10 39 39.4 -0.7**
SUE *e* 10 40 15.1
SUE *e*SS **SS** **10 46 33.9 +3.8**
SUE AMS AMS 11 10 01.6
comp=Z,159µm,25.2s
CABF La Chapelle 93.18 316⇑ *i*P P 10 29 15.2 +0.2
comp=Z,4µm,1.6s
THEF They Montfort 93.18 318 *e*P P 10 29 15.0 +0.1
GDM Grand'Maison 93.22 315 *e*P P 10 29 15.0 -0.3
CASM Ain Smara 93.22 306 P P 10 29 16.9 +1.5
BEBN Eben Emael 93.27 321 P P 10 29 15.2 +0.1
comp=Z,234nm,2.6s
OG25 Le Caire 93.28 314 *e*P P 10 29 16.0 +0.5
CTEI Djebel Teioual 93.30 306 P P 10 29 17.3 +1.5
PAGF Fort de Pagny 93.34 318⇑ *i*P P 10 29 15.6 0.0
baz=88
SNAA Sanae 93.35 198 *e*S **SKSac** **10 39 42.0 +0.9**
SNAA Sanae 93.35 198 *e*P P 10 29 16.8 +1.6
SNAA Sanae 93.35 198 *e*pP pP 10 29 40.5 +1.2
SNAA Sanae 93.35 198 *e*PP PP 10 33 07.8 +7.8
SNAA Sanae 93.35 198⇑ *i*P P 10 29 16.7 +1.4
SNAA Sanae 93.35 198 *e*P P 10 29 16.4 +1.2
comp=Z,501nm,1.5s
SNAA S **SKSac** **10 39 39.4 -1.8**
SNAA PKKP **PKKPdf** **10 46 20.7 -2.2**
SNAA PKKPab PKKPbc 10 46 48.6 +23
SNAA P'P'
SNAA Sanae 93.35 198 P **P** **10 29 16.5 +1.2**
comp=Z,43nm,1.0s,baz=105,slow=4.7,SNR=123
SNAA S **SKSac** **10 39 39.4 -1.8**
comp=Z,4.6nm,1.1s,baz=250,slow=21,SNR=1.5
SNAA PKKP **PKKPdf** **10 46 20.7 -2.2**
comp=Z,16nm,0.9s,baz=286,slow=3.3,SNR=13
SNAA PKKPab PKKPbc 10 46 48.6 +23
comp=Z,5.9nm,0.7s,baz=244,slow=2.0,SNR=5.7
SNAA PKPPKP P'P'df 10 54 20.7 -12
comp=Z,1.8nm,0.8s,baz=295,slow=4.3,SNR=3.9
SNAA LR LR 11 03 47.0
comp=Z,56µm,21.9s,baz=99,slow=31
ORIF Oris-en-Rattie 93.40 315⇑ *i*P P 10 29 16.1 +0.1
comp=Z,5µm,1.7s
ORIF *e*R
comp=Z,68µm,22.7s
GRN Grenoble 93.48 315 *e*P P 10 29 16.7 +0.3
BCLA Clavier 93.52 320 P P 10 29 15.8 -0.5
comp=Z,312nm,1.9s
SMRF Simiane la Rot 93.66 314⇑ *i*P P 10 29 17.8 +0.6
comp=Z,3µm,1.6s
DFRA Djebel Bou Aff 93.71 306 P P 10 29 19.3 +1.6
MEZF Maizieres J'vi 93.79 318⇑ *i*P P 10 29 17.7 +0.1
comp=Z,4µm,1.7s,baz=78
SFTF Sexfontaines 93.82 318⇑ *i*P P 10 29 17.6 -0.2
comp=Z,4µm,1.2s,baz=88
GIVF Givet 93.85 320⇑ *i*P P 10 29 18.0 +0.2
comp=Z,3µm,1.9s
DOU Dourbes 94.00 320 P P 10 29 18.7 +0.2
comp=Z,334nm,1.9s
CKHR Kef el Ahmar 94.02 306 P P 10 29 19.7 +0.5
UCC Uccle 94.10 321 P P 10 29 19.5 +0.6
SET Setif 94.11 306 P P 10 29 21.0 +1.5
SNF Seneffe 94.17 320 P P 10 29 19.6 +0.3
BAIF Baives 94.25 320⇑ *i*P P 10 29 20.0 +0.3
comp=Z,2µm,1.5s
VIVF Saint-Julien-l 94.26 315⇑ *i*P P 10 29 19.9 0.0
comp=Z,1µm,1.4s
SSB Saint Sauveur 94.33 315 *e*P P 10 29 19.2 -1.0
SSB pmax pmax
comp=Z,645nm,1.4s
SSB Saint Sauveur 94.33 315 *e*P P 10 29 20.4 +0.2
SSB Saint Sauveur 94.33 315 *e*P P 10 29 19.2 -1.0
comp=Z,645nm,1.4s
FALS False Pass 94.39 35 *e*P P 10 29 19.3 -0.9
comp=Z,768nm,0.7s
FALS *e*PP **PP** **10 33 07.3 -1.2**
LOR Lormes 94.67 317⇑ *i*P P 10 29 21.6 -0.1
comp=Z,887nm,0.9s,baz=87
LOR *e*R
comp=Z,36µm,20.0s
SMF Signal de Mont 94.73 317⇑ *i*P P 10 29 21.8 -0.2
comp=Z,1µm,1.0s
LASF Ste Croix 94.89 314⇑ *i*P P 10 29 23.0 +0.2
comp=Z,940nm,1.5s
PLDF La Plantade 94.93 316 *e*P P 10 29 24.4 +1.4
SSEF Saint Saulge 94.93 317⇑ *i*P P 10 29 22.9 0.0
comp=Z,2µm,1.7s
AVF Avril sur Loir 95.05 317⇑ *i*P P 10 29 23.2 -0.2
comp=Z,813nm,1.1s
LBL Lubilhac 95.24 315 *e*P P 10 29 24.7 +0.2
AGO Saint Agoulin 95.26 316 *e*P P 10 29 24.7 +0.2
VNA1 Neumayer--Stat 95.32 199 *e*P P 10 29 25.7 +1.6
PYM Petit Puy Mans 95.37 316 *e*P P 10 29 24.7 -0.3
HYF Humbligny 95.50 317⇑ *i*P P 10 29 26.0 +0.5
MENF Mencas 95.52 321 *e*P P 10 29 25.9 +0.5
SJAF Saint Jean de 95.71 312 *e*P P 10 29 26.8 +0.2
AEU East Anglia Un 95.87 323 *e*P P 10 29 26.4 -0.5
TCF Toulx Ste Croi 95.88 316⇑ *i*P P 10 29 27.4 +0.1
comp=Z,2µm,1.9s
LRDF Laroque-de-Fa 95.93 313 *e*P P 10 29 28.0 +0.4
ABA Alger-Bouzarea 95.98 307 P P 10 29 25.6 -2.3
SDPT Sand Point 96.02 34 *e*P P 10 29 27.0 -0.6
comp=Z,2µm,1.2s
SDPT *e*PP **PP** **10 33 16.1 -5.0**
EMHD Djebel Mahouad 96.08 306 P P 10 29 29.8 +1.2
ELSH Elham, Standar 96.10 321 *e*P P 10 29 28.3 +0.3
ELSH AMS AMS 11 05 57.0
comp=Z,105µm,34.9s
CAF Calviac 96.10 315⇑ *i*P P 10 29 28.5 +0.2
comp=Z,829nm,1.5s
MTLF Montolieu 96.13 313⇑ *i*P P 10 29 28.5 0.0
comp=Z,315nm,0.9s
LRW Lerwick 96.16 330 *e*P P 10 29 28.6 +0.5
LRW AMS AMS 11 18 12.7
comp=Z,139µm,21.9s
CARF Carcanieres 96.26 313 *e*P P 10 29 29.3 +0.1
VALF Valcebollere 96.35 312 *e*P P 10 29 30.4 +0.7
RJF Les Rejaudoux 96.45 315⇑ *i*P P 10 29 30.2 +0.3
comp=Z,2µm,1.8s
RJF *e*R
comp=Z,46µm,22.0s
JMIC Jan Mayen 96.63 342⇑ *i*P P 10 29 30.1 0.0
JMIC AMB AMB 10 29 40.2
comp=Z,2µm,1.6s
JMIC AMS AMS 11 12 42.9
comp=Z,167µm,32.2s
JMIC Jan Mayen 96.63 342 SP SP 10 42 03.3 -0.3
comp=Z,47nm,0.5s,baz=140,slow=17,SNR=1.8
HMNX Herstmonceux 96.63 321 *e*P P 10 29 30.3 -0.2
HMNX AMS AMS 11 06 52.1
comp=Z,109µm,35.1s
LMK Market Rasen 96.70 324 *e*P P 10 29 31.0 +0.3
LMK AMS AMS 11 10 00.1
comp=Z,127µm,27.6s
MLS Moulis 96.98 313 *e*P P 10 29 32.1 -0.2
DAG Danmarks Havn 97.02 348⇑ *i*P P 10 29 30.9 -0.8
DAG Danmarks Havn 97.02 348 *i* P PKKPbc 10 46 13.6 -1.8
comp=Z,36nm,0.9s
CHGN Chignik 97.03 33 *e*P P 10 29 31.6 -0.6
LFF La Frestale 97.04 315⇑ *i*P Pdif 10 29 32.9 +0.3
comp=Z,2µm,1.8s
LDF La Druitiere 97.21 319⇑ *i*P P 10 29 33.1 -0.1
comp=Z,393nm,0.9s
IM04 Indian Mountai 97.22 23 *e*P Pdif 10 29 33.4 +0.4
EBNR Beni Rached 97.22 306 P Pdif 10 29 34.4 +0.7
SKP1 Kophill 97.23 322 *e*P P 10 29 32.8 -0.4
MELF Melles 97.23 313 *e*P P 10 29 33.6 0.0
IMA2 Indian Mountai 97.24 23 *e*P Pdif 10 29 33.5 +0.3
ECHA Ech Chlef 97.37 306 P Pdif 10 29 36.4 +2.2
DRUM Mains of Drumt 97.39 327 *e*P P 10 29 33.3 -0.4
DRUM AMS AMS 11 12 13.1
comp=Z,126µm,31.2s
HPK Haverah Park 97.39 324 *e*P P 10 29 33.7 -0.2
HPK AMS AMS 11 10 23.2
comp=Z,110µm,26.7s
FLN La Foliniere 97.42 319⇑ *i*P P 10 29 33.9 -0.2
comp=Z,568nm,1.0s,baz=84
FLN *e*R
comp=Z,20µm,20.4s
KBI1 Birley Grange 97.44 324 *e*P Pdif 10 29 34.4 +0.2
MFF Saint Martin d 97.47 317⇑ *i*P P 10 29 34.2 -0.2
comp=Z,414nm,1.0s
ETRT Tiaret 97.48 305 P Pdif 10 29 35.9 +0.9
EPF Esparros 97.53 313⇑ *i*P P 10 29 34.3 -0.5
comp=Z,375nm,1.8s
WOL Wolverton 97.55 322 *e*P P 10 29 34.1 -0.5
WOL AMS AMS 11 06 36.1
comp=Z,85µm,41.5s
RESF Ens 97.55 313 *e*P Pdif 10 29 36.5 +1.4
MME1 Meikle Cairn 97.57 328 *e*P P 10 29 33.4 -1.2
XAL Allendale 97.58 325 *e*P Pdif 10 29 34.8 0.0
EANR 'Ain N'Sour 97.60 306 P Pdif 10 29 36.7 +1.3
ESY Stoneypath 97.63 326 *e*P P 10 29 34.5 -0.4
MCD Coleburn Disti 97.67 328 *e*P P 10 29 35.0 -0.1
LABF Labassere 97.72 313 *e*P Pdif 10 29 36.0 +0.2
GRR Gorron 97.72 319⇑ *i*P P 10 29 35.3 -0.2
comp=Z,357nm,1.1s
VIEF Viey 97.77 313 *e*P Pdif 10 29 36.7 +0.7
SSW Stow on the Wo 97.83 322 *e*P P 10 29 35.8 -0.2
STNC Stoke 97.87 323 *e*P Pdif 10 29 36.5 +0.4
STNC AMS AMS 11 10 32.6
comp=Z,112µm,27.3s
SWN1 Swindon 97.88 322 *e*P Pdif 10 29 36.2 0.0
SWN1 AMS AMS 11 06 50.9
comp=Z,96µm,27.5s
ALE Alert 97.89 358 P Pdif 10 29 35.7 +0.1
comp=Z,2µm,1.0s,SNR=37
EBL Broad Law 97.89 326 *e*P Pdif 10 29 36.2 +0.1
OJGS Djebel Guires 97.92 306 P Pdif 10 29 42.0 +5.1
EDI Edinburgh 97.94 326 AMS AMS 11 11 56.2
comp=Z,96µm,29.0s
ECK Cauldkaine Hil 98.05 326 *e*P P 10 29 36.5 -0.3
REYF Montagne du Re 98.06 313 *e*P Pdif 10 29 37.8 +0.5
ESK Eskdalemuir 98.07 326 *e*P P 10 29 35.5 -1.4
ESK AMS AMS 11 11 30.6
comp=Z,86µm,28.6s
ESK Eskdalemuir 98.07 326 *i* P Pdif 10 29 38.2 +1.3
ESK Eskdalemuir 98.07 326 *e*P P 10 29 36.7 -0.2
comp=Z,618nm,1.5s
ESK *e*PP **PP** **10 33 33.0 -3.8**
ESK Eskdalemuir 98.07 326 P Pdif 10 29 37.2 +0.3
comp=Z,1µm,1.1s,SNR=12
MVH1 Achvaich 98.09 328 *e*P P 10 29 36.9 -0.1
KESW Keswick, Cumbr 98.14 325 *e*P P 10 29 36.8 -0.5
KESW AMS AMS 11 11 02.0
comp=Z,139µm,28.5s
ETSF Etsaut 98.20 313⇑ *i*P Pdif 10 29 38.1 +0.2
comp=Z,318nm,1.2s
TOA0 Torodi Ar. Sit 98.22 283 *e*P P 10 29 37.9 -0.5
TORD Torodi Ar. Bea 98.22 283 P **P** **10 29 38.0 -0.4**
TORD PP **PP** **10 33 35.9 -3.3**
TORD PKiKP **PKiKP** **10 34 10.0 -1.0**
TORD S **SKSac** **10 40 06.1 -2.7**
TORD SP **SP** **10 42 23.9 +0.3**
TORD PKKP **PKKPdf** **10 46 12.9 -0.2**
TORD P'P'ab 10 53 03.6
TORD P'P' 10 54 23.7
TORD Torodi Ar. Bea 98.22 283 P **P** **10 29 38.0 -0.4**
comp=Z,48nm,0.9s,baz=84,slow=3.0,SNR=111
TORD PP **PP** **10 33 35.9 -3.3**
comp=Z,42nm,1.1s,baz=102,slow=7.2,SNR=3.9
TORD PKiKP **PKiKP** **10 34 10.0 -1.0**
comp=Z,41nm,0.9s,baz=47,slow=4.1,SNR=7.1
TORD S **SKSac** **10 40 06.1 -2.7**
comp=Z,12nm,1.0s,baz=1.5,slow=3.3,SNR=1.1
TORD SP **SP** **10 42 23.9 +0.3**
comp=Z,5.7nm,0.9s,baz=75,slow=1.4,SNR=2.2
TORD PKKP **PKKPdf** **10 46 12.9 -0.2**
comp=Z,42nm,1.0s,baz=293,slow=3.7,SNR=9.6
TORD PKP2ab 10 53 03.6
comp=Z,3.1nm,1.0s,baz=212,slow=5.1,SNR=2.5
TORD PKPPKP **P'P'df** **10 54 23.7 -3.1**
comp=Z,5.2nm,1.1s,baz=296,slow=0.4,SNR=3.2
TORD tx tx 10 57 20.2
comp=Z,3.5nm,1.1s,baz=280,slow=8.6,SNR=3.6
TORD LR LR 11 11 20.9
comp=Z,157µm,21.6s,baz=115,slow=34
TORD tx tx 11 15 34.9
comp=Z,2.5nm,1.1s,baz=0.1,slow=0.5,SNR=5.5
TORD tx tx 11 25 42.6
comp=Z,0.6nm,0.8s,baz=299,slow=4.1,SNR=5.9
TORD tx tx 11 29 33.8
comp=Z,1.8nm,1.0s,baz=275,slow=4.2,SNR=4.8
COLD Coldfoot 98.24 22 *e*P Pdif 10 29 37.8 +0.4
comp=Z,2µm,0.4s
COLD *e*PP **PP** **10 33 37.8 0.0**
ATE Arette 98.28 313 *e*P Pdif 10 29 38.7 +0.5
MDO Dochfour 98.29 328 *e*P Pdif 10 29 38.0 +0.1
HLM1 Long Mynd 98.37 323 *e*P P 10 29 38.3 0.0
ORDF Ordiarp 98.43 313 *e*P P 10 29 38.7 -0.1
JSA Saint Aubin 98.47 320 *e*P P 10 29 38.4 -0.4
JSA AMS AMS 11 08 38.1
comp=Z,78µm,27.6s
LARF Larrau 98.49 313 *e*P Pdif 10 29 40.0 +0.8
FOEL Foel Wylfa 98.50 323 *e*P Pdif 10 29 39.1 +0.1
FOEL AMS AMS 11 16 01.7
comp=Z,85µm,22.9s
SOFL Sornfelli, Far 98.51 333 *e*P P 10 29 37.6 -1.2
SOFL AMS AMS 11 15 04.8
comp=Z,130µm,24.3s
EAB Aberfoyle 98.53 327 *e*P Pdif 10 29 39.2 +0.3
MCH1 Michaelchurch 98.53 322 *e*P P 10 29 38.6 -0.4
MCH1 AMS AMS 11 13 37.4
comp=Z,107µm,31.6s
GCD Castle Douglas 98.57 325 *e*P P 10 29 38.4 -0.7
SJPF Ste Jean 98.66 313⇑ *i*P Pdif 10 29 40.2 +0.3
comp=Z,666nm,1.6s
OSSF Osses 98.66 314 *e*P P 10 29 39.8 -0.1
ODJA Bouhanifia 98.67 305 P Pdif 10 29 43.0 +2.9
PGBU Glenifferbraes 98.68 326 *e*P Pdif 10 29 40.1 +0.4
PGBU AMS AMS 11 12 36.9
comp=Z,102µm,32.3s
PPLA Purkeypile 98.70 26 *e*P Pdif 10 29 40.0 +0.2
comp=Z,96nm,1.4s
PPLA *e*PP **PP** **10 33 38.0 -3.6**
KAC Achnashellach 98.77 328 *e*P Pdif 10 29 40.5 +0.5
WPM1 Penmaenmawr 98.85 324 *e*P P 10 29 39.8 -0.7
SGMF Saint Gilles 98.86 319⇑ *i*P P 10 29 40.4 -0.2
comp=Z,674nm,1.6s
BPAW Bear Paw Mtn. 98.88 25 *e*P Pdif 10 29 40.6 +0.2
comp=Z,845nm,1.3s
USTO Oran 98.95 306 P Pdif 10 29 45.0 +3.7
KPL Plockton 98.99 328 *e*P Pdif 10 29 40.6 -0.3
KPL AMS AMS 11 14 25.7
comp=Z,141µm,26.9s
GAL1 Galloway 99.00 326 *e*P Pdif 10 29 40.4 -0.7
GAL1 AMS AMS 11 11 57.3
comp=Z,124µm,31.1s
YLL Llanberis 99.03 324 *e*P Pdif 10 29 42.1 +0.9
WME Myndd Eilian 99.06 324 *e*P Pdif 10 29 41.4 +0.1
RSO Redoubt South 99.08 29 *e*P Pdif 10 29 41.7 +0.1
comp=Z,26nm,0.3s
WLF1 Llynfaes 99.13 324 *e*P Pdif 10 29 41.1 -0.6
WLF1 AMS AMS 11 11 09.2
comp=Z,86µm,32.1s
LPW Lampeter 99.16 323 *e*P Pdif 10 29 42.3 +0.4
LPW AMS AMS 11 07 13.2
comp=Z,2009µm,37.8s
YRE Yr Eifl 99.21 324 *e*P Pdif 10 29 41.8 -0.2
YRC Rhoscolyn 99.25 324 *e*P Pdif 10 29 42.2 0.0
RAR Rarotonga 99.31 112 P Pdif 10 29 48.9 +5.7
RAR PP PP 10 33 33.5 -14
RAR S **SKSac** **10 40 17.3 +3.3**
RAR P'P' 10 54 23.7
RAR Rarotonga 99.31 112 P Pdif 10 29 48.9 +5.7
comp=Z,19nm,0.8s,baz=90,slow=16,SNR=3.6
RAR PP PP 10 33 33.5 -14
comp=Z,32nm,0.6s,baz=270,slow=7.5,SNR=5.6
RAR S **SKSac** **10 40 17.3 +3.3**
comp=Z,8.9nm,0.5s,baz=270,slow=19,SNR=1.1
RAR PKPPKP **P'P'df** **10 54 23.7 -0.8**
comp=Z,6.7nm,0.4s,baz=90,slow=3.0,SNR=2.7
RAR LR LR 11 14 35.4
comp=Z,48µm,19.8s,baz=270,slow=35
QUIF Quistinic 99.32 318⇑ *i*P Pdif 10 29 42.1 -0.5
comp=Z,477nm,1.5s
ROSF Rostrenen 99.32 319⇑ *i*P Pdif 10 29 42.3 -0.4
comp=Z,138nm,1.1s
TRF Thorofare Moun 99.37 25 *e*P Pdif 10 29 42.5 -0.3
comp=Z,768nm,1.0s
TRF *e*PP **PP** **10 33 44.2 -2.5**
DYA Yadsworthy 99.38 321 *e*P Pdif 10 29 42.6 -0.3
DYA AMS AMS 11 09 18.4
comp=Z,115µm,40.7s
OHAK Old Harbor 99.61 32 *e*P Pdif 10 29 44.0 +0.2
comp=Z,2µm,2.3s
OHAK *e*PP **PP** **10 33 49.9 +1.4**
HTL Hartland 99.63 322 *e*P Pdif 10 29 43.9 0.0
HTL AMS AMS 11 13 59.2
comp=Z,100µm,27.1s
OLHC Oulhaca 99.71 306 P Pdif 10 29 40.0 -4.8
GMM Mts of Mourne 99.84 325 *e*P Pdif 10 29 42.9 -1.9
KDAK Kodiak Island 99.84 31 *e*P Pdif 10 29 45.1 +0.3
comp=Z,1µm,1.0s
KDAK PP **PP** **10 33 46.7 -3.5**
KDAK P'P' 10 54 25.4
KDAK Kodiak Island 99.84 31 P Pdif 10 29 45.5 +0.7
comp=Z,113nm,0.7s,baz=256,slow=4.5,SNR=35
KDAK PP **PP** **10 33 46.7 -3.5**
comp=Z,80nm,1.0s,baz=288,slow=9.6,SNR=2.5
KDAK PKPPKP **P'P'df** **10 54 25.4 +4.4**
comp=Z,12nm,1.0s,baz=342,slow=3.2,SNR=3.0
KDAK LR LR 11 18 36.0
comp=Z,128µm,21.5s,baz=302,slow=38
BST Brest 99.84 319 *e*P Pdif 10 29 45.4 +0.4
MCK McKinley 99.85 25 *e*P Pdif 10 29 44.8 +0.1
comp=Z,839nm,1.1s
COLA College 99.92 24 *e*P Pdif 10 29 44.4 -0.5
comp=Z,645nm,0.9s
COLA *e*PP **PP** **10 33 48.4 -2.1**
CCA1 Carnmenellis 100.25 321 *e*P Pdif 10 29 46.6 -0.2
CCA1 AMS AMS 11 09 07.7
comp=Z,102µm,30.9s
ILAR Eielson Array 100.34 24 P Pdif 10 29 45.8 -1.1
ILAR PP PP 10 33 41.3 -13
ILAR PKiKP **PKiKP** **10 34 15.5 +2.1**
ILAR S **SKSac** **10 40 15.1 -2.3**
ILAR SP **SP** **10 42 45.0 +1.1**
ILAR PKKPab PKKPdf 10 46 29.9 +20
ILAR P'P' 10 54 15.0

ILAR Eielson Array 100.34 24 P **Pdif** **10 29 45.8 -1.1**
comp=Z,24nm,0.8s,baz=286,slow=4.2,SNR=62
ILAR PP PP 10 33 41.3 -13
comp=Z,30nm,0.9s,baz=290,slow=6.8,SNR=4.5
ILAR PKiKP **PKiKP** **10 34 15.5 +2.1**
comp=Z,22nm,0.8s,baz=286,slow=3.5,SNR=4.6
ILAR S **SKSac** **10 40 15.1 -2.3**
comp=Z,4.3nm,0.9s,baz=269,slow=2.6,SNR=1.0
ILAR SP **SP** **10 42 45.0 +1.1**
comp=Z,1.0nm,0.4s,baz=357,slow=17,SNR=5.1
ILAR PKKPab PKKPdf 10 46 29.9 +20
comp=Z,31nm,0.9s,baz=138,slow=2.2,SNR=5.4
ILAR PKPPKP **P'P'df** **10 54 15.0 -4.8**
comp=Z,6.8nm,1.1s,baz=124,slow=1.1,SNR=9.3
ILAR tx tx 11 12 40.0
comp=Z,1.2nm,0.8s,baz=284,slow=3.8,SNR=5.9
ILAR tx tx 11 14 47.9
comp=Z,3.2nm,1.1s,baz=243,slow=2.8,SNR=7.4
PMR Palmer 100.45 27 *e*Pdif **Pdif** **10 29 47.5 +0.1**
PMR *e* 10 33 55.2
PMR Palmer 100.45 27 *e*Pdif **Pdif** **10 29 47.5 +0.1**
comp=Z,20μm,2.0s
PMR *e*PP **PP** **10 33 55.2 +0.5**
SEW Seward 100.76 29 *e*Pdif **Pdif** **10 29 48.8 +0.1**
comp=Z,56nm,1.1s
SEW *e*PP **PP** **10 33 58.7 +1.6**
SCO Scoresbysund 100.91 343⇑*i*P **Pdif** **10 29 50.8 +1.6**
SCO *i* 10 34 00.2
SCO
comp=Z,137μm,30.0s
ESDC Sonseca Array 101.16 310 P **Pdif** **10 29 51.9 +0.7**
ESDC PP **PP** **10 34 03.4 +2.4**
ESDC S **SKSac** **10 40 20.5 -2.0**
ESDC PKKPbc PKKPbc 10 45 55.8 -6.8
ESDC PKKP **PKKPdf** **10 46 04.7 -3.6**
ESDC PKKPab 10 46 28.4
ESDC P'P' 10 54 15.1
ESDC Sonseca Array 101.16 310 P **Pdif** **10 29 51.8 +0.7**
comp=Z,8.8nm,0.8s,baz=61,slow=4.6,SNR=44
ESDC PP **PP** **10 34 03.4 +2.4**
comp=Z,42nm,1.0s,baz=63,slow=6.5,SNR=6.2
ESDC S **SKSac** **10 40 20.5 -2.0**
comp=Z,1.0nm,0.4s,baz=2.5,slow=6.0,SNR=2.1
ESDC PKKPbc PKKPbc 10 45 55.8 -6.8
comp=Z,2.9nm,0.5s,baz=271,slow=2.4,SNR=5.1
ESDC PKKP **PKKPdf** **10 46 04.7 -3.6**
comp=Z,26nm,0.7s,baz=281,slow=3.2,SNR=18
ESDC PKKPab 10 46 28.4
comp=Z,20nm,0.7s,baz=274,slow=4.1,SNR=6.4
ESDC PKPPKP **P'P'df** **10 54 15.1 -4.8**
comp=Z,0.2nm,0.2s,baz=252,slow=1.7,SNR=4.2
ESLA Sonseca Array 101.16 310 *e*Pdif **Pdif** **10 29 51.1 -0.1**
comp=Z,31nm,1.4s
ESLA *e*PP **PP** **10 34 00.6 -0.3**
PAB San Pablo 101.48 310 *e*P **Pdif** **10 29 52.5 -0.1**
PAB pmax pmax
comp=Z,1μm,1.7s
PAB San Pablo 101.48 310 *e*Pdif **Pdif** **10 29 52.5 -0.1**
comp=Z,1μm,1.7s
PAX Paxson 101.58 25 *e*P **Pdif** **10 29 52.9 +0.3**
PAX *e* 10 34 03.1
PAX pmax pmax
comp=Z,733nm,1.5s
PAX Paxson 101.58 25 *e*Pdif **Pdif** **10 29 52.9 +0.3**
comp=Z,733nm,1.5s
PAX *e*PP **PP** **10 34 03.1 -0.2**
DIV Divide 102.13 27 *e*Pdif **Pdif** **10 29 55.2 +0.3**
comp=Z,1μm,1.3s
DIV *e*PP **PP** **10 34 02.7 -4.8**
MENT Mentasta 102.33 25 *e*Pdif **Pdif** **10 29 56.6 +0.8**
MENT *e*PP **PP** **10 34 08.4 -0.4**
EGAK Eagle 102.59 23 *e*Pdif **Pdif** **10 29 56.9 +0.1**
comp=Z,4μm,1.8s
EGAK *e* 10 34 11.4
XMAS Kiritimati 102.60 88 *e*Pdif **Pdif** **10 29 57.8 -0.2**
comp=Z,163nm,1.0s
XMAS *e* 10 34 10.4
MDT Midelt 102.63 303 S **SKSac** **10 40 27.9 -2.0**
comp=Z,8.5nm,1.2s,baz=218,slow=19,SNR=1.2
MDT PKKPbc **PKKPbc** **10 45 58.6 +0.4**
comp=Z,21nm,0.8s,baz=252,slow=2.2,SNR=13
MDT PKKPab PKKPdf 10 46 22.5 +17
comp=Z,16nm,0.9s,baz=258,slow=2.8,SNR=2.8
MDT SS **SS** **10 48 46.9 +1.7**
comp=Z,5.8nm,1.1s,baz=215,slow=2.1,SNR=1.3
MDT PKPPKP **P'P'df** **10 54 14.3 -3.3**
comp=Z,1.9nm,1.0s,baz=180,slow=8.1,SNR=2.2
BMRM Bremner River 102.72 27 *e*Pdif **Pdif** **10 29 57.8 +0.2**
comp=Z,5μm,1.4s
BMRM *e* 10 34 10.2
PBRG Braganca 102.89 313 *e*Pdif **Pdif** **10 29 59.0 +0.2**
PBRG Braganca 102.89 313 *e*PP PP 10 34 16.4 +2.6
VAL Valentia 102.91 323⇑*i*P **Pdif** **10 29 58.6 +0.1**
VAL Valentia 102.91 323⇑*i*PP PP 10 34 16.4 +2.9
VAL Valentia 102.91 323⇓*i*SP SP 10 43 08.6 -3.2
MVO Moncorvo 103.22 312 *e*Pdif **Pdif** **10 30 01.0 +0.7**
MVO Moncorvo 103.22 312 *e*PP PP 10 34 17.1 +0.8
MVO *e*SKSac **SKSac** **10 40 34.3 +2.1**
MVO Moncorvo 103.22 312 *e*LR LR 11 06 18.7
comp=Z,45μm,22.0s
INK Inuvik 103.45 18 Pdif **Pdif** **10 30 00.7 +0.1**
INK PP **PKiKP** **10 34 18.9 0.0**
INK P'P' 10 53 49.8
INK ⇑*e* 10 54 18.5
INK Inuvik 103.45 18 Pdiff **Pdif** **10 30 00.7 +0.1**
comp=Z,102nm,0.8s,baz=303,slow=5.4,SNR=57
INK PP **PKiKP** **10 34 18.9 0.0**
comp=Z,81nm,1.0s,baz=58,slow=1.7,SNR=13
INK PKPPKP P'P'df 10 53 49.8 -24
comp=Z,7.7nm,1.2s,baz=333,slow=6.8,SNR=2.8
INK PKP2bc 10 54 18.5
comp=Z,9.1nm,1.2s,baz=184,slow=4.5,SNR=3.1
BORG Borgarnes 103.53 338 S SKSac 10 40 41.9 +9.5
comp=Z,19nm,0.9s,baz=105,slow=9.3,SNR=1.5
BORG SP **SP** **10 43 16.6 -0.9**
comp=Z,16nm,0.9s,baz=60,slow=16,SNR=2.5
BORG PKKPbc **PKKPbc** **10 45 52.8 -3.7**
comp=Z,24nm,1.0s,baz=162,slow=9.6,SNR=2.5
BORG PKKPab PKKPdf 10 46 21.2 +17
comp=Z,36nm,1.1s,baz=6.4,slow=7.1,SNR=3.3
SUMG Summit 103.71 348 *e*P **Pdif** **10 30 02.1 -0.1**
SUMG *e* 10 34 20.9
SUMG pmax pmax
comp=Z,4μm,1.0s
SUMG Summit 103.71 348⇑*i*P **Pdif** **10 30 02.8 +0.6**
SUMG *i* 10 34 19.7
SUMG Summit 103.71 348 *i*P **PKKPbc** **10 45 54.4 -2.3**
comp=Z,75nm,1.1s
SUMG Summit 103.71 348 *e*Pdif **Pdif** **10 30 02.0 -0.1**
comp=Z,4μm,1.0s
SUMG *e* 10 34 20.9
POLO Lamas de Olo 103.75 312 *e*Pdif **Pdif** **10 30 03.5 +0.8**
POLO *i*P x 10 33 29.6
POLO Lamas de Olo 103.75 312 *e*PP PP 10 34 21.8 +1.5
MTE Manteigas 103.75 311 *e*Pdif **Pdif** **10 30 03.7 +1.0**
MTE *i*P x 10 33 35.5
MTE Manteigas 103.75 311 *e*PP PP 10 34 20.7 +0.4
MTE *e*SKSac **SKSac** **10 40 36.6 +1.9**
MTE Manteigas 103.75 311 *e*LQ LQ 10 59 44.7
MTE *e*LR LR 11 06 37.0
comp=Z,51μm,22.0s
MTE Manteigas 103.75 311 *e*Pdif **Pdif** **10 30 03.3 +0.7**
comp=Z,118nm,1.4s
PMRV Marv??o 103.82 310 *e*Pdif **Pdif** **10 30 03.2 +0.3**
PMRV Marv??o 103.82 310 *e*PP PP 10 34 15.7 -5.0
PMRV *e*SKSac **SKSac** **10 40 36.9 +1.9**
PMRV Marv??o 103.82 310 *e*LQ LQ 10 59 23.3
PMRV *e*LR LR 11 07 19.1
comp=Z,35μm,22.0s
PGAV Gavieira, Arco 103.98 313 *e*Pdif **Pdif** **10 30 03.9 +0.2**
PGAV Gavieira, Arco 103.98 313 *e*PP PP 10 34 24.0 +2.0
PGAV *e*SKSac **SKSac** **10 40 34.7 -1.1**
PGAV Gavieira, Arco 103.98 313 *e*LQ LQ 10 59 25.4
PGAV *e*LR LR 11 06 40.1
comp=Z,49μm,20.0s
RTC Rabat Centre 104.32 305 *e*Pdif **Pdif** **10 30 05.7 +0.5**
PVAQ Vaqueiros 104.44 308 *e*Pdif **Pdif** **10 30 05.8 +0.1**
PVAQ Vaqueiros 104.44 308 *e*PP PP 10 34 28.0 +2.6
PVAQ *e*SKSac **SKSac** **10 40 40.3 +2.5**
PVAQ Vaqueiros 104.44 308 *e*LQ LQ 10 59 35.4
PVAQ *e*LR LR 11 07 30.5
comp=Z,70μm,24.0s
EVO Evora 104.46 310 *e*P **Pdif** **10 30 07.1 +1.3**
comp=Z,204nm,1.9s
EVO *e*R
comp=Z,29μm,22.5s
EVO Evora 104.46 310 *e*Pdif **Pdif** **10 30 06.8 +1.0**
EVO *i*P x 10 34 12.4
EVO Evora 104.46 310 *e*PP PP 10 34 26.0 +0.5
PMTG Montargil 104.52 310 *e*Pdif **Pdif** **10 30 06.7 +0.7**
PMTG *i*P x 10 34 14.2
PMTG Montargil 104.52 310 *e*PP PP 10 34 24.0 -1.9
PBDV Barranco-do-Ve 104.63 308 *e*Pdif **Pdif** **10 30 07.5 +0.9**
PBDV Barranco-do-Ve 104.63 308 *e*PP PP 10 34 29.8 +2.9
PCVE Castro Verde 104.65 309 *e*Pdif **Pdif** **10 30 07.3 +0.7**
PCVE *i*P x 10 34 14.8
PCVE Castro Verde 104.65 309 *e*PP PP 10 34 28.3 +1.4
KIC Kosan Boka 104.70 276 *e*PKP1 **Pdif** **10 30 11.5 +4.2**
comp=Z,516nm,1.5s
DBIC Dimbokro 104.81 277 *e*P **Pdif** **10 30 08.4 +0.6**
DBIC Dimbokro 104.81 277 *e*Pdif **Pdif** **10 30 07.3 -0.5**
comp=Z,148nm,1.3s
DBIC PP **PKiKP** **10 34 21.6 -1.3**
DBIC S **SKSac** **10 40 37.7 -2.6**
DBIC SP **SP** **10 43 35.1 +1.3**
DBIC PKKPbc **PKKPbc** **10 45 45.9 -5.0**
DBIC PKKP PKKPdf 10 45 55.8 -5.3
DBIC PKKPab **PKKPab** **10 46 12.0 +2.5**
DBIC P'P' 10 54 13.8
DBIC Dimbokro 104.81 277 Pdiff **Pdif** **10 30 08.8 +1.1**
comp=Z,15nm,0.6s,baz=79,slow=7.2,SNR=8.7
DBIC PP **PKiKP** **10 34 21.6 -1.3**
comp=Z,20nm,0.7s,baz=66,slow=3.3,SNR=4.0
DBIC S **SKSac** **10 40 37.7 -2.6**
comp=Z,12nm,0.8s,baz=261,slow=13,SNR=1.5
DBIC SP **SP** **10 43 35.1 +1.3**
comp=Z,5.7nm,0.9s,baz=125,slow=12,SNR=2.7
DBIC PKKPbc **PKKPbc** **10 45 45.9 -5.0**
comp=Z,8.0nm,0.6s,baz=252,slow=4.8,SNR=4.7
DBIC PKKP PKKPdf 10 45 55.8 -5.3
comp=Z,11nm,0.7s,baz=247,slow=1.7,SNR=6.7
DBIC PKKPab **PKKPab** **10 46 12.0 +2.5**
comp=Z,51nm,0.9s,baz=260,slow=4.1,SNR=8.5
DBIC PKPPKP **P'P'df** **10 54 13.8 -0.7**
comp=Z,10.0nm,1.0s,baz=92,slow=3.3,SNR=3.5
PNCL Nicolau / Gran 104.94 309 *e*Pdif **Pdif** **10 30 09.0 +1.1**
PNCL Nicolau / Gran 104.94 309 *e*PP PP 10 34 28.4 -0.7
TIC Toumodi 104.97 277 *e*PKP1 **Pdif** **10 30 10.8 +2.2**
comp=Z,381nm,1.4s
LIC Lamto 104.98 276 *e*P **Pdif** **10 30 09.6 +1.0**
comp=Z,84nm,1.1s,baz=86
LIC *e*R
comp=Z,234μm,22.0s
LIC Lamto 104.98 276 *e*PKP1 **Pdif** **10 30 10.7 +2.1**
comp=Z,134nm,1.3s
PACT Alcochete 105.04 310 *e*Pdif **Pdif** **10 30 10.5 +2.2**
PACT Alcochete 105.04 310 *e*PP PP 10 34 34.6 +4.8
LIS Lisbon 105.30 310 *e*P **Pdif** **10 30 10.1 +0.7**
LIS AMS AMS 11 23 15.2
comp=E,54μm,21.7s
LIS Lisbon 105.30 310 *e*P **Pdif** **10 30 10.1 +0.7**
PMST Lisbon--Monsan 105.32 310 *e*Pdif **Pdif** **10 30 10.5 +0.9**
PMST *i*P x 10 33 57.7
PMST Lisbon--Monsan 105.32 310 *e*PP PP 10 34 35.9 +4.0
PMAFR Mafra 105.35 310 *e*Pdif **Pdif** **10 30 09.8 +0.1**
PMAFR *i*P x 10 33 52.1
PMAFR Mafra 105.35 310 *e*PP PP 10 34 34.2 +2.1
PFVI Vila Bisbo 105.36 308 *e*Pdif **Pdif** **10 30 10.8 +1.0**
PFVI *i*P x 10 34 16.3
PFVI Vila Bisbo 105.36 308 *e*PP PP 10 34 34.9 +2.7
RES Resolute Bay 105.58 4 S **SKSac** **10 40 41.7 +0.3**
comp=E,16nm,1.0s,baz=140,slow=3.6,SNR=2.1
RES SP **SP** **10 43 44.4 +5.9**
comp=E,14nm,1.1s,baz=347,slow=14,SNR=2.7
RES PKKPbc **PKKPbc** **10 45 48.3 -2.2**
comp=E,24nm,0.9s,baz=176,slow=5.5,SNR=3.0
HYT Haines Junctio 105.91 25 Pdif **Pdif** **10 30 12.0 +0.1**
SKAG Skagway 107.53 26 *e*Pdif **Pdif** **10 30 19.7 +0.8**
comp=E,114nm,1.2s
TBI Tubuai 108.55 115 *e*PKiKP **PKiKP** **10 34 28.1 -1.5**
comp=E,820nm,1.3s
TBI Tubuai 108.55 115 *e*PP PP 10 34 53.3 -2.7
comp=E,28μm,34.8s
TBI *e*SKSac **SKSac** **10 40 56.0 -0.4**
comp=E,45μm,26.5s
TBI *e*Sdif Sdif 10 42 09.8 -15
comp=E,75μm,28.8s
TBI *e*SP **SP** **10 44 12.4 +0.6**
comp=E,227μm,34.0s
TBI *e*SS **SS** **10 49 59.5 -6.6**
comp=E,163μm,28.0s
TBI Tubuai 108.55 115 *e*LQ LQ 11 01 38.3
comp=E,187μm,50.5s
TBI *e*LR LR 11 06 29.3
comp=E,472μm,32.0s
SIT Sitka 108.74 28 *e*Pdif **Pdif** **10 30 25.9 +1.6**
comp=E,148nm,1.2s
PAE Paea 109.23 109 *e*PKiKP **PKiKP** **10 34 29.3 -1.7**
comp=E,42nm,1.2s
PPT2 Papeete2 109.25 109 *e*PKiKP **PKiKP** **10 34 29.2 -2.0**
comp=E,240nm,1.4s
PPT2 Papeete2 109.25 109 *e*PP PP 10 34 58.9 -2.5
comp=E,75μm,42.0s
PPT2 *e*SKSac **SKSac** **10 40 58.3 -1.5**
comp=E,34μm,26.0s
PPT2 *e*Sdif SKKSac 10 42 10.4 +14
comp=E,115μm,26.5s
PPT2 *e*SP **SP** **10 44 17.2 -2.0**
comp=E,418μm,36.8s
PPT2 Papeete2 109.25 109 *e*LQ LQ 11 02 01.6
comp=E,1569μm,42.8s
PPT2 *e*LR LR 11 06 47.7
comp=E,559μm,34.5s
PPT Papeete 109.25 109 PKiKP **PKiKP** **10 34 36.2 +5.1**
PPT Papeete 109.25 109 PKiKP **PKiKP** **10 34 36.2 +5.1**
comp=E,73nm,0.9s,baz=130,slow=2.8,SNR=4.5
TIAR Tiarei 109.47 109 *e*PKiKP **PKiKP** **10 34 31.6 +0.1**
comp=E,581nm,1.3s
TVO Taravao 109.53 109 *e*PKiKP **PKiKP** **10 34 31.9 +0.2**
comp=E,288nm,1.2s
DLBC Dease Lake 110.40 25 *e*Pdif **Pdif** **10 30 32.5 +0.7**
DLBC PKiKP **PKiKP** **10 34 35.5 +3.3**
DLBC PP PP 10 35 02.4 -5.7
DLBC Dease Lake 110.40 25 Pdiff **Pdif** **10 30 33.6 +1.8**
comp=E,59nm,1.3s,baz=309,slow=4.6,SNR=14
DLBC PKiKP **PKiKP** **10 34 35.5 +3.3**
comp=E,53nm,1.0s,baz=74,slow=2.1,SNR=13
DLBC PP PP 10 35 02.4 -5.7
comp=E,40nm,0.9s,baz=286,slow=6.4,SNR=4.8
WRAK Wrangell Islan 110.48 28 *e*Pdif **Pdif** **10 30 32.9 +0.8**
CRAG Craig 110.61 29 *e*Pdif **Pdif** **10 30 33.9 +1.2**
MEH Mehetia 110.64 109 *e*PKiKP **PKiKP** **10 34 30.6 -3.1**
comp=E,169nm,0.9s
SFJD Kangerlussuaq 110.71 348⇑*i*P **Pdif** **10 30 32.4 -0.5**
SFJD *i* 10 35 08.6
SFJD
comp=Z,108μm,27.0s
SFJD Kangerlussuaq 110.71 348 *i*P **PKKPbc** **10 45 32.5 -1.6**
comp=Z,16nm,0.7s
SFJD Kangerlussuaq 110.71 348 *e*Pdif **Pdif** **10 30 32.5 -0.5**
SFJD S **SKSdf** **10 41 37.6 +1.4**
SFJD PKKPbc **PKKPbc** **10 45 32.2 -1.9**
SFJD PKKPab **PKKPab** **10 45 40.4 -2.4**
SFJD PKKP **PKKPdf** **10 45 48.9 -1.9**
SFJD SS **SS** **10 50 29.3 -2.6**
SFJD Kangerlussuaq 110.71 348 S **SKSdf** **10 41 37.6 +1.4**
comp=Z,13nm,0.8s,baz=32,slow=9.5,SNR=1.9
SFJD PKKPbc **PKKPbc** **10 45 32.2 -1.9**
comp=Z,16nm,0.6s,baz=217,slow=4.1,SNR=6.4
SFJD PKKPab **PKKPab** **10 45 40.4 -2.4**
comp=Z,15nm,0.5s,baz=290,slow=0.8,SNR=6.5
SFJD PKKP **PKKPdf** **10 45 48.9 -1.9**
comp=Z,42nm,1.2s,baz=288,slow=5.7,SNR=3.6
SFJD SS **SS** **10 50 29.3 -2.6**
comp=Z,3.8nm,0.7s,baz=208,slow=16,SNR=1.1
PMOR Pomariorio Ree 111.16 106 *e*PKiKP **PKiKP** **10 34 35.2 +0.5**
comp=Z,418nm,1.1s
VAH Vaihoa 111.39 107 *e*PKiKP **PKiKP** **10 34 32.9 -2.2**
comp=Z,489nm,1.4s
DIB Dawson Inlet, 112.11 31 Pdiff **Pdif** **10 30 42.1 +2.7**
SNR=10
PMPST Porto Santo, M 112.25 306 *e*Pdif **Pdif** **10 30 41.5 +1.0**
PMPST Porto Santo, M 112.25 306 *e*PP PP 10 35 22.9 +0.5
PMOZ Porto Moniz, M 113.02 306 *e*Pdif **Pdif** **10 30 43.7 -0.4**
PMOZ Porto Moniz, M 113.02 306 *e*PP PP 10 35 27.9 -0.1
PMOZ Porto Moniz, M 113.02 306 *e*SS SS 10 51 04.5 -0.9
PMOZ Porto Moniz, M 113.02 306 *e*LQ LQ 11 02 40.6
PMOZ *e*LR LR 11 10 42.8
comp=Z,49μm,22.0s
YKW3 Yellowknife Ar 113.09 17 *e*Pdif **Pdif** **10 30 45.2 +1.6**
YKA Yellowknife Ar 113.15 17 Pdif **Pdif** **10 30 44.6 +0.8**
YKA PKiKP **PKiKP** **10 34 38.0 +0.8**
YKA PKKPbc **PKKPbc** **10 45 24.3 -1.7**
YKA PKKP PKKPdf 10 45 40.3 -5.8
YKA SKKP 10 49 28.4
YKA P'P' 10 53 54.9
YKA P5KP 11 13 34.3
YKA Yellowknife Ar 113.15 17 Pdiff **Pdif** **10 30 44.6 +0.8**
comp=Z,20nm,0.9s,baz=337,slow=5.0,SNR=7.3
YKA PKiKP **PKiKP** **10 34 38.0 +0.8**
comp=Z,29nm,0.8s,baz=342,slow=2.9,SNR=22
YKA PKKPbc **PKKPbc** **10 45 24.3 -1.7**
comp=Z,17nm,0.9s,baz=140,slow=2.9,SNR=12
YKA PKKP PKKPdf 10 45 40.3 -5.8
comp=Z,23nm,0.8s,baz=138,slow=4.2,SNR=9.1
YKA SKKP 10 49 28.4
comp=Z,14nm,1.0s,baz=148,slow=3.9,SNR=3.9
YKA PKPPKP **P'P'df** **10 53 54.9 -0.1**
comp=Z,1.9nm,0.9s,baz=132,slow=1.7,SNR=3.1
YKA P5KP 11 13 34.3
comp=Z,3.4nm,0.8s,baz=329,slow=4.8,SNR=4.1
PMSA Palmer Station 113.63 187 *e*PKPdf **PKiKP** **10 34 37.8 -0.2**
PMSA *e*PP **PP** **10 35 33.7 +3.0**
PMSA PKKPbc **PKKPbc** **10 45 23.4 -1.0**
PMSA PKKPab **PKKPab** **10 45 33.1 +3.0**
PMSA SKKP 10 49 25.1
PMSA P'P' 10 53 54.2
PMSA Palmer Station 113.63 187 PKKPbc PKKPbc 10 45 23.4 -1.0
comp=Z,57nm,0.9s,baz=19,slow=4.3,SNR=7.0
PMSA PKKPab **PKKPab** **10 45 33.1 +3.0**
comp=Z,62nm,0.8s,baz=351,slow=8.8,SNR=11
PMSA SKKP 10 49 25.1
comp=Z,51nm,1.1s,baz=23,slow=5.2,SNR=4.3
PMSA PKPPKP **P'P'df** **10 53 54.2 +0.3**
comp=Z,7.4nm,0.9s,baz=34,slow=3.6,SNR=2.6
ASCN Ascension 113.98 261 PKPdf **PKiKP** **10 34 40.8 +0.6**
BBTS Babate 115.78 286 PKKPab PKKPab 10 45 20.5 -0.4
BBTS Babate 115.78 286 PKKPab PKKPab 10 45 20.5 -0.4
comp=Z,63nm,0.9s,baz=280,slow=1.6,SNR=2.7
FRB Frobisher Bay 116.54 354 PKKPbc PKKPbc 10 45 14.2 -0.1
FRB PKKPab **PKKPab** **10 45 20.9 +3.9**
FRB PKKP **PKKPdf** **10 45 41.7 +1.9**
FRB SKKP 10 48 58.9
FRB Frobisher Bay 116.54 354 PKKPbc PKKPbc 10 45 14.2 -0.1
comp=Z,19nm,1.0s,baz=179,slow=2.4,SNR=3.7
FRB PKKPab **PKKPab** **10 45 20.9 +3.9**
comp=Z,20nm,0.8s,baz=211,slow=11,SNR=3.5
FRB PKKP **PKKPdf** **10 45 41.7 +1.9**
comp=Z,35nm,0.9s,baz=217,slow=4.5,SNR=4.2
FRB SKKP 10 48 58.9
comp=Z,20nm,0.9s,baz=175,slow=5.0,SNR=2.3
BART Pico Bartolome 117.61 313 *e*PKP **PKPdf** **10 34 51.7 +5.0**
BART Pico Bartolome 117.61 313 *e*PP PP 10 35 55.0 -5.0
PSMN Pico do Norte, 117.83 312 *e*PKP **PKPdf** **10 34 47.7 +0.7**
PSMN Pico do Norte, 117.83 312 *e*PP PP 10 35 59.0 -2.4
PSMN *e*SP SP 10 45 35.4 -1.6
PSMA Santa Maria 117.88 312 *e*PKP **PKPdf** **10 34 47.1 0.0**
PSMA Santa Maria 117.88 312 *e*PP PP 10 36 09.9 +8.2
PDA Ponta Delgada 117.98 313 *e*PP PP 10 35 58.5 -3.9
PSET Sete Cidades 118.00 313 *e*PP PP 10 36 00.4 -2.1
PSET *e*SP SP 10 45 38.3 -0.2
ADH Angra Heroismo 118.75 315 *e*PKP **PKPdf** **10 34 50.7 +2.0**
ADH Angra Heroismo 118.75 315 *e*PP PP 10 36 06.0 -1.6
PGRA Graciosa 119.12 315 *e*PKP **PKPdf** **10 34 51.9 +2.5**
PGRA Graciosa 119.12 315 *e*PP PP 10 36 07.2 -3.0
PGRA *e*SP SP 10 45 48.5 0.0
PMAN Manadas 119.37 315 *e*PKP **PKPdf** **10 34 52.1 +2.2**
TAOE Nuku Hiva Isla 119.37 101 *e*SP SP 10 45 53.3 +0.7
comp=Z,164μm,29.9s
TAOE *e*SS **SS** **10 52 27.2 -2.4**
comp=Z,137μm,26.9s
TAOE Nuku Hiva Isla 119.37 101 *e*LQ LQ 11 06 22.6
comp=Z,288μm,38.2s
TAOE *e*LR LR 11 11 29.8
comp=Z,278μm,33.1s
PGC Sidney 119.39 32 *e*PKPdf **PKPdf** **10 34 48.5 -1.1**
PGC *e*PP **PP** **10 36 11.6 +0.1**
ROSA Rosais 119.44 315 *e*PKP **PKPdf** **10 34 53.7 +3.7**
ROSA Rosais 119.44 315 *e*PP PP 10 36 09.9 -2.5
ROSA *e*SP SP 10 45 51.4 +0.1
OOW Octopus West 119.56 33 P **PKPdf** **10 34 52.1 +2.0**
PPNO Prainha do Nor 119.56 315 *e*PKP **PKPdf** **10 34 52.5 +2.1**
VDB Vedder Mountai 119.86 31 P **PKPdf** **10 34 49.7 -0.9**
NLWA Neilton Lookou 119.94 33 *e*PKPdf **PKPdf** **10 34 51.5 +0.7**
NLWA *e*PP **PP** **10 36 15.0 -0.4**
MBW Mount Baker 120.11 31 P **PKPdf** **10 34 51.8 +0.6**
CMW Cultus Mountai 120.23 31 P **PKPdf** **10 34 52.2 +0.8**
JCW Jim Creek 120.47 31 P **PKPdf** **10 34 52.1 +0.3**
HTW Haystack Looko 120.80 31 P **PKPdf** **10 34 53.5 +1.0**
EDM Edmonton 120.81 23 *e*PKiKP **PKPdf** **10 34 51.9 -0.4**
EDM *e* 10 36 20.7
EDM Edmonton 120.81 23 *e*PKPdf **PKPdf** **10 34 51.9 -0.4**
EDM *e*PP **PP** **10 36 20.7 -0.3**
FCC Fort Churchill 121.06 8 *e*PKiKP **PKPdf** **10 34 50.5 -2.0**
FCC Fort Churchill 121.06 8 *e*PKPdf **PKPdf** **10 34 50.5 -2.0**
RVC Mount Rainier- 121.24 32 P **PKPdf** **10 34 53.8 +0.5**
NLW Nelson Butte 121.36 31 P **PKPdf** **10 34 54.6 +1.0**
FMW Mount Fremont 121.40 32 P **PKPdf** **10 34 54.7 +0.9**
LON Longmire 121.44 32 *e*PKiKP **PKPdf** **10 34 53.9 +0.2**
LON Longmire 121.44 32 *e*PKPdf **PKPdf** **10 34 53.9 +0.2**
TDL Tradedollar La 121.47 33 P **PKPdf** **10 34 54.4 +0.5**
FL2 Flat Top 2 121.49 33 P **PKPdf** **10 34 54.8 +0.8**
RKT Rikitea 121.60 118 *e*PKiKP **PKPdf** **10 34 54.5 -0.1**
comp=Z,303nm,1.2s
RKT Rikitea 121.60 118 *e*PP PP 10 36 28.8 +1.0
comp=Z,23μm,40.2s
RKT *e*SKSac **SKSac** **10 41 46.4 +0.2**
comp=Z,27μm,25.8s
RKT *e*SP **SP** **10 46 13.3 +1.6**
comp=Z,99μm,31.2s
RKT *e*SS **SS** **10 52 53.1 -4.1**
comp=Z,119μm,28.5s
RKT Rikitea 121.60 118 *e*LQ LQ 11 07 11.2
comp=Z,146μm,43.2s
RKT *e*LR LR 11 12 30.4
comp=Z,329μm,29.5s
WPW White Pass 121.62 32 P **PKPdf** **10 34 54.4 +0.2**
ETW Entiat 121.67 31 P **PKPdf** **10 34 55.0 +0.7**
TWW Teanaway 121.70 32 P **PKPdf** **10 34 54.5 +0.3**
COR Corvallis 121.93 35 *e*PKiKP **PKPdf** **10 34 53.6 -1.0**
COR *e* 10 36 25.4
COR Corvallis 121.93 35 *e*PKPdf **PKPdf** **10 34 53.6 -1.0**
COR *e*PP **PP** **10 36 25.4 -3.6**
KEBM Edson Butte 122.30 37 *e*PKPdf **PKPdf** **10 34 55.6 +0.1**
KEBM *e*PP **PP** **10 36 29.9 -1.8**
VLL Laurance Lake 122.31 34 P **PKPdf** **10 34 56.5 +0.9**
OD2 Odessa Site #2 122.64 30 P **PKPdf** **10 34 56.0 +0.1**
KBO Bosley Butte 122.74 38 *e*PKPdf **PKPdf** **10 34 57.2 +0.8**
KBO *e*PP **PP** **10 36 33.0 -1.7**
WRD Warden 122.81 31 P **PKPdf** **10 34 57.1 +0.8**
NEW Newport 122.83 29 *e*PKPdf **PKPdf** **10 34 57.2 +0.8**
NEW Newport 122.83 29 tx tx 11 10 24.3
comp=Z,2.0nm,0.8s,baz=215,slow=2.7,SNR=4.8
NEW Newport 122.83 29⇓⇓PKiKP **PKiKP** **10 34 56.5 -0.1**
baz=123
HAWA Hanford 122.88 32 *e*PKPdf **PKPdf** **10 34 57.1 +0.7**
REDWA Red Mountain 122.99 32 P **PKPdf** **10 34 57.9 +1.2**
FFC Flin Flon 123.23 15 *e*PKIKP **PKPdf** **10 34 55.7 -1.1**
FFC Flin Flon 123.23 15 *e*PKPdf **PKPdf** **10 34 55.7 -1.1**
HUMO Hull Mountain 123.29 37 *e*PKPdf **PKPdf** **10 34 57.1 -0.3**
HUMO *e*PP **PP** **10 36 36.4 -1.9**
KRMB Red Mountain 123.32 39 *e*PKPdf **PKPdf** **10 34 57.2 -0.4**
KRMB *e*PP **PP** **10 36 36.1 -2.6**
VIPM Ingram Point 123.50 34 PKIKP **PKPdf** **10 34 57.9 0.0**
VIPM Ingram Point 123.50 34 P **PKPdf** **10 34 57.9 0.0**
WALA Waterton Lakes 123.73 26 *e*PKPdf **PKPdf** **10 34 57.2 -1.0**
KHMM Horse Mountain 123.79 39 *e*PKPdf **PKPdf** **10 34 57.8 -0.7**
KHMM *e*PP **PP** **10 36 38.3 -3.7**
USHA Ushuaia 123.83 188 PKKPbc PKKPbc 10 44 46.8 -0.3
USHA PKKPab PKKPbc 10 44 54.6 +7.6
USHA SKKPbc SKKPbc 10 48 26.4 -2.7
USHA SKKP 10 48 46.7
USHA Ushuaia 123.83 188 PKKPbc PKKPbc 10 44 46.8 -0.3
comp=Z,16nm,0.8s,baz=356,slow=5.2,SNR=4.1
USHA PKKPab PKKPbc 10 44 54.6 +7.6
comp=Z,21nm,0.8s,baz=160,slow=1.7,SNR=6.4
USHA SKKPbc SKKPbc 10 48 26.4 -2.7
comp=Z,24nm,0.9s,baz=285,slow=4.0,SNR=3.8
USHA SKKP 10 48 46.7
comp=Z,46nm,1.0s,baz=319,slow=4.9,SNR=4.3
YBH Yreka Blue Hor 123.94 38 *e*PKPdf **PKPdf** **10 34 57.7 -1.1**
YBH *e*PP **PP** **10 36 41.2 -1.6**
YBH Yreka Blue Hor 123.94 38 Pdiff Pdif 10 31 53.6 +21

comp=Z,3.9nm,1.0s,baz=63,slow=2.3,SNR=5.7
BSMT Bassoo Peak 124.22 28 *e*PKPdf **PKPdf 10 34 59.0 -0.2**
BLMT Blacktail Moun 124.30 27 *e*PKPdf **PKPdf 10 35 00.6 +1.2**
JTMT Jette 124.53 27 *e*PKPdf **PKPdf 10 34 59.8 0.0**
JTMT *e*PP **PP 10 36 47.3 +0.8**
KIPM Iron Peak 124.54 40 *e*PKPdf **PKPdf 10 35 01.6 +1.6**
KCPM Cahto Peak 124.54 40 *e*PKPdf **PKPdf 10 35 00.7 +0.7**
KCPM *e*PP **PP 10 36 43.3 -3.6**
YBMT Yellow Bay 124.57 27 *e*PKPdf **PKPdf 10 34 60.0 +0.2**
EFI East Falkland 124.60 196 *e*PKIKP **PKPdf 10 35 00.1 +0.6**
EFI East Falkland 124.60 196 *e*PKPdf **PKPdf 10 35 00.1 +0.6**
WDC Whiskeytown Da 124.71 39 *e*PKIKP **PKPdf 10 34 58.6 -1.5**
WDC *e* 10 36 45.4
WDC Whiskeytown Da 124.71 39 *e*PKPdf **PKPdf 10 34 58.6 -1.5**
WDC *e*PP **PP 10 36 45.4 -2.5**
SWMT Swartz Lake 124.83 27 *e*PKPdf **PKPdf 10 35 00.3 0.0**
SCHQ Schefferville 124.98 351 *e*PKPdf **PKPdf 10 34 59.7 -0.5**
SCHQ PKP **PKiKP 10 35 01.4 +0.8**
SCHQ PP **PP 10 36 48.8 0.0**
SCHQ PKKPbc **PKKPbc 10 44 42.7 +0.1**
SCHQ SKKPbc SKKPbc 10 48 19.6 -5.9
SCHQ Schefferville 124.98 351 Pdiff Pdif 10 31 47.3 +11
comp=Z,4.8nm,0.9s,baz=27,slow=9.0,SNR=2.9
SCHQ PKP **PKiKP 10 35 01.4 +0.8**
comp=Z,246nm,0.8s,baz=21,slow=3.8,SNR=28
SCHQ PP **PP 10 36 48.8 0.0**
comp=Z,178nm,1.0s,baz=34,slow=7.7,SNR=3.7
SCHQ PKKPbc **PKKPbc 10 44 42.7 +0.1**
comp=Z,26nm,0.9s,baz=234,slow=5.0,SNR=3.8
SCHQ SKKPbc SKKPbc 10 48 19.6 -5.9
comp=Z,25nm,1.0s,baz=297,slow=2.3,SNR=3.5
LTIM Timbered Crate 125.01 38 P **PKPdf 10 35 02.6 +1.7**
BMO Blue Mountains 125.07 32 *e*PKIKP **PKPdf 10 35 00.9 +0.1**
BMO Blue Mountains 125.07 32 *e*PKPdf **PKPdf 10 35 00.8 +0.1**
HOPS Hopland 125.25 41 *e*PKPdf **PKPdf 10 35 01.7 +0.5**
HOPS *e*PP **PP 10 36 47.7 -3.9**
SLMT Seeley Lake 125.27 27 *e*PKPdf **PKPdf 10 35 01.1 -0.1**
MOD Modoc 125.29 36 *e*PKPdf **PKPdf 10 35 01.3 -0.1**
MSO Missoula 125.36 28 ⇓PKiKP **PKPdf 10 35 01.5 +0.2**
baz=125
CHMT Chamberlain Mo 125.62 28 *e*PKPdf **PKPdf 10 35 00.2 -1.7**
MCCM Marconi Confer 125.84 41 *e*PKPdf **PKPdf 10 35 02.4 +0.1**
MCCM *e*PP PP 10 36 46.5 -8.9
WVOR Wild Horse Val 125.92 35 *e*PKIKP **PKPdf 10 35 02.4 -0.1**
WVOR *e* 10 36 52.6
WVOR Wild Horse Val 125.92 35 *e*PKPdf **PKPdf 10 35 02.4 -0.1**
WVOR *e*PP **PP 10 36 52.6 -3.3**
A19A Klindworth Far 125.99 23 ⇑PKiKP **PKPdf 10 35 02.4 0.0**
baz=126
B19A Brinkman Farms 126.29 24 ⇑PKiKP **PKiKP 10 35 03.2 -0.2**
baz=126
EGMT Eagleton 126.30 24 *e*PKPdf **PKPdf 10 35 02.8 -0.2**
EGMT *e*PP **PP 10 36 57.2 -0.8**
EGMT Eagleton 126.30 24 ⇑PKiKP **PKiKP 10 35 03.5 0.0**
baz=126
A20A Cobblestone Ra 126.34 23 ⇓PKiKP **PKPdf 10 35 03.1 0.0**
baz=126
SAC San Andreas 126.46 42 *e*PKIKP **PKPdf 10 35 08.0 +4.4**
SAC San Andreas 126.46 42 *e*PKPdf **PKPdf 10 35 08.0 +4.4**
BEKR Beckworth 126.48 38 *e*PKPdf **PKPdf 10 35 03.3 -0.5**
BEKR *e*PP **PP 10 36 55.7 -4.1**
A21A Bergtoll Ranch 126.63 22 ⇓PKiKP **PKiKP 10 35 03.9 -0.2**
baz=126
B20A Solberg Farm, 126.66 23 ⇓PKiKP **PKPdf 10 35 03.9 +0.2**
baz=127
LRM Limekiln Ridge 126.80 28 *e*PKPdf **PKPdf 10 35 04.2 -0.1**
LRM *e*PP **PP 10 37 01.2 -0.5**
C19A Slack Wire Ran 126.82 24 ⇑PKiKP **PKiKP 10 35 04.7 +0.1**
baz=127
MFID Camas Ranch 126.83 32 ⇓PKiKP **PKiKP 10 35 04.9 +0.2**
baz=127
A22A Carney Farms, 127.00 21 ⇓PKiKP **PKiKP 10 35 04.8 0.0**
baz=127
B21A Ellsworth Farm 127.06 22 ⇓PKiKP **PKiKP 10 35 05.1 +0.2**
baz=127
DLMT Dillon 127.07 28 *e*PKPdf **PKPdf 10 35 03.3 -1.4**
PAHR Pah Rah Range 127.18 38 *e*PKPdf **PKPdf 10 35 05.4 +0.3**
PAHR *e*PP **PP 10 36 59.4 -5.0**
C20A Veseth Ranch, 127.26 23 ⇓PKiKP **PKiKP 10 35 05.5 +0.1**
baz=127
BOZ Bozeman (W) 127.31 28 *e*PKIKP **PKPdf 10 35 05.1 0.0**
BOZ *e* 10 37 03.9
BOZ Bozeman (W) 127.31 28 *e*PKPdf **PKPdf 10 35 05.1 0.0**
BOZ *e*PP **PP 10 37 03.9 -1.0**
D19A Cripps Ranch, 127.34 24 ⇑PKiKP **PKiKP 10 35 05.7 +0.1**
baz=127
MCMT McKenzie Canyo 127.34 29 *e*PKPdf **PKPdf 10 35 06.7 +1.3**
MCMT *es*PKPdf **sPKPdf 10 35 36.4 -3.5**
A23A Redstone 127.39 20 ⇑PKiKP **PKiKP 10 35 05.7 +0.2**
baz=127
HLID Hailey 127.47 31 *e*PKPdf **PKPdf 10 35 05.8 +0.2**
HLID *e*PP PP 10 37 00.5 -5.6
HLID Hailey 127.47 31 ⇓PKiKP **PKiKP 10 35 06.8 +0.7**
baz=127
C21A Desert Coulee 127.52 23 ⇓PKiKP **PKiKP 10 35 05.8 -0.1**
baz=127
CMB Columbia Colle 127.53 40 *e*PKIKP **PKPdf 10 35 06.3 +0.6**
CMB Columbia Colle 127.53 40 *e*PKPdf **PKPdf 10 35 06.3 +0.6**
CMB *e*PP PP 10 36 58.4 -8.3
B22A Reddig Ranch S 127.55 22 ⇓PKiKP **PKiKP 10 35 05.8 -0.1**
baz=127
SAO San Andreas Ge 127.55 42 *e*PKIKP **PKPdf 10 35 06.9 +1.2**
SAO San Andreas Ge 127.55 42 *e*PKPdf **PKPdf 10 35 06.9 +1.2**
SAO *e*PP PP 10 37 01.4 -5.5
D20A Manuel Ranch, 127.71 24 ⇑PKiKP **PKiKP 10 35 06.4 0.0**
baz=128
A24A Westby 127.72 20 ⇓PKiKP **PKiKP 10 35 06.4 +0.1**
baz=128
B23A Brockton 127.77 21 ⇑PKiKP **PKPdf 10 35 06.0 +0.2**
baz=128
WAKR Walker 127.86 39 *e*PKPdf **PKPdf 10 35 07.3 +0.8**
E19A Rath Farm, Rou 127.94 25 ⇓PKiKP **PKiKP 10 35 06.6 -0.2**
baz=128
A25A Svangstu Ranch 128.01 19 ⇑PKiKP **PKiKP 10 35 06.7 -0.1**
baz=128
QLMT Earthquake Lak 128.02 28 *e*PKPdf **PKPdf 10 35 08.9 +2.3**
BMN Battle Mountai 128.02 36 *e*PKIKP **PKPdf 10 35 05.0 -1.7**
BMN *e* 10 35 37.6
BMN Battle Mountai 128.02 36 *e*PKPdf **PKPdf 10 35 05.0 -1.7**
BMN *e* 10 35 37.5
BMN *e*PP PP 10 37 04.4 -5.5
DGMT Dagmar 128.05 20 *e*PKPdf **PKPdf 10 35 04.8 -1.5**
DGMT *e*PP PP 10 37 04.1 -5.2
DGMT Dagmar 128.05 20 ⇓PKiKP **PKiKP 10 35 06.8 -0.1**
baz=128
C22A Vida 128.05 22 ⇑PKiKP **PKiKP 10 35 07.0 0.0**
baz=128
GCMT Greycliff 128.09 26 *e*PKPdf **PKPdf 10 35 07.4 +0.8**
GCMT PP **PP 10 37 11.6 +1.6**
E20A Meyer Farm, Mu 128.18 24 ⇓PKiKP **PKiKP 10 35 07.7 +0.4**
baz=128
D21A La Casta Ranch 128.19 23 ⇓PKiKP **PKiKP 10 35 07.5 +0.2**
baz=128
C23A Lambert 128.26 21 ⇓PKiKP **PKiKP 10 35 07.6 +0.2**
baz=128
F19A Roth Farm, Mol 128.35 26 ⇑PKiKP **PKiKP 10 35 07.6 -0.1**
baz=128
YMR Madison River 128.36 28 *e*PKPdf **PKPdf 10 35 07.1 -0.2**
YMR *e*PP **PP 10 37 09.9 -1.9**
A26A Wade Farm, Ken 128.39 18 ⇑PKiKP **PKiKP 10 35 07.6 +0.1**
baz=128
D22A Cohagen 128.43 23 ⇓PKiKP **PKiKP 10 35 08.2 +0.4**
baz=128
YNR Norris Junctio 128.46 28 *e*PKPdf **PKPdf 10 35 08.8 +1.3**
YNR *e*PP **PP 10 37 09.2 -3.3**
B25A Knox Farm, Ray 128.57 20 ⇑PKiKP **PKiKP 10 35 08.2 +0.2**
baz=128
E21A Keefer Ranch, 128.58 24 ⇑PKiKP **PKiKP 10 35 08.2 +0.1**
baz=128
YFT Old Faithful 128.58 28 *e*PKPdf **PKPdf 10 35 09.0 +1.3**
YFT *e*PP **PP 10 37 12.5 -0.9**
A27A Ledoux Ranch, 128.59 18 ⇑PKiKP **PKiKP 10 35 08.0 +0.1**
baz=128
NVAR Mina Array Bea 128.62 39 PKP **PKPdf 10 35 08.6 +0.7**
NVAR PP PP 10 37 21.6 +7.7
NVAR SKPbc SKiKP 10 38 25.1 -12
NVAR SKKPbc SKKPbc 10 48 03.2 -9.3
NVAR Mina Array Bea 128.62 39 Pdiff Pdif 10 32 04.5 +11
comp=Z,1.5nm,0.7s,baz=280,slow=8.4,SNR=4.6
NVAR PKhKP PKPpre 10 34 59.0
comp=Z,9.1nm,0.8s,baz=328,slow=1.4,SNR=7.6
NVAR PKP **PKPdf 10 35 08.6 +0.7**
comp=Z,119nm,0.7s,baz=250,slow=2.0,SNR=17
NVAR PP PP 10 37 21.7 +7.7
comp=Z,21nm,0.8s,baz=292,slow=4.8,SNR=2.2
NVAR SKPbc SKiKP 10 38 25.1 -12
comp=Z,33nm,0.8s,baz=258,slow=2.5,SNR=3.6
NVAR SKKPbc SKKPbc 10 48 03.2 -9.3
comp=Z,23nm,1.1s,baz=116,slow=4.2,SNR=4.0
NVAR tx tx 11 10 51.0
comp=Z,2.7nm,0.7s,baz=295,slow=4.4,SNR=8.7
LKWY Lake 128.70 28 *e*PKIKP **PKPdf 10 35 09.8 +1.8**
LKWY *e* 10 37 12.8
LKWY Lake 128.70 28 *e*PKPdf **PKPdf 10 35 09.8 +1.8**
LKWY *e*PP **PP 10 37 12.8 -1.3**
NV11 Mina Array Sit 128.71 38 *e*PKPdf **PKPdf 10 35 09.0 +0.9**
NV11 *e*PP PP 10 37 06.7 -7.8
F20A Billings 128.74 25 ⇓PKiKP **PKiKP 10 35 08.5 +0.1**
baz=129
H17A Grant Village 128.75 28 *e*PKPdf **PKPdf 10 35 08.1 0.0**
H17A *e*PP **PP 10 37 14.0 -0.5**
H17A Grant Village 128.75 28 ⇓PKiKP **PKiKP 10 35 10.1 +1.3**
baz=129
MLAC Mammoth Lakes 128.76 40 ⇓PKiKP **PKiKP 10 35 09.5 +0.6**
baz=129
C24A Savage 128.77 21 ⇓PKiKP **PKiKP 10 35 08.8 +0.4**
baz=129
D23A Lindsay 128.78 22 ⇓PKiKP **PKiKP 10 35 09.2 +0.8**
baz=129
B26A Jensen Ranch, 128.78 19 ⇓PKiKP **PKiKP 10 35 08.8 +0.4**
baz=129
RLMT Red Lodge 128.78 26 *e*PKPdf **PKPdf 10 35 08.5 +0.5**
RLMT *e*PP **PP 10 37 14.5 -0.2**
LAO LASA Array 128.80 23 *e*PKPdf **PKPdf 10 35 07.7 -0.2**
LAO *e*PP **PP 10 37 12.9 -1.5**
ULM Lac du Bonnet 128.82 13 PKP **PKPdf 10 35 08.9 +1.3**
ULM PP **PP 10 37 12.6 -1.7**
ULM SKKPbc SKKPbc 10 47 58.9 -13
ULM P5KP 11 14 46.1
ULM Lac du Bonnet 128.82 13 Pdiff Pdif 10 32 08.2 +14
comp=Z,5.4nm,0.9s,baz=0.0,slow=3.0,SNR=3.3
ULM PKhKP PKPpre 10 34 52.0
comp=Z,21nm,0.8s,baz=357,slow=2.9,SNR=8.8
ULM PKP **PKPdf 10 35 08.9 +1.3**
comp=Z,277nm,0.8s,baz=346,slow=2.3,SNR=19
ULM PP **PP 10 37 12.6 -1.7**
comp=Z,80nm,0.9s,baz=326,slow=7.3,SNR=2.8
ULM SKKPbc SKKPbc 10 47 58.9 -13
comp=Z,29nm,1.2s,baz=150,slow=5.5,SNR=2.8
ULM P5KP 11 14 46.1
comp=Z,2.9nm,0.8s,baz=321,slow=7.2,SNR=3.2
A28A Rude Farm, Bot 128.92 17 ⇓PKiKP **PKPdf 10 35 08.2 +0.2**
baz=129
FLWY Flagg Ranch 128.93 28 *e*PKPdf **PKPdf 10 35 08.2 -0.2**
FLWY *e*PP **PP 10 37 10.6 -5.0**
H18A Shoshone NF, C 128.95 27 ⇑PKiKP **PKiKP 10 35 09.6 +0.5**
baz=129
IMW Indian Meadow 128.95 29 *e*PKPdf **PKPdf 10 35 08.2 -0.4**
ELK Elko 128.96 34 *e*PKPdf **PKPdf 10 35 05.8 -2.7**
ELK *e*PP **PP 10 37 16.7 +0.6**
ELK *es*KPdf SKPdf 10 38 25.3 -11
C25A Freed Ranch, W 129.02 20 ⇓PKiKP **PKiKP 10 35 09.7 +0.8**
baz=129
B27A Peters Farms, 129.07 18 ⇑PKiKP **PKPdf 10 35 08.5 +0.2**
baz=129
I17A Pilgrim Ck. 129.11 28 ⇑PKiKP **PKiKP 10 35 09.9 +0.5**
baz=129
E22A Miles City 129.11 23 ⇓PKiKP **PKiKP 10 35 09.4 +0.3**
baz=129
F21A Absaloka Mine, 129.14 24 ⇓PKiKP **PKiKP 10 35 09.3 0.0**
baz=129
D24A Glendive 129.15 21 PKiKP **PKPdf 10 35 08.8 +0.4**
baz=129
MOOW Moose Ponds 129.16 29 *e*PKPdf **PKPdf 10 35 09.6 +0.8**
MOOW *e*PP **PP 10 37 15.8 -1.3**
G20A Bridger 129.17 26 ⇑PKiKP **PKiKP 10 35 09.3 -0.1**
baz=129
RRI2 Red Ridge 129.18 29 *e*PKPdf **PKPdf 10 35 09.1 +0.1**
RRI2 *e*PP **PP 10 37 13.2 -4.2**
A29A Manning Farm, 129.20 16 ⇓PKiKP **PKPdf 10 35 08.7 +0.2**
baz=129
TPAW Teton Pass 129.25 29 *e*PKPdf **PKPdf 10 35 09.7 +0.6**
H19A Powell 129.26 26 ⇑PKiKP **PKiKP 10 35 09.7 +0.1**
baz=129
RCTC Rector, Farmer 129.28 41 ⇓PKiKP **PKiKP 10 35 09.8 +0.2**
baz=129
B28A Dugan Ranch, T 129.30 17 ⇑PKiKP **PKiKP 10 35 09.3 0.0**
baz=129
E23A Ismay 129.31 22 ⇑PKiKP **PKiKP 10 35 09.8 +0.3**
baz=129
C26A Wahner Farm, P 129.31 19 ⇓PKiKP **PKiKP 10 35 09.6 +0.1**
baz=129
LOHW Long Hollow 129.33 29 *e*PKPdf **PKPdf 10 35 09.5 +0.3**
LOHW *e*PP **PP 10 37 16.4 -1.8**
SMMC Simmler 129.33 43 ⇓PKiKP **PKiKP 10 35 10.8 +0.9**
baz=129
SNOW Snow King Moun 129.37 29 *e*PKPdf **PKPdf 10 35 09.9 +0.6**
REDW Red Top Meadow 129.40 29 *e*PKPdf **PKPdf 10 35 09.2 -0.1**
A30A Hoffart Farm, 129.44 16 ⇓PKiKP **PKPdf 10 35 09.2 +0.2**
baz=129
D25A Fairfield 129.48 20 ⇓PKiKP **PKiKP 10 35 09.9 0.0**
baz=129
TIN Tinemaha 129.50 40 ⇓PKiKP **PKiKP 10 35 10.4 +0.2**
baz=130
F22A Rosebud 129.53 24 ⇑PKiKP **PKiKP 10 35 09.8 -0.2**
baz=129
B29A Wagenman Farm, 129.58 17 ⇓PKiKP **PKPdf 10 35 09.4 +0.2**
baz=130
HVU Hansel Valley 129.58 32 *e*PKIKP **PKPdf 10 35 09.4 -0.2**
HVU *e* 10 37 20.9
HVU Hansel Valley 129.58 32 *e*PKPdf **PKPdf 10 35 09.4 -0.2**
HVU *e*PP **PP 10 37 20.9 +1.0**
G21A Lodge Grass 129.59 25 ⇑PKiKP **PKiKP 10 35 10.1 -0.1**
baz=130
C27A Sayler Ranch, 129.60 19 PKiKP **PKPdf 10 35 09.3 0.0**
baz=130
E24A Baker 129.63 22 ⇑PKiKP **PKiKP 10 35 10.0 -0.2**
baz=130
VES Vestal, Richgr 129.65 42 ⇑PKiKP **PKiKP 10 35 10.1 -0.3**
baz=130
PKM Peak Mountain 129.69 43 ⇓PKiKP **PKiKP 10 35 11.5 +0.7**
baz=130
AHID Auburn Hatcher 129.72 30 *e*PKPdf **PKPdf 10 35 09.5 -0.4**
AHID *e*PP **PP 10 37 19.4 -1.4**
I19A Meeteetse 129.75 27 ⇑PKiKP **PKiKP 10 35 11.1 +0.4**
baz=130
H20A Greybull 129.84 26 ⇓PKiKP **PKiKP 10 35 10.6 -0.1**
baz=130
B30A Myrvik Farm, E 129.88 16 ⇑PKiKP **PKPdf 10 35 09.6 -0.2**
baz=130
D26A Manning 129.89 20 ⇑PKiKP **PKiKP 10 35 10.7 0.0**
baz=130
F23A Volborg 129.92 23 ⇑PKiKP **PKiKP 10 35 10.5 -0.3**
baz=130
C28A Hausauer Farms 129.95 18 ⇓PKiKP **PKiKP 10 35 10.8 +0.1**
baz=130
CWC Cottonwood Cre 129.96 40 ⇓PKiKP **PKiKP 10 35 11.3 0.0**
baz=130
G22A Birney 129.98 24 ⇓PKiKP **PKiKP 10 35 10.8 -0.1**
baz=130
SBC Santa Barbara 130.01 44 ⇓PKiKP **PKiKP 10 35 12.1 +0.9**
baz=130
E25A Miller Ranch, 130.01 21 ⇑PKiKP **PKiKP 10 35 11.3 +0.4**
baz=130
BGU Big Grassy Mou 130.05 33 *e*PKPdf **PKPdf 10 35 10.2 -0.3**
BGU *ep*PKPdf **pPKPdf 10 35 32.3 -3.4**
BGU *es*PKPdf **sPKPdf 10 35 41.7 -3.3**
BGU *e*PP **PP 10 37 24.8 +1.7**
MDND Maddock 130.07 17 *e*PKPdf **PKPdf 10 35 10.0 -0.1**
MDND *e*PP PP 10 37 17.2 -5.2
MDND Maddock 130.07 17 ⇑PKiKP **PKiKP 10 35 10.6 -0.4**
baz=130
GRAC Grapevine Rang 130.08 39 ⇑PKiKP **PKiKP 10 35 11.8 +0.4**
baz=130
SPUT South Promonto 130.09 32 *e*PKPdf **PKPdf 10 35 10.3 -0.3**
D27A Center 130.13 19 ⇓PKiKP **PKiKP 10 35 11.1 0.0**
baz=130
H21A Big Horn, Sher 130.14 25 ⇑PKiKP **PKPdf 10 35 10.9 +0.4**
baz=130
ISA Isabella 130.16 41 *e*PKIKP **PKPdf 10 35 10.3 -0.5**
ISA *e* 10 37 23.1
ISA Isabella 130.16 41 *e*PKPdf **PKPdf 10 35 10.3 -0.5**
ISA *e*PP **PP 10 37 23.1 -0.8**
ISA Isabella 130.16 41 ⇑PKiKP **PKiKP 10 35 11.7 +0.1**
baz=130
F24A Ekalaka 130.18 22 ⇓PKiKP **PKiKP 10 35 11.0 -0.3**
baz=130
I20A Worland 130.21 26 ⇑PKiKP **PKiKP 10 35 11.3 -0.2**
baz=130
ARVC Arvin 130.23 42 ⇓PKiKP **PKiKP 10 35 12.1 +0.4**
baz=130
J19A Crowheart 130.32 28 ⇑PKiKP **PKPdf 10 35 11.3 +0.3**
baz=130
R11A Troy Canyon, C 130.33 37 *e*PKPdf **PKPdf 10 35 11.5 +0.3**
R11A Troy Canyon, C 130.33 37 ⇑PKiKP **PKiKP 10 35 12.2 +0.2**
baz=130
HWUT Hardware Ranch 130.34 31 *e*PKPdf **PKPdf 10 35 10.3 -0.8**
HWUT *e*PP **PP 10 37 24.7 -0.1**
HWUT *es*KPbc **SKPab 10 38 25.5 -0.8**
G23A Biddle 130.35 23 ⇑PKiKP **PKiKP 10 35 11.3 -0.4**
baz=130
D28A Regan 130.36 18 ⇓PKiKP **PKiKP 10 35 11.3 -0.3**
baz=130
E26A Carlson Angus 130.37 20 ⇑PKiKP **PKiKP 10 35 11.4 -0.3**
baz=130
H22A Clearmont 130.46 25 ⇑PKiKP **PKPdf 10 35 11.1 0.0**
baz=130
BW06 Boulder Array 130.47 28 *e*PKPdf **PKPdf 10 35 09.2 -2.1**
BW06 *e*PP **PP 10 37 23.6 -2.1**
BW06 *e*SKPbc **SKPbc 10 38 27.0 0.0**
PDAR Pinedale Array 130.47 28 PKP **PKPdf 10 35 13.3 +2.0**
PDAR PP **PP 10 37 30.1 +4.4**
PDAR SKPbc **SKPbc 10 38 27.6 +0.6**
PDAR PKKP **PKKPdf 10 45 11.7 -1.5**
PDAR SKKPbc SKKPbc 10 47 51.5 -15
PDAR P5KP 11 14 48.2
PDAR ⇑*e* 11 20 40.2
PDAR Pinedale Array 130.47 28 Pdiff Pdif 10 32 18.9 +17
comp=Z,0.9nm,0.9s,baz=66,slow=3.6,SNR=4.1
PDAR PKhKP PKPpre 10 34 56.8
comp=Z,4.9nm,0.7s,baz=91,slow=1.1,SNR=7.5
PDAR PKP **PKPdf 10 35 13.3 +2.0**
comp=Z,102nm,0.8s,baz=180,slow=1.8,SNR=38
PDAR PP **PP 10 37 30.1 +4.4**
comp=Z,46nm,0.8s,baz=321,slow=2.3,SNR=4.3
PDAR SKPbc **SKPbc 10 38 27.6 +0.6**
comp=Z,50nm,0.7s,baz=333,slow=0.4,SNR=6.0
PDAR PKKP **PKKPdf 10 45 11.7 -1.5**
comp=Z,4.7nm,0.8s,baz=170,slow=6.0,SNR=2.9
PDAR SKKPbc SKKPbc 10 47 51.5 -15
comp=Z,24nm,1.1s,baz=118,slow=8.6,SNR=3.8
PDAR tx tx 11 10 53.3
comp=Z,3.6nm,0.6s,baz=34,slow=1.5,SNR=20
PDAR P5KP 11 14 48.2
comp=Z,0.5nm,0.9s,baz=228,slow=2.3,SNR=2.8
PDAR tx tx 11 15 29.8
comp=Z,1.4nm,1.1s,baz=270,slow=0.9,SNR=2.9
PDAR PKP2bc 11 20 40.2
comp=Z,8.4nm,1.2s,baz=107,slow=2.0,SNR=9.9
PDAR tx tx 11 24 36.3
comp=Z,0.7nm,1.0s,baz=113,slow=3.9,SNR=3.7
F25A Bowman 130.48 21 ⇑PKiKP **PKPdf 10 35 11.4 +0.3**
baz=130
C30A Mose, Pekin 130.52 16 ⇑PKiKP **PKPdf 10 35 11.2 +0.2**
baz=130
MPMC Manual Prospec 130.57 40 ⇑PKiKP **PKiKP 10 35 12.7 +0.1**
baz=130
OSI Osito Adit 130.59 43 *e*PKPdf **PKPdf 10 35 12.0 +0.4**
OSI Osito Adit 130.59 43 ⇓PKiKP **PKiKP 10 35 13.2 +0.7**
baz=131
G24A Alzada 130.63 23 ⇑PKiKP **PKPdf 10 35 11.4 0.0**
baz=130
BLG Laguna Peak 130.64 44 ⇑PKiKP **PKiKP 10 35 13.1 +0.5**
baz=131
AGMN Agassiz Nation 130.66 14 *e*PKPdf **PKPdf 10 35 09.9 -1.3**
AGMN *e*PP PP 10 37 14.6 -12
AGMN *e*SKPbc **SKPab 10 38 28.3 +1.2**
DUG Dugway 130.68 33 *e*PKIKP **PKPdf 10 35 11.6 -0.1**
DUG *e* 10 37 30.3
DUG Dugway 130.68 33 *e*PKPdf **PKPdf 10 35 11.6 -0.1**
DUG *e*PP **PP 10 37 30.3 +3.2**
DUG *e*SKPbc **SKPab 10 38 28.4 +0.6**
DUG Dugway 130.68 33 ⇓PKiKP **PKiKP 10 35 12.6 0.0**
baz=131
I21A Big Trails, Te 130.69 26 ⇑PKiKP **PKPdf 10 35 12.0 +0.3**
baz=131
J20A Shoshoni 130.70 27 ⇓PKiKP **PKiKP 10 35 12.2 -0.3**
baz=131
E27A Carson 130.71 20 ⇑PKiKP **PKiKP 10 35 12.2 -0.1**
baz=131
FURC Furnace Creek, 130.72 40 ⇓PKiKP **PKiKP 10 35 13.0 +0.4**
baz=131
K19A Absolon Red Bu 130.76 28 ⇑PKiKP **PKPdf 10 35 11.9 0.0**
baz=131
D29A Pettibone, Tap 130.78 18 ⇑PKiKP **PKPdf 10 35 11.5 -0.1**
baz=131
LRMC Laurel Mountai 130.78 41 ⇑PKiKP **PKiKP 10 35 13.5 +0.6**
baz=131
F26A Lodgepole 130.83 21 ⇑PKiKP **PKiKP 10 35 12.2 -0.4**
baz=131
E28A Huff 130.87 19 ⇑PKiKP **PKPdf 10 35 12.1 +0.4**
baz=131
L18A Fontenelle, Gr 130.87 30 ⇑PKiKP **PKiKP 10 35 12.8 -0.3**
baz=131
H23A Clabaugh Cattl 130.88 24 ⇑PKiKP **PKPdf 10 35 11.7 -0.2**
baz=131
M17A Scullys Gap (B 130.89 30 ⇓PKiKP **PKPdf 10 35 12.6 +0.4**
baz=131
CTU Camp Tracy 130.90 32 *e*PKPdf **PKPdf 10 35 11.3 -0.9**
EDW2 Edwards Air Fo 130.93 42 ⇓PKiKP **PKiKP 10 35 13.6 +0.4**
baz=131
I22A 9 Mile Ranch, 130.97 25 ⇑PKiKP **PKPdf 10 35 12.5 +0.4**
baz=131
D30A Buchanan 130.98 17 ⇓PKiKP **PKPdf 10 35 12.3 +0.4**
baz=131
J21A Lysite 130.99 26 ⇑PKiKP **PKiKP 10 35 12.8 -0.4**
baz=131
F27A Lemmon 131.04 20 ⇓PKiKP **PKPdf 10 35 12.4 +0.3**
baz=131
H24A Dirks Ranch, A 131.06 23 ⇑PKiKP **PKPdf 10 35 12.2 0.0**
baz=131
DECC Green Verdugo 131.06 43 ⇓PKiKP **PKiKP 10 35 13.2 -0.2**
baz=131
L19A Farson 131.07 29 PKiKP **PKPdf 10 35 12.1 -0.4**
baz=131
G25A Newell 131.12 22 ⇓PKiKP **PKPdf 10 35 12.6 +0.3**
baz=131
JLU Jordanelle 131.12 32 *e*PKPdf **PKPdf 10 35 13.3 +0.7**
JLU PP **PP 10 37 28.8 -1.3**
K20A Yellowstone Ra 131.12 28 ⇓PKiKP **PKPdf 10 35 12.6 +0.1**
baz=131
G27A Dupree 131.14 21 ⇓PKiKP **PKiKP 10 35 13.3 0.0**
baz=131
E29A Napoleon 131.20 18 ⇓PKiKP **PKPdf 10 35 12.3 -0.1**
baz=131
NLU North Lily Min 131.25 33 *e*PKPdf **PKPdf 10 35 13.1 +0.2**
MWC Mount Wilson 131.26 43 *e*PKIKP **PKPdf 10 35 13.1 0.0**
MWC Mount Wilson 131.26 43 *e*PKPdf **PKPdf 10 35 13.1 0.0**
G26A Maurine 131.33 21 ⇓PKiKP **PKPdf 10 35 12.5 -0.2**
baz=131
I23A Meade Ranch, G 131.35 24 ⇓PKiKP **PKPdf 10 35 12.6 -0.3**
baz=131
DAU Daniels Canyon 131.36 32 *e*PKIKP **PKPdf 10 35 13.1 -0.2**
DAU Daniels Canyon 131.36 32 *e*PKPdf **PKPdf 10 35 13.1 -0.2**
J22A Midwest 131.36 26 ⇓PKiKP **PKPdf 10 35 12.8 -0.1**
baz=131
FMP Fort Macarthur 131.39 43 ⇓PKiKP **PKiKP 10 35 14.5 +0.5**
baz=131
SHOC Shoshone 131.44 40 ⇓PKiKP **PKiKP 10 35 14.8 +0.7**
baz=131
MPU Maple Canyon 131.45 32 *e*PKPdf **PKPdf 10 35 13.4 +0.2**
GSC Goldstone 131.47 41 *e*PKIKP **PKPdf 10 35 14.6 +1.3**
GSC Goldstone 131.47 41 *e*PKPdf **PKPdf 10 35 14.6 +1.3**
GSC Goldstone 131.47 41 ⇑PKiKP **PKPdf 10 35 14.6 +1.3**
baz=131
F28A McLaughlin 131.47 19 ⇑PKiKP **PKPdf 10 35 13.2 +0.3**
baz=131
E30A Jud 131.49 17 ⇓PKiKP **PKPdf 10 35 13.0 +0.1**
baz=131
CIS Catalina Islan 131.49 44 ⇓PKiKP **PKiKP 10 35 14.0 -0.3**
baz=132
BFSC Mount Baldy Ra 131.53 42 ⇓PKiKP **PKiKP 10 35 14.5 0.0**
baz=132
H25A Fruitdale 131.54 22 ⇑PKiKP **PKPdf 10 35 13.6 +0.4**
baz=131
RRX Edison Barstow 131.59 41 ⇓PKiKP **PKiKP 10 35 15.1 +0.6**
baz=132
M19A Rock Springs 131.62 29 ⇑PKiKP **PKPdf 10 35 14.0 +0.4**
baz=132
SCI San Clemente I 131.62 44 ⇓PKiKP **PKiKP 10 35 14.9 +0.4**
baz=132
L20A Wamsutter 131.63 28 ⇓PKiKP **PKiKP 10 35 14.4 -0.1**
baz=132
K21A Alcova 131.64 27 ⇓PKiKP **PKPdf 10 35 14.0 +0.4**
baz=132
J23A Dilts Ranch, B 131.76 25 ⇓PKiKP **PKPdf 10 35 13.3 -0.3**
baz=132

I24A	Kuemmerle Ranc	131.77	24	⇑PKiKP	PKPdf	10 35 13.8	+0.1
	baz=132						
SHPR	Sheep Range	131.77	38	PKPdf	PKPdf	10 35 10.4	-3.5
RSSD	Black Hills	131.79	23	*e*PKIKP	PKPdf	10 35 13.6	-0.2
RSSD	Black Hills	131.79	23	*e*PKPdf	PKPdf	10 35 13.6	-0.2
RSSD				*e*PP	PP	10 37 29.4	-4.5
RSSD				*e*SKPbc	SKPbc	10 38 31.7	0.0
F29A	Eureka	131.80	19	⇓PKiKP	PKPdf	10 35 13.6	+0.1
	baz=132						
H26A	Fairpoint	131.85	22	⇓PKiKP	PKiKP	10 35 14.4	-0.4
	baz=132						
EYMN	Ely	131.91	10	*e*PKPdf	PKPdf	10 35 13.2	-0.5
EYMN				*e*PP	PP	10 37 30.2	-4.0
EYMN				*e*		10 38 33.7	
K22A	Casper	131.95	26	⇑PKiKP	PKPdf	10 35 13.9	-0.2
	baz=132						
TUQ	Turquoise Moun	131.96	40	⇓PKiKP	PKiKP	10 35 15.1	-0.2
	baz=132						
ARUT	Antelope Range	131.97	36	*e*PKIKP	PKPdf	10 35 13.9	-0.4
ARUT	Antelope Range	131.97	36	*e*PKPdf	PKPdf	10 35 13.9	-0.4
I25A	Rochford	131.99	23	⇓PKiKP	PKPdf	10 35 14.0	-0.2
	baz=132						
BBRC	Big Bear Solar	132.01	42	⇓PKiKP	PKiKP	10 35 15.4	-0.2
	baz=132						
F30A	Leola	132.05	18	PKiKP	PKPdf	10 35 13.6	-0.4
	baz=132						
HEC	Hector,Ludlow	132.06	41	⇓PKiKP	PKiKP	10 35 15.5	0.0
	baz=132						
H27A	Howes	132.09	21	⇑PKiKP	PKPdf	10 35 13.9	-0.2
	baz=132						
M20A	Sweetwater, Wa	132.10	29	⇓PKiKP	PKiKP	10 35 15.1	-0.5
	baz=132						
G28A	Parade	132.11	20	⇓PKiKP	PKPdf	10 35 14.2	0.0
	baz=132						
L21A	Rawlins	132.12	27	⇓PKiKP	PKPdf	10 35 14.2	-0.3
	baz=132						
CCUT	Cedar City	132.18	36	*e*PKPdf	PKPdf	10 35 15.6	+0.9
TMUT	Trail Mountain	132.19	33	*e*PKPdf	PKPdf	10 35 14.2	-0.6
TMUT				*e*PP	PP	10 37 25.1	-12
J24A	Dixon Ranch, L	132.19	24	⇑PKiKP	PKPdf	10 35 14.6	+0.1
	baz=132						
MURC	Murrieta	132.21	43	⇑PKiKP	PKiKP	10 35 16.0	+0.3
	baz=132						
K23A	Bowen Ranch, D	132.26	25	PKiKP	PKPdf	10 35 14.1	-0.6
	baz=132						
I26A	New Underwood	132.32	22	⇑PKiKP	PKPdf	10 35 14.8	+0.2
	baz=132						
G29A	Hoven	132.34	19	⇑PKiKP	PKPdf	10 35 14.6	+0.1
	baz=132						
M21A	Separation Pea	132.40	28	⇓PKiKP	PKPdf	10 35 15.4	+0.3
	baz=132						
RWWY	Rawlins	132.40	28	*e*PKPdf	PKPdf	10 35 21.5	+6.4
H28A	Mission Ridge	132.43	20	⇓PKiKP	PKPdf	10 35 14.8	0.0
	baz=132						
Q16A	Castle Valley	132.48	33	*e*PKPdf	PKPdf	10 35 15.3	+0.1
Q16A	Castle Valley	132.48	33	⇑PKiKP	PKiKP	10 35 16.7	+0.3
	baz=132						
L22A	Ellis Ranch, M	132.49	27	⇓PKiKP	PKiKP	10 35 16.0	-0.3
	baz=132						
J25A	Sunshine Ranch	132.49	23	⇓PKiKP	PKPdf	10 35 15.1	+0.1
	baz=132						
GMRC	Granite Mounta	132.53	41	⇓PKiKP	PKiKP	10 35 16.8	+0.3
	baz=132						
O19A	Miners Draw (B	132.55	30	⇑PKiKP	PKPdf	10 35 15.5	+0.2
	baz=132						
N20A	Spence Gulch,	132.57	29	⇓PKiKP	PKiKP	10 35 16.2	-0.3
	baz=132						
I27A	Quinn	132.59	22	⇑PKiKP	PKiKP	10 35 15.7	-0.5
	baz=132						
K24A	Anderson Ranch	132.63	25	⇓PKiKP	PKPdf	10 35 15.2	-0.2
	baz=132						
G30A	Faulkton	132.65	18	⇓PKiKP	PKPdf	10 35 15.4	+0.3
	baz=132						
109C	Camp Elliot, M	132.68	44	⇑PKiKP	PKiKP	10 35 16.9	+0.2
	baz=133						
SRU	San Rafael	132.69	32	*e*PKIKP	PKPdf	10 35 15.5	-0.1
SRU	San Rafael	132.69	32	*e*PKPdf	PKPdf	10 35 15.5	-0.1
LDFC	Landfair	132.70	40	*e*PKPdf	PKPdf	10 35 16.8	+1.2
PFO	Pinyon Flat Ob	132.71	42	*e*PKPdf	PKPdf	10 35 15.8	0.0
PFO				PKP	PKiKP	10 35 17.8	+0.9
PFO				PP	PP	10 37 43.2	+2.7
PFO				SKPbc	SKPab	10 38 36.4	-0.2
PFO				SKKPbc	SKKPbc	10 47 52.6	-5.1
PFO	Pinyon Flat Ob	132.71	42	Pdiff	Pdif	10 32 28.9	+17
	comp=Z,0.9nm,0.3s,baz=322,slow=3.2,SNR=3.3						
PFO				PKhKP	PKPpre	10 35 05.3	
	comp=Z,54nm,0.7s,baz=289,slow=2.1,SNR=20						
PFO				PKP	PKiKP	10 35 17.8	+0.9
	comp=Z,260nm,1.0s,baz=252,slow=1.5,SNR=18						
PFO				PP	PP	10 37 43.2	+2.7
	comp=Z,100nm,1.1s,baz=278,slow=2.7,SNR=4.8						
PFO				SKPbc	SKPab	10 38 36.4	-0.2
	comp=Z,261nm,1.1s,baz=310,slow=1.7,SNR=5.7						
PFO				SKKPbc	SKKPbc	10 47 52.6	-5.1
	comp=Z,28nm,1.2s,baz=176,slow=4.3,SNR=2.8						
PFO				tx	tx	11 11 06.9	
	comp=Z,6.8nm,0.9s,baz=311,slow=5.2,SNR=7.2						
PFO	Pinyon Flat Ob	132.71	42	⇑PKiKP	PKiKP	10 35 17.1	+0.3
	baz=133						
H29A	Onida	132.75	20	⇑PKiKP	PKPdf	10 35 15.4	0.0
	baz=133						
L23A	Garrett	132.75	26	⇓PKiKP	PKPdf	10 35 15.6	-0.1
	baz=133						
BELC	Belle Mtn. Jos	132.78	42	⇑PKiKP	PKiKP	10 35 17.0	0.0
	baz=133						
J26A	Sides Ranch, S	132.84	23	⇑PKiKP	PKiKP	10 35 16.2	-0.6
	baz=133						
M22A	Cedar Creek Ra	132.91	27	⇑PKiKP	PKPdf	10 35 16.6	+0.5
	baz=133						
I28A	Midland	132.97	21	⇑PKiKP	PKPdf	10 35 16.2	+0.4
	baz=133						
N21A	Black Mountain	132.98	29	⇑PKiKP	PKPdf	10 35 16.7	+0.5
	baz=133						
PQI	Presque Isle	133.03	349	*e*PKPdf	PKPdf	10 35 14.9	-0.8
BAR	Barrett	133.10	44	*e*PKPdf	PKPdf	10 35 15.8	-0.6
O20A	White River Ci	133.11	30	*e*PKPdf	PKPdf	10 35 15.8	-0.6
O20A	White River Ci	133.11	30	⇑PKiKP	PKPdf	10 35 17.0	+0.6
	baz=133						
K25A	Mack Ranch, Ha	133.11	24	⇓PKiKP	PKPdf	10 35 16.5	+0.3
	baz=133						
P19A	Cripple Cowboy	133.12	31	⇑PKiKP	PKiKP	10 35 17.6	0.0
	baz=133						
L24A	Wheatland	133.14	25	⇑PKiKP	PKPdf	10 35 16.8	+0.5
	baz=133						
MONP	Monument Peak	133.15	43	⇓PKiKP	PKiKP	10 35 18.4	+0.5
	baz=133						
IRM	Iron Mountain	133.24	41	⇑PKiKP	PKiKP	10 35 18.4	+0.5
	baz=133						
I29A	Vivian Onida	133.25	20	⇓PKiKP	PKiKP	10 35 17.0	-0.6
	baz=133						
M23A	Laramie	133.26	27	⇓PKiKP	PKPdf	10 35 17.2	+0.6
	baz=133						
J27A	Elkhorn Farm,	133.30	22	⇑PKiKP	PKiKP	10 35 17.3	-0.4
	baz=133						
K26A	Motz Farm, Whi	133.32	23	⇑PKiKP	PKPdf	10 35 16.7	+0.1
	baz=133						
BRSD	Miller	133.32	19	*e*PKPdf	PKPdf	10 35 16.2	-0.2
BRSD	Miller	133.32	19	⇓PKiKP	PKPdf	10 35 16.7	+0.2
	baz=133						
BC3	Big Chuckawall	133.35	42	⇑PKiKP	PKiKP	10 35 18.3	+0.2
	baz=133						
O21A	Pagoda	133.43	29	⇓PKiKP	PKPdf	10 35 17.6	+0.5
	baz=133						
J28A	Allard Ranch,	133.44	21	⇑PKiKP	PKPdf	10 35 17.1	+0.4
	baz=133						
N22A	Wattenberg Ran	133.45	28	⇓PKiKP	PKPdf	10 35 17.6	+0.5
	baz=133						
L25A	Engebretsen Ra	133.46	25	⇑PKiKP	PKPdf	10 35 17.4	+0.5
	baz=133						
W13A	Hualapai Mount	133.47	39	⇑PKiKP	PKiKP	10 35 18.8	+0.3
	baz=133						
DVTC	Desert V Tower	133.50	43	⇓PKiKP	PKiKP	10 35 18.8	+0.4
	baz=134						
PHWY	Pilot Hill	133.51	26	*e*PKPdf	PKPdf	10 35 16.0	-1.2
P20A	De Beque	133.52	30	⇑PKiKP	PKPdf	10 35 17.7	+0.6
	baz=133						
SWSC	Sam W. Stewart	133.54	43	⇓PKiKP	PKiKP	10 35 18.9	+0.5
	baz=134						
U15A	North Rim	133.57	36	⇑PKiKP	PKiKP	10 35 19.1	+0.4
	baz=134						
N23A	Red Feather La	133.62	27	⇑PKiKP	PKiKP	10 35 18.1	-0.6
	baz=134						
I30A	Oacoma	133.64	19	⇑PKiKP	PKPdf	10 35 17.5	+0.4
	baz=134						
M24A	Cheyenne	133.65	26	⇑PKiKP	PKiKP	10 35 18.2	-0.5
	baz=134						
K27A	Flueckinger Fa	133.69	23	⇓PKiKP	PKPdf	10 35 16.9	-0.3
	baz=134						
J29A	Okreek	133.78	20	⇓PKiKP	PKPdf	10 35 17.7	+0.4
	baz=134						
PDMCI	Parker Dam,Lak	133.81	40	⇑PKiKP	PKiKP	10 35 19.2	+0.3
	baz=134						
Y12C	Blythe	133.90	41	⇓PKiKP	PKiKP	10 35 19.6	+0.5
	baz=134						
O22A	Kremmling	133.91	28	⇑PKiKP	PKPdf	10 35 18.5	+0.4
	baz=134						
L26A	Underwood Farm	133.92	24	⇓PKiKP	PKPdf	10 35 18.0	+0.3
	baz=134						
P21A	Newcastle	133.97	30	⇑PKiKP	PKiKP	10 35 18.8	-0.6
	baz=134						
Q20A	Ridgley Place,	133.98	31	⇑PKiKP	PKPdf	10 35 18.6	+0.6
	baz=134						
K28A	Ten Mile Ranch	134.01	22	⇑PKiKP	PKPdf	10 35 17.9	+0.1
	baz=134						
M25A	Palm-Egli Farm	134.01	25	⇓PKiKP	PKPdf	10 35 18.6	+0.6
	baz=134						
GLA	Glamis	134.13	42	*e*PKIKP	PKPdf	10 35 19.5	+1.2
GLA	Glamis	134.13	42	*e*PKPdf	PKPdf	10 35 19.5	+1.2
GLA	Glamis	134.13	42	⇑PKiKP	PKiKP	10 35 19.8	+0.1
	baz=134						
J30A	Dallas	134.14	20	⇓PKiKP	PKPdf	10 35 18.4	+0.4
	baz=134						
N24A	Carr	134.15	26	⇓PKiKP	PKPdf	10 35 18.4	+0.2
	baz=134						
O23A	Lake Granby, G	134.17	28	⇓PKiKP	PKPdf	10 35 19.1	+0.6
	baz=134						
L27A	T5 Ranch, Ells	134.18	23	⇓PKiKP	PKPdf	10 35 18.5	+0.3
	baz=134						
P22A	Eagle	134.25	29	⇓PKiKP	PKiKP	10 35 19.3	-0.7
	baz=134						
SPMN	St. Paul	134.25	13	*e*PKPdf	PKPdf	10 35 17.6	-0.5
SPMN	St. Paul	134.25	13	⇑PKiKP	PKPdf	10 35 17.9	-0.2
	baz=134						
K29A	Lazy Trails An	134.35	21	⇓PKiKP	PKPdf	10 35 18.6	+0.1
	baz=134						
M26A	McRoberts Ranc	134.37	24	⇓PKiKP	PKPdf	10 35 18.6	0.0
	baz=134						
Q21A	Lamborn Mesa,	134.44	30	⇓PKiKP	PKiKP	10 35 20.3	0.0
	baz=134						
PV01	Paradox Valley	134.45	32	*e*PKPdf	PKPdf	10 35 19.4	+0.4
SMCO	Snowmass	134.47	30	*e*PKPdf	PKPdf	10 35 18.1	-1.1
R20A	Redvale	134.51	32	⇑PKiKP	PKiKP	10 35 20.4	-0.1
	baz=134						
N25A	Grover	134.51	26	⇑PKiKP	PKPdf	10 35 19.1	+0.2
	baz=134						
L28A	Connealy Angus	134.56	23	⇑PKiKP	PKPdf	10 35 19.2	+0.3
	baz=134						
M27A	Reverse DX Ran	134.62	24	⇓PKiKP	PKPdf	10 35 19.1	0.0
	baz=134						
PKME	Peaks-Kenny Pk	134.63	349	*e*PKPdf	PKPdf	10 35 18.3	-0.5
PKME				*e*PP	PP	10 37 49.9	-1.6
O24A	Longmont	134.63	27	⇓PKiKP	PKPdf	10 35 19.6	+0.4
	baz=134						
ISCO	Idaho Springs	134.64	28	*e*PKIKP	PKPdf	10 35 19.0	-0.4
ISCO				*e*		10 37 51.8	
ISCO	Idaho Springs	134.64	28	*e*PKPdf	PKPdf	10 35 19.0	-0.4
ISCO				*e*PP	PP	10 37 51.8	-0.7
ISCO	Idaho Springs	134.64	28	⇓PKiKP	PKPdf	10 35 20.0	+0.6
	baz=135						
K30A	Basset	134.67	20	⇓PKiKP	PKPdf	10 35 19.4	+0.4
	baz=135						
ECSD	EROS Data Cent	134.68	17	*e*PKPdf	PKPdf	10 35 16.8	-2.2
ECSD				*e*PP	PP	10 37 47.9	-4.1
WUAZ	Wupatki	134.73	37	*e*PKPdf	PKPdf	10 35 19.8	+0.3
WUAZ				*e*PP	PP	10 37 50.9	-2.3
WUAZ	Wupatki	134.73	37	⇑PKiKP	PKiKP	10 35 20.9	-0.1
	baz=135						
Q22A	Crested Butte,	134.75	30	⇑PKiKP	PKiKP	10 35 20.4	-0.6
	baz=135						
Y14A	Wickenburg	134.77	40	⇓PKiKP	PKiKP	10 35 20.7	-0.2
	baz=135						
S20A	Disappointment	134.78	32	⇓PKiKP	PKiKP	10 35 21.2	0.0
	baz=135						
EMMW	East Machias	134.79	347	*e*PKPdf	PKPdf	10 35 18.3	-0.7
R21A	Cimarron	134.80	31	⇓PKiKP	PKiKP	10 35 20.8	-0.4
	baz=135						
N26A	Koester Ranch,	134.87	25	⇓PKiKP	PKPdf	10 35 20.0	+0.4
	baz=135						
P23A	Jefferson	134.87	28	⇑PKiKP	PKiKP	10 35 20.9	-0.5
	baz=135						
L29A	Maesberg Ranch	134.90	22	⇑PKiKP	PKPdf	10 35 19.2	-0.3
	baz=135						
113A	Mohawk Valley,	135.01	41	⇑PKiKP	PKiKP	10 35 21.2	-0.2
	baz=135						
O25A	Wiggins	135.07	26	⇑PKiKP	PKPdf	10 35 19.9	-0.1
	baz=135						
M28A	Bar X Bar Ranc	135.14	23	⇓PKiKP	PKPdf	10 35 19.8	-0.2
	baz=135						
MVCO	Mesa Verde	135.17	33	*e*PKPdf	PKPdf	10 35 20.5	+0.1
MVCO				*e*PP	PP	10 37 59.1	+3.2
MVCO				*e*		10 38 43.2	
MVCO	Mesa Verde	135.17	33	⇑PKiKP	PKPdf	10 35 21.0	+0.6
	baz=135						
N27A	Anderson Farm,	135.17	24	⇓PKiKP	PKPdf	10 35 19.9	-0.2
	baz=135						
Z14A	Wintersburg	135.17	40	⇑PKiKP	PKiKP	10 35 21.9	+0.2
	baz=135						
P24A	Kohler Place,	135.19	28	⇓PKiKP	PKPdf	10 35 20.4	+0.1
	baz=135						
S21A	Coal Bank Pass	135.21	32	⇓PKiKP	PKiKP	10 35 22.4	+0.3
	baz=135						
Q23A	Hartsel	135.24	29	⇑PKiKP	PKPdf	10 35 21.1	+0.6
	baz=135						
OGNE	Ogallala	135.26	24	*e*PKPdf	PKPdf	10 35 18.0	-2.3
OGNE				*e*PP	PP	10 37 53.9	-2.1
OGNE	Ogallala	135.26	24	⇓PKiKP	PKPdf	10 35 20.3	0.0
	baz=135						
L30A	Spencer Herefo	135.27	21	⇑PKiKP	PKPdf	10 35 20.1	-0.1
	baz=135						
R22A	Saguache, Gunn	135.31	30	PKiKP	PKPdf	10 35 21.3	+0.6
	baz=135						
O26A	Horse Wrangler	135.31	25	⇑PKiKP	PKPdf	10 35 20.8	+0.4
	baz=135						
M29A	Burnside Ranch	135.36	22	⇑PKiKP	PKPdf	10 35 20.0	-0.4
	baz=135						
WVL	Waterville	135.37	349	*e*PKPdf	PKPdf	10 35 19.2	-0.9
L31A	Butterfield Fa	135.38	20	⇑PKiKP	PKPdf	10 35 20.3	-0.1
	baz=135						
X16A	Lo Mia Camp, P	135.43	38	⇑PKiKP	PKiKP	10 35 22.4	-0.1
	baz=135						
RCBR	Riachuelo	135.46	261	*e*PKPdf	PKPdf	10 35 20.8	-0.5
RCBR				*e*PP	PP	10 37 56.9	-2.3
Q24A	Divide	135.52	28	⇓PKiKP	PKPdf	10 35 21.2	+0.1
	baz=135						
P25A	Willow Gulch B	135.53	27	⇑PKiKP	PKPdf	10 35 21.4	+0.5
	baz=135						
M30A	Dale-Ortello V	135.58	21	⇓PKiKP	PKPdf	10 35 20.9	+0.1
	baz=136						
S22A	4UR Ranch, Cre	135.64	31	⇓PKiKP	PKiKP	10 35 22.8	-0.2
	baz=136						
N28A	Pribbeno Ranch	135.68	24	PKiKP	PKPdf	10 35 20.9	-0.1
	baz=136						
O27A	Beecher Island	135.71	25	⇓PKiKP	PKPdf	10 35 20.9	-0.2
	baz=136						
U20A	Newcomb	135.77	33	⇓PKiKP	PKiKP	10 35 22.6	-0.5
	baz=136						
R23A	Moffat	135.80	29	⇑PKiKP	PKPdf	10 35 22.4	+0.8
	baz=136						
T21A	Navajo Lake	135.85	32	⇑PKiKP	PKiKP	10 35 23.1	-0.1
	baz=136						
P26A	Davis Ranch, A	135.86	26	⇓PKiKP	PKPdf	10 35 22.0	+0.5
	baz=136						
N29A	Votaw Ranch, W	135.92	23	⇑PKiKP	PKPdf	10 35 21.5	0.0
	baz=136						
W18A	Petrified Fore	135.97	36	*e*PKPdf	PKPdf	10 35 22.3	+0.4
W18A				*e*PP	PP	10 38 02.7	+1.7
W18A				*e*		10 38 48.0	
W18A	Petrified Fore	135.97	36	PKiKP	PKPdf	10 35 22.7	+0.8
	baz=136						
Q25A	Bedland, Calha	135.98	27	⇓PKiKP	PKPdf	10 35 22.1	+0.2
	baz=136						
LONY	Lake Ozonia	136.01	354	*e*PKPdf	PKPdf	10 35 19.8	-1.7
LONY				*e*PP	PP	10 37 56.2	-4.0
O28A	Krutsinger Ran	136.06	24	⇑PKiKP	PKPdf	10 35 22.0	+0.2
	baz=136						
LBNH	Lisbon	136.06	352	*e*PKIKP	PKPdf	10 35 20.8	-0.7
LBNH				*e*		10 37 58.4	
LBNH	Lisbon	136.06	352	*e*PKPdf	PKPdf	10 35 20.8	-0.7
LBNH				*e*PP	PP	10 37 58.4	-2.2
M31A	Lambtecht Ranc	136.07	21	⇑PKiKP	PKPdf	10 35 21.5	-0.1
	baz=136						
S23A	Nye Farm, Mont	136.09	30	⇑PKiKP	PKiKP	10 35 23.1	-0.6
	baz=136						
SADO	Sadowa	136.12	359	PKP	PKPdf	10 35 21.2	-0.4
SADO				PP	PP	10 38 01.1	+0.2
SADO				SKP		10 38 47.4	
SADO				SKKPbc	SKKPbc	10 47 34.8	-11
SADO	Sadowa	136.12	359	PKhKP	PKPpre	10 35 11.7	
	comp=Z,24nm,0.8s,baz=352,slow=3.1,SNR=6.8						
SADO				PKP	PKPdf	10 35 21.2	-0.4
	comp=Z,127nm,0.7s,baz=352,slow=2.7,SNR=12						
SADO				PP	PP	10 38 01.1	+0.2
	comp=Z,158nm,1.1s,baz=350,slow=7.8,SNR=5.7						
SADO				SKP		10 38 47.4	
	comp=Z,440nm,1.1s,baz=321,slow=4.4,SNR=6.5						
SADO				SKKPbc	SKKPbc	10 47 34.8	-11
	comp=Z,14nm,0.9s,baz=204,slow=6.8,SNR=2.3						
R24A	Sanders Place,	136.12	29	⇓PKiKP	PKiKP	10 35 23.0	-0.8
	baz=136						
N30A	Hueftle Ranch,	136.14	22	PKiKP	PKPdf	10 35 21.9	0.0
	baz=136						
214A	Organ Pipe Nat	136.15	42	⇑PKiKP	PKiKP	10 35 23.5	-0.3
	baz=136						
T22A	Edith	136.16	31	⇑PKiKP	PKiKP	10 35 23.7	-0.2
	baz=136						
P27A	Ficken Ranch,	136.20	25	⇑PKiKP	PKPdf	10 35 22.4	+0.4
	baz=136						
U21A	Nageezi	136.20	33	⇑PKiKP	PKiKP	10 35 23.8	-0.2
	baz=136						
V20A	Brimhall	136.22	34	⇑PKiKP	PKPdf	10 35 23.2	+0.8
	baz=136						
X18A	Snowflake	136.26	37	⇓PKiKP	PKiKP	10 35 24.1	0.0
	baz=136						
BGNE	Belgrade	136.30	20	*e*PKPdf	PKPdf	10 35 20.6	-1.5
BGNE	Belgrade	136.30	20	⇑PKiKP	PKPdf	10 35 22.2	+0.1
	baz=136						
Q26A	Hugo	136.31	27	⇓PKiKP	PKPdf	10 35 22.7	+0.3
	baz=136						
SDCO	Great Sand Dun	136.31	30	*e*PKPdf	PKPdf	10 35 19.9	-2.6
SDCO				*e*PP	PP	10 38 03.0	0.0
O29A	4D Ranch, Culb	136.45	23	⇑PKiKP	PKPdf	10 35 22.7	+0.2
	baz=136						
MDV	Middlebury	136.47	353	*e*PKPdf	PKPdf	10 35 23.1	+0.9
P28A	Saint Francis	136.53	25	⇑PKiKP	PKPdf	10 35 22.8	+0.2
	baz=136						
S24A	Houchin Ranch,	136.53	29	⇓PKiKP	PKiKP	10 35 24.2	-0.6
	baz=136						
N31A	Bailey Ranch,	136.54	21	⇓PKiKP	PKPdf	10 35 22.8	+0.3
	baz=136						
R25A	Fountain Ranch	136.58	28	⇑PKiKP	PKPdf	10 35 23.2	+0.3
	baz=136						
T23A	Casias Ranch,	136.59	31	⇓PKiKP	PKiKP	10 35 24.1	-0.8
	baz=136						
NCB	Newcomb	136.61	354	*e*PKPdf	PKPdf	10 35 21.3	-1.3
NCB				*e*PP	PP	10 38 00.4	-3.6
KSCO	Kaye Shedlock'	136.63	26	*e*PKPdf	PKPdf	10 35 21.4	-1.5
KSCO	Kaye Shedlock'	136.63	26	⇓PKiKP	PKPdf	10 35 23.2	+0.3
	baz=136						
HNH	Hanover	136.63	352	*e*PKPdf	PKPdf	10 35 22.3	-0.2
U22A	Llaves	136.67	32	⇓PKiKP	PKiKP	10 35 25.1	+0.1
	baz=137						
W20A	Ramah	136.68	35	⇑PKiKP	PKiKP	10 35 24.2	-0.8
	baz=137						
O30A	MW Ranch, Wils	136.69	22	⇑PKiKP	PKPdf	10 35 22.9	0.0
	baz=137						
FFD	Franklin Falls	136.77	351	*e*PKPdf	PKPdf	10 35 23.0	+0.2
N32A	Stulken Farm,	136.82	20	⇓PKiKP	PKPdf	10 35 23.1	+0.1
	baz=137						
P29A	Atwood	136.84	24	⇑PKiKP	PKPdf	10 35 23.6	+0.4
	baz=137						
R26A	Arlington	136.84	27	⇑PKiKP	PKPdf	10 35 24.1	+0.8
	baz=137						
S25A	Robets Cordova	136.90	29	⇑PKiKP	PKPdf	10 35 24.2	+0.7
	baz=137						
T24B	San Luis	136.90	30	⇓PKiKP	PKiKP	10 35 25.3	-0.2
	baz=137						
Q28A	Sharon Springs	136.93	25	⇑PKiKP	PKPdf	10 35 23.8	+0.4
	baz=137						
V22A	San Miguel Ran	136.99	33	⇑PKiKP	PKiKP	10 35 25.7	0.0
	baz=137						
O31A	Woolen Ranch,	136.99	22	⇓PKiKP	PKPdf	10 35 23.9	+0.5
	baz=137						
JFWS	Jewell Farm	136.99	11	*e*PKIKP	PKPdf	10 35 21.4	-1.9
JFWS	Jewell Farm	136.99	11	*e*PKPdf	PKPdf	10 35 21.4	-1.9
JFWS				*e*PP	PP	10 37 57.3	-9.1
U23A	El Rito	137.05	32	⇓PKiKP	PKiKP	10 35 25.8	0.0
	baz=137						
X20A	Quemado	137.10	35	⇑PKiKP	PKiKP	10 35 25.9	0.0
	baz=137						
ACCN	Adirondack Com	137.13	353	*e*PKPdf	PKPdf	10 35 23.4	-0.1
R27A	Eads	137.15	27	⇑PKiKP	PKPdf	10 35 24.4	+0.5
	ba

Q31A **Ellis** 137.96 23 ⇑PKiKP **PKPdf** 10 35 25.9 +0.6
baz=138
X22A **Bernardo** 137.97 34 ⇑PKiKP **PKiKP** 10 35 27.7 +0.1
baz=138
LAZ **Ladron** 137.98 34 *e*PKPpre PKPpre 10 35 17.9
TRQA **Tornquist** 137.98 201 *e*PKPdf **PKPdf** 10 35 24.4 -0.9
TRQA *e*PP **PP** 10 38 07.8 -5.0
V24A **Rampart Ranch,** 137.99 31 ⇓PKiKP **PKiKP** 10 35 27.5 -0.2
baz=138
QUA2 **Belchertown** 138.04 351 *e*PKPdf **PKPdf** 10 35 24.9 -0.3
Z20A **Nine Sixteen R** 138.05 37 ⇑PKiKP **PKiKP** 10 35 27.4 -0.4
baz=138
S28A **Manter** 138.13 26 ⇓PKiKP **PKPdf** 10 35 26.2 +0.5
baz=138
T27A **Campo** 138.19 28 ⇓PKiKP **PKPdf** 10 35 26.5 +0.7
baz=138
P33A **Williams Farm,** 138.21 21 PKiKP **PKPdf** 10 35 25.2 -0.5
baz=138
R30A **Dighton** 138.23 24 ⇓PKiKP **PKPdf** 10 35 26.4 +0.6
baz=138
U26A **Atchley Ranch,** 138.24 29 ⇑PKiKP **PKPdf** 10 35 26.4 +0.4
baz=138
V25A **Rancho No Teng** 138.24 31 ⇑PKiKP **PKiKP** 10 35 27.3 -0.9
baz=138
LENM **Lemitar** 138.24 34 *e*PKPpre PKPpre 10 35 19.1
BRYW **Bryant College** 138.27 350 *e*PKPdf **PKPdf** 10 35 24.4 -1.2
W24A **Lazy 6 Ranch,** 138.32 32 ⇓PKiKP **PKiKP** 10 35 27.4 -0.9
baz=138
LPM **Los Pinos Moun** 138.33 34 *e*PKPpre PKPpre 10 35 17.7
Y22D **IRIS PASSCAL I** 138.34 34 ⇓PKiKP **PKiKP** 10 35 27.5 -0.8
baz=138
X23A **Hourglass Bar** 138.37 33 ⇓PKiKP **PKPdf** 10 35 27.3 +1.0
baz=138
Y22A **Socorro** 138.41 35 ⇓PKiKP **PKPdf** 10 35 27.2 +0.8
baz=138
T28A **Walsh** 138.42 27 ⇓PKiKP **PKPdf** 10 35 26.7 +0.5
baz=138
120A **U Bar Ranch, L** 138.42 38 ⇑PKiKP **PKiKP** 10 35 27.9 -0.7
baz=138
S29A **Ulysses** 138.44 26 ⇑PKiKP **PKPdf** 10 35 27.2 +1.0
baz=138
BNM **Barren Site** 138.45 34 *e*PKPpre PKPpre 10 35 17.8
Z21A **St. Cloud Mine** 138.46 36 ⇑PKiKP **PKPdf** 10 35 27.5 +0.9
baz=138
R31A **Burdett** 138.53 23 ⇓PKiKP **PKPdf** 10 35 26.9 +0.6
baz=138
BINY **Binghamton** 138.53 355 *e*PKPdf **PKPdf** 10 35 26.0 -0.1
BINY *e*PP **PP** 10 38 17.0 +1.1
U27A **Thompson Grove** 138.66 28 ⇑PKiKP **PKPdf** 10 35 27.4 +0.7
baz=139
V26A **Tequesquite Ra** 138.69 30 ⇑PKiKP **PKPdf** 10 35 27.5 +0.6
baz=139
S30A **Montezuma** 138.70 25 ⇑PKiKP **PKPdf** 10 35 27.2 +0.6
baz=139
T29A **Hugoton** 138.75 26 ⇓PKiKP **PKPdf** 10 35 27.3 +0.5
baz=139
ERPA **Erie** 138.78 360 *e*PKPdf **PKPdf** 10 35 25.7 -0.9
ERPA *e*PP **PP** 10 38 15.3 -2.0
X24A **Lazy VL Ranch,** 138.79 33 ⇑PKiKP **PKPdf** 10 35 28.1 +1.0
baz=139
W25A **X Bar L Ranch,** 138.81 31 ⇑PKiKP **PKiKP** 10 35 28.3 -0.9
baz=139
319A **Douglas** 138.81 39 ⇑PKiKP **PKiKP** 10 35 29.0 -0.3
baz=139
KSU1 **Kansas State U** 138.89 20 *e*PKPdf **PKPdf** 10 35 26.3 -0.6
KSU1 *e*PP PP 10 38 12.4 -5.9
KSU1 *e* 10 38 54.9
Z22A **Elephant Butte** 138.91 35 ⇑PKiKP **PKiKP** 10 35 29.0 -0.6
baz=139
220A **Playas Peak, P** 138.93 38 ⇓PKiKP **PKiKP** 10 35 29.7 +0.1
baz=139
Y23A **Lovelace Mesa,** 138.93 34 ⇑PKiKP **PKiKP** 10 35 29.0 -0.6
baz=139
121A **Cookes Peak, D** 138.94 37 ⇑PKiKP **PKiKP** 10 35 29.5 -0.2
baz=139
U28A **Mallet** 138.97 28 ⇑PKiKP **PKPdf** 10 35 28.2 +0.9
baz=139
LPA **La Plata** 138.98 208 *de*PDIF **Pdif** 10 32 42.0 +2.7
LPA PP **PP** 10 38 19.0 -0.1
LPA PPP PPP 10 41 20.0
LPA SKIKS 10 42 27.0
LPA SDIFF 10 46 37.0
LPA PSP PSP 10 50 36.0
LPA
comp=Z,115μm,21.0s
YLE **Yale** 139.07 352 *e*PKPdf **PKPdf** 10 35 26.4 -0.7
S31A **Mullinville** 139.12 24 ⇑PKiKP **PKPdf** 10 35 28.0 +0.6
baz=139
T30A **Plains** 139.17 25 ⇓PKiKP **PKPdf** 10 35 28.5 +1.0
baz=139
V27A **Dan Oppiter Fa** 139.19 29 ⇓PKiKP **PKPdf** 10 35 28.4 +0.7
baz=139
X25A **Clemmons Ranch** 139.23 32 ⇓PKiKP **PKPdf** 10 35 28.4 +0.6
baz=139
W26A **Owens Ranch, T** 139.26 30 ⇓PKiKP **PKPdf** 10 35 28.9 +1.1
baz=139
Y24A **Capitan** 139.28 33 ⇓PKiKP **PKiKP** 10 35 29.4 -0.9
baz=139
122A **Conniff Cattle** 139.29 36 ⇓PKiKP **PKiKP** 10 35 29.9 -0.4
baz=139
221A **Mesquite Ranch** 139.31 37 ⇑PKiKP **PKiKP** 10 35 29.9 -0.4
baz=139
320A **Kipp Ranch, An** 139.31 39 ⇓PKiKP **PKiKP** 10 35 29.9 -0.5
baz=139
Z23A **Rita Site, Whi** 139.32 35 ⇓PKiKP **PKiKP** 10 35 29.9 -0.4
baz=139
U29A **Oasis Ranch, S** 139.35 27 ⇓PKiKP **PKPdf** 10 35 28.6 +0.7
baz=139
V28A **Channing** 139.49 28 ⇑PKiKP **PKPdf** 10 35 29.1 +0.9
baz=139
T31A **Randall Ranch,** 139.49 24 ⇓PKiKP **PKPdf** 10 35 28.9 +0.8
baz=139
U30A **WK&E Inc. Balk** 139.56 26 ⇓PKiKP **PKPdf** 10 35 29.4 +1.2
baz=140
W27A **Bowe Ranch, En** 139.63 30 ⇓PKiKP **PKPdf** 10 35 29.2 +0.6
baz=140
222A **Williams Famil** 139.65 37 ⇑PKiKP **PKiKP** 10 35 30.3 -0.7
baz=140
X26A **CR and CF Fran** 139.66 31 ⇓PKiKP **PKPdf** 10 35 29.6 +1.0
baz=140
Y25A **Mesa, Roswell** 139.68 32 ⇓PKiKP **PKiKP** 10 35 30.1 -0.9
baz=140
V29A **Stinnett** 139.71 27 ⇑PKiKP **PKPdf** 10 35 29.7 +1.1
baz=140
CPNY **Central Park** 139.72 353 *e*PKPdf **PKPdf** 10 35 27.9 -0.4
Z24A **Sheeppen Canyo** 139.76 34 ⇓PKiKP **PKiKP** 10 35 30.5 -0.8
baz=140
123A **Bell Site, Whi** 139.76 35 ⇓PKiKP **PKiKP** 10 35 30.3 -1.0
baz=140
W28A **Vega** 139.89 29 ⇑PKiKP **PKiKP** 10 35 30.5 -0.9
baz=140
BRNJ **Basking Ridge** 139.90 354 *e*PKPdf **PKPdf** 10 35 27.8 -0.8
X27A **F and S Farms,** 139.94 30 ⇓PKiKP **PKiKP** 10 35 30.6 -1.0
baz=140
SFIN **Scholer Farm** 139.99 8 *e*PKPdf **PKPdf** 10 35 28.1 -0.7
SFIN **Scholer Farm** 139.99 8 ⇑PKiKP **PKPdf** 10 35 29.5 +0.7
baz=140
U31A **Nine Bar Ranch** 140.04 25 ⇑PKiKP **PKPdf** 10 35 30.1 +0.9
baz=140
223A **Chaparral, Ant** 140.12 36 ⇓PKiKP **PKPdf** 10 35 30.5 +1.0
baz=140
Y26A **Elida** 140.14 32 ⇑PKiKP **PKPdf** 10 35 30.3 +0.8
baz=140
Z25A **Roswell** 140.16 33 ⇑PKiKP **PKPdf** 10 35 30.3 +0.8
baz=140
SPB **Sao Paulo** 140.17 231 *e*PKPdf **PKPdf** 10 35 31.2 +1.5
SPB *e*PP **PP** 10 38 25.4 -2.0
SPB *e* 10 38 58.1
124A **Stringfield Ra** 140.18 34 ⇓PKiKP **PKiKP** 10 35 31.0 -1.2
baz=140
V30A **Spur Ranch, Mi** 140.18 27 ⇓PKiKP **PKPdf** 10 35 30.4 +0.9
baz=140
SSPA **Standing Stone** 140.21 357 *e*PKPdf **PKPdf** 10 35 25.9 -3.4
SSPA *e*PP **PP** 10 38 27.4 +1.3
W29A **Amraillo** 140.27 28 ⇓PKiKP **PKPdf** 10 35 30.3 +0.6
baz=140
X28A **Dimmitt** 140.49 29 ⇓PKiKP **PKPdf** 10 35 31.1 +1.0
baz=140
Y27A **Causey** 140.51 31 ⇑PKiKP **PKPdf** 10 35 31.0 +0.8
baz=140
V31A **Spring Creek L** 140.55 26 ⇓PKiKP **PKPdf** 10 35 31.0 +0.9
baz=140
Z26A **Caprock** 140.56 32 ⇓PKiKP **PKPdf** 10 35 31.5 +1.2
baz=140
ACSO **Alum Creek Sta** 140.57 4 *e*PKPdf **PKPdf** 10 35 29.3 -0.6
ACSO *e*PP **PP** 10 38 25.2 -3.2
224A **Cornudas Mount** 140.60 35 ⇓PKiKP **PKiKP** 10 35 31.8 -1.2
baz=140
MSTX **Muleshoe** 140.65 30 *e*PKPdf **PKPdf** 10 35 29.9 -0.5
MSTX **Muleshoe** 140.65 30 ⇓PKiKP **PKPdf** 10 35 31.6 +1.2
baz=141
125A **Gardner Draw,** 140.66 34 ⇑PKiKP **PKPdf** 10 35 31.4 +1.0
baz=141
W30A **Crocket Farms** 140.72 27 ⇓PKiKP **PKPdf** 10 35 31.7 +1.3
baz=141
X29A **Tulia** 140.79 29 ⇑PKiKP **PKPdf** 10 35 31.7 +1.1
baz=141
Z27A **Tatum** 140.93 32 ⇓PKiKP **PKPdf** 10 35 31.9 +1.0
baz=141
Y28A **McKinney Farm,** 140.96 30 ⇑PKiKP **PKPdf** 10 35 32.2 +1.2
baz=141
225A **Deer Hill, Car** 140.97 34 ⇑Pdiff **Pdif** 10 32 48.4 -0.1
baz=141
W31A **Holland Ranch,** 141.00 26 ⇓Pdiff **Pdif** 10 32 49.1 +0.7
baz=141
126A **Clayton Basin,** 141.01 33 ⇓Pdiff **Pdif** 10 32 48.7 +0.1
baz=141
324A **Moseley Ranch,** 141.09 36 ⇑Pdiff **Pdif** 10 32 49.3 +0.3
baz=141
SLM **Saint Louis** 141.11 13 *e*PKIKP PKPpre 10 35 25.8
SLM **Saint Louis** 141.11 13 *e*PKPdf PKPpre 10 35 25.8
GDL2 **Guadalupe Moun** 141.16 34 *e*PKPpre PKPpre 10 35 25.6
X30A **Coker Ranch, T** 141.19 28 ⇑Pdiff **Pdif** 10 32 49.0 -0.3
baz=141
BLO **Bloomington** 141.26 8 *e*PKHKP PKPpre 10 35 25.1
BLO **Bloomington** 141.26 8 *e*PKPpre PKPpre 10 35 25.1
Y29A **Portefield Fa** 141.28 29 ⇑Pdiff **Pdif** 10 32 49.8 +0.1
baz=141
127A **Arkansas Junct** 141.35 32 ⇓Pdiff **Pdif** 10 32 50.8 +0.7
baz=141
226B **Tecolote Peak,** 141.37 34 ⇓Pdiff **Pdif** 10 32 50.6 +0.5
baz=141
SDMD **Soldier's Deli** 141.37 356 *e*PKPdf PKPpre 10 35 27.4
Z28A **Tucker Farm, M** 141.38 31 ⇑Pdiff **Pdif** 10 32 50.7 +0.4
baz=141
CLNB **Carlsbad** 141.38 33 *e*PKPpre PKPpre 10 35 26.9
OLIL **Olney** 141.44 10 *e*PKPdf **PKPdf** 10 35 31.6 +0.1
X31A **McDonald Ranch** 141.44 27 ⇑Pdiff **Pdif** 10 32 50.3 -0.1
baz=141
Y30A **Stafford Cattl** 141.64 29 ⇑Pdiff **Pdif** 10 32 51.1 -0.2
baz=142
Z29A **Hungry Hill Ra** 141.75 30 ⇑Pdiff **Pdif** 10 32 52.0 +0.1
baz=142
128A **Castleberry Fa** 141.85 31 ⇑Pdiff **Pdif** 10 32 52.8 +0.5
baz=142
425A **Indio Mountain** 141.85 36 ⇑Pdiff **Pdif** 10 32 53.0 +0.6
baz=142
Y31A **Rekieta Farm,** 141.87 28 ⇓Pdiff **Pdif** 10 32 53.5 +1.2
baz=142
WMOK **Wichita Mounta** 141.88 25 *e*PKIKP PKPpre 10 35 28.2
WMOK *e* 10 38 35.3
WMOK **Wichita Mounta** 141.88 25 *e*PKPdf PKPpre 10 35 28.2
WMOK *e*PP **PP** 10 38 35.3 -1.6
227A **Bennet, Jal** 141.90 33 ⇓Pdiff **Pdif** 10 32 53.3 +0.8
baz=142
Z30A **Sanderson Ranc** 142.01 29 ⇑Pdiff **Pdif** 10 32 54.2 +1.2
baz=142
TUL1 **Tulsa** 142.03 21 ⇓Pdiff **Pdif** 10 32 53.3 +0.4
baz=142
129A **Stewart Farms,** 142.17 31 ⇑Pdiff **Pdif** 10 32 54.4 +0.7
baz=142
228A **UT Block 9, Go** 142.19 32 ⇑Pdiff **Pdif** 10 32 54.9 +1.1
baz=142
SIUC **Southern Illin** 142.21 12 *e*PKPdf PKPpre 10 35 27.4
Y32A **R-V Farms, Ver** 142.21 27 ⇓Pdiff **Pdif** 10 32 54.7 +0.9
baz=142
USIN **University of** 142.26 10 *e*PKPdf PKPpre 10 35 28.9
327A **Balmorhea Ranc** 142.28 34 ⇑Pdiff **Pdif** 10 32 55.1 +0.9
baz=142
BB16B **Bebedouro** 142.42 233 ⇑*i*P **PKPdf** 10 35 31.2 -2.6
BB16B *i* 10 35 35.2
BB16B *i* 10 35 38.7
BB16B *i* 10 35 41.3
BB16B *i* 10 35 45.0
BB16B *i* 10 36 01.5
BB16B *i* 10 36 16.7
Z31A **Sharp Cattle R** 142.46 28 ⇓Pdiff **Pdif** 10 32 55.4 +0.4
baz=142
426A **McDonald Obser** 142.50 35 ⇑Pdiff **Pdif** 10 32 55.9 +0.5
baz=142
LPIG **La Paz** 142.57 49 PKPpre PKPpre 10 35 30.4
LPIG SKPbc **SKiKP** 10 39 06.8 +1.5
LPIG **La Paz** 142.57 49 PKhKP PKPpre 10 35 30.4
comp=Z,169nm,0.6s,baz=350,slow=3.7,SNR=33
LPIG SKPbc **SKiKP** 10 39 06.8 +1.5
comp=Z,118nm,0.9s,baz=189,slow=2.0,SNR=3.8
LPIG tx tx 11 11 06.3
comp=Z,23nm,0.3s,baz=48,slow=6.2,SNR=3.6
CBN **Corbin** 142.60 357 *e*PKPdf PKPpre 10 35 27.3
CBN *e*PP **PP** 10 38 41.8 +1.0
328A **Wristen Ranch,** 142.64 33 ⇓Pdiff **Pdif** 10 32 56.4 +0.5
baz=143
130A **Snyder** 142.65 30 ⇑Pdiff **Pdif** 10 32 56.2 +0.3
baz=143
427A **Hayter Ranch,** 142.72 34 ⇑Pdiff **Pdif** 10 32 56.7 +0.5
baz=143
Z32A **Haskell** 142.78 27 ⇓Pdiff **Pdif** 10 32 56.6 +0.3
baz=143
131A **Roby** 142.87 29 ⇓Pdiff **Pdif** 10 32 57.6 +0.8
baz=143
526A **Mary Lane Ranc** 142.91 36 ⇑Pdiff **Pdif** 10 32 57.7 +0.6
baz=143
329A **Wagon Wheel Ra** 143.01 32 ⇑Pdiff **Pdif** 10 32 58.3 +0.9
baz=143
PARMO **Parma** 143.11 13 *e*PKPdf PKPbc 10 35 31.9 +0.3
527A **Woodward Ranch** 143.13 35 ⇓Pdiff **Pdif** 10 32 59.0 +0.9
baz=143
JSRW **J. Sargeant Re** 143.14 357 *e*PKPdf PKPbc 10 35 31.5 -0.1
230A **Sterling City** 143.14 31 ⇑Pdiff **Pdif** 10 32 58.5 +0.5
baz=143
428A **Kincaid Ranch,** 143.21 34 ⇑Pdiff **Pdif** 10 32 59.1 +0.7
baz=143
626A **Big Bend Ranch** 143.25 36 ⇓Pdiff **Pdif** 10 32 59.9 +1.2
baz=143
ABTX **Abilene, Hawle** 143.27 28 *e*PKPdf PKPbc 10 35 33.0 +0.8
ABTX **Abilene, Hawle** 143.27 28 ⇓Pdiff **Pdif** 10 32 59.0 +0.4
baz=143
PVMO **Portageville** 143.36 13 *e*PKPdf PKPbc 10 35 31.9 -0.4
330A **Mertzon** 143.49 31 ⇓Pdiff **Pdif** 10 33 00.2 +0.6
baz=143
231A **Bronte** 143.50 30 ⇑Pdiff **Pdif** 10 33 00.3 +0.6
baz=143
528A **Cox Ranch, San** 143.58 34 ⇑Pdiff **Pdif** 10 33 01.5 +1.4
baz=144
GLAT **Glass** 143.59 13 *e*PKPdf PKPab 10 35 32.0 0.0
VWCC **Virginia Weste** 143.64 360 *e*PKPdf PKPab 10 35 32.6 +0.4
BLA **Blacksburg** 143.68 1 *e*PKIKP PKPab 10 35 31.5 -0.9
BLA *e* 10 38 46.8
BLA **Blacksburg** 143.68 1 *e*PKPdf PKPab 10 35 31.5 -0.9
BLA *e*PP **PP** 10 38 46.8 -0.5
TXAR **Lajitas Array** 143.69 36 PKP PKPbc 10 35 33.8 +0.1
TXAR SKPbc **SKiKP** 10 39 11.3 +3.7
TXAR SKKPbc **SKKPbc** 10 47 18.4 +3.1
TXAR P5KP 11 15 14.5
TXAR ⇑*e* 11 19 46.1
TXAR **Lajitas Array** 143.69 36 Pdiff Pdif 10 33 30.5 +30
comp=Z,0.7nm,0.9s,baz=287,slow=3.0,SNR=7.1
TXAR PKP PKPbc 10 35 33.8 +0.1
comp=Z,1μm,0.7s,baz=267,slow=0.7,SNR=454
TXAR SKPbc **SKiKP** 10 39 11.3 +3.7
comp=Z,79nm,0.8s,baz=207,slow=0.2,SNR=4.1
TXAR SKKPbc **SKKPbc** 10 47 18.4 +3.1
comp=Z,9.0nm,0.9s,baz=158,slow=9.7,SNR=3.3
TXAR tx tx 11 11 57.2
comp=Z,3.5nm,0.9s,baz=291,slow=2.8,SNR=22
TXAR P5KP 11 15 14.5
comp=Z,0.4nm,0.9s,baz=213,slow=9.7,SNR=4.2
TXAR PKP2bc 11 19 46.1
comp=Z,2.5nm,1.1s,baz=141,slow=6.1,SNR=7.7
GNAR **Gosnell** 143.71 14 *e*PKPdf PKPbc 10 35 33.2 -0.1
429A **Davenport Ranc** 143.72 33 ⇑Pdiff **Pdif** 10 33 01.7 +1.1
baz=144
627A **Terlingua Ranc** 143.77 36 ⇑Pdiff **Pdif** 10 33 02.1 +1.1
baz=144
232A **Coleman** 143.87 29 ⇑Pdiff **Pdif** 10 33 02.6 +1.4
baz=144
HALT **Halls** 143.92 13 *e*PKPdf **PKPdf** 10 35 35.0 -1.0
529A **Stev Forest Ra** 143.93 34 ⇓Pdiff **Pdif** 10 33 03.0 +1.4
baz=144
HBAR **Harrisburg** 143.94 15 *e*PKPdf **PKPdf** 10 35 35.8 -0.2
430A **Baggett Ranch,** 143.95 32 ⇓Pdiff **Pdif** 10 33 03.0 +1.3
baz=144
331A **San Angelo** 143.96 30 ⇑Pdiff **Pdif** 10 33 03.2 +1.6
baz=144
WVT **Waverly** 144.02 11 *e*PKPdf **PKPab** 10 35 31.4 -2.2
WVT *e*PP **PP** 10 38 48.0 -1.3
628A **Black Gap, Mar** 144.03 35 ⇓Pdiff Pdif 10 33 03.6
baz=144
HPIG 144.13 41 P **PKPab** 10 35 32.5 -2.2
TZTN **Tazewell** 144.19 5 *e*PKPdf PKPbc 10 35 34.7 -0.1
UALR **University of** 144.21 17 *e*PKPdf **PKPab** 10 35 34.3 -0.1
332A **Millersview** 144.24 30 ⇓Pdiff Pdif 10 33 03.9
baz=144
431A **Sonora** 144.36 31 ⇓Pdiff Pdif 10 33 04.4
baz=144
530A **J-C Ranch, Com** 144.40 33 ⇓Pdiff Pdif 10 33 04.2
baz=144
BDFB **Brasilia** 144.44 241 PKP PKPbc 10 35 36.3 +0.1
BDFB **Brasilia** 144.44 241 PKP PKPbc 10 35 36.3 +0.1
comp=Z,225nm,0.4s,baz=91,slow=3.8,SNR=174
432A **Menard** 144.62 30 ⇓Pdiff Pdif 10 33 04.4
baz=145
WHTX **Lake Whitney** 144.80 26 *e*PKPdf **PKPab** 10 35 36.4 -0.3
WHTX **Lake Whitney** 144.80 26 ⇓Pdiff Pdif 10 33 05.2
baz=145
531A **Rocksprings** 144.81 32 ⇓Pdiff Pdif 10 33 06.1
baz=145
JCT **Junction City** 144.94 31 *e*PKIKP **PKPdf** 10 35 37.8 -0.2
JCT **Junction City** 144.94 31 *e*PKPbc **PKPdf** 10 35 37.8 -0.2
JCT **Junction City** 144.94 31 ⇓Pdiff Pdif 10 33 06.6
baz=145
532A **Rocksprings** 145.17 31 ⇑PKPdf **PKPab** 10 35 38.2 0.0
baz=145
CPCT **Cooper Cave** 145.18 6 *e*PKPbc **PKPbc** 10 35 36.6 -1.3
SWET **Sewanee** 145.23 8 *e*PKPbc **PKPbc** 10 35 36.6 -1.5
OXF **Oxford** 145.25 14 *e*PKIKP **PKPbc** 10 35 37.2 -0.9
OXF **Oxford** 145.25 14 *e*PKPbc **PKPbc** 10 35 37.2 -0.9
CPUP **Villa Florida** 145.33 218 *e*PKPbc **PKPbc** 10 35 38.5 -0.1
CPUP *e*pPKPdf **pPKPdf** 10 36 03.1 -0.6
CPUP pPKPbc pPKPbc 10 36 04.1 +0.6
CPUP **Villa Florida** 145.33 218 PKPbc **PKPbc** 10 35 38.6 0.0
comp=Z,2μm,1.1s,baz=93,slow=3.5,SNR=322
CPUP pPKPbc pPKPbc 10 36 04.1 +0.6
comp=Z,1μm,0.7s,baz=70,slow=4.1,SNR=6.9
BBSR **BB Station** 145.34 337 *e*PKPbc **PKPbc** 10 35 38.3 -0.2
BBSR *e*pPKPdf **pPKPdf** 10 36 03.3 -0.4
BBSR *e*PP **PP** 10 38 57.4 -0.1
631A **Perdido Creek** 145.38 33 ⇑PKPdf **PKPab** 10 35 38.9 -0.1
baz=145
KMSC **Kings Mountain** 145.72 2 *e*PKPbc **PKPdf** 10 35 39.1 -0.1
KMSC **Kings Mountain** 145.72 2 ⇓PKPdf **PKPdf** 10 35 39.0 -0.1
baz=146
632A **Uvalde** 145.73 32 ⇓PKPdf **PKPab** 10 35 40.1 -0.2
baz=146
CFAA **Coronel Fontan** 145.97 198 PKPbc **PKPbc** 10 35 40.4 -0.1
CFAA pPKPbc pPKPbc 10 36 08.3 +2.9
CFAA **Coronel Fontan** 145.97 198 PKPbc **PKPbc** 10 35 40.4 -0.1
comp=Z,72nm,0.8s,baz=182,slow=2.3,SNR=395
CFAA pPKPbc pPKPbc 10 36 08.3 +2.9
comp=Z,142nm,0.7s,baz=180,slow=4.4,SNR=5.5
MAIG **Mazatlaan** 146.00 47 P **PKPdf** 10 35 40.2 +0.3
NATX **Nacogdoches** 146.16 23 *e*PKPdf **PKPdf** 10 35 40.0 +0.1
732A **Laxson Ranch,** 146.24 33 ⇓PKPdf **PKPdf** 10 35 40.6 +0.4
baz=146
VBMS **Vicksburg** 147.13 17 *e*PKPdf **PKPdf** 10 35 41.9 +0.3
LRAL **Lakeview Retre** 147.18 11 *e*PKPdf **PKPdf** 10 35 41.3 -0.3
HKT **Hockley** 147.26 26 *e*PKIKP **PKPdf** 10 35 42.2 +0.4
HKT *e* 10 39 11.5
HKT **Hockley** 147.26 26 *e*PKPdf **PKPdf** 10 35 42.2 +0.4
HKT *e* 10 39 11.5
ANIG **Ahuacatlan** 148.69 48 P **PKPdf** 10 35 45.2 +0.6
ZAIG **Zacatecas** 149.00 43 P **PKPdf** 10 35 46.4 +1.1
LCO **Las Campanas** 149.13 196 *e*PKPdf **PKPdf** 10 35 46.1 +0.7
BRAL **Brewton** 149.13 12 *e*PKPdf **PKPdf** 10 35 45.4 +0.5
CJM **Chamela** 149.19 51 P **PKPdf** 10 35 45.5 +0.2
TIGA **Tifton** 149.25 6 ⇑PKPdf **PKPdf** 10 35 45.2 +0.1
baz=149
LNIG **Linares** 149.48 37 P **PKPdf** 10 35 45.4 -0.3
SFJM **Santa Fe** 150.13 47 P **PKPdf** 10 35 48.3 +1.3
MMIG **Aquila** 151.20 51 P **PKPdf** 10 35 48.5 0.0
MOIG **Morelia** 151.99 46 P **PKPdf** 10 35 49.9 0.0
DWPF **Disney** 152.72 3 *e*PKPdf **PKPdf** 10 35 50.6 +0.1
DWPF *e*PP **PP** 10 39 42.0 +2.1
ZIIG **Zihuatanejo** 153.05 50 P **PKPdf** 10 35 51.1 -0.1
DEIG **Demacu** 153.08 42 P **PKPdf** 10 35 52.5 +1.0
SZVM **Salazar** 153.51 45 P **PKPdf** 10 35 53.0 +0.6
PTVM **Pico Tres Padr** 153.51 44 P **PKPdf** 10 35 52.7 +0.5
PBVM **Pinon** 153.63 44 P **PKPdf** 10 35 53.1 +1.1
UNM **Universidad Na** 153.65 44 PKIKP **PKPdf** 10 35 52.6 +0.2
UNM **Universidad Na** 153.65 44 P **PKPdf** 10 35 52.6 +0.2
IIO **Organos** 153.78 43 P **PKPdf** 10 35 53.4 +0.6
PLIG **Platanillo** 154.03 46 P **PKPdf** 10 35 53.3 +0.6
YAIG **Yautepec** 154.03 45 P **PKPdf** 10 35 52.6 -0.2
PPM **Popocatepetl** 154.21 44 PKIKP **PKPdf** 10 35 54.4 +0.9
PPM **Popocatepetl** 154.21 44 P **PKPdf** 10 35 54.4 +0.9
MEIG **Mezcala** 154.24 47 P **PKPdf** 10 35 53.7 +0.7
CAIG **El Cayaco** 154.30 50 P **PKPdf** 10 35 53.2 +0.2
LVC **Limon Verde** 154.41 204 *e*PKPdf **PKPdf** 10 35 52.9 -0.6
LVC *e*PKPab **PKPab** 10 36 18.6 +2.5
ACX **Acapulco** 154.72 50 P **PKPdf** 10 35 57.5 +3.9
SIV **San Ignacio** 154.98 228 PKP **PKPdf** 10 35 54.3 +0.3
SIV PKPab **PKPab** 10 36 19.5 +0.9
SIV **San Ignacio** 154.98 228 PKP **PKPdf** 10 35 54.3 +0.3
comp=Z,90nm,1.1s,baz=136,slow=2.1,SNR=114
SIV PKPab **PKPab** 10 36 19.5 +0.9
comp=Z,260nm,0.9s,baz=134,slow=2.7,SNR=11
ANWB **Willy Bob** 155.38 314 ⇑*i*P **PKPdf** 10 35 54.5 0.0
ANWB **Willy Bob** 155.38 314 *e*PKPdf **PKPdf** 10 35 53.5 -1.0
TPIG **Tehuac#an** 155.52 43 P **PKPdf** 10 35 55.5 +0.6
DEG **La Desirade** 155.70 311 *e*P **PKPdf** 10 35 55.0 0.0
BPA **Boggy Peak** 155.84 313 *e* **PKPdf** 10 35 55.8 +0.7
SEG **Port Louis** 155.99 311 *e*P **PKPdf** 10 35 55.6 +0.3
SMRT **St. Maarten** 156.03 317 ⇑*i*P **PKPdf** 10 35 55.4 0.0
MGG **Marie-Galante** 156.14 310 *e*P **PKPdf** 10 35 56.0 +0.5
BBSP **Saint Philip** 156.18 302 *e* **PKPdf** 10 35 58.3 +2.6
BBGH **Gun Hill** 156.25 302 ⇑*i*P **PKPdf** 10 35 58.6 +2.8
BBGH **Gun Hill** 156.25 302 *e*PKPdf **PKPdf** 10 35 55.9 +0.1
SKI **Saint Kitts** 156.28 315 *e* **PKPdf** 10 35 54.5 -1.3
SKI **Saint Kitts** 156.28 315 ⇑*i*P **PKPdf** 10 35 55.9 +0.2
DOG **Dongo Capester** 156.30 311 *e*P **PKPdf** 10 35 56.0 +0.2
SSG **Sans Toucher** 156.31 311 ⇑*i*P **PKPdf** 10 35 56.2 +0.3
PNIG **Pinotepa** 156.31 48 P **PKPdf** 10 35 55.5 -0.3
ECG **Echelle** 156.32 311 ⇑*i*P **PKPdf** 10 35 56.1 +0.1
LKG **Breislack** 156.32 311 ⇑*i*P **PKPdf** 10 35 56.3 +0.3
PHG **Guadaloupe-2** 156.33 311 *e*P **PKPdf** 10 35 56.3 +0.4
TAG **Tarade** 156.33 311 *e*P **PKPdf** 10 35 55.6 -0.3
FNG **Fond-Bernard** 156.33 311 ⇑*i*P **PKPdf** 10 35 56.1 +0.2
SCG **Saint Claude** 156.35 311 *e*P **PKPdf** 10 35 56.9 +1.0
LZG **Guadaloupe-1** 156.35 311 *e*P **PKPdf** 10 35 56.1 +0.3
MLG **Mont-d'or** 156.35 311 *e*P **PKPdf** 10 35 56.4 +0.5
TBG **Guadaloupe-3** 156.43 311 *e*P **PKPdf** 10 35 56.4 +0.5
DBCT **Belle View Cho** 156.55 309 *e* **PKPdf** 10 35 58.4 +2.3
MDN **Morne-Daniel** 156.56 309 *e* **PKPdf** 10 35 56.3 +0.2
DPMT **Pointe Michel** 156.58 309 *e* **PKPdf** 10 35 57.7 +1.6
DSHT **Scott's Head** 156.60 309 *e* **PKPdf** 10 35 57.2 +1.1
SVN **Savane Anatole** 156.66 308 *e*P **PKPdf** 10 35 57.5 +1.2
VHO **Vista Hermosa** 156.87 44 P **PKPdf** 10 35 57.4 +0.6
SLW **Petit Monier** 156.94 306 *e*P **PKPdf** 10 35 57.5 +0.9
STVI **Saint Thomas** 157.05 321 *e*PKPdf **PKPdf** 10 35 56.5 -0.2
STVI *e*PKPab **PKPab** 10 36 28.7 +1.5
MCLT **Moule a Chique** 157.11 305 *e* **PKPdf** 10 35 58.7 +1.8
CDVI **St. Croix** 157.37 319 *e*PKPdf **PKPdf** 10 35 56.8 -0.3
CDVI *e*PKPab **PKPab** 10 36 30.4 +1.7
GRTK **Grand Turk** 157.57 338 *e*PKPdf **PKPdf** 10 35 57.2 0.0
GRTK *e*PKPab **PKPab** 10 36 30.2 +0.9
SVB **Belmont** 157.60 305 *e* **PKPdf** 10 35 57.6 +0.2
SVB **Belmont** 157.60 305 ⇑*i*P **PKPdf** 10 35 57.6 +0.2
CBYP **Canovanas** 157.67 322 *e*PKPdf **PKPdf** 10 35 57.0 -0.5
CBYP *e*PKPab **PKPab** 10 36 30.9 +0.9
SOR **Soroa** 157.86 7 *e* **PKPdf** 10 35 58.1 +0.5
TOSP **Speyside** 157.96 299 *e* **PKPdf** 10 35 58.4 +0.5
TOSP **Speyside** 157.96 299 ⇑*i*P **PKPdf** 10 35 59.6 +1.7
SJG **San Juan** 157.97 323 *e*PKPdf **PKPdf** 10 35 57.4 -0.4
SJG PKP **PKPdf** 10 35 57.7 -0.1
SJG PKPab **PKPab** 10 36 33.3 +2.1
SJG *e*PP **PP** 10 40 08.7 -1.4
SJG PP PP 10 40 09.8 -0.4
SJG **San Juan** 157.97 323 PKP **PKPdf** 10 35 57.7 -0.1
comp=Z,40nm,0.4s,baz=25,slow=4.2,SNR=35
SJG PKPab **PKPab** 10 36 33.3 +2.1
comp=Z,234nm,0.9s,baz=114,slow=2.6,SNR=8.2
SJG PP **PP** 10 40 09.8 -0.4
comp=Z,37nm,0.8s,baz=310,slow=3.4,SNR=2.0
BOT **Bacolet** 158.18 299 *e* **PKPdf** 10 35 59.1 +0.9
HUIG **Huatulco** 158.19 46 P **PKPdf** 10 35 57.9 -0.3

TPR	Prospect	158.22	299	e	PKPdf	10 36 01.2	+3.0
LRS	Lares	158.25	324	ePKPdf	PKPdf	10 35 59.2	+1.0
LRS				ePKPab	PKPab	10 36 33.6	+1.2
CELP	Cerrillos	158.26	323	ePKPdf	PKPdf	10 35 59.0	+0.8
AGPR	Aguadilla, PR	158.26	325	ePKPdf	PKPdf	10 35 58.2	+0.1
OBIP	Obispado Ponce	158.30	323	ePKPdf	PKPdf	10 35 58.0	-0.2
OBIP				ePKPab	PKPab	10 36 33.4	+0.8
GRSS	Sisters	158.40	303	e	PKPdf	10 36 00.5	+2.0
GRHS	Sauteurs	158.47	303	e	PKPdf	10 35 59.4	+0.9
LSP	Las Mesas	158.48	325	ePKPdf	PKPdf	10 35 59.6	+1.1
GRW	Mount Saint Ca	158.51	303	e	PKPdf	10 35 59.0	+0.3
GRGR	Grenville	158.52	303	⇑iP	PKPdf	10 35 58.6	0.0
GRGR	Grenville	158.52	303	ePKPdf	PKPdf	10 35 58.7	+0.1
CRPR	Cabo Rojo, PR	158.63	324	ePKPdf	PKPdf	10 35 58.4	-0.2
CRPR				ePKPab	PKPab	10 36 35.7	+1.7
MGV	Manicaragua	158.73	360	e	PKPdf	10 35 58.8	+0.2
TBH	Brigand Hill	158.79	298	e	PKPdf	10 36 01.7	+2.7
SCIG	Sabancuy	158.81	30	P	PKPdf	10 35 57.8	-1.0
TEIG	Tepich	158.99	22	ePKPdf	PKPdf	10 35 58.7	-0.3
TEIG				PKP	PKPdf	10 35 59.6	+0.6
TEIG				ePKPab	PKPab	10 36 36.3	+0.8
TEIG				PKPab	PKPab	10 36 36.6	+1.2
TEIG				ePP	PP	10 40 11.3	-3.8
TEIG				PP	PP	10 40 15.7	+0.6
TEIG	Tepich	158.99	22	PKP	PKPdf	10 35 59.6	+0.6
	comp=Z,165nm,1.0s,baz=326,slow=3.4,SNR=4.0						
TEIG				PKPab	PKPab	10 36 36.6	+1.2
	comp=Z,220nm,0.7s,baz=344,slow=1.7,SNR=12						
TEIG				PP	PP	10 40 15.7	+0.6
	comp=Z,367nm,1.2s,baz=319,slow=5.4,SNR=4.1						
TRN	Trinidad (W)	159.02	299	e	PKPdf	10 36 01.6	+2.4
TPP	Pointe-a-Pierr	159.21	298	e	PKPdf	10 36 03.0	+3.6
LPAZ	La Paz	159.43	214	ePKPdf	PKPdf	10 36 00.8	+0.4
LPAZ				PKP	PKPdf	10 36 01.2	+0.8
LPAZ				pPKP	pPKPdf	10 36 29.1	+3.5
LPAZ	La Paz	159.43	214	PKP	PKPdf	10 36 01.2	+0.8
	comp=Z,166nm,0.9s,baz=84,slow=1.1,SNR=243						
LPAZ				pPKP	pPKPdf	10 36 29.1	+3.5
	comp=Z,439nm,1.1s,baz=217,slow=1.7,SNR=4.5						
LPAZ				tx	tx	11 24 07.2	
	comp=Z,0.8nm,0.4s,baz=155,slow=9.7,SNR=6.9						
ALNG	Atlantic LNG	159.47	298	e	PKPdf	10 36 04.9	+5.2
TGIG		159.47	38	P	PKPdf	10 35 59.6	-0.1
BUAY	Buenos Aires	159.50	298	e	PKPdf	10 36 05.0	+5.3
MOAC	Moa	159.56	346	e	PKPdf	10 35 59.9	+0.3
HLGC	Holguin	159.57	349	e	PKPdf	10 36 00.1	+0.4
MASC	Masc	159.84	344	e	PKPdf	10 36 01.5	+1.5
SDDR	Presa de Saban	159.91	335	ePKPdf	PKPdf	10 35 59.3	-0.8
SDDR				ePKPab	PKPab	10 36 41.8	+2.2
SDDR				ePP	PP	10 40 22.0	+1.7
PCIG		160.22	40	P	PKPdf	10 35 57.2	-3.3
GTBY	Guantanamo Bay	160.30	346	ePKPdf	PKPdf	10 36 00.6	+0.1
GTBY				ePKPab	PKPab	10 36 42.5	+1.3
GTBY				ePP	PP	10 40 21.7	-0.2
CCIG	Comitan	160.46	37	P	PKPdf	10 35 59.9	-1.1
LMGC	Las Mercedes	160.53	351	e	PKPdf	10 36 01.9	+1.2
SAML	Samuel	160.67	240	ePKPdf	PKPdf	10 36 01.1	0.0
SAML				ePKPab	PKPab	10 36 43.4	+0.2
SAML				ePP	PP	10 40 25.8	+0.1
JAT	Jato	162.26	40	eP	PKPdf	10 36 05.6	+2.9
JAT				eS	PKPab	10 36 53.3	+3.4
MTDJ	Mount Denham	162.42	352	ePKPdf	PKPdf	10 36 02.9	0.0
MTDJ				ePKPab	PKPab	10 36 51.3	+0.8
GWJ	Greenwich	162.44	350	iP	PKPdf	10 36 04.9	+1.9
APG	El Apazote	162.45	35	PKPab	PKPab	10 36 52.9	+1.9
APG				PP	PP	10 40 36.6	+2.1
APG	El Apazote	162.45	35	PKPab	PKPab	10 36 52.9	+1.9
	comp=Z,388nm,1.2s,baz=301,slow=6.9,SNR=4.4						
APG				PP	PP	10 40 36.6	+2.1
	comp=Z,64nm,1.2s,baz=306,slow=9.7,SNR=2.1						
STH	Stony Hill	162.45	350	iPA	PKPdf	10 36 05.1	+2.3
STH				iS	PKPab	10 36 55.8	+5.2
HOJ	Hope	162.51	350	iP	PKPdf	10 36 05.3	+2.4
MCJ	Malvern	162.74	352	iP	PKPdf	10 36 04.8	+1.6
MRL	Marmol	162.84	33	eP	PKPdf	10 36 04.8	+1.3
MRL				eS	PKPab	10 36 54.1	+1.5
PCJ	Portland Cotta	162.84	351	iP	PKPdf	10 36 05.0	+1.8
NBG	Las Nubes	162.85	36	eP	PKPdf	10 36 06.2	+2.6
NBG				eS	PKPab	10 36 52.2	-0.7
BOQS	Boqueron	164.15	35	eP	PKPdf	10 36 03.2	-1.5
LFU	La Fuente	164.23	34	eP	PKPdf	10 36 03.4	-1.2
LFRS	El Faro	164.36	34	eP	PKPdf	10 36 04.0	-0.9
CAHU	Cacacuatique	164.70	32	eP	PKPdf	10 36 04.0	-1.2
TGUH	Tegucigalpa,Un	164.93	28	ePKPdf	PKPdf	10 36 05.0	-0.1
TGUH				ePKPab	PKPab	10 37 03.0	+1.4
TGUH				ePP	PP	10 40 47.2	+0.4
CNCH	Conchagua	165.31	31	eP	PKPdf	10 36 02.2	-3.5
COPN	Copaltepe	166.88	29	eP	PKPdf	10 36 05.3	-1.5
SDV	Santo Domingo	167.61	311	ePKPdf	PKPdf	10 36 06.1	-1.1
SDV				ePKPab	PKPab	10 37 15.4	+1.5
SDV				ePP	PP	10 41 03.6	+1.7
JTS	JuntasAbangare	169.30	27	PKPab	PKPab	10 37 22.4	+1.5
JTS	JuntasAbangare	169.30	27	PKPab	PKPab	10 37 22.4	+1.5
	comp=Z,69nm,0.8s,baz=117,slow=15,SNR=7.4						
PAYG	Puerto Ayora	169.66	98	ePKPdf	PKPdf	10 36 09.0	+0.2
PAYG				epPKPdf	pPKPdf	10 36 29.9	-4.1
PAYG				ePKPab	PKPab	10 37 25.5	+2.5
BCIP	Isla Barro Col	171.59	359	ePKPdf	PKPdf	10 36 08.4	-1.2
BCIP				ePKPab	PKPab	10 37 29.6	-1.3
ATAH	Atahualpa	172.04	192	PKP	PKPdf	10 36 11.2	+0.8
ATAH				PP	PP	10 41 25.7	+2.7
ATAH				PPP	PPP	10 45 16.9	
ATAH	Atahualpa	172.04	192	PKP	PKPdf	10 36 11.2	+0.8
	comp=Z,176nm,1.2s,baz=39,slow=1.1,SNR=64						
ATAH				PP	PP	10 41 25.7	+2.7
	comp=Z,22nm,0.9s,baz=149,slow=10.0,SNR=2.0						
ATAH				PPP	PPP	10 45 16.9	
	comp=Z,16nm,0.8s,baz=0.0,slow=1.0,SNR=2.7						
ROSC	El Rosal	172.97	306	ePKPdf	PKPdf	10 36 09.9	-1.0
ROSC				PKP		10 36 10.6	
ROSC				PP	PP	10 41 31.9	+2.6
ROSC				PPP	PPP	10 45 23.8	
ROSC	El Rosal	172.97	306	PKP	PKPdf	10 36 10.6	-0.3
	comp=Z,192nm,0.9s,baz=103,slow=2.2,SNR=84						
ROSC				PP	PP	10 41 31.9	+2.6
	comp=Z,153nm,1.0s,baz=88,slow=7.0,SNR=9.1						
ROSC				PPP	PPP	10 45 23.8	
	comp=Z,54nm,0.9s,baz=82,slow=6.0,SNR=2.6						
OTAV	Otavalo	178.35	254	ePKPdf	PKPdf	10 36 12.3	0.0
OTAV				ePP	PP	10 41 55.4	-0.4

IDC 30 10:16:46.8±2.8, 14°.86S×173°.06W, h0km, mb3.6/3, mb1 4.0/3, mb1mx3.9/20, mbtmp3.6/3, Error ellipse: s-maj=122.0km s-min=36.4km az=152.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	1.56	53	Pn	Pg	10 17 17.2	+0.3
	102nm,0.3s,baz=84,slow=16,SNR=2.9						
AFI				Sn	Sn	10 17 36.5	-0.6
	683nm,0.3s,baz=55,slow=22,SNR=18						
TXAR	Lajitas Array	80.04	56	P	P	10 28 59.5	+0.6
	0.6nm,0.9s,baz=238,slow=8.4,SNR=4.9						
PDAR	Pinedale Array	81.65	42	P	P	10 29 06.1	-1.2
	0.4nm,0.8s,baz=198,slow=2.7,SNR=3.1						
ILAR	Eielson Array	81.86	11	P	P	10 29 08.0	+0.4
	0.3nm,0.7s,baz=204,slow=6.4,SNR=3.4						

IDC 30 10:19:33.9±1.1, 0°.61S×99°.92E, h31km±4km, mb5.6/11, mb1 5.5/11, mb1mx5.3/28, mbtmp5.6/11, Error ellipse: s-maj=26.7km s-min=22.5km az=54.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNU	Nakatsue	44.45	38	P	P	10 27 42.2	-0.2
	49nm,0.7s,baz=207,slow=4.5,SNR=2.5						
JNU				pP	pP	10 27 51.9	+0.3
	124nm,0.8s,baz=190,slow=6.4,SNR=2.4						
KSRS	Korea Array	45.88	31	P	P	10 27 52.7	-0.8
	29nm,0.7s,baz=229,slow=7.4,SNR=3.4						
KSRS				pP	pP	10 28 02.5	-0.2
	66nm,0.9s,baz=223,slow=7.6,SNR=2.4						
MKAR	Makanchi Array	49.68	344	P	P	10 28 23.7	+0.8
	100nm,0.7s,baz=162,slow=10.0,SNR=4.2						
MKAR				pP	pP	10 28 32.8	+0.6
	53nm,0.5s,baz=156,slow=8.7,SNR=1.6						
USRK	Ussuriysk Arra	52.98	29	P	P	10 28 47.3	-0.4
	60nm,0.5s,baz=238,slow=3.6,SNR=7.4						
USRK				pP	pP	10 28 56.9	-0.1
	47nm,0.5s,baz=246,slow=3.9,SNR=1.4						
ZALV	Zalesovo Beam	55.80	349	P	P	10 29 08.1	+0.1
	58nm,0.7s,baz=166,slow=8.4,SNR=1.8						
ZALV				pP	pP	10 29 17.3	0.0
	103nm,0.8s,baz=168,slow=9.7,SNR=1.9						
ASAJ	Asahikawa	58.52	35	P	P	10 29 27.3	-0.2
	36nm,0.4s,baz=281,slow=5.6,SNR=6.1						
BVAR	Borovoye Array	58.86	340	P	P	10 29 29.9	+0.2
	52nm,0.6s,baz=141,slow=9.0,SNR=3.6						
AKTO	Aktyubinsk	62.11	331	P	P	10 29 51.2	-0.6
	104nm,0.9s,baz=84,slow=9.2,SNR=2.6						
RPZ	Rata Peaks	76.01	135	P	P	10 31 18.9	+0.6
	74nm,0.5s,baz=272,slow=4.4,SNR=5.1						
FINES	FINESS Array B	82.85	332	P	P	10 31 55.7	+0.5
	74nm,0.6s,baz=126,slow=9.3,SNR=4.0						
FINES				pP	pP	10 32 04.0	-0.9
	132nm,0.9s,baz=102,slow=6.4,SNR=2.2						
ARCES	ARCESS Array B	85.15	340	P	P	10 32 06.1	-0.7
	286nm,1.1s,baz=108,slow=6.0,SNR=4.9						
TXAR	Lajitas Array	143.65	36	PKhKP	PKPpre	10 39 02.8	
	27nm,0.8s,baz=216,slow=0.8,SNR=2.9						
TXAR				PKP	PKPbc	10 39 04.0	-0.1
	49nm,1.0s,baz=238,slow=2.0,SNR=2.9						
CFAA	Coronel Fontan	146.05	198	PKPbc	PKPdf	10 39 10.4	-0.3
	8.9nm,0.9s,baz=122,slow=9.5,SNR=1.8						

PRE 30 10:26:52.2±0.9, 26°.39S×28°.51E, h2km, ML3.1, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLR	Silverton	0.68	343	eP	Pg	10 27 05.1	-0.5
SLR				eS	Sg	10 27 15.4	+0.8
SLR				AML	AML	10 27 19.6	
	comp=Z,97nm,0.3s						
PRYS	Parys	1.16	242	eP	Pg	10 27 14.1	-0.6
PRYS				eS	Sg	10 27 30.2	+0.4
PRYS				AML	AML	10 27 43.8	
	comp=Z,658nm,0.7s						
SEK	Senekal	2.08	202	eP	Pn	10 27 28.5	+0.1
SEK				eS	Sn	10 27 56.1	+1.1
SEK				AML	AML	10 28 15.2	
	comp=Z,120nm,0.8s						
SWZ	Schweizer	2.94	254	eP	Pn	10 27 40.5	+0.2
SWZ				eS	Sn	10 28 16.5	+0.2
SWZ				AML	AML	10 28 42.1	
	comp=Z,161nm,0.5s						
LBTB	Lobatse	2.96	297	eP	Pn	10 27 40.5	+0.1
LBTB				eS	Sn	10 28 16.2	-0.4
LBTB				AML	AML	10 28 38.9	
	comp=Z,102nm,0.6s						
BOSA	Boshof	3.64	232	eS	Sn	10 28 32.8	-0.6
BOSA				AML	AML	10 29 02.3	
	comp=Z,58nm,0.8s						

IDC 30 10:30:24.5±4.1, 16°.24S×173°.51W, h0km, mb4.6/3, mb1 4.9/3, mb1mx4.4/19, mbtmp4.6/3, Error ellipse: s-maj=274.8km s-min=32.6km az=150.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	49.56	257	P	P	10 39 16.8	-0.9
	5.5nm,1.0s,baz=91,slow=8.3,SNR=1.6						
ASAR	Alice Springs	49.76	253	P	P	10 39 19.4	+0.1
	5.2nm,0.6s,baz=87,slow=8.2,SNR=4.6						
PDAR	Pinedale Array	82.96	42	P	P	10 42 51.2	-0.6
	6.5nm,1.0s,baz=245,slow=3.9,SNR=2.4						
GERES	GERESS Array B	146.95	351	PKPbc	PKPbc	10 50 09.4	+0.2
	1.9nm,0.9s,baz=344,slow=2.1,SNR=2.4						

IDC 30 10:30:38.9±8.2, 1°.75N×127°.27E, h101km±75km, mb4.5/7, mb1 4.5/8, mb1mx4.2/22, mbtmp4.4/8, ML4.7/1, Error ellipse: s-maj=62.1km s-min=22.2km az=68.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	19.80	185	P	P	10 35 00.8	-0.6
	1.7nm,0.3s,baz=25,slow=12,SNR=6.8						
WRA	Warramunga Arr	22.65	163	P	P	10 35 31.5	-0.3
	10nm,0.4s,baz=336,slow=10,SNR=22						
ASAR	Alice Springs	26.08	166	P	P	10 36 03.1	-0.1
	5.5nm,0.5s,baz=344,slow=11,SNR=6.9						
NWAO	Narrogin (SRO)	35.77	195	P	P	10 37 28.8	+0.5
	69nm,1.2s,baz=17,slow=11,SNR=3.6						
STKA	Stephens Creek	36.10	159	P	P	10 37 31.4	+0.3
	88nm,1.1s,baz=0.0,slow=9.1,SNR=15						
MKAR	Makanchi Array	59.48	326	P	P	10 40 31.4	0.0
	3.5nm,0.7s,baz=119,slow=7.3,SNR=9.7						
VNDA	Vanda	81.41	173	P	P	10 42 44.0	-0.1
	1.7nm,0.6s,baz=18,slow=9.6,SNR=4.2						
MAW	Mawson	82.10	200	P	P	10 42 47.6	-0.3
	2.0nm,0.5s,baz=73,slow=6.7,SNR=5.2						

IDC 30 10:32:57.8±4.7, 1°.29S×99°.74E, h0km, mb4.3/5, mb1 4.3/5, mb1mx4.0/23, mbtmp4.3/5, MS5.5/1, Ms1 5.5/1, ms1mx4.6/52, Error ellipse: s-maj=99.1km s-min=53.1km az=9.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	4.14	349	LR	LR	10 35 21.9	
	comp=Z,72μm,21.2s,baz=357,slow=36						
JNU	Nakatsue	45.09	38	P	P	10 41 16.2	+0.3
	7.8nm,0.8s,baz=187,slow=4.4,SNR=4.1						
KSRS	Korea Array	46.55	31	P	P	10 41 26.8	-0.5
	0.9nm,0.6s,baz=222,slow=8.2,SNR=4.9						
SONM	Songino Array	49.27	6	P	P	10 41 47.7	-0.7
	1.0nm,0.5s,baz=188,slow=10,SNR=4.3						
MKAR	Makanchi Array	50.28	344	P	P	10 41 56.4	+0.3
	1.6nm,0.3s,baz=154,slow=8.1,SNR=12						
ZALV	Zalesovo Beam	56.43	349	P	P	10 42 40.8	-0.2
	6.4nm,0.6s,baz=168,slow=7.6,SNR=4.0						
TXAR	Lajitas Array	144.29	36	PKP	PKPdf	10 52 36.0	-0.8
	0.7nm,0.5s,baz=226,slow=0.8,SNR=14						

*MOS **30** 10:38:44.8±1.0, 0°.63S×100°.17E, h33km, mb5.9/28, Error ellipse: s-maj=10.3km s-min=5.6km az=105.4*
*BJI **30** 10:38:46.9, 1°.27S×100°.16E, h98km, mB5.5/8, mb5.5/41*
*IDC **30** 10:38:52.0±0.2, 0°.69S×100°.19E, h84km±2km, mb4.9/42, mb1 4.9/45, mb1mx4.9/45, mbtmp4.9/45, Error ellipse: s-maj=8.8km s-min=6.0km az=51.0*
*NEIC **30** 10:38:51.8±0.2, 0°.73S×100°.13E, mb5.4/31, Error ellipse: s-maj=6.1km s-min=4.2km az=60.0*
*BKK **30** 10:38:52.7±0.5, 1°.S±4°×10°.0E±°, h70km±5km, M6.0/17, mb6.1/17, MLv5.9/7*
*ISCJB **30** 10:38:52.0±0.4, 0°.73S±0°.02×100°.07E±0°.03, h98km±3km, mb5.3/132, Error ellipse: s-maj=4.9km s-min=3.2km az=147.5*
*DJA **30** 10:38:52.3±0.3, 1°.S±4°×10°.0E±°, h69km±5km, M6.1/33, mb6.3/33, MLv6.0/19*

ISC 30 10:38:52.2±0.2, 0°.79S±0°.03×100°.04E±0°.04, h92km±1km, h92km:pP-P, n776, σ1§29/883, mb5.3/129, 196C-169D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKNI	Bangkinang	1.50	42	P	Pn	10 39 18.9	+0.9
KRJI	Kerinci	1.92	132	P	Pn	10 39 27.6	+4.1
KRJI				S	Sn	10 39 51.6	+4.2
RGRI	Rengat	2.34	79	P	Pn	10 39 30.4	+1.5
MASI	Maura Aman, Be	3.21	137	P	Pn	10 39 42.1	+1.5
GSI	Gunungsitoli	3.22	310	P	Pn	10 39 41.0	+0.2
PSI	Prapat	3.74	343	P	Pn	10 39 47.2	-0.6
PSI	Prapat	3.74	343	P	Pn	10 39 47.2	-0.6
	68nm,0.3s,baz=193,slow=5.5,SNR=142						
KSI	Kapahiang	3.82	138	P	Pn	10 39 49.9	+1.0
FRIM	Kepong	4.30	22	P	Pn	10 39 56.5	+1.1
KGM	Kluang	4.30	50	P	Pn	10 39 56.9	+1.5
MNAI	Manna	4.59	141	ePn	Pn	10 39 59.4	+0.1
MNAI	Manna	4.59	141	P	Pn	10 39 59.9	+0.6
MYKOM	Kota Tinggi	4.59	56	P	Pn	10 40 01.1	+1.8
TPRI	Tanjung Pinang	4.80	69	P	Pn	10 40 10.8	+8.7
KCSI	Kotacane, Aceh	4.85	332	P	Pn	10 40 02.1	-0.7
KCSI				S	Sn	10 40 53.7	-4.0
SNSI	Sinabang, Aceh	4.88	311	P	Pn	10 40 03.3	0.0
EGSI	Enggano, Bengk	5.05	154	P	Pn	10 40 04.3	-1.3
	2μm,0.7s,34nm						
PMBI	Palembang	5.18	114	P	Pn	10 40 08.3	+0.9
	5μm,0.8s,23nm						
IPM	Ipoh	5.33	11	ePn	Pn	10 40 11.5	+2.2
IPM	Ipoh	5.33	11	P	Pn	10 40 11.7	+2.4
IPM	Ipoh	5.33	11	S	Sn	10 41 10.0	+0.5
MDSI	Maura Dua	5.53	132	P	Pn	10 40 13.5	+1.4
	1μm,0.8s,6.0nm						
LWLI	Liwa	5.81	136	P	Pn	10 40 16.4	+0.4
	3μm,0.9s,12nm						
KULM	Kulim	6.07	6	ePn	Pn	10 40 20.3	+0.9
KULM	Kulim	6.07	6	P	Pn	10 40 20.6	+1.2
KULM	Kulim	6.07	6	S	Sn	10 41 27.2	-0.3
PPBI	Pangkal Pinang	6.25	103	P	Pn	10 40 23.6	+1.8
	1μm,0.8s,5.5nm						
KLI	Kotabumi	6.29	130	P	Pn	10 40 25.5	+3.1
	3μm,1.1s,11nm						
KASI	Kota Agung	6.47	137	P	Pn	10 40 24.6	-0.3
	947nm,0.8s,8.5nm						
KTGM	Kuala Trenggan	6.82	27	P	Pn	10 40 31.4	+1.7
BLSI	Bandar Lampung	6.91	131	P	Pn	10 40 33.7	+2.9
	4μm,0.7s,17nm						
TPI	Tanjungpandan	7.86	104	P	Pn	10 40 45.7	+1.9
	366nm,1.8s,2.7nm						
DBJI	Dramaga	8.81	131	P	Pn	10 40 56.6	-0.2
	8μm,1.1s,37nm						
SKJI	Sukabumi	8.96	134	P	Pn	10 41 07.0	+8.1
LEM	Lembang	9.65	129	P	Pn	10 41 10.0	+1.6
	2μm,1.2s						
CISI	Cisompet, Garu	10.26	131	P	Pn	10 41 15.2	-1.4
	3μm,1.5s						
KSM	Kuching	10.51	78	P	Pn	10 41 21.8	+1.8
TGJI	Tegal	10.89	124	P	Pn	10 41 27.7	+2.6
	2μm,3.9s						
KPJI	Karang Pucung	10.99	126	P	Pn	10 41 26.5	0.0
	4μm,1.0s						
STKI	Sintang	11.47	86	P	Pn	10 41 42.0	+9.0
COCO	West Island	11.76	196	Pn	Pn	10 41 36.6	-0.3
	2μm,0.4s,SNR=5.6						
PBKI	Pangkalan Bun	11.78	99	P	Pn	10 41 40.8	+3.6
	6μm,1.2s						
SBUM	Sibu	12.60	75	ePn	Pn	10 41 50.8	+2.6
SBUM	Sibu	12.60	75	P	Pn	10 41 50.7	+2.6
UGM	Wanagama	12.62	124	ePn	Pn	10 41 46.1	-2.4
WOJI	Wonogiri, Jawa	12.91	123	P	Pn	10 41 50.8	-1.5
	3μm,1.1s						
NGJI	Ngawi	13.13	120	P	Pn	10 41 58.1	+2.9
	13μm,3.4s						
PCJI	Pacitan	13.31	124	P	Pn	10 41 58.0	+0.4
	4μm,0.9s						
SJI	Sawahan	13.57	121	P	Pn	10 42 00.5	-0.6
	766nm,1.1s						
CHBT	CHBT	13.65	10	P	P	10 42 11.8	+4.3
CHBT	CHBT	13.65	10	P	P	10 42 11.8	+4.3
PWJI	Pagerwojo	13.75	122	P	Pn	10 42 02.1	-1.2
	2μm,0.7s						
GRJI	Gresik	13.82	116	P	P	10 42 09.4	-0.1
	128nm,0.7s						
KMMI	Kalianget	15.22	114	P	P	10 42 24.8	-0.2
	4μm,1.0s						
SRBI	Singaraja	16.77	116	P	P	10 42 47.4	+5.2
	1μm,0.7s						
PBKT	Sadao Pong	17.27	3	P	P	10 42 50.9	+3.1
	436nm,1.3s						
PBKT	Sadao Pong	17.27	3	P	P	10 42 50.9	+3.1
	436nm,1.3s						
KKM	Kota Kinabalu	17.52	67	ePn	Pn	10 42 52.5	+1.6
	248nm,1.0s						
KKM	Kota Kinabalu	17.52	67	P	Pn	10 42 53.1	+2.2
SUKH	Sukhothai	18.16	359	P	P	10 42 57.8	+0.3
	30nm,0.9s						
SDKM	Sandakan	18.29	69	P	Pn	10 43 01.4	+1.4
KDM	Kudat	18.42	65	P	Pn	10 43 02.1	+0.5
TSM	Tawau	18.52	74	P	Pn	10 43 03.5	+0.7
MMSI	Mamuju	18.96	96	P	Pn	10 43 09.2	+1.2
	758nm,1.2s						
NONG	Nongkai	18.98	9	P	Pn	10 43 08.5	+0.3
	4μm,1.6s						
MJSI	Majene	19.12	99	P	Pn	10 43 10.5	+0.5
	2μm,1.1s						
CM31	Chiang Mai Arr	19.16	357	eP	P	10 43 07.9	-0.6
	62nm,0.6s						
CMAR	Chiang Mai Arr	19.16	357	P	P	10 43 06.3	-2.2
CMAR				ScP	ScP	10 50 56.8	0.0
CMAR	Chiang Mai Arr	19.16	357	P	P	10 43 06.3	-2.2
	7.4nm,0.3s,baz=187,slow=10,SNR=78						
CMAR				ScP	ScP	10 50 56.8	0.0
	0.3nm,0.3s,baz=208,slow=3.5,SNR=11						
MYLDM	Lahad Datu	19.37	72	P	Pn	10 43 14.1	+1.3
CHTO	Chiang Mai	19.51	357	eP	P	10 43 12.0	-0.3
CHTO				pmax	pmax		
	comp=Z,335nm,0.9s						
CHTO	Chiang Mai	19.51	357	eP	P	10 43 12.0	-0.3
	comp=Z,335nm,0.9s						
CHTO	Chiang Mai	19.51	357	P	Pn	10 43 14.1	-0.3
SPSI	Sidrap Palu	19.96	99	P	Pn	10 43 22.7	+2.9
	comp=Z,2μm,3.7s						
KAPI	Kappang	20.13	102	eP	P	10 43 20.0	+0.9
	comp=Z,182nm,1.1s						
KAPI				S	S	10 46 58.8	-1.5
KAPI	Kappang	20.13	102	Pn	Pn	10 43 20.8	-0.9
	comp=Z,743nm,1.2s,SNR=9.4						
KAPI	Kappang	20.13	102	P	P	10 43 19.6	+0.6
	comp=Z,4.3nm,0.3s,

FITZ	**Fitzroy Crossi**	**30.47**	**126**	P	**P**	**10 44 55.1**	**-1.4**
	comp=Z,2.5nm,0.5s,baz=214,slow=16,SNR=12						
FITZ				sP	**sP**	**10 45 24.3**	**-3.7**
	comp=Z,7.9nm,0.5s,baz=155,slow=20,SNR=3.6						
TPUB	**Ta-pu**	**31.22**	**39**	*e*P	**P**	**10 45 03.3**	**+0.2**
	comp=Z,98nm,0.8s						
JIRN	**Jiri**	**31.26**	**336⇑**	*i*P	**P**	**10 45 05.0**	**+1.2**
	comp=Z,338nm,0.7s						
LSA	**Lhasa**	**31.48**	**345**	*e*P	**P**	**10 45 06.6**	**+0.7**
LSA				pmax	pmax		
	comp=Z,157nm,0.6s						
LSA	**Lhasa**	**31.48**	**345**	*e*P	**P**	**10 45 06.6**	**+0.7**
	comp=Z,157nm,0.6s						
PKI	**Pulchoki**	**31.51**	**335⇑**	*i*P	**P**	**10 45 06.7**	**+0.7**
	comp=Z,77nm,0.6s						
PKIN	**Phulchoki**	**31.52**	**335⇑**	*i*P	**P**	**10 45 06.9**	**+0.9**
	comp=Z,29nm,0.5s						
GUN	**Gumba**	**31.61**	**336⇑**	*i*P	**P**	**10 45 08.1**	**+1.2**
	comp=Z,432nm,0.5s						
DMN	**Daman**	**31.68**	**334⇑**	*i*P	**P**	**10 45 08.2**	**+0.9**
YULB	**Yu-li**	**31.71**	**39**	*e*P	**P**	**10 45 05.9**	**-1.5**
	comp=Z,42nm,0.6s						
YULB				*e*PcP	**PcP**	**10 47 57.0**	**-0.2**
CD2	**Chengdu**	**31.72**	**6**	P	**P**	**10 45 09.0**	**+1.5**
CD2				pP	**pP**	**10 45 32.5**	**+4.1**
CD2				sP	sP	10 45 45.3	+6.2
CD2				PP	**PP**	**10 46 18.5**	**-2.4**
CD2				PcP	**PcP**	**10 47 57.8**	**+0.6**
CD2				S	**S**	**10 50 10.8**	**+0.1**
CD2				sS	**sS**	**10 50 51.8**	**+4.9**
CD2				SS	**SnSn**	**10 52 08.5**	**+1.2**
CD2				pmax	pmax		
	comp=Z,50nm,0.7s						
CD2				pmax	pmax		
	comp=Z,4μm,9.5s						
KKN	**Kakani**	**31.76**	**335⇑**	*i*P	**P**	**10 45 08.9**	**+0.9**
	comp=Z,200nm,0.6s						
SSLB	**Suanglung**	**31.78**	**38**	*e*P	**P**	**10 45 08.5**	**+0.4**
	comp=Z,52nm,0.7s						
ENH	**Enshi**	**32.18**	**15**	*e*P	**P**	**10 45 09.6**	**-1.9**
	comp=Z,77nm,0.6s						
GKN	**Gorkha**	**32.22**	**334**	*e*P	**P**	**10 45 12.9**	**+0.9**
	comp=Z,79nm,0.4s						
KOLN	**Koldanda**	**32.49**	**332⇑**	*i*P	**P**	**10 45 15.6**	**+1.2**
	comp=Z,272nm,0.7s						
YHNB	**Yeheng**	**32.69**	**38**	*e*P	**P**	**10 45 16.5**	**+0.5**
	comp=Z,41nm,0.8s						
DANN	**Dangsing**	**32.91**	**333⇑**	*i*P	**P**	**10 45 19.1**	**+0.9**
	comp=Z,285nm,0.7s						
WHN	**Wuhan**	**34.01**	**22**	P	**P**	**10 45 27.3**	**0.0**
NWAO	**Narrogin (SRO)**	**35.83**	**155**	P	**P**	**10 45 45.2**	**+2.3**
NWAO				pP	**pP**	**10 46 03.9**	**-0.3**
NWAO				sP	**sP**	**10 46 13.4**	**-1.4**
NWAO	**Narrogin (SRO)**	**35.83**	**155**	P	**P**	**10 45 45.2**	**+2.3**
	comp=Z,13nm,0.6s,baz=329,slow=9.5,SNR=7.7						
NWAO				pP	**pP**	**10 46 03.9**	**-0.3**
	comp=Z,17nm,0.8s,baz=304,slow=9.2,SNR=4.7						
NWAO				sP	**sP**	**10 46 13.4**	**-1.4**
	comp=Z,17nm,0.6s,baz=329,slow=7.1,SNR=4.4						
LZH	**Lanzhou**	**36.86**	**5**	P	**P**	**10 45 51.3**	**-0.6**
LZH				pP	**pP**	**10 46 12.5**	**-0.7**
LZH				sP	**sP**	**10 46 27.5**	**+3.7**
LZH				PP	**PnPn**	**10 47 22.0**	**+3.1**
LZH				S	**S**	**10 51 25.0**	**-4.9**
LZH				sS	**sS**	**10 52 08.0**	**+1.4**
LZH				pmax	pmax		
	comp=Z,64nm,1.0s						
LZH				pmax	pmax		
	comp=Z,370nm,4.6s						
LZH				LR	LR		
	comp=N,10μm,11.2s						
LZH				LR	LR		
	comp=E,11μm,12.8s						
LZH				LR	LR		
	comp=Z,18μm,13.5s						
NJ2	**Nanjing**	**37.21**	**27**	*e*P	**P**	**10 45 53.8**	**-0.9**
NJ2				pmax	pmax		
	comp=Z,30nm,1.0s						
WRA	**Warramunga Arr**	**38.58**	**122**	P	**P**	**10 46 05.1**	**-1.4**
WRA				sP	**sP**	**10 46 36.1**	**-2.3**
WRA				PcP	**PcP**	**10 48 17.9**	**+0.5**
WRA				S	S	10 51 46.3	-10
WRA	**Warramunga Arr**	**38.58**	**122**	P	**P**	**10 46 05.1**	**-1.4**
	comp=Z,14nm,0.5s,baz=302,slow=8.9,SNR=49						
WRA				sP	**sP**	**10 46 36.1**	**-2.3**
	comp=Z,21nm,0.6s,baz=300,slow=9.0,SNR=5.6						
WRA				PcP	**PcP**	**10 48 17.9**	**+0.5**
	comp=Z,4.0nm,0.5s,baz=313,slow=2.6,SNR=6.5						
WRA				S	S	10 51 46.3	-10
	comp=Z,3.6nm,0.7s,baz=294,slow=16,SNR=5.6						
WRAB	**Tennant Creek**	**38.59**	**122**	*e*P	**P**	**10 46 04.9**	**-1.6**
WRAB	**Tennant Creek**	**38.59**	**122**	P	**P**	**10 46 05.0**	**-1.6**
	comp=Z,268nm,0.5s,SNR=10						
JOW	**Kunigami**	**38.65**	**43**	*e*P	**P**	**10 46 08.2**	**+1.3**
	comp=Z,44nm,1.5s						
AS31	**Alice Springs**	**39.94**	**127**	*e*P	**P**	**10 46 17.3**	**-0.5**
ASAR	**Alice Springs**	**39.94**	**127**	P	**P**	**10 46 16.8**	**-1.0**
ASAR				pP	**pP**	**10 46 37.5**	**-1.8**
ASAR				sP	**sP**	**10 46 47.6**	**-2.2**
ASAR				PcP	**PcP**	**10 48 22.2**	**+0.6**
ASAR				ScP	**ScP**	**10 52 01.7**	**-0.9**
ASAR				S	S	10 52 08.5	-8.0
ASAR	**Alice Springs**	**39.94**	**127**	P	**P**	**10 46 16.8**	**-1.0**
	comp=Z,7.8nm,0.5s,baz=300,slow=6.8,SNR=48						
ASAR				pP	**pP**	**10 46 37.5**	**-1.8**
	comp=Z,10nm,0.7s,baz=301,slow=8.1,SNR=5.5						
ASAR				sP	**sP**	**10 46 47.6**	**-2.2**
	comp=Z,14nm,0.5s,baz=301,slow=8.1,SNR=5.2						
ASAR				PcP	**PcP**	**10 48 22.2**	**+0.6**
	comp=Z,7.6nm,0.6s,baz=303,slow=2.6,SNR=4.8						
ASAR				ScP	**ScP**	**10 52 01.7**	**-0.9**
	comp=Z,5.8nm,0.7s,baz=303,slow=3.8,SNR=11						
ASAR				S	S	10 52 08.5	-8.0
	comp=Z,2.6nm,0.7s,baz=302,slow=15,SNR=8.7						
FORT	**Forrest**	**39.94**	**141**	*e*P	**P**	**10 46 19.3**	**+1.7**
	comp=Z,76nm,0.7s						
GTA	**Gaotai**	**40.01**	**360**	P	**P**	**10 46 18.0**	**-0.2**
GTA				pmax	pmax		
	comp=Z,54nm,0.4s						
HHC	**Hu-ho-hao-te**	**42.75**	**13**	*e*P	**P**	**10 46 41.0**	**+0.4**
HHC				pP	**pP**	**10 47 06.8**	**+4.5**
HHC				sP	sP	10 47 19.8	+7.0
HHC				PP	**PP**	**10 48 25.8**	**+4.2**
HHC				PcS	**PcS**	**10 52 22.5**	**-0.4**
HHC				S	**S**	**10 52 57.0**	**-0.8**
HHC				sS	sS	10 53 41.0	+5.9
HHC				ScS	**ScS**	**10 56 28.5**	**-4.2**
HHC				LR	LR		
	comp=N,4μm,14.3s						
HHC				LR	LR		
	comp=E,4μm,15.5s						
HHC				LR	LR		
	comp=Z,7μm,17.8s						
BJI	**Beijing**	**43.23**	**18**	P	**P**	**10 46 44.0**	**-0.3**
BJI				pmax	pmax		
	comp=Z,150nm,1.1s						
JNU	**Nakatsue**	**44.52**	**38**	P	**P**	**10 46 55.0**	**+0.1**
JNU	**Nakatsue**	**44.52**	**38**	P	**P**	**10 46 55.0**	**+0.1**
	comp=Z,212nm,0.8s,baz=153,slow=4.7,SNR=96						
TJN	**Taejon**	**44.86**	**32**	*i*P	**P**	**10 46 56.8**	**-0.6**
KBL	**Kabul**	**45.59**	**323**	*e*P	**P**	**10 47 03.0**	**-0.5**
KBL				pmax	pmax		
	comp=Z,17nm,0.6s						
KBL	**Kabul**	**45.59**	**323**	*e*P	**P**	**10 47 03.0**	**-0.5**
	comp=Z,17nm,0.6s						
WMQ	**Urumqi**	**45.77**	**348**	P	**P**	**10 47 06.0**	**+1.4**
WMQ				pP	**pP**	**10 47 28.0**	**+1.5**
WMQ				sP	**sP**	**10 47 40.0**	**+3.1**
WMQ				pmax	pmax		
	comp=Z,560nm,0.9s						
KSH	**Kashi**	**45.77**	**334**	P	**P**	**10 47 04.5**	**-0.3**
KSH				*e*pP	**pP**	**10 47 30.3**	**+3.6**
KSH				PP	**PP**	**10 48 53.8**	**0.0**
KSH				PcS	**PcS**	**10 52 34.8**	**-0.6**
KSH				S	**S**	**10 53 38.0**	**-3.7**
KSH				ScS	**ScS**	**10 56 46.8**	**-5.2**
KSH				pmax	pmax		
	comp=Z,37nm,0.7s						
KSH				LR	LR		
	comp=N,4μm,8.2s						
KSH				LR	LR		
	comp=E,3μm,10.9s						
KSH				LR	LR		
	comp=Z,5μm,12.9s						
KSAR	**Wonju Array Be**	**45.94**	**31**	P	**P**	**10 47 06.1**	**+0.1**
KSAR				PcP	**PcP**	**10 48 42.1**	**+0.6**
KSRS	**Korea Array**	**45.97**	**31**	P	**P**	**10 47 06.1**	**-0.1**
	comp=Z,96nm,0.6s,baz=224,slow=7.8,SNR=307						
KSRS				PcP	**PcP**	**10 48 42.1**	**+0.5**
	comp=Z,7.4nm,0.9s,baz=228,slow=4.2,SNR=4.6						
PMG	**Port Moresby**	**47.66**	**102**	P	**P**	**10 47 19.4**	**-0.3**
PMG	**Port Moresby**	**47.66**	**102**	P	**P**	**10 47 19.4**	**-0.3**
	comp=Z,16nm,0.6s,baz=157,slow=19,SNR=8.0						
ULHL	**Ulahol**	**47.92**	**336**	P	**P**	**10 47 22.7**	**+1.1**
	SNR=12						
KZA	**Kyzart**	**48.19**	**335**	P	**P**	**10 47 25.2**	**+1.4**
	SNR=15						
SONM	**Songino Array**	**48.74**	**6**	P	**P**	**10 47 27.9**	**+0.1**
SONM				PcP	**PcP**	**10 48 51.8**	**+0.4**
SONM				ScP	**ScP**	**10 52 36.8**	**-1.5**
SONM	**Songino Array**	**48.74**	**6**	P	**P**	**10 47 27.9**	**+0.1**
	comp=Z,81nm,0.7s,baz=186,slow=9.4,SNR=104						
SONM				PcP	**PcP**	**10 48 51.8**	**+0.4**
	comp=Z,32nm,0.7s,baz=193,slow=4.2,SNR=24						
SONM				ScP	**ScP**	**10 52 36.8**	**-1.5**
	comp=Z,3.3nm,0.8s,baz=176,slow=1.3,SNR=3.8						
TKM2	**Tokmak 2**	**48.75**	**336**	*e*P	**P**	**10 47 29.0**	**+1.1**
TKM2				pmax	pmax		
	comp=Z,124nm,0.8s						
TKM2	**Tokmak 2**	**48.75**	**336**	P	**P**	**10 47 29.2**	**+1.2**
	SNR=13						
TKM2	**Tokmak 2**	**48.75**	**336**	*e*P	**P**	**10 47 29.0**	**+1.1**
	comp=Z,124nm,0.8s						
KBK	**Karagaybulak**	**48.79**	**335**	P	**P**	**10 47 29.7**	**+1.4**
	SNR=21						
AML	**Almayashu**	**48.90**	**334**	P	**P**	**10 47 30.5**	**+1.2**
	SNR=14						
AAK	**Ala-Archa**	**48.97**	**335**	P	**P**	**10 47 31.5**	**+2.0**
	comp=Z,300nm,0.6s,SNR=11						
AAK	**Ala-Archa**	**48.97**	**335**	*ce*P	**P**	**10 47 31.2**	**+1.6**
AAK				pmax	pmax		
	comp=Z,71nm,0.6s						
AAK	**Ala-Archa**	**48.97**	**335**	P	**P**	**10 47 30.9**	**+1.4**
	SNR=16						
AAK	**Ala-Archa**	**48.97**	**335**	*e*P	**P**	**10 47 30.8**	**+1.3**
	comp=Z,36nm,0.8s						
AAK	**Ala-Archa**	**48.97**	**335**	P	**P**	**10 47 31.1**	**+1.6**
	comp=Z,37nm,0.7s,baz=141,slow=5.4,SNR=28						
CTA	**Charters Tower**	**49.08**	**116**	P	**P**	**10 47 29.7**	**-0.9**
CTA				pP	**pP**	**10 47 52.0**	**-0.8**
CTA				PcP	**PcP**	**10 48 54.4**	**+1.3**
CTA				ScP	**ScP**	**10 52 40.0**	**-0.1**
CTA	**Charters Tower**	**49.08**	**116**	P	**P**	**10 47 29.7**	**-0.9**
	comp=Z,4.4nm,0.6s,baz=311,slow=4.2,SNR=3.7						
CTA				pP	**pP**	**10 47 52.0**	**-0.8**
	comp=Z,6.0nm,0.7s,baz=293,slow=14,SNR=2.6						
CTA				PcP	**PcP**	**10 48 54.4**	**+1.3**
	comp=Z,7.5nm,0.8s,baz=291,slow=4.5,SNR=3.3						
CTA				ScP	**ScP**	**10 52 40.0**	**-0.1**
	comp=Z,5.5nm,0.8s,baz=2.5,slow=4.7,SNR=3.6						
CBIJ	**Chichi jima**	**49.10**	**52**	P	**P**	**10 47 29.3**	**-1.3**
CBIJ	**Chichi jima**	**49.10**	**52**	P	**P**	**10 47 29.3**	**-1.3**
	comp=Z,108nm,0.4s,baz=302,slow=19,SNR=14						
CHMS	**Chumysh**	**49.16**	**336**	P	**P**	**10 47 31.8**	**+1.0**
	SNR=21						
EKS2	**Erkin-Say**	**49.29**	**334**	*e*P	**P**	**10 47 33.4**	**+1.4**
EKS2				pmax	pmax		
	comp=Z,122nm,0.8s						
EKS2	**Erkin-Say**	**49.29**	**334**	P	**P**	**10 47 33.6**	**+1.6**
	SNR=40						
EKS2	**Erkin-Say**	**49.29**	**334**	*e*P	**P**	**10 47 33.4**	**+1.4**
	comp=Z,122nm,0.8s						
USP	**Ospenovka**	**49.48**	**336**	P	**P**	**10 47 34.4**	**+1.0**
	SNR=30						
CN2	**Changchun**	**49.87**	**24**	*e*P	**P**	**10 47 35.3**	**-0.9**
CN2				*ep*P	**pP**	**10 47 58.5**	**+0.1**
CN2				*e*S	**S**	**10 54 37.0**	**-2.3**
CN2				pmax	pmax		
	comp=Z,30nm,0.9s						
CN2				pmax	pmax		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,21μm,13.0s						
CN2				LR	LR		
	comp=E,14μm,13.0s						
CN2				LR	LR		
	comp=Z,25μm,16.0s						
MK31	**Makanchi Array**	**49.88**	**344**	*ce*P	**P**	**10 47 36.7**	**+0.4**
MK31				pmax	pmax		
	comp=Z,96nm,0.4s						
MK31	**Makanchi Array**	**49.88**	**344**	*e*P	**P**	**10 47 36.6**	**+0.4**
MKAR	**Makanchi Array**	**49.88**	**344**	*e*P	**P**	**10 47 36.8**	**+0.5**
MKAR				S	**S**	**10 54 37.3**	**-2.2**
MKAR	**Makanchi Array**	**49.88**	**344**	*e*P	**P**	**10 47 36.8**	**+0.5**
MKAR				pP	**pP**	**10 47 58.3**	**-0.2**
MKAR				S	**S**	**10 54 37.2**	**-2.2**
MKAR	**Makanchi Array**	**49.88**	**344**	P	**P**	**10 47 36.7**	**+0.5**
	comp=Z,135nm,0.5s,baz=156,slow=8.7,SNR=514						
MKAR				pP	**pP**	**10 47 58.3**	**-0.2**
	comp=Z,17nm,0.5s,baz=156,slow=9.3,SNR=2.4						
MKAR				S	**S**	**10 54 37.3**	**-2.2**
	comp=Z,12nm,1.0s,baz=162,slow=13,SNR=12						
STKA	**Stephens Creek**	**49.93**	**132**	P	**P**	**10 47 37.1**	**+0.2**
STKA				pP	**pP**	**10 47 57.9**	**-1.2**
STKA				S	**S**	**10 54 39.1**	**-1.4**
STKA	**Stephens Creek**	**49.93**	**132**	P	**P**	**10 47 37.1**	**+0.2**
	comp=Z,29nm,0.7s,baz=310,slow=7.6,SNR=21						
STKA				pP	**pP**	**10 47 57.9**	**-1.2**
	comp=Z,15nm,0.7s,baz=322,slow=9.2,SNR=3.2						
STKA				S	**S**	**10 54 39.1**	**-1.4**
	comp=Z,2.5nm,0.7s,baz=349,slow=18,SNR=3.3						
ZAK	**Zakamensk**	**51.05**	**3**	*e*P	**P**	**10 47 44.2**	**-0.9**
ZAK				*e*		10 47 54.9	
ZAK				pmax	pmax		
	comp=Z,11nm,1.6s						
KK31	**Karatay Array**	**51.10**	**332**	*ce*P	**P**	**10 47 45.9**	**+0.4**
KK31				pmax	pmax		
	comp=Z,9.0nm,0.5s						
KKAR	**Karatay Array**	**51.10**	**332**	*e*P	**P**	**10 47 46.5**	**+1.0**
KKAR	**Karatay Array**	**51.10**	**332**	*e*P	**P**	**10 47 46.5**	**+1.0**
MAJO	**Matsushiro**	**51.32**	**40**	*e*P	**P**	**10 47 46.5**	**-0.8**
MAJO				pmax	pmax		
	comp=Z,52nm,1.2s						
MAJO	**Matsushiro**	**51.32**	**40**	*e*P	**P**	**10 47 46.5**	**-0.8**
	comp=Z,52nm,1.2s						
HVS	**Khovu-Aksy**	**52.01**	**355⇓**	*i*P	**P**	**10 47 51.4**	**-0.8**
HVS				pmax	pmax		
	comp=Z,117nm,1.3s						
VLA	**Vladivostok**	**52.22**	**29⇓**	*i*P	**P**	**10 47 52.9**	**-0.9**
VLA				*e*		10 49 02.7	
VLA				*i*		10 49 52.4	
VLA				*e*S	**S**	**10 55 11.6**	**-0.1**
VLA				pmax	pmax		
	comp=Z,53nm,1.0s						
MDJ	**Mudanjiang**	**52.29**	**26**	P	**P**	**10 47 54.5**	**+0.2**
MDJ				sP	**sP**	**10 48 30.5**	**+3.5**
MDJ				PP	**PP**	**10 49 53.8**	**0.0**
MDJ				S	**S**	**10 55 11.5**	**-1.2**
MDJ				pmax	pmax		
	comp=Z,48nm,1.5s						
MDJ				LR	LR		
	comp=N,39μm,29.9s						
MDJ				LR	LR		
	comp=E,30μm,17.4s						
MDJ				LR	LR		
	comp=Z,35μm,24.9s						
TLY	**Talaya**	**52.37**	**3**	*e*P	**P**	**10 47 55.6**	**+0.8**
TLY				pmax	pmax		
	comp=Z,25nm,0.6s						
TLY	**Talaya**	**52.37**	**3**	P	**P**	**10 47 55.8**	**+1.0**
	comp=Z,250nm,0.7s,SNR=5.2						
HIA	**Hailar**	**52.68**	**16**	*e*P	**P**	**10 47 56.4**	**-0.7**
	comp=Z,15nm,0.8s						
USRK	**Ussuriysk Arra**	**53.08**	**28**	P	**P**	**10 48 00.3**	**+0.2**
	comp=Z,187nm,0.6s,baz=236,slow=4.1,SNR=204						
KURBB	**Kurchatov Arra**	**54.41**	**343**	P	**P**	**10 48 10.0**	**+0.3**
	comp=Z,105nm,0.7s,baz=155,slow=7.7,SNR=278						
KURK	**Kurchatov**	**54.47**	**343**	P	**P**	**10 48 10.3**	**+0.2**
	comp=Z,816nm,0.7s,SNR=35						
KURK	**Kurchatov**	**54.47**	**343⇓**	*i*P	**P**	**10 48 09.7**	**-0.4**
KURK				pmax	pmax		
	comp=Z,104nm,0.7s						
KURK	**Kurchatov**	**54.47**	**343**	*e*P	**P**	**10 48 10.5**	**+0.4**
	comp=Z,101nm,0.8s						
OPO	**Ambohidratompo**	**54.75**	**248**	P	**P**	**10 48 15.3**	**+2.4**
OPO				pP	**pP**	**10 48 36.7**	**+1.2**
OPO	**Ambohidratompo**	**54.75**	**248**	P	**P**	**10 48 15.3**	**+2.4**
	comp=Z,10nm,0.8s,baz=67,slow=8.3,SNR=7.3						
OPO				pP	**pP**	**10 48 36.7**	**+1.2**
	comp=Z,8.6nm,0.9s,baz=355,slow=6.6,SNR=3.5						
EIDS	**Eidsvold**	**54.93**	**121**	*e*P	**P**	**10 48 13.8**	**-0.2**
	comp=Z,10nm,0.6s						
ZAA0	**Zalesovo Array**	**55.99**	**349**	*e*P	**P**	**10 48 20.8**	**-0.2**
ZALV	**Zalesovo Beam**	**55.99**	**349**	P	**P**	**10 48 20.7**	**-0.3**
ZALV	**Zalesovo Beam**	**55.99**	**349**	P	**P**	**10 48 20.7**	**-0.3**
ZALV				pP	**pP**	**10 48 43.4**	**-0.3**
ZALV				sP	**sP**	**10 48 51.8**	**-2.1**
ZALV	**Zalesovo Beam**	**55.99**	**349**	P	**P**	**10 48 20.7**	**-0.3**
	comp=Z,91nm,0.5s,baz=164,slow=6.0,SNR=103						
ZALV				pP	**pP**	**10 48 43.4**	**-0.3**
	comp=Z,32nm,0.7s,baz=167,slow=7.4,SNR=2.2						
ZALV				sP	**sP**	**10 48 51.8**	**-2.1**
	comp=Z,27nm,0.6s,baz=174,slow=5.6,SNR=2.5						
ARMA	**Armidale**	**57.08**	**126**	*e*P	**P**	**10 48 30.9**	**+1.6**
	comp=Z,13nm,0.7s						
DAMY	**Dhamar**	**57.12**	**288**	*e*P	**P**	**10 48 33.0**	**+2.9**
NVS	**Novosibirsk**	**57.15**	**349**	*e*P	**P**	**10 48 28.2**	**-0.9**
NVS				pmax	pmax		
	comp=Z,117nm,1.6s						
NVS				pmax	pmax		
	comp=N,72nm,1.2s						
NVS				pmax	pmax		
	comp=E,26nm,0.9s						
ERM	**Erimo**	**57.67**	**37**	*ce*P	**P**	**10 48 32.8**	**-0.3**
ERM				pmax	pmax		
	comp=Z,41nm,1.7s						
HABR	**Khabarovsk**	**57.67**	**27**	*e*P	**P**	**10 48 31.6**	**-1.4**
HABR				*e*		10 49 23.0	
HABR				*e*		10 50 39.4	
HABR				*e*PPP	PPP	10 51 57.9	
HABR				*e*S	**S**	**10 56 24.5**	**+0.1**
HABR				*e*		10 58 13.1	
HABR				pmax	pmax		
	comp=Z,72nm,1.3s						
HABR				MLR	MLR		
	comp=Z,25μm,17.0s						
ASAJ	**Asahikawa**	**58.60**	**35**	P	**P**	**10 48 39.9**	**+0.3**
ASAJ	**Asahikawa**	**58.60**	**35**	P	**P**	**10 48 39.9**	**+0.3**
	comp=Z,36nm,0.8s,baz=235,slow=9.7,SNR=29						
VOSK	**Vostochnaya**	**58.62**	**340**	*e*P	**P**	**10 48 39.2**	**-0.3**
VOSK				pmax	pmax		
	comp=Z,92nm,0.6s						
VOSK	**Vostochnaya**	**58.62**	**340**	*e*P	**P**	**10 48 39.2**	**-0.3**
	comp=Z,92nm,0.6s						
BVA0	**Borovoye Array**	**59.07**	**340**	*i*P	**P**	**10 48 42.3**	**-0.4**
BVA0				pmax	pmax		
	comp=Z,77nm,0.7s						
BVAR	**Borovoye Array**	**59.07**	**340**	P	**P**	**10 48 42.3**	**-0.4**
BVAR	**Borovoye Array**	**59.07**	**340**	P	**P**	**10 48 42.3**	**-0.4**
BVAR				pP	**pP**	**10 49 04.6**	**-0.9**
BVAR				ScP	**ScP**	**10 53 19.9**	**-3.1**
BVAR	**Borovoye Array**	**59.07**	**340**	P	**P**	**10 48 42.3**	**-0.4**
	comp=Z,78nm,0.6s,baz=147,slow=8.8,SNR=50						
BVAR				pP	**pP**	**10 49 04.6**	**-0.9**
	comp=Z,16nm,0.6s,baz=136,slow=10,SNR=2.0						
BVAR				ScP	**ScP**	**10 53 19.9**	**-3.1**
	comp=Z,6.6nm,1.0s,baz=107,slow=1.5,SNR=6.0						
BRVK	**Borovoye**	**59.13**	**340⇑**	*i*P	**P**	**10 48 42.9**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,133nm,1.2s						
BRVK	**Borovoye**	**59.13**	**340**	*e*P	**P**	**10 48 42.9**	**-0.2**
	comp=Z,159nm,1.0s						
BRVK	**Borovoye**	**59.13**	**340**	P	**P**	**10 48 42.6**	**-0.5**
	comp=Z,806nm,0.5s,SNR=16						
YSS	**Yuzh-Sakhalins**	**60.44**	**32⇑**	*i*P	**P**	**10 48 51.7**	**-0.5**
YSS				pmax	pmax		
	comp=N,90nm,1.0s						
YSS				pmax	pmax		
	comp=E,60nm,1.0s						
YSS				pmax	pmax		
	comp=Z,220nm,1.0s						
AB31	**Akbulak array**	**60.61**	**331**	*ce*P	**P**	**10 48 52.7**	**-0.5**
AB31				pmax	pmax		
	comp=Z,5.0nm,0.4s						
ABKAR	**Akbulak array**	**60.61**	**331**	*e*P	**P**	**10 48 53.0**	**-0.2**
AKTO	**Aktyubinsk**	**62.32**	**331**	P	**P**	**10 49 04.2**	**-0.6**
AKTO						10 49 44.7	
AKTO	**Aktyubinsk**	**62.32**	**331**	P	**P**	**10 49 04.2**	**-0.6**
AKTO				PcP	**PcP**	**10 49 44.7**	**+1.0**
AKTO	**Aktyubinsk**	**62.32**	**331**	P	**P**	**10 49 04.2**	**-0.6**
	comp=Z,7.6nm,0.3s,baz=126,slow=5.7,SNR=20						
AKTO				PcP	**PcP**	**10 49 44.7**	**+1.0**
	comp=Z,7.6nm,0.4s,baz=94,slow=9.9,SNR=2.9						
KMBO	**Kilima Mbogo**	**62.78**	**269**	P	**P**	**10 49 10.9**	**+2.1**
KMBO				pP	**pP**	**10 49 31.2**	**-0.7**
KMBO	**Kilima Mbogo**	**62.78**	**269**	P	**P**	**10 49 10.9**	**+2.1**
	comp=Z,4.0nm,0.7s,baz=61,slow=11,SNR=5.7						
KMBO				pP	**pP**	**10 49 31.2**	**-0.7**
	comp=Z,5.0nm,0.8s,baz=45,slow=9.0,SNR=3.7						
SVE	**Sverdlovsk**	**65.59**	**337**	*e*P	**P**	**10 49 26.0**	**0.0**
SVE				pmax	pmax		
	comp=Z,157nm,1.2s						
ARU	**Arti**	**66.12**	**336**	*d*iP	**P**	**10 49 28.5**	**-1.0**
ARU				S	**S**	**10 58 12.6**	**+1.9**
ARU				pmax	pmax		
	comp=Z,96nm,1.2s						
YAK	**Yakutsk**	**66.57**	**15**	*e*P	**P**	**10 49 29.4**	**-2.8**
YAK				pmax	pmax		
	comp=Z,92nm,1.0s						
YAK				pmax	pmax		
	comp=N,32nm,1.3s						
YAK				pmax	pmax		
	comp=E,25nm,1.3s						
KBZ	**Khabaz**	**67.43**	**319**	P	**P**	**10 49 38.4**	**+0.3**
KBZ	**Khabaz**	**67.43**	**319**	P	**P**	**10 49 38.4**	**+0.3**
KBZ	**Khabaz**	**67.43**	**319**	P	**P**	**10 49 38.4**	**+0.3**
	comp=E,20nm,0.8s,baz=114,slow=4.9,SNR=14						
KIV	**Kislovod

comp=Z,10nm,0.7s,baz=92,slow=5.5,SNR=5.6
TIRR Tirgusor 77.52 316⇑iP P 10 50 38.3 +0.3
MSVF Nonsavu 78.34 108 iP P 10 50 44.5 +1.3
AKASG Malin Array Be 78.56 322 P P 10 50 43.2 -0.4
AKASG Malin Array Be 78.56 322 P P 10 50 43.2 -0.4
AKASG Malin Array Be 78.56 322 P P 10 50 43.2 -0.4
comp=Z,5.4nm,0.5s,baz=88,slow=5.1,SNR=13
KIEV Kiev 78.56 322 iP P 10 50 42.9 -0.7
TMCR Tamitsa 78.85 337 eP P 10 50 45.6 +0.7
TMCR pmax pmax
comp=Z,56nm,0.8s
VRI Vrincioaia 79.00 317⇑iP P 10 50 47.3 +1.1
BKZ Black Stump Fm 79.01 130 eP P 10 50 46.8 +0.4
comp=Z,45nm,0.7s
SYO Syowa Base 79.02 199⇓eP P 10 50 45.6 -0.1
SYO Syowa Base 79.02 199 eSH SKiKP 11 00 03.5 +19
PLOR Plostina 79.05 317⇑iP P 10 50 47.4 +0.9
TESR Tescani 79.19 318⇑iP P 10 50 48.1 +0.9
URZ Urewera 79.36 129 P P 10 50 48.4 +0.1
URZ Urewera 79.36 129 P P 10 50 48.4 +0.1
comp=Z,14nm,0.7s,baz=281,slow=5.2,SNR=7.9
MLR Muntele Rosu 79.45 317⇓iP P 10 50 50.2 +1.4
PRAR RASCA 79.66 318⇑iP P 10 50 50.5 +0.8
VOIR 80.06 316⇑iP P 10 50 51.9 -0.1
ARR Arges 80.33 316⇑iP P 10 50 54.0 +0.5
BURAR Bucovina Array 80.38 319⇑iP P 10 50 55.2 +1.5
BUR08 Bucovina Ar. S 80.40 319 eP P 10 50 55.2 +1.3
SUR Sutherland 80.48 237 P P 10 50 56.2 +1.5
SUR pP **pP 10 51 17.8 -0.9**
SUR Sutherland 80.48 237 P P 10 50 56.2 +1.5
comp=Z,8.2nm,1.0s,baz=108,slow=16,SNR=2.8
SUR pP **pP 10 51 17.8 -0.9**
comp=Z,12nm,0.9s,baz=76,slow=8.3,SNR=2.8
FX1 Attu Island--F 80.50 36 eP P 10 50 53.7 -0.5
FX1 Attu Island--F 80.50 36 P P 10 50 53.6 -0.5
comp=Z,17nm,0.6s,baz=64,slow=1.9,SNR=14
VTS Vitosha 80.85 313⇑iP P 10 50 56.8 +0.4
NACGM Naroch 81.07 326 e P 10 50 54.0 -3.1
JOF Joensuu 81.15 334 eP P 10 50 58.0 +0.7
JOF pmax pmax
comp=Z,17nm,0.6s
JOF Joensuu 81.15 334 ep P 10 50 58.0 +0.7
comp=Z,17nm,0.6s
DRGR 81.91 317⇑iP P 10 51 03.0 +1.2
APA Apatity 81.98 339⇓iP P 10 51 02.0 +0.4
APA pmax pmax
comp=Z,31nm,1.0s
VSU Vasula 81.99 329⇓iP P 10 51 02.6 +0.8
VSU pmax pmax
comp=Z,69nm,0.7s
KWP Kalwaria Pacla 82.40 320⇓iP P 10 51 05.1 +0.8
BZS Buzias 82.47 316⇑iP P 10 51 05.4 +0.8
SIRR Siria 82.54 317⇑iP P 10 51 06.1 +1.1
TSUM Tsumeb 82.61 251 P P 10 51 08.8 +2.7
TSUM pP **pP 10 51 30.1 -0.1**
TSUM sP **sP 10 51 38.8 -1.3**
TSUM Tsumeb 82.61 251 P P 10 51 08.8 +2.7
comp=Z,6.5nm,1.0s,baz=315,slow=1.4,SNR=4.2
TSUM pP **pP 10 51 30.1 -0.1**
comp=Z,11nm,0.9s,baz=138,slow=6.7,SNR=5.1
TSUM sP **sP 10 51 38.8 -1.3**
comp=Z,7.7nm,0.9s,baz=28,slow=1.1,SNR=3.2
SUW Suwalki 82.93 325 eP P 10 51 07.2 +0.4
SUW pmax pmax
comp=Z,108nm,0.9s
SUW Suwalki 82.93 325 eP P 10 51 07.2 +0.4
comp=Z,108nm,0.9s
SUW Suwalki 82.93 325 eP P 10 51 07.4 +0.6
FIA1 FINESS Array S 83.06 332 eP P 10 51 07.7 +0.3
FINES FINESS Array B 83.07 332 P P 10 51 07.8 +0.4
FINES pP **pP 10 51 30.6 -0.9**
FINES sP **sP 10 51 39.7 -1.7**
FINES PKKPbc **PKKPbc 11 09 28.9 -2.6**
FINES FINESS Array B 83.07 332 P P 10 51 07.8 +0.4
comp=Z,22nm,0.5s,baz=106,slow=5.6,SNR=62
FINES pP **pP 10 51 30.6 -0.9**
comp=Z,6.2nm,0.6s,baz=102,slow=5.8,SNR=2.2
FINES sP **sP 10 51 39.7 -1.7**
comp=Z,5.8nm,0.5s,baz=108,slow=6.1,SNR=2.0
FINES PKKPbc **PKKPbc 11 09 28.9 -2.6**
comp=Z,2.4nm,0.8s,baz=343,slow=2.0,SNR=6.9
KAF Kangasniemi 83.13 333 eP P 10 51 08.6 +0.9
KAF pmax pmax
comp=Z,45nm,0.5s
KAF Kangasniemi 83.13 333 ep P 10 51 08.6 +0.9
comp=Z,45nm,0.5s
STHS Stebnicka Huta 83.31 320 eP P 10 51 10.9 +1.9
STHS pmax pmax
comp=Z,16nm,0.7s
STHS Stebnicka Huta 83.31 320 eP P 10 51 10.9 +1.9
VNDA Vanda 83.33 169 eP P 10 51 10.3 +1.8
comp=Z,10nm,0.8s
VNDA pP **pP 10 51 31.8 -0.9**
VNDA Vanda 83.33 169 P P 10 51 10.3 +1.8
comp=Z,5.2nm,0.5s,baz=309,slow=6.1,SNR=20
VNDA pP **pP 10 51 31.8 -0.9**
comp=Z,7.6nm,0.6s,baz=308,slow=3.4,SNR=5.0
KECS Kecovo 83.66 319 eP P 10 51 11.1 +0.4
KECS pmax pmax
comp=Z,7.0nm,0.8s
KECS Kecovo 83.66 319 eP P 10 51 11.1 +0.4
PSZ Piszkesteto 83.97 318⇑iP P 10 51 12.9 +0.5
KEV Kevo 84.91 340 eP P 10 51 16.9 +0.3
KEV Kevo 84.91 340 ep P 10 51 16.9 +0.3
ARCES ARCESS Array B 85.36 340 P P 10 51 19.1 +0.3
ARCES pP **pP 10 51 41.9 -1.2**
ARCES ARCESS Array B 85.36 340 P P 10 51 19.1 +0.3
comp=Z,13nm,0.4s,baz=102,slow=4.5,SNR=107
ARCES pP **pP 10 51 41.9 -1.2**
comp=Z,3.3nm,0.4s,baz=102,slow=4.7,SNR=2.4
MORC Moravsky Berou 85.74 320⇑iP P 10 51 22.4 +1.2
CEL Celeste 85.88 308 eP P 10 51 23.5 +1.3
comp=Z,18nm,0.8s
CUC Castrocucco 86.07 310 ePP PP 10 54 43.3 -1.2
BOJS Bojanci 86.89 315 iP P 10 51 27.7 +0.8
PERS Pernice 87.07 317 iP P 10 51 28.9 +1.1
SOKA Soboth 87.13 317⇑iP P 10 51 29.2 +1.0
comp=Z,14nm,0.8s
LJU Ljubljana 87.44 316 iP P 10 51 30.9 +1.3
JAVS Javornik 87.75 316 iP P 10 51 31.7 +0.5
GERES GERESS Array B 88.17 319 P P 10 51 34.1 +1.0
GERES pP **pP 10 51 57.4 -0.1**
GERES GERESS Array B 88.17 319 P P 10 51 34.1 +1.0
comp=Z,7.0nm,0.7s,baz=88,slow=3.6,SNR=14
GERES pP **pP 10 51 57.4 -0.1**
comp=Z,2.3nm,0.6s,baz=123,slow=3.6,SNR=2.9
KHC Kasperske Hory 88.27 319 eP P 10 51 34.0 +0.5
KHC Kasperske Hory 88.27 319 eP P 10 51 34.0 +0.5
CLL Collm 88.75 321 eP P 10 51 36.0 +0.4
CLL pmax pmax
comp=Z,24nm,1.2s
CLL Collm 88.75 321 eP P 10 51 36.0 +0.4
comp=Z,24nm,1.2s
CLL epP **pP 10 51 58.0 -2.0**
CLL Collm 88.75 321 epP PP 10 54 58.0 -7.7
QSPA South Pole Qui 89.16 180 P P 10 51 39.7 +2.3
QSPA pP **pP 10 52 00.8 -1.0**
QSPA South Pole Qui 89.16 180 P P 10 51 39.7 +2.3
comp=Z,5.1nm,0.6s,baz=235,slow=2.4,SNR=6.7
QSPA pP **pP 10 52 00.8 -1.0**
comp=Z,8.1nm,0.6s,baz=282,slow=2.0,SNR=2.9
MOTA Moosalm 89.85 317⇓iP P 10 51 41.3 +0.2
comp=Z,13nm,0.8s
RETA Reutte 90.09 317⇓iP P 10 51 42.8 +0.7
comp=Z,19nm,0.7s
NB2 NORSAR Subarra 90.11 331 P P 10 51 42.1 +0.2
comp=Z,7.0nm,1.0s,baz=94,slow=4.8
NOA NORSAR Array B 90.11 331 P P 10 51 42.2 +0.4
NOA NORSAR Array B 90.11 331 P P 10 51 42.2 +0.4
comp=Z,2.7nm,0.7s,baz=93,slow=4.8,SNR=7.6
DAVA Damuels 90.68 317⇑iPcP PcP 10 51 46.1 +0.1
comp=Z,37nm,0.9s
KONO Kongsberg 90.90 329 eP P 10 51 45.8 +0.3
KEST Kesra 91.02 306 P P 10 51 49.1 +2.4
KEST pP **pP 10 52 13.1 +1.9**
KEST Kesra 91.02 306 P P 10 51 49.1 +2.4
comp=Z,10nm,0.9s,baz=19,slow=2.4,SNR=10
KEST pP **pP 10 52 13.1 +1.9**
comp=Z,7.6nm,1.0s,baz=219,slow=4.1,SNR=2.8
PGF Pioggiola 91.30 312 eP P 10 51 48.8 +0.9
SBF Sospel 92.42 314⇑iP P 10 51 53.8 +0.8
comp=Z,20nm,0.6s
CDF Champ du Feu 92.43 318 eP P 10 51 53.4 +0.5
comp=Z,6.6nm,0.7s
LPG La Plagne 92.87 315⇑iP P 10 51 56.1 +0.8
comp=Z,21nm,0.7s
MBDF Montbardon 92.88 315 eP P 10 51 55.2 0.0
comp=Z,4.8nm,0.7s
LPL La Plagne 92.88 315⇑iP P 10 51 56.1 +0.8
comp=Z,18nm,0.6s
FRF La Foret Royal 93.00 313⇑iP P 10 51 56.5 +0.9
comp=Z,15nm,0.5s
HAU Haudompre 93.06 318⇑iP P 10 51 56.3 +0.5
comp=Z,24nm,0.8s
LMR La Mourre 93.11 313 eP P 10 51 56.7 +0.6
comp=Z,3.9nm,0.6s
CABF La Chapelle 93.29 316 eP P 10 51 57.9 +0.9
comp=Z,18nm,0.7s
PAGF Fort de Pagny 93.45 318 eP P 10 51 58.3 +0.8
ORIF Oris-en-Rattie 93.51 315 eP P 10 51 58.9 +0.9
comp=Z,11nm,0.7s
SMRF Simiane la Rot 93.77 314 eP P 10 52 00.5 +1.4
comp=Z,6.1nm,0.7s
SFTF Sexfontaines 93.93 318⇑iP P 10 52 00.4 +0.7
comp=Z,39nm,0.8s
BAIF Baives 94.36 320 eP P 10 52 02.5 +0.9
comp=Z,8.7nm,0.6s
VIVF Saint-Julien-l 94.37 315 eP P 10 52 02.5 +0.6
comp=Z,7.0nm,0.8s
LOR Lormes 94.78 317⇑iP P 10 52 04.2 +0.5
comp=Z,13nm,0.6s
SMF Signal de Mont 94.84 317⇑iP P 10 52 04.4 +0.4
comp=Z,18nm,0.8s
LASF Ste Croix 95.00 314 eP P 10 52 06.6 +1.8
SSF Saint Saulge 95.03 317 eP P 10 52 05.4 +0.6
AVF Avril sur Loir 95.16 317 eP P 10 52 06.0 +0.6
comp=Z,6.2nm,0.8s
MTLF Montolieu 96.24 313 eP P 10 52 11.1 +0.7
RJF Les Rejaudoux 96.56 315 eP P 10 52 13.3 +1.5
comp=Z,5.0nm,0.7s
IM04 Indian Mountai 97.27 23 eP P 10 52 14.7 +0.1
IMA2 Indian Mountai 97.29 23 eP P 10 52 14.8 0.0
LDF La Drutiere 97.32 319 eP Pdif 10 52 15.6 +0.4
comp=Z,9.6nm,0.7s
FLN La Foliniere 97.53 319 eP Pdif 10 52 16.5 +0.3
comp=Z,13nm,0.8s
MFF Saint Martin d 97.58 317 eP Pdif 10 52 16.8 +0.4
GRR Gorron 97.83 319 eP Pdif 10 52 17.8 +0.3
TORD Torodi Ar. Bea 98.30 283 PKiKP PKiKP 10 56 54.1 +1.5
TORD Torodi Ar. Bea 98.30 283 PKiKP PKiKP 10 56 54.1 +1.5
comp=Z,1.5nm,1.0s,baz=16,slow=1.9,SNR=2.8
BPAW Bear Paw Mtn. 98.92 25 eP P 10 52 21.9 -0.1
comp=Z,5.8nm,0.7s
KDAK Kodiak Island 99.88 31 P Pdif 10 52 26.8 +0.4
KDAK Kodiak Island 99.88 31 P Pdif 10 52 26.8 +0.4
comp=Z,26nm,1.2s,baz=47,slow=8.1,SNR=4.4
MCK McKinley 99.90 25 eP Pdif 10 52 26.2 -0.2
MCK McKinley 99.90 25 ePdif Pdif 10 52 26.1 -0.2
ILAR Eielson Array 100.39 24 P Pdif 10 52 27.2 -1.3
ILAR PKKPbc **PKKPbc 11 08 45.4 -1.8**
ILAR PKKPab PKKPdf 11 09 07.2 +16
ILAR Eielson Array 100.39 24 P Pdif 10 52 27.2 -1.3
comp=Z,0.7nm,0.5s,baz=284,slow=4.6,SNR=8.0
ILAR PKKPbc **PKKPbc 11 08 45.4 -1.8**
comp=Z,0.6nm,0.6s,baz=145,slow=2.2,SNR=6.1
ILAR PKKPab PKKPdf 11 09 07.2 +16
comp=Z,0.0nm,0.9s,baz=131,slow=2.7,SNR=7.0
B08A Colville Reser 121.72 30 ePKPdf PKPdf 10 57 35.7 0.0
NEW Newport 122.86 29 PKP PKPdf 10 57 37.8 -0.1
NEW ePKPdf **PKiKP 10 57 38.0 0.0**
NEW pPKP **pPKPdf 10 58 02.3 -1.0**
NEW Newport 122.86 29 PKP PKPdf 10 57 37.8 -0.1
comp=Z,4.2nm,0.7s,baz=118,slow=1.6,SNR=8.9
NEW pPKP **pPKPdf 10 58 02.3 -1.0**
comp=Z,2.0nm,0.7s,baz=270,slow=8.1,SNR=2.4
NEW Newport 122.86 29 ⇓PKiKP PKPdf 10 57 37.7 -0.2
baz=123
HAWA Hanford 122.91 32 ePKPdf PKPdf 10 57 38.8 +0.9
YBH Yreka Blue Hor 123.97 38 PKP PKPdf 10 57 40.6 +0.4
YBH Yreka Blue Hor 123.97 38 PKP PKPdf 10 57 40.6 +0.4
comp=Z,2.5nm,0.7s,baz=308,slow=1.9,SNR=9.0
BSMT Bassoo Peak 124.26 28 ePKPdf PKPdf 10 57 40.7 -0.1
F10A Beach Ranch, E 124.39 31 ePKPdf PKPdf 10 57 41.4 +0.4
SCHQ Schefferville 125.07 351 PKP PKPdf 10 57 42.0 +0.2
SCHQ Schefferville 125.07 351 PKP PKPdf 10 57 42.0 +0.2
comp=Z,4.5nm,0.6s,baz=60,slow=5.1,SNR=9.0
MOD Modoc 125.31 36 ePKPdf PKPdf 10 57 43.8 +0.9
MSO Missoula 125.40 28 ePKPdf PKPdf 10 57 42.7 -0.1
MSO Missoula 125.40 28 ⇑PKiKP PKPdf 10 57 42.7 -0.1
baz=125
J08A Circle Bar Ran 125.45 34 ePKPdf PKPdf 10 57 44.2 +1.2
WVOR Wild Horse Val 125.95 35 ePKIKP PKPdf 10 57 45.0 +0.9
WVOR Wild Horse Val 125.95 35 ePKPdf PKPdf 10 57 45.0 +0.9
A19A Klindworth Far 126.03 23 ⇓PKiKP PKPdf 10 57 43.9 -0.1
baz=126
EGMT Eagleton 126.35 24 ePKPdf PKPdf 10 57 44.7 +0.1
EGMT Eagleton 126.35 24 ⇑PKiKP PKPdf 10 57 44.4 -0.2
baz=126
A20A Cobblestone Ra 126.39 23 ⇓PKiKP PKPdf 10 57 44.6 -0.1
baz=126
A21A Bergtoll Ranch 126.68 22 ⇓PKiKP PKPdf 10 57 45.0 -0.2
baz=126
B20A Solberg Farm, 126.71 23 ⇓PKiKP PKPdf 10 57 45.3 +0.1
baz=126
MFID Camas Ranch 126.86 32 ⇓PKiKP PKPdf 10 57 45.8 0.0
baz=127
C19A Slack Wire Ran 126.87 24 ⇑PKiKP PKPdf 10 57 45.5 -0.1
baz=127
A22A Carney Farms, 127.05 21 ⇓PKiKP PKPdf 10 57 45.9 +0.1
baz=127
B21A Ellsworth Farm 127.11 22 ⇑PKiKP PKPdf 10 57 46.1 +0.1
baz=127
DLMT Dillon 127.11 28 ePKPdf PKPdf 10 57 47.4 +1.1
C20A Veseth Ranch, 127.31 24 ⇓PKiKP PKiKP 10 57 46.8 -0.1
baz=127
BOZ Bozeman (W) 127.35 28 ePKIKP PKPdf 10 57 47.5 +0.8
BOZ Bozeman (W) 127.35 28 ePKPdf PKPdf 10 57 47.5 +0.8
HLID Hailey 127.50 31 ⇓PKiKP PKPdf 10 57 47.3 +0.3
baz=127
CMB Columbia Colle 127.55 40 ePKIKP PKPdf 10 57 48.1 +1.0
CMB Columbia Colle 127.55 40 ePKPdf PKPdf 10 57 48.1 +1.0
D20A Manuel Ranch, 127.75 24 ⇑PKiKP PKiKP 10 57 47.8 -0.1
baz=128
A24A Westby 127.78 20 ⇑PKiKP PKiKP 10 57 47.9 +0.1
baz=128
B23A Brockton 127.83 21 ⇓PKiKP PKiKP 10 57 47.9 0.0
baz=128
E19A Rath Farm, Rou 127.99 25 ⇓PKiKP PKPdf 10 57 47.8 +0.1
baz=128
A25A Svangstu Ranch 128.06 19 ⇓PKiKP PKPdf 10 57 48.1 +0.3
baz=128
DGMT Dagmar 128.10 20 ⇑PKiKP PKiKP 10 57 48.3 -0.2
baz=128
C22A Vida 128.10 22 ⇑PKiKP PKPdf 10 57 48.1 +0.2
baz=128
E20A Meyer Farm, Mu 128.23 25 ⇓PKiKP PKiKP 10 57 48.8 0.0
baz=128
D21A La Casta Ranch 128.23 23 ⇓PKiKP PKiKP 10 57 48.8 0.0
baz=128
C23A Lambert 128.31 21 ⇑PKiKP PKiKP 10 57 49.1 +0.1
baz=128
A26A Wade Farm, Ken 128.45 18 ⇑PKiKP PKiKP 10 57 49.3 +0.2
baz=128
D22A Cohagen 128.48 23 ⇓PKiKP PKiKP 10 57 49.5 +0.2
baz=128
B25A Knox Farm, Ray 128.62 20 ⇓PKiKP PKiKP 10 57 49.6 +0.1
baz=128
E21A Keefer Ranch, 128.63 24 ⇓PKiKP PKiKP 10 57 50.2 +0.6
baz=128
NVAR Mina Array Bea 128.64 39 PKP PKPdf 10 57 50.7 +1.2
NVAR pPKP **pPKPdf 10 58 13.7 -1.2**
NVAR Mina Array Bea 128.64 39 PKP PKPdf 10 57 50.7 +1.2
comp=Z,4.5nm,0.6s,baz=280,slow=2.2,SNR=14
NVAR pPKP **pPKPdf 10 58 13.7 -1.2**
comp=Z,1.7nm,0.7s,baz=321,slow=2.3,SNR=2.4
A27A Ledoux Ranch, 128.65 18 ⇑PKiKP PKiKP 10 57 49.7 +0.2
baz=128
F20A Billings 128.78 25 ⇓PKiKP PKiKP 10 57 50.2 +0.2
baz=128
C24A Savage 128.82 21 ⇑PKiKP PKiKP 10 57 49.8 -0.2
baz=129
D23A Lindsay 128.83 22 ⇑PKiKP PKiKP 10 57 49.9 -0.1
baz=129
LAO LASA Array 128.85 23 ePKPdf PKPdf 10 57 50.2 +0.8
ULM Lac du Bonnet 128.89 13 PKP PKPdf 10 57 48.8 -0.5
ULM pPKP **pPKPdf 10 58 11.9 -2.8**
ULM Lac du Bonnet 128.89 13 PKP PKPdf 10 57 48.8 -0.5
comp=Z,11nm,0.7s,baz=340,slow=2.4,SNR=7.8
ULM pPKP **pPKPdf 10 58 11.9 -2.8**
comp=Z,4.9nm,0.6s,baz=31,slow=4.6,SNR=2.7
ELK Elko 128.99 34 ePKPdf PKPdf 10 57 51.2 +1.1
H18A Shoshone NF, C 129.00 27 ⇓PKiKP PKiKP 10 57 50.6 0.0
baz=129
C25A Freed Ranch, W 129.07 20 ⇑PKiKP PKPdf 10 57 49.1 -0.6
baz=129
E22A Miles City 129.16 23 ⇑PKiKP PKiKP 10 57 50.8 +0.1
baz=129
G20A Bridger 129.21 26 ⇑PKiKP PKiKP 10 57 50.8 -0.2
baz=129
RRI2 Red Ridge 129.22 29 ePKPdf PKPdf 10 57 51.4 +1.0
A29A Manning Farm, 129.26 16 ⇑PKiKP PKPdf 10 57 50.3 +0.3
baz=129
TPAW Teton Pass 129.29 29 ePKPdf PKPdf 10 57 51.9 +1.3
H19A Powell 129.31 27 ⇑PKiKP PKiKP 10 57 51.1 -0.1
baz=129
SMMC Simmler 129.35 43 ⇑PKiKP PKPdf 10 57 50.9 +0.2
baz=129
E23A Ismay 129.36 22 ⇓PKiKP PKiKP 10 57 51.3 +0.2
baz=129
A30A Hoffart Farm, 129.50 16 ⇓PKiKP PKiKP 10 57 51.0 -0.2
baz=129
HVU Hansel Valley 129.62 32 ePKIKP PKPdf 10 57 52.7 +1.6
HVU Hansel Valley 129.62 32 ePKPdf PKPdf 10 57 52.7 +1.6
G21A Lodge Grass 129.64 25 ⇓PKiKP PKiKP 10 57 51.7 -0.1
baz=129
VES Vestal, Richgr 129.66 42 ⇑PKiKP PKPdf 10 57 51.5 +0.3
baz=130
E24A Baker 129.68 22 ⇓PKiKP PKiKP 10 57 51.5 -0.2
baz=129
I19A Meeteetse 129.79 27 ⇓PKiKP PKPdf 10 57 51.9 +0.4
baz=130
H20A Greybull 129.89 26 ⇑PKiKP PKPdf 10 57 51.8 +0.3
baz=130
B30A Myrvik Farm, E 129.94 16 ⇑PKiKP PKPdf 10 57 51.7 +0.4
baz=130
F23A Volborg 129.97 23 ⇓PKiKP PKPdf 10 57 51.7 +0.1
baz=130
G22A Birney 130.02 24 ⇓PKiKP PKPdf 10 57 52.1 +0.3
baz=130
E25A Miller Ranch, 130.06 21 ⇑PKiKP PKiKP 10 57 52.4 -0.1
baz=130
MDND Maddock 130.12 17 ⇓PKiKP PKiKP 10 57 53.2 +0.7
baz=130
ISA Isabella 130.17 42 ⇑PKiKP PKPdf 10 57 52.4 +0.2
baz=130
H21A Big Horn, Sher 130.19 25 ⇓PKiKP PKPdf 10 57 51.8 -0.3
baz=130
F24A Ekalaka 130.23 22 ⇓PKiKP PKPdf 10 57 52.3 +0.2
baz=130
ARVC Arvin 130.24 42 ⇑PKiKP PKiKP 10 57 53.3 +0.2
baz=130
I20A Worland 130.25 27 ⇑PKiKP PKiKP 10 57 52.7 -0.3
baz=130
R11A Troy Canyon, C 130.36 37 ePKPdf PKPdf 10 57 53.8 +1.1
R11A epPKPdf **pPKPdf 10 58 17.7 -0.4**
R11A eSKPbc **SKPab 11 01 05.9 -1.9**
R11A Troy Canyon, C 130.36 37 ⇑PKiKP PKPdf 10 57 53.7 +1.1
baz=130
J19A Crowheart 130.36 28 ⇑PKiKP PKiKP 10 57 53.5 +0.1
baz=130
G23A Biddle 130.40 23 ⇑PKiKP PKPdf 10 57 52.4 0.0
baz=130
E26A Carlson Angus 130.42 20 ⇑PKiKP PKiKP 10 57 52.9 -0.3
baz=130
H22A Clearmont 130.51 25 ⇑PKiKP PKiKP 10 57 53.2 -0.3
baz=130
PDAR Pinedale Array 130.51 29 PKPpre PKPpre 10 57 46.9
PDAR PKP **PKPdf 10 57 53.2 +0.3**
PDAR PP **PP 11 00 04.0 -3.4**
PDAR SKPbc **SKPab 11 01 05.9 -2.5**
PDAR Pinedale Array 130.51 29 PKhKP PKPpre 10 57 46.9
comp=Z,0.6nm,0.6s,baz=118,slow=5.3,SNR=3.7
PDAR PKP **PKPdf 10 57 53.2 +0.3**
comp=Z,3.5nm,0.7s,baz=183,slow=1.4,SNR=14
PDAR PP **PP 11 00 04.0 -3.4**
comp=Z,0.9nm,0.8s,baz=274,slow=2.6,SNR=2.6
PDAR SKPbc **SKPab 11 01 05.9 -2.5**
comp=Z,3.9nm,0.8s,baz=99,slow=1.7,SNR=13
F25A Bowman 130.53 21 ⇓PKiKP PKiKP 10 57 53.3 -0.2
baz=130
MPMC Manual Prospec 130.58 41 ⇑PKiKP PKPdf 10 57 53.5 +0.3
baz=130
G24A Alzada 130.68 23 ⇑PKiKP PKPdf 10 57 52.7 -0.3
baz=130
DUG Dugway 130.71 33 ePKIKP PKPdf 10 57 54.3 +1.1
DUG Dugway 130.71 33 ePKPdf PKPdf 10 57 54.3 +1.1
DUG eSKPbc **SKPbc 11 01 08.0 -1.1**
DUG Dugway 130.71 33 ⇓PKiKP PKPdf 10 57 53.6 +0.4
baz=130
I21A Big Trails, Te 130.73 26 ⇑PKiKP PKPdf 10 57 53.3 +0.1
baz=130
J20A Shoshoni 130.74 27 ⇑PKiKP PKPdf 10 57 53.7 +0.5
baz=130
FURC Furnace Creek, 130.74 40 ⇑PKiKP PKiKP 10 57 53.9 -0.2
baz=130
E27A Carson 130.76 20 ⇑PKiKP PKiKP 10 57 53.7 -0.2
baz=130
K19A Absolon Red Bu 130.80 28 ⇓PKiKP PKPdf 10 57 53.4 0.0
baz=131
F26A Lodgepole 130.88 21 ⇓PKiKP PKPdf 10 57 53.5 +0.3
baz=131
L18A Fontenelle, Gr 130.91 30 ⇓PKiKP PKPdf 10 57 54.0 +0.3
baz=131
EDW2 Edwards Air Fo 130.95 42 ⇓PKiKP PKPdf 10 57 54.1 +0.4
baz=131
I22A 9 Mile Ranch, 131.02 25 ⇑PKiKP PKPdf 10 57 53.7 0.0
baz=131
J21A Lysite 131.03 27 ⇓PKiKP PKPdf 10 57 53.8 0.0
baz=131
D30A Buchanan 131.04 17 ⇓PKiKP PKPdf 10 57 53.4 0.0
baz=131
H24A Dirks Ranch, A 131.11 23 ⇑PKiKP PKPdf 10 57 53.6 -0.2
baz=131
K20A Yellowstone Ra 131.16 28 ⇑PKiKP PKPdf 10 57 54.0 -0.1
baz=131
G25A Newell 131.17 22 ⇓PKiKP PKPdf 10 57 54.0 +0.1
baz=131
G27A Dupree 131.19 21 ⇓PKiKP PKiKP 10 57 54.7 -0.1
baz=131
G26A Maurine 131.39 21 ⇓PKiKP PKiKP 10 57 54.9 -0.4
baz=131
J22A Midwest 131.41 26 ⇓PKiKP PKPdf 10 57 54.5 +0.1
baz=131
SHOC Shoshone 131.46 40 ⇑PKiKP PKPdf 10 57 54.9 +0.2
baz=131
CIS Catalina Islan 131.50 44 ⇓PKiKP PKPdf 10 57 54.6 -0.2
baz=131
BFSC Mount Baldy Ra 131.54 43 ⇓PKiKP PKPdf 10 57 55.1 +0.2
baz=131
L20A Wamsutter 131.67 28 ⇑PKiKP PKPdf 10 57 55.7 +0.6
baz=131
K21A Alcova 131.68 27 ⇓PKiKP PKPdf 10 57 55.6 +0.5
baz=131
I24A Kuemmerle Ranc 131.82 24 ⇓PKiKP PKPdf 10 57 55.4 +0.2
baz=132
RSSD Black Hills 131.84 23 ePKIKP PKPdf 10 57 56.0 +0.6
RSSD Black Hills 131.84 23 ePKPdf PKPdf 10 57 56.0 +0.6
RSSD eSKPbc **SKPbc 11 01 11.7 -1.4**
K22A Casper 132.00 26 ⇓PKiKP PKPdf 10 57 55.4 -0.2
baz=132
I25A Rochford 132.04 23 ⇓PKiKP PKPdf 10 57 55.3 -0.4
baz=132
M20A Sweetwater, Wa 132.14 29 ⇓PKiKP PKPdf 10 57 55.7 -0.3
baz=132
L21A Rawlins 132.16 28 ⇓PKiKP PKPdf 10 57 56.4 +0.4
baz=132
G28A Parade 132.17 20 ⇓PKiKP PKPdf 10 57 56.1 +0.4
baz=132
MURC Murrieta 132.22 43 ⇑PKiKP PKPdf 10 57 56.7 +0.5
baz=132
TMUT Trail Mountain 132.22 33 ePKPdf PKPdf 10 57 57.7 +1.4
TMUT eSKPbc **SKPbc 11 01 14.4 -0.4**
J24A Dixon Ranch, L 132.24 24 ⇓PKiKP PKPdf 10 57 56.6 +0.6
baz=132
M21A Separation Pea 132.44 28 ⇓PKiKP PKPdf 10 57 56.6 0.0
baz=132
Q16A Castle Valley 132.51 33 ⇑PKiKP PKiKP 10 57 57.5 -0.4
baz=132
GMRC Granite Mounta 132.55 41 ⇓PKiKP PKiKP 10 57 57.6 -0.3
baz=132
O19A Miners Draw (B 132.58 30 ⇓PKiKP PKPdf 10 57 57.3 +0.5
baz=132
N20A Spence Gulch, 132.61 29 ⇓PKiKP PKPdf 10 57 57.5 +0.6
baz=132
I27A Quinn 132.64 22 ⇓PKiKP PKPdf 10 57 57.2 +0.5
baz=132
K24A Anderson Ranch 132.68 25 ⇓PKiKP PKPdf 10 57 57.2 +0.3

	baz=132							
G30A	Faulkton	132.70	18	⇓PKiK	PKPdf	10 57 57.1	+0.4	
	baz=132							
PFO	Pinyon Flat Ob	132.72	42	⇓PKiK	PKiKP	10 57 58.2	-0.1	
	baz=132							
SRU	San Rafael	132.72	33	ePKIKP	PKPdf	10 57 58.5	+1.4	
SRU	San Rafael	132.72	33	ePKPdf	PKPdf	10 57 58.5	+1.4	
L23A	Garrett	132.79	26	⇑PKiK	PKPdf	10 57 56.8	-0.5	
	baz=132							
BELC	Belle Mtn. Jos	132.79	42	⇓PKiK	PKiKP	10 57 58.6	+0.1	
	baz=133							
J26A	Sides Ranch, S	132.89	23	⇑PKiK	PKPdf	10 57 57.8	+0.6	
	baz=133							
M22A	Cedar Creek Ra	132.95	27	⇓PKiK	PKiKP	10 57 58.7	-0.1	
	baz=133							
I28A	Midland	133.02	21	⇓PKiK	PKiKP	10 57 58.2	-0.4	
	baz=133							
N21A	Black Mountain	133.02	29	⇓PKiK	PKPdf	10 57 58.2	+0.5	
	baz=133							
O20A	White River Ci	133.15	30	ePKPdf	PKPdf	10 57 59.2	+1.2	
O20A	White River Ci	133.15	30	⇑PKiK	PKPdf	10 57 58.2	+0.3	
	baz=133							
P19A	Cripple Cowboy	133.15	31	⇓PKiK	PKPdf	10 57 58.5	+0.5	
	baz=133							
K25A	Mack Ranch, Ha	133.16	24	⇑PKiK	PKPdf	10 57 58.4	+0.7	
	baz=133							
MONP	Monument Peak	133.16	43	⇓PKiK	PKPdf	10 57 58.3	+0.1	
	baz=133							
L24A	Wheatland	133.18	26	⇑PKiK	PKPdf	10 57 58.1	+0.3	
	baz=133							
IRM	Iron Mountain	133.26	41	⇑PKiK	PKPdf	10 57 58.2	+0.1	
	baz=133							
M23A	Laramie	133.30	27	⇓PKiK	PKPdf	10 57 58.3	+0.1	
	baz=133							
I29A	Vivian Onida	133.30	20	⇑PKiK	PKPdf	10 57 58.3	+0.4	
	baz=133							
BC3	Big Chuckawall	133.36	42	⇓PKiK	PKiKP	10 57 59.2	-0.5	
	baz=133							
K26A	Motz Farm, Whi	133.37	24	⇓PKiK	PKPdf	10 57 58.7	+0.6	
	baz=133							
BRSD	Miller	133.38	19	eSKPbc	SKPbc	11 01 17.7	-0.5	
BRSD	Miller	133.38	19	⇑PKiK	PKPdf	10 57 58.6	+0.6	
	baz=133							
O21A	Pagoda	133.47	29	⇓PKiK	PKPdf	10 57 59.2	+0.6	
	baz=133							
W13A	Hualapai Mount	133.49	39	⇓PKiK	PKiKP	10 57 59.7	-0.2	
	baz=133							
J28A	Allard Ranch,	133.49	21	⇓PKiK	PKiKP	10 57 59.2	-0.4	
	baz=133							
N22A	Wattenberg Ran	133.49	28	⇑PKiK	PKPdf	10 57 59.2	+0.6	
	baz=133							
L25A	Engebretsen Ra	133.50	25	⇓PKiK	PKiKP	10 57 59.2	-0.5	
	baz=133							
DVTC	Desert V Tower	133.51	43	⇑PKiK	PKiKP	10 57 59.8	-0.1	
	baz=133							
PHWY	Pilot Hill	133.55	27	eSKPbc	SKPbc	11 01 18.2	-1.1	
P20A	De Beque	133.55	31	⇓PKiK	PKiKP	10 57 59.6	-0.4	
	baz=133							
SWSC	Sam W. Stewart	133.56	43	⇑PKiK	PKiKP	10 58 00.2	+0.3	
	baz=133							
U15A	North Rim	133.59	37	⇑PKiK	PKiKP	10 57 59.9	-0.3	
	baz=133							
I30A	Oacoma	133.69	19	⇓PKiK	PKiKP	10 57 59.7	-0.2	
	baz=133							
M24A	Cheyenne	133.70	26	⇑PKiK	PKiKP	10 57 59.8	-0.4	
	baz=134							
K27A	Flueckinger Fa	133.74	23	⇑PKiK	PKiKP	10 57 59.6	-0.5	
	baz=134							
J29A	Okreek	133.83	21	⇓PKiK	PKiKP	10 57 59.7	-0.5	
	baz=134							
Y12C	Blythe	133.92	41	⇓PKiK	PKiKP	10 58 00.9	+0.4	
	baz=134							
O22A	Kremmling	133.95	28	⇓PKiK	PKPdf	10 58 00.3	+0.7	
	baz=134							
Q20A	Ridgley Place,	134.01	31	⇓PKiK	PKPdf	10 58 00.1	+0.5	
	baz=134							
K28A	Ten Mile Ranch	134.06	22	⇑PKiK	PKiKP	10 58 00.2	-0.5	
	baz=134							
GLA	Glamis	134.14	42	ePKIKP	PKPdf	10 58 01.2	+1.4	
GLA	Glamis	134.14	42	ePKPdf	PKPdf	10 58 01.2	+1.4	
J30A	Dallas	134.19	20	⇓PKiK	PKiKP	10 58 00.3	-0.6	
	baz=134							
O23A	Lake Granby, G	134.21	28	⇑PKiK	PKiKP	10 58 01.4	0.0	
	baz=134							
SPMN	St. Paul	134.32	13	eSKPbc	SKPbc	11 01 22.5	+1.3	
O24A	Longmont	134.67	27	⇑PKiK	PKPdf	10 58 00.8	0.0	
	baz=134							
ISCO	Idaho Springs	134.68	28	⇓PKiK	PKPdf	10 58 01.4	+0.5	
	baz=134							
K30A	Basset	134.73	20	⇓PKiK	PKiKP	10 58 01.8	-0.2	
	baz=134							
ECSD	EROS Data Cent	134.74	17	ePKPdf	PKPdf	10 57 55.1	-5.4	
ECSD				eSKPbc	SKPbc	11 01 20.7	-2.0	
WUAZ	Wupatki	134.76	37	ePKPdf	PKPdf	10 58 03.1	+2.1	
WUAZ				eSKPbc	SKPbc	11 01 22.9	-0.3	
WUAZ	Wupatki	134.76	37	⇓PKiK	PKiKP	10 58 02.6	+0.1	
	baz=134							
Q22A	Crested Butte,	134.78	30	⇓PKiK	PKiKP	10 58 02.6	0.0	
	baz=134							
Y14A	Wickenburg	134.79	40	⇑PKiK	PKiKP	10 58 02.3	-0.1	
	baz=135							
S20A	Disappointment	134.82	32	⇑PKiK	PKiKP	10 58 02.1	-0.6	
	baz=135							
R21A	Cimarron	134.84	31	⇑PKiK	PKiKP	10 58 02.3	-0.3	
	baz=135							
P23A	Jefferson	134.91	29	⇑PKiK	PKiKP	10 58 02.3	-0.6	
	baz=135							
N26A	Koester Ranch,	134.91	25	⇑PKiK	PKiKP	10 58 02.6	0.0	
	baz=135							
L29A	Maesberg Ranch	134.95	22	⇑PKiK	PKPdf	10 58 01.7	+0.7	
	baz=135							
113A	Mohawk Valley,	135.02	42	⇑PKiK	PKiKP	10 58 02.4	-0.5	
	baz=135							
O25A	Wiggins	135.11	26	⇑PKiK	PKPdf	10 58 02.2	+0.7	
	baz=135							
Z14A	Wintersburg	135.19	40	⇑PKiK	PKiKP	10 58 02.7	-0.5	
	baz=135							
MVCO	Mesa Verde	135.20	33	⇑PKiK	PKPdf	10 58 02.6	+0.7	
	baz=135							
N27A	Anderson Farm,	135.22	24	⇓PKiK	PKiKP	10 58 02.6	-0.6	
	baz=135							
P24A	Kohler Place,	135.24	28	⇓PKiK	PKPdf	10 58 02.6	+0.7	
	baz=135							
S21A	Coal Bank Pass	135.24	32	⇓PKiK	PKPdf	10 58 02.7	+0.7	
	baz=135							
Q23A	Hartsel	135.28	29	⇓PKiK	PKPdf	10 58 02.8	+0.7	
	baz=135							
L30A	Spencer Herefo	135.33	21	⇑PKiK	PKPdf	10 58 02.4	+0.7	
	baz=135							
O26A	Horse Wrangler	135.36	26	⇑PKiK	PKPdf	10 58 02.4	+0.4	
	baz=135							
X16A	Lo Mia Camp, P	135.45	38	⇑PKiK	PKiKP	10 58 04.6	+0.7	
	baz=135							
P25A	Willow Gulch B	135.58	27	⇑PKiK	PKiKP	10 58 03.7	-0.4	
	baz=135							
S22A	4UR Ranch, Cre	135.68	31	⇑PKiK	PKPdf	10 58 03.5	+0.7	
	baz=135							
O27A	Beecher Island	135.76	25	⇑PKiK	PKPdf	10 58 03.4	+0.7	
	baz=136							
U20A	Newcomb	135.80	34	⇑PKiK	PKPdf	10 58 03.4	+0.4	
	baz=136							
R23A	Moffat	135.84	30	⇑PKiK	PKPdf	10 58 03.4	+0.3	
	baz=136							
T21A	Navajo Lake	135.88	32	⇑PKiK	PKPdf	10 58 04.0	+0.9	
	baz=136							
P26A	Davis Ranch, A	135.91	26	⇑PKiK	PKPdf	10 58 03.4	+0.4	
	baz=136							
N29A	Votaw Ranch, W	135.97	23	⇓PKiK	PKPdf	10 58 03.5	+0.5	
	baz=136							
W18A	Petrified Fore	136.00	36	ePKPdf	PKPdf	10 58 04.7	+1.3	
Q25A	Bedland, Calha	136.02	28	⇑PKiK	PKPdf	10 58 03.3	-0.1	
	baz=136							
M31A	Lambtecht Ranc	136.12	21	⇑PKiK	PKiKP	10 58 04.3	-0.6	
	baz=136							
214A	Organ Pipe Nat	136.16	42	⇑PKiK	PKPdf	10 58 03.5	-0.1	
	baz=136							
R24A	Sanders Place,	136.16	29	⇓PKiK	PKPdf	10 58 03.8	+0.1	
	baz=136							
T22A	Edith	136.20	32	⇑PKiK	PKiKP	10 58 05.0	-0.5	
	baz=136							
SADO	Sadowa	136.20	359	PKP	PKPdf	10 58 03.0	-0.3	
SADO	Sadowa	136.20	359	PKP	PKPdf	10 58 03.0	-0.3	
	comp=Z,7.6nm,1.0s,baz=2.2,slow=2.6,SNR=4.2							
U21A	Nageezi	136.23	33	⇑PKiK	PKiKP	10 58 05.4	-0.1	
	baz=136							
P27A	Ficken Ranch,	136.24	25	⇑PKiK	PKPdf	10 58 04.3	+0.7	
	baz=136							
V20A	Brimhall	136.25	34	⇓PKiK	PKiKP	10 58 04.8	-0.7	
	baz=136							
X18A	Snowflake	136.28	37	⇓PKiK	PKiKP	10 58 04.9	-0.7	
	baz=136							
Q26A	Hugo	136.35	27	⇓PKiK	PKPdf	10 58 04.6	+0.7	
	baz=136							
BGNE	Belgrade	136.35	20	⇓PKiK	PKPdf	10 58 04.3	+0.7	
	baz=136							
P28A	Saint Francis	136.58	25	⇑PKiK	PKPdf	10 58 04.6	+0.4	
	baz=136							
T23A	Casias Ranch,	136.63	31	⇓PKiK	PKPdf	10 58 05.4	+0.8	
	baz=136							
KSCO	Kaye Shedlock'	136.67	26	⇑PKiK	PKiKP	10 58 05.4	-0.8	
	baz=136							
U22A	Llaves	136.70	32	⇓PKiK	PKiKP	10 58 06.1	-0.3	
	baz=136							
W20A	Ramah	136.71	35	⇑PKiK	PKPdf	10 58 05.4	+0.7	
	baz=136							
O30A	MW Ranch, Wils	136.74	23	⇑PKiK	PKiKP	10 58 05.6	-0.7	
	baz=136							
T24B	San Luis	136.94	30	⇓PKiK	PKiKP	10 58 07.2	+0.2	
	baz=137							
Q28A	Sharon Springs	136.97	25	⇓PKiK	PKiKP	10 58 06.0	-0.8	
	baz=137							
V22A	San Miguel Ran	137.02	33	⇑PKiK	PKiKP	10 58 07.2	+0.1	
	baz=137							
U23A	El Rito	137.09	32	⇓PKiK	PKiKP	10 58 06.5	-0.8	
	baz=137							
X20A	Quemado	137.13	35	⇑PKiK	PKPdf	10 58 06.5	+0.9	
	baz=137							
R27A	Eads	137.19	27	⇑PKiK	PKiKP	10 58 06.5	-0.8	
	baz=137							
P30A	Selden	137.21	23	⇑PKiK	PKiKP	10 58 06.5	-0.7	
	baz=137							
T25A	Trinidad	137.36	29	⇓PKiK	PKPdf	10 58 06.8	+1.0	
	baz=137							
S26A	Kim	137.43	28	⇑PKiK	PKPdf	10 58 06.3	+0.4	
	baz=137							
V23A	Ortiz Mt. (NFS	137.53	32	⇓PKiK	PKPdf	10 58 07.3	+1.1	
	baz=137							
X21A	Alamocita Cree	137.61	35	⇓PKiK	PKiKP	10 58 07.6	-0.8	
	baz=137							
Y20A	Horse Springs,	137.65	36	⇑PKiK	PKPdf	10 58 07.5	+1.0	
	baz=137							
T26A	Comanche Natio	137.73	28	⇓PKiK	PKiKP	10 58 07.8	-0.7	
	baz=138							
PLCA	Paso Flores	137.79	191	PKPpre	PKPpre	10 58 01.9		
PLCA				SKPbc	SKPbc	11 01 32.2	0.0	
PLCA	Paso Flores	137.79	191	PKhKP	PKPpre	10 58 01.9		
	comp=Z,1.1nm,0.5s,baz=204,slow=18,SNR=3.1							
PLCA				SKPbc	SKPbc	11 01 32.2	0.0	
	comp=Z,1.0nm,0.7s,baz=163,slow=1.6,SNR=4.4							
R29A	Marienthal	137.80	25	⇓PKiK	PKiKP	10 58 09.2	+0.7	
	baz=138							
U25A	Circle Dot Ran	137.94	30	⇑PKiK	PKPdf	10 58 07.8	+0.8	
	baz=138							
ANMO	Albuquerque	137.98	33	ePKPdf	PKPpre	10 57 58.8		
Y21A	Point of Rocks	137.99	35	⇓PKiK	PKiKP	10 58 08.3	-0.9	
	baz=138							
W23A	Werner Place,	137.99	33	⇑PKiK	PKiKP	10 58 08.4	-0.8	
	baz=138							
X22A	Bernardo	138.00	34	⇑PKiK	PKiKP	10 58 08.4	-0.7	
	baz=138							
Q31A	Ellis	138.01	23	⇓PKiK	PKiKP	10 58 08.0	-0.8	
	baz=138							
V24A	Rampart Ranch,	138.03	31	⇓PKiK	PKiKP	10 58 08.6	-0.7	
	baz=138							
Z20A	Nine Sixteen R	138.08	37	⇓PKiK	PKiKP	10 58 09.2	-0.1	
	baz=138							
S28A	Manter	138.17	26	⇓PKiK	PKiKP	10 58 08.7	-0.6	
	baz=138							
T27A	Campo	138.23	28	⇑PKiK	PKiKP	10 58 08.7	-0.8	
	baz=138							
U26A	Atchley Ranch,	138.28	29	⇓PKiK	PKPdf	10 58 08.6	+1.1	
	baz=138							
V25A	Rancho No Teng	138.28	31	⇑PKiK	PKPdf	10 58 08.7	+1.1	
	baz=138							
R30A	Dighton	138.28	24	⇑PKiK	PKiKP	10 58 08.5	-0.9	
	baz=138							
W24A	Lazy 6 Ranch,	138.35	32	⇑PKiK	PKPdf	10 58 08.7	+0.9	
	baz=138							
120A	U Bar Ranch, L	138.44	38	⇓PKiK	PKiKP	10 58 09.2	-0.8	
	baz=138							
Y22A	Socorro	138.44	35	⇓PKiK	PKPdf	10 58 08.9	+0.9	
	baz=138							
T28A	Walsh	138.46	27	⇑PKiK	PKPdf	10 58 08.7	+0.9	
	baz=138							
BNM	Barren Site	138.48	34	ePKPdf	PKPpre	10 58 01.3		
S29A	Ulysses	138.49	26	⇑PKiK	PKiKP	10 58 09.8	-0.1	
	baz=138							
Z21A	St. Cloud Mine	138.49	36	⇓PKiK	PKPdf	10 58 09.2	+1.1	
	baz=138							
R31A	Burdett	138.58	23	⇑PKiK	PKiKP	10 58 09.4	-0.6	
	baz=138							
U27A	Thompson Grove	138.70	28	⇓PKiK	PKiKP	10 58 09.7	-0.8	
	baz=138							
V26A	Tequesquite Ra	138.73	30	⇑PKiK	PKiKP	10 58 09.8	-0.7	
	baz=138							
S30A	Montezuma	138.75	25	⇓PKiK	PKiKP	10 58 09.8	-0.6	
	baz=138							
T29A	Hugoton	138.80	26	⇑PKiK	PKPdf	10 58 09.2	+0.8	
	baz=139							
319A	Douglas	138.83	40	⇓PKiK	PKPdf	10 58 09.6	+1.0	
	baz=139							
W25A	X Bar L Ranch,	138.84	31	⇓PKiK	PKiKP	10 58 09.8	-1.0	
	baz=139							
Z22A	Elephant Butte	138.94	35	⇓PKiK	PKPdf	10 58 09.9	+1.1	
	baz=139							
KSU1	Kansas State U	138.94	20	ePKPdf	PKPdf	10 58 08.4	0.0	
220A	Playas Peak, P	138.95	38	⇓PKiK	PKPdf	10 58 10.0	+1.2	
	baz=139							
Y23A	Lovelace Mesa,	138.96	34	⇓PKiK	PKPdf	10 58 09.9	+1.0	
	baz=139							
121A	Cookes Peak, D	138.97	37	⇑PKiK	PKiKP	10 58 10.3	-0.8	
	baz=139							
S31A	Mullinville	139.17	24	⇑PKiK	PKPdf	10 58 10.0	+1.0	
	baz=139							
X25A	Clemmons Ranch	139.27	32	⇑PKiK	PKPdf	10 58 10.6	+1.2	
	baz=139							
W26A	Owens Ranch, T	139.30	30	⇑PKiK	PKPdf	10 58 10.5	+1.1	
	baz=139							
Y24A	Capitan	139.31	33	⇓PKiK	PKiKP	10 58 10.9	-0.9	
	baz=139							
122A	Conniff Cattle	139.31	36	⇓PKiK	PKiKP	10 58 11.1	-0.7	
	baz=139							
320A	Kipp Ranch, An	139.34	39	⇑PKiK	PKiKP	10 58 12.2	+0.3	
	baz=139							
Z23A	Rita Site, Whi	139.35	35	⇓PKiK	PKiKP	10 58 11.5	-0.4	
	baz=139							
U30A	WK&E Inc. Balk	139.60	26	⇑PKiK	PKiKP	10 58 11.9	-0.3	
	baz=139							
W27A	Bowe Ranch, En	139.67	30	⇓PKiK	PKiKP	10 58 11.5	-0.9	
	baz=139							
X26A	CR and CF Fran	139.69	31	⇑PKiK	PKiKP	10 58 11.5	-1.1	
	baz=140							
Y25A	Mesa, Roswell	139.71	33	⇓PKiK	PKiKP	10 58 11.9	-0.7	
	baz=140							
Z24A	Sheeppen Canyo	139.79	34	⇓PKiK	PKiKP	10 58 12.9	0.0	
	baz=140							
X27A	F and S Farms,	139.98	30	⇓PKiK	PKiKP	10 58 12.2	-0.9	
	baz=140							
Y26A	Elida	140.17	32	⇓PKiK	PKiKP	10 58 12.8	-0.7	
	baz=140							
Z25A	Roswell	140.19	33	⇑PKiK	PKiKP	10 58 13.0	-0.6	
	baz=140							
124A	Stringfield Ra	140.21	35	⇓PKiK	PKiKP	10 58 12.7	-1.1	
	baz=140							
W29A	Amraillo	140.31	28	⇑PKiK	PKiKP	10 58 12.8	-0.9	
	baz=140							
X28A	Dimmitt	140.53	29	⇓PKiK	PKiKP	10 58 13.2	-1.0	
	baz=140							
Y27A	Causey	140.55	31	⇑PKiK	PKiKP	10 58 13.1	-1.1	
	baz=140							
V31A	Spring Creek L	140.59	26	⇑PKiK	PKiKP	10 58 13.2	-1.0	
	baz=140							
Z26A	Caprock	140.59	32	⇑PKiK	PKiKP	10 58 13.5	-0.9	
	baz=140							
224A	Cornudas Mount	140.63	35	⇑PKiK	PKiKP	10 58 14.3	-0.2	
	baz=140							
MSTX	Muleshoe	140.68	31	ePKPdf	PKPdf	10 58 09.0	-2.9	
MSTX				eSKPdf	SKPbc	11 01 39.6	-0.8	
MSTX	Muleshoe	140.68	31	⇓PKiK	PKiKP	10 58 13.5	-1.0	
	baz=140							
125A	Gardner Draw,	140.69	34	⇓PKiK	PKiKP	10 58 13.9	-0.7	
	baz=140							
X29A	Tulia	140.83	29	⇑PKiK	PKiKP	10 58 13.7	-1.1	
	baz=141							
MNTX	Cornudas Mount	140.98	36	ePKPdf	PKPpre	10 58 06.8		
Y28A	McKinney Farm,	140.99	30	⇓PKiK	PKiKP	10 58 14.8	-0.4	
	baz=141							
225A	Deer Hill, Car	141.00	35	⇓PKiK	PKiKP	10 58 15.1	-0.3	
	baz=141							
W31A	Holland Ranch,	141.04	26	⇑PKPdf	PKPpre	10 58 06.6		
	baz=141							
126A	Clayton Basin,	141.05	33	⇓PKPdf	PKPpre	10 58 07.5		
	baz=141							
324A	Moseley Ranch,	141.11	36	⇑PKiK	PKPdf	10 58 14.0	+1.2	
	baz=141							
Y29A	Porterfield Fa	141.32	30	⇓PKiK	PKiKP	10 58 15.6	-0.2	
	baz=141							
226B	Tecolote Peak,	141.40	34	⇑PKPdf	PKPpre	10 58 08.1		
	baz=141							
Z28A	Tucker Farm, M	141.41	31	⇑PKPdf	PKPpre	10 58 07.7		
	baz=141							
X31A	McDonald Ranch	141.49	27	⇓PKPdf	PKPpre	10 58 06.9		
	baz=141							
Y30A	Stafford Cattl	141.68	29	⇓PKiK	PKiKP	10 58 15.8	-0.8	
	baz=141							
Z29A	Hungry Hill Ra	141.78	30	⇓PKiK	PKiKP	10 58 15.9	-0.8	
	baz=142							
425A	Indio Mountain	141.88	36	⇑PKPdf	PKPdf	10 58 10.7	-3.5	
	baz=142							
128A	Castleberry Fa	141.89	32	⇑PKPdf	PKPpre	10 58 09.0		
	baz=142							
Y31A	Rekieta Farm,	141.91	28	⇑PKPdf	PKPpre	10 58 09.8		
	baz=142							
WMOK	Wichita Mounta	141.93	26	ePKHKP	PKPpre	10 58 08.7		
WMOK	Wichita Mounta	141.93	26	ePKPdf	PKPpre	10 58 08.7		
Z30A	Sanderson Ranc	142.05	29	⇑PKPdf	PKPpre	10 58 10.1		
	baz=142							
TUL1	Tulsa	142.09	21	ePKPdf	PKPpre	10 58 08.9		
TUL1	Tulsa	142.09	21	⇓PKPdf	PKPpre	10 58 08.8		
	baz=142							
129A	Stewart Farms,	142.20	31	⇓PKPdf	PKPpre	10 58 09.5		
	baz=142							
WCI	Wyandotte Cave	142.29	8	ePKHKP	PKPpre	10 58 09.6		
WCI	Wyandotte Cave	142.29	8	ePKPdf	PKPpre	10 58 09.6		
Z31A	Sharp Cattle R	142.50	28	⇑PKPdf	PKPpre	10 58 10.7		
	baz=142							
426A	McDonald Obser	142.52	35	⇓PKPdf	PKPdf	10 58 11.9	-3.6	
	baz=142							
328A	Wristen Ranch,	142.67	33	⇓PKPdf	PKPdf	10 58 12.1	-3.4	
	baz=142							
427A	Hayter Ranch,	142.75	34	⇑PKPdf	PKPdf	10 58 11.3	-4.3	
	baz=142							
Z32A	Haskell	142.82	28	⇑PKPdf	PKPdf	10 58 12.2	-3.5	
	baz=143							
131A	Roby	142.91	29	⇓PKPdf	PKPdf	10 58 12.3	-3.5	
	baz=143							
526A	Mary Lane Ranc	142.94	36	⇑PKPdf	PKPdf	10 58 13.0	-3.1	
	baz=143							
329A	Wagon Wheel Ra	143.04	32	⇑PKPdf	PKPbc	10 58 13.2	0.0	
	baz=143							
527A	Woodward Ranch	143.15	35	⇑PKPdf	PKPbc	10 58 13.8	+0.2	
	baz=143							
230A	Sterling City	143.18	31	⇑PKPdf	PKPbc	10 58 13.9	+0.4	
	baz=143							
428A	Kincaid Ranch,	143.24	34	⇓PKPdf	PKPbc	10 58 14.1	+0.4	
	baz=143							
626A	Big Bend Ranch	143.28	37	⇓PKPdf	PKPbc	10 58 14.3	+0.5	
	baz=143							
ABTX	Abilene, Hawle	143.31	28	ePKPdf	PKPab	10 58 12.6	0.0	
ABTX				eSKPbc	SKPbc	11 01 47.0	+0.1	
ABTX	Abilene, Hawle	143.31	28	⇑PKPdf	PKPbc	10 58 13.9	+0.2	
	baz=143							
330A	Mertzon	143.53	31	⇓PKPdf	PKPbc	10 58 14.2	-0.3	
	baz=143							
231A	Bronte	143.54	30	⇓PKPdf	PKPbc	10 58 14.2	-0.3	
	baz=143							
528A	Cox Ranch, San	143.61	34	⇑PKPdf	PKPbc	10 58 15.1	+0.3	
	baz=143							
TXAR	Lajitas Array	143.72	36	PKP	PKPbc	10 58 15.7	+0.6	
TXAR				pPKP	pPKPdf	10 58 39.7	-3.2	
TXAR				SKPbc	SKPbc	11 01 47.0	-1.0	
TXAR	Lajitas Array	143.72	36	PKP	PKPbc	10 58 15.7	+0.6	
	comp=Z,21nm,0.6s,baz=245,slow=0.6,SNR=234							
TXAR				pPKP	pPKPdf	10 58 39.7	-3.2	
	comp=Z,3.5nm,0.5s,baz=227,slow=1.8,SNR=1.9							
TXAR				SKPbc	SKPbc	11 01 47.0	-1.0	
	comp=Z,1.3nm,0.7s,baz=210,slow=2.4,SNR=6.8							
429A	Davenport Ranc	143.76	33	⇑PKPdf	PKPbc	10 58 15.2	0.0	
	baz=144							
627A	Terlingua Ranc	143.79	36	⇓PKPdf	PKPbc	10 58 15.7	+0.3	
	baz=144							
232A	Coleman	143.91	29	⇑PKPdf	PKPbc	10 58 15.6	0.0	
	baz=144							
529A	Stev Forest Ra	143.96	34	⇑PKPdf	PKPbc	10 58 15.9	+0.1	
	baz=144							
430A	Baggett Ranch,	143.98	32	⇑PKPdf	PKPbc	10 58 15.8	0.0	
	baz=144							
331A

LPAZ				pPKP	**pPKPdf**	**10 59 06.5**	**-0.9**
LPAZ	**La Paz**	**159.40**	**214**	PKP	**PKPdf**	**10 58 43.3**	**+1.5**
comp=Z,8.5nm,0.9s,baz=100,slow=1.5,SNR=19							
LPAZ				pPKP	**pPKPdf**	**10 59 06.5**	**-0.9**
comp=Z,4.3nm,0.9s,baz=83,slow=6.7,SNR=3.6							
APG	**El Apazote**	**162.48**	**36**	PKPab	**PKPab**	**10 59 32.6**	**0.0**
APG	**El Apazote**	**162.48**	**36**	PKPab	**PKPab**	**10 59 32.6**	**0.0**
comp=Z,4.4nm,1.0s,baz=171,slow=19,SNR=4.5							
TGUH	**Tegucigalpa,Un**	**164.96**	**28**	*e*PKPab	**PKPab**	**10 59 43.2**	**+0.1**

*CSEM **30** 10:50:21.6±0.8, 36°.28N×29°.72E, h5km, MD3.1, Error ellipse: s-maj=14.4km s-min=9.9km az=147.0*
*ISCJB **30** 10:50:22.0±1.2, 36°.27N±0°.08×29°.74E±0°.07, h12km±6km, Error ellipse: s-maj=14.7km s-min=6.7km az=145.2*
*DDA **30** 10:50:22.1, 36°.33N×29°.52E, h4km, MD3.1*
ISC 30 10:50:22.9±1.2, 36°.37N±0°.03×29°.58E±0°.03, h3km±11km, n18, σ1§03/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKAS	**Kas**	**0.14**	**173**	*i* P	**Pg**	**10 50 24.7**	**-1.0**
AKAS				*i* S	**Sg**	**10 50 28.9**	**+1.3**
AKAS	**Kas**	**0.14**	**173**	*i* P	**Pg**	**10 50 24.7**	**-1.0**
AKAS				*i* S	**Sg**	**10 50 28.9**	**+1.3**
ELL	**Elmali**	**0.46**	**35**	*e*PG	**Pg**	**10 50 30.7**	**-1.0**
ELL				*e*SG	**Sg**	**10 50 39.4**	**+1.8**
ELL	**Elmali**	**0.46**	**35**	*e*Pg	**Pg**	**10 50 30.7**	**-1.0**
ELL				*e*Sg	**Sg**	**10 50 39.4**	**+1.8**
FETY	**Fethiye**	**0.48**	**303**	*e*PG	**Pg**	**10 50 31.2**	**-0.9**
FETY	**Fethiye**	**0.48**	**303**	*e*Pg	**Pg**	**10 50 31.3**	**-0.8**
GOLH	**Golhisar**	**0.86**	**359**	*i* P	**Pg**	**10 50 39.4**	**-0.1**
GOLH				*i* S	**Sn**	**10 50 55.2**	**-0.1**
GOLH	**Golhisar**	**0.86**	**359**	*i* P	**Pg**	**10 50 39.4**	**-0.1**
GOLH				*i* S	**Sn**	**10 50 55.2**	**-0.1**
DALY	**Dalyan (Mu¨la**	**0.87**	**301**	*e*PG	**Pg**	**10 50 38.0**	**-1.5**
DALY	**Dalyan (Mu¨la**	**0.87**	**301**	*e*Pg	**Pg**	**10 50 38.0**	**-1.6**
KORT	**Korkueli**	**0.88**	**44**	*i* P	**Pg**	**10 50 38.6**	**-1.2**
KORT				*i* S	**Sb**	**10 50 53.2**	**0.0**
KORT	**Korkueli**	**0.88**	**44**	*i* P	**Pg**	**10 50 38.6**	**-1.2**
KORT				*i* S	**Sb**	**10 50 53.2**	**0.0**
TURN	**Turunc**	**0.93**	**303**	*i* P	**Pn**	**10 50 43.0**	**0.0**
TURN				*i* S	**Sn**	**10 50 58.1**	**+1.3**
TURN	**Turunc**	**0.93**	**303**	*i* P	**Pn**	**10 50 43.0**	**0.0**
TURN				*i* S	**Sn**	**10 50 58.1**	**+1.3**
DNZL	**Cakiroluk**	**1.38**	**342**	*i* P	**Pn**	**10 50 48.1**	**-1.2**
DNZL				*i* S	**Sb**	**10 51 07.3**	**-0.4**
DNZL	**Cakiroluk**	**1.38**	**342**	*i* P	**Pn**	**10 50 48.1**	**-1.2**
DNZL				*i* S	**Sb**	**10 51 07.3**	**-0.4**
AYDN	**Tasoluk**	**1.87**	**314**	*i* P	**Pn**	**10 50 56.1**	**+0.1**
AYDN				*i* S	**Sb**	**10 51 21.6**	**-0.1**
AYDN	**Tasoluk**	**1.87**	**314**	*i* P	**Pn**	**10 50 56.1**	**+0.1**
AYDN				*i* S	**Sb**	**10 51 21.6**	**-0.1**

IDC 30 10:50:57.6±0.7, 16°.22S×173°.36W, h0km, mb4.2/11, mb1 4.3/11, mb1mx4.2/22, mbtmp4.2/11, Error ellipse: s-maj=27.3km s-min=18.0km az=119.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.76**	**34**	Pn	Pn	10 51 39.4	-3.9
33nm,0.3s,baz=56,slow=18,SNR=1.5							
AFI				Sn	Sn	10 52 06.7	-11
131nm,0.3s,baz=22,slow=22,SNR=7.5							
URZ	**Urewera**	**23.50**	**199**	P	P	10 56 09.0	-0.2
8.4nm,0.9s,baz=197,slow=22,SNR=1.0							
STKA	**Stephens Creek**	**43.67**	**241**	P	P	10 59 04.3	0.0
3.4nm,0.9s,baz=84,slow=10,SNR=3.2							
WRA	**Warramunga Arr**	**49.70**	**257**	P	P	10 59 51.0	-0.9
1.6nm,0.9s,baz=96,slow=8.0,SNR=9.5							
ASAR	**Alice Springs**	**49.90**	**253**	P	P	10 59 52.7	-0.7
3.3nm,0.7s,baz=88,slow=8.2,SNR=16							
ASAJ	**Asahikawa**	**72.25**	**328**	P	P	11 02 25.6	+0.8
7.0nm,1.0s,baz=176,slow=16,SNR=3.6							
PETK	**Petropavlovsk-**	**73.42**	**342**	P	P	11 02 31.9	+0.5
1.5nm,0.7s,baz=113,slow=11,SNR=2.5							
QSPA	**South Pole Qui**	**73.83**	**180**	P	P	11 02 34.8	+0.8
2.3nm,1.0s,baz=45,slow=4.3,SNR=3.8							
YBH	**Yreka Blue Hor**	**74.22**	**37**	P	P	11 02 37.2	+0.6
1.5nm,0.9s,baz=247,slow=7.7,SNR=3.9							
PDAR	**Pinedale Array**	**82.85**	**42**	P	P	11 03 23.8	-0.6
1.2nm,0.8s,baz=221,slow=3.0,SNR=4.4							
ILAR	**Eielson Array**	**83.24**	**11**	P	P	11 03 24.8	-0.8
0.9nm,0.6s,baz=234,slow=6.1,SNR=21							
MAW	**Mawson**	**87.03**	**199**	P	P	11 03 45.4	+0.7
1.3nm,0.6s,baz=143,slow=6.9,SNR=5.1							
ARCES	**ARCESS Array B**	**125.42**	**352**	PKP	PKPdf	11 09 59.6	-0.5
1.2nm,0.5s,baz=336,slow=1.5,SNR=6.8							
BRTR	**Keskin Array B**	**146.81**	**320**	PKPbc	PKPbc	11 10 42.5	+0.2
4.3nm,0.7s,baz=108,slow=2.3,SNR=17							
GERES	**GERESS Array B**	**146.95**	**351**	PKPbc	PKPdf	11 10 40.9	+0.5
1.7nm,0.7s,baz=46,slow=2.8,SNR=9.2							
TORD	**Torodi Ar. Bea**	**174.32**	**122**	PKPab	PKPab	11 12 41.2	-1.3
1.3nm,1.1s,baz=252,slow=0.1,SNR=2.5							

IDC 30 10:54:57.5±4.4, 14°.81S×172°.04W, h0km, mb3.9/2, mb1 4.1/2, mb1mx3.8/20, mbtmp3.9/2, Error ellipse: s-maj=153.6km s-min=25.3km az=128.0, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**0.93**	**16**	Pn	Pb	10 55 16.8	+0.1
baz=107,slow=14,SNR=0.7							
AFI				Sn	Sb	10 55 29.7	+0.1
14nm,0.3s,baz=74,slow=20,SNR=0.8							
WRA	**Warramunga Arr**	**51.26**	**256**	P	P	11 04 04.0	+0.4
0.7nm,0.5s,baz=99,slow=8.4,SNR=8.3							
ASAR	**Alice Springs**	**51.54**	**251**	P	P	11 04 04.4	-1.3
1.4nm,0.8s,baz=85,slow=9.0,SNR=4.9							
GERES	**GERESS Array B**	**145.73**	**353**	PKPbc	PKPab	11 14 39.1	+0.1
0.3nm,0.2s,baz=57,slow=6.0,SNR=2.4							

IDC 30 10:58:54.2±2.7, 15°.75S×171°.27W, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.7/20, mbtmp3.7/3, Error ellipse: s-maj=74.8km s-min=31.9km az=121.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.90**	**345**	Pn	Pn	10 59 27.9	0.0
13nm,0.3s,baz=89,slow=21,SNR=3.1							
AFI				Sn	Sn	10 59 49.2	-3.4
62nm,0.3s,baz=213,slow=21,SNR=8.2							
WRA	**Warramunga Arr**	**51.77**	**257**	P	P	11 08 03.7	-0.4
0.7nm,0.8s,baz=97,slow=6.9,SNR=2.9							
ASAR	**Alice Springs**	**51.96**	**252**	P	P	11 08 05.5	+0.1
1.2nm,0.8s,baz=85,slow=8.4,SNR=5.5							
ILAR	**Eielson Array**	**82.41**	**10**	P	P	11 11 17.8	0.0
0.4nm,0.9s,baz=212,slow=6.1,SNR=3.7							

*IDC **30** 10:59:10.2±7.5, 0°.82S×100°.86E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/22, mbtmp3.7/3, Error ellipse: s-maj=410.2km s-min=27.4km az=53.0*
*ISCJB **30** 10:59:53.6±1.1, 5°.84S±0°.07×103°.80E±0°.06, h10km, mb3.7/2, Error ellipse: s-maj=10.7km s-min=8.0km az=30.9*
*DJA **30** 10:59:54.7±1.2, 6°.5S±8°.×10°.4E±1°.0, h27km±17km, M4.0/5, MLv4.0/5*
ISC 30 10:59:54.5±1.7, 5°.8S±0°.1×103°.86E±0°.08, h10km, n7, σ0§93/9, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KASI	**Kota Agung**	**0.69**	**67**	P	**Pb**	**11 00 08.1**	**-0.5**
KASI				S	**Sb**	**11 00 17.8**	**-0.4**
LWLI	**Liwa**	**0.80**	**15**	P	**Pg**	**11 00 10.5**	**+0.6**
LWLI				S	**Sb**	**11 00 22.4**	**+1.0**
MDSI	**Maura Dua**	**1.34**	**14**	P	**Pn**	**11 00 18.4**	**-0.8**
MNAI	**Manna**	**1.68**	**328**	P	**Pn**	**11 00 22.7**	**-1.3**
MNAI				S	**Sn**	**11 00 45.2**	**-0.4**
KSI	**Kapahiang**	**2.47**	**329**	P	**Pn**	**11 00 34.9**	**0.0**
WRA	**Warramunga Arr**	**32.79**	**118**	P	**P**	**11 06 29.1**	**+0.9**
0.8nm,0.8s,baz=293,slow=6.9,SNR=6.9							
ASAR	**Alice Springs**	**33.93**	**125**	P	P	11 06 41.0	+2.8
0.5nm,0.5s,baz=302,slow=7.9,SNR=11							

IDC 30 11:02:11.2±5.5, 0°.48S×100°.48E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.6/24, mbtmp3.8/4, Error ellipse: s-maj=313.0km s-min=23.5km az=52.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.37**	**122**	P	P	11 09 34.0	-0.5
1.3nm,1.1s,baz=300,slow=8.8,SNR=5.2							
ASAR	**Alice Springs**	**39.77**	**128**	P	P	11 09 46.5	+0.3
0.3nm,0.5s,baz=302,slow=7.6,SNR=4.5							
MKAR	**Makanchi Array**	**49.71**	**344**	P	P	11 11 05.6	+0.4
0.8nm,0.4s,baz=153,slow=8.1,SNR=15							
BVAR	**Borovoye Array**	**58.94**	**339**	P	P	11 12 11.4	-0.8
0.9nm,0.5s,baz=144,slow=8.6,SNR=3.7							

IDC 30 11:03:07.8±0.8, 16°.42S×173°.36W, h0km, mb4.2/11, mb1 4.4/11, mb1mx4.2/20, mbtmp4.2/11, Error ellipse: s-maj=29.7km s-min=20.3km az=114.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.92**	**32**	Pn	Pn	11 03 50.2	-5.5
14nm,0.3s,baz=216,slow=16,SNR=4.1							
AFI				Sn	Sn	11 04 19.6	-12
53nm,0.3s,baz=53,slow=23,SNR=6.6							
RAR	**Rarotonga**	**13.72**	**112**	Pn	Pn	11 06 16.0	-7.6
3.3nm,0.3s,baz=270,slow=13,SNR=5.2							
DZM	**Mont Dzumac**	**19.87**	**250**	P	Pn	11 07 44.2	+1.8
0.3nm,0.3s,baz=68,slow=15,SNR=4.1							
URZ	**Urewera**	**23.32**	**199**	P	P	11 08 17.4	-0.1
18nm,0.7s,baz=335,slow=5.6,SNR=8.4							
RPZ	**Rata Peaks**	**30.26**	**203**	P	P	11 09 24.1	+3.7
12nm,0.8s,baz=34,slow=10,SNR=4.5							
STKA	**Stephens Creek**	**43.57**	**241**	P	P	11 11 13.5	-0.2
3.6nm,0.6s,baz=68,slow=8.7,SNR=4.1							
WRA	**Warramunga Arr**	**49.66**	**258**	P	P	11 12 01.1	-0.6
0.9nm,0.6s,baz=97,slow=8.0,SNR=12							
WRA				PcP	PcP	11 13 24.0	+0.8
0.4nm,0.5s,baz=90,slow=3.2,SNR=2.6							
ASAR	**Alice Springs**	**49.84**	**253**	P	P	11 12 01.9	-1.2
10nm,0.6s,baz=88,slow=8.3,SNR=170							
BATI	**Baumata**	**61.40**	**267**	P	P	11 13 26.8	+0.5
9.0nm,0.4s,baz=63,slow=2.3,SNR=3.3							
VNDA	**Vanda**	**62.38**	**186**	P	P	11 13 33.3	+1.5
0.6nm,0.7s,baz=17,slow=11,SNR=4.7							
PETK	**Petropavlovsk-**	**73.60**	**342**	P	P	11 14 43.1	+0.4
1.8nm,0.8s,baz=146,slow=10,SNR=2.1							
QSPA	**South Pole Qui**	**73.63**	**180**	P	P	11 14 42.6	-0.4
1.7nm,0.7s,baz=43,slow=0.4,SNR=8.8							
NVAR	**Mina Array Bea**	**75.05**	**42**	P	P	11 14 51.0	-0.8
0.8nm,0.8s,baz=246,slow=6.3,SNR=4.0							
ILAR	**Eielson Array**	**83.43**	**11**	P	P	11 15 35.5	-1.1
0.3nm,0.6s,baz=239,slow=6.1,SNR=4.3							
MAW	**Mawson**	**86.85**	**199**	P	P	11 15 52.2	-1.7
1.5nm,0.7s,baz=114,slow=5.5,SNR=4.0							
KMBO	**Kilima Mbogo**	**145.12**	**243**	PKPbc	PKPdf	11 22 48.5	-0.1
3.0nm,0.9s,baz=45,slow=5.7,SNR=5.0							
BRTR	**Keskin Array B**	**146.96**	**320**	PKPbc	PKPbc	11 22 52.9	0.0
1.2nm,0.8s,baz=36,slow=5.4,SNR=3.1							
GERES	**GERESS Array B**	**147.15**	**351**	PKPbc	PKPab	11 22 54.0	-0.5
0.3nm,0.2s,baz=64,slow=3.4,SNR=2.3							

IDC 30 11:04:40.2±1.6, 17°.79S×98°.60E, h0km, mb4.0/3, mb1 3.9/4, mb1mx3.5/25, mbtmp3.9/4, ML3.2/1, Error ellipse: s-maj=64.4km s-min=28.8km az=83.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.57**	**4**	Pn	Pn	11 05 49.5	-1.4
1.2nm,0.3s,baz=192,slow=9.5,SNR=2.3							
PSI				Sn	Sn	11 06 30.9	-14
1.0nm,0.3s,baz=246,slow=17,SNR=1.5							
MKAR	**Makanchi Array**	**50.47**	**346**	P	P	11 13 40.2	+0.3
0.4nm,0.3s,baz=153,slow=8.5,SNR=3.9							
KURBB	**Kurchatov Arra**	**54.97**	**345**	P	P	11 14 13.3	+0.2
1.4nm,0.4s,baz=154,slow=7.7,SNR=3.5							
ZALV	**Zalesovo Beam**	**56.72**	**350**	P	P	11 14 24.4	-1.2
0.9nm,0.3s,baz=166,slow=7.1,SNR=1.8							
TXAR	**Lajitas Array**	**145.37**	**36**	PKPbc	PKPbc	11 24 20.1	-0.8
0.2nm,0.5s,baz=292,slow=0.7,SNR=4.7							

IDC 30 11:07:15.5±1.7, 15°.62S×172°.47W, h0km, mb3.6/3, mb1 4.0/3, mb1mx3.7/20, mbtmp3.6/3, Error ellipse: s-maj=80.0km s-min=24.8km az=143.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.83**	**22**	Pn	Pn	11 07 46.9	-1.4
48nm,0.3s,baz=291,slow=22,SNR=2.2							
AFI				Sn	Sn	11 08 03.7	-8.5
98nm,0.3s,baz=31,slow=24,SNR=3.6							
WRA	**Warramunga Arr**	**50.66**	**257**	P	P	11 16 16.4	-0.7
0.2nm,0.8s,baz=95,slow=6.2,SNR=3.6							
ASAR	**Alice Springs**	**50.89**	**252**	P	P	11 16 18.1	-0.8
0.8nm,0.6s,baz=90,slow=7.7,SNR=8.0							
TXAR	**Lajitas Array**	**79.99**	**56**	P	P	11 19 26.9	-0.3
0.5nm,0.7s,baz=245,slow=1.5,SNR=5.7							
BRTR	**Keskin Array B**	**146.88**	**322**	PKPbc	PKPab	11 27 02.0	+0.3
1.5nm,0.8s,baz=106,slow=3.1,SNR=6.0							

*IDC **30** 11:10:42.1±3.4, 0°.82S×99°.93E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/22, mbtmp3.5/4, Error ellipse: s-maj=147.2km s-min=22.8km az=57.0*
*ISCJB **30** 11:10:49.2±1.4, 0°.96S±0°.09×99°.4E±0°.1, h33km, mb3.5/4, Error ellipse: s-maj=16.2km s-min=11.3km az=150.9*
*DJA **30** 11:10:53.0±0.6, 1°.5S±7°.×10°.0E±°, h58km±13km, M4.0/3, MLv4.0/3*
ISC 30 11:10:47.7±1.3, 0°.85S±0°.09×99°.3E±0°.1, h35km, n15, σ1§56/11, mb3.4/4, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.14**	**93**	P	**Pn**	**11 11 08.4**	**+1.2**
PDSI				S	**Sn**	**11 11 19.7**	**-1.9**
PDSI	**Padang**	**1.14**	**93**	P	**Pn**	**11 11 07.9**	**+0.7**
4μm,0.4s,243μm35nm							
PPI	**Padang Panjang**	**1.14**	**70**	P	**Pn**	**11 11 09.0**	**+1.9**
BKNI	**Bangkinang**	**2.07**	**56**	P	**Pn**	**11 11 21.0**	**+1.0**
GSI	**Gunungsitoli**	**2.76**	**321**	P	Pn	11 11 39.4	+10
PSI	**Prapat**	**3.64**	**354**	Pn	Pn	11 11 46.5	+4.7
2.2nm,0.3s,baz=225,slow=3.3,SNR=7.4							
MNAI	**Manna**	**5.03**	**134**	P	**Pn**	**11 12 01.9**	**+1.1**
EGSI	**Enggano, Bengk**	**5.36**	**147**	P	**Pn**	**11 12 05.7**	**+0.5**
EGSI	**Enggano, Bengk**	**5.36**	**147**	P	Pn	11 12 13.4	+8.2
2μm,2.8s							
MDSI	**Maura Dua**	**6.05**	**127**	P	**Pn**	**11 12 16.7**	**+2.0**
WRA	**Warramunga Arr**	**39.16**	**121**	P	P	11 18 07.5	-5.0
0.1nm,0.4s,baz=301,slow=9.1,SNR=3.1							
ASAR	**Alice Springs**	**40.48**	**127**	P	P	11 18 19.3	-4.1
0.2nm,0.6s,baz=300,slow=7.6,SNR=3.1							
SONM	**Songino Array**	**48.87**	**6**	P	**P**	**11 19 28.9**	**-1.2**
0.5nm,0.5s,baz=182,slow=8.6,SNR=4.7							
MKAR	**Makanchi Array**	**49.74**	**345**	P	**P**	**11 19 37.5**	**+0.9**
0.7nm,0.3s,baz=156,slow=8.3,SNR=21							
TXAR	**Lajitas Array**	**144.18**	**36**	PKP	**PKPab**	**11 30 17.2**	**-1.3**
0.2nm,0.5s,baz=305,slow=0.8,SNR=6.4							

IDC 30 11:13:06.2±3.3, 17°.75S×99°.02E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.5/24, mbtmp3.5/5, Error ellipse: s-maj=143.5km s-min=21.1km az=55.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.97**	**120**	P	P	11 20 33.5	-1.0
0.2nm,0.5s,baz=302,slow=8.9,SNR=4.7							
ASAR	**Alice Springs**	**40.19**	**126**	P	P	11 20 45.6	+0.9
0.3nm,0.7s,baz=302,slow=7.1,SNR=3.5							
SONM	**Songino Array**	**49.80**	**7**	P	P	11 22 01.8	+0.8
0.2nm,0.4s,baz=230,slow=3.6,SNR=2.9							
MKAR	**Makanchi Array**	**50.53**	**345**	P	P	11 22 06.3	-0.1
0.4nm,0.3s,baz=154,slow=8.5,SNR=6.9							
KURBB	**Kurchatov Arra**	**55.04**	**344**	P	P	11 22 39.2	-0.4
1.5nm,0.3s,baz=151,slow=8.1,SNR=15							
TXAR	**Lajitas Array**	**145.09**	**36**	PKPbc	PKPbc	11 32 44.2	-1.8
0.1nm,0.4s,baz=225,slow=2.4,SNR=3.9							

IDC 30 11:14:04.8±9.0, 15°.01S×173°.68W, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.5/18, mbtmp3.4/3, Error ellipse: s-maj=402.2km s-min=36.8km az=139.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.14**	**60**	Pn	Pn	11 14 37.8	-4.1
10nm,0.3s,baz=144,slow=18,SNR=2.2							
AFI				Sn	Sn	11 14 58.2	-11
30nm,0.3s,baz=73,slow=19,SNR=4.4							
WRA	**Warramunga Arr**	**49.67**	**256**	P	P	11 22 59.3	+0.5
0.4nm,0.8s,baz=90,slow=6.8,SNR=5.1							
ASAR	**Alice Springs**	**49.97**	**252**	P	P	11 23 00.0	-1.2
0.3nm,0.4s,baz=90,slow=7.7,SNR=8.1							
ILAR	**Eielson Array**	**82.11**	**11**	P	P	11 26 25.9	-1.0
0.2nm,0.6s,baz=226,slow=6.2,SNR=4.3							
BRTR	**Keskin Array B**	**145.68**	**321**	PKPbc	PKPab	11 33 46.8	+0.4
0.3nm,0.4s,baz=96,slow=2.9,SNR=2.6							

IDC 30 11:16:23.2±9.2, 16°.76S×173°.77W, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.6/19, mbtmp3.4/3, MS4.9/1, Ms1 4.9/1, ms1mx4.4/18, Error ellipse: s-maj=407.2km s-min=36.0km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.42**	**34**	LR	LR	11 18 16.6	
comp=Z,20μm,20.2s,baz=243,slow=33							
WRA	**Warramunga Arr**	**49.20**	**258**	P	P	11 25 13.5	-0.2
0.4nm,1.1s,baz=96,slow=7.5,SNR=4.3							
ASAR	**Alice Springs**	**49.36**	**253**	P	P	11 25 14.8	0.0
1.1nm,0.7s,baz=88,slow=8.5,SNR=12							
ILAR	**Eielson Array**	**83.84**	**11**	P	P	11 28 54.2	0.0
0.4nm,0.9s,baz=208,slow=7.1,SNR=3.1							

*ISCJB **30** 11:18:40.5±0.7, 0°.83S±0°.07×100°.0E±0°.1, h98km±6km, mb3.3/4, Error ellipse: s-maj=19.2km s-min=7.5km az=149.8*
*DJA **30** 11:18:41.5±0.4, 1°.5S±4°.×10°.0E±°, h72km±7km, M4.5/7, MLv4.5/7*
*IDC **30** 11:18:42.7±4.6, 0°.71S×100°.29E, h92km±36km, mb3.0/4, mb1 3.2/6, mb1mx3. 1/24, mbtmp3.0/6, Error ellipse: s-maj=130.4km s-min=21.2km az=58.0*
ISC 30 11:18:41.2±1.0, 0°.81S±0°.07×100°.0E±0°.1, h91km±8km, n17, σ1§53/22, mb3.3/4, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**0.50**	**101**	P	**Pn**	**11 18 56.6**	**+0.5**
PDSI				S	**Sn**	**11 19 07.2**	**0.0**
PPI	**Padang Panjang**	**0.55**	**50**	P	**Pn**	**11 18 56.8**	**+0.3**
PPI				S	**Sn**	**11 19 07.6**	**-0.3**
SDSI	**Sungai Dareh**	**1.46**	**95**	P	**Pn**	**11 19 06.9**	**+0.4**
BKNI	**Bangkinang**	**1.55**	**43**	P	**Pn**	**11 19 08.4**	**+0.7**
PSI	**Prapat**	**3.74**	**344**	P	**Pn**	**11 19 37.2**	**+0.3**
1.7nm,0.3s,baz=149,slow=13,SNR=5.9							
KSI	**Kapahiang**	**3.84**	**137**	P	**Pn**	**11 19 41.0**	**+2.8**
MNAI	**Manna**	**4.61**	**140**	P	**Pn**	**11 19 49.1**	**+0.5**
MNAI				S	**Sn**	**11 20 39.6**	**-1.4**
MYKOM	**Kota Tinggi**	**4.66**	**56**	P	**Pn**	**11 19 49.9**	**+0.7**
KCSI	**Kotacane, Aceh**	**4.84**	**333**	P	**Pn**	**11 19 52.1**	**+0.4**
KCSI				S	**Sn**	**11 20 43.7**	**-2.8**
SNSI	**Sinabang, Aceh**	**4.85**	**311**	P	**Pn**	**11 19 54.1**	**+2.2**
EGSI	**Enggano, Bengk**	**5.06**	**153**	P	**Pn**	**11 19 54.6**	**-0.1**
EGSI				S	**Sn**	**11 20 48.1**	**-3.8**
CMAR	**Chiang Mai Arr**	**19.18**	**357**	P	**P**	**11 22 57.6**	**-0.2**
0.1nm,0.3s,baz=180,slow=9.1,SNR=4.1							
WRA	**Warramunga Arr**	**38.62**	**122**	P	**P**	**11 25 55.1**	**-0.8**
0.1nm,0.4s,baz=304,slow=8.9,SNR=4.1							
ASAR	**Alice Springs**	**39.98**	**127**	P	**P**	**11 26 07.4**	**+0.3**
0.1nm,0.3s,baz=301,slow=7.6,SNR=3.4							
SONM	**Songino Array**	**48.77**	**6**	P	**P**	**11 27 17.9**	**+0.9**
0.2nm,0.4s,baz=198,slow=9.1,SNR=2.5							
MKAR	**Makanchi Array**	**49.89**	**344**	P	**P**	**11 27 26.6**	**+1.3**
0.3nm,0.3s,baz=153,slow=8.7,SNR=7.9							
TXAR	**Lajitas Array**	**143.77**	**36**	PKP	**PKPdf**	**11 38 06.0**	**-0.6**
0.1nm,0.5s,baz=270,slow=3.6,SNR=3.3							

IDC 30 11:22:02.9±2.4, 8°.48S×118°.66E, h150km±17km, mb3.3/4, mb1 3.3/7, mb1mx3.2/23, mbtmp3.3/7, MS5.0/1, Ms1 5.0/1, ms1mx4.1/20, Error ellipse: s-maj=39.7km s-min=12.5km az=49.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**3.61**	**18**	LR	LR	11 24 27.1	
comp=Z,20μm,18.6s,baz=206,slow=40							
BATI	**Baumata**	**5.23**	**110**	P	Pn	11 23 19.9	+0.4
10nm,0.3s,baz=286,slow=10,SNR=14							
BATI				S	Sn	11 24 18.8	-0.5
16nm,0.3s,baz=132,slow=23,SNR=7.8							
FITZ	**Fitzroy Crossi**	**11.73**	**145**	P	Pn	11 24 46.1	+0.3
0.2nm,0.3s,baz=330,slow=12,SNR=8.8							
FITZ				S	Sn	11 26 49.8	-5.7
0.8nm,0.3s,ba

WMQ	Urumqi	8.80 318	Pn	Pn	11 29 13.0	-0.5
WMQ			smax	smax		
	comp=N,83nm,0.8s					
WMQ			smax	smax		
	comp=E,65nm,0.7s					
SONM	Songino Array	12.83 34	Pn	Pn	11 30 10.5	+1.8
	comp=E,1.0nm,0.3s,baz=218,slow=15,SNR=31					
SONM			Lg	Lg	11 33 59.8	
	baz=212,slow=24,SNR=2.7					
MK31	Makanchi Array	13.63 317	Pn	Pn	11 30 17.3	-2.2
	comp=E,2.7nm,0.8s,baz=125,slow=14,SNR=31					
MK31			Sn	Sn	11 32 42.4	-8.5
	comp=E,4.3nm,0.8s,baz=124,slow=24,SNR=7.8					
MK31			Lg	Lg	11 34 04.0	
	comp=E,10nm,1.2s,baz=126,slow=29,SNR=6.2					
MKAR	Makanchi Array	13.63 317	Pn	Pn	11 30 17.6	-2.0
	comp=E,0.8nm,0.3s,baz=129,slow=13,SNR=27					
MKAR			Sn	Sn	11 32 38.7	-12
	comp=E,0.4nm,0.3s,baz=110,slow=16,SNR=4.8					
MKAR			Lg	Lg	11 34 29.7	
	comp=E,0.1nm,0.3s,baz=134,slow=21,SNR=2.9					
AAK	Ala-Archa	17.10 294	Pn	Pn	11 31 05.8	+0.3
	comp=E,0.3nm,0.3s,baz=69,slow=15,SNR=5.3					
KURBB	Kurchatov Arra	17.97 322	Pn	Pn	11 31 15.0	-1.0
	comp=E,0.2nm,0.3s,baz=132,slow=11,SNR=9.3					
ZALV	Zalesovo Beam	18.06 339	P	P	11 31 18.6	+1.2
	comp=E,1.0nm,0.3s,baz=185,slow=14,SNR=3.2					
CMAR	Chiang Mai Arr	19.24 171	P	P	11 31 30.4	-0.3
	comp=E,0.2nm,0.3s,baz=338,slow=12,SNR=5.9					
BVAR	Borovoye Array	23.48 319	P	P	11 32 17.0	+1.1
	comp=E,1.9nm,0.6s,baz=96,slow=14,SNR=5.9					
KSRS	Korea Array	25.36 80	P	P	11 32 33.1	-0.2
	comp=E,3.5nm,0.6s,baz=280,slow=9.7,SNR=18					
AKTO	Aktyubinsk	29.77 308	P	P	11 33 13.3	+0.5
	comp=E,1.8nm,0.6s,baz=68,slow=11,SNR=3.6					
BRTR	Keskin Array B	47.78 293	P	P	11 35 43.8	+0.1
	comp=E,0.6nm,0.6s,baz=93,slow=8.7,SNR=2.9					
AKASG	Malin Array Be	48.02 308	P	P	11 35 48.8	+3.6
	comp=E,0.2nm,0.3s,baz=68,slow=7.1,SNR=4.6					
ILAR	Eielson Array	66.87 24	P	P	11 37 58.1	+0.1
	comp=E,0.4nm,0.8s,baz=301,slow=5.0,SNR=2.8					
WRA	Warramunga Arr	67.71 141	P	P	11 38 03.2	-0.6
	comp=E,1.1nm,0.9s,baz=339,slow=8.1,SNR=8.6					
ASAR	Alice Springs	70.64 143	P	P	11 38 21.9	-0.1
	comp=E,0.6nm,0.5s,baz=328,slow=6.3,SNR=18					
ESDC	Sonseca Array	73.66 308	P	P	11 38 39.6	-0.4
	comp=E,0.2nm,0.3s,baz=39,slow=6.5,SNR=3.5					
STKA	Stephens Creek	81.21 142	P	P	11 39 20.8	-1.3
	comp=E,1.3nm,0.6s,baz=344,slow=5.1,SNR=3.9					

IDC 30 11:34:07.0±3.1, 16°.45S×172°.96W, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.6/20, mbtmp3.5/3, Error ellipse: s-maj=384.1km s-min=29.7km az=157.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	50.02	258	P	P	11 43 03.2	-0.5
	0.3nm,0.7s,baz=97,slow=6.3,SNR=3.5						
ASAR	Alice Springs	50.19	253	P	P	11 43 05.2	+0.2
	1.1nm,0.5s,baz=86,slow=7.7,SNR=35						
TXAR	Lajitas Array	80.85	56	P	P	11 46 23.4	+0.1
	0.1nm,0.7s,baz=216,slow=4.5,SNR=2.5						

IDC 30 11:36:59.0±3.5, 15°.05S×172°.49W, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.7/20, mbtmp3.6/4, Error ellipse: s-maj=187.0km s-min=29.3km az=145.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	1.33	31	Pn	Pg	11 37 17.6	-6.9
	106nm,0.3s,baz=360,slow=0.9,SNR=12						
AFI				Sn	Sg	11 37 30.7	-11
	359nm,0.3s,baz=36,slow=22,SNR=11						
WRA	Warramunga Arr	50.78	256	P	P	11 46 00.7	-0.7
	0.5nm,1.0s,baz=91,slow=7.4,SNR=3.1						
ASAR	Alice Springs	51.06	252	P	P	11 46 03.2	-0.3
	1.0nm,0.7s,baz=88,slow=8.1,SNR=9.6						
PDAR	Pinedale Array	81.42	42	P	P	11 49 17.9	-0.3
	0.5nm,0.8s,baz=224,slow=3.8,SNR=4.4						
ILAR	Eielson Array	81.94	11	P	P	11 49 19.2	-1.0
	0.4nm,0.6s,baz=221,slow=5.7,SNR=4.8						
GERES	GERESS Array B	145.92	353	PKPbc	PKPbc	11 56 40.5	-0.1
	0.4nm,0.2s,baz=0.0,slow=3.1,SNR=2.7						
BRTR	Keskin Array B	146.44	322	PKPbc	PKPab	11 56 43.6	+0.2
	0.8nm,0.7s,baz=100,slow=5.9,SNR=2.7						

IDC 30 11:40:08.9±1.1, 15°.62S×177°.09W, h0km, mb4.1/10, mb1 4.3/10, mb1mx4.2/18, mbtmp4.1/10, Error ellipse: s-maj=49.9km s-min=19.1km az=148.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	40.86	239	P	P	11 47 54.3	+1.5
	10nm,0.9s,baz=90,slow=8.0,SNR=8.9						
WRA	Warramunga Arr	46.33	257	P	P	11 48 35.2	-1.9
	1.5nm,0.9s,baz=92,slow=7.7,SNR=3.5						
WRA				PcP	PcP	11 50 13.8	+1.4
	1.1nm,0.9s,baz=89,slow=3.6,SNR=3.5						
ASAR	Alice Springs	46.66	252	P	P	11 48 38.1	-1.5
	2.2nm,0.7s,baz=84,slow=8.5,SNR=14						
KSRS	Korea Array	73.87	317	P	P	11 51 46.4	+0.7
	0.8nm,0.6s,baz=128,slow=5.7,SNR=5.7						
USRK	Ussuriysk Arra	75.47	325	P	P	11 51 56.8	+2.0
	1.5nm,0.8s,baz=113,slow=3.3,SNR=4.1						
NVAR	Mina Array Bea	76.91	44	P	P	11 52 03.9	+0.4
	1.8nm,0.8s,baz=227,slow=9.2,SNR=6.7						
ILAR	Eielson Array	83.39	13	P	P	11 52 36.0	-1.7
	1.7nm,0.7s,baz=225,slow=5.5,SNR=17						
TXAR	Lajitas Array	83.70	57	P	P	11 52 38.8	-1.4
	0.4nm,0.9s,baz=246,slow=6.8,SNR=3.9						
PDAR	Pinedale Array	84.83	43	P	P	11 52 47.5	+1.7
	1.0nm,0.7s,baz=216,slow=4.4,SNR=7.6						
SONM	Songino Array	92.66	319	P	P	11 53 22.2	-0.6
	0.4nm,0.9s,baz=0.0,slow=3.5,SNR=3.3						
GERES	GERESS Array B	145.71	347	PKPbc	PKPdf	11 59 48.7	-0.8
	1.0nm,0.6s,baz=7.6,slow=4.0,SNR=9.8						

IDC 30 11:42:09.2±1.3, 15°.52S×173°.25W, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.8/21, mbtmp3.9/6, Error ellipse: s-maj=40.6km s-min=27.4km az=112.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.15	42	Pn	Pn	11 42 39.9	-6.5
	36nm,0.3s,baz=36,slow=14,SNR=6.7						
AFI				Sn	Sn	11 42 57.9	-16
	241nm,0.3s,baz=58,slow=23,SNR=14						
URZ	Urewera	24.19	199	P	P	11 47 27.1	-0.3
	14nm,1.0s,baz=72,slow=3.2,SNR=2.9						
STKA	Stephens Creek	44.10	240	P	P	11 50 19.3	-0.1
	1.7nm,0.7s,baz=61,slow=8.1,SNR=5.6						
WRA	Warramunga Arr	49.96	257	P	P	11 51 05.2	-0.2
	0.7nm,0.5s,baz=91,slow=6.6,SNR=25						
ASAR	Alice Springs	50.21	252	P	P	11 51 07.2	-0.1
	1.9nm,0.5s,baz=89,slow=7.6,SNR=24						
VNDA	Vanda	63.27	186	P	P	11 52 39.3	+0.1
	0.7nm,1.0s,baz=7.1,slow=8.1,SNR=3.0						
ILAR	Eielson Array	82.54	11	P	P	11 54 33.3	-0.1
	0.2nm,0.8s,baz=220,slow=6.8,SNR=3.4						
BRTR	Keskin Array B	146.34	321	PKPbc	PKPdf	12 01 51.8	+0.6
	1.2nm,0.8s,baz=94,slow=3.7,SNR=3.6						

IDC 30 11:46:13.6±4.3, 15°.93S×176°.36W, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.7/18, mbtmp3.7/4, Error ellipse: s-maj=204.5km s-min=30.1km az=138.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	41.31	240	P	P	11 54 01.5	+0.3
	3.1nm,0.9s,baz=111,slow=14,SNR=3.6						
WRA	Warramunga Arr	46.95	257	P	P	11 54 46.8	+0.2
	0.4nm,0.9s,baz=92,slow=9.4,SNR=2.7						
ASAR	Alice Springs	47.24	252	P	P	11 54 48.0	-0.9
	0.8nm,0.5s,baz=85,slow=8.2,SNR=8.2						
ILAR	Eielson Array	83.54	12	P	P	11 58 42.9	-0.2
	0.5nm,0.8s,baz=195,slow=6.5,SNR=4.7						
GERES	GERESS Array B	146.15	348	PKPbc	PKPdf	12 05 55.5	+0.4
	0.4nm,0.2s,baz=343,slow=3.1,SNR=4.8						

*IDC **30** 11:47:39.9±3.4, 1°.50S×98°.98E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.5/23, mbtmp3.5/4, ML2.9/1, Error ellipse: s-maj=134.6km s-min=23.6km az=59.0*
*ISCJB **30** 11:47:42.4±1.5, 1°.4S±0°.1×98°.9E±0°.1, h33km, mb3.5/3, Error ellipse: s-maj=22.8km s-min=9.5km az=135.7*
*DJA **30** 11:47:46.9±3.4, 1°.5±40°.×9°.9E±3°.1, h53km±55km, M4.4/3, MLv4.4/3*

ISC 30 11:47:45.3±1.8, 1°.2S±0°.2×99°.1E±0°.2, h35km, n8, σ1$65/8, mb3.5/3, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	Padang	1.40	76	P	Pn	11 48 09.2	+0.9
PPI	Padang Panjang	1.51	59	P	Pn	11 48 09.6	-0.3
SDSI	Sungai Dareh	2.34	82	P	Pn	11 48 22.3	+0.9
GSI	Gunungsitoli	2.96	329	P	Pn	11 48 38.2	+8.3
GSI				S	Sn	11 49 01.7	-2.5
PSI	Prapat	4.02	357	Pn	Pn	11 48 46.4	+1.7
	0.7nm,0.3s,baz=176,slow=15,SNR=7.0						
WRA	Warramunga Arr	39.14	121	P	P	11 55 08.6	-1.4
	0.5nm,0.6s,baz=301,slow=9.3,SNR=7.5						
ASAR	Alice Springs	40.42	126	P	P	11 55 20.5	0.0
	0.3nm,0.3s,baz=302,slow=7.7,SNR=12						
MKAR	Makanchi Array	50.07	345	P	P	11 56 37.7	+0.9
	0.3nm,0.4s,baz=160,slow=8.9,SNR=4.1						

IDC 30 11:51:50.3±2.2, 1°.67S×98°.42E, h0km, mb3.6/6, mb1 3.7/7, mb1mx3.5/25, mbtmp3.6/7, ML3.3/1, Error ellipse: s-maj=90.4km s-min=20.6km az=59.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	4.46	6	Pn	Pn	11 52 59.4	-0.1
	1.7nm,0.3s,baz=170,slow=18,SNR=2.8						
CMAR	Chiang Mai Arr	20.00	1	P	P	11 56 23.4	-1.4
	0.6nm,0.7s,baz=183,slow=9.0,SNR=2.6						
WRA	Warramunga Arr	39.52	120	P	P	11 59 23.6	+0.3
	0.3nm,0.7s,baz=304,slow=9.1,SNR=2.8						
ASAR	Alice Springs	40.73	125	P	P	11 59 33.4	+0.1
	0.2nm,0.6s,baz=297,slow=7.1,SNR=2.8						
MKAR	Makanchi Array	50.30	346	P	P	12 00 49.6	+0.9
	0.9nm,0.4s,baz=148,slow=8.4,SNR=13						
KURBB	Kurchatov Arra	54.80	345	P	P	12 01 22.2	+0.3
	0.6nm,0.3s,baz=164,slow=7.1,SNR=5.8						
ZALV	Zalesovo Beam	56.56	350	P	P	12 01 33.6	-1.0
	0.8nm,0.3s,baz=177,slow=2.6,SNR=2.9						
TXAR	Lajitas Array	145.37	35	PKPbc	PKPbc	12 11 28.7	-2.3
	0.1nm,0.5s,baz=329,slow=1.1,SNR=2.5						

IDC 30 11:55:56.8±2.0, 14°.89S×174°.51W, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.5/19, mbtmp3.5/4, ML1.9/1, Error ellipse: s-maj=102.4km s-min=25.9km az=152.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.82	70	Pn	Pn	11 56 43.4	0.0
	12nm,0.3s,baz=14,slow=20,SNR=2.0						
AFI				Sn	Sn	11 57 15.8	-2.4
	31nm,0.3s,baz=156,slow=19,SNR=4.1						
WRA	Warramunga Arr	48.92	256	P	P	12 04 45.1	0.0
	0.2nm,0.6s,baz=87,slow=6.0,SNR=2.4						
ASAR	Alice Springs	49.25	251	P	P	12 04 47.4	-0.3
	0.9nm,0.8s,baz=87,slow=8.7,SNR=10.0						
ILAR	Eielson Array	82.16	12	P	P	12 08 18.9	-0.3
	0.2nm,0.6s,baz=221,slow=5.9,SNR=7.0						
BRTR	Keskin Array B	145.09	321	PKPbc	PKPbc	12 15 36.0	-0.2
	0.4nm,0.5s,baz=38,slow=2.6,SNR=3.0						

IDC 30 11:59:05.7±8.7, 15°.31S×172°.86W, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.5/20, mbtmp3.7/2, Error ellipse: s-maj=406.9km s-min=27.6km az=140.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	1.74	37	Pn	Pn	11 59 35.5	-1.8
	6.7nm,0.3s,baz=274,slow=13,SNR=2.1						
AFI				Sn	Sn	11 59 55.5	-4.8
	23nm,0.3s,baz=139,slow=23,SNR=4.6						
WRA	Warramunga Arr	50.37	257	P	P	12 08 04.3	-0.8
	0.5nm,0.7s,baz=91,slow=6.8,SNR=5.1						
ASAR	Alice Springs	50.64	252	P	P	12 08 06.2	-0.9
	0.9nm,0.6s,baz=87,slow=8.3,SNR=14						
BRTR	Keskin Array B	146.41	322	PKPbc	PKPab	12 18 50.6	+0.6
	0.4nm,0.5s,baz=28,slow=3.4,SNR=2.5						

IDC 30 12:00:04.3±3.9, 0°.66S×100°.15E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.5/22, mbtmp3.6/5, Error ellipse: s-maj=173.7km s-min=22.7km az=56.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	38.56	122	P	P	12 07 28.6	-0.5
	0.2nm,0.4s,baz=303,slow=8.9,SNR=4.3						
ASAR	Alice Springs	39.93	127	P	P	12 07 40.8	+0.2
	0.2nm,0.6s,baz=300,slow=7.3,SNR=5.4						
SONM	Songino Array	48.60	6	P	P	12 08 50.4	+0.5
	0.4nm,0.6s,baz=193,slow=5.9,SNR=2.7						
MKAR	Makanchi Array	49.78	344	P	P	12 08 58.6	-0.2
	0.4nm,0.3s,baz=159,slow=8.7,SNR=6.9						
ZALV	Zalesovo Beam	55.88	349	P	P	12 09 43.4	-0.4
	2.5nm,0.3s,baz=157,slow=7.8,SNR=2.4						

*UPP **30** 12:00:04.6, 58°.46N×23°.84E, h0km, ML1.9, Mining explosion.*
*ISCJB **30** 12:00:05.8±0.6, 58°.53N±0°.04×23°.56E±0°.06, h0km, Error ellipse: s-maj=5.9km s-min=4.0km az=142.9*
*CSEM **30** 12:00:06.4±0.2, 58°.48N×23°.59E, h2km, ML2.0, Error ellipse: s-maj=4.9km s-min=3.2km az=151.0, Mining explosion.*
*HEL **30** 12:00:06.1±0.3, 58°.45N×23°.53E, h0km, ML2.0, ML1.9(UPP), Explosion*

ISC 30 12:00:06.0±1.0, 58°.46N±0°.04×23°.59E±0°.04, h0km, n32, σ0$64/49, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTSE	Matsula	0.28	25	eP	Pg	12 00 11.5	+0.1
MTSE				eS	Sg	12 00 16.1	+1.0
MTSE	Matsula	0.28	25	eP	Pg	12 00 11.6	+0.2
	SNR=90						
MTSE				S	Sg	12 00 16.0	+1.0
SLIT	Slitere, Latvi	1.08	220	eP	Pb	12 00 27.7	+0.1
	SNR=90						
SLIT				eS	Sn	12 00 44.6	+0.5
	SNR=90						
SRPE	Suurupi	1.09	22	eP	Pg	12 00 25.9	-0.9
	SNR=90						
VSU	Vasula	1.65	89	eP	Pn	12 00 36.3	0.0
VSU				eS	Sn	12 00 57.1	-1.1
VSU	Vasula	1.65	89	P	Pn	12 00 36.2	0.0
VSU				S	Sn	12 00 57.0	-1.1
MEF	Metsahovi	1.81	13	eP	Pn	12 00 38.1	-0.3
MEF				eS	Sn	12 01 01.7	-0.3
MEF				MSG		12 01 05.8	
	comp=Z,14nm,0.2s						
MEF	Metsahovi	1.81	13	P	Pn	12 00 38.0	-0.3
MEF				S	Sn	12 01 01.7	-0.3
PVF	Pernaja	2.39	28	eP	Pn	12 00 46.9	+0.5
PVF				eS	Sn	12 01 15.8	-0.6
PVF				MSG		12 01 22.0	
	comp=Z,4.4nm,0.2s						
PVF	Pernaja	2.39	28	P	Pn	12 00 46.8	+0.5
PVF				S	Sn	12 01 15.7	-0.6
AAL	Aland	2.52	315	eP	Pn	12 00 47.6	-0.5
AAL				eS	Sn	12 01 19.6	0.0
AAL	Aland	2.52	315	P	Pn	12 00 47.8	-0.4
AAL				S	Sn	12 01 19.5	0.0
RAF	Rauma	2.73	341	eP	Pn	12 00 51.6	+0.6
RAF				eS	Sn	12 01 23.7	-1.0
RAF	Rauma	2.73	341	P	Pn	12 00 51.6	+0.6
RAF				S	Sn	12 01 23.6	-1.0
NRTU	Norrtaelje	2.83	298	P	Pn	12 00 52.4	-0.1
NRTU	Norrtaelje	2.83	298	P	Pn	12 00 52.4	-0.1
NYNU	Nynaeshamn	2.96	283	P	Pn	12 00 54.2	0.0
NYNU	Nynaeshamn	2.96	283	P	Pn	12 00 54.2	0.0
FIA0	FINESS Array S	3.24	22	eP	Pn	12 00 59.1	+1.0
FIA0				eS	Sn	12 01 37.7	+0.4
FIA0	FINESS Array S	3.24	22	P	Pn	12 00 59.0	+1.0
FIA0				S	Sn	12 01 37.7	+0.4
FLYU	Flymyra	3.37	302	P	Pn	12 01 00.3	+0.5
FLYU	Flymyra	3.37	302	P	Pn	12 01 00.3	+0.5
BACU	Backbrunna	3.62	295	P	Pn	12 01 03.7	+0.5
BACU	Backbrunna	3.62	295	P	Pn	12 01 03.7	+0.5
OSTU	Oestervaala	3.75	301	P	Pn	12 01 04.8	-0.2
OSTU	Oestervaala	3.75	301	P	Pn	12 01 04.8	-0.2
KAF	Kangasniemi	3.91	19	eP	Pn	12 01 07.7	+0.5
KAF				eS	Sn	12 01 52.4	-1.3
KAF	Kangasniemi	3.91	19	P	Pn	12 01 07.6	+0.5
KAF				S	Sn	12 01 52.4	-1.3
IGGU	Iggoen	4.00	310	P	Pn	12 01 08.1	-0.3
IGGU	Iggoen	4.00	310	P	Pn	12 01 08.1	-0.3
ROTU	Roteberg	4.91	310	P	Pn	12 01 20.1	-0.8
ROTU	Roteberg	4.91	310	P	Pn	12 01 20.1	-0.8

IDC 30 12:01:41.5±0.7, 15°.22S×173°.56W, h0km, mb4.0/11, mb1 4.2/11, mb1mx4.1/19, mbtmp4.0/11, Error ellipse: s-maj=35.3km s-min=17.5km az=136.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.16	53	Pn	Pn	12 02 10.6	-8.3
	86nm,0.3s,baz=279,slow=13,SNR=7.3						
AFI				Sn	Sn	12 02 30.0	-16
	143nm,0.3s,baz=217,slow=20,SNR=6.3						
STKA	Stephens Creek	43.99	240	P	P	12 09 50.6	-0.3
	1.6nm,0.7s,baz=7.2,slow=12,SNR=6.9						
WRA	Warramunga Arr	49.73	257	P	P	12 10 35.5	-0.5
	0.6nm,0.5s,baz=90,slow=7.0,SNR=12						
ASAR	Alice Springs	50.02	252	P	P	12 10 37.4	-0.7
	4.2nm,0.6s,baz=86,slow=8.0,SNR=46						
VNDA	Vanda	63.54	186	P	P	12 12 14.3	+1.0
	0.6nm,0.8s,baz=38,slow=3.8,SNR=4.8						
PETK	Petropavlovsk-	72.41	342	P	P	12 13 10.4	+1.1
	2.6nm,0.7s,baz=120,slow=8.7,SNR=3.3						
YBH	Yreka Blue Hor	73.55	37	P	P	12 13 16.2	-0.2
	1.6nm,0.8s,baz=220,slow=5.5,SNR=5.4						
NVAR	Mina Array Bea	74.30	42	P	P	12 13 21.8	+0.7
	0.3nm,0.3s,baz=224,slow=8.5,SNR=3.8						
TXAR	Lajitas Array	80.64	56	P	P	12 13 56.1	-0.6
	0.6nm,0.9s,baz=262,slow=3.8,SNR=6.4						
PDAR	Pinedale Array	82.23	42	P	P	12 14 04.4	-0.6
	1.6nm,0.9s,baz=199,slow=3.3,SNR=7.6						
ILAR	Eielson Array	82.30	11	P	P	12 14 03.9	-0.7
	0.8nm,0.8s,baz=223,slow=5.8,SNR=7.3						
MAW	Mawson	87.92	199	P	P	12 14 32.4	-0.4
	0.5nm,0.3s,baz=139,slow=5.1,SNR=3.6						
BRTR	Keskin Array B	145.91	321	PKPbc	PKPbc	12 21 23.2	-0.3
	2.1nm,0.8s,baz=85,slow=3.0,SNR=4.5						
GERES	GERESS Array B	145.94	351	PKPbc	PKPbc	12 21 22.9	-0.3
	0.5nm,0.5s,baz=20,slow=4.3,SNR=5.2						

GEN 30 12:04:59.3, 44°.29N×11°.25E, h15km, ML1.3, Northern Italy

IDC 30 12:14:55.3±8.4, 16°.58S×173°.48W, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.7/19, mbtmp3.7/3, Error ellipse: s-maj=372.5km s-min=35.8km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	49.51	258	P	P	12 23 47.5	-0.7
	0.5nm,0.8s,baz=97,slow=6.8,SNR=7.5						
ASAR	Alice Springs	49.68	253	P	P	12 23 49.8	+0.3
	1.3nm,0.5s,baz=86,slow=7.9,SNR=22						
ILAR	Eielson Array	83.61	11	P	P	12 27 25.2	0.0
	0.4nm,0.9s,baz=218,slow=5.7,SNR=3.9						

IDC 30 12:16:51.6±5.6, 15°.55S×173°.27W, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.6/21, mbtmp3.7/3, ML1.8/1, Error ellipse: s-maj=276.9km s-min=27.6km az=143.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.17	42	Pn	Pn	12 17 27.2	-2.0
	17nm,0.3s,baz=218,slow=18,SNR=4.5						
AFI				Sn	Sn	12 17 45.3	-12
	45nm,0.3s,baz=225,slow=19,SNR=5.6						
WRA	Warramunga Arr	49.57	257	P	P	12 25 46.5	-1.2
	0.2nm,0.5s,baz=92,slow=6.5,SNR=4.7						
ASAR	Alice Springs	50.19	252	P	P	12 25 48.9	-0.7
	1.2nm,0.7s,baz=87,slow=8.3,SNR=9.1						
BRTR	Keskin Array B	146.35	321	PKPbc	PKPab	12 36 36.6	+0.8
	0.5nm,0.6s,baz=46,slow=4.2,SNR=2.5						

IDC 30 12:26:48.2±0.9, 16°.04S×173°.54W, h0km, mb3.7/6, mb1 4.0/6, mb1mx3.8/20, mbtmp3.7/6, Error ellipse: s-maj=44.4km s-min=23.4km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.71	39	Pn	Pn	12 27 27.1	-6.1
	1.5nm,0.3s,baz=284,slow=8.3,SNR=1.7						
AFI				Sn	Sn	12 27 55.7	-11
	24nm,0.3s,baz=270,slow=20,SNR=3.9						
WRA	Warramunga Arr	49.57	257	P	P	12 35 41.2	-0.2
	0.7nm,0.8s,baz=95,slow=6.8,SNR=7.5						
ASAR	Alice Springs	49.79	252	P	P	12 35 43.2	+0.2
	0.7nm,0.5s,baz=85,slow=8.1,SNR=11						
QSPA	South Pole Qui	74.01	180	P	P	12 38 25.5	-0.1
	1.8nm,1.0s,baz=112,slow=3.6,SNR=7.5						
NVAR	Mina Array Bea	74.89	42	P	P	12 38 31.3	+0.1
	0.3nm,0.6s,baz=243,slow=9.0,SNR=2.3						
PDAR	Pinedale Array	82.83	42	P	P	12 39 15.4	+0.6
	0.4nm,0.8s,baz=198,slow=2.6,SNR=3.3						
ILAR	Eielson Array	83.09	11	P	P	12 39 14.6	-0.7
	0.2nm,0.5s,baz=218,slow=5.7,SNR=5.5						
BRTR	Keskin Array B	146.56	320	PKPbc	PKPdf	12 46 31.3	+0.7
	0.8nm,0.6s,baz=41,slow=4.6,SNR=3.6						

**IDC 30 12:28:00.9±1.6, 15°.09S×172°.82W, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.8/21, mbt

BRTR Keskin Array B 145.79 321 PKPbc PKPdf 12 48 09.8 -0.1
2.0nm,0.8s,baz=67,slow=2.4,SNR=7.1

WEL 30 12:33:54.4±0.6,36°.67S×177°.56E,h175km±6km,ML3.5/9, Error ellipse: s-maj=7.2km s-min=6.7km az=0.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**1.51**	**159**	PN	Pn	12 34 25.8	-0.3
PUZ				SN	Sn	12 34 49.0	-1.7
PUZ				AML	AML	12 34 52.6	
URZ	**Urewera**	**1.63**	**193**	PN	Pn	12 34 27.4	+0.2
URZ				SN	Sn	12 34 53.1	+0.4
MWZ	**Matawai**	**1.67**	**181**	PN	Pn	12 34 27.9	+0.2
MWZ				SN	Sn	12 34 53.0	-0.5
CNGZ	**Carnagh Statio**	**1.89**	**164**	PN	Pn	12 34 30.6	+0.7
KNZ	**Kokohu**	**2.35**	**178**	PN	Pn	12 34 34.9	-0.1
MHGZ	**Mahia Peninsul**	**2.50**	**174**	PN	Pn	12 34 36.9	+0.1
NMHZ	**Naumai**	**2.50**	**194**	PN	Pn	12 34 37.6	+0.7
BKZ	**Black Stump Fm**	**2.63**	**198**	PN	Pn	12 34 38.5	0.0
BKZ				SN	Sn	12 35 13.3	+0.4
MCHZ	**McNeill Hill**	**2.85**	**194**	PN	Pn	12 34 41.2	+0.2
BHHZ	**Black Hill Sta**	**3.06**	**202**	PN	Pn	12 34 43.4	-0.2
BHHZ				SN	Sn	12 35 23.0	+1.0
KAHZ	**Kahuranaki**	**3.17**	**190**	PN	Pn	12 34 44.6	-0.3
PXZ	**Pawanui**	**3.40**	**189**	PN	Pn	12 34 46.6	-1.2
PXZ				SN	Sn	12 35 27.6	-1.9
PNHZ	**Pukenui**	**3.42**	**198**	PN	Pn	12 34 46.9	-1.1
PNHZ				SN	Sn	12 35 29.0	-0.9
BFZ	**Birch Farm**	**4.14**	**194**	PN	Pn	12 34 55.6	-1.5
MRZ	**Mangatainoka R**	**4.28**	**201**	PN	Pn	12 34 56.7	-2.2
HOWZ	**Holdsworth Sta**	**4.52**	**200**	PN	Pn	12 34 59.6	-2.4
CAW	**Cannon Point**	**4.84**	**203**	PN	Pn	12 35 03.7	-2.5
TUWZ	**Tuamarina**	**5.53**	**210**	PN	Pn	12 35 12.0	-3.1
KHZ	**Kahutara**	**6.53**	**207**	PN	Pn	12 35 25.9	-2.4

KRSC 30 12:34:59.7±4.3,51°.59N×158°.84E,h56km±56km,ML3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.87**	**347**	P	Pn	12 35 18.5	+2.7
RUS				S	Sn	12 35 30.0	+2.3
MTVR	**Mutnovka**	**0.98**	**336**	P	Pn	12 35 19.7	+2.2
MTVR				S	Sn	12 35 32.4	+1.7
ASAK	**Asacha**	**0.98**	**324**	P	Pn	12 35 19.2	+1.7
ASAK				S	Sn	12 35 31.4	+0.8
GRL	**Gorelyy**	**1.07**	**334**	P	Pn	12 35 19.9	+1.2
GRL				S	Sn	12 35 33.0	+0.2
PAU	**Pauzhetka**	**1.27**	**265**	P	Pn	12 35 23.2	+2.0
PAU				S	Sn	12 35 38.8	+1.5
PET	**Petropavlovsk**	**1.44**	**356**	P	Pn	12 35 25.4	+1.9
PET				S	Sn	12 35 42.1	+0.8
MIPR	**Malaya Ipel'ka**	**1.46**	**299**	P	Pn	12 35 24.2	+0.4
MIPR				S	Sn	12 35 40.4	-1.5
NLC	**Nalytchevo**	**1.61**	**11**	P	Pn	12 35 27.8	+2.0
NLC				S	Sn	12 35 46.4	+0.9
UGLR	**Uglovaya**	**1.62**	**360**	P	Pn	12 35 27.9	+1.8
UGLR				S	Sn	12 35 47.1	+1.1
SMAR	**Somma**	**1.68**	**359**	P	Pn	12 35 28.7	+1.7
SMAR				S	Sn	12 35 48.1	+0.5
AVH	**Avacha**	**1.68**	**358**	P	Pn	12 35 29.3	+2.5
AVH				S	Sn	12 35 49.6	+2.3
APC	**Apacha**	**1.69**	**323**	P	Pn	12 35 27.3	+0.5
SDLR	**Sedlovina**	**1.69**	**1**	P	Pn	12 35 28.8	+1.8
SDLR				S	Sn	12 35 47.7	0.0
KOK	**Koryaka**	**1.71**	**356**	P	Pn	12 35 29.9	+2.6
KOK				S	Sn	12 35 50.6	+2.5
KRER	**Koryakskii**	**1.72**	**358**	P	Pn	12 35 29.6	+2.1
KRER				S	Sn	12 35 49.8	+1.3
KRX	**Arik**	**1.78**	**356**	P	Pn	12 35 30.3	+2.1
KRX				S	Sn	12 35 50.8	+1.0
SKR	**Severo-Kuril's**	**1.94**	**243**	P	Pn	12 35 32.6	+2.4
SKR				S	Sn	12 35 55.2	+1.7
GNL	**Ganaly**	**2.18**	**346**	P	Pn	12 35 34.8	+1.1
GNL				S	Sn	12 35 59.0	-0.6
KII	**Karymskiy**	**2.48**	**8**	S	Sn	12 36 09.3	+2.5
MKZ	**Mys Kozlova**	**3.44**	**29**	P	Pn	12 35 52.9	+2.1
MKZ				S	Sn	12 36 30.1	-0.2
KBTR	**Krutoberegovo**	**5.19**	**25**	P	Pn	12 36 17.6	+2.9

IDC 30 12:36:07.7±1.2,15°.41S×171°.90W,h0km,mb3.9/4, mb1 4.1/4,mb1mx3.7/21,mbtmp3.9/4,Error ellipse: s-maj=42.8km s-min=18.3km az=116.0,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.50**	**5**	Pn	Pn	12 36 35.8	-0.2
AFI				Sn	Sn	12 36 56.8	+0.5
URZ	**Urewera**	**24.74**	**201**	P	P	12 41 30.6	-0.4
WRA	**Warramunga Arr**	**51.25**	**257**	P	P	12 45 13.8	+0.1
ASAR	**Alice Springs**	**51.48**	**252**	P	P	12 45 15.5	+0.1
NVAR	**Mina Array Bea**	**73.38**	**41**	P	P	12 47 42.3	+0.4
BRTR	**Keskin Array B**	**147.06**	**322**	PKPbc	PKPdf	12 55 51.5	+0.5

2.0nm,0.3s,baz=160,slow=14,SNR=4.0
62nm,0.3s,baz=151,slow=19,SNR=7.3
21nm,1.2s,baz=109,slow=2.5,SNR=3.5
0.5nm,0.8s,baz=94,slow=6.4,SNR=3.4
1.3nm,0.6s,baz=86,slow=8.0,SNR=12
0.2nm,0.3s,baz=216,slow=8.9,SNR=3.0
0.8nm,0.8s,baz=50,slow=2.3,SNR=3.5

MAN 30 12:38:05,13°.88N×122°.50E,h1km,mb4.0,ML2.8,MS2.5, 1C,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GQP	**Guinayangan**	**0.06**	**291**	⇑*i*P	Pg	12 38 06.0	-0.2
GQP				*i*S	Sg	12 38 09.3	+2.3

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*ISCJB **30** 12:40:01.7±0.8, 1°.46S±0°.09×99°.21E±0°.08,h33km, mb4.1/9,Error ellipse: s-maj=13.4km s-min=11.0km az=1.0*
*IDC **30** 12:40:11.4±3.8,0°.84S×100°.03E,h89km±31km,mb3.7/9, mb1 3.7/11,mb1mx3.6/24,mbtmp3.7/11,Error ellipse: s-maj=60.1km s-min=14.6km az=57.0*
*DJA **30** 12:40:12.1±1.5,1°.51±17°×10°.0E±°,h59km±14km,M4.4/3, MLv4.4/3*
ISC 30 12:40:03.9±1.1,1°.3S±0°.1×99°.27E±0°.10,h35km,n17, σ1§61/14,mb4.3/9,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.26**	**71**	P	**Pn**	**12 40 27.9**	**+2.9**
PDSI				S	**Sn**	**12 40 39.5**	**-1.2**
PPI	**Padang Panjang**	**1.41**	**53**	P	**Pn**	**12 40 28.7**	**+1.6**
SDSI	**Sungai Dareh**	**2.19**	**80**	P	**Pn**	**12 40 39.2**	**+1.4**
BKNI	**Bangkinang**	**2.41**	**47**	P	**Pn**	**12 40 41.9**	**+1.1**
GSI	**Gunungsitoli**	**3.11**	**327**	P	Pn	12 40 59.4	+8.9
PSI	**Prapat**	**4.11**	**355**	P	**Pn**	**12 41 06.5**	**+2.2**
CMAR	**Chiang Mai Arr**	**19.65**	**359**	P	**P**	**12 44 27.1**	**-2.7**
WRA	**Warramunga Arr**	**38.97**	**121**	P	P	12 47 25.6	-1.5
ASAR	**Alice Springs**	**40.24**	**126**	P	**P**	**12 47 37.3**	**-0.4**
SONM	**Songino Array**	**49.34**	**6**	P	P	12 48 47.6	-2.3
STKA	**Stephens Creek**	**50.15**	**132**	P	**P**	**12 48 56.0**	**-0.2**
MKAR	**Makanchi Array**	**50.18**	**345**	P	**P**	**12 48 56.6**	**+0.4**
USRK	**Ussuriysk Arra**	**53.91**	**29**	P	P	12 49 20.0	-3.9
ZALV	**Zalesovo Beam**	**56.37**	**350**	P	**P**	**12 49 41.0**	**-0.5**
FINES	**FINESS Array B**	**83.17**	**332**	P	**P**	**12 52 26.7**	**+0.5**
ARCES	**ARCESS Array B**	**85.59**	**340**	P	**P**	**12 52 38.6**	**+0.3**
TXAR	**Lajitas Array**	**144.59**	**36**	PKP	**PKPab**	**12 59 35.8**	**-0.5**

0.9nm,0.5s,baz=248,slow=0.8,SNR=15
2.5nm,0.3s,baz=176,slow=6.9,SNR=7.8
2.2nm,0.8s,baz=124,slow=3.4,SNR=5.8
6.9nm,1.2s,baz=96,slow=4.9,SNR=5.7
0.9nm,0.5s,baz=248,slow=0.8,SNR=15

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*IDC **30** 12:47:52.2±0.4,6°.09S×151°.37E,h0km,mb4.7/23,*
mb1 4.8/25,mb1mx4.8/26,mbtmp4.7/25,ML4.2/2,Error ellipse: s-maj=15.0km s-min=9.2km az=115.0
*MOS **30** 12:47:56.3±1.2,6°.12S×151°.41E,h33km,mb5.0/11,Error ellipse: s-maj=10.7km s-min=8.2km az=80.3*
*ISCJB **30** 12:47:57.5±0.2,6°.20S±0°.04×151°.39E±0°.04,h41km, mb4.9/64,MS5.4/5,Error ellipse: s-maj=6.4km s-min=5.3km az=18.7*
*NEIC **30** 12:47:59.8±1.0,6°.22S×151°.41E,h50km±9km,mb5.3/21, Error ellipse: s-maj=6.8km s-min=6.5km az=131.0*
*BJI **30** 12:48:01.5,5°.81S×151°.41E,h61km,mB5.7/15,mb4.9/38, Ms5.7/16,Ms7 5.6/17*
*DJA **30** 12:48:07.9±1.8,6°.5±9°×15°.1E±1°.1,h97km±14km,M5.4/16, mB6.0/2,mb5.3/16,MLv5.5/1,Mw(mB)5.6/2*
ISC 30 12:47:59.2±0.3,6°.21S±0°.05×151°.57E±0°.05,h41km,n231, σ2§01/246,mb5.0/64,MS5.4/6,8C-1D,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.40**	**234**	*e*Pn	**Pn**	**12 49 17.4**	**+0.1**
PMG				Sn	**Sn**	**12 50 18.8**	**+0.5**
PMG				*e*Sn	Sn	12 50 20.3	+2.1
PMG	**Port Moresby**	**5.40**	**234**	P	**Pn**	**12 49 19.6**	**+2.3**
PMG	**Port Moresby**	**5.40**	**234**	Pn	**Pn**	**12 49 19.3**	**+2.0**
PMG				Sn	**Sn**	**12 50 18.8**	**+0.5**
HNR	**Honiara**	**8.89**	**112**	Pn	**Pn**	**12 50 06.2**	**+1.0**
HNR	**Honiara**	**8.89**	**112**	Pn	**Pn**	**12 50 06.2**	**+1.0**
COEN	**Coen**	**11.29**	**226**	*e*Pn	**Pn**	**12 50 37.0**	**-1.1**
JAY	**Jayapura**	**11.44**	**288**	P	Pn	12 50 52.0	+12
CTA	**Charters Tower**	**14.73**	**200**	Pn	**Pn**	**12 51 24.2**	**-0.7**
CTA	**Charters Tower**	**14.73**	**200**	Pn	**Pn**	**12 51 24.2**	**-0.7**
CTAO	**Charters Tower**	**14.73**	**200**	*e*P	**Pn**	**12 51 25.0**	**+0.1**
CTAO	**Charters Tower**	**14.73**	**200**	*e*Pn	**Pn**	**12 51 25.0**	**+0.1**
TLE	**Tual**	**18.74**	**271**	P	**Pn**	**12 52 18.4**	**+2.9**
EIDS	**Eidsvold**	**19.05**	**181**	*e*Pn	**P**	**12 52 18.5**	**+0.4**
DZM	**Mont Dzumac**	**21.33**	**139**	P	**P**	**12 52 44.2**	**+1.2**
DZM	**Mont Dzumac**	**21.33**	**139**	P	**P**	**12 52 44.2**	**+1.2**
WRAB	**Tennant Creek**	**21.59**	**229**	*e*P	**P**	**12 52 44.2**	**-1.4**
WRAB				pmax	pmax		
WRAB	**Tennant Creek**	**21.59**	**229**	*e*P	**P**	**12 52 44.2**	**-1.4**
WRAB	**Tennant Creek**	**21.59**	**229**	P	**P**	**12 52 44.0**	**-1.6**
WRA	**Warramunga Arr**	**21.60**	**229**	P	**P**	**12 52 43.7**	**-2.1**
WRA				S	**S**	**12 56 42.0**	**-1.1**
WRA				ScP	**ScP**	**13 00 24.9**	**+4.0**
WRA	**Warramunga Arr**	**21.60**	**229**	P	**P**	**12 52 43.7**	**-2.1**
ARMA	**Armidale**	**24.08**	**180**	*e*P	**P**	**12 53 11.1**	**+0.1**
AS31	**Alice Springs**	**24.29**	**223**	*e*P	**P**	**12 53 12.6**	**-0.3**
ASAR	**Alice Springs**	**24.29**	**223**	P	**P**	**12 53 11.6**	**-1.4**
ASAR				S	**S**	**12 57 33.7**	**+4.4**
ASAR				ScP	**ScP**	**13 00 32.2**	**+4.3**
ASAR	**Alice Springs**	**24.29**	**223**	P	**P**	**12 53 11.6**	**-1.4**
ASAR				S	**S**	**12 57 33.7**	**+4.4**
ASAR				ScP	**ScP**	**13 00 32.2**	**+4.3**
STKA	**Stephens Creek**	**27.18**	**199**	*e*P	**P**	**12 53 37.9**	**-1.1**
STKA	**Stephens Creek**	**27.18**	**199**	P	**P**	**12 53 37.8**	**-1.3**
SOEI	**Soe**	**27.26**	**261**	P	P	12 53 46.1	+6.0
SGSI	**Sangihe**	**27.80**	**290**	P	P	12 53 37.8	-7.0
BATI	**Baumata**	**27.90**	**260**	P	**P**	**12 53 43.5**	**-2.2**
BATI	**Baumata**	**27.90**	**260**	P	**P**	**12 53 46.9**	**+1.2**
BATI	**Baumata**	**27.90**	**260**	P	**P**	**12 53 43.5**	**-2.2**
GTOI	**Gorontalo**	**29.31**	**282**	P	P	12 54 11.4	+13
KAPI	**Kappang**	**31.69**	**271**	*e*P	**P**	**12 54 16.9**	**-2.3**
FORT	**Forrest**	**32.93**	**219**	*e*P	**P**	**12 54 28.4**	**-1.5**
MBWA	**Marble Bar**	**34.22**	**241**	*e*P	**P**	**12 54 40.6**	**-0.6**
YULB	**Yu-li**	**41.72**	**316**	*e*P	**P**	**12 55 43.3**	**-1.1**
NACB	**Ninganchiao**	**42.03**	**317**	*e*P	**P**	**12 55 48.1**	**+1.1**
SSLB	**Suanglung**	**42.21**	**316**	*e*P	**P**	**12 55 48.2**	**-0.3**
YHNB	**Yeheng**	**42.51**	**317**	*e*P	**P**	**12 55 51.0**	**0.0**
JNU	**Nakatsue**	**43.78**	**335**	P	**P**	**12 56 00.3**	**-0.8**
JNU	**Nakatsue**	**43.78**	**335**	P	**P**	**12 55 58.6**	**-2.5**
QIZ	**Qiongzhong**	**48.16**	**302**	P	**P**	**12 56 35.8**	**+0.1**
QIZ				S	**S**	**13 03 31.0**	**-1.2**
QIZ				pmax	pmax		
QIZ				LR	LR		
QIZ				LR	LR		
QIZ				LR	LR		
KSRS	**Korea Array**	**48.73**	**335**	P	**P**	**12 56 37.2**	**-2.5**
KSAR	**Wonju Array Be**	**48.73**	**335**	P	**P**	**12 56 37.2**	**-2.6**
NJ2	**Nanjing**	**49.19**	**323**	*e*P	**P**	**12 56 43.3**	**-0.2**
NJ2				pmax	pmax		
INCN	**Inchon**	**49.31**	**334**	*e*P	**P**	**12 56 44.4**	**+0.1**
ASAJ	**Asahikawa**	**50.75**	**352**	P	**P**	**12 56 53.5**	**-1.6**
ASAJ	**Asahikawa**	**50.75**	**352**	P	**P**	**12 56 53.5**	**-1.6**
USRK	**Ussuriysk Arra**	**53.20**	**342**	P	**P**	**12 57 12.1**	**-1.2**
ENH	**Enshi**	**54.24**	**314**	*e*P	**P**	**12 57 20.1**	**-1.2**
GYA	**Guiyang**	**54.30**	**309**	P	**P**	**12 57 23.0**	**+1.1**
GYA				pP	**pP**	**12 57 38.5**	**+4.8**
GYA				sP	sP	12 57 46.3	+7.8
GYA				PcP	**PcP**	**12 58 27.0**	**+1.3**
GYA				PP	**PP**	**12 59 26.5**	**+2.3**
GYA				ScP	**ScP**	**13 02 19.0**	**-1.9**
GYA				PcS	**PcS**	**13 02 24.3**	**-1.1**
GYA				S	**S**	**13 04 54.0**	**-3.1**
GYA				sS	sS	13 05 22.0	+5.2
GYA				pmax	pmax		
GYA				pmax	pmax		
GYA				LR	LR		
GYA				LR	LR		
GYA				LR	LR		
MDJ	**Mudanjiang**	**54.33**	**341**	P	**P**	**12 57 21.3**	**-0.2**
MDJ				pmax	pmax		
MDJ				pmax	pmax		
CN2	**Changchun**	**55.10**	**337**	*e*P	**P**	**12 57 30.0**	**+2.8**
CN2				pmax	pmax		
BJI	**Beijing**	**56.41**	**328**	P	**P**	**12 57 38.8**	**+2.2**
BJI				pmax	pmax		

comp=Z,20nm,0.5s
comp=Z,2μm,5.4s
comp=N,6μm,21.4s
comp=Z,12μm,22.6s
comp=Z,20nm,1.0s
comp=Z,130nm,4.9s
comp=N,680nm,18.9s
comp=E,560nm,19.4s
comp=Z,620nm,18.0s
comp=Z,8.0nm,1.1s

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**56.78**	**305**	P	**P**	**12 57 41.5**	**+1.7**
KMI				pmax	pmax		
CMAR	**Chiang Mai Arr**	**57.39**	**296**	P	**P**	**12 57 41.6**	**-2.3**
CMAR				⇑*e*		13 27 45.4	
CMAR	**Chiang Mai Arr**	**57.39**	**296**	P	**P**	**12 57 41.6**	**-2.3**
CMAR				PKP2bc		13 27 45.4	
KLR	**Kul'dur**	**57.86**	**345**	*e*P	P	12 57 41.8	-4.9
CD2	**Chengdu**	**58.74**	**312**	P	**P**	**12 57 53.8**	**+0.5**
CD2				pP	**pP**	**12 58 09.0**	**+3.7**
CD2				sP	sP	12 58 15.5	+5.5
CD2				PcP	**PcP**	**12 58 42.5**	**-0.3**
CD2				PP	**PP**	**13 00 06.0**	**+2.3**
CD2				S	**S**	**13 05 53.0**	**-2.7**
CD2				sS	**sS**	**13 06 19.0**	**+3.5**
CD2				pmax	pmax		
CD2				pmax	pmax		
PETK	**Petropavlovsk-**	**59.32**	**4**	P	**P**	**12 57 55.5**	**-1.3**
PETK	**Petropavlovsk-**	**59.32**	**4**	P	**P**	**12 57 55.5**	**-1.3**
PETK	**Petropavlovsk-**	**59.32**	**4**	P	**P**	**12 57 55.5**	**-1.3**
HHC	**Hu-ho-hao-te**	**59.49**	**326**	*e*P	**P**	**12 58 01.0**	**+2.6**
HHC				pP	pP	12 58 16.0	+5.6
HHC				sP	sP	12 58 23.3	+8.2
HHC				PP	**PP**	**13 00 15.0**	**+4.8**
HHC				S	**S**	**13 06 06.0**	**+0.8**
HHC				sS	sS	13 06 31.0	+5.9
HHC				ScS	**ScS**	**13 07 42.3**	**-3.3**
HHC				pmax	pmax		
HHC				pmax	pmax		
HHC				LR	LR		
HHC				LR	LR		
HHC				LR	LR		
LZH	**Lanzhou**	**61.40**	**317**	*e*P	P	12 58 15.5	+3.9
LZH				pmax	pmax		
LZH				pmax	pmax		
LZH				LR	LR		
LZH				LR	LR		
LZH				LR	LR		
FX1	**Attu Island--F**	**61.66**	**15**	*e*P	**P**	**12 58 13.4**	**+0.7**
FX1	**Attu Island--F**	**61.66**	**15**	P	**P**	**12 58 10.2**	**-2.6**
GTA	**Gaotai**	**65.87**	**318**	*e*P	**P**	**12 58 41.3**	**+0.3**
GTA				pP	**pP**	**12 58 57.0**	**+3.9**
GTA				sP	sP	12 59 04.0	+6.2
GTA				PP	**PP**	**13 01 08.5**	**+2.0**
GTA				pmax	pmax		
SHL	**Shillong**	**65.98**	**301**	*e*P	**P**	**12 58 41.0**	**-1.0**
SONM	**Songino Array**	**66.88**	**329**	P	**P**	**12 58 45.2**	**-2.0**
SONM				⇑*e*		13 27 18.3	
SONM	**Songino Array**	**66.88**	**329**	P	**P**	**12 58 45.2**	**-2.0**
SONM				PKP2bc		13 27 18.3	
LSA	**Lhasa**	**68.04**	**305**	*e*P	**P**	**12 58 55.2**	**-0.2**
LSA				pmax	pmax		
LSA	**Lhasa**	**68.04**	**305**	*e*P	**P**	**12 58 55.2**	**-0.2**
SEY	**Seymchan**	**68.95**	**0**	*c*eP	**P**	**12 58 58.6**	**-1.2**
ZAK	**Zakamensk**	**70.07**	**329**	*e*P	**P**	**12 59 04.7**	**-2.4**
ZAK				pmax	pmax		
TAPN	**Taplejung**	**70.09**	**302**	*e*P	**P**	**12 59 07.0**	**-1.0**
ODAN	**Odare**	**70.21**	**301**	*e*P	**P**	**12 59 06.3**	**-2.4**
TLY	**Talaya**	**70.69**	**331**	*e*P	**P**	**12 59 12.3**	**+1.5**
TLY				pmax	pmax		
RAMN	**Ramite**	**70.91**	**301**	*e*P	**P**	**12 59 11.7**	**-1.2**
VNDA	**Vanda**	**71.47**	**178**	P	**P**	**12 59 15.1**	**0.0**
VNDA	**Vanda**	**71.47**	**178**	P	**P**	**12 59 15.1**	**0.0**
JIRN	**Jiri**	**71.47**	**302**	*e*P	**P**	**12 59 14.5**	**-2.0**
GUN	**Gumba**	**71.81**	**302**	*e*P	**P**	**12 59 16.2**	**-2.3**
MOY	**Mondy**	**72.00**	**330**	*e*P	P	12 59 11.0	-7.8
PKI	**Pulchoki**	**72.11**	**301**	*e*P	**P**	**12 59 18.9**	**-1.4**
MIR	**Mirnyy**	**72.18**	**201**	*e*P	P	12 59 23.0	+3.6
MIR				pmax	pmax		
KKN	**Kakani**	**72.28**	**302**	*e*P	**P**	**12 59 18.6**	**-2.5**
DMN	**Daman**	**72.38**	**301**	*e*P	**P**	**12 59 20.0**	**-1.8**
GKN	**Gorkha**	**72.89**	**302**	*e*P	P	12 59 21.4	-3.3
SDPT	**Sand Point**	**73.02**	**26**	*e*P	**P**	**12 59 25.0**	**+0.4**
KOLN	**Koldanda**	**73.70**	**301**	*e*P	P	12 59 26.3	-3.2
DANN	**Dangsing**	**73.73**	**302**	*e*P	**P**	**12 59 27.4**	**-2.4**
HVS	**Khovu-Aksy**	**75.54**	**327**	*i* P	**P**	**12 59 36.9**	**-2.7**
HVS				pmax	pmax		
WMQ	**Urumqi**	**75.95**	**318**	P	**P**	**12 59 42.8**	**+0.7**
WMQ				pP	**pP**	**12 59 59.3**	**+4.9**
WMQ				sP	sP	13 00 06.3	+7.3
WMQ				pmax	pmax		
OHAK	**Old Harbor**	**77.36**	**27**	*e*P	**P**	**12 59 50.3**	**+0.8**
TIXI	**Tiksi**	**79.13**	**353**	*c*eP	**P**	**13 00 00.0**	**+0.9**
TIXI				pmax	pmax		
SEW	**Seward**	**80.58**	**26**	*e*P	**P**	**13 00 07.9**	**+0.7**
MK31	**Makanchi Array**	**80.59**	**319**	*e*P	**P**	**13 00 05.9**	**-1.7**
MK31	**Makanchi Array**	**80.59**	**319**	*e*P	**P**	**13 00 05.9**	**-1.7**
MKAR	**Makanchi Array**	**80.59**	**319**	P	**P**	**13 00 05.8**	**-1.8**
MKAR				P		13 18 47.6	
MKAR	**Makanchi Array**	**80.59**	**319**	P	**P**	**13 00 05.8**	**-1.8**
MKAR				PKKPbc	**PKKPbc**	**13 18 47.6**	**-2.4**
MKAR	**Makanchi Array**	**80.59**	**319**	P	**P**	**13 00 05.8**	**-1.8**
MKAR				PKKPbc	**PKKPbc**	**13 18 47.6**	**-2.4**
ZALV	**Zalesovo Beam**	**81.65**	**327**	P	**P**	**13 00 09.9**	**-3.1**
ZALV	**Zalesovo Beam**	**81.65**	**327**	P	**P**	**13 00 09.9**	**-3.1**
ZALV	**Zalesovo Beam**	**81.65**	**327**	P	**P**	**13 00 09.9**	**-3.1**
IM04	**Indian Mountai**	**82.10**	**20**	*e*P	**P**	**13 00 15.2**	**0.0**
IMA2	**Indian Mountai**	**82.19**	**20**	*e*P	**P**	**13 00 15.9**	**+0.1**
MCK	**McKinley**	**82.63**	**23**	*e*P	**P**	**13 00 17.5**	**-0.5**
MCK				pmax	pmax		
MCK	**McKinley**	**82.63**	**23**	*e*P	**P**	**13 00 17.5**	**-0.5**
NVS	**Novosibirsk**	**82.84**	**327**	*e*P	**P**	**13 00 17.2**	**-2.0**
NVS				*e*S	**S**	**13 10 30.0**	**-4.5**
NVS				pmax	pmax		
NVS				pmax	pmax		
NVS				smax	smax		
NVS				smax	smax		
KSH	**Kashi**	**82.93**	**311**	P	**P**	**13 00 22.0**	**+1.8**
KSH				sP	sP	13 00 45.5	+8.2
KSH				PP	**PP**	**13 03 35.8**	**+4.6**
KSH				S	**S**	**13 10 36.0**	**-0.4**
KSH				sS	sS	13 11 05.0	+7.9
KSH				pmax	pmax		

comp=Z,5.0nm,0.5s
comp=Z,1.7nm,0.8s,baz=119,slow=6.0,SNR=9.8
comp=Z,2.5nm,1.1s,baz=278,slow=3.5,SNR=7.7
comp=Z,1.0nm,0.9s,baz=272,slow=4.0,SNR=3.5
comp=Z,6.6nm,0.6s,baz=175,slow=6.9,SNR=3.4
comp=Z,2.6nm,0.6s,baz=175,slow=6.9,SNR=3.4
comp=Z,1.7nm,0.8s,baz=119,slow=6.0,SNR=9.8
comp=Z,6.0nm,1.3s
comp=Z,34nm,1.1s
comp=Z,21nm,0.6s
comp=Z,4.0nm,0.6s
comp=Z,7.0nm,0.6s
comp=Z,7.0nm,0.6s
comp=Z,6.0nm,1.3s
comp=Z,34nm,1.1s
comp=Z,56nm,1.5s
comp=Z,14nm,0.7s
comp=Z,33nm,0.9s
comp=Z,9.0nm,0.7s
comp=Z,69nm,0.7s
comp=Z,28nm,0.7s
comp=Z,19nm,0.6s
comp=Z,37nm,1.3s
comp=Z,9.0nm,0.7s
comp=Z,9.0nm,1.7s
comp=Z,184nm,1.7s
comp=Z,1.0nm,0.8s,baz=288,slow=7.3,SNR=15
comp=Z,0.8nm,0.5s,baz=98,slow=7.3,SNR=15
comp=Z,3.1nm,0.6s,baz=112,slow=5.8,SNR=13
comp=Z,59nm,1.0s
comp=Z,59nm,1.0s
comp=Z,54nm,2.5s
comp=E,149nm,1.9s
comp=N,17nm,2.2s
comp=E,86nm,3.5s

comp=Z,480nm,10.7s
KSH LR LR
comp=N,480nm,15.5s
KSH LR LR
comp=E,150nm,6.8s
KSH LR LR
comp=Z,320nm,9.0s
COLA College 83.61 22 *eP* **P** 13 00 22.3 -0.6
COLA College 83.61 22 *eP* **P** 13 00 22.3 -0.6
comp=Z,100nm,0.8s
QSPA South Pole Qui 83.76 180 P **P** 13 00 23.6 -0.4
QSPA South Pole Qui 83.76 180 P **P** 13 00 23.6 -0.4
comp=Z,18nm,0.7s,baz=359,slow=1.0,SNR=73
MAW Mawson 83.80 203 P **P** 13 00 22.6 -1.3
MAW Mawson 83.80 203 P **P** 13 00 22.6 -1.3
comp=Z,5.2nm,0.9s,baz=72,slow=6.1,SNR=9.6
ILAR Eielson Array 83.92 22 P **P** 13 00 22.2 -2.4
ILAR Eielson Array 83.92 22 P **P** 13 00 22.2 -2.4
comp=Z,12nm,0.7s,baz=250,slow=4.7,SNR=70
KURK Kurchatov 84.13 322*ceP* **P** 13 00 23.6 -2.3
KURK pmax pmax
comp=Z,7.0nm,1.4s
KURBB Kurchatov Arra 84.15 322 PKPPKP **P'P'df** 13 26 47.5 +2.6
comp=Z,0.2nm,0.2s,baz=308,slow=3.6,SNR=5.2
MENT Mentasta 84.34 25 *eP* **P** 13 00 27.3 +0.6
AAK Ala-Archa 84.75 314*ceP* **P** 13 00 28.6 -0.9
AAK pmax pmax
comp=Z,28nm,1.7s
AAK Ala-Archa 84.75 314 P **P** 13 00 27.0 -2.4
AAK Ala-Archa 84.75 314 P **P** 13 00 27.0 -2.4
baz=142,slow=6.4
EGAK Eagle 86.13 23 *eP* **P** 13 00 36.3 +0.7
comp=Z,26nm,1.0s
HYT Haines Junctio 86.25 28 *eP* **P** 13 00 38.1 +1.7
KKAR Karatay Array 87.71 314 *eP* **P** 13 00 42.2 -1.6
KKAR pmax pmax
comp=Z,5.0nm,0.9s
KKAR Karatay Array 87.71 314 *eP* **P** 13 00 42.2 -1.6
comp=Z,5.2nm,0.9s
BRVK Borovoye 89.70 323*ceP* **P** 13 00 51.9 -1.1
BRVK pmax pmax
comp=Z,6.0nm,1.7s
INK Inuvik 90.20 21 P **P** 13 00 54.6 -0.3
INK Inuvik 90.20 21 P **P** 13 00 54.6 -0.3
comp=Z,6.4nm,0.6s,baz=260,slow=4.5,SNR=19
SYO Syowa Base 91.94 200‖*eP* **P** 13 01 02.0 -1.1
SYO Syowa Base 91.94 200‖*epP* pP 13 01 21.5 +5.9
WAKR Walker 93.03 52 *eP* **P** 13 01 11.3 +2.2
comp=Z,38nm,1.9s
NVAR Mina Array Bea 93.92 52 P **P** 13 01 13.8 +0.6
NVAR Mina Array Bea 93.92 52 P **P** 13 01 13.8 +0.6
comp=Z,4.7nm,0.9s,baz=249,slow=6.3,SNR=15
LRMC Laurel Mountai 94.16 55 P **P** 13 01 16.7 +2.4
baz=94
MPMC Manual Prospec 94.37 54 P **P** 13 01 17.1 +1.8
baz=94
GSC Goldstone 94.87 55 P **P** 13 01 19.7 +2.3
baz=95
TUQ Turquoise Moun 95.60 55 P **P** 13 01 22.3 +1.4
baz=96
BC3 Big Chuckawall 95.88 57 P **P** 13 01 23.7 +1.6
baz=96
R11A Troy Canyon, C 96.04 52 P **P** 13 01 24.5 +1.6
baz=96
SHPR Sheep Range 96.28 54 *eP* **P** 13 01 26.7 +2.8
comp=Z,44nm,2.2s
HLID Hailey 97.15 47 P Pdif 13 01 28.7 +0.9
baz=97
YKA Yellowknife Ar 97.24 28 P **P** 13 01 25.9 -1.5
YKA Yellowknife Ar 97.24 28 P **P** 13 01 25.9 -1.5
comp=Z,1.5nm,0.6s,baz=272,slow=5.0,SNR=6.4
I20A Worland 101.70 47 P **Pdif** 13 01 47.9 0.0
baz=102
N20A Spence Gulch, 101.72 50 P **Pdif** 13 01 48.6 +0.3
baz=102
Q20A Ridgley Place, 101.75 52 P **Pdif** 13 01 48.0 -0.4
baz=102
J20A Shoshoni 101.76 47 P **Pdif** 13 01 48.8 +0.6
baz=102
J21A Lysite 102.22 47 P **Pdif** 13 01 49.4 -1.1
baz=102
X21A Alamocita Cree 102.26 56 P **Pdif** 13 01 49.1 -1.7
baz=102
Z21A St. Cloud Mine 102.37 57 P **Pdif** 13 01 49.8 -1.5
baz=102
A22A Carney Farms, 102.87 41 P **Pdif** 13 01 51.3 -1.6
baz=103
J22A Midwest 102.92 47 P **Pdif** 13 01 51.0 -2.5
baz=103
ISCO Idaho Springs 103.80 51 P **Pdif** 13 01 56.2 -1.4
baz=104
TXAR Lajitas Array 105.88 61 PP PP 13 06 27.8 -2.6
TXAR Lajitas Array 105.88 61 PP PP 13 06 27.8 -2.6
comp=Z,0.1nm,0.5s,baz=232,slow=4.4,SNR=3.6
FINES FINESS Array B 111.82 335 PKiKP **PKiKP** 13 06 28.0 -1.4
FINES FINESS Array B 111.82 335 PKiKP **PKiKP** 13 06 28.0 -1.4
comp=Z,1.6nm,0.8s,baz=129,slow=2.0,SNR=3.3
AKASG Malin Array Be 114.91 324 PKIKP PKPdf 13 06 34.4 -1.2
AKASG Malin Array Be 114.91 324 PKP PKPdf 13 06 34.4 -1.3
AKASG Malin Array Be 114.91 324 PKP PKPdf 13 06 34.4 -1.3
comp=Z,1.1nm,0.5s,baz=63,slow=2.3,SNR=6.0
PLCA Paso Flores 119.37 144 PKP **PKPdf** 13 06 44.4 -0.3
PLCA Paso Flores 119.37 144 PKP **PKPdf** 13 06 44.4 -0.3
comp=Z,2.5nm,0.8s,baz=311,slow=4.4,SNR=4.4
KOLS Kolonicke sedl 119.74 324 *e*PKIKP **PKPdf** 13 06 47.0 +2.0
KOLS Kolonicke sedl 119.74 324 *e*PKP **PKPdf** 13 06 47.0 +2.0
STHS Stebnicka Huta 120.11 325 *e*PKIKP **PKPdf** 13 06 47.5 +1.8
STHS Stebnicka Huta 120.11 325 *e*PKP **PKPdf** 13 06 47.5 +1.8
CRVS Cervenica-Dubn 120.23 324 *e*PKIKP **PKPdf** 13 06 47.5 +1.5
CRVS Cervenica-Dubn 120.23 324 *e*PKP **PKPdf** 13 06 47.5 +1.5
CLL Collm 123.47 330 *e*PKPdf **PKPdf** 13 06 52.0 -0.1
KHC Kasperske Hory 124.49 328 *e*PKIKP **PKPdf** 13 06 55.5 +1.3
KHC *e* 13 07 03.5
KHC Kasperske Hory 124.49 328 *e*PKP **PKPdf** 13 06 55.5 +1.3
KHC *ex* 13 07 03.5
GERES GERESS Array B 124.60 327 PKP **PKPdf** 13 06 53.6 -0.9
GERES GERESS Array B 124.60 327 PKP **PKPdf** 13 06 53.6 -0.9
comp=Z,2.9nm,0.6s,baz=75,slow=1.5,SNR=14
DAVOX Davos/Dischmat 127.90 327 PKP **PKPdf** 13 06 59.9 -1.1
DAVOX Davos/Dischmat 127.90 327 PKP **PKPdf** 13 06 59.9 -1.1
comp=Z,4.3nm,0.5s,baz=342,slow=20,SNR=6.6
GIVF Givet 128.15 333 *e*PKIKP **PKPdf** 13 06 58.5 -2.6
TUE Stuetta 128.38 327 *e*PKPdf **PKPdf** 13 07 01.8 -0.1
BAIF Baives 128.45 334 *e*PKIKP **PKPdf** 13 06 59.0 -2.6
HINF Hinteralfeld 128.79 330 *e*PKIKP **PKPdf** 13 06 59.1 -3.4
CABF La Chapelle 129.99 329 *e*PKIKP **PKPdf** 13 07 02.3 -2.5
comp=Z,62nm,1.4s
LPL La Plagne 130.38 328 *e*PKIKP **PKPdf** 13 07 03.0 -2.8
LPG La Plagne 130.39 328 *e*PKIKP **PKPdf** 13 07 03.2 -2.7
comp=Z,7.2nm,0.6s
LOR Lormes 130.62 331 *e*PKIKP **PKPdf** 13 07 03.3 -2.6
BNI Bardonecchia 130.72 327 *e*PKIKP **PKPdf** 13 07 06.5 +0.2
BNI Bardonecchia 130.72 327 *e*PKPdf **PKPdf** 13 07 06.5 +0.2
PGF Pioggiola 130.98 323 *e*PKIKP **PKPdf** 13 07 03.8 -3.1
comp=Z,14nm,0.7s
SBF Sospel 131.07 326 *e*PKIKP **PKPdf** 13 07 03.7 -3.2
ORIF Oris-en-Rattie 131.23 328 *e*PKIKP **PKPdf** 13 07 04.6 -2.7
comp=Z,12nm,0.9s
LDF La Druitiere 131.42 335 *e*PKIKP **PKPdf** 13 07 04.6 -2.7
FLN La Foliniere 131.43 336 *e*PKIKP **PKPdf** 13 07 04.6 -2.8
FRF La Foret Royal 131.71 326 *e*PKIKP **PKPdf** 13 07 05.2 -2.9
GRR Gorron 131.88 336 *e*PKIKP **PKPdf** 13 07 05.5 -2.7
LMR La Mourre 131.93 326 *e*PKIKP **PKPdf** 13 07 05.5 -3.0
comp=Z,81nm,1.4s
SMRF Simiane la Rot 132.02 327 *e*PKIKP **PKPdf** 13 07 06.4 -2.3
comp=Z,39nm,1.3s
SGMF Saint Gilles 132.67 337 *e*PKIKP **PKPdf** 13 07 07.0 -2.7
LASF Ste Croix 132.87 328 *e*PKIKP **PKPdf** 13 07 07.6 -2.7
comp=Z,9.5nm,0.8s
KEST Kesra 134.58 316 *e*PKPdf **PKPdf** 13 07 14.8 +1.0
LPAZ La Paz 134.80 120 PKP **PKPdf** 13 07 14.6 -0.9
LPAZ La Paz 134.80 120 PKP **PKPdf** 13 07 14.6 -0.9
comp=Z,2.1nm,0.7s,baz=262,slow=1.2,SNR=8.0
CPUP Villa Florida 137.20 140 PKPdf **PKPdf** 13 07 18.5 -0.4
CPUP Villa Florida 137.20 140 PKP **PKPdf** 13 07 18.4 -0.4
comp=Z,3.1nm,0.6s,baz=232,slow=3.2,SNR=7.0
ESDC Sonseca Array 140.07 330 PKP **PKPdf** 13 07 22.6 -1.2
ESDC Sonseca Array 140.07 330 PKP **PKPdf** 13 07 22.6 -1.2
comp=Z,0.4nm,0.4s,baz=6.1,slow=2.9,SNR=4.2
POLO Lamas de Olo 140.45 335 *e*PKP **PKPdf** 13 07 29.0 +4.5
MTE Manteigas 141.15 334 *e*PKP **PKPdf** 13 07 27.2 +1.4
PCBR Castelo Branco 141.58 334 *e*PKP **PKPdf** 13 07 29.1 +2.7
TAM Tamanrasset 143.37 300 *e*PKIKP PKPbc 13 07 28.5 +1.0
TAM Tamanrasset 143.37 300 *e*PKPdf PKPbc 13 07 28.5 +1.0
PNCL Nicolau / Gran 143.47 333 *e*PKP **PKPdf** 13 07 28.8 -1.0
PCVE Castro Verde 143.63 332 *e*PKP **PKPdf** 13 07 29.6 -0.6
PVAQ Vaqueiros 143.67 332 *e*PKP **PKPdf** 13 07 30.0 -0.2
PBDV Barranco-do-Ve 143.90 332 *e*PKP PKPbc 13 07 29.3 +0.9
SPB Sao Paulo 145.04 149 *e*PKPbc **PKPdf** 13 07 35.4 +2.4
RTC Rabat Centre 145.90 327 *e*PKPbc **PKPab** 13 07 37.2 +2.0
TOA0 Torodi Ar. Sit 149.54 285 *e*PKPbc **PKPbc** 13 07 46.1 +0.8
TORD Torodi Ar. Bea 149.54 285 PKPbc **PKPbc** 13 07 44.2 -1.0
TORD Torodi Ar. Bea 149.54 285 PKPbc **PKPbc** 13 07 44.2 -1.0
comp=Z,21nm,0.6s,baz=84,slow=0.6,SNR=114
BDFB Brasilia 150.88 138 PKPbc **PKPbc** 13 07 48.0 -0.6
BDFB Brasilia 150.88 138 PKPbc **PKPbc** 13 07 48.0 -0.6
comp=Z,21nm,0.7s,baz=222,slow=1.1,SNR=14
DBIC Dimbokro 156.57 272 PKP **PKPdf** 13 07 49.9 -1.0
DBIC PKPab **PKPab** 13 08 16.3 -3.7
DBIC Dimbokro 156.57 272 PKP **PKPdf** 13 07 49.9 -1.0
comp=Z,12nm,1.3s,baz=120,slow=14,SNR=3.2
DBIC PKPab **PKPab** 13 08 16.3 -3.7
comp=Z,3.6nm,0.8s,baz=33,slow=9.0,SNR=3.7
LIC Lamto 156.74 271 *e*PKIKP **PKPdf** 13 07 46.4 -4.8

MAN 30 12:48:39, 10.°26N×125.°80E, h23km, mb4.2, ML3.0, MS2.7, 2C-1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.56**	**212**‖	*e*P	Pb	12 48 50.4	+0.1
SCPH				*e*S	Sb	12 48 57.7	-0.2
PLP	**Palo**	**1.21**	**318**↑	*i*P	Pb	12 49 01.1	-0.1
PLP				*i* S	Sn	12 49 16.2	+0.1
TBP	**Tagbilaran**	**1.99**	**254**↑	*e*P	Pb	12 49 13.3	-1.3
TBP				*e*S	Sb	12 49 37.3	-1.6

IDC 30 12:49:19.6±0.8, 15.°06S×172.°87W, h0km, mb4.1/9, mb1 4.3/9, mb1mx4.1/22, mbtmp4.1/9, Error ellipse: s-maj=39.5km s-min=19.3km az=133.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.55**	**43**	Pn	Pn	12 49 42.8	-5.9
	141nm,0.3s,baz=225,slow=10.0,SNR=36						
AFI				Sn	Sn	12 49 58.4	-11
	437nm,0.3s,baz=252,slow=16,SNR=21						
URZ	**Urewera**	**24.75**	**199**	P	P	12 54 43.7	+0.7
	12nm,0.7s,baz=39,slow=6.5,SNR=4.5						
WRA	**Warramunga Arr**	**50.43**	**256**	P	P	12 58 18.5	-0.9
	0.9nm,0.6s,baz=96,slow=8.0,SNR=3.0						
ASAR	**Alice Springs**	**50.71**	**252**	P	P	12 58 20.2	-1.3
	2.4nm,0.8s,baz=87,slow=9.0,SNR=4.7						
PETK	**Petropavlovsk-**	**72.46**	**342**	P	P	13 00 48.2	+0.4
	5.6nm,1.0s,baz=122,slow=7.2,SNR=3.7						
YBH	**Yreka Blue Hor**	**73.01**	**37**	P	P	13 00 50.5	-1.0
	1.5nm,0.9s,baz=215,slow=19,SNR=3.4						
NVAR	**Mina Array Bea**	**73.73**	**42**	P	P	13 00 56.0	+0.1
	1.8nm,0.9s,baz=236,slow=11,SNR=5.0						
TXAR	**Lajitas Array**	**79.99**	**56**	P	P	13 01 31.0	-0.4
	0.4nm,0.9s,baz=205,slow=5.6,SNR=4.0						
PDAR	**Pinedale Array**	**81.67**	**42**	P	P	13 01 40.0	-0.2
	0.5nm,0.7s,baz=197,slow=2.8,SNR=4.2						
MAW	**Mawson**	**88.28**	**198**	P	P	13 02 12.7	0.0
	2.2nm,0.7s,baz=156,slow=8.4,SNR=3.3						
KECS	**Kecovo**	**144.90**	**345**	*e*	PKPdf	13 08 59.2	+0.4
GERES	**GERESS Array B**	**145.88**	**352**	PKPbc	PKPab	13 09 01.4	-0.1
	1.4nm,0.7s,baz=25,slow=3.5,SNR=6.3						
BRTR	**Keskin Array B**	**146.21**	**322**	PKPbc	PKPab	13 09 03.5	+0.3
	5.5nm,0.9s,baz=94,slow=2.2,SNR=13						

*IDC **30** 12:56:37.5±0.5, 11.°70S×166.°25E, h0km, mb4.5/22, mb1 4.6/24, mb1mx4.5/29, mbtmp4.6/24, ML4.1/2, Error ellipse: s-maj=17.9km s-min=13.6km az=97.0*
*ISCJB **30** 12:56:41.3±0.4, 11.°69S±0.°06×166.°19E±0.°07, h37km, mb4.5/25, Error ellipse: s-maj=10.1km s-min=8.4km az=165.8*
*NEIC **30** 12:56:43.0±0.3, 11.°66S×166.°22E, h35km, mb4.5/4, Error ellipse: s-maj=6.3km s-min=5.8km az=81.0*

ISC 30 12:56:43.5±0.4, 11.°65S±0.°07×166.°13E±0.°07, h37km, n73, σ0.°93/87, mb4.5/25, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.47**	**289**	Pn	**Pn**	**12 58 16.6**	**+0.4**
HNR				Sn	**Sn**	**12 59 25.4**	**-3.4**
HNR	**Honiara**	**6.47**	**289**	Pn	**Pn**	**12 58 16.6**	**+0.4**
	22nm,0.3s,baz=119,slow=5.1,SNR=17						
HNR				Sn	**Sn**	**12 59 25.4**	**-3.4**
	baz=162,slow=20,SNR=2.6						
DZM	**Mont Dzumac**	**10.37**	**178**	Pn	**Pn**	**12 59 10.1**	**+0.4**
DZM	**Mont Dzumac**	**10.37**	**178**	Pn	**Pn**	**12 59 10.1**	**+0.4**
	1.0nm,0.3s,baz=10,slow=18,SNR=14						
MSVF	**Nonsavu**	**13.01**	**119**	*e*Pn	**Pn**	**12 59 44.2**	**-1.7**
	56nm,0.9s						
PMG	**Port Moresby**	**18.79**	**275**	P	**Pn**	**13 01 01.4**	**+0.8**
PMG	**Port Moresby**	**18.79**	**275**	P	**Pn**	**13 01 01.4**	**+0.8**
	0.5nm,0.3s,baz=124,slow=7.6,SNR=4.5						
EIDS	**Eidsvold**	**19.72**	**224**	*e*P	**Pn**	**13 01 11.0**	**-0.6**
	24nm,1.0s						
CTA	**Charters Tower**	**20.86**	**244**	P	Pn	13 01 23.8	-1.3
CTA	**Charters Tower**	**20.86**	**244**	P	Pn	13 01 23.8	-1.3
	19nm,1.1s,baz=74,slow=13,SNR=6.6						
CTAO	**Charters Tower**	**20.86**	**244**	*e*P	**P**	**13 01 23.4**	**+0.9**
	31nm,1.2s						
ARMA	**Armidale**	**23.02**	**214**	*e*P	**P**	**13 01 46.8**	**+1.4**
	26nm,1.0s						
STKA	**Stephens Creek**	**30.27**	**225**	P	**P**	**13 02 51.0**	**-0.2**
STKA				PcP	**PcP**	**13 05 51.2**	**0.0**
STKA	**Stephens Creek**	**30.27**	**225**	P	**P**	**13 02 51.0**	**-0.2**
	2.6nm,0.8s,baz=41,slow=9.0,SNR=4.4						
STKA				PcP	**PcP**	**13 05 51.2**	**0.0**
	5.9nm,0.9s,baz=36,slow=4.4,SNR=5.2						
WRAB	**Tennant Creek**	**31.63**	**251**	*e*P	**P**	**13 03 02.8**	**-0.4**
	3.0nm,0.7s						
WRA	**Warramunga Arr**	**31.64**	**251**	P	**P**	**13 03 02.1**	**-1.2**
WRA				PcP	**PcP**	**13 05 54.9**	**-0.2**
WRA				ScP	**ScP**	**13 09 37.8**	**+2.2**
WRA	**Warramunga Arr**	**31.64**	**251**	P	**P**	**13 03 02.1**	**-1.2**
	2.1nm,0.5s,baz=84,slow=9.4,SNR=33						
WRA				PcP	**PcP**	**13 05 54.9**	**-0.2**
	2.5nm,0.9s,baz=72,slow=3.2,SNR=7.3						
WRA				ScP	**ScP**	**13 09 37.8**	**+2.2**
	0.9nm,1.3s,baz=86,slow=3.9,SNR=6.2						
RPZ	**Rata Peaks**	**32.23**	**173**	P	**P**	**13 03 07.3**	**-0.9**
RPZ	**Rata Peaks**	**32.23**	**173**	P	**P**	**13 03 07.3**	**-0.9**
	16nm,0.8s,baz=206,slow=3.1,SNR=7.9						
ASAR	**Alice Springs**	**32.87**	**244**	P	**P**	**13 03 13.3**	**-0.8**
ASAR				PcP	**PcP**	**13 05 58.6**	**+0.2**
ASAR				ScP	**ScP**	**13 09 41.6**	**+1.8**
ASAR	**Alice Springs**	**32.87**	**244**	P	**P**	**13 03 13.3**	**-0.8**
	4.4nm,0.6s,baz=68,slow=9.6,SNR=41						
ASAR				PcP	**PcP**	**13 05 58.6**	**+0.2**
	3.4nm,0.9s,baz=77,slow=3.1,SNR=12						
ASAR				ScP	**ScP**	**13 09 41.6**	**+1.8**
	1.3nm,1.1s,baz=88,slow=2.9,SNR=4.6						
FITZ	**Fitzroy Crossi**	**39.60**	**256**	P	**P**	**13 04 11.3**	**-0.3**
FITZ				PcP	**PcP**	**13 06 19.4**	**+0.9**
FITZ	**Fitzroy Crossi**	**39.60**	**256**	P	**P**	**13 04 11.3**	**-0.3**
	3.5nm,0.7s,baz=69,slow=7.0,SNR=11						
FITZ				PcP	**PcP**	**13 06 19.4**	**+0.9**
	2.7nm,1.0s,baz=146,slow=3.6,SNR=3.5						
BATI	**Baumata**	**41.70**	**268**	P	**P**	**13 04 30.0**	**+0.9**
BATI	**Baumata**	**41.70**	**268**	P	**P**	**13 04 30.0**	**+0.9**
	13nm,0.6s,baz=120,slow=3.8,SNR=4.1						
KAPI	**Kappang**	**46.32**	**274**	P	**P**	**13 05 06.4**	**+0.3**
KAPI	**Kappang**	**46.32**	**274**	P	**P**	**13 05 06.4**	**+0.3**
	6.2nm,0.4s,baz=72,slow=12,SNR=3.8						
MAT	**Matsushiro**	**54.68**	**332**	P	**P**	**13 06 08.6**	**-0.3**
JNU	**Nakatsue**	**55.79**	**324**	P	**P**	**13 06 16.8**	**-0.3**
JNU	**Nakatsue**	**55.79**	**324**	P	**P**	**13 06 16.8**	**-0.3**
	6.8nm,0.9s,baz=209,slow=1.8,SNR=4.0						
ASAJ	**Asahikawa**	**59.49**	**340**	P	**P**	**13 06 43.3**	**+0.6**
ASAJ	**Asahikawa**	**59.49**	**340**	P	**P**	**13 06 43.3**	**+0.6**
	8.0nm,0.9s,baz=204,slow=20,SNR=3.6						
KSRS	**Korea Array**	**60.59**	**326**	P	**P**	**13 06 51.2**	**+0.8**
	1.2nm,0.7s,baz=138,slow=7.3,SNR=7.1						
KSAR	**Wonju Array Be**	**60.60**	**326**	P	**P**	**13 06 51.2**	**+0.7**
USRK	**Ussuriysk Arra**	**63.66**	**333**	P	**P**	**13 07 11.4**	**+0.5**
	3.6nm,0.9s,baz=122,slow=7.9,SNR=11						
FX1	**Attu Island--F**	**64.56**	**5**	P	**P**	**13 07 16.2**	**-0.4**
FX1	**Attu Island--F**	**64.56**	**5**	P	**P**	**13 07 16.2**	**-0.4**
	10nm,0.6s,baz=197,slow=19,SNR=6.1						
VNDA	**Vanda**	**65.90**	**181**	P	**P**	**13 07 24.8**	**-0.3**
VNDA	**Vanda**	**65.90**	**181**	P	**P**	**13 07 24.8**	**-0.3**
	3.1nm,0.7s,baz=357,slow=6.1,SNR=18						
ENH	**Enshi**	**68.57**	**309**	*e*P	**P**	**13 07 43.7**	**+0.9**
	8.5nm,0.8s						
CMAR	**Chiang Mai Arr**	**72.70**	**294**	P	**P**	**13 08 08.6**	**+0.4**
CMAR	**Chiang Mai Arr**	**72.70**	**294**	P	**P**	**13 08 08.6**	**+0.4**
	1.1nm,0.5s,baz=102,slow=3.5,SNR=4.3						
QSPA	**South Pole Qui**	**78.36**	**180**	P	**P**	**13 08 39.5**	**-0.4**
QSPA	**South Pole Qui**	**78.36**	**180**	P	**P**	**13 08 39.4**	**-0.4**
	18nm,1.0s,baz=2.8,slow=3.5,SNR=54						
SONM	**Songino Array**	**79.38**	**324**	P	**P**	**13 08 46.5**	**+0.8**
SONM	**Songino Array**	**79.38**	**324**	P	**P**	**13 08 46.5**	**+0.8**
	4.5nm,0.9s,baz=133,slow=5.5,SNR=22						
ILAR	**Eielson Array**	**83.97**	**18**	P	**P**	**13 09 08.7**	**-0.8**
ILAR	**Eielson Array**	**83.97**	**18**	P	**P**	**13 09 08.7**	**-0.8**
	1.2nm,0.7s,baz=235,slow=5.8,SNR=11						
MAW	**Mawson**	**84.31**	**202**	P	**P**	**13 09 10.9**	**-0.3**
MAW	**Mawson**	**84.31**	**202**	P	**P**	**13 09 10.9**	**-0.3**
	2.0nm,0.7s,baz=131,slow=5.1,SNR=7.4						
NVAR	**Mina Array Bea**	**86.12**	**50**	P	**P**	**13 09 21.4**	**+0.3**
NVAR	**Mina Array Bea**	**86.12**	**50**	P	**P**	**13 09 21.4**	**+0.3**
	1.2nm,0.8s,baz=236,slow=6.4,SNR=4.9						
MK31	**Makanchi Array**	**94.22**	**317**	*e*P	**P**	**13 09 59.5**	**+0.7**
MKAR	**Makanchi Array**	**94.22**	**317**	P	**P**	**13 09 59.4**	**+0.7**
MKAR	**Makanchi Array**	**94.22**	**317**	P	**P**	**13 09 59.4**	**+0.7**
	13nm,0.7s,baz=95,slow=6.4,SNR=124						
ZALV	**Zalesovo Beam**	**94.27**	**324**	P	**P**	**13 09 58.3**	**-0.4**
ZALV	**Zalesovo Beam**	**94.27**	**324**	P	**P**	**13 09 58.3**	**-0.4**
	4.0nm,0.7s,baz=113,slow=4.2,SNR=18						
KURK	**Kurchatov**	**97.35**	**320**	P	**P**	**13 10 12.1**	**-0.7**
KURBB	**Kurchatov Arra**	**97.39**	**320**	P	**P**	**13 10 12.1**	**-0.9**
	0.6nm,0.6s,baz=97,slow=4.2,SNR=6.7						
BVAR	**Borovoye Array**	**102.66**	**322**	P	**Pdif**	**13 10 36.0**	**-0.5**
BVAR	**Borovoye Array**	**102.66**	**322**	P	**Pdif**	**13 10 36.0**	**-0.5**
	0.9nm,0.6s,baz=81,slow=9.2,SNR=4.2						
ARCES	**ARCESS Array B**	**117.01**	**345**	PKP	**PKPdf**	**13 15 23.4**	**-0.4**
ARCES	**ARCESS Array B**	**117.01**	**345**	PKP	**PKPdf**	**13 15 23.4**	**-0.4**
	2.6nm,0.8s,baz=102,slow=3.0,SNR=3.3						
BOSA	**Boshof**	**124.93**	**223**	PKP	**PKPdf**	**13 15 40.6**	**+0.1**
BOSA	**Boshof**	**124.93**	**223**	PKP	**PKPdf**	**13 15 40.6**	**+0.1**
	6.3nm,0.7s,baz=106,slow=7.1,SNR=9.4						
BRTR	**Keskin Array B**	**129.65**	**312**	PKP	**PKPdf**	**13 15 49.3**	**+0.2**
BRTR	**Keskin Array B**	**129.65**	**312**	PKP	**PKPdf**	**13 15 49.3**	**+0.2**
	1.5nm,1.1s,baz=69,slow=4.8,SNR=3.2						
KEST	**Kesra**	**148.13**	**323**	PKPbc	**PKPbc**	**13 16 25.7**	**-0.2**
KEST	**Kesra**	**148.13**	**323**	PKPbc	**PKPbc**	**13 16 25.7**	**-0.2**
	2.7nm,1.0s,baz=80,slow=2.7,SNR=4.9						
ESDC	**Sonseca Array**	**150.74**	**344**	PKPbc	**PKPbc**	**13 16 32.3**	**+0.1**
ESDC	**Sonseca Array**	**150.74**	**344**	PKPbc	**PKPbc**	**13 16 32.3**	**+0.1**
	0.2nm,0.4s,baz=360,slow=3.1,SNR=3.9						
TORD	**Torodi Ar. Bea**	**164.73**	**277**	PKP	**PKPdf**	**13 16 43.9**	**-0.6**
TORD				PKPab	**PKPab**	**13 17 41.6**	**+1.4**
TORD	**Torodi Ar. Bea**	**164.73**	**277**	PKP	**PKPdf**	**13 16 43.9**	**-0.6**
	1.2nm,0.9s,baz=173,slow=0.5,SNR=5.9						
TORD				PKPab	**PKPab**	**13 17 41.6**	**+1.4**
	0.4nm,0.6s,baz=96,slow=2.9,SNR=2.8						

IDC 30 12:58:13.7±8.9, 16.°36S×171.°47W, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.6/20, mbtmp3.7/2, MS4.0/1, Ms1 4.0/1, ms1mx3.8/32, Error ellipse: s-maj=443.0km s-min=60.6km az=143.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.46**	**353**	LR	LR	12 59 39.6	
	comp=Z,3μm,18.2s,baz=186,slow=35						
WRA	**Warramunga Arr**	**51.44**	**257**	P	P	13 07 21.1	-0.1
	0.6nm,0.9s,baz=95,slow=7.3,SNR=4.1						
ASAR	**Alice Springs**	**51.59**	**253**	P	P	13 07 22.1	-0.2
	1.2nm,0.7s,baz=88,slow=8.0,SNR=4.8						
BRTR	**Keskin Array B**	**148.06**	**322**	PKPbc	PKPbc	13 18 01.1	-0.7
	0.3nm,0.3s,baz=66,slow=4.9,SNR=2.5						

IDC 30 13:04:48.1±4.4, 0.°34S×100.°61E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/23, mbtmp3.5/4, Error ellipse: s-maj=248.7km s-min=26.8km az=55.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.34**	**123**	P	P	13 12 11.0	-0.2
	0.2nm,0.3s,baz=295,slow=12,SNR=4.8						
ASAR	**Alice Springs**	**39.76**	**128**	P	P	13 12 22.7	-0.4
	0.1nm,0.3s,baz=302,slow=7.5,SNR=6.2						
MKAR	**Makanchi Array**	**49.61**	**344**	P	P	13 13 41.1	-0.1
	0.2nm,0.3s,baz=156,slow=8.2,SNR=7.1						
STKA	**Stephens Creek**	**49.81**	**133**	P	P	13 13 43.4	+0.3
	1.7nm,0.9s,baz=317,slow=18,SNR=2.9						

*IDC **30** 13:06:35.8±0.5, 15.°24S×173.°36W, h0km, mb4.3/20, mb1 4.5/20, mb1mx4.4/27, mbtmp4.3/20, Error ellipse: s-maj=21.5km s-min=13.4km az=132.0*
*NEIC **30** 13:06:37.7±0.3, 15.°21S×173.°38W, h10km, mb4.7/8, Error ellipse: s-maj=1.4km s-min=8.3km az=136.0*
*ISCJB **30** 13:06:39.0±0.4

NVAR	Mina Array Bea	74.22	42	P		P	13 18 14.6	-0.5
	1.0nm,0.3s,baz=234,slow=7.7,SNR=10							
USRK	Ussuriysk Arra	77.25	323	P		P	13 18 31.9	-0.1
	0.9nm,0.6s,baz=106,slow=2.8,SNR=9.0							
TXAR	Lajitas Array	80.54	56	P		P	13 18 50.8	+0.3
TXAR	Lajitas Array	80.54	56	P		P	13 18 50.8	+0.3
	0.9nm,0.9s,baz=238,slow=4.3,SNR=7.5							
MCMT	McKenzie Canyo	81.14	39	eP		P	13 18 53.7	+0.2
	2.1nm,0.9s							
BSMT	Bassoo Peak	81.64	36	eP		P	13 18 55.3	-0.8
	11nm,1.4s							
PDAR	Pinedale Array	82.16	42	P		P	13 18 58.2	-0.7
PDAR	Pinedale Array	82.16	42	P		P	13 18 58.2	-0.7
	2.2nm,1.0s,baz=199,slow=4.1,SNR=7.0							
ILAR	Eielson Array	82.30	11	P		P	13 18 58.6	-0.3
ILAR	Eielson Array	82.30	11	P		P	13 18 58.6	-0.3
	1.3nm,0.8s,baz=220,slow=6.5,SNR=12							
HRY	Holter Researc	82.73	38	eP		P	13 19 01.7	0.0
	5.0nm,0.7s							
MAW	Mawson	87.94	199	P		P	13 19 28.1	+0.8
MAW	Mawson	87.94	199	P		P	13 19 28.1	+0.8
	2.4nm,0.6s,baz=113,slow=6.1,SNR=9.8							
INK	Inuvik	88.12	14	P		P	13 19 27.7	-0.2
INK	Inuvik	88.12	14	P		P	13 19 27.7	-0.2
	2.1nm,1.0s,baz=276,slow=9.2,SNR=2.5							
CMAR	Chiang Mai Arr	92.55	288	P		P	13 19 50.2	+0.5
CMAR	Chiang Mai Arr	92.55	288	P		P	13 19 50.2	+0.5
	0.7nm,0.6s,baz=105,slow=2.5,SNR=4.1							
SONM	Songino Array	94.72	318	P		P	13 19 59.8	+0.6
SONM	Songino Array	94.72	318	P		P	13 19 59.8	+0.6
	0.2nm,0.4s,baz=96,slow=4.3,SNR=4.1							
MKAR	Makanchi Array	110.71	315	PKiKP		PKiKP	13 25 09.8	-0.8
MKAR	Makanchi Array	110.71	315	PKiKP		PKiKP	13 25 09.8	-0.8
	0.4nm,0.6s,baz=101,slow=1.5,SNR=4.4							
AKASG	Malin Array Be	140.19	338	PKPpre		PKPpre	13 26 00.6	
AKASG	Malin Array Be	140.19	338	PKhKP		PKPpre	13 26 00.6	
	0.2nm,0.2s,baz=46,slow=3.6,SNR=2.9							
MOX	Moxa	144.46	354	ePKPbc		PKPbc	13 26 12.5	0.0
TANN	Tannenbergstha	144.60	354	ePKPbc		PKPab	13 26 12.7	-0.1
CFR	Carcaliu	145.05	333	⇑iP		PKPbc	13 26 14.4	-0.1
ROTZ	Rotzenmuhle	145.26	354	ePKPbc		PKPdf	13 26 15.6	+0.2
GRF	Grafenberg Arr	145.44	355	ePKPbc		PKPab	13 26 16.0	+0.1
TIRR	Tirgusor	145.49	332	⇓iP		PKPab	13 26 17.3	+1.1
HARR	Harsova	145.53	333	⇓iP		PKPab	13 26 18.4	+2.1
TLB	Topalu	145.56	332	⇑iP		PKPab	13 26 17.8	+1.4
KMBO	Kilima Mbogo	145.59	244	PKPbc		PKPab	13 26 18.8	+1.0
KMBO	Kilima Mbogo	145.59	244	PKPbc		PKPab	13 26 18.8	+1.0
	6.2nm,0.8s,baz=47,slow=4.8,SNR=8.8							
WLF	Walferdange	145.67	0	ePKPbc		PKPab	13 26 16.8	+0.1
MLR	Muntele Rosu	145.72	336	⇑iP		PKPab	13 26 18.1	+0.9
KHC	Kasperske Hory	145.72	352	ePKP		PKPab	13 26 17.3	+0.3
DRGR		145.79	340	⇑iP		PKPab	13 26 17.6	+0.2
WET	Wettzell	145.80	353	ePKPbc		PKPab	13 26 17.3	0.0
GEC2	GERESS Array S	145.99	352	ePKPbc		PKPbc	13 26 17.6	+0.1
GERES	GERESS Array B	145.99	352	PKPbc		PKPab	13 26 18.1	0.0
GERES	GERESS Array B	145.99	352	PKPbc		PKPab	13 26 18.1	0.0
	1.1nm,0.7s,baz=35,slow=2.4,SNR=12							
BR131	Keskin Array S	146.03	321	ePKP		PKPab	13 26 19.6	+1.0
BRTR	Keskin Array B	146.03	321	PKPbc		PKPab	13 26 19.4	+0.8
BRTR	Keskin Array B	146.03	321	PKPbc		PKPab	13 26 19.4	+0.8
	18nm,0.9s,baz=104,slow=2.5,SNR=46							
VOIR		146.12	336	⇑iP		PKPab	13 26 19.9	+1.3
ARR	Arges	146.34	337	⇑iP		PKPab	13 26 21.6	+2.1
BFO	Black Forest	146.98	358	ePKPbc		PKPbc	13 26 20.6	+0.2
RJOB	Jochberg	147.19	352	ePKPbc		PKPbc	13 26 21.3	+0.3
BNI	Bardonecchia	150.29	360	PKPbc		PKPbc	13 26 30.5	+1.3
TORD	Torodi Ar. Bea	174.82	113	PKPab		PKPab	13 28 20.9	-2.1
TORD	Torodi Ar. Bea	174.82	113	PKPab		PKPab	13 28 20.9	-2.1
	1.1nm,1.1s,baz=290,slow=4.2,SNR=3.4							

IDC 30 13:10:51.1±0.6, 16°.12S×173°.20W, h0km, mb4.0/13, mb1 4.3/13, mb1mx4.1/24, mbtmp4.0/13, Error ellipse: s-maj=32.3km s-min=15.4km az=138.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.60	32	Pn	Pn	13 11 28.4	-6.1
	8.9nm,0.3s,baz=190,slow=19,SNR=3.6						
AFI				Sn	Sn	13 11 56.8	-10
	42nm,0.3s,baz=218,slow=19,SNR=5.0						
URZ	Urewera	23.64	199	P	P	13 16 04.4	+0.3
	4.5nm,0.4s,baz=348,slow=4.9,SNR=2.6						
STKA	Stephens Creek	43.84	241	P	P	13 18 57.5	-1.9
	1.9nm,0.7s,baz=90,slow=12,SNR=4.7						
WRA	Warramunga Arr	49.87	257	P	P	13 19 46.3	-0.4
	0.8nm,0.8s,baz=97,slow=6.5,SNR=9.9						
ASAR	Alice Springs	50.07	252	P	P	13 19 48.1	-0.1
	2.6nm,0.6s,baz=88,slow=8.3,SNR=24						
FITZ	Fitzroy Crossi	58.25	258	P	P	13 20 49.1	+1.1
	1.5nm,0.9s,baz=111,slow=8.6,SNR=2.6						
VNDA	Vanda	62.68	186	P	P	13 21 17.4	+0.1
	0.4nm,0.6s,baz=15,slow=19,SNR=6.2						
YBH	Yreka Blue Hor	74.06	37	P	P	13 22 28.2	-0.9
	2.8nm,1.0s,baz=282,slow=4.0,SNR=3.8						
NVAR	Mina Array Bea	74.74	42	P	P	13 22 33.9	+0.5
	1.9nm,0.9s,baz=223,slow=10,SNR=7.7						
TXAR	Lajitas Array	80.86	56	P	P	13 23 07.8	+0.3
	0.4nm,0.8s,baz=204,slow=2.5,SNR=4.2						
ANMO	Albuquerque	81.12	50	P	P	13 23 09.5	+0.6
	0.7nm,0.4s,baz=180,slow=3.0,SNR=2.5						
PDAR	Pinedale Array	82.67	42	P	P	13 23 16.8	-0.2
	1.4nm,0.8s,baz=233,slow=4.3,SNR=8.0						
ILAR	Eielson Array	83.11	11	P	P	13 23 18.5	+0.1
	1.4nm,0.6s,baz=230,slow=6.4,SNR=22						
CMAR	Chiang Mai Arr	93.02	288	P	P	13 24 08.1	+0.8
	0.9nm,0.7s,baz=99,slow=2.6,SNR=7.3						
BRTR	Keskin Array B	146.83	320	PKPbc	PKPbc	13 30 35.9	0.0
	3.7nm,0.7s,baz=128,slow=2.3,SNR=18						
GERES	GERESS Array B	146.88	352	PKPbc	PKPdf	13 30 32.5	-1.3
	0.5nm,0.4s,baz=26,slow=3.4,SNR=4.2						
TORD	Torodi Ar. Bea	174.24	120	PKP	PKPdf	13 31 03.0	-0.8
	0.8nm,0.9s,baz=281,slow=0.8,SNR=4.2						

*NNC **30** 13:11:47.2±4.8, 40°.78N×69°.41E, h0km, mb3.6, mpv3.4, Error ellipse: s-maj=34.8km s-min=22.6km az=11.0*

ISC 30 13:11:48.1±2.6, 40°.9N±0°.2×69°.5E±0°.1, h10km, n8, σ0°81/9, 3C-3D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	2.37	19	⇑Pn	Pb	13 12 30.0	-1.0
	6.1nm,0.3s,baz=197,slow=16,SNR=114						
KK31				⇑Sn	Sb	13 13 00.4	+0.1
	57nm,0.6s,baz=201,slow=28,SNR=14						
AML	Almayashu	3.42	67	P	Pb	13 12 48.3	-0.6
	SNR=12						
EKS2	Erkin-Say	3.69	59	P	Pb	13 12 53.6	+0.1
	SNR=12						
AAK	Ala-Archa	4.16	63	P	Pb	13 13 01.3	-0.1
	SNR=9.0						
USP	Ospenovka	4.45	56	P	Pb	13 13 06.7	+0.3
	SNR=6.1						
TKM2	Tokmak 2	5.01	64	⇓Pg	Pb	13 13 16.1	0.0
	5.0nm,0.7s						
TKM2				⇓Lg	Lg	13 14 30.8	
	13nm,0.6s						
TKM2	Tokmak 2	5.01	64	P	Pb	13 13 12.9	-3.1
	SNR=7.2						
AB31	Akbulak array	10.76	324	⇓P	Pn	13 14 21.6	-0.5
	0.3nm,0.5s,baz=132,slow=13,SNR=6.1						
AB31				⇑S	Sn	13 16 24.0	+1.5
	0.7nm,0.5s						

IDC 30 13:14:07.5±1.6, 15°.77S×171°.95W, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.5/20, mbtmp3.4/3, Error ellipse: s-maj=55.8km s-min=25.8km az=138.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	1.86	5	Pn	Pn	13 14 40.5	-0.3
	16nm,0.3s,baz=229,slow=9.3,SNR=2.6						
AFI				Sn	Sn	13 14 56.4	-8.8
	62nm,0.3s,baz=225,slow=17,SNR=4.4						
WRA	Warramunga Arr	51.12	257	P	P	13 23 12.4	-0.2
	0.1nm,0.5s,baz=97,slow=6.2,SNR=5.1						
ASAR	Alice Springs	51.32	252	P	P	13 23 13.9	-0.1
	0.9nm,0.8s,baz=90,slow=7.4,SNR=7.9						
TXAR	Lajitas Array	79.67	56	P	P	13 26 17.6	+0.2
	0.1nm,0.5s,baz=190,slow=2.5,SNR=2.6						

*IDC **30** 13:20:07.6±5.8, 1°.51S×98°.97E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.5/22, mbtmp3.6/4, MS4.2/1, Ms1 4.2/1, ms1mx3.8/35, Error ellipse: s-maj=296.2km s-min=23.1km az=54.0*

*ISCJB **30** 13:20:11.7±1.2, 1°.3S±0°.1×99°.19E±0°.10, h33km, mb3.5/4, Error ellipse: s-maj=21.2km s-min=13.7km az=174.1*

*DJA **30** 13:20:23.7±2.5, 1°.5±13°×10°.1E±1°.5, h10km, M3.6/3, MLv3.6/3*

ISC 30 13:20:14.0±1.5, 1°.3S±0°.2×99°.2E±0°.1, h35km, n9, σ1°58/8, mb3.5/4, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	Padang	1.31	73	P	Pn	13 20 38.4	+2.5
PDSI				S	Sn	13 20 50.3	-1.9
PPI	Padang Panjang	1.46	55	P	Pn	13 20 38.8	+1.0
BKNI	Bangkinang	2.44	48	P	Pn	13 20 41.9	-10
PSI	Prapat	4.09	356	LR	LR	13 23 07.3	
	comp=Z,3μm,21.4s,baz=221,slow=43						
WRA	Warramunga Arr	39.02	121	P	P	13 27 36.7	-1.0
	0.2nm,0.7s,baz=304,slow=8.9,SNR=3.2						
ASAR	Alice Springs	40.30	126	P	P	13 27 48.2	-0.1
	0.3nm,0.8s,baz=302,slow=7.9,SNR=4.1						
MKAR	Makanchi Array	50.15	345	P	P	13 29 06.4	+0.3
	0.4nm,0.3s,baz=158,slow=8.3,SNR=12						
ZALV	Zalesovo Beam	56.35	350	P	P	13 29 51.0	-0.5
	1.0nm,0.4s,baz=177,slow=5.6,SNR=3.7						
TXAR	Lajitas Array	144.62	36	PKP	PKPab	13 39 45.8	-0.6
	0.2nm,0.4s,baz=251,slow=2.8,SNR=2.5						

IDC 30 13:24:42.5±3.2, 16°.60S×173°.38W, h0km, mb3.5/4, mb1 3.9/4, mb1mx3.6/19, mbtmp3.5/4, MS4.0/1, Ms1 4.0/1, ms1mx3.9/28, Error ellipse: s-maj=176.6km s-min=26.6km az=147.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	3.09	30	LR	LR	13 26 25.4	
	comp=Z,3μm,19.3s,baz=266,slow=33						
WRA	Warramunga Arr	49.60	258	P	P	13 33 35.4	-0.7
	0.4nm,0.9s,baz=94,slow=6.4,SNR=2.9						
ASAR	Alice Springs	49.77	253	P	P	13 33 37.6	+0.3
	0.7nm,0.7s,baz=87,slow=8.5,SNR=8.5						
NVAR	Mina Array Bea	75.20	42	P	P	13 36 27.3	-0.1
	0.5nm,0.7s,baz=232,slow=8.5,SNR=3.0						
ILAR	Eielson Array	83.61	11	P	P	13 37 12.6	+0.2
	0.3nm,0.7s,baz=219,slow=6.9,SNR=3.7						

IDC 30 13:28:28.3±1.8, 14°.99S×172°.50W, h0km, mb3.6/6, mb1 4.0/6, mb1mx3.8/20, mbtmp3.6/6, Error ellipse: s-maj=115.2km s-min=22.8km az=151.0, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	1.28	33	Pn	Pg	13 28 47.6	-5.4
	62nm,0.3s,baz=296,slow=4.6,SNR=11						
AFI				Sn	Sg	13 29 00.3	-9.4
	237nm,0.3s,baz=258,slow=19,SNR=14						
WRA	Warramunga Arr	50.78	256	P	P	13 37 29.7	-1.1
	0.3nm,0.9s,baz=90,slow=6.4,SNR=2.8						
ASAR	Alice Springs	51.06	252	P	P	13 37 33.6	+0.7
	0.9nm,0.7s,baz=84,slow=7.9,SNR=8.2						
NVAR	Mina Array Bea	73.44	42	P	P	13 40 03.8	+0.8
	0.7nm,0.7s,baz=232,slow=11,SNR=1.5						
TXAR	Lajitas Array	79.66	56	P	P	13 40 37.7	-0.5
	0.5nm,0.8s,baz=202,slow=3.9,SNR=3.8						
PDAR	Pinedale Array	81.38	42	P	P	13 40 47.1	-0.2
	0.5nm,0.7s,baz=200,slow=3.9,SNR=4.0						
ILAR	Eielson Array	81.88	11	P	P	13 40 48.5	-0.7
	0.2nm,0.6s,baz=203,slow=5.7,SNR=4.2						
GERES	GERESS Array B	145.85	353	PKPbc	PKPdf	13 48 09.1	-0.1
	0.4nm,0.4s,baz=10,slow=2.2,SNR=4.2						
BRTR	Keskin Array B	146.38	322	PKPbc	PKPbc	13 48 11.7	-0.1
	0.9nm,0.6s,baz=44,slow=2.0,SNR=4.4						

*IDC **30** 13:31:06.8±0.6, 15°.25S×173°.37W, h0km, mb4.4/12, mb1 4.6/12, mb1mx4.4/22, mbtmp4.4/12, Error ellipse: s-maj=29.5km s-min=15.9km az=128.0*

*BJI **30** 13:31:07.9, 15°.44S×173°.67W, h10km, mB5.3/3, mb4.9/13, Ms5.1/4, Ms7 5.1/4*

*NEIC **30** 13:31:08.6±0.2, 15°.10S×173°.49W, h10km, mb4.6/17, Error ellipse: s-maj=14.3km s-min=6.1km az=135.0*

*ISCJB **30** 13:31:11.7±0.3, 15°.31S±0°.09×173°.41W±0°.07, h42km, mb4.5/33, MS5.0/1, Error ellipse: s-maj=15.0km s-min=6.5km az=148.5*

ISC 30 13:31:13.5±0.5, 15°.3S±0°.1×173°.4W±0°.1, h42km, n219, σ0°81/218, mb4.5/33, 77C-75D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.08	47	eP	Pn	13 31 36.8	-9.3
AFI				Sn	Sn	13 31 56.4	-14
AFI	Afiamalu	2.08	47	Pn	Pn	13 31 36.8	-9.3
	189nm,0.3s,baz=326,slow=1.8,SNR=12						
AFI				Sn	Sn	13 31 56.4	-14
	618nm,0.3s,baz=249,slow=24,SNR=14						
MSVF	Nonsavu	8.58	253	eP	Pn	13 33 23.6	+8.3
RAR	Rarotonga	14.16	116	Pn	Pn	13 34 21.6	-10
RAR	Rarotonga	14.16	116	Pn	Pn	13 34 21.5	-10
	3.7nm,0.3s,baz=270,slow=8.8,SNR=5.8						
DZM	Mont Dzumac	20.26	248	P	Pn	13 35 48.2	+0.2
DZM	Mont Dzumac	20.26	248	P	Pn	13 35 48.2	+0.2
	4.0nm,0.6s,baz=68,slow=19,SNR=5.1						
URZ	Urewera	24.34	198	eP	P	13 36 29.6	+2.2
URZ	Urewera	24.34	198	P	P	13 36 26.8	-0.6
	7.4nm,0.6s,baz=20,slow=9.4,SNR=5.9						
EIDS	Eidsvold	34.71	248	P	P	13 37 58.7	-1.0
STKA	Stephens Creek	44.11	240	eP	P	13 39 17.0	-1.0
	1.7nm,1.0s						
STKA	Stephens Creek	44.11	240	P	P	13 39 16.4	-1.5
	4.3nm,0.7s,baz=104,slow=9.9,SNR=11						
WRAB	Tennant Creek	49.89	257	eP	P	13 40 01.8	-1.5
	19nm,1.3s						
WRA	Warramunga Arr	49.90	257	P	P	13 40 01.8	-1.6
WRA	Warramunga Arr	49.90	257	P	P	13 40 01.8	-1.6
	3.2nm,0.7s,baz=90,slow=6.9,SNR=42						
AS31	Alice Springs	50.17	252	eP	P	13 40 04.2	-1.2
ASAR	Alice Springs	50.17	252	P	P	13 40 04.0	-1.5
ASAR	Alice Springs	50.17	252	P	P	13 40 04.0	-1.5
	8.8nm,0.7s,baz=89,slow=8.2,SNR=67						
SBA	Scott Base	63.32	185	eP	P	13 41 39.1	+1.4
	12nm,1.4s						
VNDA	Vanda	63.45	186	eP	P	13 41 39.3	+0.7
	4.8nm,1.1s						
VNDA	Vanda	63.45	186	P	P	13 41 39.6	+1.0
	1.4nm,0.7s,baz=14,slow=7.7,SNR=9.5						
MPMC	Manual Prospec	73.46	44	⇑P	P	13 42 42.1	+0.1
	baz=74						
NVAR	Mina Array Bea	74.25	42	P	P	13 42 45.9	-0.7
NVAR	Mina Array Bea	74.25	42	P	P	13 42 45.9	-0.7
	0.7nm,0.5s,baz=223,slow=9.2,SNR=5.1						
214A	Organ Pipe Nat	74.64	50	⇓P	P	13 42 48.3	-0.5
	baz=75						
KDAK	Kodiak Island	74.85	11	P	P	13 42 48.2	-1.1
KDAK	Kodiak Island	74.85	11	P	P	13 42 48.2	-1.1
	7.7nm,0.8s,baz=237,slow=17,SNR=2.8						
R11A	Troy Canyon, C	75.98	43	⇑P	P	13 42 56.6	0.0
	baz=76						
X16A	Lo Mia Camp, P	76.84	49	⇑P	P	13 43 01.6	+0.1
	baz=77						
U15A	North Rim	77.22	46	⇓P	P	13 43 03.8	0.0
	baz=77						
USRK	Ussuriysk Arra	77.36	323	P	P	13 43 04.4	+0.5
	1.2nm,0.8s,baz=93,slow=5.9,SNR=7.8						
220A	Playas Peak, P	77.83	52	⇑P	P	13 43 07.3	+0.2
	baz=78						
Z20A	Nine Sixteen R	78.32	51	⇓P	P	13 43 09.5	-0.3
	baz=78						
MFID	Camas Ranch	78.61	39	⇓P	P	13 43 11.1	0.0
	baz=79						
121A	Cookes Peak, D	78.67	52	⇓P	P	13 43 11.4	-0.3
	baz=79						
Y20A	Horse Springs,	78.84	50	⇑P	P	13 43 12.5	-0.2
	baz=79						
X20A	Quemado	79.04	50	⇑P	P	13 43 13.7	-0.1
	baz=79						
Z21A	St. Cloud Mine	79.10	51	⇑P	P	13 43 14.2	0.0
	baz=79						
W20A	Ramah	79.31	49	⇑P	P	13 43 15.4	+0.1
	baz=79						
Y21A	Point of Rocks	79.41	50	⇓P	P	13 43 15.6	-0.2
	baz=80						
X21A	Alamocita Cree	79.52	50	⇓P	P	13 43 15.8	-0.6
	baz=80						
HLID	Hailey	79.55	39	eP	P	13 43 15.8	-0.5
	5.3nm,1.0s						
HLID	Hailey	79.55	39	⇓P	P	13 43 16.1	-0.2
	baz=80						
Z22A	Elephant Butte	79.61	51	⇑P	P	13 43 16.4	-0.4
	baz=80						
V20A	Brimhall	79.64	48	⇓P	P	13 43 16.7	-0.3
	baz=80						
324A	Moseley Ranch,	79.97	54	⇓P	P	13 43 18.5	-0.3
	baz=80						
224A	Cornudas Mount	80.20	53	⇓P	P	13 43 19.8	-0.3
	baz=80						
626A	Big Bend Ranch	80.25	56	⇓P	P	13 43 20.1	-0.2
	baz=80						
MVCO	Mesa Verde	80.27	47	⇓P	P	13 43 20.1	-0.3
	baz=80						
526A	Mary Lane Ranc	80.49	55	⇑P	P	13 43 21.4	-0.3
	baz=81						
U21A	Nageezi	80.51	48	⇑P	P	13 43 21.4	-0.3
	baz=81						
124A	Stringfield Ra	80.52	52	⇓P	P	13 43 21.5	-0.4
	baz=81						
TXAR	Lajitas Array	80.54	56	P	P	13 43 21.2	-0.6
TXAR	Lajitas Array	80.54	56	P	P	13 43 21.2	-0.6
	3.5nm,1.1s,baz=214,slow=4.2,SNR=14						
Y23A	Lovelace Mesa,	80.58	51	⇓P	P	13 43 22.1	-0.1
	baz=81						
NEW	Newport	80.63	34	⇓P	P	13 43 21.3	-0.6
	baz=81						
S20A	Disappointment	80.65	47	⇓P	P	13 43 22.2	-0.2
	baz=81						
426A	McDonald Obser	80.78	55	⇓P	P	13 43 22.5	-0.8
	baz=81,SNR=6.7						
627A	Terlingua Ranc	80.81	56	⇑P	P	13 43 22.9	-0.4
	baz=81,SNR=6.5						
Z24A	Sheeppen Canyo	80.85	52	⇑P	P	13 43 23.2	-0.3
	baz=81						
527A	Woodward Ranch	80.91	55	⇑P	P	13 43 23.0	-0.8
	baz=81,SNR=5.7						
S21A	Coal Bank Pass	80.97	47	⇑P	P	13 43 24.0	-0.3
	baz=81						
W23A	Werner Place,	81.05	50	⇓P	P	13 43 23.9	-0.7
	baz=81						
Y24A	Capitan	81.05	51	⇓P	P	13 43 23.7	-0.9
	baz=81,SNR=6.2						
MCK	McKinley	81.05	11	eP	P	13 43 22.2	-1.5
	12nm,1.0s						
CN2	Changchun	81.06	320	eP	P	13 43 24.8	+0.6
125A	Gardner Draw,	81.11	53	⇑P	P	13 43 24.7	-0.1
	baz=81						
GDL2	Guadalupe Moun	81.15	53	P	P	13 43 24.5	-0.6
	5.9nm,1.1s						
MCMT	McKenzie Canyo	81.18	39	eP	P	13 43 24.5	-0.6
	3.7nm,1.2s						
Q20A	Ridgley Place,	81.22	46	⇓P	P	13 43 25.1	-0.3
	baz=81						
628A	Black Gap, Mar	81.22	56	⇓P	P	13 43 25.3	-0.2
	baz=81						
226B	Tecolote Peak,	81.25	53	⇑P	P	13 43 24.9	-0.7
	baz=81,SNR=5.9						
Z25A	Roswell	81.32	52	⇓P	P	13 43 26.2	+0.2
	baz=81						
427A	Hayter Ranch,	81.35	55	⇑P	P	13 43 26.2	0.0
	baz=81						
RRI2	Red Ridge	81.35	41	eP	P	13 43 25.0	-1.1
	12nm,1.3s						
528A	Cox Ranch, San	81.57	56	⇓P	P	13 43 26.9	-0.4
	baz=82						
MSO	Missoula	81.60	37	⇑P	P	13 43 26.6	-0.6
	baz=82						
Y25A	Mesa, Roswell	81.61	52	⇑P	P	13 43 26.9	-0.6
	baz=82						
DLMT	Dillon	81.61	38	eP	P	13 43 26.7	-0.6
	9.8nm,1.4s						
W24A	Lazy 6 Ranch,	81.62	50	⇑P	P	13 43 27.1	-0.5
	baz=82						
TPAW	Teton Pass	81.66	41	eP	P	13 43 27.2	-0.5
	7.2nm,1.1s						
BSMT	Bassoo Peak	81.68	36	eP	P	13 43 26.4	-1.3
	9.7nm,1.2s						
S22A	4UR Ranch, Cre	81.69	47	⇑P	P	13 43 28.0	-0.1
	baz=82						
Z26A	Caprock	81.88	52	⇑P	P	13 43 28.6	-0.4
	baz=82						
MOOW	Moose Ponds	81.92	41	P	P	13 43 27.4	-1.7
	3.8nm,1.3s						
V24A	Rampart Ranch,	81.94	50	⇓P	P	13 43 28.6	-0.8
	baz=82						
529A	Stev Forest Ra	82.00	56	⇑P	P	13 43 28.9	-0.7
	baz=82						
328A	Wristen Ranch,	82.03	55	⇓P	P	13 43 28.9	-0.8
	baz=82						
QLMT	Earthquake Lak	82.04	39	eP	P	13 43 30.3	+0.6
	0.2nm,0.5s						
CHMT	Chamberlain Mo	82.05	37	eP	P	13 43 28.3	-1.3
	5.6nm,1.3s						
Q22A	Crested Butte,	82.14	46	⇓P	P	13 43 30.5	+0.1
	baz=82						
PDAR	Pinedale Array	82.19	42	P	P	13 43 28.8	-1.7
PDAR	Pinedale Array	82.19	42	P	P	13 43 28.8	-1.7
	4.7nm,1.2s,baz=208,slow=2.9,SNR=11	

baz=84
S25A Robets Cordova 83.36 48 ⇓P P 13 43 35.1 -1.6
baz=84,SNR=5.5
Q24A Divide 83.41 47 ⇓P P 13 43 36.7 -0.3
baz=84
J20A Shoshoni 83.42 42 ⇑P P 13 43 36.5 -0.2
baz=84
O23A Lake Granby, G 83.42 45 ⇓P P 13 43 36.6 -0.4
baz=84
ISCO Idaho Springs 83.45 46 ⇑P P 13 43 37.0 -0.2
baz=84
H19A Powell 83.47 40 ⇑P P 13 43 36.9 -0.1
baz=84
M22A Cedar Creek Ra 83.50 44 ⇑P P 13 43 37.2 -0.1
baz=84
GCMT Greycliff 83.60 39 *e*P **P 13 43 36.8 -0.8**
9.4nm,1.3s
K21A Alcova 83.62 43 ⇓P P 13 43 37.5 -0.4
baz=84
I20A Worland 83.67 41 ⇑P P 13 43 37.1 -0.9
baz=84,SNR=9.8
R25A Fountain Ranch 83.68 48 ⇑P P 13 43 37.7 -0.5
baz=84
N23A Red Feather La 83.71 45 ⇑P P 13 43 38.2 -0.3
baz=84
632A Uvalde 83.73 57 ⇑P P 13 43 38.3 -0.2
baz=84
T26A Comanche Natio 83.77 49 ⇓P P 13 43 37.9 -0.8
baz=84
J21A Lysite 83.82 42 ⇑P P 13 43 38.2 -0.7
baz=84,SNR=12
532A Rocksprings 83.86 57 ⇓P P 13 43 38.9 -0.4
baz=84
L22A Ellis Ranch, M 83.89 44 ⇓P P 13 43 38.8 -0.4
baz=84
U27A Thompson Grove 84.03 50 ⇓P P 13 43 39.2 -0.8
baz=84
S26A Kim 84.04 49 ⇓P P 13 43 39.4 -0.6
baz=84
F19A Roth Farm, Mol 84.07 39 ⇓P P 13 43 39.5 -0.5
baz=84
JCT Junction City 84.08 56 ⇓P P 13 43 39.9 -0.3
baz=84
Z30A Sanderson Ranc 84.08 53 ⇑P P 13 43 39.8 -0.5
baz=84
X29A Tulia 84.09 52 ⇑P P 13 43 39.9 -0.4
baz=84
K22A Casper 84.11 43 ⇑P P 13 43 39.8 -0.5
baz=84
I21A Big Trails, Te 84.14 42 ⇓P P 13 43 39.4 -1.1
baz=84,SNR=10
P25A Willow Gulch B 84.34 47 ⇓P P 13 43 41.1 -0.4
baz=84
R26A Arlington 84.34 48 ⇓P P 13 43 40.0 -1.5
baz=84,SNR=6.7
W29A Amraillo 84.39 51 ⇑P P 13 43 41.2 -0.6
baz=84
N24A Carr 84.40 45 ⇓P P 13 43 42.0 +0.1
baz=84
L23A Garrett 84.41 44 ⇓P P 13 43 41.5 -0.5
baz=84
131A Roby 84.42 54 ⇑P P 13 43 41.7 -0.3
baz=84
332A Millersview 84.45 56 ⇓P P 13 43 42.9 +0.8
baz=84
J22A Midwest 84.48 42 ⇑P P 13 43 41.3 -0.8
baz=85
Y30A Stafford Cattl 84.48 53 ⇑P P 13 43 42.2 -0.1
baz=85
H21A Big Horn, Sher 84.67 41 ⇑P P 13 43 43.0 -0.1
baz=85
I22A 9 Mile Ranch, 84.69 42 ⇑P P 13 43 42.6 -0.6
baz=85,SNR=5.2
232A Coleman 84.72 55 ⇑P P 13 43 43.3 -0.2
baz=85
X30A Coker Ranch, T 84.72 52 ⇑P P 13 43 43.1 -0.3
baz=85
M24A Cheyenne 84.72 45 ⇓P P 13 43 43.2 -0.3
baz=85
D19A Cripps Ranch, 84.75 38 ⇑P P 13 43 43.2 -0.1
baz=85
T28A Walsh 84.83 49 ⇓P P 13 43 43.5 -0.5
baz=85
Z31A Sharp Cattle R 84.85 54 ⇓P P 13 43 43.8 -0.3
baz=85
E20A Meyer Farm, Mu 84.88 39 ⇑P P 13 43 43.8 -0.2
baz=85
C19A Slack Wire Ran 84.92 38 ⇑P P 13 43 44.1 -0.1
baz=85,SNR=8.1
ABTX Abilene, Hawle 84.99 54 ⇓P P 13 43 44.5 -0.3
baz=85
Y31A Rekieta Farm, 85.00 53 ⇓P P 13 43 44.4 -0.4
baz=85
H22A Clearmont 85.10 41 ⇓P P 13 43 44.9 -0.3
baz=85
D20A Manuel Ranch, 85.16 39 ⇓P P 13 43 45.4 0.0
baz=85
F21A Absaloka Mine, 85.18 40 ⇓P P 13 43 45.5 0.0
baz=85
B19A Brinkman Farms 85.33 37 ⇑P P 13 43 45.8 -0.4
baz=85,SNR=5.4
Z32A Haskell 85.37 54 ⇓P P 13 43 46.3 -0.4
baz=86
BJI Beijing 85.46 313 P **P 13 43 46.0 -0.9**
BJI pmax pmax
comp=Z,7.0nm,0.7s
Y32A R-V Farms, Ver 85.65 53 ⇓P P 13 43 47.9 -0.2
baz=86
A19A Klindworth Far 85.68 37 ⇑P P 13 43 47.9 -0.1
baz=86
H23A Clabaugh Cattl 85.69 42 ⇓P P 13 43 48.2 +0.1
baz=86
F22A Rosebud 85.69 40 ⇓P P 13 43 48.2 +0.1
baz=86
W31A Holland Ranch, 85.70 52 ⇑P P 13 43 48.0 -0.3
baz=86
G23A Biddle 85.98 41 ⇑P P 13 43 49.6 +0.1
baz=86
C21A Desert Coulee 86.12 38 ⇓P P 13 43 50.2 +0.1
baz=86
H24A Dirks Ranch, A 86.32 42 ⇓P P 13 43 51.2 0.0
baz=86
K26A Motz Farm, Whi 86.35 44 ⇓P P 13 43 51.6 +0.2
baz=86
D22A Cohagen 86.36 39 ⇓P P 13 43 51.6 +0.3
baz=86
B21A Ellsworth Farm 86.45 38 ⇑P P 13 43 51.9 +0.2
baz=86
A21A Bergtoll Ranch 86.77 37 ⇑P P 13 43 53.3 +0.1
baz=87
B23A Brockton 87.67 38 ⇑P P 13 43 57.5 -0.1
baz=88
MAW Mawson 87.87 199 P **P 13 43 58.0 -0.2**
MAW Mawson 87.87 199 P **P 13 43 58.0 -0.2**
comp=Z,1.5nm,0.6s,baz=158,slow=9.2,SNR=4.6
GYA Guiyang 88.05 298 *e*P **P 13 44 01.0 +0.9**
GYA pmax pmax
comp=Z,10.0nm,1.0s
DGMT Dagmar 88.15 38 ⇓P P 13 44 00.4 +0.5
baz=88
HHC Hu-ho-hao-te 89.02 313 *e*P **P 13 44 04.0 -0.3**
HHC sP sP 13 44 10.0 -12
HHC PP **PP 13 47 36.0 +1.3**
HHC SKS **SKSac 13 54 31.0 +0.2**
HHC S **S 13 54 50.0 +0.3**
HHC SS **SS 14 00 44.3 +0.4**
HHC pmax pmax
comp=Z,27nm,0.6s
HHC LR LR
comp=N,290nm,17.8s
HHC LR LR
comp=E,120nm,16.7s
HHC LR LR
comp=Z,1μm,19.0s
KMI Kunming 91.04 296 P **P 13 44 15.5 +1.3**
KMI pmax pmax
comp=Z,3.0nm,1.2s
LZH Lanzhou 93.22 306 *e*P **P 13 44 23.3 -0.7**
LZH pP **PcP 13 44 28.0 +3.4**
LZH sP sP 13 44 31.0 -11
LZH pmax pmax
comp=Z,17nm,1.0s
KSH Kashi 115.47 307 *e*PKP **PKPdf 13 49 53.0 +1.7**
KSH PP PP 13 51 00.3 +6.8
KSH PKS **PKSdf 13 53 28.5 +0.4**
KSH SKS **SKSdf 13 57 04.3 +4.0**
KSH SKKS **SKKSac 13 57 53.3 +1.8**

KSH SS SS 14 06 57.0 +7.1
KSH AMB AMB
comp=Z,350nm,7.0s
KSH LR LR
comp=N,63nm,4.6s
KSH LR LR
comp=E,48nm,4.5s
KSH LR LR
comp=Z,100nm,5.8s
DPC Dobruska-Polom 144.20 349 *e*pPKP pPKPdf 13 50 51.9 -6.2
CRVS Cervenica-Dubn 144.39 343 *e*PKP **PKPdf 13 50 43.8 -1.4**
CRVS *e* 13 50 59.9
KECS Kecovo 145.03 344 *e*PKP **PKPdf 13 50 46.5 +0.2**
KECS *e* 13 51 00.4
KMBO Kilima Mbogo 145.60 244 PKPbc **PKPab 13 50 48.9 -0.3**
KMBO Kilima Mbogo 145.60 244 PKPbc **PKPab 13 50 48.9 -0.3**
comp=Z,1.8nm,0.8s,baz=107,slow=6.3,SNR=5.4
TLB Topalu 145.67 332 ⇑*i*P **PKPab 13 50 47.7 -0.5**
KHC Kasperske Hory 145.82 352 *e*PKP **PKPab 13 50 48.3 -0.4**
KHC *ex* x 13 50 57.5
KHC Kasperske Hory 145.82 352 *e*PKP **PKPab 13 50 48.3 -0.4**
MLR Muntele Rosu 145.83 336 ⇓*i*P **PKPab 13 50 49.5 +0.6**
DRGR 145.89 340 ⇓*i*P **PKPab 13 50 49.2 +0.1**
GERES GERESS Array B 146.08 352 PKPbc **PKPab 13 50 48.5 -1.2**
GERES GERESS Array B 146.08 352 PKPbc **PKPab 13 50 48.5 -1.2**
comp=Z,0.4nm,0.4s,baz=27,slow=3.3,SNR=11
BR131 Keskin Array S 146.13 321 *e*PKPbc **PKPab 13 50 50.2 -0.1**
BRTR Keskin Array B 146.13 321 PKPbc **PKPab 13 50 50.0 -0.3**
BRTR Keskin Array B 146.13 321 PKPbc **PKPab 13 50 50.0 -0.3**
comp=Z,5.9nm,1.1s,baz=96,slow=2.5,SNR=15
VOIR 146.22 336 ⇑*i*P **PKPab 13 50 50.9 +0.5**
SULR 146.36 334 ⇑*i*P PKPdf 13 50 40.5 -8.2
ARR Arges 146.44 337 ⇑*i*P **PKPab 13 50 52.1 +0.9**
GZR Gura Zlata 147.09 339 ⇑*i*P **PKPab 13 50 52.6 -1.1**

DJA 30 13:33:37.1±1.3, 1°S±9°×10°0E±°, h15km±12km, M3.6/4, MLv3.6/4, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**0.79**	**97**	P	Pg	13 33 51.4	-1.1
PDSI				S	Sb	13 34 03.1	0.0
PPI	**Padang Panjang**	**0.80**	**63**	P	Pg	13 33 51.8	-0.9
PPI				S	Sb	13 34 03.4	0.0
RGRI	**Rengat**	**2.69**	**80**	P	Pn	13 34 19.8	-0.1
GSI	**Gunungsitoli**	**2.98**	**315**	P	Pn	13 34 23.9	0.0

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*IDC **30** 13:34:33.8±5.0, 1°36S×100°19E, h0km, mb3.7/3, mb1 3.7/3, mb1mx3.4/22, mbtmp3.7/3, Error ellipse: s-maj=162.4km s-min=97.4km az=67.0*
*DJA **30** 13:34:45.4±2.0, 1°S±5°×9°9E±°, h31km±20km, M4.1/4, MLv4.1/4*
ISC 30 13:34:37.8±1.0, 1°63S±0°06×99°41E±0°09, h30km, n12, σ1°11/13, mb3.8/3, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.27**	**56**	P	Pb	13 35 04.8	+3.6
PDSI				S	**Sb**	**13 35 16.6**	**-0.5**
PPI	**Padang Panjang**	**1.53**	**40**	P	**Pb**	**13 35 05.5**	**0.0**
BKNI	**Bangkinang**	**2.54**	**40**	P	**Pb**	**13 35 22.2**	**-0.5**
RGRI	**Rengat**	**3.19**	**67**	P	**Pb**	**13 35 34.9**	**+1.1**
GSI	**Gunungsitoli**	**3.44**	**328**	P	Pb	13 35 35.2	-3.0
GSI				S	**Sn**	**13 36 09.5**	**+0.2**
MNAI	**Manna**	**4.46**	**128**	P	**Pb**	**13 35 54.6**	**-0.9**
MNAI				S	**Sb**	**13 36 49.2**	**+0.4**
EGSI	**Enggano, Bengk**	**4.67**	**142**	S	**Sb**	**13 36 56.3**	**+1.3**
KCSI	**Kotacane, Aceh**	**5.37**	**342**	P	**Pn**	**13 35 57.7**	**+1.7**
SONM	**Songino Array**	**49.64**	**6**	P	**P**	**13 43 24.6**	**-2.1**
0.2nm,0.4s,baz=188,slow=8.7,SNR=2.5							
MKAR	**Makanchi Array**	**50.52**	**345**	P	**P**	**13 43 33.6**	**+0.3**
0.3nm,0.3s,baz=162,slow=8.7,SNR=9.9							
ZALV	**Zalesovo Beam**	**56.70**	**350**	P	**P**	**13 44 17.8**	**-0.6**
0.5nm,0.3s,baz=177,slow=5.5,SNR=4.5							
TXAR	**Lajitas Array**	**144.76**	**36**	PKP	**PKPab**	**13 54 11.9**	**+0.4**
0.2nm,0.4s,baz=135,slow=0.5,SNR=3.0							

IDC 30 13:37:07.5±1.0, 16°35S×173°27W, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.9/21, mbtmp3.9/7, Error ellipse: s-maj=51.3km s-min=19.9km az=137.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.82**	**31**	Pn	Pn	13 37 48.8	-5.2
18nm,0.3s,baz=285,slow=12,SNR=3.4							
AFI				Sn	Sn	13 38 19.0	-10
72nm,0.3s,baz=220,slow=17,SNR=4.4							
URZ	**Urewera**	**23.41**	**199**	P	P	13 42 18.4	+0.2
10nm,0.5s,baz=338,slow=2.4,SNR=7.3							
STKA	**Stephens Creek**	**43.68**	**241**	P	P	13 45 14.2	-0.2
3.1nm,0.9s,baz=97,slow=9.3,SNR=4.0							
WRA	**Warramunga Arr**	**49.76**	**258**	P	P	13 46 01.9	-0.4
0.2nm,0.5s,baz=97,slow=6.6,SNR=8.9							
ASAR	**Alice Springs**	**49.94**	**253**	P	P	13 46 03.0	-0.6
1.6nm,0.5s,baz=88,slow=8.5,SNR=18							
NVAR	**Mina Array Bea**	**74.95**	**42**	P	P	13 48 50.9	-0.1
0.1nm,0.3s,baz=225,slow=10,SNR=2.1							
PDAR	**Pinedale Array**	**82.89**	**42**	P	P	13 49 34.0	-0.5
0.3nm,0.6s,baz=263,slow=5.3,SNR=2.9							
ILAR	**Eielson Array**	**83.35**	**11**	P	P	13 49 35.8	-0.3
0.4nm,0.6s,baz=206,slow=5.3,SNR=7.1							
BRTR	**Keskin Array B**	**146.97**	**320**	PKPbc	PKPab	13 56 53.6	-0.4
0.3nm,0.4s,baz=73,slow=2.1,SNR=2.3							

IDC 30 13:41:11.3±4.0, 0°90S×99°97E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.4/22, mbtmp3.6/4, Error ellipse: s-maj=162.4km s-min=27.0km az=55.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.59**	**122**	P	P	13 48 36.2	-0.1
0.4nm,0.9s,baz=298,slow=8.4,SNR=3.1							
SONM	**Songino Array**	**48.85**	**6**	P	P	13 49 58.7	-0.1
0.2nm,0.4s,baz=170,slow=8.8,SNR=3.1							
MKAR	**Makanchi Array**	**49.96**	**344**	P	P	13 50 07.3	+0.1
0.4nm,0.4s,baz=158,slow=8.8,SNR=11							
ZALV	**Zalesovo Beam**	**56.08**	**349**	P	P	13 50 51.7	-0.4
0.4nm,0.2s,baz=151,slow=6.5,SNR=2.9							

IDC 30 13:41:28.6±3.6, 16°43S×172°81W, h0km, mb3.5/4, mb1 3.9/4, mb1mx3.6/20, mbtmp3.5/4, Error ellipse: s-maj=197.7km s-min=30.5km az=146.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**50.17**	**258**	P	P	13 50 26.0	-0.4
0.2nm,0.7s,baz=95,slow=7.4,SNR=3.4							
ASAR	**Alice Springs**	**50.34**	**253**	P	P	13 50 28.1	+0.4
1.4nm,0.8s,baz=88,slow=8.1,SNR=6.6							
NVAR	**Mina Array Bea**	**74.72**	**42**	P	P	13 53 10.7	0.0
0.4nm,0.7s,baz=229,slow=11,SNR=3.3							
ILAR	**Eielson Array**	**83.34**	**11**	P	P	13 53 57.8	+0.7
0.3nm,0.7s,baz=219,slow=6.8,SNR=3.1							
BRTR	**Keskin Array B**	**147.31**	**321**	PKPbc	PKPdf	14 01 13.0	+0.7
0.8nm,0.8s,baz=132,slow=2.1,SNR=2.2							

IDC 30 13:47:23.8±1.9, 9°84S×118°01E, h0km, mb3.1/2, mb1 3.4/5, mb1mx3.3/21, mbtmp3.3/5, ML3.3/3, Error ellipse: s-maj=80.1km s-min=23.3km az=45.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.58**	**94**	Pn	Pn	13 48 48.4	+0.2
4.6nm,0.3s,baz=315,slow=1.4,SNR=7.0							
BATI				Sn	Sn	13 49 46.4	-6.8
3.7nm,0.3s,baz=12,slow=19,SNR=5.8							
FITZ	**Fitzroy Crossi**	**11.05**	**139**	Pn	Pn	13 50 03.0	-0.3
0.1nm,0.3s,baz=331,slow=13,SNR=6.4							
FITZ				Sn	Sn	13 51 58.0	-10
0.1nm,0.3s,baz=0.0,slow=20,SNR=3.7							
WRA	**Warramunga Arr**	**18.69**	**124**	P	P	13 51 43.3	-0.6
0.1nm,0.3s,baz=296,slow=13,SNR=4.4							
WRA				S	Sn	13 54 56.1	-18
0.0nm,0.3s,baz=304,slow=21,SNR=3.5							
ASAR	**Alice Springs**	**20.48**	**134**	P	P	13 52 04.0	+0.5
0.2nm,0.6s,baz=313,slow=11,SNR=3.2							

MKAR Makanchi Array 64.77 334 P P 13 58 04.1 -0.1
0.3nm,0.7s,baz=151,slow=6.3,SNR=3.5

IDC 30 13:48:11.4±6.6, 6°03S×151°30E, h75km±53km, mb3.1/3, mb1 3.4/4, mb1mx3.1/17, mbtmp3.2/4, ML2.2/1, Error ellipse: s-maj=120.4km s-min=36.0km az=128.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.30**	**230**	P	Pn	13 49 30.3	+2.1
0.5nm,0.3s,baz=145,slow=12,SNR=2.4							
PMG				S	Sn	13 50 27.3	-0.7
0.9nm,0.3s,baz=164,slow=19,SNR=3.7							
WRA	**Warramunga Arr**	**21.52**	**228**	P	P	13 52 54.5	0.0
1.1nm,0.9s,baz=54,slow=10,SNR=7.2							
ASAR	**Alice Springs**	**24.25**	**222**	P	P	13 53 21.6	0.0
0.3nm,0.5s,baz=55,slow=9.3,SNR=7.3							
ILAR	**Eielson Array**	**83.85**	**22**	P	P	14 00 31.6	-1.0
0.3nm,0.6s,baz=251,slow=5.5,SNR=4.4							
TORD	**Torodi Ar. Bea**	**149.23**	**286**	PKPbc	PKPbc	14 07 53.2	+0.7
0.3nm,0.7s,baz=98,slow=2.9,SNR=2.4							

IDC 30 13:48:23.6±1.8, 15°11S×174°44W, h0km, mb3.8/6, mb1 4.2/6, mb1mx3.9/18, mbtmp3.8/6, Error ellipse: s-maj=110.0km s-min=22.6km az=151.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.84**	**66**	Pn	Pn	13 49 00.6	-10
17nm,0.3s,baz=246,slow=12,SNR=6.0							
AFI				Sn	Sn	13 49 27.8	-18
20nm,0.3s,baz=256,slow=24,SNR=6.1							
WRA	**Warramunga Arr**	**48.93**	**257**	P	P	13 57 11.7	-0.4
0.7nm,1.0s,baz=90,slow=8.3,SNR=3.2							
ASAR	**Alice Springs**	**49.25**	**252**	P	P	13 57 14.3	-0.1
2.0nm,0.7s,baz=86,slow=8.0,SNR=22							
NVAR	**Mina Array Bea**	**74.79**	**43**	P	P	14 00 06.5	+0.3
0.3nm,0.3s,baz=227,slow=8.9,SNR=3.7							
TXAR	**Lajitas Array**	**81.29**	**57**	P	P	14 00 41.3	-1.0
0.4nm,0.9s,baz=197,slow=2.8,SNR=3.6							
ILAR	**Eielson Array**	**82.36**	**12**	P	P	14 00 45.9	-1.1
2.3nm,1.2s,baz=215,slow=7.5,SNR=5.7							
PDAR	**Pinedale Array**	**82.72**	**42**	P	P	14 00 51.0	+1.3
0.4nm,0.6s,baz=213,slow=6.5,SNR=3.3							
BRTR	**Keskin Array B**	**145.29**	**320**	PKPbc	PKPbc	14 08 02.9	-0.8
2.1nm,0.8s,baz=27,slow=4.1,SNR=4.8							
GERES	**GERESS Array B**	**145.70**	**350**	PKPbc	PKPbc	14 08 04.6	0.0
0.5nm,0.2s,baz=33,slow=2.3,SNR=2.6							

IDC 30 13:51:60.0±4.0, 14°29S×172°98W, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.6/20, mbtmp3.6/4, Error ellipse: s-maj=278.1km s-min=28.2km az=150.0, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.23**	**72**	Pn	Pg	13 52 17.4	-6.2
75nm,0.3s,baz=236,slow=15,SNR=7.4							
AFI				Sn	Sg	13 52 29.6	-10
125nm,0.3s,baz=237,slow=17,SNR=12							
WRA	**Warramunga Arr**	**50.50**	**256**	P	P	14 01 00.0	-0.3
0.3nm,0.7s,baz=89,slow=6.6,SNR=6.8							
ASAR	**Alice Springs**	**50.85**	**251**	P	P	14 01 03.1	+0.1
1.1nm,0.8s,baz=86,slow=8.3,SNR=4.7							
NVAR	**Mina Array Bea**	**73.23**	**42**	P	P	14 03 33.6	+0.2
0.5nm,0.7s,baz=225,slow=10,SNR=3.3							
PDAR	**Pinedale Array**	**81.17**	**42**	P	P	14 04 17.8	-0.1
0.2nm,0.5s,baz=203,slow=6.7,SNR=2.7							
BRTR	**Keskin Array B**	**145.54**	**322**	PKPbc	PKPdf	14 11 39.8	-1.0
0.5nm,0.6s,baz=29,slow=3.3,SNR=2.7							

IDC 30 13:53:23.8±3.7, 15°34S×172°15W, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.7/20, mbtmp3.6/4, Error ellipse: s-maj=202.8km s-min=31.3km az=146.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.47**	**14**	Sn	Sg	13 53 57.9	-13
145nm,0.3s,baz=209,slow=19,SNR=5.5							
WRA	**Warramunga Arr**	**51.03**	**257**	P	P	14 02 29.2	+1.1
0.6nm,0.9s,baz=92,slow=7.4,SNR=3.0							
ASAR	**Alice Springs**	**51.27**	**252**	P	P	14 02 28.4	-1.5
1.1nm,0.9s,baz=85,slow=8.7,SNR=4.5							
PDAR	**Pinedale Array**	**81.42**	**41**	P	P	14 05 43.2	+0.2
0.3nm,0.5s,baz=201,slow=4.8,SNR=2.7							
ILAR	**Eielson Array**	**82.16**	**11**	P	P	14 05 45.9	-0.2
0.3nm,0.7s,baz=212,slow=5.0,SNR=3.1							

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*IDC **30** 13:57:09.7±0.4, 16°63S×172°62W, h0km, mb4.9/27, mb1 5.0/27, mb1mx5.0/29, mbtmp4.8/27, MS4.7/1, Ms1 4.7/1, ms1mx4.0/25, Error ellipse: s-maj=16.9km s-min=11.9km az=131.0*
*BJI **30** 13:57:09.5, 16°40S×172°39W, h4km, mB5.8/21, mb5.3/37, Ms5.5/17, Ms7 5.2/18*
*NEIC **30** 13:57:11.2±0.1, 16°66S×172°57W, h10km, mb5.3/82, Error ellipse: s-maj=7.0km s-min=4.1km az=145.0*
*DJA **30** 13:57:11.5±0.6, 17°S±13°×17°2W±1°6, h10km, M5.4/9, mB6.7/1, mb5.5/9, MLv5.3/1, Mw(mB)6.5/1*
*ISCJB **30** 13:57:12.4±0.2, 16°62S±0°06×172°52W±0°04, h24km, mb5.2/133, MS5.3/5, Error ellipse: s-maj=8.4km s-min=4.9km az=161.3*
*SZGRF **30** 13:57:13.2, 17°47S×171°90W, h33km, Tonga Islands region*
*BKK **30** 13:57:14.6±0.7, 17°S±10°×17°3W±1°8, h10km, M5.6/15, mb5.6/15*
*MOS **30** 13:57:15.5±1.0, 16°17S×172°47W, h33km, mb5.4/33, Error ellipse: s-maj=12.4km s-min=8.3km az=66.2*
ISC 30 13:57:13.3±0.3, 16°73S±0°07×172°54W±0°07, h24km, n705, σ0°82/724, mb5.2/132, MS5.2/5, 159C-147D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.90**	**15**	*e*Pn	Pn	13 57 51.1	-6.9
AFI				Sn	Sn	13 58 21.7	-11
AFI	**Afiamalu**	**2.90**	**15**	Pn	Pn	13 57 51.2	-6.9
92nm,0.3s,baz=213,slow=17,SNR=4.9							
AFI				Sn	Sn	13 58 21.7	-11
231nm,0.3s,baz=267,slow=17,SNR=6.1							
MSVF	**Nonsavu**	**9.04**	**262**	*e*P	Pn	13 59 27.4	+4.9
MSVF				pmax	pmax		
comp=Z,127nm,1.1s							
MSVF	**Nonsavu**	**9.04**	**262**	*e*P	Pn	13 59 27.4	+4.9
comp=Z,127nm,1.1s							
MSVF	**Nonsavu**	**9.04**	**262**	Pn	Pn	13 59 28.6	+6.1
comp=Z,499nm,1.2s,SNR=13							
RAR	**Rarotonga**	**12.87**	**112**	*e*P	Pn	14 00 08.1	-6.8
comp=Z,123nm,1.0s							
RAR				Sn	Sn	14 02 23.6	-14
RAR	**Rarotonga**	**12.87**	**112**	Pn	Pn	14 00 08.0	-6.8
comp=Z,3.1nm,0.3s,baz=270,slow=9.8,SNR=9.8							
RAR				Sn	Sn	14 02 23.6	-14
comp=Z,1.4nm,0.3s,baz=270,slow=19,SNR=2.4							
RAR				LR	LR	14 04 22.0	
comp=Z,3μm,19.1s,baz=270,slow=33							
DZM	**Mont Dzumac**	**20.51**	**252**	*e*P	**P**	**14 01 50.4**	**+0.4**
comp=Z,137nm,1.4s							
DZM				*e*LR	LR	14 06 36.7	
comp=Z,5μm,24.9s							
DZM	**Mont Dzumac**	**20.51**	**252**	P	**P**	**14 01 49.8**	**-0.2**
DZM	**Mont Dzumac**	**20.51**	**252**	P	**P**	**14 01 49.8**	**-0.2**
comp=Z,12nm,0.9s,baz=66,slow=16,SNR=5.6							
PPT2	**Papeete2**	**21.96**	**96**	*e*LR	LR	14 07 02.9	
comp=Z,4μm,27.8s							
TBI	**Tubual**	**22.64**	**111**	*e*LR	LR	14 07 32.2	
comp=Z,6μm,30.5s							
TARA	**Tarawa**	**22.99**	**320**	P	**P**	**14 02 16.5**	**0.0**
comp=Z,239nm,1.4s							
URZ	**Urewera**	**23.29**	**201**	*e*P	**P**	**14 02 20.3**	**+1.0**
URZ	**Urewera**	**23.29**	**201**	P	**P**	**14 02 19.6**	**+0.3**
comp=Z,21nm,0.5s,baz=32,slow=8.4,SNR=18							
RPZ	**Rata Peaks**	**30.28**	**204**	P	P	14 03 27.1	+4.5
RPZ	**Rata Peaks**	**30.28**	**204**	P	P	14 03 27.1	+4.5
comp=Z,9.5nm,0.4s,baz=69,slow=6.1,SNR=9.6							
CTA	**Charters Tower**	**39.17**	**259**	P	**P**	**14 04 38.2**	**-1.4**
CTA	**Charters Tower**	**39.17**	**259**	P	**P**	**14 04 38.2**	**-1.4**
comp=Z,9.2nm,1.1s,baz=81,slow=13,SNR=3.2							
KIP	**Kipapa**	**40.51**	**21**	*c*eP	**P**	**14 04 50.8**	**+0.3**

KIP pmax pmax
comp=Z,108nm,1.2s
STKA Stephens Creek 44.11 241 *eP* **P 14 05 18.2 -1.6**
comp=Z,32nm,1.8s
STKA Stephens Creek 44.11 241 P **P 14 05 19.1 -0.8**
comp=Z,8.5nm,0.9s,baz=79,slow=8.7,SNR=25
WRAB Tennant Creek 50.35 258 *eP* **P 14 06 06.2 -2.5**
WRAB pmax pmax
comp=Z,27nm,1.4s
WRAB Tennant Creek 50.35 258 *eP* **P 14 06 06.2 -2.5**
comp=Z,27nm,1.4s
WRA Warramunga Arr 50.36 258 P **P 14 06 06.6 -2.2**
WRA PcP **PcP 14 07 27.7 +0.4**
WRA Warramunga Arr 50.36 258 P **P 14 06 06.6 -2.2**
comp=Z,14nm,1.3s,baz=95,slow=7.3,SNR=35
WRA PcP **PcP 14 07 27.7 +0.4**
comp=Z,5.4nm,1.1s,baz=89,slow=4.2,SNR=4.7
AS31 Alice Springs 50.50 253 *eP* **P 14 06 07.1 -2.7**
ASAR Alice Springs 50.50 253 P **P 14 06 07.6 -2.3**
ASAR PcP **PcP 14 07 28.7 +0.9**
ASAR Alice Springs 50.50 253 P **P 14 06 07.6 -2.3**
comp=Z,18nm,0.9s,baz=88,slow=8.5,SNR=78
ASAR PcP **PcP 14 07 28.7 +0.9**
comp=Z,5.6nm,1.0s,baz=81,slow=5.7,SNR=2.9
FITZ Fitzroy Crossi 58.75 259 P **P 14 07 09.0 -0.8**
FITZ Fitzroy Crossi 58.75 259 P **P 14 07 09.0 -0.8**
comp=Z,2.9nm,1.1s,baz=82,slow=7.1,SNR=3.5
SBA Scott Base 62.00 185 *eP* **P 14 07 32.3 +1.3**
SBA pmax pmax
comp=Z,89nm,1.7s
SBA Scott Base 62.00 185 *eP* **P 14 07 32.3 +1.3**
comp=Z,89nm,1.7s
VNDA Vanda 62.14 186 *eP* **P 14 07 33.6 +1.7**
VNDA Vanda 62.14 186 P **P 14 07 33.3 +1.3**
comp=Z,10nm,0.9s,baz=8.3,slow=6.8,SNR=41
MAJO Matsushiro 70.48 320 *eP* **P 14 08 26.3 +0.3**
MAJO pmax pmax
comp=Z,41nm,1.6s
MAJO Matsushiro 70.48 320 *eP* **P 14 08 26.3 +0.3**
comp=Z,41nm,1.6s
MAT Matsushiro 70.48 320 P **P 14 08 25.9 -0.1**
PKM Peak Mountain 71.69 44 ⇓P **P 14 08 34.5 +0.9**
baz=72
ARVC Arvin 72.48 44 ⇑P **P 14 08 38.3 +0.2**
baz=73
MURC Murrieta 72.71 46 ⇓P **P 14 08 39.3 -0.3**
baz=73
VES Vestal, Richgr 72.74 43 ⇓P **P 14 08 39.5 -0.1**
baz=73,SNR=7.5
BFSC Mount Baldy Ra 72.76 45 ⇓P **P 14 08 40.1 +0.1**
baz=73
MONP Monument Peak 72.86 47 ⇓P **P 14 08 40.6 0.0**
baz=73
EDW2 Edwards Air Fo 72.90 44 ⇓P **P 14 08 40.7 0.0**
baz=73,SNR=9.0
ISA Isabella 73.03 44 *eP* **P 14 08 41.5 0.0**
ISA pmax pmax
comp=Z,48nm,1.4s
ISA Isabella 73.03 44 *eP* **P 14 08 41.5 0.0**
comp=Z,48nm,1.4s
ISA Isabella 73.03 44 ⇑P **P 14 08 41.2 -0.2**
baz=73,SNR=9.3
ASAJ Asahikawa 73.10 328 P **P 14 08 41.3 -0.3**
ASAJ Asahikawa 73.10 328 P **P 14 08 41.3 -0.3**
comp=Z,16nm,1.1s,baz=240,slow=20,SNR=4.8
CMB Columbia Colle 73.22 41 *eP* **P 14 08 42.7 +0.2**
CMB pmax pmax
comp=Z,10.0nm,0.9s
CMB Columbia Colle 73.22 41 *eP* **P 14 08 42.7 +0.2**
comp=Z,10nm,0.9s
PFO Pinyon Flat Ob 73.23 46 *eP* **P 14 08 42.7 0.0**
comp=Z,24nm,1.6s
PFO Pinyon Flat Ob 73.23 46 ⇓P **P 14 08 42.8 +0.1**
baz=73
QSPA South Pole Qui 73.32 180 P **P 14 08 43.5 +0.8**
QSPA South Pole Qui 73.32 180 P **P 14 08 43.5 +0.8**
comp=Z,27nm,0.9s,baz=45,slow=1.8,SNR=92
SWSC Sam W. Stewart 73.32 47 ⇓P **P 14 08 43.0 -0.1**
baz=74
WDC Whiskeytown Da 73.52 37 *eP* **P 14 08 43.3 -0.8**
WDC pmax pmax
comp=Z,46nm,1.4s
WDC Whiskeytown Da 73.52 37 *eP* **P 14 08 43.3 -0.8**
comp=Z,46nm,1.4s
CWC Cottonwood Cre 73.75 43 ⇓P **P 14 08 46.0 +0.3**
baz=74,SNR=7.2
BELC Belle Mtn. Jos 73.76 46 ⇑P **P 14 08 45.6 -0.3**
baz=74,SNR=6.2
PET Petropavlovsk 73.79 342 *eP* **P 14 08 45.8 +0.4**
MPMC Manual Prospec 73.92 44 ⇓P **P 14 08 46.5 -0.3**
baz=74,SNR=26
GSC Goldstone 73.94 45 ⇓P **P 14 08 46.8 -0.1**
baz=74,SNR=7.7
BC3 Big Chuckawall 73.95 47 ⇑P **P 14 08 46.9 0.0**
baz=74,SNR=12
MLAC Mammoth Lakes 73.96 42 ⇑P **P 14 08 46.9 -0.1**
baz=74
HEC Hector,Ludlow 74.00 45 ⇑P **P 14 08 47.0 -0.2**
baz=74
GLA Glamis 74.07 48 *eP* **P 14 08 47.6 0.0**
GLA pmax pmax
comp=Z,15nm,1.1s
GLA Glamis 74.07 48 *eP* **P 14 08 47.6 0.0**
comp=Z,14nm,1.1s
GLA Glamis 74.07 48 ⇓P **P 14 08 48.0 +0.4**
baz=74
WAKR Walker 74.10 41 *eP* **P 14 08 48.1 +0.2**
comp=Z,64nm,1.6s
PETK Petropavlovsk- 74.14 342 P **P 14 08 47.0 -0.5**
PETK Petropavlovsk- 74.14 342 P **P 14 08 47.0 -0.5**
PETK Petropavlovsk- 74.14 342 P **P 14 08 47.0 -0.5**
comp=Z,16nm,1.0s,baz=108,slow=9.5,SNR=8.9
YBH Yreka Blue Hor 74.17 36 P **P 14 08 48.6 +0.6**
YBH Yreka Blue Hor 74.17 36 P **P 14 08 48.6 +0.6**
comp=Z,20nm,1.0s,baz=198,slow=4.0,SNR=19
BEKR Beckworth 74.37 39 *eP* **P 14 08 49.0 -0.4**
comp=Z,37nm,1.6s
GMRC Granite Mounta 74.43 46 ⇓P **P 14 08 50.0 +0.2**
baz=75
IRM Iron Mountain 74.44 46 ⇑P **P 14 08 49.6 -0.2**
baz=75,SNR=5.3
GRAC Grapevine Rang 74.53 43 ⇑P **P 14 08 50.3 +0.1**
baz=75,SNR=14
FURC Furnace Creek, 74.57 44 ⇑P **P 14 08 50.3 0.0**
baz=75
TUQ Turquoise Moun 74.61 45 ⇓P **P 14 08 50.6 -0.2**
baz=75
SHOC Shoshone 74.63 44 ⇑P **P 14 08 51.2 +0.4**
baz=75
Y12C Blythe 74.66 47 ⇑P **P 14 08 51.5 +0.6**
baz=75
113A Mohawk Valley, 74.67 48 ⇑P **P 14 08 50.7 -0.3**
baz=75,SNR=8.8
NVAR Mina Array Bea 74.77 41 P **P 14 08 51.5 -0.2**
NVAR Mina Array Bea 74.77 41 P **P 14 08 51.5 -0.2**
comp=Z,15nm,1.0s,baz=227,slow=9.4,SNR=61
PAHR Pah Rah Range 74.86 40 *eP* **P 14 08 52.4 +0.2**
comp=Z,56nm,1.6s
NV11 Mina Array Sit 74.86 41 *eP* **P 14 08 52.5 +0.3**
214A Organ Pipe Nat 74.94 49 ⇑P **P 14 08 52.6 0.0**
baz=75,SNR=8.0
LDFC Landfair 74.97 46 *eP* **P 14 08 53.9 +1.0**
YSS Yuzh-Sakhalins 75.04 330 ⇑*eP* **P 14 08 52.8 0.0**
YSS *e* 14 09 03.0
YSS pmax pmax
comp=Z,30nm,1.0s
PDMCI Parker Dam,Lak 75.22 47 ⇓P **P 14 08 54.0 -0.1**
baz=75,SNR=6.8
OHAK Old Harbor 75.41 11 *eP* **P 14 08 54.7 +0.1**
comp=Z,120nm,1.4s
Z14A Wintersburg 75.57 48 ⇑P **P 14 08 56.8 +0.6**
baz=76
SHPR Sheep Range 75.72 44 *eP* **P 14 08 57.7 +0.5**
comp=Z,62nm,1.5s
W13A Hualapai Mount 75.82 46 ⇑P **P 14 08 57.9 0.0**
baz=76,SNR=12
Y14A Wickenburg 75.83 48 ⇑P **P 14 08 57.6 -0.1**
baz=76,SNR=7.9
KDAK Kodiak Island 76.06 11 P **P 14 08 58.8 +0.4**
KDAK Kodiak Island 76.06 11 P **P 14 08 58.8 +0.4**
comp=Z,36nm,1.0s,baz=192,slow=4.9,SNR=9.7
TPUB Ta-pu 76.46 300 *eP* **P 14 09 01.2 -0.3**
comp=Z,121nm,1.4s
R11A Troy Canyon, C 76.47 43 *eP* **P 14 09 01.5 +0.1**
R11A Troy Canyon, C 76.47 43 ⇑P **P 14 09 01.8 +0.4**
baz=77
TUC Tucson 76.60 50 *eP* **P 14 09 02.2 0.0**
TUC pmax pmax
comp=Z,73nm,1.8s
TUC Tucson 76.60 50 *eP* **P 14 09 02.2 0.0**
comp=Z,74nm,1.8s
BMN Battle Mountai 76.62 40 *eP* **P 14 09 02.1 -0.2**
BMN pmax pmax
comp=Z,28nm,1.2s
BMN Battle Mountai 76.62 40 *eP* **P 14 09 02.0 -0.2**
comp=Z,28nm,1.2s
VIPM Ingram Point 77.12 35 P **P 14 09 05.1 +0.1**
VIPM Ingram Point 77.12 35 P **P 14 09 05.1 +0.1**
VFP Flag Point 77.17 34 P **P 14 09 05.6 +0.3**
X16A Lo Mia Camp, P 77.18 48 ⇓P **P 14 09 05.7 +0.1**
baz=77,SNR=13
319A Douglas 77.26 52 ⇓P **P 14 09 06.4 +0.4**
baz=77
TDL Tradedollar La 77.45 33 P **P 14 09 07.5 +0.8**
CCUT Cedar City 77.49 44 *eP* **P 14 09 07.3 0.0**
comp=Z,34nm,1.4s
ARUT Antelope Range 77.57 44 *eP* **P 14 09 08.3 +0.7**
ARUT pmax pmax
comp=Z,379nm,1.2s
ARUT Antelope Range 77.57 44 *eP* **P 14 09 08.3 +0.7**
comp=Z,379nm,1.2s
U15A North Rim 77.63 46 ⇓P **P 14 09 08.4 +0.3**
baz=78,SNR=9.0
KSRS Korea Array 77.68 315 P **P 14 09 09.2 +1.1**
comp=Z,11nm,1.1s,baz=129,slow=5.9,SNR=32
KSAR Wonju Array Be 77.70 315 P **P 14 09 09.2 +1.0**
WUAZ Wupatki 77.79 47 ⇑P **P 14 09 09.6 +0.6**
baz=78
320A Kipp Ranch, An 77.81 52 ⇓P **P 14 09 09.6 +0.5**
baz=78
WPW White Pass 78.02 33 P **P 14 09 10.1 +0.2**
ELK Elko 78.04 41 *eP* **P 14 09 09.5 -0.8**
comp=Z,46nm,1.5s
220A Playas Peak, P 78.08 51 ⇑P **P 14 09 11.0 +0.4**
baz=78,SNR=9.9
FMW Mount Fremont 78.11 33 P **P 14 09 10.8 +0.3**
KSM Kuching 78.13 275 *eP* **P 14 09 11.5 +0.5**
comp=Z,112nm,1.4s
KSM Kuching 78.13 275 P **P 14 09 12.5 +1.4**
comp=Z,62nm,1.4s
120A U Bar Ranch, L 78.30 51 ⇓P **P 14 09 12.2 +0.4**
baz=78,SNR=6.3
X18A Snowflake 78.30 48 ⇓P **P 14 09 12.4 +0.6**
baz=78
VLA Vladivostok 78.36 322 ⇑*iP* **P 14 09 10.4 -1.2**
VLA *i* 14 09 18.9
VLA *eS* **S 14 19 02.7 -3.1**
VLA pmax pmax
comp=Z,49nm,2.1s
RSO Redoubt South 78.57 10 *eP* **P 14 09 11.8 -0.9**
comp=Z,133nm,1.2s
Z20A Nine Sixteen R 78.60 50 ⇑P **P 14 09 14.1 +0.6**
baz=79,SNR=12
MVU Marysvale 78.77 44 *eP* **P 14 09 15.2 +0.8**
comp=Z,21nm,1.1s
HAWA Hanford 78.90 34 *eP* **P 14 09 14.8 +0.2**
comp=Z,72nm,1.6s
121A Cookes Peak, D 78.93 51 ⇓P **P 14 09 15.8 +0.5**
baz=79,SNR=7.6
USRK Ussuriysk Arra 78.94 323 P **P 14 09 15.2 +0.3**
comp=Z,6.6nm,1.1s,baz=106,slow=4.8,SNR=20
Y20A Horse Springs, 79.14 50 ⇓P **P 14 09 17.0 +0.4**
baz=79,SNR=25
BMO Blue Mountains 79.19 37 *eP* **P 14 09 16.0 -0.4**
comp=Z,43nm,1.4s
MFID Camas Ranch 79.21 38 ⇓P **P 14 09 17.0 +0.4**
baz=79
DUG Dugway 79.28 42 *eP* **P 14 09 16.8 -0.2**
DUG pmax pmax
comp=Z,15nm,1.4s
DUG Dugway 79.28 42 *eP* **P 14 09 16.8 -0.2**
comp=Z,15nm,1.4s
DUG Dugway 79.28 42 ⇑P **P 14 09 17.3 +0.3**
baz=79
X20A Quemado 79.36 49 ⇓P **P 14 09 18.5 +0.8**
baz=80,SNR=11
Z21A St. Cloud Mine 79.38 50 ⇑P **P 14 09 18.6 +0.8**
baz=80,SNR=19
122A Conniff Cattle 79.59 51 ⇑P **P 14 09 19.5 +0.6**
baz=80
W20A Ramah 79.64 49 ⇑P **P 14 09 19.8 +0.6**
baz=80,SNR=18
Q16A Castle Valley 79.68 44 *eP* **P 14 09 19.8 +0.5**
Q16A Castle Valley 79.68 44 ⇓P **P 14 09 19.8 +0.5**
baz=80
Y21A Point of Rocks 79.70 50 ⇓P **P 14 09 20.3 +0.7**
baz=80,SNR=9.3
X21A Alamocita Cree 79.83 49 ⇑P **P 14 09 20.7 +0.4**
baz=80,SNR=8.5
TMUT Trail Mountain 79.85 44 *eP* **P 14 09 20.4 0.0**
comp=Z,38nm,1.1s
Z22A Elephant Butte 79.88 51 ⇑P **P 14 09 20.4 0.0**
baz=80,SNR=15
V20A Brimhall 79.98 48 ⇓P **P 14 09 21.2 +0.2**
baz=80
HLID Hailey 80.14 39 *eP* **P 14 09 21.8 +0.2**
comp=Z,66nm,1.5s
HLID Hailey 80.14 39 ⇑P **P 14 09 21.5 -0.2**
baz=80,SNR=28
HVU Hansel Valley 80.16 41 *eP* **P 14 09 21.6 -0.2**
HVU pmax pmax
comp=Z,21nm,1.3s
HVU Hansel Valley 80.16 41 *eP* **P 14 09 21.6 -0.2**
comp=Z,21nm,1.3s
324A Moseley Ranch, 80.17 53 ⇓P **P 14 09 22.1 +0.1**
baz=80,SNR=7.7
Y22A Socorro 80.19 50 ⇑P **P 14 09 22.4 +0.2**
baz=80
SRU San Rafael 80.21 44 *eP* **P 14 09 22.4 +0.2**
SRU pmax pmax
comp=Z,17nm,1.0s
SRU San Rafael 80.21 44 *eP* **P 14 09 22.4 +0.2**
comp=Z,17nm,1.0s
U20A Newcomb 80.22 47 ⇓P **P 14 09 22.6 +0.3**
baz=80
PMR Palmer 80.26 11 *eP* **P 14 09 20.8 -0.8**
PMR pmax pmax
comp=Z,89nm,1.3s
PMR Palmer 80.26 11 *eP* **P 14 09 20.8 -0.8**
comp=Z,89nm,1.3s
425A Indio Mountain 80.27 54 ⇑P **P 14 09 22.6 +0.1**
baz=80,SNR=11
LAZ Ladron 80.28 50 *eP* **P 14 09 23.2 +0.6**
comp=Z,31nm,2.1s
MNTX Cornudas Mount 80.36 53 *eP* **P 14 09 22.7 -0.2**
comp=Z,29nm,1.8s
626A Big Bend Ranch 80.40 55 ⇓P **P 14 09 23.1 -0.2**
baz=80,SNR=8.7
DAU Daniels Canyon 80.40 43 *eP* **P 14 09 23.5 +0.2**
DAU pmax pmax
comp=Z,20nm,1.3s
DAU Daniels Canyon 80.40 43 *eP* **P 14 09 23.5 +0.2**
comp=Z,20nm,1.3s
224A Cornudas Mount 80.42 52 ⇓P **P 14 09 23.5 +0.1**
baz=80,SNR=11
Z23A Rita Site, Whi 80.42 51 ⇑P **P 14 09 23.6 +0.3**
baz=80
DIV Divide 80.50 13 *eP* **P 14 09 22.7 -0.3**
comp=Z,43nm,0.8s
BNM Barren Site 80.54 50 *eP* **P 14 09 24.3 +0.3**
comp=Z,32nm,1.7s
MDJ Mudanjiang 80.58 322 P **P 14 09 25.5 +1.8**
MDJ sP **sP 14 09 30.0 -4.4**
MDJ PP **PP 14 12 29.0 +1.3**
MDJ S **S 14 19 28.5 -0.8**
MDJ SS **SS 14 24 49.0 +6.4**
MDJ pmax pmax
comp=Z,23nm,1.5s
MDJ pmax pmax
comp=Z,940nm,10.6s
MDJ LR LR
comp=N,800nm,60.0s
MDJ LR LR
comp=E,640nm,55.0s
MDJ LR LR
comp=Z,1μm,60.0s
MDJ Mudanjiang 80.58 322 *eP* **P 14 09 24.9 +1.2**
comp=Z,54nm,1.6s
LPM Los Pinos Moun 80.61 50 P **P 14 09 25.2 +0.8**
comp=Z,13nm,1.4s
BMRM Bremner River 80.61 13 *eP* **P 14 09 23.4 -0.2**
comp=Z,188nm,1.4s
MVCO Mesa Verde 80.65 47 ⇓P **P 14 09 24.7 +0.1**
baz=81
526A Mary Lane Ranc 80.65 55 ⇓P **P 14 09 24.4 -0.2**
baz=81
TXAR Lajitas Array 80.67 56 P **P 14 09 25.4 +0.6**
TXAR Lajitas Array 80.67 56 P **P 14 09 25.4 +0.6**
comp=Z,7.5nm,1.1s,baz=226,slow=4.9,SNR=27
124A Stringfield Ra 80.75 52 ⇓P **P 14 09 25.5 +0.2**
baz=81,SNR=7.6
Y23A Lovelace Mesa, 80.86 51 ⇓P **P 14 09 26.0 +0.2**
baz=81
U21A Nageezi 80.86 48 ⇓P **P 14 09 26.1 +0.4**
baz=81,SNR=14
627A Terlingua Ranc 80.94 56 ⇑P **P 14 09 26.5 +0.3**
baz=81,SNR=14
426A McDonald Obser 80.96 54 ⇓P **P 14 09 26.3 -0.1**
baz=81,SNR=8.9
225A Deer Hill, Car 80.97 53 ⇓P **P 14 09 26.6 +0.3**
baz=81
ANMO Albuquerque 81.03 49 *eP* **P 14 09 26.1 -0.5**
comp=Z,26nm,1.4s
S20A Disappointment 81.04 46 ⇑P **P 14 09 27.0 +0.2**
baz=81
X23A Hourglass Bar 81.06 50 ⇓P **P 14 09 27.0 +0.2**
baz=81
527A Woodward Ranch 81.06 55 ⇑P **P 14 09 26.6 -0.3**
baz=81,SNR=6.3
Z24A Sheeppen Canyo 81.10 51 ⇑P **P 14 09 27.2 +0.2**
baz=81
V22A San Miguel Ran 81.15 48 ⇓P **P 14 09 27.8 +0.4**
baz=81
T21A Navajo Lake 81.22 47 ⇑P **P 14 09 28.0 +0.4**
baz=81
Y24A Capitan 81.31 51 ⇑P **P 14 09 28.2 +0.1**
baz=81,SNR=6.4
M17A Scullys Gap (B 81.33 42 ⇑P **P 14 09 28.1 -0.1**
baz=82
125A Gardner Draw, 81.34 52 ⇓P **P 14 09 28.2 0.0**
baz=82,SNR=5.3
NEW Newport 81.34 34 ⇓P **P 14 09 27.9 +0.1**
baz=82
W23A Werner Place, 81.35 49 ⇓P **P 14 09 28.4 +0.1**
baz=82
628A Black Gap, Mar 81.35 56 ⇓P **P 14 09 28.1 -0.2**
baz=82,SNR=8.7
S21A Coal Bank Pass 81.36 47 ⇓P **P 14 09 28.6 +0.2**
baz=82
U22A Llaves 81.41 48 ⇓P **P 14 09 28.9 +0.2**
baz=82
226B Tecolote Peak, 81.46 53 ⇓P **P 14 09 28.9 0.0**
baz=82,SNR=9.7
P19A Cripple Cowboy 81.51 44 ⇑P **P 14 09 29.3 +0.2**
baz=82
427A Hayter Ranch, 81.52 54 ⇑P **P 14 09 29.5 +0.3**
baz=82,SNR=6.5
Z25A Roswell 81.56 52 ⇑P **P 14 09 29.9 +0.5**
baz=82
V23A Ortiz Mt. (NFS 81.59 49 ⇓P **P 14 09 30.0 +0.3**
baz=82
NJ2 Nanjing 81.62 307 *eP* **P 14 09 30.5 +0.9**
NJ2 pmax pmax
comp=Z,30nm,1.2s
Q20A Ridgley Place, 81.64 45 ⇓P **P 14 09 29.7 0.0**
baz=82,SNR=7.6
T22A Edith 81.67 47 ⇓P **P 14 09 30.3 +0.2**
baz=82,SNR=8.4
528A Cox Ranch, San 81.71 55 ⇓P **P 14 09 30.3 0.0**
baz=82,SNR=10
SKAG Skagway 81.74 18 *eP* **P 14 09 30.2 +0.7**
comp=Z,35nm,1.2s
O19A Miners Draw (B 81.74 44 ⇑P **P 14 09 30.2 -0.1**
baz=82
MCMT McKenzie Canyo 81.78 38 *eP* **P 14 09 30.4 -0.1**
comp=Z,19nm,1.4s
TRF Thorofare Moun 81.78 10 *eP* **P 14 09 28.9 -1.0**
comp=Z,45nm,1.0s
P20A De Beque 81.84 45 ⇓P **P 14 09 30.8 0.0**
baz=82,SNR=7.1
U23A El Rito 81.86 48 ⇓P **P 14 09 31.3 +0.2**
baz=82,SNR=6.0
R21A Cimarron 81.86 46 ⇑P **P 14 09 31.4 +0.4**
baz=82,SNR=11
Y25A Mesa, Roswell 81.87 51 ⇑P **P 14 09 31.0 0.0**
baz=82,SNR=12
RRI2 Red Ridge 81.91 40 *eP* **P 14 09 31.1 -0.1**
comp=Z,59nm,1.5s
W24A Lazy 6 Ranch, 81.92 50 ⇓P **P 14 09 31.2 -0.2**
baz=82,SNR=8.2
S22A 4UR Ranch, Cre 82.07 47 ⇑P **P 14 09 32.5 +0.3**
baz=82,SNR=25
Q21A Lamborn Mesa, 82.07 46 ⇓P **P 14 09 32.3 +0.2**
baz=82
KLR Kul'dur 82.08 327 *eP* P 14 09 25.8 -5.8
KLR pmax pmax
comp=Z,45nm,1.6s
Z26A Caprock 82.12 52 ⇓P **P 14 09 32.1 -0.3**
baz=82,SNR=11
529A Stev Forest Ra 82.14 55 ⇓P **P 14 09 32.3 -0.2**
baz=82,SNR=6.6
X25A Clemmons Ranch 82.16 51 ⇑P **P 14 09 32.5 0.0**
baz=82
REDW Red Top Meadow 82.20 40 *eP* **P 14 09 32.6 -0.1**
comp=Z,69nm,1.6s
328A Wristen Ranch, 82.21 54 ⇑P **P 14 09 32.8 0.0**
baz=82
TPAW Teton Pass 82.21 40 *eP* **P 14 09 32.8 0.0**
comp=Z,32nm,1.4s
DLMT Dillon 82.22 38 *eP* **P 14 09 31.3 -1.3**
comp=Z,52nm,1.4s
PAX Paxson 82.22 12 *eP* **P 14 09 31.3 -0.9**
PAX pmax pmax
comp=Z,42nm,1.4s
PAX Paxson 82.22 12 *eP* **P 14 09 31.3 -0.9**
comp=Z,42nm,1.4s
HYT Haines Junctio 82.24 16 *eP* **P 14 09 32.3 0.0**
V24A Rampart Ranch, 82.25 49 ⇓P **P 14 09 33.2 0.0**
baz=82,SNR=7.8
O20A White River Ci 82.25 44 *eP* **P 14 09 33.3 +0.3**
O20A White River Ci 82.25 44 ⇓P **P 14 09 33.1 +0.1**
baz=82
MSO Missoula 82.26 36 ⇓P **P 14 09 31.8 -0.9**
baz=82,SNR=11
MCK McKinley 82.27 10 *eP* **P 14 09 31.4 -0.9**
MCK pmax pmax
comp=Z,117nm,1.1s
MCK McKinley 82.27 10 *eP* **P 14 09 31.4 -0.9**
comp=Z,117nm,1.1s
BPAW Bear Paw Mtn. 82.28 9 *eP* **P 14 09 30.8 -1.6**
comp=Z,31nm,1.4s
T23A Casias Ranch, 82.30 48 ⇓P **P 14 09 33.2 -0.2**
baz=82
SNOW Snow King Moun 82.32 40 *eP* **P 14 09 33.6 +0.3**
comp=Z,81nm,1.6s
M19A Rock Springs 82.33 43 ⇓P **P 14 09 33.6 +0.3**
baz=82
127A Arkansas Junct 82.33 53 ⇑P **P 14 09 33.3 -0.2**
baz=82
BSMT Bassoo Peak 82.37 35 *eP* **P 14 09 32.4 -1.0**
comp=Z,66nm,1.5s
IMW Indian Meadow 82.43 40 *eP* **P 14 09 34.1 +0.1**
comp=Z,56nm,1.4s
MOOW Moose Ponds 82.47 40 *eP* **P 14 09 33.4 -0.7**
comp=Z,36nm,1.6s
P21A Newcastle 82.49 45 ⇓P **P 14 09 34.6 +0.3**
baz=83,SNR=6.1
LOHW Long Hollow 82.49 40 *eP* **P 14 09 34.4 +0.2**
comp=Z,31nm,1.4s
Q22A Crested Butte, 82.54 46 ⇑P **P 14 09 35.0 +0.3**
baz=83,SNR=12
LRM Limekiln Ridge 82.56 38 *eP* **P 14 09 34.5 0.0**
comp=Z,247nm,1.5s
MENT Mentasta 82.56 13 *eP* **P 14 09 33.9 0.0**
N20A Spence Gulch, 82.58 44 ⇑P **P 14 09 34.2 -0.5**
baz=83,SNR=16
JTMT Jette 82.58 35 *eP* **P 14 09 32.9 -1.6**
comp=Z,12nm,1.3s
429A Davenport Ranc 82.61 55 ⇓P **P 14 09 34.6 -0.3**
baz=83,SNR=10
SWMT Swartz Lake 82.61 36 *eP* **P 14 09 33.2 -1.3**
comp=Z,20nm,1.5s
W25A X Bar L Ranch, 82.61 50 ⇑P **P 14 09 34.7 -0.2**
baz=83,SNR=14
QLMT Earthquake Lak 82.63 39 *eP* **P 14 09 35.3 +0.5**
comp=Z,7.6nm,1.4s
CN2 Changchun 82.63 320 *eP* **P 14 09 35.5 +0.9**
CN2 pmax pmax
comp=Z,20nm,1.2s
DLBC Dease Lake 82.64 21 *eP* **P 14 09 34.5 +0.1**
SMCO Snowmass 82.64 46 *eP* **P 14 09 35.1 -0.3**
comp=Z,12nm,0.6s

I17A	Pilgrim Ck.	82.67	40	⇓P		P	14 09 35.7	+0.6
	baz=83							
FLWY	Flagg Ranch	82.67	40	eP		P	14 09 35.6	+0.5
	comp=Z,82nm,1.4s							
228A	UT Block 9, Go	82.68	53	⇓P		P	14 09 35.6	+0.3
	baz=83							
CHMT	Chamberlain Mo	82.69	36	eP		P	14 09 34.7	-0.4
	comp=Z,23nm,1.3s							
BW06	Boulder Array	82.71	41	eP		P	14 09 34.6	-0.8
	comp=Z,57nm,1.6s							
PDAR	Pinedale Array	82.71	41	P		P	14 09 34.5	-0.9
PDAR	Pinedale Array	82.71	41	P		P	14 09 34.5	-0.9
	comp=Z,9.0nm,0.9s,baz=204,slow=3.3,SNR=48							
Z27A	Tatum	82.71	52	⇑P		P	14 09 35.0	-0.4
	baz=83							
SLMT	Seeley Lake	82.74	36	eP		P	14 09 34.1	-1.2
	comp=Z,26nm,1.4s							
T24B	San Luis	82.77	48	⇑P		P	14 09 36.4	+0.5
	baz=83,SNR=6.0							
V25A	Rancho No Teng	82.77	49	⇑P		P	14 09 35.9	+0.1
	baz=83,SNR=21							
YFT	Old Faithful	82.78	39	P		P	14 09 37.2	+1.5
	comp=Z,5.4nm,0.5s							
X26A	CR and CF Fran	82.80	51	⇓P		P	14 09 36.1	+0.2
	baz=83							
O21A	Pagoda	82.81	44	⇓P		P	14 09 36.5	+0.5
	baz=83							
SNY	Shenyang	82.81	317	⇑P		P	14 09 36.5	+0.9
SNY				pmax		pmax		
	comp=Z,32nm,1.5s							
YMR	Madison River	82.82	39	eP		P	14 09 36.5	+0.6
	comp=Z,175nm,1.8s							
530A	J-C Ranch, Com	82.85	56	⇓P		P	14 09 36.0	-0.2
	baz=83,SNR=5.3							
329A	Wagon Wheel Ra	82.89	54	⇓P		P	14 09 36.6	+0.2
	baz=83							
H17A	Grant Village	82.91	40	eP		P	14 09 37.6	+1.2
BOZ	Bozeman (W)	82.94	38	eP		P	14 09 35.9	-0.5
BOZ				pmax		pmax		
	comp=Z,46nm,1.4s							
BOZ	Bozeman (W)	82.94	38	eP		P	14 09 35.9	-0.5
	comp=Z,46nm,1.4s							
M20A	Sweetwater, Wa	82.95	43	⇓P		P	14 09 36.5	-0.1
	baz=83,SNR=9.3							
128A	Castleberry Fa	82.97	53	⇓P		P	14 09 37.0	+0.2
	baz=83							
R23A	Moffat	82.98	47	⇓P		P	14 09 37.1	+0.2
	baz=83,SNR=5.2							
P22A	Eagle	82.99	45	⇓P		P	14 09 37.0	+0.2
	baz=83,SNR=8.8							
Y27A	Causey	83.00	52	⇑P		P	14 09 36.4	-0.5
	baz=83,SNR=6.5							
SDCO	Great Sand Dun	83.00	47	eP		P	14 09 37.2	+0.1
	comp=Z,22nm,1.4s							
YNR	Norris Junctio	83.02	39	eP		P	14 09 37.9	+0.9
	comp=Z,55nm,1.5s							
N21A	Black Mountain	83.03	44	⇑P		P	14 09 37.2	+0.1
	baz=83,SNR=30							
W26A	Owens Ranch, T	83.07	50	⇓P		P	14 09 37.8	+0.5
	baz=83							
L20A	Wamsutter	83.11	43	⇓P		P	14 09 37.3	-0.1
	baz=83,SNR=17							
S24A	Houchin Ranch,	83.16	48	⇑P		P	14 09 37.9	0.0
	baz=83,SNR=18							
631A	Perdido Creek	83.16	57	⇑P		P	14 09 37.5	-0.3
	baz=83							
U25A	Circle Dot Ran	83.17	49	⇓P		P	14 09 37.5	-0.4
	baz=83,SNR=12							
K19A	Absolon Red Bu	83.19	42	⇑P		P	14 09 37.7	-0.1
	baz=83							
430A	Baggett Ranch,	83.19	55	⇑P		P	14 09 37.6	-0.3
	baz=83							
J19A	Crowheart	83.28	41	⇓P		P	14 09 37.9	-0.3
	baz=83,SNR=17							
Q23A	Hartsel	83.30	46	⇓P		P	14 09 38.5	-0.1
	baz=83,SNR=9.3							
MSTX	Muleshoe	83.33	52	eP		P	14 09 38.7	+0.1
MSTX	Muleshoe	83.33	52	⇓P		P	14 09 38.8	+0.2
	baz=83							
Z28A	Tucker Farm, M	83.33	52	⇓P		P	14 09 38.8	+0.2
	baz=83							
V26A	Tequesquite Ra	83.36	50	⇑P		P	14 09 38.7	-0.1
	baz=84,SNR=6.9							
X27A	F and S Farms,	83.37	51	⇑P		P	14 09 38.7	-0.1
	baz=84							
732A	Laxson Ranch,	83.38	58	⇑P		P	14 09 38.9	+0.1
	baz=84							
HRY	Holter Researc	83.40	37	eP		P	14 09 38.7	+0.1
	comp=Z,12nm,0.6s							
O22A	Kremmling	83.40	45	⇓P		P	14 09 39.0	-0.1
	baz=84,SNR=33							
K20A	Yellowstone Ra	83.43	42	⇑P		P	14 09 38.7	-0.3
	baz=84							
531A	Rocksprings	83.49	56	⇓P		P	14 09 39.4	-0.1
	baz=84,SNR=11							
R24A	Sanders Place,	83.50	47	⇓P		P	14 09 40.0	+0.5
	baz=84,SNR=6.4							
T25A	Trinidad	83.50	48	⇑P		P	14 09 39.5	-0.1
	baz=84							
COLA	College	83.51	10	eP		P	14 09 38.0	-0.6
COLA				pmax		pmax		
	comp=Z,495nm,1.1s							
COLA	College	83.51	10	eP		P	14 09 38.0	-0.6
	comp=Z,495nm,1.1s							
P23A	Jefferson	83.51	46	⇓P		P	14 09 39.7	0.0
	baz=84,SNR=13							
WALA	Waterton Lakes	83.53	34	eP		P	14 09 39.1	-0.2
	comp=Z,1.9nm,1.5s							
M21A	Separation Pea	83.55	43	⇑P		P	14 09 39.9	+0.2
	baz=84							
W27A	Bowe Ranch, En	83.58	51	⇓P		P	14 09 39.5	-0.4
	baz=84,SNR=9.4							
ILAR	Eielson Array	83.59	11	P		P	14 09 37.9	-1.2
ILAR	Eielson Array	83.59	11	P		P	14 09 37.9	-1.2
	comp=Z,14nm,1.0s,baz=207,slow=5.7,SNR=65							
H18A	Shoshone NF, C	83.62	40	⇑P		P	14 09 39.9	-0.1
	baz=84,SNR=9.2							
U26A	Atchley Ranch,	83.65	49	⇑P		P	14 09 39.9	-0.4
	baz=84,SNR=7.4							
IM04	Indian Mountai	83.66	8	eP		P	14 09 38.5	-1.0
I19A	Meeteetse	83.70	41	⇑P		P	14 09 40.3	-0.2
	baz=84,SNR=15							
S25A	Robets Cordova	83.72	48	⇓P		P	14 09 40.6	0.0
	baz=84,SNR=17							
L21A	Rawlins	83.72	43	⇓P		P	14 09 40.9	+0.3
	baz=84							
IMA2	Indian Mountai	83.76	8	eP		P	14 09 39.8	-0.3
N22A	Wattenberg Ran	83.77	44	⇑P		P	14 09 41.1	+0.2
	baz=84							
Q24A	Divide	83.80	46	⇓P		P	14 09 40.9	-0.2
	baz=84,SNR=9.5							
632A	Uvalde	83.83	57	⇑P		P	14 09 41.1	-0.1
	baz=84							
Z29A	Hungry Hill Ra	83.84	53	⇑P		P	14 09 40.7	-0.5
	baz=84							
O23A	Lake Granby, G	83.85	45	⇓P		P	14 09 41.4	+0.1
	baz=84,SNR=7.8							
ISCO	Idaho Springs	83.87	45	⇑P		P	14 09 41.5	0.0
	baz=84,SNR=5.8							
J20A	Shoshoni	83.94	41	⇑P		P	14 09 41.3	-0.3
	baz=84,SNR=14							
M22A	Cedar Creek Ra	83.96	44	⇓P		P	14 09 41.4	-0.5
	baz=84,SNR=6.5							
532A	Rocksprings	83.98	56	⇑P		P	14 09 42.3	+0.3
	baz=84							
X28A	Dimmitt	83.99	51	⇑P		P	14 09 41.8	-0.1
	baz=84							
SEY	Seymchan	84.01	345	ceP		P	14 09 40.0	-1.3
H19A	Powell	84.03	40	⇑P		P	14 09 42.5	+0.5
	baz=84							
331A	San Angelo	84.03	55	⇓P		P	14 09 42.0	-0.2
	baz=84							
V27A	Dan Oppiter Fa	84.04	50	⇑P		P	14 09 42.2	0.0
	baz=84							
R25A	Fountain Ranch	84.04	47	⇓P		P	14 09 41.8	-0.4
	baz=84,SNR=5.5							
T26A	Comanche Natio	84.10	49	⇑P		P	14 09 42.6	0.0
	baz=84							
K21A	Alcova	84.12	42	⇓P		P	14 09 41.6	-1.0
	baz=84,SNR=16							
N23A	Red Feather La	84.15	44	⇑P		P	14 09 42.7	-0.1
	baz=84,SNR=9.1							
QIZ	Qiongzhong	84.16	292	P		P	14 09 43.5	+0.4
QIZ				S		S	14 20 08.5	+1.4
QIZ				pmax		pmax		
	comp=Z,43nm,3.1s							
GCMT	Greycliff	84.19	39	eP		P	14 09 42.7	-0.1
	comp=Z,26nm,1.2s							
I20A	Worland	84.20	41	⇑P		P	14 09 42.3	-0.6
	baz=84,SNR=19							
Z30A	Sanderson Ranc	84.29	53	⇓P		P	14 09 42.7	-0.7
	baz=84,SNR=5.1							
U27A	Thompson Grove	84.33	49	⇓P		P	14 09 43.5	-0.2
	baz=84							
J21A	Lysite	84.34	42	⇑P		P	14 09 43.1	-0.6
	baz=84,SNR=28							
L22A	Ellis Ranch, M	84.36	43	⇓P		P	14 09 43.7	-0.2
	baz=84,SNR=12							
432A	Menard	84.36	56	⇓P		P	14 09 43.8	-0.1
	baz=84							
231A	Bronte	84.37	54	⇓P		P	14 09 43.6	-0.3
	baz=84							
S26A	Kim	84.38	48	⇓P		P	14 09 43.6	-0.3
	baz=84							
MYKOM	Kota Tinggi	84.39	274	P		P	14 09 47.8	+3.4
	comp=Z,23nm,1.7s							
WHN	Wuhan	84.52	304	P		P	14 09 49.5	+4.9
H20A	Greybull	84.55	40	⇑P		P	14 09 44.3	-0.3
	baz=85							
M23A	Laramie	84.57	44	⇑P		P	14 09 44.7	-0.2
	baz=85							
K22A	Casper	84.60	43	⇓P		P	14 09 44.4	-0.6
	baz=85,SNR=7.9							
332A	Millersview	84.60	55	⇑P		P	14 09 44.4	-0.7
	baz=85,SNR=5.8							
W29A	Amraillo	84.65	51	⇓P		P	14 09 44.8	-0.5
	baz=85,SNR=5.5							
F19A	Roth Farm, Mol	84.66	39	⇑P		P	14 09 44.6	-0.5
	baz=85,SNR=8.0							
I21A	Big Trails, Te	84.66	41	⇓P		P	14 09 44.1	-1.2
	baz=85,SNR=20							
R26A	Arlington	84.70	48	⇓P		P	14 09 44.6	-0.9
	baz=85,SNR=13							
EGAK	Eagle	84.72	13	eP		P	14 09 44.6	-0.2
	comp=Z,132nm,1.7s							
P25A	Willow Gulch B	84.73	46	⇑P		P	14 09 45.4	-0.3
	baz=85,SNR=5.5							
G20A	Bridger	84.78	40	⇑P		P	14 09 45.2	-0.6
	baz=85							
N24A	Carr	84.83	45	⇑P		P	14 09 46.0	-0.2
	baz=85							
L23A	Garrett	84.88	43	⇑P		P	14 09 45.8	-0.7
	baz=85,SNR=17							
Q26A	Hugo	84.92	47	⇑P		P	14 09 46.3	-0.3
	baz=85							
X30A	Coker Ranch, T	84.95	52	⇓P		P	14 09 46.5	-0.3
	baz=85							
J22A	Midwest	84.99	42	⇑P		P	14 09 46.7	-0.2
	baz=85							
Z31A	Sharp Cattle R	85.06	53	⇓P		P	14 09 47.3	0.0
	baz=85							
E19A	Rath Farm, Rou	85.06	38	⇑P		P	14 09 47.1	0.0
	baz=85							
F20A	Billings	85.11	39	⇓P		P	14 09 47.3	0.0
	baz=85							
T28A	Walsh	85.14	49	⇑P		P	14 09 47.6	-0.2
	baz=85							
R27A	Eads	85.15	48	⇑P		P	14 09 46.9	-0.9
	baz=85,SNR=5.1							
M24A	Cheyenne	85.16	44	⇓P		P	14 09 47.9	+0.1
	baz=85							
ABTX	Abilene, Hawle	85.17	54	eP		P	14 09 47.5	-0.4
ABTX	Abilene, Hawle	85.17	54	⇓P		P	14 09 47.9	0.0
	baz=85							
I22A	9 Mile Ranch,	85.21	42	⇑P		P	14 09 47.2	-0.8
	baz=85,SNR=9.3							
H21A	Big Horn, Sher	85.22	41	⇑P		P	14 09 48.1	+0.1
	baz=85							
Y31A	Rekieta Farm,	85.22	53	⇑P		P	14 09 48.2	0.0
	baz=85							
EGMT	Eagleton	85.29	37	eP		P	14 09 48.5	+0.3
	comp=Z,40nm,1.4s							
EGMT	Eagleton	85.29	37	⇑P		P	14 09 48.8	+0.5
	baz=85							
COLD	Coldfoot	85.33	9	eP		P	14 09 48.1	+0.3
	comp=Z,78nm,1.5s							
D19A	Cripps Ranch,	85.36	38	⇑P		P	14 09 48.2	-0.4
	baz=86,SNR=6.4							
E20A	Meyer Farm, Mu	85.47	39	⇑P		P	14 09 48.8	-0.4
	baz=86,SNR=6.5							
C19A	Slack Wire Ran	85.55	37	⇑P		P	14 09 49.5	0.0
	baz=86,SNR=22							
Z32A	Haskell	85.56	53	⇑P		P	14 09 49.5	-0.4
	baz=86,SNR=11							
H22A	Clearmont	85.63	41	⇓P		P	14 09 50.3	+0.3
	baz=86							
D20A	Manuel Ranch,	85.76	38	⇑P		P	14 09 50.3	-0.2
	baz=86,SNR=8.2							
Y32A	R-V Farms, Ver	85.86	53	⇓P		P	14 09 51.5	+0.2
	baz=86							
R28A	Tribune	85.88	48	⇑P		P	14 09 51.9	+0.6
	baz=86							
W31A	Holland Ranch,	85.95	52	⇑P		P	14 09 51.0	-0.7
	baz=86,SNR=5.5							
EDM	Edmonton	86.19	31	eP		P	14 09 51.9	-0.6
EDM	Edmonton	86.19	31	eP		P	14 09 51.9	-0.6
V31A	Spring Creek L	86.26	51	⇑P		P	14 09 53.7	+0.4
	baz=86							
A19A	Klindworth Far	86.33	36	⇑P		P	14 09 53.1	-0.2
	baz=86							
B20A	Solberg Farm,	86.50	37	⇑P		P	14 09 53.3	-0.8
	baz=87,SNR=5.4							
WHTX	Lake Whitney	86.64	55	P		P	14 09 55.2	+0.1
A20A	Cobblestone Ra	86.78	37	⇑P		P	14 09 56.2	+0.7
	baz=87							
MAW	Mawson	86.80	198	P		P	14 09 56.0	+0.8
MAW	Mawson	86.80	198	P		P	14 09 56.0	+0.8
	comp=Z,10nm,1.0s,baz=111,slow=5.4,SNR=9.4							
K26A	Motz Farm, Whi	86.81	44	⇑P		P	14 09 56.3	+0.4
	baz=87							
H24A	Dirks Ranch, A	86.84	41	⇓P		P	14 09 55.6	-0.4
	baz=87							
RSSD	Black Hills	86.89	42	eP		P	14 09 55.2	-1.2
RSSD				pmax		pmax		
	comp=Z,15nm,0.8s							
RSSD	Black Hills	86.89	42	eP		P	14 09 55.1	-1.2
	comp=Z,15nm,0.8s							
D22A	Cohagen	86.96	39	⇓P		P	14 09 56.5	+0.1
	baz=87							
BJT	Baijiatuau	86.97	313	eP		P	14 09 57.9	+1.3
	comp=Z,91nm,1.4s							
BJI	Beijing	86.98	313	P		P	14 09 57.0	+0.4
BJI				pmax		pmax		
	comp=Z,41nm,1.5s							
I25A	Rochford	87.03	42	⇓P		P	14 09 57.1	+0.1
	baz=87							
A21A	Bergtoll Ranch	87.41	37	⇓P		P	14 09 59.1	+0.5
	baz=88							
B22A	Reddig Ranch S	87.61	38	⇑P		P	14 09 59.3	-0.3
	baz=88,SNR=7.1							
J27A	Elkhorn Farm,	87.83	44	⇓P		P	14 10 01.0	+0.3
	baz=88							
C23A	Lambert	87.86	39	⇑P		P	14 10 01.2	+0.5
	baz=88							
PLCA	Paso Flores	88.01	132	P		P	14 10 03.2	+1.4
PLCA	Paso Flores	88.01	132	P		P	14 10 03.2	+1.4
	comp=Z,2.4nm,0.8s,baz=211,slow=6.5,SNR=4.9							
B23A	Brockton	88.28	38	⇑P		P	14 10 02.6	-0.1
	baz=88,SNR=5.1							
ENH	Enshi	88.33	302	eP		P	14 10 04.9	+1.5
	comp=Z,61nm,1.6s							
INK	Inuvik	89.36	14	eP		P	14 10 06.4	-0.8
	comp=Z,77nm,1.6s							
GYA	Guiyang	89.39	298	P		P	14 10 09.3	+0.7
GYA				PP		PP	14 13 42.5	+2.5
GYA				SKS		SKSac	14 20 37.5	-0.3
GYA				S		S	14 20 57.5	-0.3
GYA				SS		SS	14 26 56.0	+2.5
GYA				pmax		pmax		
	comp=Z,30nm,1.0s							
GYA				pmax		pmax		
	comp=Z,150nm,6.6s							
GYA				LR		LR		
	comp=N,690nm,21.4s							
GYA				LR		LR		
	comp=E,540nm,22.8s							
GYA				LR		LR		
	comp=Z,640nm,21.2s							
PSI	Prapat	89.39	273	P		P	14 10 09.7	+0.8
PSI	Prapat	89.39	273	P		P	14 10 09.7	+0.8
	comp=Z,28nm,1.1s,baz=202,slow=6.7,SNR=13							
NONG	Nongkai	89.88	289	P		P	14 10 14.9	+4.1
	comp=Z,40nm,2.1s							
TEIG	Tepich	90.48	69	eP		P	14 10 14.5	+0.9
	comp=Z,23nm,1.4s							
HHC	Hu-ho-hao-te	90.53	313	eP		P	14 10 14.3	+0.7
HHC				sP		sP	14 10 20.0	-4.2
HHC				SKS		SKSac	14 20 44.0	+0.2
HHC				S		S	14 21 06.8	-0.9
HHC				sS		ScS	14 21 12.5	+1.2
HHC				SS		SS	14 27 11.8	+2.4
HHC				pmax		pmax		
	comp=Z,38nm,0.7s							
HHC				pmax		pmax		
	comp=Z,430nm,4.3s							
HHC				LR		LR		
	comp=N,690nm,19.0s							
HHC				LR		LR		
	comp=E,880nm,19.0s							
HHC				LR		LR		
	comp=Z,830nm,20.2s							
JTS	JuntasAbangare	90.64	80	eP		P	14 10 15.8	+1.3
	comp=Z,359nm,1.4s							
YAK	Yakutsk	90.66	336	eP		P	14 10 10.6	-2.8
YAK				pmax		pmax		
	comp=Z,10.0nm,1.2s							
YKA	Yellowknife Ar	90.99	23	P		P	14 10 14.3	-0.6
YKA	Yellowknife Ar	90.99	23	P		P	14 10 14.3	-0.6
	comp=Z,14nm,1.1s,baz=234,slow=4.4,SNR=15							
PBKT	Sadao Pong	91.42	287	P		P	14 10 20.8	+2.8
	comp=Z,40nm,1.6s,comp=Z,3μm							
PBKT	Sadao Pong	91.42	287	P		P	14 10 20.8	+2.8
	comp=Z,40nm,1.6s							
LOEI	Loei	91.42	288	P		P	14 10 19.3	+1.2
	comp=Z,173nm,1.3s							
SYO	Syowa Base	91.46	191	⇓eP		P	14 10 16.0	-1.2
SYO	Syowa Base	91.46	191	⇑eX		pP	14 10 25.8	+0.7
SNAA	Sanae	91.54	177	eP		P	14 10 17.4	-0.3
	comp=Z,6.8nm,0.9s							
KMI	Kunming	92.34	295	P		P	14 10 25.0	+2.5
KMI				pP		pP	14 10 29.3	-1.0
KMI				PP		PP	14 14 06.5	+2.9
KMI				S		S	14 21 24.3	-0.7
KMI				pmax		pmax		
	comp=Z,25nm,1.6s							
KMI				pmax		pmax		
	comp=Z,510nm,9.9s							
KMI				LR		LR		
	comp=Z,3μm,28.7s							
CD2	Chengdu	93.20	301	P		P	14 10 27.0	+0.9
CD2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
CM31	Chiang Mai Arr	93.81	288	eP		P	14 10 30.9	+1.8
	comp=Z,1.3nm,0.5s							
CMAR	Chiang Mai Arr	93.81	288	P		P	14 10 30.6	+1.5
CMAR	Chiang Mai Arr	93.81	288	P		P	14 10 30.6	+1.5
	comp=Z,5.9nm,1.0s,baz=98,slow=2.8,SNR=35							
CHTO	Chiang Mai	93.91	288	eP		P	14 10 31.2	+1.6
CHTO				pmax		pmax		
	comp=Z,209nm,1.8s							
CHTO	Chiang Mai	93.91	288	eP		P	14 10 31.1	+1.6
	comp=Z,209nm,1.8s							
CHTO	Chiang Mai	93.91	288	P		P	14 10 31.9	+2.4
	comp=Z,190nm,3.0s							
CHTO	Chiang Mai	93.91	288	P		P	14 10 31.9	+2.4
	comp=Z,190nm,3.0s							
ULM	Lac du Bonnet	94.45	39	P		P	14 10 30.2	-1.0
ULM	Lac du Bonnet	94.45	39	P		P	14 10 30.2	-1.0
	comp=Z,7.5nm,0.9s,baz=231,slow=6.8,SNR=4.7							
LZH	Lanzhou	94.67	306	eP		P	14 10 34.3	+1.4
LZH				pP		pP	14 10 39.8	-1.0
LZH				sP		sP	14 10 42.3	-1.3
LZH				PP		PP	14 14 19.5	-2.0
LZH				SKS		SKSac	14 21 07.5	+0.3
LZH				eS		S	14 21 43.8	-1.2
LZH				sS		sS	14 21 57.3	-0.8
LZH				pmax		pmax		
	comp=Z,33nm,1.1s							
LZH				pmax		pmax		
	comp=Z,180nm,5.1s							
LZH				LR		LR		
	comp=N,1μm,17.2s							
LZH				LR		LR		
	comp=E,2μm,17.0s							
LZH				LR		LR		
	comp=Z,2μm,18.8s							
ULN	Ulaanbaatar	95.97	318	P		P	14 10 40.3	+1.8
SONM	Songino Array	96.38	318	P		P	14 10 40.2	-0.2
SONM	Songino Array	96.38	318	P		P	14 10 40.2	-0.2
	comp=Z,0.9nm,0.9s,baz=132,slow=2.2,SNR=5.3							
TIXI	Tiksi	96.50	344	ceP		P	14 10 39.8	-0.3
TIXI				pmax		pmax		
	comp=Z,9.0nm,1.6s							
LPAZ	La Paz	98.58	110	P		Pdif	14 10 52.9	+1.2
LPAZ	La Paz	98.58	110	P		Pdif	14 10 52.9	+1.2
	comp=Z,1.1nm,0.9s,baz=297,slow=11,SNR=3.3							
GTA	Gaotai	98.65	308	eP		Pdif	14 10 52.3	+1.5
GTA				pP		pP	14 10 56.3	-2.4
GTA				sP		sP	14 10 59.0	-2.5
GTA				pmax		pmax		
	comp=Z,5.0nm,1.8s							
ZAK	Zakamensk	99.07	320	eP		Pdif	14 10 51.7	-0.6
ZAK				pmax		pmax		
	comp=Z,4.0nm,1.5s							
MKAR	Makanchi Array	112.34	314	PKIKP		PKiKP	14 15 46.4	-0.8
MKAR	Makanchi Array	112.34	314	PKiKP		PKiKP	14 15 46.4	-0.8
MKAR	Makanchi Array	112.34	314	PKiKP		PKiKP	14 15 46.4	-0.8
	comp=Z,1.8nm,0.8s,baz=56,slow=2.0,SNR=12							
KURK	Kurchatov	114.68	319	c iPKIKP		PKPdf	14 15 51.0	-0.5
KURK				pmax		pmax		
	comp=Z,2.0nm,1.2s							
KSH	Kashi	116.92	306	PKP		PKPdf	14 15 56.8	+0.4
KSH				PP		PP	14 17 07.8	+2.1
KSH				PKS		PKSdf	14 19 32.3	-0.9
KSH				SKS		SKSdf	14 23 08.0	+0.7
KSH				SKKS		SKKSac	14 24 01.0	-4.2
KSH				AMB		AMB		
	comp=Z,93nm,3.8s							
KSH				LR		LR		
	comp=N,91nm,6.7s							
KSH				LR		LR		
	comp=E,110nm,4.8s							
KSH				LR		LR		
	comp=Z,200nm,7.1s							
AAK	Ala-Archa	117.97	310	c iPKIKP		PKPdf	14 15 57.5	-0.9
AAK				pmax		pmax		
	comp=Z,13nm,2.5s							
BRVK	Borovoye	119.49	322	c iPKIKP		PKPdf	14 16 00.3	-0.4
BRVK				pmax		pmax		
	comp=Z,10.0nm,1.2s							
KBL	Kabul	122.54	301	ePKIKP		PKPdf	14 16 08.0	+0.5
KBL	Kabul	122.54	301	ePKPdf		PKPdf	14 16 08.0	+0.5
ARU	Arti	124.90	328	i PKIKP		PKPdf	14 16 10.8	-0.2
ARU							14 17 58.2	
ARU							14 23 05.8	
ARCES	ARC

KWP	Kalwaria Pacla	144.93 343	⇑*iP*	PKPdf	14 16 48.3	-0.1
KWP	Kalwaria Pacla	144.93 343	*e*PKP	PKPdf	14 16 48.1	-0.3
KIS	Kishinev	145.03 334	*eP*	PKPbc	14 16 45.0	-3.0
OJC	Ojcow	145.14 346	*e*PKIKP	PKPbc	14 16 47.7	-0.6
OJC	Ojcow	145.14 346	*e*PKPdf	PKPbc	14 16 47.7	-0.6
ERBA	Erbaa	145.22 319	*i P*	PKPdf	14 16 49.4	+0.2
CLL	Collm	145.22 354	*e*PKPbc	PKPbc	14 16 48.1	-0.3
CLL	Collm	145.22 354	⇑*i*PKIKP	PKPbc	14 16 48.1	-0.3
CLL			pmax	pmax		
	comp=Z,15nm,0.9s					
CLL	Collm	145.22 354	⇑*i*PKPdf	PKPbc	14 16 48.1	-0.3
	comp=Z,15nm,0.9s					
CLL			*i*		14 16 50.4	
	comp=Z,36nm,1.5s					
CLL			*e*		14 17 11.0	
KSP	Ksiaz	145.24 350	*e*PKIKP	PKPbc	14 16 48.2	-0.3
KSP	Ksiaz	145.24 350	*e*PKP	PKPbc	14 16 48.2	-0.3
BUG	Bochum--Univer	145.37 0	*e*PKPbc	PKPbc	14 16 48.8	-0.1
MALT	Malatya	145.38 315	⇓PKP2	PKPbc	14 16 48.4	-1.2
MALT	Malatya	145.38 315	⇓*iP*	PKPbc	14 16 48.3	-1.3
SCER	sogukcermik	145.44 318	*i P*	PKPab	14 16 50.7	+0.8
STHS	Stebnicka Huta	145.53 344	*e*PKIKP	PKPab	14 16 50.4	+0.6
STHS	Stebnicka Huta	145.53 344	*e*PKP	PKPab	14 16 50.4	+0.6
BRG	Berggiesshubel	145.55 353	*e*PKP	PKPbc	14 16 49.5	0.0
	comp=Z,15nm,0.8s					
BRG	Berggiesshubel	145.55 353	*e*PKPbc	PKPbc	14 16 49.6	+0.1
BRG	Berggiesshubel	145.55 353	*e*PKIKP	PKPbc	14 16 49.5	0.0
BRG			pmax	pmax		
	comp=Z,24nm,0.8s					
UPC	Upice	145.61 350	*e*PKIKP	PKPab	14 16 50.1	+0.1
UPC	Upice	145.61 350	*e*PKP	PKPab	14 16 50.1	+0.1
KMBO	Kilima Mbogo	145.67 242	*e*PKPbc	PKPab	14 16 52.5	+0.8
KMBO	Kilima Mbogo	145.67 242	PKPbc	PKPab	14 16 52.4	+0.8
	comp=Z,34nm,1.2s,baz=87,slow=2.8,SNR=41					
KOLS	Kolonicke sedl	145.69 343	*e*PKIKP	PKPab	14 16 50.3	-0.1
KOLS	Kolonicke sedl	145.69 343	*e*PKP	PKPab	14 16 50.3	-0.1
DPC	Dobruska-Polom	145.71 350	*e*PKIKP	PKPab	14 16 50.5	0.0
DPC	Dobruska-Polom	145.71 350	*e*PKP	PKPab	14 16 50.5	0.0
AKCD	Akcadag	145.74 315	*i P*	PKPab	14 16 51.3	+0.2
NIE	Niedzica	145.77 345	*e*PKIKP	PKPab	14 16 50.5	-0.2
NIE	Niedzica	145.77 345	*e*PKPdf	PKPab	14 16 50.5	-0.2
PVCC	Panska Ves	145.81 352	*e*PKIKP	PKPbc	14 16 50.5	+0.2
PVCC	Panska Ves	145.81 352	*e*PKP	PKPbc	14 16 50.5	+0.2
OKC	Ostrava-Krasne	145.86 348	*e*PKIKP	PKPbc	14 16 50.3	-0.2
OKC	Ostrava-Krasne	145.86 348	*e*PKP	PKPbc	14 16 50.3	-0.2
BUR08	Bucovina Ar. S	145.88 338	*e*PKPbc	PKPab	14 16 51.9	+0.6
ATAB	Bozova	145.89 313	*i P*	PKPab	14 16 52.1	+0.5
BURAR	Bucovina Array	145.90 338	⇑PKIKP	PKPab	14 16 52.5	+1.2
BURAR	Bucovina Array	145.90 338	⇑*i*P	PKPab	14 16 52.5	+1.2
UBBA	Unterbreizbach	145.94 357	*e*PKPbc	PKPab	14 16 50.9	-0.2
CRVS	Cervenica-Dubn	145.94 343	*e*PKIKP	PKPab	14 16 51.3	0.0
CRVS	Cervenica-Dubn	145.94 343	*e*PKP	PKPab	14 16 51.3	0.0
UZH	Uzhgorod	145.95 342	*d i*PKIKP	PKPab	14 16 51.2	-0.1
UZH			*e*		14 17 03.6	
MENF	Mencas	145.99 6	PKP	PKPbc	14 16 51.0	+0.1
BEBN	Eben Emael	145.99 2	PKP	PKPbc	14 16 50.6	-0.2
MOX	Moxa	146.01 355	*e*PKPbc	PKPab	14 16 51.3	-0.2
MORC	Moravsky Berou	146.04 348	⇑PKIKP	PKPdf	14 16 50.2	-0.2
MORC	Moravsky Berou	146.04 348	*e*PKPbc	PKPbc	14 16 51.2	0.0
MORC	Moravsky Berou	146.04 348	⇑*i*P	PKPdf	14 16 50.2	-0.2
TANN	Tannenbergstha	146.16 354	*e*PKPbc	PKPab	14 16 52.0	-0.2
MEM	Membach	146.19 2	PKP	PKPbc	14 16 51.8	+0.3
SNF	Seneffe	146.21 4	PKP	PKPab	14 16 52.1	-0.1
PRA	Prague	146.27 352	PKP	PKPbc	14 16 52.0	+0.2
TESR	Tescani	146.30 336	⇑*i*P	PKPbc	14 16 52.1	+0.1
TRPA	Tarpa	146.33 342	⇓*e*PKPdf	PKPab	14 16 52.9	+0.1
PRU	Pruhonice	146.34 352	*e*PKP2	PKPbc	14 16 52.0	0.0
PRU	Pruhonice	146.34 352	*e*PKP	PKPbc	14 16 52.0	0.0
BCLA	Clavier	146.35 2	PKP	PKPab	14 16 52.2	+0.2
TLCR		146.45 332	⇑PKP2	PKPab	14 16 53.3	0.0
TLCR		146.45 332	⇑*i*P	PKPab	14 16 53.3	0.0
GZT	Gaziantep	146.45 314	*i P*	PKPbc	14 16 53.0	+0.1
PINB	Pinarbasi	146.55 317	*i P*	PKPbc	14 16 53.5	+0.2
TNS	Taunus Mts	146.58 359	*e*PKPbc	PKPab	14 16 53.5	-0.3
KECS	Kecovo	146.59 344	*e*PKP2	PKPab	14 16 53.4	-0.4
KECS	Kecovo	146.59 344	*e*PKP	PKPab	14 16 53.4	-0.4
DOU	Dourbes	146.64 3	PKP	PKPbc	14 16 52.1	-0.8
ARCR	ARCALIA	146.66 339	⇑*i*P	PKPab	14 16 54.7	+0.6
VRAC	Vranov	146.67 349	⇓*i*P	PKPbc	14 16 53.0	0.0
CFR	Carcaliu	146.75 333	⇑PKP2	PKPab	14 16 54.2	-0.3
CFR	Carcaliu	146.75 333	⇑*i*P	PKPab	14 16 54.2	-0.3
VRI	Vrincioaia	146.79 335	⇓PKP2	PKPbc	14 16 53.3	-0.2
VRI	Vrincioaia	146.79 335	⇓*i*P	PKPbc	14 16 53.3	-0.2
ROTZ	Rotzenmuhle	146.83 354	*e*PKPbc	PKPab	14 16 54.4	-0.3
ILGA	Ilgaz	146.83 322	*i P*	PKPbc	14 16 54.3	+0.3
PLOR	Plostina	146.84 335	⇓PKP2	PKPbc	14 16 54.0	+0.4
PLOR	Plostina	146.84 335	⇓*i*P	PKPbc	14 16 54.0	+0.4
TREC	Trest	146.87 350	*e*PKP2	PKPbc	14 16 54.1	+0.5
TREC	Trest	146.87 350	*e*PKP	PKPbc	14 16 54.1	+0.5
AYKD	Aykdinkavak	146.94 314	*i P*	PKPdf	14 16 51.8	-0.4
GRF	Grafenberg Arr	146.98 356	*e*PKPbc	PKPbc	14 16 54.5	+0.6
KUZU	Kuzuini	147.08 315	*i P*	PKPbc	14 16 55.2	+0.5
BST	Brest	147.13 14	PKP	PKPab	14 16 54.7	-0.4
WLF	Walferdange	147.13 2	PKP	PKPab	14 16 55.6	-0.3
WLF	Walferdange	147.13 2	*e*PKPbc	PKPab	14 16 55.3	-0.6
WLF	Walferdange	147.13 2	*e*PKP2	PKPab	14 16 55.1	-0.8
WLF	Walferdange	147.13 2	*e*PKPbc	PKPab	14 16 55.0	-0.8
TIRR	Tirgusor	147.19 332	⇑PKIKP	PKPdf	14 16 52.3	-0.1
TIRR	Tirgusor	147.19 332	⇑*i*P	PKPdf	14 16 52.3	-0.1
HARR	Harsova	147.23 333	⇑PKP2	PKPab	14 16 56.9	+0.5
HARR	Harsova	147.23 333	⇑*i*P	PKPab	14 16 56.9	+0.5
DOPR	Dopca	147.24 337	⇑*i*P	PKPab	14 16 56.8	+0.4
PSZ	Piszkesteto	147.26 344	⇑PKP2	PKPab	14 16 55.7	-0.8
PSZ	Piszkesteto	147.26 344	*e*PKPbc	PKPbc	14 16 55.3	+0.5
PSZ	Piszkesteto	147.26 344	⇑*i*P	PKPab	14 16 55.7	-0.8
PSZ	Piszkesteto	147.26 344	⇓*e*	PKPab	14 16 56.0	-0.5
TLB	Topalu	147.26 332	⇑PKP2	PKPab	14 16 55.9	-0.6
TLB	Topalu	147.26 332	⇑*i*P	PKPab	14 16 55.9	-0.6
KHC	Kasperske Hory	147.30 353	*e*PKIKP	PKPdf	14 16 53.0	+0.5
KHC	Kasperske Hory	147.30 353	*e*PKP	PKPdf	14 16 53.0	+0.5
KHC	Kasperske Hory	147.30 353	*e*PKPbc	PKPbc	14 16 55.2	+0.4
CDAG	Cicekdag	147.31 320	*i P*	PKPbc	14 16 54.5	-0.8
WET	Wettzell	147.37 353	*e*PKPbc	PKPab	14 16 56.0	-0.9
MLR	Muntele Rosu	147.42 336	⇑*i*P	PKPbc	14 16 54.5	-0.9
DRGR		147.47 340	⇑PKP2	PKPbc	14 16 55.9	+0.5
DRGR		147.47 340	⇑*i*P	PKPbc	14 16 55.9	+0.5
ISR	Istrita	147.48 334	⇓PKP2	PKPab	14 16 57.2	-0.3
ISR	Istrita	147.48 334	⇓*i*P	PKPab	14 16 57.2	-0.3
AVNT	Avonos	147.50 318	*i P*	PKPdf	14 16 52.8	-0.5
GEC2	GERESS Array S	147.57 352	*e*PKPbc	PKPbc	14 16 56.2	+0.6
GERES	GERESS Array B	147.57 352	PKPbc	PKPbc	14 16 55.8	+0.1
GERES	GERESS Array B	147.57 352	PKPbc	PKPbc	14 16 55.8	+0.1
	comp=Z,5.3nm,0.7s,baz=28,slow=2.3,SNR=31					
ZST	Bratislava	147.64 348	*e*PKP2	PKPbc	14 16 56.6	+0.9
ZST	Bratislava	147.64 348	*e*PKP	PKPbc	14 16 56.6	+0.9
BR131	Keskin Array S	147.71 320	*e*PKPbc	PKPbc	14 16 56.7	+0.3
BRTR	Keskin Array B	147.71 320	*e*PKPbc	PKPbc	14 16 56.9	+0.5
BRTR	Keskin Array B	147.71 320	PKPbc	PKPbc	14 16 56.9	+0.5
	comp=Z,20nm,0.9s,baz=90,slow=2.9,SNR=58					
COBT	Iskenderun	147.78 313	*i P*	PKPbc	14 16 57.4	+0.7
VOIR		147.81 336	⇓PKP2	PKPbc	14 16 57.3	+0.9
VOIR		147.81 336	⇓*i*P	PKPbc	14 16 57.3	+0.9
LANF	Langenberg	147.84 360	PKP	PKPbc	14 16 57.1	+0.8
PSN	Preselentsi	147.90 331	*i P*	PKPbc	14 16 55.7	-0.9
STU	Stuttgart	148.01 358	*e*PKPbc	PKPbc	14 16 57.3	+0.6
ARR	Arges	148.03 337	⇓*i*P	PKPbc	14 16 57.8	+0.8
ANTO	Ankara	148.13 321	⇓PKP2	PKPbc	14 16 58.1	+0.7
ANTO	Ankara	148.13 321	*e*PKPbc	PKPbc	14 16 58.4	+1.0
ANTO	Ankara	148.13 321	⇓*i*P	PKPbc	14 16 58.1	+0.7
CONA	Conrad Observa	148.13 349	⇓*i*PKIKP	PKPbc	14 16 57.6	+0.4
	comp=Z,60nm,1.8s,SNR=15					
SOP	Sopron	148.24 348	⇓*e*	PKPbc	14 16 58.7	+1.4
SIRR	Siria	148.26 341	⇑*i*P	PKPbc	14 16 58.3	+0.8
LOT	Lotru	148.28 338	⇓*i*P	PKPdf	14 16 53.4	-0.9
GULE	Gulek	148.39 316	*i P*	PKPdf	14 16 54.4	-0.4
MOA	Molln	148.47 351	⇑*i*pPKPdf	PKPbc	14 16 58.0	0.0
	comp=Z,30nm,1.4s,SNR=10					
BFO	Black Forest	148.48 359	*e*PKPbc	PKPbc	14 16 58.5	+0.4
BFO	Black Forest	148.48 359	*e*PKP2	PKPbc	14 16 58.4	+0.4
BFO	Black Forest	148.48 359	*e*PKPbc	PKPbc	14 16 58.4	+0.4
FUR	Furstenfeldbru	148.50 355	*e*PKPbc	PKPbc	14 16 58.7	+0.7
THEF	They Montfort	148.57 2	PKP	PKPbc	14 16 59.0	+0.8
ECH	Echery	148.60 0	*e*PKP2	PKPbc	14 16 58.6	+0.3
ECH	Echery	148.60 0	PKP	PKPbc	14 16 59.0	+0.7
ECH	Echery	148.60 0	*e*PKPbc	PKPbc	14 16 58.6	+0.3
ECH			*e*PKPab	PKPab	14 17 02.0	+0.2
PRD	Provadia	148.63 331	*i P*	PKPbc	14 16 58.9	+0.4
GZR	Gura Zlata	148.67 339	⇓PKIKP	PKPbc	14 16 58.6	0.0
GZR	Gura Zlata	148.67 339	⇓*i*P	PKPbc	14 16 58.6	0.0
RJOB	Jochberg	148.77 353	*e*PKPbc	PKPbc	14 16 59.4	+0.6
ARSA	Arzberg	148.84 349	⇓*i*PKPbc	PKPbc	14 16 58.7	-0.3
	comp=Z,27nm,1.8s,SNR=7.5					
BZS	Buzias	148.86 341	⇑PKP2	PKPbc	14 16 58.3	-0.7
BZS	Buzias	148.86 341	⇑*i*P	PKPbc	14 16 58.3	-0.7
MOF	Molkenrain	148.97 0	PKP	PKPbc	14 16 59.9	+0.6
RETA	Reutte	149.21 356	⇑*i*PKiKP	PKPbc	14 17 00.0	+0.1
	comp=Z,27nm,1.4s,SNR=8.0					
SZH	Strazhica	149.23 333	*i P*	PKPbc	14 16 59.3	-0.7
KIZK	Mersin	149.25 315	*i P*	PKPbc	14 17 00.4	+0.1
MOTA	Moosalm	149.32 355	⇑*i*PKiKP	PKPbc	14 17 00.4	+0.1
	comp=Z,19nm,0.9s,SNR=7.5					
KBA	Koelnbreinsper	149.35 352	⇑*i*PKPbc	PKPbc	14 16 59.8	-0.7
	comp=Z,16nm,1.4s,SNR=5.4					
BEHE	Becsehely	149.35 347	⇓*e*	PKPbc	14 16 59.3	-0.9
LOMF	Lomont	149.46 1	PKP	PKPbc	14 17 01.2	+0.6
DAVA	Damuels	149.47 357	⇓*i*PKiKP	PKPbc	14 17 01.1	+0.4
	comp=Z,25nm,1.1s,SNR=7.4					
BORA	Eskisehir	149.48 324	*i P*	PKPdf	14 16 56.8	+0.4
SOKA	Soboth	149.49 350	⇑*i*PKPbc	PKPbc	14 17 00.2	-0.4
	comp=Z,28nm,1.3s,SNR=8.4					
BUY	Buyukada	149.54 326	*i P*	PKPdf	14 16 58.4	+2.1
FETA	Feichten	149.68 356	⇓*i*PKiKP	PKPbc	14 17 01.2	0.0
	comp=Z,31nm,1.1s,SNR=9.8					
MYKA	Terra Mystica	149.75 352	⇓*i*PKPbc	PKPbc	14 17 00.3	-1.0
	comp=Z,26nm,1.4s,SNR=6.6					
ABTA	Abfaltersbach	149.78 353	⇓*i*PKPbc	PKPbc	14 17 00.7	-0.6
	comp=Z,34nm,1.0s,SNR=13					
ERMK	Ermenek	149.98 316	*i P*	PKPbc	14 17 02.3	-0.1
MPEP	Malo Peshtene	150.07 336	*i P*	PKPbc	14 17 01.6	-0.5
LJU	Ljubljana	150.19 350	*i* PKPbc	PKPbc	14 17 01.9	-0.4
TUE	Stuetta	150.31 357	*e*PKPbc	PKPbc	14 17 02.7	-0.1
VISS	Visnje	150.37 350	*i* PKPbc	PKPbc	14 17 03.2	+0.5
JAVS	Javornik	150.41 351	*i* PKPdf	PKPdf	14 16 57.6	-0.1
JAVS			*i* PKPbc	PKPbc	14 17 03.0	0.0
AGO	Saint Agoulin	150.54 6	PKP	PKPbc	14 17 03.7	+0.5
PGB	Panagyurishte	150.57 334	*i P*	PKPbc	14 17 03.6	+0.2
GDZ	Gediz	150.57 324	*i P*	PKPbc	14 17 03.4	-0.2
BOJS	Bojanci	150.58 349	*i* PKPdf	PKPdf	14 16 57.9	0.0
BOJS			*i* PKPbc	PKPbc	14 17 03.2	0.0
GAZI	Gazipasa	150.61 316	*i P*	PKPbc	14 17 03.0	-0.6
CSS	Prodhromos	150.61 313	*e*PKPbc	PKPbc	14 17 04.0	+0.3
TRI	Trieste	150.63 351	*e*PKIKP	PKPbc	14 17 03.2	-0.1
TRI	Trieste	150.63 351	*e*PKPbc	PKPbc	14 17 03.2	-0.1
PLDF	La Plantade	150.67 5	PKP	PKPbc	14 17 04.2	+0.6
OG35	Corcelles	150.73 3	PKP	PKPbc	14 17 04.5	+0.8
KDZ	Kurdzhali	150.76 332	*i P*	PKPbc	14 17 03.8	0.0
ISP	Isparta	150.79 321	*e*PKIKP	PKPbc	14 17 04.1	-0.1
ISP	Isparta	150.79 321	*e*PKPbc	PKPbc	14 17 04.0	-0.1
PYM	Petit Puy Mans	150.83 6	PKP	PKPbc	14 17 04.8	+0.9
VTS	Vitosha	150.92 336	⇑PKIKP	PKPbc	14 17 05.5	+1.1
VTS	Vitosha	150.92 336	⇑*i*P	PKPbc	14 17 05.5	+1.1
VTS	Vitosha	150.92 336	*i P*	PKPbc	14 17 04.3	-0.1
RZN	Rozhen	151.04 333	*i P*	PKPbc	14 17 04.1	-0.6
BALY	Balya	151.13 327	*i P*	PKPbc	14 17 03.9	-0.9
LBL	Lubilhac	151.37 6	PKP	PKPbc	14 17 06.2	+1.0
KORT	Korkueli	151.42 319	*i P*	PKPbc	14 17 05.7	0.0
SSB	Saint Sauveur	151.44 4	*e*PKIKP	PKPdf	14 16 59.8	+0.6
SSB			*e*		14 17 05.8	
SSB	Saint Sauveur	151.44 4	PKP	PKPbc	14 17 06.2	+0.9
SSB	Saint Sauveur	151.44 4	*e*PKPdf	PKPdf	14 16 59.8	+0.6
SSB			*e*PKPbc	PKiKP	14 17 05.8	0.0
PGAV	Gavieira, Arco	151.46 25	*e*PKPbc	PKPbc	14 17 06.2	+0.7
MMB	Musomiste	151.55 334	*i P*	PKPbc	14 17 05.4	-0.3
KKB	Krupnik	151.58 335	*i P*	PKPbc	14 17 06.0	+0.3
AKHS	Akhisar	151.65 325	*i P*	PKPbc	14 17 04.9	-1.0
BNI	Bardonecchia	151.76 1	*e*PKIKP	PKPdf	14 17 00.7	+0.8
BNI			*e*		14 17 07.3	
BNI			*e*		14 17 15.9	
BNI	Bardonecchia	151.76 1	*e*PKPdf	PKPdf	14 17 00.7	+0.8
BNI			*e*PKPbc	PKiKP	14 17 07.3	+0.7
BNI			*e*PKPab	PKPab	14 17 15.9	+0.9
POLO	Lamas de Olo	152.15 25	*e*PKPbc	PKPbc	14 17 08.2	+1.1
POLO	Lamas de Olo	152.15 25	*e*PKPab	PKPab	14 17 17.6	+0.9
PBRG	Braganca	152.19 23	*e*PKPbc	PKPbc	14 17 07.3	+0.1
PBRG	Braganca	152.19 23	*e*PKPab	PKPab	14 17 17.5	+0.7
MVO	Moncorvo	152.63 24	*e*PKPbc	PKPbc	14 17 09.5	+1.3
MTE	Manteigas	153.07 26	*e*PKPbc	PKPbc	14 17 10.2	+1.0
MTE	Manteigas	153.07 26	*e*PKPab	PKPab	14 17 21.1	+0.5
PMTG	Montargil	153.86 29	*e*PKPbc	PKPbc	14 17 11.0	+0.2
PMTG	Montargil	153.86 29	*e*PKPab	PKPab	14 17 24.0	+0.1
PMRV	Marv??o	153.94 27	*e*PKPbc	PKPbc	14 17 11.9	+0.9
ESDC	Sonseca Array	155.07 21	PKP	PKPdf	14 17 05.2	+0.5
ESDC			PKPbc	PKPbc	14 17 13.8	
ESDC			PKPab	PKPab	14 17 29.0	0.0
ESDC	Sonseca Array	155.07 21	PKP	PKPdf	14 17 05.2	+0.5
	comp=Z,0.2nm,0.3s,baz=17,slow=1.3,SNR=4.4					
ESDC			PKPbc	PKPbc	14 17 13.8	
	comp=Z,0.2nm,0.3s,baz=338,slow=3.6,SNR=6.5					
ESDC			PKPab	PKPab	14 17 29.0	0.0
	comp=Z,2.4nm,0.7s,baz=323,slow=3.8,SNR=16					
DBIC	Dimbokro	164.34 128	PKP	PKPdf	14 17 15.4	-0.5
DBIC	Dimbokro	164.34 128	PKP	PKPdf	14 17 15.4	-0.5
	comp=Z,9.2nm,1.3s,baz=223,slow=4.3,SNR=3.7					
TORD	Torodi Ar. Bea	173.39 122	PKP	PKPdf	14 17 20.8	-0.8
TORD			PKPab	PKPab	14 18 49.4	-0.7
TORD			PP	PP	14 22 40.2	-1.4
TORD	Torodi Ar. Bea	173.39 122	PKP	PKPdf	14 17 20.8	-0.8
	comp=Z,3.0nm,1.1s,baz=230,slow=2.8,SNR=12					
TORD			PKPab	PKPab	14 18 49.4	-0.7
	comp=Z,5.2nm,0.9s,baz=256,slow=5.3,SNR=16					
TORD			PP	PP	14 22 40.2	-1.4
	comp=Z,2.5nm,1.3s,baz=243,slow=6.5,SNR=3.8					

IDC 30 14:00:36.3±1.0, 16°.07S×172°.96W, h0km, mb4.0/7, mb1 4.2/7, mb1mx4.0/21, mbtmp4.0/7, Error ellipse: s-maj=47.2km s-min=23.2km az=140.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	44.07	241	P	P	14 08 46.9	+0.6
	1.8nm,0.9s,baz=149,slow=5.9,SNR=2.6						
WRA	Warramunga Arr	50.10	257	P	P	14 09 32.6	-1.0
	1.0nm,0.8s,baz=90,slow=7.6,SNR=4.7						
ASAR	Alice Springs	50.31	252	P	P	14 09 34.1	-1.0
	3.1nm,0.9s,baz=85,slow=8.7,SNR=9.2						
QSPA	South Pole Qui	73.98	180	P	P	14 12 13.6	0.0
	4.2nm,1.0s,baz=359,slow=3.0,SNR=4.0						
NVAR	Mina Array Bea	74.54	42	P	P	14 12 17.4	0.0
	0.6nm,0.6s,baz=230,slow=9.3,SNR=5.0						
ILAR	Eielson Array	83.02	11	P	P	14 13 02.4	-0.7
	0.5nm,0.7s,baz=220,slow=5.8,SNR=3.9						
CMAR	Chiang Mai Arr	93.22	288	P	P	14 13 55.2	+1.8
	0.3nm,0.3s,baz=83,slow=3.7,SNR=3.1						
BRTR	Keskin Array B	146.94	321	PKPbc	PKPbc	14 20 20.9	-0.4
	3.0nm,1.0s,baz=101,slow=2.5,SNR=4.7						

KRSC 30 14:04:25.0±3.7, 54°.24N×160°.84E, h76km±75km, ML3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	Mys Kozlova	0.61	58	P	Pn	14 04 41.8	+2.4
MKZ				S	Sn	14 04 53.4	+3.4
KII	Karymskiy	0.84	257	P	Pn	14 04 44.4	+2.4
KII				S	Sn	14 04 58.2	+3.5
TUMR	Tumrok	1.12	339	P	Pn	14 04 47.9	+2.5
TUMR				S	Sn	14 05 04.0	+3.3
NLC	Nalytchevo	1.39	220	P	Pn	14 04 50.7	+2.0
NLC				S	Sn	14 05 09.2	+2.7
SDLR	Sedlovina	1.51	231	P	Pn	14 04 52.7	+2.3
SDLR				S	Sn	14 05 12.3	+2.7
KRER	Koryakskii	1.56	234	P	Pn	14 04 53.6	+2.5
KRER				S	Sn	14 05 13.9	+3.0
SMAR	Somma	1.56	232	P	Pn	14 04 53.0	+1.8
SMAR				S	Sn	14 05 12.9	+2.0
KMNR	Kamenistaya	1.56	347	P	Pn	14 04 53.2	+2.1
KMNR				S	Sn	14 05 13.3	+2.6
KRX	Arik	1.57	237	P	Pn	14 04 53.6	+2.3
KRX				S	Sn	14 05 13.8	+2.7
UGLR	Uglovaya	1.58	230	P	Pn	14 04 53.7	+2.3
UGLR				S	Sn	14 05 14.0	+2.7
AVH	Avacha	1.58	233	P	Pn	14 04 54.0	+2.6
AVH				S	Sn	14 05 14.8	+3.5
KOK	Koryaka	1.62	235	P	Pn	14 04 54.2	+2.4
KOK				S	Sn	14 05 15.2	+3.1
BZGR	Bezymyannyi-Gr	1.71	357	P	Pn	14 04 55.3	+2.3
BZGR				S	Sn	14 05 16.9	+2.7
BZWR	Bezymyannyi-We	1.74	354	P	Pn	14 04 56.0	+2.5
KIRR	Kirishev	1.74	351	P	Pn	14 04 55.7	+2.2
KIRR				S	Sn	14 05 17.5	+2.4
KPT	Kopyto	1.77	349	P	Pn	14 04 55.9	+2.1
PET	Petropavlovsk	1.78	228	P	Pn	14 04 56.0	+2.2
PET				S	Sn	14 05 18.2	+2.5
GNL	Ganaly	1.80	253	P	Pn	14 04 56.7	+2.5
GNL				S	Sn	14 05 19.3	+2.9
KOZ	Kozyrevsk	1.91	343	P	Pn	14 04 57.3	+1.8
KRSR	Krestovskiy	1.99	356	P	Pn	14 04 59.5	+2.8
KLY	Klyuchi	2.08	357	P	Pn	14 05 00.0	+2.2
KLY				S	Sn	14 05 25.0	+2.2
ESO	Esso	2.09	325	P	Pn	14 04 59.3	+1.3
ESO				S	Sn	14 05 23.6	+0.5
SRDR	Sredinnyy	2.18	343	P	Pn	14 05 00.5	+1.3
KBTR	Krutoberegovo	2.27	29	P	Pn	14 05 02.6	+2.2
KBTR				S	Sn	14 05 29.5	+2.0
RUS	Russkaya	2.29	219	P	Pn	14 05 02.1	+1.5
RUS				S	Sn	14 05 28.5	+0.7
BDR	Baidarnaya	2.34	5	P	Pn	14 05 04.0	+2.5
GRL	Gorelyy	2.37	226	P	Pn	14 05 04.4	+2.5
MTVR	Mutnovka	2.37	223	P	Pn	14 05 04.1	+2.1
MTVR				S	Sn	14 05 32.6	+2.3
SMKR	Semkarok	2.38	8	P	Pn	14 05 03.9	+2.0
SRKR	Sorokina	2.43	4	P	Pn	14 05 04.4	+1.8
APC	Apacha	2.56	241	P	Pn	14 05 06.9	+2.6
ASAK	Asacha	2.56	225	P	Pn	14 05 07.0	+2.6
ASAK				S	Sn	14 05 36.9	+2.2
BKI	Bering	3.13	70	S	Sn	14 05 48.0	-0.2
SKR	Severo-Kuril's	4.59	221	S	Sn	14 06 24.9	+1.2

*DJA **30** 14:05:25.1±0.9, 1°.S±3°.×10°.0E±°, h12km±6km, M4.0/4, MLv4.0/4*
*IDC **30** 14:05:29.0±4.0, 0°.42S×100°.52E, h78km±37km, mb3.2/5, mb1 3.3/6, mb1mx3.2/24, mbtmp3.2/6, Error ellipse: s-maj=139.7km s-min=19.9km az=57.0*

ISC 30 14:05:21.8±1.1, 1°.21S±0°.06×99°.29E±0°.09, h35km, n17, σ2.68/15, mb3.6/5, Southern Sumatera

| Code | Station

15nm,0.3s
TKM2 ⇓S **Sn** **14 38 30.6 -0.1**
169nm,0.2s
TKM2 Tokmak 2 1.24 309 P **Pn** **14 38 13.1 -0.8**
43nm,0.1s,SNR=47
TKM2 ⇓S **Sn** **14 38 30.8 +0.1**
519nm,0.2s
KBK Karagaybulak 1.54 290 ⇑P **Pn** **14 38 18.4 +0.5**
20nm,0.1s,SNR=37
KBK ⇓S **Sg** **14 38 40.2 +0.4**
159nm,0.2s
CHMS Chumysh 1.80 299 ⇓P **Pb** **14 38 22.6 -0.8**
5.6nm,0.1s,SNR=17
CHMS ⇑S **Sb** **14 38 47.1 +1.0**
34nm,0.1s
AAK Ala-Archa 1.85 286 ⇑P **Pb** **14 38 23.7 -0.6**
8.4nm,0.1s,SNR=21
AAK ⇑S **Sb** **14 38 48.4 +0.9**
107nm,0.2s
USP Ospenovka 2.10 303 ⇑P **Pb** **14 38 27.1 -1.3**
26nm,0.3s,SNR=38
KK31 Karatay Array 4.81 284 ⇑Pg **Pb** **14 39 17.0 +2.3**
2.6nm,0.6s,baz=100,slow=15,SNR=11
KK31 Lg Lg 14 40 19.2
4.6nm,0.5s,baz=102,slow=29,SNR=26
MK31 Makanchi Array 6.04 38 ⇓Pn **Pn** **14 39 20.4 +0.9**
0.4nm,0.5s,baz=214,slow=14,SNR=5.2
MK31 ⇓Sn **Sn** **14 40 28.4 -0.3**
0.8nm,0.5s
MK31 ⇓Lg Lg 14 40 57.1
5.2nm,0.8s,baz=214,slow=27,SNR=5.5

*IDC **30** 14:41:35.8±0.7, 16°.76S×172°.86W, h0km, mb4.1/9, mb1 4.4/10, mb1mx4.2/21, mbtmp4.1/10, ML2.1/1, Error ellipse: s-maj=30.4km s-min=17.5km az=131.0*
*NEIC **30** 14:41:37.5±0.5, 16°.71S×172°.92W, h10km, mb4.7/3, Error ellipse: s-maj=22.1km s-min=12.5km az=119.0*
*ISCJB **30** 14:41:39.1±0.6, 16°.7S±0°.1×173°.0W±0°.2, h32km, mb4.2/11, Error ellipse: s-maj=24.5km s-min=12.3km az=29.6*
ISC 30 14:41:40.4±0.6, 16°.6S±0°.1×172°.9W±0°.2, h32km, n35, σ1§49/38, mb4.2/11, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.85**	**22**	*eP*	**Pn**	**Pn**	**14 42 20.7**	**-3.0**
AFI					Sn	**Sn**	**14 42 54.2**	**-2.7**
AFI	**Afiamalu**	**2.85**	**22**	Pn	**Pn**	**Pn**	**14 42 26.2**	**+2.5**
14nm,0.3s,baz=187,slow=16,SNR=3.1								
AFI					Sn	**Sn**	**14 42 54.2**	**-2.7**
47nm,0.3s,baz=186,slow=23,SNR=3.9								
MSVF	**Nonsavu**	**8.75**	**261**	*eP*		Pn	14 43 51.3	+6.4
80nm,1.4s								
URZ	**Urewera**	**23.34**	**200**	*eP*	**P**		**14 46 43.9**	**-2.0**
STKA	**Stephens Creek**	**43.90**	**241**	*eP*	**P**		**14 49 43.4**	**-0.9**
1.7nm,1.2s								
STKA	**Stephens Creek**	**43.90**	**241**	P	**P**		**14 49 42.8**	**-1.5**
3.0nm,0.9s,baz=103,slow=3.3,SNR=4.6								
WRA	**Warramunga Arr**	**50.08**	**258**	P	**P**		**14 50 34.5**	**+1.7**
WRA	**Warramunga Arr**	**50.08**	**258**	P	**P**		**14 50 34.5**	**+1.7**
1.3nm,0.7s,baz=96,slow=6.7,SNR=2.4								
ASAR	**Alice Springs**	**50.24**	**253**	P	**P**		**14 50 32.3**	**-1.6**
ASAR	**Alice Springs**	**50.24**	**253**	P	**P**		**14 50 32.3**	**-1.6**
7.8nm,0.7s,baz=88,slow=8.5,SNR=19								
SBA	**Scott Base**	**62.14**	**185**	*eP*	**P**		**14 51 58.7**	**+0.7**
14nm,1.4s								
VNDA	**Vanda**	**62.27**	**186**	P	**P**		**14 51 57.7**	**-1.2**
VNDA	**Vanda**	**62.27**	**186**	P	**P**		**14 51 57.7**	**-1.2**
2.9nm,0.9s,baz=7.2,slow=6.5,SNR=13								
QSPA	**South Pole Qui**	**73.49**	**180**	*eP*	**P**		**14 53 09.4**	**-0.3**
11nm,1.0s								
PETK	**Petropavlovsk-**	**73.89**	**342**	P	**P**		**14 53 12.6**	**+0.6**
PETK	**Petropavlovsk-**	**73.89**	**342**	P	**P**		**14 53 12.6**	**+0.6**
3.7nm,1.0s,baz=130,slow=7.8,SNR=3.0								
NVAR	**Mina Array Bea**	**74.86**	**42**	P	**P**		**14 53 18.7**	**+0.5**
NVAR	**Mina Array Bea**	**74.86**	**42**	P	**P**		**14 53 18.7**	**+0.5**
1.1nm,0.5s,baz=234,slow=8.6,SNR=8.7								
TXAR	**Lajitas Array**	**80.84**	**56**	P	**P**		**14 53 52.9**	**+1.2**
TXAR	**Lajitas Array**	**80.84**	**56**	P	**P**		**14 53 52.9**	**+1.2**
0.9nm,0.9s,baz=216,slow=6.2,SNR=5.4								
PDAR	**Pinedale Array**	**82.80**	**42**	P	**P**		**14 54 03.4**	**+1.6**
PDAR	**Pinedale Array**	**82.80**	**42**	P	**P**		**14 54 03.4**	**+1.6**
1.0nm,0.9s,baz=193,slow=2.6,SNR=6.4								
ILAR	**Eielson Array**	**83.49**	**11**	P	**P**		**14 54 06.0**	**+1.5**
ILAR	**Eielson Array**	**83.49**	**11**	P	**P**		**14 54 06.0**	**+1.5**
0.8nm,0.6s,baz=233,slow=5.8,SNR=7.1								
KMBO	**Kilima Mbogo**	**145.46**	**242**	PKPbc		**PKPab**	**15 01 17.9**	**+1.1**
KMBO	**Kilima Mbogo**	**145.46**	**242**	PKPbc		**PKPab**	**15 01 17.9**	**+1.1**
3.2nm,0.7s,baz=72,slow=9.7,SNR=5.2								
DPC	**Dobruska-Polom**	**145.49**	**350**	*e*PKP		**PKPab**	**15 01 17.9**	**+2.3**
KHC	**Kasperske Hory**	**147.10**	**352**	*e*PKP		**PKPab**	**15 01 22.8**	**+1.0**
KHC	**Kasperske Hory**	**147.10**	**352**	*e*PKPbc		**PKPab**	**15 01 22.7**	**+1.0**
GERES	**GERESS Array B**	**147.36**	**352**	PKPbc		**PKPab**	**15 01 22.2**	**-0.7**
GERES	**GERESS Array B**	**147.36**	**352**	PKPbc		**PKPab**	**15 01 22.2**	**-0.7**
1.1nm,0.8s,baz=48,slow=2.2,SNR=9.1								
BRTR	**Keskin Array B**	**147.37**	**320**	PKPbc		**PKPbc**	**15 01 20.9**	**-0.6**
BRTR	**Keskin Array B**	**147.37**	**320**	PKPbc		**PKPbc**	**15 01 20.9**	**-0.6**
2.0nm,1.0s,baz=11,slow=1.9,SNR=6.8								
TORD	**Torodi Ar. Bea**	**173.75**	**122**	PKP		**PKPdf**	**15 01 47.6**	**-0.1**
TORD				PKPab		**PKPab**	**15 03 16.9**	**-0.7**
TORD	**Torodi Ar. Bea**	**173.75**	**122**	PKP		**PKPdf**	**15 01 47.6**	**-0.1**
0.8nm,0.9s,baz=228,slow=1.2,SNR=3.9								
TORD				PKPab		**PKPab**	**15 03 16.9**	**-0.7**
1.0nm,0.9s,baz=249,slow=5.8,SNR=4.5								

*IDC **30** 14:42:34.8±60.0, 2°.60S×100°.19E, h0km, mb3.6/3, mb1 3.6/3, mb1mx3.3/23, mbtmp3.6/3, Error ellipse: s-maj=1201.0km s-min=185.9km az=171.0*
*DJA **30** 14:42:58.5±3.1, 1°.5±22°.×10°.0E±2°.3, h33km±39km, M4.0/4, MLv4.0/4*
ISC 30 14:42:47.8±1.5, 1°.49S±0°.09×99°.3E±0°.1, h30km, n7, σ1§56/7, mb3.5/3, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.29**	**63**	P		**Pb**	**14 43 13.7**	**+2.2**
PDSI				S		**Sn**	**14 43 24.6**	**-1.5**
PPI	**Padang Panjang**	**1.50**	**47**	P		**Pb**	**14 43 14.5**	**-0.5**
GSI	**Gunungsitoli**	**3.27**	**328**	P		Pb	14 43 43.9	-1.4
MNAI	**Manna**	**4.62**	**128**	P		**Pb**	**14 44 08.3**	**0.0**
SONM	**Songino Array**	**49.51**	**6**	P		**P**	**14 51 34.8**	**-1.0**
0.2nm,0.5s,baz=193,slow=5.6,SNR=2.5								
MKAR	**Makanchi Array**	**50.36**	**345**	P		**P**	**14 51 43.2**	**+1.1**
0.2nm,0.3s,baz=158,slow=7.8,SNR=6.7								
ZALV	**Zalesovo Beam**	**56.55**	**350**	P		**P**	**14 52 27.7**	**+0.3**
0.4nm,0.3s,baz=164,slow=5.7,SNR=3.9								

IDC 30 14:45:40.1±3.5, 5°.30S×142°.83E, h82km±36km, mb3.4/5, mb1 3.7/7, mb1mx3.5/16, mbtmp3.5/7, Error ellipse: s-maj=40.2km s-min=14.8km az=109.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.92**	**134**	P		Pn	14 47 04.6	-0.7
0.9nm,0.3s,baz=298,slow=15,SNR=4.0								
PMG				S		Sn	14 48 09.1	-2.7
1.0nm,0.3s,baz=260,slow=18,SNR=2.7								
WRA	**Warramunga Arr**	**16.74**	**209**	P		Pn	14 49 29.6	0.0
1.0nm,0.3s,baz=24,slow=13,SNR=42								
WRA				S		Sn	14 52 26.7	-8.6
0.6nm,0.3s,baz=20,slow=22,SNR=5.6								
ASAR	**Alice Springs**	**20.19**	**204**	P		Pn	14 50 10.0	-0.9
3.3nm,0.7s,baz=29,slow=13,SNR=43								
ASAR				S		S	14 53 51.0	+0.4
0.7nm,0.6s,baz=20,slow=27,SNR=6.1								
FITZ	**Fitzroy Crossi**	**21.08**	**231**	P		P	14 50 17.0	-0.9
1.6nm,0.9s,baz=48,slow=11,SNR=5.1								
FITZ				S		S	14 54 05.3	-2.7
1.7nm,0.6s,baz=308,slow=18,SNR=2.4								
MKAR	**Makanchi Array**	**74.34**	**322**	P		P	14 57 09.5	+0.6
0.3nm,0.6s,baz=104,slow=7.7,SNR=4.4								
ZALV	**Zalesovo Beam**	**76.24**	**329**	P		P	14 57 19.6	0.0
0.4nm,0.3s,baz=115,slow=7.6,SNR=2.7								
ILAR	**Eielson Array**	**86.49**	**24**	P		P	14 58 13.0	-0.6
0.6nm,0.7s,baz=255,slow=4.4,SNR=5.4								

WEL 30 14:47:41.8±0.1, 39°.12S×174°.64E, h23km, ML3.6/38, 1C-7D, Error ellipse: s-maj=0.7km s-min=0.6km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
VRZ	**Vera Road**	**0.09**	**93**	P*		Pb	14 47 46.3	+0.1
VRZ				S*		Sb	14 47 50.4	+1.3
VRZ				AML		AML	14 47 50.5	
VRZ				AML		AML	14 47 50.8	
VRZ				AML		AML	14 47 51.0	
MHEZ	**Mangahewa**	**0.25**	**280**	⇑P*		Pb	14 47 48.3	+0.3
RAEZ	**Rainy Point**	**0.26**	**229**	P*		Pb	14 47 48.0	-0.2
DREZ	**Durham Road**	**0.35**	**258**	P*		Pb	14 47 49.4	-0.2
DREZ				S*		Sb	14 47 55.7	+0.9
NEZ	**North Egmont**	**0.45**	**250**	P*		Pb	14 47 51.0	-0.3
DFE	**Dawson Falls**	**0.47**	**244**	P*		Pb	14 47 50.9	-0.7
PKE	**Pukeiti**	**0.52**	**261**	⇓P*		Pb	14 47 52.1	-0.2
PKE				AML		AML	14 48 00.6	
PKE				AML		AML	14 48 00.9	
KHEZ	**Kahui Hut**	**0.52**	**250**	P*		Pb	14 47 52.0	-0.4
KHEZ				S*		Sb	14 48 00.2	+0.6
PKVZ	**Pokaka**	**0.57**	**108**	P*		Pb	14 47 52.7	-0.7
PKVZ				AML		AML	14 48 01.6	
PKVZ				AML		AML	14 48 01.8	
TWVZ	**Taurewa**	**0.62**	**86**	⇓P*		Pb	14 47 53.4	-0.8
TWVZ				AML		AML	14 47 54.3	
TWVZ				AML		AML	14 48 02.3	
NWEZ	**Newall Road**	**0.62**	**255**	P*		Pb	14 47 53.7	-0.4
HIZ	**Hauiti**	**0.63**	**15**	P*		Pb	14 47 53.9	-0.3
HIZ				S*		Sb	14 48 03.2	+0.7
HIZ				AML		AML	14 48 03.6	
NMEZ	**Namu Road**	**0.66**	**244**	P*		Pb	14 47 53.9	-0.8
NMEZ				S*		Sb	14 48 04.4	+0.8
WAZ	**Wanganui**	**0.69**	**157**	P*		Pb	14 47 54.6	-0.7
WAZ				S*		Sb	14 48 04.8	+0.4
WAZ				AML		AML	14 48 06.7	
MTVZ	**Mangateitei**	**0.69**	**113**	⇓P*		Pb	14 47 54.4	-1.0
MTVZ				S*		Sb	14 48 05.3	+0.6
MTVZ				AML		AML	14 48 08.0	
WPVZ	**Whakapapa**	**0.71**	**97**	P*		Pb	14 47 55.0	-0.7
WPVZ				AML		AML	14 48 06.5	
WPVZ				AML		AML	14 48 07.9	
TRVZ	**Turoa**	**0.72**	**105**	P*		Pb	14 47 55.2	-1.0
TRVZ				AML		AML	14 48 06.2	
TRVZ				AML		AML	14 48 07.0	
DRZ	**Dome Shelter**	**0.73**	**103**	P*		Pb	14 47 55.4	-0.9
DRZ				AML		AML	14 48 07.4	
DRZ				AML		AML	14 48 07.7	
WTVZ	**West Tongariro**	**0.74**	**90**	P*		Pb	14 47 55.3	-0.8
WTVZ				AML		AML	14 48 08.8	
WTVZ				AML		AML	14 48 09.1	
NGZ	**Ngauruhoe**	**0.75**	**95**	P*		Pb	14 47 55.6	-0.8
NGZ				AML		AML	14 48 08.3	
NGZ				AML		AML	14 48 12.9	
WHVZ	**Whangaehu Hut**	**0.75**	**103**	P*		Pb	14 47 55.4	-1.2
WNVZ	**Wahianoa**	**0.77**	**106**	P*		Pb	14 47 55.9	-0.9
WNVZ				AML		AML	14 48 08.0	
WNVZ				AML		AML	14 48 08.2	
KRVZ	**Karewarewa**	**0.78**	**88**	P*		Pb	14 47 56.0	-0.9
KRVZ				S*		Sb	14 48 07.6	+0.5
KRVZ				AML		AML	14 48 07.8	
OTVZ	**Oturere**	**0.80**	**93**	P*		Pb	14 47 56.5	-0.7
OTVZ				AML		AML	14 48 08.6	
OTVZ				AML		AML	14 48 08.7	
TUVZ	**Tukino**	**0.80**	**101**	P*		Pb	14 47 56.6	-0.7
TUVZ				AML		AML	14 48 09.4	
TUVZ				AML		AML	14 48 09.5	
KATZ	**Kakaramea**	**0.83**	**80**	⇓P*		Pb	14 47 57.1	-0.7
KATZ				AML		AML	14 48 09.3	
KATZ				AML		AML	14 48 09.7	
MOVZ	**Moawhango**	**0.91**	**109**	P*		Pb	14 47 58.1	-0.9
MOVZ				AML		AML	14 48 10.2	
MOVZ				AML		AML	14 48 10.5	
RATZ	**Rangitukua**	**0.91**	**74**	⇓P*		Pb	14 47 58.7	-0.4
RATZ				AML		AML	14 48 13.4	
RATZ				AML		AML	14 48 14.8	
WATZ	**Wairara**	**0.94**	**65**	PN		Pb	14 47 59.0	-0.6
WATZ				AML		AML	14 48 12.2	
WATZ				AML		AML	14 48 12.4	
RITZ	**Rihia Road**	**0.96**	**82**	PN		Pb	14 47 59.6	-0.2
RITZ				AML		AML	14 48 17.7	
RITZ				AML		AML	14 48 18.1	
TLZ	**Tolley Road**	**1.06**	**42**	PN		Pn	14 48 00.3	-0.9
TLZ				SN		Sb	14 48 14.2	-0.8
WHTZ	**Whakaora**	**1.12**	**67**	PN		Pb	14 48 02.6	0.0
HATZ	**Hinemaiaia**	**1.15**	**79**	PN		Pn	14 48 02.2	-0.4
HATZ				AML		AML	14 48 21.8	
BHHZ	**Black Hill Sta**	**1.16**	**109**	PN		Pn	14 48 01.9	-0.8
TSZ	**Takapari Road**	**1.38**	**133**	PN		Pn	14 48 05.3	-0.5
TSZ				AML		AML	14 48 25.3	
TSZ				AML		AML	14 48 25.8	
BKZ	**Black Stump Fm**	**1.44**	**92**	PN		Pn	14 48 06.1	-0.4
BKZ				AML		AML	14 48 29.3	
BKZ				AML		AML	14 48 29.7	
PNHZ	**Pukenui**	**1.44**	**124**	PN		Pn	14 48 06.1	-0.5
POWZ	**Post Office Ro**	**1.54**	**146**	PN		Pn	14 48 08.1	+0.2
TOZ	**Tahuroa Road**	**1.54**	**26**	PN		Pn	14 48 07.4	-0.5
MCHZ	**McNeill Hill**	**1.63**	**102**	PN		Pb	14 48 11.6	+0.4
DVHZ	**Dannevirke**	**1.66**	**136**	PN		Pn	14 48 10.6	+1.0
WPHZ	**Waipukurau**	**1.68**	**125**	PN		Pb	14 48 11.1	-0.9
MRZ	**Mangatainoka R**	**1.70**	**155**	PN		Pn	14 48 10.2	+0.1
MRZ				AML		AML	14 48 35.7	
MRZ				AML		AML	14 48 40.1	
OGWZ	**Otaki Gorge**	**1.74**	**167**	⇓PN		Pn	14 48 10.8	+0.1
KIW	**Kapiti Island**	**1.75**	**173**	PN		Pn	14 48 10.6	-0.2
KIW				AML		AML	14 48 34.6	
KIW				AML		AML	14 48 35.9	
PRWZ	**Pori Road**	**1.76**	**145**	PN		Pn	14 48 12.2	+1.3
DUWZ	**D'Urville Isla**	**1.77**	**198**	PN		Pn	14 48 10.9	-0.2
DUWZ				AML		AML	14 48 36.1	
DUWZ				AML		AML	14 48 36.2	
KAHZ	**Kahuranaki**	**1.85**	**112**	PN		Pb	14 48 14.5	-0.7
TGRZ	**Tauranga**	**1.88**	**43**	PN		Pn	14 48 12.1	-0.4
HOWZ	**Holdsworth Sta**	**1.90**	**160**	PN		Pn	14 48 13.5	+0.6
TIWZ	**Tintock**	**1.91**	**150**	PN		Pn	14 48 14.1	+1.0
PRHZ	**Porangahau**	**1.92**	**127**	PN		Pb	14 48 14.9	-1.2
BFZ	**Birch Farm**	**1.99**	**142**	PN		Pn	14 48 14.5	+0.5
CAW	**Cannon Point**	**2.01**	**171**	PN		Pn	14 48 14.7	+0.3
CAW				AML		AML	14 48 44.5	
CAW				AML		AML	14 48 45.5	
KBAZ	**Karaka Road Bo**	**2.03**	**6**	PN		Pn	14 48 14.5	0.0
MKAZ	**Moumakai**	**2.05**	**12**	⇓PN		Pn	14 48 14.5	-0.3
MKAZ				AML		AML	14 48 41.7	
MKAZ				AML		AML	14 48 51.3	
TCW	**Tory Channel**	**2.11**	**188**	PN		Pn	14 48 15.4	-0.3
TCW				AML		AML	14 48 45.3	
TCW				AML		AML	14 48 45.7	
URZ	**Urewera**	**2.11**	**67**	PN		Pb	14 48 17.6	-1.8
MTW	**Mount Morrison**	**2.14**	**162**	PN		Pn	14 48 17.7	+1.5
MTW				AML		AML	14 48 53.2	
MTW				AML		AML	14 48 53.5	
WEL	**Wellington**	**2.17**	**178**	PN		Pn	14 48 17.5	+1.0
OTAZ	**Otara**	**2.18**	**6**	PN		Pn	14 48 16.8	+0.2
WTAZ	**Waiatarua**	**2.18**	**359**	PN		Pn	14 48 16.7	0.0
SNZO	**South Karori**	**2.19**	**179**	PN		Pn	14 48 17.0	+0.3
SNZO				AML		AML	14 48 48.5	
SNZO				AML		AML	14 48 49.8	
TMWZ	**Te Maipa**	**2.20**	**155**	PN		Pn	14 48 17.8	+0.8
HBAZ	**Herne Bay Bore**	**2.27**	**2**	PN		Pn	14 48 18.8	+0.9
NNZ	**Nelson**	**2.31**	**204**	PN		Pn	14 48 17.8	-0.6
NNZ				AML		AML	14 48 50.3	
PAWZ	**Paruwai Farm**	**2.34**	**165**	PN		Pb	14 48 23.7	+0.4
PAWZ				AML		AML	14 48 08.8	
MSWZ	**Moikau Station**	**2.34**	**169**	PN		Pn	14 48 20.8	+1.2
MSWZ				AML		AML	14 48 54.8	
MSWZ				AML		AML	14 48 55.9	
RVAZ	**Riverhead Bore**	**2.35**	**359**	PN		Pn	14 48 18.3	-0.6
QRZ	**Quartz Range**	**2.35**	**223**	PN		Pn	14 48 17.2	-1.9
TUWZ	**Tuamarina**	**2.37**	**193**	PN		Pn	14 48 18.8	-0.5
TUWZ				AML		AML	14 48 53.1	
TUWZ				AML		AML	14 48 56.9	
TRWZ	**Traveller**	**2.41**	**161**	PN		Pn	14 48 21.5	+1.6
KUZ	**Kuaotunu**	**2.52**	**20**	PN		Pn	14 48 20.3	-1.0
KUZ				AML		AML	14 48 50.7	
ABAZ	**Army Bay**	**2.52**	**3**	PN		Pn	14 48 21.5	+0.2
BSWZ	**Blackbirch Sta**	**2.66**	**193**	PN		Pn	14 48 23.8	+0.6
THZ	**Tophouse**	**2.96**	**206**	PN		Pn	14 48 27.0	-0.4
THZ				AML		AML	14 49 28.4	
WCZ	**Waipu Caves**	**3.18**	**356**	PN		Pn	14 48 29.8	-0.6
KHZ	**Kahutara**	**3.40**	**194**	PN		Pn	14 48 33.7	+0.3
DSZ	**Denniston Nort**	**3.40**	**219**	PN		Pn	14 48 32.1	-1.4
LTZ	**Lake Taylor**	**4.08**	**205**	PN		Pn	14 48 42.6	-0.2
MQZ	**McQueen's Vall**	**4.82**	**197**	PN		Pn	14 48 50.7	-2.3
WVZ	**Waitaha Valley**	**4.93**	**216**	PN		Pn	14 48 54.3	-0.1
FOZ	**Fox Glacier**	**5.80**	**218**	PN		Pn	14 49 03.8	-2.5
ODZ	**Otahua Downs**	**6.62**	**205**	PN		Pn	14 49 15.9	-1.8
JCZ	**Jackson Bay**	**6.63**	**220**	PN		Pn	14 49 16.6	-1.3

IDC 30 14:52:32.9±5.4, 14°.67S×172°.22W, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.6/20, mbtmp3.8/2, Error ellipse: s-maj=213.8km s-min=16.3km az=132.0, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**0.87**	**30**	Pn		Pn	14 52 52.6	0.0
61nm,0.3s,baz=242,slow=0.7,SNR=16								
AFI				Sn		Sn	14 53 05.9	-0.3
132nm,0.3s,baz=36,slow=22,SNR=14								
WRA	**Warramunga Arr**	**51.12**	**256**	P		P	15 01 37.3	-0.6
0.5nm,0.6s,baz=94,slow=6.7,SNR=11								
ASAR	**Alice Springs**	**51.42**	**251**	P		P	15 01 39.9	-0.4
1.7nm,0.8s,baz=88,slow=8.1,SNR=14								
BRTR	**Keskin Array B**	**146.29**	**323**	PKPbc		PKPbc	15 12 16.4	+0.3
0.8nm,0.9s,baz=66,slow=3.5,SNR=2.5								

IDC 30 14:57:58.0±0.9, 3°.05S×142°.08E, h0km, mb3.8/7, mb1 4.1/10, mb1mx4.0/20, mbtmp4.0/10, ML4.2/1, Error ellipse: s-maj=26.6km s-min=18.2km az=81.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.08**	**142**	Pn		Pn	14 59 58.2	+1.5
0.4nm,0.3s,baz=300,slow=16,SNR=1.9								
WRA	**Warramunga Arr**	**18.42**	**204**	P		Pn	15 02 14.4	-0.5
0.9nm,0.3s,baz=24,slow=13,SNR=31								
HNR	**Honiara**	**18.85**	**110**	P		Pn	15 02 20.0	-0.2
7.8nm,0.3s,baz=279,slow=13,SNR=4.1								
ASAR	**Alice Springs**	**21.97**	**200**	P		P	15 02 52.6	-1.1
1.4nm,0.6s,baz=30,slow=9.7,SNR=16								
FITZ	**Fitzroy Crossi**	**21.99**	**226**	P		P	15 02 53.7	-0.2
3.4nm,0.7s,baz=43,slow=14,SNR=7.4								
STKA	**Stephens Creek**	**28.68**	**181**	P		P	15 03 57.3	+0.5
1.5nm,0.8s,baz=9.0,slow=10,SNR=4.3								
CMAR	**Chiang Mai Arr**	**47.54**	**298**	P		P	15 06 36.3	+0.7
0.9nm,1.0s,baz=104,slow=9.8,SNR=3.9								
SONM	**Songino Array**	**59.51**	**333**	P		P	15 08 04.3	+1.1
0.4nm,0.8s,baz=151,slow=6.5,SNR=2.9								
MKAR	**Makanchi Array**	**72.13**	**321**	P		P	15 09 23.6	-0.9
1.1nm,0.9s,baz=101,slow=6.3,SNR=5.4								
ILAR	**Eielson Array**	**84.75**	**24**	P		P	15 10 32.7	-1.2
0.9nm,0.7s,baz=256,slow=4.9,SNR=9.2								
LPAZ	**La Paz**	**144.49**	**124**	PKP		PKPdf	15 17 38.2	-0.1
2.5nm,0.6s,baz=221,slow=0.7,SNR=10								

IDC 30 15:02:39.3±1.5, 15°.24S×173°.69W, h0km, mb4.0/8, mb1 4.3/8, mb1mx4.0/19, mbtmp4.0/8, MS3.5/1, Ms1 3.5/1, ms1mx3.3/17, Error ellipse: s-maj=94.8km s-min=19.2km az=148.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.27**	**55**	Pn		Pn	15 03 14.3	-3.9
24nm,0.3s,baz=33,slow=21,SNR=4.3								
AFI				Sn		Sn	15 03 33.9	-13
76nm,0.3s,baz=232,slow=23,SNR=9.9								
AFI				LR		LR	15 03 49.4	
comp=Z,1μm,22.0s,baz=188,slow=31								
STKA	**Stephens Creek**	**43.88**	**240**	P		P	15 10 47.5	-0.3
1.7nm,0.8s,baz=33,slow=5.2,SNR=3.2								
WRA	**Warramunga Arr**	**49.61**	**257**	P		P	15 11 32.5	-0.3
1.3nm,1.0s,baz=91,slow=6.4,SNR=9.1								
ASAR	**Alice Springs**	**49.89**	**252**	P		P	15 11 35.2	+0.2
4.6nm,0.7s,baz=85,slow=8.0,SNR=42								
YBH	**Yreka Blue Hor**	**73.64**	**37**	P		P	15 14 16.3	+1.4
1.0nm,0.4s,baz=278,slow=4.9,SNR=4.2								
NVAR	**Mina Array Bea**	**74.40**	**42**	P		P	15 14 19.9	+0.4
0.7nm,0.7s,baz=230,slow=9.7,SNR=5.0								
TXAR	**Lajitas Array**	**80.75**	**56**	P		P	15 14 54.5	-0.6
0.9nm,0.8s,baz=238,slow=6.1,SNR=7.6								
PDAR	**Pinedale Array**	**82.33**	**42**	P		P	15 15 03.0	-0.3
1.2nm,1.0s,baz=224,slow=2.5,SNR=4.7								
ILAR	**Eielson Array**	**82.34**	**11**	P		P	15 15 01.7	-0.9
0.4nm,0.7s,baz=206,slow=3.7,SNR=4.1								
BRTR	**Keskin Array B**

VIGV	**El Vigia**	**2.99 214**	*eP*	Pn	15 15 33.6	-1.2
VIGV			*eS*	Sn	15 16 08.5	-2.0
SOCV	**Socops**	**3.25 201**	*eP*	Pn	15 15 37.8	-0.7
SOCV			*eS*	Sn	15 16 13.8	-3.1
BIRV	**Birongo**	**3.46 104** ⇑/P		Pn	15 15 40.1	-1.3
BIRV			*eS*	Sn	15 16 18.4	-3.7
MERV	**Las Mercedes**	**3.93 122**	*eP*	Pn	15 15 46.9	-0.8
CUPV	**Cœpira**	**4.04 108**	*eP*	Pn	15 15 48.6	-0.8
ELOV	**Elorza**	**4.32 177**	*eP*	Pn	15 15 51.9	-1.3
CAPV	**Capacho**	**4.32 217**	*eP*	Pn	15 15 51.9	-1.5

IDC 30 15:17:09.6±1.6, 15°34S×173°37W, h0km, mb4.0/6, mb1 4.3/6, mb1mx4.0/20, mbtmp4.0/6, MS3.2/1, Ms1 3.2/1, ms1mx3.1/22, Error ellipse: s-maj=93.8km s-min=21.0km az=146.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.10**	**47**	Pn	Pn	15 17 40.3	-5.9
	95nm,0.3s,baz=358,slow=2.4,SNR=13						
AFI				Sn	Sn	15 17 60.0	-13
	327nm,0.3s,baz=230,slow=23,SNR=16						
AFI				LR	LR	15 18 21.1	
	comp=Z,520nm,18.0s,baz=200,slow=34						
STKA	**Stephens Creek**	**44.09**	**240**	P	P	15 25 19.2	-0.5
	2.4nm,0.7s,baz=99,slow=4.8,SNR=8.1						
WRA	**Warramunga Arr**	**49.88**	**257**	P	P	15 26 04.6	-0.6
	1.6nm,0.5s,baz=92,slow=6.5,SNR=36						
ASAR	**Alice Springs**	**50.16**	**252**	P	P	15 26 07.0	-0.3
	5.9nm,0.5s,baz=87,slow=8.3,SNR=73						
TXAR	**Lajitas Array**	**80.56**	**56**	P	P	15 29 25.3	+0.9
	0.7nm,1.0s,baz=241,slow=5.2,SNR=4.5						
PDAR	**Pinedale Array**	**82.20**	**42**	P	P	15 29 31.8	-1.2
	0.3nm,0.5s,baz=207,slow=3.7,SNR=2.0						
ILAR	**Eielson Array**	**82.39**	**11**	P	P	15 29 31.6	-1.5
	0.2nm,0.7s,baz=215,slow=5.5,SNR=3.0						
MLR	**Muntele Rosu**	**145.83**	**336**	PKPbc	PKPab	15 36 52.3	+0.8
	0.9nm,0.8s,baz=27,slow=4.5,SNR=3.8						
GERES	**GERESS Array B**	**146.09**	**352**	PKPbc	PKPdf	15 36 50.9	0.0
	0.3nm,0.7s,baz=46,slow=3.9,SNR=4.5						
BRTR	**Keskin Array B**	**146.13**	**321**	PKPbc	PKPab	15 36 53.3	+0.4
	4.0nm,1.0s,baz=98,slow=2.5,SNR=12						

*ISCJB **30** 15:19:00.5±0.7, 0°83S±0°05×99°85E±0°07, h93km±5km, mb4.4/16, Error ellipse: s-maj=12.3km s-min=5.2km az=151.0*
*IDC **30** 15:19:01.9±3.1, 0°80S×100°06E, h83km±27km, mb4.1/16, mb1 4.1/18, mb1mx3.9/30, mbtmp4.0/18, Error ellipse: s-maj=29.1km s-min=10.7km az=61.0*
*DJA **30** 15:19:02.1±0.4, 1°S±3°×10°0E±°, h61km±6km, M4.6/15, mb4.7/5, mB5.2/3, MLv4.6/15, Mw(mB)4.6/3*
ISC 30 15:19:00.8±1.1, 0°84S±0°05×99°79E±0°08, h79km±9km, n38, σ1°29/47, mb4.5/16, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**0.68**	**96**	P	**Pn**	15 19 16.6	+0.4
PDSI				S	**Sn**	15 19 28.1	+0.5
PPI	**Padang Panjang**	**0.72**	**58**	P	**Pn**	15 19 16.9	+0.3
MNSI	**Mandailing Nat**	**1.64**	**353**	P	**Pn**	15 19 28.3	+0.4
SDSI	**Sungai Dareh**	**1.65**	**93**	P	**Pn**	15 19 28.3	+0.3
SDSI				S	**Sn**	15 19 47.7	-0.9
RGRI	**Rengat**	**2.59**	**79**	P	**Pn**	15 19 41.2	+0.5
RGRI				S	**Sn**	15 20 10.4	-0.9
GSI	**Gunungsitoli**	**3.07**	**314**	P	**Pn**	15 19 45.9	-1.2
MASI	**Maura Aman, Be**	**3.35**	**133**	P	**Pn**	15 19 53.1	+2.1
PSI	**Prapat**	**3.72**	**347**	P	**Pn**	15 19 56.3	+0.2
	14nm,0.3s,baz=323,slow=3.1,SNR=15						
KSI	**Kapahiang**	**3.96**	**135**	P	**Pn**	15 20 00.9	+1.6
KSI				S	**Sn**	15 20 43.8	-0.8
FRIM	**Kepong**	**4.45**	**24**	P	**Pn**	15 20 06.8	+0.9
KGM	**Kluang**	**4.53**	**51**	P	**Pn**	15 20 07.4	+0.4
KGM	**Kluang**	**4.53**	**51**	P	**Pn**	15 20 09.8	+2.8
MNAI	**Manna**	**4.72**	**138**	P	**Pn**	15 20 10.5	+0.9
MNAI				S	**Sn**	15 20 59.6	-3.4
MYKOM	**Kota Tinggi**	**4.83**	**57**	P	**Pn**	15 20 11.5	+0.4
MYKOM	**Kota Tinggi**	**4.83**	**57**	P	**Pn**	15 20 11.4	+0.3
IPM	**Ipoh**	**5.43**	**13**	P	**Pn**	15 20 21.9	+2.6
	27nm,0.5s,0.2nm						
MDSI	**Maura Dua**	**5.69**	**130**	P	**Pn**	15 20 23.6	+0.8
	84nm,0.7s,1μm0.3nm						
MDSI				S	**Sn**	15 21 27.1	+0.3
	84nm,0.7s,1μm0.3nm						
LWLI	**Liwa**	**5.95**	**134**	P	**Pn**	15 20 28.1	+1.6
	138nm,0.7s,4μm1.0nm						
LWLI				S	**Sn**	15 21 35.9	+2.5
	138nm,0.7s,4μm1.0nm						
KULM	**Kulim**	**6.15**	**8**	P	**Pn**	15 20 30.4	+1.2
	26nm,1.4s,0.2nm						
KASI	**Kota Agung**	**6.61**	**135**	P	**Pn**	15 20 35.6	+0.1
CMAR	**Chiang Mai Arr**	**19.20**	**358**	P	**P**	15 23 19.1	+0.6
	baz=188,slow=9.8,SNR=5.9						
FITZ	**Fitzroy Crossi**	**30.65**	**126**	P	**P**	15 25 06.0	-1.9
	0.8nm,0.6s,baz=338,slow=7.4,SNR=7.2						
NWAO	**Narrogin (SRO)**	**35.89**	**155**	P	**P**	15 25 55.0	+1.5
	6.7nm,0.8s,baz=315,slow=14,SNR=2.6						
WRA	**Warramunga Arr**	**38.77**	**122**	P	**P**	15 26 16.6	-1.5
	1.1nm,0.3s,baz=331,slow=14,SNR=16						
WRA				PcP	**PcP**	15 28 28.7	+0.4
	0.4nm,0.4s,baz=312,slow=2.4,SNR=4.1						
ASAR	**Alice Springs**	**40.11**	**127**	P	**P**	15 26 27.9	-1.3
	1.3nm,0.3s,baz=301,slow=7.6,SNR=16						
ASAR				PcP	**PcP**	15 28 33.4	+0.9
	0.8nm,0.4s,baz=306,slow=2.7,SNR=5.6						
JNU	**Nakatsue**	**44.72**	**38**	P	**P**	15 27 05.9	-0.5
	15nm,0.8s,baz=160,slow=4.8,SNR=10						
KSRS	**Korea Array**	**46.14**	**31**	P	**P**	15 27 16.5	-1.0
	3.8nm,0.6s,baz=224,slow=8.0,SNR=24						
SONM	**Songino Array**	**48.82**	**6**	P	**P**	15 27 37.9	-0.4
	1.6nm,0.7s,baz=187,slow=9.1,SNR=13						
SONM				PcP	**PcP**	15 29 02.3	+0.4
	0.9nm,0.3s,baz=194,slow=4.2,SNR=6.3						
MKAR	**Makanchi Array**	**49.86**	**344**	P	**P**	15 27 47.0	+0.9
	3.5nm,0.3s,baz=156,slow=8.7,SNR=85						
STKA	**Stephens Creek**	**50.08**	**132**	P	**P**	15 27 46.4	-1.6
	6.0nm,0.6s,baz=321,slow=6.2,SNR=18						
USRK	**Ussuriysk Arra**	**53.25**	**29**	P	**P**	15 28 11.1	-0.3
	6.4nm,0.6s,baz=227,slow=6.3,SNR=13						
KURBB	**Kurchatov Arra**	**54.38**	**343**	P	**P**	15 28 20.6	+1.0
	1.5nm,0.4s,baz=76,slow=11,SNR=7.1						
ZALV	**Zalesovo Beam**	**56.00**	**349**	P	**P**	15 28 31.5	+0.4
	3.2nm,0.3s,baz=163,slow=7.3,SNR=25						
ASAJ	**Asahikawa**	**58.79**	**35**	P	**P**	15 28 50.1	-0.8
	2.1nm,0.5s,baz=264,slow=21,SNR=7.6						
BVAR	**Borovoye Array**	**59.03**	**340**	P	**P**	15 28 52.9	+0.5
	1.2nm,0.3s,baz=143,slow=9.3,SNR=12						
FINES	**FINESS Array B**	**82.99**	**332**	P	**P**	15 31 18.2	+1.1
	1.3nm,0.5s,baz=114,slow=5.1,SNR=9.4						
ARCES	**ARCESS Array B**	**85.32**	**340**	P	**P**	15 31 29.2	+0.4
	1.0nm,0.4s,baz=96,slow=4.9,SNR=13						
TXAR	**Lajitas Array**	**143.91**	**36**	PKP	PKPbc	15 38 26.6	+0.7
	1.1nm,0.5s,baz=239,slow=0.5,SNR=13						

*IDC **30** 15:20:14.5±0.4, 15°15S×173°39W, h0km, mb4.5/24, mb1 4.7/24, mb1mx4.7/28, mbtmp4.5/24, MS4.3/4, Ms1 4.3/4, ms1mx4.0/23, Error ellipse: s-maj=18.3km s-min=12.5km az=143.0*
*BJI **30** 15:20:14.8, 14°82S×173°27W, h5km, mB5.7/22, mb5.0/27, Ms5.3/17, Ms7 5.0/16*
*NEIC **30** 15:20:15.9±0.2, 15°12S×173°44W, h10km, mb5.1/50, Error ellipse: s-maj=8.6km s-min=4.7km az=142.0*
*SZGRF **30** 15:20:16.0, 16°26S×173°15W, h33km, Tonga Islands*
*ISCJB **30** 15:20:17.8±0.2, 15°18S±0°06×173°44W±0°05, h30km, mb4.9/87, MS4.6/7, Error ellipse: s-maj=9.5km s-min=5.4km az=154.9*
*MOS **30** 15:20:18.9±1.4, 15°14S×173°44W, h33km, mb5.3/22, Error ellipse: s-maj=13.2km s-min=9.9km az=60.1*
ISC 30 15:20:19.0±0.3, 15°23S±0°08×173°33W±0°07, h30km, n526, σ0°90/535, mb5.0/87, MS4.7/8, 142C-97D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.99**	**49**	*eP*	Pn	15 20 41.2	-10
AFI				Sn	Sn	15 21 00.6	-14
AFI	**Afiamalu**	**1.99**	**49**	Pn	Pn	15 20 41.3	-10
	207nm,0.3s,baz=321,slow=23,SNR=14						
AFI				Sn	Sn	15 21 00.6	-14
	769nm,0.3s,baz=347,slow=21,SNR=7.2						
MSVF	**Nonsavu**	**8.64**	**252**	*eP*	Pn	15 22 29.1	+7.0
MSVF				pmax	pmax		
	comp=Z,451nm,1.6s						
MSVF	**Nonsavu**	**8.64**	**252**	*eP*	Pn	15 22 29.1	+7.0
	comp=Z,450nm,1.6s						
MSVF	**Nonsavu**	**8.64**	**252**	Pn	Pn	15 22 30.3	+8.2
	comp=Z,899nm,1.5s,SNR=23						
RAR	**Rarotonga**	**14.18**	**117**	*eP*	Pn	15 23 31.7	-6.2
RAR	**Rarotonga**	**14.18**	**117**	Pn	Pn	15 23 31.3	-6.7
	comp=Z,3.6nm,0.3s,baz=270,slow=7.4,SNR=8.0						
DZM	**Mont Dzumac**	**20.33**	**247**	P	**P**	**15 24 53.3**	**+0.3**
DZM	**Mont Dzumac**	**20.33**	**247**	P	**P**	**15 24 53.3**	**+0.3**
	comp=Z,2.9nm,0.6s,baz=131,slow=19,SNR=3.4						
DZM				LR	LR	15 30 20.4	
	comp=Z,464nm,20.2s,baz=55,slow=30						
URZ	**Urewera**	**24.45**	**198**	*eP*	**P**	**15 25 35.7**	**+0.5**
URZ	**Urewera**	**24.45**	**198**	P	**P**	**15 25 37.2**	**+1.9**
	comp=Z,8.9nm,0.6s,baz=64,slow=7.1,SNR=3.9						
HNR	**Honiara**	**26.72**	**279**	LR	LR	15 32 58.0	
	comp=Z,426nm,21.6s,baz=228,slow=29						
RPZ	**Rata Peaks**	**31.37**	**202**	LR	LR	15 38 15.4	
	comp=Z,1μm,19.6s,baz=271,slow=34						
CTA	**Charters Tower**	**38.75**	**257**	P	**P**	**15 27 40.9**	**-0.2**
CTA	**Charters Tower**	**38.75**	**257**	P	**P**	**15 27 40.9**	**-0.2**
	comp=Z,3.1nm,0.7s,baz=128,slow=19,SNR=3.2						
STKA	**Stephens Creek**	**44.18**	**240**	P	**P**	**15 28 24.6**	**-0.8**
STKA	**Stephens Creek**	**44.18**	**240**	P	**P**	**15 28 24.6**	**-0.8**
	comp=Z,4.2nm,0.6s,baz=69,slow=6.9,SNR=5.5						
WRAB	**Tennant Creek**	**49.94**	**257**	*eP*	**P**	**15 29 08.6**	**-2.0**
WRAB				pmax	pmax		
	comp=Z,20nm,1.4s						
WRAB	**Tennant Creek**	**49.94**	**257**	*eP*	**P**	**15 29 08.6**	**-2.0**
	comp=Z,20nm,1.4s						
WRA	**Warramunga Arr**	**49.95**	**257**	P	**P**	**15 29 08.2**	**-2.4**
WRA	**Warramunga Arr**	**49.95**	**257**	P	**P**	**15 29 08.2**	**-2.4**
	comp=Z,3.7nm,1.0s,baz=90,slow=6.9,SNR=15						
AS31	**Alice Springs**	**50.23**	**252**	*eP*	**P**	**15 29 10.7**	**-2.1**
ASAR	**Alice Springs**	**50.23**	**252**	P	**P**	**15 29 10.8**	**-1.9**
ASAR	**Alice Springs**	**50.23**	**252**	P	**P**	**15 29 10.8**	**-1.9**
	comp=Z,14nm,0.7s,baz=86,slow=8.3,SNR=48						
FITZ	**Fitzroy Crossi**	**58.31**	**258**	P	**P**	**15 30 11.6**	**-0.1**
FITZ	**Fitzroy Crossi**	**58.31**	**258**	P	**P**	**15 30 11.6**	**-0.1**
	comp=Z,1.5nm,0.8s,baz=82,slow=19,SNR=2.8						
SBA	**Scott Base**	**63.43**	**185**	*eP*	**P**	**15 30 47.8**	**+2.4**
SBA				pmax	pmax		
	comp=Z,31nm,1.2s						
SBA	**Scott Base**	**63.43**	**185**	*eP*	**P**	**15 30 47.8**	**+2.4**
	comp=Z,31nm,1.2s						
VNDA	**Vanda**	**63.55**	**186**	*eP*	**P**	**15 30 47.8**	**+1.5**
	comp=Z,24nm,1.3s						
VNDA	**Vanda**	**63.55**	**186**	P	**P**	**15 30 47.8**	**+1.5**
	comp=Z,12nm,1.1s,baz=7.4,slow=6.8,SNR=27						
MAJO	**Matsushiro**	**68.85**	**320**	P	**P**	**15 31 20.4**	**-0.5**
MAJO				pmax	pmax		
	comp=Z,17nm,1.2s						
MAJO	**Matsushiro**	**68.85**	**320**	P	**P**	**15 31 20.4**	**-0.5**
	comp=Z,17nm,1.2s						
MAT	**Matsushiro**	**68.85**	**320**	P	**P**	**15 31 20.7**	**-0.2**
EDW2	**Edwards Air Fo**	**72.37**	**45**	⇑P	**P**	**15 31 43.4**	**+0.9**
	baz=72						
MONP	**Monument Peak**	**72.40**	**48**	⇓P	**P**	**15 31 43.3**	**+0.5**
	baz=73						
ISA	**Isabella**	**72.48**	**44**	P	**P**	**15 31 43.3**	**+0.2**
ISA	**Isabella**	**72.48**	**44**	P	**P**	**15 31 43.3**	**+0.2**
	comp=Z,421nm,1.1s						
PETK	**Petropavlovsk-**	**72.49**	**342**	P	**P**	**15 31 41.4**	**-1.2**
PETK	**Petropavlovsk-**	**72.49**	**342**	P	**P**	**15 31 41.4**	**-1.2**
PETK	**Petropavlovsk-**	**72.49**	**342**	P	**P**	**15 31 41.4**	**-1.2**
	comp=Z,6.3nm,0.7s,baz=150,slow=10,SNR=7.4						
CMB	**Columbia Colle**	**72.59**	**41**	*eP*	**P**	**15 31 43.9**	**+0.3**
CMB				pmax	pmax		
	comp=Z,4.0nm,0.3s						
CMB	**Columbia Colle**	**72.59**	**41**	*eP*	**P**	**15 31 43.9**	**+0.3**
	comp=Z,4.2nm,0.3s						
MPMC	**Manual Prospec**	**73.36**	**44**	⇓P	**P**	**15 31 49.3**	**+0.8**
	baz=74						
YSS	**Yuzh-Sakhalins**	**73.37**	**330**	*eP*	**P**	**15 31 50.0**	**+2.0**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
GSC	**Goldstone**	**73.42**	**45**	*eP*	**P**	**15 31 49.0**	**+0.3**
GSC				pmax	pmax		
	comp=Z,17nm,1.3s						
GSC	**Goldstone**	**73.42**	**45**	*eP*	**P**	**15 31 49.0**	**+0.3**
	comp=Z,17nm,1.3s						
YBH	**Yreka Blue Hor**	**73.42**	**37**	P	**P**	**15 31 48.5**	**0.0**
YBH	**Yreka Blue Hor**	**73.42**	**37**	P	**P**	**15 31 48.5**	**0.0**
	comp=Z,8.6nm,1.1s,baz=237,slow=1.5,SNR=8.8						
WAKR	**Walker**	**73.47**	**41**	*eP*	**P**	**15 31 48.8**	**-0.2**
	comp=Z,33nm,1.5s						
BC3	**Big Chuckawall**	**73.49**	**47**	⇑P	**P**	**15 31 49.7**	**+0.6**
	baz=74						
HEC	**Hector,Ludlow**	**73.49**	**46**	⇓P	**P**	**15 31 49.4**	**+0.3**
	baz=74						
GLA	**Glamis**	**73.62**	**48**	⇓P	**P**	**15 31 50.2**	**+0.3**
	baz=74						
BEKR	**Beckworth**	**73.69**	**40**	*eP*	**P**	**15 31 50.3**	**0.0**
	comp=Z,1.5nm,1.0s						
GMRC	**Granite Mounta**	**73.93**	**46**	⇑P	**P**	**15 31 52.2**	**+0.5**
	baz=74						
NVAR	**Mina Array Bea**	**74.15**	**42**	P	**P**	**15 31 53.3**	**+0.2**
NVAR	**Mina Array Bea**	**74.15**	**42**	P	**P**	**15 31 53.3**	**+0.2**
	comp=Z,2.5nm,0.7s,baz=226,slow=9.3,SNR=14						
Y12C	**Blythe**	**74.20**	**48**	⇓P	**P**	**15 31 53.9**	**+0.7**
	baz=74						
PAHR	**Pah Rah Range**	**74.20**	**40**	*eP*	**P**	**15 31 52.8**	**-0.4**
	comp=Z,5.2nm,1.0s						
113A	**Mohawk Valley,**	**74.25**	**49**	⇓P	**P**	**15 31 54.1**	**+0.6**
	baz=74						
NV11	**Mina Array Sit**	**74.25**	**42**	*eP*	**P**	**15 31 53.0**	**-0.6**
214A	**Organ Pipe Nat**	**74.55**	**50**	⇑P	**P**	**15 31 55.8**	**+0.5**
	baz=75						
PDMCI	**Parker Dam,Lak**	**74.75**	**47**	⇑P	**P**	**15 31 57.6**	**+1.3**
	baz=75						
QSPA	**South Pole Qui**	**74.82**	**180**	*eP*	**P**	**15 31 57.4**	**+1.0**
	comp=Z,66nm,1.0s						
SHPR	**Sheep Range**	**75.19**	**45**	*eP*	**P**	**15 31 59.0**	**-0.1**
	comp=Z,24nm,1.4s						
Y14A	**Wickenburg**	**75.39**	**48**	⇓P	**P**	**15 32 00.8**	**+0.6**
	baz=76						
R11A	**Troy Canyon, C**	**75.89**	**43**	⇑P	**P**	**15 32 03.3**	**+0.2**
	baz=76						
KSRS	**Korea Array**	**76.08**	**316**	P	**P**	**15 32 04.7**	**+0.7**
	comp=Z,9.2nm,1.2s,baz=120,slow=6.7,SNR=16						
KSAR	**Wonju Array Be**	**76.10**	**315**	P	**P**	**15 32 04.7**	**+0.6**
TUC	**Tucson**	**76.23**	**51**	*eP*	**P**	**15 32 04.8**	**-0.2**
TUC				pmax	pmax		
	comp=Z,21nm,1.4s						
TUC	**Tucson**	**76.23**	**51**	*eP*	**P**	**15 32 04.8**	**-0.2**
	comp=Z,21nm,1.4s						
WVOR	**Wild Horse Val**	**76.25**	**38**	*eP*	**P**	**15 32 05.1**	**+0.1**
WVOR				pmax	pmax		
	comp=Z,28nm,1.3s						
WVOR	**Wild Horse Val**	**76.25**	**38**	*eP*	**P**	**15 32 05.1**	**+0.1**
	comp=Z,28nm,1.3s						
X16A	**Lo Mia Camp, P**	**76.75**	**49**	⇓P	**P**	**15 32 08.7**	**+0.7**
	baz=77,SNR=6.0						
ARUT	**Antelope Range**	**77.03**	**45**	*eP*	**P**	**15 32 10.1**	**+0.6**
ARUT	**Antelope Range**	**77.03**	**45**	*eP*	**P**	**15 32 10.1**	**+0.6**
	comp=Z,224nm,1.1s						
U15A	**North Rim**	**77.13**	**46**	⇓P	**P**	**15 32 10.7**	**+0.4**
	baz=77						
USRK	**Ussuriysk Arra**	**77.29**	**323**	P	**P**	**15 32 11.2**	**+0.6**
	comp=Z,7.4nm,1.1s,baz=112,slow=5.1,SNR=12						
220A	**Playas Peak, P**	**77.74**	**52**	⇑P	**P**	**15 32 14.2**	**+0.6**
	baz=78						
X18A	**Snowflake**	**77.89**	**49**	⇑P	**P**	**15 32 15.0**	**+0.6**
	baz=78						
120A	**U Bar Ranch, L**	**77.95**	**51**	⇑P	**P**	**15 32 15.2**	**+0.4**
	baz=78						
Z20A	**Nine Sixteen R**	**78.24**	**51**	⇑P	**P**	**15 32 17.3**	**+0.9**
	baz=78,SNR=8.3						
BMO	**Blue Mountains**	**78.45**	**37**	*eP*	**P**	**15 32 16.2**	**-0.9**
	comp=Z,35nm,1.4s						
MFID	**Camas Ranch**	**78.51**	**39**	⇓P	**P**	**15 32 18.4**	**+0.8**
	baz=79						
121A	**Cookes Peak, D**	**78.58**	**52**	⇑P	**P**	**15 32 19.2**	**+0.9**
	baz=79,SNR=5.5						
DUG	**Dugway**	**78.69**	**43**	⇓P	**P**	**15 32 19.0**	**+0.4**
	baz=79						
Y20A	**Horse Springs,**	**78.76**	**50**	⇑P	**P**	**15 32 20.0**	**+0.7**
	baz=79,SNR=8.5						
222A	**Williams Famil**	**78.92**	**52**	⇑P	**P**	**15 32 20.9**	**+0.8**
	baz=79						
MDJ	**Mudanjiang**	**78.93**	**322**	P	**P**	**15 32 21.3**	**+1.6**
MDJ				pmax	pmax		
	comp=Z,7.0nm,1.4s						
MDJ				pmax	pmax		
	comp=Z,290nm,10.6s						
X20A	**Quemado**	**78.95**	**50**	⇑P	**P**	**15 32 21.2**	**+0.9**
	baz=79,SNR=5.5						
Z21A	**St. Cloud Mine**	**79.01**	**51**	⇑P	**P**	**15 32 21.5**	**+0.8**
	baz=79						
W20A	**Ramah**	**79.22**	**49**	⇑P	**P**	**15 32 22.7**	**+0.9**
	baz=79,SNR=6.8						
122A	**Conniff Cattle**	**79.25**	**52**	⇓P	**P**	**15 32 23.0**	**+1.0**
	baz=79						
TMUT	**Trail Mountain**	**79.30**	**44**	*eP*	**P**	**15 32 22.4**	**+0.2**
	comp=Z,30nm,1.2s						
Y21A	**Point of Rocks**	**79.32**	**50**	⇑P	**P**	**15 32 23.5**	**+1.1**
	baz=80,SNR=6.6						
X21A	**Alamocita Cree**	**79.44**	**50**	⇑P	**P**	**15 32 23.1**	**+0.1**
	baz=80						
HLID	**Hailey**	**79.45**	**39**	*eP*	**P**	**15 32 22.6**	**-0.2**
	comp=Z,12nm,0.2s						
HLID	**Hailey**	**79.45**	**39**	⇓P	**P**	**15 32 23.4**	**+0.6**
	baz=80						
Z22A	**Elephant Butte**	**79.52**	**51**	⇑P	**P**	**15 32 24.2**	**+0.8**
	baz=80,SNR=8.9						
SRU	**San Rafael**	**79.67**	**45**	*eP*	**P**	**15 32 24.4**	**+0.3**
SRU				pmax	pmax		
	comp=Z,11nm,1.2s						
SRU	**San Rafael**	**79.67**	**45**	*eP*	**P**	**15 32 24.4**	**+0.3**
	comp=Z,11nm,1.2s						
Y22A	**Socorro**	**79.82**	**51**	⇑P	**P**	**15 32 25.3**	**+0.3**
	baz=80						
324A	**Moseley Ranch,**	**79.88**	**54**	⇑P	**P**	**15 32 25.8**	**+0.4**
	baz=80,SNR=8.4						
LAZ	**Ladron**	**79.89**	**50**	*eP*	**P**	**15 32 26.2**	**+0.7**
	comp=Z,0.9nm,0.5s						
425A	**Indio Mountain**	**80.00**	**54**	⇓P	**P**	**15 32 26.8**	**+0.7**
	baz=80,SNR=11						
X22A	**Bernardo**	**80.04**	**50**	⇓P	**P**	**15 32 27.1**	**+0.9**
	baz=80						
MNTX	**Cornudas Mount**	**80.07**	**53**	*eP*	**P**	**15 32 26.5**	**+0.2**
	comp=Z,14nm,1.3s						
Z23A	**Rita Site, Whi**	**80.08**	**52**	⇑P	**P**	**15 32 26.9**	**+0.6**
	baz=80						
224A	**Cornudas Mount**	**80.12**	**53**	⇓P	**P**	**15 32 27.1**	**+0.5**
	baz=80,SNR=8.0						
NJ2	**Nanjing**	**80.12**	**307**	*eP*	**P**	**15 32 27.0**	**+0.6**
BNM	**Barren Site**	**80.16**	**51**	*eP*	**P**	**15 32 27.2**	**+0.3**
	comp=Z,12nm,1.2s						
626A	**Big Bend Ranch**	**80.17**	**56**	⇑P	**P**	**15 32 27.4**	**+0.5**
	baz=80,SNR=9.1						
MVCO	**Mesa Verde**	**80.18**	**47**	⇓P	**P**	**15 32 27.7**	**+0.8**
	baz=80						
LPM	**Los Pinos Moun**	**80.23**	**50**	*eP*	**P**	**15 32 27.9**	**+0.6**
	comp=Z,14nm,1.3s						
526A	**Mary Lane Ranc**	**80.41**	**55**	⇑P	**P**	**15 32 28.8**	**+0.6**
	baz=81,SNR=9.2						
KLR	**Kul'dur**	**80.41**	**327**	*eP*	P	15 32 22.1	-5.5
U21A	**Nageezi**	**80.42**	**48**	⇓P	**P**	**15 32 28.9**	**+0.6**
	baz=81,SNR=8.0						
124A	**Stringfield Ra**	**80.43**	**52**	⇓P	**P**	**15 32 28.7**	**+0.3**
	baz=81,SNR=6.3						
TRF	**Thorofare Moun**	**80.44**	**10**	*eP*	**P**	**15 32 25.9**	**-1.8**
	comp=Z,66nm,1.6s						
TXAR	**Lajitas Array**	**80.46**	**56**	P	**P**	**15 32 29.2**	**+0.7**
TXAR	**Lajitas Array**	**80.46**	**56**	P	**P**	**15 32 29.2**	**+0.7**
	comp=Z,6.8nm,1.1s,baz=224,slow=5.2,SNR=30						
Y23A	**Lovelace Mesa,**	**80.50**	**51**	⇓P	**P**	**15 32 29.2**	**+0.5**
	baz=81						
S20A	**Disappointment**	**80.56**	**47**	⇓P	**P**	**15 32 29.5**	**+0.5**
	baz=81						
ANMO	**Albuquerque**	**80.64**	**50**	*eP*	**P**	**15 32 29.6**	**+0.2**
	comp=Z,9.0nm,1.1s						
225A	**Deer Hill, Car**	**80.67**	**53**	⇑P	**P**	**15 32 30.2**	**+0.6**
	baz=81,SNR=6.3						
426A	**McDonald Obser**	**80.70**	**55**	⇑P	**P**	**15 32 30.5**	**+0.6**
	baz=81,SNR=14						
627A	**Terlingua Ranc**	**80.73**	**56**	⇑P	**P**	**15 32 30.4**	**+0.5**
	baz=81,SNR=16						
V22A	**San Miguel Ran**	**80.73**	**49**	⇑P	**P**	**15 32 30.2**	**+0.2**
	baz=81						
M17A	**Scullys Gap (B**	**80.74**	**43**	⇓P	**

CHMT	Chamberlain Mo	81.95	37	eP	P	15 32 35.8	-0.4
	comp=Z,5.3nm,0.6s						
SLMT	Seeley Lake	81.98	37	P	P	15 32 35.4	-0.9
	comp=Z,29nm,1.9s						
FLWY	Flagg Ranch	82.02	40	eP	P	15 32 36.8	+0.2
	comp=Z,46nm,1.3s						
N20A	Spence Gulch,	82.02	44	⇓P	P	15 32 37.0	+0.3
	baz=82						
127A	Arkansas Junct	82.03	53	⇑P	P	15 32 37.3	+0.5
	baz=82						
Q22A	Crested Butte,	82.05	46	⇓P	P	15 32 37.4	+0.4
	baz=82,SNR=7.6						
BW06	Boulder Array	82.09	42	eP	P	15 32 35.8	-1.2
	comp=Z,14nm,1.3s						
PDAR	Pinedale Array	82.09	42	P	P	15 32 36.8	-0.2
PDAR	Pinedale Array	82.09	42	P	P	15 32 36.8	-0.2
	comp=Z,3.7nm,0.9s,baz=223,slow=3.7,SNR=20						
YFT	Old Faithful	82.12	40	P	P	15 32 36.2	-1.0
COLA	College	82.18	11	eP	P	15 32 35.1	-1.5
COLA				pmax	pmax		
	comp=Z,181nm,1.3s						
COLA	College	82.18	11	eP	P	15 32 35.1	-1.5
	comp=Z,180nm,1.3s						
W25A	X Bar L Ranch,	82.23	50	⇑P	P	15 32 37.9	0.0
	baz=82						
ILAR	Eielson Array	82.26	11	P	P	15 32 35.8	-1.4
ILAR	Eielson Array	82.26	11	P	P	15 32 35.8	-1.4
	comp=Z,2.6nm,0.8s,baz=186,slow=5.3,SNR=15						
ILAR				LR	LR	16 07 59.6	
	comp=Z,193nm,18.9s,baz=202,slow=35						
IM04	Indian Mountai	82.28	8	eP	P	15 32 36.3	-0.9
SEY	Seymchan	82.37	345	ceP	P	15 32 37.0	-0.7
429A	Davenport Ranc	82.38	56	⇓P	P	15 32 38.7	+0.1
	baz=82,SNR=18						
V25A	Rancho No Teng	82.38	50	⇓P	P	15 32 38.9	+0.2
	baz=82,SNR=13						
M20A	Sweetwater, Wa	82.38	43	⇑P	P	15 32 38.9	+0.3
	baz=82						
IMA2	Indian Mountai	82.38	8	eP	P	15 32 37.7	-0.2
Z27A	Tatum	82.40	53	⇓P	P	15 32 39.1	+0.4
	baz=82						
228A	UT Block 9, Go	82.41	54	⇓P	P	15 32 39.1	+0.4
	baz=83						
X26A	CR and CF Fran	82.45	51	⇑P	P	15 32 39.5	+0.5
	baz=83						
P22A	Eagle	82.48	46	⇓P	P	15 32 39.6	+0.5
	baz=83						
N21A	Black Mountain	82.49	44	⇓P	P	15 32 39.4	+0.3
	baz=83,SNR=5.7						
R23A	Moffat	82.51	47	⇑P	P	15 32 39.9	+0.5
	baz=83						
L20A	Wamsutter	82.52	43	⇑P	P	15 32 39.6	+0.3
	baz=83,SNR=6.2						
SDCO	Great Sand Dun	82.55	48	eP	P	15 32 39.3	-0.3
	comp=Z,23nm,1.7s						
K19A	Absolon Red Bu	82.58	42	⇓P	P	15 32 39.5	0.0
	baz=83						
329A	Wagon Wheel Ra	82.64	55	⇓P	P	15 32 40.1	+0.1
	baz=83						
530A	J-C Ranch, Com	82.64	56	⇑P	P	15 32 39.8	-0.1
	baz=83,SNR=5.9						
J19A	Crowheart	82.66	42	⇑P	P	15 32 40.3	+0.4
	baz=83						
Y27A	Causey	82.67	52	⇑P	P	15 32 39.9	-0.2
	baz=83,SNR=7.3						
HRY	Holter Researc	82.67	38	eP	P	15 32 39.3	-0.5
	comp=Z,21nm,1.2s						
128A	Castleberry Fa	82.69	53	⇑P	P	15 32 40.2	0.0
	baz=83,SNR=6.9						
W26A	Owens Ranch, T	82.70	51	⇑P	P	15 32 40.8	+0.5
	baz=83						
S24A	Houchin Ranch,	82.71	48	⇓P	P	15 32 40.6	+0.1
	baz=83,SNR=8.2						
U25A	Circle Dot Ran	82.77	49	⇑P	P	15 32 40.5	-0.2
	baz=83,SNR=11						
Q23A	Hartsel	82.82	47	⇓P	P	15 32 41.6	+0.6
	baz=83						
O22A	Kremmling	82.88	45	⇓P	P	15 32 41.2	-0.1
	baz=83,SNR=10						
QIZ	Qiongzhong	82.91	292	P	P	15 32 40.5	-1.0
QIZ				S	S	15 42 59.5	+0.8
H18A	Shoshone NF, C	82.95	40	⇑P	P	15 32 41.8	+0.3
	baz=83						
V26A	Tequesquite Ra	82.97	50	⇓P	P	15 32 41.8	+0.2
	baz=83						
631A	Perdido Creek	82.98	57	⇓P	P	15 32 41.7	0.0
	baz=83,SNR=11						
M21A	Separation Pea	82.98	44	⇓P	P	15 32 41.5	-0.2
	baz=83,SNR=7.8						
MSTX	Muleshoe	83.00	52	eP	P	15 32 42.1	+0.3
MSTX	Muleshoe	83.00	52	⇑P	P	15 32 41.8	0.0
	baz=83,SNR=6.2						
X27A	F and S Farms,	83.02	51	⇓P	P	15 32 42.2	+0.3
	baz=83						
Z28A	Tucker Farm, M	83.02	53	⇑P	P	15 32 42.1	+0.1
	baz=83						
R24A	Sanders Place,	83.04	47	⇑P	P	15 32 42.1	+0.1
	baz=83,SNR=6.0						
I19A	Meeteetse	83.06	41	⇑P	P	15 32 42.0	0.0
	baz=83,SNR=5.2						
T25A	Trinidad	83.07	49	⇓P	P	15 32 42.3	+0.1
	baz=83						
L21A	Rawlins	83.14	43	⇑P	P	15 32 42.5	+0.1
	baz=83						
129A	Stewart Farms,	83.17	54	⇑P	P	15 32 43.1	+0.4
	baz=83						
W27A	Bowe Ranch, En	83.22	51	⇑P	P	15 32 43.3	+0.4
	baz=83						
N22A	Wattenberg Ran	83.23	45	⇑P	P	15 32 43.1	+0.1
	baz=83						
DAWY	Dawson	83.24	14	eP	P	15 32 41.3	-0.9
330A	Mertzon	83.25	55	⇓P	P	15 32 43.5	+0.4
	baz=83						
U26A	Atchley Ranch,	83.25	50	⇑P	P	15 32 43.1	0.0
	baz=83,SNR=6.4						
S25A	Robets Cordova	83.28	48	⇓P	P	15 32 43.7	+0.5
	baz=83						
531A	Rocksprings	83.28	56	⇓P	P	15 32 43.5	+0.3
	baz=83,SNR=9.9						
J20A	Shoshoni	83.32	42	⇑P	P	15 32 43.3	+0.1
	baz=84,SNR=7.3						
Q24A	Divide	83.32	47	⇑P	P	15 32 43.6	0.0
	baz=84,SNR=5.7						
O23A	Lake Granby, G	83.33	45	⇓P	P	15 32 43.4	-0.2
	baz=84						
ISCO	Idaho Springs	83.36	46	eP	P	15 32 44.5	+0.7
ISCO				pmax	pmax		
	comp=Z,8.0nm,1.1s						
ISCO	Idaho Springs	83.36	46	eP	P	15 32 44.5	+0.7
	comp=Z,7.9nm,1.1s						
ISCO	Idaho Springs	83.36	46	⇓P	P	15 32 44.0	+0.3
	baz=84						
H19A	Powell	83.38	40	⇑P	P	15 32 44.1	+0.6
	baz=84						
M22A	Cedar Creek Ra	83.40	44	⇓P	P	15 32 44.3	+0.4
	baz=84						
431A	Sonora	83.42	56	⇓P	P	15 32 44.3	+0.3
	baz=84						
EGAK	Eagle	83.44	13	eP	P	15 32 42.6	-0.6
	comp=Z,29nm,1.4s						
GCMT	Greycliff	83.50	39	P	P	15 32 44.1	-0.1
	comp=Z,24nm,1.4s						
K21A	Alcova	83.53	43	⇑P	P	15 32 44.5	+0.1
	baz=84,SNR=5.2						
Z29A	Hungry Hill Ra	83.54	53	⇑P	P	15 32 44.6	0.0
	baz=84						
I20A	Worland	83.57	41	⇑P	P	15 32 44.6	+0.1
	baz=84,SNR=6.5						
R25A	Fountain Ranch	83.59	48	⇑P	P	15 32 44.3	-0.4
	baz=84						
N23A	Red Feather La	83.61	45	⇑P	P	15 32 45.3	+0.3
	baz=84						
X28A	Dimmitt	83.65	52	⇑P	P	15 32 45.4	+0.3
	baz=84						
632A	Uvalde	83.66	57	⇑P	P	15 32 45.3	+0.1
	baz=84						
V27A	Dan Oppiter Fa	83.66	50	⇓P	P	15 32 45.5	+0.3
	baz=84						
T26A	Comanche Natio	83.68	49	⇓P	P	15 32 45.7	+0.3
	baz=84						
J21A	Lysite	83.73	42	⇓P	P	15 32 45.5	+0.1
	baz=84,SNR=26						
532A	Rocksprings	83.78	57	⇑P	P	15 32 46.3	+0.5
	baz=84						
L22A	Ellis Ranch, M	83.79	44	⇓P	P	15 32 46.4	+0.5
	baz=84						
130A	Snyder	83.86	54	⇓P	P	15 32 46.8	+0.7
	baz=84						
H20A	Greybull	83.91	41	⇓P	P	15 32 46.9	+0.7
	baz=84						
W28A	Vega	83.94	51	⇑P	P	15 32 47.4	+0.8
	baz=84						
U27A	Thompson Grove	83.94	50	⇑P	P	15 32 46.6	0.0
	baz=84						
S26A	Kim	83.95	49	⇑P	P	15 32 46.7	0.0
	baz=84						
COLD	Coldfoot	83.96	9	eP	P	15 32 46.7	+0.9
	comp=Z,41nm,1.6s						
F19A	Roth Farm, Mol	83.97	39	⇓P	P	15 32 46.8	+0.2
	baz=84						
Z30A	Sanderson Ranc	84.00	53	⇓P	P	15 32 46.3	-0.6
	baz=84,SNR=8.4						
K22A	Casper	84.01	43	⇑P	P	15 32 47.6	+0.7
	baz=84						
I21A	Big Trails, Te	84.04	42	⇑P	P	15 32 47.3	+0.3
	baz=84,SNR=15						
G20A	Bridger	84.12	40	⇓P	P	15 32 47.8	+0.4
	baz=84						
P25A	Willow Gulch B	84.25	47	⇓P	P	15 32 48.4	+0.3
	baz=84,SNR=5.5						
R26A	Arlington	84.25	48	⇓P	P	15 32 48.3	+0.2
	baz=84,SNR=6.3						
T27A	Campo	84.27	49	⇓P	P	15 32 48.4	+0.1
	baz=84						
W29A	Amraillo	84.30	51	⇓P	P	15 32 48.7	+0.3
	baz=84						
N24A	Carr	84.31	45	⇑P	P	15 32 48.7	+0.3
	baz=84						
L23A	Garrett	84.32	44	⇑P	P	15 32 48.8	+0.3
	baz=84						
131A	Roby	84.34	54	⇓P	P	15 32 48.9	+0.3
	baz=84						
J22A	Midwest	84.39	42	⇓P	P	15 32 49.5	+0.7
	baz=84						
Y30A	Stafford Cattl	84.40	53	⇑P	P	15 32 49.4	+0.5
	baz=84						
F20A	Billings	84.44	40	⇑P	P	15 32 49.2	+0.4
	baz=85						
EGMT	Eagleton	84.55	37	⇓P	P	15 32 50.3	+0.9
	baz=85						
H21A	Big Horn, Sher	84.58	41	⇑P	P	15 32 50.5	+0.8
	baz=85						
I22A	9 Mile Ranch,	84.60	42	⇑P	P	15 32 50.2	+0.4
	baz=85,SNR=6.5						
X30A	Coker Ranch, T	84.63	52	⇑P	P	15 32 50.4	+0.3
	baz=85						
D19A	Cripps Ranch,	84.64	38	⇓P	P	15 32 50.4	+0.5
	baz=85						
T28A	Walsh	84.74	49	⇑P	P	15 32 50.9	+0.3
	baz=85						
Z31A	Sharp Cattle R	84.77	54	⇓P	P	15 32 51.2	+0.4
	baz=85						
E20A	Meyer Farm, Mu	84.78	39	⇑P	P	15 32 51.3	+0.8
	baz=85						
C19A	Slack Wire Ran	84.82	38	⇑P	P	15 32 51.7	+0.9
	baz=85						
ABTX	Abilene, Hawle	84.91	54	eP	P	15 32 51.5	0.0
ABTX	Abilene, Hawle	84.91	54	⇑P	P	15 32 52.2	+0.8
	baz=85						
Y31A	Rekieta Farm,	84.92	53	⇓P	P	15 32 52.3	+0.8
	baz=85						
D20A	Manuel Ranch,	85.06	39	⇓P	P	15 32 52.7	+0.8
	baz=85						
F21A	Absaloka Mine,	85.08	40	⇑P	P	15 32 52.8	+0.7
	baz=85						
K24A	Anderson Ranch	85.17	43	⇑P	P	15 32 53.9	+1.2
	baz=85						
B19A	Brinkman Farms	85.23	37	⇑P	P	15 32 53.8	+1.1
	baz=85						
Z32A	Haskell	85.28	54	⇓P	P	15 32 54.0	+0.7
	baz=85						
EDM	Edmonton	85.30	31	eP	P	15 32 52.4	-0.6
EDM	Edmonton	85.30	31	eP	P	15 32 52.4	-0.6
BJI	Beijing	85.40	313	P	P	15 32 52.8	-0.9
BJI				PP	PP	15 36 11.8	-0.5
BJI				S	S	15 43 25.5	+2.7
BJI				pmax	pmax		
	comp=Z,11nm,1.3s						
BJI				pmax	pmax		
	comp=Z,340nm,4.4s						
BJI				LR	LR		
	comp=N,190nm,29.6s						
BJI				LR	LR		
	comp=E,240nm,24.2s						
BJI				LR	LR		
	comp=Z,880nm,57.5s						
C20A	Veseth Ranch,	85.43	38	⇑P	P	15 32 54.6	+0.8
	baz=86						
Y32A	R-V Farms, Ver	85.57	53	⇑P	P	15 32 55.5	+0.8
	baz=86						
A19A	Klindworth Far	85.58	37	⇑P	P	15 32 55.2	+0.7
	baz=86						
W31A	Holland Ranch,	85.62	52	⇑P	P	15 32 55.3	+0.3
	baz=86						
D21A	La Casta Ranch	85.73	39	⇓P	P	15 32 56.6	+1.3
	baz=86						
G23A	Biddle	85.88	41	⇑P	P	15 32 56.8	+0.7
	baz=86						
F23A	Volborg	86.11	41	⇓P	P	15 32 58.0	+0.9
	baz=86						
H24A	Dirks Ranch, A	86.22	42	⇓P	P	15 32 58.5	+0.7
	baz=86						
RSSD	Black Hills	86.29	42	eP	P	15 32 58.5	+0.2
RSSD				pmax	pmax		
	comp=Z,27nm,1.0s						
RSSD	Black Hills	86.29	42	eP	P	15 32 58.5	+0.2
	comp=Z,27nm,1.0s						
B21A	Ellsworth Farm	86.35	38	⇓P	P	15 32 59.6	+1.3
	baz=86						
I25A	Rochford	86.44	43	⇑P	P	15 32 59.7	+0.7
	baz=87						
D23A	Lindsay	86.87	39	⇓P	P	15 33 02.1	+1.2
	baz=87						
B22A	Reddig Ranch S	86.90	38	⇓P	P	15 33 02.1	+1.1
	baz=87						
HKT	Hockley	87.03	58	eP	P	15 33 01.3	-0.6
HKT				pmax	pmax		
	comp=Z,41nm,1.8s						
HKT	Hockley	87.03	58	eP	P	15 33 01.3	-0.6
	comp=Z,41nm,1.8s						
HIA	Hailar	87.10	323	P	P	15 33 02.6	+0.7
APG	El Apazote	87.21	74	P	P	15 33 03.7	+0.3
APG	El Apazote	87.21	74	P	P	15 33 03.7	+0.3
	comp=Z,16nm,1.0s,baz=269,slow=6.2,SNR=11						
B23A	Brockton	87.57	38	⇑P	P	15 33 05.4	+1.1
	baz=88						
MAW	Mawson	87.98	199	eP	P	15 33 05.9	+0.1
	comp=Z,2.2nm,1.0s						
MAW	Mawson	87.98	199	P	P	15 33 06.2	+0.3
	comp=Z,10nm,1.0s,baz=130,slow=5.2,SNR=15						
GYA	Guiyang	88.02	298	P	P	15 33 07.3	+0.3
GYA				PP	PP	15 36 35.5	+1.5
GYA				SKS	SKSac	15 43 32.8	-1.1
GYA				S	S	15 43 49.0	-0.2
GYA				SS	SS	15 49 39.0	+1.0
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,130nm,6.2s						
GYA				LR	LR		
	comp=N,610nm,21.8s						
GYA				LR	LR		
	comp=E,520nm,22.3s						
GYA				LR	LR		
	comp=Z,580nm,21.6s						
INK	Inuvik	88.08	14	eP	P	15 33 05.8	-0.3
	comp=Z,32nm,1.5s						
HHC	Hu-ho-hao-te	88.96	313	eP	P	15 33 11.0	-0.1
HHC				sP	sP	15 33 16.8	-7.4
HHC				PP	PP	15 36 43.0	+1.8
HHC				SKS	SKSac	15 43 37.8	-1.0
HHC				S	S	15 43 56.0	-1.4
HHC				sS	ScS	15 44 02.0	-0.5
HHC				SS	SS	15 49 52.0	+1.0
HHC				pmax	pmax		
	comp=Z,45nm,0.5s						
HHC				pmax	pmax		
	comp=Z,430nm,5.4s						
HHC				LR	LR		
	comp=N,310nm,16.7s						
HHC				LR	LR		
	comp=E,690nm,16.7s						
HHC				LR	LR		
	comp=Z,340nm,16.7s						
PLCA	Paso Flores	89.58	132	P	P	15 33 15.0	+0.9
PLCA	Paso Flores	89.58	132	P	P	15 33 15.0	+0.9
	comp=Z,5.2nm,1.1s,baz=267,slow=5.7,SNR=5.4						
YKA	Yellowknife Ar	89.91	23	P	P	15 33 15.7	+0.9
YKA	Yellowknife Ar	89.91	23	P	P	15 33 15.7	+0.9
	comp=Z,2.0nm,0.8s,baz=240,slow=4.3,SNR=5.1						
TEIG	Tepich	90.66	69	P	P	15 33 20.3	+1.0
TEIG	Tepich	90.66	69	P	P	15 33 20.3	+1.0
	comp=Z,3.8nm,0.4s,baz=340,slow=5.9,SNR=4.2						
KMI	Kunming	91.02	296	P	P	15 33 23.8	+2.6
KMI				pmax	pmax		
	comp=Z,9.0nm,2.0s						
JTS	JuntasAbangare	91.11	80	eP	P	15 33 21.6	-0.1
	comp=Z,232nm,1.2s						
CD2	Chengdu	91.78	301	P	P	15 33 25.0	+0.6
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CMAR	Chiang Mai Arr	92.63	288	P	P	15 33 28.9	+0.4
CMAR	Chiang Mai Arr	92.63	288	P	P	15 33 28.9	+0.4
	comp=Z,0.3nm,0.6s,baz=94,slow=2.2,SNR=2.4						
SYO	Syowa Base	92.78	191	⇑eP	P	15 33 27.8	-0.4
SNAA	Sanae	93.07	177	eP	P	15 33 29.2	-0.5
	comp=Z,9.2nm,1.0s						
LZH	Lanzhou	93.18	306	eP	P	15 33 31.8	+0.9
LZH				pP	pP	15 33 37.0	-3.6
LZH				sP	sP	15 33 39.8	-4.2
LZH				PP	PP	15 37 15.0	+0.2
LZH				SKS	SKSac	15 44 02.0	-1.3
LZH				eS	S	15 44 34.5	-1.7
LZH				sS	ScS	15 44 44.0	+6.1
LZH				pmax	pmax		
	comp=Z,21nm,1.1s						
LZH				pmax	pmax		
	comp=Z,110nm,4.9s						
LZH				LR	LR		
	comp=N,720nm,16.3s						
LZH				LR	LR		
	comp=E,650nm,15.8s						
LZH				LR	LR		
	comp=Z,910nm,17.4s						
ULN	Ulaanbaatar	94.35	318	eP	P	15 33 35.9	-0.1
	comp=Z,13nm,1.4s						
CFAA	Coronel Fontan	94.49	124	P	P	15 33 37.5	+0.6
CFAA	Coronel Fontan	94.49	124	P	P	15 33 37.5	+0.6
	comp=Z,2.2nm,1.2s,baz=236,slow=4.0,SNR=8.5						
SONM	Songino Array	94.76	318	P	P	15 33 38.0	+0.1
SONM	Songino Array	94.76	318	P	P	15 33 38.0	+0.1
	comp=Z,2.1nm,1.2s,baz=106,slow=5.4,SNR=5.6						
GTA	Gaotai	97.13	309	eP	Pdif	15 33 51.0	+2.1
GTA				pP	pP	15 33 55.5	-3.0
GTA				sP	sP	15 33 58.5	-3.4
GTA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
TLY	Talaya	97.54	321	eP	P	15 33 50.3	0.0
TLY				pmax	pmax		
	comp=Z,6.0nm,1.5s						
MKAR	Makanchi Array	110.76	315	PKIKP	PKiKP	15 38 46.9	-2.2
MKAR						15 49 56.7	
MKAR	Makanchi Array	110.76	315	PKiKP	PKiKP	15 38 46.9	-2.2
MKAR				PKKPab	PKKPab	15 49 56.6	-0.5
MKAR	Makanchi Array	110.76	315	PKiKP	PKiKP	15 38 46.9	-2.2
	comp=Z,1.0nm,0.9s,baz=72,slow=4.0,SNR=5.5						
MKAR				PKKPab	PKKPab	15 49 56.6	-0.5
	comp=Z,0.6nm,0.9s,baz=318,slow=1.6,SNR=3.7						
KURK	Kurchatov	113.06	319	c iPKIKP	PKiKP	15 38 51.8	-1.5
KURK				pmax	pmax		
	comp=Z,2.0nm,1.2s						
KSH	Kashi	115.43	307	ePKP	PKPdf	15 38 59.8	+1.4
KSH				PP	PP	15 40 05.8	+5.7
KSH				PKS	PKSdf	15 42 35.0	-0.2
KSH				SKS	SKSdf	15 46 11.0	+2.4
KSH				SKKS	SKKSac	15 46 58.8	-0.7
KSH				SS	SS	15 56 01.3	+4.0
KSH				AMB	AMB		
	comp=Z,72nm,4.5s						
KSH				LR	LR		
	comp=N,87nm,6.3s						
KSH				LR	LR		
	comp=E,64nm,7.8s						
KSH				LR	LR		
	comp=Z,190nm,5.9s						
BRVK	Borovoye	117.84	322	c iPKIKP	PKPdf	15 39 01.3	-1.1
BRVK				pmax	pmax		
	comp=Z,7.0nm,1.2s						
ARU	Arti	123.23	328	i PKIKP	PKPdf	15 39 11.5	-1.2
ARU						15 40 54.4	
ARU						15 46 12.9	
ARU				SS	SS	15 57 31.6	-4.6
ABKAR	Akbulak array	125.13	320	PKPdf	PKPdf	15 39 14.4	-2.2
KLMR	Klimovskoe	128.65	340	ePKIKP	PKPdf	15 39 21.1	-1.8
KLMR				pmax	pmax		
	comp=Z,26nm,1.7s						
OBN	Obninsk	133.98	337	i PKIKP	PKPdf	15 39 33.0	-0.1
OBN				pmax	pmax		
	comp=Z,8.0nm,0.6s						
AKASG	Malin Array Be	140.21	338	PKIKP	PKPdf	15 39 44.9	+0.1
AKASG	Malin Array Be	140.21	338	PKP	PKPdf	15 39 44.9	+0.1
AKASG	Malin Array Be	140.21	338	PKP	PKPdf	15 39 44.9	+0.1
	comp=Z,2.2nm,0.8s,baz=22,slow=1.6,SNR=11						
KWP	Kalwaria Pacla	143.28	343	⇓PKIKP	PKPbc	15 39 47.9	+0.5
KWP	Kalwaria Pacla	143.28	343	⇓iP	PKPbc	15 39 47.9	+0.5
CLL	Collm	143.65	353	ePKPdf	PKPdf	15 39 50.0	-0.9
CLL				e		15 40 04.0	
CLL				pmax	pmax		
	comp=Z,8.0nm,1.1s						
CLL	Collm	143.65	353	ePKPdf	PKPdf	15 39 50.0	-0.9
	comp=Z,8.0nm,1.1s						
CLL				e		15 40 04.0	
MALT	Malatya	143.79	316	⇑PKIKP	PKPdf	15 39 51.4	-0.4
MALT	Malatya	143.79	316	⇑iP	PKPdf	15 39 51.4	-0.4
STHS	Stebnicka Huta	143.88	344	ePKIKP	PKPbc	15 39 49.6	+0.4
STHS	Stebnicka Huta	143.88	344	ePKP	PKPbc	15 39 49.6	+0.4
BRG	Berggiesshubel	143.96	352	ePKP	PKPdf	15 40 10.5	+19
	comp=Z,11nm,1.4s						
BRG	Berggiesshubel	143.96	352	ePKPbc	PKPab	15 39 48.0	-0.8
KOLS	Kolonicke sedl	144.03	342	ePKIKP	PKPdf	15 39 55.8	+4.1
KOLS	Kolonicke sedl	144.03	342	ePKP	PKPdf	15 39 55.8	+4.1
DPC	Dobruska-Polom	144.10	349	ePKIKP	PKPdf	15 39 50.9	-1.0
DPC	Dobruska-Polom	144.10	349	ePKP	PKPdf	15 39 50.9	-1.0
BUR08	Bucovina Ar. S	144.22	338	ePKPdf	PKPdf	15 39 51.7	-0.5
BURAR	Bucovina Array	144.23	338	⇓PKIKP	PKPdf	15 39 52.1	-0.1
BURAR	Bucovina Array	144.23	338	⇓iP	PKPdf	15 39 52.1	-0.1
CRVS	Cervenica-Dubn	144.29	343	ePKIKP	PKPdf	15 39 52.3	+0.1
CRVS	Cervenica-Dubn	144.29	343	ePKP	PKPdf	15 39 52.3	+0.1
UZH	Uzhgorod	144.30	342	ePKIKP	PKPab	15 39 50.0	-0.1
UZH				e		15 40 01.0	
MORC	Moravsky Berou	144.42	348	⇑PKIKP	PKPdf	15 39 51.9	-0.5
MORC	Moravsky Berou	144.42	348	ePKPdf	PKPab	15 39 49.9	-0.7
MORC	Moravsky Berou	144.42	348	⇑iP	PKPdf	15 39 51.9	-0.5
MOX	Moxa	144.45	355	ePKPbc	PKPab	15 39 49.8	-0.8
TANN	Tannenbergstha	144.59	354	ePKPbc	PKPab	15 39 50.5	-0.7
TESR	Tescani	144.62	336	⇑iP	PKPdf	15 39 52.5	-0.3
TRPA	Tarpa	144.67	342	ePKPdf	PKPab	15 39 50.1	-1.4
MEM	Membach	144.71	1	PKP	PKPdf	15 39 52.6	-0.2
PRU	Pruhonice	144.74	351	ePKIKP	PKPdf	15 39 52.4	-0.5
PRU	Pruhonice	144.74	351	ePKP

PSZ	Piszkesteto	145.62 344	⇑PKP2	PKPab	15 39 55.8	+0.7
PSZ	Piszkesteto	145.62 344	*e*PKP	PKPab	15 39 55.0	-0.1
PSZ	Piszkesteto	145.62 344	⇑*i*P	PKPab	15 39 55.8	+0.7
PSZ	Piszkesteto	145.62 344	*e*PKPbc	PKPab	15 39 55.2	+0.1
SMOL	Smolenice	145.64 347	*e*PKP2	PKPab	15 39 55.9	+0.8
SMOL	Smolenice	145.64 347	*e*PKP	PKPab	15 39 55.9	+0.8
WLF	Walferdange	145.65 1	PKP	PKPab	15 39 55.2	+0.2
WLF	Walferdange	145.65 1	*e*PKPbc	PKPdf	15 39 54.4	-0.1
WLF	Walferdange	145.65 1	*e*PKP2	PKPab	15 39 55.0	0.0
WLF	Walferdange	145.65 1	*e*PKP	PKPab	15 39 55.0	0.0
KMBO	Kilima Mbogo	145.67 244	PKP	PKPdf	15 39 55.8	-0.1
CDAG	Cicekdag	145.68 320	*i* P	PKPbc	15 39 55.3	0.0
KHC	Kasperske Hory	145.72 352	*e*PKP2	PKPbc	15 39 55.1	+0.1
KHC	Kasperske Hory	145.72 352	*e*PKP	PKPbc	15 39 55.1	+0.1
KHC	Kasperske Hory	145.72 352	*e*PKP	PKPab	15 39 55.3	-0.1
MLR	Muntele Rosu	145.74 336	PKPbc	PKPab	15 39 56.1	+0.4
MLR	Muntele Rosu	145.74 336	⇓*i*P	PKPbc	15 39 55.4	+0.1
MLR	Muntele Rosu	145.74 336	PKPbc	PKPab	15 39 56.1	+0.4
	comp=Z,9.0nm,1.1s,baz=63,slow=3.7,SNR=18					
WET	Wettzell	145.80 353	*e*PKPbc	PKPdf	15 39 54.6	-0.2
DRGR		145.80 340	⇑PKP2	PKPab	15 39 55.7	-0.1
DRGR		145.80 340	⇑*i*P	PKPab	15 39 55.7	-0.1
ISR	Istrita	145.80 335	⇑PKP2	PKPbc	15 39 55.4	0.0
ISR	Istrita	145.80 335	⇑*i*P	PKPbc	15 39 55.4	0.0
GEC2	GERESS Array S	145.98 352	*e*PKPbc	PKPdf	15 39 55.1	-0.1
GERES	GERESS Array B	145.98 352	PKPbc	PKPbc	15 39 55.9	-0.1
GERES	GERESS Array B	145.98 352	PKPbc	PKPbc	15 39 55.9	-0.1
	comp=Z,6.2nm,0.9s,baz=29,slow=3.0,SNR=24					
ZST	Bratislava	146.07 347	*e*PKP2	PKPab	15 39 57.3	+0.8
ZST	Bratislava	146.01 347	*e*PKP	PKPab	15 39 57.3	+0.8
BR131	Keskin Array S	146.07 321	*e*PKP	PKPbc	15 39 56.5	-0.1
BRTR	Keskin Array B	146.07 321	PKPbc	PKPab	15 39 57.0	-0.2
BRTR	Keskin Array B	146.07 321	PKPbc	PKPab	15 39 57.0	-0.2
	comp=Z,32nm,0.9s,baz=124,slow=1.8,SNR=76					
VOIR		146.13 337	⇑PKP2	PKPab	15 39 57.3	+0.2
VOIR		146.13 337	⇑*i*P	PKPab	15 39 57.3	+0.2
COBT	Iskenderun	146.19 314	*i* P	PKPab	15 39 57.6	-0.2
LANF	Langenberg	146.33 359	PKP	PKPbc	15 39 56.8	-0.1
ARR	Arges	146.35 337	⇑*i*P	PKPab	15 39 58.0	+0.1
ANTO	Ankara	146.48 322	⇑PKP2	PKPbc	15 39 57.5	-0.2
ANTO	Ankara	146.48 322	*e*PKPbc	PKPbc	15 39 58.0	+0.3
ANTO	Ankara	146.48 322	⇑*i*P	PKPbc	15 39 57.5	-0.2
STU	Stuttgart	146.48 357	*e*PKPbc	PKPdf	15 39 56.4	+0.7
BBAL	Bala	146.49 321	*i* P	PKPbc	15 39 57.8	-0.1
CONA	Conrad Observa	146.52 349	⇑*i*PKPab	PKPbc	15 39 57.0	-0.5
	comp=Z,45nm,1.6s,SNR=12					
YAYL	Yayladag	146.54 314	*i* P	PKPbc	15 39 58.0	-0.1
SIRR	Siria	146.60 341	⇑*i*P	PKPdf	15 39 56.9	+0.7
SOP	Sopron	146.62 348	*e*	PKPab	15 40 01.5	+2.7
GULE	Gulek	146.78 317	*i* P	PKPbc	15 39 58.9	+0.1
MOA	Molln	146.87 351	⇑*i*PKPab	PKPbc	15 39 58.6	+0.1
	comp=Z,13nm,1.1s,SNR=5.5					
FUR	Furstenfeldbru	146.94 354	*e*PKPbc	PKPbc	15 39 58.0	-0.7
PRD	Provadia	146.96 332	*i* P	PKPbc	15 39 59.4	+0.6
BFO	Black Forest	146.96 358	*e*PKPbc	PKPbc	15 39 58.1	-0.6
BFO	Black Forest	146.96 358	*e*PKP2	PKPbc	15 39 58.4	-0.3
BFO	Black Forest	146.96 358	*e*PKPbc	PKPbc	15 39 58.4	-0.3
GZR	Gura Zlata	147.00 339	⇑PKIKP	PKPbc	15 39 58.6	-0.4
GZR	Gura Zlata	147.00 339	⇑*i*P	PKPbc	15 39 58.6	-0.4
THEF	They Montfort	147.09 1	PKP	PKPbc	15 39 58.8	-0.3
ECH	Echery	147.10 359	*e*PKP2	PKPbc	15 39 58.9	-0.2
ECH	Echery	147.10 359	PKP	PKPbc	15 39 58.1	-1.0
ECH	Echery	147.10 359	*e*PKPbc	PKPbc	15 39 58.9	-0.2
RJOB	Jochberg	147.19 352	*e*PKPbc	PKPbc	15 39 58.4	-1.0
BZS	Buzias	147.20 340	⇑PKP2	PKPbc	15 39 59.5	+0.1
BZS	Buzias	147.20 340	⇑*i*P	PKPbc	15 39 59.5	+0.1
ARSA	Arzberg	147.23 349	⇑*i*pPKPdf	PKPbc	15 39 59.0	-0.5
	comp=Z,20nm,1.4s,SNR=8.1					
MOF	Molkenrain	147.47 359	PKP	PKPbc	15 40 01.2	+0.9
KIZK	Mersin	147.65 316	*i* P	PKPbc	15 40 00.3	-0.7
RETA	Reutte	147.66 355	⇑*i*pPKPdf	PKPbc	15 40 00.4	-0.3
	comp=Z,19nm,1.3s,SNR=8.2					
PVL	Pavlikeni	147.85 334	*i* P	PKPbc	15 40 01.2	-0.1
SOKA	Soboth	147.87 349	⇑*i*PKPbc	PKPdf	15 39 58.8	+0.4
	comp=Z,28nm,1.4s,SNR=13					
JMB	Yambol	147.90 332	*i* P	PKPbc	15 40 02.1	+0.6
DAVA	Damuels	147.92 356	⇓*i*pPKPdf	PKPbc	15 40 01.5	-0.1
	comp=Z,23nm,1.1s,SNR=6.2					
LOMF	Lomont	147.97 360	PKP	PKPbc	15 40 00.1	-1.5
ABTA	Abfaltersbach	148.20 352	⇑*i*PKPdf	PKPdf	15 39 58.8	-0.1
	comp=Z,16nm,1.2s,SNR=5.5					
ERMK	Ermenek	148.38 317	*i* P	PKPbc	15 40 03.0	-0.2
MPEP	Malo Peshtene	148.39 336	*i* P	PKPbc	15 40 02.5	-0.3
DAVOX	Davos/Dischmat	148.43 356	PKPbc	PKPbc	15 40 02.5	-0.5
DAVOX	Davos/Dischmat	148.43 356	PKPbc	PKPbc	15 40 02.5	-0.5
	comp=Z,6.5nm,0.8s,baz=309,slow=3.7,SNR=6.9					
TUE	Stuetta	148.77 356	*e*PKPbc	PKPbc	15 40 03.2	-0.7
PGB	Panagyurishte	148.89 335	*i* P	PKPbc	15 40 04.2	+0.1
GDZ	Gediz	148.92 324	*i* P	PKPbc	15 40 03.6	-0.9
GAZI	Gazipasa	149.00 317	*i* P	PKPbc	15 40 03.4	-1.1
TRI	Trieste	149.03 350	*e*PKP2	PKPbc	15 40 04.2	-0.1
TRI	Trieste	149.03 350	*e*PKPbc	PKPbc	15 40 04.2	-0.1
CSS	Prodhromos	149.03 314	*e*PKPbc	PKPbc	15 40 04.1	-0.6
KDZ	Kurdzhali	149.08 332	*i* P	PKPbc	15 40 03.3	-1.3
DURS	Dursunbey	149.11 326	*i* P	PKPbc	15 40 04.2	-0.6
PLDF	La Plantade	149.25 4	PKP	PKPbc	15 40 05.9	+1.0
VTS	Vitosha	149.25 336	⇑PKP2	PKPbc	15 40 04.2	-1.0
VTS	Vitosha	149.25 336	⇑*i*P	PKPbc	15 40 04.2	-1.0
VTS	Vitosha	149.25 336	*i* P	PKPbc	15 40 04.6	-0.6
RZN	Rozhen	149.36 333	*i* P	PKPbc	15 40 03.9	-1.6
KHAL	Karahalli	149.40 323	*i* P	PKPbc	15 40 05.1	-0.1
PYM	Petit Puy Mans	149.41 5	PKP	PKPbc	15 40 06.2	+0.8
BALY	Balya	149.47 327	*i* P	PKPbc	15 40 04.8	-0.8
KORT	Korkueli	149.79 320	*i* P	PKPbc	15 40 06.4	-0.3
MMB	Musomiste	149.87 334	*i* P	PKPbc	15 40 05.0	-1.6
KKB	Krupnik	149.91 335	*i* P	PKPbc	15 40 06.0	-0.6
LBL	Lubilhac	149.95 5	PKP	PKPbc	15 40 08.5	+1.8
SSB	Saint Sauveur	149.99 3	*e*PKP2	PKPbc	15 40 07.1	+0.4
SSB	Saint Sauveur	149.99 3	*e*PKPbc	PKPbc	15 40 07.1	+0.4
DNZL	Cakiroluk	150.12 323	*i* P	PKPbc	15 40 06.7	-0.8
BNI	Bardonecchia	150.27 360	*e*PKIKP	PKPbc	15 40 07.6	+0.1
BNI	Bardonecchia	150.27 360	*e*PKPbc	PKPbc	15 40 07.6	+0.1
EIL	Elat	150.28 304	PKPbc	PKPbc	15 40 08.2	+0.3
EIL	Elat	150.28 304	PKPbc	PKPbc	15 40 08.2	+0.3
	comp=Z,18nm,1.1s,baz=353,slow=1.5,SNR=9.2					
GCAM	G?zelcaml?	151.15 325	*i* P	PKPbc	15 40 09.3	-0.4
TOUF	Mont Tournerai	151.39 355	PKP	PKPbc	15 40 09.8	-0.3
SAOF	Saorge	151.33 359	PKP	PKPbc	15 40 09.6	-0.3
MVIF	Mont Vial	151.42 359	PKP	PKPdf	15 40 06.6	+2.4
ESDC	Sonseca Array	153.92 19	PKPab	PKPab	15 40 29.6	+0.6
ESDC	Sonseca Array	153.92 19	PKPab	PKPab	15 40 29.6	+0.6
	comp=Z,0.9nm,0.5s,baz=333,slow=3.3,SNR=6.1					
ESLA	Sonseca Array	153.92 19	PKPdf	PKPdf	15 40 08.9	+1.0
MDT	Midelt	159.71 28	PKPab	PKPab	15 40 53.6	-0.6
MDT	Midelt	159.71 28	PKPab	PKPab	15 40 53.6	-0.6
	comp=Z,1.9nm,0.9s,baz=342,slow=6.7,SNR=4.5					
TORD	Torodi Ar. Bea	174.75 113	PKP	PKPdf	15 40 24.9	-2.0
TORD			PKPab	PKPab	15 41 59.6	-1.5
TORD	Torodi Ar. Bea	174.75 113	PKP	PKPdf	15 40 24.9	-2.0
	comp=Z,3.7nm,1.2s,baz=314,slow=2.0,SNR=8.2					
TORD			PKPab	PKPab	15 41 59.6	-1.5
	comp=Z,2.3nm,1.0s,baz=257,slow=4.4,SNR=6.3					

IDC 30 15:26:14.3±5.9, 5°.92S×151°.25E, h68km±48km, mb3.7/5, mb1 3.9/6, mb1mx3.5/18, mbtmp3.7/6, ML2.8/1, Error ellipse: s-maj=58.1km s-min=32.4km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.33	229	P	Pn	15 27 31.3	-0.2
	2.2nm,0.3s,baz=62,slow=8.3,SNR=7.6						
PMG				S	Sn	15 28 33.4	+1.8
	1.7nm,0.3s,baz=276,slow=19,SNR=2.7						
WRA	Warramunga Arr	21.55	228	P	P	15 30 57.0	-1.3
	1.5nm,0.6s,baz=54,slow=10,SNR=5.3						
ASAR	Alice Springs	24.29	222	P	P	15 31 25.1	-0.5
	3.7nm,0.6s,baz=54,slow=9.3,SNR=7.8						
STKA	Stephens Creek	27.36	198	P	P	15 31 53.5	+0.3
	1.2nm,0.7s,baz=39,slow=12,SNR=3.4						
FITZ	Fitzroy Crossi	27.77	242	P	P	15 31 56.7	-0.3
	2.2nm,0.7s,baz=67,slow=8.2,SNR=3.9						
ILAR	Eielson Array	83.77	22	P	P	15 38 35.8	-0.1
	0.5nm,0.6s,baz=245,slow=6.4,SNR=4.3						
TORD	Torodi Ar. Bea	149.15	286	PKPbc	PKPbc	15 45 56.6	+0.5
	0.7nm,0.7s,baz=96,slow=2.5,SNR=4.1						

IDC 30 15:28:53.7±8.5, 16°.46S×174°.85W, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.6/18, mbtmp3.8/2, Error ellipse: s-maj=380.4km s-min=60.4km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	48.25	258	P	P	15 37 36.1	-0.8
	0.6nm,1.0s,baz=93,slow=6.0,SNR=3.4						
ASAR	Alice Springs	48.46	253	P	P	15 37 38.8	+0.3
	2.6nm,0.7s,baz=88,slow=8.3,SNR=18						
BRTR	Keskin Array B	146.06	319	PKPbc	PKPdf	15 48 35.5	+0.1
	0.7nm,0.8s,baz=69,slow=3.6,SNR=3.2						

*IDC **30** 15:31:34.4±0.7, 14°.91S×172°.57W, h0km, mb4.1/10, mb1 4.3/10, mb1mx4.1/21, mbtmp4.0/10, Error ellipse: s-maj=39.3km s-min=17.6km az=136.0*
*SZGRF **30** 15:31:35.9, 16°.30S×171°.19W, h33km, Samoa Islands region*
*ISCJB **30** 15:31:37.8±0.7, 14°.8S±0°.2×172°.7W±0°.2, h35km, mb4.0/10, Error ellipse: s-maj=34.1km s-min=15.3km az=135.5*

ISC 30 15:31:39.4±0.7, 14°.9S±0°.2×172°.6W±0°.2, h35km, n27, σ0 93/26, mb4.0/10, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	1.26	40	Pn	Pn	15 31 51.9	-8.8
	112nm,0.3s,baz=36,slow=3.5,SNR=20						
AFI				Sn	Sn	15 32 05.3	-11
	369nm,0.3s,baz=37,slow=20,SNR=36						
URZ	Urewera	25.00	199	P	P	15 36 59.6	-0.3
	7.2nm,0.6s,baz=309,slow=14,SNR=5.4						
STKA	Stephens Creek	44.95	240	P	P	15 39 50.0	-1.3
	2.5nm,1.1s,baz=74,slow=15,SNR=4.0						
WRA	Warramunga Arr	50.70	256	P	P	15 40 36.4	+0.3
	0.8nm,0.7s,baz=90,slow=6.5,SNR=9.8						
ASAR	Alice Springs	50.99	251	P	P	15 40 37.3	-0.9
	2.0nm,0.6s,baz=87,slow=8.3,SNR=19						
NVAR	Mina Array Bea	73.44	42	P	P	15 43 08.3	-0.3
	0.9nm,0.7s,baz=230,slow=11,SNR=6.2						
TXAR	Lajitas Array	79.70	56	P	P	15 43 44.8	+0.8
	0.5nm,0.8s,baz=205,slow=5.5,SNR=5.1						
PDAR	Pinedale Array	81.38	42	P	P	15 43 52.4	-0.6
	1.4nm,1.1s,baz=217,slow=3.7,SNR=4.6						
ILAR	Eielson Array	81.79	11	P	P	15 43 53.5	-0.8
	0.8nm,0.6s,baz=226,slow=6.0,SNR=8.9						
MAW	Mawson	88.52	198	P	P	15 44 29.0	+0.9
	1.5nm,0.7s,baz=104,slow=7.9,SNR=6.9						
CMAR	Chiang Mai Arr	93.17	288	P	P	15 44 52.5	+1.8
	0.8nm,1.0s,baz=108,slow=3.3,SNR=4.2						
MKAR	Makanchi Array	111.00	315	PKiKP	PKiKP	15 50 09.6	+0.4
	0.3nm,0.6s,baz=103,slow=3.1,SNR=2.2						
TNS	Taunus Mts	144.74	359	*e*PKPbc	PKPdf	15 51 12.0	-0.6
ROTZ	Rotzenmuhle	144.98	355	*e*PKPbc	PKPdf	15 51 12.9	-0.1
GRF	Grafenberg Arr	145.14	356	*e*PKPbc	PKPdf	15 51 13.4	+0.1
WLF	Walferdange	145.29	1	*e*PKPbc	PKPdf	15 51 13.7	+0.2
WET	Wettzell	145.53	354	*e*PKPbc	PKPab	15 51 14.7	+0.3
MLR	Muntele Rosu	145.70	337	PKPbc	PKPab	15 51 15.6	+0.4
	1.0nm,1.0s,baz=5.1,slow=1.9,SNR=3.8						
GEC2	GERESS Array S	145.73	353	*e*PKPbc	PKPab	15 51 15.0	-0.2
GERES	GERESS Array B	145.73	353	PKPbc	PKPab	15 51 15.3	+0.2
	1.6nm,0.7s,baz=36,slow=2.5,SNR=16						
BRTR	Keskin Array B	146.22	322	PKPbc	PKPab	15 51 17.8	+0.4
	2.7nm,0.7s,baz=109,slow=2.6,SNR=11						
KMBO	Kilima Mbogo	146.44	244	PKPbc	PKPab	15 51 20.3	+1.2
	1.4nm,0.3s,baz=264,slow=24,SNR=4.8						
BFO	Black Forest	146.64	359	*e*PKPbc	PKPab	15 51 17.5	-1.0
RJOB	Jochberg	146.93	353	*e*PKPbc	PKPab	15 51 19.0	-0.8
DAVOX	Davos/Dischmat	148.13	357	PKPbc	PKPab	15 51 22.7	-1.9
	4.7nm,0.9s,baz=333,slow=2.7,SNR=4.9						
ESDC	Sonseca Array	153.37	20	PKPbc	PKPbc	15 51 35.2	+0.9
	0.2nm,0.3s,baz=346,slow=2.9,SNR=6.9						
TORD	Torodi Ar. Bea	174.22	107	PKP	PKPdf	15 51 44.9	-1.5
	1.2nm,1.0s,baz=334,slow=3.7,SNR=4.0						

DJA 30 15:40:42.5±1.7, 1°N±14°.×12°.7E±1°.4, h49km±20km, M3.7/4, MLv3.7/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	0.68	134	P	Pn	15 40 56.7	+0.7
TNTI				S	Sn	15 41 07.7	+2.0
LBMI	Labuha	1.98	162	P	Pn	15 41 13.5	0.0
LBMI				S	Sn	15 41 38.1	+1.0
SGSI	Sangihe	2.77	331	P	Sn	15 41 43.9	-13
KMSI	Cibinong	2.98	257	P	Pn	15 41 27.1	-0.1
NLAI	Namlea	4.46	177	P	Pn	15 41 47.0	-0.7

WEL 30 15:48:52.5±0.4, 45°.31S×166°.84E, h27km±2km, ML3.7/13, 2D, Error ellipse: s-maj=3.8km s-min=3.0km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	Deep Cove	0.28	129	P*	Pb	15 48 58.9	-0.5
DCZ				S*	Sb	15 49 03.8	-0.4
DCZ				AML	AML	15 49 03.9	
DCZ				AML	AML	15 49 04.3	
DCZ				AML	AML	15 49 04.4	
PYZ	Puysegur Point	0.87	187	PN	Pn	15 49 07.8	-1.2
PYZ				SN	Sb	15 49 20.4	0.0
MLZ	Mavora Lakes	0.94	93	PN	Pn	15 49 07.6	-2.4
MLZ				AML	AML	15 49 20.9	
MLZ				AML	AML	15 49 20.9	
WHZ	Wether Hill Ro	0.97	128	⇓PN	Pn	15 49 09.6	-0.8
WHZ				SN	Sb	15 49 23.1	-0.2
WHZ				AML	AML	15 49 23.4	
MSZ	Milford Sound	0.99	51	PN	Pn	15 49 07.0	-3.6
MSZ				AML	AML	15 49 21.9	
MSZ				AML	AML	15 49 21.9	
MSZ				AML	AML	15 49 21.9	
MSZ				AML	AML	15 49 21.9	
WKZ	Wanaka	1.61	74	PN	Pn	15 49 18.9	-0.3
WKZ				AML	AML	15 49 41.3	
WKZ				AML	AML	15 49 41.3	
WKZ				AML	AML	15 49 45.9	
APZ	The Paps	1.72	153	PN	Pn	15 49 21.8	+1.0
EAZ	Earnscleugh	1.74	88	PN	Pn	15 49 20.9	-0.1
EAZ				SN	Sn	15 49 41.7	-0.5
EAZ				AML	AML	15 49 44.2	
EAZ				AML	AML	15 49 44.7	
JCZ	Jackson Bay	1.84	49	PN	Pn	15 49 20.2	-2.3
JCZ				AML	AML	15 49 49.7	
JCZ				AML	AML	15 49 49.9	
SYZ	Scrubby Hill	2.02	128	PN	Pn	15 49 25.0	+0.2
TUZ	Tuapeka	2.06	109	PN	Pn	15 49 25.2	-0.1
TUZ				AML	AML	15 49 55.0	
TUZ				AML	AML	15 49 57.4	
LBZ	Lake Benmore	2.55	70	PN	Pn	15 49 30.8	-1.3
LBZ				AML	AML	15 50 03.7	
FOZ	Fox Glacier	2.68	51	PN	Pn	15 49 32.8	-1.0
FOZ				AML	AML	15 50 16.5	
FOZ				AML	AML	15 50 16.5	
HHSZ	Highcliff Hill	2.70	104	PN	Pn	15 49 34.0	-0.2
ODZ	Otahua Downs	2.70	86	PN	Pn	15 49 33.0	-1.2
RPZ	Rata Peaks	3.41	64	PN	Pn	15 49 42.2	-1.7
RPZ				AML	AML	15 50 23.7	
WVZ	Waitaha Valley	3.58	53	PN	Pn	15 49 43.1	-3.1
OXZ	Oxford	4.22	64	PN	Pn	15 49 52.3	-2.8
MQZ	McQueen's Vall	4.45	71	⇓PN	Pn	15 49 56.0	-2.1
CRLZ	Canterbury Las	4.48	69	PN	Pn	15 49 56.7	-1.9
LTZ	Lake Taylor	4.65	59	PN	Pn	15 49 58.5	-2.6
DSZ	Denniston Nort	5.06	47	PN	Pn	15 50 03.5	-3.2
THZ	Tophouse	5.65	53	PN	Pn	15 50 12.5	-2.3
QRZ	Quartz Range	6.11	45	PN	Pn	15 50 17.7	-3.3
NNZ	Nelson	6.28	52	PN	Pn	15 50 22.6	-0.7

IDC 30 15:49:21.5±5.5, 0°.50S×100°.45E, h117km±32km, mb3.1/4, mb1 3.1/5, mb1mx3.0/24, mbtmp3.0/5, Error ellipse: s-maj=229.6km s-min=18.3km az=53.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	3.61	335	P	Pn	15 50 14.6	-1.4
	1.0nm,0.3s,baz=354,slow=20,SNR=2.3						
WRA	Warramunga Arr	38.39	122	P	P	15 56 31.2	-0.6
	0.2nm,0.5s,baz=303,slow=8.9,SNR=5.9						
ASAR	Alice Springs	39.79	128	P	P	15 56 43.9	+0.4
	0.4nm,0.9s,baz=303,slow=7.6,SNR=3.5						
MKAR	Makanchi Array	49.72	344	P	P	15 58 02.5	+0.7
	0.3nm,0.3s,baz=157,slow=8.8,SNR=9.5						
ZALV	Zalesovo Beam	55.78	349	P	P	15 58 47.0	+0.8
	0.5nm,0.5s,baz=152,slow=8.1,SNR=2.4						
BVAR	Borovoye Array	58.94	339	P	P	15 59 07.1	-1.3
	baz=141,slow=7.4						

*IDC **30** 15:57:06.4±0.5, 15°.12S×173°.38W, h0km, mb4.3/15, mb1 4.5/15, mb1mx4.5/22, mbtmp4.3/15, Error ellipse: s-maj=23.3km s-min=14.8km az=120.0*
*NEIC **30** 15:57:08.2±0.3, 15°.02S×173°.50W, h10km, mb4.6/14, Error ellipse: s-maj=13.9km s-min=7.4km az=125.0*
*ISCJB **30** 15:57:09.6±0.4, 15°.07S±0°.08×173°.5W±0°.1, h30km, mb4.4/29, Error ellipse: s-maj=16.4km s-min=9.2km az=35.0*
*SZGRF **30** 15:57:09.9, 15°.59S×170°.39W, h33km, Samoa Islands region*

ISC 30 15:57:11.1±0.5, 15°.1S±0°.1×173°.4W±0°.1, h30km, n106, σ0 89/99, mb4.4/29, 13C-9D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	1.98	53	Pn	Pn	15 57 33.9	-8.6
AFI				Sn	Sn	15 57 51.4	-15
AFI	Afiamalu	1.98	53	Pn	Pn	15 57 33.9	-8.6
	90nm,0.3s,baz=36,slow=2.0,SNR=42						
AFI				Sn	Sn	15 57 51.4	-15
	306nm,0.3s,baz=165,slow=20,SNR=15						
MSVF	Nonsavu	8.61	251	*e*P	Pn	15 59 21.9	+8.2
	102nm,1.3s						
URZ	Urewera	24.54	198	*e*P	P	16 02 29.6	+1.5
URZ	Urewera	24.54	198	P	P	16 02 28.6	+0.5
	3.7nm,0.4s,baz=338,slow=0.9,SNR=4.0						
RPZ	Rata Peaks	31.45	202	P	P	16 03 30.0	+0.2
RPZ	Rata Peaks	31.45	202	P	P	16 03 30.0	+0.2
	6.5nm,0.8s,baz=56,slow=7.3,SNR=3.7						
STKA	Stephens Creek	44.18	240	*e*P	P	16 05 16.9	-0.6
STKA	Stephens Creek	44.18	240	P	P	16 05 16.2	-1.2
	2.9nm,0.7s,baz=108,slow=9.5,SNR=8.7						
WRAB	Tennant Creek	49.90	257	*e*P	P	16 06 01.6	-0.7
	3.3nm,0.8s						
WRA	Warramunga Arr	49.91	257	P	P	16 06 01.6	-0.8
WRA	Warramunga Arr	49.91	257	P	P	16 06 01.6	-0.8
	1.8nm,0.6s,baz=89,slow=6.8,SNR=40						
AS31	Alice Springs	50.20	252	*e*P	P	16 06 02.7	-1.8
ASAR	Alice Springs	50.20	252	P	P	16 06 03.1	-1.4
ASAR	Alice Springs	50.20	252	P	P	16 06 03.1	-1.4
	8.0nm,0.6s,baz=85,slow=8.3,SNR=158						
SBA	Scott Base	63.54	185	*e*P	P	16 07 39.9	+1.7
	11nm,1.2s						
VNDA	Vanda	63.67	186	*e*P	P	16 07 40.3	+1.2
VNDA	Vanda	63.67	186	P	P	16 07 40.0	+0.9
	2.8nm,0.9s,baz=6.8,slow=7.0,SNR=12						
PASC	Pasadena Art C	71.82	46	*e*P	P	16 08 27.1	-4.0
	7.0nm,1.1s						
PETK	Petropavlovsk-	72.35	342	P	P	16 08 33.7	-0.2
PETK	Petropavlovsk-	72.35	342	P	P	16 08 33.7	-0.2
	4.2nm,0.7s,baz=150,slow=10,SNR=5.2						
NVAR	Mina Array Bea	74.11	42	P	P	16 08 45.2	+0.3
NVAR	Mina Array Bea	74.11	42	P	P	16 08 45.2	+0.3
	1.1nm,0.7s,baz=232,slow=8.9,SNR=5.4						
QSPA	South Pole Qui	74.94	180	*e*P	P	16 08 49.9	+0.8
	28nm,1.0s						
KSRS	Korea Array	75.94	316	P	P	16 08 56.4	+1.2
	3.5nm,1.1s,baz=117,slow=7.0,SNR=9.6						
KSAR	Wonju Array Be	75.97	315	P	P	16 08 56.4	+1.1
WVOR	Wild Horse Val	76.21	39	*e*P	P	16 08 57.2	+0.5
	3.3nm,1.1s						
USRK	Ussuriysk Arra	77.15	323	P	P	16 09 03.9	+2.0
	1.9nm,0.9s,baz=82,slow=8.5,SNR=6.9						
HLID	Hailey	79.41	39	P	P	16 09 14.3	-0.3

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VTS	Vitosha	149.10	336⇑	*iP*	PKPbc	16 16 57.5	+0.7
BNI	Bardonecchia	150.15	360	*e*PKPbc	PKPbc	16 16 60.0	+0.7
ESDC	Sonseca Array	153.83	19	PKPab	PKPab	16 17 20.6	-0.1
ESDC	Sonseca Array	153.83	19	PKPab	PKPab	16 17 20.6	-0.1
	0.2nm,0.3s,baz=307,slow=2.6,SNR=6.1						
TORD	Torodi Ar. Bea	174.86	112	PKP	PKPdf	16 17 16.6	-2.4
TORD				PKPab	PKPab	16 18 51.6	-2.0
TORD	Torodi Ar. Bea	174.86	112	PKP	PKPdf	16 17 16.6	-2.4
	1.1nm,1.1s,baz=262,slow=1.2,SNR=3.7						
TORD				PKPab	PKPab	16 18 51.6	-2.0
	1.0nm,1.0s,baz=247,slow=3.5,SNR=4.0						

IDC 30 16:05:03.2±7.7, 16°68S×173°16W, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.5/20, mbtmp3.7/2, Error ellipse: s-maj=364.8km s-min=60.2km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	49.78	258	P	P	16 13 57.7	-0.4
	0.6nm,1.1s,baz=95,slow=7.2,SNR=4.9						
ASAR	Alice Springs	49.94	253	P	P	16 13 59.4	+0.1
	0.9nm,0.5s,baz=89,slow=8.4,SNR=23						
BRTR	Keskin Array B	147.28	320	PKPbc	PKPbc	16 24 48.3	-0.8
	0.9nm,0.9s,baz=8.7,slow=1.9,SNR=3.5						

IDC 30 16:09:09.2±5.8, 24°54S×179°35W, h0km, mb3.6/2, mb1 3.8/2, mb1mx3.5/16, mbtmp3.6/2, Error ellipse: s-maj=278.5km s-min=51.1km az=153.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	42.52	261	P	P	16 17 06.0	-0.8
	0.2nm,0.4s,baz=103,slow=7.2,SNR=5.3						
WRA	Warramunga Arr	42.96	267	P	P	16 17 10.8	+0.4
	0.2nm,0.3s,baz=102,slow=8.3,SNR=9.3						
AKASG	Malin Array Be	145.83	327	PKPbc	PKPdf	16 28 49.1	-0.5
	0.6nm,0.3s,baz=45,slow=4.9,SNR=4.6						
BRTR	Keskin Array B	148.44	307	PKPbc	PKPbc	16 28 57.8	-0.4
	1.0nm,0.6s,baz=100,slow=3.9,SNR=5.0						

IDC 30 16:14:20.9±3.5, 1°10S×100°01E, h0km, mb3.5/4, mb1 3.5/5, mb1mx3.4/23, mbtmp3.4/5, ML3.5/1, Error ellipse: s-maj=155.3km s-min=21.2km az=57.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	19.46	357	P	Pn	16 18 51.2	+0.7
	0.1nm,0.3s,baz=185,slow=10,SNR=5.1						
WRA	Warramunga Arr	38.44	121	P	P	16 21 44.4	-0.3
	0.4nm,0.5s,baz=302,slow=9.0,SNR=7.9						
ASAR	Alice Springs	39.77	127	P	P	16 21 56.0	+0.1
	0.2nm,0.5s,baz=303,slow=8.1,SNR=8.0						
MKAR	Makanchi Array	50.17	344	P	P	16 23 17.9	-0.4
	0.4nm,0.5s,baz=152,slow=8.6,SNR=6.1						
ZALV	Zalesovo Beam	56.29	349	P	P	16 24 02.5	-0.6
	0.6nm,0.7s,baz=145,slow=5.3,SNR=3.1						

IDC 30 16:14:27.5±0.8, 16°84S×172°86W, h0km, mb4.2/12, mb1 4.3/12, mb1mx4.2/23, mbtmp4.2/12, Error ellipse: s-maj=27.3km s-min=20.8km az=132.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	23.09	200	P	P	16 19 35.6	+0.7
	8.7nm,0.7s,baz=349,slow=2.6,SNR=4.9						
STKA	Stephens Creek	43.79	241	P	P	16 22 34.2	-1.0
	2.0nm,0.7s,baz=34,slow=12,SNR=6.5						
WRA	Warramunga Arr	50.04	258	P	P	16 23 23.1	-1.2
	2.6nm,0.8s,baz=95,slow=7.4,SNR=16						
ASAR	Alice Springs	50.18	253	P	P	16 23 25.1	-0.3
	8.2nm,0.9s,baz=87,slow=9.1,SNR=48						
FITZ	Fitzroy Crossi	58.43	259	P	P	16 24 24.7	-0.8
	2.7nm,1.0s,baz=40,slow=7.9,SNR=3.3						
BATI	Baumata	61.86	267	P	P	16 24 50.5	+1.4
	5.5nm,0.4s,baz=345,slow=6.9,SNR=3.6						
VNDA	Vanda	62.01	186	P	P	16 24 50.9	+1.8
	1.8nm,1.0s,baz=358,slow=7.3,SNR=6.0						
PETK	Petropavlovsk-	74.15	342	P	P	16 26 05.9	+0.3
	3.2nm,0.9s,baz=148,slow=8.4,SNR=2.9						
KSRS	Korea Array	77.54	316	P	P	16 26 26.6	+1.3
	1.6nm,0.9s,baz=142,slow=6.2,SNR=3.0						
TXAR	Lajitas Array	80.98	56	P	P	16 26 44.4	-0.1
	0.1nm,0.4s,baz=263,slow=4.9,SNR=3.8						
ILAR	Eielson Array	83.75	11	P	P	16 26 59.1	+1.1
	0.3nm,0.6s,baz=220,slow=4.3,SNR=2.6						
CMAR	Chiang Mai Arr	93.56	288	P	P	16 27 46.1	+0.1
	0.5nm,0.8s,baz=138,slow=0.7,SNR=5.6						
BRTR	Keskin Array B	147.59	320	PKPbc	PKPdf	16 34 12.2	+0.6
	1.5nm,1.0s,baz=146,slow=2.4,SNR=4.9						
GERES	GERESS Array B	147.63	352	PKPbc	PKPbc	16 34 13.4	-0.6
	0.1nm,0.2s,baz=338,slow=1.1,SNR=2.2						
TORD	Torodi Ar. Bea	173.59	124	PKPab	PKPab	16 36 06.5	-2.6
	0.4nm,0.8s,baz=267,slow=4.8,SNR=2.9						

*IDC **30** 16:20:03.6±9.2, 31°33S×68°93W, h73km±71km, mb3.8/1, mb1 3.7/2, mb1mx3.4/16, mbtmp3.6/2, ML4.4/1, Error ellipse: s-maj=147.8km s-min=49.8km az=143.0*
*ISCJB **30** 16:20:06.1±1.1, 31°45S±0°07×68°7W±0°1, h104km, mb3.9/1, Error ellipse: s-maj=13.6km s-min=9.1km az=150.2*
*NEIC **30** 16:20:07.9±1.0, 31°27S×68°56W, h107km±10km, mb4.7/2, Error ellipse: s-maj=18.9km s-min=11.8km az=52.0*
ISC 30 16:20:07.5±0.9, 31°37S±0°09×68°68W±0°09, h104km, n15, σ1§16/20, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	Las Campanas	2.93	323	*e*Pn	Pn	16 20 53.9	+1.2
TRQA	Tornquist	8.65	142	*e*P	Pn	16 22 10.4	+0.6
	9.2nm,0.3s						
TRQA				*e*S	Sn	16 23 44.5	-1.1
LVC	Limon Verde	8.73	359	*e*P	Pn	16 22 09.1	-2.0
	4.8nm,0.6s						
CPUP	Villa Florida	11.15	66	P	Pn	16 22 42.3	-1.4
CPUP				S	Sn	16 24 48.6	+2.3
CPUP	Villa Florida	11.15	66	P	Pn	16 22 42.3	-1.4
	0.6nm,0.3s,baz=216,slow=14,SNR=2.3						
CPUP				S	Sn	16 24 48.6	+2.3
	0.6nm,0.3s,baz=289,slow=16,SNR=1.7						
TORD	Torodi Ar. Bea	80.64	68	P	P	16 32 09.7	+0.6
TORD	Torodi Ar. Bea	80.64	68	P	P	16 32 09.7	+0.6
	1.4nm,0.7s,baz=259,slow=6.8,SNR=7.9						
ASAR	Alice Springs	121.15	204	PKP	PKPdf	16 38 48.4	-0.3
ASAR	Alice Springs	121.15	204	PKP	PKPdf	16 38 48.4	-0.3
	0.4nm,1.0s,baz=124,slow=1.6,SNR=4.3						
WRA	Warramunga Arr	124.40	206	PKP	PKPdf	16 38 54.7	-0.2
WRA	Warramunga Arr	124.40	206	PKP	PKPdf	16 38 54.7	-0.2
	0.3nm,0.8s,baz=151,slow=1.7,SNR=5.7						
ZALV	Zalesovo Beam	150.50	32	PKPbc	PKPbc	16 39 46.4	-0.1
ZALV	Zalesovo Beam	150.50	32	PKPbc	PKPbc	16 39 46.4	-0.1
	1.1nm,0.4s,baz=331,slow=3.3,SNR=6.3						
MKAR	Makanchi Array	152.91	47	PKPbc	PKPbc	16 39 52.1	-0.1
MKAR				PKPab	PKPab	16 40 03.9	+0.1
MKAR	Makanchi Array	152.91	47	PKPbc	PKPbc	16 39 52.1	-0.1
	0.5nm,0.8s,baz=318,slow=3.4,SNR=3.6						
MKAR				PKPab	PKPab	16 40 03.9	+0.1
	0.3nm,0.5s,baz=268,slow=4.4,SNR=4.5						

IDC 30 16:22:38.1±5.5, 16°12S×174°10W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/18, mbtmp3.8/3, Error ellipse: s-maj=224.2km s-min=55.2km az=136.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	43.09	240	P	P	16 30 40.1	-0.1
	1.4nm,0.8s,baz=90,slow=8.1,SNR=3.4						
WRA	Warramunga Arr	49.02	257	P	P	16 31 26.8	-0.4
	0.6nm,0.8s,baz=95,slow=7.5,SNR=6.8						
ASAR	Alice Springs	49.25	252	P	P	16 31 28.9	0.0
	1.1nm,0.6s,baz=88,slow=7.7,SNR=23						
BRTR	Keskin Array B	146.28	320	PKPbc	PKPdf	16 42 20.3	+0.2
	0.8nm,0.9s,baz=5.2,slow=6.4,SNR=3.0						

IDC 30 16:35:35.4±7.3, 16°80S×173°12W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.5/20, mbtmp3.7/2, Error ellipse: s-maj=341.4km s-min=59.6km az=143.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	49.80	258	P	P	16 44 29.9	-0.4
	0.2nm,0.5s,baz=96,slow=7.0,SNR=7.7						
ASAR	Alice Springs	49.95	253	P	P	16 44 31.7	+0.2
	1.7nm,0.5s,baz=88,slow=8.8,SNR=43						
BRTR	Keskin Array B	147.40	320	PKPbc	PKPbc	16 55 20.8	-0.9
	0.4nm,0.7s,baz=44,slow=6.4,SNR=2.5						

IDC 30 16:35:59.7±9.9, 7°12S×155°25E, h135km±66km, mb3.2/5, mb1 3.5/6, mb1mx3.2/19, mbtmp3.3/6, Error ellipse: s-maj=90.9km s-min=38.6km az=90.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	8.32	254	P	Pn	16 37 57.6	+0.1
	1.7nm,0.3s,baz=56,slow=8.2,SNR=6.9						
WRA	Warramunga Arr	23.95	236	P	P	16 41 02.2	+0.4
	0.4nm,0.4s,baz=60,slow=9.1,SNR=15						
ASAR	Alice Springs	26.28	229	P	P	16 41 21.9	-0.8
	0.3nm,0.3s,baz=61,slow=9.7,SNR=13						
STKA	Stephens Creek	27.73	206	P	P	16 41 35.6	0.0
	1.5nm,0.8s,baz=18,slow=9.6,SNR=3.1						
FITZ	Fitzroy Crossi	30.83	246	P	P	16 42 03.8	+0.5
	0.9nm,0.6s,baz=51,slow=8.6,SNR=5.2						
MKAR	Makanchi Array	83.66	319	P	P	16 48 13.4	0.0
	0.2nm,0.6s,baz=124,slow=4.4,SNR=2.6						

IDC 30 16:41:46.1±2.5, 14°38S×173°98W, h0km, mb3.8/5, mb1 4.1/5, mb1mx3.8/18, mbtmp3.8/5, Error ellipse: s-maj=137.3km s-min=24.8km az=141.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	44.07	239	P	P	16 49 56.0	0.0
	3.7nm,0.9s,baz=56,slow=6.4,SNR=5.0						
WRA	Warramunga Arr	49.54	256	P	P	16 50 39.6	+0.4
	0.2nm,0.5s,baz=89,slow=6.9,SNR=5.0						
ASAR	Alice Springs	49.90	251	P	P	16 50 41.1	-0.8
	1.3nm,0.5s,baz=86,slow=8.2,SNR=18						
ILAR	Eielson Array	81.56	11	P	P	16 54 04.3	-1.0
	0.7nm,0.7s,baz=214,slow=3.1,SNR=4.6						
PDAR	Pinedale Array	81.89	42	P	P	16 54 08.2	+0.4
	0.3nm,0.4s,baz=210,slow=4.5,SNR=3.7						
BRTR	Keskin Array B	145.02	321	PKPbc	PKPbc	17 01 24.0	-1.2
	1.1nm,0.7s,baz=48,slow=2.1,SNR=2.3						
GERES	GERESS Array B	145.06	351	PKPbc	PKPdf	17 01 26.3	+0.6
	0.1nm,0.4s,baz=8.5,slow=2.7,SNR=4.5						

IDC 30 16:47:18.8±66.0, 21°28S×179°93E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/17, mbtmp3.7/3, Error ellipse: s-maj=1188.0km s-min=148.3km az=83.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	35.70	245	P	P	16 54 18.8	-0.4
	1.4nm,0.8s,baz=89,slow=11,SNR=3.1						
ASAR	Alice Springs	42.46	258	P	P	16 55 15.6	-0.3
	0.6nm,0.7s,baz=102,slow=8.3,SNR=6.9						
WRA	Warramunga Arr	42.58	263	P	P	16 55 17.1	+0.2
	0.4nm,0.3s,baz=96,slow=8.5,SNR=25						

IDC 30 16:50:42.1±4.5, 0°62S×100°29E, h61km±35km, mb3.7/7, mb1 3.8/9, mb1mx3.5/25, mbtmp3.6/9, ML3.6/2, Error ellipse: s-maj=98.9km s-min=15.3km az=58.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	3.67	338	P	Pn	16 51 35.6	-1.0
	5.7nm,0.3s,baz=162,slow=13,SNR=3.7						
CMAR	Chiang Mai Arr	19.01	356	P	P	16 54 58.3	-0.8
	0.1nm,0.3s,baz=185,slow=9.7,SNR=4.7						
FITZ	Fitzroy Crossi	30.36	126	P	P	16 56 47.3	-1.1
	2.1nm,0.8s,baz=319,slow=11,SNR=3.3						
WRA	Warramunga Arr	38.45	122	P	P	16 57 58.2	-0.2
	3.8nm,0.6s,baz=303,slow=8.9,SNR=41						
WRA				PcP	PcP	17 00 10.7	0.0
	0.3nm,0.8s,baz=313,slow=2.6,SNR=4.5						
ASAR	Alice Springs	39.84	128	P	P	16 58 09.8	-0.1
	3.2nm,0.7s,baz=300,slow=7.7,SNR=42						
ASAR				PcP	PcP	17 00 15.1	0.0
	0.5nm,0.5s,baz=304,slow=2.6,SNR=5.1						
SONM	Songino Array	48.56	5	P	P	16 59 20.6	+1.2
	0.2nm,0.5s,baz=203,slow=6.3,SNR=2.3						
MKAR	Makanchi Array	49.80	344	P	P	16 59 28.4	-0.3
	1.0nm,0.4s,baz=159,slow=8.5,SNR=27						
STKA	Stephens Creek	49.85	133	P	P	16 59 30.0	+0.6
	1.3nm,0.4s,baz=17,slow=2.8,SNR=7.3						
ZALV	Zalesovo Beam	55.88	349	P	P	17 00 13.0	-0.4
	0.9nm,0.5s,baz=164,slow=9.3,SNR=4.0						
TXAR	Lajitas Array	143.43	37	PKP	PKPbc	17 10 07.7	-0.3
	0.3nm,0.6s,baz=270,slow=0.9,SNR=3.2						

*ISCJB **30** 16:52:59.2±0.5, 0°77S±0°09×100°0E±0°1, h57km, mb4.3/13, Error ellipse: s-maj=20.4km s-min=5.9km az=142.0*
*DJA **30** 16:53:02.4±0.5, 1°S±7°×10°0E±°, h85km±18km, M4.5/8, mb4.3/3, mB5.0/2, MLv4.6/8, Mw(mB)4.4/2*
*IDC **30** 16:53:02.8±3.5, 0°90S×99°82E, h84km±30km, mb4.0/13, mb1 4.0/15, mb1mx3.8/27, mbtmp3.9/15, Error ellipse: s-maj=37.9km s-min=12.4km az=58.0*
ISC 30 16:53:00.8±0.8, 0°8S±0°1×99°9E±0°1, h57km, n35, σ1§17/32, mb4.3/13, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	Padang	0.55	103	P	Pn	16 53 19.9	+6.9
GSI	Gunungsitoli	3.14	311	P	Pn	16 53 49.7	+1.9
PSI	Prapat	3.70	344	P	Pn	16 53 57.5	+1.8
	6.4nm,0.3s,baz=342,slow=10,SNR=8.5						
PSI				S	Sn	16 54 35.0	-3.0
	4.3nm,0.3s,baz=325,slow=16,SNR=3.1						
KSI	Kapahiang	3.90	137	P	Pn	16 54 02.0	+3.8
MNAI	Manna	4.66	140	P	Pn	16 54 06.2	-2.5
KCSI	Kotacane, Aceh	4.79	333	P	Pn	16 54 11.3	+0.8
SNSI	Sinabang, Aceh	4.80	311	P	Pn	16 54 11.0	+0.4
IPM	Ipoh	5.34	12	P	Pn	16 54 22.8	+4.8
	28nm,2.2s,0.1nm						
MDSI	Maura Dua	5.61	131	P	Pn	16 54 22.5	+0.8
	24nm,1.0s,672nm0.1nm						
LWLI	Liwa	5.89	136	P	Pn	16 54 27.4	+1.8
CMAR	Chiang Mai Arr	19.15	357	P	P	16 57 20.6	+1.1
	0.4nm,0.3s,baz=188,slow=10,SNR=21						
ODAN	Odare	30.02	337	*e*P	P	16 59 05.5	+0.8
	24nm,0.5s						
TAPN	Taplejung	30.34	338	*e*P	P	16 59 08.6	+1.0
	30nm,0.8s						
RAMN	Ramite	30.42	336	*e*P	P	16 59 09.0	+0.8
FITZ	Fitzroy Crossi	30.56	126	P	P	16 59 08.3	-1.0
	1.1nm,0.6s,baz=291,slow=13,SNR=6.4						
JIRN	Jiri	31.21	336	*e*P	P	16 59 16.1	+0.8
PKI	Pulchoki	31.46	335	*e*P	P	16 59 17.7	+0.3
	6.6nm,0.5s						
GUN	Gumba	31.56	336	*e*P	P	16 59 19.2	+0.8
	52nm,0.4s						
KKN	Kakani	31.71	335	*e*P	P	16 59 19.8	+0.3
	12nm,0.4s						
GKN	Gorkha	32.17	334	*e*P	P	16 59 23.9	+0.4
	14nm,0.7s						
KOLN	Koldanda	32.44	332	*e*P	P	16 59 26.4	+0.5
	18nm,0.7s						
DANN	Dangsing	32.86	333	*e*P	P	16 59 30.5	+0.8
WRA	Warramunga Arr	38.67	122	P	P	17 00 18.4	-1.0
	4.4nm,0.6s,baz=302,slow=9.0,SNR=30						
ASAR	Alice Springs	40.03	127	P	P	17 00 30.1	-0.5
	1.2nm,0.3s,baz=299,slow=7.4,SNR=41						
JNU	Nakatsue	44.58	38	P	P	17 01 08.2	+0.7
	3.4nm,0.6s,baz=269,slow=4.4,SNR=4.1						
KSRS	Korea Array	46.02	31	P	P	17 01 18.5	-0.2
	1.6nm,0.7s,baz=227,slow=7.9,SNR=7.2						
SONM	Songino Array	48.75	6	P	P	17 01 40.1	+0.1
	2.0nm,0.6s,baz=185,slow=9.8,SNR=21						
AAK	Ala-Archa	48.92	335	P	P	17 01 41.4	0.0
	0.7nm,0.3s,baz=149,slow=7.3,SNR=3.9						
MKAR	Makanchi Array	49.85	344	P	P	17 01 48.1	-0.1
	3.1nm,0.4s,baz=154,slow=8.1,SNR=37						
STKA	Stephens Creek	50.01	132	P	P	17 01 50.0	+0.4
	2.9nm,0.7s,baz=359,slow=8.6,SNR=5.8						
USRK	Ussuriysk Arra	53.13	29	P	P	17 02 13.0	+0.3
	2.4nm,0.7s,baz=215,slow=5.1,SNR=6.2						
ZALV	Zalesovo Beam	55.97	349	P	P	17 02 32.8	-0.4
	11nm,0.5s,baz=170,slow=7.6,SNR=41						
FINES	FINESS Array B	83.01	332	P	P	17 05 18.2	-1.5
	2.9nm,0.9s,baz=159,slow=5.9,SNR=5.1						
ARCES	ARCESS Array B	85.32	340	P	P	17 05 30.2	-1.1
	2.7nm,0.8s,baz=99,slow=6.7,SNR=4.9						
TXAR	Lajitas Array	143.78	36	PKP	PKPbc	17 12 28.1	0.0
	0.5nm,0.6s,baz=269,slow=0.7,SNR=4.1						

MAN 30 17:01:29.9±0.60N×122°24E, h65km, mb4.3, ML3.1, MS2.9, 3C-4D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	Sibulan	1.02	104⇓	*i*P	Pn	17 01 48.9	+1.3
SNPH				*i* S	Sn	17 02 00.4	-1.0
DCPH	Dipolog City	1.50	132⇑	*e*P	Pn	17 01 52.4	-1.4
DCPH				*e*S	Sn	17 02 10.4	-2.0
TBP	Tagbilaran	1.61	87⇑	*e*P	Pn	17 01 55.3	+0.1
TBP				*i* S	Sn	17 02 14.2	-0.9
IPIL	Ipil	1.83	170⇓	*e*P	Pn	17 01 59.2	+0.9
IPIL				*i* S	Sn	17 02 20.4	-0.2
LLP	Lapu-Lapu	1.85	67⇑	*i*P	Pn	17 01 59.1	+0.6
LLP				*i* S	Sn	17 02 20.6	-0.3
RCP	Roxas	2.01	14⇓	*e*P	Pn	17 02 05.9	+5.2
RCP				*e*S	Sn	17 02 33.2	+8.3
CGP	Cagayan de Oro	2.68	115	*e*P	Pn	17 02 08.4	-1.4
CGP				*i* S	Sn	17 02 36.6	-4.6
CTBH	Cotabato--PC H	3.09	140⇓	*i*P	Pn	17 02 19.5	+4.0

IDC 30 17:09:23.1±3.4, 6°47S×153°80E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/17, mbtmp3.4/3, Error ellipse: s-maj=120.5km s-min=35.4km az=115.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.16	233	P	P	17 14 32.1	+0.7
	1.7nm,0.9s,baz=56,slow=10,SNR=5.6						
ASAR	Alice Springs	25.66	226	P	P	17 14 54.3	-0.5
	0.3nm,0.7s,baz=59,slow=8.9,SNR=6.1						
MKAR	Makanchi Array	82.23	319	P	P	17 21 47.3	+1.0
	0.2nm,0.5s,baz=95,slow=6.2,SNR=3.1						
TORD	Torodi Ar. Bea	151.74	286	PKPbc	PKPbc	17 29 19.5	-1.3
	0.4nm,0.7s,baz=91,slow=2.0,SNR=2.8						

WEL 30 17:10:37.1±0.6, 36°68S×177°71E, h146km±6km, ML3.5/4, Error ellipse: s-maj=5.3km s-min=4.8km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.00	152	PN	Pn	17 11 01.8	+0.2
MXZ				SN	Sn	17 11 20.2	0.0
MXZ				AML	AML	17 11 21.0	
MXZ				AML	AML	17 11 25.5	
PUZ	Puketiti	1.46	163	PN	Pn	17 11 05.6	-0.4
PUZ				SN	Sn	17 11 27.0	-1.1
PUZ				AML	AML	17 11 36.2	
OPRZ	Ohinepanea	1.49	218	PN	Pn	17 11 06.5	+0.3
URZ	Urewera	1.65	197	PN	Pn	17 11 07.8	-0.2
URZ				SN	Sn	17 11 31.4	-0.3
MWZ	Matawai	1.66	185	PN	Pn	17 11 08.4	+0.3
MWZ				SN	Sn	17 11 33.6	+1.5
MWZ				AML	AML	17 11 35.0	
CNGZ	Carnagh Statio	1.85	168	PN	Pn	17 11 10.8	+0.6
RAHZ	Arahi	2.29	192	PN	Pn	17 11 15.4	-0.1
KNZ	Kokohu	2.34	181	PN	Pn	17 11 15.3	-0.8
MHGZ	Mahia Peninsul	2.48	176	PN	Pn	17 11 17.3	-0.5
NMHZ	Naumai	2.52	196	PN	Pn	17 11 18.7	+0.3
BKZ	Black Stump Fm	2.67	201	PN	Pn	17 11 19.8	-0.4
MCHZ	McNeill Hill	2.88	196	PN	Pn	17 11 22.3	-0.5
BHHZ	Black Hill Sta	3.09	204	PN	Pn	17 11 24.6	-1.0
KAHZ	Kahuranaki	3.18	192	PN	Pn	17 11 25.4	-1.3
PXZ	Pawanui	3.42	191	PN	Pn	17 11 27.5	-2.1
PXZ				SN	Sn	17 12 07.2	-3.1
PNHZ	Pukenui	3.44	200	PN	Pn	17 11 28.1	-2.0
TSZ	Takapari Road	3.65	202	PN	Pn	17 11 30.5	-2.1
BFZ	Birch Farm	4.16	196	PN	Pn	17 11 37.0	-2.4
MRZ	Mangatainoka R	4.32	202	PN	Pn	17 11 38.5	-2.9
HOWZ	Holdsworth Sta	4.55	201	PN	Pn	17 11 41.0	-3.6
KIW	Kapiti Island	4.72	207	PN	Pn	17 11 43.4	-3.3
TCW	Tory Channel	5.26	210	PN	Pn	17 11 50.3	-3.6
THZ	Tophouse	6.30	215	PN	Pn	17 12 04.3	-3.5

IDC 30 17:11:31.4±7.7, 15°84S×173°97W, h0km, mb3.6/2, mb1 3.8/2, mb1mx3.5/18, mbtmp3.6/2, Error ellipse: s-maj=338.3km s-min=60.5km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	49.21	257	P	P	17 20 20.9	-1.0
	0.5nm,0.9s,baz=96,slow=7.6,SNR=4.0						
ASAR	Alice Springs	49.45	252	P	P	17 20 24.6	+0.8
	0.6nm,0.6s,baz=85,slow=8.2,SNR=9.4						
BRTR	Keskin Array B	146.15	320	PKPbc	PKPdf	17 31 13.2	0.0
	0.5nm,0.7s,baz=1.9,slow=4.3,SNR=2.5						

IDC 30 17:14:21.1±1.0, 16°04S×173°48W, h0km, mb3.9/7, mb1 4.2/7, mb1mx4.0/19, mbtmp3.9/7, Error ellipse: s-maj=63.7km s-min=22.1km az=147.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.68	38	Pn	Pn	17 14 59.0	-6.7
	18nm,0.3s,baz=235,slow=18,SNR=3.4						
AFI				Sn	Sn	17 15 24.7	-14
	79

comp=Z,22nm,0.9s
RAR Rarotonga 16.55 114 LR LR 17 25 52.2
comp=Z,1μm,20.0s,baz=270,slow=31
DZM Mont Dzumac 18.12 245 *e*LR LR 17 26 13.5
comp=Z,3μm,25.2s
HNR Honiara 24.20 280 LR LR 17 30 54.1
comp=Z,2μm,19.2s,baz=127,slow=33
PPT2 Papeete2 25.42 99 *e*LQ LQ 17 27 50.6
comp=Z,4μm,26.2s
PPT2 *e*LR LR 17 29 14.8
comp=Z,940nm,25.8s
TBI Tubuai 26.31 112 *e*LQ LQ 17 28 17.6
comp=Z,3μm,27.2s
TBI *e*LR LR 17 29 30.9
comp=Z,2μm,29.5s,baz=290
ARMA Armidale 33.47 237 *e*P P 17 24 08.4 +2.8
CTA Charters Tower 36.35 256 P **P 17 24 31.2 +0.9**
CTA Charters Tower 36.35 256 P **P 17 24 31.2 +0.9**
comp=Z,8.6nm,0.9s,baz=63,slow=4.4,SNR=3.2
CTAO Charters Tower 36.35 256 *e*P **P 17 24 29.9 -0.5**
CTAO Charters Tower 36.35 256 *e*P **P 17 24 29.9 -0.5**
CAN Canberra 37.36 231 *e*P **P 17 24 40.8 +2.0**
CAN pmax pmax
comp=Z,15nm,1.3s
CAN Canberra 37.36 231 *e*P **P 17 24 40.8 +2.0**
comp=Z,15nm,1.3s
RKT Rikitea 39.44 108 *e*LR LR 17 35 34.3
comp=Z,630nm,26.2s
STKA Stephens Creek 42.13 239 P **P 17 25 16.8 -1.7**
STKA Stephens Creek 42.13 239 P **P 17 25 16.8 -1.7**
comp=Z,2.6nm,0.9s,baz=98,slow=12,SNR=2.2
WRAB Tennant Creek 47.54 257 *e*P **P 17 26 01.7 -0.1**
WRAB Tennant Creek 47.54 257 *e*P **P 17 26 01.7 -0.1**
WRA Warramunga Arr 47.55 257 P **P 17 26 02.4 +0.5**
WRA Warramunga Arr 47.55 257 P **P 17 26 02.4 +0.5**
comp=Z,3.4nm,0.9s,baz=92,slow=7.6,SNR=10
AS31 Alice Springs 47.91 252 *e*P **P 17 26 04.7 0.0**
ASAR Alice Springs 47.91 252 P **P 17 26 05.0 +0.4**
ASAR Alice Springs 47.91 252 P **P 17 26 05.0 +0.4**
comp=Z,3.8nm,0.8s,baz=84,slow=7.8,SNR=17
FORT Forrest 53.41 243 *e*P **P 17 26 46.1 +0.1**
comp=Z,23nm,0.8s
CBIJ Chichi jima 58.34 316 LR LR 17 48 44.1
comp=Z,743nm,19.5s,baz=313,slow=32
BATI Baumata 58.99 267 LR LR 17 50 24.2
comp=Z,1μm,18.5s,baz=256,slow=34
SBA Scott Base 63.46 184 *e*P **P 17 27 56.6 +1.3**
SBA pmax pmax
comp=Z,9.0nm,0.9s
SBA Scott Base 63.46 184 *e*P **P 17 27 56.6 +1.3**
comp=Z,9.0nm,0.9s
VNDA Vanda 63.53 185 *e*P **P 17 27 56.5 +0.7**
comp=Z,6.9nm,1.1s
VNDA Vanda 63.53 185 P **P 17 27 55.8 0.0**
comp=Z,2.4nm,1.0s,baz=9.5,slow=7.8,SNR=8.9
MAJO Matsushiro 67.08 321 *i* P **P 17 28 21.8 +2.4**
PETK Petropavlovsk- 71.53 344 P **P 17 28 46.1 -0.5**
PETK Petropavlovsk- 71.53 344 P **P 17 28 46.0 -0.5**
PETK Petropavlovsk- 71.53 344 P **P 17 28 46.0 -0.5**
comp=Z,9.5nm,0.9s,baz=120,slow=8.8,SNR=6.2
YSS Yuzh-Sakhalins 71.95 332‖ *e*P **P 17 28 49.3 +0.1**
YSS pmax pmax
comp=Z,30nm,1.0s
YSS MLR MLR
comp=Z,500nm,20.0s
YSS MLR MLR
comp=N,400nm,18.0s
KSRS Korea Array 74.18 317 P **P 17 29 04.1 +1.5**
comp=N,4.9nm,1.1s,baz=132,slow=6.5,SNR=8.5
KSAR Wonju Array Be 74.19 317 P **P 17 29 04.0 +1.4**
WDC Whiskeytown Da 74.21 39 P **P 17 29 01.7 -1.0**
WDC pmax pmax
comp=Z,29nm,1.6s
WDC Whiskeytown Da 74.21 39 P **P 17 29 01.7 -1.0**
comp=Z,29nm,1.6s
YBH Yreka Blue Hor 74.79 38 P **P 17 29 05.8 -0.4**
YBH Yreka Blue Hor 74.79 38 P **P 17 29 05.8 -0.4**
comp=Z,4.6nm,0.8s,baz=165,slow=7.3,SNR=3.4
MPMC Manual Prospec 74.99 46 P **P 17 29 06.9 -0.7**
baz=75
WAKR Walker 74.99 43 *e*P **P 17 29 06.8 -0.8**
comp=Z,30nm,1.6s
QSPA South Pole Qui 75.04 180 *e*P **P 17 29 06.9 -0.4**
comp=Z,20nm,1.2s
QSPA South Pole Qui 75.04 180 P **P 17 29 07.3 0.0**
comp=Z,11nm,1.1s,baz=24,slow=1.5,SNR=27
BEKR Beckworth 75.16 41 *e*P **P 17 29 07.6 -0.9**
comp=Z,16nm,1.6s
USRK Ussuriysk Arra 75.61 324 P **P 17 29 12.4 +1.7**
comp=Z,1.2nm,0.8s,baz=75,slow=6.1,SNR=3.3
USRK LR LR 17 56 57.9
comp=Z,625nm,20.3s,baz=127,slow=31
NVAR Mina Array Bea 75.70 43 P **P 17 29 10.7 -0.9**
NVAR Mina Array Bea 75.70 43 P **P 17 29 10.7 -0.9**
comp=Z,2.6nm,0.7s,baz=230,slow=8.8,SNR=11
NV11 Mina Array Sit 75.80 43 *e*P **P 17 29 10.9 -1.2**
113A Mohawk Valley, 76.02 50 P **P 17 29 12.5 -0.9**
baz=76
R11A Troy Canyon, C 77.47 44 P **P 17 29 20.9 -0.8**
baz=78
TUC Tucson 78.05 52 *e*P **P 17 29 24.6 -0.3**
TUC pmax pmax
comp=Z,34nm,1.5s
TUC Tucson 78.05 52 *e*P **P 17 29 24.6 -0.3**
comp=Z,34nm,1.5s
U15A North Rim 78.82 47 P **P 17 29 28.2 -1.1**
baz=79
220A Playas Peak, P 79.61 53 P **P 17 29 33.1 -0.4**
baz=80
120A U Bar Ranch, L 79.80 52 P **P 17 29 34.1 -0.5**
baz=80
Z20A Nine Sixteen R 80.07 52 P **P 17 29 35.5 -0.5**
baz=80
DUG Dugway 80.26 44 P **P 17 29 36.7 -0.2**
baz=80
121A Cookes Peak, D 80.44 53 P **P 17 29 37.5 -0.6**
baz=80
TRF Thorofare Moun 80.70 11 *e*P **P 17 29 39.0 +0.3**
comp=Z,15nm,1.0s
Z21A St. Cloud Mine 80.85 52 P **P 17 29 40.5 +0.2**
baz=81
HLID Hailey 80.89 40 *e*P **P 17 29 39.7 -0.6**
comp=Z,7.1nm,0.9s
HLID Hailey 80.89 40 P **P 17 29 39.8 -0.4**
baz=81
MCK McKinley 81.22 12 *e*P **P 17 29 42.3 +1.0**
MCK pmax pmax
comp=Z,13nm,0.9s
MCK McKinley 81.22 12 *e*P **P 17 29 42.3 +1.0**
comp=Z,13nm,0.9s
Z22A Elephant Butte 81.37 52 P **P 17 29 42.1 -0.9**
baz=81
SEY Seymchan 81.52 346 *ce*P **P 17 29 41.8 -1.1**
Y22A Socorro 81.64 52 P **P 17 29 44.2 -0.2**
baz=82
324A Moseley Ranch, 81.79 54 P **P 17 29 44.3 -1.0**
baz=82
425A Indio Mountain 81.93 55 P **P 17 29 45.2 -0.7**
baz=82
MNTX Cornudas Mount 81.97 54 *e*P **P 17 29 45.5 -0.5**
comp=Z,26nm,1.5s
BNM Barren Site 81.99 52 *e*P **P 17 29 45.9 -0.4**
comp=Z,25nm,1.6s
224A Cornudas Mount 82.01 54 P **P 17 29 45.7 -0.7**
baz=82
LPM Los Pinos Moun 82.05 51 P **P 17 29 46.4 -0.2**
comp=Z,19nm,1.5s
626A Big Bend Ranch 82.14 57 P **P 17 29 46.5 -0.6**
baz=82
124A Stringfield Ra 82.31 53 P **P 17 29 47.4 -0.6**
baz=82
526A Mary Lane Ranc 82.37 56 P **P 17 29 47.7 -0.6**
baz=82
ANMO Albuquerque 82.44 51 *e*P **P 17 29 47.0 -1.6**
comp=Z,27nm,1.6s
TXAR Lajitas Array 82.44 57 P **P 17 29 48.4 -0.2**
TXAR Lajitas Array 82.44 57 P **P 17 29 48.4 -0.2**
comp=Z,2.8nm,1.1s,baz=224,slow=5.2,SNR=12
COLA College 82.45 12 *e*P **P 17 29 47.3 -0.4**
COLA College 82.45 12 *e*P **P 17 29 47.3 -0.4**
MCMT McKenzie Canyo 82.50 40 P **P 17 29 47.4 -1.4**
comp=Z,4.2nm,1.2s
IMA2 Indian Mountai 82.53 9 *e*P **P 17 29 47.3 -1.0**
ILAR Eielson Array 82.55 12 P **P 17 29 48.6 +0.4**
ILAR Eielson Array 82.55 12 P **P 17 29 48.6 +0.4**
comp=Z,2.6nm,1.0s,baz=237,slow=5.4,SNR=14
225A Deer Hill, Car 82.57 54 P **P 17 29 48.1 -1.2**
baz=83
426A McDonald Obser 82.65 56 P **P 17 29 48.9 -0.9**
baz=83
627A Terlingua Ranc 82.71 57 P **P 17 29 48.7 -1.4**
baz=83
RRI2 Red Ridge 82.75 42 *e*P **P 17 29 49.5 -0.6**
comp=Z,64nm,1.7s
527A Woodward Ranch 82.78 56 P **P 17 29 49.8 -0.6**
baz=83
Y24A Capitan 82.80 52 P **P 17 29 49.9 -0.6**
baz=83
MSO Missoula 82.85 38 P **P 17 29 49.8 -0.5**
baz=83
BSMT Bassoo Peak 82.88 36 P **P 17 29 48.4 -2.2**
comp=Z,6.0nm,1.0s
125A Gardner Draw, 82.91 54 P **P 17 29 50.5 -0.5**
baz=83
DLMT Dillon 82.92 39 *e*P **P 17 29 48.1 -2.7**
comp=Z,41nm,1.8s
T22A Edith 82.96 49 P **P 17 29 50.6 -0.8**
baz=83
TPAW Teton Pass 83.05 42 *e*P **P 17 29 51.1 -0.6**
comp=Z,38nm,1.6s
REDW Red Top Meadow 83.06 42 *e*P **P 17 29 50.6 -1.0**
comp=Z,34nm,1.5s
R21A Cimarron 83.06 47 P **P 17 29 51.2 -0.6**
baz=83
226B Tecolote Peak, 83.07 54 P **P 17 29 51.3 -0.6**
baz=83
Z25A Roswell 83.10 53 P **P 17 29 51.6 -0.4**
baz=83
628A Black Gap, Mar 83.13 57 P **P 17 29 51.6 -0.6**
baz=83
427A Hayter Ranch, 83.21 56 P **P 17 29 52.1 -0.5**
baz=83
LRM Limekiln Ridge 83.24 39 *e*P **P 17 29 51.2 -1.3**
comp=Z,190nm,1.7s
IMW Indian Meadow 83.25 41 *e*P **P 17 29 51.9 -0.9**
comp=Z,3.1nm,0.9s
MOOW Moose Ponds 83.31 41 P **P 17 29 52.2 -0.8**
comp=Z,35nm,1.8s
S22A 4UR Ranch, Cre 83.32 48 P **P 17 29 52.7 -0.6**
baz=83
LOHW Long Hollow 83.33 42 P **P 17 29 52.4 -0.6**
comp=Z,45nm,1.8s
W24A Lazy 6 Ranch, 83.33 51 P **P 17 29 52.3 -1.0**
baz=83
Y25A Mesa, Roswell 83.37 52 P **P 17 29 52.8 -0.6**
baz=83
QLMT Earthquake Lak 83.39 40 *e*P **P 17 29 52.7 -0.6**
comp=Z,1.7nm,1.2s
126A Clayton Basin, 83.40 54 P **P 17 29 53.0 -0.6**
baz=83
BJT Baijiatuau 83.43 314 P **P 17 29 53.9 +0.6**
528A Cox Ranch, San 83.45 57 P **P 17 29 53.2 -0.7**
baz=84
FLWY Flagg Ranch 83.49 41 *e*P **P 17 29 53.4 -0.5**
comp=Z,64nm,1.7s
R22A Saguache, Gunn 83.57 48 P **P 17 29 54.5 -0.1**
baz=84
PDAR Pinedale Array 83.62 43 P **P 17 29 53.0 -1.7**
PDAR Pinedale Array 83.62 43 P **P 17 29 53.0 -1.7**
comp=Z,2.4nm,0.8s,baz=198,slow=4.2,SNR=6.1
BOZ Bozeman (W) 83.65 39 *e*P **P 17 29 53.5 -1.1**
BOZ pmax pmax
comp=Z,21nm,1.5s
BOZ Bozeman (W) 83.65 39 *e*P **P 17 29 53.5 -1.1**
comp=Z,21nm,1.5s
DAWY Dawson 83.67 15 *e*P **P 17 29 55.4 +1.3**
Z26A Caprock 83.67 53 P **P 17 29 54.1 -0.8**
baz=84
428A Kincaid Ranch, 83.74 56 P **P 17 29 53.8 -1.5**
baz=84
328A Wristen Ranch, 83.88 55 P **P 17 29 55.1 -0.9**
baz=84
529A Stev Forest Ra 83.90 57 P **P 17 29 55.3 -0.8**
baz=84
M20A Sweetwater, Wa 83.97 44 P **P 17 29 56.1 -0.3**
baz=84
HRY Holter Researc 84.05 38 *e*P **P 17 29 57.9 +1.4**
comp=Z,19nm,1.4s
W25A X Bar L Ranch, 84.05 51 P **P 17 29 56.0 -0.8**
baz=84
L20A Wamsutter 84.09 44 P **P 17 29 56.4 -0.6**
baz=84
COLD Coldfoot 84.15 10 *e*P **P 17 29 57.2 +0.8**
comp=Z,16nm,1.2s
429A Davenport Ranc 84.34 56 P **P 17 29 57.2 -1.1**
baz=84
K20A Yellowstone Ra 84.38 43 P **P 17 29 56.6 -1.8**
baz=84
O22A Kremmling 84.53 46 P **P 17 29 58.3 -1.1**
baz=85
Y27A Causey 84.53 53 P **P 17 29 58.2 -1.1**
baz=85
U25A Circle Dot Ran 84.55 50 P **P 17 29 58.3 -1.1**
baz=85
I19A Meeteetse 84.56 42 P **P 17 29 59.1 -0.2**
baz=85
M21A Separation Pea 84.57 45 P **P 17 29 58.3 -1.2**
baz=85
128A Castleberry Fa 84.59 54 P **P 17 29 58.1 -1.5**
baz=85
530A J-C Ranch, Com 84.62 57 P **P 17 29 59.1 -0.6**
baz=85
N22A Wattenberg Ran 84.86 46 P **P 17 30 00.5 -0.5**
baz=85
MSTX Muleshoe 84.86 53 P **P 17 29 59.8 -1.2**
MSTX Muleshoe 84.86 53 P **P 17 30 00.6 -0.4**
baz=85
631A Perdido Creek 84.99 58 P **P 17 30 00.6 -1.0**
baz=85
I20A Worland 85.08 42 P **P 17 30 01.6 -0.2**
baz=85
K21A Alcova 85.09 44 P **P 17 30 01.6 -0.5**
baz=85
J21A Lysite 85.27 43 P **P 17 30 02.0 -0.9**
baz=85
531A Rocksprings 85.27 57 P **P 17 30 02.1 -0.9**
baz=85
R25A Fountain Ranch 85.32 49 P **P 17 30 01.7 -1.5**
baz=85
I21A Big Trails, Te 85.57 43 P **P 17 30 03.1 -1.2**
baz=86
632A Uvalde 85.67 58 P **P 17 30 04.0 -1.0**
baz=86
532A Rocksprings 85.78 57 P **P 17 30 04.5 -1.1**
baz=86
J22A Midwest 85.93 43 P **P 17 30 05.8 -0.3**
baz=86
432A Menard 86.12 57 P **P 17 30 06.2 -1.0**
baz=86
C19A Slack Wire Ran 86.20 38 P **P 17 30 06.9 -0.3**
baz=86
332A Millersview 86.34 56 P **P 17 30 07.1 -1.2**
baz=86
232A Coleman 86.58 56 P **P 17 30 08.1 -1.3**
baz=87
B19A Brinkman Farms 86.59 38 P **P 17 30 08.7 -0.5**
baz=87
MAW Mawson 87.37 199 P **P 17 30 12.4 -0.1**
MAW Mawson 87.37 199 P **P 17 30 12.4 -0.1**
comp=Z,3.5nm,1.0s,baz=152,slow=1.6,SNR=5.5
HKT Hockley 89.06 59 *i* P **P 17 30 20.8 -0.4**
J29A Okreek 90.06 45 P **P 17 30 26.7 +1.0**
baz=90
I29A Vivian Onida 90.30 44 P **P 17 30 25.7 -1.1**
baz=90
F28A McLaughlin 90.61 43 P **P 17 30 26.6 -1.6**
baz=91
SONM Songino Array 92.93 319 P **P 17 30 38.2 -0.8**
SONM Songino Array 92.93 319 P **P 17 30 38.2 -0.8**
comp=Z,0.3nm,0.8s,baz=104,slow=2.6,SNR=2.8
JTS JuntasAbangare 93.55 80 LR LR 18 03 24.0
comp=Z,316nm,20.9s,baz=164,slow=30
CLL Collm 143.08 351 *e*(PKPdf) **PKPdf 17 37 02.0 +2.5**
BRG Berggiesshubel 143.34 350 *e*PKP PKPdf 17 37 07.5 +7.4
comp=Z,3.1nm,0.9s
BR131 Keskin Array S 144.28 319 *e*PKPdf PKPbc 17 37 00.8 +0.3
BRTR Keskin Array B 144.28 319 PKP PKPbc 17 37 00.3 -0.2
BRTR Keskin Array B 144.28 319 PKP PKPbc 17 37 00.3 -0.2
comp=Z,3.7nm,1.0s,baz=105,slow=1.4,SNR=12
PSZ Piszkesteto 144.66 342 *e*PKIKP **PKPdf 17 37 06.4 +3.9**
PSZ Piszkesteto 144.66 342 *e*PKPdf **PKPdf 17 37 06.4 +3.9**
KHC Kasperske Hory 145.08 349 *e*PKIKP **PKPdf 17 37 04.6 +1.4**
KHC *e* 17 37 09.2
KHC Kasperske Hory 145.08 349 *e*PKP **PKPdf 17 37 04.6 +1.4**
KHC *ep*PKP **PKiKP 17 37 09.2 +2.2**
KHC Kasperske Hory 145.08 349 *e*PKPdf **PKPbc 17 37 02.0 -0.6**
GERES GERESS Array B 145.34 349 PKPbc **PKPbc 17 37 02.0 -1.5**
GERES GERESS Array B 145.34 349 PKPbc **PKPbc 17 37 02.0 -1.5**
comp=Z,1.0nm,0.8s,baz=346,slow=2.8,SNR=6.2
WLF Walferdange 145.39 358 *e*PKIKP **PKPbc 17 37 02.9 -0.6**
WLF Walferdange 145.39 358 *e*PKPdf **PKPbc 17 37 02.9 -0.6**
MMAI Mount Meron Ar 146.41 308 PKPbc **PKPab 17 37 08.0 -0.2**
MMAI Mount Meron Ar 146.41 308 PKPbc **PKPab 17 37 08.0 -0.2**
comp=Z,3.1nm,0.7s,baz=76,slow=3.5,SNR=4.6
BFO Black Forest 146.58 355 *e*PKP2 **PKPab 17 37 07.4 -0.9**
BFO Black Forest 146.58 355 *e*PKPdf **PKPab 17 37 07.4 -0.9**
SSB Saint Sauveur 149.82 359 *e*PKP2 **PKPab 17 37 22.9 +1.6**
SSB Saint Sauveur 149.82 359 *e*PKPab **PKPab 17 37 22.9 +1.6**
BNI Bardonecchia 149.97 356 *e*PKIKP **PKPab 17 37 21.7 -0.4**
BNI Bardonecchia 149.97 356 *e*PKPab **PKPab 17 37 21.7 -0.4**
ESDC Sonseca Array 154.43 14 PKPab **PKPab 17 37 42.2 +1.4**
ESDC Sonseca Array 154.43 14 PKPab **PKPab 17 37 42.2 +1.4**
comp=Z,2.4nm,0.9s,baz=334,slow=4.2,SNR=8.4
TORD Torodi Ar. Bea 177.05 128 PKP **PKPdf 17 37 35.2 -1.9**
TORD PKPab PKPab 17 39 19.0 -1.8
TORD Torodi Ar. Bea 177.05 128 PKP **PKPdf 17 37 35.2 -1.9**
comp=Z,1.1nm,1.1s,baz=221,slow=2.1,SNR=3.7
TORD PKPab PKPab 17 39 19.0 -1.8
comp=Z,1.0nm,1.0s,baz=231,slow=4.2,SNR=3.8

IDC ***30*** *17:20:34.8±0.4,23°.05S×169°.59E,h0km,mb5.1/27, mb1 5.2/30,mb1mx5.1/32,mbtmp5.1/30,ML4.6/3,MS4.4/6, Ms1 4.4/6,ms1mx4.0/36,Error ellipse: s-maj=13.3km s-min=13.1km az=106.0*
ISCJB ***30*** *17:20:36.1±2.7,23°.07S±0°.05×169°.50E±0°.03,h15km±16km, mb5.4/94,MS5.0/154,Error ellipse: s-maj=7.8km s-min=5.0km az=3.2*
BKK ***30*** *17:20:36.3±0.5,23°S±7°×17°0E±°,h10km,M5.5/26, mB5.9/7,mb5.5/26,Mw(mB)5.5/7*
LDG ***30*** *17:20:36.1±0.1,22°.85S×169°.28E,h10km,Mb5.5/4,Error ellipse: s-maj=23.7km s-min=5.1km az=15.0*
BJI ***30*** *17:20:37.5,22°.85S×169°.99E,h32km,mB5.4/33,mb5.3/47, Ms5.2/30,Ms7 5.0/30*
SZGRF ***30*** *17:20:38.9,23°.42S×169°.73E,h31km,Southeast of Loyalty Islands*
MOS ***30*** *17:20:39.0±1.2,22°.97S×169°.48E,h33km,mb5.6/28, MS4.8/24,Error ellipse: s-maj=9.5km s-min=8.9km az=32.5*
NEIC ***30*** *17:20:40.2±0.8,23°.03S×169°.56E,h36km±7km,mb5.5/46, MS5.0/140,Error ellipse: s-maj=5.9km s-min=5.1km az=165.0*
TEH ***30*** *17:20:40.0,23°.05S×169°.52E,h31km,ML5.4*
DJA ***30*** *17:20:43.1±2.1,23°S±7°×17°0E±1°3,h83km±18km, M5.4/26,mB5.9/6,mb5.3/26,Mw(mB)5.5/6*
BGS ***30*** *17:20:43.6±5.6,23°.03S×169°.56E,h33km,mb5.5(NEIC)*
ISC 30 17:20:39.6±0.4,23°.09S±0°.05×169°.61E±0°.05,h33km±1km, h34km:pP-P,n732,σ1s02/683,mb5.4/92,MS5.0/154, 75C-92D,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.10**	**288**	Pn	**Pn**	**17 21 24.8**	**-1.4**
DZM				Sn	**Sn**	**17 21 58.8**	**-3.5**
DZM	**Mont Dzumac**	**3.10**	**288**	Pn	**Pn**	**17 21 24.8**	**-1.4**
	141nm,0.3s,baz=100,slow=14,SNR=1332						
DZM				Sn	**Sn**	**17 21 58.8**	**-3.5**
	103nm,0.3s,baz=74,slow=18,SNR=5.4						
DZM				LR	LR	17 22 04.9	
	comp=Z,2μm,18.6s,baz=117,slow=29						
MSVF	**Nonsavu**	**9.54**	**58**	*e*P	**Pn**	**17 22 55.7**	**+1.0**
MSVF	**Nonsavu**	**9.54**	**58**	*e*Pn	**Pn**	**17 22 55.6**	**+1.0**
MSVF	**Nonsavu**	**9.54**	**58**	Pn	**Pn**	**17 22 56.1**	**+1.4**
	749nm,1.0s,SNR=19						
OUZ	**Omahuta**	**12.58**	**165**	*e*P	**Pn**	**17 23 37.7**	**+1.5**
	88nm,1.1s						
RAO	**Raoul Island**	**12.76**	**121**	LR	LR	17 27 21.6	
	comp=Z,2μm,18.3s,baz=11,slow=32						
URZ	**Urewera**	**16.43**	**159**	Pn	**Pn**	**17 24 27.7**	**+0.1**
URZ	**Urewera**	**16.43**	**159**	Pn	**Pn**	**17 24 27.7**	**+0.1**
	0.7nm,0.3s,baz=105,slow=5.7,SNR=4.3						
HNR	**Honiara**	**16.43**	**324**	Pn	**Pn**	**17 24 27.4**	**-0.4**
HNR	**Honiara**	**16.43**	**324**	Pn	**Pn**	**17 24 27.4**	**-0.4**
	4.0nm,0.3s,baz=185,slow=2.3,SNR=5.6						
EIDS	**Eidsvold**	**17.06**	**259**	*e*P	**Pn**	**17 24 35.6**	**0.0**
	61nm,1.2s						
ARMA	**Armidale**	**17.63**	**242**	*e*P	**P**	**17 24 45.3**	**+1.8**
	84nm,1.4s						
RPZ	**Rata Peaks**	**20.61**	**177**	*e*P	**P**	**17 25 16.3**	**+0.4**
	59nm,0.9s						
RPZ	**Rata Peaks**	**20.61**	**177**	P	**P**	**17 25 16.4**	**+0.4**
	43nm,1.0s,baz=44,slow=4.5,SNR=7.5						
RPZ				LR	LR	17 32 02.5	
	comp=Z,1μm,21.7s,baz=19,slow=33						
CAN	**Canberra**	**21.68**	**231**	*e*P	**P**	**17 25 30.3**	**+2.7**
CAN				pmax	pmax		
	comp=Z,73nm,1.4s						
CAN				MLR	MLR		
	comp=Z,1μm,19.0s						
CAN	**Canberra**	**21.68**	**231**	*e*P	**P**	**17 25 30.3**	**+2.7**
	comp=Z,73nm,1.4s						
CAN				LR	LR		
	comp=Z,1μm,19.0s						
CTA	**Charters Tower**	**21.92**	**273**	P	**P**	**17 25 30.8**	**+0.5**
CTA	**Charters Tower**	**21.92**	**273**	P	**P**	**17 25 30.8**	**+0.5**
	comp=Z,62nm,0.7s,baz=95,slow=12,SNR=40						
CTAO	**Charters Tower**	**21.92**	**273**	*e*P	**P**	**17 25 31.0**	**+0.7**
CTAO				pmax	pmax		
	comp=Z,63nm,0.8s						
CTAO				MLR	MLR		
	comp=Z,867nm,19.0s						
CTAO	**Charters Tower**	**21.92**	**273**	*e*P	**P**	**17 25 31.0**	**+0.7**
	comp=Z,63nm,0.8s						
CTAO				LR	LR		
	comp=Z,867nm,19.0s						
TARA	**Tarawa**	**24.51**	**8**	*e*P	**P**	**17 25 53.2**	**-2.9**
	comp=Z,354nm,1.4s						
TARA				LR	LR		
	comp=Z,2μm,20.0s						
PMG	**Port Moresby**	**25.44**	**299**	P	**P**	**17 26 03.8**	**-0.8**
PMG				LR	LR		
	comp=Z,864nm,19.0s						
PMG	**Port Moresby**	**25.44**	**299**	P	**P**	**17 26 06.5**	**+2.0**
	comp=Z,58nm,1.2s						
PMG	**Port Moresby**	**25.44**	**299**	P	**P**	**17 26 03.8**	**-0.8**
	comp=Z,29nm,0.7s,baz=46,slow=6.1,SNR=8.2						
STKA	**Stephens Creek**	**26.30**	**244**	*e*P	**P**	**17 26 12.9**	**+0.8**
	comp=Z,12nm,1.3s						
STKA	**Stephens Creek**	**26.30**	**244**	P	**P**	**17 26 13.0**	**+0.8**
	comp=Z,27nm,1.0s,baz=88,slow=10,SNR=41						
COEN	**Coen**	**26.62**	**285**	*e*P	**P**	**17 26 15.6**	**+0.3**
	comp=Z,440nm,0.8s						
BBOO	**Buckleboo**	**31.07**	**244**	*e*P	**P**	**17 26 55.0**	**+0.3**
	comp=Z,541nm,0.9s						
ASAR	**Alice Springs**	**32.73**	**262**	P	**P**	**17 27 09.1**	**-0.4**
ASAR	**Alice Springs**	**32.73**	**262**	P	**P**	**17 27 09.1**	**-0.4**
	comp=Z,55nm,1.0s,baz=88,slow=9.0,SNR=34						
WRAB	**Tennant Creek**	**32.91**	**269**	*e*P	**P**	**17 27 08.8**	**-2.2**
WRAB				pmax	pmax		
	comp=Z,10.0nm,1.1s						
WRAB				MLR	MLR		
	comp=Z,2μm,20.0s						
WRAB	**Tennant Creek**	**32.91**	**269**	*e*P	**P**	**17 27 08.8**	**-2.2**
	comp=Z,10.0nm,1.1s						
WRAB				LR	LR		
	comp=Z,2μm,20.0s						
WRA	**Warramunga Arr**	**32.92**	**269**	P	**P**	**17 27 09.4**	**-1.7**
WRA				PcP	**PcP**	**17 29 54.7**	**-0.5**
WRA	**Warramunga Arr**	**32.92**	**269**	P	**P**	**17 27 09.4**	**-1.7**
	comp=Z,18nm,0.6s,baz=100,slow=8.6,SNR=111						
WRA				PcP	**PcP**	**17 29 54.7**	**-0.5**
	comp=Z,2.8nm,0.7s,baz=94,slow=2.8,SNR=5.0						
FORT	**Forrest**	**37.66**	**249**	*e*P	**P**	**17 27 50.7**	**-1.1**
	comp=Z,115nm,0.8s						
SRPI	**Serui, Papua**	**38.63**	**298**	P	**P**	**17 28 01.9**	**+1.9**
	comp=Z,72nm,1.3s,comp=Z,2μm						
BAKI	**Biak**	**39.13**	**299**	P	**P**	**17 28 05.2**	**+0.9**
	comp=Z,161nm,1.0s						
FITZ	**Fitzroy Crossi**	**41.35**	**268**	*e*P	**P**	**17 28 22.1**	**-0.6**
	comp=Z,22nm,0.8s						
FITZ	**Fitzroy Crossi**	**41.35**	**268**	P	**P**	**17 28 22.5**	**-0.1**
	comp=Z,23nm,1.0s,baz=108,slow=8.9,SNR=17						
WAKE	**Wake Island**	**42.21**	**356**	PFAKE		17 28 40.0	+10
WAKE				LR	LR		
	comp=Z,2μm,21.0s						
BATI	**Baumata**	**45.66**	**278**	P	**P**	**17 28 57.9**	**+0.4**
BATI	**Baumata**	**45.66**	**278**	P	**P**	**17 28 58.1**	**+0.6**

comp=Z,51nm,0.9s
BATI Baumata 45.66 278 P **P 17 28 57.9 +0.4**
comp=Z,45nm,0.7s,baz=237,slow=0.3,SNR=12
MBWA Marble Bar 46.07 262 *e*P **P 17 28 60.0 -0.7**
comp=Z,120nm,1.0s
MBWA LR LR
comp=Z,1μm,21.0s
NWAO Narrogin (SRO) 46.87 246 *e*P **P 17 29 06.6 -0.1**
comp=Z,69nm,1.2s
NWAO LR LR
comp=Z,971nm,22.0s
NWAO Narrogin (SRO) 46.87 246 P **P 17 29 06.2 -0.6**
comp=Z,52nm,1.0s,baz=81,slow=7.9,SNR=16
WSI Waingapu 48.93 277 P **P 17 29 23.3 +0.4**
comp=Z,334nm,1.4s,comp=Z,3μm
LBFI Labuhan Bajo, 49.76 279 P **P 17 29 29.2 -0.1**
comp=Z,131nm,0.9s,comp=Z,4μm
KAPI Kappang 51.30 283 P **P 17 29 40.4 -0.5**
KAPI LR LR
comp=Z,332nm,20.0s
KAPI Kappang 51.30 283 P **P 17 29 40.6 -0.3**
comp=Z,750nm,0.9s,SNR=16
KAPI Kappang 51.30 283 P **P 17 29 39.6 -1.3**
KAPI Kappang 51.30 283 P **P 17 29 40.4 -0.5**
comp=Z,123nm,1.1s,baz=139,slow=4.2,SNR=36
DAV Davao City (W) 52.46 300 PFAKE 17 30 00.0 +11
DAV LR LR
comp=Z,355nm,20.0s
MIDW Midway 52.53 15 PFAKE 17 30 00.0 +10
MIDW LR LR
comp=Z,740nm,19.0s
VNDA Vanda 54.62 182 *e*P **P 17 30 05.4 +1.0**
VNDA Vanda 54.62 182 P **P 17 30 05.4 +1.0**
comp=Z,3.2nm,0.8s,baz=344,slow=7.3,SNR=9.7
SBA Scott Base 54.84 181 *e*P **P 17 30 07.7 +1.7**
SBA pmax pmax
comp=Z,53nm,1.0s
SBA MLR MLR
comp=Z,630nm,21.0s
SBA Scott Base 54.84 181 *e*P **P 17 30 07.7 +1.7**
comp=Z,53nm,1.0s
SBA LR LR
comp=Z,630nm,21.0s
CASY Casey 56.77 205 *e*P **P 17 30 19.8 -0.2**
comp=Z,30nm,1.2s
CASY LR LR
comp=Z,606nm,20.0s
KKM Kota Kinabalu 59.65 292 PFAKE 17 30 50.0 +8.9
KKM LR LR
comp=Z,361nm,21.0s
SBUM Sibu 61.37 286 P **P 17 30 53.5 +0.8**
KSM Kuching 62.62 285 *e*P **P 17 31 01.2 +0.1**
comp=Z,56nm,0.9s
KSM LR LR
comp=Z,240nm,19.0s
KSM Kuching 62.62 285 P **P 17 31 01.7 +0.5**
TPUB Ta-pu 66.28 311 *e*P **P 17 31 23.6 -1.2**
comp=Z,117nm,1.2s
MAJO Matsushiro 66.31 333 *e*P **P 17 31 24.0 -0.8**
MAJO pmax pmax
comp=Z,25nm,1.0s
MAJO MLR MLR
comp=Z,532nm,21.0s
MAJO Matsushiro 66.31 333 *e*P **P 17 31 24.0 -0.8**
comp=Z,25nm,1.0s
MAJO LR LR
comp=Z,532nm,21.0s
MAT Matsushiro 66.31 333 P **P 17 31 24.1 -0.7**
MAT S S 17 40 21.6 +9.5
SSLB Suanglung 66.37 311 *e*P **P 17 31 24.6 -0.9**
comp=Z,38nm,0.8s
YHNB Yeheng 66.66 312 *e*P P 17 31 23.0 -4.4
comp=Z,63nm,0.9s
YHNB LR LR
comp=Z,618nm,20.0s
TATO Taipei 66.79 313 *e*P **P 17 31 27.8 -0.2**
comp=Z,989nm,1.4s
QSPA South Pole Qui 66.98 180 *e*P **P 17 31 29.1 +0.2**
QSPA LR LR
comp=Z,538nm,20.0s
QSPA South Pole Qui 66.98 180 P **P 17 31 29.5 +0.6**
comp=Z,48nm,1.0s,baz=18,slow=3.4,SNR=34
JNU Nakatsue 67.00 325 P **P 17 31 29.3 0.0**
JNU Nakatsue 67.00 325 P **P 17 31 29.3 0.0**
comp=Z,12nm,0.9s,baz=67,slow=6.5,SNR=5.2
ERM Erimo 69.25 339 PFAKE 17 32 00.0 +17
ERM LR LR
comp=Z,547nm,21.0s
COCO West Island 69.61 265 PFAKE 17 32 00.0 +14
COCO LR LR
comp=Z,780nm,21.0s
YUK Yuzh-Kuril'sk 70.26 342 *d* *i*P **P 17 31 50.3 +1.0**
YUK *i* 17 34 24.8
YUK *i* S S 17 41 05.5 +6.8
YUK *i* SS **SS 17 45 29.7 -0.4**
ASAJ Asahikawa 71.31 340 P **P 17 31 56.0 +0.3**
ASAJ Asahikawa 71.31 340 P **P 17 31 56.0 +0.3**
comp=Z,18nm,0.9s,baz=198,slow=8.4,SNR=12
QIZ Qiongzhong 71.81 301 P **P 17 31 59.3 0.0**
QIZ S **S 17 41 19.0 +1.2**
QIZ pmax pmax
comp=Z,44nm,1.8s
KSRS Korea Array 71.87 326 P **P 17 31 59.6 +0.4**
comp=Z,12nm,1.0s,baz=144,slow=6.3,SNR=22
KSAR Wonju Array Be 71.88 326 P **P 17 31 59.6 +0.3**
INCN Inchon 72.56 325 PFAKE 17 32 20.0 +17
INCN LR LR
comp=Z,339nm,19.0s
PSI Prapat 73.43 280 P **P 17 32 08.1 -1.1**
PSI Prapat 73.43 280 P **P 17 32 08.1 -1.1**
comp=Z,22nm,0.8s,baz=172,slow=5.7,SNR=8.0
PSI LR LR 18 08 05.8
comp=Z,372nm,19.5s,baz=308,slow=39
YSS Yuzh-Sakhalins 73.82 341⇑ *e*P **P 17 32 11.3 +0.8**
YSS *e* 17 32 23.6
VLA Vladivostok 74.47 332⇑ *i*P **P 17 32 14.4 0.0**
VLA *e* 17 32 27.7
VLA *e* 17 34 59.4
VLA *e*S **S 17 41 47.0 0.0**
VLA pmax pmax
comp=Z,22nm,1.0s
MAW Mawson 75.02 202 *e*P **P 17 32 17.4 0.0**
comp=Z,4.9nm,1.3s
MAW Mawson 75.02 202 P **P 17 32 18.2 +0.8**
comp=Z,14nm,1.0s,baz=118,slow=8.2,SNR=19
WHN Wuhan 75.20 313 ⇓P **P 17 32 19.5 +0.6**
WHN pmax pmax
comp=Z,64nm,1.1s
USRK Ussuriysk Arra 75.31 333 P **P 17 32 20.1 +0.9**
comp=Z,19nm,0.9s,baz=150,slow=4.2,SNR=32
SKNT Sakolnakorn 75.50 296 P **P 17 32 21.8 +0.8**
comp=Z,129nm,1.6s
PET Petropavlovsk 76.39 353 *e*P **P 17 32 24.3 -0.9**
PET *e*S **S 17 42 07.8 0.0**
PET pmax pmax
comp=Z,17nm,0.7s
PET MLR MLR
comp=Z,500nm,21.0s
PETK Petropavlovsk- 76.58 353 P **P 17 32 26.3 0.0**
PETK Petropavlovsk- 76.58 353 P **P 17 32 26.3 0.0**
PETK Petropavlovsk- 76.58 353 P **P 17 32 26.3 0.0**
comp=Z,22nm,0.8s,baz=156,slow=8.1,SNR=22
MDJ Mudanjiang 76.66 332 P **P 17 32 27.8 +0.8**
MDJ pP **pP 17 32 37.0 -0.4**
MDJ PcP **PcP 17 32 39.5 +1.2**
MDJ sP **sP 17 32 41.0 -0.2**
MDJ S **S 17 42 15.0 +3.8**
MDJ SS **SS 17 47 05.0 -2.9**
MDJ pmax pmax
comp=Z,29nm,1.1s
MDJ pmax pmax
comp=Z,120nm,4.3s
MDJ LR LR
comp=N,200nm,32.9s
MDJ LR LR
comp=E,380nm,27.4s
MDJ LR LR
comp=Z,530nm,24.7s
MDJ Mudanjiang 76.66 332 *e*P **P 17 32 27.5 +0.5**
comp=Z,27nm,1.0s
MDJ LR LR
comp=Z,535nm,22.0s
NONG Nongkai 76.73 296 P **P 17 32 29.2 +1.3**
comp=Z,45nm,1.5s
CN2 Changchun 77.92 329 *e*P **P 17 32 34.0 0.0**
CN2 *es*P **sP 17 32 48.3 0.0**
CN2 *e*S **S 17 42 25.0 +0.1**
CN2 pmax pmax
comp=Z,30nm,1.1s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,300nm,15.0s
CN2 LR LR
comp=E,200nm,15.0s
CN2 LR LR
comp=Z,200nm,16.0s
GYA Guiyang 78.31 305⇓ *i*P **P 17 32 39.0 +2.2**
GYA pP **pP 17 32 47.5 +0.3**
GYA PP **PP 17 35 37.5 +3.1**
GYA SKS S 17 42 45.8 +16
GYA sS **sS 17 42 47.5 +0.1**
GYA SS **SS 17 47 36.3 +2.7**
GYA pmax pmax
comp=Z,30nm,1.0s
GYA pmax pmax
comp=Z,150nm,5.6s
GYA LR LR
comp=N,890nm,18.4s
GYA LR LR
comp=E,630nm,19.8s
GYA LR LR
comp=Z,740nm,20.2s
ENH Enshi 78.39 310 *e*P **P 17 32 37.0 -0.1**
comp=Z,53nm,0.9s
SUKH Sukhothai 79.37 294 P **P 17 32 44.2 +1.6**
comp=Z,9.2nm,0.9s
KLR Kul'dur 79.51 336 *e*P P 17 32 39.2 -3.5
KLR pmax pmax
comp=Z,62nm,1.6s
CRAI Chiangrai 80.07 297 P **P 17 32 45.7 -0.7**
comp=Z,65nm,1.1s,comp=Z,5μm
BJT Baijiatuau 80.13 321 *e*P **P 17 32 47.0 +0.8**
comp=Z,23nm,0.8s
BJT LR LR
comp=Z,259nm,20.0s
BJI Beijing 80.14 321 P **P 17 32 46.0 -0.3**
BJI pmax pmax
comp=Z,29nm,0.9s
BJI pmax pmax
comp=Z,140nm,3.6s
BJI LR LR
comp=N,250nm,22.0s
BJI LR LR
comp=E,180nm,25.7s
BJI LR LR
comp=Z,380nm,35.7s
CM31 Chiang Mai Arr 80.41 295 *e*P **P 17 32 49.9 +1.6**
comp=Z,35nm,0.9s
CMAR Chiang Mai Arr 80.41 295 P **P 17 32 50.0 +1.8**
CMAR PKKPbc **PKKPbc 17 51 30.4 +0.4**
CMAR Chiang Mai Arr 80.41 295 P **P 17 32 50.0 +1.8**
comp=Z,24nm,0.9s,baz=134,slow=4.1,SNR=140
CMAR PKKPbc **PKKPbc 17 51 30.4 +0.4**
comp=Z,0.9nm,0.8s,baz=305,slow=4.2,SNR=5.4
CHTO Chiang Mai 80.58 295 *e*P **P 17 32 50.2 +1.0**
CHTO pmax pmax
comp=Z,246nm,1.0s
CHTO MLR MLR
comp=Z,427nm,22.0s
CHTO Chiang Mai 80.58 295 *e*P **P 17 32 50.1 +1.0**
comp=Z,246nm,1.0s
CHTO LR LR
comp=Z,427nm,22.0s
CHTO Chiang Mai 80.58 295 P **P 17 32 50.4 +1.2**
comp=Z,281nm,0.9s
KMI Kunming 80.61 302 ⇓P **P 17 32 51.0 +1.5**
KMI pP **pP 17 33 01.3 +1.4**
KMI S **S 17 42 53.3 -1.5**
KMI pmax pmax
comp=Z,55nm,1.0s
KMI pmax pmax
comp=Z,220nm,3.7s
KMI LR LR
comp=N,320nm,15.7s
KMI LR LR
comp=E,350nm,12.1s
KMI LR LR
comp=Z,410nm,26.9s
XAN Xi'an 80.97 313 P **P 17 32 51.5 +0.5**
XAN pP **pP 17 33 02.0 +0.6**
XAN sP **sP 17 33 06.0 +0.8**
XAN pmax pmax
comp=Z,15nm,1.1s
XAN pmax pmax
comp=Z,43nm,6.7s
CMAI Chiengmai2 81.02 296 P **P 17 32 53.1 +1.4**
comp=Z,56nm,0.7s
SYO Syowa Base 81.35 196⇑ *e*P **P 17 32 50.5 -1.9**
SYO Syowa Base 81.35 196⇑ *e*pP pP 17 33 01.4 -1.5
CD2 Chengdu 82.85 308 P **P 17 33 01.3 +0.3**
CD2 pP **pP 17 33 11.3 -0.2**
CD2 sP **sP 17 33 15.0 -0.3**
CD2 PP **PP 17 36 14.0 +2.1**
CD2 S **S 17 43 16.5 -0.9**
CD2 sS **ScS 17 43 33.0 +1.1**
CD2 SS **SS 17 48 43.5 +2.2**
CD2 pmax pmax
comp=Z,40nm,0.5s
CD2 pmax pmax
comp=Z,710nm,5.7s
CD2 LR LR
comp=N,520nm,7.1s
CD2 LR LR
comp=Z,350nm,8.9s
HHC Hu-ho-hao-te 83.36 320 *e*P **P 17 33 04.5 +1.1**
HHC pP **pP 17 33 15.0 +1.1**
HHC sP **sP 17 33 18.5 +0.8**
HHC PP **PP 17 36 19.3 +3.4**
HHC S **S 17 43 21.5 -0.7**
HHC sS **sS 17 43 39.5 -0.1**
HHC SS **SS 17 48 51.3 +2.7**
HHC pmax pmax
comp=Z,58nm,0.9s
HHC pmax pmax
comp=Z,470nm,6.8s
HHC LR LR
comp=N,250nm,17.5s
HHC LR LR
comp=E,520nm,15.5s
HHC LR LR
comp=Z,580nm,19.0s
HIA Hailar 84.60 330 PFAKE 17 33 20.0 +11
HIA LR LR
comp=Z,678nm,22.0s
SNAA Sanae 85.35 182 *e*P **P 17 33 12.8 -0.3**
SNAA Sanae 85.35 182 *e*P **P 17 33 11.8 -1.3**
comp=Z,49nm,1.0s
LZH Lanzhou 85.56 312 ⇓P **P 17 33 16.5 +1.7**
LZH pP **pP 17 33 26.5 +1.2**
LZH sP **sP 17 33 31.8 +2.7**
LZH PP **PP 17 36 36.3 +2.3**
LZH SKS **SKSac 17 43 31.5 -6.3**
LZH *e*S **S 17 43 43.5 -1.0**
LZH SS **SS 17 49 24.5 +3.2**
LZH pmax pmax
comp=Z,61nm,1.1s
LZH pmax pmax
comp=Z,300nm,4.2s
LZH LR LR
comp=N,980nm,15.3s
LZH LR LR
comp=E,820nm,17.2s
LZH LR LR
comp=Z,1μm,19.1s
VNA2 Neumayer--Watz 86.22 181 *e*P **P 17 33 17.5 +0.2**
baz=183,slow=2.7
VNA1 Neumayer--Stat 86.51 181 *e*P **P 17 33 18.6 -0.1**
KDAK Kodiak Island 86.53 19 PFAKE 17 33 30.0 +11
KDAK LR LR
comp=Z,1μm,22.0s
SEY Seymchan 86.81 352 *ce*P **P 17 33 18.7 -1.3**
KIPM Iron Peak 88.30 45 *e*P **P 17 33 29.3 +1.3**
comp=Z,57nm,1.0s
SMMC Simmler 88.37 50 ⇓P **P 17 33 29.4 +1.1**
baz=89
ARVC Arvin 89.11 51 ⇓P **P 17 33 33.1 +1.4**
baz=89
WDC Whiskeytown Da 89.32 45 *e*P **P 17 33 33.1 +0.5**
WDC pmax pmax
comp=Z,31nm,1.2s
WDC Whiskeytown Da 89.32 45 *e*P **P 17 33 33.1 +0.5**
comp=Z,30nm,1.2s
CIT Chita 89.36 329 *e*P **P 17 33 31.0 -1.5**
CIT *e* 17 33 42.9
CIT pmax pmax
comp=Z,75nm,2.8s
CMB Columbia Colle 89.46 48 *e*P **P 17 33 34.1 +0.7**
CMB pmax pmax
comp=Z,41nm,1.1s
CMB Columbia Colle 89.46 48 *e*P **P 17 33 34.0 +0.7**
comp=Z,41nm,1.1s
BFSC Mount Baldy Ra 89.53 52⇑P **P 17 33 34.1 +0.2**
baz=90,SNR=7.1
MURC Murrieta 89.57 53⇓P **P 17 33 34.7 +0.8**
baz=90
EDW2 Edwards Air Fo 89.60 52⇑P **P 17 33 34.6 +0.5**
baz=90,SNR=14
ISA Isabella 89.63 51 *e*P **P 17 33 35.1 +0.8**
ISA pmax pmax
comp=Z,58nm,1.2s
ISA Isabella 89.63 51 *e*P **P 17 33 35.1 +0.8**
comp=Z,58nm,1.2s
ISA Isabella 89.63 51⇑P **P 17 33 35.0 +0.8**
baz=90,SNR=18
MONP Monument Peak 89.81 54⇓P **P 17 33 36.0 +0.6**
baz=90,SNR=6.1
YBH Yreka Blue Hor 89.81 44 *e*P **P 17 33 36.2 +1.2**
comp=Z,23nm,1.1s
YBH Yreka Blue Hor 89.81 44 P **P 17 33 35.9 +0.9**
comp=Z,13nm,1.0s,baz=99,slow=1.5,SNR=13
DVTC Desert V Tower 89.94 54⇑P **P 17 33 36.6 +0.8**
baz=90
GTA Gaotai 90.01 313 *e*P **P 17 33 36.8 +0.8**
GTA pP **pP 17 33 46.3 -0.3**
GTA sP **sP 17 33 50.0 -0.4**
GTA PP **PP 17 37 12.3 +2.6**
GTA SKS **SKSac 17 44 03.5 -1.1**
GTA S **S 17 44 27.0 +0.1**
GTA pmax pmax
comp=Z,13nm,1.0s
GTA pmax pmax
comp=Z,80nm,4.8s
GTA LR LR
comp=N,110nm,20.9s
GTA LR LR
comp=E,260nm,23.3s
GTA LR LR
comp=Z,690nm,26.6s
LRMC Laurel Mountai 90.10 51⇑P **P 17 33 37.1 +0.6**
baz=90,SNR=7.7
PFO Pinyon Flat Ob 90.12 53 P **P 17 33 36.7 0.0**
PFO LR LR
comp=Z,669nm,21.0s
PFO Pinyon Flat Ob 90.12 53 P **P 17 33 36.7 0.0**
comp=Z,14nm,1.1s,baz=244,slow=3.7,SNR=6.2
PFO Pinyon Flat Ob 90.12 53⇓P **P 17 33 37.5 +0.9**
baz=90
ULN Ulaanbaatar 90.15 323 *e*P **P 17 33 36.8 +0.4**
comp=Z,32nm,1.1s
ULN LR LR
comp=Z,231nm,22.0s
SWSC Sam W. Stewart 90.30 54⇓P **P 17 33 38.0 +0.7**
baz=90,SNR=5.3
WAKR Walker 90.34 48 *e*P **P 17 33 38.9 +1.2**
comp=Z,60nm,1.2s
BEKR Beckworth 90.39 46 *e*P **P 17 33 38.1 +0.3**
comp=Z,13nm,1.1s
SONM Songino Array 90.49 323 P **P 17 33 38.5 +0.5**
SONM PKKPbc **PKKPbc 17 51 06.8 -0.6**
SONM Songino Array 90.49 323 P **P 17 33 38.5 +0.5**
comp=Z,14nm,0.9s,baz=142,slow=3.9,SNR=75
SONM PKKPbc **PKKPbc 17 51 06.8 -0.6**
comp=Z,0.4nm,0.6s,baz=334,slow=1.4,SNR=4.2
MPMC Manual Prospec 90.52 51⇑P **P 17 33 39.0 +0.5**
baz=91,SNR=14
YAK Yakutsk 90.63 342 *e*P **P 17 33 36.7 -1.4**
YAK pmax pmax
comp=Z,10.0nm,0.9s
BELC Belle Mtn. Jos 90.64 53⇑P **P 17 33 39.9 +0.9**
baz=91
GSC Goldstone 90.65 52 *e*P **P 17 33 39.7 +0.7**
GSC pmax pmax
comp=Z,30nm,1.2s
GSC Goldstone 90.65 52 *e*P **P 17 33 39.7 +0.7**
comp=Z,30nm,1.2s
GSC Goldstone 90.65 52⇑P **P 17 33 39.9 +0.8**
baz=91
HEC Hector,Ludlow 90.78 52⇑P **P 17 33 40.0 +0.3**
baz=91,SNR=10
BC3 Big Chuckawall 90.88 54⇑P **P 17 33 40.9 +0.8**
baz=91,SNR=5.6
PAHR Pah Rah Range 90.97 47 *e*P **P 17 33 41.2 +0.7**
comp=Z,47nm,1.1s
GRAC Grapevine Rang 91.05 50⇑P **P 17 33 41.8 +1.0**
baz=91,SNR=6.7
GLA Glamis 91.08 54 *e*P **P 17 33 42.4 +1.4**
GLA pmax pmax
comp=Z,48nm,1.0s
GLA Glamis 91.08 54 *e*P **P 17 33 42.4 +1.4**
comp=Z,48nm,1.0s
GLA Glamis 91.08 54⇓P **P 17 33 42.1 +1.1**
baz=91,SNR=6.8
NVAR Mina Array Bea 91.08 48 P **P 17 33 42.1 +1.0**
NVAR Mina Array Bea 91.08 48 P **P 17 33 42.1 +1.0**
comp=Z,18nm,0.9s,baz=226,slow=8.0,SNR=64
FURC Furnace Creek, 91.16 51⇑P **P 17 33 42.5 +1.3**
baz=91
NV11 Mina Array Sit 91.18 48 *e*P **P 17 33 42.1 +0.6**
GMRC Granite Mounta 91.25 53⇓P **P 17 33 42.4 +0.5**
baz=91,SNR=8.8
SHOC Shoshone 91.31 51⇓P **P 17 33 42.5 +0.5**
baz=92
IRM Iron Mountain 91.34 53⇑P **P 17 33 42.9 +0.7**
baz=92,SNR=16
MOD Modoc 91.45 45 *e*P **P 17 33 42.4 -0.3**
comp=Z,111nm,1.1s
Y12C Blythe 91.62 54⇑P **P 17 33 44.2 +0.8**
baz=92,SNR=5.6
TPH Tonopah 91.66 49 PFAKE 17 34 00.0 +16
TPH LR LR
comp=Z,656nm,21.0s
113A Mohawk Valley, 91.75 55⇑P **P 17 33 44.8 +0.7**
baz=92
LSA Lhasa 91.83 301 P **P 17 33 45.0 -0.2**
LSA Lhasa 91.83 301 *e*P **P 17 33 44.9 -0.2**
LSA pmax pmax
comp=Z,22nm,1.2s
LSA MLR MLR
comp=Z,237nm,20.0s
LSA Lhasa 91.83 301 *e*P **P 17 33 44.9 -0.2**
comp=Z,22nm,1.2s
LSA LR LR
comp=Z,237nm,20.0s
NLWA Neilton Lookou 92.11 39 PFAKE 17 34 00.0 +15
NLWA LR LR
comp=Z,557nm,22.0s
214A Organ Pipe Nat 92.12 56⇑P **P 17 33 46.5 +0.6**
baz=92
PDMCI Parker Dam,Lak 92.15 54⇓P **P 17 33 46.4 +0.5**
baz=92,SNR=6.7
SHPR Sheep Range 92.39 51 *e*P **P 17 33 48.2 +1.0**
comp=Z,42nm,1.5s
Z14A Wintersburg 92.63 55⇑P **P 17 33 49.1 +1.0**
baz=93
W13A Hualapai Mount 92.69 53⇓P **P 17 33 49.3 +0.6**
baz=93,SNR=8.1
BMN Battle Mountai 92.77 47 PFAKE 17 34 00.0 +11
BMN LR LR
comp=Z,485nm,21.0s
WVOR Wild Horse Val 92.79 45 *e*P **P 17 33 49.6 +0.8**
WVOR pmax pmax
comp=Z,14nm,1.0s
WVOR MLR MLR
comp=Z,815nm,20.0s
WVOR Wild Horse Val 92.79 45 *e*P **P 17 33 49.6 +0.8**
comp=Z,14nm,1.0s
WVOR LR LR
comp=Z,815nm,20.0s
Y14A Wickenburg 92.83 54⇓P **P 17 33 50.0 +0.9**
baz=93
R11A Troy Canyon, C 92.93 49 *e*P **P 17 33 49.4 -0.3**
R11A Troy Canyon, C 92.93 49⇑P **P 17 33 50.4 +0.8**
baz=93
IM04 Indian Mountai 93.04 14 *e*P **P 17 33 48.7 -0.6**
WRAK Wrangell Islan 93.06 28 PFAKE 17 34 00.0 +11
WRAK LR LR
comp=Z,678nm,20.0s
IMA2 Indian Mountai 93.14 14 *e*P **P 17 33 49.5 -0.4**

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TAPN Taplejung          93.60 298 eP      P       17 33 53.4 +0.3
     comp=Z,35nm,0.9s
COLA College            93.61  17 eP      P       17 33 50.3 -1.5
COLA                              pmax    pmax
     comp=Z,87nm,1.2s
COLA                              MLR     MLR
     comp=Z,1µm,22.0s
COLA College            93.61  17 eP      P       17 33 50.3 -1.5
     comp=Z,87nm,1.2s
COLA                              LR      LR
     comp=Z,1µm,22.0s
ZAK  Zakamensk          93.61 324 eP      P       17 33 51.8 -0.5
ZAK                               pmax    pmax
     comp=Z,17nm,1.2s
DGAR Diego Garcia       93.66 260         PFAKE   17 34 00.0 +6.6
DGAR                              LR      LR
     comp=Z,515nm,19.0s
ODAN Odare              93.67 298 eP      P       17 33 53.7 +0.3
     comp=Z,60nm,0.9s
ILAR Eielson Array      93.78  17 P       P       17 33 51.2 -1.5
ILAR Eielson Array      93.78  17 P       P       17 33 51.2 -1.5
     comp=Z,5.6nm,0.8s,baz=232,slow=5.8,SNR=32
TUC  Tucson             93.82  57 eP      P       17 33 55.2 +1.4
TUC                               pmax    pmax
     comp=Z,12nm,1.0s
TUC                               MLR     MLR
     comp=Z,446nm,19.0s
TUC  Tucson             93.82  57 eP      P       17 33 55.1 +1.4
     comp=Z,12nm,1.0s
TUC                               LR      LR
     comp=Z,446nm,19.0s
IRK  Irkutsk            94.09 326 eP      P       17 33 53.1 -1.3
IRK                               pmax    pmax
     comp=Z,19nm,1.4s
TLY  Talaya             94.11 325 eP      P       17 33 54.3 -0.2
TLY                               pmax    pmax
     comp=Z,18nm,1.3s
TLY                               MLR     MLR
     comp=Z,211nm,20.0s
HAWA Hanford            94.15  41         PFAKE   17 34 10.0 +15
HAWA                              LR      LR
     comp=Z,852nm,22.0s
X16A Lo Mia Camp, P     94.21  54 ⇑P       P       17 33 56.7 +1.1
     baz=94
RAMN Ramite             94.35 297 eP      P       17 33 56.6 +0.1
U15A North Rim          94.43  52 ⇑P       P       17 33 58.0 +1.3
     baz=95
319A Douglas            94.60  58 ⇓P       P       17 33 58.5 +1.0
     baz=95
WUAZ Wupatki            94.72  53         PFAKE   17 34 10.0 +12
WUAZ                              LR      LR
     comp=Z,425nm,21.0s
WUAZ Wupatki            94.72  53 ⇑P       P       17 33 59.2 +1.2
     baz=95
BMO  Blue Mountains     94.79  43         PFAKE   17 34 10.0 +12
BMO                               LR      LR
     comp=Z,620nm,19.0s
COLD Coldfoot           94.89  15 eP      P       17 33 57.3 -0.5
     comp=Z,11nm,1.2s
JIRN Jiri               94.96 298 eP      P       17 33 59.6 +0.1
     comp=Z,20nm,0.8s
MFID Camas Ranch        95.07  45 ⇑P       P       17 34 00.9 +1.7
     baz=95
320A Kipp Ranch, An     95.17  58 ⇓P       P       17 34 01.3 +1.2
     baz=95
DLBC Dease Lake         95.28  27 LR       LR      18 11 08.5
     comp=Z,314nm,19.9s,baz=320,slow=32
GUN  Gumba              95.31 298 eP      P       17 34 01.2 +0.1
     comp=Z,18nm,0.8s
MVU  Marysvale          95.38  50         PFAKE   17 34 10.0 +9.0
MVU                               LR      LR
     comp=Z,723nm,20.0s
220A Playas Peak, P     95.40  58 ⇓P       P       17 34 02.2 +1.1
     baz=96
EGAK Eagle              95.43  19 eP      P       17 33 58.8 -1.4
     comp=Z,11nm,0.8s
EGAK                              LR      LR
     comp=Z,786nm,21.0s
MOY  Mondy              95.51 324 eP      P       17 34 01.5 +0.4
PKI  Pulchoki           95.57 297 eP      P       17 34 02.1 -0.1
     comp=Z,40nm,1.0s
120A U Bar Ranch, L     95.58  57 ⇑P       P       17 34 03.0 +1.1
     baz=96
DUG  Dugway             95.67  49         PFAKE   17 34 10.0 +7.8
DUG                               LR      LR
     comp=Z,512nm,22.0s
DUG  Dugway             95.67  49 ⇓P       P       17 34 02.9 +0.8
     baz=96
KKN  Kakani             95.76 298 eP      P       17 34 03.1 +0.2
     comp=Z,33nm,0.8s
DMN  Daman              95.83 297 eP      P       17 34 03.5 +0.2
     comp=Z,57nm,1.0s
Z20A Nine Sixteen R     95.84  57 ⇓P       P       17 34 03.9 +0.9
     baz=96
HLID Hailey             96.06  45 eP      P       17 34 03.5 -0.3
     comp=Z,2.5nm,0.8s
HLID                              LR      LR
     comp=Z,450nm,20.0s
HLID Hailey             96.06  45 ⇑P       P       17 34 05.0 +1.2
     baz=96
121A Cookes Peak, D     96.23  57 ⇓P       P       17 34 06.0 +1.0
     baz=96
GKN  Gorkha             96.36 298 eP      P       17 34 05.3 -0.3
     comp=Z,26nm,0.9s
NEW  Newport            96.48  40         LR      18 11 30.7
     comp=Z,237nm,19.9s,baz=332,slow=32
NEW  Newport            96.48  40 ⇑P       P       17 34 06.7 +1.2
     baz=97
V20A Brimhall           97.00  54 ⇑P       P       17 34 08.1 -0.3
     baz=97
KOLN Koldanda           97.12 297 eP      P       17 34 08.6 -0.5
     comp=Z,11nm,0.8s
HWUT Hardware Ranch     97.13  48         PFAKE   17 34 20.0 +11
HWUT                              LR      LR
     comp=Z,732nm,19.0s
Z22A Elephant Butte     97.15  57 ⇑P       Pdif    17 34 09.8 +0.7
     baz=97
DANN Dangsing           97.21 298 eP      P       17 34 08.9 -0.7
     comp=Z,24nm,0.9s
MVCO Mesa Verde         97.53  53         PFAKE   17 34 20.0 +9.2
MVCO                              LR      LR
     comp=Z,546nm,22.0s
324A Moseley Ranch,     97.61  59 ⇑P       Pdif    17 34 11.8 +0.5
     baz=98
425A Indio Mountain     97.76  60 ⇑P       Pdif    17 34 12.7 +0.8
     baz=98
MNTX Cornudas Mount     97.79  59         PFAKE   17 34 20.0 +8.2
MNTX                              LR      LR
     comp=Z,375nm,21.0s
224A Cornudas Mount     97.82  59 ⇓P       Pdif    17 34 13.1 +0.9
     baz=98
AHID Auburn Hatcher     97.92  47         PFAKE   17 34 20.0 +7.6
AHID                              LR      LR
     comp=Z,604nm,21.0s
626A Big Bend Ranch     97.98  61 ⇑P       Pdif    17 34 13.6 +0.8
     baz=98
124A Stringfield Ra     98.11  58 ⇓P       Pdif    17 34 14.2 +0.7
     baz=98
ANMO Albuquerque        98.18  56         PFAKE   17 34 30.0 +16
ANMO                              LR      LR
     comp=Z,378nm,19.0s
526A Mary Lane Ranc     98.21  61 ⇑Pdiff   Pdif    17 34 14.6 +0.7
     baz=98
TXAR Lajitas Array      98.28  62 P       Pdif    17 34 15.3 +1.1
TXAR Lajitas Array      98.28  62 P       Pdif    17 34 15.3 +1.1
     comp=Z,1.2nm,0.9s,baz=227,slow=5.0,SNR=6.5
426A McDonald Obser     98.48  60 ⇑Pdiff   Pdif    17 34 15.8 +0.7
     baz=99
627A Terlingua Ranc     98.55  62 ⇓Pdiff   Pdif    17 34 16.3 +0.9
     baz=99
Y24A Capitan            98.58  57 ⇓Pdiff   Pdif    17 34 16.3 +0.8
     baz=99
527A Woodward Ranch     98.62  61 ⇓Pdiff   Pdif    17 34 16.5 +0.7
     baz=99
226B Tecolote Peak,     98.89  59 ⇓Pdiff   Pdif    17 34 18.0 +1.2
     baz=99
BW06 Boulder Array      98.96  47         PFAKE   17 34 30.0 +13
BW06                              LR      LR
     comp=Z,775nm,19.0s
PDAR Pinedale Array     98.96  47 P       Pdif    17 34 18.8 +1.7
PDAR Pinedale Array     98.96  47 P       Pdif    17 34 18.8 +1.7
     comp=Z,1.8nm,0.9s,baz=192,slow=2.9,SNR=7.0
S22A 4UR Ranch, Cre     98.96  53 ⇓Pdiff   Pdif    17 34 18.8 +1.5
     baz=99
628A Black Gap, Mar     98.97  62 ⇓Pdiff   Pdif    17 34 18.9 +1.7
     baz=99
PAYG Puerto Ayora       99.03  95         PFAKE   17 34 30.0 +12
PAYG                              LR      LR
     comp=Z,924nm,19.0s
427A Hayter Ranch,      99.05  60 ⇓Pdiff   Pdif    17 34 18.9 +1.3
     baz=99
LKWY Lake               99.10  45         PFAKE   17 34 30.0 +12
LKWY                              LR      LR
     comp=Z,712nm,21.0s
N20A Spence Gulch,      99.10  50 ⇓Pdiff   Pdif    17 34 19.6 +1.8
     baz=99
SDCO Great Sand Dun     99.94  53         PFAKE   17 34 30.0 +8.4
SDCO                              LR      LR
     comp=Z,360nm,22.0s
RLMT Red Lodge          100.06 45         PFAKE   17 34 30.0 +8.1
RLMT                              LR      LR
     comp=Z,388nm,20.0s
WMQ  Urumqi             100.10 313 eP     Pdif    17 34 21.0 -0.9
WMQ                               pP      pP      17 34 31.0 -1.5
WMQ                               sP      sP      17 34 36.0 -0.3
WMQ                               pmax    pmax
     comp=Z,7.0nm,1.1s
WMQ                               pmax    pmax
     comp=Z,61nm,4.1s
ISCO Idaho Springs      100.60 51         PFAKE   17 34 40.0 +15
ISCO                              LR      LR
     comp=Z,452nm,19.0s
U26A Atchley Ranch,     100.77 55 ⇓Pdiff   Pdif    17 34 25.3 +0.1
     baz=101
EGMT Eagleton           100.86 42         PFAKE   17 34 40.0 +15
EGMT                              LR      LR
     comp=Z,601nm,22.0s
R25A Fountain Ranch     100.98 53 ⇓Pdiff   Pdif    17 34 26.1 +0.1
     baz=101
T26A Comanche Natio     101.15 54 ⇑Pdiff   Pdif    17 34 27.2 +0.3
     baz=101
Q25A Bedland, Calha     101.28 53 ⇑Pdiff   Pdif    17 34 27.2 -0.2
     baz=101
JCT  Junction City      101.82 62         PFAKE   17 34 40.0 +10
JCT                               LR      LR
     comp=Z,369nm,20.0s
LCO  Las Campanas       102.20 129        PFAKE   17 34 40.0 +8.0
LCO                               LR      LR
     comp=Z,367nm,21.0s
TRQA Tornquist          102.25 141        PFAKE   17 34 40.0 +8.3
TRQA                              LR      LR
     comp=Z,509nm,22.0s
LAO  LASA Array         102.61 45         PFAKE   17 34 40.0 +7.0
LAO                               LR      LR
     comp=Z,392nm,22.0s
OGNE Ogallala           103.56 51         PFAKE   17 34 50.0 +13
OGNE                              LR      LR
     comp=Z,546nm,22.0s
WMOK Wichita Mounta     104.03 58         PFAKE   17 34 50.0 +10
WMOK                              LR      LR
     comp=Z,410nm,20.0s
DGMT Dagmar             104.50 43         PFAKE   17 34 50.0 +8.7
DGMT                              LR      LR
     comp=Z,790nm,22.0s
MKAR Makanchi Array     104.70 315        P       Pdif    17 34 42.6 +0.4
MKAR Makanchi Array     104.70 315        Pdif    Pdif    17 34 42.6 +0.4
MKAR                              PKiKP   PKiKP   17 38 56.3 -1.4
MKAR                              PKKPbc  PKKPbc  17 50 25.9 -1.7
MKAR                              PKKP    PKKPdf  17 50 35.3 -2.6
MKAR Makanchi Array     104.70 315        Pdiff   Pdif    17 34 42.6 +0.4
     comp=Z,1.9nm,0.8s,baz=100,slow=6.8,SNR=13
MKAR                              PKiKP   PKiKP   17 38 56.3 -1.4
     comp=Z,2.3nm,0.9s,baz=72,slow=4.0,SNR=4.2
MKAR                              PKKPbc  PKKPbc  17 50 25.9 -1.7
     comp=Z,1.4nm,0.8s,baz=290,slow=3.6,SNR=7.7
MKAR                              PKKP    PKKPdf  17 50 35.3 -2.6
     comp=Z,1.2nm,0.7s,baz=296,slow=3.2,SNR=7.9
ZALV Zalesovo Beam      105.38 322        P       Pdif    17 34 44.5 -0.5
ZALV Zalesovo Beam      105.38 322        Pdif    Pdif    17 34 44.5 -0.5
ZALV Zalesovo Beam      105.38 322        Pdiff   Pdif    17 34 44.5 -0.5
     comp=Z,0.8nm,0.6s,baz=115,slow=4.2,SNR=4.1
NATX Nacogdoches        106.41 62         PFAKE   17 39 10.0
NATX                              LR      LR
     comp=Z,495nm,20.0s
KSU1 Kansas State U     106.98 54         PFAKE   17 39 10.0
KSU1                              LR      LR
     comp=Z,448nm,22.0s
KSH  Kashi              107.00 306 ePdif  Pdif    17 34 54.8 +2.1
KSH                               PP      PP      17 39 25.5 +5.8
KSH                               S       SKKSac  17 46 51.5 +30
KSH                               SS      SS      17 54 27.8 +3.2
KSH                               LR      LR
     comp=N,140nm,5.3s
KSH                               LR      LR
     comp=E,130nm,5.3s
KSH                               LR      LR
     comp=Z,120nm,9.5s
LVC  Limon Verde        107.17 124        PFAKE   17 39 20.0
LVC                               LR      LR
     comp=Z,452nm,22.0s
TGUH Tegucigalpa,Un     107.27 82         PFAKE   17 39 20.0
TGUH                              LR      LR
     comp=Z,293nm,20.0s
FFC  Flin Flon          107.62 37         PFAKE   17 39 10.0
FFC                               LR      LR
     comp=Z,252nm,22.0s
JTS  JuntasAbangare     108.08 86         PFAKE   17 39 20.0
JTS                               LR      LR
     comp=Z,833nm,21.0s
KURK Kurchatov          108.13 318        PFAKE   17 39 20.0
KURK                              LR      LR
     comp=Z,185nm,22.0s
TKM2 Tokmak 2           108.18 310        PFAKE   17 39 20.0
TKM2                              LR      LR
     comp=Z,253nm,22.0s
ECSD EROS Data Cent     108.21 50         PFAKE   17 39 20.0
ECSD                              LR      LR
     comp=Z,443nm,19.0s
TEIG Tepich             108.39 75         PFAKE   17 39 20.0
TEIG                              LR      LR
     comp=Z,261nm,20.0s
AAK  Ala-Archa          108.89 309        PFAKE   17 39 20.0
AAK                               LR      LR
     comp=Z,208nm,21.0s
EKS2 Erkin-Say          109.41 309        PFAKE   17 39 20.0
EKS2                              LR      LR
     comp=Z,195nm,21.0s
AGMN Agassiz Nation     109.80 45         PFAKE   17 39 20.0
AGMN                              LR      LR
     comp=Z,751nm,22.0s
VBMS Vicksburg          109.92 63         PFAKE   17 39 20.0
VBMS                              LR      LR
     comp=Z,358nm,21.0s
MSEY Mahe Island        110.10 256        PFAKE   17 39 20.0
MSEY                              LR      LR
     comp=Z,512nm,20.0s
SCIA State Center       110.20 52         PFAKE   17 39 20.0
SCIA                              LR      LR
     comp=Z,374nm,20.0s
OTAV Otavalo            110.22 99         PFAKE   17 39 20.0
OTAV                              LR      LR
     comp=Z,231nm,22.0s
OXF  Oxford             111.39 61         PFAKE   17 39 20.0
OXF                               LR      LR
     comp=Z,429nm,21.0s
KKAR Karatay Array      111.85 309 ePKIKP PKiKP   17 39 10.9 -0.3
KKAR Karatay Array      111.85 309 eP     PKiKP   17 39 10.9 -0.3
BCIP Isla Barro Col     112.39 89         PFAKE   17 39 20.0
BCIP                              LR      LR
     comp=Z,286nm,21.0s
BRAL Brewton            112.47 65         PFAKE   17 39 20.0
BRAL                              LR      LR
     comp=Z,401nm,22.0s
JFWS Jewell Farm        112.56 52         PFAKE   17 39 20.0
JFWS                              LR      LR
     comp=Z,383nm,21.0s
EYMN Ely                112.60 46         PFAKE   17 39 20.0
EYMN                              LR      LR
     comp=Z,452nm,21.0s
HDIL Hopedale           112.80 54         PFAKE   17 39 20.0
HDIL                              LR      LR
     comp=Z,529nm,21.0s
LRAL Lakeview Retre     113.00 63         PFAKE   17 39 30.0
LRAL                              LR      LR
     comp=Z,252nm,20.0s
BRVK Borovoye           113.64 319        PFAKE   17 39 30.0
BRVK                              LR      LR
     comp=Z,230nm,20.0s
COWI Conover            113.89 48         PFAKE   17 39 30.0
COWI                              LR      LR
     comp=Z,622nm,21.0s
MTDJ Mount Denham       117.46 81         PFAKE   17 39 30.0 +7.3
MTDJ                              LR      LR
     comp=Z,292nm,22.0s
ACSO Alum Creek Sta     117.50 55         PFAKE   17 39 30.0 +8.0
ACSO                              LR      LR
     comp=Z,558nm,21.0s
IMYA Miami              118.58 300 eP     PKPdf   17 39 23.0 -1.5
BLA  Blacksburg         119.07 59         PFAKE   17 39 40.0 +15
BLA                               LR      LR
     comp=Z,515nm,21.0s
SAML Samuel             119.33 115        PFAKE   17 39 40.0 +14
SAML                              LR      LR
     comp=Z,257nm,20.0s
MCWV Mont Chateau       119.82 56         PFAKE   17 39 40.0 +13
MCWV                              LR      LR
     comp=Z,553nm,20.0s
ABKAR Akbulak array     119.84 315 eP     PKPdf   17 39 25.7 -0.5
IKRD Kardeh             119.91 300 eP     PKPdf   17 39 26.0 -1.1
ERPA Erie               119.95  54         PFAKE   17 39 40.0 +13
ERPA                              LR      LR
     comp=Z,592nm,21.0s
GTBY Guantanamo Bay     120.13  80         PFAKE   17 39 40.0 +12
GTBY                              LR      LR
     comp=Z,383nm,20.0s
ARU  Arti               120.53 323 i PKIKP PKPdf  17 39 26.4 -0.9
ARU                                         17 40 51.5
ARU                                         17 46 20.1
ARU                               SS      SS      17 57 14.1 -7.9
CNNC Cliffs of the      120.82  62         PFAKE   17 39 40.0 +11
CNNC                              LR      LR
     comp=Z,218nm,20.0s
SOKR Solikamsk          121.16 327⇑i PKIKP PKPdf  17 39 28.8 +0.4
SOKR                              pmax    pmax
     comp=Z,20nm,0.9s
SPB  Sao Paulo          121.27 140         PFAKE   17 39 40.0 +10
SPB                               LR      LR
     comp=Z,418nm,19.0s
IBAF Bafgh              121.57 294 eP     PKPdf   17 39 29.6 -0.8
CBN  Corbin             121.58  58         PFAKE   17 39 40.0 +10
CBN                               LR      LR
     comp=Z,530nm,21.0s
BINY Binghamton         122.93  54         PFAKE   17 39 40.0 +7.5
BINY                              LR      LR
     comp=Z,712nm,20.0s
KBS  Kingsbay           123.18 355         PFAKE   17 39 40.0 +8.1
KBS                               LR      LR
     comp=Z,394nm,19.0s
ISRV Sarvestan          123.30 291 eP     PKPdf   17 39 33.5 -0.4
SDDR Presa de Saban     123.36  82         PFAKE   17 39 50.0 +16
SDDR                              LR      LR
     comp=Z,247nm,20.0s
IPAR Pars               123.43 291 eP     PKPdf   17 39 34.5 +0.3
IKIA Kiasar             123.71 299 eP     PKPdf   17 39 34.5 +0.1
LONY Lake Ozonia        124.00  51         PFAKE   17 39 50.0 +16
LONY                              LR      LR
     comp=Z,451nm,22.0s
GRTK Grand Turk         124.14  79         PFAKE   17 39 50.0 +15
GRTK                              LR      LR
     comp=Z,342nm,20.0s
NCB  Newcomb            124.26  52         PFAKE   17 39 50.0 +15
NCB                               LR      LR
     comp=Z,514nm,21.0s
ISFB Sefidab            124.70 297 eP     PKPdf   17 39 36.5 +0.3
IPRN Peran              124.80 299 eP     PKPdf   17 39 36.4  0.0
IKLH Kolahrood          125.14 295 eP     PKPdf   17 39 36.2 -1.1
IVRN Varamin            125.19 297 eP     PKPdf   17 39 36.2 -0.9
IPIR Pirpir             125.64 294 eP     PKPdf   17 39 36.8 -1.5
LBNH Lisbon             125.91  51         PFAKE   17 39 50.0 +12
LBNH                              LR      LR
     comp=Z,555nm,20.0s
LSZ  Lusaka             126.35 228         PFAKE   17 39 50.0 +10
LSZ                               LR      LR
     comp=Z,444nm,20.0s
IRAZ Razeghan           126.69 298 eP     PKPdf   17 39 39.7 -0.4
BDFB Brasilia           126.74 133         PKP     PKPdf   17 39 40.3 -0.4
BDFB Brasilia           126.74 133         PKP     PKPdf   17 39 40.3 -0.4
     comp=Z,11nm,0.9s,baz=222,slow=2.9,SNR=9.4
QRN  Al-Qurain          127.69 289 eP     PKPdf   17 39 42.6 +0.7
QRN                               AMb     AMB     17 39 43.4
     comp=Z,89nm,0.9s
PKME Peaks-Kenny Pk     127.73  50         PFAKE   17 39 50.0 +8.5
PKME                              LR      LR
     comp=Z,447nm,19.0s
SCHQ Schefferville      127.77  38         PKP     PKPdf   17 39 41.4  0.0
SCHQ Schefferville      127.77  38         PKP     PKPdf   17 39 41.4  0.0
     comp=Z,6.6nm,0.9s,baz=288,slow=3.2,SNR=3.3
KMBO Kilima Mbogo       127.79 249 ePKPdf PKPdf   17 39 43.9 +1.0
KMBO                              PKP     PKPdf   17 39 44.1 +1.2
KMBO                              LR      LR
     comp=Z,366nm,21.0s
KMBO Kilima Mbogo       127.79 249         PKP     PKPdf   17 39 44.1 +1.2
     comp=Z,3.8nm,1.1s,baz=39,slow=23,SNR=4.6
SJG  San Juan           127.82  84 ePKPdf PKPdf   17 39 41.9 -0.5
SJG                               PKP     PKPdf   17 39 42.1 -0.4
SJG                               LR      LR
     comp=Z,209nm,20.0s
SJG  San Juan           127.82  84         PKP     PKPdf   17 39 42.1 -0.4
     comp=Z,17nm,0.3s,baz=322,slow=18,SNR=5.4
APA  Apatity            127.96 340 ⇓i PKIKP PKPpre  17 39 31.8
APA                               MLR     MLR
     comp=Z,900nm,17.0s
RDF  Al-Radifah         128.04 289 eP     PKPdf   17 39 43.2 +0.6
RDF                               AMb     AMB     17 39 44.6
     comp=Z,55nm,1.1s
SUMG Summit             128.07  10 ePKIKP PKPdf   17 39 41.9  0.0
SUMG Summit             128.07  10 ePKPdf PKPdf   17 39 41.9  0.0
KEV  Kevo               128.33 344         PFAKE   17 39 50.0 +8.1
KEV                               LR      LR
     comp=Z,578nm,19.0s
NAY  Al-Naaiem          128.35 290 eP     PKPdf   17 39 43.3 +0.1
NAY                               AMb     AMB     17 39 44.4
     comp=Z,21nm,1.2s
RST  Umm Al-Ruwaisa     128.59 290 eP     PKPdf   17 39 43.7  0.0
ARCES ARCESS Array B    128.86 345         PKP     PKPdf   17 39 42.7 -0.2
ARCES ARCESS Array B    128.86 345         PKP     PKPdf   17 39 42.7 -0.2
     comp=Z,13nm,0.8s,baz=2,9,slow=2.4,SNR=18
KLMR Klimovskoe         129.07 331 ePKIKP PKPdf   17 39 42.9 -0.7
KLMR                              pmax    pmax
     comp=Z,40nm,1.6s
SFJD Kangerlussuaq      129.41  19         PFAKE   17 40 00.0 +16
SFJD                              LR      LR
     comp=Z,477nm,20.0s
TSUM Tsumeb             129.88 215         PFAKE   17 40 00.0 +13
TSUM                              LR      LR
     comp=Z,460nm,22.0s
GRGR Grenville          130.16  93         PFAKE   17 40 00.0 +13
GRGR                              LR      LR
     comp=Z,421nm,20.0s
GNI  Garni              130.84 304         PFAKE   17 40 00.0 +12
GNI                               LR      LR
     comp=Z,207nm,22.0s
BBSR BB Station         131.48  67         PFAKE   17 40 00.0 +11
BBSR                              LR      LR
     comp=Z,520nm,19.0s
ANWB Willy Bob          131.71  86         PFAKE   17 40 00.0 +10
ANWB                              LR      LR
     comp=Z,357nm,20.0s
KBZ  Khabaz             131.89 309         PKIKP   PKPdf   17 39 49.0 -0.5
KBZ  Khabaz             131.89 309         PKP     PKPdf   17 39 49.0 -0.5
KBZ  Khabaz             131.89 309         PKP     PKPdf   17 39 49.0 -0.5
     comp=Z,2.8nm,0.8s,baz=127,slow=3.5,SNR=3.8
KIV  Kislovodsk         132.01 309 i PKIKP PKPdf  17 39 51.0 +1.2
KIV                               pmax    pmax
     comp=Z,9.0nm,1.0s
BBGH Gun Hill           132.42  93         PFAKE   17 40 00.0 +8.7
BBGH                              LR      LR
     comp=Z,1µm,22.0s
OBN  Obninsk            132.86 325 ⇓i PKIKP PKPdf  17 39 52.2 +1.3
OBN                               e       17 40 06.1
OBN                               pmax    pmax
     comp=Z,19nm,1.7s
MBAR Mbarara            133.59 245         PFAKE   17 40 10.0 +16
MBAR                              LR      LR
     comp=Z,618nm,22.0s
FINES FINESS Array B    134.25 337         PKP     PKPdf   17 39 53.3 -0.1
FINES FINESS Array B    134.25 337         PKP     PKPdf   17 39 53.3 -0.1
     comp=Z,6.1nm,0.8s,baz=126,slow=13,SNR=9.2
AKASG Malin Array Be    138.77 322         PKIKP   PKPpre  17 39 56.9
AKASG                                       17 40 02.1
AKASG Malin Array Be    138.77 322         PKPpre  PKPpre  17 39 56.9
AKASG                              PKP     PKPdf   17 40 02.1 +0.1
AKASG Malin Array Be    138.77 322         PKhKP   PKPpre  17 39 56.9
     comp=Z,7.1nm,0.9s,baz=63,slow=2.6,SNR=8.0
AKASG                              PKP     PKPdf   17 40 02.1 +0.1
     comp=Z,7.0nm,0.9s,baz=53,slow=3.3,SNR=12
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KIEV Kiev 138.78 322 *e*PKIKP **PKPdf 17 39 59.3 -2.8**
KIEV MLR MLR
comp=Z,332nm,19.0s
KIEV Kiev 138.78 322 *e*PKPdf **PKPdf 17 39 59.3 -2.8**
KIEV LR LR
comp=Z,332nm,19.0s
NB2 NORSAR Subarra139.23 344 PKPdf PKPpre 17 39 57.2
comp=Z,6.3nm,0.9s,baz=6.6,slow=1.8
NB2 NORSAR Subarra139.23 344 PKPdf PKPpre 17 39 57.2
baz=6.6,slow=1.8
NOA NORSAR Array B139.23 344 PKP **PKPdf 17 40 04.2 +1.6**
NOA NORSAR Array B139.23 344 PKP **PKPdf 17 40 04.2 +1.6**
comp=Z,3.5nm,0.8s,baz=33,slow=2.0,SNR=7.6
BRTR Keskin Array B 139.36 305 PKPpre PKPpre 17 39 54.2
BRTR PKP **PKPdf 17 40 04.5 +0.7**
BRTR PP **PP 17 43 00.7 +2.5**
BRTR Keskin Array B 139.36 305 PKhKP PKPpre 17 39 54.2
comp=Z,0.9nm,0.8s,baz=29,slow=2.8,SNR=3.6
BRTR PKP **PKPdf 17 40 04.5 +0.7**
comp=Z,3.1nm,0.9s,baz=84,slow=3.4,SNR=5.0
BRTR PP **PP 17 43 00.7 +2.5**
comp=Z,2.1nm,1.0s,baz=124,slow=3.7,SNR=4.6
ANTO Ankara 139.97 305 PFAKE 17 40 20.0 +15
ANTO LR LR
comp=Z,171nm,21.0s
CSS Prodhromos 140.27 297 *e*PKPdf **PKPdf 17 40 07.7 +2.4**
CSS LR LR
comp=Z,147nm,20.0s
KIS Kishinev 140.59 317 *e*P **PKPdf 17 40 06.0 +0.5**
KIS Kishinev 140.59 317 *e*PKIKP **PKPdf 17 40 06.0 +0.5**
KONO Kongsberg 140.84 344 PFAKE 17 40 20.0 +14
KONO LR LR
comp=Z,494nm,19.0s
CFR Carcaliu 141.74 315 ⇑PKIKP **PKPdf 17 40 03.2 -4.4**
CFR Carcaliu 141.74 315 ⇑*i*P **PKPdf 17 40 03.2 -4.4**
RCBR Riachuelo 141.95 136 PFAKE 17 40 20.0 +11
RCBR LR LR
comp=Z,228nm,21.0s
TLB Topalu 142.02 314 ⇑PKIKP **PKPdf 17 40 08.6 +0.5**
TLB Topalu 142.02 314 ⇑*i*P **PKPdf 17 40 08.6 +0.5**
ISP Isparta 142.11 302 PFAKE 17 40 20.0 +11
ISP LR LR
comp=Z,229nm,22.0s
TESR Tescani 142.15 317 ⇑*i*P **PKPdf 17 40 03.3 -5.1**
VRI Vrincioaia 142.38 316 ⇓PKIKP **PKPdf 17 40 06.3 -2.5**
VRI Vrincioaia 142.38 316 ⇓*i*P **PKPdf 17 40 06.3 -2.5**
BUR08 Bucovina Ar. S 142.53 320 *e*PKPdf **PKPdf 17 40 08.1 -1.0**
BURAR Bucovina Array 142.53 320 ⇑PKIKP **PKPdf 17 40 06.7 -2.4**
BURAR Bucovina Array 142.53 320 ⇑*i*P **PKPdf 17 40 06.7 -2.4**
KWP Kalwaria Pacla 142.93 324 PFAKE 17 40 20.0 +10
KWP LR LR
comp=Z,471nm,19.0s
MLR Muntele Rosu 143.03 316 ⇓*i*P PKPbc 17 40 07.8 +0.8
ARCR ARCALIA 143.30 319 ⇓*i*P **PKPdf 17 40 08.9 -1.5**
BMR Baia Mare 143.52 321 ⇑PKIKP PKPbc 17 40 08.3 +0.2
BMR Baia Mare 143.52 321 ⇑*i*P PKPbc 17 40 08.3 +0.2
KOLS Kolonicke sedl 143.55 323 *e*PKIKP **PKPdf 17 40 09.5 -1.3**
KOLS Kolonicke sedl 143.55 323 *e*PKP **PKPdf 17 40 09.5 -1.3**
VOIR 143.62 317 ⇑PKIKP PKPbc 17 40 09.6 +1.0
VOIR 143.62 317 ⇑*i*P PKPbc 17 40 09.6 +1.0
UZH Uzhgorod 143.70 323 *d*PKIKP **PKPdf 17 40 09.8 -1.2**
UZH *e* 17 40 25.6
TRPA Tarpa 143.83 322 ⇑*i*P PKPbc 17 40 09.3 +0.4
STHS Stebnicka Huta 143.84 325 *e*PKIKP **PKPdf 17 40 10.4 -0.9**
STHS Stebnicka Huta 143.84 325 *e*PKP **PKPdf 17 40 10.4 -0.9**
ARR Arges 143.92 317 ⇓*i*P **PKPdf 17 40 10.8 -0.8**
SZH Strazhica 143.93 313 *i* P PKPbc 17 40 09.7 +0.3
CRVS Cervenica-Dubn 144.01 324 *e*PKIKP **PKPdf 17 40 11.0 -0.6**
CRVS Cervenica-Dubn 144.01 324 *e*PKP **PKPdf 17 40 11.0 -0.6**
HUMR Humele 144.06 315 ⇑*i*P PKPbc 17 40 10.1 +0.3
OJC Ojcow 144.11 327 *e*PKIKP **PKPdf 17 40 11.6 -0.1**
OJC Ojcow 144.11 327 *e*PKPdf **PKPdf 17 40 11.6 -0.1**
NIE Niedzica 144.33 325 *e*PKIKP **PKPdf 17 40 12.2 +0.1**
NIE Niedzica 144.33 325 *e*PKPdf **PKPdf 17 40 12.2 +0.1**
PVL Pavlikeni 144.35 313 *i* P **PKPdf 17 40 11.5 -0.8**
DRGR 144.43 320 ⇑PKIKP **PKPdf 17 40 11.9 -0.5**
DRGR 144.43 320 ⇑*i*P **PKPdf 17 40 11.9 -0.5**
LOT Lotru 144.43 317 ⇑*i*P **PKPdf 17 40 11.8 -0.7**
DIM Dimitrovgrad 144.65 311 *i* P **PKPdf 17 40 12.3 -0.6**
ALN Alexandroupoli 144.68 309 *e*P **PKPab 17 40 11.5 -0.2**
KECS Kecovo 144.78 324 *e*PKIKP **PKPdf 17 40 13.2 +0.3**
KECS Kecovo 144.78 324 *e*PKP **PKPdf 17 40 13.2 +0.3**
NIS1 Nisyros Isl. 144.97 301 *e*P PKPbc 17 40 13.0 0.0
SMG Samos 144.99 303 *e*P **PKPab 17 40 13.0 0.0**
GZR Gura Zlata 145.07 318 ⇑PKIKP **PKPdf 17 40 13.8 +0.2**
GZR Gura Zlata 145.07 318 ⇑*i*P **PKPdf 17 40 13.8 +0.2**
MCD Coleburn Disti 145.15 353 *e*P **PKPbc 17 40 11.6 -1.2**
OKC Ostrava-Krasne 145.18 327 *e*PKIKP **PKPbc 17 40 12.7 -0.5**
OKC *e* 17 40 14.2
OKC *e* 17 40 21.4
OKC Ostrava-Krasne 145.18 327 *e*PKP **PKPbc 17 40 12.7 -0.5**
OKC *ex* x 17 40 14.2
OKC *ep*PKP **pPKPdf 17 40 21.4 -3.0**
SMTH Samothraki Isl 145.19 308 *e*P **PKPbc 17 40 13.5 0.0**
KARP Karpathos 145.19 299 *e*P **PKPdf 17 40 14.0 -0.1**
PLD Plovdiv 145.20 311 *i* P **PKPab 17 40 13.6 0.0**
SIRR Siria 145.32 320 ⇑*i*P **PKPdf 17 40 14.5 +0.6**
RUE Ruedersdorf 145.32 334 *e*PKPdf **PKPdf 17 40 14.5 +0.8**
RZN Rozhen 145.35 311 *i* P **PKPab 17 40 14.4 0.0**
MPEP Malo Peshtene 145.36 314 *i* P **PKPab 17 40 14.9 +0.7**
MME1 Meikle Cairn 145.38 353 ⇓*e*P **PKPbc 17 40 12.2 -1.4**
PGB Panagyurishte 145.40 312 *i* P **PKPab 17 40 14.6 +0.2**
MDO Dochfour 145.41 354 *e*P **PKPbc 17 40 12.0 -1.6**
KSP Ksiaz 145.41 330 ⇓*i*PKIKP **PKPab 17 40 14.7 +0.7**
KSP *e* 17 40 23.8
KSP Ksiaz 145.41 330 *e*PKP **PKPab 17 40 14.8 +0.7**
CHOS Chios island 145.41 305 *e*P **PKPab 17 40 14.5 -0.1**
KAC Achnashellach 145.43 355 ⇓*e*P **PKPbc 17 40 13.2 -0.5**
PSZ Piszkesteto 145.43 323 ⇑PKIKP **PKPab 17 40 14.3 -0.1**
PSZ Piszkesteto 145.43 323 *e*PKPdf **PKPdf 17 40 14.2 0.0**
PSZ LR LR
comp=Z,317nm,22.0s
PSZ Piszkesteto 145.43 323 ⇑*i*P **PKPab 17 40 14.3 -0.1**
PSZ Piszkesteto 145.43 323 ⇓*e*PKPbc **PKPab 17 40 14.9 +0.5**
BSEG Bad Segeberg 145.47 338 *e*PKPbc **PKPab 17 40 14.5 +0.4**
BSEG *ep*PKPbc pPKPbc 17 40 24.1 -0.7
MORC Moravsky Berou 145.52 328 ⇑PKIKP **PKPbc 17 40 14.2 -0.1**
MORC Moravsky Berou 145.52 328 *e*PKPdf **PKPdf 17 40 13.2 -1.0**
MORC Moravsky Berou 145.52 328 ⇑*i*P **PKPdf 17 40 14.1 -0.1**
KPL Plockton 145.61 355 *e*P **PKPdf 17 40 14.0 0.0**
LIA Limnos Island 145.62 308 *e*P **PKPab 17 40 15.0 -0.2**
BZS Buzias 145.67 319 ⇑PKP2 **PKPbc 17 40 14.8 -0.1**
BZS Buzias 145.67 319 ⇑*i*P **PKPbc 17 40 14.8 -0.1**
KRLC Kraliky 145.69 329 *e*PKP2 **PKPab 17 40 15.0 -0.2**
KRLC Kraliky 145.69 329 *e*PKP **PKPab 17 40 15.0 -0.2**
KRLC *ex* x 17 40 21.8
KRLC *ep*PKP **pPKPdf 17 40 24.1 -1.3**
DRUM Mains of Drumt 145.72 352 ⇓*e*P **PKPdf 17 40 13.8 -0.5**
DPC Dobruska-Polom 145.73 329 *e*PKP2 **PKPab 17 40 15.1 -0.2**
DPC Dobruska-Polom 145.73 329 *e*PKP **PKPab 17 40 15.1 -0.2**
DPC *i* x x 17 40 16.0
UPC Upice 145.77 330 *e*PKP2 **PKPab 17 40 15.3 -0.1**
UPC Upice 145.77 330 *e*PKP **PKPab 17 40 15.3 -0.1**
UPC *ep*PKP **pPKPdf 17 40 23.9 -1.5**
ZKR Zakros 146.03 299 *e*P **PKPbc 17 40 16.5 +0.2**
VTS Vitosha 146.03 313 ⇑PKP2 **PKPdf 17 40 15.7 +0.3**
VTS Vitosha 146.03 313 ⇑*i*P **PKPdf 17 40 15.7 +0.3**
VTS Vitosha 146.03 313 *i* P **PKPdf 17 40 15.8 +0.3**
NVR Nevrokopi 146.07 311 *e*P **PKPbc 17 40 16.5 +0.2**
MMB Musomiste 146.07 311 *i* P **PKPbc 17 40 16.3 0.0**
APE Apeiranthos 146.15 303 ⇓PKP2 **PKPdf 17 40 16.0 +0.3**
APE Apeiranthos 146.15 303 *e*P **PKPdf 17 40 15.5 -0.2**
APE Apeiranthos 146.15 303 ⇓*i*P **PKPdf 17 40 16.0 +0.3**
VRAC Vranov 146.29 328 ⇓*i*P **PKPab 17 40 17.9 +0.4**
PKS7 Kunszentmiklos 146.34 323 ⇓*e*PKPdf **PKPab 17 40 17.7 0.0**
SANT Santorini 146.37 301 *e*P **PKPdf 17 40 16.0 -0.1**
SANT Santorini 146.37 301 *e*PKPdf **PKPdf 17 40 15.6 -0.4**
SANT LR LR
comp=Z,150nm,19.0s
SMOL Smolenice 146.39 326 *e*PKP2 **PKPab 17 40 18.2 +0.4**
SMOL Smolenice 146.39 326 *e*PKP **PKPab 17 40 18.2 +0.4**
KKB Krupnik 146.41 312 *i* P **PKPbc 17 40 17.4 +0.1**
PVCC Panska Ves 146.41 331 *e*PKP2 **PKPbc 17 40 17.0 0.0**
PVCC Panska Ves 146.41 331 *e*PKP **PKPbc 17 40 17.0 0.0**
PVCC *ex* x 17 40 18.0
BRG Berggiesshubel 146.44 332 *e*PKPbc **PKPab 17 40 17.7 -0.2**
NPS Neapolis 146.49 299 *e*P **PKPab 17 40 18.5 -0.2**
CLL Collm 146.52 333 *e*PKPbc **PKPab 17 40 17.7 -0.5**
CLL Collm 146.52 333 ⇓*i*PKP2 **PKPbc 17 40 17.5 +0.3**
CLL pmax pmax
comp=Z,62nm,1.0s

CLL Collm 146.52 333 ⇓*i*PKPbc **PKPbc 17 40 17.5 +0.3**
comp=Z,62nm,1.0s
CLL *ep*PKPdf **pPKPdf 17 40 26.0 -0.6**
CLL *ep*PKPbc pPKPbc 17 40 28.0 0.0
CLL *es*PKiKP sPKiKP 17 40 34.0 -0.7
CLL *e* 17 40 46.0
PKSG 146.56 324 ⇑*e*PKPdf **PKPab 17 40 18.2 -0.3**
LAST Lasithi 146.61 299 *e*P **PKPab 17 40 19.0 -0.3**
PKS2 Kecel 146.62 322 ⇓*e*PKPdf **PKPab 17 40 18.7 -0.1**
EAB Aberfoyle 146.64 354 ⇓*e*P **PKPbc 17 40 17.0 -0.4**
PAIG Paliouri 146.71 308 *e*P **PKPbc 17 40 17.5 -0.6**
ESY Stoneypath 146.71 352 ⇓*e*P **PKPbc 17 40 17.3 -0.4**
NRDL Niedersach Rie 146.71 337 *e*PKPbc **PKPab 17 40 18.4 -0.4**
NRDL *ep*PKPbc pPKPbc 17 40 27.5 -0.9
PLG Polygyros 146.72 309 *e*P **PKPbc 17 40 17.5 -0.7**
ZST Bratislava 146.76 326 *e*PKP2 **PKPab 17 40 18.8 -0.5**
ZST Bratislava 146.76 326 *e*PKP **PKPab 17 40 18.8 -0.5**
PRA Prague 146.80 330 PKP **PKPdf 17 40 17.0 +0.7**
PRU Pruhonice 146.81 330 *e*PKIKP **PKPdf 17 40 16.6 +0.3**
PRU *i* 17 40 18.6
PRU *e* 17 40 26.1
PRU Pruhonice 146.81 330 *e*PKP **PKPdf 17 40 16.6 +0.3**
PRU *i* x x 17 40 18.6
PRU *ep*PKP **pPKPdf 17 40 26.1 -1.1**
AOS Alonnisos 146.81 307 *e*P **PKPbc 17 40 18.0 -0.5**
PKST T^^s 146.84 324 ⇑*e*PKPdf **PKPbc 17 40 18.8 +0.5**
TREC Trest 146.84 329 *e*PKP2 **PKPbc 17 40 17.6 -0.7**
TREC Trest 146.84 329 *e*PKP **PKPbc 17 40 17.6 -0.7**
TREC *ex* x 17 40 19.1
EBL Broad Law 146.91 352 ⇓*e*P **PKPbc 17 40 18.0 -0.2**
VAY Valandovo 146.98 311 *i* PKP **PKPdf 17 40 17.5 +0.7**
IDI Anoyia 147.06 300 *e*P **PKPbc 17 40 19.0 -0.4**
IDI Anoyia 147.06 300 *e*PKPdf **PKPdf 17 40 17.2 0.0**
PKS9 Tamasi 147.10 322 ⇓*e*PKPdf **PKPbc 17 40 19.1 +0.1**
CLZ Clausthal 147.14 336 *e*PKPbc **PKPbc 17 40 19.8 +0.7**
PTL Penteli 147.17 305 *e*P **PKPbc 17 40 19.0 -0.6**
SIVA Sivas 147.18 299 *e*P **PKPbc 17 40 20.0 +0.4**
ATH Athens Observa 147.30 305 *e*P **PKPbc 17 40 19.5 -0.4**
ESK Eskdalemuir 147.37 352 ⇓*e*P **PKPbc 17 40 18.9 -0.6**
ESK Eskdalemuir 147.37 352 *e*PKP2 **PKPbc 17 40 19.2 -0.3**
ESK MLR MLR
comp=Z,420nm,19.0s
ESK Eskdalemuir 147.37 352 *e*PKPbc **PKPbc 17 40 19.2 -0.3**
ESK LR LR
comp=Z,420nm,19.0s
TANN Tannenbergstha 147.41 333 *e*PKPbc **PKPbc 17 40 20.5 +0.6**
SKO Skopje 147.48 313 *i* PKP **PKPab 17 40 22.4 0.0**
ECK Cauldkaine Hil 147.50 352 *e*P **PKPbc 17 40 19.3 -0.6**
LIT Litokhoron 147.50 309 *e*P **PKPbc 17 40 20.0 -0.4**
NAIG Nisos Aigina 147.53 305 *e*P **PKPbc 17 40 19.5 -1.1**
CONA Conrad Observa 147.57 326 *i* PKPab **PKPbc 17 40 21.1 +0.7**
comp=Z,42nm,0.9s,SNR=23
VAM Vamos 147.59 300 *e*P **PKPbc 17 40 21.5 +0.7**
MOX Moxa 147.59 334 *e*PKPbc **PKPbc 17 40 20.6 +0.3**
IBBN Ibbenburen 147.68 339 *e*PKPbc **PKPbc 17 40 20.9 +0.5**
IBBN *ep*PKPbc **pPKPbc 17 40 30.6 -0.6**
GVD Gavdhos 147.80 299 *e*P **PKPbc 17 40 21.5 +0.1**
GVD Gavdhos 147.80 299 *e*PKPbc **PKPbc 17 40 21.4 +0.1**
DID Didima 147.80 304 *e*P **PKPbc 17 40 20.0 -1.3**
LTK Loutraki 147.85 305 *e*P **PKPbc 17 40 20.5 -0.9**
KHC Kasperske Hory 147.86 330 *e*PKIKP **PKPdf 17 40 18.1 0.0**
KHC *i* 17 40 21.7
KHC *e* 17 40 27.3
KHC Kasperske Hory 147.86 330 *e*PKP **PKPdf 17 40 18.1 0.0**
KHC *i* x x 17 40 21.7
KHC *ep*PKP **pPKPdf 17 40 27.3 -1.7**
KHC Kasperske Hory 147.86 330 *e*PKPdf **PKPdf 17 40 18.1 0.0**
KHC *e*PKPbc **PKPbc 17 40 22.0 +0.9**
GCD Castle Douglas 147.90 353 ⇓*e*P **PKPbc 17 40 20.5 -0.5**
KZN Kozani 147.93 310 *e*P **PKPbc 17 40 21.0 -0.7**
AGG Agios Georgios 148.00 307 *e*P **PKPbc 17 40 21.0 -0.8**
BEHE Becsehely 148.00 323 ⇑*e*PKPdf **PKPbc 17 40 21.1 -0.4**
GEC2 GERESS Array S 148.00 329 *e*PKPdf **PKPdf 17 40 18.5 0.0**
GEC2 *e*PKPbc **PKPbc 17 40 22.0 +0.4**
GERES GERESS Array B 148.00 329 PKPbc **PKPbc 17 40 22.0 +0.4**
GERES GERESS Array B 148.00 329 PKPbc **PKPbc 17 40 22.0 +0.4**
comp=Z,28nm,0.9s,baz=90,slow=1.3,SNR=87
ROTZ Rotzenmuhle 148.01 332 *e*PKPbc **PKPbc 17 40 22.2 +0.7**
FNA Florina 148.02 311 *e*P **PKPbc 17 40 21.5 -0.4**
THL Klokotos Trika 148.03 309 *e*P **PKPbc 17 40 21.0 -0.8**
IVA Berane 148.10 315 ⇓*i*PKP **PKPbc 17 40 22.1 +0.1**
UBBA Unterbreizbach 148.10 335 *e*PKPbc **PKPbc 17 40 22.2 +0.7**
WET Wettzell 148.17 331 *e*PKPdf **PKPdf 17 40 19.0 +0.4**
WET *e*PKPbc **PKPbc 17 40 22.6 +0.7**
ARSA Arzberg 148.18 326 *i* PKPbc **PKPbc 17 40 22.2 +0.2**
comp=Z,18nm,1.4s,SNR=8.0
PVY Plav 148.19 315 ⇓*i*PKP **PKPbc 17 40 22.2 -0.1**
ANKY Antikythira Is 148.19 301 *e*P **PKPbc 17 40 23.0 +0.6**
PLE Pljevlja 148.20 317 ⇓*i*PKP **PKPbc 17 40 22.6 +0.3**
VLI Veliai 148.25 303 *e*P **PKPbc 17 40 21.5 -1.0**
WTSB Winterswijk 148.28 340 *e*PKPdf **PKPbc 17 40 22.4 +0.3**
comp=Z,90nm,0.9s
GUR Goura 148.35 305 *e*P **PKPbc 17 40 22.5 -0.4**
EVR Evrytania 148.41 307 *e*P **PKPbc 17 40 23.0 0.0**
MOA Molln 148.42 328 *i* PKPbc **PKPbc 17 40 22.8 +0.2**
comp=Z,21nm,0.8s,SNR=10
KLV Kalavryta, Ach 148.46 306 *e*P **PKPbc 17 40 23.0 -0.1**
HPK Haverah Park 148.47 350 *e*P **PKPbc 17 40 22.0 -0.5**
GRF Grafenberg Arr 148.49 333 *e*PKPbc **PKPbc 17 40 23.5 +0.8**
GRF *e*PKPab **PKPab 17 40 27.2 +1.1**
GRFO Grafenberg 148.49 333 *e*PKP2 **PKPbc 17 40 23.7 +1.0**
GRFO Grafenberg 148.49 333 *e*PKPbc **PKPbc 17 40 23.7 +1.0**
VLX Vlachokerasia 148.49 304 *e*P **PKPbc 17 40 23.5 +0.2**
EFP Efpalio 148.51 307 *e*P **PKPbc 17 40 24.0 +0.9**
LAKA Lakka 148.52 306 *e*P **PKPbc 17 40 23.5 +0.3**
UPM Unac-Piva 148.56 317 ⇓*i*PKP **PKPbc 17 40 22.9 -0.5**
BUG Bochum--Univer 148.57 339 *e*PKPbc **PKPbc 17 40 23.3 +0.5**
BUG *ep*PKPbc **pPKPbc 17 40 32.5 -1.1**
NKY Niksic 148.70 316 *e*PKP **PKPbc 17 40 23.6 0.0**
TTG Podgorica 148.72 315 ⇓*i*PKP **PKPbc 17 40 23.6 +0.1**
NKME Niksic 148.75 316 ⇓*i*PKP **PKPbc 17 40 23.7 0.0**
PERS Pernice 148.79 325 *i* PKPdf **PKPdf 17 40 19.5 -0.3**
PERS *i* PKPbc **PKPbc 17 40 23.6 0.0**
SOKA Soboth 148.81 325 ⇓*i*PKPbc **PKPbc 17 40 23.7 0.0**
comp=Z,34nm,0.9s,SNR=16
TIR Tirane 148.82 313 *e*PKP2 **PKPbc 17 40 24.6 +0.8**
TIR MLR MLR
comp=Z,373nm,22.0s
TIR Tirane 148.82 313 *e*PKPbc **PKPbc 17 40 24.6 +0.8**
TIR LR LR
comp=Z,373nm,22.0s
JAN Janina 148.83 309 *e*P **PKPbc 17 40 24.5 +0.5**
DRME Dracevica, Mon 148.88 315 ⇓*i*PKP **PKPbc 17 40 23.9 -0.1**
ITM Ithomi 148.89 304 *e*P **PKPbc 17 40 24.0 -0.2**
BRY Bratogost 148.95 316 *e*PKP **PKPbc 17 40 24.0 -0.3**
AMT Artemida-Makis 148.95 305 *e*P **PKPbc 17 40 24.0 -0.3**
ULC Ulcinj 148.95 314 ⇓*i*PKP **PKPbc 17 40 24.0 -0.2**
RLS Riolos of Patr 148.96 306 *e*P **PKPbc 17 40 25.0 +0.7**
BUM Brajici-Budva 149.02 315 ⇓*i*PKP **PKPbc 17 40 24.4 0.0**
PYL PYLOS 149.12 304 *e*P **PKPbc 17 40 24.0 -0.7**
KBI1 Birley Grange 149.13 350 ⇓*e*P **PKPbc 17 40 24.1 -0.1**
TNS Taunus Mts 149.17 336 *e*PKPbc **PKPbc 17 40 25.1 +0.6**
OBKA Obir 149.17 325 *i* PKPbc **PKPbc 17 40 24.4 -0.3**
comp=Z,20nm,1.0s,SNR=11
AEU East Anglia Un 149.20 346 *e*P **PKPbc 17 40 24.5 +0.2**
HCY Herceg Novi 149.21 316 ⇓*i*PKP **PKPbc 17 40 24.4 -0.4**
RJOB Jochberg 149.21 329 *e*PKPbc **PKPbc 17 40 24.5 -0.2**
WME Myndd Eilian 149.39 353 ⇓*e*P **PKPbc 17 40 24.5 -0.3**
STNC Stoke 149.40 350 *e*P **PKPbc 17 40 25.1 +0.3**
KBA Koelnbreinsper 149.40 327 ⇑*i*PKPdf **PKPdf 17 40 19.8 -1.1**
comp=Z,4.7nm,1.1s
KBA *i* PKPbc **PKPbc 17 40 25.0 -0.4**
comp=Z,37nm,0.9s,SNR=18
BOJS Bojanci 149.43 323 *i* PKPdf **PKPdf 17 40 20.6 -0.2**
BOJS *i* PKPbc **PKiKP 17 40 25.8 -0.5**
WPM1 Penmaenmawr 149.47 352 ⇓*e*P **PKPbc 17 40 24.6 -0.4**
LJU Ljubljana 149.48 325 *i* PKPdf **PKPdf 17 40 21.2 +0.4**
LJU *i* PKPbc **PKPbc 17 40 25.7 +0.3**
WLF1 Llynfaes 149.50 353 ⇓*e*P **PKPbc 17 40 24.5 -0.6**
KEK Kerkira 149.56 310 *e*P **PKPbc 17 40 26.0 +0.3**
MYKA Terra Mystica 149.56 326 ⇓*i*PKPbc **PKPbc 17 40 25.1 -0.5**
comp=Z,23nm,0.7s,SNR=10
YRC Rhoscolyn 149.56 353 ⇓*e*P **PKPbc 17 40 24.4 -0.8**
VLS Valsamata 149.57 307 *e*P **PKPbc 17 40 25.5 -0.3**
HGN Heimansgroeve 149.59 339 *e*PKPdf **PKPbc 17 40 25.7 +0.3**
comp=Z,87nm,1.1s
FUR Furstenfeldbru 149.61 331 *e*PKPbc **PKPbc 17 40 26.1 +0.5**
FUR *e*PKPab **PKPab 17 40 31.6 +0.9**
YLL Llanberis 149.62 353 *e*P **PKPbc 17 40 24.8 -0.6**
BEBN Eben Emael 149.65 340 PKPbc **PKPbc 17 40 26.4 +0.9**
BEBN APKPbc 17 40 35.6

MEM Membach 149.70 339 PKPbc **PKPbc 17 40 26.1 +0.4**
MEM PKPab **PKPab 17 40 30.5 -0.5**
MEM APKPbc 17 40 36.0
FOEL Foel Wylfa 149.74 351 ⇓*e*P **PKPbc 17 40 25.5 -0.2**
YRE Yr Eifl 149.81 353 ⇓*e*P **PKPbc 17 40 25.2 -0.6**
JAVS Javornik 149.83 325 *i* PKPdf **PKPdf 17 40 20.9 -0.6**
JAVS *i* PKPbc **PKPbc 17 40 26.0 -0.3**
VOY Vojsko 149.83 325 *e*PKPdf **PKPdf 17 40 22.0 +0.5**
VOY *e*PKPbc **PKPbc 17 40 26.0 -0.3**
VOY *e* 17 40 34.7
VOY *e* 17 41 09.8
STU Stuttgart 150.04 334 *e*PKPbc **PKPbc 17 40 27.2 +0.6**
STU *e*PKPab **PKPab 17 40 33.4 +1.0**
STU Stuttgart 150.04 334 *e*PKP2 **PKPbc 17 40 27.4 +0.8**
STU Stuttgart 150.04 334 *e*PKPbc **PKPbc 17 40 27.4 +0.8**
ABTA Abfaltersbach 150.04 328 ⇑*i*PKPdf **PKPdf 17 40 21.1 -0.7**
comp=Z,14nm,1.2s
ABTA ⇑*i*PKPbc **PKPbc 17 40 26.1 -0.7**
comp=Z,39nm,0.8s
HLM1 Long Mynd 150.06 351 *e*P **PKPbc 17 40 26.1 -0.4**
WATA Walderalm 150.08 329 ⇓*i*PKPbc **PKPbc 17 40 27.0 0.0**
SNR=15
BCLA Clavier 150.09 340 PKPbc **PKPbc 17 40 27.0 +0.3**
BCLA APKPbc 17 40 36.8
TRI Trieste 150.11 325 *e*PKP2 **PKPbc 17 40 26.9 +0.1**
TRI Trieste 150.11 325 *e*PKPbc **PKPbc 17 40 26.9 +0.1**
MOTA Moosalm 150.29 330 ⇑*i*PKPdf **PKPdf 17 40 21.7 -0.5**
comp=Z,7.3nm,1.0s
MOTA ⇓*i*PKiKP **PKPbc 17 40 27.5 0.0**
comp=Z,61nm,0.8s,SNR=24
SNF Seneffe 150.33 341 PKPbc **PKPbc 17 40 27.8 +0.6**
SNF PKPab **PKPab 17 40 33.4 -0.1**
RETA Reutte 150.34 330 ⇓*i*PKPbc **PKPbc 17 40 27.5 0.0**
comp=Z,33nm,1.0s,SNR=18
LANF Langenberg 150.42 335 PKP **PKPbc 17 40 27.9 +0.4**
SSW Stow on the Wo 150.43 349 ⇓*e*P **PKPbc 17 40 27.4 0.0**
WLF Walferdange 150.46 338 PKPbc **PKPbc 17 40 28.6 +1.1**
WLF Walferdange 150.46 338 *e*PKPbc **PKPbc 17 40 28.6 +1.1**
WLF Walferdange 150.46 338 *e*PKIKP **PKPbc 17 40 28.3 +0.7**
WLF MLR MLR
comp=Z,297nm,20.0s
WLF Walferdange 150.46 338 *e*PKPbc **PKPbc 17 40 28.3 +0.7**
WLF LR LR
comp=Z,297nm,20.0s
SKP1 Kophill 150.47 348 ⇓*e*P **PKPbc 17 40 26.7 -0.8**
MCH1 Michaelchurch 150.58 351 *e*P **PKPbc 17 40 27.2 -0.6**
ELSH Elham, Standar 150.60 345 ⇓*e*P **PKPbc 17 40 28.2 +0.4**
DOU Dourbes 150.60 340 PKPbc **PKPbc 17 40 28.5 +0.6**
LPW Lampeter 150.62 352 *e*P **PKPbc 17 40 27.3 -0.5**
FETA Feichten 150.70 330 ⇑*i*PKPdf **PKPdf 17 40 22.9 -0.1**
comp=Z,11nm,1.1s
FETA ⇓*i*PKiKP **PKiKP 17 40 28.8 -0.3**
comp=Z,72nm,0.9s
BFO Black Forest 150.74 334 *e*PKPbc **PKPbc 17 40 28.3 0.0**
BFO *e*PKPab **PKPab 17 40 36.0 +0.6**
BFO Black Forest 150.74 334 *e*PKIKP **PKPbc 17 40 27.8 -0.5**
BFO MLR MLR
comp=Z,225nm,19.0s
BFO Black Forest 150.74 334 *e*PKPbc **PKPbc 17 40 27.8 -0.5**
BFO LR LR
comp=Z,225nm,19.0s
SWN1 Swindon 150.86 349 ⇓*e*P **PKPbc 17 40 28.5 +0.1**
MENF Mencas 150.88 343 PKP **PKPbc 17 40 28.8 +0.3**
DAVA Damuels 150.89 331 *i* PKiKP **PKiKP 17 40 29.2 -0.3**
comp=Z,29nm,0.8s,SNR=17
WOL Wolverton 150.94 348 ⇓*e*P **PKPbc 17 40 27.5 -1.2**
HMNX Herstmonceux 151.04 346 ⇓*e*P **PKPbc 17 40 29.5 +0.6**
CDF Champ du Feu 151.09 335 *e*PKIKP **PKPdf 17 40 23.9 +0.5**
ECH Echery 151.29 335 *e*PKIKP **PKPbc 17 40 29.0 -0.6**
ECH MLR MLR
comp=Z,260nm,20.0s
ECH Echery 151.29 335 PKP **PKPbc 17 40 29.4 -0.2**
ECH Echery 151.29 335 *e*PKPbc **PKPbc 17 40 29.0 -0.6**
ECH LR LR
comp=Z,260nm,20.0s
MOF Molkenrain 151.60 335 PKP **PKPbc 17 40 29.9 -0.5**
THEF They Montfort 151.73 337 PKP **PKPbc 17 40 30.7 +0.1**
HINF Hinteralfeld 151.74 335 *e*PKIKP **PKPdf 17 40 23.6 -0.7**
TUE Stuetta 151.75 330 *e*PKPbc **PKPbc 17 40 31.4 +0.4**
TUE LR LR
comp=Z,269nm,20.0s
HTL Hartland 151.77 352 *e*P **PKPbc 17 40 30.4 -0.1**
LOMF Lomont 152.13 335 PKP **PKPbc 17 40 31.6 0.0**
CUC Castrocucco 152.17 313 *e*PKPbc **PKPbc 17 40 30.8 -1.1**
CUC LR LR
comp=Z,342nm,22.0s
DYA Yadsworthy 152.24 351 ⇓*e*P **PKPbc 17 40 30.6 -1.0**
CCA1 Carnmenellis 152.65 353 ⇓*e*P **PKPbc 17 40 31.7 -0.8**
VLC Villacollemand 152.92 326 PFAKE 17 40 40.0 -4.6
VLC LR LR
comp=Z,329nm,20.0s
CEL Celeste 152.93 310 *e*PKPbc **PKPbc 17 40 33.2 -0.5**
CEL LR LR
comp=Z,303nm,21.0s
CABF La Chapelle 153.03 334 *e*PKIKP **PKPdf 17 40 26.1 -0.2**
JSA Saint Aubin 153.15 348 *e*P **PKPbc 17 40 33.6 0.0**
FLN La Foliniere 153.20 345 *e*PKIKP **PKPdf 17 40 25.9 -0.5**
comp=Z,32nm,1.0s
LOR Lormes 153.30 338 *e*PKIKP **PKPdf 17 40 27.2 +0.6**
RSL Roselend 153.55 333 PKP **PKPbc 17 40 35.3 +0.4**
SSF Saint Saulge 153.60 338 *e*PKIKP **PKPdf 17 40 27.6 +0.6**
GRR Gorron 153.64 346 *e*PKIKP **PKPdf 17 40 26.8 -0.2**
comp=Z,31nm,1.1s
LPL La Plagne 153.64 332 *e*PKIKP **PKPdf 17 40 27.0 -0.4**
SMF Signal de Mont 153.84 337 *e*PKIKP **PKPdf 17 40 26.5 -0.9**
AVF Avril sur Loir 153.89 338 *e*PKIKP **PKPdf 17 40 26.2 -1.2**
BNI Bardonecchia 154.03 332 *e*PKIKP **PKPbc 17 40 36.7 +0.7**
BNI MLR MLR
comp=Z,331nm,20.0s
BNI Bardonecchia 154.03 332 *e*PKPbc **PKPbc 17 40 36.6 +0.7**
BNI LR LR
comp=Z,331nm,20.0s
SGMF Saint Gilles 154.12 348 *e*PKIKP **PKPdf 17 40 28.2 +0.5**
comp=Z,30nm,1.2s
MBDF Montbardon 154.25 331 *e*PKIKP **PKPdf 17 40 27.4 -0.8**
**SAOF Saorge 154.

comp=Z,498nm,20.0s
DBIC Dimbokro 162.83 199 PKPab **PKPab 17 41 28.5 +0.5**
DBIC Dimbokro 162.83 199 PKPab **PKPab 17 41 28.5 +0.5**
comp=Z,15nm,0.8s,baz=148,slow=5.9,SNR=13
TIC Toumodi 162.85 198 *eP* **PKPab 17 41 28.3 +0.2**
comp=Z,49nm,1.0s
EVO Evora 164.47 353 *e*PKIKP **PKPdf 17 40 39.6 -0.4**
comp=Z,27nm,1.4s
TOA0 Torodi Ar. Sit 164.86 231 *e*PKPdf **PKPdf 17 40 41.0 -0.1**
TORD Torodi Ar. Bea 164.86 231 PKP **PKPdf 17 40 40.7 -0.3**
TORD PKPab **PKPab 17 41 36.5 -0.5**
TORD Torodi Ar. Bea 164.86 231 PKP **PKPdf 17 40 40.7 -0.3**
comp=Z,6.7nm,1.0s,baz=320,slow=1.0,SNR=20
TORD PKPab **PKPab 17 41 36.5 -0.5**
comp=Z,4.3nm,0.9s,baz=140,slow=3.8,SNR=8.3
TAM Tamanrasset 165.34 272 PFAKE 17 40 50.0 +8.6
TAM LR LR
comp=Z,274nm,20.0s

IDC 30 17:26:54.0±1.8, 6°.02S×130°.50E, h0km, mb3.9/2, mb1 4.0/5, mb1mx3.7/18, mbtmp3.9/5, ML3.8/3, Error ellipse: s-maj=87.1km s-min=24.5km az=80.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.91**	**201**	Pn	Pn	17 30 00.3	+1.4
	0.2nm,0.3s,baz=130,slow=14,SNR=21						
FITZ				Sn	Sn	17 32 11.0	-12
	0.7nm,0.3s,baz=284,slow=21,SNR=8.9						
WRA	**Warramunga Arr**	**14.33**	**165**	Pn	Pn	17 30 16.5	-2.0
	0.8nm,0.3s,baz=348,slow=14,SNR=29						
WRA				Sn	Sn	17 32 45.5	-13
	1.0nm,0.3s,baz=331,slow=23,SNR=7.5						
ASAR	**Alice Springs**	**17.85**	**170**	P	Pn	17 31 04.3	+0.3
	0.3nm,0.3s,baz=341,slow=9.3,SNR=16						
ASAR				S	Sn	17 34 12.3	-11
	0.2nm,0.3s,baz=347,slow=25,SNR=5.6						
SONM	**Songino Array**	**57.68**	**341**	P	P	17 36 46.7	+0.3
	0.4nm,0.5s,baz=162,slow=7.4,SNR=4.6						
MKAR	**Makanchi Array**	**67.68**	**326**	P	P	17 37 52.9	-0.3
	1.3nm,0.6s,baz=123,slow=8.1,SNR=19						

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*IDC **30** 17:30:26.1±0.6, 23°.12S×169°.65E, h0km, mb4.5/19, mb1 4.6/20, mb1mx4.6/24, mbtmp4.5/20, ML3.9/1, MS4.3/3, Ms1 4.3/3, ms1mx3.8/34, Error ellipse: s-maj=18.0km s-min=15.6km az=83.0*
*NEIC **30** 17:30:27.9±0.3, 23°.03S×169°.58E, h10km, mb5.2/23, Error ellipse: s-maj=8.7km s-min=6.6km az=148.0*
*BJI **30** 17:30:28.0, 23°.00S×169°.60E, h10km, mB5.1/12, mb4.8/21, Ms5.2/9, Ms7 4.9/9*
*ISCJB **30** 17:30:29.6±2.2, 23°.12S±0°.05×169°.57E±0°.04, h31km±15km, mb4.9/42, MS4.9/4, Error ellipse: s-maj=8.4km s-min=6.9km az=175.3*
*SZGRF **30** 17:30:29.0, 23°.71S×170°.65E, h33km, Southeast of Loyalty Islands*
*MOS **30** 17:30:30.0±1.0, 23°.11S×169°.57E, h33km, mb5.5/8, Error ellipse: s-maj=16.4km s-min=11.0km az=156.4*
ISC 30 17:30:29.6±0.4, 23°.15S±0°.06×169°.62E±0°.06, h18km±1km, h18km:pP-P, n240, σ1°.37/277, mb4.8/42, MS5.0/4, 9C-17D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.13**	**289**	Pn	**Pn**	**17 31 16.8**	**-1.3**
DZM				Sn	**Sn**	**17 31 53.8**	**-1.2**
DZM	**Mont Dzumac**	**3.13**	**289**	Pn	**Pn**	**17 31 16.8**	**-1.3**
	16nm,0.3s,baz=136,slow=14,SNR=115						
DZM				Sn	**Sn**	**17 31 53.8**	**-1.2**
	80nm,0.3s,baz=319,slow=18,SNR=4.8						
DZM				LR	LR	17 32 25.6	
	comp=Z,2μm,20.8s,baz=223,slow=38						
MSVF	**Nonsavu**	**9.56**	**57**	*eP*	**Pn**	**17 32 47.6**	**+1.1**
MSVF				pmax	pmax		
	comp=Z,194nm,1.3s						
MSVF	**Nonsavu**	**9.56**	**57**	*eP*	**Pn**	**17 32 47.6**	**+1.1**
	comp=Z,194nm,1.3s						
MSVF	**Nonsavu**	**9.56**	**57**	Pn	**Pn**	**17 32 48.8**	**+2.4**
	comp=Z,621nm,1.3s,SNR=13						
OUZ	**Omahuta**	**12.52**	**165**	*eP*	**Pn**	**17 33 29.2**	**+2.4**
URZ	**Urewera**	**16.37**	**159**	Pn	**P**	**17 34 22.9**	**+1.6**
URZ	**Urewera**	**16.37**	**159**	Pn	**P**	**17 34 22.9**	**+1.6**
	comp=Z,0.6nm,0.3s,baz=351,slow=10,SNR=3.7						
URZ				LR	LR	17 39 29.9	
	comp=Z,1μm,19.0s,baz=93,slow=33						
HNR	**Honiara**	**16.49**	**324**	Pn	**P**	**17 34 21.6**	**-1.1**
HNR	**Honiara**	**16.49**	**324**	Pn	**P**	**17 34 21.6**	**-1.1**
	comp=Z,3.5nm,0.3s,baz=101,slow=5.2,SNR=4.3						
EIDS	**Eidsvold**	**17.05**	**259**	*eP*	**Pn**	**17 34 27.6**	**+0.4**
	comp=Z,38nm,1.4s						
FUNA	**Funafuti**	**17.19**	**34**	P	**Pn**	**17 34 29.5**	**+0.6**
	comp=Z,234nm,1.1s						
ARMA	**Armidale**	**17.61**	**242**	*eP*	**P**	**17 34 39.0**	**+3.8**
	comp=Z,116nm,1.8s						
RPZ	**Rata Peaks**	**20.55**	**177**	P	Pn	17 35 09.5	+0.1
RPZ	**Rata Peaks**	**20.55**	**177**	P	Pn	17 35 09.5	+0.1
	comp=Z,26nm,1.1s,baz=76,slow=3.4,SNR=5.5						
RPZ				LR	LR	17 42 26.6	
	comp=Z,1μm,18.2s,baz=122,slow=35						
CAN	**Canberra**	**21.66**	**231**	*eP*	**P**	**17 35 21.4**	**+2.2**
CAN				pmax	pmax		
	comp=Z,99nm,1.6s						
CAN	**Canberra**	**21.66**	**231**	*eP*	**P**	**17 35 21.4**	**+2.2**
	comp=Z,99nm,1.6s						
CTA	**Charters Tower**	**21.93**	**274**	P	**P**	**17 35 22.9**	**+0.6**
CTA	**Charters Tower**	**21.93**	**274**	P	**P**	**17 35 22.9**	**+0.6**
	comp=Z,10nm,0.7s,baz=102,slow=13,SNR=9.4						
CTAO	**Charters Tower**	**21.93**	**274**	*eP*	**P**	**17 35 22.8**	**+0.6**
CTAO				pmax	pmax		
	comp=Z,20nm,0.9s						
CTAO	**Charters Tower**	**21.93**	**274**	*eP*	**P**	**17 35 22.8**	**+0.6**
	comp=Z,20nm,0.9s						
TARA	**Tarawa**	**24.56**	**8**	*eP*	**P**	**17 35 45.1**	**-3.5**
	comp=Z,128nm,1.2s						
STKA	**Stephens Creek**	**26.28**	**245**	*eP*	**P**	**17 36 03.9**	**-0.2**
	comp=Z,22nm,1.9s						
STKA	**Stephens Creek**	**26.28**	**245**	P	**P**	**17 36 04.7**	**+0.6**
	comp=Z,5.1nm,0.7s,baz=96,slow=12,SNR=10.0						
AS31	**Alice Springs**	**32.73**	**262**	*eP*	**P**	**17 37 00.7**	**-0.9**
ASAR	**Alice Springs**	**32.73**	**262**	P	**P**	**17 37 00.7**	**-0.8**
ASAR	**Alice Springs**	**32.73**	**262**	P	**P**	**17 37 00.7**	**-0.8**
	comp=Z,6.6nm,0.7s,baz=89,slow=9.7,SNR=19						
WRAB	**Tennant Creek**	**32.92**	**269**	*eP*	**P**	**17 37 01.1**	**-2.0**
WRAB	**Tennant Creek**	**32.92**	**269**	*eP*	**P**	**17 37 01.1**	**-2.0**
WRA	**Warramunga Arr**	**32.93**	**269**	P	**P**	**17 37 01.1**	**-2.1**
WRA	**Warramunga Arr**	**32.93**	**269**	P	**P**	**17 37 01.1**	**-2.1**
	comp=Z,1.1nm,0.4s,baz=99,slow=8.4,SNR=8.9						
FITZ	**Fitzroy Crossi**	**41.36**	**269**	*eP*	**P**	**17 38 14.2**	**-0.6**
	comp=Z,17nm,0.9s						
FITZ	**Fitzroy Crossi**	**41.36**	**269**	P	**P**	**17 38 14.1**	**-0.7**
	comp=Z,4.1nm,0.8s,baz=116,slow=9.0,SNR=6.3						
MBWA	**Marble Bar**	**46.07**	**262**	*eP*	**P**	**17 38 51.2**	**-1.6**
NWAO	**Narrogin (SRO)**	**46.85**	**246**	*eP*	**P**	**17 38 57.5**	**-1.2**
NWAO	**Narrogin (SRO)**	**46.85**	**246**	P	**P**	**17 38 57.8**	**-1.0**
	comp=Z,16nm,1.0s,baz=120,slow=9.6,SNR=3.6						
KAPI	**Kappang**	**51.32**	**283**	P	**P**	**17 39 32.0**	**-1.2**
KAPI	**Kappang**	**51.32**	**283**	P	**P**	**17 39 32.0**	**-1.2**
	comp=Z,6.6nm,0.4s,baz=154,slow=6.2,SNR=5.4						
VNDA	**Vanda**	**54.56**	**182**	P	**P**	**17 39 56.7**	**+0.5**
VNDA	**Vanda**	**54.56**	**182**	P	**P**	**17 39 56.7**	**+0.5**
	comp=Z,2.5nm,0.8s,baz=348,slow=7.0,SNR=20						
SBA	**Scott Base**	**54.78**	**181**	*eP*	**P**	**17 39 59.0**	**+1.2**
SBA				pmax	pmax		
	comp=Z,24nm,0.9s						
SBA	**Scott Base**	**54.78**	**181**	*eP*	**P**	**17 39 59.0**	**+1.2**
	comp=Z,24nm,0.9s						
MAT	**Matsushiro**	**66.37**	**333**	P	**P**	**17 41 16.2**	**-1.1**
QSPA	**South Pole Qui**	**66.93**	**180**	*eP*	**P**	**17 41 19.7**	**-1.1**
	comp=Z,42nm,1.1s						
QSPA	**South Pole Qui**	**66.93**	**180**	P	**P**	**17 41 20.5**	**-0.2**
	comp=Z,30nm,1.0s,baz=13,slow=2.0,SNR=62						
ASAJ	**Asahikawa**	**71.37**	**340**	P	**P**	**17 41 48.3**	**0.0**
ASAJ	**Asahikawa**	**71.37**	**340**	P	**P**	**17 41 48.3**	**0.0**
	comp=Z,4.1nm,0.6s,baz=317,slow=5.0,SNR=4.5						
KSRS	**Korea Array**	**71.93**	**326**	P	**P**	**17 41 51.0**	**-0.8**
	comp=Z,1.7nm,1.0s,baz=140,slow=5.6,SNR=4.7						
KSAR	**Wonju Array Be**	**71.94**	**326**	P	**P**	**17 41 51.0**	**-0.8**
MAW	**Mawson**	**74.97**	**202**	P	**P**	**17 42 09.3**	**0.0**
MAW	**Mawson**	**74.97**	**202**	P	**P**	**17 42 09.3**	**0.0**
	comp=Z,6.6nm,0.8s,baz=115,slow=7.5,SNR=18						
USRK	**Ussuriysk Arra**	**75.36**	**333**	P	**P**	**17 42 11.4**	**-0.4**
	comp=Z,1.6nm,0.8s,baz=160,slow=4.6,SNR=3.8						

PETK	**Petropavlovsk-**	**76.64**	**353**	P	**P**	**17 42 18.4**	**-0.5**
PETK	**Petropavlovsk-**	**76.64**	**353**	P	**P**	**17 42 18.4**	**-0.5**
PETK	**Petropavlovsk-**	**76.64**	**353**	P	**P**	**17 42 18.4**	**-0.5**
	comp=Z,1.6nm,0.7s,baz=174,slow=6.7,SNR=3.7						
MDJ	**Mudanjiang**	**76.72**	**332**	P	P	17 42 24.5	+5.0
MDJ				pmax	pmax		
	comp=Z,6.0nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,88nm,8.1s						
CN2	**Changchun**	**77.97**	**329**	*eP*	**P**	**17 42 29.5**	**+2.9**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GYA	**Guiyang**	**78.35**	**305**	P	**P**	**17 42 30.8**	**+1.5**
GYA				PP	**PP**	**17 45 30.5**	**+3.7**
GYA				S	**S**	**17 52 24.8**	**+0.5**
GYA				SKS	**SKSac**	**17 52 40.8**	**-2.6**
GYA				SS	**SS**	**17 57 31.5**	**+3.8**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GYA				pmax	pmax		
	comp=Z,110nm,5.2s						
GYA				LR	LR		
	comp=N,590nm,18.2s						
GYA				LR	LR		
	comp=E,430nm,19.6s						
GYA				LR	LR		
	comp=Z,540nm,20.0s						
ENH	**Enshi**	**78.44**	**310**	*eP*	**P**	**17 42 28.2**	**-1.3**
	comp=Z,7.3nm,1.1s						
CMAR	**Chiang Mai Arr**	**80.44**	**295**	P	**P**	**17 42 41.3**	**+0.6**
CMAR	**Chiang Mai Arr**	**80.44**	**295**	P	**P**	**17 42 41.3**	**+0.6**
	comp=Z,4.2nm,0.9s,baz=134,slow=4.0,SNR=21						
CHTO	**Chiang Mai**	**80.61**	**295**	*eP*	**P**	**17 42 42.0**	**+0.4**
CHTO				pmax	pmax		
	comp=Z,79nm,1.4s						
CHTO	**Chiang Mai**	**80.61**	**295**	*eP*	**P**	**17 42 42.0**	**+0.4**
	comp=Z,79nm,1.4s						
KMI	**Kunming**	**80.64**	**302**	P	**P**	**17 42 42.8**	**+0.9**
KMI				pP	**PcP**	**17 42 48.5**	**-0.2**
KMI				pmax	pmax		
	comp=Z,13nm,1.3s						
SYO	**Syowa Base**	**81.30**	**196**	*eP*	**P**	**17 42 42.0**	**-2.4**
CD2	**Chengdu**	**82.89**	**308**	P	**P**	**17 42 54.5**	**+1.0**
CD2				pP	**pP**	**17 42 59.5**	**0.0**
CD2				sP	**sP**	**17 43 01.5**	**-0.2**
CD2				PP	**PP**	**17 46 07.3**	**+3.0**
CD2				S	**S**	**17 53 12.5**	**+1.0**
CD2				sS	**SKKSac**	**17 53 19.8**	**+1.3**
CD2				SS	**SS**	**17 58 39.0**	**+3.7**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,240nm,3.7s						
CD2				LR	LR		
	comp=N,500nm,4.8s						
CD2				LR	LR		
	comp=Z,310nm,6.5s						
HHC	**Hu-ho-hao-te**	**83.41**	**320**	*eP*	**P**	**17 42 57.5**	**+1.5**
HHC				sP	**sP**	**17 43 03.5**	**-0.7**
HHC				PP	**PP**	**17 46 11.5**	**+3.1**
HHC				S	**SKSac**	**17 53 18.5**	**+0.9**
HHC				sS	**sS**	**17 53 24.5**	**-2.0**
HHC				SS	**SS**	**17 58 46.8**	**+4.0**
HHC				pmax	pmax		
	comp=Z,39nm,0.7s						
HHC				pmax	pmax		
	comp=Z,140nm,6.3s						
HHC				LR	LR		
	comp=N,310nm,17.8s						
HHC				LR	LR		
	comp=E,410nm,19.0s						
HHC				LR	LR		
	comp=Z,670nm,17.8s						
SNAA	**Sanae**	**85.29**	**182**	*eP*	**P**	**17 43 04.0**	**-1.1**
SNAA	**Sanae**	**85.29**	**182**	*e*I	sP	17 43 12.9	-0.4
SNAA	**Sanae**	**85.29**	**182**	*eP*	**P**	**17 43 03.0**	**-2.0**
	comp=Z,34nm,1.1s						
SNAA	**Sanae**	**85.29**	**182**	P	**P**	**17 43 03.8**	**-1.3**
	comp=Z,7.6nm,1.0s,baz=193,slow=5.5,SNR=46						
LZH	**Lanzhou**	**85.60**	**312**	*eP*	**P**	**17 43 07.0**	**-0.3**
LZH				pP	**pP**	**17 43 13.3**	**0.0**
LZH				sP	**sP**	**17 43 16.3**	**+0.8**
LZH				PP	**PP**	**17 46 27.0**	**+0.5**
LZH				*e*S	**SKSac**	**17 53 34.5**	**+2.5**
LZH				sS	**ScS**	**17 53 45.5**	**-2.9**
LZH				SS	**SS**	**17 59 15.0**	**-0.4**
LZH				pmax	pmax		
	comp=Z,36nm,1.1s						
LZH				pmax	pmax		
	comp=Z,190nm,4.5s						
LZH				LR	LR		
	comp=N,760nm,15.6s						
LZH				LR	LR		
	comp=E,650nm,16.5s						
LZH				LR	LR		
	comp=Z,990nm,18.2s						
VNA2	**Neumayer--Watz**	**86.16**	**181**	*eP*	**P**	**17 43 08.7**	**-0.6**
	baz=191,slow=3.4						
VNA2	**Neumayer--Watz**	**86.16**	**181**	*e*I	sP	17 43 18.0	+0.4
	baz=191,slow=3.4						
VNA1	**Neumayer--Stat**	**86.45**	**181**	*eP*	**P**	**17 43 10.1**	**-0.6**
KIPM	**Iron Peak**	**88.34**	**45**	P	**P**	**17 43 19.4**	**-1.1**
	comp=Z,237nm,1.9s						
KIPM				*e*		17 43 30.6	
CMB	**Columbia Colle**	**89.49**	**48**	*eP*	**P**	**17 43 25.5**	**-0.3**
CMB				pmax	pmax		
	comp=Z,37nm,1.2s						
CMB	**Columbia Colle**	**89.49**	**48**	*eP*	**P**	**17 43 25.5**	**-0.3**
	comp=Z,37nm,1.2s						
EDW2	**Edwards Air Fo**	**89.63**	**52**	P	**P**	**17 43 26.5**	**-0.1**
	baz=90						
ISA	**Isabella**	**89.66**	**51**	P	**P**	**17 43 26.8**	**+0.2**
	baz=90						
GTA	**Gaotai**	**90.06**	**313**	*eP*	**P**	**17 43 28.5**	**0.0**
GTA				pP	**pP**	**17 43 33.0**	**-1.6**
GTA				sP	**sP**	**17 43 35.5**	**-1.3**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
LRMC	**Laurel Mountai**	**90.13**	**51**	P	**P**	**17 43 29.2**	**+0.3**
	baz=90						
ULN	**Ulaanbaatar**	**90.20**	**323**	*eP*	**P**	**17 43 27.6**	**-1.3**
	comp=Z,5.0nm,1.1s						
WAKR	**Walker**	**90.37**	**48**	*eP*	**P**	**17 43 30.2**	**+0.1**
	comp=Z,25nm,1.1s						
WAKR				*e*		17 43 39.5	
BEKR	**Beckworth**	**90.43**	**46**	*eP*	P	17 43 26.6	-3.7
	comp=Z,10nm,1.3s						
SONM	**Songino Array**	**90.54**	**323**	P	**P**	**17 43 30.3**	**-0.2**
SONM	**Songino Array**	**90.54**	**323**	P	**P**	**17 43 30.3**	**-0.2**
	comp=Z,1.8nm,0.9s,baz=140,slow=4.0,SNR=12						
MPMC	**Manual Prospec**	**90.55**	**51**	P	**P**	**17 43 31.3**	**+0.3**
	baz=91						
HEC	**Hector,Ludlow**	**90.81**	**52**	P	**P**	**17 43 33.0**	**+0.9**
	baz=91						
BC3	**Big Chuckawall**	**90.91**	**54**	P	**P**	**17 43 32.4**	**-0.2**
	baz=91						
PAHR	**Pah Rah Range**	**91.00**	**47**	*eP*	**P**	**17 43 30.8**	**-2.1**
	comp=Z,35nm,1.3s						
PAHR				*e*		17 43 41.7	
GLA	**Glamis**	**91.10**	**54**	*eP*	**P**	**17 43 33.7**	**+0.3**
GLA				*e*		17 43 42.7	
GLA				pmax	pmax		
	comp=Z,23nm,1.0s						
GLA	**Glamis**	**91.10**	**54**	*eP*	**P**	**17 43 33.7**	**+0.3**
	comp=Z,23nm,1.0s						
GLA				*e*		17 43 42.7	
GLA	**Glamis**	**91.10**	**54**	P	**P**	**17 43 33.6**	**+0.3**
	baz=91						
NVAR	**Mina Array Bea**	**91.11**	**48**	P	**P**	**17 43 33.6**	**0.0**
NVAR	**Mina Array Bea**	**91.11**	**48**	P	**P**	**17 43 33.6**	**0.0**
	comp=Z,2.1nm,0.8s,baz=225,slow=7.9,SNR=10						
NV11	**Mina Array Sit**	**91.21**	**48**	*eP*	**P**	**17 43 34.0**	**0.0**
NV11				*e*		17 43 42.9	
GMRC	**Granite Mounta**	**91.27**	**53**	P	**P**	**17 43 32.3**	**-2.0**
	baz=91						
IRM	**Iron Mountain**	**91.36**	**53**	P	**P**	**17 43 35.4**	**+0.8**
	baz=92						
MOD	**Modoc**	**91.48**	**45**	*eP*	**P**	**17 43 34.7**	**-0.4**
	comp=Z,61nm,1.1s						
MOD				*e*		17 43 44.0	
W13A	**Hualapai Mount**	**92.72**	**53**	P	**P**	**17 43 39.3**	**-1.8**
	baz=93						
BMN	**Battle Mountai**	**92.80**	**47**	*eP*	**P**	**17 43 41.1**	**-0.2**
BMN				pmax	pmax		
	comp=Z,6.0nm,1.0s						
BMN	**Battle Mountai**	**92.80**	**47**	*eP*	**P**	**17 43 41.1**	**-0.2**
	comp=Z,6.0nm,1.0s						
Y14A	**Wickenburg**	**92.86**	**54**	P	**P**	**17 43 41.7**	**+0.2**
	baz=93						
R11A	**Troy Canyon, C**	**92.96**	**49**	P	**P**	**17 43 41.6**	**-0.5**
	baz=93						
ILAR	**Eielson Array**	**93.84**	**17**	P	**P**	**17 43 44.0**	**-1.2**
ILAR	**Eielson Array**	**93.84**	**17**	P	**P**	**17 43 44.0**	**-1.2**
	comp=Z,1.4nm,0.7s,baz=237,slow=5.8,SNR=7.2						
X16A	**Lo Mia Camp, P**	**94.23**	**54**	P	**P**	**17 43 47.5**	**-0.6**
	baz=94						
U15A	**North Rim**	**94.46**	**52**	P	**P**	**17 43 49.0**	**-0.1**
	baz=95						
EGAK	**Eagle**	**95.48**	**19**	*eP*	**P**	**17 43 51.0**	**-1.8**
	comp=Z,15nm,1.1s						
Y21A	**Point of Rocks**	**96.92**	**56**	P	**P**	**17 43 58.6**	**-1.8**
	baz=97						
WMQ	**Urumqi**	**100.14**	**313**	*eP*	**Pdif**	**17 44 14.0**	**-0.4**
MKAR	**Makanchi Array**	**104.75**	**315**	PKKPbc	PKKPbc	18 00 17.1	-2.7
MKAR	**Makanchi Array**	**104.75**	**315**	PKKPbc	PKKPbc	18 00 17.1	-2.7
	comp=Z,0.5nm,0.7s,baz=306,slow=2.9,SNR=4.0						
KSH	**Kashi**	**107.04**	**306**	*e*Pdif	**Pdif**	**17 44 48.8**	**+3.6**
KSH				PP	PP	17 49 18.5	+6.4
KSH				S	**Sdif**	**17 56 48.3**	**+1.6**
KSH				SS	**SS**	**18 04 23.5**	**+4.8**
KSH				LR	LR		
	comp=N,92nm,5.3s						
KSH				LR	LR		
	comp=E,120nm,4.8s						
KSH				LR	LR		
	comp=Z,170nm,8.0s						
BDFB	**Brasilia**	**126.69**	**133**	PKP	**PKPdf**	**17 49 31.4**	**-1.6**
BDFB	**Brasilia**	**126.69**	**133**	PKP	**PKPdf**	**17 49 31.4**	**-1.6**
	comp=Z,3.1nm,0.5s,baz=171,slow=5.5,SNR=4.2						
ARCES	**ARCESS Array B**	**128.91**	**345**	PKP	**PKPdf**	**17 49 33.8**	**-1.7**
ARCES	**ARCESS Array B**	**128.91**	**345**	PKP	**PKPdf**	**17 49 33.8**	**-1.7**
	comp=Z,2.6nm,0.7s,baz=48,slow=1.8,SNR=9.5						
AKASG	**Malin Array Be**	**138.82**	**322**	PKIKP	**PKPdf**	**17 49 52.8**	**-1.7**
AKASG	**Malin Array Be**	**138.82**	**322**	PKP	**PKPdf**	**17 49 52.8**	**-1.7**
AKASG	**Malin Array Be**	**138.82**	**322**	PKP	**PKPdf**	**17 49 52.8**	**-1.7**
	comp=Z,1.9nm,0.8s,baz=66,slow=2.1,SNR=8.2						
MLR	**Muntele Rosu**	**143.08**	**316**	‖*i*P	PKPab	17 49 58.3	+0.4
VOIR		**143.67**	**316**	‖*i*P	**PKPdf**	**17 50 04.0**	**+0.5**
TRPA	**Tarpa**	**143.88**	**322**	‖*i*P	PKPbc	17 50 01.2	-0.2
DRGR		**144.47**	**320**	⇑*i*P	PKPbc	17 50 03.5	+0.1
ALN	**Alexandroupoli**	**144.72**	**309**	*eP*	**PKPab**	**17 50 03.0**	**-1.2**
GZR	**Gura Zlata**	**145.12**	**318**	‖*i*P	**PKPbc**	**17 50 05.1**	**-0.4**
KARP	**Karpathos**	**145.23**	**299**	*eP*	**PKPbc**	**17 50 05.5**	**-0.7**
SMTH	**Samothraki Isl**	**145.23**	**308**	*eP*	**PKPbc**	**17 50 05.0**	**-1.0**
OKC	**Ostrava-Krasne**	**145.23**	**327**	*e*PKP	**PKPbc**	**17 50 05.7**	**0.0**
OKC				*ep*PKP	**PKiKP**	**17 50 10.9**	**+1.0**
SIRR	**Siria**	**145.37**	**320**	⇑*i*P	**PKPbc**	**17 50 05.9**	**-0.3**
CHOS	**Chios island**	**145.46**	**305**	*eP*	**PKPdf**	**17 50 06.0**	**-0.9**
KSP	**Ksiaz**	**145.46**	**330**	*eP*	**PKPdf**	**17 50 06.0**	**-0.4**
PSZ	**Piszkesteto**	**145.48**	**323**	*e*PKIKP	**PKPdf**	**17 50 05.5**	**-1.1**
PSZ	**Piszkesteto**	**145.48**	**323**	*e*PKPdf	**PKPdf**	**17 50 05.5**	**-1.1**
PSZ	**Piszkesteto**	**145.48**	**323**	⇑*i*P	**PKPdf**	**17 50 06.1**	**-0.5**
PSZ	**Piszkesteto**	**145.48**	**323**	‖*e*	**PKPbc**	**17 50 06.7**	**+0.1**
BSEG	**Bad Segeberg**	**145.52**	**338**	*e*PKPbc	**PKPdf**	**17 50 05.8**	**-0.5**
BSEG				*ep*PKPbc	pPKPbc	17 50 15.8	+3.1
MORC	**Moravsky Berou**	**145.57**	**328**	*e*PKP2	**PKPdf**	**17 50 06.1**	**-0.5**
MORC	**Moravsky Berou**	**145.57**	**328**	*e*PKPdf	**PKPdf**	**17 50 06.1**	**-0.5**
MORC	**Moravsky Berou**	**145.57**	**328**	⇑*i*P	**PKPbc**	**17 50 06.8**	**0.0**
BZS	**Buzias**	**145.72**	**319**	‖*i*P	**PKPdf**	**17 50 06.0**	**-1.0**
KRLC	**Kraliky**	**145.75**	**328**	*e*PKP	**PKPdf**	**17 50 07.1**	**+0.2**
KRLC				*ep*PKP	**pPKPdf**	**17 50 13.5**	**+0.3**
KRLC				*ex*	x	17 50 16.9	
DPC	**Dobruska-Polom**	**145.78**	**329**	*i* PKP	**PKPbc**	**17 50 07.3**	**-0.2**
DPC				*ep*PKP	**pPKPdf**	**17 50 13.8**	**+0.6**
DPC				*ex*	x	17 50 17.3	
UPC	**Upice**	**145.82**	**330**	*e*PKP	**PKPbc**	**17 50 07.3**	**-0.2**
UPC				*ep*PKP	**pPKPdf**	**17 50 13.6**	**+0.4**
UPC				*ex*	x	17 50 17.3	
ZKR	**Zakros**	**146.06**	**299**	*eP*	**PKPab**	**17 50 12.0**	**+2.6**
PKSN	**Nyarlorinc**	**146.07**	**322**	‖*e*PKPdf	**PKPab**	**17 50 10.1**	**+1.1**
VTS	**Vitosha**	**146.08**	**313**	⇑*i*P	**PKPdf**	**17 50 08.1**	**+0.2**
NVR	**Nevrokopi**	**146.11**	**311**	*eP*	**PKPdf**	**17 50 08.0**	**+0.2**
BUD	**Budapest**	**146.21**	**323**	⇑*e*PKPdf	**PKPdf**	**17 50 07.8**	**+0.1**
VRAC	**Vranov**	**146.35**	**328**	⇑*i*P	**PKPbc**	**17 50 09.4**	**+0.2**
SANT	**Santorini**	**146.41**	**301**	*eP*	**PKPdf**	**17 50 07.5**	**-1.0**
PVCC	**Panska Ves**	**146.47**	**331**	*e*PKP	**PKPbc**	**17 50 09.2**	**-0.3**
PVCC				*ep*PKP	**pPKPdf**	**17 50 16.5**	**+2.2**
PVCC				*ex*	x	17 50 19.3	
BRG	**Berggiesshubel**	**146.49**	**332**	*e*PKP	**PKPbc**	**17 50 09.2**	**-0.3**
	comp=Z,16nm

TNS	**Taunus Mts**	149.22	336	*e*PKPbc	PKPbc	17 50 16.4	-0.6
TNS				*ep*PKPbc	pPKPbc	17 50 26.2	+3.0
RJOB	**Jochberg**	149.27	329	*e*PKPbc	PKPbc	17 50 16.1	-1.1
KBA	**Koelnbreinsper**	149.46	327	*i* PKPbc	PKPbc	17 50 16.2	-1.6
	comp=Z,12nm,1.2s,SNR=5.6						
VLS	**Valsamata**	149.61	307	*e*P	PKPbc	17 50 17.0	-1.3
FUR	**Furstenfeldbru**	149.66	331	*e*PKPbc	PKPbc	17 50 17.6	-0.5
MEM	**Membach**	149.76	339	PKPbc	PKPbc	17 50 17.9	-0.3
MEM				APKP	PKPab	17 50 27.5	+4.0
STU	**Stuttgart**	150.09	334	*e*PKPbc	PKPbc	17 50 18.4	-0.7
ABTA	**Abfaltersbach**	150.10	328	⇓*i*PKPbc	PKPbc	17 50 17.7	-1.6
	comp=Z,9.9nm,0.7s,SNR=7.2						
BCLA	**Clavier**	150.15	340	PKPbc	PKPbc	17 50 18.6	-0.5
BCLA				APKPab		17 50 27.9	
MOTA	**Moosalm**	150.35	330	⇓*i*PKPbc	PKPbc	17 50 18.8	-1.2
	comp=Z,22nm,1.0s,SNR=9.1						
SNF	**Seneffe**	150.39	341	PKPbc	PKPbc	17 50 19.4	-0.3
SNF				PKPab	PKPab	17 50 24.7	-1.4
SNF				APKPab		17 50 29.1	
RETA	**Reutte**	150.40	330	⇓*i*PKPbc	PKPbc	17 50 19.0	-1.0
	comp=Z,11nm,1.2s,SNR=5.1						
LANF	**Langenberg**	150.48	335	PKP	PKPbc	17 50 19.3	-0.7
WLF	**Walferdange**	150.51	338	PKPbc	PKPbc	17 50 20.0	-0.1
WLF				PKPab	PKPab	17 50 25.9	-0.7
WLF				APKPab		17 50 30.0	
WLF	**Walferdange**	150.51	338	*e*PKPbc	PKPbc	17 50 19.9	-0.1
WLF	**Walferdange**	150.51	338	*e*PKIKP	PKPbc	17 50 19.8	-0.3
WLF	**Walferdange**	150.51	338	*e*PKPbc	PKPbc	17 50 19.8	-0.3
DOU	**Dourbes**	150.65	340	PKPbc	PKPbc	17 50 19.8	-0.5
DOU				PKPab	PKPab	17 50 25.6	-1.6
DOU				APKPab		17 50 29.6	
FETA	**Feichten**	150.76	330	*i* PKPbc	PKPbc	17 50 19.9	-1.0
	comp=Z,19nm,1.0s,SNR=10						
BFO	**Black Forest**	150.79	334	*e*PKPbc	PKPbc	17 50 19.7	-1.1
BFO	**Black Forest**	150.79	334	*e*PKIKP	PKPbc	17 50 19.9	-0.9
BFO	**Black Forest**	150.79	334	*e*PKPbc	PKPbc	17 50 19.9	-0.9
MENF	**Mencas**	150.94	343	PKP	PKPbc	17 50 20.5	-0.5
DAVA	**Damuels**	150.95	331	⇓*i*PKPbc	PKPbc	17 50 20.5	-0.9
	comp=Z,14nm,1.0s						
ECH	**Echery**	151.35	335	PKP	PKPbc	17 50 21.2	-0.9
MOF	**Molkenrain**	151.66	335	PKP	PKPbc	17 50 22.2	-0.7
THEF	**They Montfort**	151.78	337	PKP	PKPbc	17 50 22.5	-0.6
LOMF	**Lomont**	152.19	334	PKP	PKPbc	17 50 23.6	-0.5
DBIC	**Dimbokro**	162.78	199	PKPab	PKPab	17 51 19.0	-1.0
DBIC	**Dimbokro**	162.78	199	PKPab	PKPab	17 51 19.0	-1.0
	comp=Z,7.3nm,0.8s,baz=135,slow=5.9,SNR=7.2						
TORD	**Torodi Ar. Bea**	164.83	231	PKP	PKPdf	17 50 32.2	-1.2
TORD				PKPab	PKPab	17 51 28.0	-1.2
TORD	**Torodi Ar. Bea**	164.83	231	PKP	PKPdf	17 50 32.2	-1.2
	comp=Z,1.2nm,1.1s,baz=129,slow=0.4,SNR=6.0						
TORD				PKPab	PKPab	17 51 28.0	-1.2
	comp=Z,2.6nm,1.1s,baz=113,slow=3.1,SNR=4.5						

IDC 30 17:30:50.4±1.9, 6.09S×151.55E, h0km, mb3.9/4, mb1 4.2/5, mb1mx3.8/18, mbtmp4.0/5, ML2.4/1, Error ellipse: s-maj=104.0km s-min=23.6km az=132.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	5.46	233	Pn	Pn	17 32 15.0	+1.9
	0.8nm,0.3s,baz=56,slow=12,SNR=5.9						
PMG				Sn	Sn	17 33 16.2	-0.5
	1.9nm,0.3s,baz=156,slow=20,SNR=7.3						
WRA	**Warramunga Arr**	21.67	229	P	P	17 35 42.2	-0.7
	1.8nm,0.7s,baz=55,slow=11,SNR=6.4						
ASAR	**Alice Springs**	24.37	222	P	P	17 36 10.7	+0.2
	4.7nm,0.8s,baz=55,slow=9.4,SNR=21						
FITZ	**Fitzroy Crossi**	27.96	242	P	P	17 36 42.4	-0.5
	1.4nm,0.7s,baz=84,slow=7.2,SNR=5.4						
ILAR	**Eielson Array**	83.81	22	P	P	17 43 20.9	-0.5
	1.0nm,0.7s,baz=248,slow=5.4,SNR=6.1						
TORD	**Torodi Ar. Bea**	149.49	286	PKPbc	PKPbc	17 50 43.0	+0.2
	1.4nm,0.7s,baz=61,slow=2.2,SNR=7.7						

IDC 30 17:34:35.4±2.9, 14.34S×173.52W, h0km, mb3.8/4, mb1 4.2/4, mb1mx3.8/18, mbtmp3.8/4, Error ellipse: s-maj=165.2km s-min=25.1km az=146.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	49.98	256	P	P	17 43 32.2	+0.4
	0.5nm,0.5s,baz=91,slow=6.9,SNR=16						
ASAR	**Alice Springs**	50.34	251	P	P	17 43 34.0	-0.5
	3.2nm,0.5s,baz=88,slow=8.5,SNR=58						
NVAR	**Mina Array Bea**	73.62	42	P	P	17 46 11.4	+0.3
	0.5nm,0.7s,baz=215,slow=7.7,SNR=3.6						
ILAR	**Eielson Array**	81.44	11	P	P	17 46 53.6	-0.4
	0.3nm,0.7s,baz=203,slow=8.8,SNR=3.5						

ISCJB ***30*** *17:47:15.5±0.2, 15.56S±0.05×173.26W±0.04, h10km, mb5.0/112, MS4.9/17, Error ellipse: s-maj=8.2km s-min=4.4km az=150.3*
IDC ***30*** *17:47:15.7±0.4, 15.53S×173.21W, h0km, mb4.7/24, mb1 4.9/25, mb1mx4.8/30, mbtmp4.7/25, ML4.7/1, MS4.8/12, Ms1 4.8/12, ms1mx4.4/37, Error ellipse: s-maj=18.0km s-min=11.4km az=136.0*
BJI ***30*** *17:47:17.2, 15.34S×173.85W, h4km, mB5.6/19, mb5.1/25, Ms5.2/18, MS7 4.9/17*
NEIC ***30*** *17:47:17.0±0.1, 15.51S×173.26W, h10km, mb5.1/76, Error ellipse: s-maj=7.7km s-min=4.0km az=142.0*
DJA ***30*** *17:47:18.7±0.8, 16.5±15×17.3W±1.3, h10km, M5.3/6, mb5.2/6, MLv5.5/1*
MOS ***30*** *17:47:19.9±1.6, 15.53S×173.25W, h33km, mb5.3/29, Error ellipse: s-maj=11.1km s-min=8.7km az=53.4*
SZGRF ***30*** *17:47:20.2, 15.86S×172.96W, h33km, Samoa Islands region*
ISC 30 17:47:18.2±0.5, 15.50S±0.07×173.27W±0.06, h16km±2km, h16km:pP-P, n670, e0989/670, mb5.0/112, MS4.9/18, 174C-137D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	2.14	43	Pn	Pn	17 47 44.6	-8.7
AFI				Sn	Sn	17 48 05.0	-15
AFI	**Afiamalu**	2.14	43	Pn	Pn	17 47 44.6	-8.7
	52nm,0.3s,baz=19,slow=3.7,SNR=21						
AFI				Sn	Sn	17 48 05.0	-15
	611nm,0.3s,baz=233,slow=20,SNR=16						
MSVF	**Nonsavu**	8.61	254	*e*P	Pn	17 49 31.1	+8.8
MSVF				pmax	pmax		
	comp=Z,154nm,1.2s						
MSVF	**Nonsavu**	8.61	254	*e*P	Pn	17 49 31.1	+8.8
	comp=Z,154nm,1.2s						
MSVF	**Nonsavu**	8.61	254	Pn	Pn	17 49 31.3	+9.0
	comp=Z,506nm,1.1s,SNR=14						
RAR	**Rarotonga**	14.02	116	Pn	Pn	17 50 36.0	-0.2
RAR	**Rarotonga**	14.02	116	Pn	Pn	17 50 36.0	-0.2
	comp=Z,4.0nm,0.3s,baz=270,slow=5.9,SNR=4.3						
RAR				LR	LR	17 54 45.3	
	comp=Z,1μm,19.1s,baz=268,slow=32						
RAO	**Raoul Island**	14.35	197	LR	LR	17 55 30.8	
	comp=Z,5μm,18.8s,baz=29,slow=34						
DZM	**Mont Dzumac**	20.28	248	*e*P	P	17 51 54.2	+0.9
	comp=Z,201nm,1.6s						
DZM				*e*LR	LR	17 56 35.5	
	comp=Z,3μm,28.4s						
DZM	**Mont Dzumac**	20.28	248	*e*P	Pn	17 51 54.8	-0.6
	comp=Z,71nm,1.2s						
DZM	**Mont Dzumac**	20.28	248	P	P	17 51 53.6	+0.2
	comp=Z,14nm,0.7s,baz=72,slow=19,SNR=11						
PPT2	**Papeete2**	22.81	99	*e*S	S	17 56 31.1	+1.7
	comp=Z,4μm,26.2s						
TBI	**Tubuai**	23.75	113	*e*S	S	17 56 44.7	-0.1
	comp=Z,4μm,28.0s						
TBI				*e*LR	LR	17 57 50.9	
	comp=Z,1μm,30.8s						
URZ	**Urewera**	24.21	199	P	P	17 52 34.1	0.0
URZ	**Urewera**	24.21	199	P	P	17 52 34.1	0.0
	comp=Z,12nm,0.8s,baz=115,slow=9.8,SNR=4.1						
HNR	**Honiara**	26.82	280	LR	LR	18 01 49.4	
	comp=Z,845nm,20.0s,baz=119,slow=32						
KHZ	**Kahutara**	29.13	200	*e*P	P	17 53 17.3	-1.0
RPZ	**Rata Peaks**	31.14	202	P	P	17 53 36.2	+0.1
RPZ	**Rata Peaks**	31.14	202	P	P	17 53 36.2	+0.1
	comp=Z,9.5nm,0.8s,baz=76,slow=12,SNR=3.1						
RPZ				LR	LR	18 04 59.3	
	comp=Z,3μm,21.1s,baz=38,slow=34						
EIDS	**Eidsvold**	34.72	248	*e*P	P	17 54 06.2	-1.5
ARMA	**Armidale**	35.40	239	*e*P	P	17 54 13.0	-0.6
CTA	**Charters Tower**	38.74	257	P	P	17 54 40.9	-1.0
CTA	**Charters Tower**	38.74	257	P	P	17 54 40.9	-1.0
	comp=Z,5.0nm,0.7s,baz=88,slow=11,SNR=5.1						
CTAO	**Charters Tower**	38.74	257	*e*P	P	17 54 41.0	-1.0
CTAO	**Charters Tower**	38.74	257	*e*P	P	17 54 41.0	-1.0
COEN	**Coen**	42.10	266	*e*P	P	17 55 10.2	+0.4
	comp=Z,173nm,0.8s						
STKA	**Stephens Creek**	44.09	240	*e*P	P	17 55 25.1	-0.8
	comp=Z,8.6nm,1.1s						
STKA	**Stephens Creek**	44.09	240	P	P	17 55 25.4	-0.4
	comp=Z,17nm,0.7s,baz=91,slow=9.8,SNR=39						
BBOO	**Buckleboo**	48.87	240	*e*P	P	17 56 01.9	-1.4
	comp=Z,243nm,0.6s						
WRAB	**Tennant Creek**	49.93	257	*e*P	P	17 56 10.2	-1.4
WRAB				pmax	pmax		
	comp=Z,53nm,1.2s						
WRAB	**Tennant Creek**	49.93	257	*e*P	P	17 56 10.2	-1.4
	comp=Z,52nm,1.2s						
WRAB	**Tennant Creek**	49.93	257	P	P	17 56 10.2	-1.4
	comp=Z,167nm,0.7s,SNR=11						
WRA	**Warramunga Arr**	49.94	257	P	P	17 56 10.3	-1.4
WRA	**Warramunga Arr**	49.94	257	P	P	17 56 10.3	-1.4
	comp=Z,11nm,0.7s,baz=91,slow=6.9,SNR=156						
AS31	**Alice Springs**	50.20	252	*e*P	P	17 56 12.3	-1.4
ASAR	**Alice Springs**	50.20	252	P	P	17 56 12.7	-0.9
ASAR	**Alice Springs**	50.20	252	P	P	17 56 12.7	-0.9
	comp=Z,58nm,0.7s,baz=87,slow=8.4,SNR=473						
FITZ	**Fitzroy Crossi**	58.31	258	*e*P	P	17 57 14.1	+1.3
FITZ	**Fitzroy Crossi**	58.31	258	P	P	17 57 14.2	+1.3
	comp=Z,2.5nm,0.7s,baz=125,slow=7.6,SNR=11						
SBA	**Scott Base**	63.16	185	*e*P	P	17 57 45.5	+0.7
SBA				pmax	pmax		
	comp=Z,246nm,2.5s						
SBA	**Scott Base**	63.16	185	*e*P	P	17 57 45.5	+0.7
	comp=Z,246nm,2.5s						
VNDA	**Vanda**	63.29	186	*e*P	P	17 57 46.2	+0.5
	comp=Z,58nm,2.1s						
VNDA	**Vanda**	63.29	186	P	P	17 57 47.4	+1.6
	comp=Z,2.7nm,1.0s,baz=12,slow=6.3,SNR=12						
MBWA	**Marble Bar**	63.45	254	*e*P	P	17 57 47.3	-0.4
	comp=Z,6.5nm,0.8s						
NWAO	**Narrogin (SRO)**	64.68	241	P	P	17 57 55.8	+0.1
MAJO	**Matsushiro**	69.09	320	*e*P	P	17 58 23.9	+0.3
MAJO				pmax	pmax		
	comp=Z,29nm,1.5s						
MAJO	**Matsushiro**	69.09	320	*e*P	P	17 58 23.9	+0.3
	comp=Z,29nm,1.5s						
MAT	**Matsushiro**	69.09	320	P	P	17 58 23.8	+0.2
MAT				S	S	18 07 23.0	-5.4
FX1	**Attu Island--F**	69.10	351	LR	LR	18 21 51.1	
	comp=Z,930nm,21.7s,baz=106,slow=30						
CASY	**Casey**	70.37	205	*e*P	P	17 58 30.8	-0.2
	comp=Z,50nm,1.9s						
MURC	**Murrieta**	72.37	47	⇓P	P	17 58 43.5	-0.2
	baz=72						
BFSC	**Mount Baldy Ra**	72.40	46	⇓P	P	17 58 44.1	+0.2
	baz=73						
EDW2	**Edwards Air Fo**	72.53	45	⇑P	P	17 58 45.4	+0.8
	baz=73						
MONP	**Monument Peak**	72.54	48	⇑P	P	17 58 45.5	+0.7
	baz=73						
CHGN	**Chignik**	72.60	9	*e*P	P	17 58 41.0	-3.4
ISA	**Isabella**	72.64	44	⇑P	P	17 58 46.2	+1.0
	baz=73						
DVTC	**Desert V Tower**	72.64	48	⇑P	P	17 58 45.9	+0.6
	baz=73						
PETK	**Petropavlovsk-**	72.76	342	P	P	17 58 46.1	+0.6
PETK	**Petropavlovsk-**	72.76	342	P	P	17 58 46.1	+0.6
PETK	**Petropavlovsk-**	72.76	342	P	P	17 58 46.1	+0.6
	comp=Z,11nm,0.9s,baz=121,slow=11,SNR=7.7						
PFO	**Pinyon Flat Ob**	72.90	47	P	P	17 58 47.0	+0.1
PFO	**Pinyon Flat Ob**	72.90	47	P	P	17 58 47.0	+0.1
	comp=Z,5.0nm,0.9s,baz=241,slow=5.9,SNR=4.0						
PFO	**Pinyon Flat Ob**	72.90	47	⇑P	P	17 58 47.6	+0.7
	baz=73						
SWSC	**Sam W. Stewart**	73.01	48	⇑P	P	17 58 48.3	+1.0
	baz=73						
LRMC	**Laurel Mountai**	73.06	45	⇑P	P	17 58 48.3	+0.5
	baz=73						
MPMC	**Manual Prospec**	73.52	44	⇑P	P	17 58 50.9	+0.3
	baz=74						
GSC	**Goldstone**	73.57	45	*e*P	P	17 58 50.6	-0.2
GSC				pmax	pmax		
	comp=Z,6.0nm,0.8s						
GSC	**Goldstone**	73.57	45	*e*P	P	17 58 50.5	-0.2
	comp=Z,6.2nm,0.8s						
GSC	**Goldstone**	73.57	45	⇑P	P	17 58 51.4	+0.6
	baz=74						
YBH	**Yreka Blue Hor**	73.60	37	P	P	17 58 51.2	+0.4
YBH	**Yreka Blue Hor**	73.60	37	P	P	17 58 51.2	+0.4
	comp=Z,6.4nm,0.8s,baz=87,slow=2.9,SNR=9.3						
YBH				LR	LR	18 23 24.6	
	comp=Z,484nm,19.3s,baz=226,slow=30						
YSS	**Yuzh-Sakhalins**	73.63	330	⇑*e*P	P	17 58 51.4	+0.7
YSS				*e*S	S	18 08 22.0	+1.6
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
BC3	**Big Chuckawall**	73.63	47	⇑P	P	17 58 51.5	+0.3
	baz=74						
WAKR	**Walker**	73.63	41	*e*P	P	17 58 51.5	+0.2
	comp=Z,23nm,1.4s						
HEC	**Hector,Ludlow**	73.64	46	⇓P	P	17 58 51.8	+0.6
	baz=74						
GLA	**Glamis**	73.76	48	⇓P	P	17 58 52.6	+0.7
	baz=74						
BEKR	**Beckworth**	73.86	40	*e*P	P	17 58 52.5	0.0
	comp=Z,4.3nm,0.9s						
GMRC	**Granite Mounta**	74.08	46	⇑P	P	17 58 54.1	+0.3
	baz=74						
IRM	**Iron Mountain**	74.11	47	⇓P	P	17 58 54.4	+0.5
	baz=74						
FURC	**Furnace Creek,**	74.17	44	⇑P	P	17 58 54.8	+0.7
	baz=74						
NVAR	**Mina Array Bea**	74.32	42	P	P	17 58 55.5	+0.2
NVAR	**Mina Array Bea**	74.32	42	P	P	17 58 55.5	+0.2
	comp=Z,5.8nm,0.8s,baz=227,slow=9.2,SNR=24						
Y12C	**Blythe**	74.34	48	⇑P	P	17 58 55.5	+0.3
	baz=74						
113A	**Mohawk Valley,**	74.39	49	⇓P	P	17 58 55.8	+0.3
	baz=74						
NV11	**Mina Array Sit**	74.41	42	*e*P	P	17 58 55.8	+0.1
QSPA	**South Pole Qui**	74.55	180	*e*P	P	17 58 56.4	+0.3
	comp=Z,71nm,1.4s						
214A	**Organ Pipe Nat**	74.68	50	⇓P	P	17 58 57.5	+0.2
	baz=75						
PDMCI	**Parker Dam,Lak**	74.90	47	⇓P	P	17 58 59.0	+0.6
	baz=75						
KDAK	**Kodiak Island**	74.99	11	P	P	17 58 58.6	+0.3
KDAK	**Kodiak Island**	74.99	11	P	P	17 58 58.6	+0.3
	comp=Z,14nm,0.7s,baz=177,slow=4.6,SNR=8.8						
KDAK				LR	LR	18 24 49.6	
	comp=Z,1μm,21.4s,baz=140,slow=30						
MOD	**Modoc**	75.12	38	*e*P	P	17 58 60.0	+0.2
	comp=Z,55nm,1.0s						
SHPR	**Sheep Range**	75.34	45	*e*P	P	17 59 01.3	+0.1
	comp=Z,13nm,1.1s						
W13A	**Hualapai Mount**	75.49	47	⇓P	P	17 59 02.3	+0.2
	baz=76						
Y14A	**Wickenburg**	75.52	48	⇑P	P	17 59 02.5	+0.3
	baz=76						
R11A	**Troy Canyon, C**	76.05	43	⇑P	P	17 59 05.5	+0.3
	baz=76						
BMN	**Battle Mountai**	76.14	41	*e*P	P	17 59 05.6	-0.1
BMN				pmax	pmax		
	comp=Z,13nm,1.0s						
BMN	**Battle Mountai**	76.14	41	*e*P	P	17 59 05.6	-0.1
	comp=Z,13nm,1.0s						
KSRS	**Korea Array**	76.31	316	P	P	17 59 08.7	+2.3
	comp=Z,2.2nm,1.0s,baz=131,slow=6.6,SNR=4.5						
KSAR	**Wonju Array Be**	76.33	315	P	P	17 59 08.7	+2.2
TUC	**Tucson**	76.36	51	*e*P	P	17 59 07.1	+0.2
TUC				pmax	pmax		
	comp=Z,13nm,1.3s						
TUC	**Tucson**	76.36	51	*e*P	P	17 59 07.1	+0.2
	comp=Z,13nm,1.3s						
WVOR	**Wild Horse Val**	76.43	38	*e*P	P	17 59 07.4	+0.2
WVOR				pmax	pmax		
	comp=Z,18nm,1.0s						
WVOR	**Wild Horse Val**	76.43	38	*e*P	P	17 59 07.4	+0.2
	comp=Z,18nm,1.0s						
CCUT	**Cedar City**	77.11	45	*e*P	P	17 59 11.8	+0.6
	comp=Z,9.1nm,1.2s						
ARUT	**Antelope Range**	77.18	45	*e*P	P	17 59 11.9	+0.3
ARUT				pmax	pmax		
	comp=Z,245nm,1.3s						
ARUT	**Antelope Range**	77.18	45	*e*P	P	17 59 11.9	+0.3
	comp=Z,245nm,1.3s						
U15A	**North Rim**	77.28	46	⇑P	P	17 59 12.9	+0.6
	baz=77						
USRK	**Ussuriysk Arra**	77.53	323	P	P	17 59 14.0	+0.9
	comp=Z,6.4nm,1.0s,baz=85,slow=4.0,SNR=24						
ELK	**Elko**	77.57	41	*e*P	P	17 59 13.8	0.0
	comp=Z,12nm,1.1s						
320A	**Kipp Ranch, An**	77.61	52	⇓P	P	17 59 14.5	+0.4
	baz=78						
220A	**Playas Peak, P**	77.87	52	⇑P	P	17 59 15.3	-0.2
	baz=78,SNR=9.8						
120A	**U Bar Ranch, L**	78.08	51	⇑P	P	17 59 17.1	+0.4
	baz=78						
Z20A	**Nine Sixteen R**	78.36	51	⇑P	P	17 59 18.4	+0.1
	baz=78,SNR=12						
221A	**Mesquite Ranch**	78.48	52	⇓P	P	17 59 19.4	+0.5
	baz=79						
MFID	**Camas Ranch**	78.68	39	⇑P	P	17 59 20.2	+0.5
	baz=79						
121A	**Cookes Peak, D**	78.71	52	⇓P	P	17 59 19.9	-0.3
	baz=79,SNR=6.0						
DUG	**Dugway**	78.85	43	*e*P	P	17 59 20.4	-0.3
DUG				pmax	pmax		
	comp=Z,18nm,1.2s						
DUG	**Dugway**	78.85	43	*e*P	P	17 59 20.4	-0.3
	comp=Z,18nm,1.2s						
DUG	**Dugway**	78.85	43	⇑P	P	17 59 20.2	-0.5
	baz=79,SNR=8.9						
Y20A	**Horse Springs,**	78.89	50	⇓P	P	17 59 21.1	-0.1
	baz=79,SNR=7.8						
222A	**Williams Famil**	79.04	52	⇑P	P	17 59 21.9	-0.1
	baz=79						
X20A	**Quemado**	79.09	50	⇓P	P	17 59 22.5	+0.1
	baz=79						
Z21A	**St. Cloud Mine**	79.14	51	⇓P	P	17 59 23.0	+0.4
	baz=79						
MDJ	**Mudanjiang**	79.18	322	P	P	17 59 24.0	+1.7
MDJ				pP	pP	17 59 27.3	-0.3
MDJ				sP	sP	17 59 28.5	-1.1
MDJ				PcP	PcP	17 59 31.5	+0.9
MDJ				S	S	18 09 26.5	+5.1
MDJ				pmax	pmax		
	comp=Z,15nm,1.4s						
MDJ				pmax	pmax		
	comp=Z,260nm,6.1s						
MDJ				LR	LR		
	comp=N,300nm,48.4s						
MDJ				LR	LR		
	comp=E,300nm,36.3s						
MDJ				LR	LR		
	comp=Z,470nm,32.3s						
MDJ	**Mudanjiang**	79.18	322	*e*P	P	17 59 23.7	+1.5
	comp=Z,11nm,1.0s						
W20A	**Ramah**	79.35	49	⇑P	P	17 59 23.7	-0.1
	baz=80,SNR=9.0						
Y21A	**Point of Rocks**	79.45	50	⇓P	P	17 59 24.2	-0.2
	baz=80						
DIV	**Divide**	79.46	13	*e*P	P	17 59 22.7	-0.8
	comp=Z,50nm,1.1s						
X21A	**Alamocita Cree**	79.57	50	⇑P	P	17 59 24.8	-0.1
	baz=80						
BMRM	**Bremner River**	79.58	14	*e*P	P	17 59 22.6	-1.6
	comp=Z,39nm,1.1s						
HLID	**Hailey**	79.62	39	*e*P	P	17 59 25.3	+0.3
	comp=Z,24nm,1.1s						
HLID	**Hailey**	79.62	39	⇑P	P	17 59 24.7	-0.3
	baz=80,SNR=28						
Z22A	**Elephant Butte**	79.65	51	⇓P	P	17 59 25.4	+0.1
	baz=80,SNR=13						
HVU	**Hansel Valley**	79.70	41	*e*P	P	17 59 25.5	+0.1
HVU				pmax	pmax		
	comp=Z,16nm,0.9s						
HVU	**Hansel Valley**	79.70	41	*e*P	P	17 59 25.5	+0.1
	comp=Z,16nm,0.9s						
SRU	**San Rafael**	79.83	45	*e*P	P	17 59 27.1	+0.9
SRU				pmax	pmax		
	comp=Z,12nm,0.8s						
SRU	**San Rafael**	79.83	45	*e*P	P	17 59 27.1	+0.9
	comp=Z,12nm,0.8s						
Y22A	**Socorro**	79.95	51	⇑P	P	17 59 27.0	0.0
	baz=80,SNR=5.7						
JLU	**Jordanelle**	79.95	43	*e*P	P	17 59 26.8	-0.1
	comp=Z,35nm,1.4s						
324A	**Moseley Ranch,**	80.00	53	⇑P	P	17 59 26.7	-0.5
	baz=80,SNR=14						
LAZ	**Ladron**	80.03	50	*e*P	P	17 59 28.0	+0.6
	comp=Z,14nm,1.5s						
425A	**Indio Mountain**	80.11	54	⇑P	P	17 59 27.6	-0.3
	baz=80,SNR=17						
MNTX	**Cornudas Mount**	80.18	53	*e*P	P	17 59 28.0	0.0
	comp=Z,16nm,1.3s						
Z23A	**Rita Site, Whi**	80.20	52	⇓P	P	17 59 28.6	+0.3
	baz=80						
224A	**Cornudas Mount**	80.23	53	⇑P	P	17 59 28.5	0.0
	baz=80,SNR=12						
626A	**Big Bend Ranch**	80.28	56	⇓P	P	17 59 28.6	-0.1
	baz=80,SNR=18						
BNM	**Barren Site**	80.29	51	*e*P	P	17 59 29.2	+0.4
	comp=Z,7.8nm,1.0s						
MVCO	**Mesa Verde**	80.32	47	⇓P	P	17 59 29.3	+0.3
	baz=80						
LPM	**Los Pinos Moun**	80.36	50	*e*P	P	17 59 29.5	+0.3
	comp=Z,15nm,1.2s						
526A	**Mary Lane Ranc**	80.52	55	⇑P	P

CN2 pmax pmax
comp=Z,20nm,1.1s
CN2 pmax pmax
comp=Z,300nm,6.0s
CN2 LR LR
comp=N,300nm,16.0s
CN2 LR LR
comp=E,300nm,16.0s
CN2 LR LR
comp=Z,200nm,16.0s
628A Black Gap, Mar 81.25 56 ⇓P P 17 59 33.4 -0.5
baz=81,SNR=14
MCMT McKenzie Canyo 81.25 39 eP P 17 59 33.9 +0.1
comp=Z,11nm,1.1s
HYT Haines Junctio 81.27 17 eP P 17 59 33.4 +0.1
AHID Auburn Hatcher 81.27 41 eP P 17 59 31.3 -2.6
comp=Z,14nm,0.9s
Q20A Ridgley Place, 81.27 46 ⇓P P 17 59 33.9 -0.1
baz=81,SNR=8.8
226B Tecolote Peak, 81.28 53 ⇓P P 17 59 33.6 -0.5
baz=81,SNR=21
V23A Ortiz Mt. (NFS 81.32 49 ⇓P P 17 59 34.4 +0.1
baz=82,SNR=5.2
Z25A Roswell 81.36 52 ⇓P P 17 59 34.5 0.0
baz=82,SNR=7.1
X24A Lazy VL Ranch, 81.36 51 ⇑P P 17 59 34.0 -0.5
baz=82
T22A Edith 81.36 48 ⇓P P 17 59 34.7 +0.1
baz=82
427A Hayter Ranch, 81.38 55 ⇑P P 17 59 34.3 -0.3
baz=82,SNR=17
RRI2 Red Ridge 81.42 41 eP P 17 59 33.1 -1.6
comp=Z,45nm,1.3s
P20A De Beque 81.46 45 ⇑P P 17 59 34.2 -0.7
baz=82,SNR=10
MENT Mentasta 81.52 13 eP P 17 59 34.3 -0.2
R21A Cimarron 81.52 46 ⇑P P 17 59 35.5 +0.2
baz=82,SNR=5.7
U23A El Rito 81.57 49 ⇓P P 17 59 36.3 +0.6
baz=82
528A Cox Ranch, San 81.59 56 ⇓P P 17 59 35.8 +0.1
baz=82,SNR=6.1
126A Clayton Basin, 81.63 53 ⇑P P 17 59 35.7 -0.2
baz=82
Y25A Mesa, Roswell 81.65 51 ⇑P P 17 59 35.4 -0.6
baz=82,SNR=9.8
W24A Lazy 6 Ranch, 81.66 50 ⇓P P 17 59 35.5 -0.6
baz=82,SNR=8.3
MSO Missoula 81.68 37 ⇓P P 17 59 34.8 -1.0
baz=82,SNR=15
DLMT Dillon 81.69 38 eP P 17 59 35.8 -0.2
comp=Z,26nm,1.2s
REDW Red Top Meadow 81.73 41 eP P 17 59 35.9 -0.5
comp=Z,31nm,1.3s
TPAW Teton Pass 81.73 41 eP P 17 59 36.2 -0.2
comp=Z,22nm,1.1s
S22A 4UR Ranch, Cre 81.74 47 ⇑P P 17 59 36.7 +0.1
baz=82,SNR=24
BSMT Bassoo Peak 81.77 35 eP P 17 59 35.9 -0.5
comp=Z,40nm,1.2s
SNOW Snow King Moun 81.84 41 eP P 17 59 37.9 +1.0
comp=Z,17nm,0.8s
O20A White River Ci 81.86 45 ⇑P P 17 59 37.5 +0.4
baz=82
M19A Rock Springs 81.90 43 ⇓P P 17 59 37.4 +0.1
baz=82
Z26A Caprock 81.92 52 ⇓P P 17 59 37.2 -0.2
baz=82,SNR=16
X25A Clemmons Ranch 81.92 51 ⇓P P 17 59 37.0 -0.5
baz=82,SNR=7.2
IMW Indian Meadow 81.94 40 eP P 17 59 37.7 +0.2
comp=Z,36nm,1.3s
V24A Rampart Ranch, 81.98 50 ⇑P P 17 59 38.0 +0.2
baz=82
MOOW Moose Ponds 81.99 40 eP P 17 59 37.4 -0.2
comp=Z,13nm,1.3s
T23A Casias Ranch, 81.99 48 ⇑P P 17 59 38.4 +0.4
baz=82
LOHW Long Hollow 82.01 41 eP P 17 59 37.6 -0.2
comp=Z,20nm,1.3s
LRM Limekiln Ridge 82.02 38 eP P 17 59 37.1 -0.7
comp=Z,117nm,1.1s
SWMT Swartz Lake 82.02 36 eP P 17 59 35.8 -1.8
comp=Z,17nm,1.4s
529A Stev Forest Ra 82.03 56 ⇓P P 17 59 37.2 -0.8
baz=82,SNR=8.7
328A Wristen Ranch, 82.06 54 ⇓P P 17 59 37.8 -0.3
baz=82,SNR=8.4
QLMT Earthquake Lak 82.11 39 eP P 17 59 38.9 +0.6
comp=Z,6.1nm,1.3s
P21A Newcastle 82.12 45 ⇑P P 17 59 38.8 +0.3
baz=82
CHMT Chamberlain Mo 82.13 37 eP P 17 59 37.7 -0.7
comp=Z,20nm,1.1s
127A Arkansas Junct 82.15 53 ⇑P P 17 59 39.1 +0.5
baz=82
SLMT Seeley Lake 82.17 36 eP P 17 59 37.2 -1.2
comp=Z,12nm,1.1s
N20A Spence Gulch, 82.18 44 ⇓P P 17 59 38.7 0.0
baz=82,SNR=15
I17A Pilgrim Ck. 82.18 40 ⇑P P 17 59 39.0 +0.3
baz=82
FLWY Flagg Ranch 82.19 40 eP P 17 59 39.2 +0.5
comp=Z,42nm,1.2s
Q22A Crested Butte, 82.19 46 ⇑P P 17 59 38.4 -0.6
baz=82,SNR=7.5
BW06 Boulder Array 82.25 42 eP P 17 59 38.5 -0.6
comp=Z,19nm,1.2s
PDAR Pinedale Array 82.25 42 P P 17 59 38.1 -1.0
PDAR Pinedale Array 82.25 42 P P 17 59 38.1 -1.0
comp=Z,14nm,1.1s,baz=205,slow=3.1,SNR=37
PDAR LR LR 18 33 00.7
comp=Z,498nm,18.4s,baz=245,slow=33
Y26A Elida 82.30 52 ⇑P P 17 59 38.8 -0.6
baz=82,SNR=6.1
YMR Madison River 82.32 40 eP P 17 59 40.4 +1.0
comp=Z,14nm,0.4s
W25A X Bar L Ranch, 82.36 50 ⇓P P 17 59 40.3 +0.5
baz=82
H17A Grant Village 82.42 40 eP P 17 59 40.5 +0.5
H17A Grant Village 82.42 40 ⇑P P 17 59 40.8 +0.8
baz=83
COLA College 82.43 11 eP P 17 59 38.0 -1.2
COLA pmax pmax
comp=Z,139nm,0.9s
COLA College 82.43 11 eP P 17 59 38.0 -1.2
comp=Z,139nm,0.9s
T24B San Luis 82.48 48 ⇓P P 17 59 40.9 +0.4
baz=83
429A Davenport Ranc 82.48 55 ⇑P P 17 59 39.5 -0.9
baz=83,SNR=32
V25A Rancho No Teng 82.51 50 ⇓P P 17 59 40.0 -0.5
baz=83,SNR=12
ILAR Eielson Array 82.52 11 P P 17 59 39.0 -0.7
ILAR Eielson Array 82.52 11 P P 17 59 39.0 -0.7
comp=Z,4.6nm,0.7s,baz=220,slow=5.5,SNR=30
ILAR LR LR 18 28 10.4
comp=Z,498nm,21.1s,baz=217,slow=30
YNR Norris Junctio 82.52 40 eP P 17 59 41.9 +1.4
comp=Z,39nm,1.3s
Z27A Tatum 82.52 53 ⇑P P 17 59 40.1 -0.5
baz=83,SNR=9.5
228A UT Block 9, Go 82.52 54 ⇓P P 17 59 39.6 -1.0
baz=83,SNR=5.1
IM04 Indian Mountai 82.54 8 eP P 17 59 39.9 +0.1
M20A Sweetwater, Wa 82.54 43 ⇑P P 17 59 40.5 -0.1
baz=83,SNR=7.2
X26A CR and CF Fran 82.57 51 ⇑P P 17 59 40.8 0.0
baz=83,SNR=6.0
LKWY Lake 82.61 40 eP P 17 59 42.6 +1.6
LKWY pmax pmax
comp=Z,33nm,1.1s
LKWY Lake 82.61 40 eP P 17 59 42.6 +1.6
comp=Z,33nm,1.1s
IMA2 Indian Mountai 82.64 8 eP P 17 59 40.5 +0.1
SEY Seymchan 82.64 345 eP P 17 59 40.5 +0.2
R23A Moffat 82.65 47 ⇑P P 17 59 41.5 +0.2
baz=83,SNR=7.6
L20A Wamsutter 82.68 43 ⇑P P 17 59 41.2 -0.1
baz=83,SNR=19
K19A Absolon Red Bu 82.74 42 ⇑P P 17 59 40.8 -0.8
baz=83,SNR=14
530A J-C Ranch, Com 82.75 56 ⇑P P 17 59 41.0 -0.8
baz=83,SNR=8.4
329A Wagon Wheel Ra 82.75 55 ⇓P P 17 59 41.1 -0.6
baz=83,SNR=8.1
Y27A Causey 82.79 52 ⇓P P 17 59 41.6 -0.4
baz=83,SNR=6.7

128A Castleberry Fa 82.80 53 ⇓P P 17 59 41.3 -0.7
baz=83,SNR=18
J19A Crowheart 82.82 42 ⇓P P 17 59 41.2 -0.8
baz=83,SNR=15
W26A Owens Ranch, T 82.83 51 ⇑P P 17 59 42.0 -0.1
baz=83
HRY Holter Researc 82.85 38 eP P 17 59 41.6 -0.3
comp=Z,35nm,0.9s
S24A Houchin Ranch, 82.85 48 ⇑P P 17 59 42.5 +0.1
baz=83,SNR=7.0
U25A Circle Dot Ran 82.90 49 ⇑P P 17 59 42.3 -0.3
baz=83,SNR=10.0
WALA Waterton Lakes 82.92 35 eP P 17 59 41.8 -0.5
comp=Z,0.9nm,1.3s
Q23A Hartsel 82.96 47 ⇑P P 17 59 42.9 -0.1
baz=83,SNR=12
K20A Yellowstone Ra 82.99 42 ⇑P P 17 59 42.1 -0.8
baz=83,SNR=12
O22A Kremmling 83.03 45 ⇓P P 17 59 43.0 -0.3
baz=83,SNR=16
QIZ Qiongzhong 83.06 292 P P 17 59 40.8 -2.7
QIZ S S 18 10 02.0 -0.8
QIZ pmax pmax
comp=Z,38nm,2.4s
430A Baggett Ranch, 83.07 56 ⇑P P 17 59 42.9 -0.5
baz=83
229A Bryant Ranch, 83.07 54 ⇓P P 17 59 43.1 -0.2
baz=83
631A Perdido Creek 83.08 57 ⇓P P 17 59 42.5 -0.9
baz=83,SNR=20
V26A Tequesquite Ra 83.11 50 ⇑P P 17 59 42.6 -1.0
baz=83,SNR=6.8
MSTX Muleshoe 83.12 52 eP P 17 59 43.1 -0.6
MSTX Muleshoe 83.12 52 ⇑P P 17 59 43.0 -0.6
baz=83,SNR=17
H18A Shoshone NF, C 83.12 40 ⇓P P 17 59 43.4 -0.2
baz=83,SNR=9.9
M21A Separation Pea 83.14 44 ⇓P P 17 59 43.3 -0.4
baz=83,SNR=22
Z28A Tucker Farm, M 83.14 53 ⇑P P 17 59 42.9 -0.9
baz=83,SNR=6.1
X27A F and S Farms, 83.15 51 ⇑P P 17 59 43.2 -0.6
baz=83,SNR=6.5
P23A Jefferson 83.16 46 ⇑P P 17 59 43.6 -0.5
baz=83
R24A Sanders Place, 83.18 47 ⇑P P 17 59 44.0 0.0
baz=83,SNR=15
T25A Trinidad 83.21 49 ⇓P P 17 59 43.5 -0.7
baz=83,SNR=6.6
I19A Meeteetse 83.23 41 ⇓P P 17 59 44.4 +0.3
baz=83
L21A Rawlins 83.30 43 ⇑P P 17 59 44.0 -0.5
baz=84,SNR=13
W27A Bowe Ranch, En 83.34 51 ⇑P P 17 59 43.9 -0.8
baz=84,SNR=12
330A Meridon 83.35 55 ⇓P P 17 59 43.9 -1.0
baz=84
N22A Wattenberg Ran 83.38 45 ⇓P P 17 59 44.8 -0.2
baz=84,SNR=22
531A Rocksprings 83.39 56 ⇑P P 17 59 44.5 -0.5
baz=84,SNR=21
S25A Robets Cordova 83.41 48 ⇑P P 17 59 45.1 -0.1
baz=84,SNR=17
O23A Lake Granby, G 83.48 45 ⇑P P 17 59 45.8 +0.2
baz=84,SNR=5.6
DAWY Dawson 83.48 14 eP P 17 59 44.9 +0.1
J20A Shoshoni 83.48 42 ⇑P P 17 59 44.9 -0.5
baz=84,SNR=7.9
ISCO Idaho Springs 83.51 46 eP P 17 59 45.7 -0.1
ISCO pmax pmax
comp=Z,10.0nm,0.9s
ISCO Idaho Springs 83.51 46 eP P 17 59 45.7 -0.1
comp=Z,9.8nm,0.9s
ISCO Idaho Springs 83.51 46 ⇓P P 17 59 45.5 -0.3
baz=84,SNR=9.8
431A Sonora 83.53 56 ⇓P P 17 59 45.5 -0.3
baz=84
H19A Powell 83.54 40 ⇑P P 17 59 45.8 +0.2
baz=84,SNR=11
M22A Cedar Creek Ra 83.56 44 ⇓P P 17 59 45.2 -0.7
baz=84,SNR=11
230A Sterling City 83.59 55 ⇓P P 17 59 45.7 -0.4
baz=84
RLMT Red Lodge 83.59 40 eP P 17 59 46.3 +0.4
comp=Z,20nm,1.1s
Z29A Hungry Hill Ra 83.66 53 ⇓P P 17 59 45.5 -0.9
baz=84,SNR=6.2
GCMT Greycliff 83.67 39 eP P 17 59 46.5 +0.2
comp=Z,25nm,1.2s
EGAK Eagle 83.69 13 eP P 17 59 45.6 -0.1
comp=Z,14nm,1.0s
K21A Alcova 83.69 43 ⇑P P 17 59 45.9 -0.6
baz=84,SNR=9.1
R25A Fountain Ranch 83.73 48 ⇑P P 17 59 46.1 -0.7
baz=84,SNR=7.0
I20A Worland 83.74 41 ⇑P P 17 59 46.5 -0.1
baz=84,SNR=29
632A Uvalde 83.75 57 ⇑P P 17 59 46.6 -0.3
baz=84,SNR=13
N23A Red Feather La 83.77 45 ⇓P P 17 59 46.7 -0.4
baz=84,SNR=11
V27A Dan Oppiter Fa 83.79 50 ⇓P P 17 59 47.0 -0.1
baz=84
T26A Comanche Natio 83.82 49 ⇓P P 17 59 47.0 -0.3
baz=84
532A Rocksprings 83.89 57 ⇑P P 17 59 46.7 -0.9
baz=84,SNR=10.0
J21A Lysite 83.89 42 ⇑P P 17 59 47.1 -0.5
baz=84,SNR=42
331A San Angelo 83.91 55 ⇑P P 17 59 47.7 0.0
baz=84
L22A Ellis Ranch, M 83.95 44 ⇑P P 17 59 47.6 -0.3
baz=84,SNR=14
130A Snyder 83.97 54 ⇓P P 17 59 47.9 -0.1
baz=84
O24A Longmont 84.02 46 ⇑P P 17 59 48.2 0.0
baz=84
W28A Vega 84.06 51 ⇓P P 17 59 48.2 -0.2
baz=84
U27A Thompson Grove 84.07 50 ⇑P P 17 59 48.3 -0.2
baz=84
H20A Greybull 84.07 41 ⇑P P 17 59 47.2 -1.1
baz=84,SNR=5.3
Q25A Bedland, Calha 84.08 47 ⇑P P 17 59 48.7 +0.1
baz=84
S26A Kim 84.09 49 ⇑P P 17 59 47.7 -0.9
baz=84,SNR=12
JCT Junction City 84.10 56 eP P 17 59 49.4 +0.7
JCT pmax pmax
comp=Z,6.0nm,0.8s
JCT Junction City 84.10 56 eP P 17 59 49.4 +0.7
comp=Z,6.3nm,0.8s
JCT Junction City 84.10 56 ⇑P P 17 59 48.1 -0.6
baz=84
Z30A Sanderson Ranc 84.11 53 ⇓P P 17 59 47.6 -1.1
baz=84,SNR=18
X29A Tulia 84.12 52 ⇑P P 17 59 48.3 -0.5
baz=84
F19A Roth Farm, Mol 84.14 39 ⇓P P 17 59 48.2 -0.4
baz=84,SNR=18
K22A Casper 84.17 43 ⇑P P 17 59 48.5 -0.5
baz=84
M23A Laramie 84.17 44 ⇑P P 17 59 48.5 -0.6
baz=84,SNR=24
I21A Big Trails, Te 84.21 42 ⇓P P 17 59 48.2 -0.9
baz=84,SNR=40
COLD Coldfoot 84.22 9 eP P 17 59 49.0 +0.6
comp=Z,17nm,1.2s
231A Bronte 84.23 55 ⇓P P 17 59 47.9 -1.4
baz=84,SNR=7.4
432A Menard 84.25 56 ⇓P P 17 59 48.0 -1.4
baz=84,SNR=7.7
G20A Bridger 84.29 40 ⇓P P 17 59 48.9 -0.5
baz=84
P25A Willow Gulch B 84.39 47 ⇑P P 17 59 49.0 -1.1
baz=84,SNR=6.9
R26A Arlington 84.39 48 ⇓P P 17 59 49.5 -0.6
baz=84
T27A Campo 84.41 49 ⇑P P 17 59 48.9 -1.3
baz=84,SNR=9.5
W29A Amraillo 84.43 51 ⇓P P 17 59 49.3 -1.0
baz=85,SNR=11
131A Roby 84.45 54 ⇑P P 17 59 49.8 -0.6
baz=85
N24A Carr 84.46 45 ⇓P P 17 59 50.0 -0.4
baz=85,SNR=5.8
L23A Garrett 84.47 44 ⇑P P 17 59 49.7 -0.8
baz=85

332A Millersview 84.48 55 ⇑P P 17 59 49.7 -0.9
baz=85,SNR=13
U28A Mallet 84.50 50 ⇑P P 17 59 49.8 -0.8
baz=85
Y30A Stafford Cattl 84.52 53 ⇑P P 17 59 49.9 -0.9
baz=85,SNR=7.0
E19A Rath Farm, Rou 84.54 39 ⇑P P 17 59 50.1 -0.5
baz=85,SNR=7.1
J22A Midwest 84.55 42 ⇑P P 17 59 49.9 -0.9
baz=85,SNR=28
F20A Billings 84.61 40 ⇓P P 17 59 51.0 +0.1
baz=85
O25A Wiggins 84.68 46 ⇑P P 17 59 51.5 0.0
baz=85
EGMT Eagleton 84.73 37 eP P 17 59 51.2 -0.3
comp=Z,36nm,1.1s
EGMT Eagleton 84.73 37 ⇑P P 17 59 51.2 -0.3
baz=85,SNR=7.6
232A Coleman 84.74 55 ⇓P P 17 59 51.1 -0.8
baz=85,SNR=10
H21A Big Horn, Sher 84.75 41 ⇑P P 17 59 51.1 -0.6
baz=85,SNR=7.3
X30A Coker Ranch, T 84.75 52 ⇓P P 17 59 51.7 -0.2
baz=85
I22A 9 Mile Ranch, 84.76 42 ⇑P P 17 59 51.2 -0.7
baz=85,SNR=9.6
M24A Cheyenne 84.78 45 ⇑P P 17 59 51.8 -0.3
baz=85
V29A Stinnett 84.82 51 ⇓P P 17 59 52.2 -0.1
baz=85
D19A Cripps Ranch, 84.82 38 ⇑P P 17 59 51.8 -0.2
baz=85,SNR=14
R27A Eads 84.85 48 ⇑P P 17 59 52.2 -0.2
baz=85
T28A Walsh 84.88 49 ⇓P P 17 59 52.3 -0.2
baz=85
Z31A Sharp Cattle R 84.89 54 ⇓P P 17 59 51.6 -1.0
baz=85,SNR=14
E20A Meyer Farm, Mu 84.95 39 ⇑P P 17 59 52.8 +0.1
baz=85,SNR=14
L24A Wheatland 84.96 44 ⇓P P 17 59 53.1 +0.3
baz=85
C19A Slack Wire Ran 85.00 38 ⇑P P 17 59 52.7 -0.2
baz=85,SNR=30
ABTX Abilene, Hawle 85.02 54 eP P 17 59 52.9 -0.4
ABTX Abilene, Hawle 85.02 54 ⇑P P 17 59 52.4 -0.9
baz=85,SNR=13
Y31A Rekieta Farm, 85.04 53 ⇓P P 17 59 52.6 -0.7
baz=85,SNR=12
H22A Clearmont 85.17 41 ⇓P P 17 59 53.5 -0.4
baz=85,SNR=6.0
D20A Manuel Ranch, 85.23 38 ⇓P P 17 59 53.8 -0.2
baz=85,SNR=13
F21A Absaloka Mine, 85.25 40 ⇓P P 17 59 54.2 +0.1
baz=85,SNR=6.6
O26A Horse Wrangler 85.29 46 ⇓P P 17 59 54.7 +0.1
baz=85
V30A Spur Ranch, Mi 85.40 51 ⇑P P 17 59 55.2 0.0
baz=86
Z32A Haskell 85.40 54 ⇑P P 17 59 54.7 -0.5
baz=86,SNR=46
B19A Brinkman Farms 85.42 37 ⇓P P 17 59 54.8 -0.1
baz=86,SNR=6.8
G22A Birney 85.49 41 ⇑P P 17 59 55.7 +0.3
baz=86
EDM Edmonton 85.50 31 eP P 17 59 54.3 -0.9
EDM Edmonton 85.50 31 eP P 17 59 54.3 -0.9
X31A McDonald Ranch 85.51 52 ⇑P P 17 59 55.7 0.0
baz=86
R28A Tribune 85.58 48 ⇓P P 17 59 56.1 +0.1
baz=86
N26A Koester Ranch, 85.60 46 ⇓P P 17 59 56.7 +0.6
baz=86
C20A Veseth Ranch, 85.61 38 ⇓P P 17 59 55.5 -0.3
baz=86,SNR=8.0
E21A Keefer Ranch, 85.61 39 ⇓P P 17 59 56.8 +0.9
baz=86
BJI Beijing 85.62 313 P P 17 59 57.3 +1.3
BJI S S 18 10 28.0 +0.3
BJI pmax pmax
comp=Z,16nm,2.0s
BJI pmax pmax
comp=Z,260nm,4.5s
BJI LR LR
comp=N,220nm,23.0s
BJI LR LR
comp=E,250nm,23.4s
BJI LR LR
comp=Z,350nm,34.0s
Y32A R-V Farms, Ver 85.68 53 ⇑P P 17 59 56.1 -0.5
baz=86,SNR=9.6
J24A Dixon Ranch, L 85.70 43 ⇓P P 17 59 56.6 +0.1
baz=86
W31A Holland Ranch, 85.74 52 ⇑P P 17 59 56.1 -0.7
baz=86,SNR=8.2
A19A Klindworth Far 85.76 37 ⇓P P 17 59 56.2 -0.5
baz=86,SNR=8.3
F22A Rosebud 85.77 40 ⇑P P 17 59 57.2 +0.4
baz=86
D21A La Casta Ranch 85.91 39 ⇓P P 17 59 58.0 +0.6
baz=86
K25A Mack Ranch, Ha 85.91 44 ⇓P P 17 59 58.0 +0.4
baz=86
B20A Solberg Farm, 85.95 37 ⇓P P 17 59 58.2 +0.6
baz=86
I24A Kuemmerle Ranc 85.95 42 ⇓P P 17 59 57.7 -0.1
baz=86
V31A Spring Creek L 86.04 51 ⇑P P 17 59 58.5 +0.2
baz=86
G23A Biddle 86.05 41 ⇑P P 17 59 58.0 -0.2
baz=86
H24A Dirks Ranch, A 86.39 42 ⇑P P 17 59 58.7 -1.2
baz=86,SNR=12
Q29A Oakley 86.40 48 ⇑P P 17 59 59.7 -0.3
baz=86
RSSD Black Hills 86.45 42 eP P 17 59 59.3 -1.0
RSSD pmax pmax
comp=Z,30nm,0.9s
RSSD Black Hills 86.45 42 eP P 17 59 59.3 -1.0
comp=Z,30nm,0.9s
WHTX Lake Whitney 86.52 56 eP P 18 00 00.2 -0.5
WHTX Lake Whitney 86.52 56 ⇓P P 17 59 59.7 -1.0
baz=87,SNR=6.0
B21A Ellsworth Farm 86.53 38 ⇑P P 18 00 01.2 +0.8
baz=87
I25A Rochford 86.60 43 ⇑P P 17 59 59.9 -1.2
baz=87,SNR=6.0
T31A Randall Ranch, 86.66 50 ⇓P P 18 00 01.4 +0.1
baz=87
R30A Dighton 86.67 49 ⇓P P 18 00 01.7 +0.3
baz=87
D23A Lindsay 87.04 39 ⇑P P 18 00 04.3 +1.3
baz=87
B22A Reddig Ranch S 87.08 38 ⇓P P 18 00 03.9 +0.8
baz=87
ENH Enshi 87.08 302 eP P 18 00 04.5 +1.0
comp=Z,3.9nm,0.8s
P30A Selden 87.17 48 ⇓P P 18 00 04.3 +0.5
baz=87
C23A Lambert 87.34 39 ⇑P P 18 00 04.3 0.0
baz=88,SNR=6.8
J27A Elkhorn Farm, 87.42 44 ⇓P P 18 00 05.6 +0.6
baz=88
A22A Carney Farms, 87.44 37 ⇑P P 18 00 05.7 +0.8
baz=88
H26A Fairpoint 87.48 42 ⇓P P 18 00 05.5 +0.3
baz=88
C24A Savage 87.68 39 ⇓P P 18 00 07.3 +1.3
baz=88
MAW Mawson 87.74 199 P P 18 00 06.3 +0.3
MAW Mawson 87.74 199 P P 18 00 06.3 +0.3
comp=Z,10nm,1.0s,baz=105,slow=7.0,SNR=15
MAW LR LR 18 39 33.2
comp=Z,726nm,18.4s,baz=113,slow=36
B23A Brockton 87.75 38 ⇓P P 18 00 06.8 +0.4
baz=88
J28A Allard Ranch, 88.01 44 ⇑P P 18 00 08.5 +0.8
baz=88
A23A Redstone 88.03 38 ⇓P P 18 00 08.7 +1.1
baz=88
GYA Guiyang 88.20 298 P P 18 00 09.3 +0.2
GYA PP PP 18 03 38.5 +2.0
GYA SKS SKSac 18 10 35.0 -2.7
GYA S S 18 10 52.0 -1.4
GYA pmax pmax
comp=Z,30nm,1.0s
GYA pmax pmax
comp=Z,130nm,6.4s

GYA LR LR
comp=N,650nm,21.3s
GYA LR LR
comp=E,580nm,22.0s
GYA LR LR
comp=Z,560nm,21.9s
DGMT Dagmar 88.23 38 *e*P **P 18 00 08.5 -0.1**
comp=Z,54nm,1.1s
DGMT Dagmar 88.23 38 ⇑P **P 18 00 09.1 +0.6**
baz=88
INK Inuvik 88.33 14 *e*P **P 18 00 07.1 -1.4**
comp=Z,16nm,1.2s
E27A Carson 88.99 41 ⇓P **P 18 00 13.0 +0.7**
baz=89
A25A Svangstu Ranch 89.08 38 ⇑P **P 18 00 13.1 +0.6**
baz=89
HHC Hu-ho-hao-te 89.18 313 *e*P **P 18 00 13.5 +0.1**
HHC sP **sP 18 00 20.0 -0.8**
HHC PP **PP 18 03 46.5 +2.5**
HHC SKS **SKSac 18 10 40.5 -2.4**
HHC S **S 18 11 00.8 -1.3**
HHC sS **ScS 18 11 06.5 -0.6**
HHC SS **SS 18 16 57.5 +0.9**
HHC pmax pmax
comp=Z,28nm,0.7s
HHC pmax pmax
comp=Z,520nm,4.4s
HHC LR LR
comp=N,440nm,17.8s
HHC LR LR
comp=E,360nm,16.7s
HHC LR LR
comp=Z,680nm,19.0s
YAK Yakutsk 89.25 337 *e*P **P 18 00 11.4 -1.6**
YAK pmax pmax
comp=Z,14nm,1.0s
YKA Yellowknife Ar 90.14 23 P **P 18 00 16.4 -0.8**
YKA Yellowknife Ar 90.14 23 P **P 18 00 16.4 -0.8**
comp=Z,4.4nm,0.9s,baz=234,slow=4.1,SNR=8.3
KMI Kunming 91.18 296 P **P 18 00 24.3 +1.1**
KMI pmax pmax
comp=Z,5.0nm,1.1s
ECSD EROS Data Cent 91.24 45 *e*P P 18 00 19.5 -3.3
comp=Z,9.2nm,1.1s
CD2 Chengdu 91.97 301 P **P 18 00 27.0 +0.5**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CIT Chita 92.08 324 *e*P **P 18 00 27.4 +0.9**
SYO Syowa Base 92.53 191⇑*e*P **P 18 00 28.0 -0.3**
CMAR Chiang Mai Arr 92.76 288 P **P 18 00 31.2 +0.8**
CMAR Chiang Mai Arr 92.76 288 P **P 18 00 31.2 +0.8**
comp=Z,0.6nm,0.3s,baz=85,slow=3.3,SNR=7.7
SNAA Sanae 92.80 177 *e*P **P 18 00 31.6 +1.9**
VNA2 Neumayer--Watz 93.25 175 *e*P **P 18 00 33.6 +2.0**
LZH Lanzhou 93.38 306 *e*P **P 18 00 34.0 +0.9**
LZH pP **pP 18 00 38.0 -0.5**
LZH sP **sP 18 00 40.5 0.0**
LZH PP **PP 18 04 22.0 +4.5**
LZH *e*S **S 18 11 36.3 -4.3**
LZH sS **ScS 18 11 44.0 +1.7**
LZH pmax pmax
comp=Z,28nm,1.1s
LZH pmax pmax
comp=Z,130nm,5.3s
LZH LR LR
comp=N,760nm,16.0s
LZH LR LR
comp=E,810nm,17.1s
LZH LR LR
comp=Z,1μm,18.6s
ULM Lac du Bonnet 93.93 39 LR LR 18 40 45.6
comp=Z,606nm,18.8s,baz=78,slow=34
ULN Ulaanbaatar 94.58 318 *e*P **P 18 00 38.7 +0.4**
comp=Z,7.4nm,1.3s
ULN Ulaanbaatar 94.58 318 P **P 18 00 40.2 +1.9**
SONM Songino Array 95.00 318 P **P 18 00 41.3 +1.2**
SONM Songino Array 95.00 318 P **P 18 00 41.3 +1.2**
comp=Z,0.4nm,0.6s,baz=153,slow=1.7,SNR=5.5
JFWS Jewell Farm 95.40 47 *e*P **P 18 00 40.7 -1.3**
JFWS pmax pmax
comp=Z,20nm,0.9s
JFWS Jewell Farm 95.40 47 *e*P **P 18 00 40.7 -1.3**
comp=Z,20nm,0.9s
SWET Sewanee 96.65 55 *e*P **P 18 00 46.4 -1.5**
comp=Z,4.2nm,0.9s
COWI Conover 97.02 44 *e*P **P 18 00 47.5 -1.7**
comp=Z,31nm,1.3s
GTA Gaotai 97.33 309 *e*P P 18 00 40.8 -10
GTA pP PcP 18 00 44.8 -6.3
GTA sP sP 18 00 47.5 -11
GTA PP PP 18 04 38.8 -9.3
GTA Gaotai 97.33 309 S S 18 11 59.3 -15
GTA Gaotai 97.33 309 sS S 18 12 06.8 -8.0
GTA pmax pmax
comp=Z,3.0nm,1.8s
GTA pmax pmax
comp=Z,94nm,3.8s
GTA LR LR
comp=N,170nm,18.0s
GTA LR LR
comp=E,160nm,19.0s
GTA LR LR
comp=Z,290nm,23.8s
ZAK Zakamensk 97.67 320 *e*P Pdif 18 00 52.4 +0.1
ZAK pmax pmax
comp=Z,2.0nm,1.5s
TLY Talaya 97.79 321 *e*P Pdif 18 00 54.4 +1.7
TLY pmax pmax
comp=Z,10.0nm,1.6s
MKAR Makanchi Array 110.98 315 PKIKP **PKiKP 18 05 52.6 +1.8**
MKAR Makanchi Array 110.98 315 PKiKP **PKiKP 18 05 52.6 +1.8**
MKAR Makanchi Array 110.98 315 PKiKP **PKiKP 18 05 52.6 +1.8**
comp=Z,1.1nm,0.8s,baz=98,slow=1.7,SNR=5.6
KURK Kurchatov 113.29 319*c i*PKIKP **PKiKP 18 05 55.9 +0.9**
KURK pmax pmax
comp=Z,1.0nm,0.8s
KURK Kurchatov 113.29 319 PKiKP **PKiKP 18 05 55.2 +0.2**
KURK PP **PP 18 06 42.9 -2.7**
KURBB Kurchatov Arra 113.36 319 PKiKP **PKiKP 18 05 55.2 0.0**
comp=Z,0.8nm,0.7s,baz=81,slow=1.6,SNR=10
KURBB PP **PP 18 06 42.9 -3.1**
comp=Z,0.5nm,0.9s,baz=88,slow=7.1,SNR=7.1
KSH Kashi 115.63 307 PKP **PKPdf 18 06 01.8 +1.7**
KSH PP PP 18 07 09.5 +6.8
KSH PKS **PKSdf 18 09 37.0 +0.1**
KSH SKS **SKSdf 18 13 12.8 +1.0**
KSH SKKS **SKKSac 18 14 02.5 -1.1**
KSH AMB AMB
comp=Z,76nm,3.5s
KSH LR LR
comp=N,120nm,5.9s
KSH LR LR
comp=E,130nm,5.4s
KSH LR LR
comp=Z,180nm,9.3s
BVAR Borovoye Array 118.03 322 PKIKP **PKPdf 18 06 04.6 +0.5**
BVAR Borovoye Array 118.03 322 PKP **PKPdf 18 06 04.6 +0.5**
BVAR Borovoye Array 118.03 322 PKP **PKPdf 18 06 04.6 +0.5**
comp=Z,1.7nm,0.8s,baz=108,slow=4.8,SNR=7.5
ARU Arti 123.49 328 *i* PKIKP **PKPdf 18 06 14.8 +0.3**
ARU 18 07 55.0
ARU 18 13 15.5
ARU SS SS 18 24 37.5 -4.4
ARCES ARCESS Array B 124.72 352 PKP **PKPdf 18 06 16.7 +0.2**
ARCES ARCESS Array B 124.72 352 PKP **PKPdf 18 06 16.7 +0.2**
comp=Z,2.8nm,0.7s,baz=306,slow=2.9,SNR=5.3
ABKAR Akbulak array 125.37 320 *e*PKPdf **PKPdf 18 06 18.2 -0.1**
AKTO Aktyubinsk 126.14 322 PKIKP **PKPdf 18 06 20.9 +1.1**
AKTO Aktyubinsk 126.14 322 PKP **PKPdf 18 06 20.9 +1.1**
AKTO Aktyubinsk 126.14 322 PKP **PKPdf 18 06 20.9 +1.1**
comp=Z,1.6nm,0.7s,baz=41,slow=6.0,SNR=4.7
KLMR Klimovskoe 128.92 340 *e*PKIKP **PKPdf 18 06 21.7 -3.0**
KLMR pmax pmax
comp=Z,30nm,2.0s
FINES FINESS Array B 132.06 348 PKP **PKPdf 18 06 31.6 +0.9**
FINES FINESS Array B 132.06 348 PKP **PKPdf 18 06 31.6 +0.9**
comp=Z,1.9nm,0.8s,baz=224,slow=11,SNR=3.1
OBN Obninsk 134.25 336⇑*i*PKIKP **PKPdf 18 06 37.1 +2.2**
OBN SS SS 18 27 02.0 +7.7
OBN pmax pmax
comp=Z,16nm,1.5s
OBN MLR MLR
comp=Z,100nm,15.0s
AKASG Malin Array Be 140.47 338 PKHKP PKPpre 18 06 41.0
AKASG 18 06 46.3
AKASG Malin Array Be 140.47 338 PKPpre PKPpre 18 06 41.0
AKASG PKP **PKPdf 18 06 46.3 -0.3**
AKASG Malin Array Be 140.47 338 PKhKP PKPpre 18 06 41.0
comp=Z,0.5nm,0.6s,baz=37,slow=4.1,SNR=3.2
AKASG PKP **PKPdf 18 06 46.3 -0.3**
comp=Z,1.0nm,0.6s,baz=36,slow=2.0,SNR=11
LVV L'vov 142.99 341 *e*PKIKP **PKPdf 18 06 51.8 +0.6**
KWP Kalwaria Pacla 143.55 342 ⇓PKIKP PKPab 18 06 48.9 +0.3
KWP Kalwaria Pacla 143.55 342 ⇓*i*P PKPab 18 06 48.9 +0.3
TSUM Tsumeb 143.90 198 *e*PKPdf PKPbc 18 06 52.4 +0.9
KSP Ksiaz 143.91 350 *e*PKIKP PKPbc 18 06 50.8 +0.3
CLL Collm 143.92 353 *e*PKPdf PKPab 18 06 49.0 -0.9
CLL ⇓*i*(PKiKP) 18 06 51.7
comp=Z,6.0nm,0.9s
CLL *e* 18 07 00.0
MALT Malatya 144.02 315 ⇓PKIKP **PKPdf 18 06 53.4 -0.1**
MALT Malatya 144.02 315 ⇓*i*P **PKPdf 18 06 53.4 -0.1**
STHS Stebnicka Huta 144.16 344 *e*PKIKP PKPbc 18 06 52.0 +0.7
STHS Stebnicka Huta 144.16 344 *e*PKP PKPbc 18 06 52.0 +0.7
BRG Berggiesshubel 144.24 352 *e*PKP PKPbc 18 06 52.3 +0.8
comp=Z,11nm,1.6s
BRG Berggiesshubel 144.24 352 *e*PKPbc **PKPab 18 06 51.1 0.0**
BRG Berggiesshubel 144.24 352 *e*PKIKP PKPbc 18 06 52.3 +0.8
BRG pmax pmax
comp=Z,95nm,1.6s
UPC Upice 144.28 350 *e*PKIKP PKPbc 18 06 51.7 +0.1
UPC *e* 18 07 00.1
UPC Upice 144.28 350 *e*PKP PKPbc 18 06 51.7 +0.1
UPC *ep*PKP pPKPdf 18 07 00.1 +1.1
KOLS Kolonicke sedl 144.30 342 *e*PKIKP PKPbc 18 06 52.0 +0.2
KOLS Kolonicke sedl 144.30 342 *e*PKP PKPbc 18 06 52.0 +0.2
AKCD Akcadag 144.37 316 *i* P **PKPdf 18 06 54.6 +0.5**
DPC Dobruska-Polom 144.38 349 *e*PKIKP PKPbc 18 06 52.4 +0.4
DPC *e* 18 07 00.2
DPC Dobruska-Polom 144.38 349 *e*PKP PKPbc 18 06 52.4 +0.4
DPC *ep*PKP **PKiKP 18 06 57.2 -0.1**
DPC *ex* x 18 07 00.2
BUR08 Bucovina Ar. S 144.48 338 *e*PKPdf PKPbc 18 06 52.8 +0.3
PVCC Panska Ves 144.49 351 *e*PKIKP **PKPdf 18 06 53.6 -0.2**
PVCC Panska Ves 144.49 351 *e*PKP **PKPdf 18 06 53.6 -0.2**
BURAR Bucovina Array 144.50 338 ⇓PKIKP **PKPdf 18 06 53.4 -0.6**
BURAR Bucovina Array 144.50 338 ⇓*i*P **PKPdf 18 06 53.4 -0.6**
OKC Ostrava-Krasne 144.51 347 *e*PKIKP **PKPab 18 06 51.6 -0.5**
OKC *e* 18 06 58.9
OKC Ostrava-Krasne 144.51 347 *e*PKP **PKPab 18 06 51.6 -0.5**
OKC *ep*PKP **pPKPdf 18 06 58.9 -0.5**
KRLC Kraliky 144.56 349 *e*PKIKP PKPbc 18 06 53.0 +0.4
KRLC *e* 18 07 00.6
KRLC Kraliky 144.56 349 *e*PKP PKPbc 18 06 53.0 +0.4
KRLC *ep*PKP pPKPdf 18 07 00.6 +1.0
CRVS Cervenica-Dubn 144.56 343 *e*PKIKP PKPbc 18 06 53.0 +0.4
CRVS Cervenica-Dubn 144.56 343 *e*PKP PKPbc 18 06 53.0 +0.4
UZH Uzhgorod 144.57 342*d i*PKIKP PKPbc 18 06 53.2 +0.6
UZH *e* 18 07 07.2
UBBA Unterbreizbach 144.67 356 *e*PKPbc **PKPab 18 06 52.1 -0.4**
MORC Moravsky Berou 144.69 348 ⇑PKIKP PKPbc 18 06 53.5 +0.5
MORC Moravsky Berou 144.69 348 *e*PKPdf **PKPab 18 06 52.8 -0.1**
MORC Moravsky Berou 144.69 348 ⇑*i*P PKPbc 18 06 53.5 +0.5
MOX Moxa 144.72 355 *e*PKPbc **PKPab 18 06 52.4 -0.5**
TANN Tannenbergstha 144.86 354 *e*PKPbc **PKPab 18 06 52.9 -0.6**
TESR Tescani 144.89 336⇑*i*P **PKPab 18 06 52.8 -0.9**
TRPA Tarpa 144.94 341 ⇓*i*P PKPbc 18 06 54.2 +0.4
PRA Prague 144.95 351 PKP **PKPab 18 06 53.0 -0.7**
MEM Membach 144.97 1 PKP **PKPab 18 06 53.8 0.0**
MEM APKP **PKiKP 18 06 56.7 -1.7**
PRU Pruhonice 145.02 351 *e*PKP2 **PKPbc 18 06 53.2 -0.8**
PRU Pruhonice 145.02 351 *e*PKP **PKPbc 18 06 53.2 -0.8**
PRU *ep*PKP **PKiKP 18 06 58.9 +0.4**
PRU *ex* x 18 07 03.3
BMR Baia Mare 145.04 340 ⇑PKIKP **PKPdf 18 06 56.0 +1.2**
BMR Baia Mare 145.04 340⇑*i*P **PKPdf 18 06 56.0 +1.2**
GZT Gaziantep 145.09 314 *i* P **PKPdf 18 06 57.7 +2.3**
BCLA Clavier 145.15 2 PKP **PKPab 18 06 54.6 +0.2**
PINB Pinarbasi 145.18 317 *i* P **PKPdf 18 06 56.6 +0.9**
KECS Kecovo 145.21 344 *e*PKIKP **PKPdf 18 06 55.1 0.0**
KECS Kecovo 145.21 344 *e*PKP **PKPdf 18 06 55.1 0.0**
ARCR ARCALIA 145.26 339⇑*i*P **PKPdf 18 06 56.6 +1.4**
VRAC Vranov 145.33 349⇑*i*P **PKPdf 18 06 55.6 +0.3**
TNS Taunus Mts 145.34 358 *e*PKPbc **PKPbc 18 06 54.7 -0.4**
CFR Carcaliu 145.34 333 ⇑PKIKP **PKPdf 18 06 55.5 +0.1**
CFR Carcaliu 145.34 333⇑*i*P **PKPdf 18 06 55.5 +0.1**
VRI Vrincioaia 145.38 335 ⇓PKP2 **PKPbc 18 06 52.8 -2.5**
VRI Vrincioaia 145.38 335 ⇓*i*P **PKPbc 18 06 52.8 -2.5**
PLOR Plostina 145.43 335 ⇑PKIKP **PKPab 18 06 55.8 +0.1**
PLOR Plostina 145.43 335⇑*i*P **PKPab 18 06 55.8 +0.1**
DOU Dourbes 145.45 2 PKP **PKPbc 18 06 55.0 -0.3**
ROTZ Rotzenmuhle 145.53 354 *e*PKPbc **PKPdf 18 06 55.5 -0.1**
TREC Trest 145.54 350 *e*PKP2 **PKPab 18 06 56.0 0.0**
TREC Trest 145.54 350 *e*PKP **PKPab 18 06 56.0 0.0**
KMBO Kilima Mbogo 145.60 244 PKPbc **PKPdf 18 06 55.7 -1.4**
KMBO *e*PKPdf **PKPab 18 06 58.4 +0.8**
KMBO Kilima Mbogo 145.60 244 PKPbc **PKPdf 18 06 55.7 -1.4**
comp=Z,10nm,1.1s,baz=92,slow=3.4,SNR=28
GRF Grafenberg Arr 145.70 355 *e*PKPbc **PKPdf 18 06 56.1 +0.2**
GRFO Grafenberg 145.70 355 *e*PKP2 **PKPab 18 06 56.6 +0.1**
GRFO Grafenberg 145.70 355 *e*PKPdf **PKPab 18 06 56.6 +0.1**
TIRR Tirgusor 145.78 332 ⇑PKP2 **PKPbc 18 06 56.5 -0.1**
TIRR Tirgusor 145.78 332 *e*PKPdf **PKPbc 18 06 56.5 -0.1**
TIRR Tirgusor 145.78 332⇑*i*P **PKPbc 18 06 56.5 -0.1**
DOPR Dopca 145.83 337⇑*i*P **PKPab 18 06 58.1 +0.9**
TLB Topalu 145.85 332 ⇑PKP2 **PKPab 18 06 57.7 +0.5**
TLB Topalu 145.85 332⇑*i*P **PKPab 18 06 57.7 +0.5**
PSZ Piszkesteto 145.89 344 ⇑PKP2 **PKPab 18 06 57.5 +0.1**
PSZ Piszkesteto 145.89 344 *e*PKPdf **PKPab 18 06 57.4 +0.1**
PSZ Piszkesteto 145.89 344⇑*i*P **PKPab 18 06 57.5 +0.1**
PSZ Piszkesteto 145.89 344⇓*e*PKPdf **PKPab 18 06 57.5 +0.1**
SMOL Smolenice 145.92 347 *e*PKP2 **PKPab 18 06 58.8 +1.4**
SMOL Smolenice 145.92 347 *e*PKP **PKPab 18 06 58.8 +1.4**
WLF Walferdange 145.92 1 PKP **PKPbc 18 06 57.2 +0.3**
WLF Walferdange 145.92 1 *e*PKPbc **PKPbc 18 06 56.9 0.0**
WLF Walferdange 145.92 1 *e*PKP2 **PKPab 18 06 57.4 +0.1**
WLF Walferdange 145.92 1 *e*PKPdf **PKPab 18 06 57.4 +0.1**
KHC Kasperske Hory 145.99 352 *e*PKP2 **PKPdf 18 06 56.9 +0.4**
KHC Kasperske Hory 145.99 352 *e*PKP **PKPdf 18 06 56.9 +0.4**
KHC Kasperske Hory 145.99 352 *e*PKPdf **PKPdf 18 06 56.7 +0.3**
MLR Muntele Rosu 146.01 336⇓*i*P **PKPbc 18 06 57.4 -0.1**
ISR Istrita 146.07 335 ⇓PKP2 **PKPab 18 06 59.6 +1.5**
ISR Istrita 146.07 335 ⇓*i*P **PKPab 18 06 59.6 +1.5**
WET Wettzell 146.07 353 *e*PKPbc **PKPbc 18 06 57.1 -0.3**
DRGR 146.07 340 ⇓PKP2 **PKPab 18 06 59.0 +0.9**
DRGR 146.07 340 ⇓*i*P **PKPab 18 06 59.0 +0.9**
AVNT Avonos 146.12 319 *i* P **PKPab 18 06 59.6 +0.9**
GEC2 GERESS Array S 146.25 352 *e*PKPbc **PKPdf 18 06 57.5 +0.5**
GERES GERESS Array B 146.25 352 PKPbc **PKPbc 18 06 57.8 -0.3**
GERES GERESS Array B 146.25 352 PKPbc **PKPbc 18 06 57.8 -0.3**
comp=Z,6.9nm,1.1s,baz=48,slow=2.0,SNR=31
ZST Bratislava 146.29 347 *e*PKP2 **PKPbc 18 06 58.2 +0.2**
ZST Bratislava 146.29 347 *e*PKP **PKPbc 18 06 58.2 +0.2**
BR131 Keskin Array S 146.31 321 *e*PKPbc **PKPbc 18 06 59.0 +0.4**
BRTR Keskin Array B 146.31 321 PKPbc **PKPab 18 06 59.1 -0.2**
BRTR Keskin Array B 146.31 321 PKPbc **PKPab 18 06 59.1 -0.2**
comp=Z,19nm,1.0s,baz=110,slow=1.4,SNR=56
VOIR 146.40 336 ⇑PKP2 **PKPab 18 06 59.4 0.0**
VOIR 146.40 336⇑*i*P **PKPab 18 06 59.4 0.0**
BUD Budapest 146.51 345⇓*e*PKPdf **PKPbc 18 06 59.2 +0.5**
LANF Langenberg 146.60 359 PKP **PKPab 18 06 59.7 -0.3**
ARR Arges 146.62 337⇑*i*P **PKPab 18 07 00.6 +0.3**
ANTO Ankara 146.73 322 ⇑PKP2 **PKPbc 18 06 59.7 0.0**
ANTO Ankara 146.73 322 *e*PKPbc **PKPab 18 07 00.7 -0.1**
ANTO Ankara 146.73 322⇑*i*P **PKPbc 18 06 59.7 0.0**
PKSG 146.76 345 *e* **PKPbc 18 06 59.6 +0.2**
YAYL Yayladag 146.77 313 *i* P **PKPbc 18 06 59.8 +0.2**
CONA Conrad Observa 146.79 349⇑*i*PKPbc **PKPdf 18 06 58.6 +0.7**
comp=Z,27nm,1.4s,SNR=14
PKSN Nyarlorinc 146.83 343⇑*e*PKPdf **PKPbc 18 06 59.1 -0.5**
SIRR Siria 146.87 341⇑*i*P **PKPbc 18 06 59.7 -0.1**
PKS7 Kunszentmiklos 146.88 344 *e*PKPdf **PKPbc 18 06 59.5 -0.3**
SOP Sopron 146.89 348⇓*e*PKPdf **PKPdf 18 06 58.0 +0.1**
PKST T''s 146.97 346 *e*PKPdf **PKPbc 18 06 59.5 -0.6**
GULE Gulek 147.01 316 *i* P **PKPbc 18 07 01.5 +0.8**
MOA Molln 147.14 351⇑*i*PKPdf **PKPdf 18 06 56.8 -1.6**
comp=Z,26nm,1.3s,SNR=12
FUR Furstenfeldbru 147.21 354 *e*PKPbc **PKPbc 18 07 00.5 -0.2**
BFO Black Forest 147.23 358 *e*PKPbc **PKPbc 18 07 00.4 -0.4**
BFO Black Forest 147.23 358 *e*PKP2 **PKPbc 18 07 00.8 0.0**
BFO Black Forest 147.23 358 *e*PKPbc **PKPbc 18 07 00.8 0.0**
GZR Gura Zlata 147.27 339 ⇓PKP2 **PKPbc 18 07 02.0 +0.9**
GZR Gura Zlata 147.27 339⇓*i*P **PKPbc 18 07 02.0 +0.9**
THEF They Montfort 147.36 1 PKP **PKPab 18 07 02.2 -0.8**
ECH Echery 147.37 359 *e*PKP2 **PKPbc 18 07 01.1 -0.1**
ECH Echery 147.37 359 *e*PKPbc **PKPbc 18 07 01.1 -0.1**
PKS2 Kecel 147.38 344⇑*e*PKPdf **PKPbc 18 07 02.0 +0.8**
RJOB Jochberg 147.46 352 *e*PKPbc **PKPbc 18 07 01.1 -0.4**
BZS Buzias 147.47 340 ⇑PKP2 **PKPbc 18 07 01.9 +0.4**
BZS Buzias 147.47 340⇑*i*P **PKPbc 18 07 01.9 +0.4**
ARSA Arzberg 147.50 349 *i* PKPbc **PKPdf 18 06 59.8 +0.8**
comp=Z,16nm,1.5s,SNR=7.6
PKS9 Tamasi 147.53 345 *e*PKPdf **PKPdf 18 07 00.1 +1.0**
RETA Reutte 147.93 355 *i* PKiKP **PKPbc 18 07 03.2 +0.4**
comp=Z,30nm,1.5s,SNR=6.4
BEHE Becsehely 148.00 347⇓*e*PKPdf **PKPdf 18 06 59.2 -0.6**
SEYT Eskypehyr 148.09 323 *i* P **PKPab 18 07 07.7 +1.4**
SOKA Soboth 148.15 349 *i* pPKPdf **PKPbc 18 07 03.4 0.0**
comp=Z,24nm,1.1s,SNR=11
PERS Pernice 148.17 349 *i* PKPdf **PKPbc 18 07 02.6 -0.8**
PERS *i* PKPbc **PKPab 18 07 08.5 +2.2**
DAVA Damuels 148.19 356 *i* PKiKP **PKPbc 18 07 04.1 +0.5**
comp=Z,31nm,1.1s,SNR=8.8
LOMF Lomont 148.24 360 PKP **PKPbc 18 07 04.0 +0.4**
ABTA Abfaltersbach 148.47 352⇑*i*pPKPdf **PKPdf 18 07 01.3 +0.5**
comp=Z,20nm,1.2s,SNR=7.2
ERMK Ermenek 148.61 317 *i* P **PKPbc 18 07 05.6 +0.5**
MMAI Mount Meron Ar 148.72 309 PKPbc **PKPbc 18 07 06.2 +0.9**
MMAI Mount Meron Ar 148.72 309 PKPbc **PKPbc 18 07 06.2 +0.9**
comp=Z,5.0nm,0.8s,baz=57,slow=3.1,SNR=7.1
TUE Stuetta 149.04 356 *e*PKPbc **PKPbc 18 07 05.9 0.0**
JAVS Javornik 149.08 350 *i* PKPdf **PKPbc 18 07 05.5 -0.3**
JAVS *i* PKPbc **PKPab 18 07 11.2 +1.2**
BOJS Bojanci 149.24 348 *i* PKPdf **PKPdf 18 07 03.1 +1.2**
BOJS *i* PKPbc **PKiKP 18 07 07.4 +0.1**
CSS Prodhromos 149.26 314 *e*PKPbc **PKPbc 18 07 06.9 +0.3**
TRI Trieste 149.31 350 *e*PKP2 **PKPbc 18 07 06.1 -0.2**
TRI Trieste 149.31 350 *e*PKPbc **PKPbc 18 07 06.0 -0.2**
AGO Saint Agoulin 149.39 5 PKP **PKPbc 18 07 06.7 +0.2**
PLDF La Plantade 149.51 4 PKP **PKPbc 18 07 07.2 +0.3**
VTS Vitosha 149.51 336 ⇓PKP2 **PKPbc 18 07 07.1 0.0**
VTS Vitosha 149.51 336⇓*i*P **PKPbc 18 07 07.1 0.0**
KHAL Karahalli 149.65 323 *i* P **PKPbc 18 07 08.1 +0.6**
PYM Petit Puy Mans 149.68 5 PKP **PKPbc 18 07 07.5 +0.2**
MANT Manisa 150.10 324 *i* P **PKPbc 18 07 09.6 +0.8**
SSB Saint Sauveur 150.25 3 *e*PKIKP **PKPbc 18 07 09.4 +0.7**
SSB Saint Sauveur 150.25 3 *e*PKPbc **PKPbc 18 07 09.4 +0.7**
EIL Elat 150.47 303 PKPbc **PKPbc 18 07 10.7 +1.1**
EIL Elat 150.47 303 PKPbc **PKPbc 18 07 10.7 +1.1**
comp=Z,16nm,1.1s,baz=67,slow=1.4,SNR=13
BNI Bardonecchia 150.54 0 *e*PKIKP **PKPbc 18 07 09.4 -0.1**
BNI Bardonecchia 150.54 0 *e*PKPbc **PKPbc 18 07 09.4 -0.1**
PCAB Cabril 150.93 23 *e*PKPbc **PKPbc 18 07 10.3 -0.1**
AKAS Kas 150.98 320 *i* P **PKPbc 18 07 10.7 -0.2**
AYDN Tasoluk 151.06 324 *i* P **PKPbc 18 07 11.7 +0.8**
POLO Lamas de Olo 151.31 23 *e*PKPbc **PKPbc 18 07 11.7 +0.3**
POLO Lamas de Olo 151.31 23 *e*PKPab **PKPab 18 07 18.9 -0.5**
PBRG Braganca 151.32 21 *e*PKPbc **PKPbc 18 07 12.0 +0.7**
AUTN L'Aution 151.59 359 PKP **PKPbc 18 07 12.5 +0.4**
SAOF Saorge 151.59 359 PKP **PKPbc 18 07 12.5 +0.6**
MVIF Mont Vial 151.69 359 PKP **PKPbc 18 07 12.5 +0.2**
MVO Moncorvo 151.78 22 *e*PKPbc **PKPbc 18 07 12.2 -0.2**
MVO Moncorvo 151.78 22 *e*PKPab **PKPab 18 07 21.1 -0.2**
PVIS Viseu 151.84 24 *e*PKPbc **PKPbc 18 07 13.3 +0.7**
PVIS Viseu 151.84 24 *e*PKPab **PKPab 18 07 22.6 +1.1**
REVF Revere 151.84 359 PKP **PKPbc 18 07 13.3 +0.8**
MTE Manteigas 152.25 24 *e*PKPbc **PKPbc 18 07 13.4 -0.1**
MTE *i* P PKPab 18 07 33.3 +10
MTE Manteigas 152.25 24 *e*PKPbc **PKPbc 18 07 13.0 -0.6**
PTOM Tomar 152.56 26 *e*PKPbc **PKPbc 18 07 13.6 -0.5**
PCBR Castelo Branco 152.75 24 *e*PKPbc **PKPbc 18 07 14.6 0.0**
PMTG Montargil 153.09 26 *e*PKPbc **PKPbc 18 07 14.6 -0.7**
PMRV Marv??o 153.14 25 *e*PKPbc **PKPbc 18 07 15.4 -0.1**
ESDC Sonseca Array 154.16 19 PKP **PKPdf 18 07 09.3 -0.3**
ESDC PKPbc **PKPbc 18 07 17.2 -0.6**
ESDC PKPab **PKPab 18 07 30.5 -0.8**
ESDC Sonseca Array 154.16 19 PKP **PKPdf 18 07 09.3 -0.3**
comp=Z,0.2nm,0.5s,baz=343,slow=4.0,SNR=3.4
ESDC PKPbc **PKPbc 18 07 17.2 -0.6**
comp=Z,0.7nm,0.6s,baz=323,slow=2.4,SNR=5.1
ESDC PKPab **PKPab 18 07 30.5 -0.8**
comp=Z,1.9nm,0.7s,baz=327,slow=3.7,SNR=12
ESLA Sonseca Array 154.16 19 *e*PKPab **PKPab 18 07 31.1 -0.2**
DBIC Dimbokro 165.65 126 PKPab **PKPab 18 08 22.2 +0.3**
DBIC Dimbokro 165.65 126 PKPab **PKPab 18 08 22.2 +0.3**
comp=Z,3.4nm,0.7s,baz=248,slow=5.7,SNR=4.2
TORD Torodi Ar. Bea 174.59 115 PKP **PKPdf 18 07 26.6 -1.5**
TORD PKPab **PKPab 18 08 58.7 -2.9**
TORD Torodi Ar. Bea 174.59 115 PKP **PKPdf 18 07 26.6 -1.5**
comp=Z,3.8nm,1.2s,baz=324,slow=2.0,SNR=8.8
TORD PKPab **PKPab 18 08 58.7 -2.9**
comp=Z,3.9nm,1.1s,baz=249,slow=4.1,SNR=8.9

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*CNRM **30** 17:52:08.7,34.°97N×5.°84W,h30km,MD3.1*
*ISCJB **30** 17:52:15.9±1.3,33.°52N±0.°05×4.°41W±0.°07,h10km±10km,*
Error ellipse: s-maj=10.4km s-min=6.2km az=33.8
*MDD **30** 17:52:15.4±1.4,33.°34N×4.°27W,h0km,mb3.8/4,Error*
ellipse: s-maj=18.5km s-min=8.8km az=112.0,PRXIMO
*INMG **30** 17:52:15.1±1.2,33.°03N×4.°16W,h79km±9km,ML2.4,Error*
ellipse: s-maj=11.7km s-min=9.2km az=23.0
*CSEM **30** 17:52:16.1±0.3,33.°44N×4.°41W,h5km,mb3.8/4,Error*
ellipse: s-maj=6.6km s-min=4.1km az=111.0

ISC 30 17:52:16.4±2.3,33.°48N±0.°04×4.°37W±0.°06,h6km±14km,
n49,σ0.81/79,Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGT	**Taghat**	**0.82**	**316**	P	Pg	17 52 26.0	-6.2
TGT				S	**Sg**	**17 52 41.0**	**-1.8**
TGT	**Taghat**	**0.82**	**316**	*e*P	Pg	17 52 26.0	-6.2
TGT				*i* S	**Sg**	**17 52 41.0**	**-1.8**
KIB	**El Ksiba**	**1.66**	**238**	P	**Pn**	**17 52 45.0**	**-1.2**
KIB				S	**Sg**	**17 53 12.0**	**+2.2**
KIB	**El Ksiba**	**1.66**	**238**	P	**Pn**	**17 52 45.0**	**-1.2**
KIB				*i* S	**Sg**	**17 53 12.0**	**+2.2**
TZC	**Tazercounte**	**2.22**	**234**	P	**Pn**	**17 52 52.0**	**-2.0**
TZC				S	**Sn**	**17 53 22.0**	**+0.1**
TZC	**Tazercounte**	**2.22**	**234**	P	**Pn**	**17 52 52.0**	**-2.0**
TZC				*i* S	**Sn**	**17 53 22.0**	**+0.1**
EBER	**Berja**	**3.62**	**19**	P	**Pn**	**17 53 13.7**	**+0.4**
EBER	1.3nm,0.2s,SNR=7.9			S	**Sn**	**17 53 56.0**	**-0.4**
EBER	1.7nm,0.2s,SNR=7.9						
EBER	**Berja**	**3.62**	**19**	P	**Pn**	**17 53 13.7**	**+0.4**
EBER	1.3nm,0.2s,SNR=7.9			S	**Sn**	**17 53 56.0**	**-0.4**
EBER	1.7nm,0.2s,SNR=7.9						
EQES	**Quesada**	**4.45**	**13**	P	**Pn**	**17 53 24.6**	**+0.2**
EQES	1.1nm,0.2s,SNR=7.9			S	**Sn**	**17 54 16.4**	**-0.2**
EQES	0.5nm,0.2s,SNR=7.9						
EQES	**Quesada**	**4.45**	**13**	P	**Pn**	**17 53 24.6**	**+0.2**
EQES	1.1nm,0.2s,SNR=7.9			S	**Sn**	**17 54 16.4**	**-0.2**
EQES	0.5nm,0.2s,SNR=7.9						
ECAB	**El Cabril**	**4.67**	**350**	P	**Pn**	**17 53 28.2**	**+0.7**
ECAB	0.1nm,0.0s,SNR=7.9			S	**Sn**	**17 54 21.4**	**-0.5**
ECAB	0.2nm,0.2s,SNR=7.9						
ECAB	**El Cabril**	**4.67**	**350**	P	**Pn**	**17 53 28.2**	**+0.7**
ECAB	0.1nm,0.0s,SNR=7.9			S	**Sn**	**17 54 21.4**	**-0.5**
ECAB	0.2nm,0.2s,S

PVAQ Vaqueiros 4.78 326 *eP* **Pn 17 53 28.9 0.0**
PVAQ *eS* **Sn 17 54 24.7 +0.1**
PVAQ A A 17 54 26.4
3.0nm,0.3s
PVAQ Vaqueiros 4.78 326 P **Pn 17 53 28.9 0.0**
PVAQ S **Sn 17 54 24.7 +0.1**
3.0nm,0.3s
PVAQ Vaqueiros 4.78 326 P **Pn 17 53 28.9 0.0**
PVAQ *eS* **Sn 17 54 24.7 +0.1**
3.0nm,0.3s
EGRO El Granado 4.78 329 P **Pn 17 53 29.0 +0.1**
0.5nm,0.1s,SNR=5.5
EGRO S **Sn 17 54 24.7 +0.1**
0.8nm,0.2s,SNR=7.9
EGRO El Granado 4.78 329 P **Pn 17 53 29.0 +0.1**
0.5nm,0.1s,SNR=5.5
EGRO S **Sn 17 54 24.7 +0.1**
0.8nm,0.2s,SNR=7.9
PCVE Castro Verde 5.11 325 *eP* **Pn 17 53 34.5 +1.0**
PCVE Castro Verde 5.11 325 P **Pn 17 53 34.5 +1.0**
PCVE Castro Verde 5.11 325 P **Pn 17 53 34.5 +1.0**
PFVI Vila Bisbo 5.15 316 *eP* **Pn 17 53 35.4 +1.3**
PFVI *eS* **Sn 17 54 36.4 +2.5**
PFVI Vila Bisbo 5.15 316 P **Pn 17 53 34.5 +0.4**
0.6nm,0.1s,SNR=7.9
PFVI S **Sn 17 54 34.1 +0.2**
1.1nm,0.1s,SNR=7.9
PFVI Vila Bisbo 5.15 316 P **Pn 17 53 34.5 +0.4**
0.6nm,0.1s,SNR=7.9
PFVI S **Sn 17 54 34.1 +0.2**
1.1nm,0.1s,SNR=7.9
PBAR Barrancos 5.16 336 *eP* **Pn 17 53 34.1 -0.1**
PBAR *eS* **Sn 17 54 33.5 -0.7**
PBAR Barrancos 5.16 336 P **Pn 17 53 34.1 -0.1**
PBAR S **Sn 17 54 33.5 -0.7**
PBAR Barrancos 5.16 336 P **Pn 17 53 34.1 -0.1**
PBAR S **Sn 17 54 33.5 -0.7**
MORF Marmelete 5.18 319 *eS* **Sn 17 54 35.2 +0.6**
MORF Marmelete 5.18 319 S **Sn 17 54 35.2 +0.6**
MORF Marmelete 5.18 319 S **Sn 17 54 35.2 +0.6**
PNCL Nicolau / Gran 5.73 325 *eP* **Pn 17 53 42.7 +0.7**
PNCL *eS* **Sn 17 54 47.6 -0.4**
PNCL Nicolau / Gran 5.73 325 *eP* **Pn 17 53 42.7 +0.7**
PNCL *eS* **Sn 17 54 47.6 -0.4**
EVO Evora 5.84 331 *eP* **Pn 17 53 43.7 +0.1**
EVO Evora 5.84 331 P **Pn 17 53 43.7 +0.1**
EVO Evora 5.84 331 P **Pn 17 53 43.7 +0.1**
PMTG Montargil 6.39 332 *eP* **Pn 17 53 51.3 +0.2**
PMTG Montargil 6.39 332 *eP* **Pn 17 53 51.3 +0.2**
PMRV Marv??o 6.42 339 *eP* **Pn 17 53 51.8 +0.3**
PMRV Marv??o 6.42 339 P **Pn 17 53 51.8 +0.3**
PMRV Marv??o 6.42 339 P **Pn 17 53 51.8 +0.3**
PCBR Castelo Branco 6.82 339 *eP* **Pn 17 53 57.7 +0.7**
PCBR Castelo Branco 6.82 339 P **Pn 17 53 57.7 +0.7**
PCBR Castelo Branco 6.82 339 P **Pn 17 53 57.7 +0.7**

IDC 30 17:54:01.1±4.3, 16°62S×173°00W, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.7/20, mbtmp3.8/3, MS3.7/1, Ms1 3.7/1, ms1mx3.5/28, Error ellipse: s-maj=271.8km s-min=32.7km az=149.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.95**	**24**	Pn	Pn	17 54 42.1	-7.3
20nm,0.3s,baz=288,slow=6.4,SNR=2.6							
AFI				Sn	Sn	17 55 08.3	-17
86nm,0.3s,baz=17,slow=19,SNR=9.5							
AFI				LR	LR	17 55 26.1	
comp=Z,1μm,18.7s,baz=78,slow=29							
WRA	**Warramunga Arr**	**49.95**	**258**	P	P	18 02 56.8	-0.5
0.9nm,1.0s,baz=94,slow=8.7,SNR=5.6							
ASAR	**Alice Springs**	**50.10**	**253**	P	P	18 02 58.4	-0.1
1.5nm,0.8s,baz=87,slow=7.8,SNR=13							
PDAR	**Pinedale Array**	**82.92**	**42**	P	P	18 06 27.8	-0.4
0.5nm,0.7s,baz=232,slow=4.4,SNR=3.5							
BRTR	**Keskin Array B**	**147.34**	**320**	PKPbc	PKPbc	18 13 47.4	+0.1
0.7nm,0.9s,baz=72,slow=4.0,SNR=3.8							
GERES	**GERESS Array B**	**147.40**	**352**	PKPbc	PKPbc	18 13 46.3	-0.8
0.4nm,0.5s,baz=22,slow=4.3,SNR=3.7							

*ISCJB **30** 17:56:27.5±0.4, 13°65N±0°05×90°49W±0°03, h90km±4km, mb4.2/10, Error ellipse: s-maj=8.7km s-min=3.5km az=32.8*
*NEIC **30** 17:56:28.6±0.8, 13°63N×90°43W, h87km±7km, mb4.2/6, MD4.4(MEX), MD4.6(SNET), Error ellipse: s-maj=14.3km s-min=7.5km az=213.0*
NEIC Felt [II] at San Salvador, El Salvador.
*MEX **30** 17:56:28.1±0.3, 13°18N×90°74W, h30km, MD4.3*
*CASC **30** 17:56:28.7±1.3, 13°62N×90°47W, h65km±11km, MD3.8, ML4.7, mb4.6(NEIC)*
*IDC **30** 17:56:31.2±1.4, 14°09N×89°90W, h97km±11km, mb3.8/5, mb1 3.9/7, mb1mx3.6/23, mbtmp3.7/7, MS3.5/1, Ms1 3.5/1, ms1mx3.1/33, Error ellipse: s-maj=37.5km s-min=15.5km az=49.0*

ISC 30 17:56:28.3±0.8, 13°63N±0°05×90°45W±0°04, h81km±7km, n79, σ1§48/103, mb4.3/10, 2C-6D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.55**	**359**	*eP*	**Pn**	**17 56 41.9**	**-0.9**
PCG	**Pacaya**	**0.78**	**349**	*eP*	**Pn**	**17 56 44.7**	**-0.5**
RTR	**El Retiro**	**0.83**	**71**	⇓*iP*	**Pn**	**17 56 45.5**	**-0.1**
SBLS	**San Blas**	**0.83**	**75**	⇓*iP*	**Pn**	**17 56 45.2**	**-0.5**
SNJE	**San Jose**	**0.85**	**73**	⇓*iP*	**Pn**	**17 56 45.6**	**-0.3**
RBDL	**Robledal**	**0.89**	**57**	⇓*iP*	**Pn**	**17 56 45.8**	**-0.5**
FUG	**Fuego 3**	**0.90**	**335**	*eP*	**Pn**	**17 56 45.7**	**-0.8**
GCG	**Guatemala City**	**0.96**	**355**	*eP*	**Pn**	**17 56 47.2**	**+0.1**
GCG				*eS*	**Sn**	**17 57 02.0**	**+0.8**
NBG	**Las Nubes**	**0.96**	**6**	*eP*	**Pn**	**17 56 47.7**	**+0.4**
NBG				*eS*	**Sn**	**17 57 00.3**	**-1.1**
BOQS	**Boqueron**	**1.14**	**84**	⇑*iP*	**Pn**	**17 56 49.3**	**0.0**
BOQS				*eS*	**Sn**	**17 57 06.3**	**+1.2**
SNET	**Serv Nac Est T**	**1.18**	**87**	*eP*	**Pn**	**17 56 49.8**	**+0.1**
SNET				*eS*	**Sn**	**17 57 06.8**	**+0.9**
SNET				AML	AML	17 57 12.0	
comp=Z,9μm,0.3s							
LFU	**La Fuente**	**1.30**	**84**	*eP*	**Pn**	**17 56 51.4**	**+0.2**
JAT	**Jato**	**1.34**	**301**	*eP*	**Pn**	**17 56 51.5**	**-0.2**
LFRS	**El Faro**	**1.35**	**90**	*eP*	**Pn**	**17 56 51.9**	**0.0**
LBRS	**Las Brisas**	**1.37**	**85**	*eP*	**Pn**	**17 56 52.3**	**+0.2**
APG	**El Apazote**	**1.37**	**359**	P	**Pn**	**17 56 51.8**	**-0.5**
APG				S	**Sn**	**17 57 10.4**	**+0.1**
APG	**El Apazote**	**1.37**	**359**	P	**Pn**	**17 56 51.8**	**-0.5**
comp=Z,106nm,0.3s,baz=147,slow=6.9,SNR=675							
APG				S	**Sn**	**17 57 10.4**	**+0.1**
comp=Z,226nm,0.3s,baz=99,slow=19,SNR=20							
SNVI	**San Vicente**	**1.56**	**90**	*eP*	**Pn**	**17 56 55.2**	**+0.5**
SNVI				*eS*	**Sn**	**17 57 15.7**	**+1.1**
MRL	**Marmol**	**1.61**	**27**	*eP*	**Pn**	**17 56 56.4**	**+1.1**
MRL				*eS*	**Sn**	**17 57 16.8**	**+1.1**
VSM	**San Miguel**	**2.12**	**95**	*eP*	**Pn**	**17 57 02.5**	**+0.4**
BLLM	**Bellamira**	**2.16**	**95**	*eP*	**Pn**	**17 57 02.1**	**-0.3**
BLLM				*eS*	**Sn**	**17 57 29.9**	**+1.4**
CAHU	**Cacacuatique**	**2.18**	**86**	*eP*	**Pn**	**17 57 02.9**	**+0.1**
CNCH	**Conchagua**	**2.57**	**97**	*eP*	**Pn**	**17 57 08.5**	**+0.5**
CNCH				*eS*	**Sn**	**17 57 40.4**	**+2.0**
CCIG	**Comitan**	**3.10**	**329**	*iP*	**Pn**	**17 57 17.0**	**+1.7**
CCIG				*iS*	**Sn**	**17 57 55.7**	**+4.2**
CCIG	**Comitan**	**3.10**	**329**	*iP*	**Pn**	**17 57 17.0**	**+1.7**
CCIG				*iS*	**Sn**	**17 57 55.7**	**+4.2**
TGUH	**Tegucigalpa,Un**	**3.11**	**82**	⇑*iP*	**Pn**	**17 57 15.7**	**+0.5**
TGUH	**Tegucigalpa,Un**	**3.11**	**82**	*eP*	**Pn**	**17 57 15.6**	**+0.3**
PCIG		**3.39**	**308**	*iP*	**Pn**	**17 57 18.7**	**-0.2**
PCIG				*iS*	**Sn**	**17 57 57.4**	**-0.6**
PCIG		**3.39**	**308**	*iP*	**Pn**	**17 57 18.7**	**-0.2**
PCIG				*iS*	**Sn**	**17 57 57.4**	**-0.6**
TGIG		**4.06**	**321**	*iP*	**Pn**	**17 57 29.4**	**+1.3**
TGIG				*iS*	**Sn**	**17 58 17.6**	**+3.0**
TGIG		**4.06**	**321**	*iP*	**Pn**	**17 57 29.4**	**+1.3**
TGIG				*iS*	**Sn**	**17 58 17.6**	**+3.0**
VCR	**Vista de Mar**	**5.86**	**126**	*eP*	**Pn**	**17 57 54.4**	**+1.7**
HUIG	**Huatulco**	**5.88**	**292**	*iP*	**Pn**	**17 57 51.5**	**-1.4**
HUIG				*iS*	**Sn**	**17 58 56.4**	**-2.5**
HUIG	**Huatulco**	**5.88**	**292**	*iP*	**Pn**	**17 57 51.5**	**-1.4**
HUIG				*iS*	**Sn**	**17 58 56.4**	**-2.5**
JTS	**JuntasAbangare**	**6.32**	**121**	*eP*	**Pn**	**17 58 00.4**	**+1.5**
comp=Z,693nm,0.8s							
JTS				S	**Sn**	**17 59 08.0**	**-1.7**
JTS	**JuntasAbangare**	**6.32**	**121**	P	**Pn**	**17 58 00.7**	**+1.7**
comp=Z,5.9nm,0.3s,baz=307,slow=19,SNR=25							
JTS				S	**Sn**	**17 59 08.0**	**-1.7**
comp=Z,1.9nm,0.3s,baz=344,slow=19,SNR=2.6							
JCR	**Jicaral**	**6.43**	**125**	*eP*	**Pn**	**17 58 02.6**	**+2.1**
CGA2	**Cerro Gallo 2**	**6.87**	**121**	*eP*	Pn	17 58 09.8	+3.2
TEIG	**Tepich**	**6.89**	**17**	*eP*	**Pn**	**17 58 06.9**	**+0.3**
comp=Z,100nm,0.6s							
TEIG				S	**Sn**	**17 59 21.6**	**-1.9**
TEIG	**Tepich**	**6.89**	**17**	P	**Pn**	**17 58 07.4**	**+0.8**
comp=Z,23nm,0.3s,baz=204,slow=8.8,SNR=100							
TEIG				S	**Sn**	**17 59 21.6**	**-1.9**
baz=17,slow=20,SNR=3.8							
VHO	**Vista Hermosa**	**6.96**	**300**	*iP*	**Pn**	**17 58 07.3**	**-0.7**
VHO				*iS*	**Sn**	**17 59 25.1**	**-0.7**
VHO	**Vista Hermosa**	**6.96**	**300**	*iP*	**Pn**	**17 58 07.3**	**-0.7**
VHO				*iS*	**Sn**	**17 59 25.1**	**-0.7**
URSC	**Urasca**	**7.54**	**119**	⇓*eP*	**Pn**	**17 58 17.7**	**+1.9**
BUS	**Buena Vista**	**7.70**	**121**	⇓*eP*	**Pn**	**17 58 20.9**	**+2.7**
BUS				*eS*	Sn	17 59 37.8	-6.4
ACR	**Cerro Adams**	**8.69**	**124**	*eP*	**Pn**	**17 58 34.3**	**+3.0**
ROSC	**El Rosal**	**18.12**	**117**	LR	LR	18 07 15.5	
comp=Z,153nm,19.6s,baz=212,slow=36							
LRAL	**Lakeview Retre**	**19.58**	**9**	*eP*	**P**	**18 00 50.3**	**+0.4**
comp=Z,11nm,0.6s							
TXAR	**Lajitas Array**	**19.86**	**324**	P	**Pn**	**18 00 54.4**	**-1.0**
TXAR				PcP	**PcP**	**18 05 08.8**	**+1.2**
TXAR	**Lajitas Array**	**19.86**	**324**	P	**Pn**	**18 00 54.4**	**-1.0**
comp=Z,0.1nm,0.3s,baz=150,slow=9.3,SNR=4.7							
TXAR				PcP	**PcP**	**18 05 08.8**	**+1.2**
comp=Z,0.1nm,0.3s,baz=149,slow=2.9,SNR=5.0							
SDV	**Santo Domingo**	**19.99**	**102**	*eP*	**P**	**18 00 53.2**	**-1.5**
comp=Z,8.4nm,0.6s							
SWET	**Sewanee**	**21.88**	**10**	*eP*	**P**	**18 01 13.9**	**-0.7**
comp=Z,132nm,0.6s							
MNTX	**Cornudas Mount**	**22.61**	**325**	*eP*	**P**	**18 01 23.5**	**+1.0**
comp=Z,2.1nm,0.8s							
WCI	**Wyandotte Cave**	**24.78**	**8**	*eP*	**P**	**18 01 41.4**	**-1.2**
comp=Z,17nm,0.6s							
PDAR	**Pinedale Array**	**33.40**	**334**	PcP	**PcP**	**18 05 38.5**	**-0.8**
PDAR	**Pinedale Array**	**33.40**	**334**	PcP	**PcP**	**18 05 38.5**	**-0.8**
comp=Z,0.7nm,0.7s,baz=150,slow=6.3,SNR=4.1							
NVAR	**Mina Array Bea**	**34.92**	**320**	P	**P**	**18 03 14.4**	**+1.8**
NVAR				PcP	**PcP**	**18 05 45.0**	**+1.4**
NVAR	**Mina Array Bea**	**34.92**	**320**	P	**P**	**18 03 14.4**	**+1.8**
comp=Z,2.4nm,0.7s,baz=136,slow=8.2,SNR=12							
NVAR				PcP	**PcP**	**18 05 45.0**	**+1.4**
comp=Z,1.9nm,0.7s,baz=158,slow=3.7,SNR=5.1							
SAML	**Samuel**	**35.15**	**128**	*eP*	**P**	**18 03 13.6**	**-0.9**
comp=Z,13nm,1.0s							
MCMT	**McKenzie Canyo**	**36.48**	**333**	*eP*	**P**	**18 03 27.2**	**+1.4**
comp=Z,0.7nm,0.7s							
SIV	**San Ignacio**	**41.34**	**134**	P	**P**	**18 04 07.4**	**+0.8**
SIV	**San Ignacio**	**41.34**	**134**	P	**P**	**18 04 07.4**	**+0.8**
comp=Z,3.5nm,0.7s,baz=320,slow=8.4,SNR=14							
SCHQ	**Schefferville**	**45.06**	**19**	P	**P**	**18 04 33.9**	**-2.2**
SCHQ	**Schefferville**	**45.06**	**19**	P	**P**	**18 04 33.9**	**-2.2**
comp=Z,7.8nm,0.9s,baz=67,slow=4.4,SNR=7.8							
YKA	**Yellowknife Ar**	**51.74**	**346**	P	**P**	**18 05 25.4**	**-1.8**
YKA	**Yellowknife Ar**	**51.74**	**346**	P	**P**	**18 05 25.4**	**-1.8**
comp=Z,1.3nm,0.8s,baz=152,slow=7.6,SNR=2.7							
ESDC	**Sonseca Array**	**78.76**	**52**	P	P	18 08 18.8	-3.6
ESDC	**Sonseca Array**	**78.76**	**52**	P	P	18 08 18.8	-3.6
comp=Z,0.2nm,0.3s,baz=306,slow=4.9,SNR=3.0							
KURK	**Kurchatov**	**115.22**	**8**	PKiKP	**PKiKP**	**18 14 59.4**	**-1.0**
KURBB	**Kurchatov Arra**	**115.30**	**8**	PKiKP	**PKiKP**	**18 14 59.4**	**-1.2**
comp=Z,0.4nm,0.7s,baz=343,slow=2.2,SNR=6.1							
SONM	**Songino Array**	**117.00**	**347**	PKP	**PKPdf**	**18 15 03.4**	**-0.7**
SONM	**Songino Array**	**117.00**	**347**	PKP	**PKPdf**	**18 15 03.4**	**-0.7**
comp=Z,0.3nm,0.6s,baz=337,slow=3.3,SNR=2.8							
BOSA	**Boshof**	**118.83**	**115**	PKP	**PKPdf**	**18 15 08.0**	**-0.1**
BOSA	**Boshof**	**118.83**	**115**	PKP	**PKPdf**	**18 15 08.0**	**-0.1**
comp=Z,7.0nm,1.2s,baz=297,slow=12,SNR=5.1							
MKAR	**Makanchi Array**	**119.51**	**6**	PKP	**PKPdf**	**18 15 06.8**	**-2.1**
MKAR	**Makanchi Array**	**119.51**	**6**	PKP	**PKPdf**	**18 15 06.8**	**-2.1**
comp=Z,0.2nm,0.7s,baz=338,slow=3.4,SNR=3.9							
WRA	**Warramunga Arr**	**136.76**	**255**	PKP	**PKPdf**	**18 15 45.3**	**+3.0**
WRA	**Warramunga Arr**	**136.76**	**255**	PKP	**PKPdf**	**18 15 45.3**	**+3.0**
comp=Z,0.6nm,1.0s,baz=91,slow=0.9,SNR=5.1							
CMAR	**Chiang Mai Arr**	**146.80**	**344**	PKPbc	**PKPbc**	**18 16 02.0**	**0.0**
CMAR	**Chiang Mai Arr**	**146.80**	**344**	PKPbc	**PKPbc**	**18 16 02.0**	**0.0**
comp=Z,3.1nm,0.6s,baz=340,slow=3.1,SNR=22							

IDC 30 17:59:23.1±1.9, 6°66S×152°40E, h0km, mb3.8/6, mb1 4.0/7, mb1mx3.7/18, mbtmp3.8/7, ML3.0/1, MS4.1/2, Ms1 4.1/2, ms1mx3.6/26, Error ellipse: s-maj=70.1km s-min=21.3km az=124.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.86**	**242**	Pn	Pn	18 00 53.1	+1.7
2.8nm,0.3s,baz=336,slow=1.1,SNR=11							
PMG				Sn	Sn	18 01 51.0	-8.4
baz=96,slow=15,SNR=2.6							
WRA	**Warramunga Arr**	**21.95**	**231**	P	P	18 04 18.6	0.0
1.2nm,0.5s,baz=55,slow=10,SNR=16							
ASAR	**Alice Springs**	**24.54**	**224**	P	P	18 04 46.0	+1.3
3.7nm,0.9s,baz=56,slow=8.9,SNR=26							
FITZ	**Fitzroy Crossi**	**28.46**	**244**	P	P	18 05 18.1	-2.0
1.6nm,0.7s,baz=76,slow=11,SNR=8.9							
CBIJ	**Chichi jima**	**34.98**	**344**	LR	LR	18 19 10.0	
comp=Z,241nm,21.1s,baz=120,slow=34							
SONM	**Songino Array**	**67.68**	**328**	P	P	18 10 22.9	+0.5
0.3nm,0.5s,baz=141,slow=7.1,SNR=2.2							
MKAR	**Makanchi Array**	**81.46**	**319**	LR	LR	18 45 43.1	
comp=Z,170nm,21.9s,baz=44,slow=34							
ZALV	**Zalesovo Beam**	**82.47**	**327**	P	P	18 11 47.6	+0.2
0.3nm,0.4s,baz=99,slow=4.7,SNR=2.3							
ILAR	**Eielson Array**	**84.02**	**22**	P	P	18 11 55.2	0.0
0.3nm,0.6s,baz=261,slow=5.4,SNR=3.4							
TORD	**Torodi Ar. Bea**	**150.45**	**285**	PKPbc	PKPbc	18 19 16.8	-1.1
0.8nm,0.9s,baz=23,slow=2.1,SNR=5.4							

*IDC **30** 18:04:44.7±0.5, 14°94S×177°30W, h0km, mb4.6/22, mb1 4.8/22, mb1mx4.7/25, mbtmp4.6/22, MS4.8/14, Ms1 4.8/14, ms1mx4.5/28, Error ellipse: s-maj=23.1km s-min=13.4km az=141.0*
*BJI **30** 18:04:45.2, 14°40S×176°94W, h5km, mB5.5/25, mb5.0/32, Ms5.3/24, Ms7 5.0/24*
*ISCJB **30** 18:04:45.2±0.2, 15°00S±0°07×177°37W±0°05, h10km, mb4.9/94, MS4.8/18, Error ellipse: s-maj=10.3km s-min=5.0km az=154.5*
*SZGRF **30** 18:04:46.1, 16°09S×176°49W, h33km, Fiji Islands region*
*MOS **30** 18:04:48.6±1.0, 14°93S×177°40W, h33km, mb5.2/21, Error ellipse: s-maj=13.0km s-min=9.1km az=51.4*
*NEIC **30** 18:04:51.1±1.4, 15°01S×177°39W, h44km±13km, mb5.1/60, Error ellipse: s-maj=11.1km s-min=5.6km az=142.0*

ISC 30 18:04:47.3±0.5, 15°07S±0°07×177°12W±0°07, h18km±2km, n478, σ1§23/482, mb5.0/94, MS4.8/20, 93C-85D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.33**	**240**	*eP*	**Pn**	**18 06 05.9**	**-0.4**
MSVF				pmax	pmax		
comp=Z,77nm,1.3s							
MSVF	**Nonsavu**	**5.33**	**240**	*eP*	**Pn**	**18 06 05.9**	**-0.4**
comp=Z,77nm,1.3s							
MSVF	**Nonsavu**	**5.33**	**240**	Pn	**Pn**	**18 06 06.1**	**-0.2**
comp=Z,137nm,0.9s,SNR=5.8							
RAO	**Raoul Island**	**14.13**	**183**	LR	LR	18 12 38.0	
comp=Z,3μm,19.0s,baz=296,slow=33							
DZM	**Mont Dzumac**	**17.05**	**243**	*eP*	**P**	**18 08 50.3**	**+3.4**
comp=Z,174nm,1.2s							
DZM				*e*LR	LR	18 13 25.5	
comp=Z,8μm,24.9s							
DZM	**Mont Dzumac**	**17.05**	**243**	*eP*	**Pn**	**18 08 42.3**	**-2.9**
comp=Z,101nm,1.3s							
DZM	**Mont Dzumac**	**17.05**	**243**	LR	LR	18 14 15.3	
comp=Z,6μm,18.1s,baz=154,slow=34							
HNR	**Honiara**	**23.09**	**281**	P	**P**	**18 09 54.5**	**+2.1**
HNR	**Honiara**	**23.09**	**281**	P	**P**	**18 09 54.4**	**+2.1**
comp=Z,48nm,0.9s,baz=221,slow=8.1,SNR=8.2							
HNR				LR	LR	18 17 22.9	
comp=Z,1μm,19.1s,baz=114,slow=33							
PPT2	**Papeete2**	**26.54**	**99**	*e*LQ	LQ	18 15 47.6	
comp=Z,4μm,26.5s							
PPT2				*e*LR	LR	18 17 02.8	
comp=Z,2μm,26.2s							
TBI	**Tubuai**	**27.35**	**112**	*e*LQ	LQ	18 16 13.4	
comp=Z,3μm,29.0s							
TBI				*e*LR	LR	18 17 36.5	
comp=Z,2μm,24.5s,baz=292							
ARMA	**Armidale**	**32.48**	**237**	*e*P	**P**	**18 11 18.0**	**+0.9**
comp=Z,57nm,1.4s							
CAN	**Canberra**	**36.43**	**230**	*e*P	**P**	**18 11 51.6**	**+0.3**
CAN				pmax	pmax		
comp=Z,24nm,1.1s							
CAN	**Canberra**	**36.43**	**230**	*e*P	**P**	**18 11 51.6**	**+0.3**
comp=Z,24nm,1.1s							
RKT	**Rikitea**	**40.51**	**108**	*e*LR	LR	18 23 32.8	
comp=Z,1μm,28.5s							
STKA	**Stephens Creek**	**41.11**	**239**	*e*P	**P**	**18 12 30.7**	**+0.2**
STKA	**Stephens Creek**	**41.11**	**239**	P	**P**	**18 12 30.4**	**-0.1**
comp=Z,33nm,1.2s,baz=65,slow=8.0,SNR=18							
STKA				LR	LR	18 27 33.3	
comp=Z,2μm,20.0s,baz=64,slow=33							
WRAB	**Tennant Creek**	**46.41**	**257**	*e*P	**P**	**18 13 11.9**	**-1.5**
WRAB				pmax	pmax		
comp=Z,13nm,1.1s							
WRAB	**Tennant Creek**	**46.41**	**257**	*e*P	**P**	**18 13 11.9**	**-1.5**
comp=Z,13nm,1.1s							
WRA	**Warramunga Arr**	**46.42**	**257**	P	**P**	**18 13 11.2**	**-2.2**
WRA				PcP	**PcP**	**18 14 49.0**	**+0.8**
WRA	**Warramunga Arr**	**46.42**	**257**	P	**P**	**18 13 11.2**	**-2.2**
comp=Z,10nm,1.2s,baz=89,slow=7.6,SNR=19							
WRA				PcP	**PcP**	**18 14 49.0**	**+0.8**
comp=Z,3.2nm,1.0s,baz=83,slow=3.8,SNR=5.2							
WRA				LR	LR	18 30 24.7	
comp=Z,872nm,20.6s,baz=90,slow=33							
AS31	**Alice Springs**	**46.80**	**252**	*e*P	**P**	**18 13 14.3**	**-2.1**
ASAR	**Alice Springs**	**46.80**	**252**	P	**P**	**18 13 14.5**	**-1.9**
ASAR				PcP	**PcP**	**18 14 50.6**	**+1.1**
ASAR	**Alice Springs**	**46.80**	**252**	P	**P**	**18 13 14.5**	**-1.9**
comp=Z,10nm,1.1s,baz=84,slow=8.6,SNR=34							
ASAR				PcP	**PcP**	**18 14 50.6**	**+1.1**
comp=Z,1.5nm,0.9s,baz=78,slow=2.7,SNR=3.7							
ASAR				LR	LR	18 31 17.9	
comp=Z,1μm,20.6s,baz=81,slow=34							
FITZ	**Fitzroy Crossi**	**54.76**	**258**	P	**P**	**18 14 15.6**	**-0.8**
FITZ	**Fitzroy Crossi**	**54.76**	**258**	P	**P**	**18 14 15.6**	**-0.8**
comp=Z,3.6nm,0.9s,baz=98,slow=7.1,SNR=4.3							
FITZ				LR	LR	18 35 39.3	
comp=Z,888nm,19.3s,baz=144,slow=34							
CBIJ	**Chichi jima**	**57.60**	**316**	LR	LR	18 34 18.9	
comp=Z,643nm,19.6s,baz=284,slow=31							
BATI	**Baumata**	**57.84**	**267**	P	**P**	**18 14 38.4**	**-0.2**
BATI	**Baumata**	**57.84**	**267**	P	**P**	**18 14 38.4**	**-0.2**
comp=Z,13nm,0.9s,baz=131,slow=9.3,SNR=2.6							
NWAO	**Narrogin (SRO)**	**61.65**	**241**	LR	LR	18 41 09.7	
comp=Z,1μm,19.0s,baz=98,slow=36							
SBA	**Scott Base**	**63.31**	**184**	*e*P	**P**	**18 15 15.8**	**+1.0**
SBA				pmax	pmax		
comp=Z,20nm,1.3s							
SBA	**Scott Base**	**63.31**	**184**	*e*P	**P**	**18 15 15.8**	**+1.0**
comp=Z,20nm,1.3s							
VNDA	**Vanda**	**63.36**	**185**	*e*P	**P**	**18 15 16.1**	**+1.0**
comp=Z,9.4nm,1.3s							
VNDA	**Vanda**	**63.36**	**185**	P	**P**	**18 15 16.1**	**+1.0**
comp=Z,6.7nm,1.2s,baz=4.7,slow=7.0,SNR=13							
YUK	**Yuzh-Kuril'sk**	**67.83**	**332**	*c iP*	**P**	**18 15 43.0**	**-1.4**
YUK				S	SKiKP	18 25 15.7	-25
FX1	**Attu Island--F**	**68.19**	**354**	LR	LR	18 40 14.7	
comp=Z,403nm,21.2s,baz=146,slow=31							
JNU	**Nakatsue**	**68.99**	**315**	P	**P**	**18 15 51.3**	**-0.7**
JNU	**Nakatsue**	**68.99**	**315**	P	**P**	**18 15 51.3**	**-0.7**
comp=Z,9.2nm,0.8s,baz=126,slow=6.4,SNR=4.7							
CASY	**Casey**	**69.21**	**204**	*e*P	**P**	**18 15 52.4**	**-0.4**
comp=Z,8.6nm,1.3s							
ASAJ	**Asahikawa**	**69.42**	**330**	LR	LR	18 42 18.2	
comp=Z,617nm,18.7s,baz=297,slow=33							
PETK	**Petropavlovsk-**	**71.28**	**344**	P	**P**	**18 16 03.4**	**-2.2**
PETK	**Petropavlovsk-**	**71.28**	**344**	P	**P**	**18 16 03.4**	**-2.2**
PETK	**Petropavlovsk-**	**71.28**	**344**	P	**P**	**18 16 03.4**	**-2.2**
comp=Z,8.7nm,0.9s,baz=139,slow=9.2,SNR=7.3							
PETK				LR	LR	18 43 44.8	
comp=Z,398nm,19.4s,baz=118,slow=33							
YSS	**Yuzh-Sakhalins**	**71.47**	**332**	*e*P	**P**	**18 16 05.7**	**-1.1**
YSS				pmax	pmax		
comp=Z,50nm,1.2s							
YSS				MLR	MLR		
comp=Z,400nm,18.0s							
KSRS	**Korea Array**	**73.44**	**317**	P	**P**	**18 16 18.2**	**-0.6

MOD	Modoc	77.13	40	eP	P	18 16 41.2 +1.1
	comp=Z,53nm,1.2s					
214A	Organ Pipe Nat	77.30	52	⇓P	P	18 16 42.8 +1.7
	baz=78					
PDMCI	Parker Dam,Lak	77.39	49	⇓P	P	18 16 43.5 +2.0
	baz=78					
SHPR	Sheep Range	77.71	47	eP	P	18 16 44.7 +1.2
	comp=Z,27nm,1.4s					
Z14A	Wintersburg	77.84	50	⇑P	P	18 16 46.0 +1.9
	baz=78					
W13A	Hualapai Mount	77.95	48	⇓P	P	18 16 45.6 +0.7
	baz=78,SNR=5.3					
Y14A	Wickenburg	78.06	50	⇑P	P	18 16 46.7 +1.3
	baz=78					
BMN	Battle Mountai	78.30	42	eP	P	18 16 46.6 -0.1
BMN				pmax	pmax	
	comp=Z,39nm,1.5s					
BMN	Battle Mountai	78.30	42	eP	P	18 16 46.6 -0.1
	comp=Z,39nm,1.5s					
R11A	Troy Canyon, C	78.33	45	eP	P	18 16 47.6 +0.6
R11A	Troy Canyon, C	78.33	45	⇓P	P	18 16 48.4 +1.4
	baz=79					
KLR	Kul'dur	78.33	329	eP	P	18 16 43.7 -2.7
WVOR	Wild Horse Val	78.46	40	eP	P	18 16 48.6 +1.1
WVOR				pmax	pmax	
	comp=Z,16nm,1.2s					
WVOR	Wild Horse Val	78.46	40	eP	P	18 16 48.6 +1.1
	comp=Z,16nm,1.2s					
CN2	Changchun	78.56	321	eP	P	18 16 47.5 -0.3
CN2				esP	sP	18 16 54.5 -1.3
CN2				eS	S	18 26 42.5 -1.2
CN2				pmax	pmax	
	comp=Z,10.0nm,1.1s					
CN2				pmax	pmax	
	comp=Z,200nm,5.0s					
CN2				LR	LR	
	comp=N,200nm,18.0s					
CN2				LR	LR	
	comp=E,200nm,18.0s					
CN2				LR	LR	
	comp=Z,300nm,16.0s					
TUC	Tucson	79.00	52	eP	P	18 16 52.2 +1.6
TUC				pmax	pmax	
	comp=Z,26nm,1.5s					
TUC	Tucson	79.00	52	eP	P	18 16 52.2 +1.6
	comp=Z,26nm,1.5s					
X16A	Lo Mia Camp, P	79.43	50	⇓P	P	18 16 54.8 +1.7
	baz=80					
QIZ	Qiongzhong	79.46	293	P	P	18 16 53.5 +0.2
QIZ				S	S	18 26 55.0 +0.7
QIZ				pmax	pmax	
	comp=Z,36nm,2.2s					
CCUT	Cedar City	79.48	46	eP	P	18 16 54.6 +1.3
	comp=Z,11nm,1.2s					
U15A	North Rim	79.71	48	⇓P	P	18 16 55.9 +1.2
	baz=80,SNR=5.2					
ELK	Elko	79.75	43	eP	P	18 16 55.5 +0.7
	comp=Z,7.1nm,1.1s					
WHN	Wuhan	79.96	305	P	P	18 16 55.0 -0.8
HAWA	Hanford	80.11	36	eP	P	18 16 57.3 +1.1
	comp=Z,38nm,1.4s					
220A	Playas Peak, P	80.56	53	⇓P	P	18 17 00.5 +1.3
	baz=81,SNR=6.8					
BMO	Blue Mountains	80.57	39	eP	P	18 16 59.5 +0.6
	comp=Z,14nm,1.2s					
120A	U Bar Ranch, L	80.75	53	⇓P	P	18 17 02.2 +2.0
	baz=81					
TRF	Thorofare Moun	81.00	12	eP	P	18 16 59.5 -1.3
	comp=Z,55nm,1.7s					
Z20A	Nine Sixteen R	81.01	52	⇑P	P	18 17 03.3 +1.7
	baz=81,SNR=8.0					
DUG	Dugway	81.10	44	⇑P	P	18 17 03.5 +1.6
	baz=81					
SEY	Seymchan	81.32	346	⇑P	P	18 16 59.8 -2.5
121A	Cookes Peak, D	81.39	53	⇑P	P	18 17 05.4 +1.7
	baz=82					
Y20A	Horse Springs,	81.50	52	⇓P	P	18 17 05.6 +1.3
	baz=82					
MCK	McKinley	81.52	12	eP	P	18 17 04.1 +0.7
MCK				pmax	pmax	
	comp=Z,20nm,1.1s					
MCK	McKinley	81.52	12	eP	P	18 17 04.1 +0.7
	comp=Z,20nm,1.1s					
Q16A	Castle Valley	81.64	46	eP	P	18 17 06.6 +1.7
Q16A	Castle Valley	81.64	46	⇑P	P	18 17 06.4 +1.5
	baz=82					
HLID	Hailey	81.69	41	eP	P	18 17 06.0 +1.0
	comp=Z,31nm,1.4s					
HLID	Hailey	81.69	41	⇓P	P	18 17 06.5 +1.5
	baz=82					
222A	Williams Famil	81.75	54	⇑P	P	18 17 07.3 +1.8
	baz=82					
Z21A	St. Cloud Mine	81.80	52	⇓P	P	18 17 07.5 +1.7
	baz=82					
MENT	Mentasta	82.01	15	eP	P	18 17 05.2 -0.8
Y21A	Point of Rocks	82.08	52	⇑P	P	18 17 08.5 +1.2
	baz=82					
X21A	Alamocita Cree	82.17	51	⇓P	P	18 17 09.0 +1.2
	baz=82					
JLU	Jordanelle	82.21	44	eP	P	18 17 08.9 +1.0
	comp=Z,22nm,1.4s					
V20A	Brimhall	82.22	50	⇓P	P	18 17 09.3 +1.3
	baz=82					
Z22A	Elephant Butte	82.32	53	⇑P	P	18 17 09.6 +1.1
	baz=83					
NEW	Newport	82.50	36	P	P	18 17 08.9 -0.1
NEW	Newport	82.50	36	P	P	18 17 08.9 -0.1
	comp=Z,3.0nm,0.8s,baz=237,slow=7.6,SNR=4.6					
NEW	Newport	82.50	36	⇑P	P	18 17 10.0 +1.0
	baz=83					
Y22A	Socorro	82.59	52	⇓P	P	18 17 11.4 +1.5
	baz=83					
HWUT	Hardware Ranch	82.60	44	eP	P	18 17 10.8 +1.0
	comp=Z,30nm,1.5s					
BJI	Beijing	82.66	315	P	P	18 17 10.0 +0.1
BJI				PP	PP	18 20 20.0 0.0
BJI				S	S	18 27 19.8 -7.0
BJI				SS	SS	18 32 52.3 +3.0
BJI				pmax	pmax	
	comp=Z,17nm,1.7s					
BJI				pmax	pmax	
	comp=Z,210nm,5.2s					
BJI				LR	LR	
	comp=N,250nm,16.0s					
BJI				LR	LR	
	comp=E,240nm,22.1s					
BJI				LR	LR	
	comp=Z,500nm,49.7s					
IM04	Indian Mountai	82.68	9	eP	P	18 17 07.9 -1.5
DLBC	Dease Lake	82.75	23	P	P	18 17 10.0 0.0
DLBC	Dease Lake	82.75	23	P	P	18 17 10.0 0.0
	comp=Z,7.5nm,1.1s,baz=151,slow=6.5,SNR=5.1					
COLA	College	82.76	12	eP	P	18 17 08.9 -0.9
COLA				pmax	pmax	
	comp=Z,129nm,1.3s					
COLA	College	82.76	12	eP	P	18 17 08.9 -0.9
	comp=Z,129nm,1.3s					
324A	Moseley Ranch,	82.77	55	⇓P	P	18 17 11.7 +0.8
	baz=83,SNR=8.2					
X22A	Bernardo	82.78	52	⇑P	P	18 17 12.7 +1.8
	baz=83					
IMA2	Indian Mountai	82.78	9	eP	P	18 17 09.5 -0.6
ILAR	Eielson Array	82.86	13	P	P	18 17 09.5 -0.9
ILAR	Eielson Array	82.86	13	P	P	18 17 09.5 -0.9
	comp=Z,5.9nm,1.0s,baz=224,slow=5.2,SNR=21					
425A	Indio Mountain	82.91	56	⇓P	P	18 17 12.7 +1.0
	baz=83,SNR=8.9					
BNM	Barren Site	82.93	52	eP	P	18 17 11.7 -0.1
	comp=Z,15nm,1.4s					
MNTX	Cornudas Mount	82.94	55	eP	P	18 17 11.9 +0.3
	comp=Z,20nm,1.5s					
224A	Cornudas Mount	82.98	54	⇓P	P	18 17 12.9 +0.9
	baz=83,SNR=8.9					
LPM	Los Pinos Moun	82.99	52	eP	P	18 17 12.4 +0.4
	comp=Z,15nm,1.3s					
M17A	Scullys Gap (B	83.14	44	⇑P	P	18 17 13.7 +1.0
	baz=83					
626A	Big Bend Ranch	83.14	57	⇑P	P	18 17 13.8 +1.0
	baz=83					
124A	Stringfield Ra	83.27	54	⇑P	P	18 17 14.3 +0.7
	baz=84					
Y23A	Lovelace Mesa,	83.28	52	⇑P	P	18 17 14.6 +1.1
	baz=84					
MCMT	McKenzie Canyo	83.29	40	eP	P	18 17 14.5 +1.1
	comp=Z,13nm,1.4s					
526A	Mary Lane Ranc	83.36	57	⇑P	P	18 17 15.2 +1.2
	baz=84,SNR=5.9					
ANMO	Albuquerque	83.37	51	eP	P	18 17 14.7 +0.7
ANMO	Albuquerque	83.37	51	P	P	18 17 14.1 0.0
	comp=Z,6.1nm,1.1s,baz=248,slow=5.2,SNR=14					
T21A	Navajo Lake	83.40	49	⇑P	P	18 17 15.7 +1.6
	baz=84					
TXAR	Lajitas Array	83.44	57	P	P	18 17 15.6 +1.3
TXAR	Lajitas Array	83.44	57	P	P	18 17 15.6 +1.3
	comp=Z,3.6nm,1.1s,baz=226,slow=4.7,SNR=15					
225A	Deer Hill, Car	83.54	54	⇓P	P	18 17 15.9 +1.0
	baz=84					
RRI2	Red Ridge	83.56	42	eP	P	18 17 15.7 +0.8
	comp=Z,47nm,1.4s					
Z24A	Sheeppen Canyo	83.58	53	⇑P	P	18 17 16.1 +1.0
	baz=84					
MSO	Missoula	83.61	38	⇓P	P	18 17 15.1 +0.3
	baz=84,SNR=8.7					
BSMT	Bassoo Peak	83.62	37	eP	P	18 17 15.3 +0.3
	comp=Z,31nm,1.5s					
426A	McDonald Obser	83.63	56	⇑P	P	18 17 16.1 +0.7
	baz=84					
Q20A	Ridgley Place,	83.67	47	⇑P	P	18 17 15.8 +0.4
	baz=84,SNR=7.0					
W23A	Werner Place,	83.69	51	⇓P	P	18 17 16.8 +1.2
	baz=84					
DLMT	Dillon	83.70	40	eP	P	18 17 16.6 +1.2
	comp=Z,34nm,1.3s					
627A	Terlingua Ranc	83.71	57	⇑P	P	18 17 16.6 +0.9
	baz=84,SNR=9.4					
ENH	Enshi	83.73	303	eP	P	18 17 16.1 +0.3
	comp=Z,22nm,1.3s					
Y24A	Capitan	83.75	53	⇓P	P	18 17 16.6 +0.7
	baz=84,SNR=6.0					
527A	Woodward Ranch	83.78	57	⇓P	P	18 17 17.1 +1.0
	baz=84,SNR=6.6					
P20A	De Beque	83.83	46	⇓P	P	18 17 17.4 +1.1
	baz=84					
TPAW	Teton Pass	83.87	42	eP	P	18 17 17.4 +1.0
	comp=Z,19nm,1.2s					
REDW	Red Top Meadow	83.87	42	eP	P	18 17 17.4 +0.9
	comp=Z,49nm,1.3s					
V23A	Ortiz Mt. (NFS	83.90	51	⇓P	P	18 17 18.5 +1.8
	baz=84					
R21A	Cimarron	83.96	48	⇑P	P	18 17 18.6 +1.6
	baz=84					
SNOW	Snow King Moun	83.98	42	eP	P	18 17 17.9 +0.9
	comp=Z,25nm,1.1s					
LRM	Limekiln Ridge	84.02	39	eP	P	18 17 17.6 +0.5
	comp=Z,133nm,1.3s					
DAWY	Dawson	84.04	16	eP	P	18 17 17.5 +0.9
226B	Tecolote Peak,	84.04	55	⇑P	P	18 17 18.2 +0.8
	baz=84,SNR=7.3					
CHMT	Chamberlain Mo	84.06	38	eP	P	18 17 17.0 -0.3
	comp=Z,2.2nm,0.2s					
Z25A	Roswell	84.06	53	⇑P	P	18 17 18.8 +1.3
	baz=84					
IMW	Indian Meadow	84.06	42	eP	P	18 17 18.9 +1.4
	comp=Z,30nm,1.2s					
MOOW	Moose Ponds	84.12	42	eP	P	18 17 18.5 +0.9
	comp=Z,20nm,1.4s					
628A	Black Gap, Mar	84.13	58	⇑P	P	18 17 19.0 +1.2
	baz=84,SNR=7.9					
LOHW	Long Hollow	84.15	42	eP	P	18 17 18.8 +1.0
	comp=Z,26nm,1.5s					
EGAK	Eagle	84.17	15	eP	P	18 17 17.9 +0.8
	comp=Z,27nm,1.3s					
QLMT	Earthquake Lak	84.18	41	eP	P	18 17 18.9 +1.0
	comp=Z,3.0nm,1.2s					
427A	Hayter Ranch,	84.20	56	⇑P	P	18 17 19.2 +1.0
	baz=84,SNR=8.7					
S22A	4UR Ranch, Cre	84.22	49	⇑P	P	18 17 19.0 +0.6
	baz=84,SNR=8.8					
W24A	Lazy 6 Ranch,	84.27	51	⇑P	P	18 17 19.5 +0.9
	baz=85					
FLWY	Flagg Ranch	84.30	42	eP	P	18 17 20.2 +1.7
	comp=Z,56nm,1.3s					
Y25A	Mesa, Roswell	84.32	53	⇑P	P	18 17 19.8 +1.0
	baz=85					
126A	Clayton Basin,	84.37	54	⇑P	P	18 17 20.5 +1.5
	baz=85					
YFT	Old Faithful	84.38	41	eP	P	18 17 21.6 +2.6
	comp=Z,15nm,1.0s					
YMR	Madison River	84.40	41	eP	P	18 17 21.0 +2.0
	comp=Z,66nm,1.3s					
COLD	Coldfoot	84.42	10	eP	P	18 17 17.9 -0.4
	comp=Z,42nm,1.4s					
BOZ	Bozeman (W)	84.44	40	eP	P	18 17 18.0 -1.1
BOZ				pmax	pmax	
	comp=Z,27nm,1.4s					
BOZ	Bozeman (W)	84.44	40	eP	P	18 17 18.0 -1.1
	comp=Z,26nm,1.4s					
BW06	Boulder Array	84.45	43	eP	P	18 17 19.8 +0.4
	comp=Z,18nm,1.4s					
PDAR	Pinedale Array	84.45	43	P	P	18 17 19.4 0.0
PDAR	Pinedale Array	84.45	43	P	P	18 17 19.4 0.0
	comp=Z,4.4nm,0.9s,baz=190,slow=1.6,SNR=25					
N20A	Spence Gulch,	84.49	45	⇑P	P	18 17 19.8 +0.2
	baz=85,SNR=5.4					
H17A	Grant Village	84.52	41	eP	P	18 17 21.8 +2.1
YNR	Norris Junctio	84.60	41	eP	P	18 17 23.6 +3.5
	comp=Z,53nm,1.6s					
Z26A	Caprock	84.63	54	⇓P	P	18 17 21.1 +0.7
	baz=85					
GYA	Guiyang	84.73	299	P	P	18 17 22.0 +1.0
GYA				PP	PP	18 20 40.3 +2.9
GYA				S	S	18 27 48.0 -0.5
GYA				SS	SS	18 33 24.8 +4.0
GYA				pmax	pmax	
	comp=Z,30nm,1.0s					
GYA				pmax	pmax	
	comp=Z,130nm,5.9s					
GYA				LR	LR	
	comp=N,680nm,21.0s					
GYA				LR	LR	
	comp=E,560nm,22.5s					
GYA				LR	LR	
	comp=Z,550nm,21.1s					
WALA	Waterton Lakes	84.73	36	eP	P	18 17 21.2 +0.7
	comp=Z,0.2nm,0.7s					
HRY	Holter Researc	84.82	39	eP	P	18 17 22.1 +1.1
	comp=Z,20nm,1.1s					
M20A	Sweetwater, Wa	84.82	45	⇑P	P	18 17 22.3 +1.1
	baz=85					
328A	Wristen Ranch,	84.87	56	⇓P	P	18 17 22.5 +0.9
	baz=85					
529A	Stev Forest Ra	84.90	57	⇓P	P	18 17 22.3 +0.7
	baz=85,SNR=5.3					
L20A	Wamsutter	84.94	44	⇓P	P	18 17 22.2 +0.3
	baz=85,SNR=5.3					
K19A	Absolon Red Bu	84.95	43	⇓P	P	18 17 21.9 0.0
	baz=85,SNR=7.0					
W25A	X Bar L Ranch,	84.99	52	⇑P	P	18 17 23.1 +1.0
	baz=85					
J19A	Crowheart	85.00	43	⇓P	P	18 17 22.3 +0.2
	baz=85,SNR=5.9					
K20A	Yellowstone Ra	85.21	44	⇑P	P	18 17 23.9 +0.8
	baz=86					
H18A	Shoshone NF, C	85.23	41	⇓P	P	18 17 24.5 +1.3
	baz=86					
Z27A	Tatum	85.24	54	⇓P	P	18 17 24.0 +0.6
	baz=86					
429A	Davenport Ranc	85.33	57	⇓P	P	18 17 25.3 +1.4
	baz=86					
I19A	Meeteetse	85.38	42	⇑P	P	18 17 25.5 +1.5
	baz=86					
O22A	Kremmling	85.40	46	⇑P	P	18 17 25.6 +1.3
	baz=86					
Q23A	Hartsel	85.40	48	⇑P	P	18 17 25.6 +1.2
	baz=86					
M21A	Separation Pea	85.43	45	⇓P	P	18 17 25.9 +1.5
	baz=86					
Y27A	Causey	85.49	53	⇑P	P	18 17 26.0 +1.3
	baz=86					
L21A	Rawlins	85.57	45	⇓P	P	18 17 25.9 +0.9
	baz=86					
530A	J-C Ranch, Com	85.62	57	⇑P	P	18 17 26.7 +1.4
	baz=86					
J20A	Shoshoni	85.68	43	⇓P	P	18 17 27.5 +2.1
	baz=86					
N22A	Wattenberg Ran	85.72	46	⇑P	P	18 17 27.2 +1.3
	baz=86					
GCMT	Greycliff	85.73	40	eP	P	18 17 26.4 +0.8
	comp=Z,22nm,1.4s					
I20A	Worland	85.91	43	⇓P	P	18 17 27.8 +1.3
	baz=86					
ISCO	Idaho Springs	85.91	47	⇑P	P	18 17 28.5 +1.6
	baz=86					
430A	Baggett Ranch,	85.92	57	⇑P	P	18 17 27.7 +0.9
	baz=86					
K21A	Alcova	85.93	44	⇑P	P	18 17 27.7 +1.0
	baz=86					
S25A	Robets Cordova	85.93	49	⇓P	P	18 17 27.9 +1.1
	baz=86					
631A	Perdido Creek	86.00	58	⇓P	P	18 17 27.7 +0.5
	baz=86,SNR=7.1					
J21A	Lysite	86.10	43	⇓P	P	18 17 27.9 +0.4
	baz=86,SNR=10.0					
HHC	Hu-ho-hao-te	86.19	314	eP	P	18 17 29.3 +1.3
HHC				sP	sP	18 17 35.3 -0.6
HHC				PP	PP	18 20 52.5 +3.6
HHC				SKS	SKSac	18 27 51.3 -2.2
HHC				S	S	18 28 02.0 -0.3
HHC				sS	ScS	18 28 08.8 -2.3
HHC				SS	SS	18 33 44.3 +2.6
HHC				pmax	pmax	
	comp=Z,52nm,0.7s					
HHC				pmax	pmax	
	comp=Z,200nm,4.8s					
HHC				LR	LR	
	comp=N,310nm,15.5s					
HHC				LR	LR	
	comp=E,500nm,16.7s					
HHC				LR	LR	
	comp=Z,640nm,16.7s					
F19A	Roth Farm, Mol	86.21	41	⇓P	P	18 17 28.2 +0.3
	baz=86,SNR=8.6					
531A	Rocksprings	86.27	58	⇓P	P	18 17 29.8 +1.2
	baz=87					
G20A	Bridger	86.39	41	⇑P	P	18 17 30.1 +1.2
	baz=87					
I21A	Big Trails, Te	86.40	43	⇑P	P	18 17 29.2 +0.3
	baz=87,SNR=7.1					
E19A	Rath Farm, Rou	86.57	40	⇑P	P	18 17 31.4 +1.7
	baz=87					
EGMT	Eagleton	86.67	38	⇓P	P	18 17 31.6 +1.5
	baz=87					
J22A	Midwest	86.77	44	⇓P	P	18 17 30.9 +0.1
	baz=87,SNR=7.9					
532A	Rocksprings	86.78	58	⇑P	P	18 17 31.9 +0.8
	baz=87					
D19A	Cripps Ranch,	86.82	39	⇑P	P	18 17 31.5 +0.6
	baz=87,SNR=9.7					
H21A	Big Horn, Sher	86.90	42	⇑P	P	18 17 32.3 +0.9
	baz=87					
MAW	Mawson	86.93	199	P	P	18 17 31.1 +0.1
MAW	Mawson	86.93	199	P	P	18 17 31.1 +0.1
	comp=Z,10nm,1.1s,baz=111,slow=5.6,SNR=9.3					
I22A	9 Mile Ranch,	86.96	43	⇑P	P	18 17 32.7 +1.0
	baz=87					
C19A	Slack Wire Ran	86.97	39	⇑P	P	18 17 32.2 +0.6
	baz=87,SNR=10					
E20A	Meyer Farm, Mu	87.00	40	⇑P	P	18 17 33.4 +1.7
	baz=87					
M24A	Cheyenne	87.12	46	⇓P	P	18 17 34.6 +2.0
	baz=87					
432A	Menard	87.12	57	⇑P	P	18 17 33.9 +1.2
	baz=87					
EDM	Edmonton	87.12	33	eP	P	18 17 32.4 +0.2
EDM	Edmonton	87.12	33	eP	P	18 17 32.4 +0.2
D20A	Manuel Ranch,	87.25	40	⇑P	P	18 17 35.0 +2.1
	baz=88					
H22A	Clearmont	87.33	42	⇓P	P	18 17 35.1 +1.7
	baz=88					
F21A	Absaloka Mine,	87.34	41	⇓P	P	18 17 35.1 +1.6
	baz=88					
B19A	Brinkman Farms	87.35	38	⇓P	P	18 17 35.2 +1.9
	baz=88					
G22A	Birney	87.63	42	⇑P	P	18 17 36.0 +1.2
	baz=88					
KMI	Kunming	87.66	297	P	P	18 17 37.8 +2.2
KMI				pmax	pmax	
	comp=Z,8.0nm,1.5s					
A19A	Klindworth Far	87.68	38	⇓P	P	18 17 36.5 +1.6
	baz=88					
F22A	Rosebud	87.88	41	⇑P	P	18 17 38.0 +2.0
	baz=88					
G23A	Biddle	88.20	42	⇑P	P	18 17 38.8 +1.2
	baz=88					
E22A	Miles City	88.34	41	⇓P	P	18 17 39.8 +1.6
	baz=89					
F23A	Volborg	88.40	42	⇑P	P	18 17 39.9 +1.5
	baz=89					
H24A	Dirks Ranch, A	88.57	43	⇓P	P	18 17 40.1 +0.8
	baz=89					
CD2	Chengdu	88.59	302	P	P	18 17 40.5 +0.8
CD2				pP	pP	18 17 45.3 -0.3
CD2				sP	sP	18 17 47.8 +0.1
CD2				PP	PP	18 21 11.3 +2.9
CD2				SKS	SKSac	18 28 07.3 -1.2
CD2				S	S	18 28 24.8 -0.8
CD2				sS	ScS	18 28 32.3 +1.1
CD2				SS	SS	18 34 18.8 +1.7
CD2				pmax	pmax	
	comp=Z,10.0nm,0.6s					
CD2				pmax	pmax	
	comp=Z,240nm,5.1s					
CD2				LR	LR	
	comp=N,520nm,7.1s					
CD2				LR	LR	
	comp=Z,310nm,6.5s					
RSSD	Black Hills	88.67	44	eP	P	18 17 40.1 +0.1
RSSD				pmax	pmax	
	comp=Z,96nm,1.5s					
RSSD	Black Hills	88.67	44	eP	P	18 17 40.1 +0.1
	comp=Z,96nm,1.5s					
E23A	Ismay	88.77	41	⇓P	P	18 17 42.3 +2.1
	baz=89					
B22A	Reddig Ranch S	89.07	39	⇑P	P	18 17 43.2 +1.7
	baz=89					
D23A	Lindsay	89.10	40	⇑P	P	18 17 43.3 +1.6
	baz=89					
CMAR	Chiang Mai Arr	89.11	289	P	P	18 17 42.6 +0.3
CMAR	Chiang Mai Arr	89.11	289	P	P	18 17 42.6 +0.3
	comp=Z,0.4nm,0.4s,baz=92,slow=2.1,SNR=5.0					
C23A	Lambert	89.37	40	⇓P	P	18 17 44.7 +1.8
	baz=90					
G25A	Newell	89.49	43	⇓P	P	18 17 45.0 +1.4
	baz=90					
CIT	Chita	89.57	325	eP	P	18 17 45.1 +1.3
C24A	Savage	89.73	40	⇓P	P	18 17 46.5 +1.9
	baz=90					
B23A	Brockton	89.75	39	⇓P	P	18 17 46.7 +2.0
	baz=90					
G27A	Dupree	89.88	43	⇑P	P	18 17 49.4 +4.0
	baz=91					
LZH	Lanzhou	90.16	307	eP	P	18 17 48.3 +1.2
LZH				pP	pP	18 17 53.0 +0.1
LZH				sP	sP	18 17 55.5 +0.5
LZH				SKS	SKSac	18 28 12.0 -5.7
LZH				eS	S	18 28 40.0 -0.3
LZH				SS	SS	18 34 40.3 +0.5
LZH				pmax	pmax	
	comp=Z,21nm,1.0s					
LZH				pmax	pmax	
	comp=Z,110nm,4.5s					
LZH				LR	LR	
	comp=N,780nm,15.3s					
LZH				LR	LR	
	comp=E,680nm,16.5s					
LZH				LR	LR	
	comp=Z,960nm,17.0s					
F26A	Lodgepole	90.22	42	⇑P	P	18 17 48.3 +1.3
	baz=90					
I28A	Midland	90.56	44	⇓P	P	18 17 49.6 +1.0
	baz=91					
D26A	Manning	90.80	41	⇓P	P	18 17 51.0 +1.3
	baz=91					
YKA	Yellowknife Ar	91.25	24	P	P	18 17 51.9 +0.6
YKA	Yellowknife Ar	91.25	24	P	P	18 17 51.9 +0.6
	comp=Z,2.6nm,1.0s,baz=244,slow=4.1,SNR=3.2					
ULN	Ulaanbaatar	91.82	319	eP	P	18 17 53.6 -0.9
	comp=Z,18nm,1.4s					
SONM	Songino Array	92.23	319	P	P	18 17 55.9 -0.4
SONM	Songino Array	92.23	319	P	P	18 17 55.9 -0.4
	comp=Z,1.4nm,1.0s,baz=128,slow=3.1,SNR=9.4					
SNAA	Sanae	93.38	178	eP	P	18 18 01.1 -0.2
	comp=Z,7.3nm,1.1s					
GTA	Gaotai	94.19	310	eP	P	18 18 05.5 -0.1
GTA				pP	pP	18 18 11.0 -0.5
GTA				sP	sP	18 18 14.0 +0.4
GTA				S	S	18 29 12.0 -4.3
GTA				sS	ScS	18 29 20.5 +2.9
GTA				pmax	pmax	
	comp=Z,3.0nm,1.2s					
GTA				pmax	pmax	

comp=Z,75nm,5.2s
GTA LR LR
comp=N,130nm,15.7s
GTA LR LR
comp=E,230nm,23.7s
GTA LR LR
comp=Z,480nm,22.3s
ZAK Zakamensk 94.98 321 *e*P **P 18 18 07.8 -1.1**
ZAK pmax pmax
comp=Z,2.0nm,1.3s
MKAR Makanchi Array 108.04 315 PKiKP **PKiKP 18 23 12.9 -1.3**
MKAR Makanchi Array 108.04 315 PKiKP **PKiKP 18 23 12.9 -1.3**
comp=Z,0.7nm,0.8s,baz=29,slow=3.3,SNR=4.2
KURK Kurchatov 110.53 319 PKiKP **PKiKP 18 23 17.7 -1.0**
KURK Kurchatov 110.53 319 PKiKP **PKiKP 18 23 17.6 -1.0**
KURBB Kurchatov Arra 110.59 319 PKiKP **PKiKP 18 23 17.6 -1.2**
comp=Z,0.7nm,0.9s,baz=89,slow=1.5,SNR=8.6
KSH Kashi 112.40 307 *e*PKP **PKiKP 18 23 24.3 +1.5**
KSH PP **PP 18 24 12.0 +3.2**
KSH PKS **PKSdf 18 26 59.5 -0.1**
KSH SKS **SKSdf 18 30 35.3 +0.9**
KSH SKKS **SKKSac 18 31 06.0 -4.5**
KSH SS **SS 18 39 47.0 -1.6**
KSH AMB AMB
comp=Z,36nm,4.1s
KSH LR LR
comp=N,90nm,5.7s
KSH LR LR
comp=E,120nm,4.8s
KSH LR LR
comp=Z,150nm,10.5s
ARCES ARCESS Array B 123.75 351 PKP **PKPdf 18 23 42.0 -1.5**
ARCES ARCESS Array B 123.75 351 PKP **PKPdf 18 23 42.0 -1.5**
comp=Z,6.4nm,0.8s,baz=17,slow=5.4,SNR=6.4
KLMR Klimovskoe 127.22 338 *e*PKIKP **PKPdf 18 23 49.6 -0.8**
KLMR pmax pmax
comp=Z,22nm,1.5s
KLMR pmax pmax
comp=Z,47nm,1.4s
OBN Obninsk 132.32 334 *i* PKIKP **PKPdf 18 24 02.0 +1.8**
OBN pmax pmax
comp=Z,19nm,1.5s
NOA NORSAR Array B 133.71 354 PKP **PKPdf 18 24 02.4 -0.4**
NOA NORSAR Array B 133.71 354 PKP **PKPdf 18 24 02.4 -0.4**
comp=Z,1.8nm,0.9s,baz=13,slow=4.0,SNR=3.8
AKASG Malin Array Be 138.59 335 PKIKP PKPpre 18 24 05.3
AKASG 18 24 11.9
AKASG Malin Array Be 138.59 335 PKPpre PKPpre 18 24 05.3
AKASG PKP **PKPdf 18 24 11.9 -0.2**
AKASG Malin Array Be 138.59 335 PKhKP PKPpre 18 24 05.3
AKASG PKP **PKPdf 18 24 11.9 -0.2**
comp=Z,0.1nm,0.2s,baz=25,slow=3.1,SNR=3.7
AKASG
comp=Z,1.6nm,0.7s,baz=37,slow=2.0,SNR=9.3
STHS Stebnicka Huta 142.60 340 *e*PKIKP **PKPdf 18 24 19.8 +0.3**
STHS Stebnicka Huta 142.60 340 *e*PKP **PKPdf 18 24 19.8 +0.3**
KOLS Kolonicke sedl 142.67 339 *e*PKIKP **PKPdf 18 24 18.7 -0.9**
KOLS Kolonicke sedl 142.67 339 *e*PKP **PKPdf 18 24 18.7 -0.9**
CLZ Clausthal 142.83 352 *e*PKPdf **PKPdf 18 24 18.9 -0.9**
UZH Uzhgorod 142.92 339 *e*PKIKP **PKPdf 18 24 17.0 -3.0**
CLL Collm 142.95 349 *e*PKPdf **PKPdf 18 24 18.3 -1.7**
CLL Collm 142.95 349 ⇓*i*PKIKP PKPpre 18 24 15.9
CLL *i* 18 24 23.5
CLL pmax pmax
comp=Z,5.0nm,1.1s
CLL Collm 142.95 349 ⇓*i*PKPdf PKPpre 18 24 15.9
comp=Z,5.0nm,1.1s
CLL *i* 18 24 23.5
comp=Z,7.0nm,0.9s
CLL *i* 18 24 32.7
CRVS Cervenica-Dubn 142.98 340 *e*PKIKP **PKPdf 18 24 19.8 -0.3**
CRVS Cervenica-Dubn 142.98 340 *e*PKP **PKPdf 18 24 19.8 -0.3**
UPC Upice 143.09 346 *e*PKIKP **PKPdf 18 24 19.6 -0.7**
UPC Upice 143.09 346 *e*PKP **PKPdf 18 24 19.6 -0.7**
DPC Dobruska-Polom 143.16 346 *e*PKIKP **PKPdf 18 24 18.9 -1.6**
DPC Dobruska-Polom 143.16 346 *e*PKP **PKPdf 18 24 18.9 -1.6**
DPC *ex* x 18 24 21.7
OKC Ostrava-Krasne 143.16 343 *e*PKIKP **PKPdf 18 24 19.1 -1.3**
OKC Ostrava-Krasne 143.16 343 *e*PKP **PKPdf 18 24 19.1 -1.3**
BRG Berggiesshubel 143.19 348 *i* PKP **PKPdf 18 24 19.5 -0.9**
comp=Z,4.0nm,1.0s
BRG *i* 18 24 22.7
comp=Z,10.0nm,1.0s
BRG Berggiesshubel 143.19 348 *i* PKIKP **PKPdf 18 24 19.5 -0.9**
BRG pmax pmax
comp=Z,11nm,1.0s
BRG pmax pmax
comp=Z,4.0nm,1.0s
TRPA Tarpa 143.25 338 ⇑*i*P PKPbc 18 24 18.7 +1.1
KRLC Kraliky 143.31 345 *e*PKIKP PKPbc 18 24 17.6 -0.1
KRLC *e* 18 24 23.0
KRLC Kraliky 143.31 345 *e*PKP PKPbc 18 24 17.6 -0.1
KRLC *ex* x 18 24 23.0
PVCC Panska Ves 143.39 347 *e*PKIKP PKPbc 18 24 19.1 +1.2
PVCC Panska Ves 143.39 347 *e*PKP PKPbc 18 24 19.1 +1.2
BR131 Keskin Array S 143.58 318 *e*PKPpre PKPpre 18 24 18.7
BRTR Keskin Array B 143.58 318 PKPpre PKPpre 18 24 18.1
BRTR Keskin Array B 143.58 318 PKhKP PKPpre 18 24 18.1
comp=Z,5.8nm,1.0s,baz=136,slow=1.9,SNR=18
KECS Kecovo 143.66 340 *e*PKIKP **PKPdf 18 24 20.2 -1.1**
KECS Kecovo 143.66 340 *e*PKP **PKPdf 18 24 20.2 -1.1**
TLB Topalu 143.66 329 ⇑PKIKP PKPbc 18 24 18.6 -0.2
TLB Topalu 143.66 329 ⇑*i*P PKPbc 18 24 18.6 -0.2
PRA Prague 143.85 347 PKP PKPbc 18 24 20.0 +0.8
TANN Tannenbergstha 143.90 350 *e*PKPbc PKPab 18 24 18.6 -0.3
PRU Pruhonice 143.91 347 *e*PKIKP PKPbc 18 24 20.3 +0.9
PRU Pruhonice 143.91 347 *e*PKP PKPbc 18 24 20.3 +0.9
PRU *ex* x 18 24 22.8
MLR Muntele Rosu 143.99 332 ⇓*i*P PKPbc 18 24 20.8 +0.8
ANTO Ankara 144.04 319 *e*PKIKP PKPbc 18 24 21.1 +0.8
ANTO Ankara 144.04 319 *e*PKPdf PKPbc 18 24 21.1 +0.8
VRAC Vranov 144.06 345 ⇑*i*P PKPbc 18 24 20.0 +0.1
DRGR 144.31 336 ⇑PKIKP PKPbc 18 24 21.6 +0.7
DRGR 144.31 336 ⇑*i*P PKPbc 18 24 21.6 +0.7
TREC Trest 144.34 346 *e*PKIKP **PKPdf 18 24 21.9 -0.6**
TREC Trest 144.34 346 *e*PKP **PKPdf 18 24 21.9 -0.6**
PSZ Piszkesteto 144.35 340 ⇑PKIKP PKPbc 18 24 20.9 -0.1
PSZ Piszkesteto 144.35 340 ⇑*i*P PKPbc 18 24 20.9 -0.1
PSZ Piszkesteto 144.35 340 ⇓*e*PKPdf PKPbc 18 24 20.9 -0.1
VOIR 144.43 333 ⇓PKIKP PKPbc 18 24 21.8 +0.5
VOIR 144.43 333 ⇓*i*P PKPbc 18 24 21.8 +0.5
MEM Membach 144.47 357 PKP **PKPdf 18 24 22.2 -0.4**
SMOL Smolenice 144.56 343 *e*PKIKP **PKPdf 18 24 23.5 +0.6**
SMOL Smolenice 144.56 343 *e*PKP **PKPdf 18 24 23.5 +0.6**
ROTZ Rotzenmuhle 144.57 350 *e*PKPbc **PKPab 18 24 21.0 -0.3**
SNF Seneffe 144.64 358 PKP **PKPab 18 24 20.6 -0.9**
TNS Taunus Mts 144.65 354 *e*PKPbc **PKPab 18 24 20.7 -1.0**
ARR Arges 144.66 333 ⇑*i*P **PKPdf 18 24 23.0 -0.3**
BCLA Clavier 144.69 357 PKP **PKPab 18 24 21.1 -0.6**
GRF Grafenberg Arr 144.81 351 *e*PKPbc **PKPab 18 24 21.6 -0.6**
GRFO Grafenberg 144.81 351 *e*PKIKP **PKPdf 18 24 23.2 -0.1**
GRFO Grafenberg 144.81 351 *e*PKPdf **PKPdf 18 24 23.2 -0.1**
KHC Kasperske Hory 144.92 348 *e*PKIKP **PKPab 18 24 22.0 -0.7**
KHC Kasperske Hory 144.92 348 *e*PKP **PKPab 18 24 22.0 -0.7**
KHC *ex* x 18 24 24.1
KHC Kasperske Hory 144.92 348 *e*PKPdf **PKPab 18 24 21.9 -0.8**
ZST Bratislava 144.94 343 *e*PKIKP **PKPdf 18 24 24.6 +1.1**
ZST Bratislava 144.94 343 *e*PKP **PKPdf 18 24 24.6 +1.1**
PRD Provadia 144.98 328 *i* P **PKPdf 18 24 23.4 -0.3**
BUD Budapest 145.01 341 *e*PKPbc **PKPbc 18 24 22.3 -0.7**
DOU Dourbes 145.04 358 PKP **PKPdf 18 24 23.6 0.0**
WET Wettzell 145.05 349 *e*PKPbc **PKPbc 18 24 22.5 -0.6**
SIRR Siria 145.15 337 ⇑*i*P **PKPbc 18 24 23.1 -0.4**
HUMR Humele 145.16 332 ⇓*i*P **PKPdf 18 24 23.9 -0.2**
GEC2 GERESS Array S 145.17 347 *e*PKPbc **PKPbc 18 24 22.6 -1.0**
GERES GERESS Array B 145.17 347 PKPbc **PKPbc 18 24 22.8 -0.8**
GERES GERESS Array B 145.17 347 PKPbc **PKPbc 18 24 22.8 -0.8**
comp=Z,5.0nm,0.9s,baz=20,slow=3.1,SNR=32
PKSN Nyarlorinc 145.25 339 ⇓*e*PKPbc **PKPdf 18 24 24.0 -0.1**
PKSG 145.29 341 *e*PKPbc **PKPbc 18 24 23.4 -0.5**
PKS7 Kunszentmiklos 145.35 340 ⇓*e*PKPbc **PKPbc 18 24 23.8 -0.3**
WLF Walferdange 145.40 356 PKP **PKPbc 18 24 24.1 0.0**
WLF Walferdange 145.40 356 *e*PKPbc **PKPbc 18 24 23.9 -0.3**
WLF Walferdange 145.40 356 *e*PKIKP **PKPbc 18 24 23.9 -0.3**
WLF Walferdange 145.40 356 *e*PKPdf **PKPbc 18 24 23.9 -0.3**
GZR Gura Zlata 145.43 335 ⇓PKIKP **PKPbc 18 24 24.0 -0.5**
GZR Gura Zlata 145.43 335 ⇓*i*P **PKPbc 18 24 24.0 -0.5**
PKST T¨s 145.52 342 *e*PKPbc **PKPdf 18 24 23.1 -1.5**
CONA Conrad Observa 145.52 345 *i* PKPdf **PKPdf 18 24 24.1 -0.6**
comp=Z,111nm,1.3s,SNR=62
SOP Sopron 145.56 344 ⇓*e*PKPbc **PKPab 18 24 25.4 +0.4**
SZH Strazhica 145.67 330 *i* P **PKPdf 18 24 24.7 -0.3**
BZS Buzias 145.71 336 ⇑PKIKP **PKPdf 18 24 24.4 -0.5**
BZS Buzias 145.71 336 ⇑*i*P **PKPdf 18 24 24.4 -0.5**
PKS2 Kecel 145.82 340 ⇓*e*PKPdf **PKPdf 18 24 25.3 +0.2**
LANF Langenberg 145.95 354 PKP **PKPab 18 24 26.9 +0.5**
MOA Molln 145.98 346 ⇑*i*PKPab **PKPdf 18 24 25.4 0.0**
comp=Z,64nm,1.2s,SNR=33
STU Stuttgart 146.00 353 *e*PKPbc **PKPdf 18 24 25.2 -0.2**
PKS9 Tamasi 146.04 341 *e*PKPdf **PKPdf 18 24 25.5 0.0**
ARSA Arzberg 146.24 344 ⇑*i*PKPab **PKPdf 18 24 25.8 0.0**
comp=Z,29nm,1.3s,SNR=17
FUR Furstenfeldbru 146.28 350 *e*PKPbc **PKPdf 18 24 26.4 +0.5**
BST Brest 146.37 8 PKP **PKPab 18 24 27.7 -0.3**
RJOB Jochberg 146.41 348 *e*PKPbc **PKPdf 18 24 26.7 +0.5**
BFO Black Forest 146.53 353 *e*PKPbc **PKPdf 18 24 26.8 +0.5**
BFO Black Forest 146.53 353 *e*PKP2 **PKPdf 18 24 26.6 +0.3**
BFO Black Forest 146.53 353 *e*PKPdf **PKPdf 18 24 26.6 +0.3**
BEHE Becsehely 146.61 342 *e*PKPdf **PKPdf 18 24 24.7 -1.8**
MPEP Malo Peshtene 146.64 332 *i* P **PKPbc 18 24 28.3 +0.1**
ECH Echery 146.76 355 *e*PKP2 **PKPdf 18 24 26.5 -0.2**
ECH Echery 146.76 355 PKP **PKPab 18 24 29.1 -0.5**
ECH Echery 146.76 355 *e*PKPdf **PKPdf 18 24 26.5 -0.2**
THEF They Montfort 146.84 356 PKP **PKPab 18 24 29.5 -0.4**
SOKA Soboth 146.89 345 ⇑*i*PKPbc **PKPdf 18 24 27.6 +0.6**
comp=Z,45nm,1.0s,SNR=19
PERS Pernice 146.91 344 *i* PKPdf **PKPbc 18 24 28.1 -0.9**
KBA Koelnbreinsper 146.92 347 *i* PKPbc **PKPdf 18 24 28.0 +0.7**
comp=Z,24nm,0.8s,SNR=17
RETA Reutte 147.02 350 ⇑*i*PKPab **PKPbc 18 24 28.6 -0.6**
comp=Z,40nm,1.2s,SNR=16
WATA Walderalm 147.03 349 ⇓*i*PKPab **PKPbc 18 24 28.5 -0.8**
comp=Z,42nm,1.2s,SNR=8.7
PGB Panagyurishte 147.06 330 *i* P **PKPbc 18 24 29.3 -0.2**
MOTA Moosalm 147.10 350 ⇓*i*PKPab **PKPbc 18 24 28.8 -0.7**
comp=Z,42nm,1.0s,SNR=24
KDZ Kurdzhali 147.12 328 *i* P **PKPdf 18 24 28.3 +0.8**
MOF Molkenrain 147.13 355 PKP **PKPbc 18 24 30.3 +0.8**
OBKA Obir 147.17 345 ⇑*i*PKPab **PKPbc 18 24 29.0 -0.7**
comp=Z,27nm,1.4s,SNR=12
MYKA Terra Mystica 147.28 346 *i* PKPbc **PKPdf 18 24 28.6 +0.9**
comp=Z,51nm,1.1s,SNR=30
DAVA Damuels 147.36 351 ⇑*i*PKPbc **PKPdf 18 24 28.6 +0.7**
comp=Z,76nm,1.3s,SNR=27
ABTA Abfaltersbach 147.41 348 ⇑*i*PKPbc **PKPdf 18 24 27.8 -0.1**
comp=Z,43nm,1.2s,SNR=26
VTS Vitosha 147.48 331 ⇓PKP2 **PKPbc 18 24 31.2 +0.4**
VTS Vitosha 147.48 331 ⇓*i*P **PKPbc 18 24 31.2 +0.4**
VTS Vitosha 147.48 331 *i* P **PKPbc 18 24 30.1 -0.7**
FETA Feichten 147.48 350 ⇓*i*PKPbc **PKPdf 18 24 29.1 +0.9**
comp=Z,52nm,1.4s,SNR=18
LJU Ljubljana 147.61 345 *i* PKPdf **PKPbc 18 24 30.1 -0.8**
LOMF Lomont 147.65 355 PKP **PKPbc 18 24 31.8 +0.8**
JAVS Javornik 147.87 345 *i* PKPdf **PKPbc 18 24 30.2 -1.4**
BOJS Bojanci 147.92 344 *i* PKPdf **PKPbc 18 24 31.3 -0.4**
MMB Musomiste 148.00 330 *i* P **PKPbc 18 24 31.3 -0.8**
TRI Trieste 148.11 345 *e*PKP2 **PKPdf 18 24 30.4 +1.4**
TRI Trieste 148.11 345 *e*PKPdf **PKPdf 18 24 30.4 +1.4**
TUE Stuetta 148.23 351 *e*PKPdf **PKPdf 18 24 29.9 +0.5**
OG35 Corcelles 149.04 356 PKP **PKPbc 18 24 35.8 +1.1**
AGO Saint Agoulin 149.12 360 PKP **PKPbc 18 24 35.1 +0.3**
PLDF La Plantade 149.19 359 PKP **PKPbc 18 24 36.2 +1.1**
RSL Roselend 149.32 355 PKP **PKPbc 18 24 36.6 +1.1**
PYM Petit Puy Mans 149.42 360 PKP **PKPbc 18 24 36.7 +1.1**
GDM Grand'Maison 149.84 355 PKP **PKPbc 18 24 38.1 +1.3**
SSB Saint Sauveur 149.86 358 PKP **PKPbc 18 24 37.8 +1.1**
SSB Saint Sauveur 149.86 358 *e*PKPdf **PKPdf 18 24 32.3 +0.4**
LBL Lubilhac 149.94 359 PKP **PKPbc 18 24 39.0 +2.1**
BNI Bardonecchia 149.94 355 *e*PKP2 **PKPbc 18 24 36.8 -0.3**
BNI Bardonecchia 149.94 355 *e*PKPbc **PKPbc 18 24 36.8 -0.3**
OG22 Abries 150.15 354 PKP **PKPbc 18 24 38.3 +0.7**
OG22 Abries 150.15 354 PKP **PKPbc 18 24 39.9 +2.3**
SURF Saint Ours 150.50 354 PKP **PKPbc 18 24 40.0 +1.6**
OG25 Le Caire 150.67 355 PKP **PKPbc 18 24 39.7 +1.0**
SAOF Saorge 150.91 353 PKP **PKPbc 18 24 39.9 +0.7**
AUTN L'Aution 150.91 353 PKP **PKPbc 18 24 41.3 +1.8**
TOUF Mont Tournerai 150.92 354 PKP **PKPbc 18 24 40.1 +0.6**
LUCF Luceram 151.03 353 PKP **PKPbc 18 24 40.0 +0.4**
MVIF Mont Vial 151.04 354 PKP **PKPbc 18 24 39.7 0.0**
CALN Calern 151.21 354 PKP **PKPbc 18 24 40.2 +0.1**
LARF Larrau 151.93 6 PKP **PKPbc 18 24 42.9 +1.3**
MLS Moulis 152.17 3 PKP **PKPbc 18 24 42.8 +0.7**
POLO Lamas de Olo 152.21 17 *e*PKPbc **PKPbc 18 24 43.0 +0.6**
RESF Ens 152.28 4 PKP **PKPbc 18 24 44.1 +1.6**
MVO Moncorvo 152.62 16 *e*PKPbc **PKPbc 18 24 43.9 +0.6**
CUC Castrocucco 152.72 338 *e*PKPdf **PKPdf 18 24 38.4 +1.9**
PMRV Marv??o 154.12 18 *e*PKPbc **PKPbc 18 24 47.0 +0.5**
ESDC Sonseca Array 154.77 12 PKP **PKPdf 18 24 38.9 -0.5**
ESDC PKPbc **PKiKP 18 24 48.4 +0.4**
ESDC PKPab **PKPab 18 25 02.1 -0.7**
ESDC Sonseca Array 154.77 12 PKP **PKPdf 18 24 38.8 -0.5**
comp=Z,0.1nm,0.3s,baz=338,slow=3.2,SNR=4.7
ESDC PKPbc **PKiKP 18 24 48.3 +0.4**
comp=Z,0.7nm,0.8s,baz=342,slow=1.4,SNR=6.0
ESDC PKPab **PKPab 18 25 02.1 -0.7**
comp=Z,0.1nm,0.3s,baz=342,slow=3.8,SNR=5.9
TORD Torodi Ar. Bea 177.77 149 PKP **PKPdf 18 24 56.7 -1.1**
TORD PKPab PKPab 18 26 44.9 +0.5
TORD Torodi Ar. Bea 177.77 149 PKP **PKPdf 18 24 56.7 -1.1**
comp=Z,1.8nm,1.1s,baz=230,slow=1.7,SNR=6.5
TORD PKPab PKPab 18 26 44.9 +0.5
comp=Z,1.9nm,0.9s,baz=228,slow=3.8,SNR=7.0

IDC 30 18:06:08.7±5.1, 16°.09S×173°.57W, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.8/19, mbtmp4.2/3, Error ellipse: s-maj=205.2km s-min=53.8km az=135.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**43.55**	**241**	P	P	18 14 14.2	-0.3
	2.3nm,0.8s,baz=90,slow=10,SNR=2.2						
WRA	**Warramunga Arr**	**49.53**	**257**	P	P	18 15 01.1	-0.6
	1.8nm,0.8s,baz=94,slow=7.5,SNR=9.5						
ASAR	**Alice Springs**	**49.74**	**252**	P	P	18 15 03.7	+0.4
	3.6nm,0.6s,baz=87,slow=8.1,SNR=15						
BRTR	**Keskin Array B**	**146.59**	**320**	PKPbc	PKPdf	18 25 51.8	+0.6
	1.1nm,0.8s,baz=32,slow=2.5,SNR=2.1						

IDC 30 18:10:31.6±1.8, 15°.95S×172°.94W, h0km, mb3.8/6, mb1 4.1/6, mb1mx3.8/20, mbtmp3.8/6, Error ellipse: s-maj=113.5km s-min=22.0km az=148.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.32**	**29**	Pn	Pn	18 11 04.8	-6.3
	14nm,0.3s,baz=324,slow=14,SNR=3.6						
AFI				Sn	Sn	18 11 27.0	-13
	64nm,0.3s,baz=255,slow=20,SNR=8.6						
STKA	**Stephens Creek**	**44.15**	**241**	P	P	18 18 41.5	-0.8
	2.0nm,0.9s,baz=117,slow=6.8,SNR=2.9						
WRA	**Warramunga Arr**	**50.16**	**257**	P	P	18 19 29.2	-0.1
	0.6nm,0.7s,baz=89,slow=6.7,SNR=8.9						
ASAR	**Alice Springs**	**50.37**	**252**	P	P	18 19 30.6	-0.3
	1.0nm,0.5s,baz=88,slow=8.0,SNR=17						
NVAR	**Mina Array Bea**	**74.44**	**42**	P	P	18 22 12.8	+0.8
	0.4nm,0.5s,baz=236,slow=9.6						
TXAR	**Lajitas Array**	**80.55**	**56**	P	P	18 22 45.6	-0.7
	0.2nm,0.4s,baz=216,slow=4.5,SNR=3.1						
ILAR	**Eielson Array**	**82.90**	**11**	P	P	18 22 55.9	-1.9
	0.5nm,0.6s,baz=226,slow=6.6,SNR=4.9						
BRTR	**Keskin Array B**	**146.87**	**321**	PKPbc	PKPab	18 30 18.0	+0.3
	0.9nm,0.7s,baz=128,slow=2.4,SNR=5.5						

IDC 30 18:18:40.9±5.7, 15°.44S×172°.56W, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.6/19, mbtmp3.6/3, Error ellipse: s-maj=215.5km s-min=21.2km az=132.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.70**	**27**	Pn	Pn	18 19 12.2	+0.3
	10nm,0.3s,baz=171,slow=19,SNR=3.4						
AFI				Sn	Sn	18 19 34.7	+0.3
	68nm,0.3s,baz=183,slow=16,SNR=9.3						
WRA	**Warramunga Arr**	**50.63**	**257**	P	P	18 27 42.0	-0.2
	0.2nm,0.6s,baz=90,slow=7.3,SNR=5.7						
ASAR	**Alice Springs**	**50.87**	**252**	P	P	18 27 44.0	0.0
	0.9nm,0.5s,baz=89,slow=8.5,SNR=21						
ILAR	**Eielson Array**	**82.33**	**11**	P	P	18 31 04.1	0.0
	0.3nm,0.7s,baz=224,slow=3.8,SNR=2.8						

IDC 30 18:19:32.8±2.8, 0°.99S×99°.71E, h0km, mb3.4/6, mb1 3.6/6, mb1mx3.4/23, mbtmp3.4/6, Error ellipse: s-maj=131.9km s-min=19.3km az=58.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.76**	**121**	P	P	18 26 58.7	-0.6
	0.5nm,0.5s,baz=302,slow=9.0,SNR=10						
ASAR	**Alice Springs**	**40.09**	**127**	P	P	18 27 10.6	+0.2
	0.2nm,0.3s,baz=301,slow=7.1,SNR=20						
SONM	**Songino Array**	**48.97**	**6**	P	P	18 28 21.2	0.0
	0.2nm,0.5s,baz=197,slow=4.5,SNR=2.5						
MKAR	**Makanchi Array**	**49.98**	**344**	P	P	18 28 28.4	-0.4
	0.3nm,0.3s,baz=154,slow=8.8,SNR=8.2						
STKA	**Stephens Creek**	**50.04**	**132**	P	P	18 28 29.8	+0.3
	0.7nm,0.4s,baz=313,slow=10,SNR=5.6						
KURBB	**Kurchatov Arra**	**54.50**	**344**	P	P	18 29 02.7	+0.4
	0.1nm,0.4s,baz=162,slow=7.4,SNR=3.2						
TXAR	**Lajitas Array**	**144.07**	**36**	PKP	PKPbc	18 39 09.2	-0.1
	0.3nm,0.5s,baz=225,slow=1.0,SNR=3.8						

TAP ***30*** *18:31:16.6, 23°.98N×122°.35E, h3km, ML4.2, D*
JMA ***30*** *18:31:17.6±0.5, 24°.18N×122°.06E, h22km, M3.9*
IDC ***30*** *18:31:17.3±1.1, 24°.02N×122°.02E, h0km, mb3.8/9, mb1 3.8/10, mb1mx3.7/27, mbtmp3.8/10, ML3.2/1, Error ellipse: s-maj=63.8km s-min=18.0km az=67.0*
ISCJB ***30*** *18:31:18.2±0.5, 23°.94N±0°.02×122°.33E±0°.01, h4km±3km, mb3.7/9, Error ellipse: s-maj=2.7km s-min=2.1km az=153.9*

ISC 30 18:31:18.4±1.0, 23°.95N±0°.02×122°.27E±0°.02, h11km±7km, n73, σ0°.91/127, mb3.9/9, 2C-1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.61**	**273**	*e*P	**Pn**	**18 31 34.0**	**+0.9**
	baz=269						
HWA				S	**Sn**	**18 31 41.7**	**-1.2**
	baz=269						
TWD	**Chiawan**	**0.63**	**282**	*e*P	**Pb**	**18 31 31.6**	**+0.1**
	baz=278						
TWD				*e*S	**Sn**	**18 31 42.6**	**-0.9**
	baz=278						
ENA	**Nanau**	**0.68**	**315**	*e*P	**Pg**	**18 31 31.4**	**-0.2**
	baz=308						
ENA				*e*S	**Sb**	**18 31 42.4**	**+0.5**
	baz=308						
ESF	**Shoufeng Towns**	**0.70**	**264**	*e*P	**Pn**	**18 31 34.9**	**+0.6**
	baz=262						
ESF				S	**Sn**	**18 31 45.5**	**+0.3**
	baz=262						
TWC	**Suao**	**0.76**	**330**	⇑*i*P	**Pg**	**18 31 32.4**	**-0.9**
	baz=324						
TWC				*e*S	**Sb**	**18 31 43.6**	**-0.7**
	baz=324						
ESL	**Shilin**	**0.78**	**260**	*e*P	**Pb**	**18 31 33.8**	**-0.2**
	baz=258						
ESL				*e*S	**Sb**	**18 31 45.4**	**+0.8**
	baz=258						
YOJ	**Yonaguni jima**	**0.85**	**53**	P	**Pg**	**18 31 34.5**	**-0.3**
YOJ				*e*S	**Sb**	**18 31 46.7**	**0.0**
WHF	**Hehuan Shan**	**0.94**	**282**	*e*P	**Pg**	**18 31 36.7**	**+0.1**
	baz=279						
WHF				*e*S	**Sn**	**18 31 51.2**	**-0.5**
	baz=279						
ENTT	**Nioudou**	**0.94**	**317**	P	**Pg**	**18 31 36.4**	**-0.3**
	baz=312						
ENTT				*e*S	**Sb**	**18 31 49.8**	**+0.3**
	baz=312						
ILA	**Ilan**	**0.94**	**330**	*e*P	**Pg**	**18 31 36.3**	**-0.3**
	baz=325						
ILA				*e*S	**Sb**	**18 31 50.0**	**+0.6**
	baz=325						
TWE	**Neicheng**	**0.95**	**325**	⇑P	**Pg**	**18 31 36.1**	**-0.6**
	baz=320						
TWE				*e*S	**Sn**	**18 31 50.8**	**-0.5**
	baz=320						
NNS	**Nan Shan**	**0.95**	**301**	⇓*i*P	**Pg**	**18 31 36.8**	**-0.1**
	baz=297						
NNS				*e*S	**Sn**	**18 31 51.2**	**-0.5**
	baz=297						
EHY	**Hungye**	**0.97**	**243**	*e*P	**Pn**	**18 31 38.3**	**+0.2**
	baz=243						
EHY				*e*S	**Sn**	**18 31 52.5**	**+0.6**
	baz=243						
TWT	**Tachien**	**1.04**	**287**	*e*P	**Pn**	**18 31 40.1**	**+0.8**
	baz=283						
TWT				S	**Sn**	**18 31 55.4**	**+1.4**
	baz=283						
TWF1	**Yuli**	**1.07**	**237**	*e*P	**Pb**	**18 31 38.9**	**-0.1**
	baz=236						
TWF1				*e*S	**Sn**	**18 31 55.5**	**+1.2**
	baz=236						
TWB1	**Santiao Chiao**	**1.09**	**346**	*e*P	**Pb**	**18 31 39.3**	**0.0**
	baz=342						
TWB1				*e*S	**Sn**	**18 31 54.7**	**-0.1**
	baz=342						
NSK	**Sanguang**	**1.10**	**311**	P	**Pg**	**18 31 39.1**	**-0.6**
	baz=307						
NSK				S	**Sn**	**18 31 55.4**	**+0.1**
	baz=307						
CHKT	**Chengkung**	**1.18**	**225**	*e*P	**Pg**	**18 31 39.4**	**-1.7**
	baz=225						
NWF	**Wu-fen Shan**	**1.21**	**338**	*e*P	**Pg**	**18 31 40.0**	**-1.6**
	baz=334						
NWF				*e*S	**Sn**	**18 31 57.8**	**-0.1**
	baz=334						
TWA	**Mucha**	**1.21**	**329**	*e*P	**Pg**	**18 31 41.2**	**-0.4**
	baz=325						
TWA				*e*S	**Sn**	**18 31 58.5**	**+0.8**
	baz=325						
SMLT	**Sun Moon Lake**	**1.25**	**267**	*e*P	**Pn**	**18 31 41.9**	**-0.2**
	baz=265						
SMLT				*e*S	**Sn**	**18 32 00.1**	**+1.1**
	baz=265						
TAP1	**Taipei**	**1.28**	**328**	*e*P	**Pb**	**18 31 42.5**	**-0.2**
	baz=324						
TAP1				*e*S	**Sn**	**18 32 00.4**	**+0.9**
	baz=324						
YUS	**Yu-Shan**	**1.29**	**250**	*e*P	**Pg**	**18 31 43.7**	**+0.4**
	baz=249						
YUS				*e*S	**Sn**	**18 32 01.5**	**+1.1**
	baz=249						
TAP	**Taipei**	**1.29**	**328**	*e*P	**Pg**	**18 31 43.1**	**-0.2**
	baz=324						
TAP				*e*S	**Sn**	**18 32 00.9**	**+1.1**
	baz=324						
TYC	**Yuchr**	**1.29**	**268**	*e*P	**Pn**	**18 31 42.5**	**0.0**
	baz=266						
TYC				*e*S	**Sn**	**18 32 00.4**	**+0.6**
	baz=266						
NSTT	**Nanjuang**	**1.34**	**301**	P	**Pn

TWY	**Chenhua**	**1.46**	**335**	*eP*	**Pb**	**18 31 45.2**	**-0.5**
	baz=332						
TWY				*eS*	**Sg**	**18 32 05.2**	**-0.2**
	baz=332						
TCU	**Taichung**	**1.47**	**278**	*eP*	**Pg**	**18 31 46.1**	**-0.5**
	baz=276						
TCU				*eS*	**Sg**	**18 32 07.5**	**+1.7**
	baz=276						
CHN5	**Tsauling**	**1.50**	**257**	*eP*	**Pb**	**18 31 46.2**	**-0.2**
	baz=256						
CHN5				*eS*	**Sg**	**18 32 08.0**	**+1.2**
	baz=256						
TWG	**Pinlang**	**1.57**	**225**	*eP*	**Pn**	**18 31 45.5**	**-0.8**
	baz=225						
TWG				*eS*	**Sn**	**18 32 06.9**	**+0.3**
	baz=225						
TTN	**Taitung**	**1.57**	**221**	*eP*	**Pg**	**18 31 49.4**	**+0.8**
	baz=222						
TTN				*eS*	**Sg**	**18 32 08.2**	**-0.8**
	baz=222						
WGK	**Gukeng**	**1.58**	**261**	*eP*	**Pg**	**18 31 49.0**	**+0.1**
	baz=259						
WGK				*eS*	**Sg**	**18 32 10.2**	**+0.8**
	baz=259						
JKRS	**Kuro-shima**	**1.62**	**79**	P	**Pn**	**18 31 47.4**	**+0.5**
JKRS				*eS*	**Sb**	**18 32 09.2**	**+0.4**
PCYT	**Pengchaiyu**	**1.69**	**354**	*eP*	**Pn**	**18 31 47.5**	**-0.4**
	baz=351						
CHY	**Chiayi**	**1.75**	**256**	*eP*	**Pb**	**18 31 50.6**	**0.0**
	baz=254						
CHY				*eS*	**Sg**	**18 32 14.3**	**-0.4**
	baz=254						
JIJ	**Ishigaki jima**	**1.76**	**76**	P	**Pn**	**18 31 49.1**	**+0.2**
JIJ				*eS*	**Sb**	**18 32 13.0**	**+0.1**
CHN1	**Nanshi**	**1.77**	**245**	*eP*	**Pb**	**18 31 51.2**	**+0.2**
	baz=244						
CHN1				*eS*	**Sg**	**18 32 15.3**	**0.0**
	baz=244						
SGST	**Jiashian**	**1.77**	**241**	*eP*	**Pb**	**18 31 51.1**	**+0.1**
	baz=241						
SGST				*eS*	**Sg**	**18 32 15.5**	**+0.1**
	baz=241						
ECL	**Taimali**	**1.81**	**222**	*eP*	**Pn**	**18 31 48.8**	**-0.7**
	baz=222						
ECL				*eS*	**Sn**	**18 32 12.8**	**+0.3**
	baz=222						
WSF	**Szhu**	**1.90**	**261**	*eP*	**Pb**	**18 31 52.7**	**-0.5**
	baz=260						
WSF				*eS*	**Sg**	**18 32 18.4**	**-1.1**
	baz=260						
CHN3	**Shinhua**	**1.95**	**244**	*eP*	**Pg**	**18 31 55.6**	**-0.3**
	baz=243						
CHN3				*eS*	**Sg**	**18 32 21.5**	**+0.3**
	baz=243						
TAW	**Tawu**	**2.02**	**219**	*eP*	**Pb**	**18 31 55.3**	**0.0**
	baz=219						
EAST	**Anshuo**	**2.03**	**220**	*eP*	**Pn**	**18 31 51.8**	**-0.9**
	baz=220						
TWM1	**Shoushan**	**2.03**	**237**	*eP*	**Pg**	**18 31 56.4**	**-1.0**
	baz=236						
SGLT	**Jiouru**	**2.04**	**234**	*eP*	**Pb**	**18 31 54.2**	**-1.3**
	baz=233						
SCLT	**Jiali**	**2.05**	**248**	*eP*	**Pb**	**18 31 55.3**	**-0.4**
	baz=247						
SCLT				*eS*	**Sg**	**18 32 22.8**	**-1.6**
	baz=247						
SCZT	**Fangliau**	**2.18**	**224**	*eP*	**Pb**	**18 31 57.1**	**-0.9**
	baz=224						
JTJ	**Tarama**	**2.33**	**72**	P	**Pn**	**18 31 57.3**	**+0.6**
JTJ				*eS*	**Sn**	**18 32 26.4**	**+1.1**
HEN	**Hengchun**	**2.39**	**216**	*eP*	**Pb**	**18 31 59.6**	**-1.9**
	baz=216						
HEN				*eS*	**Sn**	**18 32 28.2**	**+1.3**
	baz=216						
TWK1	**Hengchun**	**2.41**	**214**	*eP*	**Pn**	**18 31 58.2**	**+0.3**
	baz=214						
TWK1				*eS*	**Sn**	**18 32 29.1**	**+1.8**
	baz=214						
WDGT	**Dungji**	**2.49**	**255**	*eP*	**Pn**	**18 32 00.3**	**+1.4**
	baz=253						
WDGT				*eS*	**Sn**	**18 32 31.2**	**+1.9**
	baz=253						
PNG	**Penghu**	**2.52**	**262**	*eP*	**Pn**	**18 32 00.3**	**+1.0**
	baz=260						
PNG				*eS*	**Sn**	**18 32 32.2**	**+2.2**
	baz=260						
JMJ	**Miyako jima 2**	**2.89**	**72**	*eS*	**Sn**	**18 32 40.3**	**+1.0**
KNM	**Kinmen**	**3.54**	**278**	*eP*	**Pn**	**18 32 15.5**	**+2.2**
	baz=276						
KSRS	**Korea Array**	**14.31**	**18**	Pn	**Pn**	**18 34 42.5**	**+1.4**
	0.1nm,0.3s,baz=198,slow=12,SNR=2.8						
SONM	**Songino Array**	**26.98**	**336**	P	**P**	**18 36 58.2**	**-2.1**
	4.8nm,0.7s,baz=155,slow=9.1,SNR=41						
MKAR	**Makanchi Array**	**39.20**	**316**	P	**P**	**18 38 45.8**	**-0.9**
	0.8nm,0.6s,baz=98,slow=9.4,SNR=11						
ZALV	**Zalesovo Beam**	**40.98**	**327**	P	**P**	**18 38 60.0**	**-1.3**
	2.1nm,0.7s,baz=101,slow=7.5,SNR=11						
KURBB	**Kurchatov Arra**	**42.93**	**320**	P	**P**	**18 39 15.3**	**-1.9**
	0.3nm,0.7s,baz=101,slow=8.7,SNR=4.7						
WRA	**Warramunga Arr**	**45.18**	**164**	P	**P**	**18 39 37.1**	**+1.5**
	1.0nm,0.8s,baz=344,slow=8.7,SNR=7.3						
ASAR	**Alice Springs**	**48.66**	**166**	P	**P**	**18 40 03.9**	**+1.1**
	0.4nm,0.8s,baz=346,slow=7.8,SNR=6.6						
FINES	**FINESS Array B**	**72.15**	**330**	P	**P**	**18 42 43.0**	**+0.1**
	0.5nm,0.5s,baz=200,slow=28,SNR=3.5						
AKASG	**Malin Array Be**	**73.71**	**319**	P	**P**	**18 42 51.2**	**-1.2**
	1.1nm,0.6s,baz=58,slow=6.1,SNR=5.6						
BRTR	**Keskin Array B**	**74.11**	**307**	P	**P**	**18 42 55.3**	**+0.1**
	1.5nm,0.8s,baz=74,slow=4.5,SNR=6.7						

IDC 30 18:32:08.9±9.4, 22°.57S×66°.00W, h295km±80km, mb2.9/1, mb1 2.8/2, mb1mx2.7/16, mbtmp2.7/2, Error ellipse: s-maj=116.1km s-min=85.4km az=37.0, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**6.57**	**342**	P	Pn	18 33 45.7	-0.2
	0.3nm,0.3s,baz=163,slow=8.7,SNR=7.2						
LPAZ				S	S	18 35 04.1	+0.1
	0.0nm,0.3s,baz=252,slow=20,SNR=2.0						
TORD	**Torodi Ar. Bea**	**75.20**	**69**	P	P	18 43 19.9	0.0
	0.4nm,0.7s,baz=240,slow=6.8,SNR=4.1						
MKAR	**Makanchi Array**	**144.84**	**39**	PKP	PKPbc	18 51 10.2	-0.5
	0.4nm,0.6s,baz=303,slow=2.4,SNR=4.7						

*IDC **30** 18:34:23.0±0.6, 21°.90S×174°.90W, h0km, mb4.3/16, mb1 4.5/16, mb1mx4.4/22, mbtmp4.3/16, MS4.5/4, Ms1 4.5/4, ms1mx3.8/39, Error ellipse: s-maj=23.4km s-min=17.3km az=136.0*

*NEIC **30** 18:34:24.6±0.4, 21°.89S×174°.88W, h10km, mb4.9/7, Error ellipse: s-maj=17.1km s-min=12.3km az=145.0*

*ISCJB **30** 18:34:27.1±0.5, 21°.98S±0°.10×174°.9W±0°.1, h33km, mb4.5/23, MS4.8/3, Error ellipse: s-maj=16.0km s-min=12.3km az=135.3*

ISC 30 18:34:28.4±0.5, 21°.9S±0°.1×174°.9W±0°.1, h33km, n87, σ1§12/84, mb4.5/23, MS4.5/3, 6C-2D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**7.83**	**301**	*eP*	Pn	18 36 28.1	+8.0
AFI	**Afiamalu**	**8.50**	**21**	LR	LR	18 38 42.5	
	comp=Z,438nm,21.4s,baz=169,slow=31						
RAR	**Rarotonga**	**14.09**	**90**	*eP*	Pn	18 37 32.5	-13
TBI	**Tubuai**	**23.52**	**98**	eLR	LR	18 45 17.5	
	534nm,24.8s						
PPT2	**Papeete2**	**24.21**	**84**	eLR	LR	18 45 23.0	
	295nm,21.2s						
CTA	**Charters Tower**	**36.25**	**266**	P	**P**	**18 41 26.9**	**-1.9**
CTA	**Charters Tower**	**36.25**	**266**	P	**P**	**18 41 26.9**	**-1.9**
	3.9nm,0.6s,baz=96,slow=12,SNR=7.8						
CTAO	**Charters Tower**	**36.25**	**266**	*eP*	**P**	**18 41 26.9**	**-1.9**
STKA	**Stephens Creek**	**39.82**	**246**	*eP*	**P**	**18 41 57.9**	**-0.9**
STKA	**Stephens Creek**	**39.82**	**246**	P	**P**	**18 41 57.9**	**-0.9**
	1.4nm,0.6s,baz=96,slow=11,SNR=6.0						
AS31	**Alice Springs**	**47.02**	**258**	*eP*	**P**	**18 42 56.5**	**-0.6**
ASAR	**Alice Springs**	**47.03**	**258**	P	**P**	**18 42 56.4**	**-0.7**
ASAR				PcP	**PcP**	**18 44 29.5**	**+0.5**
ASAR	**Alice Springs**	**47.03**	**258**	P	**P**	**18 42 56.4**	**-0.7**
	4.7nm,0.8s,baz=91,slow=8.1,SNR=20						
ASAR				PcP	**PcP**	**18 44 29.5**	**+0.5**
	2.0nm,0.8s,baz=104,slow=4.2,SNR=6.0						
ASAR				LR	LR	19 02 34.6	
	comp=Z,449nm,18.9s,baz=106,slow=36						
WRAB	**Tennant Creek**	**47.27**	**263**	*eP*	**P**	**18 42 57.9**	**-1.1**
WRA	**Warramunga Arr**	**47.28**	**263**	P	**P**	**18 42 57.4**	**-1.6**
WRA				PcP	**PcP**	**18 44 30.4**	**+0.6**
WRA	**Warramunga Arr**	**47.28**	**263**	P	**P**	**18 42 57.4**	**-1.6**
	3.0nm,0.6s,baz=101,slow=8.5,SNR=36						
WRA				PcP	**PcP**	**18 44 30.4**	**+0.6**
	2.0nm,0.7s,baz=97,slow=3.3,SNR=6.0						
FITZ	**Fitzroy Crossi**	**55.71**	**263**	P	**P**	**18 44 01.9**	**-0.2**
FITZ	**Fitzroy Crossi**	**55.71**	**263**	P	**P**	**18 44 01.9**	**-0.2**
	7.0nm,1.0s,baz=110,slow=6.2,SNR=5.9						
FITZ				LR	LR	19 07 51.7	
	comp=Z,390nm,18.8s,baz=85,slow=36						
SBA	**Scott Base**	**56.67**	**185**	*eP*	**P**	**18 44 09.4**	**+1.3**
	9.3nm,1.3s						
VNDA	**Vanda**	**56.78**	**186**	*eP*	**P**	**18 44 10.2**	**+1.4**
	2.7nm,1.0s						
VNDA	**Vanda**	**56.78**	**186**	P	**P**	**18 44 10.3**	**+1.4**
	1.3nm,1.0s,baz=35,slow=5.4,SNR=5.6						
MBWA	**Marble Bar**	**60.37**	**257**	*eP*	**P**	**18 44 35.6**	**+0.8**
QSPA	**South Pole Qui**	**68.16**	**180**	*eP*	**P**	**18 45 25.5**	**+0.3**
	11nm,1.1s						
ASAJ	**Asahikawa**	**76.37**	**330**	P	**P**	**18 46 15.3**	**+1.1**
ASAJ	**Asahikawa**	**76.37**	**330**	P	**P**	**18 46 15.3**	**+1.1**
	7.9nm,0.8s,baz=242,slow=22,SNR=5.8						
PETK	**Petropavlovsk-**	**78.41**	**344**	P	**P**	**18 46 25.4**	**0.0**
PETK	**Petropavlovsk-**	**78.41**	**344**	P	**P**	**18 46 25.4**	**0.0**
	12nm,0.8s,baz=136,slow=9.2,SNR=13						
KSRS	**Korea Array**	**79.87**	**317**	P	**P**	**18 46 34.6**	**+0.9**
	2.5nm,0.8s,baz=132,slow=5.8,SNR=10						
KSAR	**Wonju Array Be**	**79.89**	**317**	P	**P**	**18 46 34.6**	**+0.7**
NVAR	**Mina Array Bea**	**80.11**	**42**	P	**P**	**18 46 34.8**	**-0.6**
NVAR	**Mina Array Bea**	**80.11**	**42**	P	**P**	**18 46 34.8**	**-0.6**
	1.0nm,0.8s,baz=224,slow=7.1,SNR=4.6						
MAW	**Mawson**	**81.20**	**199**	P	**P**	**18 46 40.5**	**0.0**
MAW	**Mawson**	**81.20**	**199**	P	**P**	**18 46 40.5**	**0.0**
	3.6nm,0.7s,baz=141,slow=7.6,SNR=13						
USRK	**Ussuriysk Arra**	**81.77**	**324**	P	**P**	**18 46 45.1**	**+1.3**
	3.9nm,1.0s,baz=118,slow=5.2,SNR=9.9						
MDJ	**Mudanjiang**	**83.35**	**324**	*eP*	**P**	**18 46 54.1**	**+2.0**
	4.8nm,0.8s						
DUG	**Dugway**	**84.58**	**43**	*eP*	**P**	**18 46 58.0**	**-0.7**
TXAR	**Lajitas Array**	**85.41**	**56**	P	**P**	**18 47 02.5**	**-0.5**
TXAR	**Lajitas Array**	**85.41**	**56**	P	**P**	**18 47 02.5**	**-0.5**
	0.6nm,0.8s,baz=251,slow=5.6,SNR=3.6						
PLCA	**Paso Flores**	**86.20**	**132**	LR	LR	19 19 38.5	
	comp=Z,2μm,18.2s,baz=328,slow=32						
PSI	**Prapat**	**87.49**	**274**	P	**P**	**18 47 13.5**	**-0.1**
PSI	**Prapat**	**87.49**	**274**	P	**P**	**18 47 13.5**	**-0.1**
	8.5nm,0.6s,baz=164,slow=5.2,SNR=7.1						
PDAR	**Pinedale Array**	**88.04**	**42**	P	**P**	**18 47 14.3**	**-1.4**
PDAR	**Pinedale Array**	**88.04**	**42**	P	**P**	**18 47 14.3**	**-1.4**
	0.5nm,0.8s,baz=251,slow=2.8,SNR=4.1						
ILAR	**Eielson Array**	**89.08**	**12**	P	**P**	**18 47 19.3**	**-0.4**
ILAR	**Eielson Array**	**89.08**	**12**	P	**P**	**18 47 19.3**	**-0.4**
	0.9nm,0.8s,baz=209,slow=4.3,SNR=5.7						
ENH	**Enshi**	**89.23**	**303**	*eP*	**P**	**18 47 22.9**	**+1.5**
	16nm,1.3s						
CM31	**Chiang Mai Arr**	**93.31**	**288**	*eP*	**P**	**18 47 42.7**	**+2.2**
	13nm,1.1s						
CMAR	**Chiang Mai Arr**	**93.31**	**288**	P	**P**	**18 47 42.5**	**+2.0**
CMAR	**Chiang Mai Arr**	**93.31**	**288**	P	**P**	**18 47 42.5**	**+2.0**
	6.8nm,0.8s,baz=125,slow=3.0,SNR=49						
CHTO	**Chiang Mai**	**93.44**	**289**	*eP*	**P**	**18 47 42.9**	**+1.8**
	32nm,0.7s						
ZALV	**Zalesovo Beam**	**113.41**	**321**	PKiKP	**PKiKP**	**18 53 00.5**	**-2.1**
ZALV	**Zalesovo Beam**	**113.41**	**321**	PKiKP	**PKiKP**	**18 53 00.5**	**-2.1**
	0.3nm,0.4s,baz=131,slow=4.0,SNR=2.6						
MKAR	**Makanchi Array**	**114.27**	**313**	PKP	PKPdf	18 53 03.1	-1.5
MKAR	**Makanchi Array**	**114.27**	**313**	PKP	PKPdf	18 53 03.1	-1.5
	0.3nm,0.6s,baz=82,slow=1.9,SNR=3.5						
KURK	**Kurchatov**	**117.00**	**317**	PKP	**PKPdf**	**18 53 08.2**	**-1.4**
KURBB	**Kurchatov Arra**	**117.05**	**317**	PKP	**PKPdf**	**18 53 08.2**	**-1.5**
	0.5nm,0.7s,baz=85,slow=1.7,SNR=7.8						
BVAR	**Borovoye Array**	**122.02**	**320**	PKP	**PKPdf**	**18 53 18.0**	**-1.3**
BVAR	**Borovoye Array**	**122.02**	**320**	PKP	**PKPdf**	**18 53 18.0**	**-1.3**
	0.2nm,0.3s,baz=45,slow=0.2,SNR=5.0						
KKAR	**Karatay Array**	**122.39**	**308**	*eP*	**PKPdf**	**18 53 19.9**	**-0.3**
NOA	**NORSAR Array B**	**140.68**	**355**	PKPpre	PKPpre	18 53 49.4	
NOA	**NORSAR Array B**	**140.68**	**355**	PKhKP	PKPpre	18 53 49.4	
	1.1nm,0.9s,baz=50,slow=3.5,SNR=3.3						
AKASG	**Malin Array Be**	**145.62**	**333**	PKPbc	**PKPdf**	**18 54 02.8**	**-0.4**
AKASG	**Malin Array Be**	**145.62**	**333**	PKPbc	**PKPdf**	**18 54 02.8**	**-0.4**
	1.9nm,0.5s,baz=41,slow=4.3,SNR=16						
KIEV	**Kiev**	**145.63**	**333**	*e*PKPdf	**PKPdf**	**18 54 02.7**	**-0.5**
KBSD	**Kabsdagh**	**145.90**	**304**	*eP*	PKPdf	18 53 58.8	-5.3
SFNV	**Sufian**	**146.39**	**303**	*eP*	**PKPdf**	**18 54 05.5**	**+0.5**
MALT	**Malatya**	**147.09**	**307**	⇓*iP*	**PKPab**	**18 54 09.5**	**-0.4**
DRWC	**Darouich**	**148.97**	**305**	*eP*	**PKPab**	**18 54 18.3**	**+0.8**
BURAR	**Bucovina Array**	**149.68**	**333**	⇑*iP*	**PKPab**	**18 54 19.8**	**-0.2**
BIDA	**Albida**	**149.75**	**302**	*eP*	**PKPdf**	**18 54 10.8**	**+0.2**
MARH	**Ras Al Marh**	**149.90**	**300**	*eP*	**PKPbc**	**18 54 17.4**	**+1.4**
BR131	**Keskin Array S**	**149.93**	**313**	*e*PKPbc	**PKPbc**	**18 54 15.7**	**0.0**
BRTR	**Keskin Array B**	**149.93**	**313**	PKPbc	**PKPbc**	**18 54 15.8**	**+0.1**
BRTR	**Keskin Array B**	**149.93**	**313**	PKPbc	**PKPbc**	**18 54 15.8**	**+0.1**
	3.7nm,0.7s,baz=124,slow=3.4,SNR=22						
CLL	**Collm**	**150.02**	**350**	⇑*i*PKPbc	**PKPbc**	**18 54 15.5**	**+0.2**
	comp=Z,6.0nm,0.8s						
CLL				*e*		18 54 26.0	
CLL				*e*		18 54 31.0	
BRG	**Berggiesshubel**	**150.28**	**349**	*e*PKP	**PKPbc**	**18 54 16.9**	**+0.9**
	comp=Z,4.3nm,0.9s						
DPC	**Dobruska-Polom**	**150.28**	**345**	⇑*e*PKP	**PKPbc**	**18 54 16.9**	**+0.8**
DPC				*e*PKPAB	**PKPab**	**18 54 25.0**	**+2.7**
BRBR	**Barbar**	**150.48**	**299**	*eP*	**PKPbc**	**18 54 15.3**	**-2.0**
TCHB	**Talchebab**	**150.65**	**298**	*eP*	**PKPbc**	**18 54 18.9**	**+1.4**
PRU	**Pruhonice**	**151.01**	**347**	⇑*e*PKP	**PKPbc**	**18 54 18.2**	**+0.5**
VOIR		**151.41**	**330**	⇓*iP*	**PKPbc**	**18 54 19.5**	**+0.5**
ARR	**Arges**	**151.66**	**330**	⇑*i*P	**PKPbc**	**18 54 20.6**	**+1.1**
KHC	**Kasperske Hory**	**152.02**	**348**	⇑*e*PKP	**PKPbc**	**18 54 20.6**	**+0.4**
KHC				*e*PKPAB	**PKPab**	**18 54 29.6**	**+0.1**
GERES	**GERESS Array B**	**152.27**	**348**	PKPbc	**PKPbc**	**18 54 20.4**	**-0.4**
GERES	**GERESS Array B**	**152.27**	**348**	PKPbc	**PKPbc**	**18 54 20.4**	**-0.4**
	comp=Z,1.0nm,0.8s,baz=8.5,slow=2.0,SNR=7.2						
TORD	**Torodi Ar. Bea**	**170.69**	**159**	PKP	**PKPdf**	**18 54 32.5**	**-1.5**
TORD				PKPab	**PKPab**	**18 55 51.6**	**+0.1**
TORD	**Torodi Ar. Bea**	**170.69**	**159**	PKP	**PKPdf**	**18 54 32.5**	**-1.5**
	comp=Z,0.4nm,0.8s,baz=180,slow=1.0,SNR=2.7						
TORD				PKPab	**PKPab**	**18 55 51.6**	**+0.1**
	comp=Z,0.6nm,0.9s,baz=204,slow=3.2,SNR=3.7						

IDC 30 18:37:46.2±2.1, 16°.56S×175°.54W, h0km, mb3.6/4, mb1 4.0/4, mb1mx3.7/18, mbtmp3.6/4, Error ellipse: s-maj=119.3km s-min=28.6km az=151.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**47.58**	**258**	P	P	18 46 23.0	-1.2
	0.6nm,0.8s,baz=94,slow=7.3,SNR=3.5						
ASAR	**Alice Springs**	**47.80**	**253**	P	P	18 46 26.0	+0.1
	0.6nm,0.6s,baz=84,slow=8.3,SNR=6.9						
TXAR	**Lajitas Array**	**82.97**	**57**	P	P	18 50 13.5	-0.2
	0.3nm,0.5s,baz=205,slow=4.0,SNR=3.2						
ILAR	**Eielson Array**	**83.98**	**12**	P	P	18 50 17.2	-0.8
	0.4nm,0.8s,baz=196,slow=8.4,SNR=3.5						
BRTR	**Keskin Array B**	**145.70**	**318**	PKPbc	PKPab	18 57 27.7	-0.2
	1.5nm,0.9s,baz=64,slow=3.4,SNR=4.5						
GERES	**GERESS Array B**	**146.92**	**349**	PKPbc	PKPbc	18 57 31.4	+0.5
	0.7nm,0.8s,baz=37,slow=5.5,SNR=3.3						

IDC 30 18:40:59.2±1.5, 15°.76S×171°.87W, h0km, mb4.0/3, mb1 4.3/3, mb1mx3.7/20, mbtmp4.0/3, Error ellipse: s-maj=56.5km s-min=25.0km az=119.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.84**	**3**	Pn	Pn	18 41 31.9	-0.3
	49nm,0.3s,baz=144,slow=18,SNR=7.7						
AFI				Sn	Sb	18 41 57.1	-0.5
	145nm,0.3s,baz=173,slow=22,SNR=6.3						
ASAR	**Alice Springs**	**51.40**	**252**	P	P	18 50 06.0	-0.3
	4.6nm,1.0s,baz=88,slow=8.0,SNR=13						
PDAR	**Pinedale Array**	**81.56**	**41**	P	P	18 53 18.8	-0.4
	0.3nm,0.7s,baz=216,slow=4.0,SNR=3.9						
ILAR	**Eielson Array**	**82.52**	**11**	P	P	18 53 23.8	+0.3
	0.6nm,0.7s,baz=207,slow=5.1,SNR=6.1						
GERES	**GERESS Array B**	**146.69**	**353**	PKPbc	PKPdf	19 00 42.0	+0.4
	0.2nm,0.4s,baz=29,slow=2.2,SNR=3.9						
BRTR	**Keskin Array B**	**147.35**	**322**	PKPbc	PKPbc	19 00 45.4	-0.1
	0.9nm,1.0s,baz=37,slow=3.6,SNR=2.8						

IDC 30 18:41:37.0±1.9, 30°.90S×177°.75W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/17, mbtmp3.7/3, Error ellipse: s-maj=43.6km s-min=23.8km az=104.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.65**	**355**	Pn	Pb	18 42 08.4	+0.1
	68nm,0.3s,baz=240,slow=20,SNR=4.7						
RAO				Sn	Sg	18 42 29.9	-0.1
	74nm,0.3s,baz=108,slow=20,SNR=2.8						
STKA	**Stephens Creek**	**34.58**	**258**	P	P	18 48 28.4	+0.8
	1.2nm,0.8s,baz=103,slow=14,SNR=4.3						
ASAR	**Alice Springs**	**43.30**	**267**	P	P	18 49 40.7	-0.2
	0.3nm,0.5s,baz=109,slow=7.5,SNR=6.5						
WRA	**Warramunga Arr**	**44.34**	**273**	P	P	18 49 48.5	-0.7
	0.7nm,0.4s,baz=113,slow=8.0,SNR=14						
FINES	**FINESS Array B**	**145.69**	**340**	PKPbc	PKPdf	19 01 14.9	-1.8
	3.7nm,1.1s,baz=48,slow=2.1,SNR=6.4						
TORD	**Torodi Ar. Bea**	**162.32**	**178**	PKPab	PKPab	19 02 28.6	+0.3
	0.6nm,1.1s,baz=194,slow=5.5,SNR=3.9						

IDC 30 18:59:18.8±1.6, 3°.80S×141°.28E, h0km, mb3.6/4, mb1 3.9/5, mb1mx3.6/17, mbtmp3.7/5, ML3.6/1, Error ellipse: s-maj=49.9km s-min=16.7km az=117.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.41**	**202**	P	Pn	19 03 22.3	-1.1
	0.2nm,0.3s,baz=28,slow=12,SNR=21						
WRA				S	Sn	19 06 38.7	+0.7
	0.1nm,0.3s,baz=26,slow=23,SNR=2.8						
FITZ	**Fitzroy Crossi**	**20.89**	**226**	P	Pn	19 04 04.7	-0.6
	1.1nm,0.6s,baz=45,slow=11,SNR=6.2						
FITZ				S	S	19 07 58.4	+1.5
	4.6nm,1.2s,baz=233,slow=20,SNR=2.3						
ASAR	**Alice Springs**	**21.00**	**199**	P	P	19 04 03.0	-1.0
	1.3nm,0.6s,baz=29,slow=11,SNR=24						
ASAR				S	Sn	19 08 07.3	+2.7
	0.3nm,0.8s,baz=16,slow=26,SNR=3.3						
MKAR	**Makanchi Array**	**72.22**	**322**	P	P	19 10 44.0	-2.0
	0.4nm,0.7s,baz=107,slow=4.8,SNR=3.9						
ILAR	**Eielson Array**	**85.77**	**24**	P	P	19 12 01.5	+1.8
	0.7nm,0.8s,baz=245,slow=5.8,SNR=4.8						

*DJA **30** 19:02:49.7±2.4, 16°.5±47°.×7°.0W±3°.7, h10km, M5.5/8, mB6.1/2, mb5.5/8, Mw(mB)5.8/2*

*ISCJB **30** 19:03:12.1±0.5, 15°.60S±0°.02×69°.37W±0°.02, h220km±4km, mb5.6/346, Error ellipse: s-maj=4.4km s-min=3.1km az=42.6*

*BJI **30** 19:03:14.3, 15°.50S×69°.30W, h233km, mB5.6/33*

*IDC **30** 19:03:16.2±0.4, 15°.63S×69°.51W, h245km±3km, mb5.0/32, mb1 5.1/36, mb1mx5.1/37, mbtmp5.0/36, Error ellipse: s-maj=9.7km s-min=6.1km az=67.0*

*TEH **30** 19:03:16.0, 15°.53S×69°.25W, h250km, ML5.9*

*MOS **30** 19:03:17.2±1.2, 15°.31S×69°.35W, h256km, mb5.7/47, Error ellipse: s-maj=12.3km s-min=6.1km az=112.4*

*NEIC **30** 19:03:17.3±0.1, 15°.55S×69°.29W, mb5.9/213, MW5.8, Error ellipse: s-maj=5.8km s-min=3.5km az=57.0, Moment Tensor Solution. s21 Moment tensor: Scale 10^17^Nm; M_{rr}1.11; $M_{\theta\theta}$1.04; $M_{\phi\phi}$-2.14; $M_{r\theta}$6.57; $M_{\theta\phi}$-1.56; $M_{\phi r}$2.30; Best double couple: $M_0$7.40000×10^17^ NP1:ϕ_s168.00000°, δ18.00000°, λ12.00000°. NP2:ϕ_s67.00000°, δ86.00000°, λ108.00000°. Principal axes: T 7.6800, Plg45.0000°, Azm355.0000°; N -0.6400, Plg17.0000°, Azm246.0000°; P -7.0200, Plg38.0000°, Azm141.0000°;*

NEIC Felt at La Paz. Felt [II] at Alto Hospicio, Arica, Camina, Huara, Iquique and Pozo Almonte, Chile. Felt [II] at Arequipa, Ilo and Mollendo, Peru. Also felt at Puno.

*LDG **30** 19:03:19.9±0.7, 15°.29S×69°.14W, h272km, Mb5.4/46, Ms4.2/1 Error ellipse: s-maj=40.8km s-min=17.9km az=31.0*

*SZGRF **30** 19:03:22.5, 14°.92S×68°.92W, h269km, mb5.8, Peru-Bolivia border region*

*GCMT **30** 19:03:22.7±0.3, 15°.74S×69°.65W, h258km±2km, MW5.9, Moment Tensor Solution. s36,c44; s92,c138; Moment tensor: Scale 10^17^Nm; M_{rr}2.48±.35; $M_{\theta\theta}$-1.24±.33; $M_{\phi\ph

LMEL **Las Melosas** 18.09 182 ⇓/P P 19 07 10.4 0.0
OTAV **Otavalo** 18.16 330 eP P 19 07 12.6 +1.0
3µm,1.5s
CHCH **Chadas Angostu** 18.19 183 ⇑/P P 19 07 11.1 -0.3
LNV **Longovilo** 18.27 185 ⇓/P P 19 07 11.0 -1.1
CACH **El Canelo** 18.37 183 ⇓/P P 19 07 13.4 0.0
BDFB **Brasilia** 20.64 93 P P 19 07 38.5 +0.7
BDFB **Brasilia** 20.64 93 P P 19 07 38.5 +0.7
172nm,0.8s,baz=263,slow=12,SNR=89
CCHI **Chillan** 20.95 186 ⇓/P P 19 07 39.7 -1.0
ROSC **El Rosal** 20.98 346 eP P 19 07 39.5 -2.1
ROSC **El Rosal** 20.98 346 P P 19 07 39.4 -2.1
32nm,0.4s,baz=101,slow=20,SNR=16
SPB **Sao Paulo** 22.15 114 eP P 19 07 51.4 -0.7
399nm,1.1s
TRQA **Tornquist** 23.23 165 eP P 19 08 00.1 -1.6
1µm,1.1s
SDV **Santo Domingo** 24.45 357 eP P 19 08 12.4 -0.8
449nm,1.0s
PLCA **Paso Flores** 24.97 182 P P 19 08 16.8 -0.7
PLCA ScP ScP 19 15 02.1 +2.4
PLCA **Paso Flores** 24.97 182 P P 19 08 16.8 -0.7
72nm,0.7s,baz=0.2,slow=11,SNR=16
PLCA ScP ScP 19 15 02.1 +2.4
41nm,1.1s,baz=342,slow=4.2,SNR=8.3
BCIP **Isla Barro Col** 26.76 337 eP P 19 08 33.9 +0.2
931nm,1.6s
TPP **Pointe-a-Pierr** 27.03 18 eP P 19 08 39.4 +3.4
TPP **Pointe-a-Pierr** 27.03 18 e pP 19 09 31.3 +5.1
TBH **Brigand Hill** 27.30 18 eP P 19 08 41.7 +3.2
TCE **Chacachacare** 27.31 17 eP P 19 08 41.8 +3.2
TRN **Trinidad (W)** 27.36 17 eP P 19 08 41.3 +2.4
BOT **Bacolet** 28.05 18 eP P 19 08 47.8 +2.7
TPR **Prospect** 28.05 18 eP P 19 08 48.1 +3.0
TOSP **Speyside** 28.23 19 eP P 19 08 48.7 +2.0
GRGR **Grenville** 28.70 16 ⇑/P P 19 08 51.7 +0.8
GRGR **Grenville** 28.70 16 eP P 19 08 51.7 +0.8
1µm,0.8s
GRW **Mount Saint Ca** 28.73 16 eP P 19 08 53.1 +1.9
GRHS **Sauteurs** 28.79 16 eP P 19 08 53.3 +1.6
GRSS **Sisters** 28.87 16 eP P 19 08 54.1 +1.7
COYC **Coyhaique** 29.87 184 ⇓/P P 19 08 59.9 -0.9
SVB **Belmont** 29.90 16 eP P 19 09 01.6 +0.1
JTS **JuntasAbangare** 30.04 328 eP P 19 09 04.3 +1.6
JTS ScP ScP 19 15 18.5 +2.9
JTS **JuntasAbangare** 30.04 328 P P 19 09 03.6 +0.9
81nm,1.0s,baz=147,slow=4.6,SNR=42
JTS ScP ScP 19 15 18.5 +2.9
18nm,1.1s,baz=96,slow=1.7,SNR=6.5
BBGH **Gun Hill** 30.28 19 ⇑/P P 19 09 07.3 +2.5
MCLT **Moule a Chique** 30.40 17 eP P 19 09 05.4 -0.5
SLDE **Delcer** 30.46 16 eP P 19 09 07.7 +1.3
SLB **Belfond** 30.49 16 eP P 19 09 07.8 +1.1
SLPE **Piton Saint Es** 30.52 16 eP P 19 09 08.1 +1.2
SLPA **Patience** 30.55 16 eP P 19 09 08.6 +1.5
SLW **Petit Monier** 30.70 16 eP P 19 09 08.8 +0.3
SLW **Petit Monier** 30.70 16 eP P 19 09 09.7 +1.2
CHRN **Cochrane** 31.48 184 ⇓/P P 19 09 15.4 +0.5
TBG **Guadaloupe-3** 32.28 14 eP P 19 09 20.6 -1.6
HMG **Houelmont** 32.39 14 eP P 19 09 21.7 -1.5
PHG **Guadaloupe-2** 32.44 14 eP P 19 09 22.3 -1.4
TAG **Tarade** 32.46 14 eP P 19 09 22.4 -1.5
DOG **Dongo Capester** 32.46 14 eP P 19 09 22.3 -1.5
ECG **Echelle** 32.46 14 eP P 19 09 22.4 -1.6
LKG **Breislack** 32.46 14 eP P 19 09 22.4 -1.6
MLG **Mont-d'or** 32.47 14 eP P 19 09 22.2 -1.6
FNG **Fond-Bernard** 32.47 14 eP P 19 09 22.4 -1.5
CRG **Carmichael** 32.47 14 eP P 19 09 22.6 -1.4
SSG **Sans Toucher** 32.50 14 eP P 19 09 22.4 -1.8
BCG **Bois Riant Cap** 32.51 14 eP P 19 09 22.5 -1.7
LZG **Guadaloupe-1** 32.53 14 eP P 19 09 22.6 -1.7
SEG **Port Louis** 32.84 14 eP P 19 09 25.4 -1.6
SKI **Saint Kitts** 33.48 12 eP P 19 09 31.3 -1.3
SKI **Saint Kitts** 33.48 12 ⇑/P P 19 09 31.4 -1.3
CDVI **St. Croix** 33.55 8 eP P 19 09 32.0 -1.1
432nm,0.8s
CRPR **Cabo Rojo, PR** 33.57 4 eP P 19 09 32.7 -0.6
3µm,1.5s
OBIP **Obispado Ponce** 33.64 5 eP P 19 09 32.9 -1.0
3µm,1.4s
CELP **Cerrillos** 33.67 5 eP P 19 09 33.3 -1.0
LSP **Las Mesas** 33.74 4 eP P 19 09 34.0 -0.8
SJG **San Juan** 33.75 6 eP P 19 09 33.9 -1.0
2µm,1.4s
SJG S S 19 14 35.8 -3.2
SJG **San Juan** 33.75 6 P P 19 09 34.1 -0.8
177nm,0.3s,baz=184,slow=4.0,SNR=106
SJG S S 19 14 35.8 -3.2
105nm,0.8s,baz=57,slow=23,SNR=22
MTP **Monte Pirata** 33.80 7 eP P 19 09 34.0 -1.3
671nm,0.9s
LRS **Lares** 33.87 4 eP P 19 09 34.9 -1.1
CBYP **Canovanas** 33.94 6 eP P 19 09 35.3 -1.3
2µm,1.4s
ANWB **Willy Bob** 34.00 13 ⇑/P P 19 09 34.5 -2.6
ANWB **Willy Bob** 34.00 13 eP P 19 09 34.3 -2.8
475nm,0.5s
AGPR **Aguadilla, PR** 34.02 4 eP P 19 09 36.0 -1.2
399nm,0.8s
STVI **Saint Thomas** 34.12 8 eP P 19 09 35.8 -2.2
177nm,0.4s
RCBR **Riachuelo** 34.33 77 eP P 19 09 41.4 +1.3
685nm,0.9s
TGUH **Tegucigalpa,Un** 34.42 328 eP P 19 09 41.0 +0.3
1µm,1.5s
SDDR **Presa de Saban** 34.51 357 eP P 19 09 39.9 -1.6
425nm,1.4s
MTDJ **Mount Denham** 34.63 346 eP P 19 09 41.0 -1.6
598nm,1.5s
GTBY **Guantanamo Bay** 35.83 351 eP P 19 09 50.9 -1.7
313nm,1.5s
GRTK **Grand Turk** 37.01 357 eP P 19 10 01.4 -1.1
2µm,1.5s
EFI **East Falkland** 37.03 168 ⇓/P P 19 10 01.9 -0.5
EFI pmax pmax
comp=Z,1µm,1.1s
EFI **East Falkland** 37.03 168 eP P 19 10 02.1 -0.3
comp=Z,878nm,1.0s
USHA **Ushuaia** 39.06 179 P P 19 10 18.1 -1.1
USHA **Ushuaia** 39.06 179 P P 19 10 18.1 -1.1
comp=Z,12nm,0.6s,baz=14,slow=8.1,SNR=6.1
TEIG **Tepich** 40.21 332 eP P 19 10 27.9 -1.2
comp=Z,86nm,0.4s
TEIG ePcP PcP 19 12 28.7 +0.9
TIGA **Tifton** 48.79 344 eP P 19 11 35.3 -1.3
TIGA **Tifton** 48.79 344 ⇓P P 19 11 35.4 -1.1
baz=49,SNR=12
PMSA **Palmer Station** 49.17 177 eP P 19 11 38.8 -0.2
comp=Z,271nm,1.4s
PMSA **Palmer Station** 49.17 177 P P 19 11 39.1 +0.1
comp=Z,72nm,0.9s,baz=15,slow=6.6,SNR=13
BRAL **Brewton** 49.43 340 eP P 19 11 41.5 +0.2
comp=Z,2µm,1.5s
LRAL **Lakeview Retre** 51.28 341 eP P 19 11 53.1 -2.0
CNNC **Cliffs of the** 51.28 351 eP P 19 11 53.6 -1.5
comp=Z,88nm,1.0s
KMSC **Kings Mountain** 51.80 348 eP P 19 11 57.8 -1.2
KMSC **Kings Mountain** 51.80 348 ⇑P P 19 11 57.8 -1.2
baz=52,SNR=31
HKT **Hockley** 52.02 331 eP P 19 12 00.8 +0.2
HKT pmax pmax
comp=Z,507nm,1.8s
HKT **Hockley** 52.02 331 eP P 19 12 00.8 +0.2
comp=Z,507nm,1.8s
CPCT **Cooper Cave** 52.84 345 eP P 19 12 04.8 -1.8
SWET **Sewanee** 52.99 343 eP P 19 12 05.6 -2.1
NATX **Nacogdoches** 53.02 333 eP P 19 12 08.4 +0.4
comp=Z,380nm,0.8s
732A **Laxson Ranch,** 53.12 326 ⇑P P 19 12 08.9 +0.2
baz=53,SNR=319
732A ⇑S S 19 19 19.4 +0.5
baz=53
OXF **Oxford** 53.42 339 eP P 19 12 08.0 -2.8
OXF **Oxford** 53.42 339 eP P 19 12 08.0 -2.8
VWCC **Virginia Weste** 53.58 350 eP P 19 12 10.8 -1.2
BLA **Blacksburg** 53.63 349 eP P 19 12 11.5 -0.8
BLA pmax pmax
comp=Z,494nm,1.6s
BLA **Blacksburg** 53.63 349 eP P 19 12 11.5 -0.8
comp=Z,494nm,1.6s
TZTN **Tazewell** 53.64 346 eP P 19 12 10.6 -1.8
comp=Z,326nm,1.6s
632A **Uvalde** 53.64 327 ⇑P P 19 12 12.9 +0.4
baz=54,SNR=244

JSRW **J. Sargeant Re** 53.69 352 eP P 19 12 10.9 -1.8
631A **Perdido Creek** 53.98 326 ⇑P P 19 12 14.9 -0.1
baz=54,SNR=416
CBN **Corbin** 54.13 352 eP P 19 12 14.6 -1.2
comp=Z,39nm,0.5s
532A **Rocksprings** 54.19 327 ⇓P P 19 12 16.7 +0.1
baz=54,SNR=208
WVT **Waverly** 54.40 342 eP P 19 12 15.2 -2.6
WVT pmax pmax
comp=Z,133nm,1.0s
WVT **Waverly** 54.40 342 eP P 19 12 15.2 -2.6
comp=Z,133nm,1.0s
JCT **Junction City** 54.42 328 eP P 19 12 17.9 -0.3
JCT pmax pmax
comp=Z,434nm,1.1s
JCT **Junction City** 54.42 328 eP P 19 12 17.9 -0.3
comp=Z,434nm,1.1s
JCT **Junction City** 54.42 328 ⇑P P 19 12 18.0 -0.3
baz=55,SNR=107
WHTX **Lake Whitney** 54.49 331 eP P 19 12 18.6 0.0
WHTX **Lake Whitney** 54.49 331 ⇓P P 19 12 18.7 +0.1
baz=55,SNR=40
531A **Rocksprings** 54.56 327 ⇑P P 19 12 19.6 +0.4
baz=55,SNR=493
HALT **Halls** 54.67 340 eP P 19 12 18.0 -1.8
UALR **University of** 54.71 337 eP P 19 12 18.4 -1.6
comp=Z,287nm,1.0s
432A **Menard** 54.73 328 ⇑P P 19 12 20.3 -0.1
baz=55,SNR=131
GNAR **Gosnell** 54.94 340 eP P 19 12 20.3 -1.4
comp=Z,853nm,0.6s
530A **J-C Ranch, Com** 54.97 326 ⇓P P 19 12 22.3 +0.2
baz=55,SNR=426
GLAT **Glass** 54.98 340 eP P 19 12 20.4 -1.6
431A **Sonora** 55.00 327 ⇑P P 19 12 22.2 -0.1
baz=55,SNR=344
332A **Millersview** 55.11 328 ⇑P P 19 12 23.2 +0.1
baz=55,SNR=301
SDMD **Soldier's Deli** 55.25 353 eP P 19 12 22.3 -1.6
comp=Z,54nm,0.9s
628A **Black Gap, Mar** 55.31 324 ⇑P P 19 12 25.4 +0.8
baz=56,SNR=589
331A **San Angelo** 55.40 328 ⇓P P 19 12 25.0 -0.1
baz=56,SNR=103
430A **Baggett Ranch,** 55.41 327 ⇓P P 19 12 25.2 -0.1
baz=56,SNR=324
529A **Stev Forest Ra** 55.43 325 ⇑P P 19 12 25.9 +0.5
baz=56,SNR=620
232A **Coleman** 55.47 329 ⇓P P 19 12 25.7 +0.1
baz=56,SNR=370
PARMO **Parma** 55.49 340 eP P 19 12 24.3 -1.3
627A **Terlingua Ranc** 55.57 324 ⇓P P 19 12 26.8 +0.3
baz=56,SNR=348
429A **Davenport Ranc** 55.64 326 ⇑P P 19 12 27.2 +0.3
baz=56,SNR=541
TXAR **Lajitas Array** 55.64 323 P P 19 12 27.0 0.0
TXAR **Lajitas Array** 55.64 323 P P 19 12 27.0 0.0
comp=Z,43nm,0.5s,baz=146,slow=8.6,SNR=465
528A **Cox Ranch, San** 55.77 325 ⇑P P 19 12 27.9 0.0
baz=56,SNR=226
231A **Bronte** 55.85 328 ⇑P P 19 12 27.9 -0.5
baz=56,SNR=63
330A **Mertzon** 55.87 327 ⇓P P 19 12 28.1 -0.4
baz=56,SNR=110
MCWV **Mont Chateau** 55.91 350 eP P 19 12 27.8 -0.8
comp=Z,140nm,0.9s
WCI **Wyandotte Cave** 55.92 344 eP P 19 12 26.3 -2.4
WCI pmax pmax
comp=Z,152nm,0.9s
WCI **Wyandotte Cave** 55.92 344 eP P 19 12 26.3 -2.4
comp=Z,152nm,0.9s
USIN **University of** 56.05 343 eP P 19 12 27.1 -2.4
comp=Z,514nm,1.5s
ABTX **Abilene, Hawle** 56.06 329 eP P 19 12 29.6 -0.1
ABTX **Abilene, Hawle** 56.06 329 ⇑P P 19 12 29.7 -0.1
baz=56,SNR=94
626A **Big Bend Ranch** 56.07 323 ⇑P P 19 12 30.5 +0.5
baz=56,SNR=655
428A **Kincaid Ranch,** 56.15 325 P P 19 12 30.9 +0.3
baz=56
230A **Sterling City** 56.22 328 ⇑P P 19 12 30.6 -0.4
baz=56,SNR=48
527A **Woodward Ranch** 56.22 324 ⇓P P 19 12 31.1 0.0
baz=56,SNR=317
SIUC **Southern Illin** 56.28 341 eP P 19 12 29.4 -1.8
comp=Z,1µm,1.1s
BRNJ **Basking Ridge** 56.29 355 eP P 19 12 30.7 -0.5
comp=Z,22µm,0.9s
CPNY **Central Park** 56.35 356 eP P 19 12 30.2 -1.3
comp=Z,91nm,1.0s
329A **Wagon Wheel Ra** 56.36 327 ⇓P P 19 12 31.8 -0.2
baz=56,SNR=222
526A **Mary Lane Ranc** 56.43 324 ⇓P P 19 12 33.0 +0.4
baz=57,SNR=440
131A **Roby** 56.48 329 ⇑P P 19 12 32.8 +0.1
baz=57,SNR=138
Z32A **Haskell** 56.54 330 ⇓P P 19 12 33.1 0.0
baz=57,SNR=64
SSPA **Standing Stone** 56.59 352 eP P 19 12 32.2 -1.1
comp=Z,122nm,1.3s
427A **Hayter Ranch,** 56.64 325 ⇓P P 19 12 34.0 0.0
baz=57,SNR=216
229A **Bryant Ranch,** 56.64 327 ⇑P P 19 12 34.0 +0.1
baz=57,SNR=15
130A **Snyder** 56.70 328 ⇓P P 19 12 34.3 -0.1
baz=57,SNR=80
328A **Wristen Ranch,** 56.72 326 ⇓P P 19 12 34.6 +0.1
baz=57,SNR=345
YLE **Yale** 56.81 357 eP P 19 12 34.0 -0.8
comp=Z,2µm,1.5s
426A **McDonald Obser** 56.85 324 ⇓P P 19 12 35.8 +0.2
baz=57,SNR=252
BLO **Bloomington** 56.87 344 eP P 19 12 33.1 -2.2
BLO e 19 13 27.8
BLO pmax pmax
comp=Z,310nm,1.1s
BLO **Bloomington** 56.87 344 eP P 19 12 33.1 -2.2
comp=Z,310nm,1.1s
BLO ePcP PcP 19 13 27.8 +0.1
Z31A **Sharp Cattle R** 56.87 329 ⇑P P 19 12 35.5 0.0
baz=57,SNR=177
OLIL **Olney** 56.89 343 eP P 19 12 31.7 -3.8
comp=Z,29nm,0.3s
ACSO **Alum Creek Sta** 57.05 348 eP P 19 12 34.5 -2.0
comp=Z,255nm,1.0s
ACSO ePcP PcP 19 13 27.9 -0.4
TUL1 **Tulsa** 57.06 335 eP P 19 12 35.7 -1.1
TUL1 **Tulsa** 57.06 335 ⇑P P 19 12 35.9 -0.8
baz=57,SNR=24
327A **Balmorhea Ranc** 57.08 325 ⇓P P 19 12 37.5 +0.4
baz=57,SNR=12
Y32A **R-V Farms, Ver** 57.09 330 ⇓P P 19 12 37.1 +0.1
baz=57,SNR=66
228A **UT Block 9, Go** 57.17 326 ⇑P P 19 12 37.3 -0.4
baz=57,SNR=98
129A **Stewart Farms,** 57.19 327 ⇓P P 19 12 37.8 -0.1
baz=57,SNR=146
326A **Caldwell Ranch** 57.31 325 P P 19 12 38.8 +0.1
baz=58
Z30A **Sanderson Ranc** 57.34 328 ⇑P P 19 12 38.5 -0.3
baz=58,SNR=388
BRYW **Bryant College** 57.35 358 eP P 19 12 37.6 -1.0
comp=Z,585nm,1.0s
WMOK **Wichita Mounta** 57.38 331 eP P 19 12 37.7 -1.3
WMOK pmax pmax
comp=Z,104nm,0.9s
WMOK **Wichita Mounta** 57.38 331 eP P 19 12 37.7 -1.3
comp=Z,104nm,0.9s
SLM **Saint Louis** 57.45 341 eP P 19 12 37.2 -2.2
SLM pmax pmax
comp=Z,57nm,0.6s
SLM **Saint Louis** 57.45 341 eP P 19 12 37.2 -2.2
comp=Z,57nm,0.6s
Y31A **Rekieta Farm,** 57.45 330 ⇑P P 19 12 39.6 +0.1
baz=58,SNR=115
227A **Bennet, Jal** 57.47 326 ⇓P P 19 12 40.1 +0.4
baz=58,SNR=122
425A **Indio Mountain** 57.48 324 ⇑P P 19 12 40.1 +0.1
baz=58,SNR=547
128A **Castleberry Fa** 57.51 327 ⇑P P 19 12 39.7 -0.4
baz=58,SNR=171
Z29A **Hungry Hill Ra** 57.61 328 ⇓P P 19 12 40.0 -0.7
baz=58,SNR=108
Y30A **Stafford Cattl** 57.69 329 ⇑P P 19 12 40.8 -0.5
baz=58,SNR=58
QUA2 **Belchertown** 57.74 357 eP P 19 12 39.8 -1.5
comp=Z,610nm,1.5s

WES **Weston** 57.81 358 eP P 19 12 40.7 -1.1
WES pmax pmax
comp=Z,241nm,1.1s
WES **Weston** 57.81 358 eP P 19 12 40.7 -1.1
comp=Z,241nm,1.1s
X31A **McDonald Ranch** 57.86 330 ⇑P P 19 12 42.2 -0.1
baz=58,SNR=110
ALLY **Alegheny Colle** 57.91 351 eP P 19 12 41.3 -1.2
comp=Z,359nm,0.9s
BINY **Binghamton** 57.92 354 eP P 19 12 41.7 -0.9
comp=Z,274nm,1.1s
HRV **Adam Dziewonsk** 57.94 358 eP P 19 12 41.7 -1.0
HRV pmax pmax
comp=Z,222nm,1.0s
HRV **Adam Dziewonsk** 57.94 358 eP P 19 12 41.7 -1.0
comp=Z,222nm,1.0s
CLNB **Carlsbad** 57.98 326 eP P 19 12 43.7 +0.4
comp=Z,79nm,1.0s
Z28A **Tucker Farm, M** 57.98 328 ⇓P P 19 12 42.7 -0.6
baz=58,SNR=89
226B **Tecolote Peak,** 57.99 325 ⇑P P 19 12 44.2 +0.8
baz=58,SNR=481
127A **Arkansas Junct** 58.01 326 ⇑P P 19 12 43.3 -0.3
baz=58,SNR=61
Y29A **Porterfield Fa** 58.07 328 ⇑P P 19 12 43.4 -0.4
baz=58,SNR=21
X30A **Coker Ranch, T** 58.14 330 ⇓P P 19 12 43.9 -0.4
baz=58,SNR=92
SFIN **Scholer Farm** 58.15 344 eP P 19 12 41.4 -2.8
SFIN ePcP PcP 19 13 31.7 -1.0
SFIN **Scholer Farm** 58.15 344 ⇓P P 19 12 41.5 -2.7
baz=58,SNR=18
GDL2 **Guadalupe Moun** 58.20 325 eP P 19 12 45.3 +0.5
comp=Z,404nm,1.2s
324A **Moseley Ranch,** 58.25 324 ⇑P P 19 12 44.7 -0.6
baz=58,SNR=414
TRY **Troy** 58.26 356 eP P 19 12 44.1 -0.8
comp=Z,370nm,1.1s
W31A **Holland Ranch,** 58.29 331 ⇑P P 19 12 44.7 -0.7
baz=58,SNR=31
ERPA **Erie** 58.34 351 eP P 19 12 44.1 -1.3
comp=Z,2µm,1.6s
126A **Clayton Basin,** 58.35 326 ⇓P P 19 12 46.1 +0.2
baz=58,SNR=150
225A **Deer Hill, Car** 58.38 325 ⇑P P 19 12 46.3 +0.1
baz=59,SNR=305
MNTX **Cornudas Mount** 58.39 324 eP P 19 12 45.2 -0.8
comp=Z,388nm,1.2s
Y28A **McKinney Farm,** 58.40 328 ⇑P P 19 12 45.5 -0.7
baz=59,SNR=59
Z27A **Tatum** 58.43 327 ⇓P P 19 12 46.0 -0.4
baz=59,SNR=588
X29A **Tulia** 58.55 329 ⇓P P 19 12 46.6 -0.6
baz=59,SNR=24
W30A **Crocket Farms** 58.59 330 ⇑P P 19 12 47.1 -0.3
baz=59,SNR=6.0
125A **Gardner Draw,** 58.70 325 ⇓P P 19 12 47.9 -0.4
baz=59,SNR=200
MSTX **Muleshoe** 58.71 328 eP P 19 12 47.5 -0.8
MSTX **Muleshoe** 58.71 328 ⇓P P 19 12 48.0 -0.4
baz=59,SNR=311
V31A **Spring Creek L** 58.73 331 ⇑P P 19 12 48.5 +0.2
baz=59,SNR=36
224A **Cornudas Mount** 58.75 324 ⇓P P 19 12 48.4 -0.3
baz=59,SNR=810
Z26A **Caprock** 58.80 326 ⇓P P 19 12 48.9 -0.1
baz=59,SNR=316
Y27A **Causey** 58.85 327 ⇑P P 19 12 48.8 -0.5
baz=59,SNR=357
X28A **Dimmitt** 58.85 329 ⇓P P 19 12 48.7 -0.6
baz=59,SNR=27
FFD **Franklin Falls** 58.91 358 eP P 19 12 48.8 -0.5
comp=Z,242nm,0.4s
ACCN **Adirondack Com** 58.91 356 eP P 19 12 48.5 -0.9
comp=Z,220nm,1.5s
ACCN ePcP PcP 19 13 35.3 -0.4
HDIL **Hopedale** 58.92 342 eP P 19 12 46.9 -2.6
comp=Z,67nm,0.6s
HDIL ePcP PcP 19 13 35.6 -0.2
W29A **Amraillo** 59.06 329 ⇓P P 19 12 50.1 -0.5
baz=59,SNR=82
V30A **Spur Ranch, Mi** 59.11 331 ⇑P P 19 12 51.3 +0.3
baz=59
HNH **Hanover** 59.16 358 eP P 19 12 50.4 -0.6
comp=Z,792nm,1.5s
HNH eSP 19 14 17.6
124A **Stringfield Ra** 59.18 325 ⇑P P 19 12 51.7 0.0
baz=59,SNR=264
Z25A **Roswell** 59.21 326 ⇑P P 19 12 51.6 -0.2
baz=59,SNR=244
223A **Chaparral, Ant** 59.21 323 ⇓P P 19 12 51.6 -0.2
baz=59
U31A **Nine Bar Ranch** 59.22 332 ⇓P P 19 12 51.5 -0.2
baz=59,SNR=9.8
Y26A **Elida** 59.22 327 ⇓P P 19 12 51.3 -0.6
baz=59,SNR=29
X27A **F and S Farms,** 59.41 328 ⇑P P 19 12 52.7 -0.4
baz=60,SNR=22
W28A **Vega** 59.44 329 ⇑P P 19 12 53.1 -0.2
baz=60,SNR=25
MDV **Middlebury** 59.50 357 eP P 19 12 52.5 -0.8
NCB **Newcomb** 59.53 356 eP P 19 12 52.6 -1.1
comp=Z,193nm,1.4s
123A **Bell Site, Whi** 59.58 324 ⇓P P 19 12 54.5 +0.2
baz=60,SNR=7.6
V29A **Stinnett** 59.60 330 ⇓P P 19 12 54.1 -0.2
baz=60,SNR=9.0
Z24A **Sheeppen Canyo** 59.60 325 ⇓P P 19 12 54.4 -0.1
baz=60,SNR=283
222A **Williams Famil** 59.67 323 ⇓P P 19 12 55.6 +0.6
baz=60,SNR=85
LBNH **Lisbon** 59.69 358 eP P 19 12 54.3 -0.3
LBNH eSP 19 14 21.2
LBNH pmax pmax
comp=Z,206nm,1.1s
LBNH **Lisbon** 59.69 358 eP P 19 12 54.3 -0.3
comp=Z,206nm,1.1s
LBNH eSP 19 14 21.2
Y25A **Mesa, Roswell** 59.69 326 ⇑P P 19 12 54.7 -0.4
baz=60,SNR=297
X26A **CR and CF Fran** 59.70 327 ⇓P P 19 12 55.0 -0.1
baz=60,SNR=264
W27A **Bowe Ranch, En** 59.72 328 ⇑P P 19 12 55.0 -0.2
baz=60,SNR=78
U30A **WK&E Inc. Balk** 59.72 331 ⇑P P 19 12 55.0 -0.1
baz=60,SNR=12
T31A **Randall Ranch,** 59.74 332 ⇓P P 19 12 55.1 -0.1
baz=60,SNR=31
V28A **Channing** 59.84 329 ⇓P P 19 12 55.8 -0.2
baz=60,SNR=28
U29A **Oasis Ranch, S** 59.95 331 ⇑P P 19 12 56.8 +0.1
baz=60,SNR=7.2
320A **Kipp Ranch, An** 59.96 321 ⇑P P 19 12 57.6 +0.7
baz=60,SNR=88
WVL **Waterville** 59.97 360 eP P 19 12 55.9 -0.6
comp=Z,230nm,1.1s
WVL eSP 19 14 24.0
221A **Mesquite Ranch** 59.99 323 ⇓P P 19 12 58.2 +1.0
baz=60,SNR=27
Z23A **Rita Site, Whi** 60.03 325 ⇑P P 19 12 57.8 +0.4
baz=60,SNR=68
122A **Conniff Cattle** 60.05 324 ⇓P P 19 12 58.3 +0.8
baz=60,SNR=41
S31A **Mullinville** 60.09 333 ⇑P P 19 12 57.6 0.0
baz=60,SNR=20
Y24A **Capitan** 60.09 326 ⇑P P 19 12 57.4 -0.5
baz=60,SNR=63
T30A **Plains** 60.09 332 ⇓P P 19 12 57.5 -0.1
baz=60,SNR=7.9
W26A **Owens Ranch, T** 60.10 328 ⇓P P 19 12 57.8 0.0
baz=60,SNR=63
X25A **Clemmons Ranch** 60.13 327 ⇑P P 19 12 57.6 -0.5
baz=60,SNR=198
KSU1 **Kansas State U** 60.14 336 eP P 19 12 56.5 -1.3
comp=Z,412nm,0.9s
EMMW **East Machias** 60.14 2 eP P 19 12 56.9 -0.8
comp=Z,136nm,0.9s
EMMW eSP 19 14 24.5
V27A **Dan Oppiter Fa** 60.15 329 ⇑P P 19 12 58.1 0.0
baz=60,SNR=17
LONY **Lake Ozonia** 60.20 356 eP P 19 12 57.1 -1.0
comp=Z,175nm,1.2s
LONY eSP 19 14 24.8
U28A **Mallet** 60.34 330 ⇓P P 19 12 59.0 -0.4
baz=60,SNR=43
BBTS **Babate** 60.36 63 P P 19 13 00.5 +0.8
BBTS **Babate** 60.36 63 P P 19 13 00.5 +0.8
comp=Z,59nm,0.8s,baz=252,slow=1.7,SNR=13

220A	Playas Peak, P	60.36	322	⇑P	P	19 13 00.3 +0.7
	baz=60,SNR=348					
121A	Cookes Peak, D	60.38	323	⇑P	P	19 13 00.8 +1.0
	baz=61,SNR=171					
Y23A	Lovelace Mesa,	60.43	325	⇓P	P	19 13 00.1 -0.1
	baz=61,SNR=81					
Z22A	Elephant Butte	60.44	324	⇑P	P	19 13 00.8 +0.7
	baz=61,SNR=106					
319A	Douglas	60.44	321	⇓P	P	19 13 00.9 +0.8
	baz=61,SNR=126					
T29A	Hugoton	60.53	331	⇓P	P	19 13 00.5 0.0
	baz=61,SNR=35					
S30A	Montezuma	60.54	332	⇑P	P	19 13 00.5 -0.2
	baz=61,SNR=9.5					
W25A	X Bar L Ranch,	60.56	327	⇑P	P	19 13 00.8 -0.1
	baz=61,SNR=145					
X24A	Lazy VL Ranch,	60.57	326	⇑P	P	19 13 01.2 +0.1
	baz=61,SNR=122					
V26A	Tequesquite Ra	60.66	328	⇑P	P	19 13 01.6 0.0
	baz=61,SNR=304					
R31A	Burdett	60.66	333	⇓P	P	19 13 01.2 -0.2
	baz=61,SNR=20					
PKME	Peaks-Kenny Pk	60.67	0	eP	P	19 13 00.7 -0.5
	comp=Z,245nm,1.1s					
PKME				epP	pP	19 13 59.0 +0.3
U27A	Thompson Grove	60.67	329	⇑P	P	19 13 01.5 -0.1
	baz=61,SNR=35					
SADO	Sadowa	60.82	352	P	P	19 13 00.7 -1.5
SADO	Sadowa	60.82	352	P	P	19 13 00.7 -1.5
	comp=Z,58nm,0.9s,baz=188,slow=6.1,SNR=20					
S29A	Ulysses	60.82	331	⇓P	P	19 13 02.8 +0.3
	baz=61,SNR=20					
P33A	Williams Farm,	60.86	335	P	P	19 13 01.9 -0.8
	baz=61					
Z21A	St. Cloud Mine	60.88	324	⇓P	P	19 13 04.2 +1.0
	baz=61,SNR=113					
120A	U Bar Ranch, L	60.88	322	⇓P	P	19 13 04.1 +1.0
	baz=61,SNR=126					
T28A	Walsh	60.88	330	⇓P	P	19 13 02.4 -0.6
	baz=61,SNR=22					
BNM	Barren Site	60.91	325	eP	P	19 13 03.5 +0.1
	comp=Z,459nm,1.2s					
Y22A	Socorro	60.94	325	⇑P	P	19 13 04.0 +0.5
	baz=61,SNR=91					
R30A	Dighton	60.99	333	⇓P	P	19 13 03.7 +0.1
	baz=61,SNR=15					
X23A	Hourglass Bar	60.99	326	⇓P	P	19 13 04.1 +0.2
	baz=61,SNR=8.5					
Y22D	IRIS PASSCAL I	61.02	325	⇓P	P	19 13 04.6 +0.6
	baz=61					
LPM	Los Pinos Moun	61.03	325	eP	P	19 13 04.4 +0.2
	comp=Z,267nm,0.9s					
W24A	Lazy 6 Ranch,	61.05	327	⇑P	P	19 13 04.2 -0.1
	baz=61,SNR=96					
U26A	Atchley Ranch,	61.10	329	⇑P	P	19 13 04.7 +0.1
	baz=61,SNR=44					
LENM	Lemitar	61.11	325	eP	P	19 13 05.0 +0.3
	comp=Z,222nm,1.1s					
V25A	Rancho No Teng	61.12	328	⇓P	P	19 13 04.9 +0.2
	baz=61,SNR=121					
T27A	Campo	61.13	330	⇑P	P	19 13 04.5 -0.2
	baz=61,SNR=180					
S28A	Manter	61.16	331	⇑P	P	19 13 04.6 -0.2
	baz=61,SNR=44					
Q31A	Ellis	61.20	334	⇑P	P	19 13 04.8 -0.2
	baz=61,SNR=10.0					
Z20A	Nine Sixteen R	61.27	323	⇓P	P	19 13 06.8 +1.1
	baz=61,SNR=178					
V24A	Rampart Ranch,	61.37	327	⇑P	P	19 13 06.5 0.0
	baz=62,SNR=51					
SCIA	State Center	61.37	340	eP	P	19 13 04.3 -1.8
	comp=Z,265nm,1.1s					
JFWS	Jewell Farm	61.37	343	eP	P	19 13 03.9 -2.1
JFWS				e		19 13 46.1
JFWS				pmax	pmax	
	comp=Z,62nm,0.5s					
JFWS	Jewell Farm	61.37	343	eP	P	19 13 03.9 -2.1
	comp=Z,62nm,0.5s					
JFWS				ePcP	PcP	19 13 46.1 +0.5
LAZ	Ladron	61.38	325	eP	P	19 13 07.1 +0.6
	comp=Z,400nm,1.4s					
LAZ				epP	pP	19 14 06.2 +2.0
X22A	Bernardo	61.38	325	⇓P	P	19 13 07.9 +1.4
	baz=62,SNR=38					
P32A	Huiting Farm,	61.38	335	P	P	19 13 05.4 -0.8
	baz=62					
Y21A	Point of Rocks	61.39	324	⇓P	P	19 13 07.9 +1.3
	baz=62,SNR=142					
W23A	Werner Place,	61.41	326	⇑P	P	19 13 07.0 +0.3
	baz=62,SNR=22					
ANMO	Albuquerque	61.41	326	eP	P	19 13 06.9 +0.2
	comp=Z,144nm,0.8s					
U25A	Circle Dot Ran	61.44	328	⇑P	P	19 13 07.2 +0.3
	baz=62,SNR=157					
R29A	Marienthal	61.49	332	⇓P	P	19 13 06.9 -0.1
	baz=62,SNR=18					
Q30A	Quinter	61.53	333	P	P	19 13 07.4 +0.2
	baz=62					
P31A	Stockton	61.62	334	⇑P	P	19 13 07.5 -0.3
	baz=62,SNR=22					
T26A	Comanche Natio	61.64	329	⇓P	P	19 13 08.4 +0.2
	baz=62,SNR=102					
S27A	Las Animas	61.71	330	⇑P	P	19 13 08.2 -0.3
	baz=62					
Y20A	Horse Springs,	61.72	324	⇓P	P	19 13 09.8 +1.0
	baz=62,SNR=79					
W22A	Albuquerque	61.73	326	⇑P	P	19 13 09.8 +1.0
	baz=62,SNR=20					
R28A	Tribune	61.73	331	⇓P	P	19 13 08.4 -0.2
	baz=62,SNR=20					
X21A	Alamocita Cree	61.77	324	⇓P	P	19 13 10.2 +1.1
	baz=62,SNR=130					
O32A	Brockman Farm,	61.79	335	P	P	19 13 08.0 -0.9
	baz=62					
Q29A	Oakley	61.80	332	⇓P	P	19 13 08.9 -0.1
	baz=62,SNR=40					
V23A	Ortiz Mt. (NFS	61.86	327	⇑P	P	19 13 10.5 +0.8
	baz=62,SNR=113					
U24A	Moreno Valley	61.90	328	⇑P	P	19 13 10.7 +0.6
	baz=62					
S26A	Kim	61.94	330	⇑P	P	19 13 10.6 +0.5
	baz=62,SNR=84					
TUC	Tucson	62.01	321	eP	P	19 13 10.8 +0.2
TUC				pmax	pmax	
	comp=Z,153nm,1.2s					
TUC	Tucson	62.01	321	eP	P	19 13 10.8 +0.2
	comp=Z,153nm,1.2s					
P30A	Selden	62.01	333	⇑P	P	19 13 10.3 -0.2
	baz=62,SNR=9.6					
T25A	Trinidad	62.02	329	⇓P	P	19 13 11.3 +0.5
	baz=62,SNR=100					
PQI	Presque Isle	62.09	1	eP	P	19 13 09.7 -1.0
	comp=Z,331nm,1.1s					
O31A	Woolen Ranch,	62.13	334	⇓P	P	19 13 10.6 -0.6
	baz=62,SNR=5.9					
R27A	Eads	62.14	331	⇑P	P	19 13 11.1 -0.3
	baz=62,SNR=36					
W21A	San Fidel	62.19	325	⇑P	P	19 13 12.7 +0.8
	baz=62,SNR=16					
N32A	Stulken Farm,	62.23	336	P	P	19 13 10.9 -0.9
	baz=62					
X20A	Quemado	62.24	324	⇑P	P	19 13 13.3 +1.0
	baz=62,SNR=52					
U23A	El Rito	62.31	327	⇓P	P	19 13 13.4 +0.7
	baz=62,SNR=75					
Q28A	Sharon Springs	62.32	332	⇓P	P	19 13 12.5 0.0
	baz=62,SNR=16					
P29A	Atwood	62.36	333	⇑P	P	19 13 12.9 +0.2
	baz=62,SNR=13					
V22A	San Miguel Ran	62.38	326	⇑P	P	19 13 14.1 +1.0
	baz=63,SNR=169					
S25A	Robets Cordova	62.44	329	⇑P	P	19 13 14.0 +0.5
	baz=63,SNR=45					
T24B	San Luis	62.45	328	⇑P	P	19 13 14.6 +0.9
	baz=63,SNR=42					
O30A	MW Ranch, Wils	62.46	334	⇑P	P	19 13 13.4 0.0
	baz=63,SNR=18					
R26A	Arlington	62.46	330	⇓P	P	19 13 13.7 +0.2
	baz=63,SNR=39					
N31A	Bailey Ranch,	62.54	335	⇓P	P	19 13 13.6 -0.3
	baz=63,SNR=17					
KSCO	Kaye Shedlock'	62.64	331	eP	P	19 13 14.9 +0.2
KSCO				ePcP	PcP	19 13 52.2 +1.2
KSCO	Kaye Shedlock'	62.64	331	⇓P	P	19 13 15.0 +0.3
	baz=63,SNR=29					
W20A	Ramah	62.67	324	⇓P	P	19 13 15.8 +0.7
	baz=63,SNR=94					
U22A	Llaves	62.70	327	⇓P	P	19 13 16.2 +1.0
	baz=63,SNR=35					
P28A	Saint Francis	62.70	332	⇑P	P	19 13 15.3 +0.2
	baz=63					
BGNE	Belgrade	62.72	336	eP	P	19 13 14.3 -0.7
BGNE	Belgrade	62.72	336	⇑P	P	19 13 14.5 -0.5
	baz=63,SNR=32					
O29A	4D Ranch, Culb	62.73	333	P	P	19 13 15.4 +0.2
	baz=63					
R25A	Fountain Ranch	62.74	330	⇓P	P	19 13 15.5 +0.1
	baz=63,SNR=40					
T23A	Casias Ranch,	62.77	328	⇓P	P	19 13 16.5 +0.7
	baz=63,SNR=60					
S24A	Houchin Ranch,	62.81	329	⇑P	P	19 13 16.9 +0.8
	baz=63,SNR=113					
Q26A	Hugo	62.99	331	⇑P	P	19 13 17.6 +0.6
	baz=63,SNR=33					
M31A	Lambtecht Ranc	62.99	335	⇑P	P	19 13 16.7 -0.1
	baz=63,SNR=21					
N30A	Hueftle Ranch,	62.99	334	⇑P	P	19 13 16.7 -0.2
	baz=63,SNR=5.7					
214A	Organ Pipe Nat	63.02	319	⇓P	P	19 13 18.3 +1.1
	baz=63,SNR=115					
SDCO	Great Sand Dun	63.04	328	eP	P	19 13 17.9 +0.4
	comp=Z,626nm,1.2s					
P27A	Ficken Ranch,	63.06	332	⇓P	P	19 13 17.8 +0.4
	baz=63,SNR=25					
X18A	Snowflake	63.07	323	⇓P	P	19 13 18.7 +1.0
	baz=63,SNR=37					
V20A	Brimhall	63.14	325	⇓P	P	19 13 18.8 +0.7
	baz=63,SNR=18					
O28A	Krutsinger Ran	63.16	333	P	P	19 13 18.5 +0.4
	baz=63					
U21A	Nageezi	63.16	326	⇓P	P	19 13 19.0 +0.7
	baz=63,SNR=23					
T22A	Edith	63.20	327	⇓P	P	19 13 19.4 +0.8
	baz=63,SNR=77					
R24A	Sanders Place,	63.22	329	⇓P	P	19 13 19.3 +0.7
	baz=63,SNR=89					
N29A	Votaw Ranch, W	63.23	334	⇑P	P	19 13 18.6 +0.1
	baz=63,SNR=20					
S23A	Nye Farm, Mont	63.26	328	⇓P	P	19 13 19.5 +0.5
	baz=63					
Q25A	Bedland, Calha	63.33	330	⇑P	P	19 13 19.5 +0.1
	baz=64,SNR=22					
W18A	Petrified Fore	63.36	324	eP	P	19 13 20.0 +0.4
W18A	Petrified Fore	63.36	324	P	P	19 13 20.3 +0.7
	baz=64					
P26A	Davis Ranch, A	63.42	331	⇓P	P	19 13 20.1 +0.3
	baz=64,SNR=18					
M30A	Dale-Ortello V	63.52	335	⇑P	P	19 13 20.1 -0.2
	baz=64,SNR=13					
N28A	Pribbeno Ranch	63.52	333	P	P	19 13 20.5 +0.2
	baz=64					
T21A	Navajo Lake	63.52	327	⇑P	P	19 13 21.2 +0.6
	baz=64,SNR=32					
O27A	Beecher Island	63.53	332	⇓P	P	19 13 21.1 +0.6
	baz=64,SNR=71					
R23A	Moffat	63.54	329	⇓P	P	19 13 21.5 +0.7
	baz=64,SNR=74					
U20A	Newcomb	63.59	325	⇓P	P	19 13 21.6 +0.5
	baz=64,SNR=49					
L31A	Butterfield Fa	63.64	336	⇑P	P	19 13 20.9 -0.2
	baz=64,SNR=29					
S22A	4UR Ranch, Cre	63.72	328	⇑P	P	19 13 22.5 +0.5
	baz=64,SNR=79					
P25A	Willow Gulch B	63.76	331	⇑P	P	19 13 22.8 +0.7
	baz=64,SNR=36					
M29A	Burnside Ranch	63.78	334	⇓P	P	19 13 22.1 +0.1
	baz=64,SNR=10.0					
L30A	Spencer Herefo	63.80	335	P	P	19 13 22.1 -0.1
	baz=64					
X16A	Lo Mia Camp, P	63.86	322	⇓P	P	19 13 24.1 +1.2
	baz=64,SNR=85					
OGNE	Ogallala	63.94	333	eP	P	19 13 23.2 +0.1
	comp=Z,331nm,0.9s					
OGNE	Ogallala	63.94	333	⇓P	P	19 13 23.4 +0.3
	baz=64,SNR=25					
O26A	Horse Wrangler	63.95	332	⇓P	P	19 13 23.7 +0.5
	baz=64,SNR=25					
M28A	Bar X Bar Ranc	64.03	334	⇑P	P	19 13 24.2 +0.5
	baz=64,SNR=25					
COWI	Conover	64.03	345	eP	P	19 13 21.5 -2.0
	comp=Z,250nm,1.7s					
R22A	Saguache, Gunn	64.04	328	P	P	19 13 24.8 +0.7
	baz=64					
Z14A	Wintersburg	64.05	320	⇓P	P	19 13 25.0 +1.2
	baz=64,SNR=24					
N27A	Anderson Farm,	64.05	333	⇑P	P	19 13 24.2 +0.3
	baz=64,SNR=24					
Q23A	Hartsel	64.10	329	⇓P	P	19 13 24.9 +0.5
	baz=64,SNR=31					
P24A	Kohler Place,	64.12	330	⇑P	P	19 13 25.2 +0.7
	baz=64,SNR=28					
ECSD	EROS Data Cent	64.15	338	eP	P	19 13 23.0 -1.3
	comp=Z,370nm,1.2s					
113A	Mohawk Valley,	64.17	319	⇑P	P	19 13 25.4 +0.8
	baz=64,SNR=106					
MVCO	Mesa Verde	64.20	326	eP	P	19 13 25.5 +0.5
	comp=Z,869nm,1.4s					
MVCO	Mesa Verde	64.20	326	⇑P	P	19 13 25.6 +0.5
	baz=64,SNR=92					
L29A	Maesberg Ranch	64.21	335	⇑P	P	19 13 24.9 +0.1
	baz=64,SNR=37					
O25A	Wiggins	64.22	331	⇓P	P	19 13 25.8 +0.9
	baz=64,SNR=13					
SPMN	St. Paul	64.23	342	eP	P	19 13 23.1 -1.6
SPMN	St. Paul	64.23	342	⇓P	P	19 13 23.2 -1.6
	baz=64,SNR=23					
K30A	Basset	64.37	336	⇑P	P	19 13 25.8 0.0
	baz=65,SNR=39					
N26A	Koester Ranch,	64.38	332	⇑P	P	19 13 26.6 +0.7
	baz=65,SNR=36					
P23A	Jefferson	64.46	329	⇓P	P	19 13 27.7 +0.9
	baz=65,SNR=20					
Y14A	Wickenburg	64.47	321	⇑P	P	19 13 27.6 +0.9
	baz=65,SNR=36					
R21A	Cimarron	64.56	328	⇓P	P	19 13 28.3 +0.9
	baz=65,SNR=38					
M27A	Reverse DX Ran	64.57	333	⇓P	P	19 13 27.7 +0.5
	baz=65,SNR=9.5					
S20A	Disappointment	64.58	327	⇓P	P	19 13 28.7 +1.2
	baz=65,SNR=74					
WUAZ	Wupatki	64.59	323	eP	P	19 13 28.5 +1.0
	comp=Z,421nm,1.2s					
WUAZ	Wupatki	64.59	323	⇑P	P	19 13 28.7 +1.2
	baz=65,SNR=55					
L28A	Connealy Angus	64.59	334	⇑P	P	19 13 27.7 +0.4
	baz=65,SNR=9.4					
Q22A	Crested Butte,	64.60	328	⇓P	P	19 13 28.4 +0.7
	baz=65,SNR=18					
O24A	Longmont	64.67	330	⇑P	P	19 13 28.6 +0.7
	baz=65,SNR=13					
ISCO	Idaho Springs	64.68	330	eP	P	19 13 28.5 +0.3
ISCO				pmax	pmax	
	comp=Z,315nm,1.2s					
ISCO	Idaho Springs	64.68	330	eP	P	19 13 28.4 +0.3
	comp=Z,315nm,1.2s					
ISCO	Idaho Springs	64.68	330	⇓P	P	19 13 28.7 +0.5
	baz=65,SNR=154					
K29A	Lazy Trails An	64.72	335	⇓P	P	19 13 28.2 +0.2
	baz=65,SNR=58					
N25A	Grover	64.76	332	⇑P	P	19 13 29.3 +0.8
	baz=65,SNR=6.2					
M26A	McRoberts Ranc	64.85	333	⇓P	P	19 13 29.6 +0.5
	baz=65,SNR=21					
R20A	Redvale	64.86	327	⇑P	P	19 13 30.4 +1.2
	baz=65,SNR=18					
J30A	Dallas	64.87	336	⇓P	P	19 13 28.6 -0.4
	baz=65,SNR=23					
SMCO	Snowmass	64.88	328	eP	P	19 13 29.6 +0.1
	comp=Z,251nm,0.9s					
PV01	Paradox Valley	64.92	327	eP	P	19 13 30.4 +0.7
	comp=Z,17μm,0.8s					
Q21A	Lamborn Mesa,	64.92	328	⇑P	P	19 13 30.3 +0.6
	baz=65					
L27A	T5 Ranch, Ells	64.99	334	⇓P	P	19 13 30.4 +0.5
	baz=65,SNR=22					
GLA	Glamis	65.02	319	eP	P	19 13 31.0 +0.8
GLA				pmax	pmax	
	comp=Z,385nm,1.5s					
GLA	Glamis	65.02	319	eP	P	19 13 30.9 +0.8
	comp=Z,385nm,1.5s					
GLA	Glamis	65.02	319	⇓P	P	19 13 31.1 +0.9
	baz=65,SNR=17					
P22A	Eagle	65.09	329	⇑P	P	19 13 31.3 +0.6
	baz=65,SNR=50					
K28A	Ten Mile Ranch	65.11	335	⇓P	P	19 13 31.2 +0.6
	baz=65,SNR=47					
N24A	Carr	65.14	331	⇓P	P	19 13 31.8 +0.9
	baz=65,SNR=28					
O23A	Lake Granby, G	65.15	330	⇑P	P	19 13 31.9 +0.7
	baz=65,SNR=50					
M25A	Palm-Egli Farm	65.24	332	⇓P	P	19 13 32.1 +0.6
	baz=65,SNR=10					
J29A	Okreek	65.27	336	⇑P	P	19 13 31.4 -0.1
	baz=65,SNR=64					
L26A	Underwood Farm	65.29	333	⇓P	P	19 13 32.3 +0.5
	baz=66,SNR=10					
Y12C	Blythe	65.29	320	⇑P	P	19 13 32.9 +1.1
	baz=66,SNR=59					
I30A	Oacoma	65.34	337	⇓P	P	19 13 31.3 -0.7
	baz=66,SNR=14					
P21A	Newcastle	65.38	328	⇑P	P	19 13 33.7 +1.1
	baz=66,SNR=23					
Q20A	Ridgley Place,	65.38	327	⇓P	P	19 13 33.0 +0.4
	baz=66,SNR=43					
PDMCI	Parker Dam,Lak	65.42	320	⇑P	P	19 13 33.4 +0.8
	baz=66,SNR=30					
O22A	Kremmling	65.42	329	⇓P	P	19 13 33.2 +0.3
	baz=66,SNR=245					
K27A	Flueckinger Fa	65.47	334	⇓P	P	19 13 33.6 +0.7
	baz=66,SNR=35					
SWSC	Sam W. Stewart	65.57	318	⇑P	P	19 13 34.9 +1.3
	baz=66,SNR=23					
DVTC	Desert V Tower	65.59	318	⇓P	P	19 13 35.2 +1.3
	baz=66,SNR=30					
M24A	Cheyenne	65.61	331	⇓P	P	19 13 34.9 +0.9
	baz=66,SNR=60					
BRSD	Miller	65.62	337	eP	P	19 13 32.9 -0.8
BRSD	Miller	65.62	337	⇓P	P	19 13 33.1 -0.7
	baz=66,SNR=6.7					
J28A	Allard Ranch,	65.65	335	⇓P	P	19 13 34.3 +0.3
	baz=66,SNR=100					
N23A	Red Feather La	65.69	330	⇑P	P	19 13 35.1 +0.5
	baz=66,SNR=94					
U15A	North Rim	65.76	323	⇑P	P	19 13 36.6 +1.5
	baz=66,SNR=157					
L25A	Engebretsen Ra	65.77	332	⇑P	P	19 13 35.6 +0.7
	baz=66,SNR=22					
I29A	Vivian Onida	65.77	336	⇓P	P	19 13 34.3 -0.5
	baz=66,SNR=13					
PHWY	Pilot Hill	65.78	331	eP	P	19 13 35.4 +0.2
	comp=Z,618nm,1.6s					
W13A	Hualapai Mount	65.79	321	⇓P	P	19 13 36.8 +1.4
	baz=66,SNR=70					
BC3	Big Chuckawall	65.81	319	⇑P	P	19 13 36.4 +1.0
	baz=66,SNR=59					
J27A	Elkhorn Farm,	65.82	334	⇑P	P	19 13 36.0 +0.8
	baz=66,SNR=57					
P20A	De Beque	65.84	328	⇓P	P	19 13 36.2 +0.7
	baz=66,SNR=38					
N22A	Wattenberg Ran	65.86	330	⇑P	P	19 13 36.5 +0.8
	baz=66,SNR=59					
K26A	Motz Farm, Whi	65.87	333	⇑P	P	19 13 36.2 +0.7
	baz=66,SNR=31					
VNA1	Neumayer--Stat	65.91	161	eP	P	19 13 36.9 +1.7
O21A	Pagoda	65.91	329	⇓P	P	19 13 37.2 +1.2
	baz=66,SNR=66					
MONP	Monument Peak	65.94	318	⇓P	P	19 13 37.5 +1.2
	baz=66,SNR=41					
IRM	Iron Mountain	65.95	319	⇑P	P	19 13 37.4 +1.3
	baz=66,SNR=187					
BAR	Barrett	65.97	317	eP	P	19 13 37.1 +0.8
	comp=Z,678nm,1.6s					
M23A	Laramie	66.03	331	⇑P	P	19 13 37.2 +0.5
	baz=66,SNR=67					
I28A	Midland	66.10	335	⇓P	P	19 13 36.6 -0.2
	baz=66,SNR=19					
K25A	Mack Ranch, Ha	66.10	333	⇑P	P	19 13 37.7 +0.7
	baz=66,SNR=22					
L24A	Wheatland	66.12	332	⇑P	P	19 13 37.7 +0.6
	baz=66,SNR=10					
O20A	White River Ci	66.24	328	eP	P	19 13 38.6 +0.6
O20A	White River Ci	66.24	328	⇑P	P	19 13 38.8 +0.8
	baz=66,SNR=46					
P19A	Cripple Cowboy	66.24	328	⇓P	P	19 13 39.0 +0.9
	baz=66,SNR=140					
H29A	Onida	66.25	336	⇓P	P	19 13 37.3 -0.4
	baz=66,SNR=13					
G30A	Faulkton	66.27	337	⇑P	P	19 13 37.1 -0.7
	baz=66,SNR=18					
VNA2	Neumayer--Watz	66.28	162	eP	P	19 13 38.8 +1.2
J26A	Sides Ranch, S	66.32	334	⇑P	P	19 13 39.2 +0.9
	baz=66,SNR=61					
EYMN	Ely	66.35	344	eP	P	19 13 36.3 -2.0
	comp=Z,191nm,1.1s					
BELC	Belle Mtn. Jos	66.38	319	⇓P	P	19 13 40.1 +1.2
	baz=67,SNR=26					
109C	Camp Elliot, M	66.39	317	⇓P	P	19 13 39.8 +0.9
	baz=67,SNR=9.7					
M22A	Cedar Creek Ra	66.40	330	⇓P	P	19 13 39.7 +0.6
	baz=67,SNR=36					
PFO	Pinyon Flat Ob	66.42	318	⇑P	P	19 13 40.4 +1.2
	baz=67,SNR=34					
I27A	Quinn	66.51	335	⇓P	P	19 13 39.8 +0.3
	baz=67,SNR=48					
L23A	Garrett	66.53	331	⇑P	P	19 13 40.2 +0.4
	baz=67,SNR=52					
LDFC	Landfair	66.53	320	eP	P	19 13 41.4 +1.6
	comp=Z,560nm,1.2s					
H28A	Mission Ridge	66.60	336	⇑P	P	19 13 39.9 -0.1
	baz=67,SNR=27					
K24A	Anderson Ranch	66.61	332	⇓P	P	19 13 41.0 +0.8
	baz=67,SNR=26					
G29A	Hoven	66.62	337	⇑P	P	19 13 39.5 -0.5
	baz=67,SNR=11					
SRU	San Rafael	66.67	326	eP	P	19 13 41.4 +0.6
SRU				pmax	pmax	
	comp=Z,417nm,1.2s					
SRU	San Rafael	66.67	326	eP	P	19 13 41.4 +0.6
	comp=Z,417nm,1.2s					
GMRC	Granite Mounta	66.67	320	⇑P	P	19 13 42.2 +1.4
	baz=67,SNR=188					
J25A	Sunshine Ranch	66.69	333	⇓P	P	19 13 41.2 +0.5
	baz=67,SNR=52					
N20A	Spence Gulch,	66.78	329	⇓P	P	19 13 42.3 +0.8
	baz=67,SNR=57					
L22A	Ellis Ranch, M	66.81	331	⇓P	P	19 13 42.6 +1.0
	baz=67,SNR=38					
O19A	Miners Draw (B	66.81	328	⇓P	P	19 13 42.3 +0.7
	baz=67,SNR=83					
I26A	New Underwood	66.81	334	⇑P	P	19 13 41.7 +0.3
	baz=67,SNR=38					
F30A	Leola	66.83	338	P	P	19 13 40.8 -0.6
	baz=67					
Q16A	Castle Valley	66.88	326	eP	P	19 13 42.8 +0.7
Q16A	Castle Valley	66.88	326	⇑P	P	19 13 43.0 +0.9
	baz=67,SNR=36					
MURC	Murrieta	66.90	318	⇓P	P	19 13 43.3 +1.2
	baz=67,SNR=21					
G28A	Parade	66.90	336	⇑P	P	19 13 41.7 -0.1
	baz=67,SNR=11					
RWWY	Rawlins	66.91	330	eP	P	19 13 48.7 +6.4
	comp=Z,859nm,1.6s					
M21A	Separation Pea	66.92	330	⇓P	P	19 13 42.9 +0.6
	baz=67,SNR=92					
H27A	Howes	66.99	335	⇑P	P	19 13 42.4 -0.1
	baz=67,SNR=31					
K23A	Bowen Ranch, D	67.00	332	P	P	19 13 43.2 +0.5
	baz=67					
J24A	Dixon Ranch, L	67.02	333	⇑P	P	19 13 43.8 +1.

ARUT Antelope Range 67.36 323 eP P 19 13 46.5 +1.4
ARUT Antelope Range 67.36 323 eP P 19 13 46.5 +1.4
comp=Z,3µm,1.2s
E30A Jud 67.36 338 ⇑P P 19 13 44.4 -0.3
baz=68,SNR=12
RSSD Black Hills 67.38 334 eP P 19 13 45.6 +0.4
RSSD pmax pmax
comp=Z,756nm,0.9s
RSSD Black Hills 67.38 334 eP P 19 13 45.5 +0.4
comp=Z,756nm,0.9s
LIC Lamto 67.39 76⇑iP P 19 13 45.0 -0.5
comp=Z,48nm,0.6s,baz=252
LIC Lamto 67.39 76 eP P 19 13 44.7 -0.8
comp=Z,111nm,0.7s
SCI San Clemente I 67.39 317 ⇑P P 19 13 46.1 +1.0
baz=68,SNR=5.5
I24A Kuemmerle Ranc 67.43 333 ⇓P P 19 13 45.9 +0.6
baz=68,SNR=71
J23A Dilts Ranch, B 67.47 332 ⇓P P 19 13 46.2 +0.6
baz=68,SNR=11
F28A McLaughlin 67.50 337 ⇓P P 19 13 45.7 +0.1
baz=68
SHPR Sheep Range 67.50 321 eP P 19 13 47.1 +1.1
comp=Z,387nm,1.2s
TIC Toumodi 67.53 76 eP P 19 13 45.5 -1.0
comp=Z,368nm,1.6s
CIS Catalina Islan 67.56 317 ⇓P P 19 13 47.3 +1.1
baz=68,SNR=10
RRX Edison Barstow 67.58 319 ⇑P P 19 13 47.7 +1.4
baz=68,SNR=11
BFSC Mount Baldy Ra 67.59 318 ⇓P P 19 13 47.6 +1.0
baz=68,SNR=40
H25A Fruitdale 67.60 334 ⇑P P 19 13 46.5 +0.2
baz=68,SNR=30
K21A Alcova 67.65 331 ⇓P P 19 13 47.6 +0.7
baz=68,SNR=164
FMP Fort Macarthur 67.68 317 ⇑P P 19 13 48.3 +1.4
baz=68
E29A Napoleon 67.68 338 ⇓P P 19 13 46.1 -0.6
baz=68
DBIC Dimbokro 67.70 76 P P 19 13 47.2 -0.2
DBIC S S 19 22 16.9 -7.2
DBIC Dimbokro 67.70 76 P P 19 13 47.2 -0.2
comp=Z,32nm,0.5s,baz=230,slow=5.8,SNR=84
DBIC S S 19 22 16.9 -7.2
comp=Z,7.0nm,1.0s,baz=340,slow=22,SNR=7.4
KIC Kosan Boka 67.70 76 eP P 19 13 46.6 -0.9
comp=Z,133nm,0.7s
L20A Wamsutter 67.70 330 ⇓P P 19 13 47.7 +0.5
baz=68,SNR=93
M19A Rock Springs 67.72 329 ⇑P P 19 13 47.4 +0.1
baz=68,SNR=30
GSC Goldstone 67.73 319 eP P 19 13 48.5 +1.2
GSC e*PP pP 19 14 49.9 +3.8
GSC pmax pmax
comp=Z,704nm,1.6s
GSC Goldstone 67.73 319 eP P 19 13 48.5 +1.2
comp=Z,704nm,1.6s
GSC epP pP 19 14 49.9 +3.8
GSC Goldstone 67.73 319 ⇑P P 19 13 48.7 +1.4
baz=68,SNR=75
G26A Maurine 67.74 335 ⇑P P 19 13 46.9 -0.3
baz=68,SNR=102
SHOC Shoshone 67.79 320 ⇓P P 19 13 48.7 +1.1
baz=68,SNR=15
D30A Buchanan 67.83 339 ⇑P P 19 13 47.2 -0.4
baz=68,SNR=31
MWC Mount Wilson 67.84 318 eP P 19 13 49.0 +0.8
MWC pmax pmax
comp=Z,860nm,1.6s
MWC Mount Wilson 67.84 318 eP P 19 13 49.0 +0.8
comp=Z,860nm,1.6s
I23A Meade Ranch, G 67.87 333 ⇓P P 19 13 48.5 +0.3
baz=68,SNR=5.0
J22A Midwest 67.90 332 ⇑P P 19 13 48.5 +0.2
baz=68,SNR=190
SNAA Sanae 67.91 162 eP P 19 13 48.9 +1.0
SNAA Sanae 67.91 162 eP P 19 13 47.9 0.0
comp=Z,136nm,1.1s
SNAA Sanae 67.91 162 P P 19 13 48.3 +0.4
comp=Z,27nm,0.8s,baz=286,slow=5.8,SNR=155
MPU Maple Canyon 67.92 326 eP P 19 13 49.2 +0.7
comp=Z,749nm,1.4s
AGMN Agassiz Nation 67.92 341 eP P 19 13 47.0 -1.1
comp=Z,269nm,1.0s
G27A Dupree 67.95 335 ⇓P P 19 13 45.8 -2.6
baz=68,SNR=31
F27A Lemmon 67.99 336 ⇓P P 19 13 48.7 0.0
baz=68,SNR=53
G25A Newell 67.99 335 ⇑P P 19 13 48.7 0.0
baz=68,SNR=60
DAU Daniels Canyon 68.00 327 eP P 19 13 50.0 +0.8
comp=Z,745nm,1.3s
DECC Green Verdugo 68.03 318 ⇓P P 19 13 50.5 +1.4
baz=68,SNR=7.9
E28A Huff 68.07 337 ⇓P P 19 13 49.3 +0.2
baz=68,SNR=36
D29A Pettibone, Tap 68.08 338 ⇑P P 19 13 48.6 -0.6
baz=68
H24A Dirks Ranch, A 68.11 334 ⇓P P 19 13 49.4 -0.1
baz=68,SNR=96
NLU North Lily Min 68.11 326 eP P 19 13 50.8 +1.0
comp=Z,321nm,1.2s
K20A Yellowstone Ra 68.19 330 ⇓P P 19 13 50.3 +0.2
baz=68,SNR=112
EDW2 Edwards Air Fo 68.21 318 ⇓P P 19 13 51.2 +0.9
baz=68,SNR=74
F26A Lodgepole 68.23 336 ⇓P P 19 13 50.4 +0.3
baz=68,SNR=85
JLU Jordanelle 68.24 327 eP P 19 13 51.3 +0.7
comp=Z,1µm,1.5s
C30A Mose, Pekin 68.25 339 ⇓P P 19 13 49.9 -0.3
baz=68,SNR=17
I22A 9 Mile Ranch, 68.28 332 ⇑P P 19 13 50.7 +0.1
baz=68,SNR=143
E27A Carson 68.28 337 ⇓P P 19 13 50.5 0.0
baz=68,SNR=15
J21A Lysite 68.29 331 ⇑P P 19 13 51.5 +0.7
baz=68,SNR=162
H23A Clabaugh Cattl 68.32 333 ⇓P P 19 13 51.1 +0.2
baz=68,SNR=10.0
LRMC Laurel Mountai 68.39 319 ⇑P P 19 13 52.8 +1.3
baz=69,SNR=110
BLG Laguna Peak 68.43 317 ⇓P P 19 13 52.6 +1.1
baz=69,SNR=15
CTU Camp Tracy 68.47 327 eP P 19 13 52.4 +0.5
comp=Z,198nm,1.2s
M17A Scullys Gap (B 68.47 328 ⇑P P 19 13 52.1 +0.1
baz=69,SNR=147
L18A Fontenelle, Gr 68.48 329 ⇑P P 19 13 52.5 +0.6
baz=69,SNR=42
FURC Furnace Creek, 68.51 320 ⇑P P 19 13 53.8 +1.8
baz=69,SNR=96
G24A Alzada 68.52 334 ⇑P P 19 13 52.2 +0.2
baz=69,SNR=7.9
OSI Osito Adit 68.52 318 ⇑P P 19 13 53.1 +0.9
baz=69
D28A Regan 68.55 338 ⇓P P 19 13 52.1 0.0
baz=69
K19A Absolon Red Bu 68.56 330 ⇓P P 19 13 52.6 +0.1
baz=69,SNR=81
I21A Big Trails, Te 68.58 332 ⇓P P 19 13 52.6 +0.1
baz=69,SNR=324
J20A Shoshoni 68.60 331 ⇑P P 19 13 53.4 +0.8
baz=69,SNR=14
F25A Bowman 68.61 335 ⇑P P 19 13 52.8 +0.3
baz=69,SNR=32
MPMC Manual Prospec 68.64 320 ⇓P P 19 13 54.1 +1.0
baz=69,SNR=119
E26A Carlson Angus 68.66 336 ⇑P P 19 13 52.7 -0.1
baz=69,SNR=34
DUG Dugway 68.68 326 eP P 19 13 54.0 +0.8
DUG pmax pmax
comp=Z,737nm,1.4s
DUG Dugway 68.68 326 eP P 19 13 54.0 +0.8
comp=Z,737nm,1.4s
DUG Dugway 68.68 326 ⇓P P 19 13 54.3 +1.1
baz=69,SNR=161
MDND Maddock 68.76 339 eP P 19 13 53.1 -0.2
MDND Maddock 68.76 339 ⇓P P 19 13 53.4 +0.1
baz=69,SNR=29
H22A Clearmont 68.77 333 ⇑P P 19 13 53.6 0.0
baz=69,SNR=14
G23A Biddle 68.83 334 ⇑P P 19 13 54.2 +0.3
baz=69,SNR=108
D27A Center 68.83 337 ⇓P P 19 13 53.9 +0.1
baz=69,SNR=9.9
B30A Myrvik Farm, E 68.84 340 ⇑P P 19 13 53.1 -0.7
baz=69,SNR=16
BW06 Boulder Array 68.86 329 eP P 19 13 54.1 -0.3
comp=Z,567nm,1.5s
PDAR Pinedale Array 68.86 329 P P 19 13 54.2 -0.1
PDAR S S 19 22 35.9 -1.5
PDAR Pinedale Array 68.86 329 P P 19 13 54.2 -0.1
comp=Z,52nm,0.7s,baz=131,slow=6.9,SNR=259
PDAR S S 19 22 35.9 -1.5
comp=Z,0.5nm,0.3s,baz=150,slow=9.3,SNR=6.5
ARVC Arvin 68.90 318 ⇓P P 19 13 55.9 +1.4
baz=69,SNR=29
C28A Hausauer Farms 68.92 338 ⇓P P 19 13 54.1 -0.3
baz=69,SNR=5.6
F24A Ekalaka 68.94 335 ⇑P P 19 13 54.7 +0.1
baz=69,SNR=34
R11A Troy Canyon, C 68.98 323 eP P 19 13 56.4 +1.2
R11A Troy Canyon, C 68.98 323 ⇓P P 19 13 56.8 +1.6
baz=69,SNR=236
J19A Crowheart 68.99 330 ⇑P P 19 13 55.5 +0.4
baz=69,SNR=222
ISA Isabella 69.01 319 eP P 19 13 56.4 +1.2
ISA pmax pmax
comp=Z,991nm,1.8s
ISA Isabella 69.01 319 eP P 19 13 56.4 +1.2
comp=Z,991nm,1.8s
ISA Isabella 69.01 319 ⇓P P 19 13 56.7 +1.5
baz=69,SNR=102
HWUT Hardware Ranch 69.03 327 eP P 19 13 55.5 +0.1
comp=Z,140nm,0.7s
E25A Miller Ranch, 69.05 336 ⇓P P 19 13 55.4 +0.2
baz=69,SNR=29
SBC Santa Barbara 69.05 317 ⇓P P 19 13 56.3 +0.9
baz=69
I20A Worland 69.08 331 ⇑P P 19 13 55.9 +0.4
baz=69,SNR=40
H21A Big Horn, Sher 69.10 332 ⇓P P 19 13 55.5 -0.1
baz=69,SNR=63
D26A Manning 69.11 337 ⇑P P 19 13 55.7 +0.1
baz=69,SNR=16
GRAC Grapevine Rang 69.17 321 ⇑P P 19 13 57.8 +1.6
baz=69,SNR=54
B29A Wagenman Farm, 69.20 339 ⇑P P 19 13 56.0 -0.1
baz=69
G22A Birney 69.23 333 ⇓P P 19 13 56.4 0.0
baz=69,SNR=60
F23A Volborg 69.25 334 ⇑P P 19 13 56.7 +0.3
baz=69,SNR=117
CWC Cottonwood Cre 69.25 320 ⇑P P 19 13 58.3 +1.5
baz=69,SNR=28
A30A Hoffart Farm, 69.26 340 ⇓P P 19 13 55.7 -0.7
baz=69,SNR=14
SPUT South Promonto 69.28 327 eP P 19 13 57.3 +0.4
comp=Z,507nm,1.4s
BGU Big Grassy Mou 69.31 326 eP P 19 13 57.6 +0.5
comp=Z,418nm,1.3s
C27A Sayler Ranch, 69.33 337 ⇓P P 19 13 57.0 +0.2
baz=70,SNR=5.8
PKM Peak Mountain 69.40 317 ⇓P P 19 13 59.2 +1.4
baz=70,SNR=31
H20A Greybull 69.43 332 ⇓P P 19 13 57.6 0.0
baz=70,SNR=53
E24A Baker 69.47 335 ⇑P P 19 13 58.3 +0.6
baz=70,SNR=32
VES Vestal, Richgr 69.51 319 ⇑P P 19 13 59.5 +1.4
baz=70,SNR=57
B28A Dugan Ranch, T 69.54 339 ⇓P P 19 13 57.9 -0.2
baz=70,SNR=11
I19A Meeteetse 69.55 331 ⇓P P 19 13 58.8 +0.3
baz=70
D25A Fairfield 69.55 336 ⇓P P 19 13 59.0 +0.7
baz=70,SNR=14
A29A Manning Farm, 69.56 340 ⇑P P 19 13 57.5 -0.7
baz=70,SNR=22
AHID Auburn Hatcher 69.63 329 eP P 19 13 59.2 +0.2
comp=Z,269nm,0.9s
G21A Lodge Grass 69.64 333 P P 19 13 58.9 0.0
baz=70
C26A Wahner Farm, P 69.64 337 ⇓P P 19 13 58.9 +0.1
baz=70,SNR=16
F22A Rosebud 69.66 333 ⇑P P 19 13 59.2 +0.2
baz=70,SNR=73
ULM Lac du Bonnet 69.66 342 eP P 19 13 57.2 -1.6
comp=Z,233nm,0.9s
ULM Lac du Bonnet 69.66 342 P P 19 13 57.5 -1.2
comp=Z,106nm,0.4s,baz=152,slow=5.9,SNR=113
TIN Tinemaha 69.73 320 ⇓P P 19 14 01.2 +1.5
baz=70,SNR=12
SMMC Simmler 69.77 318 ⇑P P 19 14 01.6 +1.8
baz=70,SNR=28
HVU Hansel Valley 69.78 327 eP P 19 13 60.0 +0.1
comp=Z,374nm,1.1s
B27A Peters Farms, 69.82 338 ⇓P P 19 13 59.9 +0.1
baz=70,SNR=8.2
E23A Ismay 69.83 334 ⇑P P 19 13 59.8 -0.1
baz=70,SNR=64
RCTC Rector, Farmer 69.90 319 ⇑P P 19 14 01.1 +0.6
baz=70,SNR=15
A28A Rude Farm, Bot 69.90 339 ⇓P P 19 13 59.7 -0.6
baz=70
D24A Glendive 69.92 335 P P 19 14 01.0 +0.5
baz=70
REDW Red Top Meadow 69.94 329 eP P 19 14 01.3 +0.4
comp=Z,381nm,1.3s
SNOW Snow King Moun 69.97 329 eP P 19 14 01.6 +0.4
comp=Z,157nm,0.9s
C25A Freed Ranch, W 69.99 336 P P 19 14 01.2 +0.3
baz=70
LOHW Long Hollow 70.00 329 eP P 19 14 01.7 +0.4
comp=Z,323nm,1.3s
H19A Powell 70.02 331 ⇑P P 19 14 01.5 +0.2
baz=70,SNR=25
E22A Miles City 70.05 334 ⇑P P 19 14 01.2 -0.1
baz=70,SNR=6.1
F21A Absaloka Mine, 70.07 333 ⇑P P 19 14 01.7 +0.3
baz=70,SNR=48
TPAW Teton Pass 70.08 329 eP P 19 14 02.2 +0.4
comp=Z,366nm,1.3s
G20A Bridger 70.09 332 ⇓P P 19 14 01.5 -0.2
baz=70,SNR=71
B26A Jensen Ranch, 70.15 337 ⇓P P 19 14 02.0 +0.1
baz=70,SNR=21
RRI2 Red Ridge 70.16 329 eP P 19 14 02.9 +0.6
comp=Z,510nm,0.9s
MOOW Moose Ponds 70.17 329 eP P 19 14 02.6 +0.2
comp=Z,401nm,1.5s
I17A Pilgrim Ck. 70.22 330 ⇓P P 19 14 03.8 +1.2
baz=70,SNR=22
A27A Ledoux Ranch, 70.28 338 ⇑P P 19 14 02.7 +0.2
baz=70,SNR=21
SCHQ Schefferville 70.28 2 eP P 19 14 01.4 -1.1
comp=Z,145nm,1.1s
SCHQ Schefferville 70.28 2 P P 19 14 01.4 -1.0
comp=Z,90nm,0.9s,baz=184,slow=5.6,SNR=61
C24A Savage 70.30 336 ⇓P P 19 14 03.3 +0.5
baz=70,SNR=31
D23A Lindsay 70.33 335 ⇓P P 19 14 03.7 +0.7
baz=70,SNR=46
H18A Shoshone NF, C 70.34 331 ⇓P P 19 14 03.6 +0.3
baz=70,SNR=142
LAO LASA Array 70.36 334 eP P 19 14 03.3 +0.1
comp=Z,952nm,1.5s
IMW Indian Meadow 70.38 329 eP P 19 14 04.3 +0.7
comp=Z,484nm,1.2s
ELK Elko 70.40 325 eP P 19 14 04.3 +0.5
comp=Z,191nm,1.3s
FLWY Flagg Ranch 70.40 330 eP P 19 14 04.5 +0.9
comp=Z,544nm,1.0s
B25A Knox Farm, Ray 70.41 337 ⇑P P 19 14 04.1 +0.7
baz=71,SNR=12
MLAC Mammoth Lakes 70.47 320 ⇑P P 19 14 05.8 +1.5
baz=71,SNR=28
RLMT Red Lodge 70.50 331 eP P 19 14 04.1 -0.2
comp=Z,764nm,1.7s
F20A Billings 70.50 332 ⇓P P 19 14 04.5 +0.4
baz=71,SNR=28
A26A Wade Farm, Ken 70.52 338 ⇑P P 19 14 04.0 0.0
baz=71,SNR=10
NV11 Mina Array Sit 70.56 321 eP P 19 14 05.6 +0.9
H17A Grant Village 70.57 330 eP P 19 14 06.1 +1.4
H17A Grant Village 70.57 330 ⇑P P 19 14 06.0 +1.2
baz=71,SNR=23
E21A Keefer Ranch, 70.61 333 ⇑P P 19 14 05.2 +0.5
baz=71,SNR=31
LKWY Lake 70.61 330 eP P 19 14 06.7 +1.7
LKWY pmax pmax
comp=Z,501nm,1.3s
LKWY Lake 70.61 330 eP P 19 14 06.7 +1.7
comp=Z,501nm,1.3s
NVAR Mina Array Bea 70.65 321 P P 19 14 06.5 +1.2
NVAR Mina Array Bea 70.65 321 P P 19 14 06.5 +1.2
comp=Z,88nm,1.0s,baz=143,slow=6.3,SNR=206
D22A Cohagen 70.71 334 ⇑P P 19 14 06.0 +0.8
baz=71,SNR=64
YFT Old Faithful 70.74 330 eP P 19 14 07.5 +1.8
comp=Z,320nm,1.2s
C23A Lambert 70.82 335 ⇓P P 19 14 06.2 +0.3
baz=71,SNR=45
YNR Norris Junctio 70.86 330 eP P 19 14 07.7 +1.2
comp=Z,126nm,1.0s
F19A Roth Farm, Mol 70.90 332 ⇓P P 19 14 07.0 +0.4
baz=71,SNR=236
A25A Svangstu Ranch 70.94 337 ⇑P P 19 14 06.9 +0.3
baz=71,SNR=33
YMR Madison River 70.96 330 eP P 19 14 08.6 +1.5
comp=Z,1µm,1.6s
DGMT Dagmar 70.97 336 eP P 19 14 07.2 +0.4
comp=Z,460nm,1.3s
DGMT Dagmar 70.97 336 ⇑P P 19 14 07.3 +0.6
baz=71,SNR=13
D21A La Casta Ranch 70.98 334 ⇑P P 19 14 07.7 +0.8
baz=71,SNR=39
E20A Meyer Farm, Mu 71.04 333 ⇓P P 19 14 08.0 +0.7
baz=71,SNR=164
C22A Vida 71.06 335 ⇑P P 19 14 07.7 +0.3
baz=71,SNR=28
GCMT Greycliff 71.19 331 eP P 19 14 08.8 +0.6
comp=Z,275nm,1.1s
A24A Westby 71.27 337 ⇑P P 19 14 09.2 +0.7
baz=71,SNR=22
B23A Brockton 71.28 336 ⇓P P 19 14 09.3 +0.7
baz=72,SNR=61
E19A Rath Farm, Rou 71.30 332 ⇑P P 19 14 09.4 +0.6
baz=72,SNR=201
QLMT Earthquake Lak 71.30 330 eP P 19 14 10.4 +1.3
comp=Z,39nm,1.3s
BMN Battle Mountai 71.31 323 eP P 19 14 09.2 0.0
BMN pmax pmax
comp=Z,155nm,1.4s
BMN Battle Mountai 71.31 323 eP P 19 14 09.2 0.0
comp=Z,155nm,1.4s
WAKR Walker 71.39 321 eP P 19 14 11.3 +1.6
comp=Z,616nm,1.6s
D20A Manuel Ranch, 71.49 333 ⇓P P 19 14 10.3 +0.4
baz=72,SNR=40
B22A Reddig Ranch S 71.55 335 ⇑P P 19 14 10.7 +0.5
baz=72,SNR=21
SAO San Andreas Ge 71.58 318 eP P 19 14 11.5 +0.8
SAO pmax pmax
comp=Z,352nm,1.7s
SAO San Andreas Ge 71.58 318 eP P 19 14 11.4 +0.8
comp=Z,352nm,1.7s
C21A Desert Coulee 71.62 334 ⇑P P 19 14 11.1 +0.4
baz=72,SNR=26
A23A Redstone 71.63 336 ⇑P P 19 14 11.3 +0.6
baz=72,SNR=22
CMB Columbia Colle 71.68 320 eP P 19 14 11.8 +0.6
CMB pmax pmax
comp=Z,183nm,1.4s
CMB Columbia Colle 71.68 320 eP P 19 14 11.8 +0.6
comp=Z,183nm,1.4s
D19A Cripps Ranch, 71.88 333 ⇑P P 19 14 12.5 +0.3
baz=72,SNR=139
HLID Hailey 71.89 327 ⇑P P 19 14 13.9 +1.3
baz=72,SNR=111
C20A Veseth Ranch, 71.92 334 ⇑P P 19 14 12.3 -0.1
baz=72,SNR=18
MCMT McKenzie Canyo 72.00 329 eP P 19 14 14.2 +1.0
comp=Z,169nm,1.2s
B21A Ellsworth Farm 72.06 335 ⇑P P 19 14 13.9 +0.6
baz=72,SNR=34
A22A Carney Farms, 72.07 336 ⇓P P 19 14 13.8 +0.5
baz=72,SNR=30
PAHR Pah Rah Range 72.11 322 eP P 19 14 15.2 +1.3
comp=Z,449nm,0.9s
LCCM Lewis and Clar 72.25 330 P P 19 14 15.2 +0.5
DLMT Dillon 72.26 330 eP P 19 14 15.2 +0.6
comp=Z,473nm,1.6s
C19A Slack Wire Ran 72.39 333 ⇑P P 19 14 15.7 +0.5
baz=73,SNR=129
MAIT Maitri 72.39 160 eP P 19 14 14.2 -0.7
A21A Bergtoll Ranch 72.47 335 ⇑P P 19 14 16.0 +0.3
baz=73,SNR=14
B20A Solberg Farm, 72.49 334 ⇓P P 19 14 16.1 +0.3
baz=73,SNR=19
LRM Limekiln Ridge 72.52 330 eP P 19 14 16.8 +0.5
comp=Z,1µm,1.3s
MFID Camas Ranch 72.54 326 ⇓P P 19 14 17.7 +1.4
baz=73,SNR=201
SAC San Andreas 72.69 318 eP P 19 14 18.5 +1.3
SAC pmax pmax
comp=Z,232nm,1.0s
SAC San Andreas 72.69 318 eP P 19 14 18.5 +1.3
comp=Z,232nm,1.0s
A20A Cobblestone Ra 72.79 335 ⇑P P 19 14 17.8 +0.2
baz=73,SNR=6.9
BEKR Beckworth 72.80 321 eP P 19 14 19.1 +1.1
comp=Z,126nm,1.2s
HRY Holter Researc 72.87 331 eP P 19 14 18.9 +0.7
comp=Z,182nm,1.0s
B19A Brinkman Farms 72.89 334 ⇓P P 19 14 18.5 +0.3
baz=73,SNR=76
EGMT Eagleton 72.91 333 eP P 19 14 17.9 -0.4
comp=Z,622nm,1.4s
EGMT Eagleton 72.91 333 ⇑P P 19 14 18.6 +0.2
baz=73,SNR=58
A19A Klindworth Far 73.17 334 ⇑P P 19 14 20.2 +0.3
baz=73,SNR=41
MCCM Marconi Confer 73.32 319 eP P 19 14 21.9 +1.1
comp=Z,207nm,1.0s
WVOR Wild Horse Val 73.42 324 eP P 19 14 22.0 +0.5
WVOR pmax pmax
comp=Z,311nm,1.6s
WVOR Wild Horse Val 73.42 324 eP P 19 14 22.0 +0.5
comp=Z,311nm,1.6s
CHMT Chamberlain Mo 73.69 330 eP P 19 14 23.5 +0.4
comp=Z,282nm,1.7s
HOPS Hopland 73.94 319 eP P 19 14 25.8 +1.3
comp=Z,448nm,1.7s
MSO Missoula 73.96 330 ⇑P P 19 14 25.7 +1.2
baz=74,SNR=128
MOD Modoc 74.04 323 eP P 19 14 26.0 +0.9
comp=Z,2µm,1.2s
SLMT Seeley Lake 74.04 330 eP P 19 14 24.2 -0.9
comp=Z,207nm,1.2s
BMO Blue Mountains 74.29 327 eP P 19 14 27.2 +0.7
BMO pmax pmax
comp=Z,372nm,1.2s
BMO Blue Mountains 74.29 327 eP P 19 14 27.2 +0.7
comp=Z,372nm,1.2s
QSPA South Pole Qui 74.47 180 eP P 19 14 27.4 +0.2
comp=Z,93nm,1.2s
QSPA South Pole Qui 74.47 180 P P 19 14 27.7 +0.5
comp=Z,30nm,0.6s,baz=155,slow=2.0,SNR=268
SWMT Swartz Lake 74.47 330 eP P 19 14 27.8 +0.4
comp=Z,177nm,1.3s
WDC Whiskeytown Da 74.55 321 eP P 19 14 27.1 -0.8
WDC pmax pmax
comp=Z,98nm,1.0s
WDC Whiskeytown Da 74.55 321 eP P 19 14 27.1 -0.8
comp=Z,98nm,1.0s
KCPM Cahto Peak 74.67 320 eP P 19 14 30.1 +1.4
comp=Z,389nm,1.7s
KIPM Iron Peak 74.67 320 eP P 19 14 30.3 +1.5
comp=Z,1µm,1.9s
YBMT Yellow Bay 74.73 331 eP P 19 14 29.6 +0.7
comp=Z,73nm,1.0s
JTMT Jette 74.78 330 eP P 19 14 29.9 +0.7
comp=Z,110nm,1.1s
BLMT Blacktail Moun 75.00 331 eP P 19 14 31.4 +0.8
comp=Z,579nm,1.6s
BSMT Bassoo Peak 75.09 330 eP P 19 14 31.7 +0.6
comp=Z,178nm,1.4s
YBH Yreka Blue Hor 75.35 322 eP P 19 14 32.2 -0.3
comp=Z,124nm,1.1s
FFC Flin Flon 75.40 341 eP P 19 14 31.8 -0.6
FFC pmax pmax
comp=Z,251nm,1.3s
FFC Flin Flon 75.40 341 eP P 19 14 31.8 -0.6
comp=Z,251nm,1.3s
KHMM Horse Mountain 75.46 320 eP P 19 14 34.7 +1.4
comp=Z,390nm,1.2s
WALA Waterton Lakes 75.54 332 eP P 19 14 33.6 +0.1
comp=Z,7.3nm,1.3s
KTRM Thompson Ridge 75.85 322 P P 19 14 36.8 +1.4
KRMB Red Mountain 75.94 321 eP P 19 14 37.2 +1.2
comp=Z,429nm,1.6s

TOA0 Torodi Ar. Sit 75.96 72 *eP* **P 19 14 35.7 -0.8**
TORD Torodi Ar. Bea 75.96 72 P **P 19 14 36.0 -0.5**
TORD S **S 19 23 53.4 -4.8**
TORD Torodi Ar. Bea 75.96 72 P **P 19 14 36.0 -0.5**
comp=Z,194nm,0.8s,baz=273,slow=5.1,SNR=928
TORD S **S 19 23 53.4 -4.8**
comp=Z,13nm,1.1s,baz=257,slow=9.2,SNR=15
HUMO Hull Mountain 76.02 322 *eP* **P 19 14 36.1 -0.2**
comp=Z,81nm,1.1s
HAWA Hanford 76.48 327 *eP* **P 19 14 39.8 +1.0**
comp=Z,480nm,1.3s
NEW Newport 76.51 329 *eP* **P 19 14 38.8 -0.1**
comp=Z,132nm,1.4s
NEW Newport 76.51 329 ⇓P **P 19 14 38.9 0.0**
baz=77,SNR=26
KBO Bosley Butte 76.54 321 *eP* **P 19 14 41.1 +1.8**
comp=Z,1μm,1.7s
OD2 Odessa Site #2 76.71 328 P **P 19 14 41.2 +1.2**
DPW Davenport 76.78 329 P **P 19 14 41.5 +1.1**
DPW Davenport 76.78 329 P **P 19 14 41.5 +1.1**
VFP Flag Point 76.84 325 P **P 19 14 42.5 +1.5**
FCC Fort Churchill 76.89 347 *eP* **P 19 14 39.8 -0.8**
FCC Fort Churchill 76.89 347 *eP* **P 19 14 39.8 -0.8**
comp=Z,2.7nm,1.0s
KEBM Edson Butte 77.00 322 *eP* **P 19 14 43.2 +1.5**
comp=Z,1μm,1.5s
COR Corvallis 77.42 324 *eP* **P 19 14 45.5 +1.6**
COR pmax pmax
comp=Z,6μm,1.5s
COR Corvallis 77.42 324 *eP* **P 19 14 45.5 +1.6**
comp=Z,6μm,1.5s
MPOR Mary's Peak 77.51 324 P **P 19 14 46.5 +1.9**
PFVI Vila Bisbo 77.52 45 *i P* **P 19 14 45.7 +1.0**
comp=Z,154nm,1.6s
PFVI *eS* **S 19 24 16.9 +2.7**
WTV Waterville 77.55 328 P **P 19 14 45.8 +1.1**
LTY Liberty 77.64 327 P **P 19 14 46.3 +1.1**
B08A Colville Reser 77.67 329 P **P 19 14 45.7 +0.4**
ETW Entiat 77.69 327 P **P 19 14 46.8 +1.2**
MORF Marmelete 77.73 45 *i P* **P 19 14 47.1 +1.2**
comp=Z,168nm,1.9s
MORF *eS* **S 19 24 17.6 +1.0**
WPW White Pass 77.75 326 P **P 19 14 47.0 +1.1**
PTEO Sao Teotonio 77.80 45 *i P* **P 19 14 47.6 +1.4**
comp=Z,376nm,1.7s
LON Longmire 77.92 326 *eP* **P 19 14 47.3 +0.5**
LON pmax pmax
comp=Z,201nm,1.4s
LON Longmire 77.92 326 *eP* **P 19 14 47.3 +0.5**
comp=Z,201nm,1.4s
PMST Lisbon--Monsan 78.11 44 *eP* **P 19 14 49.1 +1.2**
comp=Z,142nm,1.7s
LIS Lisbon 78.12 44 *eP* **P 19 14 48.8 +0.9**
LIS AMb AMB 19 14 52.6
comp=Z,151nm,1.3s
LIS Lisbon 78.12 44 *eP* **P 19 14 48.8 +0.9**
comp=Z,151nm,1.3s
PMAFR Mafra 78.15 44 *i P* **P 19 14 48.9 +0.8**
comp=Z,172nm,1.8s
PMAFR *eS* **S 19 24 23.7 +2.8**
PBDV Barranco-do-Ve 78.19 46 *i P* **P 19 14 49.7 +1.3**
comp=Z,171nm,1.5s
PBDV *eS* **S 19 24 22.9 +1.4**
PNCL Nicolau / Gran 78.22 45 *i P* **P 19 14 49.6 +1.1**
comp=Z,126nm,2.0s
PNCL *eS* **S 19 24 23.5 +1.9**
PNCL *esS* **sS 19 26 10.5 +2.4**
PCVE Castro Verde 78.31 45 *i P* **P 19 14 50.2 +1.2**
comp=Z,138nm,1.7s
EDM Edmonton 78.32 335 *eP* **P 19 14 48.1 -0.7**
EDM Edmonton 78.32 335 *eP* **P 19 14 48.0 -0.7**
PACT Alcochete 78.36 44 *i P* **P 19 14 50.3 +1.1**
PVAQ Vaqueiros 78.42 46 *i P* **P 19 14 50.6 +1.0**
comp=Z,94nm,1.9s
PVAQ *eS* **S 19 24 24.0 +0.2**
PVAQ *esS* **sS 19 26 10.2 -0.1**
BMW Boistfort Moun 78.52 325 P **P 19 14 51.5 +1.4**
BMW Boistfort Moun 78.52 325 P **P 19 14 51.5 +1.4**
EVO Evora 78.79 45⇑*iP* **P 19 14 52.0 +0.4**
comp=Z,150nm,1.0s
EVO Evora 78.79 45 *i P* **P 19 14 52.4 +0.8**
comp=Z,119nm,1.6s
RPW Rockport 78.83 328 P **P 19 14 52.0 +0.3**
JCW Jim Creek 78.89 327 P **P 19 14 52.2 +0.2**
PMTG Montargil 78.92 44 *i P* **P 19 14 53.0 +0.7**
comp=Z,203nm,1.6s
PMTG *eS* **S 19 24 27.4 -1.5**
PTOM Tomar 79.07 43 *i P* **P 19 14 53.6 +0.5**
HDW Hoodsport 79.14 326 P **P 19 14 54.7 +1.3**
FRB Frobisher Bay 79.19 0 P **P 19 14 52.0 -1.1**
FRB Frobisher Bay 79.19 0 P **P 19 14 52.0 -1.1**
comp=Z,112nm,1.1s,baz=177,slow=5.2,SNR=13
PESTR Estremoz 79.24 44 *i P* **P 19 14 54.9 +0.8**
comp=Z,144nm,1.6s
MBW Mount Baker 79.25 328 P **P 19 14 54.4 +0.3**
PBAR Barrancos 79.27 45 *i P* **P 19 14 55.0 +0.8**
comp=Z,104nm,1.4s
BLN Blyn Mountain 79.32 327 P **P 19 14 56.0 +1.7**
NLWA Neilton Lookou 79.43 326 *eP* **P 19 14 56.6 +1.7**
comp=Z,994nm,1.6s
PMRV Marv??o 79.66 44 *i P* **P 19 14 56.3 0.0**
comp=Z,44nm,1.6s
PMRV *eS* **S 19 24 36.0 -0.8**
PMRV *esS* **sS 19 26 26.6 +3.0**
PCBR Castelo Branco 79.81 44 *i P* **P 19 14 57.1 +0.1**
comp=Z,78nm,1.4s
PGC Sidney 79.97 327 *eP* **P 19 14 58.9 +1.2**
comp=Z,78nm,1.6s
PVIS Viseu 79.97 43 *i P* **P 19 14 58.1 +0.1**
comp=Z,96nm,1.4s
MTE Manteigas 80.04 43 *i P* **P 19 14 58.8 +0.4**
comp=Z,130nm,1.1s
MTE *eS* **S 19 24 41.9 +1.0**
MTE *esS* **sS 19 26 28.4 +0.6**
MTE Manteigas 80.04 43 *eP* **P 19 14 58.6 +0.2**
comp=Z,74nm,0.9s
PGAV Gavieira, Arco 80.37 42 *i P* **P 19 15 00.3 +0.1**
comp=Z,118nm,1.7s
PGAV *eS* **S 19 24 43.6 -0.7**
PGAV *esS* **sS 19 26 33.0 +1.7**
POLO Lamas de Olo 80.38 42 *i P* **P 19 15 00.3 +0.1**
comp=Z,30nm,1.3s
POLO *eS* **S 19 24 41.9 -2.4**
POLO *esS* **sS 19 26 31.0 -0.4**
PVRL Vila Real 80.38 42 *eP* **P 19 15 00.5 +0.4**
comp=Z,85nm,2.0s
PCAB Cabril 80.40 42 *i P* **P 19 15 00.5 +0.3**
comp=Z,127nm,1.3s
MVO Moncorvo 80.77 43 *i P* **P 19 15 02.6 +0.4**
comp=Z,106nm,2.2s
MVO *eS* **S 19 24 48.1 -0.2**
MVO *esS* **sS 19 26 36.5 +1.0**
PBRG Braganca 81.28 42 *i P* **P 19 15 05.4 +0.5**
comp=Z,162nm,1.6s
SBA Scott Base 81.42 190 *eP* **P 19 15 06.1 +1.1**
SBA pmax pmax
comp=Z,46nm,1.2s
SBA Scott Base 81.42 190 *eP* **P 19 15 06.0 +1.1**
comp=Z,46nm,1.2s
PAB San Pablo 81.77 45 *eP* **P 19 15 08.2 +0.6**
PAB pmax pmax
comp=Z,529nm,0.9s
PAB San Pablo 81.77 45 *eP* **P 19 15 08.2 +0.6**
comp=Z,529nm,0.9s
SUR Sutherland 81.97 121 *eP* **P 19 15 09.3 +0.2**
SUR Sutherland 81.97 121 P **P 19 15 09.3 +0.2**
comp=Z,45nm,0.8s,baz=260,slow=3.9,SNR=12
SYO Syowa Base 82.09 160⇑*eP* **P 19 15 07.7 -0.9**
SYO Syowa Base 82.09 160⇓*eP* P 19 15 14.4 +5.8
SYO Syowa Base 82.09 160 *eSH* **S 19 25 01.0 +0.1**
ESDC Sonseca Array 82.09 45 P **P 19 15 09.9 +0.7**
ESDC Sonseca Array 82.09 45 P **P 19 15 09.9 +0.7**
comp=Z,29nm,0.7s,baz=251,slow=5.0,SNR=43
ESLA Sonseca Array 82.09 45 *eP* **P 19 15 09.6 +0.4**
comp=Z,129nm,1.6s
TSUM Tsumeb 82.24 108 P **P 19 15 11.8 +1.2**
TSUM pP **pP 19 16 11.2 -0.5**
TSUM Tsumeb 82.24 108 P **P 19 15 11.8 +1.2**
comp=Z,85nm,0.8s,baz=252,slow=4.7,SNR=94
TSUM pP **pP 19 16 11.2 -0.5**
comp=Z,20nm,0.9s,baz=280,slow=5.9,SNR=1.8
VNDA Vanda 82.45 190 P **P 19 15 11.4 +1.1**
VNDA pP **pP 19 16 10.8 -0.7**
VNDA PKKPbc **PKKPbc 19 33 33.7 -4.0**
VNDA Vanda 82.45 190 P **P 19 15 11.4 +1.1**
comp=Z,10nm,0.8s,baz=135,slow=5.2,SNR=70
VNDA pP **pP 19 16 10.8 -0.7**
comp=Z,8.4nm,1.0s,baz=207,slow=6.8,SNR=1.4
VNDA PKKPbc **PKKPbc 19 33 33.7 -4.0**
comp=Z,0.4nm,0.4s,baz=34,slow=1.5,SNR=5.6
TAM Tamanrasset 82.70 64 *eP* **P 19 15 13.7 +0.9**
TAM pmax pmax
comp=Z,51nm,1.2s
TAM Tamanrasset 82.70 64 *eP* **P 19 15 13.7 +0.9**
comp=Z,51nm,1.2s
SFJD Kangerlussuaq 83.62 7 *i P* **P 19 15 15.3 -1.0**
comp=Z,20nm,0.9s
SFJD Kangerlussuaq 83.62 7 P **P 19 15 15.5 -0.8**
SFJD Kangerlussuaq 83.62 7 P **P 19 15 15.5 -0.8**
comp=Z,26nm,0.9s,baz=213,slow=6.7,SNR=7.4
VAL Valentia 84.60 32⇓*iP* **P 19 15 22.0 +0.5**
VAL *ePP* **pP 19 16 27.5 +4.5**
SJPF Ste Jean 85.49 43⇑*iP* **P 19 15 26.7 +0.5**
comp=Z,57nm,0.8s
SJPF *epP* **pP 19 16 32.1 +4.3**
OSSF Osses 85.53 43⇑*eP* **P 19 15 26.3 -0.1**
YKA Yellowknife Ar 85.57 341 P **P 19 15 25.9 -0.1**
YKA pP **pP 19 16 29.2 +1.5**
YKA Yellowknife Ar 85.57 341 P **P 19 15 25.9 -0.1**
comp=Z,31nm,0.5s,baz=131,slow=4.9,SNR=122
YKA pP **pP 19 16 29.2 +1.5**
comp=Z,13nm,0.8s,baz=134,slow=5.1,SNR=2.4
LARF Larrau 85.61 43⇑*eP* **P 19 15 27.6 +0.7**
YKW3 Yellowknife Ar 85.62 341 *eP* **P 19 15 26.1 -0.2**
comp=Z,5.5nm,1.2s
ORDF Ordiarp 85.72 43⇑*eP* **P 19 15 27.2 -0.1**
ATE Arette 85.82 43⇑*eP* **P 19 15 28.2 +0.3**
ETSF Etsaut 85.83 43⇑*iP* **P 19 15 28.4 +0.4**
comp=Z,117nm,0.8s
REYF Montagne du Re 86.02 43⇑*eP* **P 19 15 29.5 +0.6**
BST Brest 86.11 37⇑*eP* **P 19 15 28.9 -0.2**
VIEF Viey 86.22 44⇑*eP* **P 19 15 30.4 +0.5**
LABF Labassere 86.32 43 *eP* **P 19 15 30.7 +0.4**
CCA1 Carnmenellis 86.37 35 *eP* **P 19 15 28.1 -2.2**
CCA1 AMB AMB 19 15 30.5
comp=Z,38nm,1.1s
RESF Ens 86.39 44⇑*eP* **P 19 15 31.4 +0.6**
QUIF Quistinic 86.46 38⇑*iP* **P 19 15 30.0 -0.8**
comp=Z,130nm,0.9s
EPF Esparros 86.49 44⇑*iP* **P 19 15 31.3 +0.2**
comp=Z,69nm,0.7s
ROSF Rostrenen 86.59 38⇑*iP* **P 19 15 30.7 -0.7**
comp=Z,71nm,0.8s
ROSF *epP* **pP 19 16 35.9 +2.7**
BOSA Boshof 86.64 119 *eP* **P 19 15 32.2 -0.2**
comp=Z,20nm,0.9s
BOSA *epP* **pP 19 16 34.0 -0.1**
BOSA pP **pP 19 16 36.4 +2.2**
BOSA Boshof 86.64 119 P **P 19 15 32.9 +0.5**
comp=Z,10nm,0.7s,baz=258,slow=3.7,SNR=23
BOSA pP **pP 19 16 36.4 +2.2**
comp=Z,16nm,0.9s,baz=248,slow=5.2,SNR=4.9
MELF Melles 86.70 44 *eP* **P 19 15 33.0 +0.8**
MLS Moulis 86.96 44⇑*eP* **P 19 15 33.7 +0.3**
SGMF Saint Gilles 86.98 38⇑*iP* **P 19 15 32.3 -1.0**
comp=Z,75nm,1.0s
DYA Yadsworthy 87.21 36 *eP* **P 19 15 33.3 -1.1**
DYA AMB AMB 19 15 34.2
comp=Z,36nm,1.3s
VALF Valcebollere 87.35 45⇑*eP* **P 19 15 35.7 +0.3**
CARF Carcanieres 87.54 44⇑*eP* **P 19 15 36.4 +0.2**
LFF La Frestale 87.56 42⇑*iP* **P 19 15 35.7 -0.4**
comp=Z,200nm,0.9s
JSA Saint Aubin 87.64 37 *eP* **P 19 15 35.3 -1.1**
JSA AMB AMB 19 15 36.2
comp=Z,66nm,1.1s
MFF Saint Martin d 87.71 40⇑*iP* **P 19 15 36.2 -0.6**
comp=Z,138nm,0.9s
MFF *epP* **pP 19 16 41.5 +2.7**
MTLF Montolieu 87.87 44⇑*iP* **P 19 15 37.2 -0.4**
comp=Z,125nm,0.9s
MTLF *epP* **pP 19 16 42.5 +2.9**
LRDF Laroque-de-Fa 87.92 44⇑*eP* **P 19 15 37.6 -0.3**
LBTB Lobatse 87.92 115 *eP* **P 19 15 39.2 +0.6**
comp=Z,35nm,1.2s
LBTB *epP* **pP 19 16 40.0 -0.5**
LPW Lampeter 87.95 34 *eP* **P 19 15 36.4 -1.3**
SJAF Saint Jean de 87.97 45⇑*eP* **P 19 15 38.0 -0.2**
GMM Mts of Mourne 88.01 32⇑*eP* **P 19 15 37.3 -0.7**
GRR Gorron 88.05 38⇑*iP* **P 19 15 37.4 -0.9**
comp=Z,259nm,0.8s
BORG Borgarnes 88.11 19 *eP* **P 19 15 39.6 +1.5**
comp=Z,148nm,1.3s
BORG Borgarnes 88.11 19 P **P 19 15 39.7 +1.5**
comp=Z,78nm,1.1s,baz=226,slow=4.4,SNR=9.5
YRE Yr Eifl 88.18 33⇑*eP* **P 19 15 37.7 -1.1**
RJF Les Rejaudoux 88.21 42⇑*iP* **P 19 15 38.5 -0.7**
comp=Z,109nm,1.0s
YRC Rhoscolyn 88.23 33⇑*eP* **P 19 15 38.3 -0.7**
WLF1 Llynfaes 88.34 33 *eP* **P 19 15 38.4 -1.2**
WLF1 AMB AMB 19 15 39.9
comp=Z,42nm,0.9s
CAF Calviac 88.41 42⇑*iP* **P 19 15 39.7 -0.5**
comp=Z,102nm,0.9s
CAF *epP* **pP 19 16 45.0 +2.7**
FLN La Foliniere 88.44 38⇑*iP* **P 19 15 39.4 -0.8**
comp=Z,201nm,0.8s
FLN *epP* **pP 19 16 44.6 +2.3**
WME Myndd Eilian 88.44 33⇑*eP* **P 19 15 39.2 -0.8**
MCH1 Michaelchurch 88.47 35 *eP* **P 19 15 38.0 -2.2**
MCH1 AMB AMB 19 15 39.7
comp=Z,44nm,1.9s
LDF La Druitiere 88.58 38⇑*iP* **P 19 15 40.0 -0.8**
comp=Z,240nm,0.9s
WPM1 Penmaenmawr 88.58 33⇑*eP* **P 19 15 39.7 -1.1**
CRAG Craig 88.73 329 *eP* **P 19 15 41.8 +0.5**
comp=Z,313nm,1.4s
HLM1 Long Mynd 88.78 34 *eP* **P 19 15 40.6 -1.1**
HLM1 AMB AMB 19 15 41.4
comp=Z,51nm,1.0s
FOEL Foel Wylfa 88.78 34 *eP* **P 19 15 40.7 -1.0**
FOEL AMB AMB 19 15 41.5
comp=Z,64nm,1.1s
WRAK Wrangell Islan 88.83 330 *eP* **P 19 15 42.5 +0.7**
comp=Z,673nm,1.5s
DLBC Dease Lake 88.84 333 *eP* **P 19 15 42.8 +0.9**
GAL1 Galloway 88.95 32 *eP* **P 19 15 41.4 -1.0**
GAL1 AMB AMB 19 15 42.2
comp=Z,56nm,1.0s
TCF Toulx Ste Croi 89.05 41⇑*iP* **P 19 15 42.2 -1.0**
comp=Z,95nm,1.0s
TCF *epP* **pP 19 16 47.5 +2.2**
LASF Ste Croix 89.25 44⇑*iP* **P 19 15 44.0 -0.1**
comp=Z,94nm,1.0s
LASF *epP* **pP 19 16 49.5 +3.2**
GCD Castle Douglas 89.34 32⇑*eP* **P 19 15 43.1 -1.1**
PYM Petit Puy Mans 89.35 42⇑*eP* **P 19 15 45.4 +0.8**
STNC Stoke 89.41 34 *eP* **P 19 15 44.2 -0.4**
PGBU Glenifferbraes 89.53 31 *eP* **P 19 15 44.4 -0.7**
PGBU AMB AMB 19 15 45.0
comp=Z,81nm,2.3s
AGO Saint Agoulin 89.55 42⇑*eP* **P 19 15 45.9 +0.4**
KESW Keswick, Cumbr 89.64 32 *eP* **P 19 15 45.0 -0.6**
KESW AMB AMB 19 15 45.8
comp=Z,127nm,1.0s
HYF Humbligny 89.72 40⇑*iP* **P 19 15 45.5 -0.7**
KPL Plockton 89.73 29 *eP* **P 19 15 44.8 -1.1**
KSB Sheil Bridge 89.77 29⇑*eP* **P 19 15 45.0 -1.2**
EAB Aberfoyle 89.78 30 *eP* **P 19 15 44.9 -1.4**
PLDF La Plantade 89.83 42⇑*eP* **P 19 15 47.7 +0.9**
HMNX Herstmonceux 89.83 36 *eP* **P 19 15 46.3 -0.3**
HMNX AMB AMB 19 15 46.9
comp=Z,115nm,1.1s
KBI1 Birley Grange 89.85 34⇑*eP* **P 19 15 46.0 -0.6**
ECK Cauldkaine Hil 89.90 32⇑*eP* **P 19 15 45.8 -1.1**
ESK Eskdalemuir 89.93 32 *eP* **P 19 15 45.9 -1.1**
ESK AMB AMB 19 15 47.3
comp=Z,52nm,2.2s
ESK Eskdalemuir 89.93 32 *eP* **P 19 15 45.4 -1.6**
ESK pmax pmax
comp=Z,37nm,1.0s
ESK Eskdalemuir 89.93 32 *eP* **P 19 15 45.4 -1.6**
comp=Z,37nm,1.0s
KAC Achnashellach 89.97 29⇑*eP* **P 19 15 46.1 -1.0**
AVF Avril sur Loir 89.98 41⇑*iP* **P 19 15 46.4 -1.0**
comp=Z,59nm,0.8s
AVF *epP* **pP 19 16 51.8 +2.2**
MAW Mawson 90.01 164 P **P 19 15 48.7 +1.4**
MAW pP **pP 19 16 50.9 +1.5**
MAW PKKP **PKKPdf 19 33 15.1 +1.6**
MAW Mawson 90.01 164 P **P 19 15 48.7 +1.4**
comp=Z,44nm,1.0s,baz=216,slow=5.7,SNR=69
MAW pP **pP 19 16 50.9 +1.5**
comp=Z,11nm,1.0s,baz=206,slow=6.6,SNR=3.9
MAW PKKP **PKKPdf 19 33 15.1 +1.6**
comp=Z,1.4nm,0.6s,baz=360,slow=6.4,SNR=6.9
VIVF Saint-Julien-I 90.09 43⇑*iP* **P 19 15 48.0 0.0**
comp=Z,163nm,1.2s
VIVF *epP* **pP 19 16 53.6 +3.4**
SSB Saint Sauveur 90.16 43 *eP* **P 19 15 48.3 -0.1**
SSB pmax pmax
comp=Z,149nm,1.6s
SSB Saint Sauveur 90.16 43⇑*eP* **P 19 15 48.4 0.0**
SSB Saint Sauveur 90.16 43 *eP* **P 19 15 48.3 -0.1**
comp=Z,149nm,1.6s
SSF Saint Saulge 90.18 41⇑*iP* **P 19 15 47.1 -1.2**
comp=Z,46nm,0.8s
SSF *epP* **pP 19 16 52.5 +1.9**
EBL Broad Law 90.22 31⇑*eP* **P 19 15 47.1 -1.2**
KEST Kesra 90.23 53 *eP* **P 19 15 48.6 -0.3**
KEST Kesra 90.23 53 P **P 19 15 49.0 +0.1**
comp=Z,11nm,0.9s,baz=168,slow=3.1,SNR=22
SMF Signal de Mont 90.23 41⇑*iP* **P 19 15 47.9 -0.7**
comp=Z,198nm,1.0s
SMRF Simiane la Rot 90.36 44⇑*iP* **P 19 15 49.6 +0.3**
comp=Z,71nm,0.9s
MDO Dochfour 90.38 29⇑*eP* **P 19 15 48.3 -0.7**
SUMG Summit 90.43 9 *eP* **P 19 15 49.8 +0.3**
SUMG pmax pmax
comp=Z,205nm,1.2s
SUMG Summit 90.43 9⇑*iP* **P 19 15 49.9 +0.4**
comp=Z,84nm,1.0s
SUMG *i* pP **pP 19 16 53.4 +1.7**
SUMG *e* 19 17 21.8
SUMG Summit 90.43 9 *eP* **P 19 15 49.8 +0.3**
comp=Z,205nm,1.2s
LOR Lormes 90.48 41⇑*iP* **P 19 15 48.6 -1.2**
comp=Z,51nm,0.8s
LOR *epP* **pP 19 16 54.0 +2.0**
ESY Stoneypath 90.51 31⇑*eP* **P 19 15 48.7 -1.0**
LMK Market Rasen 90.58 34 *eP* **P 19 15 48.9 -1.1**
LMK AMB AMB 19 15 50.2
comp=Z,203nm,1.1s
MVH1 Achvaich 90.70 29⇑*eP* **P 19 15 49.1 -1.4**
MENF Mencas 90.75 37 *eP* **P 19 15 49.9 -1.0**
LMR La Mourre 90.76 45⇑*iP* **P 19 15 50.8 -0.3**
comp=Z,164nm,1.1s
OG25 Le Caire 90.84 44⇑*eP* **P 19 15 51.8 +0.2**
ORIF Oris-en-Rattie 90.91 43⇑*iP* **P 19 15 52.2 +0.3**
comp=Z,146nm,0.9s
FRF La Foret Royal 90.94 45⇑*iP* **P 19 15 51.7 -0.2**
comp=Z,186nm,1.5s
FRF *epP* **pP 19 16 57.4 +3.2**
AEU East Anglia Un 91.08 35 *eP* **P 19 15 50.4 -1.9**
OG35 Corcelles 91.11 42⇑*eP* **P 19 15 52.3 -0.5**
CALN Calern 91.17 45⇑*eP* **P 19 15 53.3 +0.1**
MVIF Mont Vial 91.40 45⇑*eP* **P 19 15 54.2 -0.1**
MBDF Montbardon 91.43 44⇑*iP* **P 19 15 54.4 0.0**
comp=Z,100nm,1.2s
BNI Bardonecchia 91.48 44 *eP* **P 19 15 54.2 -0.4**
BNI pmax pmax
comp=Z,36nm,1.3s
BNI Bardonecchia 91.48 44 *eP* **P 19 15 54.2 -0.4**
comp=Z,36nm,1.3s
REVF Revere 91.49 45⇑*eP* **P 19 15 54.6 0.0**
TOUF Mont Tournerai 91.50 45⇑*eP* **P 19 15 54.8 0.0**
LUCF Luceram 91.53 45⇑*eP* **P 19 15 54.7 -0.1**
SFTF Sexfontaines 91.57 40⇑*iP* **P 19 15 53.9 -0.9**
comp=Z,199nm,1.0s
SFTF *epP* **pP 19 16 59.3 +2.3**
SBF Sospel 91.58 45⇑*iP* **P 19 15 54.7 -0.3**
comp=Z,216nm,1.4s
AUTN L'Aution 91.62 45⇑*eP* **P 19 15 55.2 -0.2**
CABF La Chapelle 91.65 42⇑*iP* **P 19 15 54.7 -0.6**
comp=Z,33nm,0.8s
CABF *epP* **pP 19 17 00.2 +2.6**
RSL Roselend 91.67 43⇑*eP* **P 19 15 55.5 0.0**
LPL La Plagne 91.68 43⇑*iP* **P 19 15 55.9 +0.3**
comp=Z,78nm,0.8s
LPL *epP* **pP 19 17 01.4 +3.5**
LPG La Plagne 91.69 43⇑*iP* **P 19 15 56.0 +0.2**
comp=Z,82nm,0.8s
LPG *epP* **pP 19 17 01.6 +3.6**
MEZF Maizieres J'vi 91.69 40⇑*iP* **P 19 15 54.6 -0.7**
comp=Z,109nm,0.9s
MEZF *epP* **pP 19 17 00.1 +2.5**
SAOF Saorge 91.70 45⇑*eP* **P 19 15 55.4 -0.1**
SKAG Skagway 91.73 332 *eP* **P 19 15 56.0 +0.9**
comp=Z,226nm,1.7s
BAIF Baives 91.77 38⇑*iP* **P 19 15 54.7 -0.9**
comp=Z,49nm,1.0s
BAIF *epP* **pP 19 17 00.1 +2.2**
SCO Scoresbysund 91.98 14 *i P* **P 19 15 56.7 +0.6**
comp=Z,35nm,0.8s
SNF Seneffe 91.98 38 P pP 19 16 55.5 -3.3
DOU Dourbes 92.01 38 P **P 19 15 56.1 -0.6**
comp=Z,26nm,1.3s
DOU AP **pP 19 17 02.5 +3.5**
PAGF Fort de Pagny 92.13 40⇑*iP* **P 19 15 56.8 -0.5**
comp=Z,36nm,1.0s
PAGF *epP* **pP 19 17 02.3 +2.7**
GIVF Givet 92.15 38⇑*iP* **P 19 15 56.7 -0.7**
comp=Z,146nm,1.0s
GIVF *epP* **pP 19 17 02.0 +2.3**
THEF They Montfort 92.17 40⇑*eP* **P 19 15 57.0 -0.6**
PGF Pioggiola 92.21 46⇑*iP* **P 19 15 57.6 -0.4**
comp=Z,39nm,1.1s
HAU Haudompre 92.32 41⇑*iP* **P 19 15 57.3 -1.0**
comp=Z,32nm,0.8s
LOMF Lomont 92.39 41⇑*eP* **P 19 15 58.2 -0.5**
BCLA Clavier 92.55 38 P **P 19 15 58.8 -0.4**
BCLA AP **pP 19 17 04.7 +3.2**
HINF Hinteralfeld 92.57 41⇑*iP* **P 19 15 58.3 -1.2**
comp=Z,23nm,0.7s
MOF Molkenrain 92.76 41⇑*eP* **P 19 15 59.2 -1.2**
WLF Walferdange 92.79 39 P **P 19 16 00.0 -0.3**
comp=Z,56nm,1.5s
WLF AP **pP 19 17 04.8 +2.1**
WLF Walferdange 92.79 39 *eP* **P 19 16 00.2 -0.1**
comp=Z,101nm,1.3s
WLF Walferdange 92.79 39 *eP* **P 19 15 58.5 -1.9**
WLF *e*PP **pP 19 16 59.3 -3.4**
WLF pmax pmax
comp=Z,97nm,1.3s
WLF Walferdange 92.79 39 *eP* **P 19 15 58.5 -1.9**
comp=Z,97nm,1.3s
WLF *epP* **pP 19 16 59.3 -3.4**
ECH Echery 92.90 41 *eP* **P 19 15 59.8 -1.2**
ECH *e*PP **pP 19 17 03.1 -0.1**
ECH pmax pmax
comp=Z,94nm,1.5s
ECH Echery 92.90 41⇑*eP* **P 19 16 00.3 -0.6**
ECH Echery 92.90 41 *eP* **P 19 15 59.8 -1.2**
comp=Z,94nm,1.5s
ECH *epP* **pP 19 17 03.1 -0.1**
BEBN Eben Emael 92.91 38 P **P 19 16 00.4 -0.4**
MEM Membach 93.04 38 P **P 19 16 01.1 -0.4**
CDF Champ du Feu 93.04 40⇑*iP* **P 19 16 00.8 -0.9**
comp=Z,49nm,0.9s
CDF *epP* **pP 19 17 06.2 +2.2**
LSZ Lusaka 93.04 107 P **P 19 16 01.1 -1.4**
comp=Z,4.8nm,0.9s
HGN Heimansgroeve 93.05 38 *eP* **P 19 16 00.8 -0.7**
comp=Z,66nm,1.3s
HYT Haines Junctio 93.33 333 *eP* **P 19 16 03.2 +0.4**
LANF Langenberg 93.57 40⇑*eP* **P 19 16 03.6 -0.4**
BFO Black Forest 93.68 41 *eP* **P 19 16 03.6 -0.9**
comp=Z,19nm,1.1s
BFO *epP* **pP 19 17 09.8 +3.0**
BFO Black Forest 93.68 41 *eP* **P 19 16 03.0 -1.5**
BFO pmax pmax
comp=Z,11nm,1.0s
BFO Black Forest 93.68 41 *eP* **P 19 16 03.0 -1.5**
comp=Z,11nm,1.0s
TUE Stuetta 93.72 43 *eP* **P 19 16 04.5 -0.5**
comp=Z,16nm,1.0s
WTSB Winterswijk 93.99 37 *eP* **P 19 16 05.2 -0.5**
comp=Z,100nm,1.2s
BUG Bochum--Univer 94.08 38 *eP* **P 19 16 05.8 -0.4**
comp=Z,66nm,1.1s
DAVA Damuels 94.33 42⇑*iP* **P 19 16 07.4 -0.3**
comp=Z,40nm,1.1s,SNR=16
STU Stuttgart 94.36 41 *eP* **P 19 16 06.9 -0.7**
comp=Z,54nm,0.9s
STU Stuttgart 94.36 41 *eP* **P 19 16 06.9 -0.7**

STU pmax pmax
comp=Z,24nm,0.7s
STU Stuttgart 94.36 41 *eP* **P 19 16 06.9 -0.7**
comp=Z,24nm,0.7s
TNS Taunus Mts 94.37 39 *eP* **P 19 16 07.3 -0.4**
comp=Z,50nm,1.0s
TNS *e*pP **pP 19 17 12.8 +2.8**
IBBN Ibbenburen 94.66 37 *eP* **P 19 16 08.5 -0.3**
comp=Z,70nm,1.0s
FETA Feichten 94.80 43⇑*iP* **P 19 16 09.4 -0.4**
comp=Z,19nm,0.9s,SNR=13
RETA Reutte 94.96 42 *i P* **P 19 16 10.2 -0.3**
comp=Z,18nm,0.7s,SNR=15
MOTA Moosalm 95.14 42 *i P* **P 19 16 10.7 -0.7**
comp=Z,8.6nm,0.5s,SNR=17
INK Inuvik 95.34 340 *eP* **P 19 16 11.2 -0.4**
comp=Z,91nm,1.2s
WATA Walderalm 95.44 42⇑*iP* **P 19 16 12.3 -0.4**
comp=Z,14nm,0.6s,SNR=7.9
FUR Furstenfeldbru 95.49 42 *eP* **P 19 16 12.5 -0.3**
comp=Z,73nm,1.1s
FUR *e*PP **PP 19 20 05.1 -2.5**
UBBA Unterbreizbach 95.50 39 *eP* **P 19 16 12.6 0.0**
comp=Z,43nm,1.6s
DAWY Dawson 95.52 335 *eP* **P 19 16 11.1 -1.5**
ABTA Abfaltersbach 95.88 43 *i P* **P 19 16 14.2 -0.5**
comp=Z,31nm,1.1s,SNR=20
GRFO Grafenberg 95.91 40 *eP* **P 19 16 12.7 -2.0**
GRFO pmax pmax
comp=Z,75nm,1.4s
GRFO Grafenberg 95.91 40 *eP* **P 19 16 12.7 -2.0**
comp=Z,76nm,1.4s
GRF Grafenberg Arr 95.91 40 *eP* **P 19 16 14.4 -0.3**
comp=Z,44nm,1.0s
CLZ Clausthal 96.04 38 *eP* **P 19 16 15.1 -0.1**
comp=Z,49nm,1.0s
NRDL Niedersach Rie 96.08 37 *eP* **P 19 16 15.4 +0.2**
comp=Z,39nm,1.1s
RJOB Jochberg 96.35 42 *eP* **P 19 16 16.3 -0.4**
comp=Z,23nm,1.2s
RJOB *e*PP **PP 19 20 11.0 -3.3**
CUC Castrocucco 96.37 50 *eP* **P 19 16 14.4 -2.6**
comp=Z,35nm,1.8s
MOX Moxa 96.43 39 *eP* **P 19 16 16.8 -0.2**
comp=Z,17nm,1.2s
MOX *e*PP **PP 19 20 12.3 -2.4**
EGAK Eagle 96.51 336 *eP* **P 19 16 15.6 -1.4**
comp=Z,90nm,1.6s
KBA Koelnbreinsper 96.53 43⇑*iP* **P 19 16 16.9 -0.8**
comp=Z,12nm,0.9s,SNR=8.4
ROTZ Rotzenmuhle 96.55 40 *eP* **P 19 16 17.6 +0.1**
comp=Z,33nm,1.0s
ROTZ *e*PP **PP 19 20 12.8 -2.8**
BMRM Bremner River 96.56 332 *eP* **P 19 16 16.9 -0.5**
comp=Z,126nm,1.7s
MYKA Terra Mystica 96.60 44 P **P 19 16 17.3 -0.6**
comp=Z,14nm,0.9s
BSEG Bad Segeberg 96.64 36 *eP* **P 19 16 17.4 -0.4**
comp=Z,51nm,0.7s
JAVS Javornik 96.68 44 *i P* **P 19 16 17.9 -0.5**
MUD Monsted U'grnd 96.78 33 *i P* **P 19 16 19.1 +0.8**
comp=Z,44nm,0.9s
WET Wettzell 96.79 41 *eP* **P 19 16 18.4 -0.3**
comp=Z,29nm,1.1s
WET *e*pP **pP 19 17 22.0 +0.9**
MENT Mentasta 96.87 334 *eP* **P 19 16 18.4 -0.3**
TANN Tannenbergstha 96.89 40 *eP* **P 19 16 19.2 +0.1**
comp=Z,46nm,1.3s
TANN *e*PP **PP 19 20 15.8 -2.5**
DIV Divide 97.15 332 *eP* **P 19 16 19.4 -0.7**
comp=Z,45nm,1.0s
OBKA Obir 97.17 44⇑*iPcP* **P 19 16 20.3 -0.3**
comp=Z,10nm,0.7s,SNR=6.8
VISS Visnje 97.18 45 *i P* **P 19 16 19.8 -0.7**
KHC Kasperske Hory 97.23 41 *eP* **P 19 16 20.2 -0.5**
KHC pmax pmax
comp=Z,3.0nm,0.6s
KHC Kasperske Hory 97.23 41⇑*iP* **P 19 16 20.2 -0.5**
KHC *e*pP **pP 19 17 27.6 +4.5**
KHC *e*sP **sP 19 17 52.4 +2.5**
KHC *e*PP **PP 19 20 17.5 -3.4**
KHC Kasperske Hory 97.23 41 *eP* **P 19 16 20.2 -0.5**
comp=Z,3.3nm,0.6s
GEC2 GERESS Array S 97.23 41 *eP* **P 19 16 20.2 -0.6**
comp=Z,21nm,1.1s
GERES GERESS Array B 97.23 41 P **P 19 16 20.2 -0.6**
GERES pP **pP 19 17 22.1 -1.1**
GERES PP PP 19 20 11.5 -10
GERES PKKPbc PKKPbc 19 32 55.4 -5.4
GERES GERESS Array B 97.23 41 P **P 19 16 20.2 -0.6**
comp=Z,8.1nm,0.8s,baz=242,slow=2.9,SNR=70
GERES pP **pP 19 17 22.1 -1.1**
comp=Z,1.8nm,1.0s,baz=212,slow=3.5,SNR=1.3
GERES PP PP 19 20 11.5 -10
comp=Z,0.9nm,0.7s,baz=249,slow=8.3,SNR=3.4
GERES PKKPbc PKKPbc 19 32 55.4 -5.4
comp=Z,0.3nm,0.6s,baz=69,slow=6.4,SNR=2.6
MOA Molln 97.33 42⇑*iP* **P 19 16 20.6 -0.5**
comp=Z,18nm,1.0s,SNR=11
BOJS Bojanci 97.39 45 *i P* **P 19 16 20.7 -0.7**
CLL Collm 97.46 39 *eP* **P 19 16 21.4 -0.2**
comp=Z,27nm,1.0s
CLL *e*PP **PP 19 20 19.5 -3.0**
CLL Collm 97.46 39⇑*iPdif* Pdif 19 16 21.6 0.0
comp=Z,27nm,1.0s
CLL *e*pP pP 19 17 26.0 +2.0
CLL *e*PP PP 19 20 17.0 -5.5
comp=Z,27nm,1.7s
SOKA Soboth 97.54 44⇓*iP* **P 19 16 21.3 -0.9**
comp=Z,5.7nm,1.1s,SNR=5.8
PERS Pernice 97.58 44 *i P* **P 19 16 21.4 -1.0**
PAX Paxson 97.63 333 *eP* **P 19 16 21.0 -1.2**
PAX pmax pmax
comp=Z,84nm,1.6s
PAX Paxson 97.63 333 *eP* **P 19 16 21.0 -1.2**
comp=Z,84nm,1.6s
BRG Berggiesshubel 97.92 39 *i P* **P 19 16 23.5 -0.1**
comp=Z,34nm,1.4s
BRG *e*pP **pP 19 17 27.8 +1.7**
comp=Z,9.4nm,1.1s
BRG *e*sP **sP 19 17 51.7 -1.2**
comp=Z,18nm,1.8s
BRG *e*PP **PP 19 20 22.2 -3.9**
comp=Z,60nm,2.1s
BRG Berggiesshubel 97.92 39 *eP* **P 19 16 23.6 -0.1**
comp=Z,34nm,1.4s
BRG *e*pP **pP 19 17 27.3 +1.2**
BRG *e*PP **PP 19 20 22.8 -3.3**
ARSA Arzberg 98.00 43⇑*iPdiff* **P 19 16 23.6 -0.5**
comp=Z,8.6nm,1.0s
PRA Prague 98.01 40⇑PDIFF Pdif 19 16 25.0 +0.9
PRA pP pP 19 17 31.0 +4.4
PRA PP **PP 19 20 24.0 -2.8**
PRU Pruhonice 98.06 40⇑*e*PDIFF **P 19 16 24.2 -0.1**
PRU *e*x x 19 16 27.8
PRU *e*pP **pP 19 17 30.5 +3.7**
PRU *e*PP **PP 19 20 23.6 -3.6**
CONA Conrad Observa 98.39 43⇑*iPdiff* Pdif 19 16 25.5 -0.5
comp=Z,22nm,2.1s,SNR=7.0
TREC Trest 98.48 41⇑*e*PDIFF Pdif 19 16 26.2 0.0
TREC *e*x x 19 17 33.6
ILAR Eielson Array 98.81 335 P Pdif 19 16 26.6 -0.6
ILAR PP PP 19 20 24.6 -7.9
ILAR Eielson Array 98.81 335 P Pdif 19 16 26.6 -0.6
comp=Z,6.4nm,1.0s,baz=141,slow=3.6,SNR=27
ILAR PP PP 19 20 24.6 -7.9
comp=Z,5.1nm,1.0s,baz=112,slow=6.5,SNR=9.9
UPC Upice 99.10 40⇑*e*PDIFF **Pdif 19 16 29.5 +0.6**
UPC *e*pP **pP 19 17 35.7 +4.2**
UPC *e*PP PP 19 20 27.2 -7.9
NB2 NORSAR Subarra 99.14 29 P **Pdif 19 16 28.3 -0.6**
comp=Z,20nm,1.2s,baz=257,slow=4.6
NB2 NORSAR Subarra 99.14 29 P **Pdif 19 16 28.3 -0.6**
baz=257,slow=4.6
NOA NORSAR Array B 99.14 29 P **Pdif 19 16 28.7 -0.2**
NOA NORSAR Array B 99.14 29 P **Pdif 19 16 28.7 -0.2**
comp=Z,3.6nm,0.9s,baz=251,slow=4.0,SNR=6.4
COLA College 99.23 335 *eP* **Pdif 19 16 28.9 -0.2**
COLA pmax pmax
comp=Z,470nm,1.6s
COLA College 99.23 335 *eP* **Pdif 19 16 28.9 -0.2**
comp=Z,470nm,1.6s
DPC Dobruska-Polom 99.26 40⇑*iPDIFF* **Pdif 19 16 29.8 +0.1**
DPC *e*pP **pP 19 17 36.5 +4.3**
DPC *e*PP **PP 19 20 34.2 -2.1**
KRLC Kraliky 99.48 41⇑*e*PDIFF **Pdif 19 16 31.2 +0.5**
KRLC *ex* x 19 17 39.0
TRF Thorofare Moun 99.86 333 *eP* **Pdif 19 16 31.6 -0.6**
comp=Z,86nm,1.6s
MORC Moravsky Berou 99.90 41 *eP* **Pdif 19 16 32.6 0.0**
MORC pmax pmax
comp=Z,27nm,1.4s
MORC Moravsky Berou 99.90 41 *eP* **Pdif 19 16 32.5 0.0**
comp=Z,27nm,1.4s
MORC Moravsky Berou 99.90 41⇑*iP* **Pdif 19 16 31.7 -0.9**
RSO Redoubt South 100.25 330 *eP* **Pdif 19 16 33.3 -0.7**
comp=Z,55nm,0.8s
OKC Ostrava-Krasne 100.29 41⇑*e*PDIFF **Pdif 19 16 34.1 -0.1**
OKC *e*pP pP 19 17 41.3 +4.5
OKC *e*PP PP 19 20 37.1 -7.0
BPAW Bear Paw Mtn. 100.33 334 *eP* **Pdif 19 16 33.6 -0.5**
comp=Z,46nm,1.3s
PPLA Purkeypile 100.56 332 *eP* **Pdif 19 16 34.2 -1.1**
comp=Z,108nm,1.6s
COLD Coldfoot 100.80 337 *eP* **Pdif 19 16 36.5 +0.4**
comp=Z,32nm,1.5s
KECS Kecovo 101.53 43 PDIF **Pdif 19 16 39.7 -0.1**
BZS Buzias 101.77 46⇓*iP* **Pdif 19 16 41.1 +0.2**
IMA2 Indian Mountai 101.89 335 *eP* **Pdif 19 16 40.7 -0.4**
IM04 Indian Mountai 101.91 335 *eP* **Pdif 19 16 40.0 -1.1**
CRVS Cervenica-Dubn 102.24 42 PDIF **Pdif 19 16 43.6 +0.6**
KWP Kalwaria Pacla 103.17 42⇑*iP* **Pdif 19 16 46.7 -0.3**
BUR08 Bucovina Ar. S 104.53 44 *eP* **Pdif 19 16 53.8 +0.5**
BURAR Bucovina Array 104.53 44⇑*iP* **Pdif 19 16 54.2 +0.9**
ISAL Salakas 105.92 36 *eP* **PP 19 21 22.4 -3.3**
ISAL AMB AMB 19 21 24.4
comp=Z,11nm,1.5s
IIGN Ignalina 105.96 36 *eP* **PP 19 21 23.0 -3.0**
IIGN AMB AMB 19 21 25.7
comp=Z,12nm,1.2s
FINES FINESS Array B 106.28 30 PKiKP **PKiKP 19 21 10.8 +0.3**
FINES PP **PP 19 21 26.6 -1.5**
FINES FINESS Array B 106.28 30 PKiKP **PKiKP 19 21 10.8 +0.3**
comp=Z,7.5nm,1.1s,baz=222,slow=1.9,SNR=3.4
FINES PP **PP 19 21 26.6 -1.5**
comp=Z,28nm,1.3s,baz=251,slow=8.7,SNR=4.2
ARCES ARCESS Array B 106.31 21 Pdif **Pdif 19 17 02.0 +1.4**
ARCES PKKPbc **PKKPbc 19 32 31.9 -3.1**
ARCES ARCESS Array B 106.31 21 Pdiff **Pdif 19 17 02.0 +1.4**
comp=Z,4.3nm,1.0s,baz=256,slow=3.6,SNR=5.8
ARCES PKKPbc **PKKPbc 19 32 31.9 -3.1**
comp=Z,6.3nm,1.1s,baz=90,slow=3.6,SNR=5.0
AKASG Malin Array Be 107.45 41 PKiKP **PKiKP 19 21 12.8 -0.2**
AKASG PP PP 19 21 29.4 -7.6
AKASG SKP 19 24 25.4
AKASG Malin Array Be 107.45 41 PKiKP **PKiKP 19 21 12.8 -0.2**
comp=Z,0.4nm,0.4s,baz=262,slow=2.7,SNR=6.2
AKASG PP PP 19 21 29.4 -7.6
comp=Z,2.6nm,0.8s,baz=264,slow=7.5,SNR=5.0
AKASG SKP 19 24 25.4
comp=Z,0.3nm,0.3s,baz=262,slow=3.0,SNR=5.9
BR131 Keskin Array S 109.83 53 *e*PKiKP **PKiKP 19 21 17.9 -0.1**
BRTR Keskin Array B 109.83 53 PKiKP **PKiKP 19 21 18.9 +0.8**
BRTR SKP 19 24 31.9
BRTR Keskin Array B 109.83 53 PKiKP **PKiKP 19 21 18.9 +0.8**
comp=Z,3.3nm,0.9s,baz=193,slow=4.8,SNR=13
BRTR SKP 19 24 31.9
comp=Z,2.9nm,1.0s,baz=198,slow=0.8,SNR=5.6
BRBR Barbar 111.18 60 *eP* **PKiKP 19 21 16.4 -4.5**
MARH Ras Al Marh 111.67 59 *eP* **PKiKP 19 21 23.6 +1.6**
OBN Obninsk 111.88 37*k i*PKIKP **PKiKP 19 21 22.0 +0.8**
OBN 19 22 08.0
OBN PPP PPP 19 24 34.0
OBN *e* 19 31 48.4
OBN pmax pmax
comp=Z,31nm,1.2s
DRWC Darouich 112.01 56 *eP* **PKiKP 19 21 23.0 +0.8**
SFNV Sufian 114.77 57 *eP* PKPdf 19 21 28.1 +0.6
KIV Kislovodsk 116.62 48 *i* PKIKP **PKPdf 19 21 31.4 +0.5**
KIV pmax pmax
comp=Z,19nm,1.1s
KBZ Khabaz 116.78 49 PKIKP **PKPdf 19 21 32.2 +1.2**
KBZ Khabaz 116.78 49 PKP **PKPdf 19 21 32.1 +1.2**
KBZ SKP 19 24 43.6
KBZ Khabaz 116.78 49 PKP **PKPdf 19 21 32.1 +1.2**
comp=Z,17nm,0.9s,baz=217,slow=3.2,SNR=30
KBZ SKP 19 24 43.6
comp=Z,10nm,0.9s,baz=294,slow=2.8,SNR=7.3
GNI Garni 118.37 53 *e*PKPdf **PKPdf 19 21 34.5 +0.1**
GNI SKP 19 24 46.0
GNI Garni 118.37 53 SKP **SKPdf 19 24 46.1 +0.8**
comp=Z,5.0nm,0.8s,baz=142,slow=9.3,SNR=4.1
FX1 Attu Island--F 118.84 322 PKP **PKPdf 19 21 34.3 -0.4**
FX1 Attu Island--F 118.84 322 PKP **PKPdf 19 21 34.3 -0.4**
comp=Z,6.1nm,0.6s,baz=225,slow=1.4,SNR=9.4
ITBZ Tabriz 119.56 55 *eP* **PKPdf 19 21 36.9 +0.1**
IDHR Dehrash 119.88 59 *eP* **PKPdf 19 21 38.1 +0.5**
IBST Bostanabad 120.18 55 *eP* **PKPdf 19 21 36.6 -1.5**
IHRS Heris 120.26 55 *eP* **PKPdf 19 21 38.2 0.0**
RST Umm Al-Ruwaisa 120.37 65 *eP* **PKPdf 19 21 38.3 -0.1**
RST AMb AMB 19 21 42.4
comp=Z,310nm,0.9s
NAY Al-Naaiem 120.58 65 *eP* **PKPdf 19 21 39.0 +0.2**
NAY AMb AMB 19 21 41.9
comp=Z,22nm,1.5s
ISRB Sarab 120.78 55 *eP* **PKPdf 19 21 38.1 -1.1**
IKOM Komasi 120.82 59 *eP* **PKPdf 19 21 39.4 +0.1**
RDF Al-Radifah 120.84 65 *eP* **PKPdf 19 21 39.1 -0.2**
RDF AMb AMB 19 21 42.7
comp=Z,41nm,1.2s
IGZV Ghazvin 122.92 57 *eP* **PKPdf 19 21 43.9 +0.5**
TIXI Tiksi 123.00 353*c i*PKIKP **PKPdf 19 21 41.8 -0.4**
TIXI pmax pmax
comp=Z,19nm,1.7s
IR5 Iran Long-Peri 123.30 58 *eP* **PKPdf 19 21 43.9 -0.1**
IMHD Mahdasht 123.33 57 *eP* **PKPdf 19 21 44.3 +0.2**
ARU Arti 123.57 32 *i* PKIKP **PKPdf 19 21 43.9 +0.2**
ARU 19 23 28.6
ARU PPP PPP 19 26 04.5
ARU 19 28 20.7
IPIR Pirpir 123.69 61 *eP* **PKPdf 19 21 44.7 -0.4**
STKA Stephens Creek 124.11 212 PKP **PKPdf 19 21 46.1 +0.5**
STKA PKKPbc **PKKPbc 19 31 31.9 -0.4**
STKA Stephens Creek 124.11 212 PKP **PKPdf 19 21 46.1 +0.5**
comp=Z,10.0nm,0.7s,baz=127,slow=1.3,SNR=20
STKA PKKPbc **PKKPbc 19 31 31.9 -0.4**
comp=Z,3.2nm,0.6s,baz=354,slow=8.2,SNR=8.3
IVRN Varamin 124.25 58 *eP* **PKPdf 19 21 46.5 +0.7**
SEY Seymchan 124.57 338*c i*PKIKP **PKPdf 19 21 45.7 +0.3**
IKAZ Kazeroun 124.59 64 *eP* **PKPdf 19 21 46.6 -0.3**
IGAR Gharneh 124.68 61 *eP* **PKPdf 19 21 47.2 +0.3**
ISFB Sefidab 124.72 59 *eP* **PKPdf 19 21 46.7 0.0**
IZEF Zefreh 124.89 61 *eP* **PKPdf 19 21 46.8 -0.5**
IALA Alasht 125.03 57 *eP* **PKPdf 19 21 47.9 +0.3**
ILAS Lasjerd 125.22 58 *eP* **PKPdf 19 21 48.7 +0.8**
AKTO Aktyubinsk 125.54 39 PKIKP **PKPdf 19 21 49.4 +1.7**
AKTO Aktyubinsk 125.54 39 PKP **PKPdf 19 21 49.4 +1.7**
AKTO SKP 19 25 01.7
AKTO Aktyubinsk 125.54 39 PKP **PKPdf 19 21 49.4 +1.7**
comp=Z,23nm,0.8s,baz=305,slow=4.9
AKTO SKP 19 25 01.7
comp=Z,16nm,1.0s,baz=294,slow=1.4,SNR=10
IPAR Pars 125.64 64 *eP* **PKPdf 19 21 49.4 +0.5**
ISRV Sarvestan 125.71 65 *eP* **PKPdf 19 21 49.0 -0.1**
IKIA Kiasar 125.72 57 *eP* **PKPdf 19 21 49.4 +0.6**
IGLO Ghaloghah 125.81 56 *eP* **PKPdf 19 21 48.6 -0.3**
IANJ Anjilo 125.99 57 *eP* **PKPdf 19 21 49.4 +0.1**
ISAD Sadrabad 126.09 62 *eP* **PKPdf 19 21 48.7 -1.0**
PET Petropavlovsk 127.07 326 *e*PKIKP **PKPdf 19 21 51.8 +1.3**
PET pmax pmax
comp=Z,22nm,0.6s
ABKAR Abkulak array 127.12 39 *e*PKPdf **PKPdf 19 21 51.8 +1.0**
PETK Petropavlovsk- 127.55 326 PKIKP **PKPdf 19 21 52.3 +0.8**
PETK 19 23 52.4
PETK Petropavlovsk- 127.55 326 PKP **PKPdf 19 21 52.2 +0.8**
PETK PP **PP 19 23 52.4 -3.2**
PETK SKPbc SKiKP 19 24 46.9 -16
PETK Petropavlovsk- 127.55 326 PKP **PKPdf 19 21 52.2 +0.8**
comp=Z,27nm,1.0s,baz=109,slow=4.4,SNR=15
PETK PP **PP 19 23 52.4 -3.2**
comp=Z,6.3nm,0.8s,baz=86,slow=9.0,SNR=3.5
PETK SKPbc SKiKP 19 24 46.9 -16
comp=Z,11nm,0.9s,baz=196,slow=2.6,SNR=5.3
IBAF Bafgh 127.72 62 *eP* **PKPdf 19 21 52.5 -0.1**
ASHO Ashiyiah 128.35 71 P SKPdf 19 24 51.0 -13
SNR=8.6
ARQ Araqi 128.75 73 P SKPdf 19 24 52.9 -12
SNR=7.8
ISFR Sfrayin 129.04 55 *eP* **PKPdf 19 21 55.4 +0.3**
BSY Bisya 129.35 73 P SKPbc 19 24 55.1 +2.2
SNR=20
HOQ Hoqain 129.48 72 P SKPbc 19 24 54.7 +1.4
SNR=12
IKRD Kardeh 129.49 55 *eP* **PKPdf 19 21 59.0 +3.0**
IAKL Akhelmad 129.71 55 *eP* **PKPdf 19 21 56.6 +0.1**
CTA Charters Tower 130.04 226 PKP **PKPdf 19 21 57.8 +0.6**
CTA SKPbc **SKPbc 19 24 54.5 -1.0**
CTA Charters Tower 130.04 226 PKP **PKPdf 19 21 57.8 +0.6**
comp=Z,8.6nm,0.9s,baz=79,slow=4.9,SNR=5.0
CTA SKPbc **SKPbc 19 24 54.5 -1.0**
comp=Z,12nm,1.1s,baz=77,slow=4.2,SNR=4.6
SMDO Samad 130.14 73 P **SKPbc 19 24 57.9 +2.0**
SNR=29
JMDO Jabal Madar 130.17 74 P SKPbc 19 25 09.1 +13
SNR=50
IMOG Moghan 130.26 56 *eP* **PKPdf 19 21 59.0 +1.5**
ITEG Tejag 130.27 60 *eP* **PKPdf 19 21 58.3 +0.8**
ISRO Mashad 130.33 56 *eP* **PKPdf 19 21 57.3 -0.1**
IKOO Kooshah 130.54 61 *eP* **PKPdf 19 21 58.9 +0.8**
IMYA Miami 130.83 55 *eP* **PKPdf 19 21 59.5 +1.1**
WBK Wadi Bani Khal 130.98 74 P **SKPbc 19 25 01.4 +2.4**
SNR=61
BRVK Borovoye 131.14 31*c i*PKIKP **PKPdf 19 21 59.7 +1.4**
BRVK pmax pmax
comp=Z,65nm,1.7s
BRVK Borovoye 131.14 31 P **PKPdf 19 22 00.1 +1.8**
SNR=22
BRVK Borovoye 131.14 31 *e*PKPdf **PKPdf 19 21 59.6 +1.3**
BVAR Borovoye Array 131.21 31 PKPpre PKPpre 19 21 51.3
BVAR PKP **PKiKP 19 21 59.8 +0.4**
BVAR SKPbc **SKPab 19 25 00.9 +1.5**
BVAR Borovoye Array 131.21 31 PKiKP PKPpre 19 21 51.3
comp=Z,1.5nm,0.8s,baz=252,slow=3.0,SNR=4.7
BVAR PKP **PKiKP 19 21 59.8 +0.4**
comp=Z,12nm,0.8s,baz=66,slow=1.8,SNR=46
BVAR SKPbc **SKPab 19 25 00.9 +1.5**
comp=Z,6.7nm,0.7s,baz=318,slow=2.0,SNR=9.7
IDAH Dahanechah 131.22 60 *eP* **PKPdf 19 22 00.3 +0.9**
NWAO Narrogin (SRO) 131.23 187 PKP **PKPdf 19 21 59.8 +0.6**
NWAO SKPbc **SKPab 19 25 00.8 +0.7**
NWAO Narrogin (SRO) 131.23 187 PKP **PKPdf 19 21 59.8 +0.6**
comp=Z,12nm,1.2s,baz=201,slow=3.3,SNR=3.2
NWAO SKPbc **SKPab 19 25 00.8 +0.7**
comp=Z,36nm,1.1s,baz=172,slow=5.8,SNR=9.3
AS31 Alice Springs 134.71 211 *e*PKPdf **PKPdf 19 22 05.6 -0.4**
ASAR Alice Springs 134.71 211 PKPpre PKPpre 19 21 53.2
ASAR PKP **PKPdf 19 22 06.0 +0.1**
ASAR SKPbc **SKPbc 19 25 12.2 +0.4**
ASAR PKKP **PKKPdf 19 31 48.6 -1.7**
ASAR Alice Springs 134.71 211 PKhKP PKPpre 19 21 53.2
comp=Z,0.7nm,0.7s,baz=146,slow=2.5,SNR=11
ASAR PKP **PKPdf 19 22 06.0 +0.1**
comp=Z,12nm,0.7s,baz=138,slow=2.1,SNR=51
ASAR SKPbc **SKPbc 19 25 12.2 +0.4**
comp=Z,14nm,0.9s,baz=141,slow=3.1,SNR=21
ASAR PKKP **PKKPdf 19 31 48.6 -1.7**
comp=Z,0.4nm,0.5s,baz=349,slow=1.6,SNR=9.1
PMG Port Moresby 136.00 238 SKPbc **SKPbc 19 25 17.7 +1.8**
PMG Port Moresby 136.00 238 SKPbc **SKPbc 19 25 17.7 +1.8**
comp=Z,13nm,0.9s,baz=29,slow=8.8,SNR=4.8
KKAR Karatay Array 136.31 43 *e*PKPdf **PKPdf 19 22 09.3 +1.0**
KURK Kurchatov 136.65 29 *e*PKHKP PKPpre 19 21 59.3
KURK 19 22 10.0
KURK Kurchatov 136.65 29 P **PKPdf 19 22 10.5 +1.8**
SNR=15
KURK Kurchatov 136.65 29 *e*PKPpre PKPpre 19 21 59.3
KURK PKPpre PKPpre 19 21 59.9
KURK PKP **PKiKP 19 22 10.0 -0.4**
KURK SKPbc **SKPbc 19 25 19.1 +2.4**
KURBB Kurchatov Arra 136.67 29 PKhKP PKPpre 19 21 59.9
comp=Z,2.4nm,0.8s,baz=313,slow=2.8,SNR=20
KURBB PKP **PKiKP 19 22 10.0 -0.5**
comp=Z,16nm,0.9s,baz=316,slow=2.3,SNR=49
KURBB SKPbc **SKPbc 19 25 19.1 +2.3**
comp=Z,8.4nm,0.9s,baz=306,slow=3.1,SNR=5.7
ZALV Zalesovo Beam 136.86 22 PKHKP PKPpre 19 21 55.4
ZALV 19 22 10.2
ZALV Zalesovo Beam 136.86 22 PKPpre PKPpre 19 21 55.4
ZALV PKP **PKiKP 19 22 10.2 -0.6**
ZALV SKPbc **SKPbc 19 25 19.6 +2.4**
ZALV Zalesovo Beam 136.86 22 PKhKP PKPpre 19 21 55.4
comp=Z,2.0nm,0.4s,baz=318,slow=4.2,SNR=17
ZALV PKP **PKiKP 19 22 10.2 -0.6**
comp=Z,147nm,0.9s,baz=305,slow=2.4,SNR=73
ZALV SKPbc **SKPbc 19 25 19.6 +2.4**
comp=Z,59nm,0.9s,baz=320,slow=3.3,SNR=33
WRA Warramunga Arr 137.56 214 PKPpre PKPpre 19 21 59.4
WRA PKP **PKPdf 19 22 11.7 +0.3**
WRA pPKP pPKPdf 19 23 16.9 +0.1
WRA SKPbc **SKPbc 19 25 20.9 +0.4**
WRA Warramunga Arr 137.56 214 PKhKP PKPpre 19 21 59.4
comp=Z,3.1nm,0.9s,baz=139,slow=3.5,SNR=12
WRA PKP **PKPdf 19 22 11.7 +0.3**
comp=Z,14nm,0.8s,baz=151,slow=1.4,SNR=17
WRA pPKP pPKPdf 19 23 16.9 +0.1
comp=Z,5.9nm,1.0s,baz=162,slow=1.4,SNR=2.4
WRA SKPbc **SKPbc 19 25 20.9 +0.4**
comp=Z,9.1nm,0.6s,baz=154,slow=2.4,SNR=6.1
WRAB Tennant Creek 137.56 214 *e*PKHKP PKPpre 19 21 59.9
WRAB Tennant Creek 137.56 214 PKIKP **PKPdf 19 22 11.4 +0.1**
WRAB Tennant Creek 137.56 214 *e*PKPpre PKPpre 19 21 59.9
KBL Kabul 138.34 55 *e*PKIKP **PKPdf 19 22 13.5 +0.9**
KBL Kabul 138.34 55 *e*PKPdf **PKPdf 19 22 13.5 +0.9**
EKS2 Erkin-Say 138.64 42 *e*PKHKP PKPpre 19 22 04.5
EKS2 Erkin-Say 138.64 42 P **PKPdf 19 22 15.1 +2.4**
SNR=18
EKS2 Erkin-Say 138.64 42 P **SKPbc 19 25 26.5 +3.6**
SNR=16
EKS2 Erkin-Say 138.64 42 *e*PKPpre PKPpre 19 22 04.5
USP Ospenovka 138.80 41 P **PKPdf 19 22 15.2 +2.3**
SNR=10
USP Ospenovka 138.80 41 P **SKPbc 19 25 26.4 +3.1**
SNR=23
AML Almayashu 138.84 43 P **PKPdf 19 22 13.6 +0.1**
SNR=12
AML Almayashu 138.84 43 P **SKPbc 19 25 26.9 +3.0**
SNR=17
YSS Yuzh-Sakhalins 138.95 326 *i* PKIKP **PKPdf 19 22 12.0 -1.0**
YSS *e* 19 25 07.0
YSS pmax pmax
comp=Z,30nm,1.0s
CHMS Chumysh 139.09 41 P **PKPdf 19 22 15.7 +2.3**
SNR=9.2
CHMS Chumysh 139.09 41 P **SKPbc 19 25 27.4 +3.4**
SNR=30
AAK Ala-Archa 139.12 42*c i*PKIKP **PKPdf 19 22 15.7 +2.0**
AAK Ala-Archa 139.12 42 P **PKPdf 19 22 16.4 +2.7**
SNR=16
AAK Ala-Archa 139.12 42 P **SKPbc 19 25 28.1 +3.8**
SNR=37
AAK Ala-Archa 139.12 42 *e*PKPpre PKPpre 19 22 06.0
AAK PKPpre PKPpre 19 22 06.5
AAK PKP **PKiKP 19 22 16.2 +0.2**
AAK SKPbc **SKiKP 19 25 27.5 +0.1**
AAK Ala-Archa 139.12 42 PKhKP PKPpre 19 22 06.5
comp=Z,1.5nm,0.3s,baz=358,slow=0.8,SNR=9.6
AAK PKP **PKiKP 19 22 16.2 +0.2**
comp=Z,35nm,1.0s,baz=180,slow=1.2,SNR=36
AAK SKPbc **SKiKP 19 25 27.5 +0.1**
comp=Z,136nm,1.1s,baz=216,slow=2.1,SNR=53
UCH Uchtor 139.33 42 P **PKPdf 19 22 17.4 +2.9**
SNR=11
UCH Uchtor 139.33 42 P **SKPbc 19 25 29.1 +3.8**
SNR=17
KBK Karagaybulak 139.39 41 P **SKPbc 19 25 28.6 +3.5**
SNR=18
TKM2 Tokmak 2 139.67 41 *e*PKHKP PKPpre 19 22 07.4
TKM2 Tokmak 2 139.67 41 P **PKPdf 19 22 16.5 +1.8**
SNR=14
TKM2 Tokmak 2 139.67 41 P **SKPbc 19 25 28.8 +2.9**
SNR=13
TKM2 Tokmak 2 139.67 41 *e*PKPpre PKPpre 19 22 07.4
KZA Kyzart 139.88 42 P **SKPbc 19 25 30.1 +3.4**
SNR=7.0
ULHL Ulahol 140.43 41 P **PKPdf 19 22 18.9 +2.8**
SNR=15
ULHL Ulahol 140.43 41 P **SKPbc 19 25 30.9 +3.0**
SNR=36
ASAJ Asahikawa 140.76 323 PKPpre PKPpre 19 22 10.7
ASAJ PKP **PKiKP 19 22 18.4 -0.6**
ASAJ Asahikawa 140.76 323 PKhKP PKPpre 19 22 10.7
comp=Z,10nm,0.9s,baz=297,slow=19,SNR=5.1
ASAJ PKP **PKiKP 19 22 18.4 -0.6**
comp=Z,23nm,0.8s,baz=270,slow=4.0,SNR=11

MK31	**Makanchi Array**	**141.10**	**31**	*e*PKHKP	PKPpre	19 22 10.0	
MK31	**Makanchi Array**	**141.10**	**31**	*e*PKPpre	PKPpre	19 22 10.0	
MKAR	**Makanchi Array**	**141.10**	**31**	PKPpre	PKPpre	19 22 10.7	
MKAR				PKP	**PKPdf**	**19 22 17.7**	**+0.7**
MKAR				SKP		19 25 30.7	
MKAR	**Makanchi Array**	**141.10**	**31**	PKhKP	PKPpre	19 22 10.7	
	comp=Z,3.0nm,0.5s,baz=349,slow=3.2,SNR=22						
MKAR				PKP	**PKPdf**	**19 22 17.7**	**+0.7**
	comp=Z,6.1nm,0.5s,baz=349,slow=2.9,SNR=27						
MKAR				SKP		19 25 30.7	
	comp=Z,28nm,0.9s,baz=348,slow=2.9,SNR=16						
KSH	**Kashi**	**141.61**	**45**	PKP	**PKPdf**	**19 22 13.8**	**-4.4**
KSH				PKS	**PKSdf**	**19 25 49.0**	**-5.2**
KSH				SKS	**SKSdf**	**19 29 00.5**	**-3.2**
KSH				LR	LR		
	comp=N,96nm,5.3s						
KSH				LR	LR		
	comp=E,110nm,11.1s						
KSH				LR	LR		
	comp=Z,170nm,7.0s						
HVS	**Khovu-Aksy**	**142.14**	**17**	*i* PKIKP	**PKPdf**	**19 22 19.0**	**+0.2**
FITZ	**Fitzroy Crossi**	**143.28**	**204**	*e*PKPpre	PKPpre	19 22 18.9	
FITZ				PKP	PKPbc	19 22 19.9	+0.5
FITZ				SKPbc	**SKiKP**	**19 25 36.7**	**+0.1**
FITZ	**Fitzroy Crossi**	**143.28**	**204**	PKP	PKPbc	19 22 19.9	+0.5
	comp=Z,19nm,0.8s,baz=183,slow=4.7,SNR=48						
FITZ				SKPbc	**SKiKP**	**19 25 36.7**	**+0.1**
	comp=Z,35nm,1.3s,baz=29,slow=1.5,SNR=12						
THN	**Thein Dam**	**144.29**	**56**	*e*P	**PKPab**	**19 22 19.5**	**-2.2**
POO	**Poona**	**144.84**	**80**	‖ *i*P	PKPbc	19 22 24.0	-0.1
	comp=Z,20nm,1.0s						
JAY	**Jayapura**	**145.12**	**241**	PKP	**PKPab**	**19 22 27.1**	**+1.7**
KAD	**Karad**	**145.12**	**82**	*e*P	**PKPab**	**19 22 25.2**	**-0.1**
SDNR	**Sundarnagar**	**145.61**	**57**	*ex*	**PKPbc**	**19 22 27.0**	**+0.9**
SDNR				*e*4		19 25 42.0	
HIA	**Hailar**	**145.69**	**349**	*e*PKPdf	**PKPbc**	**19 22 25.8**	**0.0**
WMQ	**Urumqi**	**145.88**	**30**	PKPbc	**PKPdf**	**19 22 26.0**	**+0.5**
RTK	**Rohtak**	**145.89**	**61**	*e*P	**PKPbc**	**19 22 27.3**	**+0.3**
RTK				AMS	AMS	19 36 12.8	
	comp=Z,4μm,52.9s						
SMLA	**Simla**	**145.89**	**57**	*i* x	**PKPbc**	**19 22 27.7**	**+0.8**
	baz=93,slow=28						
SMLA				*i* P	**PKPbc**	**19 22 27.7**	**+0.8**
SMLA	**Simla**	**145.89**	**57**	*e*P	**PKPbc**	**19 22 27.7**	**+0.8**
KKR	**Kurukshetra**	**145.97**	**59**	*e*P	**PKPdf**	**19 22 25.0**	**-1.0**
KKR				AMS	AMS	19 34 02.6	
	comp=Z,3μm,35.0s						
KUDL	**Kundal**	**146.18**	**63**	*e*P	**PKPdf**	**19 22 27.0**	**+0.7**
USRK	**Ussuriysk Arra**	**146.27**	**332**	PKPbc	**PKPdf**	**19 22 26.6**	**+0.6**
	comp=Z,131nm,0.7s,baz=29,slow=2.5,SNR=199						
USRK				SKPbc	**SKiKP**	**19 25 44.0**	**+2.2**
	comp=Z,8.5nm,0.8s,baz=302,slow=0.1,SNR=7.5						
AYAN	**Aya Nagar**	**146.63**	**62**	*e*P	**PKPbc**	**19 22 28.2**	**-0.9**
SONA	**Sohna**	**146.66**	**62**	*e*P	**PKPdf**	**19 22 27.7**	**+0.6**
DDI	**Dehra Dun**	**146.87**	**58**	*ex*	**PKPbc**	**19 22 30.0**	**+0.2**
MDJ	**Mudanjiang**	**146.97**	**335**	PKPbc	**PKPdf**	**19 22 28.3**	**+1.1**
MDJ				LR	LR		
	comp=N,180nm,30.2s						
MDJ				LR	LR		
	comp=E,390nm,28.4s						
MDJ				LR	LR		
	comp=Z,580nm,28.4s						
MDJ	**Mudanjiang**	**146.97**	**335**	*e*PKPdf	**PKPdf**	**19 22 28.0**	**+0.9**
AGRA	**Agra**	**147.65**	**64**	*e*P	**PKPdf**	**19 22 29.7**	**+0.9**
SONM	**Songino Array**	**147.77**	**5**	PKP	**PKPdf**	**19 22 29.9**	**+1.3**
SONM				PKPbc	**PKiKP**	**19 22 32.7**	**-0.9**
SONM				pPKPbc	**pPKPbc**	**19 23 36.6**	**0.0**
SONM				SKPbc	**SKiKP**	**19 25 47.7**	**+2.7**
SONM	**Songino Array**	**147.77**	**5**	PKP	**PKPdf**	**19 22 29.9**	**+1.3**
	comp=Z,145nm,0.9s,baz=298,slow=0.8,SNR=198						
SONM				PKPbc	**PKiKP**	**19 22 32.7**	**-0.9**
	comp=Z,138nm,0.8s,baz=320,slow=1.7,SNR=291						
SONM				pPKPbc	**pPKPbc**	**19 23 36.6**	**0.0**
	comp=Z,22nm,1.1s,baz=332,slow=2.3,SNR=2.0						
SONM				SKPbc	**SKiKP**	**19 25 47.7**	**+2.7**
	comp=Z,6.4nm,0.8s,baz=298,slow=1.4,SNR=5.7						
AKL	**Akola**	**147.79**	**76**	*e*P	**PKPdf**	**19 22 28.9**	**-0.4**
ULN	**Ulaanbaatar**	**147.79**	**4**	P	**PKPbc**	**19 22 30.4**	**-1.5**
	SNR=166						
ULN	**Ulaanbaatar**	**147.79**	**4**	*e*PKPdf	**PKPdf**	**19 22 29.6**	**+0.9**
ULN	**Ulaanbaatar**	**147.79**	**4**	PKP	**PKPdf**	**19 22 29.7**	**+1.0**
MAJO	**Matsushiro**	**147.83**	**315**	*e*PKPdf	**PKPdf**	**19 22 27.4**	**-1.5**
MAT	**Matsushiro**	**147.83**	**315**	PKP	**PKPdf**	**19 22 29.4**	**+0.5**
CBIJ	**Chichi jima**	**148.53**	**296**	PKPbc	**PKPbc**	**19 22 33.4**	**-0.9**
CBIJ	**Chichi jima**	**148.53**	**296**	PKPbc	**PKPbc**	**19 22 33.4**	**-0.9**
	comp=Z,127nm,0.8s,baz=226,slow=6.3,SNR=5.0						
LGTI	**Lohaghat**	**148.96**	**59**	*ex*	**PKPbc**	**19 22 36.6**	**+1.4**
CN2	**Changchun**	**149.25**	**339**	*e*PKPbc	**PKPdf**	**19 22 31.3**	**+0.4**
CN2				PP	**PP**	**19 26 12.8**	**+4.1**
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,200nm,19.0s						
CN2				LR	LR		
	comp=E,300nm,19.0s						
CN2				LR	LR		
	comp=Z,200nm,20.0s						
HYB	**Hyderabad**	**149.30**	**82**	*i* PKP	**PKPdf**	**19 22 32.0**	**+0.2**
TLE	**Tual**	**149.47**	**228**	PKP	**PKPbc**	**19 22 39.2**	**+2.3**
KMPI	**Kaimana, Papua**	**150.09**	**232**	PKP	**PKPbc**	**19 22 40.6**	**+2.2**
BATI	**Baumata**	**151.18**	**208**	PKP	**PKPdf**	**19 22 36.9**	**+2.0**
BATI				PKPbc	**PKiKP**	**19 22 42.3**	**+0.8**
BATI	**Baumata**	**151.18**	**208**	P	**PKPbc**	**19 22 42.4**	**+1.4**
	comp=Z,45nm,1.0s						
BATI	**Baumata**	**151.18**	**208**	PKP	**PKPdf**	**19 22 36.9**	**+2.0**
	comp=Z,4.2nm,0.4s,baz=180,slow=2.0,SNR=2.7						
BATI				PKPbc	**PKiKP**	**19 22 42.3**	**+0.8**
	comp=Z,51nm,0.7s,baz=181,slow=1.3,SNR=16						
SOEI	**Soe**	**151.30**	**209**	P	**PKPbc**	**19 22 42.4**	**+1.0**
	comp=Z,110nm,1.2s,comp=Z,2μm						
SNY	**Shenyang**	**151.64**	**339**	⇑PKPbc	**PKPbc**	**19 22 42.0**	**+0.8**
SNY				PKPab	**PKPab**	**19 22 51.8**	**+1.1**
SNY				sPKP		19 23 54.8	
SNY				PP	**PP**	**19 26 22.5**	**+0.2**
SNY				SKS	SKSdf	19 29 31.3	+14
FAKI	**Fak Fak**	**151.67**	**231**	PKP	**PKPbc**	**19 22 42.9**	**+0.8**
DANN	**Dangsing**	**152.22**	**58**	*e*P	**PKPdf**	**19 22 37.7**	**+1.3**
BNDI	**Bandanaira**	**152.24**	**225**	P	**PKPab**	**19 22 52.9**	**-1.2**
	comp=Z,73nm,1.3s						
KOLN	**Koldanda**	**152.30**	**60**	*e*P	**PKPdf**	**19 22 36.7**	**+0.3**
GKN	**Gorkha**	**153.07**	**59**	*e*P	**PKPdf**	**19 22 38.0**	**+0.5**
KSRS	**Korea Array**	**153.43**	**328**	PKP	**PKPdf**	**19 22 38.5**	**+1.1**
	comp=Z,24nm,0.9s,baz=43,slow=1.0,SNR=76						
KSRS				PKPbc	**PKiKP**	**19 22 46.0**	**+0.7**
	comp=Z,40nm,0.8s,baz=16,slow=2.1,SNR=37						
KSRS				PKPab	**PKPab**	**19 22 58.8**	**+0.3**
	comp=Z,26nm,0.9s,baz=39,slow=4.0,SNR=12						
KSAR	**Wonju Array Be**	**153.45**	**328**	PKP	**PKPdf**	**19 22 38.5**	**+1.1**
KSAR				PKPbc	**PKiKP**	**19 22 46.0**	**+0.6**
KSAR				PKPab	**PKPab**	**19 22 58.8**	**+0.2**
DMN	**Daman**	**153.60**	**59**	*e*P	**PKPdf**	**19 22 38.8**	**+0.4**
KKN	**Kakani**	**153.68**	**59**	*e*P	**PKPdf**	**19 22 38.9**	**+0.5**
SWI	**Sorong**	**153.75**	**233**	P	**PKPab**	**19 23 02.3**	**+1.8**
PKIN	**Phulchoki**	**153.85**	**59**	*e*P	**PKPdf**	**19 22 39.1**	**+0.4**
PKI	**Pulchoki**	**153.87**	**59**	*e*P	**PKPdf**	**19 22 39.0**	**+0.2**
INCN	**Inchon**	**154.04**	**330**	*e*PKPdf	**PKPdf**	**19 22 38.3**	**-0.1**
GUN	**Gumba**	**154.12**	**58**	*e*P	**PKPdf**	**19 22 39.6**	**+0.4**
JIRN	**Jiri**	**154.47**	**58**	*e*P	**PKPdf**	**19 22 39.7**	**0.0**
GTA	**Gaotai**	**154.57**	**20**	PKPbc	**PKPdf**	**19 22 40.8**	**+1.6**
GTA				PKPab	**PKPab**	**19 23 03.5**	**+0.1**
GTA				PP	**PP**	**19 26 38.0**	**-1.0**
GTA				SKS	**SKSdf**	**19 29 18.5**	**-2.8**
GTA				AMB	AMB		
	comp=Z,210nm,8.1s						
GTA				LR	LR		
	comp=N,200nm,20.4s						
GTA				LR	LR		
	comp=E,270nm,22.8s						
GTA				LR	LR		
	comp=Z,490nm,23.8s						
HHC	**Hu-ho-hao-te**	**154.92**	**358**	*e*PKPbc	**PKPdf**	**19 22 41.5**	**+1.9**
HHC				pPKP	**pPKPdf**	**19 23 41.8**	**-3.5**
HHC				sPKP		19 24 04.3	
HHC				PP	PP	19 26 46.0	+5.3
HHC				SKKS		19 33 10.3	
HHC				SS	**SS**	**19 46 07.8**	**+6.8**
HHC				AMB	AMB		
	comp=Z,890nm,8.3s						
HHC				LR	LR		
	comp=N,610nm,20.2s						
HHC				LR	LR		
	comp=E,590nm,19.0s						
HHC				LR	LR		
	comp=Z,700nm,19.0s						
RAMN	**Ramite**	**155.08**	**59**	*e*P	**PKPdf**	**19 22 40.8**	**+0.4**
BJI	**Beijing**	**155.25**	**350**	PKP	**PKPdf**	**19 22 40.8**	**+0.9**
BJI				pPKP	**pPKPdf**	**19 23 42.8**	**-2.8**
BJI				AMB	AMB		
	comp=Z,290nm,11.7s						
BJI				LR	LR		
	comp=N,300nm,25.9s						
BJI				LR	LR		
	comp=E,260nm,22.3s						
BJI				LR	LR		
	comp=Z,280nm,55.4s						
BJT	**Baijiatuau**	**155.28**	**350**	*e*PKPdf	**PKPdf**	**19 22 40.7**	**+0.7**
ODAN	**Odare**	**155.77**	**59**	*e*P	**PKPdf**	**19 22 41.8**	**+0.5**
TAPN	**Taplejung**	**155.84**	**58**	*e*P	**PKPdf**	**19 22 42.0**	**+0.5**
LSA	**Lhasa**	**157.36**	**49**	PKP	**PKPdf**	**19 22 45.3**	**+1.7**
LSA	**Lhasa**	**157.36**	**49**	*e*PKIKP	**PKPdf**	**19 22 45.0**	**+1.4**
LSA	**Lhasa**	**157.36**	**49**	*e*PKPdf	**PKPdf**	**19 22 45.0**	**+1.4**
LEM	**Lembang**	**157.44**	**172**	P	**PKPab**	**19 23 18.0**	**+1.7**
KAPI	**Kappang**	**157.50**	**205**	PKPab	**PKPab**	**19 23 16.9**	**+0.4**
KAPI	**Kappang**	**157.50**	**205**	PKPab	**PKPab**	**19 23 16.9**	**+0.4**
	comp=Z,19nm,0.8s,baz=196,slow=2.3,SNR=9.2						
LZH	**Lanzhou**	**158.83**	**15**	*e*PKP	**PKPdf**	**19 22 46.5**	**+1.7**
LZH				PP	**PP**	**19 27 02.3**	**0.0**
LZH				SKS	**SKSdf**	**19 29 20.3**	**-5.6**
LZH				SKKS	**SKKSac**	**19 33 22.0**	**-4.7**
LZH				SS	**SS**	**19 46 44.0**	**+0.9**
LZH				AMB	AMB		
	comp=Z,350nm,6.4s						
LZH				LR	LR		
	comp=N,340nm,16.2s						
LZH				LR	LR		
	comp=E,400nm,15.8s						
LZH				LR	LR		
	comp=Z,420nm,16.7s						
APSI	**Ampana**	**160.19**	**215**	PKP	**PKPdf**	**19 22 50.4**	**+3.6**
XAN	**Xi'an**	**161.67**	**4**	PKP	**PKPdf**	**19 22 49.0**	**+1.2**
SSE	**Sheshan**	**161.85**	**329**	*e*PKP	**PKPdf**	**19 22 47.8**	**-0.2**
NJ2	**Nanjing**	**162.05**	**337**	*e*PKP	**PKPdf**	**19 22 48.3**	**+0.1**
NJ2				PKPab	**PKPab**	**19 23 34.0**	**-1.9**
NJ2				pPKP	**pPKPdf**	**19 23 47.3**	**-6.7**
NJ2				PP	**PP**	**19 27 18.0**	**-1.6**
NJ2				AMB	AMB		
	comp=Z,1μm,10.3s						
NJ2				LR	LR		
	comp=N,2μm,24.8s						
NJ2				LR	LR		
	comp=E,770nm,18.7s						
NJ2				LR	LR		
	comp=Z,1μm,23.3s						
PSI	**Prapat**	**162.81**	**137**	PKP	**PKPdf**	**19 22 49.1**	**-0.6**
PSI				PKPab	**PKPab**	**19 23 40.1**	**+0.2**
PSI	**Prapat**	**162.81**	**137**	PKP	**PKPdf**	**19 22 49.1**	**-0.6**
	comp=Z,5.1nm,0.7s,baz=236,slow=3.6,SNR=4.7						
PSI				PKPab	**PKPab**	**19 23 40.1**	**+0.2**
	comp=Z,6.3nm,0.6s,baz=251,slow=2.4,SNR=3.7						
CD2	**Chengdu**	**163.63**	**21**	PKP	**PKPdf**	**19 22 51.0**	**+1.2**
CD2				pPKP	**pPKPdf**	**19 23 49.5**	**-6.2**
CD2				sPKP		19 24 14.5	
CD2				PKS	PKSdf	19 26 16.8	-6.1
CD2				PP	**PP**	**19 27 27.3**	**-0.6**
CD2				SKS	**SKSdf**	**19 29 23.0**	**-6.9**
CD2				SS	**SS**	**19 47 28.3**	**-4.7**
CD2				AMB	AMB		
	comp=Z,690nm,6.7s						
TPRI	**Tanjung Pinang**	**164.16**	**157**	PKP	PKPdf	19 23 08.4	+18
WHN	**Wuhan**	**164.81**	**347**	PKP	**PKPdf**	**19 22 52.3**	**+1.5**
WHN				PKPab	**PKPab**	**19 23 47.0**	**-1.0**
WHN				PP	**PP**	**19 27 31.8**	**-2.0**
WHN				LR	LR		
	comp=Z,1μm,33.2s						
ENH	**Enshi**	**165.46**	**4**	*e*PKPdf	**PKPdf**	**19 22 51.9**	**+0.5**
KSM	**Kuching**	**165.87**	**179**	*e*PKPdf	**PKPdf**	**19 22 52.6**	**+0.4**
KSM	**Kuching**	**165.87**	**179**	PKP	**PKPdf**	**19 22 53.5**	**+1.3**
SBUM	**Sibu**	**166.74**	**187**	PKP	**PKPdf**	**19 22 54.7**	**+1.8**
SSLB	**Suanglung**	**167.33**	**311**	*e*PKPdf	**PKPdf**	**19 22 53.9**	**+0.9**
KMI	**Kunming**	**168.10**	**37**	PKP	**PKPdf**	**19 22 54.8**	**+1.0**
KMI				pPKP	**pPKPdf**	**19 23 57.3**	**-2.5**
KMI				PP	**PP**	**19 27 53.8**	**+2.1**
KMI				SKKS		19 34 16.0	
KMI				SS	**SS**	**19 48 16.3**	**-3.4**
KMI				AMB	AMB		
	comp=Z,330nm,6.2s						
KMI				LR	LR		
	comp=Z,380nm,34.3s						
CHTO	**Chiang Mai**	**168.48**	**73**	*e*PKIKP	**PKPdf**	**19 22 53.5**	**-0.4**
CHTO	**Chiang Mai**	**168.48**	**73**	*e*PKPdf	**PKPdf**	**19 22 53.5**	**-0.4**
CHTO	**Chiang Mai**	**168.48**	**73**	PKP	**PKPdf**	**19 22 54.6**	**+0.7**
CM31	**Chiang Mai Arr**	**168.56**	**74**	*e*PKPdf	**PKPdf**	**19 22 54.7**	**+0.7**
CMAR	**Chiang Mai Arr**	**168.56**	**74**	PKP	**PKPdf**	**19 22 54.8**	**+0.8**
CMAR				PKPab	**PKPab**	**19 24 05.4**	**+0.1**
CMAR				PP	**PP**	**19 27 50.5**	**-4.7**
CMAR	**Chiang Mai Arr**	**168.56**	**74**	PKP	**PKPdf**	**19 22 54.8**	**+0.8**
	comp=Z,8.8nm,0.9s,baz=278,slow=1.4,SNR=54						
CMAR				PKPab	**PKPab**	**19 24 05.4**	**+0.1**
	comp=Z,13nm,0.8s,baz=279,slow=6.0,SNR=34						
CMAR				PP	**PP**	**19 27 50.5**	**-4.7**
	comp=Z,2.7nm,1.0s,baz=280,slow=5.1,SNR=4.7						
GYA	**Guiyang**	**168.69**	**18**	PKP	**PKPdf**	**19 22 53.0**	**-1.0**
GYA				pPKP	**pPKPdf**	**19 23 57.5**	**-2.5**
GYA				PKPab	**PKPab**	**19 24 05.5**	**+0.1**
GYA				PKS	**PKSdf**	**19 26 24.0**	**-2.8**
GYA				PP	**PP**	**19 27 55.8**	**+1.9**
GYA				AMB	AMB		
	comp=Z,210nm,8.4s						
QIZ	**Qiongzhong**	**176.62**	**11**	PKP	**PKPdf**	**19 22 56.5**	**-0.9**
QIZ				PP	**PP**	**19 28 32.5**	**+0.3**
QIZ				SS	SS	19 49 41.5	+1.2

IDC 30 19:10:42.9±2.5, 1°.89S×98°.78E, h0km, mb3.5/5, mb1 3.6/6, mb1mx3.4/25, mbtmp3.5/6, ML3.2/1, Error ellipse: s-maj=96.1km s-min=24.8km az=57.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.66**	**2**	Pn	Pn	19 11 53.9	-0.8
	1.1nm,0.3s,baz=297,slow=14,SNR=4.1						
CMAR	**Chiang Mai Arr**	**20.21**	**0**	P	P	19 15 20.3	+0.7
	0.3nm,0.6s,baz=192,slow=7.7,SNR=4.2						
WRA	**Warramunga Arr**	**39.10**	**120**	P	P	19 18 12.2	-0.1
	0.2nm,0.6s,baz=303,slow=8.9,SNR=4.3						
MKAR	**Makanchi Array**	**50.60**	**345**	P	P	19 19 43.6	0.0
	0.6nm,0.3s,baz=159,slow=8.8,SNR=27						
KURBB	**Kurbba Arra**	**55.10**	**344**	P	P	19 20 16.7	0.0
	0.7nm,0.8s,baz=161,slow=6.9,SNR=5.9						
ZALV	**Zalesovo Beam**	**56.84**	**350**	P	P	19 20 28.4	-0.7
	0.6nm,0.2s,baz=177,slow=8.1,SNR=4.3						

IDC 30 19:11:55.0±4.8, 6°.30S×150°.66E, h119km±40km, mb3.4/4, mb1 3.6/5, mb1mx3.3/18, mbtmp3.3/5, MS3.3/1, Ms1 3.3/1, ms1mx3.1/17, Error ellipse: s-maj=96.1km s-min=30.2km az=129.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.64**	**228**	P	Pn	19 13 02.8	-0.4
	1.4nm,0.3s,baz=70,slow=12,SNR=5.6						
PMG				S	Sn	19 14 01.1	+5.0
	1.4nm,0.3s,baz=141,slow=16,SNR=3.6						
WRA	**Warramunga Arr**	**20.86**	**228**	P	P	19 16 27.6	-0.2
	0.7nm,0.5s,baz=54,slow=10,SNR=9.6						
ASAR	**Alice Springs**	**23.62**	**221**	P	P	19 16 55.8	+0.3
	1.2nm,0.6s,baz=53,slow=9.3,SNR=22						
ASAR				LR	LR	19 26 33.1	
	comp=Z,82nm,21.7s,baz=343,slow=37						
FITZ	**Fitzroy Crossi**	**27.08**	**242**	P	P	19 17 27.2	+0.5
	2.1nm,0.8s,baz=66,slow=9.6,SNR=6.3						
ILAR	**Eielson Array**	**84.34**	**22**	P	P	19 24 13.6	+0.1
	0.8nm,0.6s,baz=256,slow=4.6,SNR=6.7						
GERES	**GERESS Array B**	**124.18**	**327**	PKP	PKPdf	19 30 41.1	+1.3
	0.3nm,0.7s,baz=14,slow=6.1,SNR=3.5						
TORD	**Torodi Ar. Bea**	**148.69**	**285**	PKPbc	PKPdf	19 31 27.0	+1.5
	1.0nm,0.8s,baz=53,slow=2.0,SNR=6.9						

*ISCJB **30** 19:21:07.7±0.5, 53°.44N±0°.10×166°.55W±0°.09, h62km±7km, mb3.9/6, Error ellipse: s-maj=17.7km s-min=4.2km az=153.1*

*NEIC **30** 19:21:07.9, 53°.30N×166°.40W, h17km, ML4.1(AEIC), After AEIC.*

*IDC **30** 19:21:08.6±1.2, 53°.96N×166°.60W, h56km±8km, mb3.7/6, mb1 4.1/8, mb1mx3.6/30, mbtmp3.8/8, MS3.6/1, Ms1 3.7/1, ms1mx3.1/52, Error ellipse: s-maj=34.7km s-min=17.6km az=174.0*

ISC 30 19:21:08.5±0.7, 53°.45N±0°.08×166°.55W±0°.05, h57km±6km, n41, σ1°.07/53, mb3.9/6, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MREP	**Makushin Rep't**	**0.38**	**343**	P	**Pn**	**19 21 19.1**	**-0.1**
UNV	**Unalaska Valle**	**0.40**	**4**	P	**Pn**	**19 21 17.9**	**-1.3**
UNV				S	**Sn**	**19 21 26.9**	**-0.2**
MTBL	**Makushin Table**	**0.53**	**352**	P	**Pn**	**19 21 20.4**	**-0.4**
MCIR	**Makushin Cirqu**	**0.55**	**338**	P	**Pn**	**19 21 21.2**	**+0.3**
ZRO	**Akutan Zero**	**0.73**	**28**	P	**Pn**	**19 21 22.3**	**-0.8**
AKRB	**Akutan Reef Bi**	**0.74**	**22**	P	**Pn**	**19 21 22.7**	**-0.4**
AKRB				S	**Sn**	**19 21 34.6**	**+0.7**
LVA	**Lava Point**	**0.78**	**23**	P	**Pn**	**19 21 23.2**	**-0.5**
OKFG	**Magazine Ridge**	**0.81**	**268**	P	**Pn**	**19 21 23.3**	**-0.8**
OKFG				S	**Sn**	**19 21 36.7**	**+1.3**
AKGG	**Akutan Green G**	**0.82**	**24**	P	**Pn**	**19 21 23.7**	**-0.5**
AKUT	**Akutan**	**0.83**	**33**	P	**Pn**	**19 21 23.3**	**-1.0**
AKUT				S	**Sn**	**19 21 35.5**	**-0.3**
HSB	**Akutan Spr's B**	**0.83**	**27**	P	**Pn**	**19 21 23.7**	**-0.7**
OKTU	**Okmok Mt. Tuli**	**0.89**	**267**	P	**Pn**	**19 21 25.5**	**+0.4**
OKCE	**Okmok Cone E**	**0.96**	**270**	P	**Pn**	**19 21 26.1**	**+0.1**
OKSO	**Okmok South**	**0.97**	**265**	P	**Pn**	**19 21 25.1**	**-0.9**
OKSP	**Okmok Steeple**	**1.06**	**260**	P	**Pn**	**19 21 27.1**	**-0.1**
NIKH	**Nikolski High**	**1.46**	**252**	P	**Pn**	**19 21 31.9**	**-0.8**
NIKH				S	**Sn**	**19 21 50.8**	**+0.1**
WESE	**West Dahl East**	**1.55**	**48**	P	**Pn**	**19 21 33.7**	**-0.2**
WESN	**West Dahl Nort**	**1.62**	**45**	P	**Pn**	**19 21 35.2**	**+0.4**
SSBA	**Shishaldin**	**1.95**	**46**	P	**Pn**	**19 21 39.7**	**+0.4**
SSBA				S	**Sn**	**19 22 04.1**	**+1.4**
SSLW	**Shishaldin Wes**	**1.95**	**46**	P	**Pn**	**19 21 39.5**	**+0.2**
BRPK	**Brown Peak**	**2.05**	**53**	P	**Pn**	**19 21 40.6**	**0.0**
ISNN	**Isanotski Nort**	**2.14**	**48**	P	**Pn**	**19 21 41.6**	**-0.3**
FALS	**False Pass**	**2.33**	**51**	P	**Pn**	**19 21 45.2**	**+0.9**
FALS				S	**Sn**	**19 22 13.3**	**+1.6**
DRIA	**Deer Island**	**2.94**	**57**	P	**Pn**	**19 21 52.6**	**-0.2**
DT1	**Dutton Round H**	**3.01**	**55**	P	**Pn**	**19 21 53.6**	**-0.1**
DTNA	**Dutton South F**	**3.04**	**54**	P	**Pn**	**19 21 54.5**	**+0.3**
PS4A	**Pavlof South-4**	**3.34**	**53**	P	**Pn**	**19 22 00.5**	**+2.3**
SDPT	**Sand Point**	**4.03**	**59**	P	**Pn**	**19 22 06.6**	**-1.0**
SPIA	**Saint Paul Isl**	**4.29**	**332**	P	**Pn**	**19 22 12.2**	**+0.9**
VNWF	**Veniaminof 8**	**4.87**	**53**	P	**Pn**	**19 22 19.5**	**+0.3**
VNHG	**Veniaminof 1**	**5.10**	**54**	P	**Pn**	**19 22 22.5**	**+0.2**
KDAK	**Kodiak Island**	**9.02**	**56**	P	**Pn**	**19 23 13.2**	**-2.6**
	1.8nm,0.3s,baz=300,slow=18,SNR=17						
KDAK				S	Sn	19 24 48.0	-7.7
	0.4nm,0.3s,baz=121,slow=21,SNR=5.6						
FX1	**Attu Island--F**	**12.19**	**276**	P	**Pn**	**19 23 59.9**	**+0.8**
	0.9nm,0.3s,baz=298,slow=22,SNR=7.3						
ILAR	**Eielson Array**	**15.11**	**34**	P	**Pn**	**19 24 39.4**	**+1.2**
	0.2nm,0.3s,baz=225,slow=11,SNR=7.4						
ILAR				LR	LR	19 30 59.0	
	comp=Z,200nm,18.5s,baz=214,slow=40						
INK	**Inuvik**	**21.51**	**34**	P	**P**	**19 25 49.1**	**-3.0**
	1.7nm,0.4s,baz=248,slow=8.9,SNR=2.7						
YBH	**Yreka Blue Hor**	**31.31**	**94**	P	**P**	**19 27 25.3**	**+2.1**
	0.9nm,0.2s,baz=53,slow=10,SNR=4.1						
YBH				pP	**pP**	**19 27 38.4**	**+0.9**
	2.4nm,0.7s,baz=45,slow=5.7,SNR=3.3						
NVAR	**Mina Array Bea**	**36.01**	**95**	P	**P**	**19 28 06.1**	**+2.0**
	0.6nm,0.6s,baz=320,slow=6.3,SNR=2.8						
NVAR				pP	**pP**	**19 28 19.7**	**+1.1**
	1.6nm,0.7s,baz=298,slow=7.7,SNR=5.9						
NVAR				PcP	**PcP**	**19 30 28.8**	**-0.7**
	0.6nm,0.6s,baz=344,slow=2.9,SNR=4.1						
PDAR	**Pinedale Array**	**38.55**	**82**	P	**P**	**19 28 25.4**	**-0.1**
	1.1nm,0.9s

BJI ***30*** *19:39:49.1,27°.00N×56°.00E,h5km,mB4.6/1,mb4.3/6*
TEH ***30*** *19:39:51.5,27°.06N×56°.01E,h11km,ML4.1*
IDC ***30*** *19:39:52.4±0.9,27°.04N×56°.09E,h0km,mb4.1/25,*
mb1 4.3/30,mb1mx4.2/41,mbtmp4.2/30,ML4.0/4,Error
ellipse: s-maj=20.5km s-min=11.7km az=1.0
ISCJB ***30*** *19:39:53.3±0.2,27°.11N±0°.03×56°.02E±0°.03,h14km,*
mb4.2/55,Error ellipse: s-maj=3.7km s-min=3.4km
az=35.4
MOS ***30*** *19:39:54.5±1.4,26°.85N×56°.13E,h33km,mb4.4/24,Error*
ellipse: s-maj=10.7km s-min=5.9km az=116.8
CSEM ***30*** *19:39:54.7±0.1,27°.13N×56°.05E,h10km,mb4.3/43,Ms4.0,*
Error ellipse: s-maj=5.0km s-min=3.8km az=74.0
THR ***30*** *19:39:55.8±1.3,27°.34N×56°.07E,h14km±7km,ML4.0*
OMAN ***30*** *19:40:12.8±99.0,25°.80N×56°.16E,h28km±4km,Error*
ellipse: s-maj=178.8km s-min=4.3km az=349.0
NSSC ***30*** *19:40:21.9±3.2,28°.17N×53°.68E,h0km±999km*
ISC 30 19:39:54.8±0.4,27°.14N±0°.03×56°.09E±0°.03,h14km,n330,
σ1§21/325,mb4.3/55,13C-6D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.27**	**16**	*e*Pg	**Pg**	**19 39 59.3**	**-1.3**
BNDS				AML	AML	19 40 12.3	
	comp=N,55μm,0.5s						
BNDS	**Bandar-Abbas**	**0.27**	**16**	*e*Pg	**Pg**	**19 39 59.3**	**-1.3**
IBND	**Bandar-abas**	**0.50**	**53**	*e*	**Sg**	**19 40 12.7**	**+1.1**
	comp=Z,49μm,0.2s						
IBND				*e*Pg	**Pg**	**19 40 04.3**	**-0.5**
IBND				*e*Sg	**Sb**	**19 40 13.8**	**+1.1**
BANOM	**Banah**	**1.23**	**171**	P	**Pg**	**19 40 18.5**	**0.0**
	SNR=232						
BANOM	**Banah**	**1.23**	**171**	P	**Pg**	**19 40 18.5**	**0.0**
	SNR=251						
BANOM				S	**Sg**	**19 40 36.4**	**+1.8**
NAZ	**Nazwa, Dubai**	**2.18**	**190**	P	**Pb**	**19 40 32.9**	**-1.2**
HATD	**Hatta, Dubai**	**2.31**	**179**	P	**Pn**	**19 40 34.0**	**+1.5**
FAQ	**Al Faqa, Dubai**	**2.43**	**191**	P	**Pb**	**19 40 36.3**	**-2.0**
ASHO	**Ashiyiah**	**2.45**	**181**	P	**Pn**	**19 40 36.5**	**+2.0**
	SNR=63						
ASUD	**Al Ashush, Dub**	**2.60**	**195**	P	**Pb**	**19 40 39.2**	**-2.0**
KRBR	**Kerman**	**2.89**	**12**	*e*Pn	**Pn**	**19 40 41.8**	**+1.0**
KRBR				*e*Sg	**Sb**	**19 41 20.4**	**-1.3**
KRBR				AML	AML	19 41 27.1	
	comp=N,632nm,0.5s						
KRBR				AML	AML	19 41 31.0	
	comp=E,740nm,0.8s						
KRBR	**Kerman**	**2.89**	**12**	*e*Pn	**Pn**	**19 40 41.8**	**+1.0**
KRBR				*e*Sg	**Sb**	**19 41 20.4**	**-1.3**
GHIR	**Ghir-Karzin**	**2.98**	**293**	*e*Pn	**Pn**	**19 40 42.9**	**+1.1**
GHIR				*e*Sg	**Sb**	**19 41 26.3**	**+2.3**
GHIR				AML	AML	19 41 47.0	
	comp=N,528nm,0.6s						
GHIR				AML	AML	19 41 50.2	
	comp=E,438nm,0.6s						
GHIR	**Ghir-Karzin**	**2.98**	**293**	*e*Pn	**Pn**	**19 40 42.9**	**+1.1**
GHIR				*e*Sg	**Sb**	**19 41 26.3**	**+2.3**
ISRV	**Sarvestan**	**3.44**	**311**	*e*Pn	**Pn**	**19 40 48.7**	**+0.3**
ISRV				*e*		19 42 10.0	
	comp=Z,10μm,0.5s						
ISRV	**Sarvestan**	**3.44**	**311**	*e*Pn	**Pn**	**19 40 48.7**	**+0.3**
HOQ	**Hoqain**	**3.71**	**162**	⇓P	**Pn**	**19 40 51.3**	**-0.5**
HOQ	**Hoqain**	**3.71**	**162**	P	**Pn**	**19 40 51.3**	**-0.5**
IPAR	**Pars**	**3.79**	**316**	*e*Pn	**Pn**	**19 40 54.2**	**+1.0**
IPAR				*e*		19 42 21.9	
	comp=Z,3μm,0.4s						
IPAR	**Pars**	**3.79**	**316**	*e*Pn	**Pn**	**19 40 54.2**	**+1.0**
ARQ	**Araqi**	**3.81**	**174**	⇓P	**Pn**	**19 40 51.3**	**-1.9**
ARQ	**Araqi**	**3.81**	**174**	P	**Pn**	**19 40 51.3**	**-1.9**
IMEH	**Mehriz**	**4.42**	**343**	*e*Pn	**Pn**	**19 41 02.8**	**+1.0**
IMEH				*e*		19 42 30.2	
	comp=Z,2μm,0.4s						
IMEH	**Mehriz**	**4.42**	**343**	*e*Pn	**Pn**	**19 41 02.8**	**+1.0**
SMDO	**Samad**	**4.44**	**156**	⇑P	**Pn**	**19 41 01.8**	**-0.1**
SMDO	**Samad**	**4.44**	**156**	P	**Pn**	**19 41 01.8**	**-0.1**
IBAF	**Bafgh**	**4.46**	**354**	*e*Pn	**Pn**	**19 41 02.9**	**+0.8**
IBAF				*e*		19 42 03.8	
	comp=Z,2μm,0.3s						
IBAF	**Bafgh**	**4.46**	**354**	*e*Pn	**Pn**	**19 41 02.9**	**+0.8**
BSY	**Bisya**	**4.49**	**167**	⇓P	**Pn**	**19 41 01.1**	**-1.5**
BSYO	**Bisya**	**4.52**	**166**	P	**Pn**	**19 41 01.1**	**-1.8**
IKAZ	**Kazeroun**	**4.57**	**306**	*e*Pn	**Pn**	**19 41 04.2**	**+0.3**
IKAZ				*e*		19 42 04.2	
	comp=Z,3μm,0.3s						
IKAZ	**Kazeroun**	**4.57**	**306**	*e*Pn	**Pn**	**19 41 04.2**	**+0.3**
ISAD	**Sadrabad**	**5.20**	**337**	*e*Pn	**Pn**	**19 41 13.7**	**+1.3**
ISAD				*e*		19 42 25.2	
	comp=Z,943nm,0.3s						
ISAD	**Sadrabad**	**5.20**	**337**	*e*Pn	**Pn**	**19 41 13.7**	**+1.3**
WBK	**Wadi Bani Khal**	**5.22**	**149**	P	**Pn**	**19 41 13.5**	**+1.0**
	SNR=8.2						
WBK	**Wadi Bani Khal**	**5.22**	**149**	P	**Pn**	**19 41 13.5**	**+1.0**
	SNR=8.2						
ICHK	**Chekchek**	**5.29**	**344**	*e*Pn	**Pn**	**19 41 14.4**	**+0.7**
ICHK				*e*		19 41 38.9	
	comp=Z,770nm,0.3s						
ICHK	**Chekchek**	**5.29**	**344**	*e*Pn	**Pn**	**19 41 14.4**	**+0.7**
IKOO	**Kooshah**	**5.84**	**25**	*e*Pn	**Pn**	**19 41 22.5**	**+1.2**
IKOO				*e*		19 43 13.1	
	comp=Z,805nm,0.4s						
IKOO	**Kooshah**	**5.84**	**25**	*e*Pn	**Pn**	**19 41 22.5**	**+1.2**
ITEG	**Tejag**	**6.18**	**21**	*e*Pn	**Pn**	**19 41 27.0**	**+1.1**
ITEG				*e*		19 43 20.3	
	comp=Z,706nm,0.4s						
ITEG	**Tejag**	**6.18**	**21**	*e*Pn	**Pn**	**19 41 27.0**	**+1.1**
IGAR	**Gharneh**	**6.31**	**327**	*e*Pn	**Pn**	**19 41 28.5**	**+0.8**
IGAR				*e*		19 41 36.9	
	comp=Z,780nm,0.2s						
NASN	**Na'in**	**6.31**	**334**	*e*Pn	**Pn**	**19 41 28.1**	**+0.3**
NASN	**Na'in**	**6.31**	**334**	*e*Pn	**Pn**	**19 41 28.1**	**+0.3**
IDAH	**Dahanechah**	**6.47**	**30**	*e*Pn	**Pn**	**19 41 32.7**	**+2.8**
IDAH				*e*		19 43 54.2	
	comp=Z,524nm,0.6s						
IDAH	**Dahanechah**	**6.47**	**30**	*e*Pn	**Pn**	**19 41 32.7**	**+2.8**
IZEF	**Zefreh**	**6.59**	**331**	*e*Pn	**Pn**	**19 41 31.4**	**-0.2**
IZEF				*e*		19 41 32.5	
	comp=Z,304nm,0.3s						
IZEF	**Zefreh**	**6.59**	**331**	*e*Pn	**Pn**	**19 41 31.4**	**-0.2**
IPIR	**Pirpir**	**7.13**	**322**	*e*Pn	**Pn**	**19 41 39.0**	**0.0**
IPIR				*e*		19 43 06.5	
	comp=Z,533nm,0.3s						
IPIR	**Pirpir**	**7.13**	**322**	*e*Pn	**Pn**	**19 41 39.0**	**0.0**
IKLH	**Kolahrood**	**7.29**	**329**	*e*Pn	**Pn**	**19 41 41.2**	**+0.1**
IKLH				*e*		19 41 53.0	
	comp=Z,278nm,0.2s						
IKLH	**Kolahrood**	**7.29**	**329**	*e*Pn	**Pn**	**19 41 41.2**	**+0.1**
QRN	**Al-Qurain**	**7.40**	**284**	*e*P	**Pn**	**19 41 42.1**	**-0.4**
QRN				AML	AML	19 43 04.3	
	comp=Z,106nm,0.3s						
KBD	**Kabd**	**7.68**	**287**	*e*P	**Pn**	**19 41 45.9**	**-0.5**
KBD				AML	AML	19 43 10.9	
	comp=Z,20nm,0.4s						
KBD	**Kabd**	**7.68**	**287**	*e*P	**Pn**	**19 41 45.9**	**-0.5**
RDF	**Al-Radifah**	**7.75**	**285**	*e*P	**Pn**	**19 41 46.6**	**-0.7**
RDF				AML	AML	19 43 15.8	
	comp=Z,58nm,0.3s						
RDF	**Al-Radifah**	**7.75**	**285**	*e*P	**Pn**	**19 41 46.6**	**-0.7**
UMR	**Umm Al-Rimmam**	**7.76**	**290**	*e*P	**Pn**	**19 41 47.0**	**-0.4**
UMR	**Umm Al-Rimmam**	**7.76**	**290**	*e*P	**Pn**	**19 41 47.0**	**-0.4**
ISFB	**Sefidab**	**7.91**	**336**	*e*Pn	**Pn**	**19 41 50.1**	**+0.6**
ISFB				*e*		19 41 51.0	
	comp=Z,310nm,0.3s						
ISFB	**Sefidab**	**7.91**	**336**	*e*Pn	**Pn**	**19 41 50.1**	**+0.6**
NAY	**Al-Naaiem**	**8.08**	**287**	*e*P	**Pn**	**19 41 51.8**	**-0.1**
NAY	**Al-Naaiem**	**8.08**	**287**	*e*P	**Pn**	**19 41 51.8**	**-0.1**
RST	**Umm Al-Ruwaisa**	**8.35**	**288**	*e*P	**Pn**	**19 41 54.6**	**-0.9**
RST				AML	AML	19 43 27.2	
	comp=Z,370nm,0.7s						
RST	**Umm Al-Ruwaisa**	**8.35**	**288**	*e*P	**Pn**	**19 41 54.6**	**-0.9**
ILAS	**Lasjerd**	**8.64**	**343**	*e*Pn	**Pn**	**19 42 00.5**	**+0.8**
ILAS	**Lasjerd**	**8.64**	**343**	*e*Pn	**Pn**	**19 42 00.5**	**+0.8**
IVRN	**Varamin**	**8.67**	**336**	*e*Pn	**Pn**	**19 42 00.5**	**+0.5**
IVRN				*e*		19 42 13.1	
	comp=Z,420nm,0.4s						
IVRN	**Varamin**	**8.67**	**336**	*e*Pn	**Pn**	**19 42 00.5**	**+0.5**
IFIR	**Firoozkooh**	**8.94**	**342**	*e*		19 42 15.6	
	comp=N,145nm,0.3s						
IFIR				*e*Pn	**Pn**	**19 42 04.5**	**+0.7**
ISHM	**Shahmirzad**	**8.96**	**345**	*e*		19 42 13.1	
	comp=Z,223nm,0.2s						
ISHM				*e*Pn	**Pn**	**19 42 04.9**	**+0.8**
IKIA	**Kiasar**	**9.27**	**348**	*e*		19 42 13.3	
	comp=Z,97nm,0.3s						
IKIA				*e*Pn	**Pn**	**19 42 08.7**	**+0.4**
IALA	**Alasht**	**9.34**	**343**	*e*Pn	**Pn**	**19 42 10.1**	**+0.8**
IALA	**Alasht**	**9.34**	**343**	*e*Pn	**Pn**	**19 42 10.1**	**+0.8**
IGLO	**Ghaloghah**	**9.53**	**349**	*e*Pn	**Pn**	**19 42 12.7**	**+0.9**
IGLO				*e*		19 42 20.6	
	comp=Z,280nm,0.4s						
IPRN	**Peran**	**9.62**	**342**	*e*Pn	**Pn**	**19 42 15.2**	**+2.2**
IAKL	**Akhelmad**	**9.70**	**13**	*e*Pn	**Pn**	**19 42 16.1**	**+1.9**
CHTH	**Charan**	**9.71**	**335**	*e*Pn	**Pn**	**19 42 16.2**	**+1.9**
CHTH	**Charan**	**9.71**	**335**	*e*Pn	**Pn**	**19 42 16.2**	**+1.9**
IRAZ	**Razeghan**	**9.78**	**329**	*e*Pn	**Pn**	**19 42 15.3**	**+0.1**
IRAZ				*e*		19 42 42.0	
	comp=Z,172nm,0.2s						
IRAZ	**Razeghan**	**9.78**	**329**	*e*Pn	**Pn**	**19 42 15.3**	**+0.1**
ISFR	**Sfrayin**	**10.01**	**9**	*e*Pn	**Pn**	**19 42 20.1**	**+1.6**
ISFR	**Sfrayin**	**10.01**	**9**	*e*Pn	**Pn**	**19 42 20.1**	**+1.6**
ABTO	**Aybut**	**10.08**	**195**	P	**Pn**	**19 42 18.9**	**-0.4**
	SNR=17						
ABTO	**Aybut**	**10.08**	**195**	P	**Pn**	**19 42 18.9**	**-0.4**
	SNR=17						
IKOM	**Komasi**	**10.18**	**316**	*e*Pn	**Pn**	**19 42 20.3**	**-0.4**
IKOM				*e*		19 44 19.9	
	comp=Z,792nm,0.3s						
IKOM	**Komasi**	**10.18**	**316**	*e*Pn	**Pn**	**19 42 20.3**	**-0.4**
IGZV	**Ghazvin**	**10.48**	**333**	*e*Pn	**Pn**	**19 42 25.4**	**+0.5**
IGZV	**Ghazvin**	**10.48**	**333**	*e*Pn	**Pn**	**19 42 25.4**	**+0.5**
IDHR	**Dehrash**	**11.23**	**314**	*e*Pn	**Pn**	**19 42 32.5**	**-2.6**
IDHR				*e*		19 42 39.5	
	comp=Z,574nm,0.2s						
IDHR	**Dehrash**	**11.23**	**314**	*e*Pn	**Pn**	**19 42 32.5**	**-2.6**
MZRK	**Al-Mazaregh**	**15.74**	**307**	*e*P	**Pn**	**19 43 34.9**	**-1.3**
MZRK	**Al-Mazaregh**	**15.74**	**307**	*e*P	**Pn**	**19 43 34.9**	**-1.3**
	SNR=45						
GNI	**Garni**	**16.03**	**327**	Pn	**P**	**19 43 42.9**	**-0.6**
	comp=Z,0.8nm,0.3s,baz=332,slow=1.5,SNR=13						
GNI	**Garni**	**16.03**	**327**	P	**P**	**19 43 43.3**	**-0.1**
	SNR=17						
SFNV	**Sufian**	**16.42**	**308**	*e*P	**Pn**	**19 43 41.0**	**-3.9**
SFNV	**Sufian**	**16.42**	**308**	*e*P	**Pn**	**19 43 41.0**	**-3.9**
	SNR=45						
KBSD	**Kabsdagh**	**16.42**	**311**	*e*P	**Pn**	**19 43 42.0**	**-2.9**
KBSD	**Kabsdagh**	**16.42**	**311**	*e*P	**Pn**	**19 43 42.0**	**-2.9**
	SNR=45						
TUTA	**Tutak**	**16.49**	**321**	*i* P	**P**	**19 43 49.0**	**+0.3**
TUTA	**Tutak**	**16.49**	**321**	*i* P	**P**	**19 43 49.0**	**+0.3**
EKAR	**Karacoban**	**16.82**	**319**	*i* P	**P**	**19 43 54.7**	**+2.4**
EKAR	**Karacoban**	**16.82**	**319**	*i* P	**P**	**19 43 54.7**	**+2.4**
ZALF	**Zalf**	**17.22**	**294**	*e*P	**Pn**	**19 43 55.1**	**0.0**
ZALF	**Zalf**	**17.22**	**294**	*e*P	**Pn**	**19 43 55.1**	**0.0**
	SNR=45						
ASF	**Jabal al Asfar**	**17.41**	**291**	P	**Pn**	**19 43 56.3**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=37,slow=8.5,SNR=13						
ASF				S	**Sn**	**19 47 05.5**	**-5.7**
	comp=Z,0.2nm,0.3s,baz=114,slow=20,SNR=3.1						
SALA	**Sala**	**17.66**	**293**	*e*P	**Pn**	**19 43 58.5**	**-2.3**
DAGI	**Agillar**	**18.16**	**324**	*i* P	**P**	**19 44 08.5**	**+1.6**
MARH	**Ras Al Marh**	**18.21**	**297**	*e*P	**Pn**	**19 44 06.0**	**-1.6**
MARH	**Ras Al Marh**	**18.21**	**297**	*e*P	**Pn**	**19 44 05.9**	**-1.6**
	SNR=43						
ARTV	**Artvin**	**18.23**	**324**	*i* P	**P**	**19 44 08.2**	**+0.4**
ARTV	**Artvin**	**18.23**	**324**	*i* P	**P**	**19 44 08.2**	**+0.4**
DBAD	**Bademkaya**	**18.23**	**323**	*i* P	**P**	**19 44 08.7**	**+1.0**
DBAD	**Bademkaya**	**18.23**	**323**	*i* P	**P**	**19 44 08.7**	**+1.0**
TCHB	**Talchebab**	**18.28**	**292**	*e*P	**Pn**	**19 44 06.2**	**-2.0**
TCHB	**Talchebab**	**18.28**	**292**	*e*P	**Pn**	**19 44 06.2**	**-2.0**
	SNR=42						
BRBR	**Barbar**	**18.47**	**295**	*e*P	**P**	**19 44 10.1**	**-0.4**
BRBR	**Barbar**	**18.47**	**295**	*e*P	**P**	**19 44 10.1**	**-0.4**
	SNR=42						
ZEI	**Tsey**	**18.50**	**331**	*e*P	**Pn**	**19 44 11.0**	**+0.1**
ZEI				pmax	pmax		
	comp=Z,28nm,1.0s						
ZEI	**Tsey**	**18.50**	**331**	*e*P	**Pn**	**19 44 11.0**	**+0.1**
	comp=Z,28nm,1.0s						
BIDA	**Albida**	**18.64**	**300**	*e*P	**Pn**	**19 44 13.2**	**+0.6**
BIDA	**Albida**	**18.64**	**300**	*e*P	**Pn**	**19 44 13.2**	**+0.6**
	SNR=42						
EIL	**Elat**	**18.77**	**283**	P	**Pn**	**19 44 15.2**	**+1.2**
	comp=Z,0.5nm,0.3s,baz=45,slow=5.3,SNR=9.0						
MMAI	**Mount Meron Ar**	**18.82**	**293**	P	**P**	**19 44 13.1**	**-1.2**
	comp=Z,0.8nm,0.3s,baz=101,slow=18,SNR=17						
AKCD	**Akcadag**	**18.87**	**311**	*i* P	**Pn**	**19 44 15.6**	**+0.2**
AKCD	**Akcadag**	**18.87**	**311**	*i* P	**Pn**	**19 44 15.6**	**+0.2**
BTCH	**Batrach**	**18.90**	**303**	*e*P	**Pn**	**19 44 17.0**	**+1.3**
BTCH	**Batrach**	**18.90**	**303**	*e*P	**Pn**	**19 44 17.0**	**+1.3**
	SNR=42						
DRWC	**Darouich**	**18.98**	**305**	*e*P	Pn	19 44 21.6	+4.9
DRWC	**Darouich**	**18.98**	**305**	*e*P	Pn	19 44 21.6	+4.9
	SNR=41						
KEMA	**Kemaliye**	**19.01**	**314**	*i* P	**Pn**	**19 44 17.4**	**+0.3**
KEMA	**Kemaliye**	**19.01**	**314**	*i* P	**Pn**	**19 44 17.4**	**+0.3**
KELT	**Kelkit**	**19.05**	**317**	*i* P	**Pn**	**19 44 20.0**	**+2.3**
YAYL	**Yayladag**	**19.17**	**302**	*i* P	**P**	**19 44 18.1**	**0.0**
YAYL	**Yayladag**	**19.17**	**302**	*i* P	**P**	**19 44 18.1**	**0.0**
ARNB	**Al Arnab**	**19.20**	**302**	*e*P	**Pn**	**19 44 20.1**	**+0.7**
ARNB	**Al Arnab**	**19.20**	**302**	*e*P	**Pn**	**19 44 20.1**	**+0.7**
	SNR=41						
KBZ	**Khabaz**	**19.69**	**331**	P	**Pn**	**19 44 25.9**	**+0.9**
KBZ	**Khabaz**	**19.69**	**331**	P	**Pn**	**19 44 25.9**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=158,slow=8.2,SNR=20						
KBZ	**Khabaz**	**19.69**	**331**	P	**Pn**	**19 44 25.9**	**+0.9**
SUSE	**Susehri**	**19.74**	**316**	*i* P	**Pn**	**19 44 27.3**	**+1.5**
KIV	**Kislovodsk**	**19.96**	**331**	*e*P	**Pn**	**19 44 28.8**	**+0.4**
KIV				pmax	pmax		
	comp=Z,19nm,0.9s						
KIV	**Kislovodsk**	**19.96**	**331**	*e*P	**Pn**	**19 44 28.8**	**+0.4**
	comp=Z,19nm,0.9s						
PINB	**Pinarbasi**	**20.09**	**310**	*i* P	Pn	19 44 29.7	-0.5
PINB	**Pinarbasi**	**20.09**	**310**	*i* P	Pn	19 44 29.7	-0.5
GULE	**Gulek**	**20.63**	**305**	*i* P	Pn	19 44 35.9	-0.6
GULE	**Gulek**	**20.63**	**305**	*i* P	Pn	19 44 35.9	-0.6
GOF	**Gofitskoye**	**20.71**	**333**	*e*P	**P**	**19 44 35.3**	**+0.7**
GOF	**Gofitskoye**	**20.71**	**333**	*e*P	**P**	**19 44 35.3**	**+0.7**
ERBA	**Erbaa**	**20.91**	**315**	*i* P	**P**	**19 44 38.0**	**+1.0**
ERBA	**Erbaa**	**20.91**	**315**	*i* P	**P**	**19 44 38.0**	**+1.0**
SOC	**Sochi**	**21.09**	**325**	*e*P	**P**	**19 44 42.7**	**+3.9**
SOC				*e*		19 45 10.2	
SOC				*e*S	Sn	19 48 46.5	+6.9
SOC				pmax	pmax		
	comp=Z,35nm,0.9s						
SOC	**Sochi**	**21.09**	**325**	*e*PcP	**PcP**	**19 48 46.5**	**+1.6**
AVNT	**Avonos**	**21.21**	**309**	*i* P	**P**	**19 44 41.4**	**+1.1**
AVNT	**Avonos**	**21.21**	**309**	*i* P	**P**	**19 44 41.4**	**+1.1**
AAK	**Ala-Archa**	**21.53**	**39**	*c*e*P	**P**	**19 44 43.6**	**-0.2**
AAK				pmax	pmax		
	comp=Z,29nm,1.7s						
AAK	**Ala-Archa**	**21.53**	**39**	P	**P**	**19 44 44.3**	**+0.5**
	comp=Z,1.1nm,0.5s,baz=184,slow=2.9,SNR=8.3						
AAK	**Ala-Archa**	**21.53**	**39**	*e*P	**P**	**19 44 43.6**	**-0.2**
	comp=Z,29nm,1.7s						
CTKT	**Corum**	**22.14**	**313**	*i* P	**P**	**19 44 51.0**	**+0.7**
CTKT	**Corum**	**22.14**	**313**	*i* P	**P**	**19 44 51.0**	**+0.7**
BRTR	**Keskin Array B**	**22.48**	**310**	P	**P**	**19 44 54.0**	**+0.2**
	comp=Z,12nm,0.9s,baz=132,slow=14,SNR=38						
BRTR	**Keskin Array B**	**22.48**	**310**	P	**P**	**19 44 54.1**	**+0.2**
	comp=Z,13nm,0.9s						
AKTK	**Aktyubinsk**	**23.30**	**3**	P	**P**	**19 45 02.1**	**-0.1**
	comp=Z,5.0nm,0.7s						
AKTO	**Aktyubinsk**	**23.30**	**3**	P	**P**	**19 45 02.1**	**-0.1**
AKTO				pmax	pmax		
	comp=Z,5.0nm,0.7s						
AKTO	**Aktyubinsk**	**23.30**	**3**	P	**P**	**19 45 02.1**	**-0.1**
	comp=Z,4.7nm,0.7s,baz=208,slow=7.9,SNR=9.0						
IDI	**Anoyia**	**27.80**	**295**	P	**P**	**19 45 43.3**	**-0.4**
	comp=Z,3.1nm,0.6s,baz=70,slow=12,SNR=5.6						
BRVK	**Borovoye**	**27.96**	**18**	*c*e*P	**P**	**19 45 48.1**	**+3.3**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BVAR	**Borovoye Array**	**27.96**	**19**	P	**P**	**19 45 45.1**	**+0.3**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BVAR	**Borovoye Array**	**27.96**	**19**	P	**P**	**19 45 45.1**	**+0.3**
	comp=Z,2.3nm,0.6s,baz=213,slow=7.1,SNR=8.2						
BVAR	**Borovoye Array**	**27.96**	**19**	P	**P**	**19 45 45.1**	**+0.3**
	comp=Z,2.0nm,0.6s						
MKAR	**Makanchi Array**	**28.47**	**40**	P	**P**	**19 45 49.9**	**+0.4**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MKAR	**Makanchi Array**	**28.47**	**40**	P	**P**	**19 45 49.9**	**+0.4**
	comp=Z,1.5nm,0.6s,baz=225,slow=8.1,SNR=22						
MKAR	**Makanchi Array**	**28.47**	**40**	P	**P**	**19 45 49.9**	**+0.4**
	comp=Z,2.0nm,0.6s						
KURBB	**Kurchatov Arra**	**29.02**	**30**	P	**P**	**19 45 53.9**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=229,slow=8.6,SNR=5.5						
KURK	**Kurchatov**	**29.13**	**30**	*c i*P	P	19 45 58.5	+3.3
KURK				pmax	pmax		
	comp=Z,3.0nm,2.1s						
MLR	**Muntele Rosu**	**30.16**	**315**	P	**P**	**19 46 06.5**	**+1.9**
	comp=Z,0.7nm,0.8s,baz=16,slow=7.4,SNR=2.6						
MLR	**Muntele Rosu**	**30.16**	**315**	P	**P**	**19 46 06.5**	**+1.9**
	comp=Z,1.0nm,0.9s						
VOIR		**30.70**	**315**	⇑P	**P**	**19 46 09.8**	**+0.5**
VOIR		**30.70**	**315**	⇑*i*P	**P**	**19 46 09.8**	**+0.5**
VOIR		**30.70**	**315**	P	**P**	**19 46 09.8**	**+0.5**
AKASG	**Malin Array Be**	**31.16**	**326**	P	**P**	**19 46 12.9**	**-0.3**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.8s						
AKASG	**Malin Array Be**	**31.16**	**326**	P	**P**	**19 46 12.8**	**-0.3**
	comp=Z,2.9nm,0.8s,baz=130,slow=7.9,SNR=12						
AKASG	**Malin Array Be**	**31.16**	**326**	P	**P**	**19 46 12.9**	**-0.3**
	comp=Z,3.0nm,0.8s						
KIEV	**Kiev**	**31.16**	**326**	*i* P	**P**	**19 46 14.0**	**+0.8**
KIEV	**Kiev**	**31.16**	**326**	*i* P	**P**	**19 46 14.0**	**+0.8**
LOT	**Lotru**	**31.52**	**314**	⇓*i*P	**P**	**19 46 15.8**	**-0.8**
LOT	**Lotru**	**31.52**	**314**	⇓*i*P	**P**	**19 46 15.8**	**-0.8**
DRGR		**32.76**	**316**	⇑P	**P**	**19 46 27.6**	**+0.3**
DRGR		**32.76**	**316**	⇑*i*P	**P**	**19 46 27.6**	**+0.3**
DRGR		**32.76**	**316**	P	**P**	**19 46 27.6**	**+0.3**
BZS	**Buzias**	**32.98**	**313**	⇑P	**P**	**19 46 30.3**	**+1.1**
BZS	**Buzias**	**32.98**	**313**	⇑*i*P	**P**	**19 46 30.3**	**+1.1**
BZS	**Buzias**	**32.98**	**313**	P	**P**	**19 46 30.3**	**+1.1**
SIRR	**Siria**	**33.20**	**314**	⇑*i*P	**P**	**19 46 31.6**	**+0.4**
SIRR	**Siria**	**33.20**	**314**	⇑*i*P	**P**	**19 46 31.6**	**+0.4**
KOLS	**Kolonicke sedl**	**33.97**	**319**	*e*P	P	19 46 41.0	+3.2
KOLS				pmax	pmax		
	comp=Z,5.0nm,1.1s						
KOLS	**Kolonicke sedl**	**33.97**	**319**	*e*P	P	19 46 41.0	+3.2
ZALV	**Zalesovo Beam**	**34.11**	**30**	P	**P**	**19 46 40.9**	**+1.9**
ZALV				pmax	pmax		
	comp=Z,3.0nm,0.5s						
ZALV	**Zalesovo Beam**	**34.11**	**30**	P	**P**	**19 46 40.9**	**+1.9**
	comp=Z,2.7nm,0.5s,baz=239,slow=10,SNR=13						
ZALV	**Zalesovo Beam**	**34.11**	**30**	P	**P**	**19 46 40.9**	**+1.9**
	comp=Z,3.0nm,0.5s						
CRVS	**Cervenica-Dubn**	**34.43**	**318**	*e*P	P	19 46 45.3	+3.5
CRVS				pmax	pmax		
	comp=Z,13nm,1.9s						
CRVS	**Cervenica-Dubn**	**34.43**	**318**	*e*P	P	19 46 45.3	+3.5
STHS	**Stebnicka Huta**	**34.79**	**319**	*e*P	**P**	**19 46 46.8**	**+1.9**
STHS	**Stebnicka Huta**	**34.79**	**319**	*e*P	**P**	**19 46 46.8**	**+1.9**
STHS	**Stebnicka Huta**	**34.79**	**319**	*e*P	**P**	**19 46 46.8**	**+1.9**
KECS	**Kecovo**	**34.83**	**317**	*e*P	**P**	**19 46 46.5**	**+1.2**
KECS				pmax	pmax

BAIF	Baives	45.45	315	eP	P	19 48 13.3	0.0
SSF	Saint Saulge	45.47	310	eP	P	19 48 13.3	-0.2
	comp=Z,5.6nm,0.8s						
SSF	Saint Saulge	45.47	310	eP	P	19 48 13.3	-0.2
	comp=Z,2.8nm,0.8s						
AVF	Avril sur Loir	45.54	310	eP	P	19 48 13.0	-1.0
	comp=Z,5.0nm,0.8s						
AVF	Avril sur Loir	45.54	310	eP	P	19 48 13.0	-1.0
	comp=Z,2.5nm,0.8s						
ARCES	ARCESS Array B	46.00	346	P	P	19 48 17.8	+0.4
	comp=Z,3.6nm,1.1s,baz=153,slow=10,SNR=3.2						
ARCES	ARCESS Array B	46.00	346	P	P	19 48 17.8	+0.4
	comp=Z,4.0nm,1.1s						
MTLF	Montolieu	46.08	305	eP	P	19 48 18.7	+0.3
	comp=Z,6.2nm,0.8s						
MTLF	Montolieu	46.08	305	eP	P	19 48 18.7	+0.3
	comp=Z,3.1nm,0.8s						
CAF	Calviac	46.27	307	eP	P	19 48 19.7	-0.2
	comp=Z,4.6nm,0.6s						
CAF	Calviac	46.27	307	eP	P	19 48 19.7	-0.2
	comp=Z,2.3nm,0.6s						
TCF	Toulx Ste Croi	46.27	309	eP	P	19 48 19.9	0.0
	comp=Z,6.8nm,0.9s						
TCF	Toulx Ste Croi	46.27	309	eP	P	19 48 19.9	0.0
	comp=Z,3.4nm,0.9s						
RJF	Les Rejaudoux	46.68	308	eP	P	19 48 23.2	+0.1
RJF	Les Rejaudoux	46.68	308	eP	P	19 48 23.2	+0.1
LFF	La Frestale	47.21	307	eP	P	19 48 27.3	+0.1
	comp=Z,5.7nm,0.6s						
LFF	La Frestale	47.21	307	eP	P	19 48 27.3	+0.1
	comp=Z,2.8nm,0.6s						
EPF	Esparros	47.45	305	eP	P	19 48 28.8	-0.3
	comp=Z,4.8nm,0.8s						
EPF	Esparros	47.45	305	eP	P	19 48 28.8	-0.3
	comp=Z,2.4nm,0.8s						
MFF	Saint Martin d	47.92	309	eP	P	19 48 33.0	+0.3
	comp=Z,11nm,1.2s						
MFF	Saint Martin d	47.92	309	eP	P	19 48 33.0	+0.3
	comp=Z,5.4nm,1.2s						
LDF	La Druitiere	48.06	312	eP	P	19 48 33.4	-0.4
LDF	La Druitiere	48.06	312	eP	P	19 48 33.4	-0.4
ETSF	Etsaut	48.10	304	eP	P	19 48 34.5	+0.2
	comp=Z,3.7nm,0.6s						
ETSF	Etsaut	48.10	304	eP	P	19 48 34.5	+0.2
	comp=Z,1.9nm,0.6s						
FLN	La Foliniere	48.31	312	eP	P	19 48 35.7	0.0
	comp=Z,12nm,0.9s						
FLN	La Foliniere	48.31	312	eP	P	19 48 35.7	0.0
	comp=Z,5.8nm,0.9s						
GRR	Gorron	48.53	312	eP	P	19 48 36.1	-1.3
GRR	Gorron	48.53	312	eP	P	19 48 36.1	-1.3
SJPF	Ste Jean	48.59	305	eP	P	19 48 37.0	-1.0
	comp=Z,5.6nm,0.6s						
SJPF	Ste Jean	48.59	305	eP	P	19 48 37.0	-1.0
	comp=Z,2.8nm,0.6s						
QUIF	Quistinic	50.04	311	eP	P	19 48 47.9	-1.0
	comp=Z,8.2nm,0.8s						
QUIF	Quistinic	50.04	311	eP	P	19 48 47.9	-1.0
	comp=Z,4.1nm,0.8s						
ESDC	Sonseca Array	50.81	300	P	P	19 48 54.0	-1.0
	comp=Z,0.4nm,0.4s,baz=75,slow=7.2,SNR=10						
TORD	Torodi Ar. Bea	52.56	266	P	P	19 49 07.2	-1.1
	comp=Z,6.7nm,0.6s,baz=58,slow=6.4,SNR=76						
KSRS	Korea Array	60.27	61	P	P	19 50 02.6	-0.3
	comp=Z,2.3nm,0.6s,baz=276,slow=6.9,SNR=11						
KSRS	Korea Array	60.27	61	P	P	19 50 02.7	-0.3
	comp=Z,2.0nm,0.6s						
DBIC	Dimbokro	61.17	262	P	P	19 50 10.3	+0.9
	comp=Z,3.6nm,0.8s,baz=349,slow=3.1,SNR=4.6						
DBIC	Dimbokro	61.17	262	P	P	19 50 10.3	+0.9
	comp=Z,4.0nm,0.8s						
SUMG	Summit	65.70	341	i P	P	19 50 42.0	+3.0
SUMG				pmax	pmax		
	comp=Z,4.0nm,0.8s						
SUMG	Summit	65.70	341	i P	P	19 50 42.0	+3.0
	comp=Z,4.4nm,0.8s						
SUMG	Summit	65.70	341	i P	P	19 50 42.0	+3.0
	comp=Z,4.0nm,0.8s						
YSS	Yuzh-Sakhalins	68.52	47	⇓eP	P	19 50 55.8	-1.0
YSS	Yuzh-Sakhalins	68.52	47	eP	P	19 50 55.8	-1.0
SEY	Seymchan	68.97	29	ceP	P	19 50 59.4	+0.1
SEY	Seymchan	68.97	29	eP	P	19 50 59.4	+0.1
FITZ	Fitzroy Crossi	81.03	116	P	P	19 52 09.7	+0.1
	comp=Z,4.4nm,0.8s,baz=286,slow=5.4,SNR=6.2						
ILAR	Eielson Array	86.65	10	P	P	19 52 37.0	-0.8
	comp=Z,0.7nm,0.7s,baz=324,slow=4.4,SNR=6.8						
ILAR	Eielson Array	86.65	10	P	P	19 52 37.0	-0.8
	comp=Z,1.0nm,0.7s						

*IDC **30** 19:43:51.4±0.4, 15°.50S×173°.33W, h0km, mb4.5/18, mb1 4.7/18, mb1mx4.7/23, mbtmp4.5/18, MS4.5/28, Ms1 4.5/28, ms1mx4.4/42, Error ellipse: s-maj=19.4km s-min=14.2km az=123.0*

*BJI **30** 19:43:52.2, 15°.48S×173°.56W, h11km, mB5.5/22, mb5.0/24, Ms5.3/14, Ms7 5.0/15*

*NEIC **30** 19:43:52.7±0.2, 15°.49S×173°.34W, h10km, mb5.2/60, Error ellipse: s-maj=11.3km s-min=5.2km az=139.0*

*ISCJB **30** 19:43:54.4±0.2, 15°.52S±0°.07×173°.34W±0°.05, h29km, mb5.0/82, MS4.7/39, Error ellipse: s-maj=10.2km s-min=5.6km az=153.3*

*SZGRF **30** 19:43:54.0, 16°.51S×172°.23W, h33km, mb4.9, Samoa Islands region*

*MOS **30** 19:43:56.1±1.0, 15°.38S×173°.08W, h33km, mb5.3/26, MS4.9/6, Error ellipse: s-maj=15.4km s-min=10.3km az=60.2*

ISC 30 19:43:55.9±0.3, 15°.54S±0°.07×173°.21W±0°.07, h29km, n570, σ0.994/575, mb5.1/82, MS4.7/39, 143C-127D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.13	41	Pn	Pn	19 44 22.5	-7.1
AFI				Sn	Sn	19 44 43.6	-12
AFI	Afiamalu	2.13	41	Pn	Pn	19 44 22.5	-7.1
	36nm,0.3s,baz=27,slow=17,SNR=13						
AFI				Sn	Sn	19 44 43.6	-12
	432nm,0.3s,baz=62,slow=21,SNR=18						
MSVF	Nonsavu	8.66	254	eP	Pn	19 46 04.9	+5.5
MSVF				pmax	pmax		
	comp=Z,179nm,1.5s						
MSVF	Nonsavu	8.66	254	eP	Pn	19 46 04.9	+5.5
	comp=Z,179nm,1.5s						
MSVF	Nonsavu	8.66	254	Pn	Pn	19 46 06.0	+6.6
	comp=Z,252nm,1.7s,SNR=8.0						
RAR	Rarotonga	13.94	116	LR	LR	19 50 50.1	
	comp=Z,888nm,18.2s,baz=271,slow=30						
DZM	Mont Dzumac	20.32	248	eP	Pn	19 48 34.2	+2.2
	comp=Z,138nm,1.6s						
DZM				eLR	LR	19 53 17.6	
	comp=Z,3μm,26.6s						
DZM	Mont Dzumac	20.32	248	eP	P	19 48 28.8	-1.1
	comp=Z,71nm,1.3s						
DZM	Mont Dzumac	20.32	248	P	P	19 48 28.9	-0.9
	comp=Z,5.4nm,0.9s,baz=90,slow=20,SNR=2.2						
PPT	Papeete	22.74	98	LR	LR	19 55 54.9	
	comp=Z,649nm,18.3s,baz=90,slow=32						
PPT2	Papeete2	22.74	98	eS	S	19 52 56.6	-6.5
	comp=Z,3μm,28.2s						
PPT2				eLR	LR	19 53 52.3	
	comp=Z,629nm,28.0s						
OUZ	Omahuta	22.90	209	eP	P	19 48 58.3	+1.0
TBI	Tubuai	23.68	113	eLQ	LQ	19 53 44.5	
	comp=Z,4μm,27.8s						
TBI				eLR	LR	19 54 27.3	
	comp=Z,964nm,32.2s						
URZ	Urewera	24.19	199	eP	P	19 49 07.4	-2.5
	comp=Z,31nm,1.0s						
URZ	Urewera	24.19	199	P	P	19 49 09.3	-0.6
	comp=Z,8.2nm,0.6s,baz=143,slow=20,SNR=2.8						
HNR	Honiara	26.89	280	LR	LR	19 58 33.3	
	comp=Z,1μm,19.3s,baz=119,slow=33						
PMG	Port Moresby	39.13	274	LR	LR	20 04 32.3	
	comp=Z,540nm,19.0s,baz=116,slow=32						
COEN	Coen	42.16	266	eP	P	19 51 45.6	-0.6
	comp=Z,72nm,0.8s						
STKA	Stephens Creek	44.13	240	eP	P	19 51 59.2	-2.8
	comp=Z,2.4nm,0.8s						
STKA	Stephens Creek	44.13	240	P	P	19 52 00.3	-1.7
	comp=Z,13nm,0.9s,baz=82,slow=8.9,SNR=15						
STKA				LR	LR	20 07 57.8	
	comp=Z,396nm,19.7s,baz=66,slow=33						
WRAB	Tennant Creek	49.98	257	eP	P	19 52 45.3	-2.6
	comp=Z,19nm,1.3s						
WRA	Warramunga Arr	49.99	257	P	P	19 52 45.6	-2.3
WRA				PcP	PcP	19 54 07.6	-0.2
WRA	Warramunga Arr	49.99	257	P	P	19 52 45.6	-2.3
	comp=Z,4.2nm,0.8s,baz=90,slow=6.9,SNR=33						
WRA				PcP	PcP	19 54 07.6	-0.2
	comp=Z,4.7nm,0.8s,baz=88,slow=3.8,SNR=9.0						
AS31	Alice Springs	50.24	252	eP	P	19 52 47.5	-2.3
ASAR	Alice Springs	50.24	252	P	P	19 52 47.6	-2.2
ASAR	Alice Springs	50.24	252	P	P	19 52 47.6	-2.2
	comp=Z,32nm,0.7s,baz=86,slow=8.3,SNR=277						
ASAR				LR	LR	20 12 58.9	
	comp=Z,629nm,20.2s,baz=90,slow=35						
FITZ	Fitzroy Crossi	58.36	258	LR	LR	20 17 43.6	
	comp=Z,526nm,20.1s,baz=97,slow=35						
CBIJ	Chichi jima	60.58	314	LR	LR	20 15 11.0	
	comp=Z,596nm,21.5s,baz=20,slow=31						
SBA	Scott Base	63.13	185	eP	P	19 54 23.2	+2.8
SBA				pmax	pmax		
	comp=Z,39nm,1.6s						
SBA	Scott Base	63.13	185	eP	P	19 54 23.2	+2.8
	comp=Z,39nm,1.6s						
VNDA	Vanda	63.26	186	eP	P	19 54 22.5	+1.2
	comp=Z,13nm,1.3s						
VNDA	Vanda	63.26	186	P	P	19 54 22.9	+1.6
	comp=Z,4.9nm,1.1s,baz=351,slow=7.1,SNR=12						
VNDA				LR	LR	20 16 27.9	
	comp=Z,283nm,21.7s,baz=39,slow=31						
NWAO	Narrogin (SRO)	64.71	241	LR	LR	20 18 47.8	
	comp=Z,516nm,20.9s,baz=124,slow=32						
YUK	Yuzh-Kuril'sk	70.07	330	d iP	P	19 55 01.5	-3.7
YUK				e		19 57 36.0	
YUK				i S	S	20 04 13.0	-1.1
YUK				e		20 05 03.9	
YUK				i SS	SS	20 08 38.1	-6.4
ASAJ	Asahikawa	71.75	328	LR	LR	20 20 07.3	
	comp=Z,338nm,20.7s,baz=167,slow=30						
JNU	Nakatsue	72.03	313	LR	LR	20 22 04.5	
	comp=Z,210nm,20.6s,baz=73,slow=32						
VES	Vestal, Richgr	72.31	44	⇓P	P	19 55 19.8	+0.9
	baz=72						
MURC	Murrieta	72.35	47	⇑P	P	19 55 20.1	+0.8
	baz=73						
EDW2	Edwards Air Fo	72.51	45	⇑P	P	19 55 20.4	+0.1
	baz=73,SNR=6.2						
MONP	Monument Peak	72.52	48	⇓P	P	19 55 21.2	+0.6
	baz=73						
ISA	Isabella	72.62	44	eP	P	19 55 21.1	+0.2
ISA				pmax	pmax		
	comp=Z,28nm,1.4s						
ISA	Isabella	72.62	44	eP	P	19 55 21.1	+0.2
	comp=Z,28nm,1.4s						
ISA	Isabella	72.62	44	⇑P	P	19 55 21.6	+0.7
	baz=73						
PEA0B	Petropavlovsk-	72.82	342	eP	P	19 55 21.8	+0.2
PETK	Petropavlovsk-	72.82	342	P	P	19 55 21.5	-0.1
PETK	Petropavlovsk-	72.82	342	P	P	19 55 21.5	-0.1
PETK	Petropavlovsk-	72.82	342	P	P	19 55 21.5	-0.1
	comp=Z,24nm,0.8s,baz=139,slow=9.7,SNR=20						
PETK				LR	LR	20 22 43.1	
	comp=Z,136nm,20.6s,baz=158,slow=32						
PFO	Pinyon Flat Ob	72.88	47	⇑P	P	19 55 22.7	+0.1
	baz=73						
LPIG	La Paz	72.95	58	LR	LR	20 21 29.4	
	comp=Z,229nm,18.6s,baz=162,slow=31						
WDC	Whiskeytown Da	72.97	38	eP	P	19 55 23.4	+0.6
WDC				pmax	pmax		
	comp=Z,24nm,1.5s						
WDC	Whiskeytown Da	72.97	38	eP	P	19 55 23.4	+0.6
	comp=Z,24nm,1.5s						
SWSC	Sam W. Stewart	72.99	48	⇓P	P	19 55 23.6	+0.6
	baz=73						
LRMC	Laurel Mountai	73.05	45	⇑P	P	19 55 24.2	+0.7
	baz=73						
BELC	Belle Mtn. Jos	73.41	47	⇓P	P	19 55 26.3	+0.6
	baz=74						
MPMC	Manual Prospec	73.51	44	⇓P	P	19 55 27.0	+0.7
	baz=74						
GSC	Goldstone	73.55	45	eP	P	19 55 26.7	+0.2
GSC				pmax	pmax		
	comp=Z,14nm,1.0s						
GSC	Goldstone	73.55	45	eP	P	19 55 26.6	+0.2
	comp=Z,14nm,1.0s						
GSC	Goldstone	73.55	45	⇓P	P	19 55 27.1	+0.7
	baz=74						
YBH	Yreka Blue Hor	73.60	37	LR	LR	20 20 31.5	
	comp=Z,512nm,18.8s,baz=223,slow=30						
BC3	Big Chuckawall	73.61	47	⇓P	P	19 55 27.8	+0.9
	baz=74						
HEC	Hector,Ludlow	73.62	46	⇑P	P	19 55 26.6	-0.3
	baz=74,SNR=10.0						
YSS	Yuzh-Sakhalins	73.69	330	⇑iP	P	19 55 26.5	-0.4
YSS				eS	S	20 04 56.0	+0.3
YSS				pmax	pmax		
	comp=Z,20nm,1.0s						
YSS				MLR	MLR		
	comp=Z,300nm,18.0s						
GLA	Glamis	73.75	48	⇓P	P	19 55 28.0	+0.5
	baz=74						
BEKR	Beckworth	73.86	40	eP	P	19 55 26.5	-1.8
	comp=Z,28nm,1.9s						
GMRC	Granite Mounta	74.06	46	⇓P	P	19 55 29.4	-0.1
	baz=74,SNR=7.0						
IRM	Iron Mountain	74.09	47	⇑P	P	19 55 30.1	+0.5
	baz=74						
GRAC	Grapevine Rang	74.11	44	⇑P	P	19 55 30.3	+0.6
	baz=74						
TUQ	Turquoise Moun	74.23	46	⇑P	P	19 55 30.7	+0.3
	baz=74						
NVAR	Mina Array Bea	74.31	42	P	P	19 55 31.2	+0.3
NVAR	Mina Array Bea	74.31	42	P	P	19 55 31.2	+0.3
	comp=Z,4.5nm,1.0s,baz=228,slow=9.7,SNR=11						
Y12C	Blythe	74.32	48	⇑P	P	19 55 31.4	+0.5
	baz=74						
PAHR	Pah Rah Range	74.36	40	eP	P	19 55 31.5	+0.3
	comp=Z,71nm,2.0s						
113A	Mohawk Valley,	74.37	49	⇓P	P	19 55 31.8	+0.7
	baz=75						
NV11	Mina Array Sit	74.40	42	eP	P	19 55 29.4	-2.0
QSPA	South Pole Qui	74.51	180	eP	P	19 55 32.0	+0.4
	comp=Z,40nm,1.4s						
QSPA	South Pole Qui	74.51	180	P	P	19 55 32.5	+0.9
	comp=Z,11nm,1.0s,baz=36,slow=2.6,SNR=22						
214A	Organ Pipe Nat	74.66	50	⇓P	P	19 55 33.6	+0.7
	baz=75						
PDMCI	Parker Dam,Lak	74.88	47	⇓P	P	19 55 34.9	+0.8
	baz=75						
MOD	Modoc	75.12	38	eP	P	19 55 36.0	+0.5
	comp=Z,111nm,1.3s						
Z14A	Wintersburg	75.26	49	⇑P	P	19 55 37.0	+0.6
	baz=76						
SHPR	Sheep Range	75.33	45	eP	P	19 55 37.2	+0.3
	comp=Z,30nm,1.3s						
W13A	Hualapai Mount	75.47	47	⇑P	P	19 55 37.8	+0.1
	baz=76,SNR=6.2						
Y14A	Wickenburg	75.51	48	⇑P	P	19 55 37.8	0.0
	baz=76,SNR=6.5						
FRIS	Frissel Point	75.51	35	P	P	19 55 38.1	+0.4
R11A	Troy Tranyon, C	76.03	43	⇑P	P	19 55 41.5	+0.6
	baz=76						
TUC	Tucson	76.33	51	eP	P	19 55 43.3	+0.7
TUC				pmax	pmax		
	comp=Z,71nm,1.8s						
TUC	Tucson	76.33	51	eP	P	19 55 43.3	+0.7
	comp=Z,71nm,1.8s						
KSRS	Korea Array	76.39	316	P	P	19 55 42.9	+0.3
	comp=Z,2.0nm,0.9s,baz=132,slow=6.7,SNR=7.5						
KSRS				LR	LR	20 22 30.0	
	comp=Z,318nm,21.7s,baz=28,slow=30						
KSAR	Wonju Array Be	76.41	315	P	P	19 55 42.9	+0.2
WVOR	Wild Horse Val	76.43	38	eP	P	19 55 43.3	+0.3
WVOR				pmax	pmax		
	comp=Z,38nm,1.3s						
WVOR	Wild Horse Val	76.43	38	eP	P	19 55 43.3	+0.3
	comp=Z,38nm,1.3s						
LVP	Lakeview Peak	76.52	34	P	P	19 55 43.7	+0.3
VIPM	Ingram Point	76.53	36	P	P	19 55 43.9	+0.4
VIPM	Ingram Point	76.53	36	P	P	19 55 43.9	+0.4
TDL	Tradedollar La	76.81	34	P	P	19 55 45.8	+0.8
X16A	Lo Mia Camp, P	76.87	48	⇓P	P	19 55 46.8	+1.1
	baz=77						
319A	Douglas	77.03	52	⇑P	P	19 55 47.5	+0.9
	baz=77						
CCUT	Cedar City	77.10	45	eP	P	19 55 46.7	-0.3
	comp=Z,24nm,1.4s						
U15A	North Rim	77.26	46	⇓P	P	19 55 48.6	+0.6
	baz=78,SNR=8.6						
WPW	White Pass	77.38	34	P	P	19 55 48.2	0.0
WUAZ	Wupatki	77.45	47	⇓P	P	19 55 49.9	+0.9
	baz=78						
ELK	Elko	77.56	41	eP	P	19 55 49.7	+0.1
	comp=Z,20nm,1.4s						
320A	Kipp Ranch, An	77.59	52	⇓P	P	19 55 51.2	+1.5
	baz=78						
USRK	Ussuriysk Arra	77.60	323	P	P	19 55 50.7	+1.3
	comp=Z,2.6nm,0.9s,baz=102,slow=4.5,SNR=6.6						
USRK				LR	LR	20 23 43.4	
	comp=Z,566nm,21.5s,baz=298,slow=31						
220A	Playas Peak, P	77.84	52	⇑P	P	19 55 51.8	+0.6
	baz=78,SNR=12						
X18A	Snowflake	78.00	49	⇓P	P	19 55 52.9	+0.9
	baz=78						
120A	U Bar Ranch, L	78.05	51	⇑P	P	19 55 53.2	+0.9
	baz=78						
HAWA	Hanford	78.28	35	eP	P	19 55 53.5	+0.4
	comp=Z,6.3nm,0.7s						
Z20A	Nine Sixteen R	78.34	51	⇑P	P	19 55 54.7	+0.8
	baz=79,SNR=11						
MVU	Marysvale	78.37	44	eP	P	19 55 54.7	+0.6
	comp=Z,22nm,1.2s						
221A	Mesquite Ranch	78.46	52	⇓P	P	19 55 55.8	+1.3
	baz=79						
ETW	Entiat	78.60	33	P	P	19 55 54.9	-0.1
BMO	Blue Mountains	78.62	37	eP	P	19 55 55.2	+0.1
	comp=Z,28nm,1.3s						
MFID	Camas Ranch	78.68	39	⇓P	P	19 55 56.0	+0.5
	baz=79						
121A	Cookes Peak, D	78.69	52	⇓P	P	19 55 56.4	+0.6
	baz=79,SNR=5.3						
DUG	Dugway	78.84	43	eP	P	19 55 56.7	+0.2
DUG				pmax	pmax		
	comp=Z,17nm,1.2s						
DUG	Dugway	78.84	43	eP	P	19 55 56.7	+0.2
	comp=Z,17nm,1.2s						
DUG	Dugway	78.84	43	⇑P	P	19 55 56.9	+0.5
	baz=79						
Y20A	Horse Springs,	78.87	50	⇓P	P	19 55 57.7	+0.8
	baz=79,SNR=5.5						
222A	Williams Famil	79.02	52	⇓P	P	19 55 58.4	+0.7
	baz=79						
X20A	Quemado	79.07	49	⇓P	P	19 55 58.5	+0.5
	baz=79						
Z21A	St. Cloud Mine	79.12	51	⇑P	P	19 55 58.9	+0.6
	baz=79,SNR=6.7						
MDJ	Mudanjiang	79.25	322	P	P	19 55 59.3	+0.9
MDJ				pmax	pmax		
	comp=Z,6.0nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,190nm,6.8s						
Q16A	Castle Valley	79.28	45	eP	P	19 56 00.1	+1.2
Q16A	Castle Valley	79.28	45	⇓P	P	19 55 59.7	+0.7
	baz=80						
W20A	Ramah	79.33	49	⇓P	P	19 56 00.1	+0.7
	baz=80,SNR=8.7						
OD2	Odessa Site #2	79.34	34	P	P	19 55 59.1	+0.2
Y21A	Point of Rocks	79.43	50	⇑P	P	19 56 00.9	+0.9
	baz=80						
X21A	Alamocita Cree	79.55	50	⇑P	P	19 56 01.5	+0.9
	baz=80						
HLID	Hailey	79.62	39	eP	P	19 56 00.7	0.0
	comp=Z,26nm,1.0s						
HLID	Hailey	79.62	39	⇑P	P	19 56 01.0	+0.3
	baz=80,SNR=23						
Z22A	Elephant Butte	79.63	51	⇑P	P	19 56 01.3	+0.3
	baz=80,SNR=5.6						
HVU	Hansel Valley	79.69	41	eP	P	19 56 01.5	+0.4
HVU				pmax	pmax		
	comp=Z,21nm,1.1s						
HVU	Hansel Valley	79.69	41	eP	P	19 56 01.5	+0.4
	comp=Z,21nm,1.1s						
U20A	Newcomb	79.90	48	⇓P	P	19 56 03.4	+1.0
	baz=80						
Y22A	Socorro	79.93	51	⇑P	P	19 56 03.0	+0.4
	baz=80,SNR=5.3						
JLU	Jordanelle	79.94	43	eP	P	19 56 02.5	-0.1
	comp=Z,27nm,1.4s						
324A	Moseley Ranch,	79.97	53	⇑P	P	19 56 02.8	-0.1
	baz=80,SNR=12						
425A	Indio Mountain	80.08	54	⇓P	P	19 56 03.8	+0.3
	baz=80,SNR=13						
MNTX	Cornudas Mount	80.16	53	eP	P	19 56 03.1	-0.6
	comp=Z,39nm,1.7s						
224A	Cornudas Mount	80.21	53	⇑P	P	19 56 04.7	+0.5
	baz=80,SNR=6.3						
626A	Big Bend Ranch	80.25	56	⇓P	P	19 56 04.8	+0.4
	baz=80,SNR=13						
HWUT	Hardware Ranch	80.37	42	eP	P	19 56 04.3	-0.6
	comp=Z,9.6nm,1.1s						
526A	Mary Lane Ranc	80.49	55	⇑P	P	19 56 06.0	+0.3
	baz=81,SNR=9.8						
W22A	Albuquerque	80.50	50	⇑P	P	19 56 06.5	+0.8
	baz=81						
124A	Stringfield Ra	80.53	52	⇓P	P	19 56 06.4	+0.5
	baz=81						
TXAR	Lajitas Array	80.53	56	P	P	19 56 06.5	+0.7
TXAR	Lajitas Array	80.53	56	P	P	19 56 06.5	+0.7
	comp=Z,7.9nm,1.0s,baz=224,slow=5.2,SNR=39						
TXAR				LR	LR	20 23 05.5	
	comp=Z,240nm,20.5s,baz=265,slow=29						
U21A	Nageezi	80.54	48	⇑P	P	19 56 07.1	+1.1
	baz=81						
Y23A	Lovelace Mesa,	80.60	51	⇓P	P	19 56 06.3	+0.1
	baz=81,SNR=5.9						
S20A	Disappointment	80.69	47	⇑P	P	19 56 07.3	+0.6
	baz=81,SNR=6.7						
NEW	Newport	80.72	34	eP	P	19 56 05.8	-0.5
	comp=Z,8.4nm,1.3s						
NEW	Newport	80.72	34	LR	LR	20 23 59.6	
	comp=Z,428nm,21.6s,baz=216,slow=30						
TRF	Thorofare Moun	80.73	10	eP	P	19 56 05.2	-1.0
	comp=Z,53nm,1.6s						
KLR	Kul'dur	80.73	327	eP	P	19 56 02.8	-3.5
KLR				pmax	pmax		
	comp=Z,42nm,1.8s						
ANMO	Albuquerque	80.75	50	eP	P	19 56 07.6	+0.5
	comp=Z,10nm,1.1s						
225A	Deer Hill, Car	80.76	53	⇓P	P	19 56 07.6	+0.4
	baz=81,SNR=8.0						
426A	McDonald Obser	80.79	55	⇓P	P	19 56 07.6	+0.2
	baz=81,SNR=18						
627A	Terlingua Ranc	80.81	56	⇓P	P	19 56 07.8	+0.4
	baz=81,SNR=19						
V22A	San Miguel Ran	80.85	49	⇓P	P	19 56 08.0	+0.4

Z25A Roswell 81.33 52 ⇓P P 19 56 10.4 +0.4
baz=82
427A Hayter Ranch, 81.35 55 ⇑P P 19 56 10.4 +0.2
baz=82,SNR=12
RRI2 Red Ridge 81.42 41 *e*P P 19 56 10.9 +0.5
comp=Z,44nm,1.3s
P20A De Beque 81.45 45 ⇓P P 19 56 11.0 +0.4
baz=82
R21A Cimarron 81.50 46 ⇓P P 19 56 11.8 +0.7
baz=82
U23A El Rito 81.55 49 ⇓P P 19 56 11.7 +0.4
baz=82,SNR=7.1
528A Cox Ranch, San 81.56 56 ⇓P P 19 56 12.1 +0.7
baz=82
126A Clayton Basin, 81.60 53 ⇓P P 19 56 11.9 +0.4
baz=82
Y25A Mesa, Roswell 81.62 51 ⇓P P 19 56 11.6 -0.1
baz=82,SNR=5.8
W24A Lazy 6 Ranch, 81.64 50 ⇑P P 19 56 11.9 +0.1
baz=82
DLMT Dillon 81.68 38 *e*P P 19 56 12.0 +0.3
comp=Z,40nm,1.4s
MSO Missoula 81.68 37 ⇓P P 19 56 11.0 -0.6
baz=82,SNR=7.6
REDW Red Top Meadow 81.72 41 *e*P P 19 56 12.2 +0.2
comp=Z,56nm,1.4s
TPAW Teton Pass 81.72 41 *e*P P 19 56 12.7 +0.6
comp=Z,38nm,1.3s
S22A 4UR Ranch, Cre 81.73 47 ⇑P P 19 56 12.9 +0.6
baz=82,SNR=11
BSMT Bassoo Peak 81.77 35 P P 19 56 11.9 -0.3
SNOW Snow King Moun 81.83 41 *e*P P 19 56 13.2 +0.5
comp=Z,25nm,1.0s
Z26A Caprock 81.89 52 ⇑P P 19 56 12.7 -0.3
baz=82,SNR=11
X25A Clemmons Ranch 81.90 51 ⇑P P 19 56 12.7 -0.4
baz=82,SNR=11
IMW Indian Meadow 81.93 40 *e*P P 19 56 13.7 +0.4
comp=Z,32nm,1.3s
V24A Rampart Ranch, 81.96 50 ⇑P P 19 56 14.0 +0.5
baz=82
MOOW Moose Ponds 81.98 40 *e*P P 19 56 13.4 0.0
comp=Z,37nm,1.7s
LOHW Long Hollow 82.00 41 *e*P P 19 56 13.6 +0.1
comp=Z,44nm,1.6s
529A Stev Forest Ra 82.00 56 ⇑P P 19 56 13.4 -0.2
baz=82,SNR=12
LRM Limekiln Ridge 82.01 38 *e*P P 19 56 13.6 0.0
comp=Z,121nm,1.1s
SWMT Swartz Lake 82.02 36 *e*P P 19 56 12.5 -0.9
comp=Z,11nm,1.3s
328A Wristen Ranch, 82.03 54 ⇑P P 19 56 14.3 +0.5
baz=82
P21A Newcastle 82.11 45 ⇓P P 19 56 14.6 +0.4
baz=82
QLMT Earthquake Lak 82.11 39 *e*P P 19 56 15.0 +1.0
comp=Z,6.6nm,1.4s
CHMT Chamberlain Mo 82.12 37 *e*P P 19 56 13.6 -0.5
comp=Z,14nm,1.1s
127A Arkansas Junct 82.13 53 ⇓P P 19 56 14.7 +0.5
baz=82
SLMT Seeley Lake 82.16 36 *e*P P 19 56 13.2 -1.0
comp=Z,18nm,1.5s
N20A Spence Gulch, 82.16 44 ⇓P P 19 56 15.1 +0.7
baz=82
FLWY Flagg Ranch 82.18 40 *e*P P 19 56 15.2 +0.8
comp=Z,77nm,1.5s
BW06 Boulder Array 82.24 42 *e*P P 19 56 14.6 -0.3
comp=Z,30nm,1.4s
PDAR Pinedale Array 82.24 42 P P 19 56 14.4 -0.4
PDAR Pinedale Array 82.24 42 P P 19 56 14.4 -0.4
comp=Z,6.1nm,1.0s,baz=219,slow=3.8,SNR=31
PDAR LR LR 20 26 29.9
comp=Z,397nm,19.4s,baz=223,slow=31
SMCO Snowmass 82.27 46 *e*P P 19 56 15.9 +0.6
comp=Z,76nm,1.7s
Y26A Elida 82.28 52 ⇑P P 19 56 15.4 +0.3
baz=82
YMR Madison River 82.31 40 *e*P P 19 56 16.4 +1.3
comp=Z,113nm,1.6s
W25A X Bar L Ranch, 82.34 50 ⇑P P 19 56 15.0 -0.4
baz=82,SNR=6.9
429A Davenport Ranc 82.46 55 ⇓P P 19 56 15.8 -0.1
baz=83,SNR=20
T24B San Luis 82.46 48 ⇑P P 19 56 16.5 +0.4
baz=83
COLA College 82.46 11 *e*P P 19 56 14.5 -0.6
COLA pmax pmax
comp=Z,79nm,0.9s
COLA College 82.46 11 *e*P P 19 56 14.5 -0.6
comp=Z,79nm,0.9s
V25A Rancho No Teng 82.49 50 ⇑P P 19 56 16.6 +0.4
baz=83
228A UT Block 9, Go 82.50 54 ⇓P P 19 56 16.7 +0.5
baz=83
Z27A Tatum 82.50 53 ⇑P P 19 56 15.8 -0.4
baz=83,SNR=5.8
YNR Norris Junctio 82.51 40 *e*P P 19 56 17.5 +1.3
comp=Z,54nm,1.4s
M20A Sweetwater, Wa 82.53 43 ⇓P P 19 56 16.4 +0.1
baz=83,SNR=5.6
ILAR Eielson Array 82.54 11 P P 19 56 14.8 -0.7
ILAR Eielson Array 82.54 11 P P 19 56 14.8 -0.7
comp=Z,1.4nm,0.8s,baz=219,slow=6.4,SNR=13
ILAR LR LR 20 26 06.3
comp=Z,278nm,20.4s,baz=30,slow=31
X26A CR and CF Fran 82.55 51 ⇓P P 19 56 16.9 +0.4
baz=83
IM04 Indian Mountai 82.57 8 *e*P P 19 56 15.7 0.0
R23A Moffat 82.63 47 ⇑P P 19 56 17.2 +0.2
baz=83,SNR=5.9
L20A Wamsutter 82.67 43 ⇓P P 19 56 17.0 0.0
baz=83,SNR=10
IMA2 Indian Mountai 82.67 8 *e*P P 19 56 16.2 -0.1
SEY Seymchan 82.70 345 *i* P P 19 56 15.0 -1.4
530A J-C Ranch, Com 82.72 56 ⇑P P 19 56 17.4 0.0
baz=83,SNR=6.8
329A Wagon Wheel Ra 82.72 55 ⇑P P 19 56 17.4 0.0
baz=83
K19A Absolon Red Bu 82.73 42 ⇑P P 19 56 17.1 -0.2
baz=83
Y27A Causey 82.77 52 ⇓P P 19 56 17.4 -0.2
baz=83
128A Castleberry Fa 82.78 53 ⇓P P 19 56 17.7 +0.1
baz=83
J19A Crowheart 82.81 42 ⇓P P 19 56 17.3 -0.4
baz=83,SNR=5.2
HRY Holter Researc 82.84 38 *e*P P 19 56 17.2 -0.5
comp=Z,34nm,0.9s
U25A Circle Dot Ran 82.88 49 ⇑P P 19 56 18.0 -0.2
baz=83,SNR=7.2
Q23A Hartsel 82.94 47 ⇓P P 19 56 18.8 +0.2
baz=83,SNR=6.2
K20A Yellowstone Ra 82.98 42 ⇑P P 19 56 18.1 -0.5
baz=83,SNR=7.6
O22A Kremmling 83.01 45 ⇑P P 19 56 18.9 -0.1
baz=83,SNR=17
430A Baggett Ranch, 83.04 56 ⇓P P 19 56 19.5 +0.5
baz=83
631A Perdido Creek 83.05 57 ⇑P P 19 56 19.6 +0.5
baz=83
V26A Tequesquite Ra 83.08 50 ⇑P P 19 56 19.4 +0.2
baz=83
MSTX Muleshoe 83.10 52 *e*P P 19 56 19.4 +0.1
MSTX Muleshoe 83.10 52 ⇓P P 19 56 19.8 +0.4
baz=83
H18A Shoshone NF, C 83.12 40 ⇓P P 19 56 19.6 +0.3
baz=83
Z28A Tucker Farm, M 83.12 53 ⇓P P 19 56 19.9 +0.5
baz=83
M21A Separation Pea 83.12 44 ⇑P P 19 56 19.1 -0.3
baz=83,SNR=12
X27A F and S Farms, 83.12 51 ⇑P P 19 56 20.1 +0.7
baz=83
QIZ Qiongzhong 83.13 292 P P 19 56 18.0 -1.6
QIZ S S 20 06 37.5 -0.5
QIZ pmax pmax
comp=Z,57nm,2.9s
P23A Jefferson 83.15 46 ⇓P P 19 56 21.0 +1.2
baz=83
R24A Sanders Place, 83.16 47 ⇑P P 19 56 20.0 +0.3
baz=83,SNR=8.9
T25A Trinidad 83.19 49 ⇓P P 19 56 20.6 +0.7
baz=83
I19A Meeteetse 83.22 41 ⇓P P 19 56 19.7 -0.1
baz=83,SNR=11
129A Stewart Farms, 83.26 54 ⇑P P 19 56 20.6 +0.5
baz=84

L21A Rawlins 83.29 43 ⇑P P 19 56 20.6 +0.4
baz=84
W27A Bowe Ranch, En 83.32 51 ⇓P P 19 56 20.2 -0.3
baz=84,SNR=10
330A Mertzon 83.33 55 ⇓P P 19 56 20.3 -0.1
baz=84
531A Rocksprings 83.36 56 ⇑P P 19 56 20.7 0.0
baz=84,SNR=12
N22A Wattenberg Ran 83.37 45 ⇑P P 19 56 21.0 +0.2
baz=84,SNR=8.7
S25A Robets Cordova 83.40 48 ⇑P P 19 56 20.7 -0.2
baz=84,SNR=8.2
O23A Lake Granby, G 83.47 45 ⇓P P 19 56 21.6 +0.3
baz=84
Y28A McKinney Farm, 83.47 52 ⇓P P 19 56 21.7 +0.5
baz=84
ISCO Idaho Springs 83.49 46 *e*P P 19 56 21.7 +0.2
ISCO pmax pmax
comp=Z,34nm,1.6s
ISCO Idaho Springs 83.49 46 *e*P P 19 56 21.7 +0.2
comp=Z,34nm,1.6s
ISCO Idaho Springs 83.49 46 ⇓P P 19 56 21.8 +0.4
baz=84
431A Sonora 83.50 56 ⇑P P 19 56 21.6 +0.2
baz=84
DAWY Dawson 83.51 14 *e*P P 19 56 20.7 +0.1
H19A Powell 83.54 40 ⇑P P 19 56 21.9 +0.5
baz=84
M22A Cedar Creek Ra 83.54 44 ⇑P P 19 56 21.2 -0.5
baz=84,SNR=6.1
Z29A Hungry Hill Ra 83.63 53 ⇑P P 19 56 22.0 0.0
baz=84
GCMT Greycliff 83.67 39 *e*P P 19 56 22.6 +0.6
comp=Z,22nm,1.2s
K21A Alcova 83.67 43 ⇓P P 19 56 21.5 -0.7
baz=84,SNR=6.9
R25A Fountain Ranch 83.71 48 ⇑P P 19 56 22.7 +0.3
baz=84
632A Uvalde 83.72 57 ⇓P P 19 56 23.0 +0.5
baz=84
I20A Worland 83.73 41 ⇑P P 19 56 22.0 -0.4
baz=84,SNR=5.3
X28A Dimmitt 83.75 52 ⇑P P 19 56 22.9 +0.2
baz=84
N23A Red Feather La 83.75 45 ⇑P P 19 56 22.7 0.0
baz=84,SNR=10
V27A Dan Oppiter Fa 83.77 50 ⇑P P 19 56 23.4 +0.7
baz=84
T26A Comanche Natio 83.80 49 ⇓P P 19 56 23.2 +0.2
baz=84
532A Rocksprings 83.86 57 ⇓P P 19 56 22.8 -0.4
baz=84,SNR=6.1
J21A Lysite 83.88 42 ⇑P P 19 56 23.8 +0.6
baz=84
331A San Angelo 83.88 55 ⇓P P 19 56 23.4 +0.1
baz=84
Y29A Porterfield Fa 83.89 53 ⇑P P 19 56 23.7 +0.3
baz=84
L22A Ellis Ranch, M 83.94 44 ⇑P P 19 56 23.9 +0.3
baz=84,SNR=7.9
130A Snyder 83.95 54 ⇓P P 19 56 24.0 +0.4
baz=84
U27A Thompson Grove 84.05 50 ⇓P P 19 56 24.2 +0.1
baz=84
Q25A Bedland, Calha 84.06 47 ⇑P P 19 56 23.4 -0.9
baz=84
H20A Greybull 84.07 41 ⇑P P 19 56 24.2 +0.2
baz=84
JCT Junction City 84.07 56 *e*P P 19 56 23.8 -0.5
JCT pmax pmax
comp=Z,10.0nm,1.0s
JCT Junction City 84.07 56 *e*P P 19 56 23.8 -0.5
comp=Z,9.6nm,1.0s
JCT Junction City 84.07 56 ⇑P P 19 56 24.1 -0.2
baz=84
S26A Kim 84.07 48 ⇓P P 19 56 23.6 -0.6
baz=84,SNR=6.3
Z30A Sanderson Ranc 84.09 53 ⇑P P 19 56 23.6 -0.7
baz=84,SNR=8.6
F19A Roth Farm, Mol 84.14 39 ⇑P P 19 56 24.2 -0.2
baz=84,SNR=6.3
M23A Laramie 84.16 44 ⇓P P 19 56 24.4 -0.4
baz=84,SNR=8.2
I21A Big Trails, Te 84.20 42 ⇑P P 19 56 24.1 -0.7
baz=84,SNR=22
231A Bronte 84.21 55 ⇑P P 19 56 24.6 -0.4
baz=84
432A Menard 84.22 56 ⇓P P 19 56 25.0 0.0
baz=84
PHWY Pilot Hill 84.26 44 *e*P P 19 56 25.1 -0.2
comp=Z,30nm,1.4s
G20A Bridger 84.28 40 ⇑P P 19 56 25.2 0.0
baz=84
R26A Arlington 84.37 48 ⇓P P 19 56 26.1 +0.3
baz=85
P25A Willow Gulch B 84.37 47 ⇓P P 19 56 26.1 +0.3
baz=85
T27A Campo 84.39 49 ⇑P P 19 56 26.2 +0.3
baz=85
W29A Amraillo 84.41 51 ⇓P P 19 56 26.2 +0.2
baz=85
131A Roby 84.43 54 ⇓P P 19 56 25.9 -0.1
baz=85
N24A Carr 84.45 45 ⇑P P 19 56 26.7 +0.5
baz=85
332A Millersview 84.45 55 ⇑P P 19 56 26.4 +0.2
baz=85
L23A Garrett 84.46 44 ⇑P P 19 56 26.0 -0.3
baz=85,SNR=12
U28A Mallet 84.48 50 ⇑P P 19 56 26.6 +0.3
baz=85
Y30A Stafford Cattl 84.49 53 ⇓P P 19 56 26.9 +0.5
baz=85
E19A Rath Farm, Rou 84.53 39 ⇓P P 19 56 26.4 +0.1
baz=85,SNR=6.6
J22A Midwest 84.54 42 ⇑P P 19 56 26.0 -0.5
baz=85,SNR=12
F20A Billings 84.60 40 ⇓P P 19 56 27.5 +0.8
baz=85
232A Coleman 84.72 55 ⇓P P 19 56 27.3 -0.3
baz=85,SNR=7.9
EGMT Eagleton 84.73 37 ⇑P P 19 56 28.0 +0.7
baz=85
X30A Coker Ranch, T 84.73 52 ⇑P P 19 56 27.7 +0.1
baz=85
H21A Big Horn, Sher 84.74 41 ⇑P P 19 56 27.7 +0.3
baz=85
I22A 9 Mile Ranch, 84.75 42 ⇑P P 19 56 27.4 -0.1
baz=85,SNR=5.5
M24A Cheyenne 84.76 45 ⇑P P 19 56 28.3 +0.5
baz=85
V29A Stinnett 84.80 51 ⇑P P 19 56 28.4 +0.5
baz=85
D19A Cripps Ranch, 84.82 38 ⇓P P 19 56 28.4 +0.7
baz=85
R27A Eads 84.83 48 ⇓P P 19 56 28.4 +0.3
baz=85
T28A Walsh 84.86 49 ⇓P P 19 56 28.5 +0.3
baz=85
Z31A Sharp Cattle R 84.86 54 ⇑P P 19 56 28.6 +0.4
baz=85
E20A Meyer Farm, Mu 84.95 39 ⇑P P 19 56 28.9 +0.5
baz=85
ABTX Abilene, Hawle 84.99 54 *e*P P 19 56 29.0 +0.1
ABTX Abilene, Hawle 84.99 54 ⇓P P 19 56 28.9 0.0
baz=85
C19A Slack Wire Ran 85.00 38 ⇓P P 19 56 29.8 +1.2
baz=85
Y31A Rekieta Farm, 85.01 53 ⇓P P 19 56 29.1 +0.1
baz=85
D20A Manuel Ranch, 85.23 38 ⇑P P 19 56 30.9 +1.1
baz=85
Z32A Haskell 85.37 54 ⇓P P 19 56 31.3 +0.5
baz=86
V30A Spur Ranch, Mi 85.38 51 ⇑P P 19 56 31.4 +0.6
baz=86
B19A Brinkman Farms 85.41 37 ⇑P P 19 56 31.1 +0.5
baz=86
EDM Edmonton 85.51 31 *e*P P 19 56 30.4 -0.6
EDM Edmonton 85.51 31 *e*P P 19 56 30.4 -0.6
R28A Tribune 85.56 48 ⇓P P 19 56 32.5 +0.8
baz=86
Y32A R-V Farms, Ver 85.66 53 ⇓P P 19 56 32.4 +0.2
baz=86
BJI Beijing 85.70 313 P P 19 56 32.8 +0.6
BJI S S 20 07 10.0 +7.2
BJI pmax pmax
comp=Z,6.0nm,1.4s

BJI pmax pmax
comp=Z,270nm,5.5s
BJI LR LR
comp=N,300nm,25.1s
BJI LR LR
comp=E,260nm,20.8s
BJI LR LR
comp=Z,280nm,53.0s
W31A Holland Ranch, 85.72 52 ⇑P P 19 56 32.8 +0.4
baz=86
A19A Klindworth Far 85.76 37 ⇑P P 19 56 33.0 +0.6
baz=86
V31A Spring Creek L 86.02 51 ⇑P P 19 56 35.0 +1.1
baz=86
RSSD Black Hills 86.44 42 *e*P P 19 56 34.4 -1.7
RSSD pmax pmax
comp=Z,26nm,0.6s
RSSD Black Hills 86.44 42 *e*P P 19 56 34.4 -1.7
comp=Z,26nm,0.6s
WHTX Lake Whitney 86.49 56 *e*P P 19 56 36.3 0.0
I25A Rochford 86.59 43 ⇓P P 19 56 37.1 +0.4
baz=87
T31A Randall Ranch, 86.64 50 ⇓P P 19 56 37.8 +0.9
baz=87
HKT Hockley 87.10 58 *e*P P 19 56 39.7 +0.5
HKT pmax pmax
comp=Z,30nm,1.6s
HKT Hockley 87.10 58 *e*P P 19 56 39.7 +0.5
comp=Z,30nm,1.6s
APG El Apazote 87.18 74 LR LR 20 27 37.7
comp=Z,179nm,19.1s,baz=130,slow=30
C23A Lambert 87.33 39 ⇓P P 19 56 40.9 +0.8
baz=88
MAW Mawson 87.72 199 *e*P P 19 56 42.1 +0.4
MAW Mawson 87.72 199 P P 19 56 42.0 +0.4
comp=Z,2.5nm,0.9s,baz=140,slow=7.9,SNR=5.8
MAW LR LR 20 33 05.7
comp=Z,627nm,18.9s,baz=114,slow=34
GYA Guiyang 88.27 298 P P 19 56 44.3 -0.9
GYA PP PP 20 00 13.5 +0.6
GYA SKS SKSac 20 07 11.5 -1.0
GYA S S 20 07 27.3 -1.3
GYA SS SS 20 13 18.8 +0.2
GYA pmax pmax
comp=Z,30nm,1.0s
GYA pmax pmax
comp=Z,130nm,5.6s
GYA LR LR
comp=N,630nm,21.9s
GYA LR LR
comp=E,540nm,22.7s
GYA LR LR
comp=Z,580nm,21.5s
PSI Prapat 88.69 273 LR LR 20 35 07.9
comp=Z,326nm,19.1s,baz=44,slow=35
HHC Hu-ho-hao-te 89.25 313 *e*P P 19 56 49.3 -0.2
HHC sP sP 19 56 54.8 -7.4
HHC PP PP 20 00 22.3 +1.8
HHC SKS SKSac 20 07 16.5 -1.2
HHC S S 20 07 36.5 -0.8
HHC sS ScS 20 07 42.5 +0.4
HHC SS SS 20 13 33.5 +1.1
HHC pmax pmax
comp=Z,32nm,0.6s
HHC pmax pmax
comp=Z,400nm,7.1s
HHC LR LR
comp=N,280nm,16.7s
HHC LR LR
comp=E,420nm,16.7s
HHC LR LR
comp=Z,340nm,19.0s
PLCA Paso Flores 89.28 132 P P 19 56 49.0 -0.7
PLCA Paso Flores 89.28 132 P P 19 56 49.0 -0.7
comp=Z,1.4nm,0.9s,baz=143,slow=5.1,SNR=2.2
PLCA LR LR 20 29 01.8
comp=Z,385nm,19.2s,baz=312,slow=30
KMI Kunming 91.25 296 P P 19 57 00.3 +1.0
KMI pmax pmax
comp=Z,6.0nm,0.8s
CD2 Chengdu 92.04 301 P P 19 57 02.5 -0.1
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CMAR Chiang Mai Arr 92.83 288 P P 19 57 06.2 -0.3
CMAR Chiang Mai Arr 92.83 288 P P 19 57 06.2 -0.3
comp=Z,1.2nm,0.8s,baz=95,slow=2.9,SNR=8.8
CMAR LR LR 20 33 38.4
comp=Z,112nm,21.6s,baz=205,slow=32
LZH Lanzhou 93.45 306 *e*P P 19 57 09.3 +0.2
LZH pP PcP 19 57 14.0 +4.3
LZH sP sP 19 57 16.5 -5.4
LZH PP PP 20 00 56.3 +2.4
LZH SKS SKSac 20 07 41.3 -0.6
LZH SS SS 20 14 33.3 +0.1
LZH pmax pmax
comp=Z,29nm,1.2s
LZH pmax pmax
comp=Z,100nm,5.6s
LZH LR LR
comp=N,720nm,16.3s
LZH LR LR
comp=E,850nm,15.9s
LZH LR LR
comp=Z,1µm,17.6s
ULM Lac du Bonnet 93.92 39 LR LR 20 32 18.4
comp=Z,571nm,21.6s,baz=259,slow=31
SONM Songino Array 95.07 318 P P 19 57 17.8 +1.5
SONM PP PP 20 01 07.5 +1.4
SONM Songino Array 95.07 318 P P 19 57 17.8 +1.5
comp=Z,0.5nm,0.9s,baz=104,slow=6.0,SNR=3.8
SONM PP PP 20 01 07.5 +1.4
comp=Z,0.2nm,0.6s,baz=119,slow=5.2,SNR=3.8
SONM LR LR 20 34 12.0
comp=Z,313nm,21.7s,baz=57,slow=32
GTA Gaotai 97.41 309 *e*P P 19 57 26.8 -0.3
GTA pP Pdif 19 57 31.0 +3.8
GTA sP sP 19 57 33.5 -6.3
GTA PP PP 20 01 25.5 +1.0
GTA S S 20 08 45.5 -4.3
GTA pmax pmax
comp=Z,3.0nm,1.0s
GTA pmax pmax
comp=Z,130nm,4.3s
GTA LR LR
comp=N,180nm,20.4s
GTA LR LR
comp=E,270nm,23.3s
GTA LR LR
comp=Z,500nm,25.2s
MKAR Makanchi Array 111.06 315 PKIKP PKiKP 20 02 25.6 -1.0
MKAR Makanchi Array 111.06 315 PKiKP PKiKP 20 02 25.6 -1.0
MKAR Makanchi Array 111.06 315 PKiKP PKiKP 20 02 25.6 -1.0
comp=Z,0.7nm,0.7s,baz=62,slow=2.9,SNR=6.8
KURK Kurchatov 113.36 319 *c i* PKIKP PKiKP 20 02 29.1 -1.7
KURK pmax pmax
comp=Z,3.0nm,1.7s
KURK Kurchatov 113.36 319 *e*PKiKP PKiKP 20 02 28.7 -2.1
KURBB Kurchatov Arra 113.43 319 PKiKP PKiKP 20 02 29.9 -1.0
comp=Z,1.5nm,0.9s,baz=94,slow=2.0,SNR=14
KSH Kashi 115.70 307 *e*PKP PKPdf 20 02 37.5 +1.6
KSH PP PP 20 03 45.8 +6.7
KSH PKS PKSdf 20 06 13.0 +0.3
KSH SKS SKSdf 20 09 48.5 +2.2
KSH SKKS SKKSac 20 10 38.5 +0.1
KSH SS SS 20 19 43.5 +5.5
KSH AMB AMB
comp=Z,35nm,5.6s
KSH LR LR
comp=N,80nm,4.8s
KSH LR LR
comp=E,63nm,5.7s
KSH LR LR
comp=Z,130nm,7.2s
BVAR Borovoye Array 118.10 322 PKIKP PKPdf 20 02 39.4 -0.5
BVAR Borovoye Array 118.10 322 PKP PKPdf 20 02 39.4 -0.5
BVAR Borovoye Array 118.10 322 PKP PKPdf 20 02 39.4 -0.5
comp=Z,2.2nm,0.7s,baz=101,slow=3.2,SNR=9.5
BRVK Borovoye 118.16 322 *c i* PKIKP PKPdf 20 02 40.0 0.0
BRVK pmax pmax
comp=Z,7.0nm,2.5s
KBL Kabul 121.38 301 *e*PKIKP PKPdf 20 02 47.0 -0.1
KBL Kabul 121.38 301 *e*PKPdf PKPdf 20 02 47.0 -0.1
SOKR Solikamsk 122.98 332 ⇑ *i* PKIKP PKPdf 20 02 48.7 -0.3
SOKR pmax pmax
comp=Z,10.0nm,0.9s
ARU Arti 123.55 328 *i* PKIKP PKPdf 20 02 49.4 -0.9

ARU					20 04 29.3	
ARU					20 09 50.1	
ARCES	**ARCESS Array B**	**124.77 352**	PKP	**PKPdf**	**20 02 52.2**	**-0.1**
ARCES	**ARCESS Array B**	**124.77 352**	PKP	**PKPdf**	**20 02 52.2**	**-0.1**
	comp=Z,6.0nm,0.9s,baz=30,slow=2.2,SNR=6.2					
ABKAR	**Akbulak array**	**125.44 320**	*e*PKPdf	**PKPdf**	**20 02 53.4**	**-0.7**
AKTO	**Aktyubinsk**	**126.21 322**	PKIKP	**PKPdf**	**20 02 54.5**	**-1.1**
AKTO	**Aktyubinsk**	**126.21 322**	PKP	**PKPdf**	**20 02 54.5**	**-1.1**
AKTO	**Aktyubinsk**	**126.21 322**	PKP	**PKPdf**	**20 02 54.5**	**-1.1**
	comp=Z,1.3nm,0.7s,baz=23,slow=2.0,SNR=5.9					
KLMR	**Klimovskoe**	**128.98 340**	*e*PKIKP	**PKPdf**	**20 02 58.9**	**-1.6**
KLMR			pmax	pmax		
	comp=Z,16nm,1.2s					
FINES	**FINESS Array B**	**132.12 348**	PKP	**PKPdf**	**20 03 05.5**	**-0.9**
FINES	**FINESS Array B**	**132.12 348**	PKP	**PKPdf**	**20 03 05.5**	**-0.9**
	comp=Z,5.2nm,0.9s,baz=99,slow=4.4,SNR=5.4					
OBN	**Obninsk**	**134.31 336**	⇑*i*PKIKP	**PKPdf**	**20 03 12.3**	**+1.6**
OBN			*e*		20 03 20.2	
OBN			pmax	pmax		
	comp=Z,5.0nm,0.5s					
OBN			MLR	MLR		
	comp=Z,200nm,20.0s					
KIV	**Kislovodsk**	**138.42 320**	*i* PKIKP	**PKPdf**	**20 03 20.9**	**+2.0**
KIV			pmax	pmax		
	comp=Z,7.0nm,1.0s					
KIV			MLR	MLR		
	comp=Z,216nm,22.0s					
AKASG	**Malin Array Be**	**140.54 338**	PKHKP	PKPpre	20 03 15.6	
AKASG					20 03 21.0	
AKASG	**Malin Array Be**	**140.54 338**	PKPpre	PKPpre	20 03 15.6	
AKASG			PKP	**PKPdf**	**20 03 21.0**	**-1.4**
AKASG	**Malin Array Be**	**140.54 338**	PKhKP	PKPpre	20 03 15.6	
	comp=Z,0.5nm,0.4s,baz=41,slow=3.9,SNR=5.0					
AKASG			PKP	**PKPdf**	**20 03 21.0**	**-1.4**
	comp=Z,1.1nm,0.5s,baz=36,slow=2.5,SNR=6.7					
LVV	**L'vov**	**143.05 341**	*e*PKIKP	**PKPdf**	**20 03 30.0**	**+3.1**
KWP	**Kalwaria Pacla**	**143.61 343**	⇓PKIKP	PKPab	20 03 25.0	+0.5
KWP	**Kalwaria Pacla**	**143.61 343**	⇓*i*P	PKPab	20 03 25.0	+0.5
KWP	**Kalwaria Pacla**	**143.61 343**	*e*PKP	PKPab	20 03 24.8	+0.3
KSP	**Ksiaz**	**143.96 350**	*e*PKIKP	PKPab	20 03 26.0	+0.2
CLL	**Collm**	**143.97 353**	*e*PKIKP	**PKPdf**	**20 03 28.0**	**-0.5**
CLL			*i*		20 03 32.3	
CLL			pmax	pmax		
	comp=Z,4.0nm,0.8s					
CLL	**Collm**	**143.97 353**	*e*PKPdf	**PKPdf**	**20 03 28.0**	**-0.5**
	comp=Z,4.0nm,0.8s					
CLL			*i*		20 03 29.9	
	comp=Z,4.0nm,0.9s					
CLL			*i* PKiKP	**PKiKP**	**20 03 32.3**	**+0.3**
CLL			*i*		20 03 35.4	
MALT	**Malatya**	**144.09 315**	⇓PKIKP	**PKPdf**	**20 03 29.1**	**-0.2**
MALT	**Malatya**	**144.09 315**	⇓*i*P	**PKPdf**	**20 03 29.1**	**-0.2**
BUG	**Bochum--Univer**	**144.18 359**	*e*PKPbc	**PKPab**	**20 03 26.2**	**-0.3**
STHS	**Stebnicka Huta**	**144.21 344**	*e*PKIKP	PKPbc	20 03 27.7	+0.5
STHS	**Stebnicka Huta**	**144.21 344**	*e*PKP	PKPbc	20 03 27.7	+0.5
BRG	**Berggiesshubel**	**144.28 352**	*e*PKP	**PKPdf**	**20 03 29.4**	**+0.3**
	comp=Z,7.0nm,1.1s					
BRG	**Berggiesshubel**	**144.28 352**	*e*PKIKP	**PKPdf**	**20 03 29.4**	**+0.3**
BRG			pmax	pmax		
	comp=Z,60nm,1.1s					
UPC	**Upice**	**144.33 350**	*e*PKIKP	**PKPab**	**20 03 27.1**	**-0.1**
UPC			*e*		20 03 34.0	
UPC	**Upice**	**144.33 350**	*e*PKP	**PKPab**	**20 03 27.1**	**-0.1**
UPC			*ep*PKP	**PKiKP**	**20 03 34.0**	**+1.2**
KOLS	**Kolonicke sedl**	**144.36 342**	*e*PKIKP	**PKPab**	**20 03 27.7**	**+0.3**
KOLS	**Kolonicke sedl**	**144.36 342**	*e*PKP	**PKPab**	**20 03 27.7**	**+0.3**
DPC	**Dobruska-Polom**	**144.43 349**	*e*PKIKP	PKPbc	20 03 28.2	+0.3
DPC			*e*		20 03 34.1	
DPC	**Dobruska-Polom**	**144.43 349**	*e*PKP	PKPbc	20 03 28.2	+0.3
DPC			*ep*PKP	**PKiKP**	**20 03 34.1**	**+1.0**
PVCC	**Panska Ves**	**144.54 351**	*e*PKIKP	**PKPdf**	**20 03 29.5**	**0.0**
PVCC			*e*		20 03 35.4	
PVCC			MLR	MLR		
	comp=Z,400nm,21.8s					
PVCC	**Panska Ves**	**144.54 351**	*e*PKP	**PKPdf**	**20 03 29.5**	**0.0**
PVCC			*ep*PKP	**PKiKP**	**20 03 35.4**	**+2.2**
PVCC			AMS	AMS	21 06 00.0	
	comp=Z,400nm,21.8s					
BUR08	**Bucovina Ar. S**	**144.54 338**	*e*PKPdf	**PKPab**	**20 03 28.5**	**+0.3**
BURAR	**Bucovina Array**	**144.56 338**	⇓PKIKP	**PKPab**	**20 03 28.6**	**+0.3**
BURAR	**Bucovina Array**	**144.56 338**	⇓*i*P	**PKPab**	**20 03 28.6**	**+0.3**
OKC	**Ostrava-Krasne**	**144.56 347**	*e*PKIKP	PKPbc	20 03 28.4	+0.2
OKC			*e*		20 03 33.5	
OKC	**Ostrava-Krasne**	**144.56 347**	*e*PKP	PKPbc	20 03 28.4	+0.2
OKC			*ep*PKP	**PKiKP**	**20 03 33.5**	**+0.2**
KRLC	**Kraliky**	**144.61 349**	*e*PKIKP	**PKPab**	**20 03 28.5**	**+0.2**
KRLC			*e*		20 03 33.7	
KRLC	**Kraliky**	**144.61 349**	*e*PKP	**PKPab**	**20 03 28.5**	**+0.2**
KRLC			*ep*PKP	**PKiKP**	**20 03 33.7**	**+0.3**
CRVS	**Cervenica-Dubn**	**144.62 343**	*e*PKIKP	**PKPab**	**20 03 28.6**	**+0.3**
CRVS	**Cervenica-Dubn**	**144.62 343**	*e*PKP	**PKPab**	**20 03 28.6**	**+0.3**
UZH	**Uzhgorod**	**144.63 342**	*d i* PKIKP	PKPbc	20 03 28.8	+0.3
UBBA	**Unterbreizbach**	**144.71 356**	*e*PKPbc	**PKPab**	**20 03 28.3**	**-0.1**
MORC	**Moravsky Berou**	**144.75 348**	⇑PKIKP	**PKPab**	**20 03 29.1**	**+0.3**
MORC	**Moravsky Berou**	**144.75 348**	*e*PKPdf	**PKPab**	**20 03 28.6**	**-0.1**
MORC	**Moravsky Berou**	**144.75 348**	⇑*i*P	**PKPab**	**20 03 29.1**	**+0.3**
MOX	**Moxa**	**144.77 355**	*e*PKPbc	**PKPab**	**20 03 28.6**	**-0.2**
MOX			*eL*	L	21 01 08.5	
	comp=Z,215nm,22.0s					
TANN	**Tannenbergstha**	**144.91 354**	*e*PKPbc	**PKPab**	**20 03 29.2**	**-0.2**
TESR	**Tescani**	**144.95 336**	⇓*i*P	**PKPab**	**20 03 29.4**	**-0.2**
TRPA	**Tarpa**	**145.00 342**	⇑*i*P	**PKPab**	**20 03 29.2**	**-0.5**
PRA	**Prague**	**145.00 351**	PKP	PKPbc	20 03 30.0	+0.4
MEM	**Membach**	**145.01 1**	PKP	**PKPab**	**20 03 29.6**	**0.0**
MEM			APKP	**PKiKP**	**20 03 34.5**	**+0.3**
PRU	**Pruhonice**	**145.07 351**	*e*PKIKP	**PKPbc**	**20 03 29.9**	**0.0**
PRU			*e*		20 03 36.3	
PRU			MLR	MLR		
	comp=Z,400nm,22.4s					
PRU	**Pruhonice**	**145.07 351**	*e*PKP	**PKPbc**	**20 03 29.9**	**0.0**
PRU			*ep*PKP	**PKiKP**	**20 03 36.3**	**+2.0**
PRU			AMS	AMS	21 06 10.0	
	comp=Z,400nm,22.4s					
TLCR		**145.10 332**	⇓PKP2	**PKPbc**	**20 03 29.5**	**-0.6**
TLCR		**145.10 332**	⇓*i*P	**PKPbc**	**20 03 29.5**	**-0.6**
BCLA	**Clavier**	**145.19 2**	PKP	**PKPbc**	**20 03 29.9**	**-0.3**
BCLA			APKP	**PKiKP**	**20 03 37.1**	**+2.6**
KECS	**Kecovo**	**145.27 344**	*e*PKIKP	**PKPab**	**20 03 31.0**	**+0.3**
KECS	**Kecovo**	**145.27 344**	*e*PKP	**PKPab**	**20 03 31.0**	**+0.3**
ARCR	**ARCALIA**	**145.32 339**	⇑*i*P	**PKPdf**	**20 03 31.6**	**+0.6**
TNS	**Taunus Mts**	**145.38 358**	*e*PKPbc	**PKPbc**	**20 03 30.9**	**0.0**
VRAC	**Vranov**	**145.38 349**	⇑*i*P	**PKPbc**	**20 03 30.9**	**0.0**
CFR	**Carcaliu**	**145.41 333**	⇑PKIKP	**PKPbc**	**20 03 31.3**	**+0.2**
CFR	**Carcaliu**	**145.41 333**	⇑*i*P	**PKPbc**	**20 03 31.3**	**+0.2**
VRI	**Vrincioaia**	**145.45 335**	⇑PKIKP	**PKPbc**	**20 03 30.9**	**-0.3**
VRI	**Vrincioaia**	**145.45 335**	⇑*i*P	**PKPbc**	**20 03 30.9**	**-0.3**
DOU	**Dourbes**	**145.49 2**	PKP	**PKPbc**	**20 03 30.8**	**-0.3**
PLOR	**Plostina**	**145.49 335**	⇑PKIKP	**PKPdf**	**20 03 31.5**	**+0.1**
PLOR	**Plostina**	**145.49 335**	⇑*i*P	**PKPdf**	**20 03 31.5**	**+0.1**
ROTZ	**Rotzenmuhle**	**145.58 354**	*e*PKPbc	**PKPab**	**20 03 31.9**	**+0.1**
TREC	**Trest**	**145.59 350**	*e*PKIKP	**PKPdf**	**20 03 31.4**	**0.0**
TREC			*e*		20 03 38.0	
TREC			MLR	MLR		
	comp=Z,400nm,22.4s					
TREC	**Trest**	**145.59 350**	*e*PKP	**PKPdf**	**20 03 31.4**	**0.0**
TREC			*ep*PKP	**PKiKP**	**20 03 38.0**	**+2.6**
TREC			AMS	AMS	21 06 00.0	
	comp=Z,400nm,22.4s					
KMBO	**Kilima Mbogo**	**145.64 244**	*e*PKPdf	**PKPdf**	**20 03 33.3**	**+0.5**
KMBO			PKPbc	**PKPdf**	**20 03 33.4**	**+0.5**
KMBO	**Kilima Mbogo**	**145.64 244**	PKPbc	**PKPdf**	**20 03 33.4**	**+0.5**
	comp=Z,6.2nm,0.9s,baz=62,slow=1.2,SNR=13					
GRF	**Grafenberg Arr**	**145.75 355**	*e*PKPbc	**PKPbc**	**20 03 32.4**	**+0.3**
GRF			*eL*	L	21 07 52.4	
	comp=Z,184nm,21.5s					
GRFO	**Grafenberg**	**145.75 355**	*e*PKP2	**PKPab**	**20 03 32.5**	**+0.1**
GRFO	**Grafenberg**	**145.75 355**	*e*PKPdf	**PKPab**	**20 03 32.5**	**+0.1**
TIRR	**Tirgusor**	**145.84 332**	⇓PKP2	**PKPbc**	**20 03 32.8**	**+0.3**
TIRR	**Tirgusor**	**145.84 332**	*e*PKPdf	**PKPbc**	**20 03 32.6**	**+0.1**
TIRR	**Tirgusor**	**145.84 332**	⇓*i*P	**PKPbc**	**20 03 32.8**	**+0.3**
DOPR	**Dopca**	**145.89 337**	⇑*i*P	**PKPbc**	**20 03 33.1**	**+0.4**
TLB	**Topalu**	**145.91 332**	⇑PKP2	**PKPbc**	**20 03 32.8**	**+0.1**
TLB	**Topalu**	**145.91 332**	⇑*i*P	**PKPbc**	**20 03 32.8**	**+0.1**
PSZ	**Piszkesteto**	**145.94 344**	*e*PKP2	**PKPbc**	**20 03 33.0**	**+0.2**
PSZ	**Piszkesteto**	**145.94 344**	*e*PKPdf	**PKPbc**	**20 03 33.0**	**+0.2**
PSZ	**Piszkesteto**	**145.94 344**	⇓*e*PKPdf	**PKPdf**	**20 03 32.7**	**+0.6**
WLF	**Walferdange**	**145.96 1**	PKP	**PKPab**	**20 03 33.3**	**+0.1**
WLF	**Walferdange**	**145.96 1**	*e*PKPbc	**PKPab**	**20 03 33.3**	**+0.1**
WLF	**Walferdange**	**145.96 1**	*e*PKP2	**PKPdf**	**20 03 32.4**	**+0.4**
WLF	**Walferdange**	**145.96 1**	*e*PKPdf	**PKPdf**	**20 03 32.4**	**+0.4**
KHC	**Kasperske Hory**	**146.04 352**	*e*PKP2	**PKPdf**	**20 03 32.9**	**+0.7**
KHC	**Kasperske Hory**	**146.04 352**	*e*PKP	**PKPdf**	**20 03 32.7**	**+0.5**
KHC			*ex*	x	20 03 39.8	
KHC			AMS	AMS	21 07 00.0	
	comp=Z,300nm,17.8s					
KHC	**Kasperske Hory**	**146.04 352**	*e*PKPdf	**PKPdf**	**20 03 32.9**	**+0.7**
MLR	**Muntele Rosu**	**146.07 336**	⇑*i*P	**PKPbc**	**20 03 33.4**	**0.0**
WET	**Wettzell**	**146.12 353**	*e*PKPbc	**PKPbc**	**20 03 33.7**	**+0.5**
DRGR		**146.13 340**	⇑PKP2	**PKPdf**	**20 03 33.2**	**+0.7**
DRGR		**146.13 340**	⇑*i*P	**PKPdf**	**20 03 33.2**	**+0.7**
ISR	**Istrita**	**146.13 335**	⇑PKP2	**PKPbc**	**20 03 33.4**	**-0.1**
ISR	**Istrita**	**146.13 335**	⇑*i*P	**PKPbc**	**20 03 33.4**	**-0.1**
DRWC	**Darouich**	**146.15 314**	*e*P	**PKPab**	**20 03 39.5**	**+5.0**
GEC2	**GERESS Array S**	**146.30 352**	*e*PKPbc	**PKPbc**	**20 03 34.0**	**+0.1**
GERES	**GERESS Array B**	**146.30 352**	PKPbc	**PKPbc**	**20 03 33.8**	**-0.1**
GERES	**GERESS Array B**	**146.30 352**	PKPbc	**PKPbc**	**20 03 33.8**	**-0.1**
	comp=Z,3.3nm,0.9s,baz=33,slow=3.2,SNR=29					
ZST	**Bratislava**	**146.34 348**	*e*PKP2	**PKPab**	**20 03 35.6**	**+0.9**
ZST	**Bratislava**	**146.34 348**	*e*PKP	**PKPab**	**20 03 35.6**	**+0.9**
BR131	**Keskin Array S**	**146.38 321**	*e*PKPdf	**PKPbc**	**20 03 34.3**	**-0.2**
BRTR	**Keskin Array B**	**146.38 321**	PKPbc	**PKPbc**	**20 03 34.4**	**-0.1**
BRTR	**Keskin Array B**	**146.38 321**	PKPbc	**PKPbc**	**20 03 34.4**	**-0.1**
	comp=Z,16nm,1.0s,baz=111,slow=1.7,SNR=47					
VOIR		**146.47 336**	⇓PKP2	**PKPbc**	**20 03 35.2**	**+0.7**
VOIR		**146.47 336**	⇓*i*P	**PKPbc**	**20 03 35.2**	**+0.7**
BUD	**Budapest**	**146.57 345**	⇓*e*PKPdf	**PKPbc**	**20 03 34.3**	**-0.3**
LANF	**Langenberg**	**146.64 359**	PKP	**PKPbc**	**20 03 35.1**	**+0.3**
ARR	**Arges**	**146.68 337**	⇑*i*P	**PKPab**	**20 03 36.4**	**+0.2**
STU	**Stuttgart**	**146.80 357**	*e*PKPbc	**PKPbc**	**20 03 35.6**	**+0.4**
PKSG		**146.81 346**	⇓*e*	PKPab	20 03 42.4	+5.9
CONA	**Conrad Observa**	**146.84 349**	⇓*i*PKPbc	**PKPdf**	**20 03 33.5**	**-0.2**
	comp=Z,45nm,1.7s,SNR=12					
SIRR	**Siria**	**146.93 341**	⇑*i*P	**PKPbc**	**20 03 36.2**	**+0.5**
LOT	**Lotru**	**146.93 338**	⇑*i*P	**PKPdf**	**20 03 33.6**	**-0.3**
PKS7	**Kunszentmiklos**	**146.94 344**	⇑*e*PKPdf	**PKPbc**	**20 03 36.1**	**+0.5**
SOP	**Sopron**	**146.94 348**	⇓*e*PKPdf	**PKPbc**	**20 03 35.1**	**-0.5**
PKST	**T``s**	**147.02 346**	⇓*e*PKPdf	**PKPdf**	**20 03 34.6**	**+0.7**
MOA	**Molln**	**147.19 351**	*i* pPKPdf	**PKPbc**	**20 03 35.7**	**-0.7**
	comp=Z,32nm,1.5s,SNR=6.8					
FUR	**Furstenfeldbru**	**147.25 354**	*e*PKPbc	**PKPbc**	**20 03 36.9**	**+0.3**
BFO	**Black Forest**	**147.28 358**	*e*PKPbc	**PKPbc**	**20 03 36.7**	**+0.1**
BFO	**Black Forest**	**147.28 358**	*e*PKP2	**PKPbc**	**20 03 36.5**	**-0.1**
BFO	**Black Forest**	**147.28 358**	*e*PKPdf	**PKPbc**	**20 03 36.5**	**-0.1**
GZR	**Gura Zlata**	**147.33 339**	⇓PKIKP	**PKPbc**	**20 03 36.7**	**-0.2**
GZR	**Gura Zlata**	**147.33 339**	⇓*i*P	**PKPbc**	**20 03 36.7**	**-0.2**
THEF	**They Montfort**	**147.40 1**	PKP	**PKPbc**	**20 03 37.3**	**+0.4**
ECH	**Echery**	**147.41 360**	*e*PKIKP	**PKPdf**	**20 03 34.4**	**-0.1**
ECH	**Echery**	**147.41 360**	PKP	**PKPab**	**20 03 40.3**	**+1.4**
ECH	**Echery**	**147.41 360**	*e*PKPdf	**PKPdf**	**20 03 34.4**	**-0.1**
PKS2	**Kecel**	**147.44 344**	⇓*e*PKPdf	**PKPbc**	**20 03 37.4**	**+0.3**
RJOB	**Jochberg**	**147.51 352**	*e*PKPbc	**PKPbc**	**20 03 37.4**	**+0.1**
BZS	**Buzias**	**147.53 340**	⇑PKIKP	**PKPdf**	**20 03 34.7**	**-0.1**
BZS	**Buzias**	**147.53 340**	⇑*i*P	**PKPdf**	**20 03 34.7**	**-0.1**
MARH	**Ras Al Marh**	**147.54 310**	*e*P	**PKPbc**	**20 03 38.5**	**+0.4**
ARSA	**Arzberg**	**147.56 349**	⇑*i*pPKPdf	**PKPbc**	**20 03 36.6**	**-0.8**
	comp=Z,26nm,1.3s,SNR=10					
PKS9	**Tamasi**	**147.59 345**	⇓*e*PKPdf	**PKPbc**	**20 03 37.2**	**-0.3**
MOF	**Molkenrain**	**147.78 360**	PKP	**PKPbc**	**20 03 38.4**	**+0.3**
SALA	**Sala**	**147.92 308**	*e*P	**PKPdf**	**20 03 37.7**	**+1.6**
BEHE	**Becsehely**	**148.05 347**	⇓*e*PKPdf	**PKPbc**	**20 03 38.6**	**-0.1**
SOKA	**Soboth**	**148.20 349**	⇑*i*PKPbc	**PKPdf**	**20 03 36.4**	**+0.4**
	comp=Z,14nm,1.1s,SNR=11					
BRBR	**Barbar**	**148.21 309**	*e*P	**PKPbc**	**20 03 40.0**	**+0.1**
PERS	**Pernice**	**148.22 349**	*i* PKPbc	**PKPbc**	**20 03 38.5**	**-0.8**
DAVA	**Damuels**	**148.24 356**	*i* PKiKP	**PKPbc**	**20 03 39.8**	**+0.3**
	comp=Z,16nm,1.0s,SNR=5.8					
ABTA	**Abfaltersbach**	**148.52 352**	⇓*i*PKPdf	**PKPdf**	**20 03 36.0**	**-0.5**
	comp=Z,12nm,0.9s,SNR=7.2					
TCHB	**Talchebab**	**148.52 308**	*e*P	**PKPbc**	**20 03 40.4**	**-0.1**
VISS	**Visnje**	**149.08 349**	*i* PKPdf	**PKPdf**	**20 03 36.8**	**-0.6**
VISS			*i* PKPbc	**PKPbc**	**20 03 40.9**	**-0.5**
TUE	**Stuetta**	**149.09 357**	*e*PKPdf	**PKPdf**	**20 03 38.8**	**+1.2**
JAVS	**Javornik**	**149.13 350**	*i* PKPdf	**PKPdf**	**20 03 36.7**	**-0.8**
JAVS			*i* PKPbc	**PKPbc**	**20 03 40.9**	**-0.8**
BOJS	**Bojanci**	**149.29 348**	*i* PKPdf	**PKPdf**	**20 03 37.6**	**0.0**
BOJS			*i* PKPbc	**PKPbc**	**20 03 42.4**	**+0.5**
CSS	**Prodhromos**	**149.33 314**	*e*PKPbc	**PKPbc**	**20 03 42.1**	**-0.3**
TRI	**Trieste**	**149.36 350**	*e*PKPbc	**PKPdf**	**20 03 39.8**	**+2.1**
AGO	**Saint Agoulin**	**149.42 5**	PKP	**PKPab**	**20 03 45.7**	**-1.3**
PLDF	**La Plantade**	**149.54 4**	PKP	**PKPbc**	**20 03 44.1**	**+1.4**
VTS	**Vitosha**	**149.57 336**	⇑PKP2	**PKPbc**	**20 03 42.8**	**-0.2**
VTS	**Vitosha**	**149.57 336**	⇑*i*P	**PKPbc**	**20 03 42.8**	**-0.2**
PYM	**Petit Puy Mans**	**149.71 5**	PKP	**PKPbc**	**20 03 44.7**	**+1.6**
SSB	**Saint Sauveur**	**150.29 3**	*e*PKIKP	**PKPbc**	**20 03 44.6**	**+0.1**
SSB	**Saint Sauveur**	**150.29 3**	*e*PKPbc	**PKPbc**	**20 03 44.6**	**+0.1**
PCAB	**Cabril**	**150.95 23**	*e*PKPbc	**PKPbc**	**20 03 45.5**	**-0.6**
PCAB	**Cabril**	**150.95 23**	*e*PKPab	**PKPab**	**20 03 52.9**	**-0.6**
POLO	**Lamas de Olo**	**151.33 23**	*e*PKPdf	**PKPdf**	**20 03 39.8**	**-1.3**
POLO	**Lamas de Olo**	**151.33 23**	*e*PKPbc	**PKPbc**	**20 03 46.7**	**-0.4**
PVRL	**Vila Real**	**151.44 23**	*e*PKPbc	**PKPbc**	**20 03 47.2**	**-0.1**
MVO	**Moncorvo**	**151.79 22**	*e*PKPbc	**PKPbc**	**20 03 47.8**	**-0.4**
MVO	**Moncorvo**	**151.79 22**	*e*PKPab	**PKPab**	**20 03 55.9**	**-1.2**
MTE	**Manteigas**	**152.26 24**	*e*PKPbc	**PKPbc**	**20 03 48.7**	**-0.5**
PCBR	**Castelo Branco**	**152.76 24**	*e*PKPbc	**PKPbc**	**20 03 49.2**	**-1.1**
PMTG	**Montargil**	**153.10 26**	*e*PKPbc	**PKPbc**	**20 03 50.6**	**-0.5**
PMTG	**Montargil**	**153.10 26**	*e*PKPab	**PKPab**	**20 04 01.8**	**-0.7**
PMRV	**Marv??o**	**153.15 25**	*e*PKPbc	**PKPbc**	**20 03 50.3**	**-0.9**
PNCL	**Nicolau / Gran**	**153.76 28**	*e*PKPbc	**PKPbc**	**20 03 53.9**	**+1.4**
ESDC	**Sonseca Array**	**154.18 19**	PKPbc	**PKPbc**	**20 03 53.1**	**-0.3**
ESDC	**Sonseca Array**	**154.18 19**	PKPbc	**PKPbc**	**20 03 53.1**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=326,slow=2.6,SNR=7.1					
PBAR	**Barrancos**	**154.36 26**	*e*PKPbc	**PKPbc**	**20 03 53.6**	**-0.2**
TORD	**Torodi Ar. Bea**	**174.52 115**	PKP	**PKPdf**	**20 04 02.5**	**-1.3**
TORD			PKPab	**PKPab**	**20 05 39.2**	**+2.2**
TORD	**Torodi Ar. Bea**	**174.52 115**	PKP	**PKPdf**	**20 04 02.5**	**-1.3**
	comp=Z,2.2nm,1.1s,baz=306,slow=5.1,SNR=5.1					
TORD			PKPab	**PKPab**	**20 05 39.2**	**+2.2**
	comp=Z,0.5nm,0.8s,baz=239,slow=5.3,SNR=4.4					

IDC 30 19:46:53.5±2.0, 15°.44S×174°.37W, h0km, mb3.9/3, mb1 4.2/4, mb1mx3.8/19, mbtmp4.0/4, ML2.8/1, Error ellipse: s-maj=192.8km s-min=23.2km az=152.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.94**	**59**	Pn	Pn	19 47 41.9	+0.3
	79nm,0.3s,baz=66,slow=19,SNR=3.6						
AFI				Sn	Sn	19 48 17.8	+0.1
	179nm,0.3s,baz=180,slow=20,SNR=4.2						
STKA	**Stephens Creek**	**43.21**	**240**	P	P	19 54 56.0	-0.5
	1.1nm,0.7s,baz=92,slow=13,SNR=3.6						
WRA	**Warramunga Arr**	**48.92**	**257**	P	P	19 55 42.0	+0.2
	0.7nm,0.6s,baz=91,slow=7.2,SNR=7.0						
ASAR	**Alice Springs**	**49.21**	**252**	P	P	19 55 43.9	-0.2
	2.6nm,0.8s,baz=86,slow=8.4,SNR=5.6						

IDC 30 19:49:09.6±1.8, 15°.88S×173°.17W, h0km, mb4.0/5, mb1 4.3/5, mb1mx3.9/20, mbtmp4.0/5, Error ellipse: s-maj=149.3km s-min=24.2km az=151.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**43.99**	**240**	P	P	19 57 19.1	+0.2
	2.0nm,0.9s,baz=107,slow=11,SNR=3.0						
WRA	**Warramunga Arr**	**49.95**	**257**	P	P	19 58 05.0	-0.8
	0.9nm,0.6s,baz=91,slow=6.8,SNR=10						
ASAR	**Alice Springs**	**50.17**	**252**	P	P	19 58 07.5	+0.1
	4.7nm,0.6s,baz=87,slow=8.3,SNR=22						
TXAR	**Lajitas Array**	**80.70**	**56**	P	P	20 01 25.1	0.0
	0.8nm,1.0s,baz=224,slow=7.5,SNR=5.0						
PDAR	**Pinedale Array**	**82.48**	**42**	P	P	20 01 34.1	-0.3
	0.7nm,0.9s,baz=190,slow=4.6,SNR=4.4						
BRTR	**Keskin Array B**	**146.67**	**321**	PKPbc	PKPbc	20 08 53.7	-0.1
	2.2nm,1.0s,baz=337,slow=1.9,SNR=6.8						

*ROM **30** 19:52:12.0±0.1, 41°.72N×13°.69E, h13km±1km, Ml3.5/29, Error ellipse: s-maj=0.9km s-min=0.6km az=25.0*
*ISCJB **30** 19:52:12.1±0.2, 41°.74N±0°.02×13°.68E±0°.02, h18km±2km, Error ellipse: s-maj=3.5km s-min=2.5km az=20.1*
*CSEM **30** 19:52:12.0±0.1, 41°.72N×13°.68E, h10km, ML3.5, Error ellipse: s-maj=3.3km s-min=2.2km az=16.0*
*LDG **30** 19:52:12.2±0.1, 41°.70N×13°.67E, h10km, Ml3.0/4, Error ellipse: s-maj=4.7km s-min=2.4km az=30.0*
*VIE **30** 19:52:17.9±0.6, 42°.12N×13°.36E, h10km, mb2.7/6, ML2.7/4, Ms3.2/2, Error ellipse: s-maj=9.7km s-min=4.9km az=122.0*
76 km ENE of Rome
*BEO **30** 19:52:30.0±0.5, 42°.85N×15°.10E, h0km, ML2.8/7*
ISC 30 19:52:12.0±0.7, **41°.72N**±0°.02×**13°.67E**±0°.02, **h15**km±4km, **n150**, σ1°.35/173, **17C-7D, Southern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POFI	**Posta Fibreno**	**0.03**	**87**	⇓*i*Pg	**Pg**	**19 52 14.7**	**-0.2**
POFI				Sg	**Sg**	**19 52 16.2**	**-0.6**
	14μm,0.1s						
POFI	**Posta Fibreno**	**0.03**	**87**	⇓*i*Pg	**Pg**	**19 52 14.7**	**-0.2**
POFI				Sg	**Sg**	**19 52 16.2**	**-0.6**
	14μm,0.1s						
SDI	**San Donato**	**0.11**	**93**	⇓*i*Pg	**Pg**	**19 52 15.3**	**-0.2**
SDI	**San Donato**	**0.11**	**93**	⇓*i*Pg	**Pg**	**19 52 15.3**	**-0.2**
VVLD	**Villa Vallelon**	**0.16**	**348**	Pg	**Pg**	**19 52 16.2**	**0.0**
VVLD				Sg	**Sg**	**19 52 19.0**	**0.0**
	18μm,0.2s						
VVLD	**Villa Vallelon**	**0.16**	**348**	Pg	**Pg**	**19 52 16.2**	**0.0**
VVLD				Sg	**Sg**	**19 52 19.0**	**0.0**
	18μm,0.2s						
GUAR	**Guarcino**	**0.28**	**287**	⇑*i*Pg	**Pb**	**19 52 18.5**	**-0.2**
GUAR				Sg	**Sb**	**19 52 23.4**	**+0.2**
	5μm,0.3s						
GUAR	**Guarcino**	**0.28**	**287**	⇑*i*Pg	**Pb**	**19 52 18.5**	**-0.2**
GUAR				Sg	**Sb**	**19 52 23.4**	**+0.2**
	5μm,0.3s						
CERA

BLY	**Banja Luka**	**3.97**	**39**	*e*Pn	**Pn**	**19 53 12.2**	**-0.2**
BLY	**Banja Luka**	**3.97**	**39**	*e*Pn	**Pn**	**19 53 12.2**	**-0.2**
CEY	**Cerknica**	**4.06**	**8**	*e*Pn	Pn	19 53 16.8	+3.2
CEY				*e*Sn	Sn	19 53 54.7	-6.1
CEY	**Cerknica**	**4.06**	**8**	*e*Pn	Pn	19 53 16.8	+3.2
PDG	**Podgorica**	**4.22**	**78**	*e*Pn	Pb	19 53 20.8	-5.1
PDG				*e*Sn	Sn	19 53 58.2	-6.5
PDG	**Podgorica**	**4.22**	**78**	*e*Pn	Pb	19 53 20.8	-5.1
VOY	**Vojsko**	**4.32**	**2**	*e*Pn	**Pn**	**19 53 19.2**	**+2.0**
VOY				*e*		19 53 23.3	
VOY				*e*Sn	**Sn**	**19 54 10.7**	**+3.4**
VOY	**Vojsko**	**4.32**	**2**	Pn	**Pn**	**19 53 19.2**	**+2.0**
VOY				*e*Sn	**Sn**	**19 54 10.7**	**+3.4**
LJU	**Ljubljana**	**4.37**	**8**	*e*Pn	Pn	19 53 21.9	+4.1
LJU				*e*Sn	Sn	19 53 59.5	-9.0
LJU	**Ljubljana**	**4.37**	**8**	*e*Pn	Pn	19 53 21.9	+4.1
TIR	**Tirane**	**4.67**	**92**	*e*P	Pn	19 53 27.5	+5.6
BBLS	**Lazići**	**4.74**	**61**	*e*Pn	**Pn**	**19 53 22.9**	**0.0**
BBLS				*e*Sg	**Sn**	**19 54 14.5**	**-3.1**
BBLS	**Lazići**	**4.74**	**61**	*e*Pn	**Pn**	**19 53 22.9**	**0.0**
OBKA	**Obir**	**4.83**	**7**	⇓*i*Pn	**Pn**	**19 53 25.9**	**+1.7**
OBKA	**Obir**	**4.83**	**7**	Pn	**Pn**	**19 53 25.9**	**+1.7**
SJES	**Sjenica**	**4.91**	**70**	*e*Pn	**Pn**	**19 53 26.6**	**+1.2**
SOKA	**Soboth**	**5.06**	**11**	⇑*i*Pn	**Pn**	**19 53 28.9**	**+1.6**
	SNR=6.9						
SOKA				⇓*i*Sn	**Sn**	**19 54 25.3**	**-0.2**
SOKA	**Soboth**	**5.06**	**11**	Pn	**Pn**	**19 53 28.9**	**+1.6**
	SNR=6.9						
SOKA				Sn	**Sn**	**19 54 25.3**	**-0.2**
SBF	**Sospel**	**5.06**	**297**	*e*Pn	**Pn**	**19 53 27.7**	**+0.3**
SBF	**Sospel**	**5.06**	**297**	*e*Pn	**Pn**	**19 53 27.7**	**+0.3**
KEK	**Kerkira**	**5.07**	**111**	*e*P	Pn	19 53 31.0	+3.6
ABTA	**Abfaltersbach**	**5.10**	**351**	⇑*i*Pn	**Pn**	**19 53 28.3**	**+0.4**
ABTA	**Abfaltersbach**	**5.10**	**351**	Pn	**Pn**	**19 53 28.3**	**+0.4**
IVAS	**Ivanjica**	**5.13**	**67**	*e*Pn	**Pn**	**19 53 30.0**	**+1.7**
IVAS				*e*Sg	**Sn**	**19 54 28.7**	**+1.4**
IVAS	**Ivanjica**	**5.13**	**67**	*e*Pn	**Pn**	**19 53 30.0**	**+1.7**
DIVS	**Divibare**	**5.22**	**61**	*e*Pn	**Pn**	**19 53 29.7**	**+0.1**
DIVS				*e*Sg	**Sn**	**19 54 29.9**	**+0.4**
DIVS	**Divibare**	**5.22**	**61**	*e*Pn	**Pn**	**19 53 29.7**	**+0.1**
FRF	**La Foret Royal**	**5.50**	**292**	*e*Pn	**Pn**	**19 53 33.9**	**+0.6**
FRF	**La Foret Royal**	**5.50**	**292**	*e*Pn	**Pn**	**19 53 33.9**	**+0.6**
LMR	**La Mourre**	**5.53**	**289**	*e*Pn	**Pn**	**19 53 34.1**	**+0.4**
LMR				*e*Sn	**Sn**	**19 54 33.0**	**-4.0**
	2.7nm,0.3s						
LMR	**La Mourre**	**5.53**	**289**	*e*Pn	**Pn**	**19 53 34.1**	**+0.4**
TRUS	**Trudelj**	**5.54**	**61**	*e*Pn	**Pn**	**19 53 32.9**	**-1.0**
TRUS	**Trudelj**	**5.54**	**61**	*e*Pn	**Pn**	**19 53 32.9**	**-1.0**
GRUS	**Gruza**	**5.62**	**65**	*e*Pn	**Pn**	**19 53 34.9**	**-0.1**
GRUS				*e*Sg	**Sn**	**19 54 44.9**	**+5.7**
GRUS	**Gruza**	**5.62**	**65**	*e*Pn	**Pn**	**19 53 34.9**	**-0.1**
ARSA	**Arzberg**	**5.69**	**13**	⇑*i*Pn	**Pn**	**19 53 37.5**	**+1.5**
ARSA	**Arzberg**	**5.69**	**13**	*e*Pn	**Pn**	**19 53 37.4**	**+1.5**
ARSA	**Arzberg**	**5.69**	**13**	Pn	**Pn**	**19 53 37.5**	**+1.5**
SELS	**Selova**	**5.71**	**72**	*e*Pn	**Pn**	**19 53 37.5**	**+1.2**
SELS	**Selova**	**5.71**	**72**	*e*Pn	**Pn**	**19 53 37.5**	**+1.2**
MBDF	**Montbardon**	**5.87**	**303**	*e*P	**Pn**	**19 53 41.1**	**+2.6**
MBDF	**Montbardon**	**5.87**	**303**	*e*P	**Pn**	**19 53 41.1**	**+2.6**
FNA	**Florina**	**5.88**	**97**	*e*P	Pn	19 53 42.0	+3.3
MOA	**Molln**	**6.15**	**4**	⇓*i*Pn	**Pn**	**19 53 44.1**	**+1.8**
	SNR=12						
MOA	**Molln**	**6.15**	**4**	*e*Pn	Pn	19 53 45.7	+3.5
MOA				*e*Sn	Sn	19 54 44.0	-8.3
MOA	**Molln**	**6.15**	**4**	Pn	**Pn**	**19 53 44.1**	**+1.8**
	SNR=12						
KZN	**Kozani**	**6.29**	**100**	*e*P	**Pn**	**19 53 47.0**	**+2.7**
SMRF	**Simiane la Rot**	**6.36**	**294**	*e*P	**Pn**	**19 53 46.2**	**+1.0**
SMRF	**Simiane la Rot**	**6.36**	**294**	*e*P	**Pn**	**19 53 46.2**	**+1.0**
CONA	**Conrad Observa**	**6.41**	**13**	⇑*i*Pn	**Pn**	**19 53 47.7**	**+1.9**
CONA				⇑*i*Sn	**Sn**	**19 54 58.2**	**-0.5**
CONA	**Conrad Observa**	**6.41**	**13**	Pn	**Pn**	**19 53 47.7**	**+1.9**
CONA				Sn	**Sn**	**19 54 58.2**	**-0.5**
ORIF	**Oris-en-Rattie**	**6.52**	**302**	*e*P	Pn	19 53 50.6	+3.2
ZAPS	**Zavoj**	**6.81**	**74**	*e*Pn	**Pn**	**19 53 52.6**	**+1.3**
ZAPS	**Zavoj**	**6.81**	**74**	*e*Pn	**Pn**	**19 53 52.6**	**+1.3**
EVR	**Evrytania**	**6.82**	**112**	*e*P	**Pn**	**19 53 54.5**	**+2.9**
LIT	**Litokhoron**	**6.88**	**101**	*e*P	**Pn**	**19 53 55.0**	**+2.7**
EFP	**Efpalio**	**7.12**	**115**	*e*P	Pn	19 53 59.5	+3.9
LAKA	**Lakka**	**7.26**	**116**	*e*P	Pn	19 54 01.5	+3.9
CABF	**La Chapelle**	**7.32**	**314**	*e*Pn	**Pn**	**19 53 56.8**	**-1.6**
CABF	**La Chapelle**	**7.32**	**314**	*e*Pn	**Pn**	**19 53 56.8**	**-1.6**
KHC	**Kasperske Hory**	**7.42**	**360**	*e*PN	**Pn**	**19 54 01.3**	**+1.6**
KHC				*e*x	x	19 54 09.0	
KHC				*e*x	x	19 54 11.9	
KHC				*e*SN	**Sn**	**19 55 21.8**	**-1.7**
KHC	**Kasperske Hory**	**7.42**	**360**	Pn	**Pn**	**19 54 01.3**	**+1.6**
KHC				Sn	**Sn**	**19 55 21.8**	**-1.7**
KLV	**Kalavryta, Ach**	**7.48**	**117**	*e*P	Pn	19 54 05.0	+4.4
LASF	**Ste Croix**	**7.58**	**291**	*e*Pn	**Pn**	**19 54 01.7**	**-0.2**
LASF	**Ste Croix**	**7.58**	**291**	*e*Pn	**Pn**	**19 54 01.7**	**-0.2**
GUR	**Goura**	**7.67**	**117**	*e*P	Pn	19 54 07.5	+4.3
NEO	**Neokhori**	**7.67**	**105**	*e*P	**Pn**	**19 54 05.5**	**+2.4**
PAIG	**Paliouri**	**7.80**	**100**	*e*P	**Pn**	**19 54 07.5**	**+2.6**
CDF	**Champ du Feu**	**8.08**	**328**	*e*Pn	**Pn**	**19 54 09.5**	**+0.7**
CDF				*e*Sn	Sn	19 55 33.0	-6.8
	1.5nm,0.5s						
CDF	**Champ du Feu**	**8.08**	**328**	*e*Pn	**Pn**	**19 54 09.5**	**+0.7**
HAU	**Haudompre**	**8.16**	**323**	*e*Pn	**Pn**	**19 54 08.9**	**-0.9**
HAU				*e*Sn	Sn	19 55 35.0	-6.7
	1.3nm,0.3s						
HAU	**Haudompre**	**8.16**	**323**	*e*Pn	**Pn**	**19 54 08.9**	**-0.9**
DID	**Didima**	**8.50**	**117**	*e*P	Pn	19 54 19.0	+4.5

*IDC **30** 20:03:09.4±0.8, 15°.87S×173°.54W, h0km, mb3.9/6, mb1 4.2/6, mb1mx3.9/19, mbtmp3.9/6, MS3.5/2, Ms1 3.5/2, ms1mx3.2/33, Error ellipse: s-maj=38.3km s-min=22.7km az=141.0*

ISC 30 20:03:13.9±0.8, 15°.9S±0°.2×173°.1W±0°.3, h26km, n22, σ1§74/16, mb4.0/6, 1C-2D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.33**	**34**	Pn	Pn	20 03 46.0	-4.7
	17nm,0.3s,baz=209,slow=20,SNR=4.3						
AFI				Sn	**Sn**	**20 04 16.2**	**-2.4**
	21nm,0.3s,baz=41,slow=18,SNR=4.4						
AFI				LR	LR	20 04 47.1	
	comp=Z,298nm,18.1s,baz=54,slow=38						
RAR	**Rarotonga**	**13.74**	**115**	LR	LR	20 11 11.4	
	comp=Z,524nm,18.9s,baz=90,slow=34						
STKA	**Stephens Creek**	**44.03**	**240**	P	**P**	**20 11 17.8**	**-1.8**
	1.9nm,0.9s,baz=85,slow=11,SNR=2.5						
WRA	**Warramunga Arr**	**49.99**	**257**	P	P	20 12 01.9	-4.4
	0.9nm,0.8s,baz=91,slow=6.9,SNR=6.5						
ASAR	**Alice Springs**	**50.22**	**252**	P	P	20 12 03.2	-4.8
	2.1nm,0.7s,baz=86,slow=8.3,SNR=21						
VNDA	**Vanda**	**62.96**	**186**	P	**P**	**20 13 36.9**	**-0.8**
	1.2nm,1.0s,baz=2.3,slow=8.6,SNR=6.2						
NVAR	**Mina Array Bea**	**74.49**	**42**	P	**P**	**20 14 51.8**	**+1.3**
	0.6nm,0.3s,baz=224,slow=12,SNR=4.8						
ILAR	**Eielson Array**	**82.84**	**11**	P	**P**	**20 15 35.2**	**-0.3**
	0.5nm,0.6s,baz=234,slow=6.7,SNR=4.8						
CLL	**Collm**	**144.29**	**353**	*e*PKP	**PKPdf**	**20 22 52.0**	**+4.5**
	comp=Z,4.0nm,0.7s						
UPC	**Upice**	**144.65**	**350**	*e*P	PKPdf	20 22 54.3	+6.1
UPC				*e*x	x	20 22 59.3	
DPC	**Dobruska-Polom**	**144.75**	**349**	*e*P	PKPbc	20 22 48.1	+0.8
DPC				*e*x	x	20 22 54.5	
OKC	**Ostrava-Krasne**	**144.88**	**347**	*e*P	**PKPab**	**20 22 48.3**	**+0.6**
OKC				*e*x	x	20 22 54.6	
KRLC	**Kraliky**	**144.93**	**349**	*e*P	PKPdf	20 22 55.2	+6.5
MORC	**Moravsky Berou**	**145.07**	**348**	⇓*i*P	PKPdf	20 22 55.5	+6.5
PRU	**Pruhonice**	**145.39**	**351**	*e*P	**PKPbc**	**20 22 49.9**	**+0.6**
PRU				*e*x	x	20 22 56.3	
KMBO	**Kilima Mbogo**	**145.57**	**243**	PKPbc	**PKPdf**	**20 22 49.8**	**-1.4**
	comp=Z,1.2nm,0.7s,baz=72,slow=9.7,SNR=3.5						
KHC	**Kasperske Hory**	**146.36**	**352**	*e*P	**PKPbc**	**20 22 52.6**	**+0.2**
KHC				*e*x	x	20 22 59.5	
MLR	**Muntele Rosu**	**146.38**	**335**	⇓*i*P	**PKPbc**	**20 22 53.2**	**+0.5**
GERES	**GERESS Array B**	**146.62**	**352**	PKPbc	**PKPdf**	**20 22 52.9**	**+1.1**
	comp=Z,0.4nm,0.7s,baz=38,slow=6.8,SNR=5.7						
BRTR	**Keskin Array B**	**146.67**	**321**	PKPbc	**PKPdf**	**20 22 53.1**	**+1.0**
	comp=Z,1.9nm,0.7s,baz=140,slow=1.8,SNR=10.0						
ARR	**Arges**	**147.00**	**337**	⇑*i*P	**PKPbc**	**20 22 55.4**	**+1.0**
TORD	**Torodi Ar. Bea**	**174.32**	**118**	PKP	**PKPdf**	**20 23 21.1**	**-1.1**
	comp=Z,0.7nm,1.0s,baz=274,slow=0.1,SNR=3.1						
TORD				PKPab	**PKPab**	**20 24 54.9**	**+0.3**
	comp=Z,0.8nm,0.9s,baz=252,slow=3.1,SNR=3.9						

IDC 30 20:06:21.3±4.6, 19°.57S×175°.84W, h0km, mb4.3/6, mb1 4.4/6, mb1mx4.0/20, mbtmp4.3/6, Error ellipse: s-maj=139.4km s-min=64.3km az=137.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**35.61**	**263**	P	P	20 13 22.6	+1.6
	1.7nm,0.4s,baz=93,slow=13,SNR=6.1						
STKA	**Stephens Creek**	**40.02**	**243**	P	P	20 13 58.5	+0.4
	1.9nm,0.4s,baz=90,slow=12,SNR=14						
ASAR	**Alice Springs**	**46.71**	**256**	P	P	20 14 51.3	-1.1
	7.4nm,0.9s,baz=88,slow=7.1,SNR=28						
WRA	**Warramunga Arr**	**46.74**	**261**	P	P	20 14 51.6	-1.1
	1.3nm,0.3s,baz=96,slow=6.7,SNR=27						
FITZ	**Fitzroy Crossi**	**55.17**	**261**	P	P	20 15 55.5	-0.7
	2.0nm,0.8s,baz=108,slow=6.4,SNR=2.3						
CMAR	**Chiang Mai Arr**	**91.72**	**289**	P	P	20 19 32.4	+0.9
	1.0nm,0.9s,baz=104,slow=3.1,SNR=4.3						
AKASG	**Malin Array Be**	**143.14**	**333**	PKP	PKPdf	20 25 56.3	-0.9
	0.6nm,0.5s,baz=42,slow=4.6,SNR=12						

*ISCJB **30** 20:08:00.2±0.7, 14°.14N±0°.07×93°.23E±0°.07, h32km, mb4.0/8, Error ellipse: s-maj=11.6km s-min=8.1km az=43.8*

*IDC **30** 20:08:02.1±0.9, 13°.97N×93°.10E, h29km±6km, mb3.8/8, mb1 3.9/9, mb1mx3.6/26, mbtmp3.8/9, ML3.6/1, Error ellipse: s-maj=36.8km s-min=15.1km az=57.0*

ISC 30 20:08:02.4±0.8, 14°.1N±0°.1×93°.2E±0°.1, h32km, n20, σ1§06/25, mb4.2/8, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.06**	**51**	Pn	**Pn**	**20 09 45.5**	**+2.0**
	0.2nm,0.3s,baz=240,slow=15,SNR=7.7						
CMAR				Sn	**Sn**	**20 11 00.8**	**-1.9**
	0.5nm,0.3s,baz=239,slow=29,SNR=11						
ODAN	**Odare**	**13.80**	**338**	*e*P	**Pn**	**20 11 15.3**	**-0.8**
TAPN	**Taplejung**	**14.14**	**340**	*e*P	**Pn**	**20 11 19.5**	**-1.3**
RAMN	**Ramite**	**14.19**	**335**	*e*P	**Pn**	**20 11 20.7**	**-0.7**
JIRN	**Jiri**	**14.98**	**335**	*e*P	**Pn**	**20 11 31.4**	**-0.9**
PKI	**Pulchoki**	**15.23**	**333**	*e*P	**Pn**	**20 11 34.5**	**-1.1**
	10nm,0.5s						
PKIN	**Phulchoki**	**15.24**	**333**	*e*P	**Pn**	**20 11 34.7**	**-1.0**
	9.3nm,0.4s						
DMN	**Daman**	**15.40**	**332**	*e*P	**Pn**	**20 11 36.4**	**-1.3**
GKN	**Gorkha**	**15.95**	**332**	*e*P	**Pn**	**20 11 44.1**	**-0.6**
	12nm,0.3s						
KOLN	**Koldanda**	**16.26**	**328**	*e*P	**Pn**	**20 11 48.2**	**-0.6**
MKAR	**Makanchi Array**	**33.85**	**347**	P	**P**	**20 14 44.1**	**+2.1**
	0.3nm,0.5s,baz=168,slow=7.9,SNR=5.3						
MKAR				pP	**pP**	**20 14 52.3**	**+1.0**
	0.6nm,0.5s,baz=165,slow=7.3,SNR=5.3						
KURBB	**Kurchatov Arra**	**38.33**	**345**	P	**P**	**20 15 20.6**	**+0.6**
	1.0nm,0.2s,baz=162,slow=8.1,SNR=5.1						
KURBB				pP	**pP**	**20 15 29.9**	**+0.4**
	1.3nm,0.6s,baz=163,slow=8.2,SNR=4.8						
ZALV	**Zalesovo Beam**	**40.31**	**352**	P	**P**	**20 15 36.2**	**-0.4**
	0.5nm,0.4s,baz=188,slow=8.7,SNR=3.3						
ZALV				pP	**pP**	**20 15 45.4**	**-0.6**
	1.2nm,0.7s,baz=182,slow=7.7,SNR=4.3						
FITZ	**Fitzroy Crossi**	**45.27**	**134**	P	**P**	**20 16 16.6**	**-0.7**
	3.9nm,0.5s,baz=316,slow=5.9,SNR=12						
WRA	**Warramunga Arr**	**52.77**	**129**	P	**P**	**20 17 14.2**	**-0.7**
	0.9nm,0.4s,baz=312,slow=8.8,SNR=14						
WRA				PcP	**PcP**	**20 18 24.4**	**+0.3**
	1.7nm,0.6s,baz=317,slow=3.2,SNR=14						
ASAR	**Alice Springs**	**54.73**	**133**	P	**P**	**20 17 28.8**	**-0.4**
	1.9nm,0.4s,baz=307,slow=6.8,SNR=43						
ASAR				PcP	**PcP**	**20 18 32.0**	**+0.4**
	1.0nm,0.8s,baz=314,slow=4.0,SNR=4.8						
BRTR	**Keskin Array B**	**57.75**	**308**	P	**P**	**20 17 51.0**	**+0.3**
	0.2nm,0.3s,baz=134,slow=8.3,SNR=2.7						
BRTR				pP	**pP**	**20 17 59.8**	**-0.7**
	0.7nm,0.6s,baz=115,slow=7.1,SNR=4.3						
STKA	**Stephens Creek**	**65.14**	**135**	P	**P**	**20 18 40.4**	**-0.1**
	2.3nm,0.7s,baz=284,slow=4.3,SNR=5.1						
GERES	**GERESS Array B**	**72.61**	**317**	pP	pP	20 19 36.4	-0.5
	0.5nm,0.6s,baz=54,slow=6.8,SNR=4.8						
TORD	**Torodi Ar. Bea**	**88.25**	**283**	pP	pP	20 21 01.3	-0.2
	0.4nm,0.8s,baz=77,slow=3.7,SNR=2.9						

IDC 30 20:09:20.1±5.8, 6°.02S×151°.33E, h62km±48km, mb3.6/6, mb1 3.8/7, mb1mx3.5/18, mbtmp3.7/7, ML2.8/1, MS4.3/1, Ms1 4.3/1, ms1mx3.2/30, Error ellipse: s-maj=49.1km s-min=25.9km az=108.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.33**	**231**	P	Pn	20 10 38.3	+1.2
	2.2nm,0.3s,baz=15,slow=11,SNR=5.6						
PMG				S	Sn	20 11 37.6	+0.3
	3.7nm,0.3s,baz=165,slow=20,SNR=5.2						
WRA	**Warramunga Arr**	**21.54**	**228**	P	P	20 14 03.8	-0.7
	1.4nm,0.6s,baz=54,slow=10,SNR=12						
ASAR	**Alice Springs**	**24.27**	**222**	P	P	20 14 31.5	-0.2
	2.6nm,0.7s,baz=56,slow=9.0,SNR=26						
STKA	**Stephens Creek**	**27.29**	**198**	P	P	20 14 59.3	+0.4
	2.0nm,0.9s,baz=34,slow=15,SNR=2.4						
FITZ	**Fitzroy Crossi**	**27.80**	**242**	P	P	20 15 03.5	0.0
	2.0nm,0.6s,baz=68,slow=7.2,SNR=9.1						
AFI	**Afiamalu**	**37.13**	**105**	LR	LR	20 28 26.6	
	comp=Z,439nm,18.6s,baz=85,slow=31						
SONM	**Songino Array**	**66.58**	**329**	P	P	20 20 04.3	+0.3
	0.3nm,0.6s,baz=116,slow=2.9,SNR=2.6						
ILAR	**Eielson Array**	**83.83**	**22**	P	P	20 21 42.0	-0.6
	1.0nm,0.6s,baz=253,slow=5.8,SNR=9.3						
TORD	**Torodi Ar. Bea**	**149.25**	**286**	PKPbc	PKPbc	20 29 02.8	-0.1
	1.7nm,0.7s,baz=49,slow=2.0,SNR=12						

IDC 30 20:10:37.9±6.5, 14°.74S×172°.25W, h0km, mb4.0/2, mb1 4.2/2, mb1mx3.6/20, mbtmp4.0/2, MS4.1/1, Ms1 4.1/1, ms1mx3.3/27, Error ellipse: s-maj=281.6km s-min=21.6km az=135.0, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**0.94**	**29**	Pn	Pb	20 10 57.7	+0.5
	13nm,0.3s,baz=151,slow=19,SNR=3.8						
AFI				Sn	Sn	20 11 28.3	+15
	64nm,0.3s,baz=14,slow=22,SNR=9.5						
RAO	**Raoul Island**	**15.37**	**199**	LR	LR	20 18 02.2	
	comp=Z,704nm,19.0s,baz=241,slow=29						
WRA	**Warramunga Arr**	**51.08**	**256**	P	P	20 19 42.7	0.0
	0.9nm,0.8s,baz=95,slow=8.1,SNR=5.5						
ASAR	**Alice Springs**	**51.37**	**251**	P	P	20 19 43.8	-1.1
	3.1nm,0.9s,baz=89,slow=7.8,SNR=18						
GERES	**GERESS Array B**	**145.64**	**353**	PKPbc	PKPdf	20 30 17.8	-0.7
	0.3nm,0.8s,baz=97,slow=3.4,SNR=3.8						
BRTR	**Keskin Array B**	**146.33**	**323**	PKPbc	PKPab	20 30 22.0	+0.1
	0.3nm,0.6s,baz=122,slow=5.2,SNR=2.5						

IDC 30 20:14:35.4±14.0, 3°.47S×102°.38E, h124km±119km, mb3.0/6, mb1 3.1/6, mb1mx3.0/22, mbtmp3.0/6, MS3.3/1, Ms1 3.3/1, ms1mx3.0/8, Error ellipse: s-maj=159.6km s-min=16.9km az=57.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**7.12**	**331**	LR	LR	20 19 16.7	
	comp=Z,219nm,18.6s,baz=12,slow=40						
CMAR	**Chiang Mai Arr**	**22.05**	**351**	P	P	20 19 20.2	0.0
	0.4nm,0.6s,baz=182,slow=9.1,SNR=5.7						
WRA	**Warramunga Arr**	**35.20**	**120**	P	P	20 21 17.6	-0.4
	0.5nm,0.9s,baz=311,slow=8.9,SNR=4.9						
ASAR	**Alice Springs**	**36.47**	**126**	P	P	20 21 28.9	+0.1
	0.3nm,0.3s,baz=302,slow=7.8,SNR=11						
SONM	**Songino Array**	**51.21**	**3**	P	P	20 23 26.3	+0.1
	0.5nm,0.7s,baz=183,slow=9.5,SNR=4.5						
MKAR	**Makanchi Array**	**53.10**	**343**	P	P	20 23 40.2	+0.2
	0.5nm,1.0s,baz=158,slow=9.8,SNR=3.6						
ZALV	**Zalesovo Beam**	**59.06**	**348**	P	P	20 24 21.9	-0.4
	0.3nm,0.3s,baz=169,slow=8.8,SNR=2.6						

IDC 30 20:19:50.5±0.8, 15°.77S×173°.14W, h0km, mb3.9/8, mb1 4.2/8, mb1mx4.0/20, mbtmp3.9/8, Error ellipse: s-maj=45.3km s-min=19.7km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.27**	**36**	Pn	Pn	20 20 25.8	-3.6
	14nm,0.3s,baz=345,slow=20,SNR=2.8						
AFI				Sn	Sn	20 20 48.6	-10
	56nm,0.3s,baz=34,slow=23,SNR=8.5						
STKA	**Stephens Creek**	**44.07**	**240**	P	P	20 28 00.3	-0.2
	0.9nm,0.4s,baz=27,slow=5.5,SNR=4.6						
WRA	**Warramunga Arr**	**50.01**	**257**	P	P	20 28 46.6	-0.6
	0.7nm,0.8s,baz=86,slow=3.8,SNR=6.5						
ASAR	**Alice Springs**	**50.24**	**252**	P	P	20 28 48.2	-0.7
	2.2nm,0.8s,baz=88,slow=8.2,SNR=12						
VNDA	**Vanda**	**63.04**	**186**	P	P	20 30 19.7	+0.7
	0.6nm,0.9s,baz=10,slow=6.9,SNR=4.2						
NVAR	**Mina Array Bea**	**74.43**	**42**	P	P	20 31 30.2	-0.8
	0.9nm,0.8s,baz=224,slow=4.1,SNR=4.5						
TXAR	**Lajitas Array**	**80.61**	**56**	P	P	20 32 05.5	0.0
	0.7nm,0.9s,baz=215,slow=6.1,SNR=5.4						
PDAR	**Pinedale Array**	**82.37**	**42**	P	P	20 32 14.9	+0.1
	1.4nm,0.8s,baz=202,slow=3.2,SNR=12						
ILAR	**Eielson Array**	**82.76**	**11**	P	P	20 32 15.8	-0.2
	0.7nm,0.7s,baz=223,slow=6.6,SNR=7.8						
MLR	**Muntele Rosu**	**146.31**	**336**	PKPbc	PKPab	20 39 34.0	-0.2
	0.7nm,1.0s,baz=151,slow=20,SNR=3.8						
BRTR	**Keskin Array B**	**146.60**	**321**	PKPbc	PKPab	20 39 35.5	-0.2
	1.8nm,0.9s,baz=141,slow=2.4,SNR=7.8						
TORD	**Torodi Ar. Bea**	**174.35**	**117**	PKP	PKPdf	20 40 00.4	-2.8
	1.0nm,1.0s,baz=255,slow=1.7,SNR=4.0						

IDC 30 20:34:50.5±3.8, 0°.97S×100°.02E, h85km±32km, mb3.6/10, mb1 3.6/12, mb1mx3.4/26, mbtmp3.5/12, Error ellipse: s-maj=48.7km s-min=17.0km az=54.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.90**	**344**	P	Pn	20 35 46.9	-1.5
	3.9nm,0.3s,baz=184,slow=3.4,SNR=9.5						
CMAR	**Chiang Mai Arr**	**19.33**	**357**	P	P	20 39 09.7	+0.5
	0.1nm,0.3s,baz=188,slow=10,SNR=6.4						
WRA	**Warramunga Arr**	**38.51**	**122**	P	P	20 42 04.9	0.0
	0.3nm,0.6s,baz=303,slow=8.9,SNR=5.9						
ASAR	**Alice Springs**	**39.85**	**127**	P	P	20 42 15.8	-0.3
	0.2nm,0.6s,baz=301,slow=7.7,SNR=5.4						
KSRS	**Korea Array**	**46.13**	**31**	P	P	20 43 06.0	-0.4
	1.0nm,0.5s,baz=227,slow=9.7,SNR=5.1						
SONM	**Songino Array**	**48.92**	**6**	P	P	20 43 28.0	0.0
	0.7nm,0.7s,baz=194,slow=10,SNR=7.0						
MKAR	**Makanchi Array**	**50.05**	**344**	P	P	20 43 36.6	+0.1
	0.9nm,0.4s,baz=155,slow=9.0,SNR=37						
USRK	**Ussuriysk Arra**	**53.24**	**28**	P	P	20 44 00.1	-0.3
	3.0nm,0.7s,baz=236,slow=5.5,SNR=6.2						
KURBB	**Kurchatov Arra**	**54.57**	**343**	P	P	20 44 08.6	-1.3
	0.7nm,0.2s,baz=163,slow=7.0,SNR=4.9						
ZALV	**Zalesovo Beam**	**56.16**	**349**	P	P	20 44 21.4	+0.2
	0.6nm,0.3s,baz=174,slow=7.2,SNR=9.0						
BVAR	**Borovoye Array**	**59.23**	**340**	P	P	20 44 42.6	-0.2
	0.6nm,0.5s,baz=149,slow=9.9,SNR=4.7					

*CSEM **30** 20:40:11.3, 41°.75N×13°.72E, h10km, MD1.7/4, After ROM*
ROM 30 20:40:11.3±0.2, 41°.75N×13°.72E, h10km±1km, Md1.7/4, Ml0.8/3, Error ellipse: s-maj=4.6km s-min=1.7km az=55.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POFI	**Posta Fibreno**	**0.03**	**197**	Pg	Pg	20 40 13.2	0.0
POFI				Sg	Sg	20 40 14.8	+0.3
POFI	**Posta Fibreno**	**0.03**	**197**	Pg	Pg	20 40 13.2	0.0
POFI				Sg	Sg	20 40 14.8	+0.3
SDI	**San Donato**	**0.07**	**120**	Pg	Pg	20 40 13.5	-0.1
SDI				Sg	Sg	20 40 15.8	+0.6
SDI	**San Donato**	**0.07**	**120**	Pg	Pg	20 40 13.5	-0.1
SDI				Sg	Sg	20 40 15.8	+0.6
VVLD	**Villa Vallelon**	**0.14**	**328**	Pg	Pg	20 40 15.5	+0.8
VVLD				Sg	Sg	20 40 17.6	+0.5
VVLD	**Villa Vallelon**	**0.14**	**328**	Pg	Pg	20 40 15.5	+0.8
VVLD				Sg	Sg	20 40 17.6	+0.5
CERA	**Filignano**	**0.27**	**124**	Pg	Pg	20 40 16.8	0.0
CERA				Sg	Sb	20 40 22.4	-0.7
CERA	**Filignano**	**0.27**	**124**	Pg	Pg	20 40 16.8	0.0
CERA				Sg	Sb	20 40 22.4	-0.7
INTR	**Introdacqua**	**0.30**	**27**	Pg	Pb	20 40 18.6	-0.3
INTR				Sg	Sg	20 40 22.6	+1.1
INTR	**Introdacqua**	**0.30**	**27**	Pg	Pb	20 40 18.6	-0.3
INTR				Sg	Sg	20 40 22.6	+1.1

IDC 30 20:44:39.3±1.3, 16°.79S×172°.66W, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.7/21, mbtmp3.7/6, Error ellipse: s-maj=35.4km s-min=32.0km az=105.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.98**	**17**	Pn	Pn	20 45 52.6	-12
	23nm,0.3s,baz=198,slow=20,SNR=4.9						
STKA	**Stephens Creek**	**43.98**	**241**	P	P	20 52 49.6	+1.1
	1.3nm,0.8s,baz=84,slow=10,SNR=2.9						
WRA	**Warramunga Arr**	**50.24**	**258**	P	P	20 53 37.0	-0.6
	0.2nm,0.6s,baz=96,slow=7.7,SNR=4.0						
ASAR	**Alice Springs**	**50.37**	**253**	P	P	20 53 37.6	-1.0
	1.0nm,0.6s,baz=87,slow=8.4,SNR=17						
VNDA	**Vanda**	**62.08**	**186**	P	P	20 54 59.9	-1.5
	0.6nm,0.9s,baz=42,slow=12,SNR=3.0						
QSPA	**South Pole Qui**	**73.27**	**180**	P	P	20 56 13.5	+1.1
	1.7nm,0.8s,baz=3.2,slow=2.3,SNR=9.5						
ILAR	**Eielson Array**	**83.66**	**11**	P	P	20 57 08.4	-1.0
	0.2nm,0.5s,baz=226,slow=5.3,SNR=4.5						
BRTR	**Keskin Array B**	**147.67**	**320**	PKPbc	PKPbc	21 04 27.4	+1.1
	1.0nm,0.8s,baz=56,slow=5.2,SNR=4.1						

MEX 30 20:47:52.7±0.7, 16°.35N×95°.91W, h79km±8km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.61**	**198**	*e*P	Pn	20 48 05.7	-1.7
HUIG				*i* S	Sn	20 48 16.9	-1.5
VHO	**Vista Hermosa**	**1.07**	**312**	*i* P	Pn	20 48 11.5	-1.3
VHO				*i* S	Sn	20 48 25.8	-2.0
PNIG	**Pinotepa**	**2.13**	**271**	*i* P	Pn	20 48 25.6	-0.8
PNIG				*i* S	Sn	20 48 50.0	-2.0
PCIG		**2.67**	**104**	*i* P	Pn	20 48 32.6	-0.9
PCIG				*i* S	Sn	20 49 02.8	-2.1

IDC 30 21:07:42.6±1.1, 16°.08S×173°.48W, h0km, mb3.9/7, mb1 4.2/7, mb1mx3.9/19, mbtmp3.9/7, Error ellipse: s-maj=60.7km s-min=21.5km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**43.63**	**241**	P	P	21 15 49.3	+0.1
	1.3nm,0.7s,baz=74,slow=9.6,SNR=3.0						
WRA	**Warramunga Arr**	**49.62**	**257**	P	P	21 16 35.6	-0.7
	0.6nm,0.6s,baz=92,slow=7.0,SNR=8.8						
ASAR	**Alice Springs**	**49.83**	**252**	P	P	21 16 37.1	-0.7
	1.7nm,0.6s,baz=91,slow=7.3,SNR=16						
NVAR	**Mina Array Bea**	**74.88**	**42**	P	P	21 19 25.3	-0.4
	1.0nm,0.8s,baz=232,slow=9.3,SNR=5.0						
PDAR	**Pinedale Array**	**82.82**	**42**	P	P	21 20 08.6	-0.6
	0.9nm,0.8s,baz=214,slow=4.3,SNR=6.0						
ILAR	**Eielson Array**	**83.13**	**11**	P	P	21 20 09.6	-0.4
	0.5nm,0.5s,baz=237,slow=6.6,SNR=8.4						
MAW	**Mawson**	**87.12**	**199**	P	P	21 20 30.3	+0.2
	0.6nm,0.5s,baz=135,slow=5.7,SNR=3.7						
BRTR	**Keskin Array B**	**146.64**	**320**	PKPbc	PKPab	21 27 27.4	-0.4
	2.4nm,0.8s,baz=107,slow=2.3,SNR=12						
GERES	**GERESS Array B**	**146.80**	**351**	PKPbc	PKPbc	21 27 27.1	+0.2
	0.7nm,0.7s,baz=45,slow=4.0,SNR=8.2						

IDC 30 21:08:27.3±9.1, 14°.46S×173°.63W, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.7/18, mbtmp3.8/3, Error ellipse: s-maj=422.6km s-min=33.2km az=139.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**49.85**	**256**	P	P	21 17 22.1	-0.5
	0.3nm,0.5s,baz=88,slow=6.8,SNR=5.8						
ASAR	**Alice Springs**	**50.20**	**251**	P	P	21 17 24.9	-0.4
	1.4nm,0.6s,baz=86,slow=8.2,SNR=5.9						
ILAR	**Eielson Array**	**81.57**	**11**	P	P	21 20 45.4	-1.1
	0.5nm,0.5s,baz=222,slow=5.8,SNR=7.2						
GERES	**GERESS Array B**	**145.18**	**352**	PKPbc	PKPbc	21 28 06.2	-0.4
	1.0nm,0.8s,baz=347,slow=4.0,SNR=7.0						
BRTR	**Keskin Array B**	**145.28**	**322**	PKPbc	PKPdf	21 28 08.1	+0.4
	2.5nm,0.7s,baz=95,slow=2.6,SNR=11						

IDC 30 21:09:24.4±0.8, 5°.79S×173°.70W, h0km, mb4.1/8, mb1 4.4/8, mb1mx4.1/19, mbtmp4.1/8, MS3.8/1, Ms1 3.8/1, ms1mx3.2/37, Error ellipse: s-maj=41.7km s-min=21.2km az=133.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**26.47**	**281**	LR	LR	21 23 59.3	
	comp=Z,227nm,19.9s,baz=278,slow=33						
STKA	**Stephens Creek**	**43.59**	**240**	P	P	21 17 30.6	-0.1
	3.3nm,0.8s,baz=54,slow=7.2,SNR=5.2						
WRA	**Warramunga Arr**	**49.48**	**257**	P	P	21 18 16.2	-0.8
	2.1nm,1.0s,baz=89,slow=6.0,SNR=7.3						
ASAR	**Alice Springs**	**49.72**	**252**	P	P	21 18 18.4	-0.4
	3.4nm,0.7s,baz=89,slow=7.8,SNR=7.5						
VNDA	**Vanda**	**62.96**	**186**	P	P	21 19 52.3	-0.1
	0.9nm,0.8s,baz=357,slow=4.4,SNR=5.5						
NVAR	**Mina Array Bea**	**74.81**	**42**	P	P	21 21 07.5	+0.4
	1.3nm,0.6s,baz=227,slow=11,SNR=3.7						
PDAR	**Pinedale Array**	**82.75**	**42**	P	P	21 21 49.5	-1.2
	0.8nm,0.8s,baz=188,slow=4.5,SNR=4.8						
ILAR	**Eielson Array**	**82.88**	**11**	P	P	21 21 50.2	-0.3
	1.0nm,0.6s,baz=233,slow=6.7,SNR=7.6						
MAW	**Mawson**	**87.33**	**199**	P	P	21 22 12.9	-0.1
	2.0nm,0.7s,baz=143,slow=5.5,SNR=5.6						
KMBO	**Kilima Mbogo**	**145.11**	**244**	PKPbc	PKPab	21 29 04.9	+0.1
	0.8nm,0.4s,baz=47,slow=23,SNR=3.9						
BRTR	**Keskin Array B**	**146.28**	**320**	PKPbc	PKPbc	21 29 07.3	-0.2
	1.6nm,0.8s,baz=122,slow=1.6,SNR=4.7						
GERES	**GERESS Array B**	**146.49**	**351**	PKPbc	PKPbc	21 29 07.8	+0.1
	0.4nm,0.7s,baz=35,slow=5.4,SNR=3.0						

*CSEM **30** 21:10:54.1, 41°.75N×13°.71E, h10km, MD1.6/3, After ROM*
ROM 30 21:10:54.1±0.1, 41°.75N×13°.71E, h10km, Md1.6/3, Ml1.2/2, Error ellipse: s-maj=2.6km s-min=0.9km az=46.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POFI	**Posta Fibreno**	**0.03**	**183**	Pg	Pg	21 10 56.3	+0.2
POFI				Sg	Sg	21 10 57.9	+0.3
	142nm,0.2s						
POFI	**Posta Fibreno**	**0.03**	**183**	Pg	Pg	21 10 56.3	+0.2
POFI				Sg	Sg	21 10 57.9	+0.3
	142nm,0.2s						
SDI	**San Donato**	**0.08**	**118**	Pg	Pg	21 10 57.0	+0.4
SDI				Sg	Sg	21 10 58.8	+0.4
	100nm,0.3s						
SDI	**San Donato**	**0.08**	**118**	Pg	Pg	21 10 57.0	+0.4
SDI				Sg	Sg	21 10 58.8	+0.4
	100nm,0.3s						
VVLD	**Villa Vallelon**	**0.14**	**331**	Pg	Pg	21 10 57.8	+0.3
VVLD				Sg	Sg	21 11 00.6	+0.7
	59nm,0.1s						
VVLD	**Villa Vallelon**	**0.14**	**331**	Pg	Pg	21 10 57.8	+0.3
VVLD				Sg	Sg	21 11 00.6	+0.7
	59nm,0.1s						
CERA	**Filignano**	**0.27**	**123**	Pg	Pg	21 10 59.9	+0.1
CERA				Sg	Sg	21 11 04.5	+0.9
	28nm,0.3s						
CERA	**Filignano**	**0.27**	**123**	Pg	Pg	21 10 59.9	+0.1
CERA				Sg	Sg	21 11 04.5	+0.9
	28nm,0.3s						
INTR	**Introdacqua**	**0.30**	**28**	Pg	Pg	21 11 00.6	+0.3
INTR	**Introdacqua**	**0.30**	**28**	Pg	Pg	21 11 00.6	+0.3
PTQR	**Pietraquaria**	**0.36**	**320**	Pg	Pg	21 11 01.9	+0.5
PTQR				Sg	Sg	21 11 07.1	+0.8
	9.0nm,0.2s						
PTQR	**Pietraquaria**	**0.36**	**320**	Pg	Pg	21 11 01.9	+0.5
PTQR				Sg	Sg	21 11 07.1	+0.8
	9.0nm,0.2s						
MIDA	**Miranda**	**0.42**	**105**	Pg	Pb	21 11 03.4	-0.3
MIDA	**Miranda**	**0.42**	**105**	Pg	Pb	21 11 03.4	-0.3

IDC 30 21:15:52.1±10.0, 16°.13S×173°.31W, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.6/20, mbtmp3.7/2, Error ellipse: s-maj=505.4km s-min=59.9km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**49.77**	**257**	P	P	21 24 46.7	-0.2
	0.4nm,0.9s,baz=90,slow=6.7,SNR=3.2						
ASAR	**Alice Springs**	**49.98**	**252**	P	P	21 24 48.4	-0.1
	1.2nm,0.6s,baz=87,slow=8.1,SNR=14						
BRTR	**Keskin Array B**	**146.78**	**320**	PKPbc	PKPbc	21 35 35.9	-0.8
	0.7nm,0.9s,baz=35,slow=5.3,SNR=2.0						

*IDC **30** 21:19:28.4±0.9, 1°.44S×99°.41E, h0km, mb4.2/17, mb1 4.3/19, mb1mx4.1/29, mbtmp4.2/19, ML3.9/2, Error ellipse: s-maj=29.8km s-min=15.5km az=50.0*
*NEIC **30** 21:19:29.6±0.4, 1°.48S×99°.43E, h10km, mb4.5/7, Error ellipse: s-maj=12.9km s-min=7.0km az=59.0*
*ISCJB **30** 21:19:31.6±0.6, 1°.38S±0°.08×99°.35E±0°.07, h30km, mb4.3/23, Error ellipse: s-maj=12.6km s-min=7.3km az=35.2*
*DJA **30** 21:19:35.1±0.7, 1°.S±7°×9°.9E±°, h10km, M4.6/7, mb4.6/1, MLv4.6/7*
ISC 30 21:19:33.0±0.6, 1°.42S±0°.08×99°.41E±0°.07, h30km, n66, σ0°81/67, mb4.3/23, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.16**	**64**	P	**Pn**	**21 19 53.6**	**+0.4**
PPI	**Padang Panjang**	**1.37**	**46**	P	**Pn**	**21 19 55.9**	**-0.2**
SDSI	**Sungai Dareh**	**2.07**	**77**	P	**Pb**	**21 20 08.6**	**-1.3**
MNSI	**Mandailing Nat**	**2.21**	**4**	P	Pb	21 20 25.8	+14
RGRI	**Rengat**	**3.11**	**70**	P	**Pb**	**21 20 27.2**	**-0.4**
GSI	**Gunungsitoli**	**3.27**	**326**	P	**Pn**	**21 20 21.4**	**-0.8**
MASI	**Maura Aman, Be**	**3.30**	**121**	P	**Pb**	**21 20 32.0**	**+1.1**
KSI	**Kapahiang**	**3.87**	**125**	P	Pn	21 20 33.8	+3.2
PSI	**Prapat**	**4.22**	**353**	Pn	**Pn**	**21 20 34.5**	**-0.9**
PSI				Sn	Sn	21 21 12.3	-12
PSI	**Prapat**	**4.22**	**353**	Pn	**Pn**	**21 20 34.5**	**-0.9**
	2.9nm,0.3s,baz=176,slow=12,SNR=5.6						
PSI				Sn	Sn	21 21 12.3	-12
	2.8nm,0.3s,baz=172,slow=15,SNR=4.2						
MDSI	**Maura Dua**	**5.65**	**123**	P	Pb	21 21 05.1	-5.8
LWLI	**Liwa**	**5.86**	**128**	P	**Pb**	**21 21 12.3**	**-2.2**
IPM	**Ipoh**	**6.08**	**15**	*e*Pn	**Pn**	**21 21 01.5**	**+0.7**
	22nm,0.6s						
CMAR	**Chiang Mai Arr**	**19.76**	**359**	P	**P**	**21 24 00.6**	**-0.1**
CMAR	**Chiang Mai Arr**	**19.76**	**359**	P	**P**	**21 24 00.6**	**-0.1**
	0.3nm,0.3s,baz=186,slow=9.6,SNR=23						
CHTO	**Chiang Mai**	**20.11**	**359**	*e*P	**P**	**21 24 04.5**	**-0.1**
	19nm,0.8s						
ODAN	**Odare**	**30.41**	**338**	*e*P	**P**	**21 25 44.1**	**+1.1**
	9.7nm,0.6s						
TAPN	**Taplejung**	**30.74**	**339**	*e*P	**P**	**21 25 47.5**	**+1.5**
	16nm,0.8s						
JIRN	**Jiri**	**31.59**	**337**	*e*P	**P**	**21 25 54.9**	**+1.3**
	22nm,0.8s						
PKI	**Pulchoki**	**31.82**	**336**	*e*P	**P**	**21 25 56.4**	**+0.9**
GUN	**Gumba**	**31.93**	**337**	*e*P	**P**	**21 25 57.8**	**+1.2**
	20nm,0.7s						
LSA	**Lhasa**	**31.94**	**346**	*e*P	**P**	**21 25 57.1**	**+0.4**
	9.4nm,0.9s						
DMN	**Daman**	**31.98**	**336**	*e*P	**P**	**21 25 57.9**	**+1.1**
KKN	**Kakani**	**32.06**	**336**	*e*P	**P**	**21 25 58.6**	**+1.0**
GKN	**Gorkha**	**32.52**	**335**	*e*P	**P**	**21 26 02.0**	**+0.5**
	13nm,0.9s						
KOLN	**Koldanda**	**32.76**	**334**	*e*P	**P**	**21 26 05.1**	**+1.4**
	19nm,0.7s						
WRA	**Warramunga Arr**	**38.79**	**121**	P	**P**	**21 26 54.7**	**-0.7**
WRA				PcP	**PcP**	**21 29 07.4**	**+0.9**
WRA	**Warramunga Arr**	**38.79**	**121**	P	**P**	**21 26 54.7**	**-0.7**
	0.7nm,0.4s,baz=301,slow=9.1,SNR=12						
WRA				PcP	**PcP**	**21 29 07.4**	**+0.9**
	0.6nm,0.6s,baz=308,slow=2.3,SNR=4.2						
WRAB	**Tennant Creek**	**38.80**	**121**	*e*P	**P**	**21 26 54.4**	**-0.9**
	2.3nm,0.5s						
ASAR	**Alice Springs**	**40.07**	**126**	P	**P**	**21 27 05.9**	**-0.1**
ASAR	**Alice Springs**	**40.07**	**126**	P	**P**	**21 27 05.9**	**-0.1**
	1.1nm,0.6s,baz=302,slow=7.7,SNR=19						
JNU	**Nakatsue**	**45.40**	**38**	P	**P**	**21 27 48.8**	**-0.3**
JNU	**Nakatsue**	**45.40**	**38**	P	**P**	**21 27 48.8**	**-0.3**
	4.9nm,0.9s,baz=162,slow=9.9,SNR=4.7						
KSAR	**Wonju Array Be**	**46.80**	**31**	P	**P**	**21 27 58.5**	**-1.4**
KSRS	**Korea Array**	**46.83**	**31**	P	**P**	**21 27 58.5**	**-1.6**
	1.2nm,0.7s,baz=225,slow=8.3,SNR=5.9						
TKM2	**Tokmak 2**	**49.07**	**337**	*e*P	**P**	**21 28 17.9**	**+0.2**
	2.7nm,0.5s						
AAK	**Ala-Archa**	**49.27**	**336**	P	**P**	**21 28 19.9**	**+0.7**
	1.1nm,0.5s,baz=231,slow=6.9,SNR=5.2						
SONM	**Songino Array**	**49.43**	**6**	P	**P**	**21 28 20.4**	**+0.1**
SONM				PcP	**PcP**	**21 29 42.8**	**+0.5**
SONM	**Songino Array**	**49.43**	**6**	P	**P**	**21 28 20.4**	**+0.1**
	1.6nm,0.6s,baz=191,slow=9.0,SNR=15						
SONM				PcP	**PcP**	**21 29 42.8**	**+0.5**
	1.4nm,0.6s,baz=190,slow=3.0,SNR=8.0						
EKS2	**Erkin-Say**	**49.59**	**335**	*e*P	**P**	**21 28 22.2**	**+0.6**
	6.5nm,0.8s						
MK31	**Makanchi Array**	**50.32**	**345**	*e*P	**P**	**21 28 26.8**	**-0.1**
MKAR	**Makanchi Array**	**50.32**	**345**	P	**P**	**21 28 27.7**	**+0.7**
MKAR	**Makanchi Array**	**50.32**	**345**	P	**P**	**21 28 27.7**	**+0.7**
	10nm,0.6s,baz=158,slow=8.6,SNR=100						
USRK	**Ussuriysk Arra**	**53.93**	**29**	P	**P**	**21 28 53.8**	**0.0**
	3.0nm,0.7s,baz=221,slow=7.6,SNR=11						
KURBB	**Kurchatov Arra**	**54.83**	**344**	P	**P**	**21 29 00.6**	**+0.3**
	2.5nm,0.9s,baz=162,slow=7.2,SNR=29						
KURK	**Kurchatov**	**54.89**	**344**	*e*P	**P**	**21 29 00.0**	**-0.6**
	3.5nm,0.9s						
ZAA0	**Zalesovo Array**	**56.49**	**350**	*e*P	**P**	**21 29 11.9**	**-0.2**
ZALV	**Zalesovo Beam**	**56.49**	**350**	P	**P**	**21 29 12.3**	**+0.2**
ZALV	**Zalesovo Beam**	**56.49**	**350**	P	**P**	**21 29 12.3**	**+0.2**
	7.2nm,0.5s,baz=177,slow=5.7,SNR=46						
BVAR	**Borovoye Array**	**59.44**	**340**	P	**P**	**21 29 32.0**	**-0.9**
BVAR	**Borovoye Array**	**59.44**	**340**	P	**P**	**21 29 32.0**	**-0.9**
	2.0nm,0.7s,baz=138,slow=9.1,SNR=12						
ABKAR	**Akbulak array**	**60.85**	**332**	*e*P	**P**	**21 29 41.9**	**-0.7**
	0.9nm,0.6s						
AKTO	**Aktyubinsk**	**62.57**	**332**	P	**P**	**21 29 54.0**	**-0.1**
AKTO	**Aktyubinsk**	**62.57**	**332**	P	**P**	**21 29 54.0**	**-0.1**
	2.8nm,1.2s,baz=89,slow=7.8,SNR=3.5						
KBZ	**Khabaz**	**67.49**	**319**	P	**P**	**21 30 26.7**	**+0.5**
KBZ	**Khabaz**	**67.49**	**319**	P	**P**	**21 30 26.7**	**+0.5**
	1.7nm,0.7s,baz=108,slow=5.2,SNR=5.3						
BRTR	**Keskin Array B**	**72.50**	**312**	P	**P**	**21 30 56.5**	**-0.8**
BRTR	**Keskin Array B**	**72.50**	**312**	P	**P**	**21 30 56.5**	**-0.8**
	0.4nm,0.6s,baz=116,slow=6.6,SNR=2.6						
FINES	**FINESS Array B**	**83.33**	**332**	P	**P**	**21 31 57.2**	**+0.5**
FINES	**FINESS Array B**	**83.33**	**332**	P	**P**	**21 31 57.2**	**+0.5**
	2.5nm,0.7s,baz=106,slow=6.2,SNR=9.8						
ARCES	**ARCESS Array B**	**85.73**	**340**	P	**P**	**21 32 10.2**	**+1.4**
ARCES	**ARCESS Array B**	**85.73**	**340**	P	**P**	**21 32 10.2**	**+1.4**
	3.8nm,0.8s,baz=90,slow=4.1,SNR=6.3						
GERES	**GERESS Array B**	**88.23**	**319**	P	**P**	**21 32 21.1**	**-0.4**
GERES	**GERESS Array B**	**88.23**	**319**	P	**P**	**21 32 21.1**	**-0.4**
	0.7nm,0.8s,baz=103,slow=4.2,SNR=5.8						
TXAR	**Lajitas Array**	**144.59**	**36**	PKP	**PKPdf**	**21 39 07.5**	**0.0**
TXAR	**Lajitas Array**	**144.59**	**36**	PKP	**PKPdf**	**21 39 07.5**	**0.0**
	3.2nm,0.6s,baz=260,slow=1.6,SNR=26						

*IDC **30** 21:21:46.8±1.4, 16°.03S×172°.50W, h0km, mb4.1/7, mb1 4.4/7, mb1mx4.1/20, mbtmp4.1/7, Error ellipse: s-maj=70.5km s-min=21.3km az=148.0*
ISC 30 21:21:50.3±1.4, 16°.1S±0°.4×172°.5W±0°.3, h24km, n12, σ0°71/11, mb4.1/7, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.29**	**17**	Pn	Pn	21 22 17.2	-9.4
	83nm,0.3s,baz=195,slow=2.5,SNR=22						
AFI				Sn	Sn	21 22 38.7	-16
	364nm,0.3s,baz=141,slow=18,SNR=17						
STKA	**Stephens Creek**	**44.46**	**241**	P	**P**	**21 29 59.4**	**-0.3**
	3.2nm,0.8s,baz=116,slow=3.6,SNR=3.8						
WRA	**Warramunga Arr**	**50.55**	**257**	P	**P**	**21 30 47.5**	**+0.2**
	2.7nm,1.0s,baz=92,slow=6.6,SNR=9.1						
ASAR	**Alice Springs**	**50.74**	**252**	P	**P**	**21 30 48.9**	**+0.1**
	6.4nm,0.9s,baz=84,slow=8.5,SNR=35						
NVAR	**Mina Array Bea**	**74.26**	**41**	P	**P**	**21 33 25.5**	**-0.3**
	0.9nm,0.8s,baz=229,slow=9.0,SNR=3.8						
KSRS	**Korea Array**	**77.28**	**315**	P	**P**	**21 33 43.6**	**+0.8**
	0.8nm,0.6s,baz=127,slow=4.7,SNR=4.5						
TXAR	**Lajitas Array**	**80.27**	**56**	P	**P**	**21 34 00.5**	**+0.9**
	2.0nm,1.1s,baz=214,slow=8.6,SNR=9.9						
ILAR	**Eielson Array**	**82.97**	**11**	P	**P**	**21 34 12.1**	**-0.9**
	1.0nm,0.8s,baz=221,slow=7.0,SNR=8.9						
PRU	**Pruhonice**	**145.73**	**352**	*e*P	**PKPab**	**21 41 27.7**	**+0.2**
KHC	**Kasperske Hory**	**146.69**	**353**	*e*P	**PKPab**	**21 41 30.8**	**-0.5**
KHC				*ex*	x	21 41 43.9	
GERES	**GERESS Array B**	**146.96**	**353**	PKPbc	**PKPbc**	**21 41 31.5**	**+0.5**
	0.9nm,0.9s,baz=53,slow=0.7,SNR=4.1						
BRTR	**Keskin Array B**	**147.26**	**321**	PKPbc	**PKPbc**	**21 41 31.1**	**-1.0**
	2.3nm,0.9s,baz=101,slow=2.5,SNR=7.6						

*IDC **30** 21:22:52.9±0.5, 16°.96S×172°.62W, h0km, mb4.6/23, mb1 4.7/23, mb1mx4.6/28, mbtmp4.6/23, MS4.5/5, Ms1 4.5/5, ms1mx4.0/31, Error ellipse: s-maj=19.3km s-min=13.6km az=134.0*
*NEIC **30** 21:22:54.6±0.3, 16°.98S×172°.87W, h10km, mb5.0/31, Error ellipse: s-maj=14.4km s-min=7.4km az=134.0*
*BJI **30** 21:22:56.0, 16°.60S×173°.80W, h10km, mB5.5/19, mb5.0/21, Ms5.4/10, Ms7 5.0/12*
*ISCJB **30** 21:22:57.5±0.2, 16°.98S±0°.07×172°.84W±0°.06, h41km, mb4.9/56, MS4.9/7, Error ellipse: s-maj=11.1km s-min=6.3km az=143.7*
*MOS **30** 21:22:58.2±2.1, 16°.91S×172°.96W, h33km, mb5.3/9, Error ellipse: s-maj=14.5km s-min=12.0km az=59.0*
ISC 30 21:22:59.1±0.4, 17°.02S±0°.08×172°.70W±0°.08, h41km, n261, σ0°81/46/256, mb4.8/56, MS5.0/7, 21C-9D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.22**	**16**	LR	LR	21 24 49.8	
	comp=Z,4μm,19.3s,baz=158,slow=37						
RAR	**Rarotonga**	**12.91**	**111**	Pn	Pn	21 25 50.5	-10
RAR	**Rarotonga**	**12.91**	**111**	Pn	Pn	21 25 50.5	-10
	1.1nm,0.3s,baz=270,slow=9.3,SNR=7.2						
RAR				LR	LR	21 30 20.5	
	comp=Z,2μm,18.3s,baz=275,slow=35						
DZM	**Mont Dzumac**	**20.28**	**252**	*e*Pn	Pn	21 27 31.8	-1.9
	119nm,1.6s						
DZM				*e*LR	LR	21 32 36.5	
	1μm,25.1s						
DZM	**Mont Dzumac**	**20.28**	**252**	*e*P	**P**	**21 27 28.9**	**-2.6**
	92nm,1.5s						
DZM	**Mont Dzumac**	**20.28**	**252**	P	**P**	**21 27 30.9**	**-0.6**
	6.3nm,0.7s,baz=78,slow=20,SNR=3.4						
PPT2	**Papeete2**	**22.09**	**95**	*e*LQ	LQ	21 31 54.2	
	2μm,26.2s						
PPT2				*e*LR	LR	21 32 36.0	
	1μm,27.8s						
PPT	**Papeete**	**22.09**	**95**	LR	LR	21 35 33.0	
	comp=Z,711nm,18.3s,baz=353,slow=34						
TBI	**Tubuai**	**22.69**	**110**	*e*LQ	LQ	21 32 10.9	
	922nm,27.2s						
TBI				*e*LR	LR	21 32 58.8	
	2μm,29.5s,baz=290						
URZ	**Urewera**	**22.97**	**201**	*e*P	**P**	**21 27 59.6**	**-0.5**
	55nm,0.7s						
URZ	**Urewera**	**22.97**	**201**	P	**P**	**21 28 00.9**	**+0.8**
	46nm,0.6s,baz=0.1,slow=5.0,SNR=16						
BKZ	**Black Stump Fm**	**24.00**	**201**	*e*P	**P**	**21 28 09.8**	**-0.3**
	33nm,0.8s						
HNR	**Honiara**	**27.65**	**282**	LR	LR	21 38 08.8	
	comp=Z,1μm,18.5s,baz=122,slow=33						
RPZ	**Rata Peaks**	**29.96**	**204**	*e*P	**P**	**21 29 01.8**	**-1.7**
	19nm,0.6s						
RPZ	**Rata Peaks**	**29.96**	**204**	P	P	21 29 09.4	+5.9
	24n

YSS	**Yuzh-Sakhalins**	**75.22**	**330**	*e*P	**P**		**21 34 36.7**	**-0.7**
YSS				pmax	pmax			
comp=Z,50nm,1.2s								
SHPR	**Sheep Range**	**76.03**	**44**	*e*P	P		21 34 46.5	+3.9
KSRS	**Korea Array**	**77.78**	**316**	P	**P**		**21 34 53.3**	**+1.2**
comp=Z,7.9nm,1.1s,baz=134,slow=5.7,SNR=12								
KSAR	**Wonju Array Be**	**77.80**	**315**	P	**P**		**21 34 53.3**	**+1.1**
KSM	**Kuching**	**78.00**	**275**	*e*P	P		21 34 46.5	-7.4
comp=Z,45nm,1.5s								
ELK	**Elko**	**78.36**	**41**	*e*P	**P**		**21 34 56.2**	**+0.6**
comp=Z,5.5nm,1.0s								
G08A	**Pilot Rock**	**78.85**	**35**	*e*P	**P**		**21 35 00.1**	**+2.1**
comp=Z,9.0nm,1.1s								
Z20A	**Nine Sixteen R**	**78.90**	**50**	P	**P**		**21 34 59.0**	**+0.3**
baz=79								
USRK	**Ussuriysk Arra**	**79.07**	**323**	P	**P**		**21 34 59.7**	**+0.6**
comp=Z,3.3nm,1.0s,baz=107,slow=4.6,SNR=8.3								
Z22A	**Elephant Butte**	**80.17**	**51**	P	**P**		**21 35 05.6**	**0.0**
baz=80								
F10A	**Beach Ranch, E**	**80.23**	**36**	*e*P	P		21 35 08.7	+3.2
comp=Z,12nm,1.1s								
HLID	**Hailey**	**80.45**	**39**	*e*P	**P**		**21 35 07.3**	**+0.4**
comp=Z,9.3nm,1.1s								
HLID	**Hailey**	**80.45**	**39**	P	**P**		**21 35 06.5**	**-0.4**
baz=81								
324A	**Moseley Ranch,**	**80.47**	**53**	P	**P**		**21 35 06.7**	**-0.5**
baz=81								
425A	**Indio Mountain**	**80.56**	**54**	P	**P**		**21 35 07.0**	**-0.7**
baz=81								
B08A	**Colville Reser**	**80.56**	**33**	*e*P	**P**		**21 35 08.8**	**+1.6**
comp=Z,60nm,2.5s								
MDJ	**Mudanjiang**	**80.71**	**322**	P	**P**		**21 35 09.3**	**+1.3**
MDJ				pmax	pmax			
comp=Z,11nm,1.7s								
MDJ				pmax	pmax			
comp=Z,140nm,4.7s								
MDJ	**Mudanjiang**	**80.71**	**322**	*e*P	**P**		**21 35 07.4**	**-0.6**
comp=Z,10nm,1.1s								
224A	**Cornudas Mount**	**80.72**	**52**	P	**P**		**21 35 07.3**	**-1.3**
baz=81								
526A	**Mary Lane Ranc**	**80.94**	**55**	P	**P**		**21 35 08.0**	**-1.7**
baz=81								
TXAR	**Lajitas Array**	**80.96**	**56**	P	**P**		**21 35 08.8**	**-0.9**
TXAR	**Lajitas Array**	**80.96**	**56**	P	**P**		**21 35 08.8**	**-0.9**
comp=Z,1.6nm,1.1s,baz=219,slow=7.7,SNR=5.9								
627A	**Terlingua Ranc**	**81.23**	**56**	P	**P**		**21 35 11.2**	**-0.1**
baz=82								
426A	**McDonald Obser**	**81.25**	**54**	P	**P**		**21 35 10.6**	**-0.8**
baz=82								
ANMO	**Albuquerque**	**81.33**	**50**	*e*P	**P**		**21 35 12.4**	**+0.7**
527A	**Woodward Ranch**	**81.35**	**55**	P	**P**		**21 35 11.4**	**-0.5**
baz=82								
628A	**Black Gap, Mar**	**81.64**	**56**	P	**P**		**21 35 13.1**	**-0.2**
baz=82								
226B	**Tecolote Peak,**	**81.75**	**53**	P	**P**		**21 35 13.5**	**-0.5**
baz=82								
Q20A	**Ridgley Place,**	**81.95**	**45**	P	**P**		**21 35 14.5**	**-0.4**
baz=82								
528A	**Cox Ranch, San**	**82.00**	**55**	P	**P**		**21 35 14.9**	**-0.4**
baz=82								
O19A	**Miners Draw (B**	**82.06**	**44**	P	**P**		**21 35 15.5**	**0.0**
baz=82								
RRI2	**Red Ridge**	**82.22**	**40**	*e*P	**P**		**21 35 17.1**	**+0.7**
comp=Z,10nm,1.3s								
KLR	**Kul'dur**	**82.23**	**327**	*e*P	**P**		**21 35 12.8**	**-3.1**
PMSA	**Palmer Station**	**82.43**	**156**	LR	LR		22 04 33.7	
comp=Z,587nm,18.8s,baz=196,slow=30								
REDW	**Red Top Meadow**	**82.52**	**40**	*e*P	**P**		**21 35 19.5**	**+1.7**
comp=Z,32nm,1.6s								
DLMT	**Dillon**	**82.54**	**38**	*e*P	**P**		**21 35 19.5**	**+1.7**
comp=Z,12nm,1.4s								
MCK	**McKinley**	**82.58**	**10**	*e*P	**P**		**21 35 16.8**	**-0.7**
MCK				pmax	pmax			
comp=Z,15nm,0.9s								
MCK	**McKinley**	**82.58**	**10**	*e*P	**P**		**21 35 16.8**	**-0.7**
comp=Z,15nm,0.9s								
BSMT	**Bassoo Peak**	**82.69**	**35**	*e*P	**P**		**21 35 20.4**	**+1.8**
CN2	**Changchun**	**82.75**	**320**	*e*P	**P**		**21 35 19.5**	**+0.8**
CN2				*es*P	sP		21 35 26.5	-9.3
CN2				*e*S	**S**		**21 45 31.8**	**-1.9**
CN2				pmax	pmax			
comp=Z,10.0nm,1.1s								
CN2				pmax	pmax			
comp=Z,200nm,5.0s								
429A	**Davenport Ranc**	**82.90**	**55**	P	**P**		**21 35 19.4**	**-0.5**
baz=83								
W25A	**X Bar L Ranch,**	**82.91**	**50**	P	**P**		**21 35 20.7**	**+0.7**
baz=83								
QLMT	**Earthquake Lak**	**82.94**	**39**	*e*P	P		21 35 23.1	+3.0
CHMT	**Chamberlain Mo**	**83.02**	**36**	*e*P	**P**		**21 35 21.3**	**+0.9**
PDAR	**Pinedale Array**	**83.02**	**41**	P	**P**		**21 35 18.7**	**-1.8**
PDAR	**Pinedale Array**	**83.02**	**41**	P	**P**		**21 35 18.7**	**-1.8**
comp=Z,2.8nm,0.9s,baz=210,slow=1.9,SNR=12								
L20A	**Wamsutter**	**83.42**	**43**	P	**P**		**21 35 22.3**	**-0.3**
baz=84								
631A	**Perdido Creek**	**83.45**	**57**	P	**P**		**21 35 22.0**	**-0.7**
baz=84								
MSTX	**Muleshoe**	**83.62**	**52**	P	**P**		**21 35 24.4**	**+0.8**
baz=84								
O22A	**Kremmling**	**83.71**	**45**	P	**P**		**21 35 24.7**	**+0.5**
baz=84								
HRY	**Holter Researc**	**83.72**	**37**	*e*P	**P**		**21 35 25.4**	**+1.5**
531A	**Rocksprings**	**83.77**	**56**	P	**P**		**21 35 23.8**	**-0.6**
baz=84								
COLA	**College**	**83.82**	**10**	*e*P	**P**		**21 35 22.0**	**-1.8**
COLA				pmax	pmax			
comp=Z,79nm,1.1s								
COLA	**College**	**83.82**	**10**	*e*P	**P**		**21 35 22.0**	**-1.8**
comp=Z,79nm,1.1s								
ILAR	**Eielson Array**	**83.90**	**11**	P	**P**		**21 35 22.4**	**-1.8**
ILAR	**Eielson Array**	**83.90**	**11**	P	**P**		**21 35 22.4**	**-1.8**
comp=Z,2.0nm,0.8s,baz=202,slow=4.7,SNR=13								
IM04	**Indian Mountai**	**83.96**	**8**	*e*P	**P**		**21 35 23.1**	**-1.4**
I19A	**Meeteetse**	**84.02**	**41**	P	**P**		**21 35 24.6**	**-0.9**
baz=84								
L21A	**Rawlins**	**84.03**	**43**	P	**P**		**21 35 24.9**	**-0.7**
baz=84								
IMA2	**Indian Mountai**	**84.07**	**8**	*e*P	**P**		**21 35 23.9**	**-1.2**
L22A	**Ellis Ranch, M**	**84.67**	**43**	P	**P**		**21 35 27.9**	**-1.0**
baz=85								
Q25A	**Bedland, Calha**	**84.72**	**47**	P	**P**		**21 35 28.5**	**-0.8**
baz=85								
DAWY	**Dawson**	**84.82**	**14**	*e*P	**P**		**21 35 27.4**	**-1.5**
EGAK	**Eagle**	**85.04**	**13**	*e*P	**P**		**21 35 31.3**	**+1.4**
comp=Z,159nm,2.7s								
K23A	**Bowen Ranch, D**	**85.54**	**43**	P	**P**		**21 35 31.9**	**-1.3**
baz=86								
EGMT	**Eagleton**	**85.61**	**37**	*e*P	**P**		**21 35 33.0**	**-0.3**
comp=Z,17nm,0.8s								
EGMT	**Eagleton**	**85.61**	**37**	P	**P**		**21 35 31.4**	**-1.9**
baz=86								
COLD	**Coldfoot**	**85.63**	**9**	*e*P	**P**		**21 35 31.8**	**-1.0**
comp=Z,10nm,1.1s								
MAW	**Mawson**	**86.48**	**198**	P	**P**		**21 35 38.3**	**+1.0**
MAW	**Mawson**	**86.48**	**198**	P	**P**		**21 35 38.3**	**+1.0**
comp=Z,3.5nm,0.7s,baz=99,slow=5.0,SNR=9.2								
BJT	**Baijiatuau**	**87.06**	**313**	*e*P	P		21 35 35.4	-5.1
comp=Z,47nm,1.4s								
BJI	**Beijing**	**87.06**	**313**	P	**P**		**21 35 41.3**	**+0.8**
BJI				PP	PP		21 38 57.0	-7.6
BJI				S	S		21 46 08.5	-8.1
BJI				pmax	pmax			
comp=Z,14nm,1.4s								
BJI				pmax	pmax			
comp=Z,250nm,4.6s								
BJI				LR	LR			
comp=N,1μm,18.6s								
BJI				LR	LR			
comp=E,750nm,20.1s								
BJI				LR	LR			
comp=Z,370nm,17.5s								
PLCA	**Paso Flores**	**87.93**	**132**	P	**P**		**21 35 44.7**	**-0.3**
PLCA	**Paso Flores**	**87.93**	**132**	P	**P**		**21 35 44.7**	**-0.3**
comp=Z,1.9nm,0.8s,baz=251,slow=11,SNR=3.9								
ENH	**Enshi**	**88.35**	**302**	*e*P	P		21 35 41.3	-5.7
comp=Z,29nm,1.5s								
PSI	**Prapat**	**89.25**	**273**	P	**P**		**21 35 53.1**	**+1.4**
PSI	**Prapat**	**89.25**	**273**	P	**P**		**21 35 53.1**	**+1.4**
comp=Z,15nm,1.1s,baz=226,slow=7.3,SNR=4.2								
GYA	**Guiyang**	**89.39**	**298**	P	P		21 35 47.5	-4.5
GYA				PP	PP		21 39 16.3	-7.4
GYA				SKS	**SKSac**		**21 46 14.0**	**-5.5**
GYA				S	S		21 46 30.3	-9.3
GYA				SS	SS		21 52 22.8	-13
GYA				pmax	pmax			
comp=Z,30nm,1.0s								
GYA				pmax	pmax			
comp=Z,120nm,5.8s								
GYA				LR	LR			
comp=N,550nm,22.0s								
GYA				LR	LR			
comp=E,490nm,23.2s								
GYA				LR	LR			
comp=Z,520nm,22.5s								
INK	**Inuvik**	**89.67**	**14**	*e*P	**P**		**21 35 51.3**	**-0.9**
comp=Z,19nm,1.5s								
INK	**Inuvik**	**89.67**	**14**	P	**P**		**21 35 53.5**	**+1.4**
comp=Z,1.5nm,0.7s,baz=154,slow=17,SNR=3.6								
SYO	**Syowa Base**	**91.15**	**191⇑**	*ep*P	pP		21 36 05.5	-6.3
KMI	**Kunming**	**92.33**	**295**	P	P		21 36 02.3	-3.6
KMI				pP	**PcP**		**21 36 08.3**	**+1.7**
KMI				pmax	pmax			
comp=Z,5.0nm,1.6s								
CD2	**Chengdu**	**93.22**	**301**	P	P		21 36 05.5	-4.2
CD2				pmax	pmax			
comp=Z,10.0nm,0.5s								
CMAR	**Chiang Mai Arr**	**93.75**	**288**	P	**P**		**21 36 13.0**	**+0.7**
CMAR	**Chiang Mai Arr**	**93.75**	**288**	P	**P**		**21 36 13.0**	**+0.7**
comp=Z,7.5nm,1.2s,baz=93,slow=2.4,SNR=15								
CHTO	**Chiang Mai**	**93.85**	**288**	*e*P	P		21 36 07.2	-5.6
CHTO				pmax	pmax			
comp=Z,65nm,1.5s								
CHTO	**Chiang Mai**	**93.85**	**288**	*e*P	P		21 36 07.2	-5.6
comp=Z,65nm,1.5s								
LZH	**Lanzhou**	**94.72**	**306**	*e*P	P		21 36 12.0	-4.6
LZH				pP	**PcP**		**21 36 17.3**	**+0.4**
LZH				sP	sP		21 36 20.0	-14
LZH				SKS	**SKSac**		**21 46 46.0**	**-3.1**
LZH				*es*S	**SKKSac**		**21 47 16.3**	**+5.2**
LZH				sS	**ScS**		**21 47 29.3**	**+1.0**
LZH				SS	SS		21 53 38.5	-14
LZH				pmax	pmax			
comp=Z,27nm,1.2s								
LZH				pmax	pmax			
comp=Z,110nm,4.6s								
LZH				LR	LR			
comp=N,760nm,16.1s								
LZH				LR	LR			
comp=E,650nm,16.3s								
LZH				LR	LR			
comp=Z,900nm,17.5s								
SONM	**Songino Array**	**96.49**	**318**	P	**P**		**21 36 23.5**	**-0.8**
SONM	**Songino Array**	**96.49**	**318**	P	**P**		**21 36 23.5**	**-0.8**
comp=Z,0.9nm,0.6s,baz=90,slow=2.9,SNR=6.2								
GTA	**Gaotai**	**98.71**	**308**	*e*P	Pdif		21 36 39.5	+5.0
GTA				pP	pP		21 36 43.0	-4.1
GTA				sP	sP		21 36 46.0	-5.7
GTA				PP	**PP**		**21 40 39.5**	**+3.3**
GTA	**Gaotai**	**98.71**	**308**	SKS	**SKSac**		**21 47 14.0**	**+4.4**
GTA	**Gaotai**	**98.71**	**308**	S	**S**		**21 48 01.5**	**+0.2**
GTA				pmax	pmax			
comp=Z,3.0nm,1.2s								
GTA				pmax	pmax			
comp=Z,45nm,4.3s								
GTA				LR	LR			
comp=N,170nm,14.2s								
GTA				LR	LR			
comp=E,230nm,14.7s								
GTA				LR	LR			
comp=Z,290nm,13.3s								
WMQ	**Urumqi**	**108.44**	**311**	*e*P	**Pdif**		**21 37 13.3**	**-4.3**
NVS	**Novosibirsk**	**111.83**	**323**	*e*P	**Pdif**		**21 37 37.1**	**+4.8**
MKAR	**Makanchi Array**	**112.43**	**314**	PKIKP	**PKiKP**		**21 41 31.2**	**+0.4**
MKAR	**Makanchi Array**	**112.43**	**314**	PKiKP	**PKiKP**		**21 41 31.1**	**+0.4**
MKAR	**Makanchi Array**	**112.43**	**314**	PKiKP	**PKiKP**		**21 41 31.1**	**+0.4**
comp=Z,0.6nm,0.7s,baz=162,slow=0.8,SNR=4.3								
KURK	**Kurchatov**	**114.79**	**318**	PKIKP	PKPdf		21 41 36.0	+0.9
KURK	**Kurchatov**	**114.79**	**318**	PKiKP	**PKiKP**		**21 41 36.0**	**+0.8**
KURBB	**Kurchatov Arra**	**114.86**	**318**	PKiKP	PKPdf		21 41 35.9	+0.7
comp=Z,0.6nm,0.8s,baz=87,slow=1.9,SNR=5.1								
KSH	**Kashi**	**116.97**	**306**	*e*PKP	**PKPdf**		**21 41 39.5**	**-0.4**
KSH				PP	**PP**		**21 42 50.8**	**+1.1**
KSH				PKS	**PKSdf**		**21 45 15.0**	**-1.7**
KSH				SKS	**SKSdf**		**21 48 50.8**	**+1.8**
KSH				SKKS	**SKKSac**		**21 49 43.8**	**-3.5**
KSH				SS	**SS**		**21 58 52.3**	**-2.9**
KSH				AMB	AMB			
comp=Z,18nm,4.0s								
KSH				LR	LR			
comp=N,74nm,4.5s								
KSH				LR	LR			
comp=E,94nm,5.4s								
KSH				LR	LR			
comp=Z,140nm,6.7s								
BVAR	**Borovoye Array**	**119.56**	**322**	PKIKP	**PKPdf**		**21 41 44.4**	**+0.1**
BVAR	**Borovoye Array**	**119.56**	**322**	PKP	**PKPdf**		**21 41 44.4**	**+0.1**
BVAR	**Borovoye Array**	**119.56**	**322**	PKP	**PKPdf**		**21 41 44.4**	**+0.1**
comp=Z,1.0nm,0.7s,baz=107,slow=1.5,SNR=4.8								
IMYA	**Miami**	**129.69**	**303**	*e*P	PKPdf		21 42 09.3	+4.9
IMOG	**Moghan**	**130.33**	**303**	*e*P	**PKPdf**		**21 42 06.9**	**+1.1**
IKRD	**Kardeh**	**130.89**	**304**	*e*P	**PKPdf**		**21 42 07.7**	**+0.9**
AKASG	**Malin Array Be**	**142.08**	**337**	PKIKP	**PKPdf**		**21 42 28.3**	**+1.6**
AKASG	**Malin Array Be**	**142.08**	**337**	PKP	**PKPdf**		**21 42 28.2**	**+1.6**
AKASG	**Malin Array Be**	**142.08**	**337**	PKP	**PKPdf**		**21 42 28.2**	**+1.6**
comp=Z,0.5nm,0.4s,baz=36,slow=1.8,SNR=5.2								
LVV	**L'vov**	**144.60**	**341**	*e*PKIKP	**PKPdf**		**21 42 32.4**	**+1.2**
ATD	**Arta Tunnel**	**145.16**	**266**	PKPbc	**PKPdf**		**21 42 34.6**	**+1.4**
ATD	**Arta Tunnel**	**145.16**	**266**	PKPbc	**PKPdf**		**21 42 34.6**	**+1.4**
comp=Z,11nm,1.1s,baz=134,slow=5.2,SNR=2.6								
KWP	**Kalwaria Pacla**	**145.16**	**342**	⇑PKIKP	**PKPdf**		**21 42 32.7**	**+0.5**
KWP	**Kalwaria Pacla**	**145.16**	**342**	*e*PKPdf	**PKPbc**		**21 42 30.8**	**-1.0**
KWP	**Kalwaria Pacla**	**145.16**	**342**	⇑*i*P	**PKPdf**		**21 42 32.7**	**+0.5**
KMBO	**Kilima Mbogo**	**145.40**	**242**	*e*PKPdf	**PKPbc**		**21 42 33.0**	**-1.0**
KMBO				PKPbc	**PKPab**		**21 42 35.6**	**+1.5**
KMBO	**Kilima Mbogo**	**145.40**	**242**	PKPbc	**PKPab**		**21 42 35.6**	**+1.5**
comp=Z,15nm,1.1s,baz=72,slow=3.9,SNR=28								
MALT	**Malatya**	**145.47**	**314**	⇑PKIKP	**PKPab**		**21 42 34.6**	**+1.1**
MALT	**Malatya**	**145.47**	**314**	⇑*i*P	**PKPab**		**21 42 34.6**	**+1.1**
CLL	**Collm**	**145.49**	**354**	*e*PKIKP	**PKPab**		**21 42 34.0**	**+1.0**
CLL				pmax	pmax			
comp=Z,22nm,1.8s								
CLL	**Collm**	**145.49**	**354**	*e*PKPdf	**PKPab**		**21 42 34.0**	**+1.0**
comp=Z,22nm,1.8s								
CLL				*i* (PKPm)			21 42 36.2	
CLL				*e*(PKiKP)			21 43 37.0	
CLL				*e*			21 43 50.0	
KSP	**Ksiaz**	**145.50**	**350**	*e*PKP2	**PKPbc**		**21 42 32.2**	**-0.6**
STHS	**Stebnicka Huta**	**145.76**	**344**	*e*PKP	**PKPab**		**21 42 34.9**	**+0.8**
BRG	**Berggiesshubel**	**145.81**	**353**	*e*PKP	**PKPab**		**21 42 34.7**	**+0.5**
comp=Z,32nm,1.7s								
BRG	**Berggiesshubel**	**145.81**	**353**	*e*PKP2	**PKPab**		**21 42 34.7**	**+0.5**
BRG				pmax	pmax			
comp=Z,5.0nm,1.7s								
UPC	**Upice**	**145.87**	**350**	*e*PKP2	**PKPab**		**21 42 36.1**	**+1.7**
UPC	**Upice**	**145.87**	**350**	*e*PKP	**PKPab**		**21 42 36.1**	**+1.7**
UPC				*ex*	x		21 42 47.9	
KOLS	**Kolonicke sedl**	**145.91**	**342**	*e*PKP	**PKPab**		**21 42 36.6**	**+1.9**
DPC	**Dobruska-Polom**	**145.97**	**350**	*e*PKP2	**PKPab**		**21 42 34.7**	**-0.2**
DPC	**Dobruska-Polom**	**145.97**	**350**	*e*PKP	**PKPab**		**21 42 34.7**	**-0.2**
DPC				*ep*PKP	**PKiKP**		**21 42 38.3**	**+0.5**
DPC				*ex*	x		21 42 47.9	
PVCC	**Panska Ves**	**146.06**	**352**	*e*PKP2	**PKPab**		**21 42 34.7**	**-0.5**
PVCC	**Panska Ves**	**146.06**	**352**	*e*PKP	**PKPab**		**21 42 34.7**	**-0.5**
BUR08	**Bucovina Ar. S**	**146.09**	**338**	*e*PKP	**PKPdf**		**21 42 33.3**	**-0.7**
OKC	**Ostrava-Krasne**	**146.11**	**347**	*e*PKP2	**PKPab**		**21 42 34.9**	**-0.4**
OKC	**Ostrava-Krasne**	**146.11**	**347**	*e*PKP	**PKPab**		**21 42 34.9**	**-0.4**
OKC				*ep*PKP	**PKiKP**		**21 42 38.4**	**+0.4**
BURAR	**Bucovina Array**	**146.11**	**338**	⇑PKP2	**PKPab**		**21 42 37.4**	**+1.8**
BURAR	**Bucovina Array**	**146.11**	**338**	⇑*i*P	**PKPab**		**21 42 37.4**	**+1.8**
KRLC	**Kraliky**	**146.15**	**349**	*i* PKP2	**PKPab**		**21 42 35.2**	**-0.4**
KRLC	**Kraliky**	**146.15**	**349**	*i* PKP	**PKPab**		**21 42 35.2**	**-0.4**
KRLC				*ex*	x		21 42 48.1	
CRVS	**Cervenica-Dubn**	**146.17**	**343**	*e*PKP	**PKPab**		**21 42 34.9**	**-0.7**
UZH	**Uzhgorod**	**146.18**	**342**	*e*PKHKP	PKPpre		21 42 23.4	
UZH				*e*			21 42 34.8	
BEBN	**Eben Emael**	**146.28**	**2**	PKP	**PKPbc**		**21 42 34.3**	**-0.8**
MORC	**Moravsky Berou**	**146.29**	**348**	⇓PKP2	**PKPab**		**21 42 36.7**	**+0.6**
MORC	**Moravsky Berou**	**146.29**	**348**	*e*PKPdf	**PKPdf**		**21 42 33.0**	**-1.2**
MORC	**Moravsky Berou**	**146.29**	**348**	⇓*i*P	**PKPab**		**21 42 36.7**	**+0.6**
MEM	**Membach**	**146.47**	**1**	PKP	**PKPbc**		**21 42 35.1**	**-0.7**
TESR	**Tescani**	**146.49**	**336**	⇑*i*P	**PKPab**		**21 42 36.9**	**-0.1**
SNF	**Seneffe**	**146.50**	**3**	PKP	**PKPab**		**21 42 36.3**	**-0.5**
TRPA	**Tarpa**	**146.55**	**341**	⇑*i*P	**PKPab**		**21 42 38.4**	**+1.3**
PRU	**Pruhonice**	**146.60**	**351**	*e*PKP2	**PKPab**		**21 42 36.5**	**-0.7**
PRU	**Pruhonice**	**146.60**	**351**	*e*PKP	**PKPab**		**21 42 36.5**	**-0.7**
PRU				*ex*	x		21 42 49.5	
BCLA	**Clavier**	**146.64**	**2**	PKP	**PKPab**		**21 42 36.8**	**-0.6**
KECS	**Kecovo**	**146.82**	**344**	*e*PKP	**PKPab**		**21 42 40.0**	**+1.9**
DOU	**Dourbes**	**146.93**	**3**	PKP	**PKPbc**		**21 42 35.8**	**-1.3**
VRI	**Vrincioaia**	**146.99**	**335**	⇑PKP2	**PKPab**		**21 42 39.0**	**+0.1**
VRI	**Vrincioaia**	**146.99**	**335**	⇑*i*P	**PKPab**		**21 42 39.0**	**+0.1**
GRFO	**Grafenberg**	**147.26**	**355**	*e*PKPdf	**PKPdf**		**21 42 34.1**	**-1.7**
WLF	**Walferdange**	**147.42**	**1**	PKP	**PKPbc**		**21 42 38.5**	**0.0**
WLF	**Walferdange**	**147.42**	**1**	*e*PKP	**PKPdf**		**21 42 34.6**	**-1.3**
TLB	**Topalu**	**147.44**	**332**	⇑PKIKP	**PKPbc**		**21 42 37.2**	**-1.5**
TLB	**Topalu**	**147.44**	**332**	⇑*i*P	**PKPbc**		**21 42 37.2**	**-1.5**
PSZ	**Piszkesteto**	**147.49**	**344**	⇑PKP2	**PKPab**		**21 42 43.0**	**+2.1**
PSZ	**Piszkesteto**	**147.49**	**344**	*e*PKPdf	**PKPdf**		**21 42 34.9**	**-1.4**
PSZ	**Piszkesteto**	**147.49**	**344**	⇑*i*P	**PKPab**		**21 42 43.0**	**+2.1**
PSZ	**Piszkesteto**	**147.49**	**344**	*e*	**PKPbc**		**21 42 38.9**	**0.0**
SMOL	**Smolenice**	**147.51**	**347**	*e*PKP	**PKPab**		**21 42 41.5**	**+0.6**
KHC	**Kasperske Hory**	**147.57**	**352**	*i* PKP2	**PKPbc**		**21 42 39.3**	**+0.3**
KHC	**Kasperske Hory**	**147.57**	**352**	*i* PKP	**PKPbc**		**21 42 39.3**	**+0.3**
KHC				*ex*	x		21 42 50.7	
KHC	**Kasperske Hory**	**147.57**	**352**	*e*PKPdf	**PKPdf**		**21 42 35.5**	**-0.8**
MLR	**Muntele Rosu**	**147.61**	**335**	⇑*i*P	**PKPbc**		**21 42 39.1**	**-0.2**
DRGR		**147.68**	**340**	⇑PKP2	**PKPab**		**21 42 40.2**	**-1.5**
DRGR		**147.68**	**340**	⇑*i*P	**PKPab**		**21 42 40.2**	**-1.5**
BRTR	**Keskin Array B**	**147.83**	**320**	PKPbc	**PKPbc**		**21 42 40.3**	**+0.2**
BRTR	**Keskin Array B**	**147.83**	**320**	PKPbc	**PKPbc**		**21 42 40.3**	**+0.2**
comp=Z,7.6nm,1.0s,baz=120,slow=1.9,SNR=12								
GERES	**GERESS Array B**	**147.83**	**352**	PKPbc	**PKPab**		**21 42 40.5**	**-1.8**
GERES	**GERESS Array B**	**147.83**	**352**	PKPbc	**PKPab**		**21 42 40.5**	**-1.8**
comp=Z,0.9nm,0.7s,baz=20,slow=4.3,SNR=8.2								
ZST	**Bratislava**	**147.88**	**348**	*e*PKP	**PKPab**		**21 42 44.4**	**+2.1**
VOIR		**148.01**	**336**	⇓PKP2	**PKPab**		**21 42 42.1**	**-1.0**
VOIR		**148.01**	**336**	⇓*i*P	**PKPab**		**21 42 42.1**	**-1.0**
BUD	**Budapest**	**148.12**	**345**	*es*	**PKPbc**		**21 42 41.8**	**+1.4**
ARR	**Arges**	**148.23**	**336**	⇑*i*P	**PKPbc**		**21 42 41.7**	**+0.8**
ANTO	**Ankara**	**148.25**	**321**	*e*PKPdf	**PKPdf**		**21 42 36.2**	**-1.6**
PKSG		**148.36**	**346**	*e*	**PKPab**		**21 42 42.6**	**-1.6**
PKSN	**Nyarlorinc**	**148.44**	**343**	*e*	**PKPab**		**21 42 43.5**	**-1.1**
SIRR	**Siria**	**148.48**	**341**	⇑*i*P	**PKPbc**		**21 42 41.3**	**-0.2**
SOP	**Sopron**	**148.48**	**348**	*e*	**PKPbc**		**21 42 41.7**	**+0.3**
PKS7	**Kunszentmiklos**	**148.49**	**344**	*e*	**PKPab**		**21 42 44.4**	**-0.4**
PKST	**T''s**	**148.57**	**346**	*e*	**PKPbc**		**21 42 42.3**	**+0.6**
BFO	**Black Forest**	**148.76**	**359**	*e*PKPdf	**PKPdf**		**21 42 37.1**	**-1.2**
ECH	**Echery**	**148.89**	**0**	*e*PKPdf	**PKPdf**		**21 42 38.0**	**-0.5**
ECH				*e*PKPab	**PKPab**		**21 42 44.5**	**-1.8**
PKS2	**Kecel**	**148.99**	**344**	*e*SKSac	**PKPbc**		**21 42 45.6**	**+2.9**
BZS	**Buzias**	**149.08**	**340**	⇓PKP2	**PKPbc**		**21 42 43.6**	**+0.6**
BZS	**Buzias**	**149.08**	**340**	⇓*i*P	**PKPbc**		**21 42 43.5**	**+0.6**
PKS9	**Tamasi**	**149.14**	**345**	*e*	**PKPbc**		**21 42 43.2**	**+0.1**
BEHE	**Becsehely**	**149.60**	**347**	*e*	**PKPbc**		**21 42 45.4**	**+1.2**
SOKA	**Soboth**	**149.74**	**349**	⇓*i*PKiKP	**PKiKP**		**21 42 45.7**	**0.0**
comp=Z,13nm,1.3s								
**FETA

GERES	**GERESS Array B**	88.32	319	P		**P**	21 39 02.9	-1.2
GERES	**GERESS Array B**	88.32	319	P		**P**	21 39 02.9	-1.2
	0.4nm,0.6s,baz=344,slow=9.0,SNR=3.4							

BJI ***30*** *21:27:52.6,0°.89S×99°.72E,h17km,mb4.5/6,Ms4.8/1, Ms7 4.5/1*
ISCJB ***30*** *21:27:59.8±0.5,0°.86S±0°.04×99°.68E±0°.04,h88km±4km, mb4.4/33,Error ellipse: s-maj=8.4km s-min=4.4km az=146.8*
IDC ***30*** *21:28:00.1±0.5,0°.79S×99°.89E,h73km±4km,mb4.1/21, mb1 4.1/23,mb1mx4.0/30,mbtmp4.1/23,MS2.8/1, Ms1 3.0/1,ms1mx2.9/39,Error ellipse: s-maj=17.0km s-min=10.5km az=63.0*
DJA ***30*** *21:28:01.4±0.3,1°S±3°×10°0E±°,h57km±4km,M5.0/18, mb5.0/13,mB5.7/4,MLv5.0/18,Mw(mB)5.2/4*
NEIC ***30*** *21:28:01.5±1.0,0°.85S×99°.72E,h89km±9km,mb4.4/8, Error ellipse: s-maj=12.3km s-min=5.9km az=56.0*
ISC 30 21:28:00.2±0.5,0°.88S±0°.05×99°.67E±0°.05,h76km±3km, h76km:pP-P,n132,σ1§24/160,mb4.6/32,2C,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**0.79**	**93**	P	**Pn**	**21 28 17.8**	**+1.1**
PDSI				S	**Sn**	**21 28 29.3**	**+0.4**
PPI	**Padang Panjang**	**0.84**	**60**	P	**Pn**	**21 28 17.9**	**+0.7**
MNSI	**Mandailing Nat**	**1.66**	**357**	P	**Pn**	**21 28 27.2**	**-0.4**
SDSI	**Sungai Dareh**	**1.76**	**92**	S	**Sn**	**21 28 51.4**	**+0.8**
RGRI	**Rengat**	**2.71**	**79**	P	**Pn**	**21 28 43.0**	**+1.3**
GSI	**Gunungsitoli**	**3.01**	**316**	P	**Pn**	**21 28 46.9**	**+1.2**
MASI	**Maura Aman, Be**	**3.41**	**131**	P	**Pn**	**21 28 53.3**	**+2.1**
PSI	**Prapat**	**3.73**	**348**	P	**Pn**	**21 28 54.7**	**-0.9**
PSI				S	Sn	21 29 25.8	-13
PSI	**Prapat**	**3.73**	**348**	P	**Pn**	**21 28 54.7**	**-0.9**
	48nm,0.3s,baz=195,slow=2.1,SNR=50						
PSI				S	Sn	21 29 25.8	-13
	30nm,0.3s,baz=154,slow=16,SNR=6.5						
KSI	**Kapahiang**	**4.02**	**133**	P	**Pn**	**21 29 00.7**	**+1.2**
FRIM	**Kepong**	**4.53**	**26**	P	**Pn**	**21 29 07.3**	**+0.9**
KGM	**Kluang**	**4.64**	**52**	P	Pn	21 29 12.0	+4.0
SNSI	**Sinabang, Aceh**	**4.67**	**314**	P	**Pn**	**21 29 09.2**	**+0.9**
KCSI	**Kotacane, Aceh**	**4.76**	**337**	P	**Pn**	**21 29 08.8**	**-0.8**
MNAI	**Manna**	**4.77**	**137**	*e*Pn	**Pn**	**21 29 10.9**	**+1.2**
MNAI	**Manna**	**4.77**	**137**	P	**Pn**	**21 29 10.9**	**+1.2**
MYKOM	**Kota Tinggi**	**4.95**	**58**	P	**Pn**	**21 29 13.8**	**+1.7**
MYKOM	**Kota Tinggi**	**4.95**	**58**	P	**Pn**	**21 29 14.4**	**+2.3**
EGSI	**Enggano, Bengk**	**5.15**	**150**	P	**Pn**	**21 29 15.2**	**+0.3**
IPM	**Ipoh**	**5.49**	**14**	*e*Pn	**Pn**	**21 29 21.1**	**+1.5**
IPM				*e*Sn	**Sn**	**21 30 23.5**	**+2.1**
IPM	**Ipoh**	**5.49**	**14**	P	**Pn**	**21 29 21.4**	**+1.9**
IPM	**Ipoh**	**5.49**	**14**	P	**Pn**	**21 29 20.6**	**+1.0**
	91nm,0.7s,0.4nm						
MDSI	**Maura Dua**	**5.76**	**129**	P	**Pn**	**21 29 24.6**	**+1.4**
	245nm,0.8s,2μm0.8nm						
LWLI	**Liwa**	**6.01**	**133**	P	**Pn**	**21 29 26.6**	**-0.1**
	425nm,0.8s,12μm2.3nm						
KULM	**Kulim**	**6.20**	**9**	*e*Pn	**Pn**	**21 29 29.6**	**+0.4**
KULM				*e*Sn	**Sn**	**21 30 37.7**	**-1.1**
KULM	**Kulim**	**6.20**	**9**	P	**Pn**	**21 29 30.7**	**+1.4**
KULM	**Kulim**	**6.20**	**9**	P	**Pn**	**21 29 29.0**	**-0.3**
	87nm,0.9s,0.3nm						
KLI	**Kotabumi**	**6.52**	**127**	P	Pn	21 29 39.4	+5.8
	100nm,0.8s,0.5nm						
KASI	**Kota Agung**	**6.67**	**134**	P	**Pn**	**21 29 35.9**	**+0.2**
	208nm,0.8s,3μm1.0nm						
SKLT	**Songkhla**	**8.05**	**7**	P	**Pn**	**21 29 53.7**	**-0.8**
	41nm,1.4s,0.2nm						
DBJI	**Dramaga**	**9.04**	**129**	P	**Pn**	**21 30 09.6**	**+1.6**
	88nm,0.7s						
KSM	**Kuching**	**10.89**	**78**	*e*Pn	**Pn**	**21 30 34.8**	**+1.4**
SBUM	**Sibu**	**12.97**	**75**	*e*Pn	**Pn**	**21 31 04.4**	**+2.7**
SBUM	**Sibu**	**12.97**	**75**	P	**P**	**21 31 12.0**	**+2.7**
KKM	**Kota Kinabalu**	**17.89**	**67**	*e*P	**Pn**	**21 32 05.1**	**+0.8**
	15nm,0.6s						
SDKM	**Sandakan**	**18.66**	**69**	P	**Pn**	**21 32 13.3**	**-0.3**
CMAR	**Chiang Mai Arr**	**19.23**	**358**	P	**P**	**21 32 16.4**	**-2.1**
CMAR	**Chiang Mai Arr**	**19.23**	**358**	P	**P**	**21 32 16.4**	**-2.1**
	0.6nm,0.3s,baz=188,slow=10,SNR=16						
CMAR				LR	LR	21 40 45.7	
	comp=Z,25nm,18.7s,baz=329,slow=40						
BNSI	**Bone**	**20.71**	**100**	P	Pn	21 32 39.2	+1.6
	38nm,1.4s						
MRSI	**Marisa**	**22.31**	**87**	P	**P**	**21 32 51.7**	**-0.1**
	58nm,0.7s						
LUWI	**Luwuk**	**23.10**	**91**	P	**P**	**21 33 01.3**	**+1.4**
	36nm,0.9s						
GTOI	**Gorontalo**	**23.39**	**86**	P	**P**	**21 33 02.0**	**-0.7**
ODAN	**Odare**	**30.01**	**338**	*e*P	**P**	**21 34 03.0**	**+0.8**
	41nm,0.5s						
ODAN	**Odare**	**30.01**	**338**	*e*P	**PcP**	**21 37 04.0**	**+1.1**
	8.4nm,0.6s						
TAPN	**Taplejung**	**30.33**	**339**	*e*P	**P**	**21 34 06.4**	**+1.3**
RAMN	**Ramite**	**30.40**	**336**	*e*P	**P**	**21 34 07.0**	**+1.4**
	18nm,0.5s						
RAMN	**Ramite**	**30.40**	**336**	*e*P	**PcP**	**21 37 04.8**	**+0.8**
	13nm,0.8s						
FITZ	**Fitzroy Crossi**	**30.72**	**125**	*e*P	**P**	**21 34 07.9**	**-0.4**
FITZ	**Fitzroy Crossi**	**30.72**	**125**	P	**P**	**21 34 05.5**	**-2.8**
	2.7nm,0.8s,baz=285,slow=5.9,SNR=4.6						
JIRN	**Jiri**	**31.19**	**336**	*e*P	**P**	**21 34 14.0**	**+1.2**
PKI	**Pulchoki**	**31.43**	**335**	*e*P	**P**	**21 34 15.3**	**+0.4**
PKIN	**Phulchoki**	**31.44**	**335**	*e*P	**P**	**21 34 15.7**	**+0.8**
LSA	**Lhasa**	**31.48**	**346**	P	**P**	**21 34 16.8**	**+1.4**
LSA	**Lhasa**	**31.48**	**346**	*e*P	**P**	**21 34 15.1**	**-0.3**
	12nm,0.4s						
LSA				*e*pP	**pP**	**21 34 35.8**	**+2.5**
GUN	**Gumba**	**31.54**	**336**	*e*P	**P**	**21 34 16.9**	**+1.1**
	84nm,0.5s						
GUN	**Gumba**	**31.54**	**336**	*e*P	**PcP**	**21 37 07.8**	**+0.7**
	9.7nm,0.5s						
DMN	**Daman**	**31.59**	**335**	*e*P	**P**	**21 34 16.8**	**+0.6**
	11nm,0.7s						
DMN	**Daman**	**31.59**	**335**	*e*P	**PcP**	**21 37 07.9**	**+0.8**
	15nm,0.7s						
KKN	**Kakani**	**31.68**	**335**	*e*P	**P**	**21 34 17.6**	**+0.7**
	18nm,0.4s						
GKN	**Gorkha**	**32.14**	**334**	*e*P	**P**	**21 34 21.6**	**+0.7**
	13nm,0.4s						
GKN	**Gorkha**	**32.14**	**334**	*e*P	**PcP**	**21 37 08.7**	**+0.2**
KOLN	**Koldanda**	**32.40**	**333**	*e*P	**P**	**21 34 24.3**	**+1.1**
	27nm,0.6s						
KOLN	**Koldanda**	**32.40**	**333**	*e*P	**PcP**	**21 37 09.6**	**+0.3**
	8.5nm,0.4s						
DANN	**Dangsing**	**32.82**	**334**	*e*P	**P**	**21 34 27.7**	**+0.7**
	24nm,0.5s						
DANN	**Dangsing**	**32.82**	**334**	*e*P	**PcP**	**21 37 10.9**	**+0.4**
NJ2	**Nanjing**	**37.45**	**27**	*e*P	**P**	**21 35 07.0**	**+0.6**
NJ2				pmax	pmax		
	comp=Z,60nm,0.7s						
WRA	**Warramunga Arr**	**38.85**	**121**	P	**P**	**21 35 16.0**	**-2.3**
WRA				PcP	**PcP**	**21 37 28.2**	**-0.1**
WRA				S	S	21 41 04.0	-7.1
WRA	**Warramunga Arr**	**38.85**	**121**	P	**P**	**21 35 16.0**	**-2.3**
	comp=Z,7.1nm,0.6s,baz=302,slow=9.0,SNR=31						
WRA				PcP	**PcP**	**21 37 28.2**	**-0.1**
	comp=Z,1.0nm,0.4s,baz=313,slow=2.6,SNR=5.8						
WRA				S	S	21 41 04.0	-7.1
	comp=Z,0.4nm,0.5s,baz=292,slow=18,SNR=5.0						
WRAB	**Tennant Creek**	**38.85**	**121**	*e*P	**P**	**21 35 16.7**	**-1.7**
	comp=Z,6.3nm,0.5s						
GTA	**Gaotai**	**40.09**	**0**	*e*P	**P**	**21 35 31.0**	**+2.5**
GTA				pP	pP	21 35 35.0	-12
GTA				sP	sP	21 35 38.0	-18
GTA				pmax	pmax		
	comp=Z,2.0nm,1.2s						
ASAR	**Alice Springs**	**40.18**	**127**	P	**P**	**21 35 28.4**	**-1.0**
ASAR				PcP	**PcP**	**21 37 32.8**	**+0.3**
ASAR				S	**S**	**21 41 25.8**	**-5.2**
ASAR	**Alice Springs**	**40.18**	**127**	P	**P**	**21 35 28.4**	**-1.0**
	comp=Z,3.1nm,0.3s,baz=300,slow=7.4,SNR=43						
ASAR				PcP	**PcP**	**21 37 32.8**	**+0.3**
	comp=Z,2.8nm,0.6s,baz=302,slow=3.2,SNR=11						
ASAR				S	**S**	**21 41 25.8**	**-5.2**
	comp=Z,0.8nm,0.7s,baz=298,slow=16,SNR=6.1						
AS31	**Alice Springs**	**40.18**	**127**	*e*P	**P**	**21 35 28.4**	**-1.1**
HHC	**Hu-ho-hao-te**	**42.92**	**13**	*e*P	**P**	**21 35 53.0**	**+1.4**
HHC				sP	sP	21 35 58.8	-20
HHC				pmax	pmax		
	comp=Z,22nm,0.5s						
HHC				LR	LR		
	comp=N,450nm,15.5s						
HHC				LR	LR		
	comp=E,640nm,15.7s						
HHC				LR	LR		
	comp=Z,620nm,17.8s						
JNU	**Nakatsue**	**44.81**	**38**	*e*P	**P**	**21 36 06.2**	**-0.6**
JNU	**Nakatsue**	**44.81**	**38**	P	**P**	**21 36 05.8**	**-1.1**
	comp=Z,13nm,0.7s,baz=199,slow=4.0,SNR=8.6						
KSAR	**Wonju Array Be**	**46.20**	**31**	P	**P**	**21 36 16.6**	**-1.2**
KSRS	**Korea Array**	**46.23**	**31**	P	**P**	**21 36 16.6**	**-1.4**
	comp=Z,3.1nm,0.7s,baz=222,slow=8.0,SNR=11						
TKM2	**Tokmak 2**	**48.68**	**336**	*e*P	**P**	**21 36 38.7**	**+1.6**
SONM	**Songino Array**	**48.87**	**6**	P	**P**	**21 36 38.1**	**-0.2**
SONM				pP	**pP**	**21 36 56.9**	**-0.4**
SONM				PcP	**PcP**	**21 38 01.5**	**-0.3**
SONM	**Songino Array**	**48.87**	**6**	P	**P**	**21 36 38.1**	**-0.2**
	comp=Z,1.3nm,0.4s,baz=189,slow=10,SNR=9.7						
SONM				pP	**pP**	**21 36 56.9**	**-0.4**
	comp=Z,0.8nm,0.4s,baz=186,slow=9.9,SNR=3.8						
SONM				PcP	**PcP**	**21 38 01.5**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=181,slow=3.0,SNR=4.2						
AAK	**Ala-Archa**	**48.89**	**335**	*e*P	**P**	**21 36 38.1**	**-0.5**
	comp=Z,0.9nm,0.3s						
EKS2	**Erkin-Say**	**49.21**	**335**	*e*P	**P**	**21 36 42.9**	**+1.8**
	comp=Z,4.5nm,0.6s						
MK31	**Makanchi Array**	**49.87**	**344**	*e*P	**P**	**21 36 46.2**	**+0.4**
MKAR	**Makanchi Array**	**49.87**	**344**	P	**P**	**21 36 46.2**	**+0.3**
MKAR				pP	**pP**	**21 37 04.2**	**-0.6**
MKAR	**Makanchi Array**	**49.87**	**344**	P	**P**	**21 36 46.2**	**+0.3**
	comp=Z,2.4nm,0.5s,baz=160,slow=8.3,SNR=19						
MKAR				pP	**pP**	**21 37 04.2**	**-0.6**
	comp=Z,3.2nm,0.5s,baz=152,slow=8.2,SNR=5.9						
STKA	**Stephens Creek**	**50.14**	**132**	*e*P	**P**	**21 36 48.4**	**+0.2**
STKA	**Stephens Creek**	**50.14**	**132**	P	**P**	**21 36 48.0**	**-0.2**
	comp=Z,6.4nm,0.6s,baz=306,slow=7.8,SNR=17						
KKAR	**Karatay Array**	**51.01**	**333**	*e*P	**P**	**21 36 53.7**	**-0.9**
	comp=Z,1.1nm,0.4s						
USRK	**Ussuriysk Arra**	**53.33**	**29**	P	**P**	**21 37 10.7**	**-1.0**
	comp=Z,7.1nm,0.8s,baz=226,slow=5.9,SNR=17						
KURBB	**Kurchatov Arra**	**54.39**	**344**	P	**P**	**21 37 19.4**	**+0.1**
	comp=Z,1.6nm,0.5s,baz=161,slow=7.1,SNR=16						
KURBB				pP	**pP**	**21 37 37.6**	**-0.9**
	comp=Z,2.1nm,0.7s,baz=162,slow=7.3,SNR=5.6						
KURK	**Kurchatov**	**54.44**	**344**	*e*P	**P**	**21 37 19.7**	**0.0**
KURK				pP	**pP**	**21 37 37.6**	**-1.3**
ZAA0	**Zalesovo Array**	**56.01**	**349**	*e*P	**P**	**21 37 30.3**	**-0.6**
ZALV	**Zalesovo Beam**	**56.01**	**349**	P	**P**	**21 37 30.6**	**-0.3**
ZALV				pP	**pP**	**21 37 49.4**	**-0.9**
ZALV				sP	**sP**	**21 37 57.5**	**-1.3**
ZALV	**Zalesovo Beam**	**56.01**	**349**	P	**P**	**21 37 30.6**	**-0.3**
	comp=Z,7.6nm,0.5s,baz=185,slow=6.4,SNR=24						
ZALV				pP	**pP**	**21 37 49.4**	**-0.9**
	comp=Z,9.0nm,0.7s,baz=166,slow=5.4,SNR=6.4						
ZALV				sP	**sP**	**21 37 57.5**	**-1.3**
	comp=Z,6.0nm,0.5s,baz=165,slow=7.1,SNR=4.5						
CAN	**Canberra**	**57.21**	**132**	*e*P	**P**	**21 37 39.2**	**-0.6**
ARMA	**Armidale**	**57.32**	**126**	*e*P	**P**	**21 37 40.3**	**-0.5**
VOSK	**Vostochnaya**	**58.57**	**340**	*e*P	**P**	**21 37 48.6**	**-0.3**
ASAJ	**Asahikawa**	**58.88**	**35**	P	**P**	**21 37 50.0**	**-1.2**
ASAJ	**Asahikawa**	**58.88**	**35**	P	**P**	**21 37 50.0**	**-1.2**
	comp=Z,4.8nm,0.6s,baz=292,slow=8.3,SNR=4.4						
BVAR	**Borovoye Array**	**59.02**	**340**	P	**P**	**21 37 51.4**	**-0.7**
BVAR				pP	**pP**	**21 38 10.7**	**-0.9**
BVAR	**Borovoye Array**	**59.02**	**340**	P	**P**	**21 37 51.4**	**-0.7**
	comp=Z,1.3nm,0.5s,baz=145,slow=8.8,SNR=5.9						
BVAR				pP	**pP**	**21 38 10.7**	**-0.9**
	comp=Z,2.9nm,0.6s,baz=143,slow=9.3,SNR=6.3						
BRVK	**Borovoye**	**59.09**	**340**	*e*P	**P**	**21 37 51.5**	**-1.1**
ABKAR	**Akbulak array**	**60.50**	**331**	*e*P	**P**	**21 38 01.5**	**-0.8**
	comp=Z,3.1nm,0.6s						
AKTO	**Aktyubinsk**	**62.22**	**331**	P	**P**	**21 38 13.3**	**-0.6**
AKTO				pP	**pP**	**21 38 33.3**	**-0.3**
AKTO	**Aktyubinsk**	**62.22**	**331**	P	**P**	**21 38 13.3**	**-0.6**
	comp=Z,0.7nm,0.6s,baz=68,slow=22,SNR=3.5						
AKTO				pP	**pP**	**21 38 33.3**	**-0.3**
	comp=Z,1.0nm,0.4s,baz=97,slow=14,SNR=3.3						
BRTR	**Keskin Array B**	**72.33**	**312**	P	**P**	**21 39 18.2**	**0.0**
BRTR				pP	**pP**	**21 39 38.5**	**+0.2**
BRTR	**Keskin Array B**	**72.33**	**312**	P	**P**	**21 39 18.2**	**0.0**
	comp=Z,0.3nm,0.6s,baz=104,slow=5.7,SNR=2.7						
BRTR				pP	**pP**	**21 39 38.5**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=140,slow=6.6,SNR=3.6						
LBTB	**Lobatse**	**75.21**	**244**	*e*P	**P**	**21 39 34.4**	**-0.9**
	comp=Z,1.7nm,0.5s						
BOSA	**Boshof**	**75.91**	**241**	*e*P	**P**	**21 39 41.5**	**+2.2**
BOSA	**Boshof**	**75.91**	**241**	P	**P**	**21 39 40.8**	**+1.4**
	comp=Z,2.8nm,0.6s,baz=69,slow=6.8,SNR=9.0						
BURAR	**Bucovina Array**	**80.20**	**319**	∥*e*P	**P**	**21 40 03.9**	**+1.2**
BUR08	**Bucovina Ar. S**	**80.22**	**319**	*e*P	**P**	**21 40 03.7**	**+1.0**
VTS	**Vitosha**	**80.64**	**313**	∥*e*P	**P**	**21 40 05.2**	**0.0**
FINES	**FINESS Array B**	**82.97**	**332**	P	**P**	**21 40 17.0**	**+0.2**
FINES				pP	**pP**	**21 40 36.5**	**-0.8**
FINES	**FINESS Array B**	**82.97**	**332**	P	**P**	**21 40 17.0**	**+0.2**
	comp=Z,15nm,1.3s,baz=147,slow=8.4,SNR=4.4						
FINES				pP	**pP**	**21 40 36.5**	**-0.8**
	comp=Z,2.0nm,0.5s,baz=110,slow=5.8,SNR=2.5						
VNDA	**Vanda**	**83.32**	**169**	P	**P**	**21 40 20.0**	**+1.7**
VNDA	**Vanda**	**83.32**	**169**	P	**P**	**21 40 20.0**	**+1.7**
	comp=Z,1.3nm,0.6s,baz=316,slow=4.3,SNR=16						
ARCES	**ARCESS Array B**	**85.31**	**340**	P	**P**	**21 40 28.5**	**0.0**
ARCES				pP	**pP**	**21 40 48.8**	**-0.4**
ARCES	**ARCESS Array B**	**85.31**	**340**	P	**P**	**21 40 28.5**	**0.0**
	comp=Z,1.6nm,0.5s,baz=93,slow=5.6,SNR=12						
ARCES				pP	**pP**	**21 40 48.8**	**-0.4**
	comp=Z,2.2nm,0.4s,baz=103,slow=5.3,SNR=4.2						
GERES	**GERESS Array B**	**87.99**	**319**	P	**P**	**21 40 41.5**	**-0.7**
GERES				pP	**pP**	**21 41 02.8**	**-0.1**
GERES	**GERESS Array B**	**87.99**	**319**	P	**P**	**21 40 41.5**	**-0.7**
	comp=Z,0.7nm,0.8s,baz=92,slow=3.1,SNR=5.4						
GERES				pP	**pP**	**21 41 02.8**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=86,slow=5.5,SNR=3.5						
TORD	**Torodi Ar. Bea**	**97.97**	**283**	P	Pdif	21 41 29.3	+0.5
TORD	**Torodi Ar. Bea**	**97.97**	**283**	P	Pdif	21 41 29.3	+0.5
	comp=Z,0.3nm,0.9s,baz=90,slow=5.6,SNR=2.5						
TXAR	**Lajitas Array**	**144.00**	**36**	PKP	PKPbc	21 47 25.9	0.0
TXAR				pPKP	pPKPdf	21 47 46.9	-2.7
TXAR	**Lajitas Array**	**144.00**	**36**	PKP	PKPbc	21 47 25.9	0.0
	comp=Z,3.6nm,0.6s,baz=219,slow=1.7,SNR=7.9						
TXAR				pPKP	pPKPdf	21 47 46.9	-2.7
	comp=Z,1.4nm,0.5s,baz=302,slow=1.7,SNR=3.4						
BDFB	**Brasilia**	**144.10**	**241**	PKP	**PKPdf**	**21 47 28.4**	**0.0**
BDFB	**Brasilia**	**144.10**	**241**	PKP	**PKPdf**	**21 47 28.4**	**0.0**
	comp=Z,3.8nm,0.5s,baz=80,slow=5.2,SNR=6.4						
CPUP	**Villa Florida**	**145.01**	**218**	*e*PKPdf	**PKPbc**	**21 47 28.7**	**-0.4**
CPUP				PKPbc	**PKPdf**	**21 47 30.4**	**+0.8**
CPUP	**Villa Florida**	**145.01**	**218**	PKPbc	**PKPdf**	**21 47 30.4**	**+0.8**
	comp=Z,5.3nm,0.7s,baz=113,slow=6.4,SNR=12						
LPAZ	**La Paz**	**159.12**	**215**	PKP	**PKPdf**	**21 47 52.3**	**+0.8**
LPAZ	**La Paz**	**159.12**	**215**	PKP	**PKPdf**	**21 47 52.3**	**+0.8**
	comp=Z,1.8nm,0.8s,baz=33,slow=2.0,SNR=5.5						

KRSC ***30*** *21:34:24.9±3.2,55°.62N×162°.64E,h5km±5km,ML5.0*
IDC ***30*** *21:34:25.9±0.4,55°.80N×162°.14E,h0km,mb4.6/37, mb1 4.7/39,mb1mx4.7/40,mbtmp4.6/39,ML3.4/2,MS4.1/14, Ms1 4.1/14,ms1mx3.9/42,Error ellipse: s-maj=12.8km s-min=9.2km az=150.0*
MOS ***30*** *21:34:25.9±0.9,55°.78N×162°.14E,h11km,mb5.1/49, MS4.4/10,Error ellipse: s-maj=8.1km s-min=4.5km az=88.7*
NEIC ***30*** *21:34:28.7±2.4,55°.87N×162°.03E,h16km±15km,mb5.0/88, Error ellipse: s-maj=5.0km s-min=2.7km az=155.0*
BJI ***30*** *21:34:29.8,56°.11N×161°.98E,h32km,mB5.0/27,mb4.7/38, Ms5.0/30,Ms7 4.6/31*
ISCJB ***30*** *21:34:30.7±0.3,55°.71N±0°.02×162°.21E±0°.03,h49km±2km, mb4.8/213,MS4.4/31,Error ellipse: s-maj=3.6km s-min=2.6km az=148.6*
SZGRF ***30*** *21:34:37.3,56°.81N×161°.04E,h33km,mb4.8,Near east coast of Kamchatka Peninsula, Russia*
ISC 30 21:34:30.9±0.4,55.72N±0°.03×162°.20E±0°.03,h33km±1km, h32km:pP-P,n644,σ1§19/674,mb4.8/218,MS4.5/31, 33C-19D,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.60**	**35**	PN	Pb	21 34 38.2	-4.9
KBTR	**Krutoberegovo**	**0.60**	**35**	P	Pb	21 34 38.2	-4.9
ZLN	**Zelenaya**	**0.84**	**291**	*e*P	**Pb**	**21 34 47.1**	**-0.1**
BZGR	**Bezymyannyi-Gr**	**0.88**	**285**	*e*P	**Pb**	**21 34 47.7**	**-0.1**
CIRR	**Tsirk**	**0.91**	**296**	*e*P	**Pb**	**21 34 48.0**	**-0.3**
LGNR	**Loginova**	**0.92**	**294**	P	**Pb**	**21 34 48.5**	**-0.2**
SMKR	**Semkarok**	**0.95**	**335**	*e*P	**Pn**	**21 34 47.4**	**-0.7**
BZMR	**Bezymyannaya**	**0.99**	**283**	*e*P	**Pb**	**21 34 49.3**	**-0.3**
BZWR	**Bezymyannyi-We**	**0.99**	**285**	*e*P	**Pb**	**21 34 49.8**	**+0.1**
BDR	**Baidarnaya**	**1.01**	**327**	*e*P	**Pn**	**21 34 48.9**	**0.0**
KRSR	**Krestovskiy**	**1.04**	**299**	*e*P	**Pn**	**21 34 49.7**	**+0.3**
KLY	**Klyuchi**	**1.05**	**305**	PN	**Pn**	**21 34 48.2**	**-1.1**
KLY	**Klyuchi**	**1.05**	**305**	*e*P	**Pn**	**21 34 48.2**	**-1.1**
KIRR	**Kirishev**	**1.07**	**283**	*e*P	**Pb**	**21 34 50.5**	**-0.6**
SRKR	**Sorokina**	**1.10**	**329**	*e*P	**Pn**	**21 34 50.0**	**-0.1**
KMNR	**Kamenistaya**	**1.11**	**273**	P	**Pb**	**21 34 51.4**	**-0.3**
KPT	**Kopyto**	**1.14**	**283**	*e*P	**Pb**	**21 34 52.1**	**-0.1**
MKZ	**Mys Kozlova**	**1.20**	**193**	PN	Pn	21 34 47.5	-3.8
MKZ	**Mys Kozlova**	**1.20**	**193**	*e*P	Pn	21 34 47.5	-3.8
TUMR	**Tumrok**	**1.25**	**250**	*e*P	**Pb**	**21 34 53.4**	**-0.6**
KOZR	**Kozyr**	**1.34**	**286**	PN	**Pb**	**21 34 55.7**	**+0.2**
KOZ	**Kozyrevsk**	**1.35**	**285**	*e*P	**Pb**	**21 34 55.7**	**0.0**
KOZ				*i* S	Sb	21 35 18.6	+5.9
SRDR	**Sredinnyy**	**1.52**	**294**	*e*P	**Pb**	**21 34 57.5**	**-1.0**
SRDR				*i* S	**Sb**	**21 35 21.6**	**+4.3**
ESO	**Esso**	**1.98**	**277**	PN	**Pn**	**21 35 03.7**	**+1.5**
ESO				S	**Sb**	**21 35 32.3**	**+1.6**
ESO	**Esso**	**1.98**	**277**	*e*P	**Pn**	**21 35 03.7**	**+1.5**
ESO				*i* S	**Sb**	**21 35 32.3**	**+1.6**
BKI	**Bering**	**2.21**	**102**	PN	Pn	21 35 00.4	-4.8
BKI	**Bering**	**2.21**	**102**	*e*P	Pn	21 35 00.4	-4.8
BKI				*i* S	Sn	21 35 25.1	-6.3
KII	**Karymskiy**	**2.32**	**224**	*e*P	**Pn**	**21 35 06.3**	**-0.5**
KII				*i* S	**Sn**	**21 35 35.7**	**+1.5**
NLC	**Nalytchevo**	**3.05**	**214**	PN	**Pn**	**21 35 15.8**	**-1.0**
NLC				S	**Sn**	**21 35 52.3**	**+0.2**
NLC	**Nalytchevo**	**3.05**	**214**	*e*P	**Pn**	**21 35 15.8**	**-1.0**
NLC				*i* S	**Sn**	**21 35 52.3**	**+0.2**
SDLR	**Sedlovina**	**3.12**	**220**	*e*P	**Pn**	**21 35 17.2**	**-0.7**
KRX	**Arik**	**3.14**	**223**	*e*P	**Pn**	**21 35 18.3**	**+0.1**
KRER	**Koryakskii**	**3.15**	**221**	P	**Pn**	**21 35 18.3**	**-0.1**
SMAR	**Somma**	**3.16**	**220**	*e*P	**Pn**	**21 35 18.1**	**-0.4**
AVH	**Avacha**	**3.18**	**221**	P	**Pn**	**21 35 19.0**	**+0.3**
UGLR	**Uglovaya**	**3.20**	**219**	P	**Pn**	**21 35 18.8**	**-0.1**
GNL	**Ganaly**	**3.20**	**232**	P	**Pn**	**21 35 19.6**	**+0.7**
KOK	**Koryaka**	**3.20**	**222**	*e*P	**Pn**	**21 35 18.8**	**-0.2**
PET	**Petropavlovsk**	**3.41**	**219**	*d i* PN	**Pn**	**21 35 21.4**	**-0.2**
PET				*e*S	**Sn**	**21 36 03.8**	**+2.9**
PET				pmax	pmax		
	comp=Z,601nm,0.5s						
PET				smax	smax		
	comp=E,3μm,1.0s						
PET				MLR	MLR		
	comp=Z,6μm,9.0s						
PET	**Petropavlovsk**	**3.41**	**219**	*e*P	**Pn**	**21 35 21.5**	**-0.2**
PET				*i* S	**Sn**	**21 36 02.5**	**+1.6**
OSSR	**Ossora**	**3.57**	**7**	*e*P	**Pn**	**21 35 24.3**	**+0.4**
OSSR				*i* S	**Sn**	**21 36 06.4**	**+1.5**
PALN	**Palana**	**3.59**	**341**	*e*P	**Pn**	**21 35 27.0**	**+2.9**
PEA0B	**Petropavlovsk

comp=Z,307nm,18.5s,baz=192,slow=38
IM04 Indian Mountai 23.24 46 *e*P **P 21 39 33.9 -1.0**
IMA2 Indian Mountai 23.29 46 *e*P **P 21 39 34.4 -1.2**
MDJ Mudanjiang 23.43 255 P **P 21 39 36.8 -0.1**
MDJ pmax pmax
comp=Z,6.0nm,0.9s
MDJ pmax pmax
comp=Z,78nm,4.3s
RSO Redoubt South 23.90 60 *e*P **P 21 39 42.8 +1.3**
PPLA Purkeypile 23.90 54 *e*P **P 21 39 41.9 +0.4**
comp=Z,249nm,1.8s
CAST Castle Rocks 23.92 53 *e*P **P 21 39 41.1 -0.4**
comp=Z,105nm,1.7s
SPU Mount Spurr 24.13 58 *e*P **P 21 39 43.2 -0.3**
BPAW Bear Paw Mtn. 24.38 51 *e*P **P 21 39 45.2 -0.6**
comp=Z,31nm,1.1s
KDAK Kodiak Island 24.53 66 P **P 21 39 45.0 -2.1**
KDAK Kodiak Island 24.53 66 P **P 21 39 45.0 -2.1**
comp=Z,9.1nm,0.6s,baz=295,slow=6.3,SNR=10
KDAK LR LR 21 49 58.5
comp=Z,717nm,18.1s,baz=116,slow=38
TRF Thorofare Moun 24.73 52 *e*P **P 21 39 48.9 -0.2**
comp=Z,48nm,1.0s
COLD Coldfoot 24.77 43 *e*P **P 21 39 48.5 -0.7**
comp=Z,51nm,0.8s
MAJO Matsushiro 25.16 230 *e*P **P 21 39 53.3 +0.3**
MAJO pmax pmax
comp=Z,41nm,0.6s
MAJO Matsushiro 25.16 230 *e*P **P 21 39 53.3 +0.3**
comp=Z,41nm,0.6s
MAT Matsushiro 25.16 230 P **P 21 39 53.5 +0.5**
MAT S **S 21 44 13.4 -2.4**
MCK McKinley 25.31 52 *e*P **P 21 39 53.2 -0.9**
MCK pmax pmax
comp=Z,50nm,1.4s
MCK McKinley 25.31 52 *e*P **P 21 39 53.2 -0.9**
comp=Z,50nm,1.4s
COLA College 25.70 49 *e*P **P 21 39 56.2 -1.4**
COLA pmax pmax
comp=Z,57nm,0.7s
COLA College 25.70 49 *e*P **P 21 39 56.2 -1.4**
comp=Z,57nm,0.7s
SML Sawmill 25.81 56 *e*P P 21 40 08.3 +10
SML pmax pmax
comp=Z,10.0nm,0.9s
SML Sawmill 25.81 56 *e*P P 21 40 08.3 +10
comp=Z,10nm,0.9s
ILAR Eielson Array 26.12 49 P **P 21 39 59.6 -1.9**
ILAR Eielson Array 26.12 49 P **P 21 39 59.6 -1.9**
comp=Z,13nm,0.9s,baz=263,slow=7.8,SNR=54
ILAR LR LR 21 51 18.1
comp=Z,423nm,18.0s,baz=110,slow=39
CN2 Changchun 26.24 259 *e*P **P 21 40 03.5 +0.8**
CN2 *es*P **sP 21 40 17.0 +1.0**
CN2 *e*S **S 21 44 29.8 -2.8**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,600nm,12.0s
CN2 LR LR
comp=E,300nm,12.0s
CN2 LR LR
comp=Z,700nm,13.0s
PAX Paxson 26.95 53 *e*P **P 21 40 08.4 -0.6**
PAX pmax pmax
comp=Z,14nm,1.0s
PAX Paxson 26.95 53 *e*P **P 21 40 08.4 -0.6**
comp=Z,14nm,1.0s
DIV Divide 27.14 57 *e*P **P 21 40 10.3 -0.5**
comp=Z,31nm,1.0s
BMRM Bremner River 27.73 57 *e*P **P 21 40 15.7 -0.3**
comp=Z,42nm,1.0s
EGAK Eagle 28.56 48 *e*P **P 21 40 21.8 -1.5**
comp=Z,81nm,1.7s
KSRS Korea Array 29.38 246 P **P 21 40 30.4 -0.3**
comp=Z,3.1nm,0.8s,baz=40,slow=8.9,SNR=11
KSRS PcP **PcP 21 43 36.3 +0.1**
comp=Z,1.5nm,0.8s,baz=351,slow=3.0,SNR=4.4
KSAR Wonju Array Be 29.41 246 P **P 21 40 30.4 -0.6**
KSAR PcP **PcP 21 43 36.3 0.0**
DAWY Dawson 29.44 50 *e*P **P 21 40 30.2 -0.9**
INK Inuvik 31.05 40 *e*P **P 21 40 44.6 -0.6**
comp=Z,23nm,1.0s
INK Inuvik 31.05 40 P **P 21 40 44.9 -0.4**
comp=Z,14nm,0.9s,baz=291,slow=8.9,SNR=8.7
INK LR LR 21 54 01.0
comp=Z,158nm,18.1s,baz=88,slow=38
HYT Haines Junctio 31.11 55 *e*P **P 21 40 46.6 +0.5**
JNU Nakatsue 31.35 237 P **P 21 40 47.6 -0.6**
JNU Nakatsue 31.35 237 P **P 21 40 47.6 -0.6**
comp=Z,6.5nm,0.8s,baz=244,slow=0.7,SNR=4.1
JNU LR LR 21 54 05.2
comp=Z,211nm,18.8s,baz=45,slow=38
BJI Beijing 33.91 262 P **P 21 41 10.0 -0.5**
BJI PP **PP 21 42 26.5 -0.9**
BJI S S 21 46 24.0 -8.7
BJI pmax pmax
comp=Z,4.0nm,0.9s
BJI LR LR
comp=N,1μm,17.8s
BJI LR LR
comp=E,730nm,15.8s
BJI LR LR
comp=Z,370nm,20.0s
SONM Songino Array 34.56 281 P **P 21 41 15.9 -0.3**
SONM PcP **PcP 21 43 49.5 -0.8**
SONM ScP **ScP 21 47 36.9 +4.1**
SONM Songino Array 34.56 281 P **P 21 41 15.9 -0.3**
comp=Z,1.7nm,0.6s,baz=51,slow=8.5,SNR=16
SONM PcP **PcP 21 43 49.5 -0.8**
comp=Z,1.7nm,0.7s,baz=94,slow=1.2,SNR=6.6
SONM ScP **ScP 21 47 36.9 +4.1**
comp=Z,2.4nm,1.1s,baz=102,slow=2.9,SNR=5.9
ZAK Zakamensk 34.87 286 *e*P **P 21 41 17.2 -1.7**
ZAK pmax pmax
comp=Z,3.0nm,1.1s
DLBC Dease Lake 35.53 57 *e*P **P 21 41 25.6 +1.2**
HHC Hu-ho-hao-te 35.96 267 *e*P **P 21 41 29.3 +0.9**
HHC pP **pP 21 41 39.5 +1.6**
HHC sP **sP 21 41 43.5 +1.7**
HHC PP **PP 21 42 50.5 +0.3**
HHC S **S 21 47 03.5 -1.0**
HHC sS **sS 21 47 20.0 -0.2**
HHC SS **SnSn 21 49 26.0 -3.6**
HHC ScS **ScS 21 51 43.0 -0.4**
HHC pmax pmax
comp=Z,20nm,0.7s
HHC pmax pmax
comp=Z,220nm,5.1s
HHC LR LR
comp=N,1μm,13.1s
HHC LR LR
comp=E,960nm,15.5s
HHC LR LR
comp=Z,970nm,15.5s
WAKE Wake Island 36.53 173 *e*P P 21 41 36.8 +3.5
comp=Z,175nm,1.1s
NJ2 Nanjing 38.29 250 *e*P **P 21 41 49.5 +1.4**
NJ2 pmax pmax
comp=Z,170nm,1.4s
HVS Khovu-Aksy 39.56 293 *d i*P **P 21 41 58.7 +0.1**
HVS pmax pmax
comp=Z,62nm,1.5s
YKA Yellowknife Ar 40.41 45 P **P 21 42 04.9 -0.5**
YKA Yellowknife Ar 40.41 45 P **P 21 42 04.9 -0.5**
comp=Z,1.6nm,0.4s,baz=299,slow=8.1,SNR=7.7
ZALV Zalesovo Beam 42.43 301 P **P 21 42 21.4 -0.7**
ZALV 21 44 11.7
ZALV Zalesovo Beam 42.43 301 P **P 21 42 21.4 -0.7**
ZALV PcP **PcP 21 44 11.7 -2.8**
ZALV Zalesovo Beam 42.43 301 P **P 21 42 21.4 -0.7**
comp=Z,0.9nm,0.5s,baz=54,slow=6.2,SNR=4.3
ZALV PcP **PcP 21 44 11.7 -2.8**
comp=Z,2.2nm,0.8s,baz=34,slow=5.6,SNR=4.8
NVS Novosibirsk 42.67 303 *e*P **P 21 42 22.1 -1.9**
NVS pmax pmax
comp=E,10.0nm,1.4s
NVS pmax pmax
comp=Z,13nm,1.4s
NVS pmax pmax
comp=N,3.0nm,0.7s
GTA Gaotai 43.57 275 P **P 21 42 33.0 +1.4**
GTA pP **pP 21 42 40.8 -0.5**
GTA sP **sP 21 42 44.8 -0.4**
GTA PcP **PcP 21 44 23.0 +4.2**
GTA ScP **ScP 21 48 11.5 +4.0**
GTA S **S 21 48 56.5 -2.0**
GTA ScS **ScS 21 52 30.5 +2.1**
GTA pmax pmax
comp=Z,11nm,0.9s
GTA pmax pmax
comp=Z,61nm,6.2s
GTA LR LR
comp=N,1μm,17.6s
GTA LR LR
comp=E,990nm,16.2s
GTA LR LR
comp=Z,570nm,15.2s
LZH Lanzhou 43.62 268 *e*P **P 21 42 33.3 +1.2**
LZH pP **pP 21 42 44.0 +2.2**
LZH sP **sP 21 42 48.0 +2.3**
LZH PP **PcP 21 44 17.5 -1.6**
LZH *e*S S 21 49 06.0 +6.6
LZH SS SS 21 52 04.5 -10
LZH pmax pmax
comp=Z,34nm,1.0s
LZH pmax pmax
comp=Z,270nm,4.5s
LZH LR LR
comp=N,570nm,15.4s
LZH LR LR
comp=E,390nm,12.6s
LZH LR LR
comp=Z,950nm,16.1s
A05A Maple Falls 44.57 65 *e*P P 21 42 47.9 +8.5
comp=Z,28nm,1.3s
SPITS Spitsbergen Ar 44.74 351 LR LR 22 02 13.2
comp=Z,304nm,18.1s,baz=45,slow=37
ENH Enshi 44.76 258 *e*P **P 21 42 39.9 -1.2**
comp=Z,3.9nm,0.5s
D05A Enumclaw 45.77 67 *e*P P 21 42 52.5 +3.6
EDM Edmonton 46.23 56 *e*P **P 21 42 52.6 0.0**
EDM Edmonton 46.23 56 *e*P **P 21 42 52.6 0.0**
B08A Colville Reser 46.38 65 *e*P **P 21 42 54.4 +0.6**
comp=Z,23nm,1.0s
LTY Liberty 46.41 66 *e*P **P 21 42 54.3 +0.3**
comp=Z,20nm,1.3s
WMQ Urumqi 47.29 288 P **P 21 43 01.5 +0.5**
WMQ pP **pP 21 43 11.5 +0.8**
WMQ sP **sP 21 43 15.5 +0.9**
WMQ pmax pmax
comp=Z,43nm,1.0s
WMQ pmax pmax
comp=Z,130nm,4.3s
WMQ LR LR
comp=N,3μm,20.0s
WMQ LR LR
comp=E,2μm,18.0s
WMQ LR LR
comp=Z,480nm,18.8s
KURK Kurchatov 47.41 301 P **P 21 43 00.6 -1.2**
comp=Z,93nm,0.4s,SNR=30
KURK Kurchatov 47.41 301 *ce*P **P 21 43 00.4 -1.3**
KURK pmax pmax
comp=Z,10.0nm,0.8s
KURK Kurchatov 47.41 301 *e*P **P 21 43 00.6 -1.2**
comp=Z,7.7nm,0.7s
CD2 Chengdu 47.47 264 P **P 21 43 02.8 +0.3**
CD2 pP **pP 21 43 13.0 +0.8**
CD2 sP **sP 21 43 17.3 +1.2**
CD2 PP **PP 21 44 53.3 -0.6**
CD2 S **S 21 49 52.5 -2.3**
CD2 sS **sS 21 50 09.8 -1.0**
CD2 SS SS 21 53 13.5 -8.9
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,190nm,3.6s
CD2 LR LR
comp=N,590nm,11.3s
CD2 LR LR
comp=Z,380nm,11.9s
KURBB Kurchatov Arra 47.52 301 P **P 21 43 01.3 -1.2**
comp=Z,7.9nm,0.4s,baz=56,slow=7.9,SNR=106
NEW Newport 47.57 63 *e*P **P 21 43 03.5 +0.4**
NEW Newport 47.57 63 P **P 21 43 02.7 -0.3**
comp=Z,10nm,1.1s,baz=309,slow=14,SNR=4.8
NEW Newport 47.57 63 P **P 21 43 02.8 -0.3**
baz=47
MK31 Makanchi Array 48.15 295 *e*P **P 21 43 06.1 -1.4**
MK31 Makanchi Array 48.15 295 *e*P **P 21 43 06.1 -1.4**
MKAR Makanchi Array 48.15 295 *e*P **P 21 43 06.3 -1.3**
MKAR Makanchi Array 48.15 295 *e*P **P 21 43 06.2 -1.3**
MKAR Makanchi Array 48.15 295 P **P 21 43 06.1 -1.4**
comp=Z,7.2nm,0.7s,baz=53,slow=6.2,SNR=60
E09A Wood Farm, Sta 48.20 66 *e*P **P 21 43 08.3 +0.4**
comp=Z,22nm,1.0s
G08A Pilot Rock 48.60 67 *e*P P 21 43 15.2 +4.0
comp=Z,20nm,1.8s
WALA Waterton Lakes 48.65 61 *e*P **P 21 43 10.9 -0.6**
comp=Z,1.2nm,1.2s
BSMT Bassoo Peak 49.02 62 *e*P **P 21 43 14.8 +0.4**
YBH Yreka Blue Hor 49.02 73 *e*P **P 21 43 14.6 +0.2**
comp=Z,3.8nm,0.8s
YBH Yreka Blue Hor 49.02 73 P **P 21 43 15.6 +1.2**
comp=Z,4.0nm,0.8s,baz=283,slow=3.1,SNR=6.7
F10A Beach Ranch, E 49.04 66 *e*P **P 21 43 14.9 +0.4**
comp=Z,12nm,1.0s
BLMT Blacktail Moun 49.12 62 *e*P P 21 43 22.7 +7.4
GYA Guiyang 49.27 257 P **P 21 43 18.3 +1.8**
GYA pP **pP 21 43 27.8 +1.5**
GYA PcP **PcP 21 44 40.3 +1.3**
GYA PP **PP 21 45 12.0 +1.6**
GYA ScP **ScP 21 48 32.0 +0.5**
GYA S **S 21 50 17.5 -3.0**
GYA sS **sS 21 50 36.0 -0.6**
GYA SS **SS 21 53 46.0 -5.9**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,5.2s
GYA LR LR
comp=N,570nm,17.8s
GYA LR LR
comp=E,520nm,18.0s
GYA LR LR
comp=Z,590nm,17.6s
JTMT Jette 49.34 62 *e*P P 21 43 22.2 +5.4
SWMT Swartz Lake 49.64 62 *e*P **P 21 43 19.8 +0.7**
VOSK Vostochnaya 49.67 307 *e*P **P 21 43 17.7 -1.4**
VOSK pmax pmax
comp=Z,6.0nm,0.6s
VOSK Vostochnaya 49.67 307 *e*P **P 21 43 17.7 -1.4**
comp=Z,5.6nm,0.6s
BRVK Borovoye 49.76 308 *ce*P **P 21 43 18.0 -1.8**
BRVK pmax pmax
comp=Z,6.0nm,0.7s
BRVK Borovoye 49.76 308 *e*P **P 21 43 18.3 -1.5**
comp=Z,7.2nm,0.6s
SLMT Seeley Lake 50.08 62 *e*P **P 21 43 23.1 +0.6**
MSO Missoula 50.13 63 *e*P P 21 43 27.4 +4.6
comp=Z,20nm,1.3s
MSO Missoula 50.13 63 P **P 21 43 22.3 -0.5**
baz=50
J08A Circle Bar Ran 50.17 69 *e*P **P 21 43 25.6 +2.5**
comp=Z,77nm,2.7s
MOD Modoc 50.20 72 *e*P **P 21 43 23.6 +0.2**
comp=Z,47nm,0.9s
CHMT Chamberlain Mo 50.42 62 *e*P P 21 43 28.7 +3.6
KEV Kevo 50.71 342 *e*P P 21 43 22.3 -4.4
KEV pmax pmax
comp=Z,10.0nm,0.9s
KEV Kevo 50.71 342 *e*p P 21 43 22.3 -4.4
comp=Z,9.9nm,0.9s
WVOR Wild Horse Val 50.72 70 *e*P **P 21 43 27.6 +0.2**
WVOR pmax pmax
comp=Z,11nm,1.3s
WVOR Wild Horse Val 50.72 70 *e*P **P 21 43 27.6 +0.2**
comp=Z,11nm,1.3s
ARCES ARCESS Array B 51.17 342 P **P 21 43 29.5 -0.7**
ARCES ARCESS Array B 51.17 342 P **P 21 43 29.5 -0.7**
comp=Z,3.1nm,0.5s,baz=31,slow=7.7,SNR=13
SUMG Summit 51.19 8 *e*P **P 21 43 30.6 -0.2**
SUMG pmax pmax
comp=Z,17nm,1.0s
SUMG Summit 51.19 8 *i*P **P 21 43 30.2 -0.6**
comp=Z,12nm,0.8s
SUMG Summit 51.19 8 *e*P **P 21 43 30.6 -0.2**
comp=Z,17nm,1.0s
SVE Sverdlovsk 51.21 316 *e*P **P 21 43 30.4 -0.3**
SVE pmax pmax
comp=Z,12nm,1.3s
SVE MLR MLR
comp=Z,623nm,16.0s
HRY Holter Researc 51.27 62 *e*P **P 21 43 30.8 -0.6**
comp=Z,6.5nm,0.3s
APA Apatity 51.29 337 *ij i*P **P 21 43 33.6 +2.5**
APA MLR MLR
comp=Z,700nm,10.0s
LRM Limekiln Ridge 51.58 63 *e*P **P 21 43 34.4 +0.6**
A20A Cobblestone Ra 51.67 57 P **P 21 43 33.7 -0.6**
baz=51
DLMT Dillon 51.82 63 *e*P **P 21 43 37.0 +1.4**
comp=Z,15nm,1.2s
A21A Bergtoll Ranch 52.07 57 P **P 21 43 36.5 -0.8**
baz=52
HLID Hailey 52.15 66 *e*P **P 21 43 40.2 +2.1**
comp=Z,8.7nm,1.4s
ARU Arti 52.30 317 *d i*P **P 21 43 39.1 +0.3**
ARU 21 45 36.5
ARU S **S 21 51 04.9 +3.4**
ARU SS **SS 21 54 34.2 -4.3**
ARU pmax pmax
comp=Z,18nm,1.7s
ARU MLR MLR
comp=Z,522nm,18.0s
D19A Cripps Ranch, 52.41 59 P **P 21 43 39.7 -0.2**
baz=52
KMI Kunming 52.50 260 P **P 21 43 43.3 +2.4**
KMI S **S 21 51 06.3 +1.0**
KMI pmax pmax
comp=Z,5.0nm,0.8s
KMI LR LR
comp=N,740nm,19.8s
KMI LR LR
comp=E,580nm,19.2s
KMI LR LR
comp=Z,390nm,13.0s
QLMT Earthquake Lak 52.78 63 *e*P **P 21 43 43.9 +1.1**
TMCR Tamitsa 52.99 333 *e*P **P 21 43 43.0 -0.7**
TMCR *e* 21 44 50.3
TMCR pmax pmax
comp=Z,55nm,0.8s
WAKR Walker 53.08 74 *e*P **P 21 43 45.4 +0.4**
comp=Z,6.1nm,0.9s
F19A Roth Farm, Mol 53.30 61 P **P 21 43 45.8 -0.7**
baz=53
JMIC Jan Mayen 53.42 356 LR LR 22 03 28.6
comp=Z,178nm,21.4s,baz=64,slow=33
QIZ Qiongzhong 53.55 249 P **P 21 43 50.0 +1.6**
QIZ S **S 21 51 21.0 +1.7**
QIZ pmax pmax
comp=Z,42nm,2.0s
IMW Indian Meadow 53.69 64 *e*P P 21 43 52.8 +3.1
comp=Z,9.4nm,0.8s
F20A Billings 53.73 60 P **P 21 43 49.2 -0.4**
baz=54
NVAR Mina Array Bea 53.74 73 P **P 21 43 50.4 +0.5**
NVAR Mina Array Bea 53.74 73 P **P 21 43 50.4 +0.5**
comp=Z,2.5nm,0.7s,baz=306,slow=7.2,SNR=13
MOOW Moose Ponds 53.90 64 *e*P P 21 43 56.6 +5.6
comp=Z,11nm,1.3s
TPAW Teton Pass 53.98 64 *e*P **P 21 43 53.3 +1.7**
comp=Z,7.6nm,0.8s
LOHW Long Hollow 54.07 64 *e*P **P 21 43 53.9 +1.7**
comp=Z,11nm,1.2s
G20A Bridger 54.11 61 P **P 21 43 51.9 -0.6**
baz=54
REDW Red Top Meadow 54.12 64 *e*P **P 21 43 53.2 +0.5**
TKM2 Tokmak 2 54.26 295 *e*P **P 21 43 53.1 -0.5**
TKM2 pmax pmax
comp=Z,8.0nm,1.0s
TKM2 Tokmak 2 54.26 295 P **P 21 43 53.1 -0.5**
SNR=7.0
TKM2 Tokmak 2 54.26 295 *e*P **P 21 43 53.1 -0.5**
comp=Z,7.6nm,1.0s
E22A Miles City 54.34 58 P **P 21 43 53.6 -0.4**
baz=54
USP Ospenovka 54.57 296 *i*P **P 21 43 55.4 -0.3**
USP Ospenovka 54.57 296 P **P 21 43 55.4 -0.3**
SNR=20
CHMS Chumysh 54.63 296 *i*P **P 21 43 55.8 -0.4**
CHMS Chumysh 54.63 296 P **P 21 43 55.8 -0.4**
SNR=5.3
KBK Karagaybulak 54.78 296 *i*P **P 21 43 57.8 +0.4**
KBK Karagaybulak 54.78 296 P **P 21 43 57.8 +0.4**
SNR=11
AAK Ala-Archa 55.03 296 P **P 21 43 58.1 -1.1**
comp=Z,113nm,1.1s,SNR=7.7
AAK Ala-Archa 55.03 296 P **P 21 43 58.7 -0.5**
AAK pmax pmax
comp=Z,12nm,0.8s
AAK Ala-Archa 55.03 296 P **P 21 43 58.8 -0.5**
SNR=14
AAK Ala-Archa 55.03 296 *e*P **P 21 43 58.4 -0.8**
comp=Z,19nm,1.0s
AAK Ala-Archa 55.03 296 P **P 21 43 58.7 -0.5**
comp=Z,12nm,0.8s,baz=98,slow=3.9,SNR=32
PDAR Pinedale Array 55.21 64 P **P 21 44 00.1 -0.5**
PDAR Pinedale Array 55.21 64 P **P 21 44 00.1 -0.5**
comp=Z,2.5nm,0.8s,baz=314,slow=2.8,SNR=11
R11A Troy Canyon, C 55.27 71 *e*P **P 21 44 01.9 +1.0**
R11A Troy Canyon, C 55.27 71 P **P 21 44 01.2 +0.2**
baz=55
KLMR Klimovskoe 55.29 330 *e*P **P 21 43 59.5 -1.0**
KLMR pmax pmax
comp=Z,50nm,0.8s
KLMR MLR MLR
comp=Z,495nm,17.0s
EKS2 Erkin-Say 55.37 296 *e*P **P 21 44 01.2 -0.4**
EKS2 pmax pmax
comp=Z,18nm,0.8s
EKS2 Erkin-Say 55.37 296 P **P 21 44 01.3 -0.4**
SNR=24
EKS2 Erkin-Say 55.37 296 *e*P **P 21 44 01.2 -0.4**
comp=Z,18nm,0.8s
DUG Dugway 55.39 68 *e*P P 21 44 07.5 +5.7
DUG pmax pmax
comp=Z,17nm,1.3s
DUG Dugway 55.39 68 *e*P P 21 44 07.5 +5.7
comp=Z,17nm,1.3s
LSA Lhasa 55.51 273 P **P 21 44 05.8 +2.7**
LSA Lhasa 55.51 273 *e*P **P 21 44 02.2 -0.9**
LSA *e* 21 45 02.3
LSA pmax pmax
comp=Z,6.0nm,0.6s
LSA Lhasa 55.51 273 *e*P **P 21 44 02.2 -0.9**
comp=Z,5.7nm,0.6s
LSA *e*PcP **PcP 21 45 02.3 -0.6**
JOF Joensuu 55.70 335 *e*P **P 21 44 03.1 -0.3**
JOF pmax pmax
comp=Z,21nm,0.4s
JOF Joensuu 55.70 335 *ep* **P 21 44 03.1 -0.3**
comp=Z,21nm,0.4s
AML Almayashu 55.80 296 *i*P **P 21 44 05.3 +0.3**
AML Almayashu 55.80 296 P **P 21 44 05.3 +0.3**
SNR=6.0
MPMC Manual Prospec 55.92 75 P **P 21 44 05.5 -0.2**
baz=56
I22A 9 Mile Ranch, 55.93 61 P **P 21 44 05.3 -0.3**
baz=56
E26A Carlson Angus 55.98 56 P **P 21 44 05.4 -0.3**
baz=56
MPU Maple Canyon 56.14 67 *e*P P 21 44 13.3 +6.1
comp=Z,16nm,1.1s
ULM Lac du Bonnet 56.14 49 P **P 21 44 07.7 +0.9**
ULM Lac du Bonnet 56.14 49 P **P 21 44 07.7 +0.9**
comp=Z,5.3nm,0.5s,baz=328,slow=6.3,SNR=3.2
KSH Kashi 56.54 292 P P 21 44 14.0 +4.0
KSH sP sP 21 44 27.8 +4.0
KSH PP PP 21 46 21.5 +5.9
KSH PcS **PcS 21 49 09.3 +2.2**
KSH S **S 21 52 01.8 +2.6**
KSH ScS **ScS 21 53 57.0 +0.4**
KSH pmax pmax
comp=Z,8.0nm,0.9s
KSH pmax pmax
comp=Z,150nm,4.1s
KSH LR LR
comp=N,400nm,14.0s
KSH LR LR
comp=E,1μm,16.1s
KSH LR LR
comp=Z,410nm,13.0s
KKAR Karatay Array 56.69 299 *e*P **P 21 44 09.8 -1.1**
KKAR Karatay Array 56.69 299 *e*P **P 21 44 09.8 -1.1**

GSC	Goldstone	56.85	75	eP	P		21 44 16.3	+4.1
GSC				pmax	pmax			
comp=Z,11nm,1.0s								
GSC	Goldstone	56.85	75	eP	P		21 44 16.3	+4.1
comp=Z,11nm,1.0s								
GSC	Goldstone	56.85	75	P	P		21 44 12.0	-0.2
baz=57								
RSSD	Black Hills	56.96	59	eP	P		21 44 18.0	+5.0
RSSD				pmax	pmax			
comp=Z,215nm,2.1s								
RSSD	Black Hills	56.96	59	eP	P		21 44 18.0	+5.0
comp=Z,215nm,2.1s								
AKTO	Aktyubinsk	56.96	312	P	P		21 44 12.0	-0.7
AKTO	Aktyubinsk	56.96	312	P	P		21 44 11.9	-0.7
AKTO	Aktyubinsk	56.96	312	P	P		21 44 11.9	-0.7
baz=70,slow=5.9								
AKTO				LR	LR		22 11 56.0	
comp=Z,125nm,21.1s,baz=212,slow=40								
ABKAR	Akbulak array	57.03	310	eP	P		21 44 11.9	-1.3
CCUT	Cedar City	57.04	71	eP	P		21 44 15.0	+1.2
comp=Z,6.2nm,1.0s								
SRU	San Rafael	57.39	67	eP	P		21 44 20.8	+4.7
SRU				pmax	pmax			
comp=Z,17nm,0.9s								
SRU	San Rafael	57.39	67	eP	P		21 44 20.8	+4.7
comp=Z,17nm,0.9s								
KAF	Kangasniemi	57.54	337	eP	P		21 44 16.2	-0.3
KAF				pmax	pmax			
comp=Z,9.0nm,0.3s								
KAF	Kangasniemi	57.54	337	ep	P		21 44 16.2	-0.3
comp=Z,9.4nm,0.3s								
J25A	Sunshine Ranch	57.61	59	P	P		21 44 17.3	-0.2
baz=57								
AGMN	Agassiz Nation	57.61	51	eP	P		21 44 16.4	-0.8
comp=Z,11nm,0.7s								
GMRC	Granite Mounta	57.87	74	P	P		21 44 19.6	+0.2
baz=58								
FIA1	FINESS Array S	58.19	337	eP	P		21 44 20.4	-0.6
FINES	FINESS Array B	58.19	337	P	P		21 44 20.8	-0.3
FINES	FINESS Array B	58.19	337	P	P		21 44 20.8	-0.3
comp=Z,23nm,0.4s,baz=37,slow=7.8,SNR=233								
FINES				LR	LR		22 10 57.3	
comp=Z,205nm,20.0s,baz=29,slow=38								
P20A	De Beque	58.20	66	P	P		21 44 22.4	+0.6
baz=58								
N22A	Wattenberg Ran	58.22	63	P	P		21 44 22.3	+0.3
baz=58								
I28A	Midland	58.42	57	P	P		21 44 22.9	-0.2
baz=58								
U15A	North Rim	58.45	71	P	P		21 44 24.4	+0.7
baz=58								
G30A	Faulkton	58.53	55	P	P		21 44 23.5	-0.2
baz=58								
IRM	Iron Mountain	58.61	74	P	P		21 44 24.5	0.0
baz=58								
O22A	Kremmling	58.65	64	P	P		21 44 24.6	-0.4
baz=58								
J28A	Allard Ranch,	58.83	58	P	P		21 44 25.0	-0.9
baz=59								
M25A	Palm-Egli Farm	58.95	61	P	P		21 44 27.0	+0.1
baz=59								
PV15	Paradox Valley	59.02	67	eP	P		21 44 35.1	+7.5
SMCO	Snowmass	59.17	65	eP	P		21 44 36.9	+8.0
comp=Z,8.3nm,0.8s								
TAPN	Taplejung	59.24	274	eP	P		21 44 29.1	-0.2
comp=Z,24nm,0.7s								
ISCO	Idaho Springs	59.40	63	eP	P		21 44 31.3	+1.1
ISCO				pmax	pmax			
comp=Z,8.0nm,0.8s								
ISCO	Idaho Springs	59.40	63	eP	P		21 44 31.3	+1.1
comp=Z,8.5nm,0.8s								
ISCO	Idaho Springs	59.40	63	P	P		21 44 30.4	+0.2
baz=59								
GLA	Glamis	59.62	75	eP	P		21 44 32.8	+1.3
GLA				pmax	pmax			
comp=Z,18nm,1.2s								
GLA	Glamis	59.62	75	eP	P		21 44 32.8	+1.3
comp=Z,18nm,1.2s								
CHTO	Chiang Mai	59.64	259	eP	P		21 44 31.3	-0.4
CHTO				pmax	pmax			
comp=Z,35nm,1.1s								
CHTO	Chiang Mai	59.64	259	eP	P		21 44 31.3	-0.4
comp=Z,35nm,1.1s								
EYMN	Ely	59.76	48	eP	P		21 44 31.9	-0.4
comp=Z,16nm,0.8s								
ODAN	Odare	59.80	274	eP	P		21 44 33.3	+0.2
comp=Z,16nm,0.6s								
GUN	Gumba	59.84	276	eP	P		21 44 33.5	0.0
comp=Z,27nm,0.4s								
JIRN	Jiri	59.86	276	eP	P		21 44 33.9	+0.3
comp=Z,9.5nm,0.4s								
CMAR	Chiang Mai Arr	59.92	258	P	P		21 44 33.3	-0.4
CMAR	Chiang Mai Arr	59.92	258	P	P		21 44 33.3	-0.4
comp=Z,1.2nm,0.8s,baz=193,slow=8.5,SNR=7.6								
Y14A	Wickenburg	59.94	73	P	P		21 44 34.3	+0.6
baz=60								
MOS	Moscow	60.10	328	eP	P		21 44 35.1	+0.7
RAMN	Ramite	60.18	275	eP	P		21 44 35.2	-0.5
comp=Z,27nm,0.5s								
KKN	Kakani	60.27	276	eP	P		21 44 35.8	-0.5
comp=Z,21nm,0.8s								
S22A	4UR Ranch, Cre	60.33	66	P	P		21 44 36.2	-0.5
baz=60								
GKN	Gorkha	60.47	277	eP	P		21 44 37.0	-0.6
comp=Z,11nm,0.5s								
DMN	Daman	60.51	276	eP	P		21 44 37.7	-0.3
comp=Z,7.8nm,0.5s								
DANN	Dangsing	60.70	278	eP	P		21 44 39.0	-0.3
comp=Z,27nm,0.7s								
ECSD	EROS Data Cent	60.76	55	eP	P		21 44 44.0	+4.8
comp=Z,6.7nm,0.7s								
OBN	Obninsk	60.95	328	⇓iP	P		21 44 39.8	-0.4
OBN				e*PP	pP		21 44 47.7	-2.5
OBN				pmax	pmax			
comp=Z,54nm,2.5s								
OBN				MLR	MLR			
comp=Z,300nm,19.0s								
KOLN	Koldanda	61.23	278	eP	P		21 44 42.6	-0.2
comp=Z,14nm,0.5s								
SPMN	St. Paul	61.32	51	eP	P		21 44 47.9	+5.0
NB2	NORSAR Subarra	61.35	344	P	P		21 44 42.1	-0.8
comp=Z,15nm,1.0s,baz=20,slow=6.9								
NOA	NORSAR Array B	61.35	344	P	P		21 44 42.5	-0.4
NOA	NORSAR Array B	61.35	344	P	P		21 44 42.5	-0.4
comp=Z,7.9nm,0.8s,baz=19,slow=6.8,SNR=18								
COWI	Conover	62.21	48	eP	P		21 44 48.2	-0.7
X21A	Alamocita Cree	62.35	69	P	P		21 44 49.9	-0.4
baz=62								
T26A	Comanche Natio	62.42	64	P	P		21 44 50.1	-0.6
baz=62								
ANMO	Albuquerque	62.66	68	eP	P		21 44 52.8	+0.5
comp=Z,6.2nm,1.0s								
VRHR	Novokhopersk	62.71	322	eP	P		21 44 50.4	-1.7
VRHR				pmax	pmax			
comp=Z,30nm,0.6s								
VRHR				pmax	pmax			
comp=N,10.0nm,0.5s								
VRHR				pmax	pmax			
comp=E,10.0nm,1.3s								
SCHQ	Schefferville	62.75	29	P	P		21 44 52.2	-0.1
SCHQ	Schefferville	62.75	29	P	P		21 44 52.2	-0.1
comp=E,7.6nm,1.0s,baz=300,slow=8.1,SNR=3.9								
Z20A	Nine Sixteen R	62.94	70	P	P		21 44 54.2	0.0
baz=63								
Y22A	Socorro	63.17	69	P	P		21 44 55.5	-0.2
baz=63								
BNM	Barren Site	63.18	68	eP	P		21 44 54.6	-1.2
U27A	Thompson Grove	63.40	64	P	P		21 44 56.7	-0.4
baz=63								
ISAL	Salakas	63.44	334	eP	P		21 44 56.4	-0.4
ISAL				AMB	AMB		21 44 59.1	
comp=Z,14nm,1.7s								
VSR	Storozhevoye	63.45	324	eP	P		21 44 56.2	-0.8
VSR				pmax	pmax			
comp=Z,20nm,0.6s								
VSR				pmax	pmax			
comp=N,10.0nm,0.9s								
VSR				pmax	pmax			
comp=E,10.0nm,1.2s								
W25A	X Bar L Ranch,	63.49	66	P	P		21 44 57.8	+0.1
baz=63								
IIGN	Ignalina	63.61	334	eP	P		21 44 57.6	-0.4
IIGN				AMB	AMB		21 44 58.9	
comp=Z,14nm,0.6s								
VORD	Divnogorie	63.62	324	eP	P		21 44 56.0	-2.1
VORD				pmax	pmax			
comp=E,60nm,0.9s								
VORD				pmax	pmax			
comp=Z,10.0nm,0.9s								
VORD				pmax	pmax			
comp=N,60nm,0.7s								
Y23A	Lovelace Mesa,	63.65	68	P	P		21 44 59.1	+0.2
baz=64								
NACGM	Naroch	63.88	333	e	P		21 44 56.0	-3.8
220A	Playas Peak, P	63.91	71	P	P		21 45 00.8	+0.3
baz=64								
KBL	Kabul	63.92	293	eP	P		21 44 57.8	-2.8
KBL				pmax	pmax			
comp=Z,4.0nm,0.6s								
KBL	Kabul	63.92	293	eP	P		21 44 57.8	-2.8
comp=Z,4.5nm,0.6s								
Y24A	Capitan	63.98	68	P	P		21 45 01.3	+0.3
baz=64								
Y25A	Mesa, Roswell	64.37	67	P	P		21 45 03.5	-0.1
baz=64								
124A	Stringfield Ra	64.92	68	P	P		21 45 06.6	-0.7
baz=65								
Y27A	Causey	65.20	66	P	P		21 45 08.9	0.0
baz=65								
Z26A	Caprock	65.25	67	P	P		21 45 09.4	+0.1
baz=65								
MSTX	Muleshoe	65.33	66	eP	P		21 45 16.2	+6.4
comp=Z,18nm,1.0s								
125A	Gardner Draw,	65.38	68	P	P		21 45 10.0	0.0
baz=65								
224A	Cornudas Mount	65.38	69	P	P		21 45 10.5	+0.4
baz=65								
SUW	Suwalki	65.57	335	eP	P		21 45 10.5	-0.3
SUW				pmax	pmax			
comp=Z,30nm,0.9s								
SUW	Suwalki	65.57	335	eP	P		21 45 10.5	-0.3
comp=Z,30nm,0.9s								
SUW	Suwalki	65.57	335	eP	P		21 45 10.2	-0.6
Z27A	Tatum	65.61	66	P	P		21 45 11.2	-0.4
baz=65								
225A	Deer Hill, Car	65.72	68	P	P		21 45 13.0	+0.7
baz=66								
MNTX	Cornudas Mount	65.75	69	eP	P		21 45 12.1	-0.2
comp=Z,14nm,1.0s								
W31A	Holland Ranch,	65.82	63	P	P		21 45 12.4	-0.3
baz=66								
226B	Tecolote Peak,	66.09	68	P	P		21 45 14.3	-0.3
baz=66								
SBUM	Sibu	66.51	237	eP	P		21 45 19.2	+1.8
comp=Z,21nm,0.9s								
128A	Castleberry Fa	66.54	66	P	P		21 45 17.0	-0.5
baz=66								
425A	Indio Mountain	66.67	69	P	P		21 45 18.6	+0.2
baz=66								
WMOK	Wichita Mounta	66.75	62	eP	P		21 45 15.4	-3.4
WMOK				pmax	pmax			
comp=Z,19nm,1.0s								
WMOK	Wichita Mounta	66.75	62	eP	P		21 45 15.4	-3.4
comp=Z,19nm,1.0s								
AKASG	Malin Array Be	66.98	330	P	P		21 45 18.9	-1.0
AKASG	Malin Array Be	66.98	330	P	P		21 45 18.9	-1.0
AKASG	Malin Array Be	66.98	330	P	P		21 45 18.9	-1.0
comp=Z,9.6nm,0.3s,baz=28,slow=6.3,SNR=34								
KIEV	Kiev	66.99	330	eP	P		21 45 18.6	-1.3
KIEV				pmax	pmax			
comp=Z,21nm,0.9s								
KIEV	Kiev	66.99	330	eP	P		21 45 18.6	-1.3
comp=Z,21nm,0.9s								
426A	McDonald Obser	67.27	69	P	P		21 45 22.2	-0.1
baz=67								
GOF	Gofitskoye	67.28	318	eP	P		21 45 22.5	+0.6
GOF				pmax	pmax			
comp=Z,20nm,0.7s								
328A	Wristen Ranch,	67.35	67	P	P		21 45 22.6	0.0
baz=67								
427A	Hayter Ranch,	67.45	68	P	P		21 45 23.2	-0.2
baz=67								
329A	Wagon Wheel Ra	67.69	67	P	P		21 45 24.9	+0.1
baz=68								
526A	Mary Lane Ranc	67.72	69	P	P		21 45 25.2	+0.2
baz=68								
527A	Woodward Ranch	67.90	69	P	P		21 45 26.0	-0.2
baz=68								
428A	Kincaid Ranch,	67.93	68	P	P		21 45 26.3	0.0
baz=68								
626A	Big Bend Ranch	68.09	70	P	P		21 45 27.3	-0.1
baz=68								
KSM	Kuching	68.28	238	eP	P		21 45 29.1	+0.6
comp=Z,16nm,0.8s								
528A	Cox Ranch, San	68.32	68	P	P		21 45 28.9	+0.1
baz=68								
KIV	Kislovodsk	68.34	317	eP	P		21 45 28.1	-0.7
KIV				pmax	pmax			
comp=Z,9.0nm,1.1s								
429A	Davenport Ranc	68.42	67	P	P		21 45 29.2	-0.2
baz=68								
KBZ	Khabaz	68.46	317	P	P		21 45 28.6	-0.7
KBZ	Khabaz	68.46	317	P	P		21 45 28.6	-0.7
KBZ	Khabaz	68.46	317	P	P		21 45 28.6	-0.7
comp=Z,11nm,0.8s,baz=62,slow=3.9,SNR=22								
KBZ				LR	LR		22 19 00.8	
comp=Z,195nm,18.4s,baz=136,slow=39								
TXAR	Lajitas Array	68.51	69	P	P		21 45 30.1	+0.1
TXAR	Lajitas Array	68.51	69	P	P		21 45 30.1	+0.1
comp=Z,2.9nm,0.6s,baz=299,slow=5.2,SNR=18								
627A	Terlingua Ranc	68.57	69	P	P		21 45 30.5	+0.1
baz=68								
529A	Stev Forest Ra	68.65	68	P	P		21 45 30.7	-0.1
baz=68								
628A	Black Gap, Mar	68.81	69	P	P		21 45 31.5	-0.3
baz=69								
ZEI	Tsey	68.86	316	eP	P		21 45 29.7	-2.4
ZEI				pmax	pmax			
comp=Z,11nm,1.0s								
332A	Millersview	68.93	65	P	P		21 45 32.0	-0.6
baz=69								
431A	Sonora	69.05	66	P	P		21 45 32.5	-0.8
baz=69								
530A	J-C Ranch, Com	69.09	67	P	P		21 45 33.1	-0.5
baz=69								
531A	Rocksprings	69.49	67	P	P		21 45 35.6	-0.5
baz=69								
ANN	Anapa	69.55	321	eP	P		21 45 34.5	-1.6
ANN				pmax	pmax			
comp=Z,128nm,1.2s								
JCT	Junction City	69.62	66	eP	P		21 45 41.0	+4.2
JCT				pmax	pmax			
comp=Z,24nm,1.0s								
JCT	Junction City	69.62	66	eP	P		21 45 41.0	+4.2
comp=Z,24nm,1.0s								
JCT	Junction City	69.62	66	P	P		21 45 36.1	-0.7
baz=69								
KWP	Kalwaria Pacla	69.71	333	⇓P	P		21 45 37.6	+0.6
KWP	Kalwaria Pacla	69.71	333	eP	P		21 45 36.3	-0.8
comp=Z,57nm,1.0s								
KWP	Kalwaria Pacla	69.71	333	⇓iP	P		21 45 37.6	+0.6
KWP	Kalwaria Pacla	69.71	333	eP	P		21 45 37.2	+0.2
532A	Rocksprings	69.85	66	P	P		21 45 37.8	-0.5
baz=70								
KULM	Kulim	69.88	249	eP	P		21 45 37.8	-0.8
comp=Z,28nm,0.7s								
OJC	Ojcow	69.88	335	eP	P		21 45 38.1	0.0
OJC	Ojcow	69.88	335	eP	P		21 45 37.9	-0.2
631A	Perdido Creek	70.08	67	P	P		21 45 38.8	-0.8
baz=70								
KSP	Ksiaz	70.09	338	eP	P		21 45 39.3	0.0
KSP				e*PP	pP		21 45 47.3	-2.2
KSP	Ksiaz	70.09	338	eP	P		21 45 39.8	+0.5
STHS	Stebnicka Huta	70.28	334	eP	P		21 45 41.8	+1.3
STHS				pmax	pmax			
comp=Z,15nm,0.8s								
STHS	Stebnicka Huta	70.28	334	eP	P		21 45 41.8	+1.3
CLL	Collm	70.32	340	eP	P		21 45 40.0	-0.7
comp=Z,15nm,1.1s								
CLL	Collm	70.32	340	⇑eP	P		21 45 40.0	-0.7
CLL				i *PP	pP		21 45 47.9	-2.9
CLL				pmax	pmax			
comp=Z,15nm,1.1s								
CLL	Collm	70.32	340	⇑iP	P		21 45 40.0	-0.7
comp=Z,15nm,1.1s								
CLL				i			21 45 43.2	
CLL				i sP	pP		21 45 47.9	-2.9
IPM	Ipoh	70.37	248	eP	P		21 45 41.2	-0.3
632A	Úvalde	70.41	66	P	P		21 45 40.1	-1.6
baz=70								
UPC	Upice	70.46	338	eP	P		21 45 41.7	+0.1
UPC				e			21 45 46.9	
UPC				e			21 45 49.5	
UPC	Upice	70.46	338	eP	P		21 45 41.7	+0.1
UPC				epP	pP		21 45 46.9	-4.9
UPC				esP	sP		21 45 49.5	-6.1
KOLS	Kolonicke sedl	70.47	333	eP	P		21 45 41.7	0.0
KOLS				pmax	pmax			
comp=Z,8.0nm,0.9s								
KOLS	Kolonicke sedl	70.47	333	eP	P		21 45 41.7	0.0
NIE	Niedzica	70.50	335	eP	P		21 45 42.3	+0.4
BRG	Berggiesshubel	70.55	339	i P	P		21 45 42.6	+0.5
comp=Z,8.9nm,0.9s								
BRG				epP	pP		21 45 49.0	-3.2
comp=Z,4.3nm,1.1s								
BRG								
comp=N,207nm,18.5s								
BRG								
comp=E,211nm,14.6s								
BRG								
comp=Z,229nm,15.5s								
BRG	Berggiesshubel	70.55	339	eP	P		21 45 41.5	-0.6
comp=Z,9.0nm,0.9s								
BRG	Berggiesshubel	70.55	339	i P	P		21 45 42.6	+0.5
BRG				e*PP	pP		21 45 49.0	-3.2
BRG				pmax	pmax			
comp=Z,32nm,1.0s								
BRG				MLR	MLR			
comp=N,207nm,18.5s								
BRG				MLR	MLR			
comp=E,211nm,14.6s								
BRG				MLR	MLR			
comp=Z,229nm,15.5s								
DPC	Dobruska-Polom	70.55	338	eP	P		21 45 42.7	+0.5
DPC				e			21 45 50.8	
DPC	Dobruska-Polom	70.55	338	eP	P		21 45 42.7	+0.5
DPC				epP	pP		21 45 50.8	-1.5
DPC	Dobruska-Polom	70.55	338	eP	P		21 45 42.6	+0.5
comp=Z,84nm,0.9s								
OKC	Ostrava-Krasne	70.62	336	eP	P		21 45 42.7	+0.1
OKC				e			21 45 51.1	
OKC	Ostrava-Krasne	70.62	336	eP	P		21 45 42.7	+0.1
OKC				epP	pP		21 45 51.1	-1.6
CRVS	Cervenica-Dubn	70.70	334	eP	P		21 45 42.9	-0.2
CRVS				pmax	pmax			
comp=Z,7.0nm,1.1s								
CRVS	Cervenica-Dubn	70.70	334	eP	P		21 45 42.9	-0.2
KRLC	Kraliky	70.70	337	eP	P		21 45 43.0	-0.2
KRLC				e			21 45 48.1	
KRLC				e			21 45 50.9	
KRLC	Kraliky	70.70	337	eP	P		21 45 43.0	-0.2
KRLC				epP	pP		21 45 48.1	-5.2
KRLC				ex	x		21 45 50.9	
UZH	Uzhgorod	70.74	333	eP	P		21 45 40.0	-3.3
UZH				i			21 45 43.2	
PVCC	Panska Ves	70.75	339	eP	P		21 45 39.2	-4.1
PVCC				e			21 45 44.5	
PVCC	Panska Ves	70.75	339	eP	P		21 45 39.2	-4.1
PVCC				ex	x		21 45 44.5	
GNI	Garni	70.76	314	eP	P		21 45 43.0	-0.8
comp=Z,6.4nm,0.8s								
GNI	Garni	70.76	314	P	P		21 45 44.8	+1.0
baz=342,slow=9.6								
MORC	Moravsky Berou	70.82	337	⇑P	P		21 45 43.5	-0.4
MORC	Moravsky Berou	70.82	337	eP	P		21 45 43.4	-0.4
comp=Z,14nm,1.0s								
MORC	Moravsky Berou	70.82	337	⇑iP	P		21 45 43.5	-0.4
BUR08	Bucovina Ar. S	70.88	331	eP	P		21 45 43.4	-0.9
BURAR	Bucovina Array	70.90	331	⇓P	P		21 45 44.3	-0.1
BURAR	Bucovina Array	70.90	331	⇓iP	P		21 45 44.3	-0.1
732A	Laxson Ranch,	70.94	67	P	P		21 45 44.5	-0.3
baz=71								
TRPA	Tarpa	71.14	333	⇑iP	P		21 45 45.9	+0.2
BUG	Bochum--Univer	71.20	344	eP	P		21 45 46.0	0.0
comp=Z,7.0nm,0.6s								
MOX	Moxa	71.21	341	eP	P		21 45 45.9	-0.3
comp=Z,7.0nm,1.0s								
PRU	Pruhonice	71.26	339	eP	P		21 45 47.0	+0.5
PRU				e			21 45 51.8	
PRU				e			21 45 54.1	
PRU	Pruhonice	71.26	339	eP	P		21 45 47.0	+0.5
PRU				epP	pP		21 45 51.8	-4.8
PRU				esP	sP		21 45 54.1	-6.3
TANN	Tannenbergstha	71.27	340	eP	P		21 45 46.4	-0.2
comp=Z,3.0nm,0.8s								
KECS	Kecovo	71.33	334	eP	P		21 45 47.3	+0.4
KECS				pmax	pmax			
comp=Z,4.0nm,0.8s								
KECS	Kecovo	71.33	334	eP	P		21 45 47.3	+0.4
UBBA	Unterbreizbach	71.34	342	eP	P		21 45 47.1	+0.3
comp=Z,5.0nm,1.1s								
VRAC	Vranov	71.47	337	⇑iP	P		21 45 48.2	+0.5
OXF	Oxford	71.48	56	eP	P		21 45 48.2	+0.2
OXF				pmax	pmax			
comp=Z,54nm,1.1s								
OXF	Oxford	71.48	56	eP	P		21 45 48.2	+0.2
comp=Z,54nm,1.1s								
TESR	Tescani	71.50	329	⇓iP	P		21 45 47.8	-0.2
ARCR	ARCALIA	71.62	331	⇑iP	P		21 45 49.7	+1.0
TREC	Trest	71.72	338	AMS	AMS		22 22 30.0	
comp=Z,300nm,15.1s								
ROTZ	Rotzenmuhle	71.94	340	eP	P		21 45 50.7	+0.1
comp=Z,14nm,1.4s								
PSZ	Piszkesteto	72.00	334	⇓P	P		21 45 50.9	-0.2
PSZ	Piszkesteto	72.00	334	eP	P		21 45 51.9	+0.8
comp=Z,9.6nm,0.9s								
PSZ	Piszkesteto	72.00	334	⇓iP	P		21 45 50.9	-0.2
SMOL	Smolenice	72.03	336	eP	P		21 45 52.7	+1.6
SMOL	Smolenice	72.03	336	eP	P		21 45 52.7	+1.6
TLCR		72.05	327	⇑P	P		21 45 51.5	+0.2
TLCR		72.05	327	⇑iP	P		21 45 51.5	+0.2
VRI	Vrincioaia	72.06	329	⇑P	P		21 45 51.0	-0.4
VRI	Vrincioaia	72.06	329	⇑iP	P		21 45 51.0	-0.4
TNS	Taunus Mts	72.18	343	eP	P		21 45 52.4	+0.3
comp=Z,6.0nm,1.1s								
GRF	Grafenberg Arr	72.20	341	eP	P		21 45 52.2	+0.1
comp=Z,16nm,0.8s								
GRFO	Grafenberg	72.20	341	eP	P		21 45 52.8	+0.7
GRFO				pmax	pmax			
comp=Z,13nm,0.8s								
GRFO	Grafenberg	72.20	341	eP	P		21 45 52.8	+0.7
comp=Z,13nm,0.8s								
MEM	Membach	72.20	344	P	P		21 45 51.6	-0.4
comp=Z,9.6nm,1.3s								
CFR	Carcaliu	72.27	328	⇓P	P		21 45 52.6	+0.1
CFR	Carcaliu	72.27	328	⇓iP	P		21 45 52.6	+0.1
KHC	Kasperske Hory	72.28	339	eP	P		21 45 52.6	-0.1
KHC				e			21 46 01.1	
KHC				MLR	MLR			
comp=Z,300nm,15.4s								
KHC	Kasperske Hory	72.28	339	eP	P		21 45 52.6	-0.1
KHC				epP	pP		21 46 01.1	-1.7
KHC				AMS	AMS		22 22 50.0	
comp=Z,300nm,15.4s								
KHC	Kasperske Hory	72.28	339	eP	P		21 45 52.5	-0.1
DRGR		72.33	332	⇑P	P		21 45 52.7	-0.3
DRGR		72.33	332	⇑iP	P		21 45 52.7	-0.3
ZST	Bratislava	72.40	336	eP	P

FUR	Furstenfeldbru	73.65 340	eP	P	21 46 00.2	-0.6
	comp=Z,13nm,1.2s					
BZS	Buzias	73.71 332	⇓P	P	21 46 00.4	-0.7
BZS	Buzias	73.71 332	⇓iP	P	21 46 00.4	-0.7
RJOB	Jochberg	73.76 339	eP	P	21 46 01.5	0.0
	comp=Z,6.0nm,0.8s					
LRAL	Lakeview Retre	73.83 55	eP	P	21 45 57.7	-4.2
	comp=Z,5.1nm,0.6s					
BFO	Black Forest	74.03 342	eP	P	21 46 02.7	-0.3
	comp=Z,4.0nm,1.0s					
CDF	Champ du Feu	74.13 343	eP	P	21 46 03.1	-0.6
	comp=Z,12nm,0.8s					
PAGF	Fort de Pagny	74.24 344	eP	P	21 46 04.0	-0.2
	comp=Z,3.0nm,0.6s					
KBA	Koelnbreinsper	74.28 338	iP	P	21 46 05.5	+0.9
	comp=Z,18nm,0.8s,SNR=11					
SOKA	Soboth	74.30 337	iP	P	21 46 05.4	+0.7
	comp=Z,12nm,1.4s,SNR=7.1					
ECH	Echery	74.34 343	eP	P	21 46 03.9	-0.9
ECH			pmax	pmax		
	comp=Z,9.0nm,1.1s					
ECH	Echery	74.34 343	eP	P	21 46 03.9	-0.9
	comp=Z,9.4nm,1.1s					
MEZF	Maizieres J'vi	74.40 344	eP	P	21 46 04.7	-0.4
	comp=Z,11nm,0.8s					
OBKA	Obir	74.56 337	⇑iP	P	21 46 06.8	+0.6
	comp=Z,16nm,1.0s,SNR=8.3					
HAU	Haudompre	74.68 343	eP	P	21 46 06.1	-0.7
	comp=Z,4.8nm,0.6s					
HAU			eR			
	comp=Z,124nm,21.5s					
SFTF	Sexfontaines	74.69 344	eP	P	21 46 06.1	-0.7
	comp=Z,12nm,0.5s					
ABTA	Abfaltersbach	74.77 339	⇑iP	P	21 46 07.6	+0.2
	comp=Z,11nm,1.1s,SNR=6.1					
HINF	Hinteralfeld	74.78 343	eP	P	21 46 06.5	-0.9
MALT	Malatya	74.83 317	⇑P	P	21 46 08.8	+0.9
MALT	Malatya	74.83 317	⇑iP	P	21 46 08.8	+0.9
FETA	Feichten	74.86 340	⇑iP	P	21 46 07.9	-0.1
	comp=Z,4.2nm,0.7s					
FLN	La Foliniere	74.88 348	eP	P	21 46 06.9	-1.0
	comp=Z,16nm,0.9s					
FLN			eR			
	comp=Z,135nm,18.2s					
LDF	La Druitiere	75.01 348	eP	P	21 46 07.6	-1.0
	comp=Z,15nm,1.0s					
GRR	Gorron	75.29 348	eP	P	21 46 09.5	-0.7
	comp=Z,12nm,0.7s					
BR131	Keskin Array S	75.35 321	eP	P	21 46 09.9	-1.0
	comp=Z,5.2nm,0.6s					
BRTR	Keskin Array B	75.35 321	P	P	21 46 10.2	-0.7
BRTR	Keskin Array B	75.35 321	P	P	21 46 10.2	-0.7
	comp=Z,7.9nm,0.7s,baz=57,slow=3.5,SNR=23					
BRTR			LR	LR	22 26 53.5	
	comp=Z,60nm,18.2s,baz=253,slow=42					
ROSF	Rostrenen	75.60 350	eP	P	21 46 11.2	-0.8
	comp=Z,4.1nm,0.6s					
SGMF	Saint Gilles	75.61 350	eP	P	21 46 11.4	-0.7
TUE	Stuetta	75.64 341	eP	P	21 46 12.8	+0.2
LOR	Lormes	75.78 345	eP	P	21 46 12.3	-0.8
	comp=Z,10nm,0.8s					
SSF	Saint Saulge	76.03 345	eP	P	21 46 13.8	-0.7
	comp=Z,16nm,1.2s					
VTS	Vitosha	76.07 330	⇑P	P	21 46 14.4	-0.6
VTS	Vitosha	76.07 330	⇑iP	P	21 46 14.4	-0.6
CABF	La Chapelle	76.08 343	eP	P	21 46 14.5	-0.4
	comp=Z,23nm,1.1s					
AVF	Avril sur Loir	76.32 345	eP	P	21 46 15.4	-0.7
	comp=Z,14nm,1.0s					
SMF	Signal de Mont	76.39 345	eP	P	21 46 16.0	-0.6
	comp=Z,16nm,1.1s					
CTA	Charters Tower	76.71 195	P	P	21 46 18.7	+0.2
CTA	Charters Tower	76.71 195	P	P	21 46 18.7	+0.2
	comp=Z,8.8nm,0.8s,baz=18,slow=6.7,SNR=6.3					
CTA			LR	LR	22 16 16.6	
	comp=Z,465nm,21.8s,baz=231,slow=33					
CTAO	Charters Tower	76.71 195	eP	P	21 46 18.7	+0.2
CTAO			pmax	pmax		
	comp=Z,19nm,1.0s					
CTAO	Charters Tower	76.71 195	eP	P	21 46 18.7	+0.2
	comp=Z,19nm,1.0s					
ALN	Alexandroupoli	76.80 327	eP	P	21 46 18.5	-0.4
MFF	Saint Martin d	76.97 348	eP	P	21 46 18.6	-1.2
TCF	Toulx Ste Croi	76.97 346	eP	P	21 46 19.2	-0.7
	comp=Z,4.4nm,0.7s					
LPL	La Plagne	77.03 343	eP	P	21 46 20.9	+0.4
	comp=Z,24nm,0.9s					
NVR	Nevrokopi	77.03 329	eP	P	21 46 20.5	+0.2
LPG	La Plagne	77.05 343	eP	P	21 46 21.1	+0.5
	comp=Z,42nm,1.0s					
SMTH	Samothraki Isl	77.34 328	eP	P	21 46 21.5	-0.5
BNI	Bardonecchia	77.49 342	eP	P	21 46 22.8	-0.1
BNI			pmax	pmax		
	comp=Z,13nm,1.2s					
BNI	Bardonecchia	77.49 342	eP	P	21 46 22.8	-0.1
	comp=Z,13nm,1.2s					
SSB	Saint Sauveur	77.62 344	eP	P	21 46 21.8	-1.7
SSB			pmax	pmax		
	comp=Z,4.0nm,1.0s					
SSB	Saint Sauveur	77.62 344	eP	P	21 46 21.8	-1.7
	comp=Z,4.5nm,1.0s					
SOH	Sokhos	77.67 329	eP	P	21 46 29.5	+5.6
ORIF	Oris-en-Rattie	77.75 343	eP	P	21 46 24.7	+0.3
	comp=Z,12nm,0.7s					
MBDF	Montbardon	77.79 342	eP	P	21 46 24.6	0.0
	comp=Z,14nm,0.9s					
LIA	Limnos Island	77.97 328	eP	P	21 46 25.5	0.0
VIVF	Saint-Julien-l	78.01 344	eP	P	21 46 25.7	0.0
	comp=Z,13nm,1.0s					
PLG	Polygyros	78.05 329	eP	P	21 46 25.5	-0.5
TIR	Tirane	78.14 332	eP	P	21 46 26.5	0.0
TIR			pmax	pmax		
	comp=Z,27nm,0.6s					
TIR	Tirane	78.14 332	eP	P	21 46 26.5	0.0
	comp=Z,27nm,0.6s					
PRK	Paraskevi	78.24 327	eP	P	21 46 26.5	-0.5
CAF	Calviac	78.33 346	eP	P	21 46 27.4	-0.1
	comp=Z,6.1nm,0.8s					
PAIG	Paliouri	78.40 329	eP	P	21 46 27.0	-0.9
LFF	La Frestale	78.49 347	eP	P	21 46 28.1	-0.2
	comp=Z,7.9nm,0.7s					
SBF	Sospel	78.51 342	eP	P	21 46 28.3	-0.2
LIT	Litokhoron	78.58 330	eP	P	21 46 28.0	-0.9
SMRF	Simiane la Rot	78.72 343	eP	P	21 46 30.2	+0.5
RST	Umm Al-Ruwaisa	78.82 306	eP	P	21 46 28.8	-1.6
RST			AMb	AMb	21 46 30.3	
	comp=Z,254nm,1.0s					
LASF	Ste Croix	78.90 344	eP	P	21 46 30.1	-0.5
	comp=Z,11nm,1.0s					
NAY	Al-Naaiem	78.92 306	eP	P	21 46 29.6	-1.4
NAY			AMb	AMb	21 46 33.3	
	comp=Z,20nm,1.1s					
FRF	La Foret Royal	78.94 342	eP	P	21 46 30.3	-0.5
	comp=Z,26nm,1.4s					
WRAB	Tennant Creek	78.98 207	eP	P	21 46 31.1	0.0
WRAB			pmax	pmax		
	comp=Z,25nm,1.1s					
WRAB	Tennant Creek	78.98 207	eP	P	21 46 31.1	0.0
	comp=Z,25nm,1.1s					
WRA	Warramunga Arr	78.99 207	P	P	21 46 31.5	+0.3
WRA	Warramunga Arr	78.99 207	P	P	21 46 31.5	+0.3
	comp=Z,8.8nm,0.6s,baz=26,slow=6.1,SNR=18					
AOS	Alonnisos	79.03 328	eP	P	21 46 30.5	-0.9
RDF	Al-Radifah	79.05 306	eP	P	21 46 30.2	-1.5
RDF			AMb	AMb	21 46 38.2	
	comp=Z,44nm,1.2s					
CHOS	Chios island	79.09 326	eP	P	21 46 30.5	-1.3
NEO	Neokhori	79.10 329	eP	P	21 46 31.0	-0.8
LMR	La Mourre	79.19 342	eP	P	21 46 32.0	-0.2
	comp=Z,13nm,0.9s					
THL	Klokotos Trika	79.21 330	eP	P	21 46 31.0	-1.4
JAN	Janina	79.46 331	eP	P	21 46 34.0	+0.3
SMG	Samos	79.46 325	eP	P	21 46 32.5	-1.3
PGF	Pioggiola	79.50 340	eP	P	21 46 33.6	-0.4
	comp=Z,14nm,0.8s					
AGG	Agios Georgios	79.63 329	eP	P	21 46 33.0	-1.7
KEK	Kerkira	79.69 331	eP	P	21 46 34.5	-0.5
CSS	Prodhromos	79.70 319	eP	P	21 46 34.2	-1.0
	comp=Z,13nm,0.8s					
FITZ	Fitzroy Crossi	79.77 215	eP	P	21 46 37.8	+2.4
FITZ	Fitzroy Crossi	79.77 215	P	P	21 46 36.3	+0.9
	comp=Z,6.1nm,0.8s,baz=32,slow=8.9,SNR=11					
MTLF	Montolieu	79.86 345	eP	P	21 46 36.0	+0.2
	comp=Z,9.5nm,1.0s					
EVR	Evrytania	79.88 330	eP	P	21 46 35.5	-0.6
PTL	Penteli	80.07 328	eP	P	21 46 35.5	-1.6
EFP	Efpalio	80.30 329	eP	P	21 46 38.0	-0.3
LTK	Loutraki	80.37 328	eP	P	21 46 37.5	-1.2
EPF	Esparros	80.42 347	eP	P	21 46 38.3	-0.6
	comp=Z,4.6nm,0.8s					
CUC	Castrocucco	80.45 334	eP	P	21 46 38.9	-0.2
LAKA	Lakka	80.45 329	eP	P	21 46 38.5	-0.7
SJPF	Ste Jean	80.54 348	eP	P	21 46 38.8	-0.7
KLV	Kalavryta, Ach	80.59 329	eP	P	21 46 38.5	-1.4
GUR	Goura	80.63 329	eP	P	21 46 38.5	-1.7
ETSF	Etsaut	80.67 347	eP	P	21 46 40.7	+0.4
	comp=Z,21nm,1.1s					
DID	Didima	80.76 328	eP	P	21 46 38.0	-2.8
RLS	Riolos of Patr	80.77 330	eP	P	21 46 40.5	-0.3
ASF	Jabal al Asfar	80.81 315	P	P	21 46 41.1	-0.2
ASF	Jabal al Asfar	80.81 315	P	P	21 46 41.1	-0.2
	comp=Z,5.6nm,0.8s,baz=341,slow=3.4,SNR=12					
VLS	Valsamata	80.91 330	eP	P	21 46 41.0	-0.6
VLX	Vlachokerasia	81.14 329	eP	P	21 46 41.5	-1.5
AMT	Artemida-Makis	81.19 329	eP	P	21 46 42.0	-1.1
EIDS	Eidsvold	81.32 190	eP	P	21 46 44.6	+1.0
	comp=Z,40nm,1.5s					
KARP	Karpathos	81.33 324	eP	P	21 46 41.5	-2.4
ITM	Ithomi	81.45 329	eP	P	21 46 43.0	-1.5
VLI	Veliai	81.58 328	eP	P	21 46 44.0	-1.2
PYL	PYLOS	81.77 329	eP	P	21 46 44.5	-1.6
ZKR	Zakros	82.03 325	eP	P	21 46 46.0	-1.6
NPS	Neapolis	82.09 325	eP	P	21 46 45.5	-2.4
LAST	Lasithi	82.23 325	eP	P	21 46 47.0	-1.7
ANKY	Antikythira Is	82.26 327	eP	P	21 46 47.0	-1.7
IDI	Anoyia	82.30 326	eP	P	21 46 44.5	-4.5
VAM	Vamos	82.41 327	eP	P	21 46 48.5	-1.0
SIVA	Sivas	82.58 326	eP	P	21 46 49.0	-1.4
AS31	Alice Springs	82.66 206	eP	P	21 46 51.3	+0.6
AS31			ePcP	PcP	21 46 57.5	+1.9
ASAR	Alice Springs	82.67 206	P	P	21 46 51.2	+0.4
ASAR	Alice Springs	82.67 206	P	P	21 46 51.2	+0.4
	comp=Z,4.6nm,0.8s,baz=16,slow=5.1,SNR=29					
PVRL	Vila Real	82.99 352	eP	P	21 46 52.9	+0.4
MVO	Moncorvo	83.05 352	eP	P	21 46 53.4	+0.6
	comp=Z,18nm,1.9s					
ESDC	Sonseca Array	84.24 349	P	P	21 46 58.8	-0.2
ESDC	Sonseca Array	84.24 349	P	P	21 46 58.8	-0.2
	comp=Z,1.6nm,0.7s,baz=3.8,slow=4.9,SNR=16					
ESLA	Sonseca Array	84.24 349	eP	P	21 46 58.3	-0.7
	comp=Z,2.1nm,1.1s					
PCBR	Castelo Branco	84.40 352	eP	P	21 46 59.8	+0.1
	comp=Z,22nm,1.3s					
PAB	San Pablo	84.41 350	eP	P	21 46 59.2	-0.7
PAB			pmax	pmax		
	comp=Z,67nm,1.2s					
PAB	San Pablo	84.41 350	eP	P	21 46 59.2	-0.7
	comp=Z,67nm,1.2s					
RAYN	Ar Rayn	84.61 305	eP	P	21 46 59.6	-1.5
RAYN	Ar Rayn	84.61 305	P	P	21 46 59.0	-2.1
	comp=Z,81nm,0.8s,SNR=8.4					
MBWA	Marble Bar	84.62 219	eP	P	21 47 00.1	-0.8
PMTG	Montargil	85.22 353	eP	P	21 47 03.6	-0.2
	comp=Z,14nm,1.1s					
PESTR	Estremoz	85.38 352	eP	P	21 47 04.7	+0.1
	comp=Z,22nm,1.4s					
EVO	Evora	85.74 352	eP	P	21 47 06.1	-0.3
	comp=Z,36nm,1.4s					
EVO	Evora	85.74 352	eP	P	21 47 06.7	+0.3
	comp=Z,16nm,1.4s					
KEST	Kesra	86.00 338	P	P	21 47 07.6	-0.2
KEST	Kesra	86.00 338	P	P	21 47 07.6	-0.2
	comp=Z,1.0nm,0.4s,baz=42,slow=5.1,SNR=8.9					
KEST			LR	LR	22 32 55.8	
	comp=Z,55nm,18.5s,baz=316,slow=41					
PBAR	Barrancos	86.02 352	eP	P	21 47 07.4	-0.4
	comp=Z,23nm,1.4s					
STKA	Stephens Creek	89.01 197	P	P	21 47 22.6	+0.7
STKA	Stephens Creek	89.01 197	P	P	21 47 22.6	+0.7
	comp=Z,4.3nm,1.0s,baz=280,slow=6.7,SNR=3.7					
VNDA	Vanda	132.98 180	PKP	PKPdf	21 53 42.3	+1.4
VNDA	Vanda	132.98 180	PKP	PKPdf	21 53 42.3	+1.4
	comp=Z,0.9nm,0.8s,baz=285,slow=3.3,SNR=6.5					
BOSA	Boshof	139.14 293	PKP	PKPdf	21 53 55.6	+1.6
BOSA	Boshof	139.14 293	PKP	PKPdf	21 53 55.6	+1.6
	comp=Z,2.9nm,0.8s,baz=76,slow=8.6,SNR=4.7					
PLCA	Paso Flores	142.77 89	PKP	PKPdf	21 53 59.8	-0.3
PLCA	Paso Flores	142.77 89	PKP	PKPdf	21 53 59.8	-0.3
	comp=Z,2.9nm,0.9s,baz=92,slow=7.1,SNR=4.4					
MAW	Mawson	142.82 219	PKP	PKPdf	21 53 59.0	-0.2
MAW	Mawson	142.82 219	PKP	PKPdf	21 53 59.0	-0.2
	comp=Z,3.6nm,1.0s,baz=15,slow=3.2,SNR=7.0					
QSPA	South Pole Qui	145.47 180	ePKPdf	PKPdf	21 54 01.1	-2.8
QSPA			PKPbc	PKPdf	21 54 03.2	-0.8
QSPA	South Pole Qui	145.47 180	PKPbc	PKPdf	21 54 03.2	-0.8
	comp=Z,33nm,0.8s,baz=337,slow=1.5,SNR=53					
TRQA	Tornquist	145.74 78	ePKPdf	PKPdf	21 54 04.8	-0.6
SYO	Syowa Base	151.52 220	⇓ePKPdf	PKPbc	21 54 18.4	-1.4
SYO	Syowa Base	151.52 220	⇓ePKPbc	PKPbc	21 54 23.8	+4.0

IDC 30 21:37:02.8±1.2, 4°.61N×126°.29E, h0km, mb4.2/9, mb1 4.3/9, mb1mx4.0/23, mbtmp4.2/9, 1D, Error ellipse: s-maj=178.1km s-min=16.2km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	Cotabato--PC H	3.30	322	⇓iP	Pg	21 38 05.7	-0.4
WRA	Warramunga Arr	25.65	162	P	P	21 42 33.8	-0.7
	2.3nm,0.6s,baz=343,slow=10,SNR=14						
ASAR	Alice Springs	29.07	166	P	P	21 43 06.5	+1.4
	1.3nm,0.6s,baz=356,slow=7.7,SNR=14						
STKA	Stephens Creek	39.10	159	P	P	21 44 30.4	-1.5
	10nm,1.0s,baz=355,slow=7.3,SNR=9.3						
SONM	Songino Array	46.33	342	P	P	21 45 30.4	-0.3
	0.5nm,0.5s,baz=150,slow=6.2,SNR=3.3						
MKAR	Makanchi Array	56.59	325	P	P	21 46 46.7	-0.8
	1.1nm,0.7s,baz=114,slow=7.9,SNR=3.9						
ZALV	Zalesovo Beam	59.61	333	P	P	21 47 07.1	-1.3
	0.5nm,0.6s,baz=116,slow=6.6,SNR=2.6						
KURBB	Kurchatov Arra	60.77	327	P	P	21 47 15.4	-1.0
	1.6nm,0.7s,baz=126,slow=6.8,SNR=4.6						
ARCES	ARCESS Array B	89.48	340	P	P	21 50 02.9	+1.4
	4.6nm,0.9s,baz=93,slow=6.1,SNR=4.8						
FINES	FINESS Array B	90.86	332	P	P	21 50 09.5	+1.5
	4.1nm,1.0s,baz=134,slow=14,SNR=3.7						
TORD	Torodi Ar. Bea	122.23	289	PKP	PKPdf	21 56 02.0	+1.2
	0.5nm,0.9s,baz=35,slow=1.1,SNR=2.9						

IDC 30 21:40:05.9±10.0, 0°.79S×100°.09E, h78km±58km, mb3.9/7, mb1 3.9/9, mb1mx3.5/25, mbtmp3.8/9, ML3.7/2, Error ellipse: s-maj=95.4km s-min=57.2km az=175.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	3.75	342	P	Pn	21 41 00.6	-1.0
	3.2nm,0.3s,baz=344,slow=0.9,SNR=4.9						
CMAR	Chiang Mai Arr	19.16	357	P	P	21 44 21.8	-1.4
	0.1nm,0.3s,baz=185,slow=10,SNR=7.4						
SONM	Songino Array	48.73	6	P	P	21 48 42.7	-0.2
	0.6nm,0.6s,baz=188,slow=9.7,SNR=3.8						
MKAR	Makanchi Array	49.89	344	P	P	21 48 51.8	+0.3
	1.9nm,0.3s,baz=160,slow=8.5,SNR=52						
USRK	Ussuriysk Arra	53.05	28	P	P	21 49 15.5	+0.4
	1.5nm,0.5s,baz=224,slow=4.0,SNR=5.0						
KURBB	Kurchatov Arra	54.42	343	P	P	21 49 25.1	+0.1
	1.5nm,0.7s,baz=162,slow=7.3,SNR=14						
ZALV	Zalesovo Beam	56.00	349	P	P	21 49 36.2	-0.1
	1.8nm,0.3s,baz=162,slow=6.9,SNR=12						
FINES	FINESS Array B	83.08	332	P	P	21 52 23.0	+0.2
	3.9nm,1.0s,baz=141,slow=9.3,SNR=3.9						
ARCES	ARCESS Array B	85.37	340	P	P	21 52 33.9	-0.4
	3.9nm,1.1s,baz=90,slow=5.5,SNR=4.2						
TXAR	Lajitas Array	143.68	36	PKP	PKPbc	21 59 31.1	+0.6
	0.3nm,0.6s,baz=316,slow=2.5,SNR=2.9						

CSEM 30 21:43:38.9, 41°.73N×13°.71E, h12km, MD1.8/9, After ROM

ROM 30 21:43:38.9±0.1, 41°.73N×13°.71E, h12km±1km, Md1.8/9, Ml1.2/3, Error ellipse: s-maj=1.3km s-min=1.1km az=17.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POFI	Posta Fibreno	0.01	159	Pg	Pg	21 43 41.6	+0.4
POFI				Sg	Sg	21 43 43.0	+0.3
POFI	Posta Fibreno	0.01	159	Pg	Pg	21 43 41.6	+0.4
POFI				Sg	Sg	21 43 43.0	+0.3
SDI	San Donato	0.08	103	Pg	Pg	21 43 42.1	+0.5
SDI				Sg	Sg	21 43 43.9	+0.3
SDI	San Donato	0.08	103	Pg	Pg	21 43 42.1	+0.5
SDI				Sg	Sg	21 43 43.9	+0.3
VVLD	Villa Vallelon	0.16	336	Pg	Pg	21 43 43.1	+0.3
VVLD				Sg	Sg	21 43 45.9	+0.4
VVLD	Villa Vallelon	0.16	336	Pg	Pg	21 43 43.1	+0.3
VVLD				Sg	Sg	21 43 45.9	+0.4
CERA	Filignano	0.27	119	Pg	Pg	21 43 44.9	+0.3
CERA				Sg	Sg	21 43 48.7	+0.3
CERA	Filignano	0.27	119	Pg	Pg	21 43 44.9	+0.3
CERA				Sg	Sg	21 43 48.7	+0.3
INTR	Introdacqua	0.32	27	Pg	Pg	21 43 45.8	+0.2
INTR				Sg	Sg	21 43 50.8	+0.8
	43nm,0.5s						
INTR	Introdacqua	0.32	27	Pg	Pg	21 43 45.8	+0.2
INTR				Sg	Sg	21 43 50.8	+0.8
	43nm,0.5s						
RNI2	Rionero Sannit	0.33	94	Pg	Pb	21 43 47.1	+0.2
	39nm,0.8s						
RNI2	Rionero Sannit	0.33	94	Pg	Pb	21 43 47.1	+0.2
	39nm,0.8s						
PTQR	Pietraquaria	0.37	322	Pg	Pg	21 43 46.8	+0.3
PTQR				Sg	Sb	21 43 52.7	-0.8
	10.0nm,0.2s						
PTQR	Pietraquaria	0.37	322	Pg	Pg	21 43 46.8	+0.3
PTQR				Sg	Sb	21 43 52.7	-0.8
	10.0nm,0.2s						
GIUL	Giuliano Di Ro	0.38	244	Pg	Pg	21 43 46.8	+0.2
GIUL				Sg	Sb	21 43 52.8	-0.7
GIUL	Giuliano Di Ro	0.38	244	Pg	Pg	21 43 46.8	+0.2
GIUL				Sg	Sb	21 43 52.8	-0.7
MIDA	Miranda	0.42	102	Pg	Pg	21 43 47.5	+0.1
	9.0nm,0.4s						
MIDA	Miranda	0.42	102	Pg	Pg	21 43 47.5	+0.1
	9.0nm,0.4s						
CERT	Cerreto	0.58	293	Pg	Pg	21 43 50.0	-0.5
CERT				Sg	Sg	21 43 58.7	+0.4
CERT	Cerreto	0.58	293	Pg	Pg	21 43 50.0	-0.5
CERT				Sg	Sg	21 43 58.7	+0.4

IDC 30 21:45:53.9±5.0, 5°.91S×146°.58E, h75km±50km, mb3.4/5, mb1 3.6/7, mb1mx3.4/18, mbtmp3.5/7, ML3.8/2, MS3.1/1, Ms1 3.1/1, ms1mx2.9/22, Error ellipse: s-maj=39.6km s-min=19.2km az=138.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.52	171	P	Pn	21 46 47.7	+1.4
	59nm,0.3s,baz=54,slow=4.7,SNR=90						
PMG				S	Sn	21 47 26.7	-0.1
	57nm,0.3s,baz=250,slow=23,SNR=13						
PMG				LR	LR	21 47 44.8	
	comp=Z,278nm,21.8s,baz=253,slow=32						
CTA	Charters Tower	14.10	181	P	P	21 49 14.2	-1.3
	3.0nm,0.3s,baz=355,slow=13,SNR=9.7						
WRA	Warramunga Arr	18.33	219	P	Pn	21 50 03.6	+0.4
	0.4nm,0.3s,baz=45,slow=12,SNR=12						
WRA				S	S	21 53 25.9	-1.5
	0.2nm,0.3s,baz=42,slow=22,SNR=4.0						
ASAR	Alice Springs	21.46	213	P	P	21 50 38.0	+1.7
	0.8nm,0.5s,baz=59,slow=9.0,SNR=12						
FITZ	Fitzroy Crossi	23.76	238	P	P	21 51 01.1	+1.5
	1.6nm,0.4s,baz=60,slow=11,SNR=12						
STKA	Stephens Creek	26.25	190	P	P	21 51 22.5	+0.4
	1.1nm,0.6s,baz=6.9,slow=10,SNR=5.6						
MKAR	Makanchi Array	77.16	321	P	P	21 57 38.7	-0.9
	0.3nm,0.8s,baz=111,slow=5.1,SNR=3.2						
ILAR	Eielson Array	85.56	23	P	P	21 58 22.6	-1.0
	0.3nm,0.5s,baz=237,slow=5.9,SNR=3.7						
TORD	Torodi Ar. Bea	144.66	284	PKP	PKPdf	22 05 23.3	+0.2
	0.2nm,0.3s,baz=63,slow=3.1,SNR=7.5						

IDC 30 21:57:41.6±8.5, 16°.68S×171°.54W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.5/20, mbtmp3.7/2, Error ellipse: s-maj=425.7km s-min=58.8km az=143.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	51.30	258	P	P	22 06 47.5	-0.5
	0.3nm,0.5s,baz=97,slow=6.8,SNR=4.2						
ASAR	Alice Springs	51.43	253	P	P	22 06 49.2	+0.2
	1.2nm,0.5s,baz=88,slow=8.4,SNR=26						
BRTR	Keskin Array B	148.26	321	PKPbc	PKPbc	22 17 29.6	-0.7
	0.3nm,0.6s,baz=85,slow=6.4,SNR=2.3						

CSEM 30 22:00:47.3, 35°.31N×23°.00E, h23km, MD3.5, After ATH

ATH 30 22:00:47.3, 35°.31N×23°.00E, h23km±2km, MD3.5/30, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANKY	Antikythira Is	0.61	24	ePN	Pb	22 00 59.9	+0.6
ANKY				eSN	Sb	22 01 07.8	+0.3
ANKY	Antikythira Is	0.61	24	ePn	Pb	22 00 59.9	+0.6
ANKY				eSn	Sb	22 01 07.8	+0.3
KYTH	Kithira	0.97	2	ePN	Pn	22 01 05.8	+0.2
KYTH	Kithira	0.97	2	ePn	Pn	22 01 05.8	+0.2
VAM	Vamos	0.98	84	ePN	Pn	22 01 07.1	+1.4
VAM				eSN	Sn	22 01 21.1	+2.1
VAM	Vamos	0.98	84	ePn	Pn	22 01 07.1	+1.4
VAM				eSn	Sn	22 01 21.1	+2.1
GVD	Gavdhos	1.01	117	ePB	Pn	22 01 06.0	0.0
GVD				eSN	Sn	22 01 20.4	+0.9
GVD	Gavdhos	1.01	117	ePb	Pn	22 01 06.0	0.0
GVD				eSn	Sn	22 01 20.4	+0.9
VLI	Veliai	1.41	358	ePN	Pb	22 01 13.0	+0.1
VLI

IDC 30 22:02:00.6±2.5, 16°35'S×172°64'W, h0km, mb4.0/5, mb1 4.3/5, mb1mx3.9/20, mbtmp4.0/5, Error ellipse: s-maj=142.5km s-min=24.7km az=144.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.57**	**19**	Pn	Pn	22 02 36.0	-7.5
	24nm,0.3s,baz=76,slow=14,SNR=6.2						
AFI				Sn	Sn	22 02 59.6	-16
	45nm,0.3s,baz=52,slow=22,SNR=7.2						
STKA	**Stephens Creek**	**44.21**	**241**	P	P	22 10 11.6	-0.1
	2.3nm,0.7s,baz=58,slow=7.6,SNR=7.0						
WRA	**Warramunga Arr**	**50.35**	**257**	P	P	22 10 59.0	-0.8
	1.1nm,0.4s,baz=92,slow=6.6,SNR=24						
ASAR	**Alice Springs**	**50.52**	**253**	P	P	22 11 00.9	-0.1
	3.0nm,0.6s,baz=88,slow=8.2,SNR=35						
PDAR	**Pinedale Array**	**82.48**	**41**	P	P	22 14 25.1	-0.3
	0.7nm,0.9s,baz=231,slow=5.7,SNR=4.2						
ILAR	**Eielson Array**	**83.24**	**11**	P	P	22 14 27.8	-0.7
	0.4nm,0.5s,baz=217,slow=4.3,SNR=4.3						
BRTR	**Keskin Array B**	**147.36**	**321**	PKPbc	PKPab	22 21 47.8	-0.8
	2.4nm,0.9s,baz=117,slow=1.4,SNR=8.7						

IDC 30 22:04:18.9±7.4, 14°87S×173°83W, h0km, mb3.9/2, mb1 4.2/2, mb1mx3.6/18, mbtmp3.9/2, Error ellipse: s-maj=350.6km s-min=45.8km az=141.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.20**	**65**	Pn	Pn	22 04 49.4	-7.5
	11nm,0.3s,baz=32,slow=19,SNR=2.6						
AFI				Sn	Sn	22 05 06.7	-18
	64nm,0.3s,baz=220,slow=23,SNR=6.7						
WRA	**Warramunga Arr**	**49.57**	**256**	P	P	22 13 12.4	+0.1
	0.4nm,0.5s,baz=91,slow=7.2,SNR=6.1						
ASAR	**Alice Springs**	**49.89**	**251**	P	P	22 13 14.3	-0.3
	2.0nm,0.6s,baz=86,slow=8.0,SNR=9.7						
BRTR	**Keskin Array B**	**145.49**	**321**	PKPbc	PKPbc	22 23 58.6	-1.0
	1.1nm,0.7s,baz=80,slow=1.6,SNR=6.1						
GERES	**GERESS Array B**	**145.56**	**351**	PKPbc	PKPdf	22 23 58.8	-0.6
	0.1nm,0.3s,baz=29,slow=2.2,SNR=3.9						

IDC 30 22:06:54.1±30.0, 23°82S×174°73W, h0km, mb4.1/4, mb1 4.2/4, mb1mx3.8/18, mbtmp4.1/4, Error ellipse: s-maj=550.4km s-min=157.9km az=79.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**36.30**	**268**	P	P	22 14 00.0	+0.3
	3.3nm,0.4s,baz=101,slow=10,SNR=5.4						
STKA	**Stephens Creek**	**39.23**	**248**	P	P	22 14 23.9	-0.5
	0.8nm,0.6s,baz=90,slow=12,SNR=3.7						
ASAR	**Alice Springs**	**46.80**	**259**	P	P	22 15 25.8	-0.1
	0.8nm,0.3s,baz=93,slow=7.5,SNR=14						
WRA	**Warramunga Arr**	**47.22**	**264**	P	P	22 15 29.0	-0.2
	0.7nm,0.3s,baz=103,slow=8.3,SNR=22						

MEX 30 22:22:02.8±0.6, 16°88N×100°16W, h28km±8km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.20**	**329**	*i* P	Pb	22 22 07.6	-1.2
CAIG				*i* S	Sb	22 22 11.6	-1.4
ACX	**Acapulco**	**0.29**	**91**	*i* P	Pb	22 22 07.8	-2.3
ACX				*i* S	Sb	22 22 11.3	-3.6
ARIG	**Puente Sto Nin**	**1.41**	**353**	*i* P	Pn	22 22 23.9	-2.7
ARIG				*i* S	Sn	22 22 40.4	-3.8
PLIG	**Platanillo**	**1.63**	**23**	*i* P	Pn	22 22 28.1	-1.7
PLIG				*i* S	Sn	22 22 47.2	-2.7

DJA 30 22:24:21.8±0.7, 8°S±4°×107°E±°, h21km±7km, M3.9/14, MLv3.9/14, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.78**	**46**	P	Pb	22 24 36.5	-0.2
CISI				S	Sb	22 24 45.8	-1.1
SKJI	**Sukabumi**	**1.29**	**328**	P	Pn	22 24 44.1	-0.5
SKJI				S	Sn	22 24 58.9	-2.3
LEM	**Lembang**	**1.32**	**16**	P	Pn	22 24 45.3	+0.1
LEM				S	Sn	22 25 01.7	-0.6
DBJI	**Dramaga**	**1.61**	**342**	P	Pn	22 24 50.0	+0.9
DBJI				S	Sn	22 25 09.2	-0.1
CLJI	**Cilicap**	**1.79**	**78**	P	Pn	22 24 51.7	+0.2
CLJI				S	Sb	22 25 15.7	-0.2
KPJI	**Karang Pucung**	**1.83**	**66**	P	Pn	22 24 51.9	-0.2
TGJI	**Tegal**	**2.22**	**57**	P	Pn	22 24 57.6	+0.2
BJII	**Banjamegara**	**2.55**	**73**	P	Pn	22 25 00.9	-1.2
KASI	**Kota Agung**	**3.75**	**313**	P	Pn	22 25 18.4	0.0
PCJI	**Pacitan**	**3.89**	**92**	P	Pn	22 25 19.7	-0.7
SJI	**Sawahan**	**4.49**	**86**	P	Pn	22 25 28.7	0.0
PWJI	**Pagerwojo**	**4.51**	**89**	P	Pn	22 25 28.3	-0.6
MDSI	**Maura Dua**	**4.71**	**319**	P	Pn	22 25 31.4	-0.3

IDC 30 22:30:52.9±7.5, 15°21S×173°76W, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.6/18, mbtmp3.8/2, Error ellipse: s-maj=363.5km s-min=43.4km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**49.55**	**257**	P	P	22 39 46.2	+0.2
	0.4nm,0.6s,baz=93,slow=7.9,SNR=4.0						
ASAR	**Alice Springs**	**49.84**	**252**	P	P	22 39 48.1	-0.2
	1.7nm,0.6s,baz=88,slow=8.0,SNR=24						
BRTR	**Keskin Array B**	**145.79**	**321**	PKPbc	PKPdf	22 50 32.3	-1.8
	0.8nm,0.8s,baz=33,slow=3.4,SNR=4.8						
GERES	**GERESS Array B**	**145.90**	**351**	PKPbc	PKPbc	22 50 34.5	0.0
	0.8nm,0.9s,baz=358,slow=4.9,SNR=3.5						

*ISCJB **30** 22:35:21.5±0.4, 14°56N±0°09×45°09W±0°09, h12km, mb4.5/57, MS3.8/5, Error ellipse: s-maj=15.6km s-min=7.4km az=136.7*
*IDC **30** 22:35:21.5±0.6, 14°57N×45°02W, h0km, mb4.2/20, mb1 4.4/20, mb1mx4.2/32, mbtmp4.2/20, MS3.8/5, Ms1 3.8/5, ms1mx3.4/28, Error ellipse: s-maj=21.7km s-min=14.2km az=137.0*
*NEIC **30** 22:35:22.9±0.3, 14°55N×45°02W, h10km, mb4.4/6, Error ellipse: s-maj=14.0km s-min=7.0km az=136.0*
*SZGRF **30** 22:35:22.5, 14°11N×45°47W, h33km, mb4.5, Northern Mid-Atlantic Ridge*

ISC 30 22:35:23.4±0.5, 14°5N±0°1×45°1W±0°1, h12km, n101, σ0°76/102, mb4.6/57, MS3.8/5, 3C-1D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**20.55**	**283**	P	P	**22 40 02.1**	**0.0**
	11nm,0.6s,baz=312,slow=15,SNR=4.1						
BBTS	**Babate**	**27.60**	**86**	LR	LR	22 49 26.5	
	comp=Z,157nm,21.8s,baz=18,slow=31						
SAML	**Samuel**	**29.44**	**219**	*e*P	P	**22 41 27.4**	**+0.2**
	5.9nm,1.5s						
BDFB	**Brasilia**	**30.11**	**186**	P	P	**22 41 33.6**	**+0.4**
	8.5nm,0.8s,baz=3.3,slow=10,SNR=9.2						
LPAZ	**La Paz**	**38.17**	**218**	*e*P	P	**22 42 44.4**	**+0.7**
	5.3nm,1.3s						
LPAZ	**La Paz**	**38.17**	**218**	P	P	**22 42 45.1**	**+1.5**
	1.8nm,0.7s,baz=25,slow=6.4,SNR=6.4						
LPAZ				LR	LR	22 57 44.2	
	comp=Z,98nm,19.3s,baz=232,slow=35						
MORF	**Marmelete**	**39.48**	**48**	*e*P	P	**22 42 55.1**	**+1.2**
	18nm,1.7s						
PCVE	**Castro Verde**	**40.06**	**48**	*e*P	P	**22 42 59.9**	**+1.3**
	21nm,1.8s						
DBIC	**Dimbokro**	**40.23**	**97**	LR	LR	22 55 56.1	
	comp=Z,125nm,20.0s,baz=188,slow=31						
EVO	**Evora**	**40.46**	**47**	*e*P	P	**22 43 01.7**	**-0.3**
	16nm,1.1s						
EVO	**Evora**	**40.46**	**47**	*e*P	P	**22 43 03.0**	**+1.0**
	14nm,1.4s						
PMTG	**Montargil**	**40.55**	**46**	*e*P	P	**22 43 02.8**	**+0.1**
PBAR	**Barrancos**	**41.00**	**48**	*e*P	P	**22 43 07.8**	**+1.4**
	18nm,1.6s						
PCBR	**Castelo Branco**	**41.41**	**45**	*e*P	P	**22 43 10.2**	**+0.4**
	15nm,1.5s						
MTE	**Manteigas**	**41.62**	**44**	*e*P	P	**22 43 12.7**	**+1.1**
	18nm,1.2s						
MTE	**Manteigas**	**41.62**	**44**	*e*P	P	**22 43 11.4**	**-0.3**
	7.8nm,0.9s						
MVO	**Moncorvo**	**42.32**	**44**	*e*P	P	**22 43 18.0**	**+0.7**
LVC	**Limon Verde**	**43.68**	**213**	*e*P	P	**22 43 28.8**	**+0.1**
ESDC	**Sonseca Array**	**43.80**	**47**	P	P	**22 43 28.2**	**-1.1**
ESDC	**Sonseca Array**	**43.80**	**47**	P	P	**22 43 28.2**	**-1.1**
	1.1nm,0.8s,baz=245,slow=8.9,SNR=9.6						
TORD	**Torodi Ar. Bea**	**45.36**	**86**	P	P	**22 43 41.2**	**-0.8**
TORD	**Torodi Ar. Bea**	**45.36**	**86**	P	P	**22 43 41.2**	**-0.8**
	2.9nm,1.1s,baz=285,slow=7.4,SNR=9.3						
TORD				LR	LR	23 00 21.7	
	comp=Z,298nm,19.0s,baz=285,slow=33						
SJPF	**Ste Jean**	**47.06**	**44**	*e*P	P	**22 43 55.4**	**+0.4**
	30nm,1.2s						
ETSF	**Etsaut**	**47.42**	**44**	*e*P	P	**22 43 58.5**	**+0.6**
	16nm,1.2s						
QUIF	**Quistinic**	**47.98**	**37**	*e*P	P	**22 44 01.7**	**-0.4**
	48nm,1.4s						
EPF	**Esparros**	**48.08**	**45**	*e*P	P	**22 44 03.5**	**+0.5**
	9.4nm,1.0s						
ROSF	**Rostrenen**	**48.13**	**37**	*e*P	P	**22 44 03.0**	**-0.2**
	9.8nm,0.8s						
TAM	**Tamanrasset**	**48.43**	**72**	*e*P	P	**22 44 05.6**	**-0.6**
	5.8nm,1.4s						
SGMF	**Saint Gilles**	**48.51**	**37**	*e*P	P	**22 44 06.2**	**+0.1**
	50nm,1.3s						
LFF	**La Freestale**	**49.08**	**42**	*e*P	P	**22 44 10.6**	**0.0**
	40nm,1.4s						
MFF	**Saint Martin d**	**49.20**	**40**	*e*P	P	**22 44 11.6**	**+0.1**
	43nm,1.3s						
MTLF	**Montolieu**	**49.47**	**45**	*e*P	P	**22 44 13.4**	**-0.3**
	12nm,1.2s						
GRR	**Gorron**	**49.57**	**38**	*e*P	P	**22 44 13.9**	**-0.4**
	40nm,1.4s						
RJF	**Les Rejaudoux**	**49.73**	**42**	*e*P	P	**22 44 15.2**	**-0.4**
	14nm,1.2s						
RJF				*e*R			
	126nm,18.3s						
CAF	**Calviac**	**49.95**	**43**	*e*P	P	**22 44 17.1**	**-0.2**
	37nm,1.4s						
FLN	**La Foliniere**	**49.96**	**37**	*e*P	P	**22 44 17.0**	**-0.3**
	24nm,1.2s						
FLN				*e*R			
	90nm,22.2s						
LDF	**La Druitiere**	**50.10**	**38**	*e*P	P	**22 44 18.0**	**-0.3**
	31nm,1.3s						
TCF	**Toulx Ste Croi**	**50.56**	**41**	*e*P	P	**22 44 21.9**	**0.0**
	32nm,1.2s						
LASF	**Ste Croix**	**50.84**	**44**	*e*P	P	**22 44 24.4**	**+0.3**
	18nm,1.2s						
AVF	**Avril sur Loir**	**51.48**	**41**	*e*P	P	**22 44 28.5**	**-0.3**
	20nm,1.2s						
VIVF	**Saint-Julien-l**	**51.66**	**44**	*e*P	P	**22 44 30.7**	**+0.5**
	9.4nm,1.1s						
SSF	**Saint Saulge**	**51.68**	**41**	*e*P	P	**22 44 29.8**	**-0.5**
	24nm,1.3s						
SMF	**Signal de Mont**	**51.74**	**41**	*e*P	P	**22 44 30.6**	**-0.1**
	18nm,1.2s						
LOR	**Lormes**	**51.98**	**41**	*e*P	P	**22 44 32.0**	**-0.6**
	27nm,1.4s						
LOR				*e*R			
	139nm,20.8s						
SFTF	**Sexfontaines**	**53.07**	**40**	*e*P	P	**22 44 40.1**	**-0.5**
	18nm,0.8s						
CABF	**La Chapelle**	**53.18**	**42**	*e*P	P	**22 44 41.4**	**-0.1**
	50nm,1.5s						
MEZF	**Maizieres J'vi**	**53.19**	**40**	*e*P	P	**22 44 41.1**	**-0.3**
	50nm,1.3s						
BAIF	**Baives**	**53.28**	**38**	*e*P	P	**22 44 41.4**	**-0.7**
	34nm,1.1s						
DOU	**Dourbes**	**53.53**	**38**	P	P	**22 44 44.7**	**+0.8**
PAGF	**Fort de Pagny**	**53.63**	**40**	*e*P	P	**22 44 44.1**	**-0.6**
	7.2nm,1.2s						
GIVF	**Givet**	**53.67**	**38**	*e*P	P	**22 44 44.3**	**-0.6**
BCLA	**Clavier**	**54.07**	**37**	P	P	**22 44 48.8**	**+0.9**
	comp=Z,11nm,1.9s						
HINF	**Hinteralfeld**	**54.08**	**41**	*e*P	P	**22 44 47.0**	**-1.0**
WLF	**Walferdange**	**54.29**	**39**	P	P	**22 44 51.8**	**+2.3**
CDF	**Champ du Feu**	**54.54**	**40**	*e*P	P	**22 44 50.8**	**-0.7**
MEM	**Membach**	**54.56**	**37**	P	P	**22 44 52.1**	**+0.7**
	comp=Z,8.2nm,1.2s						
DAVOX	**Davos/Dischmat**	**55.71**	**43**	P	P	**22 45 00.7**	**+0.6**
DAVOX	**Davos/Dischmat**	**55.71**	**43**	P	P	**22 45 00.7**	**+0.6**
	comp=Z,5.1nm,1.0s,baz=252,slow=7.5,SNR=6.3						
TXAR	**Lajitas Array**	**55.81**	**296**	P	P	**22 45 00.5**	**-0.5**
TXAR	**Lajitas Array**	**55.81**	**296**	P	P	**22 45 00.5**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=111,slow=7.0,SNR=3.5						
GRF	**Grafenberg Arr**	**57.41**	**40**	*e*P	P	**22 45 12.1**	**+0.2**
	comp=Z,8.0nm,1.4s						
KHC	**Kasperske Hory**	**58.74**	**41**	*e*P	P	**22 45 21.1**	**-0.1**
KHC				*ep*P	pP	**22 45 26.9**	**+1.8**
GERES	**GERESS Array B**	**58.74**	**41**	P	P	**22 45 20.9**	**-0.4**
GERES	**GERESS Array B**	**58.74**	**41**	P	P	**22 45 20.9**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=234,slow=4.5,SNR=7.3						
CLL	**Collm**	**58.97**	**38**	*i* P	P	**22 45 22.1**	**-0.6**
	comp=Z,7.0nm,1.0s						
CLL				*i* sP	sP	**22 45 28.3**	**+0.3**
PRU	**Pruhonice**	**59.56**	**40**	*e*P	P	**22 45 27.0**	**+0.1**
PLCA	**Paso Flores**	**59.84**	**202**	*e*P	P	**22 45 28.9**	**-0.1**
	comp=Z,9.0nm,1.3s						
PLCA	**Paso Flores**	**59.84**	**202**	P	P	**22 45 28.6**	**-0.4**
	comp=Z,3.9nm,0.9s,baz=23,slow=8.4,SNR=5.8						
TREC	**Trest**	**59.99**	**41**	*e*P	P	**22 45 31.1**	**+1.2**
UPC	**Upice**	**60.60**	**40**	*e*P	P	**22 45 34.8**	**+0.8**
VRAC	**Vranov**	**60.70**	**41**	P	P	**22 45 33.5**	**-1.2**
VRAC	**Vranov**	**60.70**	**41**	P	P	**22 45 33.5**	**-1.2**
	comp=Z,2.8nm,0.7s,baz=279,slow=6.0,SNR=5.6						
DPC	**Dobruska-Polom**	**60.76**	**40**	*e*P	P	**22 45 35.4**	**+0.3**
KRLC	**Kraliky**	**60.98**	**41**	*i* P	P	**22 45 37.4**	**+0.7**
KRLC				*ep*P	pP	**22 45 42.8**	**+2.2**
NB2	**NORSAR Subarra**	**61.36**	**27**	P	P	**22 45 39.4**	**+0.4**
	comp=Z,1.7nm,0.7s,baz=247,slow=6.9						
NOA	**NORSAR Array B**	**61.36**	**27**	P	P	**22 45 38.3**	**-0.6**
NOA	**NORSAR Array B**	**61.36**	**27**	P	P	**22 45 38.3**	**-0.6**
	comp=Z,2.9nm,0.7s,baz=246,slow=6.4,SNR=8.0						
PDAR	**Pinedale Array**	**61.60**	**311**	P	P	**22 45 41.4**	**+0.1**
PDAR	**Pinedale Array**	**61.60**	**311**	P	P	**22 45 41.4**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=76,slow=7.5,SNR=4.0						
PDAR				LR	LR	23 09 47.1	
	comp=Z,68nm,19.4s,baz=92,slow=34						
OKC	**Ostrava-Krasne**	**61.80**	**41**	*e*P	P	**22 45 42.2**	**+0.1**
HFS	**Hagfors**	**62.15**	**29**	P	P	**22 45 44.6**	**+0.3**
HFS	**Hagfors**	**62.15**	**29**	P	P	**22 45 44.6**	**+0.3**
	comp=Z,7.5nm,0.8s,baz=254,slow=5.4,SNR=7.9						
DRGR		**64.36**	**45**	↑*i* P	P	**22 46 00.1**	**+0.8**
IDI	**Anoyia**	**65.48**	**58**	P	P	**22 46 07.1**	**+0.3**
IDI	**Anoyia**	**65.48**	**58**	P	P	**22 46 07.1**	**+0.3**
	comp=Z,9.1nm,0.9s,baz=303,slow=5.5,SNR=4.5						
ARR	**Arges**	**65.56**	**47**	↑*i* P	P	**22 46 07.1**	**-0.1**
MLR	**Muntele Rosu**	**66.49**	**46**	P	P	**22 46 13.7**	**+0.5**
MLR	**Muntele Rosu**	**66.49**	**46**	↓*i* P	P	**22 46 13.9**	**+0.7**
MLR	**Muntele Rosu**	**66.49**	**46**	P	P	**22 46 13.7**	**+0.5**
	comp=Z,2.9nm,1.2s,baz=335,slow=6.5						
TLB	**Topalu**	**67.94**	**48**	↑*i* P	P	**22 46 21.5**	**-0.7**
FINES	**FINESS Array B**	**68.35**	**29**	P	P	**22 46 24.4**	**0.0**
FINES	**FINESS Array B**	**68.35**	**29**	P	P	**22 46 24.4**	**0.0**
	comp=Z,6.5nm,1.1s,baz=251,slow=12,SNR=3.5						
AKASG	**Malin Array Be**	**68.95**	**41**	P	P	**22 46 26.3**	**-2.2**
AKASG	**Malin Array Be**	**68.95**	**41**	P	P	**22 46 26.3**	**-2.2**
	comp=Z,0.3nm,0.3s,baz=267,slow=6.2,SNR=9.8						
ARCES	**ARCESS Array B**	**69.72**	**21**	P	P	**22 46 32.5**	**-0.3**
ARCES	**ARCESS Array B**	**69.72**	**21**	P	P	**22 46 32.5**	**-0.3**
	comp=Z,6.0nm,0.9s,baz=258,slow=6.1,SNR=14						
BR131	**Keskin Array S**	**72.24**	**53**	*e*P	P	**22 46 48.4**	**-0.5**
	comp=Z,2.1nm,0.8s						
BRTR	**Keskin Array B**	**72.24**	**53**	P	P	**22 46 49.0**	**+0.1**
BRTR	**Keskin Array B**	**72.24**	**53**	P	P	**22 46 49.0**	**+0.1**
	comp=Z,3.6nm,0.9s,baz=259,slow=5.5,SNR=15						
ILAR	**Eielson Array**	**81.95**	**335**	P	P	**22 47 42.8**	**-0.1**
ILAR	**Eielson Array**	**81.95**	**335**	P	P	**22 47 42.8**	**-0.1**
	comp=Z,2.2nm,0.8s,baz=69,slow=4.4,SNR=15						

IDC 30 22:37:06.0±2.1, 15°21S×173°69W, h0km, mb3.8/5, mb1 4.2/5, mb1mx3.8/18, mbtmp3.8/5, Error ellipse: s-maj=124.8km s-min=25.9km az=150.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**49.62**	**257**	P	P	22 45 59.2	-0.5
	0.7nm,0.7s,baz=90,slow=6.9,SNR=5.1						
ASAR	**Alice Springs**	**49.91**	**252**	P	P	22 46 01.6	-0.2
	3.9nm,0.8s,baz=86,slow=8.5,SNR=31						
TXAR	**Lajitas Array**	**80.74**	**56**	P	P	22 49 22.1	+0.3
	0.5nm,0.9s,baz=200,slow=6.1,SNR=3.5						
PDAR	**Pinedale Array**	**82.31**	**42**	P	P	22 49 29.6	-0.5
	0.4nm,0.7s,baz=211,slow=4.7,SNR=4.1						
ILAR	**Eielson Array**	**82.32**	**11**	P	P	22 49 28.6	-0.6
	0.4nm,0.6s,baz=199,slow=5.3,SNR=3.2						
BRTR	**Keskin Array B**	**145.84**	**321**	PKPbc	PKPbc	22 56 47.9	+0.1
	0.3nm,0.6s,baz=45,slow=2.2,SNR=2.9						
GERES	**GERESS Array B**	**145.92**	**351**	PKPbc	PKPdf	22 56 47.1	+0.1
	0.1nm,0.3s,baz=354,slow=4.2,SNR=4.0						

IDC 30 22:45:32.5±10.0, 16°54S×172°12W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.5/20, mbtmp3.5/2, Error ellipse: s-maj=519.3km s-min=59.9km az=143.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**50.79**	**258**	P	P	22 54 34.8	-0.2
	0.2nm,0.4s,baz=96,slow=6.5,SNR=6.7						
ASAR	**Alice Springs**	**50.94**	**253**	P	P	22 54 36.0	-0.1
	0.8nm,0.6s,baz=85,slow=8.1,SNR=8.8						
BRTR	**Keskin Array B**	**147.81**	**321**	PKPbc	PKPbc	23 05 19.2	-0.7
	0.5nm,0.8s,baz=88,slow=3.4,SNR=2.7						

*CSEM **30** 22:45:33.1±1.6, 43°85N×14°45W, h10km, mb4.6/8, Error ellipse: s-maj=34.1km s-min=4.5km az=119.0*
*MDD **30** 22:45:35.9±1.8, 43°78N×14°18W, h0km, mb4.6/8, Error ellipse: s-maj=15.7km s-min=14.0km az=123.0, PRXIMO*
*INMG **30** 22:45:38.3±0.9, 43°93N×14°53W, h10km, MLZ.7, Error ellipse: s-maj=5.7km s-min=4.0km az=92.0*

ISC 30 22:45:34.3±3.3, 43°74N±0°09×14°2W±0°2, h10km, n98, σ2°13/193, 2D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMAZ	**Mazaricos**	**3.87**	**100**	⇓P	Pn	**22 46 35.5**	**+1.8**
	4.8nm,0.0s,SNR=18						
EMAZ				S	Sn	**22 47 18.1**	**-1.1**
	13nm,0.1s,SNR=9.7						
EMAZ	**Mazaricos**	**3.87**	**100**	P	Pn	**22 46 35.5**	**+1.8**
	4.8nm,0.0s,SNR=18						
EMAZ				S	Sn	**22 47 18.1**	**-1.1**
	13nm,0.1s,SNR=9.7						
STS	**Santiago**	**4.18**	**100**	⇓P	Pn	**22 46 40.0**	**+1.9**
	12nm,0.1s,SNR=18						
STS				S	Sn	**22 47 25.5**	**-1.6**
	7.5nm,0.2s,SNR=7.0						
STS	**Santiago**	**4.18**	**100**	P	Pn	**22 46 40.0**	**+1.9**
	12nm,0.1s,SNR=18						
STS				S	Sn	**22 47 25.5**	**-1.6**
	7.5nm,0.2s,SNR=7.0						
EZAM	**Zamans**	**4.32**	**110**	P	Pn	**22 46 42.1**	**+2.1**
	3.9nm,0.1s,SNR=7.9						
EZAM				S	Sn	**22 47 31.1**	**+0.7**
	7.6nm,0.1s,SNR=7.9						
EZAM	**Zamans**	**4.32**	**110**	P	Pn	**22 46 42.1**	**+2.1**
	3.9nm,0.1s,SNR=7.9						
EZAM				S	Sn	**22 47 31.1**	**+0.7**
	7.6nm,0.1s,SNR=7.9						
PGAV	**Gavieira, Arco**	**4.68**	**110**	*e*Pn	Pn	**22 46 47.2**	**+2.1**
PGAV				*e*Sn	Sn	**22 47 39.1**	**-0.4**
PGAV				A	A	22 47 42.0	
	9.1nm,0.1s						
PGAV	**Gavieira, Arco**	**4.68**	**110**	*e*Pn	Pn	**22 46 47.2**	**+2.1**
PGAV				*e*Sn	Sn	**22 47 39.1**	**-0.4**
	9.1nm,0.1s						
ELOB	**Lobios**	**4.86**	**110**	P	Pn	**22 46 49.6**	**+2.1**
	1.9nm,0.1s,SNR=10						
ELOB				S	Sn	**22 47 44.4**	**+0.4**
	2.8nm,0.1s,SNR=13						
ELOB	**Lobios**	**4.86**	**110**	P	Pn	**22 46 49.6**	**+2.1**
	1.9nm,0.1s,SNR=10						
ELOB				S	Sn	**22 47 44.4**	**+0.4**
	2.8nm,0.1s,SNR=13						
PCAB	**Cabril**	**4.95**	**112**	*e*Pn	Pn	**22 46 51.1**	**+2.3**
PCAB				*e*Sn	Sn	**22 47 46.1**	**0.0**
PCAB				A	A	22 47 48.9	
	8.2nm,0.1s						
PCAB	**Cabril**	**4.95**	**112**	P	Pn	**22 46 51.1**	**+2.3**
PCAB				S	Sn	**22 47 46.1**	**0.0**
	4.1nm,0.1s						
PCAB	**Cabril**	**4.95**	**112**	P	Pn	**22 46 51.1**	**+2.3**
PCAB				S	Sn	**22 47 46.1**	**0.0**
	4.1nm,0.1s						
EPON	**Pontenova**	**5.12**	**92**	P	Pn	**22 46 52.9**	**+1.9**
	0.8nm,0.1s,SNR=7.9						
EPON				S	Sn	**22 47 48.1**	**-2.0**
	11nm,0.2s,SNR=12						
EPON	**Pontenova**	**5.12**	**92**	P	Pn	**22 46 52.9**	**+1.9**
	0.8nm,0.1s,SNR=7.9						
EPON				S	Sn	**22 47 48.1**	**-2.0**
	11nm,0.2s,SNR=12						
POLO	**Lamas de Olo**	**5.26**	**114**	*e*Pn	Pn	**22 46 55.1**	**+2.0**
POLO				*e*Sn	Sn	**22 47 53.6**	**-0.2**
POLO				A	A	22 47 56.4	
	1.5nm,0.1s						
POLO	**Lamas de Olo**	**5.26**	**114**	*e*Pn	Pn	**22 46 55.1**	**+2.0**
POLO				*e*Sn	Sn	**22 47 53.6**	**-0.2**
	1.5nm,0.1s						
PVIS	**Viseu**	**5.55**	**121**	*e*Pn	Pn	**22 46 59.1**	**+2.2**
PVIS				*e*Sn	Sn	**22 47 59.6**	**-1.2**
PVIS	**Viseu**	**5.55**	**121**	P	Pn	**22

PACT	**Alcochete**	**6.38 139**	*e*Pn	**Pn**	**22 47 10.6 +2.3**
PACT			*e*Sn	**Sn**	**22 48 20.9 -0.4**
PACT	**Alcochete**	**6.38 139**	*e*Pn	**Pn**	**22 47 10.6 +2.3**
PACT			*e*Sn	**Sn**	**22 48 20.9 -0.4**
PMTG	**Montargil**	**6.46 134**	*e*Pn	**Pn**	**22 47 11.3 +2.0**
PMTG			*e*Sn	**Sn**	**22 48 21.4 -1.6**
PMTG	**Montargil**	**6.46 134**	*e*Pn	**Pn**	**22 47 11.3 +2.0**
PMTG			*e*Sn	**Sn**	**22 48 21.4 -1.6**
EARI	**Arriondas**	**6.53 91**	P	**Pn**	**22 47 12.0 +1.7**
	2.6nm,0.2s,SNR=29				
EARI			S	**Sn**	**22 48 21.3 -3.5**
	1.5nm,0.3s,SNR=5.9				
EARI	**Arriondas**	**6.53 91**	P	**Pn**	**22 47 12.0 +1.7**
	2.6nm,0.2s,SNR=29				
EARI			S	**Sn**	**22 48 21.3 -3.5**
	1.5nm,0.3s,SNR=5.9				
PMRV	**Marv??o**	**6.66 128**	*e*Pn	**Pn**	**22 47 13.9 +1.8**
PMRV			*e*Sn	**Sn**	**22 48 26.0 -2.0**
PMRV	**Marv??o**	**6.66 128**	P	**Pn**	**22 47 13.9 +1.8**
PMRV			S	**Sn**	**22 48 26.0 -2.0**
PMRV	**Marv??o**	**6.66 128**	P	**Pn**	**22 47 13.9 +1.8**
PMRV			S	**Sn**	**22 48 26.0 -2.0**
PESTR	**Estremoz**	**6.94 132**	*e*Pn	**Pn**	**22 47 17.0 +1.0**
PESTR			*e*Sn	**Sn**	**22 48 33.2 -1.8**
PESTR	**Estremoz**	**6.94 132**	P	**Pn**	**22 47 17.0 +1.0**
PESTR			S	**Sn**	**22 48 33.2 -1.8**
PESTR	**Estremoz**	**6.94 132**	P	**Pn**	**22 47 17.0 +1.0**
PESTR			S	**Sn**	**22 48 33.2 -1.8**
EVO	**Evora**	**6.97 136**	*e*Pn	**Pn**	**22 47 17.9 +1.5**
EVO			*e*Sn	**Sn**	**22 48 33.4 -2.3**
EVO	**Evora**	**6.97 136**	P	**Pn**	**22 47 17.9 +1.5**
EVO			S	**Sn**	**22 48 33.4 -2.3**
EVO	**Evora**	**6.97 136**	P	**Pn**	**22 47 17.9 +1.5**
EVO			S	**Sn**	**22 48 33.4 -2.3**
PNCL	**Nicolau / Gran**	**7.05 141**	*e*Pn	**Pn**	**22 47 19.2 +1.7**
PNCL			*e*Sn	**Sn**	**22 48 34.9 -2.9**
PNCL	**Nicolau / Gran**	**7.05 141**	*e*Pn	**Pn**	**22 47 19.2 +1.7**
PNCL			*e*Sn	**Sn**	**22 48 34.9 -2.9**
EPLA	**Plasencia**	**7.06 119**	P	**Pn**	**22 47 20.2 +2.6**
	1.2nm,0.1s,SNR=14				
EPLA			S	**Sn**	**22 48 36.4 -1.6**
	1.1nm,0.2s,SNR=6.0				
EPLA	**Plasencia**	**7.06 119**	P	**Pn**	**22 47 20.2 +2.6**
	1.2nm,0.1s,SNR=14				
EPLA			S	**Sn**	**22 48 36.4 -1.6**
	1.1nm,0.2s,SNR=6.0				
EBAD	**Badajoz**	**7.33 130**	P	**Pn**	**22 47 23.2 +1.8**
	0.6nm,0.1s,SNR=8.0				
EBAD			S	**Sn**	**22 48 42.5 -2.2**
	1.2nm,0.2s,SNR=4.9				
EBAD	**Badajoz**	**7.33 130**	P	**Pn**	**22 47 23.2 +1.8**
	0.6nm,0.1s,SNR=8.0				
EBAD			S	**Sn**	**22 48 42.5 -2.2**
	1.2nm,0.2s,SNR=4.9				
PTEO	**Sao Teotonio**	**7.44 144**	*e*Pn	**Pn**	**22 47 24.9 +2.1**
PTEO	**Sao Teotonio**	**7.44 144**	P	**Pn**	**22 47 24.9 +2.1**
PTEO	**Sao Teotonio**	**7.44 144**	P	**Pn**	**22 47 24.9 +2.1**
PCVE	**Castro Verde**	**7.67 141**	*e*Pn	**Pn**	**22 47 27.9 +1.9**
PCVE			*e*Sn	**Sn**	**22 48 49.6 -3.3**
PCVE	**Castro Verde**	**7.67 141**	P	**Pn**	**22 47 27.9 +1.9**
PCVE			S	**Sn**	**22 48 49.6 -3.3**
PCVE	**Castro Verde**	**7.67 141**	P	**Pn**	**22 47 27.9 +1.9**
PCVE			S	**Sn**	**22 48 49.6 -3.3**
MORF	**Marmelete**	**7.67 145**	*e*Pn	**Pn**	**22 47 28.2 +2.1**
MORF			*e*Sn	**Sn**	**22 48 51.9 -1.2**
MORF			A	A	22 48 55.4
	4.1nm,0.1s				
MORF	**Marmelete**	**7.67 145**	P	**Pn**	**22 47 28.2 +2.1**
MORF			S	**Sn**	**22 48 51.9 -1.2**
	4.1nm,0.1s				
MORF	**Marmelete**	**7.67 145**	P	**Pn**	**22 47 28.2 +2.1**
MORF			S	**Sn**	**22 48 51.9 -1.2**
	4.1nm,0.1s				
PBAR	**Barrancos**	**7.74 133**	*e*Pn	**Pn**	**22 47 29.2 +2.2**
PBAR			*e*Sn	**Sn**	**22 48 53.1 -1.6**
PBAR	**Barrancos**	**7.74 133**	P	**Pn**	**22 47 29.2 +2.2**
PBAR			S	**Sn**	**22 48 53.1 -1.6**
PBAR	**Barrancos**	**7.74 133**	P	**Pn**	**22 47 29.2 +2.2**
PBAR			S	**Sn**	**22 48 53.1 -1.6**
PFVI	**Vila Bisbo**	**7.75 147**	*e*Pn	**Pn**	**22 47 29.1 +2.0**
PFVI			*e*Sn	**Sn**	**22 48 51.4 -3.5**
PFVI	**Vila Bisbo**	**7.75 147**	P	**Pn**	**22 47 28.9 +1.8**
	0.7nm,0.1s,SNR=7.9				
PFVI			S	**Sn**	**22 48 50.8 -4.1**
	1.0nm,0.1s,SNR=6.0				
PFVI	**Vila Bisbo**	**7.75 147**	*e*Pn	**Pn**	**22 47 29.1 +2.0**
PFVI			S	**Sn**	**22 48 50.8 -4.1**
	1.0nm,0.1s,SNR=6.0				
PFVI			*e*Sn	**Sn**	**22 48 51.4 -3.5**
ELAN	**Lanestosa**	**7.82 90**	P	**Pn**	**22 47 29.6 +1.6**
	0.5nm,0.2s,SNR=6.0				
ELAN			S	**Sn**	**22 48 52.2 -4.4**
	3.9nm,0.8s,SNR=6.2				
ELAN	**Lanestosa**	**7.82 90**	P	**Pn**	**22 47 29.6 +1.6**
	0.5nm,0.2s,SNR=6.0				
ELAN			S	**Sn**	**22 48 52.2 -4.4**
	3.9nm,0.8s,SNR=6.2				
PVAQ	**Vaqueiros**	**8.00 140**	*e*Pn	**Pn**	**22 47 32.7 +2.1**
PVAQ			*e*Sn	**Sn**	**22 48 57.1 -4.0**
PVAQ	**Vaqueiros**	**8.00 140**	P	**Pn**	**22 47 32.7 +2.1**
PVAQ			S	**Sn**	**22 48 57.1 -4.0**
PVAQ	**Vaqueiros**	**8.00 140**	P	**Pn**	**22 47 32.7 +2.1**
PVAQ			S	**Sn**	**22 48 57.1 -4.0**
EGRO	**El Granado**	**8.01 138**	P	**Pn**	**22 47 32.2 +1.5**
	0.4nm,0.1s,SNR=7.9				
EGRO			S	**Sn**	**22 48 58.2 -3.1**
	0.8nm,0.2s,SNR=7.9				
EGRO	**El Granado**	**8.01 138**	P	**Pn**	**22 47 32.2 +1.5**
	0.4nm,0.1s,SNR=7.9				
EGRO			S	**Sn**	**22 48 58.2 -3.1**
	0.8nm,0.2s,SNR=7.9				
PBDV	**Barranco-do-Ve**	**8.04 142**	*e*Pn	**Pn**	**22 47 33.5 +2.4**
PBDV			*e*Sn	**Sn**	**22 48 59.5 -2.5**
PBDV	**Barranco-do-Ve**	**8.04 142**	P	**Pn**	**22 47 33.5 +2.4**
PBDV			S	**Sn**	**22 48 59.5 -2.5**
PBDV	**Barranco-do-Ve**	**8.04 142**	P	**Pn**	**22 47 33.5 +2.4**
PBDV			S	**Sn**	**22 48 59.5 -2.5**
GUD	**Guadarrama**	**8.05 109**	P	**Pn**	**22 47 34.2 +2.9**
	0.6nm,0.2s,SNR=5.8				
GUD			S	**Sn**	**22 49 00.9 -1.6**
	1.4nm,0.3s,SNR=7.9				
GUD	**Guadarrama**	**8.05 109**	P	**Pn**	**22 47 34.2 +2.9**
	0.6nm,0.2s,SNR=5.8				
GUD			S	**Sn**	**22 49 00.9 -1.6**
	1.4nm,0.3s,SNR=7.9				
EMIN	**Mina Concepcio**	**8.24 134**	P	**Pn**	**22 47 35.7 +1.9**
	0.4nm,0.2s,SNR=7.9				
EMIN			S	**Sn**	**22 49 03.7 -3.2**
	0.8nm,0.2s,SNR=7.9				
EMIN	**Mina Concepcio**	**8.24 134**	P	**Pn**	**22 47 35.7 +1.9**
	0.4nm,0.2s,SNR=7.9				
EMIN			S	**Sn**	**22 49 03.7 -3.2**
	0.8nm,0.2s,SNR=7.9				
ESDC	**Sonseca Array**	**8.64 115**	P	**Pn**	**22 47 42.4 +3.0**
	2.0nm,0.1s,baz=299,slow=13,SNR=11				
ESDC			S	**Sn**	**22 49 16.0 -0.9**
	0.4nm,0.2s,baz=297,slow=23,SNR=7.8				
ESDC	**Sonseca Array**	**8.64 115**	P	**Pn**	**22 47 42.4 +3.0**
	2.0nm,0.1s,SNR=11				
ESDC			S	**Sn**	**22 49 16.0 -0.9**
	0.4nm,0.2s,slow=23,SNR=7.8				
ECAB	**El Cabril**	**8.71 128**	P	**Pn**	**22 47 40.8 +0.5**
	0.5nm,0.2s,SNR=7.0				
ECAB			S	**Sn**	**22 49 16.0 -2.5**
	0.3nm,0.1s,SNR=5.9				
ECAB	**El Cabril**	**8.71 128**	P	**Pn**	**22 47 40.8 +0.5**
	0.5nm,0.2s,SNR=7.0				
ECAB			S	**Sn**	**22 49 16.0 -2.5**
	0.3nm,0.1s,SNR=5.9				
EADA	**Adamuz**	**9.14 124**	P	**Pn**	**22 47 48.1 +1.9**
	0.9nm,0.1s,SNR=7.9				
EADA			S	**Sn**	**22 49 27.1 -2.0**
	0.5nm,0.1s,SNR=7.9				
EADA	**Adamuz**	**9.14 124**	P	**Pn**	**22 47 48.1 +1.9**
	0.9nm,0.1s,SNR=7.9				
EADA			S	**Sn**	**22 49 27.1 -2.0**
	0.5nm,0.1s,SNR=7.9				
EALK	**Alkurruntz**	**9.22 89**	S	**Sn**	**22 49 26.6 -4.4**
	1.0nm,0.2s,SNR=6.5				
EALK	**Alkurruntz**	**9.22 89**	S	**Sn**	**22 49 26.6 -4.4**
	1.0nm,0.2s,SNR=6.5				

IDC 30 23:02:27.6±1.6, 16°.10S×173°.45W, h0km, mb3.5/5, mb1 3.9/5, mb1mx3.7/19, mbtmp3.5/5, Error ellipse: s-maj=100.4km s-min=24.5km az=150.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**49.64**	**257**	P	P	23 11 21.1	-0.4
	0.2nm,0.4s,baz=95,slow=7.5,SNR=1.7						
ASAR	**Alice Springs**	**49.85**	**252**	P	P	23 11 22.1	-1.0
	1.2nm,0.6s,baz=89,slow=8.3,SNR=7.8						
NVAR	**Mina Array Bea**	**74.88**	**42**	P	P	23 14 10.2	-0.5
	0.1nm,0.3s,baz=246,slow=8.3,SNR=3.0						
TXAR	**Lajitas Array**	**81.04**	**56**	P	P	23 14 44.8	-0.2
	0.1nm,0.3s,baz=243,slow=4.0,SNR=2.2						
ILAR	**Eielson Array**	**83.14**	**11**	P	P	23 14 55.0	-0.1
	0.3nm,0.7s,baz=213,slow=6.5,SNR=3.1						
KMBO	**Kilima Mbogo**	**145.19**	**243**	PKPbc	PKPab	23 22 08.4	+0.2
	2.4nm,1.1s,baz=79,slow=3.9,SNR=4.7						
BRTR	**Keskin Array B**	**146.67**	**320**	PKPbc	PKPbc	23 22 11.8	-0.1
	1.5nm,1.0s,baz=149,slow=2.6,SNR=6.2						
GERES	**GERESS Array B**	**146.82**	**351**	PKPbc	PKPbc	23 22 11.7	-0.3
	0.3nm,0.6s,baz=284,slow=8.0,SNR=2.5						

*IDC **30** 23:07:38.0±1.4, 5°.73S×153°.12E, h0km, mb4.1/9, mb1 4.2/10, mb1mx4.1/19, mbtmp4.1/10, ML3.1/1, MS3.6/1, Ms1 3.5/1, ms1mx2.8/21, Error ellipse: s-maj=44.6km s-min=18.6km az=117.0*
*ISCJB **30** 23:07:41.1±0.7, 5°.85S±0°.09×153°.15E±0°.09, h33km, mb4.0/12, MS3.4/1, Error ellipse: s-maj=16.1km s-min=9.7km az=42.9*
*NEIC **30** 23:07:43.0±0.4, 5°.82S×153°.17E, h35km, mb4.0/3, Error ellipse: s-maj=11.4km s-min=8.3km az=106.0*

ISC 30 23:07:42.7±0.8, 5°.8S±0°.1×153°.2E±0°.1, h33km, n26, σ0=52/30, mb4.1/12, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.96**	**239**	Pn	**Pn**	**23 09 22.3**	**-0.1**
PMG				Sn	**Sn**	**23 10 40.9**	**+0.3**
PMG	**Port Moresby**	**6.96**	**239**	Pn	**Pn**	**23 09 22.3**	**-0.1**
	2.0nm,0.3s,baz=69,slow=14,SNR=3.4						
PMG				Sn	**Sn**	**23 10 40.9**	**+0.3**
	3.7nm,0.3s,baz=89,slow=23,SNR=9.0						
DZM	**Mont Dzumac**	**20.64**	**143**	*e*P	**P**	**23 12 19.3**	**-0.5**
WRAB	**Tennant Creek**	**23.08**	**231**	*e*P	**P**	**23 12 45.0**	**-0.7**
	5.5nm,0.8s						
WRA	**Warramunga Arr**	**23.09**	**231**	P	**P**	**23 12 45.5**	**-0.4**
WRA	**Warramunga Arr**	**23.09**	**231**	P	**P**	**23 12 45.5**	**-0.4**
	4.5nm,0.9s,baz=55,slow=10,SNR=13						
ASAR	**Alice Springs**	**25.69**	**224**	P	**P**	**23 13 10.0**	**0.0**
ASAR	**Alice Springs**	**25.69**	**224**	P	**P**	**23 13 10.0**	**0.0**
	3.0nm,0.7s,baz=57,slow=9.0,SNR=14						
STKA	**Stephens Creek**	**28.12**	**201**	*e*P	**P**	**23 13 32.2**	**+0.5**
	0.4nm,0.5s						
STKA	**Stephens Creek**	**28.12**	**201**	P	**P**	**23 13 32.6**	**+0.9**
	1.5nm,0.6s,baz=44,slow=13,SNR=4.7						
STKA				LR	LR	23 23 06.3	
	comp=Z,102nm,18.5s,baz=114,slow=33						
FITZ	**Fitzroy Crossi**	**29.53**	**243**	P	**P**	**23 13 44.0**	**-0.5**
	2.7nm,0.5s						
CMAR	**Chiang Mai Arr**	**58.65**	**296**	P	**P**	**23 17 37.8**	**+0.5**
CMAR	**Chiang Mai Arr**	**58.65**	**296**	P	**P**	**23 17 37.8**	**+0.5**
	0.7nm,0.3s,baz=128,slow=7.1,SNR=4.7						
CHTO	**Chiang Mai**	**58.76**	**296**	*e*P	**P**	**23 17 37.9**	**-0.2**
	21nm,1.2s						
SONM	**Songino Array**	**67.37**	**328**	P	**P**	**23 18 35.1**	**+0.2**
SONM	**Songino Array**	**67.37**	**328**	P	**P**	**23 18 35.1**	**+0.2**
	0.8nm,0.6s,baz=138,slow=7.2,SNR=6.2						
MKAR	**Makanchi Array**	**81.32**	**319**	P	**P**	**23 19 56.0**	**0.0**
MKAR	**Makanchi Array**	**81.32**	**319**	P	**P**	**23 19 56.0**	**0.0**
	0.8nm,0.9s,baz=90,slow=4.9,SNR=3.9						
ZALV	**Zalesovo Beam**	**82.19**	**326**	P	**P**	**23 19 60.0**	**-0.4**
ZALV	**Zalesovo Beam**	**82.19**	**326**	P	**P**	**23 19 60.0**	**-0.4**
	1.4nm,0.6s,baz=107,slow=6.0,SNR=6.1						
ILAR	**Eielson Array**	**82.94**	**22**	P	**P**	**23 20 04.6**	**+0.6**
ILAR	**Eielson Array**	**82.94**	**22**	P	**P**	**23 20 04.6**	**+0.6**
	0.8nm,0.7s,baz=253,slow=5.7,SNR=6.4						
KURK	**Kurchatov**	**84.78**	**322**	*e*P	**P**	**23 20 13.5**	**-0.2**
	1.1nm,0.7s						
AAK	**Ala-Archa**	**85.62**	**313**	P	**P**	**23 20 18.1**	**-0.3**
TORD	**Torodi Ar. Bea**	**150.97**	**287**	PKPbc	**PKPbc**	**23 27 33.4**	**+0.1**
TORD				PKPab	**PKPab**	**23 27 39.5**	**-1.2**
TORD	**Torodi Ar. Bea**	**150.97**	**287**	PKPbc	**PKPbc**	**23 27 33.4**	**+0.1**
	0.7nm,0.6s,baz=49,slow=1.5,SNR=13						
TORD				PKPab	**PKPab**	**23 27 39.5**	**-1.2**
	1.1nm,0.8s,baz=88,slow=1.8,SNR=5.1						

IDC 30 23:23:25.4±10.0, 15°.79S×175°.40W, h0km, mb3.8/2, mb1 4.0/2, mb1mx3.6/18, mbtmp3.8/2, Error ellipse: s-maj=438.7km s-min=60.8km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**47.88**	**257**	P	P	23 32 05.5	-0.1
	0.4nm,0.6s,baz=93,slow=6.8,SNR=3.7						
ASAR	**Alice Springs**	**48.16**	**252**	P	P	23 32 07.5	-0.2
	1.3nm,0.6s,baz=86,slow=7.9,SNR=13						
BRTR	**Keskin Array B**	**145.21**	**319**	PKPbc	PKPbc	23 43 04.3	-0.8
	3.4nm,1.3s,baz=29,slow=3.3,SNR=3.3						

CASC 30 23:26:52.9±1.6, 14°.74N×92°.24W, h71km±23km, MD3.5, 1D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.72**	**126**	‖*e*P	Pn	23 27 08.0	0.0
FUG	**Fuego 3**	**1.38**	**102**	*e*P	Pn	23 27 16.4	-0.1
IXG	**Ixpaco**	**1.81**	**108**	*e*S	Sn	23 27 44.4	-0.2
RBDL	**Robledal**	**2.55**	**104**	*e*P	Pn	23 27 32.1	-0.1
RTR	**El Retiro**	**2.65**	**108**	*e*P	Pn	23 27 33.6	+0.1
RTR				*e*S	Sn	23 28 06.5	+1.7
SBLS	**San Blas**	**2.69**	**109**	*e*P	Pn	23 27 34.3	+0.1
SBLS				*e*S	Sn	23 28 06.4	+0.5

IDC 30 23:28:43.0±11.0, 23°.53S×66°.66W, h216km±78km, mb2.7/2, mb1 2.9/4, mb1mx2.8/17, mbtmp2.7/4, Error ellipse: s-maj=116.4km s-min=33.0km az=21.0, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**7.34**	**349**	P	Pn	23 30 29.6	+1.0
	0.1nm,0.3s,baz=150,slow=8.1,SNR=2.0						
LPAZ				S	S	23 31 53.6	+0.9
	0.1nm,0.3s,baz=0.0,slow=23,SNR=1.2						
SIV	**San Ignacio**	**9.16**	**36**	P	Pn	23 30 49.9	-1.4
	0.3nm,0.3s,baz=253,slow=13,SNR=5.2						
TXAR	**Lajitas Array**	**63.49**	**324**	P	P	23 38 49.0	-1.4
	0.1nm,0.7s,baz=163,slow=6.6,SNR=1.4						
TORD	**Torodi Ar. Bea**	**76.11**	**69**	P	P	23 40 07.2	-0.3
	0.3nm,0.6s,baz=259,slow=6.8,SNR=5.5						
MKAR	**Makanchi Array**	**145.97**	**39**	PKPbc	PKPab	23 47 57.7	-0.3
	0.3nm,0.5s,baz=321,slow=2.6,SNR=4.8						

IDC 30 23:32:05.4±3.7, 15°.45S×173°.31W, h0km, mb4.1/3, mb1 4.3/4, mb1mx3.8/21, mbtmp4.1/4, MS3.7/4, Ms1 3.7/4, ms1mx3.3/31, Error ellipse: s-maj=204.7km s-min=25.3km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.13**	**44**	Pn	Pn	23 32 41.2	-1.1
	68nm,0.3s,baz=226,slow=24,SNR=13						
AFI				Sn	Sn	23 32 57.0	-13
	68nm,0.3s,baz=62,slow=23,SNR=7.3						
AFI				LR	LR	23 33 12.0	
	comp=Z,531nm,20.0s,baz=53,slow=31						
RAR	**Rarotonga**	**14.07**	**116**	LR	LR	23 39 35.2	
	comp=Z,219nm,20.7s,baz=91,slow=32						
RAO	**Raoul Island**	**14.38**	**196**	LR	LR	23 40 07.0	
	comp=Z,934nm,20.1s,baz=249,slow=34						
DZM	**Mont Dzumac**	**20.26**	**248**	*e*LR	LR	23 41 54.9	
	222nm,24.4s						
PPT2	**Papeete2**	**22.85**	**99**	*e*LR	LR	23 42 35.1	
	115nm,24.5s						
TBI	**Tubuai**	**23.80**	**113**	*e*LR	LR	23 43 06.3	
	247nm,26.0s						
STKA	**Stephens Creek**	**44.09**	**240**	P	P	23 40 15.4	-0.1
	3.9nm,1.1s,baz=77,slow=10,SNR=3.5						
WRA	**Warramunga Arr**	**49.92**	**257**	P	P	23 41 00.3	-1.0
	0.7nm,0.6s,baz=92,slow=7.6,SNR=6.7						
ASAR	**Alice Springs**	**50.18**	**252**	P	P	23 41 03.0	-0.2
	2.5nm,0.6s,baz=85,slow=8.2,SNR=25						
YBH	**Yreka Blue Hor**	**73.58**	**37**	LR	LR	00 08 18.2	
	comp=Z,50nm,20.3s,baz=319,slow=30						
BRTR	**Keskin Array B**	**146.25**	**321**	PKPbc	PKPab	23 51 49.2	+0.1
	1.5nm,0.9s,baz=81,slow=1.6,SNR=5.7						

IDC 30 23:38:23.5±2.1, 16°.29S×172°.59W, h0km, mb3.8/5, mb1 4.2/5, mb1mx3.9/20, mbtmp3.8/5, MS3.8/1, Ms1 3.8/1, ms1mx2.7/32, Error ellipse: s-maj=133.5km s-min=25.8km az=151.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPT	**Papeete**	**22.06**	**97**	LR	LR	23 48 25.0	
	comp=Z,243nm,21.1s,baz=231,slow=27						
WRA	**Warramunga Arr**	**50.40**	**257**	P	P	23 47 22.6	-0.5
	0.9nm,0.9s,baz=97,slow=7.0,SNR=4.1						
ASAR	**Alice Springs**	**50.58**	**253**	P	P	23 47 23.9	-0.5
	3.1nm,1.0s,baz=88,slow=7.9,SNR=15						
TXAR	**Lajitas Array**	**80.46**	**56**	P	P	23 50 38.9	+1.2
	0.7nm,1.1s,baz=262,slow=6.9,SNR=3.4						
PDAR	**Pinedale Array**	**82.41**	**41**	P	P	23 50 46.4	-1.5
	0.2nm,0.3s,baz=190,slow=4.6,SNR=2.6						
ILAR	**Eielson Array**	**83.16**	**11**	P	P	23 50 50.7	-0.3
	0.5nm,0.7s,baz=221,slow=6.8,SNR=4.1						
BRTR	**Keskin Array B**	**147.33**	**321**	PKPbc	PKPab	23 58 10.8	-0.6
	1.5nm,0.9s,baz=87,slow=2.7,SNR=7.4						

IDC 30 23:38:57.2±1.6, 23°.92S×66°.82W, h214km±19km, mb3.3/1, mb1 3.2/6, mb1mx3.1/20, mbtmp3.7/6, Error ellipse: s-maj=23.8km s-min=14.4km az=89.0, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**7.70**	**351**	P	Pn	23 40 48.8	+1.4
	0.3nm,0.3s,baz=166,slow=9.3,SNR=16						
LPAZ				S	S	23 42 15.7	+0.5
	0.1nm,0.3s,baz=19,slow=19,SNR=3.6						
CFAA	**Coronel Fontan**	**7.76**	**189**	P	Pn	23 40 46.4	-0.9
	0.1nm,0.3s,baz=18,slow=15,SNR=15						
CFAA				S	S	23 42 07.3	-8.0
	0.4nm,0.3s,baz=274,slow=19,SNR=19						
CPUP	**Villa Florida**	**8.92**	**108**	P	Pn	23 41 01.1	-1.3
	0.2nm,0.3s,baz=271,slow=16,SNR=4.1						
SIV	**San Ignacio**	**9.56**	**35**	P	Pn	23 41 09.7	-1.1
	0.2nm,0.3s,baz=216,slow=14,SNR=3.8						
PLCA	**Paso Flores**	**17.05**	**190**	P	Pn	23 42 42.8	-0.6
	0.1nm,0.3s,baz=11,slow=11,SNR=4.1						
BDFB	**Brasilia**	**19.50**	**68**	P	P	23 43 09.2	+0.6
	0.6nm,0.3s,baz=241,slow=13,SNR=6.9						
SJG	**San Juan**	**41.78**	**1**	P	P	23 46 24.8	-1.0
	9.2nm,0.3s,baz=28,slow=20,SNR=3.8						
TORD	**Torodi Ar. Bea**	**76.38**	**69**	P	P	23 50 23.8	+0.3
	0.6nm,0.7s,baz=258,slow=6.6,SNR=10						

IDC 30 23:43:28.0±11.0, 15°.75S×173°.64W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.6/19, mbtmp3.7/2, Error ellipse: s-maj=545.5km s-min=60.5km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**49.54**	**257**	P	P	23 52 20.7	-0.4
	0.6nm,0.9s,baz=90,slow=6.9,SNR=2.8						
ASAR	**Alice Springs**	**49.78**	**252**	P	P	23 52 23.0	+0.1
	0.9nm,0.4s,baz=88,slow=7.8,SNR=9.5						
BRTR	**Keskin Array B**	**146.28**	**320**	PKPbc	PKPdf	00 03 10.3	+0.3
	0.6nm,0.8s,baz=46,slow=6.2,SNR=3.2						

IDC 30 23:57:34.1±3.2, 15°.20S×172°.22W, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.7/20, mbtmp3.7/4, MS3.9/2, Ms1 3.9/2, ms1mx3.1/36, Error ellipse: s-maj=119.4km s-min=18.1km az=126.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.36**	**19**	Pn	Pg	23 57 59.7	-0.5
	15nm,0.3s,baz=76,slow=17,SNR=7.7						
AFI				Sn	Sn	23 58 20.1	+0.9
	61nm,0.3s,baz=171,slow=22,SNR=11						
URZ	**Urewera**	**24.83**	**200**	LR	LR	00 11 16.9	
	comp=Z,164nm,18.3s,baz=25,slow=33						
CTA	**Charters Tower**	**39.79**	**257**	LR	LR	00 19 00.5	
	comp=Z,248nm,20.6s,baz=234,slow=32						
STKA	**Stephens Creek**	**45.12**	**240**	P	P	00 05 51.2	-1.3
	2.4nm,0.8s,baz=100,slow=11,SNR=4.2						
WRA	**Warramunga Arr**	**50.99**	**257**	P	P	00 06 39.6	+1.4
	0.2nm,0.6s,baz=92,slow=7.1,SNR=2.5						
ASAR	**Alice Springs**	**51.25**	**252**	P	P	00 06 39.0	-1.1
	1.9nm,0.9s,baz=83,slow=8.1,SNR=12						
ILAR	**Eielson Array**	**82.04**	**11**	P	P	00 09 55.9	+0.1
	0.3nm,0.7s,baz=224,slow=5.0,SNR=3.7						
BRTR	**Keskin Array B**	**146.71**	**322**	PKPbc	PKPbc	00 17 18.7	+0.2
	0.7nm,0.8s,baz=66,slow=3.1,SNR=4.5						

ISC Computed Locations for September 2009

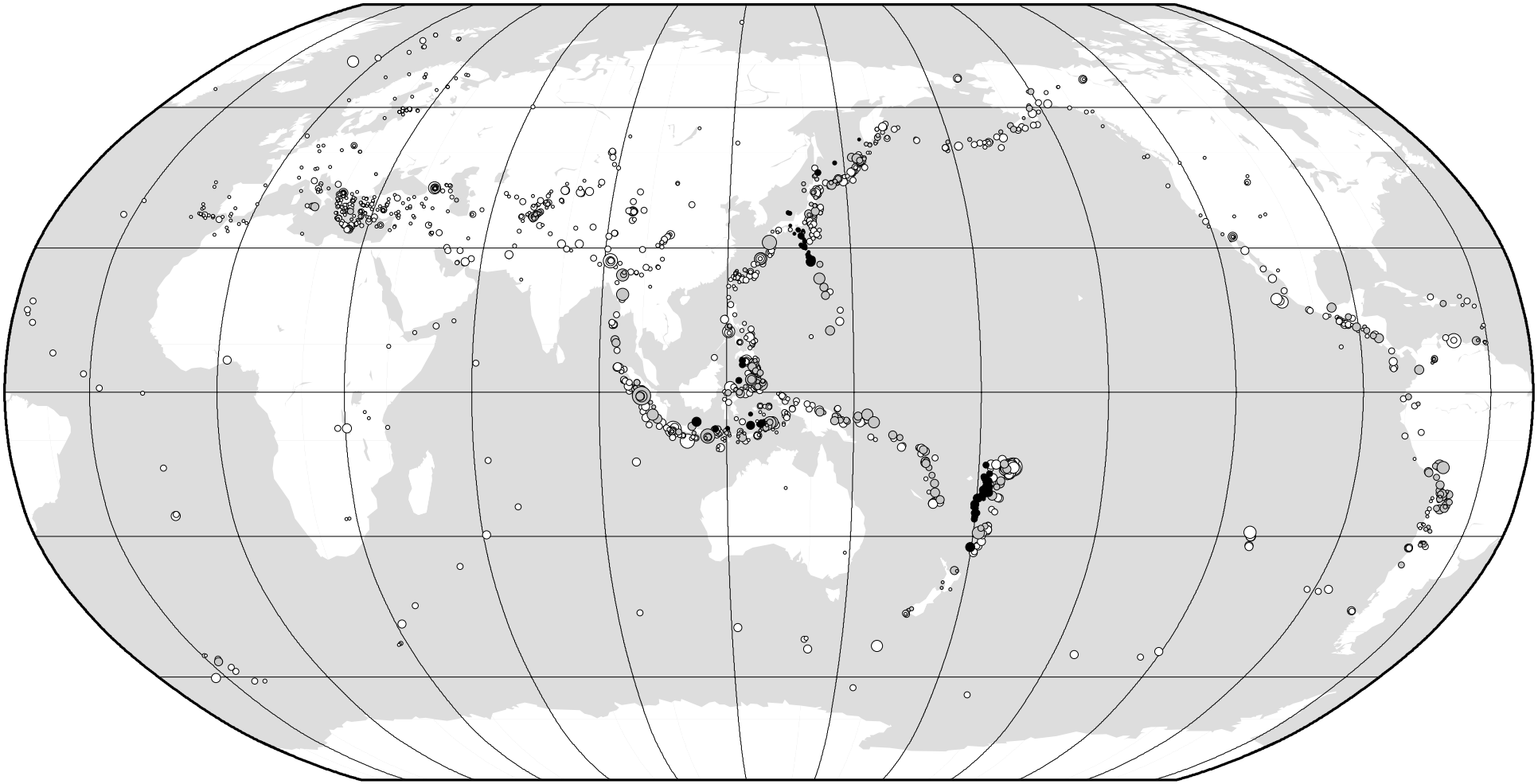

Depth (km)	0-70	70-300	>300
M=8	○	●	●
M=6.5	○	●	●
M=4	○	●	●

Robinson Projection, centred on 0˚N,130˚E

1975 Events